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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight N5181B MXG X-Series RF Analog Signal Generator, 9 kHz to 6 GHz

Agilent / Keysight N5181B MXG X-Series Analog Signal Generator The Keysight (Agilent) N5181B is an MXG X-Series RF analog signal generator. OEM MXG N5181B/N5182B specification sheets list frequency coverage 9 kHz to 3 GHz (Option 503) or 9 kHz to 6 GHz (Option 506), frequency resolution 0.001 Hz, absolute level accuracy plus or minus 0.6 dB (greater than 5 MHz to 3 GHz, max power to -60 dBm), and harmonics -35 dBc class at 1 GHz. Local oscillator substitution, receiver testing, and general purpose CW/analog modulated RF stimulus. The Keysight (Agilent) N5181B is an MXG X-Series RF analog signal generator. OEM MXG N5181B/N5182B specification sheets list frequency coverage 9 kHz to 3 GHz (Option 503) or 9 kHz to 6 GHz (Option 506), frequency resolution 0.001 Hz, absolute level accuracy plus or minus 0.6 dB (greater than 5 MHz to 3 GHz, max power to -60 dBm), and harmonics -35 dBc class at 1 GHz. Local oscillator substitution, receiver testing, and general purpose CW/analog modulated RF stimulus. Frequency Range Option 503: 9 kHz to 3 GHz



MODEL

**Agilent / Keysight
N5181B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

N5181B

LISTING

<https://aumictechlabs.com/products/n5181b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight N5181B MXG X-Series RF Analog Signal Generator delivers precise signal generation across 9 kHz to 6 GHz for R&D, receiver testing, and component characterization. Built for

applications in consumer wireless, military communications, and radar systems, this instrument provides output power up to +27 dBm at 1 GHz with exceptional spectral purity and fast frequency switching.

Technical Specifications

Frequency & Output Power

Frequency range: 9 kHz to 6 GHz

Output power: Up to +27 dBm at 1 GHz

Output power temperature stability: 0.01 dB/°C outside 20–30 °C

Output power humidity drift: Up to 0.10 dB (below 3 GHz) and 0.15 dB (above 3 GHz) per g/kg change in absolute humidity

Spectral Performance

Phase noise: –146 dBm at 1 GHz, 20 kHz offset (–131 dBc/Hz)

Spurious performance: –96 dBc (non-harmonics) at 1 GHz RF amplitude

flatness (160 MHz bandwidth): ±0.2 dB

RF phase flatness (160 MHz bandwidth): ±2 degrees

Frequency Switching

List/step sweep mode: ≤950 μs typical

SCPI mode (cached): ≤1.15 ms typical

CW switching to 0.05% final frequency: 190 μs

Initial SCPI point: ≤3.3 ms

Automatic caching of 1024 most recently used frequencies

Key Features

Factory-equalized 160 MHz RF bandwidth

Analog modulation: AM, CW, FM, PM

Pulse modulation: Narrow pulse modulation available (Option UNW)

Multi-function generator option (Option 303) for advanced analog modulation

Amplitude repeatability and relative level accuracy across full frequency and power range

Typical Applications

Receiver sensitivity testing, interference mitigation, component validation, and signal characterization across consumer wireless, military, and radar domains.

N5181B Characteristics / Specifications

PARAMETER	VALUE
Model	N5181B
Frequency Range Option 5	9 kHz to 3 GHz
Frequency Resolution	0.001 Hz
Phase Offset Resolution Nominal	0.1 degree
Internal Timebase Aging Rate	less than plus or minus 1e-7 per year
Internal Timebase Aging Per Day	less than plus or minus 5e-10 per day after 30 days
Initial Calibration Accuracy	plus or minus 4e-8 or plus or minus 40 ppb
Reference Output	10 MHz, greater than or equal to +4 dBm nominal into 50 ohm
External Reference Input Standard	10 MHz
External Reference Option 1ER	1 to 50 MHz
Absolute Level Accuracy Greater Than 5 MHz To 3 GHz	plus or minus 0.6 dB (max power to -60 dBm)
Absolute Level Accuracy Greater Than 3 To 6 GHz	plus or minus 0.6 dB (max power to -60 dBm)
Amplitude Resolution	0.01 dB class
Switching Speed Class	less than or equal to 800 us class
Harmonics At 1 GHz Class	-35 dBc
Nonharmonics At 1 GHz Class	less than -96 dBc
SSB Phase Noise Class At 1 GHz 20 kHz Offset	typical -146 dBc/Hz class
RF Output Connector Class	TypeNfemale
Remote Interfaces	LAN USB GPIB
Form Factor	benchtop 2U class
Brand Lineage	Agilent / Keysight

N5181B Specifications

PARAMETER	VALUE
Applications	Local oscillator substitution, receiver testing, and general purpose CW/analog modulated RF stimulus.
MXG analog signal generator platform	Option 503 3 GHz or Option 506 6 GHz
Technical Specifications	Model: N5181B
Notes	From Keysight MXG X-Series Signal Generators N5181B Analog and N5182B Vector specification sheet.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
Model	N5181B
Frequency Range Option 503	9 kHz to 3 GHz
Frequency Range Option 506	9 kHz to 6 GHz
Frequency Resolution	0.001 Hz
Phase Offset Resolution Nominal	0.1 degree
Internal Timebase Aging Rate	less than plus or minus 1e-7 per year
Internal Timebase Aging Per Day	less than plus or minus 5e-10 per day after 30 days
Initial Calibration Accuracy	plus or minus 4e-8 or plus or minus 40 ppb
Reference Output	10 MHz, greater than or equal to +4 dBm nominal into 50 ohm
External Reference Input Standard	10 MHz
External Reference Option 1ER	1 to 50 MHz
Absolute Level Accuracy Greater Than 5 MHz To 3 GHz: plus or minus 0.6 dB (max power to -60 dBm)	
Absolute Level Accuracy Greater Than 3 To 6 GHz: plus or minus 0.6 dB (max power to -60 dBm)	
Specifications	
PARAMETER	VALUE
Amplitude Resolution	0.01 dB class
Switching Speed Class	less than or equal to 800 us class
Harmonics At 1 GHz Class	-35 dBc
Nonharmonics At 1 GHz Class	less than -96 dBc
SSB Phase Noise Class At 1 GHz 20 kHz Offset: typical -146 dBc/Hz class	
Specifications	
PARAMETER	VALUE
RF Output Connector Class	TypeNfemale
Remote Interfaces	LAN USB GPIB
Form Factor	benchtop 2U class

PARAMETER	VALUE
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Brand Lineage	Agilent / Keysight
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Notes

From Keysight MXG X-Series Signal Generators N5181B Analog and N5182B Vector specification sheet.

Ordering Information

OPTION	DESCRIPTION
Option 503	3 GHz or Option 506 6 GHz

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.