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)	127	Maximum (Watts)	18.2000	Antenna Gain (dBd)	-1.17
Cable Loss (dB)	0.0	(dBm)	42.60	Antenna minus cable (dBi)	1.00
Calculated ERP (mw)	13901.811			EIRP = Po(dBM) + Gain (dB)	
Calculated EIRP (mw)	22912.442			Radiated (EIRP) dBm	43.601
				ERP = EIRP - 2.17 dB	
Occupational Limit				Radiated (ERP) dBm	41.431
0.42333	**mW/cm^2**				
General Public Limit					
0.08467	**mW/cm^2**				

Power density (S)

EIRP
------- = mW/cm^2
4 p r^2

r (cm) EIRP (mW)

FCC radio frequency radiation exposure limits per 1.1310		
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 @ Tx Freq (mW/cm^2)	Public Limit @ Tx Freq (mW/cm^2)
300-1,500	0.423333333	0.084666667
1,500-10,000	5	1

EIRP	Distance	Distance	S	Distance
milliwatts	cm	inches	mW/cm^2	Feet
22912.442	150.00	59.06	0.08104	4.92
22912.442	90.00	35.43	0.22510	2.95
22912.442	80.00	31.50	0.28489	2.62
22912.442	79.00	31.10	0.29215	2.59
22912.442	78.00	30.71	0.29969	2.56
22912.442	77.00	30.31	0.30752	2.53
22912.442	76.00	29.92	0.31567	2.49
22912.442	75.00	29.53	0.32414	2.46
22912.442	70.00	27.56	0.37210	2.30
22912.442	66.00	25.98	0.41858	2.17
22912.442	60.00	23.62	0.50648	1.97
22912.442	40.00	15.75	1.13957	1.31
22912.442	40.00	15.75	1.13957	1.31
22912.442	30.00	11.81	2.02590	0.98
22912.442	25.00	9.84	2.91730	0.82

Frequency (MHz)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (cm / inches)
300-1,500	66 / 26	150 / 59
1,500-10,000	N/A	N/A