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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 71450B – Optical Spectrum Analyzer

Agilent HP 71450B Optical Spectrum Analyzer The HP 71450B is a diffraction-grating optical spectrum analyzer system built around the HP 70950B MMS OSA module. OEM HP 71450B/71451B/71452B technical specifications (5963-7040E) list 600 to 1700 nm coverage, absolute wavelength accuracy plus or minus 1 nm (plus or minus 0.3 nm after user cal), resolution bandwidths from less than 0.08 nm to 10 nm, and sensitivity to minus 90 dBm in the 1200 to 1600 nm band. Spectral characterization of DFB and Fabry-Perot lasers, LEDs, optical amplifiers, and passive components from 600 to 1700 nm. The HP 71450B is a diffraction-grating optical spectrum analyzer system built around the HP 70950B MMS OSA module. OEM HP 71450B/71451B/71452B technical specifications (5963-7040E) list 600 to 1700 nm coverage, absolute wavelength accuracy plus or minus 1 nm (plus or minus 0.3 nm after user cal), resolution bandwidths from less than 0.08 nm to 10 nm, and sensitivity to minus 90 dBm in the 1200 to 1600 nm band. Spectral characterization of DFB and Fabry-Perot lasers, LEDs, optical amplifiers, and passive components from 600 to 1700 nm.



MODEL

**Agilent / Keysight
71450B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

71450B

LISTING

<https://aumictechlabs.com/products/71450b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 71450B is a diffraction-grating-based optical spectrum analyzer for precise spectral characterization across 600 to 1700 nm. It measures optical power versus wavelength with sensitivity to -90 dBm and delivers 60 dB dynamic range, enabling detailed analysis of optical components, amplifiers, LEDs, DFB lasers, and Fabry-Perot lasers.

Technical Specifications

Wavelength Range: 600 to 1700 nm Sensitivity & Dynamic Range Sensitivity: -90 dBm Dynamic range: 60 dB Maximum input power (monochromator): +30 dBm Maximum photodetector input level: +20 dBm Largest measurable power before compression: +10 dBm Wavelength Accuracy Absolute accuracy: ± 1 nm After user calibration: ± 0.3 nm After calibration within ± 0.05 nm of cal signal: ± 0.2 nm Span linearity (<40 nm spans): ± 0.05 nm Span linearity (1530–1570 nm): ± 0.02 nm Reproducibility (1 minute): ± 0.005 nm Reproducibility after calibration (1 minute): ± 0.001 nm Tuning repeatability: ± 0.005 nm Settability: ± 0.005 nm Resolution Bandwidth FWHM: <0.08 nm and 0.1 to 10 nm in 1,2,5 sequence <0.08 nm setting: 0.065 nm $\pm 15\%$ Resolution accuracy (≥ 0.5 nm, 1250–1600 nm): $\pm 20\%$ Resolution accuracy (0.1–10 nm, 600–1700 nm): $\pm 30\%$ Corrected bandwidth accuracy for noise markers (≥ 0.5 nm, 1250–1600 nm): $\pm 3\%$ Corrected bandwidth accuracy (0.2 nm, 1250–1600 nm): $\pm 5\%$ Environmental Operating temperature: 0° to 55° C Relative humidity: <95% Stabilization: 1 hour continuous operation plus auto-align routine Physical Dimensions: 24 × 20 × 16 in Weight: Approximately 35–50 lbs

Key Features Unique double-pass monochromator architecture Automatic spectral width measurement at -3 dB, -20 dB, or user-defined levels Peak power determination and side-mode suppression ratio analysis DFB stop-band characterization Auto-align routine for sustained amplitude accuracy Three instrument modes: preselector, stimulus response, and photodetector test

Typical Applications Optical component characterization (couplers, switches, filters, fibers) Laser source spectral analysis and quality assessment LED spectral profiling Stimulus-response measurements for optical devices

Compatibility & Integration Integrates the HP 70950B module for core measurement functionality. Accommodates HP 71451B photodetector for optimized performance across the operating wavelength range.

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 Res 600 To 1700 nm: minus 50 dB at greater than or equal to plus or minus 1 nm Dynamic Range 0.1 nm Res 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 Maximum Sweep Rate: 40 nm per 50 ms Sweep Cycle 50 nm Auto Zero Off: less than 180 ms System Dimensions: 222 mmHx 425.4 mmWx 526 mmDSystem Mass: 28 kg Module Mass 70950B: 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 Line Power: 87 to 132 VAC or 174 to 264 VAC 47 to 66 Hz Maximum Power: 260 W (350 VA) Notes From HP 71450B/71451B/71452B Optical Spectrum Analyzers Technical Specifications 5963-7040E. 71450B includes the HP 70950B module. Specs apply after 1 hour warm-up and auto-align unless noted.

71450B 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
Settability	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
Resolution Accuracy 0.1 To 10 nm 600 To 1700 nm Characteristic	plus or minus 30 percent
Amplitude Calibration Accuracy At Minus 30 dBm 1300 nm	plus or minus 0.5 dB
Scale Fidelity Autorange Off Sample Detector	plus or minus 0.1 dB
Display Resolution Log	0.01 dB
Display Scale Log	0.01 to 20 dB/div in 0.01 dB steps
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

PARAMETER	VALUE
Sensitivity 1600 To 1700 nm	minus 80 dBm
Dynamic Range 0.1 nm Res 600 To 1700 nm	minus 50 dB at greater than or equal to plus or minus 1 nm
Dynamic Range 0.1 nm Res 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
Maximum Sweep Rate	40 nm per 50 ms
Sweep Cycle 50 nm Auto Zero Off	less than 180 ms
System Dimensions	222 mmHx 425.4 mmWx 526 mmDS System Mass: 28 kg
Module Mass 70950B	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
Line Power	87 to 132 VAC or 174 to 264 VAC 47 to 66 Hz
Maximum Power	260 W (350 VA)
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
Line Power	87 to 132 VAC or 174 to 264 VAC 47 to 66 Hz
Maximum Power	260 W (350 VA) Notes From HP 71450B/71451B/71452B Optical Spectrum Analyzers Technical Specifications 5963-7040E. 71450B includes the HP 70950B module. Specs apply after 1 hour warm-up and auto-align unless noted.

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 (5963-7040E) list 600 to 1700 nm coverage, absolute wavelength accuracy plus or minus 1 nm (plus or minus 0.3 nm after user cal), resolution bandwidths from less than 0.08 nm to 10 nm, and sensitivity to minus 90 dBm in the 1200 to 1600 nm band.

Applications

Spectral characterization of DFB and Fabry-Perot lasers, LEDs, optical amplifiers, and passive components from 600 to 1700 nm.

Key Features

Diffraction grating OSA in MMS form

Resolution bandwidths less than 0.08 nm to 10 nm

User wavelength calibration improves absolute accuracy

Pulse mode and EDFA personality options

Includes HP 70950B OSA module

Technical Specifications

Specifications

PARAMETER	VALUE
Maximum Sweep Rate	40 nm per 50 ms
Sweep Cycle 50 nm Auto Zero Off	less than 180 ms
System Dimensions	222 mm H x 425.4 mm W x 526 mm D
System Mass	28 kg
Module Mass 70950B	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
Line Power	87 to 132 VAC or 174 to 264 VAC 47 to 66 Hz
Maximum Power	260 W (350 VA)

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

PARAMETER	VALUE
Tuning Repeatability	plus or minus 0.005 nm
Settability	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
Resolution Accuracy 0.1 To 10 nm 600 To 1700 nm Characteristic: plus or minus 30 percent
Amplitude Calibration Accuracy At Minus 30 dBm 1300 nm: plus or minus 0.5 dB

Specifications

PARAMETER	VALUE
Scale Fidelity Autorange Off Sample Detector	plus or minus 0.1 dB
Display Resolution Log	0.01 dB
Display Scale Log	0.01 to 20 dB/div in 0.01 dB steps
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 Res 600 To 1700 nm: minus 50 dB at greater than or equal to plus or minus 1 nm
Dynamic Range 0.1 nm Res 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

Specifications

PARAMETER	VALUE
Maximum Sweep Rate	40 nm per 50 ms
Sweep Cycle 50 nm Auto Zero Off	less than 180 ms
System Dimensions	222 mmHx 425.4 mmWx 526 mmDS System Mass: 28 kg

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Maximum Power	260 W (350 VA)

Notes

From HP 71450B/71451B/71452B Optical Spectrum Analyzers Technical Specifications 5963-7040E. 71450B includes the HP 70950B module. Specs apply after 1 hour warm-up and auto-align unless noted.

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.