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QUICK CARD

Ethernet RFC 2544 Layer 2 Traffic

This quick card describes how to configure and run an RFC 2544 Layer 2 Traffic Test for Metro Ethernet service activation using the OneAdvisor 1000 **100G Module**.

- OneAdvisor 1000 equipped with the following:
  - 100G Transport Module
  - BERT software release V30.1.0 or greater
  - C510GELAN test option for 10 Gigabit Ethernet
  - C525GE test option for 25 Gigabit Ethernet
  - C540GE test option for 40 Gigabit Ethernet
  - C550GE test option for 50 Gigabit Ethernet
  - C5100GE test option for 100 Gigabit Ethernet
- Optical Transceiver supporting the interface to be tested (SFP or QSFP)
- Cables to match the optical transceiver and the line under test
- Fiber optic inspection microscope (P5000i or FiberChek Probe)
- Fiber optic cleaning supplies

Figure 1: Equipment Requirements

LAUNCH TEST

1. Press the Power button 🟢 to turn on the OneAdvisor.

2. Press the 100G Module **Test** icon ▦ 100G Module at the top of the screen.

3. Tap the Power button ⏻ and click ✔OK to launch the 100G Module.

4. Using the **Select Test** menu, Quick Launch menu, or Job Manager, launch the Ethernet RFC 2544 Layer 2 Traffic test on Port 1 for the desired rate. For Example:
Ethernet► 1GigE Optical ► RFC 2544 ► L2 Traffic ► P1 Terminate.

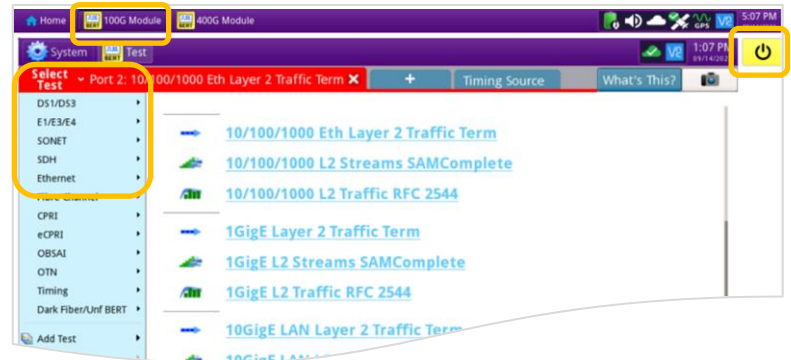5. Tap the Go ➡ button next to "**Start a New Configuration (reset to defaults)**"
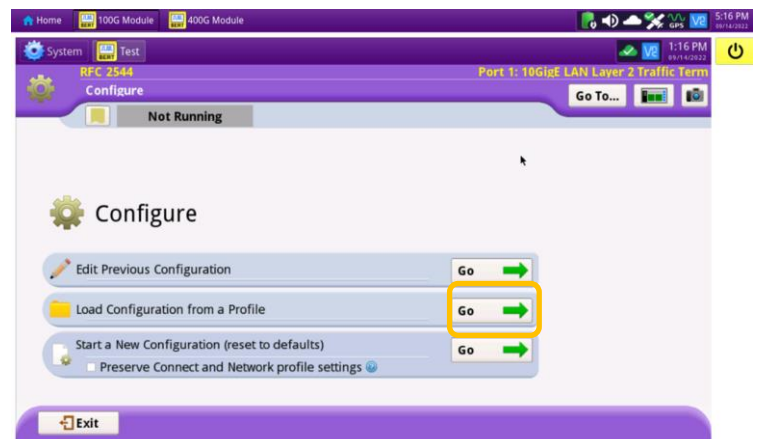

Figure 2: Launch Screen

Figure 3: RFC 2544 test

OneAdvisor 1000 High-Speed Network Testing Platform

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CONFIGURE TEST

► The following Information is needed to configure the test:

- VLAN ID, if VLAN tagging is used.
- Maximum Transmission Unit (MTU), if Jumbo Frames are used.
- Committed Information Rate (CIR)
- Pass/Fail Threshold for Throughput, Frame Loss, Latency and Jitter

1. Tap the **Next** button to display the **L2 Network Settings** screen.

2. If you are testing a VLAN, set **Encapsulation** to **VLAN** and enter your **VLAN ID.**

3. Tap the **Next** button twice to display the **Select Tests** screen.

4. Select the **Throughput**, **Latency**, **Frame Loss**, and **Packet Jitter** tests.

5. Tap the **Next** button to display the **Utilization** screen.

6. Set **Max Bandwidth** to the Committed Information Rate (CIR).

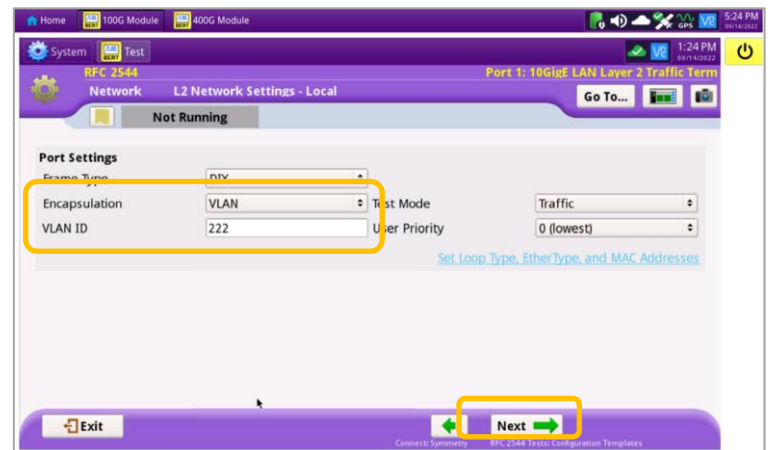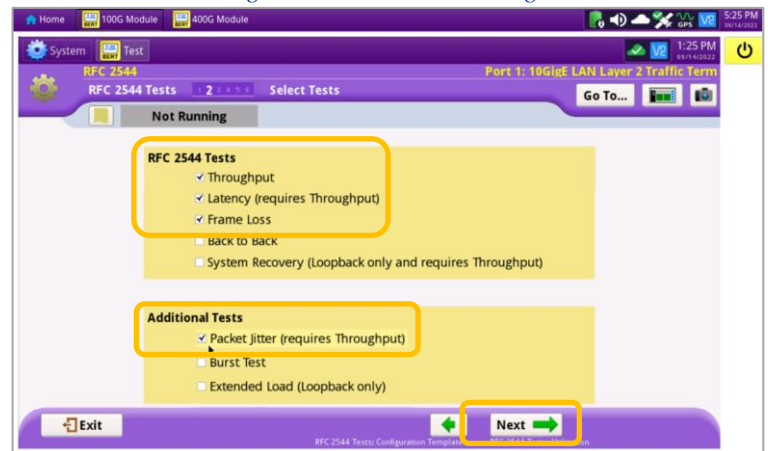7. Tap the **Next** button to display the **Frame Lengths** screen.

Figure 4: Work Order

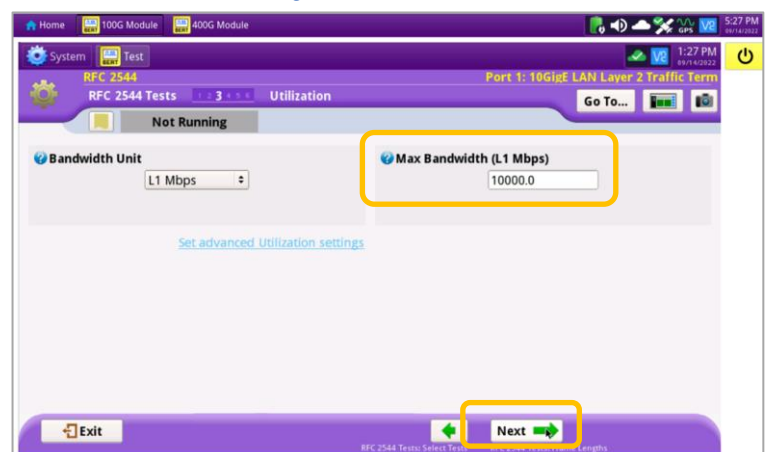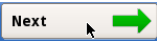*Figure 5: L2 Network Settings*

Figure 6: Select Tests

Figure 7: Utilization

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8. Select the 1st, 4th, and 8th Frame Lengths.

9. If the MTU is greater than 1518 (1522 with VLAN tagging), also enter and select the frame length of the MTU.

10. Deselect (uncheck) all other frame lengths.

Figure 8: Frame Lengths

11. Tap the **Next** button four times to display the **Test Thresholds** screen.

12. Check all boxes for which a Pass/Fail Threshold is known. Enter the Threshold for each selection.

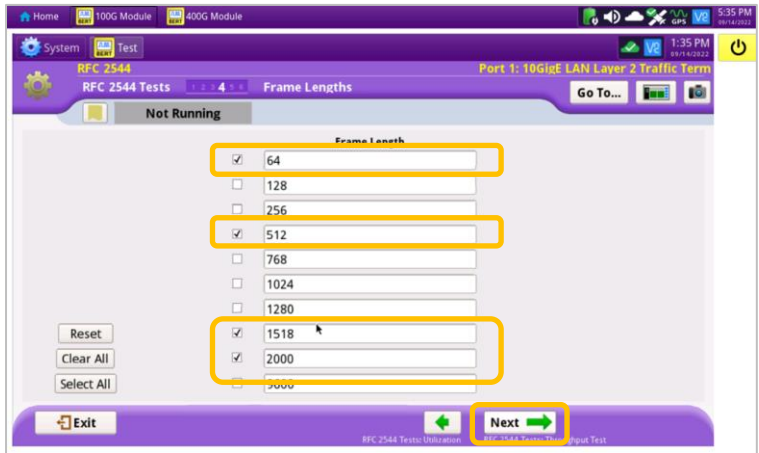13. Tap the **Next** button 3 times to display the **Run J-QuickCheck** screen.
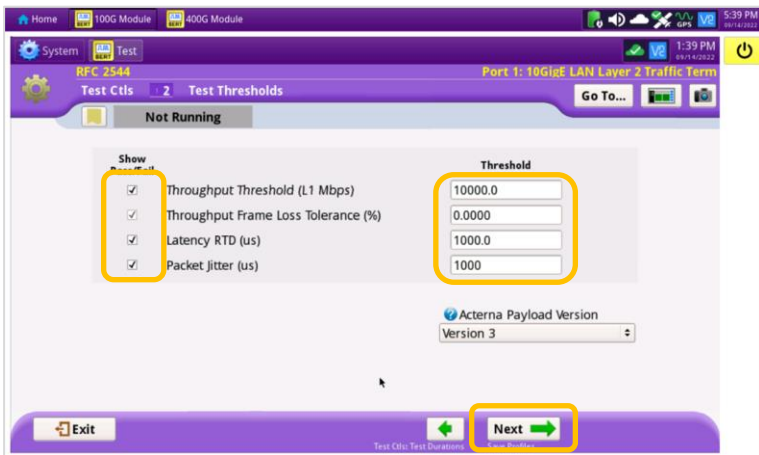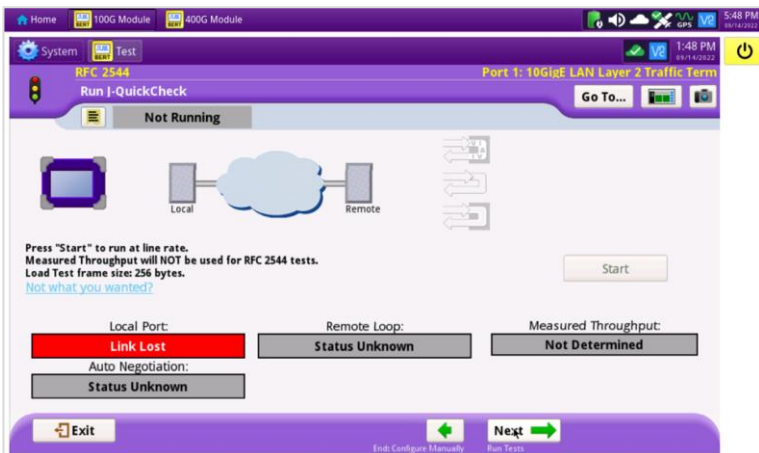

Figure 9: Test Thresholds

Figure 10: J-QuickCheck

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CONNECT TO LINE UNDER TEST AND LOOP BACK DEVICE

► **For Optical Interfaces:**
1. Use the VIAVI P5000i or FiberChek Probe microscope to inspect both sides of every connection being used (SFP, attenuators, patch cables, bulkheads)
   ○ Focus the fiber on the screen.
   ○ If it appears dirty, clean the fiber end-face and re-inspect.
   ○ If it appears clean, run the inspection test.
   ○ If it fails, clean the fiber and re-run inspection test. Repeat until it passes.
2. Insert desired Optical Transceiver into the Port 1 SFP or QSFP slot on the top of the T-BERD.
3. If necessary, insert optical attenuators into the SFP TX and/or RX ports.
4. Connect the SFP to the port under test using a jumper cable compatible with the line under test.

► **For Copper 10/100/1000BASE-T interfaces**:

Connect the 10/100/1000 RJ-45 jack to the port under test using CAT 5E or better cable.

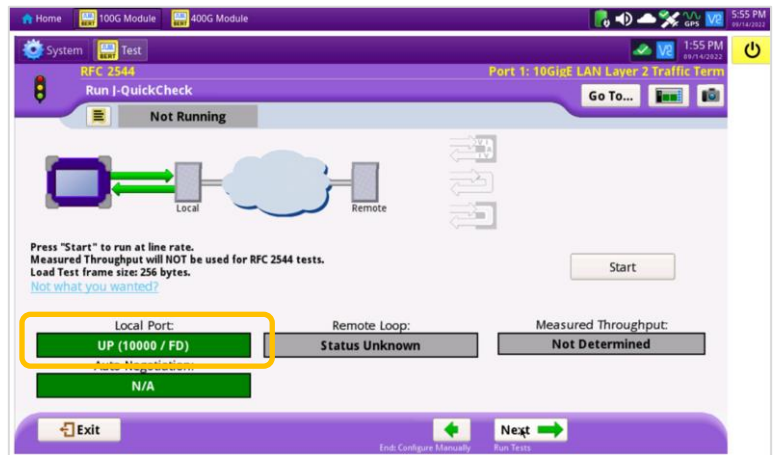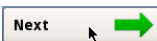► Verify that **Local Port** status **UP** and Full Duplex (**FD**)

► Tap the [Start] button.

► Verify that the **Remote Loop** is recognized, and that **Measured Throughput** is greater than or equal to the Committed Information Rate.

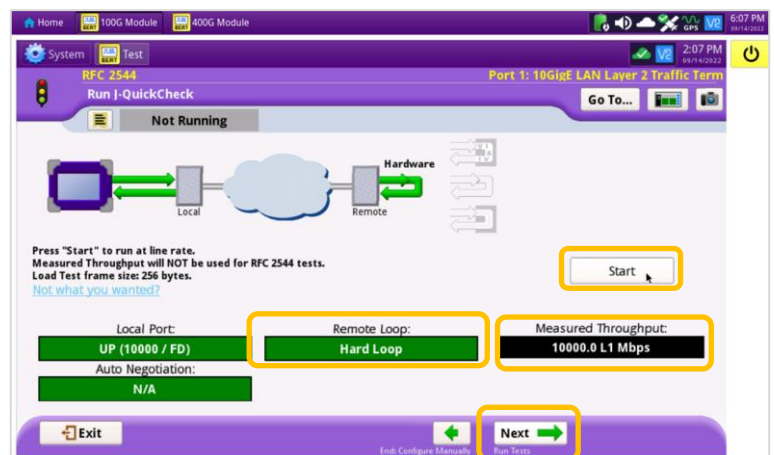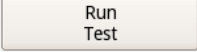► Tap the [Next] button to display the **Run RFC 2544** Tests screen.

Figure 11: Inspect Before You Connect

Figure 12: Local Port status

Figure 13: Run J-QuickCheck

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RUN TEST

1. Tap the **Run Test** button.

2. Wait for the test to complete and verify that all tests pass or complete as indicated by a green or blue checkmark.

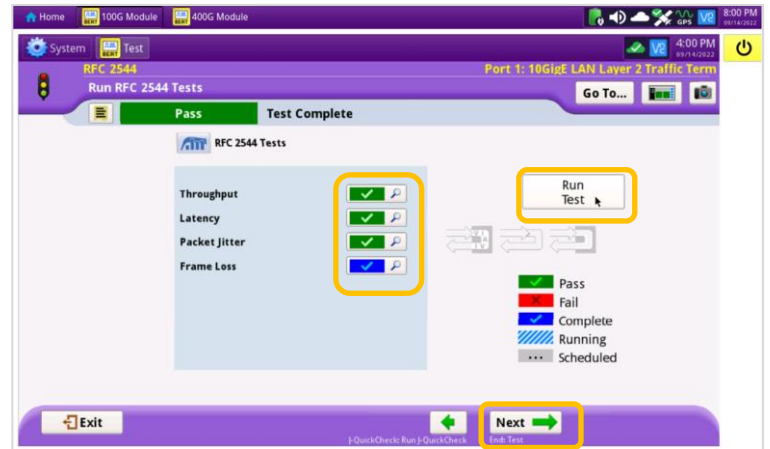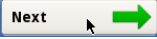*Figure 14: Run RFC 2544 Tests*

CREATE REPORT

1. Tap the **Next** button three times to display the **Report** screen.

2. Tap **Create Report**.

Figure 15: Create Report

3. Tap **Exit** buttons three times to close the report and exit the RFC-2544 test.

Figure 16: Exit

Contact Us

**+1 844 GO VIAVI
(+1 844 468-4284)**

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