

MPE calculations

MPE Calculator	Garmin	Test Number	90619A
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)	3
Output Power		dBi to dBd	2.17
Tx Frequency (MHz)	1030	(Watts)	240.700000
Cable Loss (dB)		(dBm)	53.81
Calculated ERP (mw)		291390.971	Radiated (EIRP) dBm
Calculated EIRP (mw)		480259.639	Radiated (ERP) dBm
<b>Occupational Limit</b>			
3.43333	mW/cm <sup>2</sup>		
<b>General Public Limit</b>			
0.68667	mW/cm <sup>2</sup>		
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">                     Power density (S) =                      EIRP                      ----- = mW/cm<sup>2</sup>                      4 π r<sup>2</sup>                      [r (cm), EIRP (mW)]                 </div>			
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 <sup>2</sup> )	Public Limit @ Tx Freq (mW/cm <sup>2</sup> )	
300-1,500	3.433333333	0.686666667	
1,500-10,000	5	1	
EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm <sup>2</sup>
480259.639	300.00	118.11	0.42
480259.639	250.00	98.43	0.61
480259.639	240.00	94.49	0.66
480259.639	230.00	90.55	0.72
480259.639	200.00	78.74	0.96
480259.639	190.00	74.80	1.06
480259.639	180.00	70.87	1.18
480259.639	170.00	66.93	1.32
480259.639	160.00	62.99	1.49
480259.639	150.00	59.06	1.70
480259.639	140.00	55.12	1.95
480259.639	130.00	51.18	2.26
480259.639	120.00	47.24	2.65
480259.639	110.00	43.31	3.16
480259.639	106.00	41.73	3.40
Frequency (MHz)	Occupational Limit minimum Distance (cm)	Public Limit minimum distance (cm)	
300-1,500	N/A	N/A	
1,500-10,000	106.00	240.00	