MPE Calculator Interactive Technologies IQ58 433 Test 080328

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)		1
			dBd + 2.17 = dBi		
		Output Power		dBi to dBd	2.17
Tx Frequency (MHz)	433	(Watts)	0.000021		-1.17
		(dBm)	-16.70		
Cable Loss (dB)	0.0		Antenna minus cable (dBi)		1.00

Calculated ERP (mw)	0.016	Radiated (ERP) dBm	-17.866
Calculated EIRP (mw)	0.027	Radiated (EIRP) dBm	-15.696

Occupational Limit
1.44333 mW/cm^2

General Public Limit
0.28867 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	1.443333333	0.28866667
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm^2
0.027	50.00	19.69	0.00000
0.027	40.00	15.75	0.00000
0.027	30.00	11.81	0.00000
0.027	25.00	9.84	0.00000
0.027	20.00	7.87	0.00001
0.027	15.00	5.91	0.00001
0.027	14.00	5.51	0.00001
0.027	13.00	5.12	0.00001
0.027	12.00	4.72	0.00001
0.027	11.00	4.33	0.00002
0.027	10.00	3.94	0.00002
0.027	9.00	3.54	0.00003
0.027	8.00	3.15	0.00003
0.027	7.00	2.76	0.00004
0.027	6.00	2.36	0.00006
0.027	5.00	1.97	0.00009
0.027	4.00	1.57	0.00013
0.027	3.00	1.18	0.00024
0.027	2.00	0.79	0.00054
0.027	1.00	0.39	0.00214
0.027	0.90	0.35	0.00265
0.027	0.75	0.30	0.00381
0.027	0.50	0.20	0.00858
0.027	0.25	0.10	0.03430
0.027	0.10	0.04	0.21439

Frequency (MHz)	Occupational Limit minimum Distance (cm)	Public Limit minimum distance (cm)
300-1,500	N/A	0.10
1,500-10,000	N/A	N/A