SIGLENT Introduces the SDG8000A Series: A New Platform for High-Performance RF and Arbitrary Signal Generation

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The new Arbitrary Waveform Generator Combines RF Signal Generation, IQ Modulation and Advanced Sequencing in a Single Platform

SIGLENT Technologies announced the launch of the new **SDG8000A Series Arbitrary Waveform Generators**, a high-performance signal generation platform designed for advanced RF, wireless communication, semiconductor and high-speed digital applications.

As modern communication and RF systems continue to increase in complexity, developers require signal sources capable of generating wideband, highly dynamic and realistic signals with exceptional fidelity. The SDG8000A Series was developed to address these requirements by combining wideband arbitrary waveform generation, direct RF signal synthesis, IQ vector signal generation and advanced sequencing capabilities in a single instrument platform.

The SDG8000A Series delivers in IQ-Mode output frequencies up to 5 GHz with sampling rates up to 12 GSa/s (interpolation) and 16-bit vertical resolution. Available in two- and four-channel configurations, the new platform provides up to 4 Gpts waveform memory per channel, enabling the generation of long and highly complex signal scenarios for modern RF and communication development.

Using SIGLENT's TrueArb technology, arbitrary waveforms can be reproduced point-by-point while maintaining waveform detail and low jitter performance. The architecture supports narrow pulse generation down to 250 ps and provides advanced multi-pulse functionality for demanding applications in RF, semiconductor and power electronics development.

A key capability of the SDG8000A Series is its integrated RF and IQ signal generation architecture. The internal digital modulator enables direct RF output up to 5 GHz without requiring external IQ modulation hardware. Combined with the optional SigIQPro software package, the system supports signal generation for modern communication standards including 5G NR, LTE, Wi-Fi, Bluetooth and IoT applications. With modulation bandwidths up to 2 GHz, the platform is well suited for RF front-end validation, receiver testing, amplifier characterization and wireless communication development.

The new series also integrates advanced signal creation capabilities such as multi-tone, chirp and PRBS signal generation, as well as high-speed serial data output up to 1.25 Gbps. Its multi-level sequence architecture enables the creation of highly dynamic and realistic signal environments for burst communication, interference simulation and system-level testing applications.

For synchronized multi-channel systems, the SDG8000A Series provides inter-channel skew below 15 ps together with differential output modes, marker outputs, external clock synchronization and advanced triggering capabilities. These features make the platform suitable for MIMO and other synchronized RF test environments.

The SDG8000A Series further supports LAN connectivity, WebServer-based remote control and integrated SSD storage, enabling efficient integration into automated test systems and modern laboratory environments.

“The SDG8000A Series represents a significant step forward in SIGLENT’s signal generation portfolio,” said Thomas Rottach, Sales & Marketing Director at SIGLENT Technologies. “Modern developers increasingly require flexible signal generation platforms capable of combining RF, arbitrary, pulse and digital signal generation within a single system. The SDG8000A was designed to provide this flexibility while maintaining the performance and usability expected in advanced RF development environments.”

Additional information is available at:
https://www.siglenteu.com/waveform-generators/sdg8000a-series-arbitrary-waveform-generator/

About Siglent:

SIGLENT TECHNOLOGIES began in 2002 with the development of its first digital oscilloscopes. Since then, the company has rapidly expanded its portfolio to cover a broad range of general-purpose electronic test and measurement instruments, including oscilloscopes, signal and function/arbitrary waveform generators, digital multimeters, laboratory power supplies, electronic DC loads, spectrum analyzers, vector network analyzers (VNAs), and RF signal generators.

With the introduction of the Performance Line Series in 2021, SIGLENT further advanced its technical capabilities to address demanding applications in high-performance measurement environments, including solutions reaching into the microwave frequency range up to 40 GHz.

Today, SIGLENT TECHNOLOGIES is a globally recognized provider of electronic test and measurement equipment, combining innovative features, strong engineering expertise, and reliable performance. Headquartered in Shenzhen, China, with international subsidiaries in the United States, Germany, Japan, and Malaysia, SIGLENT supports customers in more than 80 countries worldwide.

SIGLENT is certified according to ISO 9001:2015 and ISO 14001:2015 standards, reflecting its commitment to consistent product quality and responsible environmental management.

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