Quick Card

T-BERD®/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.

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

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.

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.

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.
Configure Test:

1. Select “Hard Loop” for the Far-end Device.

2. Tap Next to continue.

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 $2^{23}-1$ ANSI.

4. Tap Next, Skip Save Profiles, and Next 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 Next to proceed to the Run CPRI Tests screen.
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 Next twice to proceed to the Report Info screen.

Save Report:
1. Enter Customer name, Technician ID, and other desired header information for the report.
2. Tap Next to proceed to the Create Report screen.
3. Tap Create Report.
4. After viewing report, tap Exit.

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