

KEYSIGHT TECHNOLOGIES (AGILENT HP)

81654A

The Keysight Technologies (formerly Agilent HP) 81654A is a dual-wavelength Fabry-Perot (FP) Laser Source module designed for the 8163A/B, 8164A/B, and 8166A/B Lightwave Multimeter mainframes. Operating at 1310 nm and 1550 nm, this high-stability source is optimized for optical fiber test applications, insertion loss measurements, and component characterization.

SPECIFICATIONS

General

Interfaces	Through mainframe backplane (GPIB, USB, LAN mainframe-dependent)
Display	None (uses mainframe display)
Recommended Recalibration Period	2 years

Physical

Power Supply	Powered by mainframe
Operating Temperature	0 °C to 45 °C °C
Dimensions (W×H×D)	75 mm x 32 mm x 335 mm mm
Weight	0.5 kg kg

Wavelength Characteristics

Center Wavelengths	1310 nm / 1550 nm
Center Wavelength Tolerance	± 20 nm
Spectral Bandwidth (FWHM) at 1310 nm	≤ 5 nm (typical 3 nm)
Spectral Bandwidth (FWHM) at 1550 nm	≤ 10 nm (typical 6 nm)

Optical Power Characteristics

CW Output Power	≥ +5 dBm
Typical CW Output Power	+7 dBm
Power Stability (CW, 15 min)	≤ ±0.03 dB (at constant temperature)
Power Stability (CW, 8 hours)	≤ ±0.10 dB (at constant temperature ±1 K)

Polarization & Fiber Specifications

Output Fiber Type	9/125 μm Single-mode
Optical Connector Interface	Keysight/Agilent 81000xl series exchangeable

Modulation Capabilities

Internal Modulation Frequencies	270 Hz, 350 Hz, 1 kHz, 2 kHz
Internal Modulation Duty Cycle	50% (square wave)

System Integration & Software

Mainframe Compatibility	Keysight / Agilent 8163A/B, 8164A/B, 8166A/B
Mainframe Slots Required	1 slot

Physical & Power Specifications

Warm-up Time	1 hour
--------------	--------

Environmental & Safety Compliance

Laser Safety Class	Class 1
Storage Temperature Range	-40 °C to +70 °C

Source Characteristics

Laser Type	Fabry-Perot (FP)
------------	------------------

Environmental

Operating Humidity	15% to 95% R.H. (non-condensing)
--------------------	----------------------------------

Output Characteristics

Power Level Control Resolution	0.01 dB
--------------------------------	---------

Optical Performance

Typical Spectral Bandwidth (FWHM) at 1310 nm	3 nm
Typical Spectral Bandwidth (FWHM) at 1550 nm	6 nm
Wavelength Temperature Coefficient (1310 nm)	typ. 0.4 nm/K
Wavelength Temperature Coefficient (1550 nm)	typ. 0.5 nm/K
Power Level Control Range	6 dB

Modulation

External Modulation Frequency Range	300 Hz to 100 kHz
-------------------------------------	-------------------

TECHNOLOGY

Fabry-Perot (FP) Laser

APPLICATIONS

Optical fiber testing, loss measurement, fiber 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.