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Mini-Circuits Introduces 33 GHz Signal Generator with Low Phase Noise and High Output Power

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Content

Mini-Circuits announces the SSG-33GHP-RC, a high-performance, wideband signal generator covering 100 MHz to 33 GHz, designed to provide engineers with a versatile and economical signal source for millimeter-wave R&D, validation, and automated production test applications. Delivering up to +23 dBm maximum output power (+20 dBm typical at 33 GHz), the new instrument combines excellent RF performance with powerful automation capabilities in a compact benchtop package.

Designed for demanding RF and microwave measurements, the signal generator offers continuous frequency coverage from 0.1 to 33 GHz, output power programmable from -40 dBm to +23 dBm, and excellent signal purity with typical phase noise of -102 dBc/Hz at 100 kHz offset (33 GHz). This combination enables accurate characterization of high-frequency components and systems while minimizing measurement uncertainty.

Beyond conventional CW signal generation, the SSG-33GHP-RC provides comprehensive automation and sequencing capabilities. Users can configure single-tone CW outputs, regular and dynamic pulse modulation with pulse widths down to 0.5 μ s, as well as programmable frequency and power sweep or hop sequences. High-speed internal sequencing with dwell times as short as 10 μ s enables rapid automated testing without continuous PC control, improving production throughput and reducing test time.

A distinguishing feature of the SSG-33GHP-RC is its daisy-chain architecture, which allows up to 25 signal generators to be interconnected and automatically addressed through a single USB or Ethernet connection. This simplifies the creation of synchronized, multi-channel signal-generation systems without requiring manual address configuration, significantly reducing integration complexity in advanced test environments.

The instrument supports both USB HID and Ethernet interfaces, including SSH, HTTP, and Telnet protocols for secure remote operation and straightforward integration into virtually any automated test system. Mini-Circuits provides a complete software package including a Windows graphical user interface, programming APIs, and documentation for both Windows and Linux development environments, allowing users to quickly deploy custom automation routines or control the instrument through industry-standard programming languages.

The SSG-33GHP-RC addresses the growing need for affordable, high-quality signal generation across applications including 5G FR1 and FR2, Wi-Fi 6E, millimeter wave communications, semiconductor burn-in and life testing, local oscillator generation, and automated production test systems.

Despite its advanced capabilities, the SSG-33GHP-RC maintains a compact footprint suitable for both laboratory benches and production racks. Its combination of wide frequency coverage, high output power, low phase noise, flexible modulation, and scalable multi-channel operation offers engineers a practical alternative to larger, more expensive signal generation platforms. This model is part of a growing family of test solutions from Mini-Circuits that span Signal Generators, Power Sensors, Programmable Attenuators, and other characterization tools.

The Mini-Circuits SSG-33GHP-RC Wideband Signal Generator is available now. For complete specifications and additional information, visit www.minicircuits.com or contact Mini-Circuits at testsolutions@minicircuits.com.

Supporting Links:

<https://www.minicircuits.com/WebStore/dashboard.html?model=SSG-33GHP-RC>

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About Us:

Heading : About Mini-Circuits

Mini-Circuits makes the building blocks that shape the wireless world. From communications networks and critical national security systems to life-saving diagnostic imaging, quantum computing and more, we support the world's most innovative companies in building a faster, smarter, more connected future with the power of RF, microwave and millimeter wave technology. Headquartered in Brooklyn, New York with design, manufacturing and sales locations around the world, we're a diverse, rapid-growth corporation that hasn't outgrown what it means to treat our team members, customers, suppliers and partners like family. 20,000+ customers prefer Mini-Circuits for the demanding quality standards, design and manufacturing capabilities, sales and applications support, and supply chain stability that have earned the industry's trust since 1968.