MPE Calculation page

MPE Calculator	Garmin		Test Number		100224	
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	2.17
Tx Frequency (MHz)	2441	(Watts)	0.000330			-1.17
				Antenna minus cable (dBi)		1.00
Cable Loss (dB)	0.0	(dBm)	-4.81			
Calculated ERP (mw)	0.252			Radiated (EIRP) dBm		-3.810
Calculated EIRP (mw)	0.416					
				Radiated (ERP) dBm		-5.980

Occupational Limit

5.00000 mW/cm^2

Power density (S) =
$$\frac{EIRP}{4 p\ r^2} = mW/cm^2$$
[r (cm),   EIRP (mW)]

General Public Limit

1.00000 mW/cm^2

FCC radio frequency radiation exposure limits per 1.1310		
Frequency (MHz)	Occupational Limit	Public Limit
300-1,500	f/300	f/1500
1,500-100,000	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	8.136666667	1.627333333
1,500-100,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm^2
0.416	50.00	19.69	0.00001
0.416	40.00	15.75	0.00002
0.416	30.00	11.81	0.00004
0.416	20.00	7.87	0.00008
0.416	10.00	3.94	0.00033
0.416	5.00	1.97	0.00132
0.416	4.00	1.57	0.00207
0.416	3.00	1.18	0.00368
0.416	2.00	0.79	0.00827
0.416	1.00	0.39	0.03310
0.416	0.50	0.20	0.13239
0.416	0.32	0.13	0.32321
0.416	0.20	0.08	0.82743
0.416	0.15	0.06	1.47098
0.416	0.10	0.04	3.30971

Frequency (MHz)	Occupational Limit minimum Distance (cm / in)	Public Limit minimum distance (cm / in)
300-1,500	N/A	N/A
1,500-10,000	0.1 / 0.04	0.2 / 0.08