

MPE Calculator

DMP 111x Series Tx

Test 070310

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) | 1 |
| | Output Power | dBd + 2.17 = dBi | dBi to dBd 2.17 |
| Tx Frequency (MHz) | 914 | Antenna Gain (dBd) | -1.17 |
| | (Watts) | | |
| | | | |
| Cable Loss (dB) | 0.0 | (dBm) | 5.12 |
| | | Antenna minus cable (dBi) | 1.00 |

Calculated ERP (mw) 2.482

Calculated EIRP (mw) 4.092

EIRP = Po(dBm) + Gain (dB)

Radiated (EIRP) dBm 6.119

ERP = EIRP - 2.17 dB

Radiated (ERP) dBm 3.949

Occupational Limit
3.04667 mW/cm²

General Public Limit
0.60933 mW/cm²

| |
|----------------------------|
| Power density (S) |
| EIRP |
| ----- = mW/cm ² |
| 4 p r ² |
| 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 |
| 4.092 | 50.00 | 19.69 | 0.00013 |
| 4.092 | 40.00 | 15.75 | 0.00020 |
| 4.092 | 30.00 | 11.81 | 0.00036 |
| 4.092 | 25.00 | 9.84 | 0.00052 |
| 4.092 | 20.00 | 7.87 | 0.00081 |
| 4.092 | 15.00 | 5.91 | 0.00145 |
| 4.092 | 14.00 | 5.51 | 0.00166 |
| 4.092 | 13.00 | 5.12 | 0.00193 |
| 4.092 | 12.00 | 4.72 | 0.00226 |
| 4.092 | 11.00 | 4.33 | 0.00269 |
| 4.092 | 10.00 | 3.94 | 0.00326 |
| 4.092 | 9.00 | 3.54 | 0.00402 |
| 4.092 | 8.00 | 3.15 | 0.00509 |
| 4.092 | 7.00 | 2.76 | 0.00664 |
| 4.092 | 6.00 | 2.36 | 0.00904 |
| 4.092 | 5.00 | 1.97 | 0.01302 |
| 4.092 | 4.00 | 1.57 | 0.02035 |
| 4.092 | 3.00 | 1.18 | 0.03618 |
| 4.092 | 2.00 | 0.79 | 0.08140 |
| 4.092 | 1.50 | 0.59 | 0.14471 |
| 4.092 | 1.25 | 0.49 | 0.20838 |
| 4.092 | 1.00 | 0.39 | 0.32559 |
| 4.092 | 0.75 | 0.30 | 0.57883 |
| 4.092 | 0.70 | 0.28 | 0.66447 |
| 4.092 | 0.33 | 0.13 | 2.98982 |

| Frequency (MHz) | Occupational Limit minimum Distance (cm) | Public Limit minimum distance (cm) |
|-----------------|--|------------------------------------|
| 300-1,500 | 0.33 | 0.75 |
| 1,500-10,000 | N/A | N/A |

ROGERS LABS, INC.
4405 W. 259th Terrace
Louisburg, KS 66053
Phone/Fax: (913) 837-3214

Digital Monitoring Products, Inc.
Model: 111x Series Tx
Test #: 070310
Test to: CFR47 15.247, RSS-210

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