

RF Exposure Evaluation

According to KDB447498D01 General RF Exposure Guidance v06 4.3.1. Standalone SAR test exclusion considerations Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

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:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation¹⁷
- 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

Test Result of RF Exposure Evaluation

Antenna Gain: 2dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.0 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Measurement Data

BT-worst mode and channel						
Test channel	Antenna	Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value
				(dBm)	(mW)	
8-DPSK lowest channel	ANT1	2.307	2±1	3	1.995	0.618
Limit: 3.0						

Conclusion: the calculated value ≤ 3.0 , SAR is exempted.



2.4GWIFI -worst mode and channel					
Test channel	Antenna	Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
				(dBm)	(mW)
802.11g-CH11	ANT1	7.89	7±1	8	6.310
5.8GWIFI -worst mode and channel					
Test channel	Antenna	Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
				(dBm)	(mW)
802.11ac(VHT20) CH157	ANT1	1.68	2±1	3	1.995

Test worst case

Mode	Maximum tune-up Power (mW)	Max Calculated value	Limit	Result
2.4GWIFI	6.310	1.984	3.0	PASS
5.8GWIFI	1.995	0.960	3.0	PASS

Conclusion: the calculated value ≤ 3.0 , SAR is exempted.