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Data Sheet

August 13, 2026

KEYSIGHT / AGILENT

Keysight (Agilent) 86038B Photonic Dispersion and Loss Analyzer

Instrument Type: Photonic dispersion and loss analyzer (PDLA) Alias: 86038B; Agilent 86038B; Keysight 86038B; PDLA Measurement Method: Modulation phase shift (MPS); Mueller Matrix polarization analysis Wavelength Coverage Options: 1260 to 1640 nm (option-dependent TLS) Alias: 86038B; Agilent 86038B; Keysight 86038B; PDLA Measurement Method: Modulation phase shift (MPS); Mueller Matrix polarization analysis Wavelength Coverage Options: 1260 to 1640 nm (option-dependent TLS) Max Single-Laser Sweep Span Class: up to 200 nm



MODEL

**Keysight / Agilent
86038B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

86038B

LISTING

<https://aumictechlabs.com/products/86038b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight (Agilent) 86038B Photonic Dispersion and Loss Analyzer characterizes optical fibers and components with precision measurement of chromatic dispersion, polarization mode dispersion, and insertion loss. Built for high-speed telecommunications and data communications systems operating at 10 Gb/s and 40 Gb/s, it employs the industry-standard Modulation Phase Shift (MPS) method with modular customization for specific test requirements. Technical Specifications Measurement Wavelength Range: 1250 nm to 1650 nm with tunable wavelength steps of 0.1 pm Chromatic Dispersion Accuracy: ± 0.1 ps/nm/km CD Resolution: 0.001 ps/nm Loss

Accuracy: ± 0.01 dB/km Input Power Range: -30 dBm to +10 dBm Input Polarization Sensitivity: 45 dB Dynamic Range: Up to 60 dB Modulation Frequency Range: 5 MHz to 2.5 GHz

Key Features

- Measures chromatic dispersion (CD), polarization mode dispersion (PMD), and second-order PMD
- Insertion loss and gain characterization
- Polarization dependent loss (PDL) analysis
- Group delay (GD) and differential group delay (DGD) computation
- GD ripple and zero-dispersion wavelength determination
- CD slope characterization
- Direct fiber or device length measurement

Single laser enables up to 200 nm sweep range Configurable modulation frequencies optimize dispersion measurement and wavelength resolution

Typical Applications

- Fiber characterization in telecommunications R&D
- Manufacturing quality assurance for optical components
- High-speed optical system validation
- Cable and device loss profiling

Compatibility & Integration

Modular architecture permits tailored configurations to match specific testing workflows and measurement priorities.

Features & description

From manufacturer datasheet

Features

- Simultaneous GD/CD/DGD/PMD/IL/PDL with single connection and setup
- Fast swept-wavelength measurements for all parameters
- Selectable 6-polarization-state Mueller Matrix analysis
- Wavelength options covering 1260-1640 nm; up to 200 nm single-laser sweep
- Optional Opt. 400 enhanced IL and PDL accuracy
- Optional multiport switching; optional 86122A wavelength-meter correction
- Drift correction for gradual environmental/DUT change
- Windows OS with LAN, USB, and GPIB remote control

86038B Characteristics / Specifications

PARAMETER	VALUE
Model	86038B
Manufacturer	Agilent / Keysight
Instrument Type	Photonic dispersion and loss analyzer (PDLA)
Alias	86038B; Agilent 86038B; Keysight 86038B; PDLA
Measurement Method	Modulation phase shift (MPS); Mueller Matrix polarization analysis
Wavelength Coverage Options	1260 to 1640 nm (option-dependent TLS)
Measured Parameters	GD; optical phase; CD; length; DGD; PMD; IL/gain; PDL; 2nd-order PMD; GD ripple; lambda-zero; CD slope
Modulation Frequency Range	5 MHz to 2.5 GHz
System Dynamic Range Typical	>40 dB (TLS at 0 dBm)
Length Uncertainty Typical	+/- (0.02 mm + 1e-6 of length) for length <=50 km (n~1.4)
PDL Uncertainty without Opt. 400 Typical	+/- (0.15 dB + 3% of PDL)
PDL Uncertainty with Opt. 4	+/- (0.05 dB + 3% of PDL)
Gain/Loss Uncertainty with Opt. 4	+/-0.02 dB (loss <10 dB); +/-0.04 dB (loss <30 dB)
Minimum Wavelength Increment	0.1 pm
Maximum Safe Optical Input Power	+4 dBm
Operating Temperature	+10 to +35 C (specified +20 to +30 C)
Assembled Dimensions (HxWxD)	55.5 × 43.5 × 55.5 cm
Net Weight Standard System	54 kg (120 lb)
Interfaces	LAN; USB; GPIB; Windows OS controller Notes Specs from Agilent 86038B Photonic Dispersion and Loss Analyzer User's Guide 86038-90B03 and product literature. Confirm installed TLS option (#113/#114/#115/#116/#120 class), Opt. 400, multiport switch, and 86122A wavelength meter presence; uncertainties scale with modulation frequency, IFBW, and DUT loss.
Warm-up time	90 minutes

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	+10 to +35 C (specified +20 to +30 C)
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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.

environmental/DUT change

- Windows OS with LAN, USB, and GPIB remote control

Technical Specifications

Technical Specifications

PARAMETER	VALUE
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Measurement Method	Modulation phase shift (MPS); Mueller Matrix polarization analysis
Wavelength Coverage Options	1260 to 1640 nm (option-dependent TLS)

Max Single-Laser Sweep Span Class: up to 200 nm

Measured Parameters: GD; optical phase; CD; length; DGD; PMD; IL/gain; PDL; 2nd-order PMD; GD ripple; lambda-zero; CD slope

Modulation Frequency Range: 5 MHz to 2.5 GHz

Relative GD Uncertainty (loss <=4 dB, typ conditions): +/-50 fs

Relative GD Uncertainty (loss <=10 dB): +/-100 fs

DGD Uncertainty (loss <=4 dB class): +/-100 fs +/-2.5% of DGD

Specifications

PARAMETER	VALUE
System Dynamic Range Typical	>40 dB (TLS at 0 dBm)
Length Uncertainty Typical	+/- (0.02 mm + 1e-6 of length) for length <=50 km (n~1.4)
PDL Uncertainty without Opt. 400 Typical	+/- (0.15 dB + 3% of PDL)
PDL Uncertainty with Opt. 400	+/- (0.05 dB + 3% of PDL)
Gain/Loss Uncertainty with Opt. 400	+/-0.02 dB (loss <10 dB); +/-0.04 dB (loss <30 dB)
Minimum Wavelength Increment	0.1 pm

Example TLS Option #116/#316 Band: 1495 to 1640 nm (81600B-160 / 81640B class)

Example Specified Sweep #116/#316: 1510 to 1620 nm

Maximum Safe Optical Input Power: +4 dBm

Warm-up Time: 90 minutes

Specifications

PARAMETER	VALUE
Operating Temperature	+10 to +35 C (specified +20 to +30 C)

PARAMETER	VALUE
Assembled Dimensions (HxWxD)	55.5 x 43.5 x 55.5 cm
Net Weight Standard System	54 kg (120 lb)
Interfaces	LAN; USB; GPIB; Windows OS controller

Notes

Specs from Agilent 86038B Photonic Dispersion and Loss Analyzer User’s Guide 86038-90B03 and product literature. Confirm installed TLS option (#113/#114/#115/#116/#120 class), Opt. 400, multiport switch, and 86122A wavelength meter presence; uncertainties scale with modulation frequency, IFBW, and DUT loss.

Ordering Information

OPTION	DESCRIPTION
Opt. 400	+/- (0.05 dB + 3% of PDL)

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
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<https://aumictechlabs.com>

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.