



SIGLENT Expands RF Test Capabilities with the New SSG6082A-V Vector Signal Generator

With the ongoing advancement of wireless communication, the introduction of new mobile network standards, and the growing adoption of IoT and radar technologies, the demand for high-performance RF solutions continues to rise. Developers and engineers face increasingly stringent requirements, particularly in generating complex modulated signals that are essential for modern communication and IoT applications. To meet these growing demands, Siglent is expanding its portfolio with a new high-performance vector signal generator.

On March 12, 2025, SIGLENT introduced the SSG6082A-V Vector Signal Generator, featuring an output frequency range of 9 kHz to 8 GHz and a ± 500 MHz bandwidth IQ baseband source, further expanding SIGLENT's vector signal generator product line. Additionally, a new version of our SigIQPro PC software is planned to be released in April 2025, adding further support for WiFi, 5G NR, LTE, and other common communication protocols, enabling more convenient generation of complex signals.

Expanded Output Frequency and Power Range

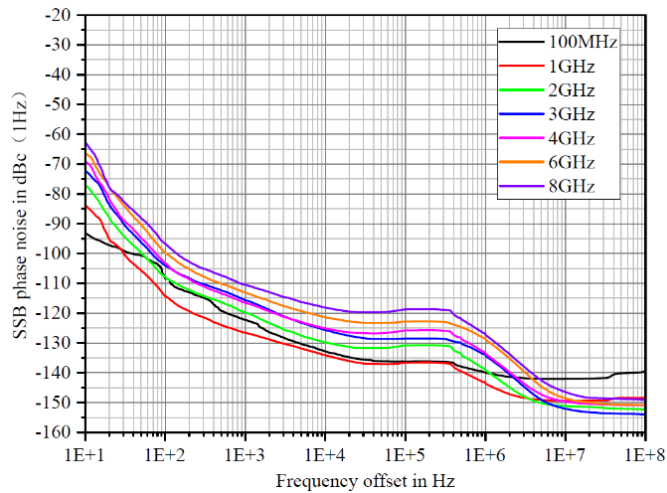
With a maximum frequency of 8 GHz and a peak output level of 30 dBm for CW signals, the new generator serves as both a high-precision RF source and a carrier for modulated signals. Its wide frequency and power range meet the demanding testing requirements of many modern communication systems.

Wider Modulation Bandwidth and Superior Signal Quality

As data exchange rates between devices continue to rise, broadband communication technologies are becoming increasingly prevalent. The SSG6082A-V offers a modulation bandwidth of up to 1 GHz and excellent in-band response, thanks to precise in-factory calibration, making it suitable for a wide range of communication test scenarios.

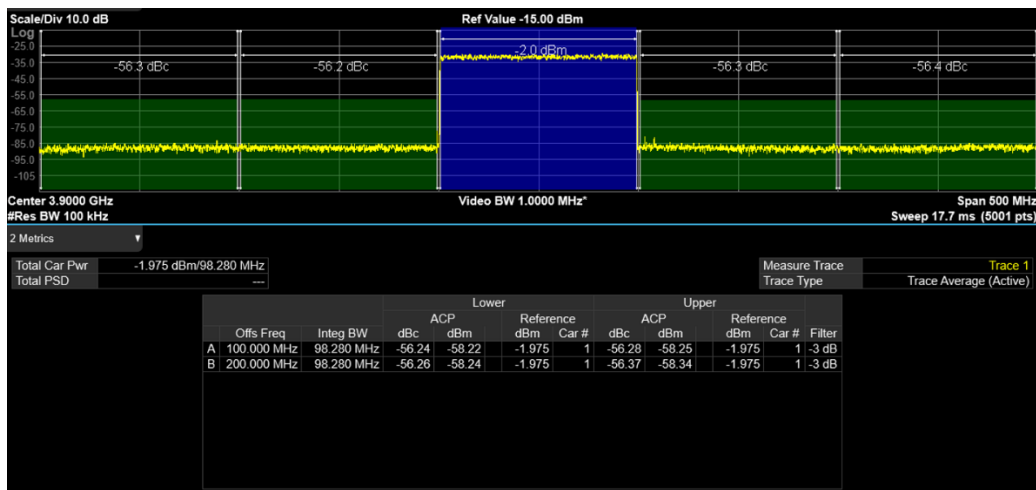
The SSG6000A-V series features ultra-low phase noise, reaching -132 dBc/Hz at a 10 kHz offset for a 1 GHz signal. Higher spectral purity reduces test errors, enhancing the accuracy and

reliability of measurement results. In wireless communication, low phase noise signals help minimize bit error rates (BER), improving communication stability and reliability.



Phase noise at different carrier frequencies

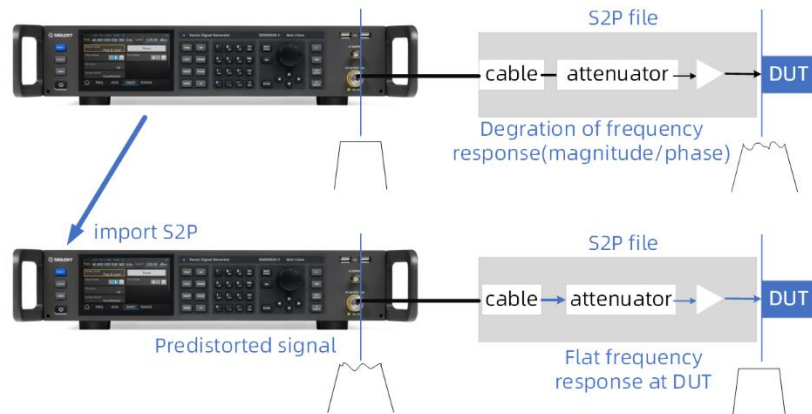
For modulated signals, the SSG6082A-V delivers an excellent adjacent channel power ratio (ACPR), ensuring high-quality signal generation while maintaining the target output power. This minimizes neighboring channel interference during multi-channel testing, enabling more accurate simulation of real-world communication environments.



5G NR Test Mode TM1.1 100M bandwidth ACPR

More Accurate Transmitter Simulation

The SSG6082A-V supports automatic amplitude, frequency, and phase compensation based on the S2P file of the test system. This compensation minimizes phase fluctuations and phase noise while flattening the signal amplitude across the entire frequency range, ensuring consistent signal levels at different frequencies. With enhanced system compatibility, the SSG6082A-V accommodates a broader range of applications, delivering precise and efficient test system performance.



Signal Pre-Distortion Capabilities Use S2P file to get a flat frequency response.

Outlook: More Protocols with SigIQPro and Comprehensive Testing Capabilities

As mobile devices continue to evolve with enhanced functionality, the demand for higher data rates and wider coverage is driving the need for more complex signal generation to validate device performance. SigIQPro is an essential tool for communication testing, designed to generate high-quality, complex modulated and protocol signals. The upcoming upgrade of SigIQPro, set for release next month, will expand its capabilities to include LTE FDD/TDD, and 5G NR signal generation, and additional WLAN signals which will join Bluetooth, IoT, custom IQ, and OFDM signal type generation.

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 up to 40 GHz. 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 9001:2015 and ISO 14001:2015 certified for its product quality and environmental management programs.

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