

Qualcomm Contacts:
Pete Lancia, Corporate Communications
Phone: 1-858-845-5959
Email: corpcomm@qualcomm.com

Mauricio Lopez-Hodoyan, Investor Relations
Phone: 1-858-658-4813
Email: ir@qualcomm.com

Qualcomm Announces Significant Progress Toward Commercial Introduction of C-V2X in Europe

---Multiple Cellular Vehicle-to-Everything (C-V2X) products achieved RED certification---

SAN DIEGO— March 10, 2020 — Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated, today announced that multiple Cellular Vehicle-to-Everything (C-V2X) products from leading automotive and infrastructure suppliers, featuring the Qualcomm® 9150 C-V2X Platform, have completed certification in accordance with the European Radio Equipment Directive (“RED”) Certification in Europe, a requirement for placing radio equipment on the market. This is a major step forward toward the commercial introduction of C-V2X in Europe.

C-V2X is a global solution for vehicle-to-vehicle (V2V) and V2X communication designed to enhance road safety and facilitate smart transportation systems, including support of automated driving. Developed by the 3rd Generation Partnership Project (3GPP) organization, C-V2X establishes the foundation to support safety use-cases with a path for integration into next generation 5G technologies, while tapping into the broader 3GPP ecosystem to drive wider adoption. With its evolution to 5G New Radio, C-V2X offers rich and differentiated experiences consumers continue to demand as we usher in the world of 5G and autonomy.

A new European Standard (EN) defining the use of C-V2X as an access layer technology for Intelligent Transportation System (ITS) devices was recently approved through the European Telecommunication Standardization Institute (ETSI). In addition, all the ETSI standards and specifications that define other ITS protocols above the access layer have been updated to support utilization of C-V2X as the underlying access layer. These standards and specifications have been included in the ETSI ITS Release 1 specification set and provide the basis for development of interoperable C-V2X ITS implementations and devices from multiple vendors.

The following products, all of which feature the Qualcomm® 9150 C-V2X chipset solution, have achieved RED certification:

- Commsignia On-Board Unit (OBU)
- Commsignia Roadside Unit (RSU)
- Ficosa OBU
- Kapsch RSU
- Savari® MobiWAVE® 2000 OBU
- Savari® StreetWAVE® SW2000 RSU
- WNC module

We anticipate that this early product availability will accelerate adoption of the solution in the region.

C-V2X continues to gain global momentum. Field tests are transitioning to early deployments in China. In the United States, recent field tests have shown significant

range, reliability, and performance advantage of C-V2X direct communications, in addition to the ability for C-V2X to work well in congested environments. In Europe, the recent plugtests organized by ETSI and 5GAA demonstrated multi-vendor interoperability, while multiple corridor projects are being planned to test the technology on the road, starting from 5G-CARMEN and Concordia projects.

“We are at the dawn of a new era in mobility and Commsignia is excited to be amongst those who lead the way towards it. Such milestones are crucial as they actively support the spread of V2X technologies. We look forward to the next step: using the technology to effectively make transportation safer,” said Laszlo Virag, CTO of Commsignia.

“By being one of the very first to achieve the OBU RED certification in June 2019, Ficosa continues its commitment to accelerating and expanding C-V2X as a path to 5G,” said Joan Palacin, Business Unit Director of Ficosa Advanced Communications. “Not only in Europe but also China, USA and globally, we see C-V2X as a key technology to achieve automotive industry challenging safety goals by significantly reducing fatalities on our roads.”

“Kapsch is pleased to announce this certification as an important milestone in our strategy to enhance our portfolio of V2X solutions and services,” said Alfredo Escriba, CTO of Kapsch TrafficCom. “We always strive to enable our customers delivering their smart road, demand management, pollution reduction and safety objectives.”

“We are pleased to have achieved the RED certification milestone for the MobiWAVE OBU and StreetWAVE RSU platforms, featuring the Qualcomm 9150 C-V2X Platform. I am proud that our team was able to complete this difficult and far-reaching radio certification milestone, and show our continuing technical leadership,” said Paul Sakamoto, Chief Operating Officer, Savari, Inc. “This brings us one step closer to making C-V2X a reality in Europe as the technology prepares for commercial deployment.”

“WNC continues to work with eco-system leaders to deploy 5G & C-V2X technologies through our active participation in 5GAA,” said Fayu Chen, SVP & GM of Automotive and Industrial Solutions BG at WNC. “Our joint efforts with Qualcomm Technologies on a globally deployed C-V2X module has made great strides, and we are excited to report its qualification for RED certification in Europe. WNC has and will provide the global technical support for the C-V2X development platform and the ITS abstraction layer SDK, fulfilling our promise to the eco-system to facilitate fast-to-market development.”

“In the past few months, we have seen tremendous momentum for C-V2X around the world. Thanks to our joint efforts with leading automotive and infrastructure companies, there are now multiple RED-certified C-V2X products, which paves the way to C-V2X commercialization in Europe,” said Dino Flore, vice president, technology, Qualcomm Europe, Inc.

About Qualcomm

Qualcomm is the world's leading wireless technology innovator and the driving force behind the development, launch, and expansion of 5G. When we connected the phone to the internet, the mobile revolution was born. Today, our foundational technologies enable the mobile ecosystem and are found in every 3G, 4G and 5G smartphone.

We bring the benefits of mobile to new industries, including automotive, the internet of things, and computing, and are leading the way to a world where everything and everyone can communicate and interact seamlessly.

Qualcomm Incorporated includes our licensing business, QTL, and the vast majority of our patent portfolio. Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated, operates, along with its subsidiaries, substantially all of our engineering, research and development functions, and substantially all of our products and services businesses, including our QCT semiconductor business.

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