

SAR test exclusion

According to KDB 447498 D01 General RF Exposure Guidance v05, section 4.3.1

At 100 MHz to 6 GHz and for test separation distances ≤ 50 mm, the SAR test exclusion threshold is determined according to the following;

$$a) \left[\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \right] \times [\sqrt{f(\text{GHz})}] \leq 3.0$$

1. SAR test exclusion threshold

Frequency : 2480 MHz (min. separation distances = 5 mm)

$$\text{SAR test exclusion thresholds(5 mm)} = [(2.0 / 5) * \sqrt{2.480}] = 0.63 < 3.0.$$

Mode	Frequency (MHz)	Tune up output Power (dBm)	Measured max output Power (dBm)	Separation Distance (mm)	≤ 3.0
Bluetooth	2402	-1 ± 2	-1.3	5	-0.40
Bluetooth	2440	2 ± 2	1.15	5	0.36
Bluetooth	2480	2 ± 2	2.08	5	0.66

$$[\text{Tune up power, dBm}] = [\text{Target power, dBm} \pm \text{tune-up tolerance, dBm}]$$

$$\text{Maximum tuned up power} = (2 \text{ dBm} \pm 2 \text{ dBm}) = 4 \text{ dBm} = 2.51 \text{ mW}$$

$$\text{Measured max output power} = 2.08 \text{ dBm}$$

2. Conclusion : Bluetooth SAR was not required

0

-0.40296

0.359271

0.655117