

RF EXPOSURE EVALUATION METHOD

FCC ID: 2AB6TDX-747

SAR Test Exclusion Thresholds for 100 MHz - 6 GHz and ≤ 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

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 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.

Maximum measured transmitter power.

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1Mbps			
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)
CH00	2402	0.036	1.008
CH39	2441	-0.734	0.845
CH78	2480	0.069	1.016
2Mbps			
CH00	2402	-0.382	0.916
CH39	2441	-0.965	0.801
CH78	2480	-0.247	0.945
3Mbps			
CH00	2402	0.060	1.014
CH39	2441	-0.866	0.819
CH78	2480	0.059	1.014

Remark: The best case gain of the antenna is 1.0dBi.

1.0 dBi logarithmic terms convert to numeric result is nearly 1.26

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:

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

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Mode	[(max. power of channel, including tune-up tolerance, mW)]	(min. test separation distance, mm)]	[$\sqrt{f(\text{GHz})}$]	Result	Limit
1Mbps					
CH00	1.008	5	2.402	0.313	3
CH39	0.845	5	2.441	0.264	3
CH78	1.016	5	2.480	0.320	3
2Mbps					
CH00	0.916	5	2.402	0.284	3
CH39	0.801	5	2.441	0.250	3
CH78	0.945	5	2.480	0.298	3
3Mbps					
CH00	1.014	5	2.402	0.314	3
CH39	0.819	5	2.441	0.256	3
CH78	1.014	5	2.480	0.319	3

The test Result is less than 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR.

Conclusion: No SAR is required.