

MPE Calculation page

MPE Calculator	Garmin	Test Number	090306
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) 0.000012	-1.17
		Antenna minus cable (dBi)	1.00
Cable Loss (dB)	0.0	(dBm) -19.13	
	Calculated ERP (mw) 0.009		Radiated (EIRP) dBm -18.129
	Calculated EIRP (mw) 0.015		Radiated (ERP) dBm -20.299
Occupational Limit			
5.00000	mW/cm ²		
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Power density (S) = EIRP ----- = mW/cm² 4 π r² [r (cm), EIRP (mW)] </div>			
General Public Limit			
1.00000	mW/cm 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 (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
	0.015	10.00	3.94 0.00001
	0.015	9.00	3.54 0.00002
	0.015	8.00	3.15 0.00002
	0.015	7.00	2.76 0.00002
	0.015	6.00	2.36 0.00003
	0.015	5.00	1.97 0.00005
	0.015	4.00	1.57 0.00008
	0.015	3.00	1.18 0.00014
	0.015	2.00	0.79 0.00031
	0.015	1.00	0.39 0.00122
	0.015	0.50	0.20 0.00490
	0.015	0.40	0.16 0.00765
	0.015	0.25	0.10 0.01959
	0.015	0.10	0.04 0.12244
	0.015	0.05	0.02 0.48975
	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	0.05