

MPE Calculator      Lectrosonics    DBZUM450E      Test 080313  
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<sup>2</sup>      Antenna Gain (dBi)      0  
Output Power dBd + 2.17 = dBi      dBi to dBd      2.17  
Tx Frequency (MHz)      503      (Watts)      0.2500      Antenna Gain (dBd)      -2.17  
(dBm)      23.98  
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

**Occupational Limit**  
**1.67667**      mW/cm<sup>2</sup>  
**General Public Limit**  
**0.33533**      mW/cm<sup>2</sup>

Power density (S)  
EIRP  
----- = mW/cm<sup>2</sup>  
4 π r<sup>2</sup>  
r (cm)    EIRP (mW)

Radiated (ERP) dBm      21.809

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 <sup>2</sup> )	Public Limit @ Tx Freq (mW/cm <sup>2</sup> )
300-1,500	1.67666667	0.335333333
1,500-10,000	5	1

EIRP	Distance	Distance	S
milliwatts	cm	inches	mW/cm <sup>2</sup>
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	25.00	9.84	0.03183
250.000	20.00	7.87	0.04974
250.000	15.00	5.91	0.08842
250.000	14.00	5.51	0.10150
250.000	13.00	5.12	0.11772
250.000	12.00	4.72	0.13816
250.000	11.00	4.33	0.16442
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	7.70	3.03	0.33554
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	3.55	1.40	1.57860
250.000	3.00	1.18	2.21049
250.000	2.00	0.79	4.97359
250.000	1.60	0.63	7.77124
250.000	1.50	0.59	8.84194
250.000	1.00	0.39	19.89437
250.000	0.50	0.20	79.57747

Frequency (MHz)	Occupational Limit minimum Distance (cm)	General Public Limit minimum distance (cm)
300-1,500	3.55	7.70
1,500-10,000	N/A	N/A

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Lectrosonics, Inc.  
Model: UM450  
Test #:080313  
Test to: FCC Parts 2 and 74  
File: RFExp DBZUM450E

FCC ID: DBZUM450E  
SN: P499  
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Date: April 9, 2008