RF Exposure Evaluation according to §15.407(f) and RSS-102

The transceiver is classified as fixed. The calculation was done for minimum safety distance.

The device operating frequency range is 5730 - 5820 MHzHz. Limit for power density for general population/uncontrolled exposure is 1 mW/cm^2 (for 1500 –100,000 MHz frequency range).

The power density $P \text{ (mW/cm}^2) = P_T / 4\pi\, r^2$

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 = 24.54 dBm +27.9 dBi = 52.44 dBm = 175388 mW, where
24.54 dBm is the EUT maximum output power in 5735 - 5815 MHz band and 20 MHz emission bandwidth,
27.9 dBi – antenna assembly gain.

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

r = sqrt { P$_T$ / (Px4π)} = sqrt {175388/ 12.56} = 118 cm.

General public will not be exposed to dangerous RF level if the EUT, fixed device, will be used at a distance of more than 118 cm from humans.

Warning in the User Manual shall be provided.