



No SAR justification for FCC ID : R55-KSD5071

Following FCC KDB 447498 D01 “General SAR test exclusion guidance”

The corresponding SAR Exclusion Threshold condition, listed below:

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

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.
- 2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following:
 - a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) $\cdot$ ($f(\text{MHz})/150$)] mW, at 100 MHz to 1500 MHz
 - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) $\cdot$ 10] mW at > 1500 MHz and ≤ 6 GHz
- 3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion.
 - a) The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by $[1 + \log(100/f(\text{MHz}))]$ for test separation distances > 50 mm and < 200 mm.
 - b) The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$ for test separation distances ≤ 50 mm.
 - c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

Smallest distance from the antenna and radiating structures or outer surface of the device

The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander.

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The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
802.11b	2412-2462	7	+2.0	5.0	9.0
802.11g	2412-2462	3	+2.0	1.0	5.0
802.11n (HT20)	2412-2462	3	+2.0	1.0	5.0
802.11n (HT40)	2422-2452	2	+2.0	0	4.0

The measured conducted Average Power and EIRP

Mode	Frequency (MHz)	Averaged Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)
802.11b	2437	7.41	1.5	8.91
802.11g	2462	1.75	1.5	3.25
802.11n (HT20)	2437	1.93	1.5	3.43
802.11n (HT40)	2452	0.33	1.5	1.83

SAR Test Exclusion Thresholds

Mode	Frequency (MHz)	Maximum source-based time averaged conducted output power (dBm)	Minimum separation distance (mm)	Result of Eq. 1	Limit for 1-g SAR	Limit for 10-g extremity SAR	Verdict
802.11b	2412-2462	9.0	5	2.49	3.0	7.5	Exempt from SAR
802.11g	2412-2462	5.0	5	0.99	3.0	7.5	Exempt from SAR
802.11n (HT20)	2412-2462	5.0	5	0.99	3.0	7.5	Exempt from SAR
802.11n (HT40)	2422-2452	4.0	5	0.79	3.0	7.5	Exempt from SAR

Conclusion

Therefore this device complies with FCC's RF radiation exposure limits for general population without SAR evaluation.