Broadcom Announces World's First Automotive IEEE 802.3ch Multigigabit PHYs and Multilayer Switches with MACsec Support

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Industry leading automotive Ethernet PHYs and switches fortify connected cars with advanced security, high bandwidth connectivity, and time-sensitive networking

SAN JOSE, Calif., Nov. 10, 2020 (GLOBE NEWSWIRE) -- Broadcom Inc. (NASDAQ: AVGO) today announced the availability of its automotive AEC-Q100 compliant multigigabit Ethernet PHY transceiver family and multilayer Ethernet switch family with 802.1AE MACsec support, the BCM8989X and BCM8957X, respectively. The BCM8989X is the industry's first IEEE 802.3ch standard compliant automotive 10G/5G/2.5GBASE-T1 MACsec PHY, while the BCM8957X is the first automotive L2/L3 switch with MACsec support and PHY interfaces supporting data rates of 10 Mbps to 10 Gbps. Both device families are designed to address the growing need of in-vehicle data security, high bandwidth networking with flexible multigigabit interfaces, and time-sensitive networking (TSN).

With Ethernet being the de-facto networking standard for automotive applications, MACsec has become an important solution to help secure data communications between Ethernet nodes in a car and guard against cyber attacks and data breaches. Leveraging Broadcom's proven MACsec technology from high-speed networking products, the BCM8989X and BCM8957X are equipped with state-of-the-art MACsec that can be configured to support high-speed interconnects for in-vehicle networking. In addition, these devices come with built-in BroadR-Secure™ functionality to further enhance data transmission security by enabling customers to authenticate each packet using secure keys.

As new technologies such as 5G and artificial intelligence (AI) make inroads into the automotive industry, the amount of data transmitted both inside and outside of the connected car is expected to increase substantially. High bandwidth networking will be needed to enable a growing number of sensors and high-resolution cameras for autonomous driving. Equally important, low latency or real time communications will play a key role in addressing time-sensitive applications like safety-critical vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communications. As such, multigigabit Ethernet PHYs and high bandwidth multilayer switches are essential in handling the increased data traffic while being able to securely transfer large amounts of critical data across the network for accurate real time decision making.

Product Highlights

BCM8989X

- Industry's 1 st IEEE 802.ch compliant multigigabit PHY supporting 2.5G, 5G and 10G
- Integrated 802.1AE MACsec with 128/256-bit AES encryption
- High speed PCIe & XFI interfaces optimized for connecting to switch IC or host SoC

BCM8957X

- Industry's first automotive switch with integrated 100BASE-T1 and 1000BASE-T1 802.1AE MACsec PHYs
- Enhanced L2/L3 switching addressing new standardized Automotive Ethernet speeds
  - Supports external 802.3cg 10BASE-T1S PHYs
  - Supports external 802.3ch multigigabit PHYs
- High speed PCIe interface for SRIOV virtualization allowing OEMs to reduce overhead of multicore SoCs

"With more than 200 million Automotive Ethernet ports shipped to date, Broadcom remains focused on the automotive market and continues to lead the Automotive Ethernet standards development," said Ali Abaye, senior director of marketing for the Physical Layer Products Division at Broadcom. "As in-vehicle data bandwidth, security and latency become ever more important for 5G, AI, V2X and autonomous driving applications, these latest multigigabit PHY and multilayer switch offerings from Broadcom will play a key role in enabling next generation automotive platforms and further expanding in-vehicle connectivity."

"A key strength of the Ethernet protocol is its widespread adoption in numerous industries, which has resulted in the development of numerous features that are well placed to meet the needs of the automotive industry," said James Hodgson, principal analyst at ABI Research. "By introducing multigigabit PHYs and switches featuring MACsec support, Broadcom can enable automotive customers to take advantage of security standards honed and proven in multiple industries, while also meeting requirements in relation to bandwidth, switching and TSN."

Availability

Samples of the BCM8989X and BCM8957X are available now. Please contact your local Broadcom sales representative for samples and pricing.

Further information on the BCM8989X and BCM8957X can be found online at:

https://www.broadcom.com/products/ethernet-connectivity/automotive/phy/bcm89890
https://www.broadcom.com/products/ethernet-connectivity/automotive/switches/bcm89571

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