# MAXIMUM PERMISSIBLE EXPOSURE FOR SUBPART C, SECTION 15.249

## Calculations

Power density at the specific separation:

$S = PG / (4R^2\pi)$
$S = EIRP / (4R^2\pi)$
$S = (1.97) / (4 * 20^2 * \pi)$
$S = 0.0003919$ mW/cm$^2$ (at 20 cm)
Limit = 1 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)
EIRP = Equivalent Isotropic Radiated Power in mW
EIRP (dBm) = dBuV/m + [20 Log (Test Distance in Meters)] - 104.77
The worst case is 98.18 dBuV/m peak at 3 Meters = 1.97 mW EIRP

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$^2$ limit. Therefore, the exposure condition is compliant with FCC rules.