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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight E5505A-System

Agilent Keysight E5505A Phase Noise Measurement System 50 kHz to 26.5 GHz The Keysight E5505A is the later benchtop/ATE E5500 phase-noise system replacing E5501A/B through E5504A/B. OEM E5505A user's guide and E5500 data sheet 5989-0851 list 50 kHz to 26.5 GHz carriers, 0.01 Hz to 2 MHz standard offset (to 100 MHz with optional analyzer), typical system noise minus 180 dBc/Hz above 10 kHz, and N5500A baseband test set in every system. Absolute/residual phase noise, AM noise, and spurious on one-port oscillators and two-port amplifiers/converters; CW and pulsed carriers; production ATE with sub-3 s (1 kHz-100 kHz) class test times. Operating Temperature N5500A: 0 C to plus 55 C Optional Millimeter Extension: 110 GHz with 11970-series harmonic mixers Measurement Software: E5500 phase-noise software on Windows PC with GPIB Numeric rows from Keysight E5500 Series Phase Noise Measurement Solutions data sheet 5989-0851 and E5505A Phase Noise Measurement Systems User's Guide (equivalent-system table, N5500A summary, 50 kHz-26.5 GHz, 0.01 Hz-2 MHz/100 MHz offsets). Hardware varies with options.

**MODEL****Agilent / Keysight
E5505A****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****E5505A****LISTING**<https://aumictechlabs.com/products/e5505a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight E5505A System is a modular phase noise measurement platform for R&D and production environments. It combines standard instruments, specialized phase noise components, and PC-based software to characterize oscillators, synthesizers, amplifiers, and

converters. The system measures absolute and residual phase noise, AM noise, and low-level spurious signals using PLL/reference source, discriminator, and delay-line techniques across frequencies from 50 kHz to 26.5 GHz. Technical Specifications Frequency Range: 50 kHz to 26.5 GHz Offset Range: 0.01 Hz to 100 MHz (expandable to 2 MHz or 100 MHz with N9030A PXA or N9020A MXA analyzers) Noise Floor: -180 dBc/Hz Measurement Modes: Absolute phase noise, residual phase noise, AM noise, low-level spurious signals, CW and pulsed signals Key Features Modular architecture supports custom configurations and asset reuse One-port device characterization: VCOs, DROs, crystal oscillators, synthesizers Two-port device testing: amplifiers, converters Measurement techniques include PLL/reference source, residual and FM discriminator, and delay-line methods SCPI programming enables integration into Automated Test Equipment (ATE) systems GPIB communication between instruments and controlling PC System Components Typical configurations include Agilent/Keysight E5505A System controller, test set (e.g., N5500A Phase Noise Test Set), frequency counter (e.g., 53181A), and spectrum analyzer (e.g., E4411B ESA-L Series, 9 kHz to 1.5 GHz). System operates as one-bay wide System II rack or benchtop model. Compatibility & Integration PC-based E5500 measurement software operates under Windows XP Professional, Windows 7, or Windows 10. GPIB and SCPI interfaces enable instrument control and ATE system integration. AC power requirements are documented in system specifications.

E5505A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Phase noise measurement system
Series Family	Keysight E5500 / E5505A
Carrier Frequency Range	50 kHz to 26.5 GHz
Replaces Models	E5501A, E5501B, E5502B, E5503A, E5503B, E5504A, E5504B
Form Factor	one-bay System II rack or benchtop
Offset Frequency Range Standard	0.01 Hz to 2 MHz (PC digitizer; without swept analyzer)
Offset Frequency Range With Analyzer	0.01 Hz to 100 MHz with optional signal/spectrum analyzer
System Noise Response	minus 180 dBc/Hz typically (greater than 10 kHz offsets)
System Spurious Response	less than minus 120 dBc typically
Phase DetectorRInput	0 to plus 23 dBm (carrier less than 1.6 GHz)
Phase DetectorLInput	plus 15 to plus 23 dBm (carrier less than 1.6 GHz)
Measurement Accuracy Close	plus or minus 2 dB (offsets less than 1.0 MHz)
Measurement Accuracy Far	plus or minus 4 dB (offsets less than 100 MHz)
External Noise Input Port	0.01 Hz to 100 MHz
Baseband Test Set	N5500A included in all E5500 systems (replaces 70420A)
Low Frequency Carrier Range N5500A	50 kHz to 1.6 GHz
High Frequency Inputs N5500A	1.2 GHz to 26.5 GHz (Options 001/201)
Am Noise Carrier Range	50 kHz to 26.5 GHz (N5500A-001)
Tuning Voltage Output	plus or minus 10 V open circuit, 20 mA max, 50 ohm typical
N5500A Noise Floor Rf Detector 10 Khz	minus 170 dBc/Hz (50 kHz to 1.6 GHz detector, offsets greater than 10 kHz)
N5500A Noise Floor Mw Detector 32 Khz	minus 160 dBc/Hz (1.2 to 26.5 GHz detector, offsets greater than 32 kHz)
Operating Temperature N5500A	0 C to plus 55 C
Warm Up Time N5500A	20 minutes
Measurement Software	E5500 phase-noise software on Windows PC with GPIB

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Operating temperature	N5500A: 0 C to plus 55 C

General Specifications & Supplementary Characteristics

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Measurement Software	E5500 phase-noise software on Windows PC with GPIB Notes Numeric rows from Keysight E5500 Series Phase Noise Measurement Solutions data sheet 5989-0851 and E5505A Phase Noise Measurement Systems User's Guide (equivalent-system table, N5500A summary, 50 kHz-26.5 GHz, 0.01 Hz-2 MHz/100 MHz offsets). Hardware varies with 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	
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PARAMETER	VALUE
Instrument Type	Phase noise measurement system
Series Family	Keysight E5500 / E5505A
Carrier Frequency Range	50 kHz to 26.5 GHz
Replaces Models	E5501A, E5501B, E5502B, E5503A, E5503B, E5504A, E5504B
Optional 6.6 Ghz Downconverter: N5501A (legacy 70421A) Optional 18 Ghz Downconverter: N5502A (legacy 70422A) Optional 26.5 Ghz Downconverter: N5507A (legacy 70427A, 71707A) Optional Microwave Source: N5508A (legacy 70428A, 71708A)	
Specifications	
PARAMETER	VALUE
Form Factor	one-bay System II rack or benchtop
Offset Frequency Range Standard	0.01 Hz to 2 MHz (PC digitizer; without swept analyzer)
Offset Frequency Range With Analyzer	0.01 Hz to 100 MHz with optional signal/spectrum analyzer
System Noise Response	minus 180 dBc/Hz typically (greater than 10 kHz offsets)
System Spurious Response	less than minus 120 dBc typically
Phase DetectorRInput	0 to plus 23 dBm (carrier less than 1.6 GHz)
Phase DetectorLInput	plus 15 to plus 23 dBm (carrier less than 1.6 GHz)
Measurement Accuracy Close	plus or minus 2 dB (offsets less than 1.0 MHz)
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Baseband Test Set	N5500A included in all E5500 systems (replaces 70420A)
Low Frequency Carrier Range N5500A	50 kHz to 1.6 GHz
High Frequency Inputs N5500A	1.2 GHz to 26.5 GHz (Options 001/201)
Am Noise Carrier Range	50 kHz to 26.5 GHz (N5500A-001)
Tuning Voltage Output	plus or minus 10 V open circuit, 20 mA max, 50 ohm typical
N5500A Noise Floor Rf Detector 10 Khz	minus 170 dBc/Hz (50 kHz to 1.6 GHz detector, offsets greater than 10 kHz)

PARAMETER	VALUE
N5500A Noise Floor Mw Detector 32 Khz	minus 160 dBc/Hz (1.2 to 26.5 GHz detector, offsets greater than 32 kHz)
Operating Temperature N5500A	0 C to plus 55 C
Warm Up Time N5500A	20 minutes

Optional Millimeter Extension: 110 GHz with 11970-series harmonic mixers

Measurement Software: E5500 phase-noise software on Windows PC with GPIB

Notes

Numeric rows from Keysight E5500 Series Phase Noise Measurement Solutions data sheet 5989-0851 and E5505A Phase Noise Measurement Systems User's Guide (equivalent-system table, N5500A summary, 50 kHz-26.5 GHz, 0.01 Hz-2 MHz/100 MHz offsets). Hardware varies with options.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

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

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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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.