Broadcom Delivers World's First 50G Automotive Ethernet Switch

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Industry's highest bandwidth switch solution enables efficient zonal and central compute platforms and accelerates adoption of software defined vehicles

SAN JOSE, Calif., May 23, 2022 (GLOBE NEWSWIRE) -- Broadcom Inc. (NASDAQ: AVGO) today announced it has delivered its high bandwidth monolithic automotive Ethernet switch device, the BCM8958X, designed to address the growing bandwidth need for in-vehicle networking applications and facilitate the adoption of software defined vehicles (SDV). The BCM8958X features 16 Ethernet ports of which up to six are 10 Gbps capable, as well as integrated 1000BASE-T1 and 100BASE-T1 PHYs, providing greater flexibility and switching capacity needed to support automotive zonal electronic control unit (ECU) and central compute ECU architectures. Additionally, this switch is equipped with an advanced rule-based packet filter engine that can adapt to different vehicle operation modes to enhance driving safety.

In-vehicle networks continue to evolve with growing bandwidth demands and design complexity as the number of sensors, high-resolution cameras and displays increases. The zonal ECUs need to aggregate the data from these connected devices in real time and securely share them across central compute ECUs. The BCM8958X is optimized for use in both zonal ECUs and central compute ECUs that can switch and route large volumes of data for real time decision making. Together with the BroadR-Reach® PHYs (BCM8983X, BCM8988X, and BCM8989X) and sensor MCUs (BCM8910X), Broadcom provides the industry's most comprehensive automotive Ethernet portfolio to enable an end-to-end network in the car.

SDV is emerging as the next wave of automotive network transformation, and its adoption is gaining strong traction. SDV eliminates the static nature of today's in-vehicle networks and brings flexibility, programmability, and scalability to automotive networking to enable unprecedented real-time capabilities and cost efficiency across the automotive value chain. The BCM8958X provides the interface scalability, hardware virtualization, Layer 3 routing, MACsec and Layer 2 security needed to support new software applications and features for SDV.

BCM8958X Product Highlights

- 6th generation automotive switch chip with 55 Gb/s switching capacity
- 16-port monolithic die switch
- Six 10G ports: XFI or PCIe x1 4.0 with SRIOV
- Integrated 100BASE-T1 and 1000BASE-T1 PHYs
- ARM subsystem with integrated TCM
- Hardware security and MACsec support
- AVB & TSN (802.1AS-2020, 802.1Qci, 802.1CB, 802.1Qbv)
- Software development kit including drivers, a gPTP protocol stack, and host APIs and providing portability from previous generation products

"Broadcom continues to lead with a comprehensive Ethernet solution for new automotive architectures," said Vijay Janapaty, vice president and general manager of the Physical Layer Products Division at Broadcom. "Our new high bandwidth BCM8958X automotive switch along with our field proven 802.3ch Ethernet 2.5G/5G/10Gbps and 100M/1G PHYs enable our customers to create future proofed networking ECUs. Broadcom is playing a pivotal role in enabling software defined vehicles by providing the network with the bandwidth, network acceleration and security for next generation features."

"The long term future of automotive computing is the zonal architecture, enabling the lifecycle management of connected and software defined cars, and unlocking a revenue potential for automakers beyond the point of sale," said James Hodgson, principal analyst at ABI Research. "Ethernet switches, like Broadcom's BCM8958X family, with large switching capacity are a key component in the future zonal architecture, allowing for the real-time and secure exchange of high-volume data between vehicle domains."

Availability

Broadcom has begun shipping samples and evaluation boards of the BCM89586M to its early access customers and partners. Please contact your local Broadcom sales representative for samples and pricing.

About Broadcom

Broadcom Inc. (NASDAQ: AVGO) is a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. Broadcom's category-leading product portfolio serves critical markets including data center, networking, enterprise software, broadband, wireless, storage and industrial. Our solutions include data center networking and storage, enterprise, mainframe and cyber security software focused on automation, monitoring and security, smartphone components, telecoms and factory automation. For more information, go to https://www.broadcom.com.

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