

Quick Card

T-BERD[®]/MTS-4000 Test Set

Testing Multifiber cables with the MPO Switch Module

This quick card describes how to use a VIAVI T-BERD/MTS to test a 12-fiber single mode MPO link. This method does not require the Cable SLM option and is recommended for testing a single fiber in a single MPO cable.

Equipment Requirements:

- T-BERD/MTS-4000v2 equipped with the following:
 - Fiber Optics Software Release V17.30 or greater
 - MPO Switch Module (E41MPO12SM)
 - E4100 Series OTDR Module
- 30cm SC jumper cable to connect the MPO Switch module SC/APC port to the OTDR module:
 - SC/APC to SC/UPC (EFJ30SCUPCAPC)
 - SC/APC to SC/APC (EFJ30SCAPC)
- 20-meter single mode MPO launch cable (ELCSM20-MPO)
- MPO Bulkhead Adapter (Coupler) to connect Launch Cable to Fiber Under Test
- Fiber optic cleaning and inspection tools:
 - VIAVI P5000i or FiberChek Probe with SC tips for Single fiber jumper cables and ports
 - VIAVI P5000i with MPO tip, FiberChek Probe with MPO tip or FiberChek Sidewinder for MPO fibers
 - IBC or Sticklers MPO Fiber Cleaner
 - IBC or Sticklers 2.5mm Fiber Cleaner



Figure 1: Equipment Requirements

The following information is required to complete the test:

- Wavelength(s) to measure
- Distance unit (feet, meters, miles, kilometers)

Fiber Inspection Guidelines:

- All fiber end-faces must be clean and pass an inspection test prior to connection.
- Use the VIAVI P5000i, FiberChek Probe, or Sidewinder microscope to inspect both sides of every connection being used (OTDR Ports, Launch Cable, couplers, patch cords, etc.)

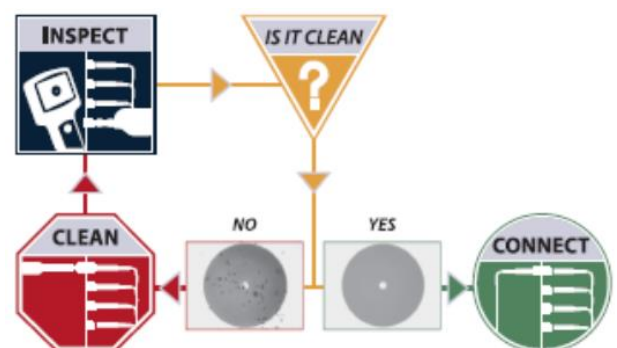


Figure 2: Inspect Before You Connect

Connect to Fiber Under Test:

1. Connect the MPO Switch module port to the OTDR port using the 30-cm SC jumper cable.
2. Connect a 20-meter MPO launch cable to the MPO switch port and fiber under test using an MPO coupler.
3. Optionally connect a 20-meter MPO receive cable to the end of the fiber link under test.

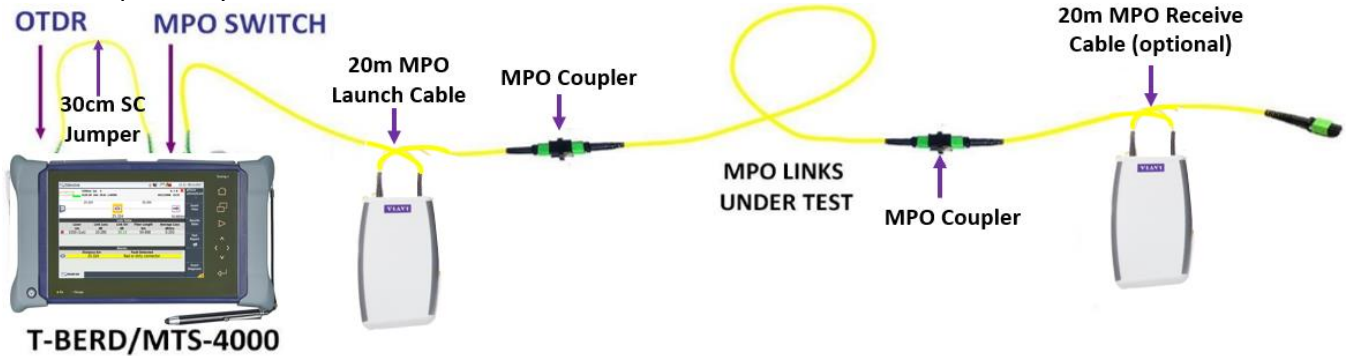






Figure 3: Test Set Up

Launch and Configure Test:

1. Press the Power button  to start the test set.
2. Press the Home key  to display the Home screen.
3. Tap the Switch SM icon  to enable the MPO Optical Switch Module.
4. Tap the Expert OTDR icon  to enable and select the Singlemode OTDR.

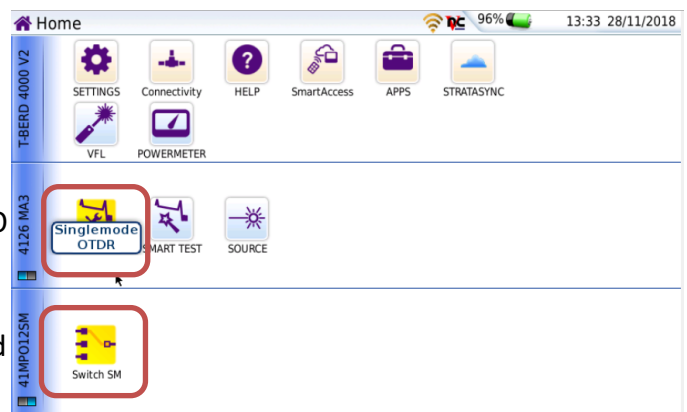




Figure 4: Home Screen

5. Press the Menu key  and tap  to display Acquisition settings.
6. Configure **Acquisition** settings as follows:
 - Switch Port: Select the fiber to test
 - Laser: All
 - Acquisition: Auto
 - Time: Auto
 - SmartAcq: No
 - Otdr Connector Test: No
 - Launch Cable: Enter the cable length

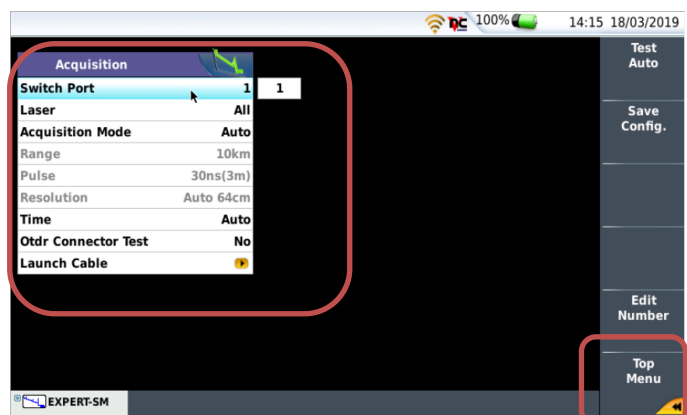






Figure 5: Acquisition Settings

7. Tap the Top Menu soft key  to return to the main Setup screen.
8. Tap the Alarms soft key  to display Alarms settings.

9. Set **Alarm Threshold** to **None**.
10. Tap the **Top Menu** soft key  to return to the main setup screen.
11. Tap the **Analysis** soft key  to display Analysis settings.

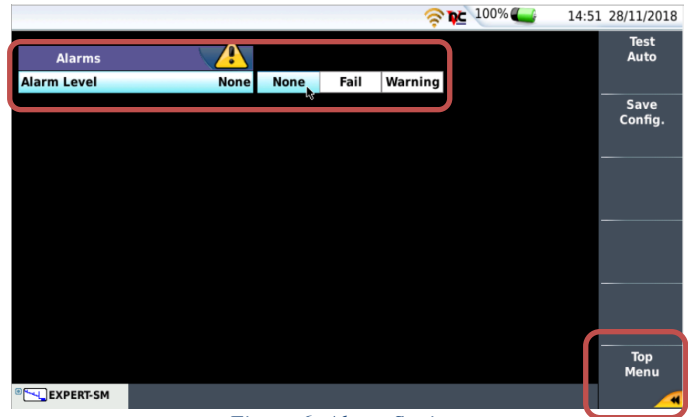




Figure 6: Alarm Settings

12. Set **Distance Unit** to your desired unit of measure (km, miles, feet, etc.) Leave all other settings at their default values.
13. Tap the **Top Menu** soft key  to return to the main setup screen.
14. Tap the **Link Cable** soft key  to display Link and Project settings.

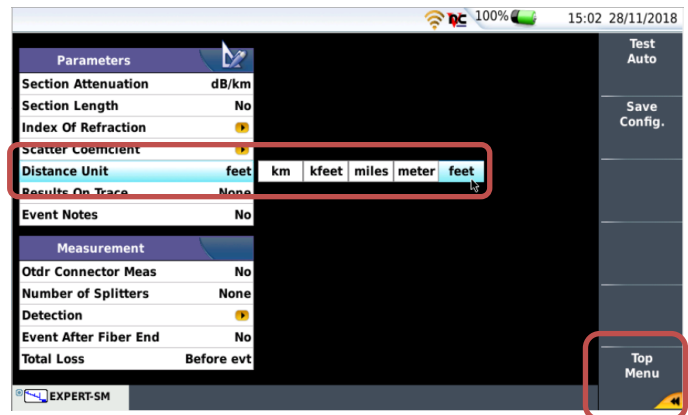



Figure 7: Analysis Settings

15. Set **Fiber Number** to the fiber under test.
16. Tap the **Top Menu** soft key  to return to the main setup screen.

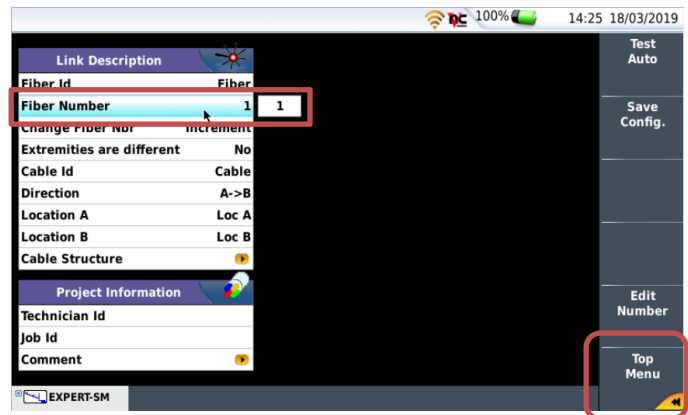


Figure 8: Link and Project Information

Run Test:





1. Press the **Start key** . The OTDR will perform acquisitions at each configured wavelength.



Figure 9: Run Test

View Results: Results may be displayed in two formats: Trace or SmartLink. Tap the **Trace/SmartLink** soft key  to toggle between views.

- In **Trace view** results for each wavelength are shown in different colors in upper display. Each event is listed in the lower display. Events that violate loss or reflectance pass/fail thresholds are shown in **RED**.
- In **SmartLink view**, the FUT is displayed as a series of icons representing each event (connector, splice, bend, etc.). In the center display, acquisitions for which all events are acceptable are marked with a green check . Acquisitions with events that exceed pass/fail thresholds for loss or reflectance are marked with a red .

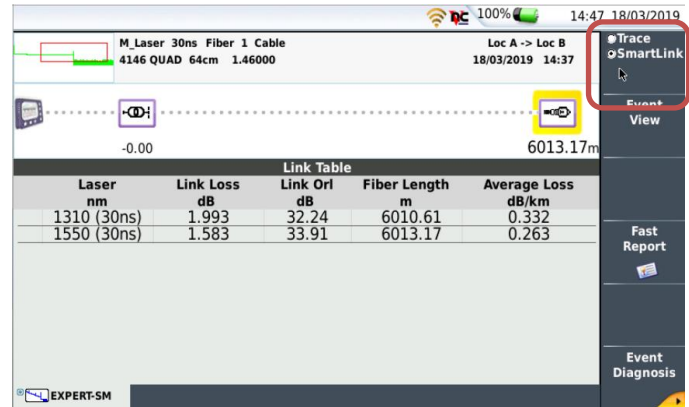






Figure 10: SmartLink view

Save Report:

1. In the SmartLink view, tap the **Fast Report** soft key  and enter **Cable ID, Fiber Number, and Direction**.
2. Tap the **Save All** soft key .
3. Tap the **Auto Filenaming** soft key .
4. Tap the **Enter** soft key .

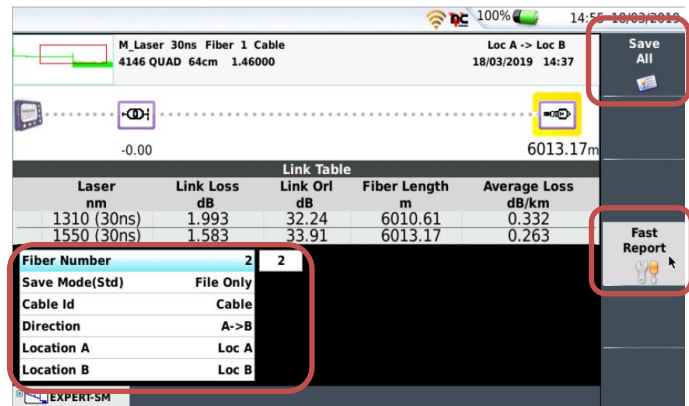


Figure 11: Fast Report