CERIO Outdoor AP

1.9KM Used Built-in Patch Antenna

Throughput Test Report

Model No. **[OW-300N2-A2]**

(UI 韌體關閉外接 N-Type 天線能力，選擇使用內建 10dbi 面板指向天線進行測試)

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1. Test Product model.

OW-300N2-A2 (1000mW eXtreme Power 11N 300Mbps +10dBi Outdoor Access Point)

2. Introduction

CERIO進階的 **OW-300N2-A2** Outdoor AP 主要將原先**OW-300N2與OW-310N2整合為一機**，重點將是此款Outdoor AP的天線設計內建指向天線和外接天線兩種類型(可2選1切換)，讓使用者可以依造需求直接切換要使用的天線。

同時此測試主要也是證明 CERIO 開發的 AP 是一步步的在進化，讓方便性更為提高，減少了架設成本，更能呈現出 AP 最完美的訊號輸出穩定效果，展現出 CERIO 開發團隊的用心。

3. Test Date and Personnel

Date	2016 / 05 / 02			
Test Personnel				
				

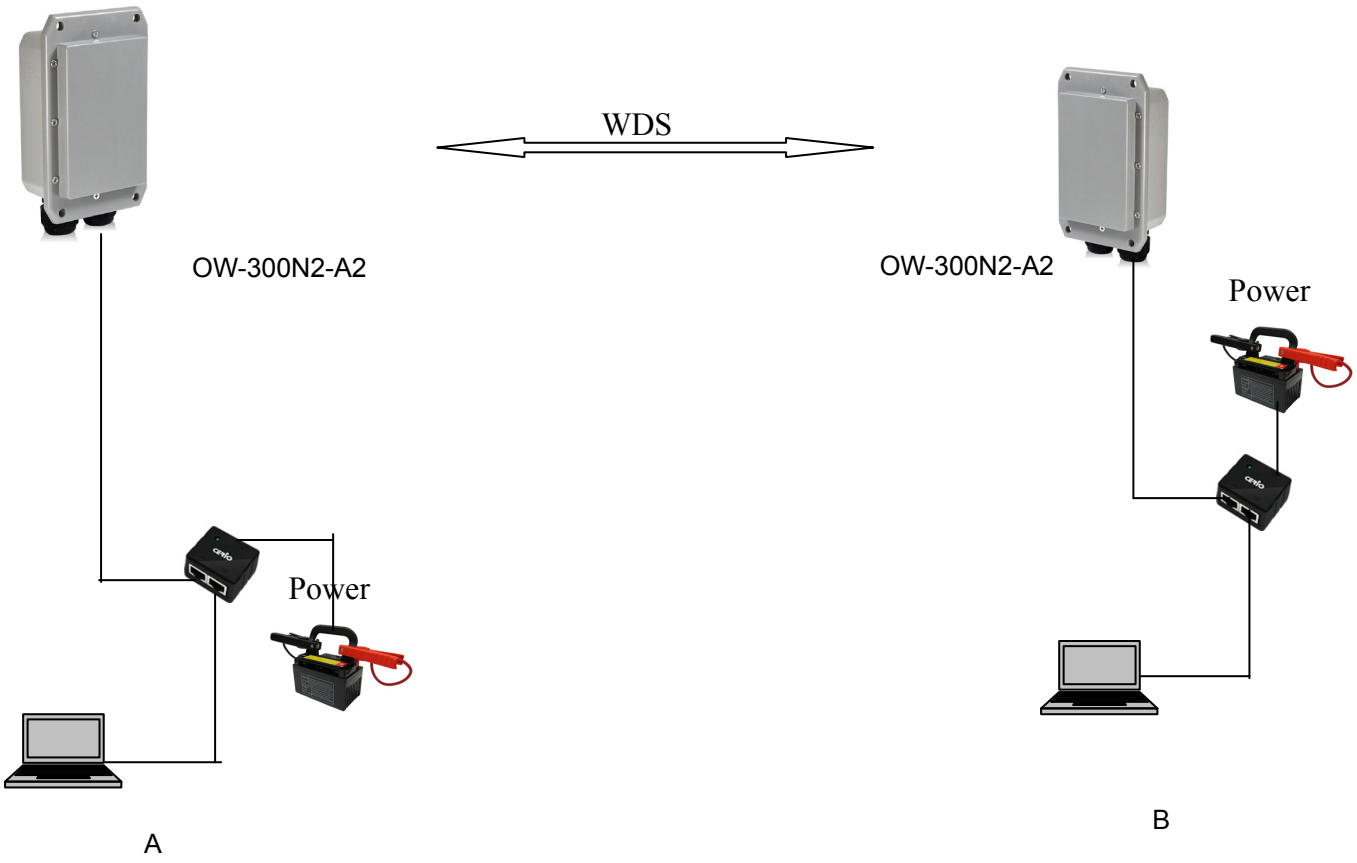
4. Test Environment

A 點，跳石海岸

B 點 ： 金山北海岸堤防

從 A 點到 B 點實際距離 19 公里

5. Wireless Network Configuration



此架構主要在於 A 點對 B 點使用 WDS 模式遠距離採用點對點橋接測試，透過此架構來測試當遠距離使用 WDS 點對點的橋接時 Throughput 傳送速率及分析訊號的傳送狀態

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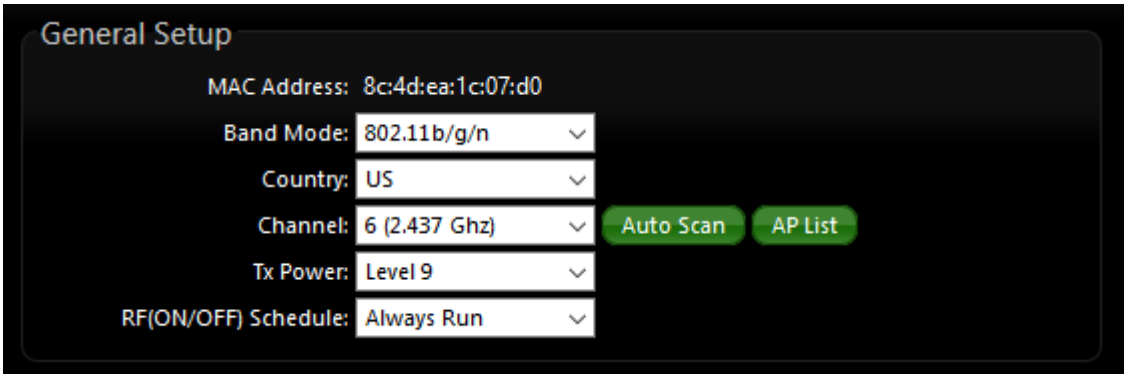
6. Throughput test

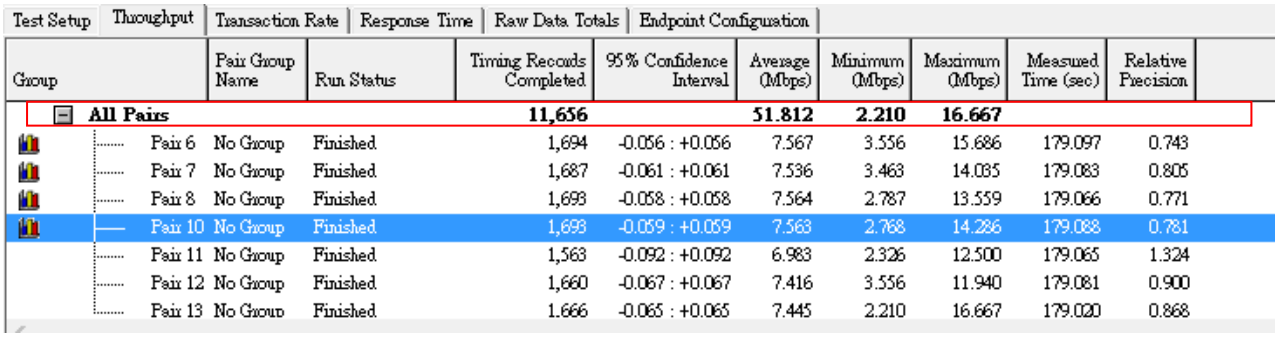
GUI Setting of Channel 6:



※ OW-300N2-A2 (TX+RX) Throughput

		Throughput (Mbps)		
Channel	Up/down load	Average	Min.	Max.
6	UP + Down	**51.812**	2.210	16.667
6	Down	**76.372**	0.707	72.728
6	up	**30.242**	0.245	25.000

測試上/下載之平均數據圖(up+down load)



Group	Pair Group Name	Run Status	Timing Records Completed	95% Confidence Interval	Average (Mbps)	Minimum (Mbps)	Maximum (Mbps)	Measured Time (sec)	Relative Precision
All Pairs			**11,656**		**51.812**	**2.210**	**16.667**		
Pair 6	No Group	Finished	1,694	-0.056 : +0.056	7.567	3.556	15.686	179.097	0.743
Pair 7	No Group	Finished	1,687	-0.061 : +0.061	7.536	3.463	14.035	179.083	0.805
Pair 8	No Group	Finished	1,693	-0.058 : +0.058	7.564	2.787	13.559	179.066	0.771
Pair 10	No Group	Finished	1,693	-0.059 : +0.059	7.563	2.768	14.286	179.088	0.781
Pair 11	No Group	Finished	1,563	-0.092 : +0.092	6.983	2.326	12.500	179.065	1.324
Pair 12	No Group	Finished	1,660	-0.067 : +0.067	7.416	3.556	11.940	179.081	0.900
Pair 13	No Group	Finished	1,666	-0.065 : +0.065	7.445	2.210	16.667	179.020	0.868

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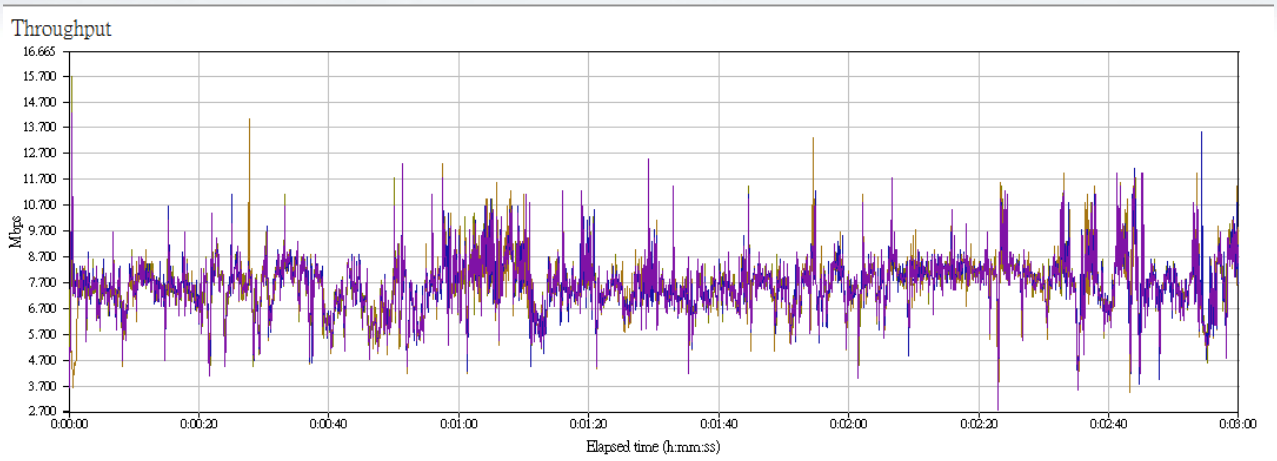
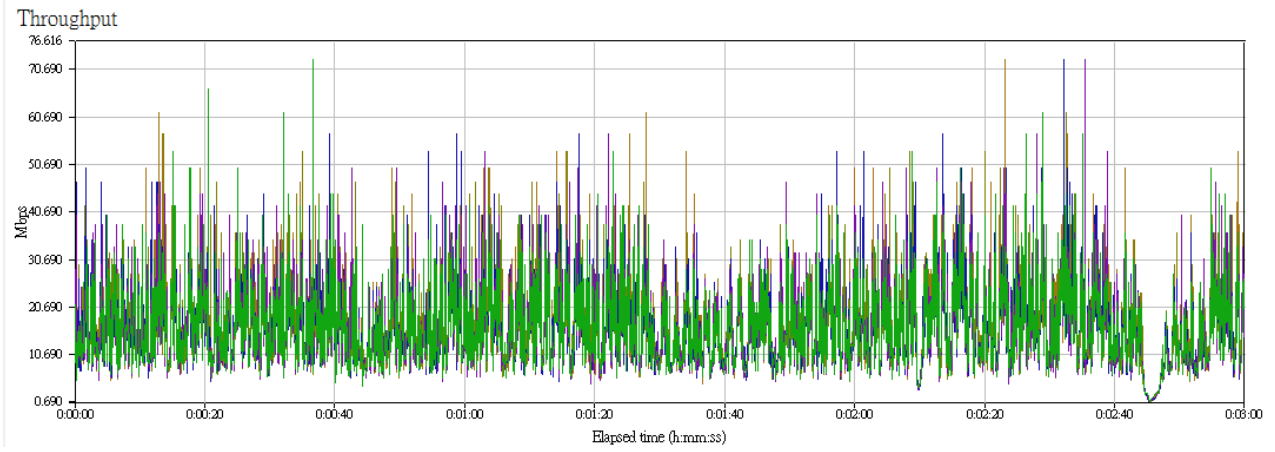


測試下載之平均數據圖(down load)

Test Setup | Throughput | Transaction Rate | Response Time | Raw Data Totals | Endpoint Configuration

Group	Pair Group Name	Run Status	Timing Records Completed	95% Confidence Interval	Average (Mbps)	Minimum (Mbps)	Maximum (Mbps)	Measured Time (sec)	Relative Precision
All Pairs			**17,182**		**76.372**	**0.707**	**72.728**		
Pair 6	No Group	Finished: Warni...	3,450	-0.317 : +0.317	15.485	0.832	61.539	178.242	2.045
Pair 7	No Group	Finished: Warni...	3,461	-0.312 : +0.312	15.541	1.078	72.728	178.168	2.005
Pair 8	No Group	Finished: Warni...	3,430	-0.310 : +0.310	15.398	0.905	72.728	178.207	2.010
Pair 10	No Group	Finished: Warni...	3,415	-0.317 : +0.317	15.328	0.778	72.728	178.235	2.070
Pair 11	No Group	Finished: Warni...	3,426	-0.323 : +0.323	15.381	0.707	72.728	178.193	2.100



測試上傳之平均數據圖(up load)

Test Setup | Throughput | Transaction Rate | Response Time | Raw Data Totals | Endpoint Configuration

Group	Pair Group Name	Run Status	Timing Records Completed	95% Confidence Interval	Average (Mbps)	Minimum (Mbps)	Maximum (Mbps)	Measured Time (sec)	Relative Precision
All Pairs			**6,804**		**30.242**	**0.245**	**25.000**		
Pair 6	No Group	Finished	1,227	-0.091 : +0.091	5.478	1.411	12.903	179.198	1.659
Pair 7	No Group	Finished	1,391	-0.094 : +0.094	6.211	1.975	12.699	179.159	1.513
Pair 8	No Group	Finished	1,475	-0.089 : +0.089	6.585	2.162	25.000	179.196	1.344
Pair 9	No Group	Finished	1,353	-0.232 : +0.232	6.039	0.245	14.546	179.244	3.838
Pair 10	No Group	Finished	1,358	-0.081 : +0.081	6.062	2.073	15.385	179.212	1.338

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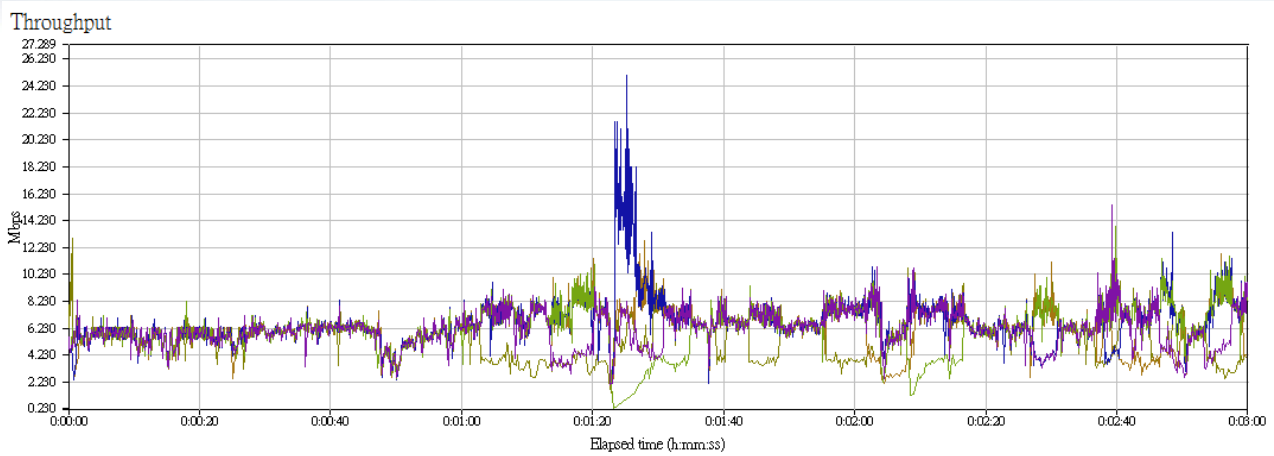

7. TEST Tools

TEST Equipment		
Notebook	HP Pavilion dv4 x1 RAM : 4G CPU : Intel Core Duo 2.4GHz OS : Windows XP sp3	HP Pavilion dm4-1108TX 4GB DDR3-1333 Intel Core i5 560M 2.66GHz OS : Windows XP sp3
Power	350W x 2	
Tripod	2	
Antenna	2x2 Built-in 10dBi Dual Patch antenna	
Test products	OW-300N2-A2 :1000mW eXtreme Power 11N 300Mbps +10dBi Outdoor Access Point	
TEST Software		

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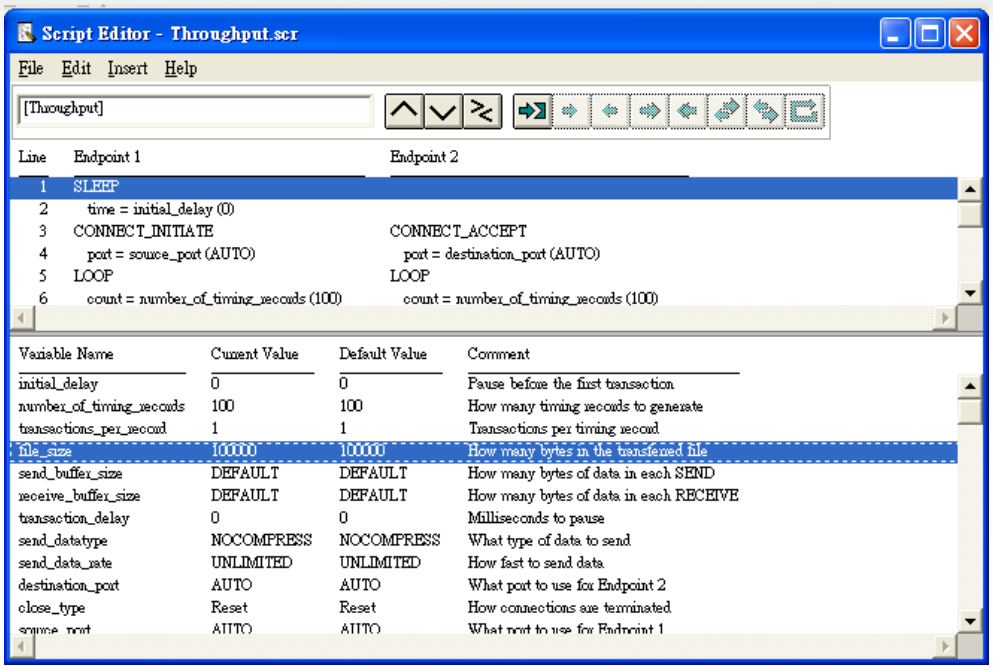
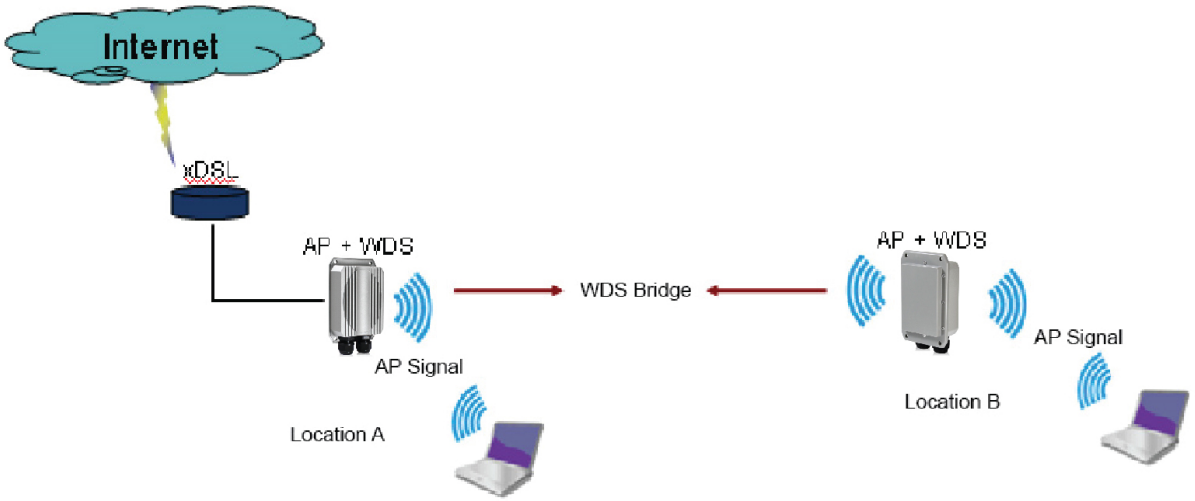
Chariot Version 6.7	
Run	

8. Conclusion

此測試重點在於為了要讓使用者能更加的廣泛應用 OW-300N2-A2 產品修訂 PCBA 上的天線轉換裝置,同時也增加 Heater 自動感應加熱裝置，修改了主板功能，再透過此測試，要證明不但一樣有穩定的訊號功率輸出外，Throughput 的傳送接收值相對也非常穩定，證明我們 CERIO 所開發無線產品的技術絕對是非常強穩，在我們的開發團隊上，大家努力的專研設計，不管在技術上，或是品質上，都是值得考驗。

此產品應用主要可以假想 A 點是有上網服務，但 B 點完全無 WiFi 網路服務下, A 點與 B 點可以使用 WDS 做點對點橋接，在 B 點部分使用 AP+WDS 功能，讓 B 點的 AP 可以服務附近的無線使用者連接 B 點 AP，再透過到 A 點的無線基地台使用 WiFi 上網。對於網路規劃者是一個不錯的理想產品，如下圖示意圖



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