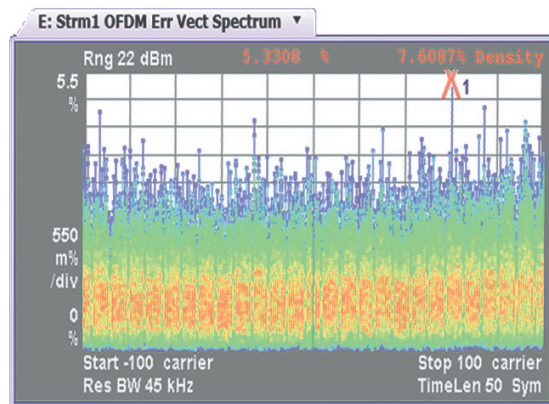


Keysight Technologies

89601B-SSA/89601BN-SSA Spectrum Analysis

89600 VSA Software



Industries and applications

- Aerospace and defense R&D, manufacturing and depot test
- Wireless device design validation and manufacturing
- Identify and analyze spurious and harmonic signals
- Multi-channel signal analysis (MIMO, carrier aggregation, etc)

Tools to analyze your most complex signals

Product development and testing become more complex when faster data rates and new modulation formats intersect with today's crowded spectral environment. Finding a signal problem is essential – but achieving the clarity to pinpoint the answer is the crucial challenge. For over a decade, the Keysight Technologies, Inc. 89600 VSA software has been the leader at providing the most comprehensive set of tools for demodulation and vector signal analysis.

Now, with Keysight's new 89601B-SSA option, these tools include fast power spectrum measurements, enabling you to explore virtually every facet of a signal, optimize your most advanced designs, and handle your toughest test challenges. As you assess the tradeoffs, the 89600 VSA helps you see through the complexity.

With the 89600 VSA software, you can measure more than 75 signal standards and modulation types for cellular communications, wireless connectivity, MILCOM, satellite communications and more. The 89600 VSA software also helps you leverage Keysight's consistent track record of being first to market with support for emerging standards, even before they are fully ratified.

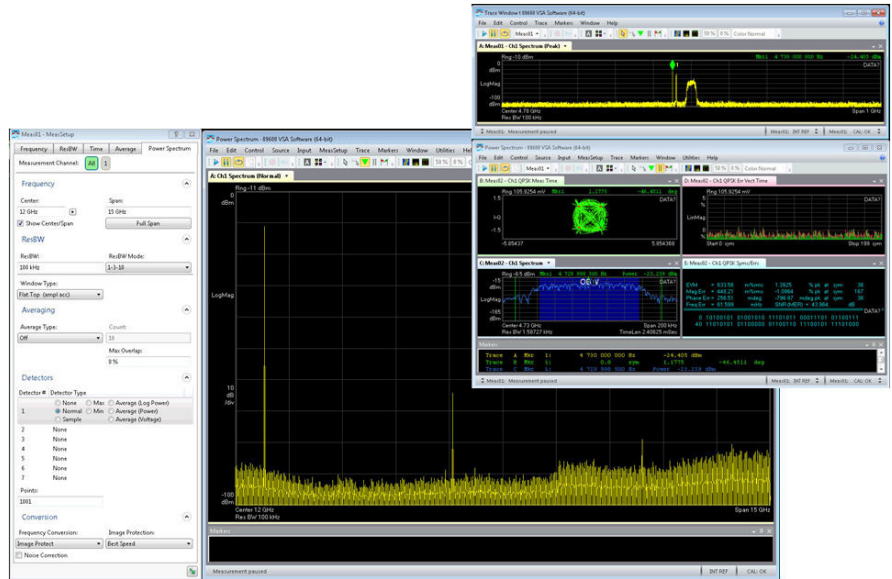


Figure 1: 89601B-SSA adds power spectrum measurements to the 89600 VSA with the M9391A and M9393A PXIe VSA hardware.

Consistent, accurate results faster with optimized software

The Keysight 89601B-SSA and 89601BN-SSA spectrum analysis options build on Keysight's trusted 89600 VSA measurement science providing proven, familiar software to minimize development time and reduce risk. Key features and benefits include:

89601B-SSA/89601BN-SSA features	Benefits
Fast power spectrum measurements (typically less than 1 second across 27 GHz at 10 kHz RBW with M9393A PXIe Performance VSA)	Fastest test times to quickly identify problems and maximize test throughput
SCPI programming code compatible with key "SA Mode" commands in Keysight's X-Series signal analyzers	Speed test development time when migrating software from benchtop to modular instruments
Adds 89600 Power Spectrum measurement mode that integrates fully with other 89600 VSA features	Leverage the full suite of 89600 VSA capabilities for design and troubleshooting with the widest variety of modulation formats
Multi-measurements on single or multiple PXI VSA channels ¹	Analyze and display multiple signals at once. Perform multiple measurements simultaneously to speed overall test time or identify signal interactions at different frequencies
Measurement sequencer ¹	Share a single piece of hardware between multiple different measurements without having to write your own application or macro to control the sequencing. Execute a series of different measurements in a sequence to simplify test program development.
Resource Manager enables application sharing of M9391A and M9393A PXIe VSA hardware driver session ¹	Very fast measurement switching time when using multiple applications. Applications that support driver sharing include the 89600 VSA, X-Apps for Modular Instruments, and direct PXI hardware driver access.
Supports both M9391A PXIe VSA and M9393A PXIe Performance VSA hardware ¹	Optimize hardware performance for your specific applications. PXI form factor easily scalable for multiple VSA channels in minimal space.
Choice of programming modes: SCPI and .NET ¹	Optimize programming interface for your test software
Integrated help, including SCPI commands ¹	Maximize test productivity with easy access to reference information, examples, and more
Transportable and floating network licenses ¹	Software licenses to match your requirements. 89601B for transportable license or 89601BN for network server license shared by multiple users

1. Features included with 89601B-200

Supported hardware and recommended configuration

M9393A PXIe performance vector signal analyzer		
Model-Option	Description	Notes
M9393A-F08, F14, F18, or F27	8 GHz, 14 GHz, 18 GHz, or 27 GHz frequency range	One required
M9393A-B04, B10, or B16	40 MHz, 100 MHz or 160 MHz analysis bandwidth	One required. B16 recommended for fastest spectrum measurements with 89601B-SSA.
M9393A-300	PXIe frequency reference	Recommended.
M9393A-UNZ	Fast tuning	Recommended. Highly recommended for fastest spectrum measurements with 89601B-SSA.
M9393A-P08, P14, P18, or P27	Pre-amplifier	Recommended to improve low level signal detection
M9393A-M01,-M05, or M10	Memory options (512 MB, 2 GB, or 4 GB)	Recommend 1 Gsa/4 GB memory
M9391A PXIe vector signal analyzer		
Model-Option	Description	Notes
M9391A-F03 or F06	3 GHz or 6 GHz frequency range	One required
M9391A-B04, B10, or B16	40 MHz, 100 MHz or 160 MHz analysis bandwidth	One required. -B16 recommended for fastest spectrum measurements with 89601B-SSA.
M9391A-300	PXIe frequency reference	Recommended.
M9391A-UNZ	Fast tuning	Recommended. Highly recommended for fastest spectrum measurements with 89601B-SSA.
M9391A-M01, M05, or M10	Memory options (512 MB, 2 GB, or 4 GB)	Recommend 1 Gsa/4 GB memory

Software information

89601B/BN-SSA Spectrum Analysis Requires 89601B/BN-200 Basic Vector Signal Analysis and 89601B/BN-300 Hardware Connectivity options (v18.5 or later)

PC Configuration Requirements See www.keysight.com/find/89600-pc

Additional 89600 capabilities

- AYA, Vector modulation analysis
- BHF, Custom OFDM modulation analysis
- BHG, LTE-Advanced FDD modulation analysis
- BHH, LTE-Advanced TDD modulation analysis
- BHD, LTE FDD modulation analysis
- BHE, LTE TDD modulation analysis
- B7T, cdma2000®/1xEV-DV modulation analysis
- B7U, W-CDMA/HSPA+ modulation analysis
- B7W, 1xEV-DO modulation analysis
- B7X, TD-SCDMA/HSPA modulation analysis
- B7N, 3G modulation analysis bundle
- BHJ, WLAN 802.11ac modulation analysis
- B7Z, WLAN 802.11n modulation analysis
- B7R, WLAN 802.11a/b/g modulation analysis
- BHC, RFID modulation analysis
- BHA, TEDS modulation analysis

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