

QUICK CARD

Ethernet Layer 2 Traffic Loopback

This quick card describes how to set up the OneAdvisor 800 **400G Module** or OneAdvisor 1000 **400G Module** as a Layer 2 Loopback device.



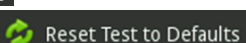

- OneAdvisor 800 or OneAdvisor 1000 equipped with the following:
 - 400G Transport Module
 - Transport software release V4.0.0 or greater
 - Software option for data rate to be tested:
 - ✓ CA10M1GE test option for 10/100/1000M Copper or 1 Gigabit Optical Ethernet loopback
 - ✓ CA10GELAN test option for 10 Gigabit Ethernet loopback
 - ✓ CA25GE test option for 25 Gigabit Ethernet loopback
 - ✓ CA40GE test option for 40 Gigabit Ethernet loopback
 - ✓ CA50GE test option for 50 Gigabit Ethernet loopback
 - ✓ CA100GE test option for 100 Gigabit Ethernet loopback
 - ✓ CA200GE test option for 200 Gigabit Ethernet loopback
 - ✓ CA400GE test option for 400 Gigabit Ethernet loopback



Figure 1: Equipment Requirements

- Optical Transceiver supporting the Ethernet data rate 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

LAUNCH TEST

1. Press the Power button to turn on the OneAdvisor.
2. Press the 400G Module icon  at the top of the screen.
3. Using the **Select Test** menu, Quick Launch menu, or Job Manager, launch the Ethernet Layer 2 Traffic test for the desired data rate on the desired port (P1 or P2). For example: **Ethernet ▶ 400GigE Optical ▶ Layer 2 Traffic ▶ P2 Terminate.**
4. Tap  to open the **Tools** Panel and select .
5. Press  to continue.

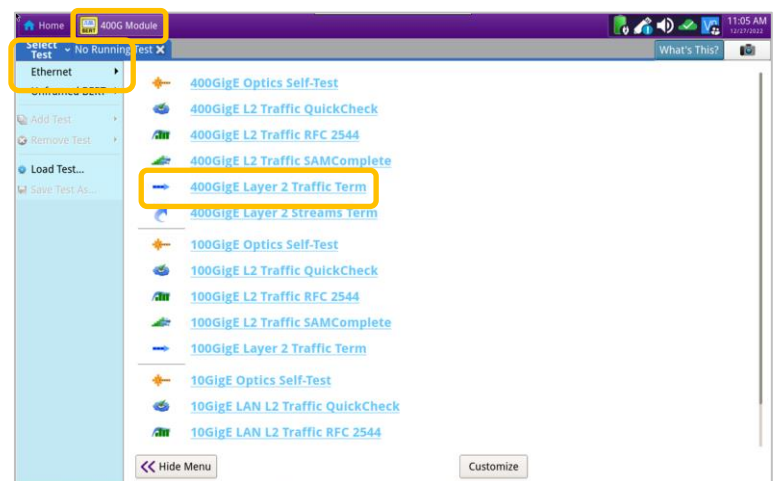




Figure 2: Launch Test

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CONFIGURE TEST

1. Press the **Setup** soft key .
2. Select the **Interface/Connector** folder.
3. Insert Optical Transceiver into the OSFP, QSFP or SFP slot on Port 1 or Port 2 of the 400G Module, as selected on page 1, step 3.
4. Review OSFP, QSFP or SFP information in the **Connector** tab:
 - o Verify that the transceiver operates on the correct wavelength (1301nm, 1310nm, etc.)
 - o Verify that the transceiver supports the required Physical Interface (10GBASE-LR, 100GBASE-LR4, 400GBASE-FR4, etc.)
 - o Press the **Results** soft key  to return to the Test Results screen.

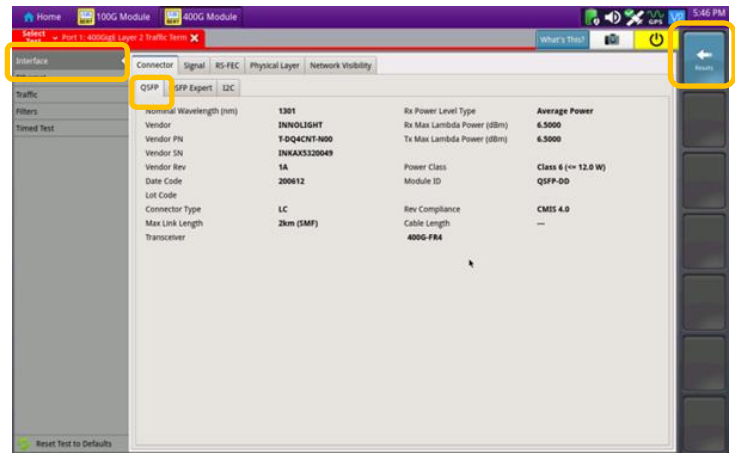


Figure 3: Setup, Interface/Connector/QSFP

CONNECT TO LINE UNDER TEST

► For Optical Interfaces:

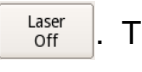


1. Use the VIAVI P5000i or FiberChek Probe microscope to inspect both sides of every connection being used (SFP, attenuators, patch cables, bulkheads)
 - o Focus the fiber on the screen.
 - o If it appears dirty, clean the fiber end-face and re-inspect.
 - o If it appears clean, run the inspection test.
 - o If it fails, clean the fiber and re-run inspection test. Repeat until it passes.
2. Connect the SFP to the port under test using a patch cable compatible with the line under test.
3. Select the **Laser** tab in the **Actions** panel.
4. Press . The button will turn yellow and be relabeled .
5. Press the **Restart** soft key .
6. Verify the following:
 - o **Summary** LED is yellow.
 - o **Signal Present** LED is green.
 - o **Sync Acquired** LED is green.
 - o **Link Active** LED is green.



Figure 4: Inspect Before You Connect

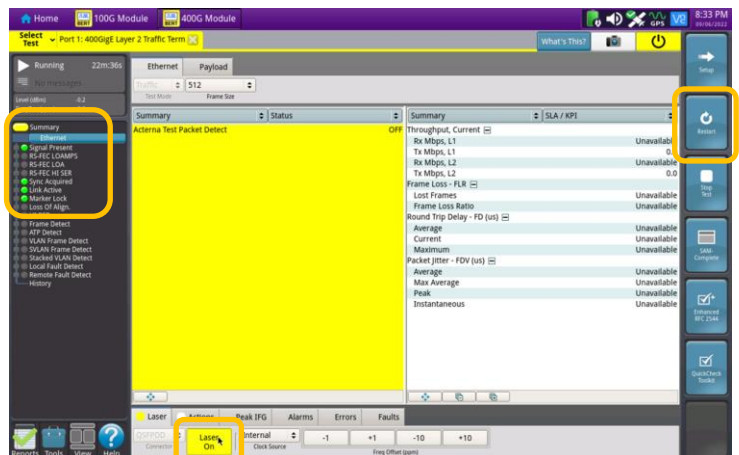


Figure 5: Optical Interface Results

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LOOP UP


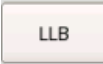
The OneAdvisor may be looped up by any of the following methods. Once looped, the OneAdvisor will reflect all received test packet after inverting Source and Destination MAC addresses.

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.

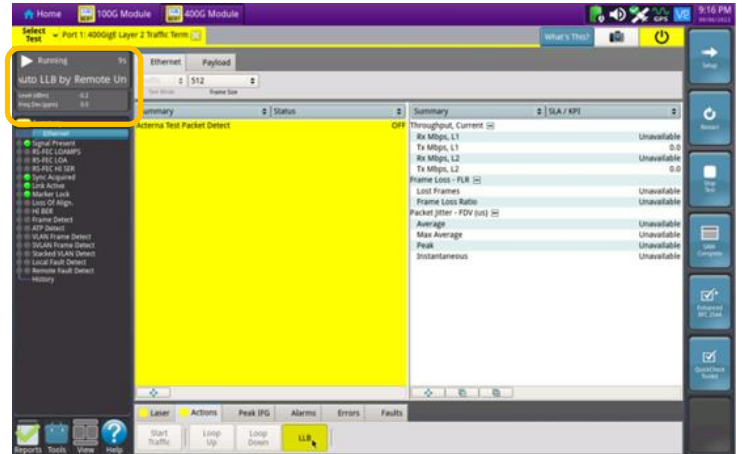


Figure 6: Loop Up message response

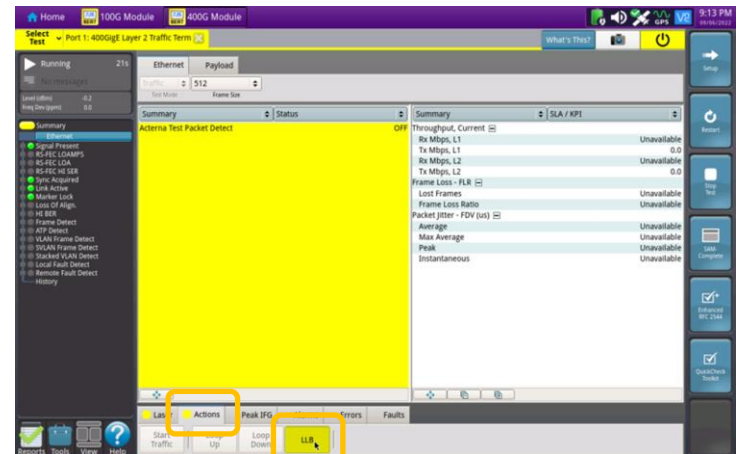


Figure 7: Manual LLB

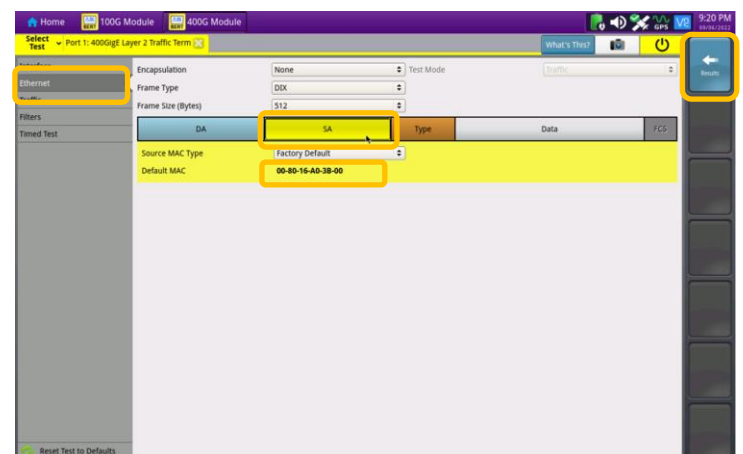


Figure 8: Ethernet Setup, Source MAC