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Project No: CB10608208

Maximum Permissible Exposure

Applicant's company	香港商極進網路有限公司台灣分公司
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Manufacturer's company	啟碁科技股份有限公司
Manufacturer Address	新竹科學工業園區新竹縣園區二路 20 號

Product Name	無線接入點
Brand Name	Extreme Networks
Model Name	AP-7562
Ref. Standard(s)	NCC LP0002 (Jan. 10, 2018) Section 5.20 (5.20.2)
EUT Freq. Range	2400 ~ 2483.5MHz / 5150 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850MHz
Received Date	Dec. 04, 2014
Final Test Date	Jul. 11, 2017
Submission Type	Original Equipment

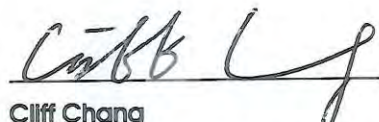

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History of This Assessment Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
TA4D0488-08	Rev. 01	Initial issue of report.	Sep. 21, 2017
TA4D0488-08	Rev. 02	Changing test standard version to "NCC LP0002 (Jan. 10, 2018)" from "NCC LP0002 (Aug. 23, 2016)".	Mar. 16, 2018

1. MAXIMUM PERMISSIBLE EXPOSURE

1.1. Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with NCC LP0002 (Jan. 10, 2018) Section 5.20 (5.20.2) this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (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
300-1500			f/300	6
1500-100,000			5.0	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	*100	30
3-30	1842/f	4.89/f	*180/f ²	30
30-300	27.5	0.073	1.0	30
300-1500			f/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

1.2. MPE Calculation Method

The MPE was calculated at 35 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

1.3. Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

For 5GHz Band:

Antenna Type : Dipole Antenna

Test Mode: Mode 1 / Band 1

Conducted Power for IEEE 802.11a (3TX): 23.83dBm

Distance (cm)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	12.07	16.1110	23.8314	241.6215	0.253006	1	Complies

$$\text{Note: Directional Gain} = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{K=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$$

Test Mode: Mode 1 / Band 2

Conducted Power for IEEE 802.11ac VHT40 (3TX): 17.91dBm

Distance (cm)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	12.07	16.1110	17.9145	61.8651	0.064780	1	Complies

$$\text{Note: Directional Gain} = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{K=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$$

Test Mode: Mode 1 / Band 3

Conducted Power for IEEE 802.11ac VHT80 (3TX): 22.69dBm

Distance (cm)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	7.30	5.3703	22.6939	185.9483	0.064903	1	Complies

Test Mode: Mode 1 / Band 4

Conducted Power for IEEE 802.11ac VHT20 (3TX): 23.78dBm

Distance (cm)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	12.07	16.1110	23.7757	238.5474	0.249787	1	Complies

$$\text{Note: Directional Gain} = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{K=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$$

Antenna Type : Panel Antenna

Test Mode: Mode 2 / Band 1

Conducted Power for IEEE 802.11ac VHT20 (3TX): 24.71dBm

Distance (cm)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	9.87	9.7078	24.7132	296.0208	0.186775	1	Complies

Note: $Directional\ Gain = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{K=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$

Test Mode: Mode 2 / Band 2

Conducted Power for IEEE 802.11ac VHT40 (3TX): 20.11dBm

Distance (cm)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	9.87	9.7078	20.1147	102.6754	0.064783	1	Complies

Note: $Directional\ Gain = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{K=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$

Test Mode: Mode 2 / Band 3

Conducted Power for IEEE 802.11a (3TX): 20.12dBm

Distance (cm)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	9.87	9.7078	20.1240	102.8954	0.064922	1	Complies

Note: $Directional\ Gain = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{K=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$

Test Mode: Mode 2 / Band 4

Conducted Power for IEEE 802.11a (3TX): 23.39dBm

Distance (cm)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	9.87	9.7078	23.3884	218.1926	0.137669	1	Complies

Note: $Directional\ Gain = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{K=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$

Antenna Type : CROSS-POLARIZED PANEL ANTENNA

Test Mode: Mode 3 / Band 1

Conducted Power for IEEE 802.11a (2TX): 24.72dBm

Distance (cm)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	8.30	6.7608	24.7204	296.5107	0.130291	1	Complies

Test Mode: Mode 3 / Band 2

Conducted Power for IEEE 802.11n HT40 (3TX): 21.69dBm

Distance (cm)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	8.30	6.7608	21.6925	147.6556	0.064882	1	Complies

Test Mode: Mode 3 / Band 3

Conducted Power for IEEE 802.11ac VHT40 (3TX): 20.63dBm

Distance (cm)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	9.36	8.6291	20.6334	115.7013	0.064890	1	Complies

Note: $Directional\ Gain = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

Test Mode: Mode 3 / Band 4

Conducted Power for IEEE 802.11ac VHT20 (2TX): 24.13dBm

Distance (cm)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	8.30	6.7608	24.1251	258.5293	0.113602	1	Complies

For 2.4GHz Band:

Antenna Type : Dipole Antenna

Test Mode: Mode 1

Conducted Power for IEEE 802.11g (3TX): 24.20 dBm

Distance (cm)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	10.07	10.1653	24.1965	262.8156	0.173639	1	Complies

Note: $Directional\ Gain = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{K=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$

Antenna Type : Panel Antenna

Test Mode: Mode 2

Conducted Power for IEEE 802.11ac VHT20 (3TX): 24.53 dBm

Distance (cm)	Directional Gain	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	11.27	13.4005	24.5333	284.0066	0.247357	1	Complies

Note: $Directional\ Gain = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{K=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$

Antenna Type : CROSS-POLARIZED PANEL ANTENNA

Test Mode: Mode 3

Conducted Power for IEEE 802.11b (3TX): 24.08 dBm

Distance (cm)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
			(dBm)	(mW)			
35	9.00	7.9433	24.0826	256.0092	0.132169	1	Complies