Keysight Technologies has announced the first automated test solution for automotive Ethernet receivers (Rx) at 1G speeds, enabling Tier 1, OEM, chipset vendors, and other automotive suppliers in the ecosystem, to improve time to market and achieve IEEE and OPEN Alliance compliance.

Autonomous vehicles promise to change the nature of commercial and passenger transportation over the roadways. Within new vehicles, data speed and bandwidth requirements are increasing. With the development of automotive Ethernet, faster data communications are possible and the increasing demands for today's vehicles and future connected vehicles can be met. However, higher speeds can result in data loss, possible interference, and greater risk of missed packets or incorrect information.

To address this growing challenge, Keysight has developed a new automotive Ethernet Rx test software that verifies that information is received as intended. It performs complete bit error rate (BER) count to ensure the device-under-test (DUT) maintains a BER of less than 10-10 and meets the signal quality requirements of the IEEE Std 802.3bp and the Open Alliance 1000BASE-T1 Interoperability test suite specification. In addition, it performs an Alien Crosstalk Noise Rejection test, which saves hours of valuable time with an automated test of IEEE and required OPEN Alliance compliance specifications, as well as the following:

• A wizard for quick setup, configuration and test;

• Easy calibration of the test set up;

• Quick interaction with DUT, as well as required receiver tests;

• Built on functional and multipurpose hardware - Keysight 81160A Arbitrary waveform generator - which can be fully utilized for other tasks and tests when not actively on.

Keysight's Automotive Ethernet solutions suite provides the hardware, software, cables and accessories needed to enable compliance tests. The company also empowers automotive industry designers and manufacturers with the latest innovations in design and test solutions to

help create high-quality and high-performance products while mitigating safety risks. For example, the new Keysight E8740A Automotive Radar Signal Analysis and Generation solution enables radar-based, advanced driver assistance systems to proactively detect and mitigate risks of collisions. Keysight uses this solution in its automotive customer care centers to generate various real-world conditions and address any potential automotive radar interference issues.

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