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 @ 5240-5320, 5500-5700 MHz; highest conducted power = 19.91*dBm* (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm^2 or 10 W/m^2**

Gain of Omni Antenna @ 5GHz = 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 (97.974mW)
G = Antenna Gain (10 numeric)
R = Separation Distance (20 cm)

$S = (97.974 * 10)/(4 * 3.14 * 20^2) = 0.195$ mW/cm^2

Gain of Sector Antenna @ 5GHz = 15.5 dBi
Number of summing antenna elements = 2
Array Gain of Sector Antenna @ 5GHz = 15.5+10log(2)=18.51dBi
High Conducted Power with Sector Antenna = 12.32 dBm

S = Power Density (mW/cm^2)
P = Power Input to Antenna (17.06 mW)
G =Antenna Array Gain (70.958)
R = Separation Distance (20 cm)

$S = (17.06 * 70.958)/(4 * 3.14 * 20^2) = 0.241$ mW/cm^2

Co-location Analysis
Worst Case Power Density for M25 radio = 0.241 mW/cm^2
Worst Case Power Density for M5 radio = 0.232 mW/cm^2
Co-located Power Density = 0.473 mW/cm^2
Since S<1mW/cm^2 for the worst case, the EUT is compliant with RF exposure limits at a distance of 20cm.