47 CFR FCC PART 18

TEST REPORT

For

Microwave Oven

MODEL NUMBER: EM9P042HH, NN-SU55QS, EM9P04##, EM9P04### (Where "#" may be "0~9 or A~Z, which designates for different appearance or color)

REPORT NUMBER: 4791446985.1

FCC ID: VG8EM9P04YY

ISSUE DATE: August 20, 2024

Prepared for

Guangdong Midea Kitchen Appliances Manufacturing Co., Ltd.
No 6, Yong An Road, Beijiao, Shunde, Foshan, Guangdong, China

Prepared by

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch

Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	August 20, 2024	Initial Issue	

Summary of Test Results

Emission			
Standard	**Test Item**	**Limit**	**Result**
47 CFR FCC PART 18	Conducted Emissions	FCC Part 18.307(b)	Pass
	Radiated Emissions (30MHz~1000MHz)	FCC Part 18.305(b)	Pass
	Radiated Emissions (1GHz~25GHz)	FCC Part 18.305(b)	Pass
	Operating Frequency	FCC Part 18.301	Pass
	Input Power	FCC / OST MP-5 (1986) Clause 4.3	Pass
	Output Power	FCC / OST MP-5 (1986) Clause 4.3	Pass
	Radiation Hazard	FCC / OST MP-5 (1986) Clause 3.1	Pass

*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
*The measurement result for the sample received is <Pass> according to <47 CFR FCC PART 18> when <Simple Acceptance> decision rule is applied.

CONTENTS

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Guangdong Midea Kitchen Appliances Manufacturing Co., Ltd.
Address:	No 6, Yong An Road, Beijiao, Shunde, Foshan, Guangdong, China

Manufacturer Information

Company Name:	Guangdong Midea Kitchen Appliances Manufacturing Co., Ltd.
Address:	No 6, Yong An Road, Beijiao, Shunde, Foshan, Guangdong, China

EUT Information

EUT Name:	Microwave Oven
Model:	EM9P042HH
Series Model:	NN-SU55QS, EM9P04##, EM9P04### (Where "#" may be "0~9 or A~Z, which designates for different appearance or color)
Sample Received Date:	June 4, 2024
Sample ID:	7287020
Date of Tested:	June 5, 2024 to June 18, 2024

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
47 CFR FCC PART 18	**Pass**

Prepared By:

Karl Wu

Engineer Project Associate

Checked By:

Kebo Zhang

Senior Project Engineer

Approved By:

Stephen Guo

Operations Manager

2. TEST METHODOLOGY

All tests were performed in accordance with the standard 47 CFR FCC PART 18 and FCC/OET MP-5

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4102.01)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1187)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules. **ISED (Company No.: 21320)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. **VCCI (Registration No.: G-20192, C-20153, T-20155 and R-20202)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20192 and R-20202 Shielding Room B, the VCCI registration No. is C-20153 and T-20155

Note:
All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Measurement Frequency Range	K	U(dB)
Conducted Emissions	0.009 MHz - 0.15 MHz	2	4.00
	0.15MHz - 30MHz	2	3.63
Radiated Emissions (30MHz~1000MHz)	9kHz - 30MHz	2	2.20
	30MHz -1GHz	2	4.13
Radiated Emissions (1GHz~25GHz)	1GHz - 18GHz	2	5.64
	18GHz - 26GHz	2	5.23
Note1: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2.			
Note 2: According to the standard CISPR 16-4-2, the MU for the Conducted emissions from the AC mains power ports using AMN should not exceed 3.8 in range of 9kHz to 150kHz and 3.4 in range of 150kHz to 30MHz. We have considered the test results containing the value of Ulab (in dB) for the measurement instrumentation actually used for the measurements.			

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	Microwave Oven
Model	EM9P042HH
Series Model	NN-SU55QS, EM9P04##, EM9P04### (Where "#" may be "0~9 or A~Z, which designates for different appearance or color)
Model Difference	All types of electronic circuit of the same, the difference are model name and appearance (color). Therefore, full tests were applied on EM9P042HH.
Operating Frequency	2450MHz
Rated Input Power (Microwave)	1500W
Rated Output Power (Microwave)	900W
Rated Voltage	120V~, 60Hz, Single Phase

5.2. TEST MODE

Test Mode	Description
M01	Maximum power+1000mL water load
M02	Maximum power+700mL water load
M03	Maximum power+300mL water load

5.3. EUT ACCESSORY

Cable	
Description:	AC Cable
Cable Type:	Unshielded without ferrite
Length:	1.06 Meter

5.4. LOAD FOR MICROWAVE OVENS

For all measurements the energy developed by the oven is absorbed by a dummy load consisting of a quantity of tap water in a beaker. A polypropylene beaker or any other low-loss material shall be used as the container. If the oven is provided with a shelf or other utensil support, test shall be made with this support in its initial normal position. For ovens rated at 1000 watts or less power output, the beaker shall contain quantities of water as listed in the following subparagraphs. For ovens rated at more than 1000 watts output, each quantity shall be increased by 50% for each 500 watts or fraction thereof in excess of 1000 watts. Additional beakers are used if necessary.

- Load for power output measurement: 1000 milliliters of water in the beaker located in the center of the oven.
- Load for frequency measurement: 1000 milliliters of water in the beaker located in the center of the oven.
- Load for measurement of radiation on second and third harmonic: Two loads, one of 700 and the other of 300 milliliters, of water are used. Each load is tested both with the beaker located in the center of the oven and with it in the right front corner.
- Load for all other measurements: 700 milliliters of water, with the beaker located in the center of the oven

5.5. SUPPORT UNITS FOR SYSTEM TEST

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.	Specification	Note
1	Glass Beaker	N/A	N/A	1000ML	UL Support

6. MEASURING EQUIPMENT AND SOFTWARE USED

Test Equipment of Conducted Emissions					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
EMI Test Receiver	ROHDE & SCHWARZ	ESR3	101961	Oct. 13, 2023	Oct. 12, 2024
Two-Line V-Network	ROHDE & SCHWARZ	ENV216	101983	Oct. 13, 2023	Oct. 12, 2024
Test Software for Conducted Emission	Farad	EZ-EMC	Ver.UL-3A1	N/A	N/A

Test Equipment of Radiated Emissions (30MHz~1000MHz)					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Aug. 2, 2021	Aug. 1, 2024
MXE EMI Receiver	KEYSIGHT	N9038A	MY56400036	Oct. 12, 2023	Oct. 11, 2024
Amplifier	HP	8447F	2944A03683	Oct. 12, 2023	Oct. 11, 2024
Test Software for Radiated Emission	Farad	EZ-EMC	Ver.UL-3A1	N/A	N/A

Test Equipment of Radiated Emissions (1GHz~25GHz)					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
EMI Measurement Receiver	ROHDE & SCHWARZ	ESR26	101377	Oct. 12, 2023	Oct. 11, 2024
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct. 12, 2023	Oct. 11, 2024
Preamplifier	TDK	PA-02-3	TRS-308-00002	Oct. 12, 2023	Oct. 11, 2024
Horn Antenna	TDK	HRN-0118	130940	Jul. 20, 2021	Jul. 19, 2024
High Gain Horn Antenna	Schwarzbeck	BBHA-9170	697	Jul. 20, 2021	Jul. 19, 2024
Test Software for Radiated Emission	Farad	EZ-EMC	Ver.UL-3A1	N/A	N/A

Test Equipment of Operating Frequency					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
EMI Measurement Receiver	ROHDE & SCHWARZ	ESR26	101377	Oct. 12, 2023	Oct. 11, 2024
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct. 12, 2023	Oct. 11, 2024
Horn Antenna	TDK	HRN-0118	130940	Jul. 20, 2021	Jul. 19, 2024
Test Software for Radiated Emission	Farad	EZ-EMC	Ver.UL-3A1	N/A	N/A

Test Equipment of Input Power					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Signal Conditioning Unit	TESEQ	CCN 1000-1	1544A00611	Dec.03,2023	Dec.02,2024
5K VA AC Power Source	TESEQ	NSG 1007	1616A00637	Dec.03,2023	Dec.02,2024

Radiation Hazard					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Electric Field	LTLUTRON	EMF-819/EP-05H	I.508502	Oct. 23, 2023	Oct. 22, 2024

Output Power Measurement					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Probe Thermometer	Control Company	4242	150709653	Oct. 12, 2023	Oct. 11, 2024

Other Instrument					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Temperature humidity probe	OMEGA	ITHX-SD-5	18470007	Oct.21, 2023	Oct.20, 2024
Barometer	Yiyi	Baro	N/A	Oct.19, 2023	Oct.18, 2024
Attenuator	Agilent	8495B	2814a12853	Oct.12, 2023	Oct.11, 2024

7. EMISSION TEST

7.1. CONDUCTED EMISSIONS

LIMITS

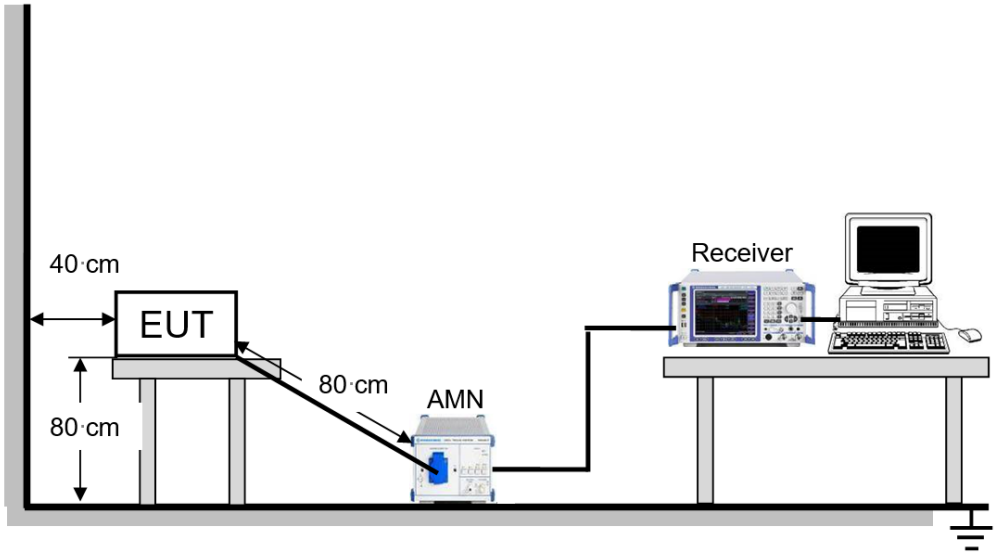
Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

Note: *Decreases with the logarithm of the frequency.

TEST PROCEDURE

1) The testing follows the guideline in FCC / OST MP-5.
2) The EUT was placed on a 0.8m insulating material from the horizontal ground plane with EUT being connected to the power mains through a Line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
3) Excess I/O cables shall be bundled in the center. If bundling is not possible, bundling shall not exceed 30 to 40 cm in length.
4) Excess power cords shall be bundled in the center or shortened to appropriate length.
5) LISN at least 80 cm from nearest part of EUT.
6) For ovens rated at 1000 watts or less power output, the beaker shall contain quantities of water as listed in the following subparagraphs, for ovens rated at more than 1000 watts output, each quantity shall be increased by 50% for each 500 watts or fraction thereof in excess of 1000 watts, A 700 milliliters of water in the beaker located in the center of the oven.
7) Conducted emissions from the EUT measured in the frequency range between 0.15MHz and 30MHz using CISPR Quasi-Peak and average detector mode, Resolution bandwidth set 9kHz.

TEST SETUP



TEST ENVIRONMENT

Temperature	23.5℃	Relative Humidity	55.6%
Atmosphere Pressure	101kPa		

TEST DATE / ENGINEER

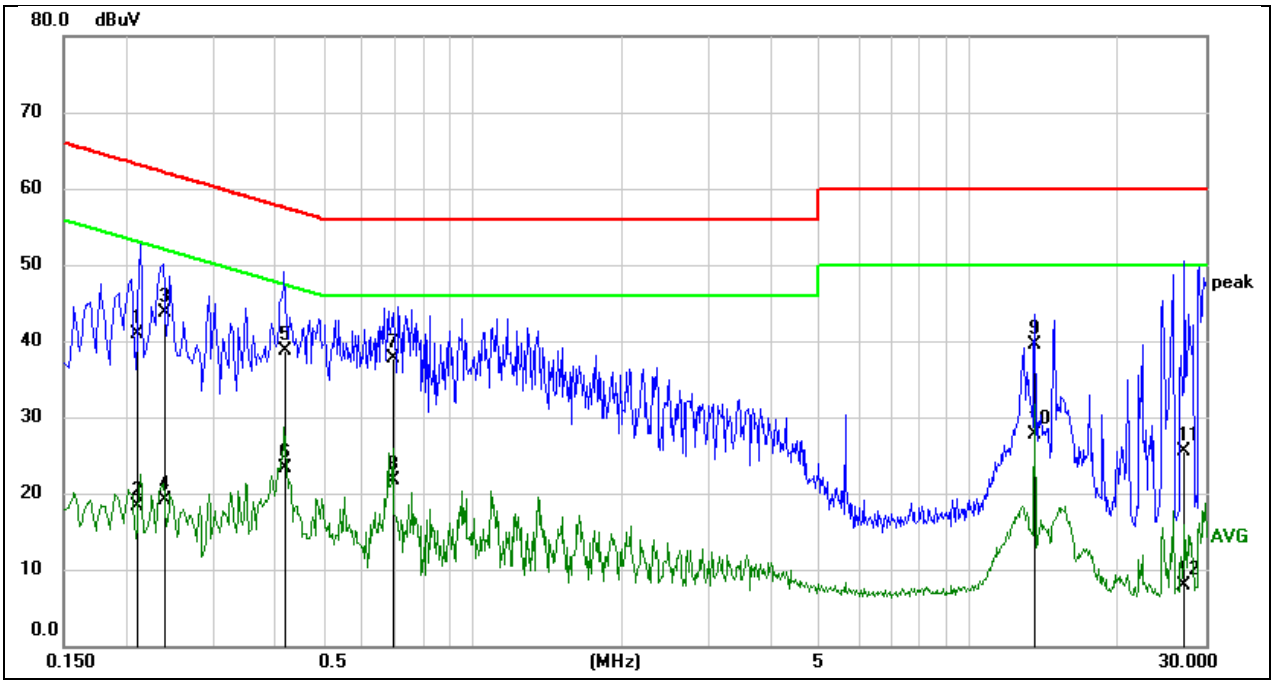
Test Date	June 17, 2024	Test By	Karl Wu

TEST MODE

Pre-test Mode:	M02
Final Test Mode:	M02

TEST RESULTS

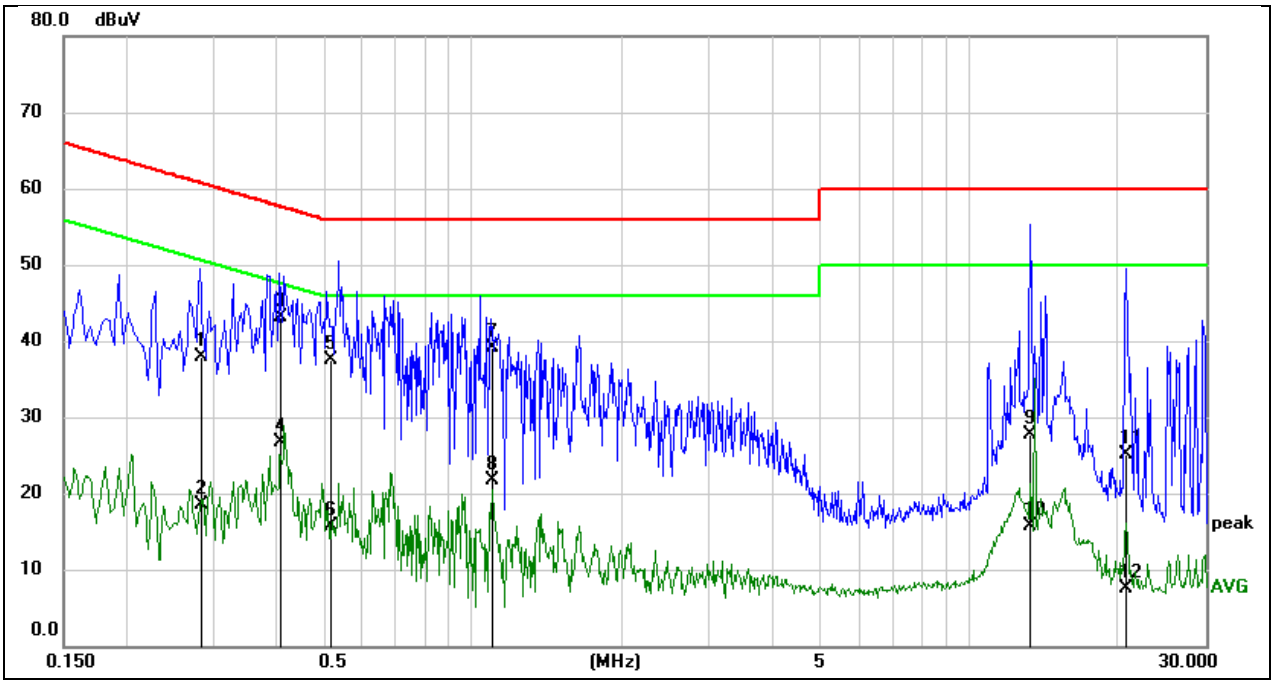
Test Mode:	M02	Line:	Line
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.2108	30.58	10.24	40.82	63.17	-22.35	QP
2	0.2108	8.05	10.24	18.29	53.17	-34.88	AVG
3	0.2399	33.44	10.24	43.68	62.10	-18.42	QP
4	0.2399	8.79	10.24	19.03	52.10	-33.07	AVG
5	0.4199	28.42	10.24	38.66	57.45	-18.79	QP
6	0.4199	13.09	10.24	23.33	47.45	-24.12	AVG
7	0.6912	27.45	10.23	37.68	56.00	-18.32	QP
8	0.6912	11.42	10.23	21.65	46.00	-24.35	AVG
9	13.5601	28.95	10.48	39.43	60.00	-20.57	QP
10	13.5601	17.32	10.48	27.80	50.00	-22.20	AVG
11	27.1639	14.65	10.85	25.50	60.00	-34.50	QP
12	27.1639	-2.87	10.85	7.98	50.00	-42.02	AVG

Remark:
Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
Margin = Result - Limit

Test Mode:	M02	Line:	Neutral
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.2842	27.77	10.11	37.88	60.69	-22.81	QP
2	0.2842	8.46	10.11	18.57	50.69	-32.12	AVG
3	0.4124	32.97	10.07	43.04	57.60	-14.56	QP
4	0.4124	16.62	10.07	26.69	47.60	-20.91	AVG
5	0.5190	27.40	10.04	37.44	56.00	-18.56	QP
6	0.5190	5.71	10.04	15.75	46.00	-30.25	AVG
7	1.0992	29.22	9.85	39.07	56.00	-16.93	QP
8	1.0992	11.89	9.85	21.74	46.00	-24.26	AVG
9	13.2407	17.14	10.57	27.71	60.00	-32.29	QP
10	13.2407	5.13	10.57	15.70	50.00	-34.30	AVG
11	20.7205	14.25	10.95	25.20	60.00	-34.80	QP
12	20.7205	-3.50	10.95	7.45	50.00	-42.55	AVG

Remark:
Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
Margin = Result - Limit

7.2. RADIATED EMISSIONS (30MHZ~1000MHZ)

LIMITS

a) ISM equipment operating on a frequency specified in §18.301 is permitted unlimited radiated energy in the band specified for that frequency.

b) The field strength levels of emissions which lie outside the bands specified in §18.301, unless otherwise indicated, shall not exceed the following:

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	25	300
		500 or more	25 × SQRT(power/500)	[1]300*

[1]Field strength may not exceed 10 μV/m at 1600 meters. Consumer equipment operating below 1000 MHz is not permitted the increase in field strength otherwise permitted here for power over 500 watts.

Note: (1). dBuV/m = 20log(uV/m)

(2). dBuV/m @3m = dBuV/m @300m + 20log(300m/3m)

c) Frequency range for field strength measurements:

Frequency band in which device operates (MHz)	Range of frequency measurements	
	Lowest frequency	Highest frequency
Below 1.705	Lowest frequency generated in the device, but not lower than 9 kHz	30 MHz.
1.705 to 30	Lowest frequency generated in the device, but not lower than 9 kHz	400 MHz.
30 to 500	Lowest frequency generated in the device or 25 MHz, whichever is lower	Tenth harmonic or 1,000 MHz, whichever is higher.
500 to 1,000	Lowest frequency generated in the device or 100 MHz, whichever is lower	Tenth harmonic.
Above 1,000	.....do	Tenth harmonic or highest detectable emission.

TEST PROCEDURE

1) The testing follows the guidelines in FCC / OST MP-5.

2) The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3) The EUT was placed on a turntable with 1m meter above ground.

4) The EUT was set 3 meters from the interference receiving antenna, test antenna mast is remotely controlled and can be varied in height form 1m to 4m.

5) 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.

6) 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.

7) For ovens rated at 1000 watts or less power output, the beaker shall contain quantities of water as listed in the following subparagraphs, for ovens rated at more than 1000 watts output, each quantity shall be increased by 50% for each 500 watts or fraction thereof in excess of 1000 watts,

a). Load for measurement of radiation on second and third harmonic; Two loads, one of 700ml and the other of 300ml, of water are used. Each load is tested both with the beaker located in the center of the oven and with it in the right front corner.

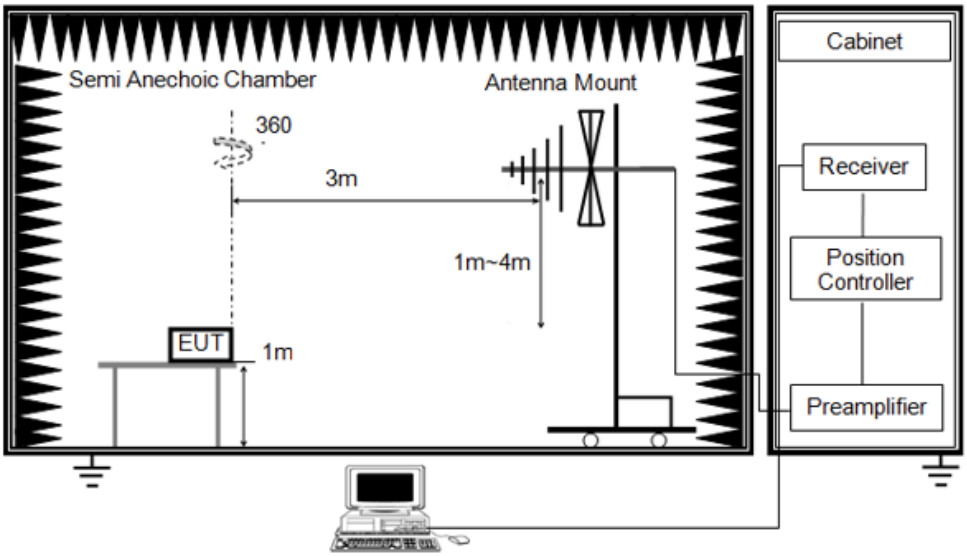
b). All other emissions were measured while a 700ml water load was placed in the center of the oven.

8) The setting of the spectrum analyser

RBW	100kHz
VBW	300kHz
Detector	Peak / Average #

Note: # Peak for pre-scan, average for the final result.

TEST SETUP



TEST ENVIRONMENT

Temperature	22.6℃	Relative Humidity	54%
Atmosphere Pressure	101kPa		

TEST DATE / ENGINEER

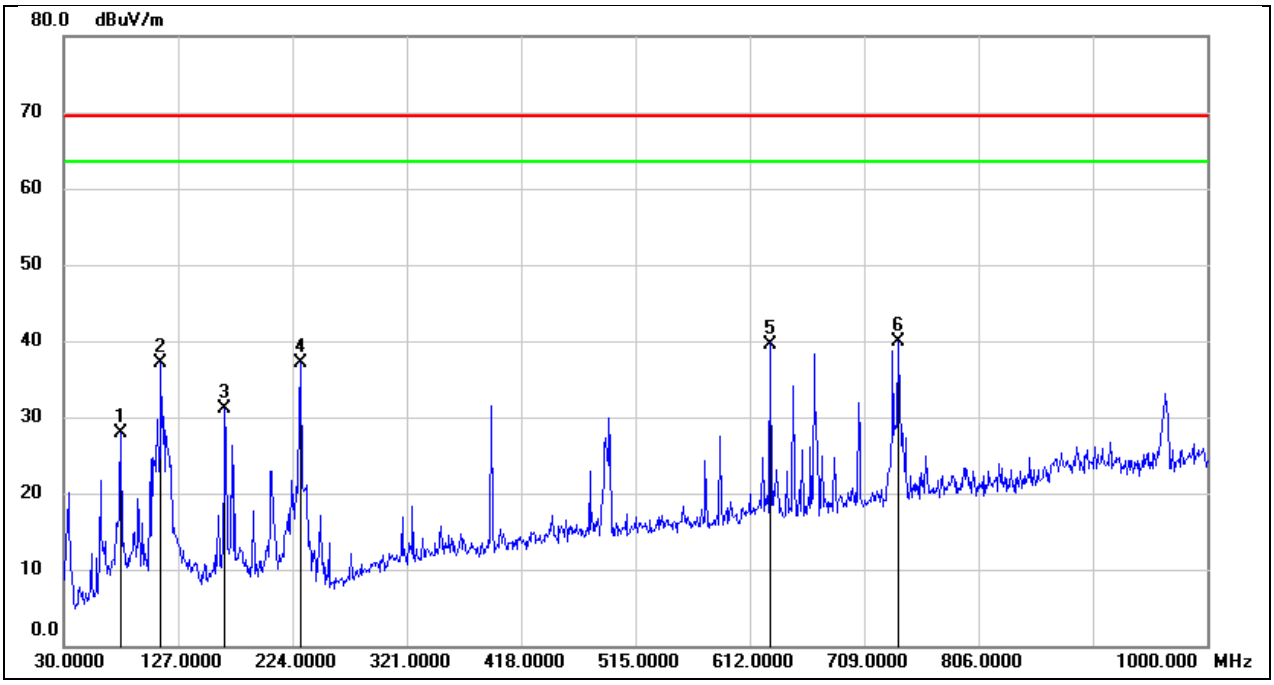
Test Date	June 18, 2024	Test By	Deacon Tan

TEST MODE

Pre-test Mode:	M02
Final Test Mode:	M02

TEST RESULTS

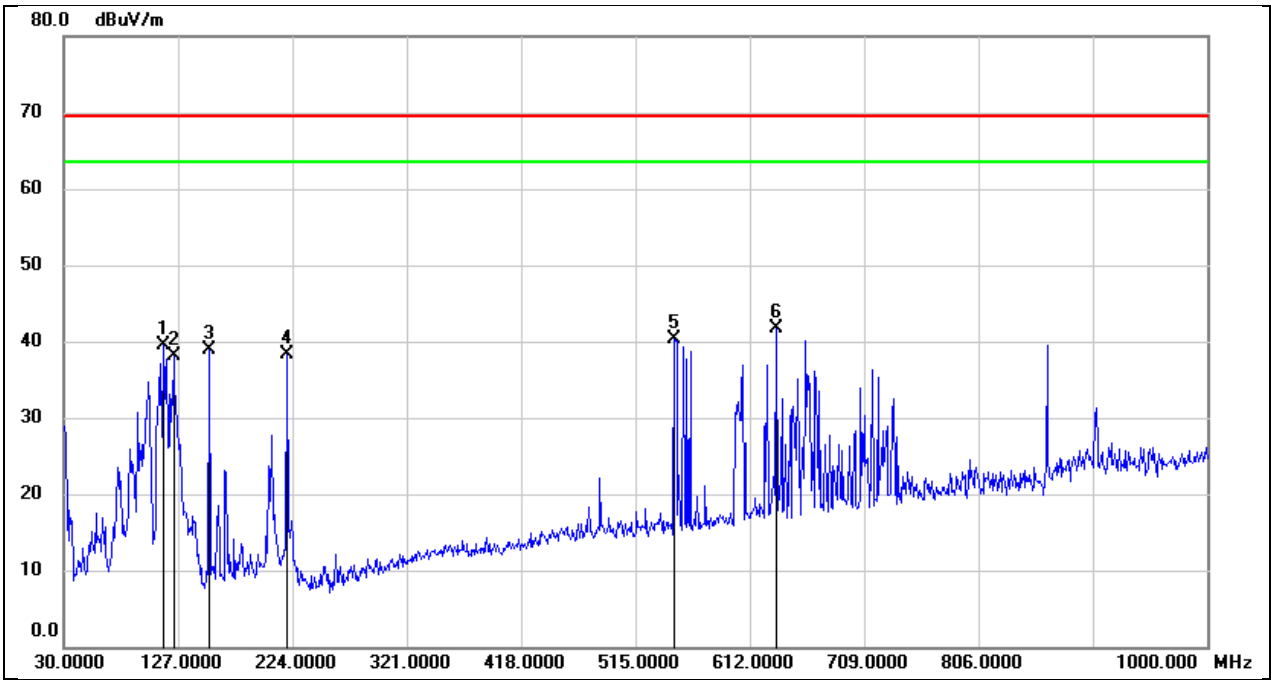
Test Mode:	M02	Polarity:	Horizontal
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	78.5000	43.98	-16.16	27.82	69.58	-41.76	AVG
2	112.4500	52.44	-15.32	37.12	69.58	-32.46	AVG
3	166.7700	43.53	-12.36	31.17	69.58	-38.41	AVG
4	230.7900	50.52	-13.48	37.04	69.58	-32.54	AVG
5	629.4600	45.76	-6.16	39.60	69.58	-29.98	AVG
6	738.1000	43.84	-3.84	40.00	69.58	-29.58	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

Test Mode:	M02	Polarity:	Vertical
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	114.3900	54.78	-15.21	39.57	69.58	-30.01	AVG
2	123.1200	52.79	-14.70	38.09	69.58	-31.49	AVG
3	153.1900	52.15	-13.26	38.89	69.58	-30.69	AVG
4	219.1500	51.27	-13.04	38.23	69.58	-31.35	AVG
5	547.9800	47.68	-7.42	40.26	69.58	-29.32	AVG
6	634.3100	47.86	-6.14	41.72	69.58	-27.86	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

7.3. RADIATED EMISSIONS (1GHZ~25GHZ)

LIMITS

a) ISM equipment operating on a frequency specified in §18.301 is permitted unlimited radiated energy in the band specified for that frequency.

b) The field strength levels of emissions which lie outside the bands specified in §18.301, unless otherwise indicated, shall not exceed the following:

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	25	300
		500 or more	25 × SQRT(power/500)	[1]300*

[1]Field strength may not exceed 10 μV/m at 1600 meters. Consumer equipment operating below 1000 MHz is not permitted the increase in field strength otherwise permitted here for power over 500 watts.

Note: (1). dBuV/m = 20log(uV/m)

(2). dBuV/m @3m = dBuV/m @300m + 20log(300m/3m)

c) Frequency range for field strength measurements:

Frequency band in which device operates (MHz)	Range of frequency measurements	
	Lowest frequency	Highest frequency
Below 1.705	Lowest frequency generated in the device, but not lower than 9 kHz	30 MHz.
1.705 to 30	Lowest frequency generated in the device, but not lower than 9 kHz	400 MHz.
30 to 500	Lowest frequency generated in the device or 25 MHz, whichever is lower	Tenth harmonic or 1,000 MHz, whichever is higher.
500 to 1,000	Lowest frequency generated in the device or 100 MHz, whichever is lower	Tenth harmonic.
Above 1,000	.....do	Tenth harmonic or highest detectable emission.

TEST PROCEDURE

1) The testing follows the guidelines in FCC / OST MP-5.

2) The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3) The EUT was placed on a turntable with 1m meter above ground.

4) The EUT was set 3 meters from the interference receiving antenna, test antenna mast is remotely controlled and can be varied in height form 1m to 4m.

5) 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.

6) 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.

7) For ovens rated at 1000 watts or less power output, the beaker shall contain quantities of water as listed in the following subparagraphs, for ovens rated at more than 1000 watts output, each quantity shall be increased by 50% for each 500 watts or fraction thereof in excess of 1000 watts,

a). Load for measurement of radiation on second and third harmonic; Two loads, one of 700ml and the other of 300ml, of water are used. Each load is tested both with the beaker located in the center of the oven and with it in the right front corner.

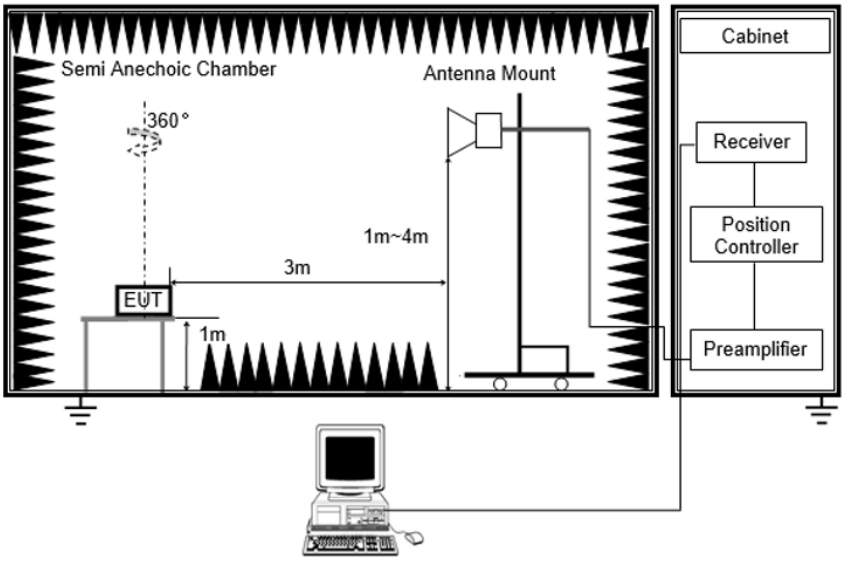
b). All other emissions were measured while a 700ml water load was placed in the center of the oven.

8) The setting of the spectrum analyser

RBW	1MHz
VBW	3MHz
Detector	Peak / Average#

Note: # Peak for pre-scan, average for the final result.

TEST SETUP



TEST ENVIRONMENT

Temperature	22℃	Relative Humidity	60%
Atmosphere Pressure	101kPa		

TEST DATE / ENGINEER

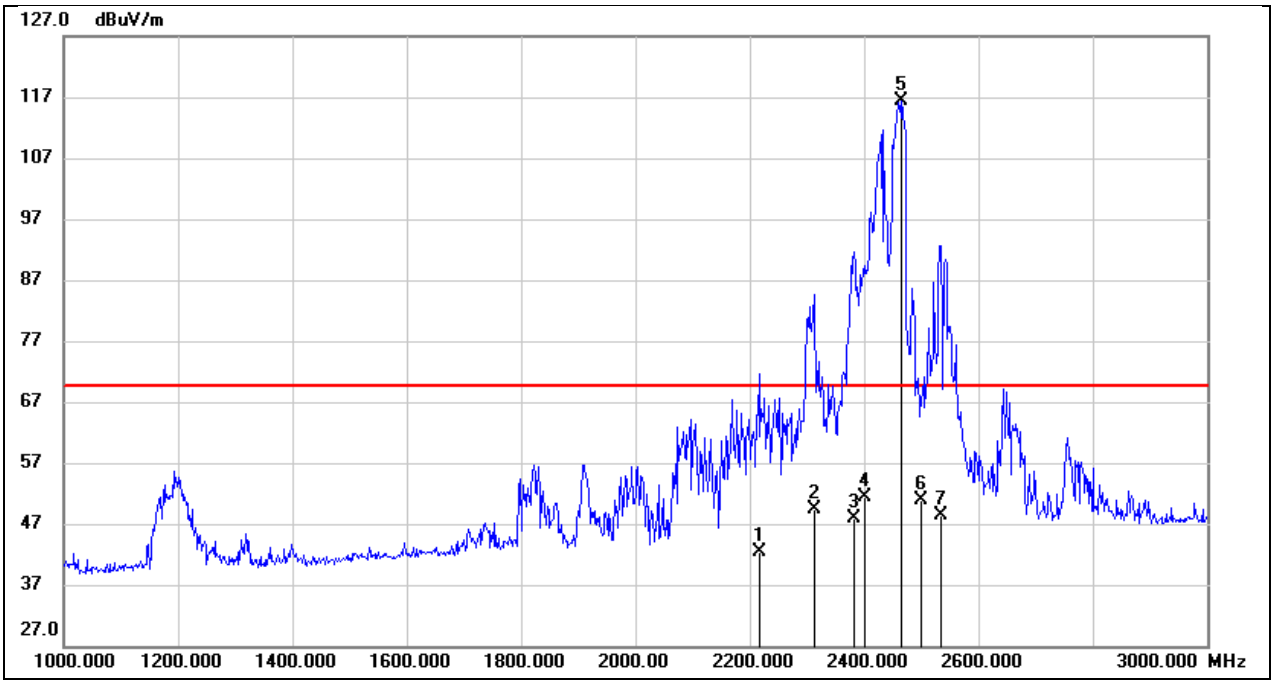
Test Date	June 16, 2024	Test By	Mason Wang

TEST MODE

Pre-test Mode:	M02 ~ M03
Final Test Mode:	M02 ~ M03

TEST RESULTS

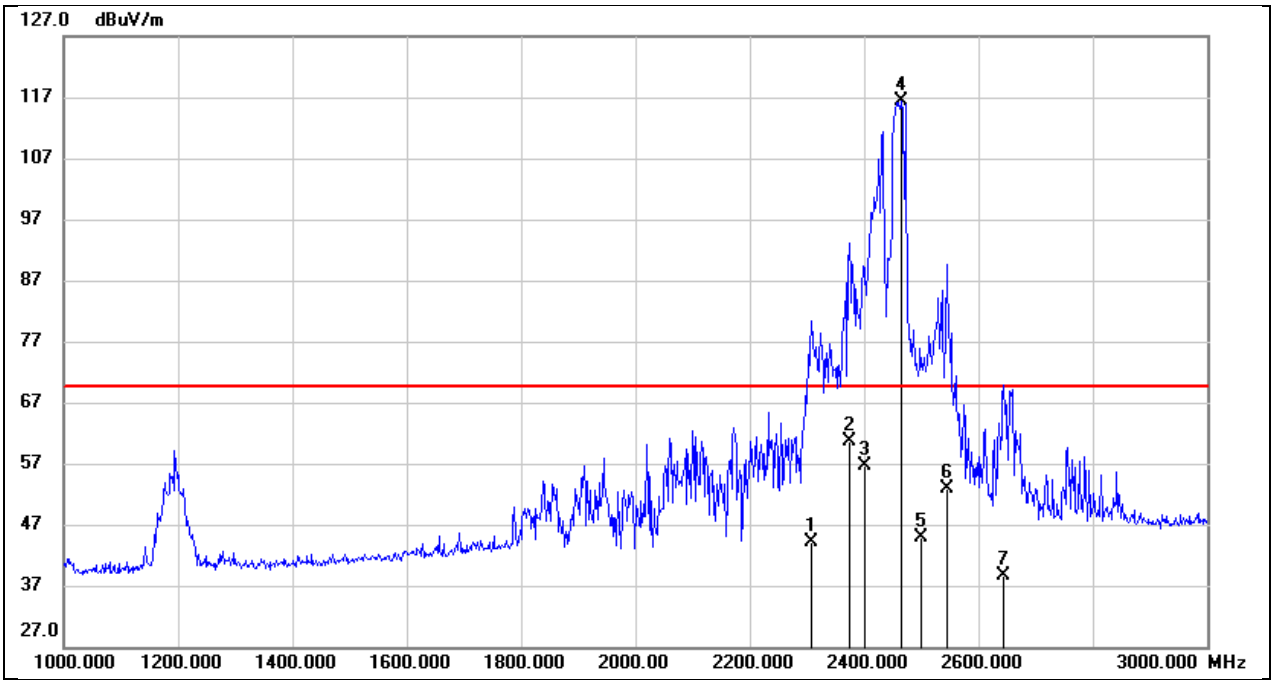
Test Mode:	M02	Polarity:	Horizontal
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2216.000	10.33	31.97	42.30	69.58	-27.28	AVG
2	2312.000	16.91	32.49	49.40	69.58	-20.18	AVG
3	2382.000	14.92	32.88	47.80	69.58	-21.78	AVG
4	2400.000	18.42	32.98	51.40	/	/	exempted frequency band
5	2466.000	83.42	32.95	116.37	/	/	exempted frequency band
6	2500.000	17.87	32.93	50.80	/	/	exempted frequency band
7	2534.000	15.52	32.88	48.40	69.58	-21.18	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

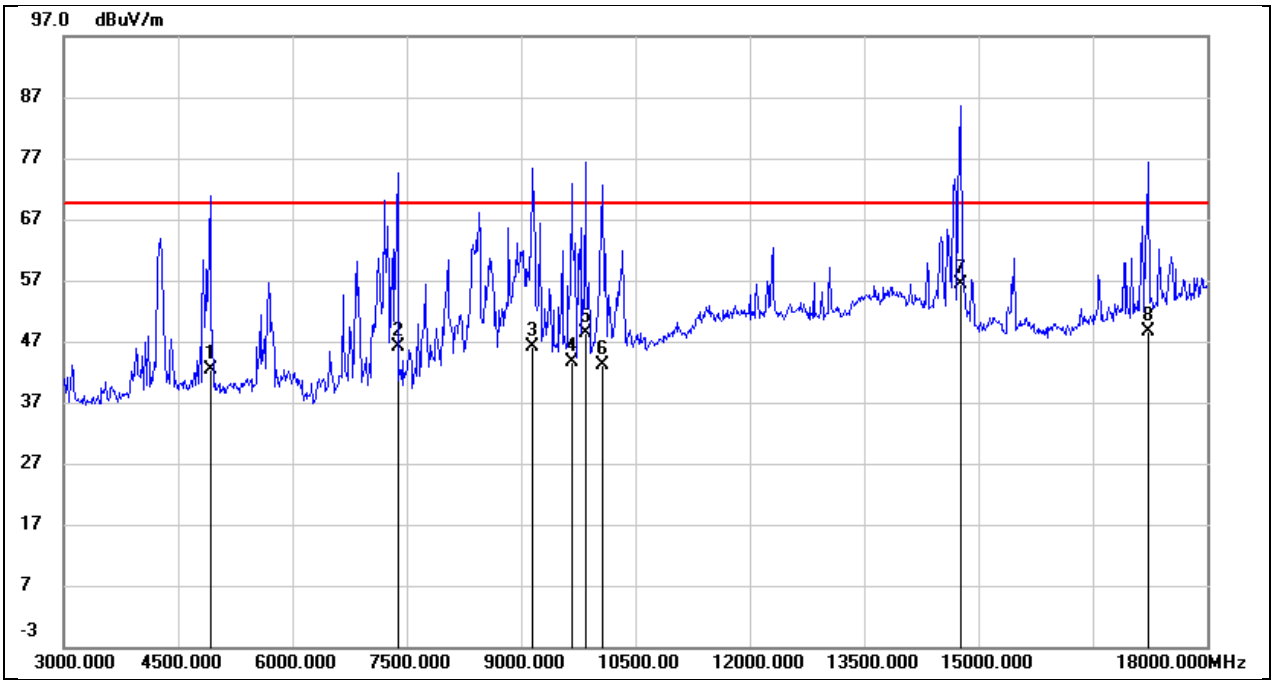
Test Mode:	M02	Polarity:	Vertical
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2308.000	11.63	32.47	44.10	69.58	-25.48	AVG
2	2374.000	27.87	32.83	60.70	69.58	-8.88	AVG
3	2400.000	23.72	32.98	56.70	/	/	exempted frequency band
4	2464.000	83.36	32.95	116.31	/	/	exempted frequency band
5	2500.000	11.87	32.93	44.80	/	/	exempted frequency band
6	2544.000	19.93	32.87	52.80	69.58	-16.78	AVG
7	2644.000	5.75	32.95	38.70	69.58	-30.88	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

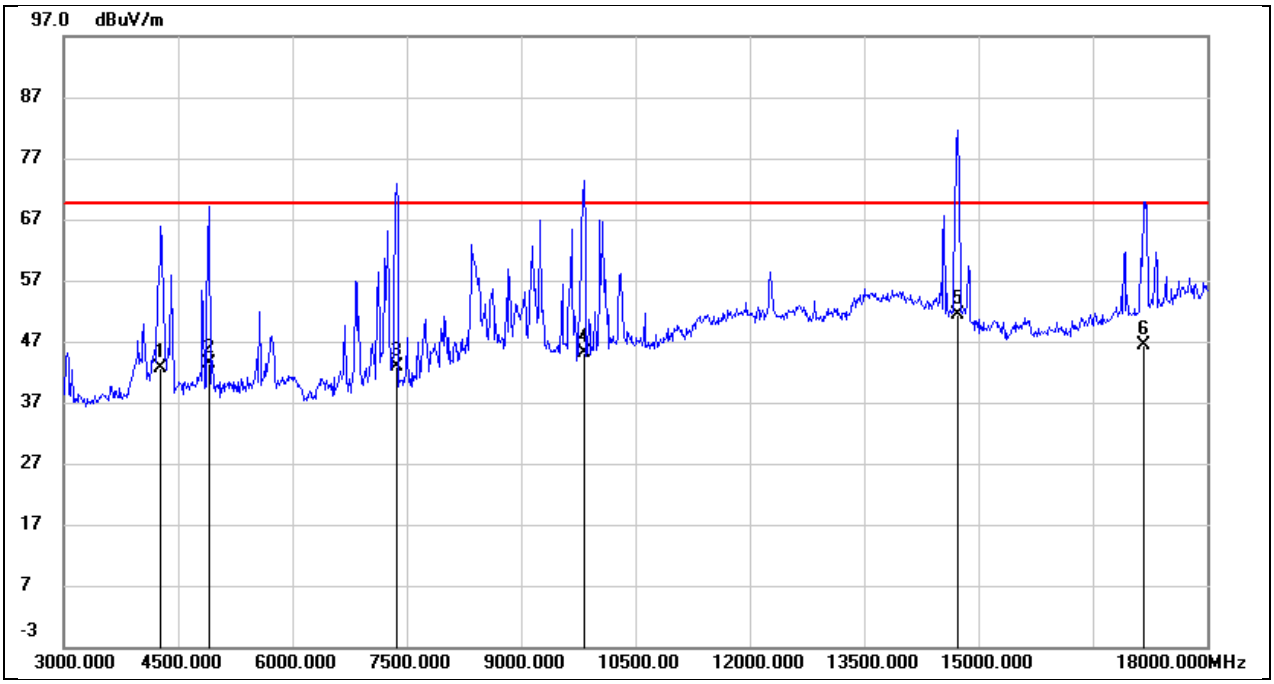
Test Mode:	M02	Polarity:	Horizontal
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	41.61	0.69	42.30	69.58	-27.28	AVG
2	7380.000	38.76	7.34	46.10	69.58	-23.48	AVG
3	9150.000	35.90	10.30	46.20	69.58	-23.38	AVG
4	9660.000	32.51	11.19	43.70	69.58	-25.88	AVG
5	9840.000	36.78	11.72	48.50	69.58	-21.08	AVG
6	10065.000	30.62	12.48	43.10	69.58	-26.48	AVG
7	14775.000	36.80	19.50	56.30	69.58	-13.28	AVG
8	17220.000	25.61	22.99	48.60	69.58	-20.98	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

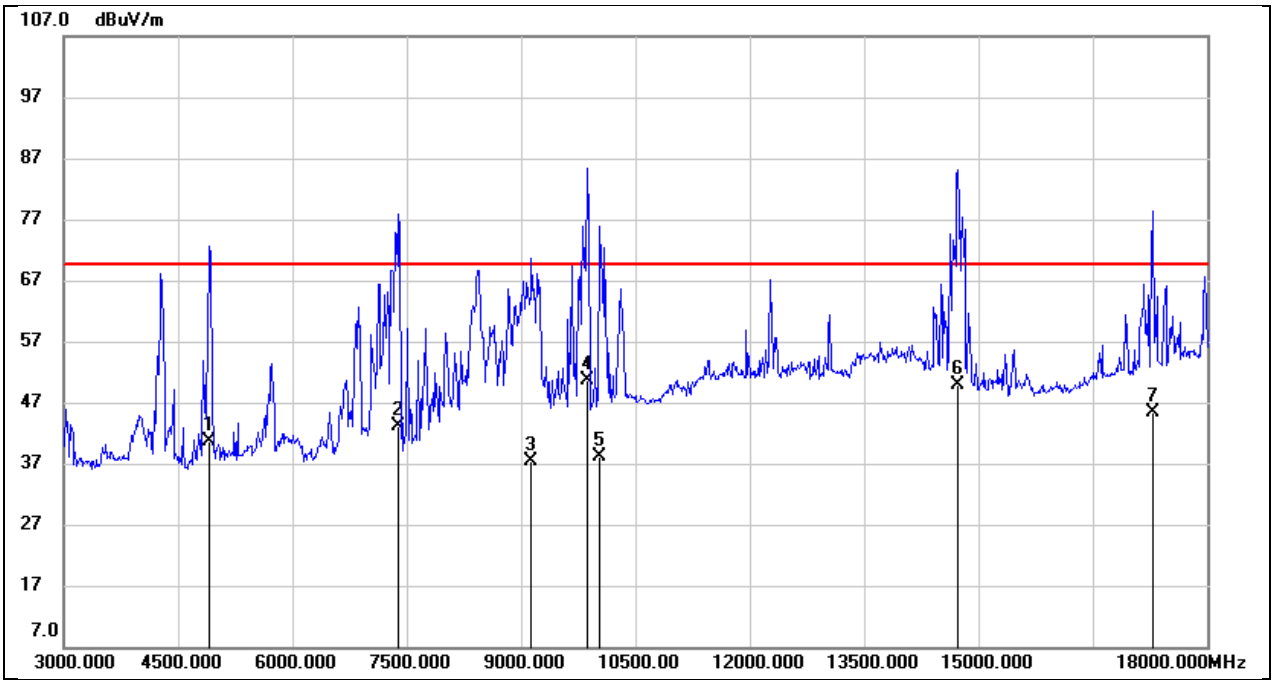
Test Mode:	M02	Polarity:	Vertical
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4275.000	44.05	-1.35	42.70	69.58	-26.88	AVG
2	4905.000	42.84	0.66	43.50	69.58	-26.08	AVG
3	7365.000	35.55	7.25	42.80	69.58	-26.78	AVG
4	9825.000	33.55	11.65	45.20	69.58	-24.38	AVG
5	14730.000	31.84	19.66	51.50	69.58	-18.08	AVG
6	17160.000	23.84	22.66	46.50	69.58	-23.08	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

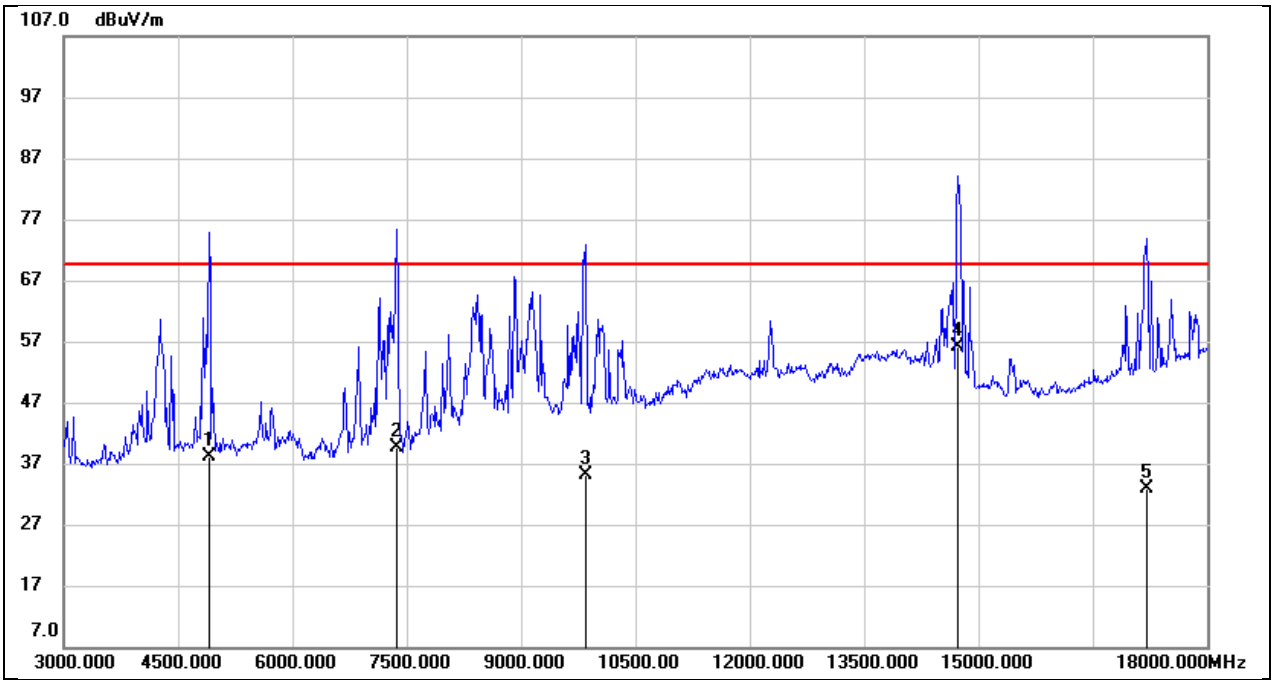
Test Mode:	M03	Polarity:	Horizontal
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4905.000	40.04	0.66	40.70	69.58	-28.88	AVG
2	7380.000	35.76	7.34	43.10	69.58	-26.48	AVG
3	9135.000	27.11	10.39	37.50	69.58	-32.08	AVG
4	9870.000	38.74	11.86	50.60	69.58	-18.98	AVG
5	10020.000	25.72	12.48	38.20	69.58	-31.38	AVG
6	14730.000	30.14	19.66	49.80	69.58	-19.78	AVG
7	17295.000	22.20	23.20	45.40	69.58	-24.18	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

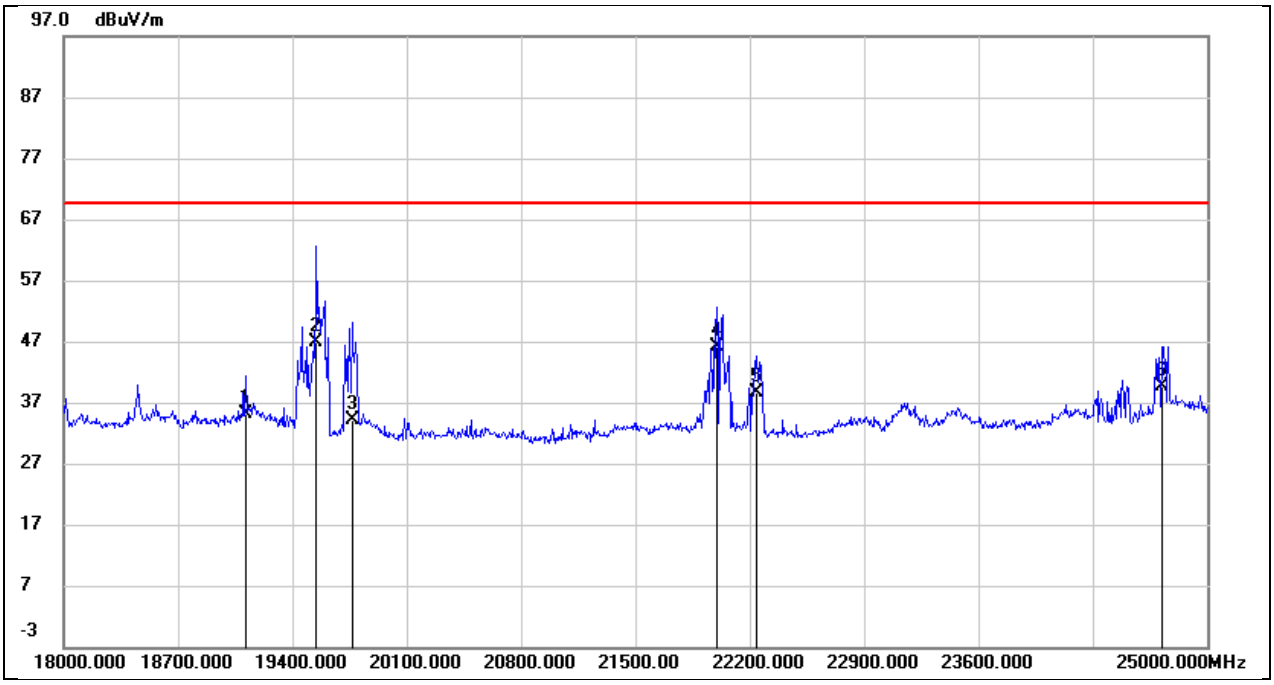
Test Mode:	M03	Polarity:	Vertical
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4905.000	37.54	0.66	38.20	69.58	-31.38	AVG
2	7365.000	32.35	7.25	39.60	69.58	-29.98	AVG
3	9855.000	23.32	11.78	35.10	69.58	-34.48	AVG
4	14730.000	36.44	19.66	56.10	69.58	-13.48	AVG
5	17205.000	9.96	22.94	32.90	69.58	-36.68	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

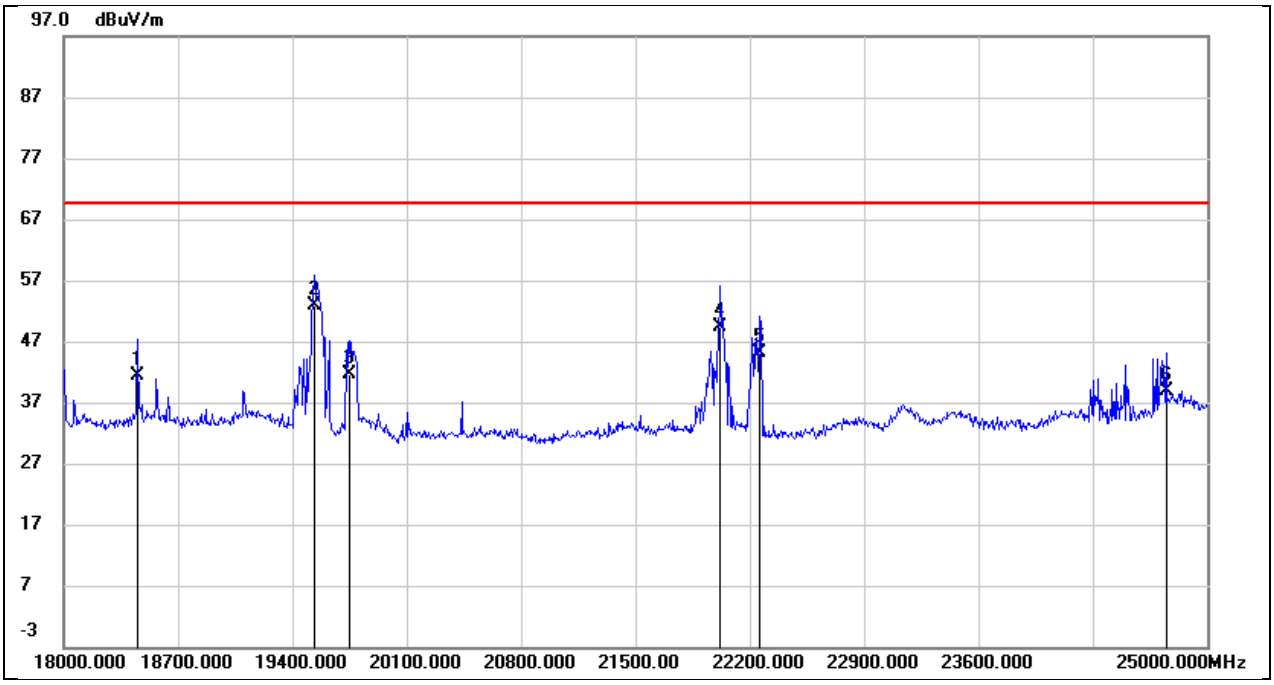
Test Mode:	M02	Polarity:	Horizontal
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	19113.000	37.44	-2.32	35.12	69.58	-34.46	AVG
2	19547.000	50.22	-3.42	46.80	69.58	-22.78	AVG
3	19764.000	37.73	-3.53	34.20	69.58	-35.38	AVG
4	21997.000	47.58	-1.48	46.10	69.58	-23.48	AVG
5	22242.000	40.55	-1.95	38.60	69.58	-30.98	AVG
6	24727.000	39.16	0.54	39.70	69.58	-29.88	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

Test Mode:	M02	Polarity:	Vertical
Test Voltage:	AC 120V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18448.000	44.47	-2.97	41.50	69.58	-28.08	AVG
2	19533.000	56.31	-3.41	52.90	69.58	-16.68	AVG
3	19750.000	45.22	-3.52	41.70	69.58	-27.88	AVG
4	22018.000	50.81	-1.51	49.30	69.58	-20.28	AVG
5	22263.000	47.18	-1.98	45.20	69.58	-24.38	AVG
6	24748.000	38.26	0.64	38.90	69.58	-30.68	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

7.4. OPERATING FREQUENCY

LIMITS

2400MHz~2500MHz

TEST PROCEDURE

The EUT was setup inside the fully anechoic chamber, and a double ridge horn antenna and spectrum analyzer were used to measure the fundamental frequency of the EUT.

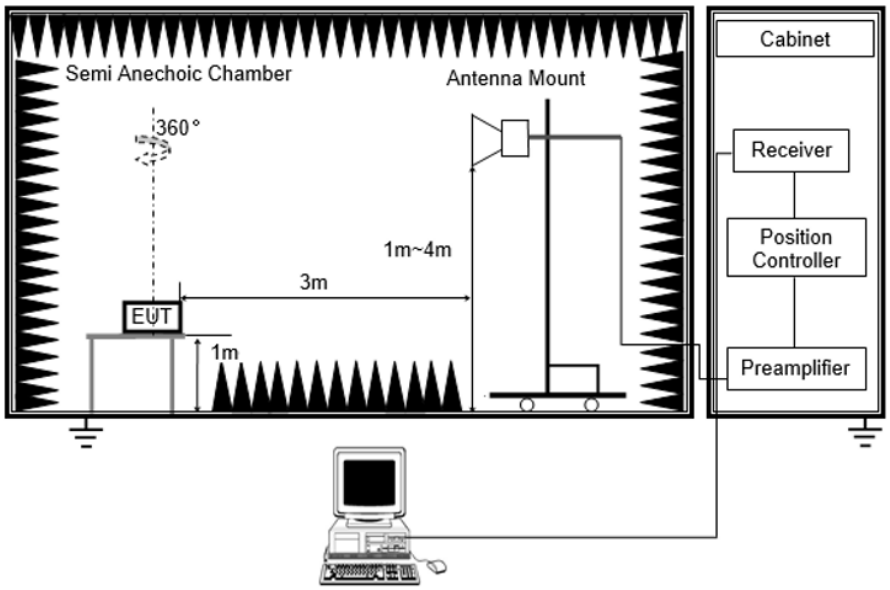
1) FREQUENCY FOR NORMAL VOLTAGE

The operating frequency was measured using a spectrum analyzer. Starting with the EUT at room temperature, a 1000mL water load was placed in the center of the oven and the oven was operated at maximum output power. The fundamental operating frequency was monitored until the water load was reduced to 20 percent of the original load. This test is made with nominal rated ac supply voltage.

2) FREQUENCY FOR LINE VOLTAGE

The EUT was operated / warmed by at least 10 minutes of use with a 1000 mL water load at room temperature at the beginning of the test. Then the operating frequency was monitored as the input voltage was varied between 80% and 125% of the nominal rating.

TEST SETUP



TEST ENVIRONMENT

Temperature	22℃	Relative Humidity	60%
Atmosphere Pressure	101kPa		

TEST DATE / ENGINEER

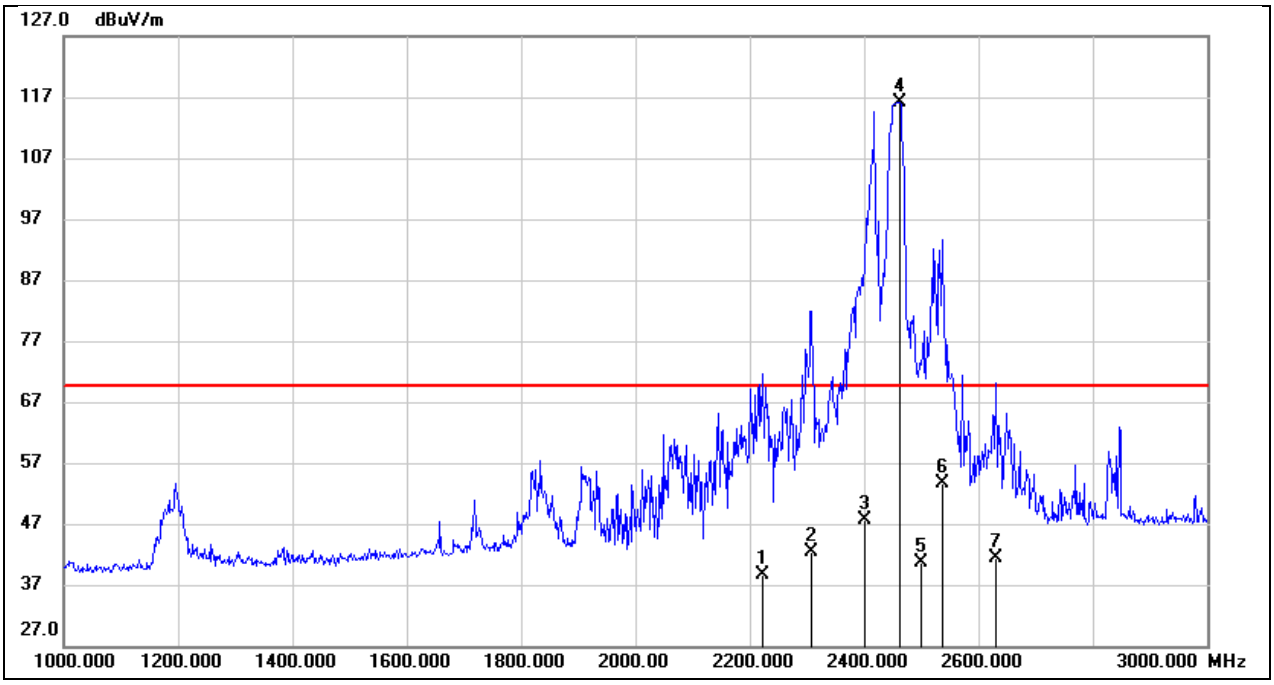
Test Date	June 18, 2024	Test By	Mason Wang

TEST MODE

Pre-test Mode:	M01
Final Test Mode:	M01

TEST RESULTS

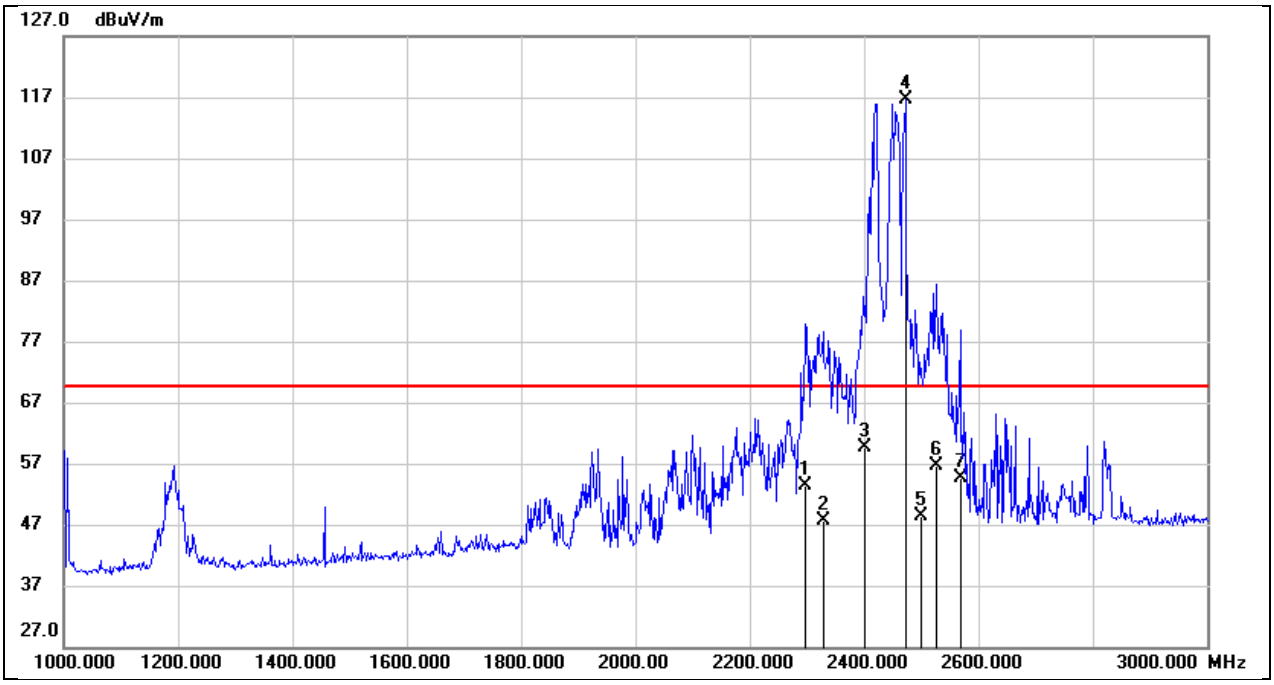
Test Mode:	M01	Polarity:	Horizontal
Test Voltage:	AC 120V_60Hz	Volume of Water:	1000mL



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2222.000	6.60	32.00	38.60	69.58	-30.98	AVG
2	2308.000	9.83	32.47	42.30	69.58	-27.28	AVG
/	2400.000	14.62	32.98	47.60	/	/	ISM frequency
4	2462.000	83.30	32.95	116.25	/	/	ISM frequency
5	2500.000	7.67	32.93	40.60	/	/	ISM frequency
6	2536.000	20.82	32.88	53.70	69.58	-15.88	AVG
7	2630.000	8.60	32.90	41.50	69.58	-28.08	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit

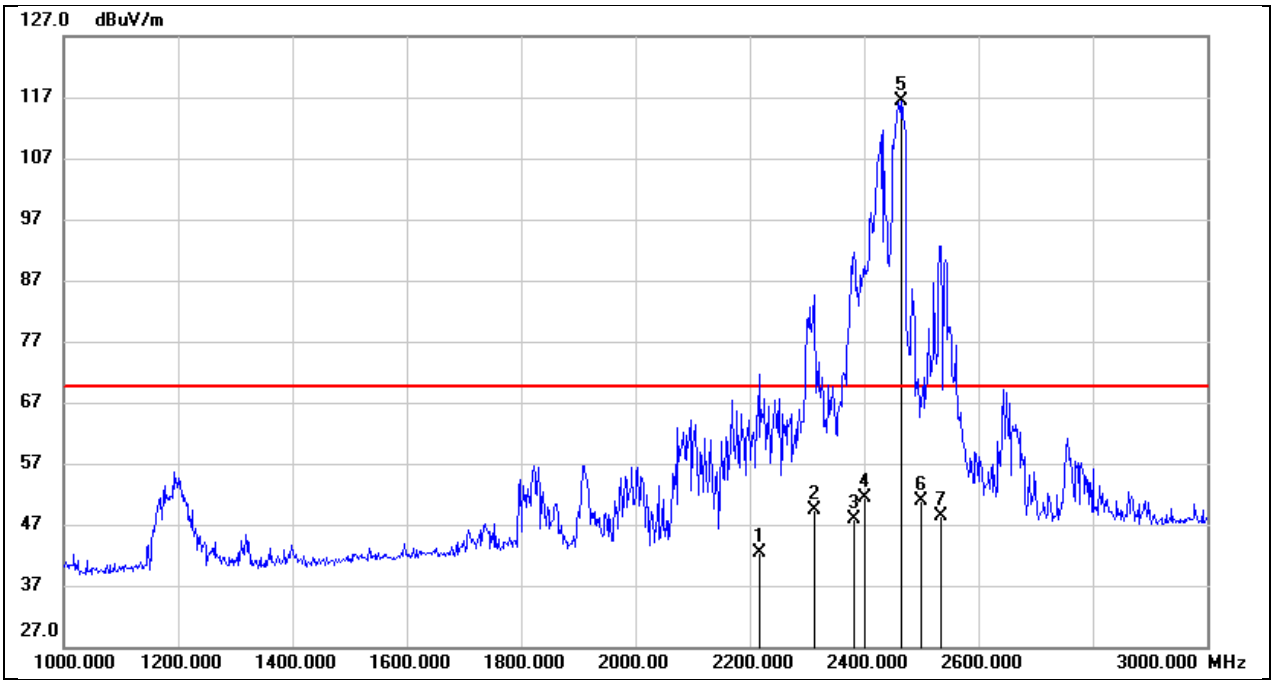
Test Mode:	M01	Polarity:	Vertical
Test Voltage:	AC 120V_60Hz	Volume of Water:	1000mL



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2298.000	20.99	32.41	53.40	69.58	-16.18	AVG
2	2328.000	15.02	32.58	47.60	69.58	-21.98	AVG
3	2400.000	26.72	32.98	59.70	/	/	ISM frequency
4	2472.000	83.60	32.95	116.55	/	/	ISM frequency
5	2500.000	15.37	32.93	48.30	/	/	ISM frequency
6	2526.000	23.80	32.90	56.70	69.58	-12.88	AVG
7	2568.000	21.76	32.84	54.60	69.58	-14.98	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit

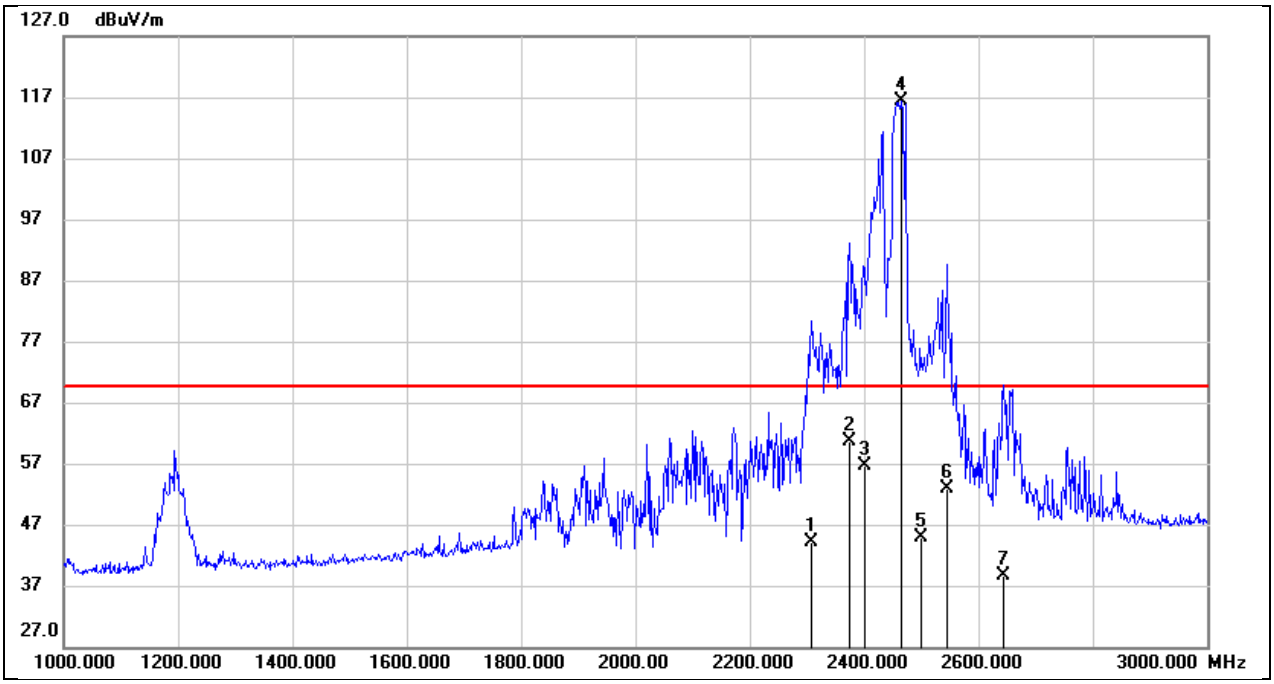
Test Mode:	M01	Polarity:	Horizontal
Test Voltage:	AC 120V_60Hz	Volume of Water:	600mL



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2216.000	10.33	31.97	42.30	69.58	-27.28	AVG
2	2312.000	16.91	32.49	49.40	69.58	-20.18	AVG
3	2382.000	14.92	32.88	47.80	69.58	-21.78	AVG
4	2400.000	18.42	32.98	51.40	/	/	ISM frequency
5	2466.000	83.42	32.95	116.37	/	/	ISM frequency
6	2500.000	17.87	32.93	50.80	/	/	ISM frequency
7	2534.000	15.52	32.88	48.40	69.58	-21.18	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit

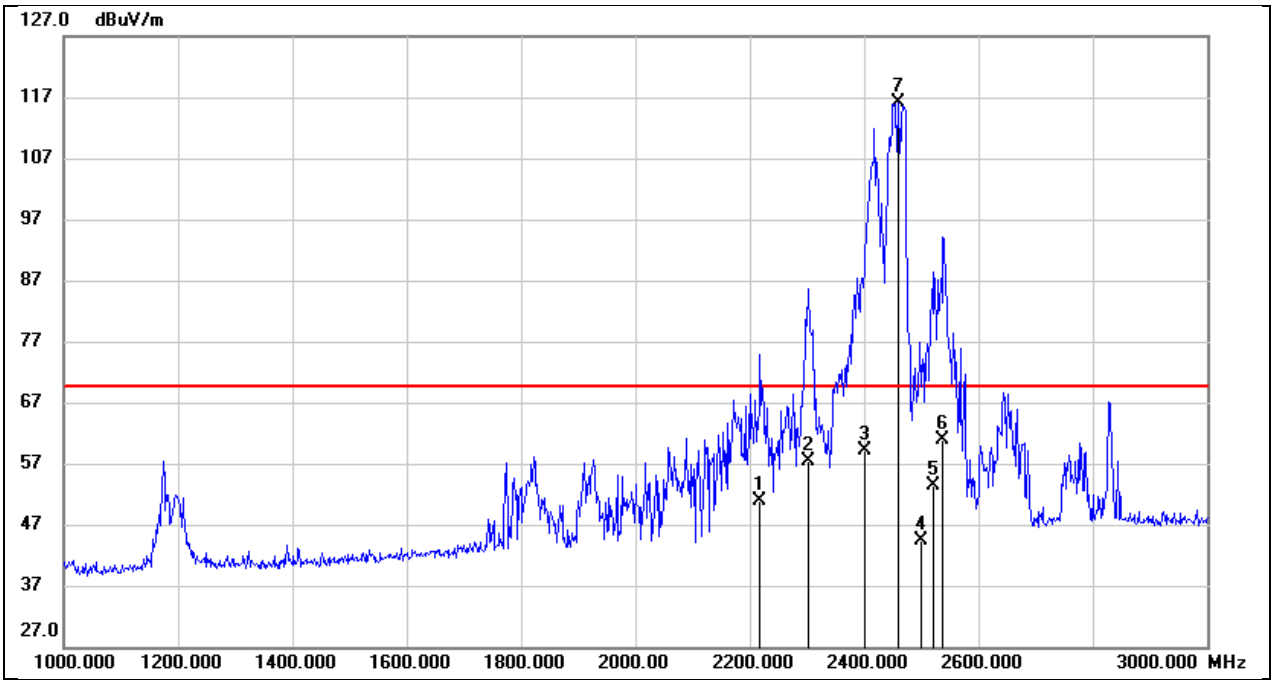
Test Mode:	M01	Polarity:	Vertical
Test Voltage:	AC 120V_60Hz	Volume of Water:	600mL



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2308.000	11.63	32.47	44.10	69.58	-25.48	AVG
2	2374.000	27.87	32.83	60.70	69.58	-8.88	AVG
3	2400.000	23.72	32.98	56.70	/	/	ISM frequency
4	2464.000	83.36	32.95	116.31	/	/	ISM frequency
5	2500.000	11.87	32.93	44.80	/	/	ISM frequency
6	2544.000	19.93	32.87	52.80	69.58	-16.78	AVG
7	2644.000	5.75	32.95	38.70	69.58	-30.88	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit

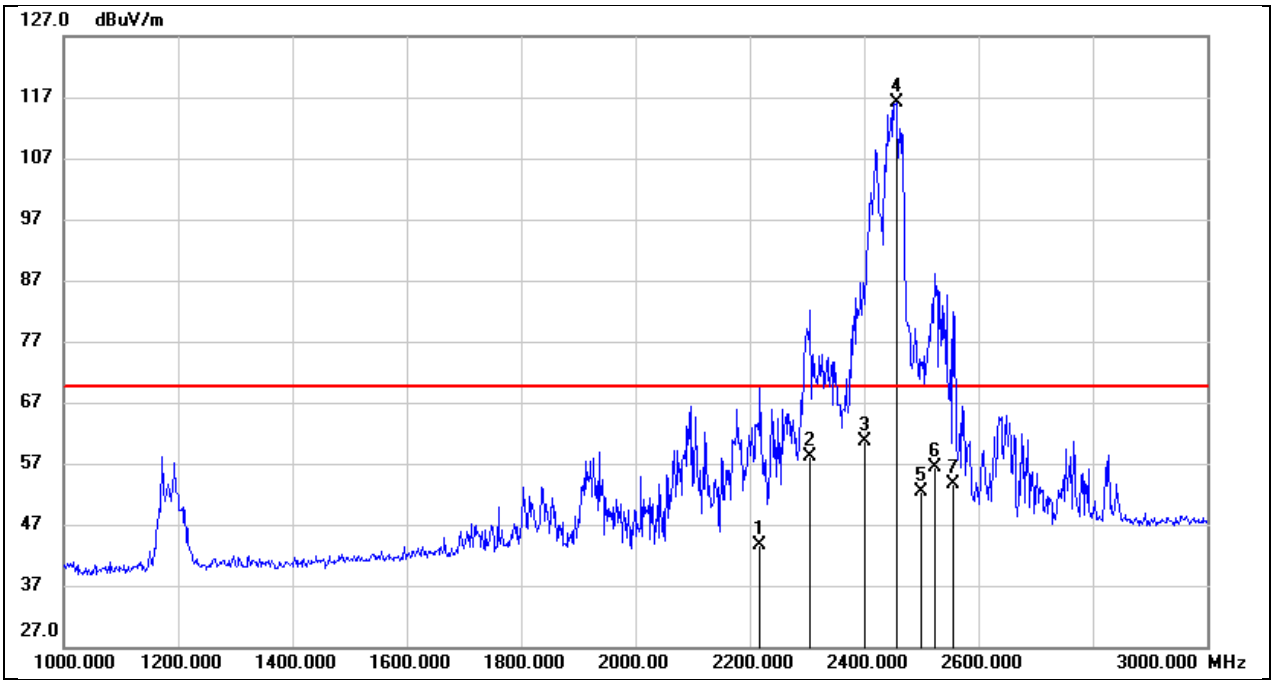
Test Mode:	M01	Polarity:	Horizontal
Test Voltage:	AC 120V_60Hz	Volume of Water:	200mL



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2218.000	18.82	31.98	50.80	69.58	-18.78	AVG
2	2302.000	24.85	32.45	57.30	69.58	-12.28	AVG
3	2400.000	26.22	32.98	59.20	/	/	ISM frequency
4	2500.000	11.37	32.93	44.30	/	/	ISM frequency
5	2520.000	20.39	32.91	53.30	69.58	-16.28	AVG
6	2538.000	27.92	32.88	60.80	69.58	-8.78	AVG
7	2460.000	83.24	32.95	116.19	69.58	46.61	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit

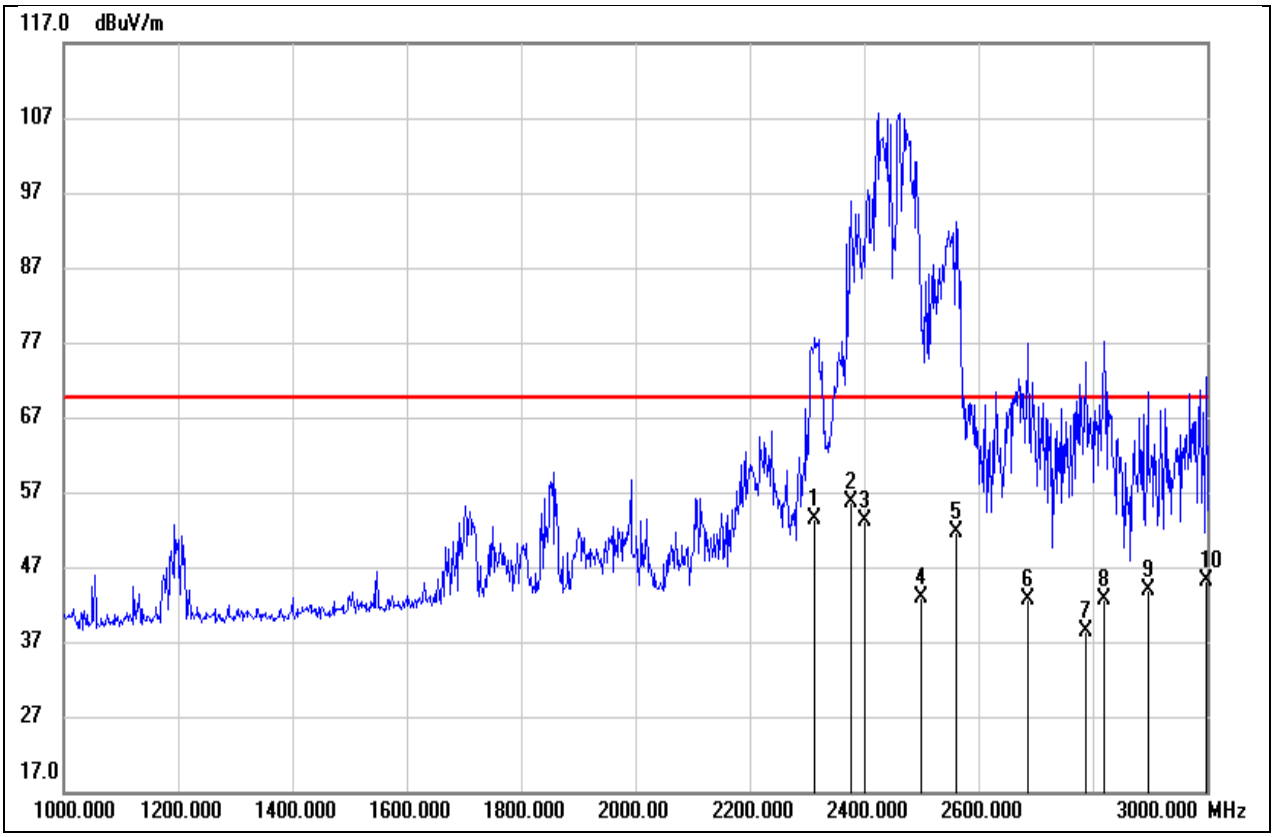
Test Mode:	M01	Polarity:	Vertical
Test Voltage:	AC 120V_60Hz	Volume of Water:	200mL



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2218.000	11.72	31.98	43.70	69.58	-25.88	AVG
2	2306.000	25.73	32.47	58.20	69.58	-11.38	AVG
3	2400.000	27.62	32.98	60.60	/	/	ISM frequency
4	2456.000	83.10	32.96	116.06	/	/	ISM frequency
5	2500.000	19.47	32.93	52.40	/	/	ISM frequency
6	2524.000	23.50	32.90	56.40	69.58	-13.18	AVG
7	2556.000	20.74	32.86	53.60	69.58	-15.98	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit

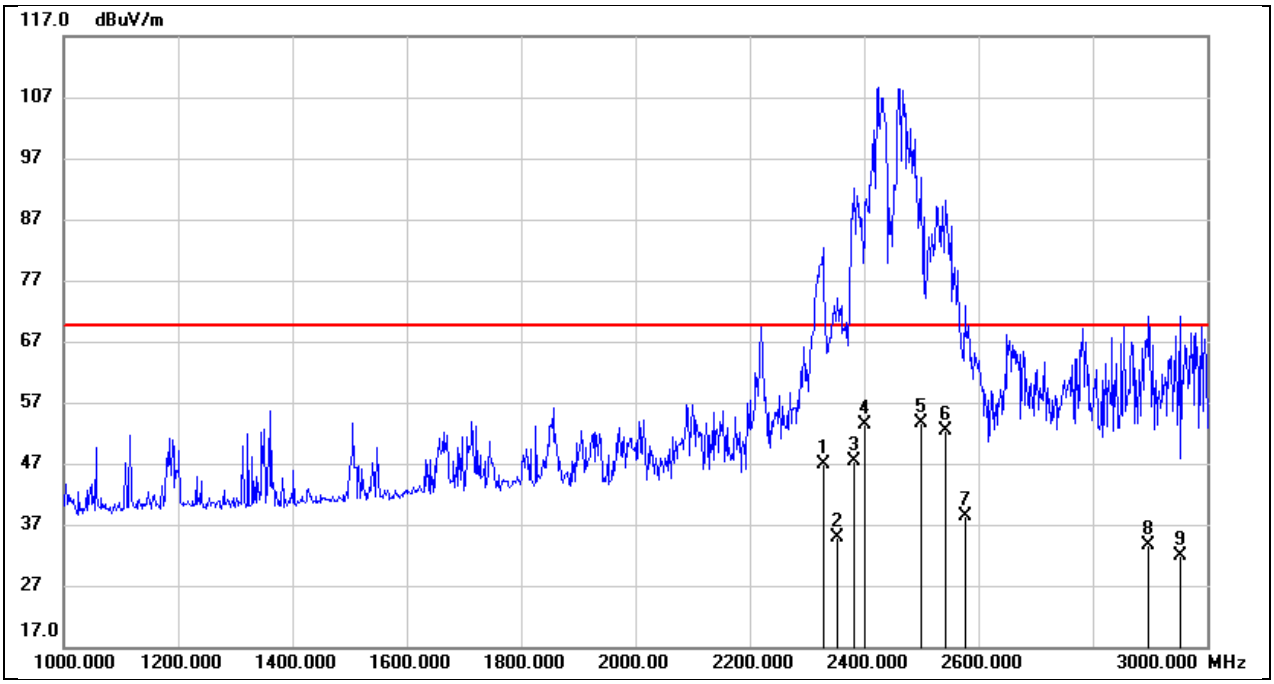
Test Mode:	M01	Polarity:	Horizontal
Test Voltage:	AC 96V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2314.000	20.79	32.51	53.30	69.58	-16.28	AVG
2	2376.000	22.85	32.85	55.70	69.58	-13.88	AVG
3	2400.000	20.22	32.98	53.20	/	/	ISM frequency
4	2500.000	9.87	32.93	42.80	/	/	ISM frequency
5	2560.000	18.75	32.85	51.60	69.58	-17.98	AVG
6	2686.000	9.60	33.10	42.70	69.58	-26.88	AVG
7	2788.000	4.94	33.46	38.40	69.58	-31.18	AVG
8	2820.000	9.17	33.53	42.70	69.58	-26.88	AVG
9	2896.000	10.17	33.63	43.80	69.58	-25.78	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit

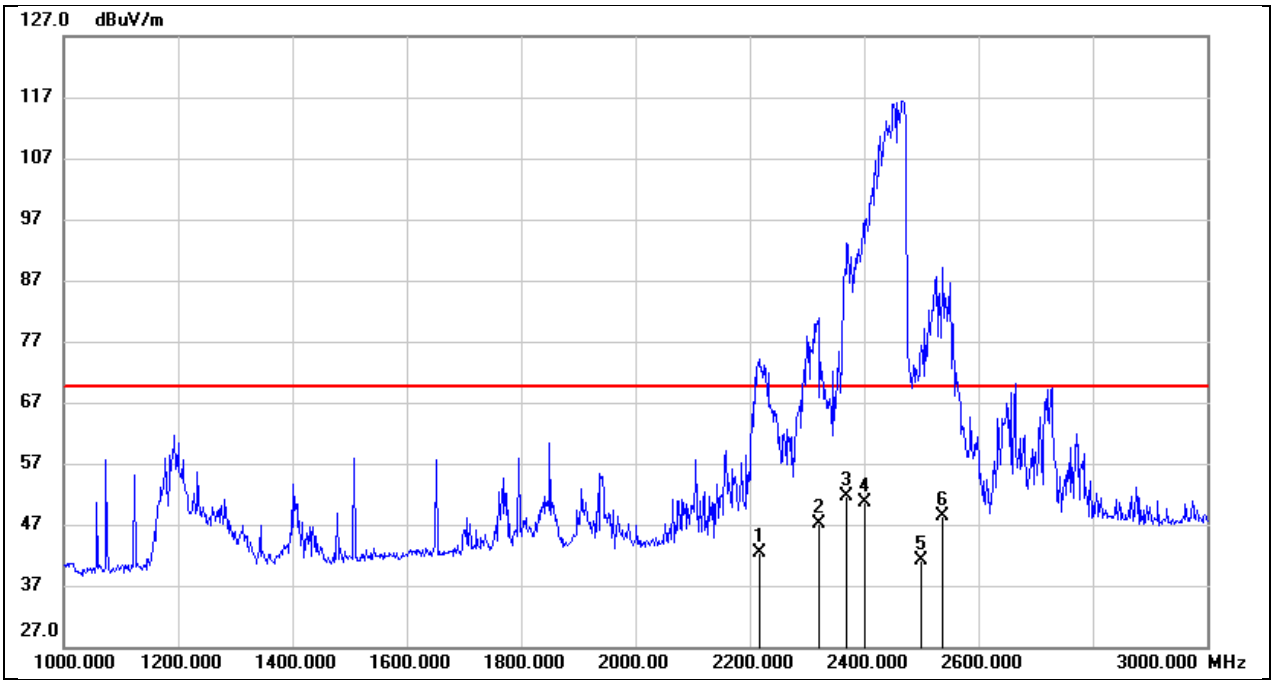
Test Mode:	M01	Polarity:	Vertical
Test Voltage:	AC 96V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2328.000	14.22	32.58	46.80	69.58	-22.78	AVG
2	2354.000	2.17	32.73	34.90	69.58	-34.68	AVG
3	2382.000	14.42	32.88	47.30	69.58	-22.28	AVG
4	2400.000	20.52	32.98	53.50	/	/	ISM frequency
5	2500.000	20.67	32.93	53.60	/	/	ISM frequency
6	2542.000	19.62	32.88	52.50	69.58	-17.08	AVG
7	2576.000	5.57	32.83	38.40	69.58	-31.18	AVG
8	2898.000	0.06	33.64	33.70	69.58	-35.88	AVG
9	2952.000	-1.91	33.71	31.80	69.58	-37.78	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit

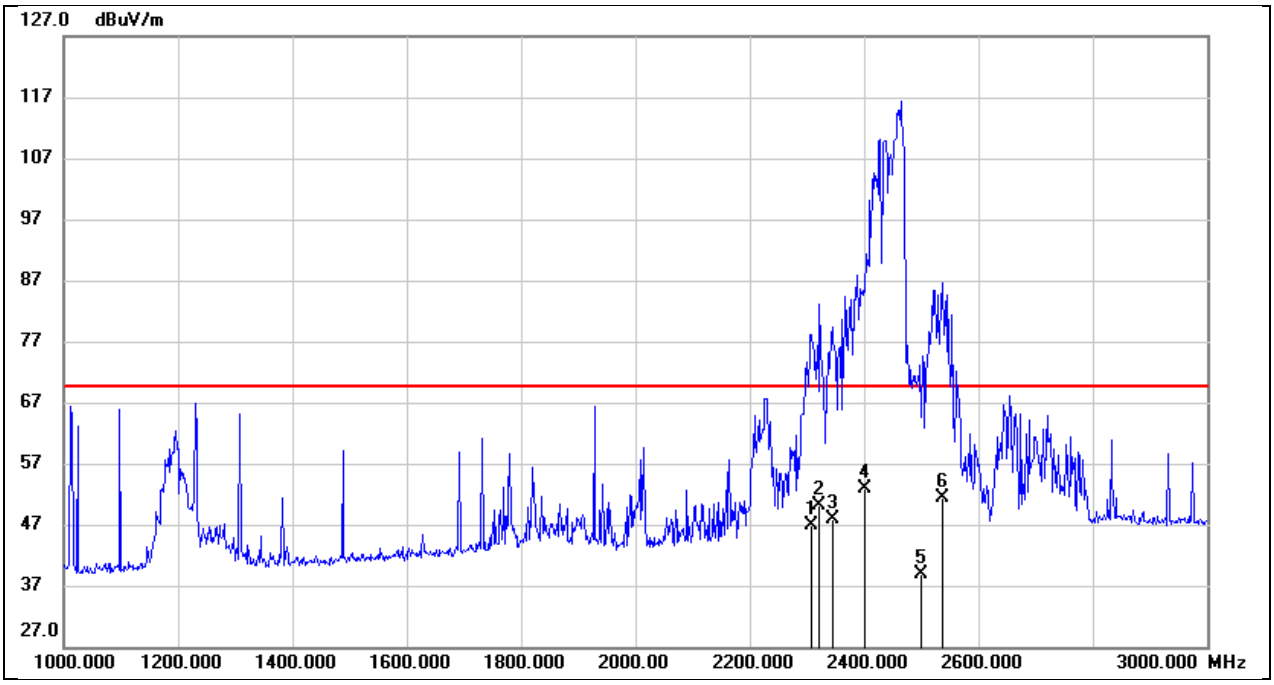
Test Mode:	M01	Polarity:	Horizontal
Test Voltage:	AC 132V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2216.000	10.33	31.97	42.30	69.58	-27.28	AVG
2	2320.000	14.66	32.54	47.20	69.58	-22.38	AVG
3	2370.000	18.79	32.81	51.60	69.58	-17.98	AVG
4	2400.000	17.72	32.98	50.70	/	/	ISM frequency
5	2500.000	8.17	32.93	41.10	/	/	ISM frequency
6	2538.000	15.62	32.88	48.50	69.58	-21.08	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit
3. According to the declaration of the manufacturer, the EUT support maximum operating voltage of nominal supply voltage multiplier 1.1

Test Mode:	M01	Polarity:	Vertical
Test Voltage:	AC 132V_60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2308.000	14.33	32.47	46.80	69.58	-22.78	AVG
2	2322.000	17.65	32.55	50.20	69.58	-19.38	AVG
3	2344.000	15.13	32.67	47.80	69.58	-21.78	AVG
4	2400.000	19.92	32.98	52.90	/	/	ISM frequency
5	2500.000	5.97	32.93	38.90	/	/	ISM frequency
6	2538.000	18.42	32.88	51.30	69.58	-18.28	AVG

Remark:
1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result – Limit
3. According to the declaration of the manufacturer, the EUT support maximum operating voltage of nominal supply voltage multiplier 1.1

7.5. INPUT POWER

TEST PROCEDURE

1) The input power and current was measured using a power source.
2) For ovens rated at 1000 watts or less power output, the beaker shall contain quantities of water as listed in the following subparagraphs, for ovens rated at more than 1000 watts output, each quantity shall be increased by 50% for each 500 watts or fraction thereof in excess of 1000 watts,
   A 700ml water load in a beaker was located in the center of the microwave oven and the microwave oven was set to full power.

TEST ENVIRONMENT

Temperature	22.6℃	Relative Humidity	55.4%
Atmosphere Pressure	101kPa		

TEST DATE / ENGINEER

Test Date	June 5, 2024	Test By	Karl Wu

TEST MODE

Pre-test Mode:	M01
Final Test Mode:	M01

TEST RESULTS

Input Power				
Input Voltage (Vac)	Input Current (A)	Power Factor	Measured Input Power (W)	Rated Input Power (W)
120V	13.57	0.93	1523	1500

7.6. OUTPUT POWER

TEST PROCEDURE

1) The caloric method was used to determine full output power.
2) For ovens rated at 1000 watts or less power output, the beaker shall contain quantities of water as listed in the following subparagraphs, for ovens rated at more than 1000 watts output, each quantity shall be increased by 50% for each 500 watts or fraction thereof in excess of 1000 watts,

   Load for power output measurement: 1000 milliliters of water in the beaker located in the center of the oven
3) The Microwave Oven was set to maximum power and operation 120 seconds, then measure and record the temperature of the water.
4) According to the calculated formula:

$$P=4.187*m_{water}*(T_2-T_1) / Time$$

P: the microwave power output(W)

m_{water}: the mass of the water(g)

T_1: the initial temperature of the water(℃)

T_2: the final temperature of the water(℃)

Time: the heating time (second)

TEST ENVIRONMENT

Temperature	23.5℃	Relative Humidity	55.6%
Atmosphere Pressure	101kPa		

TEST DATE / ENGINEER

Test Date	June 5, 2024	Test By	Karl Wu

TEST MODE

Pre-test Mode:	M01
Final Test Mode:	M01

TEST RESULTS

Output Power

m_{water} (g)	T_1 (℃)	T_2 (℃)	Time (second)	P (W)
1000	13.37	34.12	120	726.25

Field strength limit

P (W)	Field strength limit 25 x SQRT (power/500)		
	(uV/m) @300m	dBuV/m@300m	dBuV/m@3m
726.25	30.13	29.58	69.58

dBuV/m = 20log(uV/m)
dBuV/m @3m = dBuV/m @300m + 20log(300m/3m)

7.7. RADIATION HAZARD

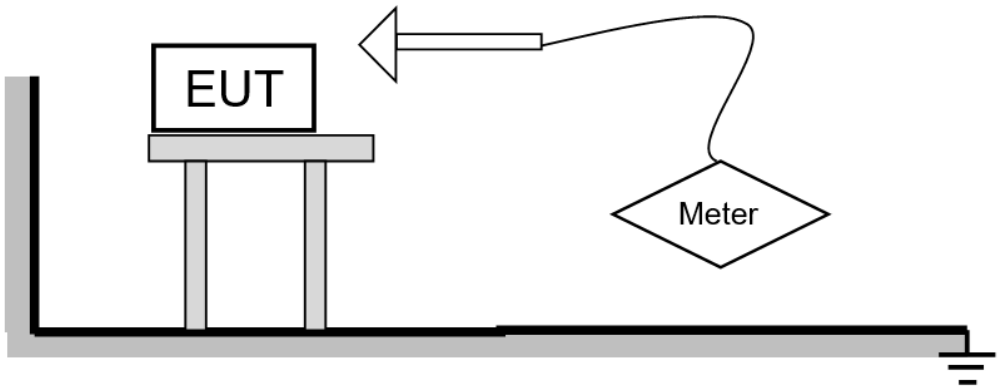
LIMITS

Maximum Emission (mW/cm$^{2)}$
1.00

TEST PROCEDURE

1) The EUT was set-up according to the FCC MP-5 and Part 18 for Radiation Hazard Measurement.
2) The measurement was using a microwave leakage meter to measure the Radiation leakage in the as-received condition with the oven door closed.
3) For ovens rated at 1000 watts or less power output, the beaker shall contain quantities of water as listed in the following subparagraphs. For ovens rated at more than 1000 watts output, each quantity shall be increased by 50% for each 500 watts or fraction thereof in excess of 1000 watts,
   A 700ml water load in a beaker was located in the center of the oven and the Household Microwave Combi Oven was set to maximum power.
4) While the oven operating, the microwave survey meter probe was moved slowly around the door seams the check for maximum leakage.

TEST SETUP



TEST ENVIRONMENT

Temperature	23.5℃	Relative Humidity	55.6%
Atmosphere Pressure	101kPa		

TEST DATE / ENGINEER

Test Date	June 17, 2024	Test By	Karl Wu

TEST MODE

Pre-test Mode:	M02
Final Test Mode:	M02

TEST RESULTS

Radiation Hazard

Maximum expose value (mW/cm^2)	Limit (mW/cm^2)	Result
0.051	1.00	Pass

END OF REPORT