

# FCC Radio Test Report

## FCC ID: XDQN82

This report concerns: Original Grant

**Project No.** : 2207G005  
**Equipment** : POS Terminal  
**Brand Name** : NEXGO  
**Test Model** : N82  
**Series Model** : N/A  
**Applicant** : Shenzhen Xinguodu Technology Co., Ltd.  
**Address** : 17B JinSong Mansion, Terra Industrial & Trade Park Chegongmiao, Futian District, Shenzhen, China  
**Manufacturer** : Shenzhen Xinguodu Technology Co., Ltd.  
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**Factory** : Shenzhen Xinguodu Technology Co., Ltd. Manufacture Branch.  
**Address** : Building C, Dagang Industrial Park, Changzhen Community, Gongming Office, Guangming New District, Shenzhen, Guangdong, China.  
**Date of Receipt** : Jul. 05, 2022  
**Date of Test** : Jul. 09, 2022 ~ Jul. 28, 2022  
**Issued Date** : Aug. 03, 2022  
**Report Version** : R00  
**Test Sample** : Engineering Sample No.: DG202207074  
**Standard(s)** : FCC CFR Title 47, Part 15, Subpart C  
ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

*Grani Zhou*

Prepared by : Grani Zhou

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TESTING CERT #5123.02

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**Declaration**

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

**BTL's** reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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**BTL's** laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

**BTL** is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

**Limitation**

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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**REPORT ISSUED HISTORY**

| Report No.          | Version | Description      | Issued Date   | Note  |
|---------------------|---------|------------------|---------------|-------|
| BTL-FCCP-8-2207G005 | R00     | Original Report. | Aug. 03, 2022 | Valid |

## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

| FCC CFR Title 47, Part 15, Subpart C    |                                   |                          |          |         |
|---|-----------------------------------|--------------------------|----------|---------|
| Standard(s) Section                     | Test Item                         | Test Result              | Judgment | Remark  |
| 15.207                                  | AC Power Line Conducted Emissions | APPENDIX A               | PASS     | -----   |
| 15.225(a)-(d)<br>15.205(a)<br>15.209(a) | Radiated Emission                 | APPENDIX B<br>APPENDIX C | PASS     | -----   |
| 15.225(e)                               | Frequency Tolerance               | APPENDIX D               | PASS     | -----   |
| 15.215(c)                               | Bandwidth                         | APPENDIX E               | PASS     | -----   |
| 15.203                                  | Antenna Requirement               | -----                    | PASS     | Note(2) |

Note:

- (1) "N/A" denotes test is not applicable in this test report
- (2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

### 1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town Dongguan City, Guangdong 523792 People's Republic of China.

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

### 1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

The BTL measurement uncertainty as below table:

#### A. AC power line conducted emissions test:

| Test Site | Method | Measurement Frequency Range | U, (dB) |
|-----------|--------|-----------------------------|---------|
| DG-C02    | CISPR  | 150 kHz ~ 30 MHz            | 2.60    |

#### B. Radiated emissions test:

| Test Site | Method | Measurement Frequency Range | U,(dB) |
|-----------|--------|-----------------------------|--------|
| DG-CB01   | CISPR  | 9kHz ~ 30MHz                | 2.36   |

| Test Site       | Method | Measurement Frequency Range | Ant. H / V | U,(dB) |
|-----------------|--------|-----------------------------|------------|--------|
| DG-CB03<br>(3m) | CISPR  | 30MHz ~ 200MHz              | V          | 4.36   |
|                 |        | 30MHz ~ 200MHz              | H          | 3.32   |
|                 |        | 200MHz ~ 1,000MHz           | V          | 4.08   |
|                 |        | 200MHz ~ 1,000MHz           | H          | 3.96   |

#### C. Other Measurement test:

| Test Item           | Uncertainty |
|---------------------|-------------|
| Frequency Stability | ±0.16 dB    |
| Temperature         | ±0.08 °C    |
| Humidity            | ±1.5%       |



Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

### 1.3 TEST ENVIRONMENT CONDITIONS

| Test Item                           | Temperature      | Humidity | Test Voltage     | Tested By   |
|-------------------------------------|------------------|----------|------------------|-------------|
| AC Power Line Conducted Emissions   | 23°C             | 52%      | AC 120V/60Hz     | Jeter Wang  |
| Radiated Emissions-9kHz to 30MHz    | 26°C             | 56%      | AC 120V/60Hz     | Farun Liang |
| Radiated Emissions-30MHz to 1000MHz | 25°C             | 53%      | AC 120V/60Hz     | Chen Mo     |
| Frequency Tolerance                 | Normal & Extreme | 65.4%    | Normal & Extreme | Anesl Yang  |
| Bandwidth                           | 24.1°C           | 65.4%    | AC 120V/60Hz     | Anesl Yang  |

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                     |   |
|---------------------|---|
| Equipment           | POS Terminal  |
| Brand Name          | NEXGO   |
| Test Model          | N82   |
| Series Model        | N/A   |
| Model Difference(s) | N/A   |
| Software Version    | XGD OS V1.0   |
| Hardware Version    | V1.0CI  |
| Power Source        | 1# DC voltage supplied from AC adapter.<br>(1) Model: RJ23B-W050200EU<br>(2) Model: STC-A520A-Z<br>2# Supplied from battery.<br>Model: GX02<br>3# Supplied from USB port.   |
| Power Rating        | 1# (1) I/P: 100-240V~ 50/60Hz 0.3A O/P: 5.0V  2.0A 10.0W<br>(2) I/P: 100-240V~ 50/60Hz 400mA O/P: 5.0V  2000mA<br>2# DC 3.7V, Rated Capacity: 5200mAh 19.24Wh<br>3# DC 5V |
| Operation Frequency | 13.56 MHz   |
| Antenna Type        | Loop Antenna  |

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

| Test Channel | Test Frequency (MHz) |
|--------------|----------------------|
| 01           | 13.56                |



## 2.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

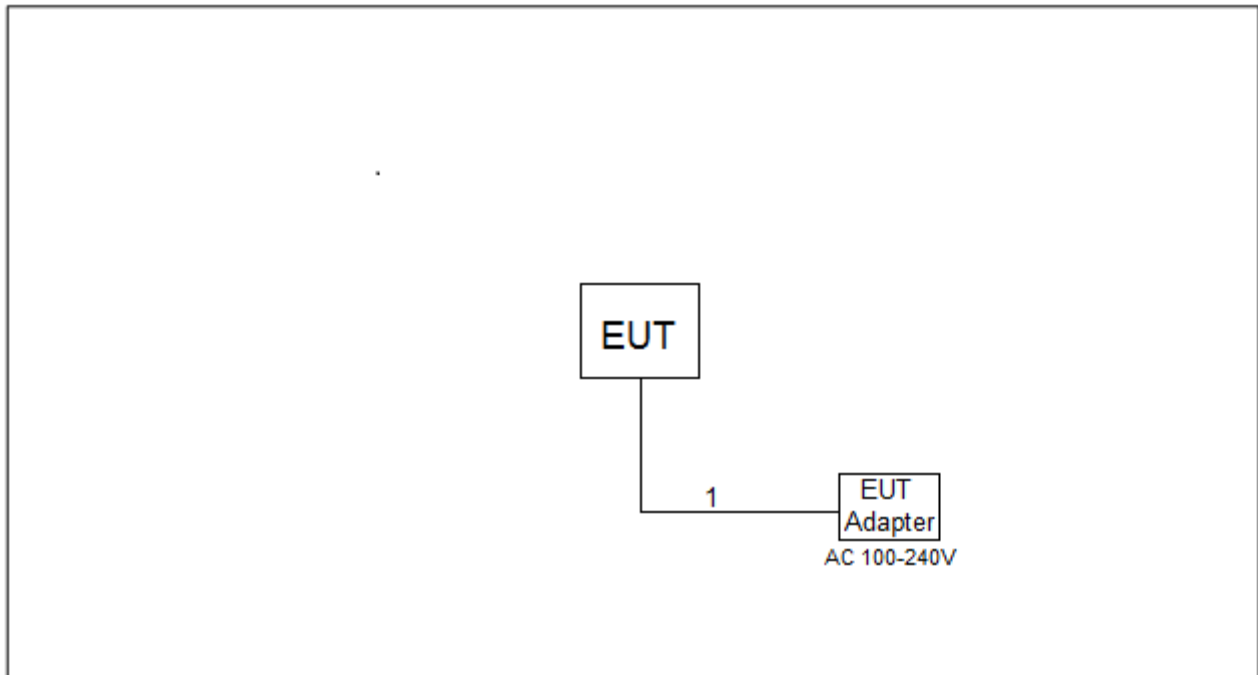
| Pretest Mode | Description      |
|--------------|------------------|
| Mode 1       | TX Mode_13.56MHz |

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

| <b>AC power line conducted emissions test</b> |                  |
|---|------------------|
| Final Test Mode                               | Description      |
| Mode 1  | TX Mode_13.56MHz |

| <b>Radiated emissions test - Below 1GHz</b> |                  |
|---|------------------|
| Final Test Mode                             | Description      |
| Mode 1                                      | TX Mode_13.56MHz |

| <b>Conducted test</b> |                  |
|-----------------------|------------------|
| Final Test Mode       | Description      |
| Mode 1                | TX Mode_13.56MHz |

**2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED****2.4 SUPPORT UNITS**

| Item | Equipment | Brand | Model No. | Series No. |
|------|-----------|-------|-----------|------------|
| -    | -         | -     | -         | -          |

| Item | Cable Type | Shielded Type | Ferrite Core | Length |
|------|------------|---------------|--------------|--------|
| 1    | USB Cable  | NO            | NO           | 1.2m   |

### 3. AC POWER LINE CONDUCTED EMISSIONS

#### 3.1 LIMIT

| Frequency of Emission (MHz) | Limit (dB $\mu$ V) |           |
|-----------------------------|--------------------|-----------|
|                             | Quasi-peak         | Average   |
| 0.15 - 0.5                  | 66 to 56*          | 56 to 46* |
| 0.5 - 5.0                   | 56                 | 46        |
| 5.0 - 30.0                  | 60                 | 50        |

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

#### 3.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item - EUT Test Photos.

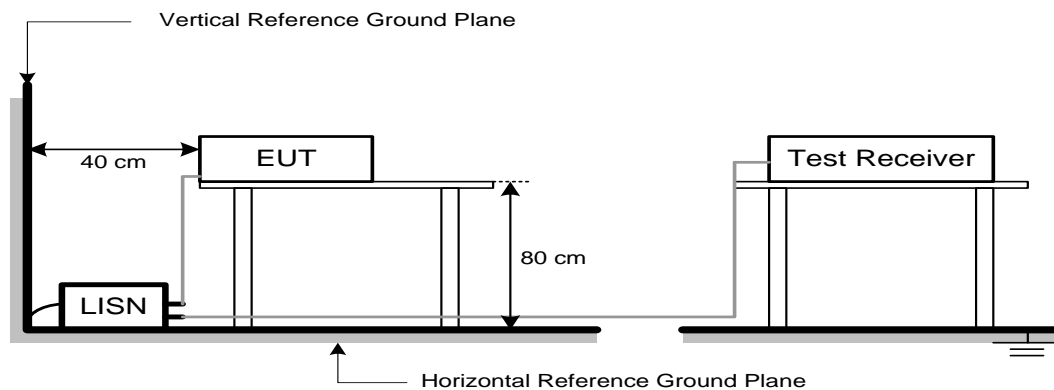
The following table is the setting of the receiver

| Receiver Parameter | Setting  |
|--------------------|----------|
| Start Frequency    | 0.15 MHz |
| Stop Frequency     | 30 MHz   |
| IF Bandwidth       | 9 kHz    |

#### 3.3 DEVIATION FROM TEST STANDARD

No deviation.

### 3.4 TEST SETUP



### 3.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical function (as a customer would normally use it), EUT was programmed to be in continuously transmitting data or hopping on mode.

### 3.6 TEST RESULTS

Please refer to the APPENDIX A.

Remark:

- (1) All readings are QP Mode value unless otherwise stated AVG in column of 『Note』 . If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform in this case, a "\*" marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150 kHz to 30 MHz.

## 4. RADIATED EMISSION

### 4.1 LIMIT

#### §15.225 (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.

#### §15.225 (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.

#### §15.225 (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.

#### §15.225 (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.

#### §15.209 (a)

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

#### LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-1000 MHz)

| Frequency<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(meters) |
|--------------------|--------------------------------------|----------------------------------|
| 0.009-0.490        | 2400/F(kHz)                          | 300                              |
| 0.490-1.705        | 24000/F(kHz)                         | 30                               |
| 1.705-30.0         | 30                                   | 30                               |
| 30-88              | 100                                  | 3                                |
| 88-216             | 150                                  | 3                                |
| 216-960            | 200                                  | 3                                |
| Above 960          | 500                                  | 3                                |

#### Note:

- (1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

#### 4.2 TEST PROCEDURE

The test set-up was made in accordance to the general provisions of ANSI C63.10-2013. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.

Sweep the whole frequency band through the range from 9 kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, below 30MHz, the center of the loop shall be 1 meters; above 30MHz, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.

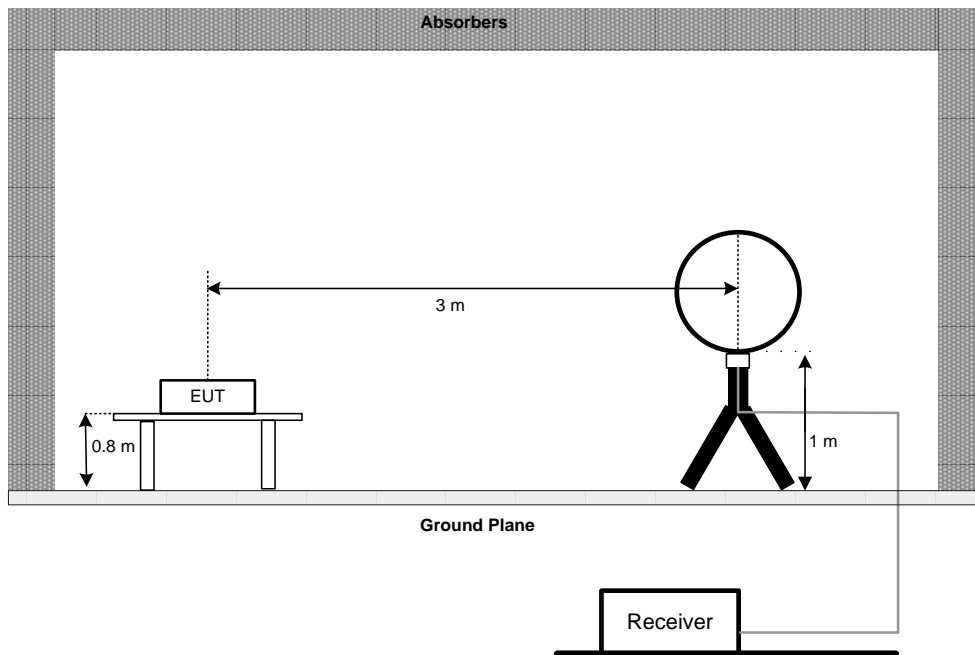
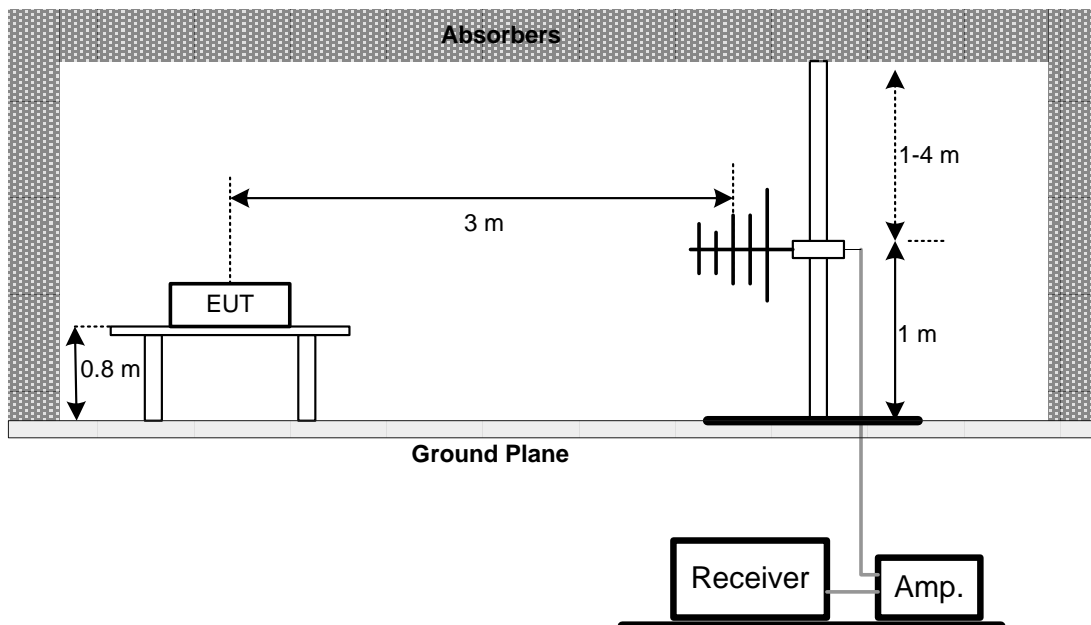
| Spectrum Parameters    | Setting                         |
|------------------------|---------------------------------|
| Start ~ Stop Frequency | 9 kHz~150 kHz for RBW 200 Hz    |
| Start ~ Stop Frequency | 0.15 MHz~30 MHz for RBW 9 kHz   |
| Start ~ Stop Frequency | 30 MHz~1000 MHz for RBW 100 kHz |

| Receiver Parameters    | Setting                             |
|------------------------|-------------------------------------|
| Start ~ Stop Frequency | 9 kHz~90 kHz for PK/AVG detector    |
| Start ~ Stop Frequency | 90 kHz~110 kHz for QP detector      |
| Start ~ Stop Frequency | 110 kHz~490 kHz for PK/AVG detector |
| Start ~ Stop Frequency | 490 kHz~30 MHz for QP detector      |
| Start ~ Stop Frequency | 30 MHz~1000 MHz for QP detector     |

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

#### 4.3 DEVIATION FROM TEST STANDARD

No deviation.

**4.4 TEST SETUP****9 kHz to 30 MHz****30 MHz to 1000 MHz**

**4.5 EUT OPERATING CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

**4.6 TEST RESULTS - 9 kHz TO 30 MHz**

Please refer to the APPENDIX B.

Remark:

- (1) Distance extrapolation factor =  $40 \log(\text{specific distance} / \text{test distance})$  (dB).
- (2) Limit line = specific limits (dBuV) + distance extrapolation factor.

**4.7 TEST RESULTS - 30 MHz TO 1000 MHz**

Please refer to the APPENDIX C.



## 5. FREQUENCY TOLERANCE

### 5.1 LIMIT

| Section       | Test Item           | Limit           |
|---------------|---------------------|-----------------|
| FCC 15.225(e) | Frequency Tolerance | $\pm 1.356$ kHz |

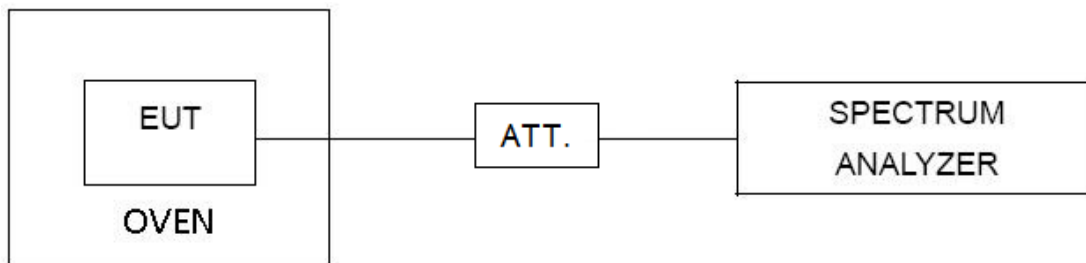
### 5.2 TEST PROCEDURE

The frequency tolerance of the carrier signal shall be maintained within  $\pm 0.01\%$  of the operating frequency over a temperature variation of  $-20$  degrees to  $+ 50$  degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

### 5.3 DEVIATION FROM STANDARD

No deviation.

### 5.4 TEST SETUP



### 5.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 unless otherwise a special operating condition is specified in the follows during the testing.

### 5.6 TEST RESULTS

Please refer to the APPENDIX D.

## 6. BANDWIDTH TEST

### 6.1 LIMIT

| Section   | Test Item       | Limit |
|-----------|-----------------|-------|
| 15.215(c) | 20 dB Bandwidth | -     |

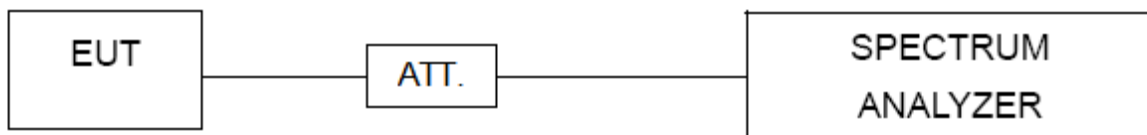
### 6.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting: RBW= 10 kHz, VBW=10 kHz, Sweep time = 5ms.

### 6.3 DEVIATION FROM STANDARD

No deviation.

### 6.4 TEST SETUP



### 6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 6.6 TEST RESULTS

Please refer to the APPENDIX E.

## 7. MEASUREMENT INSTRUMENTS LIST

| AC Power Line Conducted Emissions |                      |              |                       |            |                  |
|-----------------------------------|----------------------|--------------|-----------------------|------------|------------------|
| Item                              | Kind of Equipment    | Manufacturer | Type No.              | Serial No. | Calibrated until |
| 1                                 | EMI Test Receiver    | R&S          | ESCI                  | 100382     | Jan. 22, 2023    |
| 2                                 | LISN                 | EMCO         | 3816/2                | 52765      | Jan. 23, 2023    |
| 3                                 | TWO-LINE V-NETWORK   | R&S          | ENV216                | 101447     | Jan. 23, 2023    |
| 4                                 | 50Ω Terminator       | SHX          | TF5-3                 | 15041304   | Jan. 22, 2023    |
| 5                                 | Measurement Software | Farad        | EZ-EMC Ver.NB-03A1-01 | N/A        | N/A              |
| 6                                 | Cable                | N/A          | RG223                 | 12m        | Mar. 08, 2023    |
| 7                                 | 643 Shield Room      | ETS          | 6*4*3                 | N/A        | N/A              |

| Radiated Emissions - 9 kHz to 30 MHz |                      |              |                       |            |                                |
|--------------------------------------|----------------------|--------------|-----------------------|------------|--------------------------------|
| Item                                 | Kind of Equipment    | Manufacturer | Type No.              | Serial No. | Calibrated until               |
| 1                                    | MXE EMI Receiver     | Keysight     | N9038A                | MY56400091 | Jan. 22, 2023                  |
| 2*                                   | Active Loop Antenna  | R&S          | HFH2-Z2               | 830749/020 | Aug. 23, 2024                  |
| 3                                    | Cable                | N/A          | RG 213/U(9kHz~1GHz)   | N/A        | Jun. 17, 2023                  |
| 4                                    | Measurement Software | Farad        | EZ-EMC Ver.NB-03A1-01 | N/A        | N/A                            |
| 5                                    | 966 Chamber Room     | ETS          | 9*6*6                 | N/A        | Jul. 14, 2022<br>Jul. 14, 2023 |

| Radiated Emissions - 30 MHz to 1 GHz |                      |              |                       |             |                                |
|--------------------------------------|----------------------|--------------|-----------------------|-------------|--------------------------------|
| Item                                 | Kind of Equipment    | Manufacturer | Type No.              | Serial No.  | Calibrated until               |
| 1                                    | Antenna              | Schwarzbeck  | VULB9160              | 9160-3232   | Mar. 03, 2023                  |
| 2                                    | Amplifier            | HP           | 8447D                 | 2944A08742  | Jan. 22, 2023                  |
| 3                                    | Cable                | emci         | LMR-400               | N/A         | Nov. 30, 2022                  |
| 4                                    | Controller           | CT           | SC100                 | N/A         | N/A                            |
| 5                                    | Controller           | MF           | MF-7802               | MF780208416 | N/A                            |
| 6                                    | Receiver             | Agilent      | N9038A                | MY52130039  | Jan. 22, 2023                  |
| 7                                    | Measurement Software | Farad        | EZ-EMC Ver.NB-03A1-01 | N/A         | N/A                            |
| 8                                    | 966 Chamber Room     | RM           | 9*6*6                 | N/A         | Jul. 15, 2022<br>Jul. 15, 2023 |

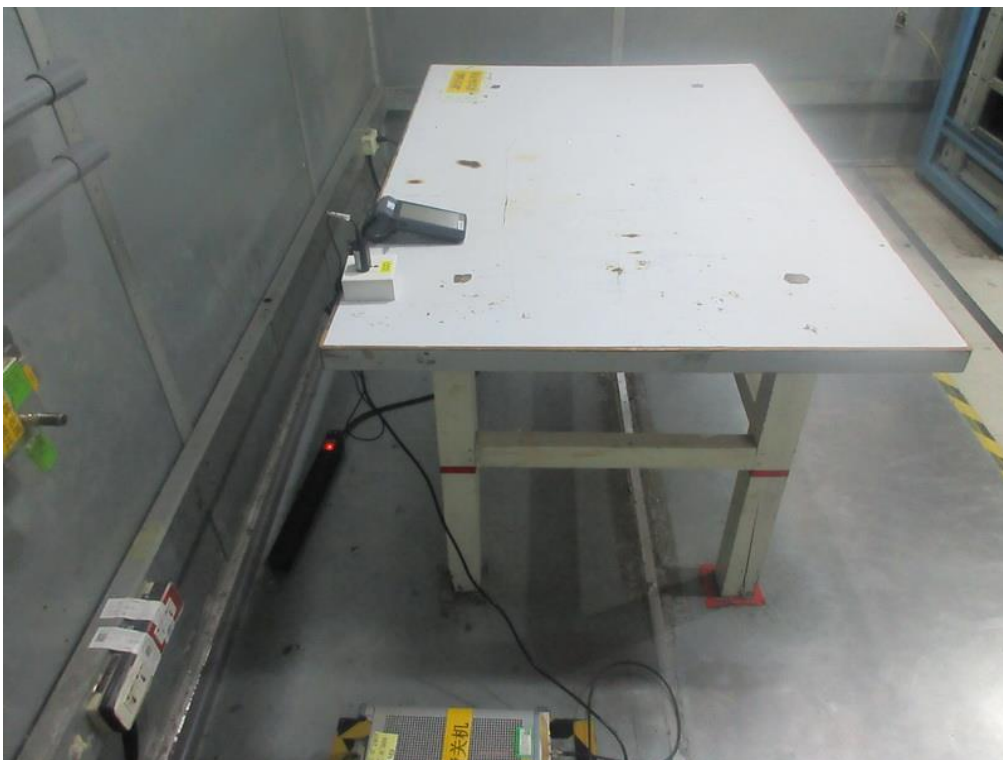
| Frequency Tolerance |                       |              |              |            |                  |
|---------------------|-----------------------|--------------|--------------|------------|------------------|
| Item                | Kind of Equipment     | Manufacturer | Type No.     | Serial No. | Calibrated until |
| 1                   | Spectrum Analyzer     | R&S          | FSP40        | 100185     | Jul. 03, 2023    |
| 2                   | Precision Oven Tester | CEPREI       | CEEC-M64T-40 | 15-008     | Jan. 22, 2023    |

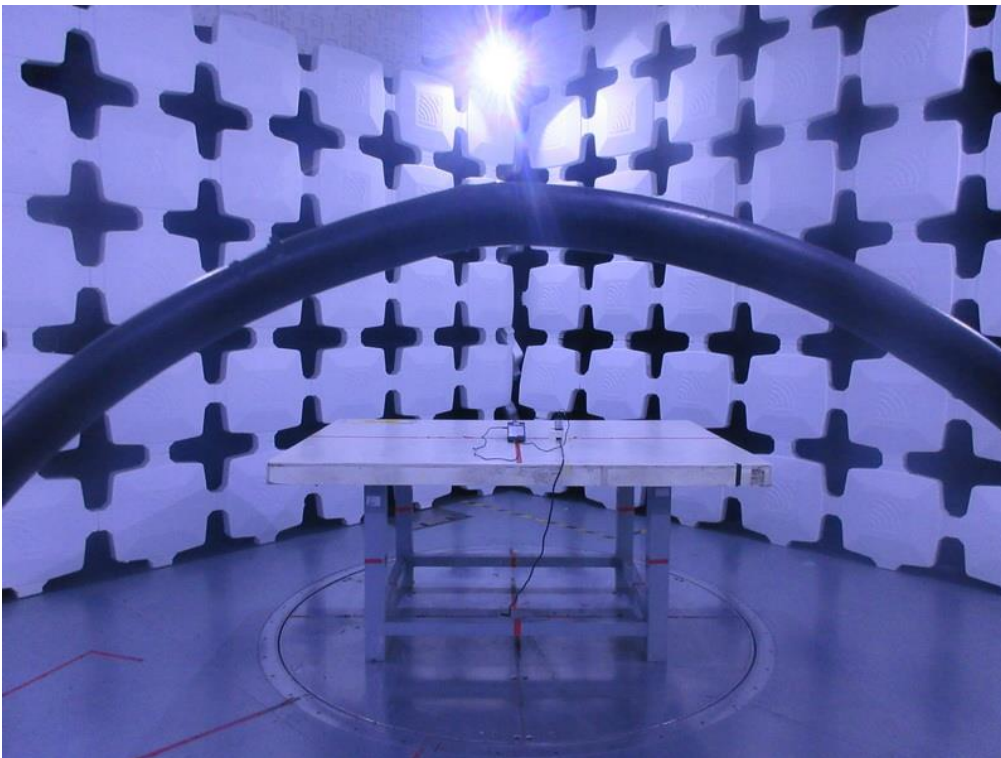
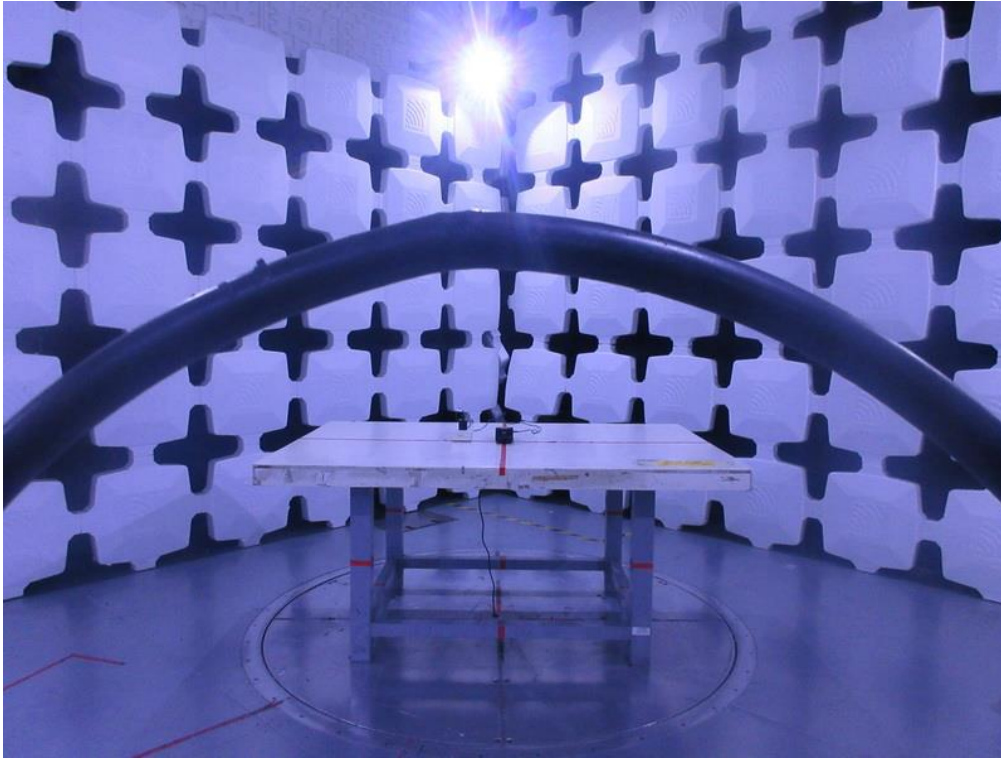
| Bandwidth |                   |              |          |            |                  |
|-----------|-------------------|--------------|----------|------------|------------------|
| Item      | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1         | Spectrum Analyzer | R&S          | FSP40    | 100185     | Jul. 03, 2023    |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

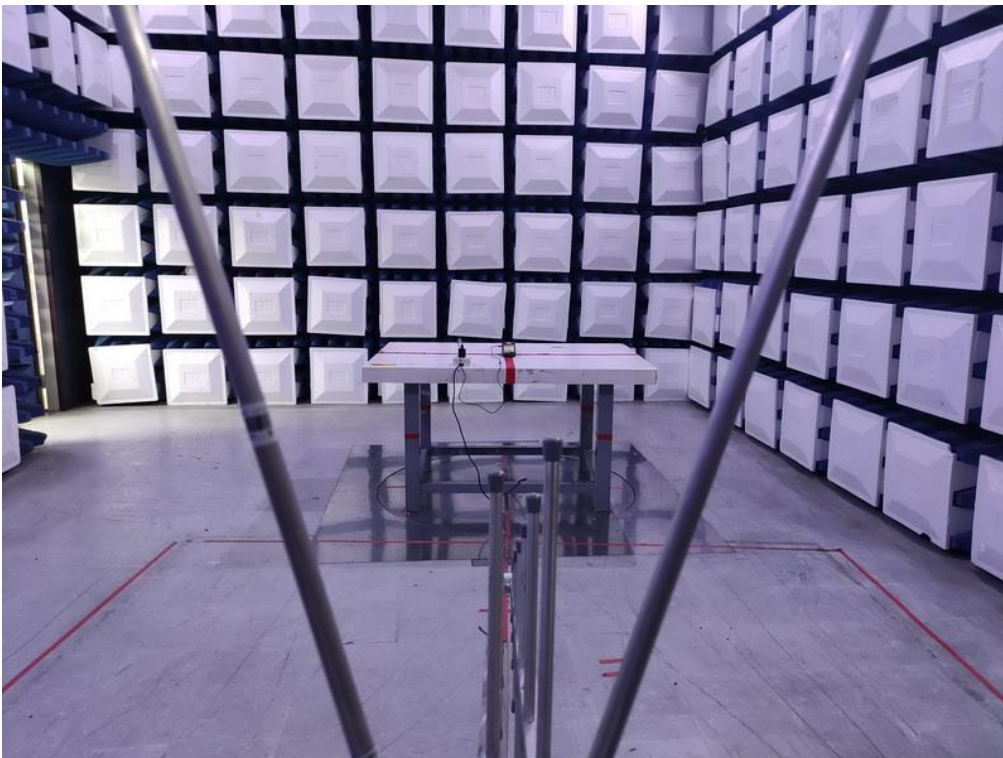
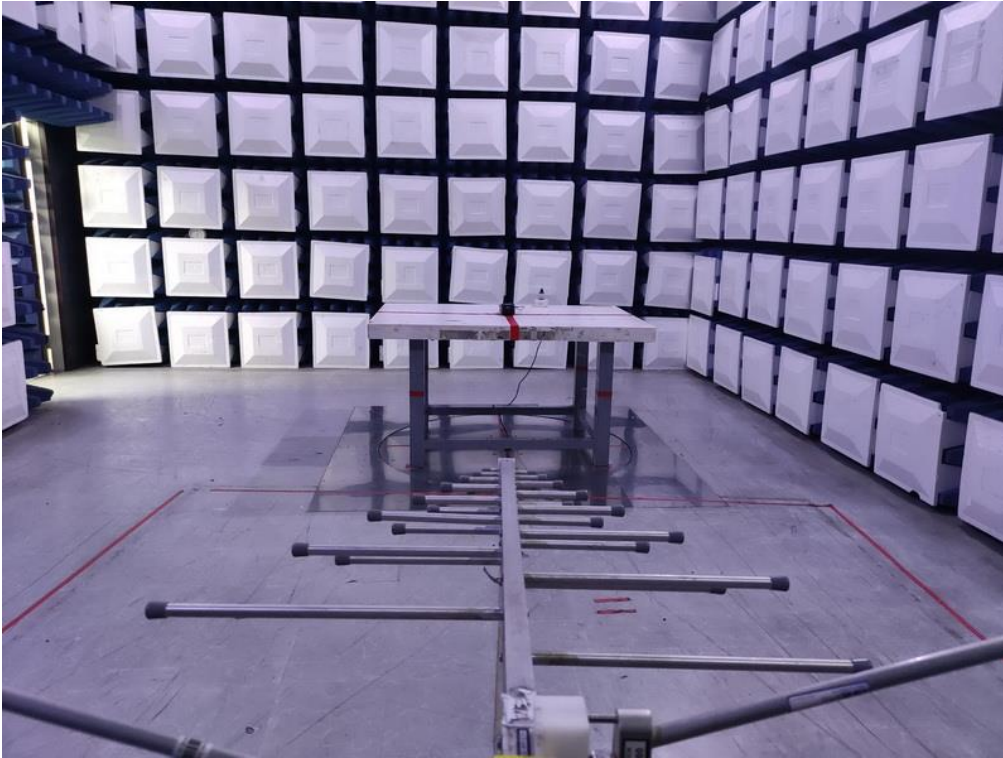
"\*" calibration period of equipment list is three year.

Except \* item, all calibration period of equipment list is one year.

**8. EUT TEST PHOTO****AC Power Line Conducted Emissions Test Photos**

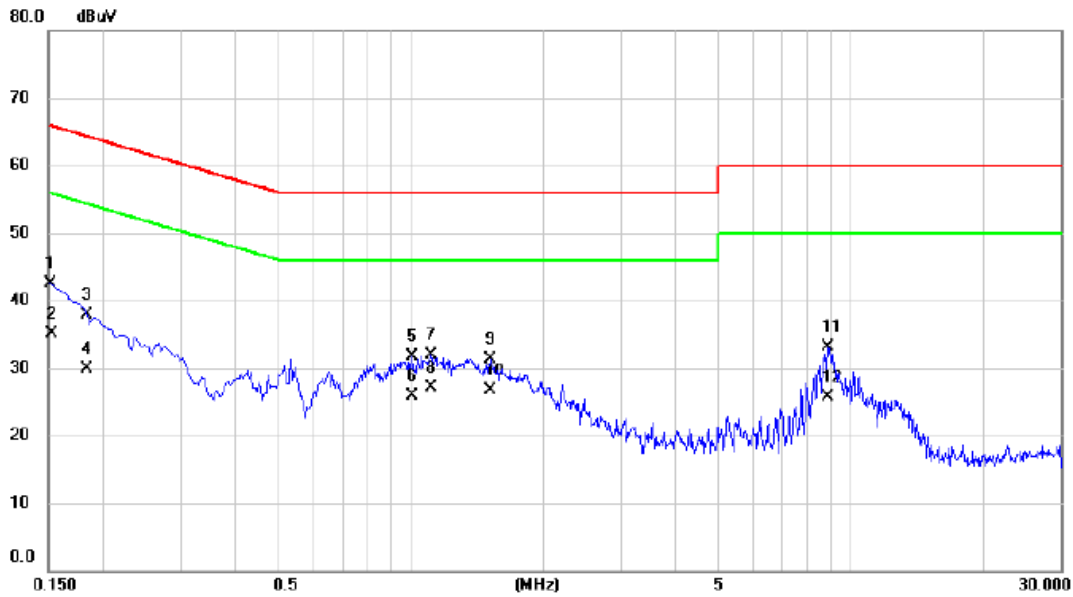
**Radiated Emissions Test Photos****9 kHz to 30 MHz**



**Radiated Emissions Test Photos****30 MHz to 1000 MHz**

## **APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS**

|           |                  |       |      |
|-----------|------------------|-------|------|
| Test Mode | TX Mode_13.56MHz | Phase | Line |
|-----------|------------------|-------|------|



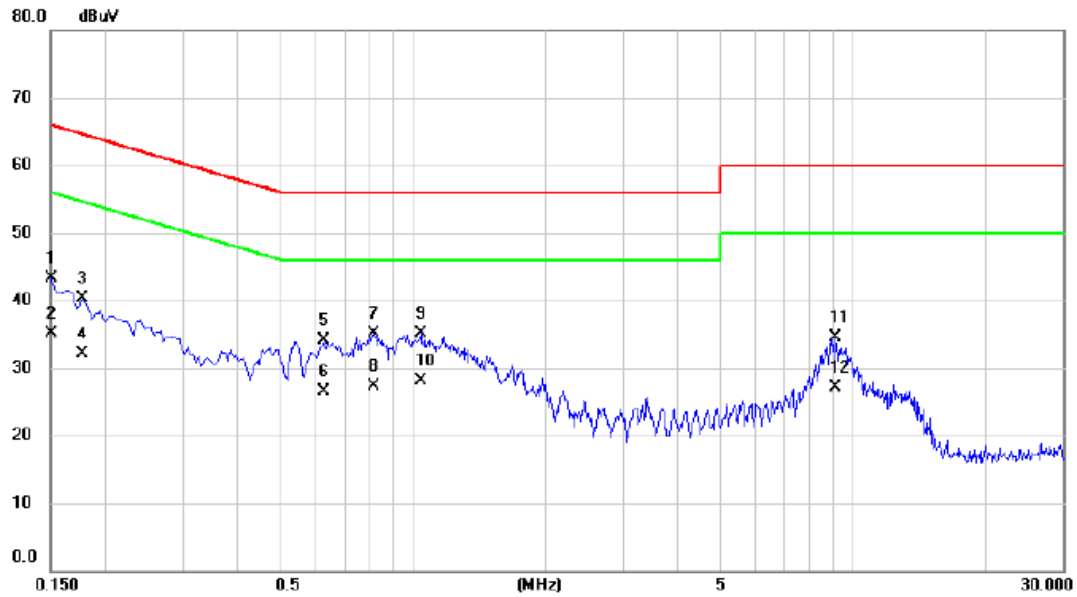
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1   |     | 0.1516       | 32.76                    | 9.66                    | 42.42                    | 65.91         | -23.49       | QP       |         |
| 2   |     | 0.1532       | 25.40                    | 9.66                    | 35.06                    | 55.82         | -20.76       | AVG      |         |
| 3   |     | 0.1835       | 28.15                    | 9.68                    | 37.83                    | 64.33         | -26.50       | QP       |         |
| 4   |     | 0.1835       | 20.30                    | 9.68                    | 29.98                    | 54.33         | -24.35       | AVG      |         |
| 5   |     | 1.0095       | 21.78                    | 9.83                    | 31.61                    | 56.00         | -24.39       | QP       |         |
| 6   |     | 1.0095       | 16.10                    | 9.83                    | 25.93                    | 46.00         | -20.07       | AVG      |         |
| 7   |     | 1.1085       | 22.04                    | 9.84                    | 31.88                    | 56.00         | -24.12       | QP       |         |
| 8   | *   | 1.1085       | 17.20                    | 9.84                    | 27.04                    | 46.00         | -18.96       | AVG      |         |
| 9   |     | 1.5180       | 21.37                    | 9.85                    | 31.22                    | 56.00         | -24.78       | QP       |         |
| 10  |     | 1.5180       | 16.90                    | 9.85                    | 26.75                    | 46.00         | -19.25       | AVG      |         |
| 11  |     | 8.8485       | 22.62                    | 10.41                   | 33.03                    | 60.00         | -26.97       | QP       |         |
| 12  |     | 8.8485       | 15.30                    | 10.41                   | 25.71                    | 50.00         | -24.29       | AVG      |         |

**REMARKS:**

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.



|           |                  |       |         |
|-----------|------------------|-------|---------|
| Test Mode | TX Mode_13.56MHz | Phase | Neutral |
|-----------|------------------|-------|---------|



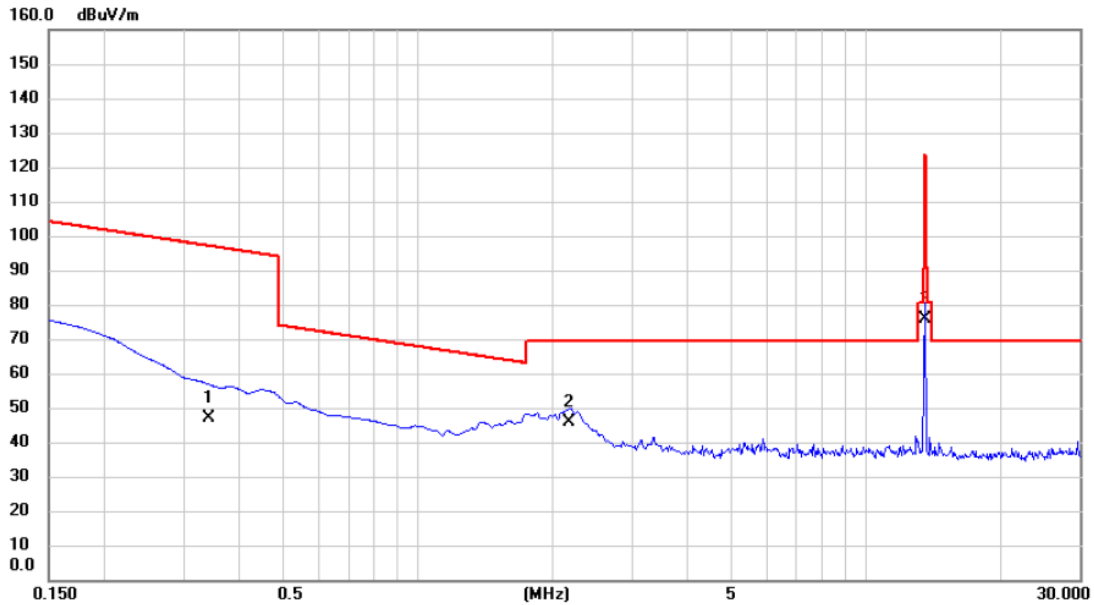
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1   |     | 0.1500       | 33.60                    | 9.71                    | 43.31                    | 66.00         | -22.69       | QP       |         |
| 2   |     | 0.1500       | 25.30                    | 9.71                    | 35.01                    | 56.00         | -20.99       | AVG      |         |
| 3   |     | 0.1770       | 30.56                    | 9.71                    | 40.27                    | 64.63         | -24.36       | QP       |         |
| 4   |     | 0.1770       | 22.40                    | 9.71                    | 32.11                    | 54.63         | -22.52       | AVG      |         |
| 5   |     | 0.6270       | 24.23                    | 9.82                    | 34.05                    | 56.00         | -21.95       | QP       |         |
| 6   |     | 0.6270       | 16.70                    | 9.82                    | 26.52                    | 46.00         | -19.48       | AVG      |         |
| 7   |     | 0.8160       | 25.24                    | 9.83                    | 35.07                    | 56.00         | -20.93       | QP       |         |
| 8   |     | 0.8160       | 17.50                    | 9.83                    | 27.33                    | 46.00         | -18.67       | AVG      |         |
| 9   |     | 1.0410       | 25.34                    | 9.86                    | 35.20                    | 56.00         | -20.80       | QP       |         |
| 10  | *   | 1.0410       | 18.20                    | 9.86                    | 28.06                    | 46.00         | -17.94       | AVG      |         |
| 11  |     | 9.1095       | 24.06                    | 10.42                   | 34.48                    | 60.00         | -25.52       | QP       |         |
| 12  |     | 9.1095       | 16.70                    | 10.42                   | 27.12                    | 50.00         | -22.88       | AVG      |         |

**REMARKS:**

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

## **APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ**

|           |                  |              |        |
|-----------|------------------|--------------|--------|
| Test Mode | TX Mode_13.56MHz | Polarization | Ant 0° |
|-----------|------------------|--------------|--------|

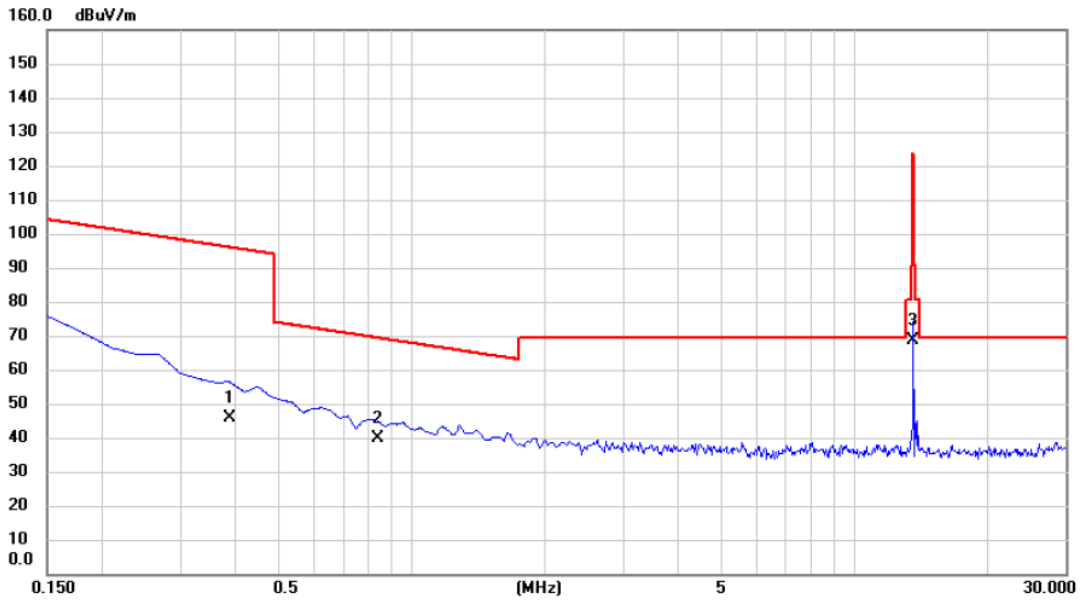


| No. | Mk. | Freq.   | Reading Level | Correct Factor | Measurement | Limit  | Margin | Antenna Height | Table Degree |         |
|-----|-----|---------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
|     |     | MHz     | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | cm             | degree       | Comment |
| 1   |     | 0.3428  | 33.28         | 13.75          | 47.03       | 97.08  | -50.05 | AVG            |              |         |
| 2   |     | 2.1798  | 33.41         | 12.50          | 45.91       | 69.50  | -23.59 | QP             |              |         |
| 3   | *   | 13.5526 | 63.28         | 12.33          | 75.61       | 90.50  | -14.89 | QP             |              |         |

**REMARKS:**

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|           |                  |              |         |
|-----------|------------------|--------------|---------|
| Test Mode | TX Mode_13.56MHz | Polarization | Ant 90° |
|-----------|------------------|--------------|---------|

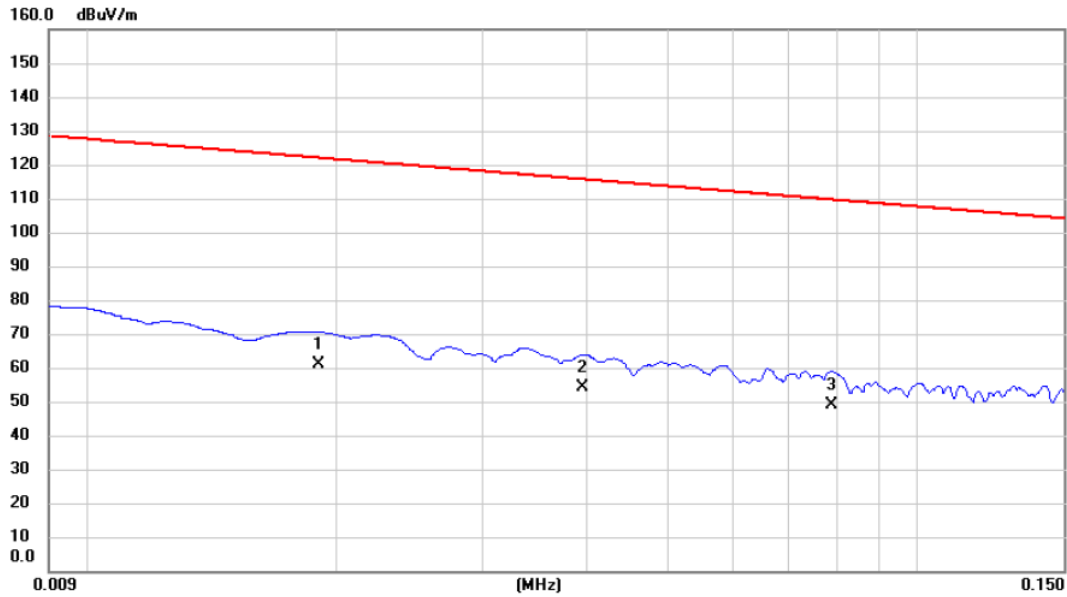


| No. Mk. | Freq.   | Reading Level | Correct Factor | Measurement | Limit  | Margin | Antenna Height | Table Degree | Comment |
|---------|---------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
|         | MHz     | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | cm             | degree       |         |
| 1       | 0.3887  | 32.18         | 13.76          | 45.94       | 96.00  | -50.06 | AVG            |              |         |
| 2       | 0.8393  | 26.47         | 13.34          | 39.81       | 69.35  | -29.54 | QP             |              |         |
| 3 *     | 13.5526 | 56.38         | 12.33          | 68.71       | 90.50  | -21.79 | QP             |              |         |

**REMARKS:**

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|           |                  |              |        |
|-----------|------------------|--------------|--------|
| Test Mode | TX Mode_13.56MHz | Polarization | Ant 0° |
|-----------|------------------|--------------|--------|

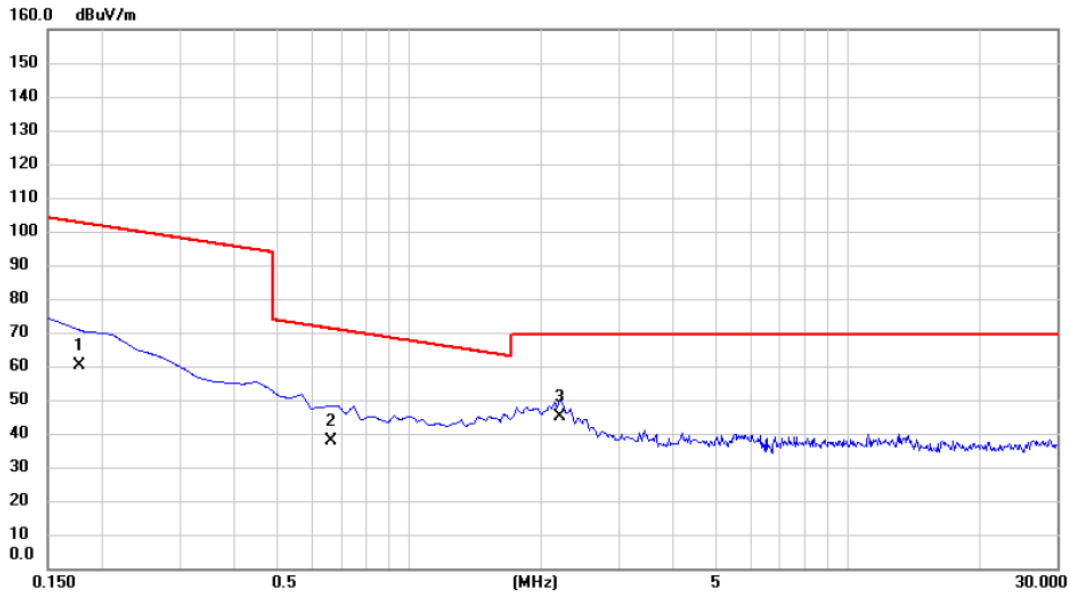


| No. | Mk. | Freq.  | Reading Level | Correct Factor | Measurement | Limit  | Margin | Antenna Height | Table Degree |         |
|-----|-----|--------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
|     |     | MHz    | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | cm             | degree       | Comment |
| 1   |     | 0.0190 | 46.32         | 14.60          | 60.92       | 122.03 | -61.11 | AVG            |              |         |
| 2   |     | 0.0396 | 40.18         | 13.84          | 54.02       | 115.65 | -61.63 | AVG            |              |         |
| 3   | *   | 0.0788 | 35.20         | 13.63          | 48.83       | 109.67 | -60.84 | AVG            |              |         |

**REMARKS:**

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|           |                  |              |        |
|-----------|------------------|--------------|--------|
| Test Mode | TX Mode_13.56MHz | Polarization | Ant 0° |
|-----------|------------------|--------------|--------|

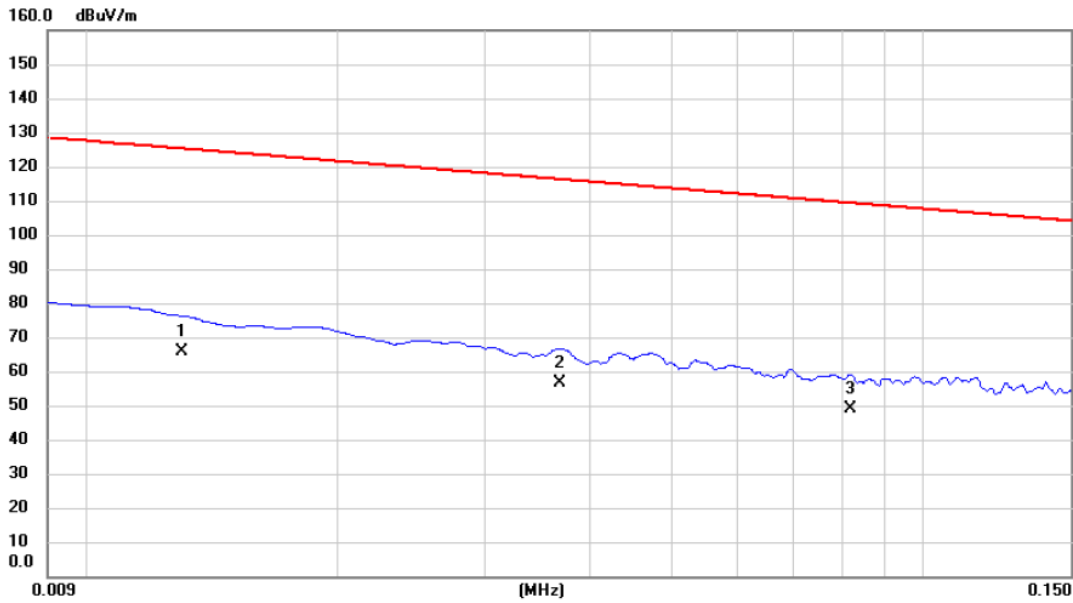


| No. Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measurement dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|---------|-----------|--------------------|-------------------|--------------------|--------------|-----------|----------|---------|
| 1       | 0.1777    | 46.28              | 13.81             | 60.09              | 102.61       | -42.52    | AVG      |         |
| 2       | 0.6648    | 24.18              | 13.52             | 37.70              | 71.15        | -33.45    | QP       |         |
| 3 *     | 2.2096    | 32.58              | 12.49             | 45.07              | 69.54        | -24.47    | QP       |         |

**REMARKS:**

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|           |                  |              |         |
|-----------|------------------|--------------|---------|
| Test Mode | TX Mode_13.56MHz | Polarization | Ant 90° |
|-----------|------------------|--------------|---------|

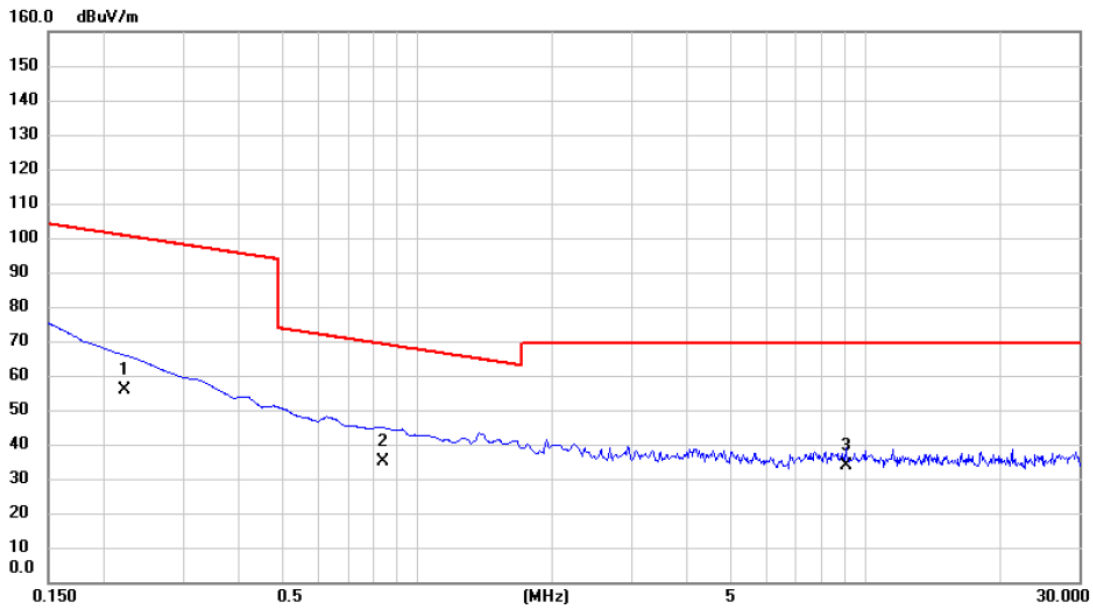


| No. | Mk. | Freq.  | Reading Level | Correct Factor | Measurement | Limit  | Margin | Antenna Height | Table Degree |         |
|-----|-----|--------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
|     |     | MHz    | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | cm             | degree       | Comment |
| 1   | *   | 0.0130 | 49.25         | 16.49          | 65.74       | 125.33 | -59.59 | AVG            |              |         |
| 2   |     | 0.0368 | 42.68         | 13.90          | 56.58       | 116.29 | -59.71 | AVG            |              |         |
| 3   |     | 0.0818 | 35.18         | 13.63          | 48.81       | 109.35 | -60.54 | AVG            |              |         |

**REMARKS:**

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|           |                  |              |         |
|-----------|------------------|--------------|---------|
| Test Mode | TX Mode_13.56MHz | Polarization | Ant 90° |
|-----------|------------------|--------------|---------|



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1   |     | 0.2220       | 42.18                    | 13.80                   | 55.98                      | 100.68          | -44.70       | AVG      |         |
| 2   | *   | 0.8366       | 21.52                    | 13.34                   | 34.86                      | 69.15           | -34.29       | QP       |         |
| 3   |     | 9.0453       | 21.41                    | 12.38                   | 33.79                      | 69.54           | -35.75       | QP       |         |

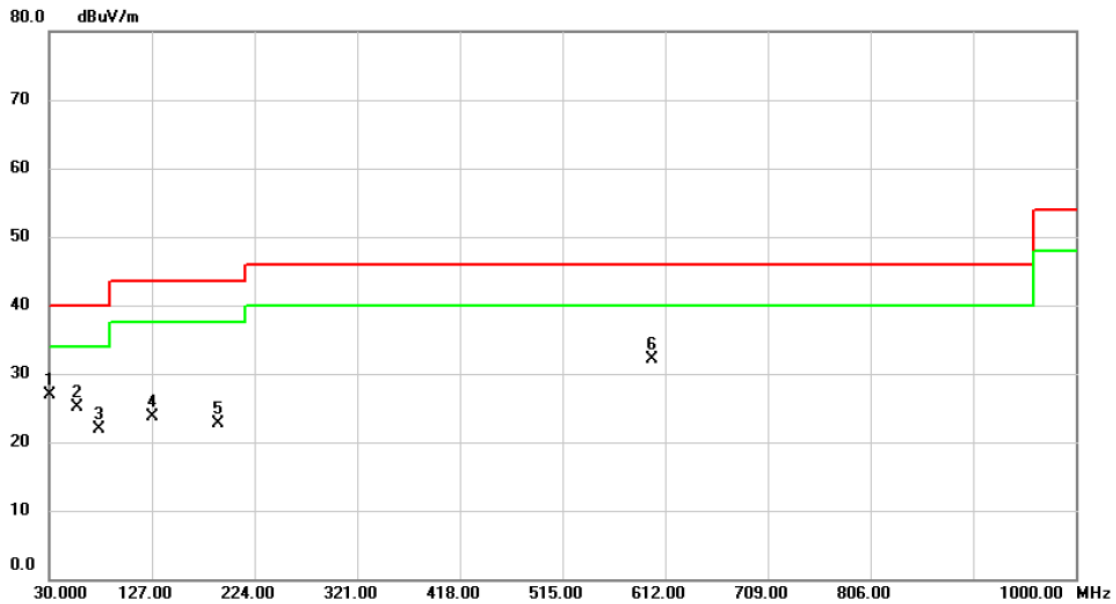
**REMARKS:**

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.



## **APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ**

|           |                  |              |          |
|-----------|------------------|--------------|----------|
| Test Mode | TX Mode_13.56MHz | Polarization | Vertical |
|-----------|------------------|--------------|----------|

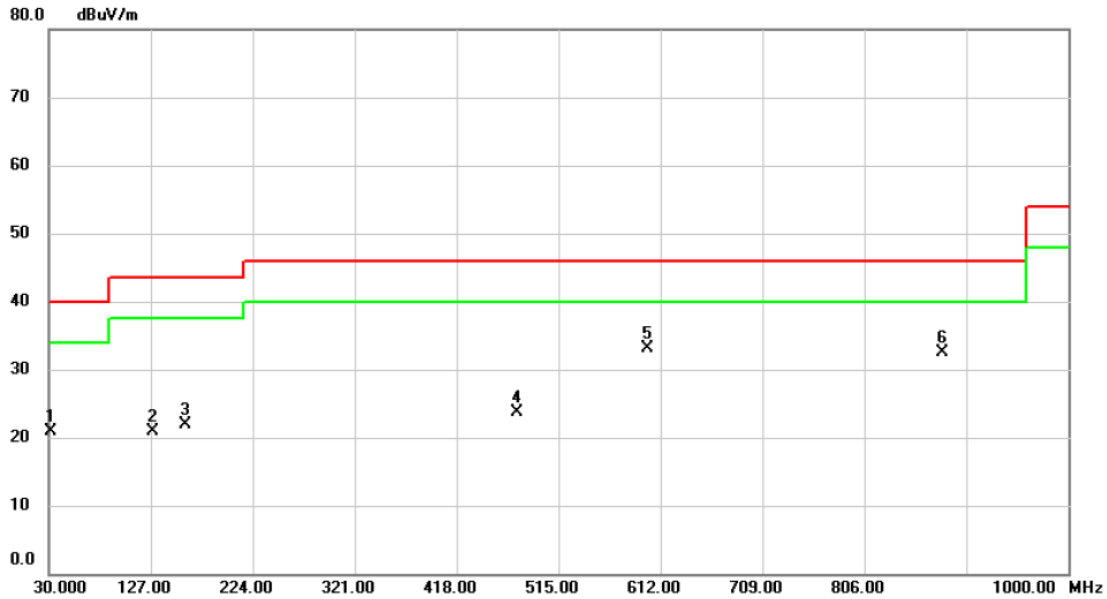


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1   | *   | 30.970       | 42.27                    | -15.34                  | 26.93                      | 40.00           | -13.07       | peak     |         |
| 2   |     | 56.190       | 39.18                    | -14.08                  | 25.10                      | 40.00           | -14.90       | peak     |         |
| 3   |     | 77.530       | 39.73                    | -17.73                  | 22.00                      | 40.00           | -18.00       | peak     |         |
| 4   |     | 127.485      | 37.18                    | -13.44                  | 23.74                      | 43.50           | -19.76       | peak     |         |
| 5   |     | 190.050      | 37.36                    | -14.73                  | 22.63                      | 43.50           | -20.87       | peak     |         |
| 6   |     | 599.875      | 36.31                    | -4.20                   | 32.11                      | 46.00           | -13.89       | peak     |         |

**REMARKS:**

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|           |                  |              |            |
|-----------|------------------|--------------|------------|
| Test Mode | TX Mode_13.56MHz | Polarization | Horizontal |
|-----------|------------------|--------------|------------|



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1   |     | 32.425       | 36.24                    | -15.24                  | 21.00                      | 40.00           | -19.00       | peak     |         |
| 2   |     | 128.455      | 34.28                    | -13.36                  | 20.92                      | 43.50           | -22.58       | peak     |         |
| 3   |     | 159.980      | 34.14                    | -12.19                  | 21.95                      | 43.50           | -21.55       | peak     |         |
| 4   |     | 475.715      | 30.34                    | -6.66                   | 23.68                      | 46.00           | -22.32       | peak     |         |
| 5   | *   | 599.875      | 37.33                    | -4.20                   | 33.13                      | 46.00           | -12.87       | peak     |         |
| 6   |     | 879.720      | 32.22                    | 0.28                    | 32.50                      | 46.00           | -13.50       | peak     |         |

**REMARKS:**

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

## **APPENDIX D - FREQUENCY TOLERANCE**

|           |                  |
|-----------|------------------|
| Test Mode | TX Mode_13.56MHz |
|-----------|------------------|

## Frequency Tolerance Versus Environmental Temperature

|        | Temperature (°C) | Voltage (V) | Frequency (MHz) | Frequency Error (kHz) | Limit (kHz) | Result |
|--------|------------------|-------------|-----------------|-----------------------|-------------|--------|
|        | 20               | 120V        | 13.56           | -                     | -           | -      |
| 0 min  | 50               | 120V        | 13.5602         | 0.20                  | +/- 1.356   | PASS   |
|        | -20              | 120V        | 13.5602         | 0.20                  | +/- 1.356   | PASS   |
| 2 min  | 50               | 120V        | 13.5602         | 0.20                  | +/- 1.356   | PASS   |
|        | -20              | 120V        | 13.5598         | -0.20                 | +/- 1.356   | PASS   |
| 5 min  | 50               | 120V        | 13.5602         | 0.2                   | +/- 1.356   | PASS   |
|        | -20              | 120V        | 13.5602         | 0.20                  | +/- 1.356   | PASS   |
| 10 min | 50               | 120V        | 13.5602         | 0.20                  | +/- 1.356   | PASS   |
|        | -20              | 120V        | 13.5602         | 0.20                  | +/- 1.356   | PASS   |

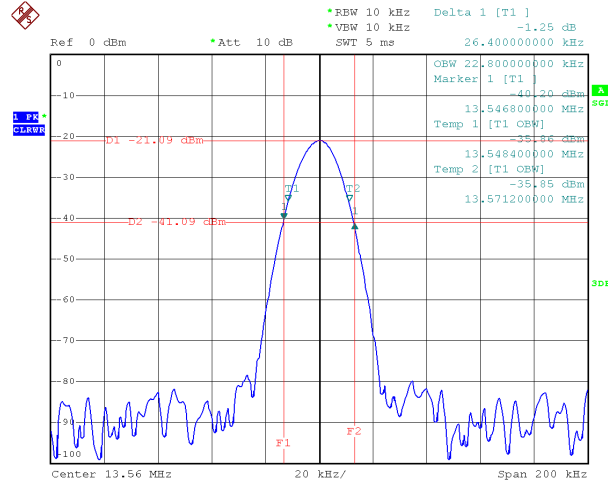
## Frequency Tolerance Versus Input Voltage

| Temperature (°C) | Voltage (V) |      | Frequency (MHz) | Frequency Error (kHz) | Limit (kHz) | Result |
|------------------|-------------|------|-----------------|-----------------------|-------------|--------|
| 20               | $V_{nom}$   | 120V | 13.5602         | 0.2                   | -           | -      |
| 20               | $V_{min}$   | 102V | 13.5598         | -0.20                 | +/- 1.356   | PASS   |
| 20               | $V_{max}$   | 138V | 13.5602         | 0.2                   | +/- 1.356   | PASS   |

## APPENDIX E - BANDWIDTH

|           |                  |
|-----------|------------------|
| Test Mode | TX Mode_13.56MHz |
|-----------|------------------|

| Frequency (MHz) | 20 dB Bandwidth (MHz) | Result   |
|-----------------|-----------------------|----------|
| 13.56           | 0.0228                | Complies |



Date: 15.JUL.2022 14:26:10

End of Test Report