Arbitrary Waveform Generator Delivers Bandwidth, Speed and Accuracy to Simulate Real-World Radar Test Scenarios

Agilent Technologies Inc. has added a high-resolution, wide-bandwidth, 8- or 12-GSa/s modular instrument to its portfolio of arbitrary waveform generators. The new M8190A arbitrary waveform generator is able to deliver simultaneous high resolution and wide bandwidth along with industry-leading spurious-free dynamic range and very low harmonic distortion. This unique functionality allows radar, satellite and electronic warfare device designers to make reliable, repeatable measurements and create highly realistic signal scenarios to test their products.

Precision arbitrary waveform generation is required for realistic testing of low-observable aircraft systems and for high-density communications used in satellite communications systems.

With up to 14 bits of resolution, the M8190A makes it easy for designers to distinguish between signals and distortion in their test scenarios and stress their devices more rigorously. The instrument’s 2-GSa memory allows designers to create longer test scenarios that are more realistic.

* The M8190A arbitrary waveform generator helps engineers:

* Build a strong foundation for highly reliable satellite communications;

* Generate multilevel signals with programmable ISI and jitter up to 3 Gb/s; and

* Meet market requirements today and tomorrow with future-ready AWG technology.

The M8190A offers:

* 14 bits of resolution and up to 5 GHz of analog bandwidth per channel simultaneously;

* The ability to build realistic scenarios with 2 GSa of waveform memory; and

* Reduced system size, weight and footprint with compact modular AXIe AWG

capability.

The exceptional performance of the M8190A arbitrary waveform generator is made possible by a proprietary digital-to-analog converter designed by the Agilent Measurement Research Lab. Fabricated with an advanced silicon-germanium BiCMOS process, the DAC operates at 8 GSa/s with 14-bit resolution and at 12 GSa/s with 12-bit resolution. At 8 GSa/s, the Agilent DAC delivers up to -80 dBc SFDR, an industry-leading specification.

This technology breakthrough eliminates the trade-off between high resolution and wide bandwidth so measurements are more reliable and repeatable and engineers are less likely to misinterpret glitches in the waveforms as analog output.

The M8190A runs on an AXIe modular system, which is designed for high-performance instrumentation. It can be used with either a 2-slot or 5-slot chassis.

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