MPE Calculation page

MPE Calculator Model SLT100

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)	10
		Output Power	dBd + 2.17 = dBi	dBi to dBd	2.17
Tx Frequency (MHz)	915	(Watts)	3.7000	Antenna Gain (dBd)	7.83
Cable Loss (dB)	0.0	(dBm)	35.68	Antenna minus cable (dBi)	10.00

Calculated ERP (mw) 22449.244
Calculated EIRP (mw) 37000.000

EIRP = Po(dBM) + Gain (dB)

Radiated (EIRP) dBm 45.682

ERP = EIRP - 2.17 dB

Radiated (ERP) dBm 43.512

Occupational Limit
3.05000 mW/cm²

General Public Limit
0.61000 mW/cm²

Power density (S)

$$S = \frac{EIRP}{4\pi r^2}$$

mW/cm^2

r (cm) EIRP

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	3.05	0.61
1,500-10,000	5	1

EIRP	Distance	Distance	S	Distance
milliwatts	cm	inches	mW/cm²	Feet
37000.000	2000.00	787.40	0.00074	65.6167979
37000.000	1500.00	590.55	0.00131	49.21259843
37000.000	1250.00	492.13	0.00188	41.01049869
37000.000	1125.00	442.91	0.00233	36.90944882
37000.000	1000.00	393.70	0.00294	32.80839895
37000.000	600.00	236.22	0.00818	19.68503937
37000.000	500.00	196.85	0.01178	16.40419948
37000.000	400.00	157.48	0.01840	13.12335958
37000.000	350.00	137.80	0.02404	11.48293963
37000.000	325.00	127.95	0.02788	10.66272966
37000.000	300.00	118.11	0.03272	9.842519685
37000.000	275.00	108.27	0.03893	9.022309711
37000.000	250.00	98.43	0.04711	8.202099738
37000.000	225.00	88.58	0.05816	7.381889764
37000.000	200.00	78.74	0.07361	6.56167979
37000.000	190.00	74.80	0.08156	6.233595801
37000.000	180.00	70.87	0.09088	5.905511811
37000.000	170.00	66.93	0.10188	5.577427822
37000.000	160.00	62.99	0.11501	5.249343832
37000.000	150.00	59.06	0.13086	4.921259843
37000.000	140.00	55.12	0.15022	4.593175853
37000.000	130.00	51.18	0.17422	4.265091864
37000.000	120.00	47.24	0.20447	3.937007874
37000.000	110.00	43.31	0.24334	3.608923885
37000.000	100.00	39.37	0.29444	3.280839895
37000.000	90.00	35.43	0.36350	2.952755906
37000.000	80.00	31.50	0.46006	2.624671916
37000.000	70.00	27.56	0.60089	2.296587927
37000.000	50.00	19.69	1.17775	1.640419948
37000.000	35.00	13.78	2.40356	1.148293963
37000.000	31.00	12.20	3.06386	1.017060367

Frequency (MHz)	Occupational Limit minimum Distance (cm/inches)	Public Limit minimum distance (cm/inches)
300-1,500	70cm / 27.6"	31cm / 12.2"
1,500-10,000	N/A	N/A