§ 24.52 RF Exposure

RF Exposure Requirements:

§24.52. Licensees and manufacturers are subject to the radiofrequency radiation exposure requirements specified in Sec. 1.1307(b), Sec. 2.1091 and Sec. 2.1093 of this chapter, as appropriate. Applications for equipment authorization of mobile or portable devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

RF Radiation Exposure Limit:

§1.1310: As specified in this section, the Maximum Permissible Exposure (MPE) Limit shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in Sec. 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of Sec. 2.1093 of this chapter.

MPE Limit Calculation: EUT's operating frequencies @ 869 - 894 MHz; highest conducted power = 25.0dBm therefore,
Limit for Uncontrolled exposure: 0.596 mW/cm^2 or 10 W/m^2

EUT maximum EIRP per users manual = 34dBm (2500mW)

Equation from page 18 of OET 65, Edition 97-01

$S = PG / 4\pi R^2$ or $R = \sqrt{PG / 4\pi S}$

where, S = Power Density (1 mW/cm^2)
PG = 2500

$R = \sqrt{(2500 / 4*3.14*0.596)} = \sqrt{(2500/7.49)} = 18.2$ cm

MPE Limit Calculation: EUT's operating frequencies @ 1930-1990 MHz; highest conducted power = 25.4dBm therefore, **Limit for Uncontrolled exposure: 1 mW/cm^2 or 10 W/m^2**

EUT maximum EIRP per users manual = 34dBm (2500mW)

Equation from page 18 of OET 65, Edition 97-01

$S = PG / 4\pi R^2$ or $R = \sqrt{PG / 4\pi S}$

where, S = Power Density (1 mW/cm^2)
PG = 2500

$R = \sqrt{(2500 / 4*3.14*1)} = \sqrt{(2500/12.56)} = 14.0$cm