VIAVI Solutions

Quick Card

OneAdvisor-800 Modular Test Set

Measuring Optical Power Levels with a 4100-series OTDR Module

This procedure describes how to use an E4100-series OTDR module as an Optical Power Meter (OPM). If optioned, the OTDR module can operate as an OPM or Optical Light Source, but not at the same time. Light Source is a standard feature on most new OTDR modules, while Power Meter is an option.

Equipment Requirements:

- OneAdvisor-800 equipped with the following:
  - Fiber Optics Software Release V19.92 or greater
  - E4100 Series OTDR Module
  - E41OTDRPM Power Meter option
- Fiber optic cleaning and inspection tools
- Reference Cable (patch cord) with connectors matching the OTDR port and Fiber Under Test
- Optical Coupler to connect Reference Cable to Fiber Under Test

Figure 1: Equipment Requirements

The following information is required to complete the test:

- Type of Fiber (Multimode or Single Mode)
- Type of Connectors (SC UPC, SC APC, LC UPC, etc.)
- Wavelength(s) to be tested (850nm, 1300nm, 1310nm, 1550nm, etc.)

Fiber Inspection Guidelines:

- Use the VIAVI P5000i or FiberChek Probe microscope to inspect both sides of every connection being used (OTDR Port, Reference Cable, bulkhead connectors, patch cords, etc.)
- Focus the fiber on the screen. If dirty, clean the end-face.
- If it appears clean, run inspection test.
- If it fails, clean the fiber and re-run inspection test. Repeat until it passes.

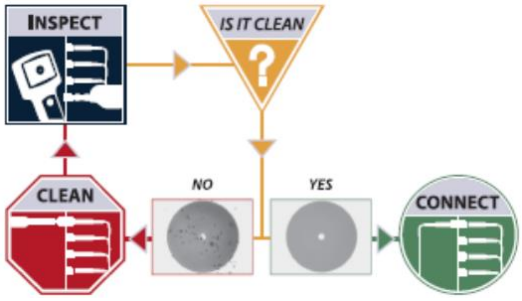

Figure 2: Inspect Before You Connect (IBYC)

Connect Reference Cable to OTDR port:

1. Inspect the OTDR port on top of the test set.
2. Inspect the fiber end face of Reference Cable.
3. Connect Reference Cable to the OTDR port.

Figure 3: OTDR Port Inspection

Connect to Fiber Under Test (FUT):

The Reference Cable may be connected to the FUT via an optical patch panel (OPP) or an optical coupler:

1. If the interface to the FUT is a patch cord, connect the patch cord to an optical coupler with the same connector type.
2. Inspect the FUT connected to the coupler or OPP.
3. Inspect the other fiber end face of the Reference Cable.
4. Connect the Reference Cable to the coupler or OPP.

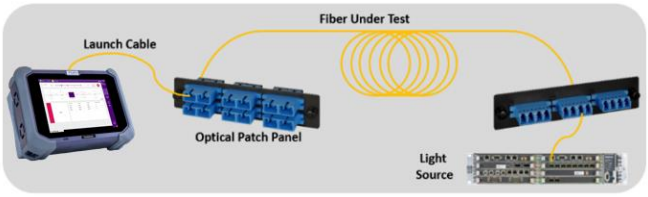

Figure 4: Connecting Reference Cable to OPP

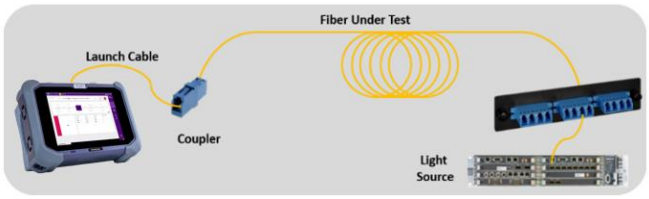

Figure 5: Connecting Reference Cable to FUT with a coupler

Launch the Power Meter:

1. Press the Power button to turn on the OneAdvisor-800.
2. Press the **Home** button Home to display the Home view. Select the Tests icon and the **Fiber module #1**
3. Press the POWERMETER button to activate the power meter.
   - POWERMETER for Single Mode fiber
   - POWERMETER for Multimode fiber

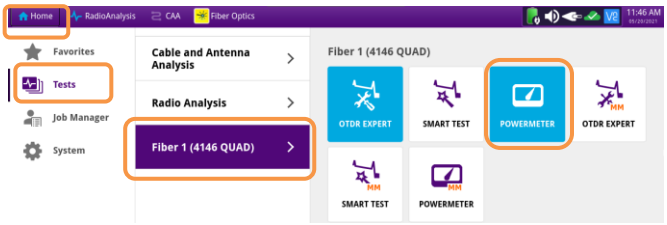

Figure 6: Test Screen

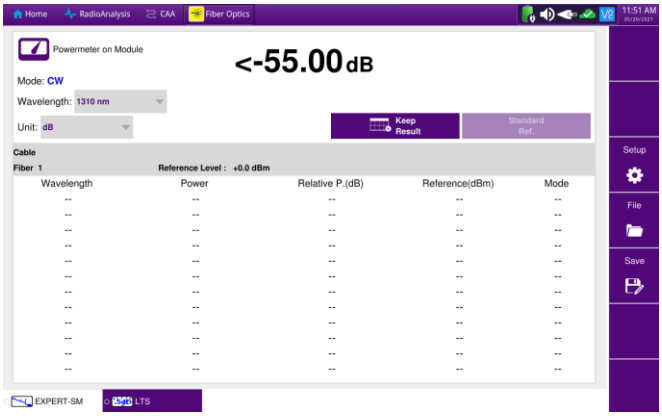

Figure 7: Power Meter Screen

Measure Optical Power:

1. Tap the **Wavelength** drop down in the **Powermeter on Module** section and select the wavelength you wish to measure.
2. Tap the **Unit** drop down and select **dBm**.
3. View the power level in the **Powermeter on Module** section.

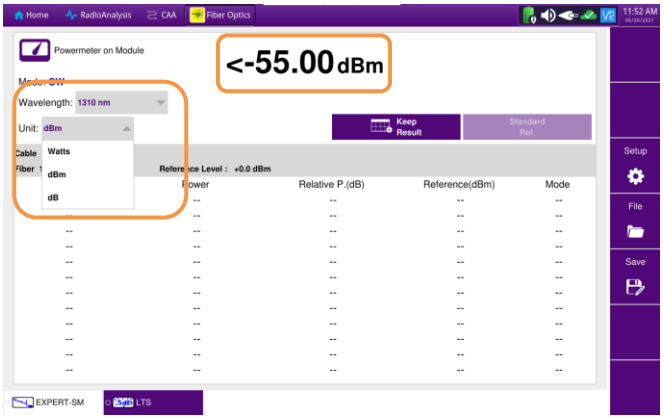

Figure 8: Source and Powermeter Screen

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