

Subject: Environmental evaluation and Exposure limit according to FCC CFR 47 §15.247(b)(5) and §1.1307, §1.1310

Limit for power density for general population /uncontrolled exposure is 0.495 mW/cm² (for 743MHz)

The Power density:

$$P \text{ (mW/cm}^2\text{)} = P_T / 4\pi R^2 \quad \text{where}$$

P_T is the maximum transmitted power, which is equal to the transmitter output power 30.71 dBm plus the maximum antenna gain 11 dBi, the maximum equivalent isotropically radiated power EIRP is:

$$P_R = P_T + \text{antenna gain} = 30.71\text{dBm} + 11\text{dBi} = 41.71\text{dBm} = 14825\text{mW}$$

The minimum safe distance "R" where RF exposure does not exceed FCC permitted limit is 17.5 cm.

$$R = \sqrt{P_R / 0.495 \text{ mW/cm}^2 * 4\pi} = \sqrt{14825/6.28} = 48.8 \text{ cm}$$

The actual Safety distance shall be Not less than 49 cm