Eaton provides robust vehicle connectivity for driver assistance systems

Advanced Driver Assistance System (ADAS) features embedded in semi-autonomous cars are already transforming the transportation market. ADAS provides a slew of features designed to enhance car safety, reliability, and drivability.

With these new technologies, the number of high frequency RF modules in vehicles is on the rise. According to a report by Allied Market Research, the compound annual growth rate (CAGR) for the global in-car infotainment market will register 13.3% for the period between 2016 and 2022.[1]

Vehicle connectivity is an integral part of ADAS systems, enabling a range of features that enhance the driving experience. In modern vehicles, drivers enjoy information, entertainment, and navigation services such as interactive voice recognition, climate control information, and GPS mapping. It also allows the car to sync everyday devices such as smartphones and tablets so the driver can operate them while avoiding the distractions of hand-held operation.

ADAS comprises a host of electronic components utilizing wireless protocols such as WLAN, Wi-Fi and Bluetooth for high-bandwidth data transfer. These systems require EMC/RF passive components for RF tuning, resonance setting, filtering and antenna matching. Also, power line filtering is needed for overall high frequency circuits through the vehicle.

Eaton's MCLA and WCLA chip inductors ensure reliable vehicle connectivity for ADAS by providing the best balance of sizes, inductance value, Q and SRF. All components are Automotive Electronics Council (AEC) qualified for high temperatures and mechanical stress conditions.

The automotive-grade MCLA and WCLA chip inductors come in standard industry sizes ranging from 0402 (1005 metric) to 1206 (3216 metric). The MCLA chip inductor is constructed using advanced multi-layered construction providing best balance of small footprints, Q and tight inductance values. It supports industry standard SMD package sizes, providing reliable filtering, tuning and impedance matching for RF wireless circuits throughout the vehicle.

The WCLA type features a wire-wound construction and offers high-Q with lower DCR and higher current handling capability. They are ideal for sensitive RF/wireless circuits requiring impedance matching, RF tuning, overall power line filtering for vehicle connectivity, e.g., Wi-Fi, Bluetooth®, and Satellite, antennas, and onboard computers. Eaton MCLA and WCLA chip inductors are AEC-Q200 Grade 3 qualified for superior reliability in automotive applications. Both product lines are RoHS compliant and manufactured with eco-friendly materials.

1.https://www.alliedmarketresearch.com/in-car-infotainment-market

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