MAXIMUM PERMISSIBLE EXPOSURE FOR SUBPART C 902-928 MHz BAND

Calculations

Power density at the specific separation:

$S = PG/(4R^2\pi)$
$S = (6.2 * 3.55) / (4 * 20^2 * \pi)$
$S = 0.004532$ mW/cm^2 (at 20 cm)
Limit = 3 mW/cm^2

where

S = Maximum power density (mW/cm^2)
P = Power input to the antenna (mW)
G = Numeric power gain of the antenna
R = distance to the center of the radiation of the antenna (20 cm = limit for MPE)

The maximum permissible exposure (MPE) for the occupational/controlled is 3 mW/cm^2.

The power density at 20 cm does not exceed the 3 mW/cm^2. Therefore, the exposure condition is compliant with FCC rules.

The numeric gain (G) of the antenna with a gain specified in dB is determined by:

$G = Log^{-1}$ (dB antenna gain/10)
$G = Log^{-1}$ (5.5 dBi/10)
G = 3.55

The Distance at which the device exceeds the specified limit is 0.7 cm.