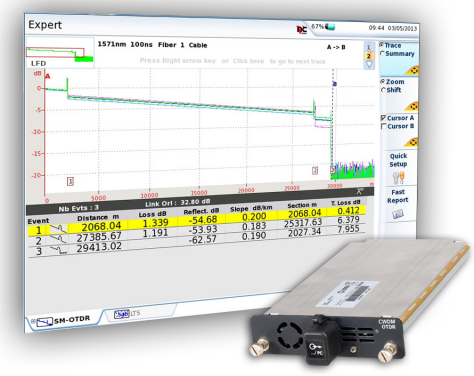
T-BERD®/MTS-6000A and -8000 Platforms

8100-Series CWDM OTDR EVO Modules



Key Benefits

- Characterize fiber links with exact CWDM wavelengths per ITU-T G.694.2
- Test through CWDM multiplexers, optical add/drop multiplexers (OADM), and demultiplexers with central wavelength control
- Troubleshoot live networks with in-service testing feature
- Verify end-to-end continuity using the continuous wave source
- Eliminate OTDR interpretation errors with Smart Link Mapper (SLM) without compromising on test time

Key Features

- Optimized dynamic range to test through mux, OADM, and demux
- Headend/central-office testing with sequenced short acquisition
- Integrated continuous-wave light source with modulation capability
- Instantaneous traffic detection
- Central wavelength control for accurate mux/demux loss measurement

Applications

- Test any CWDM network configuration
- Qualify fiber links during CWDM installation
- Wavelength provisioning—test new wavelength routes without disrupting traffic on active channels
- In-service troubleshooting—pinpoint the nature of a fault and its exact location

The JDSU CWDM module, part of the 8100-Series OTDR EVO family can connect anywhere on the fiber to characterize CWDM networks for commissioning, network upgrades, and troubleshooting with the insurance of workflow optimization and accurate fiber-link fingerprinting.

The optical performance of the CWDM module, combined with the T-BERD/MTS platform's suite of testing features, ensures that testing jobs are performed right the first time to successfully deploy and maintain metro- and mobile-backhaul networks.

Testing features include:

- Automatic multitest configuration
- Summary results table with PASS/FAIL analysis
- Linear trace interpretation with SLM (optional)
- Fast-Report – onboard report generation

Platform Compatibility

T-BERD/MTS-6000A

Compact multilayer platform for network installation and maintenance

T-BERD/MTS-8000 (V2)

Scalable platform for multiple-layer and multiple-protocol testing

Specifications (Typical at 25°C)

General

Weight	approx. 500 g (1.1 lb)
Dimensions (W x H x D)	213 x 124 x 32 mm (8.38 x 4.88 x 1.26 in)
Laser safety class (21 CFR)	Class 1
Distance units	Kilometer, meter, feet, and miles
Group index range	1.30000 to 1.70000 in 0.00001 steps
Number of data points	Up to 256,000 data points
Storage	Bellcore/Telcordia compatible Version 1.1 and Version 2.0

Distance Measurements

Mode	Automatic or dual cursor
Display range	From 0.5 to 320 km
Display resolution	1 cm
Cursor resolution	From 1 cm
Sampling resolution	From 4 cm
Accuracy	±0.75 m ±sampling resolution ±1.10^{-5} * x distance (excluding group index uncertainties)

Attenuation Measurements

Mode	Automatic, manual, 2-point, 5-point, and LSA
Display range	1.25 to 55 dB
Display resolution	0.001 dB
Cursor resolution	From 0.001 dB
Linearity	±0.03 dB/dB
Threshold	0.01 to 5.99 dB in 0.01 dB steps

Reflectance/ORL Measurements

Mode	Automatic or manual
Reflectance accuracy	±2 dB
Display resolution	0.01 dB
Threshold	–11 to –99 dB in 1 dB steps

*Time-based controller/clock accuracy

OTDR Modules	8100 CWDM1E	8100 CWDM2E	8100 CWDM3E	8100 CWDM4E	8100 CWDM5E
Wavelength[1]	1551/1571/1591/1611 ±3 nm	1471/1491/1511/1531 ±3 nm	1431/1451 ±3 nm	1351/1371/1391/1411 ±3 nm	1271/1291/1311/1331 ±3 nm
Dynamic range[2]	42 dB	42 dB	42 dB	42 dB	42 dB
Pulse width	3 ns to 20 µs	3 ns to 20 µs	3 ns to 20 µs	3 ns to 20 µs	3 ns to 20 µs
Event dead zone[3]	0.8 m	0.8 m	0.8 m	0.8 m	0.8 m
Attenuation dead zone[4]	4.5 m	4.5 m	4.5 m	4.5 m	4.5 m
Continuous wave light source					
Wavelengths			all listed above		
Output power			0 dBm		
Stability			<±0.1 dB at 25°C, over 1 hour		
Operating modes[5]			CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz		
Automatic traffic detection			Yes		

1. Measured at 10 µs
2. The one-way difference between the extrapolated backscattering level at the start of the fiber and the RMS noise level after 3 minutes averaging using the largest pulse width
3. Measured at ±1.5 dB down from the peak of an unsaturated reflective event using the shortest pulse width
4. Measured at ±0.5 dB from the linear regression using a FC/PC reflectance and using the shortest pulse width
5. Subtract 3 dB when used in modulation mode (270/330/1k/2k Hz)

Ordering Information

8100-Series CWDM OTDR EVO Modules

Description	*Part Number*
CWDM OTDR 1551/1571/1591/1611 nm	E8140OTDRCWDM1E
CWDM OTDR 1471/1491/1511/1531 nm	E8140OTDRCWDM2E
CWDM OTDR 1431/1451 nm	E8120CWDMOTDR3E
CWDM OTDR 1351/1371/1391/1411 nm	E8140CWDMOTDR4E
CWDM OTDR 1271/1281/1311/1331 nm	E8140CWDMOTDR5E

Interchangeable Optical Connectors

Description	*Part Number*
Straight connectors	EUNIPCFC, EUNIPCSC, EUNIPCST, EUNIPCDIN, EUNIPCLC
8° angled connectors	EUNIAPCFC, EUNIAPCSC, EUNIAPCDIN, ENIAPCLC

For more information about the T-BERD/MTS-6000A and -8000 test platforms, refer to their respective data sheets.

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