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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81554SM High Sensitivity Singlemode Optical Head

HP Agilent 81554SM 1310/1550 nm Dual Single Mode Fabry Perot Laser Source Module The HP 81554SM is a plug-in source module for the HP 8153A Lightwave Multimeter (and later 816x mainframes). OEM HP 8153A Technical Specifications (5962-9321E) list 1310 nm plus or minus 20 nm / 1550 nm plus or minus 20 nm, single-mode 9/125 μ m, less than 2.5 nm rms / less than 4 nm rms, output greater than minus 1 dBm, short-term CW stability plus or minus 0.005 dB (15 min), and long-term plus or minus 0.05 dB (6 h). Fiber-optic IL and source stimulus at the stated wavelength on the 8153A/816x modular lightwave platform. The HP 81554SM is a plug-in source module for the HP 8153A Lightwave Multimeter (and later 816x mainframes). OEM HP 8153A Technical Specifications (5962-9321E) list 1310 nm plus or minus 20 nm / 1550 nm plus or minus 20 nm, single-mode 9/125 μ m, less than 2.5 nm rms / less than 4 nm rms, output greater than minus 1 dBm, short-term CW stability plus or minus 0.005 dB (15 min), and long-term plus or minus 0.05 dB (6 h). Fiber-optic IL and source stimulus at the stated wavelength on the 8153A/816x modular lightwave platform.



MODEL

**Agilent / Keysight
81554SM**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81554SM

LISTING

<https://aumictechlabs.com/products/81554sm-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 81554SM is a dual-wavelength Fabry-Perot laser source module engineered for precision optical testing across telecommunications and data communications networks. Operating at 1310 nm and 1550 nm with single-mode fiber output, this module delivers stable, back-reflection-insensitive performance in a compact form factor designed for integration into Agilent/Keysight lightwave multimeter mainframes.

Technical Specifications

Wavelengths & Output
Dual wavelengths: 1310 nm $\pm$ 20 nm and 1550 nm $\pm$ 20 nm
Single-mode fiber: 9/125 μ m
Output power: Greater than -1 dBm (typical range -1.2 dBm to +1.47 dBm across wavelengths)
Spectral bandwidth: Less than 2.5/4 nm rms
Output attenuation: 0 dB to 6 dB, adjustable in 0.1 dB steps

Modulation & Timing
Internal digital modulation frequencies: 270 Hz, 1 kHz, 2 kHz (selectable)
Pulse-shaped outputs with 50% duty cycle

Stability & Warm-up
High long- and short-term stability with 20-minute recommended warm-up time
Long-term CW stability doubles after one minute of laser operation

Analog Output
Bandwidth: DC to <300–1000 Hz (dependent on range and optical head)
Output voltage: 0–2 V into open circuit
Output impedance: 600 Ω typical
Maximum input voltage: $\pm$ 10 V

Physical & Environmental
Dimensions: 75 mm H $\times$ 32 mm W $\times$ 335 mm D (2.8" $\times$ 1.3" $\times$ 13.2")
Net weight: 0.7 kg (1.5 lbs)
Operating temperature: 0 $^{\circ}$ C to +55 $^{\circ}$ C (subject to host mainframe limits)
Storage/shipment temperature: +40 $^{\circ}$ C to +70 $^{\circ}$ C

Key Features
Fabry-Perot laser design provides inherent insensitivity to back reflections
PC-type optical interface with precision connectors
Fine-resolution attenuation control in 0.1 dB increments
Selectable modulation frequencies for flexible test configurations
Rapid stability improvement - long-term performance stabilizes within one minute of operation

Compatibility & Integration
Compatible with Agilent/Keysight 8153A, 8163A, and 8166 series Lightwave Multimeters. Optical connectors and adapters are supplied or available separately.

81554SM Characteristics / Specifications

PARAMETER	VALUE
Model	81554SM
Instrument Type	Fabry Perot Laser source module
Series Family	HP 8153A Lightwave Multimeter source modules
Source Type	Fabry Perot Laser
Central Wavelength	1310 nm plus or minus 20 nm / 1550 nm plus or minus 20 nm
Fiber Type	single-mode 9/125 um
Spectral Bandwidth	less than 2.5 nm rms / less than 4 nm rms
Output Power	greater than minus 1 dBm
Cw Stability Short Term	plus or minus 0.005 dB, 15 minutes, T constant
Cw Stability Long Term	plus or minus 0.05 dB, 6 hours, T = 0 C to 55 C plus or minus 1 K
Output Attenuation Range	0 dB to 6 dB
Output Attenuation Step	0.1 dB
Internal Modulation	270 Hz, 1 kHz, 2 kHz selectable
Modulation Duty Cycle	50 percent pulse shaped
Specification Path	end of a 2 m fiber cable with Diamond HMS-10 connectors, attenuation 0.0 dB
Laser Safety Class	Class 1 IEC 825-1 (1993) and FDA CFR 21 (1986)
Operating Temperature	0 C to +55 C
Dimensions	75 mm x 32 mm x 335 mm
Weight Net	0.7 kg
Weight Shipping	1 kg
Recalibration Period	1 year
Warm Up Time	60 minutes with output enabled; 20 minutes if previously stored at the same temperature
Host Mainframe	HP 8153A Lightwave Multimeter; also 8163/8164/8166 class
Long Term Stability After 1 Minute Warmup	long-term CW stability doubles with one minute warm-up (laser enabled)

PARAMETER

VALUE

Bandwidth

less than 2.5 nm rms / less than 4 nm rms

Attenuation

Range: 0 dB to 6 dB

81554SM Specifications

PARAMETER	VALUE
Applications	Fiber-optic IL and source stimulus at the stated wavelength on the 8153A/816x modular lightwave platform.
Key Features	Fabry Perot Laser source for 8153A/816x mainframes
Output attenuation 0 dB to 6 dB in 0.1 dB steps	Diamond HMS-10 specification path at 2 m
Technical Specifications	Model: 81554SM
Notes	Numeric rows from HP 8153A Lightwave Multimeter Technical Specifications 5962-9321E source-module table, 81554SM column.

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to +55 C
Operating Temperature	0 C to +55 C
Dimensions	75 mm x 32 mm x 335 mm
Weight Net	0.7 kg
Weight Shipping	1 kg
Recalibration Period	1 year
Warm Up Time	60 minutes with output enabled; 20 minutes if previously stored at the same temperature
Host Mainframe	HP 8153A Lightwave Multimeter; also 8163/8164/8166 class
Long Term Stability After 1 Minute Warmup	long-term CW stability doubles with one minute warm-up (laser enabled) Notes Numeric rows from HP 8153A Lightwave Multimeter Technical Specifications 5962-9321E source-module table, 81554SM column.
Internal digital modulation	270 Hz, 1 kHz, 2 kHz, 50 percent duty
Fiber type	single-mode 9/125 um
Model	81554SM
Instrument Type	Fabry Perot Laser source module
Series Family	HP 8153A Lightwave Multimeter source modules
Source Type	Fabry Perot Laser
Central Wavelength	1310 nm plus or minus 20 nm / 1550 nm plus or minus 20 nm
Spectral Bandwidth	less than 2.5 nm rms / less than 4 nm rms
Output Power	greater than minus 1 dBm
Cw Stability Short Term	plus or minus 0.005 dB, 15 minutes, T constant
Cw Stability Long Term	plus or minus 0.05 dB, 6 hours, T = 0 C to 55 C plus or minus 1 K
Output Attenuation Range	0 dB to 6 dB
Output Attenuation Step	0.1 dB
Internal Modulation	270 Hz, 1 kHz, 2 kHz selectable

PARAMETER	VALUE
Modulation Duty Cycle	50 percent pulse shaped
Specification Path	end of a 2 m fiber cable with Diamond HMS-10 connectors, attenuation 0.0 dB
Laser Safety Class	Class 1 IEC 825-1 (1993) and FDA CFR 21 (1986)
Operating Temperature	0 C to +55 C
Dimensions	75 mm x 32 mm x 335 mm
Weight Net	0.7 kg
Weight Shipping	1 kg
Recalibration Period	1 year
Warm Up Time	60 minutes with output enabled; 20 minutes if previously stored at the same temperature
Host Mainframe	HP 8153A Lightwave Multimeter; also 8163/8164/8166 class
Long Term Stability After 1 Minute Warmup	long-term CW stability doubles with one minute warm-up (laser enabled) Notes Numeric rows from HP 8153A Lightwave Multimeter Technical Specifications 5962-9321E source-module table, 81554SM column.

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 (5962-9321E) list 1310 nm plus or minus 20 nm / 1550 nm plus or minus 20 nm, single-mode 9/125 um, less than 2.5 nm rms / less than 4 nm rms, output greater than minus 1 dBm, short-term CW stability plus or minus 0.005 dB (15 min), and long-term plus or minus 0.05 dB (6 h).

Applications

Fiber-optic IL and source stimulus at the stated wavelength on the 8153A/816x modular lightwave platform.

Key Features

Fabry Perot Laser source for 8153A/816x mainframes

Internal digital modulation 270 Hz, 1 kHz, 2 kHz, 50 percent duty

Output attenuation 0 dB to 6 dB in 0.1 dB steps

Diamond HMS-10 specification path at 2 m

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	81554SM
Instrument Type	Fabry Perot Laser source module
Series Family	HP 8153A Lightwave Multimeter source modules
Source Type	Fabry Perot Laser
Central Wavelength	1310 nm plus or minus 20 nm / 1550 nm plus or minus 20 nm
Fiber Type	single-mode 9/125 um
Spectral Bandwidth	less than 2.5 nm rms / less than 4 nm rms
Output Power	greater than minus 1 dBm
Cw Stability Short Term	plus or minus 0.005 dB, 15 minutes, T constant
Cw Stability Long Term	plus or minus 0.05 dB, 6 hours, T = 0 C to 55 C plus or minus 1 K
Output Attenuation Range	0 dB to 6 dB
Output Attenuation Step	0.1 dB
Internal Modulation	270 Hz, 1 kHz, 2 kHz selectable
Modulation Duty Cycle	50 percent pulse shaped
Specification Path	end of a 2 m fiber cable with Diamond HMS-10 connectors, attenuation 0.0 dB
Laser Safety Class	Class 1 IEC 825-1 (1993) and FDA CFR 21 (1986)
Operating Temperature	0 C to +55 C
Dimensions	75 mm x 32 mm x 335 mm
Weight Net	0.7 kg
Weight Shipping	1 kg

PARAMETER	VALUE
Recalibration Period	1 year
Warm Up Time	60 minutes with output enabled; 20 minutes if previously stored at the same temperature
Host Mainframe	HP 8153A Lightwave Multimeter; also 8163/8164/8166 class
Long Term Stability After 1 Minute Warmup	long-term CW stability doubles with one minute warm-up (laser enabled)

Notes
Numeric rows from HP 8153A Lightwave Multimeter Technical Specifications 5962-9321E source-module table, 81554SM column.

Laser Safety

Laser Safety Class: Class 1 IEC 825-1 (1993) and FDA CFR 21 (1986) Operating Temperature: 0 C to +55 C
Dimensions: 75 mm x 32 mm x 335 mm Weight Net: 0.7 kg Weight Shipping: 1 kg Recalibration Period: 1
year Warm Up Time: 60 minutes with output enabled; 20 minutes if previously stored at the same
temperature Host Mainframe: HP 8153A Lightwave Multimeter; also 8163/8164/8166 class Long Term
Stability After 1 M

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In
stock.

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documentation and unit condition.