

RF EXPOSURE EVALUATION METHOD**FCC ID: YH5-7DTB8****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.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

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.

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	12.37	9.34	8.590
CH06	2437	12.55	9.53	8.974
CH11	2462	12.68	9.48	8.872
TX 802.11g Mode				
CH01	2412	11.34	8.67	7.362
CH06	2437	11.65	8.48	7.047
CH11	2462	11.42	8.33	6.808
TX 802.11n-HT20 Mode				
CH01	2412	10.49	8.58	7.211
CH06	2437	10.63	8.74	7.482
CH11	2462	10.75	8.30	6.761
TX 802.11n-HT40 Mode				
CH03	2422	12.61	8.47	7.031
CH06	2437	12.40	8.56	7.178
CH09	2452	12.35	8.69	7.396

BT

1Mbps			
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)
CH00	2402	-0.75	0.841
CH39	2441	-0.21	0.953
CH78	2480	-0.34	0.925
2Mbps			
CH00	2402	-0.66	0.859
CH39	2441	-1.39	0.726
CH78	2480	-1.92	0.643
3Mbps			
CH00	2402	-0.83	0.826
CH39	2441	-1.30	0.741
CH78	2480	-1.83	0.656

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 ≤ 50 mm are determined by:

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

WIFI:

Mode	[(max. power of channel, including tune-up tolerance, mW)]	(min. test separation distance,mm)]	[$\sqrt{f}$ (GHz)]	Result	Limit
802.11b					
CH01	8.590	5	2.412	2.67	3
CH06	8.974	5	2.437	2.80	3
CH11	8.872	5	2.462	2.78	3
802.11g					
CH01	7.362	5	2.412	2.29	3
CH06	7.047	5	2.437	2.20	3
CH11	6.808	5	2.462	2.14	3
802.11n(20)					
CH01	7.211	5	2.412	2.24	3
CH06	7.482	5	2.437	2.34	3
CH11	6.761	5	2.462	2.12	3
802.11n(40)					
CH03	7.031	5	2.422	2.19	3
CH06	7.178	5	2.437	2.24	3
CH09	7.396	5	2.452	2.32	3

BT

Mode	[(max. power of channel, including tune-up tolerance, mW)]	(min. test separation distance,mm)]	[$\sqrt{f}$ (GHz)]	Result	Limit
1Mbps					
CH00	0.841	5	2.402	0.261	3
CH39	0.953	5	2.441	0.298	3
CH78	0.925	5	2.480	0.291	3
2Mbps					
CH00	0.859	5	2.402	0.266	3
CH39	0.726	5	2.441	0.227	3
CH78	0.643	5	2.480	0.202	3
3Mbps					
CH00	0.826	5	2.402	0.256	3
CH39	0.741	5	2.441	0.232	3
CH78	0.656	5	2.480	0.207	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.