

# FCC Part 2 section 2.1091

<b>(ii) Limits for General Population/Uncontrolled Exposure</b>				
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging 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	<30

f = frequency in MHz. \* = Plane-wave equivalent power density.

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

$$S = \text{EIRP} / (4 R^2 \pi)$$

**- 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(Over 20cm)

## Maximum Permissible Exposure Calculation

Operation Mode	Evaluation Frequency (MHz)	MAX Output Power (dBm)	Antenna Gain (dBi)	MAX. EIRP (dBm)	MAX. EIRP (mW)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
2.4GHz Wi-Fi	2412-2462	6.61	2.15	8.76	7.52	20	0.0015	1	Pass
2.4GHz BT	2402-2480	7.40	1.56	8.96	7.87	20	0.0016	1	Pass
2.4GHz LE	2402-2480	5.15	1.56	6.71	4.69	20	0.0009	1	Pass
5GHz Wi-Fi UNII 1	5180-5240	-6.06	4.41	-1.65	0.68	20	0.0001	1	Pass

### Conclusion of Simultaneous Transmitter

#### WIFI + BT

The formula of calculated the MPE is  $CPD1 / LPD1 + CPD2 / LPD2 + \dots < 1$

CPD = Calculation power density / LPD = Limit of power density

$$\text{Result : } 0.0015 + 0.0016 = 0.0031 < 1$$

### Conclusion

**maximum calculations of above situations are less than the "1" limit.**