

Maximum Permissible Exposure (MPE)

Determine the maximum power density for the general / uncontrolled population minimum separation distance of 20 cm.

FCC Limit: $f > 1500 \text{ MHz} = 1\text{mW/cm}^2$; IC Limit: $f=1500 \text{ to } 15000 \text{ MHz} = 10\text{W/m}^2$

The power density is calculated as:

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

P_d = power density in milliwatts/cm²

P_t = transmit power in milliwatts

G = numeric antenna gain

r = distance between body and transmitter in centimeters.

Other Technical Information:

Antenna Type: Omni

Antenna Gain: 3dBi (2) for the F antenna

Transmitter Power (Conducted): 72mW

Frequency: 2405 MHz

results: $P_D = (72 \times 2) / (4 \times \pi \times 20\text{cm}^2) = 0.02865\text{mW/cm}^2 = 0.2865\text{W/m}^2 @ 20 \text{ cm}$

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