

Vector Network Analyzer Measurements with Scalability and Speed

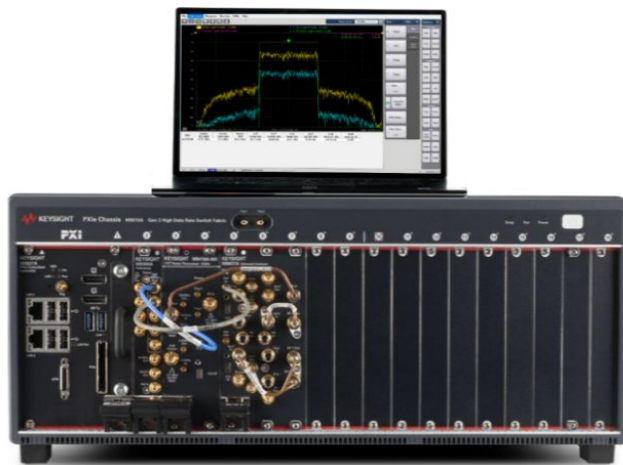
Get scalable, multiport vector network analysis in less space. Keysight's PXI vector network analyzers (VNAs) perform fast, accurate measurements and reduce your cost-of-test by simultaneously characterizing many devices — two-port or multiport — using a single PXI chassis. Each module is a completely independent two-port network analyzer, and you can add more modules to a chassis for multisite, multi-DUT, and multiport applications. Use all ports to simultaneously measure your devices with multiport error correction.

Find the series that's right for you

The M937xA is Keysight's Economy PXIe VNA, available as a 2-port module, and up to 26.5 GHz. Multiple modules can be cascaded to create a 32-port VNA.

The M980xA is Keysight's Standard PXIe VNA, available as a 2, 4, or 6-port module, and up to 53 GHz. Multiple modules can be cascaded to create a 66-port (20 GHz) or 34-port (53 GHz) VNA.

The M983xA is Keysight's Configurable PXIe VNA, available as a 2-port module, and up to 44 GHz. The M983xA is complementary to the M980xA, and the two modules operate together as one standard VNA. The Configurable PXI VNA expands measurement capabilities beyond standard S-parameters to include modulation distortion measurements such as EVM. It combines multiple measurements into a single instrument, enabling system characterization with faster speeds and greater flexibility, at a lower cost. Its built-in low-noise receivers and configurable test set combined with modulated signal measurements allows you to characterize highly integrated components such as transmit/receiver (T/R) modules or multiport front-end modules (FEMs) with a single connection.



M983xA configurable PXI VNA combines network analysis and modulation distortion analysis (ex. EVM, ACPR) with a single connection.



M980xA standard PXI VNA meets the multiport challenges in high frequency ranges.

More Information: www.keysight.com/find/pxivna

Performance Comparisons – PXI Vector Network Analyzers

	M937xA Economy VNA	M980xA Standard VNA	M983xA Configurable VNA
Specifications			
Min frequency	300 kHz	9 kHz / 100 kHz	10 MHz
Max frequency	4 / 6.5 / 9 / 14 / 20 / 26.5 GHz	4.5 / 6.5 / 9 / 14 / 26.5 / 32 / 44 / 53 GHz	20 / 44 GHz
Number of ports	2	2 / 4 / 6	2
Max number of ports for full calibration	32 (16x 2-port M937xA)	66 (11x 6-port M980xA)	4 (2x 2-port M983xA) (Can be combined with M980xA for more ports)
Dynamic range (10 Hz IFBW)	@ 4 GHz	115 dB	143 dB
	@ 20 GHz	110 dB	134 dB
	@ 40 GHz	N/A	122 dB
Trace noise	@ 4 GHz	0.003 dB rms (1 kHz IFBW)	0.0015 dB rms (10 kHz IFBW)
	@ 20 GHz	0.003 dB rms (1 kHz IFBW)	0.003 dB rms (10 kHz IFBW)
	@ 40 GHz	N/A	0.006 dB rms (10 kHz IFBW)
Power sweep range (up to specified max power)	@ 4 GHz	-40 to 7 dBm	-60 to 7 dBm
	@ 20 GHz	-40 to 2 dBm	-60 to 7 dBm
	@ 40 GHz	N/A	-50 to 2 dBm
IF bandwidth	10 Hz to 1.2 MHz	1 Hz to 15 MHz	1 Hz to 15 MHz
Typical performance			
Temperature stability @ 4 GHz	0.005 dB/deg.C	0.005 dB/deg.C	0.005 dB/deg.C
Cycle time (2-port cal, narrow span, 201 points)	11.9 ms (600 kHz IFBW)	2 ms (1 MHz IFBW)	2 ms (1 MHz IFBW)
Hardware features			
Configurable test set	No	Need to use direct receiver access	Yes
Upconverter for modulation distortion analysis	No	No	Yes
Low noise receivers	No	No	Yes
Internal pulse modulators, pulse generators	No	Yes	Yes
Receiver filters	No	No	Yes
Application software			
Automatic fixture removal	Yes	Yes	Yes
Enhanced time domain analysis with TDR	No	Yes	Yes (To be supported in 2023)
Real-time S-parameter and power measurement uncertainty	No	Yes	Yes
Basic pulsed-RF measurements	No	Yes	Yes
Noise figure measurements	No	Yes (External pre-amp, filter, and switches are required.)	Yes
Modulation distortion analysis (ex. EVM, ACP)	No	Yes (Direct receiver access configuration with external directional couplers is required.)	Yes
Vector mixer calibrated measurements (SMC + phase)	No	Yes	Yes
Intermodulation distortion measurements	No	Yes	Yes
Gain compression application	No	Yes	Yes
Source phase control	No	Yes	Yes (To be supported in 2023)
Differential and I/Q device measurements	No	Yes	Yes (To be supported in 2023)
Spectrum analysis	No	Yes	Yes
True-mode stimulus	No	Yes	Yes (To be supported in 2023)



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