Rohde & Schwarz, Vector and Commsignia demonstrate the first end-to-end tester for V2X applications of tomorrow

Future intelligent transport systems (ITS) will be implemented using standards such as IEEE 802.11p WLAN. IEEE 802.11p enables vehicles and infrastructures to share information in order to warn drivers of hazards such as accidents, construction zones and slippery roads. At the ITS World Congress in Bordeaux, Rohde & Schwarz, Vector and Commsignia will jointly present a V2X end-to-end tester. The tester demonstrates how, for the first time ever, an onboard unit in a simulated vehicle environment receives 802.11p-based messages under real-world conditions and subsequently displays them on a simulated in-vehicle screen.

Munich, September 30, 2015 — The V2X end-to-end tester for vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) applications is based on the fully automated R&S TS-ITS100 RF conformance test system from Rohde & Schwarz. The RF conformance test system is augmented by the Vector CANoe application and communications test system, which monitors radiocommunications and internal vehicle buses and even simulates some of them. The Commsignia ITS-OB2-M onboard unit for 802.11p serves as the DUT. The overall system is the first to enable automotive manufacturers and their suppliers to verify the functionality and performance of vehicle-to-vehicle applications with an end-to-end test – from transmitting RF signals over a simulated channel to receiving the RF signal via an onboard unit and subsequent presentation on an in-vehicle display.

During the demonstration, an 802.11p message "Warning, vehicle braking" is transmitted via an RF signal. The R&S TS-ITS100 generates an 802.11p RF signal with the required content and transmits it to the Commsignia onboard unit. The Rohde & Schwarz system uses fading to impair the signal and simulate real-world propagation conditions. The ITS-OB2-M receives the RF signal, converts the message to CAN bus format and feeds it to the vehicle bus monitored by the CANoe system. CANoe verifies whether the RF signal was correctly transmitted from the onboard unit to the CAN bus despite fading. The message is then forwarded to an in-vehicle display simulated by the CANoe system.

The joint 802.11p test demonstrator from Rohde & Schwarz, Vector and Commsignia will be on display at the ITS World Congress in Bordeaux October 5 to 9, 2015 at the
Rohde & Schwarz booth (F22). More information on the individual products is available at:


Vector CANoe: [http://www.vector.com/car2x_en](http://www.vector.com/car2x_en)


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Rohde & Schwarz
The Rohde & Schwarz electronics group offers innovative solutions in the following business fields: test and measurement, broadcast and media, secure communications, cybersecurity, radiomonitoring and radiolocation. Founded more than 80 years ago, this independent company has an extensive sales and service network and is present in more than 70 countries. The electronics group is among the world market leaders in its established business fields. On June 30, 2014, Rohde & Schwarz had approximately 9800 employees. It achieved a net revenue of EUR 1.75 billion in the 2013/2014 fiscal year (July to June). The company is headquartered in Munich, Germany. It also has regional headquarters in Singapore and Columbia, Maryland, USA, to manage its operations in these regions.

Vector Informatik
Vector Informatik is the leading manufacturer of software tools and embedded components for the development of electronic systems and their networking with many different systems from CAN to Automotive Ethernet.

Vector has been a partner of automotive manufacturers and suppliers and related industries since 1988. Vector tools and services provide engineers with the decisive advantage to make a challenging and highly complex subject area as simple and manageable as possible. Vector employees work on electronic innovations for the automotive industry every day. Worldwide customers in the automotive, commercial vehicles, aerospace, transportation, and control technology industries rely on the solutions and products of the independent Vector Group for the development of technologies for future mobility. Vector worldwide currently employs more than 1,400 people with sales of EUR 269 million in 2014. With its headquarters in Germany (Stuttgart), Vector has subsidiaries in the USA, Japan, France, Great Britain, Italy, Austria, Sweden, South Korea, India, China, and Brazil.

Commsignia Ltd.
Commsignia specializes in Connected Car / V2X hardware and software solutions with a mission to increase traffic safety and efficiency on the road. Dedicated to the research and development of car connectivity systems for innovative car makers, the company aims to create the world’s first connectivity platform that integrates Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) applications with everyday technologies from tablets and phones to smart homes. The product line of Commsignia includes a V2X Communication Software Stack, Safety Applications, a V2X Simulator, On Board Units (OBU) and Roadside Units (RSU), all developed with flexibility, reliability and security in mind. The founders include respected scientists who have been key contributors to the development of V2X technologies in the past decade, allowing Commsignia to become the fastest growing V2X solution provider on the market.

All press releases, including photos for downloading, are available on the Internet at http://www.press.rohde-schwarz.com.