

# TEST REPORT

**Applicant:** X-Sense Innovations Co., Ltd.

**Address of Applicant:** B4 503D, Tower B, Kexing Science Park, No15 Keyuan Road, Technology Park Community, Yuehai Avenue, Nanshan District, Shenzhen, China

**Manufacturer:** X-Sense Electronics Co., Ltd.

**Address of Manufacturer:** Room 402, Building 4, No. 9, Jinshagang 1st Road, Shixia Village, Dalang Town, Dongguan City, 523750 Guangdong, P.R. China

**Equipment Under Test (EUT)**

Product Name: Smart Mailbox Alarm

Model No.: SMA51

Trade Mark: X-SENSE

**FCC ID:** 2AU4DDCC

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.249

**Date of sample receipt:** February 21, 2024

**Date of Test:** February 22, 2024-March 22, 2024

**Date of report issued:** March 22, 2024

**Test Result :** PASS \*

\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



**Robinson Luo**

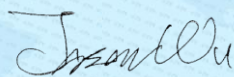
**Laboratory Manager**

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## 2 Version

| Version No. | Date           | Description |
|-------------|----------------|-------------|
| 00          | March 22, 2024 | Original    |
|             |                |             |
|             |                |             |
|             |                |             |
|             |                |             |

Prepared By:

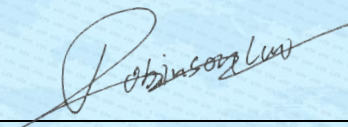


Date:

March 22, 2024

**Project Engineer**

Check By:



Date:

March 22, 2024

**Reviewer**

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## 4 Test Summary

| Test Item                                | Section in CFR 47     | Result |
|------------------------------------------|-----------------------|--------|
| Antenna requirement                      | 15.203                | Pass   |
| AC Power Line Conducted Emission         | 15.207                | N/A    |
| Field strength of the fundamental signal | 15.249 (a)            | Pass   |
| Spurious emissions                       | 15.249 (a) (d)/15.209 | Pass   |
| Band edge                                | 15.249 (d)/15.205     | Pass   |
| 20dB Occupied Bandwidth                  | 15.215 (c)            | Pass   |

Remarks:

1. Test according to ANSI C63.10: 2013.
2. Pass: The EUT complies with the essential requirements in the standard.

### 4.1 Measurement Uncertainty

| Test Item                        | Frequency Range | Measurement Uncertainty | Notes |
|----------------------------------|-----------------|-------------------------|-------|
| Radiated Emission                | 30MHz-200MHz    | 3.8039dB                | (1)   |
| Radiated Emission                | 200MHz-1GHz     | 3.9679dB                | (1)   |
| Radiated Emission                | 1GHz-18GHz      | 4.29dB                  | (1)   |
| Radiated Emission                | 18GHz-40GHz     | 3.30dB                  | (1)   |
| AC Power Line Conducted Emission | 0.15MHz ~ 30MHz | 3.44dB                  | (1)   |

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

## 5 General Information

### 5.1 General Description of EUT

|                      |                               |
|----------------------|-------------------------------|
| Product Name:        | Smart Mailbox Alarm           |
| Model No.:           | SMA51                         |
| Serial No.:          | N/A                           |
| Hardware Version:    | V1.0                          |
| Software Version:    | V1.1.0                        |
| Test sample(s) ID:   | GTS2024020053-1               |
| Sample(s) Status     | Engineered sample             |
| Operation Frequency: | 912.375MHz                    |
| Channel numbers:     | 1                             |
| Modulation type:     | FSK                           |
| Antenna Type:        | Spring antenna                |
| Antenna gain:        | 1dBi(Declared by applicant)   |
| Power supply:        | DC 3V(1*3V Size“CR2” Battery) |

Note:

1. Antenna gain information provided by the customer.

2.The relevant information of the sample is provided by the entrusting company, and the laboratory is not responsible for its authenticity.

## 5.2 Test mode

|                   |                                                                      |
|-------------------|----------------------------------------------------------------------|
| Transmitting mode | Keep the EUT in continuously transmitting mode. The new battery used |
|-------------------|----------------------------------------------------------------------|

### Per-test mode.

We have verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

| Axis                   | X     | Y     | Z     |
|------------------------|-------|-------|-------|
| Field Strength(dBuV/m) | 89.55 | 90.51 | 88.20 |

## 5.3 Description of Support Units

|       |
|-------|
| None. |
|-------|

## 5.4 Deviation from Standards

|       |
|-------|
| None. |
|-------|

## 5.5 Abnormalities from Standard Conditions

|       |
|-------|
| None. |
|-------|

## 5.6 Test Facility

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"><li>● <b>FCC—Registration No.: 381383</b><br/>Designation Number: CN5029<br/>Global United Technology Services Co., Ltd., Shenzhen 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 files.</li><li>● <b>ISED—Registration No.: 9079A</b><br/>CAB identifier: CN0091<br/>The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of ISED for radio equipment testing</li><li>● <b>NVLAP (LAB CODE:600179-0)</b><br/>Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).</li></ul> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 5.7 Test Location

|                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| All tests were performed at:                                                                                                                                                                                                                         |
| Global United Technology Services Co., Ltd.<br>Address: No. 123- 128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102<br>Tel: 0755-27798480<br>Fax: 0755-27798960 |

## 5.8 Additional Instructions

|                   |                                                   |
|-------------------|---------------------------------------------------|
| Test Software     | Continuously transmitter provided by manufacturer |
| Power level setup | Default                                           |

## 6 Test Instruments list

| Radiated Emission: |                                     |                                |                       |               |                     |                         |
|--------------------|-------------------------------------|--------------------------------|-----------------------|---------------|---------------------|-------------------------|
| Item               | Test Equipment                      | Manufacturer                   | Model No.             | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                  | 3m Semi- Anechoic Chamber           | ZhongYu Electron               | 9.2(L)*6.2(W)* 6.4(H) | GTS250        | June 23, 2021       | June 22, 2024           |
| 2                  | Control Room                        | ZhongYu Electron               | 6.2(L)*2.5(W)* 2.4(H) | GTS251        | N/A                 | N/A                     |
| 3                  | EMI Test Receiver                   | Rohde & Schwarz                | ESU26                 | GTS203        | April 14, 2023      | April 13, 2024          |
| 4                  | BiConiLog Antenna                   | SCHWARZBECK<br>MESS-ELEKTRONIK | VULB9168              | GTS640        | March 19, 2023      | March 18, 2025          |
| 5                  | Double -ridged waveguide horn       | SCHWARZBECK<br>MESS-ELEKTRONIK | BBHA 9120 D           | GTS208        | April 17, 2023      | April 16, 2025          |
| 6                  | EMI Test Software                   | AUDIX                          | E3                    | N/A           | N/A                 | N/A                     |
| 7                  | Wideband Radio Communication Tester | Rohde & Schwarz                | CMW500                | GTS575        | April 14, 2023      | April 13, 2024          |
| 8                  | Loop Antenna                        | ZHINAN                         | ZN30900A              | GTS534        | Nov. 13, 2023       | Nov.12, 2024            |
| 9                  | Broadband Preamplifier              | SCHWARZBECK                    | BBV9718               | GTS535        | April 14, 2023      | April 13, 2024          |
| 10                 | Amplifier(1GHz-26.5GHz)             | HP                             | 8449B                 | GTS601        | April 14, 2023      | April 13, 2024          |
| 11                 | Horn Antenna (18-26.5GHz)           | /                              | UG-598A/U             | GTS664        | Oct. 29, 2023       | Oct. 28, 2024           |
| 12                 | Horn Antenna (26.5-40GHz)           | A.H Systems                    | SAS-573               | GTS665        | Oct. 29, 2023       | Oct. 28, 2024           |
| 13                 | FSV·Signal Analyzer (10Hz-40GHz)    | Keysight                       | FSV-40-N              | GTS666        | March 12, 2024      | March 11, 2025          |
| 14                 | Amplifier                           | /                              | LNA-1000-30S          | GTS650        | April 14, 2023      | April 13, 2024          |
| 15                 | CDNE M2+M3-16A                      | HCT                            | 30MHz-300MHz          | GTS692        | Nov. 08, 2023       | Nov.07, 2024            |
| 16                 | Wideband Amplifier                  | /                              | WDA-01004000-15P35    | GTS602        | April 14, 2023      | April 13, 2024          |
| 17                 | Thermo meter                        | JINCHUANG                      | GSP-8A                | GTS643        | April 19, 2023      | April 18, 2024          |
| 18                 | RE cable 1                          | GTS                            | N/A                   | GTS675        | July 31. 2023       | July 30. 2024           |
| 19                 | RE cable 2                          | GTS                            | N/A                   | GTS676        | July 31. 2023       | July 30. 2024           |
| 20                 | RE cable 3                          | GTS                            | N/A                   | GTS677        | July 31. 2023       | July 30. 2024           |
| 21                 | RE cable 4                          | GTS                            | N/A                   | GTS678        | July 31. 2023       | July 30. 2024           |
| 22                 | RE cable 5                          | GTS                            | N/A                   | GTS679        | July 31. 2023       | July 30. 2024           |
| 23                 | RE cable 6                          | GTS                            | N/A                   | GTS680        | July 31. 2023       | July 30. 2024           |
| 24                 | RE cable 7                          | GTS                            | N/A                   | GTS681        | July 31. 2023       | July 30. 2024           |
| 25                 | RE cable 8                          | GTS                            | N/A                   | GTS682        | July 31. 2023       | July 30. 2024           |

| RF Conducted Test: |                                                |              |                  |            |                        |                            |
|--------------------|------------------------------------------------|--------------|------------------|------------|------------------------|----------------------------|
| Item               | Test Equipment                                 | Manufacturer | Model No.        | Serial No. | Cal.Date<br>(mm-dd-yy) | Cal.Due date<br>(mm-dd-yy) |
| 1                  | MXA Signal Analyzer                            | Agilent      | N9020A           | GTS566     | April 14, 2023         | April 13, 2024             |
| 2                  | EMI Test Receiver                              | R&S          | ESCI 7           | GTS552     | April 14, 2023         | April 13, 2024             |
| 3                  | PSA Series Spectrum Analyzer                   | Agilent      | E4440A           | GTS536     | April 14, 2023         | April 13, 2024             |
| 4                  | MXG vector Signal Generator                    | Agilent      | N5182A           | GTS567     | April 14, 2023         | April 13, 2024             |
| 5                  | ESG Analog Signal Generator                    | Agilent      | E4428C           | GTS568     | April 14, 2023         | April 13, 2024             |
| 6                  | USB RF Power Sensor                            | DARE         | RPR3006W         | GTS569     | April 14, 2023         | April 13, 2024             |
| 7                  | RF Switch Box                                  | Shongyi      | RFSW3003328      | GTS571     | April 14, 2023         | April 13, 2024             |
| 8                  | Programmable Constant Temp & Humi Test Chamber | WEWON        | WHTH-150L-40-880 | GTS572     | April 14, 2023         | April 13, 2024             |
| 9                  | Thermo meter                                   | JINCHUANG    | GSP-8A           | GTS641     | April 19, 2023         | April 18, 2024             |

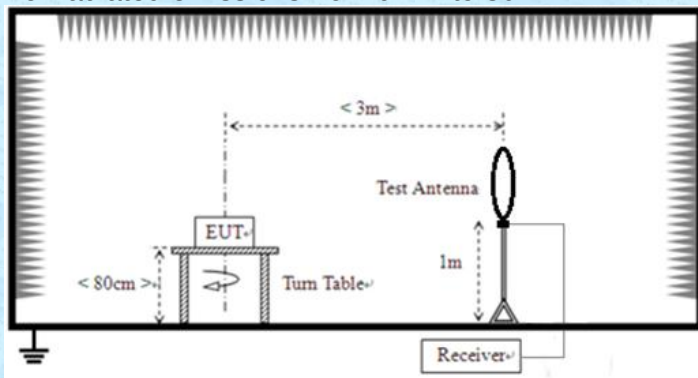
| General used equipment: |                |              |           |               |                        |                            |
|-------------------------|----------------|--------------|-----------|---------------|------------------------|----------------------------|
| Item                    | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal.Date<br>(mm-dd-yy) | Cal.Due date<br>(mm-dd-yy) |
| 1                       | Barometer      | KUMAO        | SF132     | GTS647        | April 19, 2023         | April 18, 2024             |

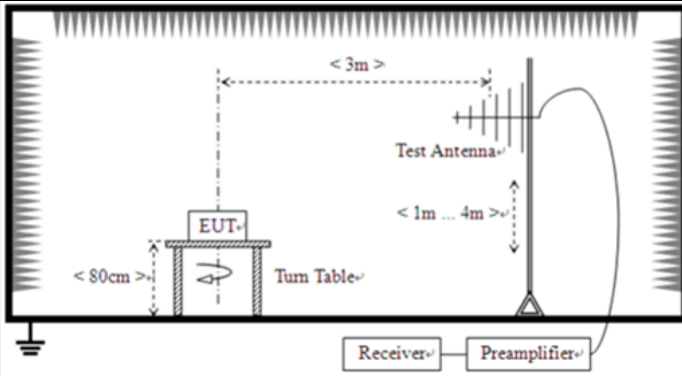
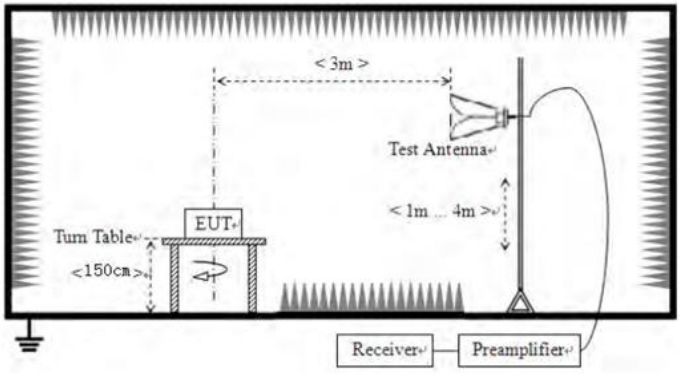
## 7 Test results and Measurement Data

### 7.1 Antenna requirement

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Standard requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                     | FCC Part15 C Section 15.203 |
| <b>15.203 requirement:</b><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. |                             |
| <b>EUT Antenna:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                             |
| The antenna is spring antenna, reference to the appendix II for details                                                                                                                                                                                                                                                                                                                                                                                                          |                             |

## 7.2 Radiated Emission Method

|                                                      |                                                                                                                                                                                                                                                                |            |                    |        |                  |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|--------|------------------|
| Test Requirement:                                    | FCC Part15 C Section 15.209, 15.205                                                                                                                                                                                                                            |            |                    |        |                  |
| Test Method:                                         | ANSI C63.10:2013                                                                                                                                                                                                                                               |            |                    |        |                  |
| Test Frequency Range:                                | 9kHz to 10GHz                                                                                                                                                                                                                                                  |            |                    |        |                  |
| Test site:                                           | Measurement Distance: 3m                                                                                                                                                                                                                                       |            |                    |        |                  |
| Receiver setup:                                      | Frequency                                                                                                                                                                                                                                                      | Detector   | RBW                | VBW    | Remark           |
|                                                      | 9kHz-150kHz                                                                                                                                                                                                                                                    | Quasi-peak | 200Hz              | 300Hz  | Quasi-peak Value |
|                                                      | 150kHz-30MHz                                                                                                                                                                                                                                                   | Quasi-peak | 9kHz               | 10kHz  | Quasi-peak Value |
|                                                      | 30MHz-1GHz                                                                                                                                                                                                                                                     | Quasi-peak | 120KHz             | 300KHz | Quasi-peak Value |
|                                                      | Above 1GHz                                                                                                                                                                                                                                                     | Peak       | 1MHz               | 3MHz   | Peak Value       |
|                                                      |                                                                                                                                                                                                                                                                | Peak       | 1MHz               | 10Hz   | Average Value    |
| Limit:<br>(Field strength of the fundamental signal) | Frequency                                                                                                                                                                                                                                                      |            | Limit (dBuV/m @3m) |        | Remark           |
|                                                      | 902-928MHz                                                                                                                                                                                                                                                     |            | 94.00              |        | QP Value         |
| Limit:<br>(Spurious Emissions)                       | Frequency                                                                                                                                                                                                                                                      |            | Limit (uV/m)       |        | Remark           |
|                                                      | 0.009MHz-0.490MHz                                                                                                                                                                                                                                              |            | 2400/F(kHz) @300m  |        | Quasi-peak Value |
|                                                      | 0.490MHz-1.705MHz                                                                                                                                                                                                                                              |            | 24000/F(kHz) @30m  |        | Quasi-peak Value |
|                                                      | 1.705MHz-30.0MHz                                                                                                                                                                                                                                               |            | 30 @30m            |        | Quasi-peak Value |
|                                                      | 30MHz-88MHz                                                                                                                                                                                                                                                    |            | 100 @3m            |        | Quasi-peak Value |
|                                                      | 88MHz-216MHz                                                                                                                                                                                                                                                   |            | 150 @3m            |        | Quasi-peak Value |
|                                                      | 216MHz-960MHz                                                                                                                                                                                                                                                  |            | 200 @3m            |        | Quasi-peak Value |
|                                                      | 960MHz-1GHz                                                                                                                                                                                                                                                    |            | 500 @3m            |        | Quasi-peak Value |
|                                                      | Above 1GHz                                                                                                                                                                                                                                                     |            | 500 @3m            |        | Average Value    |
|                                                      |                                                                                                                                                                                                                                                                |            | 5000 @3m           |        | Peak Value       |
| Limit:<br>(band edge)                                | Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation. |            |                    |        |                  |
| Test setup:                                          | <div>For radiated emissions from 9kHz to 30MHz</div> <div></div> <div>For radiated emissions from 30MHz to 1GHz</div>                                                      |            |                    |        |                  |

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | <div></div> <p>For radiated emissions above 1GHz</p> <div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Test Procedure:   | <ol style="list-style-type: none"><li>1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li><li>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li><li>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li><li>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</li><li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li><li>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</li></ol> |
| Test Instruments: | Refer to section 6.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Test mode:        | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Test environment: | Temp.: 25 °C    Humid.: 52%    Press.: 1012mbar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Test voltage:     | DC 3V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

**Measurement data:**

**7.2.1 Field Strength of The Fundamental Signal**

**QP value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 912.375         | 83.94             | 24.00                 | 4.90            | 30.93                    | 81.91          | 94                  | -12.09          | Vertical     |
| 912.375         | 92.54             | 24.00                 | 4.90            | 30.93                    | 90.51          | 94                  | -3.49           | Horizontal   |

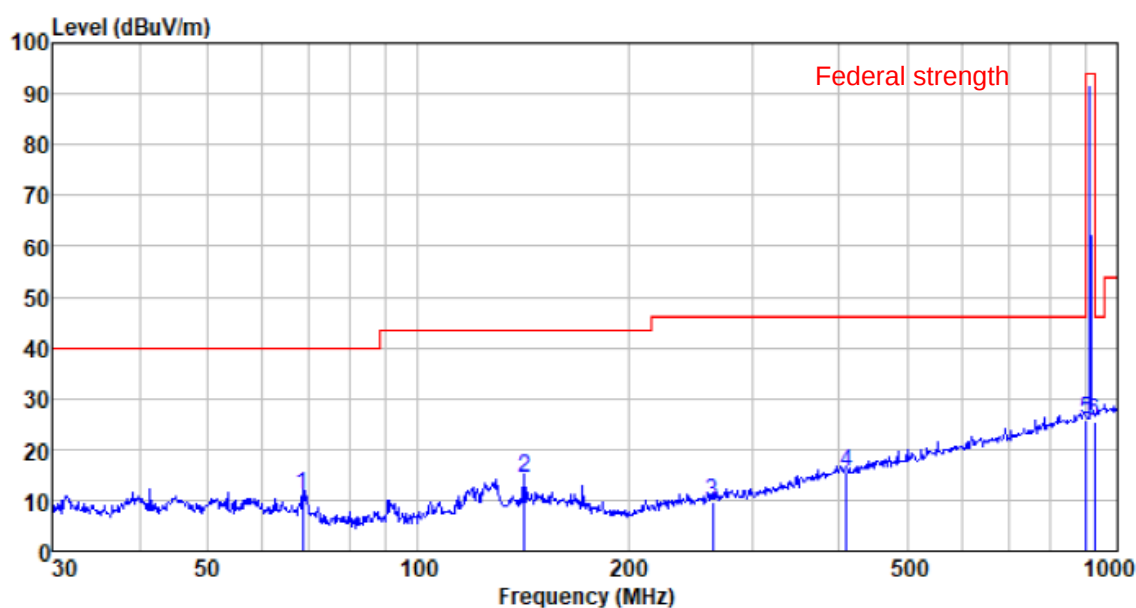
## 7.2.2 Spurious emissions and Band Edge

### ■ Below 30MHz

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

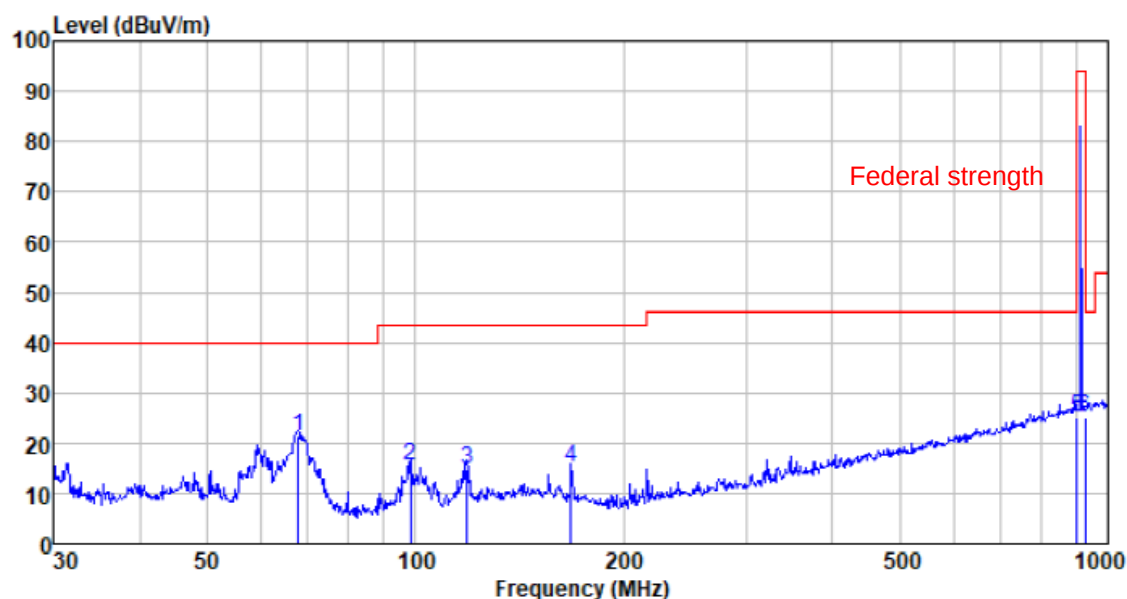
### ■ Below 1GHz

|                 |            |               |            |
|-----------------|------------|---------------|------------|
| Test Frequency: | 912.375MHz | Polarization: | Horizontal |
|-----------------|------------|---------------|------------|



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|--------|
| 68.391      | 32.99                    | 10.82                     | 0.93                | 33.61                  | 11.13           | 40.00                    | -28.87              | QP     |
| 141.826     | 33.48                    | 12.42                     | 1.52                | 33.20                  | 14.22           | 43.50                    | -29.28              | QP     |
| 263.819     | 28.53                    | 11.61                     | 2.19                | 32.73                  | 9.60            | 46.00                    | -36.40              | QP     |
| 410.383     | 29.09                    | 15.92                     | 2.91                | 32.27                  | 15.65           | 46.00                    | -30.35              | QP     |
| 902.000     | 27.85                    | 23.92                     | 4.87                | 30.96                  | 25.68           | 46.00                    | -20.32              | QP     |
| 928.000     | 27.26                    | 24.13                     | 4.96                | 30.89                  | 25.46           | 46.00                    | -20.54              | QP     |

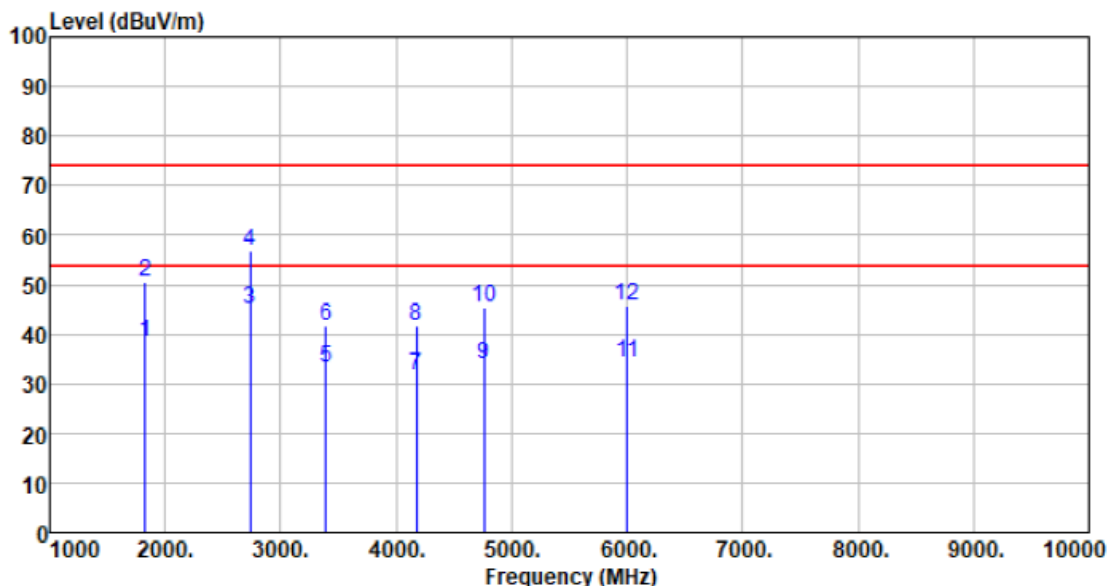
|                 |            |               |          |
|-----------------|------------|---------------|----------|
| Test Frequency: | 912.375MHz | Polarization: | Vertical |
|-----------------|------------|---------------|----------|



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|--------|
| 67.675      | 43.22                    | 10.96                     | 0.92                | 33.61                  | 21.49           | 40.00                    | -18.51              | QP     |
| 98.487      | 38.35                    | 9.54                      | 1.18                | 33.60                  | 15.47           | 43.50                    | -28.03              | QP     |
| 118.601     | 35.57                    | 11.10                     | 1.35                | 33.40                  | 14.62           | 43.50                    | -28.88              | QP     |
| 167.824     | 34.67                    | 11.67                     | 1.67                | 33.00                  | 15.01           | 43.50                    | -28.49              | QP     |
| 902.000     | 27.20                    | 23.92                     | 4.87                | 30.96                  | 25.03           | 46.00                    | -20.97              | QP     |
| 928.000     | 27.01                    | 24.13                     | 4.96                | 30.89                  | 25.21           | 46.00                    | -20.79              | QP     |

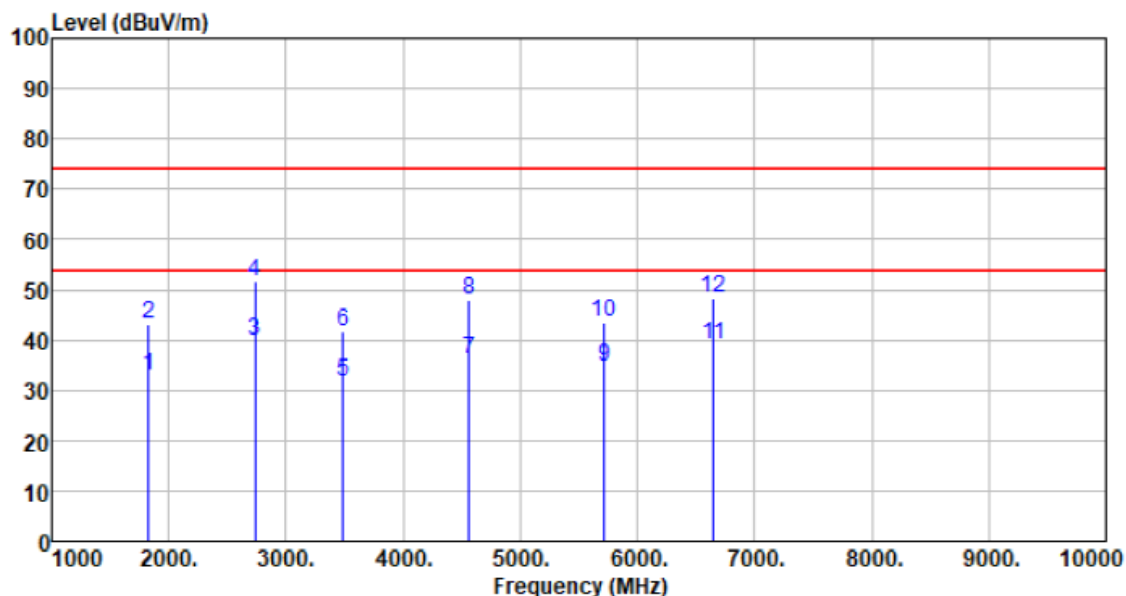
■ Above 1GHz

|                 |            |               |            |
|-----------------|------------|---------------|------------|
| Test Frequency: | 912.375MHz | Polarization: | Horizontal |
|-----------------|------------|---------------|------------|



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 1824.750    | 43.26                    | 25.92                     | 7.70                | 38.54                  | 38.34           | 54.00                    | -15.66              | Average |
| 1824.750    | 55.30                    | 25.92                     | 7.70                | 38.54                  | 50.38           | 74.00                    | -23.62              | Peak    |
| 2737.125    | 51.09                    | 27.97                     | 4.48                | 38.60                  | 44.94           | 54.00                    | -9.06               | Average |
| 2737.125    | 63.13                    | 27.97                     | 4.48                | 38.60                  | 56.98           | 74.00                    | -17.02              | Peak    |
| 3394.000    | 37.82                    | 28.60                     | 5.34                | 38.52                  | 33.24           | 54.00                    | -20.76              | Average |
| 3394.000    | 46.31                    | 28.60                     | 5.34                | 38.52                  | 41.73           | 74.00                    | -32.27              | Peak    |
| 4177.000    | 34.50                    | 29.62                     | 5.84                | 38.24                  | 31.72           | 54.00                    | -22.28              | Average |
| 4177.000    | 44.29                    | 29.62                     | 5.84                | 38.24                  | 41.51           | 74.00                    | -32.49              | Peak    |
| 4762.000    | 33.75                    | 30.93                     | 7.63                | 38.35                  | 33.96           | 54.00                    | -20.04              | Average |
| 4762.000    | 45.00                    | 30.93                     | 7.63                | 38.35                  | 45.21           | 74.00                    | -28.79              | Peak    |
| 6004.000    | 31.32                    | 32.51                     | 9.29                | 38.70                  | 34.42           | 54.00                    | -19.58              | Average |
| 6004.000    | 42.57                    | 32.51                     | 9.29                | 38.70                  | 45.67           | 74.00                    | -28.33              | Peak    |

|                 |            |               |          |
|-----------------|------------|---------------|----------|
| Test Frequency: | 912.375MHz | Polarization: | Vertical |
|-----------------|------------|---------------|----------|

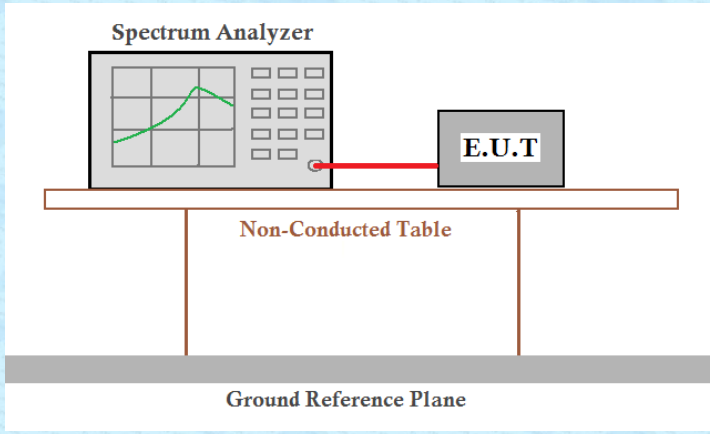


| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 1824.750    | 37.85                    | 25.92                     | 7.70                | 38.54                  | 32.93           | 54.00                    | -21.07              | Average |
| 1824.750    | 48.22                    | 25.92                     | 7.70                | 38.54                  | 43.30           | 74.00                    | -30.70              | Peak    |
| 2737.125    | 45.88                    | 27.97                     | 4.48                | 38.60                  | 39.73           | 54.00                    | -14.27              | Average |
| 2737.125    | 57.92                    | 27.97                     | 4.48                | 38.60                  | 51.77           | 74.00                    | -22.23              | Peak    |
| 3484.000    | 36.39                    | 28.60                     | 5.11                | 38.50                  | 31.60           | 54.00                    | -22.40              | Average |
| 3484.000    | 46.64                    | 28.60                     | 5.11                | 38.50                  | 41.85           | 74.00                    | -32.15              | Peak    |
| 4561.875    | 35.78                    | 30.37                     | 8.26                | 38.31                  | 36.10           | 54.00                    | -17.90              | Average |
| 4561.875    | 47.82                    | 30.37                     | 8.26                | 38.31                  | 48.14           | 74.00                    | -25.86              | Peak    |
| 5716.000    | 33.34                    | 32.39                     | 7.60                | 38.64                  | 34.69           | 54.00                    | -19.31              | Average |
| 5716.000    | 42.11                    | 32.39                     | 7.60                | 38.64                  | 43.46           | 74.00                    | -30.54              | Peak    |
| 6652.000    | 33.59                    | 34.66                     | 9.59                | 38.83                  | 39.01           | 54.00                    | -14.99              | Average |
| 6652.000    | 42.97                    | 34.66                     | 9.59                | 38.83                  | 48.39           | 74.00                    | -25.61              | Peak    |

Remarks:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

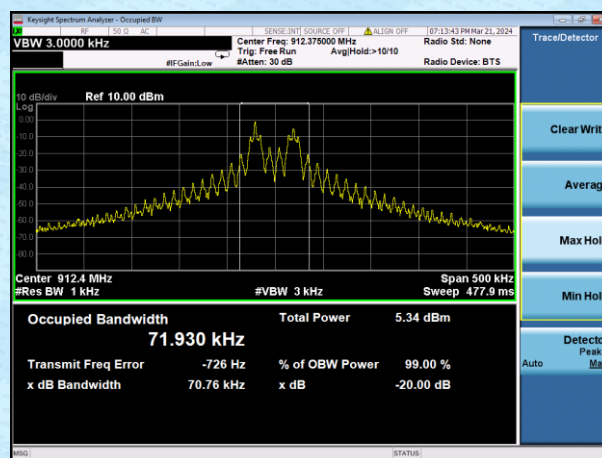
## 7.3 20dB Occupy Bandwidth

|                   |                                                                                    |
|-------------------|------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 C Section 15.249/15.215                                                 |
| Test Method:      | ANSI C63.10:2013                                                                   |
| Limit:            | Operation Frequency range 902MHz~928MHz                                            |
| Test setup:       |  |
| Test Instruments: | Refer to section 6.0 for details                                                   |
| Test mode:        | Refer to section 5.2 for details                                                   |
| Test results:     | Pass                                                                               |

## Measurement Data

| Test Frequency | 20dB bandwidth(kHz) | Result |
|----------------|---------------------|--------|
| 912.375MHz     | 70.76               | Pass   |

Test plot as follows:



## 8 Test Setup Photo

Reference to the **appendix I** for details.

## 9 EUT Constructional Details

Reference to the **appendix II** for details.

-----End-----