

RF EXPOSURE EVALUATION METHOD

FCC ID: X5B-500137A

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.

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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GFSK			
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)
CH00	2402	-2.351	0.582
CH39	2441	-2.051	0.624
CH78	2480	-2.440	0.570
$\pi/4$ -DQPSK			
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)
CH00	2402	-0.194	0.956
CH39	2441	-1.636	0.686
CH78	2480	-3.003	0.501
8DPSK			
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)
CH00	2402	0.305	1.073
CH39	2441	-0.346	0.923
CH78	2480	-1.869	0.650

Remark: The best case gain of the antenna is 0dBi.

0 dBi logarithmic terms convert to numeric result is nearly 1.00

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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Test Channel	[(max. power of channel, mW)]	(min. test separation distance,mm)]	[f(GHz)]	Result	Limit
GFSK					
CH00	0.582	5	2.402	0.180	3
CH39	0.624	5	2.441	0.195	3
CH78	0.570	5	2.480	0.180	3
π/4-DQPSK					
CH00	0.956	5	2.402	0.296	3
CH39	0.686	5	2.441	0.214	3
CH78	0.501	5	2.480	0.158	3
8DPSK					
CH00	1.073	5	2.402	0.333	3
CH39	0.923	5	2.441	0.289	3
CH78	0.650	5	2.480	0.205	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.