

Keysight Technologies

M9391A PXIe Vector Signal Analyzer

Product Fact Sheet

Industries and applications

- Power amplifier and front-end-module design validation and manufacturing
- Radio transceiver design validation and production test
- MIMO & multi-channel device test

Product description

The Keysight Technologies, Inc. M9391A PXIe vector signal analyzer (PXI VSA) is a modular instrument that provides frequency coverage from 1 MHz to 6 GHz and works seamlessly with the M9381A PXIe vector signal generator (PXI VSG). The PXI VSA provides fast, high-quality spectrum, power and modulation quality measurements optimized for RF manufacturing test environments.

Based on a flexible, multi-channel ready platform, the M9391A quickly measures signals to validate transmitter and component performance under a variety of conditions. Keysight's X-Series measurement applications, 89600 VSA software and SystemVue further increase your insight with coverage from basic analog and digital demodulation to the very latest standards, including LTE-Advanced and 802.11ac.



Main features and benefits

| Product features | Your benefit |
|--|--|
| Fast amplitude and frequency switching speed | Accelerate test throughput |
| Embedded power measurement mode | Reduce test times from 3s to less than 600 ms with outstanding linearity |
| Multi-channel ready | Scale solution to fit your test needs with support for up to 8x8 MIMO |
| Unique resource manager for software applications and driver | Quickly switch between raw power measurements and standards-based measurements |
| License-key based upgrades without returning modules | Purchase what you need today and easily upgrade later |
| Multiple programmatic interfaces | Easy integration into test environments and reduced development time |

Specifications and characteristics

| Hardware | |
|--|---|
| Frequency range | 1 MHz to 3 GHz or 6 GHz |
| Analysis bandwidth | 40 MHz, 100 MHz or 160 MHz |
| RF switching speed | 320 μ s, nominal (frequency) 136 μ s, nominal (frequency) |
| Phase noise | -120 dBc/Hz, nominal (1 GHz, 10 kHz offset) |
| Repeatability | < 0.05 dB, nominal |
| Amplitude accuracy | \pm 0.45 dB, typical |
| EVM | -47.5 dB, nominal (WLAN 802.11ac, 160 MHz) |
| ACLR | -70 dBc, nominal (W-CDMA, 1 DPCH) |
| Channel-to-channel synchronization | Timing alignment: \leq 1 ns, nominal Phase alignment: \leq 1°, nominal |
| Size | 4-slot |
| Chassis slot compatibility: PXIe Hybrid, PXIe | |

Software information

| | |
|---|---|
| Operating systems | Microsoft Windows 7 (32/64-bit) Microsoft |
| 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 |
| Keysight IO Libraries (recommended version 17.0 or newer) | Includes: VISA Libraries, Keysight Connection Expert, IO Monitor |
| Keysight Command Expert | Instrument control for SCPI or IVI-COM drivers |
| 89600 VSA Software (version 19 or newer recommended) | 89601B options: 200: Basic VSA software 300: Hardware connectivity SSA: Spectrum analysis AYA: Vector modulation analysis B7Z: WLAN 802.11n BHJ: WLAN 802.11ac BHD: LTE FDD BHG: LTE-Advanced FDD ... and more |
| X-Series Measurement Applications for Modular Instruments | M9063A Analog demodulation M9064A Digital demodulation M9068A Phase noise M9071A GSM/EDGE/Evo M9072A cdma2000®/cdmaOne M9073A W-CDMA/HSPA+ M9076A 1xEV-DO M9077A WLAN 802.11a/b/g/n/ac M9079A TD-SCDMA/HSDPA M9081A <i>Bluetooth</i> ® M9080B LTE/LTE-A FDD M9082B LTE/LTE-A TDD |
| Transportable perpetual license | |

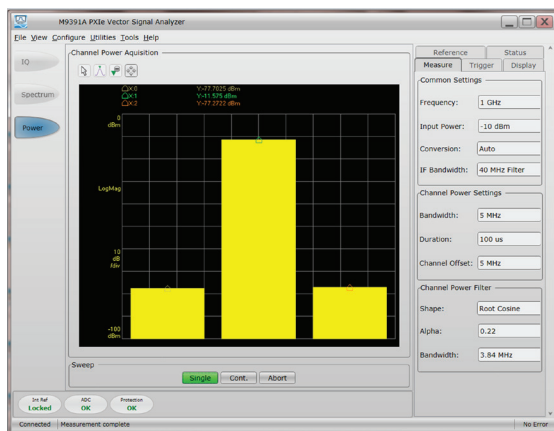


Figure 1. Keysight M9391A vector signal analyzer soft front panel.



Ordering information

| Model | Description |
|-------------------------------|--|
| M9391A | PXIe vector signal analyzer Comprised of: – M9301A PXIe synthesizer – M9350A PXIe downconverter – M9214A PXIe digitizer Includes, one day startup assistance, module interconnect cables, software, example programs and product information on CD. |
| M9391A-300 | Adds: – M9300A PXIe frequency reference: 10 MHz and 100 MHz A single M9300A can support multiple M9391A instruments. |
| Options description | |
| Frequency | |
| ✓ M9391A-F03 | 1 MHz to 3 GHz |
| + M9391A-F06 | 1 MHz to 6 GHz |
| Switching speed | |
| + M9391A-UNZ | Fast switching |
| Analysis bandwidth | |
| ✓ M9391A-B04 | 40 MHz |
| M9391A-B10 | 100 MHz |
| + M9391A-B16 | 160 MHz |
| Memory | |
| ✓ M9391A-M01 | 128 MSa |
| M9391A-M05 | 512 MSa |
| + M9391A-M10 | 1024 MSa |
| Other | |
| M9391A-012 | Phase coherency |
| ✓ Included as standard option | |
| + Recommended configuration | |

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Published in USA, February 13, 2018
5991-2869EN
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