

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) = $\left[\frac{(0.126 / 5)}{\sqrt{2.480}} \right] = 0.0397 \leq 3.0$.

Mode	Frequency (MHz)	Tune up output Power (dBm)	Measured max output power (dBm)	Separation Distance (mm)	≤ 3.0
Bluetooth	2402	-17 ± 3	-14.75	5	0.0120
Bluetooth	2442	-14 ± 3	-12.03	5	0.025
Bluetooth	2480	-12 ± 3	-9.41	5	0.0397

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

Maximum tuned up power = $(-12 \text{ dBm} \pm 3 \text{ dBm}) = -9.0 \text{ dBm} = 0.126 \text{ mW}$

Measured max output power = -9.41 dBm

2. Conclusion : Bluetooth SAR was not required

