

# TEST REPORT

**Product Name** : HELMET WIRELESS EARPHONE  
**Brand Name** : N/A  
**Model** : Q30 Pro  
**Series Model** : N/A  
**FCC ID** : 2A9MI-Q30-PRO  
**Applicant** : **Shenzhen Yixi Technology Co., LTD**  
**Address** : Second Floor, Building B, Area A, Longquan Science Park, Dalang  
Huaxing Road, Longhua District, Shenzhen City, China  
**Manufacturer** : **Shenzhen Yixi Technology Co., LTD**  
**Address** : Second Floor, Building B, Area A, Longquan Science Park, Dalang  
Huaxing Road, Longhua District, Shenzhen City, China  
**Standard(s)** : FCC CFR Title 47 Part 15 Subpart C Section 15.247  
**Date of Receipt** : Jun. 26, 2025  
**Date of Test** : Jun. 26, 2025~ Jul. 07, 2025  
**Issued Date** : Jul. 10, 2025

**Issued By:** **Guangdong Asia Hongke Test Technology Limited**  
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Note: This device has been tested and found to comply with the standard(s) listed, this test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory. This report shall not be reproduced except in full, without the written approval of Guangdong Asia Hongke Test Technology Limited. If there is a need to alter or revise this document, the right belongs to Guangdong Asia Hongke Test Technology Limited, and it should give a prior written notice of the revision document. This test report must not be used by the client to claim product endorsement.



**Report Revise Record**

| Report Version | Issued Date   | Notes           |
|----------------|---------------|-----------------|
| M1             | Jul. 10, 2025 | Initial Release |

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# 1 TEST SUMMARY

## 1.1 Test Standards

The tests were performed according to following standards:

[FCC Rules Part 15.247](#): Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

[ANSI C63.10: 2013](#): American National Standard for Testing Unlicensed Wireless Devices

[KDB558074 D01 15.247 Meas Guidance v05r02](#): Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating Under Section 15.247 of the FCC Rules

## 1.2 Test Summary

| Test Item                    | Section in 47 CFR   | Result |
|------------------------------|---------------------|--------|
| Radiated Spurious Emissions  | §15.209, §15.247(d) | Pass   |
| Emissions at Restricted Band | §15.205             | Pass   |
| AC Mains Conducted Emissions | §15.207(a)          | Pass   |

In the test summary of the report, it is added that due to the battery update, the RF performance is not affected. Only the conduction and radiation at the AC power supply end are tested

### 1.3 Test Facility

#### Test Laboratory:

**Guangdong Asia Hongke Test Technology Limited**

B1/F, Building 11, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

The test facility is recognized, certified or accredited by the following organizations:

**FCC-Registration No.: 251906 Designation Number: CN1376**

Guangdong Asia Hongke Test Technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

**IC —Registration No.: 31737 CAB identifier: CN0165**

The 3m Semi-anechoic chamber of Guangdong Asia Hongke Test Technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 31737

**A2LA-Lab Cert. No.: 7133.01**

Guangdong Asia Hongke Test Technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

### 1.4 Measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the Guangdong Asia Hongke Test Technology Limited's quality system according to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Asia Hongke laboratory is reported:

| Test                          | Measurement Uncertainty   | Notes |
|-------------------------------|---------------------------|-------|
| Power Line Conducted Emission | 9KHz~30MHz $\pm 1.20$ dB  | (1)   |
| Radiated Emission             | 9KHz~30MHz $\pm 3.10$ dB  | (1)   |
| Radiated Emission             | 30MHz~1GHz $\pm 3.75$ dB  | (1)   |
| Radiated Emission             | 1GHz~18GHz $\pm 3.88$ dB  | (1)   |
| Radiated Emission             | 18GHz~40GHz $\pm 3.88$ dB | (1)   |
| RF power, conducted           | 30MHz~6GHz $\pm 0.16$ dB  | (1)   |
| RF power density, conducted   | $\pm 0.24$ dB             | (1)   |
| Spurious emissions, conducted | $\pm 0.21$ dB             | (1)   |
| Temperature                   | $\pm 1^{\circ}\text{C}$   | (1)   |
| Humidity                      | $\pm 3\%$                 | (1)   |
| DC and low frequency voltages | $\pm 1.5\%$               | (1)   |
| Time                          | $\pm 2\%$                 | (1)   |
| Duty cycle                    | $\pm 2\%$                 | (1)   |

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

## 2 GENERAL INFORMATION

### 2.1 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

|                     |         |
|---------------------|---------|
| Normal Temperature: | 25°C    |
| Relative Humidity:  | 55 %    |
| Air Pressure:       | 101 kPa |

### 2.2 General Description of EUT

|                                                                                                                                                                                              |                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Product Name:                                                                                                                                                                                | HELMET WIRELESS EARPHONE                                               |
| Model/Type reference:                                                                                                                                                                        | Q30 Pro                                                                |
| Serial Model:                                                                                                                                                                                | N/A                                                                    |
| Rating:                                                                                                                                                                                      | Input: DC 5.0V<br>3.7V by 1000mAh 3.7Wh Rechargeable Li-ion battery    |
| Hardware Version:                                                                                                                                                                            | N/A                                                                    |
| Software Version:                                                                                                                                                                            | N/A                                                                    |
| Sample(s) Status:                                                                                                                                                                            | AiTSZ-250626027-1(Normal sample)<br>AiTSZ-250626027-2(Engineer sample) |
| <b>Bluetooth :</b>                                                                                                                                                                           |                                                                        |
| Supported type:                                                                                                                                                                              | Bluetooth BR/EDR                                                       |
| Modulation:                                                                                                                                                                                  | GFSK, $\pi/4$ DQPSK, 8DPSK                                             |
| Operation frequency:                                                                                                                                                                         | 2402MHz~2480MHz                                                        |
| Channel number:                                                                                                                                                                              | 79                                                                     |
| Channel separation:                                                                                                                                                                          | 1MHz                                                                   |
| Antenna type:                                                                                                                                                                                | Chip Antenna                                                           |
| Antenna gain:                                                                                                                                                                                | 2.06dBi                                                                |
| <b>Remark:</b><br>The above DUT's information was declared by manufacturer. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.. |                                                                        |

## 2.3 Description of Test Modes and Test Frequency

There are 79 channels provided to the EUT and Channel 00/39/78 were selected to test.

### Operation Frequency List:

| Channel | Frequency (MHz) |
|---------|-----------------|
| 00      | 2402            |
| 01      | 2403            |
| ⋮       | ⋮               |
| 38      | 2440            |
| 39      | 2441            |
| 40      | 2442            |
| ⋮       | ⋮               |
| 77      | 2479            |
| 78      | 2480            |

Note: The line display in grey were the channel selected for testing

Exploratory testing was performed under each mode combination test channel; only the final measurement of the worst combination was made and recorded in this report.

| Test case                              | Exploratory measurement   |                                                 |                                                                                                                                         | Final measurement Recorded In Report |           |                                                                                                                                         |
|----------------------------------------|---------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------|
|                                        | Mode                      | Date rate                                       | Channel                                                                                                                                 | Mode                                 | Date rate | Channel                                                                                                                                 |
| Radiated Band edge                     | GFSK<br>Π/4DQPSK<br>8DPSK | DH1/DH3/DH5<br>2DH1/2DH3/2DH5<br>3DH1/3DH3/3DH5 | <input checked="" type="checkbox"/> Lowest<br><input checked="" type="checkbox"/> Highest                                               | GFSK                                 | DH5       | <input checked="" type="checkbox"/> Lowest<br><input checked="" type="checkbox"/> Highest                                               |
| Radiated Spurious Emissions Above 1GHz | GFSK<br>Π/4DQPSK<br>8DPSK | DH1/DH3/DH5<br>2DH1/2DH3/2DH5<br>3DH1/3DH3/3DH5 | <input checked="" type="checkbox"/> Lowest<br><input checked="" type="checkbox"/> Middle<br><input checked="" type="checkbox"/> Highest | GFSK                                 | DH5       | <input checked="" type="checkbox"/> Lowest<br><input checked="" type="checkbox"/> Middle<br><input checked="" type="checkbox"/> Highest |
| Radiated Spurious Emissions Below 1GHz | GFSK<br>Π/4DQPSK<br>8DPSK | DH1/DH3/DH5<br>2DH1/2DH3/2DH5<br>3DH1/3DH3/3DH5 | <input checked="" type="checkbox"/> Lowest<br><input checked="" type="checkbox"/> Middle<br><input checked="" type="checkbox"/> Highest | GFSK                                 | DH5       | <input checked="" type="checkbox"/> Middle                                                                                              |
| Conducted Emissions 9KHz-30 MHz        | GFSK<br>Π/4DQPSK<br>8DPSK | DH1/DH3/DH5<br>2DH1/2DH3/2DH5<br>3DH1/3DH3/3DH5 | <input checked="" type="checkbox"/> Lowest<br><input checked="" type="checkbox"/> Middle<br><input checked="" type="checkbox"/> Highest | GFSK                                 | DH5       | <input checked="" type="checkbox"/> Middle                                                                                              |

### Power setting during the test:

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Power Parameters:

| Test Software Version | FCC_assist_1.0.2.2 |         |         |
|-----------------------|--------------------|---------|---------|
| Frequency             | 2402MHz            | 2441MHz | 2480MHz |
| BR/EDR                | Default            | Default | Default |

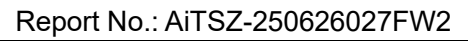
## 2.4 Special Accessories

Follow auxiliary equipment(s) test with EUT that provided by the manufacturer or laboratory is listed as follow:

| Description | Manufacturer | Model     | Serial No. | Provided by         | Other |
|-------------|--------------|-----------|------------|---------------------|-------|
| Adapter     | HNT          | HNT-QC530 | /          | Provide by test lab | /     |
| /           | /            | /         | /          | /                   | /     |

## 2.5 Equipment List for the Test

| No | Test Equipment                      | Manufacturer | Model No        | Serial No         | Cal. Date  | Cal. Due Date |
|----|-------------------------------------|--------------|-----------------|-------------------|------------|---------------|
| 1  | EMI Measuring Receiver              | R&S          | ESR             | 101160            | 2024.09.25 | 2025.09.24    |
| 2  | Spectrum Analyzer                   | R&S          | FSV40           | 101470            | 2024.09.23 | 2025.09.22    |
| 3  | Low Noise Pre Amplifier             | SCHWARZBECK  | BBV 9745        | 00282             | 2024.09.25 | 2025.09.24    |
| 4  | Low Noise Pre Amplifier             | CESHENG      | CSKJLNA23101 6A | CSKJLNA231016 A   | 2024.09.25 | 2025.09.24    |
| 5  | Passive Loop                        | ETS          | 6512            | 00165355          | 2024.08.29 | 2027.08.28    |
| 6  | TRILOG Super Broadband test Antenna | SCHWARZBECK  | VULB9168        | 01434             | 2024.08.29 | 2027.08.28    |
| 7  | Broadband Horn Antenna              | Schwarzbeck  | BBHA 9120D      | 452               | 2024.08.29 | 2027.08.28    |
| 8  | Horn Antenna 15-40GHz               | SCHWARZBECK  | BBHA9170        | BBHA9170367       | 2024.08.28 | 2027.08.27    |
| 9  | 6dB Attenuator                      | JFW          | 50FPE-006       | 4360846-949-1     | 2024.09.24 | 2025.09.23    |
| 10 | EMI Test Receiver                   | R&S          | ESPI            | 100771            | 2024.09.25 | 2025.09.24    |
| 11 | LISN                                | R&S          | NNLK 8129       | 8130179           | 2024.09.24 | 2025.09.23    |
| 12 | LISN                                | R&S          | ESH3-Z5         | 892785/016        | 2024.09.23 | 2025.09.22    |
| 13 | Pulse Limiter                       | R&S          | ESH3-Z2         | 102789            | 2024.09.24 | 2025.09.23    |
| 14 | RF Automatic Test system            | TST          | TSTPASS         | 21033016          | 2024.09.25 | 2025.09.24    |
| 15 | Vector Signal Generator             | Agilent      | N5182A          | MY50143009        | 2024.09.25 | 2025.09.24    |
| 16 | Analog signal generator             | Agilent      | E8257           | MY51554256        | 2024.09.25 | 2025.09.24    |
| 17 | Spectrum Analyzer                   | Agilent      | N9020A          | MY51289843        | 2024.09.25 | 2025.09.24    |
| 18 | Spectrum Analyzer                   | Agilent      | N9020A          | MY53421570        | 2024.09.25 | 2025.09.24    |
| 19 | Power Sensor                        | Agilent      | 8481A           | MY41097697        | 2024.09.25 | 2025.09.24    |
| 20 | Wideband Radio communication tester | R&S          | CMW500          | 1201.0002K50      | 2024.09.24 | 2025.09.23    |
| 21 | DC power supply                     | ZHAOXIN      | RXN-305D-2      | 28070002559       | N/A        | N/A           |
| 22 | RE Software                         | EZ           | EZ-EMC_RE       | Ver.AIT-03A       | N/A        | N/A           |
| 23 | CE Software                         | EZ           | EZ-EMC_CE       | Ver.AIT-03A       | N/A        | N/A           |
| 24 | RF Software                         | TST          | TSTPASS         | Version 2.0       | N/A        | N/A           |
| 25 | RF Software                         | cesheng      | WCS-WCN         | Version 2024.6.20 | N/A        | N/A           |



|                                                                                                                                                                              |                                   |     |      |     |     |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----|------|-----|-----|-----|
| 26                                                                                                                                                                           | temporary antenna connector(Note) | NTS | R001 | N/A | N/A | N/A |
| Note: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list. |                                   |     |      |     |     |     |

### 3 TEST CONDITIONS AND RESULTS

#### 3.1 Conducted Emissions Test

##### LIMIT

| Frequency range (MHz) | Limit (dBuV) |           |
|-----------------------|--------------|-----------|
|                       | Quasi-peak   | Average   |
| 0.15-0.5              | 66 to 56*    | 56 to 46* |
| 0.5-5                 | 56           | 46        |
| 5-30                  | 60           | 50        |

\* Decreases with the logarithm of the frequency.

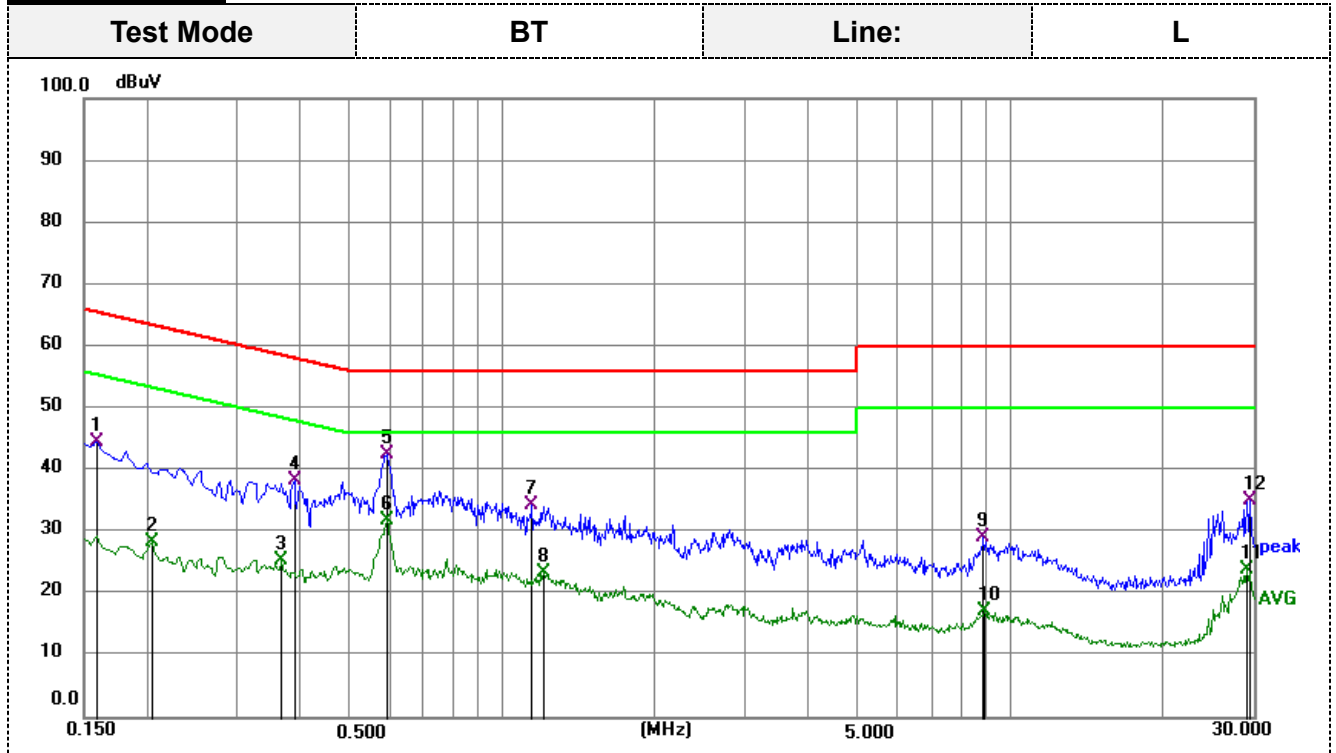
##### TEST CONFIGURATION



##### TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10:2013.
2. Support equipment, if needed, was placed as per ANSI C63.10:2013.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10:2013.
4. The adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.

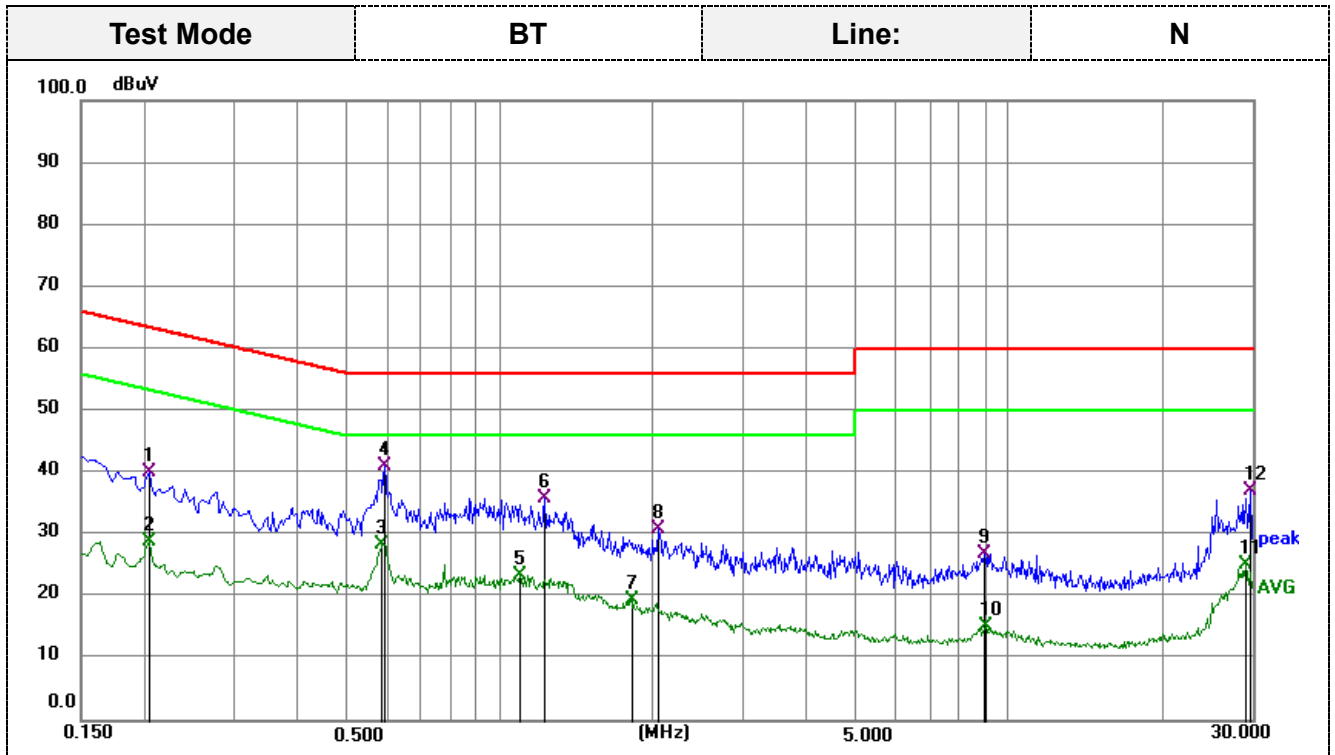
## TEST RESULTS



Remark: Correct Factor = Insertion loss of LISN + Cable loss + Insertion loss of Pulse Limiter;  
Measurement Result = Reading Level + Correct Factor;

Margin = Measurement Result - Limit

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>(dB) | Result<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-----------------|------------------|-----------------|----------------|--------|
| 1   | 0.1590             | 33.87             | 10.78           | 44.65            | 65.52           | -20.87         | QP     |
| 2   | 0.2040             | 17.68             | 10.70           | 28.38            | 53.45           | -25.07         | AVG    |
| 3   | 0.3660             | 14.66             | 10.69           | 25.35            | 48.59           | -23.24         | AVG    |
| 4   | 0.3885             | 27.69             | 10.69           | 38.38            | 58.10           | -19.72         | QP     |
| 5   | 0.5910             | 31.76             | 10.69           | 42.45            | 56.00           | -13.55         | QP     |
| 6   | 0.5910             | 21.11             | 10.69           | 31.80            | 46.00           | -14.20         | AVG    |
| 7   | 1.1445             | 23.72             | 10.67           | 34.39            | 56.00           | -21.61         | QP     |
| 8   | 1.2075             | 12.72             | 10.67           | 23.39            | 46.00           | -22.61         | AVG    |
| 9   | 8.8305             | 18.08             | 11.08           | 29.16            | 60.00           | -30.84         | QP     |
| 10  | 8.8710             | 6.24              | 11.08           | 17.32            | 50.00           | -32.68         | AVG    |
| 11  | 29.1525            | 12.17             | 11.70           | 23.87            | 50.00           | -26.13         | AVG    |
| 12  | 29.6700            | 23.50             | 11.73           | 35.23            | 60.00           | -24.77         | QP     |



Remark: Correct Factor = Insertion loss of LISN + Cable loss + Insertion loss of Pulse Limiter;

Measurement Result = Reading Level + Correct Factor;

Margin = Measurement Result - Limit

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>(dB) | Result<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-----------------|------------------|-----------------|----------------|--------|
| 1   | 0.2040             | 29.44             | 10.69           | 40.13            | 63.45           | -23.32         | QP     |
| 2   | 0.2040             | 18.27             | 10.69           | 28.96            | 53.45           | -24.49         | AVG    |
| 3   | 0.5865             | 17.74             | 10.68           | 28.42            | 46.00           | -17.58         | AVG    |
| 4   | 0.5910             | 30.29             | 10.68           | 40.97            | 56.00           | -15.03         | QP     |
| 5   | 1.0950             | 12.89             | 10.65           | 23.54            | 46.00           | -22.46         | AVG    |
| 6   | 1.2255             | 25.27             | 10.67           | 35.94            | 56.00           | -20.06         | QP     |
| 7   | 1.8195             | 8.67              | 10.75           | 19.42            | 46.00           | -26.58         | AVG    |
| 8   | 2.0445             | 20.23             | 10.77           | 31.00            | 56.00           | -25.00         | QP     |
| 9   | 8.9610             | 15.94             | 11.07           | 27.01            | 60.00           | -32.99         | QP     |
| 10  | 8.9970             | 4.27              | 11.07           | 15.34            | 50.00           | -34.66         | AVG    |
| 11  | 29.1885            | 13.57             | 11.60           | 25.17            | 50.00           | -24.83         | AVG    |
| 12  | 29.7150            | 25.39             | 11.62           | 37.01            | 60.00           | -22.99         | QP     |

## 3.2 Radiated Emissions and Band Edge

### Limit

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission out of authorized band shall not exceed the following table at a 3 meters measurement distance.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Radiated emission limits

| Frequency (MHz) | Distance (Meters) | Radiated (dBμV/m)                          | Radiated (μV/m)       |
|-----------------|-------------------|--------------------------------------------|-----------------------|
| 0.009-0.49      | 3                 | $20\log(2400/F(\text{KHz}))+40\log(300/3)$ | $2400/F(\text{KHz})$  |
| 0.49-1.705      | 3                 | $20\log(24000/F(\text{KHz}))+40\log(30/3)$ | $24000/F(\text{KHz})$ |
| 1.705-30        | 3                 | $20\log(30)+40\log(30/3)$                  | 30                    |
| 30-88           | 3                 | 40.0                                       | 100                   |
| 88-216          | 3                 | 43.5                                       | 150                   |
| 216-960         | 3                 | 46.0                                       | 200                   |
| Above 960       | 3                 | 54.0                                       | 500                   |

### TEST CONFIGURATION

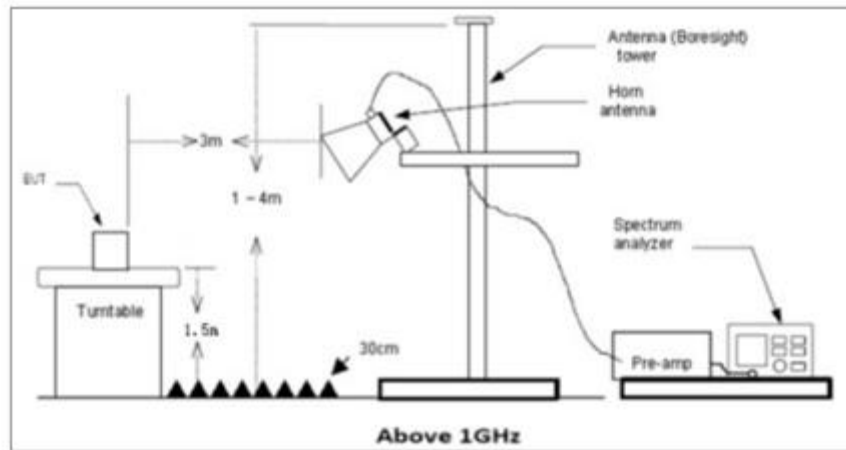
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency below 1000MHz



### (C) Radiated Emission Test Set-Up, Frequency above 1000MHz



### Test Procedure

- Below 1GHz measurement the EUT is placed on a turntable which is 0.8m above ground plane, and above 1GHz measurement EUT was placed on a low permittivity and low loss tangent turn table which is 1.5m above ground plane.
- Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT
- And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- Repeat above procedures until all frequency measurements have been completed.
- Radiated emission test frequency band from 9KHz to 25GHz.
- The distance between test antenna and EUT as following table states:

| Test Frequency range | Test Antenna Type   | Test Distance |
|----------------------|---------------------|---------------|
| 9KHz-30MHz           | Active Loop Antenna | 3             |
| 30MHz-1GHz           | Bilog Antenna       | 3             |
| 1GHz-18GHz           | Horn Antenna        | 3             |
| 18GHz-25GHz          | Horn Antenna        | 1             |

- Setting test receiver/spectrum as following table states:

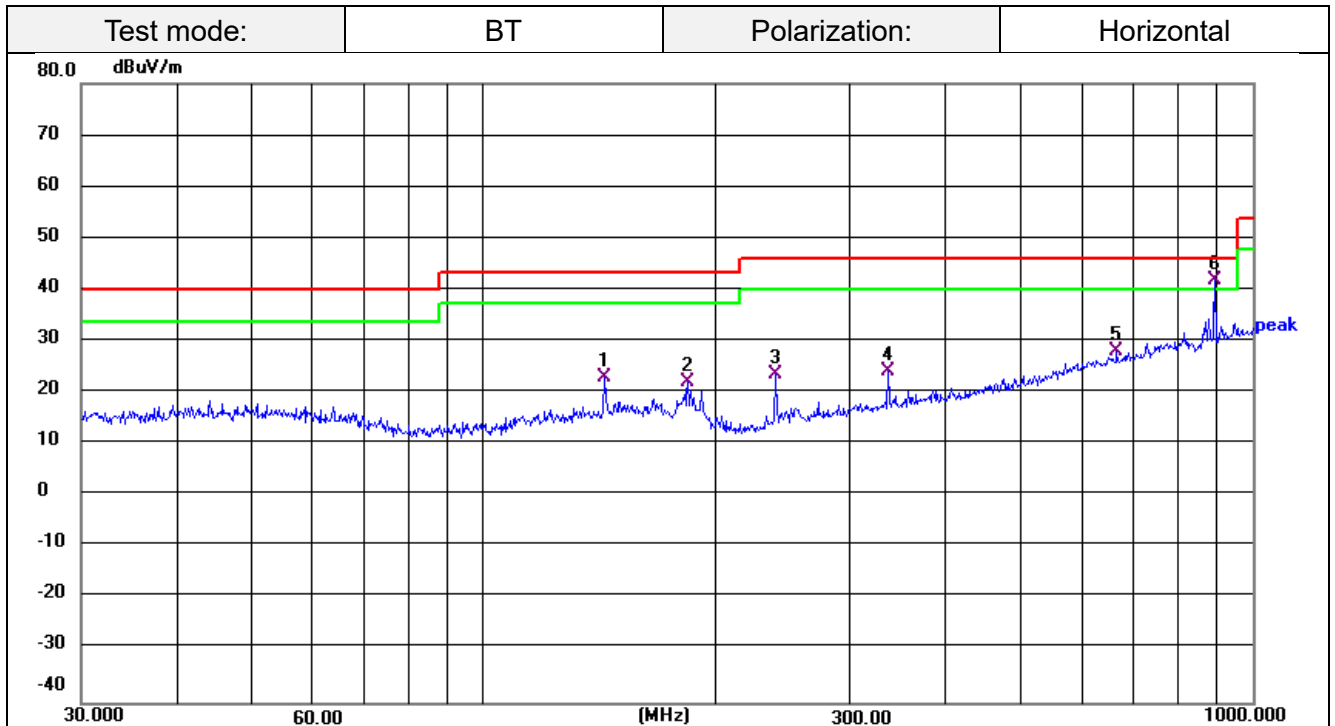
| Test Frequency range | Test Receiver/Spectrum Setting                                                                      | Detector |
|----------------------|-----------------------------------------------------------------------------------------------------|----------|
| 9KHz-150KHz          | RBW=200Hz/VBW=3KHz, Sweep time=Auto                                                                 | QP       |
| 150KHz-30MHz         | RBW=9KHz/VBW=100KHz, Sweep time=Auto                                                                | QP       |
| 30MHz-1GHz           | RBW=120KHz/VBW=1000KHz, Sweep time=Auto                                                             | QP       |
| 1GHz-40GHz           | Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto<br>Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto | Peak     |

### TEST RESULTS

Remark:

- All GFSK,  $\pi/4$  DQPSK and 8DPSK mode were measured from 9 KHz to 25GHz and recorded worst case at GFSK DH5 mode.
- For below 1GHz testing recorded worst at GFSK DH5 middle channel.
- Radiated emission test from 9 KHz to 10th harmonic of fundamental was verified, and The emission levels from 9kHz to 30MHz are attenuated 20dB below the limit and not recorded in report.

### For 30MHz-1GHz



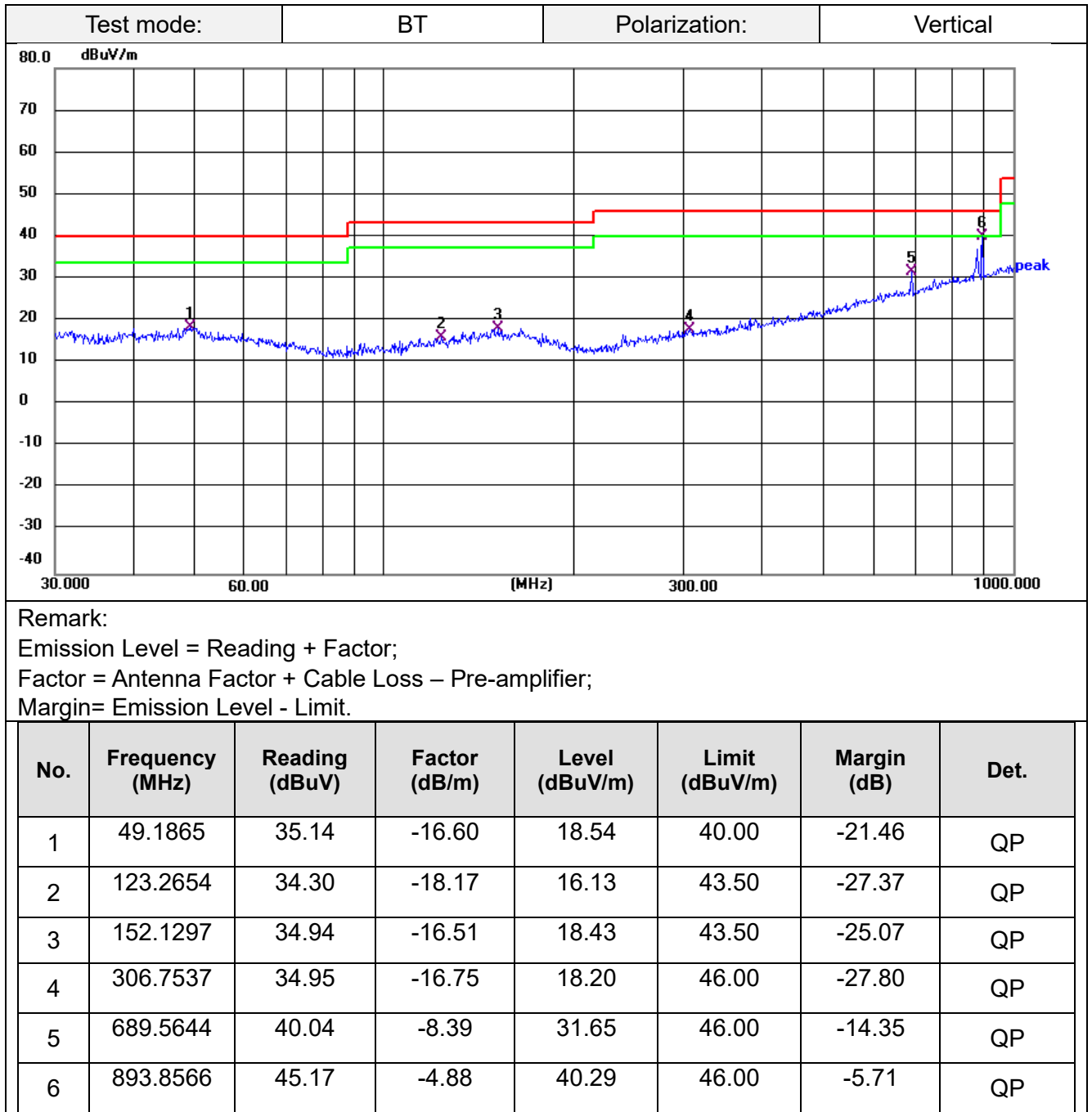
Remark:

Emission Level = Reading + Factor;

Factor = Antenna Factor + Cable Loss – Pre-amplifier;

Margin= Emission Level - Limit.

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|------|
| 1   | 143.8294        | 39.99          | -17.00        | 22.99          | 43.50          | -20.51      | QP   |
| 2   | 184.4898        | 41.05          | -18.83        | 22.22          | 43.50          | -21.28      | QP   |
| 3   | 239.9873        | 42.58          | -18.86        | 23.72          | 46.00          | -22.28      | QP   |
| 4   | 336.0350        | 40.23          | -16.03        | 24.20          | 46.00          | -21.80      | QP   |
| 5   | 665.8034        | 36.81          | -8.70         | 28.11          | 46.00          | -17.89      | QP   |
| 6   | 893.8565        | 46.87          | -4.88         | 41.99          | 46.00          | -4.01       | QP   |



### For 1GHz to 25GHz

Note:GFSK, Pi/4 DQPSK and 8DPSK all have been tested, only worse case GFSK is reported as bellow:

#### GFSK (above 1GHz)

| Frequency(MHz): |               | 2402   |                | Polarity: | Horizontal |               |
|-----------------|---------------|--------|----------------|-----------|------------|---------------|
| Frequency       | Meter Reading | Factor | Emission Level | Limits    | Margin     | Detector Type |
| (MHz)           | (dBμV)        | (dB/m) | (dBμV/m)       | (dBμV/m)  | (dB)       |               |
| 4804.70         | 54.43         | -7.55  | 46.88          | 74        | -27.12     | PEAK          |
| --              | --            | --     | --             | --        | --         | AVG           |
| 7205.55         | 44.22         | -1.64  | 42.58          | 74        | -31.42     | PEAK          |
| --              | --            | --     | --             | --        | --         | AVG           |

| Frequency(MHz): |               | 2402   |                | Polarity: | VERTICAL |               |
|-----------------|---------------|--------|----------------|-----------|----------|---------------|
| Frequency       | Meter Reading | Factor | Emission Level | Limits    | Margin   | Detector Type |
| (MHz)           | (dBμV)        | (dB/m) | (dBμV/m)       | (dBμV/m)  | (dB)     |               |
| 4804.70         | 54.89         | -7.55  | 47.34          | 74        | -26.66   | PEAK          |
| --              | --            | --     | --             | --        | --       | AVG           |
| 7205.55         | 44.40         | -1.64  | 42.76          | 74        | -31.24   | PEAK          |
| --              | --            | --     | --             | --        | --       | AVG           |

| Frequency(MHz): |               | 2441   |                | Polarity: | Horizontal |               |
|-----------------|---------------|--------|----------------|-----------|------------|---------------|
| Frequency       | Meter Reading | Factor | Emission Level | Limits    | Margin     | Detector Type |
| (MHz)           | (dBμV)        | (dB/m) | (dBμV/m)       | (dBμV/m)  | (dB)       |               |
| 4880.60         | 52.97         | -6.75  | 46.22          | 74        | -27.78     | PEAK          |
| --              | --            | --     | --             | --        | --         | AVG           |
| 7319.70         | 44.49         | -0.53  | 43.96          | 74        | -30.04     | PEAK          |
| --              | --            | --     | --             | --        | --         | AVG           |

| Frequency(MHz): |               | 2441   |                | Polarity: | VERTICAL |               |
|-----------------|---------------|--------|----------------|-----------|----------|---------------|
| Frequency       | Meter Reading | Factor | Emission Level | Limits    | Margin   | Detector Type |
| (MHz)           | (dBμV)        | (dB/m) | (dBμV/m)       | (dBμV/m)  | (dB)     |               |
| 4880.60         | 53.70         | -6.75  | 46.95          | 74        | -27.05   | PEAK          |
| --              | --            | --     | --             | --        | --       | AVG           |
| 7319.70         | 45.34         | -0.53  | 44.81          | 74        | -29.19   | PEAK          |
| --              | --            | --     | --             | --        | --       | AVG           |

| Frequency(MHz): |               | 2480   |                | Polarity: | Horizontal |               |
|-----------------|---------------|--------|----------------|-----------|------------|---------------|
| Frequency       | Meter Reading | Factor | Emission Level | Limits    | Margin     | Detector Type |
| (MHz)           | (dBμV)        | (dB/m) | (dBμV/m)       | (dBμV/m)  | (dB)       |               |
| 4960.00         | 47.02         | -5.77  | 45.67          | 74        | -28.33     | PEAK          |
| --              | --            | --     | --             | --        | --         | AVG           |
| 7439.30         | 46.47         | -0.5   | 46.88          | 74        | -27.12     | PEAK          |
| --              | --            | --     | --             | --        | --         | AVG           |

| Frequency(MHz): |               | 2480   |                | Polarity: | VERTICAL |               |
|-----------------|---------------|--------|----------------|-----------|----------|---------------|
| Frequency       | Meter Reading | Factor | Emission Level | Limits    | Margin   | Detector Type |
| (MHz)           | (dBμV)        | (dB/m) | (dBμV/m)       | (dBμV/m)  | (dB)     |               |
| 4960.00         | 45.63         | -5.77  | 46.56          | 74        | -27.44   | PEAK          |
| --              | --            | --     | --             | --        | --       | AVG           |
| 7439.30         | 45.02         | -0.5   | 47.11          | 74        | -26.89   | PEAK          |
| --              | --            | --     | --             | --        | --       | AVG           |

**REMARKS:**

1. Emission level (dBuV/m) = Reading (dBuV)+ Factor (dB/m)
2. Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Emission level- Limit value.
4. -- Mean the PK detector measured value is below average limit.
5. Other emission levels are attenuated 20dB below the limit and not recorded in report.
6. RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV value.

### Radiation Restricted band

Note:GFSK, Pi/4 DQPSK and 8DPSK all have been tested, only worse case GFSK is reported as below:

| Frequency(MHz): |               | 2402   |                | Polarity: | Horizontal |               |
|-----------------|---------------|--------|----------------|-----------|------------|---------------|
| Frequency       | Meter Reading | Factor | Emission Level | Limits    | Margin     | Detector Type |
| (MHz)           | (dBμV)        | (dB/m) | (dBμV/m)       | (dBμV/m)  | (dB)       |               |
| 2388.90         | 53.01         | -4.08  | 48.93          | 74        | -25.07     | PEAK          |
| --              | --            | --     | --             | --        | --         | AVG           |
| 2390.00         | 40.62         | -4.10  | 45.93          | 74        | -28.07     | PEAK          |
| --              | --            | --     | --             | --        | --         | AVG           |

| Frequency(MHz): |               | 2402   |                | Polarity: | Vertical |               |
|-----------------|---------------|--------|----------------|-----------|----------|---------------|
| Frequency       | Meter Reading | Factor | Emission Level | Limits    | Margin   | Detector Type |
| (MHz)           | (dBμV)        | (dB/m) | (dBμV/m)       | (dBμV/m)  | (dB)     |               |
| 2389.21         | 53.55         | -4.09  | 49.46          | 74        | -24.54   | PEAK          |
| --              | --            | --     | --             | --        | --       | AVG           |
| 2390.00         | 50.10         | -4.10  | 46.00          | 74        | -28.00   | PEAK          |
| --              | --            | --     | --             | --        | --       | AVG           |

| Frequency(MHz): |               | 2480   |                | Polarity: | Horizontal |               |
|-----------------|---------------|--------|----------------|-----------|------------|---------------|
| Frequency       | Meter Reading | Factor | Emission Level | Limits    | Margin     | Detector Type |
| (MHz)           | (dBμV)        | (dB/m) | (dBμV/m)       | (dBμV/m)  | (dB)       |               |
| 2483.50         | 51.62         | -3.09  | 48.53          | 74        | -25.47     | PEAK          |
| --              | --            | --     | --             | --        | --         | AVG           |
| 2483.52         | 50.69         | -3.09  | 47.60          | 74        | -26.40     | PEAK          |
| --              | --            | --     | --             | --        | --         | AVG           |

| Frequency(MHz): |               | 2480   |                | Polarity: | Vertical |               |
|-----------------|---------------|--------|----------------|-----------|----------|---------------|
| Frequency       | Meter Reading | Factor | Emission Level | Limits    | Margin   | Detector Type |
| (MHz)           | (dBμV)        | (dB/m) | (dBμV/m)       | (dBμV/m)  | (dB)     |               |
| 2483.50         | 52.13         | -3.09  | 49.04          | 74        | -24.96   | PEAK          |
| --              | --            | --     | --             | --        | --       | AVG           |
| 2484.18         | 51.72         | -3.08  | 48.64          | 74        | -25.36   | PEAK          |
| --              | --            | --     | --             | --        | --       | AVG           |

#### REMARKS:

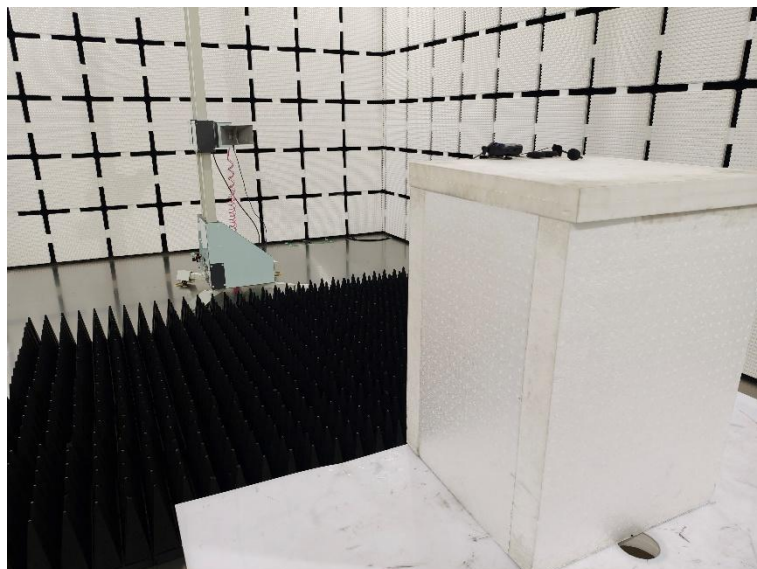
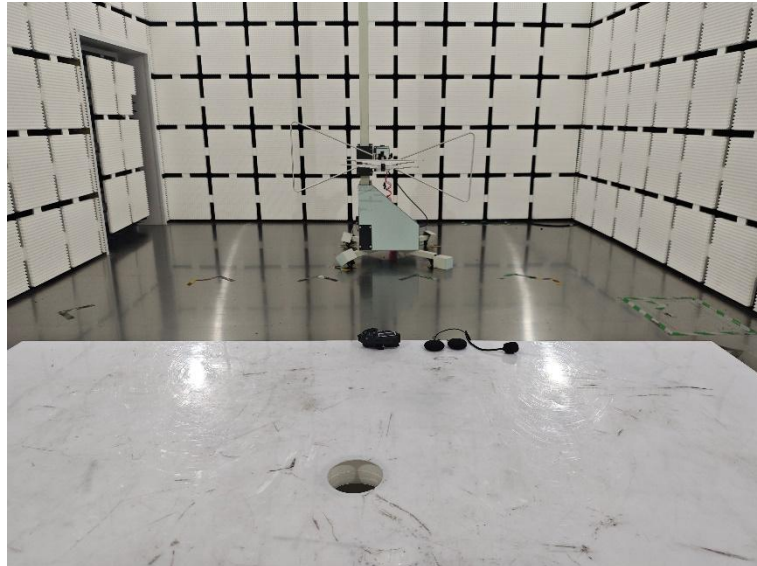
1. Emission level (dBuV/m) = Reading (dBuV)+ Factor (dB/m)
2. Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Emission level- Limit value.
4. -- Mean the PK detector measured value is below average limit.
5. Other emission levels are attenuated 20dB below the limit and not recorded in report.
6. RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV value.

## 4 Test Setup Photographs of EUT

Conducted Emission



Radiated Emission



## 5 Photos of EUT

Please refer to test report No.: AiTSZ-250626027FW1.

\*\*\*\*\* **End of Report** \*\*\*\*\*