

QUICK CARD

5G NR Discovery

This document outlines how to use the **T-BERD 5800** to discover and display MAC Addresses, VLAN IDs, IPv6 Addresses, and protocols for single or cascaded 5G NR radios. At the end of the test the T-BERD/MTS 5800 will ping all discovered IPv6 addresses to verify network connectivity.

- ▶ T-BERD/MTS 5800 equipped with the following:
 - Transport Software release V31.2.1 or greater
 - Ethernet test options:
 - ✓ C5IPV6 for Layer 3 IPv6 testing
 - ✓ C510GELAN for 10 Gigabit Ethernet
 - ✓ C525GE for 25 Gigabit Ethernet
 - ✓ CA10GCAPTURE and CA100GCAPTURE recommended for troubleshooting.
 - SFP optical transceiver to match the line under test
- ▶ Patch Cables to match the optical transceiver and line under test (Single mode or Multimode fiber)
- ▶ Fiber optic inspection microscope (VIAVI P5000i or FiberChek Probe)
- ▶ Fiber Optic Cleaning supplies



Figure 1: Equipment Requirements

- ▶ Use the VIAVI P5000i or FiberChek Probe microscope to inspect both sides of every connection being used (OCC Port, Launch Cable, bulkhead connectors, patch cables, etc.)
- ▶ Focus fiber on the screen. If dirty, clean the end-face.
- ▶ If it appears clean, run inspection test.
- ▶ If it fails, clean the fiber and re-run inspection test. Repeat until it passes.



Figure 2: Inspect Before You Connect

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CONNECT TO LINE UNDER TEST

1. Insert optics into the **Port 1 SFP** slot on the top of the T-BERD/MTS 5800.
2. After inspecting the fiber end faces, connect the SFP+/SFP28 to the radio under test using an LC-LC patch cable.



Figure 3: T-BERD/MTS 5822P

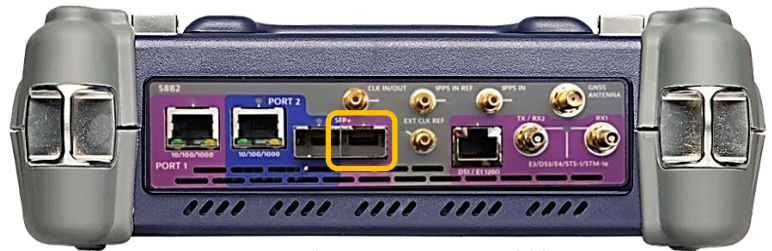


Figure 4: T-BERD/MTS 5882

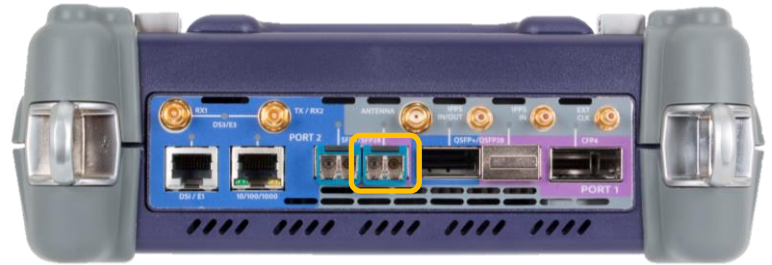


Figure 5: T-BERD/MTS 5800-100G

LAUNCH TEST

1. Press the Power button to turn on the test set and view the startup screen.
2. Using the **Select Test** menu or **Quick Launch** menu, launch an **Ethernet, 5G NR Discovery** test on **Port 1** as follows:
 - For 10GigE interfaces: **Ethernet ▶ 10GigE LAN ▶ 5G NR Discovery ▶ P1 Terminate**
 - For 25GigE interfaces: **Ethernet ▶ 25GigE ▶ 5G NR Discovery ▶ P1 Terminate**

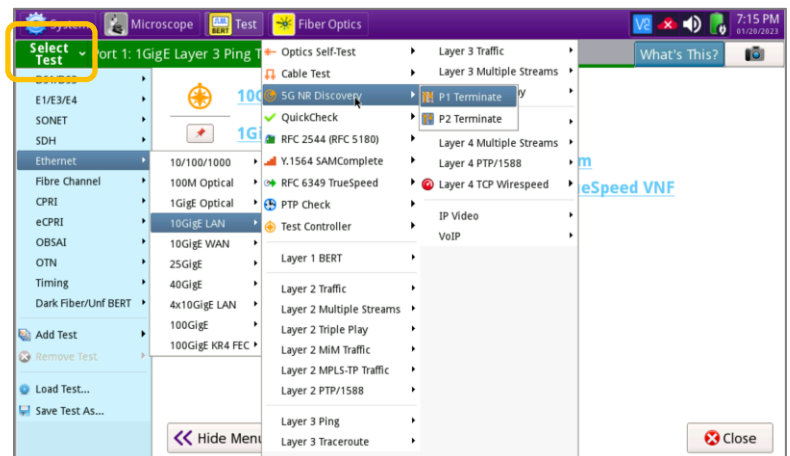
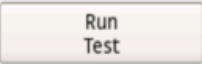


Figure 6: Select Test

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RUN TEST

1. Verify that Signal Present, Sync Acquired, and Link Active LEDs are all green.
2. Tap the **Save capture file** check box if you wish to save captured packets to a PCAP file for analysis with WireShark™.
3. Tap  to start discovery.
4. The T-BERD/MTS 5800 will listen for 5G NR radios, display signal levels, analyze frames, and display IPv6 addresses, MAC addresses, and VLAN IDs for discovered radios.
5. The T-BERD/MTS 5800 will also display discovered protocols (well-known TCP/UDP Ports) and ping all discovered IPv6 addresses.
6. At the end of the test, verify the following for each 5G NR radio:
 - A valid source MAC address, VLAN ID and IPv6 address is displayed
 - Received 10 of 10 pings received

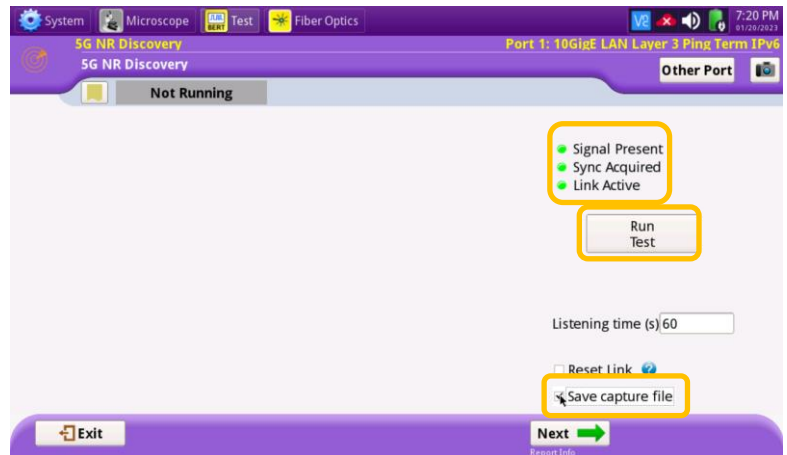


Figure 7: Run Test

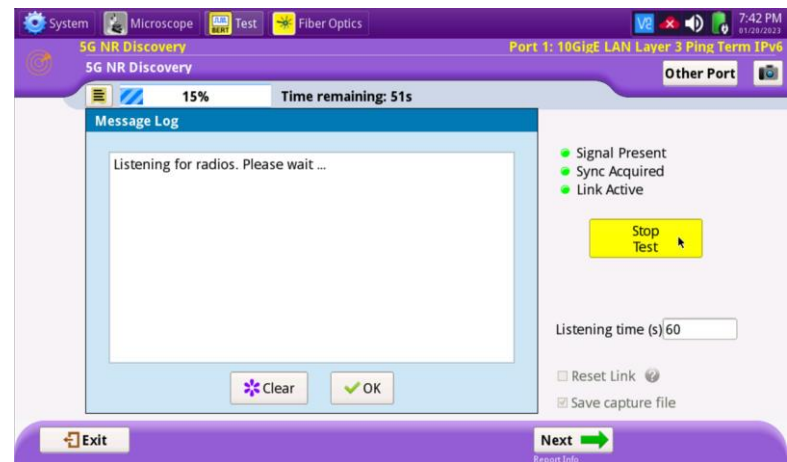


Figure 8: 5G NR Discovery

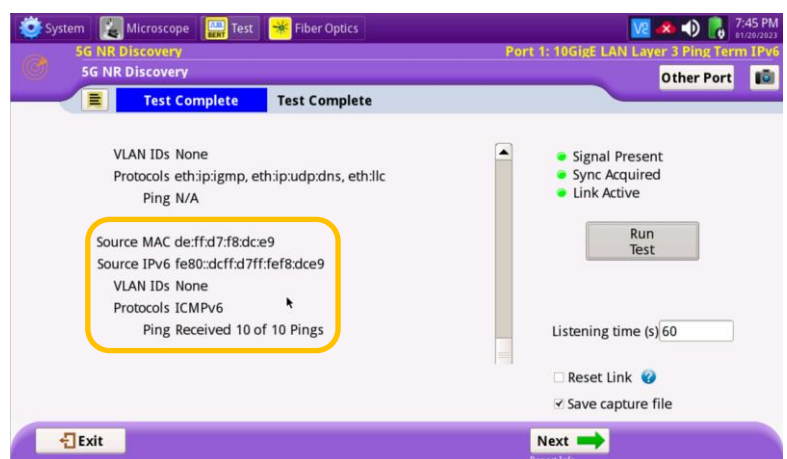
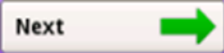


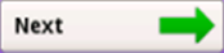
Figure 9: Protocol Discovery and Ping results

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CREATE REPORT


1. If you wish to save a report, tap  to proceed to the **Test Report Information** screen.

2. Enter test report information and Comments/Notes.

3. Tap  to proceed to the **Report** screen.

4. Tap and check the **View report after creation** and **Include message log** check boxes.

5. Tap  to generate a test report in .pdf format.

6. After viewing the report, tap  twice to exit the **5G NR Discovery** test.

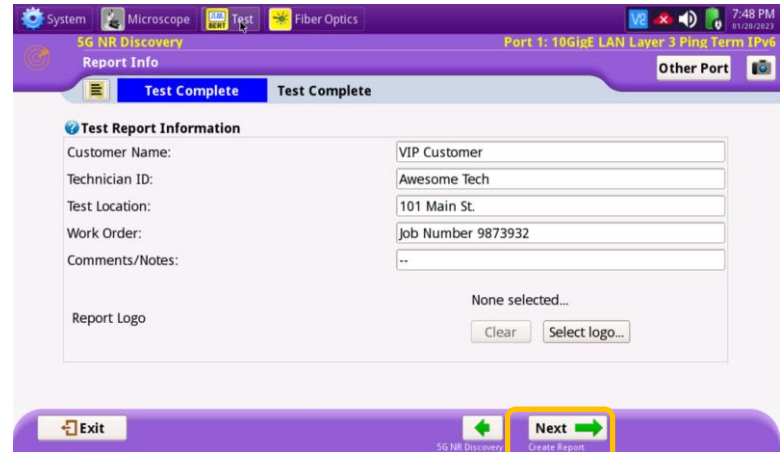


Figure 10: Test Report Information

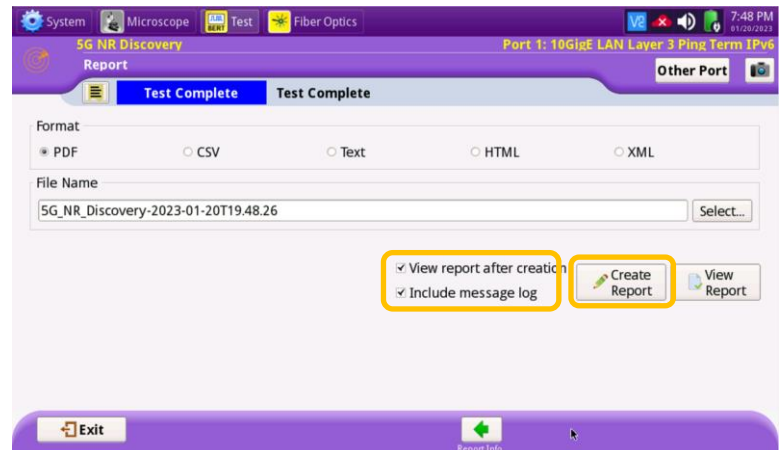


Figure 11: Create Report



Figure 12: 5G NR Discovery Report