

Maximum Permissible Exposure report

For

IGEN TECH CO.,LTD

A1-405,Tian'an iPark,No.228 Linghu Avenue,New District,Wuxi,Jiangsu,China

FCC ID:2AEPWP1

Trade:

Reco4life

This Report Concerns: Original Report	Equipment Type: Smart Plug
Test Engineer:	Lisa Chen <i>Lisa Chen</i>
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Reviewed By:	Mike Moo <i>Mike Moo</i>
Prepared By:	BSL Testing Co.,LTD. NO. 24, ZH Park, Nantou, Shenzhen, 518000 China Tel: 86- 755-26508703 Fax: 86- 755-26508703

1.§ 15.247 (i) and §1.1307 (b) (1) – Maximum Permissible exposure (MPE)

1.1 Standard Applicable

According to subpart 15.247 (i) and subpart 1.1307 (b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3–3.0	614	1.63	*(100)	30
3.0–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

1.2 Test Data

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

S: Power density, in mW/cm²

P: Power input to the antenna, in mW

G: numeric gain of the antenna

R: distance to the center of the antenna, in cm

802.11b Mode

Maximum AV output power at antenna input terminal (dBm):	<u>9.17</u>
Maximum AV output power at antenna input terminal (mW):	<u>8.26</u>
Prediction distance (cm):	<u>20</u>
Prediction frequency (MHz):	<u>2462</u>
Antenna Gain, typical (dBi):	<u>0</u>
Maximum Antenna Gain (numeric):	<u>1</u>
Power density at predication frequency and distance (mW/cm ²):	<u>0.00164</u>
MPE limit for Occupational exposure at predication frequency (mW/cm ²):	<u>1.0</u>

802.11g Mode

Maximum AV output power at antenna input terminal (dBm):	<u>9</u>
Maximum AV output power at antenna input terminal (mW):	<u>7.9</u>
Prediction distance (cm):	<u>20</u>
Prediction frequency (MHz):	<u>2462</u>
Antenna Gain, typical (dBi):	<u>0</u>
Maximum Antenna Gain (numeric):	<u>1</u>
Power density at predication frequency and distance (mW/cm ²):	<u>0.00157</u>
MPE limit for Occupational exposure at predication frequency (mW/cm ²):	<u>1.0</u>

802.11n Mode

Maximum AV output power at antenna input terminal (dBm):	<u>9.01</u>
Maximum AV output power at antenna input terminal (mW):	<u>7.96</u>
Prediction distance (cm):	<u>20</u>
Prediction frequency (MHz):	<u>2462</u>
Antenna Gain, typical (dBi):	<u>0</u>
Maximum Antenna Gain (numeric):	<u>1</u>
Power density at predication frequency and distance (mW/cm ²):	<u>0.00158</u>
MPE limit for Occupational exposure at predication frequency (mW/cm ²):	<u>1.0</u>

1.3 Test Result

The device is compliant with the requirement MPE limit of General Population/Uncontrolled Exposure at predication frequency 1.0 mW/cm² .And the precaution is outlined in the user's manual to prevent to high level of RF energy.