

## Quick Card

# T-BERD<sup>®</sup>/MTS-5800 Network Tester

## CPRI Check, Dark Fiber and WDM Loopback Testing

This quick card describes how to verify that a dark fiber or CWDM/DWDM front-haul link will support error-free CPRI transport at a given line rate, using the T-BERD 5800v2 and a hard loop.

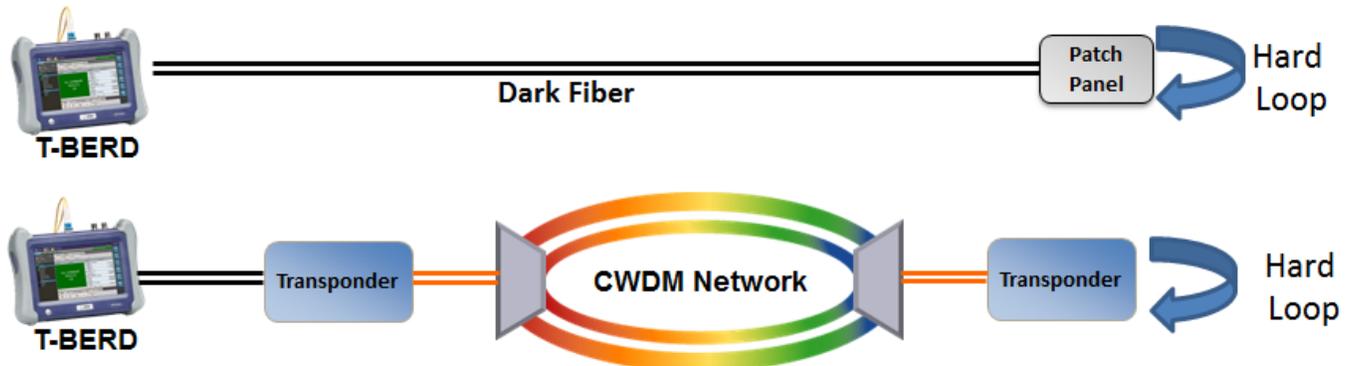


Figure 1: CPRI Front-haul Network Topologies

### Equipment Requirements:

- T-BERD/MTS-5800v2 equipped with:
  - BERT software release V26.2 or greater
  - CPRI test options:
    - C512GCPRI for CPRI Rate 2 (1228.8M)
    - C524GCPRI for CPRI Rate 3 (2457.6M)
    - C549GCPRI for CPRI Rate 5 (4915.2M)
    - C598GCPRI for CPRI Rate 7 (9830.4M)
- SFP or SFP+ optical transceiver that supports the CPRI rate for the fiber under test
- Single mode jumper cable to connect the T-BERD to the fiber under test
- Single mode loopback plug or jumper cable to loopback the fiber under test
- Fiber optic inspection microscope (VIAVI P5000i or FiberChek Probe)
- Fiber optic cleaning supplies



Figure 2: Equipment Requirements

### Information Requirements:

- CPRI Line Rate
- Pass/Fail Criteria:
  - Maximum and Minimum Optical Receive Level for looped-back signal
  - Maximum Round Trip Delay for fiber under test

### Fiber Inspection Guidelines:

- Use the VIAVI P5000i or FiberChek Probe microscope to inspect the jumper cable or loopback plug before connection to the optical transceiver.
- 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.

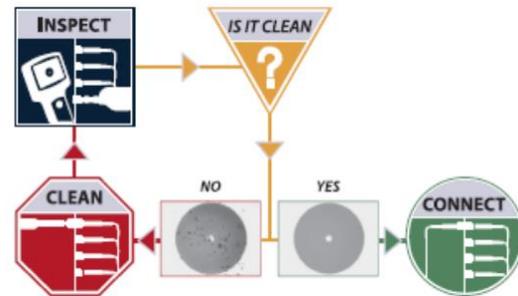


Figure 3: Inspect Before You Connect (IBYC)

### Connect to Fiber Under Test:

1. Insert CPRI optics into the Port 1 slot on the top of the T-BERD/MTS 5800.
2. After inspecting the fiber end faces, connect the SFP/SFP+ to the fiber under test using an LC-LC jumper cable.
3. Loopback far-end of fiber under test using a Single mode Loopback plug or Jumper Cable.



Figure 4: T-BERD/MTS 5800v2 Dual Port mainframe

### Launch Test:

1. Press the Power button  to turn on the test set.
2. Using the **Select Test** menu, **Quick Launch** menu, or **Job Manager**, launch the **CPRI** ► **Rates 1-7** ► **CPRI Check** ► **Terminate** test on port 1.
3. Tap the bottom  button to **Start a New Configuration**.

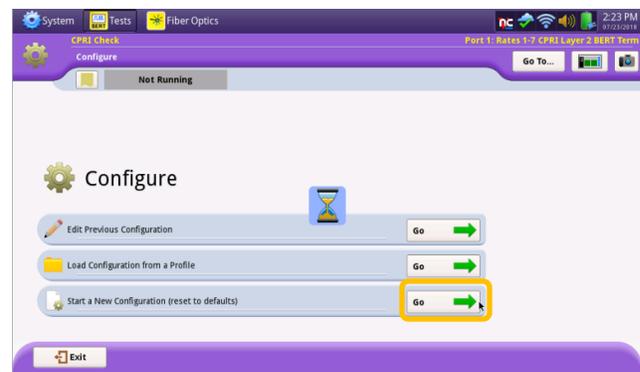


Figure 5: CPRI Check Startup screen

### Configure Test:

1. Select “**Hard Loop**” for the **Far-end Device**.
2. Tap  to continue.

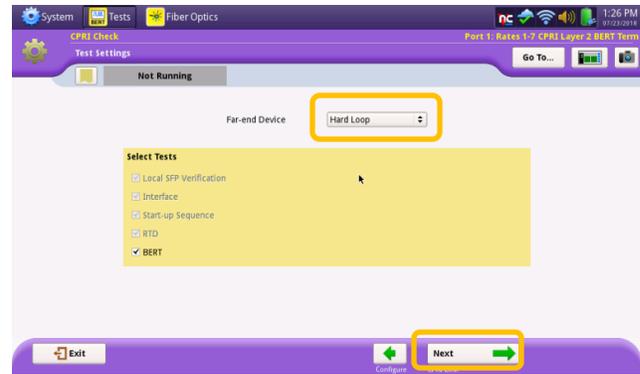


Figure 6: Test Settings

3. In the **CPRI Link Test Settings** screen:
  - Set **CPRI Link Test Duration** as follows:
    - i. Line Rate 2 (1228.8 Mbps): 40 min.
    - ii. Line Rate 3 (2457.6 Mbps): 20 min.
    - iii. Line Rate 5 (4915.2 Mbps): 10 min
    - iv. Line Rate 7 (9830.0 Mbps): 5 min.
  - Tap the checkbox and set **Optical Rx Level Max Limit (dBm)** to the requirements of the line under test.
  - Tap the checkbox and set **Optical Rx Level Min Limit (dBm)** to the requirements of the line under test.
  - Tap the checkbox and set **Round Trip Delay Max Limit (µs)** to the requirements of the line under test.
  - Set **Pattern Mode** to **ANSI**.
  - Set **Pattern** to **2<sup>23</sup>-1 ANSI**.

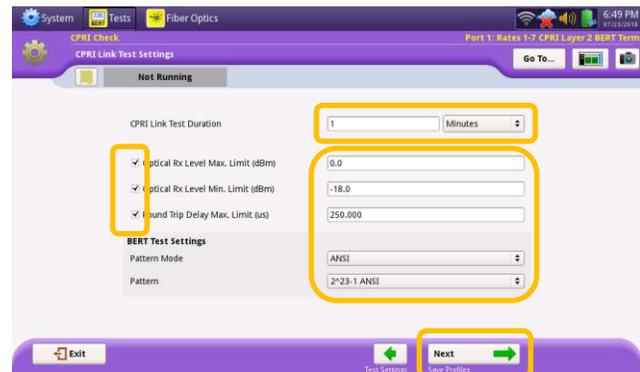


Figure 7: CPRI Link Test Settings

4. Tap , , and  to proceed to the **Local SFP Verification** screen.

### Run Test:

1. Select the **CPRI Rate** to test.
2. Verify that **Signal Present, Sync Acquired, and Frame Sync** LEDs are all green.
3. Press  to proceed to the **Run CPRI Tests** screen.

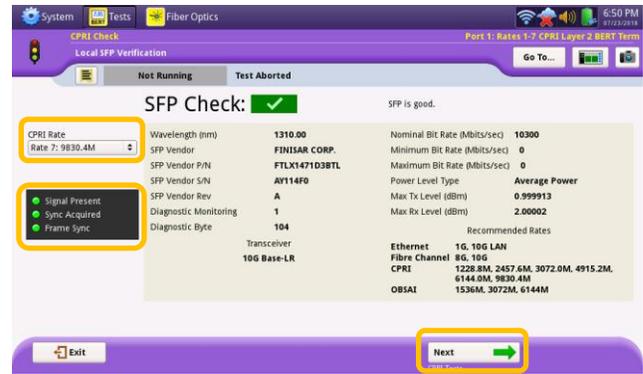


Figure 8: Local SFP Verification

4. Tap **Run Test** to start the test.
5. At the end of the test duration, Pass/Fail status for each scheduled test will be indicated by green checkmark, , or red x, . Tests for which no pass/fail threshold was specified will have a blue checkmark, .
6. Press  twice to proceed to the **Report Info** screen.



Figure 9: Run CPRI Tests screen

### Save Report:

1. Enter Customer name, Technician ID, and other desired header information for the report.
2. Tap  to proceed to the **Create Report** screen.

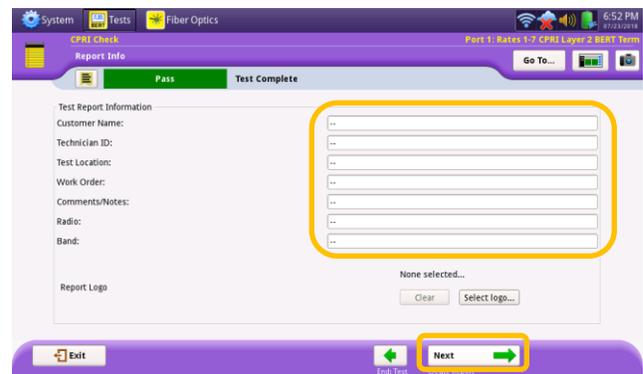


Figure 10: Report Information

3. Tap .
4. After viewing report, tap .

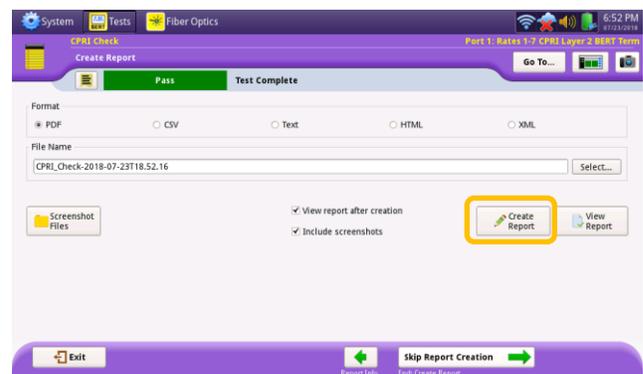


Figure 11: Create Report