Exposure limit according to §1.1307 and RSS-102

The roadside mini reader is classified as a fixed device. The calculation was done to confirm the required safe distance.

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

P = 915/1500 = 0.61 mW/cm^2

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

P_T is the transmitted power, which is equal to the peak transmitter output power 18.25 dBm plus maximum antenna gain 8 dBi, the maximum equivalent isotropically radiated power EIRP is

P_T = 18.25 dBm + 8 dBi = 26.25 dBm = 422 mW.

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

r = sqrt { P$_T$ / [Px4π]} = sqrt {422/ [0.61 x 12.56]} = 7.4 cm

General public cannot be exposed to dangerous RF level.