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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight N5161A MXG ATE Analog Signal Generator 100 kHz to 3 or 6 GHz

HP Agilent Keysight N5161A MXG ATE Analog Signal Generator 100 kHz to 3 or 6 GHz The Agilent N5161A is the blank-front-panel MXG ATE analog signal generator. OEM N5161A/62A/81A/82A installation guide and MXG analog configuration guide state that it provides the same RF analog capability, performance, and form factor as the N5181A, with display removed and connectors relocated to the rear panel for rack ATE. High-volume automated RF analog stimulus, rack ATE with rear-panel RF, and SCPI/LXI-controlled analog AM/FM/pulse generation to 3 or 6 GHz. The Agilent N5161A is the blank-front-panel MXG ATE analog signal generator. OEM N5161A/62A/81A/82A installation guide and MXG analog configuration guide state that it provides the same RF analog capability, performance, and form factor as the N5181A, with display removed and connectors relocated to the rear panel for rack ATE. High-volume automated RF analog stimulus, rack ATE with rear-panel RF, and SCPI/LXI-controlled analog AM/FM/pulse generation to 3 or 6 GHz. ATE blank front panel with rear-panel connectors



MODEL

**Agilent / Keysight
N5161A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

N5161A

LISTING

<https://aumictechlabs.com/products/n5161a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight N5161A MXG ATE Analog Signal Generator delivers RF stimulus for automated test equipment environments without a front-panel display. This headless architecture enforces remote operation via SCPI commands or web-enabled interface, making it purpose-built for rack-mount systems and ATE integration. As a streamlined variant of the N5181A MXG, it has equivalent performance with simplified maintenance design. Note: This product is obsolete; the N5181A MXG X-Series is the current replacement.

Technical Specifications

Frequency Range: 100 kHz to 3 GHz or 6 GHz (option-dependent) Resolution: 0.01 Hz Aging rate: ± 5 ppm/10 years Temperature stability: ± 1 ppm over 0 to 55 °C Reference input: 10 MHz standard; 1 to 50 MHz with option 1ER (0.1 Hz increments) Reference output: 10 MHz, $\geq +4$ dBm (nom) into 50 Ω Amplitude Output power range: -127 dBm to +23 dBm (Option 1EQ extends to -144 dBm) Maximum output power: +23 dBm @ 1 GHz Resolution: 0.01 dB (nom) Electronic attenuator: 0 to 130 dB in 5 dB steps Reverse power protection: 50 VDC (nom), 2 W (nom) from 100 kHz to 6 GHz SWR: 1.4:1 typical (≤ 1.7 GHz), 1.55:1 (1.7–3 GHz), 1.7:1 (3–4 GHz), 1.6:1 (4–6 GHz) Absolute level accuracy (ALC On, 20–30 °C): ± 0.6 dB to ± 0.8 dB depending on frequency and option Spectral Purity Phase noise: ≤ -121 dBc/Hz (typ) @ 1 GHz, 20 kHz offset Harmonics: < -30 dBc Spurious signals: < -70 dBc Modulation Types: AM, FM, PM, Pulse External modulation: AM, FM, PM inputs available with option UNT

Key Features

- Headless design eliminates front-panel dependencies for ATE integration
- Web-enabled and SCPI-compliant remote control
- Frequency resolution to 0.01 Hz across full band
- Low phase noise (-121 dBc/Hz typ) supports sensitive receiver testing
- Wide amplitude range with 0.01 dB resolution
- Flexible reference input/output for system synchronization

Typical Applications

- Receiver sensitivity and dynamic range characterization
- Transmitter spurious and harmonic validation
- Automated functional and production test
- System-level RF subsystem validation

N5161A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	MXG ATE analog signal generator
Series Family	Agilent N5161A/N5181A MXG analog
Frequency Range Option 5	100 kHz to 3 GHz
Frequency Resolution	0.01 Hz (MXG analog/vector family)
Phase Offset	adjustable in nominal 0.1 degree increments
Switching Speed Standard Typical	less than or equal to 5 ms SCPI mode
Switching Speed Option UNZ List Mode Typical	less than or equal to 700 us (N5162A/82A analog-off table, MXG family)
Internal Timebase Aging	less than or equal to plus or minus 5 ppm per 10 years; less than plus or minus 1 ppm per year nominal
Temperature Effects Nominal	plus or minus 1 ppm 0 to 55 C
Reference Output	10 MHz, greater than or equal to plus 4 dBm nominal into 50 ohm
External Reference Standard	10 MHz; Option 1ER 1 to 50 MHz
Minimum Output Power	minus 110 dBm; minus 127 dBm with Option 1EQ
Maximum Output 50 MHz to 3 GHz Standard	plus 13 dBm
Maximum Output 50 MHz to 3 GHz Option 1EA	plus 23 dBm
Maximum Output 3 to 5 GHz Standard	plus 13 dBm
Level Resolution	0.01 dB nominal
Step Attenuator	0 to 130 dB in 5 dB steps electronic (110 dB without 1EQ)
Output Impedance	50 ohm nominal
SWR To 1.7 GHz Typical	1.4:1 (N5162A/82A serial 4818xxxx or greater table)
Maximum Reverse Power 100 kHz to 6 GHz Nominal	2 W; 50 Vdc
List Sweep Points	1 to 3201; step sweep 2 to 65535
Dwell Time	100 us to 100 s

PARAMETER	VALUE
Remote Interface	SCPI via GPIB LAN USB LXI; web-enabled MXG
Form Factor	MXG ATE rack, connectors at rear
Operating Temperature	0 C to 55 C after 45 minute warm-up (MXG family definitions)
Datasheet Number	5989-5311EN (N5161A/81A analog)

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to 55 C after 45 minute warm-up (MXG family definitions)
Operating Temperature	0 C to 55 C after 45 minute warm-up (MXG family definitions)
Datasheet Number	5989-5311EN (N5161A/81A analog) Notes N5161A is the ATE analog counterpart of N5181A per Agilent MXG analog configuration guide. Frequency, amplitude, and analog-family rows use Agilent N5182A/N5162A MXG data sheet 5989-5261EN analog/RF tables that the installation guide lists as the MXG family, plus 5989-5311EN identity for N5161A/81A. Vector baseband rows of 5989-5261EN do not apply.

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.

performance, and form factor as the N5181A, with display removed and connectors relocated to the rear panel for rack ATE.

Applications
High-volume automated RF analog stimulus, rack ATE with rear-panel RF, and SCPI/LXI-controlled analog AM/FM/pulse generation to 3 or 6 GHz.

Key Features
ATE blank front panel with rear-panel connectors
Same analog RF performance as N5181A MXG
Web-enabled MXG control plus SCPI
Optional high power 1EA and low power 1EQ
Optional UNZ fast switching

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Instrument Type	MXG ATE analog signal generator
Series Family	Agilent N5161A/N5181A MXG analog
Frequency Range Option 503	100 kHz to 3 GHz
Frequency Range Option 506	100 kHz to 6 GHz
Frequency Range Option 501	100 kHz to 1 GHz
Frequency Resolution	0.01 Hz (MXG analog/vector family)
Phase Offset	adjustable in nominal 0.1 degree increments
Switching Speed Standard Typical	less than or equal to 5 ms SCPI mode
Switching Speed Option UNZ List Mode Typical	less than or equal to 700 us (N5162A/82A analog-off table, MXG family)
Internal Timebase Aging	less than or equal to plus or minus 5 ppm per 10 years; less than plus or minus 1 ppm per year nominal
Temperature Effects Nominal	plus or minus 1 ppm 0 to 55 C
Reference Output	10 MHz, greater than or equal to plus 4 dBm nominal into 50 ohm
External Reference Standard	10 MHz; Option 1ER 1 to 50 MHz
Minimum Output Power	minus 110 dBm; minus 127 dBm with Option 1EQ

Maximum Output 50 MHz to 3 GHz Standard: plus 13 dBm
Maximum Output 50 MHz to 3 GHz Option 1EA: plus 23 dBm

Specifications

PARAMETER	VALUE
Maximum Output 3 to 5 GHz Standard	plus 13 dBm

PARAMETER	VALUE
Level Resolution	0.01 dB nominal
Step Attenuator	0 to 130 dB in 5 dB steps electronic (110 dB without 1EQ)
Output Impedance	50 ohm nominal
SWR To 1.7 GHz Typical	1.4:1 (N5162A/82A serial 4818xxxx or greater table)

Maximum Reverse Power 100 kHz to 6 GHz Nominal: 2 W; 50 Vdc
 List Sweep Points: 1 to 3201; step sweep 2 to 65535
 Dwell Time: 100 us to 100 s
 Option 1EA: high output power
 Option 1EQ: low power below 110 dBm
 Option 1ER: flexible reference input 1 to 50 MHz
 Option UNZ: fast switching

Specifications

PARAMETER	VALUE
Remote Interface	SCPI via GPIB LAN USB LXI; web-enabled MXG
Form Factor	MXG ATE rack, connectors at rear
Operating Temperature	0 C to 55 C after 45 minute warm-up (MXG family definitions)
Datasheet Number	5989-5311EN (N5161A/81A analog)

Notes
 N5161A is the ATE analog counterpart of N5181A per Agilent MXG analog configuration guide. Frequency, amplitude, and analog-family rows use Agilent N5182A/N5162A MXG data sheet 5989-5261EN analog/RF tables that the installation guide lists as the MXG family, plus 5989-5311EN identity for N5161A/81A. Vector baseband rows of 5989-5261EN do not apply.

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

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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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.