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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81495A – Optical Head

Keysight 81495A Optical Reference Receiver Module The Agilent/Keysight 81495A is a multimode reference receiver module for the 816xB lightwave measurement system. It provides optical-to-electrical conversion from 622 Mb/s to 12.5 Gb/s with typical 9.3 GHz O/E bandwidth and an integrated average optical power meter for transceiver loopback and stress testing. IEEE 802.3ae LR/ER and 10G Fibre Channel transceiver loopback, optical eye analysis with oscilloscopes, and O/E conversion with spectrum analyzers on 62.5/125 μ m multimode fiber. The Agilent/Keysight 81495A is a multimode reference receiver module for the 816xB lightwave measurement system. It provides optical-to-electrical conversion from 622 Mb/s to 12.5 Gb/s with typical 9.3 GHz O/E bandwidth and an integrated average optical power meter for transceiver loopback and stress testing. IEEE 802.3ae LR/ER and 10G Fibre Channel transceiver loopback, optical eye analysis with oscilloscopes, and O/E conversion with spectrum analyzers on 62.5/125 μ m multimode fiber. SCPI remote control in 816xB LMS mainframes

**MODEL****Agilent / Keysight
81495A****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****81495A****LISTING**<https://aumictechlabs.com/products/81495a-2/>

NIST-traceable cal

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NAICS 423690 • 811210 • 541380

This unit

The Keysight 81495A Optical Head is a Reference Receiver Module delivering optical-to-electrical conversion for advanced optical transceiver testing. Operating across 750 nm to 1650 nm, it supports data rates from 622 Mb/s to 12.5 Gb/s with 9.3 GHz O/E bandwidth, enabling precise eye

diagram analysis and compliance validation for IEEE 802.3ae and 10G Fibre Channel standards. The module integrates an optical average power meter for direct signal verification, eliminating setup uncertainty and ensuring measurement confidence across multi-mode fiber links.

Technical Specifications

- Wavelength Range: 750 nm to 1650 nm
- Data Rate Capability: 622 Mb/s to 12.5 Gb/s
- O/E Bandwidth: 9.3 GHz
- Fiber Type: Standard multi-mode 62.5 μm /125 μm
- Maximum Safe Input Power: 2 mW
- Maximum Linear Input Power: -3 dBm
- Analog Output Voltage: 0 to 0.4 V (0 V at no input; 0.4 V at ~ 1 mW input)
- Dark-Input Electrical Offset: Typically ± 50 mV; remotely adjustable via SCPI
- O/E Conversion Ratio: Wavelength-dependent; queryable for 850 nm, 1310 nm, and 1550 nm
- Optical Input Connector: Straight contact type (angled connectors introduce ≥ 7 dB loss)

Key Features

- Integrated optical average power meter for fast signal verification
- Clean eye diagrams across full wavelength range
- SCPI remote control for conversion ratio queries and offset calibration
- Optimized for transceiver loopback testing per IEEE 802.3ae-LR, -ER, and 10 GFC
- Extended standard compliance support (802.3ae-LR, -LRM, -ER, -SR) with N4917A Optical Receiver Stress Test solution

Typical Applications

- Optical transceiver stress eye testing and characterization
- O/E conversion in scientific optical measurement setups
- Compliance validation for multi-gigabit optical standards
- Average optical power monitoring and diagnostics

Compatibility & Integration

Designed for the Keysight LMS 816xB platform. Provides RF output and analog data output (voltage proportional to optical signal strength). Supports full SCPI command interface for remote operation and measurement automation.

81495A Characteristics / Specifications

PARAMETER	VALUE
Model	81495A
Instrument Type	optical reference receiver module
Fiber Type	standard multimode 62.5 um / 125 um
Wavelength Range	750 nm to 1650 nm
Operational Data Rate	622 Mb/s to 12.5 Gb/s
Opto Electrical Modulation Bandwidth Typical	DC to 9.3 GHz
Rise And Fall Time 20 To 80 Percent	less than 35 ps
Jitter Contribution Class	less than 20 ps with input jitter less than 10 ps
Maximum Safe Input Power	2 mW
Maximum Linear Input Power	minus 3 dBm
Noise Equivalent Power Rms At 850 nm Typical	less than 3.0 uW
Noise Equivalent Power Rms At 1310 nm Typical	less than 1.5 uW
Conversion Ratio At 850 nm Typical	greater than 250 V/W
Conversion Ratio At 1310 nm Typical	greater than 400 V/W
Conversion Ratio At 1550 nm Typical	greater than 350 V/W
Return Loss At 850 nm Multimode Typical	greater than 14 dB
Return Loss At 1310 nm Single Mode Typical	greater than 27 dB
Rf Output Connector	2.4 mm female
Rf Output Impedance	50 Ohm
Optical Power Meter Range	minus 40 dBm to plus 5 dBm
Power Meter Uncertainty Typical	less than plus or minus 0.5 dB from minus 25 dBm to plus 2 dBm
Power Meter Linearity Typical	less than plus or minus 0.05 dB from minus 25 dBm to plus 2 dBm

PARAMETER	VALUE
Averaging Time Selectable	100 ms to 10 s
Host Platform	Keysight 816xB LMS mainframe
Optical Connector Interface	universal adapter straight ferrule
Bandwidth	Typical: DC to 9.3 GHz
Noise Equivalent Power	Rms At 850 nm Typical: less than 3.0 uW
Data Rate	622 Mb/s to 12.5 Gb/s
Return loss	At 850 nm Multimode Typical: greater than 14 dB

81495A Specifications

PARAMETER	VALUE
Keysight 81495A Optical Reference Receiver Module	Overview
Key Features	750 nm to 1650 nm optical coverage
Integrated average optical power meter	Clean eye for 10GbE loopback
Technical Specifications	Model: 81495A

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	81495A
Instrument Type	optical reference receiver module
Fiber Type	standard multimode 62.5 um / 125 um
Wavelength Range	750 nm to 1650 nm
Operational Data Rate	622 Mb/s to 12.5 Gb/s
Opto Electrical Modulation Bandwidth Typical	DC to 9.3 GHz
Rise And Fall Time 20 To 80 Percent: less than 35 ps	
Specifications	
PARAMETER	VALUE
Jitter Contribution Class	less than 20 ps with input jitter less than 10 ps
Maximum Safe Input Power	2 mW
Maximum Linear Input Power	minus 3 dBm
Noise Equivalent Power Rms At 850 nm Typical: less than 3.0 uW	
Noise Equivalent Power Rms At 1310 nm Typical: less than 1.5 uW	
Specifications	
PARAMETER	VALUE
Conversion Ratio At 850 nm Typical	greater than 250 V/W
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Conversion Ratio At 1550 nm Typical	greater than 350 V/W
Return Loss At 850 nm Multimode Typical	greater than 14 dB
Return Loss At 1310 nm Single Mode Typical: greater than 27 dB	
Specifications	
PARAMETER	VALUE
Rf Output Connector	2.4 mm female

PARAMETER	VALUE
Rf Output Impedance	50 Ohm
Optical Power Meter Range	minus 40 dBm to plus 5 dBm
Power Meter Uncertainty Typical	less than plus or minus 0.5 dB from minus 25 dBm to plus 2 dBm
Power Meter Linearity Typical	less than plus or minus 0.05 dB from minus 25 dBm to plus 2 dBm
Averaging Time Selectable	100 ms to 10 s
Host Platform	Keysight 816xB LMS mainframe
Optical Connector Interface	universal adapter straight ferrule

Notes
Numeric rows from Keysight 81495A Reference Receiver Module User Guide specifications tables. Values marked typical follow OEM typical columns; linear input and conversion ratio conditions are on the OEM sheet.

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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NIST-traceable calibration · SAM registered ·
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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.