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



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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

https://www.viavisolutions.com/en-us/product-family/T-BERD/MTS 5800



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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.
- 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.
- 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

📛 System 👔 Mici	roscope 📴 Test	Fiber Optics	🚾 🛹 🌒 💦 7:15 PM
Select ~ ort 1: 1G	igE Layer 3 Ping T	+- Optics Self-Test	Layer 3 Traffic Layer 3 Multiple Streams
E 1/E3/E4 SONET	() () () () () () () () () () () () () (G NR Discovery QuickCheck 	IL: P1 Terminate V II: P2 Terminate ,
SDH Fibre Channel	10/100/1000 + 100M Optical +	 RFC 2544 (RFC 5180) Y.1564 SAMComplete RFC 6349 TrueSpeed 	Layer 4 Multiple Streams Layer 4 PTP/1588 M G Layer 4 TCP Wirespeed ESpeed VNF
CPRI + eCPRI + OBSAI +	1GigE Optical 10GigE LAN 10GigE WAN	🕀 PTP Check 🔶 Test Controller	IP Video VoIP V
OTN Timing Dark Fiber/Unf BERT	25GigE + 40GigE + 4x10GigE LAN +	Layer 1 BERT Layer 2 Traffic Layer 2 Multiple Streams	
Add Test	100GigE + 100GigE KR4 FEC +	Layer 2 Triple Play Layer 2 MiM Traffic	
 Load Test Save Test As 		Layer 2 PTP/1588	•
	K Hide Menu	Layer 3 Ping Layer 3 Traceroute	Close

Figure 6: Select Test

T-BERD/MTS 5800 Portable Network Tester

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RUN TEST

- Verify that Signal Present, Sync Acquired, and Link Active LEDs are all green.
- Tap the □ Save capture file check box if you wish to save captured packets to a PCAP file for analysis with WireShark[™].
- 3. Tap Run to start discovery.
- 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.
- The T-BERD/MTS 5800 will also display discovered protocols (wellknown TCP/UDP Ports) and ping all discovered IPv6 addresses.
- 6. At the end of the test, verify the following for each 5GNR radio:
 - A valid source MAC address, VLAN ID and IPv6 address is displayed
 - Received 10 of 10 pings
 received



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Figure 7: Run Test





Figure 9: Protocol Discovery and Ping results

T-BERD/MTS 5800 Portable Network Tester



QUICK CARD

CREATE REPORT

- If you wish to save a report, tap
 Next to proceed to the
 Test Report Information screen.
- 2. Enter test report information and Comments/Notes.
- 3. Tap Next is proceed to the **Report** screen.
- 4. Tap and check the
 □ View report after creation and
 □ Include message log check boxes.
- 5. Tap Create report to generate a test report in .pdf format.
- After viewing the report, tap
 first
 twice to exit the 5G NR
 Discovery test.

E Test Complete	Test Complete		
Test Report Information			
Customer Name:		VIP Customer	
Technician ID:		Awesome Tech	
Test Location:		101 Main St.	
Work Order:		Job Number 9873932	
Comments/Notes:			
Report Logo		None selected Clear Select logo	

Figure 10: Test Report Information



Figure 11: Create Report

System 🔛 Test 😽 Fiber Optics 🔚		11/03/				
5G_NR_Discovery-2023-11-03T16.21.19.pdf						
5G NR Discovery Report - Port 1: Generated by Viavi 5800v2	10GigE LAN Layer 3 Ping Term IPv6					
Customer Name	**					
Technician ID						
Test Location	**					
Work Order						
Comments/Notes	**					
Instrument	T-BERD5800V2					
Serial Number	WMMH0080110021	- h				
SW Version	31.2.1					
Start Date	11/03/2023					
End Date	11/03/2023					
H Q	🚺 1 of 5 🚺 🚺	🔎 Original				
	Exit					

Figure 12: 5G NR Discovery Report

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