December 2, 2021

Marvell Unveils Brightlane Automotive Ethernet Innovations to Accelerate the Software-Defined Vehicle Era

Introducing the Industry's First Automotive Multi-Gig Ethernet Camera Bridge for Video Distribution in In-Vehicle Networks

SANTA CLARA, Calif., Dec. 2, 2021 /PRNewswire/ -- Marvell (NASDAQ: MRVL) today introduced the industry's first multi-gig Ethernet camera bridge solution, 88QB5224, for best-in-class video distribution in connected vehicles. As cars become smarter, connected and software-oriented, scalable automotive solutions will increasingly power software-defined vehicles. The key technology for scalability is an Ethernet backbone that connects all domain electronic control units (ECUs) as well as cameras and sensors to central compute devices in the vehicle. This groundbreaking Ethernet device is the latest addition to Marvell's Brightlane™ automotive portfolio, which is delivering a host of innovative and secure solutions for the vehicles of the future.



Marvell's new multi-gig Ethernet camera bridge provides standardization for in-vehicle video distribution in multiple areas including IEEE 802.3ch compliant 10GBASE-T1 PHY, IEEE 802.1AE MACsec for security, time synchronization, energy efficient Ethernet for power savings, power over data line, and time sensitive network. The Ethernet-based camera bridge enables development of interoperable software that delivers key services through a multilayer communication stack. It also provides a mature ecosystem of service delivery through software-based architecture. Marvell is first to launch a 10G Ethernet camera bridge

for distributing uncompressed video, and the first to aggregate four cameras through a single device.

"We are extending our leadership in Ethernet-based solutions to enable autonomous driving and usher in the next generation of automotive architectures," said Will Chu, senior vice president and general manager of the Automotive Business Unit, Marvell. "Marvell's newest Ethernet bridge solution builds on the introduction of our multi-gig 802.3ch Ethernet 10Gbps PHY, integrated with image sensor interface. The new Ethernet device underscores Marvell's commitment to enabling smarter, safer and greener vehicles with innovative automotive networking, storage, compute and security semiconductor solutions."

"Marvell's Ethernet-based bridges are becoming an essential component for the software-defined cars of today," said Ian Riches, vice president for the Global Automotive Practice, Strategy Analytics. "Not only do Ethernet-based products fit seamlessly into a zonal architecture, but with 802.3ch they are also proving to be an attractive alternative to the SerDes solutions currently used to transport video data in the vehicle."

"Today's high-speed long-distance camera to ECU communication are proprietary point-to-point protocols that narrow our customers' design options, which is why they have been requesting a standardized protocol such as Ethernet," said Stephen Harris, director of Automotive Systems Architecture at onsemi. "Marvell's 88QB5224 is a single chip 10 Gbps standard Ethernet PHY solution that provides the fast speed needed to enable our portfolio of high-performance, ultra-dynamic range image sensors. onsemi has become the leader in automotive imaging by developing and supporting innovative solutions in this space and is excited to be an early adopter of 88QB5224 by adding it to our popular MARS (Modular Automotive Reference System) development platform."

"As the resolution for automotive cameras continue to increase, so too does the need of high bandwidth distribution interfaces. Ethernet-based cameras that drive video over the in-vehicle Ethernet network is the next revolution for next generation vehicles. Video bridges enable video communications from cameras and sensors to the compute devices over a network, which results in flexibility, scalability and redundancy," said Michael Wu, senior vice president of Global Marketing and Sales, OmniVision. "Marvell's 10Gbps automotive Ethernet PHYs have optimal bandwidth to support uncompressed video which is a fundamental requirement for automotive cameras."

For more information on the industry's first automotive multi-gig Ethernet camera bridge, please visit the 88QB5224 product page.

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 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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