

1 SAR Evaluation

Test Requirement: FCC Part 1.1307

Evaluation Method: FCC Part 2.1093 & KDB 447498 D01 General RF Exposure Guidance v06

1.1 Requirements

1) 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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$
 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR where

1. $f(\text{GHz})$ is the RF channel transmit frequency in GHz
2. Power and distance are rounded to the nearest mW and mm before calculation
3. The result is rounded to one decimal place for comparison

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 is applied to determine SAR test exclusion.

1.2 Test result

Conducted Peak power(dBm)	Conducted Peak power(mW)	Source-based time-averaged maximum conducted output power(mW)	Minimum test separation distance required for the exposure conditions (mm)	SAR Test Exclusion Thresholds Calculation Value	SAR Test Exclusion Thresholds Limit	Result
-1.52(BT)	0.70	0.70	5	0.22	3.0	Compliance
7.54(2.4G WIFI)	5.68	5.68	5	1.56	3.0	Compliance
-1.47(BLE)	0.71	0.71	5	0.22	3.0	Compliance
6.38(5G WIFI)	4.35	4.35	5	2.09	3.0	Compliance

Note: No SAR measurement is required.

Remark: Max. duty factor is 100%

Simultaneous transmission as below:

BT+2.4G WIFI=0.22+1.56=1.78 < 3.0

BT+5G WIFI=0.22+2.09=2.31 < 3.0

BLE+2.4G WIFI=0.22+1.56=1.78 < 3.0

FCC ID: 2AMNG-TG100

$$\text{BLE+5G WIFI}=0.22+2.09=2.31 < 3.0$$

Result: Compliance

No SAR measurement is required.