



TEST REPORT

FCC ID: 2BDCU-YX379

Applicant: Hubei Yihang New Material Technology Co., Ltd.

Address: No.6, Shanchuan Road, Mamiao Industrial Park, Makou Town, Hanchuan City, Hubei Province, China

Manufacturer: Zhongshan Kuaiku Industrial Co., Ltd

Address: 4th Floor, No. 157 Rainbow Avenue, West District, Zhongshan City, Guangdong Province

EUT: circuit board

Trade Mark: N/A

Model Number: YX-379

Date of Receipt: Oct. 16, 2023

Test Date: Oct. 16, 2023 - Oct. 25, 2023

Date of Report: Oct. 25, 2023

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

Address: 101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China

Applicable Standards: FCC Part 18
MP-5(1986)

Test Result: Pass

Report Number: DL-20231025070E

Prepared (Engineer): Alisa Song

Reviewer (Supervisor): Jack Bu

Approved (Manager): Jade Yang



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

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**1.VERSION**

| Report No. | Version | Description | Approved |
|-----------------|---------|-------------------------|---------------|
| DL-20231025070E | Rev.01 | Initial issue of report | Oct. 25, 2023 |
| | | | |
| | | | |



2.GENERAL INFORMATION

2.1 Description of Device (EUT)

| | | |
|------------------|---|---|
| EUT | : | circuit board |
| Trademark | : | N/A |
| Model Number | : | YX-379 |
| Model Difference | : | / |
| Power Supply | : | Input: DC 12V/2A Wireless charger Output: 5W, 7.5W, 10W, 15W |

2.2 Tested System Details

None.

2.3 Description Of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| Item | Equipment | Mfr/Brand | Model/Type No. | Series No. | Note |
|------|---------------|-----------|--------------------------|------------|-----------|
| E1 | circuit board | N/A | YX-379 | N/A | EUT |
| E2 | Mobile Phone | N/A | SAMSUNG Galaxy S21 5G | N/A | Auxiliary |
| | | | | | |
| | | | | | |

2.4 Test mode

| Test Modes: | | |
|-------------|--|------------|
| Mode 1 | Wireless charger Output Mode(5W, 1%/50%/99%) | Record |
| Mode 2 | Wireless charger Output Mode(7.5W, 1%/50%/99%) | Pre-tested |
| Mode 3 | Wireless charger Output Mode(10W, 1%/50%/99%) | Pre-tested |
| Mode 4 | Wireless charger Output Mode(15W, 1%/50%/99%) | Pre-tested |

Note: 1. We have evaluated 1%, 50% and 99% battery charging mode, and the worst mode (99%) is showed in this report.
2. All modes have been tested, and the report only shows the results of the worst mode4.



2.5 Test Facility

Site Description

Test Lab: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China

FCC Test Firm Registration Number: 854456

Designation Number: CN1307

IC Registered No.: 27485

CAB ID.: CN0118

2.6 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

| Test item | Value (dB) |
|---|------------|
| Conducted Emission (150K-30MHz) | 3.20 |
| Radiated disturbance 30MHz-1000MHz | 4.80 |
| Radiated Emission Uncertainty(9KHz-30MHz) | 3.24 |



2.7 Test Instrument Used

For Conducted Emission Test (843 Shielded Room)

| Equipment | Manufacturer | Model | Serial | Last Cal. | Next Cal. |
|-------------------|--------------|-----------|--------|---------------|---------------|
| 843 Shielded Room | ChengYu | 843 Room | 843 | Sep. 20, 2022 | Sep. 19, 2025 |
| EMI Receiver | R&S | ESR | 101421 | Nov. 05, 2022 | Nov. 04, 2023 |
| LISN | R&S | ENV216 | 102417 | Nov. 05, 2022 | Nov. 04, 2023 |
| Clamp | COM-POWER | CLA-050 | 431071 | Nov. 05, 2022 | Nov. 04, 2023 |
| 3-Loop Antenna | DAZE | ZN30401 | 13021 | Nov. 05, 2022 | Nov. 04, 2023 |
| ISN T8 | Schwarzbeck | NTFM 8158 | 101135 | Nov. 05, 2022 | Nov. 04, 2023 |
| ISN T5 | Schwarzbeck | NTFM 8158 | 101136 | Nov. 05, 2022 | Nov. 04, 2023 |
| 843 Cable 1# | ChengYu | CE Cable | 001 | Nov. 05, 2022 | Nov. 04, 2023 |
| 843 Cable 1# | ChengYu | CE Cable | 002 | Nov. 05, 2022 | Nov. 04, 2023 |

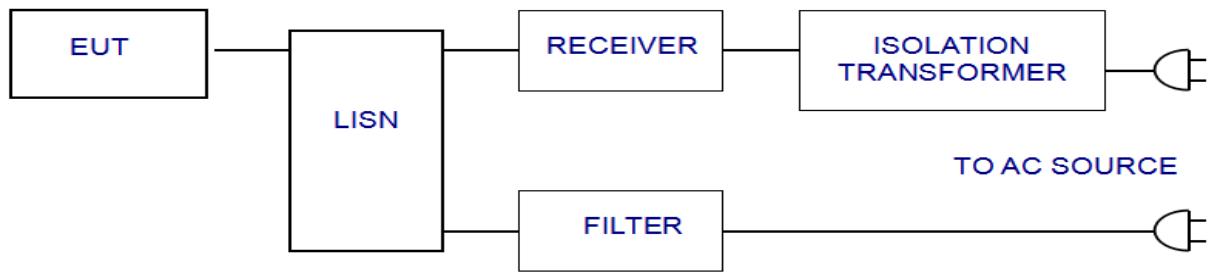
For Radiated Emission Test (966 chamber)

| Equipment | Manufacturer | Model | Serial | Last Cal. | Next Cal. |
|--------------------------|--------------|-----------|------------|---------------|---------------|
| 966 Chamber | ChengYu | 966 Room | 966 | Sep. 20, 2022 | Sep. 19, 2025 |
| Spectrum Analyzer | Agilent | E4408B | MY50140780 | Nov. 05, 2022 | Nov. 04, 2023 |
| EMI Receiver | R&S | ESRP7 | 101393 | Nov. 05, 2022 | Nov. 04, 2023 |
| Amplifier | Schwarzbeck | BBV9743B | 00153 | Nov. 05, 2022 | Nov. 04, 2023 |
| Amplifier | EMEC | EM01G8GA | 00270 | Nov. 05, 2022 | Nov. 04, 2023 |
| Broadband Trilog Antenna | Schwarzbeck | VULB9162 | 00306 | Nov. 05, 2022 | Nov. 04, 2023 |
| Horn Antenna | Schwarzbeck | BBHA9120D | 02139 | Nov. 05, 2022 | Nov. 04, 2023 |
| Loop Antenna | ZHINAN | ZN30900A | / | Nov. 05, 2022 | Nov. 04, 2023 |
| 966 Cable 1# | ChengYu | 966 | 004 | Nov. 05, 2022 | Nov. 04, 2023 |
| 966 Cable 2# | ChengYu | 966 | 003 | Nov. 05, 2022 | Nov. 04, 2023 |



3.CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

3.1 Block Diagram Of Test Setup



3.2 Test Standard

FCC PART 18, MP-5(1986)

3.3 Power Line Conducted Emission Limit

| Frequency MHz | | Limits dB(μ V) | |
|------------------|---------|---------------------|---------------|
| | | Quasi-peak Level | Average Level |
| 0.15 | ~ 0.50 | 66 ~ 56* | 56 ~ 46* |
| 0.50 | ~ 5.00 | 56 | 46 |
| 5.00 | ~ 30.00 | 60 | 50 |

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.4 EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC PART 18 requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5 Operating Condition of EUT

- 3.5.1 Setup the EUT and simulators as shown in Section 3.1.
- 3.5.2 Turn on the power of all equipments.
- 3.5.3 Let the EUT work in test modes and test it.

3.6 Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC PART 18** regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10KHz.

The frequency range from 150 KHz to 30 MHz is investigated.

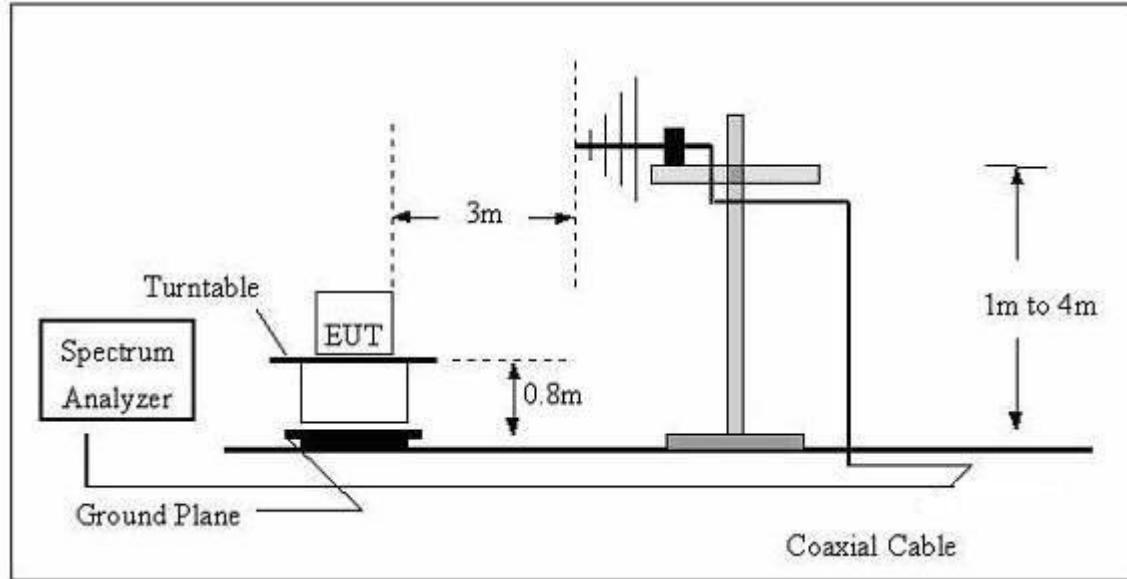
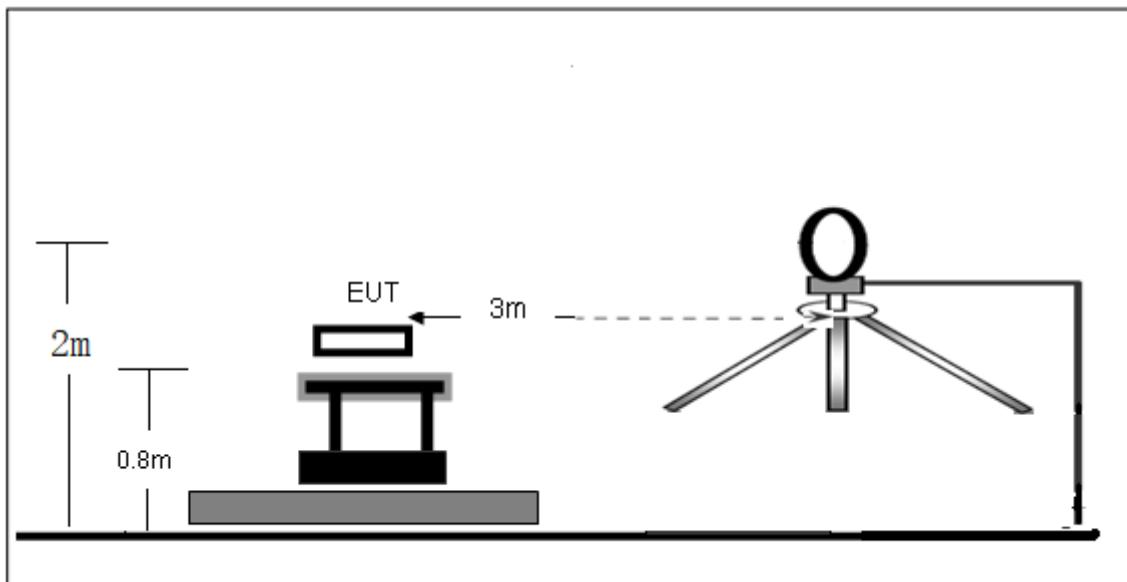
3.7 Test Result

The EUT is powered by DC, no requirements for this item.



4. RADIATION EMISSION TEST

4.1 Block Diagram of Test Setup



4.2 Test Standard

FCC PART 18, MP-5(1986)

4.3 Radiation Limit

Limits for frequency below 30MHz

Except as provided elsewhere in this Subpart 18.305 (b), the field strength levels of emissions which lie outside the bands specified in § 18.301, unless otherwise indicated, shall not exceed the following table:



| Frequency MHz | Distance Meters | Field Strengths Limit | |
|------------------|--------------------|-----------------------|------------|
| | | dB μ V/m | Remark |
| 0.009~30MHz | 3 | 103.5 | Quasi-peak |

Remark: (1) Emission level dB V/m for 0.009~30MHz = $20\log(15) + 40\log(300/3)$ dB V/m; (2) Calculated according FCC 18.305. (3) The smaller limit shall apply at the cross point between two frequency bands. (4) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

Limits for frequency Above 30MHz

| FREQUENCY (MHz) | DISTANCE (Meters) | FIELD STRENGTHS LIMITS (dB μ V/m) |
|--------------------|----------------------|--|
| 30 ~ 1000 | 3 | 63.5 |

(1) Emission level dB V/m for above 30MHz = $20\log(15) + 20\log(300/3)$ dB V/m

4.4 EUT Configuration on Test

The FCC PART 18 regulations test method must be used to find the maximum emission during radiated emission test. The configuration of EUT is the same as used in conducted emission test. Please refer to Section 2.2.

4.5 Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.2 except the test set up replaced as Section 4.1.

4.6 Test Procedure

1) Sequence of testing 9 kHz to 30 MHz Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.

--- If the EUT is a floor standing device, it is placed on the ground.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions.

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Premeasurement:

--- The turntable rotates from 0° to 315° using 45° steps.

--- The antenna height is 2.0 meter.

--- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions

Final measurement:

--- Identified emissions during the premeasurement the software maximizes by rotating the turntable position (0° to 360°) and by rotating the elevation axes (0° to 360°).

--- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QPK detector.

--- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

--- The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at RBW: 10KHz, VBW: 30KHz.

Sequence of testing 30 MHz to 1 GHz Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.



- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

Premeasurement:

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height changes from 1 to 4 meter.
- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

- The final measurement will be performed with minimum the six highest peaks.
- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position ($\pm 45^\circ$) and antenna movement between 1 and 4 meter.
- The final measurement will be done with QP detector with an EMI receiver.
- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored
- The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at RBW: 120KHz, VBW: 300KHz.

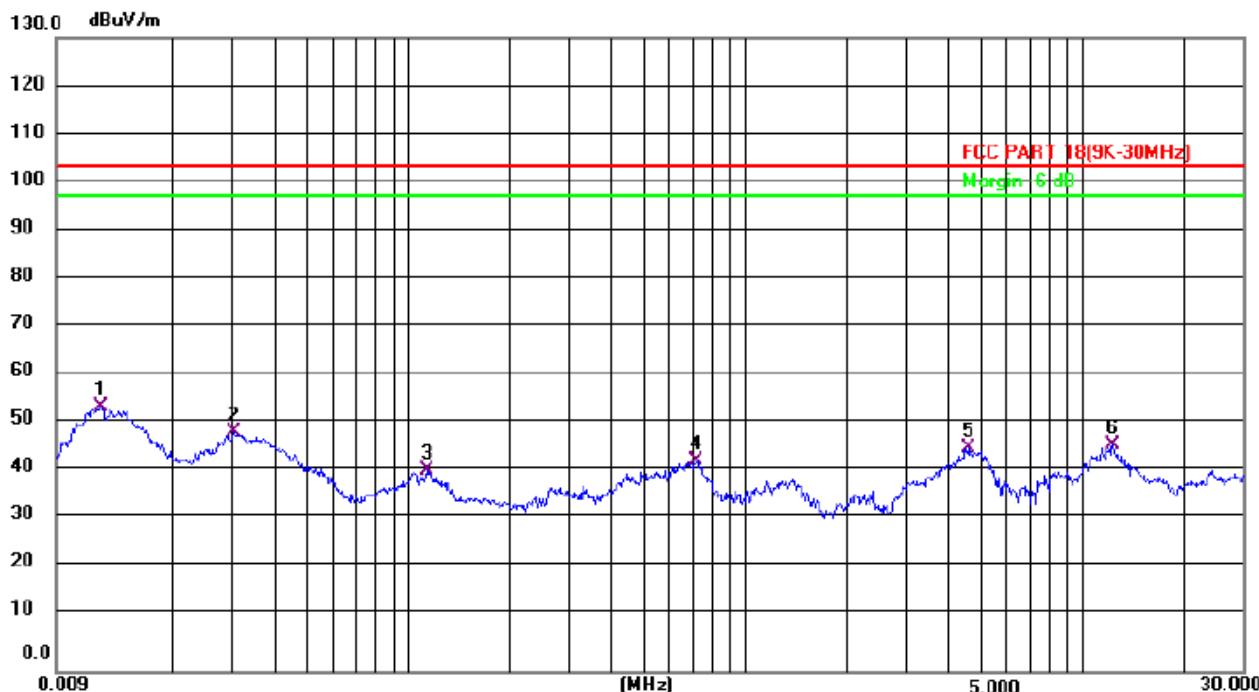
4.7 Test Result

PASS

Please refer to the following page.



| Radiation Emission Test Data | | | |
|------------------------------|---------|--------------------|--------|
| Temperature: | 26°C | Relative Humidity: | 54% |
| Pressure: | 1009hPa | Phase : | / |
| Test Voltage : | DC 12V | Test Mode: | Mode 4 |



| Frequency (MHz) | Meter Reading (dB μ V) | Factor (dB) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Detector Type |
|--------------------|-------------------------------|----------------|----------------------------------|--------------------------|----------------|---------------|
| 0.0122 | 53.48 | 10.22 | 63.70 | 103.5 | -39.80 | QP |
| 0.0303 | 49.11 | 10.47 | 59.58 | 103.5 | -43.92 | QP |
| 0.1130 | 39.39 | 10.88 | 50.27 | 103.5 | -53.23 | QP |
| 0.7186 | 41.39 | 10.23 | 51.62 | 103.5 | -51.88 | QP |
| 4.5689 | 44.83 | 10.18 | 55.01 | 103.5 | -48.49 | QP |
| 12.2911 | 45.24 | 10.69 | 55.93 | 103.5 | -47.57 | QP |

Note:

Pre-scan in the all of mode, the worst case in of was recorded.

Factor = antenna factor + cable loss – pre-amplifier.

Margin = Emission Level(Meter Reading+ Factor) - Limit.



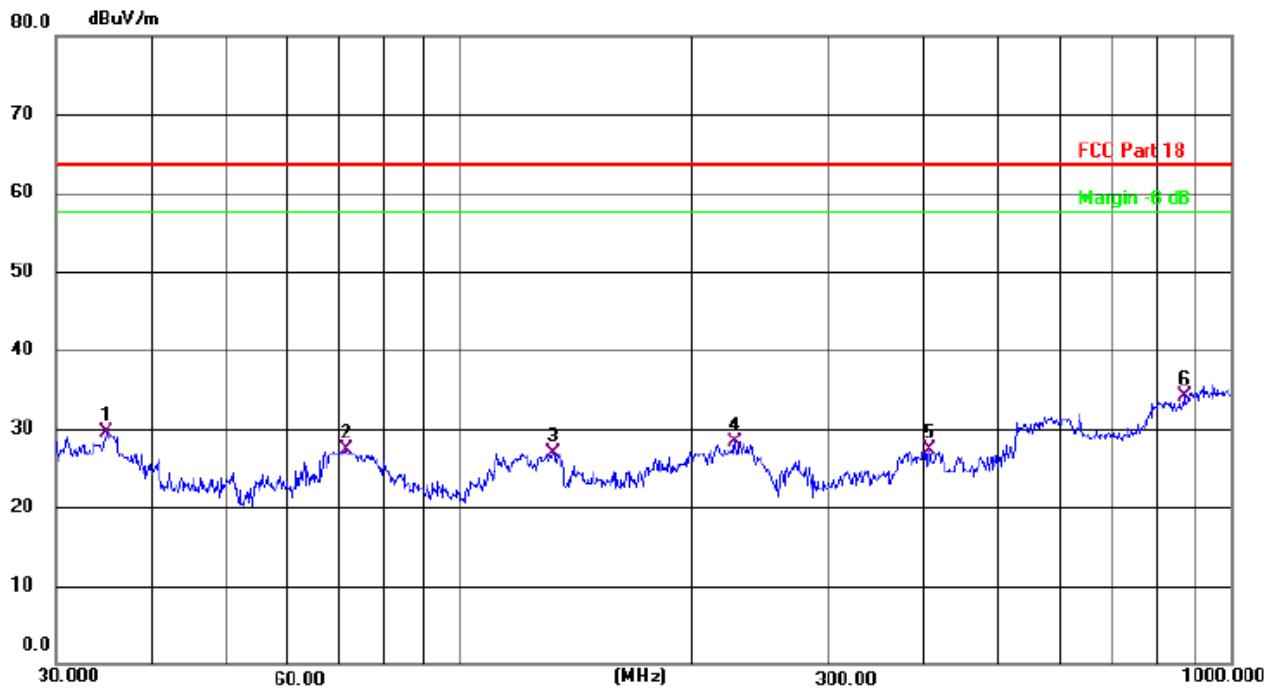
| Radiation Emission Test Data | | | |
|------------------------------|---------|--------------------|------------|
| Temperature: | 26°C | Relative Humidity: | 54% |
| Pressure: | 1009hPa | Phase : | Horizontal |
| Test Voltage : | DC 12V | Test Mode: | Mode 4 |



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dB/m | Margin dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|---------------|--------------|----------|
| 1 | | 43.5056 | 38.74 | -11.88 | 26.86 | 63.50 | -36.64 | QP |
| 2 | | 70.3365 | 40.63 | -14.00 | 26.63 | 63.50 | -36.87 | QP |
| 3 | | 195.8214 | 40.73 | -13.56 | 27.17 | 63.50 | -36.33 | QP |
| 4 | | 282.9849 | 38.79 | -11.06 | 27.73 | 63.50 | -35.77 | QP |
| 5 | | 595.1326 | 36.07 | -5.75 | 30.32 | 63.50 | -33.18 | QP |
| 6 | * | 955.4379 | 33.76 | -0.29 | 33.47 | 63.50 | -30.03 | QP |



| Radiation Emission Test Data | | | |
|------------------------------|---------|--------------------|----------|
| Temperature: | 26°C | Relative Humidity: | 54% |
| Pressure: | 1009hPa | Phase : | Vertical |
| Test Voltage : | DC 12V | Test Mode: | Mode 4 |



| No. | Mk. | Freq. | Reading | Correct | Measure- | Limit | Margin | |
|-----|-----|----------|---------|---------|----------|-------|--------|----------|
| | | | Level | Factor | ment | | | |
| | | MHz | dBuV | dB | dBuV/m | dB/m | dB | Detector |
| 1 | | 34.8821 | 43.13 | -13.72 | 29.41 | 63.50 | -34.09 | QP |
| 2 | | 71.3300 | 42.54 | -15.30 | 27.24 | 63.50 | -36.26 | QP |
| 3 | | 132.2204 | 42.92 | -15.93 | 26.99 | 63.50 | -36.51 | QP |
| 4 | | 227.6904 | 40.14 | -11.86 | 28.28 | 63.50 | -35.22 | QP |
| 5 | | 406.0880 | 35.40 | -8.16 | 27.24 | 63.50 | -36.26 | QP |
| 6 | * | 869.1300 | 34.50 | -0.30 | 34.20 | 63.50 | -29.30 | QP |

Remarks:

- 1.Final Level =Receiver Read level + Correct factor (Antenna Factor + Cable Loss – Preamplifier Factor)
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.

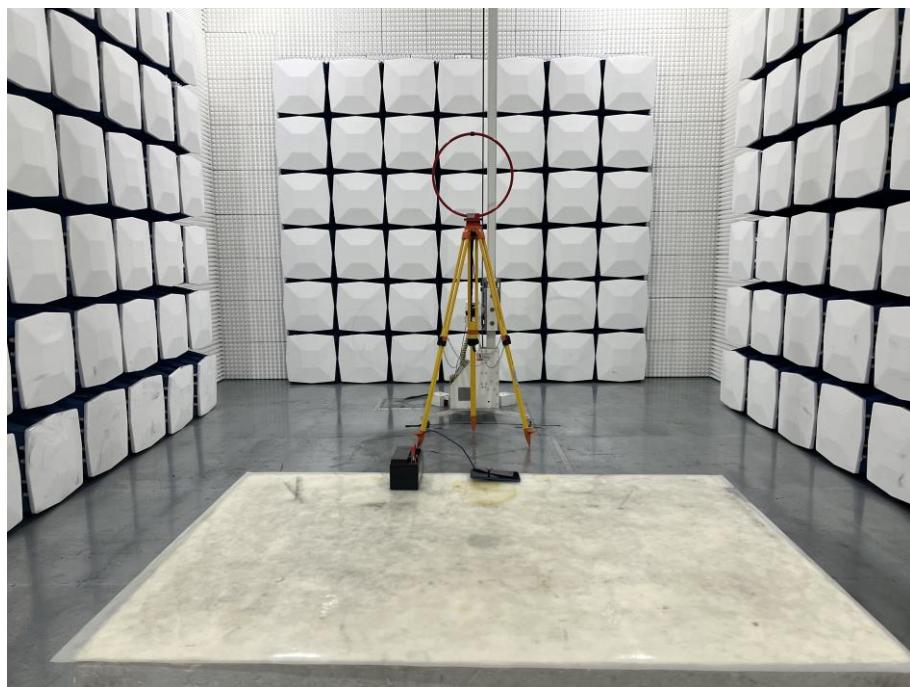
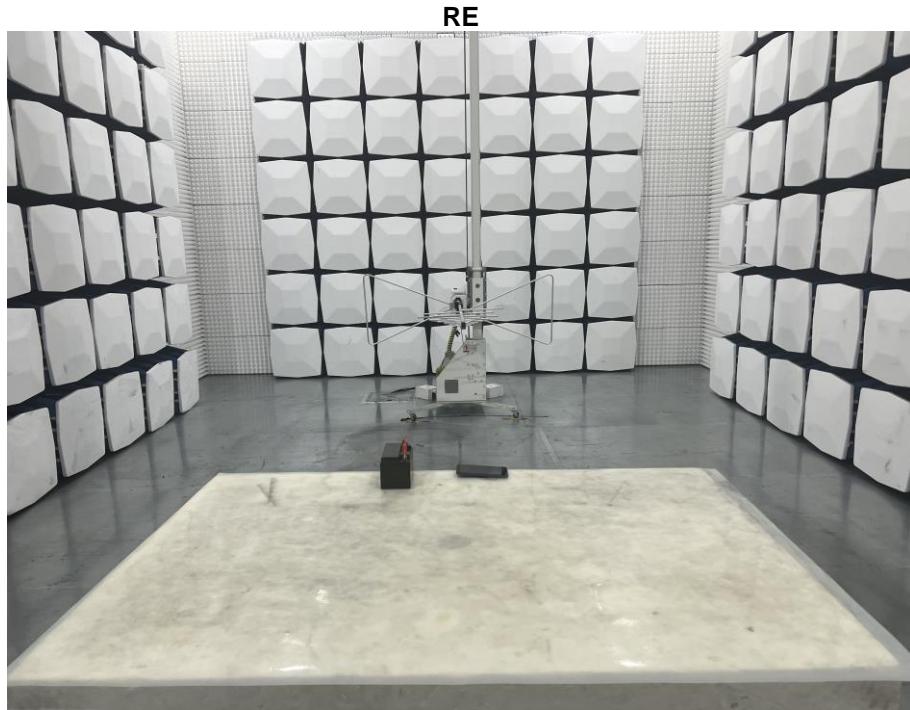


5. EUT PHOTOGRAPHS

Reference to the appendix II for details.



6. EUT TEST PHOTOGRAPHS



***** END OF REPORT *****