RF Exposure Requirements: **§1.1307(b)(1) and §1.1307(b)(2):** Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

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 @ 2400-2483.5 MHz; highest conducted power = *24.3dBm* (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm^2 or 10 W/m^2**

Gain of Omni Antenna @ 2.4GHz= 10 dBi

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 (mW/cm^2)
P = Power Input to antenna (269.15 mW)
G = Numeric Antenna Gain (10)
R = Radius (20 cm)

$S = (269.15 * 10)/(4*3.14*20^2) = 0.536$ mW/cm^2, when 10 dBi antenna is used

Gain of Sector Antenna @ 2.4GHz = 15 dBi
Highest Conducted Power with Sector Antenna = 20.41

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

where, S = Power Density (mW/cm^2)
P = Power Input to antenna (109.9 mW)
G = Numeric Antenna Gain (31.62)
R = Radius (20 cm)

$S = (109.9 * 31.62)/(4*3.14*20^2) = 0.692$ mW/cm^2, when 15 dBi antenna is used

MPE Limit Calculation: EUT's operating frequencies @ 5725-5850 MHz; highest conducted power = 25.02*dBm* (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm^2 or 10 W/m^2**

Gain of Omni Antenna @ 5.8GHz = 10 dBi

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 (mW/cm^2)
P = Power Input to antenna (317.57mW)
G = Antenna Gain (10 numeric)
R = Radius (cm)

$S = (317.57 * 10)/(4*3.14*20^2) = 0.632$ mW/cm^2, when 10 dBi antenna is used

Gain of Sector Antenna @ 5.8GHz = 15.5 dBi
Highest Conducted Power with Sector Antenna = 20.43 dBm

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

where, S = Power Density (mW/cm^2)
P = Power Input to antenna (110.41 mW)
G = Numeric Antenna Gain (35.48)
R = Radius (20 cm)

$S = (110.41 * 35.48)/(4*3.14*20^2) = 0.780$ mW/cm^2, when 15.5 dBi antenna is used