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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight N9310A RF Signal Generator 9 kHz – 3 GHz

Agilent Keysight N9310A RF Signal Generator 9 kHz to 3 GHz The Agilent/Keysight N9310A is a general-purpose RF signal generator covering 9 kHz to 3.0 GHz with analog modulation and optional I/Q. OEM N9310A data sheet 5990-8116 lists output from minus 127 to plus 13 dBm (plus 20 dBm settable), less than 10 ms switching, and USB connectivity in a compact chassis. Education manufacturing and service maintenance stimulus, start-up R&D RF source work, and general purpose CW and analog-modulated signal generation to 3 GHz. The Agilent/Keysight N9310A is a general-purpose RF signal generator covering 9 kHz to 3.0 GHz with analog modulation and optional I/Q. OEM N9310A data sheet 5990-8116 lists output from minus 127 to plus 13 dBm (plus 20 dBm settable), less than 10 ms switching, and USB connectivity in a compact chassis. Education manufacturing and service maintenance stimulus, start-up R&D RF source work, and general purpose CW and analog-modulated signal generation to 3 GHz. Built-in AM FM phase and pulse modulation



MODEL

**Agilent / Keysight
N9310A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

N9310A

LISTING

<https://aumictechlabs.com/products/n9310a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keysight N9310A is a compact RF signal generator delivering coverage from 9 kHz to 3 GHz with 0.1 Hz frequency resolution and fast 10 ms switching speed. Built for R&D, manufacturing,

service, and education, it combines essential analog modulation (AM, FM, pulse, phase), optional I/Q capability with 80 MHz bandwidth, and broad output power control from -127 dBm to +13 dBm. The instrument features a 6.5-inch color display, internal frequency reference stable to $\pm 1 \times 10^{-6}$, and dual USB connectivity for remote operation and file transfer. Phase noise performance reaches -95 dBc/Hz at 20 kHz offset, while integrated LF modulation spans 20 Hz to 80 kHz with 3 V_{peak} output into 50 Ω . Reverse power protection rated to +36 dBm RF and 30 V DC ensures safe operation in demanding test environments. The N9310A delivers cost-effective signal generation across communication, component validation, and system-level testing without compromising measurement accuracy or user interface responsiveness.

Technical Specifications

Frequency RF frequency range: 9 kHz to 3 GHz Frequency resolution: 0.1 Hz Frequency switching speed: <10 ms Internal reference stability: $<\pm 1 \times 10^{-6}$ Optional precision reference (PFR): $<\pm 1 \times 10^{-7}$ annual aging; $\pm 5 \times 10^{-8}$ temperature stability (5–50 °C) Output Power Output level range: -127 dBm to +13 dBm Level uncertainty: $<\pm 1$ dB Reverse power protection: +36 dBm (RF), 30 V (DC) Output VSWR: <1.6 typical (1.5 MHz to 2.5 GHz) Modulation Analog modes: AM, FM, pulse, phase Internal LF source: 20 Hz to 80 kHz sine wave Optional I/Q modulation: 80 MHz bandwidth; DC–40 MHz at 3 dB (40 MHz mode); DC–20 MHz at 3 dB (20 MHz mode); 40 dBc carrier suppression typical (10 kHz mod frequency); QPSK EVM 3%; GMSK phase error 1.2° rms I/Q input impedance: 0.5 V_{rms} full scale and sensitivity Signal Quality SSB phase noise: <-95 dBc/Hz (20 kHz offset) Residual FM: <20 Hz rms FM deviation range: 20 Hz to 100 kHz FM deviation accuracy: $<\pm(5\% + 300 \text{ Hz})$ Low Frequency Output LF output: 20 Hz to 80 kHz, 0–3 V_{peak} into 50 Ω Interfaces RF output: Type-N (F) LF output: BNC (F) Modulation input: BNC I/Q inputs: BNC (F) for I and Q (optional) Reference: Input/output connectors Trigger and pulse: Dedicated connectors USB: Host and device connectivity Display: VGA connector for external monitor

Key Features

0.1 Hz frequency resolution across 9 kHz–3 GHz span Sweep capability: amplitude (-127 to +13 dBm) and RF (full range) Optional precision frequency reference for $\pm 5 \times 10^{-8}$ stability 6.5-inch color TFT display with remote USB control Built-in LF modulation source to 80 kHz Reverse power protection to +36 dBm

Typical Applications

Component characterization and validation Communication system testing Manufacturing and service maintenance Educational laboratory training RF subsystem stimulus and bench verification

Compatibility & Integration

USB (host/device) and VGA connections enable integration with automated test systems and external monitors. Reference input/output and trigger connectors support synchronization in multi-instrument configurations.

Features & description

From manufacturer datasheet

Built-in AM FM phase and pulse modulation

LF output 20 Hz to 80 kHz Optional OCXO precision frequency reference Option PFR Optional analog I/Q input Option 001 Technical Specifications Frequency Range RF: 9 kHz to 3.0 GHz Frequency Resolution: 0.1 Hz Frequency Switching Speed Typical: less than 10 ms within 0.1 ppm of final frequency Output Power Range: minus 127 to plus 13 dBm Maximum Settable Level: plus 20 dBm Level Resolution: 0.1 dB Level Accuracy: less than plus or minus 1 dB for Fc greater than or equal to 100 kHz and minus 120 to plus 13 dBm at 20 to 30 C Level Switching Speed Typical: less than 10 ms Output Impedance: 50 Ohm nominal N-type VSWR Typical 1.5 MHz To 2.5 GHz: less than 1.6 VSWR Typical 2.5 To 3 GHz: less than 1.8 SSB Phase Noise Typical 1 GHz 20 kHz Offset: less than minus 95 dBc/Hz Residual FM CW 1 GHz 0.3 To 3 kHz BW: less than 30 Hz rms less than 90 Hz peak Harmonics Level Less Equal 0 dBm Fc Greater Equal 1 MHz: less than minus 30 dBc Nonharmonics Level Less Equal 0 dBm 10 kHz From Carrier: less than minus 50 dBc Reverse Power Protection RF: plus 36 dBm for 1 minute Reverse Power Protection DC: 30 V Timebase Reference Output: 10 MHz greater than 0.35 Vrms into 50 Ohm BNC External Reference Input: 2 MHz 5 MHz 10 MHz 0.5 to 2 Vrms

N9310A Characteristics / Specifications

PARAMETER	VALUE
Frequency Range RF	9 kHz to 3.0 GHz
Frequency Resolution	0.1 Hz
Frequency Switching Speed Typical	less than 10 ms within 0.1 ppm of final frequency
Output Power Range	minus 127 to plus 13 dBm
Maximum Settable Level	plus 20 dBm
Level Resolution	0.1 dB
Level Accuracy	less than plus or minus 1 dB for Fc greater than or equal to 100 kHz and minus 120 to plus 13 dBm at 20 to 30 C
Level Switching Speed Typical	less than 10 ms
Output Impedance	50 Ohm nominal N-type
VSWR Typical 1.5 MHz To 2.5 GHz	less than 1.6
VSWR Typical 2.5 To 3 GHz	less than 1.8
SSB Phase Noise Typical 1 GHz 20 kHz Offset	less than minus 95 dBc/Hz
Residual FM CW 1 GHz 0.3 To 3 kHz BW	less than 30 Hz rms less than 90 Hz peak
Harmonics Level Less Equal 0 dBm Fc Greater Equal 1 MHz	less than minus 30 dBc
Nonharmonics Level Less Equal 0 dBm 10 kHz From Carrier	less than minus 50 dBc
Reverse Power Protection RF	plus 36 dBm for 1 minute
Reverse Power Protection DC	30 V
Timebase Reference Output	10 MHz greater than 0.35 Vrms into 50 Ohm BNC
External Reference Input	2 MHz 5 MHz 10 MHz 0.5 to 2 Vrms
LF Output Range	20 Hz to 80 kHz
Power Requirement	100 to 240 Vac 50 to 60 Hz
Power Consumption	65 W
Operating Temperature	5 to 45 C

PARAMETER	VALUE
Storage Temperature	minus 20 to 70 C
Weight Nominal	9.2 kg
Dimensions HxWxD	132.5 × 320 × 400 mm
Display	640 × 480 6.5 inch diagonal nominal
Recommended Calibration Cycle	2 years

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	minus 20 to 70 C
Operating temperature	5 to 45 C
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Weight Nominal	9.2 kg
Dimensions HxWxD	132.5 × 320 × 400 mm
Display	640 × 480 6.5 inch diagonal nominal
Recommended Calibration Cycle	2 years Notes From Keysight N9310A RF Signal Generator data sheet 5990-8116EN. Confirm Option PFR 001 1PA and mechanical options on the unit configuration.

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	
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Level Accuracy	less than plus or minus 1 dB for Fc greater than or equal to 100 kHz and minus 120 to plus 13 dBm at 20 to 30 C
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Output Impedance	50 Ohm nominal N-type
VSWR Typical 1.5 MHz To 2.5 GHz	less than 1.6
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Notes
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Ordering Information

OPTION	DESCRIPTION
Option 001	Technical Specifications

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.