

MPE Calculator      Lectrosonics      UT      Test 080313E  
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>      Antenna Gain (dBi)      0  
Output Power dBd + 2.17 = dBi      dBi to dBd      2.17  
Tx Frequency (MHz)      503      (Watts)      0.1000      Antenna Gain (dBd)      -2.17  
(dBm)      20.00  
Cable Loss (dB)      0.0      Antenna minus cable (dBi)      0.00

Calculated ERP (mw) 60.674      EIRP = Po(dBM) + Gain (dB)  
Calculated EIRP (mw) 100.000      Radiated (EIRP) dBm      20.000  
ERP = EIRP - 2.17 dB  
Radiated (ERP) dBm      17.830

**Occupational Limit**  
**1.67667**      mW/cm<sup>2</sup>  
**General Public Limit**  
**0.33533**      mW/cm<sup>2</sup>

Power density (S)  
EIRP  
----- = mW/cm<sup>2</sup>  
4 π r<sup>2</sup>  
r (cm) EIRP (mW)

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 <sup>2</sup> )	Public Limit @ Tx Freq (mW/cm <sup>2</sup> )
300-1,500	1.67666667	0.335333333
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm <sup>2</sup>
100.000	50.00	19.69	0.00318
100.000	40.00	15.75	0.00497
100.000	30.00	11.81	0.00884
100.000	25.00	9.84	0.01273
100.000	20.00	7.87	0.01989
100.000	15.00	5.91	0.03537
100.000	14.00	5.51	0.04060
100.000	13.00	5.12	0.04709
100.000	12.00	4.72	0.05526
100.000	11.00	4.33	0.06577
100.000	10.00	3.94	0.07958
100.000	9.00	3.54	0.09824
100.000	8.00	3.15	0.12434
100.000	7.00	2.76	0.16240
100.000	6.00	2.36	0.22105
100.000	5.75	2.26	0.24069
100.000	5.50	2.17	0.26307
100.000	5.00	1.97	0.31831
100.000	4.90	1.93	0.33143
100.000	3.00	1.18	0.88419
100.000	2.50	0.98	1.27324
100.000	2.20	0.87	1.64416
100.000	2.00	0.79	1.98944
100.000	1.00	0.39	7.95775
100.000	0.50	0.20	31.83099

Frequency (MHz)	Occupational Limit minimum Distance (cm)	General Public Limit minimum distance (cm)
300-1,500	2.20	4.90
1,500-10,000	N/A	N/A