## 1.1310 & 2.1091 / RSS-102

## Maximum Permissible Exposure (MPE)

Determine the maximum power density for the general / uncontrolled population minimum separation distance of 20 cm. ( $f_{MHz}$  / 1500 mW/cm<sup>2</sup>).

The power density is calculated as:

$$P_d = \frac{P_t \times G}{4 \times \pi \times r^2}$$

 $P_d$  = power density in watts

Pt = transmit power in milliwatts

G = numeric antenna gain

r = distance between body and transmitter in centimeters.]

FCC Limit:

Max antenna gain = 0.3 dBi = 1.072 numeric

Max TX power = 21.14 dBm = 211.4 mW

$$908 / 1500 = 0.61 \, mW / cm^2 @ 20 \, cm$$

$$P_D = \frac{211.4 \times 1.072}{4 \times \pi \times 20^2} = 0.0449 \ mW \ / cm^2 @ 20 cm$$