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**Data Sheet**

August 14, 2026

AGILENT / KEYSIGHT

# Agilent/Keysight 71452B – Optical Spectrum Analyzer

Agilent HP 71452B Optical Spectrum Analyzer The HP 71452B is the high-performance diffraction-grating OSA system that includes the HP 70952B module. OEM 5963-7040E lists tighter wavelength accuracy after user cal (plus or minus 0.2 nm), improved scale fidelity, polarization dependence as low as plus or minus 0.05 dB in the C-band window, and Option 122 improved dynamic range. Precision DFB laser and DWDM component spectral analysis requiring tighter wavelength and polarization performance than the 71450B baseline. The HP 71452B is the high-performance diffraction-grating OSA system that includes the HP 70952B module. OEM 5963-7040E lists tighter wavelength accuracy after user cal (plus or minus 0.2 nm), improved scale fidelity, polarization dependence as low as plus or minus 0.05 dB in the C-band window, and Option 122 improved dynamic range. Precision DFB laser and DWDM component spectral analysis requiring tighter wavelength and polarization performance than the 71450B baseline. Plus or minus 0.2 nm absolute accuracy after user cal



MODEL

**Agilent / Keysight  
71452B**

CALIBRATION

**Available on  
request**

CONDITION

**Used**

STATUS

**In stock**

RFQ / SKU

**71452B**

LISTING

<https://aumictechlabs.com/products/71452b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

## This unit

The Keysight/Agilent 71452B is a diffraction-grating-based optical spectrum analyzer engineered for precise spectral characterization across the optical communications band. It measures optical

power versus wavelength with high resolution, enabling detailed analysis of amplifiers, LEDs, DFB lasers, and Fabry-Perot lasers. This module integrates into the 70000 series Modular Measurement System (MMS) and pairs with a color display mainframe for integrated optical testing.

**Technical Specifications**

**Wavelength Coverage Range:** 600 nm to 1700 nm

**Span:** Continuously variable from 0.2 nm to full range, including zero span

**Minimum resolution:** 0.08 nm

**Maximum resolution:** 10 nm (1, 2, 5 sequence)

**Resolution Performance**

**Resolution bandwidth (FWHM):** Less than 0.08 nm

**Bandwidth accuracy:**  $\pm 20\%$  ( $\geq 0.5$  nm, 1250–1600 nm);  $\pm 30\%$  (0.1–10 nm, 600–1700 nm)

**Corrected bandwidth accuracy:**  $\pm 3\%$  ( $\geq 0.5$  nm, 1250–1600 nm);  $\pm 5\%$  characteristic (0.2 nm, 1250–1600 nm)

**Sensitivity & Dynamic Range**

**Sensitivity ranges from** –60 dBm (600–750 nm, second order) to –90 dBm (1200–1600 nm)

**Dynamic range:** –50 dB to –70 dB depending on resolution and offset, with chop mode achieving –70 dB

**Maximum input power:** +20 dBm per 5 nm; +30 dBm total

**Maximum displayed level:**  $\geq 15$  dBm

**Amplitude Accuracy**

**Absolute accuracy:**  $\pm 0.2$  nm (after user calibration);  $\pm 0.05$  nm (within 40 nm of calibration signal)

**Flatness:**  $\pm 0.4$  dB (600–1700 nm) for  $\geq 2$  dBm input;  $\pm 2$  dB (1250–1600 nm)

**Scale fidelity:**  $\pm 0.1$  dB (fixed reference level);  $\pm 0.2$  dB (multiple reference levels)

**Key Features**

Grating-based architecture eliminates multiple-order interference typical of prism designs

Fine resolution down to 0.08 nm supports component-level spectral analysis

Wide wavelength span accommodates broadband source characterization

High sensitivity across infrared bands, optimized for telecom wavelengths

User calibration improves absolute accuracy to  $\pm 0.05$  nm

**Typical Applications**

Optical amplifier gain and noise figure measurement

Laser linewidth and wavelength stability verification

LED spectrum and power distribution analysis

Fabry-Perot and DFB laser characterization

Optical filter and multiplexer response measurement

**Compatibility & Integration**

The 71452B operates as a plug-in module within the 70000 series MMS framework, requiring a color display mainframe. This modular architecture enables rapid integration into multi-instrument test systems.

## Features & description

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From manufacturer datasheet

### **Polarization Dependence 1542 To 1562 nm: plus or minus 0.05 dB**

Sensitivity 1200 To 1600 nm: minus 90 dBm Sensitivity 900 To 1200 nm: minus 75 dBm Dynamic Range 0.2 nm Res Greater Than Or Equal Plus Or Minus 0.5 nm: minus 58 dB Dynamic Range 0.2 nm Res Greater Than Or Equal Plus Or Minus 1 nm: minus 65 dB Dynamic Range 0.1 nm Res Greater Than Or Equal Plus Or Minus 0.4 nm Characteristic: minus 60 dB Option 122 Dynamic Range Chop Mode: minus 70 dB at plus or minus 0.5 nm plus or minus 1 nm and plus or minus 5 nm Compression Level 0.05 dB: greater than or equal to 10 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 System Dimensions: 222 mmHx 425.4 mmWx 526 mmDSytem Mass: 28 kg Module Mass 70952B: 8 kg Operating Temperature: 0 to plus 55 C Line Power Maximum: 260 W (350 VA) Notes From HP 71450B/71451B/71452B Technical Specifications 5963-7040E 71452B column. 71452B includes HP 70952B. Option 122 improves dynamic range and noise-marker bandwidth accuracy.

## 71452B 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 0.2 nm                                                                                        |
| Absolute Accuracy After User Cal Within 40 nm                       | plus or minus 0.05 nm                                                                                       |
| Span Linearity 1530 To 1570 nm                                      | plus or minus 0.02 nm                                                                                       |
| Wavelength Reproducibility 1 Minute                                 | plus or minus 0.001 nm                                                                                      |
| Resolution Bandwidth Fwhm                                           | less than 0.08 nm and 0.1 to 10 nm in 1 2 5 sequence                                                        |
| Fwhm Of Less Than 0.08 nm Setting                                   | 0.065 nm plus or minus 15 percent                                                                           |
| Amplitude Calibration Accuracy At Minus 30 dBm 1300 nm              | plus or minus 0.5 dB                                                                                        |
| Scale Fidelity Autorange Off                                        | plus or minus 0.05 dB                                                                                       |
| Scale Fidelity Autorange On                                         | plus or minus 0.07 dB                                                                                       |
| Flatness 1290 To 1330 nm                                            | plus or minus 0.25 dB                                                                                       |
| Flatness 1530 To 1570 nm                                            | plus or minus 0.2 dB                                                                                        |
| Polarization Dependence 1300 To 1320 nm                             | plus or minus 0.125 dB                                                                                      |
| Polarization Dependence 1542 To 1562 nm                             | plus or minus 0.05 dB                                                                                       |
| Sensitivity 1200 To 1600 nm                                         | minus 90 dBm                                                                                                |
| Sensitivity 900 To 1200 nm                                          | minus 75 dBm                                                                                                |
| Dynamic Range 0.2 nm Res Greater Than Or Equal Plus Or Minus 0.5 nm | minus 58 dB                                                                                                 |
| Dynamic Range 0.2 nm Res Greater Than Or Equal Plus Or Minus 1 nm   | minus 65 dB Dynamic Range 0.1 nm Res Greater Than Or Equal Plus Or Minus 0.4 nm Characteristic: minus 60 dB |
| Compression Level 0.05 dB                                           | greater than or equal to 10 dBm                                                                             |
| Maximum Safe Input                                                  | plus 20 dBm per 5 nm plus 30 dBm total                                                                      |

| PARAMETER             | VALUE                                                      |
|-----------------------|------------------------------------------------------------|
| Maximum Sweep Rate    | 40 nm per 50 ms                                            |
| System Dimensions     | 222 mmHx 425.4 mmWx 526 mmDS<br>System Mass: 28 kg         |
| Module Mass 70952B    | 8 kg                                                       |
| Operating Temperature | 0 to plus 55 C                                             |
| Line Power Maximum    | 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                                                                                                                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature | 0 to plus 55 C                                                                                                                                                                                         |
| Operating Temperature | 0 to plus 55 C                                                                                                                                                                                         |
| Line Power Maximum    | 260 W (350 VA) Notes From HP 71450B/71451B/71452B Technical Specifications 5963-7040E 71452B column. 71452B includes HP 70952B. Option 122 improves dynamic range and noise-marker bandwidth accuracy. |

# 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 diffraction-grating OSA system that includes the HP 70952B module. OEM 5963-7040E lists tighter wavelength accuracy after user cal (plus or minus 0.2 nm), improved scale fidelity, polarization dependence as low as plus or minus 0.05 dB in the C-band window, and Option 122 improved dynamic range.

Applications

Precision DFB laser and DWDM component spectral analysis requiring tighter wavelength and polarization performance than the 71450B baseline.

Key Features

Plus or minus 0.2 nm absolute accuracy after user cal

Improved polarization dependence in C-band

Option 122 improved dynamic range and noise marker accuracy

EDFA test personalities included

Includes HP 70952B OSA module

Technical Specifications

## Specifications

| PARAMETER             | VALUE                            |
|-----------------------|----------------------------------|
| Maximum Sweep Rate    | 40 nm per 50 ms                  |
| System Dimensions     | 222 mm H x 425.4 mm W x 526 mm D |
| System Mass           | 28 kg                            |
| Module Mass 70952B    | 8 kg                             |
| Operating Temperature | 0 to plus 55 C                   |
| Line Power Maximum    | 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 0.2 nm               |

Absolute Accuracy After User Cal Within 40 nm: plus or minus 0.05 nm

## Specifications

| PARAMETER                           | VALUE                                                |
|-------------------------------------|------------------------------------------------------|
| Span Linearity 1530 To 1570 nm      | plus or minus 0.02 nm                                |
| Wavelength Reproducibility 1 Minute | plus or minus 0.001 nm                               |
| Resolution Bandwidth Fwhm           | less than 0.08 nm and 0.1 to 10 nm in 1 2 5 sequence |

| PARAMETER                         | VALUE                             |
|-----------------------------------|-----------------------------------|
| Fwhm Of Less Than 0.08 nm Setting | 0.065 nm plus or minus 15 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 0.05 dB  |
| Scale Fidelity Autorange On             | plus or minus 0.07 dB  |
| Flatness 1290 To 1330 nm                | plus or minus 0.25 dB  |
| Flatness 1530 To 1570 nm                | plus or minus 0.2 dB   |
| Polarization Dependence 1300 To 1320 nm | plus or minus 0.125 dB |
| Polarization Dependence 1542 To 1562 nm | plus or minus 0.05 dB  |
| Sensitivity 1200 To 1600 nm             | minus 90 dBm           |
| Sensitivity 900 To 1200 nm              | minus 75 dBm           |

Dynamic Range 0.2 nm Res Greater Than Or Equal Plus Or Minus 0.5 nm: minus 58 dB  
Dynamic Range 0.2 nm Res Greater Than Or Equal Plus Or Minus 1 nm: minus 65 dB  
Dynamic Range 0.1 nm Res Greater Than Or Equal Plus Or Minus 0.4 nm Characteristic: minus 60 dB  
Option 122 Dynamic Range Chop Mode: minus 70 dB at plus or minus 0.5 nm plus or minus 1 nm and plus or minus 5 nm  
Compression Level 0.05 dB: greater than or equal to 10 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                               |
| System Dimensions     | 222 mmHx 425.4 mmWx 526 mmDSystem Mass: 28 kg |
| Module Mass 70952B    | 8 kg                                          |
| Operating Temperature | 0 to plus 55 C                                |
| Line Power Maximum    | 260 W (350 VA)                                |

Notes  
From HP 71450B/71451B/71452B Technical Specifications 5963-7040E 71452B column. 71452B includes HP 70952B.  
Option 122 improves dynamic range and noise-marker bandwidth accuracy.

## Ordering Information

| OPTION     | DESCRIPTION             |
|------------|-------------------------|
| Option 122 | improved dynamic range. |

### Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: [sales@aumictech.com](mailto:sales@aumictech.com) · +1 (484) 841-9341

#### Aumictech

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