

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

The booster is classified as a fixed device, the calculation was done to confirm a safe distance.

Limit for power density for general population/uncontrolled exposure is  $f/1500$  mW/cm<sup>2</sup> for 300 – 1500 MHz frequency range:

$$P = 421/1500 = 0.28 \text{ mW/cm}^2$$

The power density  $P$  (mW/cm<sup>2</sup>) =  $P_T / 4\pi r^2$ , where

$P_T$  is the transmitted power, which is equal to the peak transmitter output power plus maximum antenna gain.

The maximum equivalent isotropically radiated power EIRP is

$$P_T = 36.98 \text{ dBm} + (-6 \text{ dBd}) + 2.15 \text{ dB} = 33.13 \text{ dBm} = 2056 \text{ mW}, \text{ where}$$

36.98 dBm is the EUT maximum output power in DL mode;  
-6 dBd – antenna assembly gain.

The minimum safe distance “r”, where RF exposure does not exceed FCC permissible limit, is

$$r = \sqrt{P_T / (P \times 4\pi)} = \sqrt{2056 / (0.28 \times 12.56)} \approx 25 \text{ cm}.$$

A warning about a safe distance is contained in the user manual.