RF EXPOSURE TEST

FCC ID: 2ACPN-TM818

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.

20 25 mm	20	15	10	5	MHz
155 194	155	116	77	39	150
110 137	110	82	55	27	300
89 112	89	67	45	22	450
66 82	66	49	33	16	835
63 79	63	47	32	16	900
49 61 SAR Test Exclusion	49	37	24	12	1500
44 54 Threshold (m)	44	33	22	11	1900
38 48	38	29	19	10	2450
32 40	32	24	16	8	3600
26 33	26	20	13	7	5200
26 32	26	19	13	6	5400
25 31	25	19	12	6	5800
45 50 mm	45	40	35	30	MHz
45 50 mm 349 387		40 310	35 271	30 232	MHz 150
	349				
349 387	349 246	310	271	232	150
349 387 246 274	349 246 201	310 219	271 192	232 164	150 300
349 387 246 274 201 224 148 164 142 158	349 246 201 148	310 219 179	271 192 157	232 164 134	150 300 450
349 387 246 274 201 224 148 164 142 158 110 122 SAR Test	349 246 201 148 142	310 219 179 131	271 192 157 115	232 164 134 98	150 300 450 835
349 387 246 274 201 224 148 164 142 158 110 122 SAR Test Exclusion	349 246 201 148 142 110	310 219 179 131 126	271 192 157 115 111	232 164 134 98 95	150 300 450 835 900
349 387 246 274 201 224 148 164 142 158 110 122 SAR Test Exclusion	349 246 201 148 142 110 98	310 219 179 131 126 98	271 192 157 115 111 86	232 164 134 98 95 73	150 300 450 835 900 1500
349 387 246 274 201 224 148 164 142 158 110 122 98 109 SAR Test Exclusion Threshold (mV)	349 246 201 148 142 110 98 86	310 219 179 131 126 98 87	271 192 157 115 111 86 76	232 164 134 98 95 73 65	150 300 450 835 900 1500 1900
349 387 246 274 201 224 148 164 142 158 110 122 98 109 86 96 SAR Test Exclusion Threshold (mV)	349 246 201 148 142 110 98 86 71	310 219 179 131 126 98 87 77	271 192 157 115 111 86 76 67	232 164 134 98 95 73 65 57	150 300 450 835 900 1500 1900 2450
349 387 246 274 201 224 148 164 142 158 110 122 98 109 86 96 71 79 SAR Test Exclusion Threshold (mV	349 246 201 148 142 110 98 86 71 59	310 219 179 131 126 98 87 77 63	271 192 157 115 111 86 76 67 55	232 164 134 98 95 73 65 57 47	150 300 450 835 900 1500 1900 2450 3600
349 387 246 274 201 224 148 164 142 158 110 122 98 109 86 96 71 79 59 66	349 246 201 148 142 110 98 86 71 59 58	310 219 179 131 126 98 87 77 63 53	271 192 157 115 111 86 76 67 55 46	232 164 134 98 95 73 65 57 47 39	150 300 450 835 900 1500 1900 2450 3600 5200

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:

\leq 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] •
[$\sqrt{f_{\text{(GHz)}}}$] \leq 3.0 for 1-g SAR and \leq 7.5 for 10-g extremity SAR,16 where
\square f _(GHz) is the RF channel transmit frequency in GHz
\square 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.

Maximum Rated Peak RF power for tune up:

IEEE802.11 b, 8.5dBm±1 IEEE802.11 g, 8.5 dBm±1 IEEE802.11 n/HT20 , 8.5 dBm±1

IEEE802.11 n/HT40, 7.5 dBm±1

modulation	Maximum Rated Peak RF power (dBm)	Maximum Conducted Output Power (mW)	Exclusion Thresholds Results	Limit
IEEE802.11 b	9.5	8.91	2.767	3.0
IEEE802.11 g	9.5	8.91	2.782	3.0
IEEE802.11 n/HT20	9.5	8.91	2.796	3.0
IEEE802.11 n/HT40	8.5	7.08	2.222	3.0

Conclusion: No SAR is required.

Note: Exclusion Thresholds Results=[(max. power of channel, including tune-up tolerance, <math>mW)/(min. test separation distance, mm)] • $[\sqrt{f_{(GHz)}}]$

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

☐ Distance=5mm

Maximum measured transmitter power.

802.11B

frequency range (MHz)	Maximum Peak Conducted Output Power (dBm)	Maximum Conducted Output Power (mW)	Exclusion Thresholds Results	Limit
2412	9.21	8.34	2.590	3.0
2437	9.13	8.18	2.554	3.0
2462	9.08	8.09	2.539	3.0

Conclusion: No SAR is required.

Note: Exclusion Thresholds Results=[(max. power of channel, including tune-up tolerance, <math>mW)/(min. test separation distance, mm)] • $[\sqrt{f_{(GHz)}}]$

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

☐ Distance=5mm

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frequency range (MHz)	Maximum Peak Conducted Output Power (dBm)	Maximum Conducted Output Power (mW)	Exclusion Thresholds Results	Limit
2412	9.02	7.98	2.479	3.0
2437	8.98	7.91	2.470	3.0
2462	8.87	7.71	2.419	3.0

Conclusion: No SAR is required.

Note: Exclusion Thresholds Results=[(max. power of channel, including tune-up tolerance, <math>mW)/(min. test separation distance, mm)] • $[\sqrt{f_{(GHz)}}]$

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

☐ Distance=5mm

802.11N20

frequency range (MHz)	Maximum Peak Conducted Output Power (dBm)	Maximum Conducted Output Power (mW)	Exclusion Thresholds Results	Limit
2412	8.35	6.84	2.125	3.0
2437	8.28	6.73	2.101	3.0
2462	8.19	6.59	2.068	3.0

Conclusion: No SAR is required.

Note: Exclusion Thresholds Results=[(max. power of channel, including tune-up tolerance, <math>mW)/(min. test separation distance, mm)] • $[\sqrt{f_{(GHz)}}]$

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

☐ Distance=5mm

802.11N 40M

frequency range (MHz)	Maximum Peak Conducted Output Power (dBm)	Maximum Conducted Output Power (mW)	Exclusion Thresholds Results	Limit
2422	7.44	5.55	1.727	3.0
2437	7.39	5.48	1.711	3.0
2452	7.32	5.40	1.691	3.0

Conclusion: No SAR is required.

Note: Exclusion Thresholds Results=[(max. power of channel, including tune-up tolerance, <math>mW)/(min. test separation distance, mm)] • $[\sqrt{f_{(GHz)}}]$

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

☐ Distance=5mm