

Duration: 08:30 - 12:30

Room: Seoul

WS-12

Newest Trends in OTA Performance Testing for Automotive and 5G

Organiser:

Wim Kotterman, TU Ilmenau, Germany

Abstract

With the recent standardisation by 3GPP and CTIA of Over-the-Air testing of 3G/4G mobile User Equipment, a logical development in OTA testing is concentrating on 5G mobile. However, the advent of autonomous and/or cooperative driving and the importance of V2X for traffic safety and optimised traffic flow, open up completely new themes for OTA testing.

Complex, and hazardous, situations cannot reproducibly be enacted in real life, which calls for virtual environments for testing, like virtual electro-magnetic environments for mobile communications and virtual drive tests for automotive. In these virtual environments, sensor data beyond RF communications have to be included too, e.g., radar and visual clues. Shared with 5G is the problem posed by the introduction of integrated radio-heads, i.e., separating antennas from RF equipment becomes impossible, especially at millimetre-wave frequencies. Then, access to the internal functions of the equipment can only be gained Over-the-Air. This workshop presents visions and initiatives, from academia, research institutes, and industry throughout Europe on these topics.

Programme

08:30 - 08:55 *Understanding the Critical Role of OTA Testing to the Success of mm-Wave 5G*

Malcolm Robertson, Keysight, USA

08:55 - 09:20 *Over-the-Air Automotive Antenna Measurements*

Aleksis Anterow, Orbit/FR, Germany

09:20 - 09:45 *Test Tracks in the Automated Driving Era: Testing Wireless Communication for Cooperative Intelligent Transport Applications*

Erik Ström, Chalmers University, Sweden

09:45 - 10:10 *Antenna Measurements and Wave Propagation in the Virtual Road for Future Mobility Applications*

Christian Bornkessel, TU Ilmenau, Germany

10:10 - 10:50 *Break*

10:50 - 11:10 *Measurements with an Over-the-Air Multi-Probe Setup for Cars*

Taimoor Abbas, Volvo Car, Sweden

11:10 - 11:30 *V2X Channel Modelling: Requirements, Standards, and Gap Analysis*

Mate Boban, Huawei ERC, Germany

11:30 - 11:50 *Virtual Radar Drive - Simulation of the Automotive Radar Channel Including Interference*

Mario Pauli, Karlsruhe Institute of Technology, Germany

11:50 - 12:10 *Over the Air Testing of 802.11p Links*

Jürgen Kunisch, IMST, Germany

12:10 - 12:30 *Wireless Cable – The Future of OTA Testing for V2X Systems and ITS*

Christopher Schirmer, Fraunhofer IIS, Germany