# R.F Exposure/Safety Calculation for QX CELL-PCS

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 881.5 MHz is: $f/1500 = 0.588 \frac{mW}{cm^2}$

FCC limit at 1960 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 | LTE QPSK | 235.505 | External | 12.5 | 75 | 0.059 | 0.588 |
| | LTE 16QAM | 246.037 | External | 12.5 | 75 | 0.062 | 0.588 |
| | LTE 64QAM | 276.694 | External | 12.5 | 75 | 0.070 | 0.583 |
| | GSM | 255.270 | External | 12.5 | 75 | 0.064 | 0.587 |
| | W-CDMA | 306.196 | External | 12.5 | 75 | 0.077 | 0.587 |
| PCS | LTE 64QAM | 495.450 | External | 12.5 | 75 | 0.125 | 1.0 |
| | LTE 16QAM | 432.514 | External | 12.5 | 75 | 0.109 | 1.0 |
| | LTE QPSK | 453.942 | External | 12.5 | 75 | 0.114 | 1.0 |
| | GSM | 483.059 | External | 12.5 | 75 | 0.122 | 1.0 |
| | W-CDMA | 582.103 | External | 12.5 | 75 | 0.147 | 1.0 |