

Anritsu Adds Tools to VNA Families that Improve Signal Integrity Testing Capability for Verification of High-speed Designs

–VectorStar® and ShockLine™ Series Offer Engineers Enhanced Capabilities to Meet Challenges Associated with Faster Data Rates and More Extensive Circuits–

Morgan Hill, CA – April 26, 2016 – Anritsu Company continues to address the test needs of signal integrity (SI) engineers with the introduction of options for its VectorStar® and ShockLine™ vector network analyzers (VNAs). The VectorStar Eye Diagram and ShockLine Advanced Time Domain (ATD) options are part of the expanding SI capabilities offered by Anritsu and provide SI engineers with improved tools to conduct channel diagnostics and model validation of high-speed digital circuit designs.

“As data rates continue to increase, signal channel characterization becomes increasingly challenging. The result is that VNAs are becoming more of a staple in signal integrity measurements, however, additional capabilities in processing and visualizing data are beneficial. For these reasons, more tools have been added to the VectorStar and Shockline VNA families that can help signal integrity engineers be more efficient in analyzing their designs,” said Dr. Jon Martens – Fellow at Anritsu.

The VectorStar and ShockLine VNA families provide complementary capabilities that enable SI engineers to meet their measurement needs across a wide range of applications. VectorStar is Anritsu’s highest performance VNA product line and is often used by SI engineers with the most challenging design requirements. For example, some designers want their test systems to be able to include up to the 5th harmonic of their system clock. VectorStar offers 2- and 4-port broadband configurations from 70 kHz to 70 GHz, 110 GHz and 145 GHz with a single coaxial connection, supporting the latest digital data rates, including 25/28 Gbps and 43 Gbps. Anritsu’s ShockLine VNA family also has excellent performance, but less capability at a lower price for less demanding SI applications. This makes ShockLine VNAs well suited for lower data rate systems or manufacturing applications.

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VectorStar Eye Diagram

VectorStar is well suited for SI engineers responsible for the design of high-speed data transmission requirements critically needed to support emerging network systems, such as 5G and IoT. The new Eye Diagram option updates the VectorStar display via a trace-based process rather than a conventional file-based method, eliminating the need to manually transfer .SnP files. Unlike other VNAs, there is no need to store the S-parameter performance in a file and then recall the file to observe the eye diagram. It greatly improves measurement efficiency, analysis, and tuning of a data transmission signal path, allowing users to see the results of circuit changes in near real-time.

With this innovative approach, engineers can observe the likelihood of bit errors due to effects such as level compression, jitter, slew, and edge distortion while tuning for improved performance. This is particularly valuable in identifying data stream SI issues that may occur within a given transmission path and can help conduct accurate subsystem fault location analysis.

The new option, coupled with the industry leading performance of the VectorStar, provides SI engineers with the ability to monitor transmission quality of digitally modulated signals. VectorStar now provides the unique ability to display all key parameters, such as eye diagram, time domain/TDR, and S-parameters, on the same channel while continuously sweeping.

Advanced Time Domain for ShockLine VNAs

Designed for the MS46522B/MS46524B performance series VNAs, the ATD option provides tools for SI engineers building circuit models and conducting validation measurements on them, as well as troubleshooting SI issues. The ATD option includes a subset of popular SI capabilities, including the ability to plot eye diagrams, determine single-ended or differential near-end crosstalk (NEXT) and far-end crosstalk (FEXT), and apply various equalization techniques.

With the ATD option, engineers can select among several IEEE and OIF specifications and compare the power sum of coupled noises, insertion loss crosstalk ratio (ICR), insertion loss, insertion loss deviation (ILD), and integrated crosstalk noise (ICN). It also features a plot TDR, TDT and Skew utility that converts S-parameter data into an impedance profile, a time domain reflection (TDR) with an open end or a TDR/time domain transmission (TDT) with matched terminations.

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SI Solutions

With the introduction of the Vector**Star** Eye Diagram and ShockLine ATD options, engineers now have a more complete set of tools to meet SI design and channel modeling requirements. Whether the application calls for the highest performance, full featured capability of the Vector**Star** VNAs or good performance at a lower price offered through the ShockLine family, Anritsu offers a wide range of solutions for today's and tomorrow's SI challenges.

About Anritsu

Anritsu Company is the United States subsidiary of Anritsu Corporation, a global provider of innovative communications test and measurement solutions for 120 years. Anritsu's "2020 VISION" philosophy 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 5G, M2M, IoT, as well as other emerging and legacy wireline and wireless communication markets. With offices throughout the world, Anritsu has approximately 4,000 employees in over 90 countries.

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