Certificate – Сертификат – 證明書 – Certificat – 증명서

Certificate No. : HUAX231113013KC

Certificate of Conformity

Certificate's Holder	:	**Shenzhen Sichuangda Technology Co., LTD**
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Manufacturer	:	**Shenzhen Sichuangda Technology Co., LTD**
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Product Name	:	**Television antenna**
Product Model (S)	:	RD001, DAB004, ANT208, ANT209, ANT308, ANT309, 4G001, 4G00, 4G004, TV001, TV002, TV003, TV004, TV005, T10, T12, T126, T168, GPS001, GPS002, GPS003, GPS004, SCD001,SCD002, SCD003, SCD004, SCD005, SCD006, SCD908, SCD809, SCD808, SCD606, ANT250, ANT308, TV001, FM001
Trade Mark	:	ONLYOK
Related Standard(s)	:	**EN IEC 61000-6-3: 2021** **EN IEC 61000-6-1: 2019** **EN IEC 61000-3-2: 2019+A1:2021** **EN 61000-3-3: 2013+A2:2021**
Report No.	:	**HUAX231113013KR**

The EUT described above has been tested by us with the listed standards and found in compliance with the council EMC Directive 2014/30/EU. It is possible to use CE marking to demonstrate the compliance with this EMC Directive

CE

Nov. 20, 2023

Certification Manager

Shenzhen Huaxiang Testing Co., Ltd
201, Building A10, Fuhai Information Port, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province, China Web.:Http:// www.hua-x.com
E-mail: huaxiang@hua-x.com Tel.:+86-0755-23010432

EMC TEST REPORT

On Behalf of

Product Name:	Television antenna
Trademark:	ONLYOK
Model Number:	RD001, DAB004, ANT208, ANT209, ANT308, ANT309, 4G001, 4G00, 4G004, TV001, TV002, TV003, TV004, TV005, T10, T12, T126, T168, GPS001, GPS002, GPS003, GPS004, SCD001,SCD002, SCD003, SCD004, SCD005, SCD006, SCD908, SCD809, SCD808, SCD606, ANT250, ANT308, TV001, FM001
Prepared For:	Shenzhen Sichuangda Technology Co., LTD
Address:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Prepared By:	Shenzhen Huaxiang Testing Co , Ltd
Address:	201, Building A10, Fuhai Information Port, Fuhai Street, Bao'an District, Shenzhen City
Report No.:	HUAX231113013KR

TABLE OF CONTENT

Test Report Description

TEST REPORT DECLARATION

Applicant	:	**Shenzhen Sichuangda Technology Co., LTD**
Address :	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Manufacturer:	:	**Shenzhen Sichuangda Technology Co., LTD**
Address :	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
EUT Description :	:	**Television antenna**
Model Number	:	RD001
Rating(s)	:	DC 5V 1A
Test Date		Nov. 13, 2023 – Nov. 20, 2023
Date of Report		Nov. 20, 2023

Test Standards:

EN IEC 61000-6-3: 2021
EN IEC 61000-6-1: 2019
EN IEC 61000-3-2: 2019+A1:2021
EN 61000-3-3: 2013+A2:2021

The EUT described above is tested by Huaxiang Testing Co , Ltd. EMC Laboratory to determine the maximum emissions from the EUT and ensure the EUT to be compliance with the immunity requirements of the EUT. Shenzhen Huaxiang Testing Co , Ltd. is assumed full responsibility for the accuracy of the test results. Also, this report shows that the EUT technically complies with the2014/30/EU directive and its amendment requirements.
The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Prepared by(Test Engineer): Joan Wang

Approved(Manager): Amy Jiang

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	Television antenna
Model	:	RD001
Rating	:	DC 5V
Applicant	:	Shenzhen Sichuangda Technology Co., LTD
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Manufacturer	:	Shenzhen Sichuangda Technology Co., LTD
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen

1.2.Test Standards

Test Standards	
EN IEC 61000-6-3: 2021	Emission standard for residential. commercial and light-industrial environments
EN IEC 61000-6-1: 2019	Immunity for residential. commercial and light-industrial environments
EN IEC 61000-3-2: 2019+A1:2021	Electromagnetic compatibility(EMC)-Part 3-2:Limits-Limits for harmonic current emissions(equipment input current ≤1 < 10A per phase)
EN 61000-3-3: 2013+A2:2021	Electromagnetic compatibility(EMC)-Part 3-3:Limits-Limitation of voltage changes,Voltage fluctuations and fliker in public low-voltage supply systems. For equipment with Rated current ≤1 < 10A per phase and not subject to conditional connection

1.3. Test Summary

For the EUT described above.

Table 1: Tests Carried Out Under EN IEC 61000-6-3: 2021

Standard	Test Items	Status
EN IEC 61000-6-3: 2021	Disturbance Voltage at The Mains Terminals (150KHz To 30MHz)	×
	Radiated Disturbances (30MHz To 1000MHz)	√

√ Indicates that the test is applicable

× Indicates that the test is not applicable

Table 2: Tests Carried Out Under EN IEC 61000-6-1: 2019

Standard	Test Items	Status
EN61000-4-2:2009	Electrostatic discharge Immunity	√
EN61000-4-3:2006 +A1:2008+A2:2010	Radiated Susceptibility (80MHz to 1GHz)	√
EN61000-4-4:2004+A1:2010	Electrostatic Fast Transient/Burst Immunity	×
EN61000-4-5:2006	Surge Immunity	×
EN61000-4-6:2009	Conducted Susceptibility (150KHz to 80MHz)	×
EN61000-4-8:2010	Power Frequency Magnetic Field Immunity (12.47mA, 1.128W)	×
EN61000-4-11:2004	Voltage Dips Short Interruptions Immunity Tests	×

√ Indicates that the test is applicable

√ Indicates that the test is not applicable

Table 3: Tests Carried Out Under EN IEC 61000-3-2: 2019+A1:2021& EN 61000-3-3:2013

Standard	Test Items	Status
EN IEC 61000-3-2: 2019+A1:2021	Harmonic Current	×
EN 61000-3-3: 2013+A2:2021	Voltage Fluctuations	×

√ Indicates that the test is applicable

√ Indicates that the test is not applicable

1.4. Test Methodology

All measurements contained in this report were conducted with CISPR 16-1: 2002, radio disturbance and immunity measuring apparatus, and CISPR16-2, Method of measurement of disturbances and immunity.

All measurement required was performed at laboratory of Shenzhen Huaxiang Testing Co , Ltd.,

1.5. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

EMC Laboratory has been registered and fully described in a report filed with the (FCC)

The facility also complies with the radiated and AC line conducted test site criteria set forth in CISPR 16-1, CISPR16-2.

1.6. Measurement Uncertainty

Radiation Uncertainty : Ur = ± 3.84dB

Conduction Uncertainty : Uc = ± 2.72dB

2. MEASURING DEVICE AND TEST EQUIPMENT

2.1.For Power Line Conducted Emission

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI EMI TEST RECEIVER	ID:1166.5950K03-101431-Jq	Jun. 20, 2023	1 Year
2.	L.I.S.N.	Rohde & Schwarz	ESH3-Z5	831.5518.52	Jun. 20, 2023	1 Year
3.	Pulse Limiter	SCHWARZ BECK	VTSD 9561-F	9561-G071	Jun. 20, 2023	1 Year

2.2.For Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4408B	CFG006	Jun. 20, 2023	1 Year
2.	Test Receiver	Rohde & Schwarz	ESPI TEST RECEIVER	ID:1164.6607K03-102109-MH	Jun. 20, 2023	1 Year
3.	Bilog Antenna	Sunol Sciences	Model JB6 Antenna	A090414	Jun. 20, 2023	1 Year
4.	50 Coaxial Switch	Anritsu Corp	MP59B	6100237248	/	/
5.	Horn Ant	Schwarzbeck	Model DRH-118	A091114	Jun. 20, 2023	1 Year

2.3.For Harmonic Current / Flicker Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Conditioning Unit	SCHAFFNER	CCN1000-1	72314	Jun. 20, 2023	1 Year
2.	Power Supply	SCHAFFNER	NSG1007-3-240	56110	Jun. 20, 2023	1 Year

2.4.For Electrostatic Discharge Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	ESD Tester	PRIMA	ESD610014 7mA, 1.128W, 0.36W	144305	Jun. 20, 2023	1 Year

2.5.For Electrical Fast Transient /Burst Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Burst Tester	HTEC	HEFT 51	144303	Jun. 20, 2023	1Year
2.	Coupling Clamp	HAEFELY	IP-500-1000 W	147147	/	/

2.6.For Surge Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Surge Tester	HTEC	RD001	144302	Jun. 20, 2023	1Year

2.7.For Injected Current Susceptibility Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Simulator	SCHAFFNER	NSG2070	1086	Jun. 20, 2023	1Year
2.	CDN	SCHAFFNER	M016	20812	Jun. 20, 2023	1Year
3.	CDN	SCHAFFNER	M016	20812	Jun. 20, 2023	1Year
4.	Attenuator	SCHAFFNER	INA 2070-1	2086	Jun. 20, 2023	1Year

2.8.For Magnetic Field Immunity Test

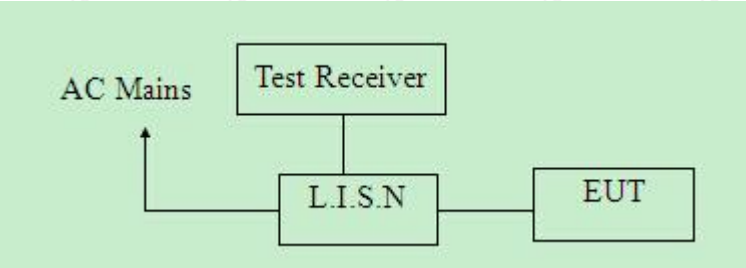
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Magnetic Field Tester	HTEC	HPFM T	144301	Jun. 20, 2023	1Year

2.9.For Voltage Dips and Interruptions Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Dips Tester	HTEC	HPFS	144304	Jun. 20, 2023	1Year

3. POWER LINE CONDUCTED EMISSION MEASUREMENT

3.1.Block Diagram of Test Setup



3.2.Measuring Standard

EN IEC 61000-6-3: 2021

Power Line Conducted Emission Limits (Class B)

Frequency (MHz)	Limit (dBμV)	
	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.		

3.3.EUT Configuration on Measurement

The following equipments are installed on Conducted Emission Measurement to meet EN61000-6-3 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

EUT	:	N/A
Model Number	:	N/A
Serial Number	:	N/A

3.4.Operating Condition of EUT

3.4.1.Setup the EUT as shown on Section 3.1.

3.4.2.Turn on the power of all equipments.

3.4.3.Let the EUT work in measuring mode (On) and measure it.

3.5.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 a 50ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the EN61000-6-3regulations during conducted emission measurement.

The bandwidth of the field strength meter (R&S Test Receiver ESCI 3) is set at 9KHz in 150KHz~30MHz and 200Hz in 9KHz~150KHz.

The frequency range from 150kHz to 30MHz is investigated

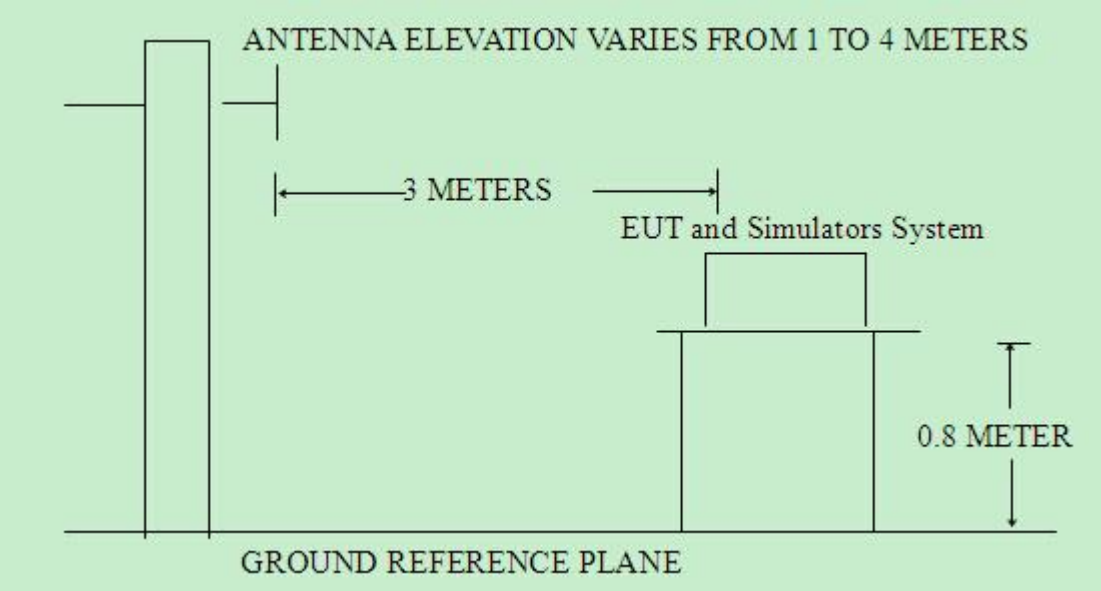
3.6.Measuring Results

N/A

4. RADIATED EMISSION MEASUREMENT

4.1.Block Diagram of Test

4.1.1.Block diagram of test setup (In chamber)



4.2.Measuring Standard

EN IEC 61000-6-3: 2021

4.3.Radiated Emission Limits

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:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (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.

4.4.EUT Configuration on Test

The EN61000-6-3 regulations test method must be used to find the maximum emission during radiated emission measurement.

4.5.Operating Condition of EUT

4.5.1.Turn on the power.

4.5.2.After that, let the EUT work in test mode (Normal) and measure it.

4.6.Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate RD001 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. Bilog antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the Receiver (ESCI 3) is set at 120kHz.

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

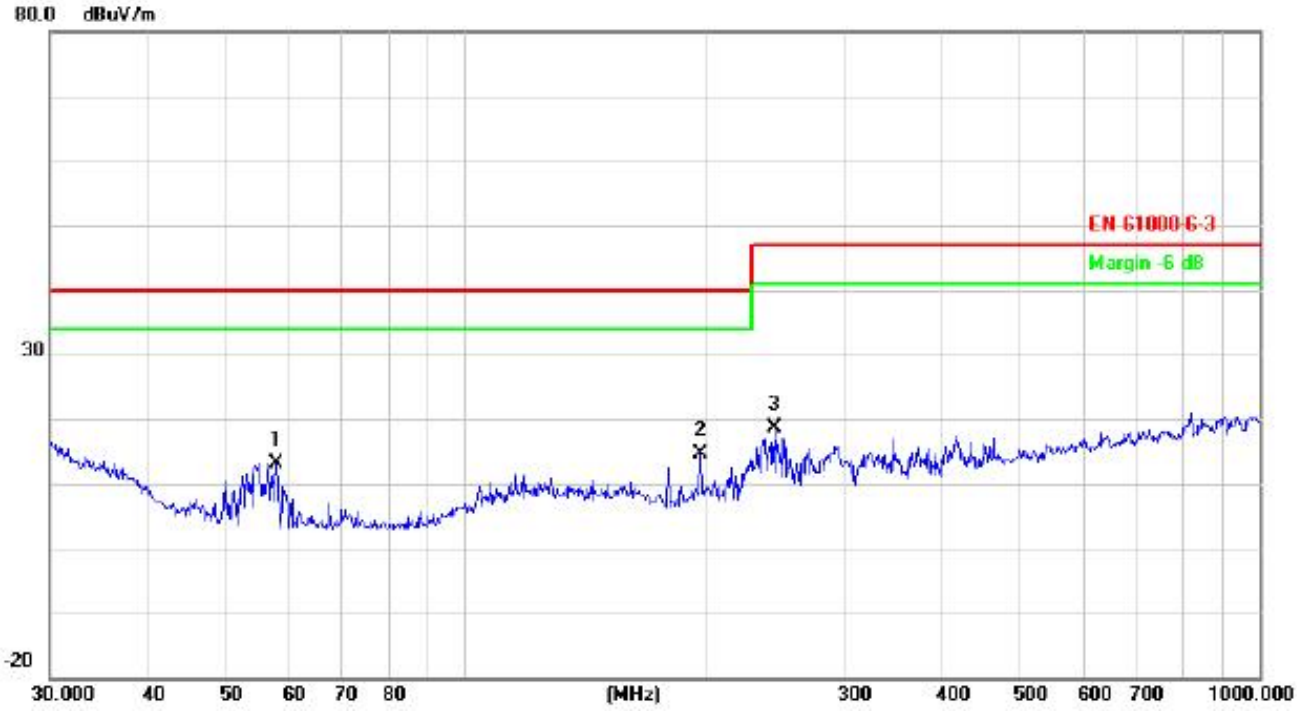
4.7.Measuring Results

PASS

Please reference to the following pages

Radiated Emission Test Data

EUT	:	Television antenna	Model	:	RD001
Operating Condition	:	Normal Working	Test Site:	:	Shielded Room
Power Supply	:	DC5V	Polarziation	:	Horizontal
Operator:	:	Mark	Tem	:	24℃ Hum:55%
Start of Test:	:	2023-11-16			



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		57.7961	33.57	-20.40	13.17	40.00	-26.83	peak			
2	*	197.8926	29.86	-15.20	14.66	40.00	-25.34	peak			
3		245.0900	34.40	-15.70	18.70	47.00	-28.30	peak			

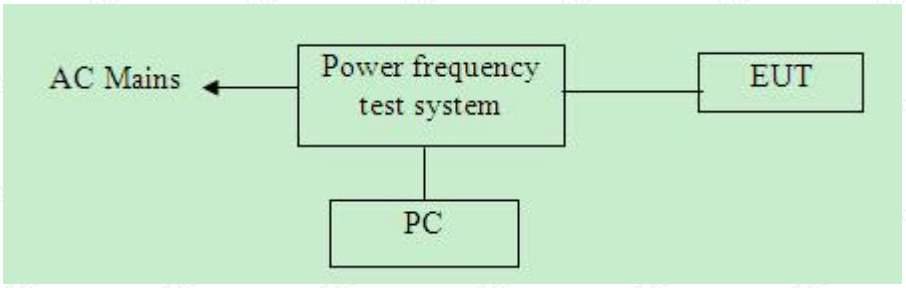
Radiated Emission Test Data

EUT	:	Television antenna	Model	:	RD001
Operating Condition	:	Normal Working	Test Site:	:	Shielded Room
Power Supply	:	DC5V	Polarziation:	:	Vertical
Operator:	:	Mark	Tem	:	24℃ Hum:55%
Start of Test:	:	2023-11-16			

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	55.6094	51.75	-20.70	31.05	40.00	-8.95	QP			
2		67.4382	49.77	-20.35	29.42	40.00	-10.58	peak			
3		126.7723	44.76	-14.17	30.59	40.00	-9.41	peak			

5. HARMONIC CURRENT EMISSION MEASUREMENT

5.1.Block Diagram of Test Setup



5.2.Measuring Standard

EN IEC 61000-3-2: 2019+A1:2021

5.3.Operation Condition of EUT

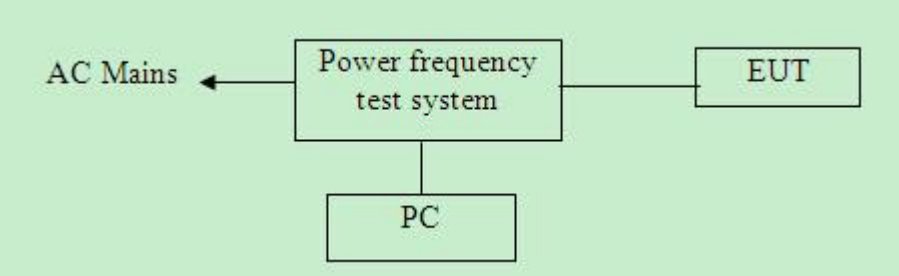
Same as Section 3.4, except the test setup replaced as Section 5.1.

5.4.Measuring Results

N/A

6. VOLTAGE FLUCTUATION AND FLICKER MEASUREMENT

6.1.Block Diagram of Test Setup



6.2.Measuring Standard

EN 61000-3-3: 2013+A2:2021

6.3.Operation Condition of EUT

6.3.1.Setup the EUT and simulators as shown in Section6.1.

6.3.2.Turn on the power of all equipments.

6.3.3.Let the EUT work in test modes (Normal) and test it.

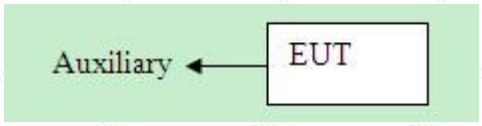
6.4.Measuring Results

N/A

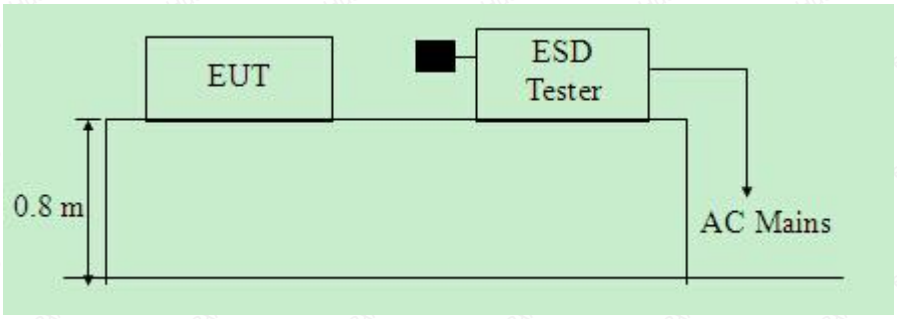
7. ELECTROSTATIC DISCHARGE IMMUNITY TEST

7.1.Block Diagram of Test Setup

7.1.1.Block Diagram of the EUT and the simulators



7.1.2.Block diagram of ESD test setup



7.2.Test Standard

EN IEC 61000-6-1: 2019(EN61000-4-2: 2009)

Severity Level: 3 / Air Discharge: ±8KV Level: 2 / Contact Discharge: ±4KV)

7.3.Severity Levels and Performance Criterion

7.3.1. Severity level

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

7.3.2.Performance criterion: **B**

7.4.EUT Configuration

The configuration of EUT is listed in Section 3.3.

7.5.Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 3.4. Except the test set up replaced by Section 7.1.

7.6.Test Procedure

7.6.1.Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator 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.

7.6.2.Contact Discharge:

All the procedure shall be same as Section 7.6.1. except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

7.6.3.Indirect discharge for horizontal coupling plane

At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

7.6.4.Indirect discharge for vertical coupling plane

At least 10 single discharge (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

7.7.Test Results

PASS

Please refer to the following page

Electrostatic Discharge Test Result

Applicant	:	Shenzhen Sichuangda Technology Co., LTD	Test Date	:	2023-11-16
EUT	:	Television antenna	Temperature	:	22℃
M/N	:	RD001	Humidity	:	50%
Power Supply	:	5V	Test Mode	:	Full load
Air discharge	:	±2.0KV,±4.0KV,±6.0KV,±8.0KV	Criterion	:	B
Contact discharge	:	±2.0KV,±4.0KV	Test Engineer	:	Mark

Air Discharge

Test Points	Test Levels			Results		
	± 2kV	± 4kV	± 8kV	Passed	Fail	Performance Criterion
Front	☒	☒	☒	☒	☐	☐ A ☒ B
Back	☒	☒	☒	☒	☐	☐ A ☒ B
Left	☒	☒	☒	☒	☐	☐ A ☒ B
Right	☒	☒	☒	☒	☐	☐ A ☒ B
Top	☒	☒	☒	☒	☐	☐ A ☒ B
Bottom	☒	☒	☒	☒	☐	☐ A ☒ B

Contact Discharge

Test Points	Test Levels			Results		
	± 2 kV	±4 kV	± 6kV	Passed	Fail	Performance Criterion
Front	☒	☒	☐	☒	☐	☐ A ☒ B
Back	☒	☒	☐	☒	☐	☐ A ☒ B
Left	☒	☒	☐	☒	☐	☐ A ☒ B
Right	☒	☒	☐	☒	☐	☐ A ☒ B
Top	☒	☒	☐	☒	☐	☐ A ☒ B
Bottom	☒	☒	☐	☒	☐	☐ A ☒ B

Discharge To Horizontal Coupling Plane

Side of EUT	Test Levels			Results		
	± 2 kV	± 4 kV	± 6 kV	Passed	Fail	Performance Criterion
Front	☒	☒	☐	☒	☐	☐ A ☒ B
Back	☒	☒	☐	☒	☐	☐ A ☒ B
Left	☒	☒	☐	☒	☐	☐ A ☒ B
Right	☒	☒	☐	☒	☐	☐ A ☒ B

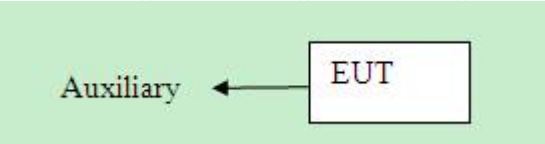
Discharge To Vertical Coupling Plane

Side of EUT	Test Levels			Results		
	± 2 kV	± 4 kV	± 6 kV	Passed	Fail	Performance Criterion
Front	☒	☒	☐	☒	☐	☐ A ☒ B
Back	☒	☒	☐	☒	☐	☐ A ☒ B
Left	☒	☒	☐	☒	☐	☐ A ☒ B
Right	☒	☒	☐	☒	☐	☐ A ☒ B

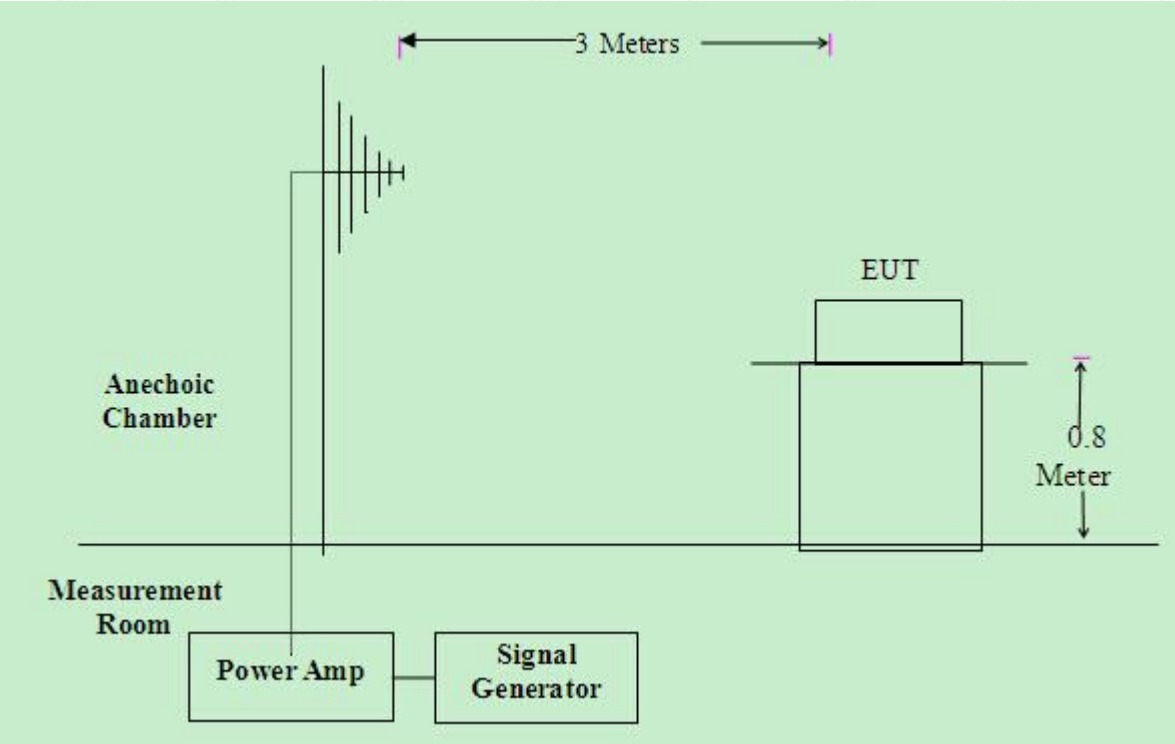
8. RF FIELD STRENGTH SUSCEPTIBILITY TEST

8.1.Block Diagram of Test

8.1.1.Block diagram of connection between the EUT and Load



8.1.2 .Block diagram of RS test setup



8.2.Test Standard

EN IEC 61000-6-1: 2019(EN61000-4-3:2006 +A1:2008+A2:2010 (Severity Level: 2, 48/60/72V / m)

8.3.Severity Levels and Performance Criterion

8.1.3 .Severity Levels

Level	Field Strength V/m
1	1
2	3
3	10
X	Special

8.1.4 .Performance Criterion : **A**

8.4.EUT Configuration on Test

The configuration of the EUT is same as Section 3.3.

8.5.Operating Condition of EUT

Same as radiated emission measurement which is listed in Section 3.4, except the test setup replaced as Section 8.1.

8.6.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 are 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 camera is used to monitor its screen.

All the scanning conditions are as following:

Condition of Test	Remark
1. Fielded Strength	48/60/72V (Severity Level 2)
2. Radiated Signal	Modulated
3. Scanning Frequency	80-1000MHz
4. Sweep time of radiated	0.0015 Decade/s
5. Dwell Time	1 Sec.

8.7.Test Results

PASS

Please refer to the following page.

RF Field Strength Susceptibility Test Results

Applicant	:	Shenzhen Sichuangda Technology Co., LTD	Test Date	:	2023-11-16
EUT	:	Television antenna	Temperature	:	22℃
M/N	:	RD001	Humidity	:	50 %
Field Strength	:	3 V/m	Criterion	:	A
Power Supply	:	5V	Test Mode	:	Normal
Test Engineer	:	Mark	Frequency Range	:	80 MHz to1000 MHz

Modulation:	☐None	☐ Pulse	☑AM 1KHz 80%

	Frequency Rang 1: 80~ 1000MHz			Frequency Rang 2: 1400~ 2000MHz		
Steps	1	/	%	#	/	%
	Horizontal		Vertical	Horizontal		Vertical
Front	PASS		PASS	PASS		PASS
Right	PASS		PASS	PASS		PASS
Rear	PASS		PASS	PASS		PASS
Left	PASS		PASS	PASS		PASS

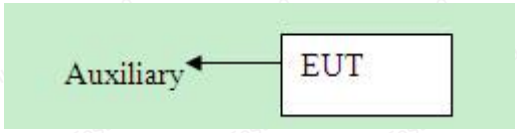
Test Equipment **:**
1. Signal Generator : 2031 (MARCONI)
2. Power Amplifier : 500-1000W100 & 0.7-3W/1000M1 (A&R)
3. Power Antenna : 3108 (EMCO) & AT1080 (A&R)
4. Field Monitor : FM2000 (A&R)

Note:

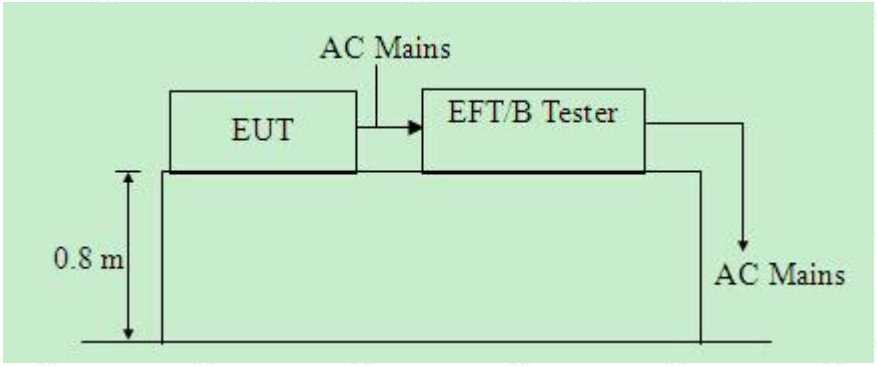
9. ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST

9.1.Block Diagram of Test Setup

9.1.1.Block Diagram of the EUT



9.1.2.EUT Test Setup



9.2.Test Standard

EN IEC 61000-6-1: 2019(EN61000-4-4:2004+A1:2010, Severity Level, Level 2**:** 1KV)

9.3.Severity Levels and Performance Criterion

9.3.1.Severity level

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

9.3.2.Performance criterion **: B**

9.4.EUT Configuration

The configuration of EUT is listed in Section 3.3.

9.5.Operating Condition of EUT

9.5.1.Setup the EUT as shown in Section 9.1.

9.5.2.Turn on the power of all equipments.

9.5.3.Let the EUT work in test mode (Normal) and measure it.

9.6.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.

9.6.1.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 2 mins.

9.6.2.For signal lines and control lines ports**:**

No I/O ports. It’s unnecessary to test.

9.6.3.For DC output line ports**:**

It’s unnecessary to test.

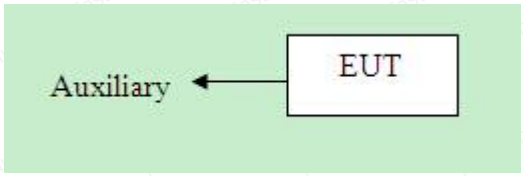
9.7.Test Result

N/A

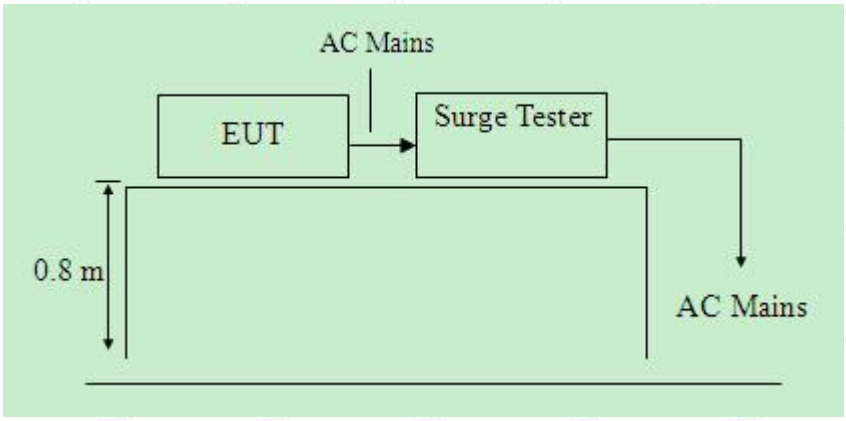
10.NITY TEST

10.1.Block Diagram of Test Setup

10.1.1.Block Diagram of the EUT



10.1.2.Surge Test Setup



10.2.Test Standard

EN IEC 61000-6-1: 2019(EN61000-4-5: 2006)

Severity Level**:** Line to Line: Level 2, 1.0KV

10.3.Severity Levels and Performance Criterion

10.3.1.Severity level

Severity Level	Open-Circuit Test Voltage KV
1	0.5
2	1.0
3	2.0
4	4.0
*	Special

10.3.2.Performance criterion **: B**

10.4.EUT Configuration

The configuration of EUT is listed in Section 3.3.

10.5.Operating Condition of EUT

10.5.1.Setup the EUT as shown in Section 10.1.

10.5.2.Turn on the power of all equipments.

10.5.3.Let the EUT work in test mode (Normal) and measure it.

10.6.Test Procedure

10.6.1.Set up the EUT and test generator as shown on Section 10.1.2.

10.6.2.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.

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

10.6.4.Different phase angles are done individually.

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

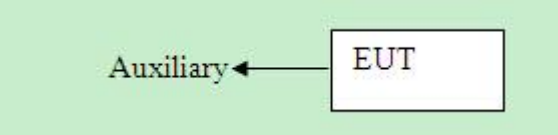
10.7.Test Result

N/A

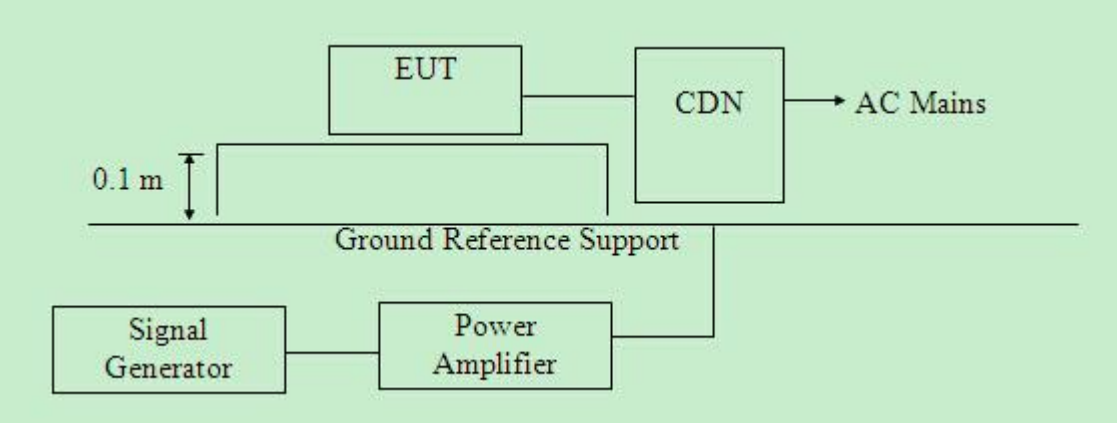
11. INJECTED CURRENTS SUSCEPTIBILITY TEST

11.1. Block Diagram of Test Setup

11.1.1. Block Diagram of the EUT



11.1.2. Block Diagram of Test Setup



11.2. Test Standard

EN IEC 61000-6-1: 2019 (EN61000-4-6: 2009, Severity Level: Level 2, 48/60/72V (rms), (0.15MHz ~ 80MHz)

11.3. Severity Levels and Performance Criterion

11.3.1. Severity level

Level	Field Strength V
1	1
2	3
3	10
X	Special

11.3.2. Performance criterion: **A**

11.4. EUT Configuration

The configuration of EUT is listed in Section 3.3.

11.5.Operating Condition of EUT

11.5.1.Setup the EUT as shown in Section 11.1.

11.5.2.Turn on the power of all equipments.

11.5.3.Let the EUT work in test mode (Normal) and measure it.

11.6.Test Procedure

11.6.1.Set up the EUT, CDN and test generators as shown on Section 11.1.2.

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

11.6.3.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).

11.6.4.The disturbance signal described below is injected to EUT through CDN.

11.6.5.The EUT operates within its operational mode(s) under intended climatic conditions after power on.

11.6.6.The frequency range is swept from 150KHz to80MHz using 48/60/72V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.

11.6.7.The rate of sweep shall not exceed $1.5*10^{-3}$decades/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.

11.6.8.Recording the EUT operating situation during compliance teN/A and decide the EUT immunity criterion.

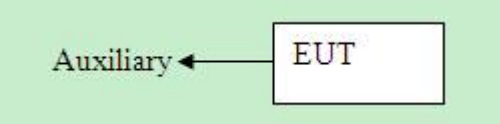
11.7.Test Results

N/A

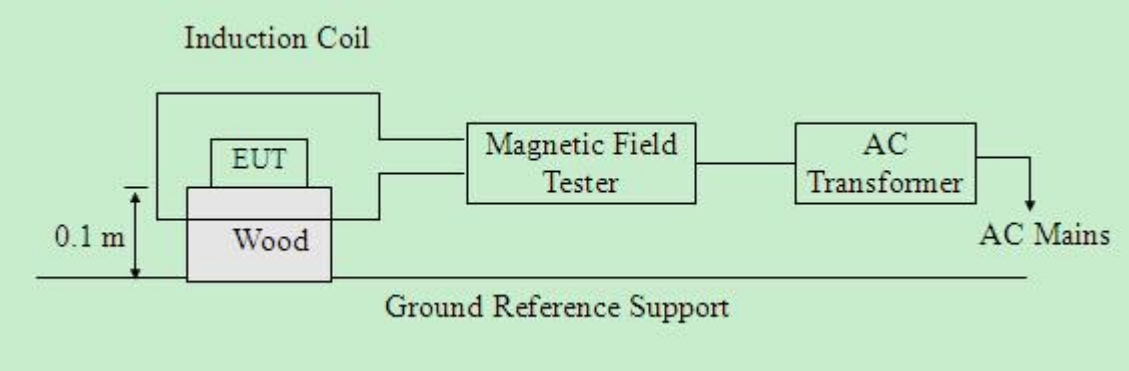
12. MAGNETIC FIELD SUSCEPTIBILITY TEST

12.1. Block Diagram of Test

12.1.1. Block diagram of test setup



12.1.2. Magnetic field test setup



12.2. Test Standard

EN IEC 61000-6-1: 2019 (EN61000-4-8: 2010, Severity Level: Level 1, 40A / m)

12.3. Severity Levels and Performance Criterion

12.3.1. Severity Levels

Level	Field Strength A/m
1	1
2	3
3	10

4	30
5	100
X	Special

12.3.2.Performance Criterion : **A**

12.4.EUT Configuration on Test

The configuration of the EUT is same as Section 3.3.

12.5.Test Procedure

The EUT is placed in the middle of a induction coil (1*1m), under which is a 1*1*0.1m (high) table, this small table is also placed on a larger table,0.8 m above the ground. Both horizontal and vertical polarization of the induction coil are set on test, so that each side of the EUT is affected by the magnetic field. Also can reach the same aim by change the position of the EUT.

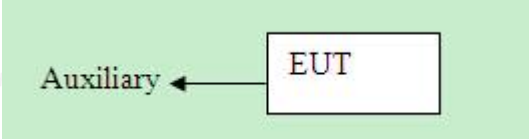
12.6.Test Results

N/A

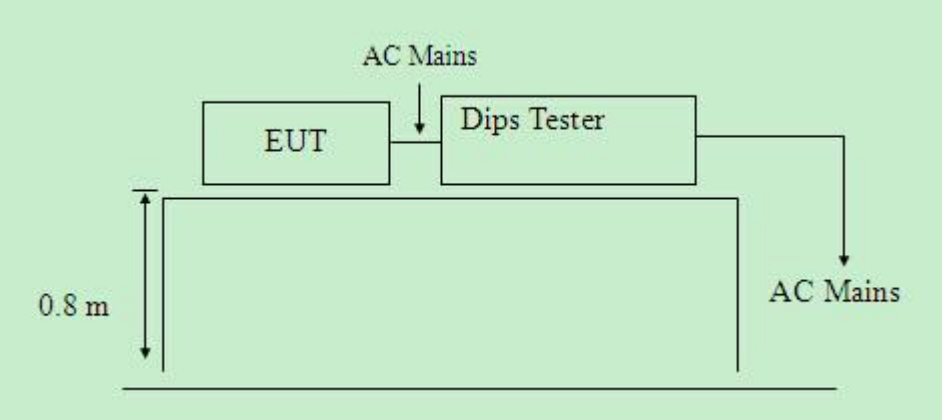
13. VOLTAGE DIPS AND INTERRUPTIONS TEST

13.1. Block Diagram of Test Setup

13.1.1. Block Diagram of the EUT



13.1.2. Dips Test Setup



13.2. Test Standard

EN IEC 61000-6-1: 2019(EN61000-4-11: 2004)

13.3. Severity Levels and Performance Criterion

13.3.1. Severity level

Test Level %UT	Voltage dip and short interruptions %UT	Duration (in period)
0	100	0.5 1 5 10 25 50 *
40	60	
70	30	

13.3.2. Performance criterion **: B&C**

13.4. EUT Configuration

The configuration of EUT is listed in Section 3.3.

13.5.Operating Condition of EUT

13.5.1 Setup the EUT as shown in Section 13.1.

13.5.2 Turn on the power of all equipments.

13.5.3 Let the EUT work in test mode (Normal) and measure it.

13.6.Test Procedure

13.6.1.Set up the EUT and test generator as shown on Section 13.1.2.

13.6.2.The interruptions is introduced at selected phase angles with specified duration.

13.6.3.Record any degradation of performance.

13.7.Test Result

N/A

APPENDIX I
(Photos of EUT)

FIGURE

GENERAL APPEARANCE OF EUT

Fig. 1

Fig. 2

****************************THE END OF REPORT*****************************

Certificate – Сертификат – 證明書 – Certificat – 증명서

Certificate No. : HUAX231113014KC

Supplier's Declaration of Conformity

Certificate's Holder	:	**Shenzhen Sichuangda Technology Co., LTD**
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Manufacturer	:	**Shenzhen Sichuangda Technology Co., LTD**
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Product Name	:	**Television antenna**
Product Model (S)	:	RD001, DAB004, ANT208, ANT209, ANT308, ANT309, 4G001, 4G00, 4G004, TV001, TV002, TV003, TV004, TV005, T10, T12, T126, T168, GPS001, GPS002, GPS003, GPS004, SCD001,SCD002, SCD003, SCD004, SCD005, SCD006, SCD908, SCD809, SCD808, SCD606, ANT250, ANT308, TV001, FM001
Trade Mark	:	ONLYOK
Related Standard(s)	:	**FCC Part 15 subpart B Class B(2017). Measurement Procedure ANSI C63.4:2014.**
Report No.	:	**HUAX231113014KR**

This is the results of test that was carried out from the submittedtype-sample of a product in conformity with the specification of the respective standards. The certificate holder has the right to fix the FCC-mark for EMI on the product complying with the inspection sample

Nov. 20, 2023

Certification Manager

Shenzhen Huaxiang Testing Co., Ltd
201, Building A10, Fuhai Information Port, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province, China Web.:Http:// www.hua-x.com
E-mail: huaxiang@hua-x.com Tel.:+86-0755-23010432

FCC TEST REPORT

On Behalf of

Product Name:	Television antenna
Trademark:	ONLYOK
Model Number:	RD001, DAB004, ANT208, ANT209, ANT308, ANT309, 4G001, 4G00, 4G004, TV001, TV002, TV003, TV004, TV005, T10, T12, T126, T168, GPS001, GPS002, GPS003, GPS004, SCD001,SCD002, SCD003, SCD004, SCD005, SCD006, SCD908, SCD809, SCD808, SCD606, ANT250, ANT308, TV001, FM001
Prepared For:	Shenzhen Sichuangda Technology Co., LTD
Address:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Prepared By:	Shenzhen Huaxiang Testing Co , Ltd
Address:	201, Building A10, Fuhai Information Port, Fuhai Street, Bao'an District, Shenzhen City
Report No.:	HUAX231113014KR

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TEST REPORT DECLARATION

Applicant	:	**Shenzhen Sichuangda Technology Co., LTD**
Address :	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Manufacturer:	:	**Shenzhen Sichuangda Technology Co., LTD**
Address :	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
EUT Description :	:	**Television antenna**
Model Number	:	RD001
Rating(s)	:	DC 5V 1A
Test Date	:	Nov. 13, 2023 - Nov. 20, 2023
Date of Report	:	Nov. 20, 2023

Test Standards:

FCC Part 15 subpart B Class B（2017）

The EUT described above is tested by US to determine the maximum emission levels emanating from the EUT, the maximum emission levels are compared to the FCC Part 15 limits. The measurement results are contained in this test report. and Shenzhen Huaxiang Testing Co , Ltd. is assumed of full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT is to be technically compliant with the FCC requirements

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Huaxiang Testing Co , Ltd.

Prepared by(Test Engineer): Kevin Su

Approved(Manager): Amy Jiang

1 GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	Television antenna
Model Number	:	RD001
Supplementary Model	:	DAB004, ANT208, ANT209, ANT308, ANT309, 4G001, 4G00, 4G004, TV001, TV002, TV003, TV004, TV005, T10, T12, T126, T168, GPS001, GPS002, GPS003, GPS004, SCD001,SCD002, SCD003, SCD004, SCD005, SCD006, SCD908, SCD809, SCD808, SCD606, ANT250, ANT308, TV001, FM001
Test Voltage	:	DC 5V
Applicant	:	Shenzhen Sichuangda Technology Co., LTD
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Manufacturer	:	Shenzhen Sichuangda Technology Co., LTD
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen

1.2.Description of test facility

All measurement required was performed at laboratory of Shenzhen Huaxiang Testing Co , Ltd at 201, Building A10, Fuhai Information Port, Fuhai Street, Bao'an District, Shenzhen City

Shenzhen Huaxiang Testing Co , Ltd EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission.

1.3.Test Standards

The following Declaration of Conformity report of EUT is prepared in accordance with 47CFR Part 15(2014): Radio Frequency Device: Subpart B; Unintentional radiators Class B

ANSI C63.4 (2019): Interim Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9KHz to 40GHz.

1.4.Test Summary

TEST ITEMS	RESULT	NOTE
Disturbance voltage at a.c. mains terminal	PASS	
Radiated emission	PASS	

Notes:N/A=Not Applicable

1.5.Measurement Uncertainty

Radiation Uncertainty : Ur = ±3.84dB

Conduction Uncertainty : Uc = ±2.72dB

2. POWER LINE CONDUCTED MEASUREMENT

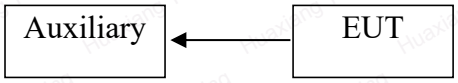
2.1.Test Equipment

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

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCS30	8289851018	Nov. 12, 2023	1 Year
2.	L.I.S.N.	Rohde & Schwarz	ESH2-Z5	834549/005	Nov. 12, 2023	1 Year
3.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	Nov. 12, 2023	1 Year
4.	RF Cable	FUJIKURA	RG-55/U	LISN Cable	Nov. 12, 2023	1 Year

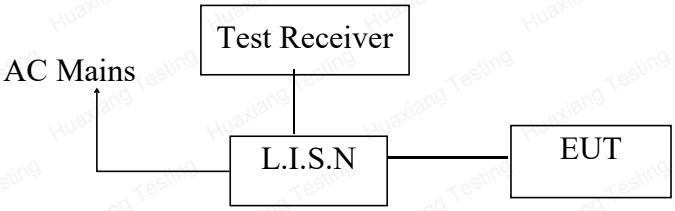
2.2.Block Diagram of Test Setup

2.2.1 Block diagram of connection between the EUT and simulators



(EUT: Television antenna)

2.2.2 Block diagram of test setup



(EUT: Television antenna)

2.3.Power Line Conducted Emission Measurement Limits (Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

2.4.Configuration of EUT on Measurement

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.

EUT	:	Television antenna
Model Number	:	RD001

2.5.Operating Condition of EUT

2.5.1.Setup the EUT and simulator as shown as Section 2.2.
2.5.2.Turn on the power of all equipment.
2.5.3.Let the EUT work in test mode (Normal) and measure it.

2.6.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 C63.4-2009 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9KHz.

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

The test result is reported on Section 2.7.

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

2.7.Power Line Conducted Emission Measurement Results

N/A

3. RADIATED EMISSION MEASUREMENT

3.1.Test Equipment

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

3.1.1.For Anechoic Chamber

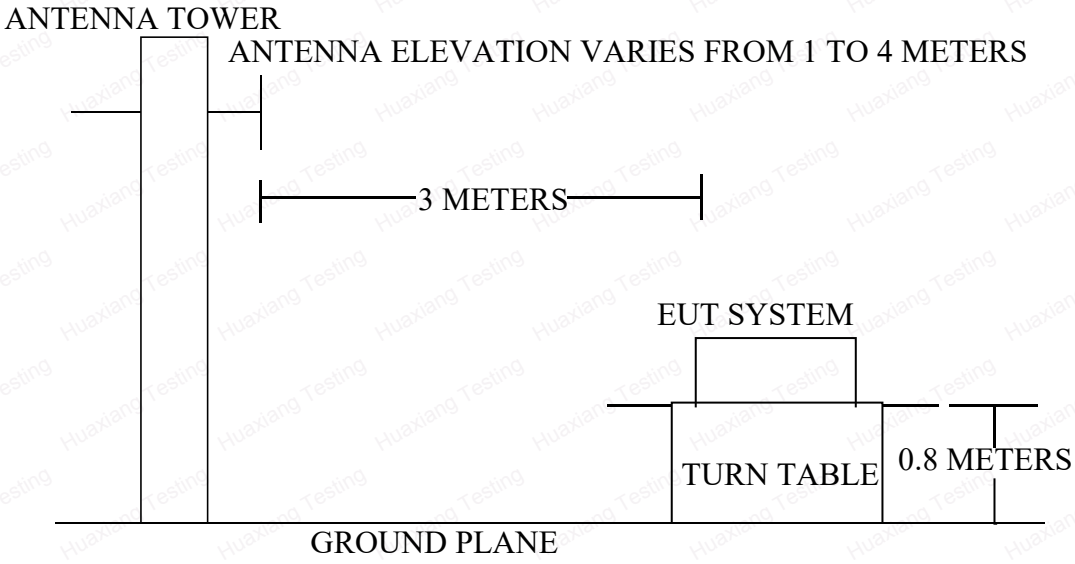
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	ANRITSU	MS2661C	6200140915	Nov. 12, 2023	1 Year
2.	Test Receiver	Rohde & Schwarz	ESCS30	828985/018	Nov. 12, 2023	1 Year
3.	Bilog Antenna	Schwarzbeck	VULB9163	142	Nov. 12, 2023	1 Year
4.	50 Coaxial Switch	Anritsu Corp	MP59B	6100237248	Nov. 12, 2023	1 Year
5.	Cable	Schwarzbeck	AK9513(1m)	CR RX2	Nov. 12, 2023	1 Year
6.	Cable	Schwarzbeck	AK9513(10m)	AC RX1	Nov. 12, 2023	1 Year
7.	Cable	Rosenberger	N/A(6m)	CR RX1	Nov. 12, 2023	1 Year
8.	Cable	Rosenberger	N/A(10m)	FP2RX2	Nov. 12, 2023	1 Year
9.	DC Power Filter	MPE	23872C	N/A	Nov. 12, 2023	1 Year
10.	Single Phase Power Line Filter	MPE	23332C	N/A	Nov. 12, 2023	1 Year
11.	3 Phase Power Line Filter	MPE	23333C	N/A	Nov. 12, 2023	1 Year
12.	Signal Generator	HP	8648A	3625U00573	Nov. 12, 2023	1 Year

3.2.Block Diagram of Test Setup

3.2.1.Block diagram of connection between the EUT and simulators

(EUT: Television antenna)

3.2.2.Anechoic Chamber Test Setup Diagram



(EUT: Television antenna)

3.3.Radiated Emission Limit (Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0

Remark： (1) Emission level (dB)μV = 20 log Emission level μV/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.

3.4.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.

Television antenna(EUT)

Model Number : RD001

3.5. Operating Condition of EUT

1. Setup the EUT as shown in Section 3.2.
2. Let the EUT work in test mode (Normal) and measure it.

3.6. 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 an 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 bilog 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 C63.4-2009on radiated emission measurement. The bandwidth of the EMI test receiver (R&S ESCS30) is set at 120KHz.

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

3.7. Radiated Emission Measurement Results

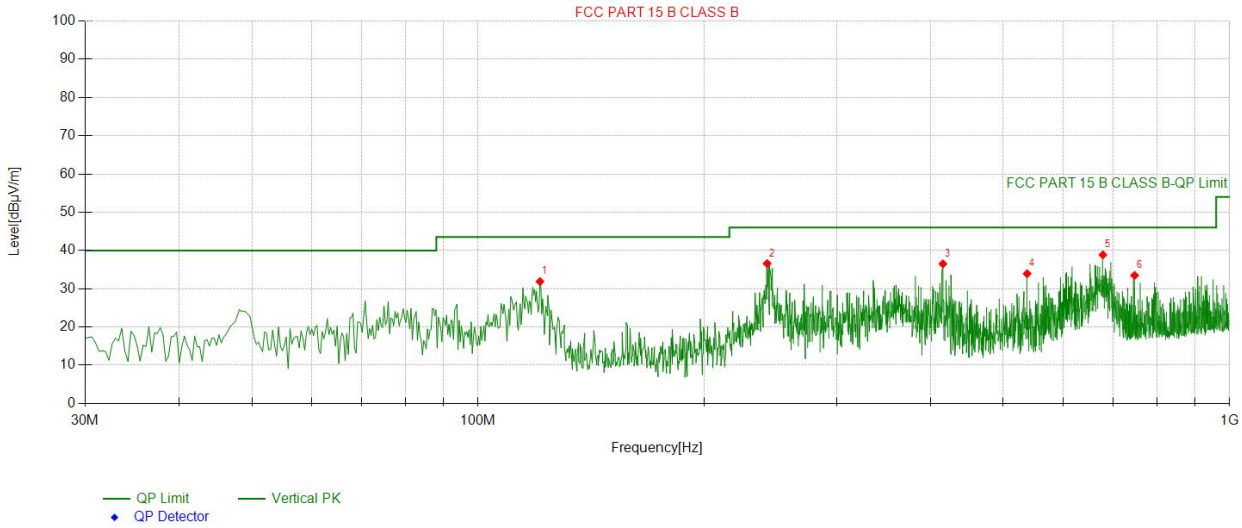
PASS

Please reference to the following pages

Radiated emissions were conducted in charging mode and discharging mode and the worst case (discharging mode) was reported only.

Radiated Emission Test Data

EUT:	Television antenna
M/N:	RD001
Operating Condition:	Normal work
Test Site:	3m CHAMBER
Operator:	Mark
Test Specification:	/
Comment:	Polarization: Vertical

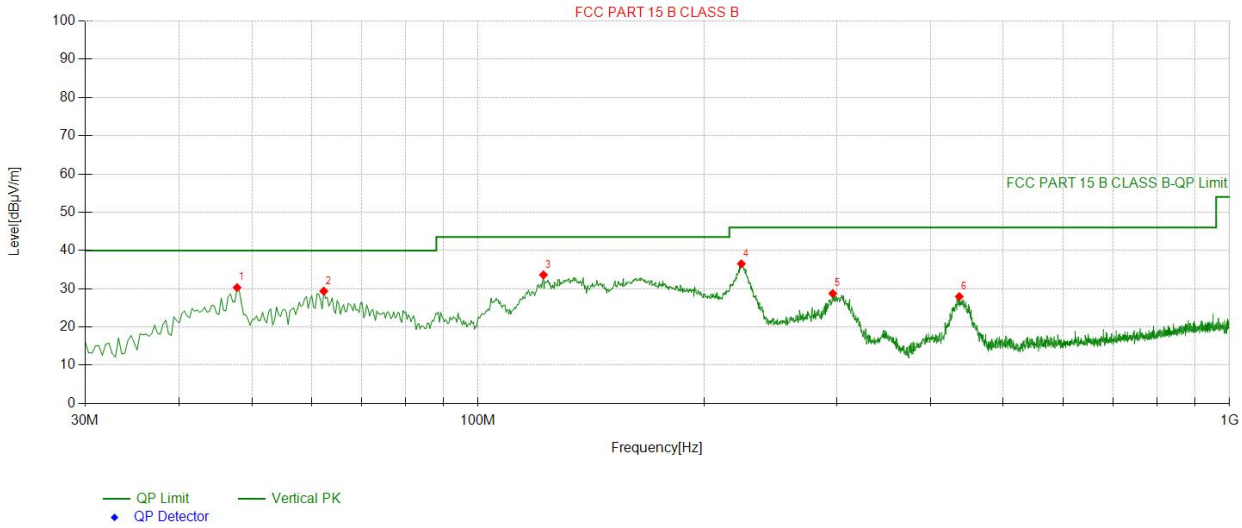


Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	120.88696	-17.89	49.77	31.88	43.50	11.62	100	214	Vertical
2	242.50083	-18.74	55.32	36.58	46.00	9.42	100	74	Vertical
3	415.54184	-15.24	51.74	36.50	46.00	9.50	100	178	Vertical
4	537.80260	-13.25	47.18	33.93	46.00	12.07	100	55	Vertical
5	678.4995	-11.02	49.88	38.86	46.00	7.14	100	337	Vertical
6	747.71590	-10.11	43.59	33.48	46.00	12.52	100	337	Vertical

Radiated Emission Test Data

EUT:	Television antenna
M/N:	RD001
Operating Condition:	Normal work
Test Site:	3m CHAMBER
Operator:	Mark
Test Specification:	/
Comment:	Polarization: Horizontal



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	47.789263	-16.78	47.08	30.30	40.00	9.70	100	31	Vertical
2	62.344115	-18.20	47.56	29.36	40.00	10.64	100	58	Vertical
3	122.18072	-17.81	51.42	33.61	43.50	9.89	100	148	Vertical
4	224.06468	-19.44	55.96	36.52	46.00	9.48	100	284	Vertical
5	296.51550	-17.47	46.20	28.73	46.00	17.27	100	281	Vertical
6	436.88896	-14.62	42.57	27.95	46.00	18.05	100	259	Vertical

APPENDIX I
(PHOTOS OF EUT)

FIGURE
GENERAL APPEARANCE OF EUT

Photo 1

Photo 2

****************************THE END OF REPORT***************************

Certificate – Сертификат – 證明書 – Certificat – 증명서

Certificate No. : HUAX240904042KC

huaxiang

Certificate of Conformity

Certificate's Holder	:	**Shenzhen Sichuangda Technology Co., LTD**
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Manufacturer	:	**Shenzhen Sichuangda Technology Co., LTD**
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Product Name	:	**Television antenna**
Product Model (S)	:	HDTV Antenna, DTV-T2 Antenna, RD001, RD002, WIFI003, FM 002, FM 003, FM004, TANG001, TANG002, TANG003, DAB004, ANT208, ANT209, ANT308, ANT309, 4G001, 4G00, 4G004, TV001, TV002, TV003, TV004, TV005, T10, T12, T126, T168, GPS001, GPS002, GPS003, GPS004, SCD001, SCD002, SCD003, SCD004, SCD005, SCD006, SCD908, SCD809, SCD808, SCD606, ANT250, ANT308, TV001, FM001
Trade Mark	:	ONLYOK
Related Standard(s)	:	**IEC 62321-3-1:2013, IEC 62321-5:2013, IEC 62321-4:2017, IEC 62321-7-1:2015, IEC 62321-7-2:2017, IEC 62321-6:2015 , IEC 62321-8:2017**
Report No.	:	**HUAX240904042KR**

The product described above has been consolidated by us and found in compliance with the council RoHS 2.0 Directive (EU) 2015/863 and (EU)2017/2102 amending Annex II to Directive 2011/65/EU It is only valid in connection with the test report

Green Product RoHS

Shenzhen Huaxiang Testing Co., Ltd IMPARTIAL Product Safety

Sep. 09, 2024

Certification Manager

Shenzhen Huaxiang Testing Co., Ltd
201, Building A10, Fuhai Information Port, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province, China Web.:Http:// www.hua-x.com
E-mail: huaxiang@hua-x.com Tel.:+86-0755-23010432

TEST REPORT

Applicant	:	Shenzhen Sichuangda Technology Co., LTD
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Report on the submitted sample said to be:		
Sample name	:	Television antenna
Trade Mark	:	ONLYOK
Model	:	HDTV Antenna, DTV-T2 Antenna, RD001, RD002, WIFI003, FM 002, FM 003, FM004, TANG001, TANG002, TANG003, DAB004, ANT208, ANT209, ANT308, ANT309, 4G001, 4G00, 4G004, TV001, TV002, TV003, TV004, TV005, T10, T12, T126, T168, GPS001, GPS002, GPS003, GPS004, SCD001, SCD002, SCD003, SCD004, SCD005, SCD006, SCD908, SCD809, SCD808, SCD606, ANT250, ANT308, TV001, FM001
Manufacturer	:	Shenzhen Sichuangda Technology Co., LTD
Address	:	No. 92-2, Anxing Road, Dakang Community, Yuanshan Street, Longgang District, Shenzhen
Testing laboratory	:	Shenzhen Huaxiang Testing Co., Ltd
Test address	:	Building B2, Junfeng Zhongcheng Intelligent Manufacturing Innovation Park, Heping Community, Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province
Sample received date	:	Sep. 03, 2024
Testing period	:	Sep. 03, 2024 - Sep. 09, 2024

Test Requested:	**Conclusion :.**
The test results comply with the limits of RoHS 2.0 Directive (EU) 2015/863and (EU)2017/2102 amending Annex II to Directive 2011/65/EU — Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs and PBDEs Content —Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate(DIBP) Content	Pass

****** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) ******

Shenzhen Huaxiang Testing Co., Ltd

Drafted By: ---------- (Kevin su)

Approved By: ---------- LAB Manager: **Amy jiang**

Date: Sep. 09, 2024

Test Part Description:.

Specimen No.	Description.
01	Sucker
02	Metal
03	Cable
04	Black plastic
05	Cable
06	Black plastic
07	Metal
08	PCB
09	Red wire
10	Black wire
11	Copper wire
12	PCB
13	White plastic
14	Black plastic
15	Black plastic
16	Black plastic
17	Black plastic
18	Black plastic
19	Black plastic

TEST RESULT:

1.Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs and PBDEs—RoHS Directive (EU) 2015/863.

Test Items	Unit	Test Method	Result						MDL	Limit
			01	02	03	04	05	06		
Lead (Pb)	mg/kg	IEC 62321-5:2013, ICP-OES	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2	1000
Mercury (Hg)	mg/kg	IEC 62321-4:2017,ICP-OES	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2	1000
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-OES	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2	100
Hexavalent Chromium (CrVI)	$\mu g/cm^2$	IEC 62321-7-1:2015, UV-VIS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.10	0.10
Monobromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Dibromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tribromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tetrabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Pentabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Hexabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Heptabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Octabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Nonabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Decabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Sum of PBBs	mg/kg	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-	1000
Monobromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Dibromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tribromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tetrabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Pentabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Hexabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Heptabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Octabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Nonabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Decabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Sum of PBDEs	mg/kg	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-	1000

Test Items	Unit	Test Method	Result						MDL	Limit
			07	08	09	10	11	12		
Lead (Pb)	mg/kg	IEC 62321-5:2013, ICP-OES	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2	1000
Mercury (Hg)	mg/kg	IEC 62321-4:2017,ICP-OES	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2	1000
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-OES	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2	100
Hexavalent Chromium (CrVI)	$\mu g/cm^2$	IEC 62321-7-1:2015, UV-VIS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.10	0.10
Monobromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Dibromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tribromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tetrabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Pentabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Hexabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Heptabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Octabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Nonabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Decabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Sum of PBBs	mg/kg	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-	1000
Monobromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Dibromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tribromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tetrabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Pentabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Hexabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Heptabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Octabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Nonabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Decabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Sum of PBDEs	mg/kg	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-	1000

Test Items	Unit	Test Method	Result							MDL	Limit
			13	14	15	16	17	18	19		
Lead (Pb)	mg/kg	IEC 62321-5:2013, ICP-OES	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2	1000
Mercury (Hg)	mg/kg	IEC 62321-4:2017,ICP-OES	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2	1000
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-OES	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2	100
Hexavalent Chromium (CrVI)	$\mu g/cm^2$	IEC 62321-7-1:2015, UV-VIS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.10	0.10
Monobromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Dibromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tribromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tetrabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Pentabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Hexabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Heptabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Octabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Nonabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Decabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Sum of PBBs	mg/kg	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-	1000
Monobromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Dibromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tribromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Tetrabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Pentabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Hexabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Heptabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Octabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Nonabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Decabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
Sum of PBDEs	mg/kg	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-	1000

Note:

1. mg/kg = milligram per kilogram = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. "-" = Not Regulated
5. Boiling-water-extraction:
   Negative = Absence of Cr(VI) coating / surface layer: the detected concentration in boiling-water-extraction solution is less than 0.10μg with $1cm^2$ sample surface area.
   Positive = Presence of Cr(VI) coating / surface layer: the detected concentration in boiling-water-extraction solution is greater than 0.13μg with $1cm^2$ sample surface area.
   Inconclusive =the detected concentration in boiling-water-extraction solution is greater than 0.10μg and less than 0.13μg with $1cm^2$ sample surface area.
6. Positive = result be regarded as not comply with RoHS requirement
7. Negative = result be regarded as comply with RoHS requiremen

2. Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP) Content—RoHS Directive (EU) 2015/863.

Test method: With reference to IEC 62321-8:2017*, analysis was performed by GC-MS.

Test Items	Unit	Result						MDL	Limit
		01	02	03	04	05	06		
Di-(2-ethylhexyl) phthalate (DEHP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000
Benzylbutyl phthalate (BBP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000
Dibutyl phthalate (DBP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000
Diisobutyl phthalate(DIBP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000

Test Items	Unit	Result						MDL	Limit
		07	08	09	10	11	12		
Di-(2-ethylhexyl) phthalate (DEHP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000
Benzylbutyl phthalate (BBP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000
Dibutyl phthalate (DBP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000
Diisobutyl phthalate(DIBP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000

Test Items	Unit	Result							MDL	Limit
		13	14	15	16	17	18	19		
Di-(2-ethylhexyl) phthalate (DEHP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000
Benzylbutyl phthalate (BBP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000
Dibutyl phthalate (DBP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000
Diisobutyl phthalate(DIBP)	mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	50	1000

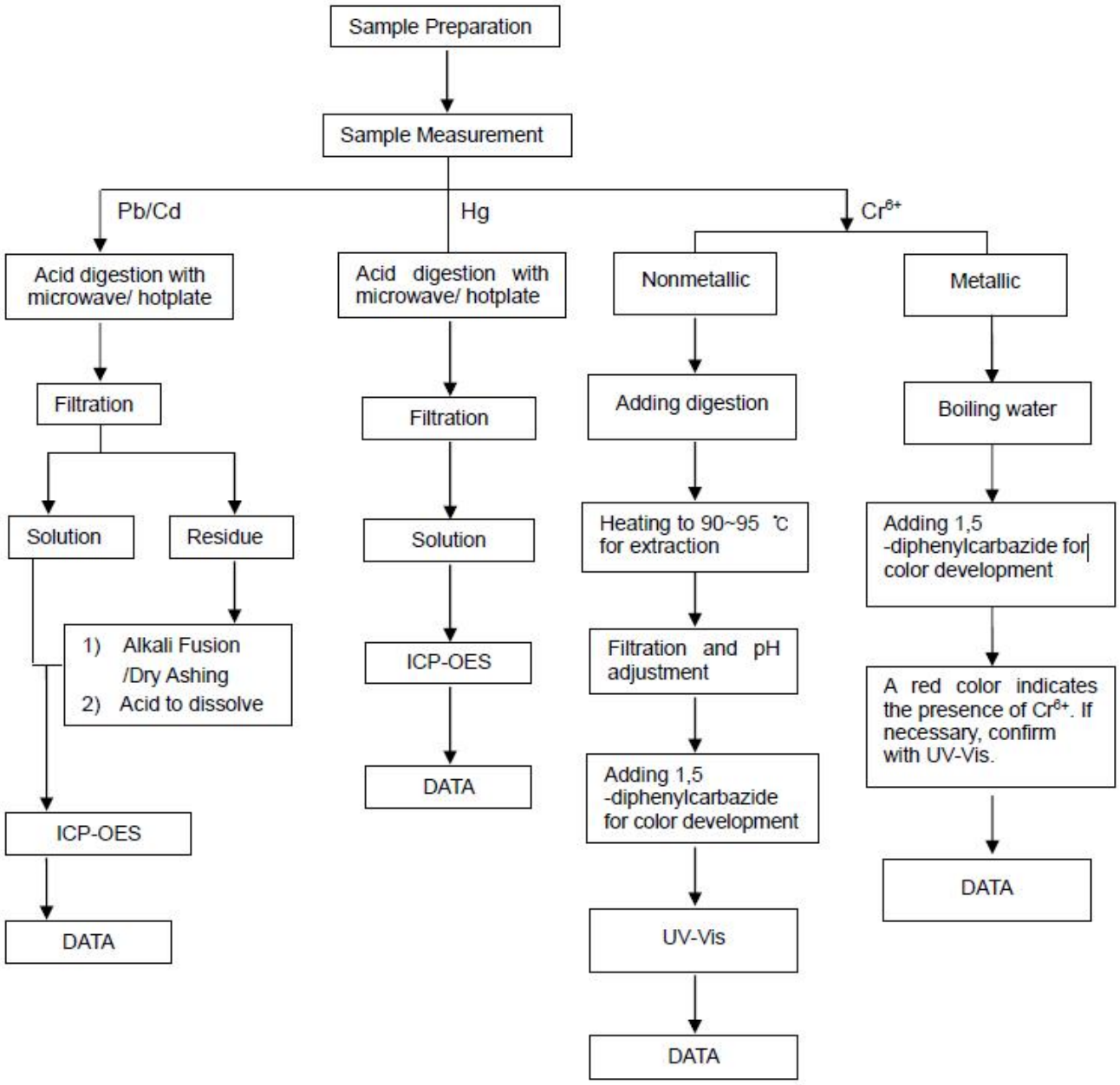
Note:

1. mg/kg = milligram per kilogram = ppm
2. N.D. = Not Detected (<MDL)
3. MDL = Method detection limit
4. “*”=The test method of Phthalates is not authorized by CNAS

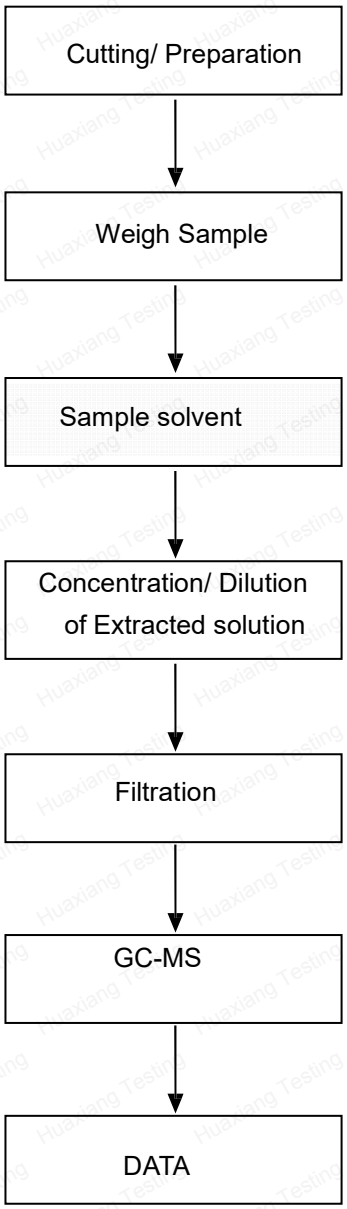
FLOW CHART FOR ROHS TESTING:

Pb/Cd/Hg/Cr6+ Testing Flow Chart

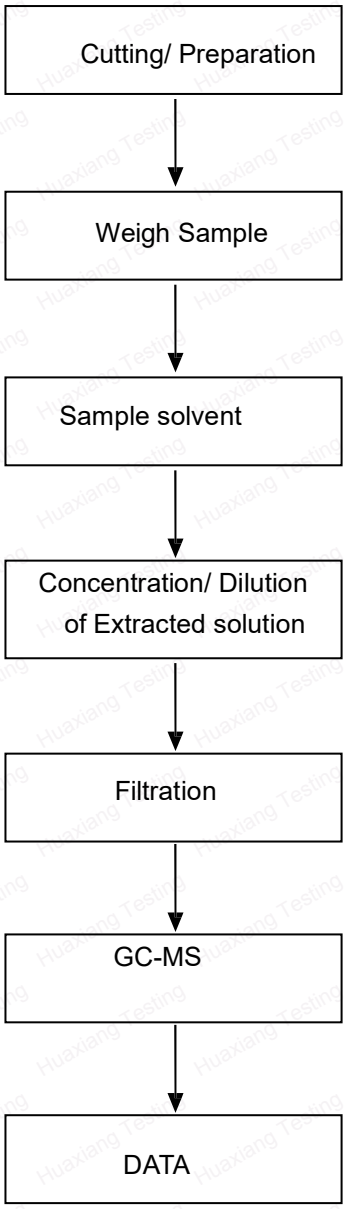
1) These samples were dissolved totally by pre-conditioningmethod according to below flow chart (Cr^{6+} test method excluded)



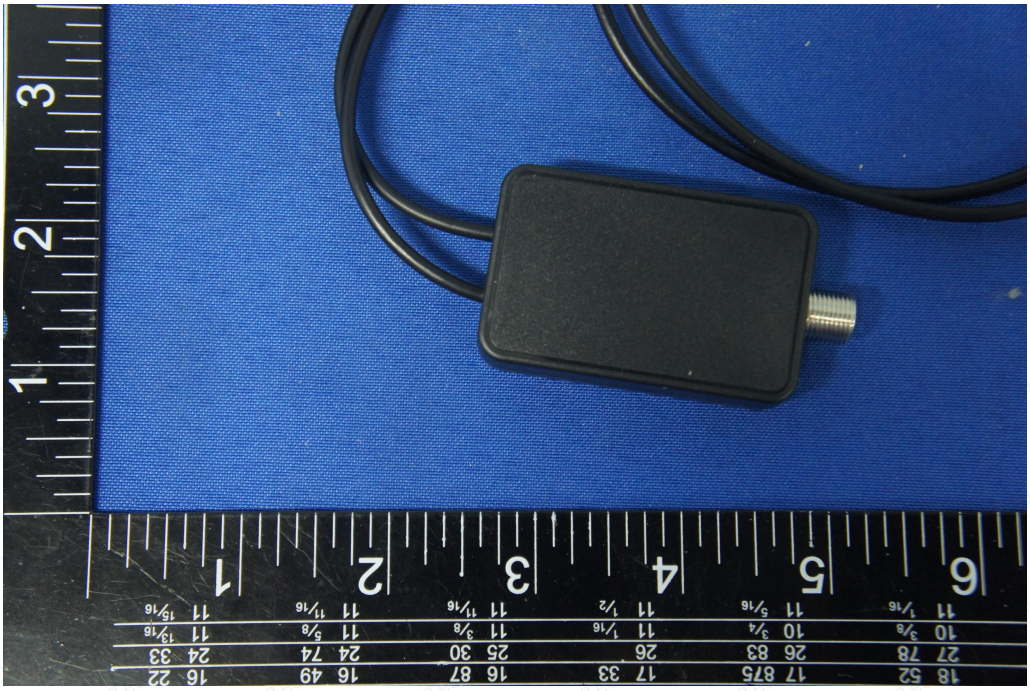
PBBs/PBDEs Testing Flow Chart

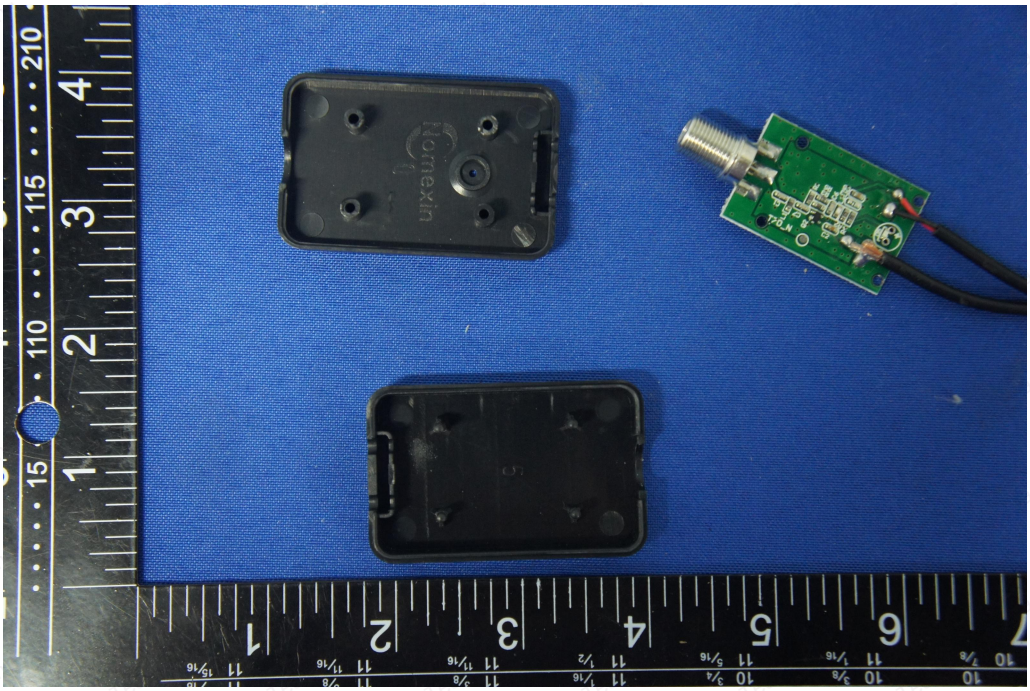


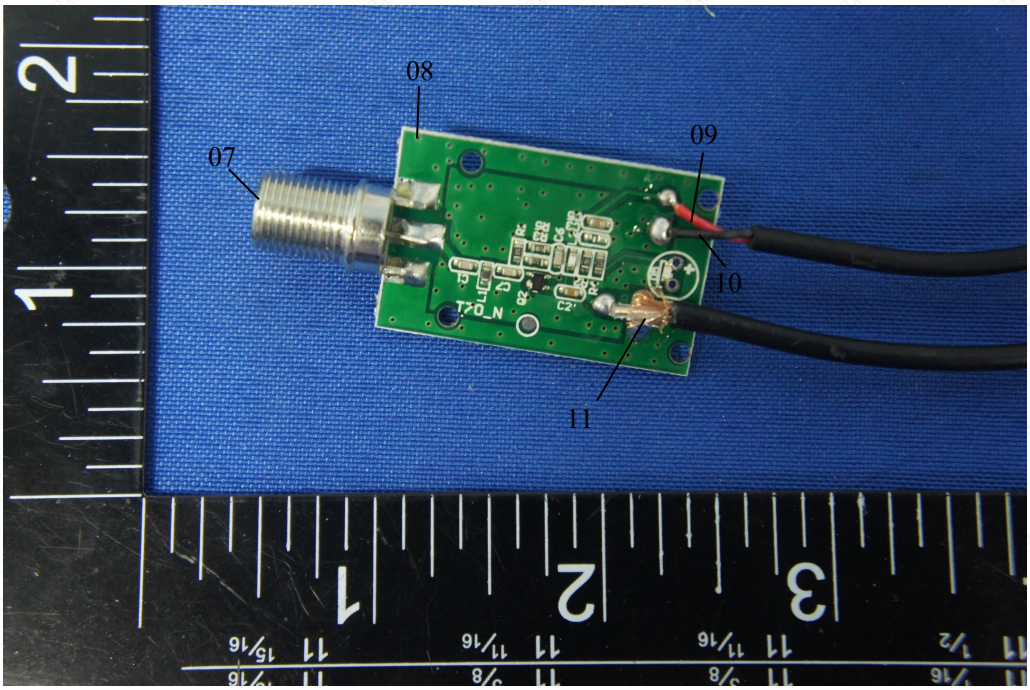
Phthalates Testing Flow Chart



PHOTOGRAPH OF SAMPLE:



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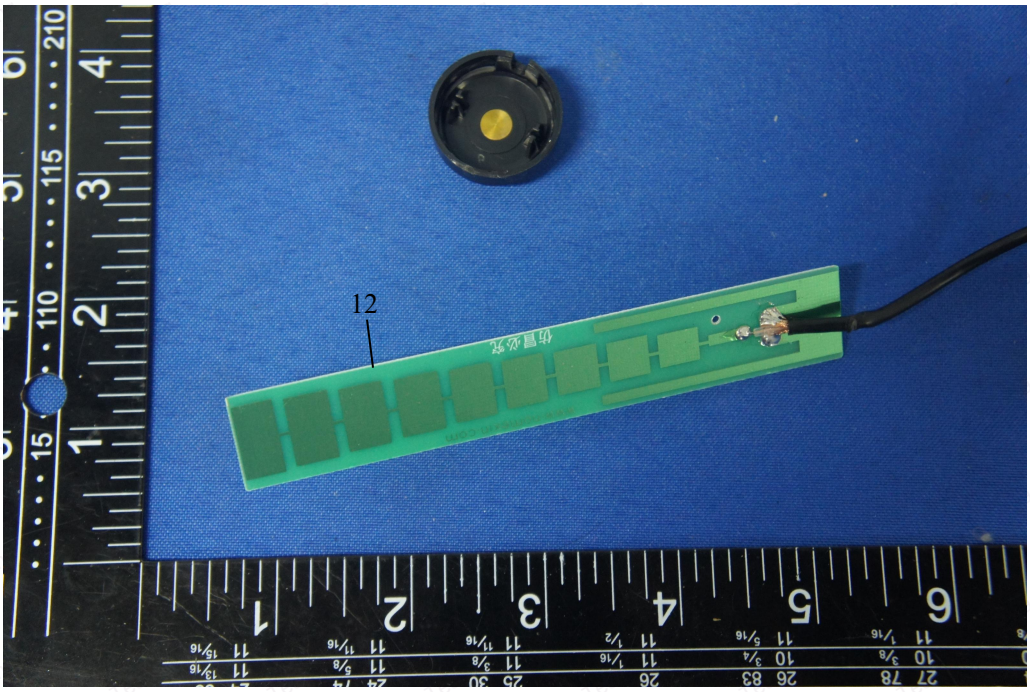
09
07
10
11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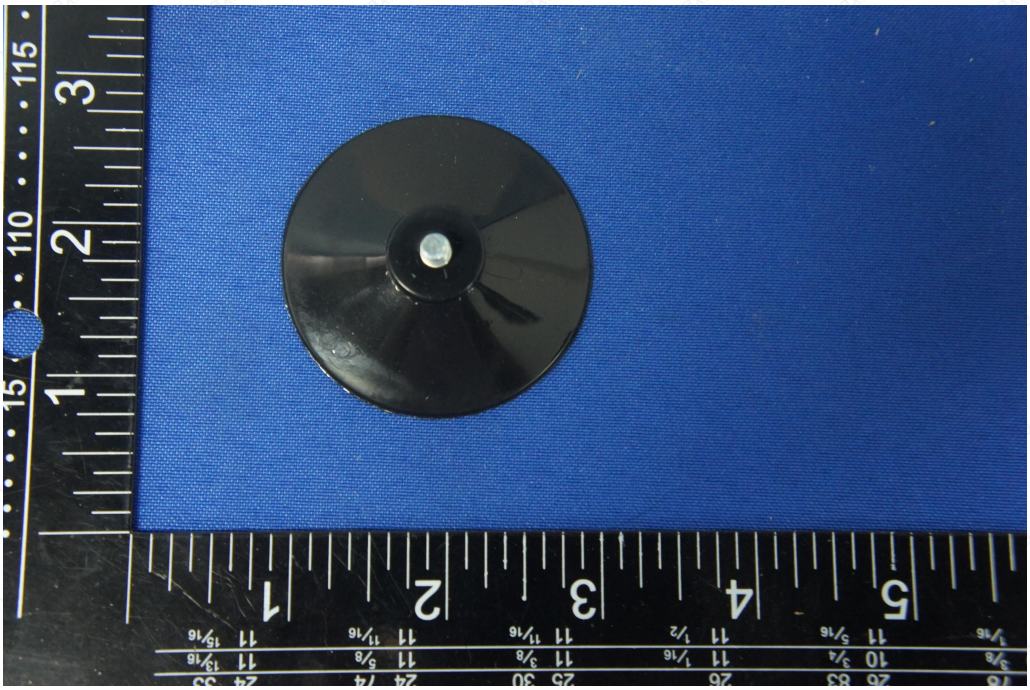
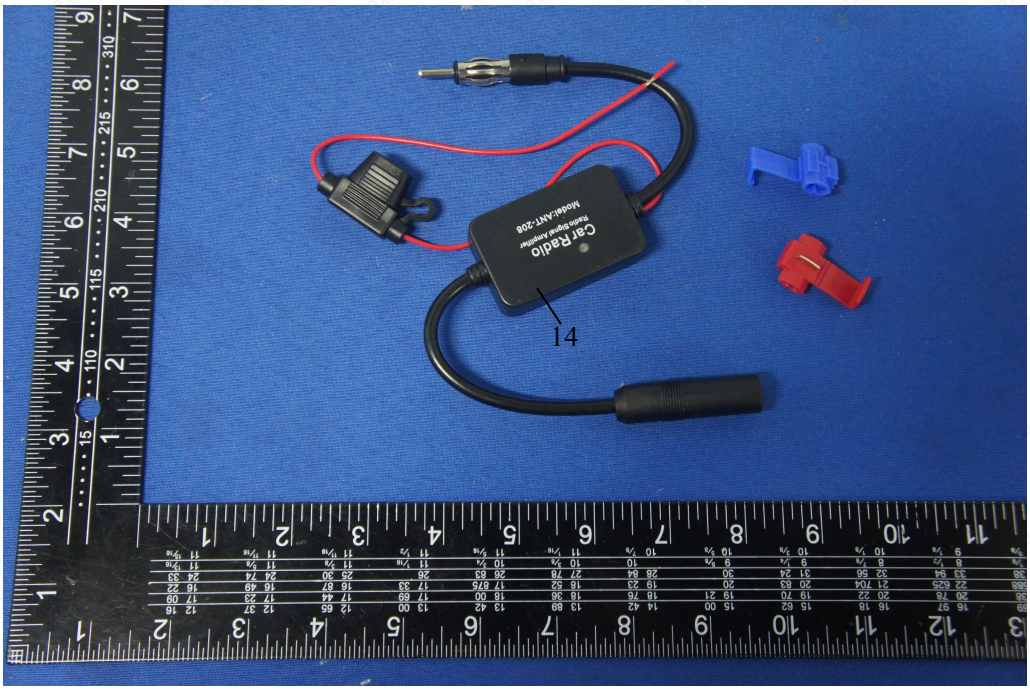
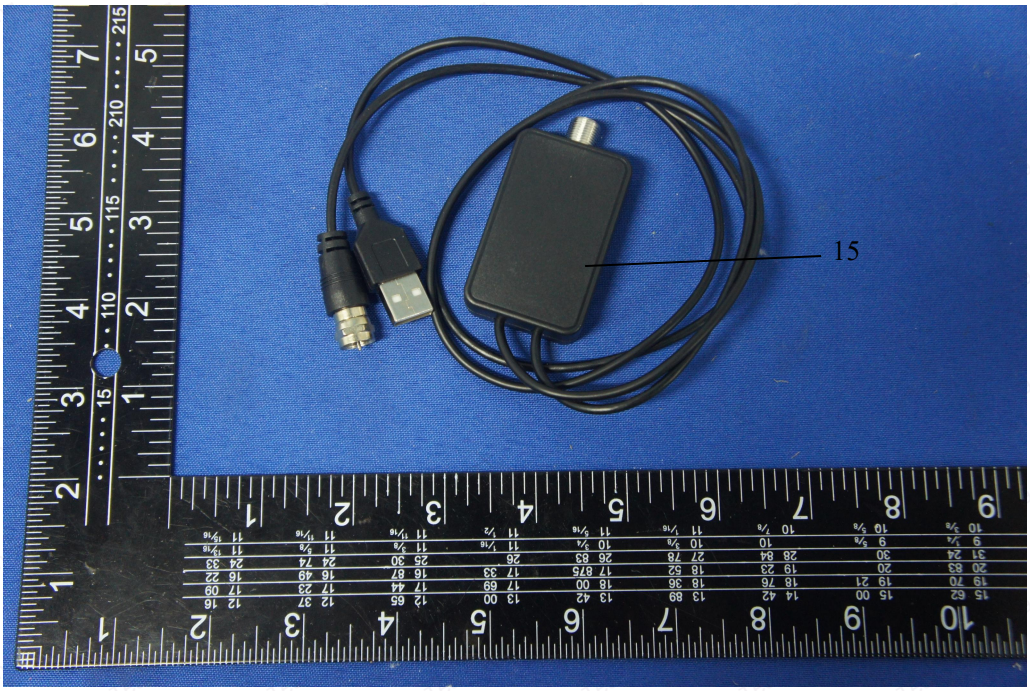
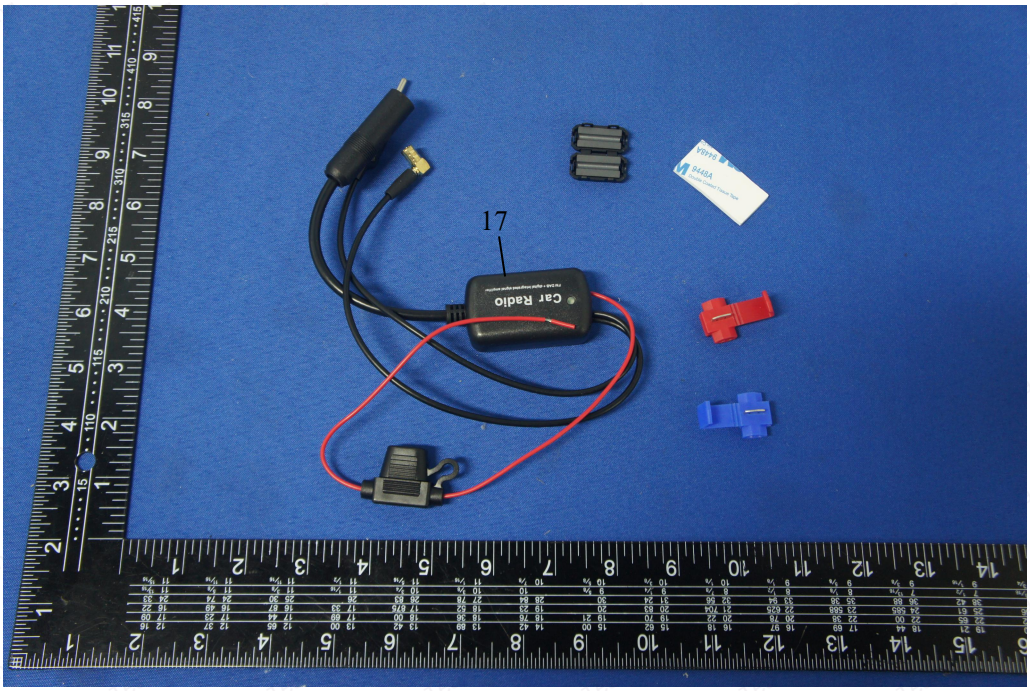


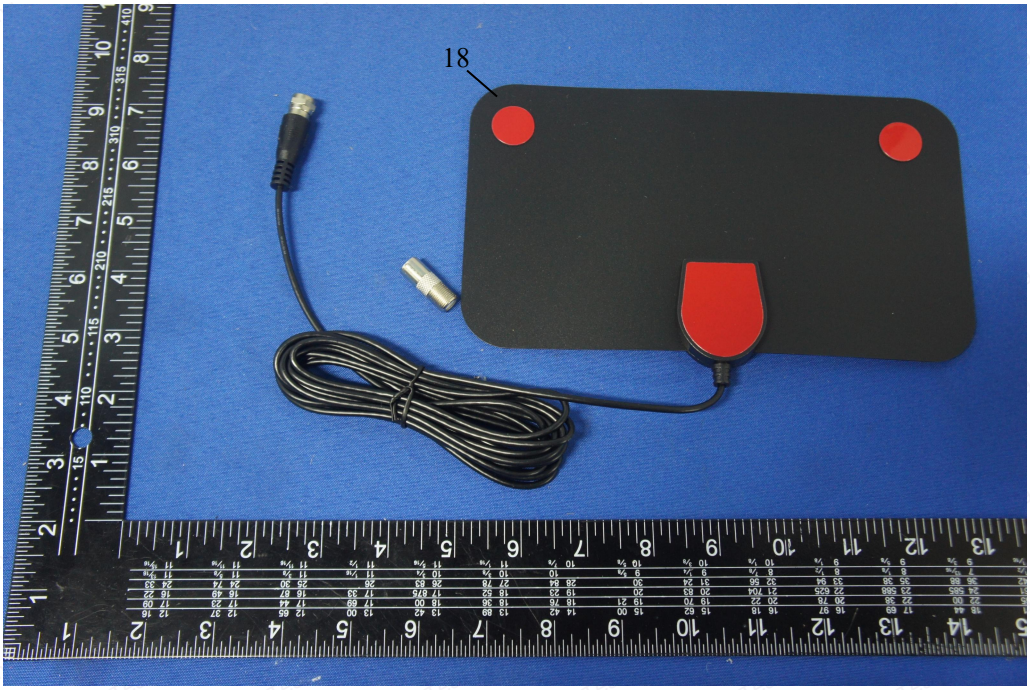

13


CarRadio
Model:ANT-208
14


15


16


17
Car Radio


18

※※※※※※ **THE END** ※※※※※※