



# FCC Test Report

## FCC ID: 2BEXW-KL90RFID

Applicant: SINOX COMPANY LTD

Address: 3F, No. 2, Lane 93, Chien-1 Rd., Chung-Ho Dist., New Taipei City, 235602, Taiwan

Manufacturer: SINOX COMPANY LTD

Address: 3F, No. 2, Lane 93, Chien-1 Rd., Chung-Ho Dist., New Taipei City, 235602, Taiwan

Product Name: RFID Cabinet Lock

Trade Mark: CODELOCKS

Model Number: KL90 RFID

Date of Receipt: May 09, 2026

Test Date: May 09, 2026 ~ May 19, 2026

Date of Report: May 19, 2026

Prepared By: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

Applicable Standards: FCC Rules and Regulations Part 15 Subpart C Section 15.225  
ANSI C63.10: 2020

Test Result: Pass

Report Number: DLE-260519021R

Prepared by(Engineer): Ken Tan

Reviewer(Supervisor): Jack Bu

Approved(Manager): Jade Yang



*This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.*



## Table of Contents

|                                                   |           |
|---------------------------------------------------|-----------|
| <b>1. Summary .....</b>                           | <b>4</b>  |
| 1.1 Test Procedures and Results.....              | 4         |
| 1.2 Measurement Uncertainty .....                 | 4         |
| <b>2. EUT Description.....</b>                    | <b>5</b>  |
| <b>3. General Information.....</b>                | <b>6</b>  |
| 3.1 Description of Test Setup.....                | 6         |
| 3.2 Description of Support Units .....            | 7         |
| 3.3 Equipments List for All Test Items .....      | 8         |
| <b>4. Test Results and Measurement Data .....</b> | <b>9</b>  |
| 4.1 Antenna Requirement.....                      | 9         |
| 4.2 AC Conducted Emission .....                   | 10        |
| 4.3 Radiated Emission Measurement.....            | 12        |
| 4.4 Occupied Bandwidth.....                       | 20        |
| 4.5 Frequency Stability .....                     | 22        |
| <b>5. Test Setup Photos of the EUT .....</b>      | <b>24</b> |
| <b>6. Photos of the EUT.....</b>                  | <b>26</b> |

**\*\* Issued History \*\***

| Revision     | Description                 | Issued Date  | Remark |
|--------------|-----------------------------|--------------|--------|
| Revision 1.0 | Initial Test Report Release | May 19, 2026 |        |
|              |                             |              |        |
|              |                             |              |        |



## 1. Summary

### 1.1 Test Procedures and Results

| Test Item                                   | Standard Section                     | Result |
|---------------------------------------------|--------------------------------------|--------|
| AC Conduction Emission,<br>0.15MHz to 30MHz | §15.207                              | N/A    |
| Radiation Emission                          | §15.225, §15.205, §15.209,<br>§15.35 | PASS   |
| Occupied Bandwidth                          | §15.215                              | PASS   |
| Antenna Requirement                         | §15.203                              | PASS   |
| Frequency Stability                         | §15.225                              | PASS   |

**Note:**

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

### 1.2 Measurement Uncertainty

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

| No. | Item                         | Uncertainty               |
|-----|------------------------------|---------------------------|
| 1   | All emissions, radiated(<1G) | $\pm 3.65\text{dB}$       |
| 2   | All emissions, radiated(>1G) | $\pm 4.89\text{dB}$       |
| 3   | Temperature                  | $\pm 0.5^{\circ}\text{C}$ |
| 4   | Humidity                     | $\pm 2\%$                 |



## 2. EUT Description

|                                                                                                                                                                                                                                                                                                                             |                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Product Name:                                                                                                                                                                                                                                                                                                               | RFID Cabinet Lock  |
| Model Name:                                                                                                                                                                                                                                                                                                                 | KL90 RFID          |
| Series Model(s):                                                                                                                                                                                                                                                                                                            | N/A                |
| Model Difference:                                                                                                                                                                                                                                                                                                           | N/A                |
| Antenna Type:                                                                                                                                                                                                                                                                                                               | PCB Antenna        |
| Antenna Gain:                                                                                                                                                                                                                                                                                                               | 0.58dBi            |
| Operation frequency:                                                                                                                                                                                                                                                                                                        | 13.56MHz           |
| Modulation Type:                                                                                                                                                                                                                                                                                                            | ASK                |
| Power Source:                                                                                                                                                                                                                                                                                                               | DC 3V From Battery |
| Power Rating:                                                                                                                                                                                                                                                                                                               | DC 3V From Battery |
| <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 Refer to the antenna specifications.<br>3. The cable loss data is obtained from the supplier.<br>4. The test results in the report only apply to the tested sample. |                    |



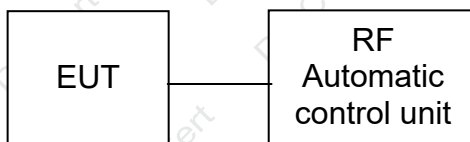
### 3. General Information

#### 3.1 Description of Test Setup

Operation of EUT during Radiation testing:



Operation of EUT during RF Conducted testing:



The sample was placed (0.8m below 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. The worst case is X position.



### 3.2 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.

| Item | Product Name      | Trade Mark | Model Name | Specification | Remark |
|------|-------------------|------------|------------|---------------|--------|
| 1    | RFID Cabinet Lock | CODELOCKS  | KL90 RFID  | N/A           | EUT    |
|      |                   |            |            |               |        |
|      |                   |            |            |               |        |

**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.



### 3.3 Equipments List for All Test Items

Radiation test, Band-edge test and 6db bandwidth test equipment

| Item | Equipment                           | Manufacturer    | Type No.                     | Serial No. | Last calibration | Calibrated until |
|------|-------------------------------------|-----------------|------------------------------|------------|------------------|------------------|
| 1    | Spectrum Analyzer<br>(9kHz-26.5GHz) | Agilent         | E4408B                       | MY50140780 | Oct. 25, 2025    | Oct. 24, 2026    |
| 2    | Test Receiver<br>(9kHz-7GHz)        | R&S             | ESRP7                        | 101393     | Oct. 25, 2025    | Oct. 24, 2026    |
| 3    | Bilog Antenna<br>(30MHz-1GHz)       | R&S             | VULB9162                     | 00306      | Oct. 25, 2025    | Oct. 24, 2026    |
| 4    | Horn Antenna<br>(1GHz-18GHz)        | Schwarzbeck     | BBHA9120D                    | 02139      | Oct. 25, 2025    | Oct. 24, 2026    |
| 5    | Horn Antenna<br>(18GHz-40GHz)       | A.H. Systems    | SAS-574                      | 588        | Oct. 25, 2025    | Oct. 24, 2026    |
| 6    | Amplifier<br>(9KHz-6GHz)            | Schwarzbeck     | BBV9743B                     | 00153      | Oct. 25, 2025    | Oct. 24, 2026    |
| 7    | Amplifier<br>(1GHz-18GHz)           | EMEC            | EM01G8GA                     | 00270      | Oct. 25, 2025    | Oct. 24, 2026    |
| 8    | Amplifier<br>(18GHz-40GHz)          | Quanjuda        | DLE-161                      | 97         | Oct. 25, 2025    | Oct. 24, 2026    |
| 9    | Loop Antenna<br>(9KHz-30MHz)        | Schwarzbeck     | FMZB1519B                    | 00014      | Oct. 25, 2025    | Oct. 24, 2026    |
| 10   | RF cables1<br>(9kHz-1GHz)           | ChengYu         | 966                          | 004        | Oct. 25, 2025    | Oct. 24, 2026    |
| 11   | RF cables2<br>(1GHz-40GHz)          | ChengYu         | 966                          | 003        | Oct. 25, 2025    | Oct. 24, 2026    |
| 12   | Antenna connector                   | Florida RF Labs | N/A                          | RF 01#     | Oct. 25, 2025    | Oct. 24, 2026    |
| 13   | Power probe                         | KEYSIGHT        | U2021XA                      | MY55210018 | Oct. 25, 2025    | Oct. 24, 2026    |
| 14   | Signal Analyzer<br>9kHz-26.5GHz     | Agilent         | N9020A                       | MY55370280 | Oct. 25, 2025    | Oct. 24, 2026    |
| 15   | Test Receiver<br>20kHz-40GHz        | R&S             | ESU 40                       | 100376     | Oct. 25, 2025    | Oct. 24, 2026    |
| 16   | D.C. Power Supply                   | LongWei         | PS-305D                      | 010964729  | Oct. 25, 2025    | Oct. 24, 2026    |
| 17   | Filter                              | COM-MW          | K6-2400-2500-<br>100S455-007 | 6DS2302367 | Oct. 25, 2025    | Oct. 24, 2026    |
| 18   | Attenuator                          | COM-MW          | 5W 6DB 6G                    | DC-6GHz    | Oct. 25, 2025    | Oct. 24, 2026    |

Other

| Item | Name                         | Manufacturer | Model   | Software version |
|------|------------------------------|--------------|---------|------------------|
| 1    | EMC Conduction Test System   | FALA         | EZ_EMCC | EMC-CON 3A1.1    |
| 2    | EMC radiation test system    | FALA         | EZ_EMCC | FA-03A2          |
| 3    | RF test system               | MAIWEI       | MTS8310 | 2.0.0.0          |
| 4    | RF communication test system | MAIWEI       | MTS8200 | 2.0.0.0          |



## 4. Test Results and Measurement Data

### 4.1 Antenna Requirement

**Standard requirement:**

FCC Part15 C Section 15.203

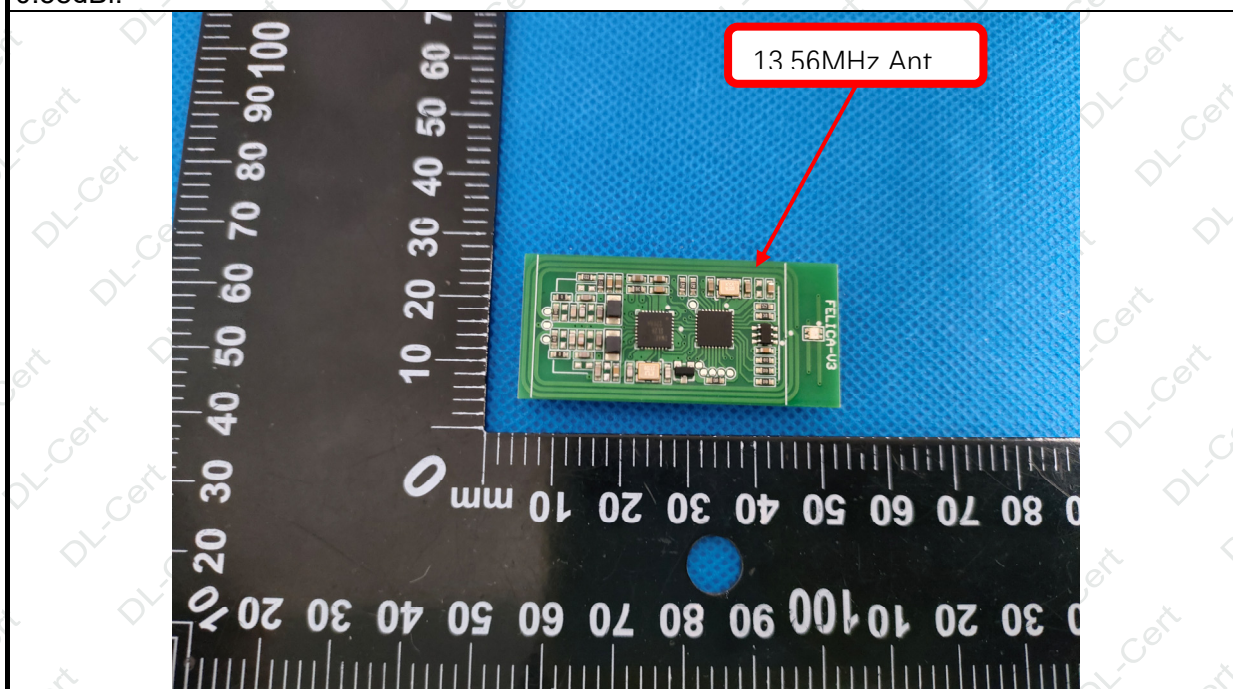
**15.203 requirement:**

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.

**E.U.T Antenna:**

PCB Antenna

The antenna used in this product is a PCB Antenna, is a permanently attached antenna on the PCB. It conforms to the standard requirements. The gain of antenna used for transmitting is 0.58dBi.





## 4.2 AC Conducted Emission

### 4.2.1 Conducted Power Line Emission Limit

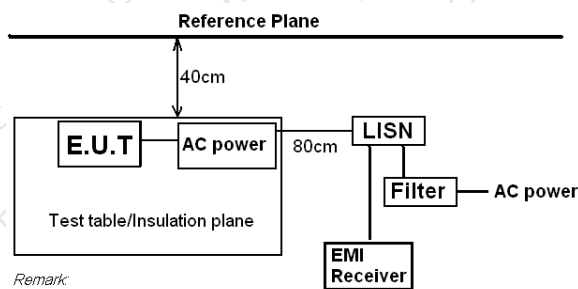
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following.

| Frequency<br>(MHz) | Maximum RF Line Voltage (dB $\mu$ V) |      |         |        |
|--------------------|--------------------------------------|------|---------|--------|
|                    | CLASS A                              |      | CLASS B |        |
|                    | Q.P.                                 | Ave. | Q.P.    | Ave.   |
| 0.15 - 0.50        | 79                                   | 66   | 66-56*  | 56-46* |
| 0.50 - 5.00        | 73                                   | 60   | 56      | 46     |
| 5.00 - 30.0        | 73                                   | 60   | 60      | 50     |

\* Decreasing linearly with the logarithm of the frequency.

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

### 4.2.2 Test Setup



Remark:  
E.U.T: Equipment Under Test  
LISN: Line Impedance Stabilization Network  
Test table height=0.8m

### 4.2.3 Test Procedure

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
2. Support equipment, if needed, was placed as per ANSI C63.10.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4. If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.



#### 4.2.4 Test Result

Not applicable.

Note: EUT power supply by DC Power, so this test item not applicable.



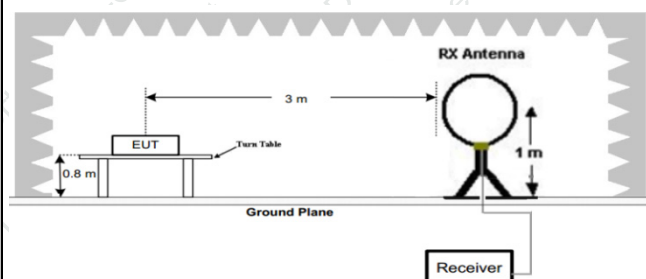
## 4.3 Radiated Emission Measurement

### 4.3.1 Test Specification

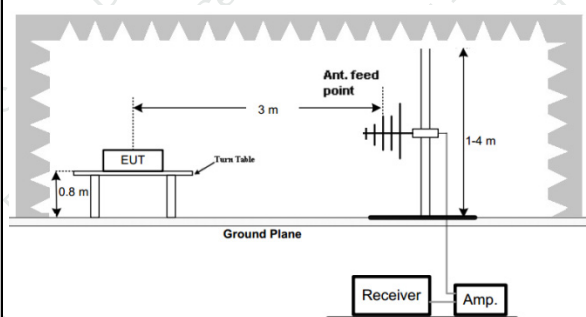
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                           |            |        |        |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------|--------|--------|------------------|
| <b>Test Requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | FCC Part15 C Section 15.225(a) and 15.209 |            |        |        |                  |
| <b>Test Method:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ANSI C63.10: 2020                         |            |        |        |                  |
| <b>Frequency Range:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9 kHz to 1 GHz                            |            |        |        |                  |
| <b>Measurement Distance:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3 m                                       |            |        |        |                  |
| <b>Antenna Polarization:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Horizontal & Vertical                     |            |        |        |                  |
| <b>Receiver Setup:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Frequency                                 | Detector   | RBW    | VBW    | Remark           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 9kHz- 150kHz                              | Quasi-peak | 200Hz  | 1kHz   | Quasi-peak Value |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 150kHz- 30MHz                             | Quasi-peak | 9kHz   | 30kHz  | Quasi-peak Value |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30MHz-1GHz                                | Quasi-peak | 120KHz | 300KHz | Quasi-peak Value |
| <ol style="list-style-type: none"><li>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber in below 1GHz. 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 rotatable 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 Setup:**

For radiated emissions



30MHz to 1GHz

**Test Mode:**

Transmitting Mode

**Test Results:**

PASS

**4.3.2 Limit**

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/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 microvolts/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 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

**4.3.3 Frequencies in restricted band are complied to limit on Paragraph 15.209**

| Frequency Range (MHz) | Distance (m) | Field strength (dBμV/m) | Field strength (microvolts/meter) |
|-----------------------|--------------|-------------------------|-----------------------------------|
| 0.009-0.490           | 300          | $20\log 2400/F$ (kHz)   | 2400/F (kHz)                      |
| 0.490-1.705           | 30           | $20\log 24000/F$ (kHz)  | 24000/F (kHz)                     |
| 1.705-30              | 30           | $20\log 30$             | 30                                |
| 30-88                 | 3            | 40.0                    | 100**                             |
| 88-216                | 3            | 43.5                    | 150**                             |
| 216-960               | 3            | 46.0                    | 200**                             |
| Above 960             | 3            | 54.0                    | 500                               |

**NOTE:**

\*\*Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., S 15.231 and 15.241.

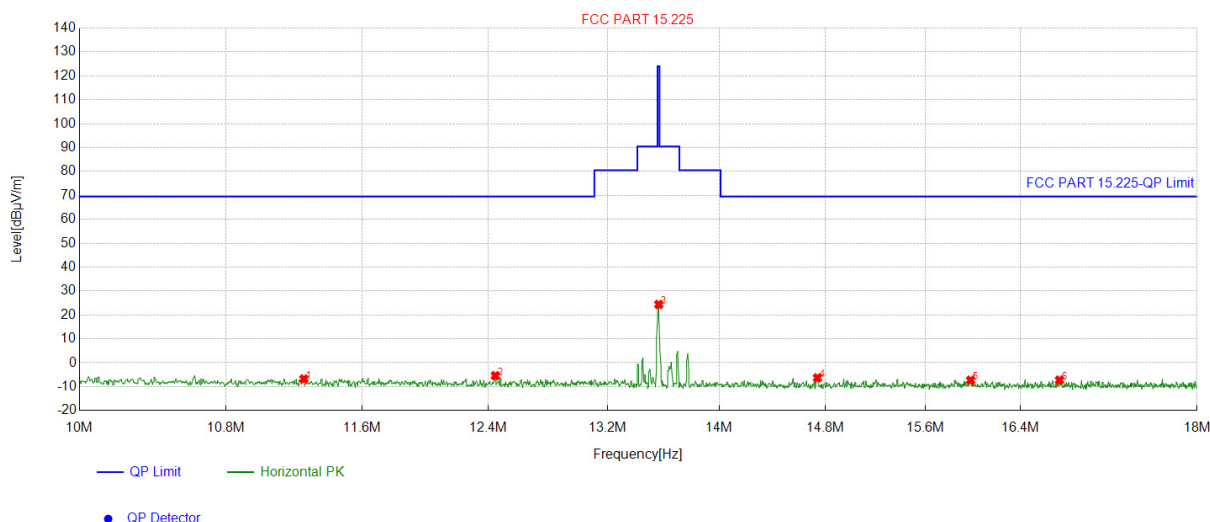


#### 4.3.4 Test Data

PASS

##### Field Strength of Fundamental

Antenna polarity: Horizontal

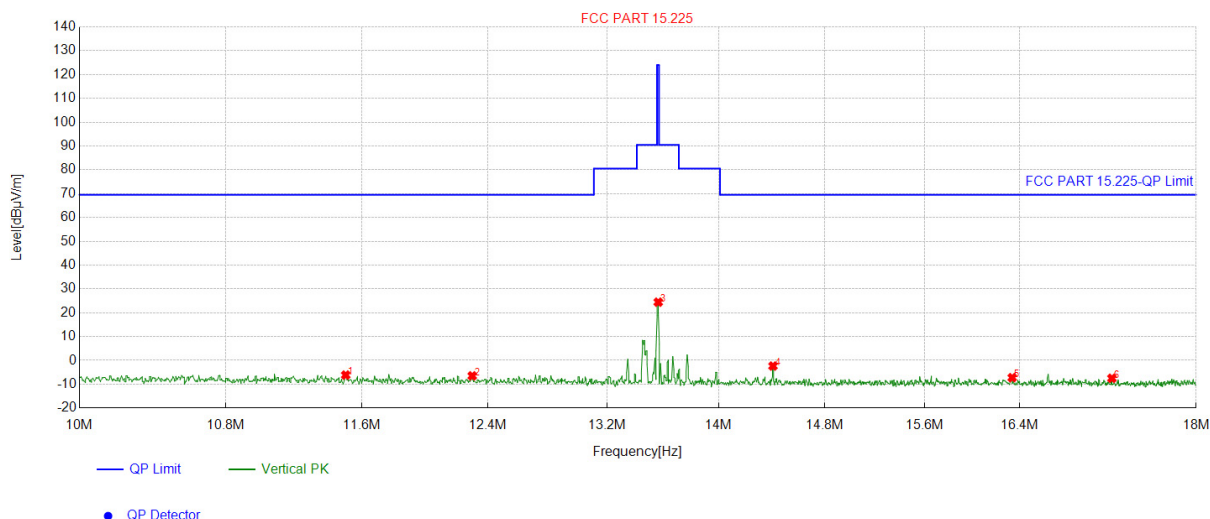


| Suspected List |             |             |                  |                |                |             |             |           |            |
|----------------|-------------|-------------|------------------|----------------|----------------|-------------|-------------|-----------|------------|
| NO.            | Freq. [MHz] | Factor [dB] | Reading [dBμV/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity   |
| 1              | 11.253      | -17.90      | 11.11            | -6.79          | 69.54          | 76.33       | 100         | 354       | Horizontal |
| 2              | 12.445      | -18.00      | 12.59            | -5.41          | 69.54          | 74.95       | 100         | 359       | Horizontal |
| 3              | 13.562      | -18.11      | 42.51            | 24.40          | 124.00         | 99.60       | 100         | 268       | Horizontal |
| 4              | 14.742      | -18.17      | 11.86            | -6.31          | 69.54          | 75.85       | 100         | 261       | Horizontal |
| 5              | 15.979      | -18.13      | 10.84            | -7.29          | 69.54          | 76.83       | 100         | 5         | Horizontal |
| 6              | 16.743      | -18.09      | 10.82            | -7.27          | 69.54          | 76.81       | 100         | 38        | Horizontal |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical

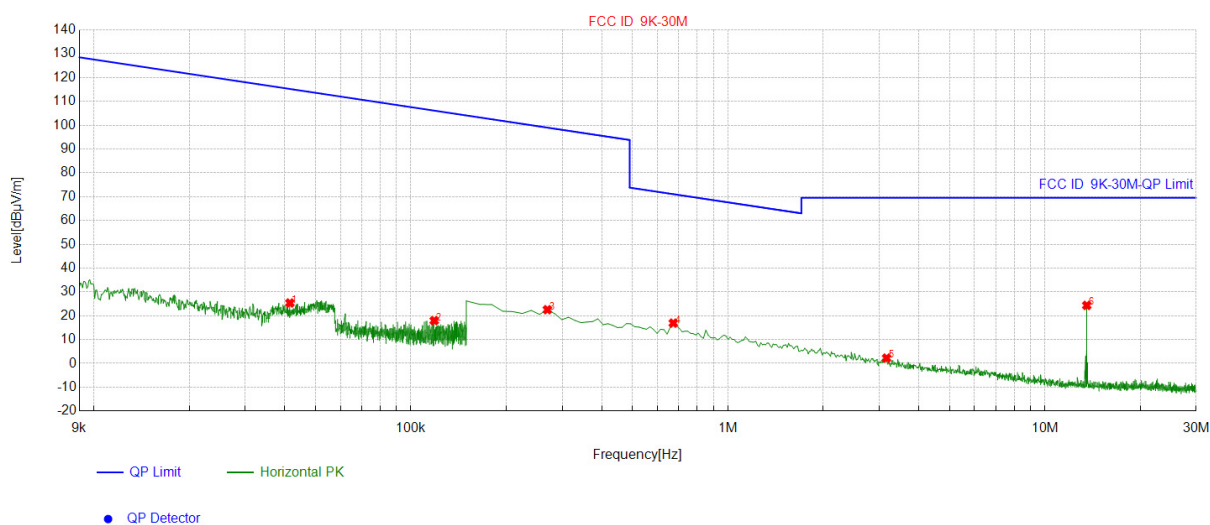


| Suspected List |             |             |                  |                |                |             |             |           |          |
|----------------|-------------|-------------|------------------|----------------|----------------|-------------|-------------|-----------|----------|
| NO.            | Freq. [MHz] | Factor [dB] | Reading [dBμV/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1              | 11.505      | -17.91      | 11.75            | -6.16          | 69.54          | 75.70       | 100         | 121       | Vertical |
| 2              | 12.297      | -17.98      | 11.49            | -6.49          | 69.54          | 76.03       | 100         | 3         | Vertical |
| 3              | 13.562      | -18.11      | 42.56            | 24.45          | 124.00         | 99.55       | 100         | 92        | Vertical |
| 4              | 14.406      | -18.16      | 15.80            | -2.36          | 69.54          | 71.90       | 100         | 81        | Vertical |
| 5              | 16.339      | -18.11      | 10.86            | -7.25          | 69.54          | 76.79       | 100         | 312       | Vertical |
| 6              | 17.220      | -18.09      | 10.58            | -7.51          | 69.54          | 77.05       | 100         | 326       | Vertical |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



## For 9KHz - 30MHz



## Suspected List

| NO. | Freq.<br>[MHz] | Factor<br>[dB] | Reading<br>[dBμV/m] | Level<br>[dBμV/m] | Limit<br>[dBμV/m] | Margin<br>[dB] |
|-----|----------------|----------------|---------------------|-------------------|-------------------|----------------|
| 1   | 0.042          | -16.67         | 42.04               | 25.37             | 115.23            | 89.86          |
| 2   | 0.118          | -17.31         | 35.27               | 17.96             | 106.12            | 88.16          |
| 3   | 0.269          | -17.94         | 40.49               | 22.55             | 98.99             | 76.44          |
| 4   | 0.673          | -17.41         | 34.32               | 16.91             | 71.06             | 54.15          |
| 5   | 3.166          | -16.87         | 19.10               | 2.23              | 69.50             | 67.27          |
| 6   | 13.559         | -18.11         | 42.46               | 24.35             | 69.50             | 45.15          |

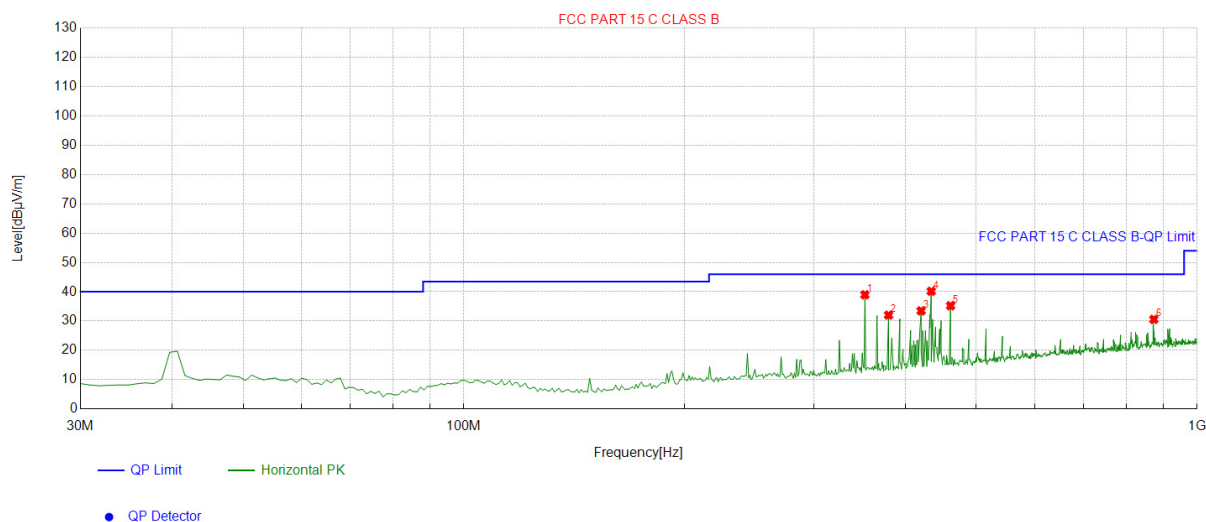
**Note:** 1. Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;  
Margin = Limit – Level

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

**About 30MHz-1GHz**

All the test modes completed for test. Only the worst result was reported as below:

Antenna polarity: Horizontal

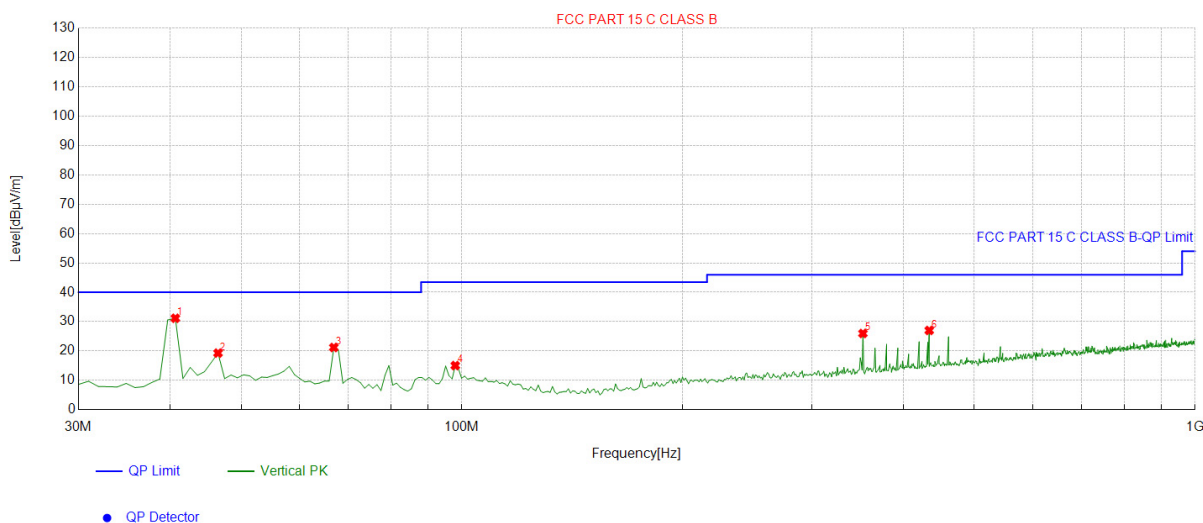


| Suspected List |             |             |                  |                |                |             |             |           |            |
|----------------|-------------|-------------|------------------|----------------|----------------|-------------|-------------|-----------|------------|
| NO.            | Freq. [MHz] | Factor [dB] | Reading [dBμV/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity   |
| 1              | 352.362     | -10.54      | 49.52            | 38.98          | 46.00          | 7.02        | 100         | 194       | Horizontal |
| 2              | 379.550     | -10.33      | 42.36            | 32.03          | 46.00          | 13.97       | 100         | 187       | Horizontal |
| 3              | 420.330     | -9.17       | 42.66            | 33.49          | 46.00          | 12.51       | 100         | 2         | Horizontal |
| 4              | 433.924     | -9.09       | 49.26            | 40.17          | 46.00          | 5.83        | 100         | 34        | Horizontal |
| 5              | 461.111     | -8.73       | 43.98            | 35.25          | 46.00          | 10.75       | 100         | 30        | Horizontal |
| 6              | 872.803     | -1.65       | 32.25            | 30.60          | 46.00          | 15.40       | 100         | 48        | Horizontal |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical



| Suspected List |             |             |                  |                |                |             |             |           |          |
|----------------|-------------|-------------|------------------|----------------|----------------|-------------|-------------|-----------|----------|
| NO.            | Freq. [MHz] | Factor [dB] | Reading [dBμV/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1              | 40.681      | -13.43      | 44.59            | 31.16          | 40.00          | 8.84        | 100         | 183       | Vertical |
| 2              | 46.507      | -12.74      | 32.04            | 19.30          | 40.00          | 20.70       | 100         | 226       | Vertical |
| 3              | 66.897      | -15.75      | 36.97            | 21.22          | 40.00          | 18.78       | 100         | 23        | Vertical |
| 4              | 97.968      | -14.83      | 29.89            | 15.06          | 43.50          | 28.44       | 100         | 190       | Vertical |
| 5              | 352.362     | -10.54      | 36.53            | 25.99          | 46.00          | 20.01       | 100         | 312       | Vertical |
| 6              | 433.924     | -9.09       | 36.11            | 27.02          | 46.00          | 18.98       | 100         | 119       | Vertical |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



## 4.4 Occupied Bandwidth

### 4.4.1 Test Specification

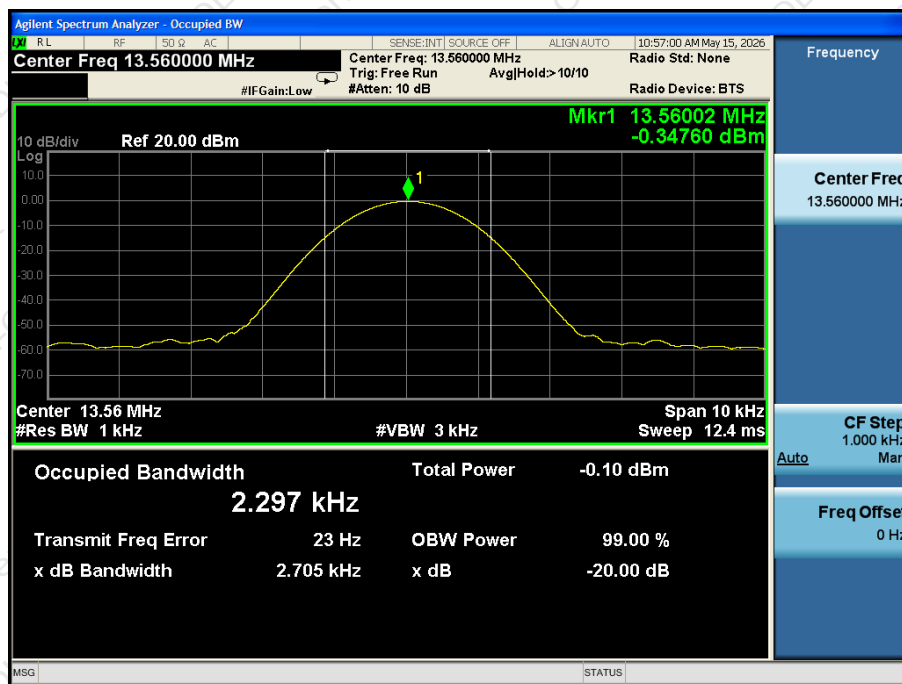
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Requirement:</b> | FCC Part15 C Section 15.215(c)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Test Method:</b>      | ANSI C63.10: 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Limit:</b>            | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                          | <ol style="list-style-type: none"><li>1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT.</li><li>2. Set to the maximum power setting and enable the EUT transmit continuously.</li><li>3. Use the following spectrum analyzer settings for 20dB Bandwidth measurement.<br/>Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel; RBW <math>\geq</math> 1% of the 20 dB bandwidth; VBW <math>\geq</math> RBW; Sweep = auto; Detector function = peak; Trace = max hold.</li><li>4. Measure and record the results in the test report.</li></ol> |
| <b>Test Setup:</b>       |  <p>Spectrum Analyzer                      EUT</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Test Mode:</b>        | Transmitting Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Test Results:</b>     | PASS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



#### 4.4.2 Test Data

| Test Channel (MHz) | 20dB Occupy Bandwidth (kHz) | Limit (kHz) | Conclusion |
|--------------------|-----------------------------|-------------|------------|
| 13.56              | 2.705                       | N/A         | PASS       |

Test plots as follows:





## 4.5 Frequency Stability

### 4.5.1 Test Specification

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Requirement:</b> | FCC Part15 C Section 15.225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Test Method:</b>      | ANSI C63.10: 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Limit:</b>            | +/-0.01%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                          | <ol style="list-style-type: none"><li>1. The equipment under test was connected to an external DC power supply and input rated voltage.</li><li>2. RF output was connected to a spectrum analyzer.</li><li>3. The EUT was placed inside the temperature chamber.</li><li>4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency.</li><li>5. Turn EUT off and set the chamber temperature to - 20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.</li><li>6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.</li></ol> |
| <b>Test Setup:</b>       |  <p>Spectrum Analyzer                      EUT</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Test Mode:</b>        | Transmitting Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Test Results:</b>     | PASS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



#### 4.5.2 Test Data

PASS

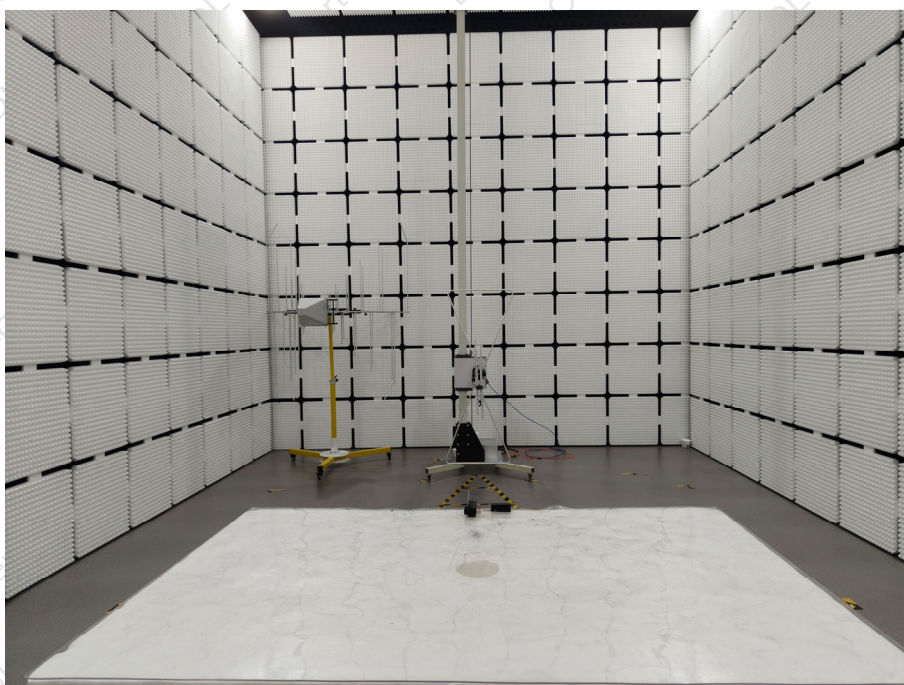
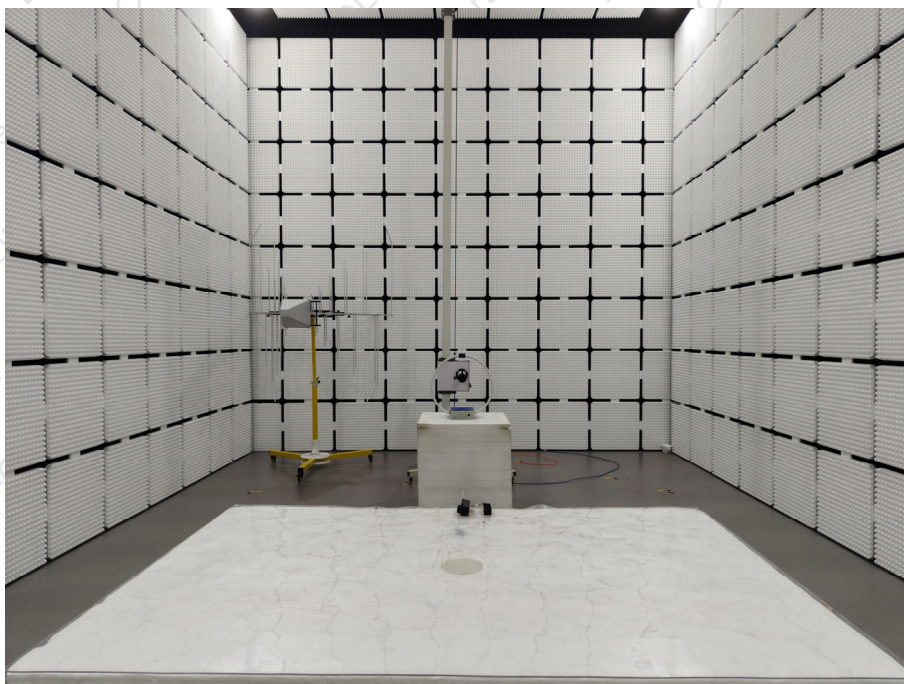
Note: this EUT was tested for all models and the worst case model data was reported.

| Voltage (Vdc) | Temperature (°C) | Frequency (MHz) | Deviation (%) | Limit (%) |
|---------------|------------------|-----------------|---------------|-----------|
| 3.0           | -20              | 13.560082       | 0.00060%      | +/-0.01%  |
| 3.0           | -10              | 13.560341       | 0.00251%      |           |
| 3.0           | 0                | 13.560388       | 0.00286%      |           |
| 3.0           | 10               | 13.560066       | 0.00049%      |           |
| 3.0           | 20               | 13.560072       | 0.00053%      |           |
| 3.0           | 30               | 13.559879       | -0.00089%     |           |
| 3.0           | 40               | 13.559942       | -0.00043%     |           |
| 3.0           | 50               | 13.559855       | -0.00107%     |           |
| 2.55          | -20              | 13.560186       | 0.00137%      |           |
| 2.55          | -10              | 13.560033       | 0.00024%      |           |
| 2.55          | 0                | 13.559947       | -0.00039%     |           |
| 2.55          | 10               | 13.560061       | 0.00045%      |           |
| 2.55          | 20               | 13.559871       | -0.00095%     |           |
| 2.55          | 30               | 13.559859       | -0.00104%     |           |
| 2.55          | 40               | 13.559648       | -0.00260%     |           |
| 2.55          | 50               | 13.560243       | 0.00179%      |           |
| 3.45          | -20              | 13.560056       | 0.00041%      |           |
| 3.45          | -10              | 13.559837       | -0.00120%     |           |
| 3.45          | 0                | 13.560085       | 0.00063%      |           |
| 3.45          | 10               | 13.559848       | -0.00112%     |           |
| 3.45          | 20               | 13.559967       | -0.00024%     |           |
| 3.45          | 30               | 13.559882       | -0.00087%     |           |
| 3.45          | 40               | 13.559759       | -0.00178%     |           |
| 3.45          | 50               | 13.559979       | -0.00015%     |           |



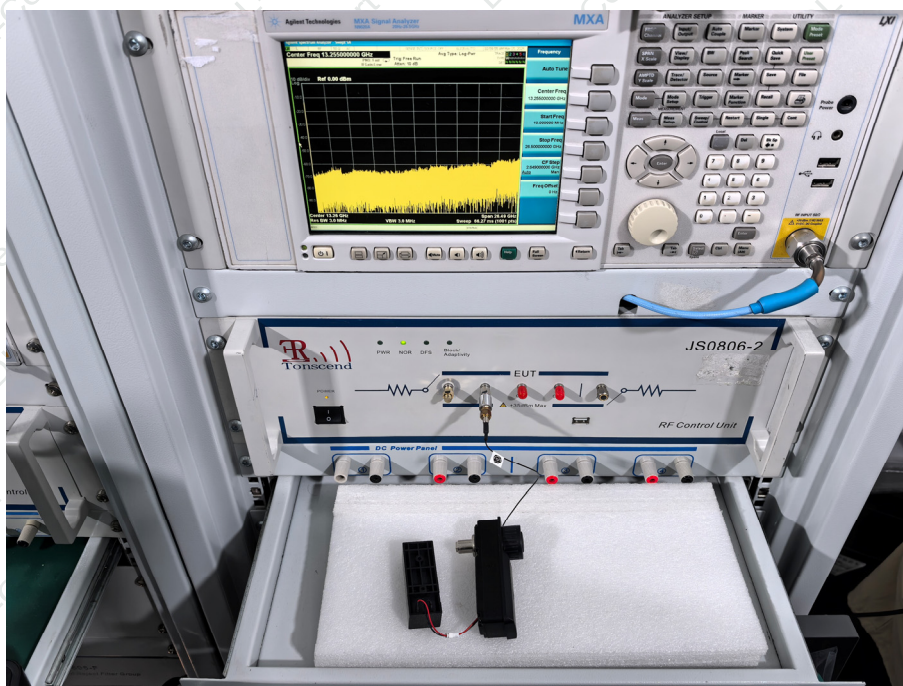
## 5. Test Setup Photos of the EUT

### Radiated Emission





### RF Conducted Emission





## 6. Photos of the EUT

Reference to the report: ANNEX A of external photos and ANNEX B of internal photos.

-----End of test report-----