

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

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

Limit for power density for general population/uncontrolled exposure is 1 mW/cm<sup>2</sup> for 1500 -100000 MHz frequency range.

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

$$P_T = 23 \text{ dBm} + 12.5 \text{ dBi} = 35.5 \text{ dBm} = 3548 \text{ mW}, \text{ where}$$

23 dBm is the EUT maximum rated power,  
12.5 dBi – antenna gain.

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

$$r = \sqrt{P_T / (P \times 4\pi)} = \sqrt{3548 / 12.56} = 16 \text{ cm},$$

which is less than calculated value in the original application.

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