MPE Calculation page

MPE Calculator DMP 1100r Series Tx Test 080205

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

		Output Power		dBd + 2.17 = dBi	dBi to dBd
Tx Frequency (MHz)	903.3	(Watts)	0.011000	Antenna Gain (dBd)	-1.17
Cable Loss (dB)	0.0	(dBm)	10.41	Antenna minus cable (dBi)	1.00

Antenna Gain (dBi) 1

Calculated ERP (mw) 8.402
Calculated EIRP (mw) 13.848

EIRP = Po(dBM) + Gain (dB)
Radiated (EIRP) dBm 11.414
ERP = EIRP - 2.17 dB
Radiated (ERP) dBm 9.244

Occupational Limit
3.01100 **mW/cm^2**

General Public Limit
0.60220 **mW/cm^2**

Power density (S)
EIRP
------- = mW/cm^2
4 π r^2
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^2)	Public Limit @ Tx Freq (mW/cm^2)
300-1,500	3.011	0.6022
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm^2
13.848	50.00	19.69	0.00044
13.848	40.00	15.75	0.00069
13.848	30.00	11.81	0.00122
13.848	25.00	9.84	0.00176
13.848	20.00	7.87	0.00276
13.848	15.00	5.91	0.00490
13.848	14.00	5.51	0.00562
13.848	13.00	5.12	0.00652
13.848	12.00	4.72	0.00765
13.848	11.00	4.33	0.00911
13.848	10.00	3.94	0.01102
13.848	9.00	3.54	0.01360
13.848	8.00	3.15	0.01722
13.848	7.00	2.76	0.02249
13.848	6.00	2.36	0.03061
13.848	5.00	1.97	0.04408
13.848	4.00	1.57	0.06888
13.848	3.00	1.18	0.12244
13.848	2.00	0.79	0.27550
13.848	1.50	0.59	0.48978
13.848	1.35	0.53	0.60467
13.848	1.00	0.39	1.10200
13.848	0.75	0.30	1.95912
13.848	0.60	0.24	3.06112
13.848	0.33	0.13	10.11940

Frequency (MHz)	Occupational Limit minimum Distance (cm)	Public Limit minimum distance (cm)
300-1,500	0.60	1.35
1,500-10,000	N/A	N/A