

MPE Calculation

W := 5.0 power in Watts D := 1 Duty Factor in decimal % (1=100%)

E := 15 exposure time in minutes U := 30 (use 6 for controlled and 30 for uncontrolled)

$$W_{\text{exp}} := W \cdot D \cdot \left(\frac{E}{U} \right)$$

$$PC := \frac{E}{U}$$

PC = 0.5 percent on time

W_{exp} = 2.5 Watts

Po := 2500 mWatts dBd := 0 antenna gain f := 300 Frequency in MHz

G := dBd + 2.15 gain in dBi

Gn := $10^{\frac{G}{10}}$ gain numeric

$$S := \frac{f}{1500}$$

S is f/1500 for uncontrolled exposure.

Gn = 1.641

S = 0.2

$$R := \sqrt{\frac{(Po \cdot Gn)}{(4 \cdot \pi \cdot S)}}$$

$$R_{\text{inches}} := \frac{R}{2.54}$$

R = 40.397 distance in centimeters
required for compliance

R_{inches} = 15.904