EMC TEST REPORT

On Behalf of

Shenzhen Xinyuda Technology Co., Ltd

Product Name:	Anti-gravity humidifier Bluetooth speaker
Trademark:	N/A
Model Number:	Y13
Prepared For:	Shenzhen Xinyuda Technology Co., Ltd
Address:	1005, Block A, Sihai Yunchuang, Houting Community, Shajing Street, Bao'an District, Shenzhen
Prepared By:	Shenzhen Huaxiang Testing Co , Ltd
Address:	201, Building A10, Fuhai Information Port, Fuhai Street, Bao'an District, Shenzhen City
Report No.:	HUAX240319043KR

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TEST REPORT DECLARATION

Applicant	:	**Shenzhen Xinyuda Technology Co., Ltd**
Address :	:	1005, Block A, Sihai Yunchuang, Houting Community, Shajing Street, Bao'an District, Shenzhen
Manufacturer:	:	**Shenzhen Xinyuda Technology Co., Ltd**
Address :	:	1005, Block A, Sihai Yunchuang, Houting Community, Shajing Street, Bao'an District, Shenzhen
EUT Description :	:	**Anti-gravity humidifier Bluetooth speaker**
Model Number	:	**Y13**
Rating(s)	:	DC 5V, 5W
Test Date		Mar. 18, 2024 - Mar. 22, 2024
Date of Report		Mar. 22, 2024

Test Standards:

ETSI EN 301 489-1 V2.2.3

ETSI EN 301 489-17 V3.2.4

The EUT described above is tested by Huaxiang Testing Technology Co , Ltd. EMC Laboratory to determine the maximum emissions from the EUT and ensure the EUT to be compliance with the immunity requirements of the EUT. Shenzhen Huaxiang Testing Co , Ltd. is assumed full responsibility for the accuracy of the test results. Also, this report shows that the EUT technically complies with the2014/30/EU directive and its amendment requirements.

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Prepared by(Test Engineer): Joan Wang

Approved(Manager): Amy Jiang

. TEST SUMMARY

Test procedures according to the technical standards:
ETSI EN 301 489-1 V2.2.3
ETSI EN 301 489-17 V3.2.4

EMC Emission				
Standard	Test Item	Limit	Judgment	Remark
EN 55022:2010	Conducted Emission	Class B	N/A	
	Radiated Emission	Class B	PASS	
EN61000-3-2:2006/A2:2009	Harmonic Current Emission	Class A or D NOTE (2)	N/A	
EN 61000-3-3:2008	Voltage Fluctuations & Flicker	------	N/A	
EMC Immunity				
Section	Test Item	Performance Criteria	Judgment	Remark
EN 61000-4-2:2009	Electrostatic Discharge	B	PASS	
EN 61000-4-3:2006/A2:2010	RF electromagnetic field	A	PASS	
EN 61000-4-4:2004/A1:2010	Fast transients	B	N/A	
EN 61000-4-5:2006	Surges	B	N/A	
EN 61000-4-6:2009	Injected Current	A	N/A	
EN 61000-4-11:2004	Volt. Interruptions Volt. Dips	B / C / C **NOTE (3)**	N/A	

NOTE:
(1)" N/A" denotes test is not applicable in this Test Report
(2) The power consumption of EUT is less than 75W and no Limits apply.
(3) Voltage dip: 0% reduction – Performance Criteria **B**
Voltage dip: 70% reduction – Performance Criteria **C**
Voltage Interruption: 0% Interruption – Performance Criteria **C**
(4) For client's request and manual description, the test will not be executed.

TEST FACILITY

Name and address of the testing laboratory :

Shenzhen Huaxiang Testing Co , Ltd

201, Building A10, Fuhai Information Port, Fuhai Street, Bao'an District, Shenzhen City

MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y ± U** · where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2** · providing a level of confidence of approximately **95** %。

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U · (dB)	NOTE
C01	ANSI	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U · (dB)	NOTE
OS01	ANSI	30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.60	
		200MHz ~ 1,000MHz	V	3.86	
		200MHz ~ 1,000MHz	H	3.94	
OS02	ANSI	30MHz ~ 200MHz	V	2.48	
		30MHz ~ 200MHz	H	2.16	
		200MHz ~ 1,000MHz	V	2.50	
		200MHz ~ 1,000MHz	H	2.66	

. GENERAL INFORMATION

GENERAL DESCRIPTION OF EUT

Equipment	Anti-gravity humidifier Bluetooth speaker
Brand Name	N/A
Model Name.	Y13
OEM Brand/Model No.	N/A
Model Difference	Remark: supplementary models are similar except the model name for different power. All the tests of this report are carried on Y13.
Manufacturer	Shenzhen Xinyuda Technology Co., Ltd
Manufacturer Address	1005, Block A, Sihai Yunchuang, Houting Community, Shajing Street, Bao'an District, Shenzhen
Power Source	DC 5V
Power Rating	DC 5V, 5W
Connecting I/O Port(s)	Please refer to the User's Manual

Note: For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Anti-gravity humidifier Bluetooth speaker

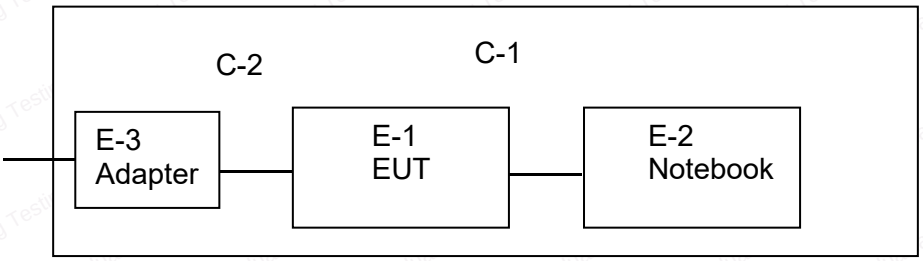
For Conducted Test	
Final Test Mode	Description
Mode 1	Anti-gravity humidifier Bluetooth speaker

For Radiated Test	
Final Test Mode	Description
Mode 1	Anti-gravity humidifier Bluetooth speaker

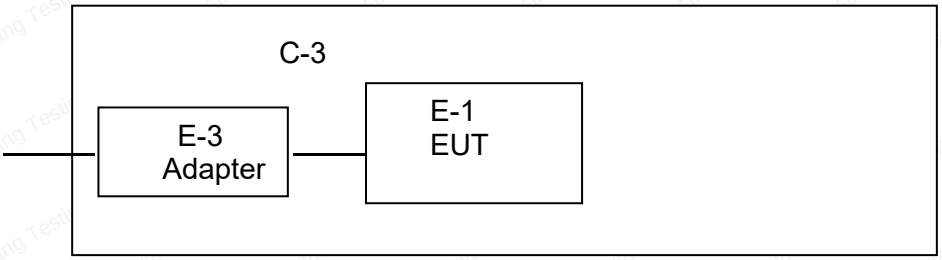
For EMS Test	
Final Test Mode	Description
Mode 1	Anti-gravity humidifier Bluetooth speaker

DESCRIPTION OF TEST SETUP

Radiated:



Conduction:



DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	Anti-gravity humidifier Bluetooth speaker	N/A	Y13	N/A	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

Note:

(1) The support equipment was authorized by Declaration of Confirmation.

(2) For detachable type I/O cable should be specified the length in cm in『Length』column.

MEASUREMENT INSTRUMENTS LIST

CONDUCTED EMISSION

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00042991	Nov. 20, 2023
2	LISN	EMCO	3816/2	00042990	Nov. 20, 2023
3	Pulse Limiter	Electro-Metrics	EM-7600	112644	Nov. 20, 2023
4	50Ω Terminator	N/A	N/A	N/A	Nov. 20, 2023
5	Test Cable	N/A	C01	N/A	Nov. 20, 2023
6	EMI Test Receiver	R&S	ESCI	100082	Nov. 20, 2023

RADIATED EMISSION

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Log-Bicon Antenna	Schwarzbeck	VULB 9160	3058	Nov. 20, 2023
2	Test Cable	N/A	10M_OS02	N/A	Nov. 20, 2023
3	Test Cable	N/A	OS02-1/-2/-3	N/A	Nov. 20, 2023
4	Pre-Amplifier	Anritsu	MH648A(OS 02)	M10061	Nov. 20, 2023
5	EMI Test Receiver	R&S	ESCI	100082	Nov. 20, 2023
6	Antenna Mast	Chance Most	CMTB-1.5	N/A	N/A
7	Turn Table	Chance Most	CMTB-1.5	N/A	N/A

HARMONICS AND FILCK

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Harmonic & Flicker	California	PACS-1	72345	Nov. 20, 2023
2	Power Source	California	3001iX	56310	Nov. 20, 2023

ESD

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	ESD Simulator	Thermo	MZ-15/EC	0502184	Nov. 20, 2023

RS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Signal Generator	R&S	SMT 06	832080/007	Nov. 20, 2023
2	Log-Bicon Antenna	Schwarzbeck	VULB9161	4022	Nov. 20, 2023
3	Power Amplifier	AR	150W1000M1	320946	Nov. 20, 2023
4	Microwave Horn Antenna	AR	AT4002A	321467	Nov. 20, 2023
5	Power Amplifier	AR	25S1G4A	308598	Nov. 20, 2023

SURGE, EFT/BURST, VOLTAGE INTERRUPTION/DIPS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMC Immunity Test System	Thermo	EMCPRO PLUS	0502176	Nov. 20, 2023

INJECTION CURRENT

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Signal Generator	IFR	2023A	202301/368	Nov. 20, 2023
2	Power Amplifier	AR	75A250AM1	0320709	Nov. 20, 2023
3	CDN	FCC	FCC-801-M2	06043	Nov. 20, 2023
4	EM Clamp	FCC	F-203I-23MM	504	Nov. 20, 2023

. EMC EMISSION TEST

CONDUCTED EMISSION MEASUREMENT

POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

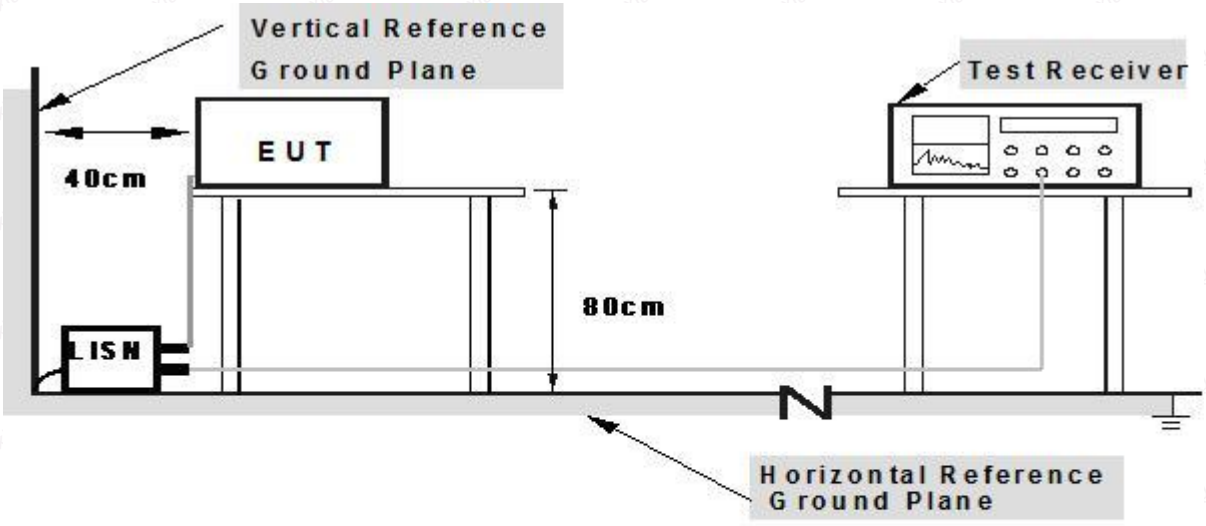
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

TEST PROCEDURE

a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.2** Unless otherwise a special operating condition is specified in the follows during the testing.

RADIATED EMISSION MEASUREMENT

LIMITS OF RADIATED EMISSION MEASUREMENT (Below 1000MHz)

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 10m)
	dBuV/m	dBuV/m
30 – 230	40	30
230 – 1000	47	37

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (at 10m) dBuV/m		Class B (at 10m) dBuV/m	
	Peak	Avg	Peak	Avg
1000-3000	76	56	70	50
3000-6000	80	60	74	54

Notes:

(1) The limit for radiated test was performed according to as following: CISPR 22/ FCC PART 15B /ICES-003.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

TEST PROCEDURE

a. The measuring distance of at 10 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.

b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

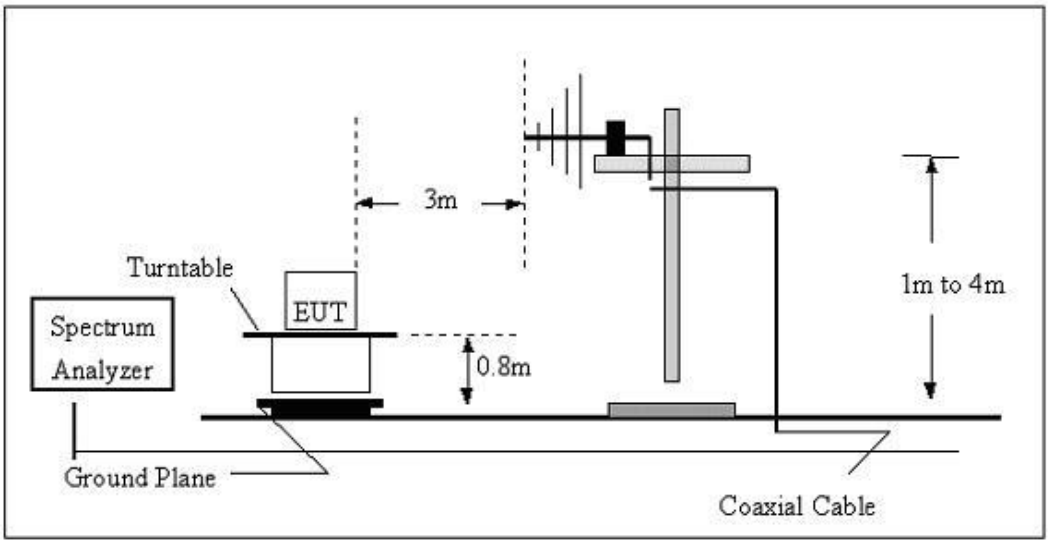
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.

f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

TEST SETUP

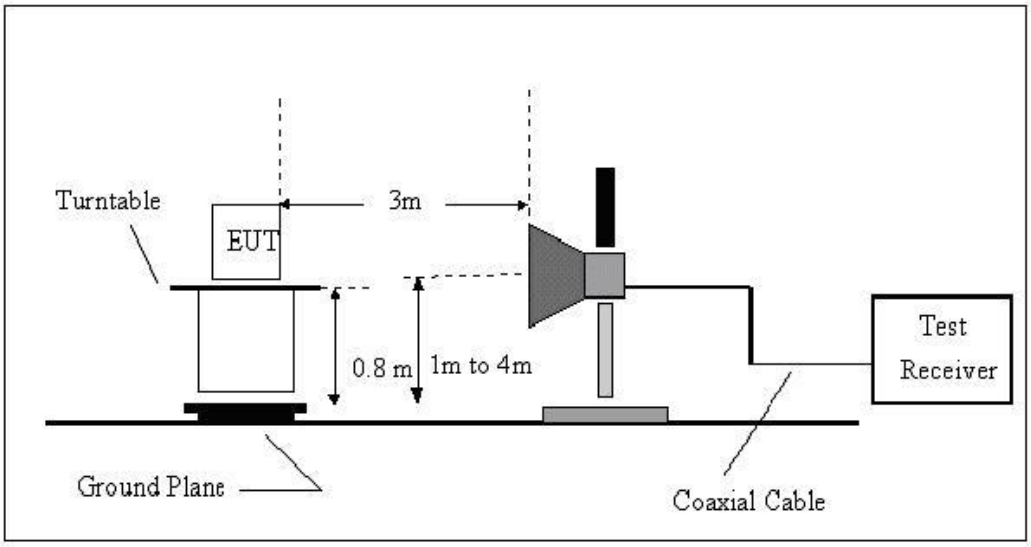
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Above 1GHz

(B) Radiated Emission Test Set-UP Frequency Over 1 GHz

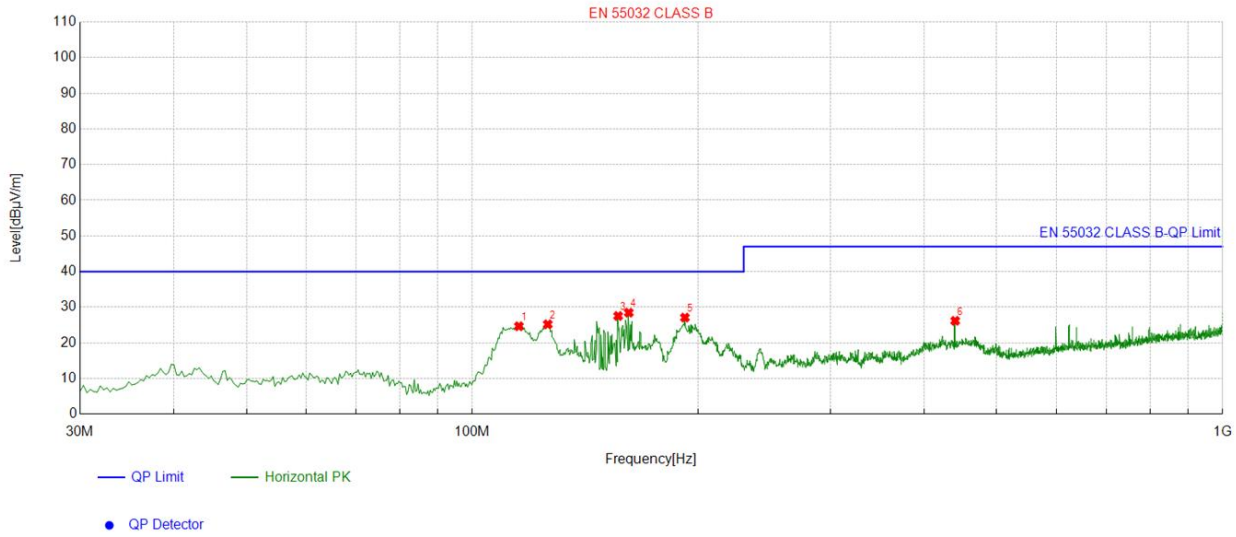


EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.2** Unless otherwise a special operating condition is specified in the follows during the testing.

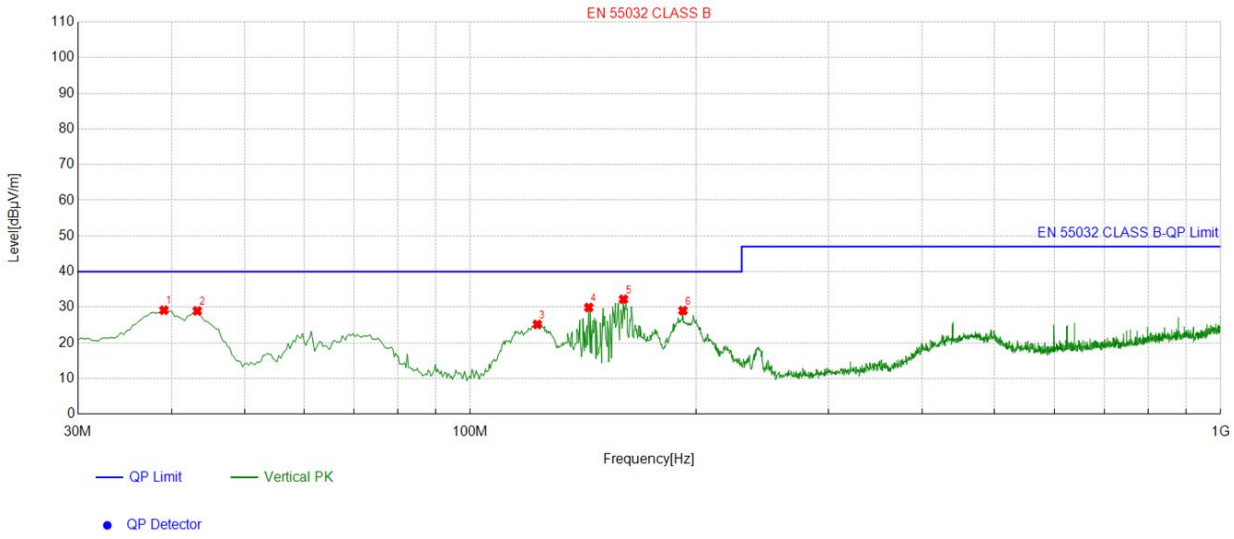
TEST RESULTS (30-1000MHz)

EUT:	Anti-gravity humidifier Bluetooth speaker	Model Name :	Y13
Temperature:	24 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2024-03-20
Test Mode :	Anti-gravity humidifier Bluetooth speaker	Polarization :	Horizontal
Test Power :			



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	115.38846	-15.02	39.68	24.66	40.00	15.34	100	15	Horizontal
2	126.06202	-16.21	41.41	25.20	40.00	14.80	100	349	Horizontal
3	156.46548	-18.22	45.77	27.55	40.00	12.45	100	165	Horizontal
4	161.64054	-17.24	45.71	28.47	40.00	11.53	100	165	Horizontal
5	192.04401	-16.76	43.86	27.10	40.00	12.90	100	202	Horizontal
6	440.12337	-8.48	34.67	26.19	47.00	20.81	100	355	Horizontal

EUT:	Anti-gravity humidifier Bluetooth speaker	Model Name :	Y13
Temperature:	24 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2024-03-20
Test Mode :	Anti-gravity humidifier Bluetooth speaker	Polarization :	Vertical
Test Power :			



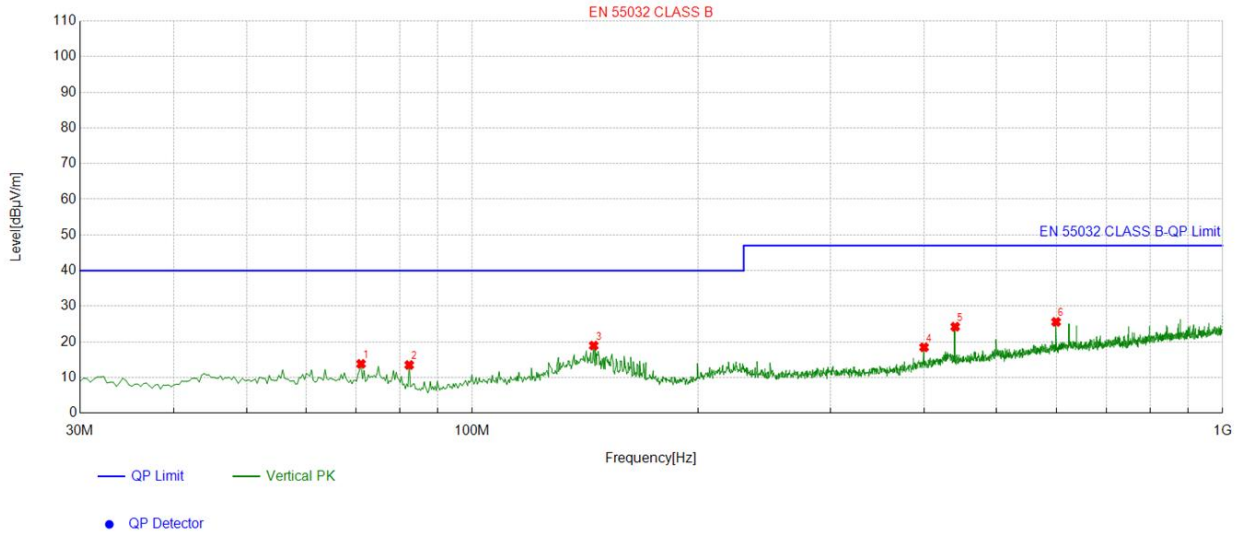
Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	39.056352	-15.49	44.65	29.16	40.00	10.84	100	89	Vertical
2	43.261087	-15.13	44.09	28.96	40.00	11.04	100	95	Vertical
3	122.82760	-15.96	41.13	25.17	40.00	14.83	100	8	Vertical
4	143.85128	-18.32	48.24	29.92	40.00	10.08	100	319	Vertical
5	160.02334	-17.28	49.51	32.23	40.00	7.77	100	230	Vertical
6	192.04401	-16.76	45.81	29.05	40.00	10.95	100	8	Vertical

TEST RESULTS(1000-6000)

EUT:	Anti-gravity humidifier Bluetooth speaker	Model Name :	Y13
Temperature:	24 ℃	Relative Humidity:	54 %
Pressure:	1010 hPa	Test Date :	2024-03-20
Test Mode :	Anti-gravity humidifier Bluetooth speaker		
Test Power :			

Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	112.80093	-15.10	27.65	12.55	40.00	27.45	100	133	Horizontal
2	146.43881	-18.53	32.77	14.24	40.00	25.76	100	144	Horizontal
3	157.11237	-18.12	33.58	15.46	40.00	24.54	100	167	Horizontal
4	440.12337	-8.48	34.02	25.54	47.00	21.46	100	136	Horizontal
5	599.90330	-4.94	29.69	24.75	47.00	22.25	100	242	Horizontal
6	625.13171	-4.37	29.26	24.89	47.00	22.11	100	317	Horizontal

EUT:	Anti-gravity humidifier Bluetooth speaker	Model Name :	Y13
Temperature:	24 ℃	Relative Humidity:	54 %
Pressure:	1010 hPa	Test Date :	2024-03-20
Test Mode :	Anti-gravity humidifier Bluetooth speaker		
Test Power :			



Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	71.077026	-16.28	30.11	13.83	40.00	26.17	100	356	Vertical
2	82.397466	-17.57	31.09	13.52	40.00	26.48	100	348	Vertical
3	145.14504	-18.43	37.39	18.96	40.00	21.04	100	150	Vertical
4	400.01667	-9.45	27.93	18.48	47.00	28.52	100	87	Vertical
5	440.12337	-8.48	32.73	24.25	47.00	22.75	100	72	Vertical
6	599.90330	-4.94	30.54	25.60	47.00	21.40	100	216	Vertical

3.3 HARMONICS CURRENT

3.3.1 LIMITS OF HARMONICS CURRENT

IEC 555-2					
Table - I			Table - II		
Equipment Category	Harmonic Order n	Max. Permissible Harmonic Current (in Ampers)	Equipment Category	Harmonic Order n	Max. Permissible Harmonic Current (in Ampers)
Non Portable Tools or TV Receivers	Odd Harmonics		TV Receivers	Odd Harmonics	
	3	2.30		3	0.80
	5	1.14		5	0.60
	7	0.77		7	0.45
	9	0.40		9	0.30
	11	0.33		11	0.17
	13	0.21		13	0.12
	15≤n≤39	0.15 · 15/n		15≤n≤39	0.10 · 15/n
	Even Harmonics			Even Harmonics	
	2	1.08		2	0.30
	4	0.43		4	0.15
	8	0.30			
	8≤n≤40	0.23 · 8/n		DC	0.05

EN 61000-3-2/IEC 61000-3-2					
Equipment Category	Max. Permissible Harmonic Current (in Ampers)	Equipment Category	Harmonic Order n	Max. Permissible Harmonic Current (in A)	(mA/w)
Class A	Same as Limits Specified in 4-2.1, Table - I, but only odd harmonics required	Class D	3	2.30	3.4
			5	1.14	1.9
			7	0.77	1.0
			9	0.40	0.5
			11	0.33	0.35
			13≤n≤39	see Table I	3.85/n
			only odd harmonics required		

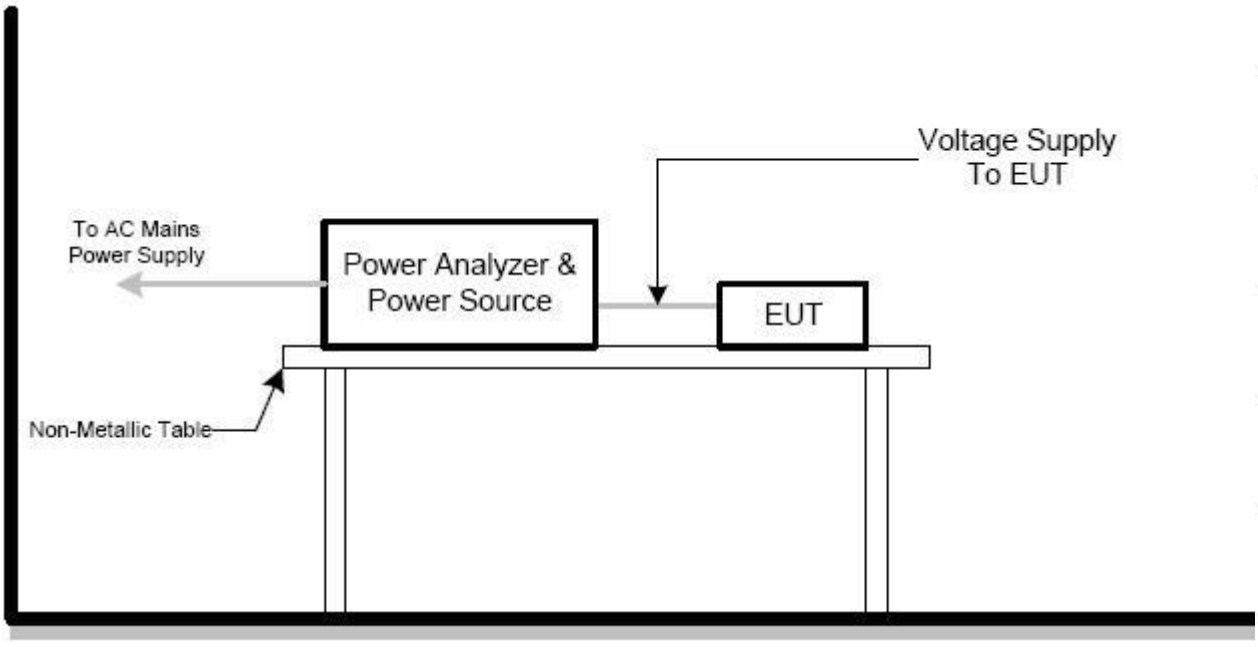
3.3.2 TEST PROCEDURE

a. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the maximum harmonic components under normal operating conditions.
b. The classification of EUT is according to section 5 of EN 61000-3-2: 2000.The EUT is classified as follows:
Class A: Balanced three-phase equipment, Household appliances excluding equipment as Class D, Tools excluding portable tools, Dimmers for incandescent lamps, audio equipment, equipment not specified in one of the three other classes.
Class B: Portable tools. Portable tools.; Arc welding equipment which is not professional equipment.
Class C: Lighting equipment.
Class D: Equipment having a specified power less than or equal to600 W of the following types: Personal computers and personal computer monitors and television receivers.
c. The correspondent test program of test instrument to measure the current harmonics emanated from EUT is chosen. The measure time shall be not less than the time necessary for the EUT to be exercised.
d. For the actual test configuration, please refer to the related item –EUT Test Photos.

3.3.3 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.2** Unless otherwise a special operating condition is specified in the follows during the testing.

3.3.4 TEST SETUP



3.3.5 TEST RESULTS

N/A(Below 75W)

3.4 VOLTAGE FLUCTUATION AND FLICKERS

3.4.1 LIMITS OF VOLTAGE FLUCTUATION AND FLICKERS

Tests	Limits		Descriptions
	IEC555-3	IEC/EN 61000-3-3	
Pst	≤ 1.0, Tp= 10 min.	≤ 1.0, Tp= 10 min.	Short Term Flicker Indicator
Plt	N/A	≤ 0.65, Tp=2 hr.	Long Term Flicker Indicator
dc	≤ 3%	≤ 3.3%	Relative Steady-State V-Chang
dmax	≤ 4%	≤ 4%	Maximum Relative V-change
d (t)	N/A	≤ 3.3% for > 500 ms	Relative V-change characteristic

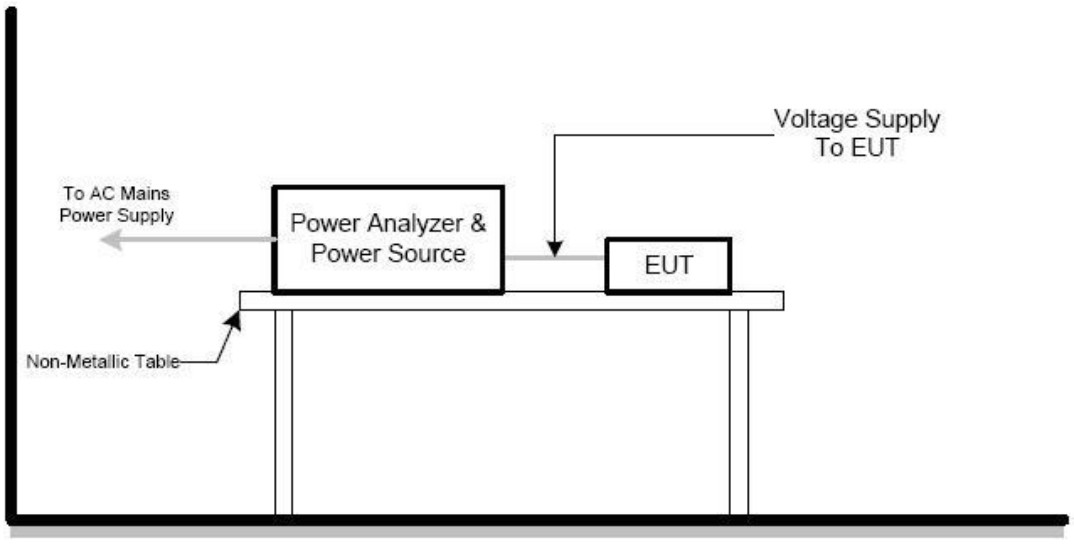
3.4.2TEST PROCEDURE

a. Harmonic Current Test:
Test was performed according to the procedures specified in Clause 5.0 of IEC555-2 and/or Sub-clause 6.2 of IEC/EN 61000-3-2 depend on which standard adopted for compliance measurement.
b. Fluctuation and Flickers Test:
Tests was performed according to the Test Conditions/Assessment of Voltage Fluctuations specified in Clause 5.0/6.0 of IEC555-3 and/or Clause 6.0/4.0 of IEC/EN 61000-3-3 depend on which standard adopted for compliance measurement.
c. All types of harmonic current and/or voltage fluctuation in this report are assessed by direct measurement using flicker-meter.
d. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.4.3 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.2** Unless otherwise a special operating condition is specified in the follows during the testing.

3.4.4 TEST SETUP



3.4.5 TEST RESULTS

EUT:		Model Name :	
Temperature:		Relative Humidity:	
Pressure:		Test Date :	
Test Mode :			
Result:			

Test Parameter	Measurement Value	Limit	Remarks
Pst		1.0	N/A
D(t)>3.3%(ms)		500	N/A
d_{max}(%)		4%	N/A
d_c(%)		3.3%	N/A

. EMC IMMUNITY TEST

STANDARD COMPLIANCE/SERVRITY LEVEL/CRITERIA

Tests Standard No.	TEST SPECIFICATION Level	Test Mode Test Ports	Perform. Criteria	Remark
1. ESD IEC/EN 61000-4-2	8KV air discharge 4KV contact discharge	Direct Mode	B	Pass
	4KV HCP discharge 4KV VCP discharge	Indirect Mode	B	Pass
2. RS IEC/EN 61000-4-3	80 MHz to 1000 MHz 1400 MHz to 2700 MHz 230V/m(rms), 1000Hz, 80%, AM modulated	Enclosure	A	Pass
3. EFT/Burst IEC/EN 61000-4-4	1.0KV(peak) 5/50ns Tr/Th 5KHz Repetition Freq.	Power Supply Port	B	N/A
	0.5 KV(peak) 5/50ns Tr/Th 5KHz Repetition Freq.	CTL/Signal Data Line Port	B	N/A
4. Surges IEC/EN 61000-4-5	0.5 KV(5P/5N) 1.2/50(8/20) Tr/Th us	L-N	B	N/A
	1 KV(5P/5N) 1.2/50(8/20) Tr/Th us	L-PE N-PE	B	N/A
5 Injected Current IEC/EN 61000-4-6	0.15 MHz to 80 MHz 230V(rms), 1000Hz 80 % , AM Modulated 150Ω source impedance	CTL/Signal Port	A	N/A
	0.15 MHz to 80 MHz 230V(rms), 1000Hz 80 % , AM Modulated 150Ω source impedance	AC Power Port	A	N/A
	0.15 MHz to 80 MHz 230V(rms), 1000Hz 80 % , AM Modulated 150Ω source impedance	DC Power Port	A	N/A
6. Volt. Interruptions Volt. Dips IEC/EN 61000-4-11	Voltage dip 0% Voltage dip 70% Interruption 0%	AC Power Port	B C C	N/A

* Remark:

N/A : denotes test is not applicable in this Test Report
(1) : The EUT is a battery operating device and no any other cable connection to PC device.
(2) : Applicable only to cables which according to the manufacturer's specification supports communication on cables lengths greater than 3 m.
(3) : Applicable only to equipment containing devices susceptible to magnetic fields

GENERAL PERFORMANCE CRITERIA

According to **EN 301489**standard, the general performance criteria as following:

Criterion A	The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.
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 specified by the manufacturer, when the apparatus is used as intended.
Criterion C	Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

PERFORMANCE CRITERIA FOR CT AND CR

A communication link shall be established at the start of the test, and maintained during the test. During the test, the RXQUAL of the downlink shall not exceed 3, measured during each individual exposure in the test sequence. Both the uplink speech output level and the downlink speech output level shall be at least 35 dB less than the previously recorded reference levels, when measured through an audio band Pass filter of width 200 Hz, centered on 1 kHz (audio breakthrough check). At the conclusion of the test, the EUT shall operate as intended with no loss of user control functions or stored data, and the communication link shall have been maintained.

PERFORMANCE CRITERIA FOR TT AND TR

A communications link shall be established at the start of the test. At the conclusion of each exposure the EUT shall operate with no user noticeable loss of the communication link. At the conclusion of the total test comprising the series of individual exposures, the EUT shall operate as intended with no loss of user control functions or stored data, as declared by the manufacturer, and the communication link shall have been maintained.

GENERAL PERFORMANCE CRITERIA TEST SETUP

The EUT tested system was configured as the statements of **2.2** Unless otherwise a special operating condition is specified in the follows during the testing.

ESD TESTING

TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-2
Discharge Impedance:	330 ohm / 150 pF
Required Performance	B
Discharge Voltage:	Air Discharge:2kV/4kV/8kV (Direct) Contact Discharge:2kV/4kV (Direct/Indirect)
Polarity:	Positive & Negative
Number of Discharge:	Air Discharge: min. 20 times at each test point Contact Discharge: min. 200 times in total
Discharge Mode:	AC Discharge
Discharge Period:	1 second minimum

TEST PROCEDURE

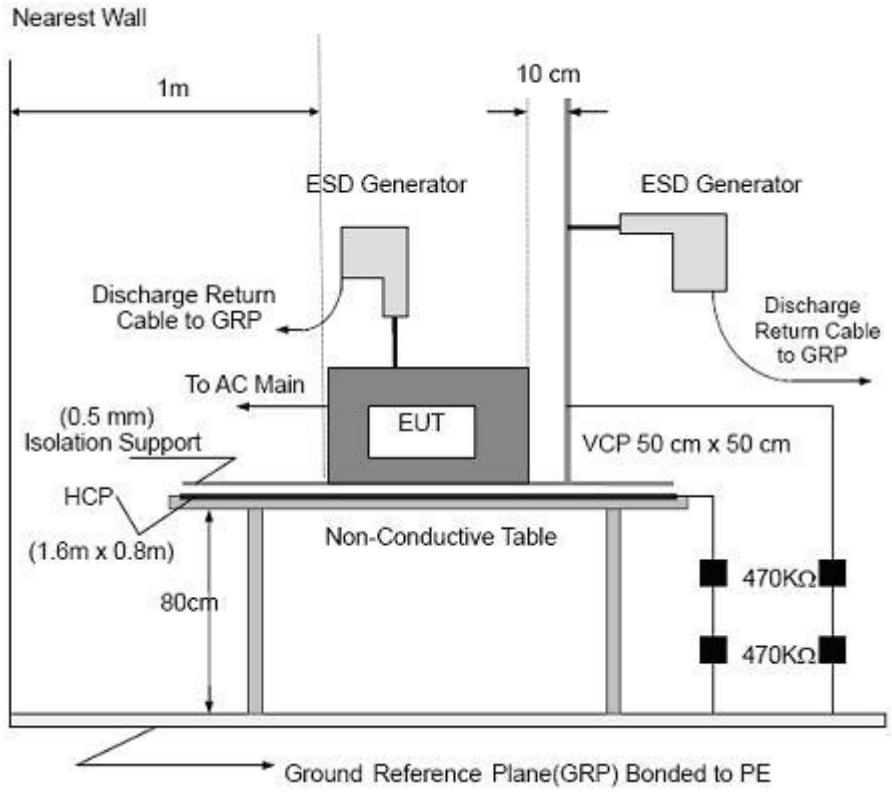
The test generator necessary to perform direct and indirect application of discharges to the EUT in the following manner:

a. Contact discharge was applied to conductive surfaces and coupling planes of the EUT.
During the test, it was performed with single discharges. For the single discharge time between successive single discharges was at least 1 second. The EUT shall be exposed to at least 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points. One of the test points shall be subjected to at least 50 indirect discharges to the center of the front edge of the horizontal coupling plane. The remaining three test points shall each receive at least 50 direct contact discharges.
If no direct contact test points are available, then at least 200 indirect discharges shall be applied in the indirect mode. Test shall be performed at a maximum repetition rate of one discharge per second.
Vertical Coupling Plane (VCP):
The coupling plane, of dimensions 0.5m x 0.5m, is placed parallel to, and positioned at a distance 0.1m from, the EUT, with the Discharge Electrode touching the coupling plane.
The four faces of the EUT will be performed with electrostatic discharge.
Horizontal Coupling Plane (HCP):
The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1m from the EUT, with the Discharge Electrode touching the coupling plane.
The four faces of the EUT will be performed with electrostatic discharge.

b. Air discharges at insulation surfaces of the EUT.
It was at least ten single discharges with positive and negative at the same selected point.

c. For the actual test configuration, please refer to the related Item –EUT Test Photos.

TEST SETUP



Note:

TABLE-TOP EQUIPMENT

The configuration consisted of a wooden table 0.8 meters high standing on the Ground Reference Plane. The GRP consisted of a sheet of aluminum at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system. A Horizontal Coupling Plane (1.6m x 0.8m) was placed on the table and attached to the GRP by means of a cable with 940k total impedance. The equipment under test, was installed in a representative system as described in section 7 of IEC /EN 61000-4-2, and its cables were placed on the HCP and isolated by an insulating support of 0.5mm thickness. A distance of1-meter minimum was provided between the EUT and the walls of the laboratory and any other metallic structure.

FLOOR-STANDING EQUIPMENT

The equipment under test was installed in a representative system as described in section 7 of IEC/EN 61000-4-2, and its cables were isolated from the Ground Reference Plane by an insulating support of0.1-meter thickness. The GRP consisted of a sheet of aluminum that is at least 0.25mm thick, and 2.5meters square connected to the protective grounding system and extended at least 0.5 meters from the EUT on all sides.

TEST RESULTS

EUT:	Anti-gravity humidifier Bluetooth speaker	Model Name :	Y13
Temperature:	25 ℃	Relative Humidity:	45%
Pressure:	1010 hPa	Test Date :	2024-03-20
Test Power :			

Test Mode: Anti-gravity humidifier Bluetooth speaker Mode

Mode	Air Discharge								Contact Discharge							
	2KV		4KV		8KV		12KV		2KV		4KV		6KV		8KV	
Location	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N
enclosure	A	A	A	A	A	A										
slit	A	A	A	A	A	A										
Port	A	A	A	A	A	A										
Metal									A	A	A	A				
HCP									A	A	A	A				
VCP									A	A	A	A				
Observation	**TT,TR**								**TT,TR**							
Criteria	**B**								**B**							
Result	**A**								**A**							
Judgment	**PASS**								**PASS**							

Note:

1) P/N denotes the Positive/Negative polarity of the output voltage.
2) Test condition:
   Direct / Indirect (HCP/VCP) discharges: Minimum 50 times (Positive/Negative) at each point. Air discharges: Minimum 10 times (Positive/Negative) at each point.
3) Test location(s) in which discharge (Air and contact discharge) to be applied illustrated by photos shown in next page(s)
4) The Indirect (HCP/VCP) discharges description of test point as following:
   1.left side 2.right side 3.front side 4.rear side
5) N/A - denotes test is not applicable in this test report

RS TESTING

TEST SPECIFICATION

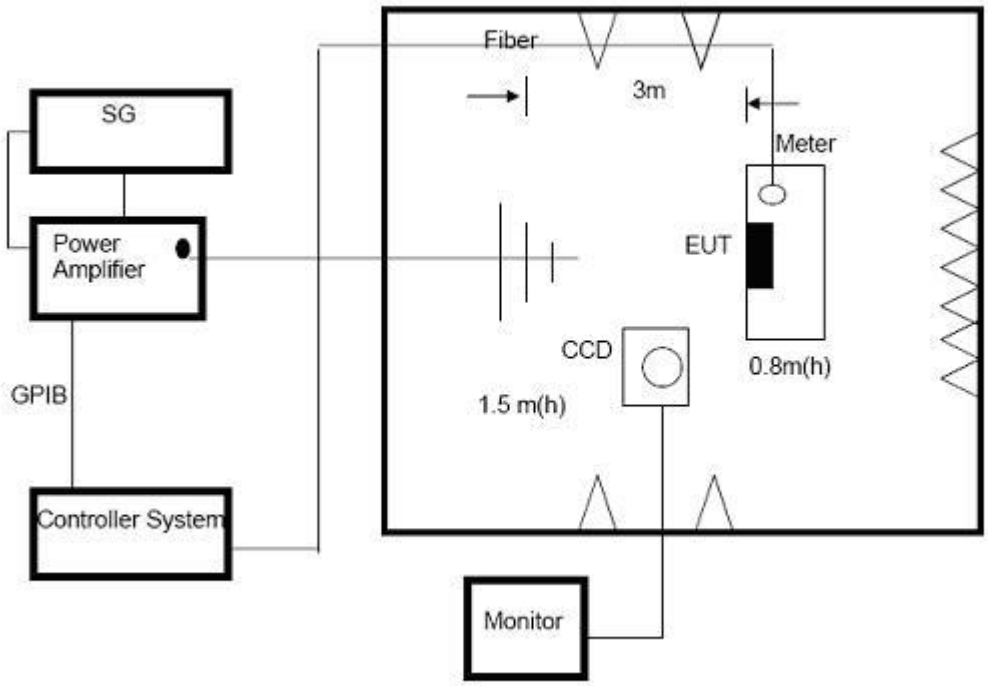
Basic Standard:	IEC/EN 61000-4-3
Required Performance	A
Frequency Range:	80 MHz - 1000 MHz ,1400MHz-2700MHz
Field Strength:	3 V/m
Modulation:	1kHz Sine Wave, 80%, AM Modulation
Frequency Step:	1 % of fundamental
Polarity of Antenna:	Horizontal and Vertical
Test Distance:	3 m
Antenna Height:	1.5 m
Dwell Time:	at least 3 seconds

TEST PROCEDURE

The EUT and support equipment, which are placed on a table that is 0.8 meter above ground and the testing was performed in a fully-anechoic chamber.
The testing distance from antenna to the EUT was 3 meters.
The other condition as following manner:

a. The field strength level was 230V/m.
b. The frequency range is swept from 80 MHz to 1000 MHz, & 1400MHz - 2700MHz with the signal 80%amplitude modulated with a 1kHz sine wave. The rate of sweep did not exceed 1.5x 10-3 decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
c. Sweep Frequency 900 MHz, with the Duty Cycle:1/8 and Modulation: Pulse 217 Hz(if applicable)
d. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.
e. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

TEST SETUP



Note:

TABLE-TOP EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

FLOOR-STANDING EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive wood support 0.1 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

TEST RESULTS

EUT:	Anti-gravity humidifier Bluetooth speaker	Model Name :	Y13
Temperature:	25 ℃	Relative Humidity:	45%
Pressure:	1010 hPa	Test Date :	2024-03-20
Test Power :			

Test Mode: Anti-gravity humidifier Bluetooth speaker Mode

Frequency Range (MHz)	RF Field Position	R.F. Field Strength	Azimuth	Observation	Perform. Criteria	Results	Judgment
80~1000 1400-2700	H / V	3 V/m (rms) AM Modulated 1000Hz, 80%	Front	**CT,CR**	**A**	**A**	**Pass**
			Rear				
			Left				
			Right				

Note:

1) P/N denotes the Positive/Negative polarity of the output voltage.
2) N/A - the test is not applicable in this test report.
3) Criteria A: There was no change operated with initial operating during the test.
4) Criteria B: The EUT function loss during the test, but self-recoverable after the test.
5) Criteria C: The system shut down during the test.

EFT/BURST TESTING

TEST SPECIFICATION

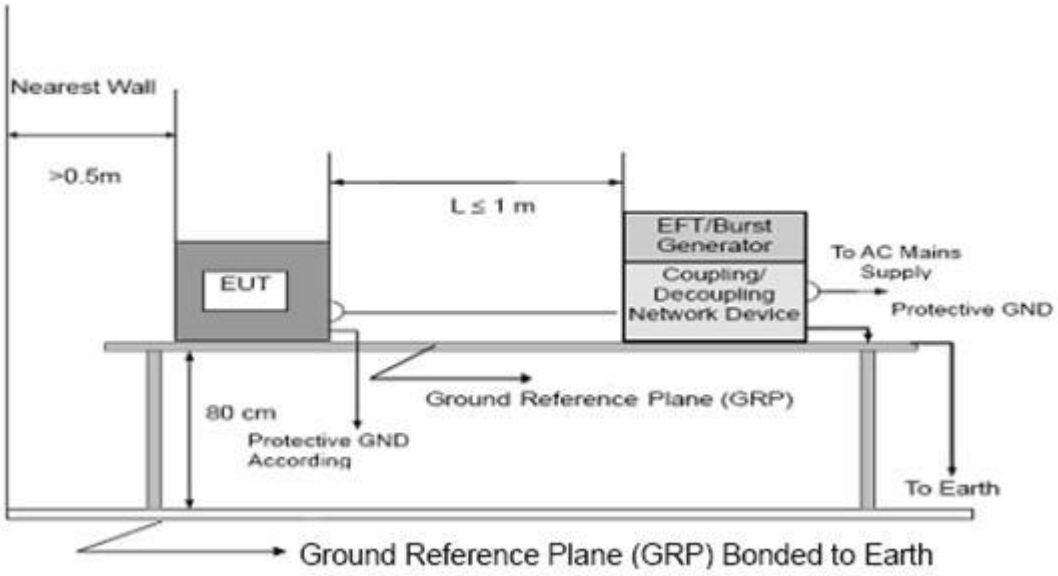
Basic Standard:	IEC/EN 61000-4-4
Required Performance	B
Test Voltage:	Power Line:1 kV Signal/Control Line:0.5 KV
Polarity:	Positive & Negative
Impulse Frequency:	5 kHz
Impulse Wave shape :	5/50 ns
Burst Duration:	15 ms
Burst Period:	300 ms
Test Duration:	Not less than 1 min.

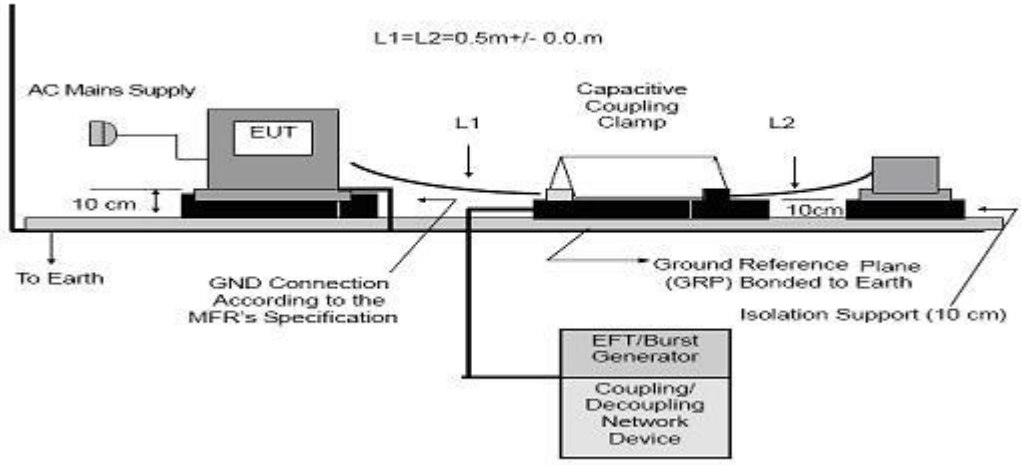
TEST PROCEDURE

The EUT and support equipment, are placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m min. and 0.65mm thick min.
The other condition as following manner:

a. The length of power cord between the coupling device and the EUT should not exceed 1 meter.
b. Both positive and negative polarity discharges were applied.
c. The duration time of each test sequential was 1 minute
d. For the actual test configuration, please refer to the related Item –EUT Test Photos.

TEST SETUP





Note:

TABLE-TOP EQUIPMENT

The configuration consisted of a wooden table (0.8m high) standing on the Ground Reference Plane. The GRP consisted of a sheet of aluminum (at least 0.25mm thick and 2.5m square) connected to the protective grounding system. A minimum distance of 0.5m was provided between the EUT and the walls of the laboratory or any other metallic structure.

FLOOR-STANDING EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-4 and its cables, were isolated from the Ground Reference Plane by an insulating support that is 0.1-meter thick. The GRP consisted of a sheet of aluminum (at least 0.25mm thick and 2.5m square) connected to the protective grounding system.

TEST RESULTS

EUT:		Model Name :	
Temperature:		Relative Humidity:	
Pressure:		Test Date :	
Test Power :			

Coupling Line		Test level (kV)								Observation	Criterion	Result
		0.5		1		2		4				
		+	-	+	-	+	-	+	-			
AC line	L	A	A	A	A					TT,TR	N/A	N/A
	N	A	A	A	A							N/A
	PE											N/A
	L+N	A	A	A	A							N/A
	L+PE											N/A
	N+PE											N/A
	L+N+PE											N/A
DC Line												N/A
Signal Line												N/A

Note:

1) P/N denotes the Positive/Negative polarity of the output voltage.

2) N/A - the test is not applicable in this test report

3) Criteria A: There was no change operated with initial operating during the test.

4) Criteria B: The EUT function loss during the test, but self-recoverable after the test.

5) Criteria C: The system shut down during the test.

SURGE TESTING

TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-5
Required Performance	B
Wave-Shape:	Combination Wave 1.2/50 us Open Circuit Voltage 8 /20 us Short Circuit Current
Test Voltage:	Power Line:0.5 kV, 1 kV, 2 kV
Surge Input/Output:	L1-L2, L1-PE, L2-PE
Generator Source:	2 ohm between networks
Impedance:	12 ohm between network and ground
Polarity:	Positive/Negative
Phase Angle:	0 /90/180/270
Pulse Repetition Rate:	1 time / min. (maximum)
Number of Tests:	5 positive and 5 negative at selected points

TEST PROCEDURE

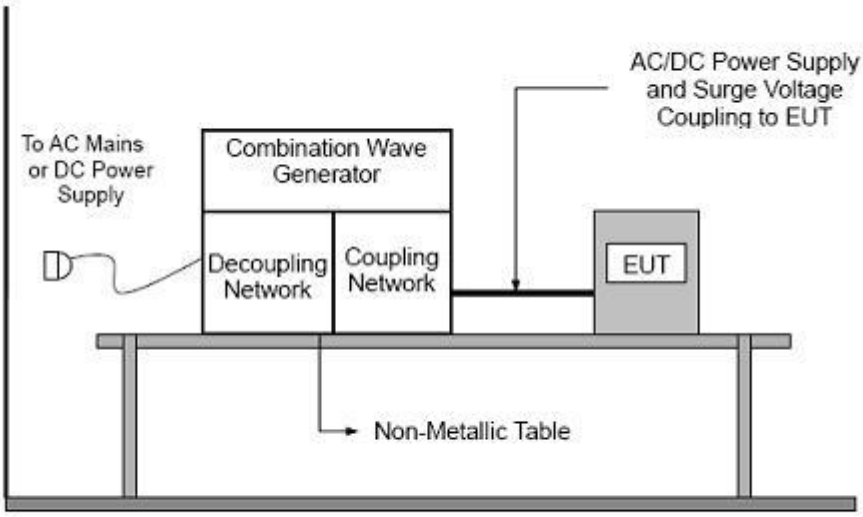
a. For EUT power supply:
The surge is to be applied to the EUT power supply terminals via the capacitive coupling network. Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may be powered by the same lines, and to provide sufficient decoupling impedance to the surge wave. The power cord between the EUT and the coupling/decoupling networks shall be 2meters in length (or shorter).

b. For test applied to unshielded unsymmetrically operated interconnection lines of EUT:
The surge is applied to the lines via the capacitive coupling. The coupling /decoupling networks shall not influence the specified functional conditions of the EUT. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

c. For test applied to unshielded symmetrically operated interconnection /telecommunication lines of EUT:
The surge is applied to the lines via gas arrestors coupling. Test levels below the ignition point of the coupling arrestor cannot be specified. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

d. For the actual test configuration, please refer to the related Item –EUT Test Photos.

TEST SETUP


AC/DC Power Supply
and Surge Voltage
Coupling to EUT
To AC Mains
or DC Power
Supply
Combination Wave
Generator
Decoupling
Network
Coupling
Network
EUT
Non-Metallic Table

TEST RESULTS

EUT:		Model Name :	
Temperature:		Relative Humidity:	
Pressure:		Test Date :	
Test Mode :			
Test Power :			

Coupling Line			Test level								Observation	Criterion	Result
			0.5 kV		1 kV		2 kV		4 kV				
			+	-	+	-	+	-	+	-			
AC line	L-N	0°	A	A	B	B					TT,TR	B	N/A
		90°	A	A	B	B							
		180°	A	A	B	B							
		270°	A	A	B	B							
	L-PE	0°											N/A
		90°											
		180°											
		270°											
	N-PE	0°											N/A
		90°											
		180°											
		270°											
DC Line													N/A
Signal Line													N/A

Note:

1) Polarity and Numbers of Impulses:5 Pst / Ngt at each tested mode
2) N/A - the test is not applicable in this Test Report
3) Criteria A: There was no change operated with initial operating during the test.
4) Criteria B: The EUT function loss during the test, but self-recoverable after the test.
5) Criteria C: The system shut down during the test.

INJECTION CURRENT TESTING

TEST SPECIFICATION

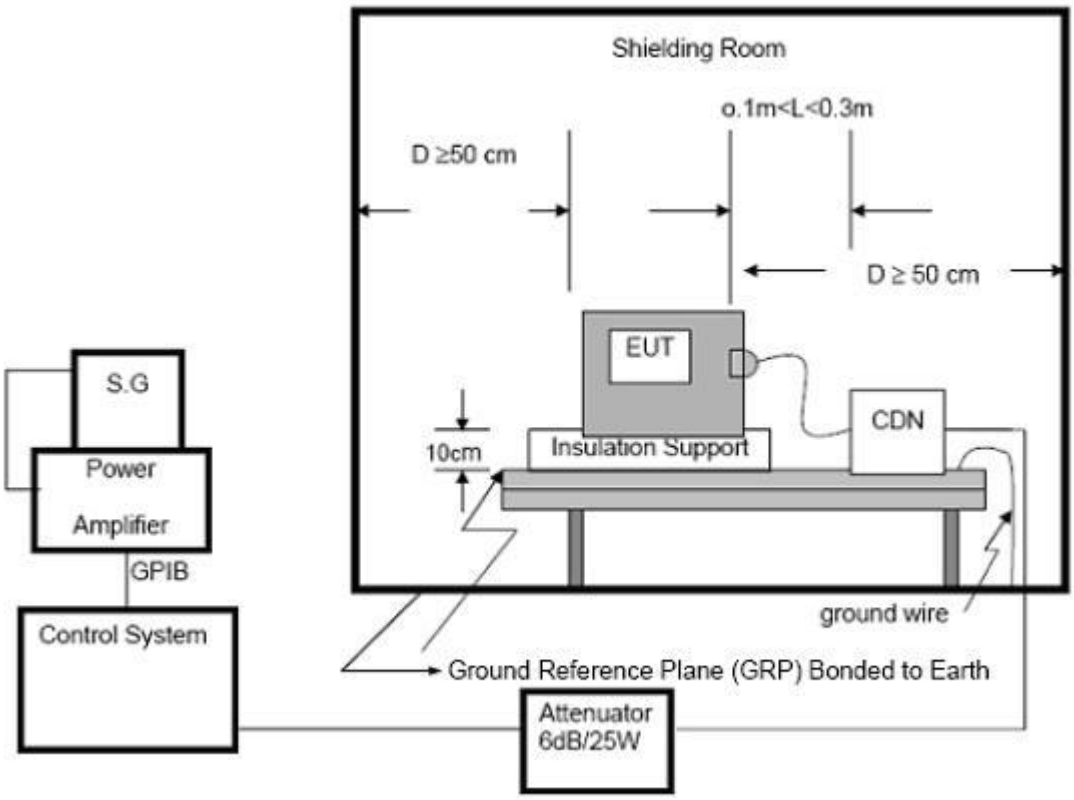
Basic Standard:	IEC/EN 61000-4-6
Required Performance	A
Frequency Range:	0.15 MHz - 80 MHz
Field Strength:	3 Vr.m.s.
Modulation:	1kHz Sine Wave, 80%, AM Modulation
Frequency Step:	1 % of fundamental
Dwell Time:	at least 3 seconds

TEST PROCEDURE

The EUT and support equipment, are placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m min. and 0.65mm thick min.
The other condition as following manner:

a. The field strength level was 230V.
b. The frequency range is swept from 150 KHz to 80 MHz, with the signal 80%amplitude modulated with a 1kHz sine wave. The rate of sweep did not exceed 1.5x 10-3 decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
c. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.
d. For the actual test configuration, please refer to the related Item –EUT Test Photos.

TEST SETUP



For the actual test configuration, please refer to the related Item –EUT Test Photos.

NOTE:

FLOOR-STANDING EQUIPMENT

The equipment to be tested is placed on an insulating support of 0.1 meters height above a ground reference plane. All relevant cables shall be provided with the appropriate coupling and decoupling devices at a distance between 0.1 meters and 0.3 meters from the projected geometry of the EUT on the ground reference plane.

TEST RESULTS

EUT:		Model Name :	
Temperature:		Relative Humidity:	
Pressure:		Test Date :	
Test Mode :			
Test Power :			

Test Ports (Mode)	Freq. Range MHz)	Field Strength	Observation	Perform. Criteria	Results	Judgment
Input/ Output AC. Power Port	0.15 ---80	230V(rms) AM Modulated 1000Hz, 80%	**CT, CR**	**A**	**N/A**	**N/A**
Input/ Output DC. Power Port	0.15 --- 80		**N/A**	**N/A**	**N/A**	**N/A**
Signal Line	0.15 --- 80		**N/A**	**N/A**	**N/A**	**N/A**

Note:

1) N/A – the test is not applicable in this Test Report.
2) Criteria A: There was no change operated with initial operating during the test.
3) Criteria B: The EUT function loss during the test, but self-recoverable after the test.
4) Criteria C: The system shut down during the test.

VOLTAGE INTERRUPTION/DIPS TESTING

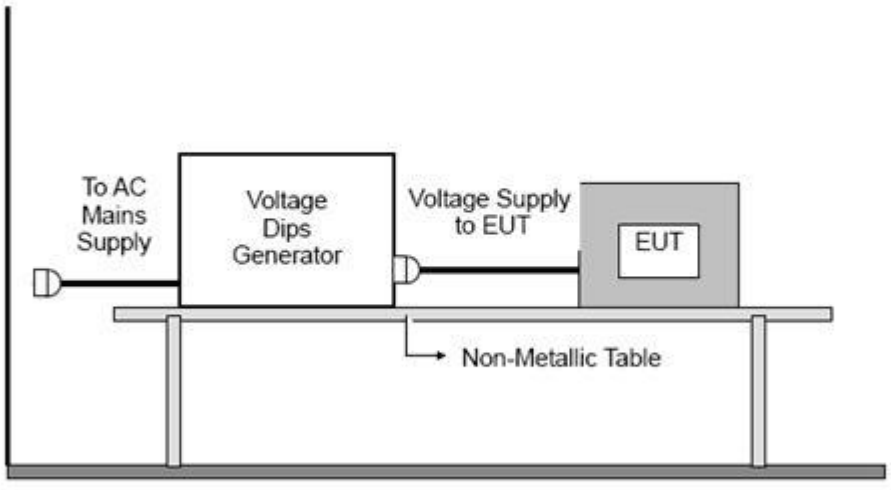
TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-11
Required Performance	B (For 0% Voltage Dips) C (For 70% Voltage Dips) C (For 0% Voltage Interruptions)
Test Duration Time:	Minimum three test events in sequence
Interval between Event:	Minimum ten seconds
Phase Angle:	0°/45°/90°/135°/180°/225°/270°/315°/360°
Test Cycle:	3 times

TEST PROCEDURE

The EUT shall be tested for each selected combination of test levels and duration with a sequence of three dips/interruptions with intervals of 10 s minimum (between each test event). Each representative mode of operation shall be tested. Abrupt changes in supply voltage shall occur at zero crossings of the voltage waveform.

TEST SETUP



For the actual test configuration, please refer to the related Item –EUT Test Photos.

TEST RESULTS

EUT:		Model Name :	
Temperature:		Relative Humidity:	
Pressure:		Test Date :	
Test Power :			

Voltage Reduction	Duration (ms)	Observation	Perform Criteria	Results	Judgment
Voltage dip 0%	10	**TT, TR**	**B**		**N/A**
Voltage dip 0%	20	**TT, TR**	**B**		**N/A**
Voltage dip 70%	500	**TT, TR**	**B**		**N/A**
Voltage interruptions	5000	**TT, TR**	**C**		**N/A**

Note:

1). N/A - the test is not applicable in this test report.
2) Criteria A: There was no change operated with initial operating during the test.
3) Criteria B: The EUT function loss during the test, but self-recoverable after the test.
4) Criteria C: The system shut down during the test.

APPENDIX-PHOTOGRAPHS OF EUT

Photo 1

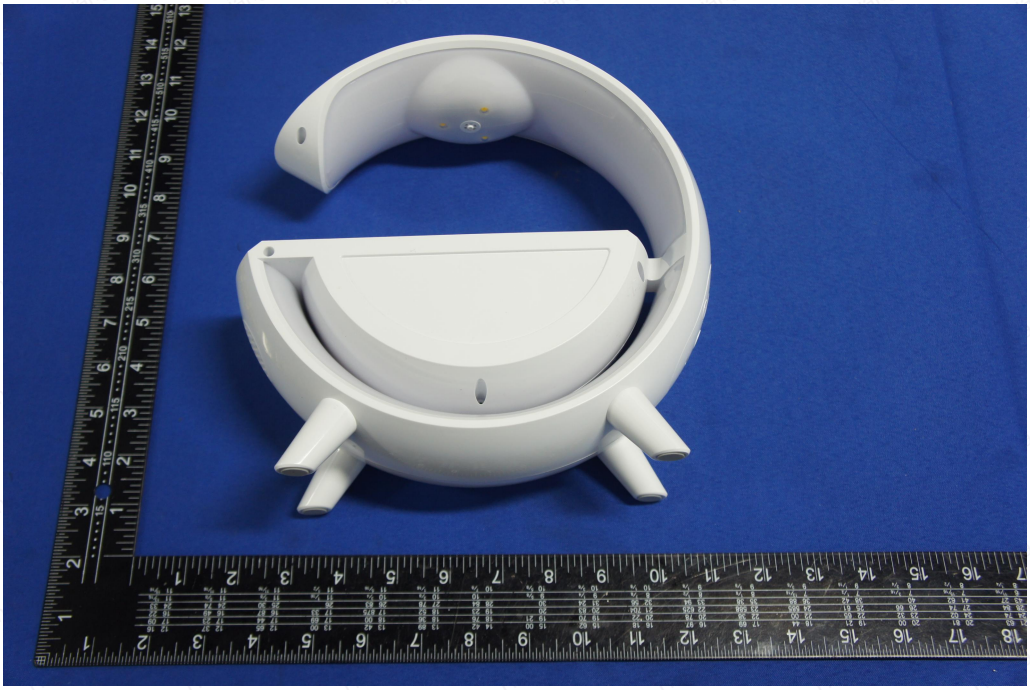


Photo 2

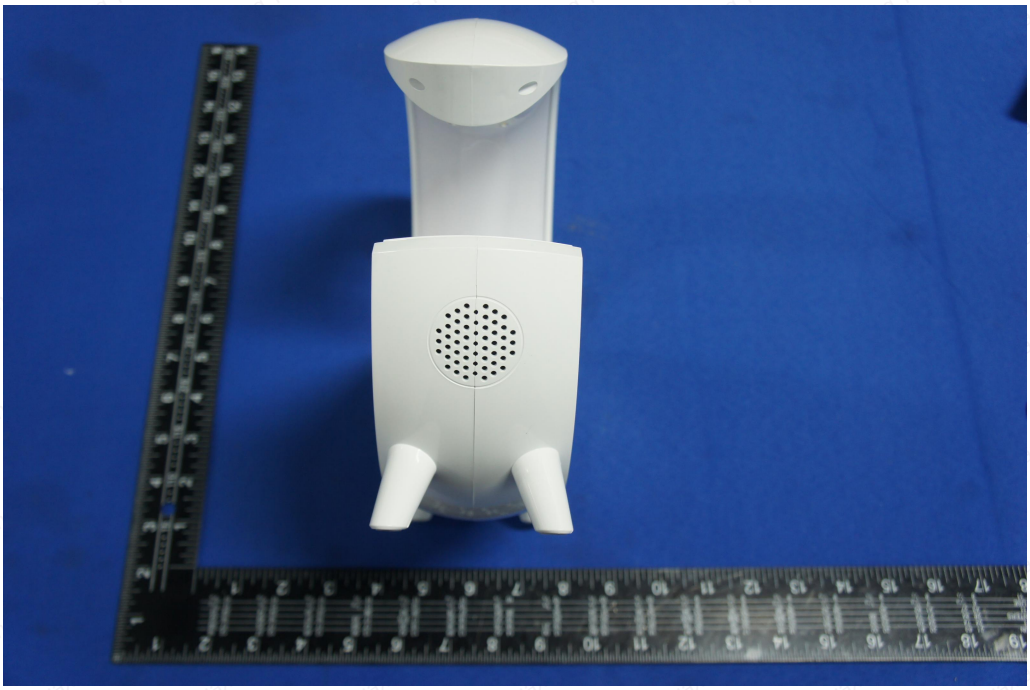


Photo 3

Photo 4

Photo 5

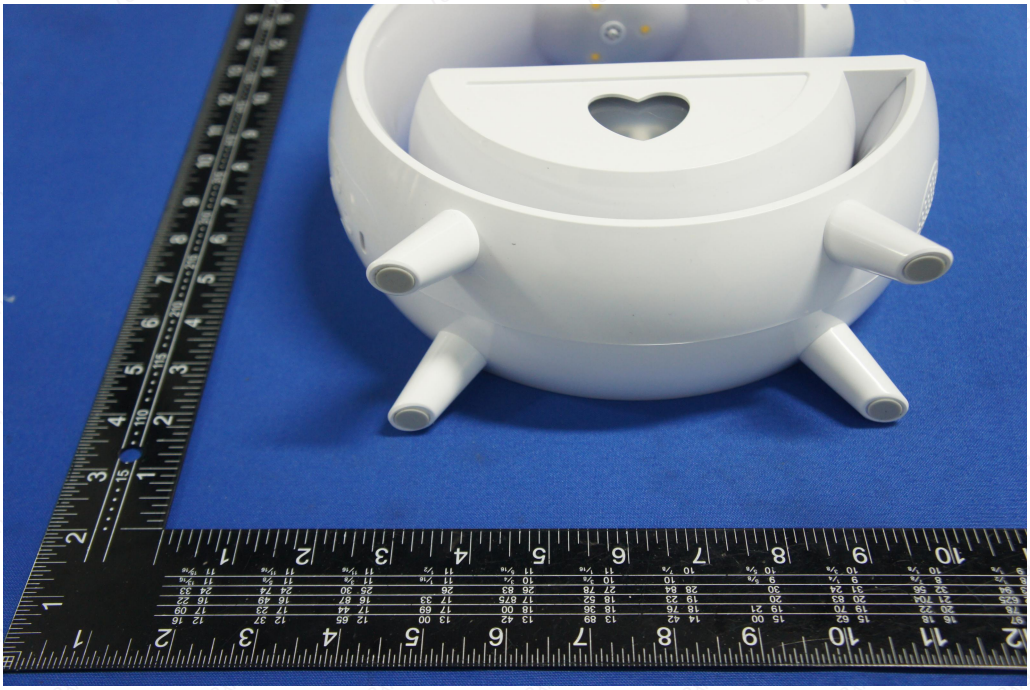


Photo 6

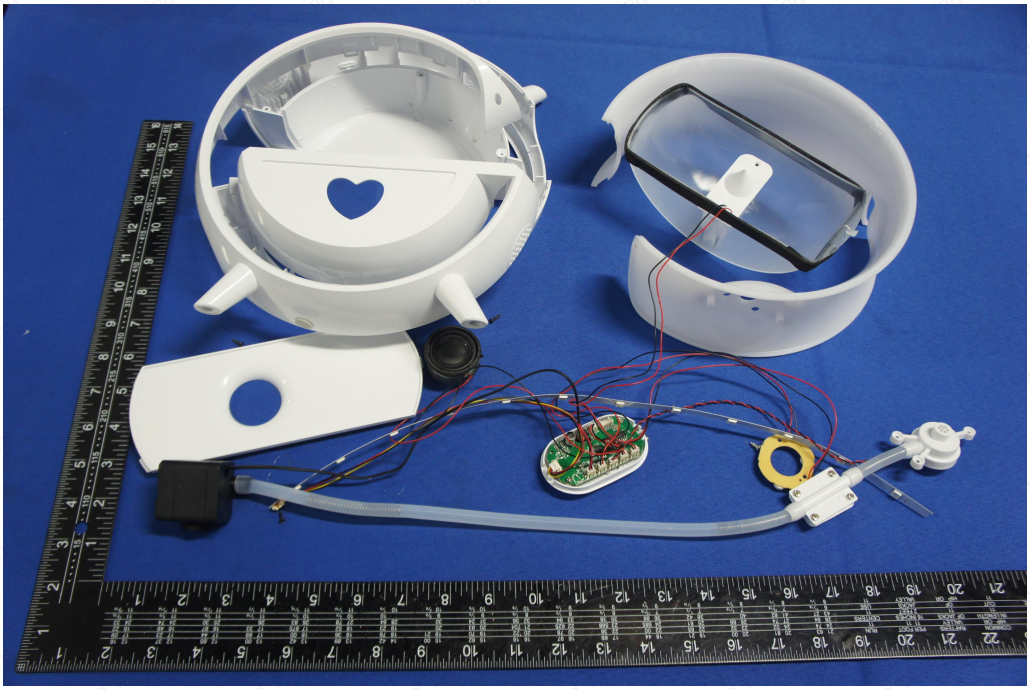


Photo 7

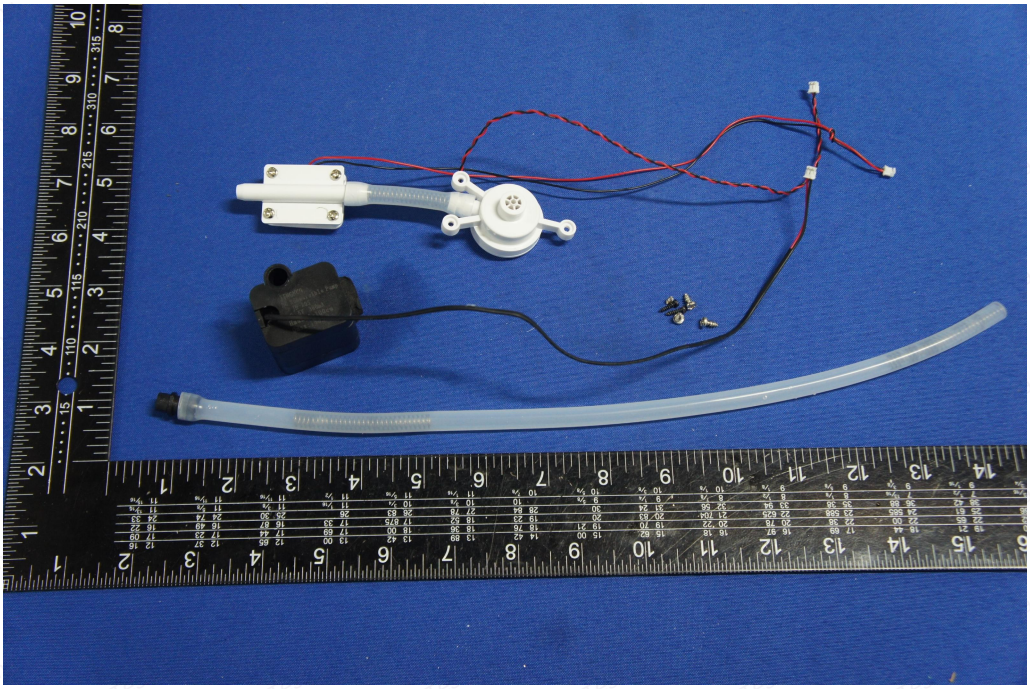


Photo 8

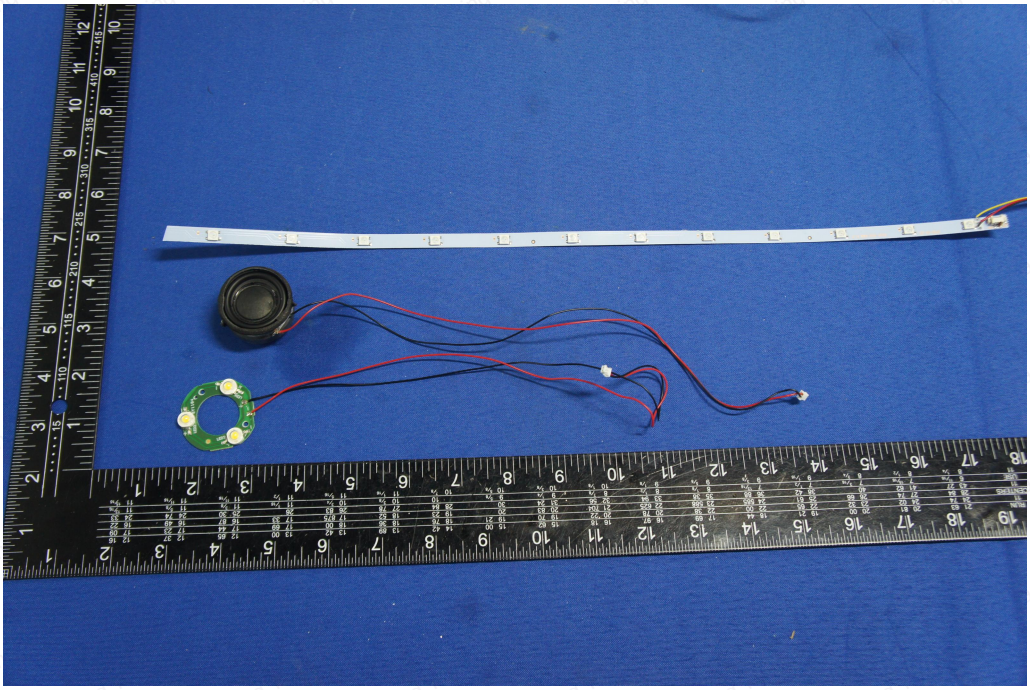


Photo 9

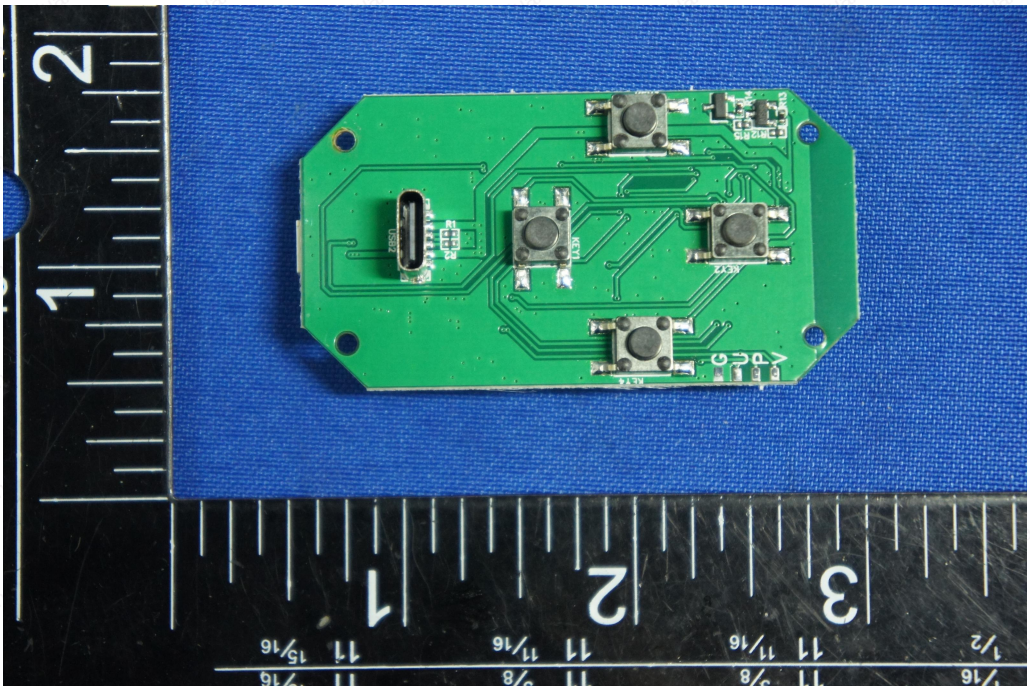


Photo 10

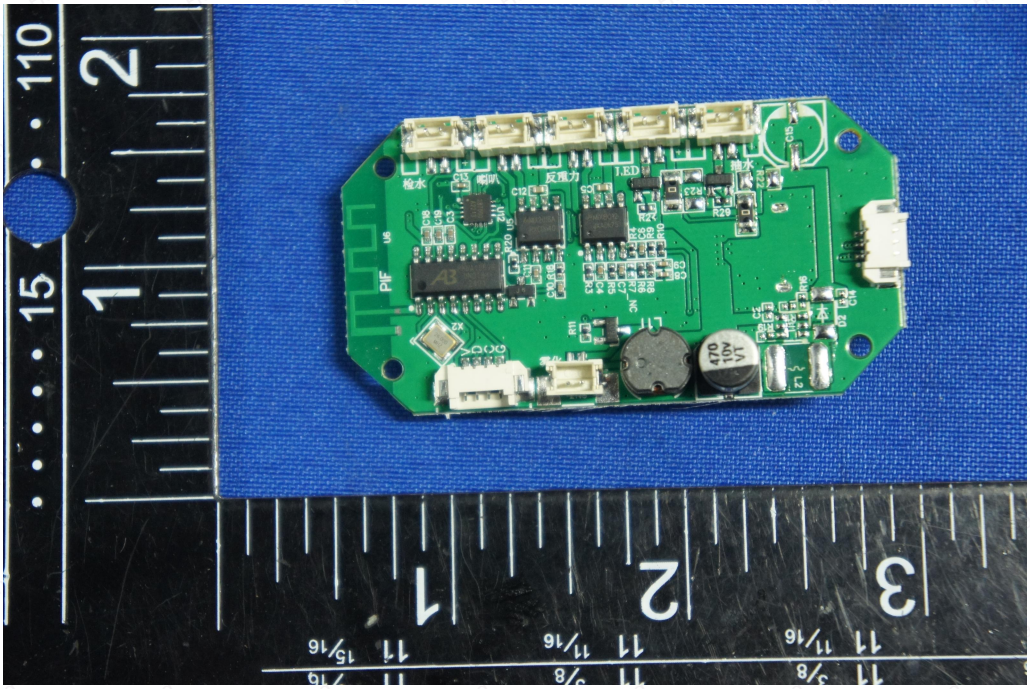


Photo 11

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