

Maximum Permissible Exposure (MPE) Calculation for IFBT4M

MPE Calculator

Lectrosonics DBZIFBT4M Test 061017A

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)	7
		Output Power	dBd + 2.17 = dBi	2.17
		(Watts)	Antenna Gain (dBd)	4.83
Tx Frequency (MHz)	614.4			
Cable Loss (dB)	0.0	(dBm)	23.98	Antenna minus cable (dBi) 7.00

Calculated ERP (mw) 760.221

Calculated EIRP (mw) 1252.968

EIRP = Po(dBm) + Gain (dB)

Radiated (EIRP) dBm 30.979

ERP = EIRP - 2.17 dB

Radiated (ERP) dBm 28.809

Occupational Limit

2.04800 mW/cm²

Power density (S)

EIRP

----- = mW/cm²

4 π r²

r (cm) EIRP (mW)

General Public Limit

0.40960 mW/cm²

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	2.048	0.4096
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm ²
1252.968	50.00	19.69	0.03988
1252.968	40.00	15.75	0.06232
1252.968	30.00	11.81	0.11079
1252.968	25.00	9.84	0.15953
1252.968	20.00	7.87	0.24927
1252.968	17.00	6.69	0.34501
1252.968	16.00	6.30	0.38948
1252.968	13.00	5.12	0.58999
1252.968	12.00	4.72	0.69242
1252.968	11.00	4.33	0.82403
1252.968	10.00	3.94	0.99708
1252.968	9.00	3.54	1.23096
1252.968	8.00	3.15	1.55794
1252.968	7.00	2.76	2.03486
1252.968	6.00	2.36	2.76967
1252.968	5.60	2.20	3.17947
1252.968	5.50	2.17	3.29613
1252.968	5.00	1.97	3.98832
1252.968	4.00	1.57	6.23175
1252.968	3.12	1.23	10.24285
1252.968	3.00	1.18	11.07867
1252.968	2.45	0.96	16.61108
1252.968	2.40	0.94	17.31042
1252.968	2.00	0.79	24.92701
1252.968	1.00	0.39	99.70803

Frequency (MHz)	Occupational Limit minimum Distance (cm)	Public Limit minimum distance (cm)
300-1,500	7.00	16.00
1,500-10,000	N/A	N/A

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LectroSonics Inc.
MODEL: IFBT4
Test #: 061017A
Test to: FCC Parts 2 and 74

FCCID#: DBZIFBT4M
S/N:P457

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