MPE Calculation : WLAN(2.4GHz)

Frequency range :	**2412.00**	**MHz**	**~**	**2462.00**	**MHz**
Max Target power :	**16.00**	**dBm**		**(802.11b)**	
Measured Conducted power :	**15.31**	**dBm**		**(802.11b)**	
Maximum antenna gain(PK) :	**2.41**	**dBi**			
Maximum EIRP :	**18.41**	**dBm(**	**69.343**	**)mW**	

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.

- **Calculation of power density at the specific separation**

▪ **S** = EIRP / (4 R^2 π)	**- Note**
= **69.343** / (4 X 20^2 X π)	S = Maximum power density(mW/cm^2)
= **0.01380** mW/cm^2	EIRP = Equivalent Isotropic Radiated Power(mW)
	R = Distance to the center of the radiation of the antenna(20cm)

- **Requirment = 1 mW/cm²**

(FCC Part 1.1310 Table 1 Limits for maximum permissible exposure(MPE)

Conclusion : The exposure condition of this device is compliant with FCC rules.

MPE Calculation : WLAN(5GHz)

Frequency range :	**5470.00**	**MHz ~**	**5725.00**	**MHz**
Max Target power :	**17.50**	**dBm**	**(802.11n HT20)**	
Measured Conducted power :	**16.49**	**dBm**	**(802.11n HT20)**	
Maximum antenna gain(PK) :	**2.01**	**dBi**		
Maximum EIRP :	**19.51**	**dBm(89.331)mW**		

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.

- **Calculation of power density at the specific separation**

▪ **S** = EIRP / (4 R^2 π)	- **Note**
= **89.331** / (4 X 20^2 X π)	S = Maximum power density(mW/cm^2)
= **0.01777** mW/cm^2	EIRP = Equivalent Isotropic Radiated Power(mW)
	R = Distance to the center of the radiation of the antenna(20cm)

- **Requirment = 1 mW/cm²**

(FCC Part 1.1310 Table 1 Limits for maximum permissible exposure(MPE)

Conclusion : The exposure condition of this device is compliant with FCC rules.

MPE Calculation : BT(2.4GHz)

Frequency range :	**2402.00**	**MHz**	**~**	**2480.00**	**MHz**
Max Target power :	**5.50**	**dBm**	**(1Mbps)**		
Measured Conducted power :	**4.64**	**dBm**	**(1Mbps)**		
Maximum antenna gain(PK) :	**2.22**	**dBi**			
Maximum EIRP :	**7.72**	**dBm(**	**5.916**	**)mW**	

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.

- **Calculation of power density at the specific separation**

▪ **S** = EIRP / (4 R^2 π)	- **Note**
= **5.916** / (4 X 20^2 X π)	S = Maximum power density(mW/cm^2)
= **0.00118** mW/cm^2	EIRP = Equivalent Isotropic Radiated Power(mW)
	R = Distance to the center of the radiation of the antenna(20cm)

- **Requirment = 1 mW/cm²**

(FCC Part 1.1310 Table 1 Limits for maximum permissible exposure(MPE)

Conclusion : The exposure condition of this device is compliant with FCC rules.

RF Exposure Compliance for simultaneous operations

▪ Configurations for simultaneous operations

- **Configuration 1:** WLAN 2.4GHz 802.11b/g/n + Bluetooth 2.4GHz
- **Configuration 2:** WLAN 5GHz 802.11a/n/ac + Bluetooth 2.4GHz
- **Configuration 3:** N/A

Note: Above configuration was declared from applicant.

▪ Configurations for simultaneous operations

RF function	WLAN		BT		N/A		Σ of MPE ratios
Band	2.4GHz	5GHz	2.4GHz	N/A	N/A	N/A	
Power Density (mW/cm2)	0.01380	0.01777	0.00118				
Requirement (mW/cm2)	1.000	1.000	1.000				
MPE ratio (Power Density/Requirement)	0.014	0.018	0.001				
Configuration 1 (MPE ratio)	0.014		0.001				**0.015**
Configuration 2 (MPE ratio)		0.018	0.001				**0.019**
Configuration 3 (MPE ratio)							

Note: The maximum power density in each RF function was used for above table.

▪ Requirment = Σ of MPE ratios ≤ 1

Conclusion : The exposure condition of this device is compliant with FCC rules.