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Marvell Introduces Industry's First Automotive Ethernet Switch with Lockstep Dual-Core Reliability for Safer Vehicles

Third Generation Brightlane™ Switch Advances Software-Defined Vehicles with Comprehensive Data Security and Safety Features

SANTA CLARA, Calif. and MUNICH, May 31, 2022 /PRNewswire/ -- Marvell (NASDAQ: MRVL) today introduced its third generation Marvell® Brightlane™ Ethernet Switch, the industry's most advanced automotive secure managed switch, and the first with lockstep dual-core Arm processing redundancy to enable high-reliability for mission-critical applications that support vehicle safety and performance. As the leading digital framework for next-generation Ethernet-based zonal architectures, the new automotive switch also includes a suite of advanced security and networking features, along with increased bandwidth and port counts as compared to the previous generation.

The third generation Brightlane Ethernet Switch is a high-performance, fully integrated design that incorporates IEEE 802.1AE-2018-compliant Media Access Control security (MACsec) protocols and an embedded Hardware Security Module (eHSM) for software authentication and data encryption. It also integrates 10Base-T1S capabilities into an automotive Ethernet switch for the first time, along with 100/1000Base-T1 PHYs, 2.5G/10G SerDes and PCIe Gen3 ports, reducing the number of components and security threat surfaces. In addition, the Brightlane Ethernet Switch supports the latest Time-Sensitive Networking (TSN) standards to reduce latency and ensure quality of service (QoS) for essential vehicular connectivity, including the IEEE 802.1CB standard for data redundancy.

"The move to software-defined vehicles (SDVs) is a rapidly emerging megatrend in the automotive industry because software-centric architectures not only will enable over-the-air software updates for existing in-vehicle systems, but they will make possible entirely new aftermarket services and applications to continuously improve safety and driving experiences over time," said Ian Riches, vice president for the Global Automotive Practice, Strategy Analytics. "As a result, security and safety is foundational to these networks, and Marvell's new secure managed Ethernet switch integrates all the essential elements to drive the SDV revolution forward."

"As the newest Brightlane Ethernet switch in our portfolio, this innovative design is targeted at the core need to ensure the security of next-generation in-vehicle networks and the data they carry," said Mike Yeager, vice president and general manager, Automotive Business Unit, Marvell. "Our end-to-end optimization for software-defined, zonal architectures, advanced security, increased bandwidth and PHY integration is driving design win momentum for Marvell's Ethernet products among top auto manufacturers and OEM partners."

The new Brightlane Ethernet Switch is designed to meet the requirements of the ISO 26262 ASIL-B safety standard and comes in two versions: The 88Q5152/51 version is a nine-port design, while the 88Q5192 version is a 16-port design. The third generation Brightlane Ethernet Switch is part of Marvell's complete portfolio of automotive Brightlane Ethernet switches, PHY transceivers and bridges, which support speeds from 100Mbps to 10Gbps and feature the enhanced safety and security features required for today's and tomorrow's in-vehicle networks. For more information, please visit the Brightlane product page.

Availability
The Brightlane Ethernet Switch is currently sampling with volume production scheduled for later this year.

About Marvell
To deliver the data infrastructure technology that connects the world, we're building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world's leading technology companies for over 25 years, we move, store, process and secure the world's data with semiconductor solutions designed for our customers' current needs and future ambitions. Through a process of deep collaboration and transparency, we're ultimately changing the way tomorrow's enterprise, cloud, automotive, and carrier architectures transform—for the better.

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