

Agilent M9381A PXIe Vector Signal Generator

Industries and applications

- · Cellular picocell and femtocell test
- · Handset component test
- · Military radio test
- · Public safety and homeland security radio test
- · Wireless transceiver design validation
- · WLAN MIMO R&D and design validation

Product description

The Agilent M9381A PXIe vector signal generator is a compact modular solution that provides frequency coverage from 1 MHz to 3 GHz or 6 GHz. The M9381A reduces test time with *fastune*, an exclusive baseband tuning technology innovation, enabling you to switch amplitude and frequency in less than 10 µs. The M9381A PXI VSG is MIMO ready, enabling design validation engineers to ensure their WLAN designs perform well under a variety of conditions. MIMO receiver testing is supported by Agilent's multi-format signal studio software with full support for 802.11ac standards-based generation.

Main features and benefits

Product features	Your benefit
Fast amplitude and frequency switching speed	Accelerate test throughput
fas tune	Reduce test time
Accurate power linearity	Improve ability for servo loop to converge in fewer steps
License-key based upgrades without returning modules	Purchase what you need today and easily upgrade later
One-step software install and integrated VSG soft front panel	Reduce startup time
Multiple programmatic interfaces	Easy integration into test environments and reduced development time
Calibrated Core Exchange Strategy	Fast repair and turnaround time



Specifications and characteristics

Hardware	
Frequency range	1 MHz to 3.0 GHz or 6.0 GHz
RF switching speed	 240 μs (nom) for frequency and amplitude changes 105 μs (nom) for amplitude-only changes
fas tune switching speed	$10\ \mu s$ (nom) for frequency and amplitude changes within RF modulation bandwidth
Phase noise	< -122 dBc/Hz (1 GHz, 20 kHz offset) (typ)
Output power	+19 dBm (at 1 GHz)
Amplitude accuracy	±0.4 to 1 dB
RF modulation bandwidth	40 MHz (flatness: $< \pm 0.2$ dB, typical) 100 MHz (flatness: $< \pm 0.3$ dB, typical) 160 MHz (flatness: $< \pm 0.5$ dB, typical)
Modulation	AM, FM, PM, pulse, multitone
Modulation quality	≤-70 dBc ACLR for W-CDMA 64 DPCH <0.5% EVM for WLAN 160 MHz 802.11ac
Size	5-slot
Maximum channel- to-channel deviation	20 ns, nominal
Chassis slot compa	tibility: cPCI (J1), PXI-1, PXIe Hybrid



Software information

The M9381A PXIe vector signal generator includes instrument drivers, documentation, examples and software tools to help you quickly develop test systems in your application development environment of choice.

Operating systems	Microsoft Windows XP (32-bit) Microsoft Windows Vista SP1 and SP2 (32/64-bit) Microsoft Windows 7 (32/64-bit)
Standard compliant drivers	IVI-COM, IVI-C, LabVIEW, MATLAB
Application development environments (ADE)	Visual Studio (C/C++, C#, VB.NET), LabVIEW, LabWindows/CVI, MATLAB, VEE
Agilent Command Expert	Instrument control for SCPI or IVI-COM drivers
Signal Studio Software	W-CDMA/HSPA+, cdma2000®/1xEV-D0, GSM/EDGE/ Evo, <i>Bluetooth</i> ®, Broadcast Radio, TD-SCDMA/HSDPA, Mobile WiMAX™, WLAN 802.11a/b/g/n/ac, Digital Video, LTE/LTE-Advanced FDD, LTE/ LTE-Advanced TDD, Global Navigation Satellite System
Agilent IO Libraries (version 16.3.16603.3 or newer)	Includes: VISA Libraries, Agilent Connection Expert, IO Monitor
SystemVue Software Connectivity	Electronic design environment for electronic system level (ESL) design

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Ordering information

Model	Description
M9381A	PXIe vector signal generator: 1 MHz to 3 or 6 GHz Includes: M9301A PXIe synthesizer, M9310A PXIe source output, M9311A PXIe digital vector modulator One day startup assistance, module interconnect cables software, example programs and product information on CD Return to Agilent Warranty—3 Years
Base configura	tion
M9381A-F03	Frequency range: 1 MHz to 3 GHz
M9381A-B04	RF modulation bandwidth: 40 MHz
M9381A-M01	Memory: 32 MSa
M9381A-300 Required for warranted specifications	PXIe frequency reference: 10 MHz and 100 MHz Adds M9300A PXIe frequency reference: 10 MHz and 100 MHz (M9300A module can support multiple M9381A modular instruments)
Configurable	options
Frequency	
M9381A-F03	1 MHz to 3 GHz
✓M9381A-F06	1 MHz to 6 GHz
RF modulation bandwidth	
M9381A-B04	40 MHz
M9381A-B10	100 MHz
✓ M9381A-B16	160 MHz
Memory	
M9381A-M01	32 MSa
M9381A-M05	512 MSa
✓ M9381A-M10	1024 MSa
Other	
✓ M9381A-1EA	High output power
✓ M9381A-UNZ	Fast switching
✓ M9381A-UNT	Analog modulation
✓ Recommended o	configuration

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