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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 86145B Portable High Performance Optical Spectrum Analyzer

The Agilent 86145B is the high-performance portable 8614xB optical spectrum analyzer. OEM 8614xB data sheet lists 600 to 1700 nm, ± 0.01 nm wavelength accuracy after enhanced internal calibration (1570 to 1620 nm), minus 70 dB dynamic range at $\pm 0.5/1/5$ nm, and 14.5 kg portable packaging. Critical WDM system and component characterization in a portable package; close-in 50 GHz channel measurements; amplifier and source spectral tests. High-performance portable OSA (pair to benchtop 86142B) Minus 70 dB chop-mode dynamic range class Maximum Measurement Power 1525 To 1700 Nm: +15 dBm per channel, +30 dBm total Calibration Accuracy At Minus 20 Dbm: ± 0.5 dB at 1310/1550 nm Line Voltage: 90 Vac to 260 Vac, 44 to 444 Hz Numeric rows from Agilent 8614xB Optical Spectrum Analyzer Family Technical Specifications 5980-0177E. High-performance column applies to 86142B/86145B/86146B.



MODEL

**Agilent / Keysight
86145B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

86145B

LISTING

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

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 86145B is a portable optical spectrum analyzer engineered for field deployment without sacrificing benchtop performance. Weighing 31 lbs with a 12.8" × 16.8" footprint, it delivers precise power and wavelength measurements across the 600–1700 nm range.

The instrument excels in 50 GHz and wider WDM applications, where channel discrimination and spectral purity analysis are mission-critical.

Technical Specifications

Wavelength Coverage & Accuracy

Measurement range: 600 nm to 1700 nm Span capability: 0.2 nm to full range; zero span supported Wavelength accuracy after internal calibration: ± 0.025 nm (1510–1570 nm), ± 0.035 nm (1570–1640 nm) User calibration accuracy: ± 0.05 nm (within ± 40 nm of signal), ± 0.2 nm (full range) Absolute accuracy (2-year factory cycle): ± 0.5 nm Reproducibility (≤ 1 min): ± 0.003 nm; tuning repeatability: ± 0.003 nm Enhanced accuracy with internal gas cell: ± 10 pm (1480–1565 nm)

Resolution & Dynamic Range

Selectable resolution bandwidth (FWHM): 0.06 nm, 0.1 nm, 0.2 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) in 1525–1610 nm region Dynamic range at 0.5 nm offset: -70 dB; chop mode (1250–1610 nm): -70 dB Offset-dependent: -60 dB (± 0.8 nm), -58 dB (± 0.5 nm), -55 dB (± 0.4 nm), -40 dB (± 0.2 nm) at 1550 nm Power Measurement Amplitude accuracy at -20 dBm (1550 nm, 20–30°C): ± 0.35 dB Safe input levels: +20 dBm maximum; +15 dBm per channel (1525–1700 nm), +30 dBm total Scale fidelity: ± 0.07 dB (autorange off), ± 0.05 dB (≤ 0 dBm inputs, characteristic) Amplitude stability (1 minute): ± 0.01 dB; flatness (1290–1330 nm): ± 0.2 dB Polarization dependence (1310 nm): ± 0.25 dB Sweep Performance Maximum sweep rate: 40 nm/50 ms Zero-span sampling: 50 μ s per trace point Sweep cycles: <180 ms (50 nm span, auto zero off), <340 ms (50 nm span), <400 ms (100 nm span), <650 ms (500 nm span)

Key Features

Built-in test applications including Amplifier Test, Source Test, and WDM Test Compact, field-portable architecture optimized for demanding environments High wavelength reproducibility and tuning stability for dense WDM systems Flexible resolution bandwidth selection for narrowband and broadband analysis

Typical Applications

WDM system commissioning and maintenance Optical amplifier characterization Light source quality verification Channel power and isolation measurements

Features & description

From manufacturer datasheet

Built-in WDM, amplifier, and source applications

Optional wavelength calibrator Technical Specifications Model: 86145B Instrument Type: Optical spectrum analyzer Series Family: Agilent 8614xB 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 Wavelength Accuracy Enhanced Cal 1570 To 1620 Nm: ± 0.01 nm Wavelength Accuracy Enhanced Cal 1480 To 1570 Nm: ± 0.025 nm Tuning Repeatability: ± 0.002 nm Span Linearity 1525 To 1570 Nm: ± 0.01 nm characteristic, spans less than 40 nm, 20 to 30 C Sensitivity 1250 To 1610 Nm: minus 90 dBm Dynamic Range Chop Mode ± 0.5 Nm: minus 70 dB, 1250 to 1610 nm Dynamic Range At ± 0.8 Nm 1550 Nm: minus 60 dB Dynamic Range At ± 0.5 Nm 1550 Nm: minus 58 dB Dynamic Range At ± 0.4 Nm 1550 Nm: minus 55 dB Dynamic Range At ± 0.2 Nm 1550 Nm: minus 40 dB

Polarization Dependence 1530 1565 Nm: ± 0.05 dB, resolution ≥ 0.2 nm

Flatness 1525 To 1570 Nm: ± 0.2 dB Maximum Measurement Power 1525 To 1700 Nm: +15 dBm per channel, +30 dBm total Calibration Accuracy At Minus 20 Dbm: ± 0.5 dB at 1310/1550 nm 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 8614xB Optical Spectrum Analyzer Family Technical Specifications 5980-0177E. High-performance column applies to 86142B/86145B/86146B.

86145B Characteristics / Specifications

PARAMETER	VALUE
Model	86145B
Instrument Type	Optical spectrum analyzer
Series Family	Agilent 8614xB
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
Wavelength Accuracy Enhanced Cal 1570 To 1620 Nm	±0.01 nm
Wavelength Accuracy Enhanced Cal 1480 To 1570 Nm	±0.025 nm
Tuning Repeatability	±0.002 nm
Span Linearity 1525 To 1570 Nm	±0.01 nm characteristic, spans less than 40 nm, 20 to 30 C
Sensitivity 1250 To 1610 Nm	minus 90 dBm
Polarization Dependence 1530 1565 Nm	±0.05 dB, resolution ≥0.2 nm
Flatness 1525 To 1570 Nm	±0.2 dB
Maximum Measurement Power 1525 To 1700 Nm	+15 dBm per channel, +30 dBm total
Calibration Accuracy At Minus 20 Dbm	±0.5 dB at 1310/1550 nm
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	GPIO IEEE-488.1/488.2
Wavelength range	600 nm to 1700 nm

86145B Specifications

PARAMETER	VALUE
Agilent 86145B Optical Spectrum Analyzer	Overview
Key Features	High-performance portable OSA (pair to benchtop 86142B)
Technical Specifications	Model: 86145B

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
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 8614xB Optical Spectrum Analyzer Family Technical Specifications 5980-0177E. High-performance column applies to 86142B/86145B/86146B.

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 portable 8614xB optical spectrum analyzer. OEM 8614xB data sheet lists 600 to 1700 nm, ± 0.01 nm wavelength accuracy after enhanced internal calibration (1570 to 1620 nm), minus 70 dB dynamic range at $\pm 0.5/1/5$ nm, and 14.5 kg portable packaging.

Applications

Critical WDM system and component characterization inaportable package; close-in 50 GHz channel measurements; amplifier and source spectral tests.

Key Features

High-performance portable OSA (pair to benchtop 86142B)

Minus 70 dB chop-mode dynamic range class

± 0.05 dB polarization dependence at 1530/1565 nm

Built-in WDM, amplifier, and source applications

Optional wavelength calibrator

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	86145B
Instrument Type	Optical spectrum analyzer
Series Family	Agilent 8614xB
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

Wavelength Accuracy Enhanced Cal 1570 To 1620 Nm: ± 0.01 nm

Wavelength Accuracy Enhanced Cal 1480 To 1570 Nm: ± 0.025 nm

Specifications

PARAMETER	VALUE
Tuning Repeatability	± 0.002 nm
Span Linearity 1525 To 1570 Nm	± 0.01 nm characteristic, spans less than 40 nm, 20 to 30 C
Sensitivity 1250 To 1610 Nm	minus 90 dBm

Dynamic Range Chop Mode ± 0.5 Nm: minus 70 dB, 1250 to 1610 nm

Dynamic Range At ± 0.8 Nm 1550 Nm: minus 60 dB

Dynamic Range At ± 0.5 Nm 1550 Nm: minus 58 dB

Dynamic Range At ± 0.4 Nm 1550 Nm: minus 55 dB

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

Specifications

PARAMETER	VALUE
Polarization Dependence 1530 1565 Nm	±0.05 dB, resolution ≥0.2 nm
Flatness 1525 To 1570 Nm	±0.2 dB
Maximum Measurement Power 1525 To 1700 Nm	+15 dBm per channel, +30 dBm total
Calibration Accuracy At Minus 20 Dbm	±0.5 dB at 1310/1550 nm
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 8614xB Optical Spectrum Analyzer Family Technical Specifications 5980-0177E. High-performance column applies to 86142B/86145B/86146B.

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.