

## MPE CALCULATION

Midway Plumbing NTXINT900

Description of device and antenna used:

902 to 928 MHz band frequency hopping spread spectrum transmitter using a 3 dBd omni antenna. This device is fixed mounted.

$W := .252$  power in Watts       $D := 1$  Duty Factor in decimal % (1=100%)

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

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

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

$PC = 1$  percent on time

$$W_{exp} = 0.252 \text{ Watts}$$

$P_o := 252$  mWatts      dBd := 3 antenna gain       $f := 915$  Frequency in MHz

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

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

$$S := .61$$

S is f/1500 for uncontrolled exposure.

$$G_n = 3.273$$

$$S = 0.61$$

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

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

$R = 10.374$  distance in centimeters  
required for compliance

$$R_{inches} = 4.084$$

Conclusion: this device appears to meet the requirements for this class of device.