

Standalone SAR test exclusion considerations

July 20, 2017

- Device category = Portable device Mobile device
- Transmitting mode = Single Transmitting Simultaneous Transmitting
- Max. transmitting frequency = 2441 MHz
- Min. test separation distance = 39 mm
- Max. Antenna Gain = 0 dBi
- Max. power with turn-up tolerance = 15.96 dBm = 39.5 mW

Note. Bluetooth

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

$$\left[\left(\text{max. power of channel, including tune-up tolerance, mW} \right) / \left(\text{min. test separation distance, mm} \right) \right] \cdot \left[\sqrt{f(\text{GHz})} \right] \leq 3.0 \text{ for } 1\text{g SAR and } \leq 7.5 \text{ for } 10\text{g extremity SAR}$$
$$= \left[\left(39.5\text{mW} / 39\text{mm} \right) \right] \times \left[\sqrt{2.441\text{GHz}} \right] = 1.6$$

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

July 20, 2017

- Device category = Portable device Mobile device
- Transmitting mode = Single Transmitting Simultaneous Transmitting
- Max. transmitting frequency = 2440 MHz
- Min. test separation distance = 39 mm
- Max. Antenna Gain = 0 dBi
- Max. power with turn-up tolerance = 3.95 dBm = 2.5 mW

Note. Bluetooth LE

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

$$= [(2.5\text{mW} / 39\text{mm})] \times [\sqrt{2.44\text{GHz}}] = 0.1$$

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.