Automotive Testing Expo 2016: Rohde & Schwarz presents its test and measurement solutions for the automotive industry

Today’s connected cars include an increasing number of communications applications, including wireless applications for infotainment, driver assistance systems, emergency and intelligent transport systems and interfaces for embedded systems. Today’s T&M solutions from Rohde & Schwarz are already helping the automotive industry meet the requirements of tomorrow. The T&M specialist will be at the international Automotive Testing Expo 2016 trade fair in Stuttgart. In hall 1, booth 1458, it will be presenting its solutions under the motto "The Experts in Connected Car Testing".

Munich, May 13, 2016 — For testing driver assistance systems, Rohde & Schwarz will be showcasing its R&S FSW85 high-end signal and spectrum analyzer, including the analysis option for FMCW chirp signals. The instrument is perfect for analyzing automotive radar sensors designed for designated frequency bands around 24 GHz and 79 GHz. The R&S FSW85 is the only instrument on the market that can cover the frequency range from 2 Hz to 85 GHz in a single sweep. Its optional analysis bandwidth of up to 2 GHz makes it possible to demodulate and thoroughly analyze even extremely broadband signals.

The ARTS9510 radar target simulator is the perfect complement to the signal analyzer. It will be on display at the trade fair in a T&M solution optimized for production tests on automotive radar sensors. The system consists of the ARTS9510, the R&S TS7124 RF shielded box and the R&S NRP8S power sensor. On an automated production line, this system can be used to measure a radar sensor’s most important RF parameters and maximum power leakage. The system is so compact that it fits in a 19" cabinet.

Since wireless communications modules are becoming increasingly common in cars, the automotive industry is also faced with the challenge of testing mobility scenarios such as data and voice handovers. Rohde & Schwarz offers R&S CMWcards, a user-friendly graphical tool for creating signaling tests on the R&S CMW500 wideband radio communication tester. R&S CMWcards lets users simulate all currently required signaling procedures in the lab. Not only does this reduce the number of necessary drive tests in the field, but it also make errors completely reproducible.
The testing requirements for automatic motor vehicle emergency call systems remain a current issue, regardless of whether they are for the European eCall (mandatory in the EU from April 2018) or the Russian ERA-Glonass. The eCall/ERA-Glonass test system consisting of the R&S CMW500 and the GNSS-capable R&S SMBV100A vector signal generator is a tried and tested hardware-in-the-loop (HIL) solution from Rohde & Schwarz for standard-compliant end-to-end tests for wireless communications and GNSS-capable components in in-vehicle systems (IVS).

The number of transmitters and receivers inside cars is also increasing now that modern infotainment systems bundle the car radio, navigation system, handsfree equipment, mobile Internet and other functions. Component manufacturers not only have to test diversity reception and signal handover, they also have to make sure that the different signals do not interfere with each other. Rohde & Schwarz demonstrates with the R&S BTC broadcast test center a solution for simulating cellular signals such as LTE and non-cellular signals such as WLAN and Bluetooth, which can also interfere with the wanted signal.

For sophisticated EMC certification and development measurements, Rohde & Schwarz presents the new R&S ESW EMI test receiver. The new test receiver offers the widest dynamic range and highest level accuracy on the market. It can be used to conduct certification tests in line with all relevant commercial and military standards such as CISPR, EN, FCC and MIL. It is also ideal for performing EMC tests in the automotive industry in line with the highest internal company standards. It is extremely fast thanks to the integrated FFT-based TD scan and two parallel CISPR detectors. With the switchable notch filters for the license-free 2.4 GHz and 5.8 GHz ISM bands, the R&S ESW also provides reliable EMC measurements for high carrier signals. Optional realtime spectrum analysis with its persistence mode and frequency mask trigger enables users to identify hidden or superimposed disturbances and analyze their causes.

Rohde & Schwarz also offers a number of oscilloscopes solutions that are tailored to the automotive industry. The T&M expert will demonstrate on the R&S RTE digital oscilloscope the trigger and decoding option for CAN, CAN-FD and CAN-ISO for design verification, putting into operation and debugging automotive buses.
Visitors can also see the new R&S RTO2000 multidomain oscilloscope in action. The company will be demonstrating how the R&S RTO2000 equipped with compliance test option for BroadR-Reach can perform automated tests on automotive Ethernet interfaces in line with the OPEN Alliance SIG standard. The oscilloscope can be synchronized with the BroadR-Reach system clock. In conjunction with the R&S RTO oscilloscope’s unique high definition (HD) mode, the compliance test delivers highly accurate and conclusive results. For analyzing automotive network applications, Rohde & Schwarz also offers a new eye diagram option for its R&S ZNB and R&S ZNBT vector network analyzers. The displayed eye diagrams make it possible to simultaneously and comprehensively analyze the signal integrity of automotive wiring systems in the time and frequency domain.

Also on display is the new R&S Scope Rider, the first oscilloscope with isolated inputs in a handheld format that delivers the functionality and user experience of a modern lab oscilloscope. R&S Scope Rider packs five test instruments into a compact format. Its robust design makes it perfect for mobile installation and maintenance work. And it also offers the performance needed for lab applications.

Rohde & Schwarz will present these and other test solutions at Automotive Testing Expo 2016 in Stuttgart (hall 1, booth 1458). For more information about Rohde & Schwarz automotive test solutions, visit www.rohde-schwarz.com/ad/press/automotive

Press contacts:
Europe (headquarters): Christian Mokry, Phone: +49 89 4129 13052, E-mail: press@rohde-schwarz.com
North America: Pam Sanders, Phone: +1 410 910 7908, E-mail: pam.sanders@rsa.rohde-schwarz.com
Asia Pacific: Wen Shi Tong, Phone: +65 6 307-0029, E-mail: press.apac@rohde-schwarz.com

Contacts for readers:
Customer Support Europe, Africa, Middle East: +49 89 4129 12345
customersupport@rohde-schwarz.com
Customer Support North America: +1 888 TEST RSA (+1 888 837 87 72)
customer.support@rsa.rohde-schwarz.com
Customer Support Latin America: +1 410 910 79 88
customersupport.la@rohde-schwarz.com
Customer Support Asia Pacific: +65 65 13 04 88
customersupport.asia@rohde-schwarz.com
Customer Support China: +86 800 810 8228 or +86 400 650 5896
customersupport.china@rohde-schwarz.com
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