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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 86140B Standard Performance Optical Spectrum Analyzer

HP Agilent 86140B Optical Spectrum Analyzer The Agilent 86140B is a benchtop optical spectrum analyzer for single-mode WDM and photonic component characterization. OEM specifications cover wavelength accuracy in the picometer class, wide dynamic range, and swept measurements across the 600 to 1700 nm class family range depending on options. DWDM channel analysis, laser spectral characterization, OSNR measurements, and photonic component spectral response testing. Markers and automated WDM analysis functions The Agilent 86140B is a benchtop optical spectrum analyzer for single-mode WDM and photonic component characterization. OEM specifications cover wavelength accuracy in the picometer class, wide dynamic range, and swept measurements across the 600 to 1700 nm class family range depending on options. DWDM channel analysis, laser spectral characterization, OSNR measurements, and photonic component spectral response testing. Markers and automated WDM analysis functions Instrument Type: Optical spectrum analyzer



MODEL

**Agilent / Keysight
86140B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

86140B

LISTING

<https://aumictechlabs.com/products/86140b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 86140B is a standard performance optical spectrum analyzer delivering precise spectral measurement across the 600 nm to 1700 nm wavelength range. Built for

telecommunications, photonics, research, and manufacturing applications, it combines fast sweep speeds, high sensitivity, and accurate amplitude characterization essential for optical component and system evaluation.

Technical Specifications

Wavelength Performance Range: 600 nm to 1700 nm Span: 0.2 nm to full range; zero span capable Accuracy: ± 0.01 nm (1480–1570 nm with internal calibration and enhanced mode); ± 0.025 nm (1570–1620 nm); ± 0.2 nm (user calibration); ± 0.5 nm (factory calibration, 2-year cycle) Linearity: ± 0.01 nm (1525–1570 nm) Repeatability: ± 0.002 nm wavelength; ± 0.003 nm tuning Span linearity: ± 0.05 nm (<40 nm spans); ± 0.02 nm (1525–1570 nm) Resolution Bandwidth (RBW) Selectable FWHM: 0.06 nm, 0.1 nm, 0.2 nm, 0.3 nm, 0.5 nm, 1 nm, 2 nm, 5 nm, 10 nm RBW accuracy: $\pm 4\%$ (≥ 0.5 nm); $\pm 6\%$ (0.2 nm); $\pm 12\%$ (0.1 nm) [1525–1610 nm] Amplitude Characteristics Dynamic range: -70 dB Maximum input power: $+20$ dBm Accuracy at -20 dBm (1550 nm, 20–30°C): ± 0.35 dB Polarization dependency: ± 0.5 dB (1250–1650 nm) Scale fidelity: ± 0.05 dB (fixed reference); ± 0.07 dB (variable reference) [≤ 0 dBm inputs] Sweep Performance Maximum sweep rate: 40 nm/50 ms Zero-span sampling: 50 μ s per trace point Sweep cycle time: <180 ms (50 nm, auto zero off); <340 ms (50 nm); <400 ms (100 nm); <650 ms (500 nm) ADC trigger jitter: $<\pm 0.5$ μ s Trigger delay: 2 μ s to 6.5 ms

Key Features Continuously variable span from 0.2 nm with zero-span capability Sub-nanometer wavelength repeatability enables stable optical signal tracking Multiple RBW options from 0.06 nm to 10 nm support both broadband and narrow-line analysis Fast sweep speeds minimize measurement time in production environments High-resolution amplitude characterization with ± 0.35 dB accuracy

Typical Applications Optical component characterization and validation Telecommunications system spectral analysis Photonics research and development Manufacturing quality assurance and process control Wavelength-division multiplexing (WDM) signal monitoring

Compatibility & Integration The 86140B operates within the optical telecommunications bands and integrates with standard laboratory test environments supporting optical measurements from visible through near-infrared wavelengths.

Features & description

From manufacturer datasheet

Polarization Dependence Class: low PDL class sheet

Input Fiber: Single-mode Sweep Modes: Continuous single and repeat Marker Functions: Supported WDM Analysis: Automated channel functions class Remote Interface: GPIB Display: Color graphical display Form Factor: Benchtop OSA Operating Temperature Class: 0 C to 55 C Power Line: 100 to 240 V class Series Family: Agilent 8614x optical spectrum analyzers Minimum Displayable Power Class: -90 dBm class sheet Maximum Input Power Class: plus 10 dBm to plus 20 dBm damage dependent Sensitivity Class: -90 dBm class Connector Interface Class: FC PC APC options Wavelength Repeatability Class: picometer class OEM sheet Notes From Agilent 86140B optical spectrum analyzer data sheet. Exact wavelength span, RBW, and dynamic-range figures depend on options and calibration certificate.

86140B Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Optical spectrum analyzer
Wavelength Range Class	600 nm to 1700 nm option dependent
Wavelength Accuracy Class	plus or minus 0.01 nm class midband OEM sheet
Wavelength Resolution Bandwidth Class	0.06 nm and wider settings class
Dynamic Range Class	greater than 70 dB class close-in OEM sheet
Amplitude Accuracy Class	plus or minus 0.4 dB class
Polarization Dependence Class	low PDL class sheet
Input Fiber	Single-mode
Sweep Modes	Continuous single and repeat
Marker Functions	Supported
WDM Analysis	Automated channel functions class
Remote Interface	GPIB
Display	Color graphical display
Form Factor	Benchtop OSA
Operating Temperature Class	0 C to 55 C
Power Line	100 to 240 V class
Series Family	Agilent 8614x optical spectrum analyzers
Minimum Displayable Power Class	-90 dBm class sheet
Maximum Input Power Class	plus 10 dBm to plus 20 dBm damage dependent
Sensitivity Class	-90 dBm class
Connector Interface Class	FC PC APC options
Wavelength Repeatability Class	picometer class OEM sheet
Wavelength range	Class: 600 nm to 1700 nm option dependent
Wavelength resolution	Bandwidth Class: 0.06 nm and wider settings class
Bandwidth	Class: 0.06 nm and wider settings class

PARAMETER	VALUE
Wavelength repeatability	Class: picometer class OEM sheet
Operating temperature	Class: 0 C to 55 C

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	Class: 0 C to 55 C
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Operating Temperature Class	0 C to 55 C
Power Line	100 to 240 V class
Series Family	Agilent 8614x optical spectrum analyzers
Minimum Displayable Power Class	-90 dBm class sheet
Maximum Input Power Class	plus 10 dBm to plus 20 dBm damage dependent
Sensitivity Class	-90 dBm class
Connector Interface Class	FC PC APC options
Wavelength Repeatability Class	picometer class OEM sheet Notes From Agilent 86140B optical spectrum analyzer data sheet. Exact wavelength span, RBW, and dynamic-range figures depend on options and calibration certificate.

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 cover wavelength accuracy in the picometer class, wide dynamic range, and swept measurements across the 600 to 1700 nm class family range depending on options.

Applications

DWDM channel analysis, laser spectral characterization, OSNR measurements, and photonic component spectral response testing.

Key Features

Benchtop OSA for telecom wavelengths

Picometer-class wavelength accuracy

Wide dynamic range spectral sweeps

Markers and automated WDM analysis functions

GPIB remote control

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Instrument Type	Optical spectrum analyzer
Wavelength Range Class	600 nm to 1700 nm option dependent
Wavelength Accuracy Class	plus or minus 0.01 nm class midband OEM sheet
Wavelength Resolution Bandwidth Class	0.06 nm and wider settings class
Dynamic Range Class	greater than 70 dB class close-in OEM sheet
Amplitude Accuracy Class	plus or minus 0.4 dB class
Polarization Dependence Class	low PDL class sheet
Input Fiber	Single-mode
Sweep Modes	Continuous single and repeat
Marker Functions	Supported
WDM Analysis	Automated channel functions class
Remote Interface	GPIB
Display	Color graphical display
Form Factor	Benchtop OSA
Operating Temperature Class	0 C to 55 C
Power Line	100 to 240 V class
Series Family	Agilent 8614x optical spectrum analyzers
Minimum Displayable Power Class	-90 dBm class sheet
Maximum Input Power Class	plus 10 dBm to plus 20 dBm damage dependent
Sensitivity Class	-90 dBm class

PARAMETER	VALUE
Connector Interface Class	FC PC APC options
Wavelength Repeatability Class	picometer class OEM sheet

Notes

From Agilent 86140B optical spectrum analyzer data sheet. Exact wavelength span, RBW, and dynamic-range figures depend on options and calibration certificate.

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.