

MPE Calculation page

MPE Calculator	Garmin	Test Number	090417	
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)	2.2	
Output Power dBd + 2.17 = dBi		dBi to dBd	2.17	
Tx Frequency (MHz)	2441	(Watts)	0.000100	0.03
Cable Loss (dB)		(dBm)	-10.00	Antenna minus cable (dBi) 2.20
Calculated ERP (mw)		0.101	Radiated (EIRP) dBm -7.800	
Calculated EIRP (mw)		0.166	Radiated (ERP) dBm -9.970	
Occupational Limit	5.00000	Power density (S) = EIRP ----- = mW/cm ² 4 π r ² [r (cm), EIRP (mW)]		
General Public Limit	1.00000			
FCC radio frequency radiation exposure limits per 1.1310				
Frequency (MHz)	Occupational Limit	Public Limit		
300-1,500	ƒ/300	ƒ/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	8.136666667	1.627333333		
1,500-10,000	5	1		
EIRP	Distance	Distance	S	
milliwatts	cm	inches	mW/cm ²	
0.166	10.00	3.94	0.00013	
0.166	9.00	3.54	0.00016	
0.166	8.00	3.15	0.00021	
0.166	7.00	2.76	0.00027	
0.166	6.00	2.36	0.00037	
0.166	5.00	1.97	0.00053	
0.166	4.00	1.57	0.00083	
0.166	3.00	1.18	0.00147	
0.166	2.00	0.79	0.00330	
0.166	1.00	0.39	0.01321	
0.166	0.50	0.20	0.05283	
0.166	0.40	0.16	0.08254	
0.166	0.20	0.08	0.33016	
0.166	0.15	0.06	0.58696	
0.166	0.12	0.05	0.91712	
Frequency (MHz)	Occupational Limit minimum Distance (cm)	Public Limit minimum distance (cm)		
300-1,500	N/A	N/A		
1,500-10,000	N/A	0.12		