

Standalone SAR test exclusion considerations

RF feature	Mode	Transmitting Frequency(MHz)	Test separation distance (mm)	ANT Gain (dBi)	Max. power with tune-up tolerance (dBm) ^{Note1,2}	Max. power with tune-up tolerance (mW)	Power thresholds	SAR test exclusion thresholds
BT	BDR(1Mbps)	2 480.00	5.0	-1.95	5.85	3.845 9	1.21	3.00
BT	EDR(2, 3Mbps)	2 480.00	5.0	-1.95	1.35	1.364 6	0.43	3.00
BLE	GFSK(1, 2Mbps)	2 480.00	5.0	-1.95	5.80	3.801 9	1.20	3.00

Note1. For bluetooth(BDR, EDR), the max tune-up power was based on time-averaged power.

Max Time Avg. Power = Max Burst Avg. Power + Duty factor

Duty factor = $10 \times \log(TX_{on\ time} / TX_{on+off\ time}) = 10 \times \log(2.88ms/3.75ms) = -1.15\ dB$

Note2. Please refer to the operation description for Max tune-up power.

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 ≤ 7.5 for 10g extremity SAR

Sample Calculation

$= [(3.8459\text{mW} / 5\text{mm})] \times [\sqrt{2.48\text{GHz}}] = 1.21$

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