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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

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Conformance of ITU-T H.810 personal health devices: PAN/LAN/TAN interface Part 5N: International normalized ratio: Agent

Recommendation ITU-T H.845.14

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Recommendation ITU-T H.845.14

Conformance of ITU-T H.810 personal health devices: PAN/LAN/TAN interface Part 5N: International normalized ratio: Agent

Summary

Recommendation ITU-T H.845.14 is a transposition of Continua Test Tool DG2013, Test Suite Structure & Test Purposes, PAN-LAN-TAN Interface; Part 5N: Device Specializations. Agent (International Normalized Ratio -INR-) (Version 1.0, 2014-01-24), that was developed by the Continua Health Alliance. Versions of this specification existed before transposition and are indicated in Table 1.

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.845.14	2015-01-13	16	11.1002/1000/12274

* 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

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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.

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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/.

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Electronic attachment: Protocol implementation conformance statements (PICS) and protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

Introduction

This Recommendation is a transposition of Continua Test Tool DG2013, Test Suite Structure & Test Purposes, PAN-LAN-TAN Interface; Part 5N: Device Specializations. Agent (International Normalized Ratio -INR-) (Version 1.0, 2014-01-24), that was developed by the Continua Health Alliance. Versions of this specification existed before transposition and these can be found in the table below.

Version	Date	Revision history
1.0	2014-01-24	New document. Initial release for Test Tool DG2013.

Recommendation ITU-T H.845.14

Conformance of ITU-T H.810 personal health devices: PAN/LAN/TAN interface Part 5N: International normalized ratio: Agent

1 Scope

The scope of this Recommendation[1] is to provide a test suite structure and the test purposes (TSS & TP) for the PAN/LAN/TAN interface based on the requirements defined in the Continua Design Guidelines (CDG) [ITU-T H.810]. The objective of this test specification is to provide a high probability of air interface interoperability between different devices.

The TSS and TP for the PAN/LAN/TAN interface document have been divided into ten parts. Each part is listed below:

– **Part 1**: Optimized exchange protocol [ISO/IEEE 11073-20601A] Agent
– **Part 2**: Optimized exchange protocol [ISO/IEEE 11073-20601A] Manager
– **Part 3**: Continua design guidelines. Agent
– **Part 4**: Continua design guidelines. Manager
– **Part 5**: Device specializations. Agent. This document is divided in 14 subparts:
  - **Part 5A**: Weighing scales
  - **Part 5B**: Glucose meter
  - **Part 5C**: Pulse oximeter
  - **Part 5D**: Blood pressure monitor
  - **Part 5E**: Thermometer
  - **Part 5F**: Cardiovascular fitness and activity monitor
  - **Part 5G**: Strength fitness equipment
  - **Part 5H**: Independent living activity hub
  - **Part 5I**: Adherence monitor
  - **Part 5J**: Insulin pump (Future development)
  - **Part 5K**: Peak flow
  - **Part 5L**: Body composition analyser
  - **Part 5M**: Basic electrocardiograph
  - **Part 5N**: International normalized ratio monitor
– **Part 6**: Device specializations. Manager
– **Part 7**: Continua design guidelines. Agent BLE
– **Part 8**: Continua design guidelines. Manager BLE
– **Part 9**: Personal health devices transcoding whitepaper. Agent
– **Part 10**: Personal health devices transcoding whitepaper. Manager

[1] 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.

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] Recommendation ITU-T H.810 (2013), *Interoperability design guidelines for personal health systems*.

[IEEE 11073-10418] IEEE 11073-10418-2011, *Health informatics – Personal health device communication – Part 10418: Device specialization – International Normalized Ratio (INR) monitor*.

[ISO/IEEE 11073-20601A] ISO/IEEE 11073-20601:2010, *Health informatics – Personal health device communication – Part 20601: Application profile – Optimized exchange protocol*, including ISO/IEEE 11073-20601:2010 Amd 1:2015.
<http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=54331>
with
<http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=63972>

[ISO/IEEE 11073-104xx] ISO/IEEE 11073-104xx (in force), *Health informatics – Personal health device communication – Device specialization*.
NOTE – Shorthand is used to refer to the collection of device specialization standards that utilize [ISO/IEEE 11073-20601A], where xx can be any number from 01 to 99, inclusive.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 agent [ISO/IEEE 11073-20601A]: A node that collects and transmits personal health data to an associated manager.

3.1.2 manager [ISO/IEEE 11073-20601A]: A node receiving data from one or more agent systems. Some examples of managers include a cellular phone, health appliance, set top box, or a computer system.

3.2 Terms defined in this Recommendation

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

ATS Abstract Test Suite

DUT Device Under Test

CDG Continua Design Guidelines

GUI Graphical User Interface

INR International Normalized Ratio

IUT	Implementation Under Test
MDS	Medical Device System
NFC	Near Field Communication
PAN	Personal Area Network
PCT	Protocol Conformance Testing
PCO	Point of Control and Observation
PHD	Personal Healthcare Device
PHDC	Personal Healthcare Device Class
PHM	Personal Health Manager
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation extra Information for Testing
SDP	Service Discovery Protocol
SOAP	Simple Object Access Protocol
TCRL	Test Case Reference List
TCWG	Test and Certification Working Group
TP	Test Purpose
TSS	Test Suite Structure
USB	Universal Serial Bus
WDM	Windows Driver Model

5 Conventions

The key words "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "MAY", "MAY NOT" in this document 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 name	Transposed as	Version	Description	Designation
2013 plus errata	ITU-T H.810	4.1	CDG 2013 plus errata noting all ratified bugs.	–
2013	–	4.0	Release 2013 of the CDG including maintenance updates of CDG 2012 and additional guidelines that cover new functionalities.	Endorphin
2012 plus errata	–	3.1	CDG 2012 plus errata noting all ratified bugs [b-CDG 2012].	–
2012	–	3.0	Release 2012 of the CDG including maintenance updates of 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 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 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 (TPs) for the PAN/LAN/TAN interface have been divided into the main subgroups specified below. Annex A describes the TPs for subgroup 1.3.14 (shown in bold).

– Group 1: Agent (AG)
  - Group 1.1: Transport (TR)
    - Subgroup 1.1.1: Design guidelines: common (DGC)
    - Subgroup 1.1.2: USB design guidelines (UDG)
    - Subgroup 1.1.3: Bluetooth design guidelines (BDG)
    - Subgroup 1.1.4: Pulse oximeter design guidelines (PODG)
    - Subgroup 1.1.5: Cardiovascular design guidelines (CVDG)
    - Subgroup 1.1.6: Activity hub design guidelines (HUBDG)
    - Subgroup 1.1.7: ZigBee design guidelines (ZDG)
    - Subgroup 1.1.8: Glucose meter design guidelines (GLDG)
    - Subgroup 1.1.9: Bluetooth low energy design guidelines (BLEDG)
    - Subgroup 1.1.10: Basic electrocardiograph design guidelines (ECGDG)
    - Subgroup 1.1.11: NFC design guidelines (NDG)

- Group 1.2: Optimized exchange protocol (OXP)
  - Subgroup 1.2.1: PHD domain information model (DIM)
  - Subgroup 1.2.2: PHD service model (SER)
  - Subgroup 1.2.3: PHD communication model (COM)
- Group 1.3: Devices class specializations (CLASS)
  - Subgroup 1.3.1: Weighing scales (WEG)
  - Subgroup 1.3.2: Glucose meter (GL)
  - Subgroup 1.3.3: Pulse oximeter (PO)
  - Subgroup 1.3.4: Blood pressure monitor (BPM)
  - Subgroup 1.3.5: Thermometer (TH)
  - Subgroup 1.3.6: Cardiovascular (CV)
  - Subgroup 1.3.7: Strength (ST)
  - Subgroup 1.3.8: Activity hub (HUB)
  - Subgroup 1.3.9: Adherence monitor (AM)
  - Subgroup 1.3.10: Insulin pump (IP) (Future development)
  - Subgroup 1.3.11: Peak flow (PF)
  - Subgroup 1.3.12: Body composition analyser (BCA)
  - Subgroup 1.3.13: Basic electrocardiograph (ECG)
  - **Subgroup 1.3.14: International normalized ratio (INR)**
- Group 1.4: Personal health device transcoding whitepaper (PHDTW)
  - Subgroup 1.4.1: Whitepaper general requirements (GEN)
  - Subgroup 1.4.2: Whitepaper thermometer requirements (TH)
  - Subgroup 1.4.3: Whitepaper blood pressure requirements (BPM)
  - Subgroup 1.4.4: Whitepaper heart rate requirements (HR)
  - Subgroup 1.4.5: Whitepaper glucose meter requirements (GL)

– Group 2: Manager (MAN)

- Group 2.1: Transport (TR)
  - Subgroup 2.1.1: Design guidelines: common (DGC)
  - Subgroup 2.1.2: USB design guidelines (UDG)
  - Subgroup 2.1.3: Bluetooth design guidelines (BDG)
  - Subgroup 2.1.4: Cardiovascular design guidelines (CVDG)
  - Subgroup 2.1.5: Activity hub design guidelines (HUBDG)
  - Subgroup 2.1.6: ZigBee design guidelines (ZDG)
  - Subgroup 2.1.7: Bluetooth low energy design guidelines (BLEDG)
  - Subgroup 2.1.8: NFC design guidelines (NDG)
- Group 2.2: 20601: Optimized exchange protocol (OXP)
  - Subgroup 2.2.1: General (GEN)
  - Subgroup 2.2.2: PHD domain information model (DIM)
  - Subgroup 2.2.3: PHD service model (SER)

- Subgroup 2.2.4: PHD communication model (COM)
- Group 2.3: Devices class specializations (CLASS)
  - Subgroup 2.3.1: Weighing scales (WEG)
  - Subgroup 2.3.2: Glucose meter (GL)
  - Subgroup 2.3.3: Pulse oximeter (PO)
  - Subgroup 2.3.4: Blood pressure monitor (BPM)
  - Subgroup 2.3.5: Thermometer (TH)
  - Subgroup 2.3.6: Cardiovascular (CV)
  - Subgroup 2.3.7: Strength (ST)
  - Subgroup 2.3.8: Activity hub (HUB)
  - Subgroup 2.3.9: Adherence monitor (AM)
  - Subgroup 2.3.10: Insulin pump (IP) (Future development)
  - Subgroup 2.3.11: Peak flow (PF)
  - Subgroup 2.3.12: Body composition analyser (BCA)
  - Subgroup 2.3.13: Basic electrocardiograph (ECG)
  - Subgroup 2.3.14: International normalized ratio (INR)
- Group 2.4: Personal health device transcoding whitepaper (PHDTW)
  - Subgroup 2.4.1: Whitepaper general requirements (GEN)
  - Subgroup 2.4.2: Whitepaper thermometer requirements (TH)
  - Subgroup 2.4.3: Whitepaper blood pressure measurement requirements (BPM)
  - Subgroup 2.4.4: Whitepaper heart rate requirements (HR)
  - Subgroup 2.4.5: Whitepaper glucose meter requirements (GL)

7 Electronic attachment

The protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of this annex 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 (TPs)

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

A.1 TP definition conventions

The test purposes 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:
    - PAN: Personal area network (Bluetooth or USB)
    - LAN: Local area network (ZigBee)
    - PAN-LAN: Personal area network (Bluetooth or USB) – Local area network (ZigBee)
    - LP-PAN: Low power personal area network (Bluetooth low energy)
    - TAN: Touch area network (NFC)
    - PLT: Personal area network (Bluetooth or USB) – Local area network (ZigBee) – Touch Area Network (NFC)
  - <DUT>: This is the device under test:
    - AG: PAN/LAN Agent
    - MAN: PAN/LAN Manager
  - <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 TP's title.
- **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 were 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.).
- **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 1.3.14 – International normalized ratio (INR)

TP Id		TP/PLT/AG/CLASS/INR/BV-000_A		
TP label		Get MDS Object for INR monitor specialization: Mandatory, Conditional and Optional Attributes.		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	MDSINR Atr 1; M	MDSINR Atr 2; M	MDSINR Atr 4; M
		MDSINR Atr 5; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163		
Initial condition		The simulated manager and the agent under test are in the operating state.		
Test procedure		1. The simulated manager issues a "roiv-cmip-get" command with the handle set to 0 (to request an MDS object) and the attribute-id-list set to 0 to indicate all attributes. 2. The agent responds with a "rors-cmip-get" service message in which the attribute-list contains a list of all implemented attributes of the MDS object. MDS Attributes: a. Attribute System-Type must not be present. b. Mandatory attribute System-Type-Spec_List ❑ attribute-id = MDC_ATTR_SYS_TYPE_SPEC_LIST ❑ attribute-type = TypeVerList ❑ attribute-value.length = 4 bytes for each configuration supported ❑ attribute-value = {MDC_DEV_SPEC_PROFILE_COAG, 1} must be found in the list c. Mandatory attribute System-model ❑ attribute-id = MDC_ATTR_ID_MODEL (0x09 0x28) ❑ attribute-type = SystemModel ❑ atribute-value.length = <Variable> ❑ attribute-value = • Manufacturer = Check against PIXIT I_AG_OXP_003 • Model = Check against PIXIT I_AG_OXP_004 d. Mandatory attribute Dev-Configuration-Id ❑ IF C_AG_INR_001 THEN attribute-value = 0x0708 (1800) ❑ IF C_AG_INR_002 THEN attribute-value = 0x0709 (1801) ❑ IF C_AG_OXP_181 THEN attribute-value = < between 0x4000 and 0x7FFF >		
Pass/Fail criteria		All checked values are as specified in the test procedure.		
Notes				

TP Id		TP/PLT/AG/CLASS/INR/BV-000_B		
TP label		MDS Configuration objects events for INR monitor specialization.		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	MDSEvents 1; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163		
Initial condition		The simulated manager and the agent under test are in the unassociated state.		
Test procedure		1. The simulated manager receives an association request from the agent under test. 2. The simulated manager responds with a result = accepted-unknown-config. 3. The agent responds with a "Remote Operation Invoke | Confirmed Event Report"		

	message with an MDC_NOTI_CONFIG event to send its configuration to the manager: a. APDU Type ❑ field- type = PrstApdu ❑ field-length =2 bytes ❑ field-value =0xE7 0x00 b. invoke-id ❑ field- type = InvokeIDType ❑ field-length =INT-U16 ❑ field- value =<Not relevant for this test> c. message ❑ field- type = roiv-cmip-confirmed-event-report ❑ field-length =two bytes ❑ field- value =0x01 0x01 (EventReportArgumentSimple) d. obj-handle (EventReportArgumentSimple) ❑ field- type = HANDLE ❑ field-length =INT-U16 e. event-time (EventReportArgumentSimple) ❑ field- type = Relative Time ❑ field-length =INT-U32 ❑ field-value = • IF NOT C_AG_OXP_010 THEN value = 0xFF 0xFF 0xFF 0xFF f. event-type (EventReportArgumentSimple) ❑ field- type = OID-Type ❑ field-length =INT-U16 ❑ field- value=0x0D 0x1C (MDC_NOTI_CONFIG) g. config-report-id (ConfigReport) ❑ field- type = ConfigId ❑ field-length = INT-U16 ❑ field value = <It matches the tested configuration> • IF C_AG_INR_001 THEN attribute-value = 0x 0708 (1800) • IF C_AG_INR_002 THEN attribute-value = 0x 0709 (1801) • IF C_AG_OXP_181 THEN <between 0x40 0x00 and 0x7F 0xFF > for extended configuration. h. obj-class (ConfigReport → ConfigObjectList (ConfigObject)) ❑ field- type = OID-Type ❑ field-length = INT-U16 ❑ field- value = At least one MDC_MOC_VMO_METRIC_NU
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-000_C		
TP label		MDS objects events for INR monitor specialization.		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	MDSEvents 3; M	MDSEvents 4; M	MDSEvents 5; M
		MDSEvents 6; M	MDSEvents 7; M	MDSEvents 8; M
		MDSEvents 9; M	MDSEvents 10; M	ObjAccServ 1; M
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND (C_AG_OXP_182 OR C_AG_OXP_183 OR C_AG_OXP_184 OR C_AG_OXP_189)		
Initial condition		The simulated manager and the agent under test are in the operating state.		
Test procedure		1. Take Measurements for every supported object in the agent under test. 2. Wait to receive every event report and check: a. APDU Type ❑ field- type = Event Report ❑ field-length = 2 bytes ❑ field- value=0x01 0x01 (EventReportArgumentSimple, confirmed) This field identifies the type of message sent by the agent, for the confirmed event configuration, roiv-cmip-confirmed-event-report.		
Pass/Fail criteria		Check that every received report is one of the following confirmed Data APDU • MDC_NOTI_SCAN_REPORT_FIXED • MDC_NOTI_SCAN_REPORT_MP_FIXED • MDC_NOTI_SCAN_REPORT_VAR • MDC_NOTI_SCAN_REPORT_MP_VAR		
Notes				

TP Id		TP/PLT/AG/CLASS/INR/BV-001		
TP label		Objects for INR monitor specialization – Standard Configuration (1800 or 1801)		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	INR 1; M	CtrlCal 2; M	ProthTime 7; M
		QuickVal 2; M	ISI 2; M	Target 2; M
		CurrentMed 2; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND (NOT_C_AG_OXP_181)		
Initial condition		The simulated manager and the agent are in the unassociated state.		

Test procedure		1. The simulated manager receives an association request from the agent under test.
		2. The simulated manager responds with a result = accepted-unknown-config.
		3. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager.
		4. Check that the field Dev-Config-Id is set to 0x0708 (1800) OR 0x0709 (1801), if it is not, the manager responds with an "unsupported-config" and waits for a new configuration.
		5. Once the agent under test sends a standard configuration, check that:
		IF (Dev-Config-Id = 0x0708) THEN Attribute-List:
		a. attribute-value (ConfigReport → ConfigObjectList (ConfigObject) → Attribute List), this value depends on the attribute Type. The values to be checked are:
		❑ INR Object is present → MDC_PART_SCADA (0x00 0x02), MDC_RATIO_INR_COAG (0x72 0x04)
		IF (Dev-Config-Id = 0x0709) THEN Attribute-List:
		a. attribute-value (ConfigReport → ConfigObjectList (ConfigObject) → Attribute List),		

	this value depends on the attribute Type. The values to be checked are: ❑ INR Object is present → MDC_PART_SCADA (0x00 0x02), MDC_RATIO_INR_COAG (0x72 0x04) ❑ Control calibration Object is present → MDC_PART_SCADA (0x00 0x02), MDC_COAG_CONTROL (0x72 0x14)
Pass/Fail criteria	All checked values are as specified in the test procedure and no other object listed.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-002		
TP label		Objects for INR monitor specialization – Extended Configuration		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	INR 1; M	DevSenAn 3; R	ProthTime 6; O
		CtrlCal 1; O	ProthTime 6; O	QuickVal 1; O
		ISI 1; O	Target 1; O	CurrentMed 1; O
		ContextTester 2; R	BatchCode 1; M	
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181		
Initial condition		The simulated manager and the agent are in the unassociated state.		
Test procedure		1. The simulated manager receives an association request from the agent under test. 2. The simulated manager responds with a result = accepted-unknown-config. 3. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager. 4. Check that the field Dev-Config-Id is in the extended range; if it is not, the manager responds with an "unsupported-config" and waits for a new configuration. 5. Once the agent under test sends an extended configuration, check that: Attribute-List: a. atribute-value(ConfigReport → ConfigObjectList (ConfigObject)→Attribute List), this value depends on the attribute type. The values we have to check are: ❑ INR numeric Object is present → MDC_PART_SCADA (0x00 0x02), MDC_RATIO_INR_COAG (0x72 0x04) ❑ Any of these objects may be present: • IF C_AG_INR_003 THEN Control Calibration numeric object is present → MDC_PART_SCADA (0x00 0x02), MDC_COAG_CONTROL (0x72 0x14) • IF C_AG_INR_004 THEN Prothrombin time numeric object is present → MDC_PART_SCADA (0x00 0x02), MDC_TIME_PD_COAG (0x72 0x08) • IF C_AG_INR_005 THEN Quick value numeric object is present → MDC_PART_SCADA (0x00 0x02), MDC_QUICK_VALUE_COAG (0x72 0x0C) • IF C_AG_INR_006 THEN ISI numeric object is present → MDC_PART_SCADA (0x00 0x02), MDC_ISI_COAG (0x72 0x10) • IF C_AG_INR_007 THEN INR Target level numeric object is present → MDC_PART_SCADA (0x00 0x02), MDC_TARGET_LEVEL_COAG (0x72 0x78) • IF C_AG_INR_008 THEN Current medication level numeric object is present → MDC_PART_SCADA (0x00 0x02), MDC_MED_CURRENT_COAG (0x72 0x7C) • IF C_AG_INR_009 THEN New medication level numeric object is present → MDC_PART_SCADA (0x00 0x02), MDC_MED_NEW_COAG (0x72 0x80) • IF C_AG_INR_010 THEN Device and sensor status enumeration object is present → MDC_PART_ PHD_DM (0x00 0x80),		

	MDC_INR_METER_DEV_STATUS (0x72 0x75) • IF C_AG_INR_012 THEN Context tester enumeration object is present → MDC_PART_ PHD_DM (0x00 0x80), MDC_CTXT_INR_TESTER (0x72 0x84) • IF C_AG_INR_013 THEN Batch code enumeration object is present → MDC_PART_ PHD_DM (0x00 0x80), MDC_BATCHCODE_COAG (0x72 0x74)
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-003		
TP label		INR Numeric Object – Standard configuration (1800 or 1801)		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	NumObj 2; M	NumObj 4; M	NumObj 6; R
		NumObj 8; M	NumObj 10; R	NumObj 12; R
		NumObj 14; R	NumObj 16; R	NumObj 18; R
		NumObj 20; M	NumObj 22; M	NumObj 24; R
		NumObj 26; O	NumObj 28; O	NumObj 30; C
		NumObj 32; R	NumObj 34; C	NumObj 36; C
		NumObj 38; R	NumObj 40; C	NumObj 42; C
		NumObj 44; R	NumObj 46; C	NumObj 48; C
		NumObj 50; C	NumObj 52; R	
		INR 2; M	INR 4; M	INR 6; M
		INR 8; M	INR 10; M	INR 12; C
		INR 14; C	INR 18; R	INR 20; R
		INR 22; C	INR 24; C	INR 26; R
		INR 28; R	INR 31; M	
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND (NOT C_AG_OXP_181)		
Initial condition		The simulated manager and the agent under test are in the unassociated state.		
Test procedure		1. The simulated manager receives an association request from the agent under test. 2. The simulated Manager responds with a result = accepted-unknown-config. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager. 3. Check that the field Dev-Config-Id is set to 0x0708 (1800) or Dev-Config-Id is set to 0x0709 (1801); if it is not, the manager responds with an "unsupported-config" and waits for a new configuration. 4. Once the agent under test sends a standard configuration, check that the INR object attributes are: a. Mandatory attribute Handle ❑ attribute-id = MDC_ATTR_ID_HANDLE ❑ attribute-type = HANDLE ❑ attribute-value = 0x00 0x01 b. Mandatory attribute Type ❑ IF (Dev-Config-Id = 0x0708) OR (Dev-Config-Id = 0x0709): • attribute-id = MDC_ATTR_ID_TYPE • attribute-type = TYPE • attribute-value = MDC_PART_SCADA (0x00 0x02), MDC_RATIO_INR_COAG (0x72 0x04).		

	c. Mandatory attribute Metric-Spec-Small ❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL ❑ attribute-type = MetricSpecSmall (BITS-16) ❑ attribute-value.length = 2 bytes ❑ attribute-value ≠ 0x00 0x00 • Bit 0 (mss-avail-intermittent(0)), must be set • Bit 1 (mss-avail-stored-data(1)), must be set • Bit 2 (mss-upd-aperiodic(2)), must be set • Bit 3 (mss-msmt-aperiodic(3)), must be set • Bit 9 (mss-acc-agent-initiated(9)), must be set • The other bits have to be 0. d. Mandatory attribute Unit-Code ❑ attribute-id = MDC_ATTR_UNIT_CODE ❑ attribute-type = OID-Type(INT-U16) ❑ attribute-value.length = 2 bytes ❑ attribute-value= MDC_DIM_INR e. Mandatory attribute Attribute-Value-Map ❑ attribute-id = MDC_ATTR_ATRIBUTE_VAL_MAP ❑ attribute-type = AttrValMap (sequence of attribute-id(OID-Type) and attribute-length(INT-U16)) ❑ attribute-value.length=<variable> ❑ attribute-value= MDC_ATTR_NU_VAL_OBS_BASIC MDC_ATTR_TIME_STAMP_BO f. No other attribute shall be present at configuration
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-004		
TP label		INR Numeric Object – Extended configuration		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	NumObj 3; M	NumObj 5; R	NumObj 7; M
		NumObj 9; R	NumObj 11; R	NumObj 13; R
		NumObj 15; R	NumObj 17; R	NumObj 19; M
		NumObj 23; R	NumObj 31; R	NumObj 41; C
		NumObj 45; C	NumObj 47; C	NumObj 49; C
		NumObj 51; R		
		INR 5; M	INR 7; M	INR 8; M
		INR 9; M	INR 11; C	INR 15; C
		INR 19; R	INR 25; C	INR 27; R
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181		
Initial condition		The simulated manager and the agent under test are in the unassociated state.		
Test procedure		1. The simulated manager receives an association request from the agent under test. 2. The simulated manager responds with a result = accepted-unknown-config. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager.		

3. Check that the field Dev-Config-Id is set in the extended range; if it is not, the manager responds with an "unsupported-config" and waits for a new configuration.
4. Once the agent under test sends an extended configuration, check that the INR object attributes are:
   a. Mandatory attribute Type
      - ❑ attribute-id = MDC_ATTR_ID_TYPE
      - ❑ attribute-type = TYPE
      - ❑ attribute-value = MDC_PART_SCADA (0x00 0x02) | MDC_RATIO_INR_COAG (0x72 0x04)
   b. Not recommended Supplemental –Types Attribute
      - ❑ attribute-id = MDC_ATTR_SPPLEMENTAL_TYPES
      - ❑ attribute-type = SupplementalTypeList
      - ❑ attribute-value.length =<variable> (Sequence of TYPE (TYPE.length= 4 bytes
   c. Mandatory attribute Metric-Spec-Small
      - ❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL
      - ❑ attribute-type = MetricSpecSmall (BITS-16)
      - ❑ attribute-value.length = 2 bytes
      - ❑ attribute-value ≠ 0x00 0x00
        - Bit 0 must be set (mss-avail-intermittent(0))
        - Bit 1 must be set (mss-avail-stored-data(1))
        - Bit 2 must be set (mss-upd-aperiodic(2))
        - Bit 3 must be set (mss-msmt-aperiodic(3))
        - Bit 9 must be set (mss-acc-agent-initiated(9))
   d. IF Not recommended attribute Metric-Structure-Small is present
      - ❑ attribute-id = MDC_ATTR_METRIC_STRUCTURE_SMALL
      - ❑ attribute-type = MetricStructureSmall
      - ❑ attribute-value.length = <variable>(Sequence of (ms-struct.length =1byte(INT-U8) + ms-comp-no =1byte(INT-U8)))
   e. IF Not recommended attribute Measurement-Status is present
      - ❑ attribute-id = MDC_ATTR_MSMT_STAT
      - ❑ attribute-type = MeasurementStatus (BITS-16)
      - ❑ attribute-value.length =2 bytes
   f. IF Not recommended attribute Metric-Id is present
      - ❑ attribute-id = MDC_ATTR_ID_PHYSIO
      - ❑ attribute-type = OID-Type (INT-U16)
      - ❑ attribute-value.length= 2 bytes
   g. IF Not recommended attribute Metric-Id-List is present
      - ❑ attribute-id = MDC_ATTR_ID_PHYSIO_LIST
      - ❑ attribute-type = MetricIdList
      - ❑ attribute-value.length= SEQUENCE OF OID-Type (INT-U16)
   h. IF Not recommended attribute Metric-Id-Partition is present
      - ❑ attribute-id = MDC_ATTR_METRIC_ID_PART
      - ❑ attribute-type = NomPartition (INT-U16)
      - ❑ attribute-value.length = 2 bytes
   i. Mandatory attribute Unit-Code
      - ❑ attribute-id = MDC_ATTR_UNIT_CODE

	❑ attribute-type = OID-Type(INT-U16) ❑ attribute-value.length = 2 bytes ❑ attribute-value= MDC_DIM_INR j. IF Not recommended attribute Source-Handle-Reference is present ❑ attribute-id = MDC_ATTR_SOURCE_HANDLE_REF ❑ attribute-type = HANDLE (INT-U16) ❑ attribute-value.length = 2 bytes k. IF recommended attribute Base-Offset-Time-Stamp is present ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes l. IF Not recommended attribute Measure-Active-Period ❑ attribute-id = MDC_ATTR_TIME_PD_MSMT_ACTIVE ❑ attribute-type = FLOAT type ❑ attribute-value.length = 4 bytes m. IF recommended attribute Basic-Nu-Observed-Value ❑ attribute-id = MDC_ATTR_NU_VAL_OBS_BASIC ❑ attribute-type = BasicNuObsValue ❑ attribute-value.length = SFLOAT-Type (INT-U16) n. IF NOT Recommended attribute Accuracy is present ❑ attribute-id = MDC_ATTR_NU_ACCUR_MSMT ❑ attribute-type = FLOAT-Type (INT-U32) ❑ attribute-value.length = 4 bytes
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-005		
TP label		Control Calibration Numeric Object – Standard configuration (1801)		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	NumObj 2; M	NumObj 4; M	NumObj 6; R
		NumObj 8; M	NumObj 10; R	NumObj 12; R
		NumObj 14; R	NumObj 16; R	NumObj 18; R
		NumObj 20; M	NumObj 22; M	NumObj 24; R
		NumObj 26; O	NumObj 28; O	NumObj 30; C
		NumObj 32; R	NumObj 34; C	NumObj 36; C
		NumObj 38; R	NumObj 40; C	NumObj 42; C
		NumObj 44; R	NumObj 46; C	NumObj 48; C
		NumObj 50; C	NumObj 52; R	
		CtrlCal 4; M	CtrlCal 6; M	CtrlCal 7; M
		CtrlCal 9; M	CtrlCal 11; R	CtrlCal 13; R
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_INR_002		
Initial condition		The simulated manager and the agent under test are in the unassociated state.		
Test procedure		1. The simulated manager receives an association request from the agent under test. 2. The simulated manager responds with a result = accepted-unknown-config. The agent		

responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager.

3. Check that the field Dev-Config-Id is set to 0x0709 (1801); if it is not, the manager responds with an "unsupported-config" and waits for a new configuration.
4. Once the agent under test sends a standard configuration, check that the Control Calibration object attributes are:
   a. Mandatory attribute Handle
      - ❑ attribute-id = MDC_ATTR_ID_HANDLE
      - ❑ attribute-type = HANDLE
      - ❑ attribute-value = 0x00 0x02
   b. Mandatory attribute Type
      - ❑ IF Dev-Config-Id = 0x0709:
        - attribute-id = MDC_ATTR_ID_TYPE
        - attribute-type = TYPE
        - attribute-value = MDC_PART_SCADA (0x00 0x02), MDC_ COAG_CONTROL (0x72 0x14)
   c. Mandatory attribute Metric-Spec-Small
      - ❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL
      - ❑ attribute-type = MetricSpecSmall (BITS-16)
      - ❑ attribute-value.length = 2 bytes
      - ❑ attribute-value ≠ 0x00 0x00
        - Bit 0 (mss-avail-intermittent(0)), must be set
        - Bit 1 (mss-avail-stored-data(1)), must be set
        - Bit 2 (mss-upd-aperiodic(2)), must be set
        - Bit 3 (mss-msmt-aperiodic(3)), must be set
        - Bit 9 (mss-acc-agent-initiated(9)), must be set
        - The other bits have to be 0.
   d. Mandatory attribute Unit-Code
      - ❑ attribute-id = MDC_ATTR_UNIT_CODE
      - ❑ attribute-type = OID-Type(INT-U16)
      - ❑ attribute-value.length = 2 bytes
      - ❑ attribute-value= MDC_DIM_INR
   e. Mandatory attribute Attribute-Value-Map
      - ❑ attribute-id = MDC_ATTR_ATRIBUTE_VAL_MAP
      - ❑ attribute-type = AttrValMap (sequence of attribute-id(OID-Type) and attribute-length(INT-U16))
      - ❑ attribute-value.length=<variable>
      - ❑ attribute-value= MDC_ATTR_NU_VAL_OBS_BASIC MDC_ATTR_TIME_STAMP_BO
   f. IF recommended attribute Base-Offset-Time-Stamp is present
      - ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO
      - ❑ attribute-type = BaseOffsetTime
      - ❑ attribute-value.length = 8 bytes
   g. IF recommended attribute Basic-Nu-Observed-Value
      - ❑ attribute-id = MDC_ATTR_NU_VAL_OBS_BASIC
      - ❑ attribute-type = BasicNuObsValue

	❑ attribute-value.length = SFLOAT-Type (INT-U16) h. No other attribute shall be present at configuration
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-006		
TP label		Control Calibration Numeric Object – Extended configuration		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	NumObj 3; M	NumObj 5; R	NumObj 7; M
		NumObj 9; R	NumObj 11; R	NumObj 13; R
		NumObj 15; R	NumObj 17; R	NumObj 19; M
		NumObj 23; R	NumObj 31; R	NumObj 41; C
		NumObj 45; C	NumObj 47; C	NumObj 49; C
		NumObj 51; R		
		CtrlCal 3; M	CtrlCal 5; M	CtrlCal 8; M
		CtrlCal 10; R	CtrlCal 12; R	
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181 AND C_AG_INR_003		
Initial condition		The simulated manager and the agent under test are in the unassociated state.		
Test procedure		1. The simulated manager receives an association request from the agent under test. 2. The simulated manager responds with a result = accepted-unknown-config. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager. 3. Check that the field Dev-Config-Id is set in the extended range; if it is not, the manager responds with an "unsupported-config" and waits for a new configuration. 4. Once the agent under test sends an extended configuration, check that the Control Calibration object attributes are: a. Mandatory attribute Type ❑ attribute-id = MDC_ATTR_ID_TYPE ❑ attribute-type = TYPE ❑ attribute-value = MDC_PART_SCADA (0x00 0x02) | MDC_COAG_CONTROL (0x72 0x14) b. Not recommended Supplemental –Types Attribute ❑ attribute-id = MDC_ATTR_SPPLEMENTAL_TYPES ❑ attribute-type = SupplementalTypeList ❑ attribute-value.length =<variable> (Sequence of TYPE (TYPE.length= 4 bytes c. Mandatory attribute Metric-Spec-Small ❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL ❑ attribute-type = MetricSpecSmall (BITS-16) ❑ attribute-value.length = 2 bytes ❑ attribute-value ≠ 0x00 0x00 • Bit 0 must be set (mss-avail-intermittent(0)) • Bit 1 must be set (mss-avail-stored-data(1)) • Bit 2 must be set (mss-upd-aperiodic(2)) • Bit 3 must be set (mss-msmt-aperiodic(3)) • Bit 9 must be set (mss-acc-agent-initiated(9))		

	d. IF Not recommended attribute Metric-Structure-Small is present ❑ attribute-id = MDC_ATTR_METRIC_STRUCTURE_SMALL ❑ attribute-type = MetricStructureSmall ❑ attribute-value.length = <variable>(Sequence of (ms-struct.length =1byte(INT-U8) + ms-comp-no =1byte(INT-U8))) e. IF Not recommended attribute Measurement-Status is present ❑ attribute-id = MDC_ATTR_MSMT_STAT ❑ attribute-type = MeasurementStatus (BITS-16) ❑ attribute-value.length =2 bytes f. IF Not recommended attribute Metric-Id is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO ❑ attribute-type = OID-Type (INT-U16) ❑ attribute-value.length= 2 bytes g. IF Not recommended attribute Metric-Id-List is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO_LIST ❑ attribute-type = MetricIdList ❑ attribute-value.length= SEQUENCE OF OID-Type (INT-U16) h. IF Not recommended attribute Metric-Id-Partition is present ❑ attribute-id = MDC_ATTR_METRIC_ID_PART ❑ attribute-type = NomPartition (INT-U16) ❑ attribute-value.length = 2 bytes i. Mandatory attribute Unit-Code ❑ attribute-id = MDC_ATTR_UNIT_CODE ❑ attribute-type = OID-Type(INT-U16) ❑ attribute-value.length = 2 bytes ❑ attribute-value= MDC_DIM_INR j. IF Not recommended attribute Source-Handle-Reference is present ❑ attribute-id = MDC_ATTR_SOURCE_HANDLE_REF ❑ attribute-type = HANDLE (INT-U16) ❑ attribute-value.length = 2 bytes k. IF recommended attribute Base-Offset-Time-Stamp is present ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes l. IF Not recommended attribute Measure-Active-Period ❑ attribute-id = MDC_ATTR_TIME_PD_MSMT_ACTIVE ❑ attribute-type = FLOAT type ❑ attribute-value.length = 4 bytes m. IF recommended attribute Basic-Nu-Observed-Value ❑ attribute-id = MDC_ATTR_NU_VAL_OBS_BASIC ❑ attribute-type = BasicNuObsValue ❑ attribute-value.length = SFLOAT-Type (INT-U16) n. IF NOT Recommended attribute Accuracy is present ❑ attribute-id = MDC_ATTR_NU_ACCUR_MSMT ❑ attribute-type = FLOAT-Type (INT-U32)

	❑ attribute-value.length = 4 bytes
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-007		
TP label		Prothrombin Time Numeric Object – Extended configuration		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	NumObj 3; M	NumObj 5; R	NumObj 7; M
		NumObj 9; R	NumObj 11; R	NumObj 13; R
		NumObj 15; R	NumObj 17; R	NumObj 19; M
		NumObj 23; R	NumObj 31; R	NumObj 41; C
		NumObj 45; C	NumObj 47; C	NumObj 49; C
		NumObj 51; R		
		ProthTime 1; M	ProthTime 2; M	ProthTime 3; M
		ProthTime 4; M	ProthTime 5; M	
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181 AND C_AG_INR_004		
Initial condition		The simulated manager and the agent under test are in the unassociated state.		
Test procedure		1. The simulated manager receives an association request from the agent under test. 2. The simulated manager responds with a result = accepted-unknown-config. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager. 3. Check that the field Dev-Config-Id is set in the extended range; if it is not, the manager responds with an "unsupported-config" and waits for a new configuration. 4. Once the agent under test sends an extended configuration, sheck that the Prothrombin Time object attributes are: a. Mandatory attribute Type ❑ attribute-id = MDC_ATTR_ID_TYPE ❑ attribute-type = TYPE ❑ attribute-value = MDC_PART_SCADA (0x00 0x02) | MDC_TIME_PD_COAG (0x72 0x08) b. Not recommended Supplemental –Types Attribute ❑ attribute-id = MDC_ATTR_SPPLEMENTAL_TYPES ❑ attribute-type = SupplementalTypeList ❑ attribute-value.length =<variable> (Sequence of TYPE (TYPE.length= 4 bytes c. Mandatory attribute Metric-Spec-Small ❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL ❑ attribute-type = MetricSpecSmall (BITS-16) ❑ attribute-value.length = 2 bytes ❑ attribute-value ≠ 0x00 0x00 • Bit 0 must be set (mss-avail-intermittent(0)) • Bit 1 must be set (mss-avail-stored-data(1)) • Bit 3 must be set (mss-msmt-aperiodic(3)) • Bit 9 must be set (mss-acc-agent-initiated(9)) d. IF Not recommended attribute Metric-Structure-Small is present ❑ attribute-id = MDC_ATTR_METRIC_STRUCTURE_SMALL		

	❑ attribute-type = MetricStructureSmall ❑ attribute-value.length = <variable>(Sequence of (ms-struct.length =1byte(INT-U8) + ms-comp-no =1byte(INT-U8))) e. IF Not recommended attribute Measurement-Status is present ❑ attribute-id = MDC_ATTR_MSMT_STAT ❑ attribute-type = MeasurementStatus (BITS-16) ❑ attribute-value.length =2 bytes f. IF Not recommended attribute Metric-Id is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO ❑ attribute-type = OID-Type (INT-U16) ❑ attribute-value.length= 2 bytes g. IF Not recommended attribute Metric-Id-List is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO_LIST ❑ attribute-type = MetricIdList ❑ attribute-value.length= SEQUENCE OF OID-Type (INT-U16) h. IF Not recommended attribute Metric-Id-Partition is present ❑ attribute-id = MDC_ATTR_METRIC_ID_PART ❑ attribute-type = NomPartition (INT-U16) ❑ attribute-value.length = 2 bytes i. Mandatory attribute Unit-Code ❑ attribute-id = MDC_ATTR_UNIT_CODE ❑ attribute-type = OID-Type(INT-U16) ❑ attribute-value.length = 2 bytes ❑ attribute-value= MDC_DIM_SEC j. IF Not recommended attribute Source-Handle-Reference is present ❑ attribute-id = MDC_ATTR_SOURCE_HANDLE_REF ❑ attribute-type = HANDLE (INT-U16) ❑ attribute-value.length = 2 bytes k. IF recommended attribute Base-Offset-Time-Stamp is present ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes l. IF Not recommended attribute Measure-Active-Period ❑ attribute-id = MDC_ATTR_TIME_PD_MSMT_ACTIVE ❑ attribute-type = FLOAT type ❑ attribute-value.length = 4 bytes m. IF recommended attribute Basic-Nu-Observed-Value ❑ attribute-id = MDC_ATTR_NU_VAL_OBS_BASIC ❑ attribute-type = BasicNuObsValue ❑ attribute-value.length = SFLOAT-Type (INT-U16) n. IF NOT Recommended attribute Accuracy is present ❑ attribute-id = MDC_ATTR_NU_ACCUR_MSMT ❑ attribute-type = FLOAT-Type (INT-U32) ❑ attribute-value.length = 4 bytes
Pass/Fail criteria	All checked values are as specified in the test procedure.

Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-008		
TP label		Quick Value Numeric Object – Extended configuration		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	NumObj 3; M	NumObj 5; R	NumObj 7; M
		NumObj 9; R	NumObj 11; R	NumObj 13; R
		NumObj 15; R	NumObj 17; R	NumObj 19; M
		NumObj 23; R	NumObj 31; R	NumObj 41; C
		NumObj 45; C	NumObj 47; C	NumObj 49; C
		NumObj 51; R		
		QuickVal 3; M	QuickVal 4; M	QuickVal 5; M
		QuickVal 6; R	QuickVal 7; R	
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181 AND C_AG_INR_005		
Initial condition		The simulated manager and the agent under test are in the unassociated state.		
Test procedure		1. The simulated manager receives an association request from the agent under test. 2. The simulated manager responds with a result = accepted-unknown-config. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager. 3. Check that the field Dev-Config-Id is set in the extended range; if it is not, the manager responds with an "unsupported-config" and waits for a new configuration. 4. Once the agent under test sends an extended configuration, check that the Quick Value object attributes are: a. Mandatory attribute Type ❑ attribute-id = MDC_ATTR_ID_TYPE ❑ attribute-type = TYPE ❑ attribute-value = MDC_PART_SCADA (0x00 0x02) | MDC_ QUICK_VALUE _COAG (0x72 0x0C) b. Not recommended Supplemental –Types Attribute ❑ attribute-id = MDC_ATTR_SPPLEMENTAL_TYPES ❑ attribute-type = SupplementalTypeList ❑ attribute-value.length =<variable> (Sequence of TYPE (TYPE.length= 4 bytes c. Mandatory attribute Metric-Spec-Small ❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL ❑ attribute-type = MetricSpecSmall (BITS-16) ❑ attribute-value.length = 2 bytes ❑ attribute-value ≠ 0x00 0x00 • Bit 0 must be set (mss-avail-intermittent(0)) • Bit 1 must be set (mss-avail-stored-data(1)) • Bit 3 must be set (mss-msmt-aperiodic(3)) • Bit 9 must be set (mss-acc-agent-initiated(9)) d. IF Not recommended attribute Metric-Structure-Small is present ❑ attribute-id = MDC_ATTR_METRIC_STRUCTURE_SMALL ❑ attribute-type = MetricStructureSmall ❑ attribute-value.length = <variable>(Sequence of (ms-struct.length =1byte(INT-U8) + ms-comp-no =1byte(INT-U8)))		

	e. IF Not recommended attribute Measurement-Status is present ❑ attribute-id = MDC_ATTR_MSMT_STAT ❑ attribute-type = MeasurementStatus (BITS-16) ❑ attribute-value.length =2 bytes f. IF Not recommended attribute Metric-Id is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO ❑ attribute-type = OID-Type (INT-U16) ❑ attribute-value.length= 2 bytes g. IF Not recommended attribute Metric-Id-List is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO_LIST ❑ attribute-type = MetricIdList ❑ attribute-value.length= SEQUENCE OF OID-Type (INT-U16) h. IF Not recommended attribute Metric-Id-Partition is present ❑ attribute-id = MDC_ATTR_METRIC_ID_PART ❑ attribute-type = NomPartition (INT-U16) ❑ attribute-value.length = 2 bytes i. Mandatory attribute Unit-Code ❑ attribute-id = MDC_ATTR_UNIT_CODE ❑ attribute-type = OID-Type(INT-U16) ❑ attribute-value.length = 2 bytes ❑ attribute-value= MDC_DIM_PERCENT j. IF Not recommended attribute Source-Handle-Reference is present ❑ attribute-id = MDC_ATTR_SOURCE_HANDLE_REF ❑ attribute-type = HANDLE (INT-U16) ❑ attribute-value.length = 2 bytes k. IF recommended attribute Base-Offset-Time-Stamp is present ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes l. IF Not recommended attribute Measure-Active-Period ❑ attribute-id = MDC_ATTR_TIME_PD_MSMT_ACTIVE ❑ attribute-type = FLOAT type ❑ attribute-value.length = 4 bytes m. IF recommended attribute Basic-Nu-Observed-Value ❑ attribute-id = MDC_ATTR_NU_VAL_OBS_BASIC ❑ attribute-type = BasicNuObsValue ❑ attribute-value.length = SFLOAT-Type (INT-U16) n. IF NOT Recommended attribute Accuracy is present ❑ attribute-id = MDC_ATTR_NU_ACCUR_MSMT ❑ attribute-type = FLOAT-Type (INT-U32) ❑ attribute-value.length = 4 bytes
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

<table>
<tr><td colspan="2">TP Id</td><td colspan="3">TP/PLT/AG/CLASS/INR/BV-009</td></tr>
<tr><td colspan="2">TP label</td><td colspan="3">ISI Numeric Object – Extended configuration</td></tr>
<tr><td rowspan="10">Coverage</td><td>Spec</td><td colspan="3">[IEEE 11073-10418]</td></tr>
<tr><td rowspan="9">Testable items</td><td>NumObj 3; M</td><td>NumObj 5; R</td><td>NumObj 7; M</td></tr>
<tr><td>NumObj 9; R</td><td>NumObj 11; R</td><td>NumObj 13; R</td></tr>
<tr><td>NumObj 15; R</td><td>NumObj 17; R</td><td>NumObj 19; M</td></tr>
<tr><td>NumObj 23; R</td><td>NumObj 31; R</td><td>NumObj 41; C</td></tr>
<tr><td>NumObj 45; C</td><td>NumObj 47; C</td><td>NumObj 49; C</td></tr>
<tr><td>NumObj 51; R</td><td></td><td></td></tr>
<tr><td>ISI 3; M</td><td>ISI 4; M</td><td>ISI 5; M</td></tr>
<tr><td>ISI 6; R</td><td>ISI 7; R</td><td></td></tr>
<tr><td colspan="2">Applicability</td><td colspan="3">C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181 AND C_AG_INR_006</td></tr>
<tr><td colspan="2">Initial condition</td><td colspan="3">The simulated manager and the agent under test are in the unassociated state.</td></tr>
<tr><td colspan="2">Test procedure</td><td colspan="3">1. The simulated manager receives an association request from the agent under test.
2. The simulated manager responds with a result = accepted-unknown-config. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager.
3. Check that the field Dev-Config-Id is set in the extended range; if it is not, the manager responds with an "unsupported-config" and waits for a new configuration.
4. Once the agent under test sends an extended configuration, check that the ISI object attributes are:
a. Mandatory attribute Type
❑ attribute-id = MDC_ATTR_ID_TYPE
❑ attribute-type = TYPE
❑ attribute-value = MDC_PART_SCADA (0x00 0x02) | MDC_ ISI _COAG (0x72 0x10)
b. Not recommended Supplemental –Types Attribute
❑ attribute-id = MDC_ATTR_SPPLEMENTAL_TYPES
❑ attribute-type = SupplementalTypeList
❑ attribute-value.length =<variable> (Sequence of TYPE (TYPE.length= 4 bytes
c. Mandatory attribute Metric-Spec-Small
❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL
❑ attribute-type = MetricSpecSmall (BITS-16)
❑ attribute-value.length = 2 bytes
❑ attribute-value ≠ 0x00 0x00
• Bit 0 must be set (mss-avail-intermittent(0))
• Bit 1 must be set (mss-avail-stored-data(1))
• Bit 3 must be set (mss-msmt-aperiodic(3))
• Bit 9 must be set (mss-acc-agent-initiated(9))
d. IF Not recommended attribute Metric-Structure-Small is present
❑ attribute-id = MDC_ATTR_METRIC_STRUCTURE_SMALL
❑ attribute-type = MetricStructureSmall
❑ attribute-value.length = <variable>(Sequence of (ms-struct.length =1byte(INT-U8) + ms-comp-no =1byte(INT-U8)))</td></tr>
</table>

	e. IF Not recommended attribute Measurement-Status is present ❑ attribute-id = MDC_ATTR_MSMT_STAT ❑ attribute-type = MeasurementStatus (BITS-16) ❑ attribute-value.length =2 bytes f. IF Not recommended attribute Metric-Id is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO ❑ attribute-type = OID-Type (INT-U16) ❑ attribute-value.length= 2 bytes g. IF Not recommended attribute Metric-Id-List is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO_LIST ❑ attribute-type = MetricIdList ❑ attribute-value.length= SEQUENCE OF OID-Type (INT-U16) h. IF Not recommended attribute Metric-Id-Partition is present ❑ attribute-id = MDC_ATTR_METRIC_ID_PART ❑ attribute-type = NomPartition (INT-U16) ❑ attribute-value.length = 2 bytes i. Mandatory attribute Unit-Code ❑ attribute-id = MDC_ATTR_UNIT_CODE ❑ attribute-type = OID-Type(INT-U16) ❑ attribute-value.length = 2 bytes ❑ attribute-value= MDC_DIM_DIMLESS j. IF Not recommended attribute Source-Handle-Reference is present ❑ attribute-id = MDC_ATTR_SOURCE_HANDLE_REF ❑ attribute-type = HANDLE (INT-U16) ❑ attribute-value.length = 2 bytes k. IF recommended attribute Base-Offset-Time-Stamp is present ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes l. IF Not recommended attribute Measure-Active-Period ❑ attribute-id = MDC_ATTR_TIME_PD_MSMT_ACTIVE ❑ attribute-type = FLOAT type ❑ attribute-value.length = 4 bytes m. IF recommended attribute Basic-Nu-Observed-Value ❑ attribute-id = MDC_ATTR_NU_VAL_OBS_BASIC ❑ attribute-type = BasicNuObsValue ❑ attribute-value.length = SFLOAT-Type (INT-U16) n. IF NOT Recommended attribute Accuracy is present ❑ attribute-id = MDC_ATTR_NU_ACCUR_MSMT ❑ attribute-type = FLOAT-Type (INT-U32) ❑ attribute-value.length = 4 bytes
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

<table>
<tr><td colspan="2">TP Id</td><td colspan="3">TP/PLT/AG/CLASS/INR/BV-010</td></tr>
<tr><td colspan="2">TP label</td><td colspan="3">Target Level for INR Numeric Object – Extended configuration</td></tr>
<tr><td rowspan="10">Coverage</td><td>Spec</td><td colspan="3">[IEEE 11073-10418]</td></tr>
<tr><td rowspan="9">Testable items</td><td>NumObj 3; M</td><td>NumObj 5; R</td><td>NumObj 7; M</td></tr>
<tr><td>NumObj 9; R</td><td>NumObj 11; R</td><td>NumObj 13; R</td></tr>
<tr><td>NumObj 15; R</td><td>NumObj 17; R</td><td>NumObj 19; M</td></tr>
<tr><td>NumObj 23; R</td><td>NumObj 31; R</td><td>NumObj 41; C</td></tr>
<tr><td>NumObj 45; C</td><td>NumObj 47; C</td><td>NumObj 49; C</td></tr>
<tr><td>NumObj 51; R</td><td></td><td></td></tr>
<tr><td>Target 3; M</td><td>Target 4; M</td><td>Target 5; M</td></tr>
<tr><td>Target 6; M</td><td>Target 7; R</td><td>Target 8; R</td></tr>
<tr><td colspan="2">Applicability</td><td colspan="3">C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181 AND C_AG_INR_007</td></tr>
<tr><td colspan="2">Initial condition</td><td colspan="3">The simulated manager and the agent under test are in the unassociated state.</td></tr>
<tr><td colspan="2">Test procedure</td><td colspan="3">1. The simulated manager receives an association request from the agent under test.
2. The simulated manager responds with a result = accepted-unknown-config. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager.
3. Check that the field Dev-Config-Id is set in the extended range; if it is not, the manager responds with an "unsupported-config" and waits for a new configuration.
4. Once the agent under test sends an extended configuration, check that the Target Level for INR object attributes are:
a. Mandatory attribute Type
❑ attribute-id = MDC_ATTR_ID_TYPE
❑ attribute-type = TYPE
❑ attribute-value = MDC_PART_PHD_DM (0x00 0x80) | MDC_ TARGET_LEVEL _COAG (0x72 0x78)
b. Not recommended Supplemental –Types Attribute
❑ attribute-id = MDC_ATTR_SPPLEMENTAL_TYPES
❑ attribute-type = SupplementalTypeList
❑ attribute-value.length =<variable> (Sequence of TYPE (TYPE.length= 4 bytes
c. Mandatory attribute Metric-Spec-Small
❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL
❑ attribute-type = MetricSpecSmall (BITS-16)
❑ attribute-value.length = 2 bytes
❑ attribute-value ≠ 0x00 0x00
• Bit 0 must be set (mss-avail-intermittent(0))
• Bit 1 must be set (mss-avail-stored-data(1))
• Bit 9 must be set (mss-acc-agent-initiated(9))
• Bit 12 may be set (mss-cat-manual(12)) if this value is entered manually
• Bit 13 must be set (mss-cat-setting(13))
d. IF Not recommended attribute Metric-Structure-Small is present
❑ attribute-id = MDC_ATTR_METRIC_STRUCTURE_SMALL
❑ attribute-type = MetricStructureSmall
❑ attribute-value.length = <variable>(Sequence of (ms-struct.length =1byte(INT-U8) + ms-comp-no =1byte(INT-U8)))</td></tr>
</table>

	e. IF Not recommended attribute Measurement-Status is present ❑ attribute-id = MDC_ATTR_MSMT_STAT ❑ attribute-type = MeasurementStatus (BITS-16) ❑ attribute-value.length =2 bytes f. IF Not recommended attribute Metric-Id is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO ❑ attribute-type = OID-Type (INT-U16) ❑ attribute-value.length= 2 bytes g. IF Not recommended attribute Metric-Id-List is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO_LIST ❑ attribute-type = MetricIdList ❑ attribute-value.length= SEQUENCE OF OID-Type (INT-U16) h. IF Not recommended attribute Metric-Id-Partition is present ❑ attribute-id = MDC_ATTR_METRIC_ID_PART ❑ attribute-type = NomPartition (INT-U16) ❑ attribute-value.length = 2 bytes i. Mandatory attribute Unit-Code ❑ attribute-id = MDC_ATTR_UNIT_CODE ❑ attribute-type = OID-Type(INT-U16) ❑ attribute-value.length = 2 bytes ❑ attribute-value= MDC_DIM_INR j. IF Not recommended attribute Source-Handle-Reference is present ❑ attribute-id = MDC_ATTR_SOURCE_HANDLE_REF ❑ attribute-type = HANDLE (INT-U16) ❑ attribute-value.length = 2 bytes k. IF recommended attribute Base-Offset-Time-Stamp is present ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes l. IF Not recommended attribute Measure-Active-Period ❑ attribute-id = MDC_ATTR_TIME_PD_MSMT_ACTIVE ❑ attribute-type = FLOAT type ❑ attribute-value.length = 4 bytes m. IF recommended attribute Basic-Nu-Observed-Value ❑ attribute-id = MDC_ATTR_NU_VAL_OBS_BASIC ❑ attribute-type = BasicNuObsValue ❑ attribute-value.length = SFLOAT-Type (INT-U16) n. IF NOT Recommended attribute Accuracy is present ❑ attribute-id = MDC_ATTR_NU_ACCUR_MSMT ❑ attribute-type = FLOAT-Type (INT-U32) ❑ attribute-value.length = 4 bytes
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

<table>
<tr><td colspan="2">TP Id</td><td colspan="3">TP/PLT/AG/CLASS/INR/BV-011</td></tr>
<tr><td colspan="2">TP label</td><td colspan="3">Current Level of Medication Numeric Object – Extended configuration</td></tr>
<tr><td rowspan="10">Coverage</td><td>Spec</td><td colspan="3">[IEEE 11073-10418]</td></tr>
<tr><td rowspan="9">Testable items</td><td>NumObj 3; M</td><td>NumObj 5; R</td><td>NumObj 7; M</td></tr>
<tr><td>NumObj 9; R</td><td>NumObj 11; R</td><td>NumObj 13; R</td></tr>
<tr><td>NumObj 15; R</td><td>NumObj 17; R</td><td>NumObj 19; M</td></tr>
<tr><td>NumObj 23; R</td><td>NumObj 31; R</td><td>NumObj 41; C</td></tr>
<tr><td>NumObj 45; C</td><td>NumObj 47; C</td><td>NumObj 49; C</td></tr>
<tr><td>NumObj 51; R</td><td></td><td></td></tr>
<tr><td>CurrentMed 3; M</td><td>CurrentMed 4; M</td><td>CurrentMed 5; M</td></tr>
<tr><td>CurrentMed 6; M</td><td>CurrentMed 7; R</td><td>CurrentMed 8; R</td></tr>
<tr><td colspan="2">Applicability</td><td colspan="3">C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181 AND C_AG_INR_008</td></tr>
<tr><td colspan="2">Initial condition</td><td colspan="3">The simulated manager and the agent under test are in the unassociated state.</td></tr>
<tr><td colspan="2">Test procedure</td><td colspan="3">1. The simulated manager receives an association request from the agent under test.
2. The simulated manager responds with a result = accepted-unknown-config. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager.
3. Check that the field Dev-Config-Id is set in the extended range; if it is not, the manager responds with an "unsupported-config" and waits for a new configuration.
4. Once the agent under test sends an extended configuration, check that the Current Level of Medication object attributes are:
a. Mandatory attribute Type
❑ attribute-id = MDC_ATTR_ID_TYPE
❑ attribute-type = TYPE
❑ attribute-value = MDC_PART_PHD_DM (0x00 0x80) | MDC_ MED_CURRENT_COAG (0x72 0x7C)
b. Not recommended Supplemental –Types Attribute
❑ attribute-id = MDC_ATTR_SPPLEMENTAL_TYPES
❑ attribute-type = SupplementalTypeList
❑ attribute-value.length =<variable> (Sequence of TYPE (TYPE.length= 4 bytes
c. Mandatory attribute Metric-Spec-Small
❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL
❑ attribute-type = MetricSpecSmall (BITS-16)
❑ attribute-value.length = 2 bytes
❑ attribute-value ≠ 0x00 0x00
• Bit 0 must be set (mss-avail-intermittent(0))
• Bit 1 must be set (mss-avail-stored-data(1))
• Bit 9 must be set (mss-acc-agent-initiated(9))
• Bit 12 may be set (mss-cat-manual(12)) if this value is entered manually
• Bit 13 must be set (mss-cat-setting(13))
d. IF Not recommended attribute Metric-Structure-Small is present
❑ attribute-id = MDC_ATTR_METRIC_STRUCTURE_SMALL
❑ attribute-type = MetricStructureSmall
❑ attribute-value.length = <variable>(Sequence of (ms-struct.length =1byte(INT-U8) + ms-comp-no =1byte(INT-U8)))</td></tr>
</table>

	e. IF Not recommended attribute Measurement-Status is present ❑ attribute-id = MDC_ATTR_MSMT_STAT ❑ attribute-type = MeasurementStatus (BITS-16) ❑ attribute-value.length =2 bytes f. IF Not recommended attribute Metric-Id is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO ❑ attribute-type = OID-Type (INT-U16) ❑ attribute-value.length= 2 bytes g. IF Not recommended attribute Metric-Id-List is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO_LIST ❑ attribute-type = MetricIdList ❑ attribute-value.length= SEQUENCE OF OID-Type (INT-U16) h. IF Not recommended attribute Metric-Id-Partition is present ❑ attribute-id = MDC_ATTR_METRIC_ID_PART ❑ attribute-type = NomPartition (INT-U16) ❑ attribute-value.length = 2 bytes i. Mandatory attribute Unit-Code ❑ attribute-id = MDC_ATTR_UNIT_CODE ❑ attribute-type = OID-Type(INT-U16) ❑ attribute-value.length = 2 bytes ❑ attribute-value= MDC_DIM_MILLI_G j. IF Not recommended attribute Source-Handle-Reference is present ❑ attribute-id = MDC_ATTR_SOURCE_HANDLE_REF ❑ attribute-type = HANDLE (INT-U16) ❑ attribute-value.length = 2 bytes k. IF recommended attribute Base-Offset-Time-Stamp is present ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes l. IF Not recommended attribute Measure-Active-Period ❑ attribute-id = MDC_ATTR_TIME_PD_MSMT_ACTIVE ❑ attribute-type = FLOAT type ❑ attribute-value.length = 4 bytes m. IF recommended attribute Basic-Nu-Observed-Value ❑ attribute-id = MDC_ATTR_NU_VAL_OBS_BASIC ❑ attribute-type = BasicNuObsValue ❑ attribute-value.length = SFLOAT-Type (INT-U16) n. IF NOT Recommended attribute Accuracy is present ❑ attribute-id = MDC_ATTR_NU_ACCUR_MSMT ❑ attribute-type = FLOAT-Type (INT-U32) ❑ attribute-value.length = 4 bytes
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

<table>
<tr><td colspan="2">TP Id</td><td colspan="3">TP/PLT/AG/CLASS/INR/BV-012</td></tr>
<tr><td colspan="2">TP label</td><td colspan="3">Recommended New Level of Medication Numeric Object – Extended configuration</td></tr>
<tr><td rowspan="10">Coverage</td><td>Spec</td><td colspan="3">[IEEE 11073-10418]</td></tr>
<tr><td rowspan="9">Testable items</td><td>NumObj 3; M</td><td>NumObj 5; R</td><td>NumObj 7; M</td></tr>
<tr><td>NumObj 9; R</td><td>NumObj 11; R</td><td>NumObj 13; R</td></tr>
<tr><td>NumObj 15; R</td><td>NumObj 17; R</td><td>NumObj 19; M</td></tr>
<tr><td>NumObj 23; R</td><td>NumObj 31; R</td><td>NumObj 41; C</td></tr>
<tr><td>NumObj 45; C</td><td>NumObj 47; C</td><td>NumObj 49; C</td></tr>
<tr><td>NumObj 51; R</td><td></td><td></td></tr>
<tr><td>RecomMed 3; M</td><td>RecomMed 4; M</td><td>RecomMed 5; M</td></tr>
<tr><td>RecomMed 6; R</td><td>RecomMed 7; R</td><td></td></tr>
<tr><td colspan="2">Applicability</td><td colspan="3">C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181 AND C_AG_INR_009</td></tr>
<tr><td colspan="2">Initial condition</td><td colspan="3">The simulated manager and the agent under test are in the unassociated state.</td></tr>
<tr><td colspan="2">Test procedure</td><td colspan="3">1. The simulated manager receives an association request from the agent under test.
2. The simulated manager responds with a result = accepted-unknown-config. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager.
3. Check that the field Dev-Config-Id is set in the extended range; if it is not, the manager responds with an "unsupported-config" and waits for a new configuration.
4. Once the agent under test sends an extended configuration, check that the recommended New Level of Medication object attributes are:
a. Mandatory attribute Type
❑ attribute-id = MDC_ATTR_ID_TYPE
❑ attribute-type = TYPE
❑ attribute-value = MDC_PART_PHD_DM (0x00 0x80) | MDC_ MED_NEW_COAG (0x72 0x80)
b. Not recommended Supplemental –Types Attribute
❑ attribute-id = MDC_ATTR_SPPLEMENTAL_TYPES
❑ attribute-type = SupplementalTypeList
❑ attribute-value.length =<variable> (Sequence of TYPE (TYPE.length= 4 bytes
c. Mandatory attribute Metric-Spec-Small
❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL
❑ attribute-type = MetricSpecSmall (BITS-16)
❑ attribute-value.length = 2 bytes
❑ attribute-value ≠ 0x00 0x00
• Bit 0 must be set (mss-avail-intermittent(0))
• Bit 1 must be set (mss-avail-stored-data(1))
• Bit 9 must be set (mss-acc-agent-initiated(9))
• Bit 14 must be set (mss-cat-calculation(14))
d. IF Not recommended attribute Metric-Structure-Small is present
❑ attribute-id = MDC_ATTR_METRIC_STRUCTURE_SMALL
❑ attribute-type = MetricStructureSmall
❑ attribute-value.length = <variable>(Sequence of (ms-struct.length =1byte(INT-U8) + ms-comp-no =1byte(INT-U8)))</td></tr>
</table>

	e. IF Not recommended attribute Measurement-Status is present ❑ attribute-id = MDC_ATTR_MSMT_STAT ❑ attribute-type = MeasurementStatus (BITS-16) ❑ attribute-value.length =2 bytes f. IF Not recommended attribute Metric-Id is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO ❑ attribute-type = OID-Type (INT-U16) ❑ attribute-value.length= 2 bytes g. IF Not recommended attribute Metric-Id-List is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO_LIST ❑ attribute-type = MetricIdList ❑ attribute-value.length= SEQUENCE OF OID-Type (INT-U16) h. IF Not recommended attribute Metric-Id-Partition is present ❑ attribute-id = MDC_ATTR_METRIC_ID_PART ❑ attribute-type = NomPartition (INT-U16) ❑ attribute-value.length = 2 bytes i. Mandatory attribute Unit-Code ❑ attribute-id = MDC_ATTR_UNIT_CODE ❑ attribute-type = OID-Type(INT-U16) ❑ attribute-value.length = 2 bytes ❑ attribute-value= MDC_DIM_MILLI_G j. IF Not recommended attribute Source-Handle-Reference is present ❑ attribute-id = MDC_ATTR_SOURCE_HANDLE_REF ❑ attribute-type = HANDLE (INT-U16) ❑ attribute-value.length = 2 bytes k. IF recommended attribute Base-Offset-Time-Stamp is present ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes l. IF Not recommended attribute Measure-Active-Period ❑ attribute-id = MDC_ATTR_TIME_PD_MSMT_ACTIVE ❑ attribute-type = FLOAT type ❑ attribute-value.length = 4 bytes m. IF recommended attribute Basic-Nu-Observed-Value ❑ attribute-id = MDC_ATTR_NU_VAL_OBS_BASIC ❑ attribute-type = BasicNuObsValue ❑ attribute-value.length = SFLOAT-Type (INT-U16) n. IF NOT Recommended attribute Accuracy is present ❑ attribute-id = MDC_ATTR_NU_ACCUR_MSMT ❑ attribute-type = FLOAT-Type (INT-U32) ❑ attribute-value.length = 4 bytes
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

<table>
<tr><td colspan="2">TP Id</td><td colspan="3">TP/PLT/AG/CLASS/INR/BV-013</td></tr>
<tr><td colspan="2">TP label</td><td colspan="3">Device and Sensor annunciation status Enumeration Object – Extended configuration</td></tr>
<tr><td rowspan="5">Coverage</td><td>Spec</td><td colspan="3">[IEEE 11073-10418]</td></tr>
<tr><td rowspan="4">Testable items</td><td>EnumObj 2; M</td><td>EnumObj 3; R</td><td>EnumObj 4; M</td></tr>
<tr><td>EnumObj 5; R</td><td>EnumObj 19; O</td><td></td></tr>
<tr><td>DevSenAn 1; M</td><td>DevSenAn 5; M</td><td>DevSenAn 6; M</td></tr>
<tr><td>DevSenAn 8; R</td><td>DevSenAn 9; R</td><td>DevSenAn 11; O</td></tr>
<tr><td colspan="2">Applicability</td><td colspan="3">C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181 AND C_AG_INR_010</td></tr>
<tr><td colspan="2">Initial condition</td><td colspan="3">The simulated manager and the agent under test are in the unassociated state.</td></tr>
<tr><td colspan="2">Test procedure</td><td colspan="3">1. The simulated manager receives an association request from the agent under test.
2. The simulated manager responds with a result = accepted-unknown-config.
3. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager.
4. Check that the field Dev-Config-Id is in the extended range, if it is not, the simulated manager must respond with an "unsupported-config" and waits for a new configuration.
5. Once the agent under test sends an extended configuration, check that all Device and Sensor annunciation status objects have:
a. Mandatory attribute Type
❑ attribute-id = MDC_ATTR_ID_TYPE
❑ attribute-type = TYPE
❑ attribute-value = MDC_PART_PHD_DM (0x00 0x80), MDC_INR_METER_DEV_STATUS (0x72 0x75)
b. IF Not recommended attribute Supplemental-Types is present
❑ attribute-id = MDC_ATTR_SUPPLEMENTAL_TYPES
❑ attribute-type = SupplementalTypeList
❑ attribute-value.length =<variable>(Sequence of TYPE (TYPE.length= 4 bytes))
c. Mandatory attribute Metric-Spec_Small
❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL
❑ attribute-type = MetricSpecSmall (BITS-16)
❑ attribute-value.length =2 bytes
❑ attribute-value ≠ 0x00 0x00
• Bit 0 must be set (mss-avail-intermittent(0))
• Bit 1 must be set (mss-avail-stored-data(1))
• Bit 2 must be set (mss-upd-aperiodic(2))
• Bit 3 must be set (mss-msmt-aperiodic(3))
• Bit 9 must be set (mss-acc-agent-initiated(9))
d. IF Not recommended attribute Metric-Structure-Small is present
❑ attribute-id = MDC_ATTR_METRIC_STRUCTURE_SMALL
❑ attribute-type = MetricStructureSmall
❑ attribute-value.length = <variable>(Sequence of (ms-struct.length =1byte(INT-U8) + ms-comp-no =1byte(INT-U8)))
e. IF Not recommended attribute Measurement-Status
❑ attribute-id = MDC_ATTR_MSMT_STAT
❑ attribute-type = MeasurementStatus(BITS-16)
❑ attribute-value.length =2 bytes
f. IF Not recommended attribute Metric-Id is present</td></tr>
</table>

	❑ attribute-id = MDC_ATTR_ID_PHYSIO ❑ attribute-type = OID-Type (INT-U16) ❑ attribute-value.length = 2 bytes ❑ attribute-value = Only one attribute of Metric-Id and Metric-Id-List shall be present. g. IF Not recommended attribute Metric-Id is present-List ❑ attribute-id = MDC_ATTR_ID_PHYSIO_LIS ❑ attribute-type = MetricIdList ❑ attribute-value.length= <variable>(SEQUENCE OF OID-Type (INT-U16)) h. IF Not recommended attribute Metric-Id-Partition is present ❑ attribute-id = MDC_ATTR_METRIC_ID_PART ❑ attribute-type = NomPartition (INT-U16) ❑ attribute-value.length = 2 bytes i. IF Not recommended attribute Unit-Code is present ❑ attribute-id = MDC_ATTR_UNIT_CODE ❑ attribute-type = OID-Type (INT-U16) ❑ attribute-value.length = 2 bytes j. IF Not recommended attribute Source-Handle-Reference is present ❑ attribute-id = MDC_ATTR_SOURCE_HANDLE_REF ❑ attribute-type = HANDLE (INT-U16) ❑ attribute-value.length = 2 bytes k. IF recommended attribute Base-Offset-Time-Stamp is present ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes l. IF Not recommended attribute Measure-Active-Period ❑ attribute-id = MDC_ATTR_TIME_PD_MSMT_ACTIVE ❑ attribute-type = FLOAT type ❑ attribute-value.length = 4 bytes m. IF Mandatory attribute Enum-Observed-Value-Basic-Bit-Str is present ❑ attribute-id= MDC_ATTR_ENUM_OBS_VAL_BASIC_BIT_STR ❑ attribute-type = BITS-16 ❑ attribute-value.length = 2 bytes ❑ attribute-value = inr-device-battery-low | inr-sensor-malfunction | inr-sensor-sample-size-insufficient | inr-sensor-strip-insertion | inr-sensor-strip-type-incorrect | inr-sensor-result-too-high | inr-sensor-result-too-low | inr-sensor-temp-too-high | inr-sensor-temp-too-low | inr-sensor-read-interrupt | inr-device-gen-fault | inr-sensor-calibration due
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-014		
TP label		Context Tester Enumeration Object – Extended configuration		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	EnumObj 2; M	EnumObj 3; R	EnumObj 4; M
		EnumObj 5; R	EnumObj 6; R	EnumObj 7; R

		EnumObj 8; R	EnumObj 9; R	EnumObj 10; R
		EnumObj 12; R	EnumObj 16; C	EnumObj 17; C
		EnumObj 20; C	EnumObj 21; C	EnumObj 22; C
		EnumObj 23; C	EnumObj 24; C	ContextTester 3; M
		ContextTester 4; M	ContextTester 5; R	ContextTester 6; M
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181 AND C_AG_INR_012		
Initial condition		The simulated manager and the agent under test are in the unassociated state.		
Test procedure		1. The simulated manager receives an association request from the agent under test. 2. The simulated manager responds with a result = accepted-unknown-config. 3. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager. 4. Check that the field Dev-Config-Id is in the extended range, if it is not, the simulated manager must respond with an "unsupported-config" and waits for a new configuration. 5. Once the agent under test sends an extended configuration, check that all Context Tester objects have: a. Mandatory attribute Type ❑ attribute-id = MDC_ATTR_ID_TYPE ❑ attribute-type = TYPE ❑ attribute-value = MDC_PART_PHD_DM (0x00 0x80), MDC_CTXT_INR_TESTER (0x72 0x84) b. IF Not recommended attribute Supplemental-Types is present ❑ attribute-id = MDC_ATTR_SUPPLEMENTAL_TYPES ❑ attribute-type = SupplementalTypeList ❑ attribute-value.length =<variable>(Sequence of TYPE (TYPE.length= 4 bytes)) c. Mandatory attribute Metric-Spec_Small ❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL ❑ attribute-type = MetricSpecSmall (BITS-16) ❑ attribute-value.length =2 bytes ❑ attribute-value ≠ 0x00 0x00 • Bit 0 must be set (mss-avail-intermittent(0)) • Bit 1 must be set (mss-avail-stored-data(1)) • Bit 2 must be set (mss-upd-aperiodic(2)) • Bit 3 must be set (mss-msmt-aperiodic(3)) • Bit 9 must be set (mss-acc-agent-initiated(9)) d. IF Not recommended attribute Metric-Structure-Small is present ❑ attribute-id = MDC_ATTR_METRIC_STRUCTURE_SMALL ❑ attribute-type = MetricStructureSmall ❑ attribute-value.length = <variable>(Sequence of (ms-struct.length =1byte(INT-U8) + ms-comp-no =1byte(INT-U8))) e. IF Not recommended attribute Measurement-Status ❑ attribute-id = MDC_ATTR_MSMT_STAT ❑ attribute-type = MeasurementStatus(BITS-16) ❑ attribute-value.length =2 bytes f. IF Not recommended attribute Metric-Id is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO ❑ attribute-type = OID-Type (INT-U16)		

	❑ attribute-value.length = 2 bytes ❑ attribute-value = Only one attribute of Metric-Id and Metric-Id-List shall be present. g. IF Not recommended attribute Metric-Id is present-List ❑ attribute-id = MDC_ATTR_ID_PHYSIO_LIS ❑ attribute-type = MetricIdList ❑ attribute-value.length= <variable>(SEQUENCE OF OID-Type (INT-U16)) h. IF Not recommended attribute Metric-Id-Partition is present ❑ attribute-id = MDC_ATTR_METRIC_ID_PART ❑ attribute-type = NomPartition (INT-U16) ❑ attribute-value.length = 2 bytes i. IF Not recommended attribute Unit-Code is present ❑ attribute-id = MDC_ATTR_UNIT_CODE ❑ attribute-type = OID-Type (INT-U16) ❑ attribute-value.length = 2 bytes j. IF Not recommended attribute Source-Handle-Reference is present ❑ attribute-id = MDC_ATTR_SOURCE_HANDLE_REF ❑ attribute-type = HANDLE (INT-U16) ❑ attribute-value.length = 2 bytes k. IF recommended attribute Base-Offset-Time-Stamp is present ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes l. IF Not recommended attribute Measure-Active-Period ❑ attribute-id = MDC_ATTR_TIME_PD_MSMT_ACTIVE ❑ attribute-type = FLOAT type ❑ attribute-value.length = 4 bytes m. Mandatory attribute Enum-Observed-Value-Simple_OID is present ❑ attribute-id= MDC_ATTR_ENUM_OBS_VAL_SIMP_OID ❑ attribute-type = OID-Type(INT-U16) ❑ attribute-value.length = 2 bytes ❑ attribute.value= One of the following nomenclature value will be used: • MDC_CTXT_INR_TESTER_SELF (0x72 0x85) OR • MDC_CTXT_INR_TESTER_HCP (0x72 0x86) OR • MDC_CTXT_INR_TESTER_LAB (0x72 0x87)
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-015		
TP label		Batch Code Enumeration Object – Extended configuration		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	EnumObj 2; M	EnumObj 3; R	EnumObj 4; M
		EnumObj 5; R	EnumObj 6; R	EnumObj 7; R
		EnumObj 8; R	EnumObj 9; R	EnumObj 10; R

		EnumObj 12; R	EnumObj 16; C	EnumObj 17; C
		EnumObj 20; C	EnumObj 21; C	EnumObj 22; C
		EnumObj 23; C	EnumObj 24; C	BatchCode 2; M
		BatchCode 3; M	BatchCode 4; M	BatchCode 5; R
		BatchCode 6; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_181 AND C_AG_INR_013		
Initial condition		The simulated manager and the agent under test are in the unassociated state.		
Test procedure		1. The simulated manager receives an association request from the agent under test. 2. The simulated manager responds with a result = accepted-unknown-config. 3. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager. 4. Check that the field Dev-Config-Id is in the extended range, if it is not, the simulated manager must respond with an "unsupported-config" and waits for a new configuration. 5. Once the agent under test sends an extended configuration, check that all Batch Code objects have: a. Mandatory attribute Type ❑ attribute-id = MDC_ATTR_ID_TYPE ❑ attribute-type = TYPE ❑ attribute-value = MDC_PART_PHD_DM (0x00 0x80), MDC_BATCHCODE_COAG (0x72 0x74) b. IF Not recommended attribute Supplemental-Types is present ❑ attribute-id = MDC_ATTR_SUPPLEMENTAL_TYPES ❑ attribute-type = SupplementalTypeList ❑ attribute-value.length =<variable>(Sequence of TYPE (TYPE.length= 4 bytes)) c. Mandatory attribute Metric-Spec_Small ❑ attribute-id = MDC_ATTR_METRIC_SPEC_SMALL ❑ attribute-type = MetricSpecSmall (BITS-16) ❑ attribute-value.length =2 bytes ❑ attribute-value ≠ 0x00 0x00 • Bit 0 must be set (mss-avail-intermittent(0)) • Bit 1 must be set (mss-avail-stored-data(1)) • Bit 2 must be set (mss-upd-aperiodic(2)) • Bit 3 must be set (mss-msmt-aperiodic(3)) • Bit 9 must be set (mss-acc-agent-initiated(9)) d. IF Not recommended attribute Metric-Structure-Small is present ❑ attribute-id = MDC_ATTR_METRIC_STRUCTURE_SMALL ❑ attribute-type = MetricStructureSmall ❑ attribute-value.length = <variable>(Sequence of (ms-struct.length =1byte(INT-U8) + ms-comp-no =1byte(INT-U8))) e. IF Not recommended attribute Measurement-Status ❑ attribute-id = MDC_ATTR_MSMT_STAT ❑ attribute-type = MeasurementStatus(BITS-16) ❑ attribute-value.length =2 bytes f. IF Not recommended attribute Metric-Id is present ❑ attribute-id = MDC_ATTR_ID_PHYSIO ❑ attribute-type = OID-Type (INT-U16)		

	❑ attribute-value.length = 2 bytes ❑ attribute-value = Only one attribute of Metric-Id and Metric-Id-List shall be present. g. IF Not recommended attribute Metric-Id is present-List ❑ attribute-id = MDC_ATTR_ID_PHYSIO_LIS ❑ attribute-type = MetricIdList ❑ attribute-value.length= <variable>(SEQUENCE OF OID-Type (INT-U16)) h. IF Not recommended attribute Metric-Id-Partition is present ❑ attribute-id = MDC_ATTR_METRIC_ID_PART ❑ attribute-type = NomPartition (INT-U16) ❑ attribute-value.length = 2 bytes i. IF Not recommended attribute Unit-Code is present ❑ attribute-id = MDC_ATTR_UNIT_CODE ❑ attribute-type = OID-Type (INT-U16) ❑ attribute-value.length = 2 bytes j. IF Not recommended attribute Source-Handle-Reference is present ❑ attribute-id = MDC_ATTR_SOURCE_HANDLE_REF ❑ attribute-type = HANDLE (INT-U16) ❑ attribute-value.length = 2 bytes k. IF recommended attribute Base-Offset-Time-Stamp is present ❑ attribute-id = MDC_ATTR_TIME_STAMP_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes l. IF Not recommended attribute Measure-Active-Period ❑ attribute-id = MDC_ATTR_TIME_PD_MSMT_ACTIVE ❑ attribute-type = FLOAT type ❑ attribute-value.length = 4 bytes m. Mandatory attribute Enum-Observed-Value-Simple-Str is present ❑ attribute-id= MDC_ATTR_ENUM_OBS_VAL_SIMP_STR ❑ attribute-type = BITS-16 ❑ attribute-value.length = 2 bytes
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-016		
TP label		PM-Store Attributes for Extended Configuration		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	PMStrObjAtt 1; M	PMStrObjAtt 5; M	PMStrObjAtt 6; M
		PMStrObjAtt 8; M	PMStrObjAtt 9; R	PMStrObjAtt 12; M
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_041 AND C_AG_OXP_181		
Initial condition		The simulated manager and the agent under test are in the unassociated state.		
Test procedure		1. The simulated manager receives an association request from the agent under test. 2. The simulated manager responds with a result = accepted-unknown-config.		

	3. The agent responds with a "Remote Operation Invoke | Confirmed Event Report" message with an MDC_NOTI_CONFIG event to send its configuration to the manager. 4. The handle for the PM-Store attribute must be: a. Mandatory attribute Handle ❑ attribute-type = HANDLE ❑ attribute-value.length = 2 bytes ❑ attribute-value = must be unique and non-zero. Actual value may be specified by the Device Specialization. 5. The simulated manager shall send a Get request for the PM-Store object with an attribute-id-list set to 0 to indicate all PM-Store attributes. 6. The agent issues a GET response with the PM-Store attributes it supports: a. Mandatory Store-Capacity-Count ❑ attribute-id = MDC_ATTR_METRIC_STORE_CAPAC_CNT ❑ attribute-type = INT-U32 ❑ attribute-value.length = 4 bytes ❑ attribute-value = See relation with next attribute b. Mandatory attribute Store-Usage-Count ❑ attribute-id = MDC_ATTR_METRIC_STORE_USAGE_CNT ❑ attribute-type = INT-U32 ❑ attribute-value.length = 4 bytes ❑ attribute-value = consistent with actual number of segments present and always ≤ than Storage-Capacity-Count c. Mandatory attribute PM-Store-Label ❑ attribute-id = MDC_ATTR_PM_STORE_LABEL_STRING ❑ attribute-type = OCTET STRING ❑ attribute-value.length = <Variable> ❑ attribute-value = Printable ASCII d. IF Not Recommended attribute Sample-Period is present ❑ attribute-id = MDC_ATTR_TIME_PD_SAMP ❑ attribute-type = RelativeTime ❑ attribute-value.length = 4 bytes ❑ attribute-value = <Not relevant in this test>
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-017		
TP label		PM Segment Object for Extended Configuration		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	PMStoreObj 5; M	PMStoreObj 6; O	PMStoreObj 7; M
		PMSegObj 6; M	PMSegObj 7; M	PMSegObj 8; M
		PMSegObj 10; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_041 AND C_AG_OXP_181		
Initial condition		The simulated manager and the agent under test are in the operating state.		
Test procedure		1. The simulated manager shall send a Get request for the PM-Store object with an attribute-id-list set to 0 to indicate all PM-Store attributes. 2. The simulated manager shall send a Get-Segment-Info object action for the PM-		

	Segment object with SegmSelection = all-segments to indicate the PM-Segments attributes of all available PM-Segments. 3. The agent issues a response with the PM-Segment attributes it supports: a. Mandatory attribute Segment-Label ❑ attribute-id = MDC_ATTR_PM_SEG_LABEL_STRING ❑ attribute-type = OCTET STRING ❑ attribute-value.length = consistent with value ❑ attribute-value = <printable ASCII> b. Mandatory attribute Segment-Start-Abs-Time ❑ attribute-id = MDC_ATTR_TIME_START_SEG_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes ❑ attribute-value = <Not relevant for this test> c. Mandatory attribute Segment-End-Abs-Time ❑ attribute-id = MDC_ATTR_TIME_END_SEG_BO ❑ attribute-type = BaseOffsetTime ❑ attribute-value.length = 8 bytes ❑ attribute-value = <Not relevant for this test> d. Mandatory attribute Segment-Usage-Count ❑ attribute-id = MDC_ATTR_SEG_USAGE_CNT ❑ attribute-type = INT-U32 ❑ attribute-value.length = 4 bytes ❑ attribute-value = <not relevant in this test> e. Mandatory attribute PM-Segment-Entry-Map ❑ SegmentEntryHeader.value = One of the next must be set: • seg-elem-hdr-relative-time(1) • seg-elem-hdr-hires-relative-time(2) • seg-elem-hdr-bo-time(3) ❑ SegmEntryElem: < Record the fields for later comparison> 4. Repeat steps 3 and 4 for every Segment.
Pass/Fail criteria	• All checked values are as specified in the test procedure. • Every segm-entry-header must contain one of the time formats. • At least one PM-Segment must reference the INR in its PM-Segm-Entry-Map. • If there are more than one PM-Segment, the rest of them must reference one of the objects defined in the spec in its PM-Segm-Entry-Map.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-017_A		
TP label		PM-Segment Object for Extended Configuration.MDS Event Reports		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	PMStoreObj 3; M	PMStoreObj 4; M	
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_041 AND C_AG_OXP_181		
Initial condition		The simulated manager and the agent under test are in the operating state.		
Test procedure		1. The simulated manager shall send a Get request for the PM-Store object with an attribute-id-list set to 0 to indicate all PM-Store attributes. 2. The simulated manager shall send a Get-Segment-Info object action for the PM-Segment object with SegmSelection = all-segments to indicate the PM-Segments attributes of all available PM-Segments. 3. The simulated manager asks for a measurement. 4. Check the event reports that are sent by the agent.		
Pass/Fail criteria		In step 4, the agent shall not send the data with MDS event reports.		
Notes				

TP Id		TP/PLT/AG/CLASS/INR/BV-018		
TP label		Communication Model: Association Procedure		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	AgProcAs 1; M	AgProcAs 2; M	AgProcAs 4; M
		AgProcAs 5; M	AgProcAs 6; M	AgProcAs 7; M
		AgProcAs 8; M	AgProcAs 9; M	AgProcAs 10; M
		AgProcAs 11; M	AgProcAs 12; M	MDSMethods 3;M
		AgProcAs 13; O		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163		
Initial condition		The simulated manager and the agent under test are in the unassociated state.		
Test procedure		1. The agent sends a message to associate with the simulated manager, the expected fields sent by the agent are: a. APDU Type ❑ field- type = AarqApdu ❑ field-length =2 bytes ❑ field-value =0xE2 0x00. b. assoc-version ❑ field- type = AssociationVersion ❑ field-length =BITS-32 ❑ field- value=0x80 0x00 0x00 0x00 c. data-proto-id ❑ field- type = DataProtoId(INT-U16) ❑ field-length =2 bytes ❑ field- value=0x50 0x79 (20601) d. protocol-version ❑ field- type = Protocol Version ❑ field-length = 4 bytes ❑ field- value= At least bit protocol-version2(1) is set to 1 (0x40 0x00 0x00 0x00 OR 0xC0 0x00 0x00 0x00)		

	e. encoding rules ❑ field- type = EncodingRules ❑ field-length = 2 bytes ❑ field- value= • Bit 0 must be set (support for MDER) • Bits 1 (XER) and 2 (PER) may be set • All other bits must be 0. f. nomenclature version ❑ field- type = NomenclatureVersion ❑ field-length = 4 bytes ❑ field- value=0x80 0x00 0x00 0x00 ❑ This value indicates version1 is supported (nom-version1(0) is set). g. functional – units ❑ field- type = FunctionalUnits ❑ field-length = 4 bytes • Bit 0 must be 0. • Bits 1 and 2 may be set • The rest of the bits must not be set h. System type ❑ field- type = SystemType ❑ field-length = 4 bytes ❑ field- value = 0x00 0x80 0x00 0x00 (sys-type-agent) i. System-Id ❑ field- type = OCTET STRING ❑ field-length = 8 bytes ❑ field- value = 0xXX 0xXX 0xXX 0xXX 0xXX 0xXX 0xXX 0xXX (octet string length = 8 | UI-64 manufacturer and device) ❑ This value will be System Id attribute of MDS Object. j. dev-config-id ❑ field- type = ConfigId(INT-U16) ❑ field-length = 2 bytes ❑ field- value = • 0x07 0x08 OR 0x07 09 for standard configuration. • <between 0x40 0x00 and 0x7F 0xFF > for extended configuration. k. data-req-mode-flags (DataReqModeCapab) ❑ field- type = DataReqModeFlags ❑ field-length = 2 bytes • If the agent supports Agent-initiated measurement transfer → Bit 15 is set (data-req-supp-init-agent(15)) • If the agent supports requesting objects based on the object handle →Bit 6 will be set (data-req-supp-scope-handle(6)). • If the agent supports single response →Bit 8 will be set (data-req-supp-mode-single-rsp(8)). • If the agent supports time unlimited data request →Bit 10 will be set (data-req-supp-mode-time-no-limit(10)).

	l. data-req-init-agent-count (DataReqModeCapab) ❑ field- type = INT-U8 ❑ field-length = 2 bytes ❑ field.value = 0x01 m. data-req-init-manager-count (DataReqModeCapab) ❑ field- type = INT-U8 ❑ field-length = 2 bytes ❑ field.value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-019		
TP label		PM Segment Object for Extended Configuration		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	PMStrObjMeth 1; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_041 AND C_AG_OXP_071		
Initial condition		The simulated manager and the agent under test are in the operating state and the agent has at least one PM-Segment with data stored.		
Test procedure		1. Take measurements with the agent of a value that is stored on a PM-Segment. 2. The simulated manager shall send a Get request for the PM-Store object with an attribute-id-list set to 0 to indicate all PM-Store attributes. 3. The agent issues a GET response with the PM-Store attributes, record the values of the PMStoreCapab attribute. 4. The simulated manager shall send a Get-Segment-Info object action with a segmSelection set to all-segments to check that there are no segments in use. 5. The simulated manager sends a Clear-Segment to all segments: a. Data APDU ❑ Type = Invoke | Confirmed Action, ❑ HANDLE = obj-handle ❑ Action = MDC_ACT_SEG_CLEAR ❑ SegmSelection = all-segments 6. The agent under test operation response: a. Data APDU ❑ Type = Response | Confirmed Action, ❑ HANDLE = obj-handle ❑ Action = MDC_ACT_SEG_CLEAR 7. Delay. 8. The simulated manager sends a request for the PM-Segment Data with SegmSelection = all-segments to obtain all the segments: a. Data APDU ❑ Type = Invoke | Confirmed Action, ❑ HANDLE = obj-handle ❑ Action = MDC_ACT_SEG_TRIG_XFER ❑ SegmSelection = <Instance number of the selected PM-Segment that contained data before the clear-segment action>		

	9. The agent issues an action response with the Data: a. Data APDU ❑ Type = Response | Confirmed Action, ❑ HANDLE = obj-handle ❑ Action = MDC_ACT_SEG_TRIG_XFER ❑ TrigSegmXferRsp = • IF pmsc-clear-segm-remove is NOT set THEN TrigSegmXferRsp = tsxr-fail-segm-empty • ELSE TrigSegmXferRsp = tsxr-fail-no-such-segment
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-021		
TP label		Operating State. Manager to Agent Maximum APDU Size		
Coverage	**Spec**	[ISO/IEEE 11073-20601A]		
	Testable items	CommonCharac 3; M		
	Spec	[IEEE 11073-10418]		
	Testable items	ComChar 2; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163		
Initial condition		The simulated manager and the agent are in the operating state.		
Test procedure		1. The simulated manager issues a "Remote Operation Invoke | Get" command with: a. Obj-handle set to 0 (to request an MDS object) b. attribute-id-list.count = 103 c. attribute-id-list: (MDC_ATTR_ID_MODEL, MDC_ATTR_SYS_ID, MDC_ATTR_DEV_CONFIG_ID) repeated 34 times followed by an additional MDC_ATTR_ID_MODEL 2. Check the response of the agent. 3. The simulated manager issues a "Remote Operation Invoke | Get" command with the handle set to 0 (to request an MDS object) and an empty attribute-id-list to indicate all attributes. 4. Check the response of the agent.		
Pass/Fail criteria		• In step 2, the agent under test may respond with a rors-cmip-get listing all the requested attributes, or with a roer message. If PICS C_AG_OXP_100 =TRUE and the agent does not respond with a rors-cmip-get message, it responds with a roer message or rorj (resource-limitation) message, a WARNING will appear. o If the response is a get response, the total size of the response cannot exceed the sum of the APDU sizes of the supported specializations (limited to an absolute limit of 64 512 octets): ▪ Pulse oximeter -> 9216 octets ▪ Weighing scales -> 896 octets ▪ Glucose meter -> 5120 octets or 64 512 octets if the agent supports PM-Store ▪ Blood pressure -> 896 octets ▪ Thermometer -> 896 octets ▪ Independent activity hub -> 5120 octets ▪ Cardiovascular -> 64 512 octets or 6624 octets if the agent under test only supports the Step Counter Profile		

	▪ Strength -> 64512 octets: ▪ Adherence monitor -> 1024 octets ▪ Peak flow -> 2030 octets ▪ Body composition analyser -> 7730 octets ▪ Basic ECG/Simple ECG -> 7168 octets or 64 512 octets if the agent supports PM-Store ▪ Basic ECG/Heart rate -> 1280 octets or 64 512 octets if the agent supports PM-Store ▪ International normalized ratio -> 896 octets or 64 512 if the agent supports PM-Store o In the case where it responds with a roer, the reason must not be protocol-violation (23) • In step 4, the agent must respond with a rors-cmip-get message.
Notes	

TP Id		TP/PLT/AG/CLASS/INR/BV-022		
TP label		INR measurement above the capabilities of the device sensor		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	INR 29; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND (C_AG_INR_001 OR C_AG_INR_002) AND (NOT C_AG_OXP_181)		
Initial condition		The simulated manager and the agent under test are in the operating state.		
Test procedure		1. Place in the device sensor an INR sample with an INR level above the capabilities of the device sensor and acquire a measurement with the agent under test. 2. The test tool simulated manager waits to receive an event report from the agent under test. The event report shall contain the following values: a. Data APDU ❑ event-type = MDC_NOTI_SCAN_REPORT_FIXED (0x0D 0x1D) ❑ obj-handle = 1 (1st Measurement is INR) ❑ obs-val-data = • Basic-Nu-Observed-Value = 0x07FE • Base-Offset-Time-Stamp = <Not relevant for this Test Case>		
Pass/Fail criteria		All checked values are as specified in the test procedure.		
Notes		The vendor must provide an INR sample (or a simulated INR solution) with an INR level above the capabilities of device sensor.		

TP Id		TP/PLT/AG/CLASS/INR/BV-023		
TP label		INR measurement below the capabilities of the device sensor		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	INR 30; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND (C_AG_INR_001 OR C_AG_INR_002) AND (NOT C_AG_OXP_181)		
Initial condition		The simulated manager and the agent under test are in the operating state.		
Test procedure		1. Place in the device sensor a blood sample with a blood glucose level below the capabilities of the device sensor and acquire a measurement with the agent under test.		

	2. The test tool simulated manager waits to receive an event report from the agent, under test. The event report shall contain the following values: a. Data APDU ❑ event-type = MDC_NOTI_SCAN_REPORT_FIXED (0x0D 0x1D) ❑ obj-handle = 1 (1st Measurement is INR) ❑ obs-val-data = • Basic-Nu-Observed-Value = 0x0802 • Base-Offset-Time-Stamp = <Not relevant for this Test Case>
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	The vendor must provide an INR sample (or a simulated INR solution) with an INR level below the capabilities of device sensor.

TP Id		TP/PLT/AG/CLASS/INR/BV-024		
TP label		Control Calibration measurement above the capabilities of the device sensor		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	CtrlCal 6; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_INR_002 AND (NOT C_AG_OXP_181)		
Initial condition		The simulated manager and the agent under test are in the operating state.		
Test procedure		1. Place in the device sensor a control calibration sample with an INR level above the capabilities of the device sensor and check it with the agent under test. 2. The test tool simulated manager waits to receive an event report from the agent under test. The event report shall contain the following values: a. Data APDU ❑ event-type = MDC_NOTI_SCAN_REPORT_FIXED (0x0D 0x1D) ❑ obj-handle = 2 (Control Calibration) ❑ obs-val-data = • Basic-Nu-Observed-Value = 0x07FE • Base-Offset-Time-Stamp = <Not relevant for this Test Case>		
Pass/Fail criteria		All checked values are as specified in the test procedure.		
Notes		The vendor must provide a Control Calibration with an INR level above the capabilities of device sensor.		

TP Id		TP/PLT/AG/CLASS/INR/BV-025		
TP label		Control Calibration measurement below the capabilities of the device sensor		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	CtrlCal 7; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_INR_002 AND (NOT C_AG_OXP_181)		
Initial condition		The simulated manager and the agent under test are in the operating state.		
Test procedure		1. Place in the device sensor a control calibration sample with an INR level above the capabilities of the device sensor and check it with the agent under test. 2. The test tool simulated manager waits to receive an event report from the agent, under test. The event report shall contain the following values:		

	a. Data APDU ❑ event-type = MDC_NOTI_SCAN_REPORT_FIXED (0x0D 0x1D) ❑ obj-handle = 2 (Control Calibration) ❑ obs-val-data = • Basic-Nu-Observed-Value = 0x0802 • Base-Offset-Time-Stamp = <Not relevant for this Test Case>
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	The vendor must provide a Control Calibration with an INR level below the capabilities of device sensor.

TP Id		TP/PLT/AG/CLASS/INR/BV-026		
TP label		Set Time (Base Offset Time) INR monitor		
Coverage	**Spec**	[IEEE 11073-10418]		
	Testable items	MDSMethods 5; M		
Applicability		C_AG_OXP_000 AND C_AG_OXP_163 AND C_AG_OXP_014		
Initial condition		The simulated manager and the agent under test are in the operating state.		
Test procedure		1. The simulated manager sends a SET action: ❑ CHOICE = SetBOTimeInvoke ❑ action-type = MDC_ACT_SET_BO_TIME ❑ the action-info-args are SetBOTimeInvoke ▪ date-time = bo-seconds = 0x00 0x00 0x00 0x00, bo-fractions = 0x00 0x00, bo-time-offset = 0x3C 2. The agent under test response shall be a rors-cmip-confirmed-action: ❑ action-type = MDC_ACT_SET_BO_TIME ❑ action-info-args shall be empty.		
Pass/Fail criteria		All checked values are as specified in the test procedure.		
Notes				

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