

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)

SAR test exclusion thresholds(5 mm) = $[(0.1 / 5) * \sqrt{2.480}] = 0.031 \leq 3.0$.

Mode	Frequency (MHz)	Tune up output Power (dBm)	Measured max output power (dBm)	Separation Distance (mm)	≤ 3.0
Bluetooth	2402	-16 ± 3	-13.8	5	0.015
Bluetooth	2442	-15 ± 3	-12.78	5	0.019
Bluetooth	2480	-13 ± 3	-10.76	5	0.031

$[\text{Tune up power, dBm}] = [9\text{Target power, dBm} \pm \text{tune-up tolerance, dBm}]$

Maximum tuned up power = $(-13 \text{ dBm} \pm 3 \text{ dBm}) = -10.0 \text{ dBm} = 0.1 \text{ mW}$

Measured max output power = -10.76 dBm

2. Conclusion : Bluetooth SAR was not required

