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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81654A, Tunable Laser Source

HP Agilent Keysight 81654A 1310/1550 nm Dual Fabry Perot Laser Source Module The Agilent 81654A isaFabry-Perot laser source module for 8163/8164/8166 Lightwave mainframes. OEM 81663A DFB / 8165xA Fabry-Perot data sheet (5988-1570EN) lists 1310 nm / 1550 nm plus or minus 15 nm, output greater than 0 dBm, short-term CW stability less than plus or minus 0.005 dB (15 minutes), and 0 to 6 dB attenuation in 0.1 dB steps. Stable CW stimulus for IL, return-loss, and component test at the stated FP wavelength; coherence-control mode for low back-reflection sensitivity. The Agilent 81654A isaFabry-Perot laser source module for 8163/8164/8166 Lightwave mainframes. OEM 81663A DFB / 8165xA Fabry-Perot data sheet (5988-1570EN) lists 1310 nm / 1550 nm plus or minus 15 nm, output greater than 0 dBm, short-term CW stability less than plus or minus 0.005 dB (15 minutes), and 0 to 6 dB attenuation in 0.1 dB steps. Stable CW stimulus for IL, return-loss, and component test at the stated FP wavelength; coherence-control mode for low back-reflection sensitivity. Insensitivity to back reflections with coherence control

**MODEL****Agilent / Keysight
81654A****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****81654A****LISTING**<https://aumictechlabs.com/products/81654a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 81654A is a dual-wavelength Fabry-Perot laser source module for optical communication system testing. Operating at 1310 nm and 1550 nm, it delivers 1 mW output power with ± 0.03 dB stability over 24 hours. The module integrates into the Agilent Lightwave Solution

platform and pairs with optical power meter modules for insertion loss, optical return loss, and polarization-dependent loss measurements on broadband components and fiber.

Technical Specifications

Laser Type: Fabry-Perot **Wavelengths:** 1310 nm and 1550 nm **Output Power:** 1 mW (< 0 dB or < 1.8 mW) **CW Power Stability:** ± 0.03 dB (24 hours) **Output Attenuation:** 0 dB to 6 dB in 0.1 dB increments **Internal Digital Modulation:** 270 Hz, 330 Hz, 1 kHz, 2 kHz, or 200 Hz to 10 kHz (user-selectable), 50% duty cycle **Coherence Control:** Internal linewidth broadening **Beam Waist Diameter:** 9 μm **Numerical Aperture:** 0 **Maximum Permissible CW Output Power:** 15.6/10 mW **Laser Classification:** Class 1 (IEC 60825-1, 2001); complies with 21 CFR 1040.10 per Laser Notice No. 50

Key Features

- Insensitive to back reflections for stable measurements
- Short and long-term stabilization
- Adjustable output attenuation in 0.1 dB steps
- Front-panel laser enable with green LED indicator
- Built-in safety circuitry for fault detection
- Plug-in module format

Typical Applications

- Insertion loss measurements
- Optical return loss measurements
- Polarization-dependent loss (PDL) characterization
- Broadband optical component and fiber testing

Compatibility & Integration

Operates within 8163B, 8164B, and 8166B mainframes. Designed for paired operation with optical power meter modules within the Agilent Lightwave Solution platform.

81654A Characteristics / Specifications

PARAMETER	VALUE
Model	81654A
Instrument Type	Fabry Perot laser source module
Series Family	Agilent 8165xA Fabry Perot laser sources
Laser Type	Fabry Perot
Center Wavelength	1310 nm / 1550 nm plus or minus 15 nm
Fiber Type	single-mode 9/125 um
Spectral Bandwidth Rms	less than 3.5 nm rms at 1310 nm / less than 4.5 nm rms at 1550 nm
Output Power	greater than 0 dBm (1 mW)
Cw Power Stability Short Term	less than plus or minus 0.005 dB, 15 minutes
Cw Power Stability Short Term Typical Coherence On	typical less than plus or minus 0.003 dB with coherence control active
Cw Power Stability Long Term Typical	typical plus or minus 0.03 dB, 24 hours
Cw Stability To Back Reflection Typical	typical plus or minus 0.003 dB, RL greater than or equal to 14 dB
Output Attenuation Range	0 dB to 6 dB
Output Attenuation Step	0.1 dB
Internal Modulation Fixed	270 Hz, 330 Hz, 1 kHz, 2 kHz
Internal Modulation Free Select	200 Hz to 10 kHz
Modulation Duty Cycle	50 percent pulse shaped
Coherence Control	internal linewidth broadening
Output Connector Class	straight output connectors required
Specification Path	end of a 2 m fiber cable with Diamond HMS-10/Agilent connectors, attenuation 0.0 dB
Laser Safety Class	Class 1 per IEC 60825-1 (2001)
Dimensions	75 mm x 32 mm x 335 mm
Weight	0.5 kg
Recalibration Period	2 years

PARAMETER	VALUE
Operating Temperature	0 C to 45 C
Humidity	non-condensing
Warm Up Time	60 minutes; 20 minutes if previously stored at the same temperature
Stability Temperature Window	controlled environment, deltaTplus or minus 1 C
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Wavelength Channels	dual 1310 nm and 1550 nm FP sources in one module
Bandwidth	Rms: less than 3.5 nm rms at 1310 nm / less than 4.5 nm rms at 1550 nm
Linewidth	broadening
Attenuation	Range: 0 dB to 6 dB
Power stability	Short Term: less than plus or minus 0.005 dB, 15 minutes

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to 45 C
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Warm Up Time	60 minutes; 20 minutes if previously stored at the same temperature
Stability Temperature Window	controlled environment, deltaTplus or minus 1 C
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Wavelength Channels	dual 1310 nm and 1550 nm FP sources in one module Notes Numeric rows from Agilent 81663A DFB Laser, 8165xA Fabry-Perot Laser data sheet 5988-1570EN standard-module (0 dBm) table and supplementary performance, plus Agilent 8163A Selected Specifications for the 81652A wavelength pair. 81654A column of Table 1.
Internal digital modulation	200 Hz to 10 kHz
Fiber type	single-mode 9/125 um
Model	81654A
Instrument Type	Fabry Perot laser source module
Series Family	Agilent 8165xA Fabry Perot laser sources
Laser Type	Fabry Perot
Center Wavelength	1310 nm / 1550 nm plus or minus 15 nm
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Cw Power Stability Long Term Typical	typical plus or minus 0.03 dB, 24 hours
Cw Stability To Back Reflection Typical	typical plus or minus 0.003 dB, RL greater than or equal to 14 dB
Output Attenuation Range	0 dB to 6 dB
Output Attenuation Step	0.1 dB

PARAMETER	VALUE
Internal Modulation Fixed	270 Hz, 330 Hz, 1 kHz, 2 kHz
Internal Modulation Free Select	200 Hz to 10 kHz
Modulation Duty Cycle	50 percent pulse shaped
Coherence Control	internal linewidth broadening
Output Connector Class	straight output connectors required
Specification Path	end of a 2 m fiber cable with Diamond HMS-10/Agilent connectors, attenuation 0.0 dB
Laser Safety Class	Class 1 per IEC 60825-1 (2001)
Dimensions	75 mm x 32 mm x 335 mm
Weight	0.5 kg
Recalibration Period	2 years
Operating Temperature	0 C to 45 C
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Warm Up Time	60 minutes; 20 minutes if previously stored at the same temperature
Stability Temperature Window	controlled environment, deltaTplus or minus 1 C
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Wavelength Channels	dual 1310 nm and 1550 nm FP sources in one module Notes Numeric rows from Agilent 81663A DFB Laser, 8165xA Fabry-Perot Laser data sheet 5988-1570EN standard-module (0 dBm) table and supplementary performance, plus Agilent 8163A Selected Specifications for the 81652A wavelength pair. 81654A column of Table 1.

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	
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PARAMETER	VALUE
Model	81654A
Instrument Type	Fabry Perot laser source module
Series Family	Agilent 8165xA Fabry Perot laser sources
Laser Type	Fabry Perot
Center Wavelength	1310 nm / 1550 nm plus or minus 15 nm
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Dimensions	75 mm x 32 mm x 335 mm

PARAMETER	VALUE
Weight	0.5 kg
Recalibration Period	2 years
Operating Temperature	0 C to 45 C
Humidity	non-condensing
Warm Up Time	60 minutes; 20 minutes if previously stored at the same temperature
Stability Temperature Window	controlled environment, deltaTplus or minus 1 C
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Wavelength Channels	dual 1310 nm and 1550 nm FP sources in one module

Notes

Numeric rows from Agilent 81663A DFB Laser, 8165xA Fabry-Perot Laser data sheet 5988-1570EN standard-module (0 dBm) table and supplementary performance, plus Agilent 8163A Selected Specifications for the 81652A wavelength pair. 81654A column of Table 1.

Laser Safety

Laser Safety Class: Class 1 per IEC 60825-1 (2001) Dimensions: 75 mm x 32 mm x 335 mm Weight: 0.5 kg
Recalibration Period: 2 years Operating Temperature: 0 C to 45 C Humidity: non-condensing Warm Up
Time: 60 minutes; 20 minutes if previously stored at the same temperature Stability Temperature Window:
controlled environment, deltaTplus or minus 1 C Host Mainframes: 8163A/B, 8164A/B, 8166A/B Wavelength
Channel

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.