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Influence of Driving Noise Characteristics on Speech Quality in the Presence of Background Noise in Vehicles

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The assessment of speech quality in the presence of background noise according to ETSI EG 396-202-3 has long been part of test specifications for the performance of hands-free terminals in vehicles like the ITU-T Recommendations P.1100 and P.1110. However, current limits for G-MOS, N-MOS and S-MOS in ITU-T P.1100 and P.1110 roughly consider the influence of driving noise by distinguishing between different speeds but not driving noise levels or spectral shape, in particular caused by additional noise sources like fan noise on the MOS results. Measurements on various devices suggest that the achieved scores of a hands-free terminal significantly depend on the noise characteristic which is applied. This contribution compares and discusses the performance of implementations in narrowband and wideband scenarios depending on the applied noise levels and -spectra.
