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Data Sheet

August 13, 2026

HP / AGILENT

HP / Agilent 81578A Variable Optical Attenuator Module for Multimode Fiber Applications

HP / Agilent 81578A Multimode Variable Optical Attenuator Module The Keysight/Agilent 81578A is a single-slot multimode VOA for the 8163/8164/8166 Lightwave Solution Platform. Ordered as option 050 (50/125 μm MMF) or option 062 (62.5/125 μm MMF) with straight versatile connector interface. Wavelength 700 to 1400 nm, attenuation 0 to 60 dB at 0.001 dB resolution, maximum input +27 dBm. Targets multimode BER and short-reach transceiver test. 850/1310 nm multimode loss simulation; transceiver and line-card BER; multimode power leveling; channel-drop via integrated shutter. The Keysight/Agilent 81578A is a single-slot multimode VOA for the 8163/8164/8166 Lightwave Solution Platform. Ordered as option 050 (50/125 μm MMF) or option 062 (62.5/125 μm MMF) with straight versatile connector interface. Wavelength 700 to 1400 nm, attenuation 0 to 60 dB at 0.001 dB resolution, maximum input +27 dBm. Targets multimode BER and short-reach transceiver test. 850/1310 nm multimode loss simulation; transceiver and line-card BER; multimode power leveling; channel-drop via integrated shutter.



MODEL

**HP / Agilent
81578A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81578A

LISTING

<https://aumictechlabs.com/products/81578a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 81578A is a variable optical attenuator module designed for multimode fiber applications within Agilent's Lightwave Solution Platform. It delivers precise, adjustable attenuation of optical signals across a wide wavelength range with high resolution and low insertion loss. The module supports 50 μm and 62.5 μm fiber interfaces and integrates directly into compatible mainframes for component and system characterization in telecom and data communication testing.

Technical Specifications

- Fiber Type: Multimode fiber; 50 μm or 62.5 μm core diameter
- Wavelength Range: 700 nm to 1400 nm
- Attenuation Range: 0 to 60 dB
- Attenuation Resolution: 0.001 dB (typical)
- Maximum Input Power: +27 dBm (2 Watts)
- Insertion Loss: <1.4 dB (typical); <1.3 dB at NA = 0.2
- Return Loss: 27 dB (typical, flat polished connectors)
- Wavelength Flatness: Excellent across operational range

Key Features

- Modular Integration:** Single-slot plug-in module for Agilent 8163A/B, 8164A/B, and 8166A/B mainframes
- Integrated Shutter:** Built-in shutter for test equipment protection, simplified referencing, power meter zeroing, and channel drop simulation
- Internal Calibration:** Enhanced calibration function enables reference power setting and displays attenuation and power levels relative to that reference
- Power Control:** Configurations available with active power control to maintain specific output power levels and compensate for input power variations

Typical Applications

- Optical network component characterization
- System-level testing in telecommunications environments
- Data communication signal attenuation and power management
- Multi-wavelength power reference and measurement applications

Compatibility & Integration

The 81578A operates within Agilent's Lightwave Solution Platform via internal bus architecture. It utilizes standard Agilent optical interface connectors, including Option 062 for 62.5 μm MMF with PC connectors. The 8166A/B mainframe can accommodate up to 17 single-slot modules. Remote control capability is supported.

Features & description

From manufacturer datasheet

Features

- Multimode fiber VOA (50 um or 62.5 um options) • 700 to 1400 nm coverage • 0.001 dB resolution; 0 to 60 dB range • High input power handling to +27 dBm • Single-slot module with shutter

81578A Characteristics / Specifications

PARAMETER	VALUE
Model	81578A
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Multimode variable optical attenuator module
Slot Width	single slot
Connectivity	straight connector versatile interface
Wavelength Range	700 nm to 1400 nm
Attenuation Range	0 to 60 dB
Resolution	0.001 dB
Repeatability	plus/minus 0.015 dB
Accuracy Typical 800 To 1350 nm	plus/minus 0.15 dB
Accuracy At 850 And 1310 nm Windows	plus/minus 0.2 dB (850 nm plus/minus 15 nm; 1310 nm plus/minus 15 nm)
Settling Time Typical	100 ms (step size less than 1 dB)
Transition Speed Typical	0.1 to 12 dB/s
Insertion Loss Typical NA 0.	1.0 dB
Insertion Loss Typical NA 0.2 Option 0	1.3 dB; warranted 2.0 dB at NA 0.2
Insertion Loss Typical NA 0.27 Option 0	3.0 dB class; warranted 2.0 dB at NA 0.2
Return Loss Typical	27 dB
Maximum Input Power	+27 dBm
Shutter Isolation Typical	100 dB
Dimensions	75 mm x 32 mm x 335 mm
Net Weight	0.9 kg
Recommended Recalibration Period	2 years
Operating Temperature	10 C to 45 C
Warmup Time	30 minutes
Humidity	noncondensing

PARAMETER	VALUE
Mainframe Compatibility	8163A/B 8164A/B 8166A/B
Related Single Mode High Power	81570A / 81571A
Alias	HP 81578A; Agilent 81578A; Keysight 81578A
Attenuation	Range: 0 to 60 dB
Return loss	Typical: 27 dB

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	10 C to 45 C
Operating Temperature	10 C to 45 C
Humidity	noncondensing
Warmup Time	30 minutes
Mainframe Compatibility	8163A/B 8164A/B 8166A/B
Related Single Mode High Power	81570A / 81571A
Alias	HP 81578A; Agilent 81578A; Keysight 81578A Notes Specs from Keysight 8157xA Optical Attenuators data sheet (5988-2696EN). Confirm option 050 versus 062 fiber core on the faceplate and launch NA when quoting insertion-loss rows.

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	
Specifications	
PARAMETER	VALUE
Model	81578A
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Multimode variable optical attenuator module
Slot Width	single slot
Connectivity	straight connector versatile interface
Option 050 Fiber: 50/125 um MMF	
Option 062 Fiber: 62.5/125 um MMF	
Specifications	
PARAMETER	VALUE
Wavelength Range	700 nm to 1400 nm
Attenuation Range	0 to 60 dB
Resolution	0.001 dB
Repeatability	plus/minus 0.015 dB
Accuracy Typical 800 To 1350 nm	plus/minus 0.15 dB
Accuracy At 850 And 1310 nm Windows	plus/minus 0.2 dB (850 nm plus/minus 15 nm; 1310 nm plus/minus 15 nm)
Settling Time Typical	100 ms (step size less than 1 dB)
Transition Speed Typical	0.1 to 12 dB/s
Insertion Loss Typical NA 0.1	1.0 dB
Insertion Loss Typical NA 0.2 Option 050	1.3 dB; warranted 2.0 dB at NA 0.2
Insertion Loss Typical NA 0.27 Option 062	3.0 dB class; warranted 2.0 dB at NA 0.2
Return Loss Typical	27 dB
Maximum Input Power	+27 dBm
Shutter Isolation Typical	100 dB
Dimensions	75 mm x 32 mm x 335 mm
Net Weight	0.9 kg

PARAMETER	VALUE
Recommended Recalibration Period	2 years
Operating Temperature	10 C to 45 C
Warmup Time	30 minutes
Humidity	noncondensing
Mainframe Compatibility	8163A/B 8164A/B 8166A/B
Related Single Mode High Power	81570A / 81571A
Alias	HP 81578A; Agilent 81578A; Keysight 81578A

Notes
Specs from Keysight 8157xA Optical Attenuators data sheet (5988-2696EN). Confirm option 050 versus 062 fiber core on the faceplate and launch NA when quoting insertion-loss rows.

Ordering Information

OPTION	DESCRIPTION
Option 050	(50/125 um MMF) or option 062 (62.5/125 um MMF) with straight versatile connector interface. Wavelength 700 to 1400 nm, attenuation 0 to 60 dB at 0.001 dB resol
Option 062	Fiber: 62.5/125 um MMF

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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NIST-traceable calibration · SAM registered ·
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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.