

# ATTACHMENT

FCC ID: PX8RA-5700-R

## \*\* MPE Calculations \*\*

Environmental evaluation and exposure limit according to FCC CFR 47part 1, §1.1307, §1.1310

The calculation was done for required safe distance.

### Limits for General Population/Uncontrolled Exposure

Note. This MPE calculation is worst case:

#### 1. 700MHz and 850 frequency band

Maximum permissible exposure is  $\text{Freq. (MHz)}/1500 = \text{MPE mW/cm}^2$

Freq = 733 MHz,  $733/1500 = 0.488 \text{ mW/cm}^2$

#### 2. 1900MHz band:

The maximum permissible power density is  $=1 \text{ mW/ cm}^2$

Max Tx output power at antenna input = 30 dBm = 1000 mW

Maximum Antenna Gain = 6 dBi, so the numeric gain = 4 (dBi)

The maximum RF power from Antenna = 36 dBm (EIRP) = 4000 mW (EIRP)

### MPE Calculation at worst case:

#### Estimated safe separation:

$$R = \sqrt{(PG / (4\pi * 0.488))}$$

$$R = \sqrt{(1000 * 4 / (4\pi * 0.488))}$$

$$R = 25.55 \text{ cm}$$

Where,

P = Power input to the antenna (mW)

G = Numeric power gain of the antenna

R = Distance to the center of the radiation of the antenna

(20cm = limit for MPE)

The minimum safe distance for

Occupational/Controlled exposure is 25.55cm for the antenna when installed.

This is the worst case for the downlink. The maximum antenna gain stated is for the downlink. This product is installed by trained professionals in outdoor applications only