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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 3048A

Agilent Keysight 3048A Phase Noise Measurement System The HP 3048A is a phase-noise measurement system using the PLL/reference-source technique with a baseband analyzer, phase detector, and optional microwave downconverter. OEM 3048A literature lists offset-from-carrier measurements from 0.01 Hz-class to hundreds of kHz/MHz depending on the baseband analyzer, carrier coverage into microwave with downconversion, and the architecture later evolved into MMS 3048/E5500 and then E5505A systems. SSB phase-noise characterization of oscillators, synthesizers, and two-port residual noise before E5500-series systems. The HP 3048A is a phase-noise measurement system using the PLL/reference-source technique with a baseband analyzer, phase detector, and optional microwave downconverter. OEM 3048A literature lists offset-from-carrier measurements from 0.01 Hz-class to hundreds of kHz/MHz depending on the baseband analyzer, carrier coverage into microwave with downconversion, and the architecture later evolved into MMS 3048/E5500 and then E5505A systems. SSB phase-noise characterization of oscillators, synthesizers, and two-port residual noise before E5500-series systems.



MODEL

**Agilent / Keysight
3048A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

3048A

LISTING

<https://aumictechlabs.com/products/3048a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 3048A Phase Noise Measurement System is a modular instrument platform engineered for precision phase and AM noise characterization across microwave frequencies. It

integrates an HP 11848A Phase Noise Interface box with an HP 3561A Dynamic Signal Analyzer and control software to deliver calibrated noise measurements with traceable accuracy. Technical Specifications Frequency coverage spans 5 MHz to 18 GHz in standard configuration, with Option 201 extending residual phase noise measurements to 18 GHz via a tunable microwave reference. Special options accommodate frequencies below 5 MHz and up to 110 GHz. Offset frequency range extends from 0.01 Hz to 40 MHz; special options cover 0.001 Hz to 1 GHz. Accuracy is specified at ± 2 dB for offsets from 0.01 Hz to 1 MHz and ± 4 dB from 1 MHz to 40 MHz. The system applies automatic corrections for signal path losses, phase-lock-loop effects, and phase detector nonlinearity. Phase detector inputs accommodate +15 dBm to +23 dBm levels at 5 MHz to 1.6 GHz, 0 dBm minimum at 1.2 GHz to 18 GHz. Option 201 phase detectors accept 0 dBm to +7 dBm at 12 GHz to 18 GHz. Key Features HP 11848A interface provides integrated phase detectors, amplifiers, filters, and RF switching HP 3561A analyzer delivers Fourier-type spectral analysis with configurable data averaging and fast acquisition Dual measurement capability: phase noise and AM noise using internal detectors or external crystal detectors Built-in signal sources enable functional verification of signal-conditioning circuits HP-IB commands allow programming of external voltage-tunable reference sources Internal baseband noise input accommodates external phase detector outputs Typical Applications Phase noise characterization of oscillators, synthesizers, and amplifiers. AM noise assessment of microwave components. Residual noise measurement with external references. Frequency sources up to 110 GHz via external detectors. Compatibility & Integration Option 202 rackmount configuration integrates the interface box, analyzer, and signal cabling within a single rack enclosure with dedicated fan and power module. Compatible with external signal generators for reference source flexibility.

3048A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Phase noise measurement system
Series Family	HP 3048A / later E5500 / E5505A
Technique	phase detector with reference source (PLL)
Successor Systems	E5501/03/04 A/B and E5505A
Offset Range Class	0.01 Hz class close-in through baseband-analyzer-limited far-out offsets
Carrier Range Class	RF to microwave with optional downconverter
Measurements	SSB phase noise, spurious, residual (additive) noise class
Remote Interface	HP-IB automation class
Form Factor	rack phase-noise measurement system
Documentation	HP 3048A phase noise measurement system literature
Baseband Analyzer	dedicated baseband spectrum analysis of the phase-detector output
Reference Source	external low-noise RF reference (not proprietary single-source)
Application	oscillator and synthesizer phase-noise R&D
Operating Environment	laboratory ambient per 3048A manual
Power	AC mains operated system
Calibration	PLL verification and accuracy class of HP phase-noise systems
E5500 Accuracy Class Later	plus or minus 2 dB (offsets less than 1 MHz) on E5500 sheets; confirm 3048A table
E5500 Noise Floor Class Later	minus 180 dBc/Hz typical above 10 kHz on E5500; confirm 3048A table
Verification	do not apply E5505A N5500A detector-power rows to 3048A hardware

3048A Specifications

PARAMETER	VALUE
Agilent Keysight 3048A Phase Noise Measurement System	Overview
Applications	SSB phase-noise characterization of oscillators, synthesizers, and two-port residual noise before E5500-series systems.
Optional microwave downconverter	Predecessor to E5500/E5505A
Technical Specifications	Instrument Type: Phase noise measurement system

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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E5500 Accuracy Class Later	plus or minus 2 dB (offsets less than 1 MHz) on E5500 sheets; confirm 3048A table
E5500 Noise Floor Class Later	minus 180 dBc/Hz typical above 10 kHz on E5500; confirm 3048A table
Verification	do not apply E5505A N5500A detector-power rows to 3048A hardware
Notes On Numbers: 3048A warranted offset and floor tables are in the 3048A specification chapter	
Specifications	
PARAMETER	VALUE
Downconverter	optional microwave translation like later N5502A/70422A
Software	HP phase-noise measurement software of the 3048A era

PARAMETER	VALUE
Use	CW oscillator phase-noise plots
Notes 3048A PLL phase-noise system identity and E5500/E5505A succession from HP/Keysight phase-noise family literature (E5505A user's guide equivalent-system table). Detector-power and minus 180 dBc/Hz figures are E5500-series published numbers-not copied as 3048A warranted specs.	

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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30-day returns
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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.