

MPE Calculation page

MPE Calculator	Garmin	Test Number	090305	
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)	2457	(Watts) 0.000104	-1.17	
		Antenna minus cable (dBi)	1.00	
Cable Loss (dB)	0.0	(dBm) -9.83		
	Calculated ERP (mw) 0.079		Radiated (EIRP) dBm -8.829	
	Calculated EIRP (mw) 0.131			
			Radiated (ERP) dBm -10.999	
Occupational Limit	5.00000 mW/cm²	<div style="border: 1px solid black; padding: 5px;"> Power density (S) = EIRP $\frac{EIRP}{4 \pi r^2} = mW/cm^2$ [r (cm), EIRP (mW)] </div>		
General Public Limit	1.00000 mW/cm²			
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	8.19	1.638	
	1,500-10,000	5	1	
	EIRP	Distance	Distance	S
	milliwatts	cm	inches	mW/cm ²
	0.131	10.00	3.94	0.00010
	0.131	9.00	3.54	0.00013
	0.131	8.00	3.15	0.00016
	0.131	7.00	2.76	0.00021
	0.131	6.00	2.36	0.00029
	0.131	5.00	1.97	0.00042
	0.131	4.00	1.57	0.00065
	0.131	3.00	1.18	0.00116
	0.131	2.00	0.79	0.00261
	0.131	1.00	0.39	0.01042
	0.131	0.50	0.20	0.04168
	0.131	0.40	0.16	0.06513
	0.131	0.25	0.10	0.16674
	0.131	0.15	0.06	0.46316
	0.131	0.103	0.04	0.98228
	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	0.10	