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| INTERNATIONAL TELECOMMUNICATION UNION | **Focus Group OnCar Communication** |
| **TELECOMMUNICATIONSTANDARDIZATION SECTOR**STUDY PERIOD 2009-2012 | **FG CarCOM-R-9** |
| **English only****Original: English** |
|  |  | Kyoto, 12-13 April 2012 |
| **REPORT** |
| **Source:** | Chairman and Vice-Chairman |
| **Title:** | Report of FG CarCOM meeting held in Kyoto, Japan on 12-13 April 2012 |

***Abstract***

*ITU-T FG CarCOM held its 9th meeting in Kyoto, Japan on 12-13 April 2012. Incoming liaisons from ITU-T SG 16 and ITU-T JCA-SG&HN were reviewed. A response liaison to the JCA-SG&HN was drafted and approved. There were 3 new contributions received related to the noise distortion metric introduced last meeting, a reference-free SNR measure which predicts ITU-T P.56 SNR measurements, and a new Annex/Appendix to FG.VSSR which provides guidance on how different implementations affect delay. Most of the time was spent discussing how different implementations affect delay and updating the latest draft of FG.VSSR. The next meeting will likely be hosted by QNX Software Systems in the Detroit, Michigan, USA area on 16-17 July 2012.*

**1.0 Introduction**

This document is a meeting report from the 9th meeting of ITU-T FG CarCOM which was hosted by Mitsubishi Electric in Kyoto, Japan on 12-13 April 2012.

The meeting documents are available on the ITU-T website and may be downloaded for free at: <http://www.itu.int/md/T09-FG.CARCOM2-120412/sum/en>

In this report, the participants are identified by their initials (see the table in Annex 1). Annex 2 provides the list of documents.

**2.0 Review of Liaison Statements (LS)**

**2.1 LS “*Draft Reply LS to ITU-T SG 12 on Tandeming of voice quality enhancement devices in end to end connections and signalling of signal processing capabilities between terminals (COM12-LS-148)*” from SG 16 (ILS-22)**

This incoming LS was sent from Q18/16 to Q11/12 and copied to FG CarCOM for information. It requests input from Q11/12 on how coordination of signal processing functions (e.g., AEC, Noise Reduction, etc.) affects overall performance.

The group felt that no response was needed since this LS was sent to FG CarCOM for information only.

**2.2 LS “*Incoming LS: Smart Grid related issues (representative and deliverables)*” from ITU-T JCA-SG&HN (ILS-23)**

This incoming LS from the ITU-T Joint Coordination Activity on Smart Grid and Home Networks (JCA-SG&HN) was sent to many groups within the ITU-T. It requests interested groups to appoint a representative to participate in the JCA-SG&HN.

It was decided to send a response LS. This LS was approved during the meeting and is described in Section 2.3.

**2.3 Outgoing LS “*Response to LS to ITU-T JCA on Smart Grid related issues (representative and deliverables)*” to ITU-T JCA-SG&HN (OLS-10)**

This outgoing LS to the ITU-T JCA-SG&HN was in response to their incoming LS (see Section 2.2). In notes FG CarCOM does not currently see any relationship with the JCA-SG&HN. It also requests that FG CarCOM be consulted if the work of JCA-SG&HN starts to involve speech technologies in vehicles.

This outgoing LS can be found in document **OLS-10**.

**3.0 New Contributions**

**3.1 “*Draft 14 of FG.VSSR*” from Chairman (C-28)**

This contribution contains the 14th draft of FG.VSSR which represents the output from the last FG CarCOM meeting.

**3.2 “*Noise Distortion Measure Update for Narrowband and Wideband*” from Volkswagen AG, Technische Universität Braunschweig (C-29)**

This contribution reports on enhancements to an objective measure of noise distortion proposed at the last meeting which is intended to optimize performance of a noise reduction system. The performance of the measure was improved and also extended to apply to narrowband systems in addition to wideband systems.

During the meeting there was agreement to include this measure as a diagnostic tool in an Annex of FG.VSSR. The contribution authors agreed to update the QoS table to add a column which contains the subjective descriptors associated with each QoS level. This will help interpret the QoS levels defined in the table.

**3.3 “*Reference-free SNR Measurement Update for Narrowband and Wideband*” from Volkswagen AG, Technische Universität Braunschweig (C-30)**

This contribution provides additional information on a reference-free SNR measure introduced at the last meeting which predicts SNR measurements made using ITU-T P.56 which requires a reference.

Results show the reference-free SNR measure is highly correlated with the ITU-T P.56-based SNR measure. It was felt that there should be a brief description of the measure in the body of FG.VSSR, and a full description in an Annex. The point was made that the specific weighting also needs to be verified since the purpose of any SNR measure adopted is to be predictive of system-performance—not predict an SNR measurement made with ITU-T P.56. Whether a weighting will be employed or not depends on further input of the participants.

**3.4 “*Draft 15 of FG.VSSR*” from Chariman (C-31)**

This contribution contains the 15th draft of FG.VSSR. It is the input version to the current FG CarCOM meeting.

**3.5 “*Annex: Frame process and Delay*” from Asahi Kasei Corporation (C-32)**

This contribution proposes an Annex to FG.VSSR which is intended to provide system designers with guidance on good design and how to avoid large delays due to poor implementation.

It was felt that this type of contribution should be an Appendix instead of an Annex because it is more informative and not considered a normative part of recommendation. There was a lot of time spent trying to understand the different types of implementations and the delays they introduce; which was not necessarily a reflection on contribution. **YI** agreed to revise the proposed Appendix with input from **HG** and **YN** and resubmit to the group for review. It was noted that local wireless connections should be referred to as “Short Range Wireless” (SRW) connections.

**4.0 Meeting discussions**

**4.1 Day 1 discussions**

The Chairmanwelcomed participants and thanked **YN** for hosting the meeting. The agenda was reviewed and approved.

Liaison statements were then reviewed. Please see Section 2 for the discussions and decisions related to these liaisons.

Contribution **C-32** was introduced by **YI** and discussed. Please see Section 3.5 for more information about this contribution and related discussions.

Version 15 of FG.VSSR (**C-31**) was then reviewed. The results of discussions are reflected in a revision of the document as changes and comments. This updated version will be made available as a contribution before the next meeting.

**4.2 Conference call discussions**

At end of Day 1 there was a conference call for those who could not attend the meeting in person (see Annex 1).

**HG** started by summarizing the discussion during the meeting so far. There were no significant comments on the summary.

**HY** then introduced **C-29** and **C-30**. Discussions and decisions related to these contributions can be found in Sections 3.2 and 3.3, respectively.

**4.3 Day 2 discussions**

On day 2 discussions continued on Version 15 of FG.VSSR (**C-31**). Again, discussions and decisions were captured in a revision of this draft which will be made available as a contribution before the next meet.

Future meetings were discussed. QNX offered to host the next meeting in Detroit, pending confirmation of the availability of a facility. Head Acoustics offered their Brighton, Michigan facility as a back-up option if QNX could not host. The last meeting will be held somewhere in Europe 12-13 November 2012.

**HG** once again thanked **YN** and Mitsubishi Electric for hosting the meeting, and then closed the meeting.

**5.0 Work plan**

Below is the current work plan for FG CarCOM:

* July 16 – 17, 2012 Detroit meeting of FG CarCOM:
	+ Work on 16th version of FG.VSSR
* November 12 – 13, 2012 European meeting of FG CarCOM:
	+ Work on 17th version of FG.VSSR

**Action items:**

**Remaining work from previous meetings:**

1. **PN** to work on annex/appendix containing wind buffet test procedure
2. **SP** to work on Signal Enhancement Layer section of FG.VSSR

**New work:**

1. **HY** to update QoS table in Annex for noise distortion diagnostic measure
2. **YI** to revise Appendix on “Frame process and delay” with input from **HG** and **YN** and resubmit to group
3. **SP** to add “Interpretation” columns to each of the QoS tables
4. **MF** to update audio subsystem figure so that reference tap is after optional signal enhancement box
5. **ALL: To provide input on measurements!**

Annex 1

**List of participants**

**Attended meeting in person:**

|  |  |  |
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| Hans Gierlich  | **HG** | HEAD acoustics – FG CarCOM Chair- Germany |
| Scott Pennock | **SP** | Research in Motion- FG CarCOM Vice-Chair- Canada |
| Toby Eadelman | **TE** | Johnson Controls- USA |
| Yoji Ishikawa | **YI** | Asahi Kasai Cooperation - Japan  |
| Yushi Naito | **YN** | Mitsubishi Electric Corporation, SG16 Chair – Japan |
| Christopher Steck | **CS** | Audience - USA |

**Conference call participants:**

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| Mats Forsen | **MF** | Volvo/Forsen Data- Sweden |
| Huajun Yu | **HY** | Braunschweig Technical University - Germany |

Annex 2

List of documents



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