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Speech Communication in Emergency Call Scenarios for Motorcycles

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Specifications for speech communication are available for eCall systems in cars, such as the Russian MGS/GOST R55531 Specification or ITU-T Recommendation P.1140. The requirements within the specifications are challenging but feasible to meet, and both specifications are designed with slightly different focus. A much more challenging topic are eCall systems for powered-two-wheelers (P2W) due to the acoustic environment, stronger limitations on microphone and loudspeakers and in particular the extreme situations in crash scenarios: bikers may be far away from the motorcycle after a crash which dramatically increases the problem of speech communication either from the driver to the emergency call center and vice versa. The advantage of possible speech communication is undisputable; however, reasonable requirements are needed for appropriate system design. The most important test case should be the so called "silent call" scenario which may require a completely different design and tuning strategy of such implementations. The contribution discusses challenges and the derivation of potential limits based on laboratory test results.
