

# FCC Test Report

**Client Name : DGL Group LTD.**

**Client Address : 2045 Lincoln Highway, 3rd Floor, Edison, NJ  
08817, United States**

**Product Name : RC Motion mouse toy**

**Report Date : Nov. 18, 2022**

**Shenzhen Anbotech Compliance Laboratory Limited**



**Shenzhen Anbotech Compliance Laboratory Limited**

Address: 1/F., Building D, Sogood Science and Technology Park, Sanwei Community,  
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.  
Tel: (86) 0755-26066440 Fax: (86) 0755-26014772 Email: service@anbotech.com

**Code: AB-RF-05-b**



**Hotline**  
400-003-0500  
[www.anbotech.com.cn](http://www.anbotech.com.cn)



# Contents

|                                                    |    |
|----------------------------------------------------|----|
| 1. General Information .....                       | 5  |
| 1.1. Client Information .....                      | 5  |
| 1.2. Description of Device (EUT) .....             | 5  |
| 1.3. Auxiliary Equipment Used During Test .....    | 6  |
| 1.4. Description of Test Configuration .....       | 6  |
| 1.5. Description Of Test Setup .....               | 7  |
| 1.6. Test Equipment List .....                     | 8  |
| 1.7. Measurement Uncertainty .....                 | 9  |
| 1.8. Description of Test Facility .....            | 9  |
| 2. Summary of Test Results .....                   | 10 |
| 3. Conducted Emission Test .....                   | 11 |
| 3.1. Test Standard and Limit .....                 | 11 |
| 3.2. Test Setup .....                              | 11 |
| 3.3. Test Procedure .....                          | 11 |
| 3.4. Test Data .....                               | 11 |
| 4. Radiation Spurious Emission and Band Edge ..... | 12 |
| 4.1. Test Standard and Limit .....                 | 12 |
| 4.2. Test Setup .....                              | 13 |
| 4.3. Test Procedure .....                          | 14 |
| 4.4. Test Data .....                               | 14 |
| 5. 20DB Occupy Bandwidth Test .....                | 19 |
| 5.1. Test Standard and Limit .....                 | 19 |
| 5.2. Test Setup .....                              | 19 |
| 5.3. Test Procedure .....                          | 19 |
| 5.4. Test Data .....                               | 19 |
| 6. Antenna Requirement .....                       | 20 |
| 6.1. Test Standard and Requirement .....           | 20 |
| 6.2. Antenna Connected Construction .....          | 20 |
| APPENDIX I -- TEST SETUP PHOTOGRAPH .....          | 21 |
| APPENDIX II -- EXTERNAL PHOTOGRAPH .....           | 21 |
| APPENDIX III -- INTERNAL PHOTOGRAPH .....          | 21 |



## TEST REPORT

Applicant : DGL Group LTD.  
Manufacturer : DGL Group LTD.  
Product Name : RC Motion mouse toy  
Model No. : HY-PCMT  
Trade Mark : N.A.  
Rating(s) : Input: 3V $\equiv$  with "AA"\*2 battery

Test Standard(s) : FCC Part15 Subpart C, Section 15.227

Test Method(s) : ANSI C63.10: 2020

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt

Oct. 09, 2022

Date of Test

Oct. 09~Nov.14, 2022

Prepared By

Nian Xiu Chen

(Nianxiu Chen)

Approved & Authorized Signer

Kingkong Jin

(Kingkong Jin)



## Revision History

| Report Version | Description     | Issued Date   |
|----------------|-----------------|---------------|
| R00            | Original Issue. | Nov. 18, 2022 |
|                |                 |               |
|                |                 |               |



## 1. General Information

### 1.1. Client Information

|              |   |                                                                  |
|--------------|---|------------------------------------------------------------------|
| Applicant    | : | DGL Group LTD.                                                   |
| Address      | : | 2045 Lincoln Highway, 3rd Floor, Edison, NJ 08817, United States |
| Manufacturer | : | DGL Group LTD.                                                   |
| Address      | : | 2045 Lincoln Highway, 3rd Floor, Edison, NJ 08817, United States |
| Factory      | : | DGL Group LTD.                                                   |
| Address      | : | 2045 Lincoln Highway, 3rd Floor, Edison, NJ 08817, United States |

### 1.2. Description of Device (EUT)

|                                                                                                                                     |   |                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------|---|-------------------------------------------------|
| Product Name                                                                                                                        | : | RC Motion mouse toy                             |
| Model No.                                                                                                                           | : | HY-PCMT                                         |
| Trade Mark                                                                                                                          | : | N.A.                                            |
| Test Power Supply                                                                                                                   | : | DC 3V battery                                   |
| Test Sample No.                                                                                                                     | : | 1-2-1(Normal Sample), 1-2-2(Engineering Sample) |
| Adapter                                                                                                                             | : | N/A                                             |
| <b>RF Specification</b>                                                                                                             |   |                                                 |
| Operation Frequency                                                                                                                 | : | 27MHz                                           |
| Number of Channel                                                                                                                   | : | 1 Channel                                       |
| Modulation Type                                                                                                                     | : | ASK                                             |
| Antenna Type                                                                                                                        | : | External antenna                                |
| <b>Remark:</b> 1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. |   |                                                 |



1.3. Auxiliary Equipment Used During Test

| Description | Rating(s) |
|-------------|-----------|
| /           | /         |

1.4. Description of Test Configuration

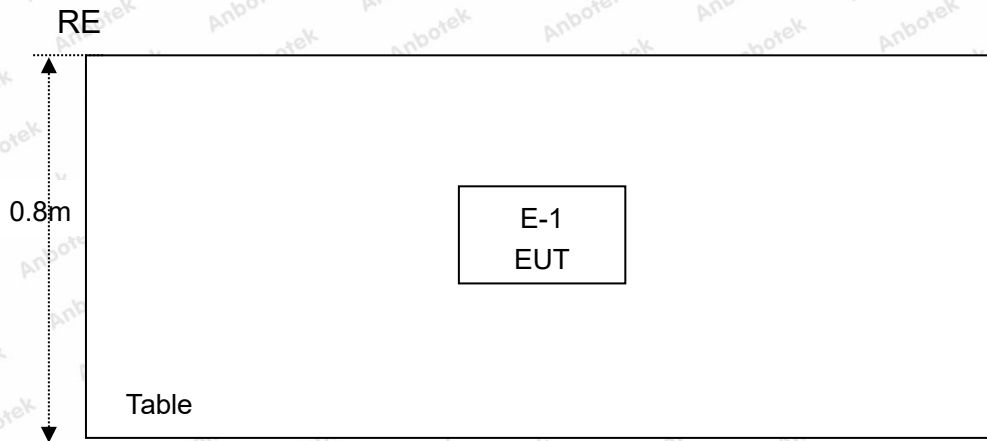
| Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
|---------|-------------|---------|-------------|---------|-------------|---------|-------------|---------|-------------|
| 01      | 27.00       |         |             |         |             |         |             |         |             |
|         |             |         |             |         |             |         |             |         |             |

Note:

1. During the test, the EUT was keeping continuous transmission.



### 1.5. Description Of Test Setup



## 1.6. Test Equipment List

| Item | Equipment                                         | Manufacturer            | Model No.     | Serial No.    | Last Cal.     | Cal. Interval |
|------|---------------------------------------------------|-------------------------|---------------|---------------|---------------|---------------|
| 1.   | L.I.S.N.<br>Artificial Mains<br>Network           | Rohde & Schwarz         | ENV216        | 100055        | Oct. 23, 2022 | 1 Year        |
| 2.   | Three Phase V-type<br>Artificial Power<br>Network | CYBERTEK                | EM5040DT      | E215040DT001  | Jul. 05, 2022 | 1 Year        |
| 3.   | EMI Test Receiver                                 | Rohde & Schwarz         | ESCI          | 100627        | Oct. 13, 2022 | 1 Year        |
| 4.   | EMI Test Receiver                                 | Rohde & Schwarz         | ESR26         | 101481        | Oct. 23, 2022 | 1 Year        |
| 5.   | RF Switching Unit                                 | Compliance<br>Direction | RSU-M2        | 38303         | Oct. 22, 2022 | 1 Year        |
| 6.   | MXA Spectrum<br>Analysis                          | Agilent                 | N9020A        | MY51170037    | Oct. 13, 2022 | 1 Year        |
| 7.   | EMI Preamplifier                                  | SKET Electronic         | LNPA-0118G-45 | SKET-PA-002   | Oct. 13, 2022 | 1 Year        |
| 8.   | Double Ridged Horn<br>Antenna                     | SCHWARZBECK             | BBHA 9120D    | 02555         | Oct. 16, 2022 | 3 Year        |
| 9.   | Bilog Broadband<br>Antenna                        | Schwarzbeck             | VULB9163      | VULB 9163-289 | Oct. 23, 2022 | 1 Year        |
| 10.  | Loop Antenna                                      | Schwarzbeck             | FMZB1519B     | 00053         | Oct. 23, 2022 | 1 Year        |
| 11.  | Horn Antenna                                      | A-INFO                  | LB-180400-KF  | J211060628    | Oct. 23, 2022 | 1 Year        |
| 12.  | Pre-amplifier                                     | SONOMA                  | 310N          | 186860        | Oct. 23, 2022 | 1 Year        |
| 13.  | EMI Test Software<br>EZ-EMC                       | SHURPLE                 | N/A           | N/A           | N/A           | N/A           |
| 14.  | MXA Spectrum<br>Analysis                          | KEYSIGHT                | N9020A        | MY53280032    | Oct. 13, 2022 | 1 Year        |
| 15.  | MXG RF Vector Signal<br>Generator                 | Agilent                 | N5182A        | MY48180656    | Oct. 13, 2022 | 1 Year        |
| 16.  | Signal Generator                                  | Agilent                 | E4421B        | MY41000743    | Oct. 13, 2022 | 1 Year        |
| 17.  | DC Power Supply                                   | IVYTECH                 | IV3605        | 1804D360510   | Oct. 22, 2022 | 1 Year        |
| 18.  | Constant Temperature<br>Humidity Chamber          | ZHONGJIAN               | ZJ-KHWS80B    | N/A           | Oct. 19, 2022 | 1 Year        |



### 1.7. Measurement Uncertainty

|                        |   |                          |
|------------------------|---|--------------------------|
| Radiation Uncertainty  | : | Ur = 3.9 dB (Horizontal) |
|                        |   | Ur = 3.8 dB (Vertical)   |
| Conduction Uncertainty | : | Uc = 3.4 dB              |

### 1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111.

#### ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

#### Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518102



2. Summary of Test Results

| Standard Section                                     | Test Item               | Result |
|------------------------------------------------------|-------------------------|--------|
| 15.203                                               | Antenna Requirement     | PASS   |
| 15.207                                               | Conducted Emission      | N/A    |
| 15.205/15.209/15.227(b)                              | Spurious Emission       | PASS   |
| 15.215(c)                                            | 20dB Occupied Bandwidth | PASS   |
| Remark: "N/A" is an abbreviation for Not Applicable. |                         |        |



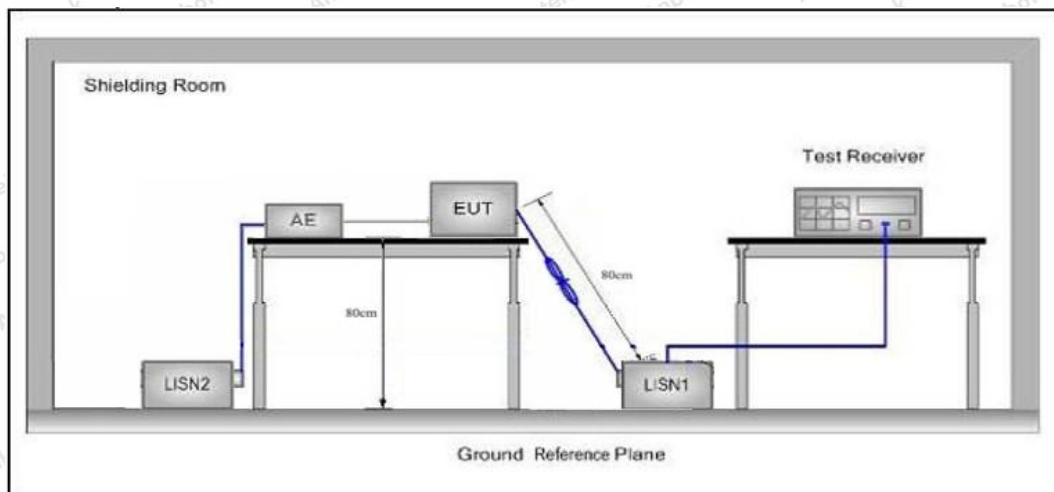
### 3. Conducted Emission Test

#### 3.1. Test Standard and Limit

| Test Standard | FCC Part15 Section 15.207 |                                |               |
|---------------|---------------------------|--------------------------------|---------------|
| Test Limit    | Frequency                 | Maximum RF Line Voltage (dBuV) |               |
|               |                           | Quasi-peak Level               | Average Level |
|               | 150kHz~500kHz             | 66 ~ 56 *                      | 56 ~ 46 *     |
|               | 500kHz~5MHz               | 56                             | 46            |
|               | 5MHz~30MHz                | 60                             | 50            |

**Remark:** (1) \*Decreasing linearly with logarithm of the frequency.  
(2) The lower limit shall apply at the transition frequency.

#### 3.2. Test Setup



#### 3.3. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.10-2020 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

#### 3.4. Test Data

Not applicable. The EUT is powered by DC 3V battery inside, so there is no need to conduct this test.



## 4. Radiation Spurious Emission and Band Edge

### 4.1. Test Standard and Limit

| Test Standard | FCC Part15 C Section 15.209, 15.205 and 15.227(b) |                                  |                |            |                          |
|---------------|---------------------------------------------------|----------------------------------|----------------|------------|--------------------------|
| Test Limit    | Frequency (MHz)                                   | Field strength (microvolt/meter) | Limit (dBuV/m) | Remark     | Measurement distance (m) |
|               | 0.009MHz~0.490MHz                                 | 2400/F(kHz)                      | -              | -          | 300                      |
|               | 0.490MHz-1.705MHz                                 | 24000/F(kHz)                     | -              | -          | 30                       |
|               | 1.705MHz-30MHz                                    | 30                               | -              | -          | 30                       |
|               | 30MHz~88MHz                                       | 100                              | 40.0           | Quasi-peak | 3                        |
|               | 88MHz~216MHz                                      | 150                              | 43.5           | Quasi-peak | 3                        |
|               | 216MHz~960MHz                                     | 200                              | 46.0           | Quasi-peak | 3                        |
|               | 960MHz~1000MHz                                    | 500                              | 54.0           | Quasi-peak | 3                        |
|               | Above 1000MHz                                     | 500                              | 54.0           | Average    | 3                        |
|               |                                                   | -                                | 74.0           | Peak       | 3                        |

**Remark:**

(1)The lower limit shall apply at the transition frequency.

(2) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

(a) The field strength of any emission within this band shall not exceed 10,000 microvolts/meter at 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply.

(b) The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in §15.209.



## 4.2. Test Setup

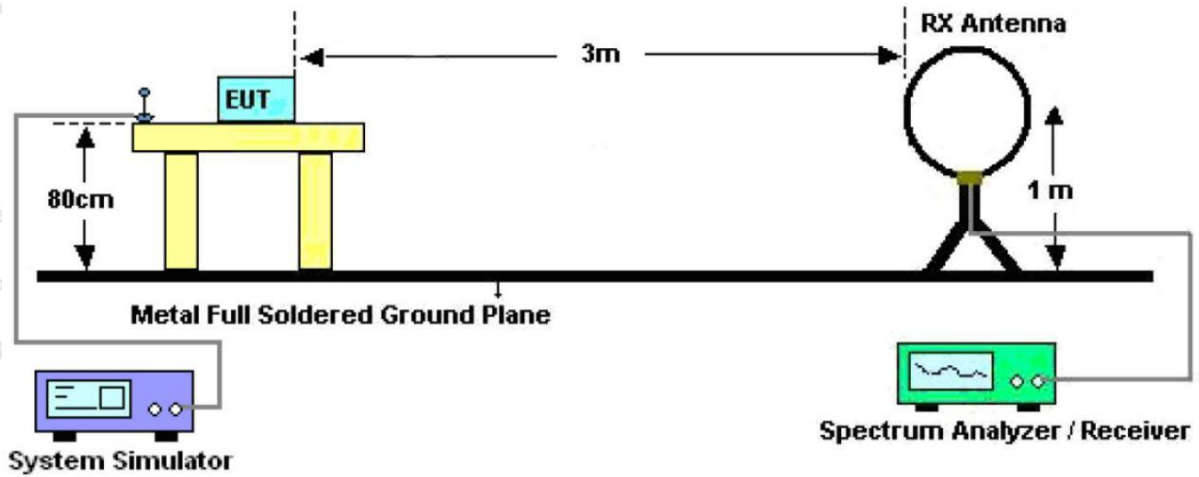


Figure 1. Below 30MHz

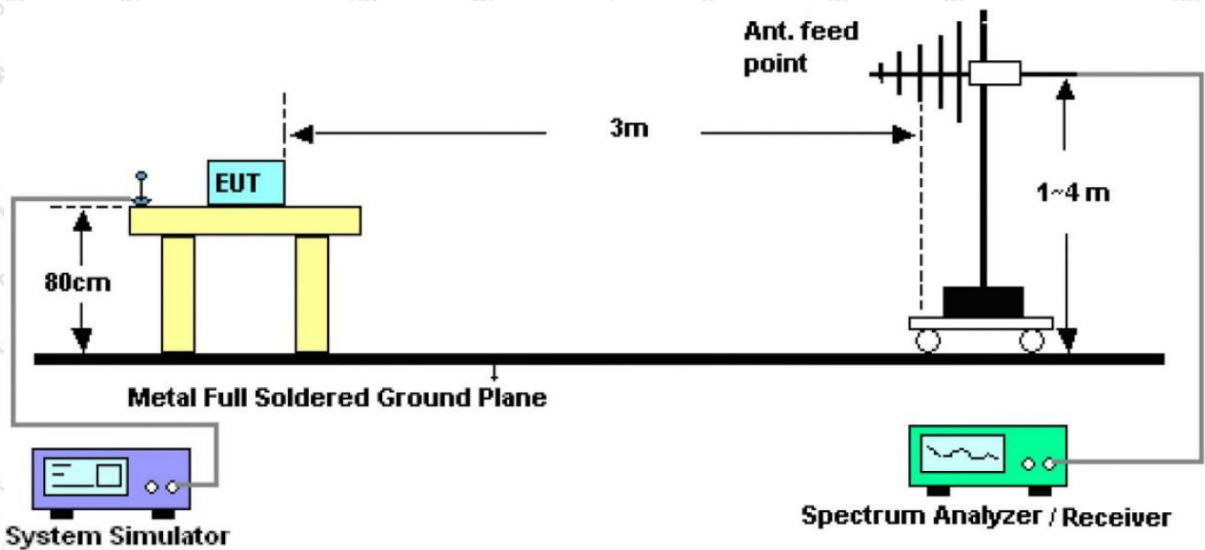


Figure 2. 30MHz to 1GHz



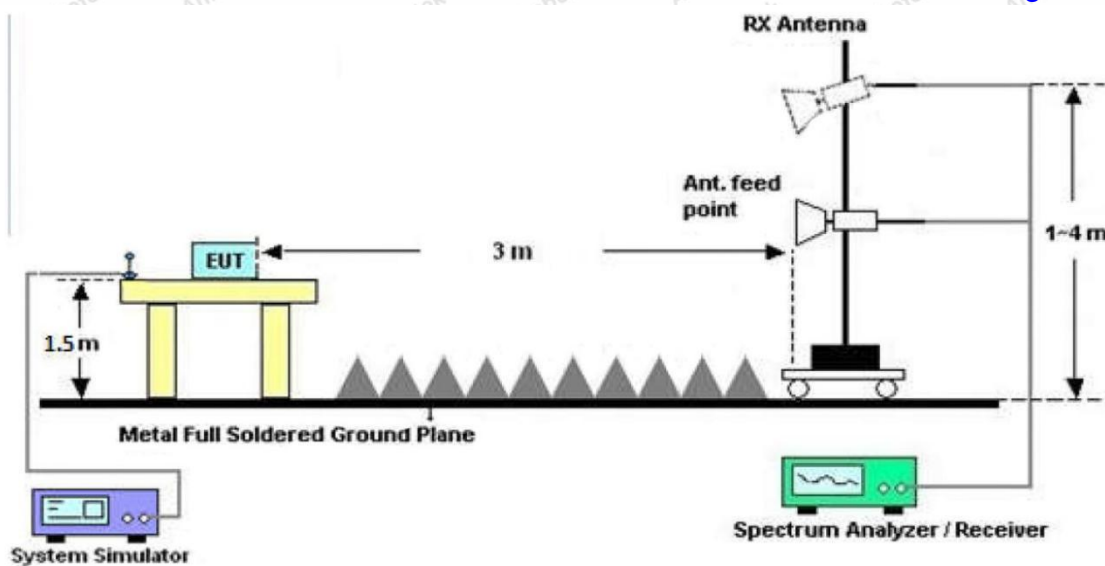


Figure 3. Above 1 GHz

### 4.3. Test Procedure

For below 1GHz: The EUT is placed on a turntable, which is 0.8m above the ground plane. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Rotated the EUT through three orthogonal axes to determine the maximum emissions, both horizontal and vertical polarization of the antenna are set on test. The EUT is tested in 9\*6\*6 Chamber. The device is evaluated in xyz orientation.

For 9kHz to 150kHz, Set the spectrum analyzer as:

RBW = 200Hz, VBW =1kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:

RBW = 9KHz, VBW =30kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 30MHz to 1000MHz, Set the spectrum analyzer as:

RBW = 100kHz, VBW =300kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For above 1GHz, Set the spectrum analyzer as:

RBW =1MHz, VBW =1MHz, Detector= Peak, Trace mode= Max hold, Sweep- auto couple.

RBW =1MHz, VBW =10Hz, Detector= Average, Trace mode= Max hold, Sweep- auto couple.

### 4.4. Test Data

#### PASS

During the test, Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis is the worst case.



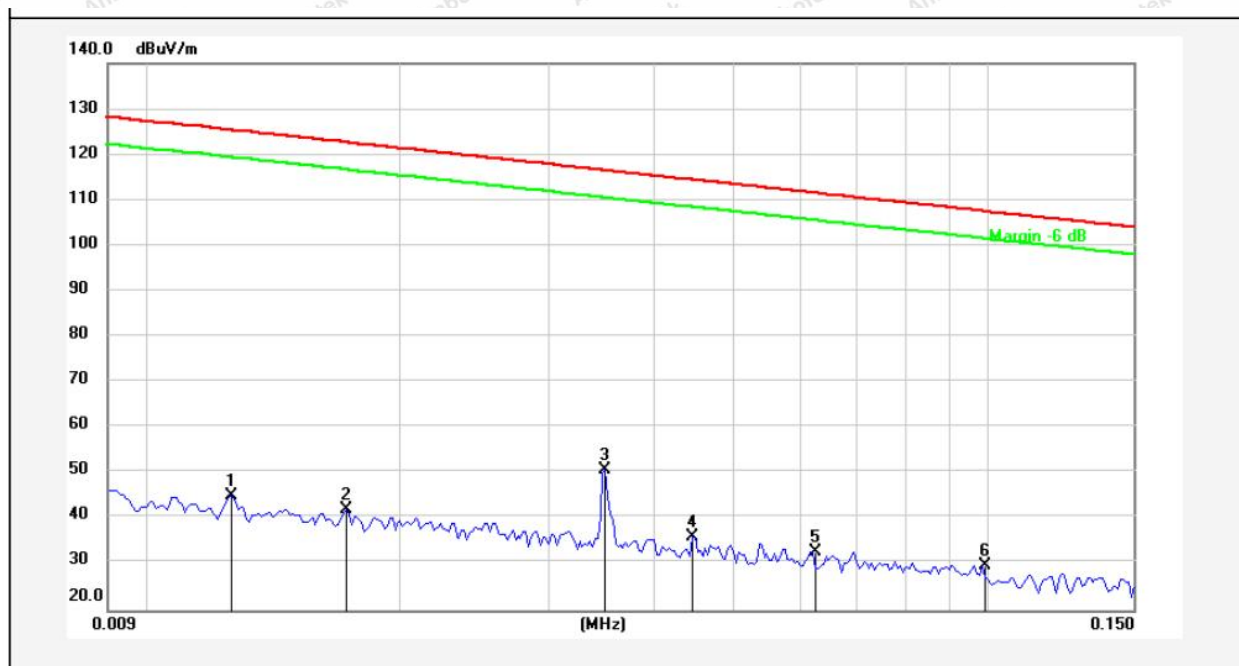
Report No.: 18220WC20236401

FCC ID: 2AANZPCMT

Page 15 of 21

## Test Results (9KHz~0.15MHz)

Test Mode: 27MHz  
Power Source: DC 3V Battery  
Polarization: X  
Temp.(°C)/Hum.(%RH): 23.3°C/52%RH

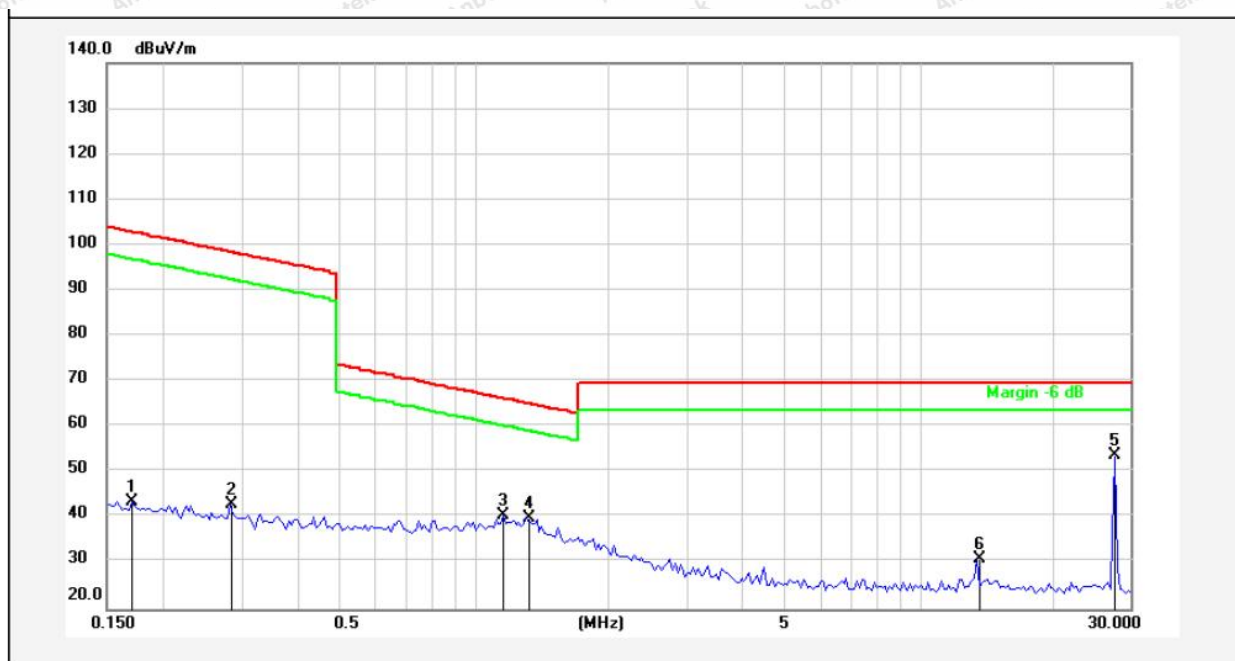


| No. | Freq. (MHz) | Reading (dBuV) | Factor () | Result (dBuV/m) | Limit (dBuV/m) | Over Limit (dB) | Detector | Height (cm) | degree (deg) | Remark |
|-----|-------------|----------------|-----------|-----------------|----------------|-----------------|----------|-------------|--------------|--------|
| 1   | 0.0126      | 24.91          | 20.14     | 45.05           | 125.40         | -80.35          | AV       |             |              |        |
| 2   | 0.0173      | 21.90          | 20.14     | 42.04           | 122.66         | -80.62          | AV       |             |              |        |
| 3   | 0.0352      | 30.23          | 20.48     | 50.71           | 116.53         | -65.82          | AV       |             |              |        |
| 4   | 0.0447      | 15.68          | 20.46     | 36.14           | 114.47         | -78.33          | AV       |             |              |        |
| 5   | 0.0623      | 12.53          | 20.37     | 32.90           | 111.60         | -78.70          | AV       |             |              |        |
| 6   | 0.0991      | 9.49           | 20.29     | 29.78           | 107.60         | -77.82          | AV       |             |              |        |



**Test Results (0.15MHz~30MHz)**

Test Mode: 27MHz  
Power Source: DC 3V Battery  
Polarization: X  
Temp.(°C)/Hum.(%RH): 23.3°C/52%RH



| No. | Freq. (MHz) | Reading (dBuV) | Factor () | Result (dBuV/m) | Limit (dBuV/m) | Over Limit (dB) | Detector | Height (cm) | degree (deg) | Remark |
|-----|-------------|----------------|-----------|-----------------|----------------|-----------------|----------|-------------|--------------|--------|
| 1   | 0.1712      | 23.21          | 20.32     | 43.53           | 102.88         | -59.35          | AV       |             |              |        |
| 2   | 0.2833      | 22.75          | 20.31     | 43.06           | 98.53          | -55.47          | AV       |             |              |        |
| 3   | 1.1688      | 20.40          | 20.26     | 40.66           | 66.27          | -25.61          | QP       |             |              |        |
| 4   | 1.3168      | 19.56          | 20.26     | 39.82           | 65.24          | -25.42          | QP       |             |              |        |
| 5   | 27.7077     | 32.94          | 20.66     | 53.60           | 69.50          | -15.90          | Peak     |             |              |        |
| 6   | 13.5509     | 10.30          | 20.53     | 30.83           | 69.50          | -38.67          | QP       |             |              |        |



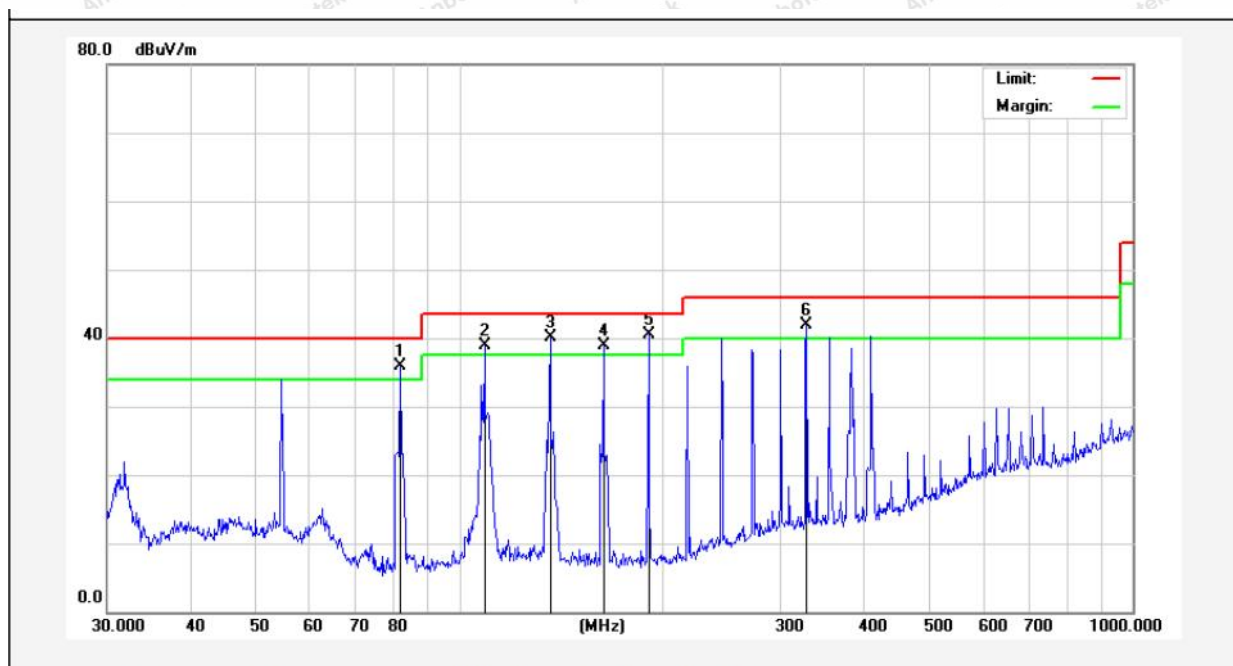
Report No.: 18220WC20236401

FCC ID: 2AANZPCMT

Page 17 of 21

## Test Results (30~1000MHz)

Test Mode: 27MHz  
Power Source: DC 3V Battery  
Polarization: Horizontal  
Temp.(°C)/Hum.(%RH): 23.2°C/48%RH



| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Over Limit (dB) | Detector | Height (cm) | degree (deg) | Remark |
|-----|-------------|----------------|---------------|-----------------|----------------|-----------------|----------|-------------|--------------|--------|
| 1   | 81.7831     | 58.66          | -22.85        | 35.81           | 40.00          | -4.19           | QP       |             |              |        |
| 2   | 109.0284    | 61.85          | -23.01        | 38.84           | 43.50          | -4.66           | QP       |             |              |        |
| 3   | 136.4598    | 63.04          | -22.87        | 40.17           | 43.50          | -3.33           | QP       |             |              |        |
| 4   | 163.7548    | 62.68          | -23.87        | 38.81           | 43.50          | -4.69           | QP       |             |              |        |
| 5   | 191.0738    | 63.17          | -22.71        | 40.46           | 43.50          | -3.04           | QP       |             |              |        |
| 6   | 327.8872    | 58.36          | -16.52        | 41.84           | 46.00          | -4.16           | QP       |             |              |        |



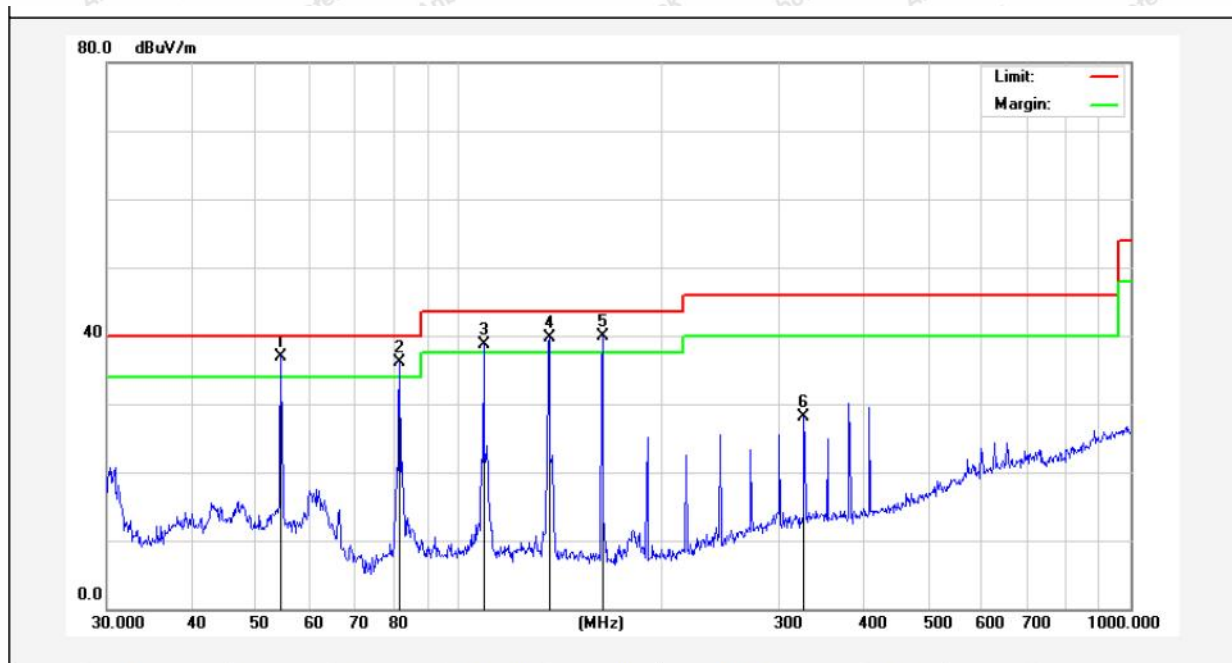
Report No.: 18220WC20236401

FCC ID: 2AANZPCMT

Page 18 of 21

## Test Results (30~1000MHz)

Test Mode: 27MHz  
Power Source: DC 3V Battery  
Polarization: Vertical  
Temp.(°C)/Hum.(%RH): 23.2°C/48%RH



| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Over Limit (dB) | Detector | Height (cm) | degree (deg) | Remark |
|-----|-------------|----------------|---------------|-----------------|----------------|-----------------|----------|-------------|--------------|--------|
| 1   | 54.4516     | 54.37          | -17.42        | 36.95           | 40.00          | -3.05           | QP       |             |              |        |
| 2   | 81.7831     | 55.11          | -19.03        | 36.08           | 40.00          | -3.92           | QP       |             |              |        |
| 3   | 109.0284    | 56.83          | -18.03        | 38.80           | 43.50          | -4.70           | QP       |             |              |        |
| 4   | 136.4598    | 61.70          | -21.93        | 39.77           | 43.50          | -3.73           | QP       |             |              |        |
| 5   | 163.7550    | 61.45          | -21.46        | 39.99           | 43.50          | -3.51           | QP       |             |              |        |
| 6   | 326.7395    | 43.79          | -15.59        | 28.20           | 46.00          | -17.80          | QP       |             |              |        |

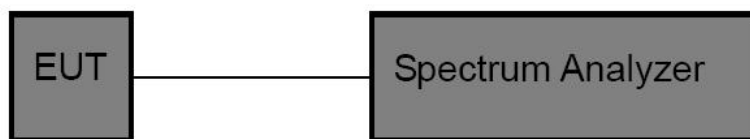


## 5. 20DB Occupy Bandwidth Test

### 5.1. Test Standard and Limit

According to FCC section 15.215(c), the 20dB bandwidth should be contained within the frequency band designated in the rule section under which the EUT is operated, it was measured with a spectrum analyzer connected the EUT while the EUT is operating in transmission mode.

### 5.2. Test Setup



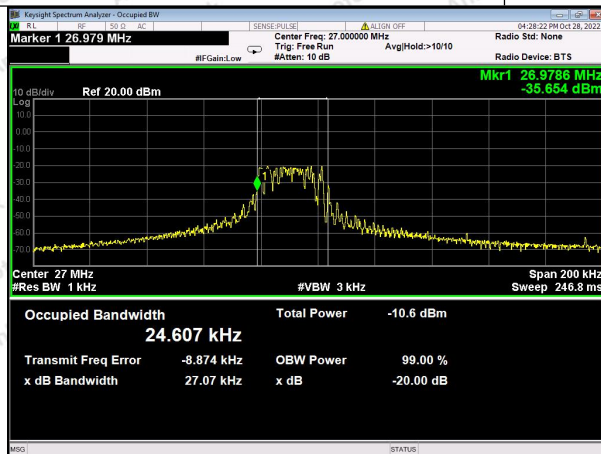
### 5.3. Test Procedure

The bandwidth of the fundamental frequency was measured by spectrum analyzer with 3kHz RBW and VBW $\geq$ 3\*RBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

### 5.4. Test Data

|              |   |                |             |   |                           |
|--------------|---|----------------|-------------|---|---------------------------|
| Test Item    | : | 20dB Bandwidth | Test Mode   | : | Continuously transmitting |
| Test Voltage | : | DC 3V battery  | Temperature | : | 24℃                       |
| Test Result  | : | PASS           | Humidity    | : | 55%RH                     |

| Freq.(MHz) | Bandwidth (kHz) | Results |
|------------|-----------------|---------|
| 27         | 27.07           | PASS    |



## 6. Antenna Requirement

### 6.1. Test Standard and Requirement

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Standard | FCC Part15 Section 15.203                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Requirement   | 1) 15.203 requirement:<br>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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. |

### 6.2. Antenna Connected Construction

The antenna is a External antenna which permanently attached. It complies with the standard requirement.



## **APPENDIX I -- TEST SETUP PHOTOGRAPH**

Please refer to separated files Appendix I -- Test Setup Photograph

## **APPENDIX II -- EXTERNAL PHOTOGRAPH**

Please refer to separated files Appendix II -- External Photograph

## **APPENDIX III -- INTERNAL PHOTOGRAPH**

Please refer to separated files Appendix III -- Internal Photograph

----- End of Report -----

