Shenzhen LCS Compliance Testing Laboratory Ltd.



EMC TEST REPORT

For

Xiamen RGBlink Science & Technology Co.,Ltd.

TAO 1pro

Test Model: TAO 1pro

Additional Model No.: Please Refer To Page 9

| Prepared for Address | | Xiamen RGBlink Science & Technology Co.,Ltd. S603、604 Weiye Building Torch Hi-Tech Industrial Development Zone, Xiamen city, Fujian Province |
|---|----|---|
| Prepared by Address | | Shenzhen LCS Compliance Testing Laboratory Ltd. Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao' an District, Shenzhen, Guangdong, China |
| Tel Fax Web Mail | :: | (+86)755-82591330 (+86)755-82591332 www.LCS-cert.com webmaster@LCS-cert.com |
| Date of receipt of test sample Number of tested samples Serial number Date of Test Date of Report | :: | July 07, 2021 1 Prototype July 07, 2021 ~ July 23, 2021 July 26, 2021 |



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| | EMC TEST REPORT | | | |
|--|---|---|--|--|
| | EN 55032:2015+A11:2020 | | | |
| Electromagnetic comp | Electromagnetic compatibility of multimedia equipment - Emission Requirements | | | |
| Electromagnetic comp | EN 55035:2017+A11: 2020 atibility of multimedia equipment – Imr | nunity requirements | | |
| Report Reference No | | | | |
| Date of Issue | : July 26, 2021 | | | |
| Testing Laboratory Name Address | Shenzhen LCS Compliance Tes Room 101, 201, Building A and R Industrial Park, Yabianxueziwei, S | oom 301, Building C, Juji Shajing Street, Bao'an | | |
| Testing Location/ Procedure | District, Shenzhen, Guangdong, G Full application of Harmonised standard application of Harmonised Other standard testing method | andards 🔳 | | |
| Applicant's Name | : Xiamen RGBlink Science & Tec | hnology Co.,Ltd. | | |
| Address | : S603、604 Weiye Building Torch | Hi-Tech Industrial | | |
| | Development Zone, Xiamen city, | Fujian Province | | |
| Test Specification | | | | |
| Standard | EN 55032:2015+A11:2020 EN 55035:2017+A11: 2020 EN IEC 61000-3-2:2019 EN 61000-3-3: 2013+A1:2019 | | | |
| Test Report Form No | : LCSEMC-1.0 | | | |
| TRF Originator Shenzhen LCS Compliance Testing Laboratory Ltd. | | | | |
| Master TRF | : Dated 2011-03 | | | |
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| Test Item Description | : TAO 1pro | | | |
| Trade Mark | : RGBlink | | | |
| Test Model | : TAO 1pro | | | |
| Ratings | : DC 12V, 1500mA, 18W | | | |
| Result | : Positive | | | |
| Compiled by: | Supervised by: | Approved by: | | |
| Eruma Wang | Baron Nen | Hairs King OR | | |
| Emma Wang/ File administrators | Baron Wen/Technique principal | Gavin Liand/ Manager | | |

Emma Wang/ File administrators Baron Wen/Technique principal





EMC -- TEST REPORT

Test Report No. : LCS210707031AE

July 26, 2021

Date of issue

| Test Model | : TAO 1pro |
|--------------|--|
| EUT | : TAO 1pro |
| Applicant | : Xiamen RGBlink Science & Technology Co.,Ltd. |
| Address | :S603、604 Weiye Building Torch Hi-Tech Industrial |
| | Development Zone, Xiamen city, Fujian Province |
| Telephone | :/ |
| Fax | :/ |
| | |
| Manufacturer | : Xiamen RGBlink Science & Technology Co.,Ltd. |
| Address | : S603、604 Weiye Building Torch Hi-Tech Industrial |
| | Development Zone, Xiamen city, Fujian Province |
| Telephone | :/ |
| Fax | :/ |
| | |
| - | : Xiamen RGBlink Science & Technology Co.,Ltd. |
| Address | : 5th floor, 205 Xinfeng Road, Huli District, Xiamen city, |
| | Fujian Province |
| Telephone | |
| Fax | :/ |
| | |

| Test Result | Positive |
|-------------|----------|
|-------------|----------|

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.



Revision History

| Revision | Issue Date | Revisions | Revised By |
|----------|---------------|---------------|-------------|
| 000 | July 26, 2021 | Initial Issue | Gavin Liang |
| | | | |
| | | | |



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1. TEST STANDARDS

The tests were performed according to following standards:

<u>EN 55032:2015+A11:2020</u> Electromagnetic compatibility of multimedia equipment - Emission Requirements

<u>EN 55035:2017+A11: 2020</u> Electromagnetic compatibility of multimedia equipment – Immunity requirements

<u>EN IEC 61000-3-2:2019</u> Electromagnetic compatibility (EMC) -- Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase) <u>EN 61000-3-3: 2013+A1:2019</u> Electromagnetic compatibility (EMC) -- Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current \leq 16 A per phase and not subject to conditional connection

2.SUMMARY OF STANDARDS AND RESULTS

2.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

| Emission (EN 55032:2015+A11:2020) | | | | |
|---|------------------------------------|-------------------------|---------|--|
| Description of Test Item | Standard | Limits | Results | |
| Conducted disturbance at mains terminals | EN 55032:2015+A11:2020 | Class B | PASS | |
| Conducted disturbance at telecommunication port | EN 55032:2015+A11:2020 | Class B | N/A | |
| Radiated disturbance | EN 55032:2015+A11:2020 | Class B | PASS | |
| Harmonic current emissions | EN IEC 61000-3-2:2019 | Class A | PASS | |
| Voltage fluctuations & flicker | EN 61000-3-3: 2013+A1:2019 | | PASS | |
| | munity (EN 55035:2017+A11: | | | |
| Description of Test Item | Basic Standard | Performance Criteria | Results | |
| Electrostatic discharge (ESD) | EN 61000-4-2: 2009 | В | PASS | |
| Radio-frequency, Continuous radiated disturbance | EN 61000-4-3: 2006+A2: 2010 | А | PASS | |
| Electrical fast transient (EFT) | EN 61000-4-4: 2012 | В | PASS | |
| Surgé (Input a.c. power ports) | EN 61000-4-5: 2014+A1: 2017 | В | PASS | |
| Surge (Telecommunication ports) | EN 61000-4-5: 2014+A1: 2017 | В | N/A | |
| Radio-frequency, Continuous conducted disturbance | EN 61000-4-6: 2014+A1:2015 | А | PASS | |
| Power frequency magnetic field | EN 61000-4-8: 2010 | А | PASS | |
| Voltage dips, >95% reduction | | В | PASS | |
| Voltage dips, 30% reduction | EN IEC 61000-4-11:2020+AC: 2020 | С | PASS | |
| Voltage interruptions ***Note: N/A is an abbreviati | ion for Not Applicable | С | PASS | |

| Test mode: | | | |
|--|------|--------|--|
| Mode 1 | HDMI | Record | |
| Mode 2 | USB | Record | |
| ***Note: All test modes were tested, but we only recorded the worst case in this | | | |
| report. | | | |

2.2. Description of Performance Criteria

General Performance Criteria

Examples of functions defined by the manufacturer to be evaluated during testing include, but are not limited to, the following:

essential operational modes and states;

2.2.1. Performance criterion A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacture when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be deriver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

2.2.2. Performance criterion B

After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacture, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

During the test, degradation of performance is allowed. However, no change of operation state or stored data is allowed to persist after the test.

If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be deriver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

2.2.3. Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacture's instructions.

Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be loss.

3. GENERAL INFORMATION

| 3.1. Description of Device (EUT) | |
|----------------------------------|--|
|----------------------------------|--|

| EUT | : TAO 1pro |
|-------------------|--|
| Trade Mark | : RGBlink |
| Test Model | : TAO 1pro |
| Additional Model | ¹ TAO 1tiny, TAO 1nano, TAO 1nano+WIFI, TAO 1mini, ASK nano, ASK Team, ASK pro, ASK Plus, ASK+, ASK, ASK 4K, ASK nano 4K, ASK 4K+, X5, X6, X8, X10, X12, X15, X16, X18, X20, X24, X28 |
| Model Declaration | PCB board, structure and internal of these model(s) are the same, So no additional models were tested |
| Power Supply | [:] DC 12V, 1500mA, 18W |

| | Highest internal frequency (Fx) | Highest measured frequency | |
|----------------------|--|---------------------------------|--|
| | Fx ≤ 108 MHz | 1 GHz | |
| | 108 MHz < Fx ≤ 500 MHz | 2 GHz | |
| 500 MHz < Fx ≤ 1 GHz | | 5 GHz | |
| Fx > 1 GHz | | 5 × Fx up to a maximum of 6 GHz | |
| | NOTE 1 For FM and TV broadcast receivers, Fx is determined from the highest frequency | | |
| | generated or used excluding the local oscillator and tuned frequencies. | | |
| | NOTE 2 Fx is defined in EN 55032 Section 3.1.19. | | |
| | Where Fx is unknown, the radiated emission measurements shall be performed up to 6 GHz | | |

3.2. Support Equipment List

| Name | Manufacturers | M/N | S/N |
|------|---------------|---------------|---------|
| TV | SONY | KDL-32W700B | 2011083 |
| PC | DELL | vostro15-7570 | |

3.3. Description of Test Facility

NVLAP Accreditation Code is 600167-0. FCC Designation Number is CN5024. CAB identifier is CN0071. CNAS Registration Number is L4595.

3.4. 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.

| Test | Parameters | Expanded uncertainty (U _{lab}) | Expanded uncertainty (U _{cispr}) |
|--|---|---|---|
| Conducted Emission | Level accuracy (9kHz to 150kHz) (150kHz to 30MHz) | ± 2.63 dB ± 2.35 dB | ± 3.8 dB ± 3.4 dB |
| Power Disturbance | Level accuracy (30MHz to 300MHz) | \pm 2.90dB | \pm 4.5 dB |
| Electromagnetic Radiated Emission (3-loop) | Level accuracy (9kHz to 30MHz) | \pm 3.60 dB | \pm 3.3 dB |
| Radiated Emission | Level accuracy (9kHz to 30MHz) | \pm 3.68 dB | N/A |
| Radiated Emission | Level accuracy (30MHz to 1000MHz) | \pm 3.48 dB | \pm 5.3 dB |
| Radiated Emission | Level accuracy (above 1000MHz) | \pm 3.90 dB | ± 5.2 dB |
| Mains Harmonic | Voltage | ± 0.510% | N/A |
| Voltage Fluctuations & Flicker | Voltage | ± 0.510% | N/A |
| EMF | / | ± 21.59% | N/A |

3.5. Measurement Uncertainty

1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

2) 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%.



4. MEASURING DEVICES AND TEST EQUIPMENT

| LINE | LINE CONDUCTED EMISSION | | | | | | |
|------|------------------------------------|--------------|-------------|---------------------|------------|------------|--|
| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date | |
| 1 | EMI Test Software | EZ | EZ-EMC | / | N/A | N/A | |
| 2 | EMI Test Receiver | R&S | ESR3 | 102312 | 2021-03-16 | 2022-03-15 | |
| 3 | Artificial Mains | R&S | ENV216 | 101119 | 2021-06-21 | 2022-06-20 | |
| 4 | 10dB Attenuator | SCHWARZBECK | MTS-IMP-136 | 261115-001-003 2 | 2021-06-21 | 2022-06-20 | |
| 5 | Impedance Stabilization Network | TESEQ | ISN T800 | 45130 | 2021-06-21 | 2022-06-20 | |

RADIATED DISTURBANCE

| | F | | | | | |
|------|------------------------|--------------|------------|------------|------------|------------|
| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
| 1 | EMI Test Software | E3 | E3-EMC | / | N/A | N/A |
| 2 | By-log Antenna | SCHWARZBECK | VULB9163 | 9163-470 | 2021-07-25 | 2024-07-24 |
| 3 | Horn Antenna | SCHWARZBECK | BBHA 9120D | 9120D-1925 | 2021-07-01 | 2024-06-30 |
| 4 | EMI Test Receiver | R&S | ESR 7 | 101181 | 2021-06-21 | 2022-06-20 |
| 5 | Broadband Preamplifier | / | BP-01M18G | P190501 | 2021-06-21 | 2022-06-20 |

| VOLTA | VOLTAGE FLUCTUATION AND FLICKER/HARMONIC CURRENT EMISSIONS | | | | | |
|-------|--|--------------|-----------|--------------|------------|------------|
| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
| 1 | Power Analyzer Test System | Voltech | PM6000 | 200006700523 | 2021-06-21 | 2022-06-20 |

| ELEC | ELECTROSTATIC DISCHARGE | | | | | |
|------|-------------------------|--------------|-----------|------------|------------|------------|
| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
| 1 | ESD Simulator | SCHLODER | SESD 230 | 604035 | 2020-07-21 | 2021-07-20 |

| RF EL | RF ELECTROMAGNETIC FIELD) | | | | | |
|----------|---|--------------------|-----------|------------|------------|------------|
| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
| 1 | ESG Vector Signal Generator | Agilent | E4438C | MY42081396 | 2020-11-17 | 2021-11-16 |
| 2 | RF POWER AMPLIFIER | OPHIR | 5225R | 1052 | NCR | NCR |
| 3 | RF POWER AMPLIFIER | OPHIR | 5273F | 1019 | NCR | NCR |
| 4 | Stacked Broadband Log Periodic Antenna | SCHWARZBEC K | STLP 9128 | 9128ES-145 | NCR | NCR |
| 5 | Stacked Mikrowellen LogPer Antenna | SCHWARZBEC K | STLP 9149 | 9149-484 | NCR | NCR |
| 6 | Electric field probe | Narda S.TS./PMM | EP601 | 611WX80208 | 2021-03-25 | 2022-03-24 |
| Note: NO | CR means no calibration requ | irement | | | | |



| ELE | ELECTRICAL FAST TRANSIENT IMMUNITY | | | | | |
|------|------------------------------------|--------------|-----------|------------|------------|------------|
| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
| 1 | Immunity Simulative Generator | EM TEST | UCS500-M4 | 0101-34 | 2021-06-21 | 2022-06-20 |

SURGES, LINE TO LINE AND LINE TO GROUND

| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
|------|----------------------------------|--------------|-----------|------------|------------|------------|
| 1 | Immunity Simulative Generator | EM TEST | UCS500-M4 | 0101-34 | 2021-06-21 | 2022-06-20 |

RF COMMON MODE

| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
|------|----------------|--------------|-----------|------------|------------|------------|
| 1 | Simulator | FRANKONIA | CIT-10/75 | A126A1195 | 2021-06-21 | 2022-06-20 |
| 2 | CDN | FRANKONIA | CDN-M2+M3 | A2210177 | 2021-06-21 | 2022-06-20 |
| 3 | 6dB Attenuator | FRANKONIA | DAM25W | 1172040 | 2021-06-21 | 2022-06-20 |

MAGNETIC FIELD SUSCEPTIBILITY TEST

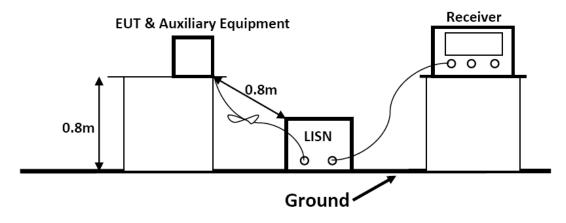
| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
|------|---|--------------|-------------|------------|------------|------------|
| 1 | Power frequency mag-field generator System | EVERFINE | EMS61000-8K | 906003 | 2021-06-21 | 2022-06-20 |

| VOL | VOLTAGE DIPS/INTERRUPTIONS IMMUNITY TEST | | | | | |
|------|--|--------------|-----------|------------|------------|------------|
| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
| 1 | Voltage dips and up generator | 3CTEST | VDG-1105G | EC0171014 | 2021-06-21 | 2022-06-20 |

5. TEST RESULTS

5.1. POWER LINE CONDUCTED EMISSION MEASUREMENT

5.1.1. Block Diagram of Test Setup



5.1.2. Test Standard

EN 55032:2015+A11:2020 Class B

| Power Line Conducted Emission Limits (Class B) | | | | | | |
|--|--|---------------|--|--|--|--|
| Frequency | Limit (| dBμV) | | | | |
| (MHz) | Quasi-peak Level Average Level | | | | | |
| 0.15 ~ 0.50 | 66.0 ~ 56.0 * | 56.0 ~ 46.0 * | | | | |
| 0.50 ~ 5.00 | 56.0 46.0 | | | | | |
| 5.00 ~ 30.00 | 60.0 | 50.0 | | | | |
| NOTE1-The lower limit shall a | NOTE1-The lower limit shall apply at the transition frequencies. | | | | | |
| NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to | | | | | | |
| 0.50MHz. | | | | | | |

5.1.3. EUT Configuration on Test

The following equipments are installed on Power Line Conducted Emission Measurement to meet the EN 55032 requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

5.1.4. Operating Condition of EUT

- 5.1.4.1.Setup the EUT as shown on Section 5.1.1
- 5.1.4.2. Turn on the power of all equipments.
- 5.1.4.3.Let the EUT work in measuring mode(1) and measure it.

5.1.5. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network (L.I.S.N). This provided 50-ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the EN 55032 regulations during conducted emission measurement.

The bandwidth of the field strength meter is set at 9kHz in 150kHz~30MHz. The frequency range from 150kHz to 30MHz is investigated.

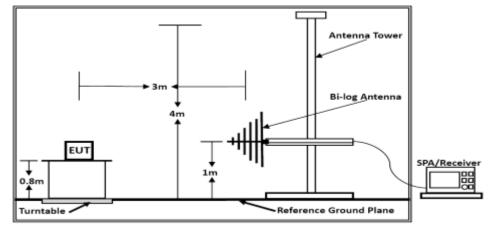
5.1.6. Test Results

PASS.

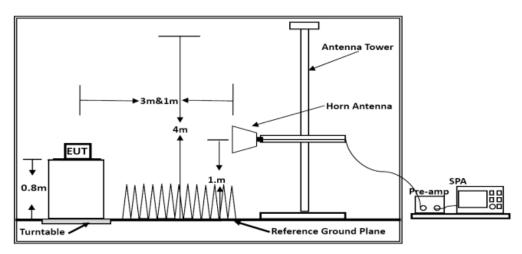


5.2. RADIATED EMISSION MEASUREMENT

5.2.1. Block Diagram of Test Setup



Below 1GHz



Above 1GHz

5.2.2. Test Standard

EN 55032:2015+A11:2020 Class B

All emanations from a class B device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

| Limits for Radiated Emission Below 1GHz | | |
|---|----------|-----------------------|
| Frequency | Distance | Field Strengths Limit |
| (MHz) | (Meters) | (dBµV/m) |
| 30 ~ 230 | 3 | 40 |
| 230 ~ 1000 | 3 | 47 |

***Note:

(1) The smaller limit shall apply at the combination point between two frequency bands.(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

| Limits for Radiated Emission Above 1GHz | | | | |
|---|----------|----------|----------|--|
| Frequency Distance Peak Limit Average Limit | | | | |
| (MHz) | (Meters) | (dBµV/m) | (dBµV/m) | |
| 1000 ~ 3000 | 3 | 70 | 50 | |
| 3000 ~ 6000 | 3 | 74 | 54 | |
| ***Note: The lower limit applies at the transition frequency | | | | |

***Note: The lower limit applies at the transition frequency.

5.2.3. EUT Configuration on Test

The EN 55032 regulations test method must be used to find the maximum emission during radiated emission measurement.

5.2.4. Operating Condition of EUT

5.2.4.1.Turn on the power.

5.2.4.2.Let the EUT work in the test mode(1) and measure it.

5.2.5. Test Procedure

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 a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. By-log antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The bandwidth of the EMI test receiver is set at RBW/VBW=120kHz/300kHz.

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

The bandwidth of the Spectrum analyzer is set at RBW/VBW=1MHz/3MHz.

The frequency range from 1GHz to the frequency which about 5th carrier harmonic or 6GHz is checked.

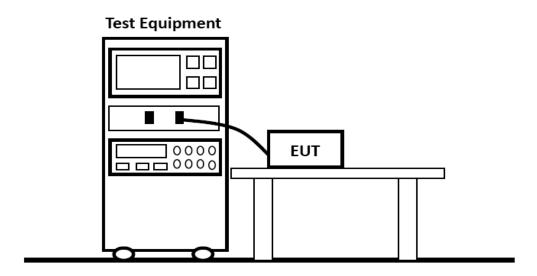
5.2.6. Test Results

PASS.



5.3. HARMONIC CURRENT EMISSION MEASUREMENT

5.3.1. Block Diagram of Test Setup



5.3.2. Test Standard

EN IEC 61000-3-2:2019

5.3.3. Operating Condition of EUT

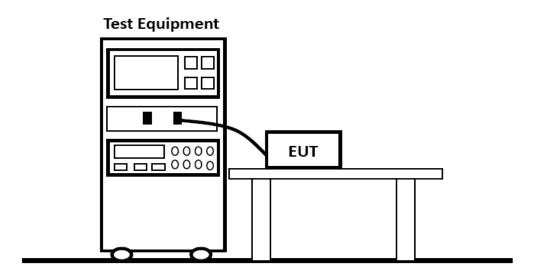
Same as Section 5.2.4, except the test setup replaced as Section 5.3.1.

5.3.4. Test Results



5.4. VOLTAGE FLUCTUATION AND FLICKER MEASUREMENT

5.4.1. Block Diagram of Test Setup



5.4.2. Test Standard

EN 61000-3-3: 2013+A1:2019

5.4.3. Operating Condition of EUT

Same as Section 5.2.4, except the test setup replaced as Section 5.4.1.

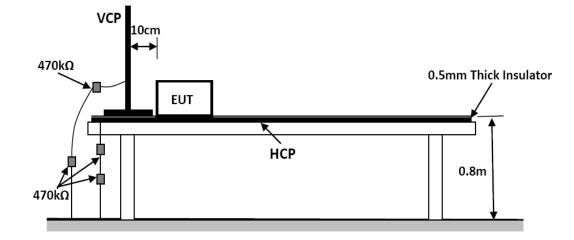
5.4.4. Test Results

PASS.



5.5. ELECTROSTATIC DISCHARGE IMMUNITY TEST

5.5.1. Block Diagram of Test Setup



5.5.2. Test Standard

EN 55035:2017+A11: 2020 (EN 61000-4-2: 2009, Severity Level: 3 / Air Discharge: ±8KV, Level: 2 / Contact Discharge: ±4KV)

5.5.3. Severity Levels and Performance Criterion

| L evel | Test Voltage | Test Voltage |
|--------|------------------------|--------------------|
| Level | Contact Discharge (KV) | Air Discharge (KV) |
| 1 | ±2 | ±2 |
| 2 | ±4 | ±4 |
| 3 | ±6 | ±8 |
| 4 | ±8 | ±15 |
| X | Special | Special |

5.5.3.1. Severity level

5.5.3.2. Performance Criterion Performance Criterion: B

5.5.4. EUT Configuration on Test

The configuration of EUT is listed in Section 5.5.1.

5.5.5. Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 5.1.4. Except the test set up replaced by Section 5.5.1.

5.5.6. Test Procedure

5.2.6.1. Air Discharge

This test is done on a non-conductive surfaces. The round discharge tip of the Electrostatic Discharge simulator shall be approached as fast as possible then to touch the EUT. After each discharge, the simulator shall be removed from the EUT. The simulator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed

5.2.6.2. Contact Discharge

All the procedure shall be same as air discharge, except using the acute discharge tip. The top end of the Electrostatic Discharge simulator is touch the EUT all the time when the simulator is re-triggered for a new single discharge and repeated 10 times for each pre-selected test point.

5.2.6.3. Indirect Discharge For Horizontal Coupling Plane

The vertical coupling plane(VCP) is placed 0.1m away from EUT. The top end of Electrostatic Discharge simulator should aim at the center of one border of the VCP for at least 25 times discharge.

5.2.6.4. Indirect Discharge For Vertical Coupling Plane

The top end of Electrostatic Discharge simulator should place at the point 0.1m away from EUT on the horizontal coupling plane(HCP). At least 25 times discharge should be done for every pre-selected point around EUT.

Record any performance degradation of the EUT during the test and judge the test result according to ce criterion.

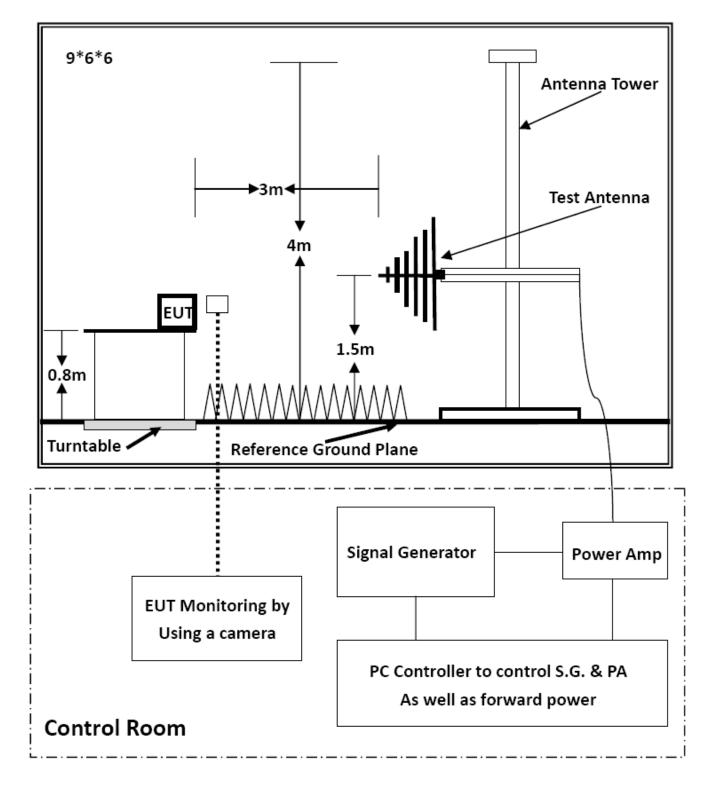
5.5.7. Test Results

PASS.



5.6. RF FIELD STRENGTH SUSCEPTIBILITY TEST

5.6.1. Block Diagram of Test Setup



5.6.2. Test Standard

EN 55035:2017+A11: 2020 (EN 61000-4-3: 2006+A2: 2010 Severity Level: 2, 3V/m)

5.6.3. Severity Levels and Performance Criterion

| 5.6.3.1. Severity level | 5.6.3.1. | Severity | level |
|-------------------------|----------|----------|-------|
|-------------------------|----------|----------|-------|

| Level | Field Strength (V/m) | |
|-------|----------------------|--|
| 1 | 1 | |
| 2 | 3 | |
| 3 | 10 | |
| X | 1 | |

5.6.3.2. Performance Criterion Performance Criterion: A

5.6.4. EUT Configuration on Test

The configuration of EUT is listed in Section 5.6.1.

5.6.5. Operating Condition of EUT

Same as radiated emission measurement, which is listed in Section 5.2..4, except the test setup replaced as Section 5.6.1.

5.6.6. Test Procedure

The EUT are placed on a table, which is 0.8 meter high above the ground. The EUT is set 3 meters away from the transmitting antenna, which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna is set on test. Each of the four sides of the EUT must be faced this transmitting antenna and measured individually. In order to judge the EUT performance, a CCD Recording is used to monitor its screen. All the scanning conditions are as following:

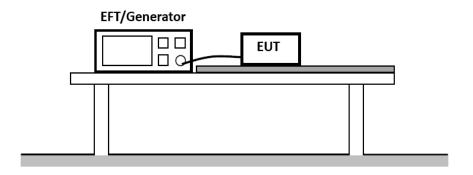
| Condition of Test | Remark |
|-----------------------------------|------------------------------------|
| Fielded Strength | 3 V/m (Severity Level 2) |
| Radiated Signal | Unmodulated |
| Test Frequency Range (swept test) | 80-1000MHz |
| Test Frequency (spot test) | 1800MHz, 2600MHz, 3500MHz, 5000MHz |
| Dwell time of radiated | 0.0015 decade/s |
| Waiting Time | 3 Sec. |

5.6.7. Test Results

PASS.

5.7. ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST

5.7.1. Block Diagram of Test Setup



5.7.2. Test Standard

EN 55035:2017+A11: 2020 (EN 61000-4-4: 2012, Severity Level, Level 2: 1KV)

5.7.3. Severity Levels and Performance Criterion

| 5.7.3.1. | Severity | level |
|----------|----------|-------|
| 0.1.0.1. | 0010111 | 10101 |

| Open Circuit Output Test Voltage ±10% | | |
|---------------------------------------|-----------------------|--|
| Level | On Power Supply Lines | On I/O (Input/Output) Signal data and control lines |
| 1 | 0.5 KV | 0.25 KV |
| 2 | 1 KV | 0.5 KV |
| 3 | 2 KV | 1 KV |
| 4 | 4 KV | 2 KV |
| X | Special | Special |

5.7.3.2. Performance Criterion

Performance Criterion: B

5.7.4. EUT Configuration on Test

The configuration of EUT is listed in Section 5.7.1.

5.7.5. Operating Condition of EUT

- 5.7.5.1. Setup the EUT as shown in Section 5.7.1.
- 5.7.5.2. Turn on the power of all equipments.
- 5.7.5.3. Let the EUT work in test mode(1) and measure it.

5.7.6. Test Procedure

The EUT is put on the table, which is 0.8 meter high above the ground. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

5.7.6.1. For input and output AC power ports:

The EUT is connected to the power mains by using a coupling device, which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 1 mins.

5.7.6.2. For signal lines and control lines ports: It's unnecessary to test.

5.7.6.3. For DC output line ports: It's unnecessary to test.

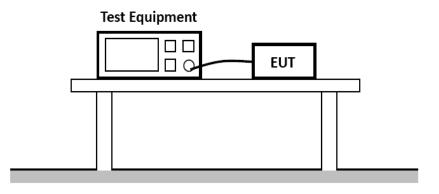
5.7.7. Test Results

PASS.



5.8. SURGE IMMUNITY TEST

5.8.1. Block Diagram of Test Setup



5.8.2. Test Standard

EN 55035:2017+A11: 2020 (EN 61000-4-5: 2014+A1: 2017, Severity Level: Line to Line: Level 2, 1.0KV, Line to Earth: Level 3, 2.0KV)

5.8.3. Severity Levels and Performance Criterion

| 0.0.0.1. 00001119 10001 | |
|-------------------------|-----------------------------------|
| Severity Level | Open-Circuit Test Voltage (KV) |
| 1 | 0.5 |
| 2 | 1.0 |
| 3 | 2.0 |
| 4 | 4.0 |
| * | Special |

5.8.3.1. Severity level

5.8.3.2. Performance Criterion Performance Criterion: B

5.8.4. EUT Configuration on Test

The configuration of EUT is listed in Section 5.8.1.

5.8.5. Operating Condition of EUT

- 5.8.5.1. Setup the EUT as shown in Section 5.8.1.
- 5.8.5.1.Turn on the power of all equipments.
- 5.8.5.1.Let the EUT work in test mode (1) and measure it.

5.8.6. Test Procedure

5.8.6.1. Set up the EUT and test generator as shown on Section 5.8.1.

5.8.6.2. For line to line coupling mode, provide a 1.0 KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.

5.8.6.3. At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.

5.8.6.4. Different phase angles are done individually.

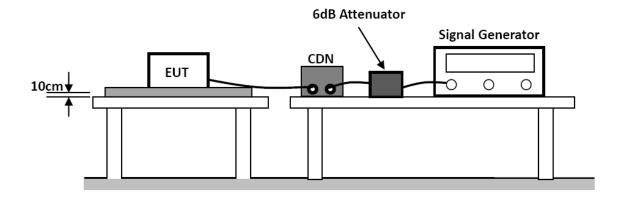
5.8.6.5. Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

5.8.7. Test Results

PASS.

5.9. INJECTED CURRENTS SUSCEPTIBILITY TEST

5.9.1. Block Diagram of Test Setup



5.9.2. Test Standard

EN 55035:2017+A11: 2020(EN 61000-4-6: 2014+A1:2015, Severity Level: Level 2, (0.15MHz ~ 80MHz))

5.9.3. Severity Levels and Performance Criterion

| Level | Field Strength (V) |
|-------|--------------------|
| 1 | 1 |
| 2 | 3 |
| 3 | 10 |
| Х | Special |

5.9.3.2. Performance Criterion Performance Criterion: A

5.9.4. EUT Configuration on Test

The configuration of EUT is listed in Section 5.9.1.

5.9.5. Operating Condition of EUT

- 5.9.5.1.Setup the EUT as shown in Section 5.9.1.
- 5.9.5.2. Turn on the power of all equipments.
- 5.9.5.3.Let the EUT work in test mode(1) and measure it.

5.9.6. Test Procedure

5.9.6.1. Set up the EUT, CDN and test generators as shown on Section 5.9.1.

5.9.6.2. Let the EUT work in test mode and measure it.

5.9.6.3. The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).

5.9.6.4. The disturbance signal described below is injected to EUT through CDN. 5.9.6.5. The EUT operates within its operational mode(s) under intended climatic conditions after power on.

5.9.6.6. The frequency range is swept from 150kHz to 10MHz using 3V signal level,10MHz to 30MHz using 3V to 1V signal level,30MHz to 80MHz using 1V signal level, and with the disturbance signal 80% amplitude modulated with a 1kHz sine wave. 5.9.6.7. The rate of sweep shall not exceed 1.5*10-3decades/s. where the frequency is swept incrementally; the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.

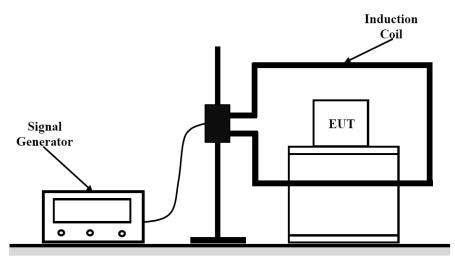
5.9.6.8. Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

5.9.7. Test Results

PASS.

5.10. MAGNETIC FIELD SUSCEPTIBILITY TEST

5.10.1. Block Diagram of Test Setup



5.10.2. Test Standard

EN 55035:2017+A11: 2020 (EN 61000-4-8: 2010, Severity Level: Level 1, 1A/m)

5.10.3. Severity Levels and Performance Criterion

| 5.10.3.1. Severity level | 5.10.3.1. | Severity | level |
|--------------------------|-----------|----------|-------|
|--------------------------|-----------|----------|-------|

| Level | Field Strength (A/m) |
|-------|----------------------|
| 1 | 1 |
| 2 | 3 |
| 3 | 10 |
| 4 | 30 |
| 5 | 100 |
| X | Special |

5.10.3.2. Performance Criterion Performance Criterion: A

5.10.4. EUT Configuration on Test

The configuration of EUT is listed in Section 5.10.1.

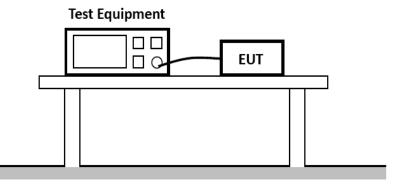
5.10.5. Test Procedure

EUT is placed on an insulating support of 0.1m high above a table of 0.8m high. There is a minimum 1m*1m ground metallic plane put on this table. EUT is put in the center of the magnetic coil then two orientations of the magnetic coil, horizontal and vertical, shall be rotated in order to expose the EUT to the difference polarization magnetic field. Record any performance degradation of the EUT during the test and judge the test result according to performance criterion.

5.10.6. Test Results

5.11. VOLTAGE DIPS AND INTERRUPTIONS TEST

5.11.1. Block Diagram of Test Setup



5.11.2. Test Standard

EN 55035:2017+A11: 2020 (EN IEC 61000-4-11:2020+AC: 2020)

5.11.3. Severity Levels and Performance Criterion

5.11.3.1. Severity level

| Test Level | | | | | | | |
|-------------------|-----------------|-------------|--|--|--|--|--|
| Voltage Reduction | Voltage Dips | Duration | | | | | |
| %U_T | %U _T | (in Period) | | | | | |
| 100 | 0 | 0.5 | | | | | |
| 100 | 0 | 1 | | | | | |
| 30 | 70 | 5 | | | | | |
| Voltage Reduction | Voltage Dips | Duration | | | | | |
| %U_T | %U _T | (in Period) | | | | | |
| 100 | 0 | 250 | | | | | |

5.11.3.2. Performance Criterion Performance Criterion: B&C

5.11.4. EUT Configuration on Test

The configuration of EUT is listed in Section 5.11.1.

5.11.5. Operating Condition of EUT

- 5.11.5.1. Setup the EUT as shown in Section 5.11.1.
- 5.11.5.2. Turn on the power of all equipments.
- 5.11.5.3. Let the EUT work in test mode (1) and measure it.

5.11.6. Test Procedure

- 5.11.6.1. Set up the EUT and test generator as shown on Section 5.11.1.
- 5.11.6.2. The interruptions are introduced at selected phase angles with specified duration.

5.11.6.3. Record any degradation of performance.

5.11.7. Test Results

PASS.

Shenzhen LCS Compliance Testing Laboratory Ltd.

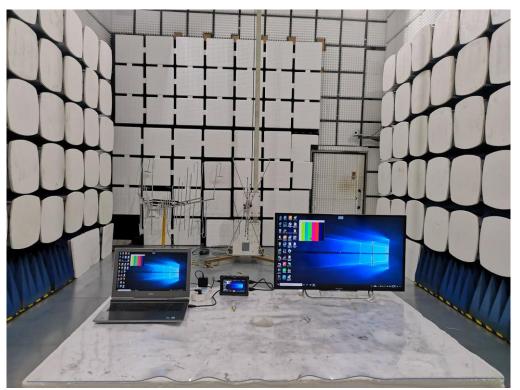
Annex A

(Test photograph)

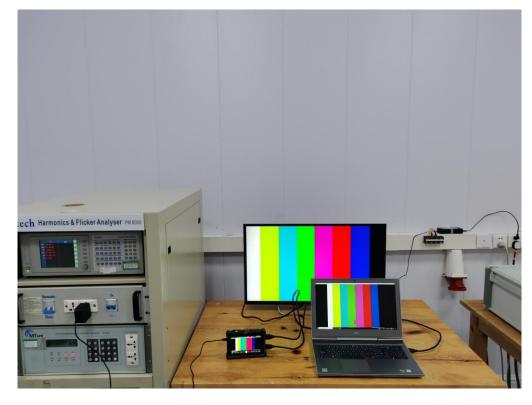
A.1 Test Setup Photo of Power Line Conducted Measurement



A.2 Test Setup Photo of Radiated Measurement (30MHz~1GHz)

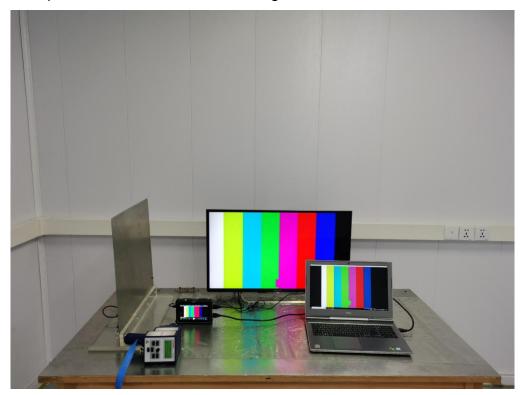






A.3 Test Setup Photo of Harmonic & Flicker Measurement

A.4 Test Setup Photo of Electrostatic Discharge Test

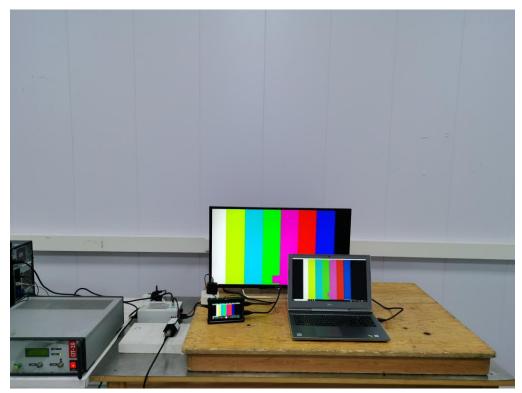




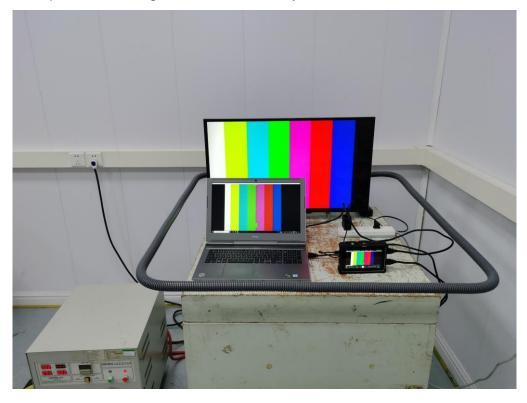


A.5 Photo of Electrical Fast Transient/Burst Test & Surge Immunity Test

A.6 Test Setup Photo of Injected Currents Susceptibility Test







A.7 Test Setup Photo of Magnetic Field Immunity Test

A.8 Test Setup Photo of Voltage Dips and Interruptions Test



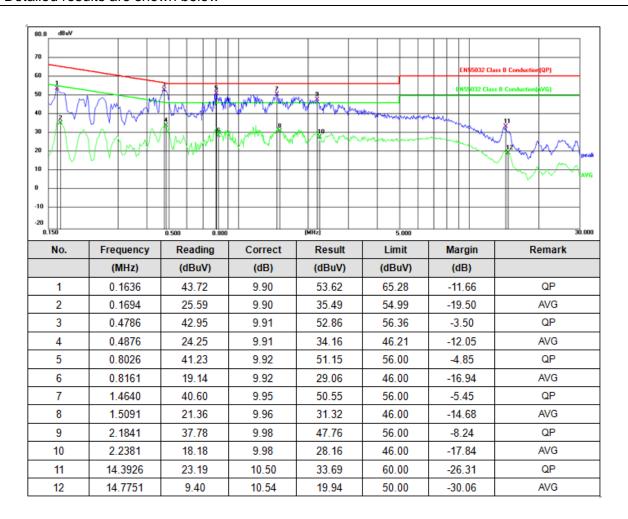


ANNEX B

(Emission and Immunity test results)

B.1 POWER LINE CONDUCTED EMISSION MEASUREMENT

| Environmental Conditions: | 23.3℃, 53.7% RH | | | | |
|------------------------------|-----------------|--|--|--|--|
| Test Voltage: | AC 230V,50Hz | | | | |
| Test Model: | TAO 1pro | | | | |
| Test Mode: | Mode 1 | | | | |
| Test Engineer: | Zq Pang | | | | |
| Pol: | Line | | | | |
| Detailed results are shown b | elow | | | | |





| Environment | al Conditior | ns: 23.3 | °C, 53.7% | RH | | | | |
|---------------|--------------|-------------|------------------|--------------|-------------|--------------|---------------------|--|
| Test Voltage | : | AC 2 | 230V,50Hz | | | | | |
| Test Model: | | TAO | TAO 1pro | | | | | |
| Test Mode: | | | Mode 1 | | | | | |
| Test Enginee | ər: | | Zq Pang | | | | | |
| Pol: | | · · | Neutral | | | | | |
| Detailed resu | Ilts are sho | | | | | | | |
| | | | | | | | | |
| 80.0 dBuV | | | | | | | | |
| 70 | | | | | | | | |
| 60 | | | | | | ENS5032 CI | ss B Conduction(QP) | |
| 1 | | 3 5 | Z | | | EN55032 Clas | s B Conduction((VG) | |
| 50 - M | MMM | AMANNA | W MAN | mon | | | | |
| | A A AM | | | | | work where | ¥. | |
| 30 | MAN M | MAN | N M VIV | www. | manufar the | | A. MA | |
| 20 | A ADAL. | | | | | | Peak | |
| 10 | | | | | | | Ave Ave | |
| 0 | | | | | | | | |
| -10 | | | | | | | | |
| 0.150 | | 0.500 0.800 | | (MHz) | 5.000 | | 30.000 | |
| No. | Frequency | Reading | Correct | Result | Limit | Margin | Remark | |
| | (MHz) | (dBuV) | (dB) | (dBuV) | (dBuV) | (dB) | | |
| 1 | 0.1636 | 42.75 | 9.90 | 52.65 | 65.28 | -12.63 | QP | |
| 2 | 0.1703 | 26.07 | 9.90 | 35.97 | 54.95 | -18.98 | AVG | |
| 3 | 0.4831 | 41.87 | 9.90 | 51.77 | 56.29 | -4.52 | QP | |
| 4 | 0.4967 | 18.82 | 9.90 | 28.72 | 46.06 | -17.34 | AVG | |
| 5 | 0.8071 | 41.06 | 9.91 | 50.97 | 56.00 | -5.03 | QP | |
| 6 | 0.8206 | 20.54 | 9.91 | 30.45 | 46.00 | -15.55 | AVG | |
| 7 | 1.4506 | 40.49 | 9.94 | 50.43 | 56.00 | -5.57 | QP | |
| 8 | 1.5271 | 20.74 | 9.95 | 30.69 | 46.00 | -15.31 | AVG | |
| 9 | 2.5711 | 36.12 | 9.97 | 46.09 | 56.00 | -9.91 | QP | |
| 10 | 2.6700 | 13.86 | 9.97 | 23.83 | 46.00 | -22.17 | AVG | |
| 11 | 14.1811 | 23.27 | 10.49 | 33.76 | 60.00 | -26.24 | QP | |
| | | | | | | | | |

| Environment | al Conditior | ns: 23.3 | °C, 53.7% | RH | | | |
|---------------|--------------------|----------------|--|----------------|--------------|--|----------------------|
| Test Voltage |): | AC 2 | AC 230V,50Hz | | | | |
| Test Model: | | TAO | TAO 1pro | | | | |
| Test Mode: | | Mod | Mode 2 | | | | |
| Test Engine | ər: | Zq F | ang | | | | |
| Pol: | | Line | - | | | | |
| Detailed resu | ults are sho | wn below | | | | | |
| | | | | | | | |
| 80.0 dBuV | | | | | | | |
| 70 | | | | | | | |
| 60 | | | | | | EN55032 Ck | ass B Conduction(QP) |
| 50 | | | 5 7 | | | EN55032 Clas | s B Conduction(AVG) |
| | MM. M | W MA | the stand of the s | M Winn | | | |
| 30 1 | V. V MM | | h n n | 10 | - manufanner | and | ~ |
| 20 | MANNE | WAAM | $\gamma \gamma$ | | mun | and the second sec | " Junion and |
| 10 | J V 9 M V | · · · · | | | | | Peak peak |
| 0 | | | | | | | AVG |
| -10 | | | | | | | |
| -20 | | | | | | | |
| 0.150 | | 0.500 0.800 | | (MHz) | 5.000 | | 30.000 |
| No. | Frequency | Reading | Correct | Result | Limit | Margin | Remark |
| | (MHz) | (dBuV) | (dB) | (dBuV) | (dBuV) | (dB) | |
| 1 | 0.1996 | 40.54 | 9.89 | 50.43 | 63.63 | -13.20 | QP |
| 2 | 0.2017 | 22.88 | 9.89 | 32.77 | 53.54 | -20.77 | AVG QP |
| 3 | 0.4966 | 42.57 | 9.90 | 52.47 | 56.06 | -3.59 | |
| 4 | 0.5056 | 24.45 | 9.91 | 34.36 | 46.00 | -11.64 | AVG QP |
| _ | 0.9376 | 39.87 | 9.92 | 49.79 | 56.00 | -6.21 | |
| 6 | 0.9556 | 19.16 | 9.92 | 29.08 | 46.00 | -16.92 | AVG |
| 7 | 1.1896 1.2076 | 39.62 25.38 | 9.93 | 49.55 35.31 | 56.00 | -6.45 -10.69 | QP AVG |
| _ | | | 9.93 | | 46.00 | | QP |
| 9 | 2.5756 2.6656 | 35.71 20.84 | 9.97 9.97 | 45.68 30.81 | 56.00 | -10.32 -15.19 | AVG |
| | | | | | 46.00 | | QP |
| 11 12 | 14.7436 15.0766 | 22.15 6.44 | 10.56 10.59 | 32.71 17.03 | 60.00 | -27.29 -32.97 | AVG |
| 12 | 10.0700 | 0.44 | 10.39 | 17.03 | 50.00 | -32.97 | AVG |

| | ental Conditio | ns: 23.3 | °C, 53.7% | RH | | | |
|--|---|--|---|---|--|---|--|
| Test Volta | age: | AC 2 | AC 230V,50Hz | | | | |
| Test Mod | lel: | TAO | TAO 1pro | | | | |
| Test Mod | e: | Mod | Mode 2 | | | | |
| Test Engi | ineer: | Zq F | ang | | | | |
| Pol: | | Neut | | | | | |
| Detailed r | results are sho | wn below | | | | | |
| | | | | | | | |
| 80.0 dB | luV | | | | | | |
| 70 | | | | | | | |
| 60 | | | | | | EN55032 CI | ass B Conduction(QP) |
| 50 | | | 5 7 | | | EN55032 Clas | B Conduction(AVG) |
| 40 | Man | × Marian | | m | | | |
| 30 | A A A | | h Mar | daalle | 0 | manual provides | M |
| 20 | IVIMA | MM | ייין א | | | 12 | - harry |
| 10 | | | | | | | peak |
| 0 | | | | | | | AVG |
| -10 | | | | | | | |
| -10 | | | | | | | |
| | | | | | | | |
| -20 | | 0.500 0.800 | | (MHz) | 5.000 | | 30.000 |
| -20 | | Reading | Correct | Result | Limit | Margin | 30.000 Remark |
| -20 0.150 No. | (MHz) | Reading (dBuV) | Correct (dB) | Result (dBuV) | Limit (dBuV) | (dB) | Remark |
| -20 0.150 No. | (MHz) 0.2040 | Reading (dBuV) 41.96 | Correct (dB) 9.89 | Result (dBuV) 51.85 | Limit (dBuV) 63.45 | (dB) -11.60 | Remark QP |
| -20 0.150 No. 1 2 | (MHz) 0.2040 0.2061 | Reading (dBuV) 41.96 24.40 | Correct (dB) 9.89 9.89 | Result (dBuV) 51.85 34.29 | Limit (dBuV) 63.45 53.36 | (dB) -11.60 -19.07 | Remark QP AVG |
| -20 0.150 No. 1 2 3 | (MHz) 0.2040 0.2061 0.4915 | Reading (dBuV) 41.96 24.40 43.19 | Correct (dB) 9.89 9.89 9.90 | Result (dBuV) 51.85 34.29 53.09 | Limit (dBuV) 63.45 53.36 56.14 | (dB) -11.60 -19.07 -3.05 | Remark QP AVG QP |
| -20 0.150 No. 1 2 3 4 | (MHz) 0.2040 0.2061 0.4915 0.5101 | Reading (dBuV) 41.96 24.40 43.19 25.72 | Correct (dB) 9.89 9.89 9.90 9.91 | Result (dBuV) 51.85 34.29 53.09 35.63 | Limit (dBuV) 63.45 53.36 56.14 46.00 | (dB) -11.60 -19.07 -3.05 -10.37 | Remark QP AVG QP AVG |
| -20 0.150 No. 1 2 3 4 5 | (MHz) 0.2040 0.2061 0.4915 0.5101 0.9282 | Reading (dBuV) 41.96 24.40 43.19 25.72 41.24 | Correct (dB) 9.89 9.89 9.90 9.91 9.91 9.92 | Result (dBuV) 51.85 34.29 53.09 35.63 51.16 | Limit (dBuV) 63.45 53.36 56.14 46.00 56.00 | (dB) -11.60 -19.07 -3.05 -10.37 -4.84 | Remark QP AVG QP AVG QP QP |
| -20 0.150 No. 1 2 3 4 5 6 | (MHz) 0.2040 0.2061 0.4915 0.5101 0.9282 0.9381 | Reading (dBuV) 41.96 24.40 43.19 25.72 41.24 25.46 | Correct (dB) 9.89 9.89 9.90 9.91 9.91 9.92 9.92 | Result (dBuV) 51.85 34.29 53.09 35.63 51.16 35.38 | Limit (dBuV) 63.45 53.36 56.14 46.00 | (dB) -11.60 -19.07 -3.05 -10.37 -4.84 -10.62 | Remark QP AVG QP AVG QP AVG |
| -20 0.150 No. 1 2 3 4 5 6 7 | (MHz) 0.2040 0.2061 0.4915 0.5101 0.9282 0.9381 1.1970 | Reading (dBuV) 41.96 24.40 43.19 25.72 41.24 25.46 40.08 | Correct (dB) 9.89 9.89 9.90 9.91 9.91 9.92 | Result (dBuV) 51.85 34.29 53.09 35.63 51.16 35.38 50.01 | Limit (dBuV) 63.45 53.36 56.14 46.00 56.00 46.00 56.00 | (dB) -11.60 -19.07 -3.05 -10.37 -4.84 -10.62 -5.99 | Remark QP AVG QP AVG QP AVG QP |
| -20 0.150 No. 1 2 3 4 5 6 | (MHz) 0.2040 0.2061 0.4915 0.5101 0.9282 0.9381 1.1970 1.2291 | Reading (dBuV) 41.96 24.40 43.19 25.72 41.24 25.46 40.08 24.36 | Correct (dB) 9.89 9.89 9.90 9.91 9.91 9.92 9.92 | Result (dBuV) 51.85 34.29 53.09 35.63 51.16 35.38 50.01 34.29 | Limit (dBuV) 63.45 53.36 56.14 46.00 56.00 46.00 | (dB) -11.60 -19.07 -3.05 -10.37 -4.84 -10.62 -5.99 -11.71 | Remark QP AVG QP AVG QP AVG |
| -20 0.150 No. 1 2 3 4 5 6 7 | (MHz) 0.2040 0.2061 0.4915 0.5101 0.9282 0.9381 1.1970 1.2291 3.1731 | Reading (dBuV) 41.96 24.40 43.19 25.72 41.24 25.46 40.08 24.36 33.45 | Correct (dB) 9.89 9.89 9.90 9.91 9.92 9.92 9.92 9.93 | Result (dBuV) 51.85 34.29 53.09 35.63 51.16 35.38 50.01 34.29 43.44 | Limit (dBuV) 63.45 53.36 56.14 46.00 56.00 46.00 56.00 | (dB) -11.60 -19.07 -3.05 -10.37 -4.84 -10.62 -5.99 | Remark QP AVG QP AVG QP AVG QP AVG |
| -20 0.150 No. 1 2 3 4 5 6 7 8 | (MHz) 0.2040 0.2061 0.4915 0.5101 0.9282 0.9381 1.1970 1.2291 3.1731 | Reading (dBuV) 41.96 24.40 43.19 25.72 41.24 25.46 40.08 24.36 | Correct (dB) 9.89 9.90 9.90 9.91 9.92 9.92 9.92 9.93 9.93 | Result (dBuV) 51.85 34.29 53.09 35.63 51.16 35.38 50.01 34.29 | Limit (dBuV) 63.45 53.36 56.14 46.00 56.00 46.00 56.00 46.00 | (dB) -11.60 -19.07 -3.05 -10.37 -4.84 -10.62 -5.99 -11.71 | Remark QP AVG QP AVG QP AVG QP AVG |
| -20 0.150 No. 1 2 3 4 5 6 7 8 9 | (MHz) 0.2040 0.2061 0.4915 0.5101 0.9282 0.9381 1.1970 1.2291 3.1731 3.3281 | Reading (dBuV) 41.96 24.40 43.19 25.72 41.24 25.46 40.08 24.36 33.45 | Correct (dB) 9.89 9.90 9.90 9.91 9.92 9.92 9.93 9.93 9.93 9.99 | Result (dBuV) 51.85 34.29 53.09 35.63 51.16 35.38 50.01 34.29 43.44 | Limit (dBuV) 63.45 53.36 56.14 46.00 56.00 46.00 56.00 46.00 56.00 | (dB) -11.60 -19.07 -3.05 -10.37 -4.84 -10.62 -5.99 -11.71 -12.56 | Remark QP AVG QP |



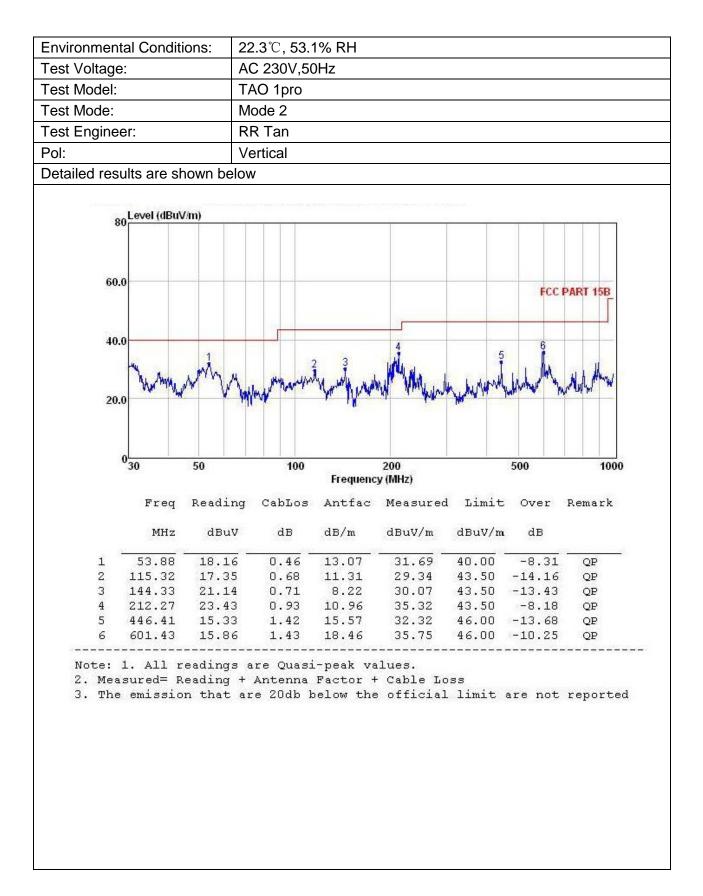
B.2 Radiated Disturbance Test Results (30MHz to 1000MHz)

| est Voltag | tal Conditions: 22.3°C, 53.1% RH | | | | | | | |
|-----------------------|--|--|--|---|---|---|--|--|
| 5 | e: | A | C 230V,50 |)Hz | | | | |
| est Model: | | T | TAO 1pro | | | | | |
| est Mode: | | Μ | Mode 1 | | | | | |
| est Engine | er: | R | R Tan | | | | | |
| ol: | | V | ertical | | | | | |
| etailed res | sults are sh | nown belov | N | | | | | |
| | | | | | | | | |
| 80 | Level (dBuV/n | n) | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 60.0 | | | | | | | _ | |
| | | | | | | | | in the second |
| | | | | | | | EN | 55032B |
| 40.0 | - | | | 2 | | | | |
| | м. | 1 | | ĺ | 3 | 4 | 5 | 6 |
| | | | 1.00 | 1 | | | i i dat | |
| | 3 | Mrs. | 1 april 100 | 1 L . da | | 44.11 | 1 | A Alberty |
| 20.0 | Lumphan | my. | M Marying | Lind White | 1 March | when the why | Muhan | Nutration |
| 20.0 | manuar | my | and the second second | Show When | Nº Why below | yuder Marrielle | Muhan | A proven |
| 20.0 | Junite work | m We | and the second second | Shar Wall | y" What have be | yerber Manufix | Maharana | AutoAnn |
| | | m Wu | 100 | Sour Lan | 4" Whitehow | YARANA | 500 | 1000 |
| | | 50 | 100 | Frequency | 200 (MHz) | yuder Marrielle | 500 | 1000 |
| | 30 | | | Frequency | (MHz) | Limit | | |
| | | Reading | CabLos | Frequency Antfac | (MHz) Measured | | : Over | |
| | 30 | | | Frequency | (MHz) | dBuV/m | : Over | |
| 0 | 30 Freq MHz | Reading dBuV | CabLos | Frequency Antfac dB/m | (MHz) Measured dBuV/m | dBuV/m | Cover | |
| 0 1 2 | 30 Freq | Reading | CabLos dB | Frequency Antfac | (MHz) Measured | | : Over | Remark |
| 0 1 2 3 | 30 Freq MHz 53.88 147.92 212.27 | Reading dBuV 15.16 25.58 21.43 | CabLos dB 0.46 0.86 0.93 | Frequency Antfac dB/m 13.07 8.25 10.96 | (MHz) Measured dBuV/m | dBuV/m 40.00 40.00 40.00 | Over dB -11.31 -5.31 -6.68 | Remark |
| 0 1 2 3 4 | 30 Freq MHz 53.88 147.92 212.27 396.24 | Reading dBuV 15.16 25.58 21.43 15.00 | CabLos dB 0.46 0.86 0.93 1.30 | Frequency Antfac dB/m 13.07 8.25 10.96 14.97 | (MHz) Measured dBuV/m 28.69 34.69 33.32 31.27 | dBuV/m 40.00 40.00 40.00 47.00 | Over dB -11.31 -5.31 -6.68 -15.73 | Remark QP QP QP QP QP |
| 0 1 2 3 | 30 Freq MHz 53.88 147.92 212.27 396.24 595.13 | Reading dBuV 15.16 25.58 21.43 15.00 13.28 | CabLos dB 0.46 0.86 0.93 1.30 1.51 | Frequency Antfac dB/m 13.07 8.25 10.96 14.97 18.36 | (MHz) Measured dBuV/m | dBuV/m 40.00 40.00 40.00 47.00 47.00 | Over dB -11.31 -5.31 -6.68 -15.73 -13.85 | Remark QP QP QP QP QP QP |

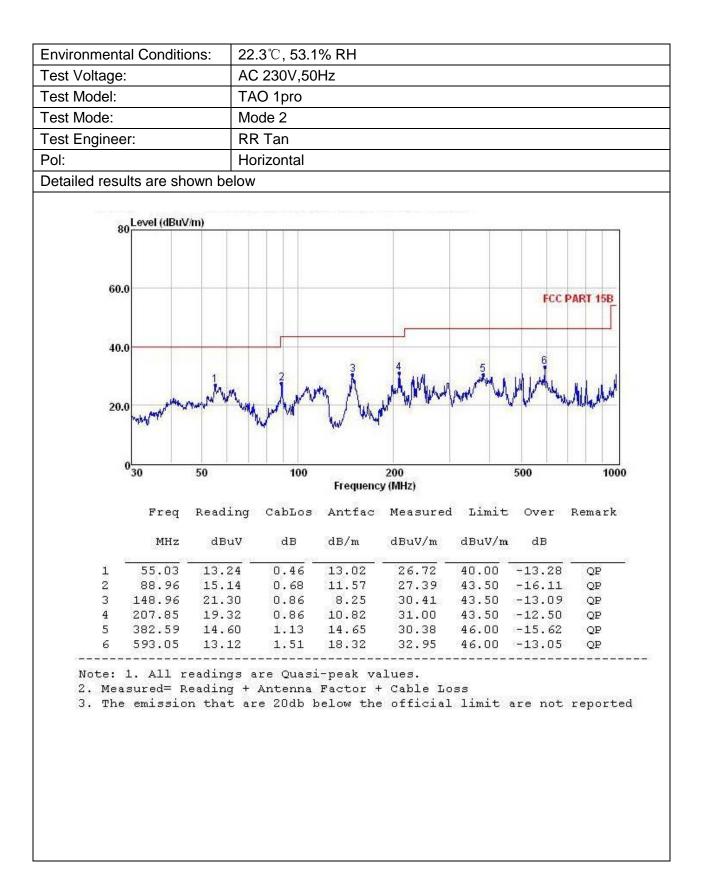


| | | | | 1% RH | | | | |
|------------------|--|---|---|---|--|--|--|--|
| est Voltag | e: | A | AC 230V,50Hz | | | | | |
| est Model | | T, | TAO 1pro | | | | | |
| est Mode: | | | Mode 1 | | | | | |
| est Engine | | | RR Tan | | | | | |
| ol: | | | Horizontal | | | | | |
| | sults are s | hown below | | | | | | |
| | | | | | | | | |
| | 80 Level (dBu | V/m) | | 00 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 60 | 0.0 | | | | | | | |
| | | | | | | | | Automatic |
| | | | | | - | | _ | EN 55032B |
| 40 | 0.0 | _ | | 4 | 2 | 5 | e | |
| | | | | 1 | 1 3 | 4.1. | | 10-11 |
| | | | 792 4 | | | | | |
| | | | he wer the | My Nu | 1 May March | harman | 1 million | www.Allhadhad |
| 20 |).0 | m. | - when | my / my | an many many | name | Un Umar | newAldershind |
| 20 |).0 | month | madran | why have the | Manana | www | Cr.Church | willhadhal |
| 20 |).0 | month | muture | my /m | MANNAN | harme | Ur Urmin | no. Albert with |
| 20 | mat beoght when | | | my / hu | AM MAN | www | C. Chung | www.Allowahinal |
| 20 | 0.0 030 | 50 SO | 100 | Frequen | 200 cy (MHz) | warma | 500 | 1000 |
| 20 | 0-30 | 50 | 100 | Frequen | cy (MHz) | unt mu | | |
| 20 | mat beautist when | | 100 | | | Limit | | 1000 Remark |
| 20 | 0-30 | 50 | 100 | | cy (MHz) | Limit dBuV/m | Over | |
| | 0 30 Freq MHz | 50 Reading dBuV | 100 CabLos dB | Antfac dB/m | c y (MHz) Measured dBuV/m | dBuV/m | Over dB | Remark |
| 1 2 | 0.30 Freq MHz 148.96 207.85 | 50 Reading dBuV 25.30 23.32 | 100 CabLos | Antfac dB/m 8.25 10.82 | cy (MHz) Measured dBuV/m 34.41 35.00 | dBuV/m 40.00 40.00 | Over dB -5.59 -5.00 | Remark |
| 1 2 3 | 030 Freq MHz 148.96 207.85 230.91 | 50 Reading dBuV 25.30 23.32 19.95 | 100 CabLos dB 0.86 0.86 0.98 | Antfac dB/m 8.25 10.82 11.69 | cy (MHz) Measured dBuV/m 34.41 35.00 32.62 | dBuV/m 40.00 40.00 47.00 | Over dB -5.59 -5.00 -14.38 | Remark QP QP QP |
| 1 2 3 4 | 030 Freq MHz 148.96 207.85 230.91 346.81 | 50 Reading dBuV 25.30 23.32 19.95 17.97 | 100 CabLos dB 0.86 0.86 0.98 1.13 | Antfac dB/m 8.25 10.82 11.69 14.23 | cy (MHz) Measured dBuV/m 34.41 35.00 32.62 33.33 | dBuV/m 40.00 40.00 47.00 47.00 | Over dB -5.59 -5.00 -14.38 -13.67 | Remark QP QP QP QP QP |
| 1 2 3 | 030 Freq MHz 148.96 207.85 230.91 | 50 Reading dBuV 25.30 23.32 19.95 | 100 CabLos dB 0.86 0.86 0.98 1.13 | Antfac dB/m 8.25 10.82 11.69 14.23 | cy (MHz) Measured dBuV/m 34.41 35.00 32.62 | dBuV/m 40.00 40.00 47.00 47.00 47.00 47.00 | Over dB -5.59 -5.00 -14.38 -13.67 -11.89 | Remark QP QP QP QP QP QP |











B.3 HARMONIC CURRENT EMISSION MEASUREMENT

Pass

Because the power of EUT is less than 75W, according to standard EN 61000-3-2, harmonic current unnecessary to test.

B.4 VOLTAGE FLUCTUATION AND FLICKER MEASUREMENT

| Test Model | | TAO 1pro | | Test Engineer | Zq Pang |
|-------------------------|-------------|------------------------|-----------|---------------|------------------|
| Test Voltage | | AC 230V/50H | łz | | |
| Overall Result: PASS | Note Mea | es: surement method | - Voltage | | |
| | | Pst | dc (%) | dmax (%) | Tmax(> 3.3%)(ms) |
| Limit | | 1.000 | 3.300 | 4.000 | 500 |
| Reading 1 | | 0.090 | 0.008 | 0.275 | 0 |

B.5 ELECTROSTATIC DISCHARGE IMMUNITY TEST

| Electrostatic Discharge Test Results | | | | | |
|--------------------------------------|---------------------------------|---------------|---------------|--|--|
| Standard | □ IEC 61000-4-2 ☑ EN 61000- | 4-2 | | | |
| Applicant | Xiamen RGBlink Science & Techno | logy Co.,Ltd. | | | |
| EUT | TAO 1pro | Temperature | 23.6 ℃ | | |
| M/N | TAO 1pro | Humidity | 53.2% | | |
| Criterion | В | Pressure | 1021mbar | | |
| Test Mode | Mode 1 | Test Engineer | Zq Pang | | |

| | | Ai | r Discharge | 9 | | | |
|-------------|-------------|--------------------|-------------|-------------|------|--------------------------|--|
| | | Test Levels | i | | Resu | ts | |
| Test Points | ± 2kV | ± 4kV | ± 8kV | Passed | Fail | Performance Criterion | |
| Front | \boxtimes | \bowtie | \square | | | □A ⊠B | |
| Back | \boxtimes | \boxtimes | \square | | | □A ⊠B | |
| Left | \boxtimes | \boxtimes | \square | | | □A ⊠B | |
| Right | \boxtimes | \bowtie | \square | | | □A ⊠B | |
| Тор | \boxtimes | \bowtie | \square | | | □A ⊠B | |
| Bottom | \boxtimes | \boxtimes | \square | \square | | □A ⊠B | |
| | | Cont | tact Discha | rge | | | |
| | | Test Levels | i | | Resu | | |
| Test Points | ± 2 kV | | ±4 kV | Passed | Fail | Performance Criterion | |
| Front | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| Back | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| Left | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| Right | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| Тор | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| Bottom | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| | Disc | harge To H | orizontal C | oupling Pla | ne | | |
| | | Test Levels | | | Resu | | |
| Side of EUT | ± 2 kV | | ± 4 kV | Passed | Fail | Performance Criterion | |
| Front | \boxtimes | | \boxtimes | \boxtimes | | □A ⊠B | |
| Back | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| Left | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| Right | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| | Dis | | | upling Plan | | | |
| | | Test Levels | | Results | | | |
| Side of EUT | ± 2 kV | | ± 4 kV | Passed | Fail | Performance Criterion | |
| Front | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| Back | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| Left | \boxtimes | | \boxtimes | \square | | □A ⊠B | |
| Right | \boxtimes | | \boxtimes | \square | | □A ⊠B | |

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B.6 RF FIELD STRENGTH SUSCEPTIBILITY TEST

| RF Field Strength Susceptibility Test Results | | | | | |
|---|--|----------------|---------------|--|--|
| Standard | □ IEC 61000-4-3 | | | | |
| Applicant | Xiamen RGBlink Science & Techno | ology Co.,Ltd. | | | |
| EUT | TAO 1pro | Temperature | 24.8 ℃ | | |
| M/N | TAO 1pro | Humidity | 53.7% | | |
| Field Strength | 3 V/m | Criterion | А | | |
| Test Mode | Mode 1 | Test Engineer | Zq Pang | | |
| Test Frequency | 80MHz to 1000MHz (swept test) 1800MHz, 2600MHz, 3500MHz, 5000MHz (spot test) | | | | |
| Modulation | □None □ Pulse | ☑AM 1KHz 80% |) | | |
| Steps | 1% | | | | |

| | Horizontal | Vertical |
|-------|------------|----------|
| Front | PASS | PASS |
| Right | PASS | PASS |
| Rear | PASS | PASS |
| Left | PASS | PASS |



B.7 ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST

| Electrical Fast Transient/Burst Test Results | | | | | | |
|--|---------------------------------|--------------------------------|---------------|--|--|--|
| Standard | □ IEC 61000-4-4 ☑ EN 61000 | □ IEC 61000-4-4 ☑ EN 61000-4-4 | | | | |
| Applicant | Xiamen RGBlink Science & Techno | ology Co.,Ltd. | | | | |
| EUT | TAO 1pro | Temperature | 23.7 ℃ | | | |
| M/N | TAO 1pro | Humidity | 52.8% | | | |
| Test Mode | Mode 1 | Criterion | В | | | |
| Test Engineer | Zq Pang | | | | | |

| Line | Test Voltage | Result (+) | Result (-) |
|-------------|--------------|------------|------------|
| L | 1KV | PASS | PASS |
| N | 1KV | PASS | PASS |
| PE | | | |
| L-N | 1KV | PASS | PASS |
| L-PE | | | |
| N-PE | | | |
| L-N-PE | | | |
| Signal Line | | | |
| I/O Cable | | | |



B.8 SURGE IMMUNITY TEST

| Surge Immunity Test Result | | | | | | |
|----------------------------|-----------------------------------|----------------------------------|---------------|--|--|--|
| Standard | □ IEC 61000-4-5 ☑ EN 61000-4 | □ IEC 61000-4-5 ☑ EN 61000-4-5 | | | | |
| Applicant | Xiamen RGBlink Science & Technolo | ogy Co.,Ltd. | | | | |
| EUT | TAO 1pro | Temperature | 22.6 ℃ | | | |
| M/N | TAO 1pro | Humidity | 53.6% | | | |
| Test Mode | Mode 1 | Criterion | В | | | |
| Test Engineer | Zq Pang | | | | | |

| Location | Polarity | Phase Angle | Number of Pulse | Pulse Voltage (KV) | Result |
|-------------|----------|----------------|--------------------|-----------------------|--------|
| L-N | + | +90°, -270° | 5 | 1.0 | PASS |
| L-IN | - | +90°, -270° | 5 | 1.0 | PASS |
| L-PE | | | | | |
| N-PE | | | | | |
| Signal Line | | | | | |
| Note | | | | | |



B.9 INJECTED CURRENTS SUSCEPTIBILITY TEST

| Injected Currents Susceptibility Test Results | | | | |
|---|--|-------------|---------------|--|
| Standard | □ IEC 61000-4-6 	☑ EN 61000-4-6 | | | |
| Applicant | Xiamen RGBlink Science & Technology Co.,Ltd. | | | |
| EUT | TAO 1pro | Temperature | 24.5 ℃ | |
| M/N | TAO 1pro | Humidity | 54.8% | |
| Test Mode | Mode 1 | Criterion | А | |
| Test Engineer | Zq Pang | | | |

| Frequency Range (MHz) | Injected Position | Strength (Unmodulated) | Criterion | Result |
|--------------------------|----------------------|---------------------------|-----------|--------|
| 0.15 ~ 10 | | 3V | | |
| 10 ~ 30 | AC Mains | 3V ~ 1V | А | PASS |
| 30 ~ 80 | | 1V | | |
| | | | | |
| | | | | |
| | | | | |
| Note: | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |



B.10 MAGNETIC FIELD SUSCEPTIBILITY TEST

| Magnetic Field Immunity Test Result | | | | |
|-------------------------------------|--|-------------|---------------|--|
| Standard | □ IEC 61000-4-8 	☑ EN 61000-4-8 | | | |
| Applicant | Xiamen RGBlink Science & Technology Co.,Ltd. | | | |
| EUT | TAO 1pro | Temperature | 23.9 ℃ | |
| M/N | TAO 1pro | Humidity | 54.6% | |
| Test Mode | Mode 1 | Criterion | А | |
| Test Engineer | Zq Pang | | | |

| Test Level (A/M) | Testing Duration | Coil Orientation | Criterion | Result |
|---------------------|---------------------|------------------|-----------|--------|
| 1 | 5 mins | Х | A | PASS |
| 1 | 5 mins | Y | A | PASS |
| 1 | 5 mins | Z | A | PASS |



B.11 VOLTAGE DIPS AND INTERRUPTIONS TEST

| Voltage Dips And Interruptions Test Results | | | | |
|---|--|-------------|---------------|--|
| Standard | □ IEC 61000-4-11 	☑ EN 61000-4-11 | | | |
| Applicant | Xiamen RGBlink Science & Technology Co.,Ltd. | | | |
| EUT | TAO 1pro | Temperature | 23.8 ℃ | |
| M/N | TAO 1pro | Humidity | 52.3% | |
| Test Mode | Mode 1 | Criterion | B&C | |
| Test Engineer | Zq Pang | | | |

| Test Level % U _T | Voltage Dips & Short Interruptions % U _T | Duration (in periods) | Criterion | Result |
|--------------------------------|---|--------------------------|-----------|--------|
| 0 | 100 | 0.5P | В | PASS |
| 70 | 30 | 25P | С | PASS |
| 0 | 100 | 250P | С | PASS |

ANNEX C

(External and internal photos of the EUT)



Fig. 1



Fig. 2



Fig. 3



Fig. 4





Fig. 5



Fig. 6



Fig. 7



Fig. 8



Fig. 9

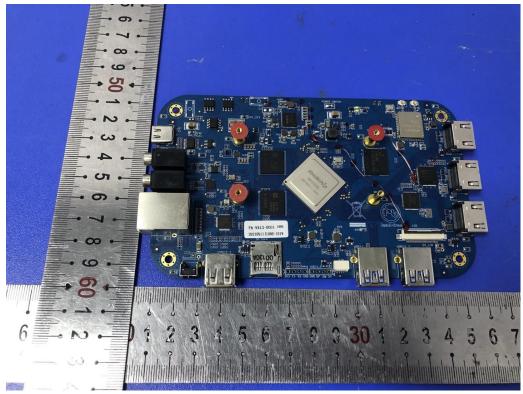


Fig. 10

----- THE END OF TEST REPORT ------

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