MPE Calculation page

MPE Calculator   Garmin IPH-01175   Test Number   070927

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)   2460   (Watts)   0.000002   -1.17

Cable Loss (dB)   0.0   (dBm)   -26.99   Antenna minus cable (dBi)   1.00

Calculated ERP (mw) 0.002

Calculated EIRP (mw) 0.003   Radiated (EIRP) dBm   -25.990

Occupational Limit

5.00000   **mW/cm^2**   Radiated (ERP) dBm   -28.160

General Public Limit

1.00000   **mW/cm^2**

Power density $(S) =$

$$S = \frac{EIRP}{4 \pi r^2} = mW/cm\text{^}2$$

[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	8.2	1.64
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm^2
0.003	50.00	19.69	0.00000
0.003	40.00	15.75	0.00000
0.003	30.00	11.81	0.00000
0.003	25.00	9.84	0.00000
0.003	20.00	7.87	0.00000
0.003	15.00	5.91	0.00000
0.003	14.00	5.51	0.00000
0.003	13.00	5.12	0.00000
0.003	12.00	4.72	0.00000
0.003	11.00	4.33	0.00000
0.003	10.00	3.94	0.00000
0.003	9.00	3.54	0.00000
0.003	8.00	3.15	0.00000
0.003	7.00	2.76	0.00000
0.003	6.00	2.36	0.00001
0.003	5.00	1.97	0.00001
0.003	4.00	1.57	0.00001
0.003	3.00	1.18	0.00002
0.003	2.00	0.79	0.00005
0.003	1.00	0.39	0.00020
0.003	0.50	0.20	0.00080
0.003	0.10	0.04	0.02004
0.003	0.05	0.02	0.08015
0.003	0.03	0.01	0.32058
0.003	0.02	0.01	0.50091

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	0.02