

MPE REPORT

案 號： 1906C116
產 品 名 稱： AC1350無線雙頻路由器
型 號： Archer C60
申請廠商（名稱）： 聯洲國際有限公司
申請廠商（地址）： 新北市板橋區中山路一段156號13樓

According to : LP0002 第 5.20.2 節

報告簽署人：

邵秉仁

發行日期： 108 年 08 月 14 日

東研信超股份有限公司

臺北市內湖區舊宗路二段171巷18號
電話：(02) 2657-3299 傳真：(02) 2657-3331

TAF實驗室認可編號：**0659**



MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Table for Filed Antenna:

For 2.4GHz:

Ant.	Brand	P/N	Antenna Type	Connector	Gain(dBi)
1		3101502333	Dipole	Weld	1.25
2		3101502332	Dipole	Weld	1.25
3		3101502334	Dipole	Weld	1.32

Note: This EUT supports CDD, and antenna gains are not equal, so Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N]$ dBi, that is Directional gain = $10\log[(10^{1.25/20} + 10^{1.25/20} + 10^{1.32/20})^2 / 2]$ dBi = 6.04. So, the output power limit is $30 - 6.04 + 6 = 29.96$, the power spectral density limit is $8 - 6.04 + 6 = 7.96$.

For 5GHz:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)	Note
1		3101502331	Dipole	Weld	1.98	UNII-1
2		3101502330	Dipole	Weld	1.98	UNII-1
1		3101502331	Dipole	Weld	0.78	UNII-3
2		3101502330	Dipole	Weld	0.78	UNII-3

Note:

This EUT supports CDD, and all antennas have the same gain for UNII-1 and UNII-3, so

(1) For Non Beamforming Function:

For UNII-1:

a) power spectral density measurements, $N_{ANT} = 2$, $N_{SS} = 1$.

So Directional gain = $G_{ANT} + \text{Array Gain} = 10 \log (N_{ANT} / N_{SS})$ dB = $1.98 + 10 \log (2/1)$ dBi = 4.99.

b) Power measurements, Array Gain = 0 dB ($N_{ANT} \leq 4$), so the Directional gain = 1.98.

For UNII-3:

c) power spectral density measurements, $N_{ANT} = 2$, $N_{SS} = 1$.

So Directional gain = $G_{ANT} + \text{Array Gain} = 10 \log (N_{ANT} / N_{SS})$ dB = $0.78 + 10 \log (2/1)$ dBi = 3.79.

d) Power measurements, Array Gain = 0 dB ($N_{ANT} \leq 4$), so the Directional gain = 0.78.

(2) For With Beamforming Function:

Beamforming Gain: 3 dB. So UNII-1 Directional gain = $1.98 + 3 = 4.98$, UNII-3 Directional gain = $0.78 + 3 = 3.78$.

TEST RESULTS:

For 2.4GHz

測試頻道: IEEE 802.11g
 檢 測 器: RMS
 環境溫度: 26°C

測試模式: 發射
 測試日期: 108/08/09
 環境濕度: 53%

Directional gain (dBi)	Directional Gain (numeric)	Max. Average Output Power (dBm)	Max. Average Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
6.04	4.0179	22.5	177.8279	0.14222	1	Complies

For 5GHz Non Beamforming

測試頻道: IEEE 802.11n (HT20) /
 5.2 GHz 頻帶
 檢 測 器: RMS
 環境溫度: 26°C

測試模式: 發射
 測試日期: 108/08/09
 環境濕度: 53%

Directional gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.98	1.5776	24.24	265.4606	0.08336	1	Complies

測試頻道: IEEE 802.11n (HT40) /
 5.8 GHz 頻帶
 檢 測 器: RMS
 環境溫度: 26°C

測試模式: 發射
 測試日期: 108/08/09
 環境濕度: 53%

Directional gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
0.78	1.1967	24.74	297.8516	0.07095	1	Complies

For 5GHz With Beamforming

測試頻道: IEEE 802.11n (HT40) /
5.2 GHz 頻帶

測試模式: 發射

檢測器: RMS

測試日期: 108/08/09

環境溫度: 26°C

環境濕度: 53%

Directional gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
4.98	3.1477	24.41	276.0578	0.17296	1	Complies

測試頻道: IEEE 802.11n (HT40) /
5.8 GHz 頻帶

測試模式: 發射

檢測器: RMS

測試日期: 108/08/09

環境溫度: 26°C

環境濕度: 53%

Directional gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.78	2.3878	24.67	293.0893	0.13930	1	Complies

Note: The evaluated distance is 20cm.

結束