

International Telecommunication Union

**ITU-T**

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

**H.830.5**

(04/2017)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

E-health multimedia services and applications –  
Interoperability compliance testing of personal health  
systems (HRN, PAN, LAN, TAN and WAN)

---

**Conformance of ITU-T H.810 personal health  
system: Services interface Part 5: PCD-01 HL7  
messages: Health & Fitness Service sender**

Recommendation ITU-T H.830.5

ITU-T



ITU-T H-SERIES RECOMMENDATIONS  
AUDIOVISUAL AND MULTIMEDIA SYSTEMS

CHARACTERISTICS OF VISUAL TELEPHONE SYSTEMS	H.100–H.199
INFRASTRUCTURE OF AUDIOVISUAL SERVICES	
General	H.200–H.219
Transmission multiplexing and synchronization	H.220–H.229
Systems aspects	H.230–H.239
Communication procedures	H.240–H.259
Coding of moving video	H.260–H.279
Related systems aspects	H.280–H.299
Systems and terminal equipment for audiovisual services	H.300–H.349
Directory services architecture for audiovisual and multimedia services	H.350–H.359
Quality of service architecture for audiovisual and multimedia services	H.360–H.369
Telepresence	H.420–H.429
Supplementary services for multimedia	H.450–H.499
MOBILITY AND COLLABORATION PROCEDURES	
Overview of Mobility and Collaboration, definitions, protocols and procedures	H.500–H.509
Mobility for H-Series multimedia systems and services	H.510–H.519
Mobile multimedia collaboration applications and services	H.520–H.529
Security for mobile multimedia systems and services	H.530–H.539
Security for mobile multimedia collaboration applications and services	H.540–H.549
VEHICULAR GATEWAYS AND INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	
Architecture for vehicular gateways	H.550–H.559
Vehicular gateway interfaces	H.560–H.569
BROADBAND, TRIPLE-PLAY AND ADVANCED MULTIMEDIA SERVICES	
Broadband multimedia services over VDSL	H.610–H.619
Advanced multimedia services and applications	H.620–H.629
Ubiquitous sensor network applications and Internet of Things	H.640–H.649
IPTV MULTIMEDIA SERVICES AND APPLICATIONS FOR IPTV	
General aspects	H.700–H.719
IPTV terminal devices	H.720–H.729
IPTV middleware	H.730–H.739
IPTV application event handling	H.740–H.749
IPTV metadata	H.750–H.759
IPTV multimedia application frameworks	H.760–H.769
IPTV service discovery up to consumption	H.770–H.779
Digital Signage	H.780–H.789
E-HEALTH MULTIMEDIA SERVICES AND APPLICATIONS	
Personal health systems	H.810–H.819
<b>Interoperability compliance testing of personal health systems (HRN, PAN, LAN, TAN and WAN)</b>	<b>H.820–H.859</b>
Multimedia e-health data exchange services	H.860–H.869

*For further details, please refer to the list of ITU-T Recommendations.*

## Recommendation ITU-T H.830.5

### Conformance of ITU-T H.810 personal health system: Services interface Part 5: PCD-01 HL7 messages: Health & Fitness Service sender

#### Summary

Recommendation ITU-T H.830.5 provides a test suite structure (TSS) and the test purposes (TP) for PCD-01 HL7 messages through the Health & Fitness Service (HFS) sender in the Services interface, based on the requirements defined in the Recommendations of the ITU-T H.810 sub-series, of which Recommendation ITU-T H.810 (2016) is the base Recommendation. The objective of this test specification is to provide a high probability of interoperability at this interface.

Recommendation ITU-T H.830.5 is the transposition of Continua Test Tool DG2016, Test Suite Structure & Test Purposes, Services Interface; Part 5: PCD-01 HL 7 Messages. HFS Sender (Version 1.8, 2017-03-14), that was developed by the Personal Connected Health Alliance. A number of versions of this specification existed before transposition.

This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

#### History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T H.835	2015-01-13	16	<a href="http://handle.itu.int/11.1002/1000/12253">11.1002/1000/12253</a>
1.0	ITU-T H.830.5	2015-01-13	16	<a href="http://handle.itu.int/11.1002/1000/12591">11.1002/1000/12591</a>
2.0	ITU-T H.830.5	2016-07-14	16	<a href="http://handle.itu.int/11.1002/1000/12925">11.1002/1000/12925</a>
3.0	ITU-T H.830.5	2017-04-13	16	<a href="http://handle.itu.int/11.1002/1000/13204">11.1002/1000/13204</a>
3.1	ITU-T H.830.5 (2017) Cor. 1	2017-11-29	16	<a href="http://handle.itu.int/11.1002/1000/13424">11.1002/1000/13424</a>

#### Keywords

Conformance testing, Continua Design Guidelines, e-health, ITU-T H.810, Services interface, personal connected health devices, PCD-01 HL7 messages, Health & Fitness Service sender.

---

\* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

## FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

## NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

## INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at <http://www.itu.int/ITU-T/ipr/>.

© ITU 2017

All rights reserved. No part of this publication may be reproduced, by any means whatsoever, without the prior written permission of ITU.

## Table of Contents

### Page

1	Scope.....	1
2	References.....	1
3	Definitions .....	2
3.1	Terms defined elsewhere .....	2
3.2	Terms defined in this Recommendation.....	2
4	Abbreviations and acronyms .....	2
5	Conventions .....	3
6	Test suite structure (TSS) .....	4
7	Electronic attachment .....	6
Annex A	– Test purposes .....	8
A.1	TP definition conventions.....	8
A.2	Subgroup 1.4.1: General (GEN).....	9
A.3	Subgroup 1.4.2: Design guidelines (DG) .....	30
A.4	Subgroup 1.4.3: Pulse oximeter (PO).....	31
A.5	Subgroup 1.4.4: Blood pressure monitor (BPM).....	50
A.6	Subgroup 1.4.5: Thermometer (TH).....	60
A.7	Subgroup 1.4.6: Weighing scales (WEG) .....	68
A.8	Subgroup 1.4.7: Glucose meter (GL) .....	78
A.9	Subgroup 1.4.8: Cardiovascular fitness and activity monitor (CV) .....	102
A.10	Subgroup 1.4.9: Strength fitness equipment (ST) .....	155
A.11	Subgroup 1.4.10: Independent living activity hub (HUB) .....	174
A.12	Subgroup 1.4.11: Adherence monitor (AM) .....	207
A.13	Subgroup 1.4.12: Peak expiratory flow monitor (PF) .....	220
A.14	Subgroup 1.4.13: Body composition analyser (BCA).....	233
A.15	Subgroup 1.4.14: Basic electrocardiograph (ECG).....	249
A.16	Subgroup 1.4.15: International normalized ratio (INR) .....	263
A.17	Subgroup 1.4.16: Sleeping apnoea breathing therapy equipment (SABTE).....	276
A.18	Subgroup 1.4.17: Insulin pump .....	339
A.19	Subgroup 1.4.18: Continuous glucose monitor (CGM) .....	362
	Bibliography.....	387

**Electronic attachment:** This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

## Introduction

This Recommendation is a transposition of Continua Test Tool DG2016, Test Suite Structure & Test Purposes, Services Interface; Part 5: PCD-01 HL 7 Messages. HFS Sender (Version 1.8, 2017-03-14), that was developed by the Personal Connected Health Alliance. The table below shows the revision history of this test specification; it may contain versions that existed before transposition.

Version	Date	Revision history
1.2	2012-10-05	Initial release for Test Tool DG2011. This is the same version as "TSS&TP_1.5_WAN_PART_5_(SEN PCD-01)_v1.2.doc" because new features included in [b-CDG 2011] do not affect the test procedures specified in this document.
1.3	2013-05-24	Initial release for Test Tool DG2012. This uses "TSS&TP_DG2011_WAN_PART_5_(SEN PCD-01)_v1.2" as a baseline and adds new features included in [b-CDG 2012]: <ul style="list-style-type: none"> <li>• Addition of glucose meter new spec. version</li> <li>• Addition of body composition analyser device specialization</li> <li>• Addition of basic electrocardiograph device specialization</li> </ul>
1.4	2014-01-24	Initial release for Test Tool DG2013. This uses "TSS&TP_DG2012_WAN_PART_5_(SEN PCD-01)_v1.3.doc" as a baseline and adds new features included in [b-ITU-T H.810 (2013)]/[b-CDG 2013]: <ul style="list-style-type: none"> <li>• Addition of glucose meter BLE</li> <li>• Addition of BLE SSP support</li> <li>• Addition of NFC new transport</li> <li>• Addition of INR device specialization</li> </ul>
1.5	2014-04-24	TM Lite & Doc Enhancements (Test Tool v4.0 Maintenance Release 1). It uses "TSS&TP_DG2013_WAN_PART_5_(SEN PCD-01)_v1.4.doc" as a baseline and adds new features included in Documentation Enhancements: <ul style="list-style-type: none"> <li>• "Other PICS" row added</li> </ul>
1.6	2015-07-01	Initial release for Test Tool DG2015. It uses "TSS&TP_DG2013_WAN_PART_5_(SEN PCD-01)_v1.5.doc" as a baseline and it adds new features included in Continua DG 2015: <ul style="list-style-type: none"> <li>• Changes in test suite structure.</li> <li>• Add international normalized ratio device specialization</li> <li>• Add sleeping apnoea breathing therapy equipment device specialization</li> <li>• Added support for hData observation upload</li> </ul>
1.7	2016-09-20	Initial release for Test Tool DG2016. It implements changes according to [ITU-T H.810 (2016)]/[b-CDG 2016] (Iris + Errata) refreshments.
1.8	2017-03-14	Added insulin pump and continuous glucose monitor specializations support.

## Recommendation ITU-T H.830.5

### Conformance of ITU-T H.810 personal health system: Services interface Part 5: PCD-01 HL7 messages: Health & Fitness Service sender

#### 1 Scope

The scope of this Recommendation<sup>1</sup> is to provide a test suite structure (TSS) and the test purposes (TP) for the Services interface based on the requirements defined in the Continua Design Guidelines (CDG) [ITU-T H.810 (2016)]. The objective of this test specification is to provide a high probability of interoperability at this interface.

The TSS and TP for the Services interface have been divided into the parts specified below. This Recommendation covers Part 5.

- Part 1: Web Services Interoperability. Health & Fitness Service sender
- Part 2: Web Services Interoperability. Health & Fitness Service receiver
- Part 3: SOAP/ATNA. Health & Fitness Service sender
- Part 4: SOAP/ATNA. Health & Fitness Service receiver
- **Part 5: PCD-01 HL7 Messages. Health & Fitness Service sender**
- Part 6: PCD-01 HL7 Messages. Health & Fitness Service receiver
- Part 7: Consent Management. Health & Fitness Service sender
- Part 8: Consent Management. Health & Fitness Service receiver
- Part 9: hData Observation Upload. Health & Fitness Service sender
- Part 10: hData Observation Upload. Health & Fitness Service receiver
- Part 11: Questionnaires. Health & Fitness Service sender
- Part 12: Questionnaires. Health & Fitness Service receiver

#### 2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T H.810 (2016)]	Recommendation ITU-T H.810 (2016), <i>Interoperability design guidelines for personal health systems</i> .
[ITU-T H.812.1]	Recommendation ITU-T H.812.1 (2016), <i>Interoperability design guidelines for personal health systems: Services interface: Observation upload certified capability class</i> .
[IHE PCD TF 2]	IHE PCD TF 2 (2011), <i>Integrating the Healthcare Enterprise, IHE Patient Care Device (PCD) Technical Framework, Volume 2 (PCD</i>

---

<sup>1</sup> This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

### **3 Definitions**

#### **3.1 Terms defined elsewhere**

None.

#### **3.2 Terms defined in this Recommendation**

None.

### **4 Abbreviations and acronyms**

This Recommendation uses the following abbreviations and acronyms:

AHD	Application Hosting Device
ATNA	Audit Trail and Node Authentication
ATS	Abstract Test Suite
CDG	Continua Design Guidelines
CGM	Continuous Glucose Monitor
DUT	Device Under Test
GUI	Graphical User Interface
HFS	Health & Fitness Service
HFSS	Health & Fitness Service Sender
HFSR	Health & Fitness Service Receiver
HL7	Health Level 7
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure
LAN	Local area network
INR	International Normalized Ratio
IP	Insulin Pump
IUT	Implementation Under Test
MDS	Medical Device System
NFC	Near Field Communication
PAN	Personal area network
PCD	Patient Care Device
PCT	Protocol Conformance Testing
PHD	Personal Health Device
PHDC	Personal Healthcare Device Class
PHG	Personal Health Gateway
PICS	Protocol Implementation Conformance Statement



PIXIT	Protocol Implementation extra Information for Testing
SABTE	Sleep Apnoea Breathing Therapy Equipment
SCR	Static Conformance Review
SDP	Service Discovery Protocol
SOAP	Simple Object Access Protocol
TCRL	Test Case Reference List
TCWG	Test and Certification Working Group
TLS	Transport Level Security
TP	Test Purpose
TSS	Test Suite Structure
URI	Uniform Resource Identifier
USB	Universal Serial Bus
WAN	Wide Area Network
WDM	Windows Driver Model
WS	Web Service
WSDL	Web Service Description Language
XML	extensible Markup Language

## 5 Conventions

The key words "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "MAY", "MAY NOT" in this Recommendation are to be interpreted as in [b-ETSI SR 001 262].

- SHALL is equivalent to 'must' or 'it is required to'.
- SHALL NOT is equivalent to 'must not' or 'it is not allowed'.
- SHOULD is equivalent to 'it is recommended to'.
- SHOULD NOT is equivalent to 'it is not recommended to'.
- MAY is equivalent to 'is permitted'.
- MAY NOT is equivalent to 'it is not required that'.

NOTE – The above-mentioned key words are capitalized for illustrative purposes only and they do not appear capitalized within this Recommendation.

Reference is made in the ITU-T H.800-series of Recommendations to different versions of the Continua Design Guidelines (CDG) by a specific designation. The list of terms that may be used in this Recommendation is provided in Table 1.

**Table 1 – List of designations associated with the various versions of the CDG**

CDG release	Transposed as	Version	Description	Designation
2016 plus errata	[ITU-T H.810 (2016)]	6.1	Release 2016 plus errata noting all ratified bugs [b-CDG 2016].	–
2016	–	6.0	Release 2016 of the CDG including maintenance updates of the CDG 2015 and additional guidelines that cover new functionalities.	Iris
2015 plus errata	[b-ITU-T H.810 (2015)]	5.1	Release 2015 plus errata noting all ratified bugs [b-CDG 2015]. The 2013 edition of H.810 is split into eight parts in the H.810-series.	–
2015	–	5.0	Release 2015 of the CDG including maintenance updates of the CDG 2013 and additional guidelines that cover new functionalities.	Genome
2013 plus errata	[b-ITU-T H.810 (2013)]	4.1	Release 2013 plus errata noting all ratified bugs [b-CDG 2013].	–
2013	–	4.0	Release 2013 of the CDG including maintenance updates of the CDG 2012 and additional guidelines that cover new functionalities.	Endorphin
2012 plus errata	–	3.1	Release 2012 plus errata noting all ratified bugs [b-CDG 2012].	–
2012	–	3.0	Release 2012 of the CDG including maintenance updates of the CDG 2011 and additional guidelines that cover new functionalities.	Catalyst
2011 plus errata	–	2.1	CDG 2011 integrated with identified errata.	–
2011	–	2.0	Release 2011 of the CDG including maintenance updates of the CDG 2010 and additional guidelines that cover new functionalities [b-CDG 2011].	Adrenaline
2010 plus errata	–	1.6	CDG 2010 integrated with identified errata	–
2010	–	1.5	Release 2010 of the CDG with maintenance updates of the CDG Version 1 and additional guidelines that cover new functionalities [b-CDG 2010].	1.5
1.0	–	1.0	First released version of the CDG [b-CDG 1.0].	–

## 6 Test suite structure (TSS)

The test purposes (TP) for the Services interface have been divided into the main subgroups specified below. Annex A describes the TPs for subgroups 1.4.1 to 1.4.18 (shown in bold).

- Group 1: HFS sender (HFSS)
  - Group 1.1: Web services interoperability (WSI)

- Subgroup 1.1.1: Basic profile (BP)
- Subgroup 1.1.2: Basic security profile (BSP)
- Subgroup 1.1.3: Reliable messaging (RM)
- Group 1.2: Simple object access protocol (SOAP)
  - Subgroup 1.2.1: SOAP headers (HEAD)
- Group 1.3: Audit trail and node authentication (ATNA)
  - Subgroup 1.3.1: General (GEN)
  - Subgroup 1.3.2: PCD-01 (PCD-01)
  - Subgroup 1.3.3: Consent Management (CM)
- Group 1.4: PCD-01 HL7 messages (PCD-01-DATA)
  - **Subgroup 1.4.1: General (GEN)**
  - **Subgroup 1.4.2: Design guidelines (DG)**
  - **Subgroup 1.4.3: Pulse oximeter (PO)**
  - **Subgroup 1.4.4: Blood pressure monitor (BPM)**
  - **Subgroup 1.4.5: Thermometer (TH)**
  - **Subgroup 1.4.6: Weighing scales (WEG)**
  - **Subgroup 1.4.7: Glucose meter (GL)**
  - **Subgroup 1.4.8: Cardiovascular fitness and activity monitor (CV)**
  - **Subgroup 1.4.9: Strength fitness equipment (ST)**
  - **Subgroup 1.4.10: Independent living activity hub (HUB)**
  - **Subgroup 1.4.11: Adherence monitor (AM)**
  - **Subgroup 1.4.12: Peak expiratory flow monitor (PF)**
  - **Subgroup 1.4.13: Body composition analyser (BCA)**
  - **Subgroup 1.4.14: Basic electrocardiograph (ECG)**
  - **Subgroup 1.4.15: International normalized ratio (INR)**
  - **Subgroup 1.4.16: Sleep apnoea breathing therapy equipment (SABTE)**
  - **Subgroup 1.4.17: Insulin pump (IP)**
  - **Subgroup 1.4.18: Continuous glucose monitor (CGM)**
- Group 1.5: Consent Management (CM)
  - Subgroup 1.5.1: HFS XDR transaction (TRANS)
  - Subgroup 1.5.2: HFS metadata validation (META)
  - Subgroup 1.5.3: HFS consent directive validation (CDV)
- Group 1.6: hData Observation Upload (HDATA)
  - Subgroup 1.6.1: General (GEN)
- Group 1.7: Questionnaires (QUE)
  - Subgroup 1.7.1: General (GEN)
  - Subgroup 1.7.2: CDA validation (CDA)
- Group 2: HFS receiver (HFSR)
  - Group 2.1: Web service interoperability (WSI)
    - Subgroup 2.1.1: Basic profile (BP)
    - Subgroup 2.1.2: Basic security profile (BSP)

- Subgroup 2.1.3: Reliable messaging (RM)
- Group 2.2: SOAP (SOAP)
  - Subgroup 2.2.1: SOAP headers (HEAD)
- Group 2.3: Audit (ATNA)
  - Subgroup 2.3.1: General (GEN)
  - Subgroup 2.3.2: PCD-01 (PCD-01)
  - Subgroup 2.3.3: Consent management (CM)
- Group 2.4: PCD-01 HL7 messages (PCD-01-DATA)
  - Subgroup 2.4.1: General (GEN)
  - Subgroup 2.4.2: Design guidelines (DG)
  - Subgroup 2.4.3: Pulse oximeter (PO)
  - Subgroup 2.4.4: Blood pressure monitor (BPM)
  - Subgroup 2.4.5: Thermometer (TH)
  - Subgroup 2.4.6: Weighing scales (WEG)
  - Subgroup 2.4.7: Glucose meter (GL)
  - Subgroup 2.4.8: Cardiovascular fitness and activity monitor (CV)
  - Subgroup 2.4.9: Strength fitness equipment (ST)
  - Subgroup 2.4.10: Independent living activity hub (HUB)
  - Subgroup 2.4.11: Adherence monitor (AM)
  - Subgroup 2.4.12: Peak expiratory flow monitor (PF)
  - Subgroup 2.4.13: Body composition analyser (BCA)
  - Subgroup 2.4.14: Basic electrocardiograph (ECG)
  - Subgroup 2.4.15: International normalized ratio (INR)
  - Subgroup 2.4.16: Sleep apnoea breathing therapy equipment (SABTE)
  - Subgroup 2.4.17: Insulin pump (IP)
  - Subgroup 2.4.18: Continuous glucose monitor (CGM)
- Group 2.5: Consent Management (CM)
  - Subgroup 2.5.1: HFS XDR transaction (TRANS)
  - Subgroup 2.5.2: HFS service validation (SER)
- Group 2.6: hData Observation Upload (HDATA)
  - Subgroup 2.6.1: General (GEN)
  - Subgroup 2.6.2: hData record format (HRF)
- Group 2.7: Questionnaires (QUE)
  - Subgroup 2.7.1: General (GEN)
  - Subgroup 2.7.2: CDA validation (CDA)
  - Subgroup 2.7.3: hData record format (HRF)

## 7 Electronic attachment

The protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A can be downloaded from <http://handle.itu.int/11.1002/2000/12067>.

In the electronic attachment, letters "C" and "I" in the column labelled "Mandatory" are used to distinguish between "PICS" and "PIXIT" respectively during testing. If the cell is empty, the corresponding PICS is "independent". If the field contains a "C", the corresponding PICS is dependent on other PICS, and the logical expression is detailed in the "SCR\_Expression" field. The static conformance review (SCR) is used in the test tool to assert whether the PICS selection is consistent.

## Annex A

### Test purposes

(This annex forms an integral part of this Recommendation.)

#### A.1 TP definition conventions

The test purposes (TPs) are defined according to the following rules:

- **TP Id:** This is a unique identifier (TP/<TT>/<DUT>/<GR>/<SGR>/<XX> – <NNN>). It is specified according to the naming convention defined below:
  - Each test purpose identifier is introduced by the prefix "TP".
  - <TT>: This is the test tool that will be used in the test case.
    - HFS: Health & Fitness Services Interface
  - <DUT>: This is the device under test:
    - SEN: HFS Sender
    - REC: HFS receiver
  - <GR>: This identifies a group of test cases.
  - <SGR>: This identifies a subgroup of test cases.
  - <XX>: This identifies the type of testing:
    - BV: Valid behaviour test
    - BI: Invalid behaviour test
  - <NNN>: This is a sequential number that identifies the test purpose.
- **TP label:** This is the title of the TP.
- **Coverage:** This contains the specification reference and clause to be checked by the TP.
  - Spec: This indicates the earliest version of the specification from which the testable items to be checked by the TP are included.
  - Testable item: This contains testable items to be checked by the TP.
- **Test purpose:** This is a description of the requirements to be tested.
- **Applicability:** This contains the PICS items that define if the test case is applicable or not for a specific device. When a TP contains an "ALL" in this field it means that it applies to the device under test within that scope of the test (specialization, transport used, etc.).
- **Other PICS:** This contains additional PICS items (apart from the PICS specified in the Applicability row) which are used within the test case implementation and can modify the final verdict. When this row is empty, it means that only the PICS specified in the Applicability row are used within the test case implementation.
- **Initial condition:** This indicates the state to which the DUT needs to be moved at the beginning of TC execution.
- **Test procedure:** This describes the steps to be followed in order to execute the test case.
- **Pass/Fail criteria:** This provides criteria to decide whether the DUT passes or fails the test case.

## A.2 Subgroup 1.4.1: General (GEN)

<b>TP Id</b>		TP/HFS/SEN/PCD-01-DATA/GEN/BV-000		
<b>TP label</b>		Object Hierarchy and Message Construction		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ObjectHierarchy 1; M	ObjectHierarchy 2; M	ObjectHierarchy 3; M
		ObjectHierarchy 4; M	ObjectHierarchy 5; M	ObjectHierarchy 6; R
		ObjectHierarchy 7; M	ObjectHierarchy 8; M	ObjectHierarchy 9; M
		ObjectHierarchy 10; O	HierarchyAssig 2; M	MessageConst 3; M
		MessageConst 4; M	MessageConst 5; M	MessageConst 6; M
		MessageConst 7; M	MessageConst 8; M	MessageConst 9; M
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	PCD-OBX3-1; M	PCD-OBX3-2; M	PCD-OBX3-3; C	
<b>Test purpose</b>	<p>Check that:</p> <p>The devices each have a unique (within the message) MDS number assigned for the hierarchy notation (OBX-4)</p> <p>[AND]</p> <p>Observations from multiple devices may appear within the scope of the same OBR segment.</p> <p>[AND]</p> <p>A HFS message must contain a separate OBX specifically for the MDS object of each originating PHD agent</p> <p>[AND]</p> <p>The MDS-level OBX shall contain the Device's SystemId in OBX-18</p> <p>[AND]</p> <p>The MDS value '0' is reserved for observations related to the AHD itself</p> <p>[AND]</p> <p>Virtual Medical Device is not used by the Continua and it must appear as a 0 to signify an anonymous value</p> <p>[AND]</p> <p>If Channel-level is used, it should be a number that is unique to the specified MDS. If it is not used, it should appear as a 0 to signify an anonymous value</p> <p>[AND]</p> <p>A Metric element must be used for the individual measurements</p> <p>[AND]</p> <p>The value of the Metric element must be unique for each instance of a Metric observation</p> <p>[AND]</p> <p>Facet element must be used for relating values to the core Metric, like measurement status or supplemental type information.</p> <p>[AND]</p> <p>Each OBX shall be assigned a unique Observation Sub-ID (OBX-4) such that the contextual hierarchy is maintained</p> <p>[AND]</p> <p>The Continua Services interface requires that an AHD include its own time synchronization information and its certification material, which is accomplished through an OBX with an OBX-4 value of 0.0.0.x</p> <p>[AND]</p>			

	<p>The OBX segments shall add the OBXs for the MDS (device) and its relevant attributes</p> <p>[AND]</p> <p>MDS-level OBX segments shall use the 'X' status code to denote that it is not a physiological 'result'</p> <p>[AND]</p> <p>The OBX segments may add the OBXs for the device's channel(s) and their relevant attributes</p> <p>[AND]</p> <p>If it is present, Channel-level OBX segments shall use the 'X' status code to denote that it is not a physiological 'result'</p> <p>[AND]</p> <p>The OBX segments shall add the OBXs for the device and/or channel's metrics to be reported</p> <p>[AND]</p> <p>The OBX segments may add FACET-level OBXs for the metric's desired extraneous attributes</p> <p>[AND]</p> <p>MDS MODEL is used to provide device vendor/model and shall be mapped at the MDS level in the OBX with the value described by OBX-3.</p> <p>[AND]</p> <p>MDS DEVICE TYPE is used to describe the type of the PCD such as monitor, ventilator, infusion pump and shall be mapped at the MDS level in the OBX with the value described by OBX-3.</p> <p>[AND]</p> <p>For PCDs with complex operation states such as an infusion pump with a set of states like "Stopped", "Infusing Primary", "Infusing Secondary", "Bolus", etc.. or a ventilator with states "Standby", "Ventilating", etc. the Device Operational Status Enumeration Object is mapped to OBX-3.</p>
<b>Applicability</b>	C_SEN_000
<b>Other PICS</b>	C_SEN_DATA_001, C_SEN_DATA_002, C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. MDS object is contained in a separate OBX segment: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-11 = 'X' in MDS-level OBX</li> <li><input type="checkbox"/> MDS-level OBX contains in OBX-18 the device's system Id</li> </ul> </li> <li>b. If the CHANNEL-level OBX is present, OBX-11 = 'X'.</li> <li>c. OBX-3 of the MDS level has the value of the MDS Model and MDS Device Type or the Device Operational Status Enumeration Object (PCD has complex operation states)</li> <li>d. OBX-4 in each OBX segment indicates the following hierarchy: MDS[VMD[CHANNEL[METRIC[FACET[SUBFACET]]]]] <ul style="list-style-type: none"> <li>where: <ul style="list-style-type: none"> <li><input type="checkbox"/> The MDS value '0' is reserved for observations related to the AHD itself: its own time synchronization information, its certification material and OBX-4 = 0.0.0.x, where x could be any integer value.</li> <li><input type="checkbox"/> The VMD value is '0' because it is not used by Continua.</li> </ul> </li> </ul> </li> </ol> </li> </ol>



	<ul style="list-style-type: none"> <li><input type="checkbox"/> CHANNEL-level is used to report compound metrics, and if it is used, it is recommended that it has a unique number value. If CHANNEL-level is not used, it has a '0' value.</li> <li><input type="checkbox"/> METRIC is used for individual measurements and its value is unique for each instance of a metric observation.</li> <li><input type="checkbox"/> FACET is used for relating values to the core metric.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GEN/BV-001			
<b>TP label</b>	MSH Segment			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MSH-1; M	MSH-2; M	MSH-3; M
		MSH-4; M	MSH-5; M	MSH-6; M
		MSH-7; M	MSH-8; M	MSH-9; M
		MSH-10; M	MSH-11; M	MSH-12; M
		MSH-13; M	MSH-14; M	MSH-15; M
		MSH-16; M	MSH-17; M	MSH-18; M
		MSH-19; M	MSH-20; M	MSH-21; M
		MSH-22; M	MSH-23; M	MSH-24; M
		MSH-25; M	HL7Concept 2; M	CWEDataType 1; M
		CWEDataType 2; M	CWEDataType 3; C	CWEDataType 4; R
		DateTimeDataType 1; M	NumericDataType 1; M	StringDataType 1; M
		IDDataType 1; M	ISDataType 1; M	EIDDataType 1; M
		EIDDataType 2; O	EIDDataType 3; O	EIDDataType 4; O
	EIUse1; C	EIUse2; C	EIUse3; C	
EIUse4; C				
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	HDUse1; M	HDUse2; C	HDUse3; C	
	HD-1; M	HD-2; M	HD-3; M	
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of MSH segment of the message</p> <p>[AND]</p> <p>The data type of each element.</p>			
<b>Applicability</b>	C_SEN_000			
<b>Other PICS</b>	C_SEN_DATA_001, C_SEN_DATA_002			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a supported device specialization using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Only one MSH segment is present and that: <ul style="list-style-type: none"> <li><input type="checkbox"/> The character ' ' is the separator element.</li> <li><input type="checkbox"/> MSH-2 = '^~\&amp;' (for the encoding characters element).</li> <li><input type="checkbox"/> MSH-3 = &lt;Namespace ID (data type IS)^&lt;Universal ID (data type ST)&gt;^&lt;Universal Type (data type ID)&gt;</li> </ul> </li> </ol> </li> </ol>			

- If C\_SEN\_DATA\_001=TRUE, Namespace ID (HD-1) is optional and may contain a locally unique name for the application implementing PCD actor(s). Universal ID (HD-2) contains the EUI-64 identifier as a hexadecimal string. The IEEE defined 64-bit extended unique identifier (EUI-64) is a concatenation of the 24-bit company\_id value assigned by the IEEE registration authority and a 40-bit extension identifier assigned by the organization having that company\_id assignment. Universal ID (HD-2) contains all three components, Third component (required): EUI-64.
- If C\_SEN\_DATA\_002=TRUE, "Namespace ID" (HD-1) containing the name of the assigning authority, "Universal ID" (HD-2) containing its universal OID, and "Universal ID Type" (HD-3) containing the value ISO.
- Otherwise, if the Universal Type (HD-3) is valued, it takes one of the following values:
  - 'DNS' - An Internet dotted name. Either in ASCII or as integers.
  - 'GUID' - Same as UUID.
  - 'HCD' - The CEN healthcare coding scheme designator. (Identifiers used in DICOM follow this assignment scheme.)
  - 'HL7' - Reserved for future HL7 registration schemes.
  - 'L','M','N' - These are reserved for locally defined coding schemes.
  - 'Random' - Usually a base64 encoded string of random bits. The uniqueness depends on the length of the bits. Mail systems often generate ASCII string "unique names", from a combination of random bits and system names. Obviously, such identifiers will not be constrained to the base64 character set.
  - 'URI' - Uniform resource identifier
  - 'UUID' - The DCE universal unique identifier
  - 'x400' - An X.400 MHS format identifier
  - 'x500' - An X.500 directory name.
- MSH-4, MSH-5 and MSH-6 may be empty, but if they are not empty, they have the same encoding as MSH-3: *<Namespace ID (data type IS)>^<Universal ID (data type ST)>^<Universal Type (data type ID)>*.
- MSH-7 is encoded as **YYYYMMDDHHMMSS.S[S[S[S]]][+/-ZZZZ]** (required items in bold)
- MSH-8 is empty
- MSH-9 = 'ORU^R01^ORU\_R01'
- MSH-10 is a string (that uniquely identifies the message)
- MSH-11 = *<Processing ID (data type ID)>^<Processing Mode (data type ID)>*

where 'Processing ID' can be one of the following values:

  - 'D' for Debugging
  - 'P' for Processing
  - 'T' for Training.

and 'Processing Mode', can be one of the following values:

  - 'A' for archive
  - 'I' for initial load
  - 'R' for restore from archive
  - 'T' for current processing, transmitted at intervals
  - Not present (empty), meaning current processing.
- MSH-12 = 2.6

	<ul style="list-style-type: none"> <li>❑ MSH-13 should not be valued, but if it is valued, it is a sequence number (it is allowed to have any of these characters: '+', '-' and '.')</li> <li>❑ MSH-14 is empty</li> <li>❑ MSH-15 = 'NE'</li> <li>❑ MSH-16 = 'AL'</li> <li>❑ MSH-17 may be empty, but if it is valued, it uses a 3-character (alphabetic) form of ISO 3166.</li> <li>❑ MSH-18 may be empty, but if it is valued, it has one or more of these codes: <ul style="list-style-type: none"> <li>• 'ASCII' (the default)</li> <li>• '8859/1'</li> <li>• '8859/2'</li> <li>• '8859/3'</li> <li>• '8859/4'</li> <li>• '8859/5'</li> <li>• '8859/6'</li> <li>• '8859/7'</li> <li>• '8859/8'</li> <li>• '8859/9'</li> <li>• '8859/15'</li> <li>• 'ISO IR14'</li> <li>• 'ISO IR87'</li> <li>• 'ISO IR159'</li> <li>• 'GB 18030-2000'</li> <li>• 'KS X 1001'</li> <li>• 'CNS 11643-1992'</li> <li>• 'BIG-5'</li> <li>• 'UNICODE'</li> <li>• 'UNICODE UTF-8'</li> <li>• 'UNICODE UTF-16'</li> <li>• 'UNICODE UTF-32'</li> </ul> </li> <li>❑ MSH-19 may be empty, but if it is valued, it is encoded as CWE data type: <i>&lt;Identifier (ST)&gt;^&lt;Text (ST)&gt;^&lt; Name of Coding System (ID)&gt; ^&lt;Alternate Identifier (ST)&gt;^&lt;Alternate Text (ST)&gt;^&lt;Name of Alternate Codind System (ID)&gt;^&lt;Coding System Version ID (ST)&gt;^&lt;Alternate Coding System Version ID (ST)&gt;^&lt;Original Text (ST)&gt;</i>  where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.</li> <li>❑ MSH-20 is empty</li> <li>❑ MSH-21 = <i>&lt;Entity Identifier (data type ST)&gt; ^ &lt;Namespace ID (data type IS)&gt; ^ &lt;Universal ID (data type ST)&gt; ^ &lt;Universal ID Type (data type ID)&gt;</i>, where NamespaceID and UniversallID are 'HL7'</li> <li>❑ MSH-22, MSH-23, MSH-24, MSH-25 are empty</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>		TP/HFS/SEN/PCD-01-DATA/GEN/BV-002		
<b>TP label</b>		PID Segment		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	PID-1; M	PID-2; M	PID-3; M
		PID-4; M	PID-5; M	PID-6; R
		PID-7; M	PID-8; M	PID-9; M
		PID-10; M	PID-11; M	PID-12; M
		PID-13; M	PID-14; M	PID-15; R
		PID-16; R	PID-17; R	PID-18; R
		PID-19; M	PID-20; M	PID-21; R
		PID-22; R	PID-23; R	PID-24; R
		PID-25; R	PID-26; R	PID-27; R
		PID-28; M	PID-29; R	PID-30; R
		PID-31; R	PID-32; R	PID-33; R
		PID-34; R	PID-35; M	PID-36; M
		PID-37; M	PID-38; M	PID-39; M
		HL7Concept 3; M	CWEDataType 1; M	CWEDataType 2; M
		CWEDataType 3; C	CWEDataType 4; R	DateTimeDataType 1; M
		NumericDataType 1; M	StringDataType 1; M	XADDataType 1; M
		XADDataType 2; O	XADDataType 3; M	XADDataType 4; M
		XADDataType 5; M	XADDataType 6; O	XADDataType 7; M
		XADDataType 8; O	XPNDDataType 1; M	XPNDDataType 2; M
		XPNDDataType 3; M	XPNDDataType 4; M	XPNDDataType 5; M
		XPNDDataType 6; M	XPNDDataType 7; M	XPNDDataType 8; M
		XPNDDataType 9; R	XPNDDataType 10; M	XPNDDataType 11; R
		XPNDDataType 12; R	XPNDDataType 13; R	XPNDDataType 14; R
		CXDataType 1; M	CXDataType 2; R	CXDataType 3; R
		CXDataType 4; M	CXDataType 5; M	CXDataType 6; R
		IDDataType 1; M	ISDataType 1; M	XTNDataType 1; M
		XTNDataType 2; M	XTNDataType 3; M	XTNDataType 4; M
		XTNDataType 5; M	XTNDataType 6; M	XTNDataType 7; M
	XTNDataType 8; M	XTNDataType 9; M	XTNDataType 10; M	
XTNDataType 11; M				
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	HDUse1; M	HDUse2; C	HDUse3; C	
	HD-1; M	HD-2; M	HD-3; M	
<b>Test purpose</b>		Check that: The elements of PID segment of the message [AND] The data type of each element.		
<b>Applicability</b>		C_SEN_000		
<b>Other PICS</b>		C_SEN_DATA_001, C_SEN_DATA_002, C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>		The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation.		

<p><b>Test procedure</b></p>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a supported device specialization using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Only one PID segment is present and: <ul style="list-style-type: none"> <li><input type="checkbox"/> PID-1 and PID-2 are empty</li> <li><input type="checkbox"/> PID-3 is of CX data type: <i>&lt;ID Number (ST)&gt; ^ &lt;Identifier Check Digit (ST)&gt; ^ &lt;Check Digit Scheme (ID)&gt; ^ &lt;Assigning Authority (HD)&gt; ^ &lt;Identifier Type Code (ID)&gt; ^ &lt;Assigning Facility (HD)&gt; ^ &lt;Effective Date (DT)&gt; ^ &lt;Expiration Date (DT)&gt; ^ &lt;Assigning Jurisdiction (CWE)&gt; ^ &lt;Assigning Agency or Department (CWE)&gt;</i> <ul style="list-style-type: none"> <li>• Subcomponents for assigning authority (HD): <i>&lt;Namespace ID (IS)&gt; &amp; &lt;Universal ID (ST)&gt; &amp; &lt;Universal ID Type (ID)&gt;</i></li> <li>• Subcomponents for assigning facility (HD): <i>&lt;Namespace ID (IS)&gt; &amp; &lt;Universal ID (ST)&gt; &amp; &lt;Universal ID Type (ID)&gt;</i></li> <li>• Subcomponents for assigning jurisdiction (CWE): <i>&lt;Identifier (ST)&gt; &amp; &lt;Text (ST)&gt; &amp; &lt;Name of Coding System (ID)&gt; &amp; &lt;Alternate Identifier (ST)&gt; &amp; &lt;Alternate Text (ST)&gt; &amp; &lt;Name of Alternate Coding System (ID)&gt; &amp; &lt;Coding System Version ID (ST)&gt; &amp; &lt;Alternate Coding System Version ID (ST)&gt; &amp; &lt;Original Text (ST)&gt;</i>  where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.</li> <li>• Subcomponents for assigning agency or department (CWE): <i>&lt;Identifier (ST)&gt; &amp; &lt;Text (ST)&gt; &amp; &lt;Name of Coding System (ID)&gt; &amp; &lt;Alternate Identifier (ST)&gt; &amp; &lt;Alternate Text (ST)&gt; &amp; &lt;Name of Alternate Coding System (ID)&gt; &amp; &lt;Coding System Version ID (ST)&gt; &amp; &lt;Alternate Coding System Version ID (ST)&gt; &amp; &lt;Original Text (ST)&gt;</i>  where CX-1, CX-4 and CX-5 are required.</li> </ul> </li> <li><input type="checkbox"/> PID-4 is empty</li> <li><input type="checkbox"/> PID-5 is encoded as XPN data type: <i>&lt;Family Name (FN)&gt; ^ &lt;Given Name (ST)&gt; ^ &lt;Second and Further Given Names or Initials Thereof (ST)&gt; ^ &lt;Suffix (e.g., JR or III) (ST)&gt; ^ &lt;Prefix (e.g., DR) (ST)&gt; ^ &lt;DEPRECATED-Degree (e.g., MD) (IS)&gt; ^ &lt;Name Type Code (ID)&gt; ^ &lt;Name Representation Code (ID)&gt; ^ &lt;Name Context (CWE)&gt; ^ &lt;DEPRECATED-Name Validity Range (DR)&gt; ^ &lt;Name Assembly Order (ID)&gt; ^ &lt;Effective Date (DTM)&gt; ^ &lt;Expiration Date (DTM)&gt; ^ &lt;Professional Suffix (ST)&gt;</i> <ul style="list-style-type: none"> <li>• Subcomponents for family name (FN): <i>&lt;Surname (ST)&gt; &amp; &lt;Own Surname Prefix (ST)&gt; &amp; &lt;Own Surname (ST)&gt; &amp; &lt;Surname Prefix from Partner/Spouse (ST)&gt; &amp; &lt;Surname from Partner/Spouse (ST)&gt;</i></li> <li>• Subcomponents for name context (CWE): <i>&lt;Identifier (ST)&gt; &amp; &lt;Text (ST)&gt; &amp; &lt;Name of Coding System (ID)&gt; &amp; &lt;Alternate Identifier (ST)&gt; &amp; &lt;Alternate Text (ST)&gt; &amp; &lt;Name of Alternate Coding System (ID)&gt; &amp; &lt;Coding System Version ID (ST)&gt; &amp; &lt;Alternate Coding System Version ID (ST)&gt; &amp; &lt;Original Text (ST)&gt;</i>  where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.</li> <li>• Subcomponents for name validity range (DR): <i>&lt;Range Start Date/Time (DTM)&gt; &amp; &lt;Range End Date/Time (DTM)&gt;</i>  where XPN-7 is the only element that needs to be filled, and if it is an 'L' (legal name), it occurs first. Other possible values are: <ul style="list-style-type: none"> <li>- 'A' - Alias name</li> <li>- 'B' - Name at birth</li> <li>- 'C' - Adopted name</li> <li>- 'D' - Display name</li> <li>- 'I' - Licensing name</li> <li>- 'K' - Artist name</li> </ul> </li> </ul> </li> </ul></li></ol> </li> </ol>
------------------------------	---

- 'L' - Legal name
- 'M' - Maiden name
- 'N' - Nickname /"Call me" name/street name
- 'R' - Registered name (animals only)
- 'S' - Coded pseudo-name to ensure anonymity
- 'T' - Indigenous/tribal/community name
- 'U' - Unspecified

The remaining fields or PID-5 are required but may be empty, except the deprecated one, that must be empty.

- ❑ PID-6 should not be valued, but if it is valued, it is encoded as XPN data type, like PID-5.
- ❑ PID-7 may be empty. If it is valued, it is encoded as YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]
- ❑ PID-8 may be empty or its value is one of these values:
  - 'A' – Ambiguous
  - 'F' – Female
  - 'M' – Male
  - 'N' – Not applicable
  - 'O' – Other
  - 'U' – Unknown

- ❑ PID-9 is empty

- ❑ PID-10 may be empty or its value is of CWE data type: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)> ^ <Coding System Version ID (ST)> ^ <Alternate Coding System Version ID (ST)> ^ <Original Text (ST)>

and takes one of these values:

- '1002-5' - American indian or Alaska native
- '2028-9' - Asian
- '2054-5' - Black or African American
- '2076-8' - Native Hawaiian or Other Pacific islander
- '2106-3' - White
- '2131-1' - Other race

The second triplet of the CWE data type for race (alternate identifier, alternate text, and name of alternate coding system) is reserved for governmentally assigned codes.

- ❑ PID-11 may be empty or its value is of XAD data type: <Street Address (SAD)> ^ <Other Designation (ST)> ^ <City (ST)> ^ <State or Province (ST)> ^ <Zip or Postal Code (ST)> ^ <Country (ID)> ^ <Address Type (ID)> ^ <Other Geographic Designation (ST)> ^ <County/Parish Code (IS)> ^ <Census Tract (IS)> ^ <Address Representation Code (ID)> ^ <DEPRECATED-Address Validity Range (DR)> ^ <Effective Date (DTM)> ^ <Expiration Date (DTM)> ^ <Expiration Reason (CWE)> ^ <Temporary Indicator (ID)> ^ <Bad Address Indicator (ID)> ^ <Address Usage (ID)> ^ <Addressee (ST)> ^ <Comment (ST)> ^ <Preference Order (NM)> ^ <Protection Code (CWE)> ^ <Address Identifier (EI)>
  - Subcomponents for street address (SAD): <Street or Mailing Address (ST)> & <Street Name (ST)> & <Dwelling Number (ST)>
  - Subcomponents for address validity range (DR): <Range Start Date/Time (DTM)> & <Range End Date/Time (DTM)>

- Subcomponents for expiration reason (CWE): *<Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System (ID)> & <Coding System Version ID (ST)> & <Alternate Coding System Version ID (ST)> & <Original Text (ST)>*
- Subcomponents for protection code (CWE): *<Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System (ID)> & <Coding System Version ID (ST)> & <Alternate Coding System Version ID (ST)> & <Original Text (ST)>*
- Subcomponents for address identifier (EI): *<Entity Identifier (ST)> & <Namespace ID (IS)> & <Universal ID (ST)> & <Universal ID Type (ID)>*

where XAD-1, XAD-3, XAD-4, XAD-5, XAD-7 are required. The remaining elements are optional.

- PID-12 is empty
- If PID-13 is valued, PCD-01 limits this to two or fewer repetitions with the primary phone number to be the first. It is of XTN data type: *<WITHDRAWN Constituent> ^ <Telecommunication Use Code (ID)> ^ <Telecommunication Equipment Type (ID)> ^ <Communication Address (ST)> ^ <Country Code (NM)> ^ <Area/City Code (NM)> ^ <Local Number (NM)> ^ <Extension (NM)> ^ <Any Text (ST)> ^ <Extension Prefix (ST)> ^ <Speed Dial Code (ST)> ^ <Unformatted Telephone number (ST)> ^ <Effective Start Date (DTM)> ^ <Expiration Date (DTM)> ^ <Expiration Reason (CWE)> ^ <Protection Code (CWE)> ^ <Shared Telecommunication Identifier (EI)> ^ <Preference Order (NM)>*
- Subcomponents for expiration reason (CWE): *<Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System (ID)> & <Coding System Version ID (ST)> & <Alternate Coding System Version ID (ST)> & <Original Text (ST)>*
- Subcomponents for protection code (CWE): *<Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System (ID)> & <Coding System Version ID (ST)> & <Alternate Coding System Version ID (ST)> & <Original Text (ST)>*
- Subcomponents for Shared Telecommunication Identifier (EI): *<Entity Identifier (ST)> & <Namespace ID (IS)> & <Universal ID (ST)> & <Universal ID Type (ID)>*

where XTN-2 and XTN-3 are required and XTN-4 to XTN-10 are required but may be empty. The rest are not supported.

- PID-14 is empty.
- PID-15 should not be valued
- PID-16 should not be valued, but if it is valued, it takes a value from table 0002 HL7 V2.6
- PID-17 should not be valued, but if it is valued, it takes a value from table 0006 HL7 V2.6
- PID-18 should not be valued.
- PID-19 and PID-20 are empty.
- PID-21 should not be valued
- PID-22 should not be valued, but if it is valued, it takes one of these values:
  - 'H' - Hispanic or Latino
  - 'N' - Not Hispanic or Latino
  - 'U' - Unknown
- PID-23 should not be valued
- PID-24 should not be valued, but if it is valued, it takes one of these values:

	<ul style="list-style-type: none"> <li>• 'N' - No</li> <li>• 'Y' - Yes</li> </ul> <p><input type="checkbox"/> PID-25 to PID-29 should not be valued</p> <p><input type="checkbox"/> PID-30 and PID-31 should not be valued, but if it is valued, it takes one of these values:</p> <ul style="list-style-type: none"> <li>• 'N' - No</li> <li>• 'Y' - Yes</li> </ul> <p><input type="checkbox"/> PID-32 should not be valued, but if it is valued, it takes one of these values:</p> <ul style="list-style-type: none"> <li>• 'AL' - Patient/Person name is an alias</li> <li>• 'UA' - Unknown/Default address</li> <li>• 'UD' - Unknown/Default date of birth</li> <li>• 'US' - Unknown/Default social security number</li> </ul> <p><input type="checkbox"/> PID-33 should not be valued</p> <p><input type="checkbox"/> PID-34 should not be valued, but if it is valued, PID-34 = &lt;Namespace ID (data type IS)&gt;^&lt;Universal ID (data type ST)&gt;^&lt;Universal Type (data type ID)&gt;</p> <ul style="list-style-type: none"> <li>• If C_SEN_DATA_001=TRUE, Namespace ID (HD-1) is optional and may contain a locally unique name for the application implementing PCD actor(s). Universal ID (HD-2) contains the EUI-64 identifier as a hexadecimal string. The IEEE defined 64-bit extended unique identifier (EUI-64) is a concatenation of the 24-bit company_id value assigned by the IEEE Registration Authority, and a 40-bit extension identifier assigned by the organization having that company_id assignment. Universal ID (HD-2) contains all three components, third component (required): EUI-64</li> <li>• If C_SEN_DATA_002=TRUE, "Namespace ID" (HD-1) containing the name of the assigning authority, "Universal ID" (HD-2) containing its universal OID, and "Universal ID Type" (HD-3) containing the value ISO</li> <li>• Otherwise, if universal type (HD-3) is valued, it takes one of the following values: <ul style="list-style-type: none"> <li>- 'DNS' - An Internet dotted name. Either in ASCII or as integers</li> <li>- 'GUID' - Same as UUID.</li> <li>- 'HCD' - The CEN healthcare coding scheme designator. (Identifiers used in DICOM follow this assignment scheme.)</li> <li>- 'HL7' - Reserved for future HL7 registration schemes</li> <li>- 'L','M','N' - These are reserved for locally defined coding schemes.</li> <li>- 'Random' - Usually a base64 encoded string of random bits. The uniqueness depends on the length of the bits. Mail systems often generate ASCII string "unique names", from a combination of random bits and system names. Obviously, such identifiers will not be constrained to the base64 character set.</li> <li>- 'URI' - Uniform resource identifier</li> <li>- 'UUID' - The DCE universal unique identifier</li> <li>- 'x400' - An X.400 MHS format identifier</li> <li>- 'x500' - An X.500 directory name</li> </ul> </li> </ul> <p><input type="checkbox"/> PID-35 to PID-39 are empty, so they cannot be present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	



<b>TP Id</b>		TP/HFS/SEN/PCD-01-DATA/GEN/BV-003		
<b>TP label</b>		PV1 and ORC Segment		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	HL7Concept 4; O	PV1-1; M	
	<b>Spec</b>	[IHE PCD TF 2]		
	<b>Testable items</b>	ORUStaticDefinition4; M	ORCUse; M	
<b>Test purpose</b>		<p>Check that:</p> <p>Only one PV1 segment may be sent.</p> <p>[AND]</p> <p>It is unlikely that this segment will be required for the Services interface so the details have been omitted</p> <p>[AND]</p> <p>Order Common (ORC) segment shall not be present</p> <p>[AND]</p> <p>In PCD-03, the Common Order segment (ORC) is used to transmit fields that are common to all orders (all types of services that are requested). In PCD-01, ORC segments are not sent.</p>		
<b>Applicability</b>		C_SEN_000		
<b>Other PICS</b>		C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>		The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation.		
<b>Test procedure</b>		<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a supported device specialization using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. A PV1 segment may be present</li> <li>b. An ORC segment is not present.</li> </ol> </li> </ol>		
<b>Pass/Fail criteria</b>		Check that an ORC segment is not present.		
<b>Notes</b>				

<b>TP Id</b>		TP/HFS/SEN/PCD-01-DATA/GEN/BV-004		
<b>TP label</b>		OBR Segment		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	HL7Concept 5; M	OBR-1; M	OBR-2; M
		OBR-3; M	OBR-4; M	OBR-5; M
		OBR-6; M	OBR-9; M	HL7Concept 6; O
		NTE-1; M	NTE-2; M	NTE-3; M
		NTE-4; M	NTE-5; O	NTE-6; M
		NTE-7; M	NTE-8; M	CWEDataType 1; M
		CWEDataType 2; M	CWEDataType 3; C	CWEDataType 4; R
		DateTimeDataType 1; M	EIDataType 1; M	EIDataType 2; O
		EIDataType 3; O	EIDataType 4; O	EIUse1; C
		EIUse2; C	EIUse3; C	EIUse4; C
		IDDataType 1; M	ISDataType 1; M	SIDDataType 1; M

<b>Test purpose</b>	<p>Check that:</p> <p>The elements of OBR segment of the message and its respective NTE optional segment [AND]</p> <p>The data type of each element.</p>
<b>Applicability</b>	C_SEN_000
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a supported device specialization using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. An OBR segment is present, but there may be more than one and: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBR-1 starts with 1 and increases sequentially in following OBR segments if there are more than one.</li> <li><input type="checkbox"/> OBR-2 is of EI data type encoded as: <i>&lt;Entity Identifier (ST)&gt; ^ &lt;Namespace ID (IS)&gt; ^ &lt;Universal ID (ST)&gt; ^ &lt;Universal ID Type (ID)&gt;</i> <p>If there is an existing order, OBR-2 is set to the identifier of the system that has placed that order. If there is no order or a standing one:</p> <ul style="list-style-type: none"> <li>• The first component is the order ID that is simply an arbitrary string.</li> <li>• The second component contains an HD that identifies the application which implements the HFS client component.</li> <li>• The third component contains the EUI-64 of the device which implements the HFS client component.</li> </ul> </li> <li><input type="checkbox"/> OBR-3 is of EI data type encoded as: <i>&lt;Entity Identifier (ST)&gt; ^ &lt;Namespace ID (IS)&gt; ^ &lt;Universal ID (ST)&gt; ^ &lt;Universal ID Type (ID)&gt;</i> <ul style="list-style-type: none"> <li>• The first component is an arbitrary order ID string,</li> <li>• The second, third and fourth components are used like an HD to identify the application which implements the HFS client component and shall contain the EUI-64 of this device. For "standing orders", this value should match OBR-2.</li> </ul> </li> <li><input type="checkbox"/> OBR-4 is of CWE data type encoded as: <i>&lt;Identifier (ST)&gt; ^ &lt;Text (ST)&gt; ^ &lt;Name of Coding System (ID)&gt; ^ &lt;Alternate Identifier (ST)&gt; ^ &lt;Alternate Text (ST)&gt; ^ &lt;Name of Alternate Coding System (ID)&gt; ^ &lt;Coding System Version ID (ST)&gt; ^ &lt;Alternate Coding System Version ID (ST)&gt; ^ &lt;Original Text (ST)&gt;</i>, where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present. <p>It contains the identifier code for the requested observation/test/battery. This can refer to specific existing orders, or nonspecific "standing" orders.</p> <p>When reporting events related to "standing" orders, these codes will likely describe a generic service such as:</p> <ul style="list-style-type: none"> <li>• '266706003^continuous ECG monitoring^SNOMED-CT'</li> <li>• '359772000^glucose monitoring at home^SNOMED-CT'</li> <li>• '182777000^monitoring of patient^SNOMED-CT'.</li> </ul> </li> <li><input type="checkbox"/> OBR-5, OBR-6 and OBR-9 through to OBR-50 are empty</li> <li><input type="checkbox"/> If valued, OBR-7 is of DTM data type encoded as: <i>YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</i></li> <li><input type="checkbox"/> If valued, OBR-8 is of DTM data type encoded as: <i>YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</i></li> </ul> </li> <li>b. If the NTE segment is present: <ul style="list-style-type: none"> <li><input type="checkbox"/> NTE-1 is a non-negative number required for distinguishing when multiple NTE segments appear in a message.</li> </ul> </li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li><input type="checkbox"/> NTE-2 is empty</li> <li><input type="checkbox"/> NTE-3 may be empty, but if it is valued, it is a text comment.</li> <li><input type="checkbox"/> NTE-4 is empty</li> <li><input type="checkbox"/> If NTE-5 is present, it is of type XCN encoded as: &lt;ID Number (ST)&gt;^&lt;Family Name (FN)&gt;^&lt;Given Name (ST)&gt;^&lt;Second and Further Given Names or Initials Thereof (ST)&gt;^&lt;Suffix (ST)&gt;^&lt;Prefix (ST)&gt;^&lt;DEPRECATED-Degree (IS)&gt;^&lt;Source Table (IS)&gt;^&lt;Assigning Authority (HD)&gt;^&lt;Name Type Code (ID)&gt;^&lt;Identifier Check Digit (ST)&gt;^&lt;Check Digit Scheme (ID)&gt;^&lt;Identifier Type Code (ID)&gt;^&lt;Assigning Facility (HD)&gt;^&lt;Name Representation Code (ID)&gt; ^ &lt;Name Context (CWE)&gt; ^ &lt;DEPRECATED-Name Validity Range (DR)&gt; ^ &lt;Name Assembly Order (ID)&gt; ^ &lt;Effective Date (DTM)&gt; ^ &lt;Expiration Date (DTM)&gt; ^ &lt;Professional Suffix (ST)&gt; ^ &lt;Assigning Jurisdiction (CWE)&gt; ^ &lt;Assigning Agency or Department (CWE)&gt; <ul style="list-style-type: none"> <li>• Subcomponents for family name (FN): &lt;Surname (ST)&gt; &amp; &lt;Own Surname Prefix (ST)&gt; &amp; &lt;Own Surname (ST)&gt; &amp; &lt;Surname Prefix from Partner/Spouse (ST)&gt; &amp; &lt;Surname from Partner/Spouse (ST)&gt;</li> <li>• Subcomponents for assigning authority (HD): &lt;Namespace ID (IS)&gt; &amp; &lt;Universal ID (ST)&gt; &amp; &lt;Universal ID Type (ID)&gt;</li> <li>• Subcomponents for assigning facility (HD): &lt;Namespace ID (IS)&gt; &amp; &lt;Universal ID (ST)&gt; &amp; &lt;Universal ID Type (ID)&gt;</li> <li>• Subcomponents for name context (CWE): &lt;Identifier (ST)&gt; &amp; &lt;Text (ST)&gt; &amp; &lt;Name of Coding System (ID)&gt; &amp; &lt;Alternate Identifier (ST)&gt; &amp; &lt;Alternate Text (ST)&gt; &amp; &lt;Name of Alternate Coding System (ID)&gt; &amp; &lt;Coding System Version ID&amp; &lt;Alternate Coding System Version ID (ST)&gt; &amp; &lt;Original Text (ST)&gt;, where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.</li> <li>• Subcomponents for name validity range (DR): &lt;Range Start Date/Time (DTM)&gt;&amp;&lt;Range End Date/Time&gt;</li> <li>• Subcomponents for assigning jurisdiction (CWE): &lt;Identifier (ST)&gt; &amp; &lt;Text (ST)&gt; &amp; &lt;Name of Coding System (ID)&gt; &amp; &lt;Alternate Identifier (ST)&gt; &amp; &lt;Alternate Text (ST)&gt; &amp; &lt;Name of Alternate Coding System (ID)&gt; &amp; &lt;Coding System Version ID&amp; &lt;Alternate Coding System Version ID (ST)&gt; &amp; &lt;Original Text (ST)&gt;, where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.</li> <li>• Subcomponents for assigning agency or department (CWE): &lt;Identifier (ST)&gt; &amp; &lt;Text (ST)&gt; &amp; &lt;Name of Coding System (ID)&gt; &amp; &lt;Alternate Identifier (ST)&gt; &amp; &lt;Alternate Text (ST)&gt; &amp; &lt;Name of Alternate Coding System (ID)&gt; &amp; &lt;Coding System Version ID&amp; &lt;Alternate Coding System Version ID (ST)&gt; &amp; &lt;Original Text (ST)&gt;, where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.</li> </ul> </li> <li><input type="checkbox"/> NTE-6, NTE-7 and NTE-8 are empty</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GEN/BV-005		
<b>TP label</b>	TQ1 Segment		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	HL7Concept 6; R	TQ1-1; M
<b>Test purpose</b>	Check that: Timing/Quality (TQ1) segment should not be used on the Services interface		
<b>Applicability</b>	C_SEN_000		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		

<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a supported device specialization using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. It is recommended that a TQ1 segment is not present.</li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	It is recommended that a TQ1 segment is not present. If it is present, issue a warning trace log message.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GEN/BV-006		
<b>TP label</b>	OBX Segment		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	HL7Concept 8; M	HL7Concept 9; O
		OBR-8; M	OBR-7; M
		OBX-1; M	OBX-2; M
		OBX-3; M	OBX-4; M
		OBX-4; M	OBX-6; M
		OBX-7; M	OBX-8; M
		OBX-8; M	OBX-9; M
		OBX-10; M	OBX-11; M
		OBX-11; M	OBX-12; M
		OBX-13; M	OBX-14; M
		OBX-14; M	OBX-15; M
		OBX-16; M	OBX-17; M
		OBX-17; M	OBX-18; M
		OBX-19; M	OBX-20; M
		OBX-20; M	OBX-21; M
		NTE-1; M	NTE-2; M
		NTE-2; M	NTE-3; M
		NTE-4; M	NTE-5; O
		NTE-5; O	NTE-6; M
		NTE-7; M	NTE-8; M
		NTE-8; M	CWEDataType 1; M
		CWEDataType 2; M	CWEDataType 3; C
		CWEDataType 3; C	CWEDataType 4; R
		DateTimeDataType 1; M	NumericDataType 1; M
		NumericDataType 1; M	StringDataType 1; M
		EIDDataType 1; M	EIDDataType 2; O
		EIDDataType 2; O	EIDDataType 3; O
		EIDDataType 4; O	EIUse1; C
		EIUse1; C	EIUse2; C
		EIUse3; C	EIUse4; C
		EIUse4; C	IDDataType 1; M
		ISDataType 1; M	SIDDataType 1; M
		SIDDataType 1; M	
	<b>Spec</b>	[IHE PCD TF 2]	
	<b>Testable items</b>	PCD-OBX2; M	
<b>Test purpose</b>	<p>Check that:</p> <p>The elements of OBX segment of the message and its respective NTE optional segment [AND]</p> <p>The data type of each element.</p>		
<b>Applicability</b>	C_SEN_000		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a supported device specialization using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. An OBX segment is present, but there may be more than one and: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-1 is a sequence number of the OBX in the message.</li> </ul> </li> </ol> </li> </ol>		

- ❑ OBX-2 is one of these values: CWE, CF, DT, DTM, ED, FT, NA, NM, SN, ST, TM, TX, XAD, XCN, XON, XPN, or may be empty; and matches with the data type of the value of OBX-5.
- ❑ OBX-3 is of CWE data type encoded as: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)> ^ <Coding System Version ID (ST)> ^ <Alternate Coding System Version ID (ST)> ^ <Original Text (ST)>, where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.
- ❑ OBX-4 is a string of type a[b.c[d.e]]]
- ❑ OBX-6, if valued, is of CWE data type encoded as: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)> ^ <Coding System Version ID (ST)> ^ <Alternate Coding System Version ID (ST)> ^ <Original Text (ST)>, where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.
- ❑ OBX-7 is of ST data type, but may be empty.
- ❑ OBX-8 is one of these values: L, H, LL, HH, <, >, N, A, AA, null, U, D, B, W, S, R, I, MS, VS, or may be empty.
- ❑ OBX-9 is empty.
- ❑ OBX-10 is recommended to be empty, but if it is valued, it is one of these values: A, N, R, S, SP, B or ST.
- ❑ OBX-11 is one of these values: C, D, F, I, N, O, P, R, X, U or W.
- ❑ OBX-12 and OBX-13 are empty.
- ❑ OBX-14 may be empty, but if it is valued, it is of DTM data type encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]. This timestamp is greater than or equal to OBR-7 and less than OBR-8, if they are valued.
- ❑ OBX-15 is recommended to be empty, but if it is valued, it is of CWE data type, encoded as: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)> ^ <Coding System Version ID (ST)> ^ <Alternate Coding System Version ID (ST)> ^ <Original Text (ST)>, where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.
- ❑ OBX-16 may be empty, but if it is valued, it is of XCN data type, encoded as: <ID Number (ST)> ^ <Family Name (FN)> ^ <Given Name (ST)> ^ <Second and Further Given Names or Initials Thereof (ST)> ^ <Suffix (e.g., JR or III) (ST)> ^ <Prefix (e.g., DR) (ST)> ^ <DEPRECATED-Degree (e.g., MD) (IS)> ^ <Source Table (IS)> ^ <Assigning Authority (HD)> ^ <Name Type Code (ID)> ^ <Identifier Check Digit (ST)> ^ <Check Digit Scheme (ID)> ^ <Identifier Type Code (ID)> ^ <Assigning Facility (HD)> ^ <Name Representation Code (ID)> ^ <Name Context (CWE)> ^ <DEPRECATED-Name Validity Range (DR)> ^ <Name Assembly Order (ID)> ^ <Effective Date (DTM)> ^ <Expiration Date (DTM)> ^ <Professional Suffix (ST)> ^ <Assigning Jurisdiction (CWE)> ^ <Assigning Agency or Department (CWE)>
  - Subcomponents for family name (FN): <Surname (ST)> & <Own Surname Prefix (ST)> & <Own Surname (ST)> & <Surname Prefix from Partner/Spouse (ST)> & <Surname from Partner/Spouse (ST)>
  - Subcomponents for assigning authority (HD): <Namespace ID (IS)> & <Universal ID (ST)> & <Universal ID Type (ID)>
  - Subcomponents for assigning facility (HD): <Namespace ID (IS)> & <Universal ID (ST)> & <Universal ID Type (ID)>
  - Subcomponents for name context (CWE): <Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System (ID)> & <Coding System Version ID (ST)> & <Alternate Coding System Version ID (ST)> & <Original Text (ST)>
  - Subcomponents for name validity range (DR): <Range Start Date/Time (DTM)> & <Range End Date/Time (DTM)>

- Subcomponents for assigning jurisdiction (CWE): <Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System (ID)> & <Coding System Version ID (ST)> & <Alternate Coding System Version ID (ST)> & <Original Text (ST)>
  - Subcomponents for assigning agency or department (CWE): <Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System (ID)> & <Coding System Version ID (ST)> & <Alternate Coding System Version ID (ST)> & <Original Text (ST)>
  - ❑ OBX-17 may be empty, but if it is valued, it is of CWE data type, encoded as: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)> ^ <Coding System Version ID (ST)> ^ <Alternate Coding System Version ID (ST)> ^ <Original Text (ST)>, where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.
  - ❑ If valued, OBX-18 is of EI data type, encoded as: <Entity Identifier (ST)> ^ <Namespace ID (IS)> ^ <Universal ID (ST)> ^ <Universal ID Type (ID)>, where "Namespace ID" is recommended to be EUI-64.
  - ❑ OBX-19 is recommended to be empty, but if it is valued, OBX-19 = OBX-14.
  - ❑ OBX-20 may be empty, but if it is valued, it is of type CWE with an appropriate MDC code for the observation.
  - ❑ OBX-21 to OBX-25 are strongly recommended to be empty.
- b. If the NTE segment is present:
- ❑ NTE-1 is a non-negative number required for distinguishing when multiple NTE segments appear in a message
  - ❑ NTE-2 is empty
  - ❑ NTE-3 may be empty, but if it is valued, it is a text comment
  - ❑ NTE-4 is empty
  - ❑ If NTE-5 is present, it is of type XCN encoded as: <ID Number (ST)> ^ <Family Name (FN)> ^ <Given Name (ST)> ^ <Second and Further Given Names or Initials Thereof (ST)> ^ <Suffix (ST)> ^ <Prefix (ST)> ^ <DEPRECATED-Degree (IS)> ^ <Source Table (IS)> ^ <Assigning Authority (HD)> ^ <Name Type Code (ID)> ^ <Identifier Check Digit (ST)> ^ <Check Digit Scheme (ID)> ^ <Identifier Type Code (ID)> ^ <Assigning Facility (HD)> ^ <Name Representation Code (ID)> ^ <Name Context (CWE)> ^ <DEPRECATED-Name Validity Range (DR)> ^ <Name Assembly Order (ID)> ^ <Effective Date (DTM)> ^ <Expiration Date (DTM)> ^ <Professional Suffix (ST)> ^ <Assigning Jurisdiction (CWE)> ^ <Assigning Agency or Department (CWE)>
  - Subcomponents for family name (FN): <Surname (ST)> & <Own Surname Prefix (ST)> & <Own Surname (ST)> & <Surname Prefix from Partner/Spouse (ST)> & <Surname from Partner/Spouse (ST)>
  - Subcomponents for assigning authority (HD): <Namespace ID (IS)> & <Universal ID (ST)> & <Universal ID Type (ID)>
  - Subcomponents for assigning facility (HD): <Namespace ID (IS)> & <Universal ID (ST)> & <Universal ID Type (ID)>
  - Subcomponents for name context (CWE): <Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System (ID)> & <Coding System Version ID (ST)> & <Alternate Coding System Version ID (ST)> & <Original Text (ST)>, where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.
  - Subcomponents for name validity range (DR): <Range Start Date/Time (DTM)> & <Range End Date/Time (DTM)>
  - Subcomponents for assigning jurisdiction (CWE): <Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System

	<p>(ID)&gt; &lt;Coding System Version ID&amp; &lt;Alternate Coding System Version ID (ST)&gt; &amp; &lt;Original Text (ST)&gt;, where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.</p> <ul style="list-style-type: none"> <li>Subcomponents for assigning agency or department (CWE): &lt;Identifier (ST)&gt; &amp; &lt;Text (ST)&gt; &amp; &lt;Name of Coding System (ID)&gt; &amp; &lt;Alternate Identifier (ST)&gt; &amp; &lt;Alternate Text (ST)&gt; &amp; &lt;Name of Alternate Coding System (ID)&gt; &amp; &lt;Coding System Version ID&amp; &lt;Alternate Coding System Version ID (ST)&gt; &amp; &lt;Original Text (ST)&gt;, where CWE-1 is required, CWE-2 to CWE-6 are required but may be empty and the rest can be present.</li> </ul> <p><input type="checkbox"/> NTE-6, NTE-7 and NTE-8 are empty</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	OBX-5 is avoided and tested in each specialization because it can have any data type value.

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GEN/BV-007			
<b>TP label</b>	Timestamping and Time Synchronization			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Timestamp 3; M	Timestamp 4; C	Timestamp 5; C
		Timestamp 9; O	Timestamp 10; M	Timestamp 11; R
		Timestamp 12; O	Timestamp 13; O	Timestamp 15; O
		Timestamp 16; O	Timestamp 17; M	
	<b>Spec</b>	[ITU-T H.812.1]		
<b>Testable items</b>	DataGuidelines 22, M			
<b>Test purpose</b>	Check that: Time synchronization elements from the AHD are as required.			
<b>Applicability</b>	C_SEN_000			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>Make the HFS sender under test send a HL7 message containing an observation of a supported device specialization using SOAP or hData observation upload.</li> <li>Check in the captured message that: <ol style="list-style-type: none"> <li>In OBX segments: <ul style="list-style-type: none"> <li><input type="checkbox"/> Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; where: <ul style="list-style-type: none"> <li>refIdValue: is a 32 bit integer (required)</li> <li>refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li>refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li><input type="checkbox"/> MDC_TIME_SYNC_PROTOCOL is present as an independent OBX segment with: <ul style="list-style-type: none"> <li>OBX-2 = 'CWE'</li> <li>OBX-3 = '68220^MDC_TIME_SYNC_PROTOCOL^MDC'</li> <li>OBX-4 = 0.x.y.z, where x, y, z could be any integer value</li> <li>OBX-5 = One of these values: 532224^MDC_TIME_SYNC_NONE^MDC</li> </ul> </li> </ul> </li> </ol> </li> </ol>			

	<p>532225^MDC_TIME_SYNC_NTPV3^MDC  532226^MDC_TIME_SYNC_NTPV4^MDC  532227^MDC_TIME_SYNC_SNTPV4^MDC  532228^MDC_TIME_SYNC_SNTPV4330^MDC  532229^MDC_TIME_SYNC_BTV1^MDC  532230^MDC_TIME_SYNC_RADIO^MDC  532231^MDC_TIME_SYNC_HL7_NCK^MDC  532232^MDC_TIME_SYNC_CDMA^MDC  532233^MDC_TIME_SYNC_GSM^MDC  532234^MDC_TIME_SYNC_EBWW^MDC  532235^MDC_TIME_SYNC_USB_SOF^MDC</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> If another MDC_TIME_SYNC_PROTOCOL is present, it has an OBX-4 with an MDS-level different to 0, the rest of the elements of the OBX segment are the same as above.</li> <li><input type="checkbox"/> If MDC_TIME_SYNC_PROTOCOL is MDC_TIME_SYNC_NONE, MDC_TIME_SYNC_ACCURACY is not present</li> <li><input type="checkbox"/> If MDC_TIME_SYNC_ACCURACY is present and the synchronization protocol used is NTP, the value of the accuracy, OBX-5, is calculated using this formula:  <math display="block">(\text{root dispersion} + 1/2 * \text{root delay}) * \text{clock drift}</math></li> <li><input type="checkbox"/> If relative time or Hi-Res Relative time are present as an AHD observation (OBX-4 = 0.0.0.x), where x could be any integer value: <ul style="list-style-type: none"> <li>• if the time synchronization between this relative or high-resolution relative clock is known relative to UTC, it is disclosed in OBX-14</li> <li>• OBX-18 contains a Timebase Id.</li> <li>• their respective resolution can be present: MDC_TIME_RES_REL or MDC_TIME_RES_HI_REL</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GEN/BV-008			
<b>TP label</b>	HFS Client Regulatory Information			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	AHDOject 2; M	AHDOject 3; M	AHDOject 4; M
		AHDOject 5; M	AHDOject 6; M	AHDOject 7; M
		AHDOject 8; M	AHDOject 10; M	AHDOject 11; M
		AHDOject 12; M	AHDOject 13; M	AHDOject 14; M
		AHDOject 15; M	AHDOject 16; M	AHDOject 17; M
		AHDOject 18; M	AHDOject 19; M	AHDOject 20; M
		AHDOject 21; M	AHDOject 22; M	AHDOject 23; M
		MeasureStatus 3; M	ObjectHierarchy 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 10; M	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: HFS client components shall include their regulatory information as a subcomponent (METRIC) of the AHD-level OBX in a special set of zero-level OBX segments.			



<b>Applicability</b>	C_SEN_000
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a supported device specialization using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The set of zero-level OBX segments for the AHD occurs only once in a PCD-01 document after the first OBR entry.</li> <li>b. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>c. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit.</li> </ul> </li> <li>d. Specific AHD shall follow this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 shall be empty</li> <li><input type="checkbox"/> OBX-3 = 531981^ MDC_MOC_VMS_MDS_AHD^MDC</li> <li><input type="checkbox"/> OBX-4 = 0</li> <li><input type="checkbox"/> OBX-11 = 'X' or 'R'</li> <li><input type="checkbox"/> OBX-18 (System-Id attribute) = &lt;Entity Identifier (ST)&gt;^EUI-64</li> </ul> </li> <li>e. Time-Sync-Protocol attribute shall be sent as an independent OBX segment with the following mandatory fields: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-2 = 68220^MDC_TIME_SYNC_PROTOCOL^MDC'</li> <li><input type="checkbox"/> OBX-4 = 0.0.0.a, being 'a' a number indicating the metric level.</li> <li><input type="checkbox"/> OBX-5 = A valid nomenclature code from nom-part-infrastruct partition.</li> <li><input type="checkbox"/> OBX-11 = 'X' or 'R'</li> </ul> </li> <li>f. Time-Sync-Accuracy attribute, if present, shall be sent as an independent OBX segment with the following mandatory fields: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 68221^MDC_TIME_SYNC_ACCURACY^MDC</li> <li><input type="checkbox"/> OBX-4 = 0.0.0.b, being 'b' a number indicating the metric level.</li> <li><input type="checkbox"/> OBX-5 = NM data type value</li> <li><input type="checkbox"/> OBX-6 = 264339^MDC_DIM_MICRO_SEC^MDC</li> <li><input type="checkbox"/> OBX-11 = 'X' or 'R'</li> </ul> </li> <li>g. Time-Resolution-Abs-Time attribute, if present, shall be sent as an independent OBX segment with the following mandatory fields: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 68222^MDC_TIME_RES_ABS^MDC</li> <li><input type="checkbox"/> OBX-4 = 0.0.0.c, being 'c' a number indicating the metric level.</li> <li><input type="checkbox"/> OBX-5 = NM data type value</li> </ul> </li> </ol> </li> </ol>

- OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- OBX-11 = 'X' or 'R'
- h. Relative-Time attribute, if present, shall be sent as an independent OBX segment with the following mandatory fields:
  - OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = 0.0.0.d, being 'd' a number indicating the metric level.
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-11 = 'X' or 'R'
  - OBX-18 = A unique identifier for the given time base.
- i. Time-Resolution-Rel-Time attribute, if present, shall be sent as an independent OBX segment with the following mandatory fields:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-4 = 0.0.0.e, being 'e' a number indicating the metric level.
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-11 = 'X' or 'R'
- j. HiRes-Relative-Time attribute, if present, shall be sent as an independent OBX segment with the following mandatory fields:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.f, being 'f' a number indicating the metric level.
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-11 = 'X' or 'R'
  - OBX-18 = A unique identifier for the given time base.
- k. Time-Resolution-High-Res-Time attribute shall be sent as an independent OBX segment with the following mandatory fields:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.g, being 'g' a number indicating the metric level.
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-11 = 'X' or 'R'
- l. AHD-Reg-Cert-Data-List is sent as an attribute of the device using three separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
  - OBX-2 = 'CWE'
  - OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
  - OBX-4 = 0.0.0.h, being 'h' a number indicating the metric level.
  - OBX-5 = One of:
    - 0^auth-body-empty,
    - 1^auth-body-ieeee-11073,
    - 2^auth-body-continua,

	<p>254^auth-body-experimental, 255^auth-body-reserved</p> <ul style="list-style-type: none"> <li>❑ OBX-11 = 'X' or 'R'</li> </ul> <p>m. AHD-Reg-Cert-Data-List will be sent using four separate attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:</p> <ul style="list-style-type: none"> <li>❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'ST'</li> <li>• OBX-3 = 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC</li> <li>• OBX-4 = 0.0.0.y.a, where 'y' is a number indicating the metric level of one of the three Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;major-IG-version&gt;.&lt;minor-IG-version&gt;,</li> <li>• OBX-11 = 'X' or 'R'</li> </ul> </li> <li>❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'NA'</li> <li>• OBX-3 = 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC</li> <li>• OBX-4 = 0.0.0.x.b, where 'x' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a facet entry and 'b' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = NA value listing the certified devices.</li> <li>• OBX-11 = 'X' or 'R'</li> </ul> </li> <li>❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'CWE'</li> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = 0.0.0.y.a, where 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute or the Regulation-Certification-Continua-AHD-Cert-List attribute as a Facet entry, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> </li> <li>❑ Regulation- Certification-Continua-AHD-Cert-List attribute shall be sent as an independent OBX segment with the following mandatory fields: <ul style="list-style-type: none"> <li>• OBX-2 = 'CWE'</li> <li>• OBX-3 = 64515^MDC_REG_CERT_DATA_CONTINUA_AHD_CERT_LIST ^MDC</li> <li>• OBX-4 = 0.0.0.z.a, where 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute or the Regulation-Certification-Continua-Regulation-Status attribute as a facet entry and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = a list of AHD certification properties: 0~1</li> <li>• OBX-11 = 'X' or 'R'</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

### A.3 Subgroup 1.4.2: Design guidelines (DG)

<b>TP Id</b>		TP/HFS/SEN/PCD-01-DATA/DG/BV-000		
<b>TP label</b>		DataGuidelines		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 4; M	DataGuidelines 6; M	DataGuidelines 7; M
<b>Test purpose</b>		<p>Check that:</p> <p>Continua HFS client component observations shall use the Medical Device Communication (MDC) coding system for all Observation Identifiers (OBX-3, OBX-20).</p> <p>[AND]</p> <p>All Observation Result segments should terminate after their last non-empty sequence.</p> <p>[AND]</p> <p>For observations which originate from a Continua PHD, the HFS client component shall include an MDS-level OBX segment with an Observation Identifier equal to the MDC Device Specialization Profile reported by the PHD.</p> <p>[AND]</p> <p>When encoding MDC codes using the HL7 CWE data type, HFS client components shall use the format of &lt;refIdValue&gt;^&lt;refIdName&gt;&lt;refIdCodeSystem&gt;</p> <p>Where:</p> <ul style="list-style-type: none"> <li>- refIdValue: is the 32 bit integer that corresponds to the unique code point</li> <li>- refIdName: the normative nomenclature name for the unique code point</li> <li>- refIdCodeSystem: the value shall always be "MDC"</li> </ul> <p>The values for refIdValue and refIdCodeSystem shall always be present and the value for refIdName should be present.</p>		
<b>Applicability</b>		C_SEN_000		
<b>Other PICS</b>		C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>		The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation.		
<b>Test procedure</b>		<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a supported device specialization using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. It is recommended that each segment terminates when the last non-empty element appears.</li> <li>b. In the OBX segment of MDS-level: <ul style="list-style-type: none"> <li><input type="checkbox"/> each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; where: <ul style="list-style-type: none"> <li>• refIdValue: is a 32 bit integer (required)</li> <li>• refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li>• refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li><input type="checkbox"/> OBX-3 uses one of these observation Ids, corresponding to the specific Continua PHD used: <ul style="list-style-type: none"> <li>• Pulse oximeter: 528388^MDC_DEV_SPEC_PROFILE_PULS_OXIM^MDC</li> <li>• Blood pressure monitor: 528391^MDC_DEV_SPEC_PROFILE_BP^MDC</li> </ul> </li> </ul> </li> </ol> </li> </ol>		

	<ul style="list-style-type: none"> <li>• Thermometer: 528392^MDC_DEV_SPEC_PROFILE_TEMP^MDC</li> <li>• Weighing scales: 528399^MDC_DEV_SPEC_PROFILE_SCALE^MDC</li> <li>• Glucose meter: 528401^MDC_DEV_SPEC_PROFILE_GLUCOSE^MDC</li> <li>• Cardiovascular: 528425^MDC_DEV_SPEC_PROFILE_HF_CARDIO^MDC</li> <li>• Strength fitness: 528426^MDC_DEV_SPEC_PROFILE_HF_STRENGTH^MDC</li> <li>• Independent living hub: 528455^MDC_DEV_SPEC_PROFILE_AI_ACTIVITY_HUB^MDC</li> <li>• Adherence monitor: 528456^MDC_DEV_SPEC_PROFILE_AI_MED_MINDER^MDC</li> <li>• Peak expiratory flow monitor: 528405^MDC_DEV_SPEC_PROFILE_PEFM^MDC</li> <li>• Body composition analyser: 528404^MDC_DEV_SPEC_PROFILE_BCA^MDC</li> <li>• Basic electrocardiograph: 528384^MDC_DEV_SPEC_PROFILE_HYDRA^MDC and OBX-5 of System-Type-Spec-List attribute = 528390^MDC_DEV_SPEC_PROFILE_ECG^MDC and at least one of the following two profile values: 528524^MDC_DEV_SUB_SPEC_PROFILE_ECG^MDC 528525^MDC_DEV_SUB_SPEC_PROFILE_HR^MDC</li> <li>• International Normalized Ratio: 528406^MDC_DEV_SPEC_PROFILE_COAG^MDC</li> <li>• Sleep Apnoea Breathing Therapy Equipment: 528409^MDC_DEV_SPEC_PROFILE_SABTE^MDC</li> <li>• Insulin Pump: 528403^MDC_DEV_SPEC_PROFILE_INSULIN_PUMP^MDC</li> <li>• Continuous Glucose Monitor: 528410^MDC_DEV_SPEC_PROFILE_CGM^MDC</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

#### A.4 Subgroup 1.4.3: Pulse oximeter (PO)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PO/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M

		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
		MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
		MDSObject 31; M	MDSObject 32; M	PulseOx 4; M
		Timestamp 13; O	Timestamp 14; O	Timestamp 15; O
		Timestamp 17; M		
	<b>Spec</b>	[IHE PCD TF 2]		
	<b>Testable items</b>	DeviceTimeSync1; M		
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PO_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a pulse oximeter device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a pulse oximeter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present.</li> <li>b. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32-bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>c. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit.</li> </ul> </li> <li>d. In MDS-level OBX: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> If the System-Type attribute is valued, OBX-3 = 528388^MDC_DEV_SPEC_PROFILE_PULS_OXIM^MDC</li> <li><input type="checkbox"/> If System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3</li> <li><input type="checkbox"/> If the System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC_DEV_SPEC_PROFILE_HYDRA^MDC and the specialization list is reported as an attribute of the device.</li> <li><input type="checkbox"/> If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD</li> <li><input type="checkbox"/> OBX-11 = 'X'</li> </ul> </li> </ol> </li> </ol>			

- ❑ OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_PO\_001.

e. System model attribute is sent in two different OBX segments:

- ❑ System-Model attribute:
  - OBX-2 = 'ST'
  - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
  - OBX-5 = a string representing the model number portion of the MDC\_ATTR\_ID\_MODEL attribute

- ❑ System-Manufacturer attribute:
  - OBX-2 = 'ST'
  - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
  - OBX-5 = a string representing the model manufacturer portion of the MDC\_ATTR\_ID\_MODEL attribute.

f. Production-Specification attribute is sent as a series of attributes:

- ❑ Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'ST'
- OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
- OBX-5 = a string representing the value portion of the Production-Specification entry
- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype

- ❑ Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'ST'
- OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
- OBX-5 = String representing the value portion of the Production-Specification serial entry
- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype

- ❑ Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'ST'
- OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
- OBX-5 = String representing the value portion of the Production-Specification part entry
- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype

- ❑ Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'ST'
- OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
- OBX-5 = String representing the value portion of the Production-Specification hardware entry
- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype

- ❑ Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'ST'

- OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
- OBX-5 = String representing the value portion of the Production-Specification software entry
- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.
- g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)
  - Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
    - OBX-5 = One or more of:
      - <0 or 1>^mds-time-capab-real-time-clock(0),
      - <0 or 1>^mds-time-capab-set-clock(1),
      - <0 or 1>^mds-time-capab-relative-time(2),
      - <0 or 1>^mds-time-capab-high-res-relative-time(3),
      - <0 or 1>^mds-time-capab-sync-abs-time(4),
      - <0 or 1>^mds-time-capab-sync-rel-time(5),
      - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
      - <0 or 1>^mds-time-state-abs-time-synced(8),
      - <0 or 1>^mds-time-state-rel-time-synced(9),
      - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
      - <0 or 1>^mds-time-mgr-set-time(11)



- ❑ Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- ❑ Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'CWE'
  - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
  - OBX-5 = One of these values:
    - 532224^MDC\_TIME\_SYNC\_NONE^MDC
    - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
    - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
    - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
    - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
    - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
    - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
    - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
    - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
    - 532233^MDC\_TIME\_SYNC\_GSM^MDC
    - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
    - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC
- ❑ Date and Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
  - OBX-5 = DTM data type value
  - OBX-14 = UTC value
- ❑ Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = m.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- ❑ HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = m.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- ❑ Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- ❑ Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
- OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- ❑ Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
- OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present.
- i. If the Power-Status attribute is valued, it is sent as an independent OBX segment:
- ❑ OBX-2 = 'ST'
- ❑ OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
- ❑ OBX-5 = One or more of:  
 <0 or 1>^onMains(0),  
 <0 or 1>^onBattery(1),  
 <0 or 1>^chargingFull(8),  
 <0 or 1>^chargingTrickle(9),  
 <0 or 1>^chargingOff(10)
- j. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:
- ❑ OBX-2 = 'NM'
- ❑ OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
- ❑ OBX-5 = NM data type value
- ❑ OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
- ❑ OBX-2 = 'NM'
- ❑ OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
- ❑ OBX-5 = Use the value contained in the BatMeasure object
- ❑ OBX-6 = Use the OID contained in the BatMeasure object
- l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
- ❑ OBX-2 = 'CWE'
- ❑ OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
- OBX-5 = One of:  
 0^auth-body-empty,  
 1^auth-body-ieee-11073,

	<p>2^auth-body-continua, 254^auth-body-experimental, 255^auth-body-reserved</p> <p>m. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:</p> <ul style="list-style-type: none"> <li>❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'ST'</li> <li>• OBX-3 = 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC</li> <li>• OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the Facet level of that segment.</li> <li>• OBX-5 = &lt;major-IG-version&gt;.&lt;minor-IG-version&gt;.</li> </ul> </li> <li>❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'NA'</li> <li>• OBX-3 = 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC</li> <li>• OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a Facet entry, and 'b' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 4 (PO v1.0), 16388 (PO v1.5 Wireless PAN), 8196 (PO v1.5 Wired PAN), or 24580 (PO v1.5 Sensor LAN)</li> </ul> </li> <li>❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'CWE'</li> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a facet entry, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> </li> </ul> <p>n. If the System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li>❑ OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PO/BV-001
<b>TP label</b>	SpO2 Numeric Object

<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	PulseOx 1; M	PulseOx 5; M	PulseOx 6; M
		PulseOx 7; M	PulseOx 8; M	PulseOx 9; M
		PulseOx 10; M	PulseOx 11; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MeasureStatus 1; M	MeasureStatus 2; M	MeasureStatus 3; M
		MeasureStatus 4; R	MeasureStatus 5; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
ScannerAttr 3; M	ScannerAttr 4; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the SpO2 Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PO_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a pulse oximeter device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a pulse oximeter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one SpO2 object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present.</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit.</li> </ul> </li> <li>e. The SpO2 object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> </ul> </li> </ol> </li> </ol>			

- OBX-3 = 150456^MDC\_PULS\_OXIM\_SAT\_O2^MDC
  - OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the SpO2 object respectively.
  - OBX-5 = Numeric value
  - OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
  - OBX-11 has one of the following values:
    - 'X', in the case of invalid, not-available or ongoing measurements (specified in the Measurement Status attribute)
    - 'F', in the case where a validated-data Measurement Status bit is set
    - 'R', in the other case (even if the Measurement Status is not present)
- f. If the SpO2 Modality attribute is present, it follows this OBX encoding:
- OBX-2 = 'CWE'
  - OBX-3 = 68193^MDC\_ATTR\_SUPPLEMENTAL\_TYPES^MDC
  - OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the SpO2 object.
  - OBX-5 = 150580^MDC\_MODALITY\_FAST^MDC or 150584^MDC\_MODALITY\_SLOW^MDC or 150588^MDC\_MODALITY\_SPOT^MDC
- g. If SpO2 Accuracy attribute is present, it follows this OBX encoding:
- OBX-2 = 'NM'
  - OBX-3 = 67914^MDC\_ATTR\_NU\_ACCUR\_MSMT^MDC
  - OBX-4 = y.0.0.x.b, where 'b' is a number indicating the facet level of the SpO2 object.
  - OBX-5 = Numeric value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- h. If SpO2 Alert-Op-State attribute is present, it follows this OBX encoding:
- OBX-2 = 'CWE'
  - OBX-3 = 67846^MDC\_ATTR\_AL\_OP\_STAT^MDC
  - OBX-4 = y.0.0.x.c, where 'c' is a number indicating the facet level of the SpO2 object.
  - OBX-5 = One of the values:
    - <0 or 1>^lim-alert-off(0),
    - <0 or 1>^lim-low-off(1), or
    - <0 or 1>^lim-high-off(2)
  - OBX-6 = empty
- i. If SpO2 Current-Limits attribute is present, it follows this OBX encoding:
- OBX-2 = 'NM'
  - OBX-3 = 67892^MDC\_ATTR\_LIMIT\_CURR^MDC
  - OBX-4 = y.0.0.x.d, where 'd' is a number indicating the facet level of the SpO2 object.
  - OBX-5 = <lower limit (NM)> ~ <upper limit (NM)>
  - OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- j. If SpO2 Alert-Op-Text-String attribute is present, it follows this OBX encoding:
- OBX-2 = 'ST'
  - OBX-3 = 68014^MDC\_ATTR\_AL\_OP\_TEXT\_STRING^MDC
  - OBX-4 = y.0.0.x.e, where 'e' is a number indicating the facet level of the SpO2 object.

	<ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-5 = &lt;lower limit text (ST)&gt; ~ &lt;upper limit text (ST)&gt;</li> <li>k. If SpO2 Measurement Status attribute is present, it follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 67911^MDC_ATTR_MSMT_STAT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.f, where 'f' is a number indicating the facet level of the SpO2 object.</li> <li><input type="checkbox"/> OBX-5 = One of the values: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^invalid(0),</li> <li>&lt;0 or 1&gt;^questionable(1),</li> <li>&lt;0 or 1&gt;^not-available(2),</li> <li>&lt;0 or 1&gt;^calibration-ongoing(3),</li> <li>&lt;0 or 1&gt;^test-data(4),</li> <li>&lt;0 or 1&gt;^demo-data(5),</li> <li>&lt;0 or 1&gt;^validated-data(8),</li> <li>&lt;0 or 1&gt;^early-indication(9),</li> <li>&lt;0 or 1&gt;^msmt-ongoing(10),</li> <li>&lt;0 or 1&gt;^msmt-state-in-alarm(14),</li> <li>&lt;0 or 1&gt;^msmt-state-al-inhibited(15)</li> </ul> </li> </ul> </li> <li>l. If the SpO2 Measurement Status attribute is present, OBX-8 of the SpO2 object has one of these values depending of the active flag in the attribute: <ul style="list-style-type: none"> <li><input type="checkbox"/> invalid(0) → OBX-8 = 'INV',</li> <li><input type="checkbox"/> questionable(1) → OBX-8 = 'QUES',</li> <li><input type="checkbox"/> not-available(2) → OBX-8 = 'NAV',</li> <li><input type="checkbox"/> calibration-ongoing (3) → OBX-8 = 'CAL',</li> <li><input type="checkbox"/> test-data (4) → OBX-8 = 'TEST',</li> <li><input type="checkbox"/> demo-data (5) → OBX-8 = 'DEMO',</li> <li><input type="checkbox"/> validated-data (8) → OBX-8 = (empty),</li> <li><input type="checkbox"/> early-indication (9) → OBX-8 = 'EARLY',</li> <li><input type="checkbox"/> msmt-ongoing (10) → OBX-8 = 'BUSY',</li> <li><input type="checkbox"/> msmt-state-in-alarm (14) → OBX-8 = 'ALACT',</li> <li><input type="checkbox"/> msmt-state-al-inhibited(15) → OBX-8 = 'ALINH'.</li> </ul> </li> <li>m. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>n. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PO/BV-002			
<b>TP label</b>	PulseRate Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	PulseOx 1; M	PulseOx 12; M	PulseOx 13; M
		PulseOx 14; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the PulseRate Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PO_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a pulse oximeter device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a pulse oximeter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one PulseRate object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. PulseRate object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 149530^MDC_PULS_OXIM_PULS_RATE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the PulseRate object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264864^MDC_DIM_BEAT_PER_MIN^MDC</li> </ul> </li> </ol> </li> </ol>			

	<p>e. If a PulseRate Modality attribute is present, it follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the PulseRate object.</li> <li><input type="checkbox"/> OBX-5 = 150580^MDC_MODALITY_FAST^MDC or 150584^MDC_MODALITY_SLOW^MDC or 150588^MDC_MODALITY_SPOT^MDC</li> </ul> <p>f. If a PulseRate Accuracy attribute is present, it follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 67914^MDC_ATTR_NU_ACCUR_MSMT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the Facet level of the PulseRate object.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264320^MDC_DIM_SEC^MDC</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PO/BV-003			
<b>TP label</b>	Plethysmographic Waveform RT-SA Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	PulseOx 1; M	PulseOx 16; M	PulseOx 17; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		RTSAClassAttr 1; M	RTSAClassAttr 2; M	RTSAClassAttr 3; M
		RTSAClassAttr 4; M	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
	ScannerAttr 4; M	NumArrayDataType 1; O		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			



<b>Test purpose</b>	Check that: The presence of the attributes of the Plethysmographic Waveform Object, the Metric and RT-SA attributes and their respective values.
<b>Applicability</b>	C_SEN_000 AND C_SEN_PO_001 AND C_SEN_PO_002
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a pulse oximeter device with a plethysmographic waveform object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a pulse oximeter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The plethysmographic waveform object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Plethysmographic waveform object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NA'</li> <li><input type="checkbox"/> OBX-3 = 150452^MDC_PULS_OXIM_PLETH^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the plethysmographic waveform object respectively.</li> <li><input type="checkbox"/> OBX-5 = a numeric array value (i.e., 1~2~3~4~5...)</li> <li><input type="checkbox"/> OBX-6 = 262656^MDC_DIM_DIMLESS^MDC or 268738^MDC_DIM_MICRO_ABSORBANCE^MDC</li> </ul> </li> <li>e. If the Plethysmographic Waveform Sample Period attribute is present, it follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 67981^MDC_ATTR_TIME_PD_SAMP^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the plethysmographic waveform object.</li> <li><input type="checkbox"/> OBX-5 = a numeric value</li> <li><input type="checkbox"/> OBX-6 = 264339^MDC_DIM_MICRO_SEC^MDC</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = a numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = a numeric value</li> </ul> </li> </ul> </li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PO/BV-004			
<b>TP label</b>	Pulsatile Quality Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	PulseOx 1; M	PulseOx 15; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Pulsatile Quality Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PO_001 AND C_SEN_PO_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a pulse oximeter device with a pulsatile quality object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>Make the HFS sender under test send a HL7 message containing an observation of a pulse oximeter device using SOAP or hData observation upload.</li> <li>Check in the captured message that: <ol style="list-style-type: none"> <li>At least one pulsatile quality object has sent at least one observation.</li> <li>Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32-bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>Pulsatile Quality object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-3 = 150448^MDC_PULS_OXIM_PERF_REL^MDC or 150320^MDC_SAT_O2_QUAL^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Pulsatile Quality object respectively.</li> <li>❑ OBX-5 = Numeric value</li> <li>❑ OBX-6 = when OBX-2 is MDC_PULS_OXIM_PERF_REL then units are 262656^MDC_DIM_DIMLESS^MDC or when OBX-2 is MDC_SAT_O2_QUAL then units are 262688^MDC_DIM_PERCENT^MDC</li> </ul> <p>e. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PO/BV-005			
<b>TP label</b>	Pulsatile Occurrence Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	PulseOx 1; M	PulseOx 2; M	PulseOx 18; M
		PulseOx 19; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M	EnumClassAttr 5; O
		EnumClassAttr 6; M	MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
ScannerAttr 3; M	ScannerAttr 4; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Pulsatile Occurrence Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PO_001 AND C_SEN_PO_004			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			

<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a pulse oximeter device with a pulsatile occurrence object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a pulse oximeter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Pulsatile Occurrence object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32-bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Pulsatile Occurrence object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 184322^MDC_TRIG^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the pulsatile occurrence object respectively</li> <li><input type="checkbox"/> OBX-5 = 184323^MDC_TRIG_BEAT^MDC or 184331^MDC_TRIG_BEAT_MAX_INRUSH^MDC or 192511^MDC_METRIC_NOS^MDC</li> </ul> </li> <li>e. If the Pulsatile Occurrence Source-Handle-Reference attribute is present, it follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the pulsatile occurrence object</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of the pulsatile quality numeric object or the plethysmogram RT-SA object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PO/BV-006			
<b>TP label</b>	Pulsatile Characteristic Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	PulseOx 1; M	PulseOx 2; M	PulseOx 20; M
		PulseOx 21; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M	EnumClassAttr 5; O
		EnumClassAttr 6; M	MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Pulsatile Characteristic Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PO_001 AND C_SEN_PO_005			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a pulse oximeter device with a pulsatile characteristic object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a pulse oximeter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The pulsatile characteristic object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Pulsatile characteristic object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-3 = 150584^MDC_PULS_OXIM_PULS_CHAR^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the pulsatile characteristic object respectively.</li> <li>❑ OBX-5 = One of these values: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^pulse-qual-nominal(0),</li> <li>&lt;0 or 1&gt;^pulse-qual-marginal(1),</li> <li>&lt;0 or 1&gt;^pulse-qual-minimal(2),</li> <li>&lt;0 or 1&gt;^pulse-qual-unacceptable(3)</li> </ul> </li> </ul> <p>f. If the pulsatile characteristic Source-Handle-Reference attribute is present, it follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'ST'</li> <li>❑ OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the pulsatile characteristic object.</li> <li>❑ OBX-5 = OBX-4 of the pulsatile amplitude numeric object or the plethysmogram RT-SA object</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM][DD][HH[MM[SS]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PO/BV-007		
<b>TP label</b>	Device and Sensor Annunciation Status Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	PulseOx 1; M	PulseOx 2; M
		MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 16; C	MetricClassAttr 17; C
		EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 4; M	EnumClassAttr 5; O
		PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 2; M	ScannerAttr 3; M
	<b>Spec</b>	[ITU-T H.812.1]	
		PulseOx 22; M	MetricClassAttr 3; O
		MetricClassAttr 6; O	MetricClassAttr 9; M
		MetricClassAttr 12; O	MetricClassAttr 15; C
		MetricClassAttr 18; O	EnumClassAttr 3; M
		EnumClassAttr 6; M	ScannerAttr 1; M
		ScannerAttr 4; M	

	Testable items	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the Device and Sensor Annunciation Status Object, the Metric and Enumeration attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PO_001 AND C_SEN_PO_006			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a Webservice and the HFS sender under test is ready to send a SOAP or hData message with an observation of a pulse oximeter device with a device and sensor annunciation status object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a pulse oximeter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that:               <ol style="list-style-type: none"> <li>a. The device and sensor annunciation object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;                    where:                   <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where:                   <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Device and sensor annunciation status object follows this OBX encoding:                   <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 150604^MDC_PULS_OXIM_DEV_STATUS^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the device and sensor annunciation status object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of these values:                       <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^sensor-disconnected(0),</li> <li>&lt;0 or 1&gt;^sensor-malfunction(1),</li> <li>&lt;0 or 1&gt;^sensor-displaced(2),</li> <li>&lt;0 or 1&gt;^sensor-unsupported(3),</li> <li>&lt;0 or 1&gt;^sensor-off(4),</li> <li>&lt;0 or 1&gt;^sensor-interference(5),</li> <li>&lt;0 or 1&gt;^signal-searching(6),</li> <li>&lt;0 or 1&gt;^signal-pulse-questionable(7),</li> <li>&lt;0 or 1&gt;^signal-non-pulsatile(8),</li> <li>&lt;0 or 1&gt;^signal-erratic(9),</li> <li>&lt;0 or 1&gt;^signal-low-perfusion(10),</li> <li>&lt;0 or 1&gt;^signal-poor(11),</li> </ul> </li> </ul> </li> </ol> </li> </ol>			

	<p>&lt;0 or 1&gt;^signal-inadequate(12),          &lt;0 or 1&gt;^signal-processing-irregularity(13),          &lt;0 or 1&gt;^device-equipment-malfunction(14),          &lt;0 or 1&gt;^device-extended-update(15)</p> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM][DD][HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation:             <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation.             <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

#### A.5 Subgroup 1.4.4: Blood pressure monitor (BPM)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/BPM/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
		MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
		MDSObject 31; M	MDSObject 32; M	BloodPressuse 3; M
		Timestamp 13; O	Timestamp 14; O	Timestamp 15; O
	Timestamp 17; M			
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	DeviceTimeSync1; M			
<b>Spec</b>	[ITU-T H.812.1]			



	Testable items	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_BPM_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a blood pressure device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a blood pressure device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>c. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>d. In MDS-level OBX: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> If the System-Type attribute is valued, OBX-3 = 528391^MDC_DEV_SPEC_PROFILE_BP^MDC</li> <li><input type="checkbox"/> If the System-Type-Spec-List attribute contains a single value and the System-Type is not valued, this value is reported as the OBX-3</li> <li><input type="checkbox"/> If the System-Type-Spec-List contains multiple values and the System-Type is not valued, OBX-3 = 528384^MDC_DEV_SPEC_PROFILE_HYDRA^MDC and the specialization list is reported as an attribute of the device</li> <li><input type="checkbox"/> If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD</li> <li><input type="checkbox"/> OBX-11 = 'X'</li> <li><input type="checkbox"/> OBX-18 (System Id attribute) = &lt;Entity Identifier (ST)&gt;^^&lt;System_Id&gt;^EUI-64, where the System_Id is 16 characters given by the PIXIT I_SEN_BPM_001.</li> </ul> </li> <li>e. System-Model attribute is sent in two different OBX segments: <ul style="list-style-type: none"> <li><input type="checkbox"/> System-Model attribute: <ul style="list-style-type: none"> <li>• OBX-2 = 'ST'</li> <li>• OBX-3 = 531969^MDC_ID_MODEL_NUMBER^MDC</li> <li>• OBX-5 = String representing the model number portion of the MDC_ATTR_ID_MODEL attribute</li> </ul> </li> <li><input type="checkbox"/> System-Manufacturer attribute: <ul style="list-style-type: none"> <li>• OBX-2 = 'ST'</li> <li>• OBX-3 = 531970^MDC_ID_MODEL_MANUFACTURER^MDC</li> </ul> </li> </ul> </li> </ol> </li> </ol>			

- OBX-5 = String representing the model manufacturer portion of the MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
- Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
    - OBX-5 = String representing the value portion of the Production-Specification serial entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
    - OBX-5 = String representing the value portion of the Production-Specification part entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
    - OBX-5 = String representing the value portion of the Production-Specification hardware entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
    - OBX-5 = String representing the value portion of the Production-Specification software entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
    - OBX-5 = String representing the value portion of the Production-Specification firmware entry

- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.
- g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)
  - Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
    - OBX-5 = One or more of:
      - <0 or 1>^mds-time-capab-real-time-clock(0),
      - <0 or 1>^mds-time-capab-set-clock(1),
      - <0 or 1>^mds-time-capab-relative-time(2),
      - <0 or 1>^mds-time-capab-high-res-relative-time(3),
      - <0 or 1>^mds-time-capab-sync-abs-time(4),
      - <0 or 1>^mds-time-capab-sync-rel-time(5),
      - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
      - <0 or 1>^mds-time-state-abs-time-synced(8),
      - <0 or 1>^mds-time-state-rel-time-synced(9),
      - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
      - <0 or 1>^mds-time-mgr-set-time(11)
  - Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
    - OBX-5 = One of these values:

532224^MDC\_TIME\_SYNC\_NONE^MDC  
 532225^MDC\_TIME\_SYNC\_NTPV3^MDC  
 532226^MDC\_TIME\_SYNC\_NTPV4^MDC  
 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC  
 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC  
 532229^MDC\_TIME\_SYNC\_BTV1^MDC  
 532230^MDC\_TIME\_SYNC\_RADIO^MDC  
 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC  
 532232^MDC\_TIME\_SYNC\_CDMA^MDC  
 532233^MDC\_TIME\_SYNC\_GSM^MDC  
 532234^MDC\_TIME\_SYNC\_EBWW^MDC  
 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC

- ❑ Date and Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
  - OBX-5 = DTM data type value
  - OBX-14 = UTC value
- ❑ Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- ❑ HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- ❑ Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- ❑ Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC

- Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If Power-Status attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- j. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
  - OBX-5 = Use the value contained in the BatMeasure object
  - OBX-6 = Use the OID contained in the BatMeasure object
- l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
  - OBX-2 = 'CWE'
  - OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
  - OBX-5 = One of:
    - 0^auth-body-empty,
    - 1^auth-body-ieee-11073,
    - 2^auth-body-continua,
    - 254^auth-body-experimental,
    - 255^auth-body-reserved
- m. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
  - Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'
    - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC

	<ul style="list-style-type: none"> <li>• OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;major-IG-version&gt;.&lt;minor-IG-version&gt;.</li> </ul> <p>□ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:</p> <ul style="list-style-type: none"> <li>• OBX-2 = 'NA'</li> <li>• OBX-3 = 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC</li> <li>• OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a facet entry, and 'b' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 7 (BPM v1.0), 16391 (BPM v1.5 Wireless PAN), 8199 (BPM v1.5 Wired PAN), 24583 (BPM v1.5 Sensor LAN), or 32775 (BPM v2.0 LP Wireless PAN)</li> </ul> <p>□ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:</p> <ul style="list-style-type: none"> <li>• OBX-2 = 'CWE'</li> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a facet entry, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> <p>n. If the System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li>□ OBX-2 = 'CWE'</li> <li>□ OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li>□ OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/BPM/BV-001			
<b>TP label</b>	Systolic, Diastolic, MAP Compound Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	BloodPressuse 1; M	BloodPressuse 2; M	BloodPressuse 4; M
		BloodPressuse 5; M	BloodPressuse 6; M	BloodPressuse 7; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O

		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	MetricRelGroup 1; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 3; M	ScannerAttr 4; M	
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Systolic, Diastolic, MAP Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_BPM_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a blood pressure device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a blood pressure device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Systolic, Diastolic, MAP object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Systolic, Diastolic, MAP object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> OBX-3 = 150020^MDC_PRESS_BLD_NONINV^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x., where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the channel-level for the Systolic, Diastolic, MAP object respectively.</li> <li><input type="checkbox"/> OBX-5 is empty</li> <li><input type="checkbox"/> OBX-11 = 'X'</li> </ul> </li> <li>e. Systolic part of the compound object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 150021^MDC_PRESS_BLD_NONINV_SYS^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x.a, , where 'a' is a number indicating the component of the compound object</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 266016^MDC_DIM_MMHG^MDC or 265987 ^MDC_DIM_KILO_PASCAL^MDC</li> </ul> </li> <li>f. Diastolic part of the compound object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 150022^MDC_PRESS_BLD_NONINV_DIA^MDC</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-4 = y.0.x.b, where 'b' is a number indicating the component of the compound object</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 266016^MDC_DIM_MMHG^MDC or 265987^MDC_DIM_KILO_PASCAL^MDC</li> </ul> <p>g. Mean arterial pressure part of the compound object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 150023^MDC_PRESS_BLD_NONINV_MEAN^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x.c, , where 'c' is a number indicating the component of the compound object</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 266016^MDC_DIM_MMHG^MDC or 265987^MDC_DIM_KILO_PASCAL^MDC</li> </ul> <p>h. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>i. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/BPM/BV-002			
<b>TP label</b>	PulseRate Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	BloodPressuse 2; M	BloodPressuse 8; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that:			



	The presence of the attributes of the PulseRate Object, the Metric and Numeric attributes and their respective values.
<b>Applicability</b>	C_SEN_000 AND C_SEN_BPM_001
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a blood pressure device with a pulse rate object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a blood pressure device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The PulseRate object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. PulseRate object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 149546^MDC_PULS_RATE_NON_INV^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the PulseRate object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264864^MDC_DIM_BEAT_PER_MIN^MDC</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

## A.6 Subgroup 1.4.5: Thermometer (TH)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/TH/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
		MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
		MDSObject 31; M	MDSObject 32; M	Thermometer 3; M
	Timestamp 13; O	Timestamp 14; O	Timestamp 15; O	
Timestamp 17; M				
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	DeviceTimeSync1; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_TH_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a thermometer device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a thermometer device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</li> </ol> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> </ul> </li> </ol>			

- ❑ refIdName: is the normative nomenclature name for the unique code point (recommended)
- ❑ refIdCodeSystem = "MDC" (required).
- c. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
  - ❑ <bitValue> = <0 or 1>
  - ❑ <bitName> is recommended to be the ASN.1 name for the bit
  - ❑ <bitPosition> is the normative position of the bit
- d. In MDS-level OBX:
  - ❑ OBX-2 is empty
  - ❑ If the System-Type attribute is valued, OBX-3 = 528392^MDC\_DEV\_SPEC\_PROFILE\_TEMP^MDC
  - ❑ If the System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3
  - ❑ If the System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC\_DEV\_SPEC\_PROFILE\_HYDRA^MDC and the specialization list is reported as an attribute of the device.
  - ❑ If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD
  - ❑ OBX-11 = 'X'
  - ❑ OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_TH\_001.
- e. System model attribute is sent in two different OBX segments:
  - ❑ System-Model attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
    - OBX-5 = String representing the model number portion of MDC\_ATTR\_ID\_MODEL attribute
  - ❑ System-Manufacturer attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
    - OBX-5 = String representing the model manufacturer portion of MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
  - ❑ Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
    - OBX-5 = String representing the value portion of the Production-Specification serial entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype

- ❑ Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.

g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)

- ❑ Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'CWE'
  - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^mds-time-capab-real-time-clock(0),
    - <0 or 1>^mds-time-capab-set-clock(1),
    - <0 or 1>^mds-time-capab-relative-time(2),
    - <0 or 1>^mds-time-capab-high-res-relative-time(3),
    - <0 or 1>^mds-time-capab-sync-abs-time(4),
    - <0 or 1>^mds-time-capab-sync-rel-time(5),
    - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
    - <0 or 1>^mds-time-state-abs-time-synced(8),
    - <0 or 1>^mds-time-state-rel-time-synced(9),
    - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
    - <0 or 1>^mds-time-mgr-set-time(11)
- ❑ Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- ❑ Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'CWE'
  - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
  - OBX-5 = One of these values:
    - 532224^MDC\_TIME\_SYNC\_NONE^MDC
    - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
    - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
    - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
    - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
    - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
    - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
    - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
    - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
    - 532233^MDC\_TIME\_SYNC\_GSM^MDC
    - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
    - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC
- ❑ Date and Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
  - OBX-5 = DTM data type value
  - OBX-14 = UTC value
- ❑ Relative-Time attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'NM'
- OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
- OBX-4 = 0.0.0.x, where 'x' is any integer value
- OBX-5 = NM data type value
- OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- OBX-18 = A unique identifier for the given timebase
- HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If the Power-Status attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- j. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC

- ❑ OBX-5 = NM data type value
- ❑ OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
  - ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
  - ❑ OBX-5 = Use the value contained in the BatMeasure object
  - ❑ OBX-6 = Use the OID contained in the BatMeasure object
- l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
  - ❑ OBX-2 = 'CWE'
  - ❑ OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
  - OBX-5 = One of:
    - 0^auth-body-empty,
    - 1^auth-body-ieeee-11073,
    - 2^auth-body-continua,
    - 254^auth-body-experimental,
    - 255^auth-body-reserved
- m. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
  - ❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'
    - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC
    - OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the Facet level of that segment.
    - OBX-5 = <major-IG-version>.<minor-IG-version>.
  - ❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'NA'
    - OBX-3 = 532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC
    - OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a facet entry, and 'b' is a number indicating the facet level of that segment.
    - OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 8 (TH v1.0), 16392 (TH v1.5 Wireless PAN), 8200 (TH v1.5 Wired PAN), 24584 (TH v1.5 Sensor LAN), or 32776 (TH v2.0 LP Wireless PAN)
  - ❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'CWE'
    - OBX-3 = 532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC

	<ul style="list-style-type: none"> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a Facet entry, and 'a' is a number indicating the Facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> <p>n. If the System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li>❑ OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/TH/BV-001			
<b>TP label</b>	Temperature Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Thermometer 1; M	Thermometer 2; M	Thermometer 3; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
	ScannerAttr 4; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Temperature Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_TH_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a thermometer device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a thermometer device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The temperature object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> </ol> </li> </ol>			



	<p>c. Each MDC code using a CWE data type is encoded as:  &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32-bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Temperature object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 188452^MDC_TEMP_AXILLA^MDC or  150364^MDC_TEMP_BODY^MDC or  188428^MDC_TEMP_EAR^MDC or  188432^MDC_TEMP_FINGER^MDC or  188456^MDC_TEMP_GIT^MDC or  188424^MDC_TEMP_ORAL^MDC or  188420^MDC_TEMP_RECT^MDC or  188448^MDC_TEMP_TOE^MDC or  150392^MDC_TEMP_TYMP^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the temperature object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 268192^MDC_DIM_DEGC^MDC or  266560^MDC_DIM_FAHR^MDC</li> </ul> <p>e. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>f. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

## A.7 Subgroup 1.4.6: Weighing scales (WEG)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/WEG/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
MDSObject 28; M	MDSObject 29; M	MDSObject 30; M		
MDSObject 31; M	MDSObject 32; M	WeighingScale 3; M		
Timestamp 13; O	Timestamp 14; O	Timestamp 15; O		
Timestamp 17; M				
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	DeviceTimeSync1; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_WEG_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a weighing scales device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a weighing scales device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</li> </ol> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> </ul> </li> </ol>			

- ❑ refIdName: is the normative nomenclature name for the unique code point (recommended)
- ❑ refIdCodeSystem = "MDC" (required).
- c. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
  - ❑ <bitValue> = <0 or 1>
  - ❑ <bitName> is recommended to be the ASN.1 name for the bit
  - ❑ <bitPosition> is the normative position of the bit
- d. In MDS-level OBX:
  - ❑ OBX-2 is empty
  - ❑ If the System-Type attribute is valued, OBX-3 = 528399^MDC\_DEV\_SPEC\_PROFILE\_SCALE^MDC
  - ❑ If the System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3
  - ❑ If the System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC\_DEV\_SPEC\_PROFILE\_HYDRA^MDC and the specialization list is reported as an attribute of the device.
  - ❑ If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD
  - ❑ OBX-11 = 'X'
  - ❑ OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_WEG\_001.
- e. System model attribute is sent in two different OBX segments:
  - ❑ System-Model attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
    - OBX-5 = String representing the model number portion of the MDC\_ATTR\_ID\_MODEL attribute
  - ❑ System-Manufacturer attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
    - OBX-5 = String representing the model manufacturer portion of the MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
  - ❑ Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
    - OBX-5 = String representing the value portion of the Production-Specification serial entry

- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.

- g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a Timestamp, its respective resolution may be sent, but not other than this.)
- ❑ Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
    - OBX-5 = One or more of:
      - <0 or 1>^mds-time-capab-real-time-clock(0),
      - <0 or 1>^mds-time-capab-set-clock(1),
      - <0 or 1>^mds-time-capab-relative-time(2),
      - <0 or 1>^mds-time-capab-high-res-relative-time(3),
      - <0 or 1>^mds-time-capab-sync-abs-time(4),
      - <0 or 1>^mds-time-capab-sync-rel-time(5),
      - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
      - <0 or 1>^mds-time-state-abs-time-synced(8),
      - <0 or 1>^mds-time-state-rel-time-synced(9),
      - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
      - <0 or 1>^mds-time-mgr-set-time(11)
  - ❑ Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - ❑ Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
    - OBX-5 = One of these values:
      - 532224^MDC\_TIME\_SYNC\_NONE^MDC
      - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
      - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
      - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
      - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
      - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
      - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
      - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
      - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
      - 532233^MDC\_TIME\_SYNC\_GSM^MDC
      - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
      - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC
  - ❑ Date and Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'DTM'
    - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
    - OBX-5 = DTM data type value

- OBX-14 = UTC value
- Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If the Power-Status attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- j. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:

- ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
  - ❑ OBX-5 = NM data type value
  - ❑ OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
- ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
  - ❑ OBX-5 = Use the value contained in the BatMeasure object
  - ❑ OBX-6 = Use the OID contained in the BatMeasure object
- l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
- ❑ OBX-2 = 'CWE'
  - ❑ OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
- OBX-5 = One of:
- 0^auth-body-empty,
  - 1^auth-body-ieee-11073,
  - 2^auth-body-continua,
  - 254^auth-body-experimental,
  - 255^auth-body-reserved
- m. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
- ❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'
    - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC
    - OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the facet level of that segment.
    - OBX-5 = <major-IG-version>.<minor-IG-version>.
  - ❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'NA'
    - OBX-3 = 532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC
    - OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a facet entry, and 'b' is a number indicating the facet level of that segment.
    - OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 15 (WEG v1.0), 16399 (WEG v1.5 Wireless PAN), 8207 (WEG v1.5 Wired PAN), or 24591 (WEG v1.5 Sensor LAN)
  - ❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'CWE'

	<ul style="list-style-type: none"> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a facet entry, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> <p>n. If the System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li><input type="checkbox"/> OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/WEG/BV-001			
<b>TP label</b>	Body Weight Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	WeighingScale 1; M	WeighingScale 2; M	WeighingScale 4; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
ScannerAttr 4; M				
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Body Weight Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_WEG_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a weighing scales device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a weighing scales device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The body weight object has sent at least one observation.</li> </ol> </li> </ol>			



	<p>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</p> <p>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Body weight object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 188736^MDC_MASS_BODY_ACTUAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the body weight object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263875^MDC_DIM_KILO_G^MDC</li> </ul> <p>e. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/WEG/BV-002		
<b>TP label</b>	Body Height Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	WeighingScale 1; M	WeighingScale 2; M
		MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 16; C	MetricClassAttr 17; C
		NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 7; O	PM-StoreAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M
			ScannerAttr 3; M
			WeighingScale 5; M
			MetricClassAttr 3; O
			MetricClassAttr 6; O
			MetricClassAttr 9; M
			MetricClassAttr 12; O
			MetricClassAttr 15; C
			MetricClassAttr 18; O
			NumericClassAttr 3; M
			NumericClassAttr 6; M
			PM-SegmentAttr; M

	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]		
<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Body Height Object, the Metric and Numeric attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_WEG_001 AND C_SEN_WEG_002		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a weighing scales device with a Body Height object.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a weighing scales device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Body Height object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Body Height object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 188740^MDC_LEN_BODY_ACTUAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the body height object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263441^MDC_DIM_CENTI_M^MDC or 263520^MDC_DIM_INCH^MDC</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>		
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.		
<b>Notes</b>			

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/WEG/BV-003			
<b>TP label</b>	Body Mass Index Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	WeighingScale 1; M	WeighingScale 2; M	WeighingScale 6; M
		WeighingScale 7; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Body Mass Index Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_WEG_001 AND C_SEN_WEG_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a weighing scales device with a Body Mass Index object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a weighing scales device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Body Mass Index object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as:  &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Body Mass Index object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 188752^MDC_RATIO_MASS_BODY_LEN_SQ^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Body Mass Index object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264096^MDC_DIM_KG_PER_M_SQ^MDC</li> </ul> </li> </ol> </li> </ol>			

	<p>e. If the Body Mass Index Source-Handle-Reference attribute is present, it follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'ST'</li> <li>❑ OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Body Mass Index object.</li> <li>❑ OBX-5 = OBX-4 of the Body Weight object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

#### A.8 Subgroup 1.4.7: Glucose meter (GL)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GL/BV-000		
<b>TP label</b>	MDS Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C
		MDSClassAttr 4; M	MDSClassAttr 5; M
		MDSClassAttr 7; O	MDSClassAttr 8; M
		MDSClassAttr 10; C	MDSClassAttr 11; C
		MDSClassAttr 13; M	MDSClassAttr 14; M
		MDSClassAttr 16; M	MDSClassAttr 17; C
		MDSObject 1; M	MDSObject 2; M
		MDSObject 4; M	MDSObject 5; M
		MDSObject 7; M	MDSObject 8; M
		MDSObject 10; M	MDSObject 11; M
		MDSObject 13; O	MDSObject 14; O
		MDSObject 16; M	MDSObject 17; M
		MDSObject 19; M	MDSObject 20; M
		MDSObject 22; M	MDSObject 23; M
		MDSObject 25; M	MDSObject 26; M
		MDSObject 28; M	MDSObject 29; M
		MDSObject 31; M	MDSObject 32; M
		Timestamp 13; O	Timestamp 14; O
		Timestamp 17; M	
	<b>Spec</b>	[IHE PCD TF 2]	
		MDSClassAttr 3; M	MDSClassAttr 6; M
		MDSClassAttr 9; C	MDSClassAttr 12; M
		MDSClassAttr 15; M	MDSClassAttr 18; M
		MDSObject 3; M	MDSObject 6; M
		MDSObject 9; M	MDSObject 12; M
		MDSObject 15; O	MDSObject 18; M
		MDSObject 21; M	MDSObject 24; M
		MDSObject 27; M	MDSObject 30; M
		GlucoseMeter 3; M	Timestamp 15; O

	<b>Testable items</b>	DeviceTimeSync1; M		
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_GL_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>c. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>d. In the MDS-level OBX: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> If the System-Type attribute is valued, OBX-3 = 528401^MDC_DEV_SPEC_PROFILE_GLUKOSE^MDC</li> <li><input type="checkbox"/> If the System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3</li> <li><input type="checkbox"/> If the System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC_DEV_SPEC_PROFILE_HYDRA^MDC and the specialization list is reported as an attribute of the device</li> <li><input type="checkbox"/> If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD</li> <li><input type="checkbox"/> OBX-11 = 'X'</li> <li><input type="checkbox"/> OBX-18 (System Id attribute) = &lt;Entity Identifier (ST)&gt;^^&lt;System_Id&gt;^EUI-64, where the System_Id is 16 characters given by the PIXIT I_SEN_GL_001.</li> </ul> </li> <li>e. System model attribute is sent in two different OBX segments: <ul style="list-style-type: none"> <li><input type="checkbox"/> System-Model attribute: <ul style="list-style-type: none"> <li>• OBX-2 = 'ST'</li> <li>• OBX-3 = 531969^MDC_ID_MODEL_NUMBER^MDC</li> <li>• OBX-5 = String representing the model number portion of the MDC_ATTR_ID_MODEL attribute</li> </ul> </li> <li><input type="checkbox"/> System-Manufacturer attribute:</li> </ul> </li> </ol> </li> </ol>			

- OBX-2 = 'ST'
- OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
- OBX-5 = String representing the model manufacturer portion of the MDC\_ATTR\_ID\_MODEL attribute.

f. Production-Specification attribute is sent as a series of attributes:

- Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
  - OBX-5 = String representing the value portion of the Production-Specification entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification serial entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC

- OBX-5 = String representing the value portion of the Production-Specification firmware entry
- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.
- g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)
  - Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
    - OBX-5 = One or more of:
      - <0 or 1>^mds-time-capab-real-time-clock(0),
      - <0 or 1>^mds-time-capab-set-clock(1),
      - <0 or 1>^mds-time-capab-relative-time(2),
      - <0 or 1>^mds-time-capab-high-res-relative-time(3),
      - <0 or 1>^mds-time-capab-sync-abs-time(4),
      - <0 or 1>^mds-time-capab-sync-rel-time(5),
      - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
      - <0 or 1>^mds-time-state-abs-time-synced(8),
      - <0 or 1>^mds-time-state-rel-time-synced(9),
      - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
      - <0 or 1>^mds-time-mgr-set-time(11)
  - Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC

- OBX-5 = One of these values:
  - 532224^MDC\_TIME\_SYNC\_NONE^MDC
  - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
  - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
  - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
  - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
  - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
  - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
  - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
  - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
  - 532233^MDC\_TIME\_SYNC\_GSM^MDC
  - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
  - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC
- Date and Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
  - OBX-5 = DTM data type value
  - OBX-14 = UTC value
- Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value



- OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If the Power-Status attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- j. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
  - OBX-5 = Use the value contained in the BatMeasure object
  - OBX-6 = Use the OID contained in the BatMeasure object
- l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
  - OBX-2 = 'CWE'
  - OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
  - OBX-5 = One of:
    - 0^auth-body-empty,
    - 1^auth-body-ieee-11073,
    - 2^auth-body-continua,
    - 254^auth-body-experimental,
    - 255^auth-body-reserved
- m. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
  - Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'
    - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC

	<ul style="list-style-type: none"> <li>• OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;major-IG-version&gt;.&lt;minor-IG-version&gt;.</li> </ul> <p>□ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:</p> <ul style="list-style-type: none"> <li>• OBX-2 = 'NA'</li> <li>• OBX-3 = 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC</li> <li>• OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a Facet entry, and 'b' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 17 (GL v1.0), 16401 (GL v1.5 Wireless PAN), 8209 (GL v1.5 Wired PAN), or 24593 (GL v1.5 Sensor LAN)</li> </ul> <p>□ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:</p> <ul style="list-style-type: none"> <li>• OBX-2 = 'CWE'</li> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a facet entry, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> <p>n. If the System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li>□ OBX-2 = 'CWE'</li> <li>□ OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li>□ OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GL/BV-001			
<b>TP label</b>	Glucose Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	GlucoseMeter 2; M	GlucoseMeter 4; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O

		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Glucose Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_GL_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The glucose object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Glucose object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 160184^MDC_CONC_GLU_CAPILLARY_WHOLEBLOOD^MDC or 160188^MDC_CONC_GLU_CAPILLARY_PLASMA^MDC or 160192^MDC_CONC_GLU_VENOUS_WHOLEBLOOD^MDC or 160196^MDC_CONC_GLU_VENOUS_PLASMA^MDC or 160200^MDC_CONC_GLU_ARTERIAL_WHOLEBLOOD^MDC or 160204^MDC_CONC_GLU_ARTERIAL_PLASMA^MDC or 160364^MDC_CONC_GLU_UNDETERMINED_WHOLEBLOOD or 160368^MDC_CONC_GLU_UNDETERMINED_PLASMA or 160212^MDC_CONC_GLU_ISF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Glucose object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264274^MDC_DIM_MILLI_G_PER_DL^MDC or 266866^MDC_DIM_MILLI_MOLE_PER_L^MDC</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation.</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GL/BV-002			
<b>TP label</b>	Context Exercise Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	GlucoseMeter 1; M	GlucoseMeter 2; M	GlucoseMeter 5; M
		GlucoseMeter 6; M	GlucoseMeter 7; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
ScannerAttr 4; M				
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Context Exercise Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_GL_001 AND C_SEN_GL_002			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device with a Context Exercise object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Context Exercise object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> </ol> </li> </ol>			

	<p>d. Context Exercise object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8417760^MDC_CTXT_GLU_EXERCISE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Context Exercise object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262688^MDC_DIM_PERCENT^MDC</li> </ul> <p>e. If the Context Exercise Source-Handle-Reference attribute is present, it follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Context Exercise object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of the Glucose object</li> </ul> <p>f. If the Context Exercise Measure Active Period attribute is present, it follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 68185^MDC_ATTR_TIME_PD_MSMT_ACTIVE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the Facet level of the Context Exercise object.</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GL/BV-003		
<b>TP label</b>	Context Medication Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	GlucoseMeter 1; M	GlucoseMeter 2; M
		GlucoseMeter 9; M	MetricClassAttr 1; M
		MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 18; O	NumericClassAttr 1; M
			GlucoseMeter 8; M
			MetricClassAttr 2; M
			MetricClassAttr 5; M
			MetricClassAttr 8; O
			MetricClassAttr 11; M
			MetricClassAttr 14; O
			MetricClassAttr 17; C
			NumericClassAttr 2; M

		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Context Medication Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_GL_001 AND C_SEN_GL_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device with a Context Medication object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Context Medication object has sent at least one observation</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Context Medication object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8417796^MDC_CTXT_MEDICATION^MDC or 8417800^MDC_CTXT_MEDICATION_RAPIDACTING^MDC or 8417804^MDC_CTXT_MEDICATION_SHORTACTING^MDC or 8417808^MDC_CTXT_MEDICATION_INTERMEDIATEACTING^MDC or 8417812^MDC_CTXT_MEDICATION_LONGACTING^MDC or 8417816^MDC_CTXT_MEDICATION_PREMIX^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Context Medication object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263890^MDC_DIM_MILLI_G^MDC or 263762^MDC_DIM_MILLI_L^MDC</li> </ul> </li> <li>e. If the Context Medication Source-Handle-Reference attribute is present, it follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the Context Medication object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of the Glucose object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> </ol> </li> </ol>			

	<p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GL/BV-004		
<b>TP label</b>	Context Carbohydrates Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	GlucoseMeter 1; M	GlucoseMeter 2; M
		GlucoseMeter 11; M	MetricClassAttr 1; M
		MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 2; M	ScannerAttr 3; M
		GlucoseMeter 10; M	MetricClassAttr 2; M
		MetricClassAttr 5; M	MetricClassAttr 8; O
		MetricClassAttr 11; M	MetricClassAttr 14; O
		MetricClassAttr 17; C	NumericClassAttr 2; M
		NumericClassAttr 5; M	MetricRelGroup 2; O
		ScannerAttr 1; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	DataGuidelines 22; M	
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Context Carbohydrates Object, the Metric and Numeric attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_GL_001 AND C_SEN_GL_004		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device with a Context Carbohydrates object.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Context Carbohydrates object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> </ol> </li> </ol>		

	<p>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Context Carbohydrates object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8417764^MDC_CTXT_GLU_CARB^MDC is the generic code or if specific Metric-Id is specified use it: 8417768^MDC_CTXT_GLU_CARB_BREAKFAST^MDC or 8417772^MDC_CTXT_GLU_CARB_LUNCH^MDC or 8417776^MDC_CTXT_GLU_CARB_DINNER^MDC or 8417780^MDC_CTXT_GLU_CARB_SNACK^MDC or 8417784^MDC_CTXT_GLU_CARB_DRINK^MDC or 8417788^MDC_CTXT_GLU_CARB_SUPPER^MDC or 8417792^MDC_CTXT_GLU_CARB_BRUNCH^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Context Carbohydrates object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263872^MDC_DIM_G^MDC</li> </ul> <p>e. If the Context Carbohydrates Source-Handle-Reference attribute is present, it follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Context Carbohydrates object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of the Glucose object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GL/BV-005		
<b>TP label</b>	Device and Sensor Annunciation Status Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	GlucoseMeter 2; M	GlucoseMeter 12; M
		MetricClassAttr 2; M	MetricClassAttr 3; O
			MetricClassAttr 4; M



		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
		EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M
		EnumClassAttr 5; O	EnumClassAttr 6; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 3; M	ScannerAttr 4; M	
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Device and Sensor Annunciation Status Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_GL_001 AND C_SEN_GL_005			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device with a Device and Sensor Annunciation Status object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Device and Sensor Annunciation Status object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Device and Sensor Annunciation Status object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8417752^MDC_GLU_METER_DEV_STATUS^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Device and Sensor Annunciation Status object respectively.</li> <li><input type="checkbox"/> OBX-5 = Any of these values: <pre>&lt;0 or 1&gt;^device-battery-low(0),</pre> <pre>&lt;0 or 1&gt;^sensor-malfunction(1),</pre> </li> </ul> </li> </ol> </li> </ol>			

	<p>&lt;0 or 1&gt;^sensor-sample-size-insufficient(2)</p> <p>&lt;0 or 1&gt;^sensor-strip-insertion(3),</p> <p>&lt;0 or 1&gt;^sensor-strip-type-incorrect(4),</p> <p>&lt;0 or 1&gt;^sensor-result-too-high(5),</p> <p>&lt;0 or 1&gt;^sensor-result-too-low(6),</p> <p>&lt;0 or 1&gt;^sensor-temp-too-high(7),</p> <p>&lt;0 or 1&gt;^sensor-temp-too-low(8),</p> <p>&lt;0 or 1&gt;^sensor-read-interrupt(9),</p> <p>&lt;0 or 1&gt;^device-gen-fault(10)</p> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GL/BV-006			
<b>TP label</b>	Context Meal Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	GlucoseMeter 1; M	GlucoseMeter 2; M	GlucoseMeter 13; M
		GlucoseMeter 14; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M	EnumClassAttr 5; O
		EnumClassAttr 6; M	MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
ScannerAttr 3; M	ScannerAttr 4; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Context Meal Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_GL_001 AND C_SEN_GL_006			

<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device with a Context Meal object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Context Meal object has sent at least one observation</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Context Meal object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8417864^MDC_CTXT_GLU_MEAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Context Meal object respectively.</li> <li><input type="checkbox"/> OBX-5 = 8417868^MDC_CTXT_GLU_MEAL_PREPRANDIAL^MDC or 8417872^MDC_CTXT_GLU_MEAL_POSTPRANDIAL^MDC or 8417876^MDC_CTXT_GLU_MEAL_FASTING^MDC or 8417880^MDC_CTXT_GLU_MEAL_CASUAL^MDC or 8417908^MDC_CTXT_GLU_MEAL_BEDTIME^MDC</li> </ul> </li> <li>e. If the Context Meal Source-Handle-Reference attribute is present, it follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Context Meal object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of the Glucose object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GL/BV-007			
<b>TP label</b>	Context Sample Location Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	GlucoseMeter 1; M	GlucoseMeter 2; M	GlucoseMeter 15; M
		GlucoseMeter 16; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M	EnumClassAttr 5; O
		EnumClassAttr 6; M	MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1] –			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Context Sample Location Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_GL_001 AND C_SEN_GL_007			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device with a Context Sample Location object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Context Sample Location object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as:  &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Context Sample Location object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8417844^MDC_CTXT_GLU_SAMPLELOCATION^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Context Sample Location object respectively.</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-5 = 8417848^MDC_CTXT_GLU_SAMPLELOCATION_FINGER^MDC or 8417852^MDC_CTXT_GLU_SAMPLELOCATION_AST^MDC or 8417856^MDC_CTXT_GLU_SAMPLELOCATION_EARLOBE^MDC or 8417860^MDC_CTXT_GLU_SAMPLELOCATION_CTL SOLUTION^MDC</li> </ul> <p>e. If the Context Sample Location Source-Handle-Reference attribute is present, it follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'ST'</li> <li>❑ OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Context Sample Location object.</li> <li>❑ OBX-5 = OBX-4 of the Glucose object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GL/BV-008			
<b>TP label</b>	Context Tester Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	GlucoseMeter 1; M	GlucoseMeter 2; M	GlucoseMeter 17; M
		GlucoseMeter 18; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M	EnumClassAttr 5; O
		EnumClassAttr 6; M	MetricRelGroup 2; O	PM-StoreAttr; M
	PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M	
ScannerAttr 3; M	ScannerAttr 4; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Context Tester Object, the Metric and Enumeration attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_GL_001 AND C_SEN_GL_008			

<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device with a Context Tester object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Context Tester object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Context Tester object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8417884^MDC_CTXT_GLU_TESTER^MDC is the generic code or if specific Metric-Id is specified use it: 8417888^MDC_CTXT_GLU_TESTER_SELF^MDC or 8417892^MDC_CTXT_GLU_TESTER_HCP^MDC or 8417896^MDC_CTXT_GLU_TESTER_LAB^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Context Tester object respectively.</li> <li><input type="checkbox"/> OBX-5 is empty</li> </ul> </li> <li>e. If the Context Tester Source-Handle-Reference attribute is present, it follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Context Tester object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of the Glucose object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>		TP/HFS/SEN/PCD-01-DATA/GL/BV-009		
<b>TP label</b>		Context Health Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	GlucoseMeter 1; M	GlucoseMeter 2; M	GlucoseMeter 19; M
		GlucoseMeter 20; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M	EnumClassAttr 5; O
		EnumClassAttr 6; M	MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
ScannerAttr 3; M	ScannerAttr 4; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>		<p>Check that:</p> <p>The presence of the attributes of the Context Health Object, the Metric and Enumeration attributes and their respective values.</p>		
<b>Applicability</b>		C_SEN_000 AND C_SEN_GL_001 AND C_SEN_GL_009		
<b>Other PICS</b>		C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>		The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device with a Context Health object.		
<b>Test procedure</b>		<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Context Health object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Context Health object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8417820^MDC_CTXT_GLU_HEALTH^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Context Health object respectively.</li> </ul> </li> </ol> </li> </ol>		

	<ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-5 = 8417824^MDC_CTXT_GLU_HEALTH_MINOR^MDC or 8417828^MDC_CTXT_GLU_HEALTH_MAJOR^MDC or 8417832^MDC_CTXT_GLU_HEALTH_MENSES^MDC or 8417836^MDC_CTXT_GLU_HEALTH_STRESS^MDC or 8417840^MDC_CTXT_GLU_HEALTH_NONE^MDC</li> <li>e. If the Context Health Source-Handle-Reference attribute is present, it follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Context Health object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of the Glucose object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GL/BV-010			
<b>TP label</b>	HbA1c Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	GlucoseMeter 2; M	GlucoseMeter 21; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the HbA1c Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_GL_001 AND C_SEN_GL_010			



<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device with a HbA1c object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The HbA1c object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. HbA1c object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 160220^MDC_CONC_HBA1C^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the HbA1c object respectively</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262688^MDC_DIM_PERCENT^MDC</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/GL/BV-011			
<b>TP label</b>	Control Solution Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	GlucoseMeter 2; M	GlucoseMeter 22; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O

		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Control Solution Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_GL_001 AND C_SEN_GL_011			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a glucose meter device with a Control Solution object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a glucose meter device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Control Solution object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Control Solution object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 160208^MDC_CONC_GLU_CONTROL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Control Solution object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation.</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"><li>• OBX-5 = Numeric value</li><li>• OBX-18 has a timebase ID.</li></ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

## A.9 Subgroup 1.4.8: Cardiovascular fitness and activity monitor (CV)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
		MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
		MDSObject 31; M	MDSObject 32; M	Cardiovascular 3; M
		Timestamp 13; O	Timestamp 14; O	Timestamp 15; O
Timestamp 17; M				
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	DeviceTimeSync1; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</li> </ol> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> </ul> </li> </ol>			

- ❑ refIdName: is the normative nomenclature name for the unique code point (recommended)
- ❑ refIdCodeSystem = "MDC" (required).
- c. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
  - ❑ <bitValue> = <0 or 1>
  - ❑ <bitName> is recommended to be the ASN.1 name for the bit
  - ❑ <bitPosition> is the normative position of the bit
- d. In MDS-level OBX:
  - ❑ OBX-2 is empty
  - ❑ If the System-Type attribute is valued, OBX-3 = 528425^MDC\_DEV\_SPEC\_PROFILE\_HF\_CARDIO^MDC
  - ❑ If the System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3
  - ❑ If the System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC\_DEV\_SPEC\_PROFILE\_HYDRA^MDC and the specialization list is reported as an attribute of the device.
  - ❑ If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD
  - ❑ OBX-11 = 'X'
  - ❑ OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_CV\_001.
- e. System model attribute is sent in two different OBX segments:
  - ❑ System-Model attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
    - OBX-5 = String representing the model number portion of MDC\_ATTR\_ID\_MODEL attribute
  - ❑ System-Manufacturer attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
    - OBX-5 = String representing the model manufacturer portion of MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
  - ❑ Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
    - OBX-5 = String representing the value portion of the Production-Specification serial entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype

- ❑ Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.

g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)

- ❑ Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'CWE'
  - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^mds-time-capab-real-time-clock(0),
    - <0 or 1>^mds-time-capab-set-clock(1),
    - <0 or 1>^mds-time-capab-relative-time(2),
    - <0 or 1>^mds-time-capab-high-res-relative-time(3),
    - <0 or 1>^mds-time-capab-sync-abs-time(4),
    - <0 or 1>^mds-time-capab-sync-rel-time(5),
    - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
    - <0 or 1>^mds-time-state-abs-time-synced(8),
    - <0 or 1>^mds-time-state-rel-time-synced(9),
    - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
    - <0 or 1>^mds-time-mgr-set-time(11)
- ❑ Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- ❑ Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'CWE'
  - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
  - OBX-5 = One of these values:
    - 532224^MDC\_TIME\_SYNC\_NONE^MDC
    - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
    - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
    - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
    - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
    - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
    - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
    - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
    - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
    - 532233^MDC\_TIME\_SYNC\_GSM^MDC
    - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
    - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC
- ❑ Date and Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
  - OBX-5 = DTM data type value
  - OBX-14 = UTC value
- ❑ Relative-Time attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'NM'
- OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
- OBX-4 = 0.0.0.x, where 'x' is any integer value
- OBX-5 = NM data type value
- OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- OBX-18 = A unique identifier for the given timebase
- HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If the Power-Status attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- j. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC



- ❑ OBX-5 = NM data type value
- ❑ OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
  - ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
  - ❑ OBX-5 = Use the value contained in the BatMeasure object
  - ❑ OBX-6 = Use the OID contained in the BatMeasure object
- l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
  - ❑ OBX-2 = 'CWE'
  - ❑ OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
  - OBX-5 = One of:
    - 0^auth-body-empty,
    - 1^auth-body-ieee-11073,
    - 2^auth-body-continua,
    - 254^auth-body-experimental,
    - 255^auth-body-reserved
- m. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
  - ❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'
    - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC
    - OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the facet level of that segment.
    - OBX-5 = <major-IG-version>.<minor-IG-version>.
  - ❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'NA'
    - OBX-3 = 532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC
    - OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a facet entry, and 'b' is a number indicating the facet level of that segment.
    - OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 41 (CV v1.0), 16425 (CV v1.5 Wireless PAN), 8233 (CV v1.5 Wired PAN), or 24617 (CV v1.5 Sensor LAN)
  - ❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'CWE'
    - OBX-3 = 532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC

	<ul style="list-style-type: none"> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a facet entry, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> <p>n. If the System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li>❑ OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-001			
<b>TP label</b>	Session Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 2; M	Cardiovascular 4; M	Cardiovascular 5; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Session Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Session object has sent at least one observation</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> </ol> </li> </ol>			

- c. Each MDC code using a CWE data type is encoded as:  
 <refldValue>^<refldName>^<refldCodeSystem>
- where:
- refldValue: is a 32 bit integer (required)
  - refldName: is the normative nomenclature name for the unique code point (recommended)
  - refldCodeSystem = "MDC" (required).
- d. Session object follows this OBX encoding:
- OBX-2 = 'CWE'
  - OBX-3 = 8454267^MDC\_HF\_SESSION^MDC
  - OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Session object respectively.
  - OBX-5 = One of the values:
    - 8455144^MDC\_HF\_ACT\_AMB^MDC
    - 8455145^MDC\_HF\_ACT\_REST^MDC
    - 8455146^MDC\_HF\_ACT\_MOTOR^MDC
    - 8455147^MDC\_HF\_ACT\_LYING^MDC
    - 8455148^MDC\_HF\_ACT\_SLEEP^MDC
    - 8455149^MDC\_HF\_ACT\_PHYS^MDC
    - 8455150^MDC\_HF\_ACT\_SUS\_PHYS^MDC
    - 8455151^MDC\_HF\_ACT\_UNKNOWN^MDC
    - 8455152^MDC\_HF\_ACT\_MULTIPLE^MDC
    - 8455153^MDC\_HF\_ACT\_MONITOR^MDC
    - 8455154^MDC\_HF\_ACT\_SKI^MDC
    - 8455155^MDC\_HF\_ACT\_RUN^MDC
    - 8455156^MDC\_HF\_ACT\_BIKE^MDC
    - 8455157^MDC\_HF\_ACT\_STAIR^MDC
    - 8455158^MDC\_HF\_ACT\_ROW^MDC
    - 8455159^MDC\_HF\_ACT\_HOME^MDC
    - 8455160^MDC\_HF\_ACT\_WORK^MDC
    - 8455161^MDC\_HF\_ACT\_WALK^MDC
- e. If Session Measure Active Period attribute is present, it follows this OBX encoding:
- OBX-2 = 'NM'
  - OBX-3 = 68185^MDC\_ATTR\_TIME\_PD\_MSMT\_ACTIVE^MDC
  - OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Session object.
  - OBX-5 = Numeric value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- f. No PM-Store, PM-Segment or Scanner attributes are present.
- g. One of these timestamp attributes can be present:
- MDC\_ATTR\_TIME\_STAMP\_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]
  - MDC\_ATTR\_TIME\_STAMP\_REL, transmitted as a facet of the observation:
    - OBX-5 = Numeric value
    - OBX-18 has a timebase ID.

	<ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-002			
<b>TP label</b>	Sub-Session Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 2; M	Cardiovascular 6; M	Cardiovascular 7; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Sub-Session Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_030			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Sub-Session object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Sub-Session object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> </ol> </li> </ol>			

	<p>d. Sub-Session object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>OBX-3 = 8454268^MDC_HF_SUBSESSION^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Sub-Session object respectively.</li> <li>❑ OBX-5 = One of the values: <ul style="list-style-type: none"> <li>8455144^MDC_HF_ACT_AMB^MDC</li> <li>8455145^MDC_HF_ACT_REST^MDC</li> <li>8455146^MDC_HF_ACT_MOTOR^MDC</li> <li>8455147^MDC_HF_ACT_LYING^MDC</li> <li>8455148^MDC_HF_ACT_SLEEP^MDC</li> <li>8455149^MDC_HF_ACT_PHYS^MDC</li> <li>8455150^MDC_HF_ACT_SUS_PHYS^MDC</li> <li>8455151^MDC_HF_ACT_UNKNOWN^MDC</li> <li>8455152^MDC_HF_ACT_MULTIPLE^MDC</li> <li>8455153^MDC_HF_ACT_MONITOR^MDC</li> <li>8455154^MDC_HF_ACT_SKI^MDC</li> <li>8455155^MDC_HF_ACT_RUN^MDC</li> <li>8455156^MDC_HF_ACT_BIKE^MDC</li> <li>8455157^MDC_HF_ACT_STAIR^MDC</li> <li>8455158^MDC_HF_ACT_ROW^MDC</li> <li>8455159^MDC_HF_ACT_HOME^MDC</li> <li>8455160^MDC_HF_ACT_WORK^MDC</li> <li>8455161^MDC_HF_ACT_WALK^MDC</li> </ul> </li> </ul> <p>e. If the Sub-Session Measure Active Period attribute is present, it follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'NM'</li> <li>❑ OBX-3 = 68185^MDC_ATTR_TIME_PD_MSMT_ACTIVE^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Sub-Session object.</li> <li>❑ OBX-5 = Numeric value</li> <li>❑ OBX-6 = 264320^MDC_DIM_SEC^MDC</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-003			
<b>TP label</b>	Altitude Gain Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 8; M
		Cardiovascular 9; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Altitude Gain Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_002			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with an Altitude Gain object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Altitude Gain object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as:  &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Altitude Gain object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454244^MDC_HF_ALT_GAIN^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Altitude Gain object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-6 = 263424^MDC_DIM_M^MDC or 263488^MDC_DIM_FOOT^MDC</li> <li>e. Altitude Gain Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Altitude Gain object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-004			
<b>TP label</b>	Altitude Loss Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 10; M
		Cardiovascular 11; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Altitude Loss Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			

<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with an Altitude Loss object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Altitude Loss object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Altitude Loss object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454245^MDC_HF_ALT_LOSS^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Altitude Loss object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> <li><input type="checkbox"/> OBX-6 = 263424^MDC_DIM_M^MDC or 263488^MDC_DIM_FOOT^MDC</li> </ul> </li> <li>e. Altitude Loss Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Altitude Loss object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-005
<b>TP label</b>	Altitude Numeric Object
<b>Coverage</b>	<b>Spec</b> [ITU-T H.812.1]



<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 12; M
	Cardiovascular 13; M	MetricClassAttr 1; M	MetricClassAttr 2; M
	MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
	MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
	MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
	MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
	MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
	MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
	NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
	NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
	PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
<b>Spec</b>	[ITU-T H.812.1] –		
<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Altitude Object, the Metric and Numeric attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_004		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a Webservice and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with an Altitude object.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Altitude object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Altitude object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454246^MDC_HF_ALT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Altitude object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> <li><input type="checkbox"/> OBX-6 = 263424^MDC_DIM_M^MDC or 263488^MDC_DIM_FOOT^MDC</li> </ul> </li> <li>e. Altitude Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> </ul> </li> </ol> </li> </ol>		

	<ul style="list-style-type: none"> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Altitude object.</li> <li>❑ OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-006			
<b>TP label</b>	Distance Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 14; M
		Cardiovascular 15; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Distance Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_027			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Distance object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that:</li> </ol>			

	<p>a. At least one Distance object has sent at least one observation.</p> <p>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</p> <p>c. Each MDC code using a CWE data type is encoded as:          &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;          where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Distance object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM' OBX-3 = 8454247^MDC_HF_DISTANCE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Distance object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263424^MDC_DIM_M^MDC or 263488^MDC_DIM_FOOT^MDC or 268800^MDC_DIM_STEP^MDC</li> </ul> <p>e. Distance Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Distance object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation:             <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation.             <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-007			
<b>TP label</b>	Ascent Time and Distance Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 16; M
		Cardiovascular 17; M	Cardiovascular 18; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O

		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
		ScannerAttr 4; M		
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Ascent Time and Distance Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_028			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with an Ascent Time object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Ascent Time and Distance object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Ascent Time and Distance object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454248^MDC_HF_ASC_TIME_DIST^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Ascent Time and Distance object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263424^MDC_DIM_M^MDC or 263488^MDC_DIM_FOOT^MDC or 268800^MDC_DIM_STEP^MDC</li> </ul> </li> <li>e. If the Ascent Time and Distance Measure Active Period attribute is present, it follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 68185^MDC_ATTR_TIME_PD_MSMT_ACTIVE^MDC</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Ascent Time and Distance object.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264320^MDC_DIM_SEC^MDC</li> </ul> <p>f. Ascent Time and Distance Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Ascent Time and Distance object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-008			
<b>TP label</b>	Descent Time and Distance Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 19; M
		Cardiovascular 20; M	Cardiovascular 21; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
ScannerAttr 4; M				
<b>Spec</b>	[ITU-T H.812.1] –			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that:			

	The presence of the attributes of the Descent Time and Distance Object, the Metric and Numeric attributes and their respective values.
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_029
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a Webservice and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Descent Time object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Descent Time and Distance object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Descent Time and Distance object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454249^MDC_HF_DESC_TIME_DIST^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Descent Time and Distance object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263424^MDC_DIM_M^MDC or 263488^MDC_DIM_FOOT^MDC or</li> <li><input type="checkbox"/> 268800^MDC_DIM_STEP^MDC</li> </ul> </li> <li>e. If the Descent Time and Distance Measure Active Period attribute is present, it follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 68185^MDC_ATTR_TIME_PD_MSMT_ACTIVE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Descent Time and Distance object.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264320^MDC_DIM_SEC^MDC</li> </ul> </li> <li>f. Descent Time and Distance Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Descent Time and Distance object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>g. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>h. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> </ul> </li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-009			
<b>TP label</b>	Latitude Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 22; M
		Cardiovascular 23; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Latitude Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_026			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Latitude object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Latitude object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</li> </ol> <p>where:</p> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> <p>d. Latitude object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454250^MDC_HF_LATITUDE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Latitude object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262880^MDC_DIM_ANG_DEG^MDC</li> </ul> <p>e. Latitude Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Latitude object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>		TP/HFS/SEN/PCD-01-DATA/CV/BV-010		
<b>TP label</b>		Longitude Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 24; M
		Cardiovascular 25; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M



		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Longitude Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_025			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Longitude object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Longitude object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Longitude object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454251^MDC_HF_LONGITUDE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Longitude object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262880^MDC_DIM_ANG_DEG^MDC</li> </ul> </li> <li>e. Longitude Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Longitude object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation.</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-011			
<b>TP label</b>	Slopes Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 26; M
		Cardiovascular 27; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M
	ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M	
ScannerAttr 4; M				
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Slopes Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_024			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Slopes object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Slopes object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> </ol> </li> </ol>			

	<p>d. Slopes object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454253^MDC_HF_SLOPES^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Slopes object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262656^MDC_DIM_DIMLESS^MDC</li> </ul> <p>e. Slopes Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Slopes object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-012			
<b>TP label</b>	Speed Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 28; M
		Cardiovascular 29; M	Cardiovascular 30; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
ScannerAttr 4; M				
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable</b>	DataGuidelines 22; M			

Items	
<b>Test purpose</b>	Check that: The presence of the attributes of the Speed Object, the Metric and Numeric attributes and their respective values.
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_023
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Speed object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Speed object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Speed object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454254^MDC_HF_SPEED^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Speed object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 268704^MDC_DIM_M_PER_MIN^MDC, or 268832^MDC_DIM_FOOT_PER_MIN^MDC, or 268864^MDC_DIM_INCH_PER_MIN^MDC, or 268896^MDC_DIM_STEP_PER_MIN^MDC</li> </ul> </li> <li>e. Speed Measurement Type attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 67883^MDC_ATTR_ID_PHYSIO^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Speed object.</li> <li><input type="checkbox"/> OBX-5 = 8456144^MDC_HF_MEAN_NULL_EXCLUDE^MDC or 8456145^MDC_HF_MEAN_NULL_INCLUDE^MDC or 8456146^MDC_HF_MAX^MDC or 8456147^MDC_HF_MIN^MDC</li> </ul> </li> <li>f. Speed Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the facet level of the Speed object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>g. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>h. One of these timestamp attributes can be present:</li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-013			
<b>TP label</b>	Cadence Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 31; M
		Cardiovascular 32; M	Cardiovascular 33; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
ScannerAttr 4; M				
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Cadence Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_022			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Cadence object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Cadence object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> </ol> </li> </ol>			

	<p>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Cadence object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454255^MDC_HF_CAD^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Cadence object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 268960^MDC_DIM_RPM^MDC</li> </ul> <p>e. Cadence Measurement Type attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 67883^MDC_ATTR_ID_PHYSIO^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Cadence object.</li> <li><input type="checkbox"/> OBX-5 = 8456144^MDC_HF_MEAN_NULL_EXCLUDE^MDC or 8456145^MDC_HF_MEAN_NULL_INCLUDE^MDC or 8456146^MDC_HF_MAX^MDC or 8456147^MDC_HF_MIN^MDC</li> </ul> <p>f. Cadence Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the facet level of the Cadence object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-014		
<b>TP label</b>	Incline Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M
		Cardiovascular 35; M	Cardiovascular 34; M
		Cardiovascular 36; M	MetricClassAttr 1; M

		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
		ScannerAttr 4; M		
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Incline Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_021			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with an Incline object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Incline object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Incline object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454256^MDC_HF_INCLINE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Incline object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262688^MDC_DIM_PERCENT^MDC or 262880^MDC_DIM_ANG_DEG^MDC</li> </ul> </li> <li>e. Incline Measurement Type attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 67883^MDC_ATTR_ID_PHYSIO^MDC</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Incline object.</li> <li><input type="checkbox"/> OBX-5 = 8456144^MDC_HF_MEAN_NULL_EXCLUDE^MDC or 8456145^MDC_HF_MEAN_NULL_INCLUDE^MDC or 8456146^MDC_HF_MAX^MDC or 8456147^MDC_HF_MIN^MDC</li> </ul> <p>f. Incline Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the facet level of the Incline object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM][DD][HH[MM[SS]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-015			
<b>TP label</b>	Heart Rate Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 37; M
		Cardiovascular 38; M	Cardiovascular 39; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
ScannerAttr 4; M				
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that:			



	The presence of the attributes of the Heart Rate Object, the Metric and Numeric attributes and their respective values.
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_020
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a Webservice and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Heart Rate object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Heart Rate object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Heart Rate object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454258^MDC_HF_HR^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Heart Rate object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264864^MDC_DIM_BEAT_PER_MIN^MDC</li> </ul> </li> <li>e. Heart Rate Measurement Type attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 67883^MDC_ATTR_ID_PHYSIO^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Heart Rate object.</li> <li><input type="checkbox"/> OBX-5 = 8456144^MDC_HF_MEAN_NULL_EXCLUDE^MDC or 8456145^MDC_HF_MEAN_NULL_INCLUDE^MDC or 8456146^MDC_HF_MAX^MDC or 8456147^MDC_HF_MIN^MDC</li> </ul> </li> <li>f. Heart Rate Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the facet level of the Heart Rate object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>g. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>h. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> </ul> </li> </ul> </li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>• OBX-18 has a timebase ID.</li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation.</li> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-016			
<b>TP label</b>	Max User Heart Rate Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 40; M
		Cardiovascular 41; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Max User Heart Rate Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_019			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Max User Heart Rate object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Max User Heart Rate object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li>❑ refIdValue: is a 32 bit integer (required)</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> <li>d. Max User Heart Rate object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454257^MDC_HF_HR_MAX_USER^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Max User Heart Rate object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264864^MDC_DIM_BEAT_PER_MIN^MDC</li> </ul> </li> <li>e. Max User Heart Rate Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the facet level of the Max User Heart Rate object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-017			
<b>TP label</b>	Power Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 42; M
		Cardiovascular 43; M	Cardiovascular 44; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M

		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
		ScannerAttr 4; M		
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Power Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_018			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Power object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Power object has sent at least one observation..</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Power object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454259^MDC_HF_POWER^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Power object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 266176^MDC_DIM_WATT^MDC</li> </ul> </li> <li>e. Power Measurement Type attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 67883^MDC_ATTR_ID_PHYSIO^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Power object.</li> <li><input type="checkbox"/> OBX-5 = 8456144^MDC_HF_MEAN_NULL_EXCLUDE^MDC or 8456145^MDC_HF_MEAN_NULL_INCLUDE^MDC or 8456146^MDC_HF_MAX^MDC or 8456147^MDC_HF_MIN^MDC</li> </ul> </li> <li>f. Power Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the facet level of the Power object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> </ol> </li> </ol>			

	<p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM][DD][HH[MM[SS]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-018			
<b>TP label</b>	Resistance Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 45; M
		Cardiovascular 46; M	Cardiovascular 47; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
	ScannerAttr 4; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Resistance Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_017			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Resistance object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Resistance object has sent at least one observation.</li> </ol> </li> </ol>			

	<p>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</p> <p>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Resistance object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454260^MDC_HF_RESIST^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Resistance object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = Leave blank or use 262656^MDC_DIM_DIMLESS^MDC</li> </ul> <p>e. Resistance Measurement Type attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 67883^MDC_ATTR_ID_PHYSIO^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Resistance object.</li> <li><input type="checkbox"/> OBX-5 = 8456144^MDC_HF_MEAN_NULL_EXCLUDE^MDC or 8456145^MDC_HF_MEAN_NULL_INCLUDE^MDC or 8456146^MDC_HF_MAX^MDC or 8456147^MDC_HF_MIN^MDC</li> </ul> <p>f. Resistance Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the facet level of the Resistance object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-019
<b>TP label</b>	Stride Length Numeric Object

<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 48; M
		Cardiovascular 49; M	Cardiovascular 50; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
ScannerAttr 4; M				
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Stride Length Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_016			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Stride Length object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Stride Length object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Stride Length object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8454261^MDC_HF_STRIDE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Stride Length object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263424^MDC_DIM_M^MDC or 263520^MDC_DIM_INCH^MDC</li> </ul> </li> <li>e. Stride Length Measurement Type attribute follows this OBX encoding:</li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 67883^MDC_ATTR_ID_PHYSIO^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Stride Length object.</li> <li><input type="checkbox"/> OBX-5 = 8456144^MDC_HF_MEAN_NULL_EXCLUDE^MDC or 8456145^MDC_HF_MEAN_NULL_INCLUDE^MDC or 8456146^MDC_HF_MAX^MDC or 8456147^MDC_HF_MIN^MDC</li> </ul> <p>f. Stride Length Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the facet level of the Stride Length object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-020			
<b>TP label</b>	Breathing Rate Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 51; M
		Cardiovascular 52; M	Cardiovascular 53; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		MetricRelGroup 2; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
	ScannerAttr 4; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable Items</b>	DataGuidelines 22; M			



<b>Test purpose</b>	Check that: The presence of the attributes of the Breathing Rate Object, the Metric and Numeric attributes and their respective values.
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_015
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Breathing Rate object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Breathing Rate object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Breathing Rate object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 151562^MDC_RESP_RATE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Breathing Rate object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264928^MDC_DIM_RESP_PER_MIN^MDC</li> </ul> </li> <li>e. Breathing Rate Measurement Type attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 67883^MDC_ATTR_ID_PHYSIO^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Breathing Rate object.</li> <li><input type="checkbox"/> OBX-5 = 8456144^MDC_HF_MEAN_NULL_EXCLUDE^MDC or 8456145^MDC_HF_MEAN_NULL_INCLUDE^MDC or 8456146^MDC_HF_MAX^MDC or 8456147^MDC_HF_MIN^MDC</li> </ul> </li> <li>f. Breathing Rate Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the facet level of the Breathing Rate object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>g. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>h. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation:</li> </ul> </li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> <li>□ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation.</li> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-021			
<b>TP label</b>	Energy Expended Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 54; M
		Cardiovascular 55; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
	PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M	
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Energy Expended Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_014			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with an Energy Expended object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Energy Expended object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li>□ refIdValue: is a 32 bit integer (required)</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> <p>d. Energy Expended object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454263^MDC_HF_ENERGY^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Energy Expended object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 268928^MDC_DIM_CAL^MDC or 266112^MDC_DIM_JOULES^MDC</li> </ul> <p>e. Energy Expended Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Energy Expended object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-022		
<b>TP label</b>	Calories Ingested Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M
		Cardiovascular 57; M	MetricClassAttr 1; M
		MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 2; M	ScannerAttr 3; M
			ScannerAttr 4; M
			Cardiovascular 56; M
			MetricClassAttr 2; M
			MetricClassAttr 5; M
			MetricClassAttr 8; O
			MetricClassAttr 11; M
			MetricClassAttr 14; O
			MetricClassAttr 17; C
			NumericClassAttr 2; M
			NumericClassAttr 5; M
			MetricRelGroup 2; O
			ScannerAttr 1; M

	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	DataGuidelines 22; M	
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Calories Ingested Object, the Metric and Numeric attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_013		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Calories object.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Calories Ingested object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Calories Ingested object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454264^MDC_HF_CAL_INGEST^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Calories Ingested object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 268928^MDC_DIM_CAL^MDC</li> </ul> </li> <li>e. Calories Ingested Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Calories Ingested object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> </ul> </li> </ul> </li> </ol> </li> </ol>		

	<ul style="list-style-type: none"> <li>OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-023			
<b>TP label</b>	Carbohydrate Calories Ingested Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 58; M
		Cardiovascular 59; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Carbohydrate Calories Ingested Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_012			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Calories Ingested object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>Check in the captured message that: <ol style="list-style-type: none"> <li>At least one Carbohydrate Calories Ingested object has sent at least one observation.</li> <li>Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>Carbohydrate Calories Ingested object follows this OBX encoding:</li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454265^MDC_HF_CAL_INGEST_CARB^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Carbohydrate Calories Ingested object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 268928^MDC_DIM_CAL^MDC</li> </ul> <p>e. Carbohydrate Calories Ingested Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Carbohydrate Calories Ingested object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-024			
<b>TP label</b>	Sustained Phys Activity Threshold Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 60; M
		Cardiovascular 61; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			

<b>Test purpose</b>	Check that: The presence of the attributes of the Sustained Phys Activity Threshold Object, the Metric and Numeric attributes and their respective values.
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_011
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Sustained Phys Activity Threshold object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Sustained Phys Activity Threshold object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Sustained Phys Activity Threshold object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454266^MDC_HF_SUST_PA_THRESHOLD^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Sustained Phys Activity Threshold object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264352^MDC_DIM_MIN^MDC</li> </ul> </li> <li>e. Sustained Phys Activity Threshold Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Sustained Phys Activity Threshold object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>

<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-025			
<b>TP label</b>	Activity Intensity Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 62; M
		Cardiovascular 63; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Activity Intensity Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_010			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with an Acitivity Intensity object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Activity Intensity object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Activity Intensity object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454271^MDC_HF_ACTIVITY_INTENSITY^MDC</li> </ul> </li> </ol> </li> </ol>			



	<ul style="list-style-type: none"> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Activity Intensity object respectively.</li> <li>❑ OBX-5 = Numeric Value</li> <li>❑ OBX-6 = 262688^MDC_DIM_PERCENT^MDC</li> </ul> <p>e. Activity Intensity Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'ST'</li> <li>❑ OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Activity Intensity object.</li> <li>❑ OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-026		
<b>TP label</b>	Body Weight Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M
		Cardiovascular 65; M	MetricClassAttr 1; M
		MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 2; M	ScannerAttr 3; M
			ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	DataGuidelines 22; M	
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Body Weight Object, the Metric and Numeric attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_009		

<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Body Weight object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Body Weight object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Body Weight object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 188736^MDC_MASS_BODY_ACTUAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Body Weight object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263872^MDC_DIM_G^MDC or 263904^MDC_DIM_LB^MDC</li> </ul> </li> <li>e. Body Weight Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Body Weight object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-027
<b>TP label</b>	Height Numeric Object

<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 66; M
		Cardiovascular 67; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Height Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_008			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Height object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Height object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Height object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 188740^MDC_LEN_BODY_ACTUAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Height object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263424^MDC_DIM_M^MDC or 263488^MDC_DIM_FOOT^MDC</li> </ul> </li> <li>e. Height Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Height object.</li> <li>❑ OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-028			
<b>TP label</b>	Age Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 68; M
		Cardiovascular 69; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Age Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_007			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with an Age object.			
<b>Test procedure</b>	1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.			

	<p>2. Check in the captured message that:</p> <ol style="list-style-type: none"> <li>a. At least one Age object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Age object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454270^MDC_HF_AGE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Age object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264512^MDC_DIM_YR^MDC</li> </ul> </li> <li>e. Age Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Age object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-029			
<b>TP label</b>	Activity Time Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 70; M
		Cardiovascular 71; M	Cardiovascular 72; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
MetricClassAttr 5; M		MetricClassAttr 6; O	MetricClassAttr 7; O	

		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
		EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M
		EnumClassAttr 5; O	EnumClassAttr 6; M	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Activity Time Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_006			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with an Activity Time object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Activity Time object has sent at least one observation. Each one conforms to the following steps.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Activity Time object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8454269^MDC_HF_ACTIVITY_TIME^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Activity Time object respectively.</li> <li><input type="checkbox"/> OBX-5 = 8455144^MDC_HF_ACT_AMB^MDC or 8455145^MDC_HF_ACT_REST^MDC or 8455146^MDC_HF_ACT_MOTOR^MDC or 8455147^MDC_HF_ACT_LYING^MDC or 8455148^MDC_HF_ACT_SLEEP^MDC or 8455149^MDC_HF_ACT_PHYS^MDC or 8455150^MDC_HF_ACT_SUS_PHYS^MDC or 8455151^MDC_HF_ACT_UNKNOWN^MDC</li> </ul> </li> <li>e. Activity Time Measure Active Period attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-3 = 68185^MDC_ATTR_TIME_PD_MSMT_ACTIVE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Activity Time object.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264320^MDC_DIM_SEC^MDC</li> </ul> <p>f. Activity Time Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.b, where 'b' is a number indicating the facet level of the Activity Time object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CV/BV-030			
<b>TP label</b>	Program Identifier Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	Cardiovascular 1; M	Cardiovascular 2; M	Cardiovascular 73; M
		Cardiovascular 74; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M	EnumClassAttr 5; O
		EnumClassAttr 6; M	MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
ScannerAttr 3; M	ScannerAttr 4; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Program Identifier Object, the Metric and Enumeration attributes and their respective values.			

<b>Applicability</b>	C_SEN_000 AND C_SEN_CV_001 AND C_SEN_CV_005
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a cardiovascular device with a Program Identifier object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a cardiovascular device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Program Identifier object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Program Identifier object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 8454252^MDC_HF_PROGRAM_ID^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Program Identifier object respectively. OBX-5 = String value</li> </ul> </li> <li>e. Program Identifier Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Program Identifier object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Session or Subsession object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	



## A.10 Subgroup 1.4.9: Strength fitness equipment (ST)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ST/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
		MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
MDSObject 31; M	MDSObject 32; M	StrengthFitness 3; M		
Timestamp 13; O	Timestamp 14; O	Timestamp 15; O		
Timestamp 17; M				
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	DeviceTimeSync1; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ST_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a Strength Fitness device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a strength fitness device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</li> </ol> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> </ul> </li> </ol>			

- ❑ refIdName: is the normative nomenclature name for the unique code point (recommended)
- ❑ refIdCodeSystem = "MDC" (required).
- c. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
  - ❑ <bitValue> = <0 or 1>
  - ❑ <bitName> is recommended to be the ASN.1 name for the bit
  - ❑ <bitPosition> is the normative position of the bit
- d. In MDS-level OBX:
  - ❑ OBX-2 is empty
  - ❑ If the System-Type attribute is valued, OBX-3 = 528426^MDC\_DEV\_SPEC\_PROFILE\_HF\_STRENGTH^MDC
  - ❑ If the System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3
  - ❑ If the System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC\_DEV\_SPEC\_PROFILE\_HYDRA^MDC and the specialization list is reported as an attribute of the device.
  - ❑ If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD
  - ❑ OBX-11 = 'X'
  - ❑ OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_ST\_001.
- e. System model attribute is sent in two different OBX segments:
  - ❑ System-Model attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
    - OBX-5 = String representing the model number portion of MDC\_ATTR\_ID\_MODEL attribute
  - ❑ System-Manufacturer attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
    - OBX-5 = String representing the model manufacturer portion of MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
  - ❑ Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
    - OBX-5 = String representing the value portion of the Production-Specification serial entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype

- ❑ Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.

g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)

- ❑ Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'CWE'
  - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^mds-time-capab-real-time-clock(0),
    - <0 or 1>^mds-time-capab-set-clock(1),
    - <0 or 1>^mds-time-capab-relative-time(2),
    - <0 or 1>^mds-time-capab-high-res-relative-time(3),
    - <0 or 1>^mds-time-capab-sync-abs-time(4),
    - <0 or 1>^mds-time-capab-sync-rel-time(5),
    - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
    - <0 or 1>^mds-time-state-abs-time-synced(8),
    - <0 or 1>^mds-time-state-rel-time-synced(9),
    - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
    - <0 or 1>^mds-time-mgr-set-time(11)
- ❑ Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- ❑ Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'CWE'
  - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
  - OBX-5 = One of these values:
    - 532224^MDC\_TIME\_SYNC\_NONE^MDC
    - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
    - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
    - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
    - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
    - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
    - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
    - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
    - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
    - 532233^MDC\_TIME\_SYNC\_GSM^MDC
    - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
    - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC
- ❑ Date and Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
  - OBX-5 = DTM data type value
  - OBX-14 = UTC value
- ❑ Relative-Time attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
- OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
- OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
- OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
- OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If the Power-Status attribute is valued, it is sent as an independent OBX segment:
- OBX-2 = 'ST'
  - OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- j. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:
- OBX-2 = 'NM'
  - OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC

- ❑ OBX-5 = NM data type value
- ❑ OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
  - ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
  - ❑ OBX-5 = Use the value contained in the BatMeasure object
  - ❑ OBX-6 = Use the OID contained in the BatMeasure object
- l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
  - ❑ OBX-2 = 'CWE'
  - ❑ OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
  - OBX-5 = One of:
    - 0^auth-body-empty,
    - 1^auth-body-ieee-11073,
    - 2^auth-body-continua,
    - 254^auth-body-experimental,
    - 255^auth-body-reserved
- m. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
  - ❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'
    - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC
    - OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the facet level of that segment.
    - OBX-5 = <major-IG-version>.<minor-IG-version>.
  - ❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'NA'
    - OBX-3 = 532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC
    - OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a facet entry, and 'b' is a number indicating the facet level of that segment.
    - OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 42 (ST v1.0), 16426 (ST v1.5 Wireless PAN), 8234 (ST v1.5 Wired PAN), or 24618 (ST v1.5 Sensor LAN)
  - ❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'CWE'
    - OBX-3 = 532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC

	<ul style="list-style-type: none"> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a facet entry, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> <p>n. If System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li>❑ OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ST/BV-001			
<b>TP label</b>	Set Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	StrengthFitness 2; M	StrengthFitness 4; M	StrengthFitness 5; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Set Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ST_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a Strength Fitness device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a Strength Fitness device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Set object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> </ol> </li> </ol>			

	<p>c. Each MDC code using a CWE data type is encoded as:  <code>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</code></p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Set object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> OBX-3 = 8454344^MDC_HF_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Set object respectively.</li> <li><input type="checkbox"/> OBX-5 is empty</li> <li><input type="checkbox"/> OBX-20 = Any of the muscle sites defined in 10442. For example 459284^MDC_MUSC_THORAX_PECTORAL_MAJOR^MDC</li> </ul> <p>e. Set Measure Active Period attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 68185^MDC_ATTR_TIME_PD_MSMT_ACTIVE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Set object.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264320^MDC_DIM_SEC^MDC</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the muscle the following function is used:</p> <p style="padding-left: 40px;">Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p style="padding-left: 40px;">Number of the partition code = 7 (MDC_PART_SITES)</p> <p style="padding-left: 40px;">Number of the attribute is given in 10442</p> <p>For example:</p> <p style="padding-left: 40px;">MDC_MUSC_THORAX_PECTORAL_MAJOR = 532 → 7*2<sup>16</sup>+532 = 459284</p> <p>There is an errata in Appendix J Table J-24 in [b-CDG 2010]. Set object OBX-2 must be empty and not 'NM' as indicated, because OBX-5 is empty.</p> <p>NOTE – [b-CDG 2010] Table J-24 corresponds to Table VIII.24 in [ITU-T H.810 (2015)]; see Table 2.</p>



<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ST/BV-002			
<b>TP label</b>	Repetition Count Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	StrengthFitness 1; M	StrengthFitness 2; M	StrengthFitness 6; M
		StrengthFitness 7; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Repetition Count Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ST_001 AND C_SEN_ST_002			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a strength fitness device with a Repetition Count object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a strength fitness device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Repetition Count object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as:  &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Repetition Count object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454346^MDC_HF_REPETITION_COUNT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Repetition Count object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = Leave blank or 262656^MDC_DIM_DIMLESS^MDC</li> </ul> </li> </ol> </li> </ol>			

	<p>e. Repetition Count Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Repetition Count object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Set object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ST/BV-003			
<b>TP label</b>	Resistance Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	StrengthFitness 1; M	StrengthFitness 2; M	StrengthFitness 8; M
		StrengthFitness 9; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Resistance Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ST_001 AND C_SEN_ST_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a strength fitness device with a Resistance object.			

<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a strength fitness device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Resistance object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Resistance object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454347^MDC_HF_RESISTANCE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Resistance object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262656^MDC_DIM_DIMLESS^MDC or 263872^MDC_DIM_G^MDC or 263904^MDC_DIM_LB^MDC</li> </ul> </li> <li>e. Resistance Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Resistance object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Set object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ST/BV-004		
<b>TP label</b>	Repetition Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable</b>	StrengthFitness 1; M	StrengthFitness 2; M

	<b>items</b>	StrengthFitness 11; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 2; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Repetition Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ST_001 AND C_SEN_ST_004			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a strength fitness device with a Repetition object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a strength fitness device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Repetition object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Repetition object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8454345^MDC_HF_REPETITION ^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Repetition object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263424^MDC_DIM_M^MDC or 263520^MDC_DIM_INCH^MDC</li> </ul> </li> <li>e. Repetition Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Repetition object.</li> <li>❑ OBX-5 = OBX-4 of Set object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ST/BV-005		
<b>TP label</b>	Exercise Position Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	StrengthFitness 1; M	StrengthFitness 2; M
		StrengthFitness 12; M	StrengthFitness 13; M
		MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M
		EnumClassAttr 5; O	EnumClassAttr 6; M
		MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M
		ScannerAttr 4; M	
	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	DataGuidelines 22; M	
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Exercise Position Object, the Metric and Enumeration attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_ST_001 AND C_SEN_ST_005		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a strength fitness device with an Exercise Position object.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a strength fitness device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that:</li> </ol>		

	<p>a. At least one Exercise Position object has sent at least one observation.</p> <p>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</p> <p>c. Each MDC code using a CWE data type is encoded as:        &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;        where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Exercise Position object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8454348^MDC_HF_EXERCISE_POSITION^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Exercise Position object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of the values: 8455347^MDC_HF_POSITION_INCLINE^MDC        8455348^MDC_HF_POSITION_DECLINE^MDC        8455349^MDC_HF_POSITION_SEATED^MDC        8455350^MDC_HF_POSITION_STANDING^MDC        8455351^MDC_HF_POSITION_KNEELING^MDC        8455352^MDC_HF_POSITION_BENTOVER^MDC        8455353^MDC_HF_POSITION_HANGING^MDC        8455354^MDC_HF_POSITION_OVERHEAD^MDC        8455355^MDC_HF_POSITION_LYING^MDC</li> </ul> <p>e. Exercise Position Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Exercise Position object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Set object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation:       <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation.       <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ST/BV-006			
<b>TP label</b>	Exercise Laterality Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	StrengthFitness 1; M	StrengthFitness 2; M	StrengthFitness 14; M
		StrengthFitness 15; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M	EnumClassAttr 5; O
		EnumClassAttr 6; M	MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Exercise Laterality Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ST_001 AND C_SEN_ST_006			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a strength fitness device with an Exercise Laterality object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a strength fitness device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Exercise Laterality object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as:  &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Exercise Laterality object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8454349^MDC_HF_EXERCISE_LATERALITY^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Exercise Laterality object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of the values: 8455344^MDC_HF_LATERALITY_BOTH^MDC 8455345^MDC_HF_LATERALITY_RIGHT^MDC</li> </ul> </li> </ol> </li> </ol>			

	<p>8455346^MDC_HF_LATERALITY_LEFT^MDC</p> <p>e. Exercise Laterality Source-Handle-Reference attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Exercise Laterality object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Set object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ST/BV-007			
<b>TP label</b>	Exercise Grip Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	StrengthFitness 1; M	StrengthFitness 2; M	StrengthFitness 16; M
		StrengthFitness 17; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M	EnumClassAttr 5; O
		EnumClassAttr 6; M	MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
ScannerAttr 3; M	ScannerAttr 4; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Exercise Grip Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ST_001 AND C_SEN_ST_007			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			



<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a strength fitness device with an Exercise Grip object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a strength fitness device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Exercise Grip object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Exercise Grip object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8454350^MDC_HF_EXERCISE_GRIP^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Exercise Grip object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of the values: 8455544^MDC_HF_GRIP_PARALLEL^MDC 8455545^MDC_HF_GRIP_OVERHAND^MDC 8455546^MDC_HF_GRIP_UNDERHAND^MDC 8455547^MDC_HF_GRIP_CLOSE^MDC 8455548^MDC_HF_GRIP_WIDE^MDC 8455549^MDC_HF_GRIP_GRIPLESS^MDC</li> </ul> </li> <li>e. Exercise Grip Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the Exercise Grip object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of Set object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ST/BV-008			
<b>TP label</b>	Exercise Movement Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	StrengthFitness 1; M	StrengthFitness 2; M	StrengthFitness 16; M
		StrengthFitness 17; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M	EnumClassAttr 5; O
		EnumClassAttr 6; M	MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Exercise Movement Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ST_001 AND C_SEN_ST_008			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a strength fitness device with an Exercise Movement object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a strength fitness device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Exercise Movement object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as:  &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Exercise Movement object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8454351^MDC_HF_EXERCISE_MOVEMENT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Exercise Movement object respectively.</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-5 = One of the values: 8455444^MDC_HF_MOVEMENT_FLEXION^MDC 8455445^MDC_HF_MOVEMENT_EXTENSION^MDC 8455446^MDC_HF_MOVEMENT_ROTATION^MDC 8455447^MDC_HF_MOVEMENT_ABDUCTION^MDC 8455448^MDC_HF_MOVEMENT_ADDUCTION^MDC</li> <li>e. Exercise Movement Source-Handle-Reference attribute follows this OBX encoding: <ul style="list-style-type: none"> <li>❑ OBX-2 = 'ST'</li> <li>❑ OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the Exercise Movement object.</li> <li>❑ OBX-5 = OBX-4 of Set object</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

## A.11 Subgroup 1.4.10: Independent living activity hub (HUB)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
		MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
MDSObject 31; M	MDSObject 32; M	ActivityHub 5; M		
Timestamp 13; O	Timestamp 14; O	Timestamp 15; O		
Timestamp 17; M				
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	DeviceTimeSync1; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living Hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</li> </ol> <p>where:</p> <ul style="list-style-type: none"> <li>❑ refIdValue: is a 32 bit integer (required)</li> </ul> </li> </ol>			

- ❑ refIdName: is the normative nomenclature name for the unique code point (recommended)
- ❑ refIdCodeSystem = "MDC" (required).
- c. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
  - ❑ <bitValue> = <0 or 1>
  - ❑ <bitName> is recommended to be the ASN.1 name for the bit
  - ❑ <bitPosition> is the normative position of the bit
- d. In MDS-level OBX:
  - ❑ OBX-2 is empty
  - ❑ If the System-Type attribute is valued, OBX-3 = 528455^MDC\_DEV\_SPEC\_PROFILE\_AI\_ACTIVITY\_HUB^MDC
  - ❑ If the System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3
  - ❑ If the System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC\_DEV\_SPEC\_PROFILE\_HYDRA^MDC and the specialization list is reported as an attribute of the device.
  - ❑ If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD
  - ❑ OBX-11 = 'X'
  - ❑ OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_HUB\_001.
- e. System model attribute is sent in two different OBX segments:
  - ❑ System-Model attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
    - OBX-5 = String representing the model number portion of MDC\_ATTR\_ID\_MODEL attribute
  - ❑ System-Manufacturer attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
    - OBX-5 = String representing the model manufacturer portion of MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
  - ❑ Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
    - OBX-5 = String representing the value portion of the Production-Specification serial entry

- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.

- g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)
- Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
    - OBX-5 = One or more of:
      - <0 or 1>^mds-time-capab-real-time-clock(0),
      - <0 or 1>^mds-time-capab-set-clock(1),
      - <0 or 1>^mds-time-capab-relative-time(2),
      - <0 or 1>^mds-time-capab-high-res-relative-time(3),
      - <0 or 1>^mds-time-capab-sync-abs-time(4),
      - <0 or 1>^mds-time-capab-sync-rel-time(5),
      - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
      - <0 or 1>^mds-time-state-abs-time-synced(8),
      - <0 or 1>^mds-time-state-rel-time-synced(9),
      - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
      - <0 or 1>^mds-time-mgr-set-time(11)
  - Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
    - OBX-5 = One of these values:
      - 532224^MDC\_TIME\_SYNC\_NONE^MDC
      - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
      - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
      - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
      - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
      - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
      - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
      - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
      - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
      - 532233^MDC\_TIME\_SYNC\_GSM^MDC
      - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
      - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC
  - Date and Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'DTM'
    - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
    - OBX-5 = DTM data type value

- OBX-14 = UTC value
- Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If the Power-Status attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- j. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:



- ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
  - ❑ OBX-5 = NM data type value
  - ❑ OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
- ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
  - ❑ OBX-5 = Use the value contained in the BatMeasure object
  - ❑ OBX-6 = Use the OID contained in the BatMeasure object
- l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
- ❑ OBX-2 = 'CWE'
  - ❑ OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
- OBX-5 = One of:
- 0^auth-body-empty,
  - 1^auth-body-ieee-11073,
  - 2^auth-body-continua,
  - 254^auth-body-experimental,
  - 255^auth-body-reserved
- m. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
- ❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'
    - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC
    - OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the facet level of that segment.
    - OBX-5 = <major-IG-version>.<minor-IG-version>.
  - ❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'NA'
    - OBX-3 = 532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC
    - OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a facet entry, and 'b' is a number indicating the facet level of that segment.
    - OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 71 (HUB v1.0), 16455 (HUB v1.5 Wireless PAN), 8263 (HUB v1.5 Wired PAN), or 24647 (HUB v1.5 Sensor LAN)
  - ❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'CWE'

	<ul style="list-style-type: none"> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a facet entry, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> <p>n. If the System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li><input type="checkbox"/> OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-001			
<b>TP label</b>	Fall Sensor Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M	ActivityHub 3; M
		ActivityHub 4; M	ActivityHub 6; M	ActivityHub 7; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Fall Sensor Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_002			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with a Fall Sensor object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Fall Sensor object has sent at least one observation.</li> </ol> </li> </ol>			

- b. Handle attribute (MDC\_ATTR\_ID\_HANDLE), Metric-Spec-Small attribute (MDC\_ATTR\_METRIC\_SPEC\_SMALL) and Metric-Structure-Small (MDC\_ATTR\_METRIC\_STRUCT\_SMALL) attribute and Attribute-Value-Map (MDC\_ATTR\_ATTRIBUTE\_VALUE\_MAP) are not present
- c. Each MDC code using a CWE data type is encoded as:  
 <refldValue>^<refldName>^<refldCodeSystem>
- where:
- refldValue: is a 32 bit integer (required)
  - refldName: is the normative nomenclature name for the unique code point (recommended)
  - refldCodeSystem = "MDC" (required).
- d. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
- <bitValue> = <0 or 1>
  - <bitName> is recommended to be the ASN.1 name for the bit
  - <bitPosition> is the normative position of the bit
- e. Fall Sensor object follows this OBX encoding:
- OBX-2 = 'CWE'
  - OBX-3 = 8519681^MDC\_AI\_TYPE\_SENSOR\_FALL^MDC
  - OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Fall Sensor object respectively.
  - OBX-5 = One of the following flags:  
 <0 or 1>^fall-detected(0)  
 Additionally, optionally, any of the general sensor health flags:  
 <0 or 1>^auto-presence-received(16),  
 <0 or 1>^auto-presence-failed(17),  
 <0 or 1>^low-battery(18),  
 <0 or 1>^fault(19),  
 <0 or 1>^end-of-life(20)
- f. Fall Sensor Location attribute follows this OBX encoding:
- OBX-2 = 'CWE'
  - OBX-3 = 8520703^MDC\_AI\_LOCATION^MDC or 68193^MDC\_ATTR\_SUPPLEMENTAL\_TYPES^MDC
  - OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the Fall Sensor object.
  - OBX-5 = Any of the 10471 location codes that are specified in the Supplemental-Types.  
 For example: 8523328^MDC\_AI\_LOCATION\_LIVINGROOM^MDC
- g. No PM-Store, PM-Segment or Scanner attributes are present.
- h. One of these timestamp attributes can be present:
- MDC\_ATTR\_TIME\_STAMP\_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]
  - MDC\_ATTR\_TIME\_STAMP\_REL, transmitted as a facet of the observation:
    - OBX-5 = Numeric value
    - OBX-18 has a timebase ID.
  - MDC\_ATTR\_TIME\_STAMP\_HI\_RES, transmitted as a facet of the observation.
    - OBX-5 = Numeric value
    - OBX-18 has a timebase ID.

<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p style="padding-left: 40px;">Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p style="padding-left: 40px;">Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p style="padding-left: 40px;">Number of the attribute is given in 10471</p> <p>For example:</p> <p style="padding-left: 40px;">MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-002			
<b>TP label</b>	PERS Sensor Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M	ActivityHub 3; M
		ActivityHub 4; M	ActivityHub 8; M	ActivityHub 9; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the PERS Sensor Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with a PERS Sensor object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living Hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one PERS Sensor object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ refIdValue: is a 32 bit integer (required)</li> <li>❑ refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li>❑ refIdCodeSystem = "MDC" (required).</li> </ul> <p>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;( &lt;bitPosition&gt;), where:</p> <ul style="list-style-type: none"> <li>❑ &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li>❑ &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li>❑ &lt;bitPosition&gt; is the normative position of the bit</li> </ul> <p>e. PERS Sensor object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 8519682^MDC_AI_TYPE_SENSOR_PERS^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the PERS Sensor object respectively.</li> <li>❑ OBX-5 = One of the following flags:  &lt;0 or 1&gt;^pers-activated(0)  Additionally, optionally, any of the general sensor health flags:  &lt;0 or 1&gt;^auto-presence-received(16),  &lt;0 or 1&gt;^auto-presence-failed(17),  &lt;0 or 1&gt;^low-battery(18),  &lt;0 or 1&gt;^fault(19),  &lt;0 or 1&gt;^end-of-life(20)</li> </ul> <p>f. PERS Sensor Location attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 8520703^MDC_AI_LOCATION^MDC or 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the PERS Sensor object.</li> <li>❑ OBX-5 = Any of the 10471 location codes that are specified in the Supplemental-Types.  For example: 8523328^MDC_AI_LOCATION_LIVINGROOM^MDC</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p style="padding-left: 40px;">Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p style="padding-left: 40px;">Number of the partition code = 130 (MDC_PART_PHD_AI)</p>

	<p>Number of the attribute is given in 10471</p> <p>For example:</p> <p><math>MDC\_AI\_LOCATION\_LIVINGROOM = 3648 \rightarrow 130 \cdot 2^{16} + 3648 = 8523328</math>.</p>
--	--

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-003			
<b>TP label</b>	Environmental Sensor - Smoke Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M	ActivityHub 3; M
		ActivityHub 4; M	ActivityHub 10; M	ActivityHub 11; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Environmental Sensor – Smoke Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_004			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with an Environmental Sensor - Smoke object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Environmental Sensor – Smoke object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where:</li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li>❑ &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li>❑ &lt;bitPosition&gt; is the normative position of the bit</li> </ul> <p>e. Environmental Sensor – Smoke object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 8519683^MDC_AI_TYPE_SENSOR_SMOKE^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Environmental Sensor – Smoke object respectively.</li> <li>❑ OBX-5 = One of the following flags:        &lt;0 or 1&gt;^condition-detected(0)        Additionally, optionally, any of the general sensor health flags:        &lt;0 or 1&gt;^auto-presence-received(16),        &lt;0 or 1&gt;^auto-presence-failed(17),        &lt;0 or 1&gt;^low-battery(18),        &lt;0 or 1&gt;^fault(19),        &lt;0 or 1&gt;^end-of-life(20)</li> </ul> <p>f. Environmental Sensor – Smoke Location attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 8520703^MDC_AI_LOCATION^MDC or 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Environmental Sensor – Smoke object.</li> <li>❑ OBX-5 = Any of the 10471 location codes that are specified in the supplemental-types.        For example: 8523328^MDC_AI_LOCATION_LIVINGROOM^MDC</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation:       <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation.       <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p style="padding-left: 40px;">Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p style="padding-left: 40px;">Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p style="padding-left: 40px;">Number of the attribute is given in 10471</p> <p>For example:</p> <p style="padding-left: 40px;">MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-004			
<b>TP label</b>	Environmental Sensor - CO Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M	ActivityHub 3; M
		ActivityHub 4; M	ActivityHub 12; M	ActivityHub 13; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Environmental Sensor – CO Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_005			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with an Environmental Sensor - Smoke object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Environmental Sensor – CO object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Environmental Sensor – CO object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> </ul> </li> </ol> </li> </ol>			



	<ul style="list-style-type: none"> <li>❑ OBX-3 = 8519684^MDC_AI_TYPE_SENSOR_CO^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Environmental Sensor – CO object respectively.</li> <li>❑ OBX-5 = One of the following flags: &lt;0 or 1&gt;^condition-detected(0) Additionally, optionally, any of the general sensor health flags: &lt;0 or 1&gt;^auto-presence-received(16), &lt;0 or 1&gt;^auto-presence-failed(17), &lt;0 or 1&gt;^low-battery(18), &lt;0 or 1&gt;^fault(19), &lt;0 or 1&gt;^end-of-life(20)</li> <li>f. Environmental Sensor – CO Location attribute follows this OBX encoding: <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 8520703^MDC_AI_LOCATION^MDC or 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Environmental Sensor – CO object.</li> <li>❑ OBX-5 = Any of the 10471 location codes that are specified in the supplemental-types. For example: 8523328^MDC_AI_LOCATION_LIVINGROOM^MDC</li> </ul> </li> <li>g. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>h. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p style="padding-left: 40px;">Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p style="padding-left: 40px;">Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p style="padding-left: 40px;">Number of the attribute is given in 10471</p> <p>For example:</p> <p style="padding-left: 40px;">MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>

<b>TP Id</b>		TP/HFS/SEN/PCD-01-DATA/HUB/BV-005		
<b>TP label</b>		Environmental Sensor - Water Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable</b>	ActivityHub 1; M	ActivityHub 2; M	ActivityHub 3; M

	<b>items</b>	ActivityHub 4; M	ActivityHub 14; M	ActivityHub 15; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Environmental Sensor – Water Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_006			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with an Environmental Sensor – Water object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Environmental Sensor – Water object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Environmental Sensor – Water object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 88519685^MDC_AI_TYPE_SENSOR_WATER^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Environmental Sensor – Water object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of the following flags:</li> </ul> </li> </ol> </li> </ol>			

	<p>&lt;0 or 1&gt;^condition-detected(0)</p> <p>Additionally, optionally, any of the general sensor health flags:</p> <p>&lt;0 or 1&gt;^auto-presence-received(16),</p> <p>&lt;0 or 1&gt;^auto-presence-failed(17),</p> <p>&lt;0 or 1&gt;^low-battery(18),</p> <p>&lt;0 or 1&gt;^fault(19),</p> <p>&lt;0 or 1&gt;^end-of-life(20)</p> <p>f. Environmental Sensor – Water Location attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8520703^MDC_AI_LOCATION^MDC or 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the Environmental Sensor – Water object.</li> <li><input type="checkbox"/> OBX-5 = Any of the 10471 location codes that are specified in the Supplemental-Types.</li> </ul> <p>For example: 8523328^MDC_AI_LOCATION_LIVINGROOM^MDC</p> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p>Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p>Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p>Number of the attribute is given in 10471</p> <p>For example:</p> <p>MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-006			
<b>TP label</b>	Environmental Sensor - Gas Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M	ActivityHub 3; M
		ActivityHub 4; M	ActivityHub 16; M	ActivityHub 17; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O

		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the Environmental Sensor – Gas Object, the Metric and Enumeration attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_007			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with an Environmental Sensor – Gas object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Environmental Sensor – Gas object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Environmental Sensor – Gas object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8519686^MDC_AI_TYPE_SENSOR_GAS^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Environmental Sensor – Gas object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of the following flags: &lt;0 or 1&gt;^condition-detected(0) Additionally, optionally, any of the general sensor health flags: &lt;0 or 1&gt;^auto-presence-received(16), &lt;0 or 1&gt;^auto-presence-failed(17), &lt;0 or 1&gt;^low-battery(18),</li> </ul> </li> </ol> </li> </ol>			

	<p>&lt;0 or 1&gt;^fault(19), &lt;0 or 1&gt;^end-of-life(20)</p> <p>f. Environmental Sensor – Gas Location attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8520703^MDC_AI_LOCATION^MDC or 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Environmental Sensor – Gas object.</li> <li><input type="checkbox"/> OBX-5 = Any of the 10471 location codes that are specified in the supplemental-types. For example: 8523328^MDC_AI_LOCATION_LIVINGROOM^MDC</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p>Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p>Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p>Number of the attribute is given in 10471</p> <p>For example:</p> <p>MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-007		
<b>TP label</b>	Motion Sensor Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M
		ActivityHub 4; M	ActivityHub 18; M
		MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 16; C	MetricClassAttr 17; C
		EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 4; M	EnumClassAttr 5; O
		PM-StoreAttr; M	PM-SegmentAttr; M
			ScannerAttr 1; M
			ActivityHub 3; M
			ActivityHub 19; M
			MetricClassAttr 3; O
			MetricClassAttr 6; O
			MetricClassAttr 9; M
			MetricClassAttr 12; O
			MetricClassAttr 15; C
			MetricClassAttr 18; O
			EnumClassAttr 3; M
			EnumClassAttr 6; M

		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Motion Sensor Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_008			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with a Motion Sensor object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Motion Sensor object has sent at least one observation</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Motion Sensor object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8519687^MDC_AI_TYPE_SENSOR_MOTION^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Motion Sensor object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of the following flags: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^motion-detected(0),</li> <li>&lt;0 or 1&gt;^motion-detected-delayed(1),</li> <li>&lt;0 or 1&gt;^tamper-detected(2)</li> </ul> Additionally, optionally, any of the general sensor health flags: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^auto-presence-received(16),</li> <li>&lt;0 or 1&gt;^auto-presence-failed(17),</li> <li>&lt;0 or 1&gt;^low-battery(18),</li> <li>&lt;0 or 1&gt;^fault(19),</li> <li>&lt;0 or 1&gt;^end-of-life(20)</li> </ul> </li> </ul> </li> <li>f. Motion Sensor Location attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-3 = 8520703^MDC_AI_LOCATION^MDC or 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Motion Sensor object.</li> <li>❑ OBX-5 = Any of the 10471 location codes that are specified in the supplemental-types. For example: 8523328^MDC_AI_LOCATION_LIVINGROOM^MDC</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes is present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p>Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p>Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p>Number of the attribute is given in 10471</p> <p>For example:</p> <p>MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-008			
<b>TP label</b>	Property Exit Sensor Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M	ActivityHub 3; M
		ActivityHub 4; M	ActivityHub 20; M	ActivityHub 21; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		

<b>Test purpose</b>	Check that: The presence of the attributes of the Property Exit Sensor Object, the Metric and Enumeration attributes and their respective values.
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_009
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with a Property Exit Sensor object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Property Exit Sensor object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Property Exit Sensor object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 8519688^MDC_AI_TYPE_SENSOR_PROPEXIT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Property Exit Sensor object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of the following flags: &lt;0 or 1&gt;^occupant-exit-property(0), &lt;0 or 1&gt;^exit-door-left-open(1) Additionally, optionally, any of the general sensor health flags: &lt;0 or 1&gt;^auto-presence-received(16), &lt;0 or 1&gt;^auto-presence-failed(17), &lt;0 or 1&gt;^low-battery(18), &lt;0 or 1&gt;^fault(19), &lt;0 or 1&gt;^end-of-life(20)</li> </ul> </li> <li>f. Property Exit Sensor Location attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8520703^MDC_AI_LOCATION^MDC or 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Property Exit Sensor object.</li> </ul> </li> </ol> </li> </ol>



	<ul style="list-style-type: none"> <li>❑ OBX-5 = Any of the 10471 location codes that are specified in the supplemental-types. For example: 8523328^MDC_AI_LOCATION_LIVINGROOM^MDC</li> <li>g. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>h. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p>Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p>Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p>Number of the attribute is given in 10471</p> <p>For example:</p> <p>MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-009		
<b>TP label</b>	Enuresis Sensor Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M
		ActivityHub 4; M	ActivityHub 22; M
		MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 16; C	MetricClassAttr 17; C
		EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 4; M	EnumClassAttr 5; O
		PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 2; M	ScannerAttr 3; M
			ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Enuresis Sensor Object, the Metric and Enumeration attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_010		

<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with a Enuresis Sensor object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Enuresis Sensor object has sent at least one observation</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Enuresis Sensor object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8519689^MDC_AI_TYPE_SENSOR_ENURESIS^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Enuresis Sensor object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of the following flags: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^enuresis-detected(0)</li> </ul> Additionally, optionally, any of the general sensor health flags: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^auto-presence-received(16),</li> <li>&lt;0 or 1&gt;^auto-presence-failed(17),</li> <li>&lt;0 or 1&gt;^low-battery(18),</li> <li>&lt;0 or 1&gt;^fault(19),</li> <li>&lt;0 or 1&gt;^end-of-life(20)</li> </ul> </li> </ul> </li> <li>f. Enuresis Sensor Location attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8520703^MDC_AI_LOCATION^MDC or 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Enuresis Sensor object.</li> <li><input type="checkbox"/> OBX-5 = Any of the 10471 location codes that are specified in the Supplemental-Types. For example: 8523328^MDC_AI_LOCATION_LIVINGROOM^MDC</li> </ul> </li> <li>g. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>h. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> </ul> </li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p style="padding-left: 40px;">Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p style="padding-left: 40px;">Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p style="padding-left: 40px;">Number of the attribute is given in 10471</p> <p>For example:</p> <p style="padding-left: 40px;">MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-010			
<b>TP label</b>	Contact Closure Sensor Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M	ActivityHub 3; M
		ActivityHub 4; M	ActivityHub 24; M	ActivityHub 25; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Contact Closure Sensor Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_011			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a Webservice and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with a Contact Closure Sensor object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that:</li> </ol>			

- a. At least one Contact Closure Sensor object has sent at least one observation.
- b. Handle attribute (MDC\_ATTR\_ID\_HANDLE), Metric-Spec-Small attribute (MDC\_ATTR\_METRIC\_SPEC\_SMALL) and Metric-Structure-Small (MDC\_ATTR\_METRIC\_STRUCT\_SMALL) attribute and Attribute-Value-Map (MDC\_ATTR\_ATTRIBUTE\_VALUE\_MAP) are not present
- c. Each MDC code using a CWE data type is encoded as: <refldValue>^<refldName>^<refldCodeSystem>  
where:
  - refldValue: is a 32 bit integer (required)
  - refldName: is the normative nomenclature name for the unique code point (recommended)
  - refldCodeSystem = "MDC" (required).
- d. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
  - <bitValue> = <0 or 1>
  - <bitName> is recommended to be the ASN.1 name for the bit
  - <bitPosition> is the normative position of the bit
- e. Contact Closure Sensor object follows this OBX encoding:
  - OBX-2 = 'CWE'
  - OBX-3 = 8519690^MDC\_AI\_TYPE\_SENSOR\_CONTACTCLOSURE^MDC
  - OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Contact Closure Sensor object respectively.
  - OBX-5 = One of the following flags:
    - <0 or 1>^contact-opened(0),
    - <0 or 1>^contact-closed(1)
 Additionally, optionally, any of the general sensor health flags:
    - <0 or 1>^auto-presence-received(16),
    - <0 or 1>^auto-presence-failed(17),
    - <0 or 1>^low-battery(18),
    - <0 or 1>^fault(19),
    - <0 or 1>^end-of-life(20)
- f. Contact Closure Sensor Location attribute follows this OBX encoding:
  - OBX-2 = 'CWE'
  - OBX-3 = 8520703^MDC\_AI\_LOCATION^MDC or 68193^MDC\_ATTR\_SUPPLEMENTAL\_TYPES^MDC
  - OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Contact Closure Sensor object.
  - OBX-5 = Any of the 10471 location codes that are specified in the supplemental-types.  
For example: 8523328^MDC\_AI\_LOCATION\_LIVINGROOM^MDC
- g. No PM-Store, PM-Segment or Scanner attributes are present.
- h. One of these timestamp attributes can be present:
  - MDC\_ATTR\_TIME\_STAMP\_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]
  - MDC\_ATTR\_TIME\_STAMP\_REL, transmitted as a facet of the observation:
    - OBX-5 = Numeric value
    - OBX-18 has a timebase ID.

	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p style="padding-left: 40px;">Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p style="padding-left: 40px;">Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p style="padding-left: 40px;">Number of the attribute is given in 10471</p> <p>For example:</p> <p style="padding-left: 40px;">MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-011			
<b>TP label</b>	Usage Sensor Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M	ActivityHub 3; M
		ActivityHub 4; M	ActivityHub 26; M	ActivityHub 27; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Usage Sensor Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_012			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with a Usage Sensor object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Usage Sensor object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small</li> </ol> </li> </ol>			

(MDC\_ATTR\_METRIC\_STRUCT\_SMALL) attribute and Attribute-Value-Map (MDC\_ATTR\_ATTRIBUTE\_VALUE\_MAP) are not present

- c. Each MDC code using a CWE data type is encoded as:  
<refldValue>^<refldName>^<refldCodeSystem>

where:

- refldValue: is a 32 bit integer (required)
- refldName: is the normative nomenclature name for the unique code point (recommended)
- refldCodeSystem = "MDC" (required).

- d. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:

- <bitValue> = <0 or 1>
- <bitName> is recommended to be the ASN.1 name for the bit
- <bitPosition> is the normative position of the bit

- e. Usage Sensor object follows this OBX encoding:

- OBX-2 = 'CWE'
- OBX-3 = 8519691^MDC\_AI\_TYPE\_SENSOR\_USAGE^MDC
- OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Usage Sensor object respectively.
- OBX-5 = One of the following flags:
  - <0 or 1>^usage-started(0),
  - <0 or 1>^usage-ended(1),
  - <0 or 1>^expected-use-start-violation(2),
  - <0 or 1>^expected-use-stop-violation(3),
  - <0 or 1>^absence-violation(4)

Additionally, optionally, any of the general sensor health flags:

- <0 or 1>^auto-presence-received(16),
- <0 or 1>^auto-presence-failed(17),
- <0 or 1>^low-battery(18),
- <0 or 1>^fault(19),
- <0 or 1>^end-of-life(20)

- f. Usage Sensor Location attribute follows this OBX encoding:

- OBX-2 = 'CWE'
- OBX-3 = 8520703^MDC\_AI\_LOCATION^MDC or 68193^MDC\_ATTR\_SUPPLEMENTAL\_TYPES^MDC
- OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the Usage Sensor object.
- OBX-5 = Any of the 10471 location codes that are specified in the Supplemental-Types.

For example: 8523328^MDC\_AI\_LOCATION\_LIVINGROOM^MDC

- g. No PM-Store, PM-Segment or Scanner attributes are present.

- h. One of these timestamp attributes can be present:

- MDC\_ATTR\_TIME\_STAMP\_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]
- MDC\_ATTR\_TIME\_STAMP\_REL, transmitted as a facet of the observation:
  - OBX-5 = Numeric value
  - OBX-18 has a timebase ID.
- MDC\_ATTR\_TIME\_STAMP\_HI\_RES, transmitted as a facet of the observation.

	<ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p>Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p>Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p>Number of the attribute is given in 10471</p> <p>For example:</p> <p>MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/HUB/BV-012		
<b>TP label</b>	Switch Sensor Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M
		ActivityHub 4; M	ActivityHub 28; M
		MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 16; C	MetricClassAttr 17; C
		EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 4; M	EnumClassAttr 5; O
		PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 2; M	ScannerAttr 3; M
			ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Switch Sensor Object, the Metric and Enumeration attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_013		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with a Switch Sensor object.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Switch Sensor object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> </ol> </li> </ol>		

	<p>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> <p>e. Switch Sensor object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8519692^MDC_AI_TYPE_SENSOR_SWITCH^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Switch Sensor object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of the following flags:  &lt;0 or 1&gt;^switch-on(0),  &lt;0 or 1&gt;^switch-off(1)  Additionally, optionally, any of the general sensor health flags:  &lt;0 or 1&gt;^auto-presence-received(16),  &lt;0 or 1&gt;^auto-presence-failed(17),  &lt;0 or 1&gt;^low-battery(18),  &lt;0 or 1&gt;^fault(19),  &lt;0 or 1&gt;^end-of-life(20)</li> </ul> <p>f. Switch Sensor Location attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8520703^MDC_AI_LOCATION^MDC or 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the Switch Sensor object.</li> <li><input type="checkbox"/> OBX-5 = Any of the 10471 location codes that are specified in the supplemental-types.  For example: 8523328^MDC_AI_LOCATION_LIVINGROOM^MDC</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.



<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p style="padding-left: 40px;">Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p style="padding-left: 40px;">Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p style="padding-left: 40px;">Number of the attribute is given in 10471</p> <p>For example:</p> <p style="padding-left: 40px;">MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>
--------------	---

<b>TP Id</b>		TP/HFS/SEN/PCD-01-DATA/HUB/BV-013		
<b>TP label</b>		Medication Dosage Sensor Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M	ActivityHub 3; M
		ActivityHub 4; M	ActivityHub 30; M	ActivityHub 31; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>		<p>Check that:</p> <p>The presence of the attributes of the Medication Dosage Sensor Object, the Metric and Enumeration attributes and their respective values.</p>		
<b>Applicability</b>		C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_014		
<b>Other PICS</b>		C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>		The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with a Medication Dosage Sensor object.		
<b>Test procedure</b>		<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Medication Dosage Sensor object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li>□ refldValue: is a 32 bit integer (required)</li> </ul> </li> </ol> </li> </ol>		

	<ul style="list-style-type: none"> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Medication Dosage Sensor object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8519693^MDC_AI_TYPE_SENSOR_DOSAGE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Medication Dosage Sensor object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of the following flags: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^dosage-taken(0),</li> <li>&lt;0 or 1&gt;^dosage-missed(1)</li> </ul> Additionally, optionally, any of the general sensor health flags: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^auto-presence-received(16),</li> <li>&lt;0 or 1&gt;^auto-presence-failed(17),</li> <li>&lt;0 or 1&gt;^low-battery(18),</li> <li>&lt;0 or 1&gt;^fault(19),</li> <li>&lt;0 or 1&gt;^end-of-life(20)</li> </ul> </li> </ul> </li> <li>f. Medication Dosage Sensor Location attribute follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8520703^MDC_AI_LOCATION^MDC or 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the Medication Dosage Sensor object.</li> <li><input type="checkbox"/> OBX-5 = Any of the 10471 location codes that are specified in the supplemental-types. <ul style="list-style-type: none"> <li>For example: 8523328^MDC_AI_LOCATION_LIVINGROOM^MDC</li> </ul> </li> </ul> </li> <li>g. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>h. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p style="padding-left: 40px;">Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p>

	<p>Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p>Number of the attribute is given in 10471</p> <p>For example:</p> <p>MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2<sup>16</sup>+3648 = 8523328.</p>
--	--

<b>TP Id</b>		TP/HFS/SEN/PCD-01-DATA/HUB/BV-014		
<b>TP label</b>		Temperature Sensor Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ActivityHub 1; M	ActivityHub 2; M	ActivityHub 3; M
		ActivityHub 4; M	ActivityHub 32; M	ActivityHub 33; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>		<p>Check that:</p> <p>The presence of the attributes of the Temperature Sensor Object, the Metric and Enumeration attributes and their respective values.</p>		
<b>Applicability</b>		C_SEN_000 AND C_SEN_HUB_001 AND C_SEN_HUB_015		
<b>Other PICS</b>		C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>		The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a HUB device with a Temperature Sensor object.		
<b>Test procedure</b>		<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an independent living hub device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Temperature Sensor object has sent at least one observation. Each one conforms to the following steps.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> </ol> </li> </ol>		

	<p>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;( &lt;bitPosition&gt;), where:</p> <ul style="list-style-type: none"> <li>❑ &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li>❑ &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li>❑ &lt;bitPosition&gt; is the normative position of the bit</li> </ul> <p>e. Temperature Sensor object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 8519694^MDC_AI_TYPE_SENSOR_TEMP^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Temperature Sensor object respectively.</li> <li>❑ OBX-5 = One of the following flags: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^high-temperature-detected(0),</li> <li>&lt;0 or 1&gt;^low-temperature-detected(1),</li> <li>&lt;0 or 1&gt;^rate-of-change-too-fast(2)</li> </ul> <p>Additionally, optionally, any of the general sensor health flags:</p> <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^auto-presence-received(16),</li> <li>&lt;0 or 1&gt;^auto-presence-failed(17),</li> <li>&lt;0 or 1&gt;^low-battery(18),</li> <li>&lt;0 or 1&gt;^fault(19),</li> <li>&lt;0 or 1&gt;^end-of-life(20)</li> </ul> </li> </ul> <p>f. Temperature Sensor Location attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 8520703^MDC_AI_LOCATION^MDC or 68193^MDC_ATTR_SUPPLEMENTAL_TYPES^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the Temperature Sensor object.</li> <li>❑ OBX-5 = Any of the 10471 location codes that are specified in the supplemental-types. For example: 8523328^MDC_AI_LOCATION_LIVINGROOM^MDC</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>To calculate the number situated before the MDC name of the location the following function is used:</p> <p style="padding-left: 40px;">Number of the partition code*2<sup>16</sup>+Number of the attribute</p> <p>where:</p> <p style="padding-left: 40px;">Number of the partition code = 130 (MDC_PART_PHD_AI)</p> <p style="padding-left: 40px;">Number of the attribute is given in 10471</p>

	For example: MDC_AI_LOCATION_LIVINGROOM = 3648 → 130*2 <sup>16</sup> +3648 = 8523328.
--	--

## A.12 Subgroup 1.4.11: Adherence monitor (AM)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/AM/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
		MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
		MDSObject 31; M	MDSObject 32; M	AdherenceMon 2; M
		Timestamp 13; O	Timestamp 14; O	Timestamp 15; O
	Timestamp 17; M			
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	DeviceTimeSync1; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_AM_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of an adherence monitor device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an adherence monitor device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> </ol> </li> </ol>			

- b. Each MDC code using a CWE data type is encoded as:  
 <refldValue>^<refldName>^<refldCodeSystem>
- where:
- refldValue: is a 32 bit integer (required)
  - refldName: is the normative nomenclature name for the unique code point (recommended)
  - refldCodeSystem = "MDC" (required).
- c. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
- <bitValue> = <0 or 1>
  - <bitName> is recommended to be the ASN.1 name for the bit
  - <bitPosition> is the normative position of the bit
- d. In MDS-level OBX:
- OBX-2 is empty
  - If the System-Type attribute is valued, OBX-3 = 528456^MDC\_DEV\_SPEC\_PROFILE\_AI\_MED\_MINDER^MDC
  - If the System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3
  - If the System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC\_DEV\_SPEC\_PROFILE\_HYDRA^MDC and the specialization list is reported as an attribute of the device.
  - If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD
  - OBX-11 = 'X'
  - OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_AM\_001.
- e. System model attribute is sent in two different OBX segments:
- System-Model attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
    - OBX-5 = String representing the model number portion of the MDC\_ATTR\_ID\_MODEL attribute
  - System-Manufacturer attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
    - OBX-5 = String representing the model manufacturer portion of the MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
- Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'

- OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
- OBX-5 = String representing the value portion of the Production-Specification serial entry
- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC

- OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.
- g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)
- Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
    - OBX-5 = One or more of:
      - <0 or 1>^mds-time-capab-real-time-clock(0),
      - <0 or 1>^mds-time-capab-set-clock(1),
      - <0 or 1>^mds-time-capab-relative-time(2),
      - <0 or 1>^mds-time-capab-high-res-relative-time(3),
      - <0 or 1>^mds-time-capab-sync-abs-time(4),
      - <0 or 1>^mds-time-capab-sync-rel-time(5),
      - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
      - <0 or 1>^mds-time-state-abs-time-synced(8),
      - <0 or 1>^mds-time-state-rel-time-synced(9),
      - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
      - <0 or 1>^mds-time-mgr-set-time(11)
  - Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
    - OBX-5 = One of these values:
      - 532224^MDC\_TIME\_SYNC\_NONE^MDC
      - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
      - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
      - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
      - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
      - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
      - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
      - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
      - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
      - 532233^MDC\_TIME\_SYNC\_GSM^MDC
      - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
      - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC
  - Date and Time attribute, if valued, is sent as an independent OBX segment:



- OBX-2 = 'DTM'
- OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
- OBX-5 = DTM data type value
- OBX-14 = UTC value
- Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If the Power-Status attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),

<0 or 1>^chargingFull(8),  
<0 or 1>^chargingTrickle(9),  
<0 or 1>^chargingOff(10)

j. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:

- OBX-2 = 'NM'
- OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
- OBX-5 = NM data type value
- OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC

k. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:

- OBX-2 = 'NM'
- OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
- OBX-5 = Use the value contained in the BatMeasure object
- OBX-6 = Use the OID contained in the BatMeasure object

l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:

- OBX-2 = 'CWE'
- OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC

OBX-5 = One of:

0^auth-body-empty,  
1^auth-body-ieee-11073,  
2^auth-body-continua,  
254^auth-body-experimental,  
255^auth-body-reserved

m. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:

- Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
  - OBX-2 = 'ST'
  - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC
  - OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the facet level of that segment.
  - OBX-5 = <major-IG-version>.<minor-IG-version>.
- Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:
  - OBX-2 = 'NA'
  - OBX-3 = 532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC
  - OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a facet entry, and 'b' is a number indicating the facet level of that segment.

	<ul style="list-style-type: none"> <li>• OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 16456 (AM v1.5 Wireless PAN), 8264 (AM v1.5 Wired PAN), or 24648 (AM v1.5 Sensor LAN)</li> <li>□ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'CWE'</li> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a facet entry, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> </li> <li>n. If System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment: <ul style="list-style-type: none"> <li>□ OBX-2 = 'CWE'</li> <li>□ OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li>□ OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> </li> <li>o. Confirm-Timeout attribute is not present.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/AM/BV-001			
<b>TP label</b>	Fixed Dosage Dispensed Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	AdherenceMon 1; M	AdherenceMon 3; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Fixed Dosage Dispensed Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_AM_001 AND C_SEN_AM_002			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of an adherence monitor device with a Fixed Dosage Dispensed object.			

<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an adherence monitor device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Fixed Dosage Dispensed object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Fixed Dosage Dispensed object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8532992^MDC_AI_MED_DISPENSED_FIXED^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Fixed Dosage Dispensed object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = Leave blank or 262656^MDC_DIM_DIMLESS^MDC</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/AM/BV-002			
<b>TP label</b>	Variable Dosage Dispensed Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	AdherenceMon 1; M	AdherenceMon 4; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M

		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Variable Dosage Dispensed Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_AM_001 AND C_SEN_AM_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of an adherence monitor device with a Variable Dosage Dispensed object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an adherence monitor device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Variable Dosage Dispensed object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Variable Dosage Dispensed object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 8532993^MDC_AI_MED_DISPENSED_VARIABLE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Variable Dosage Dispensed object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263762^MDC_DIM_MILLI_L^MDC or 263890^MDC_DIM_MILLI_G^MDC or 267616^MDC_DIM_INTL_UNIT^MDC</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation.</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>OBX-5 = Numeric value</li> <li>OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/AM/BV-003			
<b>TP label</b>	User Feedback Channel Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	AdherenceMon 1; M	AdherenceMon 5; M	AdherenceMon 6; M
		AdherenceMon 7; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 6; M	NumericClassAttr 7; O	PM-StoreAttr; M
	PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M	
ScannerAttr 3; M	ScannerAttr 4; M	NumArrayDataType 1; O		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the User Feedback Channel Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_AM_001 AND C_SEN_AM_004			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of an adherence monitor device with a User Feedback Channel object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>Make the HFS sender under test send a HL7 message containing an observation of an adherence monitor device using SOAP or hData observation upload.</li> <li>Check in the captured message that: <ol style="list-style-type: none"> <li>The User Feedback Channel object has sent at least one observation.</li> <li>Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>User Feedback Channel object follows this OBX encoding:</li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-2 = 'NA'</li> <li>OBX-3 = 8532995^MDC_AI_MED_FEEDBACK^MDC</li> <li>❑ OBX-4 = y.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the channel level for the User Feedback Channel object respectively.</li> <li>❑ OBX-5 = Numeric array value</li> <li>❑ OBX-6 = Leave blank or 262656^MDC_DIM_DIMLESS^MDC</li> <li>❑ OBX-11 = 'X'</li> </ul> <p>e. User Feedback Location attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'NM'</li> <li>OBX-3 = 8532996^MDC_AI_MED_UF_LOCATION^MDC</li> <li>❑ OBX-4 = y.0.x.a, where 'a' is a number indicating the metric level of the User Feedback Channel object</li> <li>❑ OBX-5 = Numeric value</li> <li>❑ OBX-6 = Leave blank or 262656^MDC_DIM_DIMLESS^MDC</li> </ul> <p>f. User Feedback Response attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'NM'</li> <li>OBX-3 = 8532997^MDC_AI_MED_UF_RESPONSE^MDC</li> <li>❑ OBX-4 = y.0.x.b, where 'b' is a number indicating the metric level of the User Feedback Channel object</li> <li>❑ OBX-5 = Numeric value</li> <li>❑ OBX-6 = Leave blank or 262656^MDC_DIM_DIMLESS^MDC</li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>In [b-CDG 2010], Step 2.d shows the expected OBX segment as specified in Appendix J, Table J-29 [b-CDG 2010]. Based on the similarity between the BPM and AM compound values, it is understood that the correct OBX segment should be:</p> <p>User Feedback Channel object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 is empty</li> <li>❑ OBX-3 = 8532995^MDC_AI_MED_FEEDBACK^MDC</li> <li>❑ OBX-4 = y.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the channel level for the User Feedback Channel object respectively.</li> <li>❑ OBX-5 is empty</li> <li>❑ OBX-11 = 'X'</li> </ul> <p>NOTE – [b-CDG 2010] Table J-29 corresponds to Table VIII.29 in [ITU-T H.810 (2015)]; see Table 2.</p>

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/AM/BV-004			
<b>TP label</b>	Status Reporter Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	AdherenceMon 1; M	AdherenceMon 8; M	AdherenceMon 9; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 1; M	EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 4; M	EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Status Reporter Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_AM_001 AND C_SEN_AM_005			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of an adherence monitor device with a Status Reporter object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of an adherence monitor device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Status Reporter object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Status Reporter object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8532994^MDC_AI_MED_STATUS^MDC</li> </ul> </li> </ol> </li> </ol>			



	<ul style="list-style-type: none"> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Status Reporter object respectively.</li> <li>❑ OBX-5 = Any of the status flags: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^medication-not-dispensed-as-expected(0)</li> <li>&lt;0 or 1&gt;^medication-dispensed-unexpectedly(1)</li> <li>&lt;0 or 1&gt;^medication-unfit(2)</li> <li>&lt;0 or 1&gt;^medication-expiration(3)</li> <li>&lt;0 or 1&gt;^medication-course-complete(4)</li> <li>&lt;0 or 1&gt;^medication-taken-incorrectly(5)</li> <li>&lt;0 or 1&gt;^medication-course-reloaded(6)</li> <li>&lt;0 or 1&gt;^monitor-tamper(7)</li> <li>&lt;0 or 1&gt;^monitor-environmental-exceeded-high(8)</li> <li>&lt;0 or 1&gt;^monitor-environmental-exceeded-low(9)</li> <li>&lt;0 or 1&gt;^monitor-inoperable(10)</li> <li>&lt;0 or 1&gt;^consumer-non-compliant-yellow(11)</li> <li>&lt;0 or 1&gt;^consumer-non-compliant-red(12)</li> </ul> </li> <li>f. If valued, Context Key attribute follows this OBX encoding: <ul style="list-style-type: none"> <li>❑ OBX-2 = 'EI'</li> <li>❑ OBX-3 = 68216^MDC_ATTR_CONTEXT_KEY^MDC</li> <li>❑ OBX-4 = y.0.0.x.z, where 'z' is a number indicating the metric level of the Context Key attribute.</li> <li>❑ OBX-5 = &lt;Entity Identifier (ST)&gt;^EUI-64</li> </ul> </li> <li>g. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>h. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	<p>In [b-CDG 2010], Step 2.e shows the expected OBX segment based on IEEE 11073-10472 Context-Key attribute specification. Appendix J, Table J-29 in [b-CDG 2010] shows this attribute as directly dependent of MDS Object and IEEE 11073-10472 shows this attribute as part of Status Reporter Object.</p> <p>NOTE – [b-CDG 2010] Table J-29 corresponds to Table VIII.29 in [ITU-T H.810 (2015)]; see Table 2.</p>

### A.13 Subgroup 1.4.12: Peak expiratory flow monitor (PF)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PF/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
		MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
MDSObject 31; M	MDSObject 32; M	PeakFlow 2; M		
Timestamp 13; O	Timestamp 14; O	Timestamp 15; O		
Timestamp 17; M				
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable Items</b>	DeviceTimeSync1; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable Items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PF_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a peak flow device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a peak flow device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</li> </ol> <p>where:</p> <ul style="list-style-type: none"> <li>❑ refIdValue: is a 32 bit integer (required)</li> </ul> </li> </ol>			

- ❑ refIdName: is the normative nomenclature name for the unique code point (recommended)
- ❑ refIdCodeSystem = "MDC" (required).
- c. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
  - ❑ <bitValue> = <0 or 1>
  - ❑ <bitName> is recommended to be the ASN.1 name for the bit
  - ❑ <bitPosition> is the normative position of the bit
- d. In MDS-level OBX:
  - ❑ OBX-2 is empty
  - ❑ If the System-Type attribute is valued, OBX-3 = 528405^MDC\_DEV\_SPEC\_PROFILE\_PEFM^MDC
  - ❑ If the System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3
  - ❑ If the System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC\_DEV\_SPEC\_PROFILE\_HYDRA^MDC and the specialization list is reported as an attribute of the device.
  - ❑ If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD
  - ❑ OBX-11 = 'X'
  - ❑ OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_PF\_001.
- e. System model attribute is sent in two different OBX segments:
  - ❑ System-Model attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
    - OBX-5 = String representing the model number portion of the MDC\_ATTR\_ID\_MODEL attribute
  - ❑ System-Manufacturer attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
    - OBX-5 = String representing the model manufacturer portion of the MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
  - ❑ Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
    - OBX-5 = String representing the value portion of the Production-Specification serial entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype

- ❑ Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.

g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)

- ❑ Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'CWE'
  - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^mds-time-capab-real-time-clock(0),
    - <0 or 1>^mds-time-capab-set-clock(1),
    - <0 or 1>^mds-time-capab-relative-time(2),
    - <0 or 1>^mds-time-capab-high-res-relative-time(3),
    - <0 or 1>^mds-time-capab-sync-abs-time(4),
    - <0 or 1>^mds-time-capab-sync-rel-time(5),
    - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
    - <0 or 1>^mds-time-state-abs-time-synced(8),
    - <0 or 1>^mds-time-state-rel-time-synced(9),
    - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
    - <0 or 1>^mds-time-mgr-set-time(11)
- ❑ Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- ❑ Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'CWE'
  - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
  - OBX-5 = One of these values:
    - 532224^MDC\_TIME\_SYNC\_NONE^MDC
    - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
    - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
    - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
    - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
    - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
    - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
    - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
    - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
    - 532233^MDC\_TIME\_SYNC\_GSM^MDC
    - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
    - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC
- ❑ Date and Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
  - OBX-5 = DTM data type value
  - OBX-14 = UTC value
- ❑ Relative-Time attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'NM'
- OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
- OBX-4 = 0.0.0.x, where 'x' is any integer value
- OBX-5 = NM data type value
- OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- OBX-18 = A unique identifier for the given timebase
- HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If the Power-Status attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- j. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC

- ❑ OBX-5 = NM data type value
- ❑ OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
  - ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
  - ❑ OBX-5 = Use the value contained in the BatMeasure object
  - ❑ OBX-6 = Use the OID contained in the BatMeasure object
- p. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
  - ❑ OBX-2 = 'CWE'
  - ❑ OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
  - OBX-5 = One of:
    - 0^auth-body-empty,
    - 1^auth-body-ieeee-11073,
    - 2^auth-body-continua,
    - 254^auth-body-experimental,
    - 255^auth-body-reserved
- q. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
  - ❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'
    - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC
    - OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the facet level of that segment.
    - OBX-5 = <major-IG-version>.<minor-IG-version>.
  - ❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'NA'
    - OBX-3 = 532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC
    - OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a facet entry, and 'b' is a number indicating the facet level of that segment.
    - OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 16405 (PF v1.5 Wireless PAN), 8213 (PF v1.5 Wired PAN), or 24597 (PF v1.5 Sensor LAN)
  - ❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'CWE'
    - OBX-3 = 532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC

	<ul style="list-style-type: none"> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a facet entry, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> <p>I. If the System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li><input type="checkbox"/> OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>m. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PF/BV-001			
<b>TP label</b>	PEF Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	PeakFlow 1; M	PeakFlow 3; M	PeakFlow 4; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	MeasureStatus 1; M	MeasureStatus 2; M
		MeasureStatus 3; M	MeasureStatus 4; R	MeasureStatus 5; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the PEF Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PF_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a peak flow device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a peak flow device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The PEF object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small</li> </ol> </li> </ol>			



	<p>(MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</p> <p>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> <p>e. PEF object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 152584^MDC_FLOW_AWAY_EXP_FORCED_PEAK^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the PEF object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> <li><input type="checkbox"/> OBX-6 = 264992^MDC_DIM_L_PER_MIN^MDC</li> <li><input type="checkbox"/> OBX-11 has one of the following values: <ul style="list-style-type: none"> <li>• 'X', in case of invalid, not-available or ongoing measurements (specified in the Measurement Status attribute)</li> <li>• 'F', in case of validated-data Measurement Status bit is set</li> <li>• 'R', in other case (even if Measurement status is not present)</li> </ul> </li> </ul> <p>f. If valued, the PEF Measurement Status attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 67911^MDC_ATTR_MSMT_STAT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the PEF object</li> <li><input type="checkbox"/> OBX-5 = Any of the following flags: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^msmt-stat-post-med(0) or</li> <li>&lt;0 or 1&gt;^msmt-stat-cough(1) or</li> <li>&lt;0 or 1&gt;^msmt-stat-short-effort(2) or</li> <li>&lt;0 or 1&gt;^msmt-stat-long-time-to-peak(3)</li> </ul> </li> </ul> <p>g. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.

<b>Notes</b>	
--------------	--

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PF/BV-002			
<b>TP label</b>	Personal Best Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	PeakFlow 1; M	PeakFlow 5; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Personal Best Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PF_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a peak flow device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a peak flow device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Personal Best object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Personal Best object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 152585^MDC_FLOW_AWAY_EXP_FORCED_PEAK_PB^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Personal Best object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-6 = 264992^MDC_DIM_L_PER_MIN^MDC</li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PF/BV-003			
<b>TP label</b>	FEV1 Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	PeakFlow 1; M	PeakFlow 6; M	PeakFlow 7; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	MeasureStatus 1; M	MeasureStatus 2; M
		MeasureStatus 3; M	MeasureStatus 4; R	MeasureStatus 5; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the FEV1 Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PF_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a peak flow device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a peak flow device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The FEV1 object has sent at least one observation.</li> </ol> </li> </ol>			

- b. Handle attribute (MDC\_ATTR\_ID\_HANDLE), Metric-Spec-Small attribute (MDC\_ATTR\_METRIC\_SPEC\_SMALL) and Metric-Structure-Small (MDC\_ATTR\_METRIC\_STRUCT\_SMALL) attribute and Attribute-Value-Map (MDC\_ATTR\_ATTRIBUTE\_VALUE\_MAP) are not present
- c. Each MDC code using a CWE data type is encoded as:  
<refldValue>^<refldName>^<refldCodeSystem>
- where:
- refldValue: is a 32 bit integer (required)
  - refldName: is the normative nomenclature name for the unique code point (recommended)
  - refldCodeSystem = "MDC" (required).
- d. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
- <bitValue> = <0 or 1>
  - <bitName> is recommended to be the ASN.1 name for the bit
  - <bitPosition> is the normative position of the bit
- e. FEV1 object follows this OBX encoding:
- OBX-2 = 'NM'
  - OBX-3 = 152586^MDC\_FLOW\_AWAY\_EXP\_FORCED\_PEAK\_1S^MDC
  - OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the FEV1 object respectively.
  - OBX-5 = Numeric Value
  - OBX-6 = 263744^MDC\_DIM\_L ^MDC
  - OBX-11 has one of the following values:
    - 'X', in case of invalid, not-available or ongoing measurements (specified in Measurement Status attribute)
    - 'F', in the case of validated-data Measurement Status bit is set
    - 'R', in the other case (even if the Measurement Status is not present)
- f. If valued, FEV1 Measurement Status attribute follows this OBX encoding:
- OBX-2 = 'CWE'
  - OBX-3 = 67911^MDC\_ATTR\_MSMT\_STAT^MDC
  - OBX-4 = y.0.0.x.a, where 'a' is a number indicating the facet level of the FEV1 object
  - OBX-5 = Any of the following flags:
    - <0 or 1>^msmt-stat-post-med(0) or
    - <0 or 1>^msmt-stat-cough(1) or
    - <0 or 1>^msmt-stat-short-effort(2) or
    - <0 or 1>^msmt-stat-long-time-to-peak(3)
- g. No PM-Store, PM-Segment or Scanner attributes are present.
- h. One of these timestamp attributes can be present:
- MDC\_ATTR\_TIME\_STAMP\_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]
  - MDC\_ATTR\_TIME\_STAMP\_REL, transmitted as a facet of the observation:
    - OBX-5 = Numeric value
    - OBX-18 has a timebase ID.
  - MDC\_ATTR\_TIME\_STAMP\_HI\_RES, transmitted as a facet of the observation.
    - OBX-5 = Numeric value

	<ul style="list-style-type: none"> <li>OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/PF/BV-004			
<b>TP label</b>	FEV6 Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	PeakFlow 1; M	PeakFlow 8; M	PeakFlow 9; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	MeasureStatus 1; M	MeasureStatus 2; M
		MeasureStatus 3; M	MeasureStatus 4; R	MeasureStatus 5; M
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the FEV6 Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_PF_001 AND C_SEN_PF_002			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a peak flow device with a FEV6 object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>Make the HFS sender under test send a HL7 message containing an observation of a peak flow device using SOAP or hData observation upload.</li> <li>Check in the captured message that: <ol style="list-style-type: none"> <li>The FEV6 object has sent at least one observation.</li> <li>Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where:</li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li>❑ &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li>❑ &lt;bitPosition&gt; is the normative position of the bit</li> </ul> <p>e. FEV6 object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'NM'</li> <li>OBX-3 = 152587^MDC_FLOW_AWAY_EXP_FORCED_PEAK_6S^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the FEV6 object respectively.</li> <li>❑ OBX-5 = Numeric value</li> <li>❑ OBX-6 = 263744^MDC_DIM_L ^MDC</li> <li>❑ OBX-11 has one of the following values: <ul style="list-style-type: none"> <li>• 'X', in the case of invalid, not-available or ongoing measurements (specified in Measurement Status attribute)</li> <li>• 'F', in the case of validated-data Measurement Status bit is set</li> <li>• 'R', in the other case (even if Measurement status is not present)</li> </ul> </li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. If valued, the FEV6 Measurement Status attribute follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>OBX-3 = 67911^MDC_ATTR_MSMT_STAT^MDC</li> <li>❑ OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the FEV6 object</li> <li>❑ OBX-5 = Any of the following flags: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^msmt-stat-post-med(0) or</li> <li>&lt;0 or 1&gt;^msmt-stat-cough(1) or</li> <li>&lt;0 or 1&gt;^msmt-stat-short-effort(2) or</li> <li>&lt;0 or 1&gt;^msmt-stat-long-time-to-peak(3)</li> </ul> </li> </ul> <p>h. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

## A.14 Subgroup 1.4.13: Body composition analyser (BCA)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/BCA/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
		MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
MDSObject 31; M	MDSObject 32; M	BodyComp 2; M		
Timestamp 13; O	Timestamp 14; O	Timestamp 15; O		
Timestamp 17; M				
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	DeviceTimeSync1; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_BCA_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a body composition analyser device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a body composition analyser device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; where: <input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> </ol> </li> </ol>			

- ❑ refIdName: is the normative nomenclature name for the unique code point (recommended)
- ❑ refIdCodeSystem = "MDC" (required).
- c. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
  - ❑ <bitValue> = <0 or 1>
  - ❑ <bitName> is recommended to be the ASN.1 name for the bit
  - ❑ <bitPosition> is the normative position of the bit
- d. In MDS-level OBX:
  - ❑ OBX-2 is empty
  - ❑ If the System-Type attribute is valued, OBX-3 = 528404^MDC\_DEV\_SPEC\_PROFILE\_BCA^MDC
  - ❑ If the System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3
  - ❑ If the System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC\_DEV\_SPEC\_PROFILE\_HYDRA^MDC and the specialization list is reported as an attribute of the device.
  - ❑ If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD
  - ❑ OBX-11 = 'X'
  - ❑ OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_BCA\_001.
- e. System model attribute is sent in two different OBX segments:
  - ❑ System-Model attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
    - OBX-5 = String representing the model number portion of the MDC\_ATTR\_ID\_MODEL attribute
  - ❑ System-Manufacturer attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
    - OBX-5 = String representing the model manufacturer portion of the MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
  - ❑ Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
    - OBX-5 = String representing the value portion of the Production-Specification serial entry



- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.

- g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)
- Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
    - OBX-5 = One or more of:
      - <0 or 1>^mds-time-capab-real-time-clock(0),
      - <0 or 1>^mds-time-capab-set-clock(1),
      - <0 or 1>^mds-time-capab-relative-time(2),
      - <0 or 1>^mds-time-capab-high-res-relative-time(3),
      - <0 or 1>^mds-time-capab-sync-abs-time(4),
      - <0 or 1>^mds-time-capab-sync-rel-time(5),
      - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
      - <0 or 1>^mds-time-state-abs-time-synced(8),
      - <0 or 1>^mds-time-state-rel-time-synced(9),
      - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
      - <0 or 1>^mds-time-mgr-set-time(11)
  - Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
    - OBX-5 = One of these values:
      - 532224^MDC\_TIME\_SYNC\_NONE^MDC
      - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
      - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
      - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
      - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
      - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
      - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
      - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
      - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
      - 532233^MDC\_TIME\_SYNC\_GSM^MDC
      - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
      - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC
  - Date and Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'DTM'
    - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
    - OBX-5 = DTM data type value

- OBX-14 = UTC value
- Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If the Power-Status attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - OBX-5 = One or more of:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- j. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:

- ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
  - ❑ OBX-5 = NM data type value
  - ❑ OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
- ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
  - ❑ OBX-5 = Use the value contained in the BatMeasure object
  - ❑ OBX-6 = Use the OID contained in the BatMeasure object
- l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
- ❑ OBX-2 = 'CWE'
  - ❑ OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
- OBX-5 = One of:
- 0^auth-body-empty,
  - 1^auth-body-ieee-11073,
  - 2^auth-body-continua,
  - 254^auth-body-experimental,
  - 255^auth-body-reserved
- m. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
- ❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'
    - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC
    - OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the facet level of that segment.
    - OBX-5 = <major-IG-version>.<minor-IG-version>.
  - ❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'NA'
    - OBX-3 = 532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC
    - OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a facet entry, and 'b' is a number indicating the facet level of that segment.
    - OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 16404 (BCA v1.5 Wireless PAN), 8212 (BCA v1.5 Wired PAN), or 24596 (BCA v1.5 Sensor LAN)
  - ❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'CWE'

	<ul style="list-style-type: none"> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a facet entry, and 'a' is a number indicating the facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> <p>n. If the System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li><input type="checkbox"/> OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/BCA/BV-001			
<b>TP label</b>	Body Fat Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	BodyComp 1; M	BodyComp 3; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Body Fat Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_BCA_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a body composition analyser device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a body composition analyser device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Body Fat object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) Metric-Structure-Small attribute</li> </ol> </li> </ol>			

	<p>(MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</p> <p>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Body Fat object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li>OBX-3 = 188748^MDC_BODY_FAT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Body Fat object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262688^MDC_DIM_PERCENT^MDC or 263875^MDC_DIM_KILO_G^MDC or 263904^MDC_DIM_LB^MDC</li> </ul> <p>e. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>f. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/BCA/BV-002			
<b>TP label</b>	Body Height Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	BodyComp 1; M	BodyComp 4; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			

	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Body Height Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_BCA_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a Webservice and the HFS sender under test is ready to send a SOAP or hData message with an observation of a body composition analyser device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a body composition analyser device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Body Height object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Body Height object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 188740^MDC_LEN_BODY_ACTUAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Body Height object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263441^MDC_DIM_CENTI_M^MDC or 263520^MDC_DIM_INCH^MDC</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>			
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.			
<b>Notes</b>				

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/BCA/BV-003
<b>TP label</b>	Body Weight Numeric Object

<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	BodyComp 1; M	BodyComp 5; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Body Weight Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_BCA_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a body composition analyser device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a body composition analyser device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Body Weight object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Body Weight object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 188736^MDC_MASS_BODY_ACTUAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Body Weight object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263875^MDC_DIM_KILO_G^MDC or 263904^MDC_DIM_LB^MDC</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present:</li> </ol> </li> </ol>			



	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/BCA/BV-004			
<b>TP label</b>	Body Mass Index Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	BodyComp 1; M	BodyComp 6; M	BodyComp 7; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Body Mass Index Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_BCA_001 AND C_SEN_BCA_002			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a Webservice and the HFS sender under test is ready to send a SOAP or hData message with an observation of a body composition analyser device with a Body Mass Index object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a body composition analyser device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Body Mass Index object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> </ol> </li> </ol>			

	<p>c. Each MDC code using a CWE data type is encoded as:  &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Body Mass Index object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 188752^MDC_RATIO_MASS_BODY_LEN_SQ^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Body Mass Index object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264096^MDC_DIM_KG_PER_M_SQ^MDC</li> </ul> <p>e. If the Body Mass Index Source-Handle-Reference attribute is present, it follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the Body Mass Index object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of the Body Weight object</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/BCA/BV-005		
<b>TP label</b>	Fat Free Mass Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	BodyComp 1; M	BodyComp 8; M
		MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 2; M	NumericClassAttr 3; M
			MetricClassAttr 1; M
			MetricClassAttr 4; M
			MetricClassAttr 7; O
			MetricClassAttr 10; O
			MetricClassAttr 13; O
			MetricClassAttr 16; C
			NumericClassAttr 4; M

		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Fat Free Mass Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_BCA_001 AND C_SEN_BCA_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a body composition analyser device with a Fat Free Mass object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a body composition analyser device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Fat Free Mass object has sent as least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Fat Free Mass object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 188756^MDC_MASS_BODY_FAT_FREE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Fat Free Mass object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263875^MDC_DIM_KILO_G^MDC or 263904^MDC_DIM_LB^MDC</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>			
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.			

Notes	
-------	--

TP Id	TP/HFS/SEN/PCD-01-DATA/BCA/BV-006			
TP label	Soft Lean Mass Numeric Object			
Coverage	Spec	[ITU-T H.812.1]		
	Testable items	BodyComp 1; M	BodyComp 9; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
Spec	[ITU-T H.812.1]			
Testable items	DataGuidelines 22; M			
Test purpose	<p>Check that:</p> <p>The presence of the attributes of the Soft Lean Mass Object, the Metric and Numeric attributes and their respective values.</p>			
Applicability	C_SEN_000 AND C_SEN_BCA_001 AND C_SEN_BCA_004			
Other PICS	C_SEN_GEN_003, C_SEN_GEN_004			
Initial condition	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a body composition analyser device with a Soft Lean Mass object.			
Test procedure	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a body composition analyser device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Soft Lean Mass object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Soft Lean Mass object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 188760^MDC_MASS_BODY_SOFT_LEAN^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Soft Lean Mass object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-6 = 263875^MDC_DIM_KILO_G^MDC or 263904^MDC_DIM_LB^MDC</li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/BCA/BV-007			
<b>TP label</b>	Body Water Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	BodyComp 1; M	BodyComp 10; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Body Water Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_BCA_001 AND C_SEN_BCA_005			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a body composition analyser device with a Body Water object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a body composition analyser device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one Body Water object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute</li> </ol> </li> </ol>			

	<p>(MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</p> <p>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Body Water object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 188764^MDC_BODY_WATER^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Body Water object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 263875^MDC_DIM_KILO_G^MDC or 263904^MDC_DIM_LB^MDC or 262688^MDC_DIM_PERCENT^MDC</li> </ul> <p>e. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>f. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

## A.15 Subgroup 1.4.14: Basic electrocardiograph (ECG)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ECG/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 18; M	MDSObject 19; M
		MDSObject 20; M	MDSObject 21; M	MDSObject 22; M
		MDSObject 23; M	MDSObject 24; M	MDSObject 25; M
		MDSObject 26; M	MDSObject 27; M	MDSObject 28; M
		MDSObject 29; M	MDSObject 30; M	MDSObject 31; M
		MDSObject 32; M	ElectroCardio 2; M	ElectroCardio 3; M
		ElectroCardio 4; M	Timestamp 13; O	Timestamp 14; O
		Timestamp 15; O	Timestamp 17; M	
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	DeviceTimeSync1; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 7; M	DataGuidelines 9; M	DataGuidelines 21; M	
	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ECG_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a basic electrocardiograph device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a basic electrocardiograph device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using a CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</li> </ol> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> </ul> </li> </ol>			

- ❑ refIdName: is the normative nomenclature name for the unique code point (recommended)
- ❑ refIdCodeSystem = "MDC" (required).
- c. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
  - ❑ <bitValue> = <0 or 1>
  - ❑ <bitName> is recommended to be the ASN.1 name for the bit
  - ❑ <bitPosition> is the normative position of the bit
- d. In MDS-level OBX:
  - ❑ OBX-2 is empty
  - ❑ If the System-Type attribute is valued, OBX-3 = 528384^MDC\_DEV\_SPEC\_PROFILE\_HYDRA^MDC
  - ❑ If the Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD
  - ❑ OBX-11 = 'X'
  - ❑ OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_ECG\_001
- e. System-Type-Spec-List attribute shall follow this OBX encoding:
  - ❑ OBX-2 = 'CWE'
  - ❑ OBX-3 = 68186^MDC\_ATTR\_SYS\_TYPE\_SPEC\_LIST^MDC
  - ❑ OBX-5 = 528390^MDC\_DEV\_SPEC\_PROFILE\_ECG^MDC and at least one of the following two profile values:  
528524^MDC\_DEV\_SUB\_SPEC\_PROFILE\_ECG^MDC  
528525^MDC\_DEV\_SUB\_SPEC\_PROFILE\_HR^MDC
- f. Tick-Resolution attribute, if present, shall follow this OBX encoding:
  - ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 68229^MDC\_ATTR\_TICK\_RES^MDC
  - ❑ OBX-5 = NM data type value
  - ❑ OBX-6 = 265842^MDC\_DIM\_PER\_SEC^MDC
- g. System model attribute is sent in two different OBX segments:
  - ❑ System-Model attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
    - OBX-5 = String representing the model number portion of the MDC\_ATTR\_ID\_MODEL attribute
  - ❑ System-Manufacturer attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
    - OBX-5 = String representing the model manufacturer portion of the MDC\_ATTR\_ID\_MODEL attribute
- h. Production-Specification attribute is sent as a series of attributes:
  - ❑ Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry



- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification serial entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype

- Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.
  
- i. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)
  - Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
    - OBX-5 = One or more of:
      - <0 or 1>^mds-time-capab-real-time-clock(0),
      - <0 or 1>^mds-time-capab-set-clock(1),
      - <0 or 1>^mds-time-capab-relative-time(2),
      - <0 or 1>^mds-time-capab-high-res-relative-time(3),
      - <0 or 1>^mds-time-capab-sync-abs-time(4),
      - <0 or 1>^mds-time-capab-sync-rel-time(5),
      - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
      - <0 or 1>^mds-time-state-abs-time-synced(8),
      - <0 or 1>^mds-time-state-rel-time-synced(9),
      - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
      - <0 or 1>^mds-time-mgr-set-time(11)
  
  - Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  
  - Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
    - OBX-5 = One of these values:
      - 532224^MDC\_TIME\_SYNC\_NONE^MDC
      - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
      - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
      - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
      - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
      - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
      - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
      - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
      - 532232^MDC\_TIME\_SYNC\_CDMA^MDC

532233^MDC\_TIME\_SYNC\_GSM^MDC

532234^MDC\_TIME\_SYNC\_EBWW^MDC

532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC

- ❑ Date and Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
  - OBX-5 = DTM data type value
  - OBX-14 = UTC value
- ❑ Base-Offset-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 68225^MDC\_ATTR\_TIME\_BO^MDC
  - OBX-4 = m.0.0.x, where 'x' is any integer value
  - OBX-5 = DTM data type value
- ❑ Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- ❑ HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = 0.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- ❑ Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDCor
  - OBX-2 = 'NM'
  - OBX-3 = 68226^MDC\_TIME\_RES\_BO^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- ❑ Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC

- OBX-5 = NM data type value
- OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- ❑ Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- j. Date-and-Time-Adjustment attribute is not present
- k. If the Power-Status attribute is valued, it is sent as an independent OBX segment:
  - ❑ OBX-2 = 'ST'
  - ❑ OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - ❑ OBX-5 = One or more of:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- l. If the Battery-Level attribute is valued, it is sent as an independent OBX segment:
  - ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
  - ❑ OBX-5 = NM data type value
  - ❑ OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- m. If the Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
  - ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
  - ❑ OBX-5 = Use the value contained in the BatMeasure object
  - ❑ OBX-6 = Use the OID contained in the BatMeasure object
- n. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different facet-level entries and the following mandatory fields:
  - ❑ OBX-2 = 'CWE'
  - ❑ OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
  - OBX-5 = One of:
    - 0^auth-body-empty,
    - 1^auth-body-ieee-11073,
    - 2^auth-body-continua,
    - 254^auth-body-experimental,
    - 255^auth-body-reserved.
- o. Observations from Continua-compliant source devices are sent using three attributes as facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
  - ❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'

	<ul style="list-style-type: none"> <li>• OBX-3 = 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC</li> <li>• OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments and 'a' is a number indicating the facet level of that segment</li> <li>• OBX-5 = &lt;major-IG-version&gt;.&lt;minor-IG-version&gt;.</li> </ul> <p>□ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:</p> <ul style="list-style-type: none"> <li>• OBX-2 = 'NA'</li> <li>• OBX-3 = 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC</li> <li>• OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a facet entry, and 'b' is a number indicating the facet level of that segment</li> <li>• OBX-5 = NA value listing the certified devices. At least it shall contain one of these profiles: 8332 (ECG profile v1.5 Wired PAN), 8333 (HR profile v1.5 Wired PAN), 16524 (ECG profile v1.5 Wireless PAN), 16525 (HR profile v1.5 Wireless PAN), 24716 (ECG profile v1.5 Sensor LAN), or 24717 (HR profile v1.5 Sensor LAN), and the corresponding specialization for each one: 8204 (ECG v1.5 Wired PAN), 16396 (ECG v1.5 Wireless PAN) or 24588 (ECG v1.5 Sensor LAN).</li> </ul> <p>□ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:</p> <ul style="list-style-type: none"> <li>• OBX-2 = 'CWE'</li> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a facet entry, and 'a' is a number indicating the facet level of that segment</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> <p>p. Confirm-Timeout attribute is not present</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ECG/BV-001			
<b>TP label</b>	Heart Rate Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ElectroCardio 1; M	ElectroCardio 5; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O

		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Heart Rate Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ECG_001 AND C_SEN_ECG_002			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a basic electrocardiograph device with a Heart Rate object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a basic electrocardiograph device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Heart Rate object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Heart Rate object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 147842^MDC_ECG_HEART_RATE^MDC or 8410590^MDC_ECG_HEART_RATE_INSTANT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Heart Rate object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264864^MDC_DIM_BEAT_PER_MIN^MDC</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>			
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.			
<b>Notes</b>				

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ECG/BV-002			
<b>TP label</b>	R-R Interval Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ElectroCardio 1; M	ElectroCardio 6; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the R-R Interval Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ECG_001 AND C_SEN_ECG_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a basic electrocardiograph device with an R-R Interval object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a basic electrocardiograph device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The R-R Interval object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. R-R Interval object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 147240^MDC_ECG_TIME_PD_RR_GL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the R-R Interval object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-6 = 264338^MDC_DIM_MILLI_SEC^MDC or 268992^MDC_DIM_TICK^MDC</li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ECG/BV-003			
<b>TP label</b>	ECG Waveform RT-SA Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ElectroCardio 1; M	ElectroCardio 7; M	ElectroCardio 8; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
ScannerAttr 4; M				
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the ECG Waveform Object, the Metric and RT-SA attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ECG_001 AND C_SEN_ECG_004			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a Webservice and the HFS sender under test is ready to send a SOAP or hData message with an observation of a basic electrocardiograph device with a ECG Waveform object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a basic electrocardiograph device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. At least one ECG Waveform object has sent at least one observation.</li> </ol> </li> </ol>			



	<p>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</p> <p>c. Each MDC code using a CWE data type is encoded as:  &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. ECG Waveform object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NA'</li> <li><input type="checkbox"/> OBX-3 = 131328^MDC_ECG_ELEC_POTL^MDC or 131329^MDC_ECG_ELEC_POTL_I^MDC or 131330^MDC_ECG_ELEC_POTL_II^MDC or 131389^MDC_ECG_ELEC_POTL_III^MDC or 131390^MDC_ECG_ELEC_POTL_AVR^MDC or 131391^MDC_ECG_ELEC_POTL_AVL^MDC or 131392^MDC_ECG_ELEC_POTL_AVF^MDC or 131331^MDC_ECG_ELEC_POTL_V1^MDC or 131332^MDC_ECG_ELEC_POTL_V2^MDC or 131333^MDC_ECG_ELEC_POTL_V3^MDC or 131334^MDC_ECG_ELEC_POTL_V4^MDC or 131335^MDC_ECG_ELEC_POTL_V5^MDC or 131336^MDC_ECG_ELEC_POTL_V6^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the ECG Waveform object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric array value (i.e., 11^22^33^44^55^66^77^88^99~...)</li> <li><input type="checkbox"/> OBX-6 = 266418^MDC_DIM_MILLI_VOLT^MDC</li> </ul> <p>e. ECG waveform Sample-Period attribute of ECG waveform object shall be sent and shall follow this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 67981^MDC_ATTR_TIME_PD_SAMP^MDC</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> <li><input type="checkbox"/> OBX-6 = 264339^MDC_DIM_MICRO_SEC^MDC</li> </ul> <p>f. No PM-Store, PM-Segment or Scanner attributes are present.</p> <p>g. One of these timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ECG/BV-004			
<b>TP label</b>	Device Status Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ElectroCardio 1; M	ElectroCardio 9; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Device Status Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_ECG_001 AND C_SEN_ECG_005			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a basic electrocardiograph device with a Device Status object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a basic electrocardiograph device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Device Status object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present.</li> <li>c. Each MDC code using a CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Device Status object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8410584^MDC_ECG_DEV_STAT^MDC</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Device Status object respectively.</li> <li>❑ OBX-5 = One of the values: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^leadwire-loss(0),</li> <li>&lt;0 or 1&gt;^leadsignal-loss(1),</li> <li>&lt;0 or 1&gt;^leadwire-loss-first-lead(2),</li> <li>&lt;0 or 1&gt;^leadsignal-loss-first-lead(3),</li> <li>&lt;0 or 1&gt;^leadwire-loss-second-lead(4),</li> <li>&lt;0 or 1&gt;^leadsignal-loss-second-lead(5),</li> <li>&lt;0 or 1&gt;^leadwire-loss-third-lead(6),</li> <li>&lt;0 or 1&gt;^leadsignal-loss-third-lead(7)</li> </ul> </li> <li>f. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>g. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM][DD][HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/ECG/BV-005			
<b>TP label</b>	Context Data Trigger Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ElectroCardio 1; M	ElectroCardio 10; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Context Data Trigger Object, the Metric and Enumeration attributes and their respective values.			

<b>Applicability</b>	C_SEN_000 AND C_SEN_ECG_001 AND C_SEN_ECG_006
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a basic electrocardiograph device with a Context Data Trigger object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an observation of a basic electrocardiograph device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Context Data Trigger object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present.</li> <li>c. Each MDC code using a CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: is the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Context Data Trigger object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8410585^MDC_ECG_EVT_CTXT_GEN^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Context Data Trigger object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of the values: 8410586^MDC_ECG_EVT_CTXT_USER^MDC or 8410587^MDC_ECG_EVT_CTXT_PERIODIC^MDC or 8410588^MDC_ECG_EVT_CTXT_DETECTED^MDC or 8410589^MDC_ECG_EVT_CTXT_EXTERNAL^MDC</li> </ul> </li> <li>e. No PM-Store, PM-Segment or Scanner attributes are present.</li> <li>f. One of these timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of the observation metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

**A.16 Subgroup 1.4.15: International normalized ratio (INR)**

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/INR/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
		MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
		MDSObject 31; M	MDSObject 32; M	MDSObject 33; M
		INR 2; M	Timestamp 13; O	Timestamp 14; O
	Timestamp 15; O	Timestamp 17; M		
<b>Spec</b>	[IHE PCD TF 2]			
<b>Testable items</b>	DeviceTimeSync1; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_INR_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			

<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an International Normalized Ratio device.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a International Normalized Ratio device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>c. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>d. In MDS-level OBX: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> If System-Type attribute is valued, OBX-3 = 528406^MDC_DEV_SPEC_PROFILE_COAG^MDC</li> <li><input type="checkbox"/> If System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3</li> <li><input type="checkbox"/> If System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC_DEV_SPEC_PROFILE_HYDRA^MDC and the specialization list is reported as an attribute of the device.</li> <li><input type="checkbox"/> If Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD</li> <li><input type="checkbox"/> OBX-11 = 'X'</li> <li><input type="checkbox"/> OBX-18 (System Id attribute) = &lt;Entity Identifier (ST)&gt;^&lt;System_Id&gt;^EUI-64, where the System_Id is 16 characters given by the PIXIT I_SEN_INR_001.</li> </ul> </li> <li>e. System model attribute is sent in two different OBX segments: <ul style="list-style-type: none"> <li><input type="checkbox"/> System-Model attribute: <ul style="list-style-type: none"> <li>• OBX-2 = 'ST'</li> <li>• OBX-3 = 531969^MDC_ID_MODEL_NUMBER^MDC</li> <li>• OBX-5 = String representing the model number portion of MDC_ATTR_ID_MODEL attribute</li> </ul> </li> <li><input type="checkbox"/> System-Manufacturer attribute: <ul style="list-style-type: none"> <li>• OBX-2 = 'ST'</li> <li>• OBX-3 = 531970^MDC_ID_MODEL_MANUFACTURER^MDC</li> <li>• OBX-5 = String representing the model manufacturer portion of MDC_ATTR_ID_MODEL attribute.</li> </ul> </li> </ul> </li> <li>f. Production-Specification attribute is sent as a series of attributes: <ul style="list-style-type: none"> <li><input type="checkbox"/> Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment: <ul style="list-style-type: none"> <li>• OBX-2 = 'ST'</li> <li>• OBX-3 = 531971^MDC_ID_PROD_SPEC_UNSPECIFIED^MDC</li> </ul> </li> </ul> </li> </ol> </li> </ol>

- OBX-5 = String representing the value portion of the Production-Specification entry
- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification serial entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry

- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.
- g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent a Timestamp, its respective resolution may be sent, but not other than this.)
  - Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
    - OBX-5 = One or more of these values:
      - <0 or 1>^mds-time-capab-real-time-clock(0),
      - <0 or 1>^mds-time-capab-set-clock(1),
      - <0 or 1>^mds-time-capab-relative-time(2),
      - <0 or 1>^mds-time-capab-high-res-relative-time(3),
      - <0 or 1>^mds-time-capab-sync-abs-time(4),
      - <0 or 1>^mds-time-capab-sync-rel-time(5),
      - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
      - <0 or 1>^mds-time-capab-bo-time (7),
      - <0 or 1>^mds-time-state-abs-time-synced(8),
      - <0 or 1>^mds-time-state-rel-time-synced(9),
      - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
      - <0 or 1>^mds-time-mgr-set-time(11),
      - <0 or 1>^mds-time-capab-sync-bo-time(12),
      - <0 or 1>^mds-time-state-bo-time-synced(13),
      - <0 or 1>^mds-time-state-bo-time-UTC-aligned(14),
      - <0 or 1>^mds-time-dst-rules-enabled(15)
  - Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
    - OBX-5 = One of these values:
      - 532224^MDC\_TIME\_SYNC\_NONE^MDC
      - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC



532226^MDC\_TIME\_SYNC\_NTPV4^MDC  
 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC  
 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC  
 532229^MDC\_TIME\_SYNC\_BTV1^MDC  
 532230^MDC\_TIME\_SYNC\_RADIO^MDC  
 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC  
 532232^MDC\_TIME\_SYNC\_CDMA^MDC  
 532233^MDC\_TIME\_SYNC\_GSM^MDC  
 532234^MDC\_TIME\_SYNC\_EBWW^MDC  
 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC

- ❑ Date and Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'DTM'
    - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
    - OBX-5 = DTM data type value
    - OBX-14 = UTC value
  - ❑ Base-Offset-Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'DTM'
    - OBX-3 = 68225^MDC\_ATTR\_TIME\_BO^MDC
    - OBX-4 = m.0.0.x, where 'x' is any integer value
    - OBX-5 = DTM data type value
  - ❑ Relative-Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
    - OBX-4 = m.0.0.x, where 'x' is any integer value
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
    - OBX-18 = A unique identifier for the given timebase
  - ❑ HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
    - OBX-4 = m.0.0.x, where 'x' is any integer value
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
    - OBX-18 = A unique identifier for the given timebase
  - ❑ Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- or
- OBX-2 = 'NM'

- OBX-3 = 68226^MDC\_TIME\_RES\_BO^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- ❑ Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
- OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- ❑ If valued, Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
- OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If Power-Status attribute is valued, it is sent as an independent OBX segment:
- ❑ OBX-2 = 'ST'
- ❑ OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
- ❑ OBX-5 = One or more of these values:
- <0 or 1>^onMains(0),
  - <0 or 1>^onBattery(1),
  - <0 or 1>^chargingFull(8),
  - <0 or 1>^chargingTrickle(9),
  - <0 or 1>^chargingOff(10)
- j. If Battery-Level attribute is valued, it is sent as an independent OBX segment:
- ❑ OBX-2 = 'NM'
- ❑ OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
- ❑ OBX-5 = NM data type value
- ❑ OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
- ❑ OBX-2 = 'NM'
- ❑ OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
- ❑ OBX-5 = Use the value contained in the BatMeasure object
- ❑ OBX-6 = Use the OID contained in the BatMeasure object
- l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different Facet-level entries and the following mandatory fields:
- ❑ OBX-2 = 'CWE'
- ❑ OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
- OBX-5 = One of these values:
- 0^auth-body-empty,
  - 1^auth-body-ieee-11073,
  - 2^auth-body-continua,

	<p>254^auth-body-experimental, 255^auth-body-reserved</p> <p>m. Observations from Continua-compliant source devices are sent using three attributes as Facet-level entries of the Regulation-Certification-Auth-Body OBX segments:</p> <ul style="list-style-type: none"> <li>❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'ST'</li> <li>• OBX-3 = 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC</li> <li>• OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the Facet level of that segment.</li> <li>• OBX-5 = &lt;major-IG-version&gt;.&lt;minor-IG-version&gt;.</li> </ul> </li> <li>❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'NA'</li> <li>• OBX-3 = 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC</li> <li>• OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a Facet entry, and 'b' is a number indicating the Facet level of that segment.</li> <li>• OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 16404 (BCA v1.5 Wireless PAN), 8212 (BCA v1.5 Wired PAN), or 24596 (BCA v1.5 Sensor LAN)</li> </ul> </li> <li>❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'CWE'</li> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a Facet entry, and 'a' is a number indicating the Facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> </li> </ul> <p>n. If System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li>❑ OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/INR/BV-001			
<b>TP label</b>	INR Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	INR 1; M	INR 3; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the INR Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_INR_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an International Normalized Ratio device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an International Normalized Ratio device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The INR Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:  &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. INR Numeric object follows this OBX encoding:</li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-2 = 'NM'</li> <li>❑ OBX-3 = 160260^MDC_RATIO_INR_COAG^MDC or 160264^MDC_TIME_PD_COAG^MDC or 160268^MDC_QUICK_VALUE_COAG^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the INR Numeric object respectively.</li> <li>❑ OBX-5 = Numeric value</li> <li>❑ OBX-6 = 268752^MDC_DIM_INR^MDC or 264320^MDC_DIM_SEC^MDC or 262688^MDC_DIM_PERCENT^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/INR/BV-002			
<b>TP label</b>	Control Solution Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	INR 1; M	INR 4; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
<b>Spec</b>	[ITU-T H.812.1]			

	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Control Solution Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_INR_001 AND C_SEN_INR_002			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an International Normalized Ratio device with a Control Solution Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an International Normalized Ratio device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Control Solution Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Control Solution Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 160276^MDC_CONC_INR_CONTROL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Control Solution Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 268752^MDC_DIM_INR^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>			
<b>Pass/Fail criteria</b>	All elements in each segment are as specified			
<b>Notes</b>				

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/INR/BV-003			
<b>TP label</b>	ISI Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	INR 1; M	INR 5; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the ISI Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_INR_001 AND C_SEN_INR_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an International Normalized Ratio device with an ISI Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an International Normalized Ratio device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The ISI Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:  &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> <li>d. ISI Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 160272^MDC_COAG^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the ISI Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262656^MDC_DIM_DIMLESS^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/INR/BV-004			
<b>TP label</b>	Context Tester Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	ISI 1; M	ISI 6; M	ISI 7; M
		ISI 8; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	EnumClassAttr 1; M	EnumClassAttr 2; M
		EnumClassAttr 3; M	EnumClassAttr 4; M	EnumClassAttr 5; O
		EnumClassAttr 6; M	MetricRelGroup 2; O	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 3; M	ScannerAttr 4; M	



	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Context Tester Object, the Metric and Enumeration attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_INR_001 AND C_SEN_INR_005			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an International Normalized Ratio device with a Context Tester object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an International Normalized Ratio device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Context Tester object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Context Tester object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8417924^MDC_CTXT_INR_TESTER^MDC is the generic code; or, if specific Metric-Id is specified, use one of the following: 8417925^MDC_CTXT_INR_TESTER_SELF^MDC or 8417926^MDC_CTXT_INR_TESTER_HCP^MDC or 8417927^MDC_CTXT_INR_TESTER_LAB^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Context Tester object respectively.</li> <li><input type="checkbox"/> OBX-5 is empty</li> </ul> </li> <li>e. If Context Tester Source-Handle-Reference attribute is present, it follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'ST'</li> <li><input type="checkbox"/> OBX-3 = 68167^MDC_ATTR_SOURCE_HANDLE_REF^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x.a, where 'a' is a number indicating the Facet level of the Context Tester object.</li> <li><input type="checkbox"/> OBX-5 = OBX-4 of the INR object</li> </ul> </li> <li>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>g. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation:</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> <li>□ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation.</li> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

### A.17 Subgroup 1.4.16: Sleeping apnoea breathing therapy equipment (SABTE)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-000		
<b>TP label</b>	MDS Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C
		MDSClassAttr 3; M	
		MDSClassAttr 4; M	MDSClassAttr 5; M
		MDSClassAttr 6; M	
		MDSClassAttr 7; O	MDSClassAttr 8; M
		MDSClassAttr 9; C	
		MDSClassAttr 10; C	MDSClassAttr 11; C
		MDSClassAttr 12; M	
		MDSClassAttr 13; M	MDSClassAttr 14; M
		MDSClassAttr 15; M	
		MDSClassAttr 16; M	MDSClassAttr 17; C
		MDSClassAttr 18; M	
		MDSObject 1; M	MDSObject 2; M
		MDSObject 3; M	
		MDSObject 4; M	MDSObject 5; M
		MDSObject 6; M	
		MDSObject 7; M	MDSObject 8; M
		MDSObject 9; M	
		MDSObject 10; M	MDSObject 11; M
		MDSObject 12; M	
		MDSObject 13; O	MDSObject 14; O
		MDSObject 15; O	
		MDSObject 16; M	MDSObject 17; M
		MDSObject 18; M	
		MDSObject 19; M	MDSObject 20; M
		MDSObject 21; M	
		MDSObject 22; M	MDSObject 23; M
		MDSObject 24; M	
		MDSObject 25; M	MDSObject 26; M
		MDSObject 27; M	
		MDSObject 28; M	MDSObject 29; M
		MDSObject 30; M	
		MDSObject 31; M	MDSObject 32; M
		MDSObject 33; M	
		SABTE 2; M	Timestamp 13; O
		Timestamp 14; O	
		Timestamp 15; O	Timestamp 17; M
	<b>Spec</b>	[IHE PCD TF 2]	
	<b>Testable items</b>	DeviceTimeSync1; M	

	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of Sleeping Apnoea Breathing Therapy Equipment device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Sleeping Apnoea Breathing Therapy Equipment device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>b. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>c. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>d. In MDS-level OBX: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> If System-Type attribute is valued, OBX-3 = 528409^MDC_DEV_SPEC_PROFILE_SABTE^MDC</li> <li><input type="checkbox"/> If System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3</li> <li><input type="checkbox"/> If System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC_DEV_SPEC_PROFILE_HYDRA^MDC and the specialization list is reported as an attribute of the device.</li> <li><input type="checkbox"/> If Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD</li> <li><input type="checkbox"/> OBX-11 = 'X'</li> <li><input type="checkbox"/> OBX-18 (System Id attribute) = &lt;Entity Identifier (ST)&gt;^^&lt;System_Id&gt;^EUI-64, where the System_Id is 16 characters given by the PIXIT I_SEN_SABTE_001.</li> </ul> </li> <li>e. System model attribute is sent in two different OBX segments: <ul style="list-style-type: none"> <li><input type="checkbox"/> System-Model attribute: <ul style="list-style-type: none"> <li>• OBX-2 = 'ST'</li> <li>• OBX-3 = 531969^MDC_ID_MODEL_NUMBER^MDC</li> <li>• OBX-5 = String representing the model number portion of MDC_ATTR_ID_MODEL attribute</li> </ul> </li> </ul> </li> </ol> </li> </ol>			

- ❑ System-Manufacturer attribute:
  - OBX-2 = 'ST'
  - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
  - OBX-5 = String representing the model manufacturer portion of MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
  - ❑ Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
    - OBX-5 = String representing the value portion of the Production-Specification serial entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
    - OBX-5 = String representing the value portion of the Production-Specification part entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
    - OBX-5 = String representing the value portion of the Production-Specification hardware entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
    - OBX-5 = String representing the value portion of the Production-Specification software entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'

- OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
- OBX-5 = String representing the value portion of the Production-Specification firmware entry
- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.
- g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent a Timestamp, its respective resolution may be sent, but not other than this.)
  - Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
    - OBX-5 = One or more of these values:
      - <0 or 1>^mds-time-capab-real-time-clock(0),
      - <0 or 1>^mds-time-capab-set-clock(1),
      - <0 or 1>^mds-time-capab-relative-time(2),
      - <0 or 1>^mds-time-capab-high-res-relative-time(3),
      - <0 or 1>^mds-time-capab-sync-abs-time(4),
      - <0 or 1>^mds-time-capab-sync-rel-time(5),
      - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
      - <0 or 1>^mds-time-capab-bo-time (7),
      - <0 or 1>^mds-time-state-abs-time-synced(8),
      - <0 or 1>^mds-time-state-rel-time-synced(9),
      - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
      - <0 or 1>^mds-time-mgr-set-time(11),
      - <0 or 1>^mds-time-capab-sync-bo-time(12),
      - <0 or 1>^mds-time-state-bo-time-synced(13),
      - <0 or 1>^mds-time-state-bo-time-UTC-aligned(14),
      - <0 or 1>^mds-time-dst-rules-enabled(15)
  - Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'

- OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
- OBX-5 = NM data type value
- OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'CWE'
  - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
  - OBX-5 = One of these values:
    - 532224^MDC\_TIME\_SYNC\_NONE^MDC
    - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
    - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
    - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
    - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
    - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
    - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
    - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
    - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
    - 532233^MDC\_TIME\_SYNC\_GSM^MDC
    - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
    - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC
- Date and Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
  - OBX-5 = DTM data type value
  - OBX-14 = UTC value
- Base-Offset-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 68225^MDC\_ATTR\_TIME\_BO^MDC
  - OBX-4 = m.0.0.x, where 'x' is any integer value
  - OBX-5 = DTM data type value
- Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = m.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = m.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value

- OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- OBX-18 = A unique identifier for the given timebase
- ❑ Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- or
- OBX-2 = 'NM'
- OBX-3 = 68226^MDC\_TIME\_RES\_BO^MDC
- OBX-5 = NM data type value
- OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- ❑ Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- ❑ If valued, Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- h. Date-and-Time-Adjustment attribute is not present
- i. If Power-Status attribute is valued, it is sent as an independent OBX segment:
  - ❑ OBX-2 = 'ST'
  - ❑ OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - ❑ OBX-5 = One or more of these values:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- j. If Battery-Level attribute is valued, it is sent as an independent OBX segment:
  - ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
  - ❑ OBX-5 = NM data type value
  - ❑ OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
  - ❑ OBX-2 = 'NM'
  - ❑ OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC

- ❑ OBX-5 = Use the value contained in the BatMeasure object
  - ❑ OBX-6 = Use the OID contained in the BatMeasure object
- I. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different Facet-level entries and the following mandatory fields:
- ❑ OBX-2 = 'CWE'
  - ❑ OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
- OBX-5 = One of these values:  
 0^auth-body-empty,  
 1^auth-body-ieee-11073,  
 2^auth-body-continua,  
 254^auth-body-experimental,  
 255^auth-body-reserved
- m. Observations from Continua-compliant source devices are sent using three attributes as Facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
- ❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'
    - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC
    - OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the Facet level of that segment.
    - OBX-5 = <major-IG-version>.<minor-IG-version>.
  - ❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'NA'
    - OBX-3 = 532353^MDC\_REG\_CERT\_DATA\_CONTINUA\_CERT\_DEV\_LIST^MDC
    - OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a Facet entry, and 'b' is a number indicating the Facet level of that segment.
    - OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 16404 (BCA v1.5 Wireless PAN), 8212 (BCA v1.5 Wired PAN), or 24596 (BCA v1.5 Sensor LAN)
  - ❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'CWE'
    - OBX-3 = 532354^MDC\_REG\_CERT\_DATA\_CONTINUA\_REG\_STATUS^MDC
    - OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a Facet entry, and 'a' is a number indicating the Facet level of that segment.
    - OBX-5 = <0 or 1>^unregulated-device(0)
- n. If System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:
- ❑ OBX-2 = 'CWE'



	<ul style="list-style-type: none"> <li>❑ OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li>❑ OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> <li>o. Confirm-Timeout attribute is not present.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-001			
<b>TP label</b>	PHD DM Device status Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 2; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
		EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M
		EnumClassAttr 5; O	EnumClassAttr 6; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the PHD DM Device status Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_002			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a SABTE device with a PHD DM Device status object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The PHD DM Device status object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small</li> </ol> </li> </ol>			

(MDC\_ATTR\_METRIC\_STRUCT\_SMALL) attribute and Attribute-Value-Map (MDC\_ATTR\_ATTRIBUTE\_VALUE\_MAP) are not present

- c. Each MDC code using CWE data type is encoded as:  
<refldValue>^<refldName>^<refldCodeSystem>
- Where:
- refldValue: is a 32 bit integer (required)
  - refldName: the normative nomenclature name for the unique code point (recommended)
  - refldCodeSystem = "MDC" (required).
- d. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
- <bitValue> = <0 or 1>
  - <bitName> is recommended to be the ASN.1 name for the bit
  - <bitPosition> is the normative position of the bit
- e. PHD DM Device status object follows this OBX encoding:
- OBX-2 = 'CWE'
  - OBX-3 = 8408608^MDC\_PHD\_DM\_DEV\_STAT^MDC
  - OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Device and PHD DM Device status object respectively.
  - OBX-5 = Any of these values:
    - <0 or 1>^device-status-undetermined(0),
    - <0 or 1>^device-status-reset(1),
    - <0 or 1>^device-status-error(5),
    - <0 or 1>^device-status-error-mechanical(6),
    - <0 or 1>^device-status-error-electronic(7),
    - <0 or 1>^device-status-error-software(8),
    - <0 or 1>^device-status-error-battery(9),
    - <0 or 1>^device-status-service(15),
    - <0 or 1>^device-status-service-time-sync-required(16),
    - <0 or 1>^device-status-service-calibration-required(17),
    - <0 or 1>^device-status-service-replenishment-required(18),
    - <0 or 1>^device-status-battery-low(25),
    - <0 or 1>^device-status-battery-depleted(26),
    - <0 or 1>^device-status-battery-replaced(27),
    - <0 or 1>^device-status-battery-interrupted(28)
- f. Any PM-Store, PM-Segment or Scanner attributes are not present.
- h. One of the timestamp attributes can be present:
- MDC\_ATTR\_TIME\_STAMP\_ABS or MDC\_ATTR\_TIME\_STAMP\_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]
  - MDC\_ATTR\_TIME\_STAMP\_REL, transmitted as a Facet of the observation:
    - OBX-5 = Numeric Value
    - OBX-18 has a timebase ID.
  - MDC\_ATTR\_TIME\_STAMP\_HI\_RES, transmitted as a Facet of the observation.
    - OBX-5 = Numeric Value
    - OBX-18 has a timebase ID.

<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-002			
<b>TP label</b>	Duration of flow generation Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 4; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Duration of flow generation Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Duration of flow generation Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:  &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; <p>Where:</p> <input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> </ol></li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> <p>d. Duration of flow generation Numeric object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410708^MDC_SABTE_TIME_PD_FLOW_GEN_TOTAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Duration of flow generation Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264352^MDC_DIM_MIN^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-003		
<b>TP label</b>	Duration of patient use Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	SABTE 1; M	SABTE 5; M
		MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 5; M	NumericClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 2; M	ScannerAttr 3; M
			MetricClassAttr 1; M
			MetricClassAttr 4; M
			MetricClassAttr 7; O
			ScannerAttr 1; M
			ScannerAttr 4; M

	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Duration of patient use Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Duration of patient use Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Duration of patient use Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410712^MDC_SABTE_TIME_PD_USAGE_TOTAL^MDC or 8410716^MDC_SABTE_TIME_PD_USAGE_W_HUM^MDC or 8410720^MDC_SABTE_TIME_PD_USAGE_WO_HUM^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Duration of patient use Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264352^MDC_DIM_MIN^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>			

<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-004			
<b>TP label</b>	Snoring duration Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 6; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Snoring duration Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Snoring duration Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Snoring duration Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</li> </ol> <p>Where:</p> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> <p>d. Snoring duration Numeric object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410724^MDC_SABTE_TIME_PD_SNORING_TOTAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Snoring duration Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264352^MDC_DIM_MIN^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-005			
<b>TP label</b>	Cheyne-Stokes respiration (CSR) duration Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 7; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M		

		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Cheyne-Stokes respiration (CSR) duration Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_004			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Cheyne-Stokes respiration (CSR) duration Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Cheyne-Stokes respiration (CSR) duration Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Cheyne-Stokes respiration (CSR) duration Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410728^MDC_SABTE_TIME_PD_CSR_TOTAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Cheyne-Stokes respiration (CSR) duration Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264352^MDC_DIM_MIN^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation.</li> </ul> </li> </ol> </li> </ol>			



	<ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-006			
<b>TP label</b>	Ramp duration setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 8; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Ramp duration setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_005			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Ramp duration setting Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Ramp duration setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> </ol> </li> </ol>			

	<p>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Ramp duration setting Numeric object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410744^MDC_SABTE_TIME_PD_RAMP_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Ramp duration setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264352^MDC_DIM_MIN^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-007			
<b>TP label</b>	Airflow waveform RT-SA Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 9; M	SABTE 10; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O

		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
		ScannerAttr 4; M		
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Airflow waveform Object, the Metric and RT-SA attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_006			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a SABTE device with an Airflow waveform object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Airflow waveform object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Airflow waveform object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NA'</li> <li><input type="checkbox"/> OBX-3 = 8410748^MDC_SABTE_FLOW_TOTAL^MDC or 8410752^MDC_SABTE_FLOW_WO_PURGE^MDC or 8410756^MDC_SABTE_FLOW_RESP^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Airflow waveform object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric Array value (i.e. 11^22^33^44^55^66^77^88^99~...)</li> <li><input type="checkbox"/> OBX-6 = 264992^MDC_DIM_L_PER_MIN^MDC</li> </ul> </li> <li>e. Airflow waveform Sample-Period attribute of Airflow waveform object shall be sent and shall follow this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 67981^MDC_ATTR_TIME_PD_SAMP^MDC</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-6 = 264320^MDC_DIM_SEC^MDC or 264339^MDC_DIM_MICRO_SEC^MDC</li> <li>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>g. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>		TP/HFS/SEN/PCD-01-DATA/SABTE/BV-008		
<b>TP label</b>		Apnoea-Hypopnoea-Index (AHI) Compound Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 11; M	SABTE 12; M
		SABTE 13; M	SABTE 14; M	
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	MetricRelGroup 1; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that:			

	The presence of the attributes of the Apnoea-Hypopnoea-Index (AHI) Compound Object, the Metric and Numeric attributes and their respective values.
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_007
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a SABTE device with a Apnoea-Hypopnoea-Index (AHI) Compound Object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Apnoea-Hypopnoea-Index (AHI) Compound object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Apnoea-Hypopnoea-Index (AHI) Compound object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> OBX-3 = 8410788^MDC_SABTE_AHI^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x., where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the Channel-level for the uAHI, oAHI, cAHI object respectively.</li> <li><input type="checkbox"/> OBX-5 is empty</li> <li><input type="checkbox"/> OBX-11 = 'X'</li> </ul> </li> <li>e. uAHI part of the compound object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410796^MDC_SABTE_AHI_UNCLASS^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x.a, , where 'a' is a number indicating the component of the compound object</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> <li><input type="checkbox"/> OBX-6 = 266876^MDC_DIM_EVT_PER_HR^MDC</li> </ul> </li> <li>f. oAHI part of the compound object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410800^MDC_SABTE_AHI_OBSTRUC^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x.b, where 'b' is a number indicating the component of the compound object</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> <li><input type="checkbox"/> OBX-6 = 266876^MDC_DIM_EVT_PER_HR^MDC</li> </ul> </li> <li>g. cAHI part of the compound object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410804^MDC_SABTE_AHI_CENT^MDC</li> </ul> </li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>❑ OBX-4 = y.0.x.c, , where 'c' is a number indicating the component of the compound object</li> <li>❑ OBX-5 = Numeric Value</li> <li>❑ OBX-6 = 266876^MDC_DIM_EVT_PER_HR^MDC</li> </ul> <p>h. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>h. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-009			
<b>TP label</b>	Apnoea-Hypopnoea-Index (AHI) Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 15; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Apnoea-Hypopnoea-Index (AHI) Numeric Object, the Metric and Numeric attributes and their respective values.			

<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_008
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Apnoea-Hypopnoea-Index (AHI) Numeric Object
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Apnoea-Hypopnoea-Index (AHI) Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Apnoea-Hypopnoea-Index (AHI) Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410792^MDC_SABTE_AHI_TOTAL^MDC or 8410796^MDC_SABTE_AHI_UNCLASS^MDC or 8410800^MDC_SABTE_AHI_OBSTRUC^MDC or 8410804^MDC_SABTE_AHI_CENT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Apnoea-Hypopnoea-Index (AHI) Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 266876^MDC_DIM_EVT_PER_HR^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-010			
<b>TP label</b>	Humidifier level setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 16; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Humidifier level setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_009			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Humidifier level setting Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Humidifier level setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:  &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> </ol> </li> </ol>			



	<p>d. Humidifier level setting Numeric object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'NM'</li> <li>❑ OBX-3 = 8410828^MDC_SABTE_LVL_HUMID_STAGE_SET^MDC or 8410832^MDC_SABTE_LVL_HUMID_TEMP_SET^MDC or 8410836^MDC_SABTE_LVL_HUMID_HUM_SET^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Humidifier level setting Numeric object respectively.</li> <li>❑ OBX-5 = Numeric value</li> <li>❑ OBX-6 = 262688^MDC_DIM_PERCENT^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-011			
<b>TP label</b>	Trigger sensitivity setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 17; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			

	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Trigger sensitivity setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_010			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Trigger sensitivity setting Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Trigger sensitivity setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Trigger sensitivity setting Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410840^MDC_SABTE_LVL_TRIG_SENS_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Trigger sensitivity setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262688^MDC_DIM_PERCENT^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>			
<b>Pass/Fail criteria</b>	All elements in each segment are as specified			
<b>Notes</b>				

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-012			
<b>TP label</b>	Inspiration pressure rise setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 18; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Inspiration pressure rise setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_011			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with an Inspiration pressure rise setting Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Inspiration pressure rise setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:  &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> <li>d. Inspiration pressure rise setting Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410844^MDC_SABTE_LVL_INSP_PRESS_RISE_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Inspiration pressure rise setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262688^MDC_DIM_PERCENT^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-013			
<b>TP label</b>	Pressure adaption level setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 19; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
<b>Spec</b>	[ITU-T H.812.1]			

	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Pressure adaption level setting Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_012			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Pressure adaption level setting Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Pressure adaption level settingNumeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Pressure adaption level setting Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410848^MDC_SABTE_LVL_ADAPT_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Pressure adaption level setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262688^MDC_DIM_PERCENT^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>			
<b>Pass/Fail criteria</b>	All elements in each segment are as specified			

<b>Notes</b>	
--------------	--

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-014			
<b>TP label</b>	Pressure adaption freeze setting Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 20; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
		EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M
		EnumClassAttr 5; O	EnumClassAttr 6; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Pressure adaption freeze setting Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_013			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a SABTE device with a Pressure adaption freeze setting object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Pressure adaption freeze setting object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:  &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; <p>Where:</p> <input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> </ol></li> </ol>			

	<ul style="list-style-type: none"> <li>❑ refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li>❑ refIdCodeSystem = "MDC" (required).</li> </ul> <p>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where:</p> <ul style="list-style-type: none"> <li>❑ &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li>❑ &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li>❑ &lt;bitPosition&gt; is the normative position of the bit</li> </ul> <p>e. Pressure adaption freeze setting object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>OBX-3 = 8410868^MDC_SABTE_MODE_ADAPT_FREEZE_SET^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for Pressure adaption freeze setting object respectively.</li> <li>❑ OBX-5 = 8410869^MDC_SABTE_MODE_ADAPT_FREEZE_OFF^MDC or</li> <li>❑ 8410870^MDC_SABTE_MODE_ADAPT_FREEZE_ON^MDC</li> </ul> <p>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>i. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-015			
<b>TP label</b>	Autostart/-stop setting Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 21; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
		EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M

		EnumClassAttr 5; O	EnumClassAttr 6; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 3; M	ScannerAttr 4; M	
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the Autostart/-stop setting Object, the Metric and Enumeration attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_014			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a SABTE device with an Autostart/-stop setting object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Autostart/-stop setting object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Autostart/-stop setting object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8410872^MDC_SABTE_MODE_AUTOSTARTSTOP_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Autostart/-stop setting object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of these values: &lt;0 or 1&gt;^sabte-autostart-on(0), &lt;0 or 1&gt;^sabte-autostop-on(1)</li> </ul> </li> <li>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>g. One of the timestamp attributes can be present:</li> </ol> </li> </ol>			



	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-016			
<b>TP label</b>	Device mode setting Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 22; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
		EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M
		EnumClassAttr 5; O	EnumClassAttr 6; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
	ScannerAttr 3; M	ScannerAttr 4; M		
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Device mode setting Object, the Metric and Enumeration attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a SABTE device.			

<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Device mode setting object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;  Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Device mode setting object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8410876^MDC_SABTE_MODE_DEV_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Device mode setting object respectively.</li> <li><input type="checkbox"/> OBX-5 = 8410877^MDC_SABTE_MODE_DEV_UNDETERMINED^MDC or 8410878^MDC_SABTE_MODE_DEV_STANDBY^MDC or 8410879^MDC_SABTE_MODE_DEV_THERAPY^MDC or 8410880^MDC_SABTE_MODE_DEV_MASK_FITTING^MDC or 8410881^MDC_SABTE_MODE_DEV_DRYING^MDC or 8410882^MDC_SABTE_MODE_DEV_EXPORTING^MDC</li> </ul> </li> <li>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>g. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-017
<b>TP label</b>	Therapy mode setting Enumeration Object

<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 23; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
		EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M
		EnumClassAttr 5; O	EnumClassAttr 6; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Therapy mode setting Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a SABTE device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Therapy mode setting object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:  &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;  Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> </ol> </li> </ol>			

	<p>e. Therapy mode setting object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>OBX-3 = 8410888^MDC_SABTE_MODE_THERAPY_SET^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Therapy mode setting object respectively.</li> <li>❑ OBX-5 = 8410889^MDC_SABTE_MODE_THERAPY_UNDETERMINED^MDC or 8410890^MDC_SABTE_MODE_THERAPY_CPAP^MDC or 8410891^MDC_SABTE_MODE_THERAPY_CPAP_AUTO^MDC or 8410892^MDC_SABTE_MODE_THERAPY_BPAP_S^MDC or 8410893^MDC_SABTE_MODE_THERAPY_BPAP_T^MDC or 8410894^MDC_SABTE_MODE_THERAPY_BPAP_ST^MDC or 8410895^MDC_SABTE_MODE_THERAPY_BPAP_S_AUTO^MDC or 8410896^MDC_SABTE_MODE_THERAPY_BPAP_T_AUTO^MDC or 8410897^MDC_SABTE_MODE_THERAPY_BPAP_ST_AUTO^MDC or 8410898^MDC_SABTE_MODE_THERAPY_ACSV^MDC</li> </ul> <p>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>g. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-018			
<b>TP label</b>	Compliance annotations Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 24; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
		EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M
		EnumClassAttr 5; O	EnumClassAttr 6; M	PM-StoreAttr; M

		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 3; M	ScannerAttr 4; M	
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the Compliance annotations Object, the Metric and Enumeration attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_015			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a SABTE device with a Compliance annotations object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Compliance annotations object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Compliance annotations object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8410908^MDC_SABTE_PATT_COMPLIANCE_CLS^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Compliance annotations object respectively.</li> <li><input type="checkbox"/> OBX-5 = One of these values: &lt;0 or 1&gt;^sabte-annotation-session-undetermined-start(0), &lt;0 or 1&gt;^sabte-annotation-session-undetermined-stop(1), &lt;0 or 1&gt;^sabte-annotation-session-therapy-start(2), &lt;0 or 1&gt;^sabte-annotation-session-therapy-stop(3), &lt;0 or 1&gt;^sabte-annotation-session-usage-start(4), &lt;0 or 1&gt;^sabte-annotation-session-usage-stop(5)</li> </ul> </li> </ol> </li> </ol>			

	<p>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>g. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-019		
<b>TP label</b>	Efficacy annotations Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	SABTE 1; M	SABTE 25; M
		MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	DataGuidelines 21; M	DataGuidelines 22; M
<b>Test purpose</b>	Check that: The presence of the attributes of the Efficacy annotations Object, the Metric and Enumeration attributes and their respective values.		
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_016		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		

<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a SABTE device with an Efficacy annotations object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Efficacy annotations object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL) and Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Efficacy annotations object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8410916^MDC_SABTE_PATT_EFFICACY_CLS^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Efficacy annotations object respectively.</li> <li><input type="checkbox"/> OBX-5 = OBX-5 = One of these values:  &lt;0 or 1&gt;^sabte-annotation-epoch-undetermined-start(0),  &lt;0 or 1&gt;^sabte-annotation-epoch-undetermined-stop(1),  &lt;0 or 1&gt;^sabte-annotation-epoch-breathing-artifact-start(2),  &lt;0 or 1&gt;^sabte-annotation-epoch-breathing-artifact-stop(3),  &lt;0 or 1&gt;^sabte-annotation-epoch-breathing-spontaneous-start(4),  &lt;0 or 1&gt;^sabte-annotation-epoch-breathing-spontaneous-stop(5),  &lt;0 or 1&gt;^sabte-annotation-epoch-breathing-timed-start(6),  &lt;0 or 1&gt;^sabte-annotation-epoch-breathing-timed-stop(7),  &lt;0 or 1&gt;^sabte-annotation-epoch-snoring-start(8),  &lt;0 or 1&gt;^sabte-annotation-epoch-snoring-stop(9),  &lt;0 or 1&gt;^sabte-annotation-epoch-csr-start(10),  &lt;0 or 1&gt;^sabte-annotation-epoch-csr-stop(11),  &lt;0 or 1&gt;^sabte-annotation-event-undetermined-start(12),  &lt;0 or 1&gt;^sabte-annotation-event-undetermined-stop(13),  &lt;0 or 1&gt;^sabte-annotation-event-flow-limitation-start(14),  &lt;0 or 1&gt;^sabte-annotation-event-flow-limitation-stop(15),  &lt;0 or 1&gt;^sabte-annotation-event-hypopnoea-unclassified-start(16),  &lt;0 or 1&gt;^sabte-annotation-event-hypopnoea-unclassified-stop(17),  &lt;0 or 1&gt;^sabte-annotation-event-hypopnoea-obstructive-start(18),</li> </ul> </li> </ol> </li> </ol>

	<p>&lt;0 or 1&gt;^sabte-annotation-event-hypopnoea-obstructive-stop(19),          &lt;0 or 1&gt;^sabte-annotation-event-hypopnoea-central-start(20),          &lt;0 or 1&gt;^sabte-annotation-event-hypopnoea-central-stop(21),          &lt;0 or 1&gt;^sabte-annotation-event-apnoea-unclassified-start(22),          &lt;0 or 1&gt;^sabte-annotation-event-apnoea-unclassified-stop(23),          &lt;0 or 1&gt;^sabte-annotation-event-apnoea-obstructive-start(24),          &lt;0 or 1&gt;^sabte-annotation-event-apnoea-obstructive-stop(25),          &lt;0 or 1&gt;^sabte-annotation-event-apnoea-mixed-start(26),          &lt;0 or 1&gt;^sabte-annotation-event-apnoea-mixed-stop(27),          &lt;0 or 1&gt;^sabte-annotation-event-apnoea-central-start(28),          &lt;0 or 1&gt;^sabte-annotation-event-apnoea-central-stop(29)</p> <p>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>g. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation:             <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation.             <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-020			
<b>TP label</b>	Therapy pressure waveform RT-SA Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 26; M	SABTE 27; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	PM-StoreAttr; M	PM-SegmentAttr; M



		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
		ScannerAttr 4; M		
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Therapy pressure waveform Object, the Metric and RT-SA attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_017			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a SABTE device with a Therapy pressure waveform object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Therapy pressure waveform object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Therapy pressure waveform object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NA'</li> <li><input type="checkbox"/> OBX-3 = 8410948^MDC_SABTE_PRESS^MDC or 8410968^MDC_SABTE_PRESS_TARGET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Therapy pressure waveform object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric Array value (i.e. 11^22^33^44^55^66^77^88^99~...)</li> <li><input type="checkbox"/> OBX-6 = 265986^MDC_DIM_HECTO_PASCAL^MDC</li> </ul> </li> <li>e. Sample-Period attribute of Therapy pressure waveform object shall be sent and shall follow this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 67981^MDC_ATTR_TIME_PD_SAMP^MDC</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> <li><input type="checkbox"/> OBX-6 = 264320^MDC_DIM_SEC^MDC or 264339^MDC_DIM_MICRO_SEC^MDC</li> </ul> </li> <li>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>g. One of the timestamp attributes can be present:</li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-021			
<b>TP label</b>	Therapy pressure Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 28; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Therapy pressure Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_018			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Therapy pressure Numeric Object			

<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Therapy pressure Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;  Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Therapy pressure Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410949^MDC_SABTE_PRESS_MIN^MDC or 8410950^MDC_SABTE_PRESS_MAX^MDC or 8410951^MDC_SABTE_PRESS_MEAN^MDC or 8410955^MDC_SABTE_PRESS_P50^MDC or 8410957^MDC_SABTE_PRESS_P90^MDC or 8410958^MDC_SABTE_PRESS_P95^MDC or 8410959^MDC_SABTE_PRESS_INSTANT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Therapy pressure Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 265986^MDC_DIM_HECTO_PASCAL^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-022
<b>TP label</b>	Continuous positive airway pressure (P CPAP) setting Numeric Object
<b>Coverage</b>	<b>Spec</b> [ITU-T H.812.1]

<b>Testable items</b>	SABTE 1; M	SABTE 29; M	MetricClassAttr 1; M
	MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
	MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
	MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
	MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
	MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
	MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
	NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
	NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
	PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]	
<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Continuous positive airway pressure (P CPAP) setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_019		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Continuous positive airway pressure (P CPAP) setting Numeric Object		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Continuous positive airway pressure (P CPAP) setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Continuous positive airway pressure (P CPAP) setting Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410972^MDC_SABTE_PRESS_CPAP_SET^MDC</li> </ul> </li> </ol> </li> </ol>		

	<ul style="list-style-type: none"> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Continuous positive airway pressure (P CPAP) setting Numeric object respectively.</li> <li>❑ OBX-5 = Numeric value</li> <li>❑ OBX-6 = 265986^MDC_DIM_HECTO_PASCAL^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-023			
<b>TP label</b>	Minimal automatic positive airway pressure (Pmin APAP) setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 30; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that:			

	The presence of the attributes of the Minimal automatic positive airway pressure (Pmin APAP) setting Numeric Object, the Metric and Numeric attributes and their respective values.
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_020
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Minimal automatic positive airway pressure (Pmin APAP) setting Numeric Object
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Minimal automatic positive airway pressure (Pmin APAP) setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Minimal automatic positive airway pressure (Pmin APAP) setting Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410976^MDC_SABTE_PRESS_CPAP_AUTO_MIN_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Minimal automatic positive airway pressure (Pmin APAP) setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 265986^MDC_DIM_HECTO_PASCAL^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-024			
<b>TP label</b>	Maximal automatic positive airway pressure (Pmax APAP) setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 31; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Maximal automatic positive airway pressure (Pmax APAP) setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_021			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Maximal automatic positive airway pressure (Pmax APAP) setting Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Maximal automatic positive airway pressure (Pmax APAP) setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>Where:</p> <ul style="list-style-type: none"> <li>❑ refldValue: is a 32 bit integer (required)</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> <p>d. Maximal automatic positive airway pressure (Pmax APAP) setting Numeric object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410980^MDC_SABTE_PRESS_CPAP_AUTO_MAX_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Maximal automatic positive airway pressure (Pmax APAP) setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 265986^MDC_DIM_HECTO_PASCAL^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-025			
<b>TP label</b>	Inspiratory positive airway pressure (P IPAP) setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 32; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M		



		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Inspiratory positive airway pressure (P IPAP) setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_022			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Inspiratory positive airway pressure (P IPAP) setting Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Inspiratory positive airway pressure (P IPAP) setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Inspiratory positive airway pressure (P IPAP) setting Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410984^MDC_SABTE_PRESS_IPAP_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Inspiratory positive airway pressure (P IPAP) setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 265986^MDC_DIM_HECTO_PASCAL^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation.</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-026			
<b>TP label</b>	Expiratory positive airway pressure (P EPAP) setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 33; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Expiratory positive airway pressure (P EPAP) setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_023			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with an Expiratory positive airway pressure (P EPAP) setting Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Expiratory positive airway pressure (P EPAP) setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> </ol> </li> </ol>			

	<p>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Expiratory positive airway pressure (P EPAP) setting Numeric object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8410988^MDC_SABTE_PRESS_EPAP_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Expiratory positive airway pressure (P EPAP) setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 265986^MDC_DIM_HECTO_PASCAL^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-027			
<b>TP label</b>	Ramp start pressure setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 34; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M

		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Ramp start pressure setting Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_024			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Ramp start pressure setting Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Ramp start pressure setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Ramp start pressure setting Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8411004^MDC_SABTE_PRESS_RAMP_START_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Ramp start pressure setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 265986^MDC_DIM_HECTO_PASCAL^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-028			
<b>TP label</b>	Respiratory rate Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 35; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Respiratory rate Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_025			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Respiratory rate Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Respiratory rate Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute</li> </ol> </li> </ol>			

	<p>(MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</p> <p>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. Respiratory rate Numeric object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8411009^MDC_SABTE_RESP_RATE_MIN^MDC or 8411010^MDC_SABTE_RESP_RATE_MAX^MDC or 8411011^MDC_SABTE_RESP_RATE_MEAN^MDC or 8411015^MDC_SABTE_RESP_RATE_P50^MDC or 8411017^MDC_SABTE_RESP_RATE_P90^MDC or 8411018^MDC_SABTE_RESP_RATE_P95^MDC or 8411019^MDC_SABTE_RESP_RATE_INSTANT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Respiratory rate Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264928^MDC_DIM_RESP_PER_MIN^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-029			
<b>TP label</b>	Respiratory rate setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 36; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O

		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Respiratory rate setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_026			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Respiratory rate setting Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Respiratory rate setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Respiratory rate setting Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8411044^MDC_SABTE_RESP_RATE_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Respiratory rate setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264928^MDC_DIM_RESP_PER_MIN^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present:</li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-030			
<b>TP label</b>	I:E ratio Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 37; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the I:E ratio Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_027			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a I:E ratio Numeric Object			



<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The I:E ratio Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. I:E ratio Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8411049^MDC_SABTE_RATIO_IE_MIN^MDC or 8411050^MDC_SABTE_RATIO_IE_MAX^MDC or 8411051^MDC_SABTE_RATIO_IE_MEAN^MDC or 8411055^MDC_SABTE_RATIO_IE_P50^MDC or 8411057^MDC_SABTE_RATIO_IE_P90^MDC or 8411058^MDC_SABTE_RATIO_IE_P95^MDC or 8411059^MDC_SABTE_RATIO_IE_INSTANT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the I:E ratio Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 262688^MDC_DIM_PERCENT^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-031		
<b>TP label</b>	I:E ratio setting Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable</b>	SABTE 1; M	SABTE 38; M

<b>items</b>	MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
	MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
	MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
	MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
	MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
	MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
	NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
	NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
	PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
<b>Spec</b>	[ITU-T H.812.1]		
<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the I:E ratio setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_028		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a I:E ratio setting Numeric Object		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The I:E ratio setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. I:E ratio setting Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8411084^MDC_SABTE_RATIO_IE_SET^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the I:E ratio setting Numeric object respectively.</li> </ul> </li> </ol> </li> </ol>		

	<ul style="list-style-type: none"> <li>❑ OBX-5 = Numeric value</li> <li>❑ OBX-6 = 262688^MDC_DIM_PERCENT^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-032			
<b>TP label</b>	Leakage waveform RT-SA Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 39; M	SABTE 40; M
		MetricClassAttr 1; M	MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 4; M	MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 10; O	MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 16; C	MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 1; M	NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 4; M	NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 7; O	PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 1; M	ScannerAttr 2; M	ScannerAttr 3; M
	ScannerAttr 4; M			
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Leakage waveform Object, the Metric and RT-SA attributes and their respective values.</p>			

<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_029
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a SABTE device with a Leakage waveform object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Leakage waveform object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Leakage waveform object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NA'</li> <li><input type="checkbox"/> OBX-3 = 8411088^MDC_SABTE_VOL_LEAK^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Leakage waveform object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric Array value (i.e. 11^22^33^44^55^66^77^88^99~...)</li> <li><input type="checkbox"/> OBX-6 = 264992^MDC_DIM_L_PER_MIN^MDC</li> </ul> </li> <li>e. Sample-Period attribute of Leakage waveform object shall be sent and shall follow this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 67981^MDC_ATTR_TIME_PD_SAMP^MDC</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> <li><input type="checkbox"/> OBX-6 = 264320^MDC_DIM_SEC^MDC or 264339^MDC_DIM_MICRO_SEC^MDC</li> </ul> </li> <li>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>g. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified

<b>Notes</b>	
--------------	--

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-033			
<b>TP label</b>	Leakage Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 41; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Leakage object Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_030			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Leakage Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Leakage Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:  &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</li> </ol> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> </ul> </li> </ol>			

	<ul style="list-style-type: none"> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> <p>d. Leakage Numeric object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8411089^MDC_SABTE_VOL_LEAK_MIN^MDC or 8411090^MDC_SABTE_VOL_LEAK_MAX^MDC or 8411091^MDC_SABTE_VOL_LEAK_MEAN^MDC or 8411095^MDC_SABTE_VOL_LEAK_P50^MDC or 8411097^MDC_SABTE_VOL_LEAK_P90^MDC or 8411098^MDC_SABTE_VOL_LEAK_P95^MDC or 8411099^MDC_SABTE_VOL_LEAK_INSTANT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Leakage Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264992^MDC_DIM_L_PER_MIN^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-034			
<b>TP label</b>	Respiratory minute volume Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 42; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M

		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Respiratory minute volume Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_031			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Respiratory minute volume Numeric Object			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Respiratory minute volume Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Respiratory minute volume Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8411129^MDC_SABTE_VOL_MINUTE_MIN^MDC or 8411130^MDC_SABTE_VOL_MINUTE_MAX^MDC or 8411131^MDC_SABTE_VOL_MINUTE_MEAN^MDC or 8411135^MDC_SABTE_VOL_MINUTE_P50^MDC or 8411137^MDC_SABTE_VOL_MINUTE_P90^MDC or 8411138^MDC_SABTE_VOL_MINUTE_P95^MDC or 8411139^MDC_SABTE_VOL_MINUTE_INSTANT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Respiratory minute volume Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264992^MDC_DIM_L_PER_MIN^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/SABTE/BV-035			
<b>TP label</b>	Tidal volume Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	SABTE 1; M	SABTE 43; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M	
<b>Spec</b>	[ITU-T H.812.1]			
<b>Testable items</b>	DataGuidelines 22; M			
<b>Test purpose</b>	Check that: The presence of the attributes of the Tidal volume Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_SABTE_001 AND C_SEN_SABTE_032			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an SABTE device with a Tidal volume Numeric Object			
<b>Test procedure</b>	1. Make the HFS sender under test send a HL7 message containing an Observation of a SABTE device.			



	<p>2. Check in the captured message that:</p> <ul style="list-style-type: none"> <li>a. The Tidal volume Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <ul style="list-style-type: none"> <li>d. Tidal volume Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8411169^MDC_SABTE_VOL_TIDAL_MIN^MDC or 8411170^MDC_SABTE_VOL_TIDAL_MAX^MDC or 8411171^MDC_SABTE_VOL_TIDAL_MEAN^MDC or 8411175^MDC_SABTE_VOL_TIDAL_P50^MDC or 8411177^MDC_SABTE_VOL_TIDAL_P90^MDC or 8411178^MDC_SABTE_VOL_TIDAL_P95^MDC or</li> <li><input type="checkbox"/> 8411179^MDC_SABTE_VOL_TIDAL_INSTANT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Tidal volume Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264992^MDC_DIM_L_PER_MIN^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified
<b>Notes</b>	

## A.18 Subgroup 1.4.17: Insulin pump

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/IP/BV-000
<b>TP label</b>	MDS Object

<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M
		MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
		MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
		MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
		MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
		MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
		MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
		MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
		MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
		MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
		MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
		MDSObject 31; M	MDSObject 32; M	MDSObject 33; M
		IP 2; M	Timestamp 13; O	Timestamp 14; O
		Timestamp 15; O	Timestamp 17; M	
	<b>Spec</b>	[IHE PCD TF 2]		
	<b>Testable items</b>	DeviceTimeSync1; M		
	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_IP_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an Insulin Pump device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send an HL7 message containing an Observation of an Insulin Pump device.</li> <li>2. Check in the captured message that:</li> </ol>			

- a. Handle attribute (MDC\_ATTR\_ID\_HANDLE), Dev-Config-Id attribute (MDC\_ATTR\_DEV\_CONFIG\_ID) and Attribute-Value-Map (MDC\_ATTR\_ATTRIBUTE\_VALUE\_MAP) are not present
- b. Each MDC code using CWE data type is encoded as:  
 <refIdValue>^<refIdName>^<refIdCodeSystem>
- Where:
- refIdValue: is a 32 bit integer (required)
  - refIdName: the normative nomenclature name for the unique code point (recommended)
  - refIdCodeSystem = "MDC" (required).
- c. A bit flag value is encoded as <bitValue>^<bitName>(<bitPosition>), where:
- <bitValue> = <0 or 1>
  - <bitName> is recommended to be the ASN.1 name for the bit
  - <bitPosition> is the normative position of the bit
- d. In MDS-level OBX:
- OBX-2 is empty
  - If System-Type attribute is valued, OBX-3 = 528403^MDC\_DEV\_SPEC\_PROFILE\_INSULIN\_PUMP^MDC
  - If System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3
  - If System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC\_DEV\_SPEC\_PROFILE\_HYDRA^MDC and the specialization list is reported as an attribute of the device.
  - If Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD
  - OBX-11 = 'X'
  - OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_IP\_001.
- e. System model attribute is sent in two different OBX segments:
- System-Model attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
    - OBX-5 = String representing the model number portion of MDC\_ATTR\_ID\_MODEL attribute
  - System-Manufacturer attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
    - OBX-5 = String representing the model manufacturer portion of MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
- Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype

- ❑ Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification serial entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC
  - OBX-5 = String representing the value portion of the Production-Specification part entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.
- g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent as a timestamp, its respective resolution may be sent, but not other than this.)
- Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC
    - OBX-5 = One or more of these values:
      - <0 or 1>^mds-time-capab-real-time-clock(0),
      - <0 or 1>^mds-time-capab-set-clock(1),
      - <0 or 1>^mds-time-capab-relative-time(2),
      - <0 or 1>^mds-time-capab-high-res-relative-time(3),
      - <0 or 1>^mds-time-capab-sync-abs-time(4),
      - <0 or 1>^mds-time-capab-sync-rel-time(5),
      - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
      - <0 or 1>^mds-time-capab-bo-time (7),
      - <0 or 1>^mds-time-state-abs-time-synced(8),
      - <0 or 1>^mds-time-state-rel-time-synced(9),
      - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
      - <0 or 1>^mds-time-mgr-set-time(11),
      - <0 or 1>^mds-time-capab-sync-bo-time(12),
      - <0 or 1>^mds-time-state-bo-time-synced(13),
      - <0 or 1>^mds-time-state-bo-time-UTC-aligned(14),
      - <0 or 1>^mds-time-dst-rules-enabled(15)
  - Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
    - OBX-5 = One of these values:
      - 532224^MDC\_TIME\_SYNC\_NONE^MDC
      - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
      - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
      - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
      - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC

532229^MDC\_TIME\_SYNC\_BT1^MDC  
532230^MDC\_TIME\_SYNC\_RADIO^MDC  
532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC  
532232^MDC\_TIME\_SYNC\_CDMA^MDC  
532233^MDC\_TIME\_SYNC\_GSM^MDC  
532234^MDC\_TIME\_SYNC\_EBWW^MDC  
532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC

- ❑ Date and Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'DTM'
    - OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
    - OBX-5 = DTM data type value
    - OBX-14 = UTC value
  - ❑ Base-Offset-Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'DTM'
    - OBX-3 = 68225^MDC\_ATTR\_TIME\_BO^MDC
    - OBX-4 = m.0.0.x, where 'x' is any integer value
    - OBX-5 = DTM data type value
  - ❑ Relative-Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
    - OBX-4 = m.0.0.x, where 'x' is any integer value
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
    - OBX-18 = A unique identifier for the given timebase
  - ❑ HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
    - OBX-4 = m.0.0.x, where 'x' is any integer value
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
    - OBX-18 = A unique identifier for the given timebase
  - ❑ Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'NM'
    - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
    - OBX-5 = NM data type value
    - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- or
- OBX-2 = 'NM'
  - OBX-3 = 68226^MDC\_TIME\_RES\_BO^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC

Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'NM'
- OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
- OBX-5 = NM data type value
- OBX-6 = 264320^MDC\_DIM\_SEC^MDC

If valued, Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'NM'
- OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
- OBX-5 = NM data type value
- OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC

h. Date-and-Time-Adjustment attribute is not present

i. If Power-Status attribute is valued, it is sent as an independent OBX segment:

- OBX-2 = 'ST'
- OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
- OBX-5 = One or more of these values:
  - <0 or 1>^onMains(0),
  - <0 or 1>^onBattery(1),
  - <0 or 1>^chargingFull(8),
  - <0 or 1>^chargingTrickle(9),
  - <0 or 1>^chargingOff(10)

j. If Battery-Level attribute is valued, it is sent as an independent OBX segment:

- OBX-2 = 'NM'
- OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
- OBX-5 = NM data type value
- OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC

k. If Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:

- OBX-2 = 'NM'
- OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
- OBX-5 = Use the value contained in the BatMeasure object
- OBX-6 = Use the OID contained in the BatMeasure object

l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different Facet-level entries and the following mandatory fields:

- OBX-2 = 'CWE'
- OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
- OBX-5 = One of these values:
  - 0^auth-body-empty,
  - 1^auth-body-ieee-11073,
  - 2^auth-body-continua,
  - 254^auth-body-experimental,
  - 255^auth-body-reserved

	<p>m. Observations from Continua-compliant source devices are sent using three attributes as Facet-level entries of the Regulation-Certification-Auth-Body OBX segments:</p> <ul style="list-style-type: none"> <li>❑ Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'ST'</li> <li>• OBX-3 = 532352^MDC_REG_CERT_DATA_CONTINUA_VERSION^MDC</li> <li>• OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the Facet level of that segment.</li> <li>• OBX-5 = &lt;major-IG-version&gt;.&lt;minor-IG-version&gt;.</li> </ul> </li> <li>❑ Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'NA'</li> <li>• OBX-3 = 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC</li> <li>• OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a Facet entry, and 'b' is a number indicating the Facet level of that segment.</li> <li>• OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 16403 (IP Wireless PAN), 8211 (IP Wired PAN), 24595 (IP Sensor LAN) or 40979 (IP TAN).</li> </ul> </li> <li>❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding: <ul style="list-style-type: none"> <li>• OBX-2 = 'CWE'</li> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a Facet entry, and 'a' is a number indicating the Facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> </li> </ul> <p>n. If System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li>❑ OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/IP/BV-001		
<b>TP label</b>	Bolus Delivered Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable</b>	IP 1; M	IP 3; M
		MetricClassAttr 1; M	



	<b>items</b>	MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
		DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Bolus Delivered Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_IP_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an Insulin Pump device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test to send a HL7 message containing an Observation of an Insulin Pump device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Bolus Delivered Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Bolus Delivered Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418344^MDC_INS_BOLUS^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Bolus Delivered Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 267616^MDC_DIM_X_INTL_UNIT^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> </ol> </li> </ol>			

	<p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/IP/BV-002			
<b>TP label</b>	Current Basal Rate Setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	IP 1; M	IP 4; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
DataGuidelines 22; M				
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Current Basal Rate Setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_IP_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an Insulin Pump device.			
<b>Test procedure</b>	1. Make the HFS sender under test send a HL7 message containing an Observation of an Insulin Pump device.			

	<p>2. Check in the captured message that:</p> <ol style="list-style-type: none"> <li>a. The Current Basal Rate Setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</li> </ol> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <ol style="list-style-type: none"> <li>d. Current Basal Rate Setting Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418300^MDC_INS_BASAL_RATE_SETTING^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Current Basal Rate Setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 267840^MDC_DIM_X_INTL_UNIT_PER_HR^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/IP/BV-003			
<b>TP label</b>	PHD DM Status Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	IP 1; M	IP 5; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O

	MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
	MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
	MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
	EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M
	EnumClassAttr 5; O	EnumClassAttr 6; M	PM-StoreAttr; M
	PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
	ScannerAttr 3; M	ScannerAttr 4; M	
	DataGuidelines 21; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the PHD DM Status Object, the Metric and Enumeration attributes and their respective values.		
<b>Applicability</b>	C_SEN_000 AND C_SEN_IP_001 AND C_SEN_IP_002		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an Insulin Pump device with a PHD DM Status object.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an Insulin Pump device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The PHD DM Status object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) attribute are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. PHD DM Status object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8408608^MDC_PHD_DM_DEV_STAT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Device and PHD DM Status object respectively.</li> <li><input type="checkbox"/> OBX-5 = Any of these values: &lt;0 or 1&gt;^device-status-undetermined(0),</li> </ul> </li> </ol> </li> </ol>		

	<p>&lt;0 or 1&gt;^device-status-reset(1),          &lt;0 or 1&gt;^device-status-error(5),          &lt;0 or 1&gt;^device-status-error-mechanical(6),          &lt;0 or 1&gt;^device-status-error-electronic(7),          &lt;0 or 1&gt;^device-status-error-software(8),          &lt;0 or 1&gt;^device-status-error-battery(9),          &lt;0 or 1&gt;^device-status-service(15),          &lt;0 or 1&gt;^device-status-service-time-sync-required(16),          &lt;0 or 1&gt;^device-status-service-calibration-required(17),          &lt;0 or 1&gt;^device-status-service-replenishment-required(18),          &lt;0 or 1&gt;^device-status-battery-low(25),          &lt;0 or 1&gt;^device-status-battery-depleted(26),          &lt;0 or 1&gt;^device-status-battery-replaced(27),          &lt;0 or 1&gt;^device-status-battery-interrupted(28)</p> <p>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>j. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation:             <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation.             <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/IP/BV-004			
<b>TP label</b>	Insulin Pump Status Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	IP 1; M	IP 6; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
		EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M

		EnumClassAttr 5; O	EnumClassAttr 6; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 3; M	ScannerAttr 4; M	DataGuidelines 21; M
		DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Insulin Pump Status Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_IP_001 AND C_SEN_IP_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an Insulin Pump device with a Insulin Pump Status object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an Insulin Pump device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Insulin Pump Status object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) attribute are not present</li> <li>c. Each MDC code using CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Insulin Pump Status object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li><input type="checkbox"/> OBX-3 = 8418444^MDC_INS_PUMP_DEV_STAT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for Device and the Insulin Pump Status object respectively.</li> <li><input type="checkbox"/> OBX-5 = Any of these values: <pre>&lt;0 or 1&gt;^air-pressure-out-of-range(0), &lt;0 or 1&gt;^bolus-canceled(1), &lt;0 or 1&gt;^delivery-max(2), &lt;0 or 1&gt;^infusion-set-detached(3), &lt;0 or 1&gt;^infusion-set-incomplete(4), &lt;0 or 1&gt;^occlusion-detected(5), &lt;0 or 1&gt;^power-insufficient(6),</pre> </li> </ul> </li> </ol> </li> </ol>			

	<p>&lt;0 or 1&gt;^priming-issue(7),          &lt;0 or 1&gt;^reservoir-empty(8),          &lt;0 or 1&gt;^reservoir-issue(9),          &lt;0 or 1&gt;^reservoir-low(10),          &lt;0 or 1&gt;^reservoir-attached(11),          &lt;0 or 1&gt;^temp-basal-canceled(12),          &lt;0 or 1&gt;^temp-basal-expired(13),          &lt;0 or 1&gt;^temperature-out-of-range(14)</p> <p>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>g. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation:             <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation.             <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/IP/BV-005			
<b>TP label</b>	Operational and Therapy Conditions Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	IP 1; M	IP 7; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
		EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M
		EnumClassAttr 5; O	EnumClassAttr 6; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 3; M	ScannerAttr 4; M	DataGuidelines 21; M
DataGuidelines 22; M				

<b>Test purpose</b>	Check that: The presence of the attributes of the Operational and Therapy Conditions Object, the Metric and Enumeration attributes and their respective values.
<b>Applicability</b>	C_SEN_000 AND C_SEN_IP_001 AND C_SEN_IP_004
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an Insulin Pump device with an Operational and Therapy Conditions object.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an Insulin Pump device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Operational and Therapy Conditions object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) attribute are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where: <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> </li> <li>e. Operational and Therapy Conditions object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8418412^MDC_INS_PUMP_OP_STAT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Device and the Operational and Therapy Conditions object respectively.</li> <li><input type="checkbox"/> OBX-5 = Any of these values: &lt;0 or 1&gt;^insulin-device-op-undetermined(0), &lt;0 or 1&gt;^insulin-device-op-off(1), &lt;0 or 1&gt;^insulin-device-op-standby(2), &lt;0 or 1&gt;^insulin-device-op-preparing(3), &lt;0 or 1&gt;^insulin-device-op-priming(4), &lt;0 or 1&gt;^insulin-device-op-waiting(5), &lt;0 or 1&gt;^insulin-device-op-ready(6), &lt;0 or 1&gt;^insulin-device-therapy-undetermined(7), &lt;0 or 1&gt;^insulin-device-therapy-stop(8), &lt;0 or 1&gt;^insulin-device-therapy-pause(9), &lt;0 or 1&gt;^insulin-device-therapy-run(10)</li> </ul> </li> <li>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> </ol> </li> </ol>



	<p>g. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/IP/BV-006			
<b>TP label</b>	Current Bolus Setting Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	IP 1; M	IP 8; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
DataGuidelines 22; M				
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Current Bolus Setting Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_IP_001 AND C_SEN_IP_005			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an Insulin Pump device.			
<b>Test procedure</b>	1. Make the HFS sender under test send a HL7 message containing an Observation of an Insulin Pump device.			

	<p>2. Check in the captured message that:</p> <ol style="list-style-type: none"> <li>a. The Current Bolus Setting Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</li> </ol> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <ol style="list-style-type: none"> <li>d. Current Bolus Setting Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418332^MDC_INS_BOLUS_SETTING^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Current Bolus Setting Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 267616^MDC_DIM_X_INTL_UNIT^MDC or 267840^MDC_DIM_X_INTL_UNIT_PER_HR^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/IP/BV-007			
<b>TP label</b>	Pending Bolus Delay Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	IP 1; M	IP 9; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O

		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
		DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Pending Bolus Delay Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_IP_001 AND C_SEN_IP_006			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an Insulin Pump device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an Insulin Pump device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Pending Bolus Delay Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Pending Bolus Delay Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418355^MDC_INS_BOLUS_PENDING_DELAY^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Pending Bolus Delay Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264352^MDC_DIM_MIN^MDC or 264320^MDC_DIM_SEC^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/IP/BV-008		
<b>TP label</b>	Basal Delivered Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	IP 1; M	IP 10; M
		MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 5; M	NumericClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 2; M	ScannerAttr 3; M
		DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the Basal Delivered Numeric Object, the Metric and Numeric attributes and their respective values.		
<b>Applicability</b>	C_SEN_000 AND C_SEN_IP_001 AND C_SEN_IP_007		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an Insulin Pump device.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an Insulin Pump device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Basal Delivered Numeric object has sent at least one observation.</li> </ol> </li> </ol>		

	<p>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</p> <p>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</p> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> <p>d. Basal Delivered Numeric object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418288^MDC_INS_BASAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Basal Delivered Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 267616^MDC_DIM_X_INTL_UNIT^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/IP/BV-009			
<b>TP label</b>	Insulin Reservoir Remaining Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	IP 1; M	IP 11; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C

		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
		DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the Insulin Reservoir Remaining Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_IP_001 AND C_SEN_IP_008			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an Insulin Pump device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an Insulin Pump device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Insulin Reservoir Remaining Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Insulin Reservoir Remaining Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418388^MDC_INS_RESERVOIR^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Insulin Reservoir Remaining Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 267616^MDC_DIM_X_INTL_UNIT^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/IP/BV-010		
<b>TP label</b>	Insulin Concentration Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	IP 1; M	IP 12; M
		MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 1; M	NumericClassAttr 2; M
	NumericClassAttr 3; M	NumericClassAttr 4; M	
	NumericClassAttr 5; M	NumericClassAttr 6; M	
	NumericClassAttr 7; O	PM-StoreAttr; M	
	PM-SegmentAttr; M	ScannerAttr 1; M	
	ScannerAttr 2; M	ScannerAttr 3; M	
	ScannerAttr 4; M	DataGuidelines 22; M	
<b>Test purpose</b>	Check that: The presence of the attributes of the Insulin Concentration Numeric Object, the Metric and Numeric attributes and their respective values.		
<b>Applicability</b>	C_SEN_000 AND C_SEN_IP_001 AND C_SEN_IP_009		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of an Insulin Pump device.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of an Insulin Pump device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Insulin Concentration Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:  &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</li> </ol> </li> </ol>		

	<p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> <p>d. Insulin Concentration Numeric object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418390^MDC_INS_CONC^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Insulin Concentration Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 267712^MDC_DIM_X_INTL_UNIT_PER_L^MDC or 267744^MDC_DIM_X_INTL_UNIT_PER_ML^MDC or 267680^MDC_DIM_X_INTL_UNIT_PER_M_CUBE^MDC or 267648^MDC_DIM_X_INTL_UNIT_PER_CM_CUBE^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

### A.19 Subgroup 1.4.18: Continuous glucose monitor (CGM)

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CGM/BV-000			
<b>TP label</b>	MDS Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	MDSClassAttr 1; M	MDSClassAttr 2; C	MDSClassAttr 3; M
		MDSClassAttr 4; M	MDSClassAttr 5; M	MDSClassAttr 6; M
		MDSClassAttr 7; O	MDSClassAttr 8; M	MDSClassAttr 9; C
		MDSClassAttr 10; C	MDSClassAttr 11; C	MDSClassAttr 12; M
		MDSClassAttr 13; M	MDSClassAttr 14; M	MDSClassAttr 15; M
		MDSClassAttr 16; M	MDSClassAttr 17; C	MDSClassAttr 18; M



	MDSObject 1; M	MDSObject 2; M	MDSObject 3; M
	MDSObject 4; M	MDSObject 5; M	MDSObject 6; M
	MDSObject 7; M	MDSObject 8; M	MDSObject 9; M
	MDSObject 10; M	MDSObject 11; M	MDSObject 12; M
	MDSObject 13; O	MDSObject 14; O	MDSObject 15; O
	MDSObject 16; M	MDSObject 17; M	MDSObject 18; M
	MDSObject 19; M	MDSObject 20; M	MDSObject 21; M
	MDSObject 22; M	MDSObject 23; M	MDSObject 24; M
	MDSObject 25; M	MDSObject 26; M	MDSObject 27; M
	MDSObject 28; M	MDSObject 29; M	MDSObject 30; M
	MDSObject 31; M	MDSObject 32; M	MDSObject 33; M
	CGM 2; M	Timestamp 13; O	Timestamp 14; O
	Timestamp 15; O	Timestamp 17; M	
<b>Spec</b>	[IHE PCD TF 2]		
<b>Testable items</b>	DeviceTimeSync1; M		
<b>Spec</b>	[ITU-T H.812.1]		
<b>Testable items</b>	DataGuidelines 9; M	DataGuidelines 21; M	DataGuidelines 22; M
<b>Test purpose</b>	Check that: The presence of the attributes of the MDS Object and their respective values.		
<b>Applicability</b>	C_SEN_000 AND C_SEN_CGM_001		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a Continuous Glucose Monitor device.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Continuous Glucose Monitor device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. Handle attribute (MDC_ATTR_ID_HANDLE), Dev-Config-Id attribute (MDC_ATTR_DEV_CONFIG_ID) and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) attribute are not present</li> <li>b. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li>❑ refIdValue: is a 32 bit integer (required)</li> <li>❑ refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li>❑ refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>c. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where:</li> </ol> </li> </ol>		

- ❑ <bitValue> = <0 or 1>
  - ❑ <bitName> is recommended to be the ASN.1 name for the bit
  - ❑ <bitPosition> is the normative position of the bit
- d. In MDS-level OBX:
- ❑ OBX-2 is empty
  - ❑ If System-Type attribute is valued, OBX-3 = 528410^MDC\_DEV\_SPEC\_PROFILE\_CGM^MDC
  - ❑ If System-Type-Spec-List attribute contains a single value and System-Type is not valued, this value is reported as the OBX-3
  - ❑ If System-Type-Spec-List contains multiple values and System-Type is not valued, OBX-3 = 528384^MDC\_DEV\_SPEC\_PROFILE\_HYDRA^MDC and the specialization list is reported as an attribute of the device.
  - ❑ If Date-and-Time attribute is valued, OBX-14 is valued with the UTC coordinated time of the AHD
  - ❑ OBX-11 = 'X'
  - ❑ OBX-18 (System Id attribute) = <Entity Identifier (ST)>^^<System\_Id>^EUI-64, where the System\_Id is 16 characters given by the PIXIT I\_SEN\_CGM\_001.
- e. System model attribute is sent in two different OBX segments:
- ❑ System-Model attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531969^MDC\_ID\_MODEL\_NUMBER^MDC
    - OBX-5 = String representing the model number portion of MDC\_ATTR\_ID\_MODEL attribute
  - ❑ System-Manufacturer attribute:
    - OBX-2 = 'ST'
    - OBX-3 = 531970^MDC\_ID\_MODEL\_MANUFACTURER^MDC
    - OBX-5 = String representing the model manufacturer portion of MDC\_ATTR\_ID\_MODEL attribute.
- f. Production-Specification attribute is sent as a series of attributes:
- ❑ Production-Specification-Unspecified attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531971^MDC\_ID\_PROD\_SPEC\_UNSPECIFIED^MDC
    - OBX-5 = String representing the value portion of the Production-Specification entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Serial attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531972^MDC\_ID\_PROD\_SPEC\_SERIAL^MDC
    - OBX-5 = String representing the value portion of the Production-Specification serial entry
    - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
  - ❑ Production-Specification-Part attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'ST'
    - OBX-3 = 531973^MDC\_ID\_PROD\_SPEC\_PART^MDC

- OBX-5 = String representing the value portion of the Production-Specification part entry
- OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Hardware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531974^MDC\_ID\_PROD\_SPEC\_HW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification hardware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Software attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531975^MDC\_ID\_PROD\_SPEC\_SW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification software entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Firmware attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531976^MDC\_ID\_PROD\_SPEC\_FW^MDC
  - OBX-5 = String representing the value portion of the Production-Specification firmware entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-Protocol attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531977^MDC\_ID\_PROD\_SPEC\_PROTOCOL^MDC
  - OBX-5 = String representing the value portion of the Production-Specification protocol entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype
- ❑ Production-Specification-GMDN group attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 531978^MDC\_ID\_PROD\_SPEC\_GMDN^MDC
  - OBX-5 = String representing the value portion of the Production-Specification GMDN entry
  - OBX-18 = The component portion of the Production-Specification entry encoded as an EI datatype.
- g. Mds-Time-Info attribute is sent as a series of attributes, as follows. (When it is sent a Timestamp, its respective resolution may be sent, but not other than this.)
  - ❑ Mds-Time-Cap-State attribute, if valued, is sent as an independent OBX segment:
    - OBX-2 = 'CWE'
    - OBX-3 = 68219^MDC\_TIME\_CAP\_STATE^MDC

- OBX-5 = One or more of these values:
  - <0 or 1>^mds-time-capab-real-time-clock(0),
  - <0 or 1>^mds-time-capab-set-clock(1),
  - <0 or 1>^mds-time-capab-relative-time(2),
  - <0 or 1>^mds-time-capab-high-res-relative-time(3),
  - <0 or 1>^mds-time-capab-sync-abs-time(4),
  - <0 or 1>^mds-time-capab-sync-rel-time(5),
  - <0 or 1>^mds-time-capab-sync-hi-res-relative-time(6),
  - <0 or 1>^mds-time-capab-bo-time (7),
  - <0 or 1>^mds-time-state-abs-time-synced(8),
  - <0 or 1>^mds-time-state-rel-time-synced(9),
  - <0 or 1>^mds-time-state-hi-res-relative-time-synced(10),
  - <0 or 1>^mds-time-mgr-set-time(11),
  - <0 or 1>^mds-time-capab-sync-bo-time(12),
  - <0 or 1>^mds-time-state-bo-time-synced(13),
  - <0 or 1>^mds-time-state-bo-time-UTC-aligned(14),
  - <0 or 1>^mds-time-dst-rules-enabled(15)

□ Time-Sync-Accuracy attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'NM'
- OBX-3 = 68221^MDC\_TIME\_SYNC\_ACCURACY^MDC
- OBX-5 = NM data type value
- OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC

□ Time-Sync-Protocol attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'CWE'
- OBX-3 = 68220^MDC\_TIME\_SYNC\_PROTOCOL^MDC
- OBX-5 = One of these values:
  - 532224^MDC\_TIME\_SYNC\_NONE^MDC
  - 532225^MDC\_TIME\_SYNC\_NTPV3^MDC
  - 532226^MDC\_TIME\_SYNC\_NTPV4^MDC
  - 532227^MDC\_TIME\_SYNC\_SNTPV4^MDC
  - 532228^MDC\_TIME\_SYNC\_SNTPV4330^MDC
  - 532229^MDC\_TIME\_SYNC\_BTV1^MDC
  - 532230^MDC\_TIME\_SYNC\_RADIO^MDC
  - 532231^MDC\_TIME\_SYNC\_HL7\_NCK^MDC
  - 532232^MDC\_TIME\_SYNC\_CDMA^MDC
  - 532233^MDC\_TIME\_SYNC\_GSM^MDC
  - 532234^MDC\_TIME\_SYNC\_EBWW^MDC
  - 532235^MDC\_TIME\_SYNC\_USB\_SOF^MDC

□ Date and Time attribute, if valued, is sent as an independent OBX segment:

- OBX-2 = 'DTM'
- OBX-3 = 67975^MDC\_ATTR\_TIME\_ABS^MDC
- OBX-5 = DTM data type value

- OBX-14 = UTC value
- Base-Offset-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'DTM'
  - OBX-3 = 68225^MDC\_ATTR\_TIME\_BO^MDC
  - OBX-4 = m.0.0.x, where 'x' is any integer value
  - OBX-5 = DTM data type value
- Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67983^MDC\_ATTR\_TIME\_REL^MDC
  - OBX-4 = m.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- HiRes-Relative-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68072^MDC\_ATTR\_TIME\_REL\_HI\_RES^MDC
  - OBX-4 = m.0.0.x, where 'x' is any integer value
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
  - OBX-18 = A unique identifier for the given timebase
- Time-Resolution-Abs-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68222^MDC\_TIME\_RES\_ABS^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
 or
  - OBX-2 = 'NM'
  - OBX-3 = 68226^MDC\_TIME\_RES\_BO^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC
- Time-Resolution-Rel-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68223^MDC\_TIME\_RES\_REL^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264320^MDC\_DIM\_SEC^MDC
- If valued, Time-Resolution-High-Res-Time attribute, if valued, is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 68224^MDC\_TIME\_RES\_HI\_RES^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 264339^MDC\_DIM\_MICRO\_SEC^MDC

- h. Date-and-Time-Adjustment attribute is not present
- i. If Power-Status attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'ST'
  - OBX-3 = 67925^MDC\_ATTR\_POWER\_STAT^MDC
  - OBX-5 = One or more of these values:
    - <0 or 1>^onMains(0),
    - <0 or 1>^onBattery(1),
    - <0 or 1>^chargingFull(8),
    - <0 or 1>^chargingTrickle(9),
    - <0 or 1>^chargingOff(10)
- j. If Battery-Level attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67996^MDC\_ATTR\_VAL\_BATT\_CHARGE^MDC
  - OBX-5 = NM data type value
  - OBX-6 = 262688^MDC\_DIM\_PERCENT^MDC
- k. If Remaining-Battery-Time attribute is valued, it is sent as an independent OBX segment:
  - OBX-2 = 'NM'
  - OBX-3 = 67976^MDC\_ATTR\_TIME\_BATT\_REMAIN^MDC
  - OBX-5 = Use the value contained in the BatMeasure object
  - OBX-6 = Use the OID contained in the BatMeasure object
- l. Reg-Cert-Data-List is sent as an attribute of the device using two separate Regulation-Certification-Auth-Body OBX segments with different Facet-level entries and the following mandatory fields:
  - OBX-2 = 'CWE'
  - OBX-3 = 68218^MDC\_REG\_CERT\_DATA\_AUTH\_BODY^MDC
  - OBX-5 = One of these values:
    - 0^auth-body-empty,
    - 1^auth-body-ieee-11073,
    - 2^auth-body-continua,
    - 254^auth-body-experimental,
    - 255^auth-body-reserved
- m. Observations from Continua-compliant source devices are sent using three attributes as Facet-level entries of the Regulation-Certification-Auth-Body OBX segments:
  - Regulation-Certification-Continua-Version attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'ST'
    - OBX-3 = 532352^MDC\_REG\_CERT\_DATA\_CONTINUA\_VERSION^MDC
    - OBX-4 = x.0.0.y.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of one of the two Regulation-Certification-Auth-Body attribute segments, and 'a' is a number indicating the Facet level of that segment.
    - OBX-5 = <major-IG-version>.<minor-IG-version>.
  - Regulation-Certification-Continua-Certified-Device-List attribute shall be sent as an independent OBX segment and shall use the following encoding:
    - OBX-2 = 'NA'

	<ul style="list-style-type: none"> <li>• OBX-3 = 532353^MDC_REG_CERT_DATA_CONTINUA_CERT_DEV_LIST^MDC</li> <li>• OBX-4 = x.0.0.y.b, where 'x' is a number indicating the OBX-4 of the MDS-level, 'y' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which has the Regulation-Certification-Continua-Version attribute as a Facet entry, and 'b' is a number indicating the Facet level of that segment.</li> <li>• OBX-5 = NA value listing the certified device, at least it shall contain one of these values: 16410 (CGM Wireless PAN), 8218 (CGM Wired PAN), 24602 (CGM LAN), 32794 (CGM BLE) or 40986 (CGM TAN)</li> </ul> <p>❑ Regulation-Certification-Continua-Regulation-Status attribute shall be sent as an independent OBX segment and shall use the following encoding:</p> <ul style="list-style-type: none"> <li>• OBX-2 = 'CWE'</li> <li>• OBX-3 = 532354^MDC_REG_CERT_DATA_CONTINUA_REG_STATUS^MDC</li> <li>• OBX-4 = x.0.0.z.a, where 'x' is a number indicating the OBX-4 of the MDS-level, 'z' is a number indicating the metric level of the Regulation-Certification-Auth-Body attribute segment which does not have the Regulation-Certification-Continua-Version attribute as a Facet entry, and 'a' is a number indicating the Facet level of that segment.</li> <li>• OBX-5 = &lt;0 or 1&gt;^unregulated-device(0)</li> </ul> <p>n. If System-Type-Spec-List attribute is valued, it is sent as an independent OBX segment:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>❑ OBX-3 = 68186^MDC_ATTR_SYS_TYPE_SPEC_LIST^MDC</li> <li>❑ OBX-5 = one or more MDC_DEV_SPEC_PROFILE values</li> </ul> <p>o. Confirm-Timeout attribute is not present.</p>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CGM/BV-001		
<b>TP label</b>	Glucose Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	CGM 1; M	CGM 3; M
		MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 5; M	NumericClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M
			MetricClassAttr 1; M
			MetricClassAttr 4; M
			MetricClassAttr 7; O
			NumericClassAttr 4; M
			NumericClassAttr 7; O
			ScannerAttr 1; M

		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
		DataGuidelines 22; M		
<b>Test purpose</b>	Check that: The presence of the attributes of the CGM Numeric Object, the Metric and Numeric attributes and their respective values.			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CGM_001			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a Continuous Glucose Monitor device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Continuous Glucose Monitor device.</li> <li>2. Check in the captured message that:               <ol style="list-style-type: none"> <li>a. The Glucose Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:                    &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;                    Where:                   <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Glucose Numeric object follows this OBX encoding:                   <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 160212^MDC_CONC_GLU_ISF^MDC or 160184^MDC_CONC_GLU_CAPILLARY_WHOLEBLOOD^MDC or 160188^MDC_CONC_GLU_CAPILLARY_PLASMA^MDC or 160192^MDC_CONC_GLU_VENOUS_WHOLEBLOOD^MDC or 160196^MDC_CONC_GLU_VENOUS_PLASMA^MDC or 160200^MDC_CONC_GLU_ARTERIAL_WHOLEBLOOD^MDC or 160204^MDC_CONC_GLU_ARTERIAL_PLASMA^MDC or 160208^MDC_CONC_GLU_CONTROL^MDC or 160364^MDC_CONC_GLU_UNDETERMINED_WHOLEBLOOD^MDC or 160368^MDC_CONC_GLU_UNDETERMINED_PLASMA^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Glucose Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264274^MDC_DIM_MILLI_G_PER_DL^MDC or 266866^MDC_DIM_MILLI_MOLE_PER_L^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present:                   <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation:                       <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>			



	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CGM/BV-002		
<b>TP label</b>	PHD DM Status Enumeration Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	CGM 1; M	CGM 4; M
		MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 17; C	MetricClassAttr 18; O
		EnumClassAttr 2; M	EnumClassAttr 3; M
		EnumClassAttr 5; O	EnumClassAttr 6; M
		PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 3; M	ScannerAttr 4; M
		DataGuidelines 21; M	DataGuidelines 22; M
<b>Test purpose</b>	Check that: The presence of the attributes of the PHD DM Status Object, the Metric and Enumeration attributes and their respective values.		
<b>Applicability</b>	C_SEN_000 AND C_SEN_CGM_001 AND C_SEN_CGM_002		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a Continuous Glucose Monitor device with a PHD DM Status object.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Continuous Glucose Monitor device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The PHD DM Status object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) attribute are not present</li> </ol> </li> </ol>		

	<p>c. Each MDC code using CWE data type is encoded as:  &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</p> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> <p>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li><input type="checkbox"/> &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li><input type="checkbox"/> &lt;bitPosition&gt; is the normative position of the bit</li> </ul> <p>e. PHD DM Status object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'CWE'</li> <li>OBX-3 = 8408608^MDC_PHD_DM_DEV_STAT^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Device and the PHD DM Device status object respectively.</li> <li><input type="checkbox"/> OBX-5 = Any of these values: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^device-status-undetermined(0),</li> <li>&lt;0 or 1&gt;^device-status-reset(1),</li> <li>&lt;0 or 1&gt;^device-status-error(5),</li> <li>&lt;0 or 1&gt;^device-status-error-mechanical(6),</li> <li>&lt;0 or 1&gt;^device-status-error-electronic(7),</li> <li>&lt;0 or 1&gt;^device-status-error-software(8),</li> <li>&lt;0 or 1&gt;^device-status-error-battery(9),</li> <li>&lt;0 or 1&gt;^device-status-service(15),</li> <li>&lt;0 or 1&gt;^device-status-service-time-sync-required(16),</li> <li>&lt;0 or 1&gt;^device-status-service-calibration-required(17),</li> <li>&lt;0 or 1&gt;^device-status-service-replenishment-required(18),</li> <li>&lt;0 or 1&gt;^device-status-battery-low(25),</li> <li>&lt;0 or 1&gt;^device-status-battery-depleted(26),</li> <li>&lt;0 or 1&gt;^device-status-battery-replaced(27),</li> <li>&lt;0 or 1&gt;^device-status-battery-interrupted(28)</li> </ul> </li> </ul> <p>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>g. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.

<b>Notes</b>	
--------------	--

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CGM/BV-003			
<b>TP label</b>	CGM Status Enumeration Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	CGM 1; M	CGM 5; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	EnumClassAttr 1; M
		EnumClassAttr 2; M	EnumClassAttr 3; M	EnumClassAttr 4; M
		EnumClassAttr 5; O	EnumClassAttr 6; M	PM-StoreAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 3; M	ScannerAttr 4; M	
DataGuidelines 21; M	DataGuidelines 22; M			
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the CGM Status Object, the Metric and Enumeration attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CGM_001 AND C_SEN_CGM_003			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a Continuous Glucose Monitor device with a CGM Status object.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Continuous Glucose Monitor device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The CGM Status object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small (MDC_ATTR_METRIC_STRUCT_SMALL) attribute and Attribute-Value-Map (MDC_ATTR_ATTRIBUTE_VALUE_MAP) attribute are not present</li> <li>c. Each MDC code using CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> </ol> </li> </ol>			

	<p>d. A bit flag value is encoded as &lt;bitValue&gt;^&lt;bitName&gt;(&lt;bitPosition&gt;), where:</p> <ul style="list-style-type: none"> <li>❑ &lt;bitValue&gt; = &lt;0 or 1&gt;</li> <li>❑ &lt;bitName&gt; is recommended to be the ASN.1 name for the bit</li> <li>❑ &lt;bitPosition&gt; is the normative position of the bit</li> </ul> <p>e. CGM Status object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'CWE'</li> <li>OBX-3 = 8418060^MDC_CGM_DEV_STAT^MDC</li> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Device and PHD DM Device status object respectively.</li> <li>❑ OBX-5 = Any of these values: <ul style="list-style-type: none"> <li>&lt;0 or 1&gt;^sensor-session-stopped(0),</li> <li>&lt;0 or 1&gt;^sensor-type-incorrect(2),</li> <li>&lt;0 or 1&gt;^sensor-malfunction(3),</li> <li>&lt;0 or 1&gt;^device-specific-alert(4),</li> <li>&lt;0 or 1&gt;^sensor-calibration-not-allowed(7),</li> <li>&lt;0 or 1&gt;^sensor-calibration-not-recommended(8),</li> <li>&lt;0 or 1&gt;^sensor-calibration-not-required(9),</li> <li>&lt;0 or 1&gt;^sensor-temp-too-high(10),</li> <li>&lt;0 or 1&gt;^sensor-temp-too-low(11),</li> <li>&lt;0 or 1&gt;^sensor-result-below-patient-low(12),</li> <li>&lt;0 or 1&gt;^sensor-result-above-patient-high(13),</li> <li>&lt;0 or 1&gt;^sensor-low-hypo(14),</li> <li>&lt;0 or 1&gt;^sensor-low-hyper(15),</li> <li>&lt;0 or 1&gt;^sensor-rate-decrease-exceeded(16),</li> <li>&lt;0 or 1&gt;^sensor-rate-increase-exceeded(17),</li> <li>&lt;0 or 1&gt;^sensor-result-too-low(18),</li> <li>&lt;0 or 1&gt;^sensor-result-too-high(19),</li> <li>&lt;0 or 1&gt;^sensor-com-out-of-range(20)</li> </ul> </li> </ul> <p>f. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>g. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CGM/BV-004			
<b>TP label</b>	Sensor Calibration Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	CGM 1; M	CGM 6; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
DataGuidelines 22; M				
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Sensor Calibration Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CGM_001 AND C_SEN_CGM_004			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a Continuous Glucose Monitor device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Continuous Glucose Monitor device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Sensor Calibration Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:  &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;  Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Sensor Calibration Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418036^MDC_CGM_SENSOR_CALIBRATION^MDC</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Sensor Calibration Numeric object respectively.</li> <li>❑ OBX-5 = Numeric value</li> <li>❑ OBX-6 = 264274^MDC_DIM_MILLI_G_PER_DL^MDC or 266866^MDC_DIM_MILLI_MOLE_PER_L^MDC</li> </ul> <p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CGM/BV-005			
<b>TP label</b>	Sensor Run-Time Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	CGM 1; M	CGM 7; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
DataGuidelines 22; M				
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Sensor Run-Time Numeric Object, the Metric and Numeric attributes and their respective values.</p>			

<b>Applicability</b>	C_SEN_000 AND C_SEN_CGM_001 AND C_SEN_CGM_005
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a Continuous Glucose Monitor device.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Continuous Glucose Monitor device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Sensor Run-Time Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Sensor Run-Time Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418040^MDC_CGM_SENSOR_RUN_TIME^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Sensor Run-Time Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264384^MDC_DIM_HR^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CGM/BV-006
<b>TP label</b>	Glucose Sample Interval Numeric Object
<b>Coverage</b>	<b>Spec</b> [ITU-T H.812.1]

	<b>Testable items</b>	CGM 1; M	CGM 8; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 5; M	MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 8; O	MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 11; M	MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 14; O	MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 17; C	MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 2; M	NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 5; M	NumericClassAttr 6; M	NumericClassAttr 7; O
		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
		DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Glucose Sample Interval Numeric Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CGM_001 AND C_SEN_CGM_006			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a Continuous Glucose Monitor device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Continuous Glucose Monitor device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Glucose Sample Interval Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: <pre>&lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;</pre> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Glucose Sample Interval Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418044^MDC_CGM_SENSOR_SAMPLE_INTERVAL^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Glucose Sample Interval Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 264352^MDC_DIM_MIN^MDC</li> </ul> </li> </ol> </li> </ol>			



	<p>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>f. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CGM/BV-007		
<b>TP label</b>	Glucose Trend Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	CGM 1; M	CGM 9; M
		MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 17; C	MetricClassAttr 18; O
		NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 5; M	NumericClassAttr 6; M
		PM-StoreAttr; M	PM-SegmentAttr; M
		ScannerAttr 2; M	ScannerAttr 3; M
		DataGuidelines 22; M	
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Glucose Trend Numeric Object, the Metric and Numeric attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_CGM_001 AND C_SEN_CGM_007		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a message with an Observation of a Continuous Glucose Monitor device.		

<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Continuous Glucose Monitor device.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Glucose Trend Numeric object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;  Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Glucose Trend Numeric object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418008^MDC_CONC_GLU_TREND^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.0.x, where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the metric level for the Glucose Trend Numeric object respectively.</li> <li><input type="checkbox"/> OBX-5 = Numeric value</li> <li><input type="checkbox"/> OBX-6 = 266868^MDC_DIM_MILLI_G_PER_DL_PER_MIN^MDC or 266872^MDC_DIM_MILLI_MOLE_PER_L_PER_MIN^MDC</li> </ul> </li> <li>e. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>f. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_ABS or MDC_ATTR_TIME_STAMP_BO, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li><input type="checkbox"/> MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ol> </li> </ol>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CGM/BV-008			
<b>TP label</b>	Patient Low/High Thresholds Compound Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	CGM 1; M	CGM 10; M	CGM 11; M
		CGM 12; M	MetricClassAttr 1; M	MetricClassAttr 2; M
	MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M	

	MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
	MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
	MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
	MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
	MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
	NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
	NumericClassAttr 6; M	NumericClassAttr 7; O	MetricRelGroup 1; M
	PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
	ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
	DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Patient Low/High Thresholds Object, the Metric and Numeric attributes and their respective values.</p>		
<b>Applicability</b>	C_SEN_000 AND C_SEN_CGM_001 AND C_SEN_CGM_008		
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004		
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an observation of a Continuous Glucose Monitor device.		
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Continuous Glucose Monitor device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Patient Low/High Thresholds object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as:  &lt;refIdValue&gt;^&lt;refIdName&gt;^&lt;refIdCodeSystem&gt;  Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refIdValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refIdName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refIdCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Patient Low/High Thresholds object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> OBX-3 = 8418012^MDC_CONC_GLU_PATIENT_THRESHOLDS_LOW_HIGH^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x., where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the Channel-level for Patient Low/High Thresholds object respectively.</li> <li><input type="checkbox"/> OBX-5 is empty</li> <li><input type="checkbox"/> OBX-11 = 'X'</li> </ul> </li> <li>e. Patient low threshold part of the compound object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> </ul> </li> </ol> </li> </ol>		

	<ul style="list-style-type: none"> <li>❑ OBX-3 = 8418013^MDC_CONC_GLU_PATIENT_THRESHOLD_LOW^MDC</li> <li>❑ OBX-4 = y.0.x.a, , where 'a' is a number indicating the component of the compound object</li> <li>❑ OBX-5 = Numeric Value</li> <li>❑ OBX-6 = 264274^MDC_DIM_MILLI_G_PER_DL^MDC or 266866^MDC_DIM_MILLI_MOLE_PER_L^MDC</li> </ul> <p>f. Patient high threshold part of the compound object follows this OBX encoding:</p> <ul style="list-style-type: none"> <li>❑ OBX-2 = 'NM'</li> <li>❑ OBX-3 = 8418014^MDC_CONC_GLU_PATIENT_THRESHOLD_HIGH^MDC</li> <li>❑ OBX-4 = y.0.x.b, where 'b' is a number indicating the component of the compound object</li> <li>❑ OBX-5 = Numeric Value</li> <li>❑ OBX-6 = 264274^MDC_DIM_MILLI_G_PER_DL^MDC or 266866^MDC_DIM_MILLI_MOLE_PER_L^MDC</li> </ul> <p>g. Any PM-Store, PM-Segment or Scanner attributes are not present.</p> <p>h. One of the timestamp attributes can be present:</p> <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CGM/BV-009			
<b>TP label</b>	Device Hypo/Hyper Thresholds Compound Numeric Object			
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]		
	<b>Testable items</b>	CGM 1; M	CGM 13; M	CGM 14; M
		CGM 15; M	MetricClassAttr 1; M	MetricClassAttr 2; M
		MetricClassAttr 3; O	MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 6; O	MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 9; M	MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 12; O	MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 15; C	MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 18; O	NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 3; M	NumericClassAttr 4; M	NumericClassAttr 5; M
NumericClassAttr 6; M		NumericClassAttr 7; O	MetricRelGroup 1; M	

		PM-StoreAttr; M	PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 2; M	ScannerAttr 3; M	ScannerAttr 4; M
		DataGuidelines 22; M		
<b>Test purpose</b>	<p>Check that:</p> <p>The presence of the attributes of the Device Hypo/Hyper Thresholds Object, the Metric and Numeric attributes and their respective values.</p>			
<b>Applicability</b>	C_SEN_000 AND C_SEN_CGM_001 AND C_SEN_CGM_009			
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004			
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an Observation of a Continuous Glucose Monitor device.			
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Continuous Glucose Monitor device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Device Hypo/Hyper Thresholds object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: <pre>&lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt;</pre> <p>Where:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Device Hypo/Hyper Thresholds object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> OBX-3 = 8418016^MDC_CONC_GLU_THRESHOLDS_HYPO_HYPER^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x., where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the Channel-level for Device Hypo/Hyper Thresholds object respectively.</li> <li><input type="checkbox"/> OBX-5 is empty</li> <li><input type="checkbox"/> OBX-11 = 'X'</li> </ul> </li> <li>e. Device hypo threshold part of the compound object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418017^MDC_CONC_GLU_THRESHOLD_HYPO^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x.a, , where 'a' is a number indicating the component of the compound object</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> <li><input type="checkbox"/> OBX-6 = 264274^MDC_DIM_MILLI_G_PER_DL^MDC or 266866^MDC_DIM_MILLI_MOLE_PER_L^MDC</li> </ul> </li> <li>f. Device hyper threshold part of the compound object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8418018^MDC_CONC_GLU_THRESHOLD_HYPER^MDC</li> </ul> </li> </ol> </li> </ol>			

	<ul style="list-style-type: none"> <li>❑ OBX-4 = y.0.x.b, where 'b' is a number indicating the component of the compound object</li> <li>❑ OBX-5 = Numeric Value</li> <li>❑ OBX-6 = 264274^MDC_DIM_MILLI_G_PER_DL^MDC or 266866^MDC_DIM_MILLI_MOLE_PER_L^MDC</li> <li>g. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>h. One of the timestamp attributes can be present: <ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	

<b>TP Id</b>	TP/HFS/SEN/PCD-01-DATA/CGM/BV-010		
<b>TP label</b>	Glucose Rate of Charge Thresholds Compound Numeric Object		
<b>Coverage</b>	<b>Spec</b>	[ITU-T H.812.1]	
	<b>Testable items</b>	CGM 1; M	CGM 16; M
		CGM 17; M	
		CGM 18; M	MetricClassAttr 1; M
		MetricClassAttr 2; M	MetricClassAttr 3; O
		MetricClassAttr 3; O	MetricClassAttr 4; M
		MetricClassAttr 4; M	MetricClassAttr 5; M
		MetricClassAttr 5; M	MetricClassAttr 6; O
		MetricClassAttr 6; O	MetricClassAttr 7; O
		MetricClassAttr 7; O	MetricClassAttr 8; O
		MetricClassAttr 8; O	MetricClassAttr 9; M
		MetricClassAttr 9; M	MetricClassAttr 10; O
		MetricClassAttr 10; O	MetricClassAttr 11; M
		MetricClassAttr 11; M	MetricClassAttr 12; O
		MetricClassAttr 12; O	MetricClassAttr 13; O
		MetricClassAttr 13; O	MetricClassAttr 14; O
		MetricClassAttr 14; O	MetricClassAttr 15; C
		MetricClassAttr 15; C	MetricClassAttr 16; C
		MetricClassAttr 16; C	MetricClassAttr 17; C
		MetricClassAttr 17; C	MetricClassAttr 18; O
		MetricClassAttr 18; O	NumericClassAttr 1; M
		NumericClassAttr 1; M	NumericClassAttr 2; M
		NumericClassAttr 2; M	NumericClassAttr 3; M
		NumericClassAttr 3; M	NumericClassAttr 4; M
		NumericClassAttr 4; M	NumericClassAttr 5; M
		NumericClassAttr 5; M	NumericClassAttr 6; M
		NumericClassAttr 6; M	NumericClassAttr 7; O
		NumericClassAttr 7; O	MetricRelGroup 1; M
		MetricRelGroup 1; M	PM-StoreAttr; M
		PM-StoreAttr; M	PM-SegmentAttr; M
		PM-SegmentAttr; M	ScannerAttr 1; M
		ScannerAttr 1; M	ScannerAttr 2; M
		ScannerAttr 2; M	ScannerAttr 3; M
		ScannerAttr 3; M	ScannerAttr 4; M
		ScannerAttr 4; M	DataGuidelines 22; M
<b>Test purpose</b>	Check that: The presence of the attributes of the Glucose Rate of Charge Thresholds Object, the Metric and Numeric attributes and their respective values.		

<b>Applicability</b>	C_SEN_000 AND C_SEN_CGM_001 AND C_SEN_CGM_010
<b>Other PICS</b>	C_SEN_GEN_003, C_SEN_GEN_004
<b>Initial condition</b>	The simulated HFS receiver has published a WebService and the HFS sender under test is ready to send a SOAP or hData message with an Observation of a Continuous Glucose Monitor device.
<b>Test procedure</b>	<ol style="list-style-type: none"> <li>1. Make the HFS sender under test send a HL7 message containing an Observation of a Continuous Glucose Monitor device using SOAP or hData observation upload.</li> <li>2. Check in the captured message that: <ol style="list-style-type: none"> <li>a. The Glucose Rate of Charge Thresholds object has sent at least one observation.</li> <li>b. Handle attribute (MDC_ATTR_ID_HANDLE), Metric-Spec-Small attribute (MDC_ATTR_METRIC_SPEC_SMALL), Metric-Structure-Small attribute (MDC_ATTR_METRIC_STRUCT_SMALL) and Attribute-Value-Map attribute (MDC_ATTR_ATTRIBUTE_VALUE_MAP) are not present</li> <li>c. Each MDC code using CWE data type is encoded as: &lt;refldValue&gt;^&lt;refldName&gt;^&lt;refldCodeSystem&gt; Where: <ul style="list-style-type: none"> <li><input type="checkbox"/> refldValue: is a 32 bit integer (required)</li> <li><input type="checkbox"/> refldName: the normative nomenclature name for the unique code point (recommended)</li> <li><input type="checkbox"/> refldCodeSystem = "MDC" (required).</li> </ul> </li> <li>d. Glucose Rate of Charge Thresholds object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 is empty</li> <li><input type="checkbox"/> OBX-3 = 8391520^MDC_CONC_GLU_RATE_THRESHOLDS^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x., where 'y' and 'x' are numbers indicating the OBX-4 of the MDS-level and the Channel-level Glucose Rate of Charge Thresholds object respectively.</li> <li><input type="checkbox"/> OBX-5 is empty</li> <li><input type="checkbox"/> OBX-11 = 'X'</li> </ul> </li> <li>e. Glucose rate of change increase threshold part of the compound object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8391521^MDC_CONC_GLU_RATE_THRESHOLD_INCREASE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x.a, , where 'a' is a number indicating the component of the compound object</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> <li><input type="checkbox"/> OBX-6 = 266868^MDC_DIM_MILLI_G_PER_DL_PER_MIN^MDC or 266872^MDC_DIM_MILLI_MOLE_PER_L_PER_MIN^MDC</li> </ul> </li> <li>f. Glucose rate of change decrease threshold part of the compound object follows this OBX encoding: <ul style="list-style-type: none"> <li><input type="checkbox"/> OBX-2 = 'NM'</li> <li><input type="checkbox"/> OBX-3 = 8391522^MDC_CONC_GLU_RATE_THRESHOLD_DECREASE^MDC</li> <li><input type="checkbox"/> OBX-4 = y.0.x.b, where 'b' is a number indicating the component of the compound object</li> <li><input type="checkbox"/> OBX-5 = Numeric Value</li> <li><input type="checkbox"/> OBX-6 = 266868^MDC_DIM_MILLI_G_PER_DL_PER_MIN^MDC or 266872^MDC_DIM_MILLI_MOLE_PER_L_PER_MIN^MDC</li> </ul> </li> <li>g. Any PM-Store, PM-Segment or Scanner attributes are not present.</li> <li>h. One of the timestamp attributes can be present:</li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>❑ MDC_ATTR_TIME_STAMP_ABS, mapped in OBX-14 of Observation Metric-level and encoded as: YYYY[MM[DD[HH[MM[SS]]]]][+/-ZZZZ]</li> <li>❑ MDC_ATTR_TIME_STAMP_REL, transmitted as a Facet of the observation: <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> <li>❑ MDC_ATTR_TIME_STAMP_HI_RES, transmitted as a Facet of the observation. <ul style="list-style-type: none"> <li>• OBX-5 = Numeric Value</li> <li>• OBX-18 has a timebase ID.</li> </ul> </li> </ul>
<b>Pass/Fail criteria</b>	All elements in each segment are as specified.
<b>Notes</b>	



## Bibliography

- [b-ITU-T H.810 (2013)] Recommendation ITU-T H.810 (2013), *Interoperability design guidelines for personal health systems*.
- [b-ITU-T H.810 (2015)] Recommendation ITU-T H.810 (2015), *Interoperability design guidelines for personal health systems*.
- [b-CDG 1.0] Continua Health Alliance, Continua Design Guidelines v1.0 (2008), *Continua Design Guidelines*.
- [b-CDG 2010] Continua Health Alliance, Continua Design Guidelines v1.5 (2010), *Continua Design Guidelines*.
- [b-CDG 2011] Continua Health Alliance, Continua Design Guidelines (2011), "Adrenaline", *Continua Design Guidelines*.
- [b-CDG 2012] Continua Health Alliance, Continua Design Guidelines (2012), "Catalyst", *Continua Design Guidelines*.
- [b-CDG 2013] Continua Health Alliance, Continua Design Guidelines (2013), "Endorphin", *Continua Design Guidelines*.
- [b-CDG 2015] Continua Health Alliance, Continua Design Guidelines (2015), "Genome", *Continua Design Guidelines*.
- [b-CDG 2016] Personal Connected Health Alliance, Continua Design Guidelines (2016), "Iris", *Continua Design Guidelines*.
- [b-ETSI SR 001 262] ETSI SR 001 262 v1.8.1 (2003): *ETSI drafting rules*.  
<https://docbox.etsi.org/MTS/MTS/10-PromotionalMaterial/MBS-20111118/Referenced%20Documents/Drafting%20Rules.pdf>
- [b-SOAP 1.2] W3C SOAP 1.2 (2007), *SOAP Version 1.2 (Second Edition)*.  
<http://www.w3.org/TR/soap/>
- [b-HFSS PICS & PIXIT] Services HFS Sender DG2016 PICS and PIXIT excel sheet v1.7.  
<http://handle.itu.int/11.1002/2000/12067>
- [b-HFSR PICS & PIXIT] Services HFS Receiver DG2016 PICS and PIXIT excel sheet v1.7.  
<http://handle.itu.int/11.1002/2000/12067>





## SERIES OF ITU-T RECOMMENDATIONS

Series A	Organization of the work of ITU-T
Series D	Tariff and accounting principles and international telecommunication/ICT economic and policy issues
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	Transmission systems and media, digital systems and networks
<b>Series H</b>	<b>Audiovisual and multimedia systems</b>
Series I	Integrated services digital network
Series J	Cable networks and transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Environment and ICTs, climate change, e-waste, energy efficiency; construction, installation and protection of cables and other elements of outside plant
Series M	Telecommunication management, including TMN and network maintenance
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
Series Q	Switching and signalling, and associated measurements and tests
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks, open system communications and security
Series Y	Global information infrastructure, Internet protocol aspects, next-generation networks, Internet of Things and smart cities
Series Z	Languages and general software aspects for telecommunication systems