

# Keysight Technologies

## PNA and PNA-X Series Vector Network Analyzers Option 090 Spectrum Analyzer

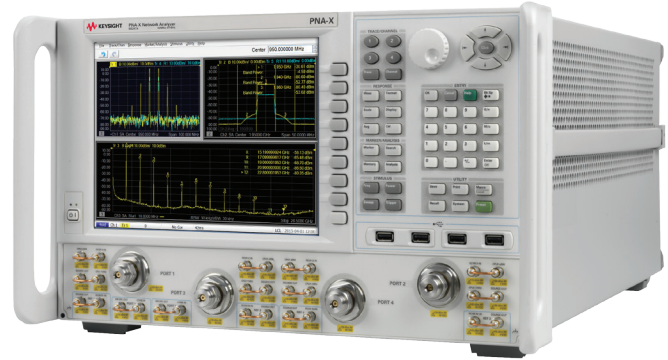
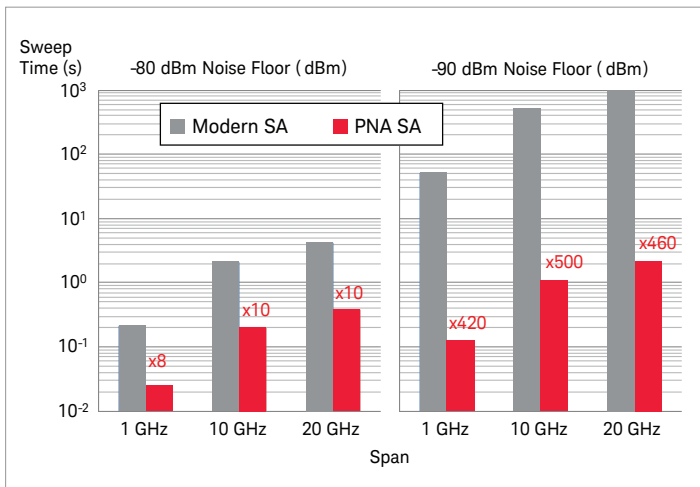
### Product Fact Sheet

#### Component test spectrum analysis challenges

- Measuring spurious performance is time consuming, especially when searching for low-level spurs over a broad frequency range
- Long measurement times may force insufficient test coverage
- Characterizing spurs over an operating range of the DUT is tedious to accomplish or requires external control software

#### Fast spur search over wide frequency ranges, up to 67 GHz

The spectrum analyzer option adds a fast spur search capability to the PNA and PNA-X Series, replacing a standalone spectrum analyzer and switch matrix in component-characterization test systems.

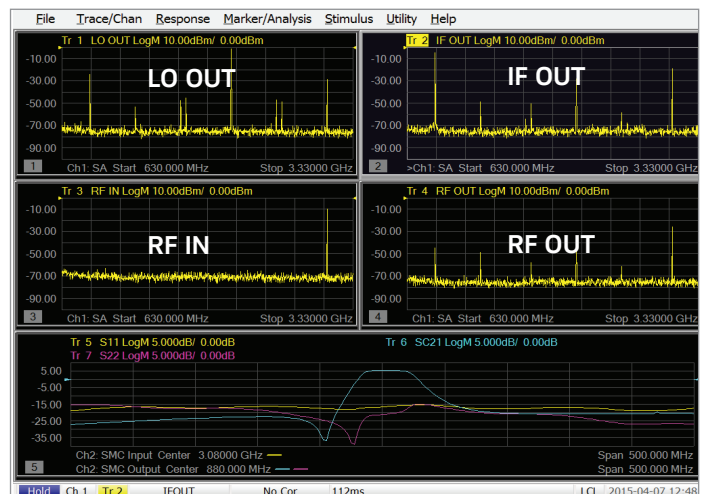


Fast multi-channel spectrum analyzer for component characterization

#### Simultaneous multi-channel spectrum analyzer measurements

Having spectrum analyzers on all ports of a mixer or converter provides unparalleled insight into the performance of the device. With a single set of connections, the spurious content emanating from all ports is readily apparent during operation with fixed or swept stimuli. Simultaneous measurements may include:

- RF input
- RF reflection
- RF feed-through
- RF harmonics
- LO reflection
- LO feed-through
- LO harmonics
- IF output
- High-/sub-order mixing spurs



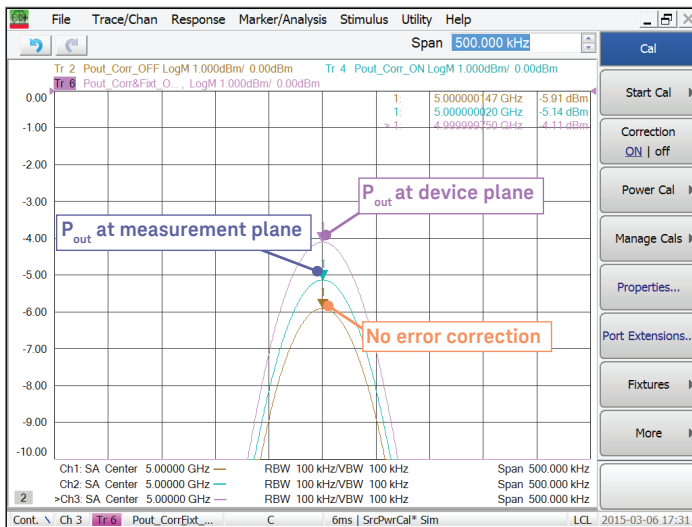
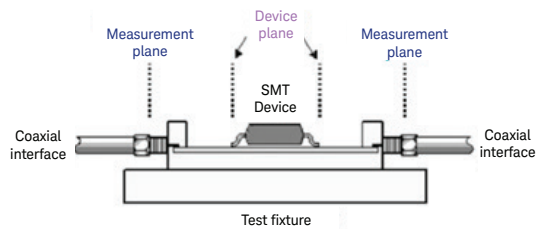
Unlocking Measurement Insights

## PNA spectrum analyzer (SA) option provides

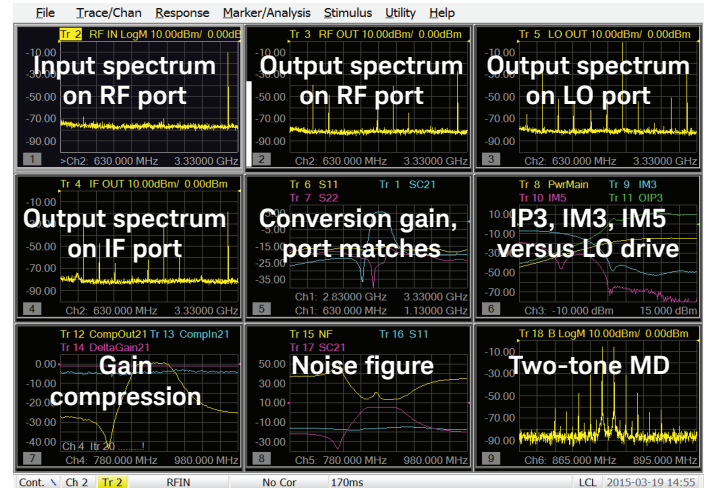
Option features	Your benefit
Fast spur search over wide frequency ranges, up to 67 GHz	Improve test time by a factor of 10 to 500 times
Measure spurious signals simultaneously from all ports	Get unparalleled insight with multi-channel SA capability
Marker-to-SA capability creates spectrum display with the same stimulus conditions	Identify interfering spurious signals quickly
Use VNA calibration and de-embedding techniques for improved SA measurements	Unlock true device performance by removing cable and fixture effects
Fast band/noise power measurements on multiple markers/traces/channels	Obtain convenient channel power and spurious emission measurements with complex stimulus on components
Enhanced single-connection, multiple-measurements (SCMM)	Eliminate the need for an independent spectrum analyzer

## Unlock true performance with vector network analyzer (VNA) calibration

VNA calibration and fixture de-embedding removes cable and fixture effects and corrects receiver response errors; providing calibrated in-fixture/on-wafer spectrum analysis. Deliver a known stimulus power to the DUT by using the power-compensation feature to overcome the loss of the fixture or probes.



## Simplify test stations with an expanded single-connection, multiple-measurement capability



## PNA series Option 090 overview

Description	Performance information
Sweep time	< 1 sec (10 GHz span, S/N: -100 dBc) < 1.2 sec (67 GHz span, 300 kHz RBW)
DANL at test port	-138 dBm/Hz at 3.2 to 8 GHz (N5242A, spec.) -116 dBm/Hz at 50 to 67 GHz (N5247A, spec.)
TOI	>20 dBm at 500 MHz to 5 GHz (all models)
Required	Option 080 FOM, Win 7, DSP 5
Recommended	Test set option to include receiver attenuators PNA series: Option 217, 219, 417 or 419 PNA-X series: Option 219, 419, H85/285, or H85/485
Upgrade	N522xAU-090, N524xAU-090

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Published in USA, July 22, 2015

5992-0752EN

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