

Standalone SAR test exclusion considerations

March 17, 2017

- Device category = Portable device Mobile device
- Transmitting mode = Single Transmitting Simultaneous Transmitting
- Max. transmitting frequency = 2480 MHz
- Min. test separation distance = 30 mm
- Max. Antenna Gain = 1 dBi
- Max. power with turn-up tolerance = **11.50** dBm = **14.2** mW (Typical Power = Max. 11.50 dBm)

Note. Bluetooth _ Module0

It is applied as the highest tune up power among BDR, EDR

KDB 447498 D01 clause 4.3.1 Step 1) SAR test exclusion thresholds for 100MHz to 6GHz at test separation distances ≤ 50 mm

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [$\sqrt{f(\text{GHz})}$] ≤ 3.0 for 1g SAR and ≤ 7.5 for 10g extremity SAR

$$= [(14.2\text{mW} / 30\text{mm})] \times [\sqrt{2.48\text{GHz}}] = 0.7$$

Note. The calculation result was rounded to one decimal place for comparison.

→ SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required.

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- Device category = Portable device Mobile device
- Transmitting mode = Single Transmitting Simultaneous Transmitting
- Max. transmitting frequency = 2480 MHz
- Min. test separation distance = 30 mm
- Max. Antenna Gain = 1.91 dBi
- Max. power with turn-up tolerance = 17.00 dBm = 50.2 mW (Typical Power = Max. 17.00 dBm)

Note. Bluetooth _ Module1

It is applied as the highest tune up power among BDR, EDR

KDB 447498 D01 clause 4.3.1 Step 1) SAR test exclusion thresholds for 100MHz to 6GHz at test separation distances ≤ 50 mm

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [$\sqrt{f(\text{GHz})}$] ≤ 3.0 for 1g SAR and ≤ 7.5 for 10g extremity SAR

$$= [(50.2\text{mW} / 30\text{mm})] \times [\sqrt{2.48\text{GHz}}] = 2.6$$

Note. The calculation result was rounded to one decimal place for comparison.

→ SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required.

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- Device category = Portable device Mobile device
- Transmitting mode = Single Transmitting Simultaneous Transmitting
- Max. transmitting frequency = 2480 MHz
- Min. test separation distance = 30 mm
- Max. Antenna Gain = 1 dBi
- Max. power with turn-up tolerance = 6.50 dBm = 4.5 mW (Typical Power = Max. 6.50 dBm)

Note. Bluetooth LE

It is applied as the highest tune up power among low/middle/high Channel.

KDB 447498 D01 clause 4.3.1 Step 1) SAR test exclusion thresholds for 100MHz to 6GHz at test separation distances ≤ 50 mm

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [$\sqrt{f(\text{GHz})}$] ≤ 3.0 for 1g SAR and ≤ 7.5 for 10g extremity SAR

$$= [(4.5\text{mW} / 30\text{mm})] \times [\sqrt{2.48\text{GHz}}] = 0.2$$

Note. The calculation result was rounded to one decimal place for comparison.

→ SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required.