Renesas Electronics and Cohda Wireless Bring Together V2X Semiconductors and Software Technology to Deliver V2X Reference Solution for the Autonomous-Driving Era

Cohda Wireless to Demonstrate New Jointly-Developed V2X Reference Solution at the ITS World Congress 2016, October 10 -14

TOKYO, Japan, ADELAIDE, Australia, October 7, 2016 — Renesas Electronics Corporation (TSE: 6723), a premier supplier of advanced semiconductor solutions, and Cohda Wireless, the leading supplier in the vehicle-to-everything (V2X) and connected autonomous vehicle (CAV), today announced their collaboration in the fields of automotive vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communications. By bringing together Renesas' V2X R-Car system-on-chips (SoCs) and Cohda Wireless' V2X and CAV software solutions, the companies deliver a V2X reference solution that supports European and North American communications standards for V2X system development.

Cohda Wireless will demonstrate the jointly-developed V2X reference solution consisting of Renesas' R-Car W2R and R-Car W2H SoCs combined as a starter kit and Cohda Wireless' software at the ITS World Congress 2016 taking place October 10 -14 in Melbourne/Australia (Booth 313).

In response to the industry expectations for U.S. Department of Transportation (USDOT) to mandate V2X to improve road safety and efficiency in addition to the recent deployment of V2X technology in Japan, targets have been set to widely introduce secure V2X technology in multiple global regions. With over a decade of R&D on IEEE 802.11p protocol, WLAN-based technology has proven to offer reliable and secure communication for Cooperative Intelligent Transport Systems (C-ITS). Critical and time-sensitive information on all road users and roadway elements, such as traffic control devices, are expected to be shared among for improved safety and efficiency. According to USDOT estimates, V2X technology can minimize over 80 percent of non-impaired crash types.

Renesas has established an ecosystem with Cohda Wireless to offer a reference solution that will contribute to the acceleration of V2X system development. The new V2X reference solution complies with European and North America standards from the European Telecommunications Standards Institute (ETSI), Intelligent Transport Systems (ITS), Society of Automotive Engineers (SAE) and IEEE.

"Renesas is committed to providing better safety and comfort to the automotive industry by delivering easy-to-use solutions for advanced driver assistance systems (ADAS) and V2X systems that enable quicker time to market," said Jean-Francois Chouteau, Senior Director,

Automotive Safety & ADAS Solution Business Division, at Renesas Electronics Corporation. "Cohda Wireless' software is a key element of our V2X solutions that contributes greatly to safer driving and to our shared goal of driving mainstream deployment of V2X systems and realization of autonomous driving."

"As the market leader for software solutions in the fields of connected autonomous vehicles and V2X, Cohda Wireless is pleased to support Renesas' R-Car W2R and R-Car W2H SoCs" said Paul Gray, CEO of Cohda Wireless. "Renesas' V2X SoCs in combination with Cohda's SW solutions addresses the needs for the upcoming challenges for autonomous driving."

Renesas' V2X starter kit

The Renesas V2X starter kit for the V2X reference solution comprises the R-Car W2R, a 5.9 GHz band automotive wireless communication WAVE SoC, and the V2X host processor R-Car W2H SoC with an embedded hardware security module (HSM), which encrypts the communication/messages and protects against cyber-attacks. The R-Car-based starter kit conforms to the IEEE 802.11p communication standard for ITS used in Europe and North America and to all other applicable standards including that for security requirements. The starter kit also meets or exceeds the SAE minimum performance requirements established for the USDOT-funded connected vehicle pilots, which is widely expected to be the precursor to wider deployment of V2X-enabled infrastructure. The R-Car W2R delivers industry-leading performance when using Renesas' exclusive radio frequency (RF) system design technology, e.g., suppressing out-of-band transmission signal noise below the -65 dBm stipulated by ETSI. The R-Car W2H V2X Host processor SoC can integrate Japanese, US, and European security methods, communications protocols, and applications. The V2X starter kit is designed and tested to comply with automotive environmental, quality and reliability requirements and is refined for best performance using Renesas' experience and expertise developed over many years as a leading automotive advanced semiconductor supplier.

Cohda's software solution

Cohda Wireless' software solution consists of network-, facilities-, applications-, management-, and security layers for both IEEE1609 and ETSI ITS-TC stack.

System manufacturers can now select an attractive Renesas – Cohda Wireless V2X reference solution and take advantage of the high maturity level of the hardware and software. Both were deeply validated and proven for reliable operation.

Availability

The Renesas-Cohda Wireless V2X reference solution is scheduled to be available in April

2017.

About Renesas Electronics Corporation

Renesas Electronics Corporation (TSE: 6723) delivers trusted embedded design innovation with complete semiconductor solutions that enable billions of connected, intelligent devices to enhance the way people work and live—securely and safely. The number one global supplier of microcontrollers, and a leader in Analog & Power and SoC products, Renesas provides the expertise, quality, and comprehensive solutions for a broad range of Automotive, Industrial, Home Electronics (HE), Office Automation (OA) and Information Communication Technology (ICT) applications to help shape a limitless future. Learn more at renesas.com.

About Cohda Wireless

Cohda Wireless the leading supplier in the V2X and Connected Autonomous Vehicle (CAV) market. The Australian company manufactures systems with acknowledged best-in-world performance. Cohda's hardware and software products are used in more than 65 per cent of all V2X field trials worldwide today. Customers include many carmakers, tier one suppliers, automotive chipmakers, road authorities and new market entrants. Cohda's products are used widely in locations including the USA, Europe, Australia, Japan, Africa, Middle East, China, Singapore, Taiwan, and Korea.

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