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Data Sheet

August 13, 2026

HP / AGILENT

HP / Agilent 81642B Tunable Laser Source, 1495-1640nm, Power: +8.5dBm

HP / Agilent 81642B High Power Tunable Laser Module 1495 to 1640 nm The Agilent/HP 81642B is a high-power tunable laser source module for the 8164A/B Lightwave Measurement System, covering about 1495 to 1640 nm (C- and L-band) with maximum output about +8.5 dBm. It provides mode-hop-free tuning, built-in wavelength metering, and Panda PMF output options for optical amplifier and passive-component test. EDFA and optical amplifier stimulus at high power; C/L-band passive component characterization; DWDM swept-wavelength tests in 8164 mainframes. The Agilent/HP 81642B is a high-power tunable laser source module for the 8164A/B Lightwave Measurement System, covering about 1495 to 1640 nm (C- and L-band) with maximum output about +8.5 dBm. It provides mode-hop-free tuning, built-in wavelength metering, and Panda PMF output options for optical amplifier and passive-component test. EDFA and optical amplifier stimulus at high power; C/L-band passive component characterization; DWDM swept-wavelength tests in 8164 mainframes.



MODEL

HP / Agilent 81642B

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

81642B

LISTING

<https://aumictechlabs.com/products/81642b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent 81642B is a tunable laser source delivering continuous, mode-hop free wavelength tuning across the C- and L-bands (1495–1640 nm) with +8.5 dBm output power. Built-in real-time wavelength metering ensures ± 10 pm absolute accuracy, while a maximum tuning speed of 80 nm/s

minimizes test time without sacrificing measurement confidence. Panda-type polarization-maintaining fiber output maintains a stable, well-defined state of polarization - critical for waveguide and integrated optical device characterization. An optional integrated optical attenuator extends the dynamic output power range beyond 60 dB, enabling flexible stimulus configurations for optical amplifiers and passive components alike. The module integrates directly into Agilent's 8164B mainframe, scaling within broader test architectures.

Technical Specifications
Wavelength Range: 1495 nm to 1640 nm (C- and L-bands)
Maximum Output Power: +8.5 dBm
Wavelength Accuracy: ± 10 pm (absolute)
Tuning Speed: 80 nm/s
maximum Optical Output: Panda-type Polarization Maintaining Fiber (PMF)
Optional Attenuator Dynamic Range: >60 dB

Key Features
Mode-hop free tuning across full wavelength range
Continuous sweep capability for complete spectral coverage
Real-time built-in wavelength meter for precision control
High stimulus power suitable for optical amplifier characterization
Optional integrated optical attenuator for extended output power range
Qualified for critical DWDM component testing

Typical Applications
Optical amplifier characterization and gain measurement
Passive optical component testing (filters, couplers, modulators)
DWDM component validation and spectral analysis
Integrated optical device and waveguide characterization
Fiber optics and photonics research

Compatibility & Integration
Designed as a compact module for the Agilent 8164B mainframe. Backward compatible with 815xx and 816xx series modules when deployed in appropriate mainframe platforms.

Features & description

From manufacturer datasheet

Features

- Wavelength about 1495 to 1640 nm (C and Lband) • Max output about +8.5 dBm (high power TLS family) • Continuous sweep; mode-hop-free full range • Built-in real-time wavelength meter • Panda PMF output options (071/072)

81642B Characteristics / Specifications

PARAMETER	VALUE
Model	81642B
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	High power tunable laser source module
Wavelength Range	1495 nm to 1640 nm
Maximum Output Power	+8.5 dBm
Related 81642A Max Power	+7 dBm
Mainframe Compatibility	8164A/B (high performance TLS slot)
Tuning Continuity	continuous sweep through full wavelength range
Mode Hop Free Tuning	full wavelength range
Built In Wavemeter	yes
Max Tuning Speed Class	80 nm/s with dynamic specifications
Wavelength Accuracy Absolute Class	plus/minus 10 pm class (product summaries)
Fiber Output Class	Panda type polarization maintaining fiber options
Laser Safety Class	Class 1M IEC 60825-1 (2001) family list
Related 1550 nm High Power	81682B +8 dBm
Related 1400 nm High Power	81482B +8.5 dBm
Related 1300 nm High Power	81672B +10 dBm
Alias	HP 81642B; Agilent 81642B; Keysight 81642B
Application Bands	C-band and L-band

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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Mainframe Compatibility	8164A/B (high performance TLS slot)
Tuning Continuity	continuous sweep through full wavelength range
Mode Hop Free Tuning	full wavelength range
Built In Wavemeter	yes
Max Tuning Speed Class	80 nm/s with dynamic specifications
Wavelength Accuracy Absolute Class	plus/minus 10 pm class (product summaries)
Fiber Output Class	Panda type polarization maintaining fiber options
Option 071: PMF straight contact interface	
Option 072: PMF angled contact interface (preferred to reduce reflections)	
Option 003: built-in attenuator (family note except 81672B)	
Specifications	
PARAMETER	VALUE
Laser Safety Class	Class 1M IEC 60825-1 (2001) family list
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Notes	
Rows from Agilent 816x configuration guide and 81642B product summaries. Detailed SSE, SMSR, and absolute	

accuracy tables are in the tunable laser technical specifications (5988-5508EN class) for the installed options.

Laser Safety

Laser Safety Class: Class 1M IEC 60825-1 (2001) family list Related 1550 nm High Power: 81682B +8 dBm Related 1400 nm High Power: 81482B +8.5 dBm Related 1300 nm High Power: 81672B +10 dBm Alias: HP 81642B; Agilent 81642B; Keysight 81642B Application Bands: C-band and L-band Notes Rows from Agilent 816x configuration guide and 81642B product summaries. Detailed SSE, SMSR, and absolute accuracy tables are in

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.