MPE Calculations(802.11b mode)

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user. The MPE calculation for this exposure is shown below.

The peak radiated output power (EIRP) is calculated as follows:

EIRP = P + G EIRP = 11.97 dBm + 5 dBi EIRP = 16.97 dBm	Where, P = Power input to the antenna (mW) G = Power gain of the antenna (dBi)

Power density at the specific separation:

$S = PG/(4R^2\pi)$ $S = (15.74 * 3.16) / (4 * 20^2 * \pi)$ **$S = 0.0099\ mW/cm^2$**	Where, S = Maximum power density (mW/cm^2) P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna(20cm)

Conclusion:

The maximum permissible exposure (MPE) of the general Population/Uncontrolled for this device is **1.0 mW/cm^2** . The calculated power density at 20cm (**0.0099 mW/cm^2**) does not exceed the **1.0 mW/cm^2**.

Therefore, the exposure condition of the EUT is compliant with FCC rules.

MPE Calculations(802.11g mode)

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user. The MPE calculation for this exposure is shown below.

The peak radiated output power (EIRP) is calculated as follows:

EIRP = P + G EIRP = 11.13 dBm + 5 dBi EIRP = 16.12 dBm	Where, P = Power input to the antenna (mW) G = Power gain of the antenna (dBi)

Power density at the specific separation:

$S = PG/(4R^2\pi)$ $S = (12.97 * 3.16) / (4 * 20^2 * \pi)$ **$S = 0.0082\ mW/cm^2$**	Where, S = Maximum power density (mW/cm^2) P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna(20cm)

Conclusion:

The maximum permissible exposure (MPE) of the general Population/Uncontrolled for this device is **1.0 mW/cm^2** . The calculated power density at 20cm (**0.0082 mW/cm^2**) does not exceed the **1.0 mW/cm^2**.

Therefore, the exposure condition of the EUT is compliant with FCC rules.

MPE Calculations(WIMAX - OBW: 5MHz)

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user. The MPE calculation for this exposure is shown below.

The peak radiated output power (EIRP) is calculated as follows:

EIRP = P + G EIRP = 26.46 dBm + 4.73 dBi EIRP = 31.19 dBm	Where, P = Power input to the antenna (mW) G = Power gain of the antenna (dBi)

Power density at the specific separation:

$S = PG/(4R^2\pi)$ $S = (442.588 * 2.97) / (4 * 20^2 * \pi)$ **$S = 0.262\ mW/cm^2$**	Where, S = Maximum power density (mW/cm^2) P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna(20cm)

Conclusion:

The maximum permissible exposure (MPE) of the general Population/Uncontrolled for this device is **1.0 mW/cm^2** . The calculated power density at 20cm (**0.262 mW/cm^2**) does not exceed the **1.0 mW/cm^2**.

Therefore, the exposure condition of the EUT is compliant with FCC rules.

MPE Calculations(WIMAX - OBW: 10MHz)

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user. The MPE calculation for this exposure is shown below.

The peak radiated output power (EIRP) is calculated as follows:

EIRP = P + G EIRP = 26.76 dBm + 4.73 dBi EIRP = 31.49 dBm	Where, P = Power input to the antenna (mW) G = Power gain of the antenna (dBi)

Power density at the specific separation:

$S = PG/(4R^2\pi)$ $S = (474.242 * 2.97) / (4 * 20^2 * \pi)$ **$S = 0.280\ mW/cm^2$**	Where, S = Maximum power density (mW/cm^2) P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna(20cm)

Conclusion:

The maximum permissible exposure (MPE) of the general Population/Uncontrolled for this device is **1.0 mW/cm^2** . The calculated power density at 20cm (**0.280 mW/cm^2**) does not exceed the **1.0 mW/cm^2**.

Therefore, the exposure condition of the EUT is compliant with FCC rules.