

MPE Calculation page

MPE Calculator DMP 1131

Test 080303

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

		Output Power	dBd + 2.17 = dBi	Antenna Gain (dBi)	1
		(Watts)		dBi to dBd	2.17
Tx Frequency (MHz)	903.3			Antenna Gain (dBd)	-1.17
Cable Loss (dB)	0.0	(dBm)	-1.55	Antenna minus cable (dB)	1.00

Calculated ERP (mw) 0.535
 Calculated EIRP (mw) 0.881

EIRP = Po(dBm) + Gain (dB)
 Radiated (EIRP) dBm -0.549
 ERP = EIRP - 2.17 dB
 Radiated (ERP) dBm -2.719

Occupational Limit	Power density (S)
3.01100 mW/cm ²	EIRP
	----- = mW/cm ²
	4 π r ²
General Public Limit	r (cm) EIRP (mW)
0.60220 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	3.011	0.6022
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm ²
0.881	50.00	19.69	0.00003
0.881	40.00	15.75	0.00004
0.881	30.00	11.81	0.00008
0.881	25.00	9.84	0.00011
0.881	20.00	7.87	0.00018
0.881	15.00	5.91	0.00031
0.881	14.00	5.51	0.00036
0.881	13.00	5.12	0.00041
0.881	12.00	4.72	0.00049
0.881	11.00	4.33	0.00058
0.881	10.00	3.94	0.00070
0.881	9.00	3.54	0.00087
0.881	8.00	3.15	0.00110
0.881	7.00	2.76	0.00143
0.881	6.00	2.36	0.00195
0.881	5.00	1.97	0.00281
0.881	4.00	1.57	0.00438
0.881	3.00	1.18	0.00779
0.881	2.00	0.79	0.01753
0.881	1.50	0.59	0.03117
0.881	1.25	0.49	0.04488
0.881	1.00	0.39	0.07013
0.881	0.75	0.30	0.12467
0.881	0.34	0.13	0.60664
0.881	0.16	0.06	2.73935

Frequency (MHz)	Occupational Limit minimum Distance (cm)	Public Limit minimum distance (cm)
300-1,500	0.16	0.34
1,500-10,000	N/A	N/A