

## MPE Calculation page

Industry Canada limits Tx power to Antenna to 1 mW						
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		dBd + 2.17 = dBi	Antenna Gain (dBi)	47
					dBd to dBd	2.2
Tx Frequency (MHz)	24,200.00	Maximum (Watts)	0.001000		Antenna Gain (dBd)	44.83
Cable Loss (dB)	0.0	(dBm)	0.00		Antenna minus cable (dBi)	47.00
	Calculated ERP (mw)	30408.850		EIRP = Po(dBm) + Gain (dB)		
	Calculated EIRP (mw)	50118.723			Radiated (EIRP) dBm	47.000
				ERP = EIRP - 2.17 dB		
					Radiated (ERP) dBm	44.830
	Occupational Limit	<div>Power density (S)  EIRP ----- = mW/cm^2 4 p r^2 r (cm) EIRP (mW)</div>				
5.00000	mW/cm^2					
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 (mW/cm2)					
	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	Public Limit		
	300-1,500 (mW/cm2)		80.66666667	16.13333333		
	300-1,500 (W/m2)		806.6666667	161.3333333		
	1,500-100,000 (mW/cm2)		5	1		
	1,500-100,000 (W/m2)		50	10		
	EIRP	S	S	Distance	Distance	Distance
	milliwatts	mW/cm^2	W/m^2	cm	meter	inches
	50118.723	0.01108	0.11079	600.00	6.00	236.22
	50118.723	0.01595	0.15953	500.00	5.00	196.85
	50118.723	0.01970	0.19695	450.00	4.50	177.17
	50118.723	0.02493	0.24927	400.00	4.00	157.48
	50118.723	0.03256	0.32558	350.00	3.50	137.80
	50118.723	0.04431	0.44315	300.00	3.00	118.11
	50118.723	0.06381	0.63813	250.00	2.50	98.43
	50118.723	0.09971	0.99708	200.00	2.00	78.74
	50118.723	0.17726	1.77259	150.00	1.50	59.06
	50118.723	0.39883	3.98832	100.00	1.00	39.37
	50118.723	0.70903	7.09035	75.00	0.75	29.53
	50118.723	0.81394	8.13943	70.00	0.70	27.56
	50118.723	0.94398	9.43981	65.00	0.65	25.59
	50118.723	4.43147	44.31468	30.00	0.30	11.81
	50118.723	6.38131	63.81314	25.00	0.25	9.84
	50118.723	9.97080	99.70803	20.00	0.20	7.87
	50118.723	17.72587	177.25872	15.00	0.15	5.91
			Occupational Limit minimum	Occupational Limit minimum	Public Limit	Public Limit
			Distance	Distance	minimum	minimum distance
		Frequency (MHz)	(meters)	(cm / inches)	distance (meters)	(cm / inches)
		300-1,500	N/A	N/A	N/A	N/A
		1,500-10,000	0.20	20 / 8	0.65	65 / 26