RF EXPOSURE TEST FCC ID: 2ABFWISBS001

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 77 116 155 194 300 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 1900 11 22 33 44 54 1900 11 22 33 44 54 1900 11 22 33 44 54 1900 11 22 33 44 54 1900 13 19 26 32 5400 6 13 19 26 32 5800 6 12					
300	10 15	5	20	25	mm
A50	77 116	39	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	55 82	27	110	137	
SAR Test Exclusion Threshold (mW)	45 67	22	89	112	
1500	33 49	16	66	82	
1500	32 47	16	63	79	GAD T
1900	24 37	12	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 19 2	22 33	11	44	54	
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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	35 40	30	45	50	mm
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					mm
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	271 310	232	349	387	mm
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1500 75 80 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	271 310 192 219 157 179	232 164 134	349 246 201	387 274 224	nun
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	271 310 192 219 157 179 115 131	232 164 134 98	349 246 201 148	387 274 224 164	
2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66 5400 39 45 52 58 65	271 310 192 219 157 179 115 131 111 126	232 164 134 98 95	349 246 201 148 142	387 274 224 164 158	SAR Test
5200 39 46 53 59 66 5400 39 45 52 58 65	271 310 192 219 157 179 115 131 111 126 86 98	232 164 134 98 95 73	349 246 201 148 142 110	387 274 224 164 158 122	SAR Test Exclusion
5400 39 45 52 58 65	271 310 192 219 157 179 115 131 111 126 86 98 76 87	232 164 134 98 95 73 65	349 246 201 148 142 110 98	387 274 224 164 158 122 109 96	SAR Test Exclusion
	271 310 192 219 157 179 115 131 111 126 86 98 76 87 67 77	232 164 134 98 95 73 65	349 246 201 148 142 110 98 86	387 274 224 164 158 122 109 96	SAR Test Exclusion
5800 37 44 50 56 62	271 310 192 219 157 179 115 131 111 126 86 98 76 87 67 77 55 63	232 164 134 98 95 73 65 57 47	349 246 201 148 142 110 98 86 71	387 274 224 164 158 122 109 96 79	SAR Test Exclusion
	271 310 192 219 157 179 115 131 111 126 86 98 76 87 67 77 55 63 46 53	232 164 134 98 95 73 65 57 47 39	349 246 201 148 142 110 98 86 71 59	387 274 224 164 158 122 109 96 79 66	SAR Test Exclusion

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
\square 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.

GFSK

frequency range	Maximum Peak Conducted Output Power (dBm)	Maximum Conducted Output Power (mW)
2402	2.19	1.66
2441	2.11	1.63
2480	1.92	1.56

The max.output power is 2.19dBm=1.66mW, Frequency is 2.402GHz So $(1.66/5)^*$ $\sqrt{2.402=0.5146} \le 3.0$

Note: $\sqrt{2.402} = 1.55$

The max.output power is 2.11dBm=1.63mW, Frequency is 2.441GHz So $(1.63/5)^*$ $\sqrt{2.441}=0.50856 \lesssim 3.0$

Note: $\sqrt{2.441} = 1.56$

The max.output power is 1.92dBm=1.56mW, Frequency is 2.48GHz So (1.56/5)* \checkmark 2.48=0.48984 \leqslant 3.0

Note: $\sqrt{2.48} = 1.57$

Conclusion: No SAR is required.