

IWG EMC: E-Call

Statement VW-Porsche-Audi

Diego Cuartielles Ruiz, I/EG-I2, 10.10.2023

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- Statement VW-Porsche-AUDI:
 - Objective: Verification of the control unit function in the vehicle under EMC conditions.
 - Control unit has self-monitoring and self warning indication systems. This means that complete monitoring is in place.
 - Certified modules are used for the radio connection, as they are used everywhere. The radio certification also includes proof of EMC.
 - This means that with the vehicle homologation and the radio module certification, there is a comprehensive EMC qualification.
 - Additional measurements do not add value, but additional costs, loss of time and risk in the CoP test for the customers.
 - This contradicts the “Term of References” (IWG-EMC-26-13e) and must be avoided.

- Proposal:
 - Not include the E-Call test in the UN ECE R10.

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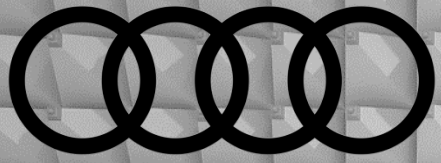
Analysis of feasibility and **technical barriers** on immunity test

› Scenario 1 (Cellular Repeater)

- › eCall to call center unwanted/ **call number not easy to change** when using serial/ customer SW
- › Verification of “Minimum Set of Data” (MSD) unclear
- › For which markets does Scenario 1 work: only for EU vehicles, if the anechoic chamber is located within the EU?
- › The used frequency channels of the mobile radio connection are in the frequency range to be tested for immunity: In immunity tests (using an over-the-air connection), the frequency range of the used signal is not usually tested.
- › Protection of the cellular repeater is necessary
- › If the eCall connection is interrupted, the weak point is difficult to localize: Cellular Repeater, emergency call module in the vehicle or antennas of the repeater or vehicle (blocking). However, the repeater is not part of the test scope.

› Scenario 2 (Base Station Simulator)

- › Works only with GSM (2G)
- › For **3G/4G/5G known eSIM (encryption keys) required**
- › The used frequency channels of the mobile radio connection are in the frequency range to be tested for immunity: : In immunity tests (using an over-the-air connection), the frequency range of the used signal is not usually tested.
- › Dynamic range of the communications tester, e.g. R&S CMW 500) very small (additional amplifiers are necessary)
- › Protection of the base station simulator and amplifier necessary: adaptive bandpass filter required for different modems of the individual markets
- › If the eCall connection is interrupted, it is difficult to localize the weak point: Base Station Simulator, emergency call module in vehicle or antennas of repeater or vehicle (blocking).



Danke!