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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 86145A Optical Spectrum Analyzer-portable unit

The Agilent 86145A is a grating-based optical spectrum analyzer covering 600 nm to 1700 nm. OEM 86140A family technical specifications list high-accuracy portable OSA with 0.06 nm FWHM resolutions, sensitivity to minus 90 dBm from 1250 to 1610 nm, and portable 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.



MODEL

**Agilent / Keysight
86145A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

86145A

LISTING

<https://aumictechlabs.com/products/86145a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 86145A is a portable optical spectrum analyzer delivering precise wavelength and spectral characterization across 600 nm to 1700 nm. Field-deployable at 14.5 kg, it combines high-resolution measurement capability with rapid sweep performance for telecommunications, CATV, and research environments. Technical Specifications Wavelength Range: 600 nm to 1700 nm with continuously variable span from 0.2 nm to full range. Wavelength accuracy reaches ± 0.025 nm (1510–1570 nm) after internal calibration, with ± 10 pm repeatability between 1480–1565 nm using the internal gas cell calibrator. Tuning repeatability is ± 0.003 nm;

span linearity maintains ± 0.05 nm for spans under 40 nm and ± 0.02 nm in the 1525–1570 nm window. Spectral resolution bandwidth (FWHM) is selectable from 0.06 nm to 10 nm across eight discrete steps. Sensitivity varies by band: -60 dBm (600–750 nm), -75 dBm (750–1250 nm), -90 dBm (1250–1610 nm), and -80 dBm (1610–1700 nm). Dynamic range achieves -70 dB at 0.5 nm resolution. Sweep performance enables minimum cycle times of 180 ms (50 nm span, auto zero off) to 650 ms (500 nm span). Maximum sweep rate is 40 nm/50 ms. Zero-span sampling reaches 50 μ s per trace point with ADC trigger jitter under ± 0.5 μ s. Amplitude measurement accuracy is ± 0.05 dB with scale fidelity of ± 0.05 dB for fixed reference levels. Maximum safe input is +20 dBm instantaneous and +30 dBm total.

Key Features

- Portable form factor: 163 mm $\times$ 325 mm $\times$ 427 mm
- Operating range: 0°C to 55°C; storage to 70°C
- Humidity rated to 95% RH non-condensing
- Integrated gas cell calibration for repeatable ± 10 pm accuracy
- User calibration options with ± 0.05 nm accuracy within ± 40 nm of calibration signal
- Factory calibration cycle: ± 0.5 nm absolute accuracy (2-year cycle)

Typical Applications

- Field deployment for fiber optic installation and maintenance.
- Component characterization in wavelength-division multiplexing systems.
- Broadband source spectral analysis and system validation across visible and near-infrared bands.

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 Portable platform Technical Specifications Model: 86145A Instrument Type: Optical spectrum analyzer Series Family: Agilent 8614xA Form Factor: Portable Weight: 14.5 kg Dimensions: 163 mmHx 325 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: 0.06, 0.1, 0.2, 0.5, 1, 2, 5, 10 nm

Polarization Dependence 1550 Nm: ± 0.05 dB

Dynamic Range At ± 0.2 Nm 1550 Nm: minus 40 dB at ± 0.2 nm; minus 55 dB at ± 0.4 nm class high-accuracy column 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.

86145A Characteristics / Specifications

PARAMETER	VALUE
Model	86145A
Instrument Type	Optical spectrum analyzer
Series Family	Agilent 8614xA
Form Factor	Portable
Weight	14.5 kg
Dimensions	163 mmHx 325 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	0.06, 0.1, 0.2, 0.5, 1, 2, 5, 10 nm
Polarization Dependence 1310 Nm	±0.12 dB
Polarization Dependence 1550 Nm	±0.05 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	GPIB 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
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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 high-accuracy portable OSA with 0.06 nm FWHM resolutions, sensitivity to minus 90 dBm from 1250 to 1610 nm, and portable 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

Portable platform

Technical Specifications

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Model	86145A
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Series Family	Agilent 8614xA
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Wavelength Reproducibility One Minute	±0.002 nm
Absolute Accuracy Factory Two Year	±0.5 nm
Resolution Bandwidths Fwhm	0.06, 0.1, 0.2, 0.5, 1, 2, 5, 10 nm
Polarization Dependence 1310 Nm	±0.12 dB
Polarization Dependence 1550 Nm	±0.05 dB

Technical Specifications

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Polarization Dependence 1550 Nm	±0.05 dB

Dynamic Range At ±0.2 Nm 1550 Nm: minus 40 dB at ±0.2 nm; minus 55 dB at ±0.4 nm class high-accuracy column

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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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.