

MPE Calculation page

Garmin	Model: forerunner 910XT	Test Number:	110721			
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)	2457	Maximum (Watts)	0.000774	Antenna Gain (dBd)		-1.17
Cable Loss (dB)	0.0	(dBm)	-1.11	Antenna minus cable (dBi)		1.00
	Calculated ERP (mw)	0.592		EIRP = Po(dBM) + Gain (dB)		
	Calculated EIRP (mw)	0.975			Radiated (EIRP) dBm	-0.110
				ERP = EIRP - 2.17 dB		
	Occupational Limit				Radiated (ERP) dBm	-2.280
	5.00000 mW/cm ²	<div style="border: 1px solid black; padding: 5px;"> Power density (S) EIRP ----- = mW/cm² 4 p r² r (cm) EIRP (mW) </div>				
	50.00000 W/m ²					
	General Public Limit					
	1.00000 mW/cm ²					
	10.00000 W/m 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	Public Limit @ Tx Freq (mW/cm ²)			
	300-1,500 (mW/cm ²)	8.19	1.638			
	300-1,500 (W/m ²)	81.9	16.38			
	1,500-10,000 (mW/cm ²)	5	1			
	1,500-10,000 (W/m ²)	50	10			
EIRP	S	S	Distance	Distance	Distance	Distance
milliwatts	mW/cm ²	W/m ²	cm	meter	inches	Feet
0.975	0.00078	0.00776	10.00	0.10	3.94	0.01
0.975	0.00096	0.00958	9.00	0.09	3.54	0.01
0.975	0.00121	0.01212	8.00	0.08	3.15	0.01
0.975	0.00158	0.01583	7.00	0.07	2.76	0.01
0.975	0.00216	0.02155	6.00	0.06	2.36	0.01
0.975	0.00310	0.03103	5.00	0.05	1.97	0.00
0.975	0.00485	0.04849	4.00	0.04	1.57	0.00
0.975	0.00862	0.08621	3.00	0.03	1.18	0.00
0.975	0.01940	0.19397	2.00	0.02	0.79	0.00
0.975	0.07759	0.77587	1.00	0.01	0.39	0.00
0.975	0.09579	0.95787	0.90	0.009	0.35	0.001
0.975	0.12123	1.21230	0.80	0.008	0.31	0.001
0.975	0.15834	1.58341	0.70	0.007	0.28	0.001
0.975	0.21552	2.15520	0.60	0.006	0.24	0.001
0.975	0.31035	3.10349	0.50	0.005	0.20	0.000
0.975	0.48492	4.84920	0.40	0.004	0.16	0.000
0.975	0.86208	8.62080	0.30	0.003	0.12	0.000
			Occupational Limit minimum Distance (meters)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (meters)	Public Limit minimum distance (cm / inches)
	Frequency (MHz)					
	300-1,500		N/A	N/A	N/A	N/A
	1,500-10,000		N/A	N/A	N/A	N/A