


Aumictech

Test & measurement • bought, sold, repaired, calibrated

Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81656A, Tunable Laser Source

HP Agilent Keysight 81656A 1550 nm High Power Fabry Perot Laser Source Module The Agilent 81656A is a high-power 1550 nm Fabry-Perot laser source module for 8163/8164/8166 mainframes. OEM 5988-1570EN high-power (13 dBm) table lists 1550 nm plus or minus 15 nm, spectral bandwidth less than 7.5 nm rms, output greater than +13 dBm (20 mW), and the same short-term CW stability as the 0 dBm FP family. Higher-power 1550 nm FP stimulus for amplifier, IL, and return-loss setups that need greater than +13 dBm at the patchcord. The Agilent 81656A is a high-power 1550 nm Fabry-Perot laser source module for 8163/8164/8166 mainframes. OEM 5988-1570EN high-power (13 dBm) table lists 1550 nm plus or minus 15 nm, spectral bandwidth less than 7.5 nm rms, output greater than +13 dBm (20 mW), and the same short-term CW stability as the 0 dBm FP family. Higher-power 1550 nm FP stimulus for amplifier, IL, and return-loss setups that need greater than +13 dBm at the patchcord. High-power FP, greater than +13 dBm (20 mW) Internal digital modulation 200 Hz to 10 kHz



MODEL

**Agilent / Keysight
81656A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81656A

LISTING

<https://aumictechlabs.com/products/81656a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keysight 81656A is a 1550 nm Fabry-Perot laser source module engineered for optical component characterization within the 8164B lightwave measurement system. This single-wavelength source delivers stabilized output with exceptional insensitivity to back reflections, making it ideal for precision measurements of insertion loss, optical return loss, and PDL across

broadband components and fiber-optic assemblies. Technical Specifications Wavelength: 1550 nm ± 15 nm Laser Type: Fabry-Perot Laser Diode Output Power: $> +13$ dBm (20 mW) Spectral Bandwidth: < 7.5 nm Fiber Output: Standard Single-Mode 9/125 μ m CW Power Stability (15 min): $< \pm 0.005$ dB Back Reflection Sensitivity: Insensitive Output Attenuation Range: 0 dB to 6 dB in 0.1 dB steps Operating Temperature: 0°C to +45°C Humidity: Non-condensing Key Features Internal digital modulation modes selectable from 270 Hz, 330 Hz, 1 kHz, 2 kHz, or user-defined 200 Hz to 10 kHz All outputs pulse-shaped with 50% duty cycle Internal coherence control for linewidth broadening Short-term and long-term output stabilization Compact plug-in module format: 75 mm $\times$ 32 mm $\times$ 335 mm; 0.5 kg Typical Applications Insertion loss measurements of broadband optical components Optical return loss characterization Polarization-dependent loss (PDL) testing Single-mode fiber-optic system verification Compatibility & Integration Designed as a plug-in module for the Keysight 8164B Lightwave Measurement System. Compatible with Keysight 8163A/B, 8164A/B, and 8166A/B mainframes. Laser safety classification: Class IIIb (USA, 21 CFR 1040.10) and Class 3A (International, IEC 60825-1).

81656A Characteristics / Specifications

PARAMETER	VALUE
Model	81656A
Instrument Type	High power Fabry Perot laser source module
Series Family	Agilent 8165xA high power Fabry Perot laser sources
Laser Type	Fabry Perot
Center Wavelength	1550 nm plus or minus 15 nm
Fiber Type	standard single-mode 9/125 um
Spectral Bandwidth Rms	less than 7.5 nm rms
Output Power	greater than +13 dBm (20 mW)
Cw Power Stability Short Term	less than plus or minus 0.005 dB, 15 minutes
Cw Power Stability Short Term Typical Coherence On	typical less than plus or minus 0.003 dB with coherence control active
Cw Power Stability Long Term Typical	typical plus or minus 0.03 dB, 24 hours
Cw Stability To Back Reflection Typical	typical plus or minus 0.003 dB, RL greater than or equal to 14 dB
Output Attenuation Range	0 dB to 6 dB
Output Attenuation Step	0.1 dB
Internal Modulation Fixed	270 Hz, 330 Hz, 1 kHz, 2 kHz
Internal Modulation Free Select	200 Hz to 10 kHz
Modulation Duty Cycle	50 percent pulse shaped
Coherence Control	internal linewidth broadening
Output Connector Class	straight output connectors required
Specification Path	end of a 2 m fiber cable with Diamond HMS-10/Agilent connectors, attenuation 0.0 dB
Laser Safety Class	Class 1M per IEC 60825-1 (2001)
Dimensions	75 mm x 32 mm x 335 mm
Weight	0.5 kg
Recalibration Period	2 years

PARAMETER	VALUE
Operating Temperature	0 C to 45 C
Humidity	non-condensing
Warm Up Time	60 minutes; 20 minutes if previously stored at the same temperature
Stability Temperature Window	controlled environment, deltaTplus or minus 1 C
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Related High Power Models	81655A 1310 nm and 81657A 1310/1550 nm in the same +13 dBm table
Bandwidth	Rms: less than 7.5 nm rms
Linewidth	broadening
Attenuation	Range: 0 dB to 6 dB
Power stability	Short Term: less than plus or minus 0.005 dB, 15 minutes

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to 45 C
Operating Temperature	0 C to 45 C
Humidity	non-condensing
Warm Up Time	60 minutes; 20 minutes if previously stored at the same temperature
Stability Temperature Window	controlled environment, deltaTplus or minus 1 C
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Related High Power Models	81655A 1310 nm and 81657A 1310/1550 nm in the same +13 dBm table Notes Numeric rows from Agilent 81663A DFB Laser, 8165xA Fabry-Perot Laser data sheet 5988-1570EN Table 2 high-power modules (13 dBm), 81656A column.
Internal digital modulation	200 Hz to 10 kHz
Fiber type	standard single-mode 9/125 um
Model	81656A
Instrument Type	High power Fabry Perot laser source module
Series Family	Agilent 8165xA high power Fabry Perot laser sources
Laser Type	Fabry Perot
Center Wavelength	1550 nm plus or minus 15 nm
Spectral Bandwidth Rms	less than 7.5 nm rms
Output Power	greater than +13 dBm (20 mW)
Cw Power Stability Short Term	less than plus or minus 0.005 dB, 15 minutes
Cw Power Stability Short Term Typical Coherence On	typical less than plus or minus 0.003 dB with coherence control active
Cw Power Stability Long Term Typical	typical plus or minus 0.03 dB, 24 hours
Cw Stability To Back Reflection Typical	typical plus or minus 0.003 dB, RL greater than or equal to 14 dB
Output Attenuation Range	0 dB to 6 dB
Output Attenuation Step	0.1 dB
Internal Modulation Fixed	270 Hz, 330 Hz, 1 kHz, 2 kHz

PARAMETER	VALUE
Internal Modulation Free Select	200 Hz to 10 kHz
Modulation Duty Cycle	50 percent pulse shaped
Coherence Control	internal linewidth broadening
Output Connector Class	straight output connectors required
Specification Path	end of a 2 m fiber cable with Diamond HMS-10/Agilent connectors, attenuation 0.0 dB
Laser Safety Class	Class 1M per IEC 60825-1 (2001)
Dimensions	75 mm x 32 mm x 335 mm
Weight	0.5 kg
Recalibration Period	2 years
Operating Temperature	0 C to 45 C
Humidity	non-condensing
Warm Up Time	60 minutes; 20 minutes if previously stored at the same temperature
Stability Temperature Window	controlled environment, deltaTplus or minus 1 C
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Related High Power Models	81655A 1310 nm and 81657A 1310/1550 nm in the same +13 dBm table Notes Numeric rows from Agilent 81663A DFB Laser, 8165xA Fabry-Perot Laser data sheet 5988-1570EN Table 2 high-power modules (13 dBm), 81656A 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	
Specifications	
PARAMETER	VALUE
Model	81656A
Instrument Type	High power Fabry Perot laser source module
Series Family	Agilent 8165xA high power Fabry Perot laser sources
Laser Type	Fabry Perot
Center Wavelength	1550 nm plus or minus 15 nm
Fiber Type	standard single-mode 9/125 um
Spectral Bandwidth Rms	less than 7.5 nm rms
Output Power	greater than +13 dBm (20 mW)
Cw Power Stability Short Term	less than plus or minus 0.005 dB, 15 minutes
Cw Power Stability Short Term Typical Coherence On: typical less than plus or minus 0.003 dB with coherence control active	
Specifications	
PARAMETER	VALUE
Cw Power Stability Long Term Typical	typical plus or minus 0.03 dB, 24 hours
Cw Stability To Back Reflection Typical	typical plus or minus 0.003 dB, RL greater than or equal to 14 dB
Output Attenuation Range	0 dB to 6 dB
Output Attenuation Step	0.1 dB
Internal Modulation Fixed	270 Hz, 330 Hz, 1 kHz, 2 kHz
Internal Modulation Free Select	200 Hz to 10 kHz
Modulation Duty Cycle	50 percent pulse shaped
Coherence Control	internal linewidth broadening
Output Connector Class	straight output connectors required
Specification Path	end of a 2 m fiber cable with Diamond HMS-10/Agilent connectors, attenuation 0.0 dB
Laser Safety Class	Class 1M per IEC 60825-1 (2001)
Dimensions	75 mm x 32 mm x 335 mm

PARAMETER	VALUE
Weight	0.5 kg
Recalibration Period	2 years
Operating Temperature	0 C to 45 C
Humidity	non-condensing
Warm Up Time	60 minutes; 20 minutes if previously stored at the same temperature
Stability Temperature Window	controlled environment, deltaTplus or minus 1 C
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Related High Power Models	81655A 1310 nm and 81657A 1310/1550 nm in the same +13 dBm table

Notes
Numeric rows from Agilent 81663A DFB Laser, 8165xA Fabry-Perot Laser data sheet 5988-1570EN Table 2 high-power modules (13 dBm), 81656A column.

Laser Safety

Laser Safety Class: Class 1M per IEC 60825-1 (2001) Dimensions: 75 mm x 32 mm x 335 mm Weight: 0.5 kg Recalibration Period: 2 years Operating Temperature: 0 C to 45 C Humidity: non-condensing Warm Up Time: 60 minutes; 20 minutes if previously stored at the same temperature Stability Temperature Window: controlled environment, deltaTplus or minus 1 C Host Mainframes: 8163A/B, 8164A/B, 8166A/B Related High Powe

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

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

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 14, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.