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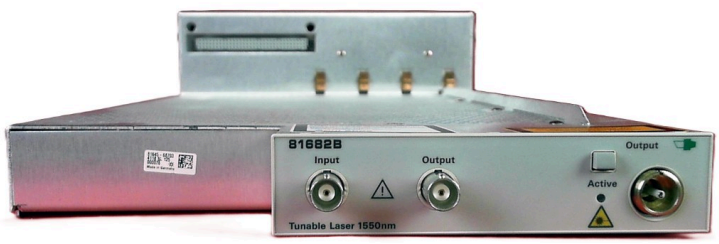
Data Sheet
August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81682B,Agilent Keysight 81682B Optical Source

Warm Up Time: less than 20 minutes; immediate operation after boot-up Host Mainframe: 8164B Lightwave Measurement System, bottom slot Connector Interfaces Required: one 81000xI-series interface Wavelength, high-power identity, Option 003, and 1520 to 1570 nm ≥ +3 dBm sweep-span conditions from Agilent Tunable Laser Sources Technical Specifications March 2002. Safety-table CW power, beam waist, and NA from Keysight 8163/4/6 users guide discontinued-TLS laser-safety table. Do not copy 81640B low-SSE power tables onto 81682B. Host Mainframe: 8164B Lightwave Measurement System, bottom slot Connector Interfaces Required: one 81000xI-series interface Wavelength, high-power identity, Option 003, and 1520 to 1570 nm ≥ +3 dBm sweep-span conditions from Agilent Tunable Laser Sources Technical Specifications March 2002. Safety-table CW power, beam waist, and NA from Keysight 8163/4/6 users guide discontinued-TLS laser-safety table. Do not copy 81640B low-SSE power tables onto 81682B.



MODEL Agilent / Keysight 81682B	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU 81682B	LISTING https://aumictechlabs.com/products/81682b-2/

NIST-traceable cal · SAM registered · 30-day returns · NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 81682B is a tunable laser source delivering precise wavelength control and high-power optical output across the S- and C-bands. Operating from 1460 nm to 1580 nm with

mode-hop-free tuning, it reaches maximum output power of +8 dBm and achieves tuning speeds to 80 nm/s. The integrated real-time wavelength meter provides absolute accuracy of ± 10 pm, while typical repeatability reaches ± 0.5 pm.Continuous sweep capability across the full wavelength range eliminates mode hops - critical for DWDM component characterization and optical amplifier testing. The Panda-type polarization-maintaining fiber output ensures stable, polarized light for precision measurements on integrated optical devices and passive components.Technical Specifications Wavelength Range: 1460 nm to 1580 nm Maximum Output Power: +8 dBm Maximum Tuning Speed: 80 nm/s Wavelength Accuracy (absolute): ± 10 pm Wavelength Repeatability (typical): ± 0.5 pm Optical Output: Panda-type polarization-maintaining fiber Power Consumption: 240 W maximum Input Power: Single-phase AC, 100–240 V, 50–60 Hz (auto-selecting) Mains Supply Voltage Fluctuation Tolerance: ≤ 10% of specified supply voltageKey Features Mode-hop-free tuning over the complete wavelength range Continuous sweep capability through full S- and C-band coverage Built-in real-time wavelength meter for enhanced measurement confidence Stable polarized output via Panda-type fiber geometry Fast wavelength tuning to 80 nm/s for dynamic characterizationTypical Applications Optical amplifier testing at high stimulus power levels Passive optical component characterization Integrated optical device measurement DWDM critical component validationCompatibility & Integration The 81682B integrates into the 8164B mainframe and represents an upgrade path from the 81682A platform.

Features & description

From manufacturer datasheet

Polarization Extinction Ratio Typical: 16 dB typical

Internal Digital Modulation Family: 50 percent duty cycle, 200 Hz to 300 kHz External Digital Modulation Family: greater than 45 percent duty cycle, fall time less than 300 ns, 200 Hz to 1 MHz External Analog Modulation Family: ≥ ±15 percent modulation depth, 5 kHz to 20 MHz Operating Temperature: +10 C to +35 C Storage Temperature: minus 40 C to +70 C Humidity: less than 80 percent RH at 10 C to 35 C, non-condensing Warm Up Time: less than 20 minutes; immediate operation after boot-up Recalibration Period Family: 2 years Host Mainframe: 8164B Lightwave Measurement System, bottom slot Connector Interfaces Required: one 81000xI-series interface Notes Wavelength, high-power identity, Option 003, and 1520 to 1570 nm ≥ +3 dBm sweep-span conditions from Agilent Tunable Laser Sources Technical Specifications March 2002. Safety-table CW power, beam waist, and NA from Keysight 8163/4/6 users guide discontinued-TLS laser-safety table. Do not copy 81640B low-SSE power tables onto 81682B.

81682B Characteristics / Specifications

PARAMETER	VALUE
Model	81682B
Instrument Type	Tunable laser source module
Series Family	Agilent 8164xB/8168xB TLS
Wavelength Range	1460 nm to 1580 nm
Wavelength Resolution Family	0.1 pm, 12.5 MHz at 1550 nm
Maximum Tuning Speed Family	80 nm/s
Mode Hop Free Sweep Span	1520 nm to 1570 nm at flat output power ≥ +3 dBm
Output Ports	high-power output; optional 60 dB attenuator Option 003
Laser Type	EC-Laser InGaAsP
Maximum Cw Output Power Safety Table	less than 15 mW
Beam Waist Diameter	9 um
Numerical Aperture	0.1
Laser Class	IEC 60825-1 Class 1M
Max Permissible Cw Output Power Safety	163 mW
Output Isolation Typical Family	50 dB typical
Return Loss Typical Option 0	60 dB typical
Polarization Extinction Ratio Typical	16 dB typical
Internal Digital Modulation Family	50 percent duty cycle, 200 Hz to 300 kHz
External Digital Modulation Family	greater than 45 percent duty cycle, fall time less than 300 ns, 200 Hz to 1 MHz
External Analog Modulation Family	≥ ±15 percent modulation depth, 5 kHz to 20 MHz
Operating Temperature	+10 C to +35 C
Storage Temperature	minus 40 C to +70 C
Humidity	less than 80 percent RH at 10 C to 35 C, non-condensing
Warm Up Time	less than 20 minutes; immediate operation after boot-up

PARAMETER	VALUE
Recalibration Period Family	2 years
Host Mainframe	8164B Lightwave Measurement System, bottom slot
Connector Interfaces Required	one 81000xI-series interface
Wavelength resolution	Family: 0.1 pm, 12.5 MHz at 1550 nm
Output isolation	Typical Family: 50 dB typical
Return loss	Typical Option 072: 60 dB typical
Polarization extinction ratio	Typical: 16 dB typical

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	minus 40 C to +70 C
Operating temperature	+10 C to +35 C
Operating Temperature	+10 C to +35 C
Humidity	less than 80 percent RH at 10 C to 35 C, non-condensing
Warm Up Time	less than 20 minutes; immediate operation after boot-up
Recalibration Period Family	2 years
Host Mainframe	8164B Lightwave Measurement System, bottom slot
Connector Interfaces Required	one 81000xI-series interface Notes Wavelength, high-power identity, Option 003, and 1520 to 1570 nm ≥ +3 dBm sweep-span conditions from Agilent Tunable Laser Sources Technical Specifications March 2002. Safety-table CW power, beam waist, and NA from Keysight 8163/4/6 users guide discontinued-TLS laser-safety table. Do not copy 81640B low-SSE power tables onto 81682B.
Internal digital modulation	Family: 50 percent duty cycle, 200 Hz to 300 kHz
External digital modulation	Family: greater than 45 percent duty cycle, fall time less than 300 ns, 200 Hz to 1 MHz
External analog modulation	Family: ≥ ±15 percent modulation depth, 5 kHz to 20 MHz
Internal Digital Modulation Family	50 percent duty cycle, 200 Hz to 300 kHz
External Digital Modulation Family	greater than 45 percent duty cycle, fall time less than 300 ns, 200 Hz to 1 MHz
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Operating Temperature	+10 C to +35 C
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Host Mainframe	8164B Lightwave Measurement System, bottom slot
Connector Interfaces Required	one 81000xI-series interface Notes Wavelength, high-power identity, Option 003, and 1520 to 1570 nm ≥ +3 dBm sweep-span conditions

PARAMETER	VALUE
	from Agilent Tunable Laser Sources Technical Specifications March 2002. Safety-table CW power, beam waist, and NA from Keysight 8163/4/6 users guide discontinued-TLS laser-safety table. Do not copy 81640B low-SSE power tables onto 81682B.

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	81682B
Instrument Type	Tunable laser source module
Series Family	Agilent 8164xB/8168xB TLS
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Wavelength Resolution Family	0.1 pm, 12.5 MHz at 1550 nm
Maximum Tuning Speed Family	80 nm/s
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Output Ports	high-power output; optional 60 dB attenuator Option 003
Laser Type	EC-Laser InGaAsP
Maximum Cw Output Power Safety Table	less than 15 mW
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Laser Class	IEC 60825-1 Class 1M
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Recalibration Period Family	2 years

PARAMETER	VALUE
Host Mainframe	8164B Lightwave Measurement System, bottom slot
Connector Interfaces Required	one 81000xI-series interface

Notes
Wavelength, high-power identity, Option 003, and 1520 to 1570 nm ≥ +3 dBm sweep-span conditions from Agilent Tunable Laser Sources Technical Specifications March 2002. Safety-table CW power, beam waist, and NA from Keysight 8163/4/6 users guide discontinued-TLS laser-safety table. Do not copy 81640B low-SSE power tables onto 81682B.

Ordering Information

OPTION	DESCRIPTION
Option 003	Panda PMF Options 071/072

Class 1M

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

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