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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight N5172B EXG X-Series RF Vector Signal Generator, 9 kHz to 6 GHz

Agilent Keysight N5172B EXG Vector Signal Generator The Keysight N5172B EXG is a vector X-Series signal generator covering 9 kHz to 3 or 6 GHz (7.2 GHz with extender path). OEM data sheets list shared EXG RF power architecture with the N5171B plus internal baseband generation for digital modulation manufacturing test. Wireless receiver functional test, modulated component characterization, and manufacturing vector signal stimulus to 6 GHz class. Frequency Extender Path: 9 kHz to 7.2 GHz with FRQ extender class The Keysight N5172B EXG is a vector X-Series signal generator covering 9 kHz to 3 or 6 GHz (7.2 GHz with extender path). OEM data sheets list shared EXG RF power architecture with the N5171B plus internal baseband generation for digital modulation manufacturing test. Wireless receiver functional test, modulated component characterization, and manufacturing vector signal stimulus to 6 GHz class. Frequency Extender Path: 9 kHz to 7.2 GHz with FRQ extender class

Max Output Power Standard 10 MHz To 3 GHz: plus 18 dBm



MODEL

**Agilent / Keysight
N5172B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

N5172B

LISTING

<https://aumictechlabs.com/products/n5172b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight N5172B EXG X-Series RF Vector Signal Generator is a versatile instrument designed for efficient manufacturing tests, component testing, and receiver verification. It has a frequency

range from 9 kHz to 6 GHz and is optimized for high throughput and uptime. The N5172B provides enhanced capabilities in output power, Adjacent Channel Power Ratio (ACPR), Error Vector Magnitude (EVM), bandwidth, and memory compared to previous generations. Its design allows for scalable performance and capabilities, add features such as higher output power, a real-time baseband generator, or a multi-function generator as needed. The instrument supports automation through SCPI commands via LAN, GPIB, or USB, and can be controlled from the front panel. For signal creation, it integrates with Keysight's PathWave Signal Generation software, which offers a suite of tools for various applications including cellular communications and wireless connectivity.

Technical Specifications

Frequency Range: 9 kHz to 6 GHz (Vector) 9 kHz (5 MHz IQ mode) to 6 GHz

Output Power: Settable Range: +30 dBm to -144 dBm

Resolution: 0.01 dB

Maximum Output Power (typical):

- * 9 kHz to 10 MHz: +13 dBm (Standard), +17 dBm (Option 1EA)
- * > 10 MHz to 3 GHz: +18 dBm (Standard), +21 dBm (Option 1EA)
- * > 3 GHz to 6 GHz: +16 dBm (Standard), +18 dBm (Option 1EA)

Maximum Output Power at 1 GHz: +27 dBm

Maximum Output Power at 20 GHz: +26 dBm

Phase Noise: At 1 GHz, 20 kHz offset: -122 dBc/Hz

Spurious Emissions: At 1 GHz (non-harmonics): -72 dBc

Bandwidth: Maximum RF Bandwidth (internal / external): 160 MHz / 200 MHz

Vector Modulation Bandwidth (Internal/External): 160 MHz to 200 MHz

Vector Bandwidth: 160 MHz

Modulation: Modulation Types Available: AM, FM, PM, Pulse

Vector Modulation: N5172B only

Digital Modulation On: N5172B only

AM, FM, Phase Modulation (Option UNT)

Narrow Pulse Modulation (Option UNW)

Error Vector Magnitude (EVM):

802.11ac/LTE: 0.4 percent

Adjacent Channel Power Ratio (ACPR): W-CDMA 64 DPCH: -73 dBc

Arbitrary Waveform Memory: Vector: 512 MSa

Frequency Switching Speed: Standard: ≤ 5 ms (typical)

Option UNZ: ≤ 950 μ s (CW mode)

Option UNZ (List/step sweep mode): ≤ 800 μ s

Digital modulation on (SCPI mode): ≤ 1.15 ms

Digital modulation on (List/step sweep mode): ≤ 800 μ s

Frequency switching: 800 μ s

Amplitude Settling Time: For Digital Modulation: Within 0.2 dB from 20 to 30 °C

When switching into or out of band 6: Within 0.3 dB

Level Accuracy: Absolute Level Accuracy in CW mode (ALC on):

- * 9 kHz to 100 kHz: ± 0.6 dB (± 0.9 dB typical)
- * > 100 kHz to 5 MHz: ± 0.8 dB (± 0.3 dB typical)
- * > 5 MHz to 3 GHz: ± 0.6 dB (± 0.3 dB typical)
- * > 3 GHz to 6 GHz: ± 0.6 dB (± 0.3 dB typical)

Absolute Level Accuracy in Digital I/Q mode (ALC on):

- * 5 MHz to 6 GHz: ± 0.25 dB (0.05 dB typical)

Level accuracy degrades by 0.01 dB/°C for temperatures outside the 20 °C to 30 °C range.

SWR (Standing Wave Ratio):

- ≤ 1.0 GHz: < 1.3:1 (Bypass), < 1.35:1 (0 to 10 dB), < 1.2:1 (15 dB or more)
- 1.0 to 2 GHz: < 1.55:1 (Bypass), < 1.5:1 (0 to 10 dB), < 1.3:1 (15 dB or more)
- 2 to 3 GHz: < 1.8:1 (Bypass), < 1.5:1 (0 to 10 dB), < 1.45:1 (15 dB or more)
- 3 to 4 GHz: < 1.5:1 (Bypass), < 1.6:1 (0 to 10 dB), < 1.7:1 (15 dB or more)
- 4 to 6 GHz: < 1.9:1 (Bypass), < 1.6:1 (0 to 10 dB), < 1.6:1 (15 dB or more)

SWR < 1.60:1 below 30 kHz.

Interfaces: SCPI commands via LAN, GPIB, or USB

USB power-sensor interface

Differential I/Q Outputs (Option 1EL)

LO In/Out for Phase Coherency (Option 012)

Digital Input/Output Connectivity with the N5102A (Options 004 and 003)

Physical Characteristics: Compact solution at 2U

high Signal Creation and Software: Signal Studio software for signal creation

PathWave Signal Generation software compatibility

Waveform license 5-pack and 50-pack options available

Modulation Types: AM, FM, PM, Pulse

AM, FM, Phase Modulation (Option UNT)

Enhancements and Options: High Output Power (Option 1EA)

Enhanced Dynamic Range (Option UNV)

Fast Switching (Option UNZ)

Multi-function Generator (Op

N5172B Characteristics / Specifications

PARAMETER	VALUE
Frequency Option 5	9 kHz to 3 GHz
Frequency Extender Path	9 kHz to 7.2 GHz with FRQ extender class
Frequency Resolution	0.001 Hz
Max Output Power Standard 10 MHz To 3 GHz	plus 18 dBm
Max Output Power Standard 3 To 6 GHz	plus 16 dBm
Max Output Power Option 1EA 10 MHz To 3 GHz	plus 21 dBm
Settable Range Standard	plus 19 to minus 144 dBm
Amplitude Resolution	0.01 dB
Step Attenuator	0 to 130 dB in 5 dB steps
RF Connector	Type N 50 ohms nominal
Reference Output Frequency	10 MHz
Internal Reference Aging	less than plus or minus 1 ppm per year
Switching Speed Standard SCPI Typical	less than or equal to 5 ms
Switching Speed Option UNZ SCPI	less than or equal to 1.15 ms
Step Sweep Points	2 to 65535
List Sweep Points	1 to 3201
Dwell Time Range	100 us to 100 s
IQ Mode Start Frequency Note	5 MHz in I/Q mode per OEM
Modulation Modes	Analog plus vector digital modulation
Operating Temperature Spec	0 to 55 C
Remote Interfaces	GPIB LAN USB
Series Family	Keysight EXG N5171B and N5172B
Operating temperature	Spec: 0 to 55 C

N5172B Specifications

PARAMETER	VALUE
Agilent Keysight N5172B EXG Vector Signal Generator	Overview
Applications	Wireless receiver functional test, modulated component characterization, and manufacturing vector signal stimulus to 6 GHz class.
Vector I/Q baseband generation	9 kHz analog RF coverage
Technical Specifications	Frequency Option 503: 9 kHz to 3 GHz
Notes	From Keysight EXG X-Series N5172B vector data sheet. Waveform memory, bandwidth, and EVM/ACPR depend on installed baseband options.

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	Spec: 0 to 55 C
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Operating Temperature Spec	0 to 55 C
Remote Interfaces	GPIB LAN USB
Series Family	Keysight EXG N5171B and N5172B Notes From Keysight EXG X-Series N5172B vector data sheet. Waveform memory, bandwidth, and EVM/ACPR depend on installed baseband options.

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
Frequency Option 503	9 kHz to 3 GHz
Frequency Option 506	9 kHz to 6 GHz
Frequency Extender Path	9 kHz to 7.2 GHz with FRQ extender class
Frequency Resolution	0.001 Hz
Max Output Power Standard 10 MHz To 3 GHz: plus 18 dBm Max Output Power Standard 3 To 6 GHz: plus 16 dBm Max Output Power Option 1EA 10 MHz To 3 GHz: plus 21 dBm	
Specifications	
PARAMETER	VALUE
Settable Range Standard	plus 19 to minus 144 dBm
Amplitude Resolution	0.01 dB
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installed baseband options.

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

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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.