

MPE Calculator

Transcore Test 080626A90

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) 1
 dBd + 2.17 = dBi

	Output Power (Watts)	0.0007	dBi to dBd	2.17
Tx Frequency (MHz)	915	(dBm)	Antenna Gain (dBd)	-1.17
		-1.33		
Cable Loss (dB)	0.0		Antenna minus cable (dBi)	1.00

Calculated ERP (mw)	0.562	EIRP = Po(dBM) + Gain (dB)	
Calculated EIRP (mw)	0.927		Radiated (EIRP) dBm -0.331
		ERP = EIRP - 2.17 dB	
			Radiated (ERP) dBm -2.501

Occupational Limit
 3.05000 mW/cm²

General Public Limit
 0.61000 mW/cm²

Power density (S) [mW/cm ²] = EIRP / (4 π r ²) where the values of r (cm) and 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	3.05	0.61
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm ²
0.927	200.00	78.74	0.000
0.927	150.00	59.06	0.000
0.927	100.00	39.37	0.000
0.927	90.00	35.43	0.000
0.927	81.00	31.89	0.000
0.927	80.00	31.50	0.000
0.927	70.00	27.56	0.000
0.927	60.00	23.62	0.000
0.927	50.00	19.69	0.000
0.927	40.00	15.75	0.000
0.927	30.00	11.81	0.000
0.927	20.00	7.87	0.000
0.927	10.00	3.94	0.001
0.927	5.00	1.97	0.003
0.927	1.00	0.39	0.074
0.927	0.50	0.20	0.295
0.927	0.40	0.16	0.461
0.927	0.35	0.14	0.602

Frequency (MHz)	minimum Distance cm (inches)	General Public Limit minimum Distance cm / (inches)
300-1,500	N/A	0.35 / 0.14
1,500-10,000	N/A	N/A