



EMC TEST REPORT

For

Shenzhen WELLAUTO Technology CO.,LTD

AU7 8XX-H- Bus Module

Test Model: AU7 877-ECT22-H

Additional Models : AU7 877-ECT22-HIS, AU7 877-ECT22-HKN, AU7 877-ECT22-HAP,
AU7 877-PNT22-H, AU7 877-PNT22-HAP, AU7 877-ECT22-COM-H, AU7 877-PNT22-COM-H,
AU7 877-ECT22-2HC-H, AU7 877-PNT22-2HC-H, AU7 877-ECT22-2PO-H,
AU7 877-ECT22-PWM-H, AU7 877-ECT22-PTO-H, AU7 877-CCL22-H, AU7 877-CCL22-V2-H,
AU7 877-EIP22-H, AU7 877-1DP22-H, AU7 877-DNT22-H, AU7 877-MLK22-H,
AU7 861-MBS22-H, AU7 863-1AA22-H

Prepared for : Shenzhen WELLAUTO Technology CO.,LTD
Address : The Room 402, 405, Building C, Fenda High-tech Park, Xixiang
Hangcheng Street, Bao'an District, Shenzhen city, China

Prepared by : Shenzhen Southern LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample : November 07, 2023
Number of tested samples : 1
Serial number : Prototype
Date of Test : November 07, 2023 - November 13, 2023
Date of Report : November 13, 2023



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**EMC TEST REPORT****EN IEC 61000-6-4:2019**

EMC - Part 6-4: Generic standards - Emission standard for industrial environments

EN IEC 61000-6-2:2019

EMC - Part 6-2: Generic standards - Immunity standard for residential, commercial and light-industrial environments

Report Number..... : LCSB11073013E**Date of Issue..... : November 13, 2023****Testing Laboratory Name..... : Shenzhen Southern LCS Compliance Testing Laboratory Ltd.****Address..... : 101-201, No.39 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China.****Testing Procedure..... : Full application of Harmonised standards ☒
Partial application of Harmonised standards ☐
Other standard testing method ☐****Applicant's Name..... : Shenzhen WELLAUTO Technology CO.,LTD****Address..... : The Room 402, 405, Building C, Fenda High-tech Park, Xixiang Hangcheng Street, Bao'an District, Shenzhen city, China.****Test Specification:****Standard..... : EN IEC 61000-6-4:2019
EN IEC 61000-6-2:2019
EN IEC 61000-3-2:2019+A1:2021
EN 61000-3-3:2013+A1:2019+A2:2021****Test Report Form No..... : SLCSEMC-2.3****TRF Originator..... : Shenzhen Southern LCS Compliance Testing Laboratory Ltd.****Master TRF..... : Dated 2016-08****Shenzhen Southern LCS Compliance Testing Laboratory Ltd. All rights reserved.**

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Equipment Under Test..... : AU7 8XX-H- Bus Module**Trademark..... : WELLAUTO****Test Model/Type..... : AU7 877-ECT22-H****Rating..... : DC 24V****Results : PASS****Compiled by:**

Aimee Yang / Engineer

Supervised by:

Kris Mai / Technique Director

Approved by:

Dm Gu / Manager



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EMC - TEST REPORT

Test Report No.....: LCSB11073013E

Applicant.....: Shenzhen WELLAUTO Technology CO.,LTD
Address.....: The Room 402, 405, Building C, Fenda High-tech Park, Xixiang
Hangcheng Street, Bao'an District, Shenzhen city, China
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Telephone.....: /
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Factory.....: Shenzhen WELLAUTO Technology CO.,LTD
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Telephone.....: /
Fax.....: /

The applicant and manufacturer information, product name, model, trademark and other information in this report are all provided by the applicant, and this laboratory is not responsible for verifying its authenticity.

The 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.



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ENVIRONMENTAL CONDITIONS

The climatic conditions during the test are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. the climatic conditions during the test were in the following Limits:

| | |
|-----------------------|------------------|
| Ambient temperature | 15°C - 35°C |
| Relative Humidity air | 30% - 60% |
| Atmospheric pressure | 86 kPa - 106 kPa |

Climate values will be recorded and recorded separately if specifically required in the base standard or application product/product series standard.

POSSIBLE TEST CASE VERDICTS

| | |
|--|----------------|
| Test cases does not apply to test object | N/A |
| Test object does meet requirement | P(Pass) / PASS |
| Test object does not meet requirement | F(Fail) / FAIL |
| Not measured | N/M |

DEFINITION OF SYMBOLS USED IN THIS TEST REPORT

| |
|--|
| <input checked="" type="checkbox"/> Indicate that the conditions, standards or equipment listed is applicable to this report / test / EUT. |
| <input type="checkbox"/> Indicate that the conditions, standards or equipment listed is not applicable to this report / test / EUT. |

REVISION HISTORY

| Revision | Issue Date | Revision Content | Revised by |
|----------|-------------------|------------------|------------|
| 000 | November 13, 2023 | Initial Issue | - |
| | | | |
| | | | |

Remark:
000) : “---”





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1. GENERAL INFORMATION

1.1. GENERAL DESCRIPTION OF THE ITEM(S)

| | |
|---------------------------------|---|
| Equipment Under Test | AU7 8XX-H- Bus Module |
| Test Model/Type | AU7 877-ECT22-H |
| Additional Models/Type | AU7 877-ECT22-H, AU7 877-ECT22-HIS, AU7 877-ECT22-HKN, AU7 877-ECT22-HAP, AU7 877-PNT22-H, AU7 877-PNT22-HAP, AU7 877-ECT22-COM-H, AU7 877-PNT22-COM-H, AU7 877-ECT22-2HC-H, AU7 877-PNT22-2HC-H, AU7 877-ECT22-2PO-H, AU7 877-ECT22-PWM-H, U7 877-ECT22-PTO-H, AU7 877-CCL22-H, AU7 877-CCL22-V2-H, AU7 877-EIP22-H, AU7 877-1DP22-H, AU7 877-DNT22-H, AU7 877-MLK22-H, AU7 861-MBS22-H, AU7 863-1AA22-H |
| Description of Model difference | All models have similar appearance and structure except model name and performance are different. |
| Rating | DC 24V |
| Highest internal frequency (Fx) | ≤ 108 MHz |



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1.2. OPERATING MODE(S) USED OF TESTS

During the tests, the following operating mode(s) has(have) been used.

| Operating Mode | Operating Mode description | Used for testing | |
|----------------|----------------------------|-------------------------------------|-------------------------------------|
| | | Emission | Immunity |
| 1 | Normal operation | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2 | Bluetooth | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | HDMI | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | Full load | <input type="checkbox"/> | <input type="checkbox"/> |

1.3. SUPPORT / AUXILIARY EQUIPMENT FOR THE EUT

EUT has been tested using the following auxiliary equipment :

| Auxeq | Model/Type | Manufacturer | Supplied by |
|---------|--------------|---|-------------|
| Adapter | SL24WHL2401U | Shenzhen Shilong smart Lighting Electronic Co., Ltd | Lab |
| | | | |

1.4. DESCRIPTION OF TEST FACILITY

| | |
|--------------------------------|---|
| Test Location 1 | Shenzhen Southern LCS Compliance Testing Laboratory Ltd. 101-201, No.39 Building,Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China. CNAS Registration Number is L10160. |
| Test Location 2 | Shenzhen LCS Compliance Testing Laboratory Ltd. 101, 201 Building A and 301 Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, Guangdong, China. NVLAP Accreditation Code is 600167-0. CNAS Registration Number is L4595. |
| Date of receipt of test item | November 07, 2023 |
| Date(s) of performance of test | November 07, 2023 - November 13, 2023 |

Note: Radio-Frequency Electromagnetic Field (RS) Test Subcontract to Shenzhen LCS Compliance Testing Laboratory Ltd for Testing.



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2. STATEMENT OF THE 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 acc. 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 LCS quality system acc. 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.

| Measurement | Uncertainty (U_{lab}) |
|---------------------------------------|---------------------------|
| Radiated disturbance (30MHz - 200MHz) | ± 4.66 dB |
| Radiated disturbance (200MHz - 1GHz) | ± 4.64 dB |

Supplementary information:

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.





3. MEASURING DEVICES AND TEST EQUIPMENT

| RADIATED DISTURBANCE | | | | | | |
|----------------------|--------------------------|----------------|-----------|------------|------------|------------|
| Item | Test equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
| 1 | 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH03-HY | 2021-05-28 | 2024-05-29 |
| 2 | EMI Test Receiver | R&S | ESCI3 | 101010 | 2023-04-26 | 2024-04-25 |
| 3 | Log-periodic Antenna | SCHWARZBECK | VULB9163 | 5094 | 2022-05-08 | 2025-05-07 |
| 4 | EMI Test Software | EZ | EZ_EMG | N/A | / | / |
| 5 | Controller system | SKET | SKC1000 | N/A | / | / |

| ELECTROSTATIC DISCHARGE | | | | | | |
|-------------------------|----------------|--------------|-----------|------------|------------|------------|
| Item | Test equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
| 1 | ESD Simulator | TESEQ | NSG 437 | 1615 | 2023-03-20 | 2024-03-19 |

| POWER FREQUENCY MAGNETIC FIELD | | | | | | |
|--------------------------------|--|--------------|-----------|------------|------------|------------|
| Item | Test equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
| 1 | Power Frequency Mag-Field Generator System | HTEC | HPFMF100 | 100-2400 | 2023-04-26 | 2024-04-25 |

| RADIO-FREQUENCY ELECTROMAGNETIC FIELDS | | | | | | |
|--|--|--------------|----------------|-----------------|------------|------------|
| Item | Test equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
| 1 | MXG Vector Signal Generator | Agilent | E4438C | MY42081396 (6G) | 2023-06-06 | 2024-06-05 |
| 2 | RF POWER AMPLIFIER | SKET | HAP_0306G-50 W | / | 2023-06-06 | 2024-06-05 |
| 3 | RF POWER AMPLIFIER | OPHIR | 5225R | 1052 | 2023-06-06 | 2024-06-05 |
| 4 | RF POWER AMPLIFIER | OPHIR | 5273F | 1019 | 2023-06-06 | 2024-06-05 |
| 5 | Stacked Broadband Log Periodic Antenna | SCHWARZBECK | STLP 9128 | 9128ES-145 | NCR | NCR |
| 6 | Stacked Mikrowellen Log.-Per Antenna | SCHWARZBECK | STLP 9149 | 9149-484 | NCR | NCR |





4. VERDICT SUMMARY SECTION

This chapter present an overview of the standards and results. Refer the next chapter for details of measured test results and applied test levels.

4.1. STANDARD(S)

EN IEC 61000-6-4:2019 - Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments.

EN IEC 61000-6-2:2019 - Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments.

EN IEC 61000-3-2:2019+A1:2021 - Electromagnetic compatibility (EMC) Part 3-2: Limits for harmonic current emissions (equipment input current ≤ 16 A per phase).

EN 61000-3-3:2013+A1:2019+A2:2021 - Electromagnetic compatibility (EMC) Part 3-3: Limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.



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4.2. OVERVIEW OF RESULTS

| EMISSION TESTS - EN IEC 61000-6-4, EN IEC 61000-3-2, EN 61000-3-3 | | |
|---|--------------------|---------|
| Requirement - Test case | Limit | Verdict |
| Conducted Disturbance - AC mains ports / DC power port | Table 4, Table A.1 | N/A |
| Conducted Disturbance - Wired ports | Table 5 | N/A |
| Assessment of the enclosure port | --- | --- |
| Radiated Disturbance in the frequency range 30 MHz to 1 GHz | Table 3 | PASS |
| Radiated Disturbance in the frequency range Above 1 GHz | Table 3 | N/A |
| Harmonic Current | Clause 7 | N/A |
| Voltage Fluctuations and Flicker | Clause 5 | N/A |
| IMMUNITY TESTS - EN IEC 61000-6-2 | | |
| Requirement - Test case | Basic Standard(s) | Verdict |
| Electrostatic Discharge | IEC/EN 61000-4-2 | PASS |
| Radio-Frequency Electromagnetic Fields | IEC/EN 61000-4-3 | PASS |
| Electrical Fast Transient / Burst | IEC/EN 61000-4-4 | N/A |
| Surge | IEC/EN 61000-4-5 | N/A |
| Radio-Frequency Common Mode | IEC/EN 61000-4-6 | N/A |
| Power Frequency Magnetic Field | IEC/EN 61000-4-8 | PASS |
| Voltage Dips and Short Interruptions | IEC/EN 61000-4-11 | N/A |

Supplementary information : ---





5. EMISSION TESTS

5.1. RADIATED DISTURBANCE

| | |
|-------------------|-----------------------------|
| Standard | EN IEC 61000-6-4:2019 |
| Basic Standard(s) | CISPR 16-2-3 |
| Test method | Semi Anechoic Chamber (SAC) |

SAC Radiated disturbance limit in the frequency range 30 MHz - 1000 MHz

| Frequency range [MHz] | Limit: Quasi-peak [dB(μV/m)] | | IF BW |
|--|------------------------------|---------------|---------|
| | 3 m distance | 10 m distance | |
| 30 - 230 | 50 | 40 | 120 KHz |
| 230 - 1000 | 57 | 47 | |
| 1) At the transition frequency, the lower limit applies. | | | |

Radiated disturbance limit in the frequency range 1 GHz - 6 GHz

| Frequency range [MHz] | Limit (3 m distance) | | IF BW |
|-----------------------|----------------------|--------------------|-------|
| | Peak [dB(μV/m)] | Average [dB(μV/m)] | |
| 1000 - 3000 | 76 | 56 | 1MHz |
| 3000 - 6000 | 80 | 60 | |

Required highest frequency for radiated measurement

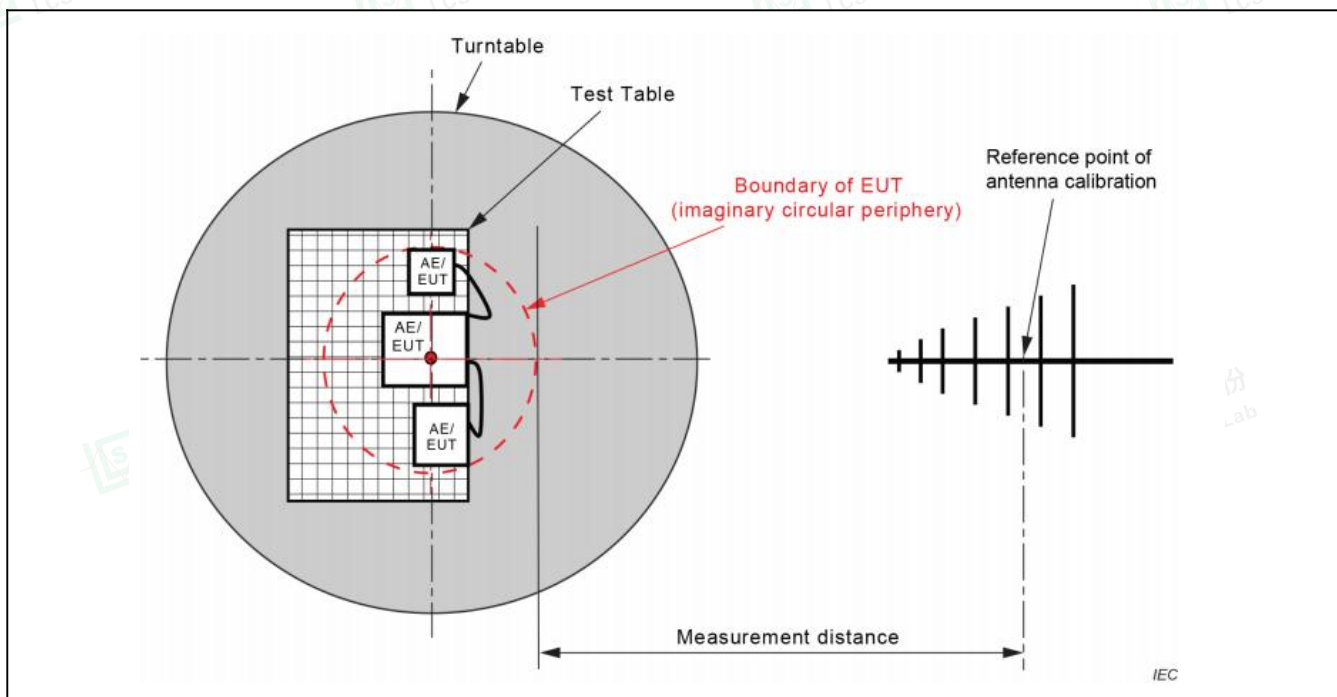
| Highest internal frequency (Fx) | Highest measured frequency |
|--|---|
| $F_x \leq 108 \text{ MHz}$ | 1 GHz |
| $108 \text{ MHz} < F_x \leq 500 \text{ MHz}$ | 2 GHz |
| $500 \text{ MHz} < F_x \leq 1 \text{ GHz}$ | 5 GHz |
| $F_x > 1 \text{ GHz}$ | $5 \times F_x$ up to a maximum of 6 GHz |

- 1) F_x is highest fundamental frequency generated or used within the EUT or highest frequency at which it operates.





Test configuration



Test Procedure Description

The radiated disturbance test was conducted in a 3m Semi Anechoic Chamber and conforming to CISPR 16-2-3. the EUT is placed on a turntable, which is 0.8 meter high above the ground. the turntable can rotate 360 degrees to determine the position of the maximum emission level. the EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower. the antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Log-periodic antenna or horn antenna is used as a receiving antenna. both horizontal and vertical polarization of the antenna is set on test.

Test Results refer to Annex A.1



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6. IMMUNITY TESTS

6.1. PERFORMANCE CRITERIA

| | |
|----------|-----------------------|
| Standard | EN IEC 61000-6-2:2019 |
|----------|-----------------------|

Performance criterion A: The EUT shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. If the performance level is not specified by the manufacturer, this may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended

Performance criterion B: The EUT shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. The performance level may be replaced by a permissible loss of performance. However, during the test degradation of performance is allowed but no change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.

Performance criterion C: Temporary loss of function is allowed during the test, provided the function is self-recoverable or can be restored by the operation of the controls.

| Examples of ports | | Tests and performance criteria | | | | | | | |
|-------------------------------------|--|--------------------------------|-----|------|-----|-----|-------|------|--------------|
| | | ESD | RS | PFMF | EFT | CS | Surge | Dips | Interruption |
| <input checked="" type="checkbox"/> | Enclosure port | B | A | A | --- | --- | --- | --- | --- |
| <input type="checkbox"/> | Signal / control ports ¹ | --- | --- | --- | B | A | B | --- | --- |
| <input type="checkbox"/> | DC Input / Output power ports ¹ | --- | --- | --- | B | A | B | --- | --- |
| <input type="checkbox"/> | AC Input / Output power ports | --- | --- | --- | B | A | B | B&C | C |

Supplementary information:

1) Applicable only to ports which, according to the manufacturer's specification, support cable lengths greater than 3 m.



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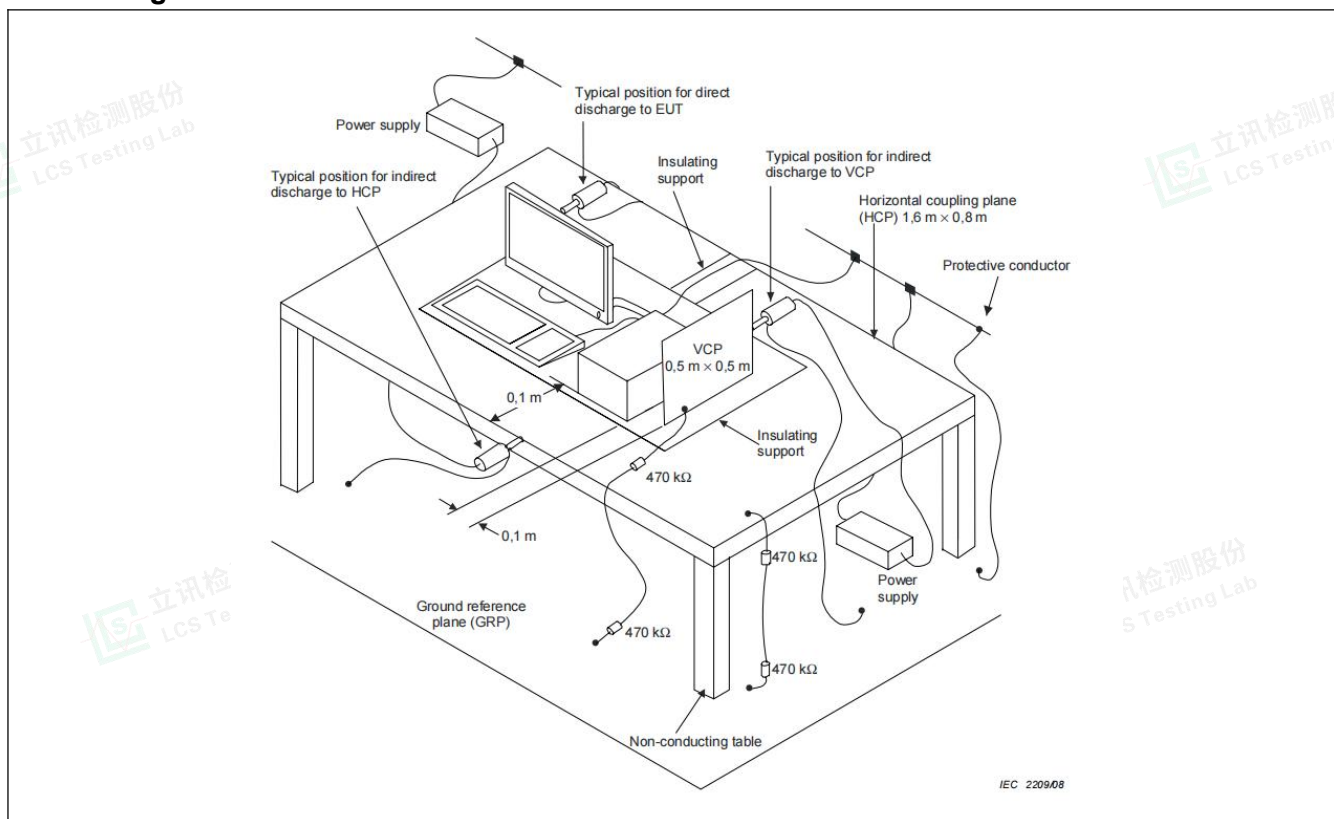
6.2. ELECTROSTATIC DISCHARGE

Electrostatic discharge (ESD) is the result of accumulated static electricity from a person or object, for example, walking on a synthetic carpet. ESD can indirectly affect the operation of equipment or damage its electronic components through direct discharge or coupling. both effects were simulated during the test. contact discharge is the preferred test method. twenty discharges (10 with positive and 10 with negative polarity) shall be applied on each accessible metallic part of the enclosure (terminals are excluded). air discharges shall be used where contact discharges cannot be applied. discharges shall be applied on the horizontal or vertical coupling planes.taken into consideration when selecting test points, paying particular attention to keyboards, dialling pads, power switches, mice, drive slots, card slots, the areas around communication ports, etc.

Requirements

| | | | | | | | | |
|----------------------|---|--------|-------------------------------------|--------|-------------------------------------|-------|--------------------------|----|
| Standard | EN IEC 61000-6-2:2019 | | | | | | | |
| Basic standard | EN 61000-4-2 | | | | | | | |
| Port under test | Enclosure | | | | | | | |
| Contact discharge | <input checked="" type="checkbox"/> | ± 2 kV | <input checked="" type="checkbox"/> | ± 4 kV | <input type="checkbox"/> | ±8 kV | <input type="checkbox"/> | kV |
| Air discharge | <input checked="" type="checkbox"/> | ± 2 kV | <input checked="" type="checkbox"/> | ± 4 kV | <input checked="" type="checkbox"/> | ±8 kV | <input type="checkbox"/> | kV |
| Number of discharges | ≥ 10 per polarity with ≥ 1 sec interval | | | | | | | |

Test configuration



Test Results refer to Annex A.2





6.3. RADIO-FREQUENCY ELECTROMAGNETIC FIELDS

During the test it is verified if the EUT has sufficient immunity against radiated electromagnetic fields.

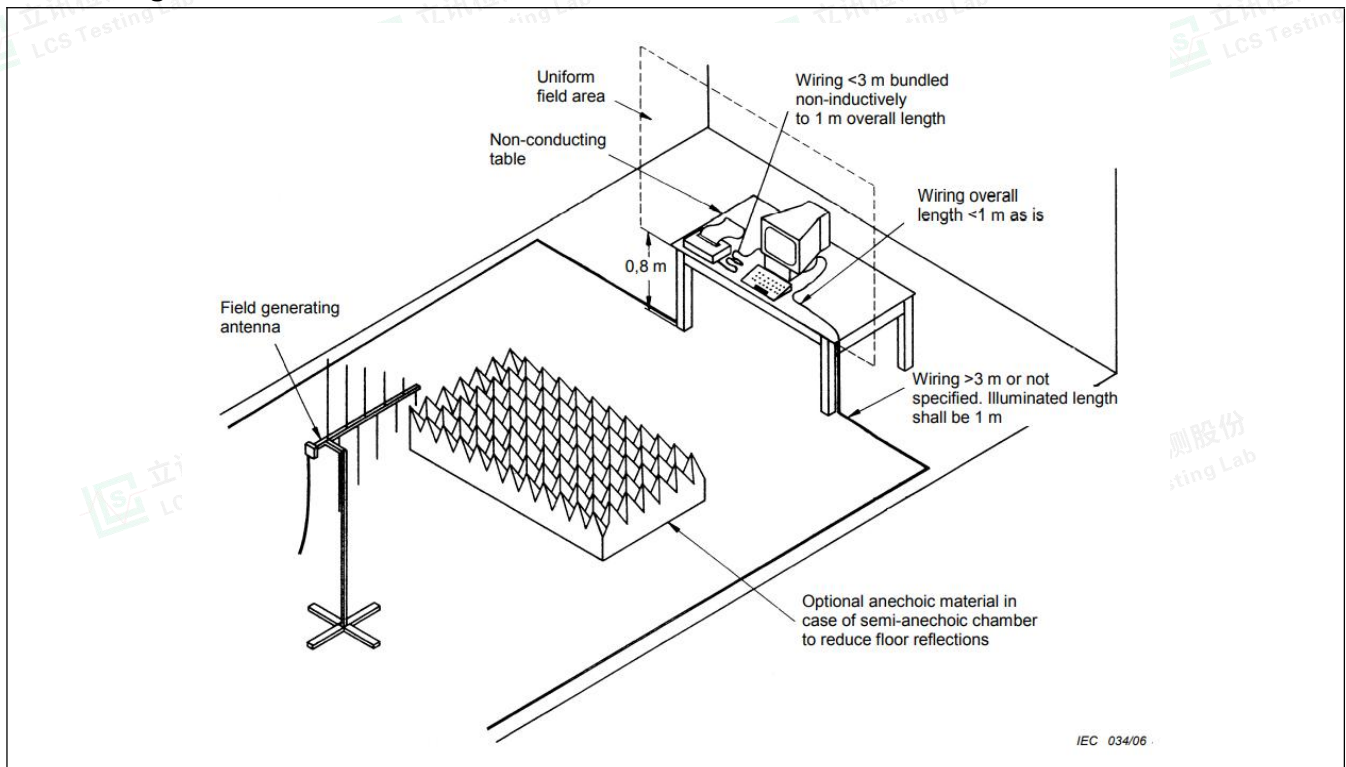
The test was carried out in a half-wave anechoic chamber with absorbent material attached to a reflective ground plate. Before the test, the test field strength needs to be calibrated. during the calibration, the corresponding relationship between the target field strength and the forward power applied to the transmitting antenna is established. during the test, except for EUT, the indoor layout is consistent with the calibration.

The EUT and its simulators are placed on a turn table which is 0,8 meter above ground. EUT is set 3 meter away from the transmitting antenna which is mounted on an antenna tower. both horizontal and vertical polarization of the antenna are set on test. each of the four sides of EUT must be faced this transmitting antenna and measured individually. in order to judge the EUT performance, a CCD camera is used to monitor EUT screen.

Requirements

| | | | | |
|-----------------|-----------------------|----------------|------------|-----------|
| Standard | EN IEC 61000-6-2:2019 | | | |
| Basic standard | EN 61000-4-3 | | | |
| Port under test | Enclosure | | | |
| Frequency range | Test level | Modulation | Dwell time | Step size |
| 80 - 1000 MHz | 10 V/m | 1 kHz, 80 % AM | ≥ 0,5 s | ≤ 1% |
| 1400 - 6000 MHz | 3 V/m | 1 kHz, 80 % AM | ≥ 0,5 s | ≤ 1% |

Test configuration



Test Results refer to Annex A.2



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6.4. POWER FREQUENCY MAGNETIC FIELD

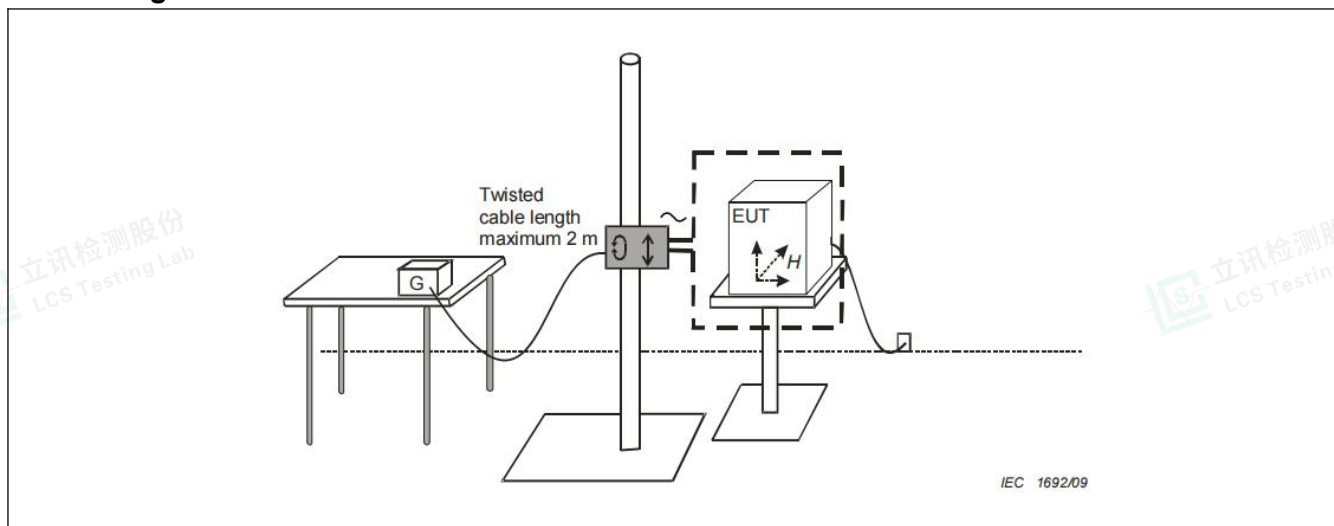
The surge immunity test simulates Voltage dips and short interruptions occur due to faults in a (public or non-public) network or in installations by sudden changes of large loads.

The EUT shall be connected to the test generator for testing using the shortest power cable specified by the EUT manufacturer and, if no cable length is specified, the shortest cable suitable for the EUT, each representative mode of operation shall be tested. for short interruptions to use 0° for one of the phases.

Requirements

| | |
|-----------------|-----------------------|
| Standard | EN IEC 61000-6-2:2019 |
| Basic standard | EN 61000-4-8 |
| Port under test | Enclosure |
| Field strength | 30 A/m |
| Test frequency | 50 / 60 Hz |

Test configuration



Test Results refer to Annex A.2



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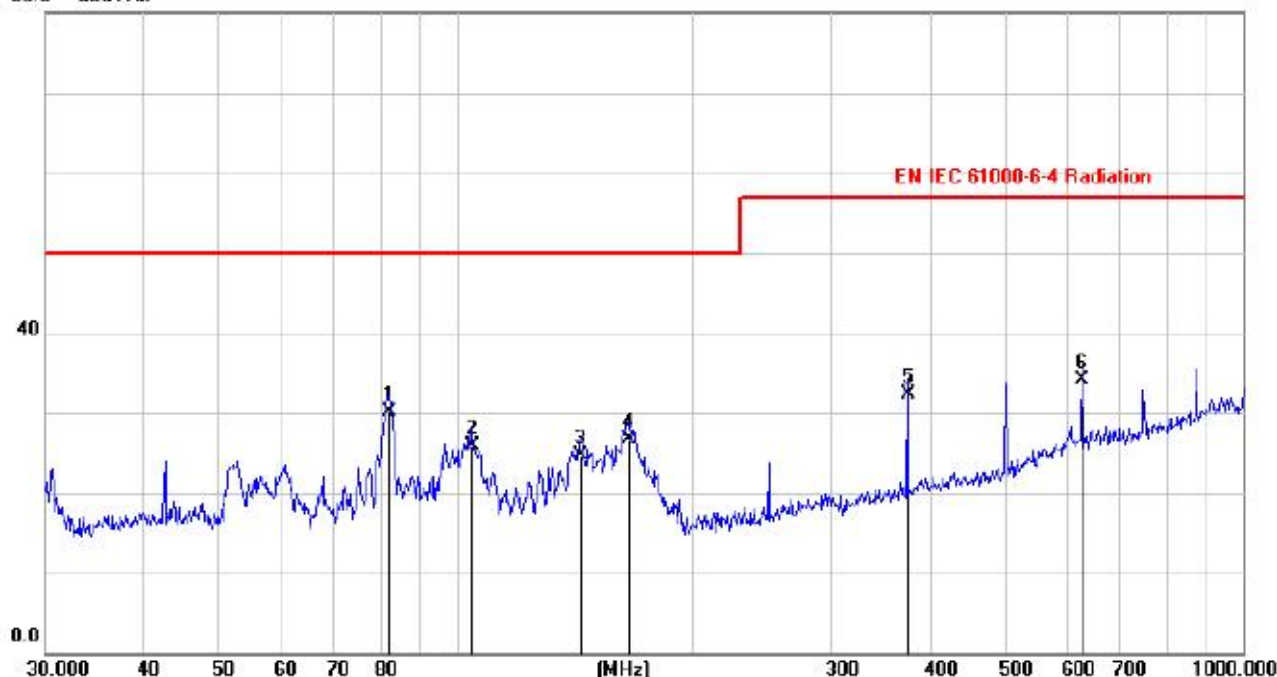


ANNEX A - TEST RESULTS

A.1. RADIATED DISTURBANCE TEST RESULTS

| | |
|--------------------------|---------------------|
| Environmental Conditions | 23.5°C, 52% RH |
| Model | AU7 877-ECT22-H |
| Operating mode | Mode 1 (worst case) |
| Test voltage | DC 24V |
| Test engineer | Aru Yang |
| Pol | Vertical |

80.0 dBuV/m



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Antenna Height cm | Table Degree | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|-------------------------|-----------------|---------|
| 1 | * | 82.1786 | 20.70 | 9.49 | 30.19 | 50.00 | -19.81 | QP | | | |
| 2 | | 105.0413 | 13.91 | 11.92 | 25.83 | 50.00 | -24.17 | QP | | | |
| 3 | | 144.2715 | 13.94 | 10.86 | 24.80 | 50.00 | -25.20 | QP | | | |
| 4 | | 165.8498 | 15.74 | 10.98 | 26.72 | 50.00 | -23.28 | QP | | | |
| 5 | | 375.1155 | 16.22 | 16.17 | 32.39 | 57.00 | -24.61 | QP | | | |
| 6 | | 625.3521 | 12.92 | 21.10 | 34.02 | 57.00 | -22.98 | QP | | | |



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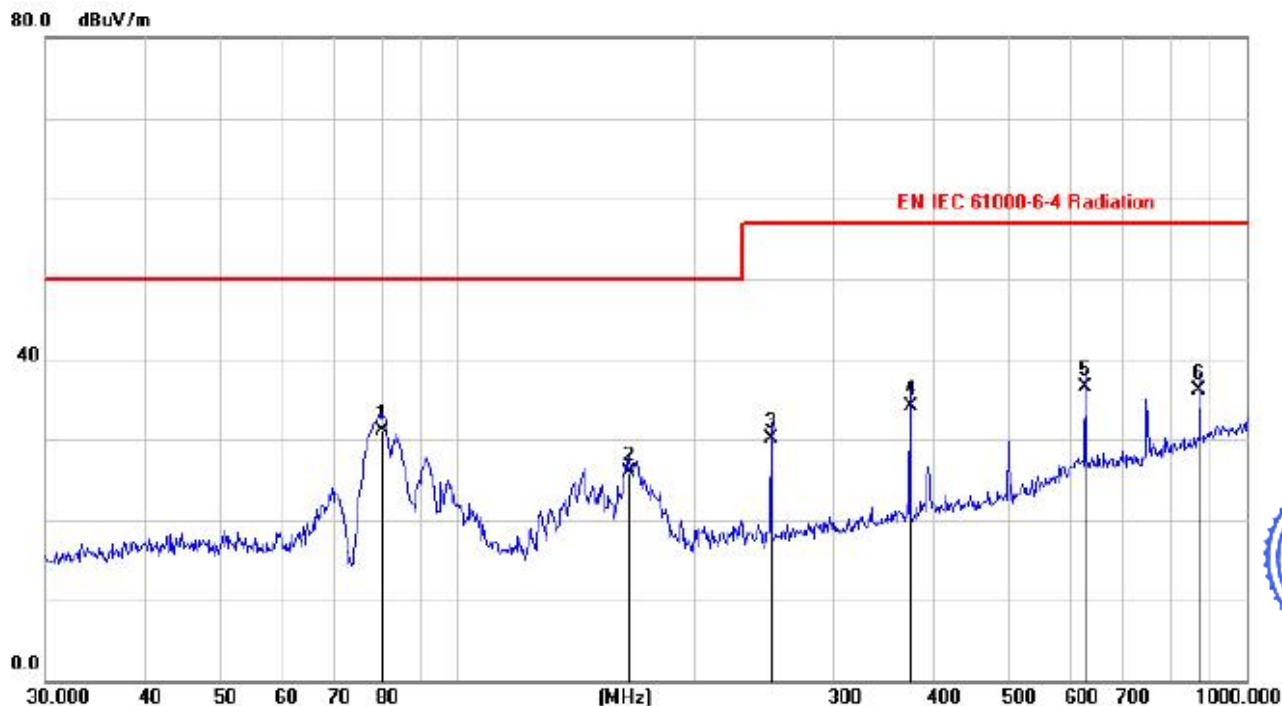
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| | |
|--------------------------|---------------------|
| Environmental Conditions | 23.5°C, 52% RH |
| Model | AU7 877-ECT22-H |
| Operating mode | Mode 1 (worst case) |
| Test voltage | DC 24V |
| Test engineer | Aru Yang |
| Pol | Horizontal |



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Antenna Height cm | Table Degree | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|-------------------------|-----------------|---------|
| 1 | * | 80.1507 | 22.15 | 9.05 | 31.20 | 50.00 | -18.80 | QP | | |
| 2 | | 165.0520 | 14.95 | 10.91 | 25.86 | 50.00 | -24.14 | QP | | |
| 3 | | 249.9723 | 17.62 | 12.54 | 30.16 | 57.00 | -26.84 | QP | | |
| 4 | | 375.1155 | 17.92 | 16.24 | 34.16 | 57.00 | -22.84 | QP | | |
| 5 | | 625.3521 | 15.60 | 20.95 | 36.55 | 57.00 | -20.45 | QP | | |
| 6 | | 875.2470 | 12.19 | 23.92 | 36.11 | 57.00 | -20.89 | QP | | |



**A.2. IMMUNITY TEST RESULTS**

| ELECTROSTATIC DISCHARGE IMMUNITY TEST RESULTS | | | | | |
|---|--|------------------------------|-------------------------------|------------------------|----------------------|
| Standard | <input checked="" type="checkbox"/> EN IEC 61000-6-2:2019 <input checked="" type="checkbox"/> EN 61000-4-2 | | | | |
| EUT | AU7 8XX-H- Bus Module | Temperature | 23.2℃ | | |
| M/N | AU7 877-ECT22-H | Humidity | 50% | | |
| Test Mode | Mode 1 | Pressure | 1008mbar | | |
| Input voltage | DC 24V | Test Results | Pass | | |
| Test engineer | Aru Yang | | | | |
| Discharge Mode | Test Points | Test Voltage (kV) & polarity | Number of discharges/polarity | Discharge interval (s) | Performance Criteria |
| Contact Discharge | Conductive surfaces | ± 4 | 10 | 1 | B |
| Air Discharge | Insulating surfaces | ± 2&4&8 | 10 | 1 | B |
| VCP | - | ± 4 | 10 | 1 | B |
| HCP | - | ± 4 | 10 | 1 | B |



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**RADIO-FREQUENCY ELECTROMAGNETIC FIELD IMMUNITY TEST RESULTS**

| Standard | <input checked="" type="checkbox"/> EN IEC 61000-6-2:2019 | | <input checked="" type="checkbox"/> EN 61000-4-3 | |
|---------------|---|-----------------|--|----------------------|
| EUT | AU7 8XX-H- Bus Module | | Temperature | 24.1℃ |
| M/N | AU7 877-ECT22-H | | Humidity | 55% |
| Test Mode | Mode 1 | | Pressure | 1008mbar |
| Input voltage | DC 24V | | Test engineer | ARU YANG |
| Modulation | 1 kHz, 80 % AM | | Test Results | Pass |
| Steps | 1% | | | |
| Angle of EUT | Antenna polarization | Frequency Range | Test Level | Performance Criteria |
| 0° | Vertical Horizontal | 80 - 1000 MHz | 10 V/m | A |
| | | 1400 - 6000MHz | 3 V/m | |
| 90° | Vertical Horizontal | 80 - 1000 MHz | 10 V/m | A |
| | | 1400 - 6000MHz | 3 V/m | |
| 180° | Vertical Horizontal | 80 - 1000 MHz | 10 V/m | A |
| | | 1400 - 6000MHz | 3 V/m | |
| 270° | Vertical Horizontal | 80 - 1000 MHz | 10 V/m | A |
| | | 1400 - 6000MHz | 3 V/m | |

Note :



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**POWER FREQUENCY MAGNETIC FIELD TEST RESULTS**

| | | | | |
|-----------------|---|----------------|--|----------------------|
| Standard | <input checked="" type="checkbox"/> EN IEC 61000-6-2:2019 | | <input checked="" type="checkbox"/> EN 61000-4-8 | |
| EUT | AU7 8XX-H- Bus Module | | Temperature | 24.1℃ |
| M/N | AU7 877-ECT22-H | | Humidity | 54% |
| Test Mode | Mode 1 | | Pressure | 1008mbar |
| Input voltage | DC 24V | | Test Results | Pass |
| Test engineer | Aru Yang | | | |
| Axis under test | Tested Field strength | Test Frequency | Test Duration | Performance Criteria |
| X - axis | 30 A/m | 50 / 60 Hz | 5 min | A |
| Y - axis | 30 A/m | 50 / 60 Hz | 5 min | A |
| Z - axis | 30 A/m | 50 / 60 Hz | 5 min | A |



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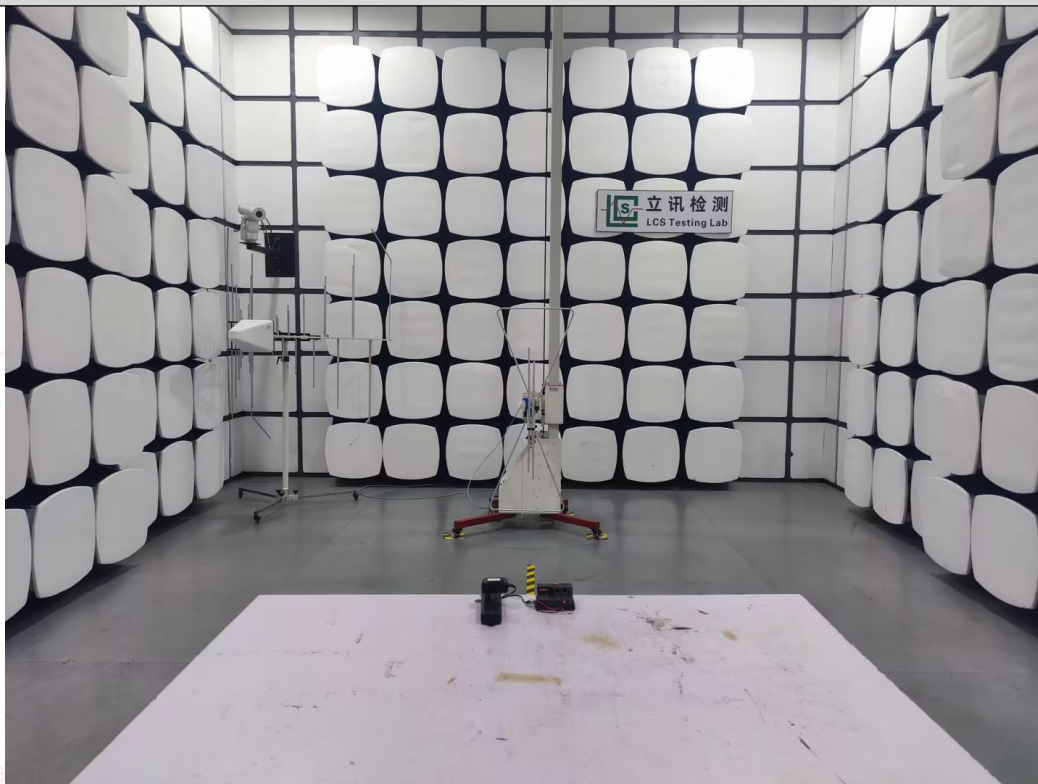
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ANNEX B - TEST PHOTOS

B.1. Radiated Disturbance



B.2. Electrostatic Discharge



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B.3. Power Frequency Magnetic Field



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ANNEX C - EXTERNAL AND INTERNAL PHOTOS OF THE EUT



Photo.1

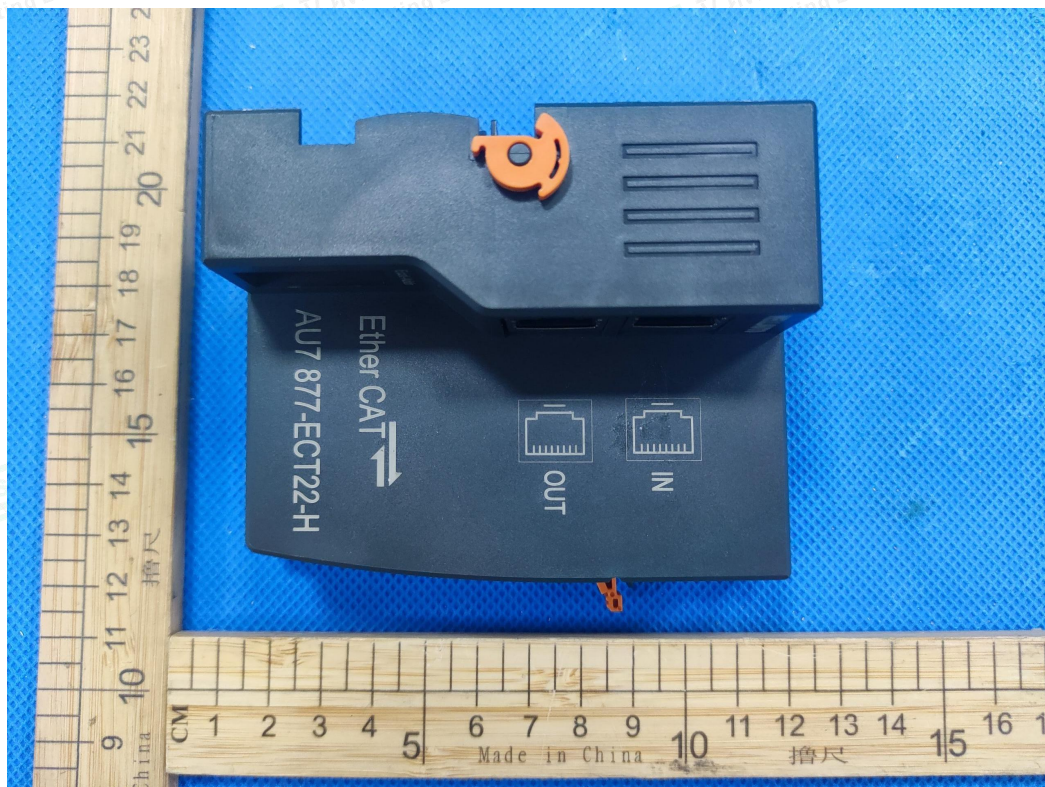


Photo.2



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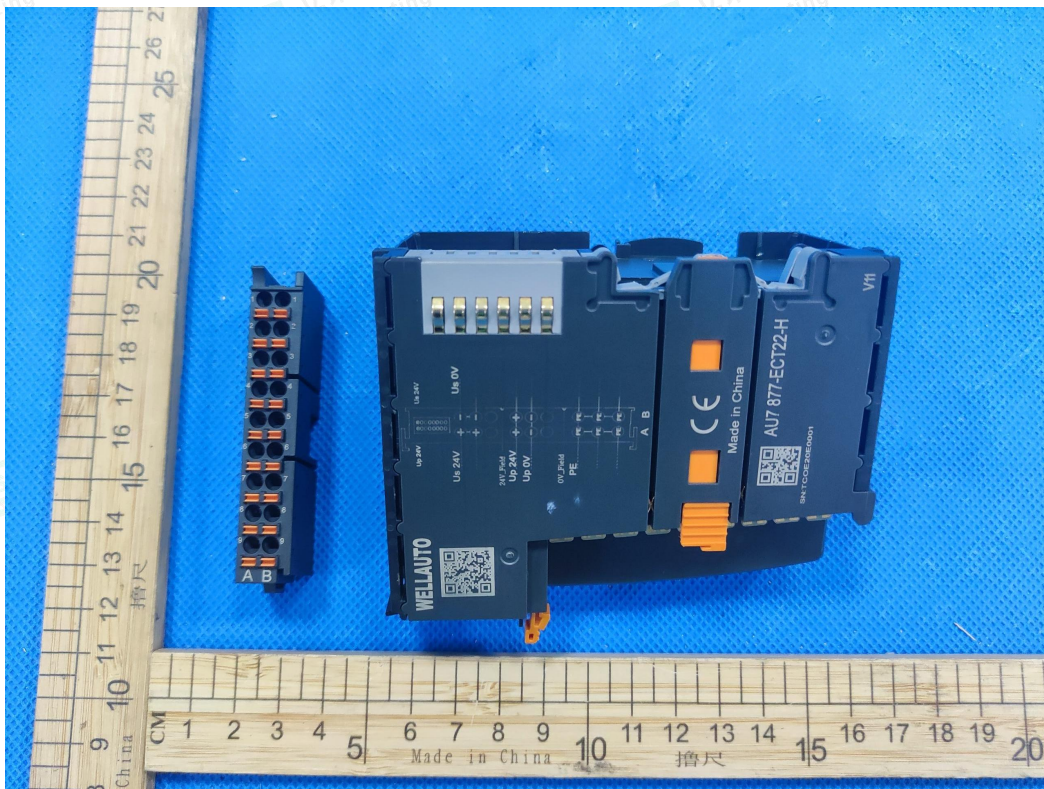


Photo.3

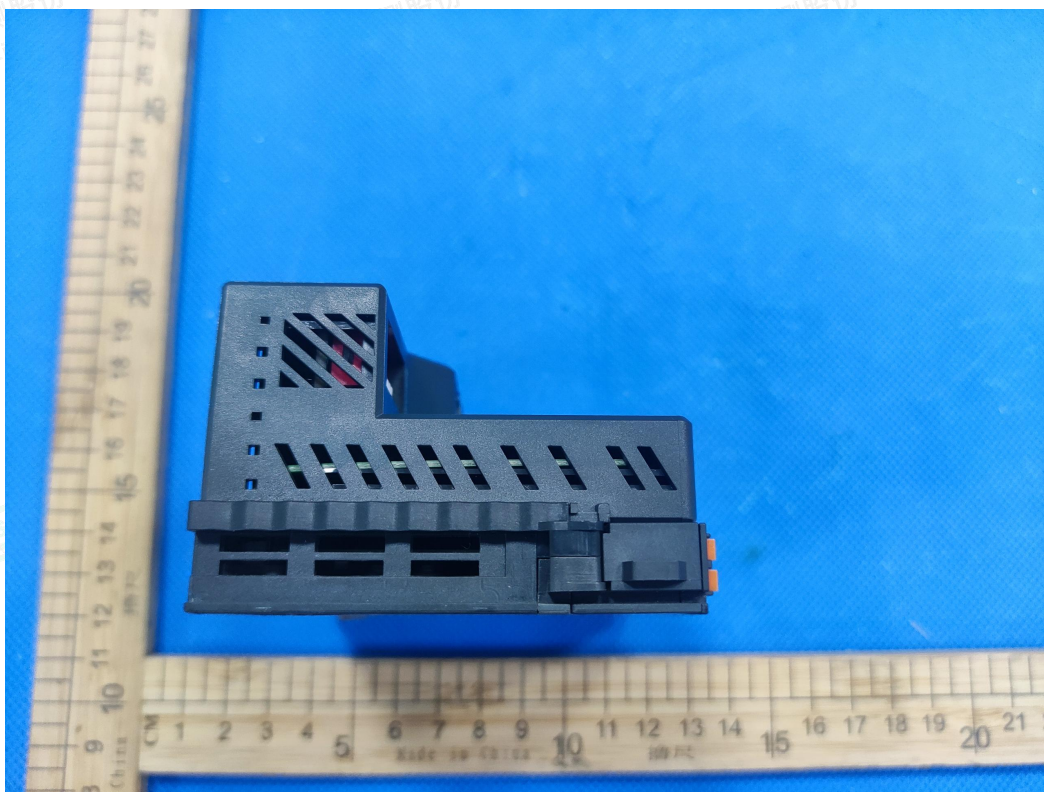


Photo.4



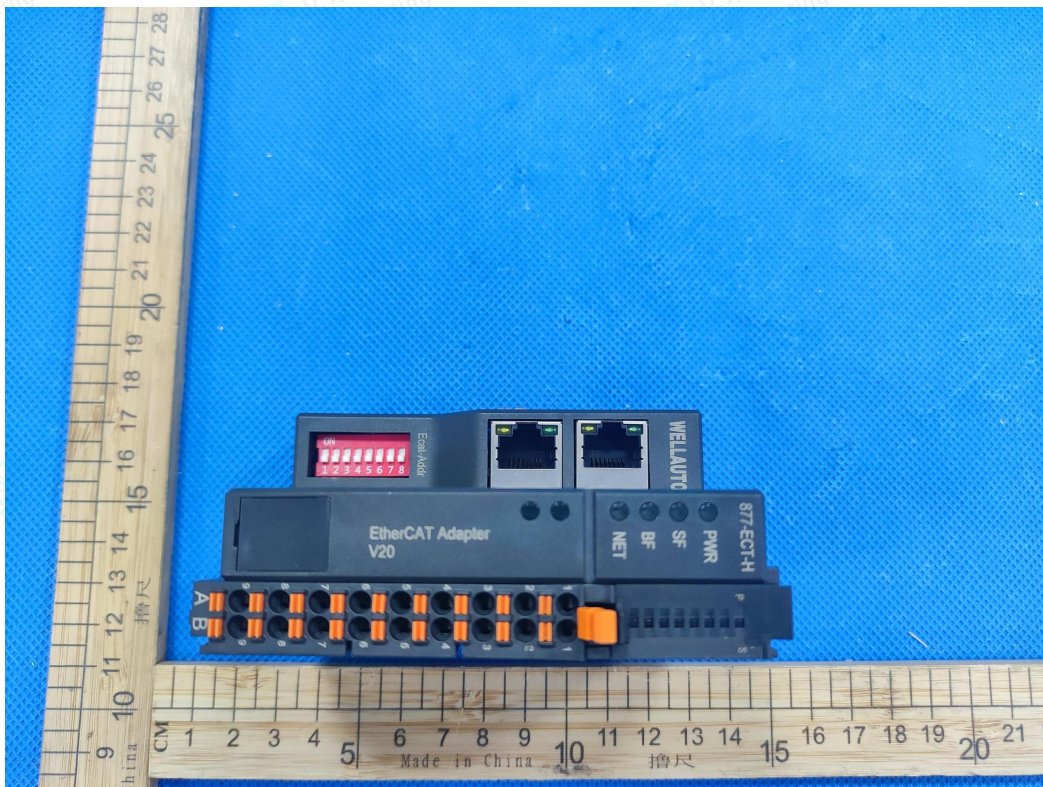


Photo.5

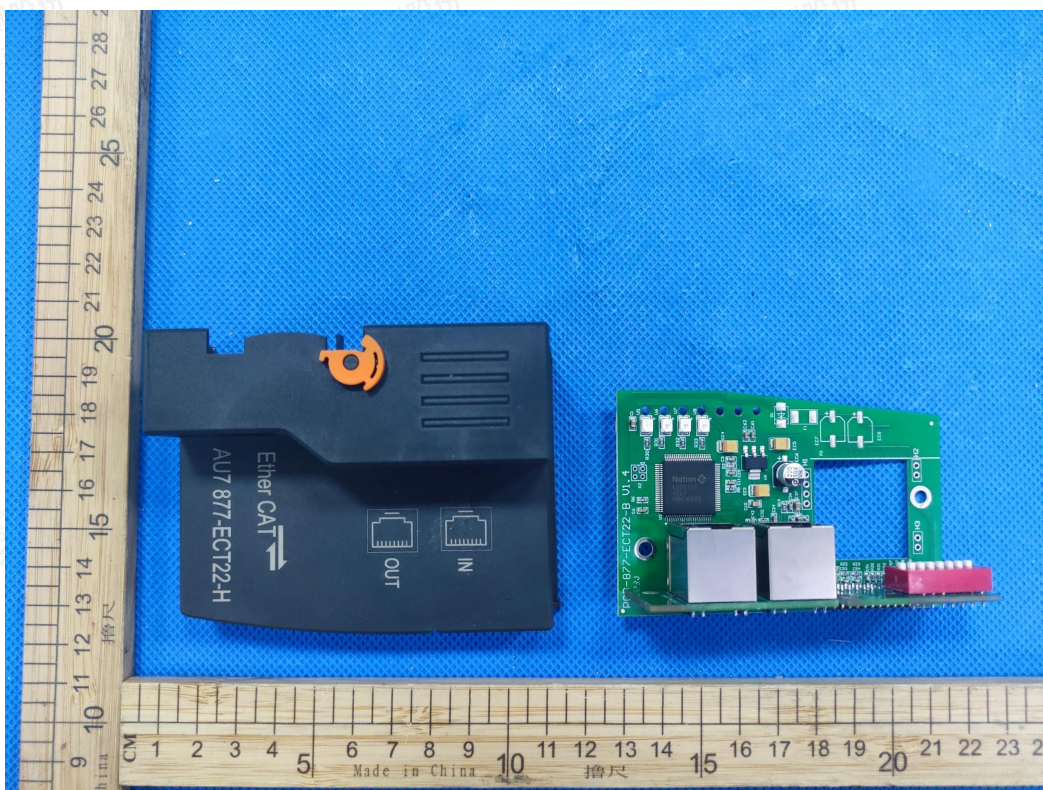


Photo.6



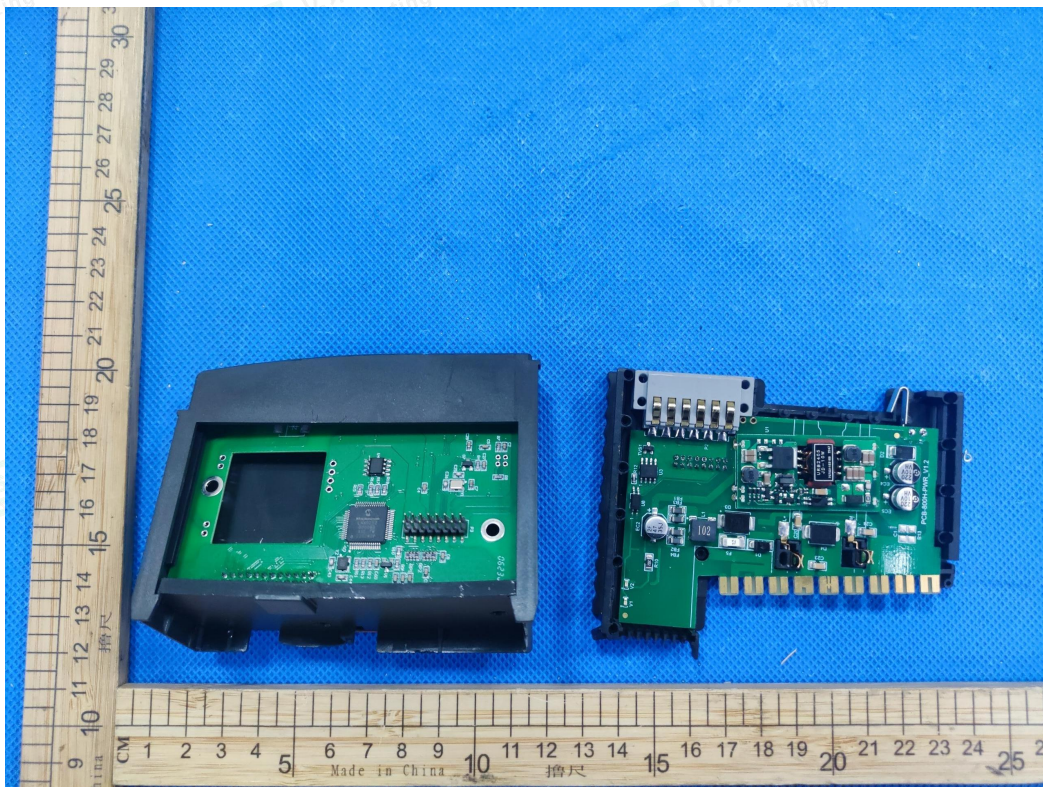


Photo.7

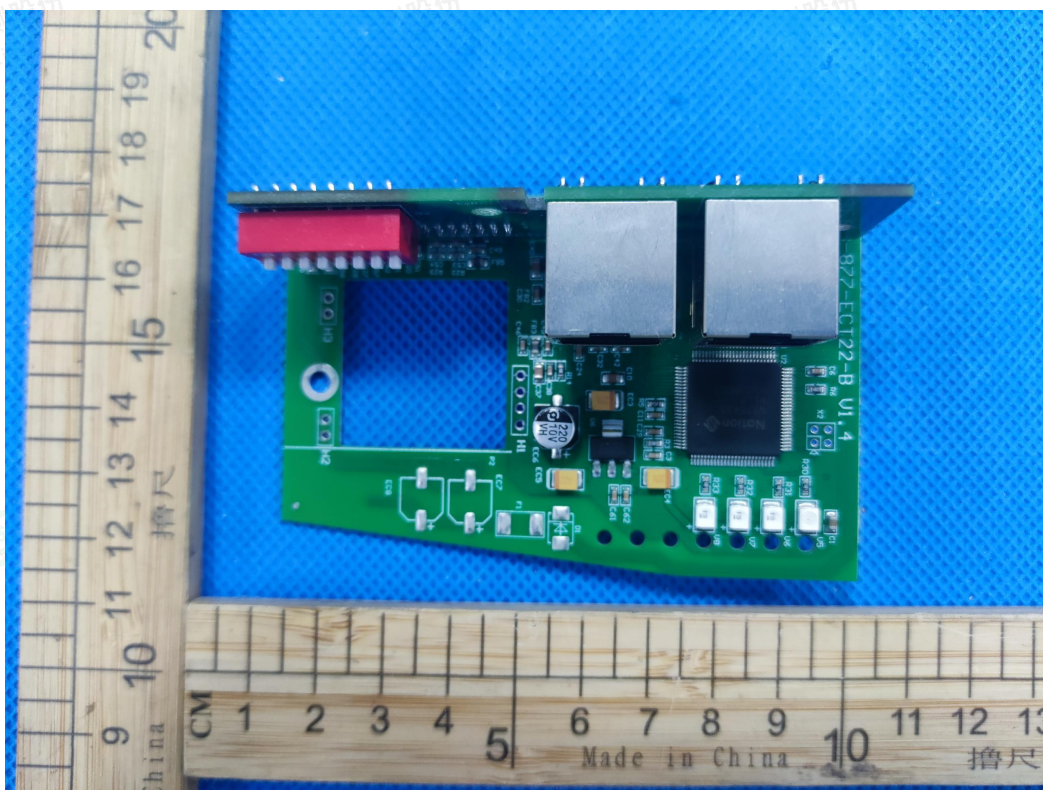


Photo.8



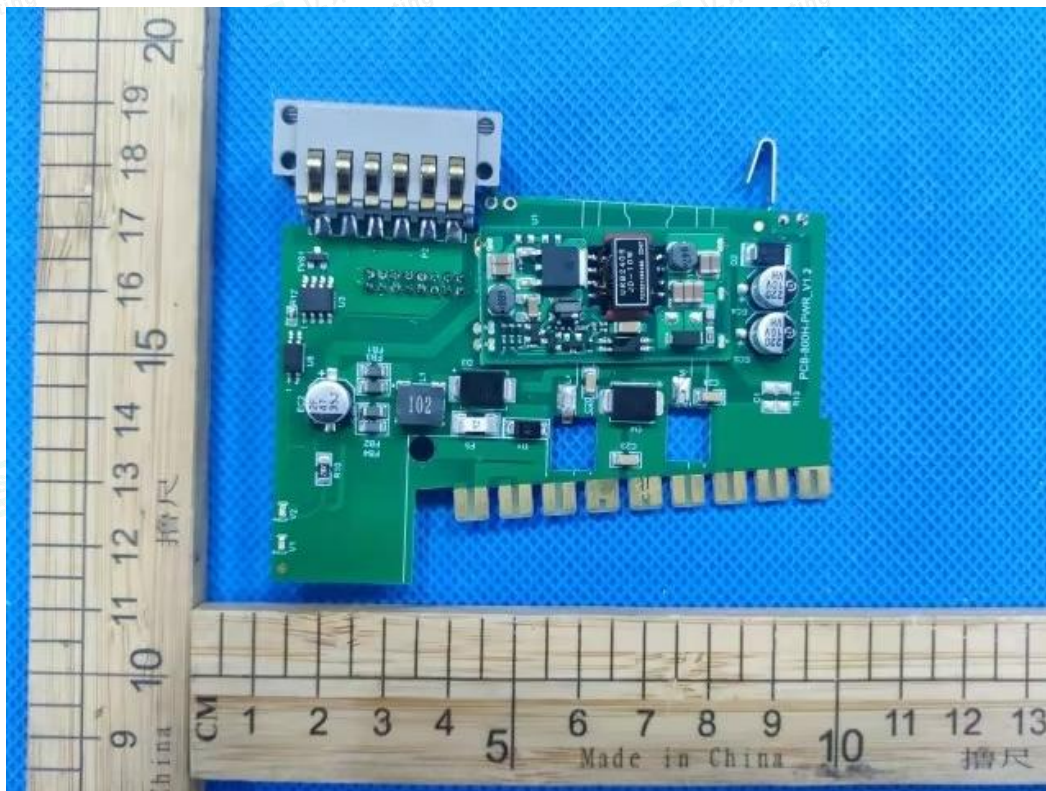


Photo.9

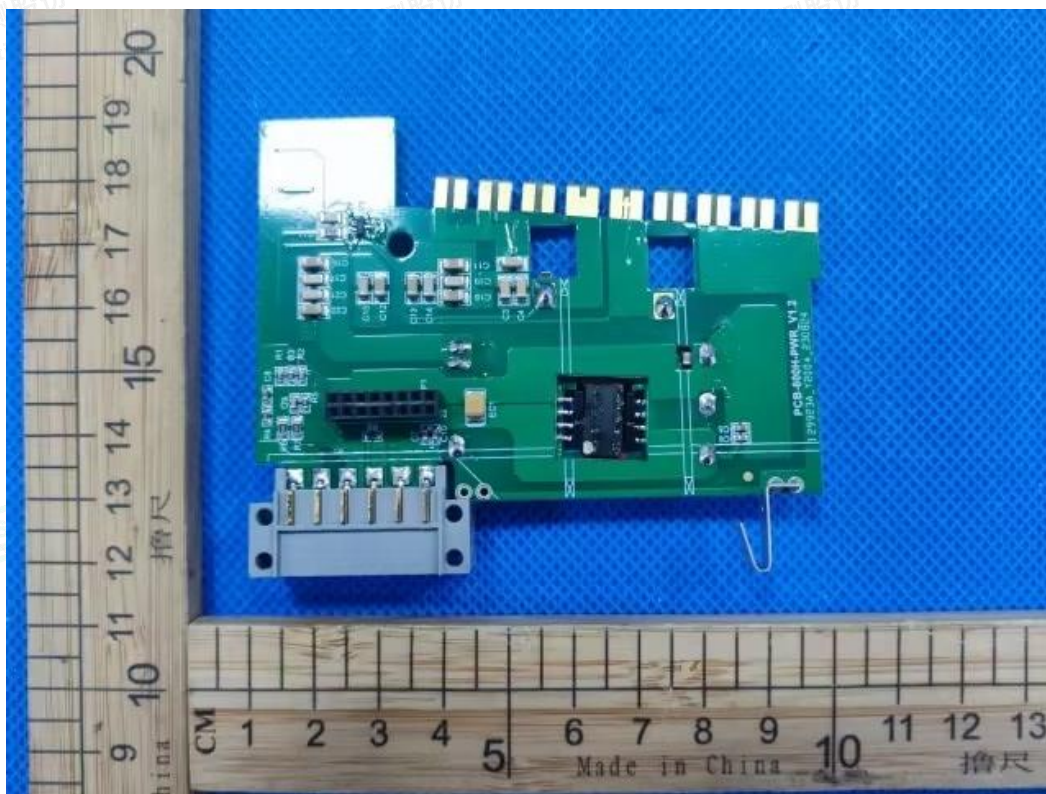


Photo.10

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