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^2 for 1500 -100000 MHz frequency range.

The power density **P (mW/cm^2) = P_T / 4π 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

$$P_T = 24.14 \text{ dBm} +17 \text{ dBi} = 41.14 \text{ dBm} = 13002 \text{ mW, where}$$

24.14 dBm is the EUT maximum output power,
17 dBi – antenna gain.

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

$$r = \text{sqrt} \{ P_T / (P \text{x} 4\pi)\} = \text{sqrt} \{13002 / 12.56\} = 32 \text{ cm} \ll 2 \text{ m .}$$

General public cannot be exposed to dangerous RF level.