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Data Sheet
August 13, 2026

KEYSIGHT / AGILENT

Keysight (Agilent) 86038A Optical Dispersion Analyzer

Agilent / Keysight 86038A Optical Dispersion Analyzer The Agilent 86038A Optical Dispersion Analyzer (ODA) characterizes chromatic dispersion, group delay, PMD/DGD, PDL, insertion loss, and fiber length on DWDM components, dispersion-compensating devices, amplifiers, and optical fiber. Measurements use the modulation phase-shift method with swept or stepped wavelength operation. Operating wavelength spans 1260 to 1640 nm (O toLband) with specified operation typically 1510 to 1620 nm. CD and IL sweeps of 1601 wavelength points can complete in less than 10 seconds. The Agilent 86038A Optical Dispersion Analyzer (ODA) characterizes chromatic dispersion, group delay, PMD/DGD, PDL, insertion loss, and fiber length on DWDM components, dispersion-compensating devices, amplifiers, and optical fiber. Measurements use the modulation phase-shift method with swept or stepped wavelength operation. Operating wavelength spans 1260 to 1640 nm (O toLband) with specified operation typically 1510 to 1620 nm. CD and IL sweeps of 1601 wavelength points can complete in less than 10 seconds. DWDM component development and production test; dispersion-compensating grating and fiber characterization; optical amplifier dispersion/loss analysis; simultaneous transmission and reflection two-port testing; zero-dispersion wavelength and CD slope verification.

MODEL **Keysight / Agilent 86038A**	CALIBRATION **Available on request**
CONDITION **Used**	STATUS **In stock**
RFQ / SKU **86038A**	LISTING **https://aumictechlabs.com/products/86038a-2/**

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NAICS 423690 · 811210 · 541380

This unit

The Keysight (Agilent) 86038A Optical Dispersion Analyzer characterizes chromatic dispersion (CD) and polarization mode dispersion (PMD) in optical fibers and components with high precision. It delivers simultaneous measurements of Group Delay (GD), Differential Group Delay (DGD), Polarization Dependent Loss (PDL), and Insertion Loss (IL) in a single connection, minimizing test uncertainty and measurement time. The instrument combines a high-speed polarization scanner, modulator, and dual optical receivers with the Agilent E8801A performance network analyzer for fast, accurate phase measurement across the O to L bands.Technical Specifications Wavelength range: 1260 nm to 1640 nm (O to L band) Measurement parameters: Group Delay (GD), Chromatic Dispersion (CD), Differential Group Delay (DGD), Polarization Mode Dispersion (PMD), Insertion Loss (IL), Polarization Dependent Loss (PDL) Modulation frequency capability: Down to 5 MHz Wavelength step resolution: 0.1 pm Full-span measurement: 1601 wavelength points in less than 10 seconds High-speed polarization scanner enables DGD and PDL measurements at each wavelength pointKey Features Simultaneous GD and CD measurements from a single test connection Simultaneous DGD and PMD measurements with automatic PMD-to-CD correction Simultaneous IL and PDL measurements Leading GD repeatability across wide loss dynamic range Excellent resolution for narrowband device measurements Low noise and high-speed capability with continuous sweep mode for real-time device tuning Capable of resolving fine group delay ripple detail in fiber Bragg gratings and amplitude/CD characteristics in DWDM componentsTypical Applications R&D characterization of DWDM and CWDM components Dispersion compensating grating evaluation Optical fiber analysis Amplifier and optical system dispersion assessment Manufacturing throughput optimizationCompatibility & Integration The 86038A integrates with the Agilent E8801A performance network analyzer platform, designed for maximum measurement speed, dynamic range, and accuracy.

Features & description

From manufacturer datasheet

Features

• Simultaneous GD, CD, DGD/PMD, PDL, and IL with one connection • Wavelength range 1260-1640 nm; specified often 1510-1620 nm • Fast swept CD/IL: 1601 points in less than 10 s • CD automatically corrected for PMD artifacts • Two-port DUT testing (two devices or Tx/Rx simultaneous) • Automatic modulation frequency selection for fiber test • Dynamic drift reduction for environmental stability • System integrates tunable laser and PNA-class microwave analysis

86038A Characteristics / Specifications

PARAMETER	VALUE
Model	86038A
Manufacturer	Agilent / Keysight
Instrument Type	Optical dispersion analyzer
Alias	86038A; Agilent 86038A; Keysight 86038A
Measurement Method	Modulation phase shift (MPS)
Wavelength Operating Range	1260 to 1640 nm (O toLband)
Wavelength Specified Operation Class	1510 to 1620 nm
Measured Parameters	Group delay (GD); chromatic dispersion (CD); differential group delay (DGD); PMD; PDL; insertion loss (IL); length
Sweep Speed Class	CD and IL, 1601 wavelength points in less than 10 s
Ports	Two-port DUT testing supported
PMD Artifact Handling	CD measurements auto-corrected for PMD
Modulation Frequency	Automatic selection available for fiber test
Drift Reduction	Dynamic drift reduction for gradual environmental change
Length Measurement	Derived from RF modulation phase vs frequency; user enters refractive index
Length Uncertainty Class	below 5e-5 for fiber lengths greater than 15 km (published)
Typical Verification DUT	Dispersion-shifted fiber spool class
Tunable Laser Family	Agilent 81600B options (e.g., -150/-160/-200) in system configurations
Data Storage	External CDRW drive support for results
Interfaces	GPIB system cabling (additional cable if wavelength meter present)
Successor System	86038B Photonic Dispersion and Loss Analyzer Notes Specs from Agilent 86038A Optical Dispersion Analyzer User Guide 86038-90006. Confirm installed tunable laser option band, receiver configuration, and whether wavelength meter is present; successor system is 86038B PDLA.
Fast swept CD/IL	1601 points in less than 10 s
Wavelength range	1260-1640 nm; specified often 1510-1620 nm - Fast swept CD/IL: 1601 points in less than 10 s - CD automatically corrected for PMD artifacts -

PARAMETER	VALUE
	Two-port DUT testing (two devices or Tx/Rx simultaneous) - Automatic modulation frequency selection for fibe

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Model	86038A
Manufacturer	Agilent / Keysight
Instrument Type	Optical dispersion analyzer
Alias	86038A; Agilent 86038A; Keysight 86038A
Measurement Method	Modulation phase shift (MPS)
Wavelength Operating Range	1260 to 1640 nm (O toLband)
Wavelength Specified Operation Class	1510 to 1620 nm
Measured Parameters	Group delay (GD); chromatic dispersion (CD); differential group delay (DGD); PMD; PDL; insertion loss (IL); length
Sweep Speed Class	CD and IL, 1601 wavelength points in less than 10 s
Ports	Two-port DUT testing supported
PMD Artifact Handling	CD measurements auto-corrected for PMD
Modulation Frequency	Automatic selection available for fiber test
Drift Reduction	Dynamic drift reduction for gradual environmental change
Length Measurement	Derived from RF modulation phase vs frequency; user enters refractive index
Length Uncertainty Class	below 5e-5 for fiber lengths greater than 15 km (published)
Typical Verification DUT	Dispersion-shifted fiber spool class
Tunable Laser Family	Agilent 81600B options (e.g., -150/-160/-200) in system configurations
Data Storage	External CDRW drive support for results
Interfaces	GPIB system cabling (additional cable if wavelength meter present)
Successor System	86038B Photonic Dispersion and Loss Analyzer Notes Specs from Agilent 86038A Optical Dispersion Analyzer User Guide 86038-90006. Confirm installed tunable laser option band, receiver configuration, and whether wavelength meter is present; successor system is 86038B PDLA.

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 stability
- System integrates tunable laser and PNA-class microwave analysis

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	86038A
Manufacturer	Agilent / Keysight
Instrument Type	Optical dispersion analyzer
Alias	86038A; Agilent 86038A; Keysight 86038A
Measurement Method	Modulation phase shift (MPS)
Wavelength Operating Range	1260 to 1640 nm (O toLband)
Wavelength Specified Operation Class	1510 to 1620 nm
Measured Parameters	Group delay (GD); chromatic dispersion (CD); differential group delay (DGD); PMD; PDL; insertion loss (IL); length
Sweep Speed Class	CD and IL, 1601 wavelength points in less than 10 s
Ports	Two-port DUT testing supported
PMD Artifact Handling	CD measurements auto-corrected for PMD
Modulation Frequency	Automatic selection available for fiber test
Drift Reduction	Dynamic drift reduction for gradual environmental change
Length Measurement	Derived from RF modulation phase vs frequency; user enters refractive index
Length Uncertainty Class	below 5e-5 for fiber lengths greater than 15 km (published)

Zero-Dispersion Analysis: Lambda-zero and CD slope from group-delay curve fit
Typical Verification DUT: Dispersion-shifted fiber spool class
Tunable Laser Family: Agilent 81600B options (e.g., -150/-160/-200) in system configurations
Optional Wavelength Meter: 86122A multi-wavelength meter class in some setups

Specifications

PARAMETER	VALUE
Data Storage	External CDRW drive support for results
Interfaces	GPIB system cabling (additional cable if wavelength meter present)
Successor System	86038B Photonic Dispersion and Loss Analyzer

Notes

Specs from Agilent 86038A Optical Dispersion Analyzer User Guide 86038-90006. Confirm installed tunable laser option band, receiver configuration, and whether wavelength meter is present; successor system is 86038B PDLA.

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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