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Influence of the Positioning of Handsets during Conversations on the Speech Transmission Quality

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The positioning of handsets at the ear during conversations may influence the quality of the transmitted speech, especially for modern smartphones using multiple microphones for noise reduction (NR) and echo cancellation (EC). Many parameters (e.g. individual preferences of the user, background noise environment, etc.) contribute to the positioning of the handset at the ear during conversation.

The influence of the different parameters was investigated in a previous research. These results provided useful information to derive realistic handset test positions for speech quality testing in laboratory environment. As a follow-up a test series regarding the influence of the handset positioning on the speech transmission quality is carried out.

Different speech quality parameters such as loudness rating, frequency response, speech and noise transmission quality, etc. are objectively evaluated for several of mobile phones. The tested devices can divided into three groups:

- old style cell phones;
- modern mid-tier smartphones, using probably one or more microphones for NR and EC;
- State-of-the-art smartphones ("flagships") with multiple microphones used for NR and EC.

This contribution presents results of this test. First conclusions are derived and discussed.

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