

## MPE Calculation : WLAN

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> )	Requirment (mW/cm <sup>2</sup> )
802.11b	2412.00	~	2462.00	14.50	3.681	18.181	65.781	0.014	1.000
802.11g	2412.00	~	2462.00	13.00	3.681	16.681	46.570	0.010	1.000
802.11n(HT20)	2412.00	~	2462.00	12.00	3.681	15.681	36.992	0.008	1.000
802.11a	5180.00	~	5240.00	12.20	1.386	13.586	22.835	0.005	1.000
802.11a	5745.00	~	5825.00	12.20	2.105	14.305	26.947	0.006	1.000
802.11n(HT20)	5180.00	~	5240.00	11.20	1.386	12.586	18.139	0.004	1.000
802.11n(HT20)	5745.00	~	5825.00	11.20	2.105	13.305	21.405	0.005	1.000
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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.

$$\begin{aligned}
 S &= \text{EIRP} / (4 R^2 \pi) \\
 &= 65.781 / (4 \times 20^2 \times \pi) \\
 &= 0.014 \text{ mW/cm}^2
 \end{aligned}$$

### - 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 antenn

### ▪ 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**