

**Anritsu ShockLine™ Modular 2-port VNA Solves Test Challenge  
Posed by e2ip 5G Smart Surfaces**

— *Unique ME7868A Design Allows for Accurate Magnitude and Phase Measurements on Innovative 5G Signal Distribution Technology* —

**Morgan Hill, CA – October 20, 2022** – Anritsu Company announces that [e2ip technologies](#) (e2ip), a Human-Machine Interface (HMI) and Smart Surface solutions innovation leader, has purchased Anritsu [ShockLine™ ME7868A modular 2-port vector network analyzers \(VNAs\)](#). e2ip is using the ME7868A VNA to confirm/validate performance of its printed 5G Smart Surfaces, an innovative signal distribution technology that optimizes 5G network performance for both indoor and outdoor applications.

The unique design of the ME7868A made it the best suited test solution for the e2ip 5G Smart Surface. Its modular, 2-port design allows the VNA to conduct highly accurate magnitude and phase measurements on the 5G Smart Surface, a thin sheet with conductive ink strategically printed that manipulates millimeter wave (mmWave) signals and improves wireless connectivity and efficiency with very high specificity. One VNA port transmits the signal to the 5G Smart Surface, while the second port measures the strength of the reflected signal.

Key factors in selecting the ME7868A were its performance and portability. Integrating Anritsu's proprietary PhaseLync™ synchronization technology allows the ME7868A VNA to conduct accurate and repeatable measurements. The design of the ME7868A allows the e2ip team to easily transport it for demonstrations and proof-of-performance of 5G Smart Surfaces.

“The portability of the ShockLine ME7868A allows e2ip to demonstrate the operational cost savings benefits of 5G Smart Surfaces for infrastructure management in a variety of outdoor and indoor settings,” said Anna-Marie Marasliyan, Vice-President Technology, Product and Marketing at e2ip technologies.

Consisting of two MS46131A 1-port VNAs, the [ME7868A VNA](#) uses the MS46131As as portable VNA ports to deliver vector transmission measurements over longer lengths and at a lower cost than conventional 2-port VNAs. As the first modular-port-based VNA, the ME7868A eliminates the need for long port cables to measure transmission over distance.

PhaseLync enables two MS46131A VNAs to conduct full vector S-parameter measurements over wide distances of up to 100 meters. PhaseLync improves dynamic range and stability of S-parameter measurements by eliminating the need for long cables with conventional benchtop VNAs.

### **Meeting Test Needs of Emerging Technology**

The modularity and performance of the ME7868A met the stringent test requirements of e2ip technologies. The printed 5G Smart Surface is an emerging technology in surface electromagnetics that re-shapes electromagnetic propagation. A 5G Smart Surface essentially enhances wireless network deployment applications by filtering, blocking, or reflecting RF signals emitted at a selected frequency, including new 5G networks, while remaining transparent to RF signals emitted at other frequencies.

A 5G Smart Surface helps to extend and evenly distribute signals to low coverage and dead zones to optimize connectivity. They can act as a band-stop, band-pass, reflector, or diffuser of signals at varying angles. These properties can then be used to enhance the propagation of mmWave signals and help improve the overall reliability of the network infrastructure.

Products such as 5G Smart Surfaces are integral to the deployment of 5G in both urban and rural areas. They act as a passive repeater (no power source) that serves as a means for signal transmission in congested areas that are less than ideal for mmWave frequencies and are not suitable for base stations or DAS. It is a more cost-efficient approach for networks to achieve key performance indicators (KPIs).

### **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.

To learn more, visit [www.anritsu.com](http://www.anritsu.com) and follow Anritsu on [Facebook](#), [LinkedIn](#), [Twitter](#), and [YouTube](#).

### **About e2ip technologies**

e2ip technologies rethinks the boundaries between technology and design to create Smart Structural Surfaces and Connected (IIoT) Human Machine Interfaces (HMI) for global market leaders.

To learn more visit [www.e2ip.com](http://www.e2ip.com) and follow e2ip on [LinkedIn](#), [Twitter](#), and [YouTube](#).

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