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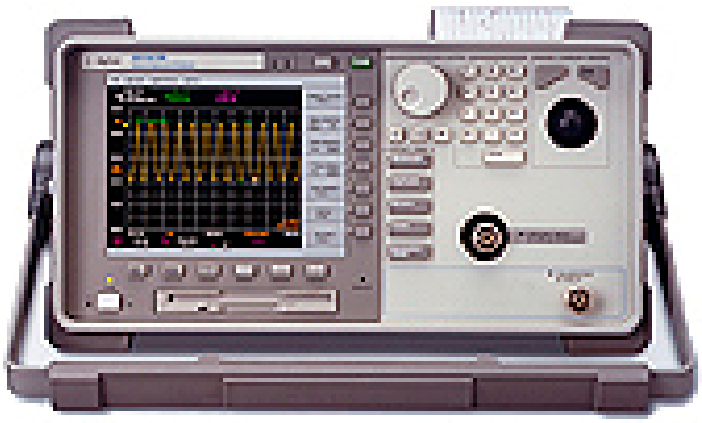
Data Sheet
August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 86143A Portable Standard Performance Optical Spectrum Analyzer

The Agilent 86143A isagrating-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 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	CALIBRATION
Agilent / Keysight 86143A	Available on request
CONDITION	STATUS
Used	In stock
RFQ / SKU	LISTING
86143A	https://aumictechlabs.com/products/86143a-2/

NIST-traceable cal · SAM registered · 30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 86143A is a portable optical spectrum analyzer engineered for field and laboratory deployment across optical networks. It delivers precise characterization of optical signals from 600 nm to 1700 nm, making it well-suited for DWDM system analysis, laser diode testing, and optical amplifier characterization. Battery-powered operation and compact form factor enable rapid troubleshooting in central offices and remote field locations without sacrificing measurement accuracy.Technical Specifications Wavelength Performance: Range: 600 nm to 1700 nm Span: 0.2 nm to full range, continuously variable (zero span capable) Wavelength accuracy (after internal calibration, 1510–1570 nm): ±0.025 nm Wavelength accuracy (after internal

calibration, 1570–1640 nm): ±0.035 nm Wavelength accuracy (user calibration within ±40 nm): ±0.05 nm Wavelength accuracy (user calibration, full range): ±0.2 nm Absolute accuracy (2-year factory cycle): ±0.5 nm Reproducibility (≤1 minute): ±0.003 nm Tuning repeatability: ±0.003 nm Resolution Bandwidth: Selectable FWHM: 0.07 nm, 0.1 nm, 0.2 nm, 0.5 nm, 1 nm, 2 nm, 5 nm, 10 nm Power Measurement: Input power range: -90 dBm to -60 dBm Maximum dynamic range: -52 dB Measurement accuracy: ±0.1 dB Power accuracy at -20 dBm (1550 nm, 20–30 °C): ±0.35 dB Maximum safe input: +20 dBm Scale fidelity (fixed reference): ±0.05 dB (characteristic) Scale fidelity (variable reference): ±0.07 dB (characteristic) Sensitivity: Signal > 6× RMS noise Sweep Performance: Minimum sweep time: 180 ms Maximum sweep time: 650 ms 50 nm span (auto zero off): <180 ms 100 nm span: <400 ms 500 nm span: <650 ms Polarization Dependence (characteristic): At ±0.8 nm (±100 GHz @ 1550 nm): -60 dB At ±0.5 nm (±62.5 GHz @ 1550 nm): -58 dB At ±0.4 nm (±50 GHz @ 1550 nm): -55 dB At ±0.2 nm (±25 GHz @ 1550 nm): -40 dBKey Features Portable form factor with battery operation for field deployment Wide spectral coverage (600–1700 nm) from UV to near-infrared Sub-picometer wavelength reproducibility and tuning stability Eight selectable resolution bandwidths for flexible signal analysis Rapid sweep capability (180–650 ms) for real-time monitoringTypical Applications DWDM channel isolation and characterization Laser diode spectral analysis Optical amplifier gain profiling Fiber optic network commissioning and troubleshooting Signal quality verification across telecommunications 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: 86143A 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: 0.07, 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 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: 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.

86143A Characteristics / Specifications

PARAMETER	VALUE
Model	86143A
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	0.07, 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	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 ±0.05 nm accuracy after internal wavelength calibration, 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

Technical Specifications

PARAMETER	VALUE
Model	86143A
Instrument Type	Optical spectrum analyzer
Series Family	Agilent 8614xA
Form Factor	Portable
Weight	14.5 kg
Dimensions	163 mm H x 325 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

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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	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.

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

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