

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. ($f_{\text{MHz}} / 1500$ mW/cm²)

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

P_t = transmit power in milliwatts

G = numeric antenna gain

r = distance between body and transmitter in centimeters.

FCC Limit:

$$910 / 1500 = 0.61 \text{ mW} / \text{cm}^2 @ 20 \text{ cm}$$

Max antenna gain = 1.0 dBi = 1.26 numeric

Max TX power = 27.91 dBm = 618.02 mW

$$P_D = \frac{618.02 \times 1.26}{4 \times \pi \times 20^2} = 0.16 \text{ mW} / \text{cm}^2 @ 20 \text{ cm}$$