

## Quick Card

# T-BERD<sup>®</sup>/MTS-2000 Modular Test Set CWDM Optical Channel Checker (COSA-4055)

The following procedure outlines how to connect to a fiber under test, configure COSA-4055 test setups, run tests, and analyze results with a T-BERD/MTS-2000 equipped with a COSA-4055 module.

 **Note: The COSA-4055 module is used to monitor wavelengths on a live network. Care should be exercised when unplugging fibers from the network as the fibers may be carrying traffic.**

### Equipment Requirements:

- T-BERD/MTS-2000 equipped with Fiber Optics Software Release V18.0 or greater
- COSA-4055 CWDM OSA Module
- Fiber optic cleaning and inspection tools
- 20-meter Fiber optic patch cord (Launch Cable)
- 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 Connectors (SC UPC, SC APC, LC, etc.)
- CWDM Wavelengths used



Figure 2: COSA-4055 Module

### 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 connector, patch cord, etc.)
- Focus the fiber on the screen. If dirty, clean the connector.
- If it appears clean, run inspection test.
- If it fails, clean the fiber and re-run inspection test. Repeat until it passes.

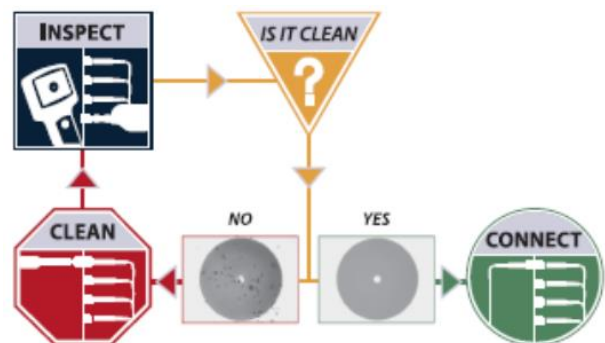


Figure 3: Inspect Before You Connect (IBYC)

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

All fibers and connectors should be inspected and clean prior to connection, as described on page 1. The COSA-4055 is typically connected to the FUT via a Monitor Port or splitter/tap to not disrupt service. The COSA-4055 can also be directly connected to the common port or common fiber via a coupler during turn up or maintenance:

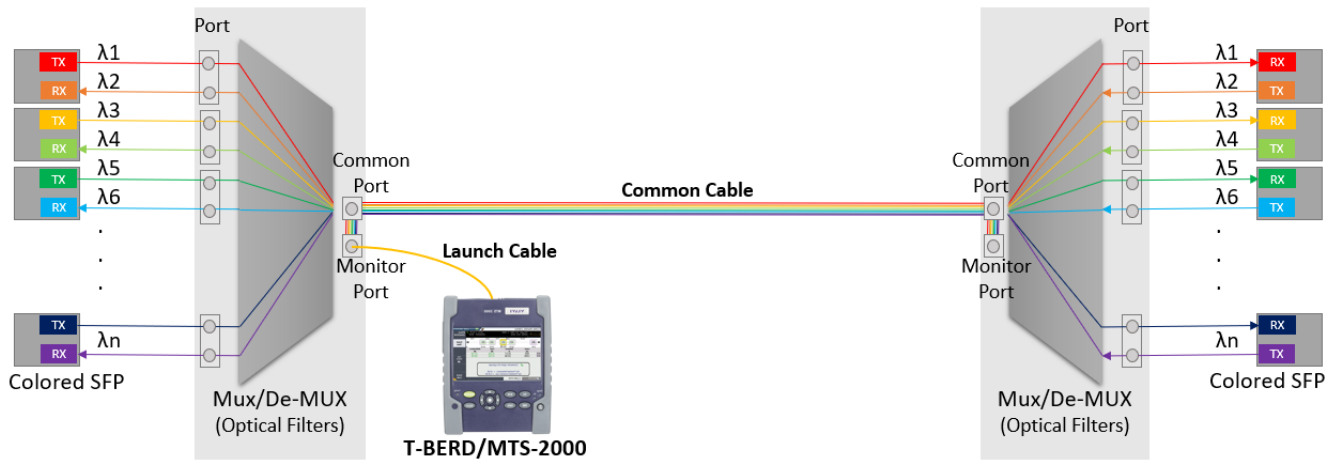


Figure 4: Connecting to Monitor Port

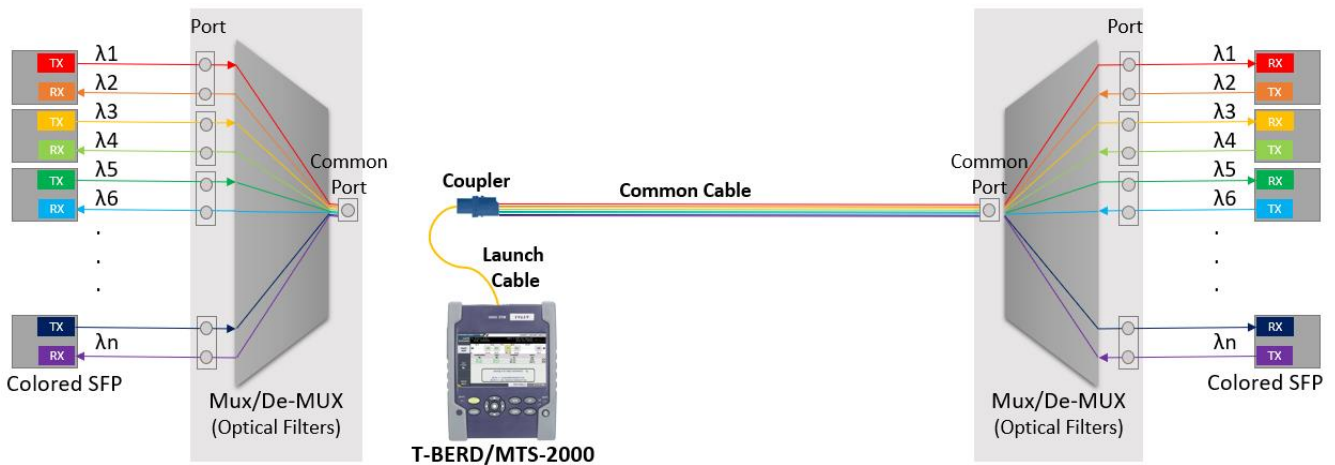


Figure 5: Connecting to common cable

1. Inspect the COSA-4055 port on top of the test set.
2. If connecting to the **Common Cable**, connect the **Common Cable** to an optical coupler with the same connector type and inspect the fiber end face in the coupler.
3. If connecting to the **Monitor Port** or **Common Port** on the Mux, inspect the Mux Port.
4. Inspect the fiber end face of the Launch Cable.
5. Connect the **Launch Cable** to the COSA-4055 port.
6. Inspect the other fiber end face of the Launch Cable.
7. Connect the **Launch Cable** to the coupler or Mux port.

### Launch and Configure Test:

1. Press the **ON/OFF** button to turn on the test set.
2. If files are to be saved, tap the **FILE** Button and tap the **Project** folder to view the **File Explorer**. Otherwise, proceed to step 5.
3. Tap the **Create Directory** soft key, enter a name for your new folder, and tap the **Enter** key. All trace files will be saved to this directory.
4. Press the **HOME** button to display the Home Screen.
5. Tap the **COSA-4055** icon until it is selected and highlighted in yellow.
6. Tap the **SETUP** button.
7. Tap the **Acquisition** soft key.
8. Set **Sweep** to **Single** and tap the **TEST AUTO WDM** soft key.
9. Tap the **Top Menu** soft key.
10. Tap the **Analysis** soft key. Set **Signal Threshold** to **Auto** and **Mode** to **Permanent**. If a splitter/tap is used to access the signal, set **Splitter Compensation Value** to the splitter loss (in dB or %).

### Run Test:

1. Tap the **START/STOP** button to start the test. The **COSA-4055** will sweep the entire CWDM wavelength range. Results will be shown in graphical and tabular formats as shown in *Figure 8*.
2. Verify that traffic is on all expected channels, at the anticipated wavelengths and power levels, and that there are no unexpected wavelengths present.

Things to look for:

- a. Every expected channel is present.
- b. Channels are about 20 nm apart.
- c. Power levels of each channel are within roughly 3 dB of each other, or within the relative amplitude specification of the Network Equipment Manufacturer.

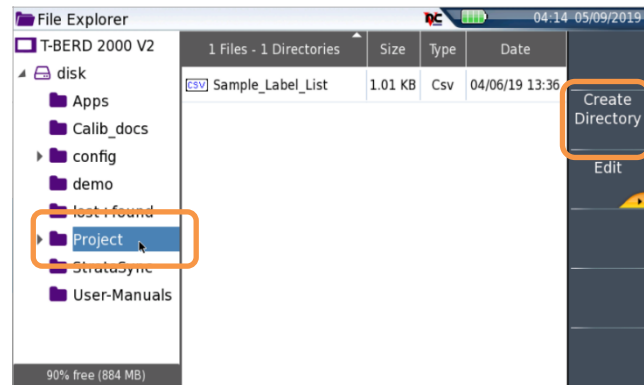


Figure 6: File Explorer

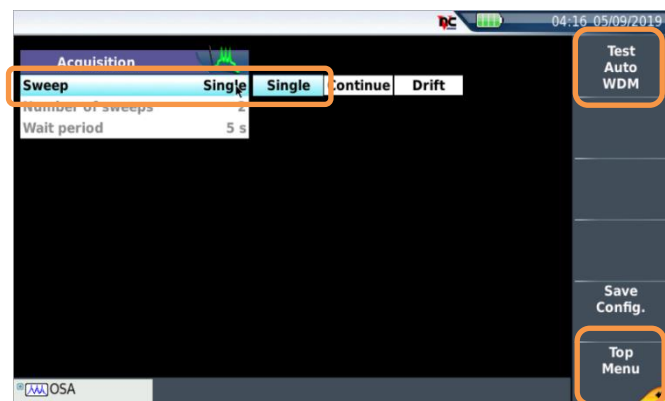


Figure 7: Setup

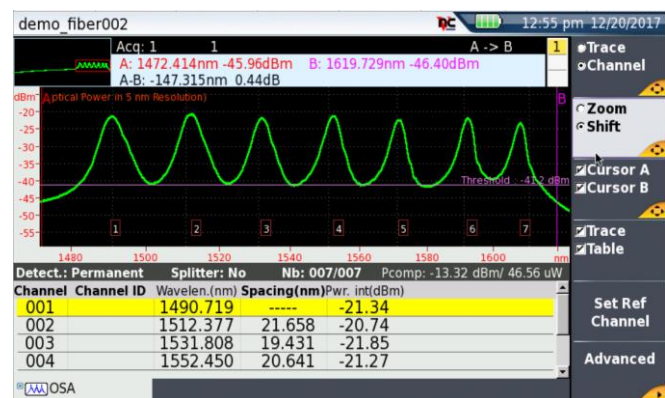


Figure 8: Results