

Standalone SAR test exclusion considerations: **Bluetooth**

Date: January 22, 2019

RF feature	Mode	Transmitting Frequency(MHz)	Test separation distance (mm)	ANT Gain (dBi)	Max. power with tune-up tolerance (dBm) ^{Note1}	Max. power with tune-up tolerance (mW)	Power thresholds	SAR test exclusion thresholds
BT	BDR(1Mbps)	2480.00	5.0	1.99	3.00	1.9953	0.63	3.00
BT	EDR(2,3Mbps)	2480.00	5.0	1.99	0.00	1.0000	0.31	3.00

Note1. Please refer to the operation description for Max tune-up.

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

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

$$= [(1.9953\text{mW} / 5\text{mm})] \times [\sqrt{2.48\text{GHz}}] = 0.63$$

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

Conclusion : SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required

Standalone SAR test exclusion considerations: **Bluetooth LE**

Date: January 22, 2019

RF feature	Mode	Transmitting Frequency(MHz)	Test separation distance (mm)	ANT Gain (dBi)	Max. power with tune-up tolerance (dBm) ^{Note1}	Max. power with tune-up tolerance (mW)	Power thresholds	SAR test exclusion thresholds
Bluetooth LE	1Mbps	2480.00	5.0	1.99	-12.00	0.0631	0.02	3.00

Note1. Please refer to the operation description for Max tune-up.

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

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

Sample Calculation

$$= [(0.0631\text{mW} / 5\text{mm})] \times [\sqrt{2.48\text{GHz}}] = 0.02$$

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

Conclusion : SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required