

T-BERD®/MTS-6000, -6000A, and -8000 Platforms

Polarization Mode Dispersion Module



Key Features

Fixed analyzer method standardized by ITU-T, IEC, and TIA/EIA

Only table-drop-tested PMD testing solution on the market

Perform measurements in just 6 seconds

Perform measurements through multiple EDFAs

Suitable for any test scenario: Buried, aerial, submarine cables, amplified and non-amplified links, short- and ultra-long haul

Advanced optical module for the JDSU T-BERD/MTS platforms

Combining the Polarization Mode Dispersion (PMD) Analyzer with the T-BERD/MTS-6000 and -8000 platform offers a lightweight, handheld, rugged field instrument suitable for any measurement requirement. In addition to the various measurement needs, the T-BERD/MTS platform offers flexibility and scalability for adding measurement capabilities and enhancing functionality.

The instrument can be used for outside (OSP) or inside plant (CO) environments. The intuitive user interface offers easy access for novice technicians with advanced analysis capabilities for expert users.

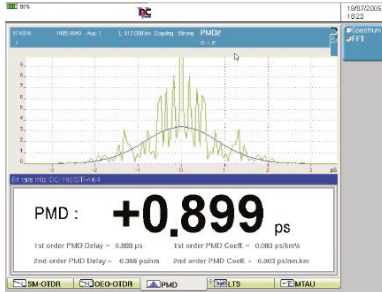
A standardized solution

The PMD test module is based on the Fixed Analyzer Method standardized by ITU-T G.650.2, IEC 60793-1-48, and EIA/TIA 455 FOTP 113.

Measure the intensity modulation mean period from the spectrum. The fixed analyzer response is shifted to the time domain by taking the Fourier Transform of the power fluctuations with wavelength, and the mean differential group delay (DGD) value is determined from the Gaussian curve (for fiber links with strong mode coupling).



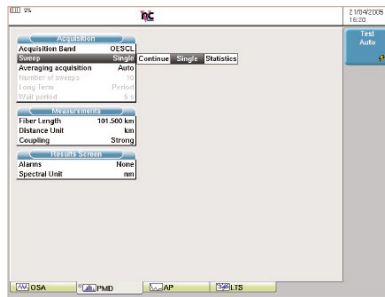
Fixed Analyzer Method principle



PMD results including first- and second-order values with FFT display



OBS-55



Simple test configuration menu



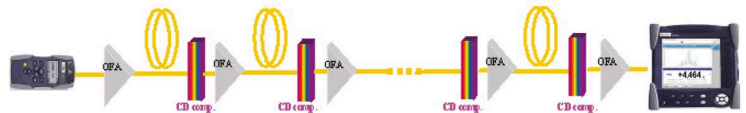
Long-term analysis with drift curve display

Efficient field solution

- Measures the PMD value in less than 6 seconds. Provides the fastest PMD test solution on the market, allowing for greater productivity in the field.

High-performance measurement

- Performs fiber link characterization by measuring PMD DGD from 80 fs to 60 ps with a high dynamic range of 58 dB.
- Automatically calculates second-order PMD delay and PMD coefficient, providing information for future very high speed transmission systems such as 40 Gbps.
- Tests Through multiple erbium doped fiber amplifiers (EFDA): The T-BERD/MTS-6000 and -8000 platforms offer ultra-long-haul amplified system testing capability with in-line EDFA.



Long haul amplified network PMD measurement

Broadband light source

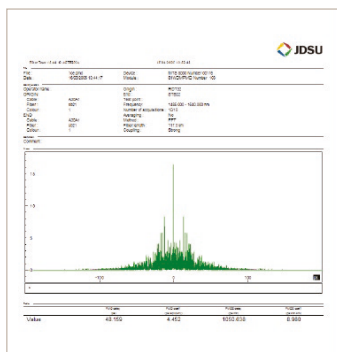
- Optimized for field PMD applications, the handheld OBS-55 broadband source provides up to 6 hours of battery life, and permanent light activation capability. The OBS-55 is a mandatory tool for high performance and high dynamic range PMD testing.
- Plug in a broadband source module directly to the T-BERD/MTS-6000 or -8000 platform, offering an all-in-one solution for the remote product (for example, adding an optical time domain reflectometer [OTDR]).

Easiest to use

- Automatically provides PMD delay, coefficient, and second-order calculation with the press of the start key.
- One-button testing eliminates having to train technicians to carry out a PMD test. The JDSU solution is suitable for both novice and expert technicians.

Long-term PMD analysis

- The PMD module offers complete statistical analysis and long-term monitoring capabilities.
- Calculate PMD variation measurements after taking a series of measurements over a defined period of time. The measurement data is stored automatically and may be viewed as a histogram or a drift curve.



Customized and professional reporting software



T-BERD/MTS-8000 platform



T-BERD/MTS-6000 platform

A powerful link manager

PMD results are directly compared to defined thresholds, and Pass/Fail alarms provide immediate information, saving time with quick and intuitive checks of the complete suite of tests.

Error-free professional report generation

A complete PC-based software application within a Microsoft Windows environment that generates detailed, professional PMD reports.

- Capable of highly customizable proof-of-performance reports
- Provides out-of-range value summaries
- Provides complete fiber characterization reports, including OTDR, CD, PMD, and SA

Enhanced testing solution

With the scalable design of the T-BERD/MTS-6000 and -8000 platforms, field technicians can quickly and easily plug-in the appropriate test module to perform precise measurements from the OSP to the CO. The optical test platforms offer a full range of fiber characterization test modules that measure OTDR, CD, and attenuation profile (AP) as well as provide DWDM testing capabilities.

Combining the PMD test module with additional measurement capabilities of other JDSU optical test functions lets technicians fully characterize the fiber network with an all-in-one solution that shows:

- Optical insertion loss
- Optical return loss
- OTDR
- Chromatic dispersion
- Polarization mode dispersion
- Spectral attenuation profile

Specifications

E81PMD Module - Typical Specifications at 25°C

Optical interfaces

Applicable fiber	SMF 9/125 μm
Interchangeable optical connectors	FC, SC, DIN

Physical

Weight	600g (1.1lbs)
Size	213 × 124 × 32 mm (8.38 × 4.88 × 1.26 in)

Polarization Mode Dispersion

Dynamic range	58 dB
DGD measurement range ¹	0.08 to 130 ps
DGD absolute uncertainty ^{2,3}	$\pm 0.02\text{ps}$ $\pm 2\% \text{ PMD}$
DGD repeatability ^{2,3}	$\pm 0.025\text{ ps}$
Measurement time ⁴	6 s, independent of PMD value

¹ Up to 150 ps in weak mode coupling

² Weak mode coupling, between 0.1 and 60 ps DGD range.

³ NPL standard traceable

⁴ Without averaging, 12 s with 81WDMPMD module

Ordering Information

PMD Module

PMD test module	E81PMD
Handheld broadband source	EOBS55
Broadband source module (1260 – 1640 nm)	E81BBS2A

Application software

Optical Fiber Trace software for post-analysis	EOFS100
Optical Fiber Cable software cable for Acceptance report generation	EOFS200

Universal optical connectors

Straight connectors (UPC)	EUNIPCFC, EUNIPCSC, EUNIPCST, EUNIPCDIN, EUNIPCLC
8° angled connectors (APC)	EUNIAPCFC, EUNIAPCSC, EUNIAPCST, EUNIAPCDIN, EUNIAPCLC

For more information on test adapters, cables and fiber optic couplers, see the separate datasheet, JDSU Fiber Optic Test Adapters and Cables.