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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 4191A

Agilent Keysight 4191A RF Impedance Analyzer 1 MHz to 1000 MHz The HP 4191A RF impedance analyzer measures 14 impedance parameters with 4.5-digit resolution from 1 MHz to 1000 MHz. OEM product literature lists an internal synthesizer with 3 ppm frequency accuracy, optional 100/200 Hz resolution (Option 002), internal DC bias plus or minus 40 V in 10 mV steps, and HP-IB as standard. High-frequency chip and leaded LCR evaluation; semiconductor C-V/G-V; resonator, filter, cable, and connector impedance from MF through UHF. The HP 4191A RF impedance analyzer measures 14 impedance parameters with 4.5-digit resolution from 1 MHz to 1000 MHz. OEM product literature lists an internal synthesizer with 3 ppm frequency accuracy, optional 100/200 Hz resolution (Option 002), internal DC bias plus or minus 40 V in 10 mV steps, and HP-IB as standard. High-frequency chip and leaded LCR evaluation; semiconductor C-V/G-V; resonator, filter, cable, and connector impedance from MF through UHF. Fourteen parameters including Z, Y, L, C, R, X, G, B, D, Q, and reflection coefficient



MODEL

**Agilent / Keysight
4191A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

4191A

LISTING

<https://aumictechlabs.com/products/4191a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight 4191A RF Impedance Analyzer measures impedance and related parameters across 1 MHz to 1 GHz with 1% basic accuracy. It delivers spot and swept measurements of impedance, admittance, resistance, reactance, inductance, capacitance, quality factor, and phase angle. The

instrument combines fast measurement speed - 250 ms in high-speed mode, 800 ms in normal mode - with flexible bias control and direct engineering parameter display. Technical Specifications Frequency and Resolution Operating range: 1 MHz to 1 GHz Frequency resolution: 100 Hz to 500 MHz or 200 Hz to 1000 MHz (Option 002) Frequency accuracy: 3 ppm (Option 002) Display resolution: 4 ½ digits maximum Measurement Parameters and Ranges Impedance $|Z|$ and Resistance R: 100 m Ω to 20 k Ω Admittance $|Y|$: 100 μ S to 10 S Conductance G: 20 μ S to 10 S Inductance L: 0.1 nH to 5 mH Capacitance C: 0.1 pF to 1 μ F Reactance X: 100 m Ω to 20 k Ω Dissipation Factor D and Quality Factor Q: 0.001 to 1000 Reflection Coefficient: 0.0000 to ± 1.0000 Phase Angle: $\pm 0.01^\circ$ to 180.00° Measurement Speed Normal mode (running average): ~800 ms High-speed mode (instantaneous): ~250 ms DC Bias Internal: ± 40 V in 10 mV steps with auto-sweep function External: ± 40 V maximum, 100 mA maximum input current Key Features Basic accuracy of 1% across many impedance elements Dual measurement modes for flexibility between speed and averaging Internal and external bias capability for component characterization under load IEEE-STD-488 (HP-IB) control and data transfer Optional analog voltage outputs for X-Y recorder interface (Option 004) Typical Applications RF component characterization and quality assurance Electronic material impedance profiling R&D circuit validation across MHz to GHz frequencies Systems integration validation Compatibility & Integration HP-IB interface enables remote control and automated measurement sequences. Optional analog output channels support direct graphical recording. Operating temperature range 0°C to 55°C; power requirement 100/120/220/240 VAC, 48–66 Hz, 150 VA maximum. Dimensions: 425.5 mm $\times$ 230 mm $\times$ 574 mm; weight approximately 24 kg.

4191A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	RF impedance analyzer
Series Family	HP 4191A
Frequency Range	1 MHz to 1000 MHz
Frequency Accuracy	3 ppm
Frequency Resolution Option 0	100 Hz to 500 MHz and 200 Hz to 1000 MHz
Display Resolution	4.5 digits
Basic Accuracy Class	1 percent class (OEM headline)
Measured Parameter Count	14
Impedance Range	100 mOhm to 20 kOhm
Admittance Range	100 uS to 10 S
Conductance Range	20 uS to 10 S
Inductance Range	0.1 nH to 5 mH
Capacitance Range	0.1 pF to 1 uF
Reflection Coefficient Range	0.0000 to plus or minus 1.0000
Dc Bias Range	plus or minus 40 V
Dc Bias Step	10 mV
Test Port Impedance	50 ohm
Stored Setups	2 complete front-panel settings in non-volatile memory
Remote Interface	HP-IB standard
Sweep	automatic frequency and DC-bias sweep
Form Factor	benchtop RF impedance analyzer

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
Instrument Type	RF impedance analyzer
Series Family	HP 4191A
Frequency Range	1 MHz to 1000 MHz
Frequency Accuracy	3 ppm
Frequency Resolution Option 002	100 Hz to 500 MHz and 200 Hz to 1000 MHz
Display Resolution	4.5 digits
Basic Accuracy Class	1 percent class (OEM headline)
Measured Parameter Count	14
Impedance Range	100 mOhm to 20 kOhm
Admittance Range	100 uS to 10 S
Conductance Range	20 uS to 10 S
Inductance Range	0.1 nH to 5 mH
Capacitance Range	0.1 pF to 1 uF
Reflection Coefficient Range	0.0000 to plus or minus 1.0000
Dc Bias Range	plus or minus 40 V
Dc Bias Step	10 mV
Test Port Impedance	50 ohm
Stored Setups	2 complete front-panel settings in non-volatile memory
Remote Interface	HP-IB standard
Option 002: 100 Hz / 200 Hz resolution synthesizer	
Option 004: recorder outputs	
Sweep: automatic frequency and DC-bias sweep	
Form Factor: benchtop RF impedance analyzer	
Notes	
Numeric rows from HP/Keysight 4191A RF Impedance Analyzer product literature (frequency, bias, parameter ranges, Option 002). Headline 1 percent accuracy is the published catalog figure; full frequency/impedance accuracy tables are in the 4191A operating/service manual.	

Ordering Information

OPTION	DESCRIPTION
Option 002	high-resolution synthesizer and Option 004 recorder outputs

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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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.