

## Quick Card

# OneAdvisor ONA-800 Modular Test Set Real Time Testing with OTDR EXPERT

This quick card describes how to connect to a fiber under test, configure **OTDR EXPERT** with **Real Time** test OTDR settings, run tests, and analyze results with a VIAVI ONA-800 and 4100-series OTDR module.

### Equipment Requirements:

- ONA-800 or ONA-1000 with Fiber Optics Software Release V21.04 or greater
- E4100 Series OTDR Module
- Fiber optic cleaning and inspection tools
- Launch Cable with connectors matching the OTDR port and Fiber Under Test (a minimum 20-meter Fiber optic patch cable or leash is recommended)
- Optical Coupler to connect Launch 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.)

### Fiber Inspection Guidelines:

- Use the VIAVI P5000i or FiberChek Probe microscope to inspect both sides of every connection being used (OTDR Port, Launch Cable, bulkhead connectors, patch cords, etc.)
- Focus 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.

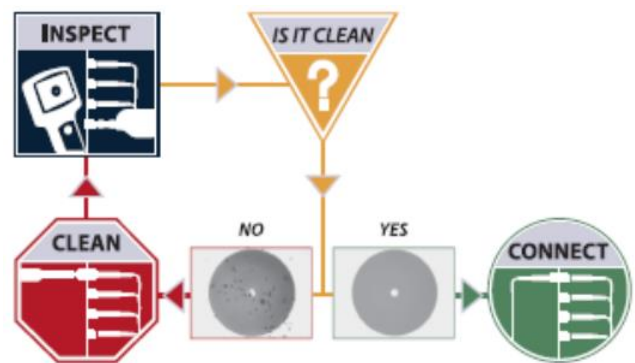


Figure 2: Inspect Before You Connect (IBYC)

### Connect Launch Cable to OTDR port:

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



Figure 3: OTDR Port Inspection

### Connect to Fiber Under Test (FUT):

The Launch 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 Launch Cable.
4. Connect the Launch Cable to the coupler or OPP.

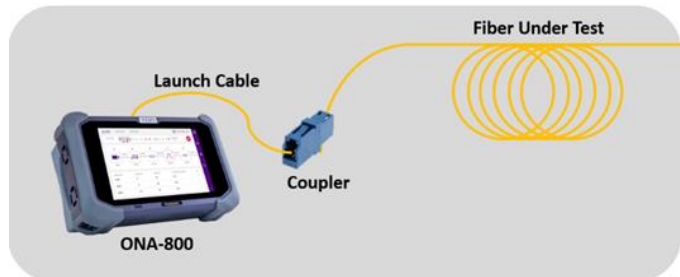


Figure 4: Connecting the Launch Cable to the FUT with a coupler

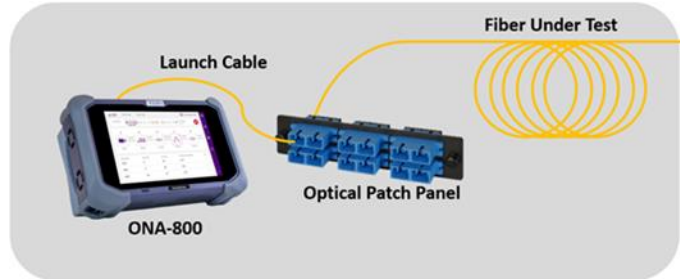




Figure 5: Connecting the Launch Cable to an OPP

### Launch OTDR EXPERT:

1. Press the Power button  on the top left of the ONA-800 to start the instrument.
2. Tap the **Tests**, **Fiber 1** and **OTDR EXPERT** icon

until it is Blue and highlighted .

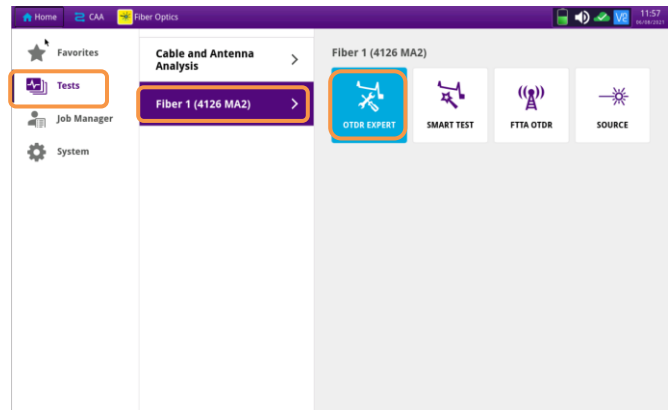



Figure 6: Fiber Optics Home screen

### Configure Test:

1. Tap the  Soft key.
2. Tap **Display** and set **Distance Unit** to the desired unit of measure.
3. Tap **Auto-set** to configure the OTDR to auto-configure range, pulse width, and resolution.

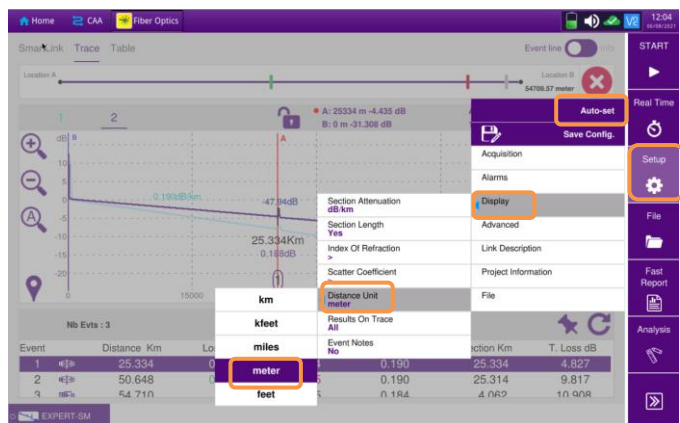



Figure 7: EXPERT OTDR Setup

### Run Test:

1. Tap the  soft key to start the test.
2. After auto-configuration, the OTDR will perform a connection check to ensure that the connection is **Good**. If the Connection is **Bad**, disconnect the launch cable, and reconnect as described on pages 1 and 2, cleaning every end-face that fails the inspection test.
3. The OTDR will perform real-time acquisitions at the configured wavelength.

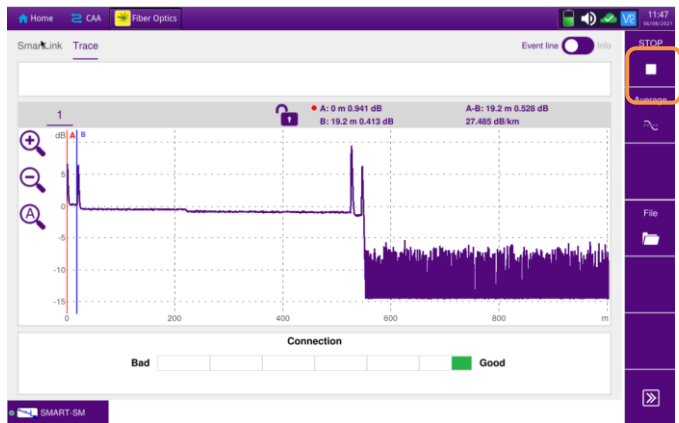






Figure 8: Connection Check & Real-Time Acquisition

4. Tap the magnifying glass icons to zoom in , zoom out , or auto-zoom  the display. You can also pinch and zoom with your fingers.
5. Tap the **Averages** soft key  to start Loss, ORL, or Reflectance measurements.
6. Tap the **Test** roll down menu at the bottom left screen to select a measurement type: **Loss**, **ORL**, or **Reflectance**.
7. Tap and move the **A** and **B** cursors to change measurement values.
  - **Loss** and **ORL** are measured between the two cursor positions.
  - **Reflectance** is measured at the position of the **B** cursor.

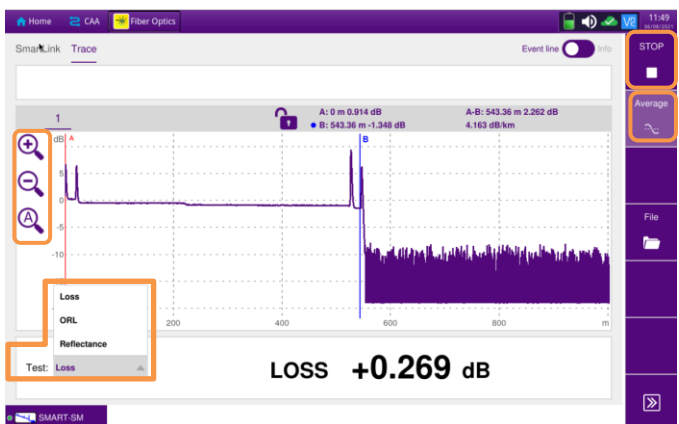


Figure 9: Trace View, Loss Result

8. **Figure 9** shows **Loss** measurement, **Figure 10** shows **ORL** measurement, and **Figure 11** shows **Reflectance** measurement.

9. Tap the **STOP** soft key  to stop the Real Time measurement.


10. Tap the **Real Time** soft key  to restart real time measurement.



Figure 10: Trace View, ORL result



Figure 11: Trace View, Reflectance Result