

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.