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Data Sheet
August 13, 2026

HP / AGILENT

HP / Agilent 81682A tunable laser covers the C â€“ Band

Agilent 8164A Lightwave Mainframe with 81682A Tunable Laser 1460-1580 nm The Agilent 8164A is the Lightwave Measurement System mainframe for high-performance tunable-laser modules in the bottom high-power slot plus two compact 816x modules. The 81682A isaC/S-band external-cavity tunable laser for that bottom slot: 1460 to 1580 nm, mode-hop-free, built-in wavelength control loop, maximum output +8 dBm (output 1). Absolute wavelength accuracy plus/minus 0.01 nm; relative plus/minus 5 pm (plus/minus 2 pm typical); repeatability typically plus/minus 0.5 pm; stability typically less than plus/minus 1 pm. Wavelength resolution 0.1 pm (12.5 MHz at 1550 nm). Power from 1520-1570 nm greater than +4.5 dBm class; SSE ratio 45 dB/nm or better (1520-1570 nm). Option 003 built-in 60 dB attenuator (reduces max output about 1.5 dB). Linewidth 100 kHz coherent control off; greater than 50 MHz with coherent control on (1480-1580 nm at max flat power). Power stability plus/minus 0.01 dB. Panda PM fiber outputs. 81682A succeeded by 81682B. The Agilent 8164A is the Lightwave Measurement System mainframe for high-performance tunable-laser modules in the bottom high-power slot plus two compact 816x modules. The 81682A isaC/S-band external-cavity tunable laser for that bottom slot: 1460 to 1580 nm, mode-hop-free, built-in wavelength control loop, maximum output +8 dBm (output 1). Absolute wavelength

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

NIST-traceable cal · SAM registered · 30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 81682A is a tunable laser source covering the C-band (1460 nm to 1580 nm) with mode-hop-free tuning and precise wavelength control. Engineered for telecommunications component testing, DWDM applications, and optical research, this instrument delivers stable optical power with narrow linewidth performance. Wavelength resolution reaches 0.1 pm (12.5 MHz at 1550 nm) with absolute accuracy of ±0.01 nm. Maximum output power is 8 dBm, with power stability of ±0.01 dB over 1 hour and flatness of ±0.2 dB across the wavelength range. The laser offers multiple modulation modes - internal digital (200 Hz to 300 kHz), external digital (200 Hz to 1 MHz), and external analog (5 kHz to 20 MHz) - with spectral linewidth of 100 kHz in standard operation. An optional built-in attenuator (Option 003) provides 60 dB dynamic range, reducing peak power to 6.5 dBm. Signal-to-source spontaneous emission ratio exceeds 40 dBc across 1480–1580 nm. Return loss specifications are 60 dB (Options 022, 072) or 40 dB (Options 021, 071). Polarization-maintaining fiber output (Panda-type) is available with 16 dB typical extinction ratio and TE-mode orientation.

Features & description

From manufacturer datasheet

Built-in real-time wavelength meter

Technical Specifications Model: 8164A / 81682A Manufacturer: Hewlett Packard / Agilent / Keysight Instrument Type: Lightwave mainframe with tunable laser module Series: 8163/8164/8166 lightwave Alias: 8164A; 81682A; HP 81682A Mainframe: 8164A Lightwave Measurement System TLS Slot: bottom high-power slot of 8164A Compact Slots: two additional 816x module slots Wavelength Range: 1460 to 1580 nm Absolute Wavelength Accuracy: plus/minus 0.01 nm Relative Wavelength Accuracy: plus/minus 5 pm (plus/minus 2 pm typical) Wavelength Repeatability: plus/minus 0.5 pm typical Wavelength Stability: less than plus/minus 1 pm typical Wavelength Resolution: 0.1 pm (12.5 MHz at 1550 nm) Maximum Output Power: plus 8 dBm Power 1520 to 1570 nm: greater than plus 4.5 dBm class SSE Ratio: 45 dB/nm or better 1520-1570 nm SSE Total: 30 dB or better typical 1520-1570 nm Linewidth Off: 100 kHz (coherent control off) Linewidth On: greater than 50 MHz (coherent control on, 1480-1580 nm max flat) Power Stability: plus/minus 0.01 dB Option 003: built-in optical attenuator 60 dB range, about 1.5 dB max-power reduction Fiber: Panda PM Mode Hop Free: entire specified range Laser Type: InGaAsP external cavity / FP class TLS

81682A Characteristics / Specifications

PARAMETER	VALUE
Model	8164A / 81682A
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Lightwave mainframe with tunable laser module
Series	8163/8164/8166 lightwave
Alias	8164A; 81682A; HP 81682A
Mainframe	8164A Lightwave Measurement System
TLS Slot	bottom high-power slot of 8164A
Compact Slots	two additional 816x module slots
Wavelength Range	1460 to 1580 nm
Absolute Wavelength Accuracy	plus/minus 0.01 nm
Relative Wavelength Accuracy	plus/minus 5 pm (plus/minus 2 pm typical)
Wavelength Repeatability	plus/minus 0.5 pm typical
Wavelength Stability	less than plus/minus 1 pm typical
Wavelength Resolution	0.1 pm (12.5 MHz at 1550 nm)
Maximum Output Power	plus 8 dBm
Power 1520 to 1570 nm	greater than plus 4.5 dBm class
SSE Ratio	45 dB/nm or better 1520-1570 nm
SSE Total	30 dB or better typical 1520-1570 nm
Linewidth Off	100 kHz (coherent control off)
Linewidth On	greater than 50 MHz (coherent control on, 1480-1580 nm max flat)
Power Stability	plus/minus 0.01 dB
Fiber	Panda PM
Mode Hop Free	entire specified range
Laser Type	InGaAsP external cavity / FP class TLS
Host Interface	GPIB on 8164A

PARAMETER	VALUE
Related 81680A	low SSE 1550 nm TLS same band
Related 81640A	1500-1640 nm
Related 81689A	compact plus 6 dBm 1550 nm
Successor	81682B
Safety Class	IEC 60825-1 class 3A class / FDA IIIb class on TLS family
Form	8164A benchtop mainframe plus plug-in TLS
Linewidth	Off: 100 kHz (coherent control off)

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.

performance tunable-laser modules in the bottom high-power slot plus two compact 816x modules. The 81682A isaC/S-band external-cavity tunable laser for that bottom slot: 1460 to 1580 nm, mode-hop-free, built-in wavelength control loop, maximum output +8 dBm (output 1). Absolute wavelength accuracy plus/minus 0.01 nm; relative plus/minus 5 pm (plus/minus 2 pm typical); repeatability typically plus/minus 0.5 pm; stability typically less than plus/minus 1 pm. Wavelength resolution 0.1 pm (12.5 MHz at 1550 nm). Power from 1520-1570 nm greater than +4.5 dBm class; SSE ratio 45 dB/nm or better (1520-1570 nm). Option 003 built-in 60 dB attenuator (reduces max output about 1.5 dB). Linewidth 100 kHz coherent control off; greater than 50 MHz with coherent control on (1480-1580 nm at max flat power). Power stability plus/minus 0.01 dB. Panda PM fiber outputs. 81682A succeeded by 81682B.

Applications
DWDM passive-component and EDFA stimulus
Mode-hop-free S+C band sweeps
8164A modular lightwave benches with TLS in the high-power slot

Key Features
8164A mainframe high-power TLS slot plus two compact slots
81682A 1460-1580 nm +8 dBm mode-hop-free
Plus/minus 0.01 nm absolute accuracy; 0.1 pm settable
Option 003 60 dB attenuator
Built-in real-time wavelength meter

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	8164A / 81682A
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Lightwave mainframe with tunable laser module
Series	8163/8164/8166 lightwave
Alias	8164A; 81682A; HP 81682A
Mainframe	8164A Lightwave Measurement System
TLS Slot	bottom high-power slot of 8164A
Compact Slots	two additional 816x module slots
Wavelength Range	1460 to 1580 nm
Absolute Wavelength Accuracy	plus/minus 0.01 nm
Relative Wavelength Accuracy	plus/minus 5 pm (plus/minus 2 pm typical)
Wavelength Repeatability	plus/minus 0.5 pm typical
Wavelength Stability	less than plus/minus 1 pm typical
Wavelength Resolution	0.1 pm (12.5 MHz at 1550 nm)
Maximum Output Power	plus 8 dBm

PARAMETER	VALUE
Power 1520 to 1570 nm	greater than plus 4.5 dBm class
SSE Ratio	45 dB/nm or better 1520-1570 nm
SSE Total	30 dB or better typical 1520-1570 nm
Linewidth Off	100 kHz (coherent control off)
Linewidth On	greater than 50 MHz (coherent control on, 1480-1580 nm max flat)
Power Stability	plus/minus 0.01 dB

Option 003: built-in optical attenuator 60 dB range, about 1.5 dB max-power reduction

Specifications

PARAMETER	VALUE
Fiber	Panda PM
Mode Hop Free	entire specified range
Laser Type	InGaAsP external cavity / FP class TLS
Host Interface	GPIB on 8164A
Related 81680A	low SSE 1550 nm TLS same band
Related 81640A	1500-1640 nm
Related 81689A	compact plus 6 dBm 1550 nm
Successor	81682B
Safety Class	IEC 60825-1 class 3A class / FDA IIIb class on TLS family
Form	8164A benchtop mainframe plus plug-in TLS

Notes
Specs from HP/Agilent 8164A catalog and 81682A TLS table (1460-1580 nm, +8 dBm, ±0.01 nm, 0.1 pm). Confirm option 003/071 and 8164A versus 8164B mainframe.

Ordering Information

OPTION	DESCRIPTION
Option 003	built-in 60 dB attenuator (reduces max output about 1.5 dB). Linewidth 100 kHz coherent control off; greater than 50 MHz with coherent control on (1480-1580 nm

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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