

# FCC Test Report

Report No.: AGC08251190501FE03

**FCC ID** : 2ATRKSJ001  
**APPLICATION PURPOSE** : Original Equipment  
**PRODUCT DESIGNATION** : R/C CAR  
**BRAND NAME** : N/A  
**MODEL NAME** : 816C-6  
**SERIES MODEL** : Please to see page 5  
**APPLICANT** : SHUNJI TOYS FACTORY  
**DATE OF ISSUE** : Jun. 21, 2019  
**STANDARD(S)** : FCC Part 15 Subpart C Section 15.227  
**TEST PROCEDURE(S)** :  
**REPORT VERSION** : V1.0

**Attestation of Global Compliance (Shenzhen) Co., Ltd**

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### Report Revise Record

| Report Version | Revise Time | Issued Date   | Valid Version | Notes           |
|----------------|-------------|---------------|---------------|-----------------|
| V1.0           | /           | Jun. 21, 2019 | Valid         | Initial release |



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## 1. VERIFICATION OF CONFORMITY

|                          |   |
|--------------------------|---|
| Applicant                | SHUNJI TOYS FACTORY   |
| Address                  | Fengxin 2 Road, Fengxin Industrial Area, chenghai Shantou, Guangdong, China |
| Manufacturer             | SHUNJI TOYS FACTORY   |
| Address                  | Fengxin 2 Road, Fengxin Industrial Area, chenghai Shantou, Guangdong, China |
| Factory                  | SHUNJI TOYS FACTORY   |
| Address                  | Fengxin 2 Road, Fengxin Industrial Area, chenghai Shantou, Guangdong, China |
| Product Designation      | R/C CAR   |
| Brand Name               | N/A   |
| Test Model               | 816C-6  |
| Series Model             | Please to see page 5  |
| Difference description   | All the same except for the model name and different appearance color       |
| Date of test             | Jun. 13, 2019 to Jun. 21, 2019  |
| Deviation                | None  |
| Condition of Test Sample | Normal  |
| Test Result              | Pass  |
| Report Template          | AGCRT-US-BR/RF  |

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, the energy emitted by the sample tested as described in this report is in compliance with the requirements of FCC Rules Part 15.227. The test results of this report relate only to the tested sample identified in this report.

Tested By

*Draven Li*

Draven Li(Li Ming Liang)

Jun. 21, 2019

Reviewed By

*Max Zhang*

Max Zhang(Zhang Yi)

Jun. 21, 2019

Approved By

*Forrest Lei*

Forrest Lei(Lei Yonggang)  
Authorized Officer

Jun. 21, 2019



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## 2. GENERAL INFORMATION

### 2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

|                            |                      |
|----------------------------|----------------------|
| <b>Operation Frequency</b> | 27.142MHz            |
| <b>Field Strength(3m)</b>  | 65.71dBuV/m(Peak)@3m |
| <b>Modulation</b>          | AM                   |
| <b>Number of channels</b>  | 1                    |
| <b>Hardware Version</b>    | WD-SJ04TX            |
| <b>Software Version</b>    | V1.0                 |
| <b>Antenna Designation</b> | Fixed antenna        |
| <b>Antenna Gain</b>        | 0dBi                 |
| <b>Power Supply</b>        | DC 3V by Battery     |

#### Series Model:

816C-1, 816C-2, 816C-3, 816C-4, 816C-5, 816C-7, 816C-8, 816C-9, 816C-10, 816C-11, 816C-12, 816D-1, 816D-2, 816D-3, 816D-4, 816D-5, 816D-6, 816D-7, 816D-8, 816D-9, 816D-10, 816D-11, 816D-12, 816F-2, 816F-3, 816F-4, 816F-5, 816F-6, 816I-1, 816I-2, 816I-3, 816I-4, 816I-5, 816I-6, 816I-7, 816I-8, 816I-9, 816I-10, 816I-11, 816I-12, 816I-13, 816I-14, 816I-15, 816I-16, 816I-17, 816I-18, 816I-19, 816I-20, 816I-21, 816I-22, 816I-23, 816I-24



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### 3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95%.

- Uncertainty of Conducted Emission,  $U_c = \pm 3.2$  dB
- Uncertainty of Radiated Emission below 1GHz,  $U_c = \pm 3.9$  dB
- Uncertainty of Radiated Emission above 1GHz,  $U_c = \pm 4.8$  dB
- Uncertainty of Occupied Channel Bandwidth:  $U_c = \pm 2$  %



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#### 4. DESCRIPTION OF TEST MODES

| NO.  | TEST MODE DESCRIPTION |
|--|-----------------------|
| 1  | Transmitting mode     |
| Note:<br>1. All the test modes can be supply by new battery, and only the data of the worst case recorded in the test report.<br>2. For Radiated Emission, 3axis were chosen for testing for each applicable mode. |                       |

#### 5. SYSTEM TEST CONFIGURATION

##### 5.1. CONFIGURATION OF EUT SYSTEM

Configure 1:



##### 5.2. EQUIPMENT USED IN EUT SYSTEM

| Item | Equipment | Mfr/Brand | Model/Type No. | Remark |
|------|-----------|-----------|----------------|--------|
| 1    | R/C CAR   | N/A       | 816C-6         | EUT    |

##### 5.3. SUMMARY OF TEST RESULTS

| FCC RULES      | DESCRIPTION OF TEST | RESULT    |
|----------------|---------------------|-----------|
| §15.227&15.209 | Radiated Emission   | Compliant |
| §15.215        | 20dB bandwidth      | Compliant |
| §15.207        | Conducted Emission  | N/A       |



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## 6. TEST FACILITY

|  |  |
|--|--|
| <b>Test Site</b>                         | Attestation of Global Compliance (Shenzhen) Co., Ltd   |
| <b>Location</b>                          | 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |
| <b>Designation Number</b>                | CN1259   |
| <b>FCC Test Firm Registration Number</b> | 975832   |
| <b>A2LA Cert. No.</b>                    | 5054.02  |
| <b>Description</b>                       | Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA  |

## 7. TEST EQUIPMENT LIST

### TEST EQUIPMENT OF RADIATED EMISSION TEST

| Equipment                      | Manufacturer   | Model    | S/N        | Cal. Date     | Cal. Due      |
|--------------------------------|----------------|----------|------------|---------------|---------------|
| TEST RECEIVER                  | R&S            | ESCI     | 10096      | Jun.11, 2019  | Jun.12, 2020  |
| EXA Signal Analyzer            | Aglient        | N9010A   | MY53470504 | Dec. 20, 2018 | Dec. 19, 2019 |
| Attenuator                     | Weinachel Corp | 58-30-33 | N/A        | Jun.11, 2019  | Jun.12, 2020  |
| Active loop antenna (9K-30MHz) | ZHINAN         | ZN30900C | 18051      | Jun. 14, 2018 | Jun. 13, 2020 |
| ANTENNA                        | SCHWARZBECK    | VULB9168 | D69250     | Sep. 28, 2017 | Sep. 27, 2019 |



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## 8. RADIATED EMISSION

### 8.1. MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, 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 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.



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The following table is the setting of spectrum analyzer and receiver.

| Spectrum Parameter    | Setting   |
|-----------------------|---|
| Start ~Stop Frequency | 9KHz~150KHz/RBW 200Hz for QP                              |
| Start ~Stop Frequency | 150KHz~30MHz/RBW 9KHz for QP                              |
| Start ~Stop Frequency | 30MHz~1000MHz/RBW 120KHz for QP                           |
| Start ~Stop Frequency | 1GHz~26.5GHz<br>1MHz/1MHz for Peak, 1MHz/10Hz for Average |

| Receiver Parameter    | Setting                         |
|-----------------------|---------------------------------|
| Start ~Stop Frequency | 9KHz~150KHz/RBW 200Hz for QP    |
| Start ~Stop Frequency | 150KHz~30MHz/RBW 9KHz for QP    |
| Start ~Stop Frequency | 30MHz~1000MHz/RBW 120KHz for QP |



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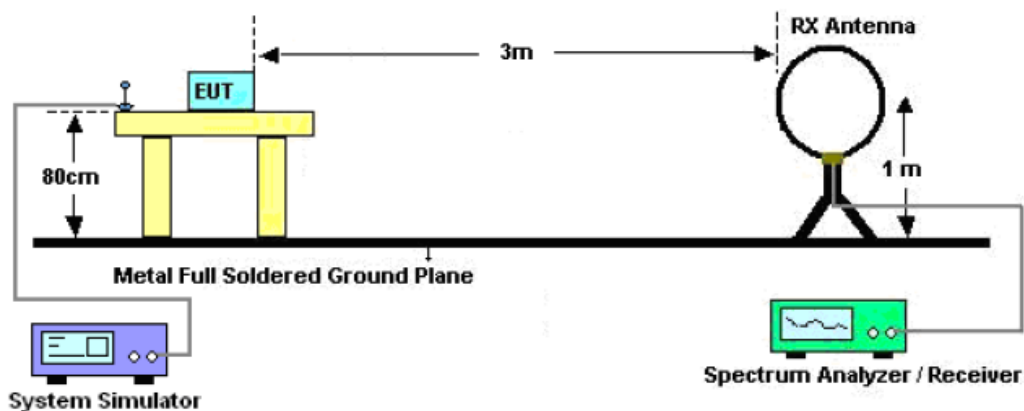
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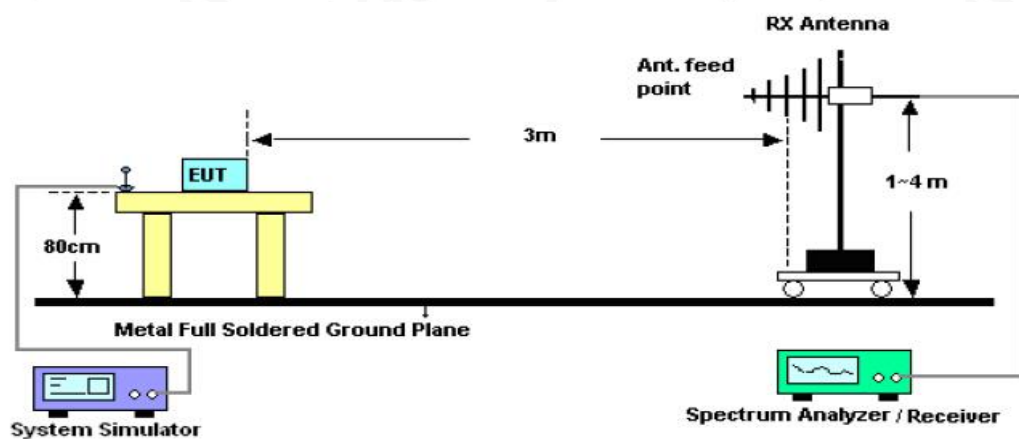
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## 8.2. TEST SETUP

Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



### 8.3. TEST RESULT

#### RADIATED EMISSION BELOW 30MHZ

|               |                |                     |        |
|---------------|----------------|---------------------|--------|
| EUT :         | Remote Control | Model Name. :       | 816C-6 |
| Temperature : | 20 °C          | Relative Humidity : | 48%    |
| Pressure :    | 1010 hPa       | Test Voltage :      | DC 3V  |
| Test Mode :   | Mode 1         | Polarization :      | --     |

| Frequency<br>MHz | Polarization | Reading<br>dB(uV)<br>PK | Factor<br>dB<br>(1/m) | Level<br>dB(uV/m)<br>PK | Limit<br>dB(uV/m)<br>AV | Margin<br>dB | Pass/Fail |
|------------------|--------------|-------------------------|-----------------------|-------------------------|-------------------------|--------------|-----------|
| 27.142           | Face         | 53.28                   | 12.43                 | 65.71                   | 80.00                   | -14.29       | Pass      |
| 27.142           | Side         | 29.85                   | 12.43                 | 42.28                   | 80.00                   | -37.72       | Pass      |

**Note:** The level of peak emission is less than the average limit, so the level of average emission need not to be tested. Other emissions from 9kHz to 30MHz are considered as ambient noise. No recording in the test report.



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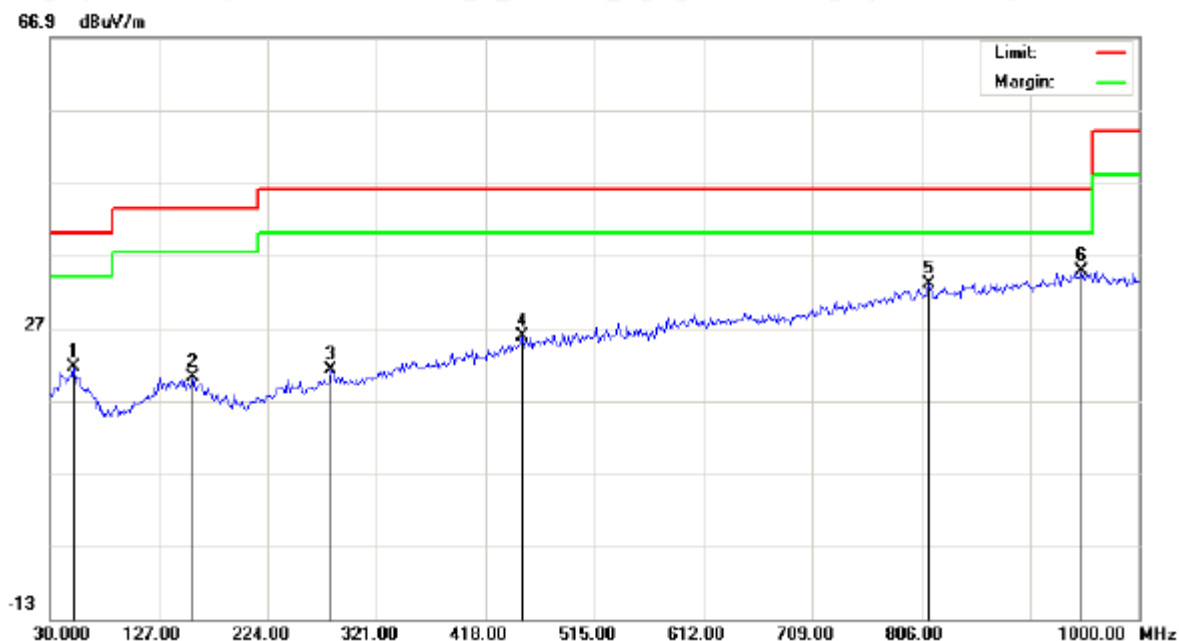
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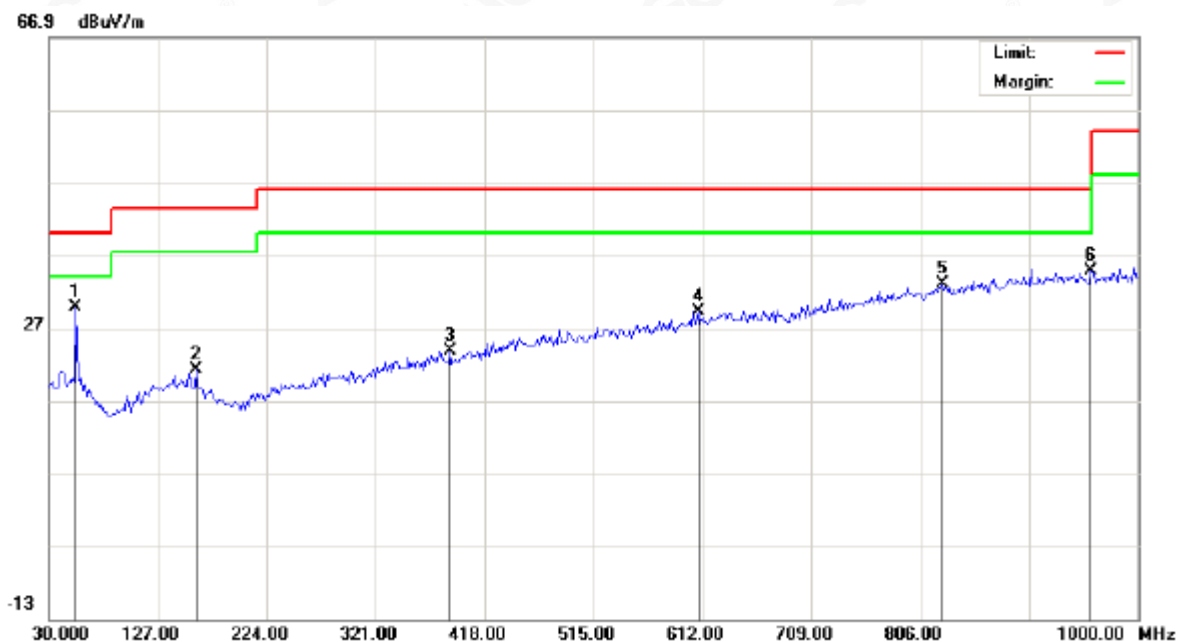


### RADIATED EMISSION BELOW 1GHZ-Horizontal



| No. | Mk | Freq.    | Reading | Factor | Measurement | Limit  | Over   | Detector | Antenna Height | Table Degree | Comment |
|-----|----|----------|---------|--------|-------------|--------|--------|----------|----------------|--------------|---------|
|     |    | MHz      | dBuV    | dB/m   | dBuV/m      | dBuV/m | dB     |          | cm             | degree       |         |
| 1   |    | 51.0167  | 1.91    | 19.64  | 21.55       | 40.00  | -18.45 | peak     |                |              |         |
| 2   |    | 157.7167 | 1.02    | 19.19  | 20.21       | 43.50  | -23.29 | peak     |                |              |         |
| 3   |    | 280.5833 | 1.29    | 19.93  | 21.22       | 46.00  | -24.78 | peak     |                |              |         |
| 4   |    | 450.3333 | 1.80    | 23.99  | 25.79       | 46.00  | -20.21 | peak     |                |              |         |
| 5   |    | 812.4667 | 2.47    | 30.57  | 33.04       | 46.00  | -12.96 | peak     |                |              |         |
| 6   | *  | 948.2667 | 2.78    | 32.12  | 34.90       | 46.00  | -11.10 | peak     |                |              |         |

### RADIATED EMISSION BELOW 1GHZ-Vertical



| No. | Mk | Freq.    | Reading | Factor | Measurement | Limit  | Over   | Detector | Antenna Height | Table Degree | Comment |
|-----|----|----------|---------|--------|-------------|--------|--------|----------|----------------|--------------|---------|
|     |    | MHz      | dBuV    | dB/m   | dBuV/m      | dBuV/m | dB     |          | cm             | degree       |         |
| 1   | *  | 54.2500  | 10.37   | 19.36  | 29.73       | 40.00  | -10.27 | peak     |                |              |         |
| 2   |    | 160.9500 | 2.17    | 19.09  | 21.26       | 43.50  | -22.24 | peak     |                |              |         |
| 3   |    | 387.2833 | 1.25    | 22.53  | 23.78       | 46.00  | -22.22 | peak     |                |              |         |
| 4   |    | 608.7667 | 2.21    | 27.06  | 29.27       | 46.00  | -16.73 | peak     |                |              |         |
| 5   |    | 825.4000 | 2.17    | 30.74  | 32.91       | 46.00  | -13.09 | peak     |                |              |         |
| 6   |    | 957.9667 | 2.68    | 32.20  | 34.88       | 46.00  | -11.12 | peak     |                |              |         |

### RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss - Amplifier gain, Margin=Measurement-Limit.

2. The "Factor" value can be calculated automatically by software of measurement system.



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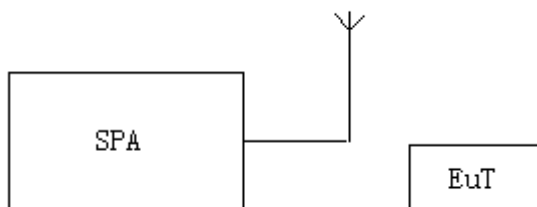
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## 9. BANDWIDTH

### 9.1. MEASUREMENT PROCEDURE

1. Set the parameters of SPA as below:  
Centre frequency = Operation Frequency  
RBW=300Hz  
VBW=1KHz  
Span: 30kHz  
Sweep time: Auto
2. Set the EUT to continue transmitting mode. Allow the trace to stabilize. Use the “N dB down” function of SPA to define the bandwidth.
3. Record the plots and Reported.

### 9.2. TEST SETUP

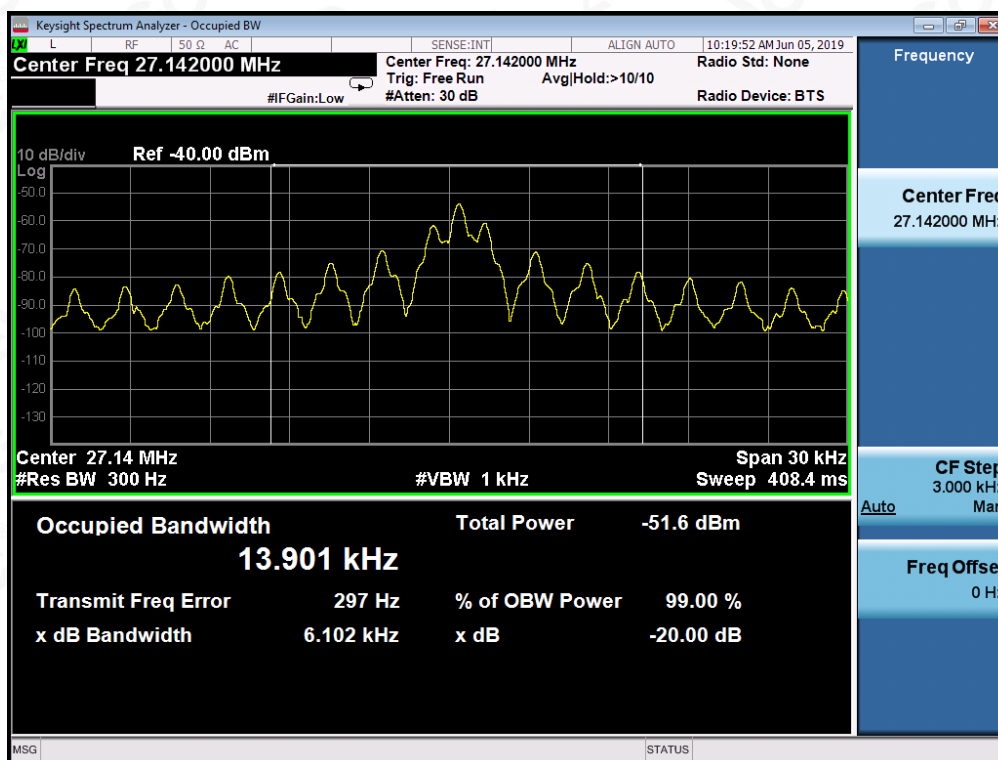


### 9.3. TEST RESULT

|                 |                |
|-----------------|----------------|
| TEST ITEM       | 20DB BANDWIDTH |
| TEST MODULATION | AM             |

| Test Data (kHz) |       | Criteria |
|-----------------|-------|----------|
| Operate Channel | 6.102 | PASS     |

### TEST PLOT OF BANDWIDTH



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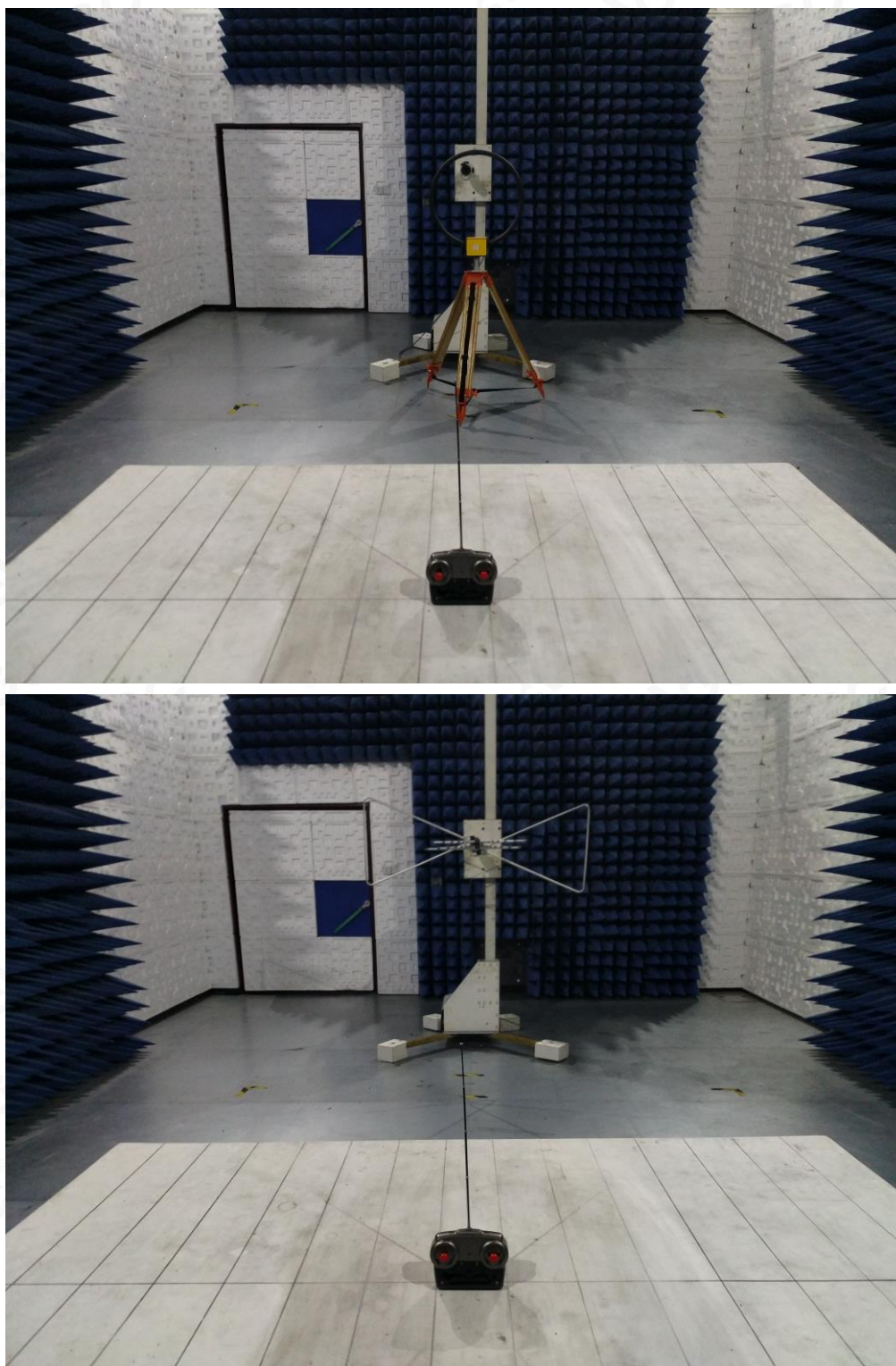
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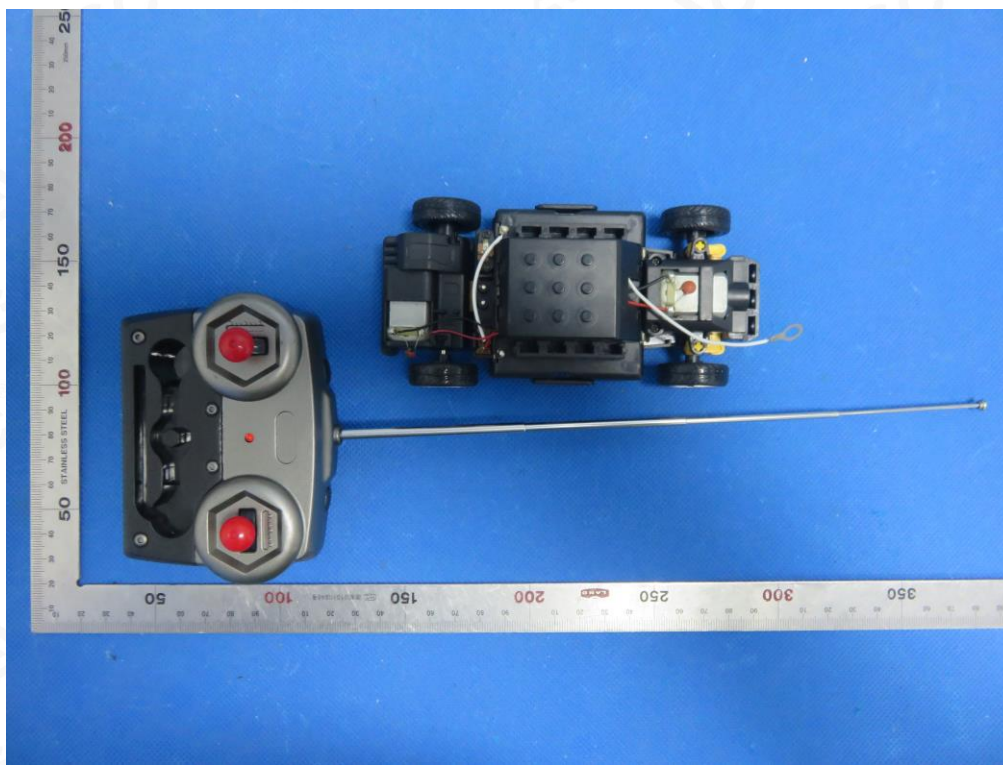


**APPENDIX A: PHOTOGRAPHS OF TEST SETUP****FCC RADIATED EMISSION TEST SETUP**

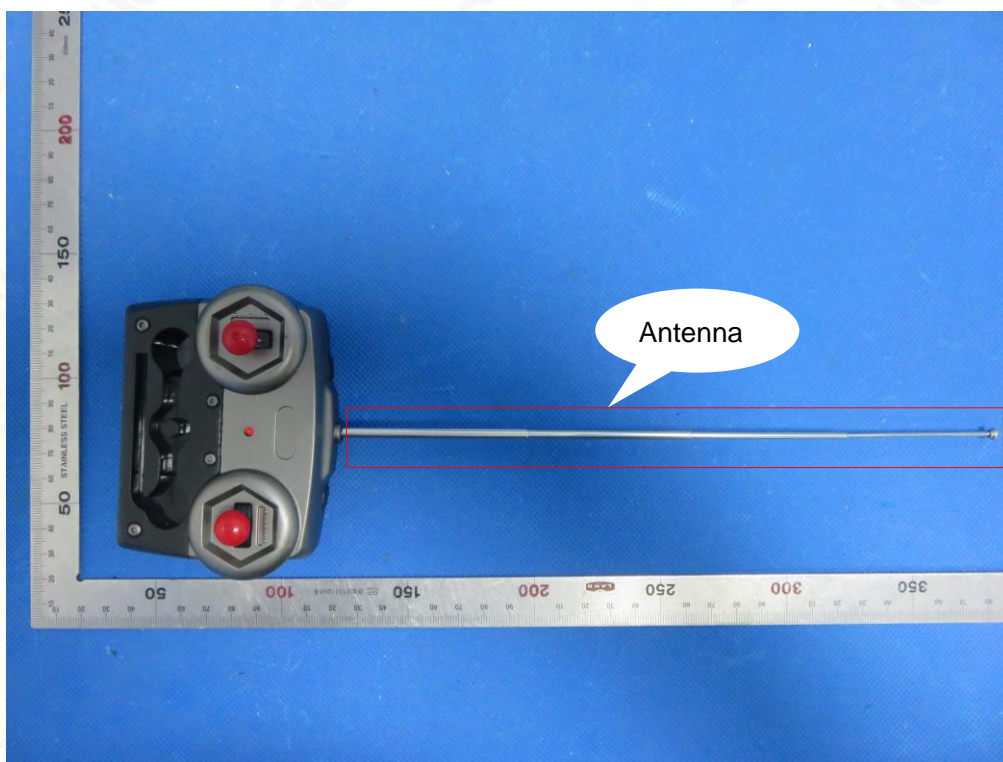


## APPENDIX B: PHOTOGRAPHS OF EUT

### ALL VIEW OF EUT

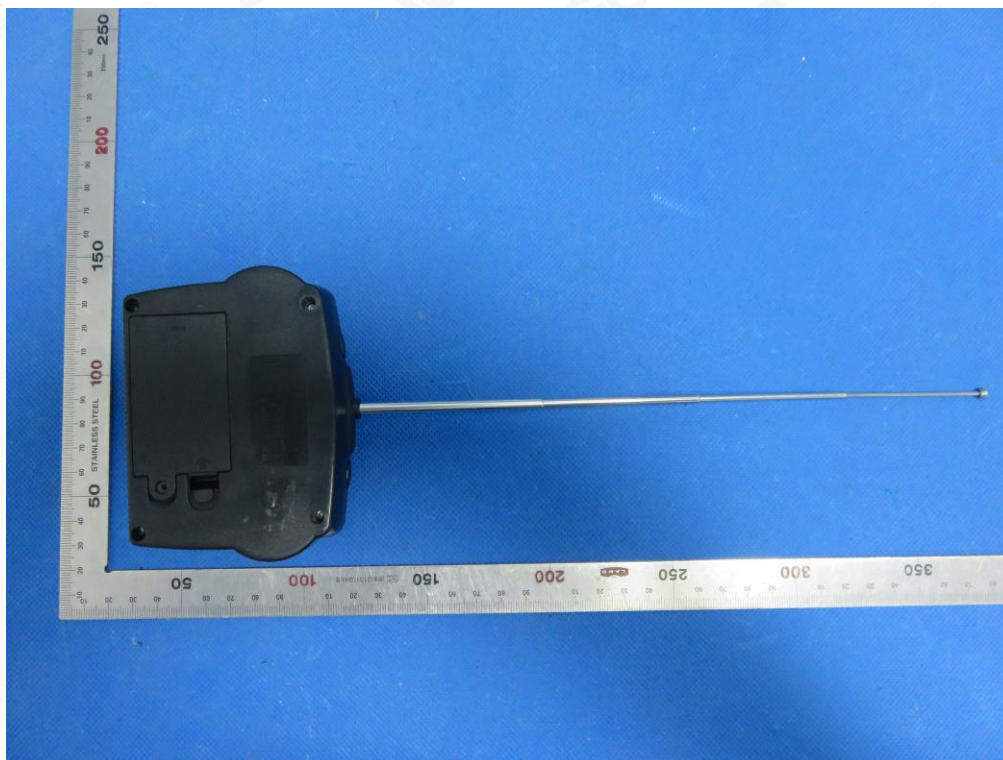


TOP VIEW OF EUT





BOTTOM VIEW OF EUT



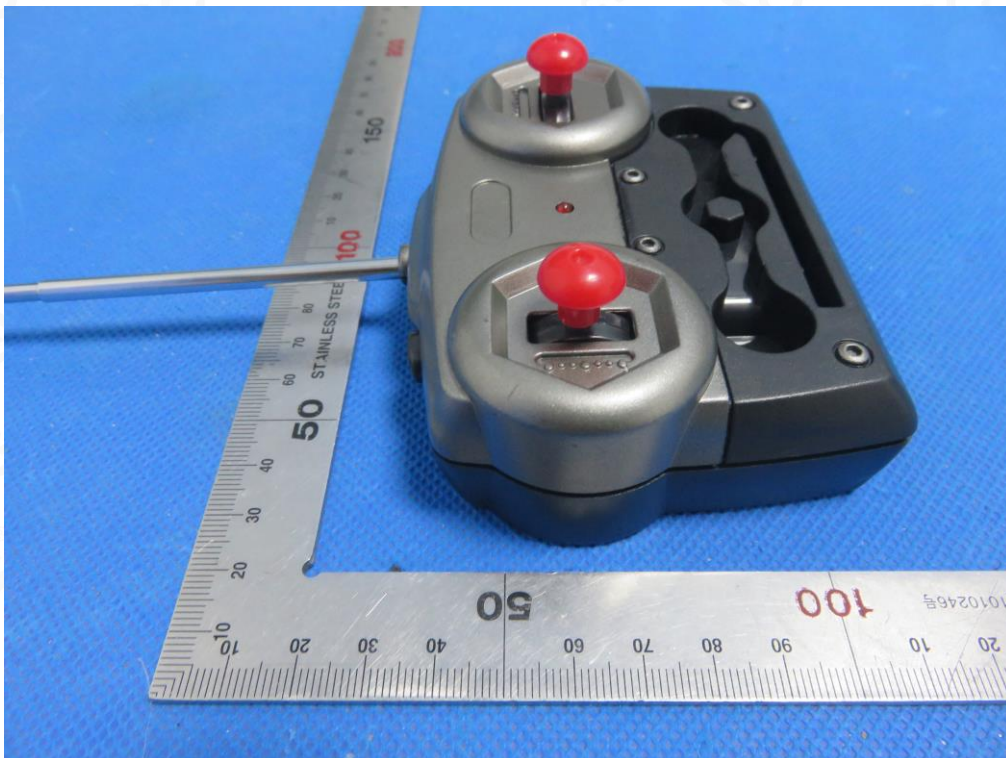
FRONT VIEW OF EUT



BACK VIEW OF EUT

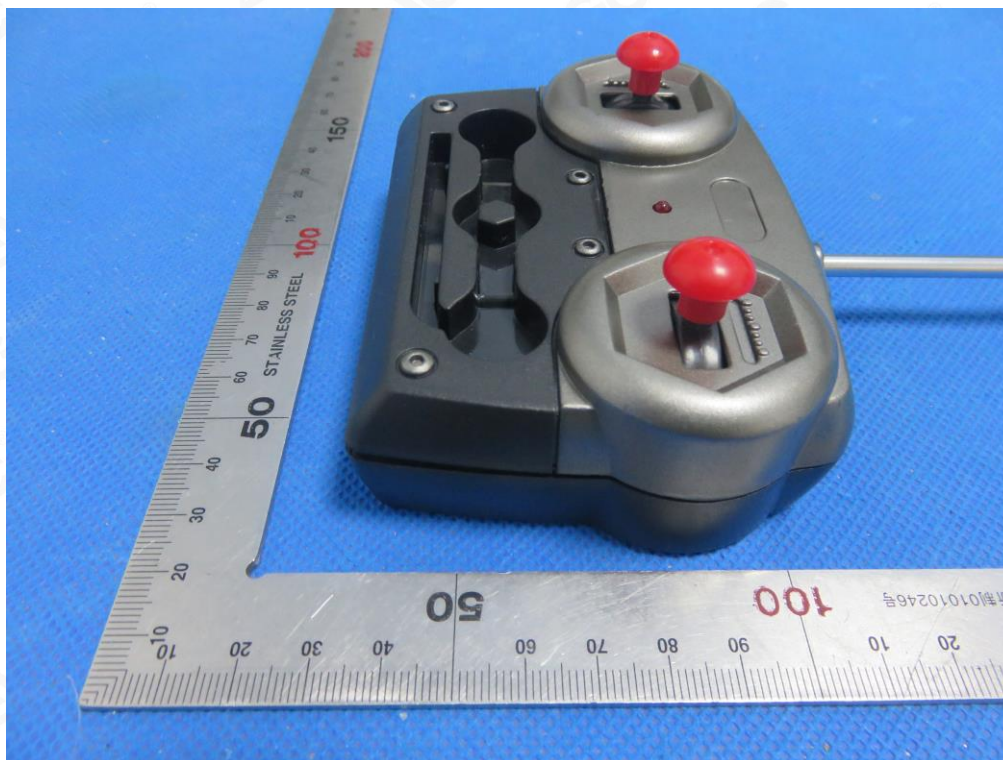


LEFT VIEW OF EUT

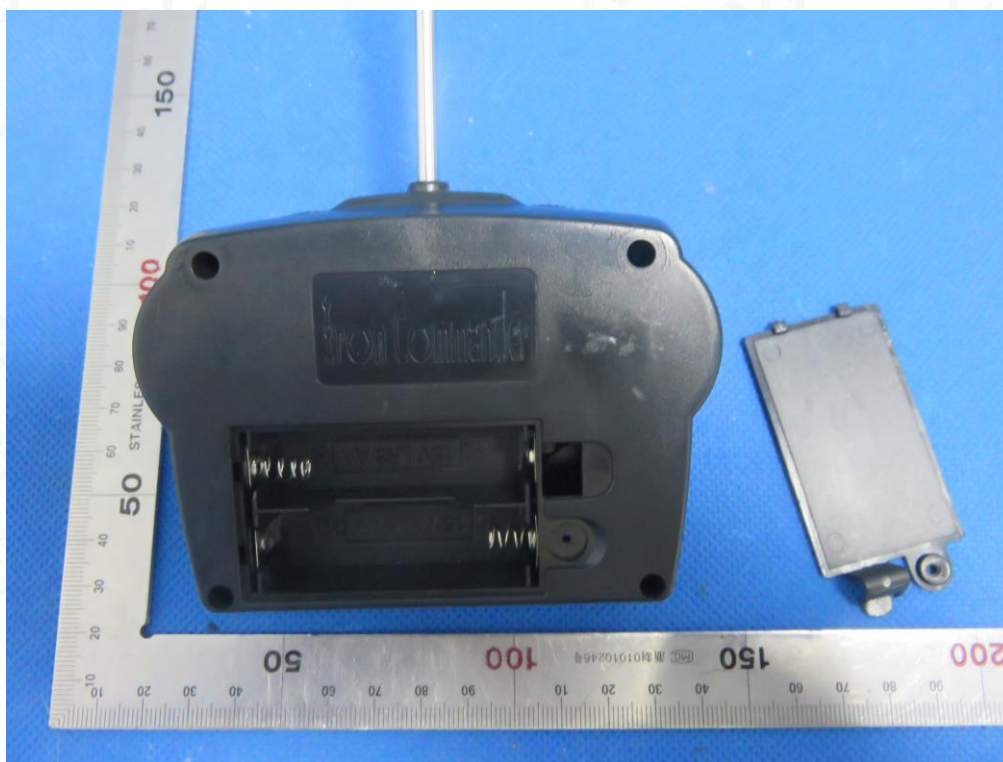




RIGHT VIEW OF EUT

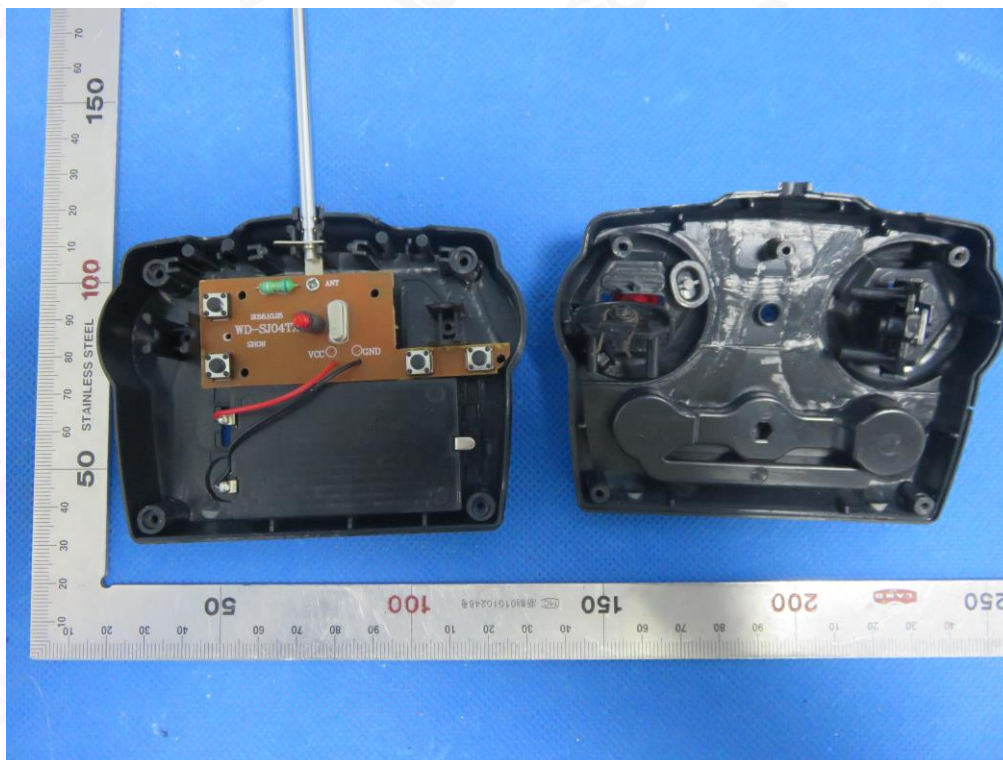


OPEN VIEW OF EUT-1

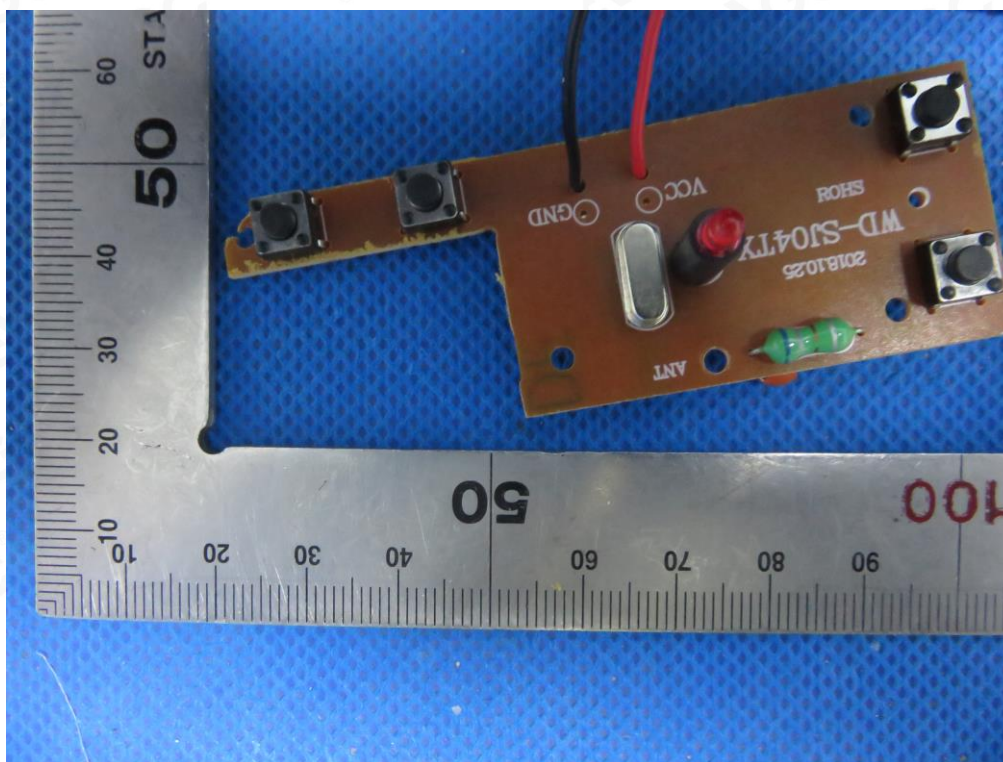




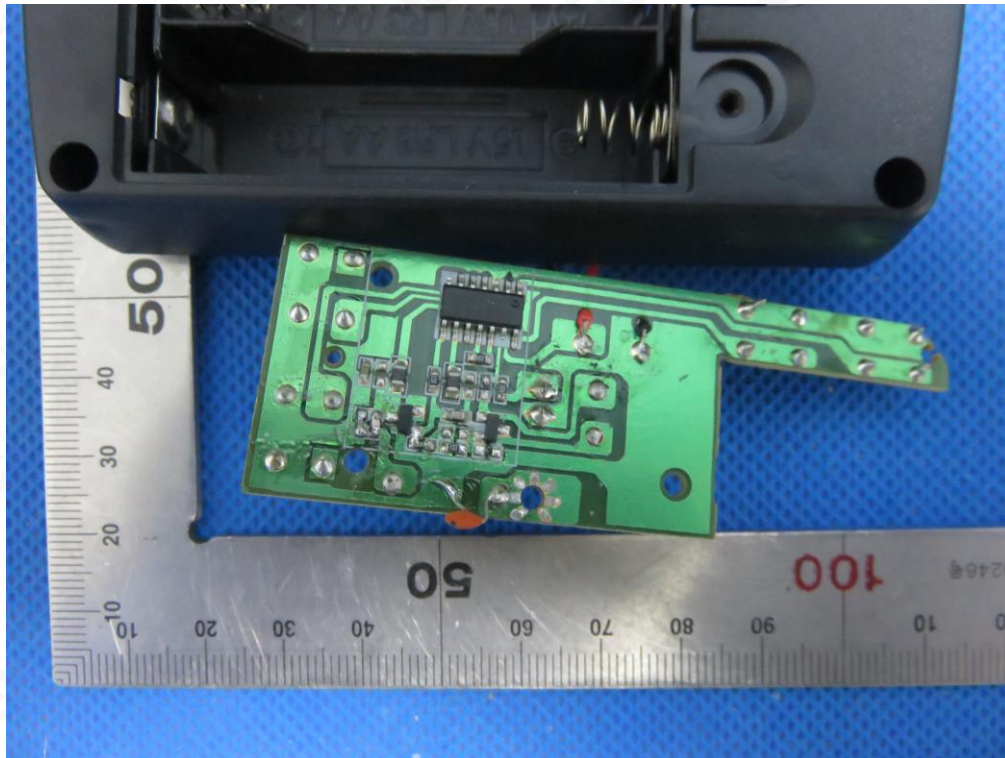
OPEN VIEW OF EUT-2



INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2



----END OF REPORT----



### Statement

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