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

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 747.0 MHz is: $f/1500 = 0.498 \frac{mW}{cm^2}$

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)
LTE	W-CDMA	3170	External	10	80	0.394	0.498
	QPSK	3565	External	10	80	0.443	0.498
	16QAM	3614	External	10	80	0.449	0.498
	64QAM	3459	External	10	80	0.430	0.498
AWS	CDMA	3741	External	10	80	0.465	1.0
	W-CDMA	3027	External	10	80	0.376	1.0