Question 5/12 – Telephonometric methodologies for handset and headset terminals

(Continuation of Question 3/12 and Question 5/12)

1 Motivation

Multimedia evolution leads to an increase of the audio signal bandwidth as well as spatial audio in the New Generation Networks. Beside the existing narrowband and wideband, super-wideband as well as fullband is being developed for the next years. Also, telecommunication is moving from monaural towards binaural.

This situation brings new challenges in terms of standardization which need to be covered. The extension of the bandwidth also leads to a need of the harmonization of the algorithms aiming to calculate Loudness Ratings and loudness for all bandwidths from narrowband to fullband audio signals. Furthermore, the extension of the operating frequency range of measurement equipment is required.

The following Recommendations/Supplements, in force at the time of approval of this Question, fall under its responsibility: P.16, P.32, P.48, P.51, P.52, P.53, P.54, P.55, P.57, P.58, P.61, P.64, P.75, P.76, P.78, P.79, P.350, P.360, P.370, P.380, P.570, P.581, P.700, P Suppl. 10, P Suppl. 16, P Suppl. 20

2 Question

Study items to be considered include, but are not limited to:

– What enhancements in the existing Recommendations P.57, P.58 and P.51 need to be defined in order to accommodate for the evolution in the frequency range of audio transmissions?

– What new Recommendations are required in order to address new technologies being developed during the study period?

– What new Recommendations are required in order to address changes in user behaviour or user interaction methodologies and technologies?

3 Tasks

Tasks include, but are not limited to:

– Improvement of the specifications for acoustic frontends, mainly artificial ears, in order to better match an extended frequency range and fit modern earphone devices, aiming to revise Recommendation P.57 and P.58.

– Investigation of the directivity – including performance behind the lip-plane of humans – as well as extended frequency range of the artificial mouth, aiming to revise Recommendation P.58 as well as P.51.

– Examine if the "non-standardise" handset positions used during a conversation could form the basis for a study which potentially could accommodate an extended range of new test position complementary to those specified in P.64.

– How to aggregate measurements from multiple test positions into an overall measure of transmission performance should be investigated. This is intended to address the situation that users are holding and positioning communication devices in many different ways.

– Investigate measurement setups for devices that make use of bone conducting technology.

- Investigate measurement setups for wearable devices e.g. smart watches.
- Maintenance of Recommendations previously handled by Q3/12: P.350, P.370, P Suppl. 10, P Suppl. 16.

An up-to-date status of work under this Question is contained in the SG12 work programme
http://www.itu.int/ITU-T/workprog/wp_search.aspx?q=5/12

4 Relationships

WSIS Action Lines

- C2

Sustainable Development Goals

- 9

Recommendations

- P.300 series

Questions

- 4/12 and 6/12

Study Groups

- None

Other bodies

- IEEE / TIA, ETSI, IEC TC 29, 3GPP, CENELEC