

電波暴露量評估報告

器 材 名 稱: Wireless Access Point

型 號: AP460SC

廠 牌: Extreme Networks

申 請 者: 香港商極進網路有限公司台灣分公司

地 址: 臺北市松山區復勢里南京東路 4 段 126 號 5 樓

受 理 日 期: 109 年 06 月 19 日

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報 告 號 碼: 2060762R-E3082100020

報 告 版 本: V1.0



本測試報告只針對受測產品有效。

本測試報告內之測試結果可藉由測試儀器設備之校正報告與本報告內所評估量測不確定度追溯至國家或國際標準不得使用本報告宣稱產品是由 TAF 或任何政府機構背書。

本測試報告非經德凱認證股份有限公司同意不可複製使用。

對各個測試系統與伴隨的連接設施，所執行的量測項目的量測不確定度，在此提供做為系統資訊的參考，符合性決定不考慮測試系統的不確定度而是基於符合性測試的結果決定。

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產品名稱(中文)	Wireless Access Point
申請者	香港商極進網路有限公司台灣分公司
地址	臺北市松山區復勢里南京東路 4 段 126 號 5 樓
製造廠商	Extreme Networks, Inc
待測物額定電壓	DC 37~57V
待測物測試電壓	DC 48V
商標或廠牌	Extreme Networks
型式號	AP460SC
試驗標準	低功率射頻器材技術規範(109 年 7 月 1 日)
試驗結果	符 合

報告製作者	:	
		高級行政專員 / 黃淑靜
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實驗室簽署人	:	
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Revision History

Report No.	Version	Description	Issued Date
2060762R-E3082100020	V1.0	Initial issue of report.	2020-09-10

1. 基本資料

1.1. 待測物裝置資料

申請者(或公司)	香港商極進網路有限公司台灣分公司
地址	臺北市松山區復勢里南京東路4段126號5樓
製造廠商	Extreme Networks, Inc
產品名稱	Wireless Access Point
產品型號	AP460SC
頻率範圍	802.11b/g/n/ax-20MHz:2412MHz~2462MHz 802.11a/n/ax-20MHz:5180-5240MHz, 5745-5825MHz 802.11n/ax-40MHz: 5190-5230MHz, 5755-5795MHz 802.11ac/ax-80MHz: 5210MHz, 5775MHz ; BLE : 2402-2480MHz
工作頻道	802.11b/g/n/ax-20MHz: 11; 802.11a/n/ax-20MHz: 9; 802.11n/ax-40MHz: 4 802.11ac/ax-80MHz: 2; BLE : 40
調變方式	DSSS/OFDM/BPSK/QPSK/16QAM/64QAM/256QAM/1024-QAM FHSS: GFSK(1Mbps) / π /4DQPSK(2Mbps) / 8DPSK(3Mbps)
天線樣式	PIFA Antenna
天線增益	Refer to the table "Antenna List"
頻道控制	Auto

Antenna List(Radio 1) (Antenna 4)

No.	Manufacturer	Model No.	Antenna Type	Peak Gain
1	Sercomm	AP460S6C -Ant4	Dipole Antenna	7.83 dBi for 2.4 GHz 6.36 dBi for 5.150-5.250 GHz 6.46 dBi for 5.725-5.850 GHz
2	Sercomm	AP460S12C -Ant4	Dipole Antenna	5.53 dBi for 2.4 GHz 5.50 dBi for 5.150-5.250 GHz 5.43 dBi for 5.725-5.850 GHz

Note: Each antenna has been evaluated and only the worst case (higher gain antenna) is presented in the report.

Antenna List(Radio 2) (Antenna 1,2)

No.	Manufacturer	Model No.	Antenna Type	Peak Gain
1	Sercomm	AP460S6C-Ant1	Dipole Antenna	7.88 dBi for 2.4 GHz 6.80 dBi for 5.150-5.250 GHz
2	Sercomm	AP460S6C -Ant2	Dipole Antenna	7.88 dBi for 2.4 GHz 6.99 dBi for 5.150-5.250 GHz
3	Sercomm	AP460S12C-Ant1	Slot Dipole Antenna	7.12 dBi for 2.4 GHz 6.26 dBi for 5.150-5.250 GHz
4	Sercomm	AP460S12C -Ant2	Dipole Antenna	6.16 dBi for 2.4 GHz 5.67 dBi for 5.150-5.250 GHz

Note: Each antenna has been evaluated and only the worst case (higher gain antenna) is presented in the report.

Antenna List(Radio 3) (Antenna 3,5,6,7)

No.	Manufacturer	Model No.	Antenna Type	Peak Gain
1	Sercomm	AP460S6C -Ant3	Dipole Antenna	7.90 dBi for 2.4 GHz(BLE) 7.68 dBi for 5.150-5.250 GHz 7.71 dBi for 5.725-5.850 GHz
2	Sercomm	AP460S6C -Ant5	Dipole Antenna	7.70 dBi for 5.150-5.250 GHz 7.64 dBi for 5.725-5.850 GHz
3	Sercomm	AP460S6C -Ant6	Dipole Antenna	7.72 dBi for 5.150-5.250 GHz 7.91 dBi for 5.725-5.850 GHz
4	Sercomm	AP460S6C -Ant7	Dipole Antenna	7.63 dBi for 5.150-5.250 GHz 7.65 dBi for 5.725-5.850 GHz
5	Sercomm	AP460S12C -Ant3	Dipole Antenna	6.63 dBi for 2.4 GHz(BLE) 5.65 dBi for 5.150-5.250 GHz 6.25 dBi for 5.725-5.850 GHz
6	Sercomm	AP460S12C -Ant5	Dipole Antenna	5.13 dBi for 5.150-5.250 GHz 6.15 dBi for 5.725-5.850 GHz
7	Sercomm	AP460S12C -Ant6	Dipole Antenna	5.12 dBi for 5.150-5.250 GHz 5.06 dBi for 5.725-5.850 GHz
8	Sercomm	AP460S12C -Ant7	Dipole Antenna	5.31 dBi for 5.150-5.250 GHz 5.16 dBi for 5.725-5.850 GHz

Note: Each antenna has been evaluated and only the worst case (higher gain antenna) is presented in the report.

2. RF Exposure Evaluation

2.1. Limit

依據低功率射頻器材技術規範第 6.20.2 章節要求: 若受測物於正常操作模式下, 其發射機距離人體 20 公分以上者, 可測試最大暴露允許值(Maximum Permissible Exposure, MPE)以證明其符電波暴露量之要求。限制值如下:

(1) 職業性/可控制之暴露

頻率範圍 (MHz)	電場強度 (V/m)	磁場強度 (A/m)	功率密度 (mW/cm ²)	平均時間 (minutes)
0.3-3.0	614	1.63	*100	6
3-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500	-----	-----	f/300	6
1,500-100,000	-----	-----	5.0	6

註 1: 標記*表平面波等效功率密度。

註 2: f 表測試頻率, 單位: 百萬赫(MHz)。

(2) 一般人/不可控制之暴露

頻率範圍 (MHz)	電場強度 (V/m)	磁場強度 (A/m)	功率密度 (mW/cm ²)	平均時間 (minutes)
0.3-1.34	614	1.63	*100	30
1.34-30	842/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500	-----	-----	f/1500	30
1,500-100,000	-----	-----	1.0	30

註 1: 標記*表平面波等效功率密度。

註 2: f 表測試頻率, 單位: 百萬赫(MHz)。

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

2.2. Test Result of RF Exposure Evaluation

Product : Wireless Access Point
Test Item : RF Exposure Evaluation

BLE 2.4G Peak Gain: 7.9dBi

Band	Frequency (MHz)	Conducted maximum Peak Power (dBm)	Worst case Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 21 cm (mW/cm ²)	Limit (mW/cm ²)	Pass/Fail
BLE	2402	3.42	62.79	3.500	0.0039	1	Pass

Note: The conducted output power is refer to original report No.: 2060762R-E3032120208 from the DEKRA.

WLAN 2.4G Peak Gain: 7.88dBi

Band	Frequency (MHz)	Conducted maximum Peak Power (dBm)	Worst case Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 21 cm (mW/cm ²)	Limit (mW/cm ²)	Pass/Fail
WLAN 2.4G	2437	28.15	89.4	730.571	0.8091	1	Pass

Note: The conducted output power is refer to original report No.: 2060762R-E3032120211 from the DEKRA.

WLAN 5G Peak Gain: 7.91dBi

Band	Frequency (MHz)	Conducted maximum Average Power (dBm)	Worst case Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 21 cm (mW/cm ²)	Limit (mW/cm ²)	Pass/Fail
WLAN 5G	5745	27.28	62.86	850.405	0.9484	1	Pass

Note: The conducted output power is refer to original report No.: 2060762R-E3032120226 from the DEKRA.