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Project No: CB10404036

Maximum Permissible Exposure

Applicant's company	PEGATRON CORPORATION
Applicant Address	5F., NO. 76, LIGONG ST., BEITOU DISTRICT, TAIPEI CITY 112, Taiwan
FCC ID	VUIUPWL6060
Manufacturer's company	Maintek Computer (Suzhou) Co., Ltd
Manufacturer Address	Bldg. 6 NB, 233 Jin Feng Rd, Suzhou District Jiangsu China

Product Name	Wireless module
Brand Name	PEGATRON
Model Name	UPWL6060
Ref. Standard(s)	47 CFR FCC Part 2 Subpart J, section 2.1091
EUT Freq. Range	5150 ~ 5250MHz / 5725 ~ 5850MHz
Received Date	Jun. 20, 2014
Final Test Date	Apr. 01, 2015
Submission Type	Original Equipment

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History of This Assessment Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA532620AA	Rev. 01	Initial issue of report	Apr. 15, 2015

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 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby that distance of at least 0.2 m is normally 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
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			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 ²)	Averaging Time E ² , H ² 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
1500-100,000			1.0	30

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

1.2. MPE Calculation Method

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

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

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

From the EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

1.3. Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

For 5GHz Band (NII):

Antenna Type : PCB Antenna

Conducted Power for IEEE 802.11a : 26.26dBm

Distance (m)	Test Freq. (MHz)	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)			
0.2	5240	2.92	1.9588	26.2579	422.4691	0.164720	1	Complies

For 5GHz Band (NII):

Antenna Type : PCB Antenna

Conducted Power for IEEE 802.11a: 26.01dBm

Distance (m)	Test Freq. (MHz)	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)			
0.2	5785	2.92	1.9588	26.0141	399.4042	0.155727	1	Complies