R.F Exposure/Safety Calculation for VE WIMAX 2.5 GHz

The E.U.T. is a WiMAX distributed antenna system. The “worst case” distance between the E.U.T. and the general population is 20 cm.

Calculation of Maximum Permissible Exposure (MPE)

Based on Section 1.1307(b)(1) Requirements

(a) FCC limits at 2600 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

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

P_t G_T - Transmitted Power 287 mw

R- Distance from Transmitter using 20cm worst case

(c) Peak power density:

$$S_{AV} = \frac{287}{4\pi(20)^2} = 57\times10^{-3}\frac{mW}{cm^2}$$