Environmental evaluation and exposure limit according to FCC CFR 47part 1, §1.1307, §1.1310 and RSS-102

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

P = 450/1500 = 0.3 mW/cm^2

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

To confirm compliance with a safe distance for fixed base station the following calculation was done:

1) The peak output power of 43 dBm with 2 dBi antenna gain corresponds to the equivalent isotropically radiated power (EIRP) of

   43 dBm + 2 dBi = 45 dBm, which is equal to 31622.8 mW.

2) On sites with the 5.8 dBi antenna installation the peak output power of 39.2 dBm is permitted, the EIRP is 39.2 dBm + 5.8 dBi = 45 dBm, which is equal to 31622.8 mW.

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

$$r = \text{sqrt}\ \{ P_T / (P x 4\pi)\} = \text{sqrt}\ \{31622.8 / 0.3\ x12.56\} \approx 92\ \text{cm} < 2\ \text{m}\ .$$

General public cannot be exposed to dangerous RF level.