

CERIO Outdoor AP 16KM Throughput Test Report

Model No.

OW-200N2-X

1. Test Product model.

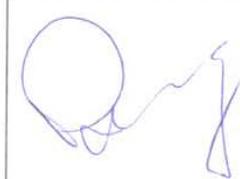
OW-200N2-X



2. Introduction

CERIO 使用 OW-200N2-X 測試約 16KM 主要目的是要讓使用者了解到，只要用對產品，用對方法，其實沒有不能解決的事情，CERIO 所開發的 AP，透過這實際測試，絕對是要讓消費者使用安心。證明 CERIO 無線產品技術的純熟及穩定。

3. Test Date and Personnel

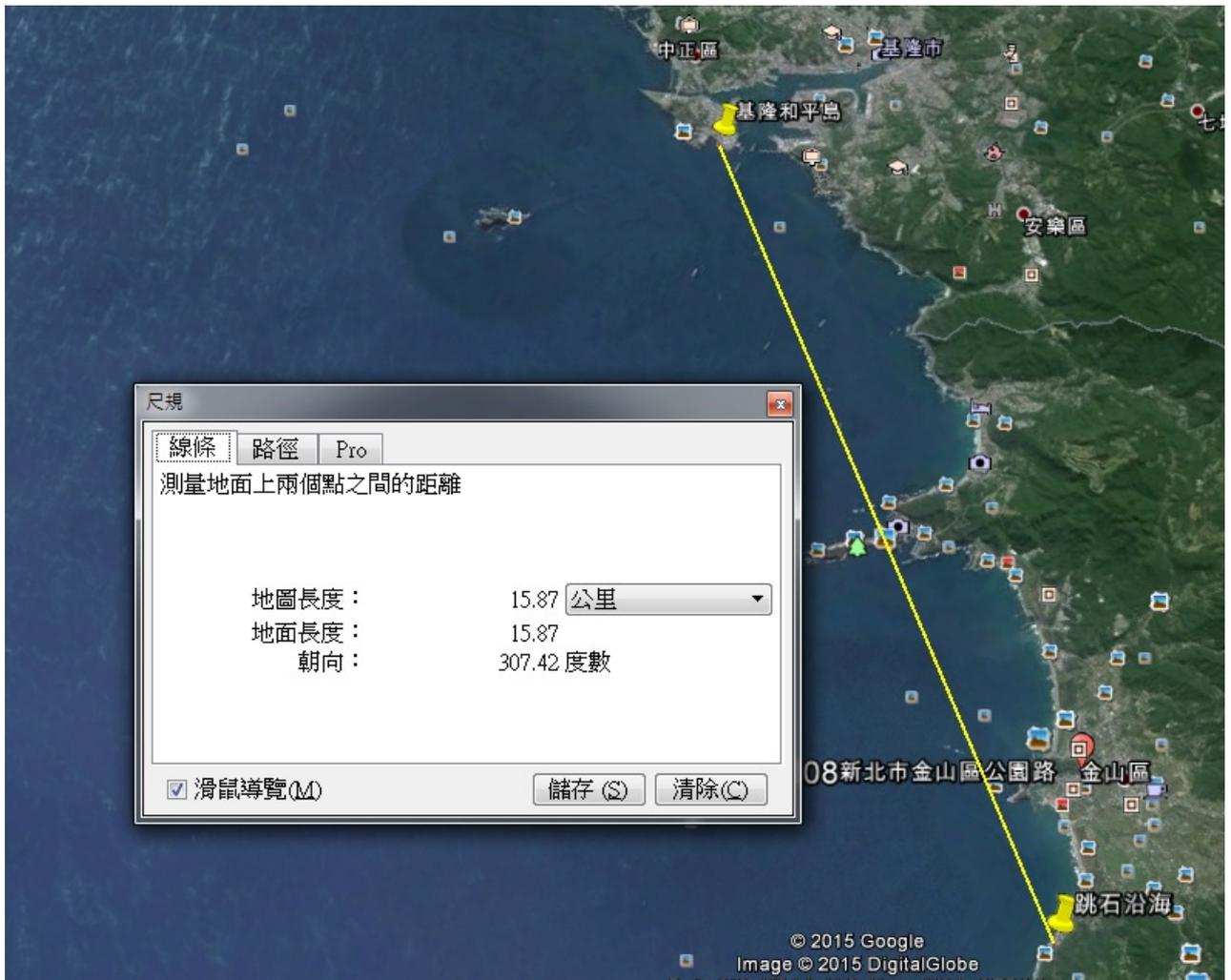
Date	2015 / 05 / 21			
Test Personnel				
				

4. 測試環境距離

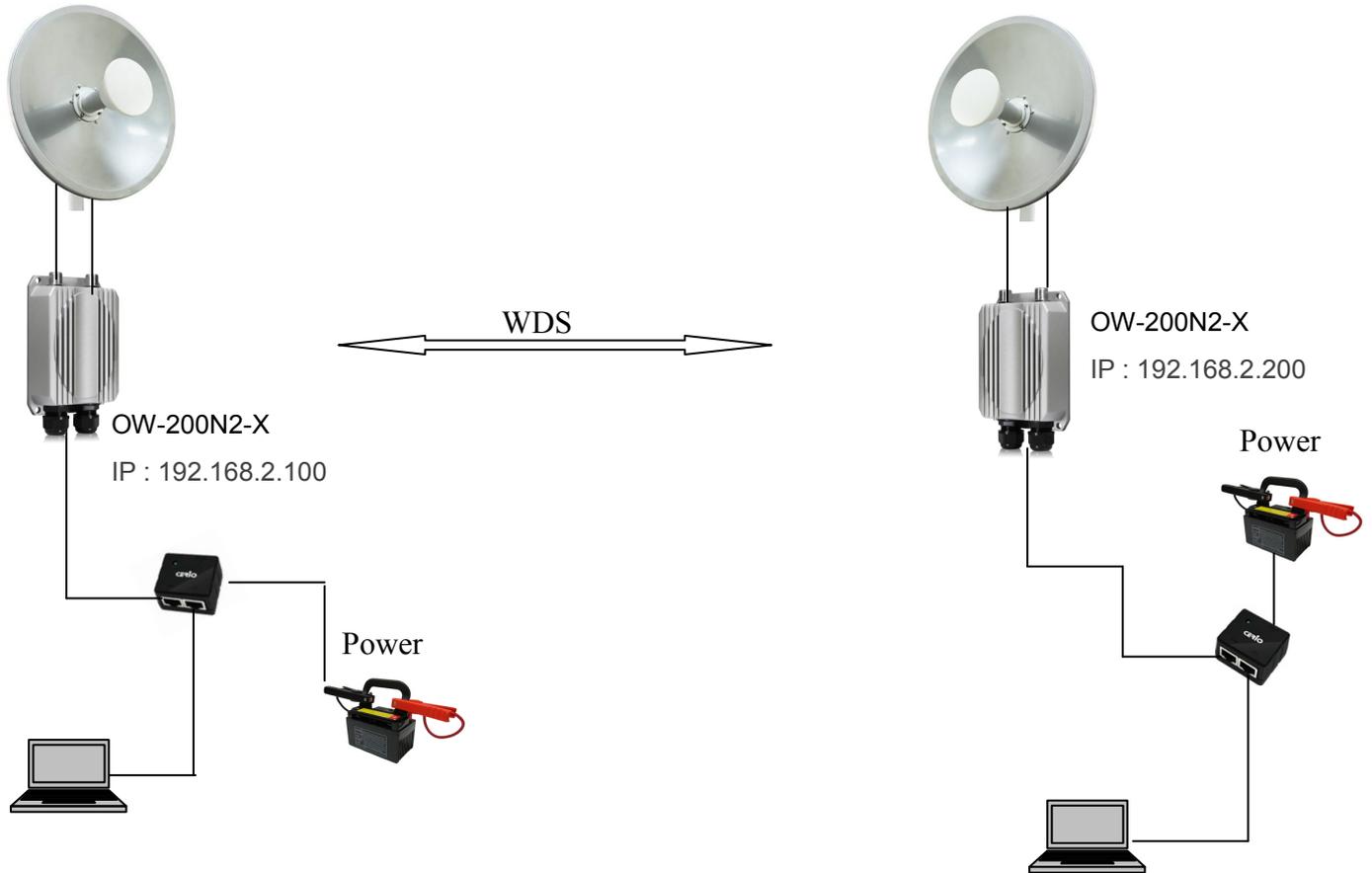
A 點：基隆和平島

B 點：金山跳石沿海

從 A 點到 B 點平面距離約 16 公里，如下圖使用 Google Earth 所測量。



5. 基本測試架構示意圖



6. OW-200N2-X UI 畫面

The screenshot shows the WDS Link Status page in a web browser. The browser address bar displays <http://192.168.2.100/#>. The page title is 'WDS Link Status'. Below the title, there is a table showing the WDS Link Status.

#	MAC Address	RSSI	TX/RX Rate	TX/RX SEQ	TX/RX Bytes
1	8c4d:ea:04:ba:e9	58	216M / 243M	35459 / 4864	185.2 M / 1607.1 M

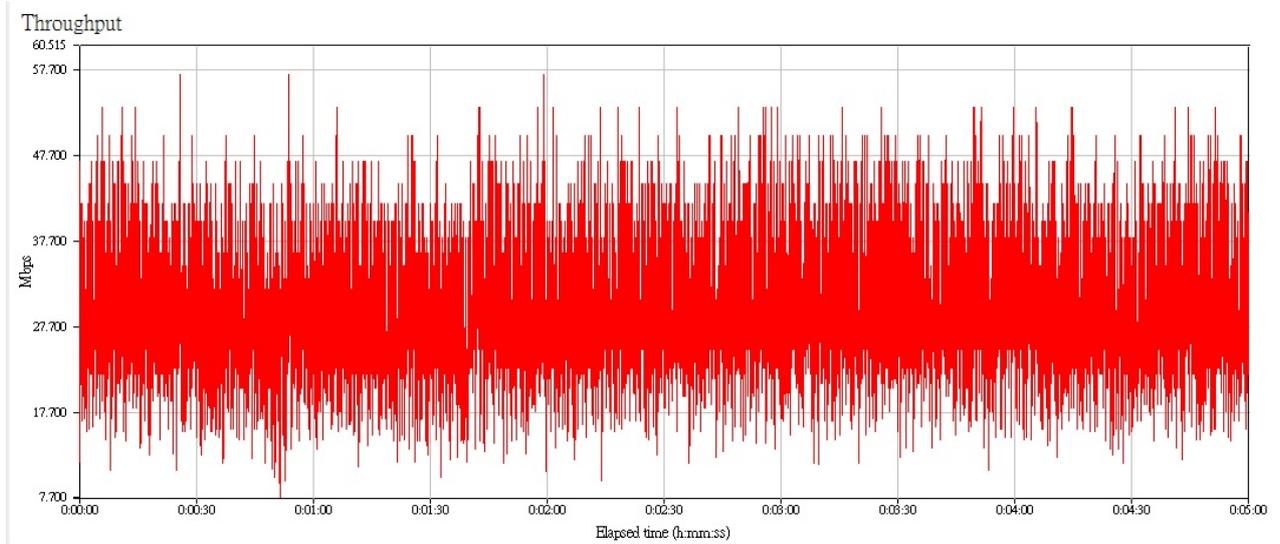
#	MAC Address	RSSI	TX/RX Rate	TX/RX SEQ	TX/RX Bytes
1	8c:4d:ea:04:9a:16	56	243M / 243M	307 / 43072	58.5 K / 1.7 M

7. 點對點吞吐數據

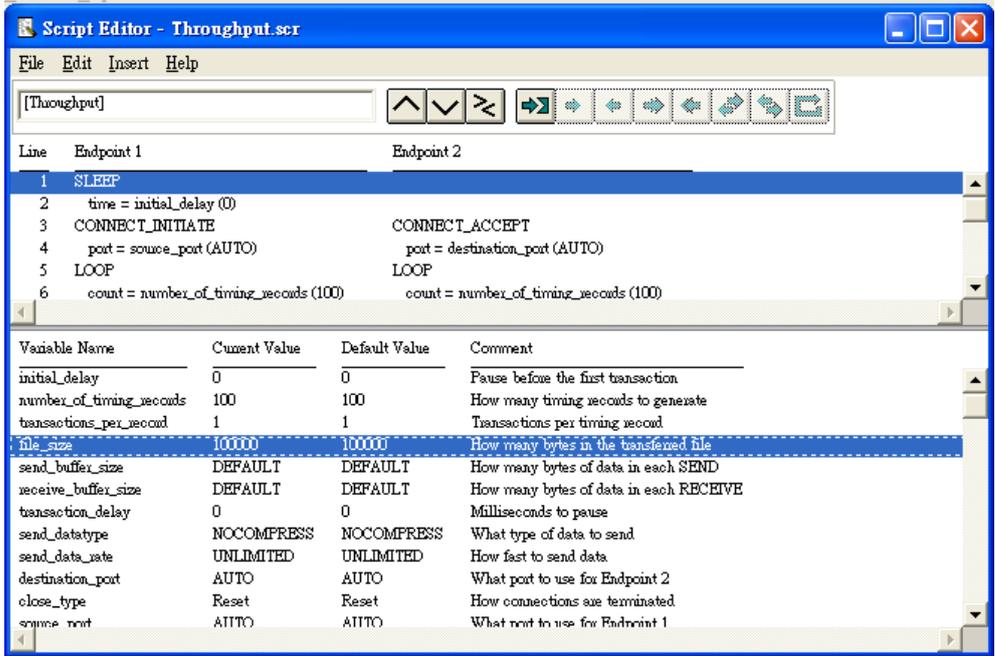
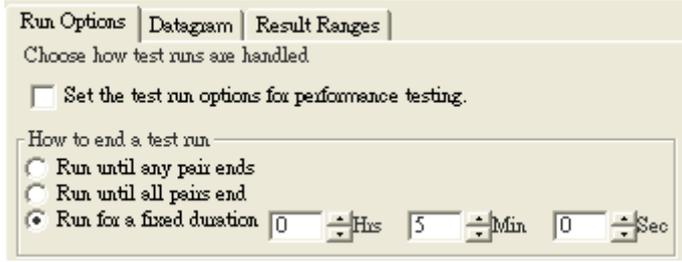
OW-200N2-X

	Average(Mbps)	Minimum (Mbps)	Maximum(Mbps)
Throughput	27.944	7.767	57.143

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
<input checked="" type="checkbox"/> All Pairs			10,478		27.944	7.767	57.143		
	Pair 1 No Group	Finished: Warning(s)	10,478	-0.162 : +0.162	28.434	7.767	57.143	294.802	0.571



8. 測試工具

TEST Equipment																																																					
Notebook	HP Pavilion dv4 x2																																																				
Power	350W x 2																																																				
Tripod	3																																																				
Antenna	5GHz 2x2 Outdoor Directional Dish 25dBi Antenna																																																				
Test products	OW-200N2-X 500mW																																																				
TEST Software																																																					
Chariot Version 6.7	 <p>The screenshot shows the Chariot Script Editor interface. At the top, there's a menu bar (File, Edit, Insert, Help) and a toolbar with navigation icons. Below that is a script editor window titled 'Script Editor - Throughput.scr' containing a script with the following lines:</p> <pre> 1 SLEEP 2 time = initial_delay (0) 3 CONNECT_INITIATE CONNECT_ACCEPT 4 port = source_port (AUTO) port = destination_port (AUTO) 5 LOOP LOOP 6 count = number_of_timing_records (100) count = number_of_timing_records (100) </pre> <p>Below the script editor is a table of variables:</p> <table border="1"> <thead> <tr> <th>Variable Name</th> <th>Current Value</th> <th>Default Value</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>initial_delay</td> <td>0</td> <td>0</td> <td>Pause before the first transaction</td> </tr> <tr> <td>number_of_timing_records</td> <td>100</td> <td>100</td> <td>How many timing records to generate</td> </tr> <tr> <td>transactions_per_record</td> <td>1</td> <td>1</td> <td>Transactions per timing record</td> </tr> <tr> <td>file_size</td> <td>100000</td> <td>100000</td> <td>How many bytes in the transferred file</td> </tr> <tr> <td>send_buffer_size</td> <td>DEFAULT</td> <td>DEFAULT</td> <td>How many bytes of data in each SEND</td> </tr> <tr> <td>receive_buffer_size</td> <td>DEFAULT</td> <td>DEFAULT</td> <td>How many bytes of data in each RECEIVE</td> </tr> <tr> <td>transaction_delay</td> <td>0</td> <td>0</td> <td>Milliseconds to pause</td> </tr> <tr> <td>send_data_type</td> <td>NOCOMPRESS</td> <td>NOCOMPRESS</td> <td>What type of data to send</td> </tr> <tr> <td>send_data_rate</td> <td>UNLIMITED</td> <td>UNLIMITED</td> <td>How fast to send data</td> </tr> <tr> <td>destination_port</td> <td>AUTO</td> <td>AUTO</td> <td>What port to use for Endpoint 2</td> </tr> <tr> <td>close_type</td> <td>Reset</td> <td>Reset</td> <td>How connections are terminated</td> </tr> <tr> <td>source_port</td> <td>AUTO</td> <td>AUTO</td> <td>What port to use for Endpoint 1</td> </tr> </tbody> </table>	Variable Name	Current Value	Default Value	Comment	initial_delay	0	0	Pause before the first transaction	number_of_timing_records	100	100	How many timing records to generate	transactions_per_record	1	1	Transactions per timing record	file_size	100000	100000	How many bytes in the transferred file	send_buffer_size	DEFAULT	DEFAULT	How many bytes of data in each SEND	receive_buffer_size	DEFAULT	DEFAULT	How many bytes of data in each RECEIVE	transaction_delay	0	0	Milliseconds to pause	send_data_type	NOCOMPRESS	NOCOMPRESS	What type of data to send	send_data_rate	UNLIMITED	UNLIMITED	How fast to send data	destination_port	AUTO	AUTO	What port to use for Endpoint 2	close_type	Reset	Reset	How connections are terminated	source_port	AUTO	AUTO	What port to use for Endpoint 1
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Run	 <p>The screenshot shows the 'Run Options' dialog box in Chariot. It has three tabs: 'Run Options', 'Datagram', and 'Result Ranges'. The 'Run Options' tab is active. It contains the following settings:</p> <ul style="list-style-type: none"> Choose how test runs are handled: <ul style="list-style-type: none"> <input type="checkbox"/> Set the test run options for performance testing. How to end a test run: <ul style="list-style-type: none"> <input type="radio"/> Run until any pair ends <input type="radio"/> Run until all pairs end <input checked="" type="radio"/> Run for a fixed duration: 0 Hrs, 5 Min, 0 Sec 																																																				

9 結論

為了驗證我們 CERIO 的無線產品的性能及讓消費者對我們的信心，我們針對我們戶外型的無線基地台做點對點的吞吐數據測試。利用我司 OW-200N2-X 加上 25dBi 的指向碟型天線做 16 公里遠距離測試。

我們的 OW-200N2-X 測試 16 公里的結果在數據上得出結論可以證實我們的傳輸性能是極其穩定。在戶外無線點對點傳輸測試證明是一個非常有價值的應用，可讓規劃單位透過此參考數據來做為更有幫助的理想環境規劃。（例如：偏遠山區，長途網絡擴展，長距離回傳，遠程監控中心等）