

# MPE Calculation page

MPE Calculator	Garmin	Test Number	100215
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 <sup>2</sup>	Antenna Gain (dBi)	1
	Output Power	dBi to dBd	2.17
Tx Frequency (MHz)	2441	(Watts)	0.000200
		Antenna minus cable (dBi)	1.00
Cable Loss (dB)	0.0	(dBm)	-6.99
	Calculated ERP (mw)	Radiated (EIRP) dBm	-5.990
	Calculated EIRP (mw)	Radiated (ERP) dBm	-8.160
<b>Occupational Limit</b>	<b>5.00000</b>	<div style="border: 1px solid black; padding: 5px;">                     Power density (S) =                      EIRP                      ----- = mW/cm<sup>2</sup>                      4 p r<sup>2</sup>                      [ r (cm), EIRP (mW)]                 </div>	
<b>General Public Limit</b>	<b>1.00000</b>		
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 <sup>2</sup> )	Public Limit @ Tx Freq (mW/cm <sup>2</sup> )	
300-1,500	8.136666667	1.627333333	
1,500-100,000	5	1	
EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm <sup>2</sup>
0.252	50.00	19.69	0.00001
0.252	40.00	15.75	0.00001
0.252	30.00	11.81	0.00002
0.252	20.00	7.87	0.00005
0.252	10.00	3.94	0.00020
0.252	5.00	1.97	0.00080
0.252	4.00	1.57	0.00125
0.252	3.00	1.18	0.00223
0.252	2.00	0.79	0.00501
0.252	1.00	0.39	0.02004
0.252	0.50	0.20	0.08015
0.252	0.32	0.13	0.19567
0.252	0.20	0.08	0.50091
0.252	0.15	0.06	0.89051
0.252	0.10	0.04	2.00364
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	0.10 / 0.04	0.15 / 0.06	