

## MPE Calculation : Bluetooth

RF function or Mode	Frequency range (MHz)			Max Target Power (dBm)	ANT Gain (dBi)	Maximum EIRP (dBm)	Maximum EIRP (mW)	Maximum power density (mW/cm <sup>2</sup> )	Requirement (mW/cm <sup>2</sup> )
BDR(1Mbps)	2402.00	~	2480.00	3.00	-0.10	2.90	1.94985	0.00039	1.000
EDR(2, 3Mbps)	2402.00	~	2480.00	2.00	-0.10	1.90	1.54882	0.00031	1.000
		~							
		~							
		~							
		~							
		~							
		~							

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user.

The MPE sample calculation for this exposure is shown below.

$$\begin{aligned}
 S &= \text{EIRP} / (4 R^2 \pi) \\
 &= 1.94985 / (4 \times 20^2 \times \pi) \\
 &= 0.00039 \text{ mW/cm}^2
 \end{aligned}$$

### - Note

S= Maximum power density(mW/cm<sup>2</sup>)

EIRP= Equivalent Isotropic Radiated Power(mW)

R= Distance to the center of the radiation of the antenna(20cm)

### ▪ Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)			Electric Field strength (V/m)	Magnetic field strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averageing time (minutes)
0.3	~	1.34	614	1.63	*100	30
1.34	~	30	824/f	2.19 / f	*180 / f <sup>2</sup>	30
30	~	300	27.5	0.073	0.2	30
300	~	1,500			f / 1500	30
1,500	~	100,000			1.0	30

**Conclusion :** The exposure condition of this device is compliant with FCC.