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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81613A Fabry-Perot Laser Source Module

HP Agilent Keysight 81613A Return Loss Module 1310/1550 nm The Agilent/Keysight 81613A isareturn-loss module with internal Fabry-Perot lasers for 8163/8164/8166 mainframes. OEM 81610A/11A/12A/13A/14A Return Loss Module User's Guide Table 4 lists typical output minus 4 dBm, 1310 nm / 1550 nm plus or minus 20 nm typical, 75 dB dynamic range, and InGaAs sensors on 9/125 um SM fiber. Connector, component, and patchcord return-loss measurements at the internal FP wavelengths; plug-and-play or user-calibration modes with the 81610CC reference cable. The Agilent/Keysight 81613A isareturn-loss module with internal Fabry-Perot lasers for 8163/8164/8166 mainframes. OEM 81610A/11A/12A/13A/14A Return Loss Module User's Guide Table 4 lists typical output minus 4 dBm, 1310 nm / 1550 nm plus or minus 20 nm typical, 75 dB dynamic range, and InGaAs sensors on 9/125 um SM fiber. Connector, component, and patchcord return-loss measurements at the internal FP wavelengths; plug-and-play or user-calibration modes with the 81610CC reference cable. Internal dual FP lasers plus InGaAs sensors and couplers



MODEL

**Agilent / Keysight
81613A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81613A

LISTING

<https://aumictechlabs.com/products/81613a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 81613A Fabry-Perot Laser Source Module is a plug-in optical module for return loss and reflection measurements on single-mode fiberoptic components. It combines an integrated Fabry-Perot laser source, power sensor, monitor diode, and couplers into one unit, eliminating external source requirements and reducing calibration overhead. The module operates across the extended C and L bands and achieves greater than 75 dB dynamic range with measurement uncertainty as low as ± 0.2 dB.

Technical Specifications

- Wavelength Range: 1250 nm to 1640 nm
- Internal Laser Source: Fabry-Perot type; 1310 nm and 1550 nm output wavelengths
- Laser Output Power: Typically -4 dBm
- Return Loss Dynamic Range: >75 dB
- Return Loss Uncertainty: ± 0.2 dB (with internal source); ± 0.25 dB (with external broadband source)
- Fiber Type: Single-mode 9/125 μm
- Sensor Element: InGaAs
- Optical Connectors: 8° angled contact (APC)
- Laser Classification: Class 1 Laser Product

Key Features

- Integrated Fabry-Perot laser eliminates need for external sources in most applications
- Factory-calibrated values enable immediate return loss measurements without delay
- Built-in power monitor compensates for external source power variations, reducing recalibration frequency
- Self-calibration capability shortens turnaround time between measurements
- Guided measurement wizard (when used with 8163B mainframe) automates calibration and test procedures

Typical Applications

- Return loss characterization of single-mode components
- Reflection measurements on fiberoptic devices
- Quality assurance testing in component manufacturing
- Field verification of installed systems

Compatibility & Integration

The 81613A plugs directly into Agilent/Keysight 8163B, 8164B, or 8166B Lightwave Mainframes and functions in any 816x series multichannel system. It also accepts external fixed-wavelength or tunable laser sources for extended measurement flexibility. Angled (APC) connector fiber patchcords are required for all measurements and calibrations at the return loss module output port.

81613A Characteristics / Specifications

PARAMETER	VALUE
Model	81613A
Instrument Type	Return loss module with internal source
Series Family	Agilent 8161xA return loss modules
Source Type	Fabry Perot laser, internal
Output Power Typical	typical minus 4 dBm
Center Wavelength	1310 nm / 1550 nm plus or minus 20 nm typical
Sensor Element	InGaAs
Fiber Type	standard single-mode 9/125 um
Dynamic Range	75 dB
Relative Uncertainty RI 55 User Cal	less than plus or minus 0.5 dB, typical less than plus or minus 0.3 dB, RL less than or equal to 55 dB, user calibration
Relative Uncertainty RI 60 User Cal	less than plus or minus 0.6 dB, typical less than plus or minus 0.4 dB, RL less than or equal to 60 dB
Relative Uncertainty RI 65 User Cal	less than plus or minus 0.8 dB, typical less than plus or minus 0.5 dB, RL less than or equal to 65 dB
Relative Uncertainty RI 70 User Cal	less than plus or minus 1.9 dB, typical less than plus or minus 0.8 dB, RL less than or equal to 70 dB, immediately after calibration
Relative Uncertainty RI 75 Typical	typical less than plus or minus 2.0 dB, RL less than or equal to 75 dB, immediately after calibration
Plug And Play RI 55 Typical	typical less than plus or minus 0.6 dB, RL less than or equal to 55 dB
Plug And Play RI 60 Typical	typical less than plus or minus 1.5 dB, RL less than or equal to 60 dB
Total Uncertainty Add User Cal	add plus or minus 0.2 dB
Total Uncertainty Add Plug And Play Typical	add typical plus or minus 0.2 dB
Maximum Safe Input Power	+16 dBm
Connector Angle Requirement	angled contact 8 degrees at input and output
Reference Cable	81610CC, return loss uncertainty plus or minus 0.2 dB
Reference Cable Wavelengths	1310 nm and 1550 nm plus or minus 20 nm

PARAMETER	VALUE
Laser Safety Class	Class 1 per IEC 60825-1 (2007)
Laser Max Cw Output 81613A Table	less than 1.8 mW max CW at connector in the 81613A laser-safety table; 9 um beam waist, NA 0.1
Dimensions	75 mm x 32 mm x 335 mm
Weight	1 kg
Recalibration Period	2 years
Operating Temperature	10 C to 40 C
Humidity	non-condensing
Warm Up Time	20 minutes; 60 minutes if not previously stored at the same temperature
Host Mainframes	8163A/B, 8164A/B, 8166A/B
External Source Path	when used with external sources, 81610A specifications apply
Return loss	module with internal source

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	10 C to 40 C
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Humidity	non-condensing
Warm Up Time	20 minutes; 60 minutes if not previously stored at the same temperature
Host Mainframes	8163A/B, 8164A/B, 8166A/B
External Source Path	when used with external sources, 81610A specifications apply Notes Numeric rows from Keysight 81610A/11A/12A/13A/14A Return Loss Module User's Guide Table 4 (internal source) and Table 3 (81610CC). 81613A is the 1310/1550 nm internal-source column. Center wavelength footnote: 25 C, coherence control on, laser on greater than 5 minutes.

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	81613A
Instrument Type	Return loss module with internal source
Series Family	Agilent 8161xA return loss modules
Source Type	Fabry Perot laser, internal
Output Power Typical	typical minus 4 dBm
Center Wavelength	1310 nm / 1550 nm plus or minus 20 nm typical
Sensor Element	InGaAs
Fiber Type	standard single-mode 9/125 um
Dynamic Range	75 dB
Relative Uncertainty Rl 55 User Cal	less than plus or minus 0.5 dB, typical less than plus or minus 0.3 dB, RL less than or equal to 55 dB, user calibration
Relative Uncertainty Rl 60 User Cal	less than plus or minus 0.6 dB, typical less than plus or minus 0.4 dB, RL less than or equal to 60 dB
Relative Uncertainty Rl 65 User Cal	less than plus or minus 0.8 dB, typical less than plus or minus 0.5 dB, RL less than or equal to 65 dB
Relative Uncertainty Rl 70 User Cal	less than plus or minus 1.9 dB, typical less than plus or minus 0.8 dB, RL less than or equal to 70 dB, immediately after calibration
Relative Uncertainty Rl 75 Typical	typical less than plus or minus 2.0 dB, RL less than or equal to 75 dB, immediately after calibration
Plug And Play Rl 55 Typical	typical less than plus or minus 0.6 dB, RL less than or equal to 55 dB
Plug And Play Rl 60 Typical	typical less than plus or minus 1.5 dB, RL less than or equal to 60 dB
Total Uncertainty Add User Cal	add plus or minus 0.2 dB
Total Uncertainty Add Plug And Play Typical	add typical plus or minus 0.2 dB
Maximum Safe Input Power	+16 dBm
Connector Angle Requirement	angled contact 8 degrees at input and output
Reference Cable	81610CC, return loss uncertainty plus or minus 0.2 dB
Reference Cable Wavelengths	1310 nm and 1550 nm plus or minus 20 nm

PARAMETER	VALUE
Laser Safety Class	Class 1 per IEC 60825-1 (2007)
Laser Max Cw Output 81613A Table	less than 1.8 mW max CW at connector in the 81613A laser-safety table; 9 um beam waist, NA 0.1
Dimensions	75 mm x 32 mm x 335 mm
Weight	1 kg
Recalibration Period	2 years
Operating Temperature	10 C to 40 C
Humidity	non-condensing
Warm Up Time	20 minutes; 60 minutes if not previously stored at the same temperature
Host Mainframes	8163A/B, 8164A/B, 8166A/B
External Source Path	when used with external sources, 81610A specifications apply

Notes

Numeric rows from Keysight 81610A/11A/12A/13A/14A Return Loss Module User's Guide Table 4 (internal source) and Table 3 (81610CC). 81613A is the 1310/1550 nm internal-source column. Center wavelength footnote: 25 C, coherence control on, laser on greater than 5 minutes.

Laser Safety

Laser Safety Class: Class 1 per IEC 60825-1 (2007) Laser Max Cw Output 81613A Table: less than 1.8 mW max CW at connector in the 81613A laser-safety table; 9 um beam waist, NA 0.1 Dimensions: 75 mm x 32 mm x 335 mm Weight: 1 kg Recalibration Period: 2 years Operating Temperature: 10 C to 40 C Humidity: non-condensing Warm Up Time: 20 minutes; 60 minutes if not previously stored at the same temperature Host Ma

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.