

Standalone SAR test exclusion considerations

September 12, 2017

- Device category = Portable device Mobile device
- Transmitting mode = Single Transmitting Simultaneous Transmitting
- Max. transmitting frequency = 2441 MHz
- Min. test separation distance = 30 mm
- Max. Antenna Gain = 0 dBi
- Max. power with turn-up tolerance = 17.50 dBm = 56.3 mW (Typical Power = Max. 17.50 dBm)

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

[(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

$$= [(56.3\text{mW} / 30\text{mm})] \times [\sqrt{2.441\text{GHz}}] = 2.9$$

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

September 12, 2017

- Device category = Portable device Mobile device
- Transmitting mode = Single Transmitting Simultaneous Transmitting
- Max. transmitting frequency = 2440 MHz
- Min. test separation distance = 30 mm
- Max. Antenna Gain = 0 dBi
- Max. power with turn-up tolerance = 4.00 dBm = 2.6 mW (Typical Power = Max. 4.00 dBm)

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

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

$$= [(2.6\text{mW} / 30\text{mm})] \times [\sqrt{2.44\text{GHz}}] = 0.1$$

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.

Standalone SAR test exclusion considerations

September 12, 2017

- Device category = Portable device Mobile device
- Transmitting mode = Single Transmitting Simultaneous Transmitting
- Max. transmitting frequency = 2410 MHz
- Min. test separation distance = 30 mm
- Max. Antenna Gain = 0 dBi
- Max. power with turn-up tolerance = 17.50 dBm = 56.3 mW (Typical Power = Max. 17.50 dBm)

Note. 2.4GHz ISM Band(Mesh)

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

$$= [(56.3\text{mW} / 30\text{mm})] \times [\sqrt{2.41\text{GHz}}] = 2.9$$

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.