

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

The E.U.T. is rack or wall mounted. The typical distance between the E.U.T. and the general population is >75 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 747 MHz is:  $f / 1500 = 0.498 \frac{mW}{cm^2}$

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 <sub>T</sub> (dBi)	R (cm)	S <sub>AV</sub> (mW/cm <sup>2</sup> )	Spec (mW/cm <sup>2</sup> )
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
LTE	W-CDMA	3793	External	10	80	0.472	0.498
	QPSK	3767	External	10	80	0.468	0.498
	16QAM	3776	External	10	80	0.470	0.498
	64QAM	3491	External	10	80	0.434	0.498