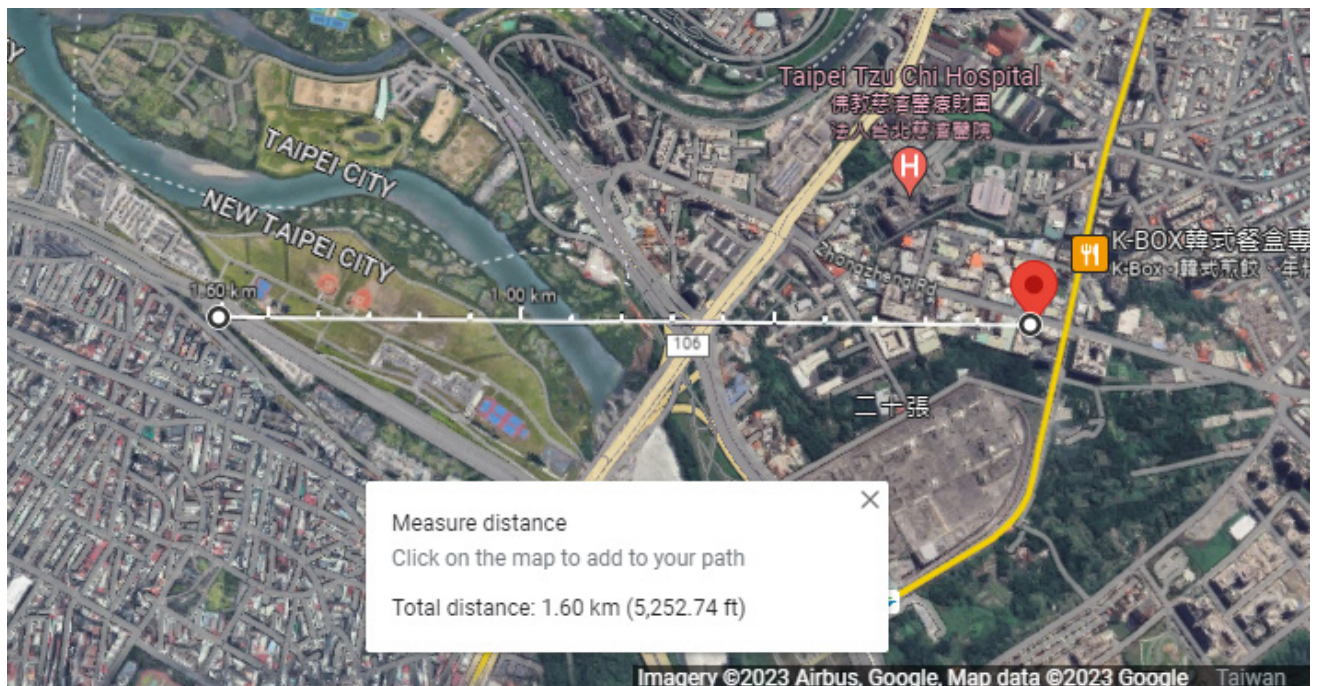


5Ghz Panel Antenna for ANT-14AD(14dBi) with WiFi6 Outdoor (OW-400 4N00) 1.6KM Distance PtP Throughput Test Report.



1. Test Product model.



2. Introduction

The purpose of this test is to determine the average throughput and signal stability of the external 5Ghz wide range single antenna (ANT14AD) with the OW-400 4N00 at a distance of 1600M. This test specifically measures point-to-point WDS connections set up with Cerio's CenOS 5.0 package. The test was carried out between two OW-400 4N00 devices operating according to the 802.11ax standard in a metropolitan office area.

3. Test Date and Personnel

Date : 06/28/2023			
Test Persons			
			

4. Test Environment

Location A: XinDian Cerio office building top floor.

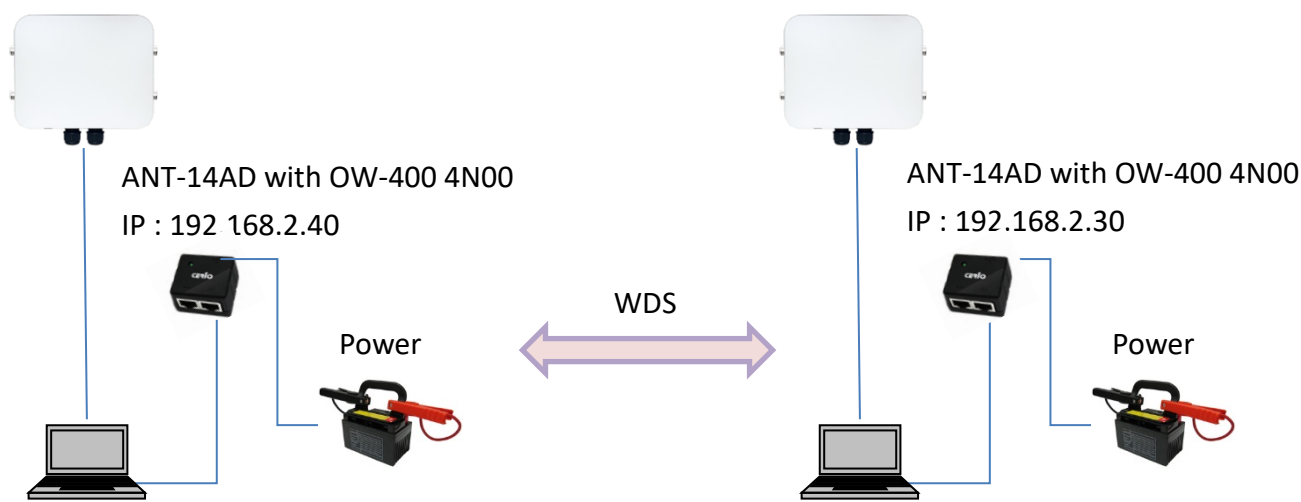
Location B: Yonghe Xinbei huanhe Expy at pedestrian bridge.

The distance from Location A to Location B is roughly 1600.88m, determined by Google Earth.





5. System Network Configuration



6. OW-400-4N00 UI Screen

Location A : MAC Address and WDS

MAC Address

Radio 0

8c:4d:ea:06:2b:a3

Radio 1

8c:4d:ea:06:2b:a4

WDS Client Setup

Radio 0		Radio 1	
Enable	MAC Address	Enable	MAC Address
<input type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text" value="8c:4d:ea:06:2b:30"/>

Radio1 Client

MAC Address	Rate(RX/TX)	RSSI
8c:4d:ea:06:2b:a4	576Mb / 864Mb	25

Location B : MAC Address and WDS

MAC Address

Radio 0

8c:4d:ea:06:2b:29

Radio 1


8c:4d:ea:06:2b:30

WDS Client Setup			
Radio 0		Radio 1	
Enable	MAC Address	Enable	MAC Address
<input type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text" value="8c:4d:ea:06:2b:4a"/>

Radio1 Client		
MAC Address	Rate(RX/TX)	RSSI
8c:4d:ea:06:2b:30	864Mb / 576Mb	25

7. Throughput test

Successful connection screen of WDS used CH 64


OW-400-4N00 CenOS 5.0
System Wireless Utility Status

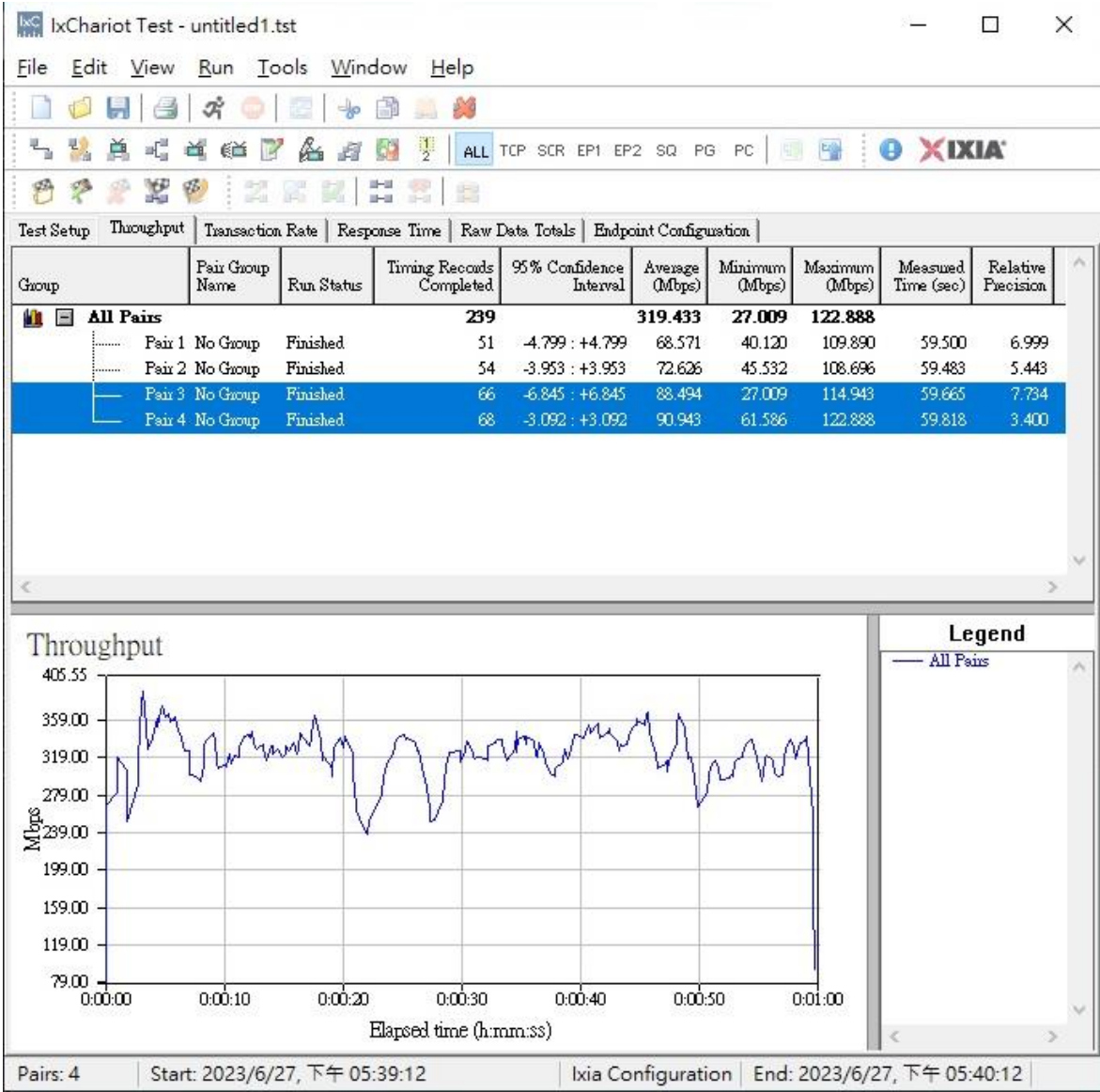
WDS Status

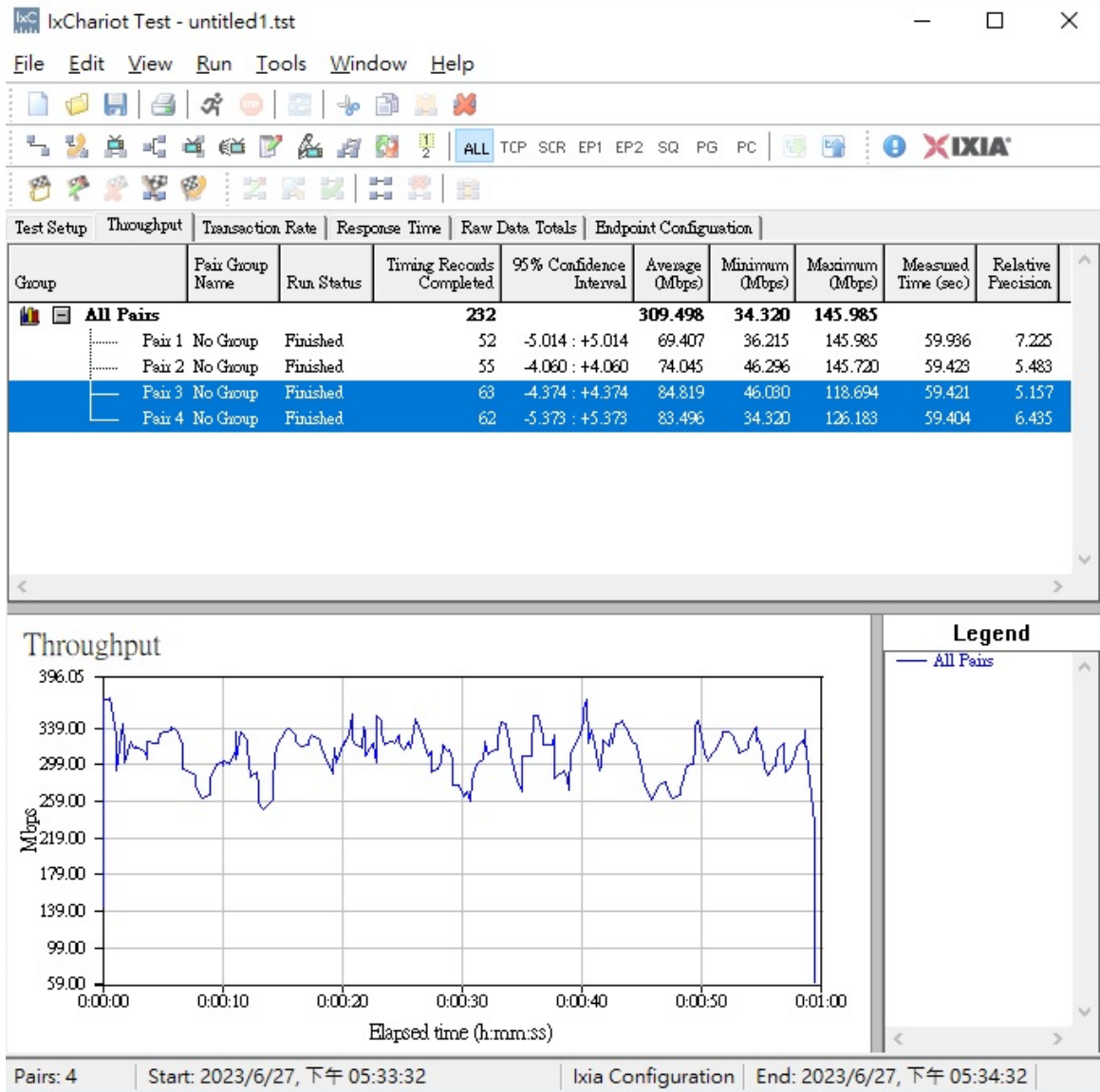
Radio0 Client		
MAC Address	Rate(RX/TX)	RSSI
-	-	-

Radio1 Client		
MAC Address	Rate(RX/TX)	RSSI
8c:4d:ea:06:2b:30	576Mb / 576Mb	29

Refresh

Band Mode	Channel	Throughput	Antenna
802.11ax	64	319.433	ANT-14AD
	40	309.498	





Test Equipment			
Notebook	HP 242 G1 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-PE-60W) x2		
RJ-45 Cables	Cat.5e x 4		
RF Cables	LLMR-NNP-1M x2		
Test product	1. External type : ANT-14AD x2 2. eXtreme High Power WiFi6 Dual-Radio external-ANT Outdoor PoE Bridge/AP (OW-400 4N00) x2		
Test Software and setting information			
Application tools	Chariot Version 6.7		
Running time	60 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: XinDian Cerio office building top floor. (新店 智鼎資訊 辦公室)





Location B: Yonghe Xinbei huanhe Expy at pedestrian bridge.





Conclusion

To verify the research and development results of Cerio's latest wireless 14dbi 2x2 wide-range signal Panel MIMO wireless product antenna, and to enhance the reliability of the product, we conducted a long-distance throughput test on this new antenna with an outdoor wireless access point. This time we used an outdoor access model with an external antenna for a point-to-point test.

According to our test results using a 5Ghz external antenna (ANT-14AD) and OW-400 4N00 outdoor at 1600M, because of the hardware design of the ANT-14AD's wide-range signal characteristics, it is easy to fine-tune the horizontal or vertical angle and select the best channel setting. After that, the best data transmission effect can be presented quickly. The long-distance connection transmission performance has achieved good performance.

The Cerio Outdoor Wireless Test 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 have full confidence in our team's development and design capabilities.

We have extensive experience in creating quality wireless networking hardware and software products that consistently meet the needs of our customers and provide them with superior products.