

FCC ID : XGB-SWBB0047

➤ **Test Standards and Limits**

1. According to KDB 447498 D01 v06, Section 4.3.1

2. FCC Radiofrequency radiation exposure limits:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max power of channel})/(\text{min test separation distance})] \times [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation

distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

For 2.4G band device, the limit of worse case is

$$P_{\text{max}} \leq 3.0 \times D_{\text{min}} / f = 3.0 \times 5 / 2.480 = 9.525 \text{ mW}$$

➤ **Measurement and Calculation**

1. Maximum transmit power

Antenna Gain:	2.5 dBi
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TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]
BLE_1M	Ant1	2402	-0.77
		2440	-1.39
		2480	-1.31
BLE_2M	Ant1	2404	-0.83
		2440	-1.45
		2478	-1.48

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]
SRD	Ant1	2402	-0.72
		2441	-1.43
		2480	-1.27

2. MPE Calculation

The Max Conducted Peak Output Power is -0.72 dBm.

The Max Antenna Gain is 2.5 dBi.

According to the formula. calculate the EIRP test result:

$$\text{EIRP} = P \times G = 0.85 \text{ mW} \times 1.63 = 1.386 \text{ mW} < 9.525 \text{ mW}$$

So the SAR report is not required.

-End of the Report-