

MPE Calculator

DMP Bill Trap

Test 070219

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

	S = power density in mW/cm^2		Antenna Gain (dBi)	1	
		Output Power	dBd + 2.17 = dBi	2.17	
		(Watts)	dBi to dBd		
Tx Frequency (MHz)	914	0.0005	Antenna Gain (dBd)	-1.17	
Cable Loss (dB)	0.0	(dBm)	-3.01	Antenna minus cable (dBi)	1.00

Calculated ERP (mw) 0.382

Calculated EIRP (mw) 0.629

EIRP = Po(dBm) + Gain (dB)

Radiated (EIRP) dBm -2.010

ERP = EIRP - 2.17 dB

Radiated (ERP) dBm -4.180

Occupational Limit**3.04667 mW/cm²****General Public Limit****0.60933 mW/cm²**

Power density (S)

EIRP

----- = mW/cm²4 π r²

r (cm) 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	3.046666667	0.609333333
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm ²
0.629	50.00	19.69	0.00002
0.629	40.00	15.75	0.00003
0.629	30.00	11.81	0.00006
0.629	25.00	9.84	0.00008
0.629	20.00	7.87	0.00013
0.629	15.00	5.91	0.00022
0.629	14.00	5.51	0.00026
0.629	13.00	5.12	0.00030
0.629	12.00	4.72	0.00035
0.629	11.00	4.33	0.00041
0.629	10.00	3.94	0.00050
0.629	9.00	3.54	0.00062
0.629	8.00	3.15	0.00078
0.629	7.00	2.76	0.00102
0.629	6.00	2.36	0.00139
0.629	5.00	1.97	0.00200
0.629	4.00	1.57	0.00313
0.629	3.00	1.18	0.00557
0.629	2.00	0.79	0.01252
0.629	1.75	0.69	0.01636
0.629	1.50	0.59	0.02226
0.629	1.25	0.49	0.03206
0.629	1.00	0.39	0.05009
0.629	0.75	0.30	0.08905
0.629	0.50	0.20	0.20036

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

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Digital Monitoring Products, Inc.

Model: 1139 Bill Trap

Test #: 070219

Test to: CFR47 15.249, RSS-210

FCCID#: CCKPC0103

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