# **FCC ID: 2AA7SRFBTAUX**

## RF EXPOSURE TEST

## 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         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         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	IIIIII	25	20	15	10	5	MHz
A50		194	155	116	77	39	150
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		137	110	82	55	27	300
1500   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   32   40   35200   7   13   20   26   33   34   32   40   35800   6   12   19   25   31   31   349   387   3600   6   12   19   25   31   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   109   1000   100		112	89	67	45	22	450
1500		82	66	49	33	16	835
1500		79	63	47	32	16	900
1900	•	61	49	37	24	12	1500
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           2450         57         67         77         86         96           3		54	44	33	22	11	1900
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		48	38	29	19	10	2450
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		40	32	24	16	8	3600
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		33	26	20	13	7	5200
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		32	26	19	13	6	5400
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		31	25	19	12	6	5800
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	mm	50	45	40	35	30	MHz
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		387	349	310	271	232	150
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		274	246	219	192	164	300
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		2/4					
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			201	179	157	134	450
1500		224					
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		224 164	148	131	115	98	835
2450     57     67     77     86     96       3600     47     55     63     71     79       5200     39     46     53     59     66       5400     39     45     52     58     65		224 164 158	148 142	131 126	115 111	98 95	835 900
5200     39     46     53     59     66       5400     39     45     52     58     65	Exclusion	224 164 158 122	148 142 110	131 126 98	115 111 86	98 95 73	835 900 1500
5400         39         45         52         58         65	Exclusion	224 164 158 122 109	148 142 110 98	131 126 98 87	115 111 86 76	98 95 73 65	835 900 1500 1900
	Exclusion	224 164 158 122 109 96	148 142 110 98 86	131 126 98 87 77	115 111 86 76 67	98 95 73 65 57	835 900 1500 1900 2450
5800         37         44         50         56         62	Exclusion	224 164 158 122 109 96 79	148 142 110 98 86 71	131 126 98 87 77 63	115 111 86 76 67 55	98 95 73 65 57 47	835 900 1500 1900 2450 3600
	Exclusion	224 164 158 122 109 96 79 66	148 142 110 98 86 71 59	131 126 98 87 77 63 53	115 111 86 76 67 55 46	98 95 73 65 57 47 39	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  $\leq$  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 <sub>(GHz)</sub> 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 $\leq 50$ 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.

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Maximum measured transmitter power.

## GFSK \_\_\_\_\_

frequency range	Maximum Peak Conducted Output Power (dBm)	Maximum Conducted Output Power (mW)
2402	-0.053	0.98787
2441	-3.620	0.43
2480	-4.391	0.36

#### ∏/4-DQPSK

frequency range	Maximum Peak Conducted Output Power (dBm)	Maximum Conducted Output Power (mW)
2402	-0.951	0.80334
2441	-5.800	0.26
2480	-5.229	0.30

## 8-DPSK

frequency range	Maximum Peak Conducted Output Power (dBm)	Maximum Conducted Output Power (mW)
2402	-3.649	0.43162
2441	-2.789	0.53
2480	-5.171	0.30

The max.output power is -0.053 dBm=0.98787 mW, Frequency is 2.402GHz So (0.98787/5)\*  $\checkmark$  2.402=0.306 $\leqslant$  3.0

The max.output power is -2.789 dBm=0.53 mW, Frequency is 2.441GHz So (0.53/5)\*  $\sqrt{2.441}$ =0.165  $\leqslant$  3.0

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The max.output power is -4.391 dBm=0.36 mW, Frequency is 2.48GHz	
So (0.36/5)* √2.48=0.113≤ 3.0	
Note: $\sqrt{2.402} = 1.550$ , $\sqrt{2.441} = 1.56$ , $\sqrt{2.48} = 1.57$	
Conclusion: No SAR is required.	
Conclusion. No SAIN is required.	