

# 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 $\leq 50$ mm

$$\left[ \left( \text{max. power of channel, including tune-up tolerance, mW} \right) / \left( \text{min. test separation distance, mm} \right) \right] \cdot \left[ \sqrt{f(\text{GHz})} \right] \leq 3.0 \text{ for 1g SAR and } \leq 7.5 \text{ for 10g extremity SAR}$$
$$= \left[ \left( 14.2\text{mW} / 30\text{mm} \right) \right] \times \left[ \sqrt{2.48\text{GHz}} \right] = 0.7$$

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 $\leq 50$ mm

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

# Standalone SAR test exclusion considerations

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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 $\leq 50$ mm

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