# MPE CALCULATION

MPE Limit Calculation: EUT's operating frequencies @ 2400-2483.5 MHz; highest conducted power = 26.5dBm (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm$^2$ or 10 W/m$^2$**

EUT maximum antenna gain = 16 dBi.

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

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

where, S = Power Density (1 mW/cm$^2$)
P = Power Input to antenna (446.7mW)
G = Antenna Gain (39.8 numeric)

$R = (446.7*39.8/ 4*3.14*1.0)^{1/2} = (17778.6 / 12.56)^{1/2} = 37.6$cm

MPE Limit Calculation: EUT's operating frequencies @ 5725 - 5850 MHz; highest conducted power = 25.6dBm (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm$^2$ or 10 W/m$^2$**

EUT maximum antenna gain = 23 dBi.

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

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

where, S = Power Density (1 mW/cm$^2$)
P = Power Input to antenna (363.1mW)
G = Antenna Gain (199.5 numeric)

$R = (363.1*199.5/ 4*3.14*1.0)^{1/2} = (72438.4 / 12.56)^{1/2} = 75.9$cm