

FCC ID: 2AWMDA611

According to KDB 447498 D01 General RF Exposure Guidance

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

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \times [\sqrt{f(\text{GHz})}] \leq 7.5$$

This EUT operates in the hand, so 10-g extremity SAR test exclusion power thresholds was applied.

1. SAR test exclusion threshold

-RFID

Frequency: 928 MHz (min. separation distances = 0 mm)

SAR test exclusion thresholds(5 mm) = $7.5 \times 5 / (\sqrt{0.928}) = 38.928$ mW

Max. tune-up tolerance (mW)	SAR Test Exclusion Thresholds (5 mm) (mW)
15.740	38.928

Calculation value: $15.740 \text{ (mW)} / 5 \text{ (mm)} \times \sqrt{0.928} = 3.033$

So, Calculation value ≤ 7.5

Remark;

- Max. RFID tolerance power of EUT is 21.0 (dBm)
- Max. RFID tolerance power of EUT with applied duty cycle 12.5% is 15.740 (mW).
- When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

- Bluetooth

Frequency: 2 480 MHz (min. separation distances = 0 mm)

SAR test exclusion thresholds(5 mm) = $7.5 \times 5 / (\sqrt{2.480}) = 23.81$ mW

Max. tune-up tolerance (mW)	SAR Test Exclusion Thresholds (5 mm) (mW)
6.310	23.81

Calculation value: $6.310 \text{ (mW)} / 5 \text{ (mm)} \times \sqrt{2.480} = 1.987$

So, Calculation value ≤ 7.5

Remark;

- Max. Bluetooth tolerance power of EUT is 8.0 (dBm)
- Max. Bluetooth tolerance power of EUT is 6.310 (mW).
- When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

- WLAN2.4G

Frequency: 2 462 MHz (min. separation distances = 0 mm)

SAR test exclusion thresholds(5 mm) = $7.5 \times 5 / (\sqrt{2.462}) = 23.899 \text{ mW}$

Max. tune-up tolerance (mW)	SAR Test Exclusion Thresholds (5 mm) (mW)
10.0	23.899

Calculation value: $10.0 \text{ (mW)} / 5 \text{ (mm)} \times \sqrt{2.462} = 3.138$

So, Calculation value ≤ 7.5

Remark;

- Max. WLAN2.4G tolerance power of EUT is 10.0 (dBm)
- Max. WLAN2.4G tolerance power of EUT is 10.0 (mW).
- When the minimum test separation distance is $< 5 \text{ mm}$, a distance of 5 mm is applied to determine SAR test exclusion.

2. Conclusion: No SAR is required.

Simultaneous transmission of RF Exposure test exclusion for worst case configuration.

RFID: the ratio is 3.033

WLAN: the ratio is 3.138

Confirm the sum result of individual threshold value is ≤ 7.5 ;

RFID + WLAN: $3.033 + 3.138 = 6.171 \leq 7.5$

BT and WLAN cannot operate simultaneous