RF EXPOSURE TEST

FCC ID: HHOJWA-2018R

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,[16] where

$f_{(GHz)}$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation[17]

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.

Wifi

TX 802.11b Mode				
Test Channe	Frequency	Maximum Peak Conducted Output Power（PK）	Maximum Peak Conducted Output Power（AV）	Maximum Peak Conducted Output Power（AV）
	(MHz)	(dBm)	(dBm)	mW
CH01	2412	13.85	9.63	9.18
CH06	2437	13.44	9.46	8.83
CH11	2462	13.73	9.55	9.02
TX 802.11g Mode				
CH01	2412	12.71	8.16	6.55
CH06	2437	12.86	8.34	6.82
CH11	2462	12.08	8.62	7.28
TX 802.11n(20) Mode				
CH01	2412	10.32	7.57	5.71
CH06	2437	10.27	7.43	5.53
CH11	2462	10.41	7.66	5.83
TX 802.11n(40) Mode				
CH03	2422	9.91	7.43	5.53
CH06	2437	9.82	7.36	5.45
CH09	2452	9.77	7.29	5.36

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:
[(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
802.11B				
CH01	9.18	5	2.412	2.85
CH06	8.83	5	2.437	2.76
CH11	9.02	5	2.462	2.83
802.11G				
CH01	6.55	5	2.412	2.03
CH06	6.82	5	2.437	2.13
CH11	7.28	5	2.462	2.28
802.11N(20)				
CH01	5.71	5	2.412	1.77
CH06	5.53	5	2.437	1.73
CH11	5.83	5	2.462	1.83
802.11N(40)				
CH03	5.53	5	2.422	1.72
CH06	5.45	5	2.437	1.70
CH09	5.36	5	2.452	1.68

Simultaneous transmission SAR test exclusion considerations

When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other
antennas, the standalone SAR must be estimated according to following to determine simultaneous
transmission SAR test exclusion:

(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance,mm*)]·[$\sqrt{f_{(GHz)}}/x$] W/kg for *test separation distances* ≤ 50 mm;
where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.

0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the *test separation distances* is
> 50 mm.21

So(9.18/5)* [√2.412/7.5]=0.38W/kg

The 3G Dongle's FCC ID:Q78-K5006-Z, the Max Sar Value is 1.18W/kg

Totally Sar=0.38W/kg+1.18W/kg≤1.6W/kg

Conclusion: no Simultaneously SAR is required