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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 71451A – Optical Spectrum Analyzer

Agilent HP 71451A Optical Spectrum Analyzer System The HP 71451A is the MMS optical spectrum analyzer system pairing the 70951A module with an MMS mainframe/display. OEM 5963-7040E lists calibrated wavelength coverage 600 to 1700 nm with the family resolution amplitude and sensitivity tables. Benchtop and rack MMS lightwave spectral analysis of sources amplifiers and passive optical components. Complete MMS OSA system identity for 70951A module The HP 71451A is the MMS optical spectrum analyzer system pairing the 70951A module with an MMS mainframe/display. OEM 5963-7040E lists calibrated wavelength coverage 600 to 1700 nm with the family resolution amplitude and sensitivity tables. Benchtop and rack MMS lightwave spectral analysis of sources amplifiers and passive optical components. Complete MMS OSA system identity for 70951A module Calibrated 600 to 1700 nm optical spectrum display



MODEL

**Agilent / Keysight
71451A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

71451A

LISTING

<https://aumictechlabs.com/products/71451a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 71451A is a optical spectrum analyzer for detailed spectral characterization across the 600 nm to 1700 nm wavelength range. Its unique double-pass monochromator design delivers the high dynamic range of double-monochromator systems combined with single-

monochromator sensitivity, achieving better than -85 dBm sensitivity and 60 dB dynamic range. The instrument excels at LED, Fabry-Perot laser, DFB laser, and EDFA characterization with polarization-insensitive measurements and excellent amplitude accuracy.

Technical Specifications

Wavelength Range: 600 nm to 1700 nm Monochromator: Double-pass design Sensitivity: Better than -85 dBm; -90 dBm Dynamic Range: 60 dB (-55 dBm at 0.5 nm offset) Resolution (FWHM): 0.08 nm, 0.1 nm to 10 nm (1, 2, 5 sequence) Resolution Accuracy: $\pm 20\%$ at approximately 0.5 nm (1250–1600 nm) Sweep Rate: 40 nm in 50 ms; full range in 500 ms Maximum Input Power: +20 dBm per 5 nm; +30 dBm total Wavelength/Amplitude Calibration: Full range; 2-year calibration retention Display Resolution: 0.01 dB Monochromator Insertion Loss: 850 nm <17 dB (1st order); 1300 nm <7 dB; 1550 nm <10 dB Photodetector Accuracy: 0.25 dB at -30 dBm (1300 nm reference); 1 dB compression at 27 dBm; maximum +20 dBm

Key Features

Five operational modes Low polarization dependency Real-time sweep capability Optional programmable current source and white light source SMB electrical connectors; optional FC/PC connector interface

Physical & Environmental

Single 9-inch mainframe: 222 mm H $\times$ 425.4 mm W $\times$ 526 mm D; 28 kg Power: 100/120/220/240 VAC (+5%, -10%); 260 W max (350 VA max); 47–66 Hz and 356–444 Hz Operating Temperature: 0° to 55° C Storage Temperature: -30° to +71° C Shock/Vibration: MIL-T-28800D Class 5 (paragraphs 3.7.4, 3.7.5.2)

Compatibility & Integration

VXI bus compatible; integrates into modular test systems with single-slot VXI architecture.

Features & description

From manufacturer datasheet

Polarization Dependence 1250 To 1600 nm: plus or minus 0.5 dB

Sensitivity 1200 To 1600 nm: minus 90 dBm Sensitivity 900 To 1200 nm: minus 75 dBm Sensitivity 750 To 900 nm First Order: minus 65 dBm Sensitivity 1600 To 1700 nm: minus 80 dBm Dynamic Range 0.1 nm 600 To 1700 nm: minus 50 dB at greater than or equal to plus or minus 1 nm Dynamic Range 0.1 nm 1250 To 1600 nm: minus 55 dB at greater than or equal to plus or minus 0.5 nm Compression Level 0.05 dB: greater than or equal to 10 dBm Maximum Displayed Level: greater than or equal to 15 dBm Maximum Safe Input: plus 20 dBm per 5 nm plus 30 dBm total Input Return Loss Pc Or Hms 10: greater than 35 dB Optical Input Fiber: multimode standard 9 um fiber Module Form Factor: standard 4/8 width MMS module Module Mass: 8 kg Operating Temperature: 0 to plus 55 C Storage Temperature: minus 40 to plus 71 C Humidity: less than 95 percent RH non condensing Model: 71451A Plugin Module: 70951A Notes From HP 71450B/71451B/71452B Technical Specifications 5963-7040E for the 71451A/70951A optical performance column.

71451A Characteristics / Specifications

PARAMETER	VALUE
Wavelength Range	600 to 1700 nm
Span Range	0.2 nm to full range and zero span
Absolute Wavelength Accuracy	plus or minus 1 nm
Absolute Accuracy After User Cal	plus or minus 0.3 nm
Span Linearity Spans Less Than 40 nm	plus or minus 0.05 nm
Wavelength Reproducibility 1 Minute	plus or minus 0.005 nm
Tuning Repeatability	plus or minus 0.005 nm
Resolution Bandwidth Fwhm	less than 0.08 nm and 0.1 to 10 nm in 1 2 5 sequence
Resolution Accuracy 0.5 nm Or Greater 1250 To 1600 nm	plus or minus 20 percent
Amplitude Calibration Accuracy At Minus 30 dBm 1300 nm	plus or minus 0.5 dB
Scale Fidelity Autorange Off	plus or minus 0.1 dB
Display Resolution Log	0.01 dB
Flatness 1290 To 1330 nm	plus or minus 0.25 dB
Flatness 1530 To 1570 nm	plus or minus 0.25 dB
Flatness 1250 To 1600 nm	plus or minus 1 dB
Polarization Dependence 1250 To 1600 nm	plus or minus 0.5 dB
Sensitivity 1200 To 1600 nm	minus 90 dBm
Sensitivity 900 To 1200 nm	minus 75 dBm
Sensitivity 750 To 900 nm First Order	minus 65 dBm
Sensitivity 1600 To 1700 nm	minus 80 dBm
Dynamic Range 0.1 nm 600 To 1700 nm	minus 50 dB at greater than or equal to plus or minus 1 nm
Dynamic Range 0.1 nm 1250 To 1600 nm	minus 55 dB at greater than or equal to plus or minus 0.5 nm
Compression Level 0.05 dB	greater than or equal to 10 dBm
Maximum Displayed Level	greater than or equal to 15 dBm

PARAMETER	VALUE
Maximum Safe Input	plus 20 dBm per 5 nm plus 30 dBm total
Input Return Loss Pc Or Hms	greater than 35 dB
Optical Input Fiber	multimode standard 9 um fiber
Module Form Factor	standard 4/8 width MMS module
Module Mass	8 kg
Operating Temperature	0 to plus 55 C
Storage Temperature	minus 40 to plus 71 C
Humidity	less than 95 percent RH non condensing
Model	71451A
Plugin Module	70951A
Bandwidth	Fwhm: less than 0.08 nm and 0.1 to 10 nm in 1 2 5 sequence
Return loss	Pc Or Hms 10: greater than 35 dB

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	minus 40 to plus 71 C
Operating temperature	0 to plus 55 C
Operating Temperature	0 to plus 55 C
Humidity	less than 95 percent RH non condensing
Model	71451A
Plugin Module	70951A Notes From HP 71450B/71451B/71452B Technical Specifications 5963-7040E for the 71451A/70951A optical performance column.

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.

performance with 71450B/71452B columns

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Wavelength Range	600 to 1700 nm
Span Range	0.2 nm to full range and zero span
Absolute Wavelength Accuracy	plus or minus 1 nm
Absolute Accuracy After User Cal	plus or minus 0.3 nm
Span Linearity Spans Less Than 40 nm	plus or minus 0.05 nm
Wavelength Reproducibility 1 Minute	plus or minus 0.005 nm
Tuning Repeatability	plus or minus 0.005 nm
Resolution Bandwidth Fwhm	less than 0.08 nm and 0.1 to 10 nm in 1 2 5 sequence

Resolution Accuracy 0.5 nm Or Greater 1250 To 1600 nm: plus or minus 20 percent
Amplitude Calibration Accuracy At Minus 30 dBm 1300 nm: plus or minus 0.5 dB

Specifications

PARAMETER	VALUE
Scale Fidelity Autorange Off	plus or minus 0.1 dB
Display Resolution Log	0.01 dB
Flatness 1290 To 1330 nm	plus or minus 0.25 dB
Flatness 1530 To 1570 nm	plus or minus 0.25 dB
Flatness 1250 To 1600 nm	plus or minus 1 dB
Polarization Dependence 1250 To 1600 nm	plus or minus 0.5 dB
Sensitivity 1200 To 1600 nm	minus 90 dBm
Sensitivity 900 To 1200 nm	minus 75 dBm
Sensitivity 750 To 900 nm First Order	minus 65 dBm
Sensitivity 1600 To 1700 nm	minus 80 dBm

Dynamic Range 0.1 nm 600 To 1700 nm: minus 50 dB at greater than or equal to plus or minus 1 nm
Dynamic Range 0.1 nm 1250 To 1600 nm: minus 55 dB at greater than or equal to plus or minus 0.5 nm

Specifications

PARAMETER	VALUE
Compression Level 0.05 dB	greater than or equal to 10 dBm
Maximum Displayed Level	greater than or equal to 15 dBm
Maximum Safe Input	plus 20 dBm per 5 nm plus 30 dBm total
Input Return Loss Pc Or Hms 10	greater than 35 dB
Optical Input Fiber	multimode standard 9 um fiber
Module Form Factor	standard 4/8 width MMS module
Module Mass	8 kg
Operating Temperature	0 to plus 55 C
Storage Temperature	minus 40 to plus 71 C
Humidity	less than 95 percent RH non condensing
Model	71451A
Plugin Module	70951A

Notes

From HP 71450B/71451B/71452B Technical Specifications 5963-7040E for the 71451A/70951A optical performance column.

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

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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.