

MPE Calculation page

MPE Calculator Garmin Test Number 090114

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) **0.000002** **-1.17**

Antenna minus cable (dBi) 1.00

Cable Loss (dB) **0.0** (dBm) -27.03

Calculated ERP (mw) 0.002 Radiated (EIRP) dBm -26.029

Calculated EIRP (mw) 0.002 Radiated (ERP) dBm -28.199

Occupational Limit

5.00000 mW/cm²

General Public Limit

1.00000 mW/cm²

Power density (S) = $\frac{\text{EIRP}}{4 \pi r^2}$ [r (cm), EIRP (mW)]

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
0.002	10.00	3.94	0.00000
0.002	9.00	3.54	0.00000
0.002	8.00	3.15	0.00000
0.002	7.00	2.76	0.00000
0.002	6.00	2.36	0.00001
0.002	5.00	1.97	0.00001
0.002	4.00	1.57	0.00001
0.002	3.00	1.18	0.00002
0.002	2.00	0.79	0.00005
0.002	1.00	0.39	0.00020
0.002	0.50	0.20	0.00079
0.002	0.40	0.16	0.00124
0.002	0.25	0.10	0.00318
0.002	0.10	0.04	0.01986
0.002	0.05	0.02	0.07943

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