

MPE Calculator

Deliberant LLC

Test 070413

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) 23
 dBi to dBd 2.17
 dBd + 2.17 = dBi
 Antenna Gain (dBd) 20.83
 Output Power (Watts) 0.0611
 Tx Frequency (MHz) 5785

Cable Loss (dB) 0.0 (dBm) 17.86 Antenna minus cable (dBi) 23.00

Calculated ERP (mw) 7395.544
 Calculated EIRP (mw) 12189.057

EIRP = Po(dBm) + Gain (dB)
 Radiated (EIRP) dBm 40.860

ERP = EIRP - 2.17 dB

Radiated (ERP) dBm 38.690

Occupational Limit

19.28333 mW/cm² 300-1500 MHz

Occupational Limit

5 mW/cm² 1500-10000 MHz

General Public Limit

3.85667 mW/cm² 300-1500 MHz

General Public Limit 1500-10000 MHz

1 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

Power density (S)
 EIRP
 ----- = mW/cm²
 $4 \pi r^2$
 r (cm) EIRP (mW)

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	19.28333333	3.856666667
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm ²
12189.057	100.00	39.37	0.09700
12189.057	90.00	35.43	0.11975
12189.057	80.00	31.50	0.15156
12189.057	70.00	27.56	0.19795
12189.057	60.00	23.62	0.26944
12189.057	55.00	21.65	0.32065
12189.057	50.00	19.69	0.38799
12189.057	45.00	17.72	0.47900
12189.057	40.00	15.75	0.60623
12189.057	35.00	13.78	0.79182
12189.057	34.00	13.39	0.83908
12189.057	33.00	12.99	0.89070
12189.057	32.00	12.60	0.94724
12189.057	31.00	12.20	1.00934
12189.057	30.00	11.81	1.07775
12189.057	25.00	9.84	1.55196
12189.057	20.00	7.87	2.42494
12189.057	19.00	7.48	2.68691
12189.057	18.00	7.09	2.99375
12189.057	17.00	6.69	3.35631
12189.057	16.00	6.30	3.78896
12189.057	15.00	5.91	4.31100
12189.057	14.00	5.51	4.94885
12189.057	13.00	5.12	5.73949
12189.057	10.00	3.94	9.69974

Frequency (MHz)	Occupational Limit minimum Distance (cm)	Public Limit minimum distance (cm)
300-1,500	N/A	N/A
1,500-10,000	14.00	31.00

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Deliberant LLC.
 Model: DLB 7023
 Test #: 070413
 Test to: CFR47 2, 15, IC RSS-210

FCC ID#: UB8-DLB7000

SN:00021945

Page 1 of 1

DLB7023 MPE Calculation 4/27/2007