RF EXPOSURE TEST FCC ID: 2ACMV-SPONTBOX

IC: 12065A-SPONTBOX

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.

MHz 5 10 15 20 25 nmm 150 39 77 116 155 194 300 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 MHz 30 35 40 45 50 mm 150							
300	MHz	5	10	15	20	25	mm
450	150	39	77	116	155	194	
835 16 33 49 66 82 900 16 32 47 63 79 1500 12 24 37 49 61 1900 11 22 33 44 54 1900 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 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 300 164 192 219 246 274 450 134 157 179 201 224 835 98 115 131 148 164 900	300	27	55	82	110	137	
SAR Test SAR Test	450	22	45	67	89	112	
1500 12 24 37 49 61 1900 11 22 33 44 54 54 54 54 54 54	835	16	33	49	66	82	
1500	900	16	32	47	63	79	
1900	1500	12	24	37	49	61	
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 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 300 164 192 219 246 274 450 134 157 179 201 224 835 98 115 131 148 164 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 1900 65 76 87 98 109	1900	11	22	33	44	54	
5200 7 13 20 26 33 5400 6 13 19 26 32 5800 6 12 19 25 31 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 300 164 192 219 246 274 450 134 157 179 201 224 835 98 115 131 148 164 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400	2450	10	19	29	38	48	(
5400 6 13 19 26 32 5800 6 12 19 25 31 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 300 164 192 219 246 274 450 134 157 179 201 224 835 98 115 131 148 164 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	3600	8	16	24	32	40	
5800 6 12 19 25 31 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 300 164 192 219 246 274 450 134 157 179 201 224 835 98 115 131 148 164 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	5200	7	13	20	26	33	
MHz 30 35 40 45 50 mm 150 232 271 310 349 387 300 164 192 219 246 274 450 134 157 179 201 224 835 98 115 131 148 164 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	5400	6	13	19	26	32	
150 232 271 310 349 387 300 164 192 219 246 274 450 134 157 179 201 224 835 98 115 131 148 164 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	5800	6	12	19	25	31	
300 164 192 219 246 274 450 134 157 179 201 224 835 98 115 131 148 164 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	MHz	30	35	40	45	50	mm
450 134 157 179 201 224 835 98 115 131 148 164 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	150	232	271	310	349	387	
835 98 115 131 148 164 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	300	164	192	219	246	274	
900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	450	134	157	179	201	224	
1500 73 86 98 110 122 SAR Test Exclusion Threshold (mW) 1900 65 76 87 98 109 Threshold (mW) 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	835	98	115	131	148	164	
1500	900	95	111	126	142	158	G 4 D . T.
1900 65 76 87 98 109 Threshold (mW) 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	1500	73	86	98	110	122	
2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	1900	65	76	87	98	109	
5200 39 46 53 59 66 5400 39 45 52 58 65	2450	57	67	77	86	96	
5400 39 45 52 58 65	3600	47	55	63	71	79	
	5200	39	46	53	59	66	
5800 37 44 50 56 62	5400	39	45	52	58	65	
	5800	37	44	50	56	62	

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:

≈ 50 mm are determined by.
$[(max.\ power\ of\ channel,\ including\ tune-up\ tolerance,\ mW)/(min.\ test\ separation\ distance,\ mm)] \ \bullet$
[$\sqrt{f_{\text{(GHz)}}}$] \leqslant 3.0 for 1-g SAR and \leqslant 7.5 for 10-g extremity SAR,16 where
\square f _(GHz) is the RF channel transmit frequency in GHz
☐ Power and distance are rounded to the nearest mW and mm before calculation₁7
☐ 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.

For operation description RF Power: max 9.8dbm (peak)

The max.output power E.I.R.P is 9.8dBm=9.55mW, Frequency is 2.462GHz

So (9.55/5)* √2.462=2.997≤ 3.0

Note: $\sqrt{2.462} = 1.569$

Conclusion: No SAR is required.

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	9.25	8.41	2.612	3.0
2437	9.16	8.24	2.573	3.0
2462	9.18	8.28	2.598	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)] • $[\sqrt{f_{(GHz)}}]$

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

☐ Distance=5mm

802.11G

frequency range (MHz)	Maximum Peak Conducted Output Power (dBm)	Maximum Conducted Output Power (mW)	Exclusion Thresholds Results	Limit
2412	8.74	7.48	2.323	3.0
2437	8.69	7.40	2.310	3.0
2462	8.71	7.43	2.332	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	8.53	7.13	2.215	3.0
2437	8.43	6.97	2.176	3.0
2462	8.48	7.05	2.212	3.0

Conclusion: No SAR is required.

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

 $f_{\mbox{\scriptsize (GHz)}}$ 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	7.94	6.22	1.936	3.0
2437	7.85	6.10	1.904	3.0
2452	7.91	6.18	1.936	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