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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81553SM High Power Singlemode Optical Head

HP Agilent 81553SM 1550 nm Single Mode Fabry Perot Laser Source Module The HP 81553SM is a plug-in source module for the HP 8153A Lightwave Multimeter (and later 816x mainframes). OEM HP 8153A Technical Specifications (5962-9321E) list 1550 nm plus or minus 20 nm, single-mode 9/125 μm , less than 4 nm rms, output greater than 0 dBm, short-term CW stability plus or minus 0.003 dB (15 min), and long-term plus or minus 0.03 dB (6 h). Fiber-optic IL and source stimulus at the stated wavelength on the 8153A/816x modular lightwave platform. The HP 81553SM is a plug-in source module for the HP 8153A Lightwave Multimeter (and later 816x mainframes). OEM HP 8153A Technical Specifications (5962-9321E) list 1550 nm plus or minus 20 nm, single-mode 9/125 μm , less than 4 nm rms, output greater than 0 dBm, short-term CW stability plus or minus 0.003 dB (15 min), and long-term plus or minus 0.03 dB (6 h). Fiber-optic IL and source stimulus at the stated wavelength on the 8153A/816x modular lightwave platform. Fabry Perot Laser source for 8153A/816x mainframes



MODEL

**Agilent / Keysight
81553SM**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81553SM

LISTING

<https://aumictechlabs.com/products/81553sm-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 81553SM is a single-mode optical head module for precise optical power measurements in fiber optic systems. Built on Fabry-Perot laser technology, it delivers stable 1550 nm output suitable for testing and characterizing optical components and networks. The module integrates directly into Agilent/Keysight 8153A, 8163A, 8164A, and 8166A lightwave mainframes.

Technical Specifications

- Laser Type: Fabry-Perot, InGaAs
- Central Wavelength: 1550 nm $\pm$ 20 nm
- Output Power: Greater than 0 dBm
- Spectral Bandwidth: Less than 4 nm RMS
- Fiber Type: 9/125 μ m single-mode
- Output Attenuation: 0 dB to 6 dB, adjustable in 0.1 dB steps
- Long-term CW Stability: $\pm$ 0.003 dB (after 20 minute warm-up)
- Internal Modulation Frequencies: 270 Hz, 1 kHz, 2 kHz (50% duty cycle)
- Analog Output Bandwidth: DC to <300 Hz (expandable to 1000 Hz depending on range)
- Analog Output Voltage: 0–2 V into open circuit
- Output Impedance: 600 Ω typical
- Maximum Input Voltage: $\pm$ 10 V

Key Features

- Internally adjustable attenuation with 0.1 dB resolution enables precise signal conditioning across a 6 dB range
- Multiple modulation frequencies support flexible test protocols and component characterization
- Long-term stability of $\pm$ 0.003 dB ensures repeatable measurements in production and field environments
- Proprietary module interface provides direct connection to Agilent/Keysight lightwave platforms

Typical Applications

- Optical power measurement and characterization
- Fiber optic component testing
- Optical network validation and troubleshooting
- Signal conditioning for optical measurement systems

Compatibility & Integration

Designed for Agilent/Keysight 8153A, 8163A, 8164A, and 8166A lightwave mainframes. Requires a separately ordered 81000xl connector interface. Optimal performance achieved after 20 minute warm-up period.

81553SM Characteristics / Specifications

PARAMETER	VALUE
Model	81553SM
Instrument Type	Fabry Perot Laser source module
Series Family	HP 8153A Lightwave Multimeter source modules
Source Type	Fabry Perot Laser
Central Wavelength	1550 nm plus or minus 20 nm
Fiber Type	single-mode 9/125 um
Spectral Bandwidth	less than 4 nm rms
Output Power	greater than 0 dBm
Cw Stability Short Term	plus or minus 0.003 dB, 15 minutes, T constant
Cw Stability Long Term	plus or minus 0.03 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 4 nm rms
Attenuation	Range: 0 dB to 6 dB

81553SM 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: 81553SM
Notes	Numeric rows from HP 8153A Lightwave Multimeter Technical Specifications 5962-9321E source-module table, 81553SM column.

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to +55 C
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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, 81553SM column.
Internal digital modulation	270 Hz, 1 kHz, 2 kHz, 50 percent duty
Fiber type	single-mode 9/125 um
Model	81553SM
Instrument Type	Fabry Perot Laser source module
Series Family	HP 8153A Lightwave Multimeter source modules
Source Type	Fabry Perot Laser
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Spectral Bandwidth	less than 4 nm rms
Output Power	greater than 0 dBm
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Internal Modulation	270 Hz, 1 kHz, 2 kHz selectable

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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, 81553SM 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 1550 nm plus or minus 20 nm, single-mode 9/125 um, less than 4 nm rms, output greater than 0 dBm, short-term CW stability plus or minus 0.003 dB (15 min), and long-term plus or minus 0.03 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

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Model	81553SM
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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, 81553SM 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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Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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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.