KEYSIGHT TECHNOLOGIES (AGILENT HP)

N5181A

The Keysight / Agilent N5181A MXG analog signal generator delivers scalable RF performance, fast frequency and amplitude switching, and high reliability in a compact 2RU form factor. With configurable frequency options ranging from 100 kHz up to 6 GHz, it is optimized to provide accurate and repeatable reference signals for manufacturing, LO substitution, and analog communication testing.

SPECIFICATIONS

Frequency

Minimum Frequency	100 kHz Hz
Maximum Frequency	6 GHz (Option 506) Hz
Frequency Resolution	0.01 Hz
Phase Offset Resolution	0.1°

Output

Maximum Output Power	+13 dBm (standard) / +23 dBm (Option 1EA @ 1 GHz) dBm
Output Power Range	-127 dBm to +13 dBm (standard) / up to +23 dBm (Option 1EA)
Phase Noise	-121 dBc/Hz (typical at 1 GHz carrier, 20 kHz offset)

Modulation

Modulation	AM, FM, PM (Option UNT); Pulse (Option UNU/UNW)
Sweep Modes	Step, List
AM Depth	0 to 100%
Internal Modulation Source Waveforms	Sine, square, triangle, positive ramp, negative ramp
Simultaneous Modulation Capabilities	AM, FM or PM, and Pulse

General

Reference Oscillator	10 MHz
Interfaces	LAN (100Base-T, LXI Class C), USB 2.0, GPIB

Physical

Power Supply	100-240 VAC, 50/60 Hz; 100-120 VAC, 400 Hz

Frequency Specifications

Frequency Options	100 kHz to 1 GHz (Option 501), 3 GHz (Option 503), or 6 GHz (Option 506)
Internal Reference Frequency	10 MHz
Reference Output Frequency	10 MHz

Amplitude Specifications

Maximum Specified Output Power	+13 dBm (< 3 GHz, standard)
Minimum Specified Output Power	-127 dBm (standard)
Amplitude Resolution	0.01 dB
Output Impedance	50 Ω
Maximum Reverse Power (DC)	50 V

Spectral Purity

Harmonics (Standard)	< -30 dBc (< 3 GHz)
SSB Phase Noise (20 kHz offset)	-121 dBc/Hz (typical at 1 GHz carrier)

Pulse Modulation

On/Off Ratio	> 80 dB (typical, Option UNU/UNW)
Rise Time	< 10 ns (typical, Option UNU/UNW)
Fall Time	< 10 ns (typical, Option UNU/UNW)

Sweep Specifications

Sweep Types	Frequency, Amplitude, Frequency + Amplitude
Number of Points (Step Mode)	2 to 65535
Dwell Time Range	100 µs to 100 s

Internal / External Modulation Sources

Analog Modulation Options	Option UNT (AM, FM, Phase Modulation)
Pulse Modulation Options	Option UNU (Standard Pulse) / Option UNW (Narrow Pulse)

Front Panel & Interfaces

RF Output Connector Type	Type-N (female)
GPIB Interface	IEEE-488.2
LAN Interface	100Base-T (LXI Class C)
USB Ports	USB 2.0
External Trigger Input Connector	BNC (female)
10 MHz Reference Input/Output Connectors	BNC (female)

Environmental & Regulatory

Operating Temperature Range	0 to 55 °C

Physical & Power Specifications

AC Power Input Voltage	100 to 240 VAC
AC Power Input Frequency	50/60 Hz (100-120V @ 400Hz)
Maximum Power Consumption	250 W
Rack Unit (RU) Height	2 RU
Dimensions (H x W x D)	88 x 426 x 432 mm
Net Weight	10.5 kg (23.1 lb)

Amplitude

Attenuator Type	Electronic attenuator (Standard)

Environmental

Operating Altitude	Up to 4,600 meters (15,000 feet)

Compliance

EMC Compliance	IEC/EN 61326-1, CISPR 11 Group 1 Class A
Safety Compliance	IEC/EN 61010-1, CSA C22.2 No. 61010-1
LXI Compliance	LXI Class C

TECHNOLOGY

RF / Microwave

APPLICATIONS

Signal Generation