



Certificate of Conformity

Based on the voluntary assessment of the product sample and technical file, we confirm that the following-mentioned product meets the requirements of the EC directive. The following products have been tested by us with listed standards and found in compliance with the council EMC Directive 2014/30/EU.

Certificate No. : BYS211119497EK

Applicant : Shenzhen Hongxin Tongchuang Technology Co. Ltd
501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen

Manufacturer : Shenzhen Hongxin Tongchuang Technology Co. Ltd
501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen

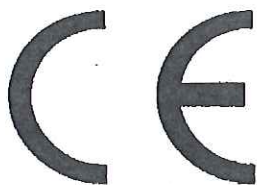
Product : air purifier

Model No. : HX-830

Test Standard : EN 55014-1: 2017+A11: 2020
EN 55014-2: 2015

Test Report No. : BYS211119497ER

This certificate of conformity is based on a single evaluation of the submitted sample (s) of the above mentioned product. It does not imply an assessment of the whole production and other relevant directives have to be observed.



Nov. 24, 2021

Shenzhen BYS Testing Co., Ltd.

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EMC TEST REPORT

On Behalf of

Prepared For :	Shenzhen Hongxin Tongchuang Technology Co. Ltd 501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen
Trade Mark :	N/A
Product Name :	air purifier
Model(s) :	HX-830
Prepared By:	Shenzhen BYS Testing Co., Ltd. Floor 4, Building 2, No.38 Guangda Road, Yuanshan Street, Longgang district, Shenzhen, China
Test Date:	Nov. 19, 2021 - Nov. 24, 2021
Date of Report:	Nov. 24, 2021
Report No. :	BYS211119497ER

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen BYS Testing Co., Ltd.

**TABLE OF CONTENTS**

1. GENERAL INFORMATION.....	5
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	5
1.2 TEST STANDARDS.....	5
1.3 TEST SUMMARY.....	6
1.4 TEST METHODOLOGY.....	7
1.5 TEST FACILITY.....	7
1.6 TEST EQUIPMENT LIST AND DETAILS.....	8
2. SYSTEM TEST CONFIGURATION.....	10
2.1 JUSTIFICATION.....	10
2.2 EUT EXERCISE SOFTWARE.....	10
2.3 SPECIAL ACCESSORIES.....	10
2.4 EQUIPMENT MODIFICATIONS.....	10
2.5 CONFIGURATION OF TEST SYSTEM.....	10
2.6 TEST SETUP DIAGRAM.....	10
3. DISTURBANCE VOLTAGE AT THE MAINS TERMINALS.....	11
3.1 MEASUREMENT UNCERTAINTY.....	11
3.2 LIMIT OF DISTURBANCE VOLTAGE AT THE MAINS TERMINALS.....	11
3.3 EUT SETUP.....	11
3.4 INSTRUMENTS SETUP.....	12
3.5 TEST PROCEDURE.....	12
3.6 SUMMARY OF TEST RESULTS.....	12
3.7 DISTURBANCE VOLTAGE TEST DATA.....	12
3.8 TEST RESULT.....	12
4. DISCONTINUOUS DISTURBANCE (CLICK).....	13
4.1 LIMIT OF DISCONTINUOUS DISTURBANCE.....	13
4.2 EUT SETUP.....	13
4.3 TEST PROCEDURE.....	13
4.4 SUMMARY OF TEST RESULTS.....	13
4.5 DISTURBANCE VOLTAGE TEST DATA.....	13
4.6 TEST RESULT.....	13
5. DISTURBANCE POWER.....	14
5.1 MEASUREMENT UNCERTAINTY.....	14
5.2 LIMIT OF DISTURBANCE POWER.....	14
5.3 EUT SETUP.....	14
5.4 INSTRUMENTS SETUP.....	15
5.5 TEST PROCEDURE.....	15
5.6 DISTURBANCE POWER TEST DATA.....	15
5.7 TEST PLOT(S) FOR DISTURBANCE POWER.....	15
5.8 TEST RESULT.....	15
6. RADIATED EMISSION MEASUREMENT.....	16
6.1 BLOCK DIAGRAM OF TEST.....	16
6.2 MEASURING STANDARD.....	16
6.3 RADIATED EMISSION LIMITS.....	17
6.4 EUT CONFIGURATION ON TEST.....	17
6.5 OPERATING CONDITION OF EUT.....	17
6.6 TEST PROCEDURE.....	17
6.7 MEASURING RESULTS.....	17
7. ELECTROSTATIC DISCHARGE IMMUNITY TEST (EN 61000-4-2).....	20
7.1 BLOCK DIAGRAM OF TEST SETUP.....	20
7.2 TEST STANDARD.....	20
7.3 SEVERITY LEVELS AND PERFORMANCE CRITERION.....	20
7.4 OPERATING CONDITION OF EUT.....	20
7.5 TEST PROCEDURE.....	21
7.6 TEST RESULTS.....	21
8.0 RF FIELD STRENGTH SUSCEPTIBILITY TEST.....	22
8.1 BLOCK DIAGRAM OF TEST.....	22
8.2 TEST STANDARD.....	22



8.3 SEVERITY LEVELS AND PERFORMANCE CRITERION.....	23
8.4 EUT CONFIGURATION ON TEST.....	23
8.5 OPERATING CONDITION OF EUT.....	23
8.6 TEST PROCEDURE.....	23
8.7 TEST RESULTS.....	23
9. ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST (EN 61000-4-4).....	24
9.1 BLOCK DIAGRAM OF TEST SETUP.....	24
9.2 TEST STANDARD.....	24
9.3 SEVERITY LEVELS AND PERFORMANCE CRITERION.....	24
9.4 OPERATING CONDITION OF EUT.....	24
9.5 TEST PROCEDURE.....	25
9.6 TEST RESULT.....	25
10. SURGE IMMUNITY TEST (EN 61000-4-5).....	26
10.1 BLOCK DIAGRAM OF TEST SETUP.....	26
10.2 TEST STANDARD.....	26
10.3 SEVERITY LEVELS AND PERFORMANCE CRITERION.....	26
10.4 OPERATING CONDITION OF EUT.....	26
10.5 TEST PROCEDURE.....	27
10.6 TEST RESULT.....	27
11. CONDUCTED SUSCEPTIBILITY TEST (EN 61000-4-6).....	28
11.1 BLOCK DIAGRAM OF TEST SETUP.....	28
11.2 TEST STANDARD.....	28
11.3 SEVERITY LEVELS AND PERFORMANCE CRITERION.....	28
11.4 OPERATING CONDITION OF EUT.....	28
11.5 TEST PROCEDURE.....	29
11.6 TEST RESULTS.....	29
12. VOLTAGE DIPS, SHORT INTERRUPTIONS IMMUNITY TESTS (EN61000-4-11).....	30
12.1 BLOCK DIAGRAM OF TEST SETUP.....	30
12.2 TEST STANDARD.....	30
12.3 SEVERITY LEVELS AND PERFORMANCE CRITERION.....	30
12.4 EUT CONFIGURATION.....	30
12.5 OPERATING CONDITION OF EUT.....	30
12.6 TEST PROCEDURE.....	31
12.7 TEST RESULT.....	31
13. TEST RESULTS.....	32
13.1 EN 61000-4-2 ELECTROSTATIC DISCHARGE IMMUNITY TEST CONFIGURATION.....	32
13.2 EN 61000-4-3 ELECTROSTATIC DISCHARGE IMMUNITY TEST CONFIGURATION.....	32
13.3 EN 61000-4-4 ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST CONFIGURATION.....	32
13.4 EN 61000-4-5 SURGE IMMUNITY TEST CONFIGURATION.....	32
13.5 EN 61000-4-6 CONDUCTED SUSCEPTIBILITY TEST CONFIGURATION.....	32
13.6 EN 61000-4-11 VOLTAGE DIPS, SHORT INTERRUPTIONS IMMUNITY TESTS CONFIGURATION.....	32
APPENDIX A - PRODUCT LABELING.....	33
CE MARK LABEL SPECIFICATION.....	33
APPENDIX B- EUT PHOTOGRAPHS.....	34

**TEST REPORT DECLARATION**

Applicant	:	Shenzhen Hongxin Tongchuang Technology Co. Ltd
Address :	:	501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen
Manufacturer:	:	Shenzhen Hongxin Tongchuang Technology Co. Ltd
Address :	:	501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen
EUT Description :	:	air purifier
Model Number	:	HX-830

Test Standards:

EN 55014-1: 2017+A11: 2020
EN 55014-2: 2015

The EUT described above is tested by Shenzhen BYS 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 BYS Testing Co., Ltd is assumed full responsibility for the accuracy of the test results. Also, this report shows that the EUT technically complies with the 2014/30/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.

Date of Test:

Nov. 19, 2021 - Nov. 24, 2021

Prepared by (Engineer) :

Reviewer by (Quality Manager) :

Approved by (Manager) :

*ma the**Jade*



1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	Shenzhen Hongxin Tongchuang Technology Co. Ltd
Address of applicant:	501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen
Manufacturer:	Shenzhen Hongxin Tongchuang Technology Co. Ltd
Address of manufacturer:	501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen

General Description of E.U.T

EUT Description:	air purifier
Trade Mark:	N/A
EUT Model No.:	HX-830
Test Voltage:	DC 5V

Remark:

- The test data gathered are from the production sample provided by the manufacturer.
- The length of power line is 1.8m

1.2 Test Standards

The following Declaration of Conformity report of EUT is prepared in accordance with

EN 55014-1: 2017+A11: 2020

EN 55014-2: 2015

The objective of the manufacturer is to demonstrate compliance with the described standards above.

1.3 Test Summary

For the EUT described above. This apparatus is subdivided into category II according to the section 4.2 of EN 55014-2: 2015. So according to section 7.2.2 of this standard, the immunity test item applicable to this EUT is listed in table 3.

Table 1: Tests Carried Out Under EN55014-1:2006+A1:2009 + A2:2011 (as amended)

Standard	Test Items	Test Result
EN55014-1:2006+A1:2009+A2:2011	Conducted Emission, 150kHz to 30MHz	PASS
EN55014-1:2006+A1:2009+A2:2011	Disturbance Power (30MHz To 300MHz)	N/A
EN55014-1:2006+A1:2009+A2:2011	Click	N/A

- √ Indicates that the test is applicable
 × Indicates that the test is not applicable

Table 2: Tests Carried Out Under EN 55014-2: 2015

Standard	Test Items	Test Result
EN 61000-4-2: 2009	Electrostatic discharge Immunity	PASS
EN 61000-4-3: 2006 +A1:2008+A2:2010	Radiated Susceptibility (80MHz to 1GHz)	N/A
EN 61000-4-4: 2004+A1:2010	Electrical Fast Transient/Burst Immunity	N/A
EN 61000-4-5: 2006	Surge Immunity	N/A
EN 61000-4-6: 2009	Conducted Susceptibility (150kHz to 230MHz)	N/A
EN 61000-4-11: 2004	Voltage Dips, Short Interruptions Immunity	N/A

- √ 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, 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 BYS Testing Co., Ltd.

1.5 Test Facility

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

EMC Lab. : Accredited by FCC (Federal Communications Commission)
The Laboratory has been assessed according to the requirements ISO/IEC 17025.

Name of Firm : Shenzhen BYS Testing Co., Ltd.

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



1.6 Test Equipment List and Details

Table 1: Test Equipment for Emission Test and Harmonic Current / Flicker Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal	Calibration Period
Ultra-Broadband Antenna	ROHDE & SCHWARZ	HL562	100015	Nov. 20, 2020	1 year
EMI Test Receiver	ROHDE & SCHWARZ	ESI 26	100009	Nov. 20, 2020	1 year
RF Test Panel	ROHDE & SCHWARZ	TS / RSP	335015/ 0017	N/A	N/A
Turntable	ETS	2088	2149	N/A	N/A
Antenna Mast	ETS	2075	2346	N/A	N/A
EMI Test Receiver	ROHDE & SCHWARZ	ESCS30	100038	Nov. 20, 2020	1 year
Artificial Mains	ROHDE & SCHWARZ	ESH2-Z5	100028	Nov. 20, 2020	1 year
Pulse Limiter	ROHDE & SCHWARZ	ESHSZ2	100044	Nov. 20, 2020	1 year
Absorbing Clamp	ROHDE & SCHWARZ	MDS-21	100011	Nov. 20, 2020	1 year
EMI In Motion	HD	KMS 560	560/385 BJ:01	N/A	N/A
Controller	HD	HD 050	050/477 BJ:01	N/A	N/A
Purified Power Source	CALIFORNIA INSTRUMENTS	HFS500	54513	Nov. 20, 2020	1 year
Harmonic And Flicker Analyzer	EM TEST	DPA503S1	0500-10	Nov. 20, 2020	1 year



Table 2: Test Equipment for Immunity Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal	Calibration Period
ESD Simulator	EM TEST	DITOC0103Z	0301-04	Nov. 20, 2020	1 year
Signal Generator	IFR	2032	203002/100	Nov. 20, 2020	1 year
Amplifier	AR	150W1000	301584	Nov. 20, 2020	1 year
Dual Directional Coupler	AR	DC6080	301508	Nov. 20, 2020	1 year
Power Head	AR	PH2000	301193	Nov. 20, 2020	1 year
Power Meter	AR	PM2002	302799	Nov. 20, 2020	1 year
Ultra Compact Simulator	EM TEST	UCS500M6	0500-19	Nov. 20, 2020	1 year
Signal Generator	IFR	2023A	202304/060	Nov. 20, 2020	1 year
Amplifier	AR	75A250	302205	Nov. 20, 2020	1 year
Dual Directional Coupler	AR	DC2600	302389	Nov. 20, 2020	1 year
6DB Attenuator	EMTEST	ATT6/75	0010230A	Nov. 20, 2020	1 year
CDN	EMTEST	CDN M3	0802-03	Nov. 20, 2020	1 year
Ultra Compact Simulator	EM TEST	UCS500M6	0500-19	Nov. 20, 2020	1 year
Motor Driven Voltage Transformer	EM TEST	MV2616	0301-11	Nov. 20, 2020	1 year
Current Transformer	EM TEST	MC2630	D5101	Nov. 20, 2020	1 year
Magnetic Coil	EM TEST	MS100	0500-19	Nov. 20, 2020	1 year

2. SYSTEM TEST CONFIGURATION

2.1 Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

2.2 EUT Exercise Software

The EUT exercising program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The software offered by manufacture, can let the EUT being normal operation.

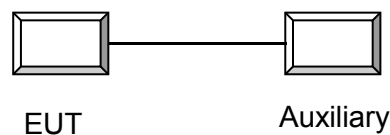
2.3 Special Accessories

As shown in section 2.5, interface cable used for compliance testing is shielded as normally supplied by SShenzhen Hongxin Tongchuang Technology Co. Ltd. and its respective support equipment manufacturers.

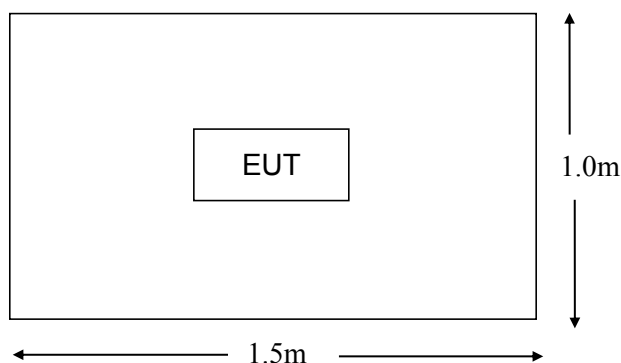
2.4 Equipment Modifications

The EUT tested was not modified by HSO.

2.5 Configuration of Test System



2.6 Test Setup Diagram



3. DISTURBANCE VOLTAGE AT THE MAINS TERMINALS

3.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.4 dB.

3.2 Limit of Disturbance Voltage At The Mains Terminals

Frequency Range (MHz)	Limits (dBuV)	
	Quasi-Peak	Average
0.150~0.500	66~56	56~46
0.500~5.000	56	46
5.000~30.00	60	50

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

3.3 EUT Setup

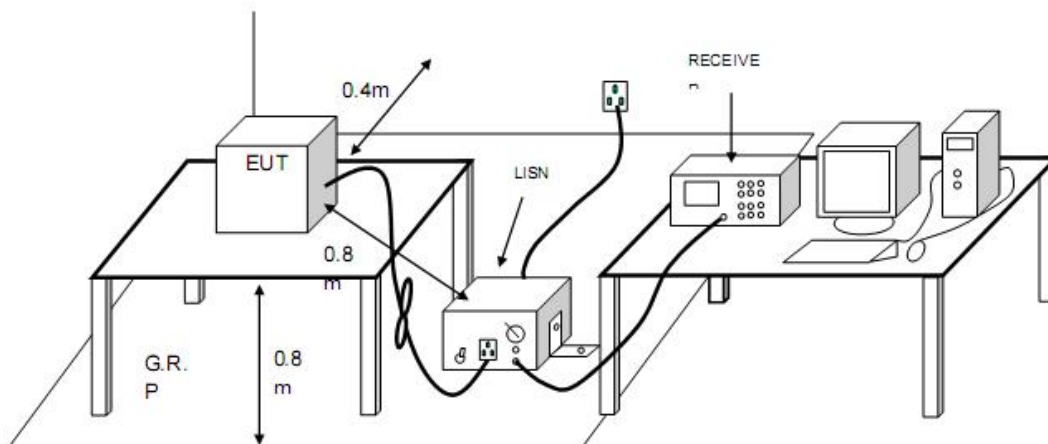
The setup of EUT is according with CISPR 16-1, CISPR16-2 measurement procedure. The specification used was the EN 55014-1 limits.

The EUT was placed center and the back edge of the test table.

The AV cables were draped along the test table and bundled to 30-40cm in the middle.

The spacing between the peripherals was 10 cm.

Maximum emission emitted from EUT was determined by manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation and the levels in the final result of the test were recorded with the EUT running in the operating mode that maximum emission was emitted.





3.4 Instruments Setup

The test receiver was set with the following configurations:

Test Receiver Setting:

Frequency Range.....150 KHz to 30 MHz
Detector.....Peak & Quasi-Peak & Average
Sweep Speed.....Auto
IF Band Width.....9 KHz

3.5 Test Procedure

During the conducted emission test, the EUT power cord was connected to the auxiliary outlet of the first Artificial Mains.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance using all installation combination.

All data was recorded in the peak detection mode. Quasi-peak and Average readings were only performed when an emission was found to be marginal (within -10 dB μ V of specification limits). Quasi-peak readings are distinguished with a "QP". Average readings are distinguished with a "AV".

3.6 Summary of Test Results

According to the data in section 3.6, the EUT complied with the EN 55014-1 Conducted margin.

3.7 Disturbance Voltage Test Data

Temperature (°C)	22~25
Humidity (%RH)	50~55
Barometric Pressure (mbar)	950~1000
EUT	<u>air purifier</u>
M/N	HX-830
Operating Mode	Normal

Test data see following pages

3.8 Test Result

N/A

4. DISCONTINUOUS DISTURBANCE (CLICK)

4.1 Limit of Discontinuous Disturbance

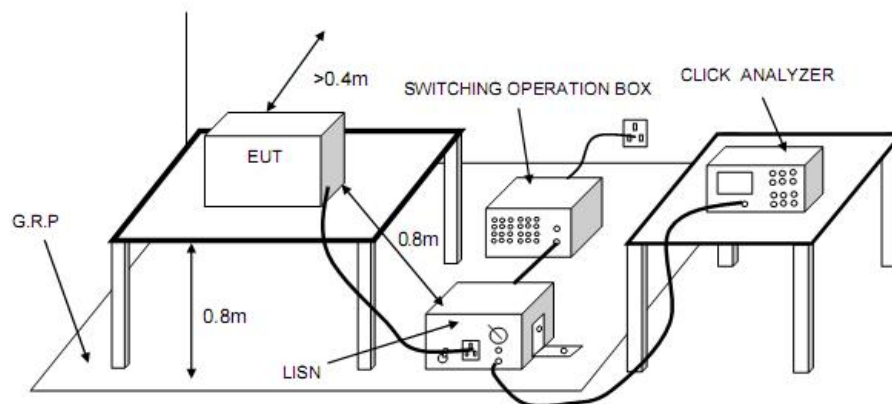
The limits for discontinuous disturbance depend mainly on the character of the disturbance and on the click rate **N** as given in details in clause 4.2.2 and 4.2.3 of the standard of EN 55014-1: 2006+A1:2009.

4.2 EUT Setup

The setup of EUT is according with CISPR 16-1, CISPR16-2 measurement procedure. See following test setup figure. The specification used was the EN 55014-1 limits.

The spacing between the peripherals was 10 cm.

Maximum emission emitted from EUT was determined by manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation and the levels in the final result of the test were recorded with the EUT running in the operating mode that maximum emission was emitted.



4.3 Test Procedure

During the Click test, the EUT power cord was connected to the auxiliary outlet of the first Artificial Mains Test Procedure details see clause 7.4.2 of standard EN 55014-1: 2006+A1:2009

4.4 Summary of Test Results

According to the data in section 4.3, the EUT complied with the requirement of Click test of EN 55014-1.

4.5 Disturbance Voltage Test Data

Temperature (°C)	22~25
Humidity (%RH)	50~54
Barometric Pressure (mbar)	950~1000
EUT	N/A
M/N	N/A
Operating Mode	N/A

4.6 Test Result

N/A

5. DISTURBANCE POWER

5.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and power clamp.

The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.4 dB.

5.2 Limit of Disturbance Power

Frequency Range (MHz)	Limit (dBpW)	
	Quasi-Peak	Average
30~300	45~55	35~45

Note: (1) The limit line is a linear line.

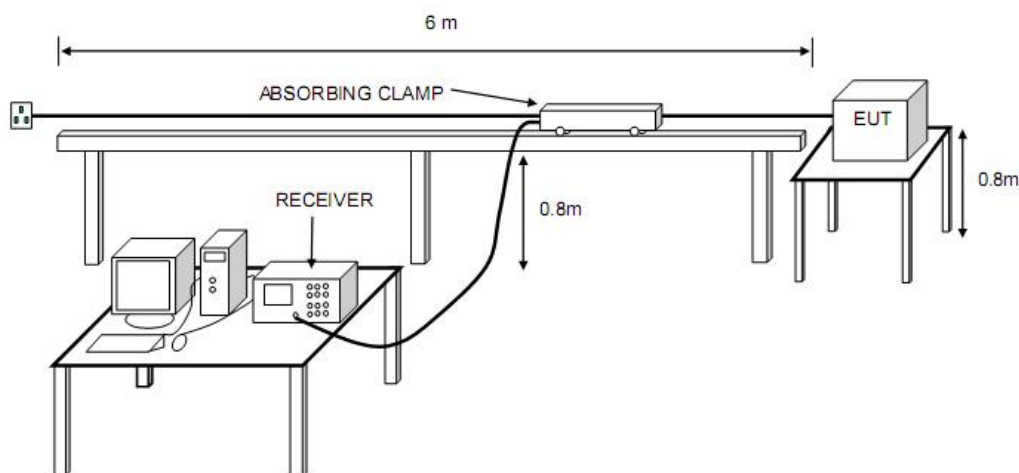
5.3 EUT Setup

The setup of EUT is according with CISPR 16-1, CISPR16-2 measurement procedure. See following test setup figure. The specification used was the EN 55014-1 limits.

The EUT was placed at the edge of the test table so as to make the end of the lead close to the EUT as short as possible between the power clamp and the EUT.

The spacing between the peripherals was 10 cm.

Maximum emission emitted from EUT was determined by manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation and the levels in the final result of the test were recorded with the EUT running in the operating mode that maximum emission was emitted





5.4 Instruments Setup

The test receiver was set with the following configurations:

Test Receiver Setting:

Frequency Range.....30MHz to 300 MHz
Detector.....Peak & Quasi-Peak & Average
Sweep Speed.....Auto
IF Band Width.....9 KHz

5.5 Test Procedure

The associated equipment under test is placed on a non-metallic table of 0.8 m of height above the floor and at least 0.4 m from other objects and from any person. The lead to be measured shall be stretched in a straight horizontal line for a length sufficient to accommodate the absorbing clamp and to permit the necessary adjustment of its position for tuning. The absorbing clamp is placed around the lead to be measured, with its current transformer towards the equipment under test, so as to measure a quantity proportional to the disturbance power on the lead.

Any other lead less than that to be measured shall either be disconnected, if mechanically and functionally possible, or fitted with ferrite rings to attenuate RF currents which may affect the measurement results. Such a lead shall be stretched away from the connected unit in a direction perpendicular to the direction of the lead to be measured.

All connectors not used shall be left un-terminated. All connectors having a connected lead shall be terminated in a manner representative of use. If the leads are screened and normally terminated in a screened unit, then the termination shall be screened.

5.6 Disturbance Power Test Data

Temperature (°C)	22~23
Humidity (%RH)	50~54
Barometric Pressure (mbar)	950~1000
EUT	air purifier
M/N	HX-830
Operating Mode	Normal

5.7 Test Plot(s) for Disturbance Power

Plot(s) of Disturbance Power Test Data is presented hereinafter as reference.

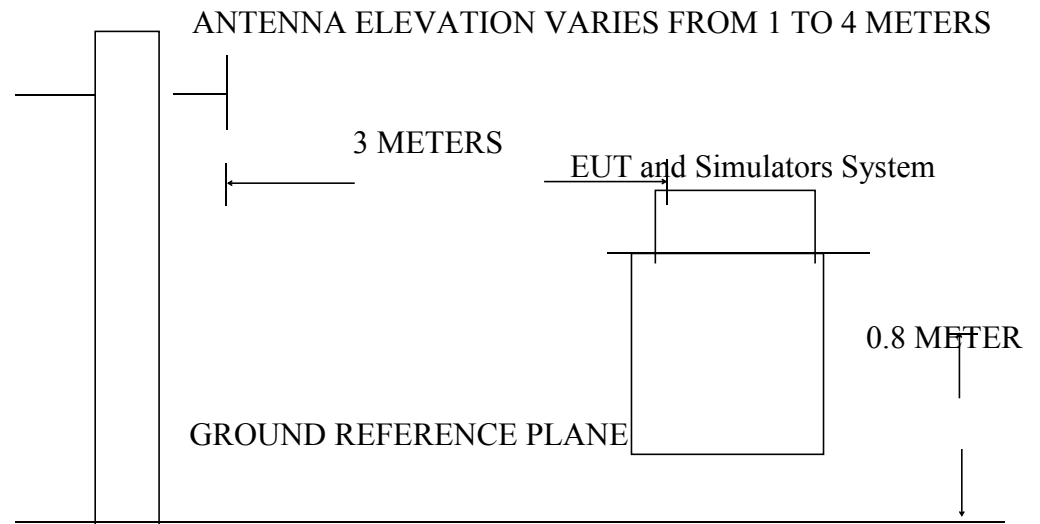
5.8 Test Result

N/A

6. RADIATED EMISSION MEASUREMENT

6.1 Block Diagram of Test

Block diagram of test setup (In chamber)



6.2 Measuring Standard

EN55014-1:2006+A1:2009+ A2:2011



6.3 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 (dB μ V/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.

6.4 EUT Configuration on Test

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

6.5 Operating Condition of EUT

Turn on the power.

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

6.6 Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 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. 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 (ESCS30) is set at ES1kHz.
The frequency range from 30MHz to 1000MHz is investigated.

6.7 Measuring Results

PASS.

Please reference to the following pages



Standard:	EN55014-1:2006+A1:2009+ A2:2011	Polarization:	Horizontal
Test item:	Radiation Test	Date:	2021-11-20
EUT:	air purifier	Test By:	Mark
Model:	HX-830	Distance:	3m
Note:			



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
1	*	44.2752	54.04	-17.48	36.56	40.00	-3.44	QP		
2		54.6428	50.82	-20.53	30.29	40.00	-9.71	QP		
3		65.3431	46.57	-20.25	26.32	40.00	-13.68	QP		
4		177.5089	47.97	-15.67	32.30	40.00	-7.70	QP		
5		187.7529	43.46	-15.94	27.52	40.00	-12.48	QP		
6		226.0994	42.52	-15.70	26.82	40.00	-13.18	QP		



Standard:	EN55014-1:2006+A1:2009+ A2:2011	Polarization:	Horizontal
Test item:	Radiation Test	Date:	2021-11-20
EUT:	air purifier	Test By:	Mark
Model:	HX-830	Distance:	3m
Note:			

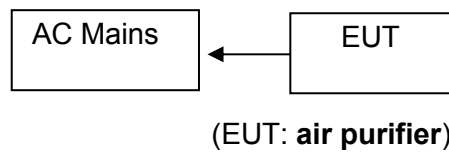


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		70.5836	49.27	-19.92	29.35	40.00	-10.65	QP		
2		127.6645	44.30	-14.00	30.30	40.00	-9.70	QP		
3		137.9028	44.00	-14.63	29.37	40.00	-10.63	QP		
4		158.1123	46.09	-14.73	31.36	40.00	-8.64	QP		
5		182.5592	46.25	-16.03	30.22	40.00	-9.78	QP		
6	*	228.4902	49.13	-15.40	33.73	40.00	-6.27	QP		

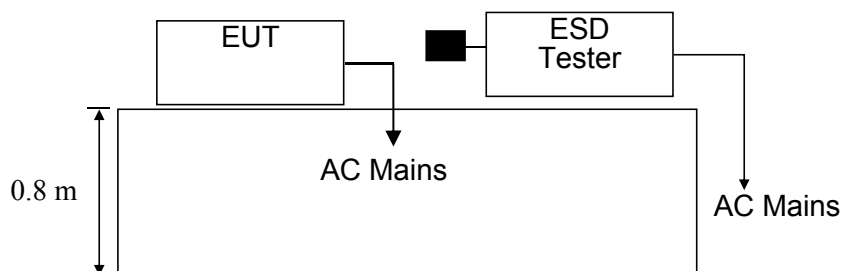
7. ELECTROSTATIC DISCHARGE IMMUNITY TEST (EN 61000-4-2)

7.1 Block Diagram of Test Setup

9.1.1 Block diagram of connection between the EUT and Load



7.1.2 Block diagram of ESD test setup



7.2 Test Standard

EN 55014-2: 2015 , (EN61000-4-2: 2009 Severity Level: 3 / Air Discharge: ± 8 KV Level: 2 / Contact Discharge: ± 4 KV)

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 Operating Condition of EUT

7.4.1 Setup the EUT as shown on Section 8.1.

7.4.2 Turn on the power of all equipments.

7.4.3 Let the EUT work in measuring mode (Normal) and measure it.



7.5 Test Procedure

7.5.1 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.

7.5.2 Contact Discharge:

All the procedure shall be same as Section 8.5.1. Except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

7.5.3 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.

7.5.4 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.

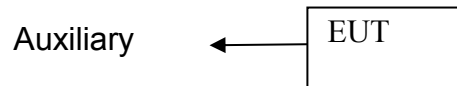
7.6 Test Results

N/A

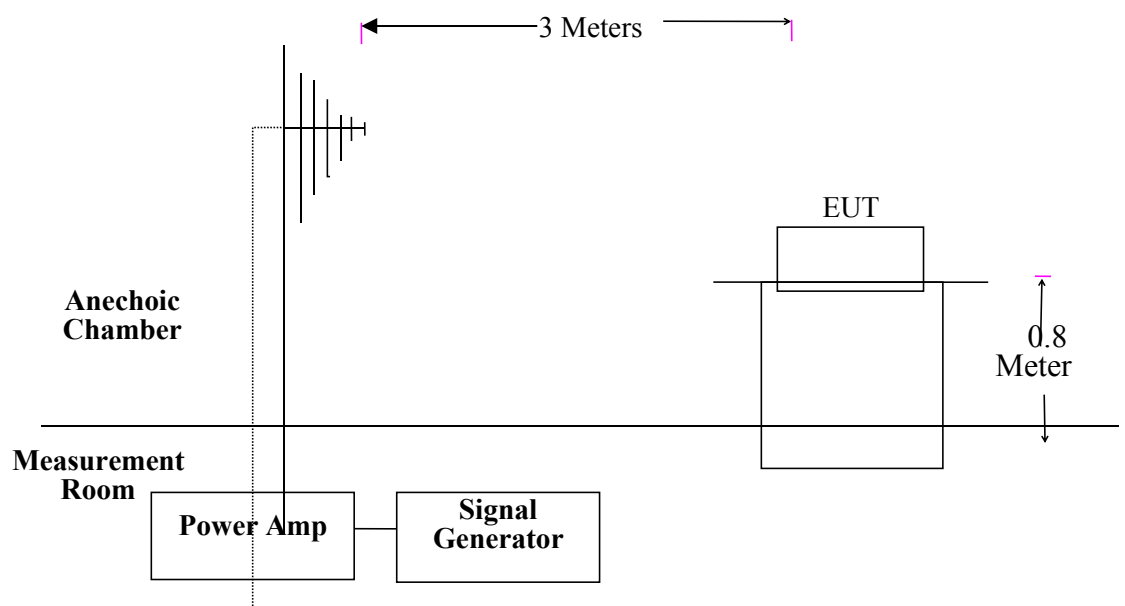
8.0 RF FIELD STRENGTH SUSCEPTIBILITY TEST

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 55014-2: 2015

(EN61000-4-3:2006 +A1:2008+A2:2010 (Severity Level: 2, 5V / m))

8.3 Severity Levels and Performance Criterion

8.3.1 Severity Levels

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

8.3.2 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	5V/m (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.

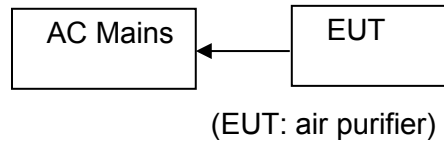
8.7 Test Results

N/A

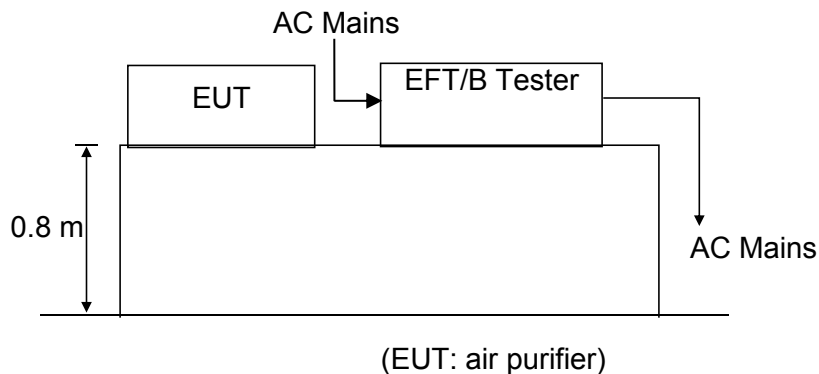
9. ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST (EN 61000-4-4)

9.1 Block Diagram of Test Setup

9.1.1. Block Diagram of the EUT



9.1.2. Block Diagram of the AC Mains



9.2 Test Standard

EN 55014-2: 2015 , (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 $\pm 10\%$		
Level	On air purifier 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 Operating Condition of EUT

9.4.1 Setup the EUT as shown in Section 9.1.

9.4.2 Turn on the power of all equipments.

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



9.5 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.

9.5.1 For input and output AC power ports:
It's unnecessary to test

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

9.5.3 For DC Input line ports:

The EUT is connected to the DC power mains by using a coupling device which couples the EFT interference signal to DC 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 Test Result

PASS

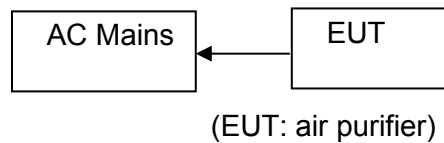
Temperature (°C)	22~23
Humidity (%RH)	50~54
Barometric Pressure (mbar)	950~1000
EUT	air purifier
M/N	HX-830
Operating Mode	Normal

EN 61000-4-4 Test Points		Test Levels (kV)							
		+0.5	-0.5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
Power Supply Power Line of EUT	L1	A	A	A	A	/	/	/	/
	N	A	A	A	A	/	/	/	/
	Earth	/	/	/	/	/	/	/	/
	L1+N	A	A	A	A	/	/	/	/
	L1 + Earth	/	/	/	/	/	/	/	/
	N+ Earth	/	/	/	/	/	/	/	/
	L1+N+Earth	/	/	/	/	/	/	/	/

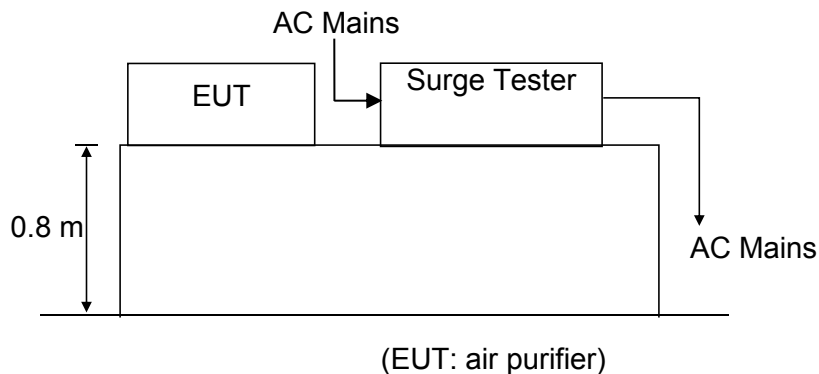
10. SURGE IMMUNITY TEST (EN 61000-4-5)

10.1 Block Diagram of Test Setup

10.1.1. Block Diagram of the EUT



10.1.2. Block Diagram of the AC Mains



10.2 Test Standard

EN 55014-2: 2015 , (EN61000-4-5: 2006 Severity Level: Line to Line, Level 2: 1KV, Line to Earth , Level 3: 2KV)

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 Operating Condition of EUT

10.4.1 Setup the EUT as shown in Section 10 .1.

10.4.2. Turn on the power of all equipments.

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



10.5 Test Procedure

- 1) Set up the EUT and test generator as shown on Section 10.1.2.
- 2) For DC port coupling mode, provide a 1 KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.
- 3) At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.
- 4) Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

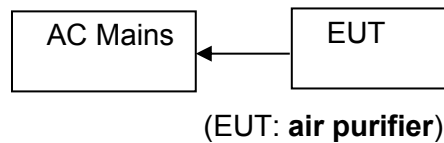
10.6 Test Result

N/A

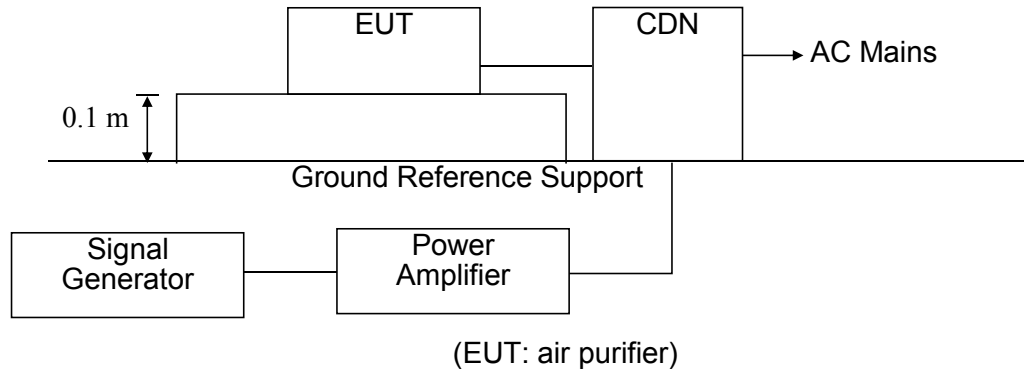
11. CONDUCTED SUSCEPTIBILITY TEST (EN 61000-4-6)

11.1 Block Diagram of Test Setup

11.1.1. Block Diagram of the EUT



11.1.2. Block Diagram of the AC Mains



11.2 Test Standard

EN 55014-2: 2015 (EN61000-4-6: 2009, Severity Level 2: 5V(rms)).
(0.15MHz ~ 230MHz)

11.3 Severity Levels and Performance Criterion

11.3.1. Severity level

Level	Field Strength V(r.m.s)
1	1
2	3
3	10
X	Special

11.3.2 Performance criterion: A

11.4 Operating Condition of EUT

11.4.1 Setup the EUT as shown in Section 11 .1.

11.4.2 Turn on the power of all equipments.

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



11.5 Test Procedure

11.5.1 For AC Mains

It's unnecessary to test.

11.5.2 For signal lines and control lines ports:

It's unnecessary to test.

11.5.3 For DC Input line ports:

- 1) Set up the EUT, CDN and test generators as shown on Section 11 .1.
- 2) Let the EUT work in test mode and measure it.
- 3) The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling network) 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).
- 4) The disturbance signal described below is injected to EUT through CDN.
- 5) The EUT operates within its operational mode(s) under intended climatic conditions after power on.
- 6) The frequency range is swept from 150KHz to 230MHz using 5V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.
- 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.

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

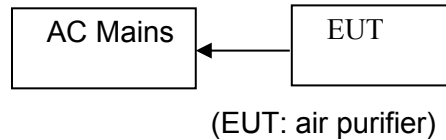
11.6 Test Results

N/A

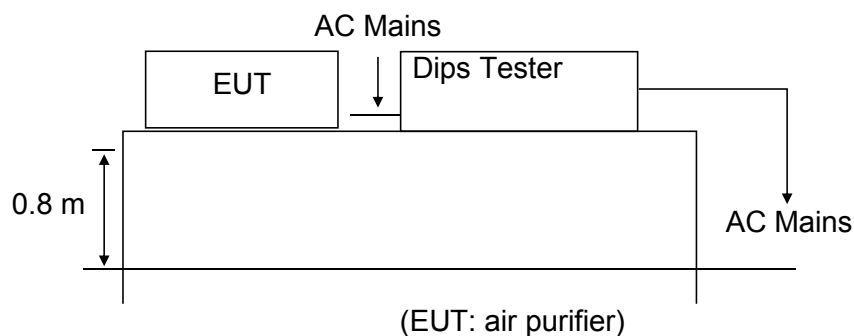
12. VOLTAGE DIPS, SHORT INTERRUPTIONS IMMUNITY TESTS (EN61000-4-11)

12.1 Block Diagram of Test Setup

14.1.1. Block Diagram of the EUT



12.1.2. Block Diagram of the AC Mains



12.2 Test Standard

EN 55014-2: 2015 (EN61000-4-11: 2004)

12.3 Severity Levels and Performance Criterion

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	

Performance criterion: B&C

12.4 EUT Configuration

The configuration of EUT is listed in Section 12 .4.

12.5 Operating Condition of EUT

12.5.1 Turn on the power of all equipments.

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



12.6 Test Procedure

- 1)Set up the EUT and test generator as shown on Section 12 .1.2.
- 2)The interruption is introduced at selected phase angles with specified duration.
- 3)Record any degradation of performance.

12.7 Test Result

N/A



13. TEST RESULTS

The following tests were performed on the Shenzhen Hongxin Tongchuang Technology Co. Ltd.'s product; model: HX-830; the actual test results are contained within the Test Data section of this report.

13.1 EN 61000-4-2 Electrostatic Discharge Immunity Test Configuration

The EUT was subjected to the electrostatic discharge tests required by EN 55014-2 and all lower levels specified in EN 61000-4-2.

The EUT continued to perform as intended during and after the application of the ESD. Test setup pNormalographs presented in Appendix C.

13.2 EN 61000-4-3 Electrostatic Discharge Immunity Test Configuration

The EUT was subjected to the electrostatic discharge tests required by EN 55014-2 and all lower levels specified in EN 61000-4-3.

The EUT continued to perform as intended during and after the application of the ESD. Test setup pNormalographs presented in Appendix C.

13.3 EN 61000-4-4 Electrical Fast Transient/Burst Immunity Test Configuration

The EUT was subjected to the electrical fast transient tests required by EN 55014-2 and all lower levels specified in EN 61000-4-4.

The EUT continued to perform as intended during and after the application of the EFT/B. Test setup pNormalographs presented in Appendix C.

13.4 EN 61000-4-5 Surge Immunity Test Configuration

The EUT was subjected to the Surge Immunity tests required by EN 55014-2 and all lower levels specified in EN 61000-4-5.

The EUT continued to perform as intended during and after the application of the Surge Immunity Test.

13.5 EN 61000-4-6 Conducted Susceptibility Test Configuration

The EUT was subjected to the Conducted Susceptibility tests required by EN 55014-2 and all lower levels specified in EN 61000-4-6.

The EUT continued to perform as intended during and after the application of the Conducted Susceptibility Test.

13.6 EN 61000-4-11 Voltage Dips, Short Interruptions Immunity Tests Configuration

The EUT was subjected to the Voltage Dips/Interruptions tests required by EN 55014-2 and all lower levels specified in EN 61000-4-11.

The EUT continued to perform as intended during and after the application of the Voltage Dips/Interruptions Test.

Appendix A - Product Labeling

CE Mark Label Specification

Specification: Text is Black or white in color and is left justified. Labels are printed in indelible ink on permanent adhesive backing and shall be affixed at a conspicuous location on the EUT or Silk-screened onto the EUT.



Appendix B- EUT PHOTOGRAPHS

Photo 1



Photo 2

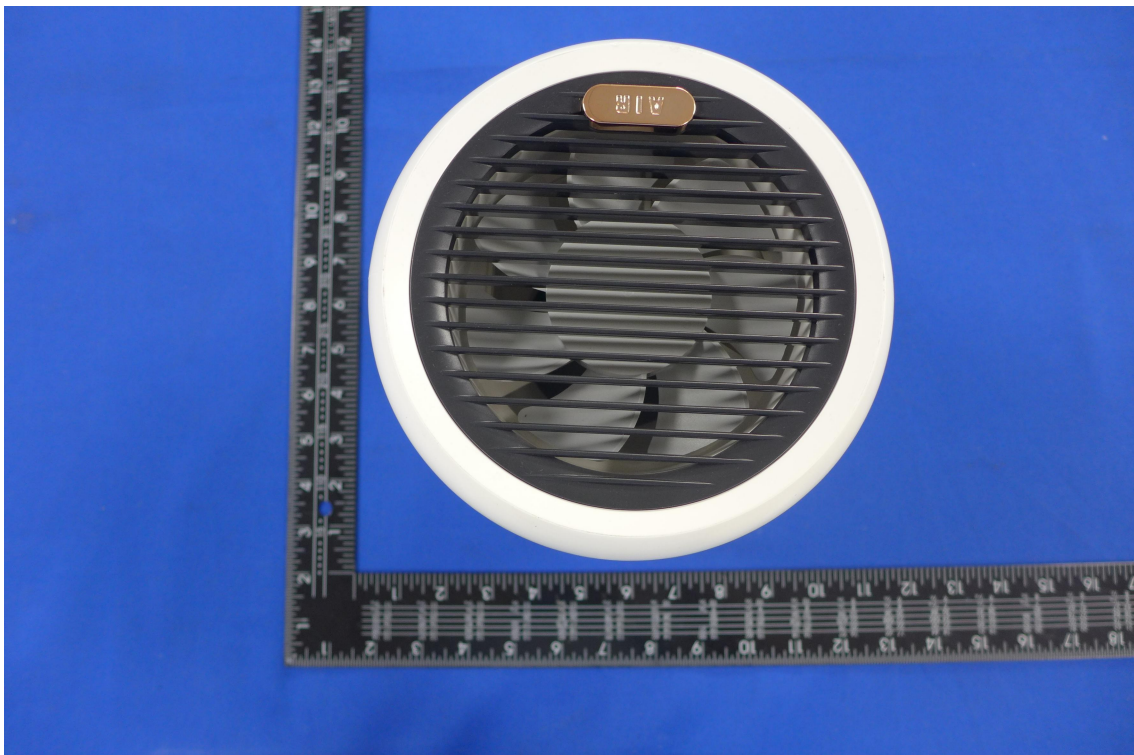


Photo 3



Photo 4

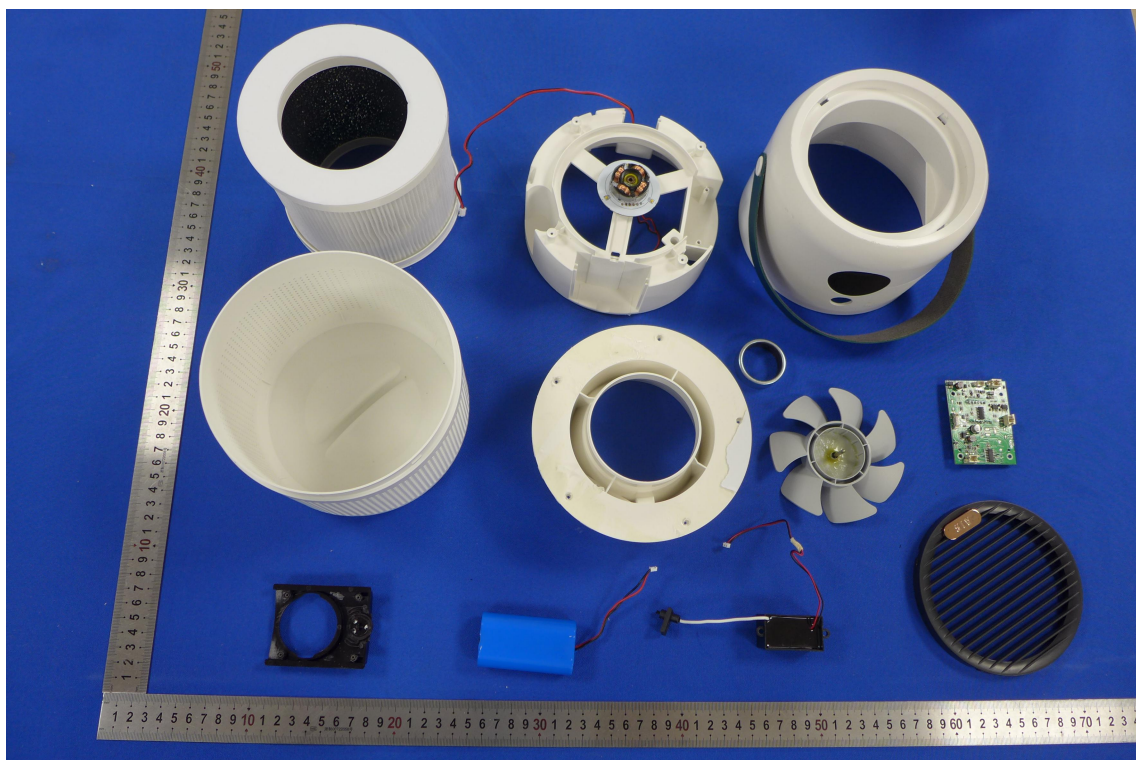


Photo 5

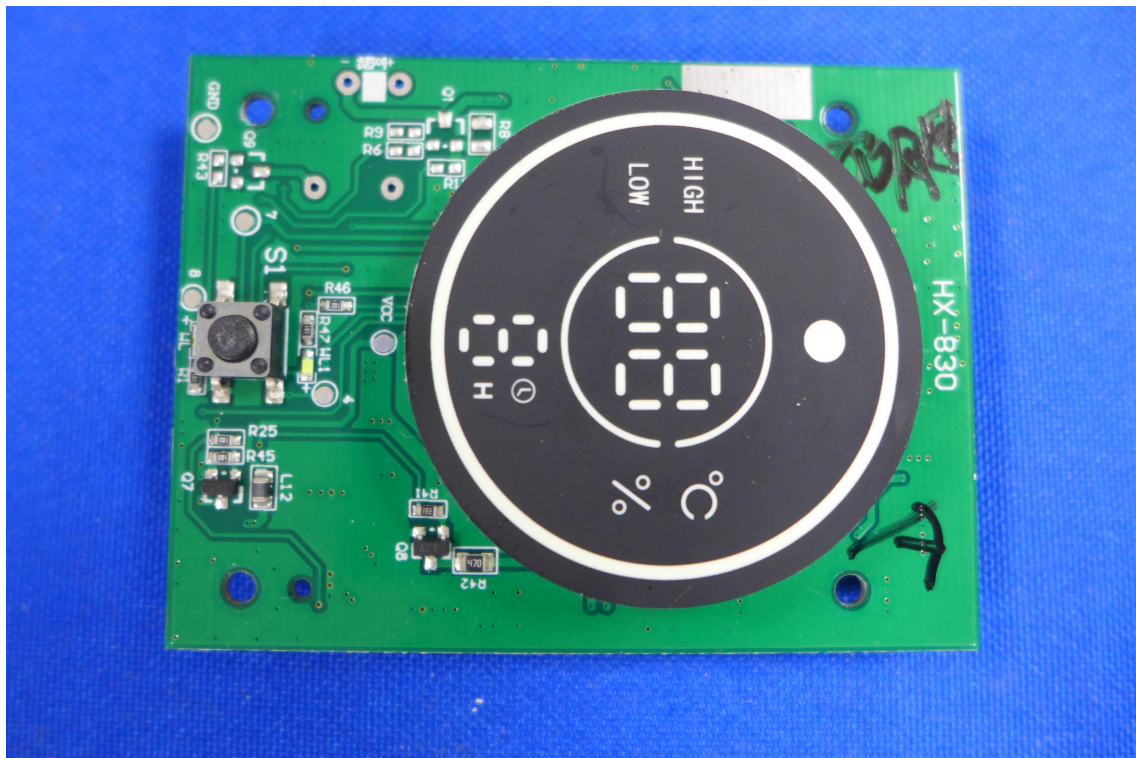
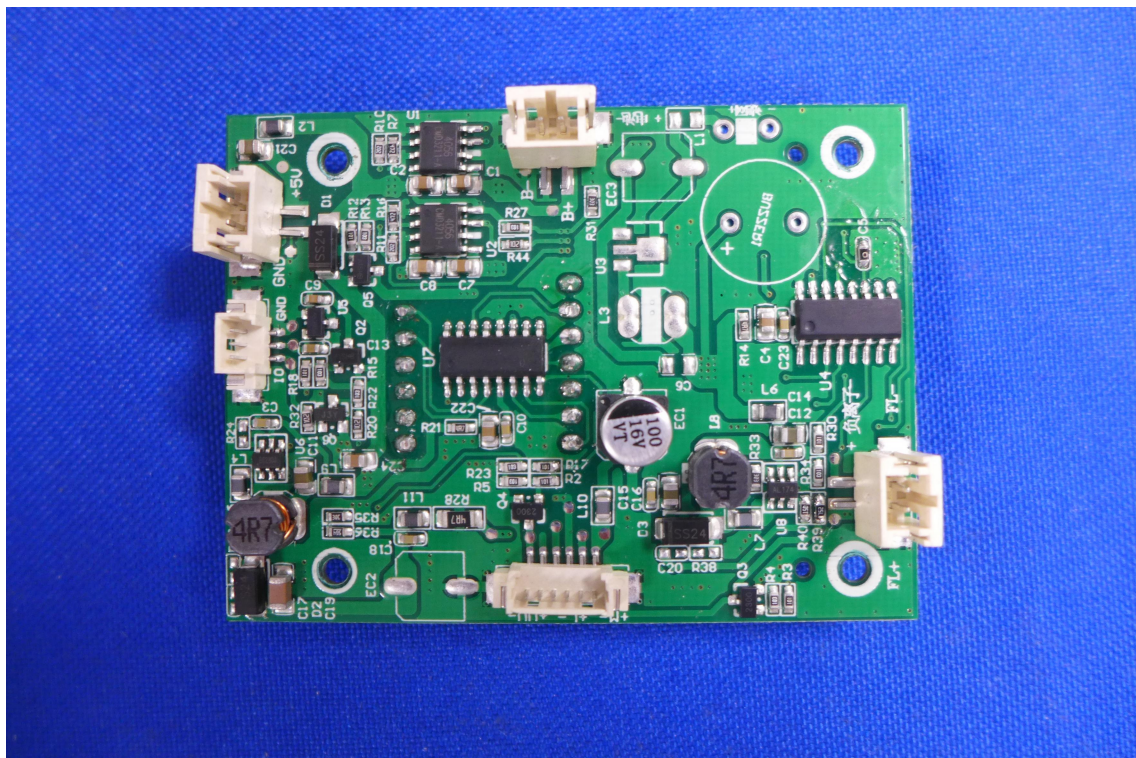


Photo 6



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



Supplier's Declaration of Conformity

This following complies with part 15 of the FCC Rules. It's confirmed and found to comply with the requirements setup by ANSI C63.4 & FCC part 15 regulation for the evaluation of Electromagnetic Compatibility.

Certificate No. : BYS211119498FK

Applicant : Shenzhen Hongxin Tongchuang Technology Co. Ltd
501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen

Manufacturer : Shenzhen Hongxin Tongchuang Technology Co. Ltd
501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen

Product : air purifier

Model No. : HX-830

Test Standard : FCC PART 15 B
ANSI C63.4:2014

Test Report No. : BYS211119498FR

This certificate of conformity is based on a single evaluation of the submitted sample (s) of the above mentioned product . It does not imply an assessment of the whole production and other relevant directives have to be observed.



Shenzhen BYS Testing Co., Ltd.

Floor 4, Building 2, No.38 Guangda Road, Yuanshan Street, Longgang District, Shenzhen, China.

☎ +86 755 84659414

✉ bys@bys-cert.com

Web: [Http://www.bys-cert.com](http://www.bys-cert.com)





FCC TEST REPORT

On Behalf of

Prepared For :	Shenzhen Hongxin Tongchuang Technology Co. Ltd 501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen
Trade Mark :	N/A
Product Name :	air purifier
Model(s) :	HX-830
Prepared By:	Shenzhen BYS Testing Co., Ltd. Floor 4, Building 2, No.38 Guangda Road, Yuanshan Street, Longgang district, Shenzhen, China
Test Date:	Nov. 19, 2021 - Nov. 24, 2021
Date of Report:	Nov. 24, 2021
Report No. :	BYS211119498FR

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen BYS Testing Co., Ltd.



TABLE OF CONTENTS

Description	Page
The Report Description	
1 GENERAL INFORMATION.....	4
1.1. Description of Device (EUT).....	4
1.2. Description of test facility.....	4
1.3. Test Standards.....	5
1.4. Test Summary.....	5
1.5. Measurement Uncertainty.....	5
2. POWER LINE CONDUCTED MEASUREMENT.....	6
2.1. Test Equipment.....	6
2.2. Block Diagram of Test Setup.....	6
2.3. Power Line Conducted Emission Measurement Limits (Class B).....	6
2.4. Configuration of EUT on Measurement.....	7
2.5. Operating Condition of EUT.....	7
2.6. Test Procedure.....	7
2.7. Power Line Conducted Emission Measurement Results.....	7
3. RADIATED EMISSION MEASUREMENT.....	10
3.1. Test Equipment.....	10
3.2. Block Diagram of Test Setup.....	10
3.3. Radiated Emission Limit (Class B).....	11
3.4. EUT Configuration on Measurement.....	11
3.5. Operating Condition of EUT.....	12
3.6. Test Procedure.....	12
3.7. Radiated Emission Measurement Results.....	12

APPENDIX I (Photos of EUT)

**TEST REPORT DECLARATION**

Applicant	:	Shenzhen Hongxin Tongchuang Technology Co. Ltd
Address :	:	501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen
Manufacturer:	:	Shenzhen Hongxin Tongchuang Technology Co. Ltd
Address :	:	501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen
EUT Description :	:	air purifier
Model Number	:	HX-830
Rating(s)	:	DC 5V

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 BYS 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 BYS Testing Co., Ltd.

Date of Test:

Nov. 19, 2021 - Nov. 24, 2021

Prepared by (Engineer) :

Reviewer by (Quality Manager) :

Approved by (Manager) :

Jade

Hongkang



1 GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT : air purifier

Model Number : HX-830

Supplementary Model : ES840B

Test Voltage : DC 5V

Applicant : Shenzhen Hongxin Tongchuang Technology Co. Ltd

Address : 501, Building 4, Longqiao New Village, 91 Xiangdong Road,
Longgang Xu Community, Longgang Street, Longgang District,
Shenzhen

Manufacturer : Shenzhen Hongxin Tongchuang Technology Co. Ltd

Address : 501, Building 4, Longqiao New Village, 91 Xiangdong Road,
Longgang Xu Community, Longgang Street, Longgang District,
Shenzhen

1.2.Description of test facility

All measurement required was performed at laboratory of Shenzhen BYS Testing Co., Ltd at Floor 4, Building 2, No.38 Guangda Road, Yuanshan Street, Longgang district, Shenzhen, China

Shenzhen BYS 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 (2009): 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 : $U_r = \pm 3.84\text{dB}$

Conduction Uncertainty : $U_c = \pm 2.72\text{dB}$

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	Jun. 20, 2020	1 Year
2.	L.I.S.N.	Rohde & Schwarz	ESH2-Z5	834549/005	Jun. 20, 2020	1 Year
3.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	Jun. 20, 2020	1 Year
4.	RF Cable	FUJIKURA	RG-55/U	LISN Cable	Jun. 20, 2020	1 Year

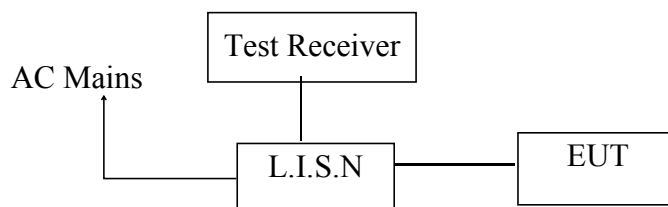
2.2.Block Diagram of Test Setup

2.2.1 Block diagram of connection between the EUT and simulators



(EUT: air purifier)

2.2.2 Block diagram of test setup



(EUT: air purifier)

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 : air purifier
Model Number : HX-830

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

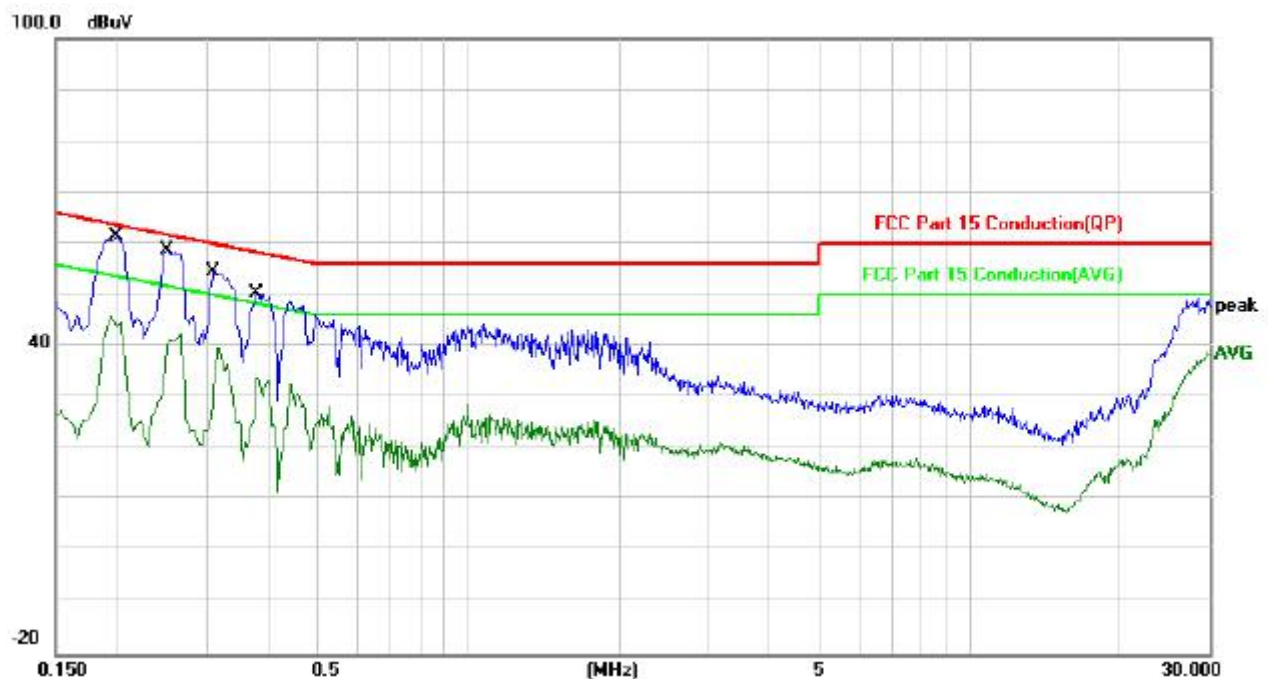
PASS

Please reference to the following pages



Radiated Emission Test Data

EUT: air purifier
M/N: HX-830
Operating Condition: Normal work
Test Site: 3m CHAMBER
Operator: Mark
Test Specification: /
Comment: Polarization: Vertical

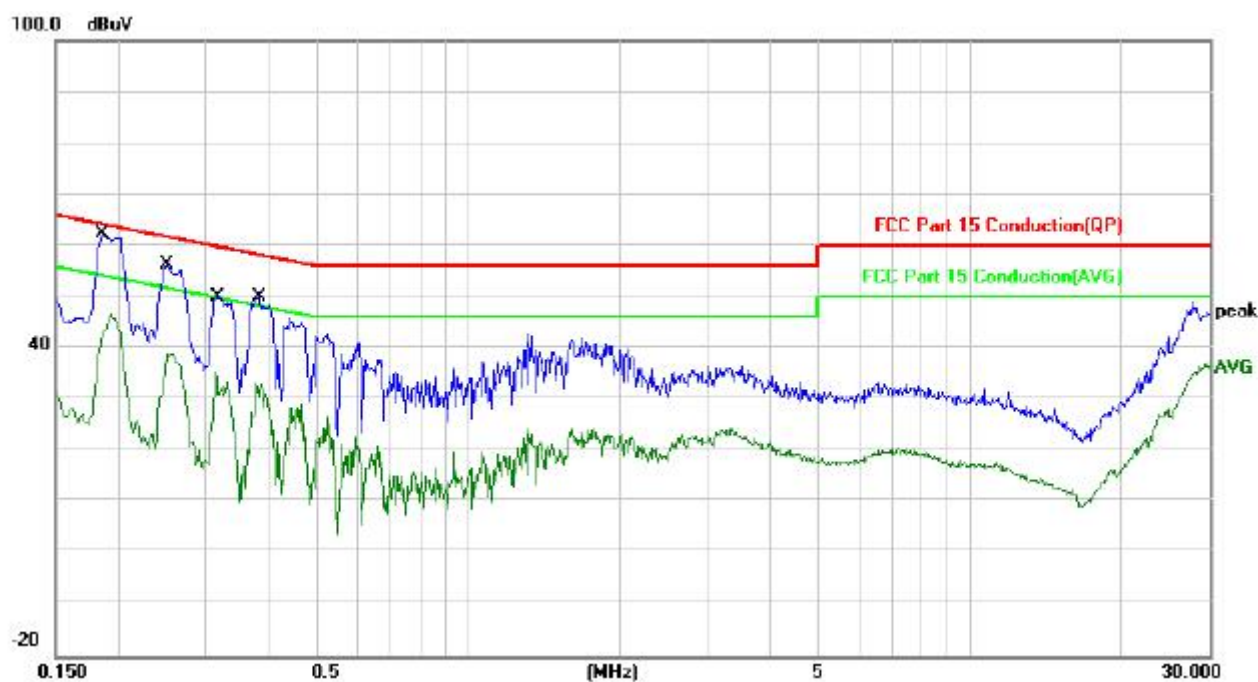


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1995	60.63	0.00	60.63	63.63	-3.00	QP	
2		0.1995	45.35	0.00	45.35	53.63	-8.28	AVG	
3		0.2488	48.63	0.00	48.63	61.79	-13.16	QP	
4		0.2488	34.63	0.00	34.63	51.79	-17.16	AVG	
5		0.3113	54.63	0.00	54.63	59.93	-5.30	QP	
6		0.3113	36.63	0.00	36.63	49.93	-13.30	AVG	
7		0.3778	52.33	0.00	52.33	58.33	-6.00	QP	
8		0.3778	35.67	0.00	35.67	48.33	-12.66	AVG	



Radiated Emission Test Data

EUT: air purifier
M/N: HX-830
Operating Condition: Normal work
Test Site: 3m CHAMBER
Operator: Mark
Test Specification: /
Comment: Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.1867	59.56	0.00	59.56	64.18	-4.62	QP	
2		0.1867	42.69	0.00	42.69	54.18	-11.49	AVG	
3		0.2502	54.66	0.00	54.66	61.75	-7.09	QP	
4		0.2502	40.37	0.00	40.37	51.75	-11.38	AVG	
5		0.3152	46.33	0.00	46.33	59.83	-13.50	QP	
6		0.3152	32.68	0.00	32.68	49.83	-17.15	AVG	
7		0.3824	39.33	0.00	39.33	58.23	-18.90	QP	
8		0.3824	26.87	0.00	26.87	48.23	-21.36	AVG	

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

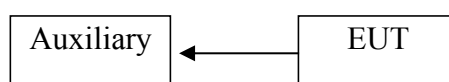
The following test equipments are used during the radiated emission measurement:

3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	ANRITSU	MS2661C	6200140915	Jun. 20, 2020	1 Year
2.	Test Receiver	Rohde & Schwarz	ESCS30	828985/018	Jun. 20, 2020	1 Year
3.	Bilog Antenna	Schwarzbeck	VULB9163	142	Jun. 20, 2020	1 Year
4.	50 Coaxial Switch	Anritsu Corp	MP59B	6100237248	Jun. 20, 2020	1 Year
5.	Cable	Schwarzbeck	AK9513(1m)	CR RX2	Jun. 20, 2020	1 Year
6.	Cable	Schwarzbeck	AK9513(10m)	AC RX1	Jun. 20, 2020	1 Year
7.	Cable	Rosenberger	N/A(6m)	CR RX1	Jun. 20, 2020	1 Year
8.	Cable	Rosenberger	N/A(10m)	FP2RX2	Jun. 20, 2020	1 Year
9.	DC Power Filter	MPE	23872C	N/A	Jun. 20, 2020	1 Year
10.	Single Phase Power Line Filter	MPE	23332C	N/A	Jun. 20, 2020	1 Year
11.	3 Phase Power Line Filter	MPE	23333C	N/A	Jun. 20, 2020	1 Year
12.	Signal Generator	HP	8648A	3625U00573	Jun. 20, 2020	1 Year

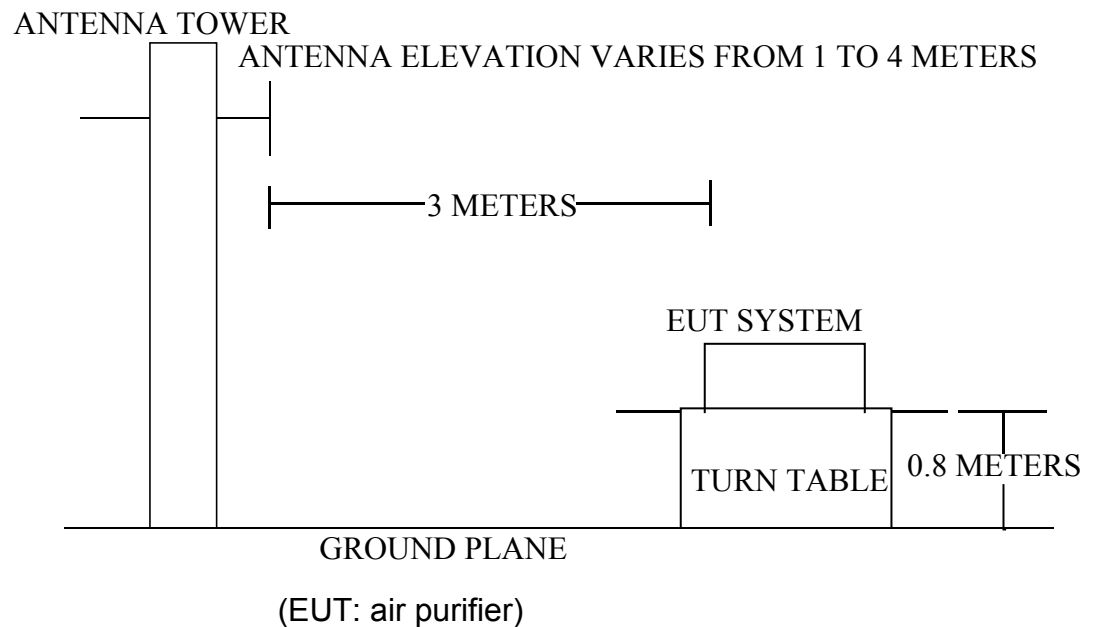
3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



(EUT: air purifier)

3.2.2.Anechoic Chamber Test Setup Diagram



3.3.Radiated Emission Limit (Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V/m}$	$\text{dB}(\mu\text{V})/\text{m}$
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 $(\text{dB})\mu\text{V} = 20 \log \text{Emission level } \mu\text{V/m}$

(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.

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.

air purifier(EUT)

Model Number : HX-830

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: air purifier
M/N: HX-830
Operating Condition: Normal work
Test Site: 3m CHAMBER
Operator: Mark
Test Specification: /
Comment: Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		72.0843	45.15	-20.48	24.67	40.00	-15.33	peak			
2	*	109.4116	45.20	-15.18	30.02	43.50	-13.48	peak			
3		139.3613	38.39	-14.67	23.72	43.50	-19.78	peak			

**Radiated Emission Test Data**

EUT: air purifier
M/N: HX-830
Operating Condition: Normal work
Test Site: 3m CHAMBER
Operator: Mark
Test Specification: /
Comment: Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	109.4116	51.23	-15.41	35.82	43.50	-7.68	peak		
2		180.6488	43.10	-16.60	26.50	43.50	-17.00	peak		



APPENDIX I

(PHOTOS OF EUT)

FIGURE
GENERAL APPEARANCE OF EUT

Photo 1



Photo 2

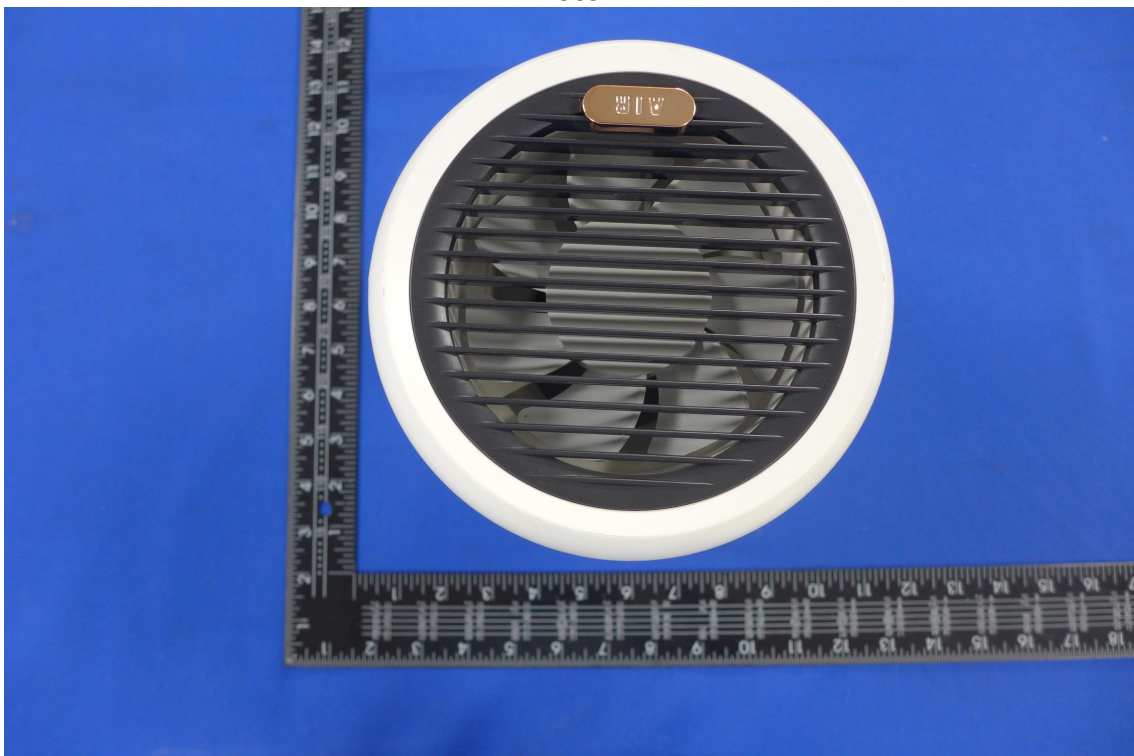


Photo 3



Photo 4

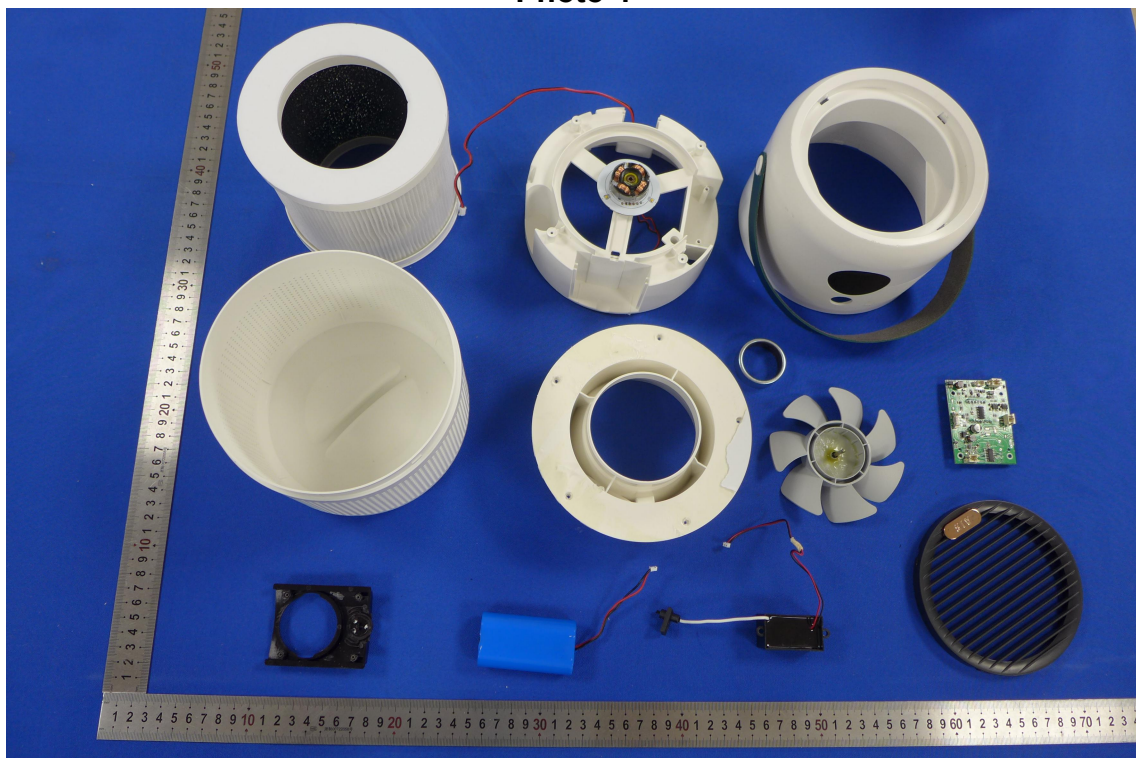


Photo 5

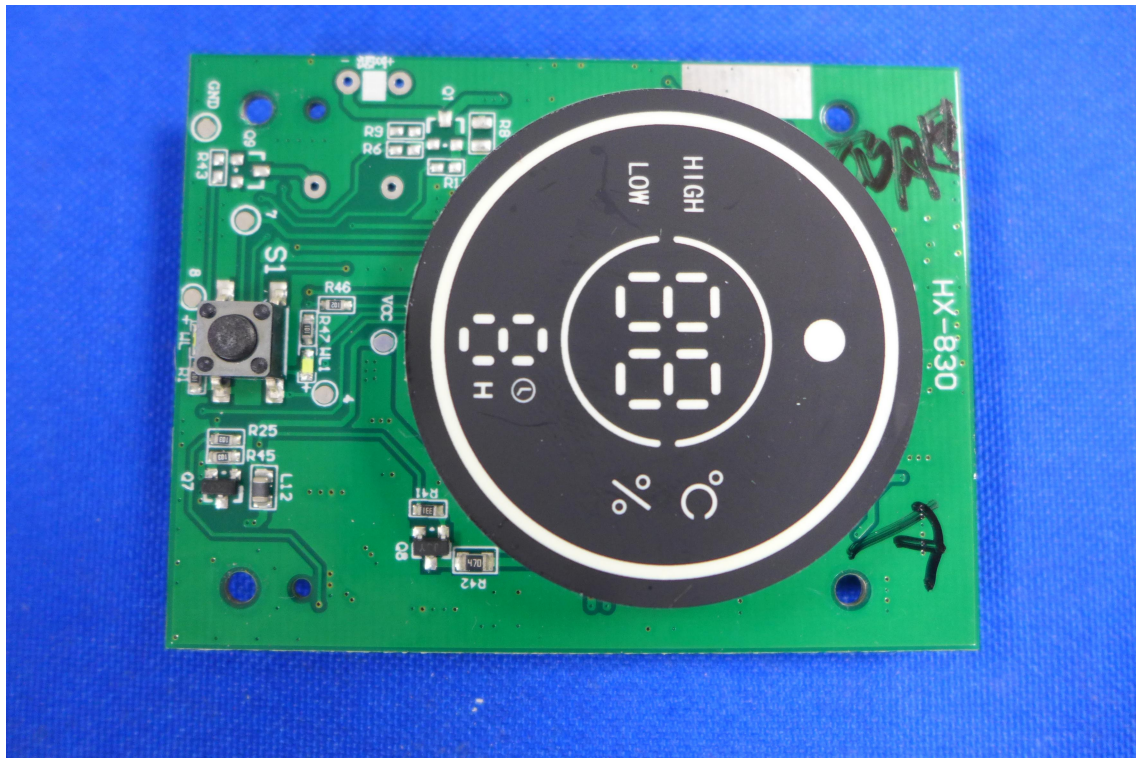
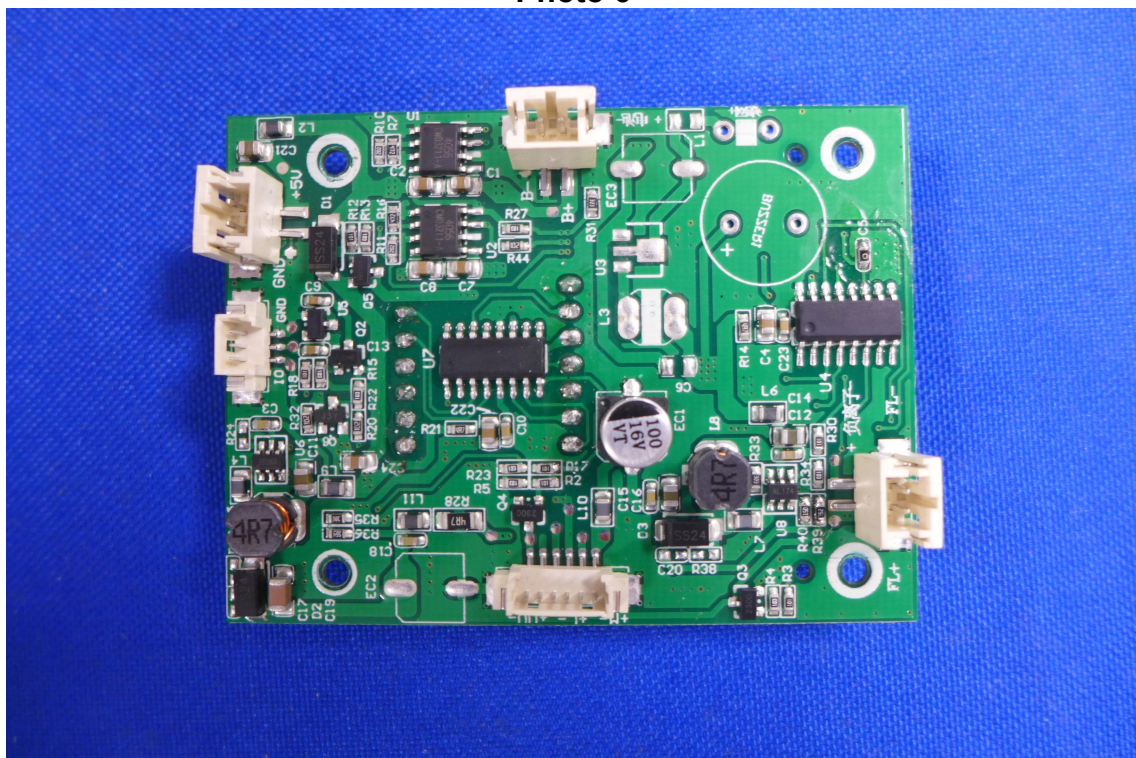


Photo 6



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



Certificate of Conformity

The product described following has been consolidated by us and found in compliance with the council RoHS 2.0 Directive 2011/65/EU Annex II (EU) 2015/863 as last amended by Directive (EU) 2017/2102.

Certificate No. : BYS211119499HK

Applicant : Shenzhen Hongxin Tongchuang Technology Co. Ltd
501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen

Manufacturer : Shenzhen Hongxin Tongchuang Technology Co. Ltd
501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu Community, Longgang Street, Longgang District, Shenzhen

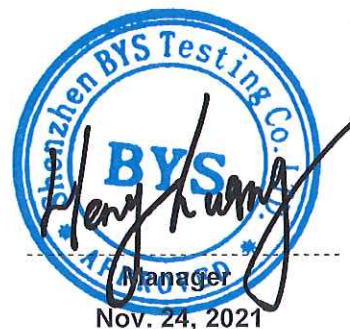
Product : air purifier

Model No. : HX-830

Test Standard : IEC 62321-3-1:2013, IEC 62321-5:2013,
IEC 62321-4:2013+A1:2017, IEC 62321-7-1:2015,
IEC 62321-7-2:2017, IEC 62321-6:2015,
IEC 62321-8:2017

Test Report No. : BYS211119499HR

This certificate of conformity is based on a single evaluation of the submitted sample (s) of the above mentioned product . It does not imply an assessment of the whole production and other relevant directives have to be observed.



Shenzhen BYS Testing Co., Ltd.

Floor 4, Building 2, No.38 Guangda Road, Yuanshan Street, Longgang District, Shenzhen, China.

☎ +86 755 84659414

✉ bys@bys-cert.com

Web: [Http://www.bys-cert.com](http://www.bys-cert.com)





TEST REPORT

Applicant : Shenzhen Hongxin Tongchuang Technology Co. Ltd
Address : 501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu
Community, Longgang Street, Longgang District, Shenzhen

Report on the submitted sample said to be:

Sample name : air purifier
Trade : N/A
Model : HX-830
Manufacture : Shenzhen Hongxin Tongchuang Technology Co. Ltd
Address : 501, Building 4, Longqiao New Village, 91 Xiangdong Road, Longgang Xu
Community, Longgang Street, Longgang District, Shenzhen
Sample received date : Nov. 19, 2021
Testing period : Nov. 19, 2021- Nov. 24, 2021

TESTED SAMPLES	Test Requested:	Conclusion :.
Speakers	RoHS Directive (EU) 2015/863. — 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 BYS testing co.Ltd.

Tested By: _____

(Mark)

Approved By: _____

Lab Manager: Henry Huang

Date :

Nov. 24, 2021





Test Part Description:.

Specimen No.	Description.
001	plastic shell
002	Garnish
003	Fan cover
004	Internal wire
005	Plastic accessories
006	Handle
007	PCB
008	Fan leaf
009	Battery
010	Terminals

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

Test Items	Unit	Test Method	Result					MDL	Limit
			001	002	003	004	005		
Lead (Pb)	mg/kg	IEC 62321-5:2013, ICP-OES	N.D.	N.D.	N.D.	N.D.	N.D.	2	1000
Mercury (Hg)	mg/kg	IEC 62321-4:2013+A1:2017*, ICP-OES	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.	2	100
Hexavalent Chromium (CrVI)	µg/cm ²	IEC 62321-7-1:2015, UV-VIS	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.	5	-
Dibromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Tetrabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Hexabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Octabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Decabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	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.	-	1000
Monobromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Tribromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Pentabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Heptabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Nonabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Sum of PBDEs	mg/kg	-	N.D.	N.D.	N.D.	N.D.	N.D.	-	1000

Test Items	Unit	Test Method	Result					MDL	Limit
			006	007	008	009	010		
Lead (Pb)	mg/kg	IEC 62321-5:2013, ICP-OES	N.D.	N.D.	N.D.	N.D.	N.D.	2	1000
Mercury (Hg)	mg/kg	IEC 62321-4:2013+A1:2017*, ICP-OES	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.	2	100
Hexavalent Chromium (CrVI)	µg/cm ²	IEC 62321-7-1:2015, UV-VIS	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.	5	-
Dibromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Tetrabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Hexabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Octabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Decabromobiphenyl	mg/kg	IEC 62321-6:2015, GC-MS	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.	-	1000
Monobromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Tribromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Pentabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Heptabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Nonabromodiphenyl ether	mg/kg	IEC 62321-6:2015, GC-MS	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.	5	-
Sum of PBDEs	mg/kg	-	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 1cm² 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 1cm² sample surface area.
 Inconclusive = the detected concentration in boiling-water-extraction solution is greater than 0.10µg and less than 0.13µg with 1cm² sample surface area.
6. Positive = result be regarded as not comply with RoHS requirement
7. Negative = result be regarded as comply with RoHS requirement



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
		001	002	003	004	005		
Di-(2-ethylhexyl) phthalate (DEHP)	mg/kg	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.	50	1000
Dibutyl phthalate (DBP)	mg/kg	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.	50	1000

Test Items	Unit	Result					MDL	Limit
		006	007	008	009	010		
Di-(2-ethylhexyl) phthalate (DEHP)	mg/kg	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.	50	1000
Dibutyl phthalate (DBP)	mg/kg	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.	50	1000

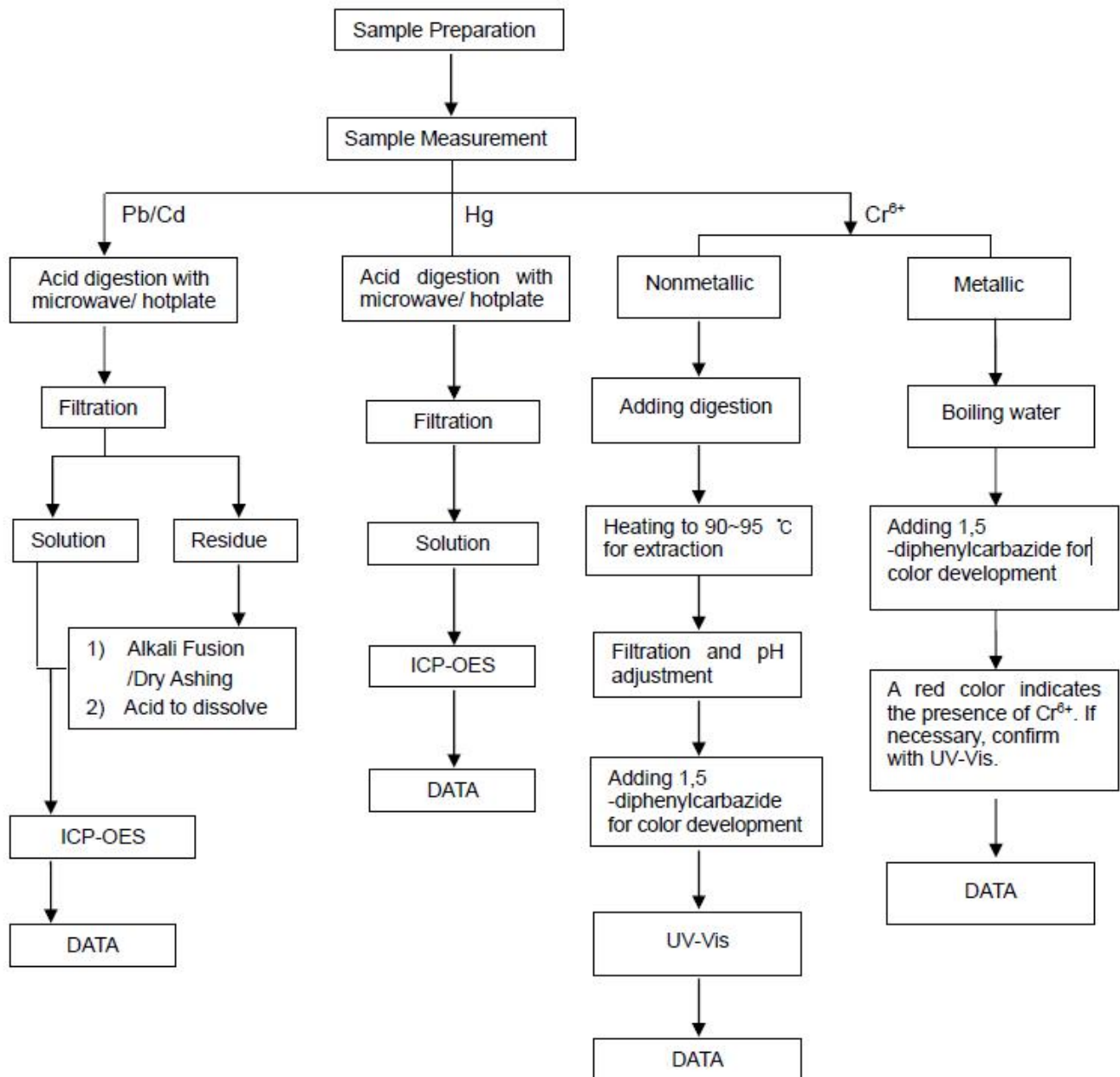
Note:

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

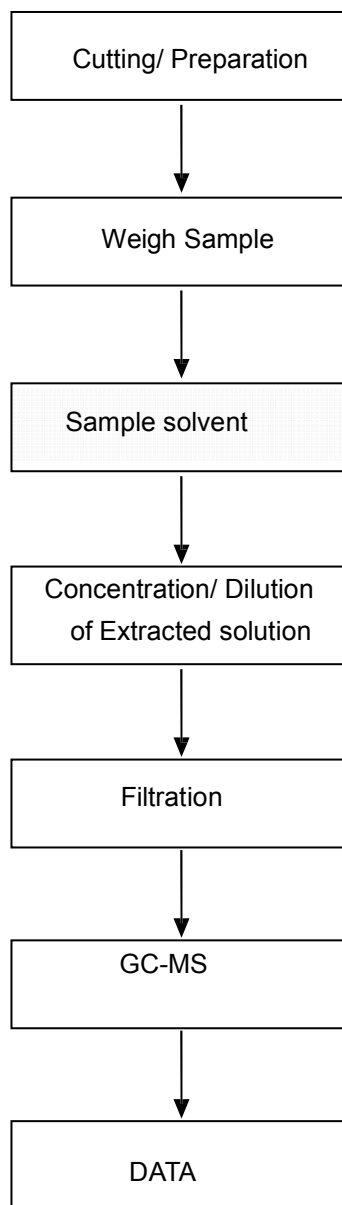
FLOW CHART FOR ROHS TESTING:

Pb/Cd/Hg/Cr6+ Testing Flow Chart

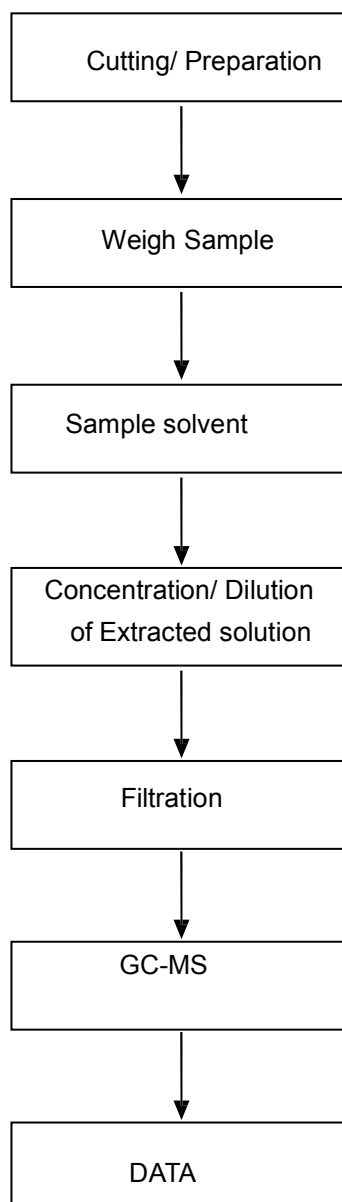
1) These samples were dissolved totally by pre-conditioning method according to below flow chart (Cr⁶⁺ test method excluded)



PBBs/PBDEs Testing Flow Chart



Phthalates Testing Flow Chart



PHOTOGRAPH OF SAMPLE

Photo 1

1



Photo 2

2

3

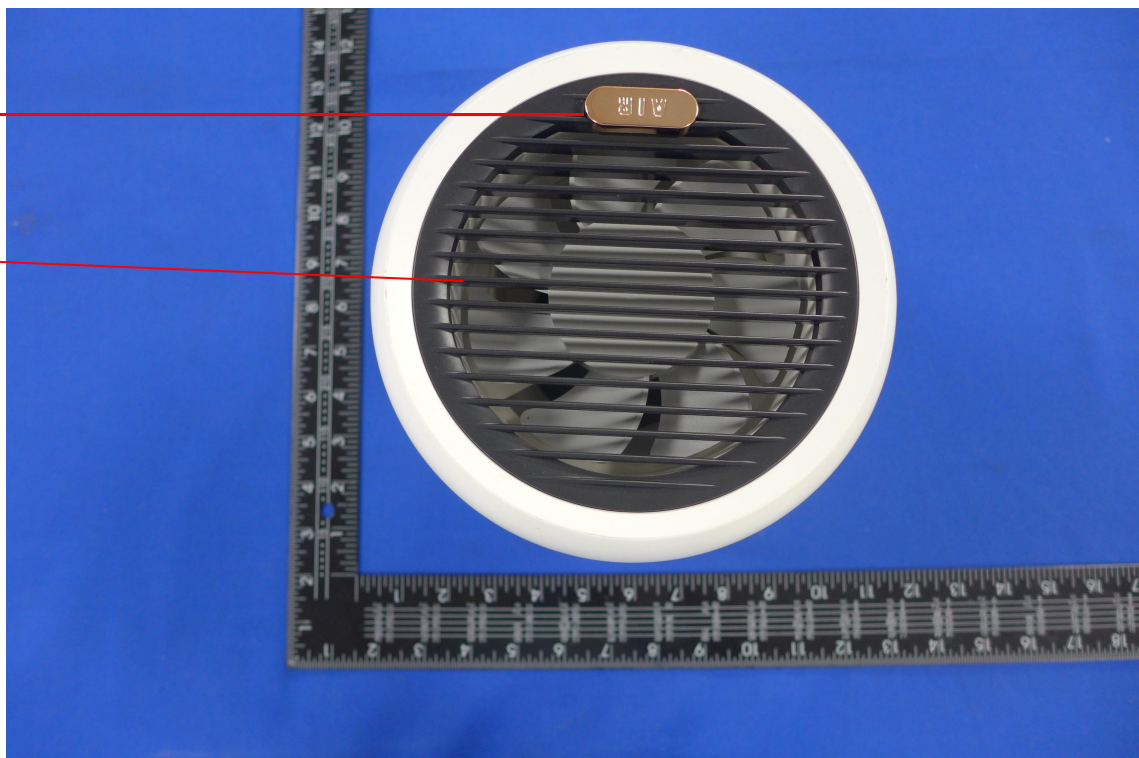


Photo 3



Photo 4

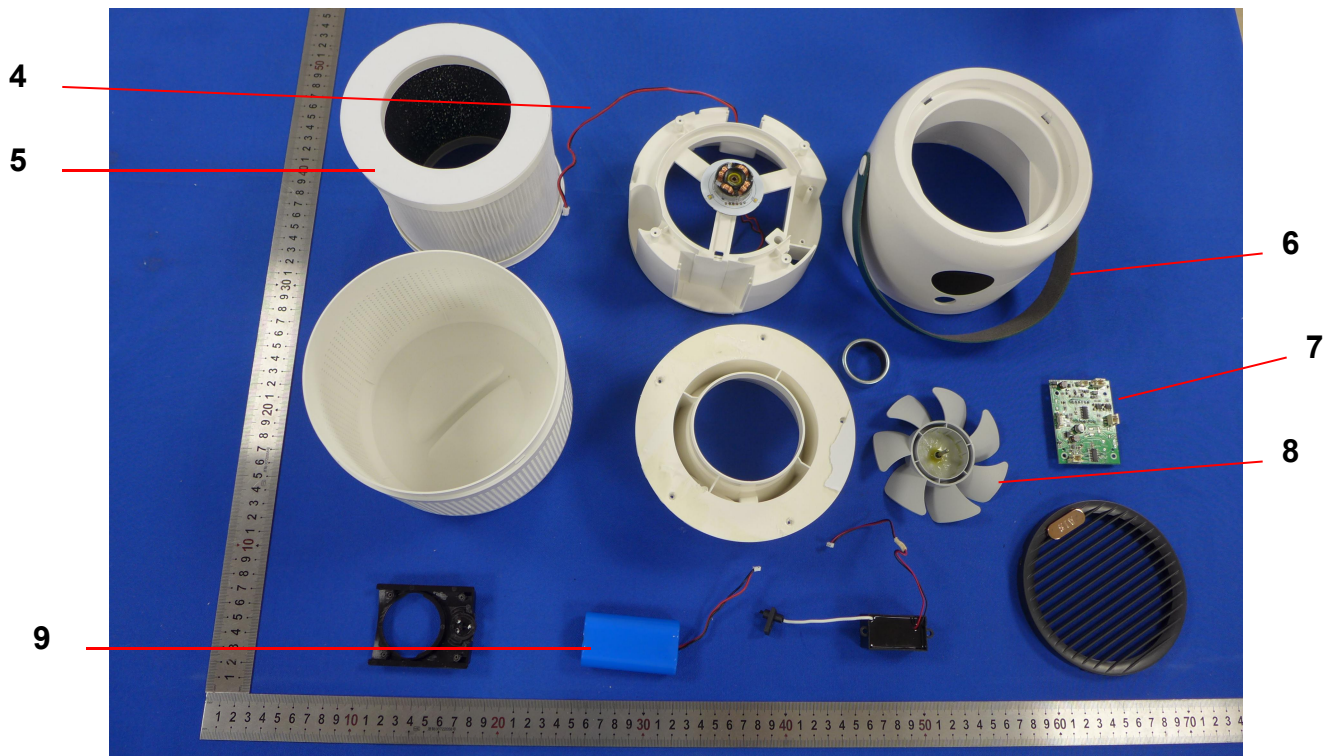


Photo 5

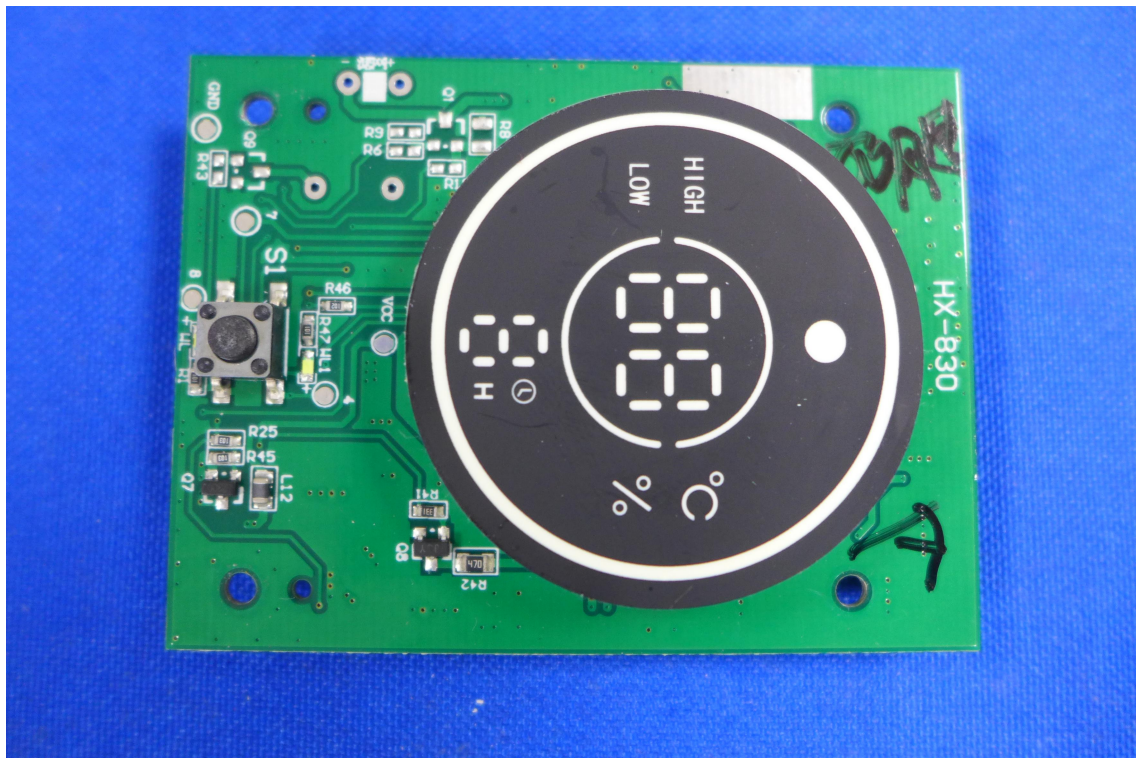
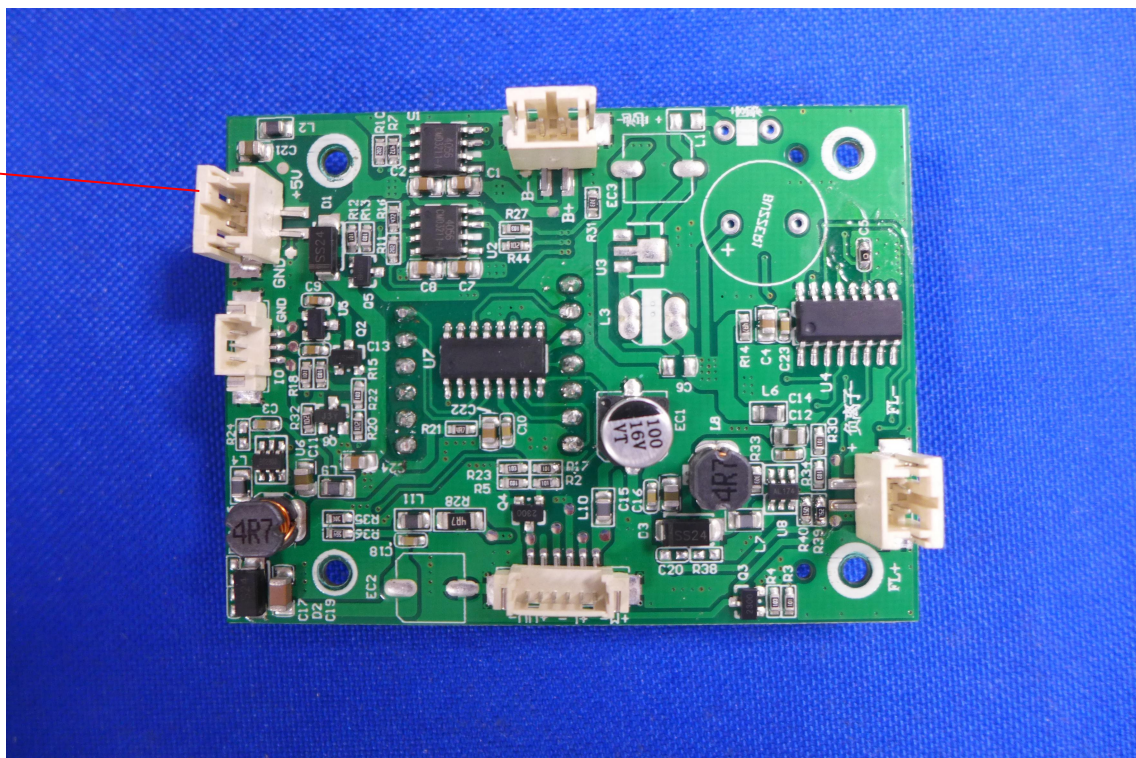


Photo 6

10



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