

MPE Calculations : (RFID)

- Frequency range : 917.1 MHz ~ 926.9 MHz
- Measured RF output power : 24.717 dBm
- Target Power & Tolerance : 24.00 dBm $\pm$ 1 dB (Max. 25 dBm & Min. 23 dBm)
- Maximum antenna peak gain : -18.00 dBi
- **Maximum output power for the calculation 25.00 dBm**

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.

▪ EIRP = P + G = 25.00 dBm + -18.00 dBi = 7.00 dBm = 5.012 mW	- 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

▪ S = EIRP / (4 R² π) = 5.012 / (4 X 20² X π) = <u>0.000998</u> mW/cm²	- 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.

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- Frequency range : 917.1 MHz ~ 926.9 MHz
- Measured RF output power : 24.717 dBm
- Target Power & Tolerance : 24.00 dBm $\pm$ 1 dB (Max. 25 dBm & Min. 23 dBm)
- Maximum antenna peak gain : -23.00 dBi
- **Maximum output power for the calculation 25.00 dBm**

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.

▪ EIRP = P + G = 25.00 dBm + -23.00 dBi = 2.00 dBm = 1.585 mW	- 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

▪ S = EIRP / (4 R² π) = 1.585 / (4 X 20² X π) = <u>0.000316</u> mW/cm²	- 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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The MPE calculation for this exposure is shown below.

▪ EIRP = P + G = 25.00 dBm + -18.00 dBi = 7.00 dBm = 5.012 mW	- 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

▪ S = EIRP / (4 R² π) = 5.012 / (4 X 20² X π) = <u>0.000998</u> mW/cm²	- 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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- Measured RF output power : 24.717 dBm
- Target Power & Tolerance : 24.00 dBm $\pm$ 1 dB (Max. 25 dBm & Min. 23 dBm)
- Maximum antenna peak gain : -22.00 dBi
- **Maximum output power for the calculation 25.00 dBm**

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.

▪ EIRP = P + G = 25.00 dBm + -22.00 dBi = 3.00 dBm = 1.996 mW	- 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

▪ S = EIRP / (4 R² π) = 1.996 / (4 X 20² X π) = <u>0.000398</u> mW/cm²	- 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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The maximum permissible exposure(MPE) of the general population/Uncontrolled for this device is 1.0 mW/cm².

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- Frequency range : 917.1 MHz ~ 926.9 MHz
- Measured RF output power : 24.717 dBm
- Target Power & Tolerance : 24.00 dBm $\pm$ 1 dB (Max. 25 dBm & Min. 23 dBm)
- Maximum antenna peak gain : -19.00 dBi
- **Maximum output power for the calculation 25.00 dBm**

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.

▪ EIRP = P + G = 25.00 dBm + -19.00 dBi = 6.00 dBm = 3.982 mW	- 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

▪ S = EIRP / (4 R² π) = 3.982 / (4 X 20² X π) = <u>0.000793</u> mW/cm²	- 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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The MPE calculation for this exposure is shown below.

▪ EIRP = P + G = 25.00 dBm + -22.00 dBi = 3.00 dBm = 1.996 mW	- 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

▪ S = $\text{EIRP} / (4 R^2 \pi)$ = 1.996 / (4 X 20² X π) = <u>0.000398</u> mW/cm²	- 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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