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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent / Keysight M9381A PXIe Vector Signal Generator: 1 MHz to 3 GHz or 6 GHz

Keysight Agilent M9381A PXIe Vector Signal Generator 1 MHz to 3 GHz or 6 GHz The Keysight M9381A is a modular PXIe vector signal generator covering 1 MHz to 3 GHz or 6 GHz with up to 160 MHz RF modulation bandwidth. OEM M9381A datasheet rates a four-module set (M9311A modulator, M9310A source output, M9301A synthesizer, M9300A frequency reference), 0.01 Hz frequency resolution, and settable amplitude to -130 dBm. Power amplifier and front-end module validation, radio transceiver production test, and multi-channel MIMO stimulus with shared reference. The Keysight M9381A is a modular PXIe vector signal generator covering 1 MHz to 3 GHz or 6 GHz with up to 160 MHz RF modulation bandwidth. OEM M9381A datasheet rates a four-module set (M9311A modulator, M9310A source output, M9301A synthesizer, M9300A frequency reference), 0.01 Hz frequency resolution, and settable amplitude to -130 dBm. Power amplifier and front-end module validation, radio transceiver production test, and multi-channel MIMO stimulus with shared reference. Modular PXIe footprint scalable to multi-channel phase-coherent setups



MODEL

**Agilent / Keysight
M9381A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

M9381A

LISTING

<https://aumictechlabs.com/products/m9381a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight M9381A is a modular PXIe vector signal generator delivering complex waveform generation for wireless communication systems and electronic device testing. Available in 1 MHz to 3 GHz or 1 MHz to 6 GHz frequency ranges, It has RF modulation bandwidth up to 160 MHz with 0.01 Hz frequency resolution. The instrument's four-module architecture - comprising modulator, source output, synthesizer, and frequency reference stages - enables field upgrades and efficient multi-channel scaling for MIMO device characterization.

Technical Specifications

Frequency Performance

Frequency range: 1 MHz to 3 GHz (Option F03) or 1 MHz to 6 GHz (Option F06)

RF modulation bandwidth: Up to 160 MHz (40 MHz, 100 MHz, or 160 MHz options)

Frequency resolution: 0.01 Hz

List mode switching speed: ≤ 5 ms

Arbitrary frequency change settling: ≤ 5 ms

Simultaneous carrier and amplitude switching: 125 μ s nominal frequency settling within $\pm 0.05\%$ at ≥ 3.2 GHz carriers with ≥ 1.6 GHz frequency changes

Output Characteristics

Maximum output power: 19 dBm

Phase noise @ 1 GHz (10 kHz offset): -122 dBc/Hz

Harmonics @ 1 GHz: -34 dBc

Non-harmonics @ 1 GHz: -70 dBc

Amplitude settling (trigger to 0.2 dB): ≤ 8 μ s (controlled temperature); ≤ 15 μ s (full temperature range)

Signal Generation

Waveform playback memory: 1024 MSa

List mode parameters: 80 (RF frequency, power, modulation, baseband, ALC, power search, triggers)

Dwell time range: 0 to 429 seconds

List points: 1 to 3201

Reference Outputs

100 MHz outputs (5 channels): ≥ 10 dBm (13 dBm typical), 50 Ω

10 MHz output: 9.5 dBm nominal, 50 Ω

OCXO output: 11.5 dBm nominal, 50 Ω

Key Features

Modular PXIe form factor for space-efficient multi-instrument configurations

Shared frequency reference capability across multiple units reduces system footprint

Field-upgradable memory, frequency range, and modulation bandwidth

10 μ s standard frequency switching speed

Independent module temperature monitoring (≤ 75 $^{\circ}$ C); 0 to 55 $^{\circ}$ C environment

Typical Applications

MIMO device development and validation

Wireless communication system testing

Complex waveform generation for RF characterization

Multi-channel signal generation in modular test systems

Compatibility & Integration

The M9381A integrates four discrete PXIe modules enabling standalone operation or networked configurations within PXIe chassis. A single M9300A frequency reference supports multiple instruments, optimizing slot utilization in high-density test benches.

M9381A Characteristics / Specifications

PARAMETER	VALUE
Model	M9381A
Instrument Type	PXIe vector signal generator
Frequency Range F	1 MHz to 3 GHz
Frequency Resolution	0.01 Hz
Rf Modulation Bandwidth B	100 MHz
Arb Memory M	1024 MSa
Amplitude Settable Standard	+10.7 to -130 dBm
Amplitude Settable High Power 1EA	+20 to -130 dBm
Maximum Power 1 MHz To 5 GHz Standard	+10 dBm
Maximum Power Greater Than 5 To 6 GHz Standard	+10 dBm
Maximum Power 1 MHz To 5 GHz With 1EA	+19 dBm
Maximum Power Greater Than 5 To 6 GHz With 1EA	+18 dBm
Alc On Amplitude Resolution Nominal	0.02 dB
List Mode Points	1 to 3201
List Mode Dwell Time	0 to 429 seconds
List Mode Parameters Count	80 including RF frequency power modulation arb baseband ALC power search triggers
Internal Timebase Aging Daily	less than plus or minus 0.5 ppb/day after 72 hour warm-up
Internal Timebase Aging Yearly	less than plus or minus 0.1 ppm/year after 72 hour warm-up
External Reference Input Frequency	1 to 110 MHz sine
External Reference Amplitude Nominal	0 to 10 dBm
Output Vswr Nominal 1 MHz To 6 GHz	less than 1.5 to 1
Maximum Reverse Power Nominal	1 W

PARAMETER	VALUE
Warm Up For Specs	45 minutes
Module Count In System	four PXle modules M9311A M9310A M9301A M9300A
Bandwidth	B04: 40 MHz

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	M9381A
Instrument Type	PXIe vector signal generator
Frequency Range F03	1 MHz to 3 GHz
Frequency Range F06	1 MHz to 6 GHz
Frequency Resolution	0.01 Hz
Rf Modulation Bandwidth B04	40 MHz
Rf Modulation Bandwidth B10	100 MHz
Rf Modulation Bandwidth B16	160 MHz
Arb Memory M01	32 MSa
Arb Memory M05	512 MSa
Arb Memory M10	1024 MSa
Amplitude Settable Standard	+10.7 to -130 dBm
Amplitude Settable High Power 1EA	+20 to -130 dBm
Maximum Power 1 MHz To 5 GHz Standard: +10 dBm	
Maximum Power Greater Than 5 To 6 GHz Standard: +10 dBm	
Maximum Power 1 MHz To 5 GHz With 1EA: +19 dBm	
Maximum Power Greater Than 5 To 6 GHz With 1EA: +18 dBm	
Alic On Amplitude Resolution Nominal: 0.02 dB	
Absolute Level Accuracy Cw 1 MHz To 3 GHz Max To -20 Dbm: plus or minus 0.4 dB	
Absolute Level Accuracy Cw Greater Than 3 To 6 GHz Max To -20 Dbm: plus or minus 0.5 dB	
Specifications	
PARAMETER	VALUE
List Mode Points	1 to 3201
List Mode Dwell Time	0 to 429 seconds
List Mode Parameters Count	80 including RF frequency power modulation arb baseband ALC power search triggers
Internal Timebase Aging Daily	less than plus or minus 0.5 ppb/day after 72 hour warm-up
Internal Timebase Aging Yearly	less than plus or minus 0.1 ppm/year after 72 hour warm-up
External Reference Input Frequency	1 to 110 MHz sine

PARAMETER	VALUE
External Reference Amplitude Nominal	0 to 10 dBm

Output Vswr Nominal 1 MHz To 6 GHz: less than 1.5 to 1

Specifications

PARAMETER	VALUE
Maximum Reverse Power Nominal	1 W
Warm Up For Specs	45 minutes
Module Count In System	four PXIe modules M9311A M9310A M9301A M9300A

Notes
From Keysight M9381A PXIe Vector Signal Generator data sheet (5991-0279). Warranted rows apply after calibration warm-up with M9300A reference and interconnect cables as stated by OEM.

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.