FCCID: QQ2-GA900Q

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
0.610 mW/cm² (for 915MHz).

The Power density:
$$P \ (mW/cm^2) = P_T / 4\pi \ R^2 \qquad \text{where}$$

P_T is the maximal transmitted power, which is equal to the transmitter output power 29.99 dBm plus the maximum antenna gain 12.5 dBi, the maximum equivalent isotropically radiated power EIRP is:

$$P_T = 29.89 \ dBm + 12.5 dBi = 42.39 \ dBm = 17.338 \ W$$

Hence, according to 15.247(b)(4) the maximum transmitted power should be reduced by: Power Correction factor = (maximum antenna gain dBi - 6 dBi) dB

In our case the transmitted power was reduced by:

$$\text{Power Correction factor } = 12.5 \ dBi - 6 \ dBi = 6.5 \ dB$$

$$P_{T1} = P_T - \text{Power Correction factor} = 29.89 \ dBm - 6.5 \ dB = 23.39 \ dBm$$

$$\text{Corrected } P_T = 23.39 \ dBm + 12.5 dBi = 35.89 \ dBm = 3.881 \ W$$

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

$$R = sqrt \ (P_T / 0.610 \ mW/cm^2 \ *4\pi) = sqrt \ (3,881/7.66) = 22.51 \ cm$$

The actual Safety distance shall be Not less than 22.51 cm