

FCC 47 CFR MPE REPORT

Pulnda International limited

AC SOCKET

Model Number: PZ001

Additional Model: SH-PA2, PA-S18, PL001, PZ002

FCC ID:2APQM-PZ001

Prepared for:	Pulnda International limited
	FLAT/RM A 20/F Kiu Fu Commercial Bldg 300 lockhart road wan chai HK
Prepared By:	EST Technology Co., Ltd.
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China
Tel: 86-769-83081888-808	

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Maximum Permissible Exposure

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 level 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 a distance of 0.2m 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 Times 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
1500-10000			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 Times 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
1500-10000			1.0	30

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

2、MPE Calculation Method

$$E \text{ (V/m)} = (30 \cdot P \cdot G) / 0.5/d \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = E^2/377$$

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

$$Pd = (30 \cdot P \cdot G) / (377 \cdot d^2)$$

From the peak 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

3、Conducted Power Result

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power (dBm)	Antenna gain	
					(dBi)	(Linear)
IEEE 802.11b	2412	12.78	18.967	12 ± 1	3	1.995
	2437	12.50	17.783	12 ± 1	3	1.995
	2462	12.73	18.750	12 ± 1	3	1.995
IEEE 802.11g	2412	9.13	8.185	9 ± 1	3	1.995
	2437	9.10	8.128	9 ± 1	3	1.995
	2462	9.34	8.590	9 ± 1	3	1.995
IEEE 802.11n HT20	2412	6.08	4.055	6 ± 1	3	1.995
	2437	6.31	4.276	6 ± 1	3	1.995
	2462	6.40	4.365	6 ± 1	3	1.995

4、Calculated Result and Limit

Mode	Target power (dBm)	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
		(dBi)	(Linear)			
Wi-Fi						
IEEE 802.11b	13	3	1.995	0.00792	1	Compiles
IEEE 802.11g	10	3	1.995	0.00397	1	Compiles
IEEE 802.11n HT20	7	3	1.995	0.00199	1	Compiles