

MPE Calculations : (WLAN: 802.11b)

- Frequency range : 2412 MHz ~ 2462 MHz
- Measured output power : 17.25 dBm
- Target Power & Tolerance : 17.00 dBm \pm 1.5 dB (Max. 18.5 dBm & Min. 15.5 dBm)
- Maximum antenna peak gain : 2.46 dBi
- **Maximum output power for the calculation : 18.50 dBm**

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the

The MPE calculation for this exposure is shown below.

<ul style="list-style-type: none"> ▪ EIRP = P + G = 18.50 dBm + 2.46 dBi = 20.96 dBm = 124.739 mW 	<ul style="list-style-type: none"> - Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)
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- Power density at the specific separation

<ul style="list-style-type: none"> ▪ S = EIRP / (4 R² π) = 124.739 / (4 X 20² X π) = 0.024817 mW/cm² 	<ul style="list-style-type: none"> - Note S = Maximum power density(mW/cm²) EIRP = Equivalent Isotropic Radiated Power(mW) 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.

MPE Calculations : (WLAN: 802.11g)

- Frequency range : 2412 MHz ~ 2462 MHz
- Measured output power : 20.42 dBm
- Target Power & Tolerance : 20.50 dBm \pm 1.5 dB (Max. 22 dBm & Min. 19 dBm)
- Maximum antenna peak gain : 2.46 dBi
- **Maximum output power for the calculation : 22.00 dBm**

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the

The MPE calculation for this exposure is shown below.

<ul style="list-style-type: none"> ▪ EIRP = P + G = 22.00 dBm + 2.46 dBi = 24.46 dBm = 279.255 mW 	<ul style="list-style-type: none"> - Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)
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- Power density at the specific separation

<ul style="list-style-type: none"> ▪ S = $\text{EIRP} / (4 R^2 \pi)$ = 279.255 / (4 X 20² X π) = 0.055557 mW/cm² 	<ul style="list-style-type: none"> - Note S = Maximum power density(mW/cm²) EIRP = Equivalent Isotropic Radiated Power(mW) 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.

MPE Calculations : (WLAN: 802.11n HT20)

- Frequency range : 2412 MHz ~ 2462 MHz
- Measured output power : 20.84 dBm
- Target Power & Tolerance : 21.00 dBm \pm 1.5 dB (Max. 22.5 dBm & Min. 19.5 dBm)
- Maximum antenna peak gain : 2.46 dBi
- **Maximum output power for the calculation : 22.50 dBm**

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the

The MPE calculation for this exposure is shown below.

<ul style="list-style-type: none"> ▪ EIRP = P + G = 22.50 dBm + 2.46 dBi = 24.96 dBm = 313.329 mW 	<ul style="list-style-type: none"> - Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)
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- Power density at the specific separation

<ul style="list-style-type: none"> ▪ S = EIRP / (4 R² π) = 313.329 / (4 X 20² X π) = 0.062335 mW/cm² 	<ul style="list-style-type: none"> - Note S = Maximum power density(mW/cm²) EIRP = Equivalent Isotropic Radiated Power(mW) 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.

MPE Calculations : (Bluetooth)

- Frequency range : 2402 MHz ~ 2480 MHz
- Measured output power : 4.27 dBm
- Target Power & Tolerance : 3.00 dBm \pm 1.5 dB (Max. 4.5 dBm & Min. 1.5 dBm)
- Maximum antenna peak gain : 0.77 dBi
- **Maximum output power for the calculation : 4.50 dBm**

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the

The MPE calculation for this exposure is shown below.

<ul style="list-style-type: none"> ▪ EIRP = P + G = 4.50 dBm + 0.77 dBi = 5.27 dBm = 3.366 mW 	<ul style="list-style-type: none"> - Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)
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- Power density at the specific separation

<ul style="list-style-type: none"> ▪ S = EIRP / (4 R² π) = 3.366 / (4 X 20² X π) = 0.000670 mW/cm² 	<ul style="list-style-type: none"> - Note S = Maximum power density(mW/cm²) EIRP = Equivalent Isotropic Radiated Power(mW) 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.

RF Exposure Compliance for simultaneous operations

- **Configurations for simultaneous operations**

- **Configuration 1:** 2.4GHz WLAN + Bluetooth

- **Result**

RF function	802.11b	802.11g	802.11n (HT20)	BT	Total Power Density (mW/cm ²)
MODE	2.4GHz	2.4GHz	2.4GHz	2.4GHz	
Power Density (mW/cm ²)	0.024817	0.055557	0.062335	0.00067	
Configuration 1	0.024817			0.00067	0.025487

Note 1: The maximum power density in each RF function was used for above table.