

MPE Calculation page

Garmin	Test Number:	090916			
MPE Calculator	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	2.2
Tx Frequency (MHz)	2441	Maximum (Watts)	0.0004	Antenna Gain (dBd)	-1.17
Cable Loss (dB)	0.0	(dBm)	-3.73	Antenna minus cable (dBi)	1.00
	Calculated ERP (mw)	0.324	EIRP = Po(dBm) + Gain (dB)		
	Calculated EIRP (mw)	0.533	Radiated (EIRP) dBm		
			ERP = EIRP - 2.17 dB		
			Radiated (ERP) dBm		
Occupational Limit	5.00000	mW/cm²			
General Public Limit	1.00000	mW/cm²			

Power density (S) =
EIRP
----- = mW/cm²
4 p r²
[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	8.136666667	1.627333333
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm ²
0.533	100.00	39.37	0.00000
0.533	75.00	29.53	0.00001
0.533	50.00	19.69	0.00002
0.533	40.00	15.75	0.00003
0.533	30.00	11.81	0.00005
0.533	20.00	7.87	0.00011
0.533	10.00	3.94	0.00042
0.533	5.00	1.97	0.00170
0.533	2.00	0.79	0.01061
0.533	1.00	0.39	0.04245
0.533	0.75	0.30	0.07547
0.533	0.50	0.20	0.16981
0.533	0.25	0.10	0.67925
0.533	0.20	0.08	1.06133
0.533	0.15	0.06	1.88681

Frequency (MHz)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (cm / inches)
300-1,500	N/A	N/A
1,500-10,000	N/A	0.20 / 0.10