

RF EXPOSURE EVALUATION METHOD

FCC ID: X5B-500165

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	1.086	1.284
CH39	2441	1.946	1.565
CH78	2480	1.834	1.525
$\pi/4$ -DQPSK			
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)
CH00	2402	3.284	2.130
CH39	2441	3.906	2.458
CH78	2480	3.485	2.231
8DPSK			
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)
CH00	2402	3.690	2.339
CH39	2441	4.297	2.690
CH78	2480	3.879	2.443

Remark:

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	1.284	5	2.402	0.398	3
CH39	1.565	5	2.441	0.489	3
CH78	1.525	5	2.480	0.480	3
$\pi/4$-DQPSK					
CH00	2.130	5	2.402	0.660	3
CH39	2.458	5	2.441	0.768	3
CH78	2.231	5	2.480	0.703	3
8DPSK					
CH00	2.339	5	2.402	0.725	3
CH39	2.690	5	2.441	0.840	3
CH78	2.443	5	2.480	0.769	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.