

MPE Calculation page

MPE Calculator	Garmin	Test Number	110126			
	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			Sw = power density in W/m ²		
		Output Power		Antenna Gain (dBi)		1
				dBd + 2.17 = dBi	dBi to dBd	2.2
Tx Frequency (MHz)	2457	Maximum (Watts)	0.000857	Antenna Gain (dBd)		-1.17
Cable Loss (dB)	0.0	(dBm)	-0.67	Antenna minus cable (dBi)		1.00
	Calculated ERP (mw)	0.655		EIRP = Po(dBm) + Gain (dB)		
	Calculated EIRP (mw)	1.079		Radiated (EIRP) dBm		0.330
				ERP = EIRP - 2.17 dB		
				Radiated (ERP) dBm		-1.840
Occupational Limit	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Power density (S) EIRP ----- = mW/cm² 4 π r² r (cm) EIRP (mW) </div>					
5.00000 mW/cm ²						
50.00000 W/m ²						
General Public Limit						
1.00000 mW/cm ²						
10.00000 W/m ²						
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			
	300-1,500 (mW/cm ²)	8.19	1.638			
	300-1,500 (W/m ²)	81.9	16.38			
	1,500-10,000 (mW/cm ²)	5	1			
	1,500-10,000 (W/m ²)	50	10			
EIRP	S	Sw	Distance	Distance	Distance	Distance
milliwatts	mW/cm ²	W/m ²	cm	meter	inches	Feet
0.655	0.00013	0.00130	20.00	0.20	7.87	0.02
0.655	0.00023	0.00232	15.00	0.15	5.91	0.01
0.655	0.00052	0.00521	10.00	0.10	3.94	0.01
0.655	0.00064	0.00643	9.00	0.09	3.54	0.01
0.655	0.00081	0.00814	8.00	0.08	3.15	0.01
0.655	0.00106	0.01063	7.00	0.07	2.76	0.01
0.655	0.00145	0.01447	6.00	0.06	2.36	0.01
0.655	0.00208	0.02084	5.00	0.05	1.97	0.00
0.655	0.00834	0.08335	2.50	0.03	0.98	0.00
0.655	0.05209	0.52094	1.00	0.01	0.39	0.00
0.655	0.08140	0.81397	0.80	0.01	0.31	0.00
0.655	0.00145	0.01447	6.00	0.06	2.36	0.01
0.655	0.32559	3.25589	0.40	0.00	0.16	0.00
0.655	0.57883	5.78825	0.30	0.0030	0.12	0.00
0.655	0.83351	8.33509	0.25	0.00	0.10	0.00
0.655	0.98477	9.84769	0.23	0.00	0.09	0.00
0.655	1.30236	13.02357	0.20	0.00	0.08	0.00
		Frequency (MHz)	Occupational Limit minimum Distance (meters)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (meters)	Public Limit minimum distance (cm / inches)
		300-1,500	N/A	N/A	N/A	N/A
		1,500-10,000	N/A	N/A	0.003	0.23 / 0.09