

MPE Calculation page

MPE Calculator Garmin Test Number 090202

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/cm²

			Antenna Gain (dBi)	1
		Output Power dBd + 2.17 = dBi	dBi to dBd	2.17
Tx Frequency (MHz)	2457	(Watts) 0.000641		-1.17
Cable Loss (dB)	0.0	(dBm)	Antenna minus cable (dBi)	1.00
				-1.93

Calculated ERP (mw) 0.490 Radiated (EIRP) dBm -0.929

Calculated EIRP (mw) 0.807 Radiated (ERP) dBm -3.099

Occupational Limit Power density (S) =
5.00000 mW/cm² EIRP / 4 π r² = mW/cm²
 [r (cm), EIRP (mW)]

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
0.807	10.00	3.94	0.00064
0.807	9.00	3.54	0.00079
0.807	8.00	3.15	0.00100
0.807	7.00	2.76	0.00131
0.807	6.00	2.36	0.00178
0.807	5.00	1.97	0.00257
0.807	4.00	1.57	0.00402
0.807	3.00	1.18	0.00714
0.807	2.00	0.79	0.01606
0.807	1.00	0.39	0.06426
0.807	0.50	0.20	0.25702
0.807	0.40	0.16	0.40160
0.807	0.25	0.10	0.99596
0.807	0.10	0.04	6.42557
0.807	0.05	0.02	25.70226

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	0.25