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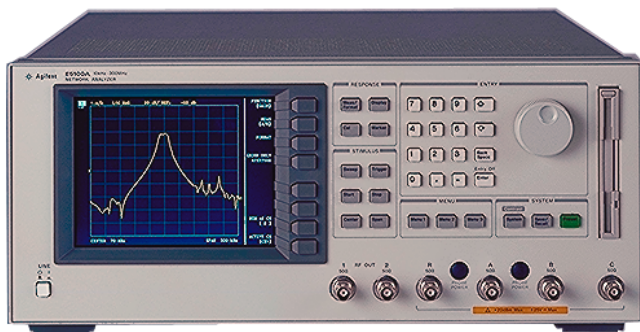
Data Sheet

August 15, 2026

AGILENT

Agilent E5100B 300MHz High-Speed Network Analyzer

Agilent / Keysight E5100B High-Speed Network Analyzer 10 kHz to 300 MHz The Agilent E5100B 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. OEM literature cites fastest sweep speeds on the order of 0.04 ms per point for the E5100B production configuration. The Agilent E5100B 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. OEM literature cites fastest sweep speeds on the order of 0.04 ms per point for the E5100B production configuration. High-throughput resonator and filter production test, crystal evaluation, and automated component sorting with IBASIC waveform analysis.



MODEL

Agilent E5100B

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

E5100B

LISTING

<https://aumictechlabs.com/products/e5100b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent E5100B is a 300 MHz high-speed network analyzer engineered for precise low-frequency impedance and S-parameter measurements across R&D and production environments. Operating from 10 kHz to 300 MHz, the instrument delivers sweep speeds as fast as 0.04 ms/point and dynamic range exceeding 100 dB, making it ideal for high-throughput component characterization.

Technical Specifications

Frequency Range: 10 kHz to 300 MHz
Measurement Speed: 0.04 ms/point (30 kHz IFBW, ramp-sweep)
Dynamic Range: >100 dB (E5100B)
IF Bandwidth: 10 Hz to 30 kHz, configurable in 1, 1.5, 2, 3, 4, 5, and 8 step increments
Measurement Parameters: Gain (amplitude ratio), phase, group-delay, amplitude, gain-phase, gain-delay, impedance, admittance
Input Impedance: 50 Ω nominal (standard); 50 Ω / 1 M Ω , 30 pF (optional)
Output Power Range: -9 dBm to +11 dBm (standard); -48 dBm to +22 dBm (optional)
Points per Sweep: 401
Channels: 4
Power Requirements: 90-132 VAC or 198-264 VAC, 47-63 Hz, 400 VA max.

Key Features

High dynamic range performance enables detection of weak signals and loss measurement in complex networks
Configurable IF bandwidth from 10 Hz to 30 kHz optimizes measurement speed versus noise performance
Four-channel architecture supports multi-port device characterization
Extended output power range option (-48 dBm to +22 dBm) addresses low-level and high-power applications
Parallel I/O (TTL, 16-bit output, 8-bit input/output) with optional opto-isolation for production integration
IBASIC programming support with floppy disk and non-volatile memory storage

Typical Applications

Filters, resonators, matching networks, and transmission-line characterization in manufacturing and design validation. Fast sweep times enable high-volume production testing of passive and active RF components.

Compatibility & Integration

Works with the 41901A SMD PI-Network Test Fixture and E5090A 2-Port Transmission/Reflection Test Kit. Compact footprint: 177 mm (H) $\times$ 425 mm (W) $\times$ 425 mm (D); 12 kg.

E5100B Characteristics / Specifications

PARAMETER	VALUE
Model	E5100B
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	E5100B
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 ·
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.