

## RF EXPOSURE EVALUATION METHOD

FCC ID:2AD6J-HISUDA

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:

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

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:

Test Channel	Frequency (MHz)	Maximum Peak Conducted Output Power (PK)	Maximum Peak Conducted Output Power (AV)	Maximum Peak Conducted Output Power (AV) mW
		(dBm)	(dBm)	mW
<b>TX 802.11b Mode</b>				
CH01	2412	11.47	8.49	7.063
CH06	2437	11.21	8.15	6.531
CH11	2462	11.35	8.20	6.607
<b>TX 802.11g Mode</b>				
CH01	2412	10.51	7.71	5.902
CH06	2437	10.36	7.63	5.794
CH11	2462	10.42	7.58	5.728
<b>TX 802.11n(20) Mode</b>				
CH01	2412	10.44	7.08	5.105
CH06	2437	10.68	7.12	5.152
CH11	2462	10.43	7.16	5.200
<b>TX 802.11n(40) Mode</b>				
CH03	2422	9.68	5.77	3.776
CH06	2437	9.56	5.83	3.828
CH09	2452	9.35	5.75	3.758

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:

Test Channel	Range	tune up max power (dBm)	[(max. power of channel, including tune-up tolerance, mW)]	(min. test separation distance,mm)]	[f(GHz)]	Result	Limit
<b>TX 802.11b Mode</b>							
CH01	7.0~9.0	9.0	7.943	5	2.412	2.47	3
CH06	7.0~9.0	9.0	7.943	5	2.437	2.48	3
CH11	7.0~9.0	9.0	7.943	5	2.462	2.49	3
<b>TX 802.11g Mode</b>							
CH01	6.0~8.0	8.0	6.310	5	2.412	1.96	3
CH06	6.0~8.0	8.0	6.310	5	2.437	1.97	3
CH11	6.0~8.0	8.0	6.310	5	2.462	1.98	3
<b>TX 802.11n-HT20 Mode</b>							
CH01	6.0~8.0	8.0	6.310	5	2.412	1.96	3
CH06	6.0~8.0	8.0	6.310	5	2.437	1.97	3
CH11	6.0~8.0	8.0	6.310	5	2.462	1.98	3
<b>TX 802.11n-HT40 Mode</b>							
CH03	5.0~7.0	7.0	5.012	5	2.422	1.56	3
CH06	5.0~7.0	7.0	5.012	5	2.437	1.56	3
CH09	5.0~7.0	7.0	5.012	5	2.452	1.57	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.