

RF Exposure Evaluation

According to KDB 447498 and part 2.1093 , 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 Test Exclusion Threshold* condition(s), listed below, is (are) satisfied.

For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}}] \leq 3.0$ 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 calculation

The result is rounded to one decimal place for comparison

Here,

2.4GWIFI:

worst mode and channel						
Test channel	Antenna Output Power (dBm)			Tune up tolerance (dBm)		
	ANT1	ANT2	SUM	ANT1	ANT2	SUM
802.11n-2412MHz	3.51	3.93	6.74	4±1	4±1	7.01±1
802.11n-2437MHz	3.72	3.85	6.80	4±1	4±1	7.01±1
802.11n-2462MHz	3.66	3.74	6.71	4±1	4±1	7.01±1

Test worst case

Maxtune-up Power (dBm)	Max tune-up Power (mW)	Frequency (MHz)	Min. distance (mm)	Calc. thresholds	limit
8.01	6.32	2462	5	1.985	3.0

5.2GWIFI:

worst mode and channel						
Test channel	Antenna Output Power (dBm)			Tune up tolerance (dBm)		
	ANT1	ANT2	SUM	ANT1	ANT2	SUM
802.11ax-5180MHz	1.86	1.93	4.91	2±1	2±1	5.01±1
802.11ax-5200MHz	1.78	1.85	4.83	2±1	2±1	5.01±1
802.11ax-5240MHz	1.35	1.42	4.40	2±1	2±1	5.01±1

5.8GWIFI:

worst mode and channel						
Test channel	Antenna Output Power (dBm)			Tune up tolerance (dBm)		
	ANT1	ANT2	SUM	ANT1	ANT2	SUM
802.11ax-5745MHz	2.80	3.00	5.91	3±1	3±1	6.01±1
802.11ax-5785MHz	2.74	2.67	5.72	3±1	3±1	6.01±1
802.11ax-5825MHz	2.23	2.28	5.27	3±1	3±1	6.01±1

Test worst case

Maxtune-up Power (dBm)	Max tune-up Power (mW)	Frequency (MHz)	Min. distance (mm)	Calc. thresholds	limit
7.01	5.023	5825	5	2.425	3.0

Remark: When using the product, you can only choose 2.4Gwifi or 5Gwifi for connection, but not at the same time. So the calculated values of the individual frequencies are evaluated.

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