

TEST REPORT

Applicant Name: Whirlpool Microwave Products Development Limited.
Address: 17th Fl, Elite Centre, 22 Hung To Rd, Kwun Tong, Hong Kong
Report Number: 2504A10015E-EM-00A
FCC ID: PR4SMARTLPKAY

Test Standard (s)

FCC PART 18

Sample Description

Product Name: Household microwave oven
Model No.: YWMML5530
Trade Mark: Whirlpool
Date Received: 2025-12-05
Report Date: 2025-12-15

Test Result:	The EUT complied with the standards above.
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Prepared and Checked By:

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EMC Engineer

Approved By:

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EMC Engineer

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TABLE OF CONTENTS

DOCUMENT REVISION HISTORY	3
GENERAL INFORMATION	4
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	4
OBJECTIVE	4
TEST METHODOLOGY	4
TEST FACILITY	5
MEASUREMENT UNCERTAINTY	5
OPERATING CONDITION/TEST CONFIGURATION	6
DESCRIPTION OF TEST CONFIGURATION.....	6
EUT EXERCISE SOFTWARE	6
SPECIAL ACCESSORIES	6
EQUIPMENT MODIFICATIONS	6
SUPPORT EQUIPMENT LIST AND DETAILS	6
EXTERNAL I/O CABLE.....	6
CONFIGURATION OF TEST SETUP	6
BLOCK DIAGRAM OF TEST SETUP	7
SUMMARY OF TEST RESULT	8
TEST EQUIPMENT LIST	9
MAXIMUM PERMISSIBLE EXPOSURE.....	10
APPLICABLE STANDARD.....	10
EUT SETUP	10
MEASUREMENT	10
CONDUCTED EMISSIONS.....	12
APPLICABLE STANDARD.....	12
EUT SETUP.....	12
EMI TEST RECEIVER SETUP	12
TEST PROCEDURE	13
CALCULATION	13
TEST DATA	13
RADIATION HAZARD MEASUREMENT	18
APPLICABLE STANDARD.....	18
1. INPUT POWER & OUTPUT POWER	18
1.1 INPUT POWER	18
1.2 LOAD FOR HOUSEHOLD MICROWAVE OVENS	18
1.3 RF OUTPUT POWER MEASUREMENT	19
2. OPERATING FREQUENCY MEASUREMENT	20
2.1 OPERATING FREQUENCIES.....	20
2.2 VARIATION IN OPERATING FREQUENCY WITH TIME	21
2.3 VARIATION IN OPERATING FREQUENCY WITH LINE VOLTAGE.....	22
RADIATED EMISSIONS	23
APPLICABLE STANDARD.....	23
EUT SETUP	23
EMI TEST RECEIVER SETUP AND SPECTRUM ANALYZER SETUP	24
TEST PROCEDURE	24
CALCULATION	25
TEST DATA AND PLOTS	25
EXHIBIT A-EUT PHOTOGRAPHS	35
EXHIBIT B-TEST SETUP PHOTOGRAPHS	36

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
Rev.00	2504A10015E-EM-00A	Original Report	2025-12-15

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Household microwave oven
Tested Model	YWMML5530
Highest Operating Frequency [#]	2450MHz
Voltage Range [#]	AC 120V 60Hz (The power cord line length is 90 cm, with ground.)
Microwave Output power [#]	900 W
Microwave Input power [#]	1500 W
Sample Serial Number	3E1Q-1 (CE&RE) (Assigned by ATC, Shenzhen)
Sample/EUT Status	Good condition

Objective

This report is in accordance with Part 2-Subpart J, and Part 18-Subparts A, B and C of the Federal Communication Commission’s rules and regulations.

The objective of the manufacturer is to determine compliance with FCC Part 18 limits.

This is a CIIPC application of the device; the differences between the original device (Grant Date: 12/20/2024) and the current one is as follows:

- 1. Changed test model from “YWMML5530R” to “YWMML5530”.
- 2. Deleted multiple model “YKMML550” and trade mark “KitchenAid”.
- 3. Changed motherboard.
- 4. Changed capacitor(the supplier change)

Based on above differences, the third and fourth points change will affect all the test of item, so all the items were performed; we will update the test data and EUT photos.

Test Methodology

All measurements contained in this report were conducted with MP-5, FCC Methods of Measurements of Radio Noise Emissions from ISM Equipment, February 1986.

Unless otherwise stated there are no any additions to, deviations, or exclusions from the method.

Test Facility

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the Floor 1, KuMaKe Building, Dongzhou Community, Guangming Street, Guangming District, Shenzhen, Guangdong, China.

Accredited by American Association for Laboratory Accreditation (A2LA).The Certificate Number is 4297.01.

Measurement Uncertainty

Parameter		Uncertainty
AC Power Lines Conducted Emissions		2.7 dB(k=2, 95% level of confidence)
Radiated emission	9kHz - 30MHz	2.1 dB(k=2, 95% level of confidence)
	30MHz - 1GHz	4.3 dB(k=2, 95% level of confidence)
	1GHz - 18GHz	4.9 dB(k=2, 95% level of confidence)
	18GHz - 26.5GHz	5.2 dB(k=2, 95% level of confidence)
Temperature		1 °C
Humidity		7 %
Supply voltages		0.4 %

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

OPERATING CONDITION/TEST CONFIGURATION

Description of Test Configuration

The EUT was operated at maximum (continuous) RF output power. The loads consisted of water in a glass beaker in the amounts specified in the test procedure.

EUT Exercise Software

No exercise software was used.

Special Accessories

No special accessory was used.

Equipment Modifications

No modifications were made to the EUT tested.

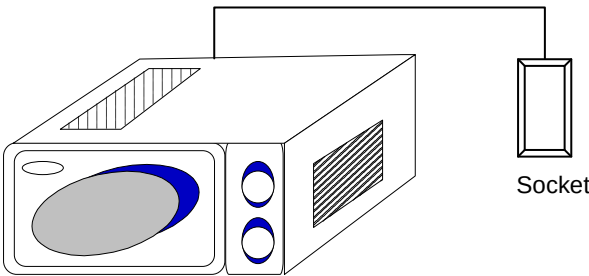
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
/	Glass beaker	/	/

External I/O Cable

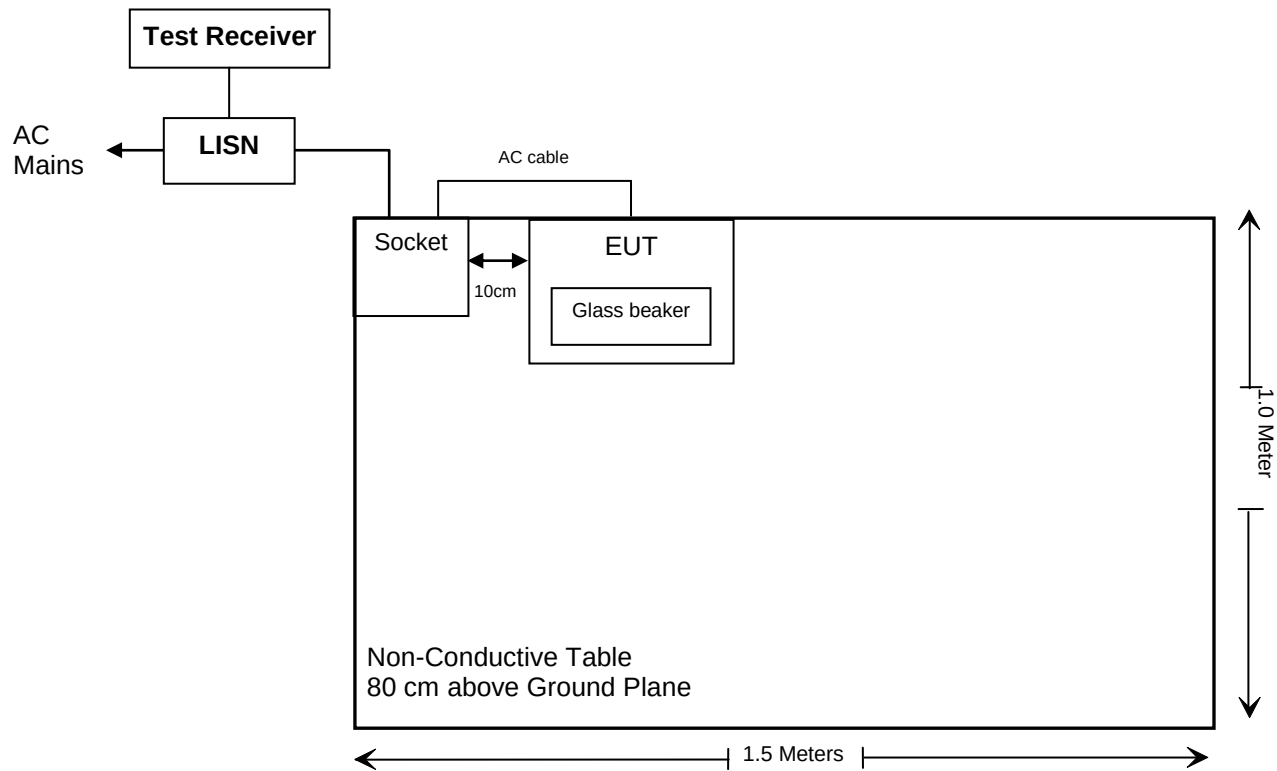
Cable Description	Length (m)	From Port	To
Unshielded Non-Detachable AC Cable	0.9	Socket	EUT

Configuration of Test Setup

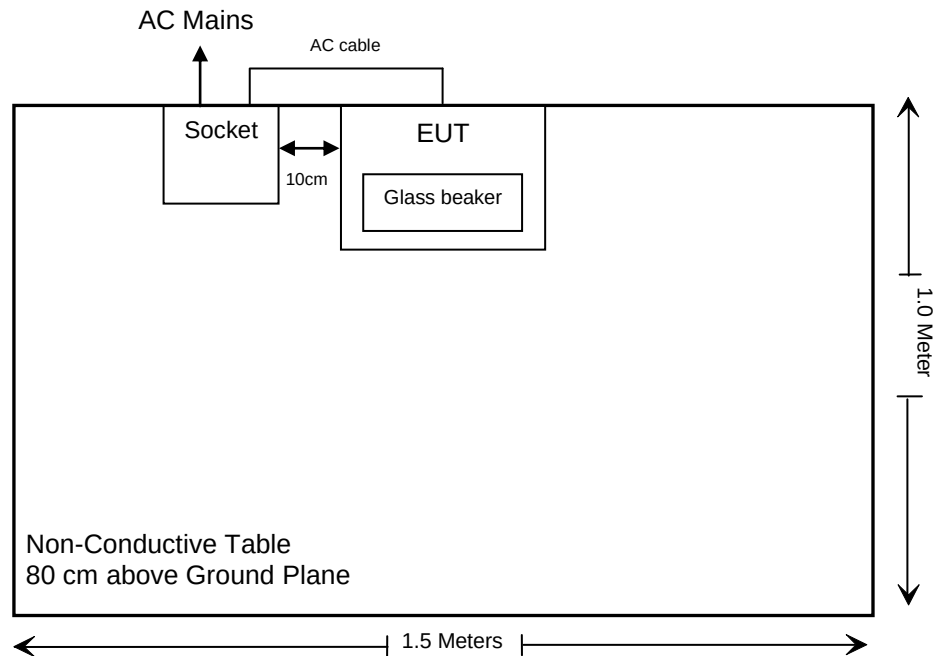


Block Diagram of Test Setup

For Conducted Emission:



For Radiated Emission:



SUMMARY OF TEST RESULT

FCC Rules	Description of Test	Results
FCC §18.313, §1.1310, §2.1091	Maximum Permissible Exposure	Compliance
FCC §18.307	AC Line Conducted Emissions	Compliance
FCC/OST MP-5 FCC §18.301	Radiation Hazard Measurement	Compliance
FCC §18.305	Field Strength	Compliance

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions Test					
Rohde & Schwarz	EMI Test Receiver	ESCI	100784	2025/09/17	2026/09/16
Rohde & Schwarz	L.I.S.N.	ENV216	101314	2025/09/17	2026/09/16
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2025/09/18	2026/09/17
Rohde & Schwarz	Pulse Limiter	ESH3-Z2	100312	2025/05/30	2026/05/29
Unknown	RF Coaxial Cable	No.17	N0350	2025/05/30	2026/05/29
Test Software: e3 191218 (V9)					
Radiated Emission Test (Below 1GHz)					
Rohde & Schwarz	Test Receiver	ESR	102725	2025/09/18	2026/09/17
SONOMA INSTRUMENT	Amplifier	310N	186131	2025/03/26	2026/03/25
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2024/08/08	2027/08/07
Unknown	RF Coaxial Cable	No.12	N040	2025/05/30	2026/05/29
Unknown	RF Coaxial Cable	No.13	N300	2025/05/30	2026/05/29
Unknown	RF Coaxial Cable	No.14	N800	2025/05/30	2026/05/29
BACL	LOOP ANTENNA	1313-1A	3110711	2024/01/16	2027/01/15
Test Software: e3 191218 (V9)					
Radiated Emission Test (Above 1GHz) & Radiation Hazard Measurement					
Rohde & Schwarz	Spectrum Analyzer	FSV40	101949	2025/09/17	2026/09/16
Decentest	Filter Switch Unit	DT7220FSU	DQ77927	2025/09/18	2026/09/17
Decentest	Multiplex Switch Test Control Set	DT7220CSU	DQ77924	2025/09/18	2026/09/17
A.H. Systems, inc.	Preamplifier	PAM-0118	226	2025/03/20	2026/03/19
Schwarzbeck	Horn Antenna	BBHA9120D	837	2023/02/22	2026/02/21
Unknown	RF Coaxial Cable	No.10	N050	2025/05/30	2026/05/29
Unknown	RF Coaxial Cable	No.11	N1000	2025/05/30	2026/05/29
Unknown	RF Coaxial Cable	No.19	N500	2025/05/30	2026/05/29
Schwarzbeck	HORN ANTENNA	BBHA9170	9170-359	2023/12/12	2026/12/11
BACL	Amplifier	BACL-1313-A1840	4012521	2025/05/30	2026/05/29
Unknown	RF Coaxial Cable	No.15	N600	2025/05/30	2026/05/29
Unknown	RF Coaxial Cable	No.16	N650	2025/05/30	2026/05/29
Test Software: e3 191218 (V9)					
MC	Thermometer	Unknown	Unknown	2025/09/18	2026/09/17
YOKOGAWA	Digital Power Meter	WT310E	C3VD10030E	2025/3/26	2026/3/25
Maximum Permissible Exposure					
ETS	Microwave Survey Meter	1501	123654	2025/09/18	2026/09/17

*** Statement of Traceability:** Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

MAXIMUM PERMISSIBLE EXPOSURE

Applicable Standard

FCC §18.313, §1.1310, §2.1091

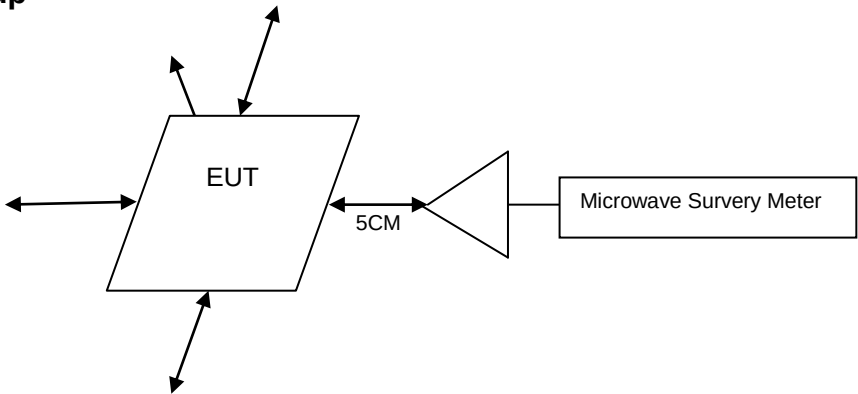
According to subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

EUT Setup



Measurement

Environmental Conditions

Temperature:	24.2 °C
Relative Humidity:	41 %
ATM Pressure:	100.9 kPa

The testing was performed by Angel Chen on 2025-12-08.

Radiation leakage was measured in the as-received condition with the oven door closed using a microwave leakage meter.

A 275 mL water load was placed in the center of the oven and the oven was operated at maximum output power.

☒ There was no microwave leakage exceeding a power level of 0.1mW/cm² observed at any point 5 cm or more from the external surface of the oven.

A maximum of 1.0 mW/cm² is allowed in accordance with the applicable Federal Standards. Hence, microwave leakage in the as-received condition with the oven door closed was below the maximum allowed.

For BT/Wi-Fi Function:

Calculated Formulary:

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

For worst case (PCB antenna 2)

Mode	Frequency (MHz)	Antenna Gain [#]		Tune Up Conducted Power [#]		Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
BLE	2402-2480	4.2	2.63	0	1.00	20	0.0005	1
BDR/EDR	2402-2480	4.2	2.63	3	2.00	20	0.0010	1
Wi-Fi	2412-2462	4.2	2.63	22	158.49	20	0.0829	1

Note 1: Please refer to the certified module of FCC ID: 2AC7Z-RIGEL (Report number: RSHA180913005-00A& RSHA180913005-00B) for the tune up conducted power for the Bluetooth and Wi-Fi.

Note 2: The Bluetooth function can't transmit at the same time with the Wi-Fi function.

Note 3: The Bluetooth / Wi-Fi function can transmit at the same time with Microwave function.

Note 4: Simultaneous transmitting was considerate to be compliant to the limit, since low power density for Bluetooth / Wi-Fi and Microwave functions.

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

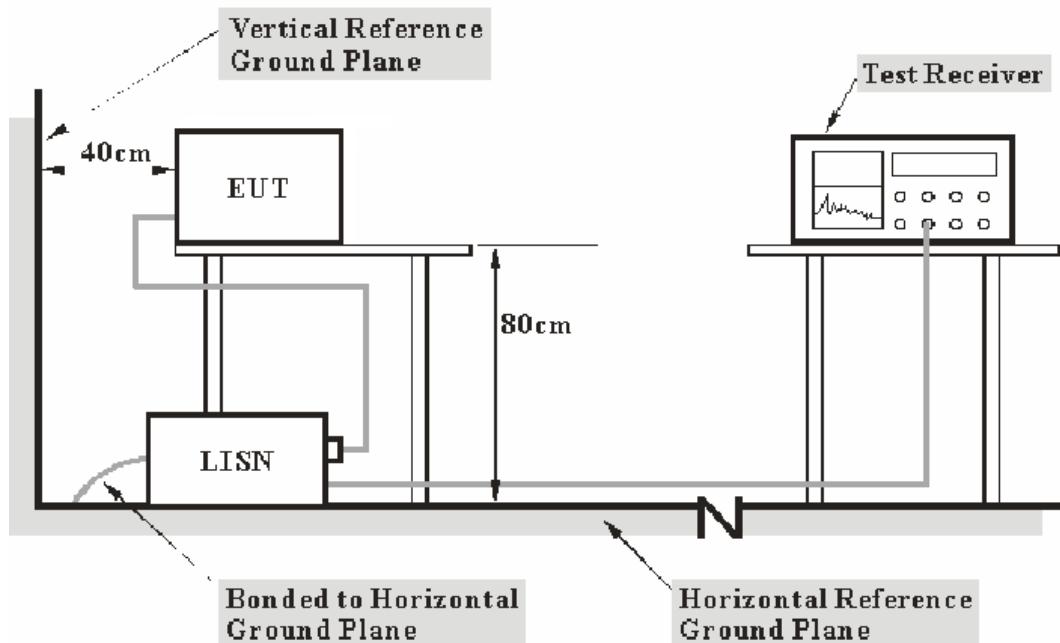
Result: Compliant.

CONDUCTED EMISSIONS

Applicable Standard

FCC §18.307

EUT Setup



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

The setup of EUT is according with MP-5: 1986 measurement procedure. Specification used was with the FCC Part 18.

The socket was connected to 120 V AC / 60Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All final data was recorded in the Quasi-peak and average detection mode.

Calculation

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

$$\text{Factor} = \text{LISN VDF} + \text{Cable Loss} + 10\text{dB Attenuation(Limiter)}$$

The “**Over limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit of -7 dB means the emission is 7 dB below the limit. The equation for calculation is as follows:

$$\text{Over Limit} = \text{Level} - \text{Limit}$$

$$\text{Level} = \text{Read Level} + \text{Factor}$$

Test Data

Environmental Conditions

Temperature:	22.8 °C
Relative Humidity:	42 %
ATM Pressure:	100.9 kPa

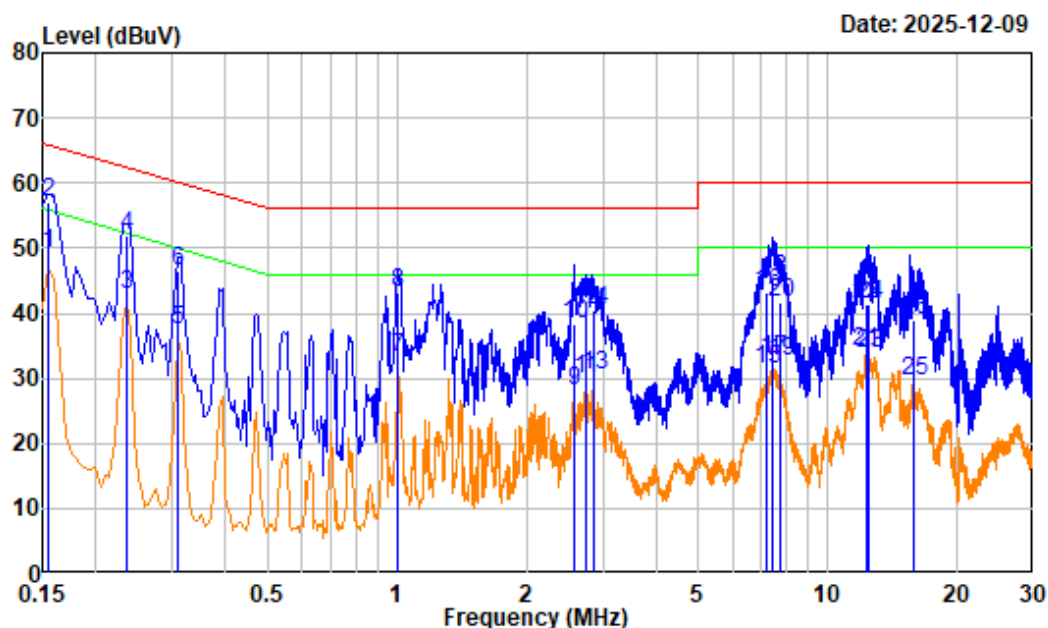
The testing was performed by Jason Fan on 2025-12-09.

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

EUT operation mode: Microwave(Maximum output power)

Test Result: Compliance, please refer to the following data.

AC 120V 60Hz, Line:

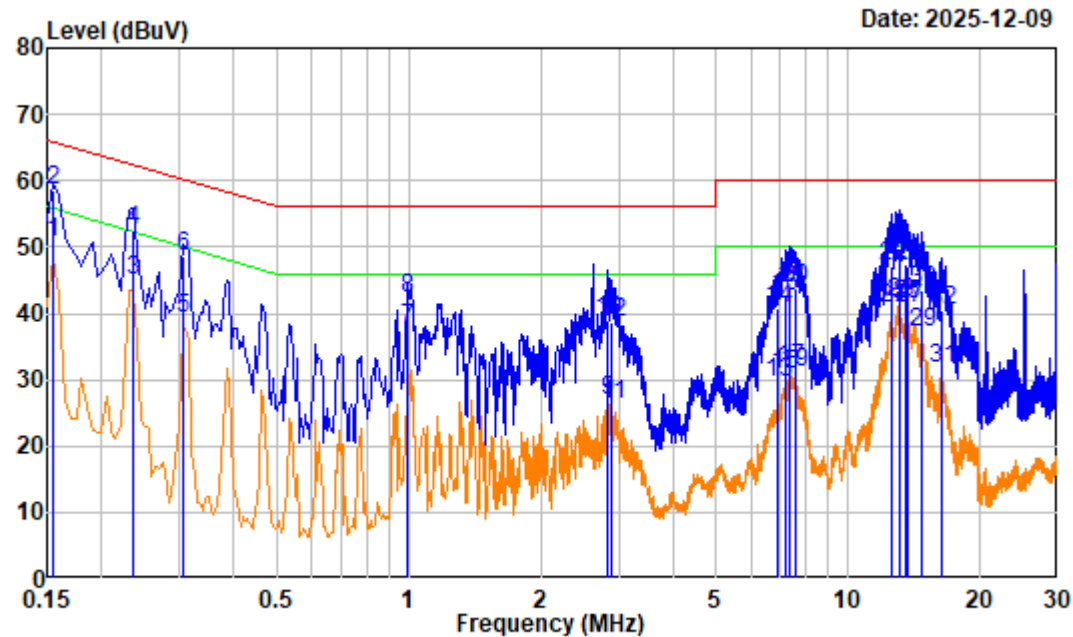


Site : Shielding Room
 Condition : Line
 Job No. : 2504A10015E-EM
 Test Mode : Microwave
 Tester : Jason Fan
 Receiver Setting: IF B/W 9kHz PK/AV

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.155	19.79	29.28	49.07	55.73	-6.66	Average
2	0.155	19.79	37.23	57.02	65.73	-8.71	QP
3	0.235	19.89	22.87	42.76	52.27	-9.51	Average
4	0.235	19.89	31.90	51.79	62.27	-10.48	QP
5	0.310	19.79	17.67	37.46	49.97	-12.51	Average
6	0.310	19.79	26.77	46.56	59.97	-13.41	QP
7	1.005	20.12	12.95	33.07	46.00	-12.93	Average
8	1.005	20.12	23.19	43.31	56.00	-12.69	QP
9	2.570	20.63	7.37	28.00	46.00	-18.00	Average
10	2.570	20.63	17.67	38.30	56.00	-17.70	QP
11	2.740	20.70	9.29	29.99	46.00	-16.01	Average
12	2.740	20.70	19.70	40.40	56.00	-15.60	QP
13	2.860	20.75	9.64	30.39	46.00	-15.61	Average
14	2.860	20.75	19.66	40.41	56.00	-15.59	QP
15	7.205	21.22	10.22	31.44	50.00	-18.56	Average

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
16	7.205	21.22	22.06	43.28	60.00	-16.72	QP
17	7.455	21.18	11.59	32.77	50.00	-17.23	Average
18	7.455	21.18	24.11	45.29	60.00	-14.71	QP
19	7.780	21.14	11.46	32.60	50.00	-17.40	Average
20	7.780	21.14	20.59	41.73	60.00	-18.27	QP
21	12.240	20.86	13.25	34.11	50.00	-15.89	Average
22	12.240	20.86	20.60	41.46	60.00	-18.54	QP
23	12.445	20.86	12.89	33.75	50.00	-16.25	Average
24	12.445	20.86	20.43	41.29	60.00	-18.71	QP
25	15.885	20.82	8.82	29.64	50.00	-20.36	Average
26	15.885	20.82	17.98	38.80	60.00	-21.20	QP

AC 120V 60Hz, Neutral:



Site : Shielding Room
Condition : neutral
Job No. : 2504A10015E-EM
Test Mode : Microwave
Tester : Jason Fan
Receiver Setting: IF B/W 9kHz PK/AV

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.155	19.90	30.78	50.68	55.73	-5.05	Average
2	0.155	19.90	38.61	58.51	65.73	-7.22	QP
3	0.235	19.93	24.99	44.92	52.27	-7.35	Average
4	0.235	19.93	32.68	52.61	62.27	-9.66	QP
5	0.305	19.86	19.41	39.27	50.11	-10.84	Average
6	0.305	19.86	28.86	48.72	60.11	-11.39	QP
7	0.995	20.17	17.52	37.69	46.00	-8.31	Average
8	0.995	20.17	22.24	42.41	56.00	-13.59	QP
9	2.845	20.75	6.06	26.81	46.00	-19.19	Average
10	2.845	20.75	18.27	39.02	56.00	-16.98	QP
11	2.905	20.77	5.58	26.35	46.00	-19.65	Average
12	2.905	20.77	17.95	38.72	56.00	-17.28	QP
13	6.935	21.25	8.28	29.53	50.00	-20.47	Average
14	6.935	21.25	19.62	40.87	60.00	-19.13	QP
15	7.170	21.23	9.68	30.91	50.00	-19.09	Average

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
16	7.170	21.23	21.36	42.59	60.00	-17.41	QP
17	7.345	21.20	10.47	31.67	50.00	-18.33	Average
18	7.345	21.20	22.58	43.78	60.00	-16.22	QP
19	7.550	21.17	9.95	31.12	50.00	-18.88	Average
20	7.550	21.17	22.61	43.78	60.00	-16.22	QP
21	12.585	20.85	19.83	40.68	50.00	-9.32	Average
22	12.585	20.85	26.26	47.11	60.00	-12.89	QP
23	13.140	20.83	20.93	41.76	50.00	-8.24	Average
24	13.140	20.83	27.58	48.41	60.00	-11.59	QP
25	13.470	20.82	20.39	41.21	50.00	-8.79	Average
26	13.470	20.82	26.57	47.39	60.00	-12.61	QP
27	13.660	20.82	20.09	40.91	50.00	-9.09	Average
28	13.660	20.82	26.21	47.03	60.00	-12.97	QP
29	14.645	20.80	16.30	37.10	50.00	-12.90	Average
30	14.645	20.80	22.82	43.62	60.00	-16.38	QP
31	16.260	20.76	11.06	31.82	50.00	-18.18	Average
32	16.260	20.76	19.60	40.36	60.00	-19.64	QP

RADIATION HAZARD MEASUREMENT

Applicable Standard

FCC §18.301 & FCC/OST MP-5

1. Input Power & Output Power

Environmental Conditions

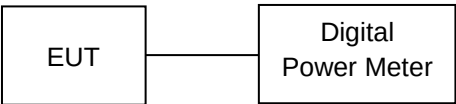
Temperature:	24.2 °C
Relative Humidity:	41 %
ATM Pressure:	100.9 kPa

The testing was performed by Angel Chen on 2025-12-08.

1.1 Input Power

Input power and current was measured using a power analyzer. A 1000 mL water load was placed in the center of the oven and the oven was operated at maximum output power. A 1000mL water load was chosen for its compatibility with the procedure commonly used by manufacturers to determine their input ratings.

EUT Setup



Result

Input Voltage (V _{AC})	Input Current (Amps)	Measured Input Power (Watts)	Rated Input Power (Watts)
118.3	11.5	1360.5	1500

☒ Based on the measured input power, the EUT was found to be operating within the intended specifications.

1.2 Load for Household Microwave Ovens

For all measurements, the energy developed by the oven was absorbed by a dummy load consisting of a quantity of tap water in a beaker. If the oven was provided with a shelf or other utensil support, this support was in its initial normal position. For ovens rated at 1000 watts or less power output, the beaker contained quantities of water as listed in the following subparagraphs. For ovens rated at more than 1000 watts output, each quantity was increased by 50% for each 500watts or fraction thereof in excess of 1000 watts. Additional beakers were 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. withl the beaker located in the center of the oven.

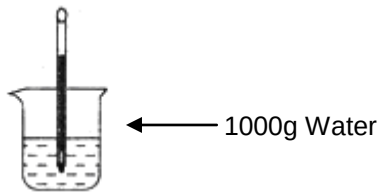
1.3 RF Output Power Measurement

A cylindrical container of borosilicate glass is used for the test. It has a maximum thickness of 3 mm, an external diameter of approximately 190 mm and a height of approximately 90 mm. The mass of the container is determined.

At the start of the test, the oven and the empty container are at ambient temperature. Water having an initial temperature is used for the test. The water temperature is measured immediately before it is poured into the container.

A quantity of $1000 \text{ g} \pm 5 \text{ g}$ of water is added to the container and its actual mass obtained. The container is then immediately placed in the centre of the oven shelf, which is in its lowest normal position. The oven is operated and the time for the water temperature to attain is measured. The oven is then switched off and the final water temperature is measured within 60 s.

EUT Setup



Result

m_w (g)	m_c (g)	T_0 (°C)	T_1 (°C)	T_2 (°C)	t (s)
1000	377.0	24.2	10.5	18.9	40

$$\text{RF Output Power} = (4.187 \times 1000 \times (18.9 - 10.5) + 0.55 \times 377.0 \times (18.9 - 24.2)) / 40 = 851.796 \text{ Watts}$$

- P is the microwave power output, in watts;
 m_w is the mass of the water, in grams;
 m_c is the mass of the container, in grams;
 T_0 is the ambient temperature, in degrees Celsius;
 T_1 is the initial temperature of the water, in degrees Celsius;
 T_2 is the final temperature of the water, in degrees Celsius;
 t is the heating time, in seconds, excluding the magnetron filament heating-up time.

☐ The measurement output power was found to be less than 500 watts. Therefore, in accordance with Section 18.305 of Subpart-C, the measured out-of-band emissions were compared to the limit of 25µV/meter at a 300-meter measurement distance.

☒ The measured output power was found to exceed 500 watts. Therefore, in accordance with Section 18.305 of Subpart-C,

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 ¹ 300

The measured output power was found to exceed 500 watts. Therefore, in accordance with Section 18.305 of Subpart-C, the measured out-of-band emissions were compared with the limit calculated as following:

$$\text{LFS} = 25 \times \text{SQRT} (\text{Power Output}/500)$$

$$\text{LFS} = 25 \times \text{SQRT} (851.796 / 500)$$

$$\text{LFS} = 32.63$$

Where: LFS is the maximum allowable field strength for out-of-band emissions in $\mu\text{V}/\text{meter}$ at a 300-meter measurement distance. Power Output is the measured output power in watts.

LFS $\mu\text{V}/\text{m}@300\text{m}$	$\text{dB}\mu\text{V}/\text{m}@300\text{m}$	$\text{dB}\mu\text{V}/\text{m}@3\text{m}$
32.63	30.27	70.27

Note: Limit ($\text{dB}\mu\text{V}/\text{m}@3\text{m}$) = Limit ($\text{dB}\mu\text{V}/\text{m}@300\text{m}$) + 40(dB)

2. Operating Frequency Measurement

Environmental Conditions

Temperature:	24.7 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

The testing was performed by Angel Chen on 2025-12-11.

2.1 Operating frequencies.

According to FCC § 18.301, ISM equipment may be operated on any frequency above 9 kHz except as indicated in §18.303. The following frequency bands, in accordance with § 2.106 of the rules, are designated for use by ISM equipment:

Table 1 to § 18.301	
ISM frequency	Tolerance
6.78 MHz	± 15.0 kHz
13.56 MHz	± 7.0 kHz
27.12 MHz	± 163.0 kHz
40.68 MHz	± 20.0 kHz
915 MHz	± 13.0 MHz
2450 MHz	± 50.0 MHz
5800 MHz	± 75.0 MHz
24.125 GHz	± 125.0 MHz
61.25 GHz	± 250.0 MHz
122.50 GHz	± 500.0 MHz
245.00 GHz	± 1.0 GHz

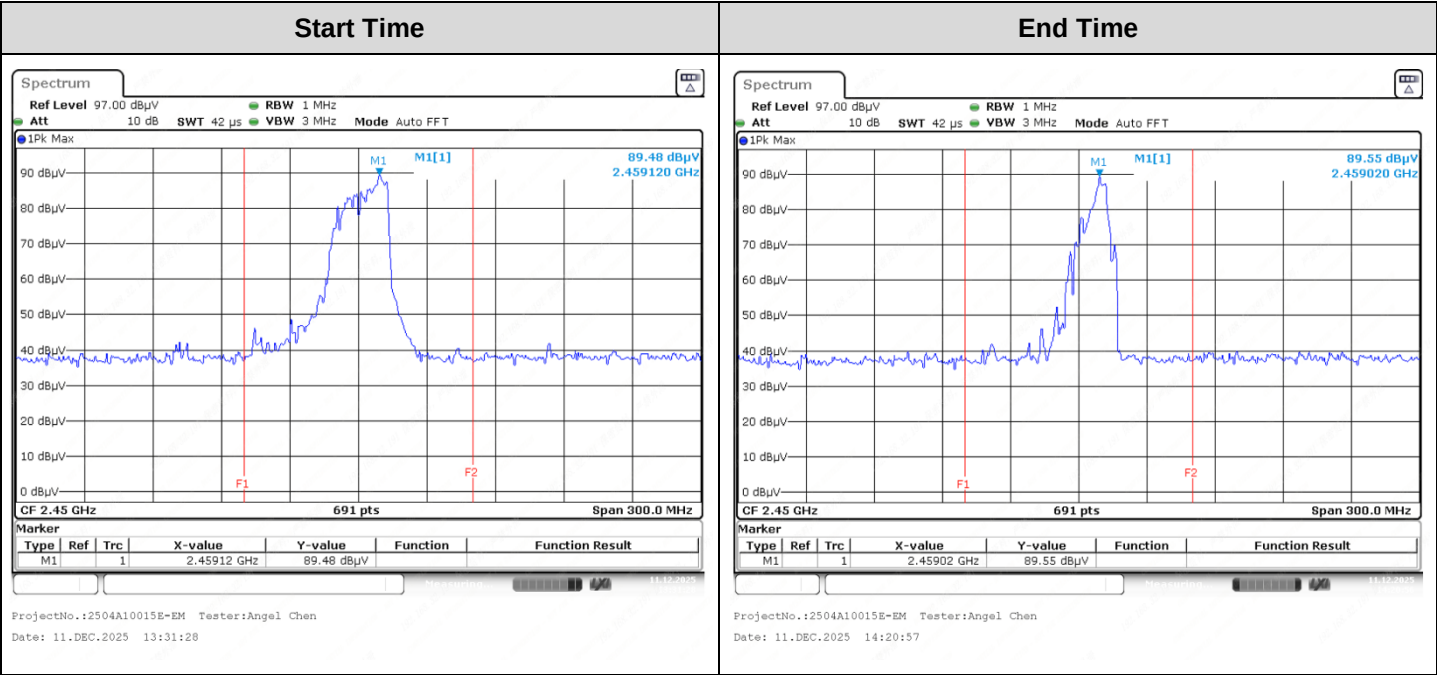
2.2 Variation in Operating Frequency with Time

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.

The results of this test are as follows:

Frequency at Start time (MHz)	Frequency at End time (MHz)
2459.12	2459.02

Refer to data pages for details of the variation in operating frequency with time measurement.



2.3 Variation in Operating Frequency with Line Voltage

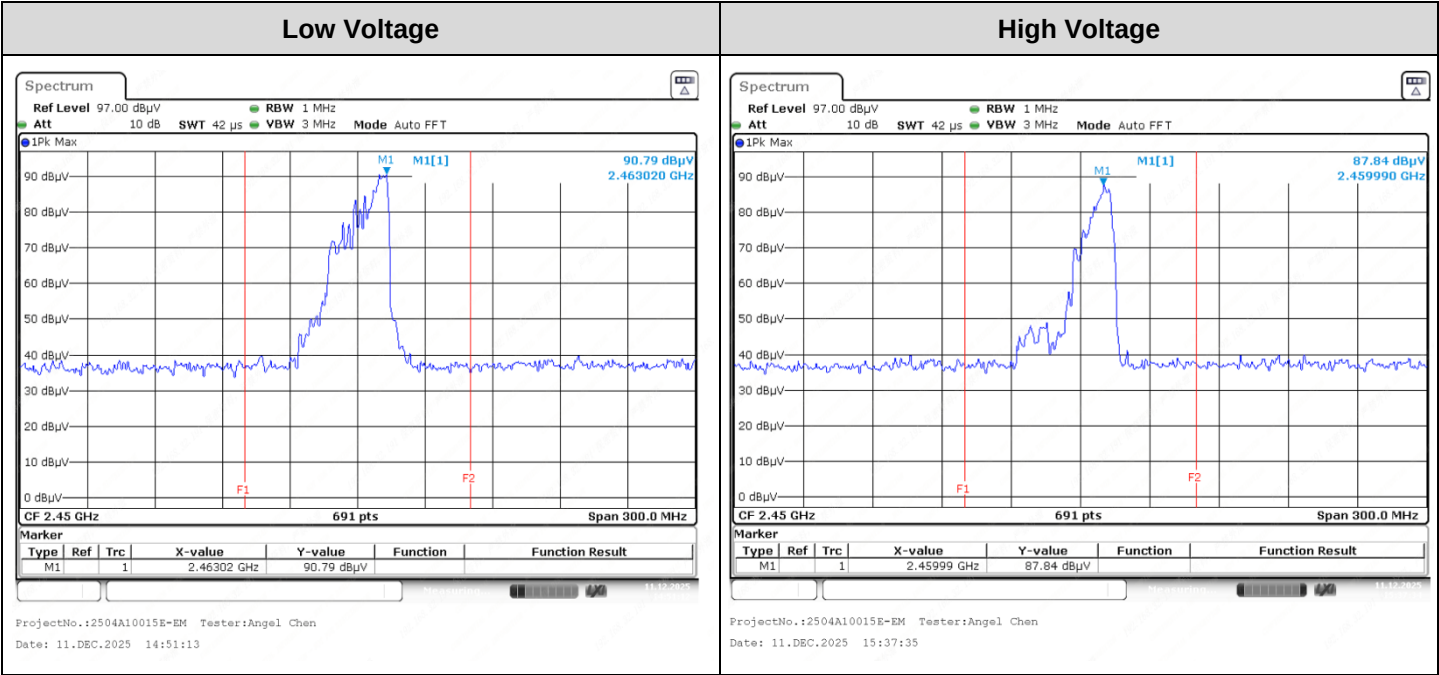
The EUT was operated / warmed by at least 10 minutes of use with a 1000 mL water load at room temperature at the beginning of the test. Then the operating frequency was monitored as the input voltage was varied between 80 and 125 percent of the nominal rating.

The results of this test are as follows:

Line voltage varied from 96 V_{AC} to 150 V_{AC}.

(Low voltage) Frequency (MHz)	(High voltage) Frequency (MHz)
2463.02	2459.99

Please refer to following pages for details of the variation in operating frequency with line voltage measurement.



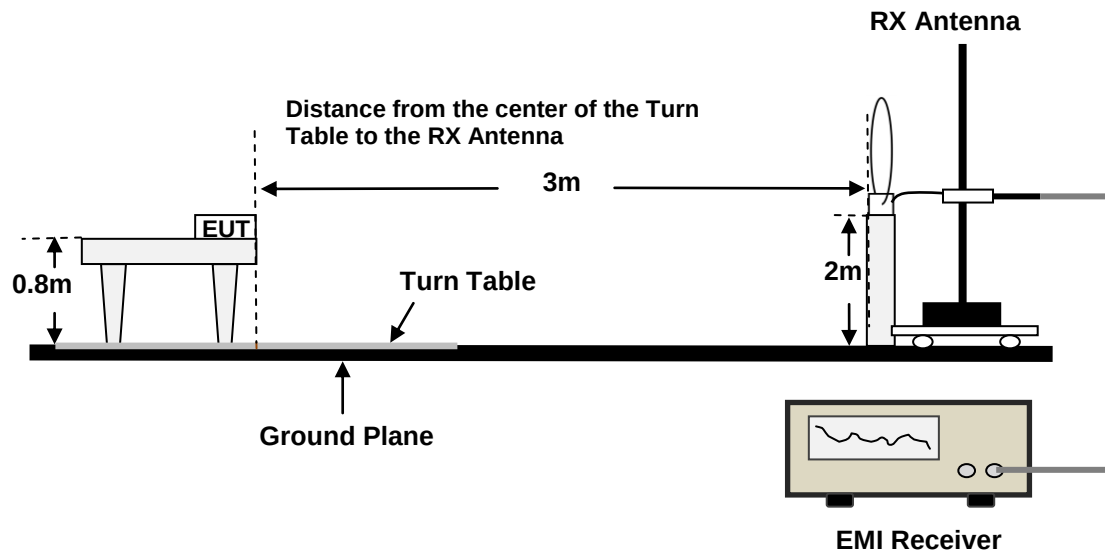
RADIATED EMISSIONS

Applicable Standard

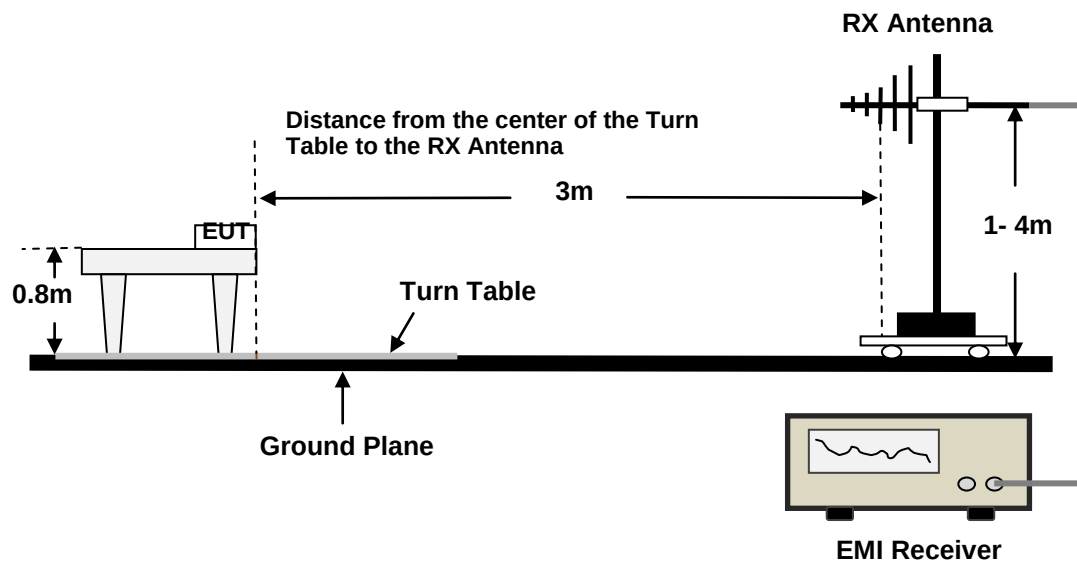
FCC §18.305 and FCC §18.309

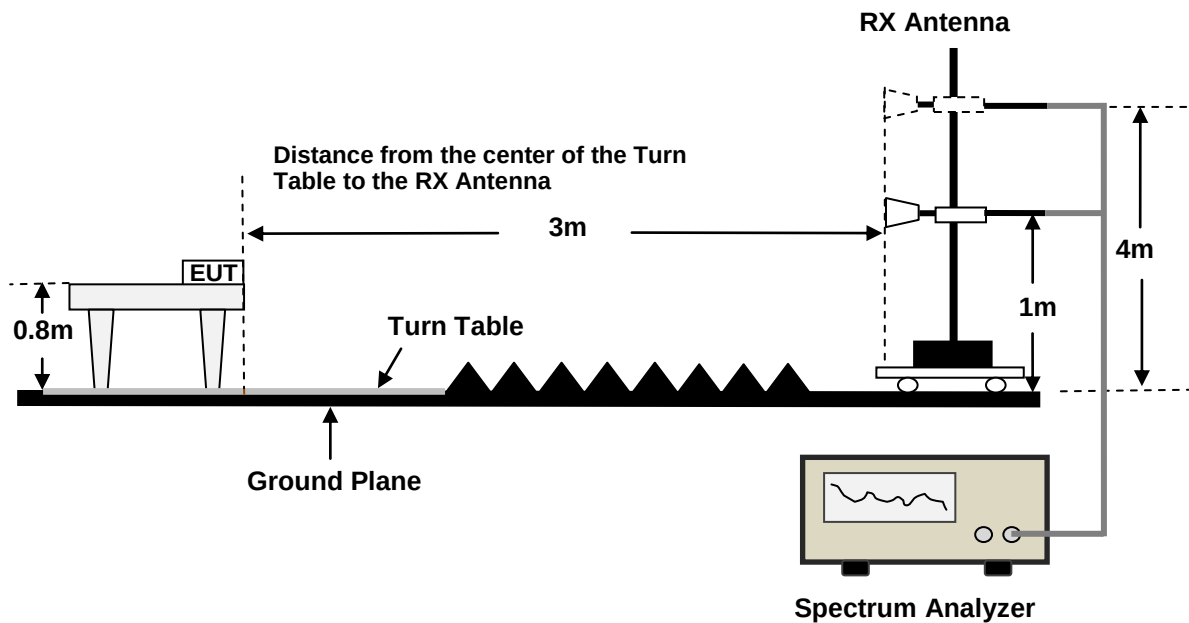
EUT Setup

9kHz - 30MHz:



30MHz - 1GHz:



Above 1GHz:

The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the FCC MP-5. The specification used was the FCC part 18 limits.

The socket was connected to 120 V AC /60 Hz power source.

EMI Test Receiver Setup and Spectrum Analyzer Setup

The system was investigated from 9kHz to 25GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	Measurement	RBW	Video B/W	IF B/W
9 kHz -150 kHz	PK	300 Hz	1 kHz	/
150 kHz - 30 MHz	PK	10 kHz	30 kHz	/
30 MHz - 1000 MHz	PK	100 kHz	300 kHz	/
	QP	/	/	120kHz
Above 1GHz	PK	1 MHz	3 MHz	/
	AV	1 MHz	10 Hz	/

All data was recorded in the Quasi-peak detector mode from 30 MHz to 1 GHz, Peak and average detection mode above 1 GHz.

Test Procedure

Maximizing procedure was performed on the six (6) highest emissions to ensure that the EUT complied with all installation combinations.

The EUT was in the normal (naïve) operating mode during the final qualification test to represent the worst results.

Calculation

The **Factor** is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain. The basic equation is as follows:

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

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

$$\begin{aligned}\text{Over Limit/Margin} &= \text{Level / Corrected Amplitude} - \text{Limit} \\ \text{Level / Corrected Amplitude} &= \text{Read Level} + \text{Factor}\end{aligned}$$

Test Data and Plots

Environmental Conditions

Temperature:	23.7-24.7 °C
Relative Humidity:	55-56 %
ATM Pressure:	100.9 kPa

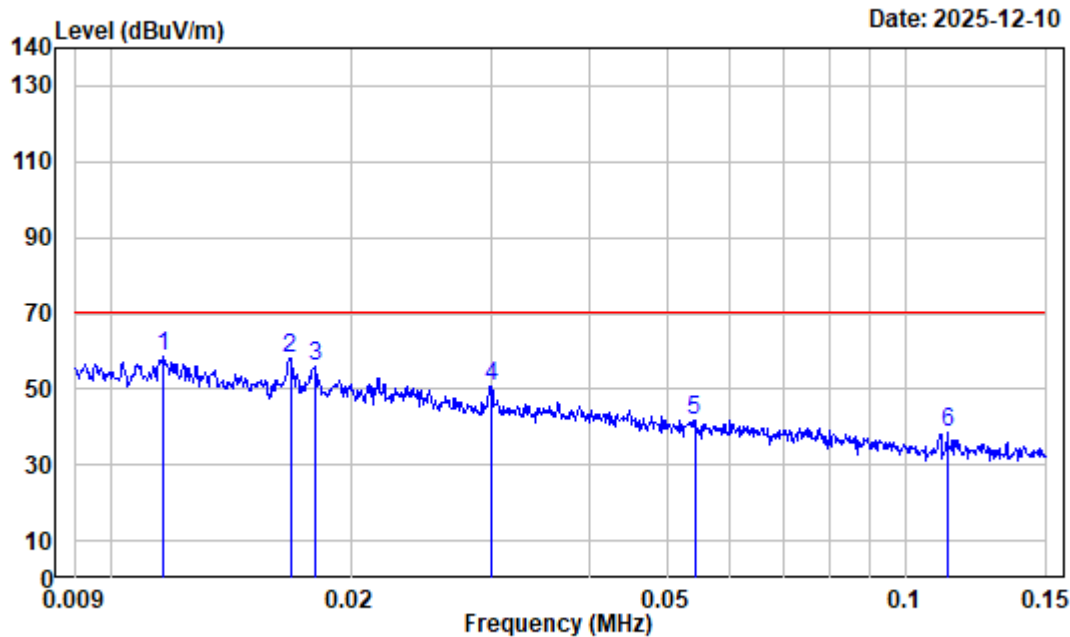
The Below 1GHz testing was performed by Colin Lin on 2025-12-10.

The Above 1GHz testing was performed by Angel Chen on 2025-12-11.

EUT operation mode: Microwave(Maximum output power)

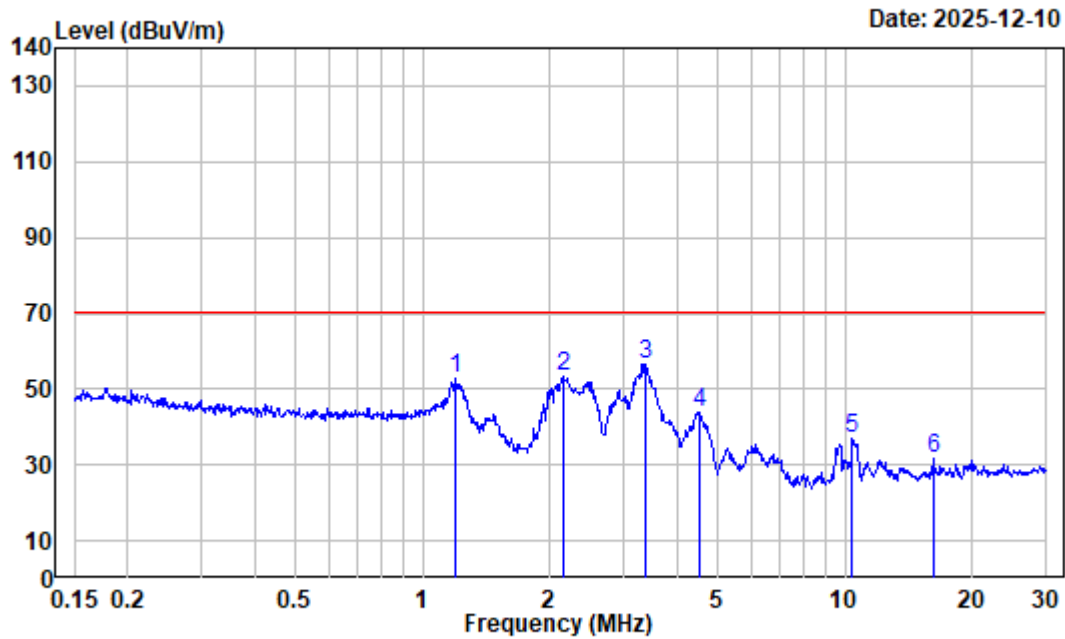
Test Result: Compliance, please refer to the following data.

9kHz -30MHz



Site : chamber
Condition : 3m
Job No. : 2504A10015E-EM
Polarization : Parallel Tester: Colin Lin
Test Mode : Microwave
Receiver Setting: RBW:300Hz VBW:1kHz

	Freq	Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.012	35.11	23.44	58.55	70.27	-11.72	Peak
2	0.017	32.81	25.43	58.24	70.27	-12.03	Peak
3	0.018	32.27	23.56	55.83	70.27	-14.44	Peak
4	0.030	26.93	23.95	50.88	70.27	-19.39	Peak
5	0.054	22.21	19.74	41.95	70.27	-28.32	Peak
6	0.113	15.87	22.68	38.55	70.27	-31.72	Peak



Site : chamber

Condition : 3m

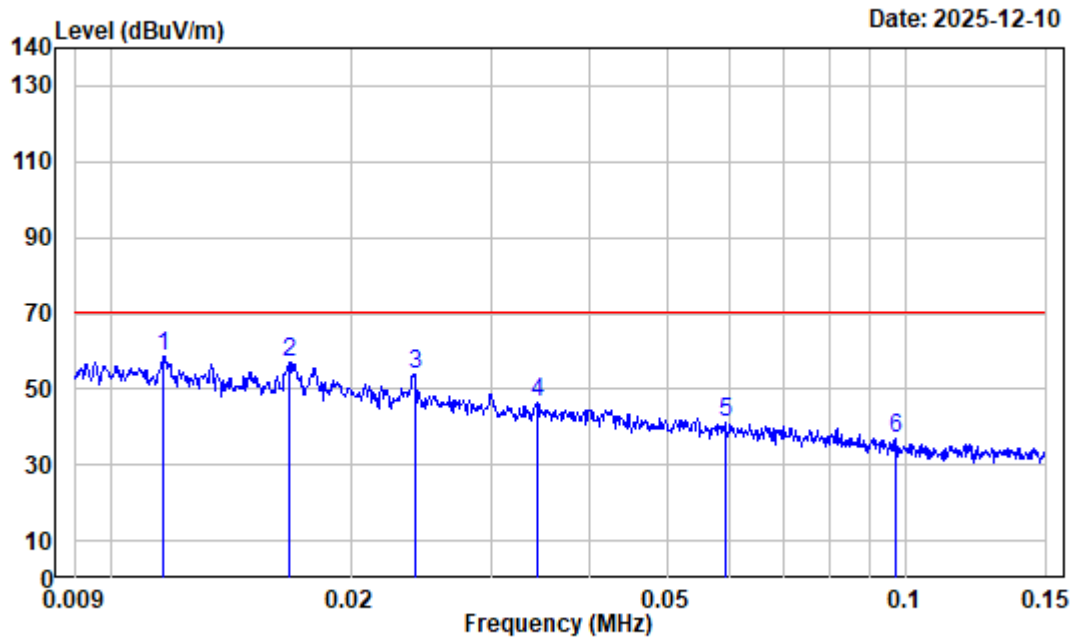
Job No. : 2504A10015E-EM

Polarization : Parallel Tester: Colin Lin

Test Mode : Microwave

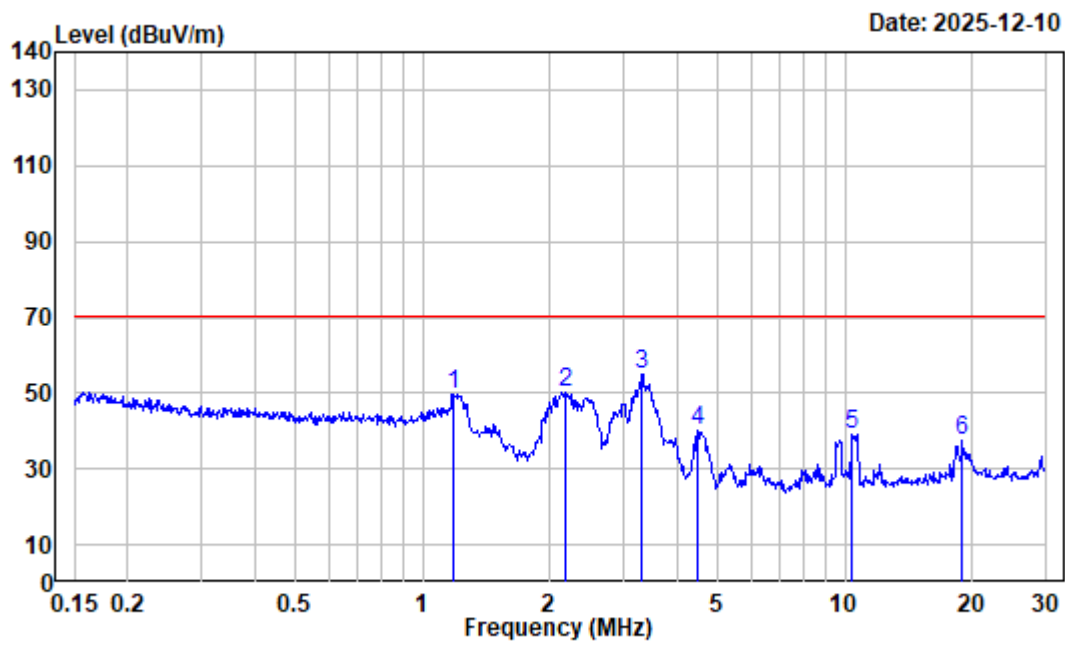
Receiver Setting: RBW:10kHz VBW:30kHz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1.191	-2.51	55.44	52.93	70.27	-17.34	Peak
2	2.155	-5.45	58.75	53.30	70.27	-16.97	Peak
3	3.364	-6.00	62.78	56.78	70.27	-13.49	Peak
4	4.525	-6.30	50.11	43.81	70.27	-26.46	Peak
5	10.397	-5.25	42.45	37.20	70.27	-33.07	Peak
6	16.226	-3.86	35.73	31.87	70.27	-38.40	Peak



Site : chamber
Condition : 3m
Job No. : 2504A10015E-EM
Polarization : Perpendicular Tester: Colin Lin
Test Mode : Microwave
Receiver Setting: RBW:300Hz VBW:1kHz

	Freq	Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.012	35.09	23.57	58.66	70.27	-11.61	Peak
2	0.017	32.83	24.36	57.19	70.27	-13.08	Peak
3	0.024	29.57	24.43	54.00	70.27	-16.27	Peak
4	0.034	26.05	20.67	46.72	70.27	-23.55	Peak
5	0.059	21.51	19.62	41.13	70.27	-29.14	Peak
6	0.097	16.76	20.44	37.20	70.27	-33.07	Peak



Site : chamber

Condition : 3m

Job No. : 2504A10015E-EM

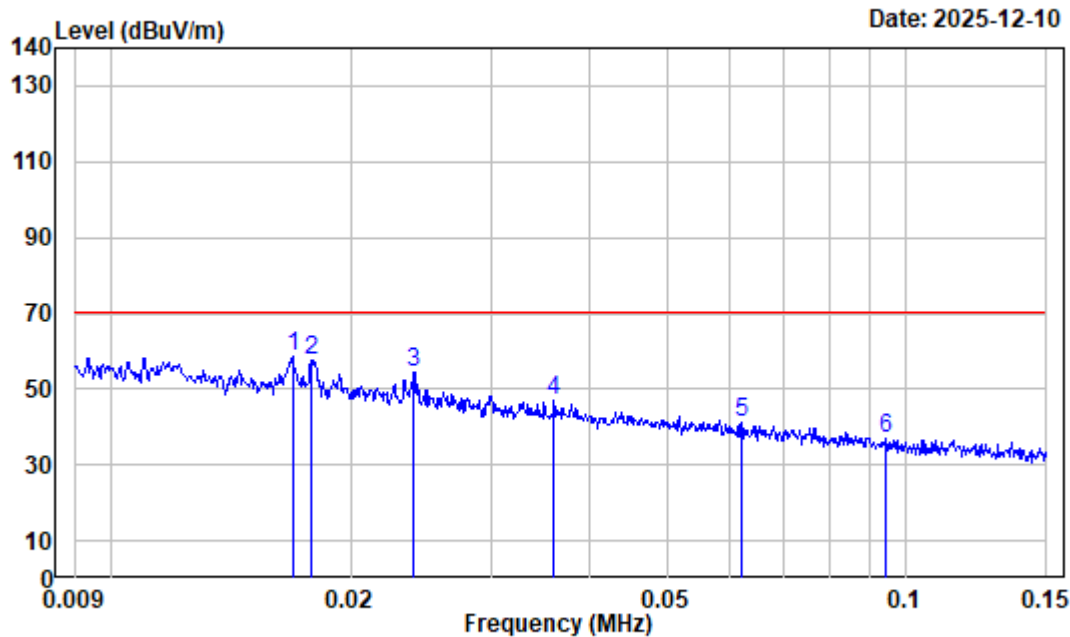
Polarization : Perpendicular

Tester: Colin Lin

Test Mode : Microwave

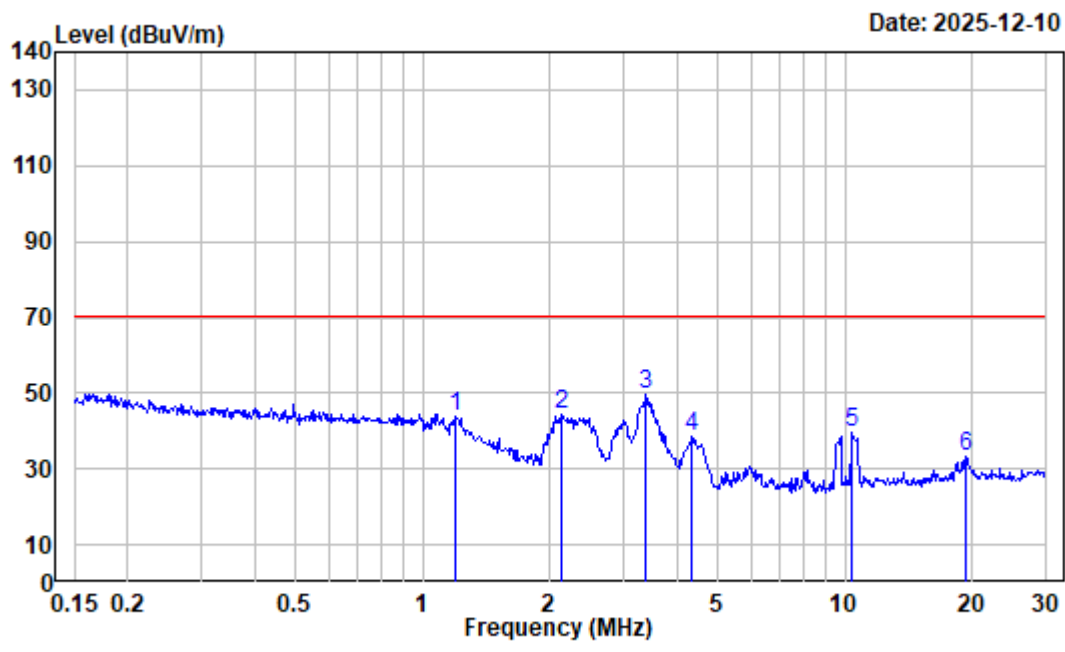
Receiver Setting: RBW:10kHz VBW:30kHz

	Freq	Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1.178	-2.46	52.34	49.88	70.27	-20.39	Peak
2	2.190	-5.46	55.81	50.35	70.27	-19.92	Peak
3	3.310	-5.98	61.00	55.02	70.27	-15.25	Peak
4	4.501	-6.30	46.44	40.14	70.27	-30.13	Peak
5	10.397	-5.25	44.37	39.12	70.27	-31.15	Peak
6	18.920	-3.61	41.01	37.40	70.27	-32.87	Peak



Site : chamber
Condition : 3m
Job No. : 2504A10015E-EM
Polarization : Ground-parallel Tester: Colin Lin
Test Mode : Microwave
Receiver Setting: RBW:300Hz VBW:1kHz

	Freq	Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.017	32.75	25.72	58.47	70.27	-11.80	Peak
2	0.018	32.36	25.38	57.74	70.27	-12.53	Peak
3	0.024	29.60	24.65	54.25	70.27	-16.02	Peak
4	0.036	25.70	21.15	46.85	70.27	-23.42	Peak
5	0.062	21.07	20.03	41.10	70.27	-29.17	Peak
6	0.094	17.04	19.88	36.92	70.27	-33.35	Peak



Site : chamber

Condition : 3m

Job No. : 2504A10015E-EM

Polarization : Ground-parallel

Tester: Colin Lin

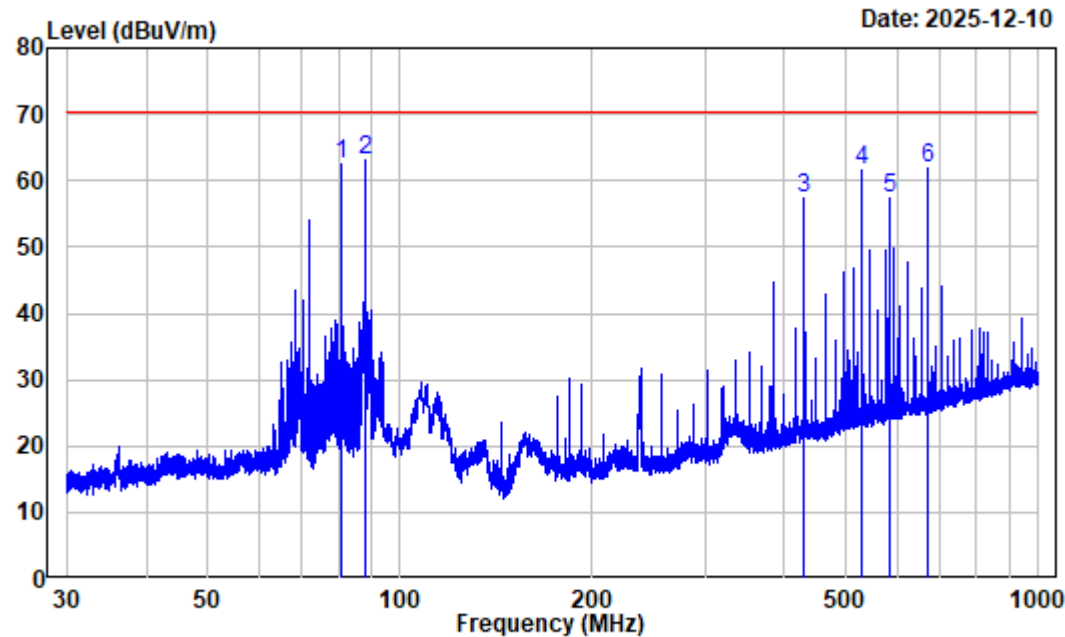
Test Mode : Microwave

Receiver Setting: RBW:10kHz VBW:30kHz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1.197	-2.53	46.56	44.03	70.27	-26.24	Peak
2	2.144	-5.44	49.84	44.40	70.27	-25.87	Peak
3	3.381	-6.01	55.64	49.63	70.27	-20.64	Peak
4	4.338	-6.30	44.98	38.68	70.27	-31.59	Peak
5	10.397	-5.25	44.74	39.49	70.27	-30.78	Peak
6	19.428	-3.48	36.52	33.04	70.27	-37.23	Peak

30MHz -1GHz

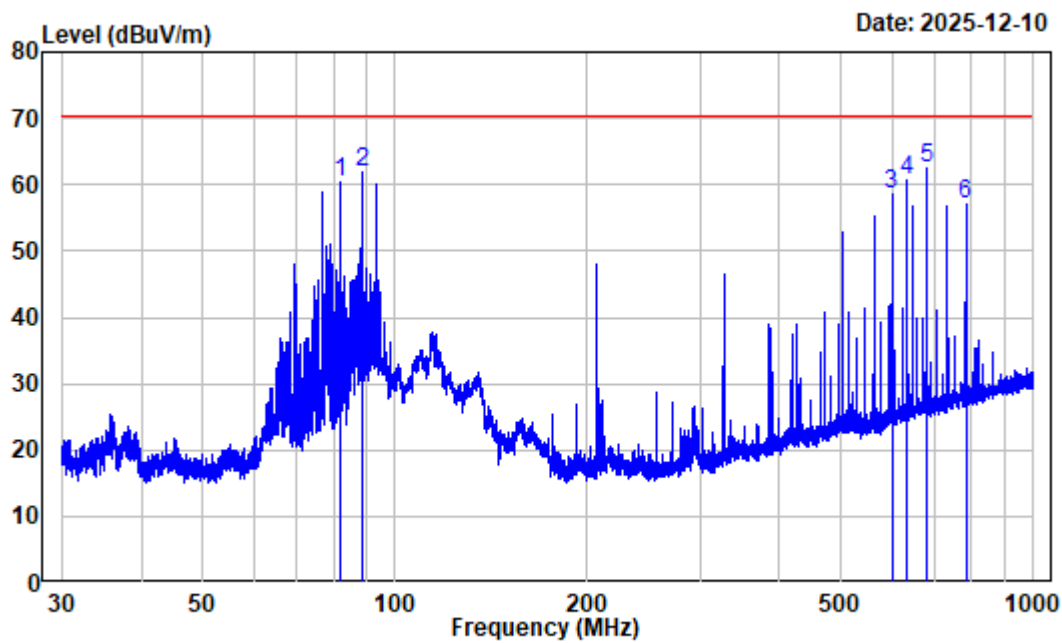
Horizontal



Site : chamber
Condition : 3m HORIZONTAL
Job No. : 2504A10015E-EM Tester: Colin Lin
Test Mode : Microwave
Receiver Setting: RBW:100kHz VBW:300kHz

	Freq	Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	80.644	-16.73	79.26	62.53	70.27	-7.74	Peak
2	88.033	-14.30	77.50	63.20	70.27	-7.07	Peak
3	428.207	-4.93	62.37	57.44	70.27	-12.83	Peak
4	528.477	-3.46	65.11	61.65	70.27	-8.62	Peak
5	586.073	-2.53	59.84	57.31	70.27	-12.96	Peak
6	672.550	-1.13	62.99	61.86	70.27	-8.41	Peak

Vertical



Site : chamber

Condition : 3m VERTICAL

Job No. : 2504A10015E-EM Tester: Colin Lin

Test Mode : Microwave

Receiver Setting: RBW:100kHz VBW:300kHz

	Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	82.287	-16.69	77.02	60.33	70.27	-9.94	Peak
2	88.925	-14.01	75.82	61.81	70.27	-8.46	Peak
3	599.847	-2.00	60.70	58.70	70.27	-11.57	Peak
4	631.965	-1.66	62.22	60.56	70.27	-9.71	Peak
5	679.662	-1.18	63.71	62.53	70.27	-7.74	Peak
6	783.718	0.31	56.65	56.96	70.27	-13.31	Peak

1 GHz - 25 GHz:

Frequency (MHz)	Receiver		Rx Antenna	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/QP/AV	Polar (H/V)				
700ml Water							
2262.27	41.23	AV	H	-10.09	31.14	70.27	-39.13
2262.27	42.47	AV	V	-10.09	32.38	70.27	-37.89
2505.42	41.59	AV	H	-10.25	31.34	70.27	-38.93
2510.98	42.87	AV	V	-10.23	32.64	70.27	-37.63
4340.50	45.31	AV	H	-7.46	37.85	70.27	-32.42
4340.50	46.48	AV	V	-7.46	39.02	70.27	-31.25
700ml Water(Second and third harmonic)							
4920.63	46.48	AV	H	-6.47	40.01	70.27	-30.26
4920.63	47.56	AV	V	-6.47	41.09	70.27	-29.18
7381.38	44.98	AV	H	-1.30	43.68	70.27	-26.59
7381.38	46.02	AV	V	-1.30	44.72	70.27	-25.55
300ml Water(Second and third harmonic)							
4920.63	46.96	AV	H	-6.47	40.49	70.27	-29.78
4920.63	47.68	AV	V	-6.47	41.21	70.27	-29.06
7381.38	45.66	AV	H	-1.30	44.36	70.27	-25.91
7381.38	47.31	AV	V	-1.30	46.01	70.27	-24.26

Note 1: Factor = Antenna factor (RX) + Cable Loss - Amplifier Factor

Note 2: Corrected Amplitude = Factor + Reading

Note 3: Margin = Corrected Amplitude - Limit

Note 4: The emission levels of other frequencies that were lower than the limit 20dB not show in test report.

EXHIBIT A-EUT PHOTOGRAPHS

Please refer to the Attachment No.1 2504A10015E-EM EUT External Photos and Attachment No.2 2504A10015E-EM EUT Internal Photos.

EXHIBIT B-TEST SETUP PHOTOGRAPHS

Please refer to the Attachment No.3 2504A10015E-EM-00A Test Photos.

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