

CFR 47 FCC PART 15 SUBPART C

TEST REPORT

For

External Sensor

MODEL NUMBER: TE05, S-5

REPORT NUMBER: E04A24090590F00201

ISSUE DATE: October 23, 2024

FCC ID: 2AP2YTE05

Prepared for

SINOTEK CO., LTD.

**Industry Zone, High and New Technology Industry Development Zone, Zhaoqing,
526238, China**

Prepared by

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Dongguan city, Guangdong, People's Republic of China, 523808**

**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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Global Testing Technology Co., Ltd.**

Revision History

| Rev. | Issue Date | Revisions | Revised By |
|------|---------------------|---------------|------------|
| V0 | October 23, 2024 | 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 | N/A |
| 20dB Bandwidth | FCC Part 15.231(c) | Pass |
| Transmission Time | FCC Part 15.231(a) | Pass |
| Radiated Emission | FCC Part 15.205/15.209 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: SINOTEK CO., LTD.
Address: Industry Zone, High and New Technology Industry Development Zone, Zhaoqing, 526238, China

Manufacturer Information

Company Name: SINOTEK CO., LTD.
Address: Industry Zone, High and New Technology Industry Development Zone, Zhaoqing, 526238, China

EUT Information

Product Description: External Sensor
Model: TE05, S-5
Brand: Promata
Sample Received Date: September 24, 2024
Sample Status: Normal
Sample ID: A24090590 003
Date of Tested: September 24, 2024 to October 15, 2024

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

Prepared By:



Approved By:

Shawn Wen
Laboratory Manager

Checked By:



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>A2LA (Certificate No.: 6947.01) Guangdong Global Testing Technology Co., Ltd. has been assessed and proved to be in compliance with A2LA.</p> <p>FCC (FCC Designation No.: CN1343) Guangdong Global Testing Technology Co., Ltd. has been recognized to perform compliance testing on equipment subject to Supplier's Declaration of Conformity (SDoC) and Certification rules</p> <p>ISED (Company No.: 30714) Guangdong Global Testing Technology Co., Ltd. has been registered and fully described in a report filed with ISED. The Company Number is 30714 and the test lab Conformity 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 30 MHz-1 GHz: ± 1.5 dB 1GHz-12.75GHz: ± 1.8 dB 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 | | External Sensor |
| Model | | TE05 |
| Series Model | | S-5 |
| Hardware Version | | V1.0 |
| Software Version | | V1.0 |
| Ratings | | Battery 3V |
| Power Supply | Battery | 3V |

| | |
|---------------------|--|
| Frequency Band: | 433.92 MHz |
| Frequency Range: | 433.92 MHz |
| Type of Modulation: | FSK |
| Number of Channels: | 1 |
| Max field strength: | 36.98 dB μ V/m |
| Antenna Type: | External 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 μ V/m) |
|-----------------|----------------|-----------------------------------|
| 433.92 | 1 | 36.98 |

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 | |
| FSK | 1 | Default | |

5.6. DESCRIPTION OF AVAILABLE ANTENNAS

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

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

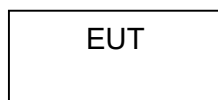
Note: The value of the antenna gain was declared by customer.

5.7. SUPPORT UNITS FOR SYSTEM TEST

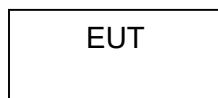
The EUT has been tested as an independent unit

5.8. SETUP DIAGRAM

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 | 2024/09/14 | 2025/09/13 |
| Spectrum Analyzer | KEYSIGHT | N9020A | MY51285127 | 2024/09/14 | 2025/09/13 |
| EXG Analog Signal Generator | KEYSIGHT | N5173B | MY61253075 | 2024/09/14 | 2025/09/13 |
| Vector Signal Generator | Rohde & Schwarz | SMM100A | 101899 | 2024/09/14 | 2025/09/13 |
| RF Control box | MWRF-test | MW100-RFCB | MW220926GTG | 2024/09/14 | 2025/09/13 |
| Wideband Radio Communication Tester | Rohde & Schwarz | CMW270 | 102792 | 2024/09/14 | 2025/09/13 |
| Wideband Radio Communication Tester | Rohde & Schwarz | CMW500 | 103235 | 2024/09/14 | 2025/09/13 |
| temperature humidity chamber | Espec | SH-241 | SH-241-2014 | 2024/09/14 | 2025/09/13 |
| 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 | 2022/08/30 | 2025/08/29 |
| EMI Test Receiver | Rohde & Schwarz | ESCI3 | 101409 | 2024/09/14 | 2025/09/13 |
| Spectrum Analyzer | KEYSIGHT | N9020A | MY51283932 | 2024/09/14 | 2025/09/13 |
| Pre-Amplifier | HzEMC | HPA-9K0130 | HYPA21001 | 2024/09/14 | 2025/09/13 |
| Biconilog Antenna | Schwarzbeck | VULB 9168 | 01315 | 2022/10/10 | 2025/10/09 |
| Biconilog Antenna | ETS | 3142E | 00243646 | 2022/03/23 | 2025/03/22 |
| Loop Antenna | ETS | 6502 | 243668 | 2022/03/30 | 2025/03/29 |
| 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 | 2022/08/30 | 2025/08/29 |
| Spectrum Analyzer | Rohde & Schwarz | FSV40 | 101413 | 2024/09/14 | 2025/09/13 |
| Spectrum Analyzer | KEYSIGHT | N9020A | MY51283932 | 2024/09/14 | 2025/09/13 |
| Pre-Amplifier | A-INFO | HPA-1G1850 | HYPA21003 | 2024/09/14 | 2025/09/13 |

| | | | | | |
|---------------|--------|--------------------------------|------------|------------|------------|
| Horn antenna | A-INFO | 3117 | 246069 | 2022/03/11 | 2025/03/10 |
| Pre-Amplifier | ZKJC | HPA-184057 | HYP A21004 | 2024/09/14 | 2025/09/13 |
| Horn antenna | ZKJC | 3116C | 246265 | 2022/03/29 | 2025/03/28 |
| Test Software | Farad | EZ-EMC (Ver.FA-03A2 RE+) | N/A | N/A | N/A |

7. ANTENNA PORT TEST RESULTS

7.1. ON TIME AND DUTY CYCLE

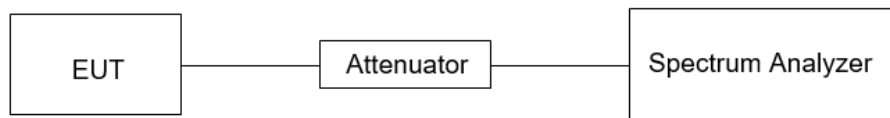
LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Refer to ANSI C63.10-2013 Zero – Span Spectrum Analyzer method.

TEST SETUP



TEST ENVIRONMENT

| | | | |
|---------------------|--------|-------------------|-----|
| Temperature | 23.5°C | Relative Humidity | 54% |
| Atmosphere Pressure | 101kPa | | |

TEST RESULTS

433.92MHz

| On Time (msec) | Period (msec) | Duty Cycle x (Linear) | Duty Cycle (%) | Duty Cycle Correction Factor (db) | 1/T Minimum VBW (kHz) | Final setting For VBW (kHz) |
|-------------------|------------------|-----------------------------|-------------------|---|--------------------------------|-----------------------------------|
| 35.3 | 100 | 0.353 | 35.3 | -9.04 | 0.03 | 1 |

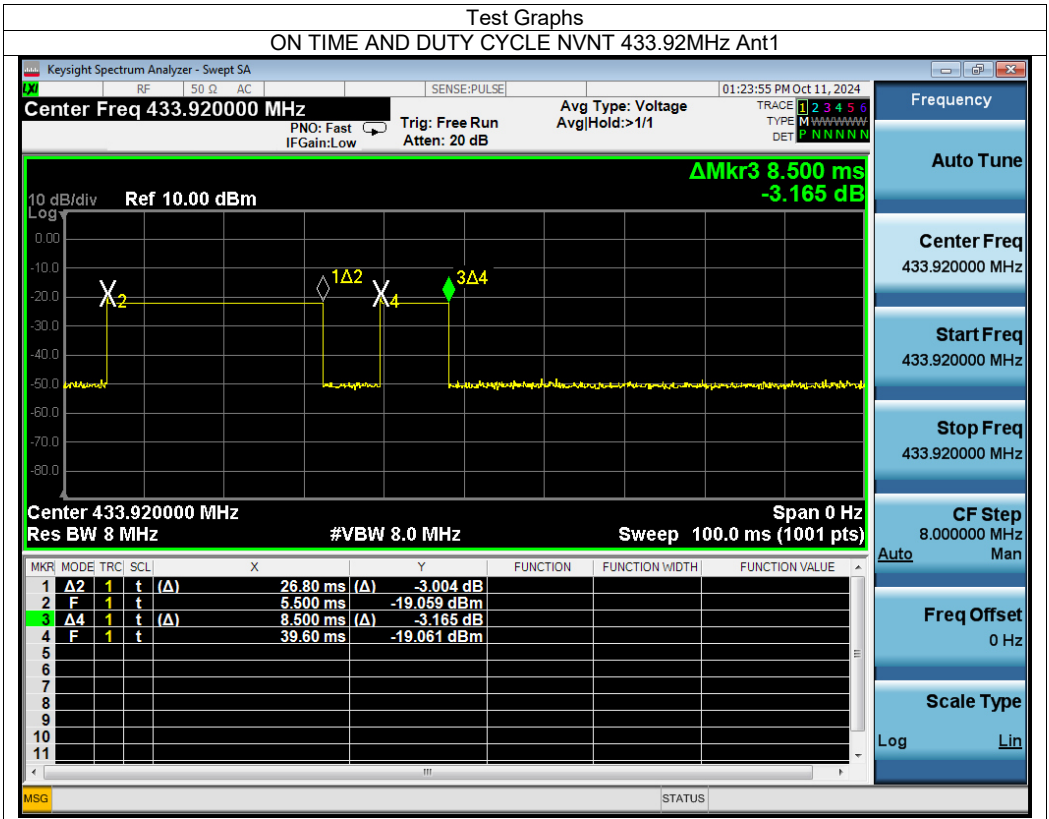
Note:

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.



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 | ≤ 1084.8 kHz | 433.92 |

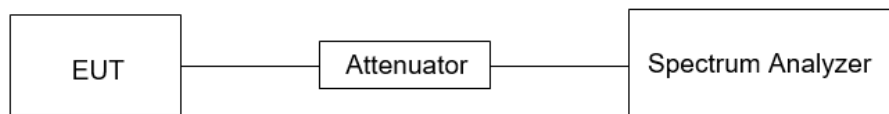
TEST PROCEDURE

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

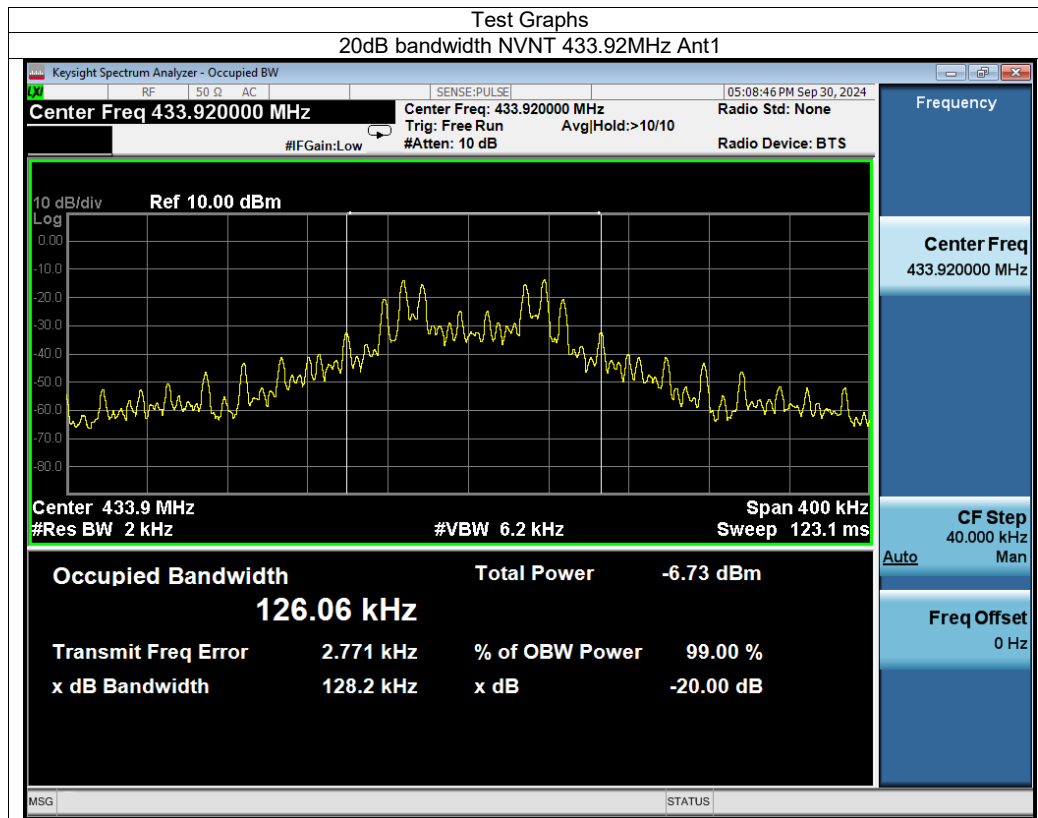


TEST ENVIRONMENT

| | | | |
|---------------------|--------|-------------------|-----|
| Temperature | 23.5°C | Relative Humidity | 54% |
| Atmosphere Pressure | 101kPa | | |

TEST RESULTS

| Frequency (MHz) | 20dB bandwidth (kHz) | Limit (kHz) | Result |
|-----------------|----------------------|---------------|--------|
| 433.92 | 128.2 | ≤ 1084.8 | Pass |



7.3. TRANSMISSION TIME

LIMITS

| CFR 47 FCC Part15 (15.231) Subpart C | | |
|--------------------------------------|-------------------|---|
| Section | Test Item | Limit |
| CFR 47 FCC §15.231 (a) | Transmission Time | A transmitter activated automatically shall cease transmission within 5 seconds after activation. |

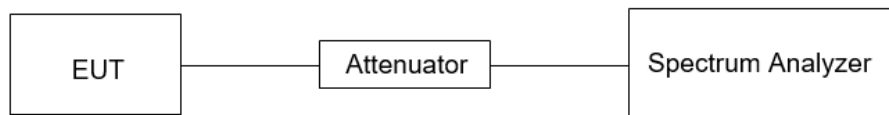
TEST PROCEDURE

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

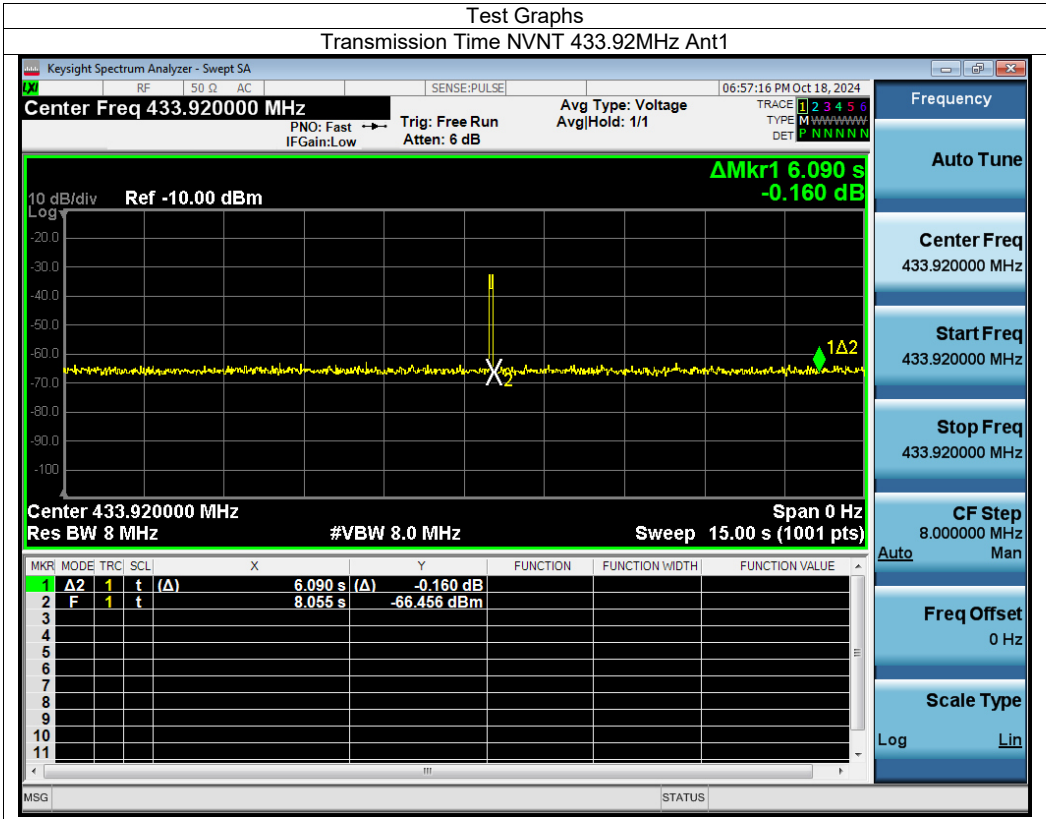


TEST ENVIRONMENT

| | | | |
|---------------------|--------|-------------------|-----|
| Temperature | 23.5°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 | ¹ 1,250 to 3,750 | ¹ 125 to 375 |
| 174-260 | 3,750 | 375 |
| 260-470 | ¹ 3,750 to 12,500 | ¹ 375 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 C63.10-2013 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 C63.10-2013 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.

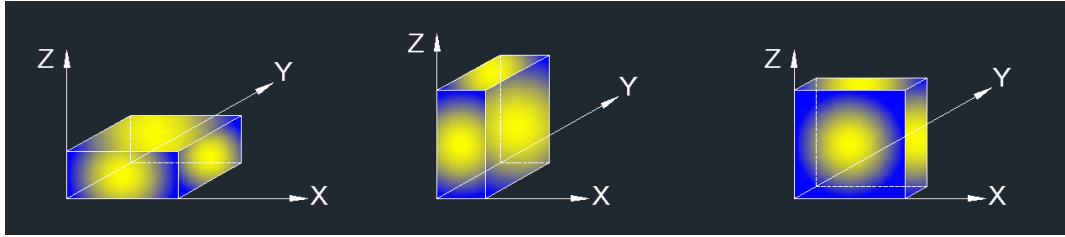
Above 1G

The setting of the spectrum analyser

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

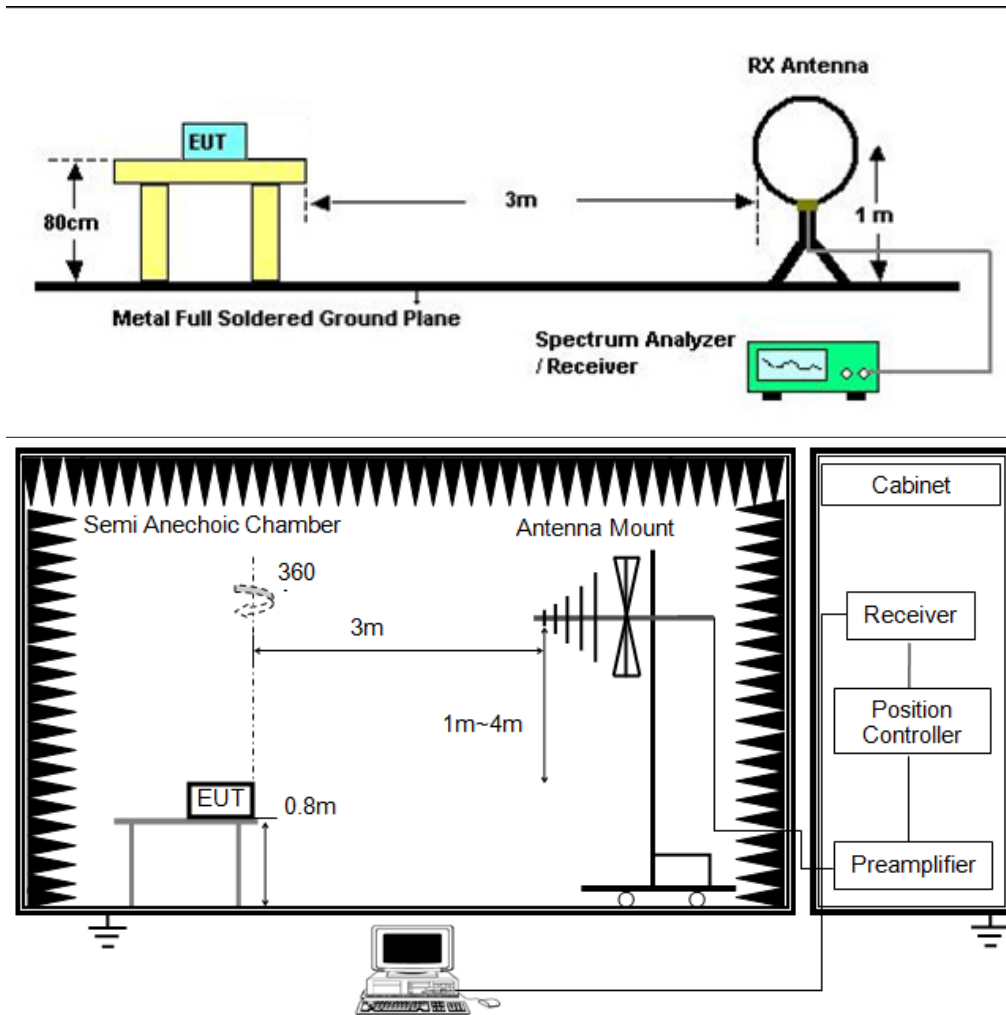
1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.6.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to 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.

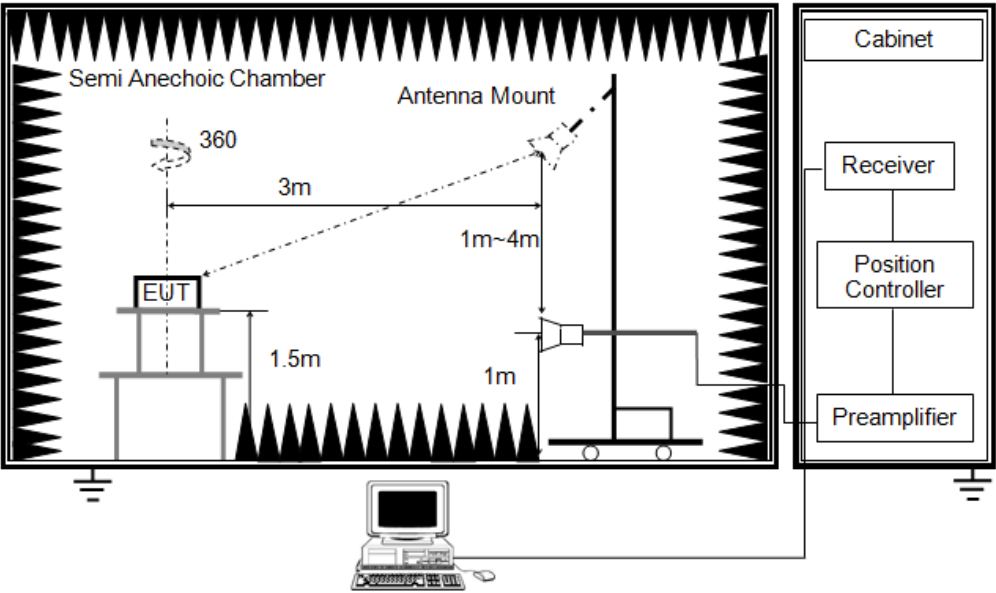
X axis, Y axis, Z axis positions:



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 | 22.5℃ | Relative Humidity | 51% |
| Atmosphere Pressure | 101kPa | | |

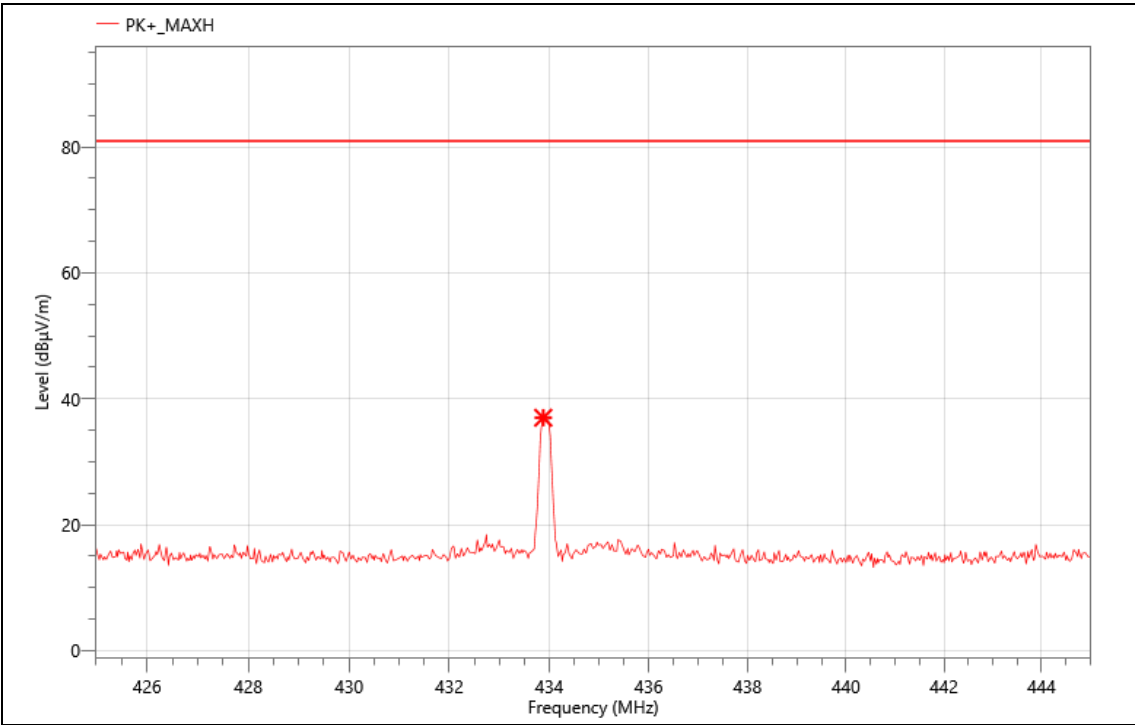
TEST RESULTS

Please refer to section 8.1.

8.1. RADIATED EMISSION

Field Strength of fundamental frequency

| | |
|--------|-------------------|
| Mode: | 433.92MHz |
| Power: | Battery 3V |
| TE: | Berny |
| Date | 2024/9/30 |
| T/A/P | 22.5°C/51%/101Kpa |

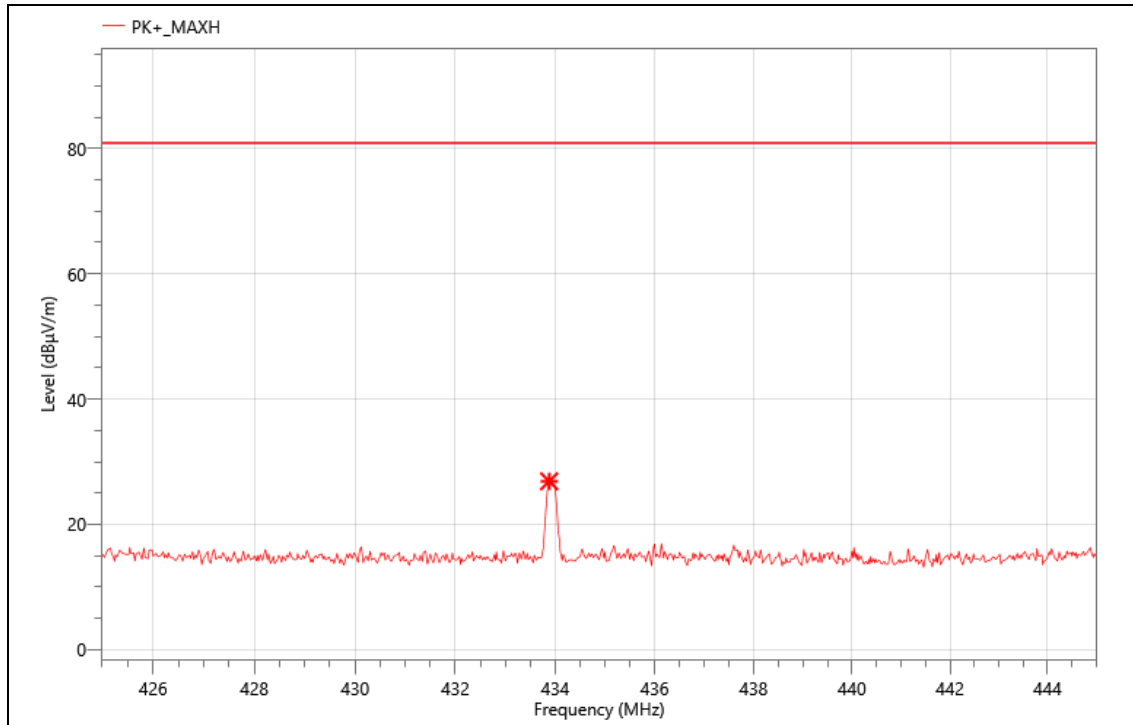


Critical_Freqs

| No. | Freq. (MHz) | Reading (dBµV) | Corr. (dB) | Meas. (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Det. | Pol. |
|-----|-------------|----------------|------------|----------------|----------------|-------------|------|------|
| 1 | 433.880 | 51.17 | -14.19 | 36.98 | 80.83 | 43.85 | PK+ | V |

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

| | |
|--------|-------------------|
| Mode: | 433.92MHz |
| Power: | Battery 3V |
| TE: | Berny |
| Date | 2024/9/30 |
| T/A/P | 22.5°C/51%/101Kpa |



Critical_Freqs

| No. | Freq. (MHz) | Reading (dBµV) | Corr. (dB) | Meas. (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Det. | Pol. |
|-----|-------------|----------------|------------|----------------|----------------|-------------|------|------|
| 1 | 433.880 | 41.08 | -14.19 | 26.89 | 80.83 | 53.94 | PK+ | H |

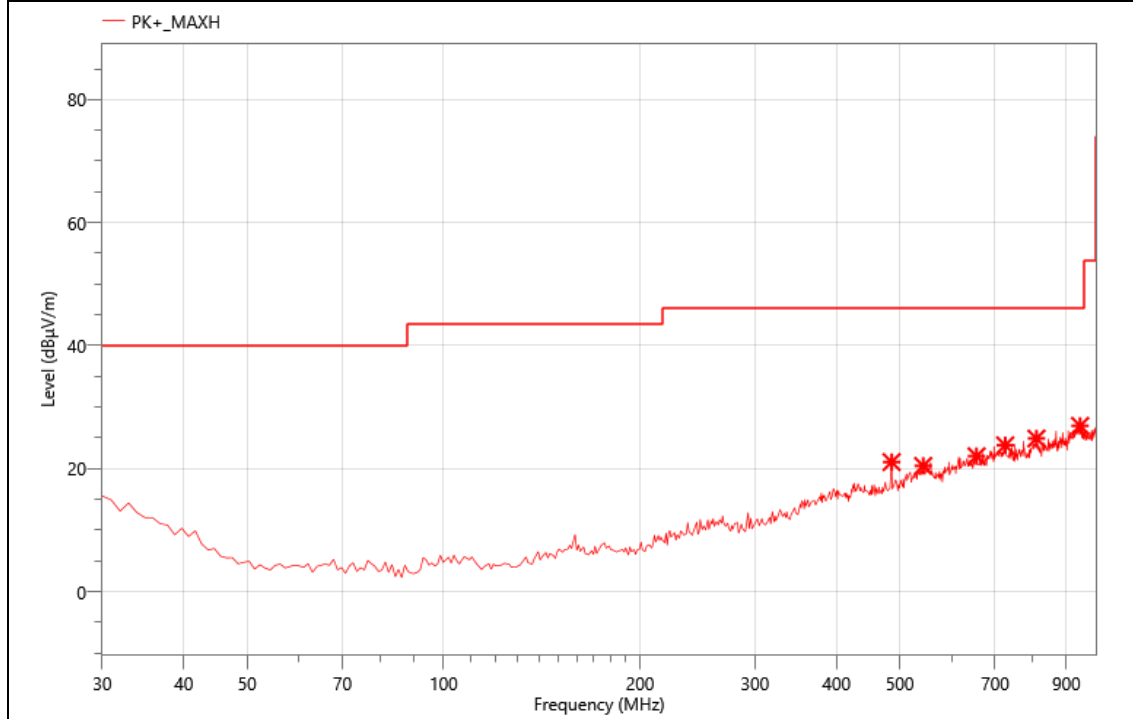
Note: [Margin=Limit-Meas.]; [Meas.=Reading+Corr.]

Note:

1. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

Radiated Spurious Emission

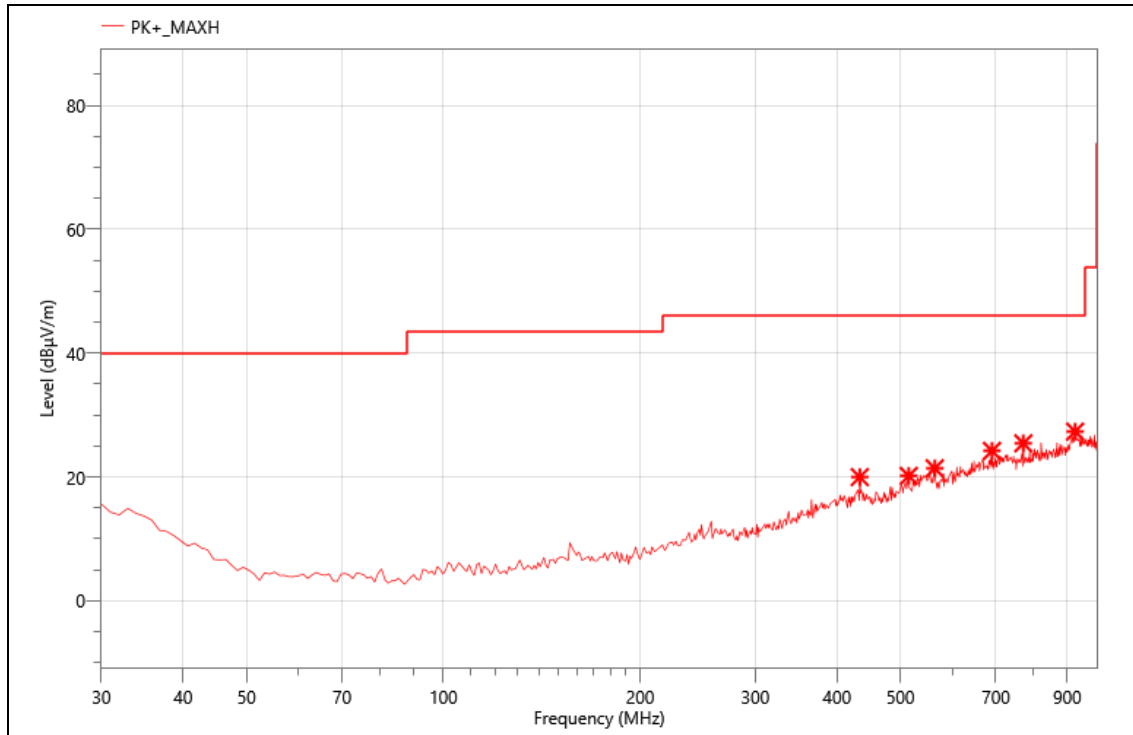
| | |
|--------|-------------------|
| Mode: | 433.92MHz |
| Power: | Battery 3V |
| TE: | Berny |
| Date | 2024/9/30 |
| T/A/P | 22.5°C/51%/101Kpa |

**Critical_Freqs**

| No. | Freq. (MHz) | Reading (dBμV) | Corr. (dB) | Meas. (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Det. | Pol. |
|-----|-------------|----------------|------------|----------------|----------------|-------------|------|------|
| 1 | 485.900 | 33.86 | -12.79 | 21.07 | 46.00 | 24.93 | PK+ | V |
| 2 | 543.130 | 30.53 | -10.08 | 20.45 | 46.00 | 25.55 | PK+ | V |
| 3 | 655.650 | 30.38 | -8.36 | 22.02 | 46.00 | 23.98 | PK+ | V |
| 4 | 725.490 | 30.85 | -7.05 | 23.80 | 46.00 | 22.20 | PK+ | V |
| 5 | 809.880 | 31.13 | -6.23 | 24.90 | 46.00 | 21.10 | PK+ | V |
| 6 | 944.710 | 30.29 | -3.33 | 26.96 | 46.00 | 19.04 | PK+ | V |

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

| | |
|--------|-------------------|
| Mode: | 433.92MHz |
| Power: | Battery 3V |
| TE: | Berny |
| Date | 2024/9/30 |
| T/A/P | 22.5°C/51%/101Kpa |



Critical_Freqs

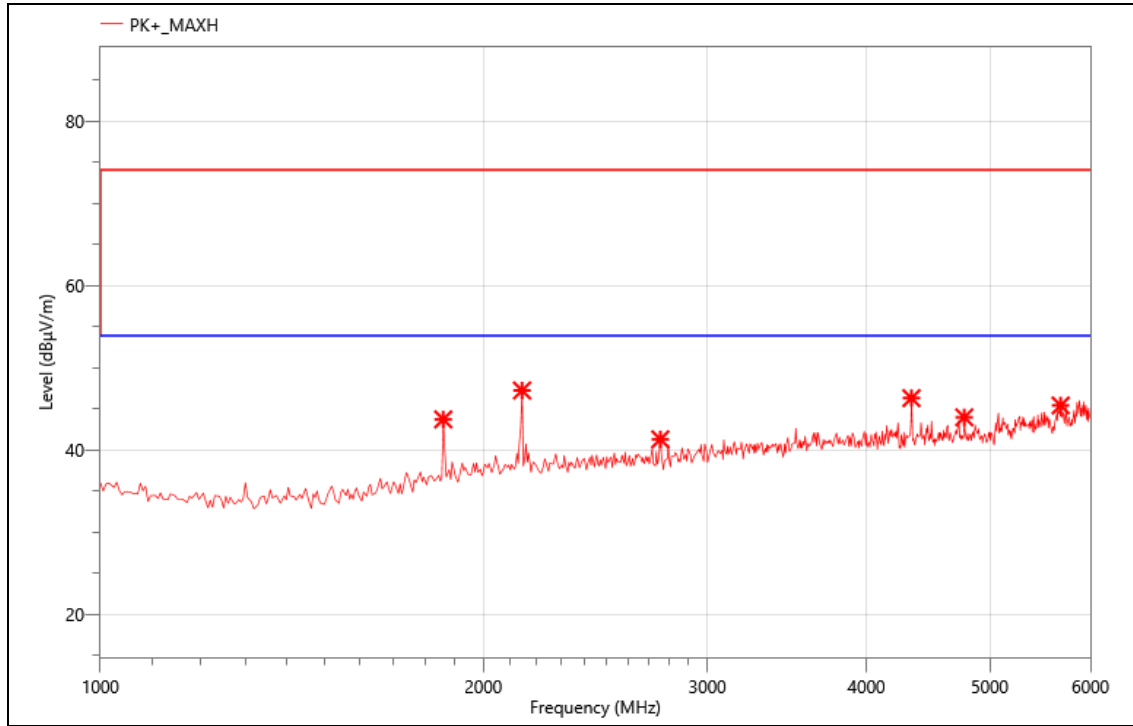
| No. | Freq. (MHz) | Reading (dBµV) | Corr. (dB) | Meas. (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Det. | Pol. |
|-----|-------------|----------------|------------|----------------|----------------|-------------|------|------|
| 1 | 433.520 | 34.17 | -14.18 | 19.99 | 46.00 | 26.01 | PK+ | H |
| 2 | 515.000 | 31.65 | -11.46 | 20.19 | 46.00 | 25.81 | PK+ | H |
| 3 | 564.470 | 32.01 | -10.6 | 21.41 | 46.00 | 24.59 | PK+ | H |
| 4 | 690.570 | 31.91 | -7.68 | 24.23 | 46.00 | 21.77 | PK+ | H |
| 5 | 771.080 | 32.49 | -7.05 | 25.44 | 46.00 | 20.56 | PK+ | H |
| 6 | 925.310 | 30.56 | -3.22 | 27.34 | 46.00 | 18.66 | PK+ | H |

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

| | |
|--------|-------------------|
| Mode: | 433.92MHz |
| Power: | Battery 3V |
| TE: | Berny |
| Date | 2024/9/30 |
| T/A/P | 22.5°C/51%/101Kpa |

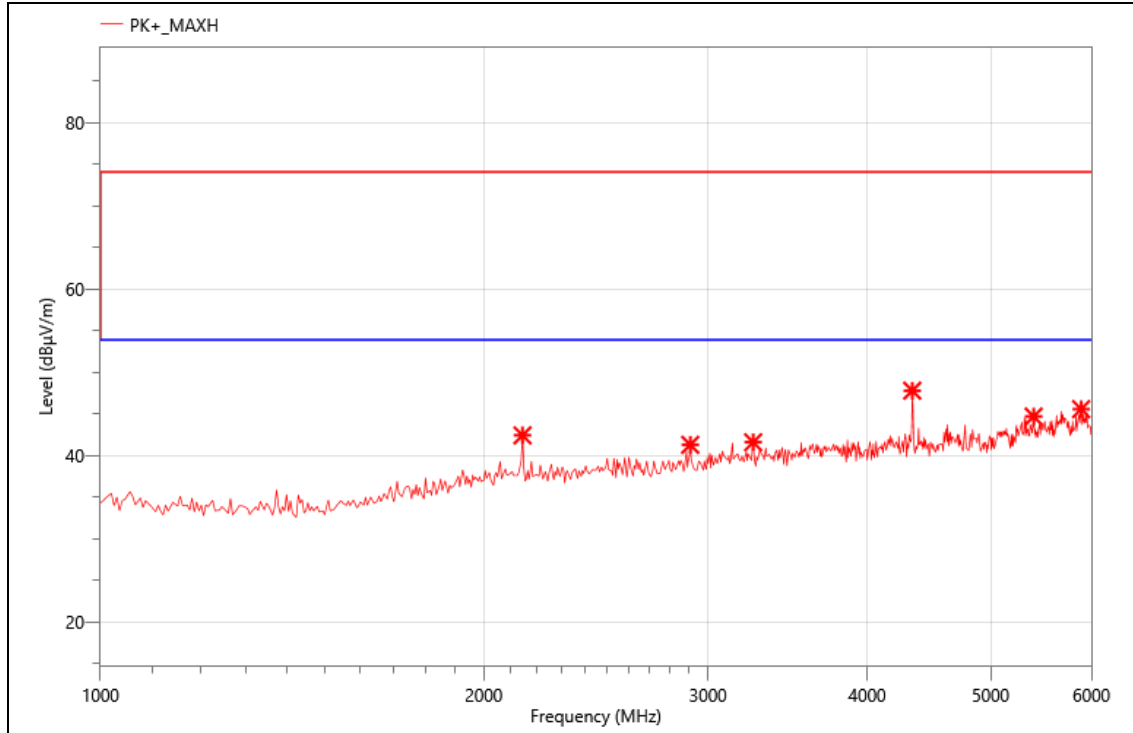


Critical_Freqs

| No. | Freq. (MHz) | Reading (dBμV) | Corr. (dB) | Meas. (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Det. | Pol. |
|-----|----------------|-------------------|---------------|-------------------|-------------------|----------------|------|------|
| 1 | 1860.000 | 63.31 | -19.6 | 43.71 | 74.00 | 30.29 | PK+ | V |
| 2 | 2145.000 | 65.23 | -18 | 47.23 | 74.00 | 26.77 | PK+ | V |
| 3 | 2755.000 | 58.06 | -16.77 | 41.29 | 74.00 | 32.71 | PK+ | V |
| 4 | 4340.000 | 58.57 | -12.27 | 46.30 | 74.00 | 27.70 | PK+ | V |
| 5 | 4775.000 | 55.49 | -11.52 | 43.97 | 74.00 | 30.03 | PK+ | V |
| 6 | 5685.000 | 53.83 | -8.42 | 45.41 | 74.00 | 28.59 | PK+ | V |

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

| | |
|--------|-------------------|
| Mode: | 433.92MHz |
| Power: | Battery 3V |
| TE: | Berny |
| Date | 2024/9/30 |
| T/A/P | 22.5°C/51%/101Kpa |



Critical_Freqs

| No. | Freq. (MHz) | Reading (dBμV) | Corr. (dB) | Meas. (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Det. | Pol. |
|-----|-------------|----------------|------------|----------------|----------------|-------------|------|------|
| 1 | 2145.000 | 60.42 | -18 | 42.42 | 74.00 | 31.58 | PK+ | H |
| 2 | 2905.000 | 57.39 | -16.11 | 41.28 | 74.00 | 32.72 | PK+ | H |
| 3 | 3255.000 | 56.40 | -14.81 | 41.59 | 74.00 | 32.41 | PK+ | H |
| 4 | 4340.000 | 60.06 | -12.27 | 47.79 | 74.00 | 26.21 | PK+ | H |
| 5 | 5405.000 | 54.70 | -10.02 | 44.68 | 74.00 | 29.32 | PK+ | H |
| 6 | 5890.000 | 54.03 | -8.46 | 45.57 | 74.00 | 28.43 | 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)

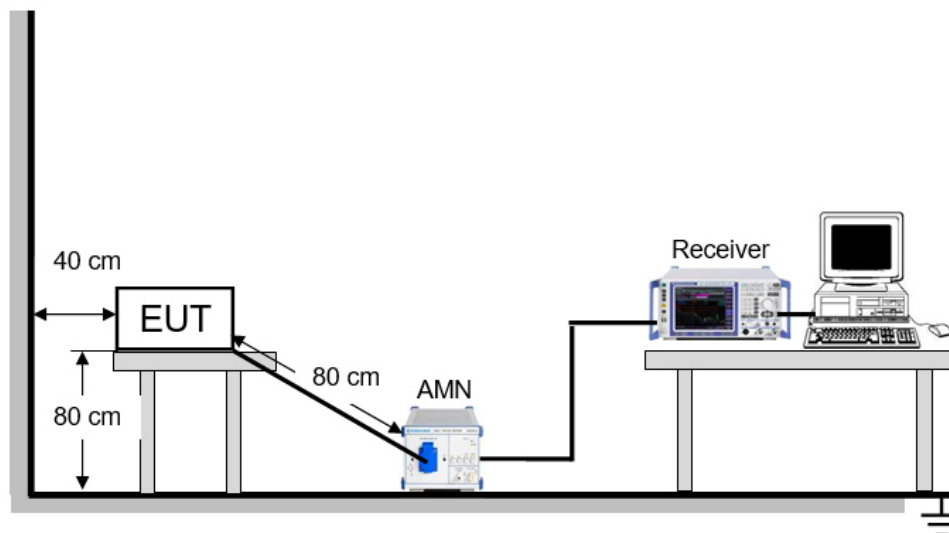
| FREQUENCY (MHz) | Quasi-peak | Average |
|-----------------|------------|-----------|
| 0.15 -0.5 | 66 - 56 * | 56 - 46 * |
| 0.50 -5.0 | 56.00 | 46.00 |
| 5.0 -30.0 | 60.00 | 50.00 |

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 C63.10-2013. 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

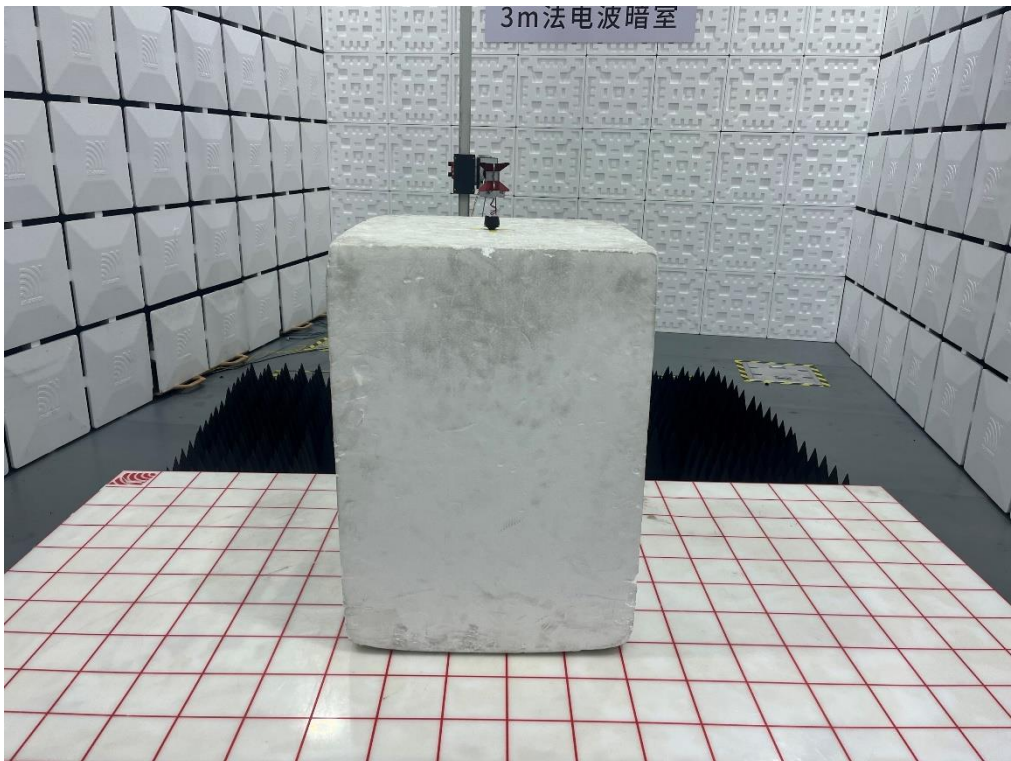
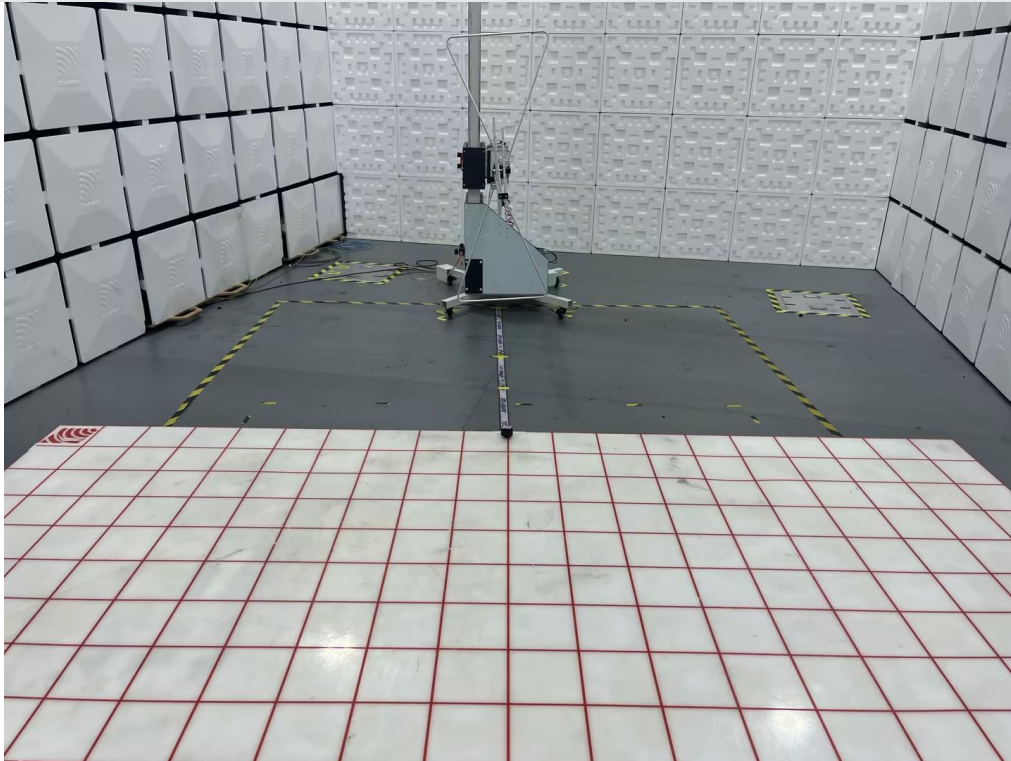
N/A

TEST RESULTS

N/A

APPENDIX: PHOTOGRAPHS OF TEST CONFIGURATION

Radiated Emission



END OF REPORT