



# FCC 47 CFR PART 15 SUBPART C

## TEST REPORT

*For*

**Applicant :** GRANDVIEW CRYSTAL SCREEN CO., LTD

**Address :** Federal Industry Zone, No.363 Yushan Road West, Shiqiao,  
Panyu District, Guangzhou, China

**Product Name :** Radio Frequency Remote Control

**Model Name :** 1GD-868Mn

**Brand Name :** GRANDVIEW

**FCC ID :** ZKA-1GD-868MN

**Report No. :** MOST110413F2

**Date of Issue :** May. 9, 2011

**Issued by :** Most Technology Service Co., Ltd.

**Address :** No.5, Langshan 2nd Road, North District, Hi-tech Industrial  
Park, Nanshan, Shenzhen, Guangdong, China

**Tel :** 86-755-8617 0306

**Fax :** 86-755-8617 0310

*The report consists 24 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by MOST. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver.*

**TABLE OF CONTENTS**

|  |    |
|--|----|
| 1. VERIFICATION OF CONFORMITY .....    | 3  |
| 2. GENERAL INFORMATION .....           | 4  |
| 2.1 Product Information .....          | 4  |
| 2.2 Objective .....                    | 5  |
| 2.3 Test Standards and Results .....   | 5  |
| 2.4 Environmental Conditions .....     | 5  |
| 3. TEST METHODOLOGY .....              | 6  |
| 3.1 TEST FACILITY .....                | 6  |
| 3.2 GENERAL TEST PROCEDURES .....      | 6  |
| 4 SETUP OF EQUIPMENT UNDER TEST .....  | 7  |
| 4.1 SETUP CONFIGURATION OF EUT .....   | 8  |
| 4.2 SUPPORT EQUIPMENT .....            | 8  |
| 4.3 TEST EQUIPMENT LIST .....          | 9  |
| 5. 47 CFR Part 15 C Requirements ..... | 10 |
| 5.1 Radiated Emission .....            | 10 |
| 5.2 20dB Bandwidth .....               | 15 |
| 5.3 Transmission Cease Time .....      | 15 |
| 5.4 Antenna Requirement .....          | 16 |
| APPENDIX 1 .....                       | 17 |
| PHOTOGRAPHS OF TEST SETUP .....        | 17 |
| APPENDIX 2 .....                       | 19 |
| PHOTOGRAPHS OF EUT .....               | 19 |

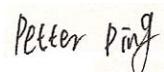
**1. VERIFICATION OF CONFORMITY**

**Equipment Under Test:** Radio Frequency Remote Control  
**Brand Name:** GRANDVIEW  
**Model Number:** 1GD-868Mn  
**FCC ID:** ZKA-1GD-868MN  
**Applicant:** GRANDVIEW CRYSTAL SCREEN CO., LTD  
Federal Industry Zone, No.363 Yushan Road West, Shiqiao, Panyu District,  
Guangzhou, China  
**Manufacturer:** GRANDVIEW CRYSTAL SCREEN CO., LTD  
Federal Industry Zone, No.363 Yushan Road West, Shiqiao, Panyu District,  
Guangzhou, China  
**Technical Standards:** 47 CFR Part 15 Subpart C  
**File Number:** MOST110413F2  
**Date of test:** May. 5, 2011– May. 9, 2011  
**Deviation:** None  
**Condition of Test Sample:** Normal  
**Test Result:** PASS

The above equipment was tested by Most Technology Service Co., Ltd. for compliance with the requirements set forth in FCC rules and the Technical Standards mentioned above. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment and the level of the immunity endurance of the equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

Tested by (+ signature):



Petter Ping

May. 9, 2011

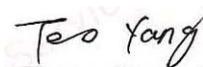
Review by (+ signature):



July Wen

May. 9, 2011

Approved by (+ signature):



Terry Yang

May. 9, 2011

## 2. GENERAL INFORMATION

### 2.1 Product Information

|   |                                |
|---|--------------------------------|
| <b>Product</b>                              | Radio Frequency Remote Control |
| <b>Brand Name</b>                           | GRANDVIEW                      |
| <b>Model Number</b>                         | 1GD-868Mn                      |
| <b>Series Model Name:</b>                   | N/A                            |
| <b>Series Model Difference description:</b> | N/A                            |
| <b>Power Supply</b>                         | DC 3V by battery               |
| <b>Frequency Range</b>                      | 868 MHz                        |
| <b>Channel Number:</b>                      | 1                              |
| <b>Modulation Technique</b>                 | FSK                            |
| <b>Temperature Range</b>                    | -10°C - 50°C                   |

**NOTE:**

1. Please refer to Appendix I for the photographs of the EUT. For a more detailed features description about the EUT, please refer to User's Manual.

## 2.2 Objective

The objective of the report is to perform tests according to 47 CFR Part 15 Subpart C for the EUT FCC ID Certification:

| No. | Identity                            | Document Title          |
|-----|-------------------------------------|-------------------------|
| 1   | 47 CFR Part 15<br>(10-1-05 Edition) | Radio Frequency Devices |

## 2.3 Test Standards and Results

Test items and the results are as bellow:

| No. | Section | Description             | Result | Date of Test |
|-----|---------|-------------------------|--------|--------------|
| 1   | 15.231  | Radiated Emission       | PASS   | 2011-5-5     |
| 2   | 15.231  | 20dB Bandwidth          | PASS   | 2011-5-5     |
| 3   | 15.231  | Transmission Cease Time | PASS   | 2011-5-5     |
| 4   | 15.203  | Antenna Requirement     | PASS   | 2011-5-5     |

*Note:* 1. The test result judgment is decided by the limit of measurement standard  
 2. The information of measurement uncertainty is available upon the customer's request.

## 2.4 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35°C
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

### 3. TEST METHODOLOGY

#### 3.1 TEST FACILITY

Test Site: Most Technology Service Co., Ltd.

Location: No.5, Langshan 2nd Rd., North Hi-Tech Industrial park , Nanshan, Shenzhen, Guangdong ,China

Description: There is one 3m semi-anechoic an area test sites and two line conducted labs for final test. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2009 and CISPR 16 requirements.

The FCC Registration Number is **490827**.

Site Filing: The site description is on file with the Federal Communications Commission, 7435 Oakland Mills Road, Columbia, MD 21046.

Instrument Tolerance: All measuring equipment is in accord with ANSI C63.4:2009 and CISPR 16 requirements that meet industry regulatory agency and accreditation agency requirement.

Ground Plane: Two conductive reference ground planes were used during the Line Conducted Emission, one in vertical and the other in horizontal. The dimensions of these ground planes are as below. The vertical ground plane was placed distancing 40 cm to the rear of the wooden test table on where the EUT and the support equipment were placed during test. The horizontal ground plane projected 50 cm beyond the footprint of the EUT system and distanced 80 cm to the wooden test table. For Radiated Emission Test, one horizontal conductive ground plane extended at least 1m beyond the periphery of the EUT and the largest measuring antenna, and covered the entire area between the EUT and the antenna.

#### 3.2 GENERAL TEST PROCEDURES

##### **EUT Function and Test Mode**

The EUT has been tested under normal operating (TX) and standby (RX) condition.

The field strength of radiation emission was measured in the following position: EUT stand-up position (Y axis), lie-down position (X, Z axis).

The following data show only with the worst case setup.

The worst case of Y axis was reported.

Based on client request, all normal using modes of the normal function were tested but only the worst test data of the worst mode is reported by this report.

### Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4:2009, Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

### Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4:2009.

### **3.3 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS**

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

| MHz                        | MHz                   | MHz             | GHz            |
|----------------------------|-----------------------|-----------------|----------------|
| 0.090 - 0.110              | 16.42 - 16.423        | 399.9 - 410     | 4.5 - 5.15     |
| <sup>1</sup> 0.495 - 0.505 | 16.69475 - 16.69525   | 608 - 614       | 5.35 - 5.46    |
| 2.1735 - 2.1905            | 16.80425 - 16.80475   | 960 - 1240      | 7.25 - 7.75    |
| 4.125 - 4.128              | 25.5 - 25.67          | 1300 - 1427     | 8.025 - 8.5    |
| 4.17725 - 4.17775          | 37.5 - 38.25          | 1435 - 1626.5   | 9.0 - 9.2      |
| 4.20725 - 4.20775          | 73 - 74.6             | 1645.5 - 1646.5 | 9.3 - 9.5      |
| 6.215 - 6.218              | 74.8 - 75.2           | 1660 - 1710     | 10.6 - 12.7    |
| 6.26775 - 6.26825          | 108 - 121.94          | 1718.8 - 1722.2 | 13.25 - 13.4   |
| 6.31175 - 6.31225          | 123 - 138             | 2200 - 2300     | 14.47 - 14.5   |
| 8.291 - 8.294              | 149.9 - 150.05        | 2310 - 2390     | 15.35 - 16.2   |
| 8.362 - 8.366              | 156.52475 - 156.52525 | 2483.5 - 2500   | 17.7 - 21.4    |
| 8.37625 - 8.38675          | 156.7 - 156.9         | 2655 - 2900     | 22.01 - 23.12  |
| 8.41425 - 8.41475          | 162.0125 - 167.17     | 3260 - 3267     | 23.6 - 24.0    |
| 12.29 - 12.293             | 167.72 - 173.2        | 3332 - 3339     | 31.2 - 31.8    |
| 12.51975 - 12.52025        | 240 - 285             | 3345.8 - 3358   | 36.43 - 36.5   |
| 12.57675 - 12.57725        | 322 - 335.4           | 3600 - 4400     | <sup>(2)</sup> |
| 13.36 - 13.41              |                       |                 |                |

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup> Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

## 4 SETUP OF EQUIPMENT UNDER TEST

### 4.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

### 4.2 SUPPORT EQUIPMENT

| Device Type | Brand | Model | FCC ID | Series No. | Audio Cable | Power Cord |
|-------------|-------|-------|--------|------------|-------------|------------|
| N/A         |       |       |        |            |             |            |

*Remark:*

*All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.*

*Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

### 4.3 TEST EQUIPMENT LIST

**Instrumentation:** The following list contains equipment used at Most for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10 kHz to 1.0 GHz or above.

| No. | Equipment                            | Manufacturer      | Model No.      | S/N         | Calculator due date |
|-----|--------------------------------------|-------------------|----------------|-------------|---------------------|
| 1   | Test Receiver                        | Rohde & Schwarz   | ESCI           | 100492      | 2012/03/14          |
| 2   | L.I.S.N.                             | Rohde & Schwarz   | ENV216         | 100093      | 2012/03/14          |
| 3   | Coaxial Switch                       | Anritsu Corp      | MP59B          | 6200283933  | 2012/03/14          |
| 4   | Terminator                           | Hubersuhner       | 50Ω            | No.1        | 2012/03/14          |
| 5   | RF Cable                             | SchwarzBeck       | N/A            | No.1        | 2012/03/14          |
| 6   | Test Receiver                        | Rohde & Schwarz   | ESPI           | 101202      | 2012/03/14          |
| 7   | Bilog Antenna                        | Sunol             | JB3            | A121206     | 2012/03/14          |
| 8   | Test Antenna - Horn                  | Schwarzbeck       | BBHA 9120C     | --          | 2012/03/14          |
| 9   | Test Antenna - Bi-Log                | Schwarzbeck       | VULB 9163      | --          | 2012/03/14          |
| 10  | Cable                                | Resenberger       | N/A            | NO.1        | 2012/03/14          |
| 11  | Cable                                | SchwarzBeck       | N/A            | NO.2        | 2012/03/14          |
| 12  | Cable                                | SchwarzBeck       | N/A            | NO.3        | 2012/03/14          |
| 13  | DC Power Filter                      | DuoJi             | DL2×30B        | N/A         | 2012/03/14          |
| 14  | Single Phase Power Line Filter       | DuoJi             | FNF 202B30     | N/A         | 2012/03/14          |
| 15  | 3 Phase Power Line Filter            | DuoJi             | FNF 402B30     | N/A         | 2012/03/14          |
| 16  | Test Receiver                        | Rohde & Schwarz   | ESCI           | 100492      | 2012/03/14          |
| 17  | Absorbing Clamp                      | Luthi             | MDS21          | 3635        | 2012/03/14          |
| 18  | Coaxial Switch                       | Anritsu Corp      | MP59B          | 6200283933  | 2012/03/14          |
| 19  | AC Power Source                      | Kikusui           | AC40MA         | LM003232    | 2012/03/14          |
| 20  | Test Analyzer                        | Kikusui           | KHA1000        | LM003720    | 2012/03/14          |
| 21  | Line Impedence Network               | Kikusui           | LIN40MA-PCR-L  | LM002352    | 2012/03/14          |
| 22  | ESD Tester                           | Kikusui           | KES4021        | LM003537    | 2012/03/14          |
| 23  | EMCPRO System                        | EM Test           | UCS-500-M4     | V0648102026 | 2012/03/14          |
| 24  | Signal Generator                     | IFR               | 2032           | 203002/100  | 2012/03/14          |
| 25  | Amplifier                            | A&R               | 150W1000       | 301584      | 2012/03/14          |
| 26  | CDN                                  | FCC               | FCC-801-M2-25  | 47          | 2012/03/14          |
| 27  | CDN                                  | FCC               | FCC-801-M3-25  | 107         | 2012/03/14          |
| 28  | EM Injection Clamp                   | FCC               | F-203I-23mm    | 403         | 2012/03/14          |
| 29  | RF Cable                             | MIYAZAKI          | N/A            | No.1/No.2   | 2012/03/14          |
| 30  | Universal Radio Communication Tester | ROHDE&SCHWARZ     | CMU200         | 0304789     | 2012/03/14          |
| 31  | Telecommunication Antenna            | European Antennas | PSA 75301R/170 | 0304213     | 2012/03/14          |

**NOTE:** Equipments listed above have been calibrated and are in the period of validation.

## 5. 47 CFR Part 15 C Requirements

### 5.1 Radiated Emission

#### 5.1.1 Definition

The field strength of any emission within this band shall not exceed 10000 micro volts /meter at 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in section 15.35 for limiting peak emissions apply.

1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in section 15.209(Intentional Radiators general limit), as below.

| Frequency (MHz) | Field Strength ( $\mu$ V/m) | Measurement Distance (m) |
|-----------------|-----------------------------|--------------------------|
| 1.705 - 30.0    | 30                          | 30                       |
| 30 - 88         | 100                         | 3                        |
| 88 - 216        | 150                         | 3                        |
| 216 - 960       | 200                         | 3                        |
| Above 960       | 500                         | 3                        |

**Remark:** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

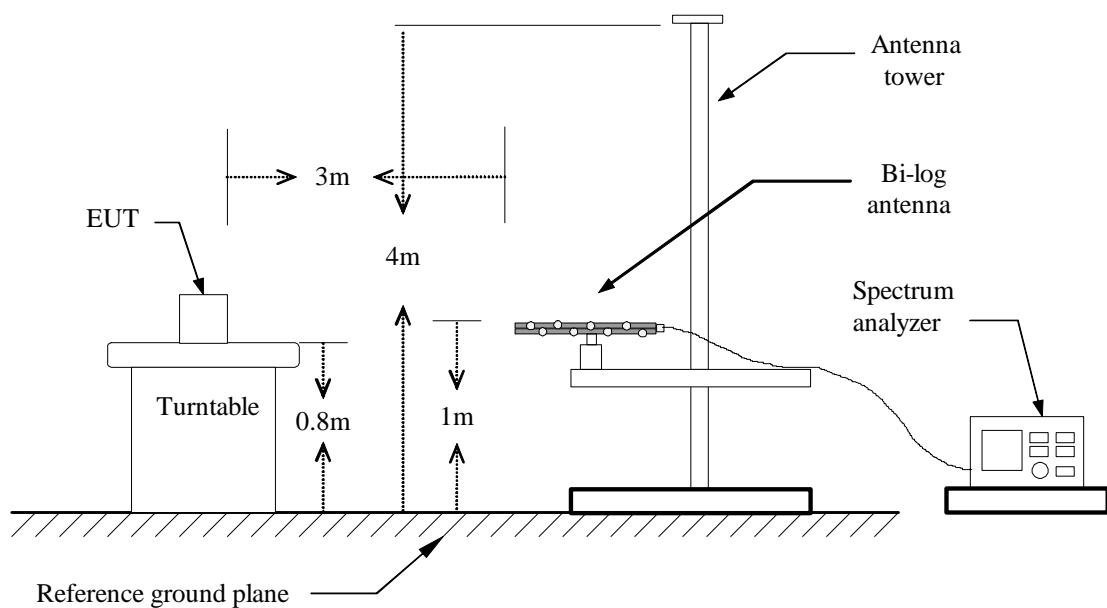
2. In the above emission table, the tighter limit applies at the band edges.

| Frequency (Hz) | Field Strength ( $\mu$ V/m at 3-meter) | Test Distance (m) | Field Strength (dB $\mu$ V/m at 3-meter) |
|----------------|--|-------------------|--|
| 1.705-30       | 30                                     | 3                 | 69.54                                    |
| 30-88          | 100                                    | 3                 | 40                                       |
| 88-216         | 150                                    | 3                 | 43.5                                     |
| 216-960        | 200                                    | 3                 | 46                                       |
| Above 960      | 500                                    | 3                 | 54                                       |
| Fundamental    | 12500                                  | 3                 | 82                                       |
| Spurious       | 1250                                   | 3                 | 62                                       |

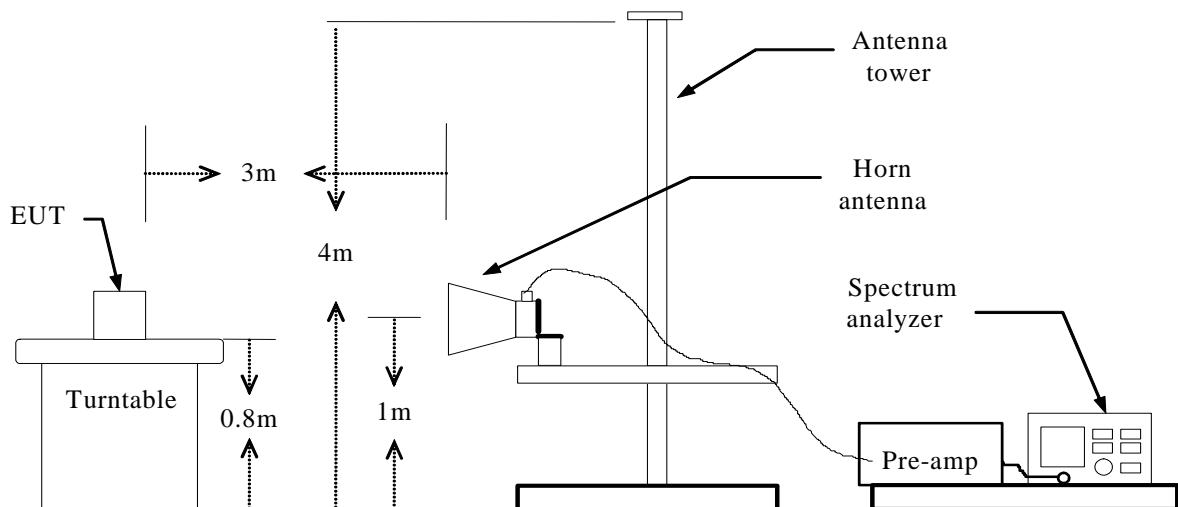
### 5.1.2 Test Configuration

#### Test Setup:

##### Below 1GHz:



##### Above 1GHz:



### 5.1.3 Test Description

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:  
Below 1GHz: RBW=100 kHz / VBW=300 kHz / Sweep=AUTO  
Above 1GHz :( a) PEAK: RBW=VBW=1MHz / Sweep=AUTO  
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
7. Repeat above procedures until the measurements for all frequencies are complete.

### 5.1.4 Test Result

**Operation Mode:** TX mode

**Test Date:** 2011-5-5

**Temperature:** 20°C

**Tested by:** Petter Ping

**Humidity:** 70 % RH

**Polarity:** Ver. / Hor.

| Freq.<br>(MHz) | Ant. Pol.<br>H/V | Detector<br>Mode<br>(PK/QP) | Reading<br>(dBuV) | Factor<br>(dB) | Actual FS<br>(dBuV/m) | Limit 3m<br>(dBuV/m) | Safe Margin<br>(dB) |
|----------------|------------------|-----------------------------|-------------------|----------------|-----------------------|----------------------|---------------------|
| 868.00         | V                | Peak                        | 52.23             | 27.01          | 79.24                 | 82.00                | -2.76               |
| 1735.80        | V                | Peak                        | 27.08             | 29.65          | 56.73                 | 62.00                | -5.27               |
| 2603.70        | V                | Peak                        | 26.26             | 30.77          | 57.03                 | 62.00                | -4.97               |
| 3472.50        | V                | Peak                        | 21.70             | 31.49          | 53.19                 | 62.00                | -8.81               |
| --             |                  |                             |                   |                |                       | --                   | >10                 |
| 868.00         | H                | Peak                        | 49.68             | 27.02          | 76.70                 | 82.00                | -5.30               |
| 1735.80        | H                | Peak                        | 24.88             | 29.65          | 54.53                 | 62.00                | -7.47               |
| 2603.70        | H                | Peak                        | 24.51             | 30.77          | 55.28                 | 62.00                | -6.72               |
| 3472.50        | H                | Peak                        | 18.84             | 31.49          | 50.33                 | 62.00                | -11.67              |
| --             |                  |                             |                   |                |                       | --                   | >10                 |

**Notes:**

*Data of measurement within this frequency range shown “---” in the table above means the reading of emissions are attenuated more than 10dB below the permissible limits or the field strength is too small to be measured.*



Address: No.5, Langshan 2nd Rd., North Hi-Tech Industrial park  
 Guangdong, China  
 Tel: 0755-86170306 Fax: 0755-86170310

#### Radiated Emission Measurement

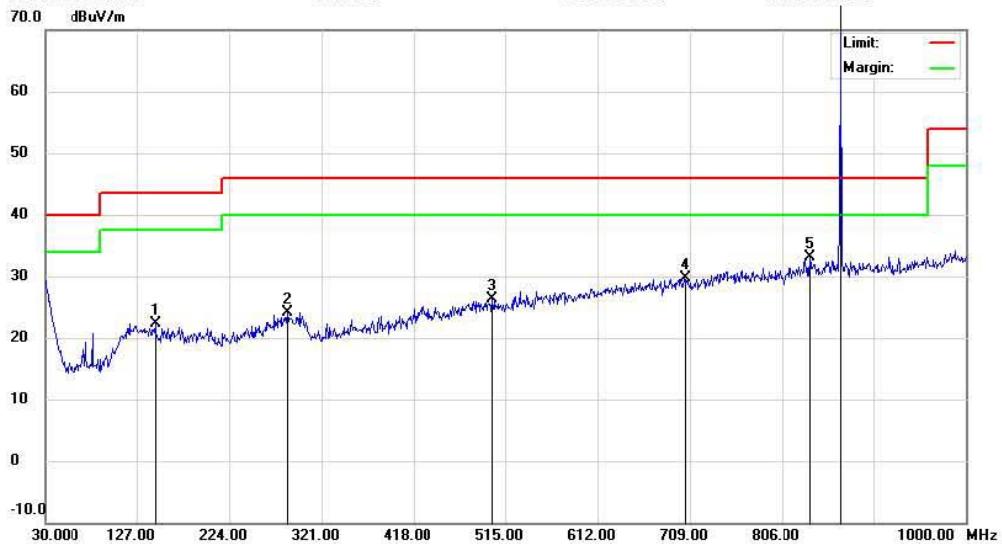
File: 1GD-868Mn

Data: #3

Date: 2011-5-5

Time: 21:16:35

70.0 dBuV/m



Site: site MOST 3M

Polarization: **Horizontal**

Temperature: 26

Limit: FCC Part15 B 3M Radiation

Power: DC 3V

Humidity: 61 %

EUT: RADIO FREQUENCY REMOTE CONTROL

Distance:

M/N: 1GD-868Mn

Mode: TX

Note:

| No. | Mk. | Freq.    | Reading | Correct | Measure- | Limit  | Over   | Antenna  | Table  |        |         |
|-----|-----|----------|---------|---------|----------|--------|--------|----------|--------|--------|---------|
|     |     |          | Level   | Factor  | ment     |        |        | Height   | Degree |        |         |
|     |     | MHz      | dBuV    | dB      | dBuV/m   | dBuV/m | dB     | Detector | cm     | degree | Comment |
| 1   |     | 146.4000 | 5.52    | 16.79   | 22.31    | 43.50  | -21.19 | peak     |        |        |         |
| 2   |     | 285.1099 | 4.68    | 19.45   | 24.13    | 46.00  | -21.87 | peak     |        |        |         |
| 3   |     | 501.4200 | 4.91    | 21.40   | 26.31    | 46.00  | -19.69 | peak     |        |        |         |
| 4   |     | 703.1800 | 5.01    | 24.67   | 29.68    | 46.00  | -16.32 | peak     |        |        |         |
| 5   |     | 836.0700 | 5.91    | 27.10   | 33.01    | 46.00  | -12.99 | peak     |        |        |         |
| 6   | *   | 868.0800 | 49.68   | 27.02   | 76.70    | 46.00  | 30.70  | peak     |        |        |         |

\*:Maximum data x:Over limit !:over margin



Address: No.5, Langshan 2nd Rd., North Hi-Tech Industrial park  
Guangdong, China  
Tel: 0755-86170306 Fax: 0755-86170310

#### Radiated Emission Measurement

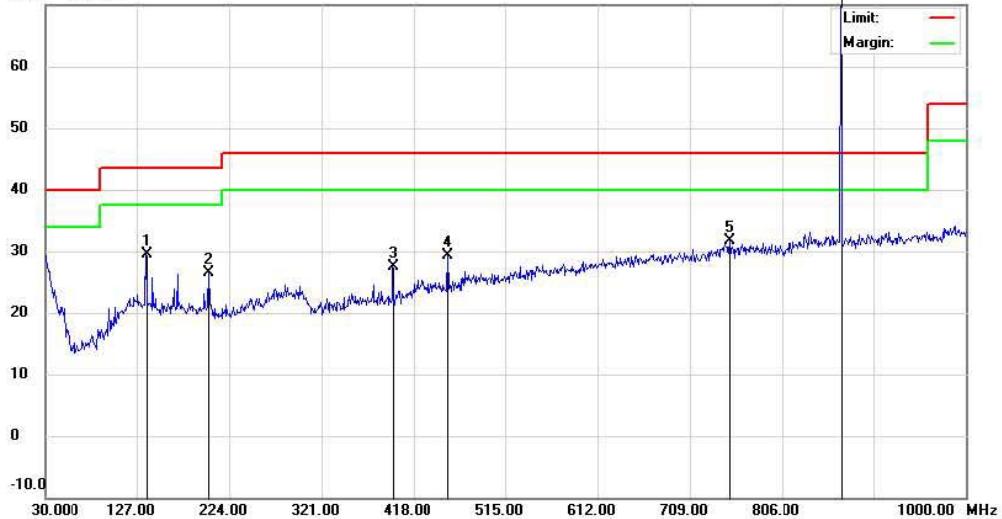
File: 1GD-868Mn

Data: #4

Date: 2011-5-5

Time: 21:18:04

70.0 dBuV/m



Site: site MOST 3M

Polarization: **Vertical**

Temperature: 26

Limit: FCC Part15 B 3M Radiation

Power: DC 3V

Humidity: 61 %

EUT: RADIO FREQUENCY REMOTE CONTROL

Distance:

M/N: 1GD-868Mn

Mode: TX

Note:

| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measure-<br>ment | Limit | Over   | Antenna Table |        |         |
|-----|-----|----------|---------------|----------------|------------------|-------|--------|---------------|--------|---------|
|     |     |          |               |                |                  |       |        | Height        | Degree | Comment |
| 1   |     | 136.7000 | 12.16         | 17.37          | 29.53            | 43.50 | -13.97 | peak          |        |         |
| 2   |     | 202.6599 | 9.19          | 17.27          | 26.46            | 43.50 | -17.04 | peak          |        |         |
| 3   |     | 395.6900 | 8.84          | 18.57          | 27.41            | 46.00 | -18.59 | peak          |        |         |
| 4   |     | 454.8600 | 9.16          | 20.15          | 29.31            | 46.00 | -16.69 | peak          |        |         |
| 5   |     | 750.7100 | 5.87          | 25.79          | 31.66            | 46.00 | -14.34 | peak          |        |         |
| 6   | *   | 869.0500 | 52.23         | 27.01          | 79.24            | 46.00 | 33.24  | peak          |        |         |

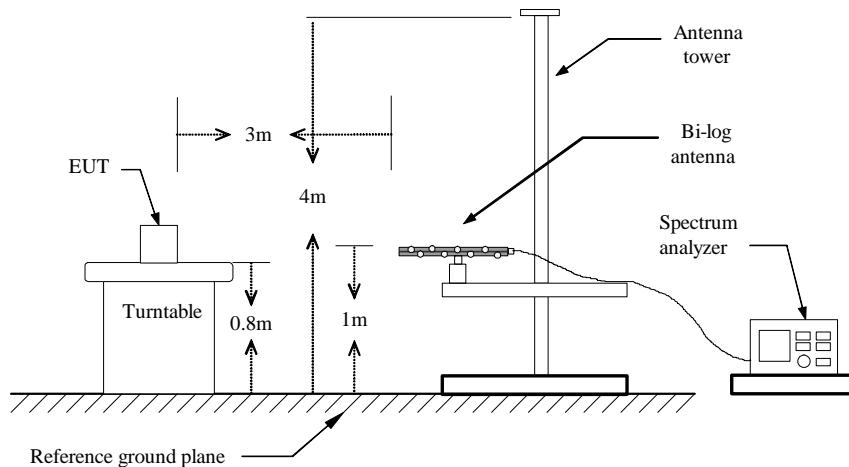
\*:Maximum data x:Over limit !:over margin

## 5.2 20dB Bandwidth

### 5.2.1 Requirement

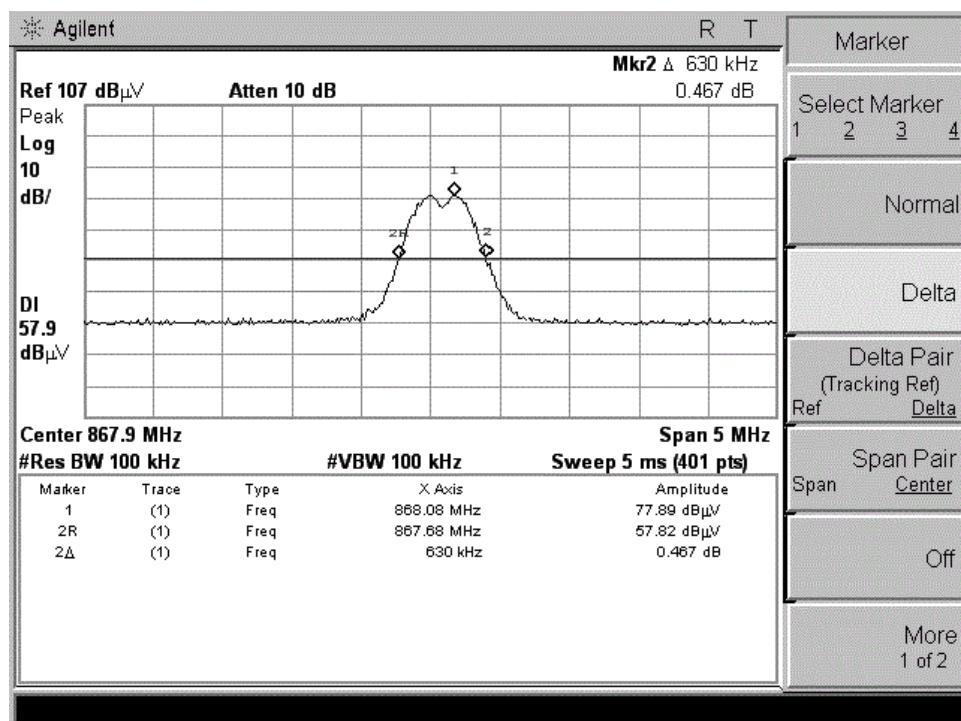
According to FCC section 15.231(c), the bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

### 5.2.2 Test Description



### 5.2.3 Test Result

#### Test Plot:



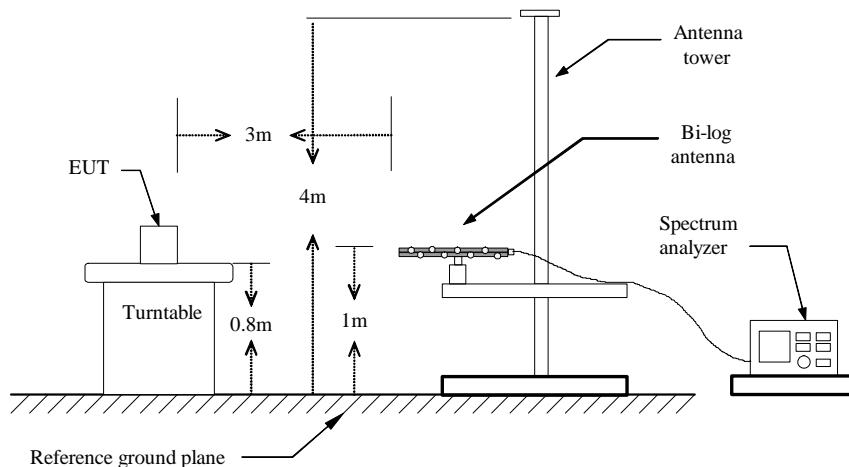
## 5.3 Transmission Cease Time

### 5.3.1 Requirement

According to FCC section 15.231(a):

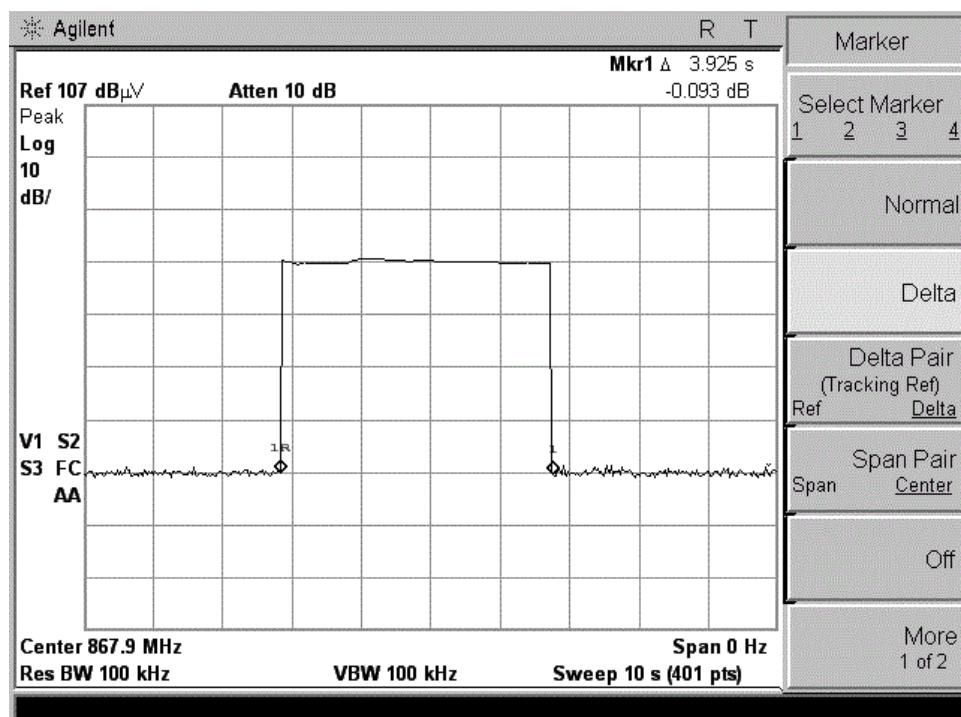
- (1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.
- (2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.

### 5.3.2 Test Description



### 5.3.3 Test Result

**Test Plot:**



## 5.4 Antenna Requirement

### 5.4.1 Definition

An analysis of the 1GD-868Mn was performed to determine compliance with FCC Section 15.203. This section requires specific handling and control of antennas used for devices subject to regulations.

### 5.4.2 Evaluation Procedure

The structure and application of the 1GD-868Mn was analyzed with respect to the rules. The antenna is an internal antenna, and is not accessible to the user. An auxiliary antenna port is not present.

### 5.4.3 Evaluation Criteria

Section 15.203 of the rules states that the subject device must meet at least one of the following criteria:

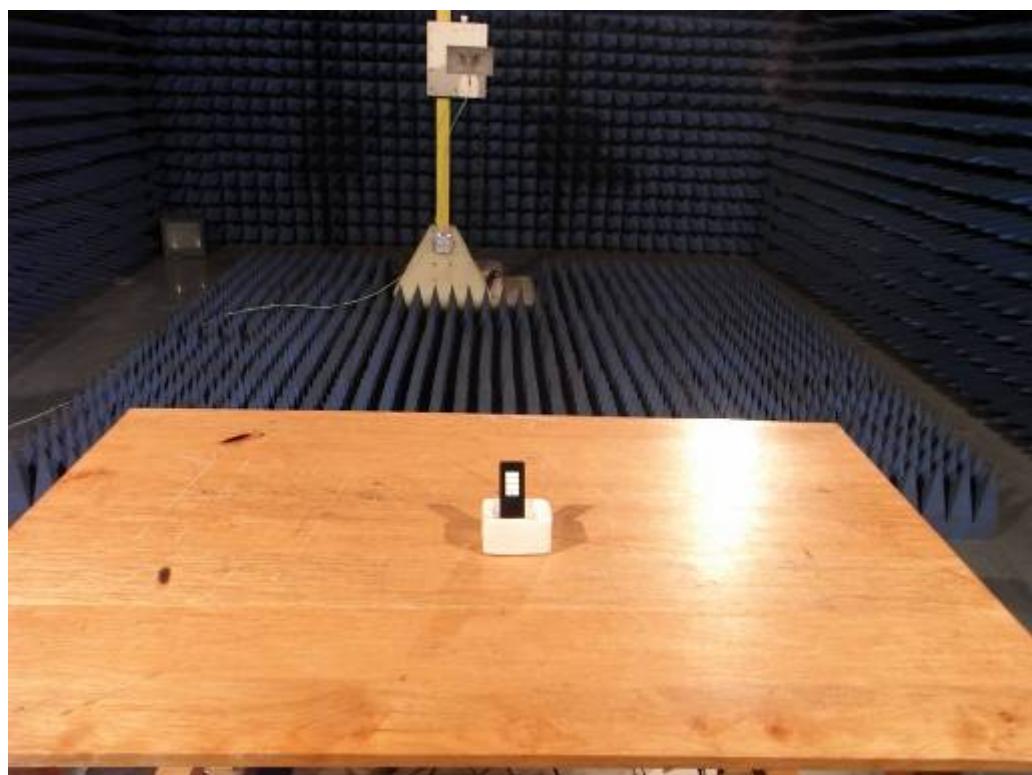
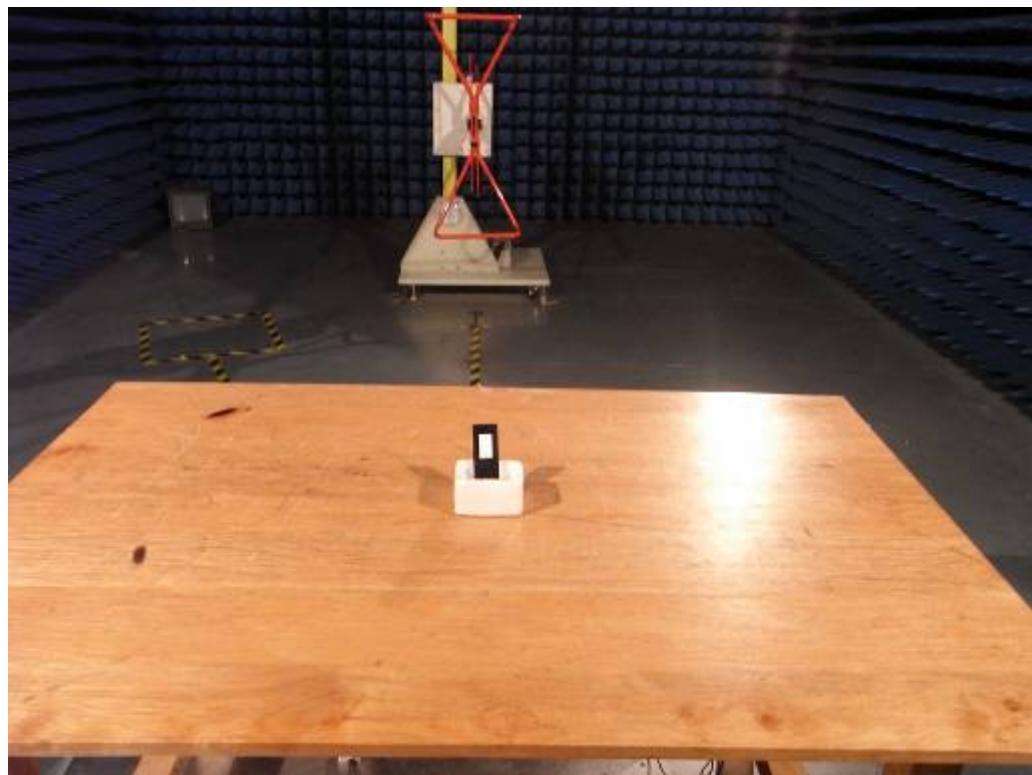
- (a) Antenna must be permanently attached to the unit.
- (b) Antenna must use a unique type of connector to attach to the EUT.
- (c) Unit must be professionally installed. Installer shall be responsible for verifying that the correct antenna is employed with the unit.

### 5.4.4 Evaluation Results

The 1GD-868Mn meets the criteria of this rule by virtue of having an internal antenna inaccessible to the user. The EUT is therefore compliant.

**APPENDIX 1**  
**PHOTOGRAPHS OF TEST SETUP**

Radiated Emission Test Setup



**APPENDIX 2**  
**PHOTOGRAPHS OF EUT**

FRONT VIEW OF SAMPLE



BACK VIEW OF SAMPLE



LEFT VIEW OF SAMPLE



RIGHT VIEW OF SAMPLE



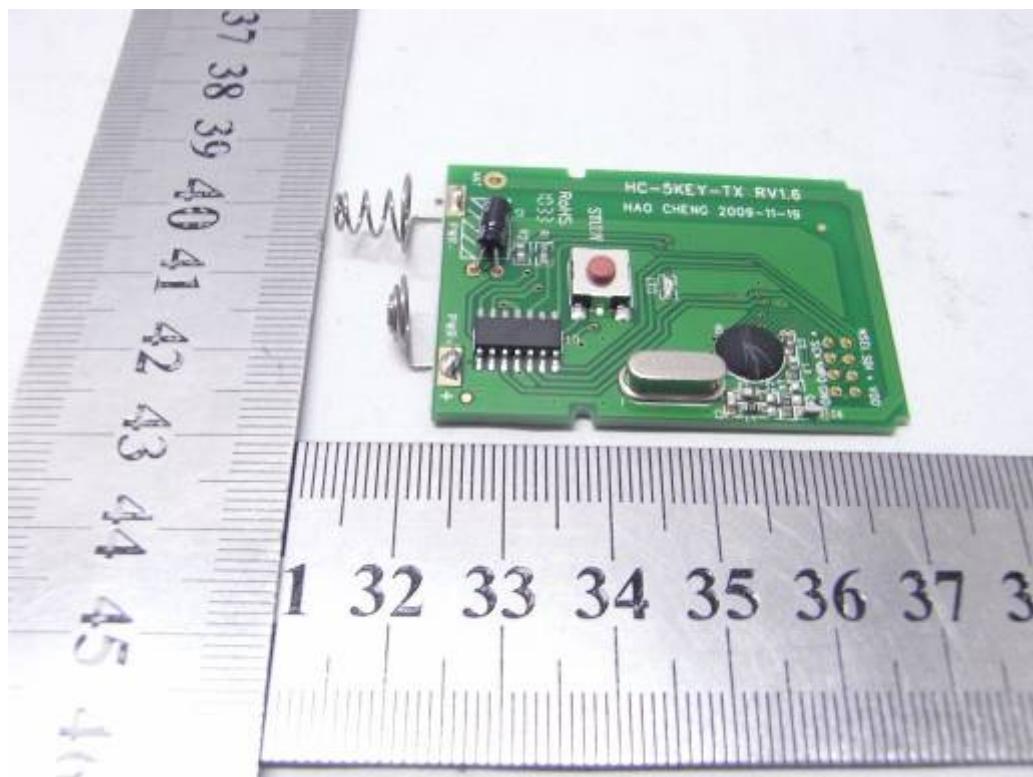
TOP VIEW OF SAMPLE



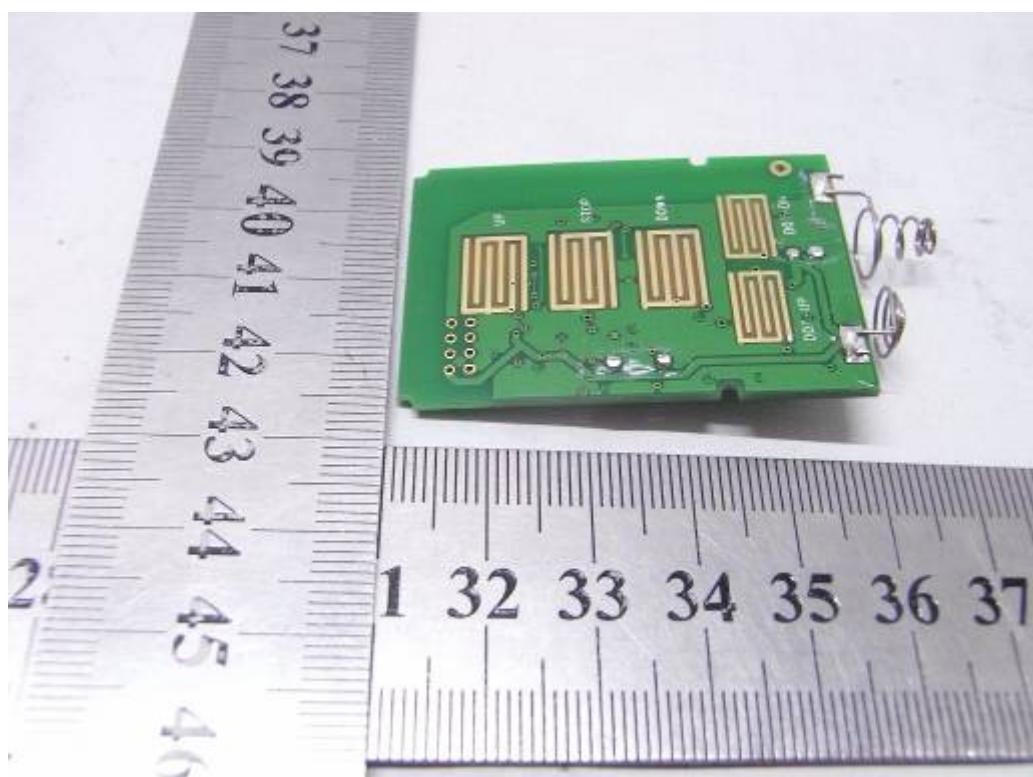
BOTTOM VIEW OF SAMPLE



INTERNAL PHOTO OF SAMPLE - 1



INTERNAL PHOTO OF SAMPLE - 2



-----END OF REPORT-----