

## Keysight Technologies to Highlight Millimeter-wave Innovations at IMS 2022

**What:** Keysight will be participating at the IEEE MTT-S International Microwave Symposium (IMS), the world largest gathering of microwave and RF professionals.

**When:** June 19 – 24, 2022

**Where:** Denver - Colorado Convention Center  
**Booth: 7030**

The Keysight team will be available on the show floor June 22 at 1:00 p.m. EDT with a [30-minute interactive journey](#) of each demo station. To learn more about Keysight activities at the show, visit [Keysight at IMS 2022](#).



**Media Activities:** Contact [Geri LaCombe](#) to schedule media briefings and solution demonstrations.

Keysight's experts will explore the peaks of microwave engineering through the following demonstrations, technical paper presentations, workshops and tutorials:

### Wideband Active Component Test

- Keysight will demonstrate a wideband mmWave active device characterization solution including the [N5247B PNA-X Microwave Network Analyzer](#), [M9484C VXG Vector Signal Generator](#), and a proprietary direct digital synthesizer (DDS), plus a modulation distortion application. This solution simplifies complex measurement setups with a single connection between a network analyzer and a signal generator. It improves time and accuracy for a wide range of active device measurements by providing the lowest residual error vector magnitude (EVM).

### 5G mmWave Design

- 5G millimeter-wave (mmWave) applications integrate numerous technologies and use complex digital modulation schemes to push the limits of packaging assemblies for electromagnetic (EM) and circuit simulations. Keysight's [PathWave Advanced Design System \(ADS\)](#) software enables 3D layout and assembly for multi-technology radio frequency (RF) modules, including RF integrated circuits (RFIC), monolithic microwave integrated circuits (MMIC), wafer-level packaging and printed circuit boards (PCBs).

### Field Signal Analysis

- Instrument size, weight and capabilities are key factors for increasing field technician efficiency. Keysight's [N9953B FieldFox Handheld Microwave Analyzer](#) is a light and powerful field test solution that improves the quality of the network and beam performance as users transition to 5G and 6G. Field technicians can display key metrics from multiple base stations to identify frequency drifting, isolate power issues and investigate performance problems.

### Research and Development Testbed Solutions

- The 5G demonstration includes Keysight's [M9484C VXG Vector Signal Generator](#), [N9042B UXA Signal Analyzer](#), and RCal module to showcase leading error vector magnitude (EVM) and adjacent channel leakage ratio (ACLR) performance in FR1/FR2 with single and multi-component carrier configurations.

- The 6G demonstration features a Nokia Bell Lab's D-band radio-on-glass transceiver with an active phased array antenna module which highlights Keysight's 6G testbed's ability to enable wide-bandwidth measurements and explore ultra-high data throughput scenarios.

### **RF System Digital Twin**

- Keysight's [PathWave System Design](#) enables RF modelling excellence and accelerates digital mission engineering workflow. The solution's phased array beamforming simulation and analysis capabilities cover all non-ideal effects across channels and between amplifiers and antennas.

### **RF/Digital Cross-Domain Test**

- Keysight's solution reduces weeks of in-house measurement and data analysis efforts to minutes, by making single measurements using hundreds of frequency points. The digital transmit/receive module (TRM) test methodology enables users to characterize the full RF path and produces metrology-grade RF/digital cross-domain measurements traceable to national standards.

### **Keysight experts will also deliver the following presentations and workshops for attendees:**

#### **Device Characterization**

- RF Boot Camp (5 presentations)
- Challenges of Automatic Fixture Removal (AFR) in Cryogenic Environments
- A DC-170 GHz InP Distributed Amplifier Using Transmission Line Loss Compensation Technique

#### **5G**

- Materials Characterization and Assessment for 5G/mmWave Applications
- 15 to 72 GHz Closed-Loop Impairment Corrected mmWave Delay-Locked IQ Modulator for 5G Applications
- Young Professionals RF Interference Fox Hunt

#### **Quantum**

- Application of a VNA for Measurement of Superconducting Microwave Resonators
- Accelerated Solid State Qubit Pre-Screening
- Mixed-Mode/Differential S-Parameter Characterization at Cryogenic Temperatures for Quantum Computing Applications

### **About Keysight Technologies**

Keysight delivers advanced design and validation solutions that help accelerate innovation to connect and secure the world. Keysight's dedication to speed and precision extends to software-driven insights and analytics that bring tomorrow's technology products to market faster across the development lifecycle, in design simulation, prototype validation, automated software testing, manufacturing analysis, and network performance optimization and visibility in enterprise, service provider and cloud environments. Our customers span the worldwide communications and industrial ecosystems, aerospace and defense, automotive, energy, semiconductor, and general electronics markets. Keysight generated revenues of \$4.9B in fiscal year 2021. For more information about Keysight Technologies (NYSE: KEYS), visit us at [www.keysight.com](http://www.keysight.com).

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