MPE Calculation page

MPE Calculator	Laird Technologies		Test Number	100122	
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)	2.5
		Output Power	dBd + 2.17 = dBi	dBi to dBd	2.17
Tx Frequency (MHz)	2442	(Watts)	0.062000		0.33
				Antenna minus cable (dBi)	2.50
Cable Loss (dB)	0.0	(dBm)	17.92		
Calculated ERP (mw)	66.895			Radiated (EIRP) dBm	20.424
Calculated EIRP (mw)	110.253				
				Radiated (ERP) dBm	18.254

Occupational Limit

5.00000 **mW/cm^2**

General Public Limit

1.00000 **mW/cm^2**

Power density (S) = EIRP / (4 p r^2) = mW/cm^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	8.14	1.628
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm^2
110.253	50.00	19.69	0.00351
110.253	40.00	15.75	0.00548
110.253	30.00	11.81	0.00975
110.253	20.00	7.87	0.02193
110.253	10.00	3.94	0.08774
110.253	9.00	3.54	0.10832
110.253	8.00	3.15	0.13709
110.253	7.00	2.76	0.17905
110.253	6.00	2.36	0.24371
110.253	5.00	1.97	0.35095
110.253	4.00	1.57	0.54836
110.253	3.00	1.18	0.97485
110.253	2.00	0.79	2.19342
110.253	1.35	0.53	4.81409
110.253	1.00	0.39	8.77368

Frequency (MHz)	Occupational Limit minimum Distance (cm) / inches	Public Limit minimum distance (cm) / inches
300-1,500	N/A	N/A
1,500-10,000	1.35 / 0.53	3.00 / 1.18