

2026

Q4 NEWSLETTER
NEW ENGLAND EDITION

THE PROTEQ PULSE

*Your Quarterly Connection to the
Pulse of the Industry -*



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Thank You to our Platinum Golf Sponsors

Celebrating the partners who helped make our 5th Annual Customer Appreciation Golf Outing a success. Your continued support and partnership made this memorable day possible. We're grateful to have you as part of the ProTEQ community.

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Oscilloquartz: Resilient Timing & Synchronization Solutions

Explore Oscilloquartz solutions engineered for precision, stability and assured timing. From PTP grandmasters to rugged synchronization platforms, maintain trusted time in demanding environments. Plus, discover next-level resilience with optical pumping cesium clock technology.

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Teledyne LeCroy: High-Speed PCI Express Protocol Analysis

Explore Teledyne LeCroy's Summit family of PCIe protocol analyzers and exercisers. Built for powerful traffic capture, analysis and testing across PCIe, NVMe and CXL technologies. Featuring the Summit M616 with support for next-generation PCI Express 7.0.

07

Maury Microwave: Advanced RF & Microwave Device Characterization

ProTEQ is now the exclusive Maury Microwave representative for Device Characterization solutions across New England. Explore advanced impedance tuning, active load pull and automated VNA calibration technologies. Delivering greater speed, precision and repeatability for next-generation RF and semiconductor testing.

09

Maury Microwave: Advanced RF Signal Generation & Phase Noise Analysis

Explore Maury Microwave's high-performance HSX synthesizers and HA7162 phase noise analyzer series for advanced RF and microwave testing. Generate clean, stable signals up to 40 GHz and perform precise absolute, additive and real-time phase noise measurements. Engineered for exceptional spectral purity, measurement accuracy and repeatable performance across demanding applications.

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Anritsu: Tensor - The World's First AI-Enabled Vector Network Analysis

Discover Anritsu's Tensor VNA with built-in AI for smarter, faster RF testing. Simplify setup, automate workflows and accelerate measurement insights. Designed for advanced RF, mmWave and device characterization applications.

CONTACT INFORMATION



Thank You



GOLF SPONSORS

We were thrilled to bring our customers and partners together this summer for our 5th annual Customer Appreciation Golf Outing!

The event was a wonderful opportunity to enjoy a day on the course, strengthen relationships, and celebrate the valued customers who make what we do possible. We'd like to extend an extra special thank you to our Platinum Sponsors for their generous support and continued partnership. Their commitment helped make this year's outing a memorable success, and we are grateful for their role in making the event such a great day for everyone involved.

Want to be involved in next years event? Drop us an email!



OSA 5422

EDGESYNC+™ PTP GRANDMASTER/NTP SYNCHRONIZATION PLATFORM

- High-Precision PTP Grandmaster
- Multi-Source Timing Resiliency
- Rubidium Holdover Options
- Optical Cesium Integration
- Built for Critical Infrastructure



LEARN MORE



OSA 5510

RUGGEDSYNC™ ASSURED TIMING & SYNCHRONIZATION PLATFORM



LEARN MORE



- M-Code Ready
- Mission-Ready Assured Timing
- Built for GNSS-Denied Environment
- Ruggedized for Extreme Conditions
- PTP Grandmaster + NTP Server
- Resilient Multi-Source PNT

OPTICAL PUMPING CESIUM CLOCKS

TAKE TIMING RESILIENCE TO THE NEXT LEVEL.

Next-level precision, stability and resilience for assured PNT

- Unprecedented timing accuracy & stability
- Industry-leading holdover performance
- Defend against GNSS jamming & spoofing
- Built for longer-lasting performance
- Designed for mission-critical applications
- Ultra-precise short-term stability available



LEARN MORE





TELEDYNE LECROY

Everywhereyoulook™

SUMMIT M616 PROTOCOL ANALYZER / EXERCISER

High Speed PCIe, NVMe, and CXL Analysis

The Summit M616 is Teledyne LeCroy's latest generation of protocol analyzers targeted at high speed PCI Express 6.0 and CXL 3.x I/O-based applications such as server, workstation, desktop, graphics, storage, AI, and network card applications.

**NOW
PCI EXPRESS
7.0 READY!**



LEARN MORE

TECHNOLOGY	LINK WIDTHS	DATA RATES
PCIe 6.0, NVMe, CXL	Up to x16	Up to 64 GT/s

Watch the Video:
PCI Express® 6.0 Protocol Analyzer/Exerciser Demo
Chinese, Japanese and Korean subtitles! with the Summit M616!



WATCH NOW

Click **HERE** to
Request a Demo



Click **HERE** to
Download the
Datasheet



PCI EXPRESS (PCIe)

Summit Protocol Analyzers and Exercisers

The Summit Family of PCI Express and CXL Protocol analyzers, exercisers and test platforms provide best in class traffic capture, analysis, and manipulation for testing link operations and protocols. These products are designed for address today's high-speed I/O, storage and communications network problems and compliments other tools offering industry leading visibility and utility.



Summit M64i



Summit M616



Summit T516



Summit Z516



Summit T54



Summit T48



Summit Z58



Summit T34



maury

EXPANDING OUR MAURY MICROWAVE PARTNERSHIP IN NEW ENGLAND

We're excited to share that **ProTEQ Solutions** is now the **exclusive Maury Microwave representative for Device Characterization solutions in the New England region.**

Maury Microwave is a global leader in RF measurement, load pull, and device characterization technologies used by engineers developing next-generation semiconductor and RF devices. We look forward to supporting customers across the region with Maury's industry-leading solutions and expert technical guidance.



AUTOMATED IMPEDANCE TUNER SERIES

Maury Microwave's XT-Series and NT-Series tuners provide precise, repeatable impedance control for advanced RF testing. The XT-Series supports high-speed device characterization and VSWR sweeps, while the NT-Series is optimized for on-wafer measurements with maximum VSWR performance.

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FREQUENCY RANGE

225 MHz to 330 GHz

MATCHING RANGE

up to 200:1

POWER HANDLING

up to 250W
CW/2.5W PEP

REPEATABILITY

up to -50dB

HARMONIC CONTROL

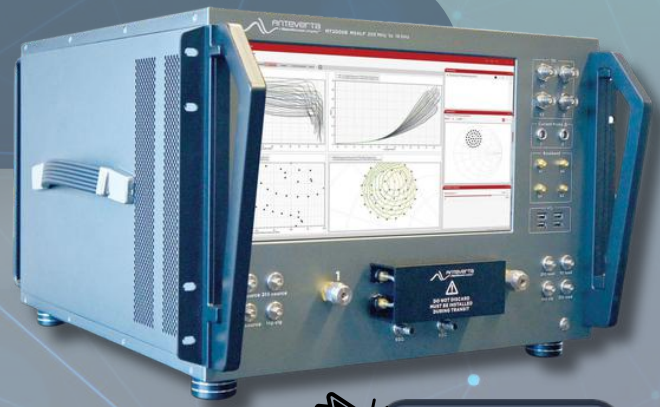
up to 3Fo

FEATURES AND BENEFITS

- Up to X2 faster mechanical movement vs prev. generation
- Up to -50 dB repeatability
- High Gamma (up to 200:1)
- High power handling (250W CW/2.5kW PEP)
- New tuner characterization validation process using MTune3
- New non-harmonically related multi-frequency impedance tuning using MTune3

MT1000-MT2000 SERIES ACTIVE LOAD PULL SYSTEM

The Maury MT1000 and MT2000 combine multiple RF test instruments into a single, turnkey load pull solution. Designed for speed, accuracy, and wideband impedance control, they streamline device characterization and nonlinear model validation.



➔ **LEARN MORE**

FEATURES AND BENEFITS

- Single-tone, Pulsed, and Time-Domain NVNA measurements
- Up to 1000 impedance/power states per minute
- Maximum Smith chart coverage
- Modulation Bandwidth up to 2000 MHz
- Using ACPR and EVM measurement data in the design of wideband PA circuits
- Improve PA linearity based on controlled baseband terminations
- Reduce time-to-market due to faster measurement speeds
- Compatible with 1-port and 2-port DUTs

FREQUENCY RANGE

1 MHz to 67GHz

BANDWIDTH

100 MHz to 2000 MHz

DYNAMIC RANGE

80 dB

MEASUREMENT SPEED

100/1000 pts /s

HARMONIC CONTROL

Fo/2Fo/3Fo

UCAL - UNIVERSAL VNA CALIBRATION MODULES AUTOMATED CALIBRATION KIT SERIES



Maury Microwave's uCal Universal VNA Calibration Modules simplify and accelerate VNA calibration by automating the connection of calibration standards. With integrated standards, onboard characterization data, and electronic switching, uCal reduces human error while delivering fast, accurate, and repeatable calibration results.



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FEATURES AND BENEFITS

- **Speed:** Calibration is faster since there is no need to manually connect and disconnect standards.
- **Accuracy:** Eliminates errors caused by manual handling, such as connector inconsistencies and improper torquing.
- **Ease of Use:** Minimal user interaction is required, making calibration simpler and more accessible.
- **Reliability:** Reduces wear and tear on VNA ports and connectors, prolonging their lifespan.
- **Consistency:** Provides repeatable results across multiple calibration sessions and users.

FREQUENCY RANGE

50 MHz to 18 GHz,
26.5 GHz, or 40 GHz

CONTROL INTERFACE

USB (direct VNA support
or via Maury Insight)

CONNECTOR TYPES

2.92mm, 3.5mm, 7mm,
and Type N



HSX SERIES

SINGLE AND MULTI-CHANNEL SYNTHESIZERS

The **HSX9100 Series** is a compact, high-performance multi-channel CW signal source delivering exceptional phase noise and spectral purity. Its 1U chassis supports up to four independently tunable channels with frequency options up to 40 GHz and a dynamic range of +20 dBm to -110 dBm. A unique multi-loop architecture ensures outstanding frequency accuracy, channel-to-channel stability, and phase coherency.

3 GHz Phase Noise

-133 dBc/Hz (10 kHz offset), typical

6 GHz Phase Noise

-127 dBc/Hz (10 kHz offset), typical

12 GHz Phase Noise

-121 dBc/Hz (10 kHz offset), typical

20 GHz Phase Noise

-116 dBc/Hz (10 kHz offset), typical

40 GHz Phase Noise

-110 dBc/Hz (10 kHz offset), typical

FEATURES AND BENEFITS

- **Fully Independent Channels:** Each RF output is driven by a separate, internally loaded synthesizer/attenuator module. Up to 4 independently tunable synthesizers can be specified per 1U chassis allowing for the highest integrated channel density available in its class.
- **Phase Coherent Channels:** HSX9100 Series synthesizers offer the performance benefits of a proprietary multi-loop architecture with a centralized reference distribution subsystem, which maintains a tight phase coherent relationship across all integrated channels.
- **The Ultimate In Channel-to-channel Stability:** Different from traditional PLL-based synthesizers, the proprietary multi-loop architecture creates precisely synthesized signals that exhibit both instantaneous and long-term stability. Temperature variations between the channels remain the only contribution to drift. The thermally optimized, fan-less chassis was specifically developed for maintaining the lowest possible thermal gradients from channel-to-channel. Channel specific thermal monitoring is available for tracking the relative channel temperature of each loaded synthesizer module.



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PHASE NOISE ANALYZERS

MEASURED NOISE FLOORS, UNPARALLELED ANALOG PERFORMANCE, REPEATABLE DATA

HA7162D SERIES

DUT INPUT	MEASUREMENT BANDWIDTH
10 MHz-26GHz (optional to 40 GHz)	0.1Hz to 100MHz offsets



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Features & Benefits

- Automated Absolute and Additive (Residual) Measurements
- Real Time Cross Correlation
- Only analyzer available that allows actual noise floor measurement

HA7163A SERIES

Features & Benefits

- Real-Time Full Bandwidth Data Acquisition
- Versatile – Reconfigurable Front End
- Measure: PM / AM / Baseband / Spurious / Jitter
- Isolated AM / PM
- Automated Residual Measurements
- Outstanding Accuracy



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DUT INPUT FREQUENCY RANGE: ABSOLUTE MEASUREMENTS	DUT INPUT FREQUENCY RANGE: RESIDUAL (ADDITIVE) MEASUREMENTS	DUT INPUT FREQUENCY RANGE: AM MEASUREMENTS	DUT INPUT FREQUENCY RANGE: EXTERNAL LO PM MEASUREMENTS	DUT INPUT FREQUENCY RANGE: BASEBAND MEASUREMENTS
10 MHz to 50 GHz	1 GHz to 50 GHz (can be reconfigured to measure to 10MHz DUT input)	10 MHz to 50 GHz	1 GHz to 50 GHz	0.1 Hz to 100 MHz

HA7162C SERIES

DUT INPUT	MEASUREMENT BANDWIDTH
10MHz-6GHz	0.1Hz to 40MHz offsets



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Features & Benefits

- Automated Absolute and Additive (Residual) Measurements
- Real Time Cross Correlation
- Only analyzer available that allows actual noise floor measurement

Anritsu

THE WORLD'S FIRST AI-ENABLED VNA



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REDEFINING NETWORK ANALYSIS

Tensor VNA sets a new benchmark in vector network analysis with its revolutionary source-per-port architecture, integrated AI intelligence, and exceptional power handling. Designed for next-generation RF and mmWave applications, Tensor combines class-leading sweep speed, output power, and IF bandwidth with true mmWave freedom—no external test sets required.

The result: faster insights, simplified workflows, and unmatched performance for production, aerospace & defense, and advanced active device characterization.

SMARTER TESTING WITH BUILT-IN AI

Tensor introduces Anritsu Artificial Intelligence (AAI) to transform how engineers approach measurement:

- Automated test setup for complex measurements
- SCPI command generation to streamline programming
- Guided troubleshooting to minimize downtime

Whether you're a seasoned expert or new to RF testing, Tensor's AI assistance accelerates setup and ensures reliable results. For defense applications, offline AI operation guarantees secure environments without connectivity risks.

Future-ready: Planned cloud-based AI will further expand automation, analytics, and collaborative workflows.



KEY FEATURES

- True source-per-port architecture
- Exceptional output power & input power handling
- Ultra-fast measurement performance
- Anritsu Integrated AI (AAI)
- Modern user experience
- Industry-leading dynamic range
- Native mmWave capability
- Advanced active device support
- Integrated hardware enhancements

APPLICATIONS

- Amplifier Characterization
- Mixer Measurements
- Antenna Testing
- Multiport & Signal Integrity
- mmWave Testing



"BRIDGING INNOVATION AND INDUSTRY"



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