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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81542MM Multimode Optical Source

HP Agilent 81542MM 1300 nm Multimode LED Source Module The HP 81542MM is a plug-in source module for the HP 8153A Lightwave Multimeter (and later 816x mainframes). OEM HP 8153A Technical Specifications (5962-9321E) list 1300 nm plus or minus 40 nm, multimode 50/125 μm , less than 90 nm FWHM, output greater than minus 20 dBm, short-term CW stability plus or minus 0.002 dB (15 min), and long-term plus or minus 0.01 dB (6 h). Fiber-optic IL and source stimulus at the stated wavelength on the 8153A/816x modular lightwave platform. The HP 81542MM is a plug-in source module for the HP 8153A Lightwave Multimeter (and later 816x mainframes). OEM HP 8153A Technical Specifications (5962-9321E) list 1300 nm plus or minus 40 nm, multimode 50/125 μm , less than 90 nm FWHM, output greater than minus 20 dBm, short-term CW stability plus or minus 0.002 dB (15 min), and long-term plus or minus 0.01 dB (6 h). Fiber-optic IL and source stimulus at the stated wavelength on the 8153A/816x modular lightwave platform. Internal digital modulation 270 Hz, 1 kHz, 2 kHz, 50 percent duty



MODEL Agilent / Keysight 81542MM	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU 81542MM	LISTING https://aumictechlabs.com/products/81542mm-2/

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 81542MM is a multimode optical source module that generates stable 1300 nm LED output for integration into Agilent/Keysight 8153A and 8163A mainframe systems. This module delivers precise optical signal generation across 50/125 μ m multimode fiber environments, supporting both continuous-wave and modulated operation with selectable internal digital modes.

Technical Specifications

Light Source: LED Central Wavelength: 1300 nm $\pm$ 40 nm
Spectral Bandwidth (FWHM): $\sim$ 20 nm minimum
Short-term Stability (15 min, constant temperature): $\pm$ 0.002 dB
Long-term Stability (6 hours, constant temperature): $\pm$ 0.01 dB
Output Attenuation Range: 0 to 6 dB
Modulation Modes: 270 Hz, 1 kHz, 2 kHz (internal digital, selectable)
Pulse Duty Cycle: 50%

Key Features

- Selectable internal digital modulation at three fixed frequencies for flexible test scenarios
- Exceptionally tight short-term output stability of $\pm$ 0.002 dB enables repeatable measurements
- Adjustable attenuation from 0 to 6 dB provides dynamic optical power control without external attenuators
- Pulse-shaped output with 50% duty cycle ensures consistent signal conditioning for modulation testing
- Broad spectral bandwidth of $\sim$ 90 nm accommodates multimode fiber dispersion characteristics

Typical Applications

- Multimode optical link characterization and loss budgeting
- LED source substitution in 1300 nm measurement systems
- Power stability verification in optical test configurations
- Digital modulation testing at low frequencies (270 Hz to 2 kHz)
- Attenuation measurement validation across 0 to 6 dB range

Compatibility & Integration

The 81542MM installs directly into Agilent/Keysight 8153A and 8163A mainframes via standard Agilent optical interface (connectors ordered separately). Physical dimensions are 12 $\times$ 10 $\times$ 8 in with a weight of 10 lbs.

81542MM Characteristics / Specifications

PARAMETER	VALUE
Model	81542MM
Instrument Type	LED source module
Series Family	HP 8153A Lightwave Multimeter source modules
Source Type	LED
Central Wavelength	1300 nm plus or minus 40 nm
Fiber Type	multimode 50/125 um
Spectral Bandwidth	less than 90 nm FWHM
Output Power	greater than minus 20 dBm
Cw Stability Short Term	plus or minus 0.002 dB, 15 minutes, T constant
Cw Stability Long Term	plus or minus 0.01 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	LED source; safety class as stated for 8153A source modules in 5962-9321E
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

PARAMETER	VALUE
Long Term Stability After 1 Minute Warmup	long-term CW stability doubles with one minute warm-up (laser enabled)
Bandwidth	less than 90 nm FWHM
Attenuation	Range: 0 dB to 6 dB

81542MM Specifications

PARAMETER	VALUE
HP Agilent 81542MM 1300 nm Multimode LED Source Module	Overview
Applications	Fiber-optic IL and source stimulus at the stated wavelength on the 8153A/816x modular lightwave platform.
Key Features	LED 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: 81542MM
Notes	Numeric rows from HP 8153A Lightwave Multimeter Technical Specifications 5962-9321E source-module table, 81542MM LED column. FWHM not rms.

General Specifications & Supplementary Characteristics

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Internal digital modulation	270 Hz, 1 kHz, 2 kHz, 50 percent duty
Fiber type	multimode 50/125 um
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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 1300 nm plus or minus 40 nm, multimode 50/125 um, less than 90 nm FWHM, output greater than minus 20 dBm, short-term CW stability plus or minus 0.002 dB (15 min), and long-term plus or minus 0.01 dB (6 h).

Applications

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

Key Features

LED 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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Notes
Numeric rows from HP 8153A Lightwave Multimeter Technical Specifications 5962-9321E source-module table, 81542MM LED column. FWHM not rms.

Laser Safety

Laser Safety Class: LED source; safety class as stated for 8153A source modules in 5962-9321E 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 Lo

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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<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.