

# 1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

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## Client Information

Applicant: Hong Kong Yunting Trading Co., Limited  
Address of applicant: Unit D, 16/F, One Capital Place, 18 Luard Road, Wan Chai, Hong Kong

Manufacturer: Qingdao Londs Environmental Technology Co.,Ltd  
Address of manufacturer: Eastward 100 meters of Dongwangtuan Community Chengyang District ,Qingdao,266109 ,China

General Description of EUT	
Product Name:	Air Purifier
Trade Name:	/
Model No.:	Aerio-360
Adding Model(s):	/
Rated Voltage:	100-120V~ 60Hz
Power adapter	/
Software Version:	A
Hardware Version:	A
FCC ID:	2AW74-AERIO-360
<i>Note: The test data is gathered from a production sample provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Support Standards:	802.11a, 802.11n(HT20) , 802.11n-HT40
Frequency Range:	5150-5250MHz, 5725-5850MHz
RF Output Power:	13.63dBm (Conducted)
Type of Modulation:	BPSK, QPSK,16QAM,64QAM, 256QAM
Data Rate:	6-54Mbps, up to 150Mbps
Type of Antenna:	PCB Antenna
Antenna Gain:	2dBi

## 1.2 Standard Applicable

According to § 1.1307(b)(1) and KDB 447498 D01 General RF Exposure Guidance v06, system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

### (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 <sup>2</sup> )	Averaging Times   E   <sup>2</sup> ,   H   <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	F/300	6
1500-100000	/	/	5	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 <sup>2</sup> )	Averaging Times   E   <sup>2</sup> ,   H   <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-100000	/	/	1	30

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

## 1.3 MPE Calculation Method

$$S = (30 * P * G) / (377 * R^2)$$

S = power density (in appropriate units, e.g., mw/cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mw)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor is normally numeric gain.

R = distance to the center of radiation of the antenna (in appropriate units, e.g., cm)

## 1.4 MPE Calculation Result

Maximum Tune-Up output power: 14(dBm)

Maximum peak output power at antenna input terminal: 25.12(mW)

Prediction distance: >20(cm)

Prediction frequency: 5825(MHz)

Antenna gain: 2 (dBi)

Directional gain (numeric gain): 1.58

The worst case is power density at prediction frequency at 20cm: 0.0079 (mw/cm<sup>2</sup>)

MPE limit for general population exposure at prediction frequency: 1 (mw/cm<sup>2</sup>)

Result: Pass