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Estimating Implementation Effort from Acoustic "Quick-Check" Tests in Vehicles

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The "entrance point" for high quality voice communication from vehicles are the acoustic properties in the vehicle cabin, in particular the quality, position and orientation of acoustic transducers (loudspeakers and microphones) and the ambient noise conditions. This applies to regular comfort hands-free communication (HFT) as well as for eCall applications (In-vehicle Systems, IVS). Adverse acoustic conditions make higher demands on the hands-free signal processing algorithms. This is often a controversial discussion point during a hands-free implementation and tuning process in vehicles.

An acoustic "QuickCheck" in a vehicle cabin even without installed hands-free or eCall system, only based on cabin acoustics, may help to verify the suitability of microphone and loudspeaker positions. Such tests can be carried out in a reasonably short time, but provide important information to estimate the later implementation and tuning effort for the HFT or IVS system. The contribution discusses the informative value of such tests using practical examples from existing vehicles.

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