

MPE Calculation page

Lectrosonics Model: HME Test Number: 090318E
 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/cm²

				Antenna Gain (dBi)	0					
		Output Power		dBd + 2.17 = dBi	2.2					
Tx Frequency (MHz)	537.5	Maximum (Watts)	0.0949	Antenna Gain (dBd)	-2.17					
Cable Loss (dB)	0.0	(dBm)	19.77	Antenna minus cable (dBi)	0.00					
	Calculated ERP (mw) 57.560			EIRP = Po(dBm) + Gain (dB)						
	Calculated EIRP (mw) 94.868			Radiated (EIRP) dBm	19.771					
				ERP = EIRP - 2.17 dB						
				Radiated (ERP) dBm	17.601					
	Occupational Limit	<table border="1"> <tr> <td>Power density (S)</td> </tr> <tr> <td>EIRP</td> </tr> <tr> <td>----- = mW/cm²</td> </tr> <tr> <td>4 π r²</td> </tr> <tr> <td>r (cm) EIRP (mW)</td> </tr> </table>		Power density (S)	EIRP	----- = mW/cm ²	4 π r ²	r (cm) EIRP (mW)		
Power density (S)										
EIRP										
----- = mW/cm ²										
4 π r ²										
r (cm) EIRP (mW)										
	1.79167 mW/cm ²									
	General Public Limit									
	0.35833 mW/cm 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

FCC radio frequency radiation exposure limits per 1.1310		
Frequency (MHz)	Occupational Limit @ Tx Freq (mW/cm ²)	Public Limit @ Tx Freq (mW/cm ²)
300-1,500	1.791666667	0.358333333
1,500-10,000	5	1

EIRP	Distance	Distance	S	Distance
milliwatts	cm	inches	mW/cm ²	Feet
94.868	100.00	39.37	0.00075	3.28
94.868	50.00	19.69	0.00302	1.64
94.868	40.00	15.75	0.00472	1.31
94.868	35.00	13.78	0.00616	1.15
94.868	30.00	11.81	0.00839	0.98
94.868	25.00	9.84	0.01208	0.82
94.868	20.00	7.87	0.01887	0.66
94.868	15.00	5.91	0.03355	0.49
94.868	10.00	3.94	0.07549	0.33
94.868	5.00	1.97	0.30198	0.16
94.868	4.60	1.81	0.35678	0.15
94.868	2.10	0.83	1.71188	0.07
94.868	2.00	0.79	1.88735	0.07

Frequency (MHz)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (cm / inches)
300-1,500	2.1 / 0.8	4.6 / 1.8
1,500-10,000	N/A	N/A