

# 1. R.F Exposure/Safety for Wireless Transmitter HomeBase

The E.U.T. is used to program FUELOPASS RFID cards and Datapass/μDataPass units. The E.U.T. is handheld. The typical distance between the E.U.T. antennas and the user's hand in the worst case application, is 2.5cm .

Calculation of Maximum Permissible Exposure (MPE)

Based on Section 1.1307(b)(1) Requirements

(a) FCC limits at MHz is:  $1 \frac{mW}{cm^2}$

Using table 1 of Section 1.1310 limit for general population/uncontrolled exposures, the above level is an average over 30 minutes.

(b) The power density produced by the E.U.T. is

$$S = \frac{P_t G_t}{4\pi R^2}$$

S – Peak power density according to the limit  $1 \frac{mW}{cm^2}$

P<sub>t</sub>- Transmitted Power 9.72 mw (Peak)

G<sub>T</sub>- Antenna Gain, 1 dBi (Included in the power measurement)

R- Minimum safety distance from Transmitter

(c) Minimum RF safety distance is: :

$$R = \sqrt{\frac{P \times G}{S \times \pi \times 4}} = \sqrt{\frac{9.72}{4\pi}} = 0.879cm$$

