

Maximum Permissible Exposure Compliance Requirement

1. LIMITS

The limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm ²)	Averaging time(minutes)
300MHz~1.5GHz	F/1500	30
1.5GHz~100GHz	1.0	30

Frequency(MHz)	Power density(mW/cm ²)	Averaging time(minutes)
2402	1.0	30
2412	1.0	30
2437	1.0	30
2462	1.0	30
2480	1.0	30
5745	1.0	30
5785	1.0	30
5825	1.0	30

2. EUT RF Exposure

The EUT has two RF modules. It is a BT module and a 2.4G wifi module (airplay). The two RF modules cannot transmit simultaneously.

BT module: The Max Conducted Peak Output Power is 6.06dBm (4.04mW) in 2402MHz of GFSK; The antenna gain of this antenna is 3.04dBi,

2.4G wifi module(airplay): The Max Conducted Peak Output Power is 22.22dBm (166.7mW) in channel 11 of 802.11g; The antenna gain of this antenna 1 is 4.8dBi

3.04dB logarithmic terms convert to numeric result is nearly 2.01.

4.8dB logarithmic terms convert to numeric result is nearly 3.

$$\frac{PG}{4R^2\pi}$$

According to the formula $S = \frac{PG}{4R^2\pi}$, we can calculate S which is MPE.

Now, R=20 cm, P1=166.7mW, G1=3; P2=4.04mW, G2=2.01

$$\text{So, } S_1 = \frac{P_1 G_1}{4R^2\pi} = \frac{166.7 * 3}{4 * 400 * 3.14} = 0.0995 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

$$S_2 = \frac{P_2 G_2}{4R^2\pi} = \frac{4.04 * 2.01}{4 * 400 * 3.14} = 0.0016 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

So the MPE comply the requirement.