

RADIO FREQUENCY EXPOSURE

Limit

According to section 4.3.1 of KDB 447498 D01 General RF Exposure Guidance v06

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

Conducted Power Results

Test Mode	Antenna	Frequency[MHz]	Result [dBm]
11A	Ant1	5745	3.40
11A	Ant1	5785	2.22
11A	Ant1	5825	1.21
11N20SISO	Ant1	5745	2.49
11N20SISO	Ant1	5785	1.51
11N20SISO	Ant1	5825	0.70
11N40SISO	Ant1	5755	2.45
11N40SISO	Ant1	5795	0.92
11AC20SISO	Ant1	5745	2.03
11AC20SISO	Ant1	5785	1.19
11AC20SISO	Ant1	5825	0.31
11AC40SISO	Ant1	5755	1.68
11AC40SISO	Ant1	5795	0.86

Manufacturing tolerance

IEEE 802.11a (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	3	1.5	0.5
Tolerance $\pm$ (dB)	1	1	1
IEEE 802.11n HT20 (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	2	1	0
Tolerance $\pm$ (dB)	1	1	1
IEEE 802.11n HT40 (Average)			
Channel	Channel 151	Channel 159	--
Target (dBm)	2	0.5	--
Tolerance $\pm$ (dB)	1	1	--
IEEE 802.11ac VHT20 (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	1.5	0.5	0
Tolerance $\pm$ (dB)	1	1	1
IEEE 802.11ac VHT40 (Average)			
Channel	Channel 151	Channel 159	--
Target (dBm)	1	0.5	--
Tolerance $\pm$ (dB)	1	1	--

Results

Modulation Type	Output power		separation distance (mm)	Calculation Value	SAR Test Exclusion Threshold	SAR Test Exclusion
	dBm	mW				
IEEE 802.11a	4.0	2.5119	5	1.2	3.0	Yes
IEEE 802.11n HT20	3.0	1.9953	5	1.0	3.0	Yes
IEEE 802.11ac VHT20	2.5	1.7783	5	0.9	3.0	Yes
IEEE 802.11n HT40	3.0	1.9953	5	1.0	3.0	Yes
IEEE 802.11ac VHT40	2.0	1.5849	5	0.8	3.0	Yes

So, the SAR evaluation is not required. F is 5.825GHz for the worst case.