Exposure limit according to §90 (i)

The device is classified as mobile.

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 **P (mW/cm^2) = P_T / 4π r^2**

P_T is the transmitted power, which is equal to the peak transmitter output power in 4GFSK modulation mode of 33.2 dBm plus maximum antenna gain (0.5) dBi, the maximum equivalent isotropically radiated power EIRP is

P_T = 33.2 dBm +0.5 dBi = 33.7 dBm = 2344.22 mW.

According to the manufacture's declaration the duty cycle factor for 30min averaging time is 0.00011 hence, the equivalent averaged EIRP is:

P_T = 2344.22 mW x 0.00011= 0.2578 mW.

The power density at 20 cm (minimum safe distance, required for mobile devices), calculated as follows:

0.2578 mW / 4π (20 cm)^2 ≈ 0.05 μW/cm^2 < 0.3 mW/cm^2

General public cannot be exposed to dangerous RF level.