

MPE Calculation page

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					
Tx Frequency (MHz)	2441	Output Power Maximum (Watts)	0.020000	dBd + 2.17 = dBi	Antenna Gain (dBi)	1.7
Cable Loss (dB)	0.0	(dBm)	13.01	Antenna Gain (dBd)	dBi to dBd	2.2
Calculated ERP (mw)	17.949			Antenna minus cable (dBi)	Antenna Gain (dBd)	-0.47
Calculated EIRP (mw)	29.582			EIRP = Po(dBM) + Gain (dB)	Radiated (EIRP) dBm	14.710
Occupational Limit	Power density (S) EIRP ----- = mW/cm^2 4 p r^2 r (cm) EIRP (mW)					
5.00000 mW/cm ²				ERP = EIRP - 2.17 dB	Radiated (ERP) dBm	12.540
50.00000 W/m ²						
General Public Limit	FCC radio frequency radiation exposure limits per 1.1310					
1.00000 mW/cm ²				Frequency (MHz)	Occupational Limit	Public Limit
10.00000 W/m ²				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) 8.136666667 1.627333333					
	300-1,500 (W/m ²) 81.36666667 16.27333333					
	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
29.582	0.02354	0.23541	10.00	0.10	3.94	0.01
29.582	0.02906	0.29063	9.00	0.09	3.54	0.01
29.582	0.03678	0.36782	8.00	0.08	3.15	0.01
29.582	0.04804	0.48042	7.00	0.07	2.76	0.01
29.582	0.06539	0.65391	6.00	0.06	2.36	0.01
29.582	0.09416	0.94163	5.00	0.05	1.97	0.00
29.582	0.14713	1.47130	4.00	0.04	1.57	0.00
29.582	0.26156	2.61564	3.00	0.03	1.18	0.00
29.582	0.58852	5.88519	2.00	0.02	0.79	0.00
29.582	0.65210	6.52098	1.90	0.02	0.75	0.00
29.582	0.72657	7.26566	1.80	0.018	0.71	0.002
29.582	0.81456	8.14559	1.70	0.017	0.67	0.001
29.582	0.91956	9.19560	1.60	0.016	0.63	0.001
29.582	0.99261	9.92610	1.54	0.015	0.61	0.001
29.582	1.04626	10.46255	1.50	0.015	0.59	0.001
29.582	1.20106	12.01058	1.40	0.014	0.55	0.001
29.582	2.35407	23.54074	1.00	0.010	0.39	0.001
	Frequency (MHz) Occupational Limit minimum Distance (meters) Occupational Limit minimum Distance (cm / inches) Public Limit minimum distance (meters) Public Limit minimum distance (cm / inches)					
	300-1,500 N/A N/A N/A N/A					
	1,500-10,000 N/A N/A 0.02 1.54 / 0.61					