

Anritsu Delivers Comprehensive Automotive Ethernet Test Solution Using Tektronix Oscilloscope

- *Solution delivers precise Automotive Ethernet physical layer compliance for next-generation vehicles -*

Morgan Hill, CA– December 18, 2025 – Anritsu Company announces a comprehensive automotive Ethernet test solution that delivers precise Media Dependent Interface (MDI) return loss and mode conversion measurements for validating 100BASE-T1 and 1000BASE-T1 compliance. By using the [Anritsu ShockLine™ MS46524B vector network analyzer \(VNA\)](#) with the [Tektronix® 6 Series MSO oscilloscope](#), the solution enables engineers to conduct robust, standards-based verification of automotive Ethernet components, including cables, and connectors.

As vehicle networks evolve to support advanced driver assistance systems (ADAS), infotainment, and autonomous functionality, the need for high-speed, reliable data transmission continues to grow. The automotive industry's transition to Ethernet-based in-vehicle networks demands strict conformance with IEEE 802.3bw, 802.3bp, and 802.3ch standards to ensure interoperability and signal integrity across multi-vendor systems. The solution Anritsu delivers addresses this challenge with a measurement system that combines precision frequency-domain analysis and automated compliance testing aligned with the OPEN Alliance PMA TC8 test suite.

“Automotive Ethernet has quickly become the backbone of modern vehicle architectures, and there is zero room for uncertainty in the physical layer,” said Javier Irazola, General Manager of Performance Instruments at Tektronix. “When engineers use our 6 Series MSO oscilloscope and [TekExpress® automotive Ethernet compliance software](#) alongside Anritsu’s ShockLine VNA, they can gain a clear, correlated view of time- and frequency-domain behavior. That helps teams move from debug to standards-based compliance testing with greater speed and confidence.”

Comprehensive and Standards Compliant Validation

Using the Anritsu ShockLine MS46524B 4-port VNA, engineers can perform high-accuracy S-parameter measurements to evaluate MDI return loss and mode conversion characteristics. These tests confirm proper impedance matching and help ensure differential signal integrity, meeting IEEE compliance requirements. S-parameter data captured by the VNA is seamlessly transferred to a Tektronix 6 Series MSO oscilloscope, where TekExpress software for

automotive Ethernet testing—based on the OPEN Alliance TC8 specification—validates results and generates detailed compliance reports.

A typical configuration to measure MDI return loss and mode conversion loss utilizes an Ethernet test fixture, an Automotive Ethernet DUT, a reliable common ground between the fixture and DUT, a VNA, phase-stable cables, and calibration kits. Fixture qualification according to OPEN Alliance specifications ensures accurate and repeatable measurements, providing dependable physical-layer validation for automotive Ethernet systems.

Anritsu's MS46524B ShockLine VNA delivers excellent dynamic range, phase stability, and measurement accuracy for differential S-parameter testing up to 43.5 GHz. This instrument supports SCPI-based remote control enabling integration into automated validation and production test workflows. When used in combination with the 6 Series MSO and TekExpress software, the Anritsu system gives component and cable manufacturers a flexible, scalable approach for developing high-speed, Ethernet-based in-vehicle networks. This configuration helps engineers accelerate development and certification of next-generation automotive Ethernet systems.

About Tektronix

Tektronix is the partner engineers have trusted to measure, discover, and innovate for nearly 80 years. Today we deliver test and measurement solutions that unite precision with simplicity, helping engineers accelerate breakthroughs that shape a better tomorrow.

To learn more visit <https://www.tek.com>

About Anritsu

Anritsu is a provider of innovative communications test and measurement solutions. Anritsu engages customers as true partners to help develop wireless, optical, microwave/RF, and digital solutions for R&D, manufacturing, installation, and maintenance applications, as well as multidimensional service assurance solutions for network monitoring and optimization. Anritsu also provides precision microwave/RF components, optical devices, and high-speed electrical devices for communication products and systems. The company develops advanced solutions for emerging and legacy wireline and wireless technologies used in commercial, private, military/aerospace, government, and other markets.

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