

Maximum Permissible Exposure Compliance Requirement

1. Standard Requirement

§1.1310 Radiofrequency radiation exposure 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)
2412	1.0	30
2437	1.0	30
2462	1.0	30

2. EUT RF Exposure

The Max Conducted Peak Output Power is 6.13 dBm(4.10mW) in channel 0 of GFSK;

The best case gain of the antenna is 3dBi..

3dB logarithmic terms convert to numeric result is nearly 2.0

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

Now, R=20 cm, P=4.10mW, G=2.

$$\text{So, } S = \frac{PG}{4R^2\pi} = \frac{4.10 \times 2.0}{4 \times 400 \times 3.14} = 0.0016 \text{ mW/cm}^2$$

So the MPE comply the requirement.