

Keysight Enables Customers to Test Performance of Millimeter-wave Innovations in 5G, Aerospace/Defense and Satellite Communications

SANTA ROSA, Calif., May 12, 2021 – Keysight Technologies, Inc. (NYSE: KEYS), a leading technology company that delivers advanced design and validation solutions to help accelerate innovation to connect and secure the world, announced the [Keysight N9042B UXA X-Series signal analyzer solution](#), which enables customers to test the performance of millimeter-wave (mmWave) innovations in 5G, aerospace & defense and satellite communications.

At mmWave frequencies, signals are more susceptible to impairments that affect the signal quality, such as IQ modulation errors, phase noise, distortion, signal-to-noise ratio, amplitude, and phase linearity. Keysight's new N9042B UXA X-Series signal analyzer provides wide analysis bandwidth and deep dynamic range to help customers solve their most difficult mmWave challenges including tight design margins and timelines, complex modulation and stringent standards.

“Understanding signal fidelity is critical to the performance of products in 5G, aerospace and defense, satellite and automotive radar markets,” said Kiran Unni, vice president, industrial technologies practice, Frost & Sullivan. “At mmWave frequencies, signals are more susceptible to impairments that affect the signal quality, such as IQ modulation errors, phase noise, distortion, signal-to-noise ratio, amplitude and phase linearity. For designers and manufacturers, addressing these challenges is crucial when characterizing and testing the true performance of mmW products.”

Keysight's N9042B UXA X-Series signal analyzer delivers the following customer benefits:



- Ensures designs meet the latest standards with ready-to-use measurement applications and signal analysis software.
- Sees signals clearly with an unbanded, preselected sweep from 2 Hz to 110 GHz and up to 11 GHz of analysis bandwidth.
- Tests the true performance of a 5G new radio (NR) transmitter with an advanced error vector magnitude (EVM).
- Finds out-of-band emissions or spurs quickly in radar designs with superior swept displayed average noise level (DANL).
- Develops high-throughput satellite communication designs with 4 GHz of corrected analysis bandwidth.

“With the increasing demand for data, higher frequency and bandwidth, Keysight's signal analyzer and generator solutions embody our deep expertise in mmW design and measurements, for the latest 5G wireless, radar, aerospace defense, satellite and communications research,” said Joe Rickert, vice president and general manager of high frequency measurement R&D for Keysight's communications solutions group. “We're excited to partner with our customers on their test and measurement needs to accelerate industry innovations.”

Test Application Software

To ensure designs meet the latest standards with ready-to-use measurement applications for cellular communication, wireless connectivity, and aerospace/defense, the company integrated [PathWave X-Series measurement applications](#) with the UXA X-Series signal analyzer. These applications simplify complex tasks and deliver repeatable results. In addition, the [89600 PathWave Vector Signal Analysis software](#), a comprehensive set of tools for demodulation and vector signal analysis, offers support for more than 75 signal standards and modulation types, and enables customers to explore every facet of a signal and optimize their most advanced designs.

Cellular Communications

Testing 5G components and devices per the 3GPP 5G New Radio (5G NR) standard Releases 15 and 16 requires a solution with higher accuracy, sensitivity, and bandwidth capability.

The N9042B signal analyzer tests the true performance of transmitter designs with error vector magnitude (EVM) and 5G NR signal analysis software which perform transmitter downlink and uplink measurements with one-button simplicity.

Satellite Communications

Today's satellite communication systems require a sophisticated approach to wideband component characterization. Customers need to characterize amplifiers and components at bandwidths wider than the target application. The N9042B UXA X-Series signal analyzer provides a wide analysis bandwidth and unbanded, preselected frequency range to help customers characterize the performance of their satellite designs.

The N9042B UXA X-Series signal analyzer solution enables customers to reach high levels of measurement accuracy with:

- The innovative Keysight [V3050A Signal Analyzer Frequency Extender](#) which delivers unmatched measurement accuracy of wideband signals at very high frequencies. It provides outstanding sensitivity, unbanded and preselected frequency coverage up to 110 GHz, high dynamic range and a seamless interface to the N9042B UXA signal analyzer.
- [Keysight's RCal receiver calibrator](#) corrects system path losses and frequency responses up to 5 GHz IF bandwidth without the need for an external vector network analyzer, cabling and manual test-plane characterization. The palm-sized RCal seamlessly transfers precision factory calibration data to the Keysight X-Series signal analyzer over a USB connection, reducing the effort and complexity required to improve measurement accuracy for the test receiver system.
- Keysight's companion [VXG microwave signal generator](#) offers high output power with ultra-low phase noise and wide bandwidth for demanding wireless, as well as aerospace and defense applications. The VXG's dual-channel architecture, quickly switches from blocker and interferer tests to dual channel MIMO and beamforming tests.

Additional information is available as follows:

- Images: www.keysight.com/find/uxa-signal-analyzer-images

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. Keysight generated revenues of \$4.2B in fiscal year 2020. For more information about Keysight Technologies (NYSE: KEYS), visit us at www.keysight.com.



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