

MPE Calculation

RF function	Mode(TX Antenna)	Transmitting frequency (MHz)	Max Target Power (dBm)	ANT Gain (dBi)	Maximum EIRP (dBm)	Maximum EIRP (mW)	Maximum power density (mW/cm ²)	Requiriment (mW/cm ²)
Bluetooth	1Mbps	2441.0	4.50	3.50	8.00	6.310	0.0013	1.000
Bluetooth	2,3Mbps	2441.0	3.50	3.50	7.00	5.012	0.0010	1.000
Bluetooth LE	1Mbps	2440.0	6.00	3.50	9.50	8.913	0.002	1.000
WLAN 2.4GHz	802.11b (Antenna 2)	2437.0	20.00	3.50	23.50	223.873	0.045	1.000
WLAN 2.4GHz	802.11g (Antenna 2)	2437.0	17.50	3.50	21.00	125.893	0.026	1.000
WLAN 2.4GHz	802.11n-HT20 (2TX)	2437.0	19.50	3.50	23.00	199.527	0.040	1.000
WLAN 2.4GHz	802.11n-HT40 (2TX)	2437.0	20.00	3.50	23.50	223.873	0.045	1.000

Note: Please refer to the operation description for Max target power.

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.

$$\begin{aligned}
 S &= \text{EIRP} / (4 R^2 \pi) \\
 &= 6.31 / (4 \times 20^2 \times \pi) \\
 &= 0.0013 \text{ mW/cm}^2
 \end{aligned}$$

- Note

S= Maximum power density(mW/cm²)

EIRP= Equivalent Isotropic Radiated Power(mW)

R= Distance to the center of the radiation of the antenn

▪ Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric Field strength (V/m)	Magnetic field strength (A/m)	Power Density (mW/cm ²)	Averageing time (minutes)
0.3 ~ 1.34	614	1.63	*100	30
1.34 ~ 30	824/f	2.19 / f	*180 / f ²	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