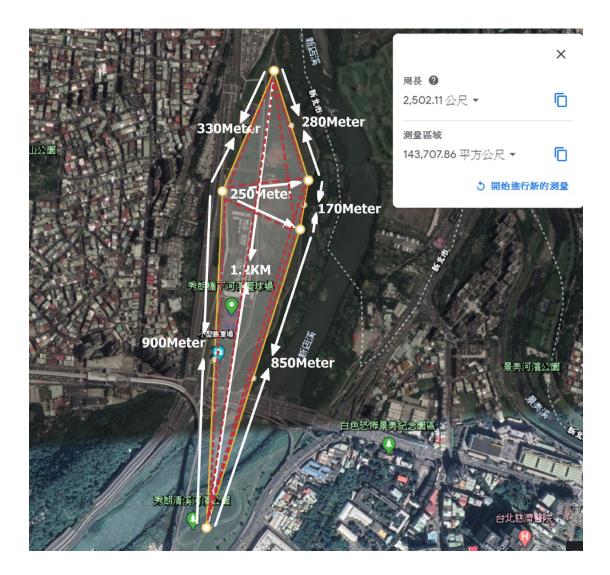


Throughput test report of Cerio's OW-500 A3-MESH for 143,707.86 m² area with Omin **ANT-12A** Antenna







1. Test Product model

OW-500 A3 Mesh



ANT-12A 5GHZ Outdoor Omni 12dBi with Cables Antenna



Main Unit Dimension : 457 * 22mm(L x W) Including bracket : 484 * 70 * 35mm(L x W x H) Weight : 156g / 216.5g (Including bracket)







2. Introduction

The purpose of conducting this test was to determine the average throughput and signal stability of Cerio's new product OW-500 A3-MESH, Outdoor MAN-Mesh Access Point at a distance of 1200m (Bundle with 5GHz 12dBi Omni antenna_ANT-12A)

The testing is measured OW-500 A3-MESH equipment point-to-point connections thorough Cerio's CenOS 5.0 Software Core. This testing is operating under 5GHz 802.11ac standards and connecting between two, three, four and five units of OW-500 A3-MESH. (With distance 1200m)

3. Test Date and Personnel

Date: 03 /25/2020			
Test Persons		1	
	Terminy Schoor	cutey	K
			7

4. Test Environment

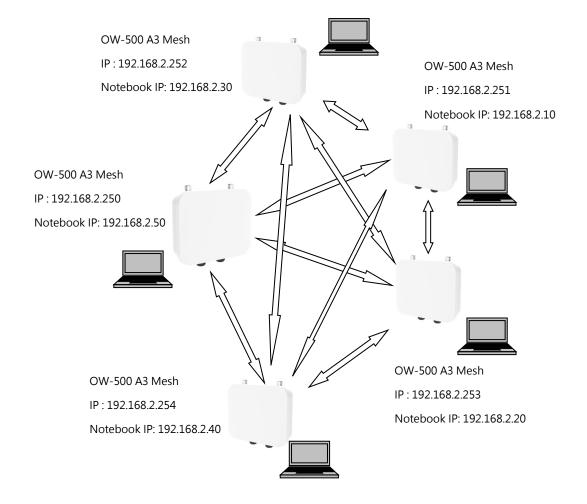
These 5 units of OW-500 A3-MESH equipment are the backbone of the WiFi Mesh network in 5 different locations, the total coverage area are over 143,707.86m² (Determined by Google Earth)







5. System Network Configuration





6. Test Tools and other information

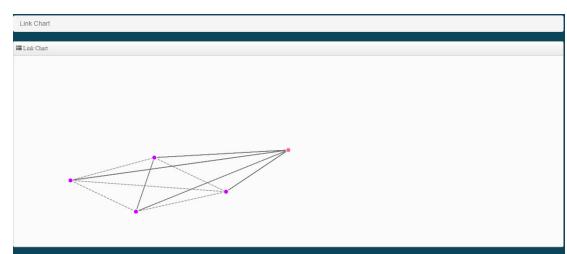
Test Equipmen	t		
Notebook	HP 242 G1 x1	System OS	Windows 10 (x64)
	HP 15-j031TX x1		
	HP ProBook 430 G1 x1		
	HP ProBook 430 G2 x1		
	HP ProBook 440 G4 x1		
Power (battery)	ALPHALINE MF85D23R x3,	MP818AC30 x	1,VEMO V90AGM x1 12V
	Battery		
Inverter	DC to AC 350W Inverter x5		
Tripod	2		
PoE Injector	Gigabit Injector (PoE-PE03	GE-24W) x5	
RJ-45 Cables	Cat.5e x 10		
Antenna	2x2 ANT-12A x20		
Test equipment	2x2 Tri-Band MAN-MESH C	Outdoor Bridge	e/AP (OW-500 A3-MESH) x
	5		
Test Software a	and Setting informatio	n	
Application tools	Chariot Version 6.7		
Running time	60 sec		
Software	CenOS 5.0 with MAN-MES	H Softcore Cor	e
	Firmware version : v1.0.6		
Operation mode	Using MAN-Mesh Mode		
Radio and	Radio 1 (5G) test channel:	36-52	
channel	Radio 2 (5G) test channel:	128-161	

7. MAN-Mesh equipment are the backbone of the

WiFi Mesh network in 5 different locations

7.1 5 units of OW-500 A3-MESH equipment are the backbone of the WiFi Mesh network in 5 different locations, the total coverage area are over 143,707.86m². This is successful connection screen of OW-500 A3-MESH which is using 5GHz Radio 1 CH 36-52 and CH 128-161





Neighbours

Neighbours					
Address	Interface	Reach	RX Cost	TX Cost	Cost
fe80::8e4d:eaff:fe05:33fd	mesh11	ffff	256	256	256
fe80::8e4d:eaff:fe05:3402	mesh11	ffff	256	256	256
fe80::8e4d:eaff:fe05:340c	mesh11	ffff	256	256	256
fe80::8e4d:eaff:fe05:3407	mesh11	ffff	256	256	256
fe80::8e4d:eaff:fe05:3408	mesh21	ffff	256	256	256
fe80::8e4d:eaff:fe05:340d	mesh21	ffff	256	256	256
fe80::8e4d:eaff:fe05:3403	mesh21	ffff	256	256	256
fe80::8e4d:eaff:fe05:33fe	mesh21	ffff	256	256	256

MAN-Mesh Client

Fradio 0			
	MAC Address	Rate(RX/TX)	RSSI
	÷	-	-
adio 1			
	MAC Address	Rate(RX/TX)	RSSI
	8c:4d:ea:05:34:0c	433Mb / 390Mb	34
	8c:4d:ea:05:34:07	325Mb / 325Mb	38
	8c:4d:ea:05:34:02	433Mb / 433Mb	32
	8c:4d:ea:05:33:fd	6Mb / 292Mb	28
adio 2			
	MAC Address	Rate(RX/TX)	RSSI
	8c:4d:ea:05:33:fe	520Mb / 390Mb	33
	8c:4d:ea:05:34:03	6Mb / 325Mb	32
	8c:4d:ea:05:34:0d	325Mb / 351Mb	27
	8c:4d:ea:05:34:08	6Mb / 90Mb	34

From IP 192.168.2.40 Laptops to each node Laptops

Throughput test(2Tx+2Rx)

Test Channel: Radio 1 CH 36-52, Radio 2 CH 128-161

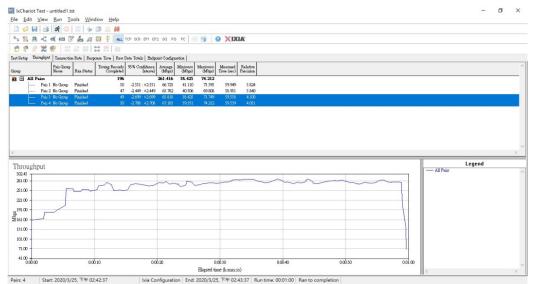
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Set 2Tx and 2Rx running throughput



IP 40 to 10	Throughput	261.416 Mbps
IP 40 to 20	Throughput	216.075 Mbps
IP 40 to 30	Throughput	186.146 Mbps
IP 40 to 50	Throughput	214.148 Mbps

From IP 192.168.2.40 to IP 192.168.2.10 Throughput



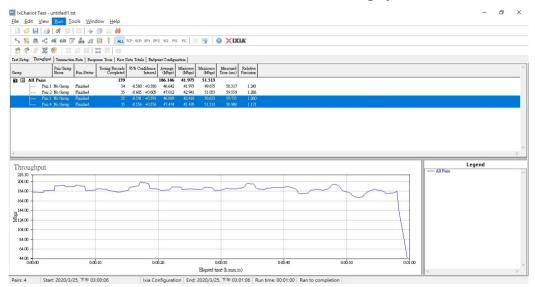
From IP 192.168.2.40 to IP 192.168.2.20 Throughput

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				🔊 📖 🛤																
				🛐 🖞 ALL T	CP SCR EP1 EF	2 SQ PG	3 PC 🔠		D XIX	IA.										
7	2 12	12	RR	1 2 a																
Setup	Throughput	Transaction	Rate Resp	onse Time Raw D	ata Totals Endp	oint Coafigu	astion													
ip.		Pair Group Name	Rua Status	Timing Records Completed	95% Confidence Interval	Average (Mbps)	Minimum (Mbps)	Maximum (Mbps)	Measured Time (sec)	Relative Precision										
	All Pairs			161		216.075	44.944	61.633												
		No Guoup		41	-1.249 : +1.249		45.532	61.633	59.586	2.269										
_		No Georg		40	-1.238 : +1.238 -1.177 : +1.177		45.020 47.081	58.480 59.435	58.765 58.725	2.274										
		No Gioup			-1.205 :+1.206			58,737	58,737	2.211										
																		Legend		
	ıghput						_	_							_		All Paiss	Legend		
		_															All Paiss	Legend		_
9.70	1	~	~														All Pairs	Legend	_	
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9.70 5.00 5.00 5.00 5.00 5.00 5.00		~	~		Ţ	5		~		V	M		~		<u>```</u>	4	- All Poise	Legend		
9.70 5.00 5.00 5.00 5.00 5.00 5.00 5.00 5		~~~	-~		Ţ	0.20			0.00/30	V	00040		~		~	000.59		Legend		

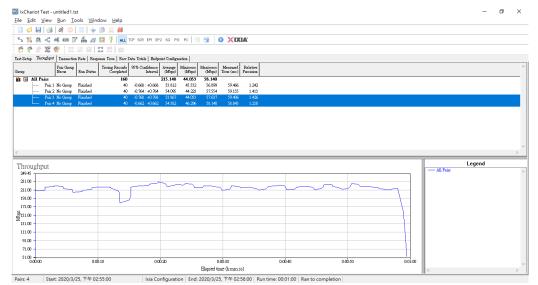
www.cerio.com.tw



From IP 192.168.2.40 to IP 192.168.2.30 Throughput



From IP 192.168.2.40 to IP 192.168.2.50 Throughput









8. On-site status:

IP: 192.168.2.10





IP: 192.168.2.20





L







IP: 192.168.2.30







IP: 192.168.2.40











IP: 192.168.2.50





+(886) 2-8911-6160





Conclusion

In order to verify the performance of Cerio MAN-Mesh outdoor wireless products and strengthen customer confidence, we conducted long-distance throughput and coverage of WiFi Mesh network backbone testing by using CERIO MAN-Mesh outdoor wireless access points with attached 12dBi 5GHz Omni antennas.

Based on the results of the OW-500 A3-MESH long-distance test (1200m), we have concluded that our transmission performance is very stable and has a significant throughput level in long-distance connections. For users who plan to deploy WiFi Mesh network in a variety of outdoor environments, CERIO's outdoor wireless MAN-Mesh equipment test result has proven to be a valuable reference tool. (Eg remote mountainous areas, remote network extension, remote backhaul, remote monitoring center)

This test demonstrates confidence in our team's ability to provide quality performance and design. Our unsurpassed experience creating quality wireless networking hardware and software products allow us to consistently meet user demands and satisfy consumers through our wealth of knowledge and product design.

