

MPE Calculation page
6-foot antenna array

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					
		Output Power		Antenna Gain (dBi)	29	
				dBi to dBd	2.2	
Tx Frequency (MHz)	9400	Maximum (Watts)	12.000000	Antenna Gain (dBd)	26.83	
Cable Loss (dB)	0.0	(dBm)	40.79	Antenna minus cable (dBi)	29.00	
	Calculated ERP (mw)	5783373.572		EIRP = Po(dBm) + Gain (dB)		
	Calculated EIRP (mw)	9531938.817		Radiated (EIRP) dBm	69.792	
				ERP = EIRP - 2.17 dB		
	Occupational Limit	Power density (S) EIRP ----- = mW/cm^2 4 p r^2 r (cm) EIRP (mW)		Radiated (ERP) dBm	67.622	
	0.00000 mW/cm^2					
	50.00000 W/m^2					
	General Public Limit					
	0.02619/f^0.6834	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		
		IC radio frequency radiation exposure limits per RSS-102				
		Frequency (MHz)	Occupational Limit (W/m^2)	Public Limit (W/m^2)		
		100-6,000	0.6455/f^0.5			
		6,000-15,000	50			
		300-6,000		0.02619/f^0.6834		
		6,000-15,000	50	10		
EIRP	S	S	Distance	Distance	Distance	Distance
milliwatts	mW/cm^2	W/m^2	cm	meter	inches	Feet
9531938.817	0.75853	7.58528	1000.00	10.00	393.70	32.81
9531938.817	0.93645	9.36454	900.00	9.00	354.33	29.53
9531938.817	0.99985	9.99851	871.00	8.71	342.91	28.58
9531938.817	1.18520	11.85199	800.00	8.00	314.96	26.25
9531938.817	1.34849	13.48493	750.00	7.50	295.28	24.61
9531938.817	1.54802	15.48015	700.00	7.00	275.59	22.97
9531938.817	1.79533	17.95332	650.00	6.50	255.91	21.33
9531938.817	2.10702	21.07021	600.00	6.00	236.22	19.69
9531938.817	2.50753	25.07529	550.00	5.50	216.54	18.04
9531938.817	3.03411	30.34110	500.00	5.00	196.85	16.40
9531938.817	3.74582	37.45815	450.00	4.500	177.17	14.76
9531938.817	4.74080	47.40797	400.00	4.000	157.48	13.12
9531938.817	4.98703	49.87032	390.00	3.900	153.54	12.80
9531938.817	6.19206	61.92062	350.00	3.500	137.80	11.48
9531938.817	8.42808	84.28084	300.00	3.000	118.11	9.84
9531938.817	10.03012	100.30117	275.00	2.750	108.27	9.02
9531938.817	18.96319	189.63190	200.00	2.000	78.74	6.56

4-foot antenna array

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					
		Output Power		Antenna Gain (dBi)	27	
				dBi to dBd	2.2	
Tx Frequency (MHz)	9400	Maximum (Watts)	12.000000	Antenna Gain (dBd)	24.83	
Cable Loss (dB)	0.0	(dBm)	40.79	Antenna minus cable (dBi)	27.00	
	Calculated ERP (mw)	3649062.031		EIRP = Po(dBm) + Gain (dB)		
	Calculated EIRP (mw)	6014246.804		Radiated (EIRP) dBm	67.792	
				ERP = EIRP - 2.17 dB		
	Occupational Limit	Power density (S) EIRP ----- = mW/cm^2 4 p r^2 r (cm) EIRP (mW)		Radiated (ERP) dBm	65.622	
	0.00000 mW/cm^2					
	50.00000 W/m^2					
	General Public Limit					
0.02619/0.6834	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		
		IC radio frequency radiation exposure limits per RSS-102				
		Frequency (MHz)	cupational Limit (W/	Public Limit (W/m^2)		
		100-6,000	0.6455f^0.5			
		6,000-15,000	50			
		300-6,000		0.02619f^0.6834		
		6,000-15,000	50	10		
EIRP	S	S	Distance	Distance	Distance	Distance
milliwatts	mW/cm^2	W/m^2	cm	meter	inches	Feet
6014246.804	0.47860	4.78599	1000.00	10.00	393.70	32.81
6014246.804	0.59086	5.90862	900.00	9.00	354.33	29.53
6014246.804	0.74781	7.47810	800.00	8.00	314.96	26.25
6014246.804	0.97673	9.76732	700.00	7.00	275.59	22.97
6014246.804	0.99945	9.99446	692.00	6.92	272.44	22.70
6014246.804	1.32944	13.29440	600.00	6.00	236.22	19.69
6014246.804	1.91439	19.14394	500.00	5.00	196.85	16.40
6014246.804	2.99124	29.91241	400.00	4.00	157.48	13.12
6014246.804	4.98021	49.80214	310.00	3.10	122.05	10.17
6014246.804	5.31776	53.17762	300.00	3.00	118.11	9.84
6014246.804	6.32858	63.28576	275.00	2.750	108.27	9.02
6014246.804	7.65758	76.57577	250.00	2.500	98.43	8.20
6014246.804	9.45380	94.53799	225.00	2.250	88.58	7.38
6014246.804	9.88840	98.88400	220.00	2.200	86.61	7.22
6014246.804	9.97891	99.78911	219.00	2.190	86.22	7.19
6014246.804	10.35367	103.53673	215.00	2.150	84.65	7.05
6014246.804	10.85257	108.52575	210.00	2.100	82.68	6.89