# APPLICATION CERTIFICATION
On Behalf of
GUANGDONG OML TECHNOLOGYCO.,LTD

Mini RF remote controller
Model No.: SP104R

FCC ID: 2AVBD-SP104R

| | | |
|---|---|---|
| Prepared for | : | GUANGDONG OML TECHNOLOGYCO.,LTD |
| Address | : | No.38 HETONG ROAD, DONGFENG TOWN, ZHONGSHAN, Guangdong, China |
| Prepared by | : | Shenzhen Accurate Technology Co., Ltd. |
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| | | |
|---|---|---|
| Report Number | : | ATE20191668 |
| Date of Test | : | November 26-27, 2019 |
| Date of Report | : | December 6, 2019 |

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# Test Report Certification

| | | |
|---|---|---|
| Applicant | : | GUANGDONG OML TECHNOLOGYCO.,LTD |
| Manufacturer | : | GUANGDONG OML TECHNOLOGYCO.,LTD |
| Product | : | Mini RF remote controller |
| Model No. | : | SP104R |
| Trade name | : | N/A |

Measurement Procedure Used:

**FCC Rules and Regulations Part 15 Subpart C Section 15.231a**
**ANSI C63.10-2013**

The device described above is tested by Shenzhen Accurate Technology Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.231a. The measurement results are contained in this test report and Shenzhen Accurate Technology Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Accurate Technology Co., Ltd..

Date of Test : November 26-27, 2019
Date of Report : December 6, 2019

Prepared by :
(Bob Wang, Engineer)

Approved & Authorized Signer :
( Sean Liu, Manager)

# 1. GENERAL INFORMATION

## 1.1.Description of Device (EUT)

| | | |
|---|---|---|
| EUT | : | Mini RF remote controller |
| Model Number | : | SP104R |
| Power Supply | : | DC 3V(Powered by battery) |
| Modulation: | : | OOK |
| antenna gain | : | 2dBi |
| TX Frequency | : | 434MHz |
| Type of Antenna | : | PCB antenna |
| Applicant | : | GUANGDONG OML TECHNOLOGYCO.,LTD |
| Address | : | No.38 HETONG ROAD, DONGFENG TOWN, ZHONGSHAN, Guangdong, China |
| Manufacturer | : | GUANGDONG OML TECHNOLOGYCO.,LTD |
| Address | : | No.38 HETONG ROAD, DONGFENG TOWN, ZHONGSHAN, Guangdong, China |
| Date of sample received | : | November 20, 2019 |
| Date of Test | : | November 26-27, 2019 |
| Sample No. | : | 1901431 |

## 1.2.Description of Test Facility

| | | |
|---|---|---|
| EMC Lab | : | Recognition of accreditation by Federal Communications Commission (FCC)<br>The Designation Number is CN1189<br>The Registration Number is 708358<br><br>Listed by Innovation, Science and Economic Development Canada (ISEDC)<br>The Registration Number is 5077A-2<br><br>Accredited by China National Accreditation Service for Conformity Assessment (CNAS)<br>The Registration Number is CNAS L3193<br><br>Accredited by American Association for Laboratory Accreditation (A2LA)<br>The Certificate Number is 4297.01 |
| Name of Firm | : | Shenzhen Accurate Technology Co., Ltd. |
| Site Location | : | 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China |

## 1.3.Measurement Uncertainty

| | | |
|---|---|---|
| Conducted Emission Expanded Uncertainty | = | 2.23dB, k=2 |
| Radiated emission expanded uncertainty (9kHz-30MHz) | = | 3.08dB, k=2 |
| Radiated emission expanded uncertainty (30MHz-1000MHz) | = | 4.42dB, k=2 |
| Radiated emission expanded uncertainty (Above 1GHz) | = | 4.06dB, k=2 |

# 2. MEASURING DEVICE AND TEST EQUIPMENT

**Table 1: List of Test and Measurement Equipment**

| Kind of equipment | Manufacturer | Type | S/N | Calibrated dates | Cal. Interval |
|---|---|---|---|---|---|
| EMI Test Receiver | Rohde&Schwarz | ESCS30 | 100307 | Jan. 05, 2019 | One Year |
| EMI Test Receiver | Rohde&Schwarz | ESPI3 | 101526/003 | Jan. 05, 2019 | One Year |
| Spectrum Analyzer | Agilent | E7405A | MY45115511 | Jan. 05, 2019 | One Year |
| Pre-Amplifier | Rohde&Schwarz | CBLU1183540-01 | 3791 | Jan. 05, 2019 | One Year |
| Loop Antenna | Schwarzbeck | FMZB1516 | 1516131 | Jan. 05, 2019 | One Year |
| Bilog Antenna | Schwarzbeck | VULB9163 | 9163-323 | Jan. 05, 2019 | One Year |
| Horn Antenna | Schwarzbeck | BBHA9120D | 9120D-655 | Jan. 05, 2019 | One Year |
| Horn Antenna | Schwarzbeck | BBHA9120D | 9120D-1067 | Jan. 05, 2019 | One Year |
| LISN | Rohde&Schwarz | ESH3-Z5 | 100305 | Jan. 05, 2019 | One Year |
| LISN | Schwarzbeck | NSLK8126 | 8126431 | Jan. 05, 2019 | One Year |
| Highpass Filter | Wainwright Instruments | WHKX3.6/18G-10SS | N/A | Jan. 05, 2019 | One Year |
| Band Reject Filter | Wainwright Instruments | WRCG2400/2485-2375/2510-60/11SS | N/A | Jan. 05, 2019 | One Year |

# 3. SUMMARY OF TEST RESULTS

| FCC Rules | Description of Test | Result |
|---|---|---|
| Section 15.207 | Conducted Emission | N/A |
| Section 15.231(b) | Radiated Emission | Compliant |
| Section 15.231(c) | 20dB Bandwidth | Compliant |
| Section 15.231(a)(1) | Release Time Measurement | Compliant |
| Section 15.203 | Antenna Requirement | Compliant |

The product is a manually operated transmitter.
Section 15.231 (a) (2), (3), (4) and (5) are not applicable.

Note: The power supply mode of the EUT is DC 3V, According to the FCC standard requirements, conducted emission is not applicable

All normal using modes of the normal function were tested but only the worst test data of the worst mode is recorded by this report.

# 4. THE FIELD STRENGTH OF RADIATION EMISSION

## 4.1.Block Diagram of Test Setup

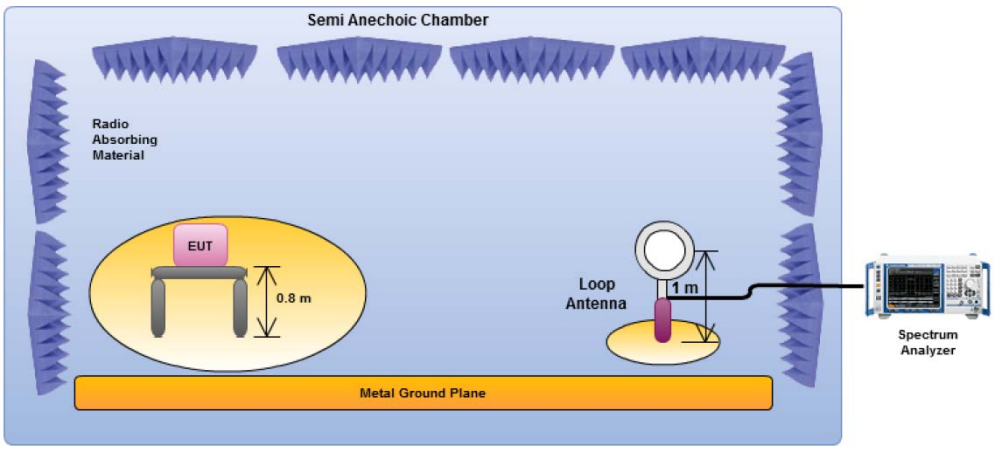
### 4.1.1.Block diagram of connection between the EUT and simulators

EUT

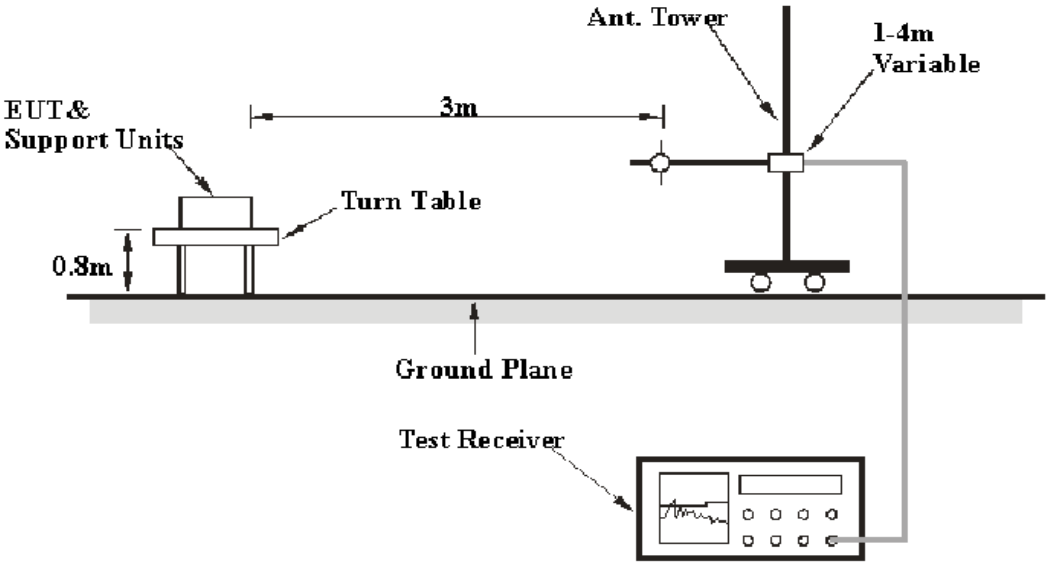
(EUT: Mini RF remote controller)

### 4.1.2.Semi-Anechoic Chamber Test Setup Diagram

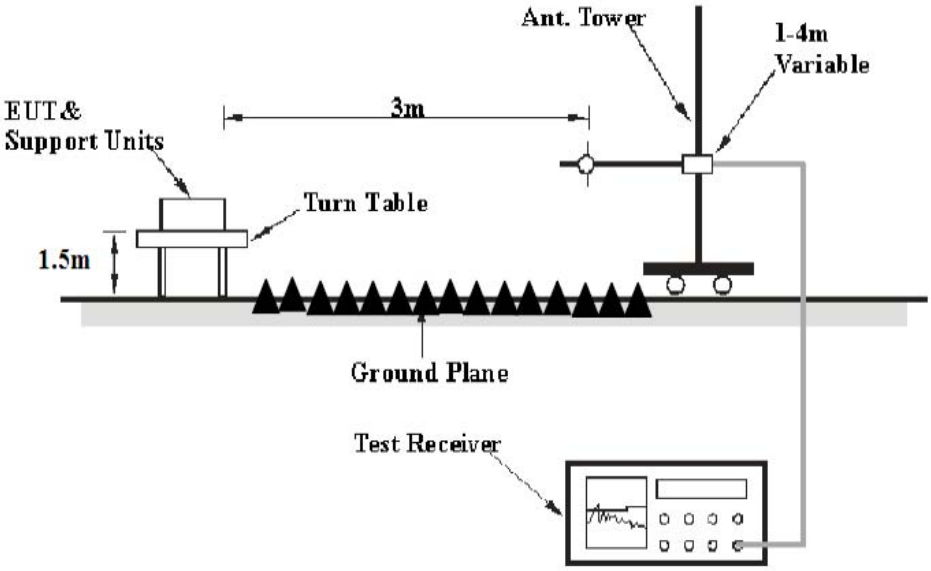
**Below 30MHz**




Below 1GHz:



Above 1GHz:




(EUT: Mini RF remote controller)

## 4.2.The Field Strength of Radiation Emission Measurement Limits

### 4.2.1. Radiation Emission Measurement Limits According to FCC Part 15 Section 15.231(b)

| Frequency Range of Fundamental [MHz] | Field Strength of Fundamental Emission [Average] [μV/m] | Field Strength of Spurious Emission [Average] [μV/m] |
|---|---|---|
| 40.66-40.70 | 2250 | 225 |
| 70-130 | 1250 | 125 |
| 130-174 | 1250-3750 | 125-375 |
| 174-260 | 3750 | 375 |
| 260-470 | 3750-12500 | 375-1250 |
| Above 470 | 12500 | 1250 |

Where F is the frequency in MHz, the formulas for calculating the maximum permitted fundamental field strengths are as follows: for the band 130-174 MHz, uV/m at 3 meters = 56.81818(F) - 6136.3636; for the band 260-470 MHz, uV/m at 3 meters = 41.6667(F) - 7083.3333. The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.

4.2.2. Restricted Band Radiation Emission Measurement Limits According to FCC part 15 Section 15.205 and Section15.209.

## 4.3. Configuration of EUT on Measurement

The following equipment is installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.3.1. Mini RF remote controller (EUT)

| | | |
|---|---|---|
| Model Number | : | SP104R |
| Serial Number | : | N/A |
| Manufacturer | : | GUANGDONG OML TECHNOLOGYCO.,LTD |

## 4.4. Operating Condition of EUT

4.4.1. Setup the EUT and simulator as shown as Section 4.1.

4.4.2. Turn on the power of all equipment.

4.4.3. Let the EUT work in TX mode measure it.

## 4.5. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground(Below 1GHz). The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground(Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

The bandwidth of test receiver is set at 120 kHz in 30-1000 MHz, and 1 MHz in 1000-5000 MHz.

The frequency range from 30 MHz to 5000 MHz is checked.

## 4.6.The Field Strength of Radiation Emission Measurement Results

**PASS.**

The frequency range 30MHz to 5000MHz is investigated.

| | | | |
|---|---|---|---|
| EUT: | Mini RF remote controller | | |
| Model No.: | SP104R | Power Supply: | DC 3V |
| Test Mode: | TX | Test Engineer: | Frank |

| Frequency (MHz) | Reading (dBμV/m) | Factor Corr. | Average Factor | Result(dBμV/m) | | Limit(dBμV/m) | | Margin(dB) | | Polarization |
|---|---|---|---|---|---|---|---|---|---|---|
| | PEAK | (dB) | (dB) | AV | PEAK | AV | PEAK | AV | PEAK | |
| 31.5121 | 35.63 | -20.57 | - | - | 15.06 | - | 40.00 | - | -24.94 (QP) | Vertical |
| 46.8721 | 35.43 | -25.08 | - | - | 10.35 | - | 40.00 | - | -29.65 (QP) | |
| 222.2803 | 36.45 | -23.98 | - | - | 12.47 | - | 46.00 | - | -33.53 (QP) | |
| 655.9764 | 34.71 | -12.52 | - | - | 22.19 | - | 46.00 | - | -23.81 (QP) | |
| **434.0000** | **97.32** | **-17.78** | **-7.91** | **71.63** | **79.54** | **80.83** | **100.83** | **-9.20** | **-21.29** | |
| 868.0000 | 58.97 | -7.98 | **-7.91** | 43.08 | 50.99 | 60.83 | **80.83** | -17.75 | -29.84 | |
| 2604.0000 | 55.57 | -5.46 | **-7.91** | 42.20 | 50.11 | 60.83 | 80.83 | -18.63 | -30.72 | |
| 3038.0000 | 54.27 | -3.13 | **-7.91** | 43.23 | 51.14 | 60.83 | 80.83 | -17.60 | -29.69 | |
| 3472.0000 | 52.47 | -1.98 | **-7.91** | 42.58 | 50.49 | 60.83 | 80.83 | -18.25 | -30.34 | |
| 3906.0000 | 50.69 | -1.05 | **-7.91** | 41.73 | 49.64 | 60.83 | 80.83 | -19.10 | -31.19 | |
| 4340.0000 | 50.03 | -0.48 | **-7.91** | 41.61 | 49.55 | 60.83 | 80.83 | -19.19 | -31.28 | |
| 5642.0000 | 47.22 | 2.58 | **-7.91** | 41.89 | 49.80 | 60.83 | 80.83 | -18.94 | -31.03 | |
| 31.8460 | 35.38 | -20.66 | - | - | 14.72 | - | 40.00 | - | -25.28 (QP) | Horizontal |
| 64.7590 | 35.11 | -27.29 | - | - | 7.82 | - | 40.00 | - | -32.18 (QP) | |
| 140.7767 | 36.02 | -27.96 | - | - | 8.06 | - | 43.50 | - | -35.44 (QP) | |
| 609.3174 | 34.62 | -13.49 | - | - | 21.13 | - | 46.00 | - | -24.87 (QP) | |
| **434.0000** | **107.92** | **-17.78** | **-7.91** | **80.22** | **88.13** | **80.83** | **100.83** | **-0.61** | **-12.70** | |
| 868.0000 | 64.72 | -7.98 | **-7.91** | 48.83 | 56.74 | 60.83 | **80.83** | -12.00 | -24.09 | |
| 1302.0000 | 62.25 | -10.43 | **-7.91** | 43.91 | 51.82 | 60.83 | 80.83 | -16.92 | -29.01 | |
| 2604.0000 | 56.82 | -5.46 | **-7.91** | 43.45 | 51.36 | 60.83 | 80.83 | -17.38 | -29.47 | |
| 3038.0000 | 54.51 | -3.13 | **-7.91** | 43.47 | 51.38 | 60.83 | 80.83 | -17.36 | -29.45 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3472.0000 | 51.65 | -1.98 | **-7.91** | 41.76 | 49.67 | 60.83 | 80.83 | -19.07 | -31.16 | |
| 3906.0000 | 50.37 | -1.05 | **-7.91** | 41.41 | 49.32 | 60.83 | 80.83 | -19.42 | -31.51 | |
| 4340.0000 | 49.88 | -0.48 | **-7.91** | 41.91 | 49.40 | 60.83 | 80.83 | -19.34 | -31.43 | |

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

   Result = Reading + Corrected Factor

   Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss – Amplifier Gain
3. FCC Limit for Average Measurement = 41.6667(433.92)-7083.3333 = 11000.0145 μV/m =80.83 μV/m
4. The spectral diagrams in appendix I display the measurement of peak values.
5. Average value= PK value + Average Factor (duty factor)
6. If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.
7. The EUT is tested radiation emission in three axes(X,Y,Z). The worst emissions are reported in three axes.

8. Pulse Desensitization Correction Factor

   Pulse Width (PW) = 1.38ms

   2/PW = 2/1.38ms = 1.45kHz

   RBW (100 kHz) > 2/PW (1.45 kHz)

   Therefore PDCF is not needed

# 5. 20DB OCCUPIED BANDWIDTH

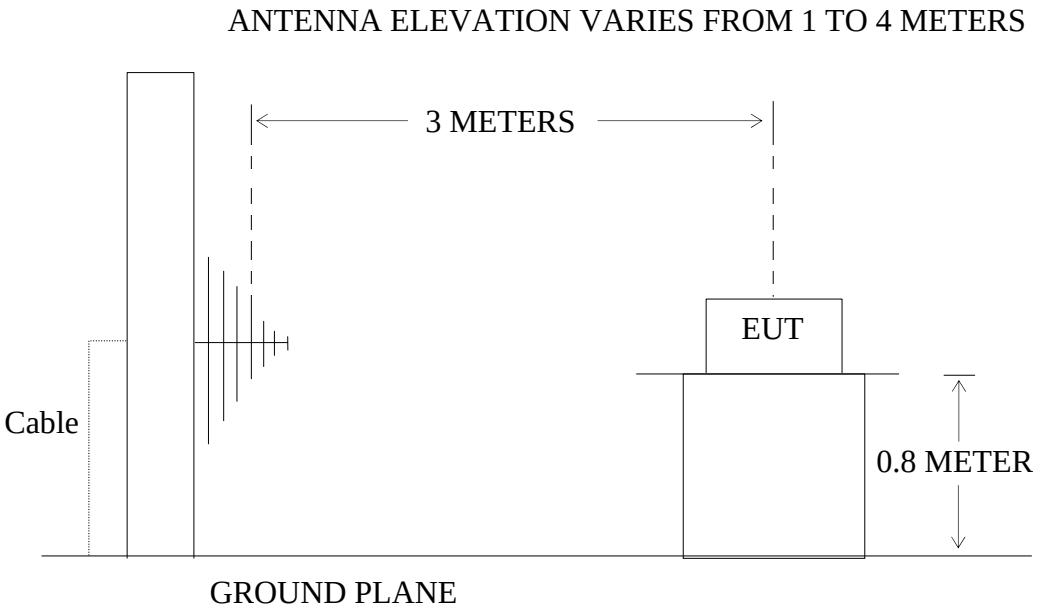
## 5.1.Block Diagram of Test Setup

### 5.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Mini RF remote controller)

### 5.1.2.Semi-Anechoic Chamber Test Setup Diagram




(EUT: Mini RF remote controller)

## 5.2.The Bandwidth of Emission Limit According To FCC Part 15 Section 15.231(c)

The bandwidth of emission shall be no wider than 0.25% of the center frequency. Therefore, the bandwidth of the emission limit is 433.92 MHz×0.25% = 1084.8 kHz. Bandwidth is determined at the two points 20 dB down from the top of modulated carrier.

## 5.3.EUT Configuration on Measurement

The following equipment are installed on the bandwidth of emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

5.3.1.Mini RF remote controller (EUT)

| | | |
|---|---|---|
| Model Number | : | SP104R |
| Serial Number | : | N/A |
| Manufacturer | : | GUANGDONG OML TECHNOLOGYCO.,LTD |

## 5.4.Operating Condition of EUT

5.4.1.Setup the EUT and simulator as shown as Section 5.1.

5.4.2.Turn on the power of all equipment.

5.4.3.Let the EUT work in TX mode measure it.

## 5.5.Test Procedure

5.5.1. Set SPA Center Frequency = Fundamental frequency, RBW = 10 kHz, VBW = 30 kHz, Span = 1.0MHz.

5.5.2.Set SPA Max hold, Mark peak, -20 dB.

## 5.6.Measurement Result

**The EUT does meet the FCC requirement.**

-20 dB bandwidth = 49 kHz <1084.8 kHz.

The spectral diagrams in appendix I.

# 6. RELEASE TIME MEASUREMENT

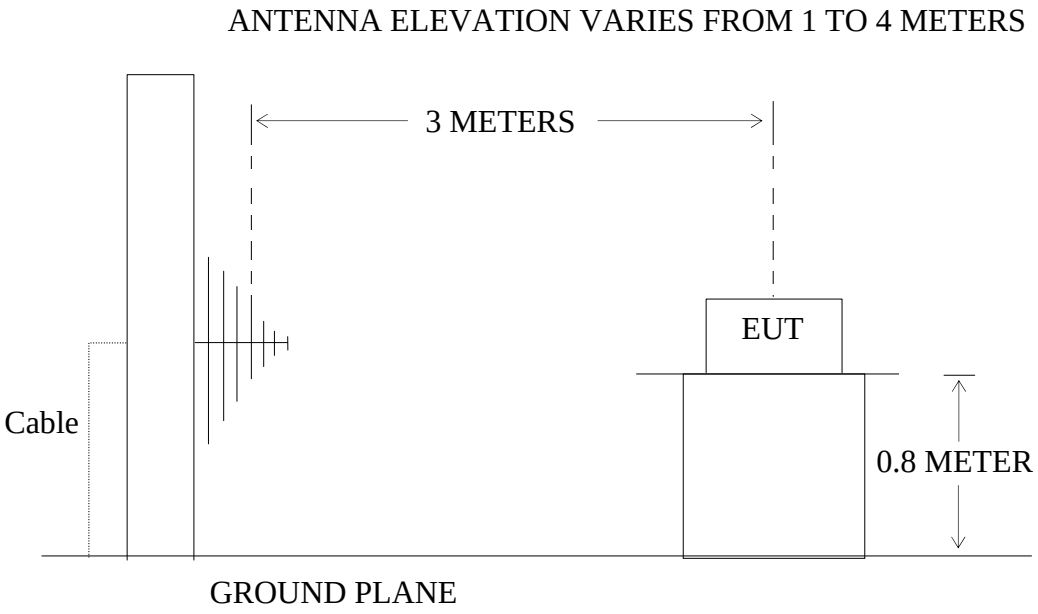
## 6.1.Block Diagram of Test Setup

### 6.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Mini RF remote controller)

### 6.1.2.Semi-Anechoic Chamber Test Setup Diagram




(EUT: Mini RF remote controller)

## 6.2.Release Time Measurement According To FCC Part 15 Section 15.231(a)

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.

## 6.3.EUT Configuration on Measurement

The following equipment are installed on Release Time Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.3.1. Mini RF remote controller (EUT)

| | | |
|---|---|---|
| Model Number | : | SP104R |
| Serial Number | : | N/A |
| Manufacturer | : | GUANGDONG OML TECHNOLOGYCO.,LTD |

## 6.4.Operating Condition of EUT

6.4.1.Setup the EUT and simulator as shown as Section 6.1.

6.4.2.Turn on the power of all equipment.

6.4.3.Let the EUT work in TX mode measure it.

## 6.5.Test Procedure

6.5.1. Set SPA Center Frequency = Fundamental frequency, RBW = 100 kHz, VBW = 300 kHz, Span = 0 Hz. Sweep time = 10 s.

6.5.2.Set EUT as normal operation and press Transmitter button.

6.5.3.Set SPA View. Delta Mark time.

## 6.6. Measurement Result

**The release time less than 5 seconds.**

Release Time = 0.67ms

The spectral diagrams in appendix I.

# 7. AVERAGE FACTOR MEASUREMENT

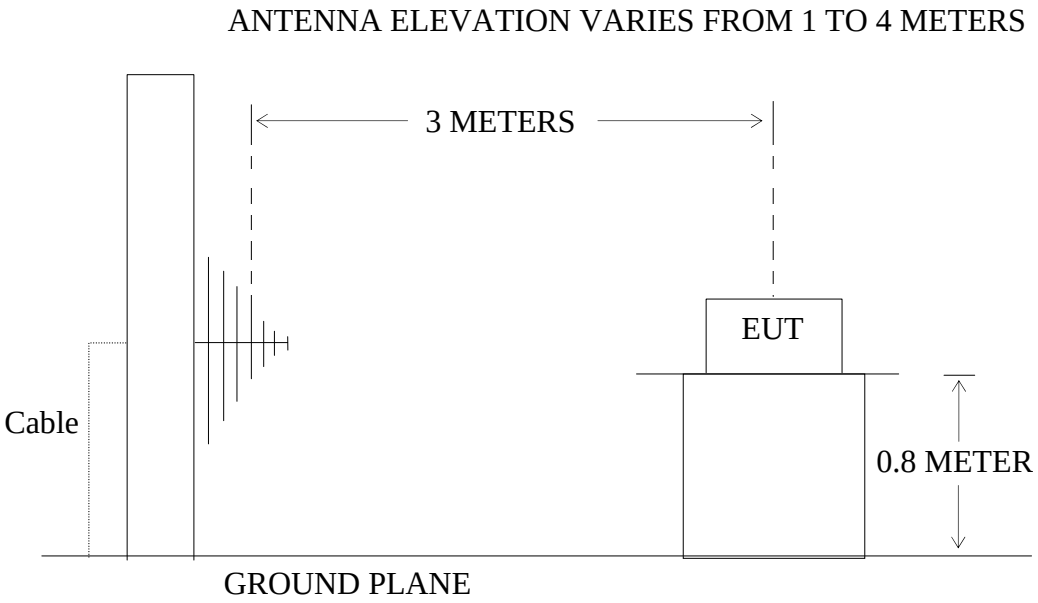
## 7.1.Block Diagram of Test Setup

### 7.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Mini RF remote controller)

### 7.1.2.Semi-Anechoic Chamber Test Setup Diagram




## 7.2.Average factor Measurement according to ANSI C63.10-2013

**ANSI C63.10-2013 Section 7.5** Unless otherwise specified, when the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 s (100 ms). In cases where the pulse train exceeds 0.1 s, the measured field strength shall be determined during a 0.1 s interval.64 The following procedure is an example of how the average value may be determined. The average field strength may be found by measuring the peak pulse amplitude (in log equivalent units) and determining the duty cycle correction factor (in dB) associated with the pulse modulation as shown in Equation (10):

**Average factor in dB = 20 log (duty cycle)**

## 7.3.EUT Configuration on Measurement

The following equipment are installed on average factor Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.3.1. Mini RF remote controller (EUT)

| | | |
|---|---|---|
| Model Number | : | SP104R |
| Serial Number | : | N/A |
| Manufacturer | : | GUANGDONG OML TECHNOLOGYCO.,LTD |

## 7.4.Operating Condition of EUT

7.4.1.Setup the EUT and simulator as shown as Section 7.1.

7.4.2.Turn on the power of all equipment.

7.4.3.Let the EUT work in TX mode measure it.

## 7.5.Test Procedure

7.5.1.The time period over which the duty cycle is measured is 100 milliseconds, or the repetition cycle, whichever is a shorter time frame. The worst case (highest percentage on) duty cycle is used for the calculation.

7.5.2.Set SPA Center Frequency = Fundamental frequency, RBW = 100 kHz, VBW = 300 kHz, Span = 0 Hz.

7.5.3.Set EUT as normal operation.

7.5.4.Set SPA View. Delta Mark time.

## 7.6. Measurement Result

**The duty cycle is simply the on time divided by the period:**
The duration of one cycle = 57.30ms

Effective period of the cycle = (5.10×1) + (1.38×13)ms =23.04 ms

DC =23.04ms/57.30ms=0.402

**Therefore, the average factor is found by 20log0.402= -7.91dB**

The spectral diagrams in appendix I.

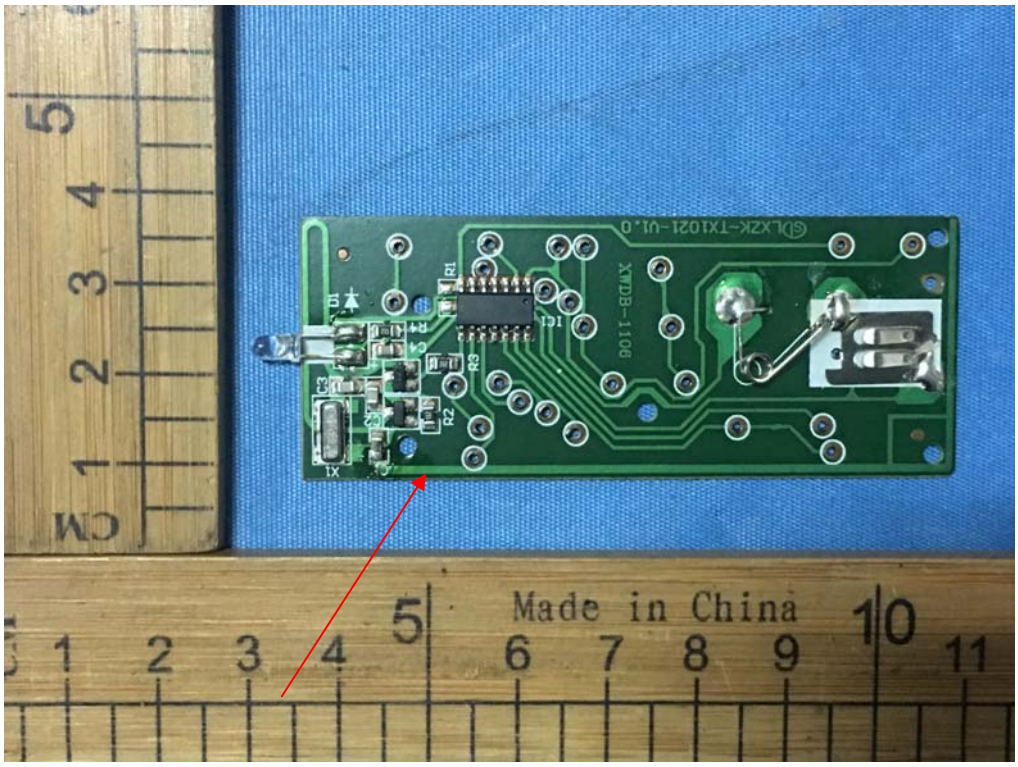
# 8. ANTENNA REQUIREMENT

## 8.1.The Requirement

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

## 8.2.Antenna Construction

Device is equipped with PCB antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 2dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



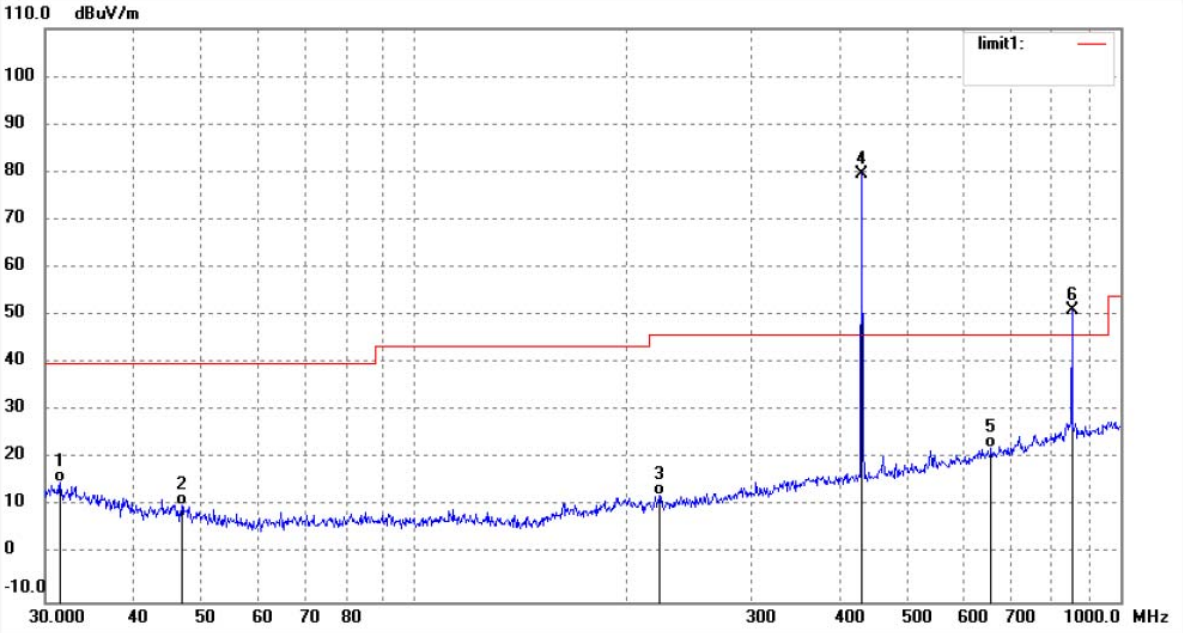

Antenna

# APPENDIX I
# (Test Curves)

**ACCURATE TECHNOLOGY CO., LTD.**
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: FRANK2019 #1690 | Polarization: Vertical |
| Standard: FCC Class B 3M Radiated | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2019/11/26 |
| Temp.( C)/Hum.(%) 25 C / 55 % | Time: 17:07:51 |
| EUT: Mini RF remote controller | Engineer Signature: |
| Mode: TX434MHz | Distance: 3m |
| Model: SP104R | |
| Manufacturer: GUANGDONG OML TECHNOLOGY CO.,LTD | |

Note: Report NO.:ATE20191668




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 31.5121 | 35.63 | -20.57 | 15.06 | 40.00 | -24.94 | QP | 100 | 305 | |
| 2 | 46.8721 | 35.43 | -25.08 | 10.35 | 40.00 | -29.65 | QP | 100 | 156 | |
| 3 | 222.2803 | 36.45 | -23.98 | 12.47 | 46.00 | -33.53 | QP | 100 | 62 | |
| 4 | 434.0000 | 97.32 | -17.78 | 79.54 | 100.83 | -21.29 | peak | 100 | 150 | |
| 5 | 655.9764 | 34.71 | -12.52 | 22.19 | 46.00 | -23.81 | QP | 100 | 109 | |
| 6 | 868.0000 | 58.97 | -7.98 | 50.99 | 80.83 | -29.84 | peak | 100 | 201 | |

**ACCURATE TECHNOLOGY CO., LTD.**
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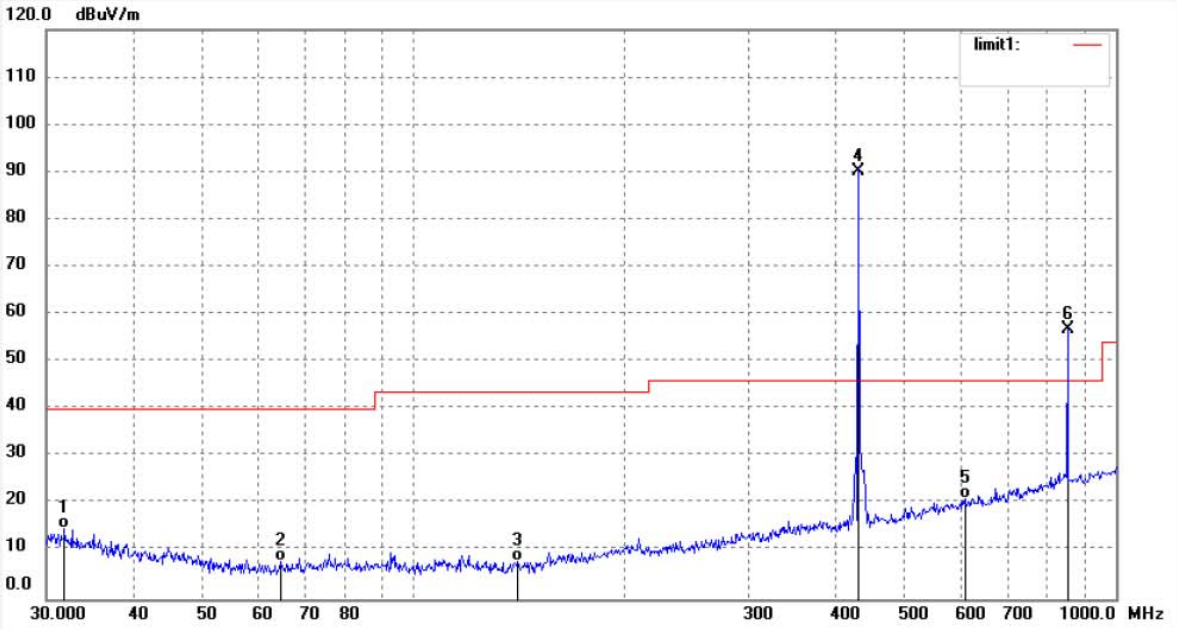
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: FRANK2019 #1691 | Polarization: Horizontal |
| Standard: FCC Class B 3M Radiated | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2019/11/26 |
| Temp.( C)/Hum.(%) 25 C / 55 % | Time: 17:11:26 |
| EUT: Mini RF remote controller | Engineer Signature: |
| Mode: TX434MHz | Distance: 3m |
| Model: SP104R | |
| Manufacturer: GUANGDONG OML TECHNOLOGY CO.,LTD | |

Note: Report NO.:ATE20191668




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 31.8460 | 35.38 | -20.66 | 14.72 | 40.00 | -25.28 | QP | 200 | 215 | |
| 2 | 64.7590 | 35.11 | -27.29 | 7.82 | 40.00 | -32.18 | QP | 200 | 331 | |
| 3 | 140.7767 | 36.02 | -27.96 | 8.06 | 43.50 | -35.44 | QP | 200 | 63 | |
| 4 | 434.0000 | 107.92 | -17.78 | 88.13 | 100.83 | -12.70 | peak | 200 | 210 | |
| 5 | 609.3174 | 34.62 | -13.49 | 21.13 | 46.00 | -24.87 | QP | 200 | 109 | |
| 6 | 868.0000 | 64.72 | -7.98 | 56.74 | 80.83 | -24.09 | peak | 200 | 100 | |

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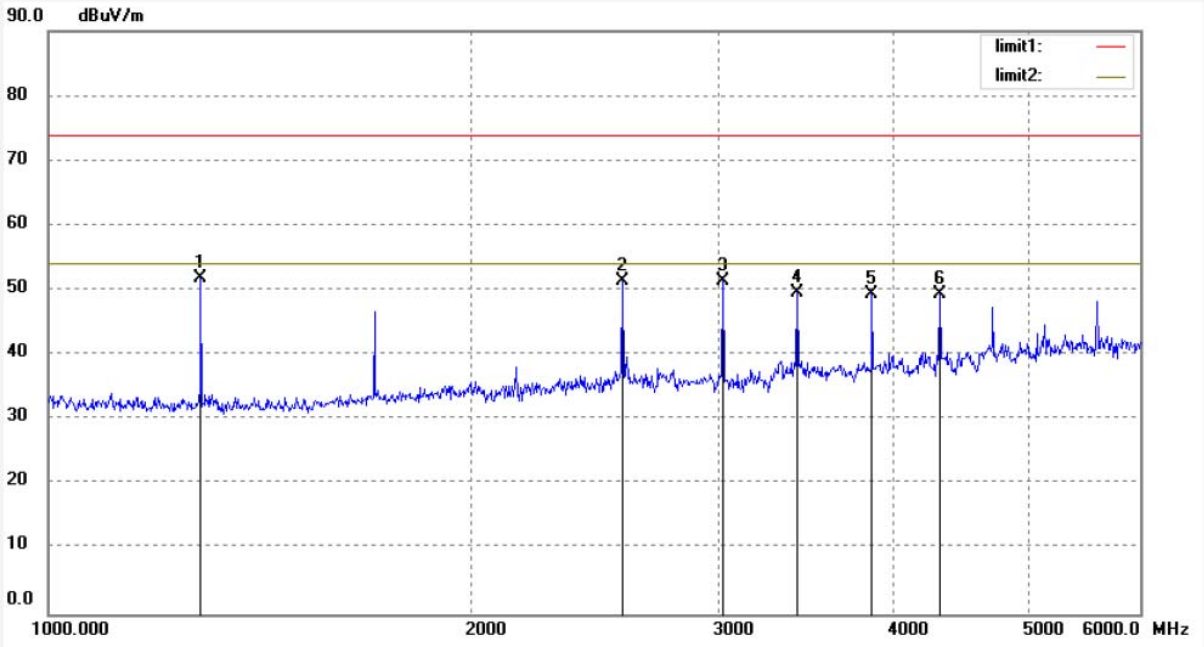
| | |
|---|---|
| Job No.: FRANK2019 #1692 | Polarization: Horizontal |
| Standard: FCC PK | Power Source: DC 3V |
| Test item: Radiation Test | Date: 19/11/27/ |
| Temp.( C)/Hum.(%) 25 C / 55 % | Time: 9/46/21 |
| EUT: Mini RF remote controller | Engineer Signature: |
| Mode: TX434MHz | Distance: 3m |
| Model: SP104R | |
| Manufacturer: GUANGDONG OML TECHNOLOGY CO.,LTD | |

Note: Report NO.:ATE20191668




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1302.000 | 62.25 | -10.43 | 51.82 | 80.83 | -29.01 | peak | | | |
| 2 | 2604.000 | 56.82 | -5.46 | 51.36 | 80.83 | -29.47 | peak | | | |
| 3 | 3038.000 | 54.51 | -3.13 | 51.38 | 80.83 | -29.45 | peak | | | |
| 4 | 3472.000 | 51.65 | -1.98 | 49.67 | 80.83 | -31.16 | peak | | | |
| 5 | 3906.000 | 50.37 | -1.05 | 49.32 | 80.83 | -31.51 | peak | | | |
| 6 | 4340.000 | 49.88 | -0.48 | 49.40 | 80.83 | -31.43 | peak | | | |

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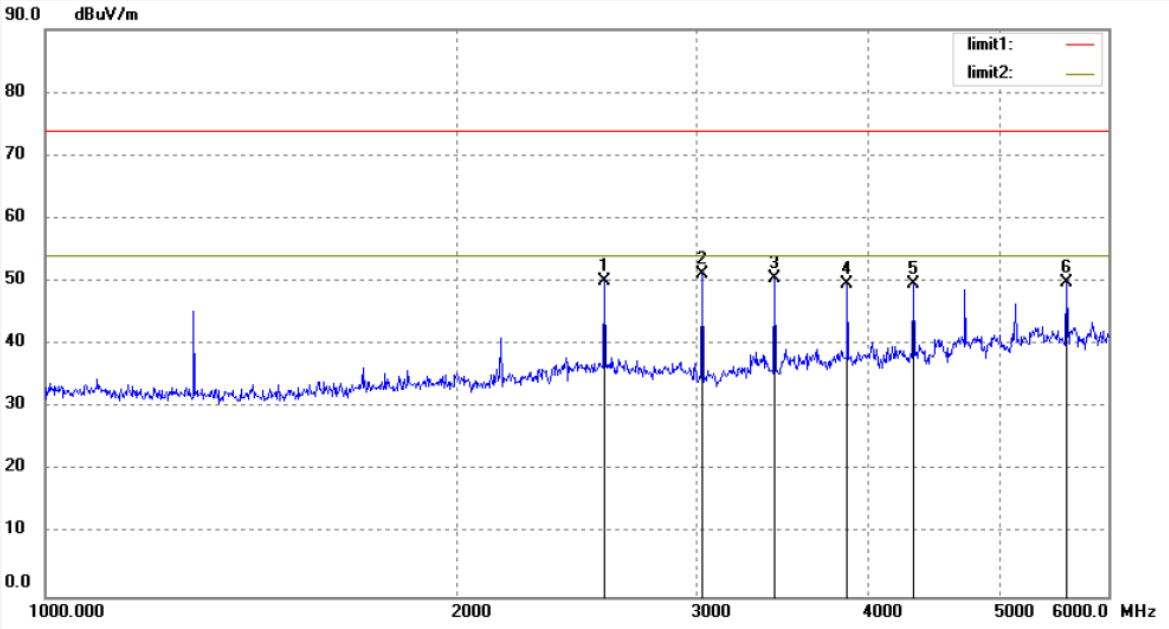
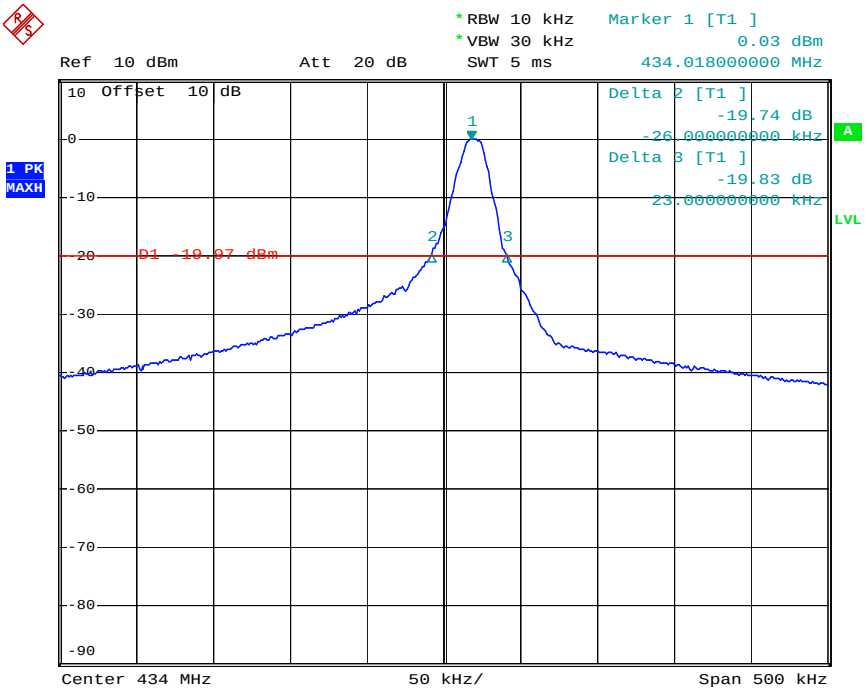
Fax:+86-0755-26503396

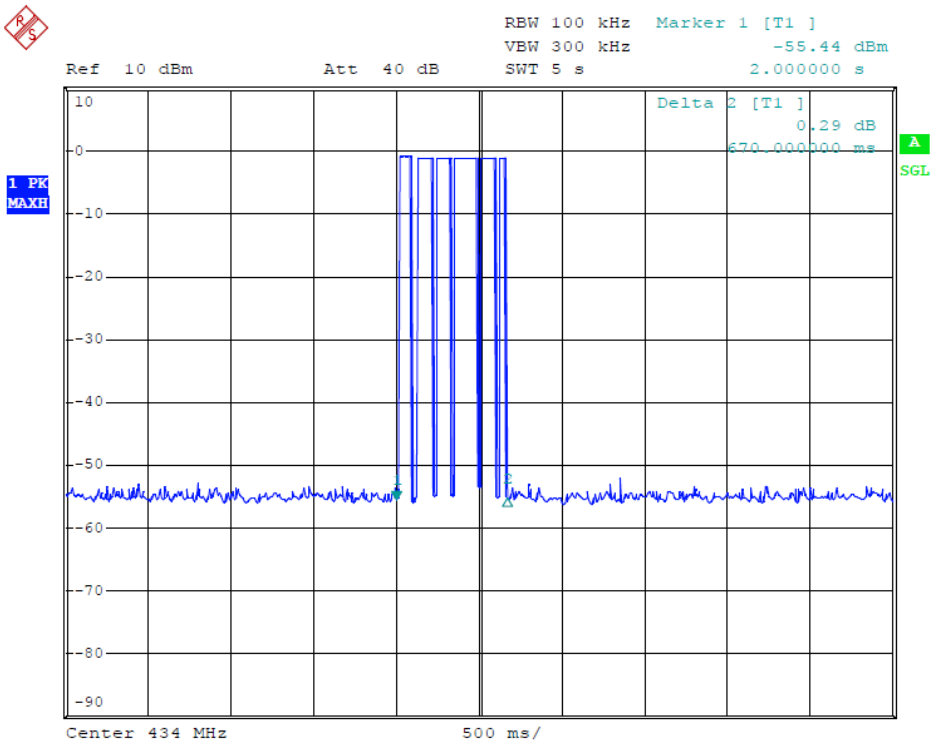
| | |
|---|---|
| Job No.: FRANK2019 #1693 | Polarization: Vertical |
| Standard: FCC PK | Power Source: DC 3V |
| Test item: Radiation Test | Date: 19/11/27/ |
| Temp.( C)/Hum.(%) 25 C / 55 % | Time: 9/52/34 |
| EUT: Mini RF remote controller | Engineer Signature: |
| Mode: TX434MHz | Distance: 3m |
| Model: SP104R | |
| Manufacturer: GUANGDONG OML TECHNOLOGY CO.,LTD | |

Note: Report NO.:ATE20191668



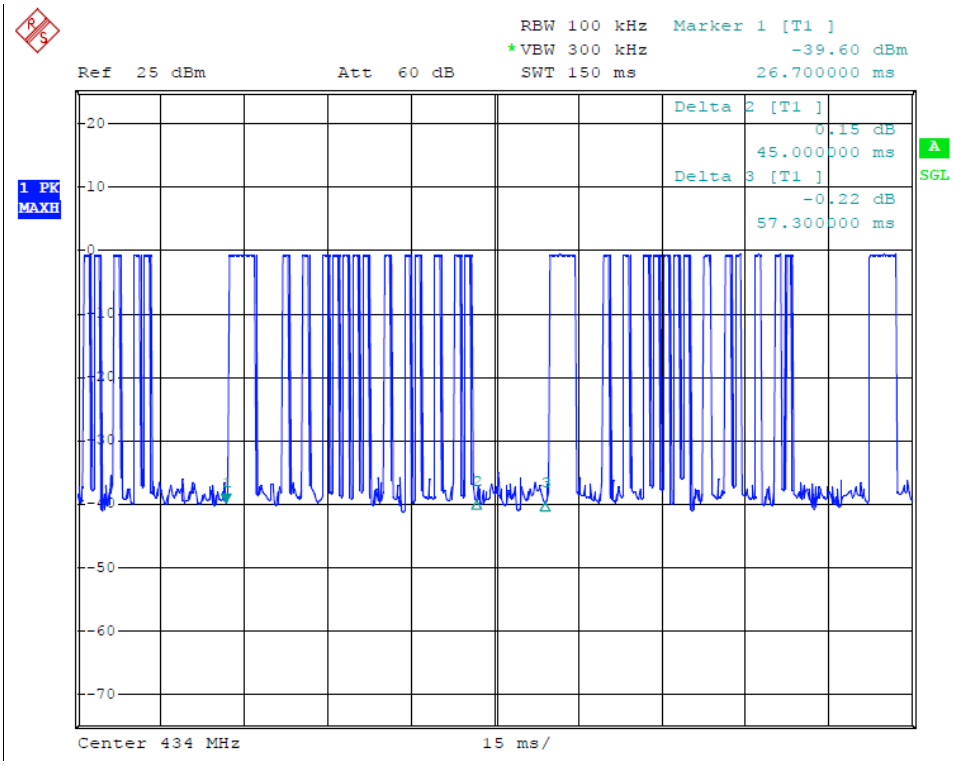

| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2604.000 | 55.57 | -5.46 | 50.11 | 80.83 | -30.72 | peak | | | |
| 2 | 3038.000 | 54.27 | -3.13 | 51.14 | 80.83 | -29.69 | peak | | | |
| 3 | 3472.000 | 52.47 | -1.98 | 50.49 | 80.83 | -30.34 | peak | | | |
| 4 | 3906.000 | 50.69 | -1.05 | 49.64 | 80.83 | -31.19 | peak | | | |
| 5 | 4340.000 | 50.03 | -0.48 | 49.55 | 80.83 | -31.28 | peak | | | |
| 6 | 5642.000 | 47.22 | 2.58 | 49.80 | 80.83 | -31.03 | peak | | | |

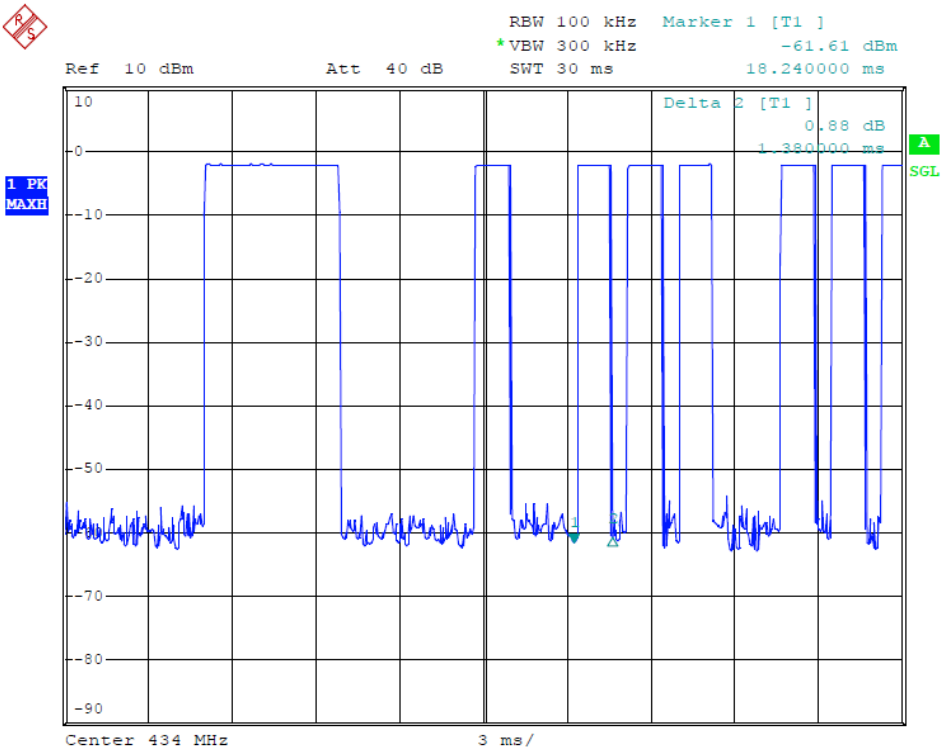

*RBW 10 kHz
*VBW 30 kHz
SWT 5 ms
Marker 1 [T1 ]
0.03 dBm
434.018000000 MHz
Ref 10 dBm
Att 20 dB
10 Offset 10 dB
Delta 2 [T1 ]
-19.74 dB
-26.000000000 kHz
Delta 3 [T1 ]
-19.83 dB
23.000000000 kHz
1 PK
MAXH
A
LVL
D1 -19.97 dBm
Center 434 MHz
50 kHz/
Span 500 kHz



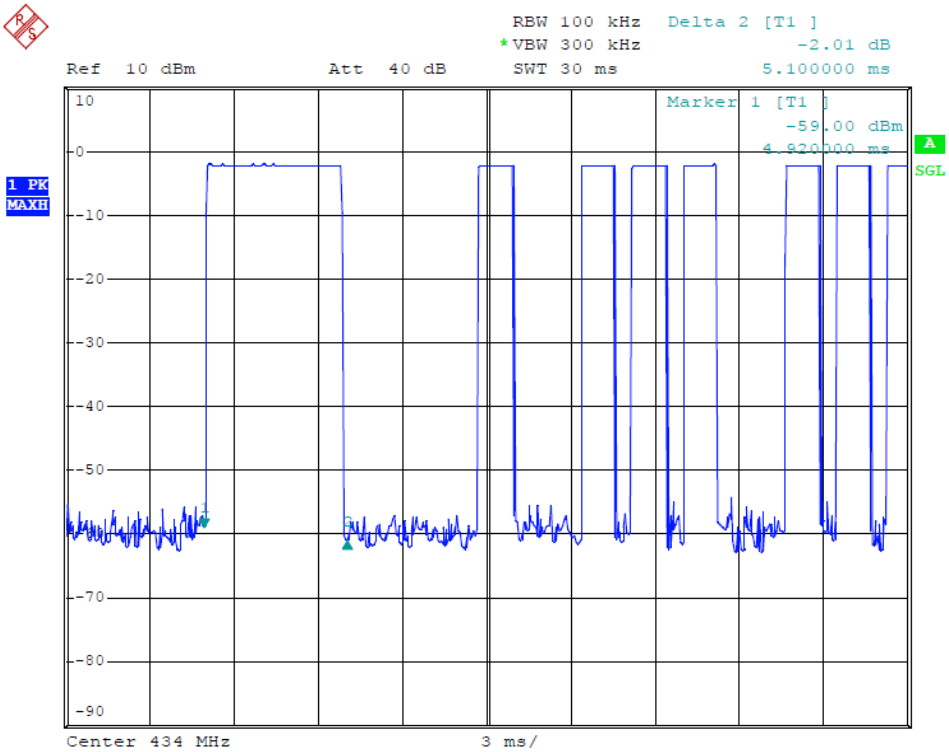

Release Time = 0.67ms

The graph shows the pattern of coding during the signal transmission.
The duration of one cycle = 57.30 ms.






The graph shows the duration of ‘on’ signal. From marker 1 to marker 1, duration is 1.38ms.




The graph shows the duration of ‘on’ signal. From marker 1 to marker 1, duration is 5.10ms.