OneAdvisor 800 Transport and Wireless Platforms

VIAVI
VIAVI Solutions

QUICK CARD

Ethernet Layer 2 Traffic Loopback

This quick card describes how to set up the OneAdvisor 800 as a Layer 2 Loopback device. The quick card documents a procedure to set up the OneAdvisor on a 1GigE Optical Interface, but the same workflow may be applied to other Ethernet data rates.

EQUIPMENT REQUIREMENTS

- OneAdvisor 800 equipped with the following:
    - RAxxMA-O Radio Analysis Module, SPA06MA-O Spectrum Analyzer Module, TM400GB-QQ 400G Module, or TM400GB-QO 400G Module.
    - Transport software release V5.1.0 or greater
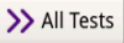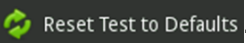   - CA10M1GE or ONA-SP-10M1GE 1 Gigabit Ethernet option
- Optical Transceiver supporting the Ethernet data rate to be tested (SFP, SFP+, SFP28, or QSFP28)
- Cables to match the optical transceiver and the line under test
- Fiber optic inspection microscope (P5000i, FiberChek Probe, or INX-760)
- Fiber optic cleaning supplies

Figure 1: Equipment Requirements

LAUNCH TEST

1. Press the Power button ⊙ on the ONA-800 base top panel to turn on the OneAdvisor.

2. Tap ⌂ Home to display the Home Screen.

3. Tap ⌁ Tests to display the Tests menu.

4. Tap **Radio Analysis Transport >** or **400G Transport >** to show the Transport test applications.

5. Tap the **Transport** icon. ⊞ TRANSPORT

Figure 2: Transport Launch screen

6. If the **Select Test** menu is not displayed, tap ≫ All Tests in the lower left screen corner.

7. Using the **Select Test** menu or favorite test list, launch the Ethernet Layer 2 Traffic test for the desired data rate and port (P1 or P2).
For example: **Ethernet ►1GigE Optical ► Layer 2 Traffic ►P1 Terminate.**

8. If the current configuration is unknown, tap ⛝ Tools to open the **Tools** Panel and select ⟳ Reset Test to Defaults.
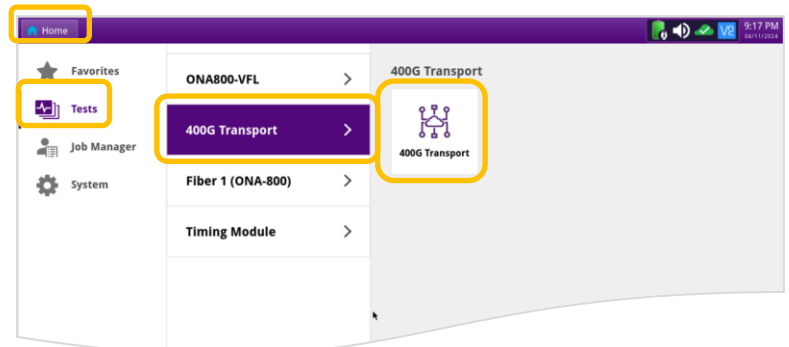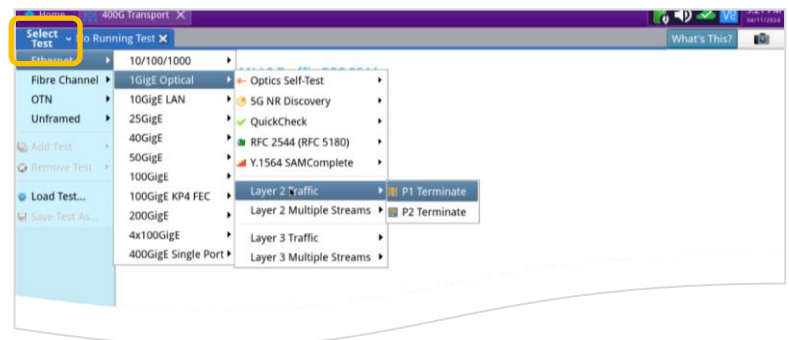
9. Press ✓ OK to continue.

Figure 3: Select Test

QUICK CARD

CONFIGURE TEST

► The following Information is needed to configure the test:

- Type of Optical Transceiver (10/100/1000 Copper, 1G/10G Multimode, 1G/10G Single mode, etc.)
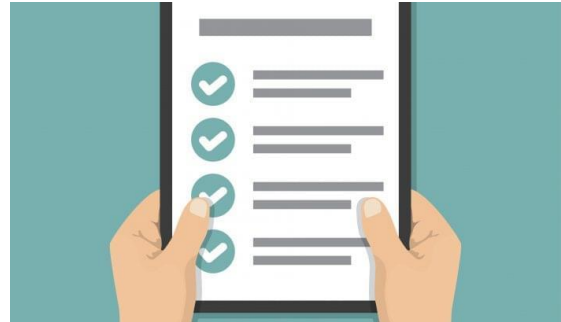- Auto Negotiation settings of the port under test.

Figure 4: Work Order

► For Optical Interfaces:

1. Press the **Setup** soft key on the top right side of the screen.

2. Select the **Interface/Connector** folder.

3. Insert Optical Transceiver into the Port 1 SFP+/SFP28 or QSFP28 slot on the top of the OneAdvisor.

4. Review SFP information in the **Connector** tab:

   o Verify that the optical transceiver operates on the required wavelength (850nm, 1310nm or 1550nm).

   o Verify that the SFP supports the required Data Rate (1G, 10G, etc.)

   o Note the Min and Max Tx Levels (dBm) and Max Rx Level (dBm) to assess if optical attenuators are required.

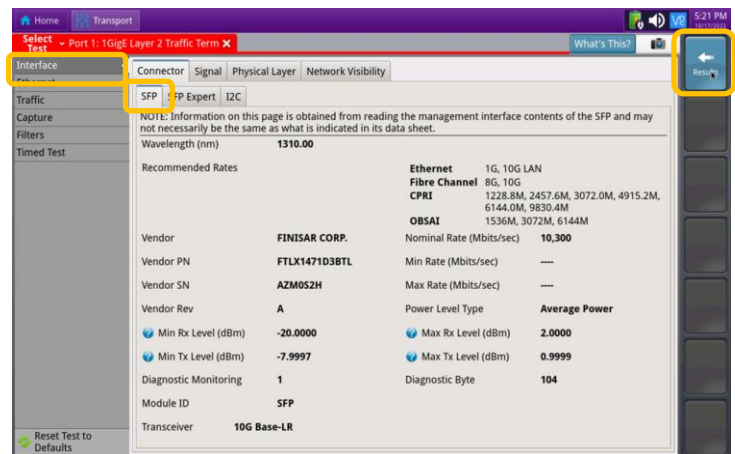   o Press the **Results** soft key to return to the Test Results screen.

Figure 5: Setup, Interface/Connector/SFP

► For 10/100/1000M Copper and 1GigE Optical tests, tap the Ethernet tab of the Quick Configuration menu and set **Auto Neg**. to the same value as the Ethernet port under test (**On** or **Off**).
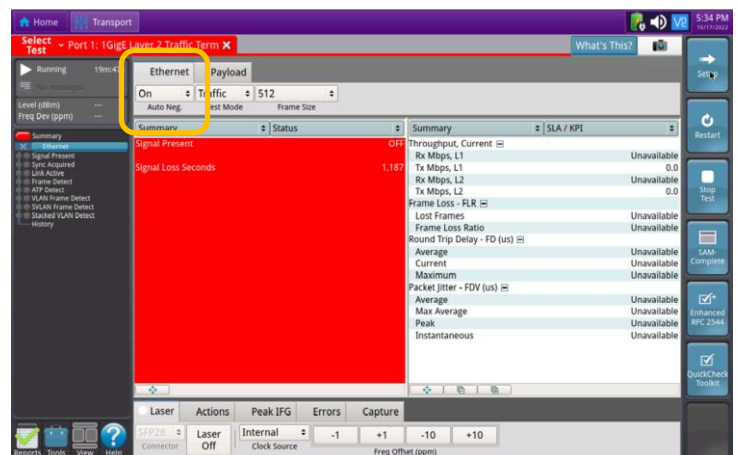

Figure 6: Quick Config, Auto Neg.

QUICK CARD

CONNECT TO LINE UNDER TEST

► **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. If necessary, insert optical attenuators into the SFP TX and/or RX ports.
3. Connect the optical transceiver to the port under test using a jumper cable compatible with the line under test.
4. Select the **Laser** tab in the **Actions** panel.
5. Press [Laser Off]. The button will turn yellow and be relabeled [Laser On].
6. Press the **Restart** soft key [Restart].
7. Verify the following:
   - **Summary** LED is yellow.
   - **Signal Present** LED is green.
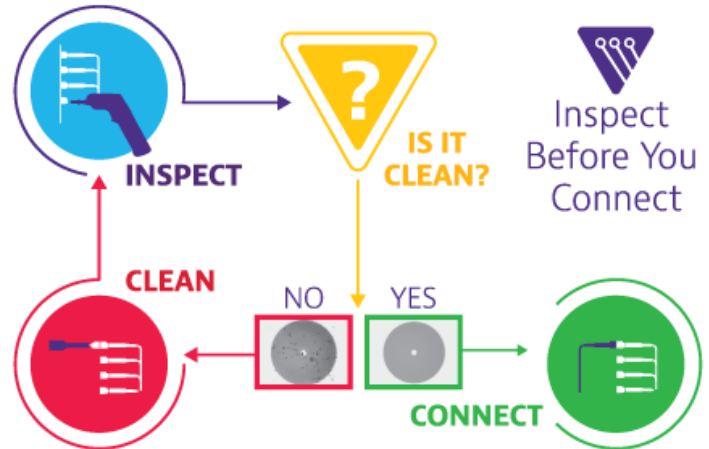   - **Sync Acquired** LED is green.
   - **Link Active** LED is green.

► **For 10/100/1000M Copper Interfaces:**

1. Connect the copper SFP to the port under test using CAT5e or better cable.
2. Press the **Restart** soft key.
3. Verify the following:
   - **Summary** LED is yellow.
   - **Sync Acquired** LED is green.
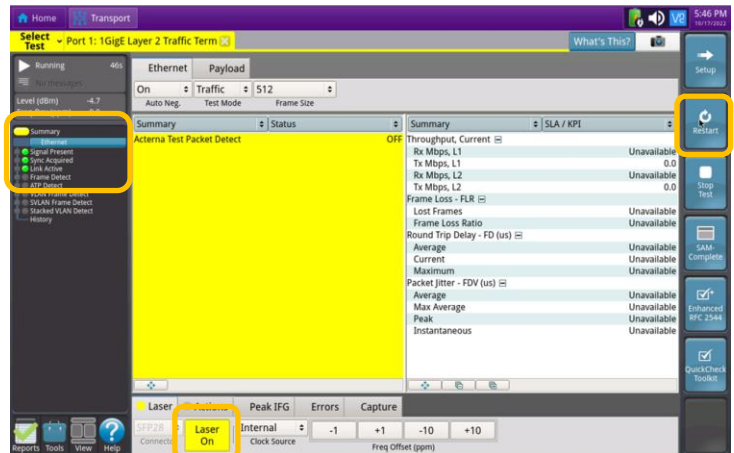   - **Link Active** LED is green.

Figure 7: Inspect Before You Connect

Figure 8: Optical Interface Results

VIAVI Solutions
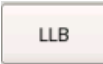
QUICK CARD

LOOP UP

The OneAdvisor may be looped up by any of the following methods. Once looped, the OneAdvisor will reflect all received test packet after inverting Source and Destination MAC addresses.

1. **Broadcast Loop up message**: The OneAdvisor will respond to VIAVI **Loop up** messages received via Broadcast MAC address and enter Local Loopback (LLB) mode.

2. **Unicast Loop up message**:
   ▶ The OneAdvisor will respond to VIAVI **Loop up** messages received via Unicast MAC address and enter **LLB** mode.

3. **Manual Local Loopback**:
   ▶ Select the **Actions** Panel and tap [LLB] to manually enter **LLB** mode.

   ▶ Tap [LLB] again to exit **LLB** mode when the test is complete.

With **Unicast** and **Manual** loopback, the operator of T-BERD or OneAdvisor traffic generator will need to know the MAC address of this OneAdvisor:

   ▶ Tap the Setup soft key [Setup], select the Ethernet menu, and tap [SA] to display the Factory Default Source MAC Address of your OneAdvisor.

   ▶ Provide this address to the operator of the Traffic Generator, upon request.

   ▶ Press the Results soft key [Results] to view the progress of the test.
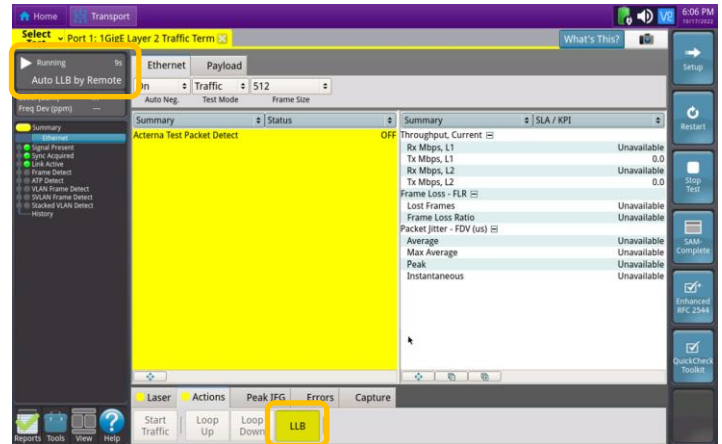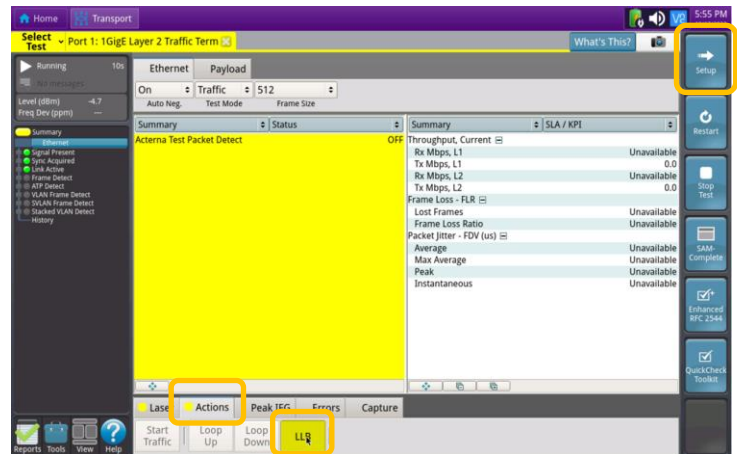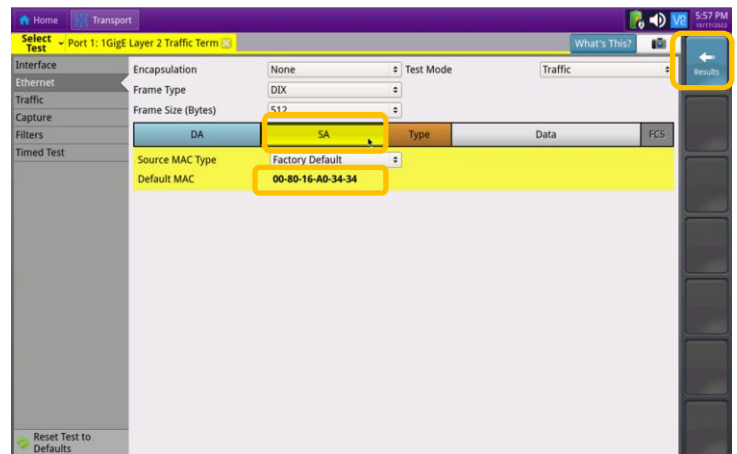

Figure 9: Loop Up message response

Figure 10: Manual LLB

Figure 11: Ethernet Setup, Source MAC

Contact Us

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

To reach the VIAVI office nearest you,
visit viavisolutions.com/contact