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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 86140A Standard Performance Optical Spectrum Analyzer

The Agilent 86140A is a grating-based optical spectrum analyzer covering 600 nm to 1700 nm. OEM 86140A family technical specifications list ± 0.05 nm accuracy after internal wavelength calibration, sensitivity to minus 90 dBm from 1250 to 1610 nm, and benchtop packaging. WDM channel characterization, source and amplifier spectral tests, and portable or benchtop OSA measurements from 600 to 1700 nm. Double-pass monochromator architecture for sensitivity and dynamic range. Built-in applications for repetitive WDM, amplifier, and source tests. Max Sweep Rate Characteristic: 40 nm / 56.3 ms characteristic Sweep Cycle 50 Nm Auto Zero Off: less than 180 ms characteristic Line Voltage: 90 Vac to 260 Vac, 44 to 444 Hz. Numeric rows from Agilent 86140A Optical Spectrum Analyzer Family Technical Specifications. Specs apply after 1 hour warm-up and auto-align, 0 to 55 C, unless noted. Sensitivity is signal greater than 6 times RMS noise.



MODEL

**Agilent / Keysight
86140A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

86140A

LISTING

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

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 86140A is a benchtop optical spectrum analyzer for wavelength measurement and optical component characterization in telecommunications and research environments. It combines high wavelength accuracy, broad spectral coverage, and fast sweep

times to support DWDM system analysis, laser diode testing, amplifier evaluation, and passive component validation. The instrument delivers repeatability of ± 0.003 nm, dynamic range exceeding 58 dB, and configurable resolution bandwidths from 0.07 nm to 10 nm FWHM. Technical Specifications Wavelength Performance Range: 600 nm to 1700 nm Span: Continuously variable from 0.2 nm to full range; zero span capable Accuracy (internal reference, 1510–1570 nm): ± 0.025 nm Accuracy (internal reference, 1570–1640 nm): ± 0.035 nm Reproducibility (≤ 1 min): ± 0.003 nm Tuning repeatability: ± 0.003 nm Absolute accuracy (factory calibration, 2-year cycle): ± 0.5 nm Resolution & Amplitude Resolution bandwidth (FWHM selectable): 0.07, 0.1, 0.2, 0.5, 1, 2, 5, 10 nm Dynamic range: >58 dB (at ± 0.4 nm from peak wavelength) Optical sensitivity: -90 dBm minimum Display: Log scale Sweep Performance 50 nm span (auto zero off): <180 ms 50 nm span (auto zero on): <340 ms 100 nm span: <400 ms 500 nm span: <650 ms Optical Interface Connector options: FC/PC, SC/PC, DIN, ST Fiber sizes supported: 9 mm, 50 mm, 62.5 mm Maximum input power: $+30$ dBm total; $+12$ dBm per channel Key Features Filter mode for selective channel measurement Built-in calibration with internal wavelength reference signal Multiple user calibration options (± 40 nm local or full range) Four specialized measurement applications Built-in Applications DWDM Spectral Analysis Passive Component Test Amplifier Test Source Test Compatibility & Integration Remote operation supported. Front-panel fiber-optic adapters available for flexible optical coupling.

Features & description

From manufacturer datasheet

Built-in applications for repetitive WDM, amplifier, and source tests

GPIB, floppy disk, and VGA monitor output Optional EELED sources and wavelength calibrator
 Benchtop platform Technical Specifications Model: 86140A Instrument Type: Optical spectrum analyzer
 Series Family: Agilent 8614xA Form Factor: Benchtop Weight: 16.5 kg Dimensions: 222 mmHx 425
 mmWx 427 mmDWavelength Range: 600 nm to 1700 nm Span Range: 0.2 nm to full range and zero
 span Tuning Repeatability: ± 0.002 nm Wavelength Reproducibility One Minute: ± 0.002 nm Absolute
 Accuracy Factory Two Year: ± 0.5 nm Resolution Bandwidths Fwhm: 0.07, 0.1, 0.2, 0.5, 1, 2, 5, 10 nm

Polarization Dependence 1550 Nm: ± 0.2 dB

Dynamic Range At ± 0.2 Nm 1550 Nm: minus 40 dB characteristic Maximum Measurement Power 1525
 To 1700 Nm: +15 dBm per channel, +30 dBm total Maximum Safe Power Total: +30 dBm Maximum Safe
 Power In 10 Nm: +23 dBm Calibration Accuracy At Minus 20 Dbm: ± 0.5 dB at 1310 nm/1550 nm,
 resolution ≥ 0.1 nm Display Scale: 0.01 to 20 dB/div, minus 120 to +90 dBm Amplitude Stability One
 Minute: ± 0.01 dB Amplitude Stability Fifteen Minutes: ± 0.02 dB Input Return Loss Straight: greater than
 35 dB, 9/125 μ m Max Sweep Rate Characteristic: 40 nm / 56.3 ms characteristic Sweep Cycle 50 Nm
 Auto Zero Off: less than 180 ms characteristic Operating Temperature: 0 C to 55 C Storage
 Temperature: minus 40 C to 70 C Line Voltage: 90 Vac to 260 Vac, 44 to 444 Hz Maximum Power
 Consumption: 230 W Remote Interface: GPIB IEEE-488.1/488.2 Notes Numeric rows from Agilent
 86140A Optical Spectrum Analyzer Family Technical Specifications. Specs apply after 1 hour warm-up
 and auto-align, 0 to 55 C, unless noted. Sensitivity is signal greater than 6 times RMS noise.

86140A Characteristics / Specifications

PARAMETER	VALUE
Model	86140A
Instrument Type	Optical spectrum analyzer
Series Family	Agilent 8614xA
Form Factor	Benchtop
Weight	16.5 kg
Dimensions	222 mmHx 425 mmWx 427 mmDWavelength Range: 600 nm to 1700 nm
Span Range	0.2 nm to full range and zero span
Tuning Repeatability	±0.002 nm
Wavelength Reproducibility One Minute	±0.002 nm
Absolute Accuracy Factory Two Year	±0.5 nm
Resolution Bandwidths Fwhm	0.07, 0.1, 0.2, 0.5, 1, 2, 5, 10 nm
Polarization Dependence 1310 Nm	±0.25 dB
Polarization Dependence 1550 Nm	±0.2 dB
Maximum Measurement Power 1525 To 1700 Nm	+15 dBm per channel, +30 dBm total
Maximum Safe Power Total	+30 dBm
Maximum Safe Power In 10 Nm	+23 dBm
Calibration Accuracy At Minus 20 Dbm	±0.5 dB at 1310 nm/1550 nm, resolution ≥0.1 nm
Display Scale	0.01 to 20 dB/div, minus 120 to +90 dBm
Amplitude Stability One Minute	±0.01 dB
Amplitude Stability Fifteen Minutes	±0.02 dB
Input Return Loss Straight	greater than 35 dB, 9/125 um
Max Sweep Rate Characteristic	40 nm / 56.3 ms characteristic
Sweep Cycle 50 Nm Auto Zero Off	less than 180 ms characteristic
Operating Temperature	0 C to 55 C

PARAMETER	VALUE
Storage Temperature	minus 40 C to 70 C
Line Voltage	90 Vac to 260 Vac, 44 to 444 Hz
Maximum Power Consumption	230 W
Remote Interface	GPIO IEEE-488.1/488.2
Wavelength range	600 nm to 1700 nm
Return loss	Straight: greater than 35 dB, 9/125 um

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	minus 40 C to 70 C
Operating temperature	0 C to 55 C
Operating Temperature	0 C to 55 C
Line Voltage	90 Vac to 260 Vac, 44 to 444 Hz
Maximum Power Consumption	230 W
Remote Interface	GPIB IEEE-488.1/488.2 Notes Numeric rows from Agilent 86140A Optical Spectrum Analyzer Family Technical Specifications. Specs apply after 1 hour warm-up and auto-align, 0 to 55 C, unless noted. Sensitivity is signal greater than 6 times RMS noise.

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 list ± 0.05 nm accuracy after internal wavelength calibration, sensitivity to minus 90 dBm from 1250 to 1610 nm, and benchtop packaging.

Applications

WDM channel characterization, source and amplifier spectral tests, and portable or benchtop OSA measurements from 600 to 1700 nm.

Key Features

Double-pass monochromator architecture for sensitivity and dynamic range

Built-in applications for repetitive WDM, amplifier, and source tests

GPIB, floppy disk, and VGA monitor output

Optional EELED sources and wavelength calibrator

Benchtop platform

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	86140A
Instrument Type	Optical spectrum analyzer
Series Family	Agilent 8614xA
Form Factor	Benchtop
Weight	16.5 kg
Dimensions	222 mm H x 425 mm W x 427 mm D
Wavelength Range	600 nm to 1700 nm
Span Range	0.2 nm to full range and zero span
Tuning Repeatability	± 0.002 nm
Wavelength Reproducibility One Minute	± 0.002 nm
Absolute Accuracy Factory Two Year	± 0.5 nm
Resolution Bandwidths Fwhm	0.07, 0.1, 0.2, 0.5, 1, 2, 5, 10 nm
Polarization Dependence 1310 Nm	± 0.25 dB
Polarization Dependence 1550 Nm	± 0.2 dB

Technical Specifications

PARAMETER	VALUE
Model	86140A
Instrument Type	Optical spectrum analyzer
Series Family	Agilent 8614xA

PARAMETER	VALUE
Form Factor	Benchtop
Weight	16.5 kg
Dimensions	222 mmHx 425 mmWx 427 mmDWavelength Range: 600 nm to 1700 nm
Span Range	0.2 nm to full range and zero span
Tuning Repeatability	±0.002 nm
Wavelength Reproducibility One Minute	±0.002 nm
Absolute Accuracy Factory Two Year	±0.5 nm
Resolution Bandwidths Fwhm	0.07, 0.1, 0.2, 0.5, 1, 2, 5, 10 nm
Polarization Dependence 1310 Nm	±0.25 dB
Polarization Dependence 1550 Nm	±0.2 dB

Dynamic Range At ±0.2 Nm 1550 Nm: minus 40 dB characteristic

Specifications

PARAMETER	VALUE
Maximum Measurement Power 1525 To 1700 Nm	+15 dBm per channel, +30 dBm total
Maximum Safe Power Total	+30 dBm
Maximum Safe Power In 10 Nm	+23 dBm
Calibration Accuracy At Minus 20 Dbm	±0.5 dB at 1310 nm/1550 nm, resolution ≥0.1 nm
Display Scale	0.01 to 20 dB/div, minus 120 to +90 dBm
Amplitude Stability One Minute	±0.01 dB
Amplitude Stability Fifteen Minutes	±0.02 dB
Input Return Loss Straight	greater than 35 dB, 9/125 um
Max Sweep Rate Characteristic	40 nm / 56.3 ms characteristic
Sweep Cycle 50 Nm Auto Zero Off	less than 180 ms characteristic
Operating Temperature	0 C to 55 C
Storage Temperature	minus 40 C to 70 C
Line Voltage	90 Vac to 260 Vac, 44 to 444 Hz
Maximum Power Consumption	230 W
Remote Interface	GPIO IEEE-488.1/488.2

Notes
Numeric rows from Agilent 86140A Optical Spectrum Analyzer Family Technical Specifications. Specs apply after 1 hour warm-up and auto-align, 0 to 55 C, unless noted. Sensitivity is signal greater than 6 times RMS noise.

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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<https://aumictechlabs.com>

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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.