

## Keysight Technologies Accelerates 5G Design, Simulation and Verification Workflows with PathWave Design 2021 Software Suite

Integrated software solution ensures design performance, improves accuracy and speeds time-to-market for end-to-end 5G workflows

SANTA ROSA, Calif., July 20, 2020 - Keysight Technologies, Inc. (NYSE: KEYS), a leading technology company that helps enterprises, service providers and governments accelerate innovation to connect and secure the world, announced [PathWave Design 2021](#), an open, scalable and predictable 5G and mmWave software solution. It enables design and validation engineers to accelerate delivery of chip, board and system products by integrating device, circuit and system design with improved performance and accuracy.

The 5G market is rapidly gaining broader acceptance. Network operators are transitioning from 4G and rolling out commercial 5G around the world. Equipment manufacturers and suppliers need to optimize performance, cost (yield), and time-to-market in their designs to be selected as vendor of choice for mainstream 5G deployments. However, higher frequencies coupled with the increasing design integration and complexity of 5G, require a unified, end-to-end approach to eliminate late stage design iterations and ensure first pass success.

“Current design methodologies for 4G and earlier standards use approximate figures of merit to get designs to market quickly,” said Tom Lillig, general manager of PathWave Software Solutions at Keysight Technologies. “This legacy approach is insufficient for modern designs, which increase integration requirements due to 5G broadband modulation schemes. The design techniques developed with previous generations of designs simply aren’t sufficient to meet the 5G standards.”

### Implements Best Practices in Radio Frequency (RF) and Microwave Workflows

PathWave 5G addresses high frequency and complexity with new capabilities across all design phases including simulation to validation, as well as test and manufacturing. Engineers can eliminate months from product schedules by implementing best practices in their radio frequency/microwave (RF/MW) workflows such as:

- Increasing the speed and reducing the complexity of chip level analysis and verification with integrated EM simulation.
- Predicting performance at the circuit and system levels using common modulated signals and accurate RF system models.
- Scaling the end-to-end ecosystem from device to circuit to test and manufacturing with model-driven engineering.
- Accelerating the verification process by running simulations in parallel in the high-performance cloud computing.

Keysight’s PathWave Design 2021 software suite enables:

- Power amplifier designers using RF Gallium Nitride (GaN) superior power, size and efficiency advantages to model trapping and thermal effects.
- Front-end module and RF transceiver designers to assemble technologies to model packaging and coupling effects quickly and efficiently.
- System integrators to predict system performance with RF circuits, antennas and modulated signals.

- System architects to accurately perform RF modeling with a combined platform for digital, RF and antenna system simulation.
- Component manufacturers to validate the performance of their designs in target system architectures.
- Phased array designers to conduct fast, accurate beamforming simulations with realistic RF impairment modeling.

Keysight's PathWave Design software suite includes: [PathWave Advanced Design System \(ADS\)](#), [PathWave RFIC Design \(GoldenGate\)](#), [PathWave System Design \(SystemVue\)](#), [PathWave EM Design \(EMPro\)](#) and [PathWave Device Modeling \(IC-CAP\)](#), which deliver the key capabilities needed to address 5G challenges, including radio frequency/microwave (RF/MW) simulation and verification; electronic system-level (ESL) simulation; and device modeling to improve design speed, accuracy and robustness.

### Additional Information

More information on PathWave Design 2021 is available at <http://www.keysight.com/find/pathwave-design2021-backgrounder>

Images of PathWave Design 2021 are available at <http://www.keysight.com/find/pathwave-design2021-images>

### About Keysight Technologies

Keysight Technologies, Inc. (NYSE: KEYS) is a leading technology company that helps enterprises, service providers and governments accelerate innovation to connect and secure the world. Keysight's solutions optimize networks and bring electronic products to market faster and at a lower cost with offerings from design simulation, to prototype validation, to manufacturing test, to optimization in networks and cloud environments. Customers span the worldwide communications ecosystem, aerospace and defense, automotive, energy, semiconductor and general electronics end markets. Keysight generated revenues of \$4.3B in fiscal year 2019. More information is available at [www.keysight.com](http://www.keysight.com).

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