

QUICK CARD

Ethernet Layer 2 Traffic Loopback

This quick card describes how to set up the OneAdvisor 800 **SPA06MA-O Radio Analysis Module** as a Layer 2 Loopback device.

- OneAdvisor 800 equipped with the following:
 - SPA06MA-O Radio Analysis Module
 - Transport software release V4.0.1 or greater
 - ONA-SP-100GE option for 100 Gigabit Ethernet
 - ONA-SP-25GE option for 25 Gigabit Ethernet
 - ONA-SP-10GELAN option for 10 Gigabit Ethernet
 - ONA-SP-10M1GE option for 10M/100M/1G Ethernet
- 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 or FiberChek Probe)
- Fiber optic cleaning supplies



Figure 1: Equipment Requirements

LAUNCH TEST

- Press the Power button on the ONA-800 base top panel to turn on the OneAdvisor.
- Tap to display the Home Screen.
- Tap to display the Tests menu.
- Tap to show Radio Analysis test applications.
- Tap the **Transport** icon.
- If the **Select Test** menu or favorite test list is not displayed, tap to view the **Select Test** menu.
- Using the **Select Test** menu or favorite test list, launch the Ethernet Layer 2 Traffic test for the desired data rate.
For example: **Ethernet ▶ 1GigE Optical ▶ Layer 2 Traffic ▶ Terminate.**
- Tap to open the **Tools** Panel and select .
- Press to continue.

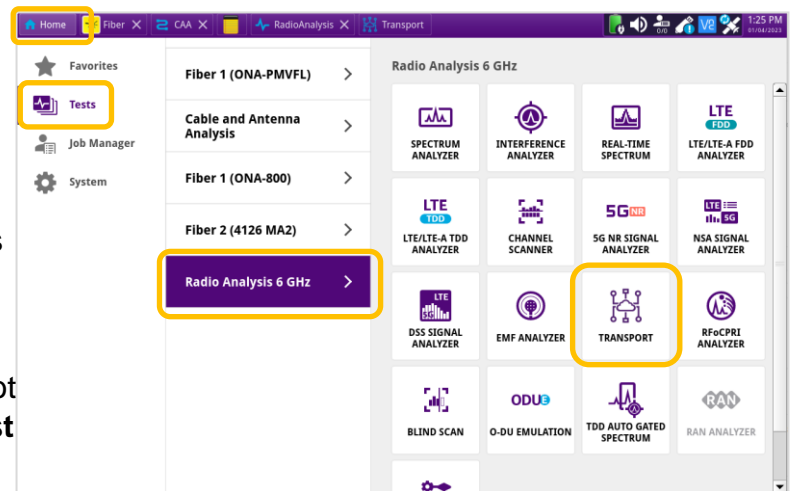


Figure 2: Transport Launch screen

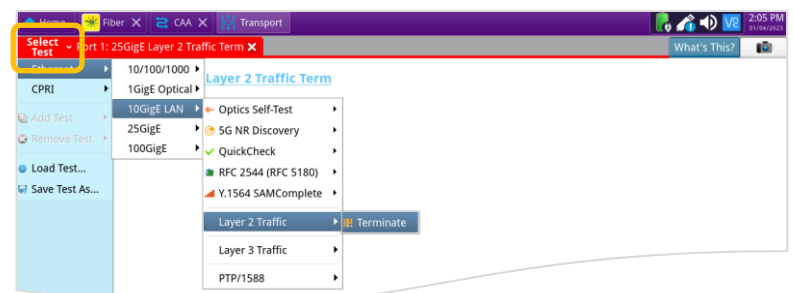


Figure 3: Select Test



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CONFIGURE TEST

► The following Information is needed to configure the test:

- Physical Interface (1000BASE-LX, 10GBASE-LR, 25GBASE-LR, etc.)
- Auto Negotiation settings of the port under test.

► 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 desired 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:
 - Verify that the optical transceiver operates on the required wavelength (850nm, 1310nm or 1550nm).
 - Verify that the SFP supports the required Data Rate (1G, 10G, etc.)
 - Note the Min and Max Tx Levels (dBm) and Max Rx Level (dBm) to assess if optical attenuators are required.
 - Press the **Results** soft key  to return to the Test Results screen.

► For 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**).

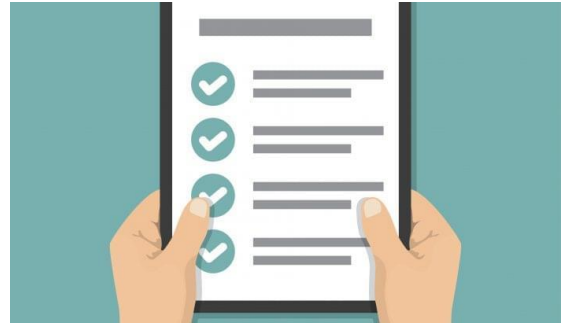


Figure 4: Work Order

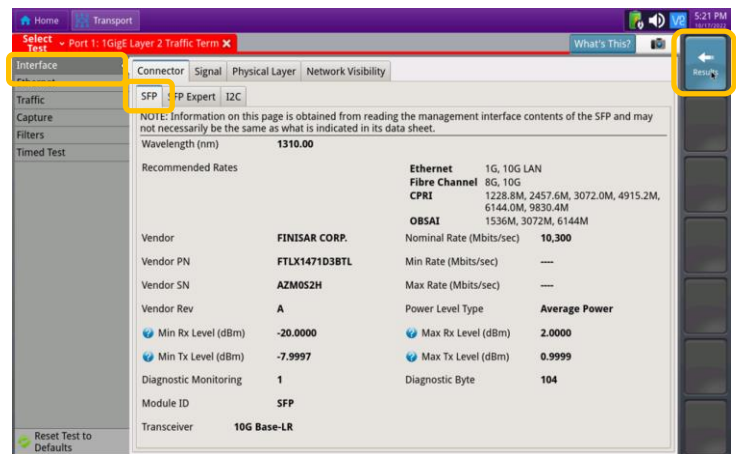


Figure 5: Setup, Interface/Connector/SFP

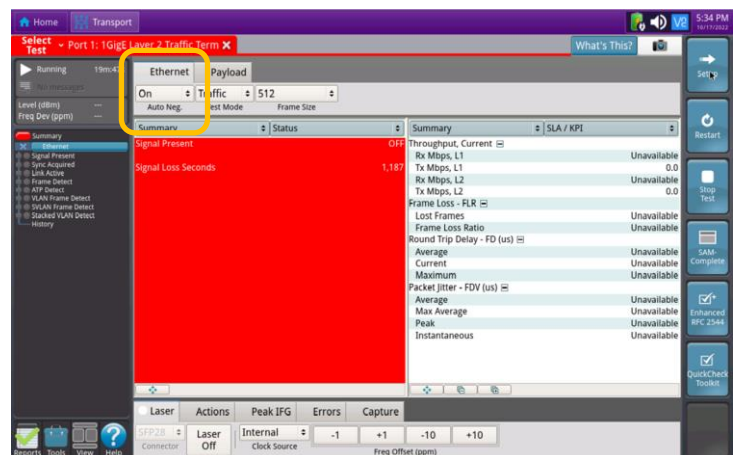





Figure 6: Quick Config, Auto Neg.

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CONNECT TO LINE UNDER TEST

► For Optical Interfaces:

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

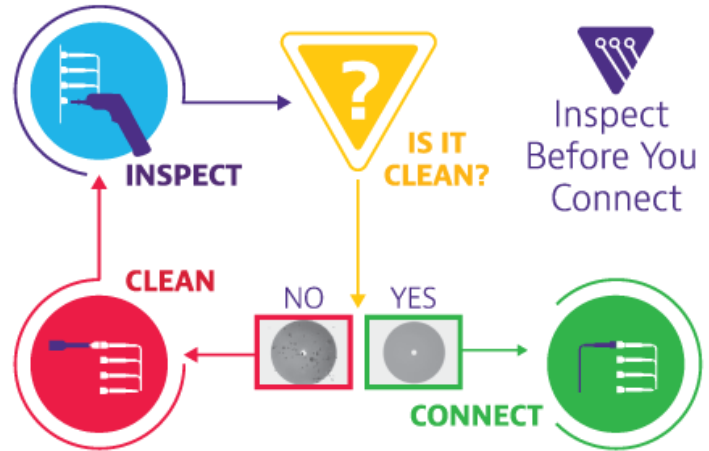


Figure 7: Inspect Before You Connect

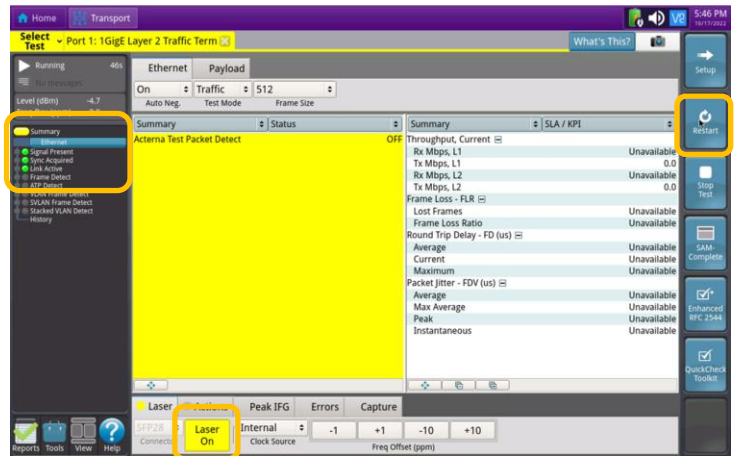


Figure 8: Optical Interface Results

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LOOP UP

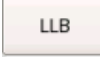

The OneAdvisor may be looped up by any of the following methods. Once looped, the OneAdvisor will reflect all received test packet after inverting Source and Destination MAC addresses.

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  to manually enter **LLB** mode.
- ▶ Tap  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 , select the Ethernet menu, and tap  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  to view the progress of the test.

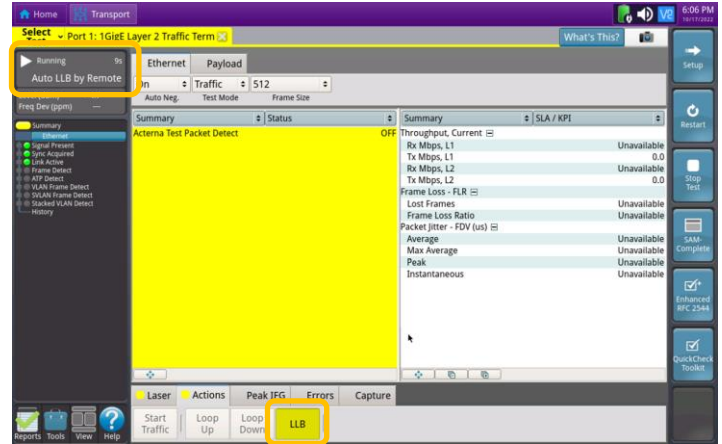


Figure 9: Loop Up message response

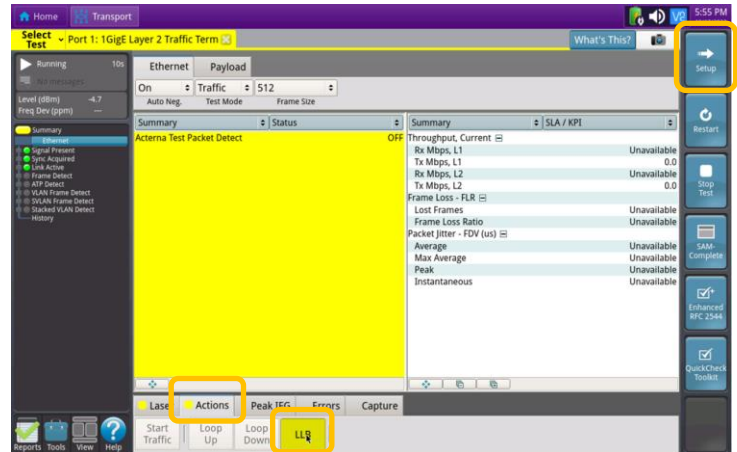


Figure 10: Manual LLB

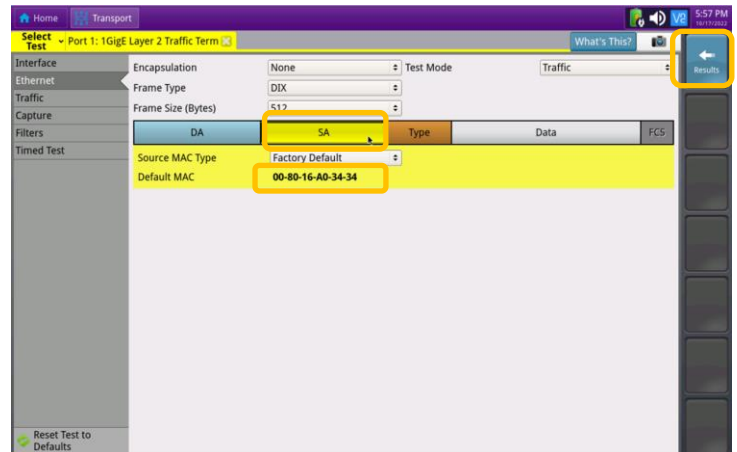


Figure 11: Ethernet Setup, Source MAC