FCC SDoC TEST REPORT

Xiamen RGBlink Science & Technology Co.,Ltd.

TAO 1pro

Test Model: TAO 1pro

Additional Model No.: Please Refer To Page 7

Prepared for : Xiamen RGBlink Science & Technology Co.,Ltd.

Address : S603, 604 Weiye Building Torch Hi-Tech Industrial

Development Zone, Xiamen city, Fujian Province

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
Address : Room 101, 201, Building A and Room 301, Building C,

Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China

Tel : (+86)755-82591330 Fax : (+86)755-82591332 Web : www.LCS-cert.com

Mail : webmaster@LCS-cert.com

Date of receipt of test sample : July 07, 2021

Number of tested samples : 1

Serial number : Prototype

Date of Test : July 07, 2021 ~ July 23, 2021

Date of Report : July 26, 2021



FCC SDoC TEST REPORT FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI C63.4 -2014

Report Reference No.: LCS210707032AE

Date Of Issue July 26, 2021

Testing Laboratory Name: Shenzhen LCS Compliance Testing Laboratory Ltd.

Address: : Room 101, 201, Building A and Room 301, Building C, Juji

Industrial Park, Yabianxueziwei, Shajing Street, Bao'an

District, Shenzhen, Guangdong, China

Testing Location/ Procedure...: Full application of Harmonised standards

Other standard testing method

Applicant's Name......: Xiamen RGBlink Science & Technology Co.,Ltd.

Address S603、604 Weiye Building Torch Hi-Tech Industrial

Development Zone, Xiamen city, Fujian Province

Test Specification

Standard..... FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI

C63.4 -2014

Test Report Form No...... LCSEMC-1.0

TRF Originator.....: Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF.....: : Dated 2011-03

SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. is acknowledged as copyright owner and source of the material. SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Test Item Description.....: : TAO 1pro

Trade Mark: RGBlink

Test Model.....: : TAO 1pro

Ratings : DC 12V, 1500mA, 18W

Result: Positive

Compiled by:

zruma Ware,

Supervised by:

Baron Wen

ING Approved by:

Emma Wang/ File

administrators

Baron Wen/Technique principal

Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCS210707032AE

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 Weive Building Torch Hi-Tech Industrial Development Zone, Xiamen city, Fujian Province Telephone.....:: : / Fax.....:: : / Factory.....: : Xiamen RGBlink Science & Technology Co.,Ltd. Address......: 5th floor, 205 Xinfeng Road, Huli District, Xiamen city, Fujian Province Telephone.....:: : / Fax.....: : /

Test Result according to the standards on page 6: 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

TABLE OF CONTENTS

Test Report Description	Page
1. SUMMARY OF STANDARDS AND RESULTS	6
1.1. Description of Standards and Results	6
2. GENERAL INFORMATION	7
2.1. Description of Device (EUT)	7
2.2. Support equipment List	7
2.3. Description of Test Facility	7
2.4. Statement of the Measurement Uncertainty	8
2.5. Measurement Uncertainty	8
3. TEST RESULTS	
3.1. POWER LINE CONDUCTED EMISSION MEASUREMENT	9
3.2. Radiated emission Measurement	
4. PHOTOGRAPH	22
5 EXTERNAL AND INTERNAL PHOTOS OF THE FLIT	23

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

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

Report No.: LCS210707032AE

EMISSION							
Description of Test Item	Standard	Limits	Results				
Conducted disturbance at mains terminals	FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI C63.4 -2014	Class B	PASS				
Radiated disturbance	FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI C63.4 -2014	Class B	PASS				
N/A is an abbreviation for Not Ap	pplicable.						

|--|

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. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT : TAO 1pro

Trade Mark : RGBlink

Test Model : TAO 1pro

Additional Model : 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,

Report No.: LCS210707032AE

X15, X16, X18, X20, X24, X28

Model Declaration : PCB board, structure and internal of these model(s) are t

he same, So no additional models were tested

Power Supply : DC 12V, 1500mA, 18W

EUT Clock Frequency

: ≤108MHz

2.2. Support equipment List

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

2.3. Description of Test Facility

Site Description

EMC Lab. : NVLAP Accreditation Code is 600167-0.

FCC Designation Number is CN5024.

CAB identifier is CN0071.

CNAS Registration Number is L4595.

2.4. 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.

Report No.: LCS210707032AE

2.5. Measurement Uncertainty

Test	Parameters	Expanded Uncertainty (Ulab)	Expanded Uncertainty (Ucispr)
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 2.63 dB ± 2.35 dB	± 3.8 dB ± 3.4 dB
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.68 dB	N/A
Radiated Emission	Level accuracy (30MHz to 1000MHz)	± 3.48 dB	± 5.3 dB
Radiated Emission	Level accuracy (above 1000MHz)	± 3.90 dB	± 5.2 dB

- (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%.

3. TEST RESULTS

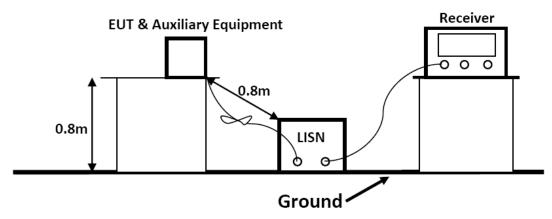
3.1. POWER LINE CONDUCTED EMISSION MEASUREMENT

3.1.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

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	SCHWARZBEC K	MTS-IMP-136	261115-001-0032	2021-06-21	2022-06-20

3.1.2.Block Diagram of Test Setup



3.1.3.Test Standard

Power Line Conducted Emission Limits (Class B)

F	Frequenc	;y	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 apply at the transition frequencies.

NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

3.1.4.EUT Configuration on Test

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

3.1.5. Operating Condition of EUT

- 3.1.5.1. Setup the EUT as shown on Section 3.1.2
- 3.1.5.2. Turn on the power of all equipments.
- 3.1.5.3.Let the EUT work in measuring Mode 1 and measure it.

3.1.6.Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC/ANSI C63.4-2014 on Conducted Emission Measurement.

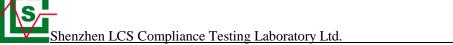
Report No.: LCS210707032AE

The bandwidth of the test receiver is set at 9kHz.

The frequency range from 150kHz to 30MHz is investigated 3.1.7.Test Results

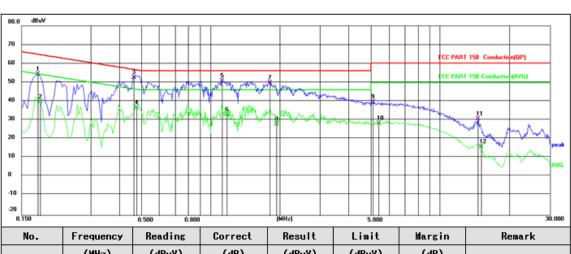
PASS.

The test result please refer to the next page.



Test Model	TAO 1pro	Test Mode	Mode 1
Environmental Conditions	23.3℃, 53.7% RH	Test Engineer	Zq Pang
Pol	Line	Test Voltage	AC 120V/60Hz

Report No.: LCS210707032AE

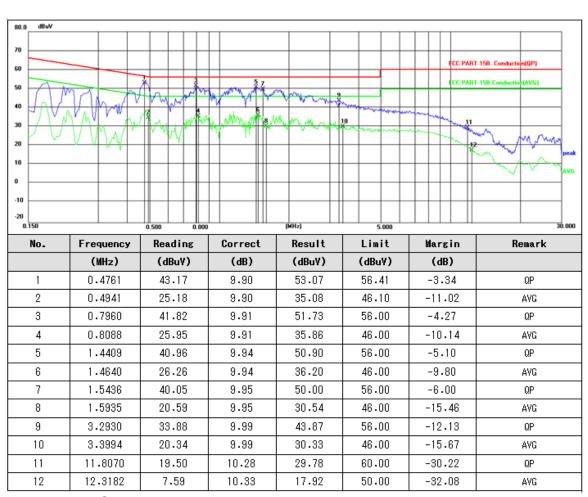


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1771	44.51	9.90	54.41	64.62	-10.21	QP
2	0.1816	29.81	9.90	39.71	54.41	-14.70	AVG
3	0.4651	42.82	9.91	52.73	56.60	-3.87	QP
4	0.4786	26.92	9.91	36.83	46.36	-9.53	AVG
5	1.1176	41.02	9.93	50.95	56.00	-5.05	QP
6	1.1761	23.18	9.94	33.12	46.00	-12.88	AVG
7	1.8016	39.88	9.96	49.84	56.00	-6.16	QP
8	1.9321	18.09	9.97	28.06	46.00	-17.94	AVG
9	5.0866	29.78	10.02	39.80	60.00	-20.20	QP
10	5.4106	18.36	10.03	28.39	50.00	-21.61	AVG
11	14.6446	20.18	10.53	30.71	60.00	-29.29	QP
12	15.0856	5.48	10.57	16.05	50.00	-33.95	AVG



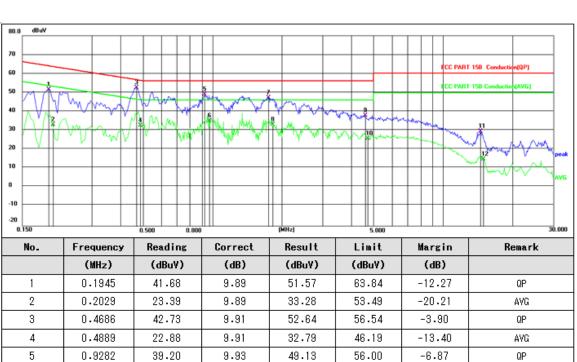
Test Model	TAO 1pro	Test Mode	Mode 1
Environmental Conditions	23.3℃, 53.7% RH	Test Engineer	Zq Pang
Pol	Neutral	Test Voltage	AC 120V/60Hz

Report No.: LCS210707032AE



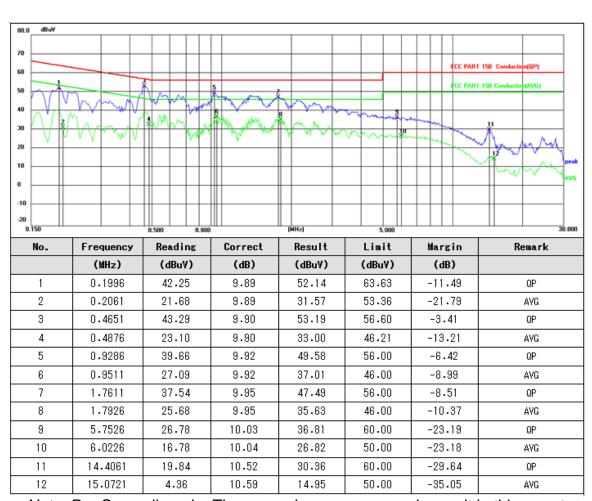
Note: Pre-Scan all mode, Thus record worse case mode result in this report.

Test Model	TAO 1pro	Test Mode	Mode 2
Environmental Conditions	23.3℃, 53.7% RH	Test Engineer	Zq Pang
Pol	Line	Test Voltage	AC 120V/60Hz





Test Model	TAO 1pro	Test Mode	Mode 2
Environmental Conditions	23.3℃, 53.7% RH	Test Engineer	Zq Pang
Pol	Neutral	Test Voltage	AC 120V/60Hz



Note: Pre-Scan all mode, Thus record worse case mode result in this report.

3.2. Radiated emission Measurement

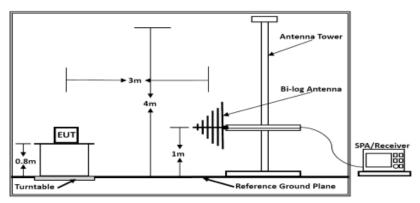
3.2.1. Test Equipment

The following test equipments are used during the radiated emission measurement:

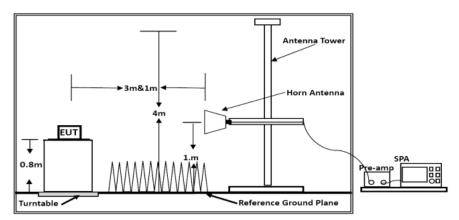
	<u> </u>							
Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date		
1	EMI Test Software	E3	E3-EMC	/	N/A	N/A		
2	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2021-07-25	2022-07-24		
3	Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2021-07-01	2024-06-30		
4	EMI Test Receiver	R&S	ESR3	102311	2020-06-22	2021-06-21		
5	Broadband Preamplifier	/	BP-01M18G	P190501	2020-06-22	2021-06-21		

Report No.: LCS210707032AE

3.2.2. Block Diagram of Test Setup



Below 1GHz



Above 1GHz

3.2.3. Radiated Emission Limit (Class B)

Limits for Radiated Disturbance Below 1GHz

Report No.: LCS210707032AE

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMIT				
MHz	Meters	μV/m	dB(μV)/m			
30 ~ 88	3	100	40			
88 ~ 216	3	150	43.5			
216 ~ 960	3	200	46			
960 ~ 1000	3	500	54			

Remark: (1) Emission level (dB) μ V = 20 log Emission level μ V/m

- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

	Limits for Radiated Emission Above 1GHz						
Frequency Distance Peak Limit Average Limit							
	(MHz)	(dBµV/m)					
	Above 1000 3 74 54						
	***Note: The lower limit	t applies at the tran	sition frequency.				

3.2.4. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

3.2.5. Operating Condition of EUT

- 3.2.5.1. Setup the EUT as shown in Section 3.2.2.
- 3.2.5.2.Let the EUT work in test Mode 1 and measure it.

3.2.6. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

enzhen LCS Compliance Testing Laboratory Ltd.

3.2.7. Measuring Instruments and Setting

Please refer to equipment list in this report. The following table is the setting of spectrum analyzer and receiver

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB/VB 200Hz/1KHz for QP/AVG
Start ~ Stop Frequency	150kHz~30MHz / RB/VB 9kHz/30KHz for QP/AVG
Start ~ Stop Frequency	30MHz~1000MHz / RB/VB 120kHz/1MHz for QP

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10 th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for
RB / VB (Emission in restricted band)	Average
RB / VB (Emission in non-restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for
KB / VB (Emission in non-restricted band)	Average

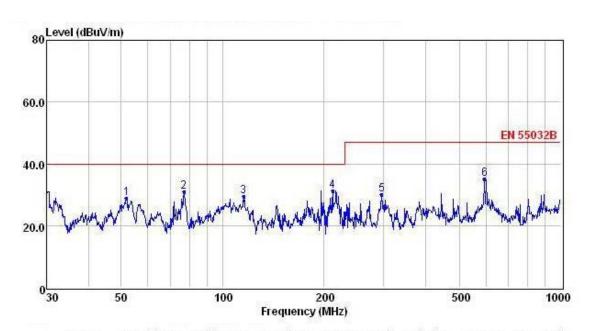
The frequency range from 30MHz to 1000MHz and above 1000MHz is checked.

3.2.8. Radiated Emission Noise Measurement Result

PASS.

The scanning waveforms please refer to the next page.

Test Model	TAO 1pro	Test Mode	Mode 1
Environmental Conditions	22.3℃, 53.1% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	RR Tan	Test Voltage	AC 120V/60Hz



Freq Reading CabLos Antfac Measured Limit Over Remark MHz dBuV dB dB/m dBuV/m dBuV/m dB 1 51.84 15.14 0.54 13.17 28.85 40.00 -11.15 QP 76.78 22.39 2 0.47 8.06 30.92 40.00 -9.08 QP 11.31 3 115.32 17.35 0.68 29.34 40.00 -10.66 QP 4 212.27 19.43 0.93 10.96 31.32 40.00 -8.68 QP 5 296.18 16.00 1.12 12.99 30.11 47.00 -16.89 QP 6 595.13 15.28 1.51 18.36 35.15 47.00 -11.85 QP

Note: 1. All readings are Quasi-peak values.

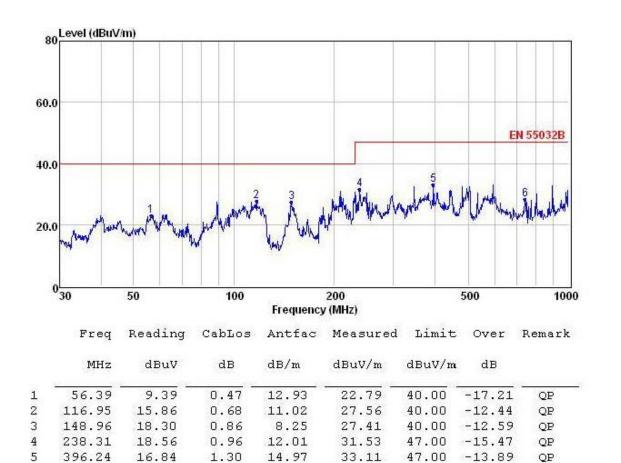
- 2. Measured= Reading + Antenna Factor + Cable Loss
- 3. The emission that are 20db below the official limit are not reported

-18.63

QP

47.00

Test Model	TAO 1pro	Test Mode	Mode 1
Environmental Conditions	22.3℃, 53.1% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	RR Tan	Test Voltage	AC 120V/60Hz



Note: 1. All readings are Quasi-peak values.

7.25

6

742.26

1.78

19.34

28.37

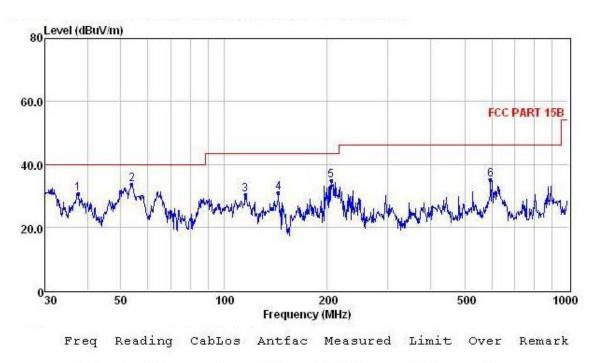
Note: Pre-Scan all mode, Thus record worse case mode result in this report.

Remark: For above 1000MHz, Because the emission it too low to be reported.

^{2.} Measured= Reading + Antenna Factor + Cable Loss

^{3.} The emission that are 20db below the official limit are not reported

Test Model	TAO 1pro	Test Mode	Mode 2
Environmental Conditions	22.3℃, 53.1% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	RR Tan	Test Voltage	AC 120V/60Hz

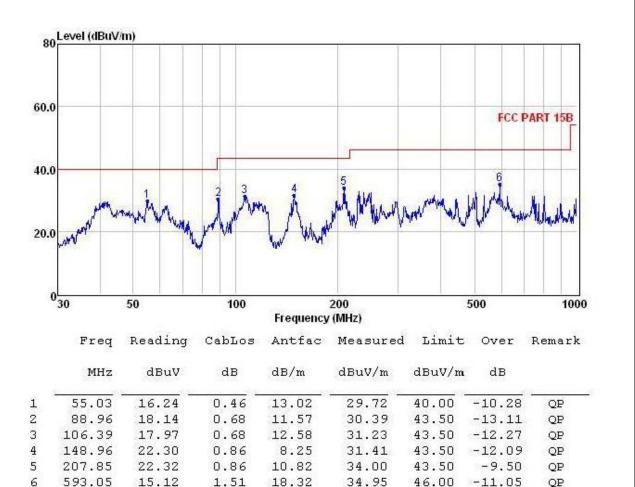


	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	37.55	17.39	0.38	12.95	30.72	40.00	-9.28	QP
2	53.88	20.16	0.46	13.07	33.69	40.00	-6.31	QP
3	115.32	18.35	0.68	11.31	30.34	43.50	-13.16	QP
4	144.33	22.14	0.71	8.22	31.07	43.50	-12.43	QP
5	205.68	23.11	0.99	10.75	34.85	43.50	-8.65	QP
6	595.13	15.28	1.51	18.36	35.15	46.00	-10.85	QP

Note: 1. All readings are Quasi-peak values.

- 2. Measured= Reading + Antenna Factor + Cable Loss
- 3. The emission that are 20db below the official limit are not reported

Test Model	TAO 1pro	Test Mode	Mode 2
Environmental Conditions	22.3℃, 53.1% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	RR Tan	Test Voltage	AC 120V/60Hz



Note: 1. All readings are Quasi-peak values.

46.00

QP

Note: Pre-Scan all mode, Thus record worse case mode result in this report.

Remark: For above 1000MHz, Because the emission it too low to be reported.

^{2.} Measured= Reading + Antenna Factor + Cable Loss

^{3.} The emission that are 20db below the official limit are not reported

4. PHOTOGRAPH



Photo of Power Line Conducted Measurement

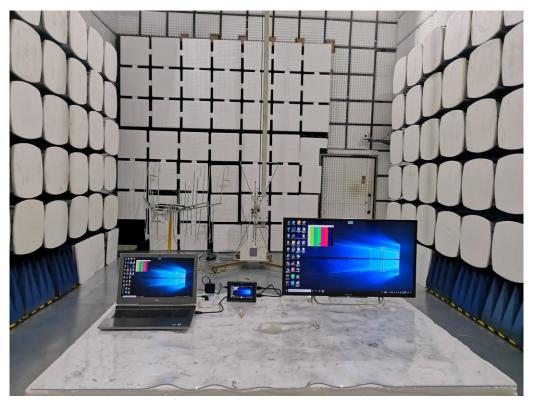


Photo of Radiated emission Measurement

5. EXTERNAL AND INTERNAL PHOTOS OF THE EUT



Fig. 1



Fig. 2

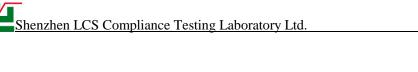




Fig. 3



Fig. 4





Fig. 5



Fig. 6





Fig. 7



Fig. 8

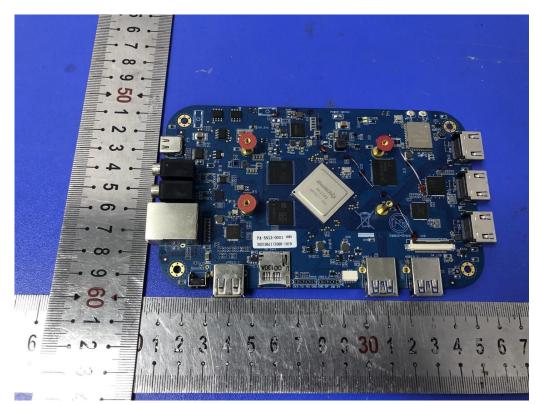


Fig. 9

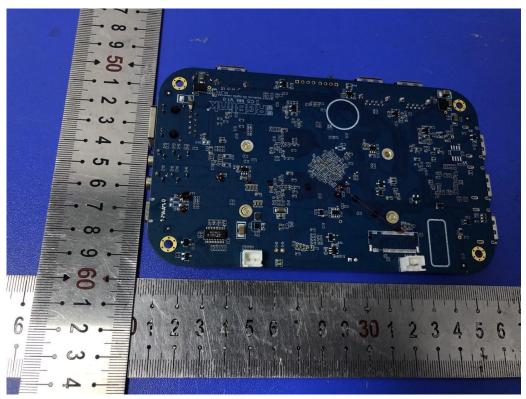


Fig. 10

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