# FCC Part 15 Subpart B
# TEST REPORT

| | | |
|---|---|---|
| Client Name | : | Barix AG |
| Address | : | Limmatstrasse 21, 8005 Zürich, Switzerland |
| Product Name | : | HD Screen Controller |
| Test Model No. | : | Barix MPV500 |
| Report No. | : | CCTI-2022072912E |
| Issued Date | : | Aug. 05, 2022 |
| Prepared By | : | Shenzhen CCTI Technology Co., Ltd. |
| Address | : | 7th Floor, Block A, Building E, Yongwei Industrial Park, No. 118, Yongfu Road, Qiaotou, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |
| Contact Info | : | Tel : 0086-400-188-9662 E-mail : ccti@ccti-lab.com<br>Fax : 0086-755-2722 5865 Web : www.ccti-lab.com |

# TEST REPORT VERIFICATION

| | | |
|---|---|---|
| Applicant | : | Barix AG |
| Address | : | Limmatstrasse 21, 8005 Zürich, Switzerland |
| Manufacturer | : | Shenzhen CYX Industrial Co., Ltd |
| Address | : | Building A, Corrent Low Carbon Industrial Park, Dalang Street, Longhua District, Shenzhen, China |
| Product Name | : | HD Screen Controller |
| Model No. | : | Barix MPV500 |
| Series No. | : | Barix NPV500,Barix MPV501,Barix NPV501,Barix MPV510,Barix NPV510,Barix MPV511,Barix NPV511,Barix MPV520,Barix NPV520,Barix MPV521,Barix NPV521 |
| Trade Mark | : | BARIX |
| Rating(s) | : | Input: 5V.d.c or 9-24V.d.c, 15W |
| Test Date | : | Jul. 25, 2022 to Aug. 05, 2022 |
| **Test Standard(s)** | : | **FCC Part 15 Subpart B**<br>**ANSI C63.4:2014** |
| **Test Result** | : | **PASS** |

This device described above has been tested by CCTI, and the test results show that the equipment under test (EUT) is in compliance with Part 15 of FCC Rules. The results shown in this test report refer only to the sample(s) tested unless other wise stated and the sample(s) are retained for 30 days only.

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**Producer By** : _____ **Date** : Aug. 05, 2022

(Betty Liang / Engineer)

**Authorized Signer** : _____ **Date** : Aug. 05, 2022

(Corey Mao / Manager)

SHENZHEN CCTI TECHNOLOGY CO., LTD. ★★ APPROVED ★★

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# 1. GENERAL INFORMATION

## 1.1. Description of Device (EUT)

| | | |
|---|---|---|
| EUT | : | HD Screen Controller |
| Trademark | : | BARIX |
| Model Number | : | Barix MPV500 |
| Serial Model | : | Barix NPV500,Barix MPV501,Barix NPV501,Barix MPV510,Barix NPV510,Barix MPV511,Barix NPV511,Barix MPV520,Barix NPV520, Barix MPV521,Barix NPV521 |
| Model Difference | : | The product is different for model number and outlook color. |
| Power Supply | : | Input: 5V.d.c or 9-24V.d.c, 15W |

**Remark:**

(1) Barix MPV500 was selected as the test model and the datas have been recorded in this report.

(2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

## 1.2. Test Facility

Shenzhen CCTI Technology Co., Ltd.

7th Floor, Block A, Building E, Yongwei Industrial Park, No. 118, Yongfu Road, Qiaotou, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

## 1.3. Tested System Details

None.

## 1.4. Test Uncertainty

| | | |
|---|---|---|
| Conducted Emission Uncertainty | : | ± 2.66dB |
| Radiated Emission Uncertainty | : | ± 4.26dB |

# 2. TEST INSTRUMENT USED

## 2.1. For Conducted Emission at the mains terminals Test

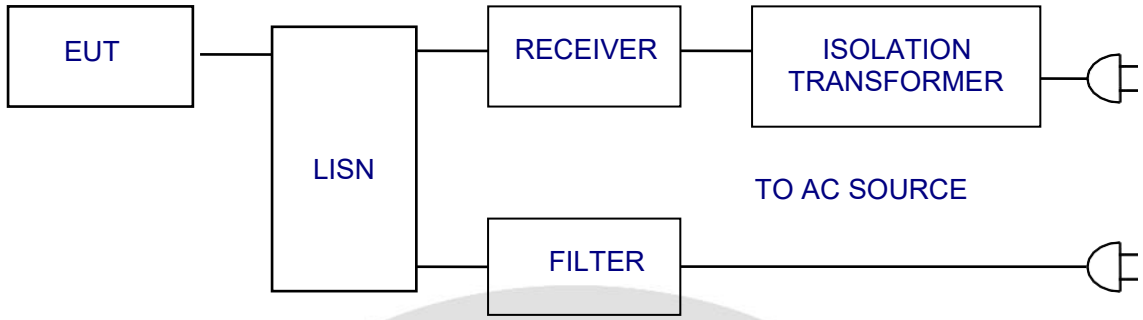
| Conducted Emission Test ( A --- site) | | | | | |
|---|---|---|---|---|---|
| **Equipment** | **Manufacturer** | **Model#** | **Serial#** | **Last Cal.** | **Next Cal.** |
| 843 Shielded Room | ChengYu | 843 Room | 843 | Mar. 09, 2022 | Mar. 08, 2023 |
| EMI Receiver | R&S | ESCI | 101421 | Mar. 09, 2022 | Mar. 08, 2023 |
| LISN | Schwarzbeck | NSLK8127 | 8127739 | Mar. 09, 2022 | Mar. 08, 2023 |
| Attenuator | R&S | ESH3-Z2 | CCTI021E | Mar. 09, 2022 | Mar. 08, 2023 |
| 843 Cable 1# | FUJIKURA | 843C1# | 001 | Mar. 09, 2022 | Mar. 08, 2023 |

## 2.2. For Radiated Emission Test

| Radiation Emission Test (966 chamber) | | | | | |
|---|---|---|---|---|---|
| **Equipment** | **Manufacturer** | **Model#** | **Serial#** | **Last Cal.** | **Next Cal.** |
| 966 chamber | ChengYu | 966 Room | 966 | Mar. 09, 2022 | Mar. 08, 2023 |
| Spectrum Analyzer | Agilent | E4407B | MY45109572 | Mar. 09, 2022 | Mar. 08, 2023 |
| Amplifier | Schwarzbeck | BBV9743 | 9743-119 | Mar. 09, 2022 | Mar. 08, 2023 |
| Amplifier | Schwarzbeck | BBV9718 | 9718-270 | Mar. 09, 2022 | Mar. 08, 2023 |
| Log-periodic Antenna | Schwarzbeck | VULB9160 | VULB9160-3369 | Mar. 09, 2022 | Mar. 08, 2023 |
| EMI Receiver | R&S | ESCI | 101421 | Mar. 09, 2022 | Mar. 08, 2023 |
| Horn Antenna | Schwarzbeck | BBHA9120D | 9120D-1275 | Mar. 09, 2022 | Mar. 08, 2023 |
| 966 Cable 1# | CHENGYU | 966 | 004 | Mar. 09, 2022 | Mar. 08, 2023 |
| 966 Cable 2# | CHENGYU | 966 | 003 | Mar. 09, 2022 | Mar. 08, 2023 |

# 3. CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

## 3.1. Block Diagram Of Test Setup




## 3.2. Test Standard

FCC PART 15 B

## 3.3. Power Line Conducted Emission Limit

| Frequency MHz | Limits dB(μV) | |
|---|---|---|
| | 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 equipment are installed on conducted emission test to meet FCC PART 15 B requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

## 3.5. Operating Condition of EUT

(1) Setup the EUT and simulators as shown in Section 3.1.

(2) Turn on the power of all equipment.

(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 equipment. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC PART 15 B** regulations during conducted emission test.

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

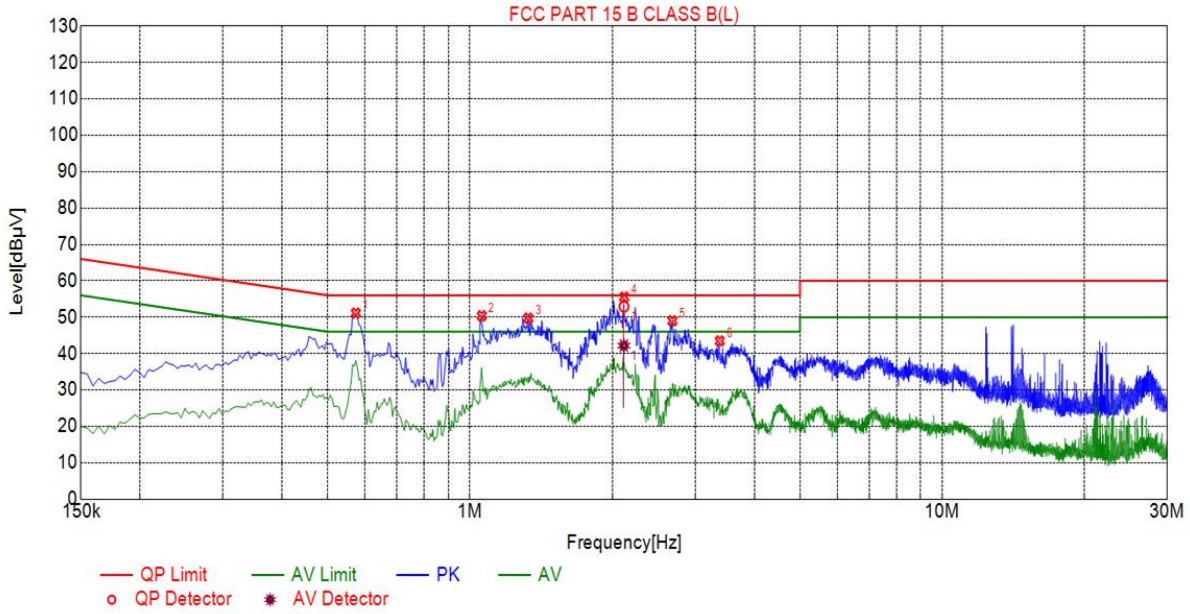
The frequency range from 150 KHz to 30 MHz is investigated.

## 3.7. Test Result

PASS

Please refer to the following page.

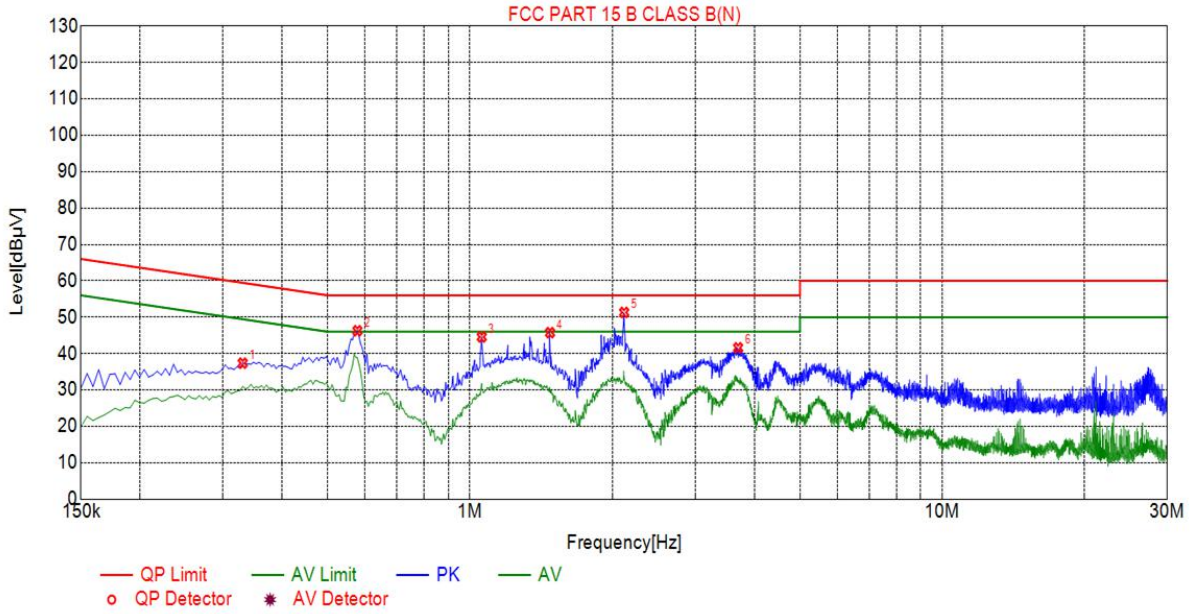
| Conducted Emission At The Mains Terminals Test Data | | | |
|---|---|---|---|
| Temperature: | 24.5 ℃ | Relative Humidity: | 54% |
| Pressure: | 1009hPa | Phase : | Line |
| Test Voltage : | DC 5V From Power Adapter Input AC 110V/50Hz | Test Mode: | Working |




## Suspected List

| NO. | Freq. [MHz] | Level [dBµV] | Factor [dB] | Limit [dBµV] | Margin [dB] | Reading [dBµV] | Detector | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.5730 | 51.11 | 20.05 | 56.00 | 4.89 | 31.06 | PK | L |
| 2 | 1.0590 | 50.38 | 20.07 | 56.00 | 5.62 | 30.31 | PK | L |
| 3 | 1.3290 | 49.74 | 20.10 | 56.00 | 6.26 | 29.64 | PK | L |
| 4 | 2.1210 | 55.51 | 20.16 | 56.00 | 0.49 | 35.35 | PK | L |
| 5 | 2.6835 | 49.01 | 20.21 | 56.00 | 6.99 | 28.80 | PK | L |
| 6 | 3.3810 | 43.47 | 20.24 | 56.00 | 12.53 | 23.23 | PK | L |

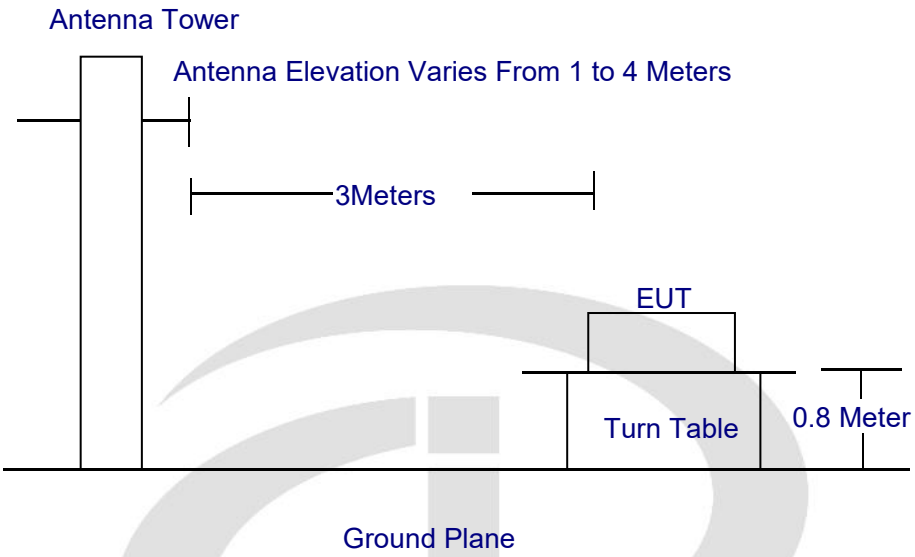
| Conducted Emission At The Mains Terminals Test Data | | | |
|---|---|---|---|
| Temperature: | 24.5 ℃ | Relative Humidity: | 54% |
| Pressure: | 1009hPa | Phase : | Neutral |
| Test Voltage : | DC 5V From Power Adapter Input AC 110V/50Hz | Test Mode: | Working |




| Suspected List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV] | Factor [dB] | Limit [dBµV] | Margin [dB] | Reading [dBµV] | Detector | Type |
| 1 | 0.3300 | 37.37 | 20.04 | 59.45 | 22.08 | 17.33 | PK | N |
| 2 | 0.5775 | 46.28 | 20.05 | 56.00 | 9.72 | 26.23 | PK | N |
| 3 | 1.0590 | 44.57 | 20.07 | 56.00 | 11.43 | 24.50 | PK | N |
| 4 | 1.4775 | 45.76 | 20.10 | 56.00 | 10.24 | 25.66 | PK | N |
| 5 | 2.1210 | 51.32 | 20.16 | 56.00 | 4.68 | 31.16 | PK | N |
| 6 | 3.6960 | 41.59 | 20.25 | 56.00 | 14.41 | 21.34 | PK | N |

# 4. RADIATION EMISSION TEST

## 4.1. Block Diagram of Test Setup




## 4.2. Test Standard

FCC PART 15 B

## 4.3. Radiation Limit

| FREQUENCY (MHz) | DISTANCE (Meters) | FIELD STRENGTHS LIMITS (dBμV/m) |
|---|---|---|
| 30 ~ 88 | 3 | 40.0 |
| 88 ~ 216 | 3 | 43.5 |
| 216 ~ 960 | 3 | 46.0 |
| 960 ~ 1000 | 3 | 54.0 |

## 4.4. EUT Configuration on Test

The FCC PART 15 B 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

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to FCC PART 15 B on radiated emission test.

The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 1GHz, set at 1MHz above 1GHz

The frequency range from 30MHz to 1000MHz is checked.

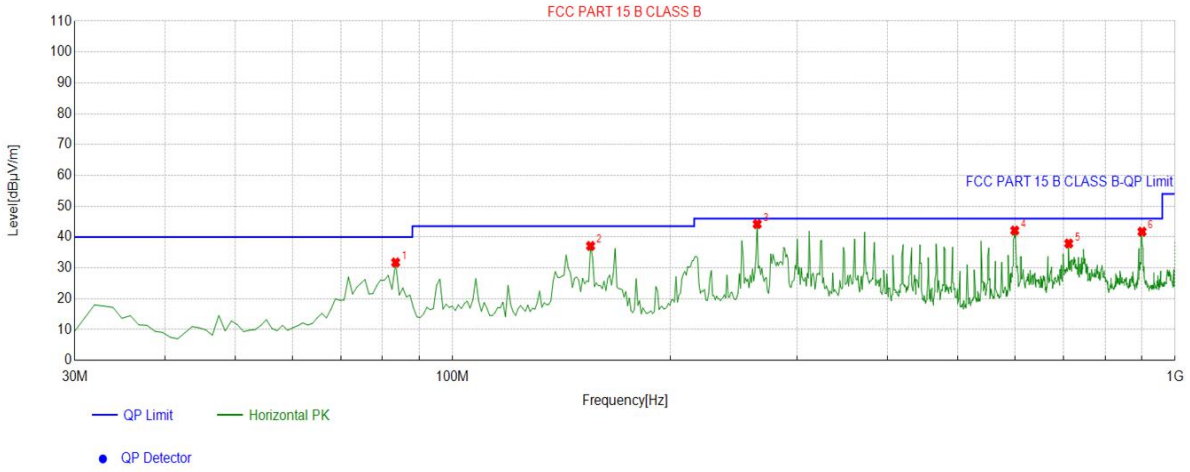
The highest frequency of the internal sources of the EUT was 1.3GHz, so the measurement was only made up to 6GHz.

## 4.7. Test Result

PASS

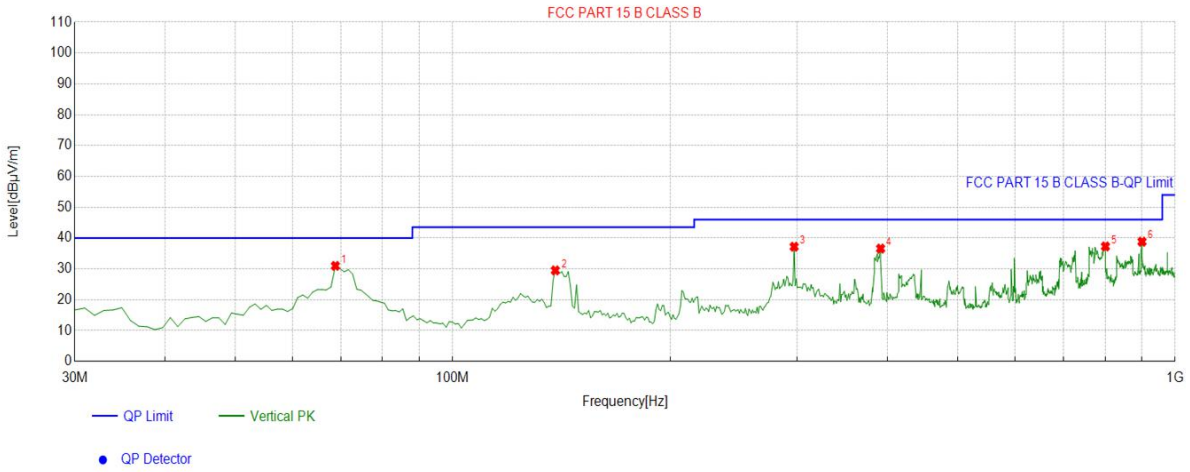
Please refer to the following page.

| Radiation Emission Test Data | | | |
|---|---|---|---|
| Temperature: | 24.5 ℃ | Relative Humidity: | 54% |
| Pressure: | 1009hPa | Phase : | Horizontal |
| Test Voltage : | DC 5V From Power Adapter Input AC 110V/50Hz | Test Mode: | Working |



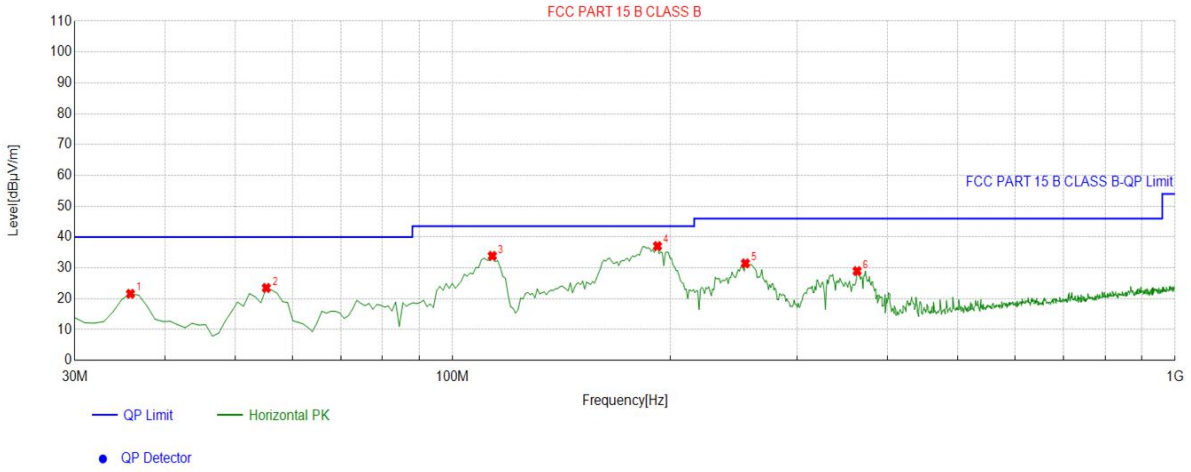

| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 83.4034 | -17.56 | 49.31 | 31.75 | 40.00 | 8.25 | 100 | 4 | Horizontal |
| 2 | 155.2553 | -18.22 | 55.33 | 37.11 | 43.50 | 6.39 | 100 | 46 | Horizontal |
| 3 | 264.0040 | -12.49 | 56.69 | 44.20 | 46.00 | 1.80 | 100 | 286 | Horizontal |
| 4 | 599.9600 | -4.66 | 46.77 | 42.11 | 46.00 | 3.89 | 100 | 306 | Horizontal |
| 5 | 712.5926 | -3.28 | 41.17 | 37.89 | 46.00 | 8.11 | 100 | 6 | Horizontal |
| 6 | 899.9900 | -0.15 | 41.88 | 41.73 | 46.00 | 4.27 | 100 | 53 | Horizontal |

| Radiation Emission Test Data | | | |
|---|---|---|---|
| Temperature: | 24.5 ℃ | Relative Humidity: | 54% |
| Pressure: | 1009hPa | Phase : | Vertical |
| Test Voltage : | DC 5V From Power Adapter Input AC 110V/50Hz | Test Mode: | Working |




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 68.8388 | -15.26 | 46.24 | 30.98 | 40.00 | 9.02 | 100 | 3 | Vertical |
| 2 | 138.7487 | -17.61 | 47.11 | 29.50 | 43.50 | 14.00 | 100 | 148 | Vertical |
| 3 | 297.0170 | -11.85 | 49.04 | 37.19 | 46.00 | 8.81 | 100 | 88 | Vertical |
| 4 | 391.2012 | -9.82 | 46.41 | 36.59 | 46.00 | 9.41 | 100 | 78 | Vertical |
| 5 | 800.9510 | -1.52 | 38.79 | 37.27 | 46.00 | 8.73 | 100 | 356 | Vertical |
| 6 | 899.9900 | -0.15 | 38.97 | 38.82 | 46.00 | 7.18 | 100 | 154 | Vertical |

| Radiation Emission Test Data | | | |
|---|---|---|---|
| Temperature: | 24.5 ℃ | Relative Humidity: | 54% |
| Pressure: | 1009hPa | Phase : | Horizontal |
| Test Voltage : | DC 9V From POE Input AC 230V/50Hz | Test Mode: | Working |

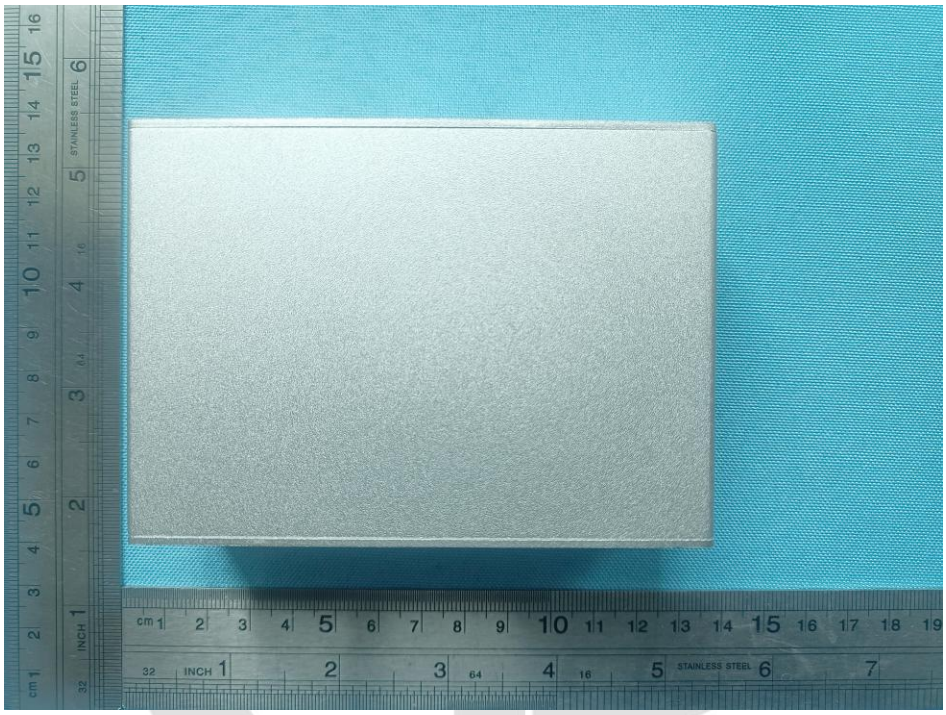



| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 35.8258 | -15.65 | 37.23 | 21.58 | 40.00 | 18.42 | 100 | 1 | Horizontal |
| 2 | 55.2452 | -14.19 | 37.68 | 23.49 | 40.00 | 16.51 | 100 | 339 | Horizontal |
| 3 | 113.5035 | -15.00 | 48.87 | 33.87 | 43.50 | 9.63 | 100 | 171 | Horizontal |
| 4 | 192.1522 | -16.47 | 53.53 | 37.06 | 43.50 | 6.44 | 100 | 257 | Horizontal |
| 5 | 254.2943 | -12.79 | 44.24 | 31.45 | 46.00 | 14.55 | 100 | 358 | Horizontal |
| 6 | 363.0430 | -10.78 | 39.74 | 28.96 | 46.00 | 17.04 | 100 | 81 | Horizontal |

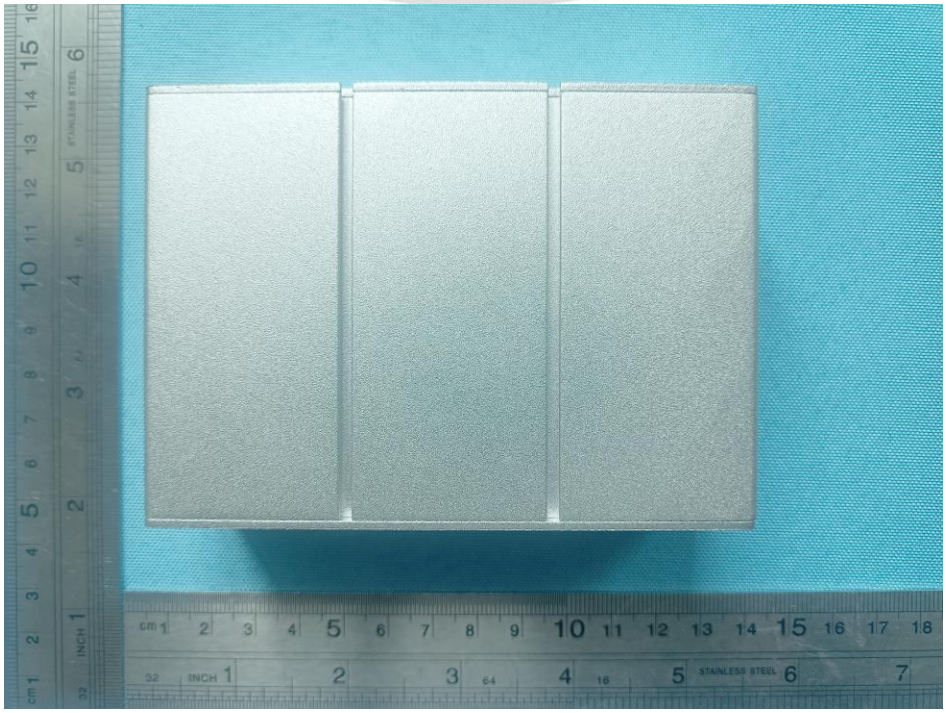
| Radiation Emission Test Data | | | |
|---|---|---|---|
| Temperature: | 24.5 ℃ | Relative Humidity: | 54% |
| Pressure: | 1009hPa | Phase : | Vertical |
| Test Voltage : | DC 9V From POE Input AC 230V/50Hz | Test Mode: | Working |


| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 72.7227 | -16.09 | 54.21 | 38.12 | 40.00 | 1.88 | 100 | 300 | Vertical |
| 2 | 138.7487 | -17.61 | 47.54 | 29.93 | 43.50 | 13.57 | 100 | 161 | Vertical |
| 3 | 297.0170 | -11.85 | 47.75 | 35.90 | 46.00 | 10.10 | 100 | 88 | Vertical |
| 4 | 594.1341 | -5.01 | 42.65 | 37.64 | 46.00 | 8.36 | 100 | 164 | Vertical |
| 5 | 800.9510 | -1.52 | 40.82 | 39.30 | 46.00 | 6.70 | 100 | 360 | Vertical |
| 6 | 899.9900 | -0.15 | 39.15 | 39.00 | 46.00 | 7.00 | 100 | 164 | Vertical |

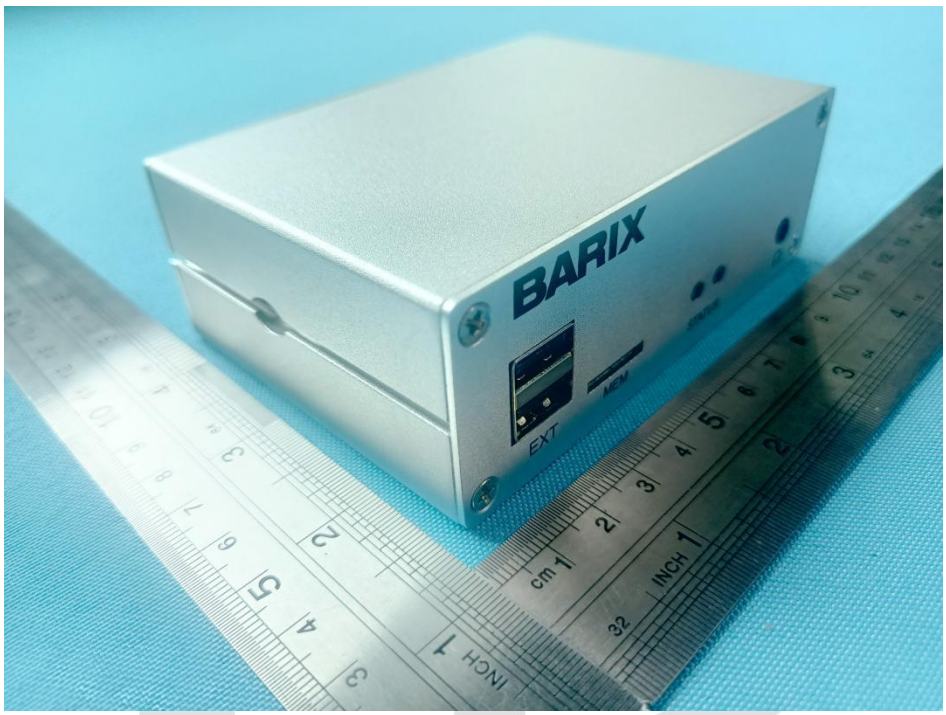
# APPENDIX I -- EUT PHOTOGRAPHS



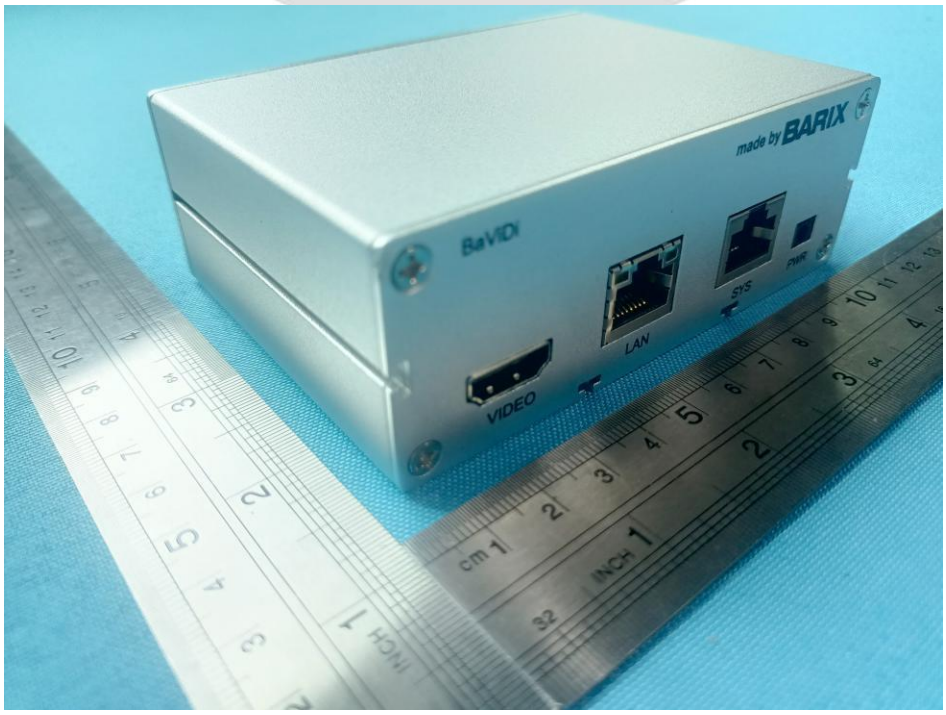
EUT Photo 1



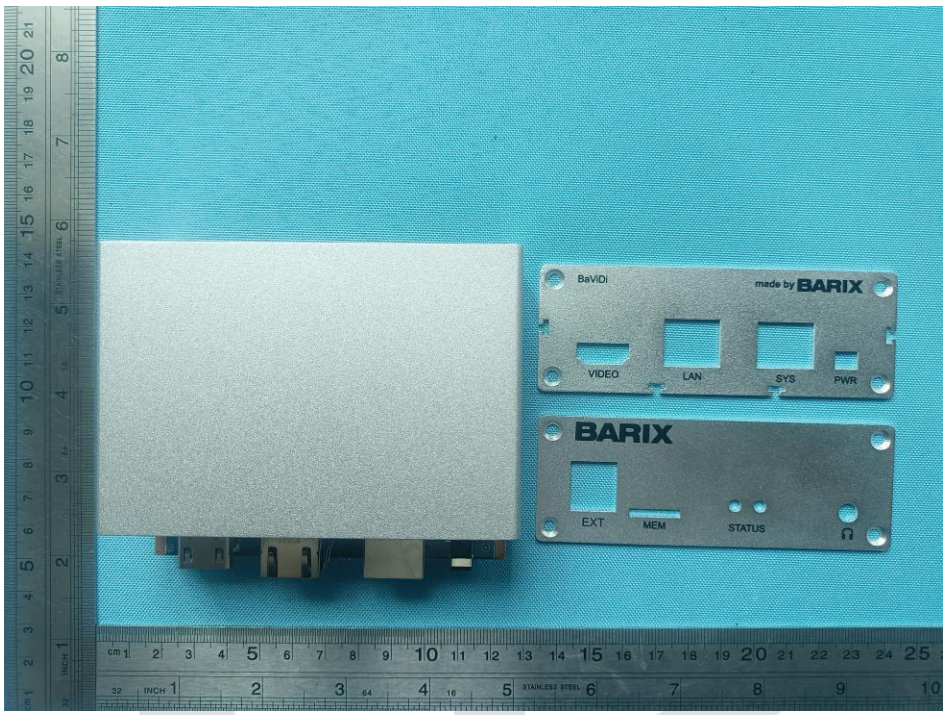
EUT Photo 2



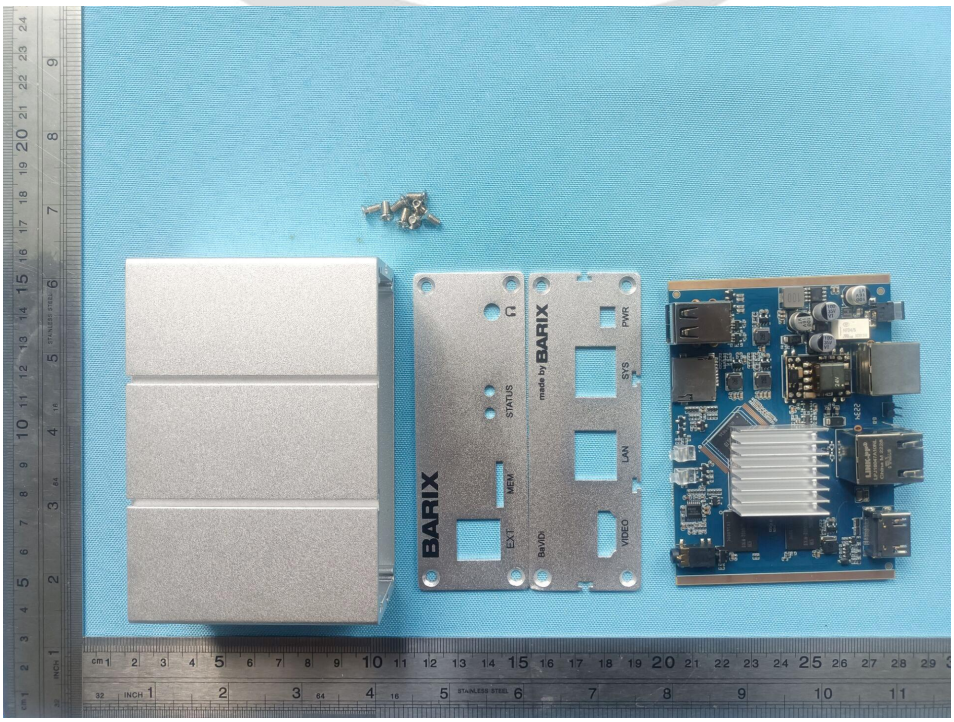

**EUT Photo 3**



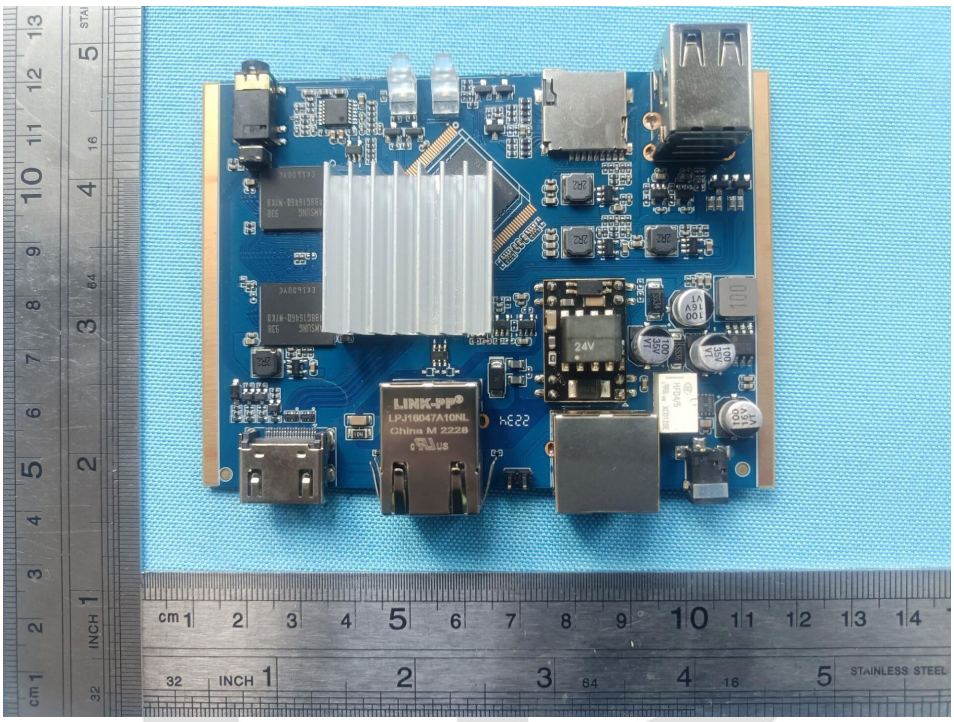

**EUT Photo 4**



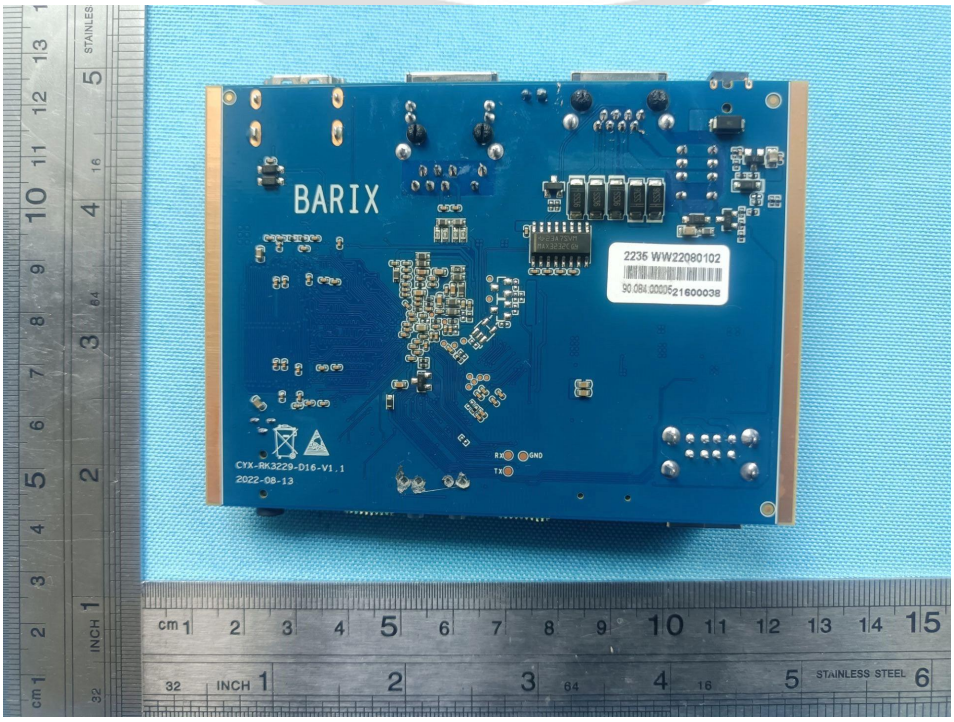

**EUT Photo 5**




**EUT Photo 6**



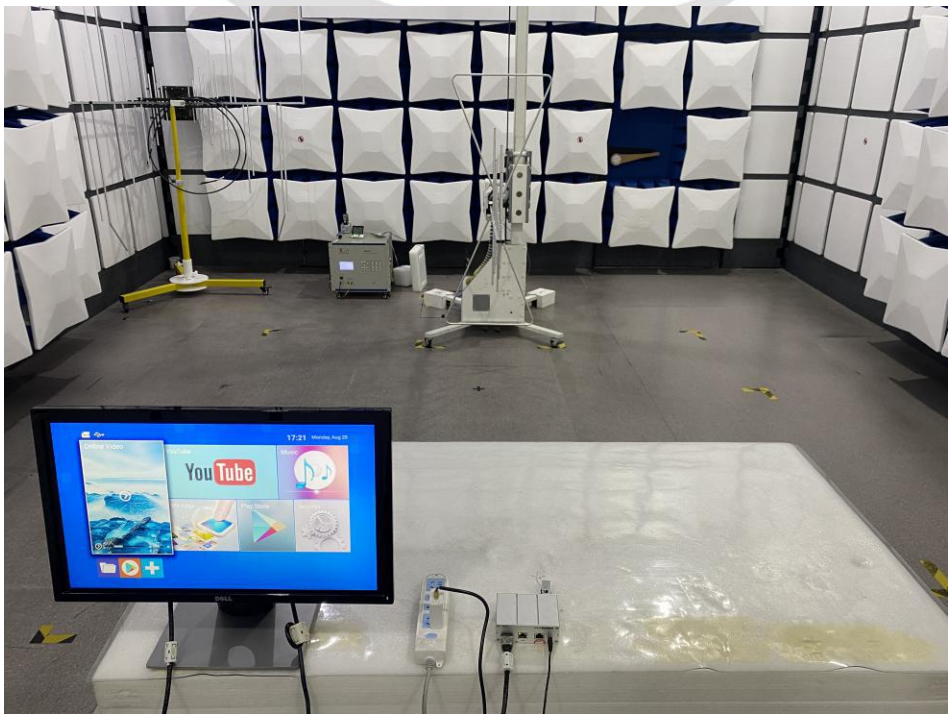

**EUT Photo 7**




**EUT Photo 8**

# APPENDIX II -- EUT TEST PHOTOGRAPHS

EUT Photo CE



EUT Photo RE(Adapter power supply)


**EUT Photo RE(POE power supply)**

**※※※※※ END OF REPORT ※※※※※**