



NI and S.E.A. First to Earn OmniAir Qualified Test Equipment (OQTE) Status for a C-V2X Modular Bench Tester and for a C-V2X and DSRC Sniffer

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AUSTIN, Texas--(BUSINESS WIRE)--Oct. 12, 2021-- NI (NASDAQ: NATI) and S.E.A. today announced that the SEA-NI V2X Bench Tester and the SEA-NI V2X Sniffer have earned OmniAir® Qualified Test Equipment (OQTE) certification. These products are the first modular bench test solution for cellular-based vehicle-to-everything (C-V2X) and the first combined C-V2X and DSRC sniffer to receive this certification.

With the broad-scale deployment of 5G over the past year, more investments have been made in C-V2X technology to improve the safety and efficiency of vehicles and autonomous systems. As standards for cellular technology continue to rapidly evolve, OEMs and suppliers require more agility to quickly adapt to the latest technology.

As a PXI-based test system, the NI-SEA V2X Bench Tester solution provides enhanced modularity for V2X test systems that can easily expand into hardware-in-the-loop (HIL) testing or other applications. This software-defined architecture can be integrated into existing test systems, enabling more flexibility and scaling. With it, engineers can test earlier in the design cycle to validate functionality and make changes without having to reinvest in new hardware. The SEA-NI V2X Sniffer enhances adaptability by capturing and monitoring both V2X bench and field information for major regional protocol standards.

"Advancements in cellular technology enable critical strides for connected and intelligent mobility," said Ritu Favre, EVP and GM of NI's Semiconductor and Electronics; Aerospace, Defense, and Government; and Transportation Business Units. "By leveraging cellular technology for data sharing and communication between vehicles, C-V2X technology significantly enhances vehicle safety through improved decision making for both humans and autonomous systems. The SEA-NI C-V2X test systems are designed to help OEMs and Tier 1 suppliers validate and bring this important technology to market faster, with the confidence to ensure it meets the latest safety and technology standards. We are excited to work closely with OmniAir Consortium to achieve this shared goal and accelerate the industry's path to Vision Zero."

Capabilities of the SEA-NI V2X solutions include:

- **SEA-NI V2X Bench Tester:** Combines software from S.E.A. GmbH with NI PXI and USRP software defined radio (SDR) hardware to transmit and receive real signals to radio frequency (RF) and global navigation satellite system (GNSS) channels on C-V2X controllers. By articulating the C-V2X and GNSS signals to the C-V2X controller, the C-V2X solution can simulate real signals such as an emergency brake warning or four-way stop to help engineers characterize device performance in the lab. The solution offers configurations for compliance testing, open-loop testing, closed-loop testing and HIL testing.
- **SEA-NI V2X Sniffer:** The first-of-its-kind mobile system is based on the NI USRP SDR hardware. It supports information capture based on various V2X standards. The solution provides advanced monitoring and decoding of C-V2X and DSRC signals and messages, in addition to unique online monitoring of RF-quality and behavior.

"The very dynamic communication technologies require deep technology competence and a flexible system concept. We have selected the NI modular hardware platform and its SDR-based radio technology together with our modular test software and S.E.A. V2X software modules, which enables us to provide high-quality, efficient V2X test solutions for V2X test and measurement applications. We are honored that the value of our approach is confirmed by the successful OmniAir certification. The great work of OmniAir to ensure interoperability is key to the successful implementation of V2X technology," said Dr. Gerd Schmitz, CEO and cofounder of S.E.A.

OmniAir Consortium® has certified the SEA-NI V2X Bench Tester to validate the physical layer and the SEA-NI V2X Sniffer to validate the physical layer and protocol conformance for messages. OmniAir Certification for V2X devices assures automotive OEMs; Tier 1 suppliers; manufacturers of devices, modules, and chips; and deploying agencies that OmniAir certified devices conform to industry standards and meet minimum performance and interoperability requirements.

"Congratulations to S.E.A. and NI for earning OmniAir qualification status for two V2X test systems," said Jason Conley, executive director of OmniAir Consortium. "OQTE enables testing and certification of potentially life-saving V2X devices."

About NI

At NI, we bring together the people, ideas and technology so forward thinkers and creative problem solvers can take on humanity's biggest challenges. From data and automation to research and validation, we provide the tailored, software-connected systems engineers and enterprises need to Engineer Ambitiously™ every day ni.com

About S.E.A. Datentechnik GmbH

S.E.A. Datentechnik GmbH, Troisdorf, Germany, is a privately owned, innovative product and system integration company providing test and measurement systems since 1995. S.E.A. provides the design, integration and long-term maintenance of customer-specific test systems as a partner for industry, government and research institutes for different technology areas. S.E.A. has won multiple awards as an NI Partner. One strategic focus of S.E.A. is the provision of solutions for specific communication applications like V2X or mobile communications. www.sea-gmbh.com/v2x

About OmniAir Consortium

OmniAir Consortium is the leading industry association promoting interoperability and certification for ITS, tolling and connected vehicles. OmniAir's membership includes public agencies, private companies, research institutions and independent test laboratories. OmniAir Consortium certified devices, qualified test equipment and OmniAir Authorized Test Laboratories can be found, including the SEA-NI C-V2X bench tester and sniffer, on the catalog of certified products at www.omniair.org/certified-products.

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