

KEYSIGHT TECHNOLOGIES (AGILENT HP)

86145B

The Agilent Keysight 86145B is a portable, high-performance optical spectrum analyzer designed for 50 GHz and wider Wavelength Division Multiplexing (WDM) systems. It delivers identical measurement capabilities to the benchtop Agilent 86142B but in a smaller footprint and lighter weight, featuring 10 pm wavelength accuracy, fast dual-sweep measurement speeds, and built-in WDM, DFB-LD, and EDFA test applications.

SPECIFICATIONS

General

Interfaces	GPIB, RS-232, Parallel (Centronics), VGA out
Display	6.5-inch active matrix color LCD

Physical

Power Supply	100 to 240 VAC, 50/60 Hz, 150 W max
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	325 mm × 222 mm × 427 mm mm

Wavelength Specifications

Wavelength Range	600 to 1700 nm
Wavelength Linearity	±10 pm (1525 to 1570 nm)
Wavelength Repeatability	±2 pm
Wavelength Span Range	0.2 nm to 1100 nm, plus Zero Span

Optical Power and Amplitude

Power Measurement Range (Sensitivity)	-90 to +15 dBm (1250 to 1610 nm)
Maximum Total Safe Input Power	+20 dBm (total power)
Power Level Accuracy	±0.35 dB
Power Flatness	±0.2 dB (1250 to 1610 nm)
Polarization Dependency (PDL)	±0.12 dB (at 1550 nm)
Level Linearity	±0.05 dB
Optical Return Loss	≥ 35 dB (with straight connector)

Resolution and Bandwidth

Resolution Bandwidth (FWHM)	0.06 to 10 nm
Minimum Resolution Bandwidth	0.06 nm
Maximum Resolution Bandwidth	10 nm
Resolution Bandwidth Accuracy	±3% (0.1, 0.2, 0.5, 1, 2, 5, 10 nm)

Measurement Speed and Sweep

Sweep Time (100nm Span)	180 ms (chop off)
Sampling Points per Sweep	51 to 10001 (user-selectable)

Analysis and Application Software

WDM Analysis Support	OSNR, Channel Power, Channel Wavelength
DFB-LD Analysis Support	Supported
FP-LD Analysis Support	Supported
LED Analysis Support	Supported
EDFA Analysis Support	Gain and Noise Figure
Spectral Width Analysis	Envelope, RMS, and Threshold modes

External Connectivity and Control

GPIO (IEEE-488) Interface	2 ports (one HP-IB/GPIB, one Systems GPIB)
Floppy Disk Drive	3.5-inch 1.44 MB (MS-DOS format)
External Expansion Slot	PCMCIA Type II

Power and Electrical

AC Input Voltage Range	100 to 240 VAC
AC Input Frequency Range	50 to 60 Hz
Power Consumption	150 W max

Physical Characteristics

Footprint	12.8 in × 16.8 in
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Environmental and Regulatory

Warm-up Time	40 minutes
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Inputs & Outputs

External Display Port	VGA, 15-pin D-sub
External Trigger Input	BNC female, TTL compatible
Keyboard and Mouse Interfaces	Two PS/2 mini-DIN ports
Parallel Printer Port	Centronics 25-pin D-sub
Optical Input Connector Type	Interchangeable connector adapters (FC, SC, ST, DIN, HMS-10)

Hardware Features

Internal Printer	Built-in thermal printer
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Options

Built-in EELED Source (Option 002)	Dual-wavelength edge-emitting LED source (1310 nm / 1550 nm)
Current Source Output Range (Option 001)	0 to ±100 mA

Measurement & Control

Remote Control Command Languages	SCPI, HP 71450B emulation
Sweep Trigger Modes	Free Run, External, Single

Optical Input

Fiber Type Compatibility	9/125 μ m single-mode fiber
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Display

Display Size	6.5 in (165 mm) diagonal
Display Type	Active-matrix color LCD

Bandwidth

Resolution Bandwidth Settings	0.07, 0.1, 0.2, 0.5, 1, 2, 5, 10 nm
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Wavelength

Wavelength Display Resolution	0.001 nm
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Power & Amplitude

Amplitude Display Resolution	0.01 dB
Amplitude Scale	0.1 to 20 dB/div, Linear

Measurement

Sweep Trace Points	51 to 10001 (user-selectable)
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TECHNOLOGY

Monochromator-based Optical Spectrum Analyzer

APPLICATIONS

WDM system and component characterization

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.