

Report

ITU-T TEST EVENT

Performance assessment of vehicle-mounted mobile phones in conjunction with Hands-free Terminals according to Recommendations ITU-T P.1100 and ITU-T P.1110

INFORMATION ABOUT THE EVENT

Date and venue: 12 – 16 May 2014, Geneva (ITU Headquarters)

Participants: Mercedes-Benz, Volvo, Bosch, Toyota, Microsoft, Renault

The tests were performed by HEAD acoustics (Testing laboratory)

Participants at the site: 7 representatives of the participated companies, 4 from TSB

Web sources: <http://itu.int/go/test-event>

OBJECTIVES

The test event was devoted to an evaluation of audio performance of mobile phones in conjunction with vehicle-mounted hands free terminals (HFT). All tests are based on the chapter 12 of Recommendations ITU-T P.1100/P.1110.

In general, determined faults are related to:

- an incorrect behavior of the mobile phone in the wireless connection to a vehicle's HFT;
- an unacceptable quality of a voice-call inside the car and outside the car for the conversational partner.

The key goal of this event is to raise attention of mobile phone vendors to these sort of issues and to improve the Recommendations ITU-T P.1100/P.1110.

The key outcome of the test event will be published in a new web portal, describing the existing issues, faults that have been determined at the test event, result audio samples and a "white list" of mobile phones which passed the requirement of the tests.

KEY RESULTS OF THE EVENT

1. The statistics of testing
 - 35 mobile phones from 12 mobile phone vendors
 - 46 tests (32 Narrowband and 14 Wideband)
 - 30 % mobile phones comply with the requirements of this event
 - 30 % mobile phones have the values in the approximate range
 - 40 % mobile phones did not meet requirements of this event
2. The common problems which have been determined at the test event:

- The phone does not react correctly to the specific commands of vehicle’s HFT. These commands request the phone to deactivate the following features:
 - “Noise reduction”: “Noise reduction” is a feature which is used for reducing the level of background noise picked up by the microphone. From a customer point of view, this issue can cause a significant reduction of a voice-call level. Noise reduction is implemented in the vehicle’s HFT based on the measurements performed by the car system. This system is attuned to the specific acoustical environment in a car and depends on the car’s characteristics (e.g. number of HFT’s microphones, isolation level, etc.). This feature is expected to be deactivated in the phone when it is used inside of the car.
 - “Echo canceller”: “Echo canceller” aims to avoid echo effect in the car. Similarly, Echo cancellation is implemented in the vehicles HFT and attuned to the specific acoustical environment in a car. Regardless that each mobile phone has this feature installed, this feature is expected to be deactivated when the mobile phone is used inside a car. If not, this may result in a poor conversational quality.
 - Gain, attenuation or equalizers in both transmission directions of the phones overrule all efforts of car manufactures to tune the HFT systems in vehicles.
 - The above problems have an impact on the listening speech quality and conversational quality in the car. Therefore the quality of service of voice-call gets reduced. From a customer point of view it means a bad sound in the car or for the conversational partner.
-