RF EXPOSURE EVALUATION METHOD

FCC ID: 2ACPR-W7002

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:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,where
f(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.

WIFI:

TX 802.11b Mode				
Test Channe	Frequency (MHz)	Maximum Conducted Output Power(PK) (dBm)	Maximum Conducted Output Power(AV) (dBm)	Maximum Conducted Output Power(AV) (mW)
CH01	2412	12.56	9.52	8.954
CH06	2437	12.63	9.62	9.162
CH11	2462	12.49	9.44	8.790
TX 802.11g Mode				
CH01	2412	11.53	8.92	7.798
CH06	2437	11.56	8.96	7.870
CH11	2462	11.51	8.89	7.745
TX 802.11n-HT20 Mode				
CH01	2412	10.77	8.86	7.691
CH06	2437	10.85	8.88	7.727
CH11	2462	10.72	8.77	7.534
TX 802.11n-HT40 Mode				
CH03	2422	10.81	7.75	5.957
CH06	2437	10.85	7.82	6.053
CH09	2452	10.76	7.69	5.875

BT

1Mbps			
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)
CH00	2402	2.675	1.851
CH39	2441	3.691	2.339
CH78	2480	4.966	3.138
2Mbps			
CH00	2402	2.454	1.760
CH39	2441	3.627	2.305
CH78	2480	4.900	3.090
3Mbps			
CH00	2402	2.725	1.873
CH39	2441	3.650	2.317
CH78	2480	4.849	3.054

Remark: The best case gain of the antenna is 1.5dBi.
1.5 dBi logarithmic terms convert to numeric result is nearly 1.41

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:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance,mm)] • [√f(GHz)]

WIFI:

Mode	[(max. power of channel, including tune-up tolerance, mW)	(min. test separation distance,mm)]	[√ f(GHz)]	Result	Limit
802.11b					
CH01	8.954	5	2.412	2.78	3
CH06	9.162	5	2.437	2.86	3
CH11	8.790	5	2.462	2.76	3
802.11g					
CH01	7.798	5	2.412	2.42	3
CH06	7.870	5	2.437	2.46	3
CH11	7.745	5	2.462	2.43	3
802.11n(20)					
CH01	7.691	5	2.412	2.39	3
CH06	7.727	5	2.437	2.41	3
CH11	7.534	5	2.462	2.36	3
802.11n(40)					
CH03	5.957	5	2.422	1.85	3
CH06	6.053	5	2.437	1.89	3
CH09	5.875	5	2.452	1.84	3

BT3.0:

Mode	[(max. power of channel, including tune-up tolerance, mW)	(min. test separation distance,mm)]	[√ f(GHz)]	Result	Limit
1Mbps					
CH00	1.851	5	2.402	0.574	3
CH39	2.339	5	2.441	0.731	3
CH78	3.138	5	2.480	0.988	3
2Mbps					
CH00	1.760	5	2.402	0.545	3
CH39	2.305	5	2.441	0.720	3
CH78	3.090	5	2.480	0.973	3
3Mbps					
CH00	1.873	5	2.402	0.581	3
CH39	2.317	5	2.441	0.724	3
CH78	3.054	5	2.480	0.962	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.