R.F Exposure/Safety Calculation for MRU - PCS

The E.U.T. is rack or wall mounted. The typical distance between the E.U.T. and the general population is >100cm.

Calculation of Maximum Permissible Exposure (MPE)

Based on Section 1.1310 Requirements

(a) FCC limit at 1932.5 MHz is: $\qquad 1\dfrac{mW}{cm^2}$

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- Transmitted Peak Power (worst case)

G_T- Antenna Gain, 12.5dBi= 17.8 numeric

R- Distance from Transmitter 100 cm

(c) 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)
PCS	LTE 64QAM	35.6	3631	External	12.5	17.8	90	0.514324	1
	GSM	35.6	3631	External	12.5	17.8	90	0.514324	1
	W-CDMA	36.6	4571	External	12.5	17.8	90	0.647473	1

(d) This is below the FCC limit.