

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						
				Antenna Gain (dBi)	1.7		
		Output Power		dBd + 2.17 = dBi		dBd to dBd	2.2
Tx Frequency (MHz)	2437	Maximum (Watts)	0.033661	Antenna Gain (dBd)			-0.47
Cable Loss (dB)	0.0	(dBm)	15.27	Antenna minus cable (dBi)			1.70
	Calculated ERP (mw)	30.208		EIRP = Po(dBm) + Gain (dB)			
	Calculated EIRP (mw)	49.788		Radiated (EIRP) dBm			16.971
				ERP = EIRP - 2.17 dB			
				Radiated (ERP) dBm			14.801
Occupational Limit	Power density (S)						
5.00000 mW/cm ²	EIRP						
50.00000 W/m ²	----- = mW/cm ²						
	4 p r ²						
General Public Limit	r (cm) EIRP (mW)						
1.00000 mW/cm ²							
10.00000 W/m ²							
FCC radio frequency radiation exposure limits per 1.1310 (mW/cm ²)							
	Frequency (MHz)	Occupational Limit	Public Limit				
	300-1,500	ƒ/300	ƒ/1500				
	1,500-10,000	5	1				
FCC radio frequency radiation exposure limits per 1.1310							
	Frequency (MHz)	Occupational Limit	Public Limit				
	300-1,500 (mW/cm ²)	8.123333333	1.624666667				
	300-1,500 (W/m ²)	81.233333333	16.246666667				
	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	
49.788	0.00002	0.00016	500.00	5.00	196.85	16.40	
49.788	0.00002	0.00025	400.00	4.00	157.48	13.12	
49.788	0.00004	0.00044	300.00	3.00	118.11	9.84	
49.788	0.00010	0.00099	200.00	2.00	78.74	6.56	
49.788	0.00013	0.00129	175.00	1.75	68.90	5.74	
49.788	0.00018	0.00176	150.00	1.50	59.06	4.92	
49.788	0.00025	0.00254	125.00	1.25	49.21	4.10	
49.788	0.00040	0.00396	100.00	1.00	39.37	3.28	
49.788	0.00049	0.00489	90.00	0.90	35.43	2.95	
49.788	0.00062	0.00619	80.00	0.80	31.50	2.62	
49.788	0.00081	0.00809	70.00	0.70	27.56	2.30	
49.788	0.00110	0.01101	60.00	0.60	23.62	1.97	
49.788	0.00158	0.01585	50.00	0.50	19.69	1.64	
49.788	0.00634	0.06339	25.00	0.25	9.84	0.82	
49.788	0.03962	0.39620	10.00	0.10	3.94	0.33	
49.788	0.15848	1.58479	5.00	0.05	1.97	0.16	
49.788	0.99049	9.90493	2.00	0.02	0.79	0.07	
			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				0.02	2 / 0.8	