

# 2.1093 Radiofrequency radiation exposure evaluation: portable devices.

# Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to §1.1310 and §2.1093 RF exposure evaluation.

KDB 447498 D01 General RF Exposure Guidance v06 Appendix A SAR Test Exclusion Thresholds for  $100 \, \text{MHz} - 6 \, \text{GHz}$  and  $\leq 50 \, \text{mm}$ 

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in 4.3.1 must be applied to determine SAR test exclusion.

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	MHz	5	10	15	20	25	mm
450         22         45         67         89         112           835         16         33         49         66         82           900         16         32         47         63         79           1500         12         24         37         49         61         Exclusion           1900         11         22         33         44         54         Exclusion           2450         10         19         29         38         48           3600         8         16         24         32         40           5200         7         13         20         26         33           5400         6         13         19         26         32	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       2450     10     19     29     38     48       3600     8     16     24     32     40       5200     7     13     20     26     33       5400     6     13     19     26     32	300	27	55	82	110	137	
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	450	22	45	67	89	112	Exclusion
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	835	16	33	49	66	82	
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	900	16	32	47	63	79	
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	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	1900	11	22	33	44	54	
5200         7         13         20         26         33           5400         6         13         19         26         32	2450	10 🔛	19	29	38	48	
5400 6 13 19 26 32	3600	8	16	24	32	40	
	5200	7	13	20	26	33	
5000 6 12 10 25 31	5400	6	13	19	26	32	
3800 0 12 19 23 31	5800	6	12	19	25	31	

### Measured Conducted Power:

#### BLE:

Frequency (MHz)	Output Power (dBm)	Output Power (mW)	
Low	6.54	4.51	
Mid	6.28	4.24	
High	6.23	4.20	

Tune-up power: +/- 1.0 dB

Antenna Gain: embed print antenna, 0 +/- 0.5dBi



### **Result:**

The max RF power value belows KDB 447498 D01 General RF Exposure Guidance v06 Appendix A SAR Test Exclusion Thresholds for 100 MHz - 6 GHz and  $\leq$  50 mm at 2450MHz 10mw requirement. Therefore, SAR evaluation is not required.

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