R.F Exposure/Safety Calculation for MobileAccessHX High Power DAS Remote Unit CELL/PCS/AWS

The E.U.T. is rack or wall mounted. The typical distance between the E.U.T. and the general population is >80 cm.

Calculation of Maximum Permissible Exposure (MPE)
Based on Section 1.1307(b)(1) Requirements

(a) FCC limit at 881.0 MHz is: $f/1500 = 0.587 \frac{mW}{cm^2}$

FCC limit at 1960 MHz is: $1 \frac{mW}{cm^2}$

FCC limit at 2135 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- Transmitted Peak Power (worst case)

G_T- Antenna Gain ,dBi

R- Distance from Transmitter

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

Band	Modulation	Pt (mW)	Antenna type	G_T (dBi)	R (cm)	S_{AV} (mW/cm^2)	Spec (mW/cm^2)
CELL	CDMA	3467	External	10	80	0.431	0.587
	GSM	3750	External	10	80	0.466	0.587
	W-CDMA	3855	External	10	80	0.479	0.587
PCS	CDMA	3524	External	10	80	0.438	1.0
	GSM	3532	External	10	80	0.439	1.0
	W-CDMA	3228	External	10	80	0.401	1.0
AWS	CDMA	3459	External	10	80	0.430	1.0
	W-CDMA	3062	External	10	80	0.381	1.0