

## R.F Exposure/Safety 5 GHz Transmitter

Typical use of the E.U.T. is enabling location based applications, i.e. AeroScout tags . The typical placement of the E.U.T. is wall/ceiling mounted . The typical distance between the E.U.T. and the user in the worst case application, is >20cm .

### Calculation of Maximum Permissible Exposure (MPE)

Based on Section 1.1307(b)(1) Requirements

(a) FCC limit 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<sub>t</sub>- Transmitted Power 41.68 mw (Peak) = 16.2 dBm

G<sub>T</sub>- Antenna Gain, 1 dB

R- Distance from Transmitter using 0.2 m worst case

(c) The peak power density is :

$$S_p = \frac{41.68 \times 1}{4\pi(20)^2} = 82.9 \times 10^{-3} \frac{mW}{cm^2}$$

(d) This is more than 3 orders of magnitude below the FCC limit.