

5G AX1200 for OW-450 (4N00) with 5GHz Panel Antenna for ANT-18AD(18dBi) 2KM Distance PtP Throughput Test Report



1. Test Product model.



2. Introduction

The purpose of this test is to determine the average throughput and signal stability of OW-450 (4N00) by using the Radio 1 (5G) AX1200+ external 5GHz 2x2 long-distance antenna (ANT-18AD) at a distance of 2KM. This test specifically measures point-to-point WDS connections set up with Cerio's CenOS 5.0 software core. The test was conducted between two OW-450 (4N00) + external 5GHz 2x2 long-distance antenna (ANT-18AD) devices paired with 802.11ax operation.

3. Test Date and Personnel

Date: 2024.8.22				
Tester				
8/22		08.22	08.22	8.22
Uy		Jady	mom	Eric

4. Test Environment

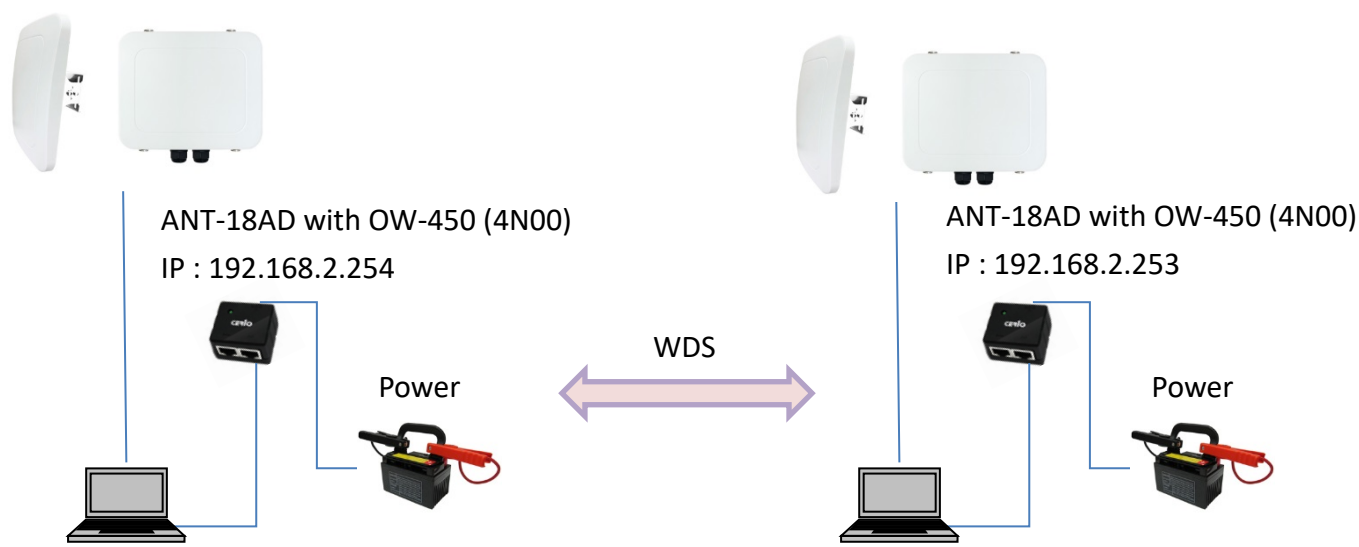
Location A: Second nuclear power plant breakwater.

Location B: Yehliu Tunnel entrance platform.

The distance from Location A to Location B is roughly 2178.24m, determined by Google Earth.



5. System Network Configuration



6. OW-450 (4N00) UI Screen

Location A : MAC Address and WDS

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OW-450-4N00

System Wireless Utility Status

WDS Status

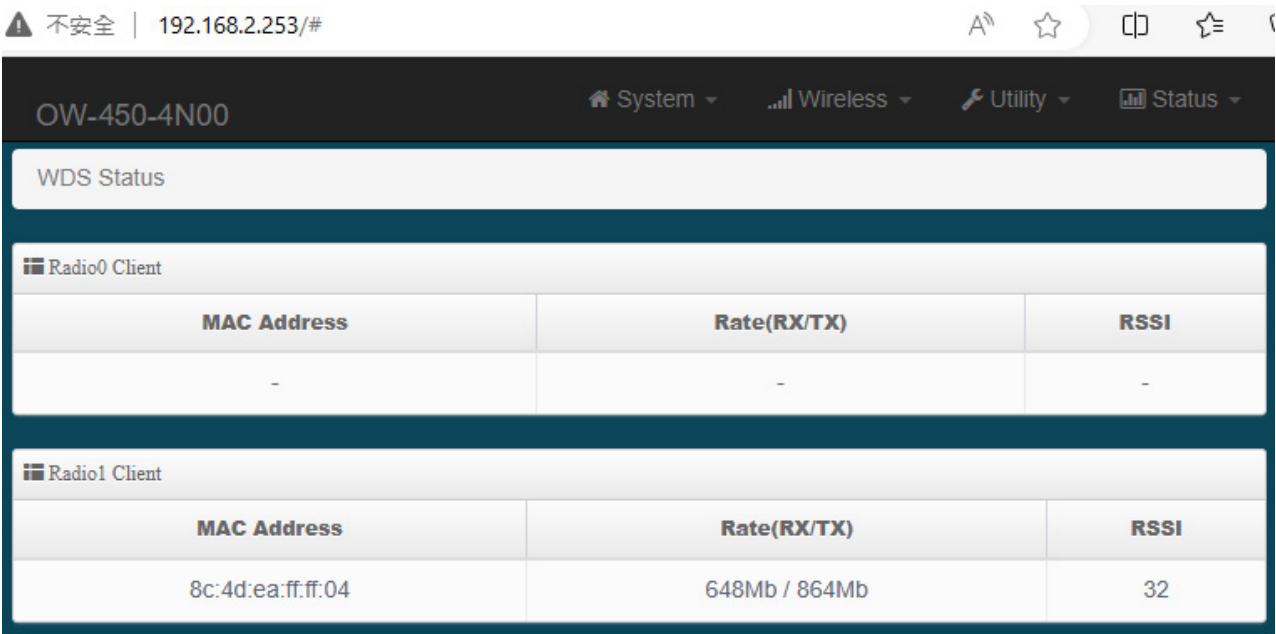
Radio0 Client

MAC Address	Rate(RX/TX)	RSSI
-	-	-

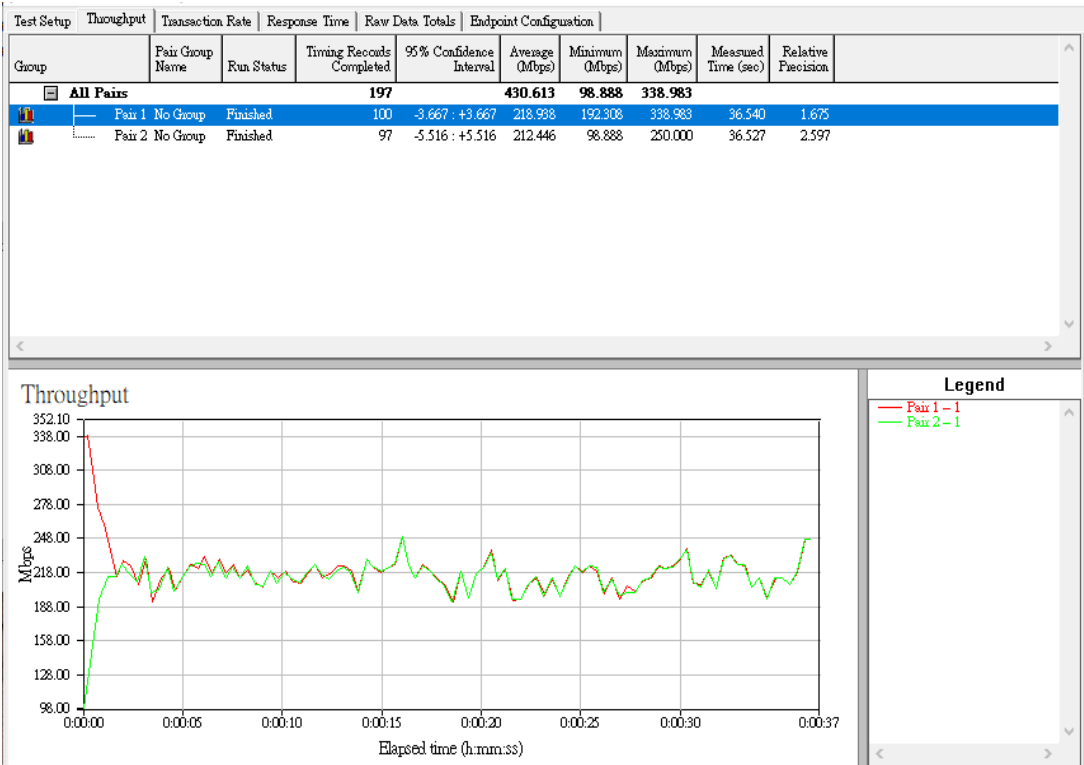
Radio1 Client

MAC Address	Rate(RX/TX)	RSSI
8c:4d:ea:05:1c:87	864Mb / 648Mb	30

Location B : MAC Address and WDS



Band Mode	Channel	Throughput	Antenna
802.11ax	149	430.613	ANT-18AD



5G_18dBi_CH149

7. TEST Tools

Test Equipment			
Notebook	DESKTOP-IAEI2Q1 x1 Lenovo X230 x1	System OS	Windows 10 (x64)
Power (battery)	ALPHALINE MF85D23R x2		
Inverter	DC to AC 350W Inverter x2		
Tripod	2		
PoE Injector	Gigabit Injector (POE-PE03GE-30W) x2		
RJ-45 Cables	Cat.5e x 4		
RF Cables	LLMR-NNP-1M x2		
Test product	1. External antenna : ANT-18AD x2 2. OW-450 Series eXtreme High Power WiFi6 Dual-Radio Outdoor PoE Bridge/AP x2		
Test Software and setting information			
Application tools	Chariot Version 6.7		
Running time	37 sec		
software	CenOS 5.0 Layer2 Softcore Core Firmware version : Pme-CPE-CERIO V0.02		
Operation mode	Using Access Point mode with WDS function		
Radio/Bandwidth / Channel	Radio1 (5G 2X2) / HE80 / CH149		

8. On-site status

Location A: Second nuclear power plant breakwater. (核二廠消波提)



Location B: Yehliu Tunnel entrance platform. (野柳隧道口平台)





Conclusion

The 2KM long-distance test verified the performance of our newly designed Cerio WiFi6 outdoor wireless AP: OW-450 (4N00) in Radio 1(5G), and paired it with the overall long-distance throughput test of our 18dBi polarized outdoor antenna (ANT-18AD).

From the results of our 5GHz 2x2 external antenna (ANT-18AD) with OW-450 (4N00) 2km test, we concluded that under the same environment and conditions, the gain capability of ANT-18AD is improved compared to 14dbi Gain. It increases the transmission performance of long-distance connections. If you adjust the transmission direction, horizontal or vertical angle, you can display its optimal and efficient data transmission.

Our outdoor wireless testing is a valuable reference tool for users planning to deploy our products in a variety of outdoor environments.

Our extensive experience enables us to create high-quality wireless networking hardware and software products that consistently meet our customers' needs and provide them with superior products.