

MPE Calculation page

MPE Calculator	Lectrosonics	DBZIFBT4E	Test 090127	
	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)	0
		Output Power	dBd + 2.17 = dBi	dBi to dBd
		(Watts)	0.2500	2.17
Tx Frequency (MHz)	500	(dBm)	23.98	Antenna Gain (dBi)
				-2.17
Cable Loss (dB)	0.0			Antenna minus cable (dBi)
				0.00
	Calculated ERP (mw)	151.684	EIRP = Po(dBm) + Gain (dB)	
	Calculated EIRP (mw)	250.000	Radiated (EIRP) dBm	23.979
			ERP = EIRP - 2.17 dB	
			Radiated (ERP) dBm	21.809
Occupational Limit	1.66667	mW/cm²		
General Public Limit	0.33333	mW/cm²		
	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> Power density (S) EIRP ----- = mW/cm² 4 p r² r (cm) EIRP (mW) </div>			
	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	1.666666667	0.333333333	
	1,500-10,000	5	1	
	EIRP	Distance	Distance	S
	milliwatts	cm	inches	mW/cm ²
	250.000	50.00	19.69	0.00796
	250.000	40.00	15.75	0.01243
	250.000	30.00	11.81	0.02210
	250.000	20.00	7.87	0.04974
	250.000	15.00	5.91	0.08842
	250.000	10.00	3.94	0.19894
	250.000	9.00	3.54	0.24561
	250.000	8.00	3.15	0.31085
	250.000	7.75	3.05	0.33123
	250.000	6.00	2.36	0.55262
	250.000	5.75	2.26	0.60172
	250.000	5.50	2.17	0.65767
	250.000	4.50	1.77	0.98244
	250.000	3.50	1.38	1.62403
	250.000	3.00	1.18	2.21049
	250.000	2.00	0.79	4.97359
	Frequency (MHz)	Occupational Limit minimum Distance (cm)	General Public Limit minimum distance (cm)	
	300-1,500	3.50	7.75	
	1,500-10,000	N/A	N/A	