SSG6000A Series Microwave Analog Signal Generator Release

September 05, 2023

SIGLENT expands the addressable frequency range of its RF Signal Generator to 40 GHz.

The rapidly growing mobile data traffic requires continuous further development of technologies and an increase in the share of the frequency spectrum for mobile communications. However, since it is already very narrow in the sub-6 GHz range, more and more bands in the microwave range are being developed. The most prominent example is mobile communication with the introduction of 5G high band beyond 24 GHz.

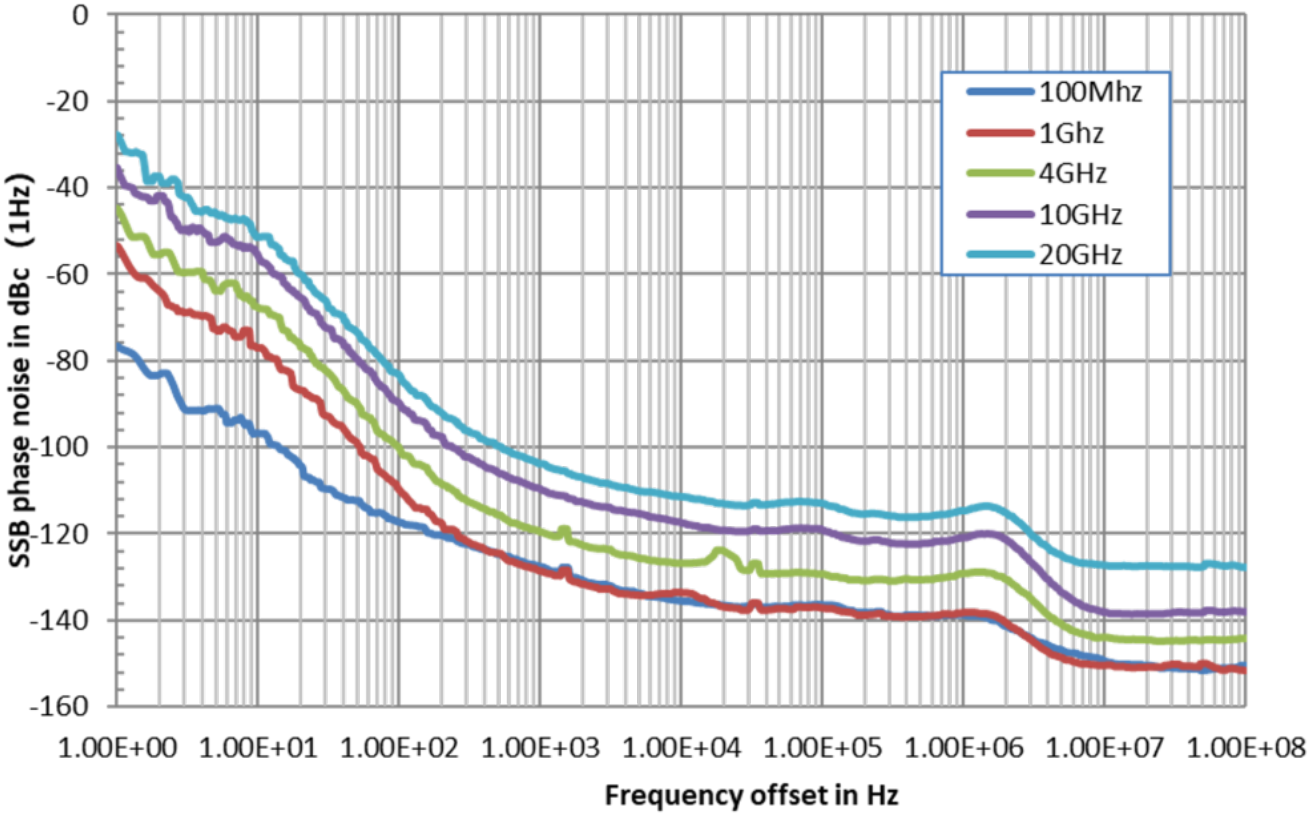
In order to develop, test and optimize these more complex systems, the measurement technology must exceed the desired system performance. This increases the demand for higher performance devices operating in the mm-wave range. This includes signal analysis as well as signal generators with frequencies up to 40 GHz. In order to test more advanced devices, the signal you use should not only have excellent frequency and level accuracy, but also have excellent distortion and spurious characteristics. The SSG6000A is designed to provide high performance signal quality that meets the stringent requirements of the latest microwave and millimeter wave testing while extending customer value in size, speed, and cost.

September 5th 2023, SIGLENT officially announces the release of SSG6000A Series RF Signal Generator, a performance instrument for cutting-edge testing of microwave and millimeter waves with wide frequency range, excellent signal spectrum purity, high accuracy, and large power output. It is not only an ideal local oscillator and clock source, but also a high-performance analog signal source suitable for applications in R&D and production.

The SSG6000A features a 5-inch touch screen along with keypad and knob simplifying front panel operation. Two USB ports on the front panel enable connections to a variety of devices such as memory sticks and USB power sensors. The upgraded digital platform makes remote programming quick and efficient. The GUI includes multiple one-touch features that enable the user to quickly set up measurement parameters including gated and external trigger modes.

Reveal the True RF Performance of a Device

The SSG6000A signal generator is built to deliver outstanding signal purity across a broad frequency range of 100 kHz to 40 GHz, even at high output power levels. Excellent phase noise of -135 dBc/Hz, low sub harmonic signal components of < –80 dBc and low broadband noise of –155 dBc gives you confidence that you are testing your device and not the limits of your instrumentation. Coupled with exceptional frequency and power stability, the SSG6000A is a great solution for applications including LO emulation, receiver, ADC/DAC, and components testing.



The SSG6000A has high frequency and power stability in the working temperature range of 0~50℃. Long term stability is important in aging and lifecycle tests that can last days or weeks. The standard OCXO reference hardware module inside ensures high-precision and high stability signal output. High output power of +22 dBm can test high-power devices more accurately and stably without an external amplifier, and overcome the loss of the test system. The combination of high output power, low harmonics and standard step attenuation is suitable for characterizing broadband microwave components such as filters and amplifiers.

Generate a User-programmable Pulse Scheme

The SSG6000A supports AM and pulse modulation, pulse sequence generator, power meter control and

other functions. Pulse modulation on/off ratio is more than 80 dB, and the rise/fall time is less than 15 ns. Pulse train generator has pulse width of 20 ns ~ 300 s and as many as 2047 different pulses. The pulse repetition period can be changed from 1 to a maximum of 65,535 which produces a very long, customizable pulse train that can be used for testing.

The SSG6000A generates staggered pulse groups or jitter pulse widths and pulse pauses and supports various trigger modes such as gated and external. The pulse width and the pulse pause can be set independently and separately for each pulse. The SSG6000A meets the need for fast scanning in broadband test with step/list scanning mode.

Provide Reliable Signals with a Total Solution

The SSG6000A has extremely high signal spectrum purity and large power output so as to prevent the DUT performance from being masked by phase noise of the signal generator. The SSG6000A can be used as pulse modulation signal source or LO to simulate various signals, the signal excitation of various amplifiers and the performance evaluation of various electronic devices and systems. The SSG6000A provides pure signals that minimize the impact on true ENOB and SFDR of ADC/DACs, thus leading to accurate measurements. It can also be used as an ideal local oscillator to further characterize devices like performance receivers.

The SSG6000A is also well suited to accurate nonlinear measurements and receiver blocking test. Manufacturers of devices, such as amplifiers and mixers, measure and specify P1 dB compression point and IP2/IP3 intermodulation. In-band and out-of-band interference (C/I, blocking) tests are another class of nonlinear measurements made on all types of receivers. Several communication standards specify blocking test for receivers in their conformance test specifications. 5G NR Base Station Conformance test specific cation TS 38.141-1, Conformance specific cation EN 300 328 for equipment operating in 2.4 GHz

ISM band which applies to Bluetooth and Wi-Fi are but two examples which specify blocking tests for receivers.

SSG6000A is upgradeable, reliable, and configurable for a broad range of applications from R&D to manufacturing and failure analysis. SIGLENT provides a total solution backed by proven reliability and our standard 3 years warranty plus pre-sale and post-sale support. Coupled with solid RF performance, a flexible and pure signal, the SSG6000A is a complete solution that makes a great addition to any RF engineer's workbench kit.

Further device details can be found on the SIGLENT website.

About SIGLENT:

SIGLENT TECHNOLOGIES started in 2002 with the development of their first oscilloscope. Now, the portfolio has rapidly expanded to cover many areas of general-purpose test instrumentation, including oscilloscopes, signal and function generators, digital multimeters, lab power supplies, electronic DC-Loads, spectrum analyzers, VNAs, and RF-signal generators.

With the Performance Series "A-Line" introduced in 2021, SIGLENT is advancing their technical solutions to address some of the most demanding applications. Today SIGLENT TECHNOLOGIES is a global leader producing electronic test and measurement equipment that combines innovative features and functionality with a strong commitment to quality and performance. SIGLENT is ISO 9001:2000 and ISO 14001:2004 certified for its product quality and environmental management programs.

North American Headquarters

SIGLENT Technologies America, Inc
6557 Cochran Rd Solon, Ohio 44139
Tel: 440-398-5800
Toll Free:877-515-5551
Fax: 440-399-1211
info@siglent.com
www.siglentamerica.com/

European Sales Offices

SIGLENT TECHNOLOGIES EUROPE GmbH
Staetzlinger Str. 70
86165 Augsburg, Germany
Tel: +49(0)-821-666 0 111 0
Fax: +49(0)-821-666 0 111 22
info-eu@siglent.com
www.siglenteu.com

Asian Headquarters

SIGLENT TECHNOLOGIES CO., LTD.
Blog No.4 & No.5, Antongda Industrial Zone,
3rd Liuxian Road, Bao'an District,
Shenzhen, 518101, China.
Tel:+ 86 755 3661 5186
Fax:+ 86 755 3359 1582
sales@siglent.com
www.siglent.com/ens