RF Exposure Evaluation according to FCC §1.1307

The transceiver is classified as fixed. The calculation was done to confirm a minimum safety distance.

Limit for power density for general population/uncontrolled exposure is 1 mW/cm^2 (for 1500 –100,000 MHz frequency range).

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

P_T is the maximum transmitted power, which is equal to the peak transmitter output power plus antenna gain. The maximum equivalent isotropically radiated power EIRP was obtained at 3675 MHz in 3660-3690 MHz band:

$$P_T = 20.36 \text{ dBm} + 21 \text{ dBi} = 41.36 \text{ dBm} = 13677 \text{ mW, where}$$

20.36 dBm is the EUT output power;
21 dBi – antenna gain.

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

$$r = \text{sqrt} \{ P_T / (P \times 4\pi)\} = \text{sqrt} \{13677 / 12.56\} = 33 \text{ cm.}$$

General public will not be exposed to dangerous RF level.