

## Tac/Caom 2005 RF Exposure:

This product is intended for use in Occupational Environments only.

### Calculation Method of RF Power Density:

The power density S, in mW/ cm<sup>2</sup> is:

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

Where:

S = allowable power density in mW/cm<sup>2</sup>

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)

Antennas intended for use with this device have an approximate gain of 1.0 dBi.

The maximum transmitter power is 3.5 Watts.

Conversion of antenna gain from dB to numeric:  $G = 10^{(1.0/10)} = 1.26$

### ----- Occupational Calculation -----

The limits for Maximum Permissible Exposure (MPE) for Occupational use in the frequency band 30–300 MHz is 1mW/cm<sup>2</sup> (47 CFR 1.1310).

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

$$S = (P*G)/(4*\Pi*r^2)$$
$$.877 = (3500*1.26)/(4*3.14*400)$$

$$S = .877\text{mW/cm}^2$$

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.

### ----- General Population Calculation -----

The limits for Maximum Permissible Exposure (MPE) for Uncontrolled Exposure in the frequency band 30–300 MHz is .2mW/cm<sup>2</sup> (47 CFR 1.1310).

Substitute P, G, and S into Eq. 2 to solve for the compliance radius:

$$.2 = (P*G)/(4*\Pi*r^2)$$
$$.2 = (3500*1.26)/(4*3.14* r^2)$$

$$r = \sim 42 \text{ cm}$$