

MPE Calculations(P15.247 2.4GHz Band)

- Frequency range : **2412** MHz ~ **2462** MHz
- Maximum RF output power : Chain A = **17.98** dBm & Chain B = **17.00** dBm
(**62.81** mW) (**50.12** mW)
- Maximum antenna peak gain : Chain A = **1.30** dBi & Chain B = **1.60** dBi

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:

- Chain A	
▪ EIRP = P + G = 17.98 dBm + 1.30 dBi = 19.28 dBm Maximum EIRP	- Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)

- Chain B	
▪ EIRP = P + G = 17.00 dBm + 1.60 dBi = 18.60 dBm	- Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)

- Power density at the specific separation

▪ $S = P G / (4 R^2 \pi)$ $= 62.81 \times 1.35 / (4 \times 20^2 \times \pi)$ $= \underline{0.01686} \text{ mW/cm}^2$	- Note S = Maximum power density(mW/cm²) 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)
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Conclusion : The exposure condition of this device is compliant with FCC rules.

The maximum permissible exposure(MPE) of the general population/Uncontrolled for this device is 1.0 mW/cm².

The power density at 20cm does not exceed the $1.0\text{mW}/\text{cm}^2$.

MPE Calculations(P15.407 5GHz Band)

- Frequency range : **5180** MHz ~ **5240** MHz
- Maximum RF output power : Chain A = **9.48** dBm & Chain B = **8.90** dBm
(**8.87** mW) (**7.76** mW)
- Maximum antenna peak gain : Chain A = **-1.50** dBi & Chain B = **0.70** dBi

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:

- Chain A	
▪ EIRP = P + G = 9.48 dBm + -1.50 dBi = 7.98 dBm	- Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)

- Chain B	
▪ EIRP = P + G = 8.90 dBm + 0.70 dBi = 9.60 dBm Maximum	- Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)

- Power density at the specific separation

▪ S = P G / (4 R² π) = 7.76 X 1.17 / (4 X 20² X π) = 0.00181 mW/cm²	- Note S = Maximum power dencity(mW/cm²) 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)
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Conclusion : N/A (The EIRP is below the limit.)

The maximum permissible exposure(MPE) of the general population/Uncontrolled for this device is 1.0 mW/cm².
The power desity at 20cm does not exceed the 1.0mW/cm².

MPE Calculations(P15.247 5GHz Band)

- Frequency range : **5736** MHz ~ **5814** MHz
- Maximum RF output power : Chain A = **16.42** dBm & Chain B = **16.29** dBm
(**43.85** mW) (**42.56** mW)
- Maximum antenna peak gain : Chain A = **4.60** dBi & Chain B = **4.40** dBi

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:

- Chain A	
$\begin{aligned} \text{EIRP} &= P + G \\ &= 16.42 \text{ dBm} + 4.60 \text{ dBi} \\ &= 21.02 \text{ dBm} \quad \text{Maximum EIRP} \end{aligned}$	- Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)

- Chain B	
$\begin{aligned} \text{EIRP} &= P + G \\ &= 16.29 \text{ dBm} + 4.40 \text{ dBi} \\ &= 20.69 \text{ dBm} \end{aligned}$	- Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)

- Power density at the specific separation

▪ $S = P G / (4 R^2 \pi)$ $= 43.85 \times 2.88 / (4 \times 20^2 \times \pi)$ $= \underline{0.02516} \text{ mW/cm}^2$	- Note S = Maximum power density(mW/cm²) 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)
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Conclusion : The exposure condition of this device is compliant with FCC rules.

The maximum permissible exposure(MPE) of the general population/Uncontrolled for this device is 1.0 mW/cm².

The power density at 20cm does not exceed the $1.0\text{mW}/\text{cm}^2$.