

Quick Card

T-BERD[®]/MTS 5800 Network Tester

Ethernet Y.1564 Layer 2 Traffic

This document outlines how to configure and run a Y.1564 Layer 2 Traffic Test for Metro Ethernet Service Activation.

Equipment Requirements:

- T-BERD/MTS 5800 equipped with the following:
 - BERT software release V26.0 or greater
 - Test options:
 - C510M1GE for 10 Megabit to 1 Gigabit Ethernet
 - C510GELAN for 10 Gigabit Ethernet
 - C525GELAN for 25 Gigabit Ethernet
 - C540GELAN for 40 Gigabit Ethernet
 - C5100GELAN for 100 Gigabit Ethernet
 - SFP or QSFP optical transceiver to match the line under test
- CAT 5E or fiber optic jumper cables to match the line under test
- Fiber optic inspection microscope (VIAVI P5000i or FiberChek Probe)
- Fiber optic cleaning supplies



Figure 1: Equipment Requirements

The following information is required to complete the test:

- Physical Interface (10/100/1000BASE-T, 1000BASE-SX, 1000BASE-LX, 10GBASE-LR, 100GBASE-LR4, etc.)
 - VLAN ID, if VLAN tagging is used
 - Committed Information Rate (CIR)
 - Excess Information Rate (EIR)
 - Committed Burst Size (CBS)
 - Pass/Fail Threshold for Frame Loss, Frame Delay and Delay Variation

Fiber Inspection Guidelines:

Inspect and clean (if necessary) both sides of every fiber optic connection being used (bulkhead connectors, patch cords, and SFP ports) prior to reconnection for each test. Using the VIAVI P5000i or FiberChek Probe:

- Focus fiber on the screen. If dirty, clean the connector.
- If it appears clean, run inspection test.
- If it fails, clean fiber and re-run inspection test. Repeat until it passes.
- To inspect SFP ports with the **P5000i**, insert the probe tip into the SFP port, move the focus wheel all the way to one end, and slowly move the focus wheel to the other end.
- To inspect SFP ports with the **FiberChek Probe**, manually focus with middle toggle switch or pull the trigger to auto-focus.
- If a fiber stub (a darker circle on a lighter background as shown above) is detected, follow standard inspection and cleaning procedures. If you are unable to focus on a fiber end face, do not clean the port. The SFP contains a lens that cannot be cleaned.



Figure 2: Image of Clean Fiber

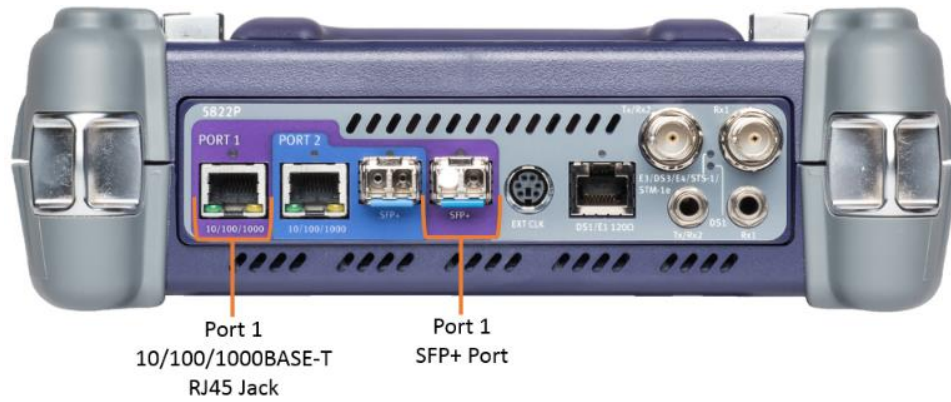


Figure 3: T-BERD 5800v2 Dual Port mainframe

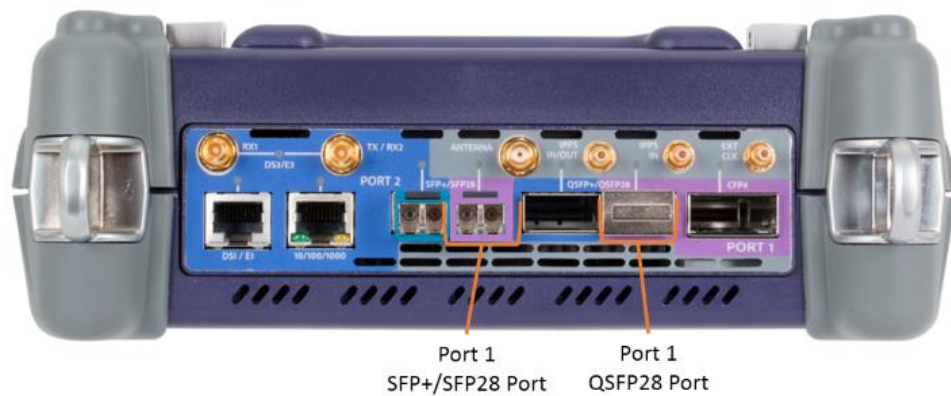


Figure 4: T-BERD 5800-100G mainframe

Connect to Port Under Test:

1. For copper 10/100/1000BASE-T interface testing with the T-BERD/MTS 5800v2, connect the Port 1 10/100/1000 RJ-45 jack to the port under test using CAT 5E or better cable.
2. For copper 10/100/1000BASE-T interface testing with the T-BERD/MTS 5800-100G, insert a copper SFP into the Port 1 SFP+/SFP28 slot and connect to the port under test using CAT 5E or better cable.
3. For optical interfaces:
 - Insert desired SFP, QSFP, or CFP4 into the Port 1 slot on the top of the T-BERD/MTS.
 - Inspect and, if necessary, clean all SFPs, fibers, and bulkheads, as described on page 1.
 - Connect the SFP, QSFP, or CFP4 to the port under test using a Single Mode or Multimode jumper cable compatible with the interface under test.

Launch Test:

1. Press the Power button  to turn on the test set.

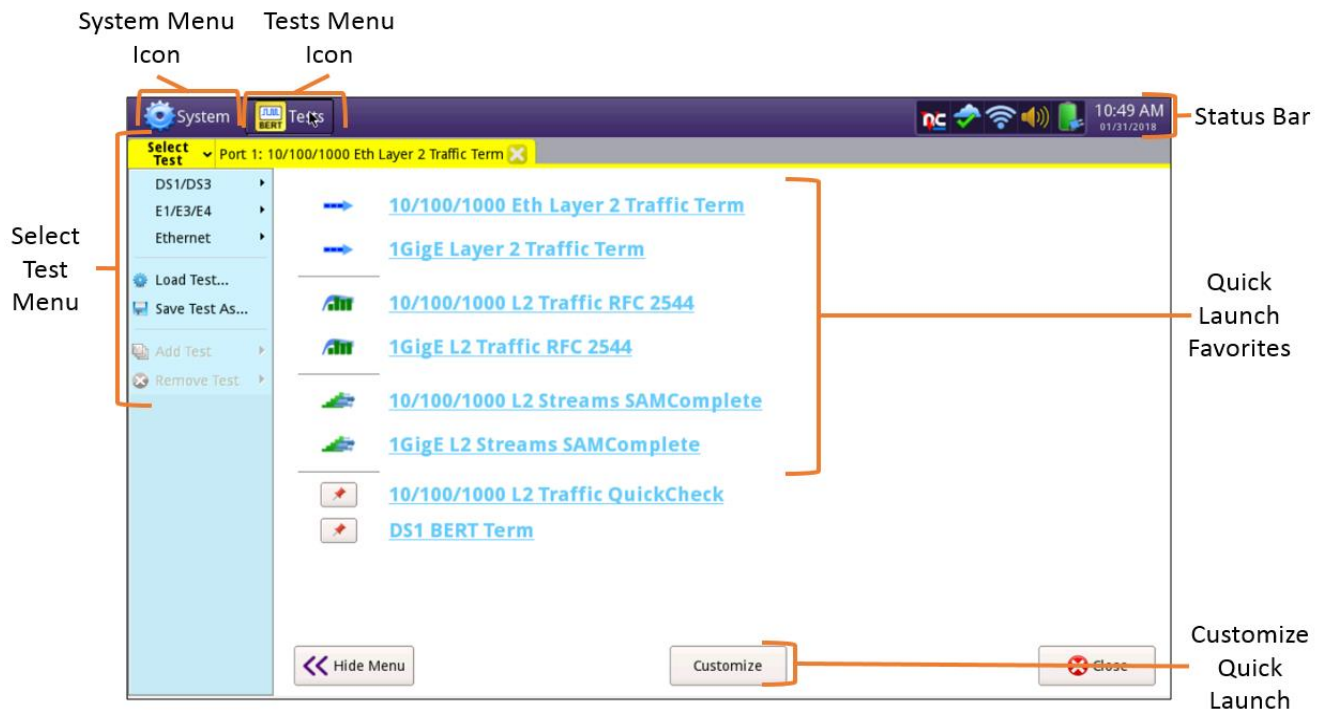
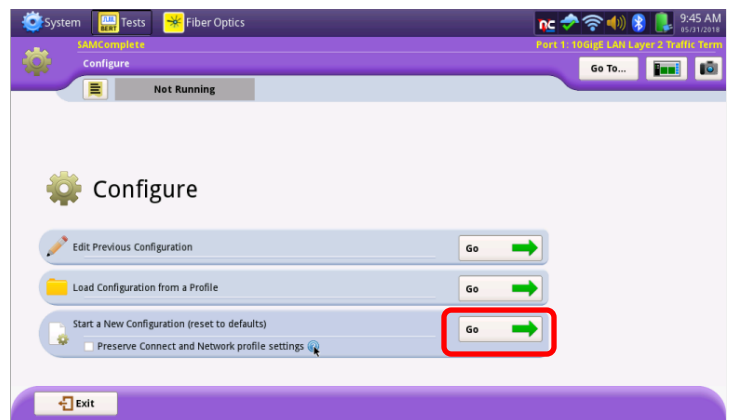






Figure 5: Startup screen

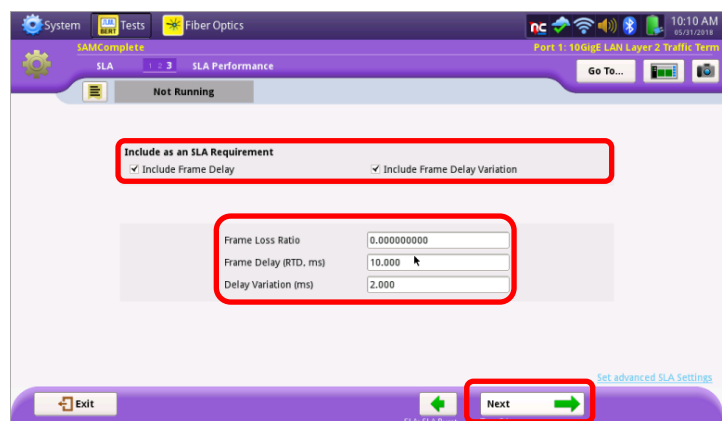
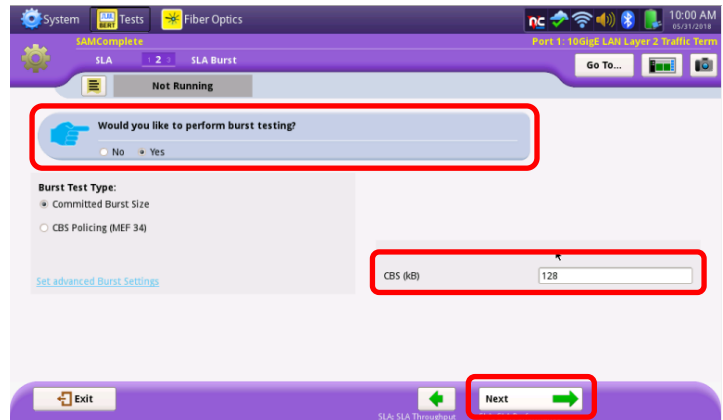
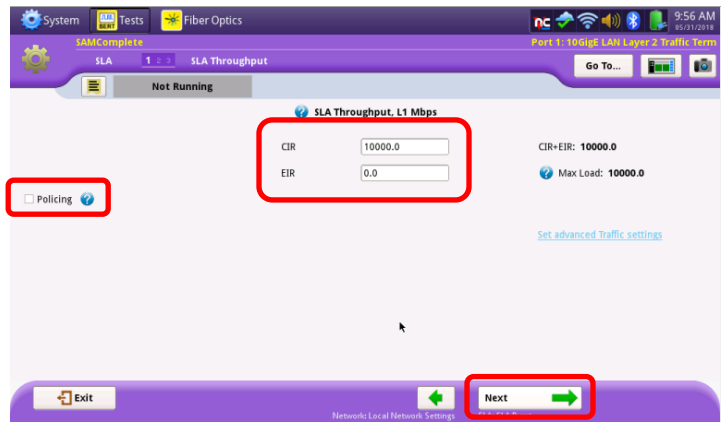
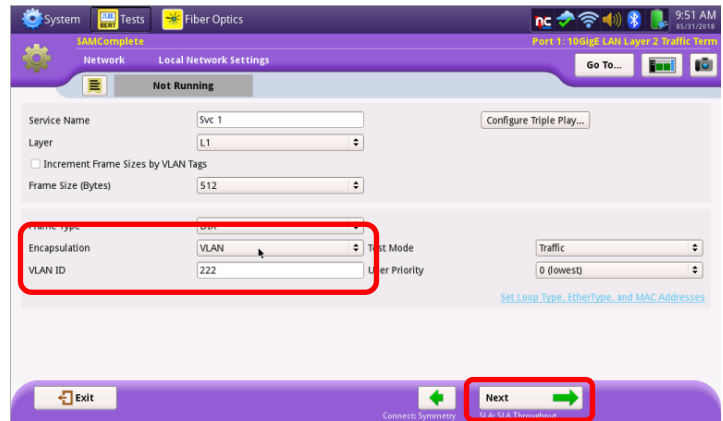
2. Using the **Select Test** menu, **Quick Launch** menu, or **Job Manager**, launch an **Ethernet, Y.1564 SAMComplete, L2 Traffic, Terminate** test on port 1 for the desired physical interface. For example: Ethernet ► 10/100/1000 ► Y.1564 SAMComplete ► L2 Traffic ► P1 Terminate.

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

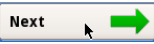








Configure Test:

1. Tap the  button to display the **Local Network Settings** screen. If you are testing a VLAN, set **Encapsulation** to **VLAN** and enter your **VLAN ID**.
2. Tap the  button to display the **SLA Throughput** screen. Set **CIR** and **EIR** to the desired traffic loads for each service. If the service is policed, check the **Policing** box. Otherwise, uncheck the **Policing** box.
3. Tap the  button to display the **SLA Burst** screen. Tap **Yes** after the **Would you like to perform burst testing?** prompt and enter the **CBS**.
4. Tap the  button to display the **SLA Performance** screen. Check all boxes for which a Pass/Fail Threshold is known. Enter the Threshold for each selection.



Run Test:

1. Tap the  button 5 times to display the **J-QuickCheck** screen. Tap the  button. Verify that the **Remote Loop** is recognized.
2. Tap the  button to display the **Run Y.1564 Tests** screen. Tap the  button. Wait for the test to complete, and verify that all tests pass with green or blue checkmarks.
3. Tap the  button three times to display the **Report** screen. Tap .
4. Tap the  button three times to close the report and exit the Y.1564 test.

