

Pd-TX-1000-M-2.4 RF Exposure:

Calculation Method of RF Power Density:

The power density S, in mW/ cm² is:

$$S = (P*G)/(4*\Pi*r^2)$$

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)

The limit for Maximum Permissible Exposure (MPE) limits for Occupational/General Population in the frequency band 1.50 – 100 GHz are 5/1 mW/cm² respectively(47 CFR 1.1310).

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

The maximum transmitter power is 1 Watt.

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:

$$S = (P*G)/(4*\Pi*r^2)$$
$$.322 = (1000*1.62)/(4*3.14*400)$$

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

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.