**VIAVI**

VIAVI Solutions

Data Sheet

# VIAVI
## DWDM OTDR Module (4100-Series)

For T-BERD®/MTS-2000, –4000 V2, –5800, CellAdvisor 5G
and OneAdvisor-800 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, the VIAVI 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, CellAdvisor 5G and OneAdvisor-800 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



**T-BERD/MTS-2000**

One-slot handheld modular platform for fiber network testing

**T-BERD/MTS-5800**

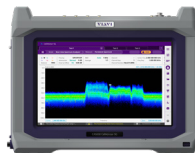Handheld test instrument for 10 G Ethernet and fiber networks testing

**T-BERD/MTS-4000 V2**

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



**OneAdvisor-800**

All-in-One Cell-site Installation and Maintenance Test Solution

**CellAdvisor 5G**

Cell site test solution

## 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

• Automatically identify and test DWDM port channel/link with patented Wavescan

• Avoid accidental transceiver damage with SFP Protect

## Key Features

• C-Band (1528nm to 1568nm) tunable DWDM OTDR module at ITU-T G.694.1 wavelengths (CH12 to CH62)

• Integrated CW light source with modulation capability

• Instantaneous traffic detection

• Automatically identify Mux and Demux components with SmartLink Mapper

## 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



**2020 Broadband Technology Review – 4.5 Diamond Award Winner**

## Specifications (typical at 25°C)

### General

| | |
|---|---|
| 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) |
| Operating and Storage temperature | Refer to platform's datasheet |
| 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 | ±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 | From 1.25 dB to 55 dB |
| Display resolution | 0.001 dB |
| Attenuation linearity | ±0.03 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 | ±2 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 |

### 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 µs |
| Dynamic range[2] | 44 dB |
| Event dead zone[3] | 1.5 m |
| Attenuation dead zone[4] | 4 m |
| Light source Wavelengths | Same as OTDR |
| Light Source Output Power Level | 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 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 and using the largest pulsewidth.

3. Measured at ±1.5 dB down from the peak of an unsaturated reflective event using the shortest pulsewidth.

4. Measured at ±0.5 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

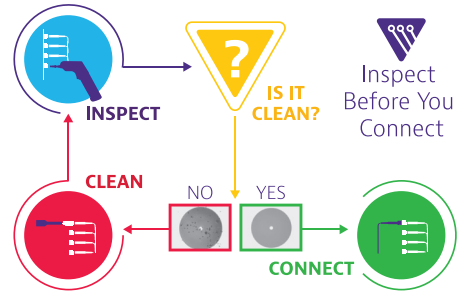| Description | Part Number |
|---|---|
| **4100 DWDM OTDR Modules** | |
| Tunable DWDM OTDR Module - PC | E41DWDMC-PC |
| Tunable DWDM OTDR Module - APC | E41DWDMC-APC |
| Wavescan® SW option for DWDM OTDR Module | EWAVESCAN |
| SFP Protect SW option for DWDM OTDR Module | ESFPPROTECT |
| **Optical Adapters** | |
| Switchable Adapters | EUSCADS, EUSCADS-APC, EUFCADS,EULCADS, EULCADS-APC |

For more information on the VIAVI T-BERD/MTS-2000/-4000 V2/-5800, CellAdvisor 5G and OneAdvisor-800 test platforms, refer to their respective datasheets.

## Test Process Automation (TPA)

Allows your team to deliver expert-level test results and close projects on the first try, every time. TPA is a closed loop test system that optimizes workflows, eliminates manual, error prone work and automates immediate data reporting for job close out, team progress updates and network health analytics. Execute jobs efficiently to ensure high quality network builds, rapid turn-up/activation and enhanced operational visibility.

## Inspect Before You Connect (IBYC)

Contamination is the number 1 reason for troubleshooting optical networks. Proactive inspection and cleaning of fiber connectors can prevent poor signal performance, equipment damage, and network downtime.

## VIAVI Care Support Plans

**Increase your productivity for up to 5 years with optional VIAVI Care Support Plans:**

- Maximize your time with on-demand training, priority technical application support and rapid service.
- Maintain your equipment for peak performance at a low, predictable cost.

Plan availability depends on product and region. Not all plans are available for each product or in every region. To find out which VIAVI Care Support Plan options are available for this product in your region, contact your local representative or visit: viavisolutions.com/viavicareplan

## Features

*5-year plans only

| Plan | Objective | Technical Assistance | Factory Repair | Priority Service | Self-paced Training | 5 Year Battery and Bag Coverage | Factory Calibration | Accessory Coverage | Express Loaner |
|---|---|---|---|---|---|---|---|---|---|
| BronzeCare | Technician Efficiency | Premium | ✓ | ✓ | ✓ | | | | |
| SilverCare | Maintenance & Measurement Accuracy | Premium | ✓ | ✓ | ✓ | ✓* | ✓ | | |
| MaxCare | High Availability | Premium | ✓ | ✓ | ✓ | ✓* | ✓ | ✓ | ✓ |