



# Test Report

Report No.: RKEYS250903195

Date: Oct.09, 2025

Page 1 of 29

## FCC RF TEST REPORT

For

**Product: card reader**

**Model: CR01**

**FCC ID: 2BCUQ-CR01**

**Report No.: RKEYS250903195**

Issued for

**Fanvil Link Technology Co.,LTD**

**13th Floor, Building 2, Runzhi R&D Center, Xin'an Street, Bao'an District,  
Shenzhen, Guangdong, China**

Issued by

**Guangdong KEYS Testing Technology Co., Ltd.**

**Building 1, No.18, Shihuan Road, Dongcheng Subdistrict, Dongguan, Guangdong,  
China**

**Guangdong KEYS Testing Technology Co., Ltd.**

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## 1. TEST CERTIFICATION

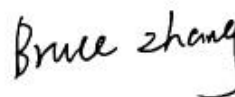
|                              |                                                                                                       |
|------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Product:</b>              | card reader                                                                                           |
| <b>Trade mark:</b>           |                      |
| <b>Model:</b>                | CR01                                                                                                  |
| <b>Applicant :</b>           | Fanvil Link Technology Co.,LTD                                                                        |
| <b>Address:</b>              | 13th Floor, Building 2, Runzhi R&D Center, Xin'an Street, Bao'an District, Shenzhen, Guangdong, China |
| <b>Manufacturer:</b>         | Fanvil Link Technology Co.,LTD                                                                        |
| <b>Address:</b>              | 13th Floor, Building 2, Runzhi R&D Center, Xin'an Street, Bao'an District, Shenzhen, Guangdong, China |
| <b>Sample Receive Date:</b>  | Sep.03, 2025                                                                                          |
| <b>Test Date:</b>            | Sep.03, 2025~Sep.27, 2025                                                                             |
| <b>Applicable Standards:</b> | CFR 47, FCC Part 15.225                                                                               |
| <b>Application Purpose</b>   | Original Grant                                                                                        |

The above equipment has been tested by Guangdong KEYS Testing Technology Co., Ltd. and found compliance with the requirements in the technical standards mentioned above. The test results presented in this report only relate to the product/system tested. The other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.



Prepared by:

Evan Fang / Engineer



Approved by:

Bruce Zhang / Manager

## 2. TEST SUMMARY

| FCC Part 15C             | Description of Test            | Result |
|--------------------------|--------------------------------|--------|
| 15.203                   | Antenna Requirement            | Pass   |
| 15.215(c)                | 20dB Bandwidth                 | Pass   |
| 15.225(e)                | Frequency Tolerance            | Pass   |
| 15.205,15.209&<br>15.225 | Radiated Spurious Emissions    | Pass   |
| 15.207                   | Conducted Emission on AC Mains | Pass   |

### 3. TEST SITE

#### 3.1. TEST FACILITY

Guangdong KEYS Testing Technology Co., Ltd.

Address: Building 1, No.18, Shihuan Road, Dongcheng Subdistrict, Dongguan, Guangdong, China

A2LA Certificate Number.:7547.01

FCC Designation Number:CN1419

FCC Test Firm Registration Number:361541

#### 3.2. MEASUREMENT UNCERTAINTY

| Parameter                        | Uncertainty        |
|----------------------------------|--------------------|
| Conducted Emission(150KHz-30MHz) | $\pm 3.2\text{dB}$ |
| Radiated Emission(9kHz-30MHz)    | $\pm 3.5\text{dB}$ |
| Radiated Emission(30MHz-1GHz)    | $\pm 4.7\text{dB}$ |
| Radiated Emission (1GHz-6GHz)    | $\pm 5.1\text{dB}$ |
| Radiated Emission (6GHz-18GHz)   | $\pm 5.1\text{dB}$ |
| Bandwidth                        | $\pm 70\text{Hz}$  |

Note 1: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

#### 3.3. Test Environment Condition

|                            |         |
|----------------------------|---------|
| Ambient Temperature:       | 24~25°C |
| Ambient Relative Humidity: | 55~60 % |

#### 4. Test Equipment List

| Equipment                              | Manufacturer                                 | Model                     | Equipment No. | Cal. Date      | Cal. Interval |
|----------------------------------------|----------------------------------------------|---------------------------|---------------|----------------|---------------|
| EMI Test Receiver                      | Rohde&Schwarz                                | ESCI                      | KEYS-EL-203   | Mar. 03, 2025  | 1 Year        |
| Pulse limiter                          | Rohde&Schwarz                                | ESH3-Z2                   | KEYS-EL-201   | Mar. 03, 2025  | 1 Year        |
| LISN                                   | Rohde&Schwarz                                | ENV216                    | KEYS-EL-202   | Mar. 03, 2025  | 1 Year        |
| Shielding Room                         | Taihe Mao Rui Electronic Equipment Co., Ltd. | 8m*4m*4m                  | KEYS-EL-230   | 2024 / 10 / 12 | 5 Year        |
| EMI Test Receiver                      | Rohde&Schwarz                                | ESCI7                     | KEYS-EL-205   | Mar. 03, 2025  | 1 Year        |
| Logarithmic Periodic Broadband Antenna | SCHWARZBECK                                  | VULB9168                  | KEYS-EL-209   | Mar. 06, 2025  | 3 Year        |
| Preamplifier                           | HP                                           | 8447F                     | KEYS-EL-210   | Mar. 03, 2025  | 1 Year        |
| Anechoic Chamber                       | Taihe Mao Rui Electronic Equipment Co., Ltd. | 9m*6m*6m                  | KEYS-EL-230   | 2024 / 10/ 12  | 5 Year        |
| Signal Analyzer                        | Keysight                                     | N9020A                    | KEYS-EL-238   | Mar. 03, 2025  | 1 Year        |
| Filter                                 | WCS Technology                               | ZBSF6-C2400-2483.5-294    | KEYS-EL-270   | May 17, 2025   | 1 Year        |
| RF Cable                               | Rosenberger                                  | /                         | KEYS-EL-278   | May 17, 2025   | 3 Year        |
| RF Cable                               | COM-MW                                       | DCA9-2.92M8 0002.92M3.6-1 | KEYS-EL-279   | May 17, 2025   | 3 Year        |



|                     |          |            |               |               |        |
|---------------------|----------|------------|---------------|---------------|--------|
|                     |          | 304        |               |               |        |
| DC Power            | Agilent  | E3632A     | KEYS-EL-243   | Mar. 03, 2025 | 1 Year |
| Loop Antenna        | Da Ze    | ZN30900C   | KEYS-EL-253   | May 16, 2025  | 3 Year |
| Temperature Chamber | Guangke  | GK-TH-1000 | KEYS-EL-139   | Oct.15,,2025  | 1 Year |
| EMI Test Software   | Tonscend | JS32-CE    | Version 5.0.0 |               |        |
| EMI Test Software   | Tonscend | JS32-RE    | Version 5.0.0 |               |        |

## 5. EUT DESCRIPTION

|                                                                                                                                                                                                                                                                                                                                             |             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>Product</b>                                                                                                                                                                                                                                                                                                                              | card reader |
| <b>Test Model</b>                                                                                                                                                                                                                                                                                                                           | CR01        |
| <b>Additional Model</b>                                                                                                                                                                                                                                                                                                                     | /           |
| <b>Rating</b>                                                                                                                                                                                                                                                                                                                               | DC 5V       |
| <b>FCC ID</b>                                                                                                                                                                                                                                                                                                                               | 2BCUQ-CR01  |
| <b>Antenna Type</b>                                                                                                                                                                                                                                                                                                                         | PCB Antenna |
| <b>Operation Frequency</b>                                                                                                                                                                                                                                                                                                                  | 13.56MHz    |
| <b>Number of Channels:</b>                                                                                                                                                                                                                                                                                                                  | 3           |
| <b>Modulation Type</b>                                                                                                                                                                                                                                                                                                                      | ASK         |
| <b>Note:</b><br>1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.<br>2) Antenna gain was provided by the applicant/ manufacturer, and the applicant/ manufacturer is responsible for its validity.<br>3) The test results in the report only apply to the tested sample. |             |

## 5.1. DESCRIPTION OF TEST CONFIGURATION

### Channel List :

| Channel<br>No. | Frequency<br>(MHz) |
|----------------|--------------------|
| 1              | 13.56              |

## 5.2. EQUIPMENT MODIFICATIONS

Any modifications installed previous to testing by Fanvil Link Technology Co.,LTD will be incorporated in each production model sold / leased in the United States.

No modifications were installed by KEYS Testing Technology Co., Ltd.

## 6. TEST METHODOLOGY

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10-2020.

### 6.1. EUT SYSTEM OPERATION

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. The EUT was powered by DC 5V during the test.

## 7. SETUP OF EQUIPMENT UNDER TEST

### 7.1. DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

#### Support Equipment

| No. | Equipment | Model              | Serial No. | Manufacturer |
|-----|-----------|--------------------|------------|--------------|
| 1   | PC        | Thinkpad E14 Gen 2 | SL11B03772 | Lenovo       |
| 2   | /         | /                  | /          | /            |

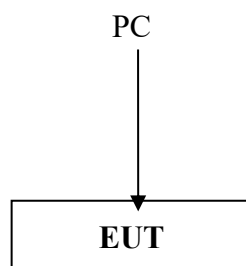
#### Support Cable

| No. | Description | Shield | Length | Manufacturer |
|-----|-------------|--------|--------|--------------|
| 1   | /           | /      | /      | /            |
| 2   | /           | /      | /      | /            |

Note: 1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

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

### 7.2. BLOCK DIAGRAM OF EUT CONFIGURATION



(EUT: card reader)

### 7.3. EUT TEST MODE

The EUT transmitting is carried out by swiping the card.

## 8. TEST RESULTS AND MEASUREMENT DATA

### 8.1. ANTENNA REQUIREMENT

|                   |                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | <p>FCC Part Part 15.203</p> <p>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 shall be considered sufficient to comply with the provisions of this section.</p> |
| Test Result:      | <p>According to the manufacturer declared, the EUT has a PCB antenna, the directional gain of antenna is 0dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision. Refer to EUT Photo for further details.</p>                                                  |

## 8.2. 20DB BANDWIDTH

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15.215                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Test Mode:        | Transmitting mode with modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Limit:            | No limit Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Test Procedure:   | <ul style="list-style-type: none"> <li>a. Set resolution bandwidth (RBW)= 300Hz.</li> <li>b. Set the video bandwidth (VBW) <math>\geq 3 \times</math> RBW.</li> <li>c. Detector = Peak.</li> <li>d. Trace mode = max hold.</li> <li>e. Sweep= auto couple.</li> <li>f. Allow the trace to stabilize.</li> <li>g. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.</li> </ul> |
| Test Result:      | PASS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

### 8.2.1.Test Setup

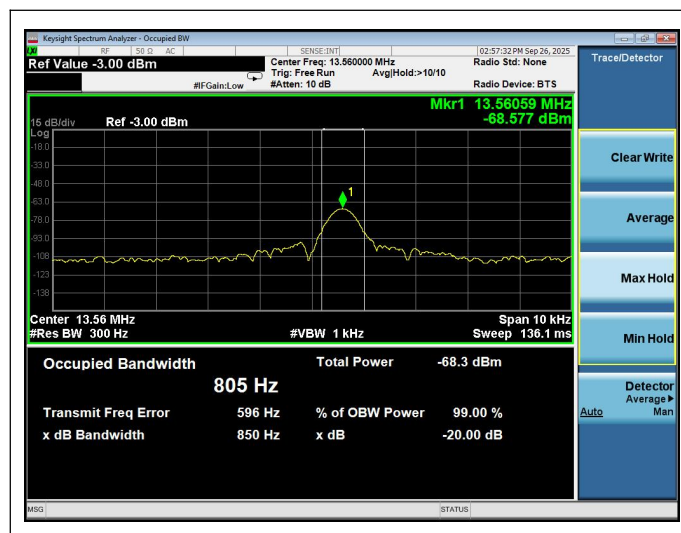


### 8.2.2.Test Result

**Note:** Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 300Hz to perform the occupied bandwidth test.

| Modulation | Center Frequency (MHz) | 20 dB Bandwidth (Hz) |
|------------|------------------------|----------------------|
| GFSK       | 13.56                  | 805                  |

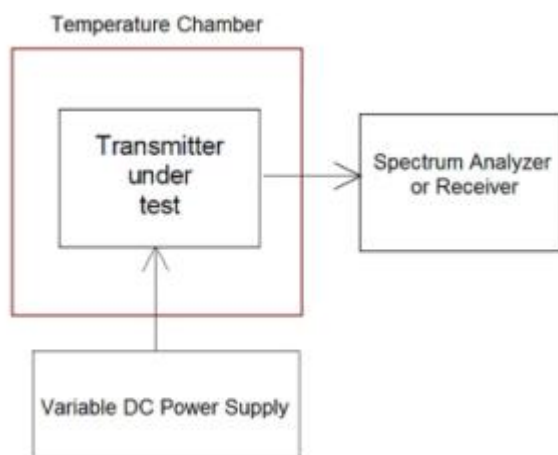
## Test Graph



### 8.3. FREQUENCY TOLERANCE

|                   |                                                                                                                                                                                                                                                                                                                                   |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part 15.225(e)                                                                                                                                                                                                                                                                                                                |
| Test Mode:        | Transmitting mode with modulation                                                                                                                                                                                                                                                                                                 |
| Limit:            | $\pm 0.01\%$ (100ppm)                                                                                                                                                                                                                                                                                                             |
| Test Procedure:   | Let the EUT works on temperature variation of -20 degrees to + 50 degrees C at normal supply voltage.and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery. |
| Test Result:      | Pass                                                                                                                                                                                                                                                                                                                              |

#### 8.3.1.Test Setup



#### 8.3.2.Test Result

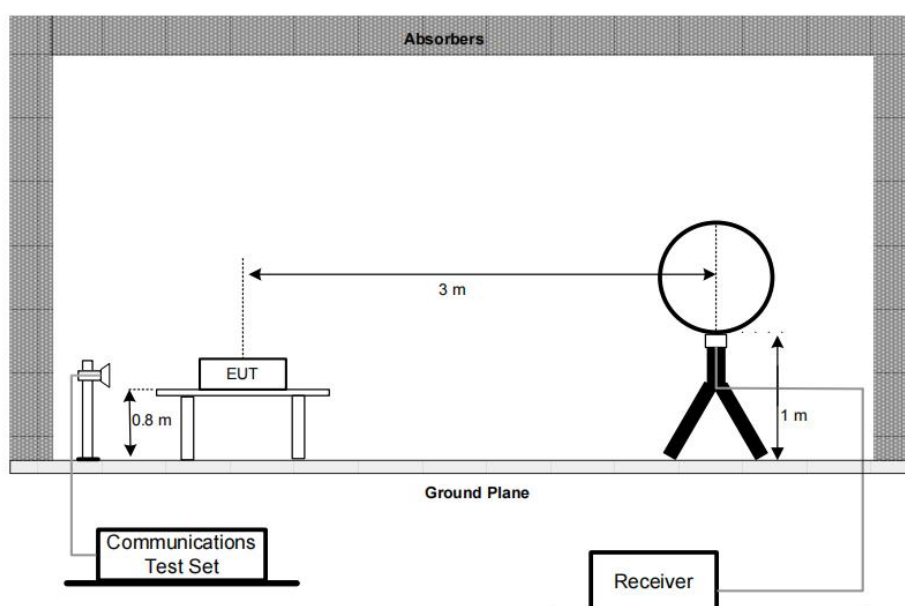
| Frequency<br>(MHz) | Voltage<br>(V) | Temperature | Frequency(MHz) | Test data<br>(ppm) | Limit (ppm) | Result |
|--------------------|----------------|-------------|----------------|--------------------|-------------|--------|
| 13.56              | 5              | -20         | 13.560738      | 54. 42             | ± 100       | PASS   |
|                    |                | -10         | 13.560625      | 46. 09             |             | PASS   |
|                    |                | 0           | 13.560537      | 39. 60             |             | PASS   |
|                    |                | 10          | 13.560612      | 45. 13             |             | PASS   |
|                    |                | 20          | 13.560686      | 50. 59             |             | PASS   |
|                    |                | 30          | 13.560614      | 45. 28             |             | PASS   |
|                    |                | 40          | 13.560624      | 46. 02             |             | PASS   |
|                    |                | 50          | 13.560665      | 49. 04             |             | PASS   |
|                    | 5.5            | 25          | 13.560629      | 46. 39             |             | PASS   |
|                    | 4.5            | 25          | 13.560668      | 49. 26             |             | PASS   |

## 8.4. RADIATED SPURIOUS EMISSIONS

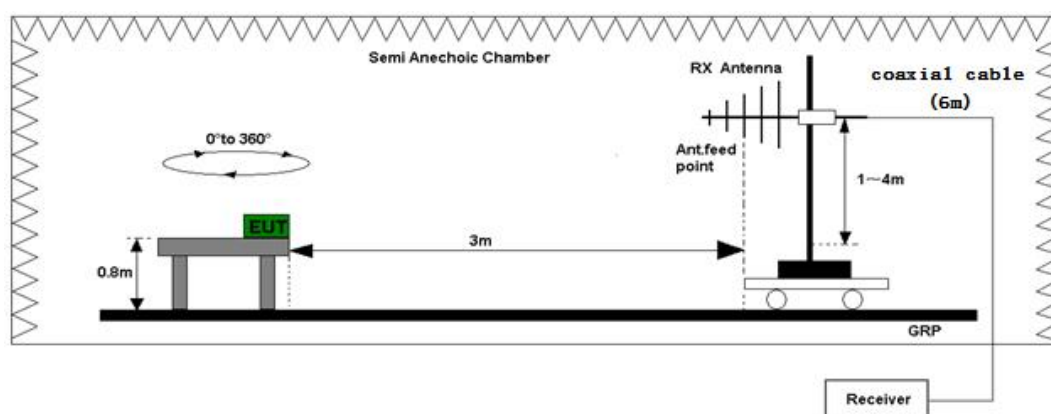
| Test Requirement:                                                                                                                                          | FCC Part 15.205,15.209 and 15.225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                         |                              |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------------------|----------------------|-----------------------------------------|------------------------------|-------------|-------------|-----|-------------|--------------|----|------------|----|----|-------|-----|---|--------|-----|---|---------|-----|---|-----------|-----|---|
| Test Mode:                                                                                                                                                 | Transmitting mode with modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                         |                              |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
| Limit:                                                                                                                                                     | <table><tr><th>Frequency Range(MHz)</th><th>Field Strength Limit (microvolts/meter)</th><th>Measurement Distance(meters)</th></tr><tr><td>0.009~0.490</td><td>2400/F(kHz)</td><td>300</td></tr><tr><td>0.490~1.705</td><td>24000/F(kHz)</td><td>30</td></tr><tr><td>1.705~30.0</td><td>30</td><td>30</td></tr><tr><td>30-88</td><td>100</td><td>3</td></tr><tr><td>88-216</td><td>150</td><td>3</td></tr><tr><td>216-960</td><td>200</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>3</td></tr></table> |                                         |                              | Frequency Range(MHz) | Field Strength Limit (microvolts/meter) | Measurement Distance(meters) | 0.009~0.490 | 2400/F(kHz) | 300 | 0.490~1.705 | 24000/F(kHz) | 30 | 1.705~30.0 | 30 | 30 | 30-88 | 100 | 3 | 88-216 | 150 | 3 | 216-960 | 200 | 3 | Above 960 | 500 | 3 |
|                                                                                                                                                            | Frequency Range(MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Field Strength Limit (microvolts/meter) | Measurement Distance(meters) |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
|                                                                                                                                                            | 0.009~0.490                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2400/F(kHz)                             | 300                          |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
|                                                                                                                                                            | 0.490~1.705                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 24000/F(kHz)                            | 30                           |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
|                                                                                                                                                            | 1.705~30.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30                                      | 30                           |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
|                                                                                                                                                            | 30-88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 100                                     | 3                            |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
|                                                                                                                                                            | 88-216                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 150                                     | 3                            |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
|                                                                                                                                                            | 216-960                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 200                                     | 3                            |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
|                                                                                                                                                            | Above 960                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 500                                     | 3                            |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
|                                                                                                                                                            | (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848microvolts/meter at 30 meters.                                                                                                                                                                                                                                                                                                                                                                                   |                                         |                              |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
| (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvlts/meter at 30 meters.       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                         |                              |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
| (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                         |                              |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
| (d) The field strength of any emissions appearing outside of the 13.1 10-14.010 MHz band shall not exceed the general radiated emission limits in 815.209. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                         |                              |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |
| Test Procedure:                                                                                                                                            | 1. The EUT was placed on a turntable with 0.8 meter for frequency below1GHz and 1.5 meter for frequency above 1GHz respectively above ground.<br>2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.<br>3. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a      |                                         |                              |                      |                                         |                              |             |             |     |             |              |    |            |    |    |       |     |   |        |     |   |         |     |   |           |     |   |

|              |                                                                                                                                                                                            |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              | high pass filter are used for the test in order to get better signal level to comply with the guidelines.<br>4. Set to the maximum power setting and enable the EUT transmit continuously. |
| Test Result: | Pass                                                                                                                                                                                       |

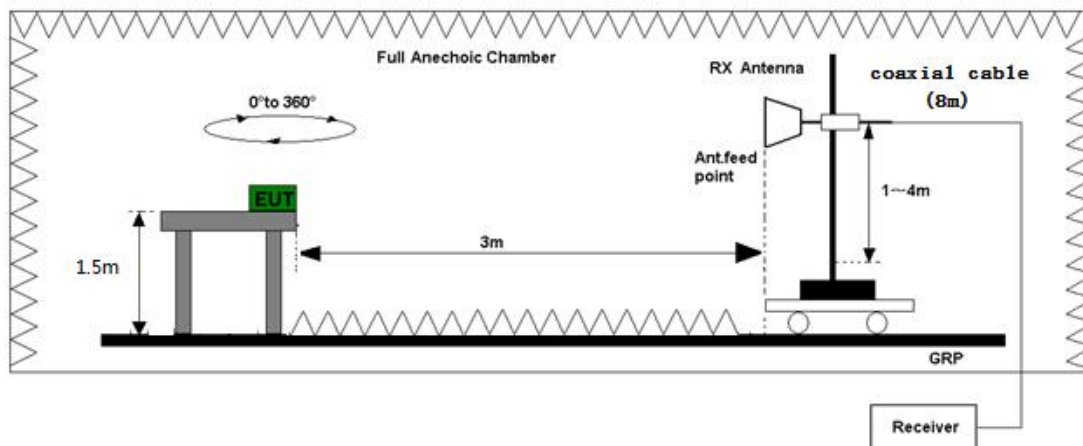
#### 8.4.1.Test Setup:



Test set-up of radiated disturbance (Up to 30MHz)



Test set-up of radiated disturbance (30MHz to 1GHz)



Test set-up of radiated disturbance (Above 1GHz)

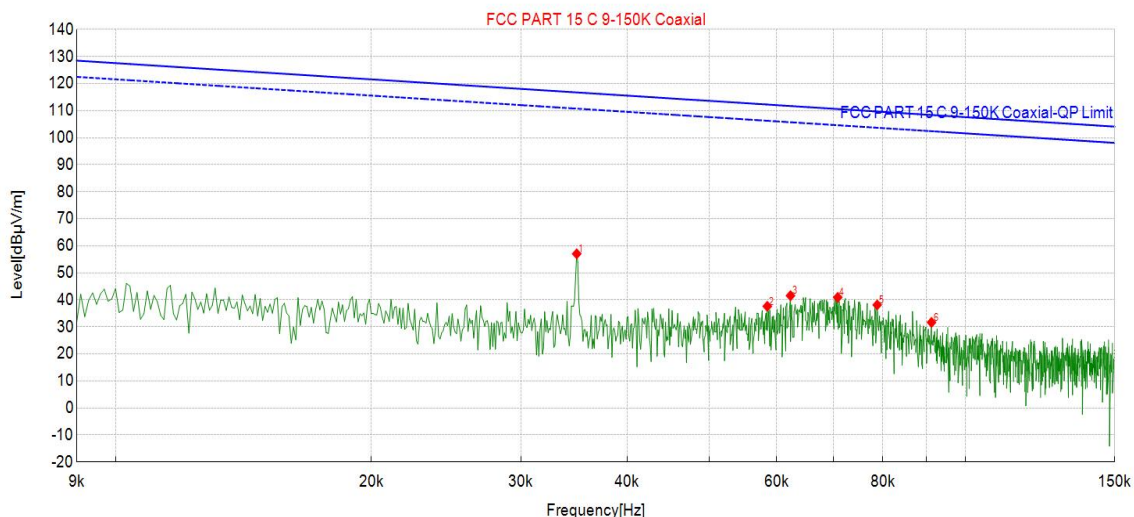
#### 8.4.2. Test Result

During the test, Pre-scan all kind of the place mode (coplane, coaxial), and found the coplane is the worst case.

|              |               |
|--------------|---------------|
| Test Voltage | DC 5V from PC |
|--------------|---------------|

## Spurious Emission 9kHz~150kHz

Please refer to the following diagram:



| Suspected Data List |                 |                |                |               |                |             |             |           |     |          |         |
|---------------------|-----------------|----------------|----------------|---------------|----------------|-------------|-------------|-----------|-----|----------|---------|
| NO.                 | Frequency [MHz] | Reading [dBμV] | Level [dBμV/m] | Factor [dB/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Det | Pol      | Verdict |
| 1                   | 0.03            | 29.62          | 57.05          | 27.43         | 116.76         | 59.71       | 100         | 0         | QP  | Coplanar | PAS     |
| 2                   | 0.06            | 11.90          | 37.62          | 25.72         | 112.27         | 74.65       | 100         | 1         | QP  | Coplanar | PAS     |
| 3                   | 0.06            | 15.97          | 41.56          | 25.59         | 111.73         | 70.17       | 100         | 26        | QP  | Coplanar | PAS     |
| 4                   | 0.07            | 15.61          | 40.92          | 25.31         | 110.62         | 69.70       | 100         | 110       | QP  | Coplanar | PAS     |
| 5                   | 0.08            | 13.09          | 38.13          | 25.04         | 109.69         | 71.56       | 100         | 120       | QP  | Coplanar | PAS     |
| 6                   | 0.09            | 7.52           | 31.67          | 24.15         | 108.41         | 76.74       | 100         | 210       | QP  | Coplanar | PAS     |

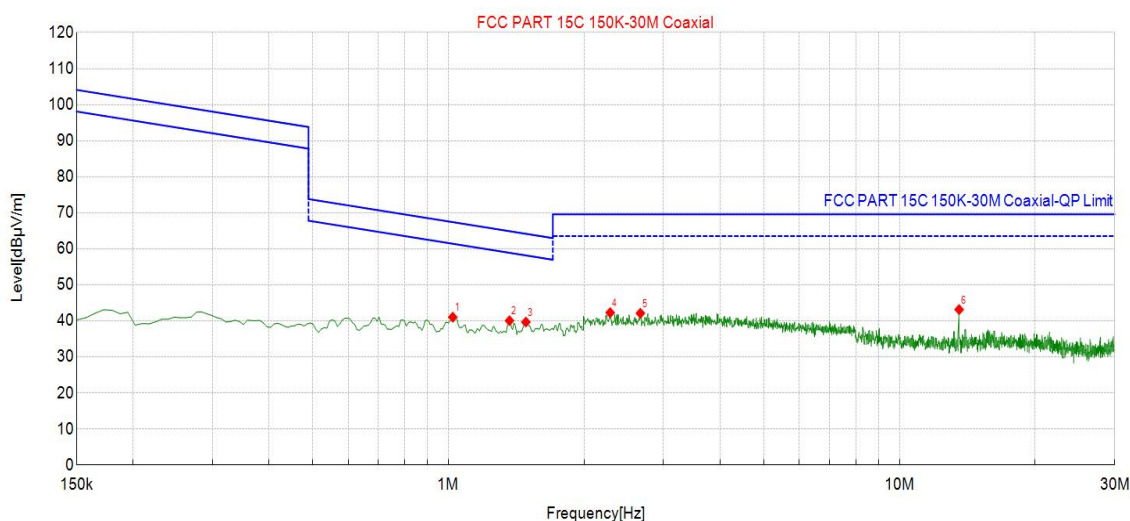
Note:(1)Level=Reading+Factor

(2)Margin=Limit-Level

(3)Factor=Antenna Factor+Cable Loss

## Spurious Emission 150kHz~30MHz

Please refer to the following diagram:



| Suspected Data List |                 |                |                |               |                |             |             |           |     |          |         |
|---------------------|-----------------|----------------|----------------|---------------|----------------|-------------|-------------|-----------|-----|----------|---------|
| NO.                 | Frequency [MHz] | Reading [dBμV] | Level [dBμV/m] | Factor [dB/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Det | Pol      | Verdict |
| 1                   | 1.02            | 20.92          | 41.03          | 20.11         | 67.41          | 26.38       | 100         | 194       | QP  | Coplanar | PASS    |
| 2                   | 1.37            | 19.92          | 40.07          | 20.15         | 64.89          | 24.82       | 100         | 240       | QP  | Coplanar | PASS    |
| 3                   | 1.49            | 19.52          | 39.68          | 20.16         | 64.17          | 24.49       | 100         | 360       | QP  | Coplanar | PASS    |
| 4                   | 2.28            | 21.89          | 42.28          | 20.39         | 69.54          | 27.26       | 100         | 128       | QP  | Coplanar | PASS    |
| 5                   | 2.66            | 21.50          | 42.12          | 20.62         | 69.54          | 27.42       | 100         | 1         | QP  | Coplanar | PASS    |
| 6                   | 13.56           | 23.44          | 43.14          | 19.70         | 69.54          | 26.40       | 100         | 356       | QP  | Coplanar | PASS    |

Note:(1)Level=Reading+Factor

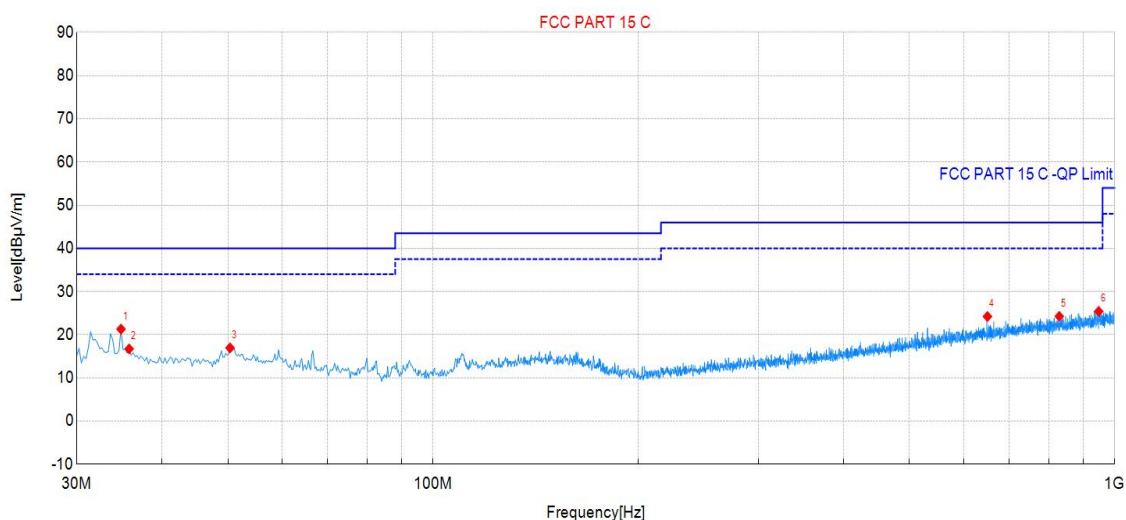
(2)Margin=Limit-Level

(3)Factor=Antenna Factor+Cable Loss

## Spurious Emission 30~1000MHz

Please refer to the following diagram:

Vertical:



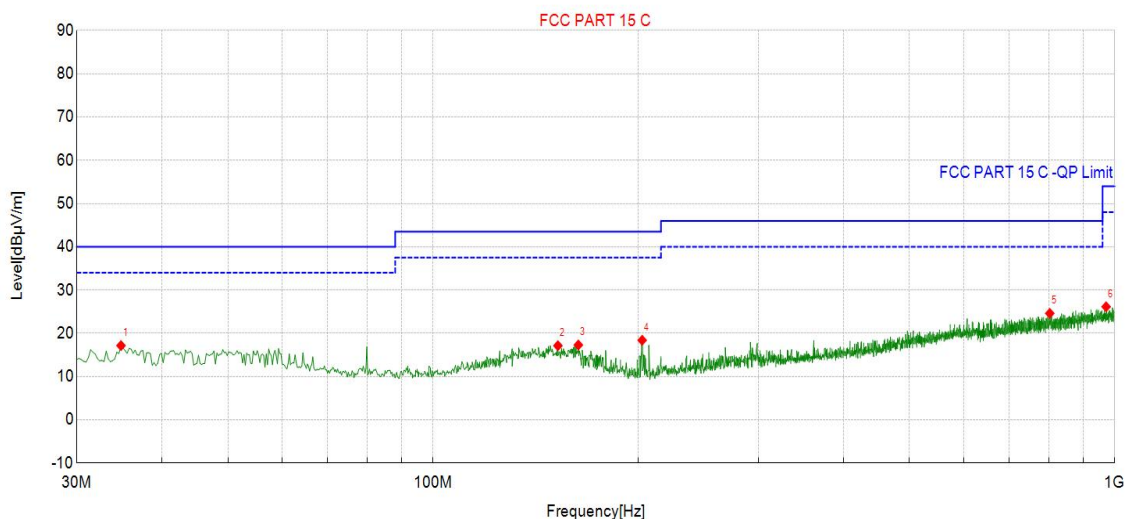
| Suspected Data List |                 |                |                |               |                |             |             |           |     |      |         |
|---------------------|-----------------|----------------|----------------|---------------|----------------|-------------|-------------|-----------|-----|------|---------|
| NO.                 | Frequency [MHz] | Reading [dBμV] | Level [dBμV/m] | Factor [dB/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Det | Pol  | Verdict |
| 1                   | 34.85           | 38.80          | 21.29          | -17.51        | 40.00          | 18.71       | 100         | 222       | QP  | Vert | PASS    |
| 2                   | 35.82           | 34.13          | 16.72          | -17.41        | 40.00          | 23.28       | 100         | 174       | QP  | Vert | PASS    |
| 3                   | 50.37           | 34.21          | 16.96          | -17.25        | 40.00          | 23.04       | 100         | 9         | QP  | Vert | PASS    |
| 4                   | 650.56          | 33.67          | 24.23          | -9.44         | 46.00          | 21.77       | 100         | 53        | QP  | Vert | PASS    |
| 5                   | 829.28          | 31.97          | 24.26          | -7.71         | 46.00          | 21.74       | 100         | 259       | QP  | Vert | PASS    |
| 6                   | 947.38          | 32.25          | 25.41          | -6.84         | 46.00          | 20.59       | 100         | 353       | QP  | Vert | PASS    |

Note:(1)Level=Reading+Factor

(2)Margin=Limit-Level

(3)Factor=Antenna Factor+ Cable Loss - Amplifier Factor

Horizontal:



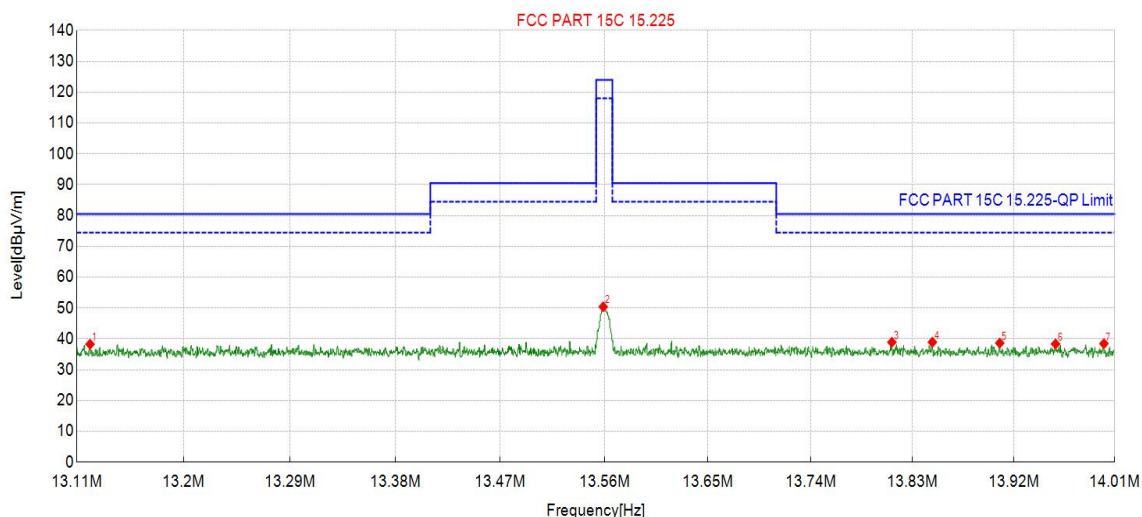
| Suspected Data List |                 |                |                |               |                |             |             |           |     |      |         |
|---------------------|-----------------|----------------|----------------|---------------|----------------|-------------|-------------|-----------|-----|------|---------|
| NO.                 | Frequency [MHz] | Reading [dBμV] | Level [dBμV/m] | Factor [dB/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Det | Pol  | Verdict |
| 1                   | 34.85           | 34.67          | 17.16          | -17.51        | 40.00          | 22.84       | 100         | 61        | QP  | Hori | PASS    |
| 2                   | 152.46          | 33.26          | 17.14          | -16.12        | 43.50          | 26.36       | 100         | 164       | QP  | Hori | PASS    |
| 3                   | 163.38          | 33.73          | 17.30          | -16.43        | 43.50          | 26.20       | 100         | 172       | QP  | Hori | PASS    |
| 4                   | 202.66          | 38.28          | 18.40          | -19.88        | 43.50          | 25.10       | 100         | 98        | QP  | Hori | PASS    |
| 5                   | 803.09          | 32.50          | 24.61          | -7.89         | 46.00          | 21.39       | 100         | 333       | QP  | Hori | PASS    |
| 6                   | 971.39          | 32.80          | 26.15          | -6.65         | 54.00          | 27.85       | 100         | 6         | QP  | Hori | PASS    |

Note:(1)Level=Reading+Factor

(2)Margin=Limit-Level

(3)Factor=Antenna Factor+ Cable Loss - Amplifier Factor

## Inband test result



## Suspected Data List

| NO. | Frequency [MHz] | Reading [dBμV] | Level [dBμV/m] | Factor [dB/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Det | Pol  | Verdict |
|-----|-----------------|----------------|----------------|---------------|----------------|-------------|-------------|-----------|-----|------|---------|
| 1   | 13.12           | 18.67          | 38.28          | 19.61         | 80.50          | 42.22       | 100         | 2         | QP  | Hori | PASS    |
| 2   | 13.56           | 30.72          | 50.42          | 19.70         | 124.00         | 73.58       | 100         | 57        | QP  | Hori | PASS    |
| 3   | 13.81           | 19.17          | 38.92          | 19.75         | 80.50          | 41.58       | 100         | 359       | QP  | Hori | PASS    |
| 4   | 13.85           | 19.17          | 38.93          | 19.76         | 80.50          | 41.57       | 100         | 4         | QP  | Hori | PASS    |
| 5   | 13.91           | 18.88          | 38.65          | 19.77         | 80.50          | 41.85       | 100         | 359       | QP  | Hori | PASS    |
| 6   | 13.96           | 18.58          | 38.36          | 19.78         | 80.50          | 42.14       | 100         | 78        | QP  | Hori | PASS    |
| 7   | 14.00           | 18.67          | 38.46          | 19.79         | 80.50          | 42.04       | 100         | 238       | QP  | Hori | PASS    |

Note:(1)Level=Reading+Factor

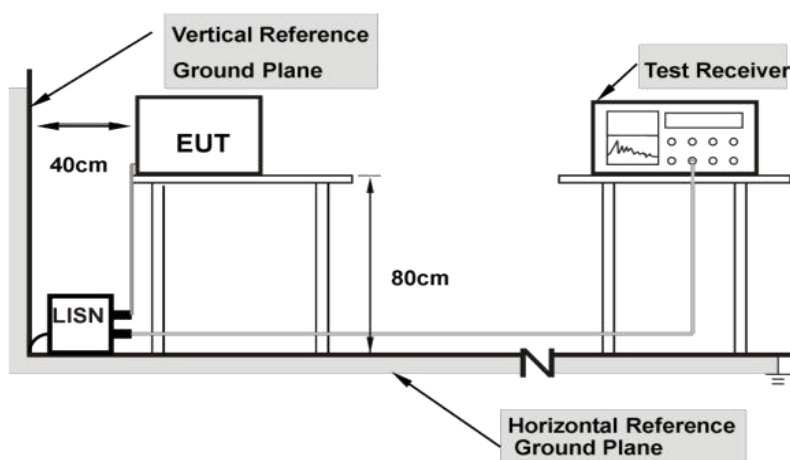
(2)Margin=Limit-Level

(3)Factor=Antenna Factor+ Cable Loss

## 8.5. CONDUCTED EMISSION

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |           |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------|
| Test Requirement: | FCC Part 15.207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |           |
| Test Mode:        | Transmitting mode with modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |           |
| Limit:            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |           |
|                   | Frequency of Emission (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Conducted Limit (dBuV) |           |
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Quasi-peak             | Average   |
|                   | 0.15-0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 66 to 56*              | 56 to 46* |
|                   | 0.5-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 56                     | 46        |
|                   | 5-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 60                     | 50        |
|                   | *Decreases with the logarithm of the frequency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |           |
| Test Procedure:   | For tabletop equipment, the EUT along with its peripherals were placed on a 1.0m(W)×1.5m(L) and 0.8m in height wooden table. The EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN), which provided 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room. The excess power cable between the EUT and the LISN was bundled. |                        |           |
| Test Result:      | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |           |

### 8.5.1. Test Setup

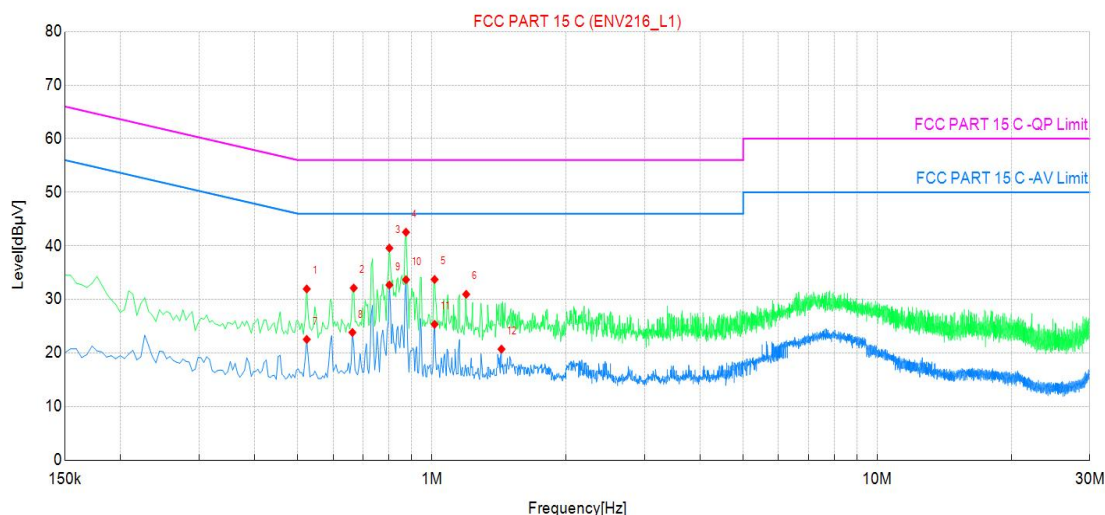


## 8.5.2. Test Result

|              |                          |
|--------------|--------------------------|
| Test Voltage | DC 5V from PC(120V/60Hz) |
|--------------|--------------------------|

Please refer to the following diagram:

L Line

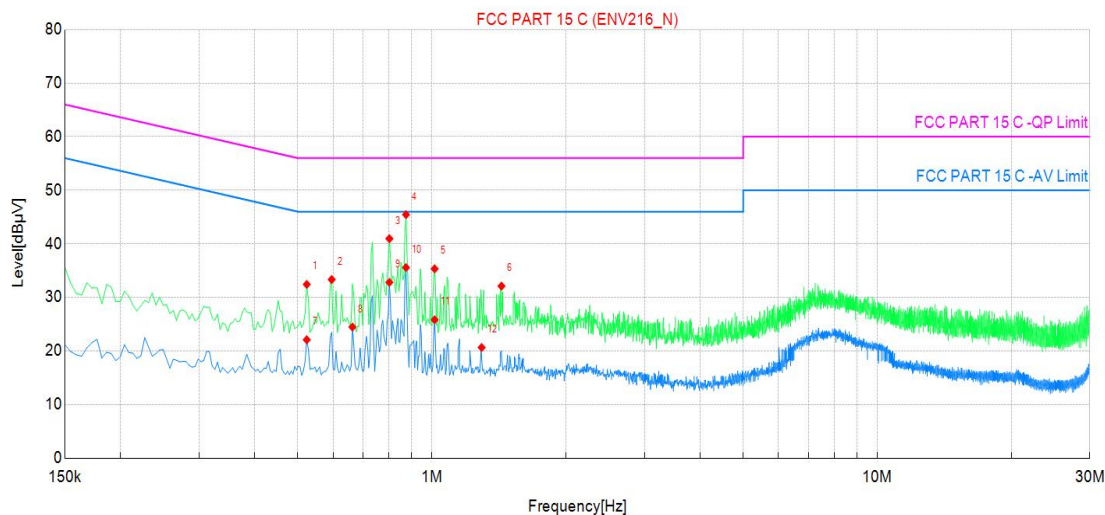


| Suspected Data List |                 |                |              |             |              |             |       |          |         |
|---------------------|-----------------|----------------|--------------|-------------|--------------|-------------|-------|----------|---------|
| NO.                 | Frequency [MHz] | Reading [dBμV] | Level [dBμV] | Factor [dB] | Limit [dBμV] | Margin [dB] | Phase | Detector | Verdict |
| 1                   | 0.523500        | 12.84          | 31.95        | 19.11       | 56.00        | 24.05       | L1    | QP       | PASS    |
| 2                   | 0.667500        | 12.86          | 32.12        | 19.26       | 56.00        | 23.88       | L1    | QP       | PASS    |
| 3                   | 0.802500        | 20.32          | 39.58        | 19.26       | 56.00        | 16.42       | L1    | QP       | PASS    |
| 4                   | 0.874500        | 23.30          | 42.54        | 19.24       | 56.00        | 13.46       | L1    | QP       | PASS    |
| 5                   | 1.014000        | 14.52          | 33.72        | 19.20       | 56.00        | 22.28       | L1    | QP       | PASS    |
| 6                   | 1.194000        | 11.75          | 30.95        | 19.20       | 56.00        | 25.05       | L1    | QP       | PASS    |
| 7                   | 0.523500        | 3.42           | 22.53        | 19.11       | 46.00        | 23.47       | L1    | AV       | PASS    |
| 8                   | 0.663000        | 4.58           | 23.83        | 19.25       | 46.00        | 22.17       | L1    | AV       | PASS    |
| 9                   | 0.802500        | 13.43          | 32.69        | 19.26       | 46.00        | 13.31       | L1    | AV       | PASS    |
| 10                  | 0.874500        | 14.44          | 33.68        | 19.24       | 46.00        | 12.32       | L1    | AV       | PASS    |
| 11                  | 1.014000        | 6.15           | 25.35        | 19.20       | 46.00        | 20.65       | L1    | AV       | PASS    |
| 12                  | 1.432500        | 1.51           | 20.71        | 19.20       | 46.00        | 25.29       | L1    | AV       | PASS    |

Note:(1)Level=Reading+Factor

(2)Margin=Limit-Level

N line



| Suspected Data List |                 |                |              |             |              |             |       |          |         |
|---------------------|-----------------|----------------|--------------|-------------|--------------|-------------|-------|----------|---------|
| NO.                 | Frequency [MHz] | Reading [dBμV] | Level [dBμV] | Factor [dB] | Limit [dBμV] | Margin [dB] | Phase | Detector | Verdict |
| 1                   | 0.523500        | 13.22          | 32.42        | 19.20       | 56.00        | 23.58       | N     | QP       | PASS    |
| 2                   | 0.595500        | 14.09          | 33.33        | 19.24       | 56.00        | 22.67       | N     | QP       | PASS    |
| 3                   | 0.802500        | 21.70          | 40.96        | 19.26       | 56.00        | 15.04       | N     | QP       | PASS    |
| 4                   | 0.874500        | 26.21          | 45.45        | 19.24       | 56.00        | 10.55       | N     | QP       | PASS    |
| 5                   | 1.014000        | 16.14          | 35.34        | 19.20       | 56.00        | 20.66       | N     | QP       | PASS    |
| 6                   | 1.432500        | 12.91          | 32.11        | 19.20       | 56.00        | 23.89       | N     | QP       | PASS    |
| 7                   | 0.523500        | 2.89           | 22.09        | 19.20       | 46.00        | 23.91       | N     | AV       | PASS    |
| 8                   | 0.663000        | 5.19           | 24.46        | 19.27       | 46.00        | 21.54       | N     | AV       | PASS    |
| 9                   | 0.802500        | 13.55          | 32.81        | 19.26       | 46.00        | 13.19       | N     | AV       | PASS    |
| 10                  | 0.874500        | 16.33          | 35.57        | 19.24       | 46.00        | 10.43       | N     | AV       | PASS    |
| 11                  | 1.014000        | 6.62           | 25.82        | 19.20       | 46.00        | 20.18       | N     | AV       | PASS    |
| 12                  | 1.293000        | 1.45           | 20.65        | 19.20       | 46.00        | 25.35       | N     | AV       | PASS    |

Note:(1)Level=Reading+Factor

(2)Margin=Limit-Level

## 9. PHOTOGRAPHS OF TEST SET-UP

For photographs of the test set-up, refer to the appendix file.(Test Setup Photo)

## 10. PHOTOGRAPHS OF THE EUT

For photographs of the EUT, refer to the appendix file(EUT External Photos and EUT Internal Photos).

\*\*\* End of Report \*\*\*