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
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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

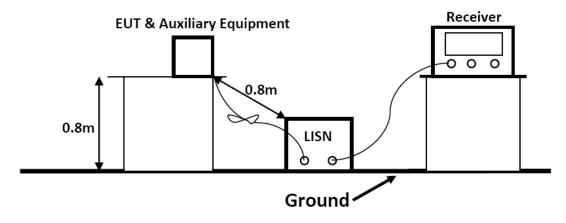
Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Power frequency mag-field generator System	EVERFINE	EMS61000-8K	906003	2021-06-21	2022-06-20

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.

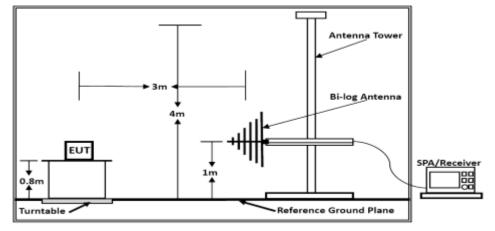
5.1.6. Test Results

PASS.

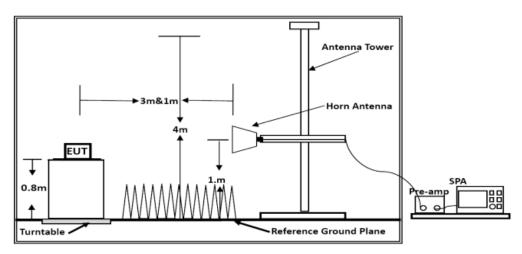


5.2. RADIATED EMISSION MEASUREMENT

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.

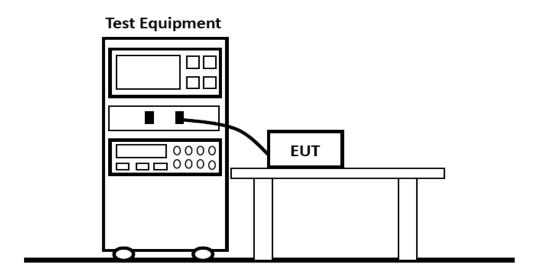
5.2.6. Test Results

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

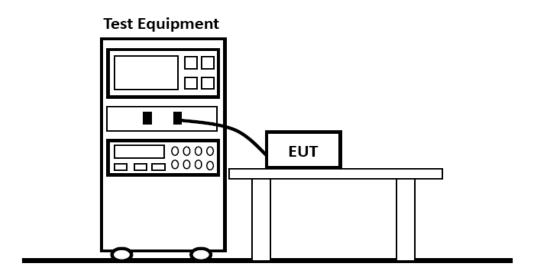
Same as Section 5.2.4, except the test setup replaced as Section 5.3.1.

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.

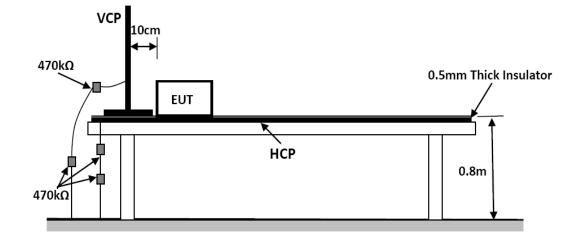
5.4.4. Test Results

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.

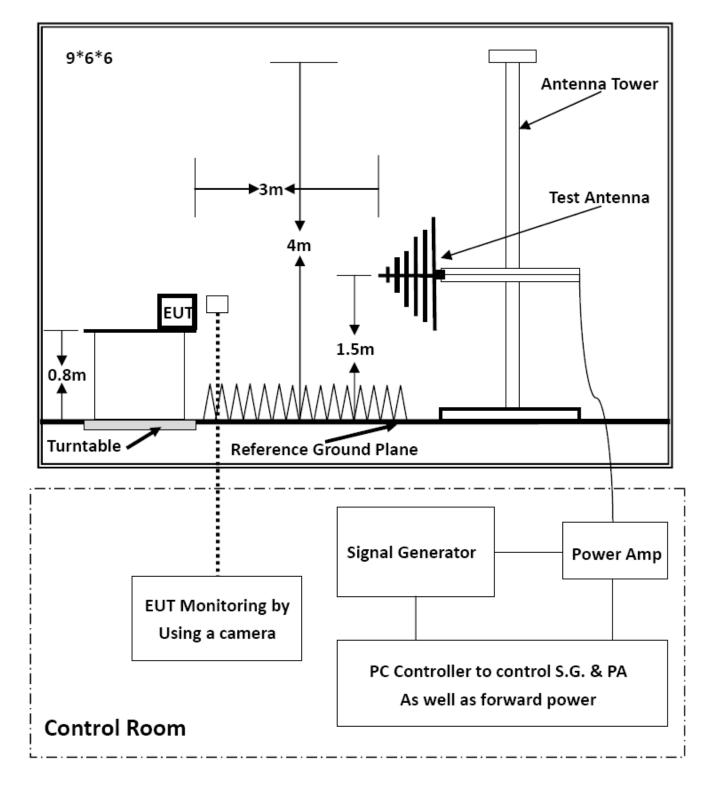
5.5.7. Test Results

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:

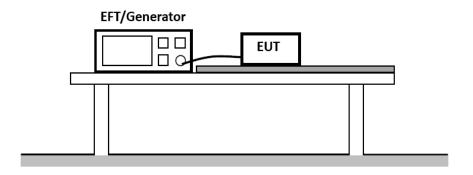
Condition of Test	Remark
Fielded Strength	3 V/m (Severity Level 2)
Radiated Signal	Unmodulated
Test Frequency Range (swept test)	80-1000MHz
Test Frequency (spot test)	1800MHz, 2600MHz, 3500MHz, 5000MHz
Dwell time of radiated	0.0015 decade/s
Waiting Time	3 Sec.

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.

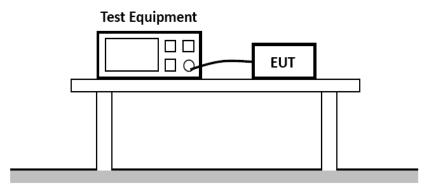
5.7.7. Test Results

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.

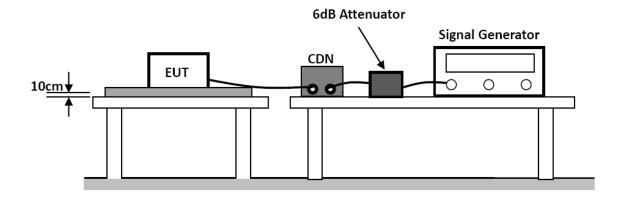
5.8.6.5. Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

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.

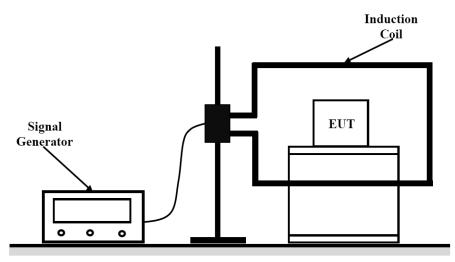
5.9.6.8. Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

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.

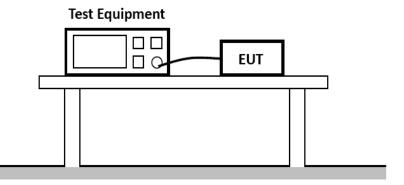
5.10.5. Test Procedure

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.

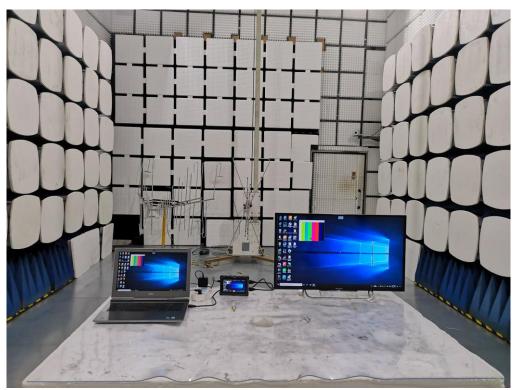
Annex A

(Test photograph)

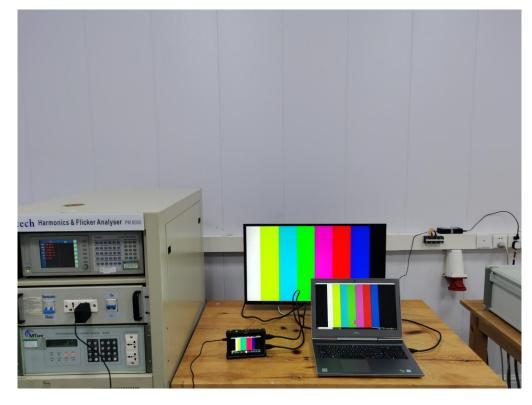
A.1 Test Setup Photo of Power Line Conducted Measurement



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

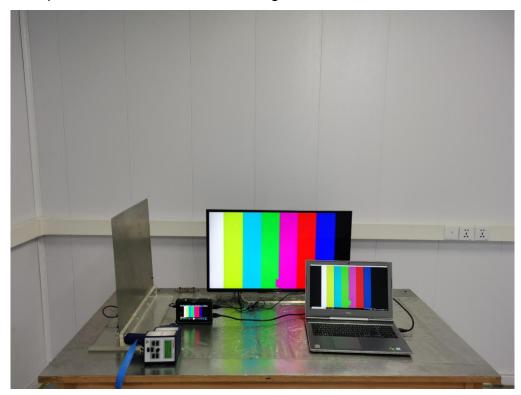






A.3 Test Setup Photo of Harmonic & Flicker Measurement

A.4 Test Setup Photo of Electrostatic Discharge Test

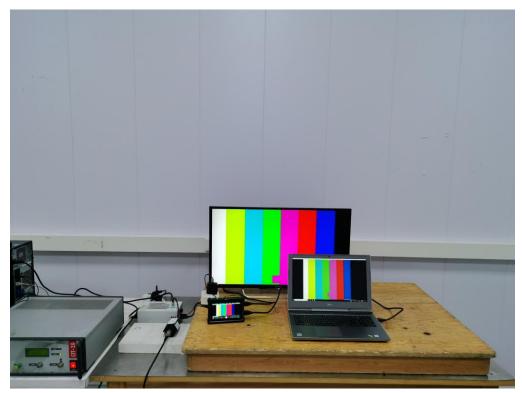




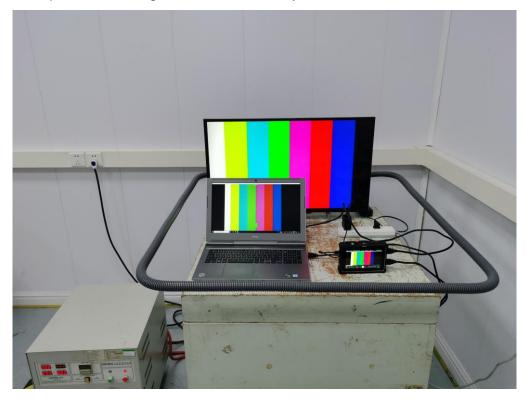


A.5 Photo of Electrical Fast Transient/Burst Test & Surge Immunity Test

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



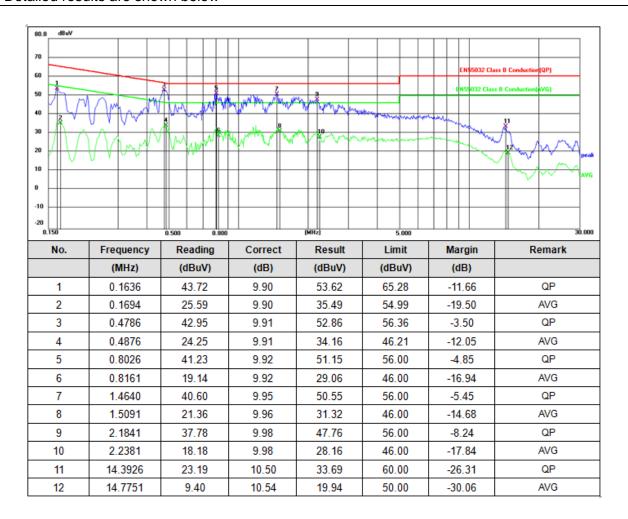


ANNEX B

(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



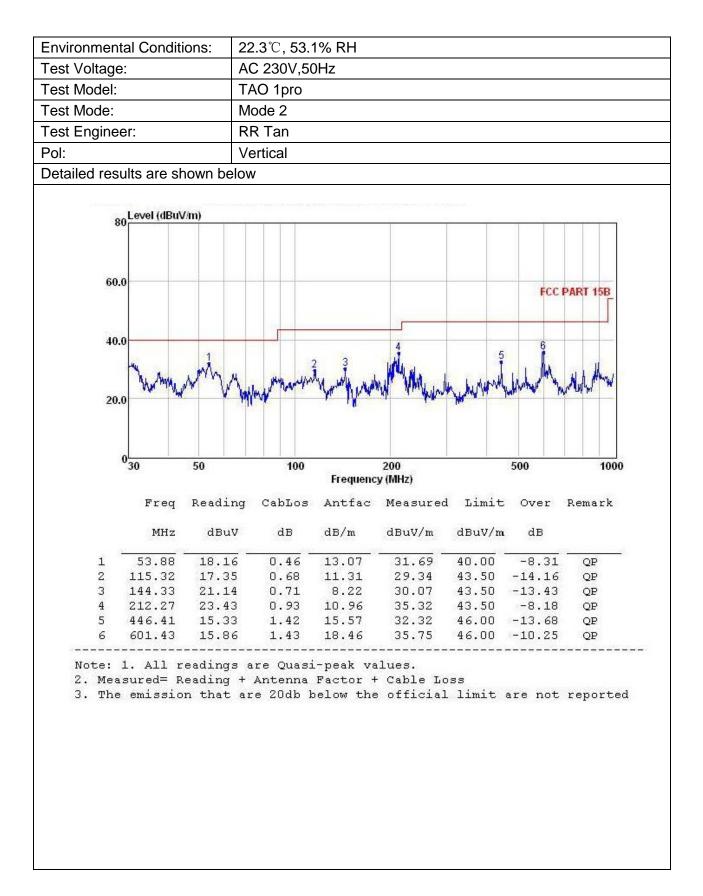
B.2 Radiated Disturbance Test Results (30MHz to 1000MHz)

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

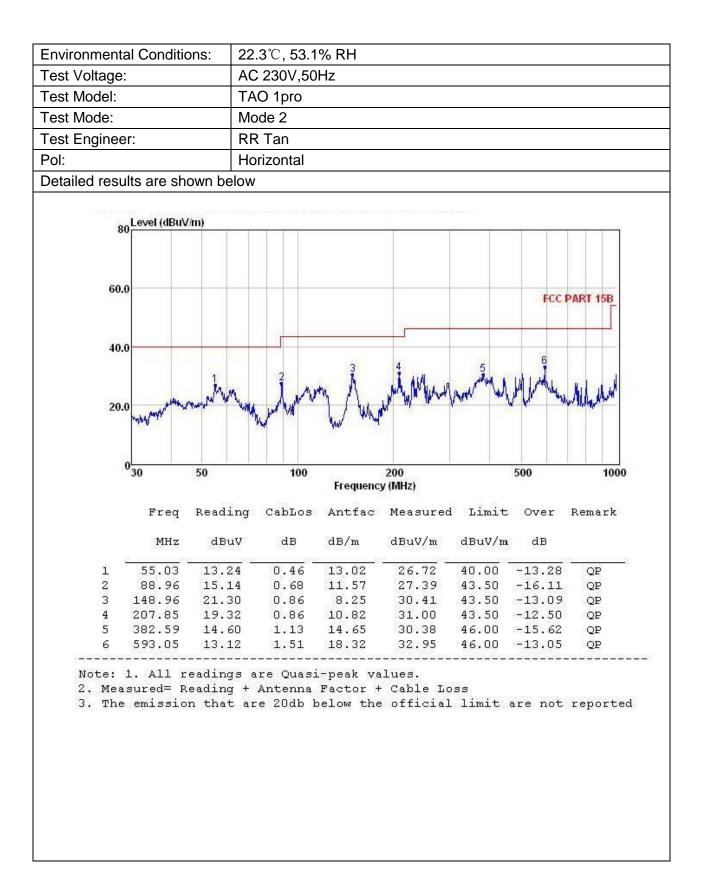


				1% RH				
est Voltag	e:	A	AC 230V,50Hz					
est Model		T,	TAO 1pro					
est Mode:			Mode 1					
est Engine			RR Tan					
ol:			Horizontal					
	sults are s	hown below						
	80 Level (dBu	V/m)		00				
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								Automatic
					-		_	EN 55032B
40	0.0	_		4	2	5	e	
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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

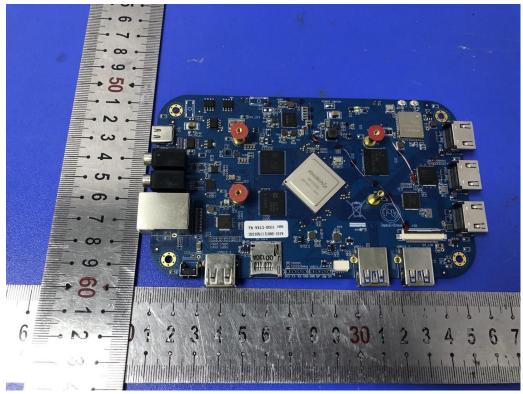


Fig. 10

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

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