

**47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091
Maximum Permissible Exposure Calculations**

For FCC ID: 2AJACWIFIMOD

EUT Device Category = General Population/Uncontrolled Exposure

EUT consists of one ISM band radio transmitting operating over a range of:
2412 MHz to 2462 MHz and 5180 MHz to 5825 MHz

MPE Summary:

According subpart 1.1307 (b)(1) and 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure					
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Averaging 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	
300-1500	/	/	f/1500	30	
1500-100,000	/	/	1.0	30	

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

Calculated Formulary:

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm²)

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

PG = EIRP

MPE and Limit are calculated for this device as follows:

2.4 GHz Frequency Band								
802.11b Antenna Port 0								
Freq	Output Power (dBm)	Tune-up Tolerance (dB)	Max Antenna Gain (dBi)	Max EIRP (dBm)	Max EIRP (mW)	Power Density at 20 cm (mW/cm ²)	Limit (mW)	Margin (mW)
2412	19.700	0.5	2.000	22.200	165.959	0.033	1.000	0.967
2437	19.200	0.5	2.000	21.700	147.911	0.029	1.000	0.971
2462	19.300	0.5	2.000	21.800	151.356	0.030	1.000	0.970
802.11b Antenna Port 1								
2412	19.500	0.5	2.000	22.000	158.489	0.032	1.000	0.968
2437	19.000	0.5	2.000	21.500	141.254	0.028	1.000	0.972
2462	19.200	0.5	2.000	21.700	147.911	0.029	1.000	0.971
802.11g Antenna Port 0								
2412	19.500	0.5	2.000	22.000	158.489	0.032	1.000	0.968
2437	19.100	0.5	2.000	21.600	144.544	0.029	1.000	0.971
2462	19.600	0.5	2.000	22.100	162.181	0.032	1.000	0.968
802.11g Antenna Port 1								
2412	19.500	0.5	2.000	22.000	158.489	0.032	1.000	0.968
2437	19.000	0.5	2.000	21.500	141.254	0.028	1.000	0.972
2462	19.400	0.5	2.000	21.900	154.882	0.031	1.000	0.969
802.11n Antenna Port 0								
2412	19.200	0.5	2.000	21.700	147.911	0.029	1.000	0.971
2437	18.900	0.5	2.000	21.400	138.038	0.027	1.000	0.973
2462	19.400	0.5	2.000	21.900	154.882	0.031	1.000	0.969
802.11n Antenna Port 1								
2412	19.100	0.5	2.000	21.600	144.544	0.029	1.000	0.971
2437	18.800	0.5	2.000	21.300	134.896	0.027	1.000	0.973
2462	19.100	0.5	2.000	21.600	144.544	0.029	1.000	0.971
5 GHz Frequency Band								
UNII-1 band Antenna 0								
5180	11.900	0.5	2.000	14.400	27.542	0.005	1.000	0.995
5200	16.800	0.5	2.000	19.300	85.114	0.017	1.000	0.983
5220	17.900	0.5	2.000	20.400	109.648	0.022	1.000	0.978
5240	18.400	0.5	2.000	20.900	123.027	0.024	1.000	0.976
UNII-1 band Antenna 1								
5180	12.400	0.5	2.000	14.900	30.903	0.006	1.000	0.994
5200	16.800	0.5	2.000	19.300	85.114	0.017	1.000	0.983
5220	18.800	0.5	2.000	21.300	134.896	0.027	1.000	0.973
5240	18.500	0.5	2.000	21.000	125.893	0.025	1.000	0.975
UNII-2A band Antenna 0								
5260	18.600	0.5	2.000	21.100	128.825	0.026	1.000	0.974
5280	18.600	0.5	2.000	21.100	128.825	0.026	1.000	0.974
5300	17.100	0.5	2.000	19.600	91.201	0.018	1.000	0.982
5320	12.000	0.5	2.000	14.500	28.184	0.006	1.000	0.994
UNII-2A band Antenna 1								
5260	19.200	0.5	2.000	21.700	147.911	0.029	1.000	0.971
5280	19.200	0.5	2.000	21.700	147.911	0.029	1.000	0.971
5300	17.300	0.5	2.000	19.800	95.499	0.019	1.000	0.981
5320	12.300	0.5	2.000	14.800	30.200	0.006	1.000	0.994
UNII-2C band Antenna 0								

5500	11.800	0.5	2.000	14.300	26.915	0.005	1.000	0.995
5520	16.500	0.5	2.000	19.000	79.433	0.016	1.000	0.984
5540	19.000	0.5	2.000	21.500	141.254	0.028	1.000	0.972
5600	18.900	0.5	2.000	21.400	138.038	0.027	1.000	0.973
5660	18.800	0.5	2.000	21.300	134.896	0.027	1.000	0.973
5680	15.900	0.5	2.000	18.400	69.183	0.014	1.000	0.986
5700	9.400	0.5	2.000	11.900	15.488	0.003	1.000	0.997
5720	9.400	0.5	2.000	11.900	15.488	0.003	1.000	0.997
UNII-2C band Antenna 0								
5500	11.700	0.5	2.000	14.200	26.303	0.005	1.000	0.995
5520	15.900	0.5	2.000	18.400	69.183	0.014	1.000	0.986
5540	18.800	0.5	2.000	21.300	134.896	0.027	1.000	0.973
5600	18.900	0.5	2.000	21.400	138.038	0.027	1.000	0.973
5660	18.600	0.5	2.000	21.100	128.825	0.026	1.000	0.974
5680	15.800	0.5	2.000	18.300	67.608	0.013	1.000	0.987
5700	8.900	0.5	2.000	11.400	13.804	0.003	1.000	0.997
5720	9.200	0.5	2.000	11.700	14.791	0.003	1.000	0.997
UNII-3 band Antenna 0								
5745	18.500	0.5	2.000	21.000	125.893	0.025	1.000	0.975
5785	18.600	0.5	2.000	21.100	128.825	0.026	1.000	0.974
5825	18.400	0.5	2.000	20.900	123.027	0.024	1.000	0.976
UNII-3 band Antenna 0								
5745	18.400	0.5	2.000	20.900	123.027	0.024	1.000	0.976
5785	18.300	0.5	2.000	20.800	120.226	0.024	1.000	0.976
5825	18.200	0.5	2.000	20.700	117.490	0.023	1.000	0.977

Result: The device meets FCC MPE limit at 20 cm for General Population/Uncontrolled Exposure as specified in 47 CFR §1.1310 and §2.1091.