

**RF EXPOSURE EVALUATION METHOD**

FCC ID: 2ABT2JY-731

**SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and  $\leq 50$  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  $\leq 50$  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  $\leq 7.5$  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  $\leq 50$  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.

WIFI:

TX 802.11b Mode				
Test Channel	Frequency	Maximum Conducted Output Power(PK)	Maximum Conducted Output Power(AV)	Maximum Peak Conducted Output Power (AV)
	(MHz)	(dBm)	(dBm)	mW
CH01	2412	12.16	9.64	9.204
CH06	2437	12.83	9.76	9.462
CH11	2462	12.55	9.68	9.290
TX 802.11g Mode				
CH01	2412	11.24	8.25	6.683
CH06	2437	11.36	8.46	7.015
CH11	2462	11.42	8.37	6.871
TX 802.11n-HT20 Mode				
CH01	2412	10.58	8.55	7.161
CH06	2437	10.62	8.64	7.311
CH11	2462	10.61	8.32	6.792
TX 802.11n-HT40 Mode				
CH03	2422	9.78	6.49	4.457
CH06	2437	9.55	6.57	4.539
CH09	2452	9.43	6.35	4.315

BT3.0:

1Mbps			
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)
CH00	2402	6.655	4.629
CH39	2441	8.713	7.435
CH78	2480	8.644	7.318
2Mbps			
CH00	2402	5.743	3.752
CH39	2441	7.796	6.020
CH78	2480	7.85	6.095
3Mbps			
CH00	2402	5.963	3.947
CH39	2441	8.004	6.315
CH78	2480	7.983	6.285

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  $\leq 50$  mm are determined by:

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

WIFI:

Mode	[(max. power of channel, including tune-up tolerance, mW)]	(min. test separation distance, mm)]	[ $\sqrt{f(\text{GHz})}$ ]	Result	Limit
802.11b					
CH01	9.204	5	2.412	2.86	3
CH06	9.462	5	2.437	2.95	3
CH11	9.290	5	2.462	2.92	3
802.11g					
CH01	6.683	5	2.412	2.08	3
CH06	7.015	5	2.437	2.19	3
CH11	6.871	5	2.462	2.16	3
802.11n(20)					
CH01	7.161	5	2.412	2.22	3
CH06	7.311	5	2.437	2.28	3
CH11	6.792	5	2.462	2.13	3
802.11n(40)					
CH03	4.457	5	2.422	1.39	3
CH06	4.539	5	2.437	1.42	3
CH09	4.315	5	2.452	1.35	3

BT

Mode	[(max. power of channel, including tune-up tolerance, mW)]	(min. test separation distance,mm)]	[ √ f(GHz)]	Result	Limit
<b>1Mbps</b>					
CH00	4.629	5	2.402	1.435	3
CH39	7.435	5	2.441	2.323	3
CH78	7.318	5	2.480	2.305	3
<b>2Mbps</b>					
CH00	3.752	5	2.402	1.163	3
CH39	6.020	5	2.441	1.881	3
CH78	6.095	5	2.480	1.920	3
<b>3Mbps</b>					
CH00	3.947	5	2.402	1.224	3
CH39	6.315	5	2.441	1.973	3
CH78	6.285	5	2.480	1.980	3

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

**Conclusion:** No SAR is required.