WiFi6 Outdoor for CERIO OW-400 2N18 with build in 5Ghz (18dBi Antenna) 2KM Distance PtP Throughput Test Report.

1. Test Product model.

eXtreme High Power WiFi6 Dual-Radio +18dBi Outdoor PoE Bridge/AP.

2. Introduction

The purpose of conducting this test was to determine the average throughput and signal stability of Cerio's OW-400 2N18 with build in 5Ghz (18dBi Antenna) at AX2400 5Ghz a distance of 2KM. The test specifically measured point-to-point WDS connections set through Cerio's CenOS 5.0 Software. The test was conducted between two units of OW-400-2N18 operating under 802.11ax standards.

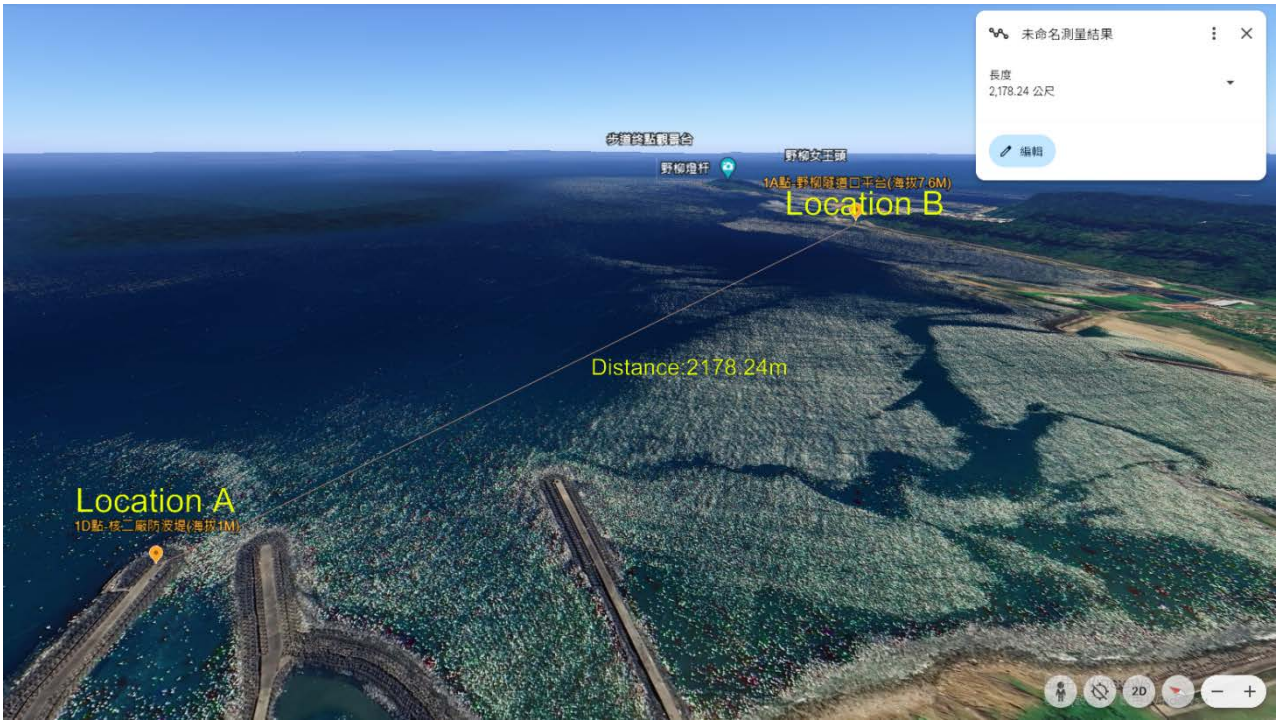
3. Test Date and Personnel

Date : 22/8/2024			
Test Persons			
			Eric

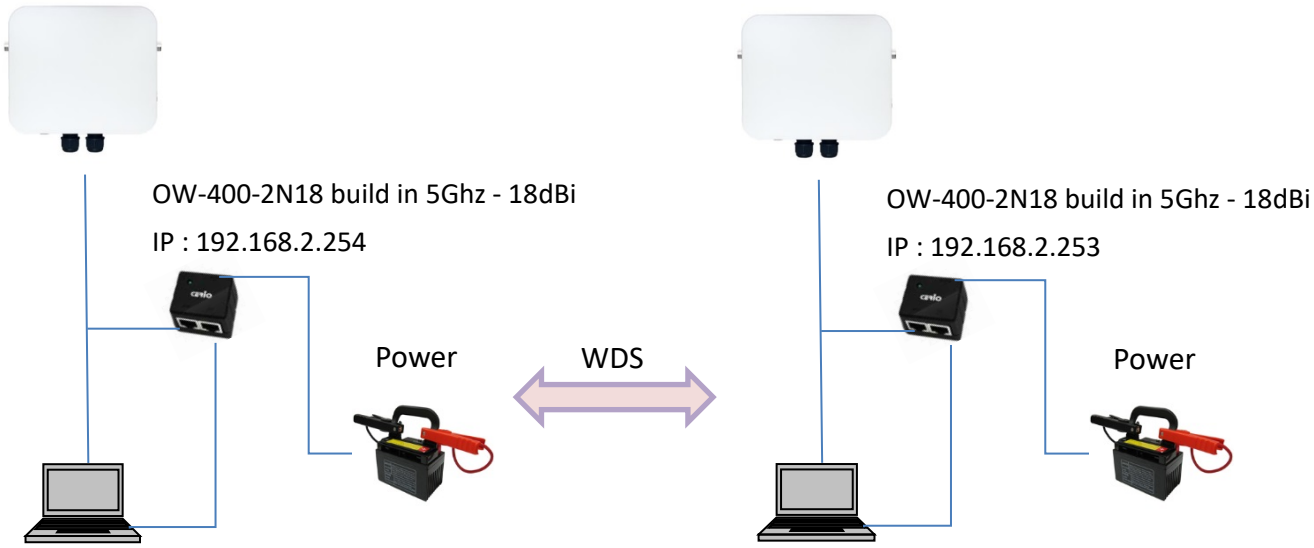
4. Test Environment

Location A: Second nuclear power plant breakwater.
Location B: Yehliu Tunnel entrance platform.

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

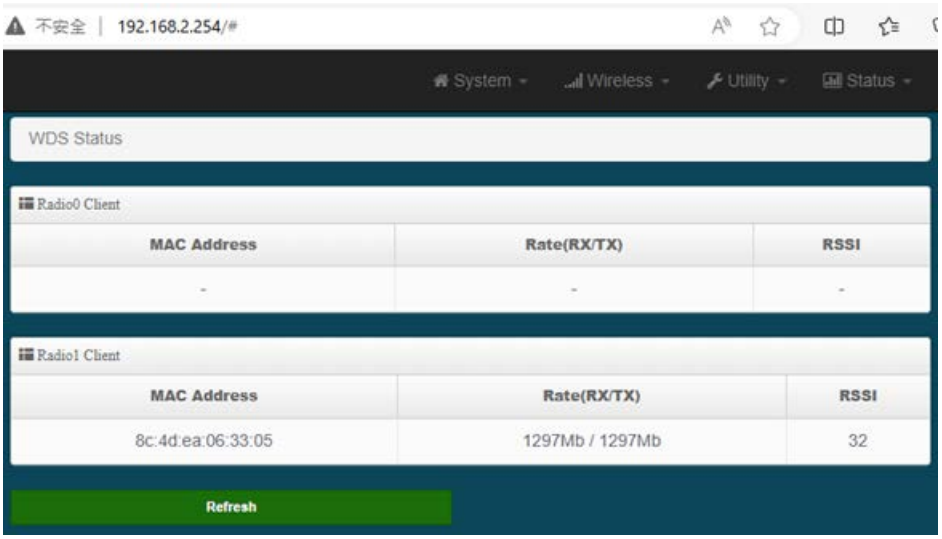


5. System Network Configuration

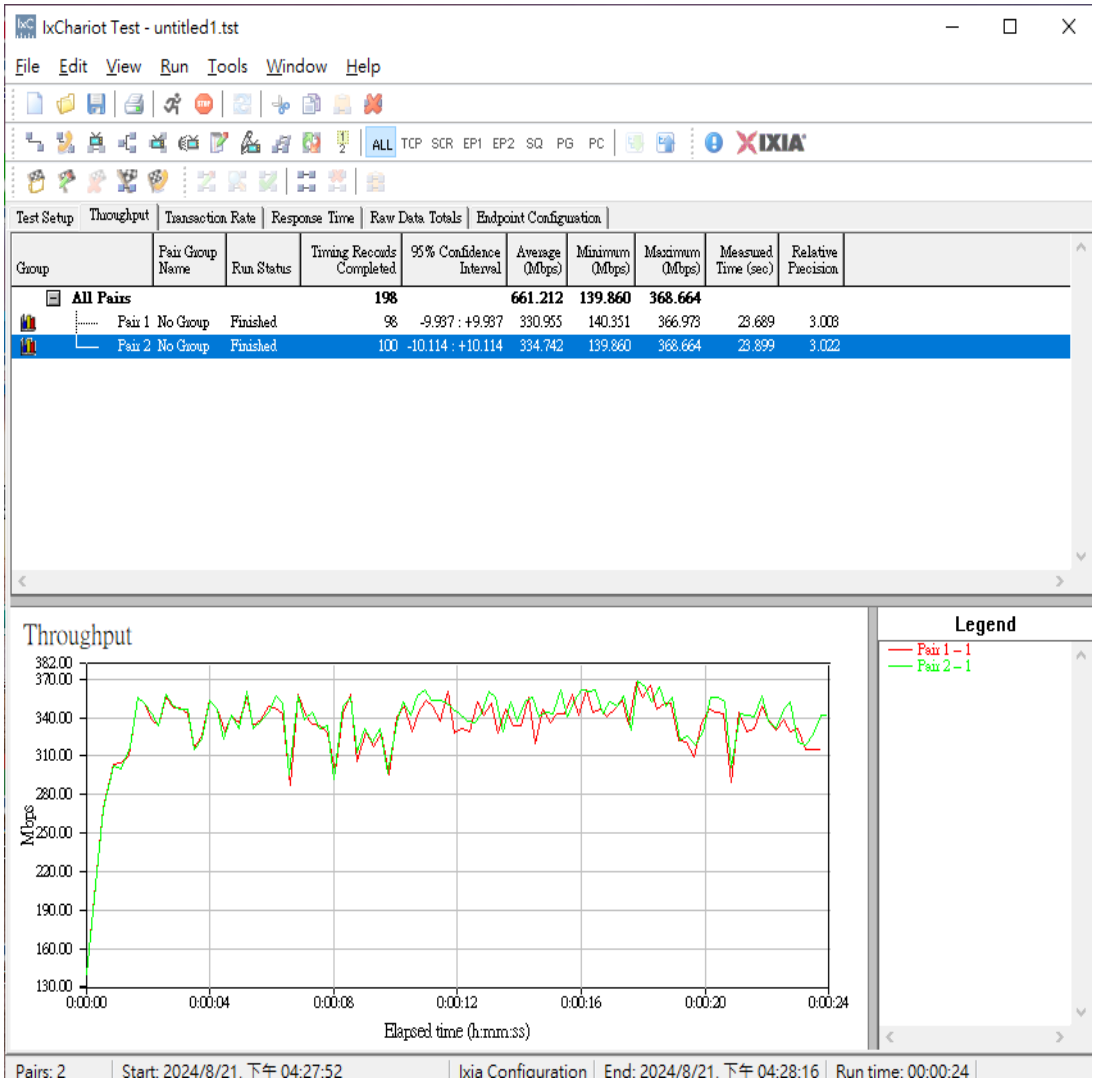


6. OW-400-2N18 UI Screen

Location A：MAC Address and WDS



Band Mode	Channel	Throughput	Antenna
802.11ax	64	661.212	Build in 5Ghz - 18dBi



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		
Antenna	Blind in 18dBi Antenna		

Test products	eXtreme High Power WiFi6 Dual-Radio +18dBi Outdoor PoE Bridge/AP (OW-400 2N18)x2
Test Software and setting information	
Application tools	Chariot Version 6.7
Running time	24 sec
software	CenOS 5.0 Layer2 Softcore Core Firmware version : Pme-CPE-CERIO V0.01
Operation mode	Using Access Point mode with WDS function
Radio and Channel	Radio 1 (5G) test channel: 36-64CH

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

To validate the performance of our Cerio wireless products and increase consumer confidence, we conducted long-distance throughput testing in the HT160 bandwidth on existing outdoor wireless access points with 5Ghz AX2400 capabilities. Therefore, the outdoor access point model with built-in 5Ghz 18dbi dual polarization directional antenna is directly used for point-to-point testing.

Based on our OW-400 2N18 2KM test results with built-in 5Ghz (18dBi antenna), we conclude that the built-in 5Ghz 18dbi antenna performs well despite the current environmental interference in the 5Ghz band that is already very serious. The transmission performance of 661Mbps can still be maintained under the 2KM long-distance testing.

Cerio Outdoor Wireless Testing has proven to be an invaluable reference tool for users planning to deploy our products in a variety of outdoor environments. Through this test, we are confident in the team's development and design capabilities.

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.