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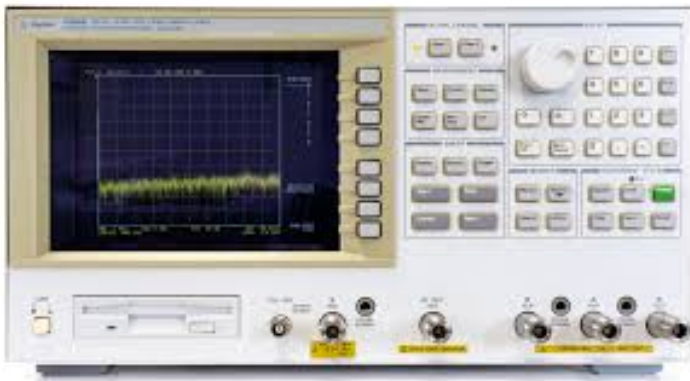
Data Sheet

August 12, 2026

KEYSIGHT / AGILENT

Keysight (Agilent) 4396B RF Network Spectrum Impedance Analyzer

Keysight / Agilent 4396B RF Network / Spectrum / Impedance Analyzer The 4396B combines vector network analysis, spectrum analysis, and optional impedance analysis to 1.8 GHz in one instrument. Integrated synthesized source and dual display channels allow simultaneous network and spectrum views. The 4396B combines vector network analysis, spectrum analysis, and optional impedance analysis to 1.8 GHz in one instrument. Integrated synthesized source and dual display channels allow simultaneous network and spectrum views.



MODEL

**Keysight / Agilent
4396B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

4396B

LISTING

[https://aumictechlabs.c
om/products/4396b-2/](https://aumictechlabs.com/products/4396b-2/)

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keysight 4396B is an RF network, spectrum, and impedance analyzer that combines three measurement domains into a single instrument. It delivers network analysis from 100 kHz to 1.8 GHz with 1 MHz resolution, spectrum analysis from 2 Hz to 1.8 GHz, and impedance characterization via equivalent circuit analysis. Engineers use it to measure gain, phase, group delay, distortion, spurious responses, and noise across RF components and systems. Technical Specifications Network Analysis: Frequency range: 100 kHz to 1.8 GHz with 1 MHz resolution Dynamic range: 120 dB @ 10 Hz IFBW Magnitude accuracy: ± 0.05 dB; phase accuracy: ± 0.3 degrees Source output power: -60 dBm to +20 dBm (0.1 dB resolution) Ratio accuracy (A/R, B/R):

± 0.9 dB @ -20 dBm input, 23 ± 5 °C; ± 0.6 dB for IFBW ≤ 3 kHz (100 kHz–1 MHz); ± 0.3 dB for IFBW ≤ 3 kHz (≥ 1 MHz) Supports return loss, SWR, and S-parameters with external test set Spectrum Analysis: Frequency range: 2 Hz to 1.8 GHz Resolution bandwidth: 1 Hz to 3 MHz (1-3-10 sequence) Level accuracy: ± 1.0 dB Sensitivity: -150 dBm/Hz @ 10 MHz; -147 dBm/Hz @ 1 GHz Noise sidebands: < -105 dBc/Hz at 10 kHz offset (carriers < 1 GHz) Signal processing: Stepped FFT with 400 ms sweep time (30 Hz RBW, 10 kHz span) Time-gated spectrum analysis available (Option 4396B-1D6) Impedance Analysis (Option 4396B-010): Frequency range: 100 kHz to 1.8 GHz Equivalent circuit analysis capability Source & Frequency Reference (Option 4396B-800): Frequency range: 100 kHz to 1.8 GHz Frequency reference accuracy: $< \pm 5.5$ ppm/year (23 ± 5 °C) Frequency aging: Typically ± 2.5 ppm/year Spurious responses (second harmonic): < -70 dBc @ ≥ 10 MHz, -35 dBm mixer input Display: Color TFT display with built-in disk drive and RAM storage

Key Features Single-unit integration of network, spectrum, and impedance measurement modes Phase and expanded phase formats with linear phase deviation measurement Broadband source spanning 100 kHz to 1.8 GHz with fine 0.1 dB power resolution FFT-based narrowband spectrum analysis for rapid measurement speed Reflection measurement support via S-parameters and return loss

Typical Applications Gain and phase response characterization of RF filters and amplifiers Distortion and spurious emission testing of transmitter chains Impedance profiling and equivalent circuit determination Group delay and phase linearity validation in analog RF circuits Broadband noise figure and noise sidebands assessment

Compatibility & Integration The 4396B accepts external test sets for advanced reflection measurements and integrates optional impedance analysis and frequency reference modules to extend measurement capability across diverse RF design workflows.

Features & description

From manufacturer datasheet

Features

• Network frequency: 100 kHz to 1.8 GHz; resolution 1 mHz • Spectrum frequency: 2 Hz to 1.8 GHz • Impedance frequency (opt): 100 kHz to 1.8 GHz • Source power: -60 to +20 dBm; 0.1 dB resolution • Network dynamic range: >120 dB @ 10 Hz IFBW • Network dynamic accuracy: ± 0.05 dB / ± 0.3 deg (full two-port) • Spectrum RBW: 1 Hz to 3 MHz (1-3-10 steps) • Spectrum sensitivity: < -147 dBm/Hz @ 1 GHz; ~ -150 dBm/Hz @ 10 MHz class • Noise sidebands: < -113 dBc/Hz typ. @ 10 kHz offset (family tables); < -105 dBc/Hz class below 1 GHz • Spectrum level accuracy: $< \pm 1.0$ dB overall • Third-order dynamic range: >100 dB • ImpedanceZrange class: $2\ \Omega$ to 5 k Ω ; $\pm 3\%$ typical basic accuracy • Impedance source at DUT: -66 to +14 dBm class; DC bias ± 40 V / 20 mA (external) • Built-in IBASIC; GPIB and digital I/O • Options: 1D5 high-stability reference; 1D6 time-gated spectrum; 010 impedance

Applications

• RF S-parameter / transmission-reflection to 1.8 GHz • Spectrum analysis from audio/IF through 1.8 GHz • Component impedance with Opt 010 + 43961A kit

4396B Characteristics / Specifications

PARAMETER	VALUE
Model	4396B
Manufacturer	Keysight / Agilent
Instrument Type	RF Network / Spectrum / Impedance Analyzer
Alias	4396B; Agilent 4396B; HP 4396B
Network frequency	100 kHz to 1.8 GHz; resolution 1 mHz
Spectrum frequency	2 Hz to 1.8 GHz
Source power	−60 to +20 dBm; 0.1 dB resolution
Network dynamic range	>120 dB @ 10 Hz IFBW
Spectrum RBW	1 Hz to 3 MHz (1-3-10 steps)
Impedance frequency (opt)	100 kHz to 1.8 GHz
Network dynamic accuracy	±0.05 dB / ±0.3 deg (full two-port)
Spectrum sensitivity	<−147 dBm/Hz @ 1 GHz; ~−150 dBm/Hz @ 10 MHz class
Noise sidebands	<−113 dBc/Hz typ. @ 10 kHz offset (family tables); <−105 dBc/Hz class below 1 GHz
Spectrum level accuracy	<±1.0 dB overall
Third-order dynamic range	>100 dB
ImpedanceZrange class	2 Ω to 5 k Ω ; ±3% typical basic accuracy
Impedance source at DUT	−66 to +14 dBm class; DC bias ±40 V / 20 mA (external)
Options	1D5 high-stability reference; 1D6 time-gated spectrum; 010 impedance

4396B Specifications

PARAMETER	VALUE
Applications	- RF S-parameter / transmission-reflection to 1.8 GHz
Key Features	- Network frequency: 100 kHz to 1.8 GHz; resolution 1 mHz
Technical Specifications	Model: 4396B
Notes	Specs from Agilent 4396B Network/Spectrum/Impedance Analyzer data sheet. Confirm Opt 010/1D5/1D6 and test set on the unit.

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	4396B
Manufacturer	Keysight / Agilent
Instrument Type	RF Network / Spectrum / Impedance Analyzer
Alias	4396B; Agilent 4396B; HP 4396B

Specifications

PARAMETER	VALUE
Network frequency	100 kHz to 1.8 GHz
Spectrum frequency	2 Hz to 1.8 GHz
Source power	-60 to +20 dBm
Network dynamic range	>120 dB
Spectrum RBW	1 Hz to 3 MHz

Sensitivity @ 1 GHz: <-147 dBm/Hz

Notes

Specs from Agilent 4396B Network/Spectrum/Impedance Analyzer data sheet. Confirm Opt 010/1D5/1D6 and test set on the unit.

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.