

Pd-TX-1000 RF Exposure:

Calculation Method of RF Power Density:

The power density S, in mW/ cm² is:

$$S = (P \cdot G) / (4 \cdot \pi \cdot r^2)$$

Where:

S = allowable power density in mW/cm²

P = power to the antenna in mW

G = numeric gain of the antenna relative to an isotropic radiator

r = 20 cm (minimum limit for a 'mobile' product)

Per 47 CFR 1.1310, The limit for Maximum Permissible Exposure (MPE) limits for Occupational/General Population in the frequency band 1.50 – 100 GHz are:

Occupational - 5 mW/cm²

General Population - 1 mW/cm²

Antennas intended for use with this device have an approximate gain of 2.1 dBi.

The maximum transmitter power is 1000 milliWatts.

Conversion of antenna gain from dB to numeric:

$$G = 10^{(2.1/10)} = 1.62$$

Substitute P, G, and r into Eq. 2 to solve for the Power Density:

$$S = (P \cdot G) / (4 \cdot \pi \cdot r^2)$$

$$.322 = (1000 \cdot 1.62) / (4 \cdot 3.14 \cdot 400)$$

$$S = .322 \text{ mW/cm}^2$$

Therefore, the Maximum Permissible Exposure (MPE) limits as specified in FCC 47 CFR 1.1310 are not exceeded when the device is used as described in the Operator Guide.