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Report No.: 1809RSU016-U2 Report Version: V01 Issue Date: 09-25-2018

# **RF Exposure Evaluation Declaration**

FCC ID: R5DSUNDAY

**IC:** 22682-SUNDAY

**APPLICANT:** 4MOD Technology

**Application Type:** Certification

**Product:** Remote Control

FCC Model No.: SUNDAY

FCC Serial No.: 4MOD340X

IC Model No.: SUNDAY

Brand Name: SUNDAY

FCC Classification: Digital Transmission System (DTS)

Reviewed By : Sury Sur

(Sunny Sun)

Approved By : Robin Wu

(Robin Wu)





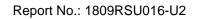
The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou)

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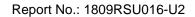
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## **Revision History**

Report No.	Version	Description	Issue Date	Note
1809RSU016-U2	Rev. 01	Initial report	09-25-2018	Valid





### 1. Equipment Description

Product Name	Remote Control
FCC Model No.	SUNDAY
FCC Serial No.	4MOD340X
IC Model No.	SUNDAY
Brand Name	SUNDAY
Bluetooth Specification	v4.0 (BLE Only)
Bluetooth Frequency	2402~2480MHz
Data Rate	250kbps
Modulation	GFSK
Antenna Type	PIFA Antenna
Antenna Gain	0dBi
Power Tune-up Tolerance	3dBm ± 0.5dBm

NOTE: The different models are only for marketing different clients. The PCBA configuration and software are the same for all models. All the materials used in different models are the same as well.



### 2. RF Exposure Evaluation

#### 2.1. Limits

#### 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. The equation and threshold in Note 1 must be applied to determine SAR test exclusion.

MHz         5         10         15         20         25         mm           150         39         77         116         155         194         SAR Test           300         27         55         82         110         137         Exclusion           450         22         45         67         89         112         Threshold           835         16         33         49         66         82         19         66         82         19         66         82         19         66         82         19         61         19         11         10         19         29         38         48         48         48         48         48         48         48         48         3600         8         16         24         32         40         40         5200         7         13         20         26         33         5400         6         13         19         26         32         5800         6         12         19         25         31         54         50         mm         54         50         mm         54         50         mm         54         50         54							
Seculation	MHz	5	10	15	20	25	mm
A50	150	39	77	116	155	194	SAR Test
Sas   16	300	27	55	82	110	137	Exclusion
900	450	22	45	67	89	112	Threshold
1500	835	16	33	49	66	82	(mW)
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       232       271       310       349       387       SAR Test         300       164       192       219       246       274       Exclusion         450       134       157       179       201       224       Threshold         835       98       115       131       148       164       (mW)         900       95       111       126       142       158       150       73       86       98       110       122       1900       65       76       87       98       109       2450       57       67       77       86       96       96 <td< th=""><th>900</th><th>16</th><th>32</th><th>47</th><th>63</th><th>79</th><th></th></td<>	900	16	32	47	63	79	
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       SAR Test       Exclusion         300       164       192       219       246       274       Exclusion       Threshold         450       134       157       179       201       224       Threshold       (mW)         900       95       111       126       142       158       158       1500       73       86       98       110       122       1900       65       76       87       98       109       2450       57       67       77       86       96       96       3600       47       55       63       71       79       5200       39       46       53       59 <th>1500</th> <th>12</th> <th>24</th> <th>37</th> <th>49</th> <th>61</th> <th></th>	1500	12	24	37	49	61	
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       SAR Test         300       164       192       219       246       274       Exclusion         450       134       157       179       201       224       Threshold         835       98       115       131       148       164       (mW)         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	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         SAR Test           300         164         192         219         246         274         Exclusion           450         134         157         179         201         224         Threshold           835         98         115         131         148         164         (mW)           900         95         111         126         142         158         (mW)           1900         65         76         87         98         109 <td< th=""><th>2450</th><th>10</th><th>19</th><th>29</th><th>38</th><th>48</th><th></th></td<>	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         SAR Test           300         164         192         219         246         274         Exclusion           450         134         157         179         201         224         Exclusion           835         98         115         131         148         164         (mW)           900         95         111         126         142         158         (mW)           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         65           5400         39         45         52         58	3600	8	16	24	32	40	
MHz         30         35         40         45         50         mm           150         232         271         310         349         387         SAR Test           300         164         192         219         246         274         Exclusion           450         134         157         179         201         224         Threshold           835         98         115         131         148         164         (mW)           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         SAR Test           300         164         192         219         246         274         Exclusion           450         134         157         179         201         224         Threshold           835         98         115         131         148         164         (mW)           900         95         111         126         142         158         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       SAR Test         300       164       192       219       246       274       Exclusion         450       134       157       179       201       224       Threshold         835       98       115       131       148       164       (mW)         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	
150       232       271       310       349       387       SAR Test         300       164       192       219       246       274       Exclusion         450       134       157       179       201       224       Threshold         835       98       115       131       148       164       (mW)         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       Exclusion         450       134       157       179       201       224       Threshold         835       98       115       131       148       164       (mW)         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       Threshold         835       98       115       131       148       164       (mW)         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	SAR Test
835       98       115       131       148       164       (mW)         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	Exclusion
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	Threshold
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	835	98	115	131	148	164	(mW)
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	900	95	111	126	142	158	
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	
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	
F900 27 44 F0 FC C2	5400	39	45	52	58	65	
3000 31 44 50 50 62	5800	37	44	50	56	62	

Note: 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:

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[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] \*  $[\sqrt{f(GHz)}] \le 3.0$  for 1-g SAR and  $\le 7.5$  for 10-g extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

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 according to 5) in section 4.1 is applied to determine SAR test exclusion.

#### 2.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

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#### 2.3. Test Result of RF Exposure Evaluation

Product	Remote Control
Test Item	RF Exposure Evaluation

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 0dBi for 2.4GHz in logarithm scale.

#### **Output Power into Antenna:**

Test Mode	Frequency Band (MHz)	Maximum output power to antenna (mW)	SAR Test Exclusion Threshold (mW)
Bluetooth	2402 ~ 2480	2.24	10

Per FCC KDB 447498 D01v06, the SAR exclusion threshold for distances<50mm is defined by the following equation:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] \*  $[\sqrt{f(GHz)}] \le 3.0$ 

Based on the maximum conducted power of Bluetooth and the antenna to use separation distance, Bluetooth SAR was not required;

 $[(2.24 \text{mW/5})^* \sqrt{2.402}] = 0.69 < 3.0$ 

Note: When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

————— The End