



TEST REPORT

Reference No...... : WTF20F08054328E
Applicant..... : Jinling Electrical Appliances Company Limited
Address..... : No.162 Jiangcui Road, Jianghai District, Jiangmen City, Guangdong, China
Manufacturer : The same as above
Address..... : The same as above
Product Name..... : Air Purifier
Model No...... : KJ100G-J107
Standards : EN 55014-1:2017
 : EN 55014-2:2015
 : EN IEC 61000-3-2:2019
 : EN 61000-3-3:2013+A1:2019
Date of Receipt sample : 2020-08-13
Date of Test : 2020-08-13 to 2020-08-29
Date of Issue..... : 2020-09-03
Test Report Form No...... : WEH-55014A-01B
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:

Waltek Testing Group (Foshan) Co., Ltd.

Address: No.13-19, 2/F., 2nd Building, Sunlink International Machinery City,
Chencun, Shunde District, Foshan, Guangdong, China

Tel:+86-757-23811398 Fax:+86-757-23811381 E-mail:info@waltek.com.cn

Compiled by:

Approved by:

Leo Feng / Project Engineer

Danny Zhou / Manager



1 Test Summary

EMISSION				
Test Item	Test Standard	Class / Severity	Result	
Mains Terminal Disturbance Voltage, 150kHz to 30MHz	EN 55014-1:2017	Clause 4.3.3	Pass	
Disturbance Power, 30MHz to 300MHz	EN 55014-1:2017	Clause 4.3.4	N/A	
Discontinuous Disturbance (Click)	EN 55014-1:2017	Clause 4.4	Pass	
Radiated Emission, 30MHz to 1000MHz	EN 55014-1:2017	Clause 4.3.4	Pass	
Harmonic Current emission	EN IEC 61000-3-2:2019	Class A	Pass**	
Voltage Fluctuation and Flicker	EN 61000-3-3:2013+A1:2019	Clause 5	Pass	
IMMUNITY (EN 55014-2:2015)				
Test Item	Test Method	Class / Severity	Performance Criteria	Result
Electrostatic Discharge(ESD)	IEC 61000-4-2:2008	±4 kV Contact ±8 kV Air	B	Pass
Radio-frequency electromagnetic fields (80MHz to 1GHz)	IEC 61000-4-3:2010	3V/m, 80%, 1kHz, Amp. Mod.	A	N/A
Electrical Fast Transients (EFT)	IEC 61000-4-4:2012	AC ±1.0kV DC ±0.5kV	B	Pass
Surge	IEC 61000-4-5:2005	±1kV D.M.† ±2kV C.M.‡	B	Pass
Injected Currents, 0.15MHz to 230MHz	IEC 61000-4-6:2013	3Vr.m.s.(emf), 80%, 1kHz Amp. Mod.	A	Pass
Voltage Dips and Interruptions	IEC 61000-4-11:2004	0 % U_T * for 0.5per	C	Pass
		40 % U_T * for 10per		Pass
		70 % U_T * for 25per		Pass

Remark:

Pass Test item meets the requirement

Fail Test item does not meet the requirement

N/A Test case does not apply to the test object

A.M Amplitude Modulation

† Differential Mode

‡ Common Mode

* U_T is the nominal supply voltage

** According to EN IEC 61000-3-2 which states:” For the following categories of equipment limits are not specified in this edition of the standard. Equipment with a rated power of 75W or less, other than lighting equipment” Therefore there is no need for harmonics test to be performed on this product and deemed to fulfil emission requirements without testing.



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3 General Information

3.1 General Description of E.U.T.

Product Name : Air Purifier
Model No. : KJ100G-J107
Remark : ---

3.2 Details of E.U.T.

Technical Data : For Air Purifier: 220-240V~, 50-60Hz;
For Power Adapter: INPUT: 100-240V~, 50/60Hz, 1.0A Max;
OUTPUT: DC 24V, 1A.

3.3 Description of Support Units

The EUT has been tested as an independent unit. KJ100G-J107 is the test sample. The DV&RE tests were performed in the condition of AC240V/50Hz input. The other tests were performed in the condition of AC230V/50Hz input.

3.4 Standards Applicable for Testing

The tests were performed according to following standards:

EN 55014-1:2017	Electromagnetic compatibility-Requirements for household appliances, electric tools and similar apparatus-Part 1:Emission
EN 55014-2:2015	Electromagnetic compatibility-Requirements for household appliances, electric tools and similar apparatus-Part 2: Immunity Product Family Standard.
EN IEC 61000-3-2:2019	Electromagnetic compatibility (EMC) -- Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase).
EN 61000-3-3:2013+A1:2019	Electromagnetic compatibility (EMC) -- Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.



3.5 Test Facility

The test facility has a test site registered with the following organizations:

- **ISED – Registration No.: 21895**

Waltek Testing Group (Foshan) Co., Ltd. has been registered and fully described in a report filed with the Innovation, Science and Economic Development Canada (ISED). The acceptance letter from the ISED is maintained in our files. Registration ISED number: 21895, March 12, 2019

- **FCC – Registration No.: 820106**

Waltek Testing Group (Foshan) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 820106, August 16, 2018

- **NVLAP – Lab Code: 600191-0**

Waltek Testing Group (Foshan) Co., Ltd. EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 600191-0.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

3.6 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

Yes No

If Yes, list the related test items and lab information:

Test items:---

Lab information:---

3.7 Abnormalities from Standard Conditions

None.

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4 Equipment Used during Test

Mains Terminal Disturbance Voltage 1#(Conducted Emission)					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	EMI Test Receiver	R&S	ESR3	102423	Valid
2.	LISN	R&S	ENV216	101343	Valid
3.	Cable	HUBER+SUHNER	CBL2-NN-6M	223NN624	Valid
4.	Switch	CD	RSU-A4 18G	RSUA4008	Valid
Mains Terminal Disturbance Voltage 2#(Conducted Emission)					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	EMI Test Receiver	R&S	ESCI	101178	Valid
2.	LISN	R&S	ENV216	101215	Valid
3.	Cable	HUBER+SUHNER	CBL2-NN-6M	6102701	Valid
4.	Switch	ESE	RSU/M2	---	Valid
Radiated Emission					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	EMI Test Receiver	R&S	ESR7	101566	Valid
2.	Active Loop Antenna	SCHWARZBECK	FMZB1519B	00004	Valid
3.	Trilog Broadband Antenna	SCHWARZBECK	VULB 9162	9162-117	Valid
4.	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	01561	Valid
5.	Preamplifier	Lunar E M	LNA1G18-40	20160501002	Valid
Discontinuous Disturbance					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	Discontinues Disturbance Analyzer	TESEQ	DIA1512D	28302	Valid
2.	LISN	SCHWARZBECK	NSLK 8128	8128-289	Valid
Harmonics and Flicker Measuring System					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	Harmonics and Flicker Measuring System	TESEQ	CCN1000-1	1133A01498	Valid
ESD					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	ESD Simulator	TESEQ	NSG437	521	Valid
EFT & Voltage Dips and Interruptions					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	EMS test system	TESEQ	NSG3040	0319	Valid
2.	Clamp	TESEQ	CDN8014	31405	Valid



Surge					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	Surge Simulator	TESEQ	NSG3060	1395	Valid
Injected Currents					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	Conducted Immunity test system	TESEQ	NSG4070	31469	Valid
2.	CDN	TESEQ	CDN M016	31586	Valid
3.	Clamp	TESEQ	KEMZ801	32362	Valid

4.1 Software List

Description	Manufacturer	Model	Version
EMI Test Software (Conducted Emission1#)	FARATRONIC	EZ-EMC	EMEC-3A1
EMI Test Software (Conducted Emission2#)	FARATRONIC	EZ-EMC	CON-03A1
EMI Test Software (Radiated Emission)	FARATRONIC	EZ-EMC	RA-03A1-1
Harmonics and Flicker Test Software	TESEQ	Win2100	V4
Click Test Software	SCHAFFNER	DIS9966	V2.5

4.2 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conducted Emission	150kHz~30MHz	±2.7dB	(1)
Radiated Emission	30MHz~1GHz	±4.1dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



4.3 Special Accessories and Auxiliary Equipment

Item	Equipment	Technical Data	Manufacturer	Model No.	Serial No.
1.	/	/	/	/	/

4.4 Decision Rule

Compliance or non-compliance with a disturbance limit shall be determined in the following manner.

If U_{LAB} is less than or equal to U_{cispr} , then

- Compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- Non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{LAB} is greater than U_{cispr} , then

- Compliance is deemed to occur if no measured disturbance level, increased by $(U_{LAB} - U_{cispr})$, exceeds the disturbance limit;
- Non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{LAB} - U_{cispr})$, exceeds the disturbance limit.



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5 Emission Test Results

5.1 Mains Terminals Disturbance Voltage, 150kHz to 30MHz

Test Requirement.....	: EN 55014-1
Test Method.....	: EN 55014-1
Test Result.....	: Pass
Frequency Range.....	: 150kHz to 30MHz
Class/Severity.....	: Table 5 of EN55014-1

5.1.1 E.U.T. Operation

Operating Environment:

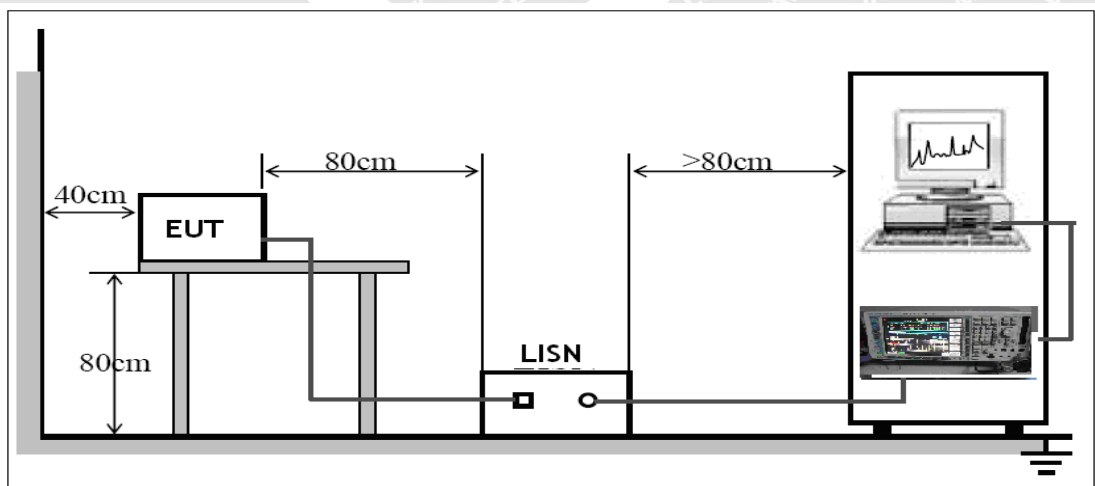
Temperature.....	: 25.0°C
Humidity.....	: 60.0%RH
Atmospheric Pressure	: 101.3kPa

EUT Operation:

Input Voltage.....	: AC 240V/50Hz
Operating Mode.....	: Max Power Mode

5.1.2 Block Diagram of Test Setup

The Mains Terminals Disturbance Voltage tests were performed in accordance with the EN 55014-1.



5.1.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.



5.1.4 Corrected Amplitude & Margin Calculation

The Corrected factor is calculated by adding LISN VDF(Voltage Division Facotr), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

$$\text{Measurement} = \text{Reading Level} + \text{Correct Factor}$$

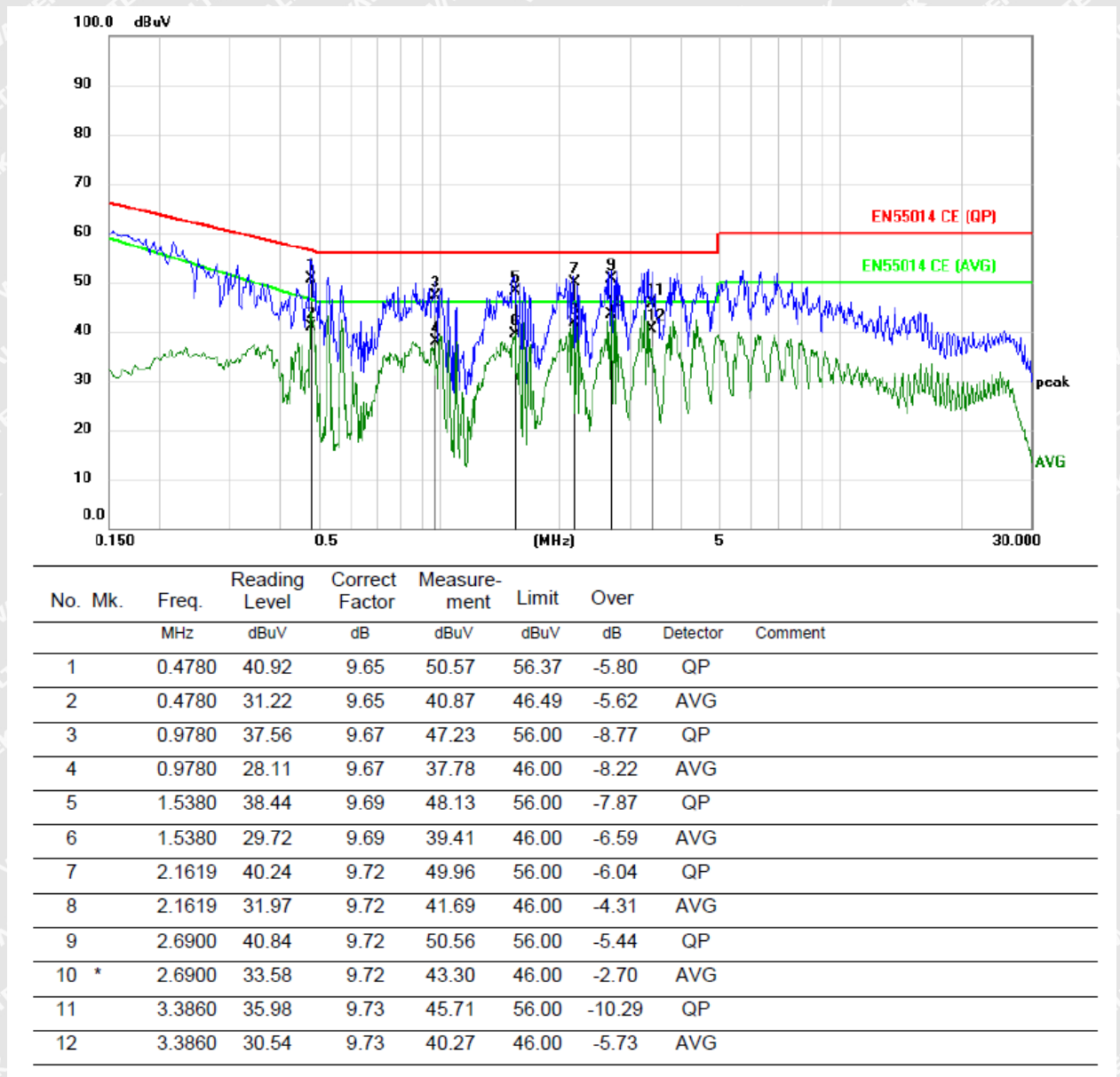
$$\text{Correct Facotor} = \text{LISN VDF} + \text{Cable Loss}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Measurement}$$

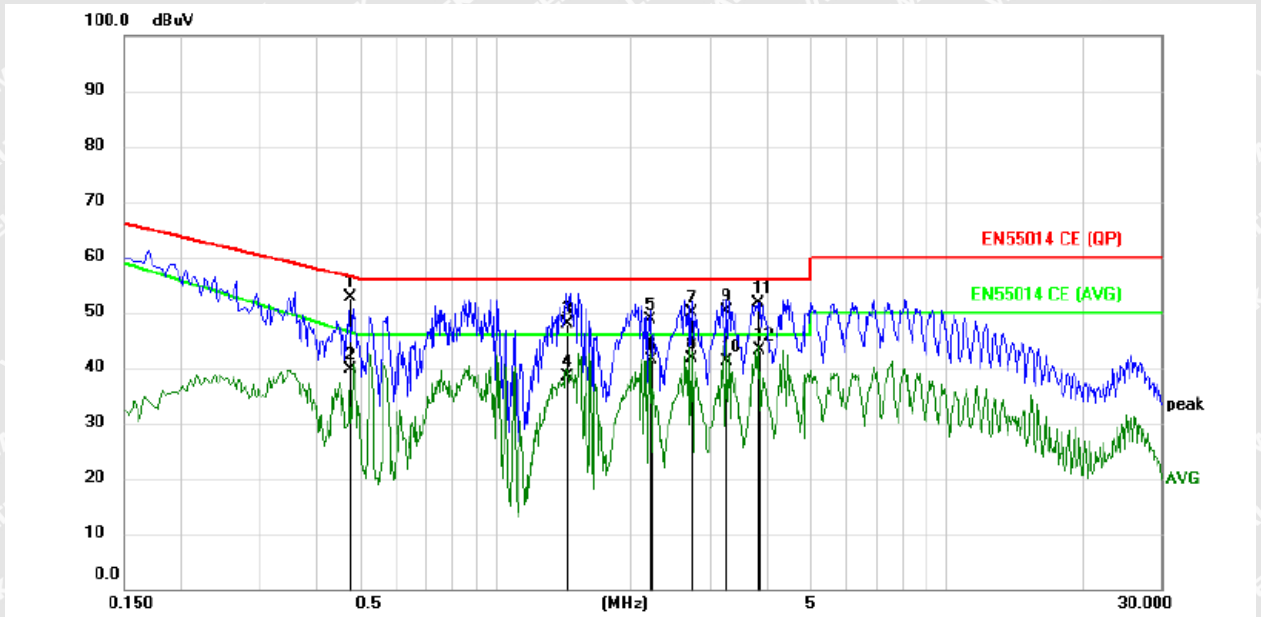
5.1.5 Mains Terminals Disturbance Voltage Test Data

Live Line :





Neutral Line :



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.4740	43.05	9.63	52.68	56.44	-3.76	QP	
2		0.4740	29.88	9.63	39.51	46.58	-7.07	AVG	
3		1.4340	38.11	9.66	47.77	56.00	-8.23	QP	
4		1.4340	28.69	9.66	38.35	46.00	-7.65	AVG	
5		2.1929	38.84	9.67	48.51	56.00	-7.49	QP	
6		2.2020	31.82	9.67	41.49	46.00	-4.51	AVG	
7		2.7180	40.09	9.69	49.78	56.00	-6.22	QP	
8		2.7180	31.84	9.69	41.53	46.00	-4.47	AVG	
9		3.2540	40.48	9.70	50.18	56.00	-5.82	QP	
10		3.2540	31.38	9.70	41.08	46.00	-4.92	AVG	
11		3.8170	41.86	9.71	51.57	56.00	-4.43	QP	
12	*	3.8300	33.40	9.71	43.11	46.00	-2.89	AVG	



5.2 Radiated Emission, 30MHz to 1GHz

- Test Requirement**..... : EN 55014-1
- Test Method**..... : EN 55014-1
- Test Result**..... : Pass
- Frequency Range**..... : 30MHz to 1GHz
- Class/Severity**..... : Table 9 of EN55014-1

5.2.1 E.U.T. Operation

Operating Environment:

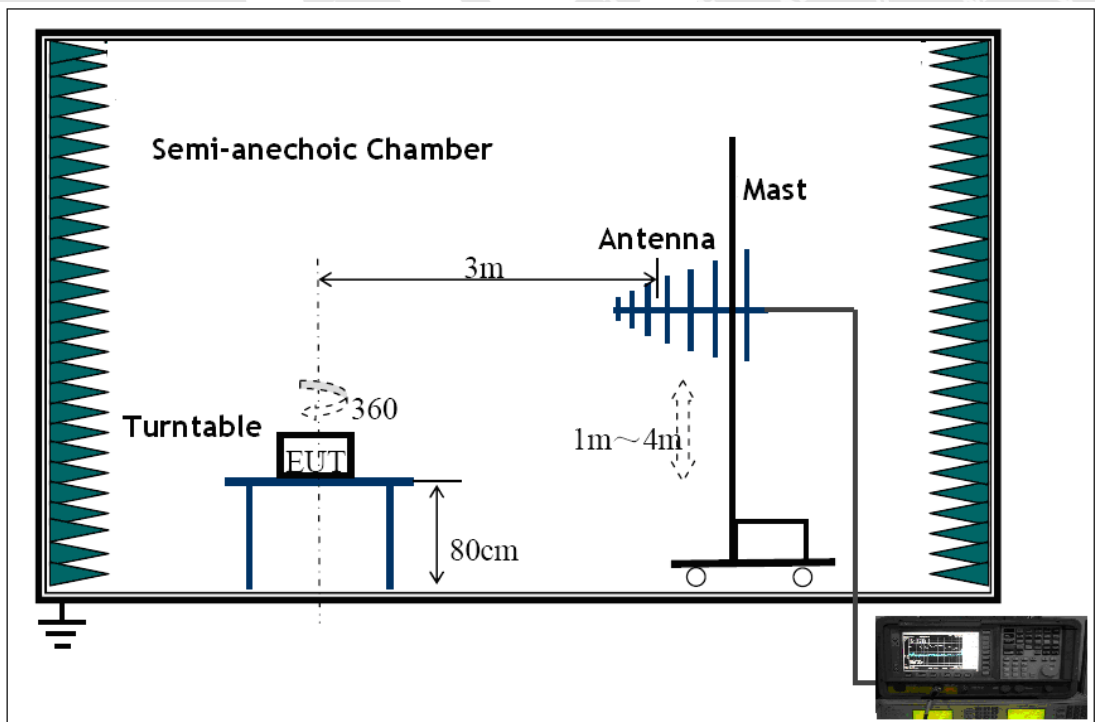
- Temperature** : 24.5°C
- Humidity**..... : 50.5%RH
- Atmospheric Pressure**..... : 101.1kPa

EUT Operation:

- Input Voltage** : AC 240V/50Hz
- Operating Mode**..... : Max Power Mode

5.2.2 Block Diagram of Test Setup

The Radiated Emission test was performed in the 3m Semi- Anechoic Chamber test site and accordance with CISPR16-2-3.



5.2.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for Horizontal & Vertical polarisation. Quasi-peak measurements were performed if peak emissions were within 6dB of the limit line.



5.2.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Corr. Factor}$$

$$\text{Corr. Factor} = \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

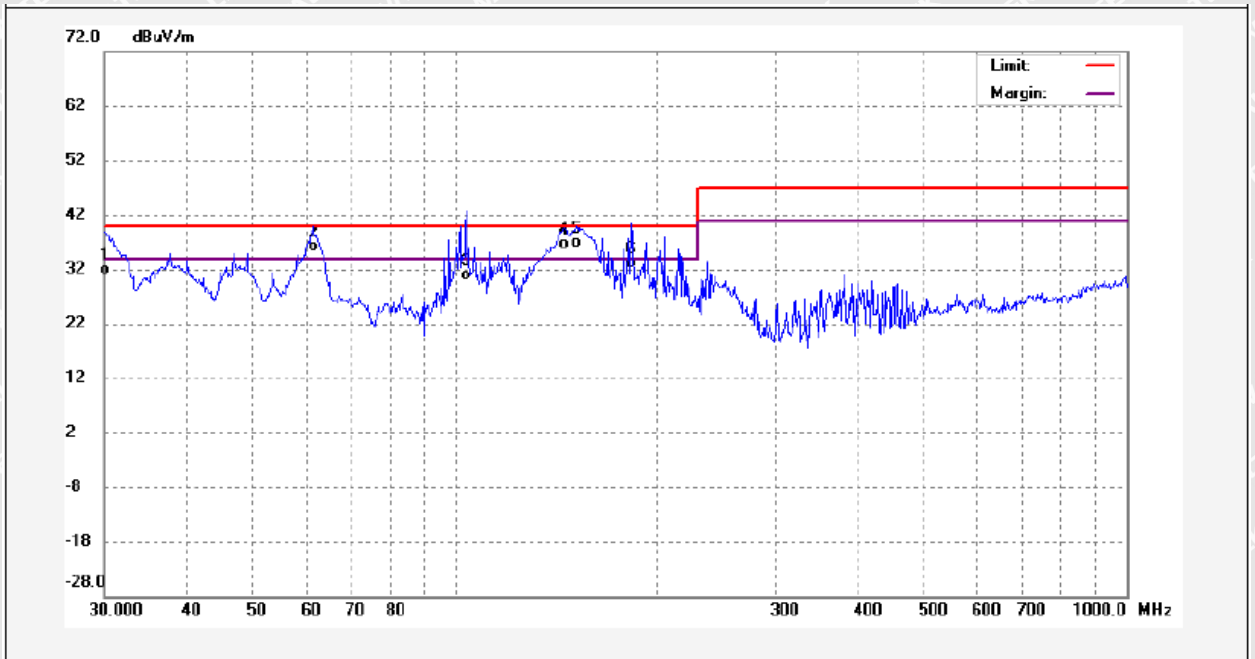
The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit.

The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Limit}$$

5.2.5 Radiated Emission Test Data

Vertical Polarization:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	30.0000	20.78	11.09	31.87	40.00	-8.13	QP	
2	61.5187	23.41	12.64	36.05	40.00	-3.95	QP	
3	103.9511	19.68	11.17	30.85	40.00	-9.15	QP	
4	145.5035	25.44	11.22	36.66	40.00	-3.34	QP	
5	152.0764	25.30	11.65	36.95	40.00	-3.05	QP	
6	183.0079	19.49	13.69	33.18	40.00	-6.82	QP	



Horizontal Polarization :



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	105.0505	14.59	12.48	27.07	40.00	-12.93	QP	
2	152.8784	22.59	10.06	32.65	40.00	-7.35	QP	
3	175.4054	17.06	11.08	28.14	40.00	-11.86	QP	
4	187.3584	22.42	12.17	34.59	40.00	-5.41	QP	
5	191.2079	24.08	12.55	36.63	40.00	-3.37	QP	
6	213.6135	21.27	13.60	34.87	40.00	-5.13	QP	





5.3 Discontinuous Disturbance (Click)

Test Requirement..... : EN 55014-1
Test Method..... : EN 55014-1
Test Result..... : Pass
Frequency Range..... : 150kHz to 30MHz
Class/Severity..... : Annex C of EN 55014-1

5.3.1 E.U.T. Operation

Operating Environment:

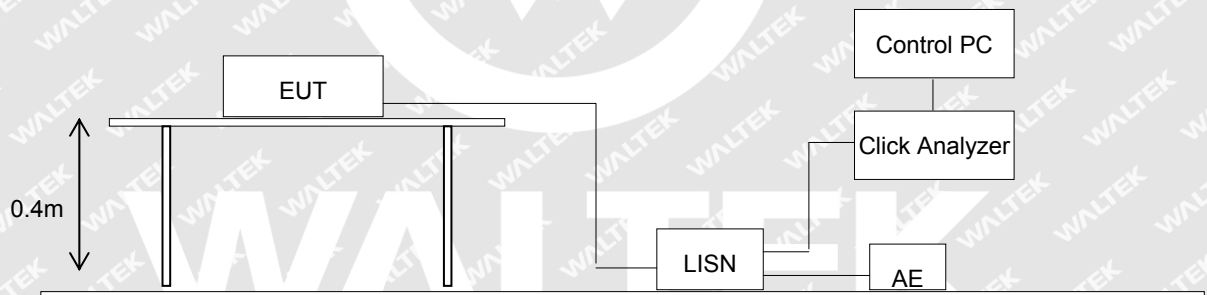
Temperature : 23.7°C
Humidity..... : 53.0%RH
Atmospheric Pressure : 100.8kPa

EUT Operation :

Input Voltage : AC 240V/50Hz
Operating Mode..... : Sleep Mode

5.3.2 Block Diagram of Setup

The discontinuous disturbance test was performed in accordance with EN 55014-1.



5.3.3 Measurement Data

If none of the caused clicks has a duration longer than 20ms, 90% of the caused clicks have a duration less than 10ms, and the click rate is not more than 5, then the product is deemed to comply with the click requirements of EN 55014-1. See Clause 4.2.3.4 of EN 55014-1 for further details.



5.3.4 Discontinuous Disturbance(Click) Test Results

Run A Observation time T1= 120 mins 0 secs

Frequency	150kHz	500kHz	1.4MHz	30MHz
Limit value (L)(dBuV)	66	56	56	60
Short clicks	0	0	0	0
Long clicks	0	0	0	0
Total (short + long) n	0	0	0	0
Click rate	0.00	0.00		
Continuous Interference (max)	0.00sec	0.00sec	0.00sec	0.00sec

Switching operations: s= ---

Click rate formula: $N = n / T1$

Click rate used in calculating Run B limit : N1= --- N2= --- (used for 0.5MHz to 30MHz)

Run B Observation time T2= N/A

Frequency	150kHz	500kHz	1.4MHz	30MHz
Limit value (L)(dBuV) $Lq = L + 20 \log 30/N$ (max L + 44)	---	---	---	---
Short clicks	---	---	---	---
Long clicks	---	---	---	---
Total (short + long) n	---	---	---	---
Limit = RunA/4	---	---	---	---

Remark:

- 1) The click rate N shall be determined at 150kHz for the frequency range 150kHz to 500kHz and at 500kHz for the frequency 500kHz to 30MHz ;
- 2) During RUN A, the click rate is not more than 5 and there is no long click. RUN B is unnecessary;



5.4 Voltage Fluctuation and Flicker

Test Requirement : EN 61000-3-3

Test Method..... : EN 61000-3-3

Test Result : Pass

5.4.1 E.U.T. Operation

Operating Environment:

Temperature : 23.5°C

Humidity..... : 46.9%RH

Barometric Pressure..... : 101.1kPa

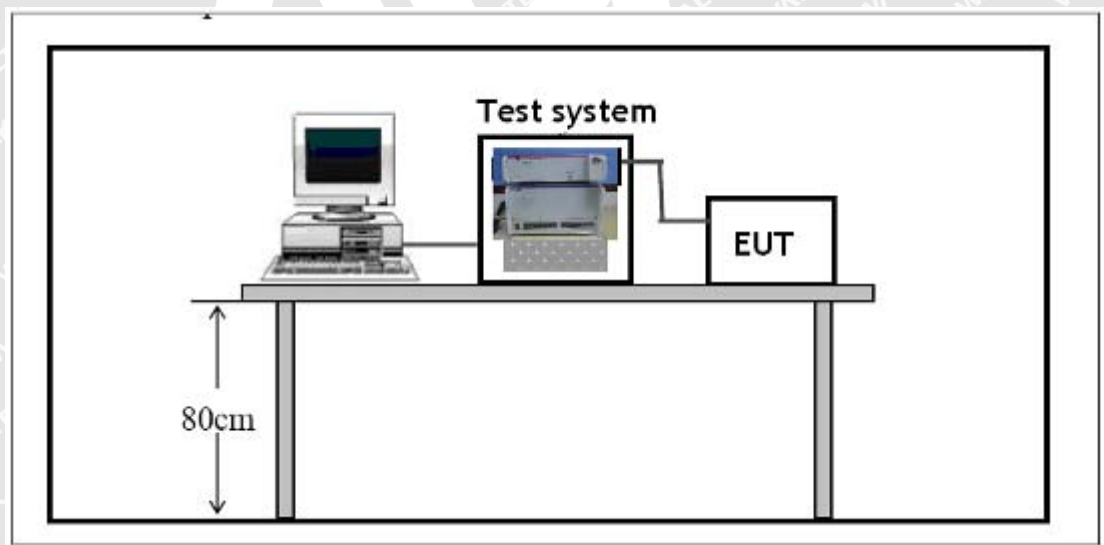
EUT Operation:

Input Voltage : AC 230V/50Hz

Operating Mode..... : Sleep Mode

5.4.2 Block Diagram of Setup

The Voltage Fluctuation and Flicker test was performed in accordance with the EN 61000-3-3.





5.4.3 Voltage Fluctuation and Flicker Test Data

Flicker Test Summary per EN/IEC61000-3-3 Ed. 3.0 (2013) (Run time)

EUT: Air Purifier KJ100G-J107
 Test category: dt,dmax,dc and Pst (European limits)
 Test date: 2020/9/1
 Test duration (min): 10
 Comment: Sleep Mode
 Customer:

Tested by: Webb
 Test Margin: 100
 Start time: 11:28:47
 End time: 11:39:14
 Data file name: F-000072.cts_data

Test Result: Pass Status: Test Completed

Pst_i and limit line **European Limits**



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	230.12			
T-max (mS):	0	Test limit (mS):	500.0	Pass
Highest dc (%):	0.00	Test limit (%):	3.30	Pass
Highest dmax (%):	0.00	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.064	Test limit:	1.000	Pass



6 Immunity Test Results

6.1 Performance Criteria

Performance criterion A: The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.

Performance criterion B: The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however, no change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.

Performance criterion C: Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

For further details, please refer to EN 55014-2.



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6.2 Electrostatic Discharge (ESD)

- Test Requirement**..... : EN 55014-2
- Test Method**..... : IEC 61000-4-2
- Test Result**..... : Pass
- Discharge Impedance**..... : 330Ω / 150pF
- Discharge Voltage**..... : Air Discharge: ±8kV
Contact Discharge: ±4kV
HCP & VCP: ±4kV
- Polarity**..... : Positive & Negative
- Number of Discharge**..... : Minimum 10 times at each test point
- Discharge Mode**..... : Single Discharge
- Discharge Period**..... : 1 second minimum

6.2.1 E.U.T. Operation

Operating Environment:

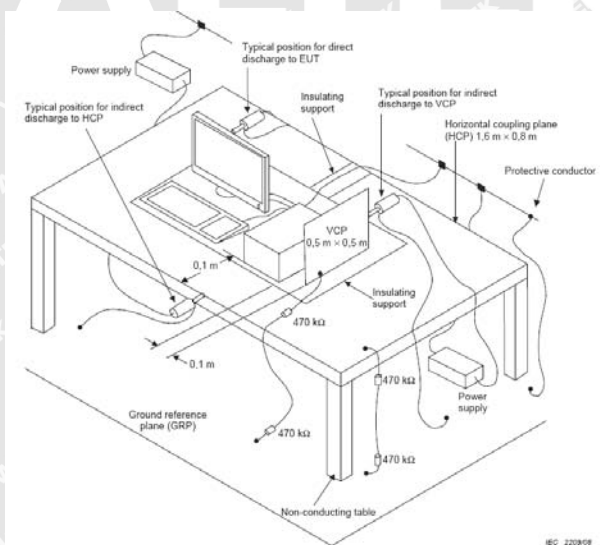
- Temperature**..... : 23.1°C
- Humidity**..... : 47.8%RH
- Barometric Pressure**..... : 100.3kPa

EUT Operation:

- Input Voltage**..... : AC 230V/50Hz
- Operating Mode**..... : On mode

6.2.2 Block Diagram of Setup

The ESD test was performed in accordance with the IEC 61000-4-2.





6.2.3 Direct Discharge Test Results

Observations: **Test points:** 1. All Exposed Surface & Seams;
2. All metallic part

Direct Discharge			Test Results	
Applied Voltage (kV)	Performance Criterion	Test Point	Contact Discharge	Air Discharge
±8	B	1	N/A	Pass*
±4	B	2	Pass*	N/A

Remark:

* During the test no deviation was detected to the selected operation mode(s)

6.2.4 Indirect Discharge Test Results

Observations: **Test points:** 1. All sides.

Indirect Discharge			Test Results	
Applied Voltage (kV)	Performance Criterion	Test Point	Horizontal Coupling	Vertical Coupling
±4	B	1	Pass*	Pass*

Remark:

* During the test no deviation was detected to the selected operation mode(s)

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6.3 Electrical Fast Transients (EFT)

Test Requirement	:	EN 55014-2
Test Method	:	IEC 61000-4-4
Test Result	:	Pass
Test Level	:	1.0kV on AC Mains
Polarity	:	Positive & Negative
Repetition Frequency	:	5kHz
Burst Duration	:	300ms
Test Duration	:	2 minutes per level & polarity

6.3.1 E.U.T. Operation

Operating Environment:

Temperature	:	22.9°C
Humidity	:	46.5%RH
Barometric Pressure	:	100.1kPa

EUT Operation:

Input Voltage	:	AC 230V/50Hz
Operating Mode	:	On mode

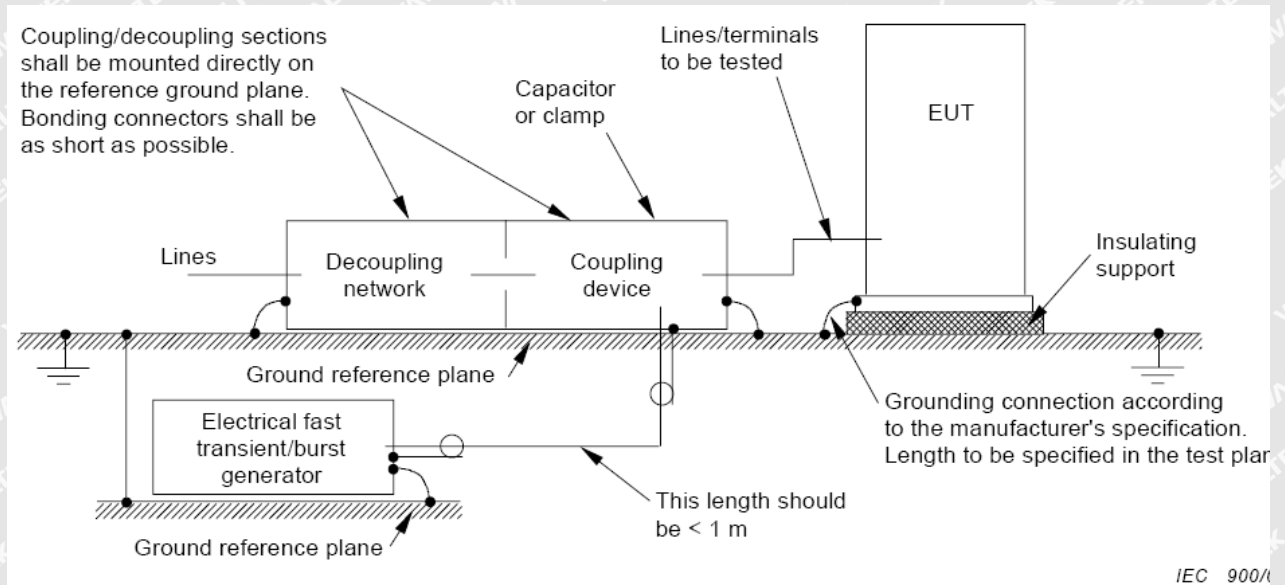


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6.3.2 Block Diagram of Setup

The Electrical Fast Transients Immunity test was performed in accordance with the IEC 61000-4-4.



6.3.3 Test Results

Test Port	Test Level(kV)	Performance Criterion	Result
Line-Neutral	± 1.0	B	Pass*

Remark:

* During the test no deviation was detected to the selected operation mode(s)

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6.4 Surge

Test Requirement.....	: EN 55014-2
Test Method.....	: IEC 61000-4-5
Test Result.....	: Pass
Test level.....	: $\pm 1\text{kV}$ Live to Neutral, $\pm 2\text{kV}$ Live to PE and Neutral to PE
Interval	: 60s between each surge
No. of surges	: 5 positive at 90° , 5 negative at 270° .

6.4.1 E.U.T. Operation

Operating Environment:

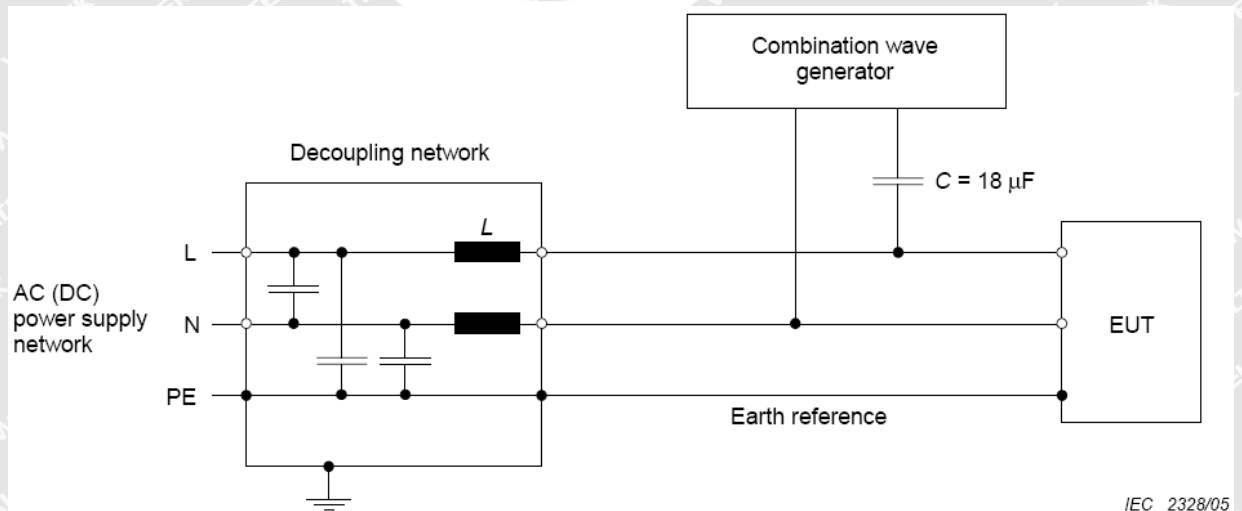
Temperature	: 23.1°C
Humidity.....	: 51.7%RH
Barometric Pressure.....	: 100.3kPa

EUT Operation:

Input Voltage	: AC 230V/50Hz
Operating Mode.....	: On mode

6.4.2 Block Diagram of Setup

The Surge Immunity test was performed in accordance with the IEC 61000-4-5.





6.4.3 Test Results

Test Port	Applied Voltage (kV)	Performance criterion	Result
Between Phase And Phase	± 1	B	N/A
Between Live And Neutral	± 1	B	Pass*
Between Live And Earth	± 2	B	N/A
Between Neutral And Earth	± 2	B	N/A

Remark:

- * During the test no deviation was detected to the selected operation mode(s)



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6.5 Injected Currents Immunity, 0.15MHz to 230MHz

Test Requirement.....	:	EN 55014-2
Test Method.....	:	IEC 61000-4-6
Test Result.....	:	Pass
Frequency Range.....	:	0.15MHz to 230MHz
Test level.....	:	3V r.m.s. (unmodulated emf into 150 Ω)
Modulation.....	:	80%, 1kHz Amplitude Modulation.

6.5.1 E.U.T. Operation

Operating Environment:

Temperature.....	:	22.5°C
Humidity.....	:	47.3% RH
Barometric Pressure.....	:	100.3kPa

EUT Operation:

Input Voltage.....	:	AC 230V/50Hz
Operating Mode.....	:	On mode

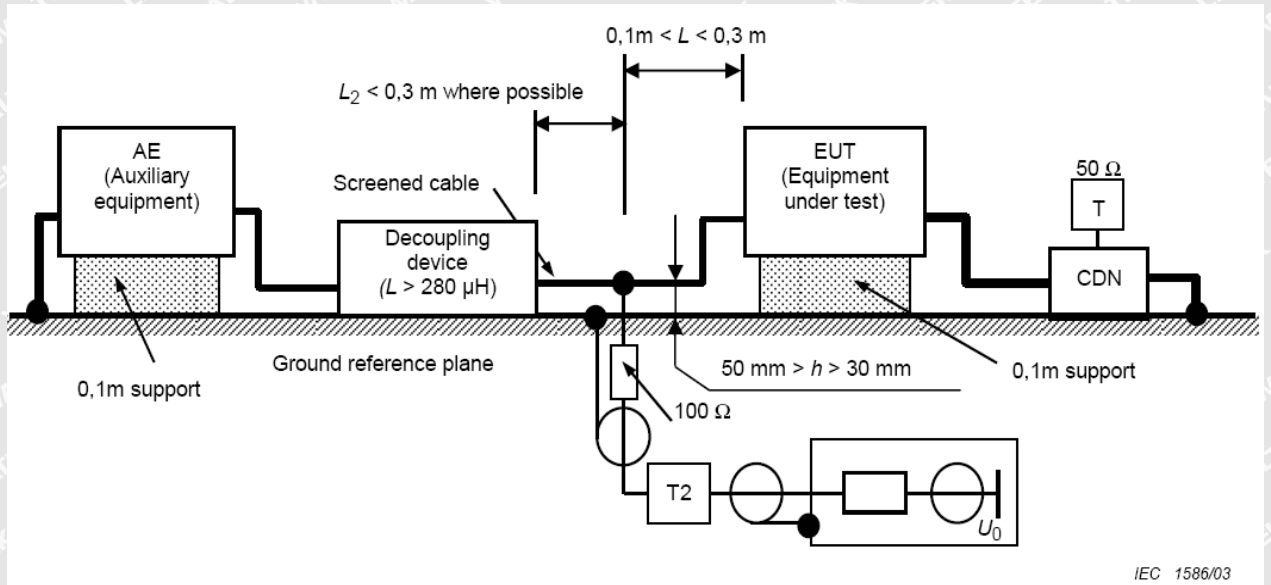


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6.5.2 Block Diagram of Setup

The Injected Currents Immunity test was performed in accordance with the IEC 61000-4-6.



6.5.3 Test Results

Frequency	Line	Test Level	Modulation	Step Size	Dwell Time	Performance Criterion	Result
0.15MHz to 230MHz	2 Wire AC Supply Cables	3Vr.m.s.	80%, 1kHz Amp. Mod.	1%	1s	A	Pass*

Remark:

* During the test no deviation was detected to the selected operation mode(s)



6.6 Voltage Dips and Interruptions

Test Requirement.....	EN 55014-2
Test Method.....	IEC 61000-4-11
Test Result.....	Pass
Test Level(Voltage reduction)	0% & 40% & 70 % of U_T (Supply Voltage)
No. of Dips / Interruptions.....	1 per Level at 20ms intervals

6.6.1 E.U.T. Operation

Operating Environment:

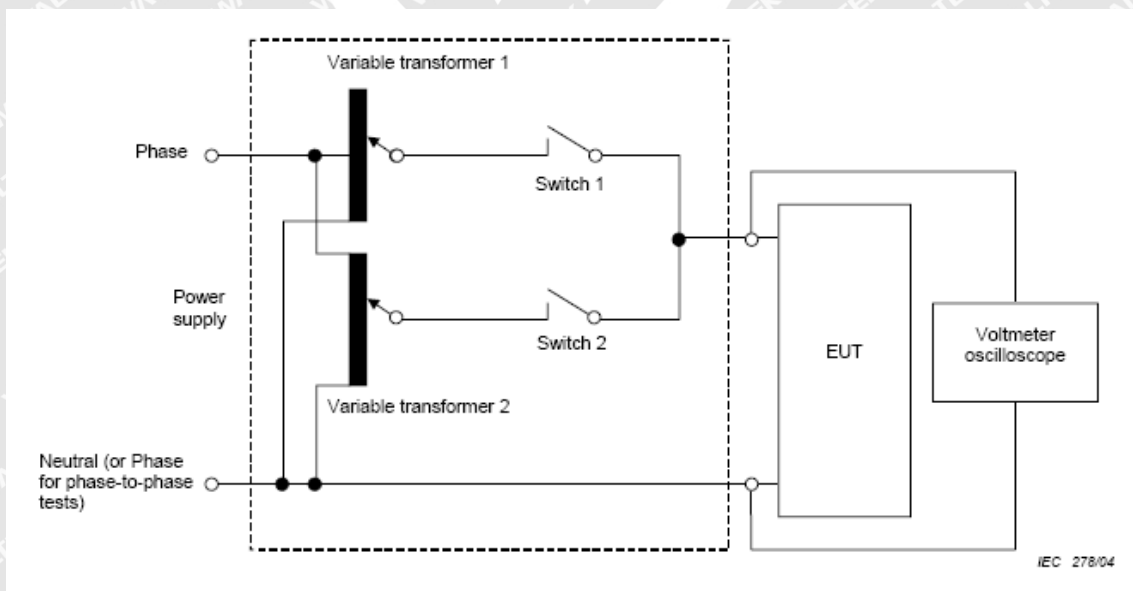
Temperature.....	23.3°C
Humidity.....	53.9%RH
Barometric Pressure.....	100.2kPa

EUT Operation:

Input Voltage.....	AC 230V/50Hz
Operating Mode.....	On mode

6.6.2 Block Diagram of Setup

The Voltage Dips and Interruptions Immunity test was performed in accordance with the IEC 61000-4-11.





6.6.3 Test Results

Test Level in %U _r	Performance criterion	50Hz		60Hz	
		Duration	Result	Duration	Result
0	C	0.5	Pass*	0.5	Pass*
40	C	10	Pass*	12	Pass*
70	C	25	Pass*	30	Pass*

Remark:

* During the test no deviation was detected to the selected operation mode(s)



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7 Photographs – Test Setup

7.1 Photograph – Mains Terminal Disturbance Voltage Test Setup



7.2 Photograph – Radiated Emission Test Setup, 30MHz to 1GHz





7.3 Photograph – Discontinuous Disturbance (Click) Test Setup



7.4 Photograph – Voltage Fluctuation and Flicker Test Setup

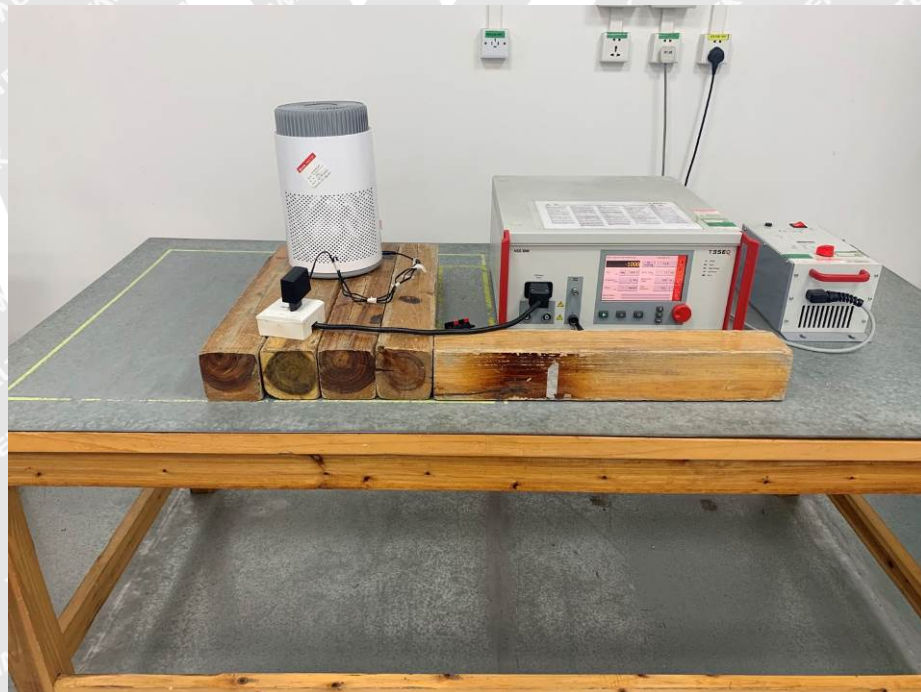




7.5 Photograph – ESD Immunity Test Setup



7.6 Photograph – EFT Immunity Test Setup

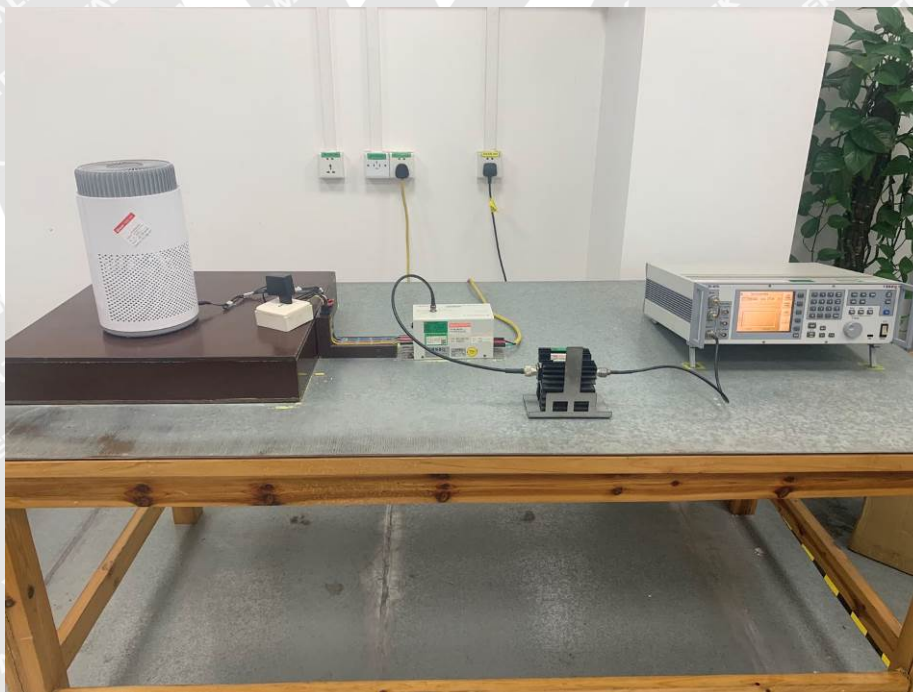




7.7 Photograph – Surge Immunity Test Setup

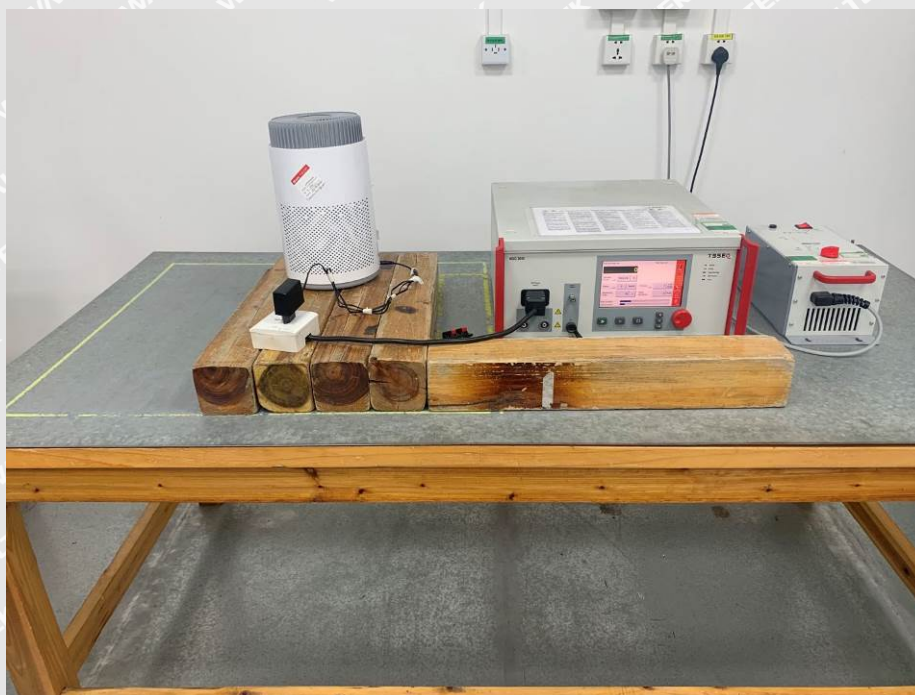


7.8 Photograph – Injected Currents Immunity Test Setup





7.9 Photograph – Voltage Dips and Interruptions Immunity Test Setup





8 Photographs – Constructional Details

8.1 EUT – External View



===== End of Report =====