Ningbo Gengmei Electric Appliance Tech Co.,Ltd.

TEST REPORT

Report Type:
FCC Part 15B EMC report

Model:
EF-ab, SF-ab,SX-ab,IF-ab,IF-13ab,WF-ab, WF-13ab,GM2000-ab,GM20a-b,ZCRa13b (a=11,13,15,18,22,23,25,26,28,30,32,34,36, 40,42,43,45,47,48,50,60,70,72,80,90,100,200; b=blank,A~Z,AM,AJ,BE,BS,FK,GF,GM,KL,PM, TS,WD,XW,YM,YX,ZQ,AKF,A(KT),AGM,CCS, FSB,FUR,KMC,MJY,TCL,TST)

REPORT NUMBER:
2410B0712SHA-001

ISSUE DATE:
October 23, 2024

DOCUMENT CONTROL NUMBER:
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Report no.: 2410B0712SHA-001

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TEST REPORT

Applicant:	Ningbo Gengmei Electric Appliance Tech Co.,Ltd. Guangxi Industrial Estate ,Yinjiang Town,Haishu District,Ningbo,China
Manufacturer:	Ningbo Gengmei Electric Appliance Tech Co.,Ltd. Guangxi Industrial Estate ,Yinjiang Town,Haishu District,Ningbo,China
Factory:	Ningbo Gengmei Electric Appliance Tech Co.,Ltd. Guangxi Industrial Estate ,Yinjiang Town,Haishu District,Ningbo,China
FCC ID:	2BK9W-NBGMEF24CN

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

47CFR Part 15 (2023): Radio Frequency Devices (Subpart B)

ANSI C63.4 (2014)+A1(2017): American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

PREPARED BY:	REVIEWED BY:
	
Project Engineer Damon Ding	Reviewer Eric Li

Content

TEST REPORT

Revision History

Report No.	Version	Description	Issued Date
2410B0712SHA-001	Rev. 01	Initial issue of report	October 23, 2024

Measurement result summary

TEST ITEM	FCC REFERENCE	RESULT
Power line conducted emission	15.107	Pass
Radiated emission	15.109	Pass

Notes: 1: NA =Not Applicable

2: Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.

3: Additions, Deviations and Exclusions from Standards: None.

TEST REPORT

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Electric Fireplace
Type/Model:	EF-ab, SF-ab,SX-ab,IF-ab,IF-13ab,WF-ab, WF-13ab,GM2000-ab,GM20a-b,ZCRa13b (a=11,13,15,18,22,23,25,26,28,30,32,34,36,40,42,43,45,47,48,50,60,70,72,80,90,100,200;b=blank,A~Z,AM,AJ,BE,BS,FK,GF,GM,KL,PM,TS,WD,XW,YM,YX,ZQ,AKF,A(KT),AGM,CCS,FSB,FUR,KMC,MJY,TCL,TST)
Description of EUT:	EUT is a Wireless Electric Fireplace with WIFI functions. The WIFI module has been approved with FCC ID: 2ANDL-WBR2.All models are identical except for appearance. We test IF-1350 as representative and list the worst results in this report.
Rating:	120V,60Hz,1500W
Category of EUT:	Class B
EUT type:	☒ Table top ☐ Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	October 8, 2024
Date of test:	October 8, 2024~ October 17, 2024

TEST REPORT

1.2 Description of Test Facility

Name:	Intertek Testing Services (Shanghai FTZ) Co., Ltd.
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L21189
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Member No: 3598 (Registration No.: R-14243, G-10845, C-14723, T-12252)
	A2LA Accreditation Lab Certificate Number: 3309.02

Subcontract laboratory:

Name : Fangguang Inspection & Testing Co., Ltd.

Address : Building G9 , China Sensor Network International innovation Park, No.200, Linghu Avenue, Wuxi, Jiangsu, China

Telephone : 0510-68790033

Telefax : 0510-68790022

The test facility is recognized, certified, or accredited by these organizations : CNAS Accreditation Lab
Registration No. L9092

: FCC Accredited Lab
Designation Number: CN5037

2 TEST SPECIFICATIONS

2.1 Standards or specification

47CFR Part 15 (2023)
ANSI C63.4 (2014)+A1(2017)

2.2 Mode of operation during the test

Within this test report, EUT was tested under all available operation modes and tested under its rating voltage and frequency. Other voltage and frequency are specified if used.

2.3 Test software list

Test Items	Software	Manufacturer	Version
Conducted emission	SKET Auto EMC Test Software	Keleto	V3.0
Radiated emission	SKET Auto EMC Test Software	Keleto	V3.0

2.4 Test peripherals list

Item No.	Name	Band and Model	Description

2.5 Test environment condition:

Test items	Temperature	Humidity
Power line conducted emission	22°C	53% RH
Radiated Emissions	22°C	55% RH

2.6 Instrument list

Conducted Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☑	Receiver	R&S	ESR7	TW/C-003	2025-09-26
☑	LISN	-	NSLK8127	TW/C-013	2025-09-26
Radiated Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☑	EMI Receiver	R&S	ESR26	FWXGJC-2016- 267-01	2024-11-26
☑	Bi-log Antenna	R&S	HL562E	FWXGJC-2016- 267-06	2025-03-30
☑	Broadband Horn Antenna	R&S	HF907	102541	2025-07-26
☑	Anechoic chamber	Aimuke	EMCCT-3	FWXGJC-2016- 270	2025-04-07
Additional instrument					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☑	Thermo-Hygrograph	ZJ1-2A	S.M.I.F.	EC 3783	2025-03-24
☑	Thermohygrometer	Yuhuaze	HTC-1	FWXDA-2016- 386	2024-12-27

2.7 Measurement uncertainty

The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Measurement uncertainty
Radiated Emissions in restricted frequency bands below 1GHz	± 4.90dB
Radiated Emissions in restricted frequency bands above 1GHz	± 5.02dB
Power line conducted emission	± 3.19dB

3 Radiated Emissions

Test result: **Pass**

3.1 Limit

3.1.1 Limits for radiated disturbance of class A device

Frequency (MHz)	Permitted limit in dBμV/m (Quasi-peak) of Measurement Distance 10m
30 – 88	39
88 – 216	43.5
216 – 960	46.4
Above 960	49.5
Note: for the measurement distance other than 3m and 10m, the limit is varied according to 20dB/10 decades.	

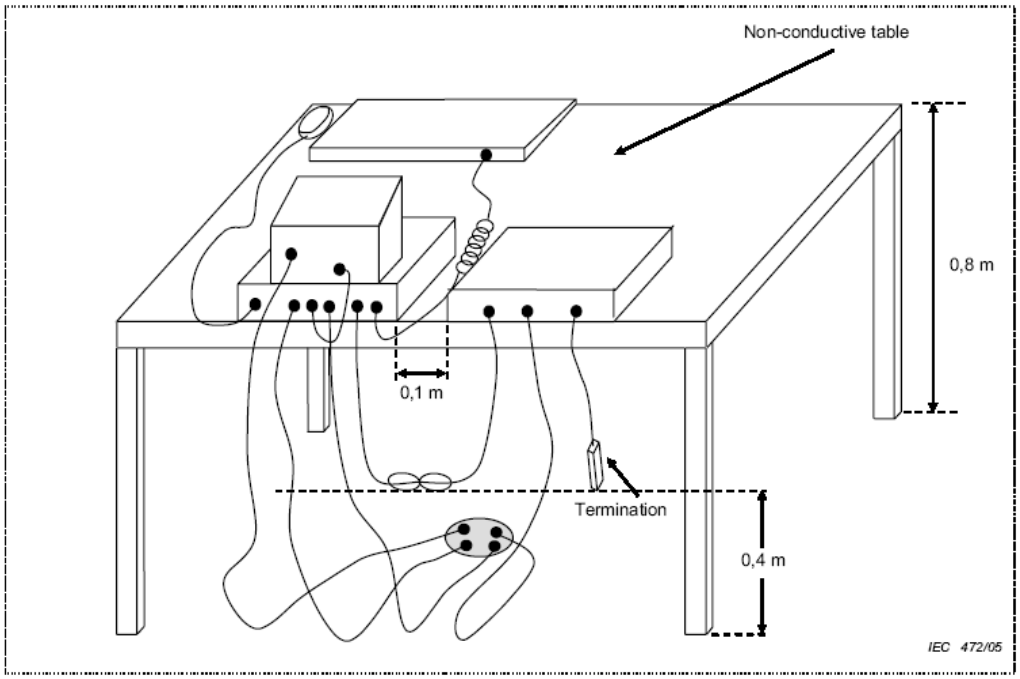
3.1.2 Limits for radiated disturbance of class B device

Frequency (MHz)	Permitted limit in dBμV/m (Quasi-peak) of Measurement Distance 3m
30 – 88	40.0
88 – 216	43.5
216 – 960	46.0
Above 960	54.0
Note: for the measurement distance other than 3m and 10m, the limit is varied according to 20dB/10 decades.	

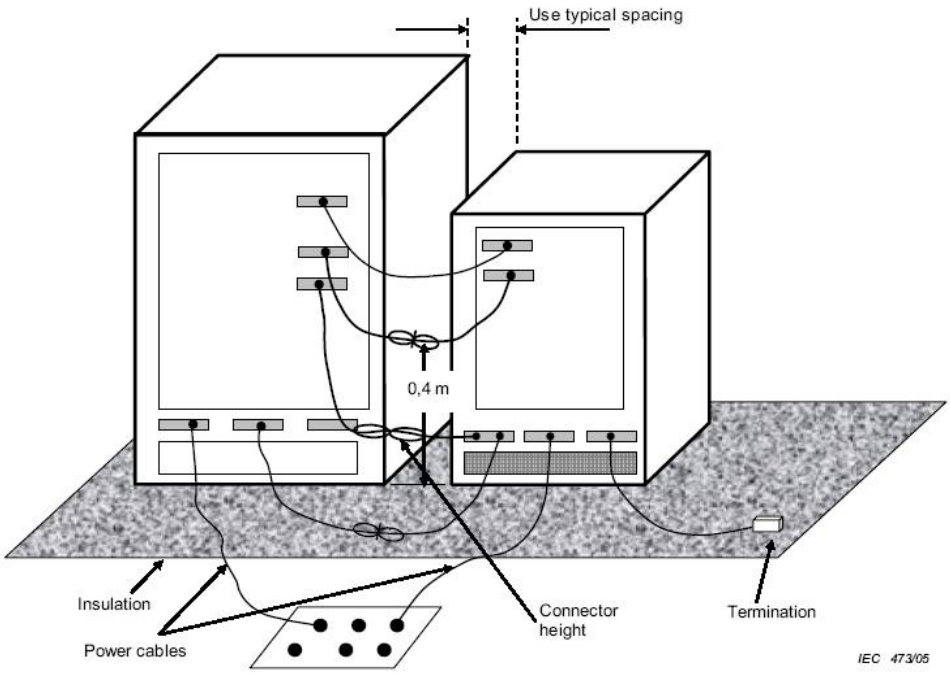
TEST REPORT

3.2 Block diagram and test set up

For table top equipment



For floor standing equipment



3.3 Measurement Procedure

The measurement was performed in a semi-anechoic chamber. While testing for spurious emission higher than 1GHz, the pre-amplifier (and high pass filter if necessary) is equipped just at the output terminal of the antenna.
The distance from EUT to receiving antenna is 3 meters.
Measurement was performed according to clause 4 and clause 5 of ANSI 63.4.
Test procedure was according to clause 8.3 of ANSI 63.4.
EUT arrangement and operate condition were according to clause 6 and clause 8 of ANSI 63.4.
The radiated emission was measured using the test receiver with the resolutions bandwidth set as:

RBW = 100kHz, VBW = 300kHz (30MHz~1GHz)
RBW = 1MHz, VBW = 3MHz (>1GHz for PK)

Highest internal frequency (Fx)	Highest measured frequency F_M for radiated measurement	Measured Bandwidth
Fx ≤ 108 MHz	1 GHz	120kHz
108 MHz < Fx ≤ 500 MHz	2 GHz	1MHz
500 MHz < Fx ≤ 1 GHz	5 GHz	1MHz
Fx > 1 GHz	5 × Fx up to a maximum of 40 GHz	1MHz
Note: 1. Fx is the highest fundamental frequency generated and/or used in the ITE or digital apparatus under test.		

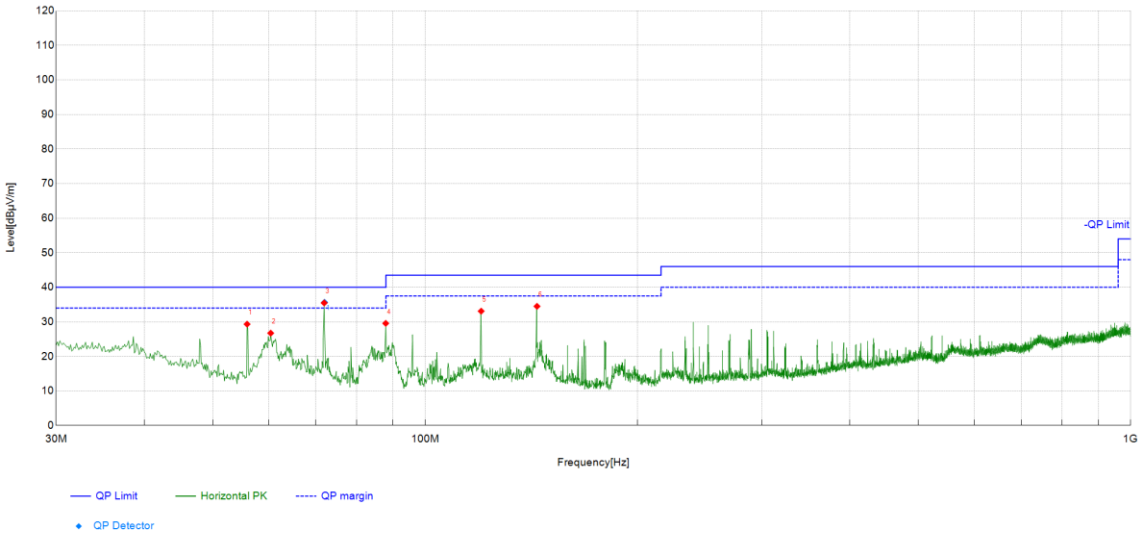
TEST REPORT

3.4 Test Results of Radiated Emissions

Test Curve

Below 1GHz

Horizontal



Test data:

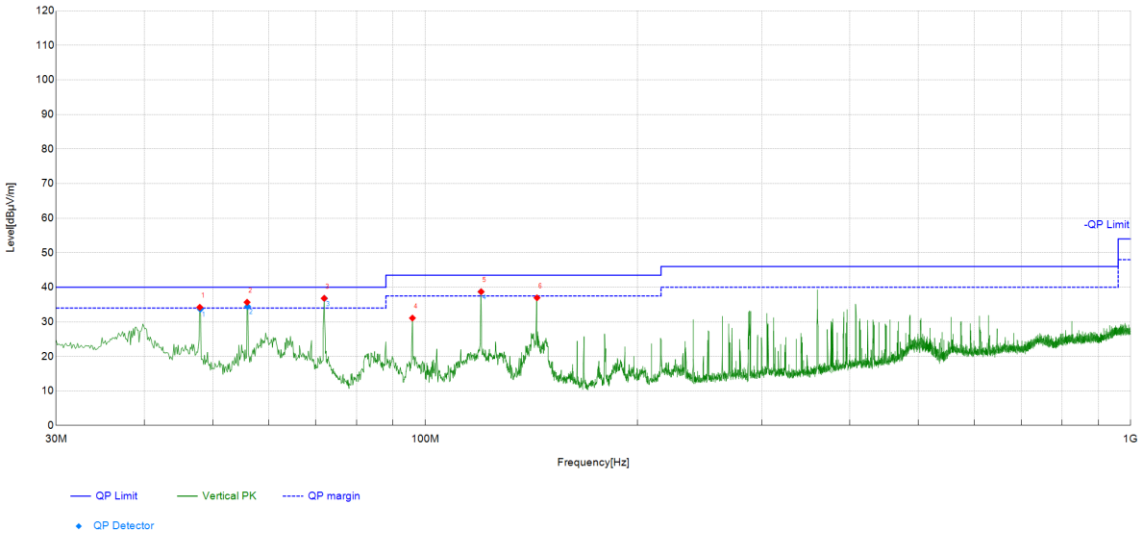
Suspected Data List									
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Det	Pol	Verdict
1	55.95	47.81	29.33	-18.48	40.00	10.67	PK	Horizontal	PASS
2	60.43	46.64	26.73	-19.91	40.00	13.27	PK	Horizontal	PASS
3	71.95	57.07	35.47	-21.60	40.00	4.53	PK	Horizontal	PASS
4	87.96	50.53	29.56	-20.97	40.00	10.44	PK	Horizontal	PASS
5	120.09	50.27	33.09	-17.18	43.50	10.41	PK	Horizontal	PASS
6	144.10	50.85	34.49	-16.36	43.50	9.01	PK	Horizontal	PASS

Final Data List								
NO.	Frequency [MHz]	Factor [dB/m]	QP Reading[dBµV]	QP Value[d BµV/m]	QP Limit[dB µV/m]	QP Margin[d B]	Pol	Verdict
1	72.03	-21.60	57.24	35.64	40.00	4.36	Horizont	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level

TEST REPORT

Vertical



Test data:

Suspected Data List									
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Det	Pol	Verdict
1	47.95	49.03	34.21	-14.82	40.00	5.79	PK	Vertical	PASS
2	55.95	54.15	35.67	-18.48	40.00	4.33	PK	Vertical	PASS
3	71.95	58.41	36.81	-21.60	40.00	3.19	PK	Vertical	PASS
4	95.96	50.75	31.09	-19.66	43.50	12.41	PK	Vertical	PASS
5	120.09	55.89	38.71	-17.18	43.50	4.79	PK	Vertical	PASS
6	144.10	53.32	36.96	-16.36	43.50	6.54	PK	Vertical	PASS

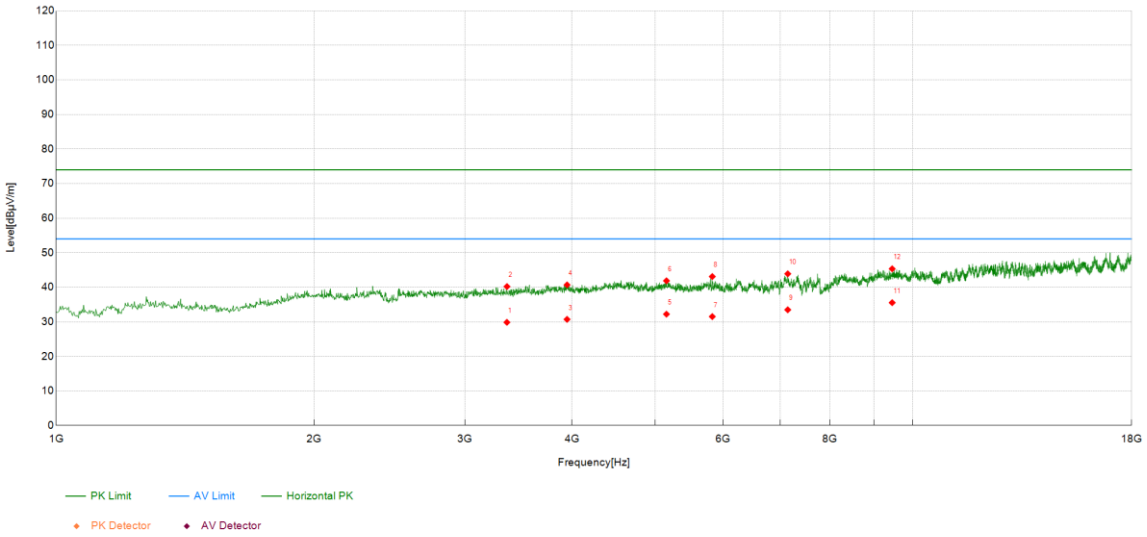
Final Data List								
NO.	Frequency [MHz]	Factor [dB/m]	QP Reading[dBµV]	QP Value[dBµV/m]	QP Limit[dBµV/m]	QP Margin[dB]	Pol	Verdict
1	48.03	-14.82	48.47	33.65	40.00	6.35	Vertical	PASS
2	56.04	-18.48	52.91	34.43	40.00	5.57	Vertical	PASS
3	72.02	-21.60	58.37	36.77	40.00	3.23	Vertical	PASS
4	120.04	-17.18	55.87	38.69	43.50	4.81	Vertical	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level

TEST REPORT

Above 1GHz：

Horizontal

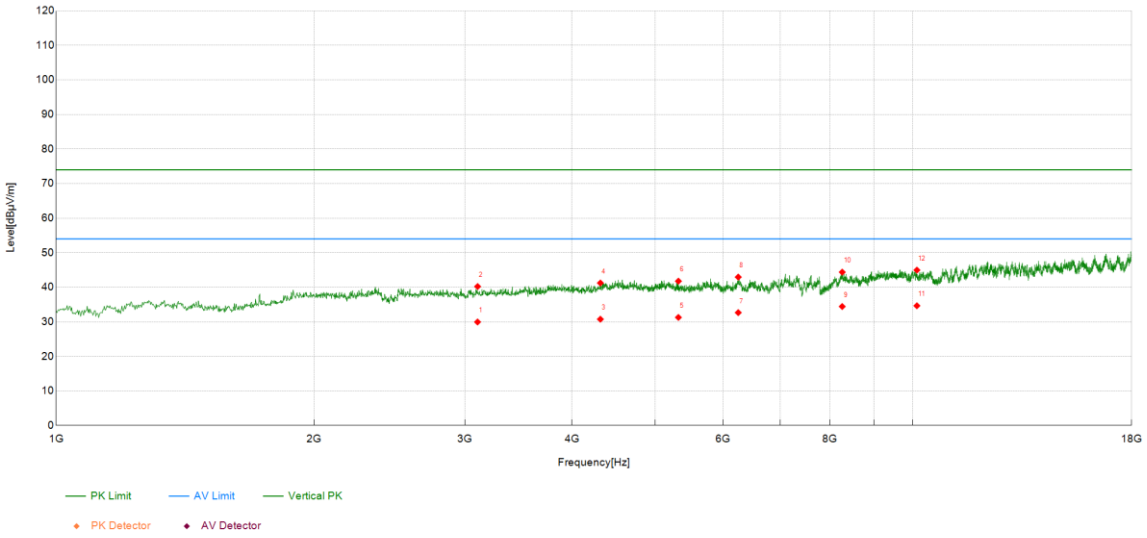


Test data:

Suspected Data List									
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Det	Pol	Verdict
1	3358.00	45.64	29.86	-15.78	54.0	24.14	AV	Horizontal	PASS
2	3358.75	55.99	40.21	-15.78	74.0	33.79	PK	Horizontal	PASS
3	3947.00	44.67	30.72	-13.95	54.0	23.28	AV	Horizontal	PASS
4	3947.38	54.65	40.70	-13.95	74.0	33.30	PK	Horizontal	PASS
5	5156.00	43.64	32.22	-11.42	54.0	21.78	AV	Horizontal	PASS
6	5156.50	53.29	41.87	-11.42	74.0	32.13	PK	Horizontal	PASS
7	5832.00	41.77	31.52	-10.25	54.0	22.48	AV	Horizontal	PASS
8	5832.25	53.35	43.10	-10.25	74.0	30.90	PK	Horizontal	PASS
9	7143.00	41.93	33.49	-8.44	54.0	20.51	AV	Horizontal	PASS
10	7143.38	52.34	43.90	-8.44	74.0	30.10	PK	Horizontal	PASS
11	9457.00	42.08	35.55	-6.53	54.0	18.45	AV	Horizontal	PASS
12	9457.50	51.87	45.34	-6.53	74.0	28.66	PK	Horizontal	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level

TEST REPORT



Test data:

Suspected Data List									
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Det	Pol	Verdict
1	3103.00	46.11	29.96	-16.15	54.00	24.04	AV	Vertical	PASS
2	3103.75	56.37	40.22	-16.15	74.00	33.78	PK	Vertical	PASS
3	4317.00	43.78	30.76	-13.02	54.00	23.24	AV	Vertical	PASS
4	4317.13	54.26	41.24	-13.02	74.00	32.76	PK	Vertical	PASS
5	5324.00	42.51	31.28	-11.23	54.00	22.72	AV	Vertical	PASS
6	5324.38	53.00	41.77	-11.23	74.00	32.23	PK	Vertical	PASS
7	6253.00	42.03	32.67	-9.36	54.00	21.33	AV	Vertical	PASS
8	6253.00	52.31	42.95	-9.36	74.00	31.05	PK	Vertical	PASS
9	8269.00	42.35	34.44	-7.91	54.00	19.56	AV	Vertical	PASS
10	8269.63	52.29	44.38	-7.91	74.00	29.62	PK	Vertical	PASS
11	10107.00	40.08	34.65	-5.43	54.00	19.35	AV	Vertical	PASS
12	10107.75	50.40	44.97	-5.43	74.00	29.03	PK	Vertical	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level

4 Power line conducted emission

Test result: **Pass**

4.1 Limit

4.1.1 Limits for conducted disturbance voltage at the mains ports of class A device

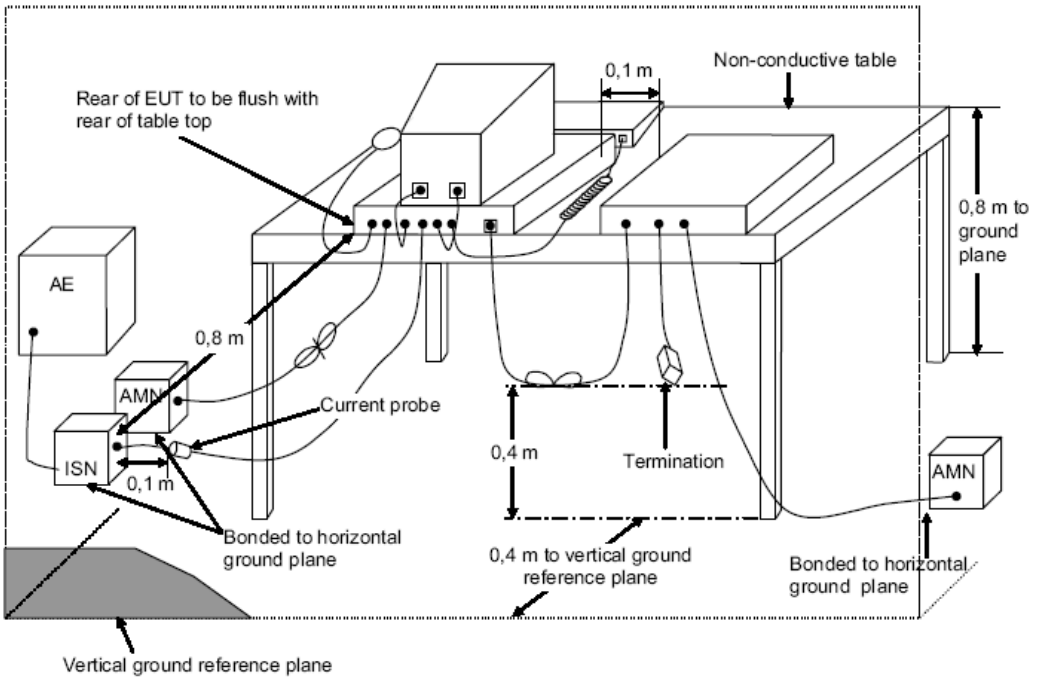
Frequency range (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0.15 ~ 0.5	79	66
0.5 ~ 30	73	60
Note: If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out.		

4.1.2 Limits for conducted disturbance voltage at the mains ports of class B device

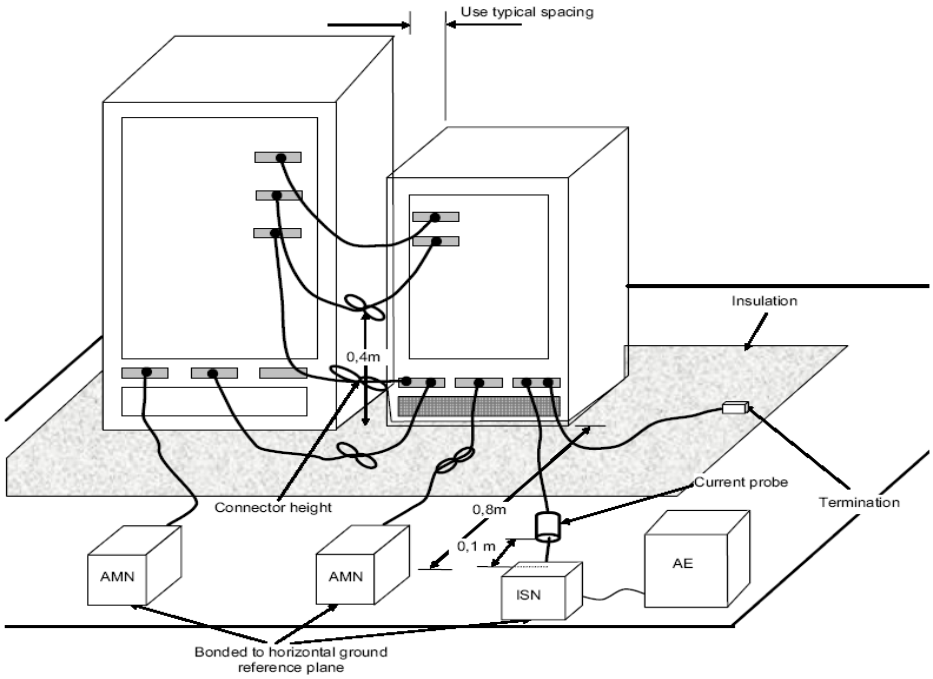
Frequency range (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 ~ 56 *	56 ~ 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50
Note: 1. * Means the limit decreasing linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz 2. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out.		

4.2 Block diagram and test set up

For table top equipment



For floor standing equipment



4.3 Measurement Procedure

Measured levels of ac power-line conducted emission shall be the emission voltages from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), where permitted, terminated into a 50 Ω measuring instrument. All emission voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord by the use of mating plugs and receptacles on the LISN, if used. Equipment shall be tested with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended by the manufacturer. For those measurements using a LISN, the 50 Ω measuring port is terminated by a measuring instrument having 50 Ω input impedance. All other ports are terminated in 50 Ω loads.

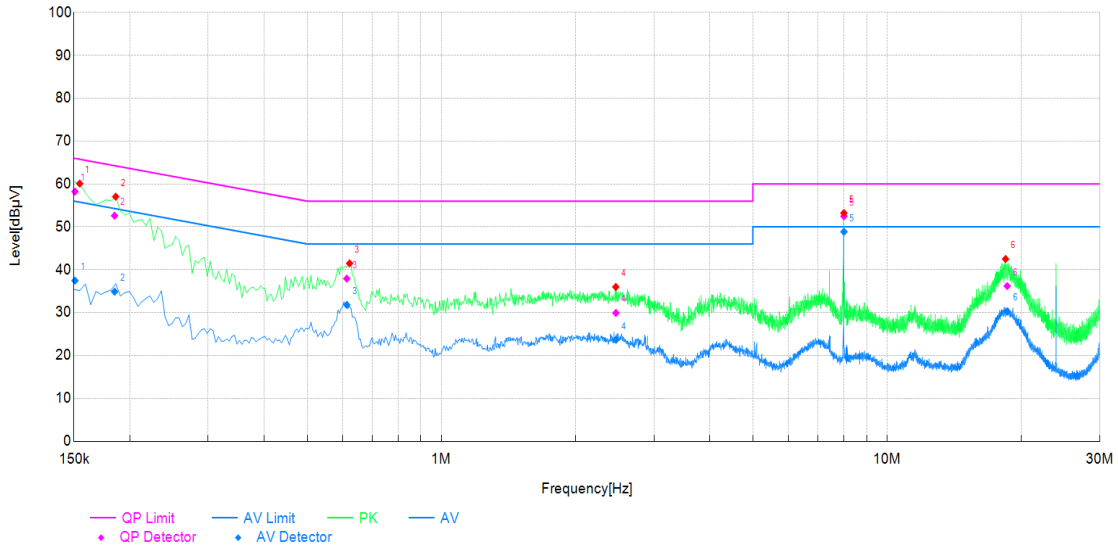
Tabletop devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of tabletop or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

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

TEST REPORT

4.4 Test Results of Power line conducted emission

Test Curve:



Test data:

Final Data List												
NO.	Frequency [MHz]	Factor [dB]	QP Reading [dBµV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Phase	Verdict
1	0.1507	19.00	39.21	58.21	65.96	7.75	18.45	37.45	55.96	18.51	L	PASS
2	0.1849	18.99	33.60	52.59	64.26	11.67	15.88	34.87	54.26	19.39	L	PASS
3	0.6137	18.90	19.01	37.91	56.00	18.09	12.89	31.79	46.00	14.21	L	PASS
4	2.4647	18.94	10.96	29.90	56.00	26.10	4.72	23.66	46.00	22.34	L	PASS
5	8.0035	19.18	33.28	52.46	60.00	7.54	29.67	48.85	50.00	1.15	L	PASS
6	18.6015	19.99	16.19	36.18	60.00	23.82	10.29	30.28	50.00	19.72	L	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level

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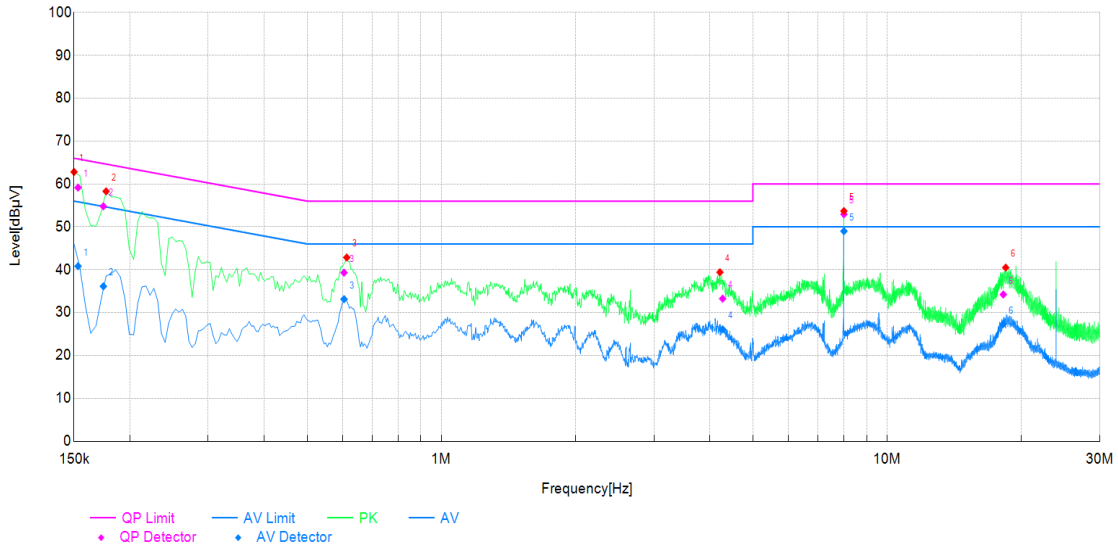


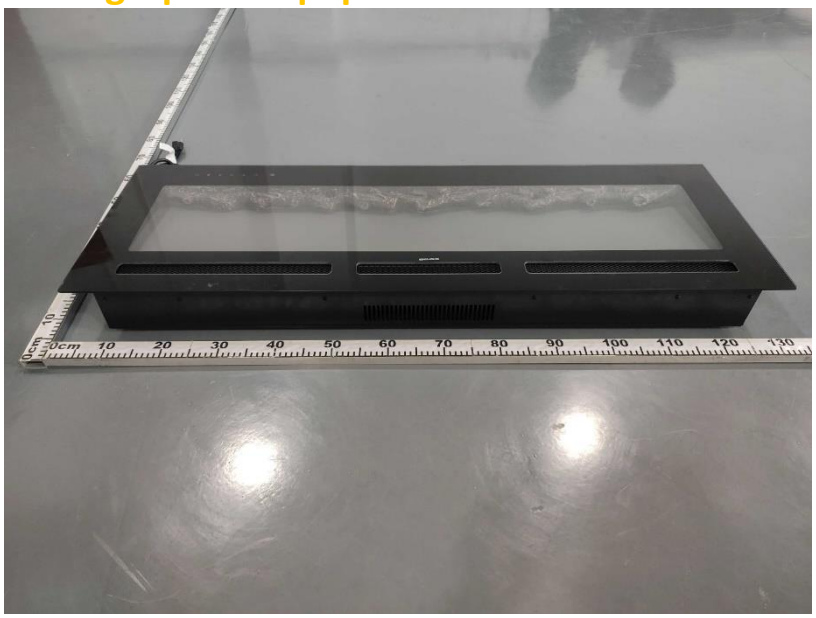
Test data:

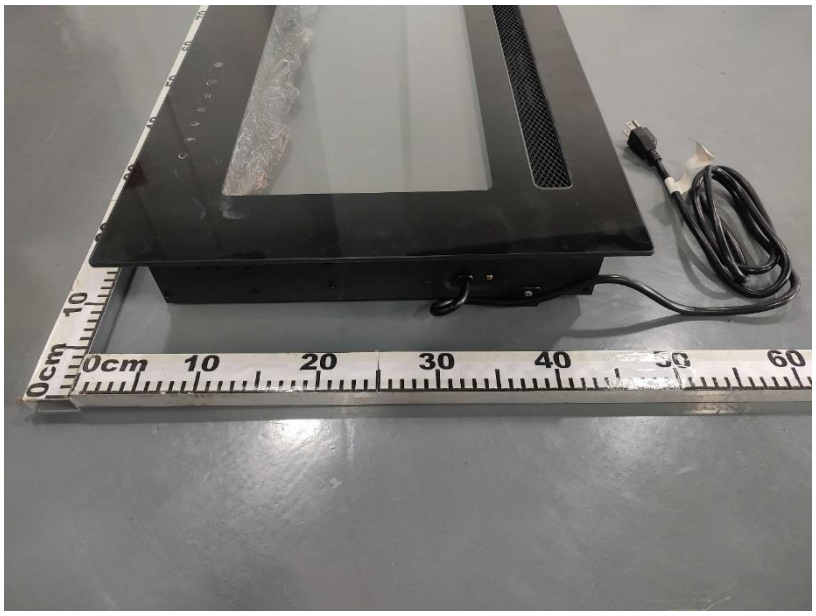
Final Data List												
NO.	Frequency [MHz]	Factor [dB]	QP Reading [dBµV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Phase	Verdict
1	0.1531	19.20	39.95	59.15	65.83	6.68	21.62	40.82	55.83	15.01	N	PASS
2	0.1745	19.19	35.59	54.78	64.74	9.96	16.92	36.11	54.74	18.63	N	PASS
3	0.6050	19.10	20.19	39.29	56.00	16.71	14.03	33.13	46.00	12.87	N	PASS
4	4.2781	19.18	14.06	33.24	56.00	22.76	6.89	26.07	46.00	19.93	N	PASS
5	8.0041	19.38	33.54	52.92	60.00	7.08	29.6	48.98	50.00	1.02	N	PASS
6	18.2311	20.40	13.81	34.21	60.00	25.79	6.91	27.31	50.00	22.69	N	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level

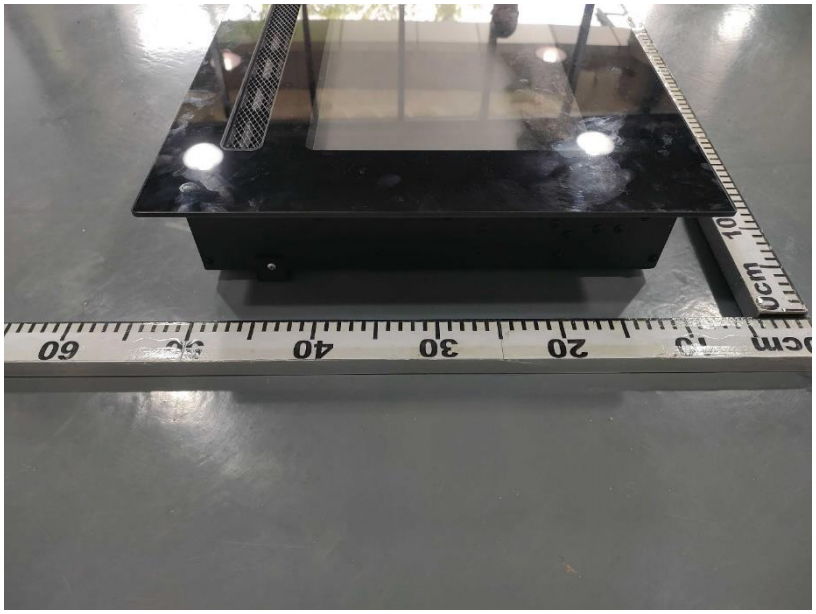
TEST REPORT

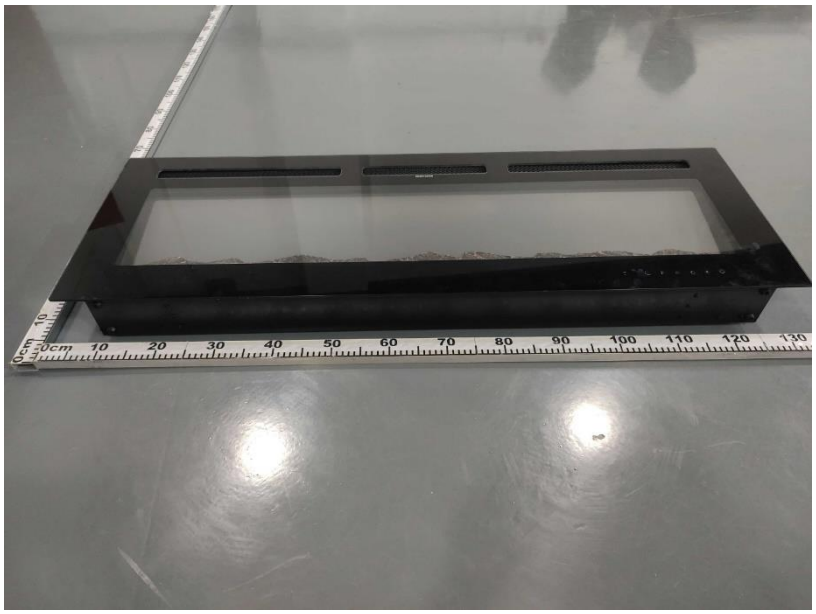
Appendix I: Photograph of equipment under test





TEST REPORT





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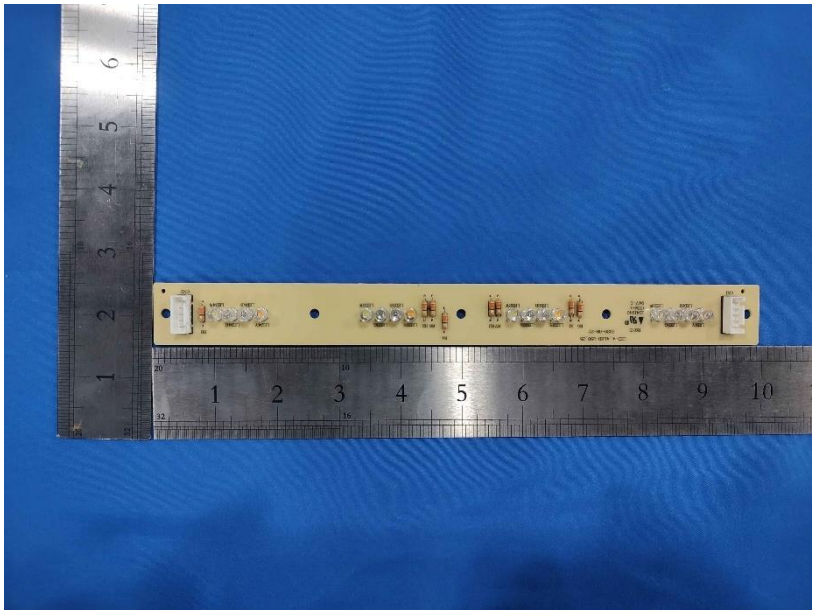
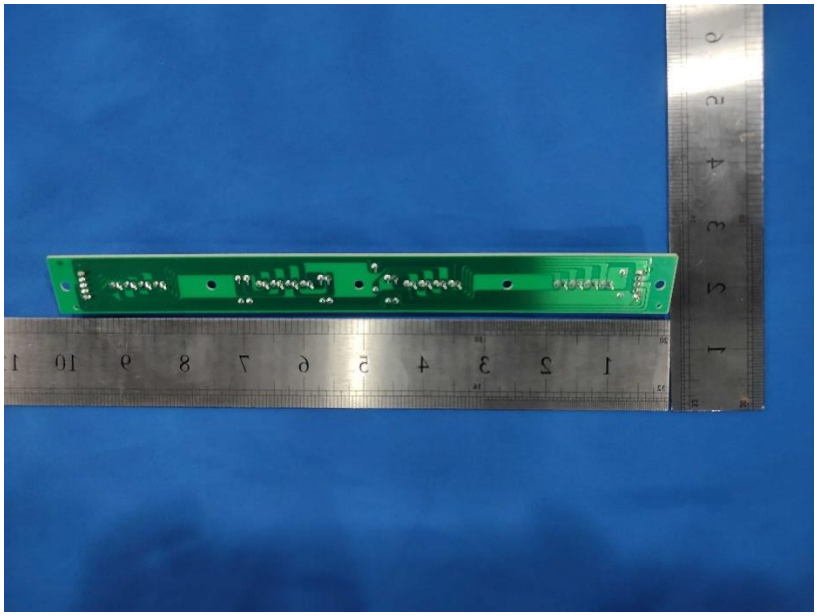
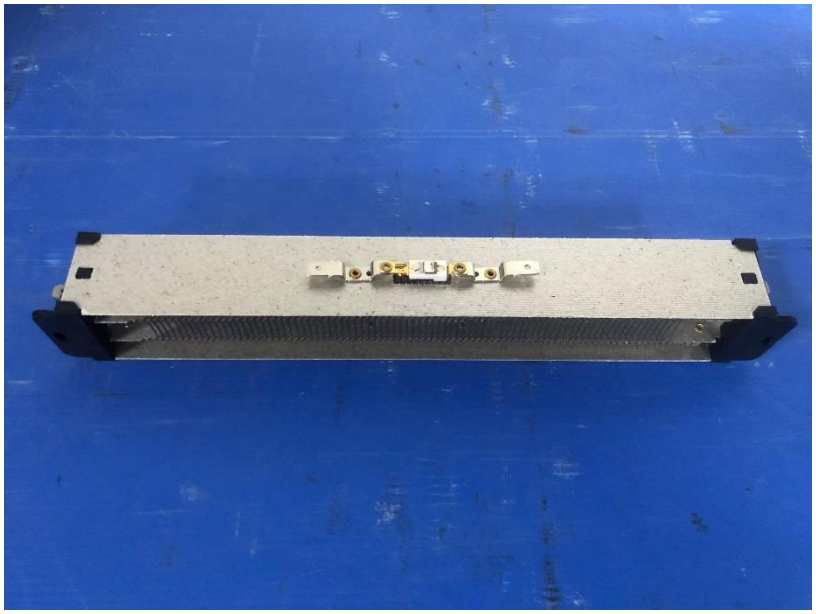




TEST REPORT



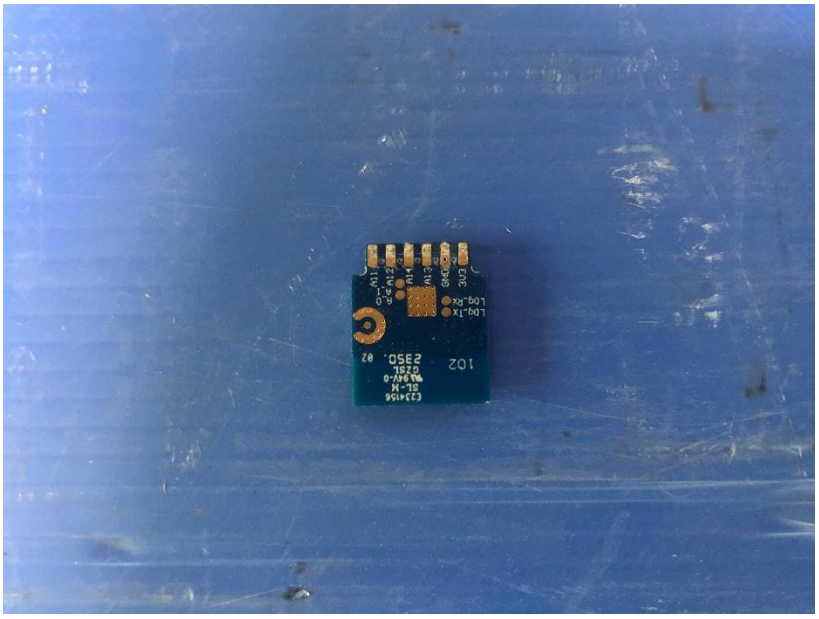

SYNCHRONOUS MOTOR
TYC50C
AC110/120V 50/60Hz 4W
15/18r/min CCW Z.P.
CLASS A DATE:
NINGBO GENSMET ELECTRIC
APPLIANCE TECH CO LTD

Total Quality. Assured.

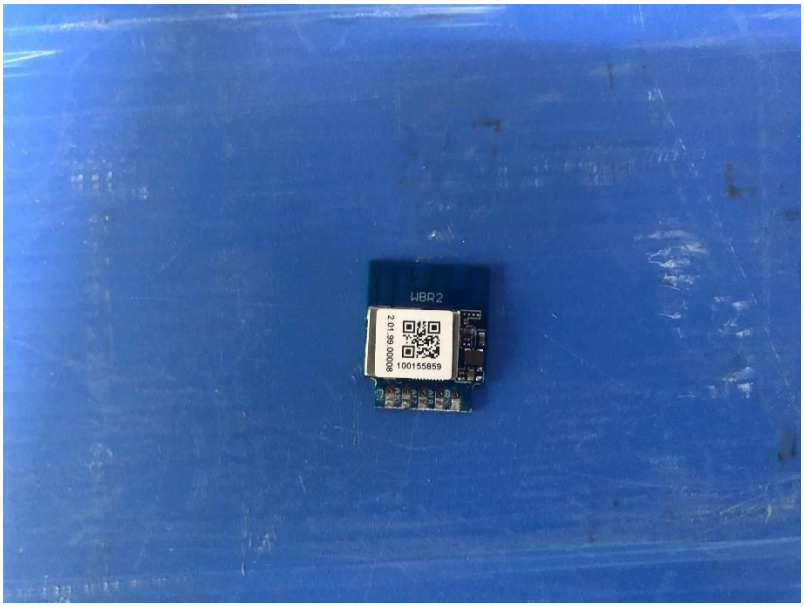
TEST REPORT

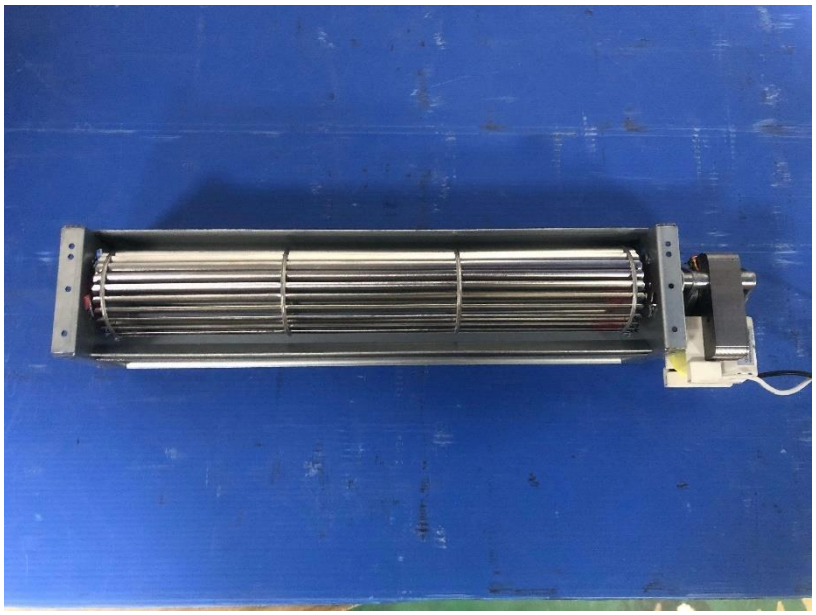
Total Quality. Assured.

TEST REPORT



TEST REPORT





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