

Instrumental speech and noise quality assessment for super-wideband and fullband transmission

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Abstract

Recently super-wideband (SWB) and even fullband (FB) capable communication devices were introduced in the markets providing an audio bandwidth up to 20 kHz. At the same time, the development of speech enhancement algorithms proceeds for SWB/FB applications. To ensure sufficient quality from the end user's point of view, there is clearly a need for new measurement methods taking into account all perceptual effects when using the increased bandwidth for communication.

Especially the signal processing for noise reduction in sending direction has a high influence on the speech quality perceived by the far-end user. The extension to SWB/FB is not a trivial task since all perceptually motivated prediction models are based on a large base of auditory tests and new experiments must be conducted for this purpose. This contribution presents auditory tests in the SWB/FB context, conducted as a basis for the instrumental assessment of speech, noise and global quality.

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