

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/cm²

Antenna Gain (dBi) **24**
dBi to dBd 2.17
Output Power Average (Watts) **0.1000**
dBd + 2.17 = dBd
Tx Frequency (MHz) **2440**
Antenna Gain (dBd) **21.83**
Cable Loss (dB) **0.0** (dBm) 20.00
Antenna minus cable (dBi) 24.00

Calculated ERP (mw) 15240.528
Calculated EIRP (mw) 25118.864

EIRP = Po(dBm) + Gain (dB)
Radiated (EIRP) dBm 44.000
ERP = EIRP - 2.17 dB
Radiated (ERP) dBm 41.830

Occupational Limit
5.00000 mW/cm²

General Public Limit
1.00000 mW/cm²

Power density (S)
EIRP
----- = mW/cm²
4 p r²
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	8.133333333	1.626666667
1,500-10,000	5	1

EIRP	Distance	Distance	S	Distance
milliwatts	cm	inches	mW/cm ²	Feet
25118.864	345.00	135.83	0.01679	11.3189
25118.864	300.00	118.11	0.02221	9.84252
25118.864	275.00	108.27	0.02643	9.02231
25118.864	250.00	98.43	0.03198	8.2021
25118.864	225.00	88.58	0.03948	7.38189
25118.864	200.00	78.74	0.04997	6.56168
25118.864	175.00	68.90	0.06527	5.74147
25118.864	170.00	66.93	0.06917	5.577428
25118.864	160.00	62.99	0.07808	5.249344
25118.864	150.00	59.06	0.08884	4.92126
25118.864	140.00	55.12	0.10198	4.593176
25118.864	130.00	51.18	0.11828	4.265092
25118.864	120.00	47.24	0.13881	3.937008
25118.864	110.00	43.31	0.16520	3.608924
25118.864	100.00	39.37	0.19989	3.28084
25118.864	90.00	35.43	0.24678	2.952756
25118.864	85.00	33.46	0.27666	2.788714
25118.864	80.00	31.50	0.31233	2.624672
25118.864	75.00	29.53	0.35536	2.46063
25118.864	70.00	27.56	0.40794	2.296588
25118.864	65.00	25.59	0.47311	2.132546
25118.864	60.00	23.62	0.55525	1.968504
25118.864	55.00	21.65	0.66079	1.804462
25118.864	50.00	19.69	0.79956	1.64042
25118.864	48.00	18.90	0.86758	1.574803
25118.864	47.00	18.50	0.90489	1.541995
25118.864	45.00	17.72	0.98711	1.476378
25118.864	44.00	17.32	1.03249	1.44357
25118.864	40.00	15.75	1.24931	1.312336
25118.864	30.00	11.81	2.22100	0.984252
25118.864	20.00	7.87	4.99724	0.656168

Frequency (MHz)	Occupational Limit minimum Distance (feet)	Public Limit minimum distance (feetm)
300-1,500	N/A	N/A
1,500-10,000	0.70	1.50