

**CFR 47 FCC PART 15 SUBPART C**

**TEST REPORT**

*For*

**2000L Camp Light**

**MODEL NUMBER: 1872247**

**REPORT NUMBER: E04A25100591F00101**

**ISSUE DATE: November 14, 2025**

**FCC ID: 2A4B2-1872247**

*Prepared for*

**Ningbo Yada Electric Products Co., Ltd  
625Xidian Wangjia Ninghai, Ningbo, China**

*Prepared by*

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**This report is based on a single evaluation of the submitted sample(s) of the above mentioned Product, it does not imply an assessment of the production of the products.**

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Revision History

| Rev. | Issue Date           | Revisions     | Revised By |
|------|----------------------|---------------|------------|
| V0   | November 14,<br>2025 | Initial Issue |            |

**Summary of Test Results**

| Test Item                        | Limit/Requirement                            | Result |
|----------------------------------|----------------------------------------------|--------|
| Antenna Requirement              | FCC Part 15.203                              | Pass   |
| AC Power Line Conducted Emission | FCC Part 15.207                              | Pass   |
| 20dB Bandwidth                   | FCC Part 15.231(c)                           | Pass   |
| Transmission Time                | FCC Part 15.231(a)                           | Pass   |
| Radiated Emission                | FCC Part 15.205/15.209<br>FCC Part 15.231(b) | Pass   |

\*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.

\*The measurement result for the sample received is <Pass> according to <CFR 47 FCC PART 15 SUBPART C> when <Accuracy Method> decision rule is applied.

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## 1. ATTESTATION OF TEST RESULTS

### Applicant Information

Company Name: Ningbo Yada Electric Products Co., Ltd  
Address: 625Xidian Wangjia Ninghai, Ningbo, China

### Manufacturer Information

Company Name: Ningbo Yada Electric Products Co., Ltd  
Address: 625Xidian Wangjia Ninghai, Ningbo, China

### EUT Information

Product Description: 2000L Camp Light  
Model: 1872247  
Brand: /  
Sample Received Date: October 25, 2025  
Sample Status: Normal  
Sample ID: A25100591 001  
Date of Tested: October 25, 2025 to November 4, 2025

| APPLICABLE STANDARDS         |              |
|------------------------------|--------------|
| STANDARD                     | TEST RESULTS |
| CFR 47 FCC PART 15 SUBPART C | Pass         |

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Laboratory Manager

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Alan He

Laboratory Leader

## 2. TEST METHODOLOGY

All tests were performed in accordance with the standard CFR 47 FCC PART 15 SUBPART C

## 3. FACILITIES AND ACCREDITATION

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accreditation Certificate | <p><b>A2LA (Certificate No.: 6947.01)</b><br/>Guangdong Global Testing Technology Co., Ltd.<br/>has been assessed and proved to be in compliance with A2LA.</p> <p><b>FCC (FCC Designation No.: CN1343)</b><br/>Guangdong Global Testing Technology Co., Ltd.<br/>has been recognized to perform compliance testing on equipment<br/>subject to Supplier's Declaration of Conformity (SDoC) and<br/>Certification rules</p> <p><b>ISED (Company No.: 30714)</b><br/>Guangdong Global Testing Technology Co., Ltd.<br/>has been registered and fully described in a report filed with ISED.<br/>The Company Number is 30714 and the test lab Conformity<br/>Assessment Body Identifier (CABID) is CN0148.</p> |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Note: All tests measurement facilities use to collect the measurement data are located at Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park, Dongguan city, Guangdong, People's Republic of China, 523808

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

### 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| Test Items                                                                                                                                       | k    | Uncertainty                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------------------------------|
| 20dB Emission Bandwidth                                                                                                                          | 1.96 | ±9.2 PPM                                                                                                    |
| Conducted Output Power                                                                                                                           | 1.96 | ±1.5 dB                                                                                                     |
| Power Spectral Density Level                                                                                                                     | 1.96 | ±1.9 dB                                                                                                     |
| Conducted Spurious Emission                                                                                                                      | 1.96 | 9 kHz-30 MHz: ± 0.95 dB<br>30 MHz-1 GHz: ± 1.5 dB<br>1GHz-12.75GHz: ± 1.8 dB<br>12.75 GHz-26.5 GHz: ± 2.1dB |
| Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96. |      |                                                                                                             |

| Test Item                                                                                                                                     | Measurement Frequency Range | K | U(dB) |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---|-------|
| Conducted emissions from the AC mains power ports (AMN)                                                                                       | 150 kHz ~ 30 MHz            | 2 | 3.37  |
| Radiated emissions                                                                                                                            | 9 kHz ~ 30 MHz              | 2 | 4.16  |
| Radiated emissions                                                                                                                            | 30 MHz ~ 1 GHz              | 2 | 3.79  |
| Radiated emissions                                                                                                                            | 1 GHz ~ 18 GHz              | 2 | 5.62  |
| Radiated emissions                                                                                                                            | 18 GHz ~ 40 GHz             | 2 | 5.54  |
| Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2. |                             |   |       |

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

|                  |         |                                                |
|------------------|---------|------------------------------------------------|
| EUT Name         |         | 2000L Camp Light                               |
| Model            |         | 1872247                                        |
| Series Model     |         | /                                              |
| Hardware Version |         | V1.0                                           |
| Software Version |         | V1.0                                           |
| Ratings          |         | DC 5V / Battery 3.7V                           |
| Battery Ratings  |         | 3.7V 200mAh 0.74Wh                             |
| Power Supply     | DC      | 5V powered by an adapter that inputs 120V/60Hz |
|                  | Battery | 3.7V                                           |

|                     |                                                                                                                                                  |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Band:     | 433.92 MHz                                                                                                                                       |
| Frequency Range:    | 433.92 MHz                                                                                                                                       |
| Type of Modulation: | ASK                                                                                                                                              |
| Number of Channels: | 1                                                                                                                                                |
| Max field strength: | 63.20 dB $\mu$ V/m                                                                                                                               |
| Antenna Type:       | Internal antenna                                                                                                                                 |
| Antenna Gain:       | 0 dBi                                                                                                                                            |
| EUT Test software:  | /                                                                                                                                                |
| Note:               | The Antenna Gain was provided by customer, and this information may affect the validity of the results, customer should be responsible for this. |

### 5.2. CHANNEL LIST

| Channel List |                 |         |                 |         |                 |         |                 |
|--------------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|
| Channel      | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 1            | 433.92          | /       | /               | /       | /               | /       | /               |

### 5.3. MAX FIELD STRENGTH

| Frequency (MHz) | Channel Number | Max field strength (dB $\mu$ V/m) |
|-----------------|----------------|-----------------------------------|
| 433.92          | 1              | 63.20                             |

### 5.4. TEST CHANNEL CONFIGURATION

| Test Channel Number | Frequency  |
|---------------------|------------|
| CH 1                | 433.92 MHz |

**5.5. THE WORSE CASE POWER SETTING PARAMETER**

| The Worse Case Power Setting Parameter |                         |              |  |
|----------------------------------------|-------------------------|--------------|--|
| Test Software                          |                         | /            |  |
| Modulation Mode                        | Transmit Antenna Number | Test Channel |  |
|                                        |                         | CH 1         |  |
| ASK                                    | 1                       | Default      |  |

**5.6. DESCRIPTION OF AVAILABLE ANTENNAS**

| Antenna | Frequency (MHz) | Antenna Type     | MAX Antenna Gain (dBi) |
|---------|-----------------|------------------|------------------------|
| 1       | 433.92          | Internal antenna | 0                      |

| Test Mode | Transmit and Receive Mode               | Description                                |
|-----------|-----------------------------------------|--------------------------------------------|
| ASK       | <input checked="" type="checkbox"/> 1TX | ANT 1 can be used as transmitting antenna. |

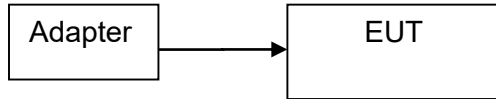
Note: The value of the antenna gain was declared by customer.

**5.7. SUPPORT UNITS FOR SYSTEM TEST**

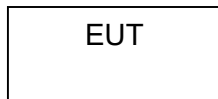
| No. | Equipment | Manufacturer | Model No. | Serial No. |
|-----|-----------|--------------|-----------|------------|
| 1   | Adapter   | UGREEN       | CD170     | /          |

## 5.8. SETUP DIAGRAM

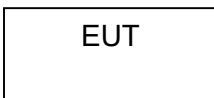
AC conducted emission :



Radiated Emission:



RF conducted:



## 6. MEASURING EQUIPMENT AND SOFTWARE USED

| Test Equipment of Conducted RF      |                 |                      |             |            |            |
|-------------------------------------|-----------------|----------------------|-------------|------------|------------|
| Equipment                           | Manufacturer    | Model No.            | Serial No.  | Last Cal.  | Due Date   |
| Spectrum Analyzer                   | Rohde & Schwarz | FSV40                | 102257      | 2025/08/25 | 2026/08/24 |
| Spectrum Analyzer                   | KEYSIGHT        | N9020A               | MY51285127  | 2025/08/25 | 2026/08/24 |
| EXG Analog Signal Generator         | KEYSIGHT        | N5173B               | MY61253075  | 2025/08/25 | 2026/08/24 |
| Vector Signal Generator             | Rohde & Schwarz | SMM100A              | 101899      | 2025/08/25 | 2026/08/24 |
| RF Control box                      | MWRF-test       | MW100-RFCB           | MW220926GTG | 2025/08/25 | 2026/08/24 |
| Wideband Radio Communication Tester | Rohde & Schwarz | CMW270               | 102792      | 2025/08/25 | 2026/08/24 |
| Wideband Radio Communication Tester | Rohde & Schwarz | CMW500               | 103235      | 2025/08/25 | 2026/08/24 |
| temperature humidity chamber        | Espec           | SH-241               | SH-241-2014 | 2025/08/25 | 2026/08/24 |
| RF Test Software                    | MWRF-test       | MTS8310E (Ver. V2/0) | N/A         | N/A        | N/A        |

| Test Equipment of Radiated emissions below 1GHz |                 |                         |            |            |            |
|-------------------------------------------------|-----------------|-------------------------|------------|------------|------------|
| Equipment                                       | Manufacturer    | Model No.               | Serial No. | Last Cal.  | Due Date   |
| 3m Semi-anechoic Chamber                        | ETS             | 9m*6m*6m                | Q2146      | 2025/08/23 | 2026/08/22 |
| EMI Test Receiver                               | Rohde & Schwarz | ESCI3                   | 101144     | 2025/08/23 | 2026/08/22 |
| Pre-Amplifier                                   | HzEMC           | HPA-9K0130              | HYPA21001  | 2025/08/23 | 2026/08/22 |
| Biconilog Antenna                               | Schwarzbeck     | VULB 9168               | 01315      | 2025/09/20 | 2028/09/19 |
| Biconilog Antenna                               | ETS             | 3142E                   | 00243651   | 2025/02/22 | 2028/02/21 |
| Loop Antenna                                    | ETS             | 6502                    | 00243668   | 2025/02/22 | 2028/02/21 |
| Test Software                                   | Farad           | EZ-EMC (Ver.FA-03A2 RE) | N/A        | N/A        | N/A        |

| Test Equipment of Radiated emissions above 1GHz |                 |            |            |            |            |
|-------------------------------------------------|-----------------|------------|------------|------------|------------|
| Equipment                                       | Manufacturer    | Model No.  | Serial No. | Last Cal.  | Due Date   |
| 3m Semi-anechoic Chamber                        | ETS             | 9m*6m*6m   | Q2149      | 2025/08/23 | 2026/08/22 |
| Spectrum Analyzer                               | Rohde & Schwarz | FSV40      | 101413     | 2025/08/23 | 2026/08/22 |
| Pre-Amplifier                                   | HzEMC           | HPA-1G1850 | HYPA21003  | 2025/08/23 | 2026/08/22 |
| Horn antenna                                    | ETS             | 3117       | 00246069   | 2025/02/22 | 2028/02/21 |
| Pre-Amplifier                                   | HzEMC           | HPA-184057 | HYPA21004  | 2025/08/23 | 2026/08/22 |

|                |       |                                |             |            |            |
|----------------|-------|--------------------------------|-------------|------------|------------|
| Horn antenna   | ETS   | 3116C                          | 00246265    | 2025/02/22 | 2028/02/21 |
| RF Filter Bank | HzEMC | HSW-F18                        | HSWF2218E01 | 2025/08/23 | 2026/08/22 |
| RF Filter Bank | HzEMC | HPF18                          | HPF2218E02  | 2025/08/23 | 2026/08/22 |
| Test Software  | Farad | EZ-EMC<br>(Ver.FA-03A2<br>RE+) | N/A         | N/A        | N/A        |

| Test Equipment of Conducted emissions |                 |                                    |            |            |            |
|---------------------------------------|-----------------|------------------------------------|------------|------------|------------|
| Equipment                             | Manufacturer    | Model No.                          | Serial No. | Last Cal.  | Due Date   |
| Shielded Room                         | CHENG YU        | 8m*5m*4m                           | N/A        | 2025/08/23 | 2026/08/22 |
| EMI Test Receiver                     | Rohde & Schwarz | ESR3                               | 102647     | 2025/08/23 | 2026/08/22 |
| LISN/AMN                              | Rohde & Schwarz | ENV216                             | 102843     | 2025/08/23 | 2026/08/22 |
| NNLK 8129 RC                          | Schwarzbeck     | NNLK 8129 RC                       | 5046       | 2025/08/23 | 2026/08/22 |
| Test Software                         | Farad           | EZ-EMC (Ver.<br>EMC-con-3A1<br>1+) | N/A        | N/A        | N/A        |

## 7. ANTENNA PORT TEST RESULTS

### 7.1. ON TIME AND DUTY CYCLE

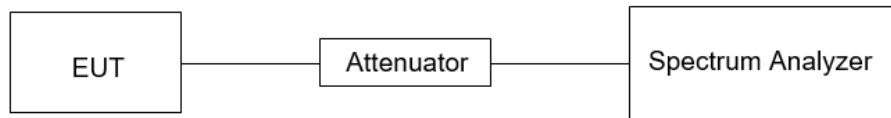
#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

Refer to ANSI C63.10-2020 Zero – Span Spectrum Analyzer method.

#### TEST SETUP



#### TEST ENVIRONMENT

|                     |        |                   |     |
|---------------------|--------|-------------------|-----|
| Temperature         | 23.8°C | Relative Humidity | 54% |
| Atmosphere Pressure | 101kPa |                   |     |

#### TEST RESULTS

433.92MHz

| On Time<br>(ms) | Period<br>(ms) | Duty Cycle<br>x<br>(Linear) | Duty Cycle<br>(%) | Duty Cycle<br>Correction Factor<br>(db) | 1/T<br>Minimum<br>VBW<br>(kHz) | Final setting<br>For VBW<br>(kHz) |
|-----------------|----------------|-----------------------------|-------------------|-----------------------------------------|--------------------------------|-----------------------------------|
| 31.6            | 100            | 0.316                       | 31.6              | -10.01                                  | 0.032                          | 1                                 |

Note:

Duty Cycle Correction Factor=20log(x).

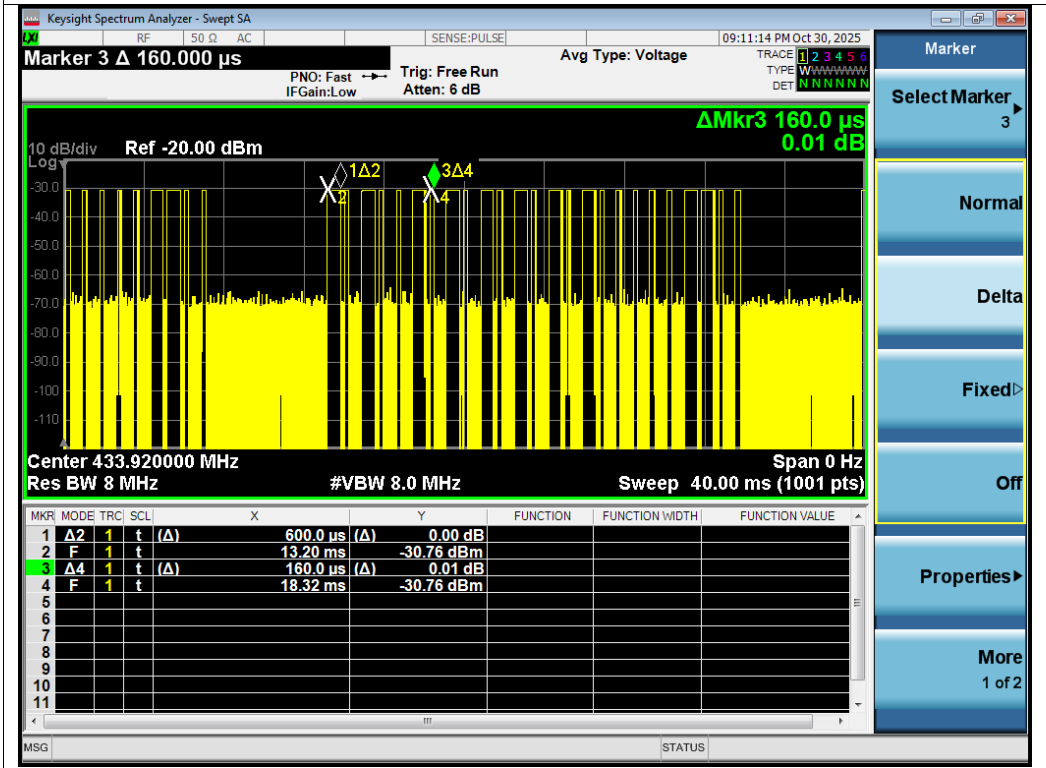
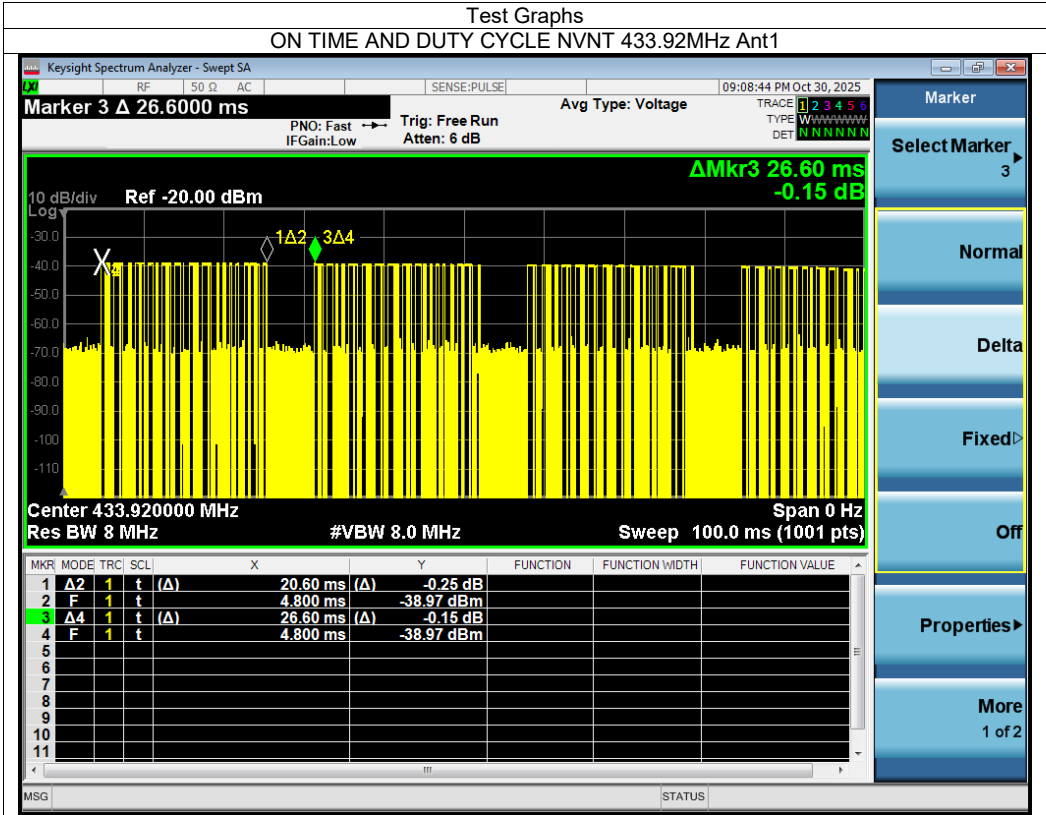
Where: x is Duty Cycle (Linear)

Where: T is On Time (transmitting duration)

If that calculated VBW is not available on the analyzer then the next higher value should be used.

Period Time=100 ms

On Time= (((0.6\*10)+(0.16\*15))\*3+(0.6\*8)+(0.16\*10)) ms =31.6 ms



## 7.2. 20DB BANDWIDTH

### LIMITS

| CFR 47 FCC Part15 (15.231) Subpart C |                 |                   |                       |
|--------------------------------------|-----------------|-------------------|-----------------------|
| Section                              | Test Item       | Limit             | Frequency Range (MHz) |
| CFR 47 FCC 15.231(a)(2)              | 20 dB Bandwidth | $\leq 1084.8$ kHz | 433.92                |

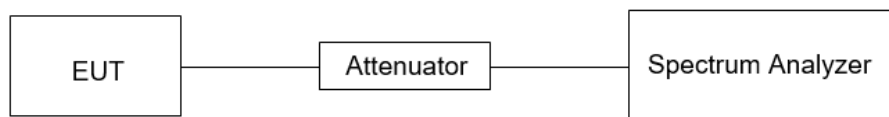
### TEST PROCEDURE

Connect the EUT to the spectrum analyser and use the following settings:

|                  |                                                |
|------------------|------------------------------------------------|
| Center Frequency | The center frequency of the channel under test |
| Frequency Span   | Approximately 2 to 3 times the 20dB bandwidth  |
| Detector         | Peak                                           |
| RBW              | 1 % to 5 % of the 20 dB bandwidth              |
| VBW              | approximately 3×RBW                            |
| Trace            | Max hold                                       |
| Sweep            | Auto couple                                    |

a) Use the occupied bandwidth function of the instrument, allow the trace to stabilize and report the measured 20 dB Bandwidth.

### TEST SETUP

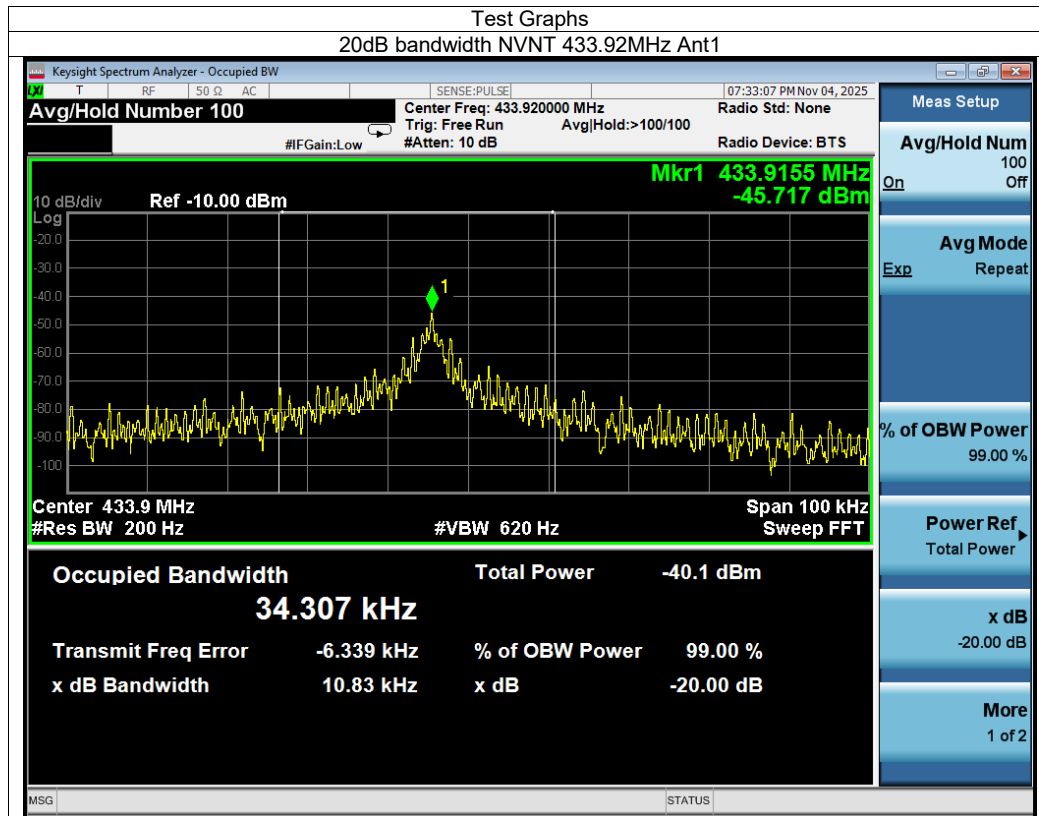


### TEST ENVIRONMENT

|                     |        |                   |     |
|---------------------|--------|-------------------|-----|
| Temperature         | 23.8°C | Relative Humidity | 54% |
| Atmosphere Pressure | 101kPa |                   |     |

## TEST RESULTS

| Frequency (MHz) | 20dB bandwidth (kHz) | Limit (kHz)   | Result |
|-----------------|----------------------|---------------|--------|
| 433.92          | 10.83                | $\leq 1084.8$ | Pass   |



### 7.3. TRANSMISSION TIME

#### LIMITS

| CFR 47 FCC Part15 (15.231) Subpart C |                   |                                                                                                                                                            |
|--------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Section                              | Test Item         | Limit                                                                                                                                                      |
| CFR 47 FCC §15.247 (a)               | Transmission Time | A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released. |

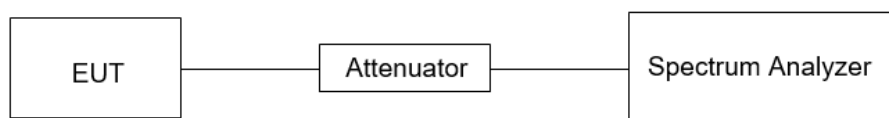
#### TEST PROCEDURE

Connect the EUT to the spectrum analyser and use the following settings:

|                  |                                                |
|------------------|------------------------------------------------|
| Center Frequency | The center frequency of the channel under test |
| Detector         | PEAK                                           |
| RBW              | 8MHz                                           |
| VBW              | 8MHz                                           |
| Span             | 0Hz                                            |
| Sweep time       | Auto couple                                    |

Allow trace to fully stabilize and record value.

#### TEST SETUP

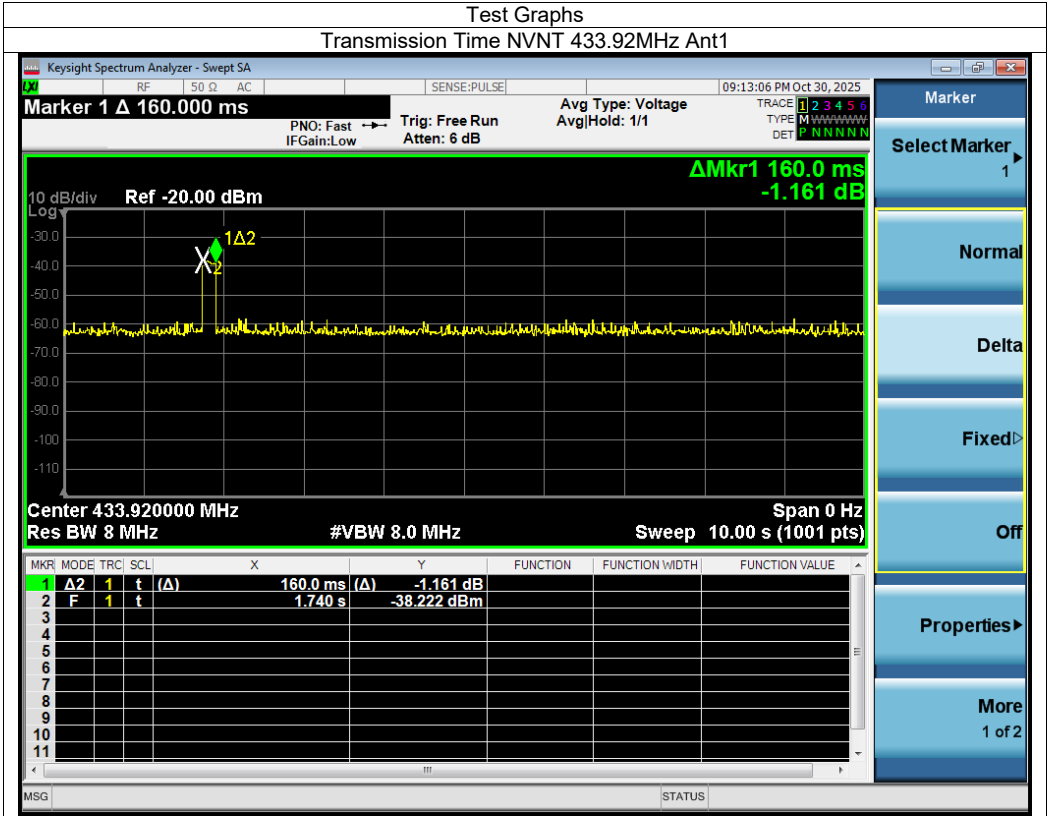


#### TEST ENVIRONMENT

|                     |        |                   |     |
|---------------------|--------|-------------------|-----|
| Temperature         | 23.8°C | Relative Humidity | 54% |
| Atmosphere Pressure | 101kPa |                   |     |

TEST RESULTS

| Frequency (MHz) | TRANSMISSION TIME (s) | Limit (s) | Result |
|-----------------|-----------------------|-----------|--------|
| 433.92          | see test graph        | ≤5        | Pass   |



## 8. RADIATED TEST RESULTS

### LIMITS

Please refer to CFR 47 FCC §15.231(b)

| Fundamental frequency (MHz) | Field strength of fundamental (microvolts/meter) | Field strength of spurious emission (microvolts/meter) |
|-----------------------------|--------------------------------------------------|--------------------------------------------------------|
| 40.66-40.70                 | 2,250                                            | 225                                                    |
| 70-130                      | 1,250                                            | 125                                                    |
| 130-174                     | <sup>1</sup> 1,250 to 3,750                      | <sup>1</sup> 125 to 375                                |
| 174-260                     | 3,750                                            | 375                                                    |
| 260-470                     | <sup>1</sup> 3,750 to 12,500                     | <sup>1</sup> 375 to 1,250                              |
| Above 470                   | 12,500                                           | 1,250                                                  |

Note: 1. Linear interpolations.

Please refer to CFR 47 FCC §15.205 and §15.209.

Radiation Disturbance Test Limit for FCC (Class B) (9 kHz ~ 1 GHz)

| Emissions radiated outside of the specified frequency bands above 30 MHz |                                    |                                      |         |
|--------------------------------------------------------------------------|------------------------------------|--------------------------------------|---------|
| Frequency Range (MHz)                                                    | Field Strength Limit (uV/m) at 3 m | Field Strength Limit (dBuV/m) at 3 m |         |
|                                                                          |                                    | Quasi-Peak                           |         |
| 30 - 88                                                                  | 100                                | 40                                   |         |
| 88 - 216                                                                 | 150                                | 43.5                                 |         |
| 216 - 960                                                                | 200                                | 46                                   |         |
| Above 960                                                                | 500                                | 54                                   |         |
| Above 1000                                                               | 500                                | Peak                                 | Average |
|                                                                          |                                    | 74                                   | 54      |

| FCC Emissions radiated outside of the specified frequency bands below 30 MHz |                                   |                               |
|------------------------------------------------------------------------------|-----------------------------------|-------------------------------|
| Frequency (MHz)                                                              | Field strength (microvolts/meter) | Measurement distance (meters) |
| 0.009-0.490                                                                  | 2400/F(kHz)                       | 300                           |
| 0.490-1.705                                                                  | 24000/F(kHz)                      | 30                            |
| 1.705-30.0                                                                   | 30                                | 30                            |

**TEST PROCEDURE**

Below 30 MHz

The setting of the spectrum analyser

|       |                                                                  |
|-------|------------------------------------------------------------------|
| RBW   | 200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz) |
| VBW   | 200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz) |
| Sweep | Auto                                                             |

1. The testing follows the guidelines in ANSI C63.10-2020 clause 6.4.
2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80 cm above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.
5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.
6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak and average detector and reported.
7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.
8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to  $Y-51.5 = Z$  dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

Below 1 GHz and above 30 MHz

The setting of the spectrum analyser

|          |          |
|----------|----------|
| RBW      | 120 kHz  |
| VBW      | 300 kHz  |
| Sweep    | Auto     |
| Detector | Peak/QP  |
| Trace    | Max hold |

1. The testing follows the guidelines in ANSI C63.10-2020 clause 6.5.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80 cm above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

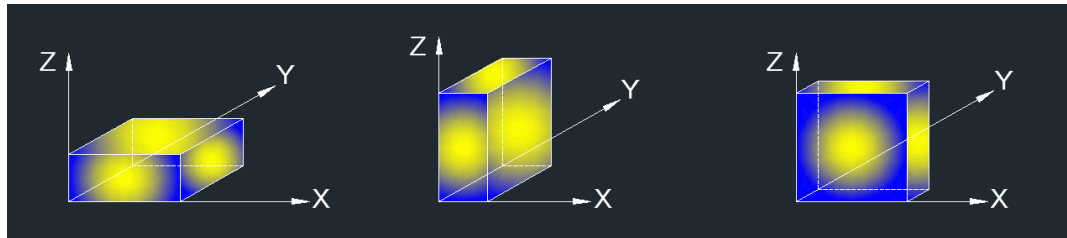
Above 1G

The setting of the spectrum analyser

|          |                                |
|----------|--------------------------------|
| RBW      | 1 MHz                          |
| VBW      | PEAK: 3 MHz<br>AVG: see note 6 |
| Sweep    | Auto                           |
| Detector | Peak                           |
| Trace    | Max hold                       |

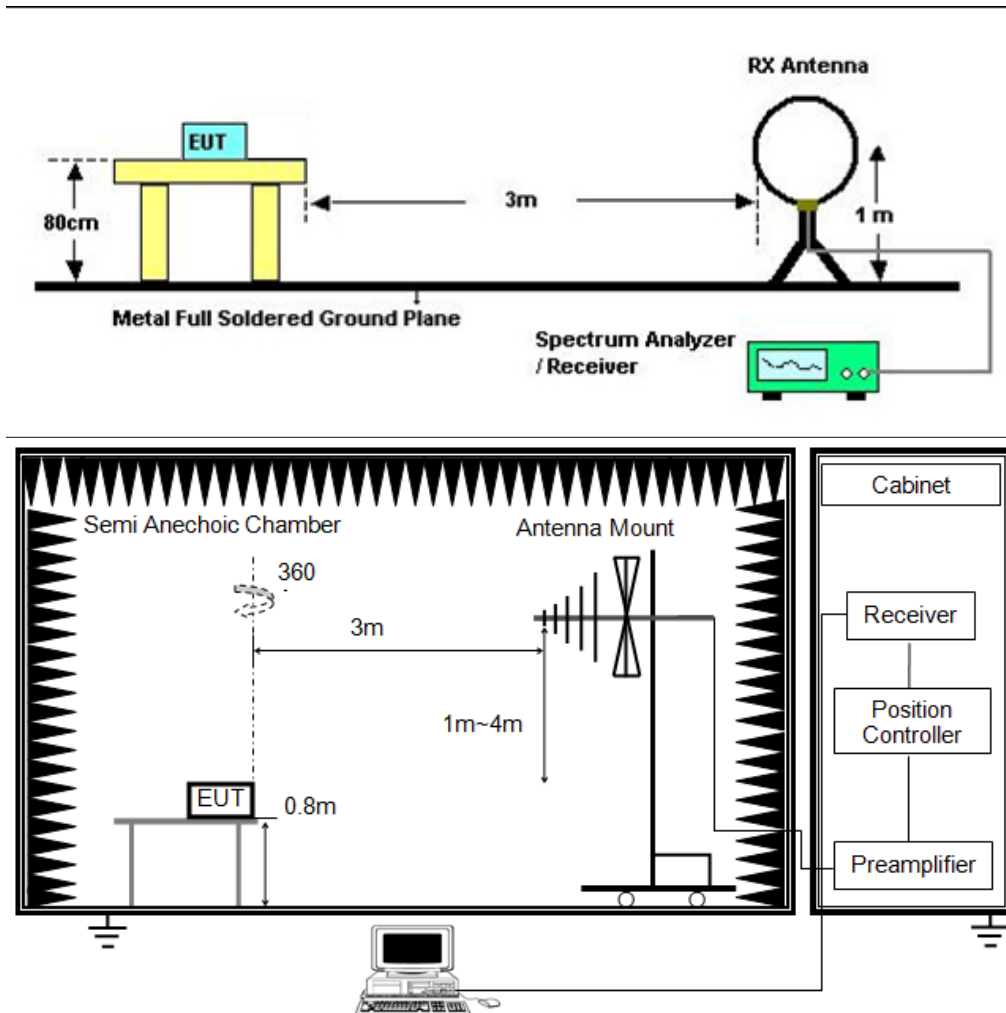
1. The testing follows the guidelines in ANSI C63.10-2020 clause 6.6.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 1.5 m above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.
6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 7.1.ON TIME AND DUTY CYCLE.

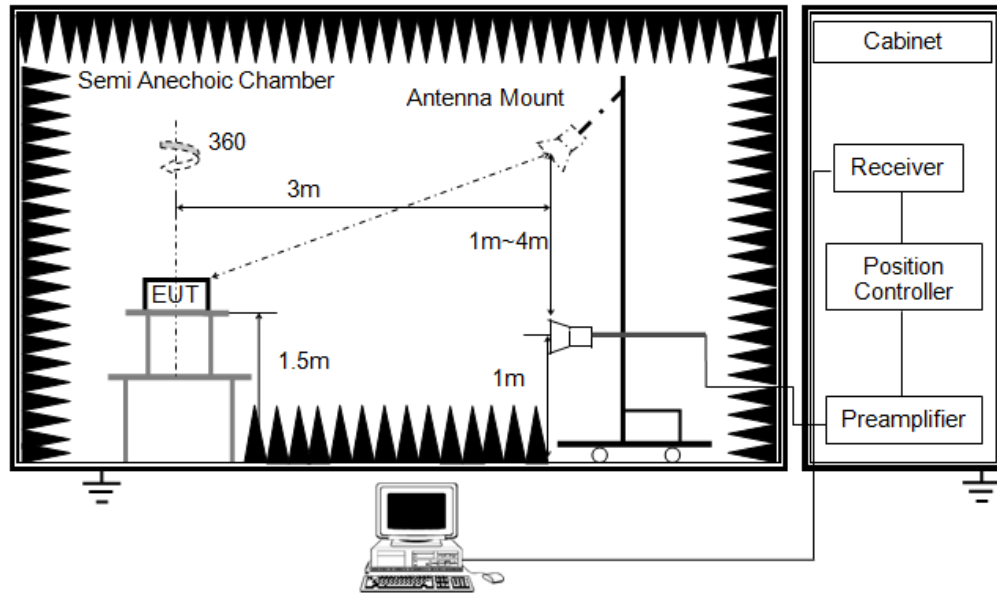
X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

## TEST SETUP





#### TEST ENVIRONMENT

|                     |        |                   |     |
|---------------------|--------|-------------------|-----|
| Temperature         | 21.9°C | Relative Humidity | 52% |
| Atmosphere Pressure | 101kPa |                   |     |

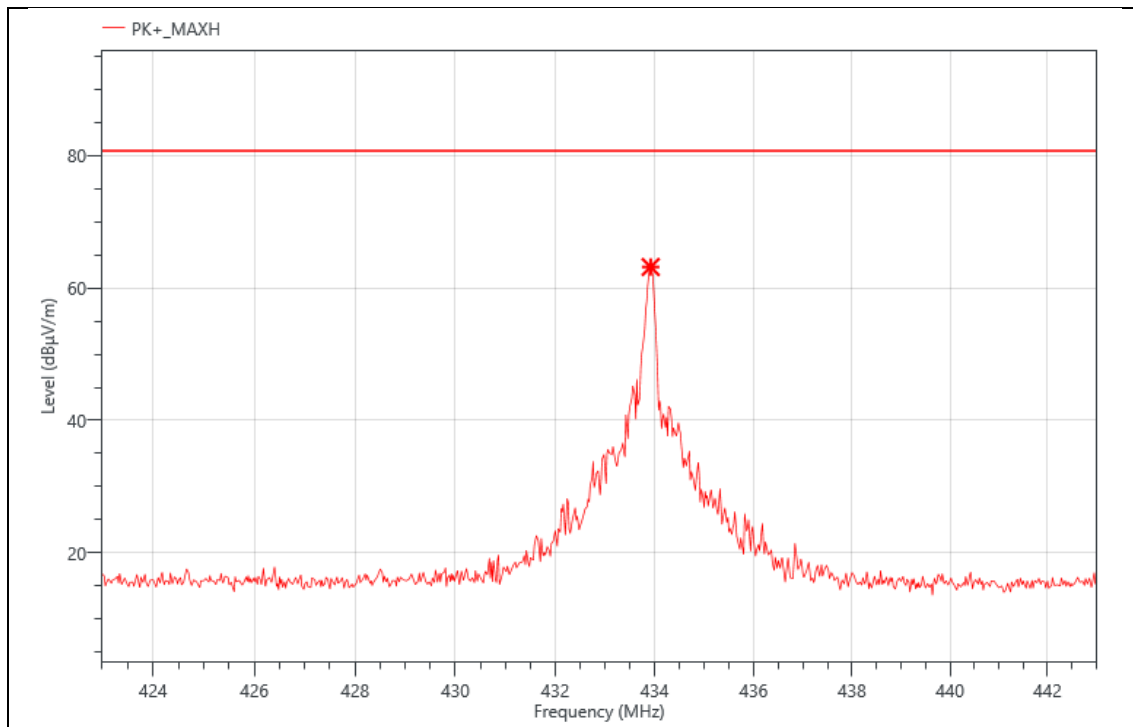
#### TEST RESULTS

Please refer to section 8.1.

## 8.1. RADIATED EMISSION

### Field Strength of fundamental frequency

|        |                   |
|--------|-------------------|
| Mode:  | 433.92MHz         |
| Power: | Battery 3.7V      |
| TE:    | Big               |
| Date   | 2025/10/24        |
| T/A/P  | 21.9°C/52%/101Kpa |

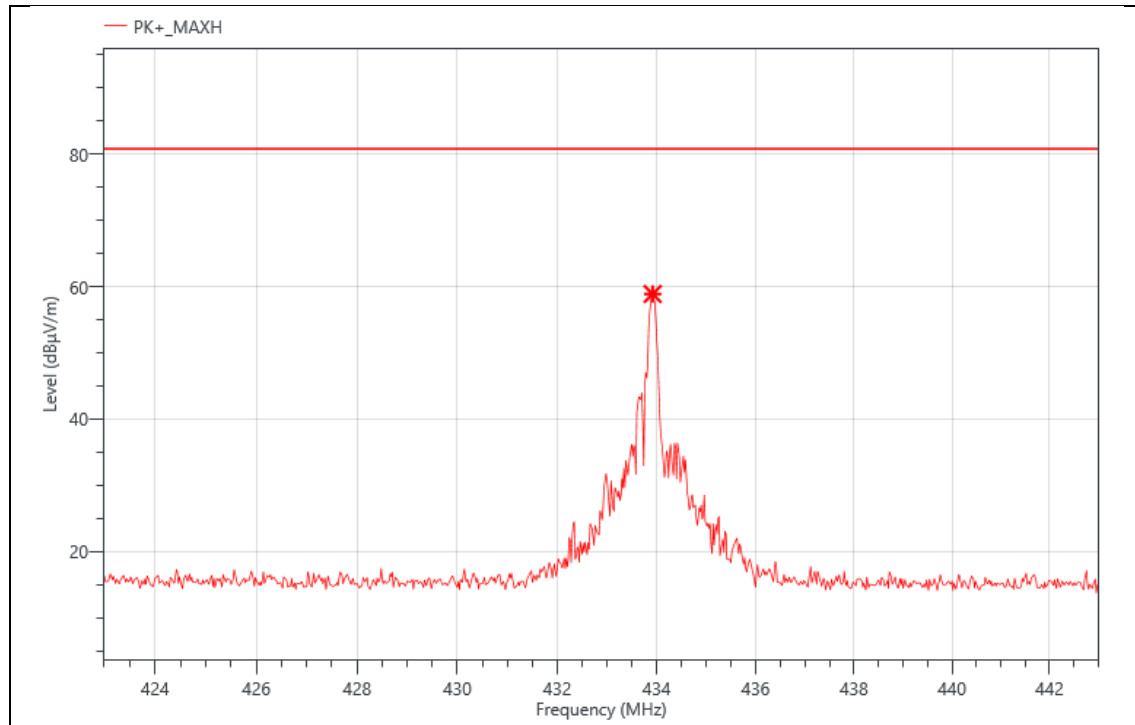


### Critical\_Freqs

| No. | Freq. (MHz) | Reading (dBμV) | Corr. (dB) | Meas. (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Det. | Pol. |
|-----|-------------|----------------|------------|----------------|----------------|-------------|------|------|
| 1   | 433.920     | 77.19          | -13.99     | 63.20          | 80.83          | 17.63       | PK+  | H    |

Note: [Margin=Limit-Meas.]; [Meas.=Reading+Corr. ]

|        |                   |
|--------|-------------------|
| Mode:  | 433.92MHz         |
| Power: | Battery 3.7V      |
| TE:    | Big               |
| Date   | 2025/10/24        |
| T/A/P  | 21.9°C/52%/101Kpa |



### Critical\_Freqs

| No. | Freq. (MHz) | Reading (dBμV) | Corr. (dB) | Meas. (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Det. | Pol. |
|-----|-------------|----------------|------------|----------------|----------------|-------------|------|------|
| 1   | 433.920     | 72.89          | -13.99     | 58.90          | 80.83          | 21.93       | PK+  | V    |

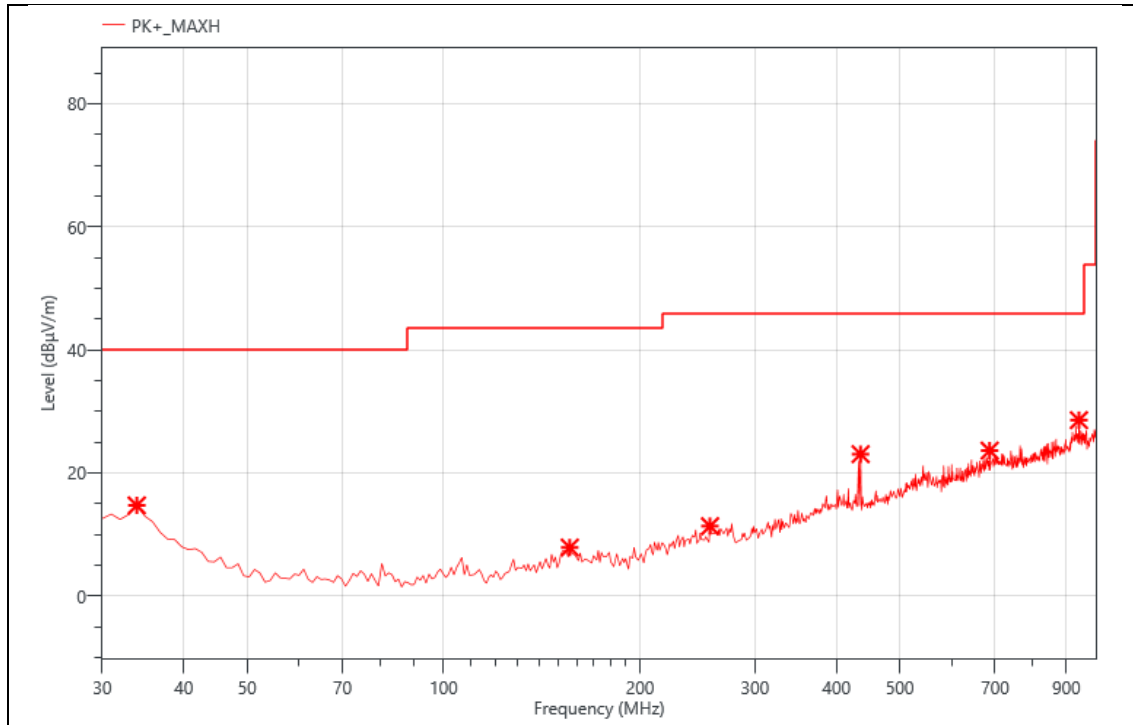
Note: [Margin=Limit-Meas.]; [Meas.=Reading+Corr. ]

Note:

1. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

**Radiated Spurious Emission**

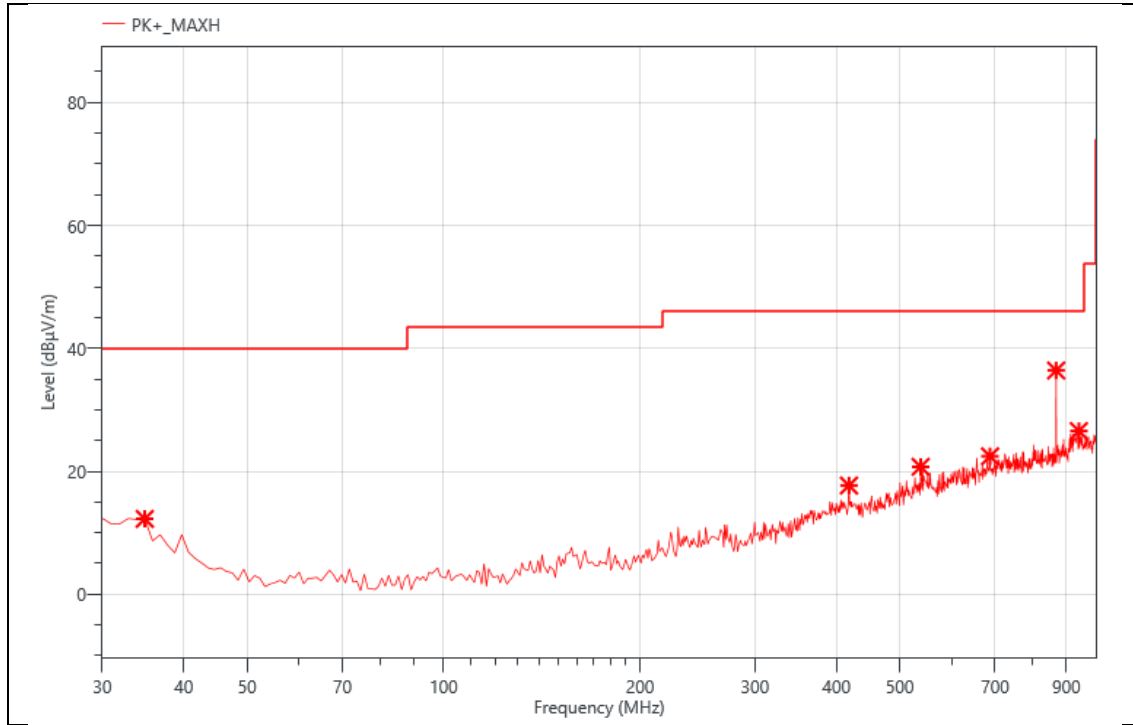
|        |                   |
|--------|-------------------|
| Mode:  | 433.92MHz         |
| Power: | Battery 3.7V      |
| TE:    | Big               |
| Date   | 2025/10/24        |
| T/A/P  | 21.9°C/52%/101Kpa |

**Critical\_Freqs**

| No. | Freq. (MHz) | Reading (dBμV) | Corr. (dB) | Meas. (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Det. | Pol. |
|-----|-------------|----------------|------------|----------------|----------------|-------------|------|------|
| 1   | 33.880      | 31.37          | -16.63     | 14.74          | 40.00          | 25.26       | PK+  | V    |
| 2   | 156.100     | 28.60          | -20.71     | 7.89           | 43.50          | 35.61       | PK+  | V    |
| 3   | 256.010     | 29.86          | -18.5      | 11.36          | 46.00          | 34.64       | PK+  | V    |
| 4   | 435.460     | 37.06          | -14        | 23.06          | 46.00          | 22.94       | PK+  | V    |
| 5   | 686.690     | 30.85          | -7.21      | 23.64          | 46.00          | 22.36       | PK+  | V    |
| 6   | 940.830     | 30.76          | -2.17      | 28.59          | 46.00          | 17.41       | PK+  | V    |

Note: [Margin=Limit-Meas.]; [Meas.=Reading+Corr. ]

|        |                   |
|--------|-------------------|
| Mode:  | 433.92MHz         |
| Power: | Battery 3.7V      |
| TE:    | Big               |
| Date   | 2025/10/24        |
| T/A/P  | 21.9°C/52%/101Kpa |



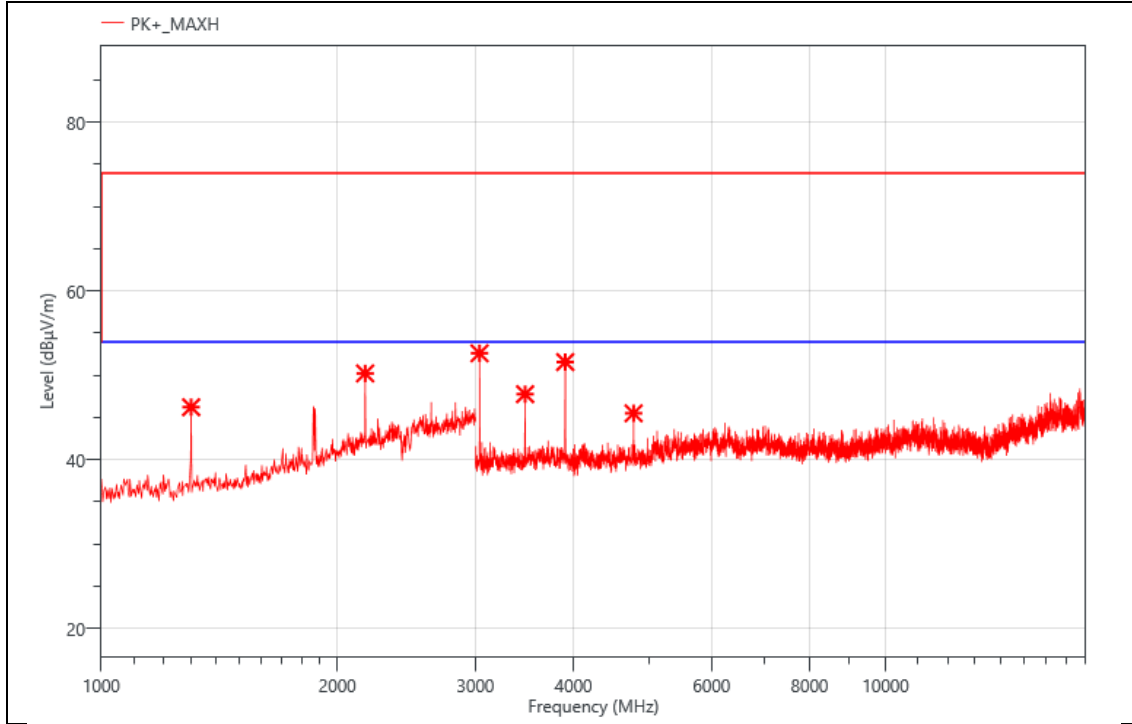
### Critical\_Freqs

| No. | Freq. (MHz) | Reading (dBμV) | Corr. (dB) | Meas. (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Det. | Pol. |
|-----|-------------|----------------|------------|----------------|----------------|-------------|------|------|
| 1   | 34.850      | 29.44          | -17.18     | 12.26          | 40.00          | 27.74       | PK+  | H    |
| 2   | 418.000     | 31.26          | -13.57     | 17.69          | 46.00          | 28.31       | PK+  | H    |
| 3   | 538.280     | 30.82          | -10.09     | 20.73          | 46.00          | 25.27       | PK+  | H    |
| 4   | 687.660     | 29.64          | -7.2       | 22.44          | 46.00          | 23.56       | PK+  | H    |
| 5   | 868.080     | 41.11          | -4.71      | 36.40          | 46.00          | 9.60        | PK+  | H    |
| 6   | 940.830     | 28.73          | -2.17      | 26.56          | 46.00          | 19.44       | PK+  | H    |

Note: [Margin=Limit-Meas.]; [Meas.=Reading+Corr. ]

For the frequency below 30MHz, a pre-scan was performed, and the result was 20 dB lower than the limit line, the test data was not shown in the report.

|        |                   |
|--------|-------------------|
| Mode:  | 433.92MHz         |
| Power: | Battery 3.7V      |
| TE:    | Big               |
| Date   | 2025/10/24        |
| T/A/P  | 21.9°C/52%/101Kpa |

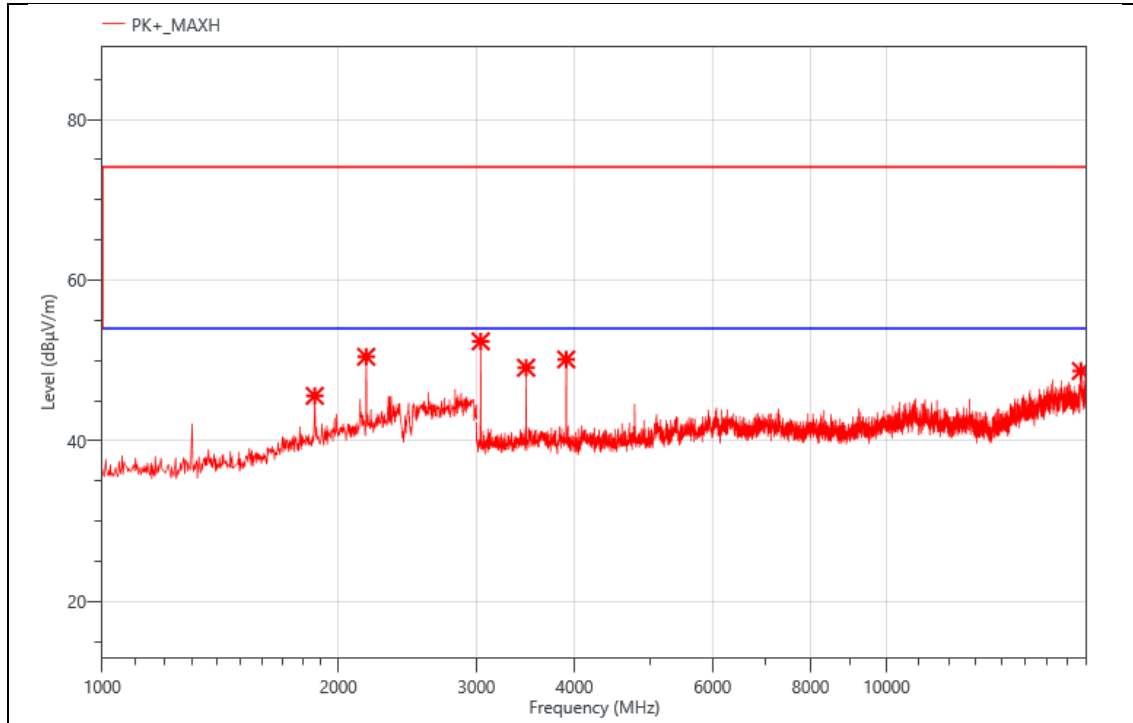


### Critical\_Freqs

| No. | Freq.<br>(MHz) | Reading<br>(dBμV) | Corr.<br>(dB) | Meas.<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) | Det. | Pol. |
|-----|----------------|-------------------|---------------|-------------------|-------------------|----------------|------|------|
| 1   | 1302.000       | 60.35             | -14.13        | 46.22             | 74.00             | 27.78          | PK+  | V    |
| 2   | 2170.000       | 59.28             | -9.05         | 50.23             | 74.00             | 23.77          | PK+  | V    |
| 3   | 3036.000       | 67.62             | -15.01        | 52.61             | 74.00             | 21.39          | PK+  | V    |
| 4   | 3471.000       | 61.98             | -14.21        | 47.77             | 74.00             | 26.23          | PK+  | V    |
| 5   | 3904.500       | 64.68             | -13.11        | 51.57             | 74.00             | 22.43          | PK+  | V    |
| 6   | 4773.000       | 56.80             | -11.3         | 45.50             | 74.00             | 28.50          | PK+  | V    |

Note: [Margin=Limit-Meas.]; [Meas.=Reading+Corr. ]

|        |                   |
|--------|-------------------|
| Mode:  | 433.92MHz         |
| Power: | Battery 3.7V      |
| TE:    | Big               |
| Date   | 2025/10/24        |
| T/A/P  | 21.9°C/52%/101Kpa |



### Critical\_Freqs

| No. | Freq.<br>(MHz) | Reading<br>(dBμV) | Corr.<br>(dB) | Meas.<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) | Det. | Pol. |
|-----|----------------|-------------------|---------------|-------------------|-------------------|----------------|------|------|
| 1   | 1866.000       | 55.98             | -10.39        | 45.59             | 74.00             | 28.41          | PK+  | H    |
| 2   | 2170.000       | 59.51             | -9.05         | 50.46             | 74.00             | 23.54          | PK+  | H    |
| 3   | 3037.500       | 67.41             | -15.03        | 52.38             | 74.00             | 21.62          | PK+  | H    |
| 4   | 3471.000       | 63.30             | -14.21        | 49.09             | 74.00             | 24.91          | PK+  | H    |
| 5   | 3904.500       | 63.24             | -13.11        | 50.13             | 74.00             | 23.87          | PK+  | H    |
| 6   | 17692.500      | 48.47             | 0.22          | 48.69             | 74.00             | 25.31          | PK+  | H    |

Note: [Margin=Limit-Meas.]; [Meas.=Reading+Corr. ]

Note:

1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

## 9. ANTENNA REQUIREMENT

### REQUIREMENT

Please refer to FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. 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.

### DESCRIPTION

Pass

## 10. AC POWER LINE CONDUCTED EMISSION

### LIMITS

Please refer to CFR 47 FCC §15.207 (a)

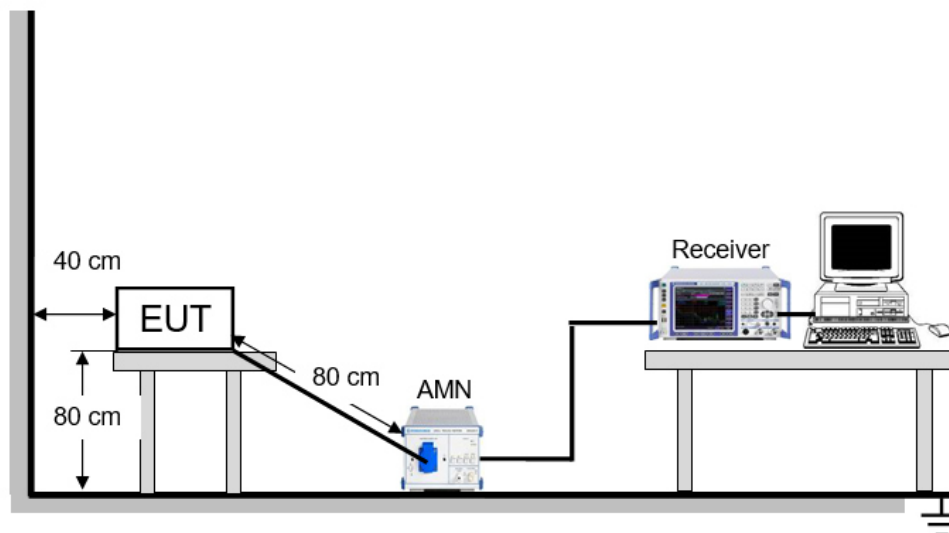
| FREQUENCY (MHz) | Quasi-peak | Average   |
|-----------------|------------|-----------|
| 0.15 -0.5       | 66 - 56 *  | 56 - 46 * |
| 0.50 -5.0       | 56.00      | 46.00     |
| 5.0 -30.0       | 60.00      | 50.00     |

### TEST PROCEDURE

The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2020. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

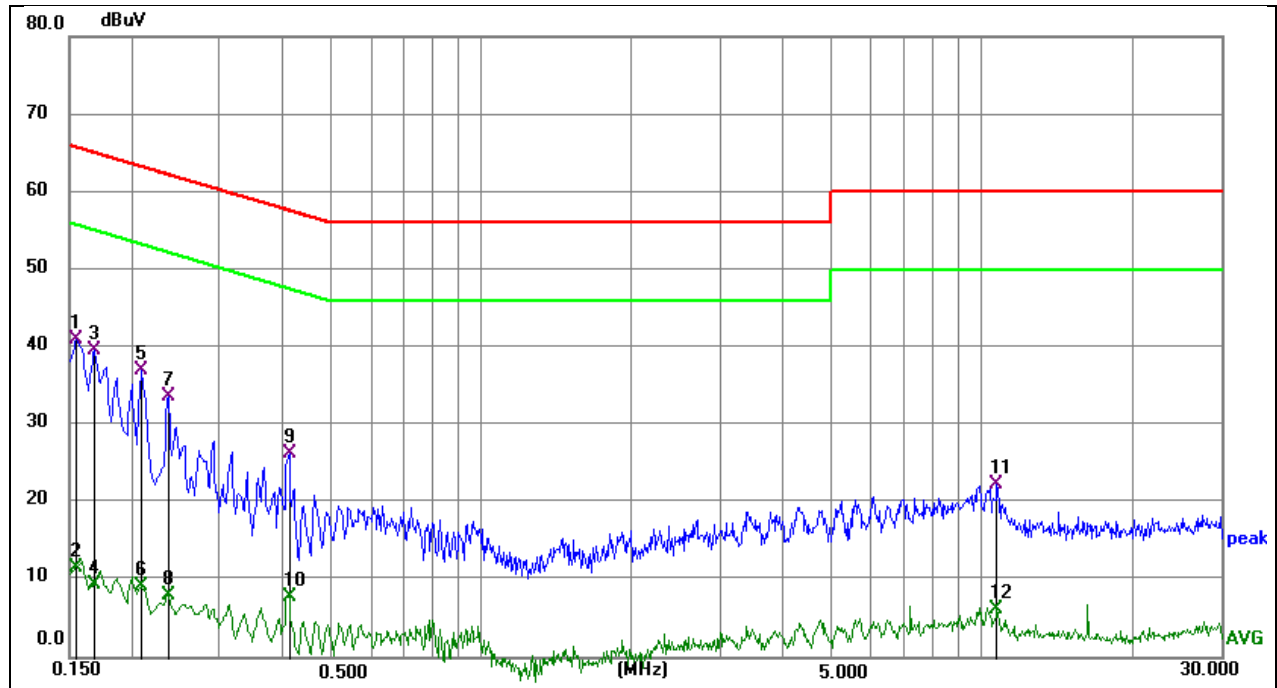
The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

### TEST SETUP



### TEST ENVIRONMENT

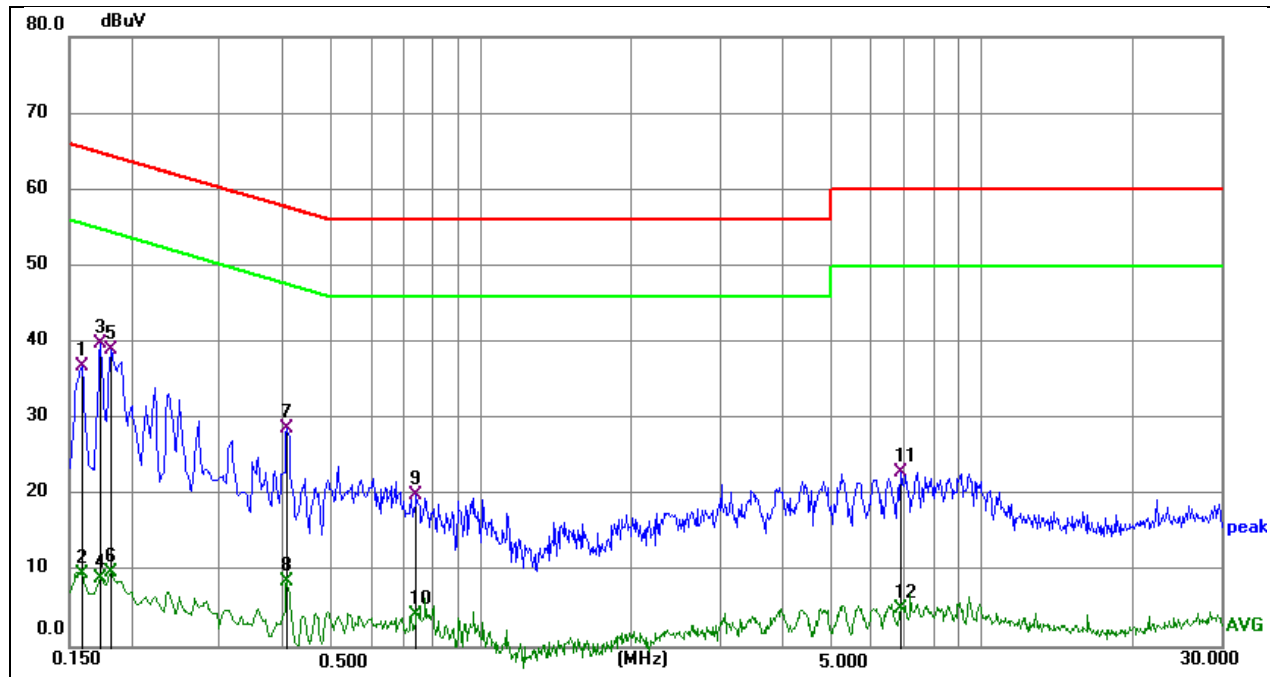
|                     |        |                   |     |
|---------------------|--------|-------------------|-----|
| Temperature         | 23.2°C | Relative Humidity | 52% |
| Atmosphere Pressure | 101kPa |                   |     |

**TEST RESULTS**

Phase: N

Mode: 433.92MHz

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>(dB) | Result<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-----------------|------------------|-----------------|----------------|--------|
| 1   | 0.1545             | 31.44             | 9.63            | 41.07            | 65.75           | -24.68         | QP     |
| 2   | 0.1545             | 2.08              | 9.63            | 11.71            | 55.75           | -44.04         | AVG    |
| 3   | 0.1680             | 30.02             | 9.61            | 39.63            | 65.06           | -25.43         | QP     |
| 4   | 0.1680             | -0.14             | 9.61            | 9.47             | 55.06           | -45.59         | AVG    |
| 5   | 0.2085             | 27.45             | 9.66            | 37.11            | 63.26           | -26.15         | QP     |
| 6   | 0.2085             | -0.42             | 9.66            | 9.24             | 53.26           | -44.02         | AVG    |
| 7   | 0.2355             | 24.07             | 9.63            | 33.70            | 62.25           | -28.55         | QP     |
| 8   | 0.2355             | -1.63             | 9.63            | 8.00             | 52.25           | -44.25         | AVG    |
| 9   | 0.4110             | 16.64             | 9.63            | 26.27            | 57.63           | -31.36         | QP     |
| 10  | 0.4110             | -1.83             | 9.63            | 7.80             | 47.63           | -39.83         | AVG    |
| 11  | 10.6800            | 12.14             | 10.11           | 22.25            | 60.00           | -37.75         | QP     |
| 12  | 10.6800            | -3.89             | 10.11           | 6.22             | 50.00           | -43.78         | AVG    |



Phase: L1

Mode: 433.92MHz

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>(dB) | Result<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-----------------|------------------|-----------------|----------------|--------|
| 1   | 0.1590             | 27.15             | 9.71            | 36.86            | 65.52           | -28.66         | QP     |
| 2   | 0.1590             | -0.12             | 9.71            | 9.59             | 55.52           | -45.93         | AVG    |
| 3   | 0.1725             | 30.03             | 9.70            | 39.73            | 64.84           | -25.11         | QP     |
| 4   | 0.1725             | -0.61             | 9.70            | 9.09             | 54.84           | -45.75         | AVG    |
| 5   | 0.1815             | 29.28             | 9.67            | 38.95            | 64.42           | -25.47         | QP     |
| 6   | 0.1815             | 0.20              | 9.67            | 9.87             | 54.42           | -44.55         | AVG    |
| 7   | 0.4065             | 19.01             | 9.60            | 28.61            | 57.72           | -29.11         | QP     |
| 8   | 0.4065             | -1.06             | 9.60            | 8.54             | 47.72           | -39.18         | AVG    |
| 9   | 0.7395             | 10.25             | 9.68            | 19.93            | 56.00           | -36.07         | QP     |
| 10  | 0.7395             | -5.35             | 9.68            | 4.33             | 46.00           | -41.67         | AVG    |
| 11  | 6.8865             | 12.87             | 9.97            | 22.84            | 60.00           | -37.16         | QP     |
| 12  | 6.8865             | -4.89             | 9.97            | 5.08             | 50.00           | -44.92         | AVG    |

Note: 1. Result = Reading + Correct Factor.

2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).

4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

Note: All the modes have been tested, only the worst data was recorded in the report.

**END OF REPORT**