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Data Sheet

August 3, 2026

KEYSIGHT

Keysight (Agilent) N5511A Phase Noise Test System

Keysight (Agilent) N5511A Phase Noise Test System The Keysight N5511A Phase Noise Test System (PNTS) replaces the E5500/E5505A gold-standard systems. It measures phase noise down to the thermal limit kT (-177 dBm/Hz at room temperature) using phase-detector methods with FPGA multi-segment real-time cross-correlation. RF input spans 50 kHz to 40 GHz with internal phase detectors (external detectors extend beyond 100 GHz). Offset coverage 0.01 Hz to 160 MHz internally. Absolute/residual phase noise of oscillators and two-port devices; AM noise; baseband noise; pulsed RF; aerospace/defense and advanced wireless phase-noise characterization. The Keysight N5511A Phase Noise Test System (PNTS) replaces the E5500/E5505A gold-standard systems. It measures phase noise down to the thermal limit kT (-177 dBm/Hz at room temperature) using phase-detector methods with FPGA multi-segment real-time cross-correlation. RF input spans 50 kHz to 40 GHz with internal phase detectors (external detectors extend beyond 100 GHz). Offset coverage 0.01 Hz to 160 MHz internally. Absolute/residual phase noise of oscillators and two-port devices; AM noise; baseband noise; pulsed RF; aerospace/defense and advanced wireless phase-noise characterization.

No photo

MODEL

Keysight N5511A

CALIBRATION

**N/A — off-catalog
OEM datasheet**

CONDITION

**See OEM
documentation**

STATUS

**Not listed on
Aumictech
inventory**

RFQ / SKU

N5511A

LISTING

**Off-catalog — OEM dat
asheet only**

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

Features & description

From manufacturer datasheet

Features

- RF input: 50 kHz–40 GHz (internal PDs); mmWave >100 GHz with external PDs
- Offset: 0.01 Hz–160 MHz internal
- Cross-correlation sensitivity better than –200 dBc/Hz class (with +23 dBm and cross-correlation)
- Absolute and residual PN; single- and two-channel; AM noise; baseband 0.01 Hz–160 MHz
- FPGA fast real-time hardware cross-correlation
- SCPI backward compatible with E5505A UI/workflow
- PXIe expandable; N5510A system software
- External reference source support for improved sensitivity / faster cross-correlation

N5511A Characteristics / Specifications

PARAMETER	VALUE
Model	N5511A
Manufacturer	Keysight Technologies
Instrument Type	Phase Noise Test System (PNTS)
Alias	N5511A; N5511A PNTS Frequency
RF Input (internal phase detectors)	50 kHz to 40 GHz
With external phase detectors	millimeter-wave beyond 100 GHz
Carrier Offset (internal)	0.01 Hz to 160 MHz Noise Measurement Absolute and residual phase noise (phase detector / quadrature method) Single-channel and two-channel (cross-spectral averaging / cross-correlation)
Sensitivity class	better than -200 dBc/Hz with $\geq +23$ dBm RF and cross-correlation; floor approaches kT (-177 dBm/Hz)
AM noise	RF carriers 50 kHz to 40 GHz
Baseband noise	0.01 Hz to 160 MHz
Pulsed RF	internal or external PRF filters Architecture FPGA multi-segment real-time cross-correlation PXIe modular foundation; N5510A software E5505A replacement with familiar UI; SCPI backwards compatible Operational Notes Prefer Keysight N5511A datasheet 5992-4083 for residual tables and configuration options.
RF input	50 kHz–40 GHz (internal PDs); mmWave >100 GHz with external PDs
Offset	0.01 Hz–160 MHz internal

N5511A Specifications

PARAMETER	VALUE
Keysight (Agilent) N5511A Phase Noise Test System	Overview
Key Features	- RF input: 50 kHz–40 GHz (internal PDs); mmWave >100 GHz with external PDs
Technical Specifications	Model: N5511A
Frequency	RF Input (internal phase detectors): 50 kHz to 40 GHz
Operational Notes	Prefer Keysight N5511A datasheet 5992-4083 for residual tables and configuration options.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Specifications

PARAMETER	VALUE
Model	N5511A
Manufacturer	Keysight Technologies
Instrument Type	Phase Noise Test System (PNTS)
Alias	N5511A; N5511A PNTS

Frequency

Frequency

PARAMETER	VALUE
RF Input (internal phase detectors)	50 kHz to 40 GHz
With external phase detectors	millimeter-wave beyond 100 GHz
Carrier Offset (internal)	0.01 Hz to 160 MHz

Noise Measurement

Absolute and residual phase noise (phase detector / quadrature method)

Single-channel and two-channel (cross-spectral averaging / cross-correlation)

Specifications

PARAMETER	VALUE
Sensitivity class	better than -200 dBc/Hz with ≥+23 dBm RF and cross-correlation; floor approaches kT (-177 dBm/Hz)
AM noise	RF carriers 50 kHz to 40 GHz
Baseband noise	0.01 Hz to 160 MHz
Pulsed RF	internal or external PRF filters

Architecture

FPGA multi-segment real-time cross-correlation

PXIe modular foundation; N5510A software

E5505A replacement with familiar UI; SCPI backwards compatible

Operational Notes

Prefer Keysight N5511A datasheet 5992-4083 for residual tables and configuration options.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: N/A — off-catalog OEM datasheet. See OEM documentation · Not listed on Aumictech inventory.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.