

MAXIMUM PERMISSIBLE EXPOSURE (MPE) CALCULATIONS

Calculations

Power density at the specific separation:

$$S = PG / (4R^2\pi)$$

$$S = (645.654 * 3.16) / (4 * 20^2 * \pi)$$

$$S = 0.406191 \text{ mW/cm}^2 *$$

where: S = Maximum power density (mW/cm²)

P = Power input to the antenna (mW)

G = Numeric power gain of the antenna

R = distance to antenna in centimeters

[28.1 dBm = 645.654 mW]

[5 dBi = numeric gain of 3.16]

The Maximum Permissible Exposure (MPE) limits for the 902-928 MHz band are:

"general population/uncontrolled exposures" is:

0.6 mW/cm²

"occupational/controlled exposures" is:

3.0 mW/cm²

* The calculated power density for this device with 20 cm separation is: **0.406191 mW/cm²**

The calculated minimum safe distances for this device are:

16.457 cm for "general population/uncontrolled exposures"

7.36 cm for "occupational/controlled exposures"

Therefore, the exposure condition for this device is compliant with the FCC rules.