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Data Sheet

August 15, 2026

AGILENT

Agilent E5100A 300MHz High-Speed Network Analyzer

Agilent / Keysight E5100A High-Speed Network Analyzer 10 kHz to 300 MHz The Agilent E5100A is a high-speed RF network analyzer covering 10 kHz to 300 MHz for production test of resonators and filters. OEM E5100A/B data sheets rate frequency accuracy of plus or minus 20 ppm at 23 plus or minus 5 C, frequency resolution of 1 mHz, IF bandwidths from 10 Hz to 30 kHz, and averaging noise levels reaching -115 dBm at 1 kHz IFBW above 100 kHz. The E5100A is the successor platform emphasizing production throughput for electronic component manufacturers. The Agilent E5100A is a high-speed RF network analyzer covering 10 kHz to 300 MHz for production test of resonators and filters. OEM E5100A/B data sheets rate frequency accuracy of plus or minus 20 ppm at 23 plus or minus 5 C, frequency resolution of 1 mHz, IF bandwidths from 10 Hz to 30 kHz, and averaging noise levels reaching -115 dBm at 1 kHz IFBW above 100 kHz. The E5100A is the successor platform emphasizing production throughput for electronic component manufacturers. High-throughput resonator and filter production test, crystal evaluation, and automated component sorting with IBASIC waveform analysis.



MODEL

Agilent E5100A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

E5100A

LISTING

<https://aumictechlabs.com/products/e5100a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent E5100A is a 300 MHz high-speed network analyzer engineered for high-throughput component manufacturing, particularly resonators and filters. It delivers fast measurement speeds and comprehensive analysis capabilities to maximize production line efficiency. The instrument combines high dynamic range (>120 dB at 1 kHz IFBW) with precise measurement accuracy (± 0.05 dB, ± 0.3 degrees) and measurement speeds as fast as 0.04 ms/point at 30 kHz IFBW using ramp-sweep mode.

Technical Specifications

Frequency Range: 10 kHz to 300 MHz (180 MHz version available for lower-frequency applications)

Measurement Parameters: Gain (Amplitude Ratio), Phase, Group-Delay, Amplitude, Gain-Phase, Gain-Delay, Impedance, Admittance

Dynamic Range: >120 dB (at 1 kHz IFBW)

Dynamic Accuracy: ± 0.05 dB, ± 0.3 degrees

IFBW: 10 Hz to 30 kHz with selectable steps (1, 1.5, 2, 3, 4, 5, 8)

Measurement Speed: 0.04 ms/point (fastest, at 30 kHz IFBW, ramp-sweep); step sweep available for enhanced settling and stability

Display: 6.5-inch TFT color LCD

Power: 90–132 V or 198–264 V, 47–63 Hz, 400 VA max

Dimensions: 177 mm H $\times$ 425 mm W $\times$ 425 mm D

Weight: 12 kg typical

Key Features

High-speed processor with embedded IBASIC automation support

Dual sweep modes: step sweep for signal settling, ramp sweep for speed

Up to 4 receivers (300 MHz version) or 3 receivers (180 MHz version)

Selectable 50 Ω / 1 M Ω input impedance on receivers A and B

Phase tracking function for accelerated filter and resonator evaluation

Evaporation monitoring option (Option 022) for resonator manufacturing control

Type-N input connectors and front-panel probe power sockets

Single, dual (built-in power splitter), or switched source outputs

Typical Applications

Component resonator and filter characterization

Production-line impedance and phase measurement

Gain and group-delay analysis in manufacturing environments

Compatibility & Integration

Standard TTL-level parallel I/O; optional optical-isolated, open-collector parallel I/O available. External VGA display and PC-compatible keyboard support. Built-in FDD (720 kbyte, 1.2 Mbyte, 1.44 Mbyte DOS formats) and internal non-volatile memory.

E5100A Characteristics / Specifications

PARAMETER	VALUE
Model	E5100A
Instrument Type	High-speed RF network analyzer
Frequency Range Source	10 kHz to 300 MHz
Frequency Range Receiver	10 kHz to 300 MHz
Frequency Accuracy At 23 Plus Or Minus 5 C	plus or minus 20 ppm
Frequency Accuracy With 1D	plus or minus 1 ppm at 0 to 55 C after 20 minutes
Frequency Resolution	1 mHz
Frequency Stability At 23 Plus Or Minus 5 C	plus or minus 5e-6 per day SPC
Output Power Resolution	0.1 dB
Level Accuracy At 0 Dbm 50 Mhz	plus or minus 1 dB at 23 plus or minus 5 C
Power Flatness Relative To 0 Dbm At 50 Mhz	+2 dB -4 dB
Phase Noise At 10 Khz Offset 0 Dbm	less than -90 dBc/Hz
Nonharmonic Spurious Class	less than -45 dBc at stated option levels
Reverse Power Protection Class	20 dBm 25 Vdc SPC
Source Output Connector	BNC female
Source Output Impedance	50 ohm nominal
If Bandwidth Range	10 Hz to 30 kHz in 1 1.5 2 3 4 5 8 steps nominal
Receiver Return Loss Below 100 Mhz	20 dB SPC at 50 ohm input
Receiver Return Loss 100 To 300 Mhz	15 dB SPC at 50 ohm input
Averaging Noise Level 1 Khz Ifbw Above 100 Khz	-115 dBm
Averaging Noise Level 3 Khz Ifbw Above 100 Khz	-110 dBm
Averaging Noise Level 10 Khz Ifbw Above 300 Khz	-105 dBm

PARAMETER	VALUE
Averaging Noise Level 30 Khz Ifbw Above 1 Mhz	-100 dBm
Damage Level Dc	25 Vdc
Damage Level Ac	20 dBm 1 MOhm Input Frequency Limit Class: 10 kHz to 5 MHz on applicable options
Card Geometry	benchtop high-speed network analyzer
Bandwidth	Range: 10 Hz to 30 kHz in 1 1.5 2 3 4 5 8 steps nominal
Return loss	Below 100 Mhz: 20 dB SPC at 50 ohm input

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	E5100A
Instrument Type	High-speed RF network analyzer
Frequency Range Source	10 kHz to 300 MHz
Frequency Range Receiver	10 kHz to 300 MHz

Frequency Accuracy At 23 Plus Or Minus 5 C: plus or minus 20 ppm
Frequency Accuracy With 1D5: plus or minus 1 ppm at 0 to 55 C after 20 minutes
Frequency Resolution: 1 mHz
Frequency Stability At 23 Plus Or Minus 5 C: plus or minus 5e-6 per day SPC
Output Power Resolution: 0.1 dB
Level Accuracy At 0 Dbm 50 Mhz: plus or minus 1 dB at 23 plus or minus 5 C
Power Flatness Relative To 0 Dbm At 50 Mhz: +2 dB -4 dB
Phase Noise At 10 Khz Offset 0 Dbm: less than -90 dBc/Hz

Specifications

PARAMETER	VALUE
Nonharmonic Spurious Class	less than -45 dBc at stated option levels
Reverse Power Protection Class	20 dBm 25 Vdc SPC
Source Output Connector	BNC female
Source Output Impedance	50 ohm nominal
If Bandwidth Range	10 Hz to 30 kHz in 1 1.5 2 3 4 5 8 steps nominal
Receiver Return Loss Below 100 Mhz	20 dB SPC at 50 ohm input
Receiver Return Loss 100 To 300 Mhz	15 dB SPC at 50 ohm input

Averaging Noise Level 1 Khz Ifbw Above 100 Khz: -115 dBm
Averaging Noise Level 3 Khz Ifbw Above 100 Khz: -110 dBm
Averaging Noise Level 10 Khz Ifbw Above 300 Khz: -105 dBm
Averaging Noise Level 30 Khz Ifbw Above 1 Mhz: -100 dBm
Damage Level Dc: 25 Vdc
Damage Level Ac: 20 dBm
1 MOhm Input Frequency Limit Class: 10 kHz to 5 MHz on applicable options
Card Geometry: benchtop high-speed network analyzer

Notes

From Agilent E5100A/B Network Analyzer data sheet 5966-2888E class documentation. Source power ranges depend on installed source options 001/002/003/600/801/802/803.

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

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NIST-traceable calibration · SAM registered ·
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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.