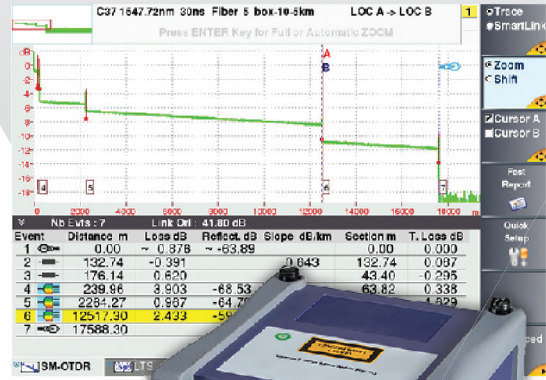


4100-Series DWDM OTDR Module

For T-BERD®/MTS-2000, -4000, -5800 Platforms



As xWDM technology adoption continues to grow in access networks for broadband services, technicians require comprehensive and lightweight xWDM test tools. Consisting of a single module, Viavi's C-band DWDM OTDR solution enables cable, wireless, and telco operators to perform complete end-to-end link characterization and troubleshooting of DWDM and hybrid CWDM/DWDM networks.

The DWDM OTDR module's optical performance, combined with the complete suite of T-BERD/MTS platform testing features, ensures that comprehensive testing is done right the first time.

Standard testing features include:

- Auto-setting of the acquisition parameters
- Summary results table with pass/fail analysis per the international standards
- Comprehensive event diagnosis
- FastReport onboard report generation

Key Benefits

- Characterize fiber links with exact DWDM wavelengths
- Troubleshoot live networks with in-service testing capability
- Verify end-to-end continuity through MUX/DEMUX and ROADMs using the continuous wave source function
- Smart Link Mapper (SLM) eliminates OTDR interpretation errors without impacting test times

Key Features

- Tunable DWDM OTDR module at ITU-T G.694.1 wavelengths
- C-band - 1528 nm to 1568 nm
- 43 dB dynamic range for access and metro applications
- Integrated CW light source with modulation capability
- Instantaneous traffic detection

Applications

- Metro & access rings, business to business, advanced C-RAN fronthauls & next gen FTTH networks
- Qualification of fronthaul access networks
- Testing new DWDM wavelength routes without disrupting traffic on active channels
- Pinpointing faults and their exact locations while in service



T-BERD/MTS-2000

One-slot handheld modular platform for fiber network testing



T-BERD/MTS-4000

Two-slot handheld modular platform for fiber/copper and multiple services testing



T-BERD/MTS-5800

Handheld test instrument for 10 G Ethernet and fiber networks testing

Specifications (typical at 25°C)

Laser safety	Class 1 (IEC), Class 1 (21CFR)
Weight	510 g (1.12 lb)
Dimensions (w x h x d)	128 x 134 x 40 mm (5 x 5.28 x 1.58 in)
Distance units	Km/m/mile/ft
Group index range	1.30000 to 1.70000 in 0.00001 steps
Number of data points	Up to 256,000 data points
Distance Measurements	
Mode	Automatic or dual cursor
Display range	From 0.5 up to 260 km
Display resolution	1 cm
Cursor resolution	From 1 cm
Sampling resolution	From 32 cm
Accuracy	$\pm 0.75 \text{ m} \pm \text{sampling resolution}$ $\pm 1.10^{-5} * \text{x distance}$ (excluding group index uncertainties)
Attenuation Measurements	
Mode	Automatic, manual, 2-point, 5-point and LSA
Display range	From 1.25 dB to 55 dB
Display resolution	0.001 dB
Attenuation linearity	$\pm 0.03 \text{ dB/dB}$
Threshold	0.01 to 5.99 dB in 0.01 dB step
Cursor resolution	From 0.001 dB
Reflectance/ORL Measurements	
Mode	Automatic or manual
Reflectance accuracy	$\pm 2 \text{ dB}$
Display resolution	0.01 dB
Threshold	-11 to -99 dB in 1 dB steps
Storage	Bellcore/Telcordia compatible Version 1.1 and Version 2.0

*Time base controller/clock accuracy.

OTDR and Light Source	
Wavelengths ¹	C-band tuning – C62 to C12 (1527.99nm – 1567.95nm) @ 100GHz
Channel spacing	50/100/200GHz
Pulsewidth	10 ns to 20 μ s
Dynamic range ²	43 dB
Event dead zone ³	1.5 m
Attenuation dead zone ⁴	4 m
Light source Wavelengths	Same as OTDR
Light Source Output Power	0 dBm
Light Source Operating Modes ⁵	CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz
Automatic traffic detection	Yes
In-service testing	Yes

1. Laser at 25°C and measured at 10 μ s.
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 and using the largest pulsewidth.
3. Measured at $\pm 1.5 \text{ dB}$ down from the peak of an unsaturated reflective event using the shortest pulsewidth.
4. Measured at $\pm 0.5 \text{ dB}$ from the linear regression using a FC/PC reflectance and using the shortest pulsewidth.
5. Subtract 3 dB when used in modulation mode (270/330/1/2 kHz).

Ordering Information

Description	Part Number
4100 DWDM OTDR Modules	
Tunable DWDM OTDR Module - PC	E41DWDMC-PC
Tunable DWDM OTDR Module - APC	E41DWDMC-APC
Optical Adapters	
Switchable Adapters	EUSCADS, EUSCADS-APC, EUFCADS, EULCADS, EULCADS-APC

For more information on T-BERD/MTS-2000/-4000/-5800 test platforms, refer to their respective datasheets.



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