MPE Calculation page

Lectrosonics Model: HMM Test Number: 090318M

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)	650	Maximum (Watts)	0.0971	Antenna Gain (dBd)	-2.17
Cable Loss (dB)	0.0	(dBm)	19.87	Antenna minus cable (dBi)	0.00

Calculated ERP (mw) 58.901
Calculated EIRP (mw) 97.078

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

EIRP = Po(dBM) + Gain (dB)
Radiated (EIRP) dBm 19.871
ERP = EIRP - 2.17 dB
Radiated (ERP) dBm 17.701

Occupational Limit
2.16667 mW/cm^2

General Public Limit
0.43333 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	2.166666667	0.433333333
1,500-10,000	5	1

EIRP	Distance	Distance	S	Distance
milliwatts	cm	inches	mW/cm^2	Feet
97.078	100.00	39.37	0.00077	3.28
97.078	50.00	19.69	0.00309	1.64
97.078	40.00	15.75	0.00483	1.31
97.078	35.00	13.78	0.00631	1.15
97.078	30.00	11.81	0.00858	0.98
97.078	25.00	9.84	0.01236	0.82
97.078	20.00	7.87	0.01931	0.66
97.078	15.00	5.91	0.03433	0.49
97.078	10.00	3.94	0.07725	0.33
97.078	5.00	1.97	0.30901	0.16
97.078	4.30	1.69	0.41781	0.14
97.078	2.00	0.79	1.93131	0.07
97.078	1.90	0.75	2.13995	0.06

Frequency (MHz)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (cm / inches)
300-1,500	1.9 / 0.75	4.3 / 1.7
1,500-10,000	N/A	N/A