

# MPE Calculation page

Lectrosionics	Model: WML	Test Number: 120312L					
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 <sup>2</sup>						
		Output Power		dBd + 2.17 = dBi	Antenna Gain (dBi)	0	
					dBi to dBd	2.2	
TxFrequency (MHz)	576	Maximum (Watts)	0.2500		Antenna Gain (dBd)	-2.17	
Cable Loss (dB)	0.0	(dBm)	23.98		Antenna minus cable (dBi)	0.00	
	Calculated ERP (mw)	151.684		EIRP = Po(dBm) + Gain (dB)			
	Calculated EIRP (mw)	250.000			Radiated (EIRP) dBm	23.979	
				ERP = EIRP - 2.17 dB			
	<b>Occupational Limit</b>				Radiated (ERP) dBm	21.809	
	1.92000 mW/cm <sup>2</sup>	<div style="border: 1px solid black; padding: 5px;">                     Power density (S)                      EIRP                      ----- = mW/cm<sup>2</sup>  <math>4 \pi r^2</math>                      r (cm) EIRP (mW)                 </div>					
	19.20000 W/m <sup>2</sup>						
	<b>General Public Limit</b>						
	0.38400 mW/cm <sup>2</sup>						
	3.84000 W/m <sup>2</sup>						
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 <sup>2</sup> )				
	300-1,500 (mW/cm <sup>2</sup> )	1.92	0.384				
	300-1,500 (W/m <sup>2</sup> )	19.2	3.84				
	1,500-10,000 (mW/cm <sup>2</sup> )	5	1				
	1,500-10,000 (W/m <sup>2</sup> )	50	10				
EIRP	S	S	Distance	Distance	Distance	Distance	
milliwatts	mW/cm <sup>2</sup>	W/m <sup>2</sup>	cm	meter	inches	Feet	
250.000	0.00199	0.01989	100.00	1.00	39.37	0.08	
250.000	0.00796	0.07958	50.00	0.50	19.69	0.04	
250.000	0.01243	0.12434	40.00	0.40	15.75	0.03	
250.000	0.02210	0.22105	30.00	0.30	11.81	0.03	
250.000	0.04974	0.49736	20.00	0.20	7.87	0.02	
250.000	0.06140	0.61402	18.00	0.18	7.09	0.02	
250.000	0.08842	0.88419	15.00	0.15	5.91	0.01	
250.000	0.10150	1.01502	14.00	0.14	5.51	0.01	
250.000	0.11772	1.17718	13.00	0.13	5.12	0.01	
250.000	0.13816	1.38155	12.00	0.12	4.72	0.01	
250.000	0.19894	1.98944	10.00	0.10	3.94	0.01	
250.000	0.24561	2.45609	9.00	0.09	3.54	0.01	
250.000	0.31085	3.10849	8.00	0.08	3.15	0.01	
250.000	0.38376	3.83765	7.20	0.07	2.83	0.01	
250.000	0.40601	4.06008	7.00	0.07	2.76	0.01	
250.000	1.24340	12.43398	4.00	0.04	1.57	0.00	
250.000	1.82685	18.26847	3.30	0.03	1.30	0.00	
			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	0.03	3.3 / 1.3	0.07	7.2 / 2.8
			1,500-10,000	N/A	N/A	N/A	N/A