RF exposure evaluation according to §15.407(f) and §1.1307

The calculation was done for power density at 20 cm 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 $\mathbf{P\ (mW/cm^2)\ =\ P_T\ /\ 4\pi\ r^2}$

P_T is the transmitted power, which is equal to the peak transmitter output power 17.6 dBm plus maximum antenna gain 9 dBi, the maximum equivalent isotropically radiated power EIRP is

$$P_T = 17.6 \text{ dBm} + 9 \text{ dBi} = 26.6 \text{ dBm} = 457 \text{ mW}.$$

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

$$P = 457 \text{ mW} / 4\pi\ (20 \text{ cm})^2 = 0.09 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

General public cannot be exposed to dangerous RF level.