

Standalone SAR test exclusion considerations(Bluetooth_Module 0)

August 24, 2017

- Max. transmitting frequency = 2480 MHz
- Max. test separation distance = 30 mm
- Max. power with turn-up tolerance = 10.00 dBm
- Measured Average Power: 8.91 dBm
- Maximum antenna peak gain: 0.300 dBi
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- Maximum output power for the calculation: 10.00 dBm**

SAR test exclusion EIRP for 2450MHz at separationn distances of 30 mm : 83 mW

$$\begin{aligned}
 \text{EIRP} &= P + G \\
 &= 10.00 \text{ dBm} + 0.300 \text{ dBi} \\
 &= \mathbf{10.300 \text{ dBm}} = \mathbf{10.716 \text{ mW}} \leq \mathbf{83 \text{ mW (Exemption Limits(mW))}}
 \end{aligned}$$

Thus SAR for this device is not required.

- * Note : P = Power input to the antenna(dBm)
- G = Power gain of the antenna(dBi)

Standalone SAR test exclusion considerations(Bluetooth_LE_Module 0)

August 24, 2017

- Max. transmitting frequency = 2480 MHz
- Max. test separation distance = 30 mm
- Max. power with turn-up tolerance = 3.00 dBm
- Measured Average Power: 1.98 dBm
- Maximum antenna peak gain: 0.300 dBi
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- Maximum output power for the calculation: 3.00 dBm**

SAR test exclusion EIRP for 2450MHz at separationn distances of 30 mm : 83 mW

$$\begin{aligned}
 \text{EIRP} &= P + G \\
 &= 3.00 \text{ dBm} + 0.300 \text{ dBi} \\
 &= \mathbf{3.300 \text{ dBm}} = \mathbf{2.138 \text{ mW}} \leq \mathbf{83 \text{ mW}} \text{ (Exemption Limits(mW))}
 \end{aligned}$$

Thus SAR for this device is not required.

- * Note : P = Power input to the antenna(dBm)
- G = Power gain of the antenna(dBi)

Standalone SAR test exclusion considerations(Bluetooth_Module 1)

August 24, 2017

- Max. transmitting frequency = 2480 MHz
- Max. test separation distance = 30 mm
- Max. power with turn-up tolerance = 18.00 dBm
- Measured Average Power: 17.11 dBm
- Maximum antenna peak gain: 1.000 dBi
- Maximum output power for the calculation: 18.00 dBm**

SAR test exclusion EIRP for 2450MHz at separationn distances of 30 mm : 83 mW

$$\begin{aligned}
 \text{EIRP} &= P + G \\
 &= 18.00 \text{ dBm} + 1.00 \text{ dBi} \\
 &= \mathbf{19.00 \text{ dBm}} = \mathbf{79.433 \text{ mW}} \leq 83 \text{ mW (Exemption Limits(mW))}
 \end{aligned}$$

[Thus SAR for this device is not required.](#)

* Note : P = Power input to the antenna(dBm)
 G = Power gain of the antenna(dBi)

Standalone SAR test exclusion considerations(Bluetooth_LE_Module 1)

August 24, 2017

- Max. transmitting frequency = 2480 MHz
- Max. test separation distance = 30 mm
- Max. power with turn-up tolerance = 3.00 dBm
- Measured Average Power: 2.21 dBm
- Maximum antenna peak gain: 1.000 dBi

- Maximum output power for the calculation: 3.00 dBm**

SAR test exclusion EIRP for 2450MHz at separationn distances of 30 mm : 83 mW

$$\begin{aligned}
 \text{EIRP} &= P + G \\
 &= 3.00 \text{ dBm} + 1.00 \text{ dBi} \\
 &= \mathbf{4.00 \text{ dBm}} = \mathbf{2.512 \text{ mW}} \leq \mathbf{83 \text{ mW (Exemption Limits(mW))}}
 \end{aligned}$$

Thus SAR for this device is not required.

- * Note : P = Power input to the antenna(dBm)
- G = Power gain of the antenna(dBi)