# R.F Exposure/Safety Calculation for RXU 2325 – WCS/TDD

The E.U.T. is rack or wall mounted. The typical distance between the E.U.T. and the general population is >50cm.

Calculation of Maximum Permissible Exposure (MPE)

Based on Section 1.1310 Requirements

(a) FCC limit at 2.3 GHz (WCS) & 2.5 GHz (TDD) 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.

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

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

$P_t$- Transmitted Peak Power (worst case)

$G_T$- Antenna Gain, 12.5dBi= 17.8 numeric

R- Distance from Transmitter 50 cm

(d ) Peak power density at worst case continuous transmission:

| Band | Modulation | Pt (dBm) | Pt (mW) | Antenna type | $G_T$ (dBi) | $G_T$ numeric | R (cm) | $S_{AV}$ ($mW/cm^2$) | Spec ($mW/cm^2$) |
|---|---|---|---|---|---|---|---|---|---|
| WCS | 64QAM | 21.0 | 126 | External | 12.5 | 17.8 | 50 | 0.071391 | 1.0 |
| | 16QAM | 21.0 | 126 | External | 12.5 | 17.8 | 50 | 0.071391 | 1.0 |
| | QPSK | 20.8 | 120 | External | 12.5 | 17.8 | 50 | 0.067991 | 1.0 |
| TDD | 64QAM | 20.8 | 120 | External | 12.5 | 17.8 | 50 | 0.067991 | 1.0 |
| | 16QAM | 20.8 | 120 | External | 12.5 | 17.8 | 50 | 0.067991 | 1.0 |
| | QPSK | 20.9 | 123 | External | 12.5 | 17.8 | 50 | 0.069691 | 1.0 |

(e) This is below the FCC limit.