

## Speech Quality of Mobile Phones via Wideband Bluetooth Link

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The automotive industry “meets” the mobile phone industry when drivers communicate via their vehicles’ hands-free systems. The most common use case is that the driver’s mobile phone linked via Bluetooth provides the mobile network access. Control commands (AT-commands) are defined to configure the Bluetooth connection, disable internal signal processing in the mobile phone in this case and provide a fully transparent audio gateway functionality of the phone. Signal processing is handled in the hands-free system. Although many mobile phones disable echo cancellation or noise reduction, they often show severe limitations such as strong level adjustments, AGC or frequency equalization (discussed also at DAGA 2011, M.Lepage). Today it can even be observed that it is hardly possible to find any up-to-date mobile phone that behaves fully transparent in wideband communication. The contribution discusses typical results from a number of wideband capable mobile phones. As this inappropriate behavior of mobile phones hampers speech quality tuning of hands-free systems, it remains a very critical aspect for the automotive industry and demands stronger focus on standardization.

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