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

The calculation was done to confirm required safe distance for fixed device.

Limit for power density for general population/uncontrolled exposure is 1 $mW/cm^2$ for 1500 -100000 MHz frequency range:

The power density **$P\ (mW/cm^2) = P_T / 4\pi r^2$**, where
$P_T$ is the maximum equivalent isotropically radiated power (EIRP).

1) The selected power level will be based on Domain proxy calculation taking into account max EIRP as specified by the SAS. The EIRP calculation will include the total antenna gain (please refer to corresponds to the equivalent isotropically radiated power (EIRP) based on 23dBm (TX Power) + 15dBi(antenna gain) = 38dBm EIRP

FCC MAX EIRP 38 dBm, is equal to 6309.57mW

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

$$r = \text{sqrt}\ \{ P_T / (P \times 4\pi)\} = \text{sqrt}\ \{6309.57/ 12.56\} = 22.41\text{cm}.$$

General public cannot be exposed to dangerous RF level, a fixed device is located at least 50cm safe distance from the persons.