**MAXIMUM PERMISSABLE EXPOSURE FOR SUBPART C 2.4GHz BAND**

**Calculations:**

Power density at the specific separation:

$S = PG/(4R^2\pi)$
$S = (142.89*1.585)/(4*20^2*\pi)$
$S = .04505\ mW/cm^2$

Where

S = Maximum power density ($mW/cm^2$)
P = Power input to the antenna (mW) – 21.55 dBm
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 general population is 1 $mW/cm^2$.

The power density at 20 cm does not exceed the 1 $mW/cm^2$ . Therefore the esposure condition is compliant with FCC rules.

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

$G = Log^{-1}(dBi\ antenna\ gain/10)$
$G = Log^{-1}(2\ dBi/10)$
$G = 1.585$