RF EXPOSURE TEST

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.

			<u> </u>			
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	GAD T
1500	12	24	37	49	61	SAR Test Exclusion
1900	11	22	33	44	54	Threshold (mW)
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	
150 300	232 164	271 192	310 219	349 246	387 274	
300	164	192	219	246	274	
300 450	164 134	192 157	219 179	246 201	274 224	
300 450 835	164 134 98	192 157 115	219 179 131	246 201 148	274 224 164	SAR Test
300 450 835 900	164 134 98 95	192 157 115 111	219 179 131 126	246 201 148 142	274 224 164 158	SAR Test Exclusion
300 450 835 900 1500	164 134 98 95 73	192 157 115 111 86	219 179 131 126 98	246 201 148 142 110	274 224 164 158 122	SAR Test
300 450 835 900 1500 1900	164 134 98 95 73 65	192 157 115 111 86 76	219 179 131 126 98 87	246 201 148 142 110 98	274 224 164 158 122 109	SAR Test Exclusion
300 450 835 900 1500 1900 2450	164 134 98 95 73 65 57	192 157 115 111 86 76 67 55 46	219 179 131 126 98 87 77 63 53	246 201 148 142 110 98 86 71 59	274 224 164 158 122 109 96	SAR Test Exclusion
300 450 835 900 1500 1900 2450 3600	164 134 98 95 73 65 57 47	192 157 115 111 86 76 67 55	219 179 131 126 98 87 77 63	246 201 148 142 110 98 86 71	274 224 164 158 122 109 96 79	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:

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

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.

Bluetooth

frequency range	Maximum Peak Conducted Output Power (dBm)	Maximum Conducted Output Power (mW)
2402	-0.767	0.84
2441	0.435	1.11
2480	0.285	1.07

The max.output power E.I.R.P is 0.435dBm=1.11mW, Frequency is 2.441GHz So $(1.11/5)^*$ $\sqrt{2.441}=0.346 \leqslant 3.0$

The maximum power tolerance is 1.5dBm=1.41mW,Max Frequency is 2.48GHz So (1.41/5)* $\sqrt{2.48}$ =0.443 \leq 3.0

Conclusion: No SAR is required.