MPE Calculation page

MPE Calculator	MPE uses EIRP for calculation. EIRP is based on TX power added to the antenna gain in dBi.					
	dBi = dB gain compared to an isotropic radiator.					
	S = power density in mW/cm^2					
					Antenna Gain (dBi)	1
		Output Power		dBd + 2.17 = dBi	dBi to dBd	2.2
Tx Frequency (MHz)	2437	Maximum (Watts)	0.005459		Antenna Gain (dBd)	-1.17
Cable Loss (dB)	0.0	(dBm)	7.37		Antenna minus cable (dBi)	1.00
	Calculated ERP (mw)	4.170		EIRP = Po(dBM) + Gain (dB)		
	Calculated EIRP (mw)	6.873			Radiated (EIRP) dBm	8.371
				ERP = EIRP - 2.17 dB		
	Occupational Limit				Radiated (ERP) dBm	6.201
5.00000	mW/cm^2					
50.00000	W/m^2					
	General Public Limit					
1.00000	mW/cm^2					
10.00000	W/m^2					

Power density (S)

$$\frac{EIRP}{4\pi r^2} = mW/cm^2$$

r (cm) EIRP (mW)

FCC radio frequency radiation exposure limits per 1.1310 (mW/cm2)		
Frequency (MHz)	Occupational Limit	Public Limit
300-1,500	f/300	f/1500
1,500-10,000	5	1

FCC radio frequency radiation exposure limits per 1.1310		
Frequency (MHz)	Occupational Limit	Public Limit
300-1,500 (mW/cm2)	8.123333333	1.624666667
300-1,500 (W/m2)	81.23333333	16.24666667
1,500-10,000 (mW/cm2)	5	1
1,500-10,000 (W/m2)	50	10

EIRP	S	S	Distance	Distance	Distance	Distance
milliwatts	mW/cm^2	W/m^2	cm	meter	inches	Feet
6.873	0.00000	0.00002	500.00	5.00	196.85	0.42
6.873	0.00000	0.00003	400.00	4.00	157.48	0.33
6.873	0.00001	0.00006	300.00	3.00	118.11	0.25
6.873	0.00001	0.00014	200.00	2.00	78.74	0.17
6.873	0.00002	0.00018	175.00	1.75	68.90	0.15
6.873	0.00002	0.00024	150.00	1.50	59.06	0.13
6.873	0.00004	0.00035	125.00	1.25	49.21	0.10
6.873	0.00005	0.00055	100.00	1.00	39.37	0.08
6.873	0.00007	0.00068	90.00	0.90	35.43	0.08
6.873	0.00009	0.00085	80.00	0.80	31.50	0.07
6.873	0.00011	0.00112	70.00	0.70	27.56	0.06
6.873	0.00015	0.00152	60.00	0.60	23.62	0.05
6.873	0.00022	0.00219	50.00	0.50	19.69	0.04
6.873	0.00034	0.00342	40.00	0.40	15.75	0.03
6.873	0.00061	0.00608	30.00	0.30	11.81	0.03
6.873	0.00137	0.01367	20.00	0.20	7.87	0.02
6.873	0.00547	0.05469	10.00	0.10	3.94	0.01

Frequency (MHz)	Occupational Limit minimum Distance (meters)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (meters)	Public Limit minimum distance (cm / inches)
300-1,500	N/A	N/A	N/A	N/A
1,500-10,000			0.10	10 / 4.0