

MPE Calculation page

Garmin	Model: M4AUND00	Test Number:	140327				
MPE Calculator	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>						
		Output Power		Antenna Gain (dBi)	1.7		
				dBi to dBd	2.2		
Tx Frequency (MHz)	2437	Maximum (Watts)	0.060000	Antenna Gain (dBd)	-0.47		
Cable Loss (dB)	0.0	(dBm)	17.78	Antenna minus cable (dBi)	1.70		
	Calculated ERP (mw)	53.846		EIRP = Po(dBm) + Gain (dB)			
	Calculated EIRP (mw)	88.747		Radiated (EIRP) dBm	19.482		
				ERP = EIRP - 2.17 dB			
	<b>Occupational Limit</b>			Radiated (ERP) dBm	17.312		
	5.00000 mW/cm <sup>2</sup>	<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>					
	50.00000 W/m <sup>2</sup>						
	<b>General Public Limit</b>						
	1.00000 mW/cm <sup>2</sup>						
	10.00000 W/m <sup>2</sup>						
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	Public Limit @ Tx Freq (mW/cm <sup>2</sup> )				
	300-1,500 (mW/cm2)	8.123333333	1.624666667				
	300-1,500 (W/m2)	81.233333333	16.24666667				
	1,500-10,000 (mW/cm2)	5	1				
	1,500-10,000 (W/m2)	50	10				
EIRP	S	S	Distance	Distance	Distance	Distance	
milliwatts	mW/cm <sup>2</sup>	W/m <sup>2</sup>	cm	meter	inches	Feet	
88.747	0.00018	0.00177	200.00	2.00	78.74	0.17	
88.747	0.00023	0.00231	175.00	1.75	68.90	0.15	
88.747	0.00031	0.00314	150.00	1.50	59.06	0.13	
88.747	0.00045	0.00452	125.00	1.25	49.21	0.10	
88.747	0.00071	0.00706	100.00	1.00	39.37	0.08	
88.747	0.00126	0.01256	75.00	0.75	29.53	0.06	
88.747	0.00282	0.02825	50.00	0.50	19.69	0.04	
88.747	0.01130	0.11300	25.00	0.25	9.84	0.02	
88.747	0.03139	0.31388	15.00	0.15	5.91	0.01	
88.747	0.07062	0.70622	10.00	0.10	3.94	0.01	
88.747	0.11035	1.10347	8.00	0.080	3.15	0.007	
88.747	0.14413	1.44127	7.00	0.070	2.76	0.006	
88.747	0.19617	1.96173	6.00	0.060	2.36	0.005	
88.747	0.28249	2.82489	5.00	0.050	1.97	0.004	
88.747	0.44139	4.41389	4.00	0.040	1.57	0.003	
88.747	0.78469	7.84691	3.00	0.030	1.18	0.003	
88.747	1.76556	17.65556	2.00	0.020	0.79	0.002	
			Occupational Limit minimum Distance (meters)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (meters)	Public Limit minimum distance (cm / inches)	
		Frequency (MHz)					
		300-1,500	N/A	N/A	N/A	N/A	
		1,500-10,000	N/A	N/A	0.03	3 / 1.2	