

# TEST REPORT

Applicant Name: Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd  
Address: No.6, Yong An Road, Beijiao, Shunde,  
Foshan ,Guangdong,China  
Report Number: 2501V24900E-EM-00A2  
FCC ID: VG8TR923XYYW

## Test Standard (s)

FCC PART 18

## Sample Description

Product Type: Microwave Oven  
Model No.: TR923X7ZE-SS0D00  
Multiple Model(s) No.: MMC09S15ABB, MMC09AS9ABB  
Trade Mark: Midea  
Date Received: 2025/07/24  
Issue Date: 2025/09/30

|              |       |
|--------------|-------|
| Test Result: | Pass▲ |
|--------------|-------|

▲ In the configuration tested, the EUT complied with the standards above.

## Prepared and Checked By:

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Joson Xiao  
EMC Engineer

## Approved By:

*Moon Liu*

Moon Liu  
EMC Supervisor

Note: The information marked \* is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Customer model name, addresses, names, trademarks etc. are included.

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DOCUMENT REVISION HISTORY

| Revision Number | Report Number       | Description of Revision | Date of Revision |
|-----------------|---------------------|-------------------------|------------------|
| 0               | 2501V24900E-EM-00A2 | Original Report         | 2025/09/30       |

## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

|                                                                                                                                                                                                                           |                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Product                                                                                                                                                                                                                   | Microwave Oven                      |
| Tested Model                                                                                                                                                                                                              | TR923X7ZE-SS0D00                    |
| Multiple Model(s)                                                                                                                                                                                                         | MMC09S15ABB, MMC09AS9ABB            |
| Voltage Range                                                                                                                                                                                                             | AC 120V/60Hz                        |
| Highest operating frequency <sup>#</sup>                                                                                                                                                                                  | 2450MHz ±50MHz                      |
| Microwave Output power <sup>#</sup>                                                                                                                                                                                       | 900 W                               |
| Microwave Input power <sup>#</sup>                                                                                                                                                                                        | 1200W                               |
| Sample serial number                                                                                                                                                                                                      | 37BF-1 (Assigned by BACL, Shenzhen) |
| Sample/EUT Status                                                                                                                                                                                                         | Good condition                      |
| Adapter Information                                                                                                                                                                                                       | N/A                                 |
| Note: The Multiple models are electrically identical with the test model except for model name and sales market. Please refer to the declaration letter <sup>#</sup> for more detail, which was provided by manufacturer. |                                     |

### Objective

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

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

Note:

1. This is a CIIPC application for FCC ID: VG8TR923XYYW, the below changes was made based on the device granted on 10/08/2023 which was provided by the manufacturer:

- (1) Adding the model number “MMC09S15ABB, MMC09AS9ABB”.
- (2) Changing the main board, Standby program, Outer shell shock-absorbing pad.
- (3) Adding a transformer supplier.

Based on above difference listed, the modifications will impact all the test items, so in this report, all the test items were performed. We also updated the related EUT photos and test setup photos in the report.

2. The Bay Area Compliance Laboratories Corp. (Shenzhen) is responsible for all the information provided in this report, except when information is provided by the customer as identified in this report.

## Measurement Uncertainty

| Item                | Frequency Range |               | Expanded Measurement uncertainty     |
|---------------------|-----------------|---------------|--------------------------------------|
| Conducted Emissions | AC Mains        | 150kHz ~30MHz | 3.66dB(k=2, 95% level of confidence) |
| Radiated Emissions  | 0.009MHz~30MHz  | /             | 3.60dB(k=2, 95% level of confidence) |
|                     | 30MHz~200MHz    | Horizontal    | 5.32dB(k=2, 95% level of confidence) |
|                     | 30MHz~200MHz    | Vertical      | 5.43dB(k=2, 95% level of confidence) |
|                     | 200MHz~1000MHz  | Horizontal    | 5.77dB(k=2, 95% level of confidence) |
|                     | 200MHz~1000MHz  | Vertical      | 5.73dB(k=2, 95% level of confidence) |
|                     | 1GHz~6GHz       | /             | 5.34dB(k=2, 95% level of confidence) |
|                     | 6GHz~18GHz      | /             | 5.40dB(k=2, 95% level of confidence) |
|                     | 18GHz~40GHz     | /             | 5.64dB(k=2, 95% level of confidence) |
| Nerve Simulation    | H-Field         |               | 0.74dB(k=2, 95% level of confidence) |
|                     | E-Field         |               | 1.14dB(k=2, 95% level of confidence) |

*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.*

## Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 5F(B-West), 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 715558, the FCC Designation No. : CN5045.

Each test item follows test standards and with no deviation.

## 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.

Test Mode: Operation

### 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.

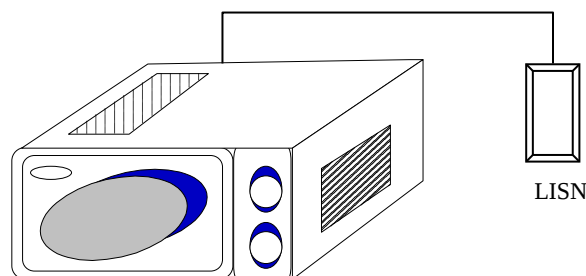
### Support Equipment List and Details

| Manufacturer | Description  | Model        | Serial Number |
|--------------|--------------|--------------|---------------|
| WEIY         | Glass Beaker | GG-17 1000ml | Unknown       |

### External Cable List and Details

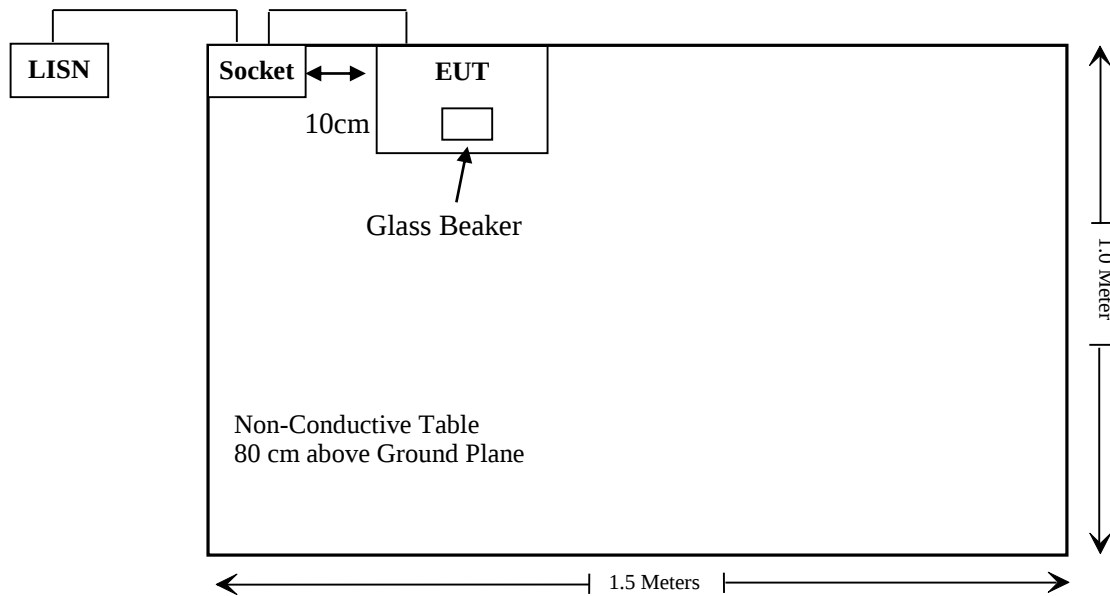
| Cable Description                   | Length (m) | From/Port    | To   |
|-------------------------------------|------------|--------------|------|
| Un-Shielding Un-Detachable AC Cable | 1.0        | Socket       | LISN |
| Un-Shielding Un-Detachable AC Cable | 1.0        | Socket/Mains | EUT  |

### Configuration of Test Setup

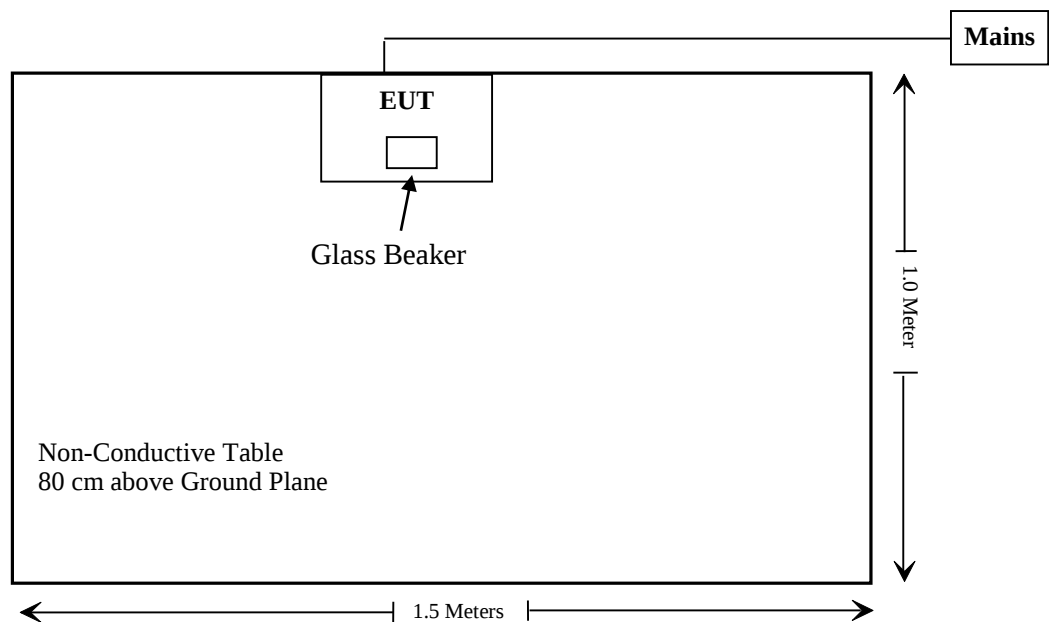


## Block Diagram of Test Setup

### Conducted Emission



### For Radiated Emission



## SUMMARY OF TEST RESULT

| FCC Rules                      | Description of Test          | Results   |
|--------------------------------|------------------------------|-----------|
| §18.307                        | AC Line Conducted Emissions  | Compliant |
| FCC/OST MP-5<br>FCC §18.301    | Radiation Hazard Measurement | Compliant |
| §18.305                        | Field Strength               | Compliant |
| FCC/§18.313 §1.1310<br>§1.1091 | Maximum Permissible Exposure | Compliant |

## TEST EQUIPMENT LIST

| Manufacturer                        | Description                       | Model             | Serial Number          | Calibration Date | Calibration Due Date |
|-------------------------------------|-----------------------------------|-------------------|------------------------|------------------|----------------------|
| <b>Conducted Emissions</b>          |                                   |                   |                        |                  |                      |
| Rohde & Schwarz                     | EMI Test Receiver                 | ESCI              | 101120                 | 2024/12/04       | 2025/12/03           |
| Rohde & Schwarz                     | LISN                              | ENV216            | 101613                 | 2024/12/04       | 2025/12/03           |
| Rohde & Schwarz                     | Transient Limiter                 | ESH3Z2            | DE25985                | 2025/04/29       | 2026/04/28           |
| Unknown                             | CE Cable                          | Unknown           | UF A210B-1-0720-504504 | 2025/04/29       | 2026/04/28           |
| Audix                               | EMI Test software                 | E3                | 191218(V9)             | NCR              | NCR                  |
| <b>Field Strength</b>               |                                   |                   |                        |                  |                      |
| Rohde & Schwarz                     | EMI Test Receiver                 | ESR3              | 102455                 | 2024/12/04       | 2025/12/03           |
| Sonoma instrument                   | Pre-amplifier                     | 310 N             | 186238                 | 2025/04/29       | 2026/04/28           |
| Sunol Sciences                      | Broadband Antenna                 | JB1               | A040904-1              | 2023/07/20       | 2026/07/19           |
| Unknown                             | Cable                             | Chamber A Cable 1 | N/A                    | 2025/04/29       | 2026/04/28           |
| Unknown                             | Cable                             | XH500C            | J-10M-A                | 2025/04/29       | 2026/04/28           |
| BACL                                | Active Loop Antenna               | 1313-1A           | 4031911                | 2024/05/14       | 2027/05/13           |
| Audix                               | EMI Test software                 | E3                | 19821b(V9)             | NCR              | NCR                  |
| Rohde & Schwarz                     | Spectrum Analyzer                 | FSV40             | 101605                 | 2025/03/26       | 2026/03/25           |
| A.H.System                          | Preamplifier                      | PAM-0118P         | 489                    | 2024/11/15       | 2025/11/14           |
| Schwarzbeck                         | Horn Antenna                      | BBHA9120D (1201)  | 1143                   | 2023/07/26       | 2026/07/25           |
| Unknown                             | RF Cable                          | KMSE              | 735                    | 2024/12/06       | 2025/12/05           |
| Unknown                             | RF Cable                          | UFA147            | 219661                 | 2024/12/06       | 2025/12/05           |
| Unknown                             | RF Cable                          | XH750A-N          | J-10M                  | 2024/12/06       | 2025/12/05           |
| JD                                  | Filter Switch Unit                | DT7220FSU         | DS79906                | 2024/09/09       | 2025/09/08           |
| JD                                  | Multiplex Switch Test Control Set | DT7220SCU         | DS79903                | 2024/09/09       | 2025/09/08           |
| Audix                               | EMI Test software                 | E3                | 191218(V9)             | NCR              | NCR                  |
| A.H.System                          | Pre-amplifier                     | PAM-1840VH        | 190                    | 2025/04/29       | 2026/04/28           |
| UTIFLEX                             | RF Cable                          | NO. 13            | 232308-001             | 2024/12/18       | 2025/12/17           |
| Electro-Mechanics Co                | Horn Antenna                      | 3116              | 9510-2270              | 2023/09/18       | 2026/09/17           |
| <b>Radiation Hazard Measurement</b> |                                   |                   |                        |                  |                      |
| LKM                                 | Thermometer                       | DTM3000           | n/a                    | 2024/12/10       | 2025/12/9            |
| YOKOGAWA                            | Power meter                       | 253503            | 25BW3075               | 2024/11/6        | 2025-011-05          |

| Manufacturer                        | Description            | Model            | Serial Number | Calibration Date | Calibration Due Date |
|-------------------------------------|------------------------|------------------|---------------|------------------|----------------------|
| <b>Maximum Permissible Exposure</b> |                        |                  |               |                  |                      |
| ETS                                 | microwave survey meter | HI-1501          | 3640274       | 2022/10/11       | 2025/10/10           |
| Operating frequency                 |                        |                  |               |                  |                      |
| Rohde & Schwarz                     | Spectrum Analyzer      | FSV40            | 101605        | 2025/03/26       | 2026/03/25           |
| Schwarzbeck                         | Horn Antenna           | BBHA9120D (1201) | 1143          | 2023/07/26       | 2026/07/25           |
| Unknown                             | RF Cable               | KMSE             | 735           | 2024/12/06       | 2025/12/05           |
| Unknown                             | RF Cable               | UFA147           | 219661        | 2024/12/06       | 2025/12/05           |

**\* Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

## FCC §18.313, §1.1310, §2.1091- MAXIMUM PERMISSIBLE EXPOSURE

### Applicable Standard

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 <sup>2</sup> ) | Averaging Time (minutes) |
| 0.3–1.34                                                | 614                           | 1.63                          | *(100)                              | 30                       |
| 1.34–30                                                 | 824/f                         | 2.19/f                        | *(180/f }                           | 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;

### Measurement

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 24.2 °C   |
| Relative Humidity: | 52%       |
| ATM Pressure:      | 100.1 kPa |

The testing was performed by Macy Shi on 2025-07-26.

| Operation Modes | Frequency (MHz) | Antenna Gain |           | Conducted output power including Tune-up Tolerance |       | Evaluation Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | MPE Limit (mW/cm <sup>2</sup> ) |
|-----------------|-----------------|--------------|-----------|----------------------------------------------------|-------|--------------------------|-------------------------------------|---------------------------------|
|                 |                 | (dBi)        | (numeric) | (dBm)                                              | (mW)  |                          |                                     |                                 |
| BLE             | 2402-2480       | 2.00         | 1.58      | 6.56                                               | 4.53  | 20                       | 0.0014                              | 1                               |
| Wi-Fi           | 2412-2462       | 2.00         | 1.58      | 17.07                                              | 50.92 | 20                       | 0.0160                              | 1                               |

Note:

1. The device contains a certified Module, FCC ID: 2ADQOMWB-SWB01.
2. The BLE/Wi-Fi Conducted output power comes from module report.
3. The BLE/Wi-Fi and Microwave can transmit simultaneously
4. Simultaneous transmitting was considerate to be compliant to the limit, since low power density for BLE/Wi-Fi and Microwave Functions.

**Result:** The device meets FCC MPE at **20 cm** distance

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

A 275ml 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 0.3 mW/cm<sup>2</sup> observed at any point 5cm or more from the external surface of the oven.

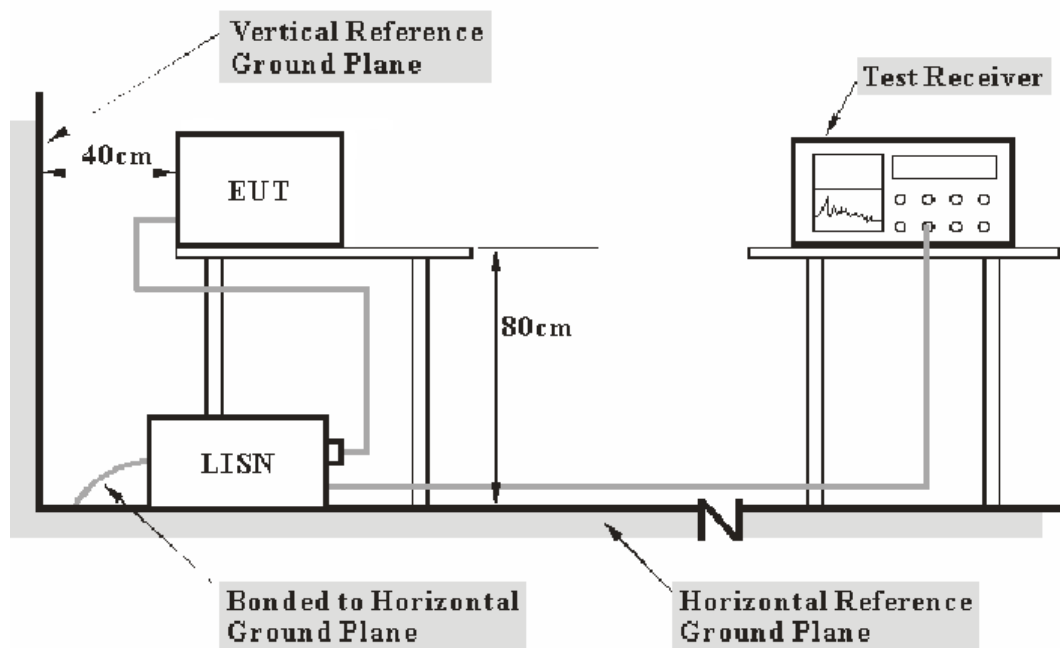
A maximum of 1.0mW/cm<sup>2</sup> is allowed in accordance with the applicable Federal Standards. Hence, microwave leakage in the as-received condition with the oven door closed was below the maximum allowed.

## 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 a 120 V<sub>AC</sub>/ 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  | RBW   |
|------------------|-------|
| 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.

## Test Data

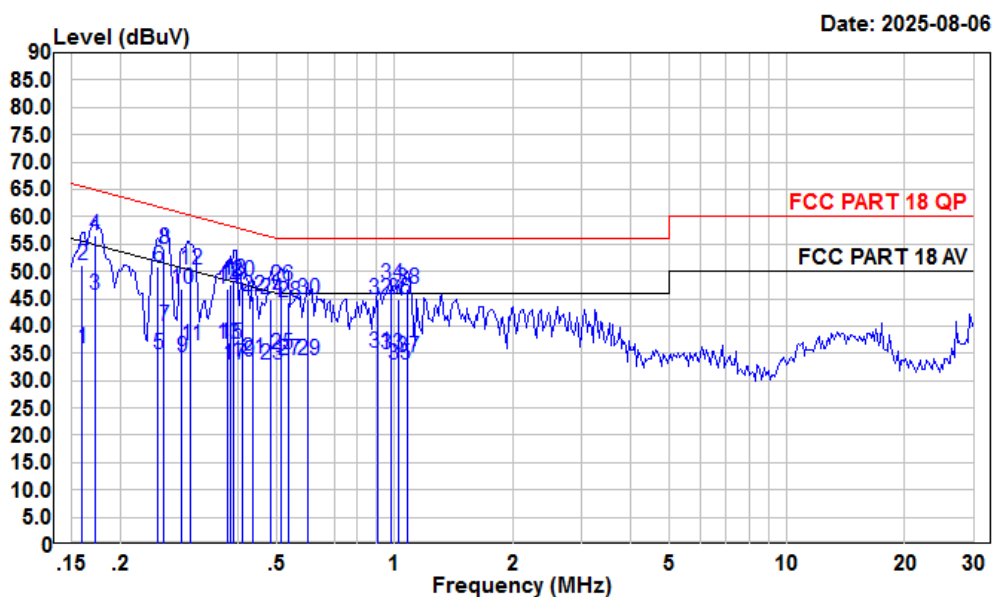
### Environmental Conditions

|                           |           |
|---------------------------|-----------|
| <b>Temperature:</b>       | 25.5 °C   |
| <b>Relative Humidity:</b> | 69 %      |
| <b>ATM Pressure:</b>      | 100.0 kPa |

*The testing was performed by Macy Shi on 2025-08-06.*

*Test Mode: Operation*

## AC 120V/60 Hz, Line



Condition: Neutral

Project : 2501V24900E-EMA2

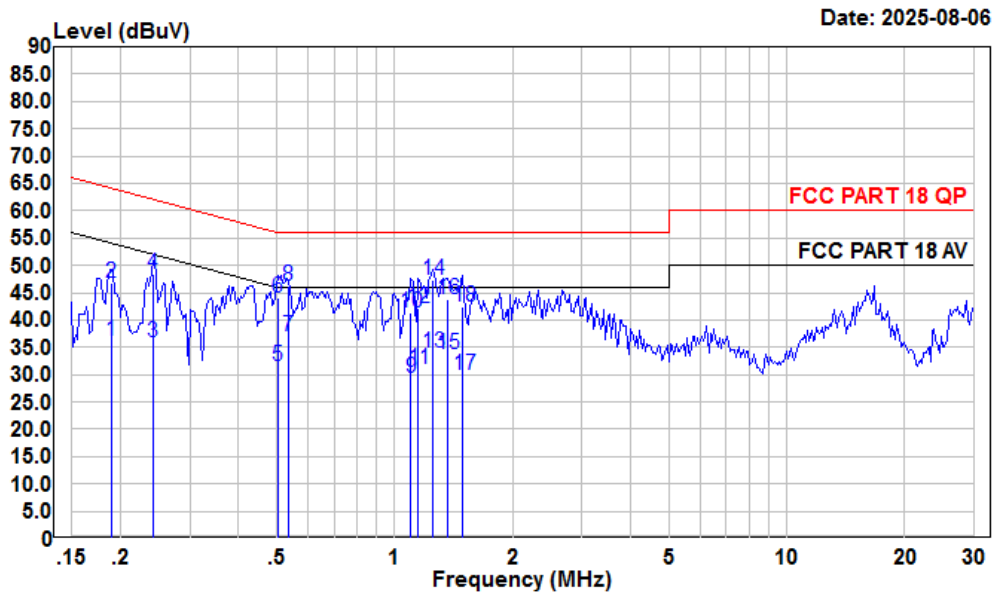
test Mode: Operation

tester : Macy.shi Setting:RBW:9kHz

|    | Freq  | Read Level | LISN Level | Factor | Cable Loss | Limit Line | Over Limit | Remark  |
|----|-------|------------|------------|--------|------------|------------|------------|---------|
|    | MHz   | dBuV       | dBuV       | dB     | dB         | dBuV       | dB         |         |
| 1  | 0.160 | 15.20      | 35.86      | 10.49  | 10.17      | 55.47      | -19.61     | Average |
| 2  | 0.160 | 30.50      | 51.16      | 10.49  | 10.17      | 65.47      | -14.31     | QP      |
| 3  | 0.172 | 25.02      | 45.80      | 10.59  | 10.19      | 54.86      | -9.06      | Average |
| 4  | 0.172 | 35.81      | 56.59      | 10.59  | 10.19      | 64.86      | -8.27      | QP      |
| 5  | 0.249 | 13.80      | 34.73      | 10.73  | 10.20      | 51.78      | -17.05     | Average |
| 6  | 0.249 | 30.00      | 50.93      | 10.73  | 10.20      | 61.78      | -10.85     | QP      |
| 7  | 0.258 | 19.03      | 39.95      | 10.72  | 10.20      | 51.51      | -11.56     | Average |
| 8  | 0.258 | 33.13      | 54.05      | 10.72  | 10.20      | 61.51      | -7.46      | QP      |
| 9  | 0.286 | 13.41      | 34.28      | 10.68  | 10.19      | 50.63      | -16.35     | Average |
| 10 | 0.286 | 26.01      | 46.88      | 10.68  | 10.19      | 60.63      | -13.75     | QP      |
| 11 | 0.302 | 15.72      | 36.58      | 10.67  | 10.19      | 50.19      | -13.61     | Average |
| 12 | 0.302 | 29.35      | 50.21      | 10.67  | 10.19      | 60.19      | -9.98      | QP      |
| 13 | 0.373 | 15.99      | 36.79      | 10.60  | 10.20      | 48.43      | -11.64     | Average |
| 14 | 0.373 | 25.89      | 46.69      | 10.60  | 10.20      | 58.43      | -11.74     | QP      |
| 15 | 0.381 | 15.90      | 36.69      | 10.59  | 10.20      | 48.25      | -11.56     | Average |
| 16 | 0.381 | 26.80      | 47.59      | 10.59  | 10.20      | 58.25      | -10.66     | QP      |

|    | Freq  | Read<br>Level | Level | LISN<br>Factor | Cable<br>Loss | Limit<br>Line | Over<br>Limit | Remark  |
|----|-------|---------------|-------|----------------|---------------|---------------|---------------|---------|
|    | MHz   | dBuV          | dBuV  | dB             | dB            | dBuV          | dB            |         |
| 17 | 0.389 | 12.00         | 32.79 | 10.58          | 10.21         | 48.08         | -15.29        | Average |
| 18 | 0.389 | 27.50         | 48.29 | 10.58          | 10.21         | 58.08         | -9.79         | QP      |
| 19 | 0.410 | 12.70         | 33.48 | 10.56          | 10.22         | 47.64         | -14.16        | Average |
| 20 | 0.410 | 27.30         | 48.08 | 10.56          | 10.22         | 57.64         | -9.56         | QP      |
| 21 | 0.433 | 13.29         | 34.05 | 10.55          | 10.21         | 47.20         | -13.15        | Average |
| 22 | 0.433 | 24.79         | 45.55 | 10.55          | 10.21         | 57.20         | -11.65        | QP      |
| 23 | 0.481 | 12.20         | 32.90 | 10.51          | 10.19         | 46.32         | -13.42        | Average |
| 24 | 0.481 | 24.30         | 45.00 | 10.51          | 10.19         | 56.32         | -11.32        | QP      |
| 25 | 0.513 | 14.09         | 34.79 | 10.51          | 10.19         | 46.00         | -11.21        | Average |
| 26 | 0.513 | 26.49         | 47.19 | 10.51          | 10.19         | 56.00         | -8.81         | QP      |
| 27 | 0.535 | 13.00         | 33.72 | 10.52          | 10.20         | 46.00         | -12.28        | Average |
| 28 | 0.535 | 23.60         | 44.32 | 10.52          | 10.20         | 56.00         | -11.68        | QP      |
| 29 | 0.601 | 12.90         | 33.68 | 10.55          | 10.23         | 46.00         | -12.32        | Average |
| 30 | 0.601 | 24.10         | 44.88 | 10.55          | 10.23         | 56.00         | -11.12        | QP      |
| 31 | 0.909 | 14.00         | 34.97 | 10.75          | 10.22         | 46.00         | -11.03        | Average |
| 32 | 0.909 | 23.90         | 44.87 | 10.75          | 10.22         | 56.00         | -11.13        | QP      |
| 33 | 0.979 | 13.90         | 34.93 | 10.79          | 10.24         | 46.00         | -11.07        | Average |
| 34 | 0.979 | 26.50         | 47.53 | 10.79          | 10.24         | 56.00         | -8.47         | QP      |
| 35 | 1.021 | 12.00         | 33.04 | 10.80          | 10.24         | 46.00         | -12.96        | Average |
| 36 | 1.021 | 23.90         | 44.94 | 10.80          | 10.24         | 56.00         | -11.06        | QP      |
| 37 | 1.077 | 13.23         | 34.24 | 10.79          | 10.22         | 46.00         | -11.76        | Average |
| 38 | 1.077 | 25.82         | 46.83 | 10.79          | 10.22         | 56.00         | -9.17         | QP      |

## AC 120V/60 Hz, Neutral



Condition: Line

Project : 2501V24900E-EMA2

test Mode: Operation

tester : Macy.shi Setting:RBW:9kHz

|    |       | Read  |       | LISN   | Cable | Limit | Over   |         |
|----|-------|-------|-------|--------|-------|-------|--------|---------|
|    | Freq  | Level | Level | Factor | Loss  | Line  | Limit  | Remark  |
|    | MHz   | dBuV  | dBuV  | dB     | dB    | dBuV  | dB     |         |
| 1  | 0.189 | 15.36 | 36.19 | 10.64  | 10.19 | 54.06 | -17.87 | Average |
| 2  | 0.189 | 25.98 | 46.81 | 10.64  | 10.19 | 64.06 | -17.25 | QP      |
| 3  | 0.242 | 15.09 | 35.95 | 10.66  | 10.20 | 52.04 | -16.09 | Average |
| 4  | 0.242 | 27.65 | 48.51 | 10.66  | 10.20 | 62.04 | -13.53 | QP      |
| 5  | 0.502 | 10.83 | 31.51 | 10.50  | 10.18 | 46.00 | -14.49 | Average |
| 6  | 0.502 | 23.34 | 44.02 | 10.50  | 10.18 | 56.00 | -11.98 | QP      |
| 7  | 0.535 | 16.10 | 36.88 | 10.58  | 10.20 | 46.00 | -9.12  | Average |
| 8  | 0.535 | 25.40 | 46.18 | 10.58  | 10.20 | 56.00 | -9.82  | QP      |
| 9  | 1.100 | 8.39  | 29.27 | 10.67  | 10.21 | 46.00 | -16.73 | Average |
| 10 | 1.100 | 20.59 | 41.47 | 10.67  | 10.21 | 56.00 | -14.53 | QP      |
| 11 | 1.147 | 10.20 | 31.08 | 10.70  | 10.18 | 46.00 | -14.92 | Average |
| 12 | 1.147 | 21.40 | 42.28 | 10.70  | 10.18 | 56.00 | -13.72 | QP      |
| 13 | 1.249 | 13.02 | 33.95 | 10.76  | 10.17 | 46.00 | -12.05 | Average |
| 14 | 1.249 | 26.37 | 47.30 | 10.76  | 10.17 | 56.00 | -8.70  | QP      |
| 15 | 1.359 | 12.60 | 33.61 | 10.82  | 10.19 | 46.00 | -12.39 | Average |
| 16 | 1.359 | 22.70 | 43.71 | 10.82  | 10.19 | 56.00 | -12.29 | QP      |

|    | Freq  | Read<br>Level | Level | LISN<br>Factor | Cable<br>Loss | Limit<br>Line | Over<br>Limit | Remark  |
|----|-------|---------------|-------|----------------|---------------|---------------|---------------|---------|
|    | MHz   | dBuV          | dBuV  | dB             | dB            | dBuV          | dB            |         |
| 17 | 1.495 | 8.90          | 30.00 | 10.89          | 10.21         | 46.00         | -16.00        | Average |
| 18 | 1.495 | 21.20         | 42.30 | 10.89          | 10.21         | 56.00         | -13.70        | QP      |

## RADIATION HAZARD MEASUREMENT

### Applicable Standard

FCC §18.301 & FCC/OST MP-5

### Environmental Conditions

|                    |                 |
|--------------------|-----------------|
| Temperature:       | 20.8~24.9 °C    |
| Relative Humidity: | 50~54 %         |
| ATM Pressure:      | 100.1~100.6 kPa |

*The testing was performed by Leon Guo and Macy Shi from 2025-07-26 to 2025-08-15 .*

### Input Power Test

Input power and current was measured using a power analyzer. A1000ml 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.

Refer to following tabular

| Input Voltage<br>(Vac/Hz) | Input Current<br>(Amps) | Measured Input Power<br>(Watts) | Rated Input Power<br>(Watts) |
|---------------------------|-------------------------|---------------------------------|------------------------------|
| 118.8                     | 10.25                   | 1217.7                          | 1200                         |

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

### Load for 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.

## 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 g  $\pm$  5 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.

| $m_w$<br>(g) | $m_c$<br>(g) | $T_0$<br>( $^{\circ}$ C) | $T_1$<br>( $^{\circ}$ C) | $T_2$<br>( $^{\circ}$ C) | $t$<br>(s) |
|--------------|--------------|--------------------------|--------------------------|--------------------------|------------|
| 1000         | 377.0        | 24.9                     | 10.2                     | 19.9                     | 48         |

$$P = \frac{4.187 * m_w (T_2 - T_1) + 0.55 * m_c (T_2 - T_0)}{t}$$

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 25 $\mu$ V/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, the measured out-of-band emissions were compared with the limit calculated as following:

$$LFS = 25 * \text{SQRT} (\text{Power Output}/500) = 25 * \text{SQRT} (824.52/500) = 32.10$$

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

| LFS<br>$\mu$ V/m@300m | dB $\mu$ V/M@300m | dB $\mu$ V/M@3m |
|-----------------------|-------------------|-----------------|
| 32.10                 | 30.13             | 70.13           |

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

**Variation in Operating Frequency with Time**

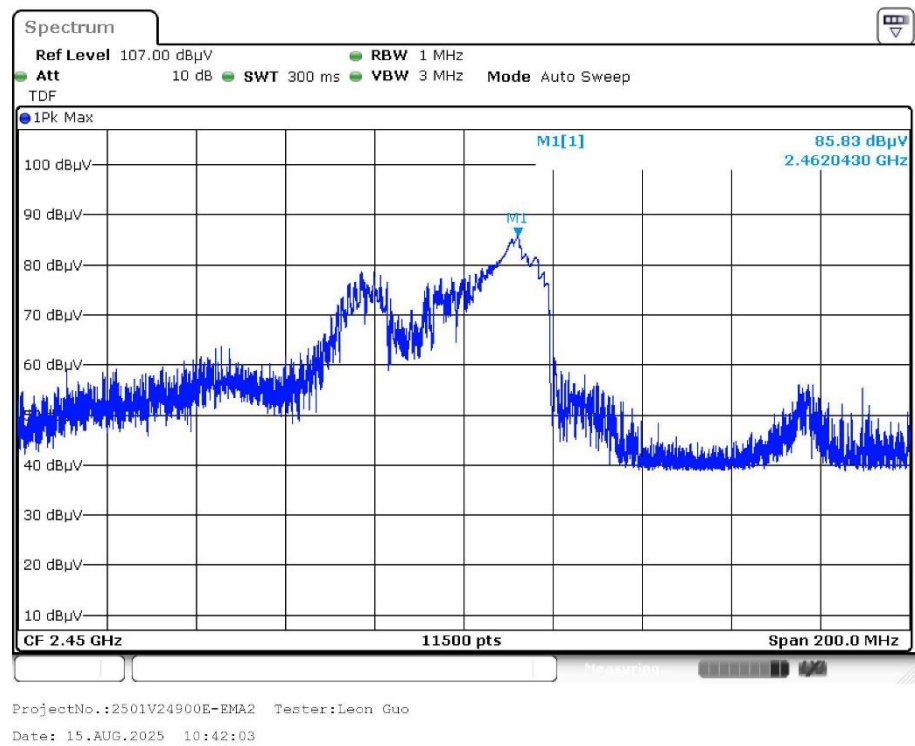
The operating frequency was measured using a spectrum analyzer. Starting with the EUT at room temperature, a 1000ml water load was placed in the center of the oven and the oven was operated at maximum output power. The fundamental operating frequency was monitored until the water load was reduced to 20 percent of the original load.

The results of this test are as follows:

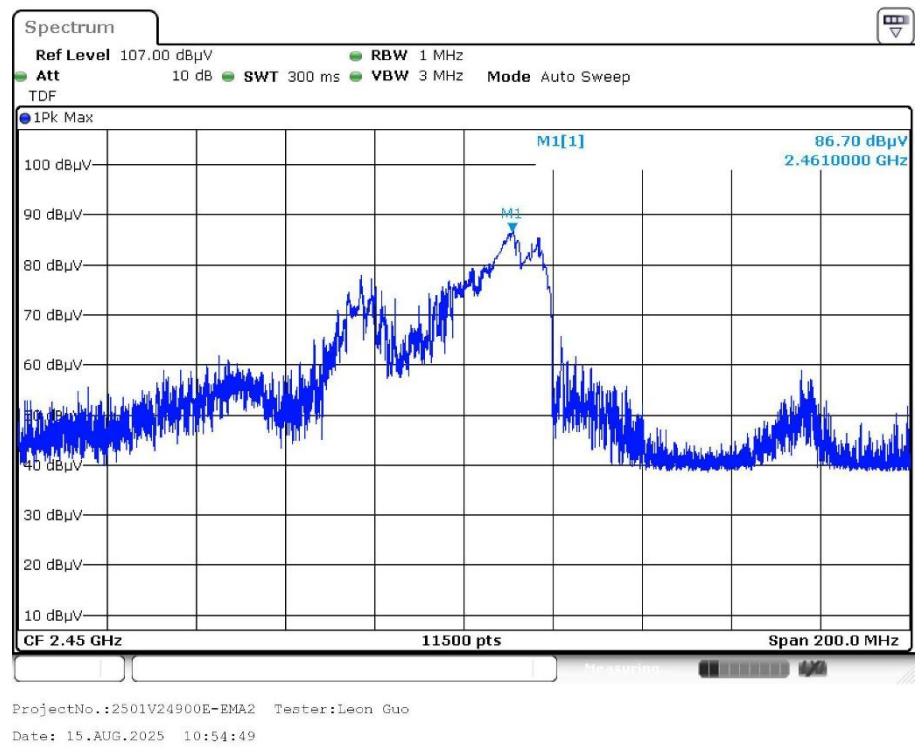
| Frequency at Start time<br>(MHz) | Frequency at End time<br>(MHz) |
|----------------------------------|--------------------------------|
| 2462.04                          | 2461.00                        |

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

Start time:



End time:



## Variation in Operating Frequency with Line Voltage

The EUT was operated / warmed by at least 10 minutes of use with a 1000ml 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.

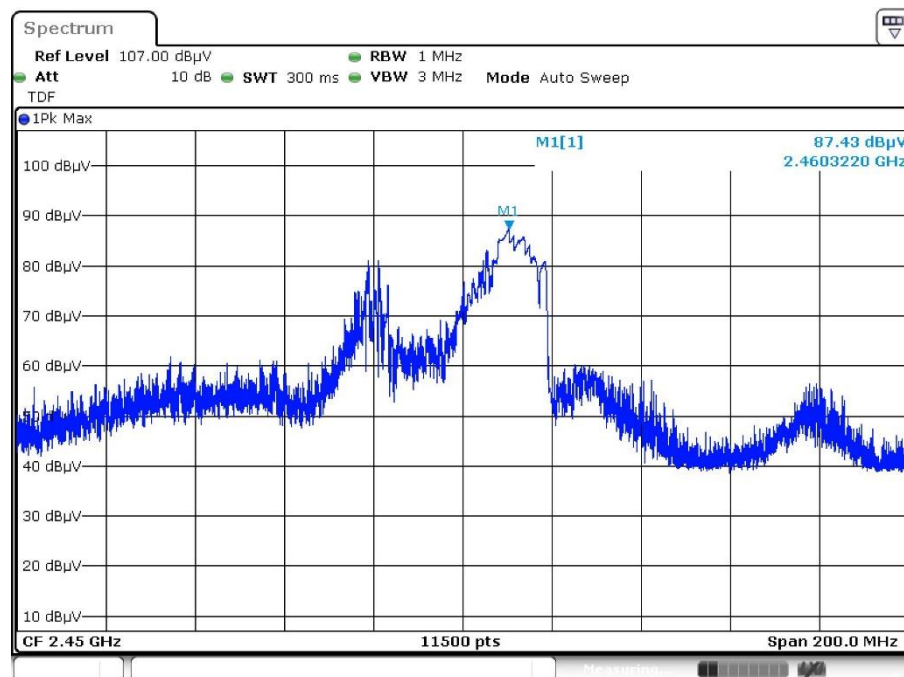
The results of this test are as follows:

Line voltage varied from 96 V<sub>AC</sub> to 150 V<sub>AC</sub>.

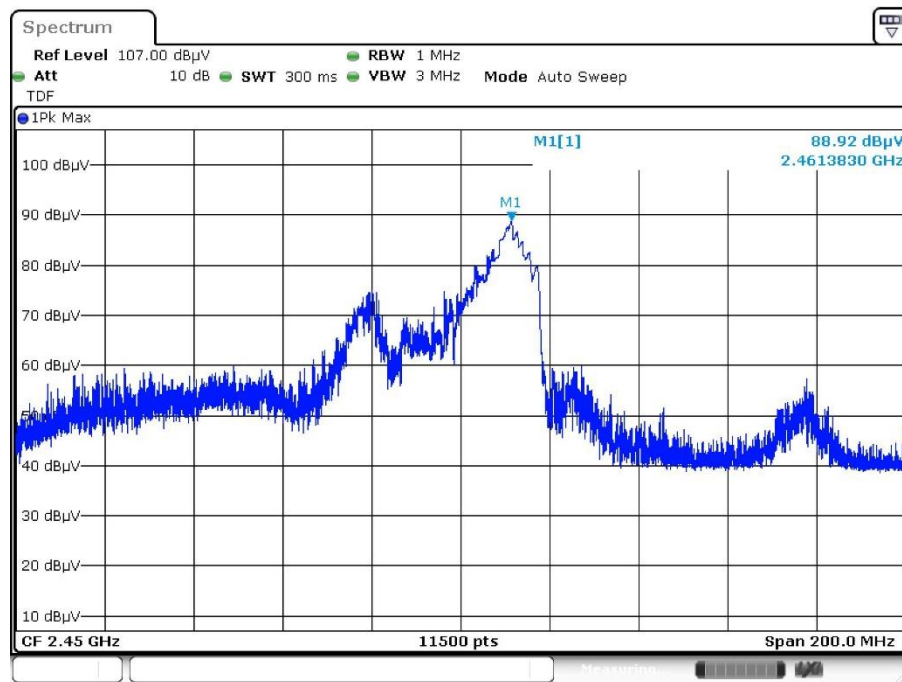
| (Low voltage) Frequency (MHz) | (High voltage) Frequency (MHz) |
|-------------------------------|--------------------------------|
| 2460.32                       | 2461.38                        |

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

### Low Voltage:



ProjectNo.:2501V24900E-EMA2 Tester:Leon Guo  
Date: 15.AUG.2025 11:22:37

**High Voltage:**

ProjectNo.:2501V24900E-EMA2 Tester:Leon Guo  
Date: 15.AUG.2025 11:40:34

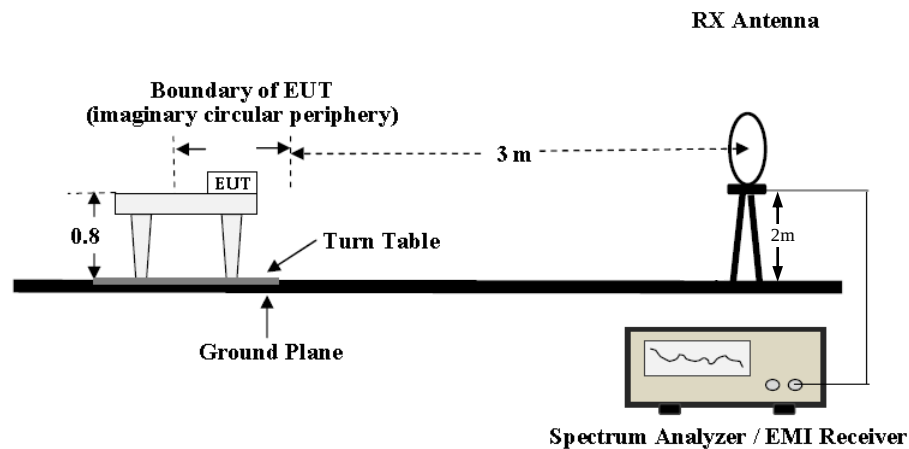
## RADIATED EMISSIONS

### Applicable Standard

FCC §18.305

### EUT Setup

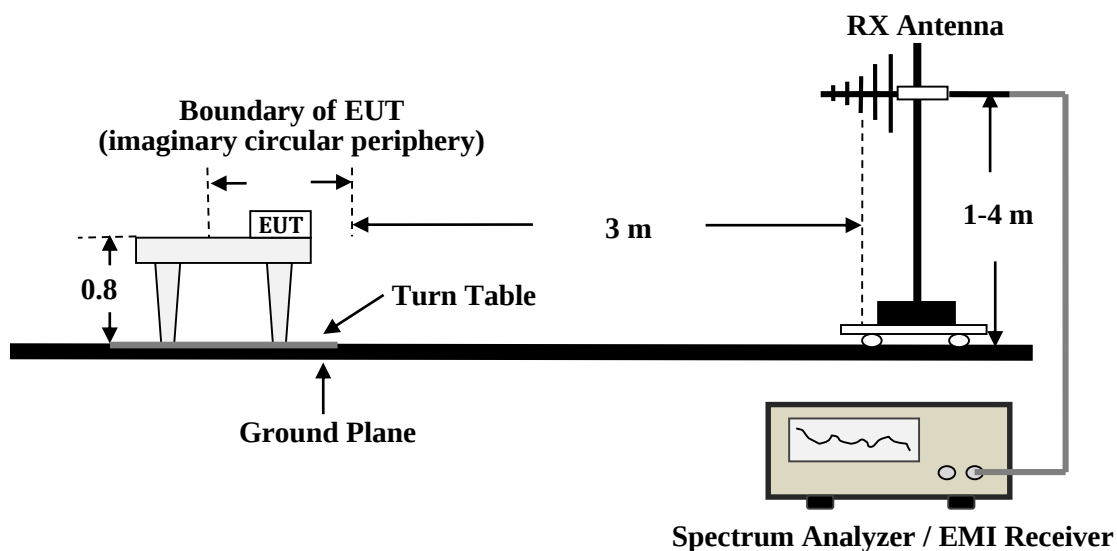
#### Below 30MHz for Radiated Emissions



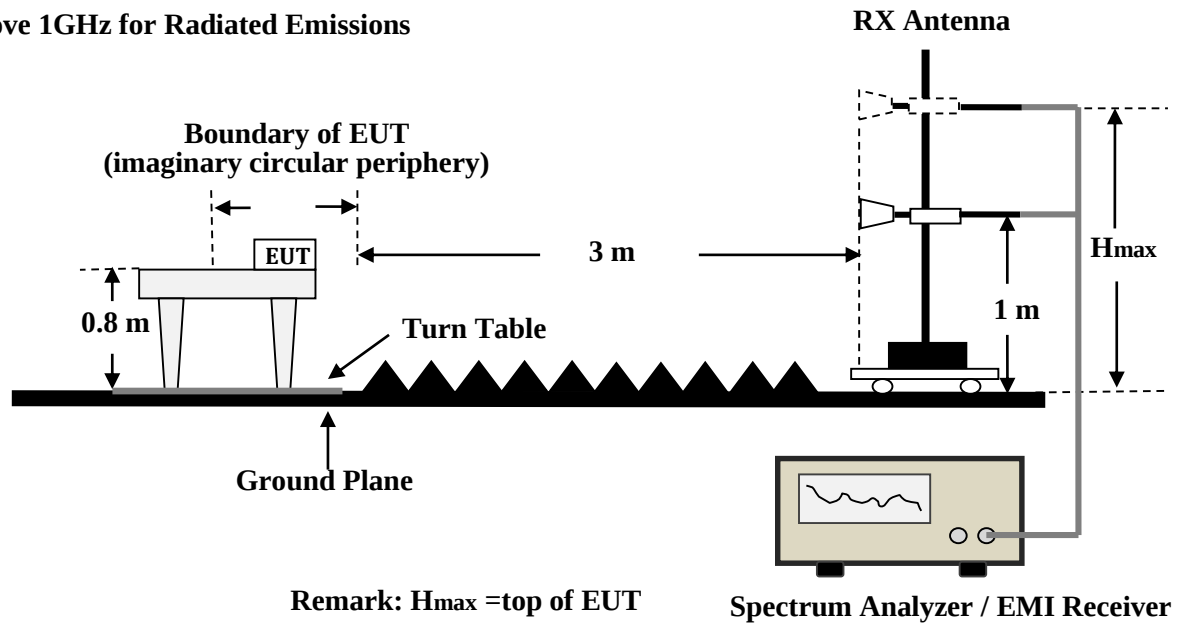
The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the FCC OST MP-5(1986). The related limit was specified in Part 18.305.

The distance from the loop antenna bracket to the ground is 2 meters.

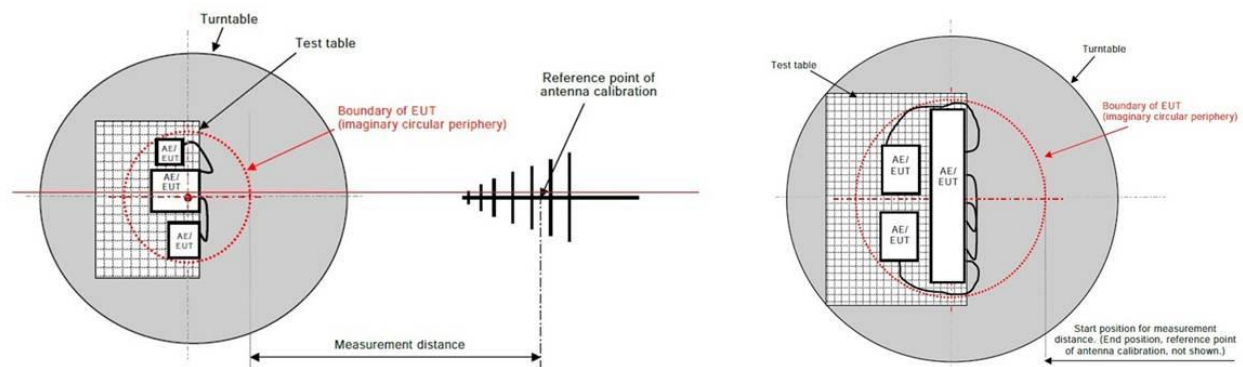
#### Below 1GHz for Radiated Emissions



### Above 1GHz for Radiated Emissions



### Radiated Emissions Setup Configuration



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 VAC/60 Hz power source.

### EMI Test Receiver Setup and Spectrum Analyzer Setup

The system was investigated from 9kHz to 25 GHz.

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

9 kHz-1GHz:

| Frequency Range   | RBW     | Video B/W | IF B/W  | Measurement | Detector |
|-------------------|---------|-----------|---------|-------------|----------|
| 9 kHz – 150 kHz   | /       | /         | 200 Hz  | QP          | QP       |
|                   | 300 Hz  | 1 kHz     | /       | PK          | Peak     |
| 150 kHz – 30 MHz  | /       | /         | 9 kHz   | QP          | QP       |
|                   | 10 kHz  | 30 kHz    | /       | PK          | Peak     |
| 30 MHz – 1000 MHz | /       | /         | 120 kHz | QP          | QP       |
|                   | 100 kHz | 300 kHz   | /       | PK          | Peak     |

1-25GHz:

Pre-scan

| Measurement | Detector | RBW  | Video B/W |
|-------------|----------|------|-----------|
| PK          | Peak     | 1MHz | 3MHz      |

Final measurement for emission identified during pre-scan

| Measurement | Detector | RBW  | Video B/W |
|-------------|----------|------|-----------|
| Ave.        | Peak     | 1MHz | 10 Hz     |

## 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.

## Level & Over Limit Calculation

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

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

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

The “**Over Limit**” Column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit of -6 dB means the emission is 6 dB below the limit. The equation for margin calculation is as follows:

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

## Test Data and Plots

### Environmental Conditions

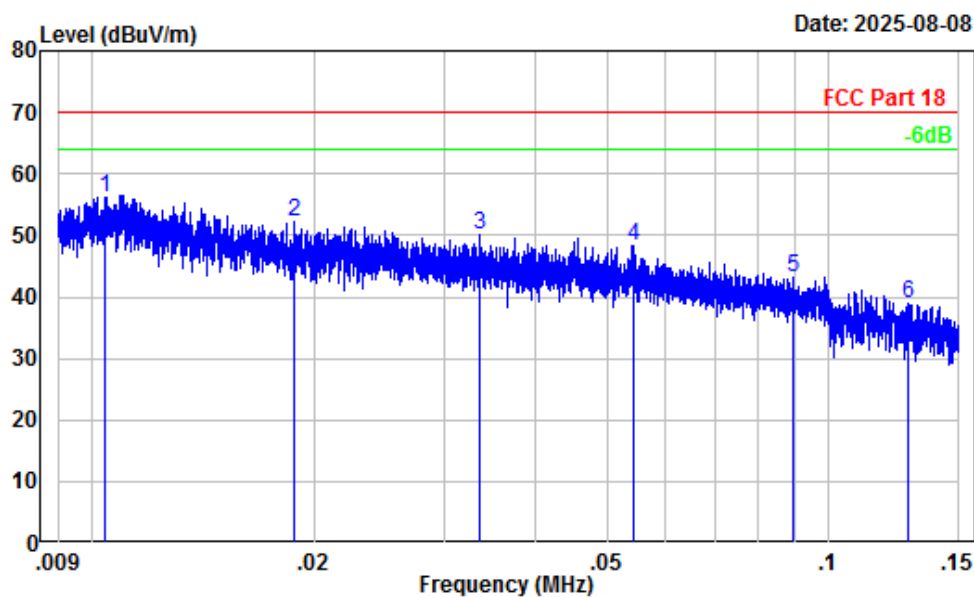
|                           |                 |
|---------------------------|-----------------|
| <b>Temperature:</b>       | 20.8~25 °C      |
| <b>Relative Humidity:</b> | 49~54 %         |
| <b>ATM Pressure:</b>      | 100.3~100.6 kPa |

*The testing was performed by Anson Su and Kungfumaster Liang from 2025-08-06 to 2025-08-08 for below 1GHz, by Leon Guo on 2025-08-15 for above 1GHz.*

*Test Mode: Operation*

*Note: For the radiation emissions below 30 MHz, test the X/Y/Z three planes of the loop antenna respectively, and only record the worst-case situation of the Y plane.*

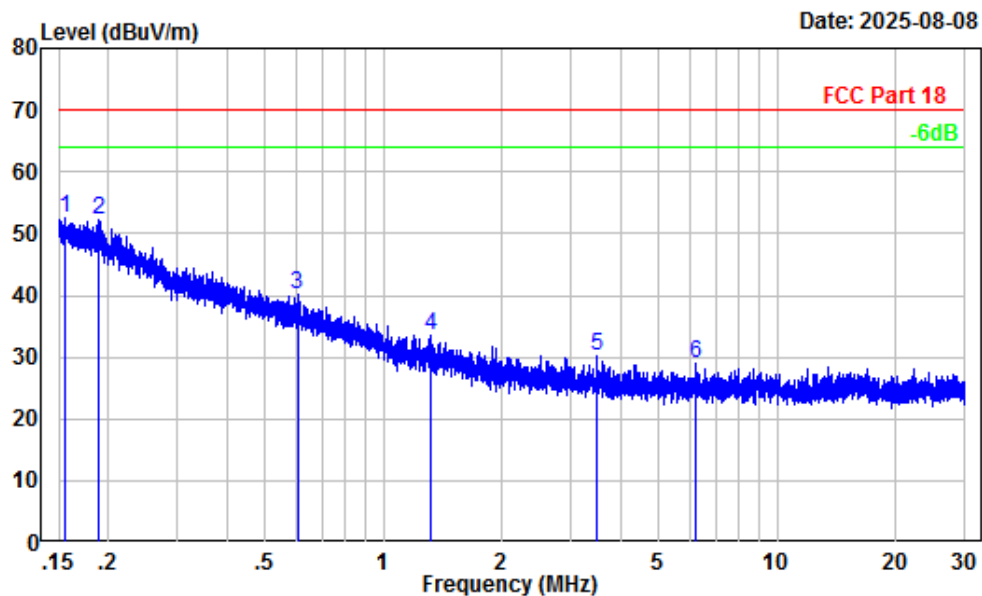
## 9 kHz-150kHz



Site : Chamber A  
Condition : 3m  
Project Number : 2501V24900E-EMA2  
Test Mode : Microwave heating  
Detector: Peak RBW/VBW: 0.3/1kHz  
Tester : Anson Su

|   | Freq Factor |       | Read  |        | Limit  | Over   | Remark |
|---|-------------|-------|-------|--------|--------|--------|--------|
|   | MHz         | dB/m  | Level | Level  | Line   | Limit  |        |
|   |             |       | dBuV  | dBuV/m | dBuV/m | dB     |        |
| 1 | 0.010       | 32.22 | 24.04 | 56.26  | 70.13  | -13.87 | Peak   |
| 2 | 0.019       | 30.63 | 21.67 | 52.30  | 70.13  | -17.83 | Peak   |
| 3 | 0.034       | 28.13 | 21.93 | 50.06  | 70.13  | -20.07 | Peak   |
| 4 | 0.054       | 25.97 | 22.30 | 48.27  | 70.13  | -21.86 | Peak   |
| 5 | 0.090       | 22.73 | 20.52 | 43.25  | 70.13  | -26.88 | Peak   |
| 6 | 0.128       | 20.36 | 18.67 | 39.03  | 70.13  | -31.10 | Peak   |

## 150 kHz – 30 MHz

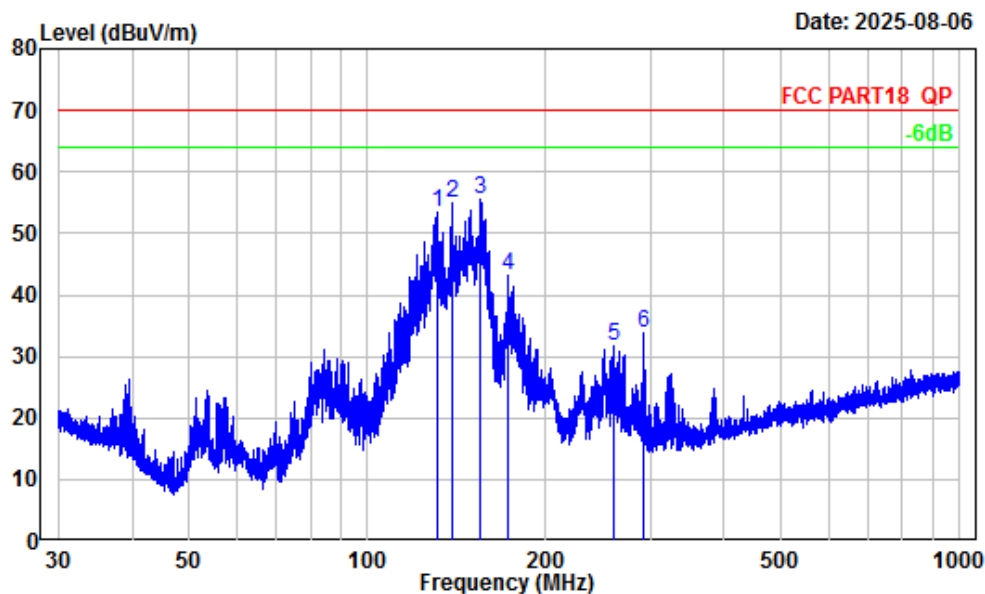


Site : Chamber A  
Condition : 3m  
Project Number : 2501V24900E-EMA2  
Test Mode : Microwave heating  
Detector: Peak RBW/VBW: 10/30kHz  
Tester : Anson Su

|   | Freq  | Factor | Read<br>Level | Level  | Limit<br>Line | Over<br>Limit | Remark |
|---|-------|--------|---------------|--------|---------------|---------------|--------|
|   | MHz   | dB/m   | dBuV          | dBuV/m | dBuV/m        | dB            |        |
| 1 | 0.156 | 18.72  | 33.89         | 52.61  | 70.13         | -17.52        | Peak   |
| 2 | 0.189 | 16.73  | 35.38         | 52.11  | 70.13         | -18.02        | Peak   |
| 3 | 0.605 | 5.10   | 34.98         | 40.08  | 70.13         | -30.05        | Peak   |
| 4 | 1.326 | 0.29   | 33.29         | 33.58  | 70.13         | -36.55        | Peak   |
| 5 | 3.481 | -2.41  | 32.54         | 30.13  | 70.13         | -40.00        | Peak   |
| 6 | 6.244 | -2.91  | 31.83         | 28.92  | 70.13         | -41.21        | Peak   |

## 30 MHz – 1 GHz

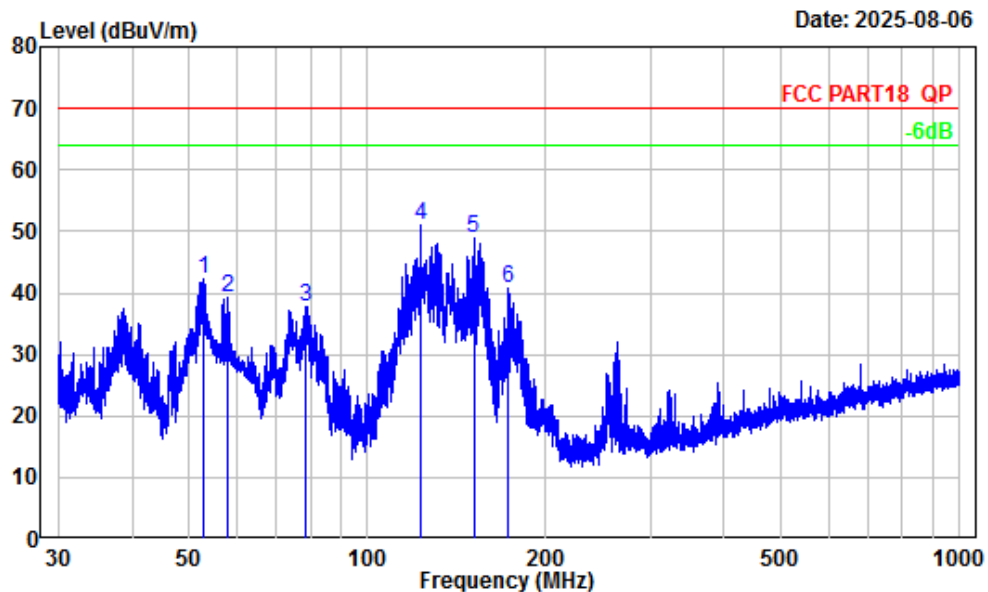
## Horizontal



Site : Chamber A  
Condition : 3m Horizontal  
Project Number : 2501V24900E-EMA2  
Test Mode : Operation  
Detector: Peak RBW/VBW: 100/300kHz  
Tester : Kungfumaster Liang

|   | Freq Factor |        | Read  |        | Limit | Over   | Remark |
|---|-------------|--------|-------|--------|-------|--------|--------|
|   | MHz         | dB/m   | dBuV  | dBuV/m | Line  | Limit  |        |
| 1 | 131.067     | -11.31 | 64.66 | 53.35  | 70.13 | -16.78 | Peak   |
| 2 | 138.569     | -11.75 | 66.72 | 54.97  | 70.13 | -15.16 | Peak   |
| 3 | 155.364     | -12.64 | 68.09 | 55.45  | 70.13 | -14.68 | Peak   |
| 4 | 172.372     | -13.23 | 56.37 | 43.14  | 70.13 | -26.99 | Peak   |
| 5 | 259.689     | -12.79 | 44.48 | 31.69  | 70.13 | -38.44 | Peak   |
| 6 | 292.699     | -11.21 | 44.93 | 33.72  | 70.13 | -36.41 | Peak   |

## Vertical



Site : Chamber A  
Condition : 3m Vertical  
Project Number : 2501V24900E-EMA2  
Test Mode : Operation  
Detector: Peak RBW/VBW: 100/300kHz  
Tester : Kungfumaster Liang

|   | Freq Factor |        | Read  |        | Limit  | Over   | Remark |
|---|-------------|--------|-------|--------|--------|--------|--------|
|   | MHz         | dB/m   | dBuV  | dBuV/m | dBuV/m | Limit  |        |
| 1 | 52.644      | -18.27 | 60.58 | 42.31  | 70.13  | -27.82 | Peak   |
| 2 | 58.101      | -18.22 | 57.59 | 39.37  | 70.13  | -30.76 | Peak   |
| 3 | 78.448      | -17.85 | 55.55 | 37.70  | 70.13  | -32.43 | Peak   |
| 4 | 122.942     | -11.15 | 62.14 | 50.99  | 70.13  | -19.14 | Peak   |
| 5 | 151.000     | -12.46 | 61.26 | 48.80  | 70.13  | -21.33 | Peak   |
| 6 | 173.129     | -13.30 | 53.99 | 40.69  | 70.13  | -29.44 | Peak   |

**1 -25 GHz:**

For Band edge and spurious emissions:

| Frequency<br>(MHz)                      | Receiver          |                        | Turn-Table      | Rx Antenna    |                  | Corrected<br>Factor<br>(dB/m) | Corrected<br>Amplitude<br>(dBμV/m) | FCC Part 18       |                |
|-----------------------------------------|-------------------|------------------------|-----------------|---------------|------------------|-------------------------------|------------------------------------|-------------------|----------------|
|                                         | Reading<br>(dBμV) | Detector<br>(PK/QP/AV) | Angle<br>Degree | Height<br>(m) | Polar<br>(H / V) |                               |                                    | Limit<br>(dBμV/m) | Margin<br>(dB) |
| 2103.01                                 | 47.94             | AV                     | 67              | 1.3           | H                | -11.59                        | 36.35                              | 70.13             | 33.78          |
| 2077.51                                 | 40.73             | AV                     | 70              | 1.8           | V                | -11.82                        | 28.91                              | 70.13             | 41.22          |
| 2307.03                                 | 64.64             | AV                     | 349             | 1.3           | H                | -10.78                        | 53.86                              | 70.13             | 16.27          |
| 2296.41                                 | 57.88             | AV                     | 312             | 1.3           | V                | -10.78                        | 47.10                              | 70.13             | 23.03          |
| 2397.46                                 | 63.48             | AV                     | 97              | 2.1           | H                | -11.00                        | 52.48                              | 70.13             | 17.65          |
| 2399.60                                 | 63.70             | AV                     | 114             | 1.8           | V                | -11.01                        | 52.69                              | 70.13             | 17.44          |
| 2520.01                                 | 55.26             | AV                     | 175             | 2.6           | H                | -10.99                        | 44.27                              | 70.13             | 25.86          |
| 2551.85                                 | 56.22             | AV                     | 204             | 2.4           | V                | -10.95                        | 45.27                              | 70.13             | 24.86          |
| 700ml water(Second and Third Harmonics) |                   |                        |                 |               |                  |                               |                                    |                   |                |
| 4911.25                                 | 74.40             | AV                     | 298             | 1.6           | H                | -7.54                         | 66.86                              | 70.13             | 3.27           |
| 4908.75                                 | 74.33             | AV                     | 312             | 1.4           | V                | -7.54                         | 66.79                              | 70.13             | 3.34           |
| 7380.00                                 | 67.06             | AV                     | 70              | 1.7           | H                | -2.14                         | 64.92                              | 70.13             | 5.21           |
| 7386.25                                 | 66.25             | AV                     | 72              | 1.5           | V                | -2.13                         | 64.12                              | 70.13             | 6.01           |
| 300ml water(Second and Third Harmonics) |                   |                        |                 |               |                  |                               |                                    |                   |                |
| 4943.75                                 | 71.64             | AV                     | 143             | 1.1           | H                | -7.61                         | 64.03                              | 70.13             | 6.10           |
| 4937.50                                 | 73.76             | AV                     | 137             | 1.0           | V                | -7.61                         | 66.15                              | 70.13             | 3.98           |
| 7420.00                                 | 70.09             | AV                     | 10              | 1.4           | H                | -1.95                         | 68.14                              | 70.13             | 1.99           |
| 7418.16                                 | 64.54             | AV                     | 42              | 1.2           | V                | -1.97                         | 62.57                              | 70.13             | 7.56           |

**Note:**

- 1) Corrected Amplitude = Meter Reading + Corrected Factor.
- 2) Correction Factor = Antenna Factor + Cable Loss - Amplifier Gain.
- 3) Margin = Limit – Corrected Amplitude.
- 4) The data below 20dB to the limit was not recorded.

## EUT PHOTOGRAPHS

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Please refer to the attachment 2501V24900E-EMA2-EXP External photo and 2501V24900E-EMA2-INP Internal photo.

## TEST SETUP PHOTOGRAPHS

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Please refer to the attachment 2501V24900E-EMA2-TSP Test Setup photo.

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