

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N5166B

The Keysight N5166B CXG is an RF vector signal generator designed for IoT and general-purpose wireless test applications. Offering reliable multi-channel receiver testing and basic parametric testing capability, it bridges the gap between essential and high-performance vector signal generation.

SPECIFICATIONS

Frequency

Minimum Frequency	9 kHz Hz
Maximum Frequency	6 GHz (option dependent) Hz
Frequency Resolution	0.01 Hz

Output

Maximum Output Power	+18 dBm (standard, up to +26 dBm with option 1EA) dBm
Output Power Range	-110 to +18 dBm (standard, frequency dependent)
Phase Noise	-119 dBc/Hz (typical at 20 kHz offset, 1 GHz carrier)

Modulation

Modulation	AM, FM, Phase (Φ M), Pulse, Vector I/Q (internal and external)
Sweep Modes	Step, List (frequency, amplitude, and dwell)

General

Reference Oscillator	10 MHz (internal)
Interfaces	LAN (1000Base-T), USB 2.0, GPIB (optional)
Display	6.5-inch color TFT LCD
Calibration Cycle	3 years

Physical

Dimensions (W×H×D)	426 mm W × 88 mm H × 489 mm D mm
Weight	15.9 kg kg

Frequency Specifications

Frequency Options	3 GHz (Option 503), 6 GHz (Option 506)
Frequency Switching Speed	< 5 ms (typical, SCPI mode)
Internal Reference Aging Rate	< ± 1 ppm/year
External Reference Input Frequency	10 MHz (± 1 ppm)

Amplitude Specifications

Amplitude Resolution	0.02 dB
Output Impedance	50 ohms

Spectral Purity

Harmonics	<-30 dBc (at 1 GHz, output power < +4 dBm)
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Vector Modulation and Baseband

Internal Baseband Generator Bandwidth	60 MHz (standard), 120 MHz (Option 1RE)
Arbitrary Waveform Memory Depth	16 Msa (standard), up to 512 Msa (Option 512)
Digital-to-Analog Converter (DAC) Resolution	16-bit

System Connectivity and Interfaces

RF Output Connector Type	Type-N female
LXI Class Compliance	LXI Core 2011 compliant

Physical and Environmental Specifications

Operating Temperature Range	0 to 55 °C
Storage Temperature Range	-40 to 70 °C
Rack Unit (RU) Height	2U

Protection

RF Reverse Power Protection	50 W (nominal) below 2 GHz, 25 W (nominal) 2 GHz to 6 GHz, 50 VDC maximum
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Phase

Phase Offset Resolution	0.01°
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Baseband Generator

Internal Baseband Generator Max Sample Rate	150 MSa/s
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Environmental

Maximum Operating Altitude	4,600 m
Maximum Storage Altitude	15,200 m
Environmental Shock & Vibration	Meets MIL-PRF-28800F Class 3 limits
Relative Humidity Range	Up to 95% RH at 40 °C, non-condensing

Sweep

Sweep Points Range	2 to 65535
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Performance

W-CDMA ACLR (64 DPCH)	-73 dBc (typical, at 2 GHz)
LTE-A FDD EVM	< 0.4% (typical, 1.8 GHz to 2.2 GHz)

Options

Baseband Generator Bandwidth Options	60 MHz (Option 1EL) / 80 MHz (Option 1EM) / 120 MHz (Option 1EP)
Baseband Generator Memory Options	32 MSa (Option 022) / 512 MSa (Option 023)

TECHNOLOGY

RF Vector Signal Generator

APPLICATIONS

IoT device testing, receiver characterization, educational labs, general-purpose RF testing

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.