MPE Limit Calculation: EUT's operating frequencies @ 824.2 – 849.2 MHz; highest conducted power = ERP – Max Antenna Gain = 23.93 – 11.5 = *12.43dBm* (peak) therefore, **Limit for Uncontrolled exposure = Freq/1500 = 824.2/1500= 0.549 mW/cm^2 or 5.49 W/m^2**

EUT maximum antenna gain = *8.5 dBi + 10log(# of antennas) = 8.5 + 3.0 =11.5dBi*

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

$$S1 = PG / 4\pi R^2 \quad \text{or} \quad R = \sqrt{PG / 4\pi S}$$

where, S1 = Power Density (Limit = 0.549 mW/cm^2)
P = Power Input to antenna (17.498mW)
G = Antenna Gain (14.125 numeric)
R = Minimum Distance between User and Antenna (20 cm)

$S1 = (17.498*14.125)/(4*3.14*20^2) = 247.172/5024 = 0.049$ mW/cm^2
$S1 < 0.549$ mW/cm^2,

MPE Limit Calculation: EUT's operating frequencies @ 1850-1910 MHz; highest conducted power = EIRP – Antenna Gain = 26.107 – 8.4 = 17.71*dBm* (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm^2 or 10 W/m^2**

EUT maximum antenna gain = *5.4 dBi + 10log(# of antennas) = 5.4 + 3.0 = 8.4dBi*

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

$$S2 = PG / 4\pi R^2 \quad \text{or} \quad R = \sqrt{PG / 4\pi S}$$

where, S2 = Power Density (Limit = 1 mW/cm^2)
P = Power Input to antenna (59.020mW)
G = Antenna Gain (6.918 numeric)
R = Minimum Distance between User and Antenna (20 cm)

$S2 = (59.020*6.918)/(4*3.14*20^2) = 408.319/5024 = 0.082$ mW/cm^2
$S2 < 1$ mW/cm^2,