

RF EXPOSURE EVALUATION METHOD

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:

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

Maximum measured transmitter power.

BT3.0 TX Mode			
Test Channe	Frequency	Maximum Conducted Output Power (PK)	Peak Output Power
	(MHz)	(dBm)	(mW)
CH00	2402	2.57	1.81
CH39	2440	2.43	1.75
CH78	2480	2.37	1.73
max. technical PK output power	/	3.00	2.00
802.11b TX Mode			
Test Channe	Frequency	Maximum Conducted Output Power (AV)	Peak Output Power
	(MHz)	(dBm)	(mW)
CH1	2412	9.34	8.59
CH6	2437	9.14	8.20
CH11	2462	9.25	8.41
max. technical AV output power	/	9.50	8.91
802.11g TX Mode			
Test Channe	Frequency	Maximum Conducted Output Power (AV)	Peak Output Power
	(MHz)	(dBm)	(mW)
CH1	2412	8.76	7.52
CH6	2437	8.73	7.46
CH11	2462	8.65	7.33
max. technical AV output power	/	9.50	8.91

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

0 dBi logarithmic terms convert to numeric result is nearly 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:

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

BT3.0 TX Mode					
Mode	[(max. power of channel, including tune-up tolerance, mW)]	(min. test separation distance,mm)]	[$\sqrt{f(\text{GHz})}$]	Result	Limit
CH00	2	5	$\sqrt{2.402}$	0.620	3
CH39	2	5	$\sqrt{2.440}$	0.625	3
CH78	2	5	$\sqrt{2.480}$	0.630	3
802.11b/g TX Mode					
Mode	[(max. power of channel, including tune-up tolerance, mW)]	(min. test separation distance,mm)]	[$\sqrt{f(\text{GHz})}$]	Result	Limit
CH1	8.91	5	$\sqrt{2.412}$	2.768	3
CH6	8.91	5	$\sqrt{2.437}$	2.782	3
CH11	8.91	5	$\sqrt{2.462}$	2.796	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.