MPE Calculation page

Lectrosonics Model: HML Test Number: 090318L

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

				Antenna Gain (dBi)	0
		Output Power		dBd + 2.17 = dBi dBi to dBd	2.2
Tx Frequency (MHz)	614.3	Maximum (Watts)	0.0993	Antenna Gain (dBd)	-2.17
Cable Loss (dB)	0.0	(dBm)	19.97	Antenna minus cable (dBi)	0.00

Calculated ERP (mw) 60.273
Calculated EIRP (mw) 99.339

Power density (S)
EIRP
------- = mW/cm^2
4 π r^2
r (cm) EIRP (mW)

EIRP = Po(dBM) + Gain (dB)
Radiated (EIRP) dBm 19.971
ERP = EIRP - 2.17 dB
Radiated (ERP) dBm 17.801

Occupational Limit
2.04767 mW/cm^2

General Public Limit
0.40953 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	2.047666667	0.409533333
1,500-10,000	5	1

EIRP	Distance	Distance	S	Distance
milliwatts	cm	inches	mW/cm^2	Feet
99.339	100.00	39.37	0.00079	3.28
99.339	50.00	19.69	0.00316	1.64
99.339	40.00	15.75	0.00494	1.31
99.339	35.00	13.78	0.00645	1.15
99.339	30.00	11.81	0.00878	0.98
99.339	25.00	9.84	0.01265	0.82
99.339	20.00	7.87	0.01976	0.66
99.339	15.00	5.91	0.03513	0.49
99.339	10.00	3.94	0.07905	0.33
99.339	5.00	1.97	0.31621	0.16
99.339	4.40	1.73	0.40833	0.14
99.339	3.00	1.18	0.87835	0.10
99.339	2.00	0.79	1.97629	0.07
99.339	1.95	0.77	2.07894	0.06

Frequency (MHz)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (cm / inches)
300-1,500	1.95 / 0.8	4.4 / 1.7
1,500-10,000	N/A	N/A