

MPE CALCULATION

Parameters Used:

Power output: 5 Watts

Duty cycle: 50%

Antenna type: dipole (0 dBd)

$W := 5.0$ 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

$W_{\text{exp}} = 2.5$ Watts

$P_o := 2500$ mWatts $\text{dBd} := 0$ antenna gain $f := 470$ Frequency in MHz

$G := \text{dBd} + 2.15$ gain in dBi

$$G_n := 10^{\frac{G}{10}} \quad \text{gain numeric}$$

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

S is $f/1500$ for uncontrolled exposure.

$G_n = 1.641$

$S = 0.313$

$$R := \sqrt{\frac{(P_o \cdot G_n)}{(4 \cdot \pi \cdot S)}}$$

$$\text{Rinches} := \frac{R}{2.54}$$

$R = 32.275$ distance in centimeters
required for compliance

$\text{Rinches} = 12.707$