Quick Card

T-BERD®/MTS-5800 Network Tester
Ethernet 4x10GigE Layer 2 Y.1564 Test

This document outlines how run a Y.1564 Metro Ethernet Service Activation Test across a Link Aggregation Group (LAG) with up to 4 10GigE links.

Equipment Requirements:
- T-BERD/MTS-5800 equipped with the following:
  - BERT software release V29.1.1 or greater
  - Ethernet test options:
    - C510GELAN for 10 Gigabit Ethernet
    - C54x10GELAN for 40 Gigabit Ethernet
  - 40GBASE-SR4 or 4x10GBASE-LR4 QSFP+ optical transceiver to match the line under test
- MPO to LC fanout Cable to match the optical transceiver and line under test (Single mode or Multimode Fiber)
- Fiber optic inspection microscope with MPO and LC tips (VIAVI Sidewinder)
- Fiber Optic Cleaning supplies

The following information is required to complete the test:
- Type of hash (Layer 2/MAC Address or Layer 3/IP Address)
- Number of 10GigE LAN physical ports in the LAG
  (2 for 20Gig service, 3 for 30Gig service, 4 for 40Gig service)
- Maximum Frame Loss Ratio, Frame Delay, and Delay Variation (pass/fail criteria)

Fiber Inspection Guidelines:
- All fiber end-faces must be clean and pass an inspection test prior to connection.
- Use the VIAVI Sidewinder microscope to inspect both sides of every connection being used (QSFP Port, Breakout Cable, bulkhead connectors, etc.)
Connect to Fibers Under Test (FUT):

1. For optical interfaces:
   - Insert QSFP+ Optical Transceiver into the Port 1 slot on the top of T-BERD.
   - Inspect and, if necessary, clean all SFPs, fibers, and bulkheads, as described on page 1.
   - Connect the QSFP+ to the MPO to LC fanout cable.
   - Connect the LC fanouts to the 10GigE LAN physical ports under test as follows, per your work order:
     - Fanouts #1 and #2 for 20Gig service
     - Fanouts #1, #2 and #3 for 30Gig service
     - Fanouts #1, #2, #3 & #4 for 40Gig service

Launch Test:

1. Press the Power button to turn on the test set and view the startup screen.

2. Using the Select Test menu, Quick Launch menu, or Job Manager, launch an Ethernet Layer 2 Traffic test as follows:
   - Ethernet ► 4x10GigE LAN ► Layer 2 Traffic ► P1 Terminate.

3. Tap the SAM-Complete Soft Key, to launch the Y.1564 workflow.
Configure Test:

1. Tap the button next to “Start a New Configuration (reset to defaults)”

2. Tap to accept default Symmetry settings and advance to Local Settings configuration.

3. Tap the Loop Type and MAC Address link to display Local Advanced Settings.

4. If you are using a Layer 2/MAC Address Hash, set Auto-Increment Address to Source MAC.

5. If you are using a Layer 3/IP Address Hash, set Auto-Increment Address to Source IP.

6. Tap Back to return to Local Setting configuration.

7. Tap Next to advance to Services configuration.

8. Enable the physical ports in the LAG:
   - Set Number of Ports/Services to 2 for 20Gig service.
   - Set Number of Ports/Services to 3 for 30Gig service.
   - Set Number of Ports/Services to 4 for 40Gig service.

9. Tap Next to advance to Tagging configuration.
10. If traffic requires VLAN tagging, set **Encapsulation** to **VLAN** and configure VLAN settings.

11. Tap **Next** to advance to SLA **Throughput** configuration.

12. Set **CIR** to **10,000.0** and uncheck the **Policing** checkbox □ in the **All** Service row.

13. Tap **Next** to advance to SLA **Performance** configuration.

14. In the **All** Service row, set **Frame Loss Ratio**, **Frame Delay**, and **Delay Variation** to match your Service Level Agreement (SLA) or Standard Operating Procedures.

15. Tap **Next** to advance to Test **Controls** configuration.

16. Set **Step Duration** and **Test Duration** to match your Standard Operating Procedures.

17. Tap **Next** four times to advance to the **QuickCheck** screen.
Run Test:
1. Tap Start to run the J-QuickChek pre-test.
2. Verify that the Local Port is UP, and the Remote Loop is Active.
   - If Local Port is not up, check Fanout cable connection between the T-BERD/MTS 5800 and NID
   - If Remote Loop is not active, verify configuration of far-end T-BERD/MTS 5800 loopback device and verify laser is on.
3. Tap Next to advance to the Run Y.1564 Tests screen.

4. Tap Start to run the test. Wait for the test to complete and verify that all Service Configuration and Service Performance tests pass with green checkmarks.
5. Tap Next button three times to display the Report screen.

Create Report:
1. Tap Create Report to create a report in PDF format.
2. After viewing the report, tap Exit three times to close the report and exit the Y.1564 test.