

CERIO Corporation

CS-1008G-8P

Basic test report

Product Name	CS-1008G-8P	Date	2017 / 04 / 25
H/W Version	A1	S/W Version	N/A
Tested	Danny		

Item	Test description	Result	Other
1	傳輸穩定性測試		
1.1	網路線 100M 長度測試 Gigabit 穩定性及吞吐量	Pass	
1.2	網路線 100M 長度測試 10Mbps 穩定性及吞吐量	Pass	
1.3	電壓/頻率變化測試	Pass	
2	PoE 供電測試	Pass	
3	切換 10Mbps 速率測試 280M 網路線		
3.1	測試資料傳送穩定性及吞吐量	Pass	
3.2	連接 PoE 設備(AP)測試資料傳送+PoE 的穩定性及吞吐量	Pass	
4	總結		

測試目的

- a. CS-1008-8P 透過 RJ-45 100M 長度使用 Gigabit 速率測試 PoE + data 是否穩定
- b. CS-1008-8P 透過 cat.6 的 RJ-45 280M 長度使用 10Mbps 速率測試 PoE + data 是否穩定

測試使用線材

- a. 網路線及水晶頭使用 cat6 規格
- b. 將購買的 305M 直接裁切至 280M，並打上 cat 6 水晶頭進行測試



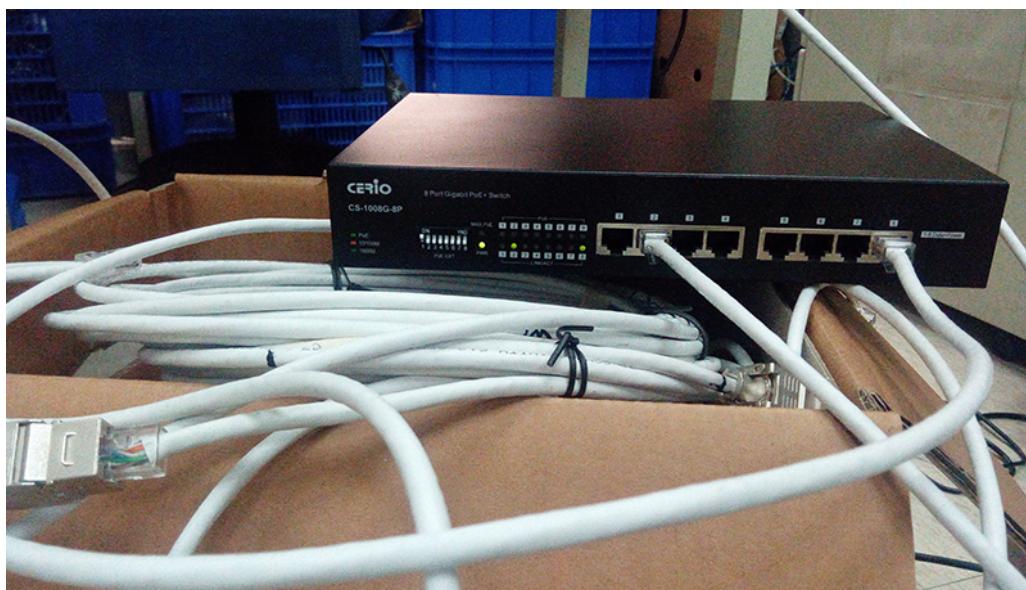
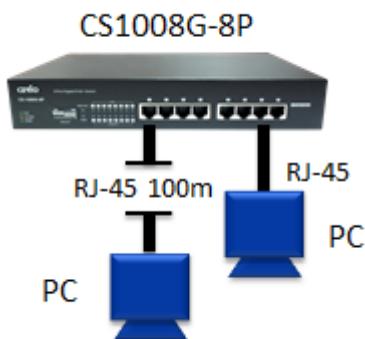
1. 傳輸穩定性測試

- (1) 使用 Chariot 軟體進行 Throughput 測試, CS-1008G-8P 驗證傳輸速率及穩定性
- (2) 透過 SPIRENT 設備驗證 CS-1008G-8P 穩定性

1.1 網路線 100M 長度測試 Gigabit 穩定性及吞吐量

利用 Chariot 測試 CS-1008G-8P Giga Port 傳輸品質(不同網卡有不同的速率質), 此測試主要驗證 CS-1008G-8P 在傳送 Giga 封包的穩定性

- a. 測試架構示意圖



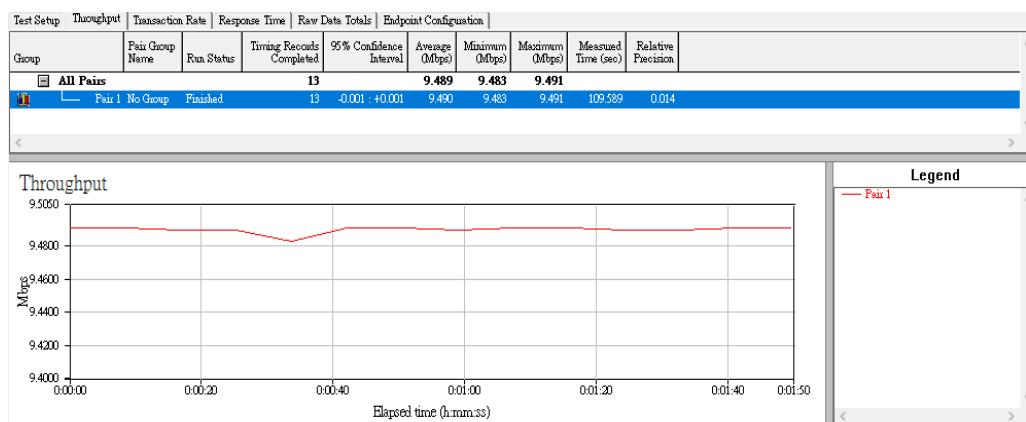
- b. 利用 Chariot 進行封包傳送得出數據如下，發現 CS-1008G-8P 在 Giga 高速傳輸資訊時，穩定性非常好，且並無任何掉包問題。如下圖數據



由上圖得出平均速率約為 868 Mbps

1.2 網路線 100M 長度測試 10Mbps 穩定性及吞吐量

當切換為 10Mbps 測試單一速率，驗證 10Mbps 是否功能確實，並確認傳輸穩定性



以上發現在 jump 切換 10Mbps 後，確實有將速率固定至約 10Mbps 且穩定性非常好

1.3 電壓/頻率變化測試

主要驗證 CS-1008G-8P 的測試電壓和頻率最大和最小值並可以正常工作。

測試設備：

```
# CS-1008G-8P x 1
# T Packet generator SPIRENT (SPT-9000A) x1
# AC Power Source (EXTECH 6600) x1
```

測試時間：

1 小時（更換條件，關機，然後開機）

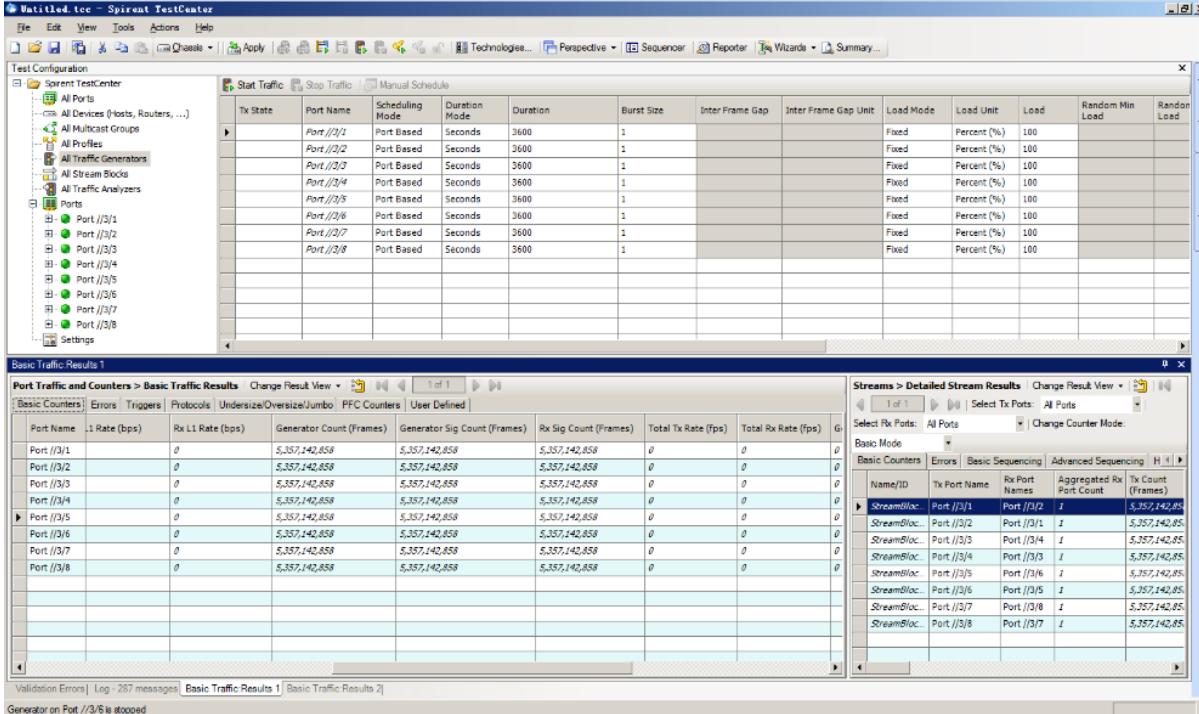
測試電壓/頻率：

90V / 47Hz , 90V / 63Hz , 264V / 47Hz , 264V / 63Hz

測試程序：

- 1) 將 CS-1008G-8P 的所有端口連接到 SPIRENT。
- 2) 根據條件調整交流電源。
- 3) 讓 CS-1008G-8P 在每個條件下全負載一小時，更改條件時，關閉 CS-1008G-8P 電源，然後開機。
- 4) 觀察 CS-1008G-8P 並記錄結果。

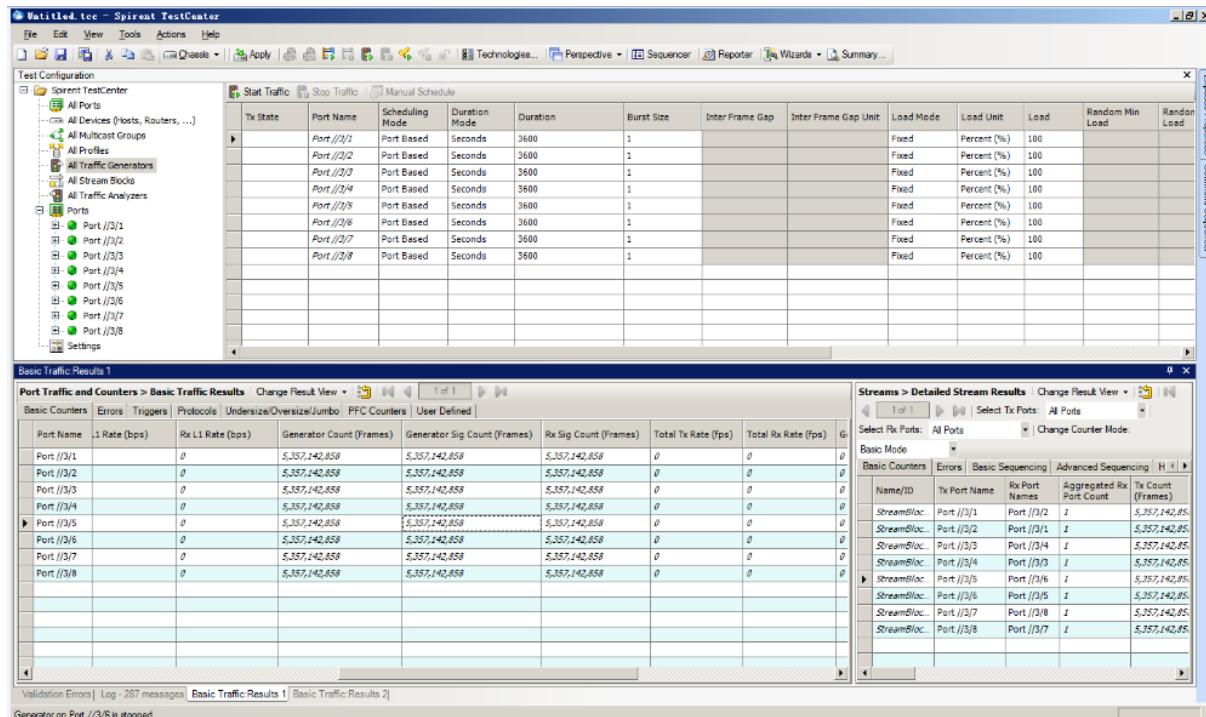
[90V/47Hz]



The screenshot displays the Spirent TestCenter software interface. The main window shows the 'Test Configuration' tab, which includes a tree view of test components like 'All Ports', 'All Devices (Hosts, Routers, ...)', and 'All Profiles'. A detailed table lists traffic parameters for eight ports (Port //3/1 to Port //3/8), all set to 'port Based' scheduling mode, 'Seconds' duration mode, and a duration of 3600 seconds. The 'Basic Traffic Results' window shows real-time traffic statistics for each port, with all rates at 0 bps. The 'Streams > Detailed Stream Results' window shows aggregated Rx and Tx counts for streams across the ports.

Port Name	Tx Rate (bps)	Rx L1 Rate (bps)	Generator Count (Frames)	Generator Sig Count (Frames)	Rx Sig Count (Frames)	Total Tx Rate (fps)	Total Rx Rate (fps)
Port //3/1	0	5,357,142,858	5,357,142,858	5,357,142,858	0	0	0
Port //3/2	0	5,357,142,858	5,357,142,858	5,357,142,858	0	0	0
Port //3/3	0	5,357,142,858	5,357,142,858	5,357,142,858	0	0	0
Port //3/4	0	5,357,142,858	5,357,142,858	5,357,142,858	0	0	0
Port //3/5	0	5,357,142,858	5,357,142,858	5,357,142,858	0	0	0
Port //3/6	0	5,357,142,858	5,357,142,858	5,357,142,858	0	0	0
Port //3/7	0	5,357,142,858	5,357,142,858	5,357,142,858	0	0	0
Port //3/8	0	5,357,142,858	5,357,142,858	5,357,142,858	0	0	0

[90V/63Hz]

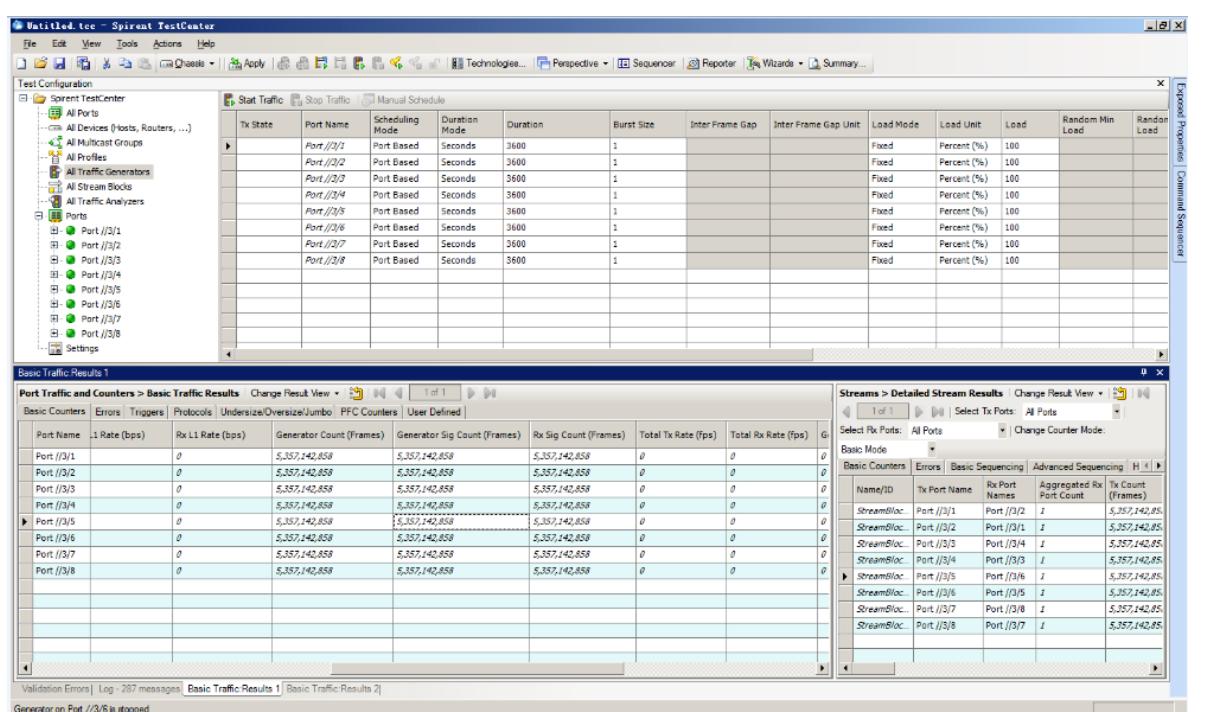


The screenshot shows the Spirent TestCenter software interface. On the left, the 'Test Configuration' tree view includes 'Sprint TestCenter', 'All Ports', 'All Multicast Groups', 'All Profiles', 'All Traffic Generators', 'All Stream Blocks', 'All Traffic Analyzers', and 'Ports'. Under 'Ports', ports Port //3/1 through Port //3/8 are listed. The main area displays the 'Start Traffic' configuration table:

Tx State	Port Name	Scheduling Mode	Duration Mode	Duration	Burst Size	Inter Frame Gap	Inter Frame Gap Unit	Load Mode	Load Unit	Load	Random Min Load	Random Max Load
	Port //3/1	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/2	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/3	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/4	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/5	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/6	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/7	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/8	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		

Below the configuration, two tabs are open: 'Basic Traffic Results 1' and 'Basic Traffic Results 2'. The 'Basic Traffic Results 1' tab shows detailed traffic counters for each port, while the 'Streams > Detailed Stream Results' tab shows aggregated stream counts.

[264V/47Hz]

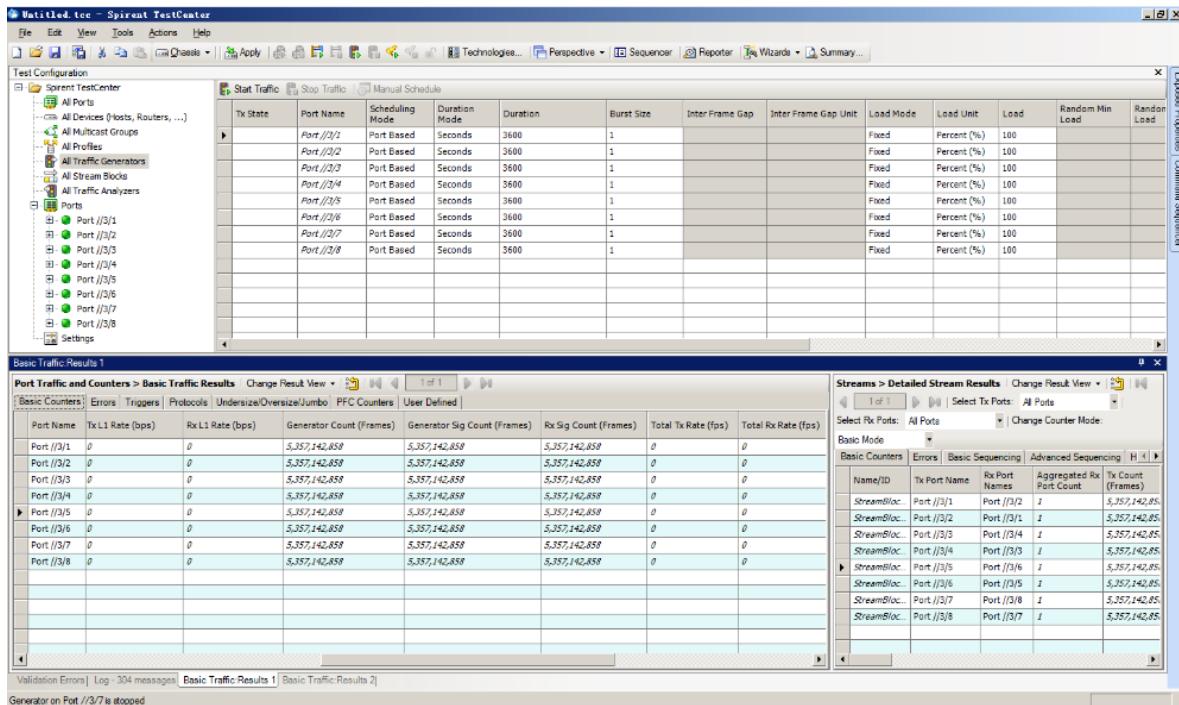


The screenshot shows the Spirent TestCenter software interface for 264V/47Hz operation. The 'Test Configuration' tree view is identical to the 90V/63Hz setup. The main area displays the 'Start Traffic' configuration table:

Tx State	Port Name	Scheduling Mode	Duration Mode	Duration	Burst Size	Inter Frame Gap	Inter Frame Gap Unit	Load Mode	Load Unit	Load	Random Min Load	Random Max Load
	Port //3/1	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/2	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/3	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/4	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/5	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/6	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/7	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		
	Port //3/8	Port Based	Seconds	3600	1			Fixed	Percent (%)	100		

Below the configuration, two tabs are open: 'Port Traffic and Counters > Basic Traffic Results' and 'Streams > Detailed Stream Results'. The 'Port Traffic and Counters' tab shows detailed traffic counters for each port, while the 'Streams > Detailed Stream Results' tab shows aggregated stream counts.

[264V/63Hz]



The screenshot shows the Spirent TestCenter software interface. The top window displays a test configuration for "Sorrent TestCenter" with "All Ports" selected. It lists traffic streams for ports //3/1 through //3/8, each configured with a port-based scheduling mode, 3600-second duration, and a burst size of 1. The load mode for all streams is set to "Fixed" with a 100% load unit. Below this is a "Basic Traffic and Counters > Basic Traffic Results" table showing traffic statistics for each port. The table includes columns for Port Name, Tx L1 Rate (bps), Rx L1 Rate (bps), Generator Count (Frames), Generator Sig Count (Frames), Rx Sig Count (Frames), Total Tx Rate (fps), and Total Rx Rate (fps). All values are 0 for all ports. To the right, a "Streams > Detailed Stream Results" table shows aggregated Rx counts for each port, with values ranging from 5,357,142,858 to 5,357,142,859. At the bottom left, a message indicates "Generator on Port //3/7 is stopped".

CS-1008G-8P 的結果沒有任何錯誤和丟包。

2. PoE 供電測試

驗證 CS-1008G-8P 可以滿足 802.3 PD 標準。

測試架構示意圖

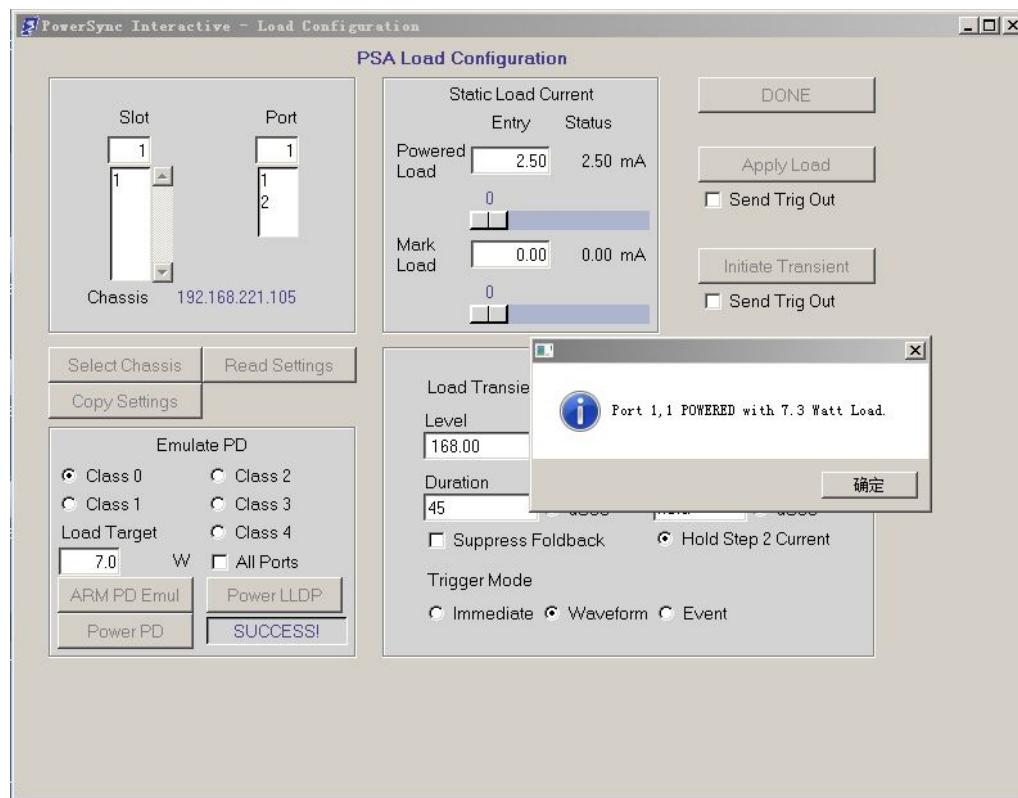


測試程序:

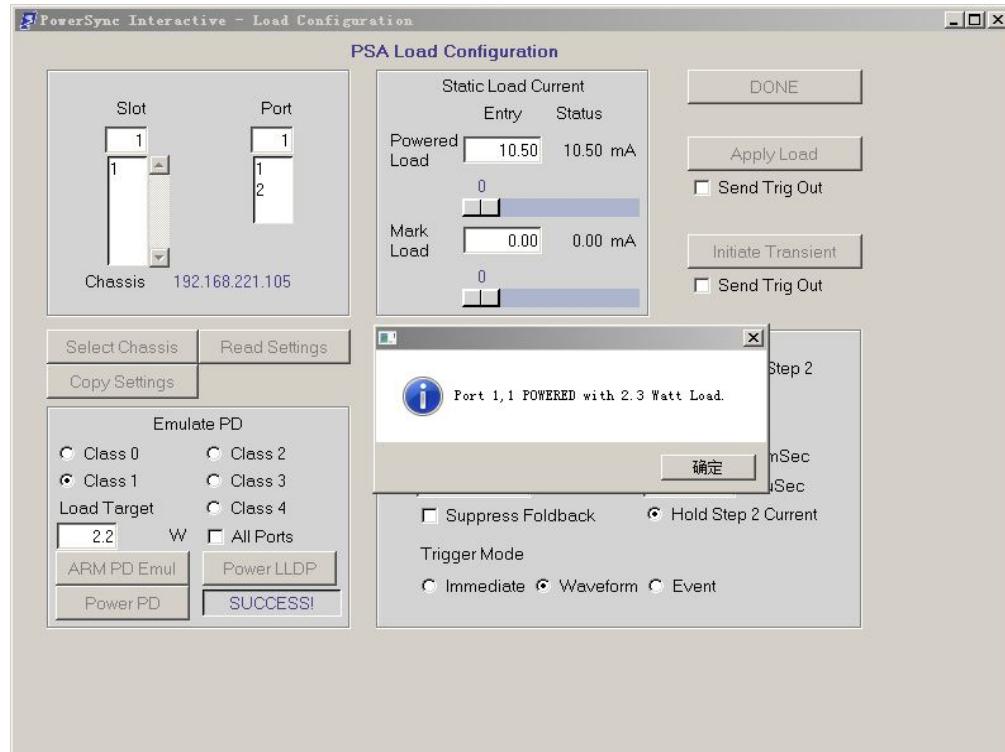
- 1.根據設置連接 CS-1008G-8P。
- 2.將測試類別，Class 0 更改為 Class 4。
- 3.開始測試並記錄結果。

測試結果

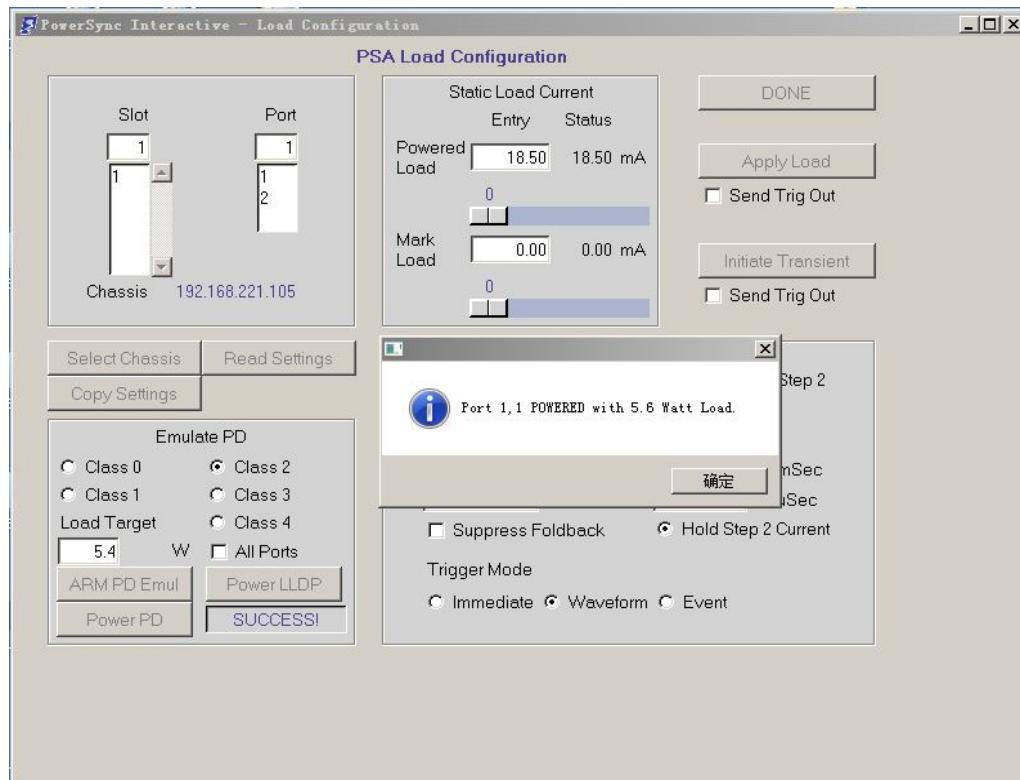
[Class 0]



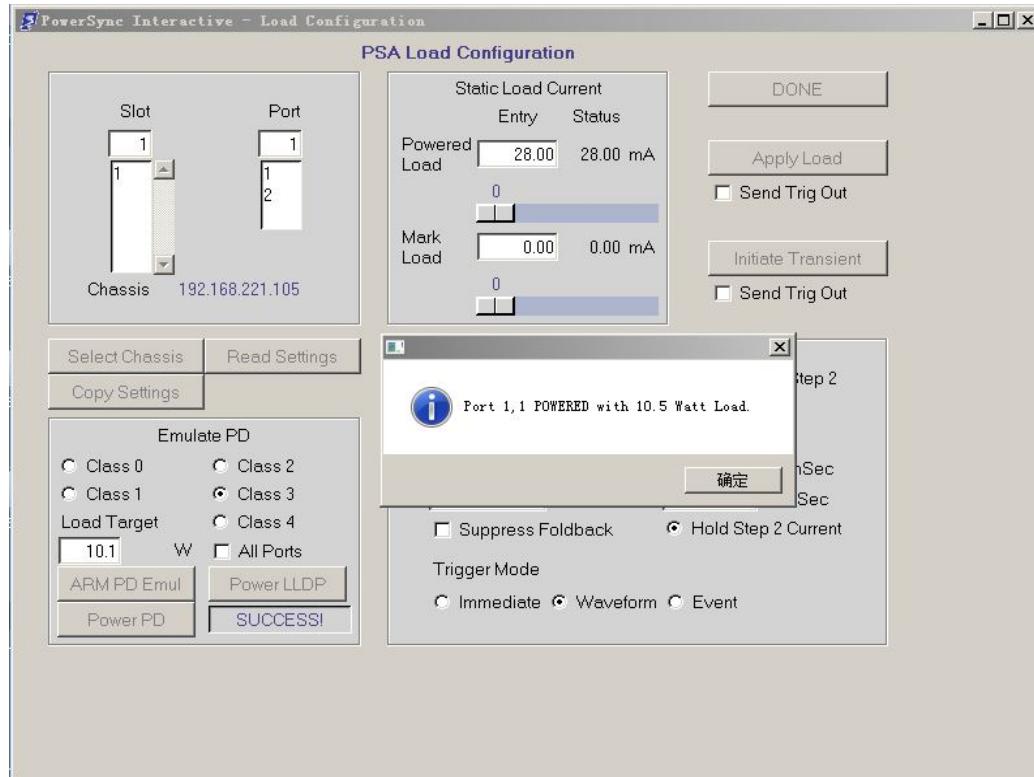
[Class1]



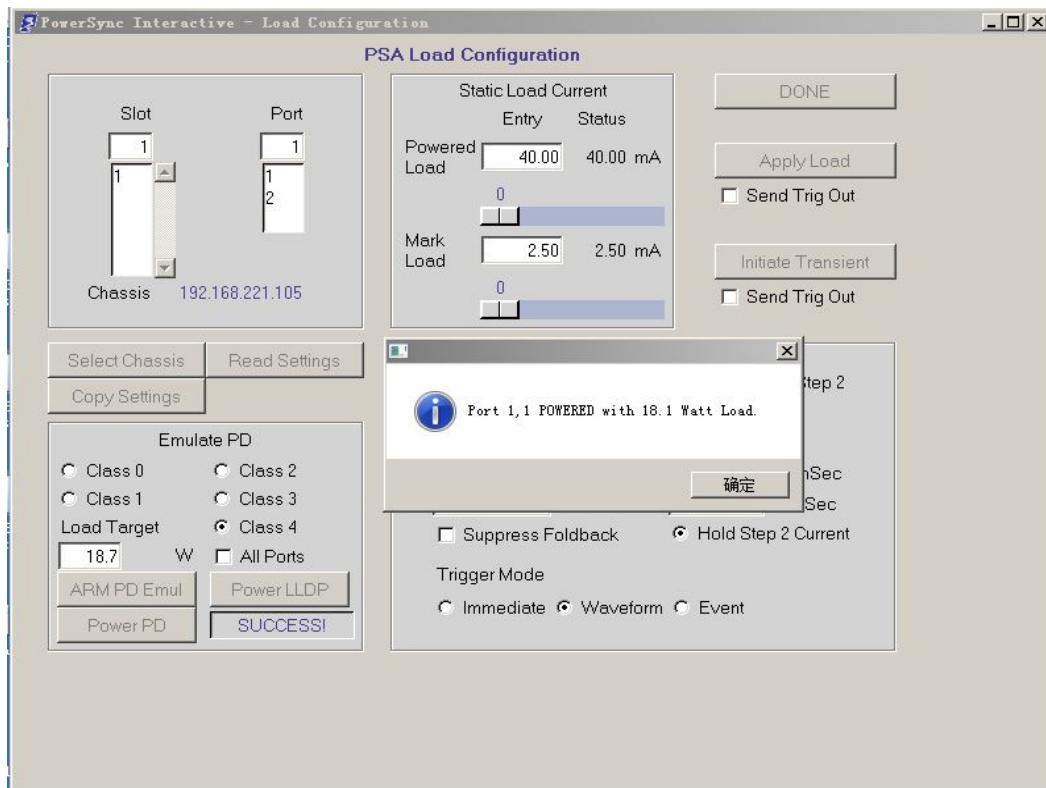
[Class 2]



[Class 3]



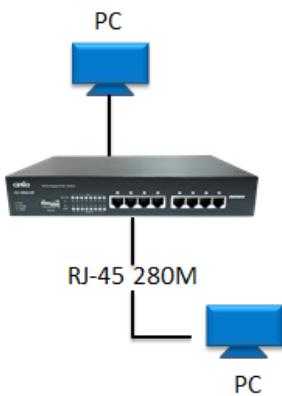
[Class 4]

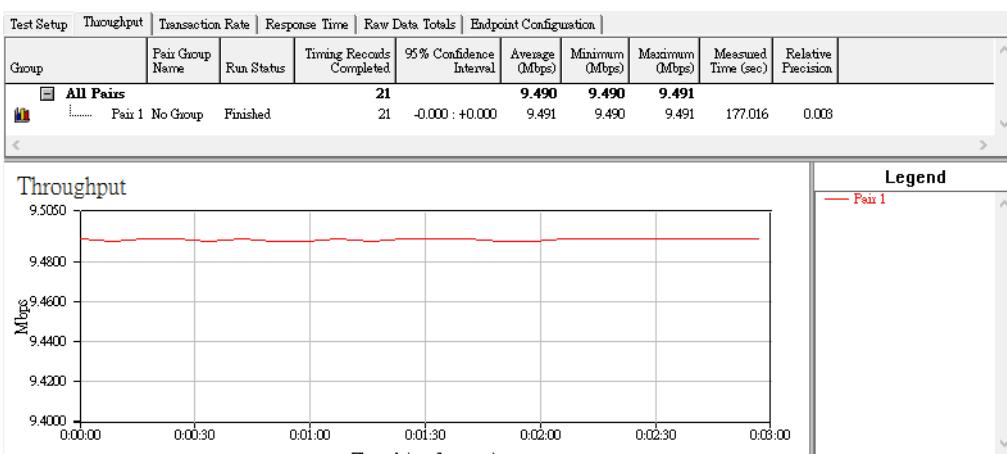


3. 切換 10Mbps 速率測試 280M 網路線

3.1 測試資料傳送穩定性及吞吐量

當切換為 10Mbps 速率並透過 RJ-45 網路線使用 280M 長度，測試 CS-1008G-8P 吞吐量穩定性。





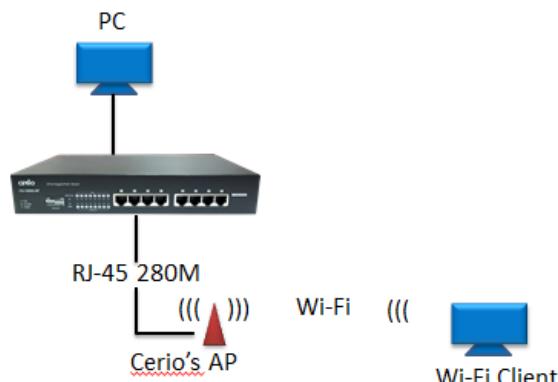
以上數據確實能穩定傳輸資訊

3.2 連接 PoE 設備(AP)測試資料傳送+PoE 的穩定性及吞吐量

測試說明

1. 使用 RJ-45 280M 長路測試（PoE + Data）透過 Cerio 的 AP
2. CS-1008G-8P 特定的 Port 切換為 10Mbps 並連接 Cerio 的 PoE AP
3. 驗證穩定性及吞吐量

測試架構

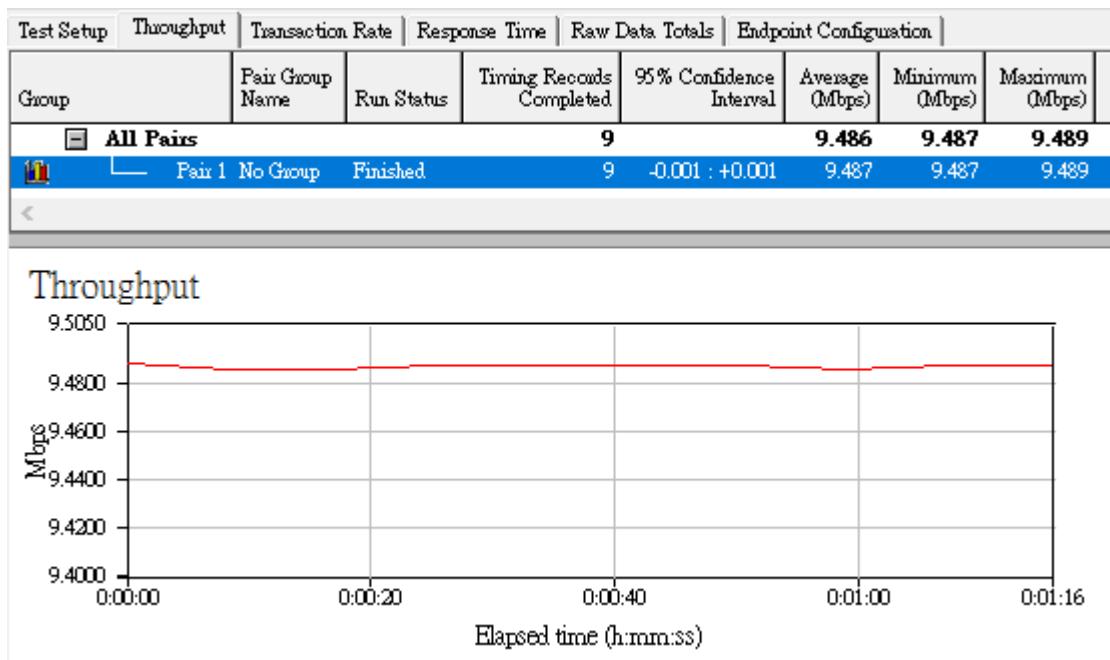


架構說明

當 Wi-Fi 客戶端連接到 Cerio 的 AP 並將數據發送到 PC 時，通過 RJ-45 280M 電纜測試吞吐量和 PoE 是否穩定。



得出數據如下：



以上數據證明切換 10Mbps 後透過 280M 長度傳送 Data + PoE 至 cerio AP, 得出速率固定至約 10Mbps 且穩定性非常好

4. 總結

Speed	Giga	10M	10M
RJ-45 cable length	100M	280M	280M
Throughput	Average 868Mbps	Average 9.5Mbps	Average 9.5Mbps
Test type	Data	Data	Data + PoE
PoE(v)	Max. 55.3	Max. 54.3	Max. 54.3
Stability	Pass	Pass	Pass

以上數據得知當 CS-1008G-8P 切換至 10M 時，可傳送最長 280M 的網路線，在測試報告數據中發現當 jump 啟用 10Mbps 時，則可突破 RJ45 UTP 100 公尺的規範，最長距離可達到 280 公尺，而 280M 使用 802.3at 標準的 PoE 電力輸出使用在 280M 長距離 PoE 傳輸後依然能保持 PoE 54V 幾乎無任何電衰跡象，所以證實 CS-1008G-8P 在 PoE + Data 傳輸穩定性相當高