



TEST REPORT

FCC ID:2BF7H-BM01

Applicant: ORALIC SUPPLIES INC

Address: 15760 ventura blvd ste 1570 Encino CA 91436

Manufacturer: Zhongshan BestClean Technology Co.,Ltd.

Address: 301, 3/F, Building 3, No. 32 Jianye Road, Huoju, Zhongshan City, Guangdong Province, China, 528400

EUT: Sonic electric toothbrush

Trade Mark: BRUSHMO

Model Number: BM01
BM04, BM05, BM06, BM07, BM08, BM09, BM10, BM11, BM12

Date of Receipt: Sep. 14, 2024

Test Date: Sep. 14, 2024 - Oct. 10, 2024

Date of Report: Oct. 10, 2024

Prepared By: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China

Applicable Standards: FCC Part 18
FCC/OST MP-5 (1986)

Test Result: Pass

Report Number: DL-240914010ER

Prepared (Engineer): Alisa Song

Reviewer (Supervisor): Jack Bu

Approved (Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.

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**1. VERSION**

Version No.	Date	Description
00	Oct. 10, 2024	Original

2. TEST SUMMARY

EMC Emission			
Test Item	Section in CFR 47	Result	Remark
AC Power Line Conducted Emission	18.307	PASS	
Spurious Emission	18.305	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

Test Lab: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China

FCC Test Firm Registration Number: 854456

Designation Number: CN1307

IC Registered No.: 27485

CAB ID.: CN0118



3. GENERAL INFORMATION

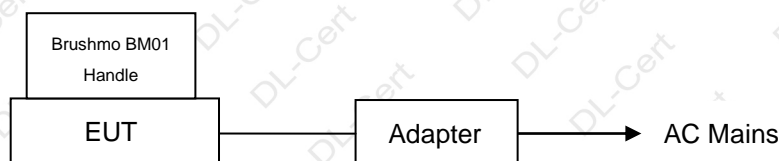
3.1 Description of Device (EUT)

Product Name: Sonic electric toothbrush
Trade Mark: BRUSHMO
Model No.: BM01
BM04, BM05, BM06, BM07, BM08, BM09, BM10, BM11, BM12
Model Difference: All samples are the same except the model name and appearance color, so we prepare "BM01" for test only.
Serial No.: N/A
Hardware version: H1.0
Software version: S1.0
Operation Frequency: 200KHz
Modulation type: MSK
Antenna Type: Inductive loop coil Antenna
Antenna gain: 0dBi
Power supply: Input: 5V $\overline{\text{---}}$ 1A
Wireless charging output: 1.5W
Model No.: FX202U
Adapter: Input: 100-240V~ 50/60Hz 0.7A
USB-C: 5V/3A, 9V/2.22A, 12V/1.67A 20W Max.

3.2 Tested System Details

None.

3.3 Block Diagram of Test Set-up



3.4 Test Mode Description

Mode1. Wireless Output Mode

Note: 1. We have evaluated 1%, 50% and 99% battery charging mode, and the worst mode (99%) is showed in this report.

3.5 Test Auxiliary Equipment

Brushmo BM01 Handle (Customer Provided):
Manufacturer: Brushmo
Battery: DC 3.7V

3.6 Test Uncertainty

Conducted Emission Uncertainty(150KHz-30MHz) : $\pm 2.56\text{dB}$
Radiated Emission Uncertainty(9KHz-1GHz) : $\pm 3.24\text{dB}$

**4. TEST INSTRUMENT USED****For Conducted Emission Test (843 Shielded Room)**

Equipment	Manufacturer	Model	Serial	Last Cal.	Next Cal.
843 Shielded Room	YIHENG	843 Room	843	Nov. 05, 2023	Nov. 04, 2026
EMI Receiver	R&S	ESR	101421	Nov. 04, 2023	Nov. 03, 2024
LISN	R&S	ENV216	102417	Nov. 04, 2023	Nov. 03, 2024
Clamp	COM-POWER	CLA-050	431071	Nov. 04, 2023	Nov. 03, 2024
3-Loop Antenna	DAZE	ZN30401	13021	Nov. 04, 2023	Nov. 03, 2024
ISN T8	Schwarzbeck	NTFM 8158	101135	Nov. 04, 2023	Nov. 03, 2024
ISN T5	Schwarzbeck	NTFM 8158	101136	Nov. 04, 2023	Nov. 03, 2024
843 Cable 1#	ChengYu	CE Cable	001	Nov. 04, 2023	Nov. 03, 2024
843 Cable 1#	ChengYu	CE Cable	002	Nov. 04, 2023	Nov. 03, 2024

For Radiated Emission Test (966 chamber)

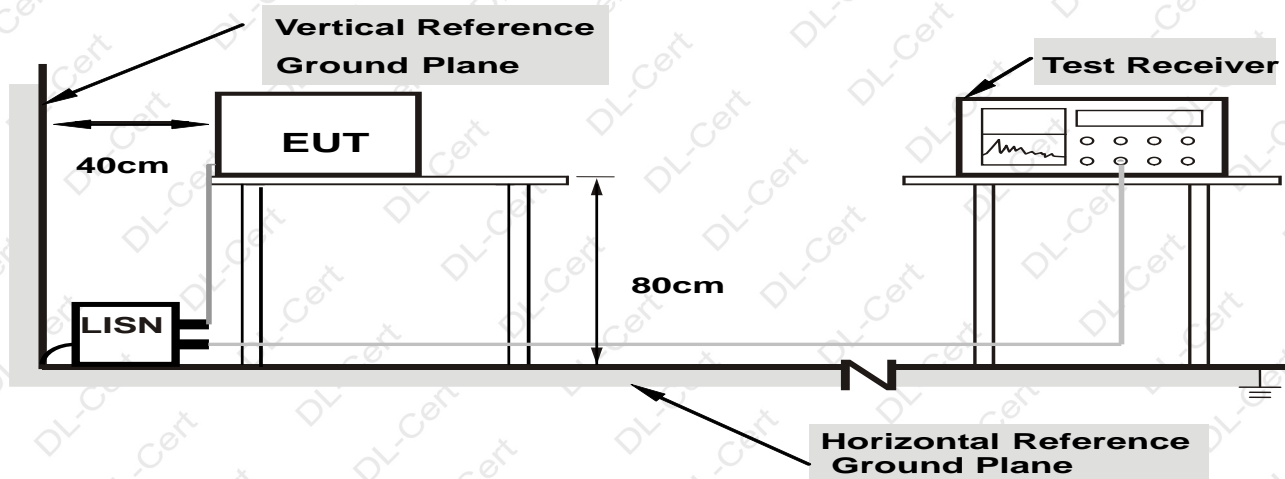
Equipment	Manufacturer	Model	Serial	Last Cal.	Next Cal.
966 Chamber	YIHENG	966 Room	966	Nov. 06, 2023	Nov. 05, 2026
Spectrum Analyzer	Agilent	E4408B	MY50140780	Nov. 04, 2023	Nov. 03, 2024
EMI Receiver	R&S	ESRP7	101393	Nov. 04, 2023	Nov. 03, 2024
Amplifier	Schwarzbeck	BBV9743B	00153	Nov. 04, 2023	Nov. 03, 2024
Amplifier	EMEC	EM01G8GA	00270	Nov. 04, 2023	Nov. 03, 2024
Broadband Trilog Antenna	Schwarzbeck	VULB9162	00306	Nov. 04, 2023	Nov. 03, 2024
Horn Antenna	Schwarzbeck	BBHA9120D	02139	Nov. 04, 2023	Nov. 03, 2024
Loop Antenna	ZHINAN	ZN30900A	/	Nov. 04, 2023	Nov. 03, 2024
966 Cable 1#	ChengYu	966	004	Nov. 04, 2023	Nov. 03, 2024
966 Cable 2#	ChengYu	966	003	Nov. 04, 2023	Nov. 03, 2024



5. CONDUCTED EMISSION TEST

5.1 Block Diagram of Test Setup

For Mains Terminals Test



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

5.2 Test Standard and Limit

FCC Part 18

(b) All other part 18 consumer devices:

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

Notes: 2. The lower limit shall apply at the transition frequencies.

5.3 EUT Configuration on Test

The following equipment's are installed on conducted emission test to meet FCC Part 18 requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

5.4 Operating Condition of EUT

5.4.1 Setup the EUT and simulators as shown in Section 5.1.

5.4.2 Turn on the power of all equipments.

5.4.3 Let the EUT work in test modes and test it.



5.5 Test Procedure

The EUT is put on the table and connected to the AC mains through a Artificial Mains Network (AMN) or ISN. This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC/OST MP-5** regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESR) is set at 10KHz.

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

Notes:

- 1.An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3.Mesurement Level = Reading level + Correct Factor

5.6 Test Result

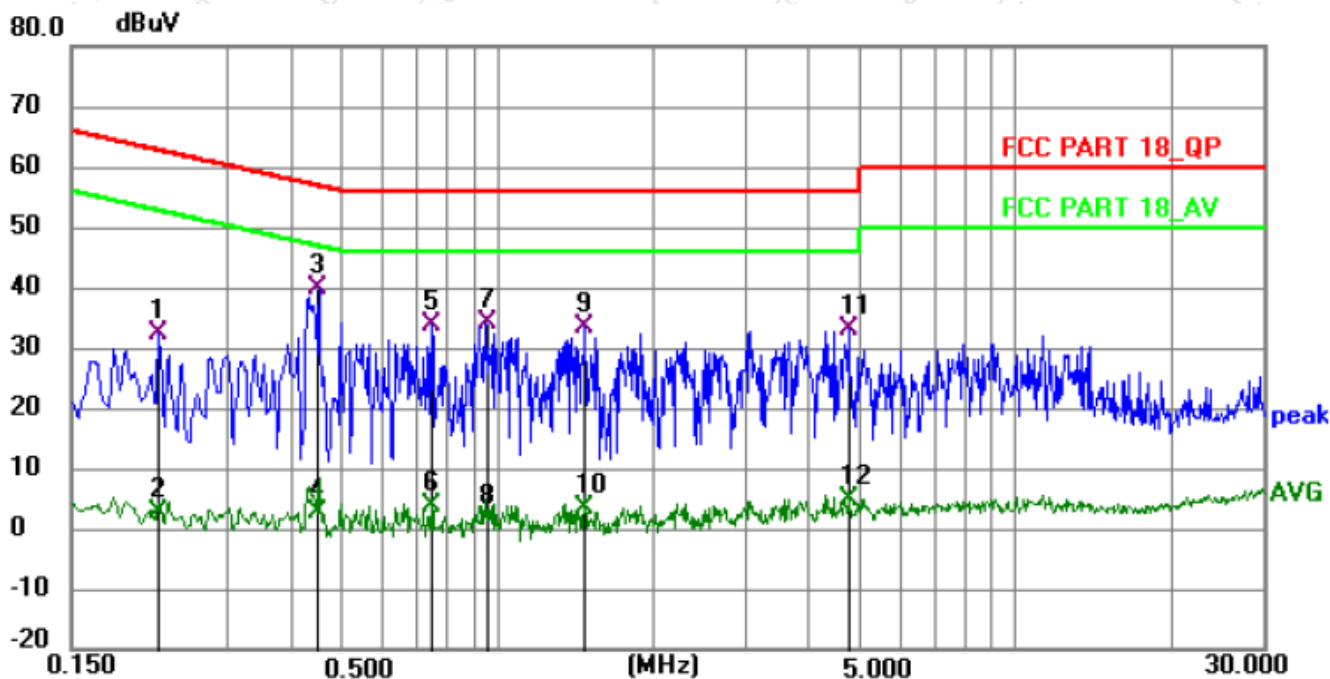
PASS

Please refer to the following page.



Conducted Emission Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase:	Line
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 1

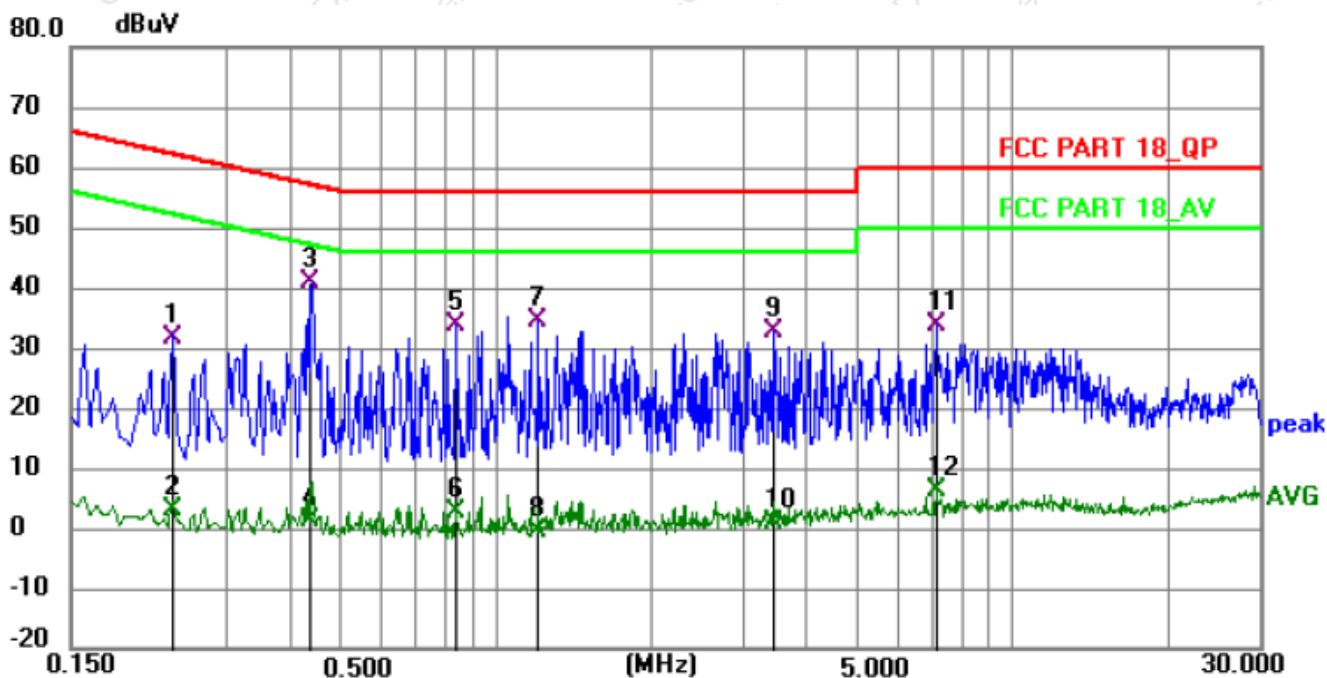


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2231	22.37	10.12	32.49	62.70	-30.21	QP	P	
2	0.2231	-7.36	10.12	2.76	52.70	-49.94	AVG	P	
3 *	0.4515	29.51	10.21	39.72	56.85	-17.13	QP	P	
4	0.4515	-7.64	10.21	2.57	46.85	-44.28	AVG	P	
5	0.7485	23.73	10.08	33.81	56.00	-22.19	QP	P	
6	0.7485	-6.47	10.08	3.61	46.00	-42.39	AVG	P	
7	0.9555	24.23	10.05	34.28	56.00	-21.72	QP	P	
8	0.9555	-8.42	10.05	1.63	46.00	-44.37	AVG	P	
9	1.4730	23.41	10.05	33.46	56.00	-22.54	QP	P	
10	1.4730	-6.75	10.05	3.30	46.00	-42.70	AVG	P	
11	4.7714	22.67	10.34	33.01	56.00	-22.99	QP	P	
12	4.7714	-5.59	10.34	4.75	46.00	-41.25	AVG	P	



Conducted Emission Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase:	Neutral
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 1



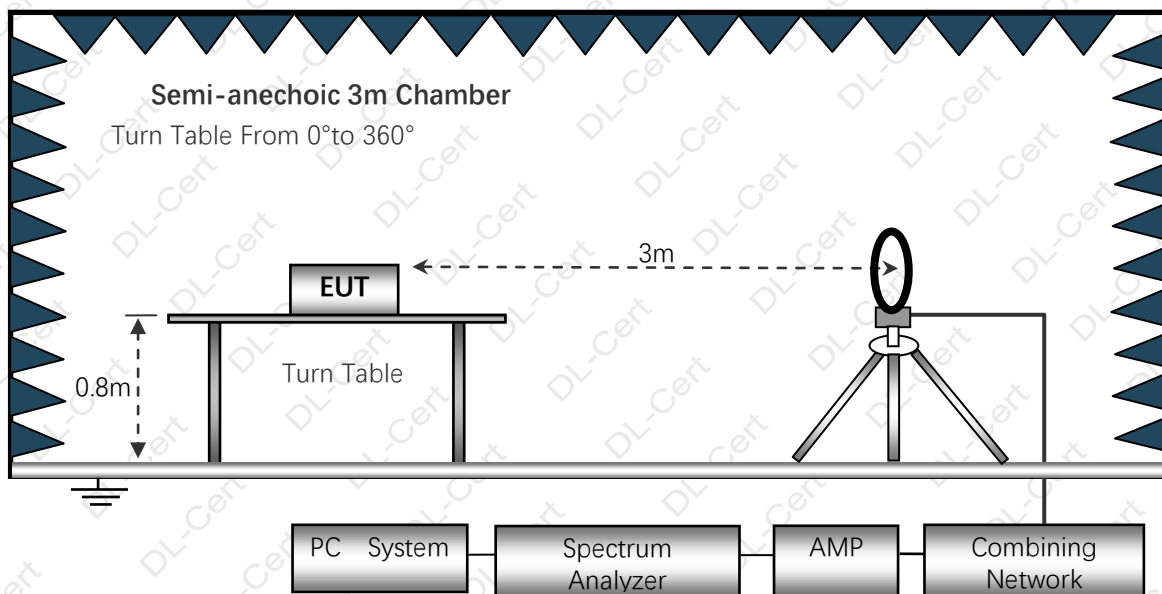
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2354	21.49	10.19	31.68	62.26	-30.58	QP	P	
2	0.2354	-7.02	10.19	3.17	52.26	-49.09	AVG	P	
3 *	0.4380	30.57	10.19	40.76	57.10	-16.34	QP	P	
4	0.4380	-9.10	10.19	1.09	47.10	-46.01	AVG	P	
5	0.8385	23.63	10.06	33.69	56.00	-22.31	QP	P	
6	0.8385	-7.22	10.06	2.84	46.00	-43.16	AVG	P	
7	1.2075	24.26	10.10	34.36	56.00	-21.64	QP	P	
8	1.2075	-10.76	10.10	-0.66	46.00	-46.66	AVG	P	
9	3.4710	22.54	10.11	32.65	56.00	-23.35	QP	P	
10	3.4710	-9.33	10.11	0.78	46.00	-45.22	AVG	P	
11	7.1070	23.02	10.74	33.76	60.00	-26.24	QP	P	
12	7.1070	-4.32	10.74	6.42	50.00	-43.58	AVG	P	



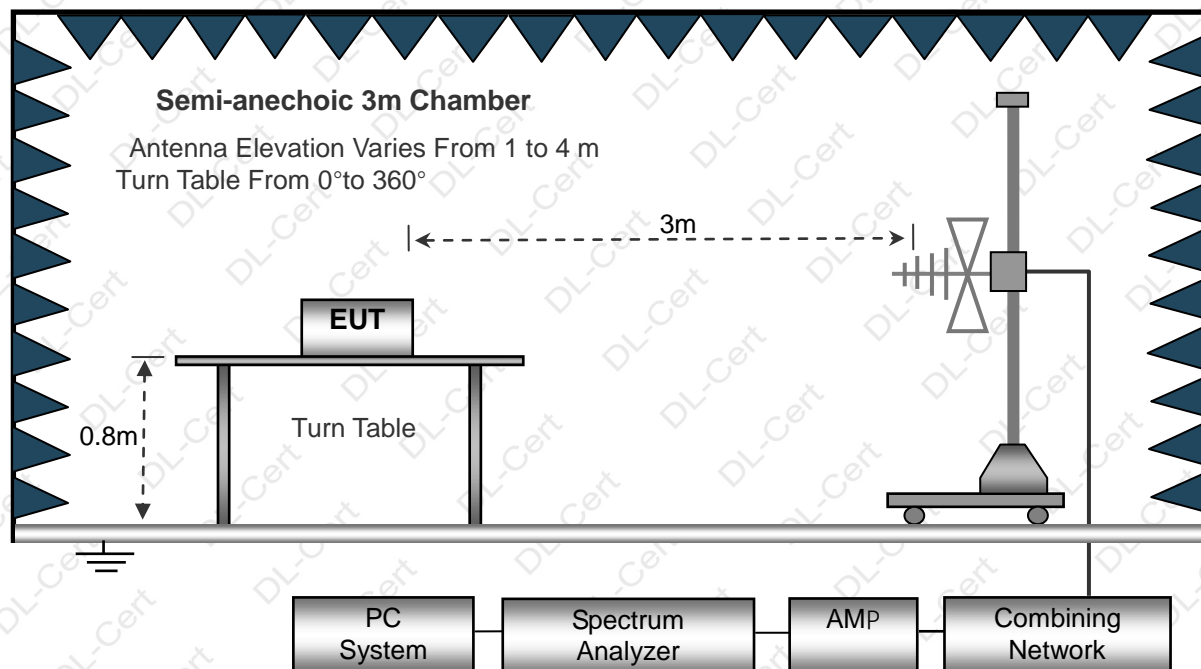
6. RADIATION EMISSION TEST

6.1 Block Diagram of Test Setup

Radiated Emission Test-Up Frequency Below 30MHz



Below 1GHz



6.2 Test Standard and Limit

FCC Part 18



Equipment	Operating frequency	RF Power generated by equipment (watts)	Field strength limit (uV/m)	Distance (meters)
Any type unless otherwise specified (miscellaneous)	Any ISM frequency	Below 500 500 or more	25 $25 \times \text{SQRT}(\text{power}/500)$	300 1300
	Any non-ISM frequency	Below 500 500 or more	15 $15 \times \text{SQRT}(\text{power}/500)$	300 1300
Industrial heaters and RF stabilized arc welders	On or below 5,725 MHz Above 5,725 MHz	Any Any	10 (2)	1,600 (2)
Medical diathermy	Any ISM frequency	Any	25	300
	Any non-ISM frequency	Any	15	300
Ultrasonic	Below 490 kHz	Below 500 500 or more	$2,400/\text{F}(\text{kHz})$ $2,400/\text{F}(\text{kHz}) \times \text{SQRT}(\text{power}/500)$	300 3300
	490 to 1,600 kHz Above 1,600 kHz	Any Any	$24,000/\text{F}(\text{kHz})$ 15	30 30
Induction cooking ranges	Below 90 kHz	Any	1,500	430
	On or above 90 kHz	Any	300	430

Remark:

- (1) The smaller limit shall apply at the cross point between two frequency bands.
- (2) Distance refers to the distance in meters between the measuring instrument, antenna and the closed point of any part of the device or system.
- (3) Emission level dBuV/m for 0.009~30MHz = $20\log(15) + 40\log(300/3)$ dBuV/m
- (3) Emission level dBuV/m for 30MHz~1000MHz = $20\log(15) + 20\log(300/3)$ dBuV/m

6.3 EUT Configuration on Test

The FCC Part 18 regulations test method must be used to find the maximum emission during radiated emission test.

The configuration of EUT is the same as used in conducted emission test.

Please refer to Section 5.3.

6.4 Operating Condition of EUT

Same as conducted emission test, which is listed in Section 5.4 except the test set up replaced as Section 6.2.

6.5 Test Procedure

- 1) The radiated emissions test was conducted in a semi-anechoic chamber.
- 2) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
- 3) Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emissions spectrum plots of the EUT.
- 4) The frequencies of maximum emission were determined in the final radiated emissions measurement. At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization.
- 5) The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz.
- 6) The frequency range from 9KHz to 1000MHz is checked.

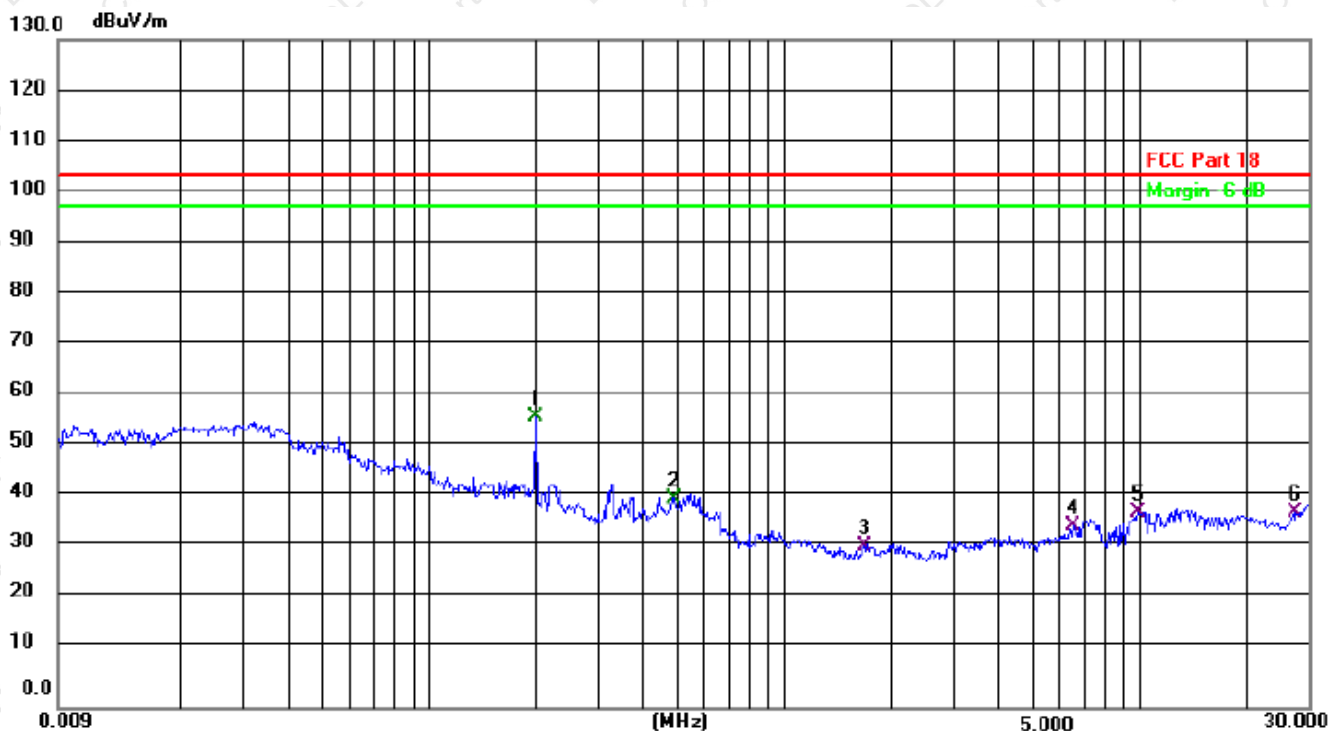
6.6 Test Result

PASS, Please refer to the following page.



Radiation Emission Test Data 9 kHz~30 MHz

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Polarization:	/
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 1



Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
0.1995	48.73	9.13	57.86	103.5	-45.64	AVERAGE
0.4909	30.90	9.74	40.64	103.5	-62.86	AVERAGE
1.6846	19.31	9.39	28.70	103.5	-74.80	QP
6.4756	23.72	9.34	33.06	103.5	-70.44	QP
9.8734	28.86	8.45	37.31	103.5	-66.19	QP
27.4390	28.11	9.53	37.64	103.5	-65.86	QP

Note:

Pre-scan in the all of mode, the worst case in of was recorded.

Factor = antenna factor + cable loss – pre-amplifier.

Margin = Emission Level(Meter Reading+ Factor) - Limit.



Radiation Emission Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 1



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector
		MHz	dBuV	dB	dBuV	dB	dB	
1		33.0949	32.29	-16.02	16.27	63.50	-47.23	QP
2	*	60.2801	37.81	-13.72	24.09	63.50	-39.41	QP
3		106.3850	31.84	-14.80	17.04	63.50	-46.46	QP
4		130.3789	37.71	-17.81	19.90	63.50	-43.60	QP
5		379.9141	27.06	-9.64	17.42	63.50	-46.08	QP
6		520.8882	28.33	-7.08	21.25	63.50	-42.25	QP



Radiation Emission Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dB	Margin dB	Detector
1		35.4993	36.60	-15.66	20.94	63.50	-42.56	QP
2		43.6584	35.44	-13.29	22.15	63.50	-41.35	QP
3	*	56.9912	53.11	-13.62	39.49	63.50	-24.01	QP
4		103.0800	45.45	-14.78	30.67	63.50	-32.83	QP
5		119.4361	38.57	-16.54	22.03	63.50	-41.47	QP
6		654.2318	27.92	-4.39	23.53	63.50	-39.97	QP

Remarks:

- 1.Final Level =Receiver Read level + Correct factor (Antenna Factor + Cable Loss – Preamplifier Factor)
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.



7. SETUP PHOTOGRAPHS

Reference to the setup photo for details.

8. EUT PHOTOGRAPHS

Reference to the external and internal photo for details.

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