VIAVI Solutions

Data Sheet

VIAVI T-BERD/MTS

8100-Series Fiber Characterization EVO modules

For T-BERD/MTS-6000A/-8000 Platforms

The VIAVI 8100-Series Fiber Characterization module is part of the EVO family that revolutionizes fiber characterization testing.

This unique module combines FiberComplete testing and broadband source functions with only one fiber connection. It supports the characterization of optical link commissioning as well as network upgrades, ensuring efficient testing and an optimal workflow.

This Fiber Characterization EVO module is a key member of the VIAVI fiber characterization solutions. It enables a smaller test form factor by integrating multiple test functions into one module.

Standard module testing features include:

- Multi-wavelength FiberComplete (IL/ORL/OTDR)
- Broadband Source supporting advanced testing (CD/PMD/AP)
- Automatic OTDR macrobend detection
- Automatic Pass/Fail analysis
- Bi-directional OTDR testing and analysis

Key Benefits

- Supports fiber characterization with six essential tests in one module
- Reduces fiber handling 3x, increases test productivity 60%
- Characterizes links faster using automated or manual testing
- Cuts the time spent testing, analyzing results, and generating reports—decreasing deployment costs

Key Features

- Single connector port integrates FiberComplete test functions (IL/ORL/OTDR) and a broadband source supporting CD/PMD/AP tests
- OTDR features up to 47.5 dB dynamic range and a 2-meter attenuation dead zone at 1310/1550/1625 nm
- Continuous wave light source (1310/1550/1625 nm) and single-mode power meter
- 1460 – 1640nm (SCL bands) broadband source function for CD/PM/AP testing

Applications

- Metro and long-haul fiber characterization
- 4G/LTE backhaul high-speed upgrades
- Fiber network bit rate upgrades to 10/40/100 G

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)
Fiber type	Single-mode fiber
Laser safety	Class 1M
8100 Fiber Characterization series	
OTDR	
Wavelength[1]	1310 ±20 nm; 1550 ±20 nm; 1625 ±10 nm
Pulsewidth	2 ns to 20 µs
Dynamic range2	47.5/47/47.5
Event dead zone[3]	0.6 m
Attenuation dead zone[4]	2 m
Bi-Directional Loss Test Set	
Wavelength[1]	1310 ±20 nm; 1550 ±20 nm; 1625 ±10 nm
Insertion Loss	
Reference methods	Loopback + side-by-side
Dynamic range	42 dB
Uncertainty[5]	±0.2 dB
Repeatability[6]	<0.05 dB
Optical return loss (ORL) including manual ORL	
Measurement range[7]	Up to 55 dB
Uncertainty[8]	±0.9 dB
Repeatability[6]	<0.1 dB
Broadband Source	
Wavelength range	1460 to 1640 nm
Output power Level	>5 dBm
Spectral power density[9]	>–48 dBm/0.1 nm
Operating modes	Modulated, polarized, or continuous
Power Meter	
Calibrated wavelengths	1310, 1490, 1550, 1625 nm
Power range	–3 to –55 dBm
Uncertainty[10]	±0.5 dB @-30 dBm

Optical source	
Wavelength	1310, 1550, 1625 nm
Output power level	–3.5 dBm
Stability	±0.1 dB @25°C over one hour
Operating modes[11]	CW, 270/330 Hz, 1/2 kHz, Twintest

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 (SNR=1) noise level after three-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/UPC reflectance and using the shortest pulsewidth.
5. With side by side referencing.
6. 10 consecutive measurements without disconnection.
7. With APC connector.
8. From 10 to 45 dB.
9. From 1480 to 1620 nm.
10. At calibrated wavelengths.
11. Subtract 3 dB when used in modulation mode (270/330 Hz, 1/2 kHz)

Ordering Information (contact VIAVI Solutions for additional references)

Part Number	Description
8100C Modules	
E8126C-FCHAR	1310/1550 nm FiberComplete™ (IL/ORL/OTDR) and Broadband Source module
E8136C-FCHAR	1310/1550/1625 nm FiberComplete™ (IL/ORL/OTDR) and Broadband Source module
Interchangeable Optical Connectors	
EUNIPCFC, EUNIPCSC, EUNIPCST, EUNIPCDIN	Ultra-polished flat connectors (UPC)
EUNIAPCFC, EUNIAPCSC, EUNIAPCDIN	Ultra-polished 8° angled connectors (APC)

For more information on the T-BERD/MTS-6000A and T-BERD/MTS-8000 V2 test platforms, refer to their respective datasheets.

VIAVI Solutions

Contact Us **+1 844 GO VIAVI**
(+1 844 468 4284)

To reach the VIAVI office nearest you,
visit viavisolutions.com/contacts.

8100evomodule-ds-fop-tm-ae
30173499 903 0918