Freescale and Broadcom extend ADAS surround-view automotive cameras beyond luxury models and into the mainstream

Industry leaders deliver compact, single-package automotive Ethernet-based solution for the rapidly growing ADAS market

AUSTIN, Texas & IRVINE, Calif.--(BUSINESS WIRE)-- Advanced Driver Assistance Systems (ADAS) are quickly growing in popularity among consumers, driven in large part by a strong affinity for the functionality enabled by surround view cameras such as park assist and blind spot detection. According to ABI Research, Inc, the global ADAS market is forecast to reach US$261 billion by 2020, establishing ADAS as one of the fastest growing segments in the automotive sector.

In response to this growing market trend, Freescale Semiconductor and Broadcom Corporation have partnered to create Freescale's Qorivva MPC5606E – the industry's first fully-integrated, packaged microcontroller (MCU) and physical layer transceiver (PHY) solution for use in 360 degree camera systems.

Camera size is increasingly important to automotive OEMs, as manufacturers prefer peripheral cameras to be miniaturized and unobtrusive to maintain vehicle aesthetics. Smaller cameras can be more easily hidden within design features of the car, such as a front grill, bumper or wing mirror. Featuring a compact 8x8mm package, the Qorivva MPC5606E device is designed to reduce the size of automotive camera modules by up to 50 percent, while helping speed time to market and reduce the overall bill-of-material.

Fundamental to the size and performance advantages of the Qorivva MPC5606E is the incorporation of Broadcom's BroadR-Reach® automotive Ethernet PHY. The integrated Ethernet solution enables compact vision compression and rapid transmission of video data throughout the vehicle.

Ethernet has emerged as a mainstream automotive network technology, allowing multiple in-vehicle systems to simultaneously access information over a single unsheilded twisted pair cable at speeds of up to 100 Mbps. By eliminating cumbersome, shielded cabling, automotive manufacturers can reduce connectivity costs up to 80 percent and cabling weight up to 30 percent (source: Broadcom). These cost and weight reductions pave the way for the incorporation of surround view camera systems beyond the luxury class into higher volume, mid-range and economy vehicles.

"By leveraging Ethernet, a proven lower-cost, automotive-qualified solution for secure transmission of in-vehicle data, the next step is to make the technology even more attractive by enabling ADAS system integrators to dramatically reduce the footprint of their solutions," said Davide Santo, Safety and Chassis Operations Manager for Freescale's Automotive MCU Group. "Our collaboration with Broadcom resulted in a single, small-footprint solution that combines the image compression features of our Qorivva MPC5606E device with the time stamping and high performance transmission capabilities of the BroadR-Reach PHY."

Freescale and Broadcom are both founding members of the OPEN Alliance Automotive Special Interest Group (SIG) (One-Pair Ethernet). The OPEN SIG is a non-profit industry alliance of automotive and tech industry leaders dedicated to establishing Ethernet as the networking technology of choice in automotive infotainment and ADAS applications. Together with major car makers and global electronic suppliers, Freescale and Broadcom are committed to the promotion of BroadR-Reach® as the industry standard interface for automotive Ethernet.

"Demand for our BroadR-Reach technology continues to rise as auto makers embrace the inherent advantages that Ethernet has to offer," said Dr. Ali Abaye, Broadcom Senior Director of Automotive. "Our collaboration with Freescale will enable the development of more optimized ADAS camera solutions and drive the proliferation of advanced features in a broader range of vehicles - beyond the luxury class."

Built from a portfolio that focuses on automotive quality and long-term reliability, the Qorivva MPC5606E MCU features:

- 64MHz core built on Power Architecture® technology
- 512K Flash and 96K SRAM
- Image compression through a Motion-JPEG encoder
IEEE1588 module for time stamping
BCM89810 BroadR-Reach PHY
8x8mm MAPBGA package with 121 balls

Broadcom's BroadR-Reach automotive-qualified portfolio has met the rigorous requirements of the global automotive industry including TS16949 compliance/ISO 9001 certification, in-car EMC performance and AEC-Q100 qualification.

Availability

The Freescale Qoriva MPC5606E fully-integrated, packaged MCU with integrated Broadcom PHY is now available in limited sample quantities. For more information, contact a local Freescale sales representative.

About Freescale Semiconductor

Freescale Semiconductor (NYSE:FSL) is a global leader in embedded processing solutions, providing industry leading products that are advancing the automotive, consumer, industrial and networking markets. From microprocessors and microcontrollers to sensors, analog integrated circuits and connectivity - our technologies are the foundation for the innovations that make our world greener, safer, healthier and more connected. Some of our key applications and end-markets include automotive safety, hybrid and all-electric vehicles, next generation wireless infrastructure, smart energy management, portable medical devices, consumer appliances and smart mobile devices. The company is based in Austin, Texas, and has design, research and development, manufacturing and sales operations around the world. www.freescale.com.

About Broadcom

Broadcom Corporation (NASDAQ: BRCM), a FORTUNE 500® company, is a global leader and innovator in semiconductor solutions for wired and wireless communications. Broadcom® products seamlessly deliver voice, video, data and multimedia connectivity in the home, office and mobile environments. With the industry's broadest portfolio of state-of-the-art system-on-a-chip solutions, Broadcom is changing the world by Connecting everything®. For more information, go to www.broadcom.com.

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