

5G NR Discovery

This document outlines how to use the **SPA06MA-O Radio Analysis Module** 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 OneAdvisor will ping all discovered IPv6 addresses to verify network connectivity.

- OneAdvisor 800 equipped with the following:
 - SPA06MA-O Radio Analysis Module
 - Transport software release V4.0.0 or greater
 - Ethernet test options:
 - ONA-SP-10GELAN and ONA-SP-10GECAP for 10 Gigabit Ethernet
 - ONA-SP-25GE and ONA-SP-25GECAP for 25 Gigabit Ethernet
 - · 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

https://www.viavisolutions.com/en-us/product-family/oneadvisor



CONNECT TO LINE UNDER TEST

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



Figure 3: OneAdvisor 800 SPA06MA-O Module

LAUNCH TEST

- Press the Power button on the ONA-800 base top panel to turn on the OneAdvisor.
- Tap ¹ Home</sup> to display the Home Screen.
- 3. Tap 🛃 Tests to display the Tests menu.
- 4. Tap Radio Analysis 6 GHz > show Radio Analysis test applications.
- 5. Tap the **Transport** icon.
- If the Select Test menu or favorite test list is not displayed, tap >> All Tests to view the Select Test menu.
- 7. Using the Select Test menu or favorite test list, launch the Ethernet Layer 2 Traffic test for the desired data rate.
 For example:
 Ethernet ► 10GigE LAN ►
 5G NR Discovery ► Terminate.

🔒 Home 📑 Fiber 🗙 🗧	😫 CAA 🗙 🧧 春 RadioAnalys	is 🗙 🕌	Transport		 🞝 🕹	1:25 PM
Favorites	Fiber 1 (ONA-PMVFL)	>	Radio Analysis	6 GHz		-
Job Manager	Cable and Antenna Analysis	>			REAL-TIME SPECTRUM	LTE FDD LTE/LTE-A FDD ANALYZER
System	Fiber 1 (ONA-800)	>			SPECIRUM	
	Fiber 2 (4126 MA2)	>	LTE TDD LTE/LTE-A TDD ANALYZER		5G NR SIGNAL ANALYZER	ITE :== III. SG NSA SIGNAL ANALYZER
	Radio Analysis 6 GHz	>	DSS SIGNAL ANALYZER	(P) EMF ANALYZER	TRANSPORT	RFoCPRI ANALYZER
				ODU3	TDD AUTO GATED SPECTRUM	RAD RAN ANALYZER
			0.0			

Figure 4: Transport Launch screen

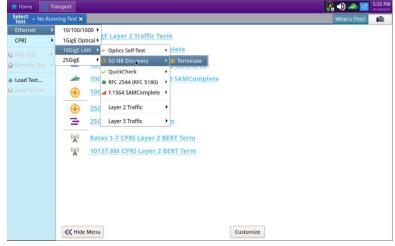


Figure 5: Select Test



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 Test to start discovery.
- The OneAdvisor will listen for 5G NR radios, analyze frames, and display IPv6 addresses, MAC addresses, and VLAN IDs for discovered radios.
- The OneAdvisor 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:
 - A valid source MAC address, VLAN ID and IPv6 address is displayed for each 5GNR radio
 - Each radio received 10 of 10 ping



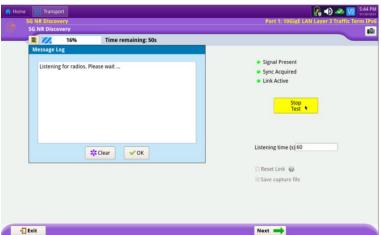


Figure 7: 5G NR Discovery

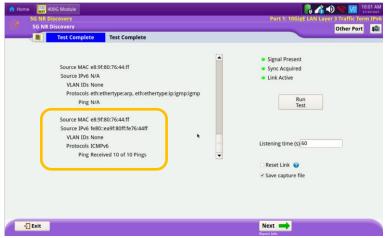


Figure 8: Protocol Discovery and Ping results



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 → to proceed to the **Report** screen.
- 4. Tap and check the
 □ View report after creation and
 □ Include message log check boxes.
- 5. Tap report in .pdf format.
- After viewing the report, tap
 first
 twice to exit the 5G NR
 Discovery test.

Home Home 400G Module	Port 1: 10Gige LAN Layer 3 Traffic Term IPv Port 1: 10Gige LAN Layer 3 Traffic Term IPv
Report Info	Other Port
E Test Complete Test Complete	
W Test Report Information	
Customer Name:	
Technician ID:	-
Test Location:	-
Work Order:	-
Comments/Notes:	
Report Logo	None selected Clear Select logo
	$\overline{}$
- Exit	🔶 Next 🖘

Figure 9: Test Report Information

5G NR Disco	Module		i Po	3:13 31/24/ rt 1: 10Gige LAN Layer 3 Traffic Term II
Report	240			Other Port
	est Complete	Test Complete		
Format				
* PDF	\odot CSV	 Text 	ି HTML	⊖ XML
File Name				
5G_NR_Discovery-	2023-01-20T15.12.5	9		Select

Figure 10: Create Report

Customer Name	Customer	
Technician ID	DB0001	
Test Location	Melbourne, FL	
Test Location Work Order	Melbourne, FL	
	1	
Comments/Notes	Quick card	
Instrument	400G Module	
Serial Number	WMTM0064420026	
SW Version	31.0.0.34d465f80f9	
Start Date	01/20/2023	
End Date	01/20/2023	
Start Time	11:33:26 AM EST	
End Time	3:07:44 PM EST	
5G NR Discov	very Overall Test Result: Test Complete	

Figure 11: 5G NR Discovery Report

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