

TEST REPORT

Applicant Name: Grandstream Networks, Inc.
Address: 126 Brookline Ave., 3rd Floor Boston, MA 02215, USA
Report Number: 2501R01185E-EM-00
FCC ID: YZZGCC6021

Test Standard (s)

FCC Part 15, Subpart B (Class A)

Sample Description

Product Type: Multi-Port UC/Network Convergence Gateway
Model No.: GCC6021
Multiple Model(s) No.: N/A
Trade Mark: GRANDSTREAM
Date Received: 2025/03/14
Issue Date: 2025/05/12

| | |
|--------------|-------------------|
| Test Result: | Pass [▲] |
|--------------|-------------------|

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

Prepared and Checked By:

Carl Lu

Carl Lu
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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This report may contain data that are not covered by the NVLAP accreditation and are marked with an asterisk "▼".

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DOCUMENT REVISION HISTORY

| Revision Number | Report Number | Description of Revision | Date of Revision |
|-----------------|-------------------|-------------------------|------------------|
| 0 | 2501R01185E-EM-00 | Original Report | 2025/05/12 |

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

| | |
|--|--|
| Product | Multi-Port UC/Network Convergence Gateway |
| Tested Model | GCC6021 |
| Multiple Model(s) | N/A |
| Voltage Range | AC 100-240V 50/60Hz or DC 54V from DC port |
| Highest operating frequency [#] | 1800MHz (Provided by the applicant) |
| Equipment Class | Class A |
| Sample number | Sample1(G1766-0400W): 2ZS1-1 Sample2(D1602-F420S54-A): 2ZS1-2 (Assigned by BACL, Shenzhen) |
| Sample/EUT Status | Good condition |
| Adapter Information | N/A |
| | |

Objective

This test report is in accordance with Part 2-Subpart J, Part 15B Subparts A and B of the Federal Communication Commissions rules.

The objective of the manufacturer is to determine the compliance of the EUT with FCC Part 15B.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters. Each test item follows test standards and with no deviation.

Measurement Uncertainty

| Item | Frequency Range | | Expanded Measurement uncertainty |
|----------------------|-----------------|----------------|--------------------------------------|
| Conducted Emissions | AC Mains | 150 kHz ~30MHz | 3.66dB(k=2, 95% level of confidence) |
| Radiated Disturbance | 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) |

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.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in worst case condition.

Test Mode 1: Data transmitting+ Full load +Sample1

Test Mode 2: Data transmitting+ Full load +Sample2

Test Mode 3: Data transmitting+ Full load +Sample1+ Adapter (PA-1301-66C3)

EUT exercise software

No exercise software was used.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

| Manufacturer | Description | Model | Serial Number |
|--------------|----------------|----------------|---------------|
| TP-link | POE load | PPEL-24 | N/A |
| DELL | PC1 | Latitude E6520 | DL0ZCS1 |
| DELL | PC2 | Latitude E5570 | GNDLKC2 |
| LITEON | Adapter | PA-1301-66C3 | N/A |
| TP-Link | Fiber module*4 | N/A | N/A |

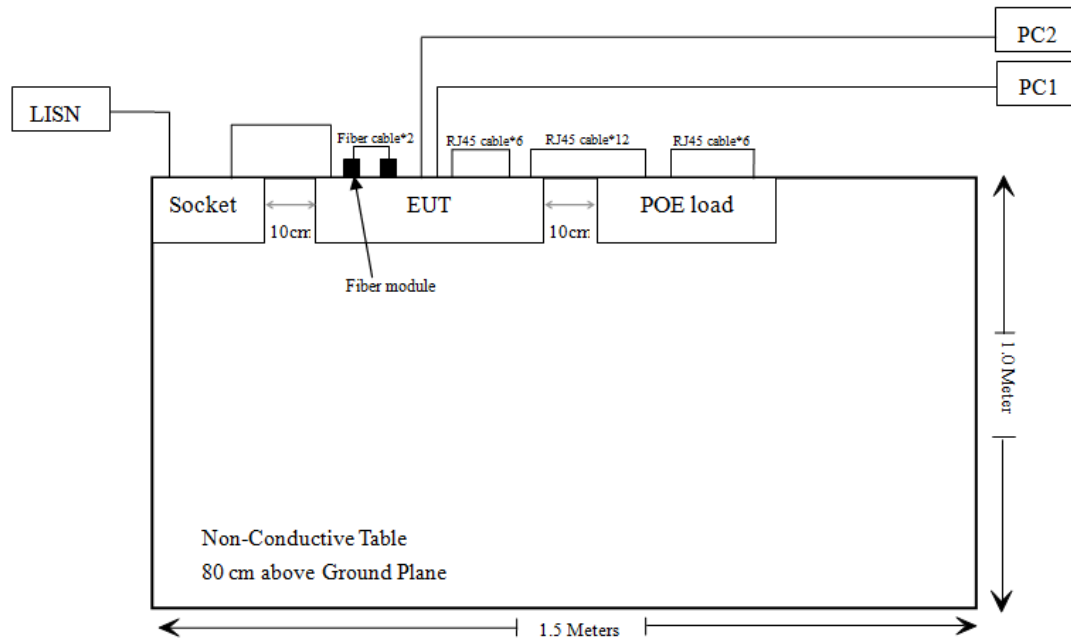
External I/O Cable

| Cable Description | Length (m) | From/Port | To |
|-------------------------------------|------------|--------------|--------------|
| Unshielded detachable AC cable | 1.2 | EUT | Mains |
| Unshielded detachable AC cable | 1.5 | Socket | LISN |
| Unshielded detachable AC cable | 1.2 | Socket | Adapter |
| Unshielded detachable DC cable | 1.8 | Adapter | EUT |
| Unshielded detachable RJ45 cable*12 | 1.0 | EUT | POE load |
| Unshielded detachable Fiber cable*2 | 1.0 | Fiber module | Fiber module |
| Unshielded detachable RJ45 cable | 10.0 | EUT | PC1 |
| Unshielded detachable RJ45 cable | 10.0 | EUT | PC2 |

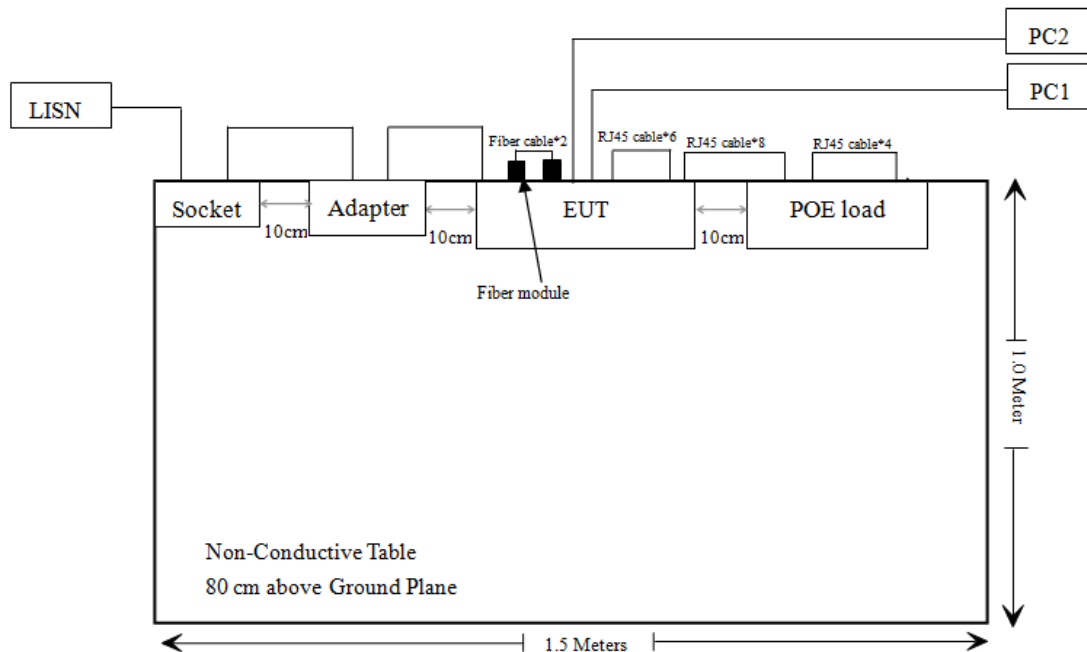
Block Diagram of Test Setup

For Conducted Emission:

Test Mode 1&2



Test Mode 3



Test Mode 1&2



SUMMARY OF TEST RESULTS

| FCC Rules | Description of Test | Results |
|-----------|-----------------------------|-----------|
| §15.107 | AC Line Conducted Emissions | Compliant |
| §15.109 | Radiated Emissions | Compliant |

TEST EQUIPMENT LIST

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|--|-------------------|-------------------|------------------------|------------------|----------------------|
| AC Line Conducted Emission Test | | | | | |
| 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 | 2024/05/21 | 2025/05/20 |
| Unknown | CE Cable | Unknown | UF A210B-1-0720-504504 | 2024/05/21 | 2025/05/20 |
| Audix | EMI Test software | E3 | 191218(V9) | NCR | NCR |
| Radiated Emission Test | | | | | |
| Rohde & Schwarz | EMI Test Receiver | ESR3 | 102455 | 2024/12/04 | 2025/12/03 |
| Sonoma instrument | Pre-amplifier | 310 N | 186238 | 2024/05/21 | 2025/05/20 |
| Sunol Sciences | Broadband Antenna | JB1 | A040904-1 | 2023/07/20 | 2026/07/19 |
| Unknown | Cable | Chamber A Cable 1 | N/A | 2024/06/18 | 2025/06/17 |
| Unknown | Cable | XH500C | J-10M-A | 2024/06/18 | 2025/06/17 |
| 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 |
| Audix | EMI Test software | E3 | 191218(V9) | NCR | NCR |

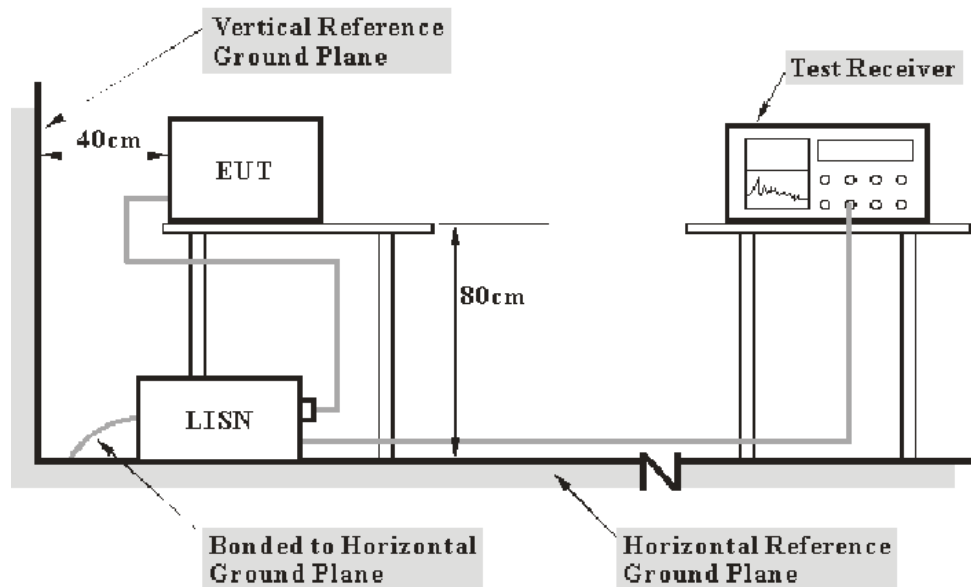
* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §15.107 - AC LINE CONDUCTED EMISSIONS

Applicable Standard

According to FCC§15.107

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 measurement procedure of EUT setup is according with ANSI C63.4-2014. The related limit was specified in FCC Part 15.107.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

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.

Level & Over Limit Calculation

The Level is calculated by adding the LISN Factor, Cable Loss and the Read Level. The basic equation is as follows:

$$\text{Level (dBuV)} = \text{Read Level (dBuV)} + \text{LISN Factor} + \text{Cable Loss}$$

The “**Over limit**” column of the following data tables indicates the degree of compliance with the applicable limit.

$$\text{Over Limit (dB)} = \text{Level (dBuV)} - \text{Limit Line (dBuV)}$$

Note: The term "cable loss" refers to the combination of a cable and a 10dB transient limiter (attenuator).

Test Data

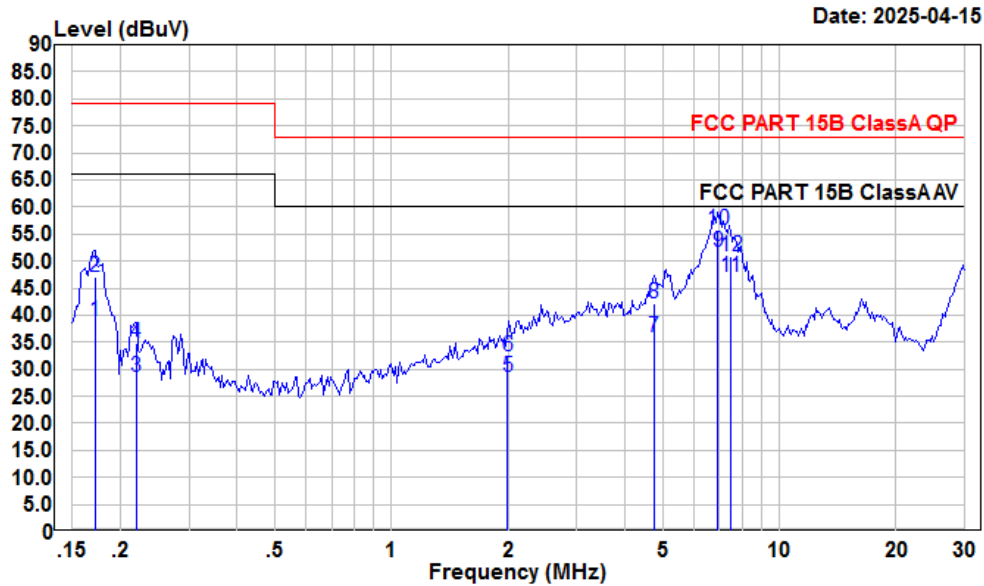
Environmental Conditions

| | |
|---------------------------|-----------------|
| Temperature: | 23.8~25.2 °C |
| Relative Humidity: | 46~47 % |
| ATM Pressure: | 100.6~101.3 kPa |

The testing was performed by Macy Shi on 2025-04-03 and 2025-04-15.

Test Mode 1

AC 120V/60 Hz, Line



Condition: Line

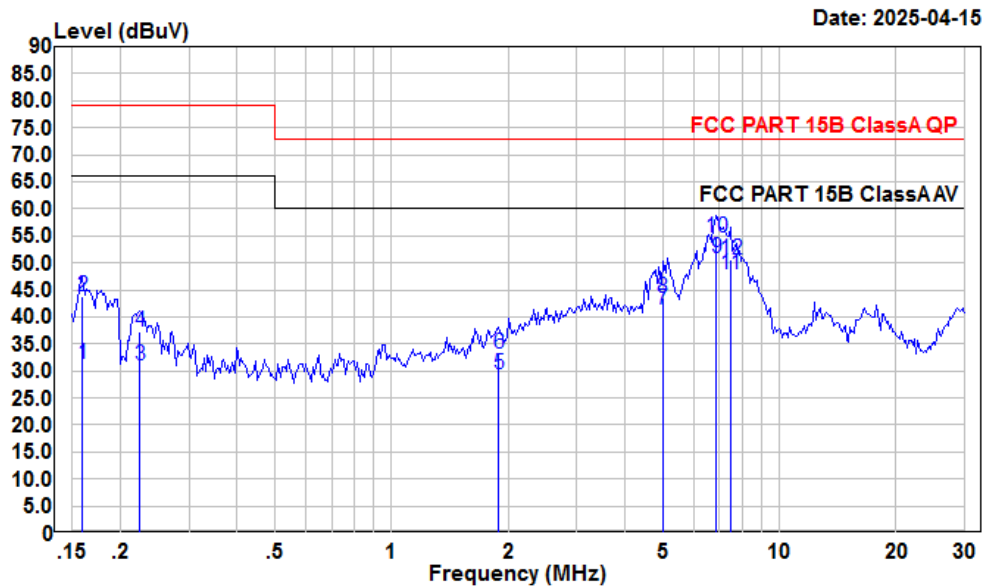
Project : 2501R01185E-EM

test Mode: Mode1

tester : Macy.shi Setting: RBW:9kHz

| | Freq | Read Level | LISN Level | LISN Factor | Cable Loss | Limit Line | Over Limit | Remark |
|----|-------|------------|------------|-------------|------------|------------|------------|---------|
| | MHz | dBuV | dBuV | dB | dB | dBuV | dB | |
| 1 | 0.172 | 18.14 | 38.78 | 10.54 | 10.10 | 66.00 | -27.22 | Average |
| 2 | 0.172 | 26.51 | 47.15 | 10.54 | 10.10 | 79.00 | -31.85 | QP |
| 3 | 0.220 | 7.86 | 28.63 | 10.68 | 10.09 | 66.00 | -37.37 | Average |
| 4 | 0.220 | 13.98 | 34.75 | 10.68 | 10.09 | 79.00 | -44.25 | QP |
| 5 | 1.991 | 7.15 | 28.44 | 11.10 | 10.19 | 60.00 | -31.56 | Average |
| 6 | 1.991 | 10.97 | 32.26 | 11.10 | 10.19 | 73.00 | -40.74 | QP |
| 7 | 4.746 | 14.78 | 35.78 | 10.81 | 10.19 | 60.00 | -24.22 | Average |
| 8 | 4.746 | 21.19 | 42.19 | 10.81 | 10.19 | 73.00 | -30.81 | QP |
| 9 | 6.951 | 30.79 | 51.58 | 10.60 | 10.19 | 60.00 | -8.42 | Average |
| 10 | 6.951 | 34.83 | 55.62 | 10.60 | 10.19 | 73.00 | -17.38 | QP |
| 11 | 7.486 | 26.41 | 47.14 | 10.54 | 10.19 | 60.00 | -12.86 | Average |
| 12 | 7.486 | 30.21 | 50.94 | 10.54 | 10.19 | 73.00 | -22.06 | QP |

AC 120V/60 Hz, Neutral



Condition: Neutral

Project : 2501R01185E-EM

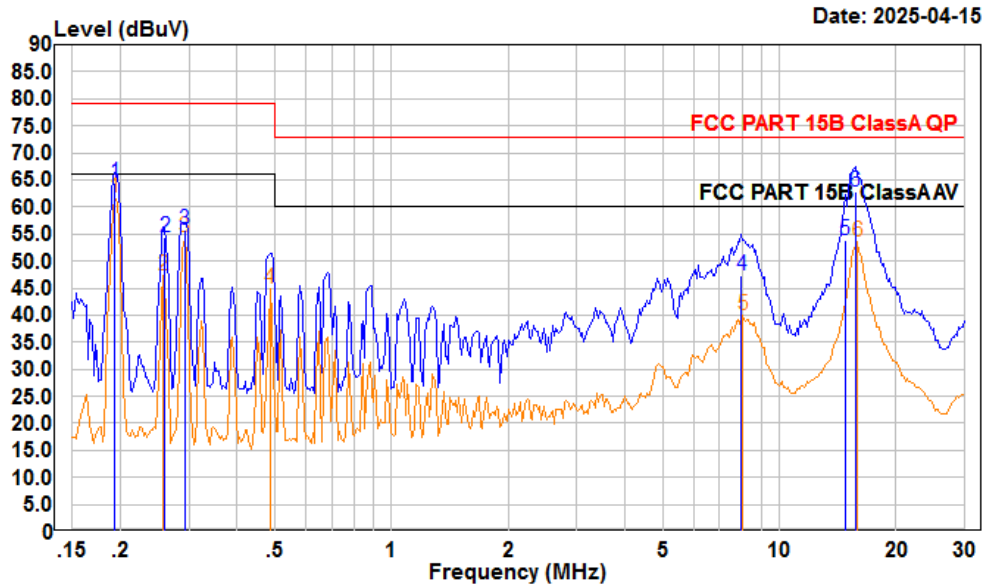
test Mode: Mode1

tester : Macy.shi Setting:RBW:9kHz

| | Freq | Read Level | LISN Level | LISN Factor | Cable Loss | Limit Line | Over Limit | Remark |
|----|-------|------------|------------|-------------|------------|------------|------------|---------|
| | MHz | dBuV | dBuV | dB | dB | dBuV | dB | |
| 1 | 0.160 | 10.76 | 31.37 | 10.49 | 10.12 | 66.00 | -34.63 | Average |
| 2 | 0.160 | 23.11 | 43.72 | 10.49 | 10.12 | 79.00 | -35.28 | QP |
| 3 | 0.224 | 10.22 | 31.07 | 10.76 | 10.09 | 66.00 | -34.93 | Average |
| 4 | 0.224 | 16.47 | 37.32 | 10.76 | 10.09 | 79.00 | -41.68 | QP |
| 5 | 1.888 | 8.61 | 29.50 | 10.71 | 10.18 | 60.00 | -30.50 | Average |
| 6 | 1.888 | 12.36 | 33.25 | 10.71 | 10.18 | 73.00 | -39.75 | QP |
| 7 | 5.005 | 20.45 | 41.47 | 10.84 | 10.18 | 60.00 | -18.53 | Average |
| 8 | 5.005 | 22.62 | 43.64 | 10.84 | 10.18 | 73.00 | -29.36 | QP |
| 9 | 6.878 | 29.99 | 50.79 | 10.61 | 10.19 | 60.00 | -9.21 | Average |
| 10 | 6.878 | 33.82 | 54.62 | 10.61 | 10.19 | 73.00 | -18.38 | QP |
| 11 | 7.486 | 27.00 | 47.77 | 10.58 | 10.19 | 60.00 | -12.23 | Average |
| 12 | 7.486 | 29.90 | 50.67 | 10.58 | 10.19 | 73.00 | -22.33 | QP |

Test Mode 2

AC 120V/60 Hz, Line



Trace: 1

Condition: Line

Project : 2501R01185E-EM

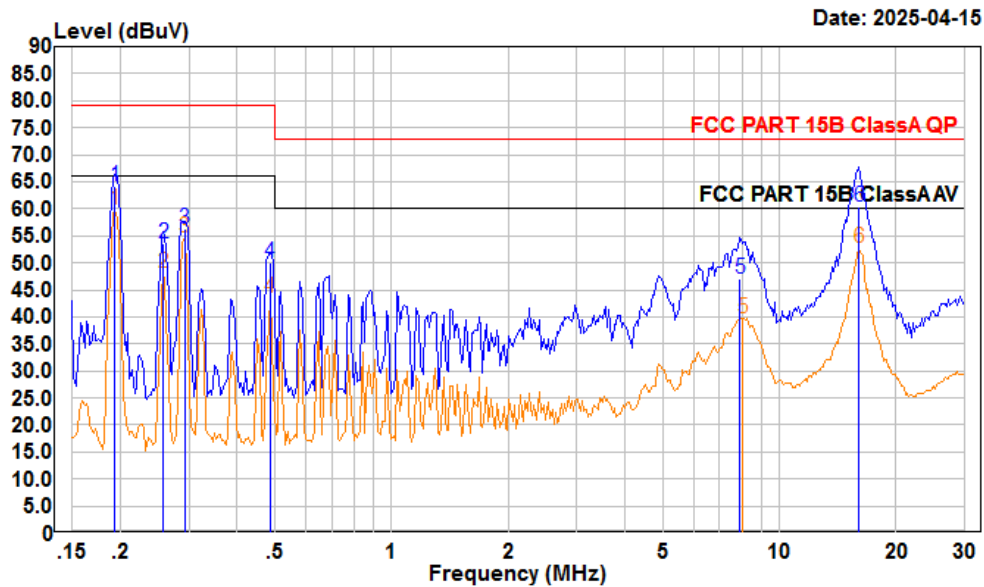
test Mode: Mode2

tester : Macy.shi Setting:RBW:9kHz

| | Freq | Read Level | LISN Level | LISN Factor | Cable Loss | Limit Line | Over Limit | Remark |
|---|--------|------------|------------|-------------|------------|------------|------------|--------|
| | MHz | dBuV | dBuV | dB | dB | dBuV | dB | |
| 1 | 0.193 | 43.59 | 64.35 | 10.67 | 10.09 | 79.00 | -14.65 | QP |
| 2 | 0.260 | 33.77 | 54.50 | 10.64 | 10.09 | 79.00 | -24.50 | QP |
| 3 | 0.292 | 35.15 | 55.88 | 10.62 | 10.11 | 79.00 | -23.12 | QP |
| 4 | 7.977 | 26.67 | 47.36 | 10.49 | 10.20 | 73.00 | -25.64 | QP |
| 5 | 14.750 | 33.21 | 53.73 | 10.30 | 10.22 | 73.00 | -19.27 | QP |
| 6 | 15.718 | 42.22 | 62.84 | 10.41 | 10.21 | 73.00 | -10.16 | QP |

| | Freq | Read Level | LISN Level | LISN Factor | Cable Loss | Limit Line | Over Limit | Remark |
|---|--------|------------|------------|-------------|------------|------------|------------|---------|
| | MHz | dBuV | dBuV | dB | dB | dBuV | dB | |
| 1 | 0.193 | 40.87 | 61.63 | 10.67 | 10.09 | 66.00 | -4.37 | Average |
| 2 | 0.258 | 26.49 | 47.21 | 10.64 | 10.08 | 66.00 | -18.79 | Average |
| 3 | 0.292 | 33.57 | 54.30 | 10.62 | 10.11 | 66.00 | -11.70 | Average |
| 4 | 0.486 | 24.25 | 44.89 | 10.51 | 10.13 | 66.00 | -21.11 | Average |
| 5 | 8.062 | 19.41 | 40.09 | 10.48 | 10.20 | 60.00 | -19.91 | Average |
| 6 | 15.885 | 32.81 | 53.46 | 10.44 | 10.21 | 60.00 | -6.54 | Average |

AC 120V/60 Hz, Neutral



Trace: 1

Condition: Neutral

Project : 2501R01185E-EM

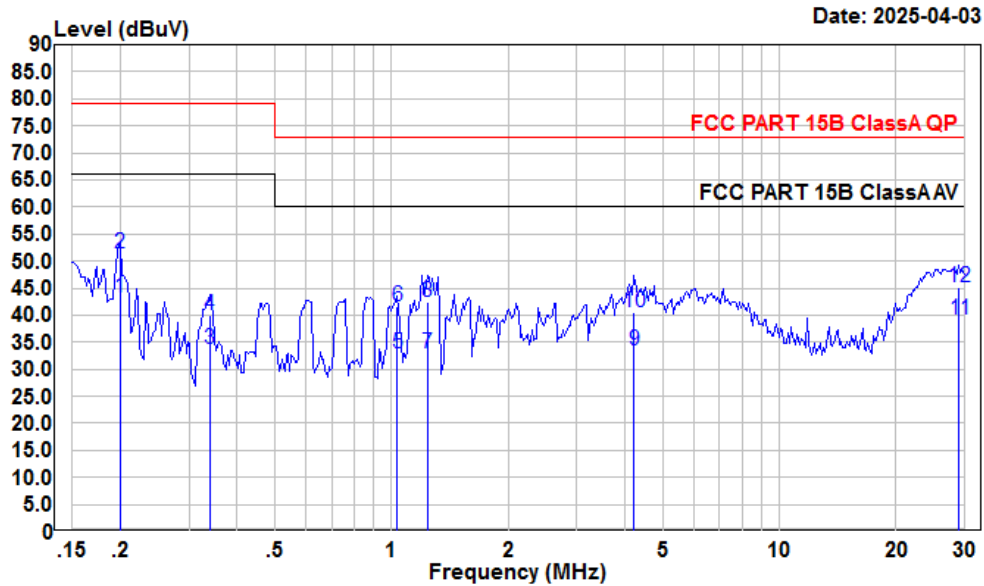
test Mode: Mode2

tester : Macy.shi Setting:RBW:9kHz

| | Freq | Read Level | LISN Level | LISN Factor | Cable Loss | Limit Line | Over Limit | Remark |
|---|--------|------------|------------|-------------|------------|------------|------------|---------|
| | MHz | dBuV | dBuV | dB | dB | dBuV | dB | |
| 1 | 0.193 | 43.41 | 64.25 | 10.75 | 10.09 | 79.00 | -14.75 | QP |
| 2 | 0.258 | 32.70 | 53.50 | 10.72 | 10.08 | 79.00 | -25.50 | QP |
| 3 | 0.292 | 35.49 | 56.28 | 10.68 | 10.11 | 79.00 | -22.72 | QP |
| 4 | 0.486 | 29.50 | 50.14 | 10.51 | 10.13 | 79.00 | -28.86 | QP |
| 5 | 7.893 | 26.39 | 47.16 | 10.57 | 10.20 | 73.00 | -25.84 | QP |
| 6 | 16.055 | 39.60 | 60.30 | 10.49 | 10.21 | 73.00 | -12.70 | QP |
| | Freq | Read Level | LISN Level | LISN Factor | Cable Loss | Limit Line | Over Limit | Remark |
| | MHz | dBuV | dBuV | dB | dB | dBuV | dB | |
| 1 | 0.193 | 39.04 | 59.88 | 10.75 | 10.09 | 66.00 | -6.12 | Average |
| 2 | 0.258 | 27.37 | 48.17 | 10.72 | 10.08 | 66.00 | -17.83 | Average |
| 3 | 0.292 | 33.82 | 54.61 | 10.68 | 10.11 | 66.00 | -11.39 | Average |
| 4 | 0.486 | 22.92 | 43.56 | 10.51 | 10.13 | 66.00 | -22.44 | Average |
| 5 | 8.062 | 18.94 | 39.70 | 10.56 | 10.20 | 60.00 | -20.30 | Average |
| 6 | 16.055 | 32.08 | 52.78 | 10.49 | 10.21 | 60.00 | -7.22 | Average |

Test Mode 3

AC 120V/60 Hz, Line



Condition: Line

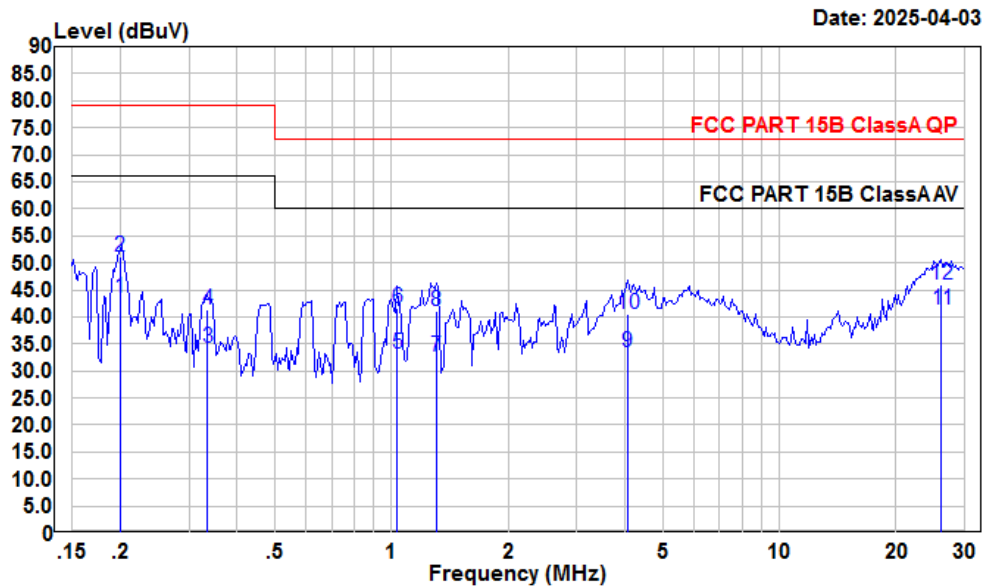
Project : 2501R01185E-EM

test Mode: Mode3

tester : Macy.shi Setting: RBW:9kHz

| | Freq | Read Level | Level | LISN Factor | Cable Loss | Limit Line | Over Limit | Remark |
|----|--------|------------|-------|-------------|------------|------------|------------|---------|
| | MHz | dBuV | dBuV | dB | dB | dBuV | dB | |
| 1 | 0.200 | 22.49 | 43.28 | 10.70 | 10.09 | 66.00 | -22.72 | Average |
| 2 | 0.200 | 30.60 | 51.39 | 10.70 | 10.09 | 79.00 | -27.61 | QP |
| 3 | 0.339 | 13.15 | 33.85 | 10.58 | 10.12 | 66.00 | -32.15 | Average |
| 4 | 0.339 | 19.38 | 40.08 | 10.58 | 10.12 | 79.00 | -38.92 | QP |
| 5 | 1.032 | 12.31 | 33.04 | 10.62 | 10.11 | 60.00 | -26.96 | Average |
| 6 | 1.032 | 20.81 | 41.54 | 10.62 | 10.11 | 73.00 | -31.46 | QP |
| 7 | 1.236 | 12.09 | 32.98 | 10.75 | 10.14 | 60.00 | -27.02 | Average |
| 8 | 1.236 | 21.47 | 42.36 | 10.75 | 10.14 | 73.00 | -30.64 | QP |
| 9 | 4.224 | 12.43 | 33.50 | 10.87 | 10.20 | 60.00 | -26.50 | Average |
| 10 | 4.224 | 19.40 | 40.47 | 10.87 | 10.20 | 73.00 | -32.53 | QP |
| 11 | 29.061 | 18.52 | 39.27 | 10.54 | 10.21 | 60.00 | -20.73 | Average |
| 12 | 29.061 | 24.28 | 45.03 | 10.54 | 10.21 | 73.00 | -27.97 | QP |

AC 120V/60 Hz, Neutral



Condition: Neutral

Project : 2501R01185E-EM

test Mode: Mode3

tester : Macy.shi Setting:RBW:9kHz

| | Freq | Read Level | LISM Level | Cable Factor | Limit Loss | Over Line | Remark |
|----|--------|------------|------------|--------------|------------|-----------|----------------|
| | MHz | dBuV | dBuV | dB | dB | dBuV | dB |
| 1 | 0.200 | 22.62 | 43.51 | 10.80 | 10.09 | 66.00 | -22.49 Average |
| 2 | 0.200 | 30.36 | 51.25 | 10.80 | 10.09 | 79.00 | -27.75 QP |
| 3 | 0.336 | 13.48 | 34.23 | 10.63 | 10.12 | 66.00 | -31.77 Average |
| 4 | 0.336 | 20.57 | 41.32 | 10.63 | 10.12 | 79.00 | -37.68 QP |
| 5 | 1.032 | 12.30 | 33.21 | 10.80 | 10.11 | 60.00 | -26.79 Average |
| 6 | 1.032 | 20.70 | 41.61 | 10.80 | 10.11 | 73.00 | -31.39 QP |
| 7 | 1.303 | 11.86 | 32.77 | 10.76 | 10.15 | 60.00 | -27.23 Average |
| 8 | 1.303 | 20.27 | 41.18 | 10.76 | 10.15 | 73.00 | -31.82 QP |
| 9 | 4.049 | 12.18 | 33.38 | 10.99 | 10.21 | 60.00 | -26.62 Average |
| 10 | 4.049 | 19.42 | 40.62 | 10.99 | 10.21 | 73.00 | -32.38 QP |
| 11 | 26.139 | 20.44 | 41.48 | 10.84 | 10.20 | 60.00 | -18.52 Average |
| 12 | 26.139 | 24.99 | 46.03 | 10.84 | 10.20 | 73.00 | -26.97 QP |

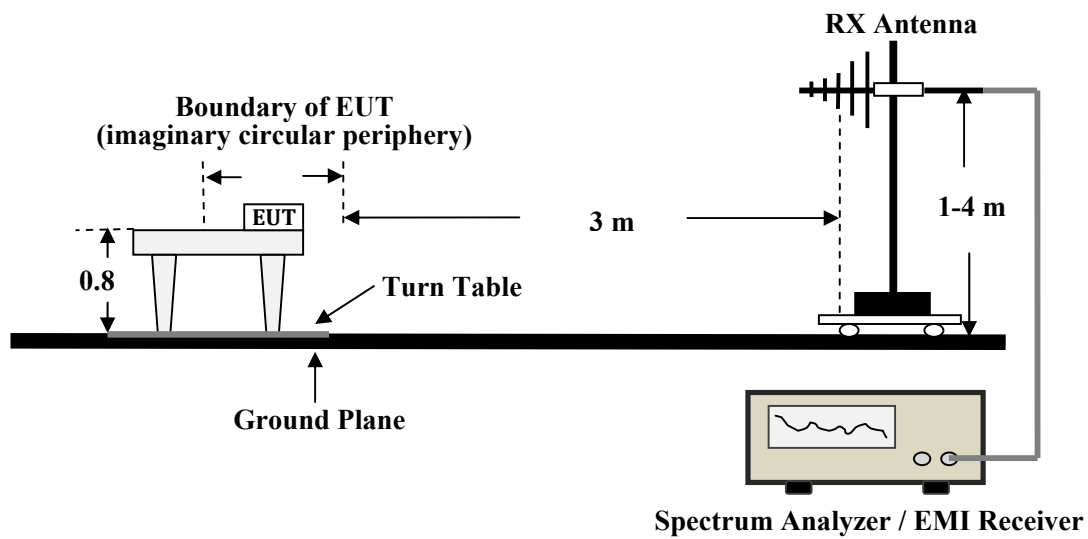
FCC §15.109 - RADIATED EMISSIONS

Applicable Standard

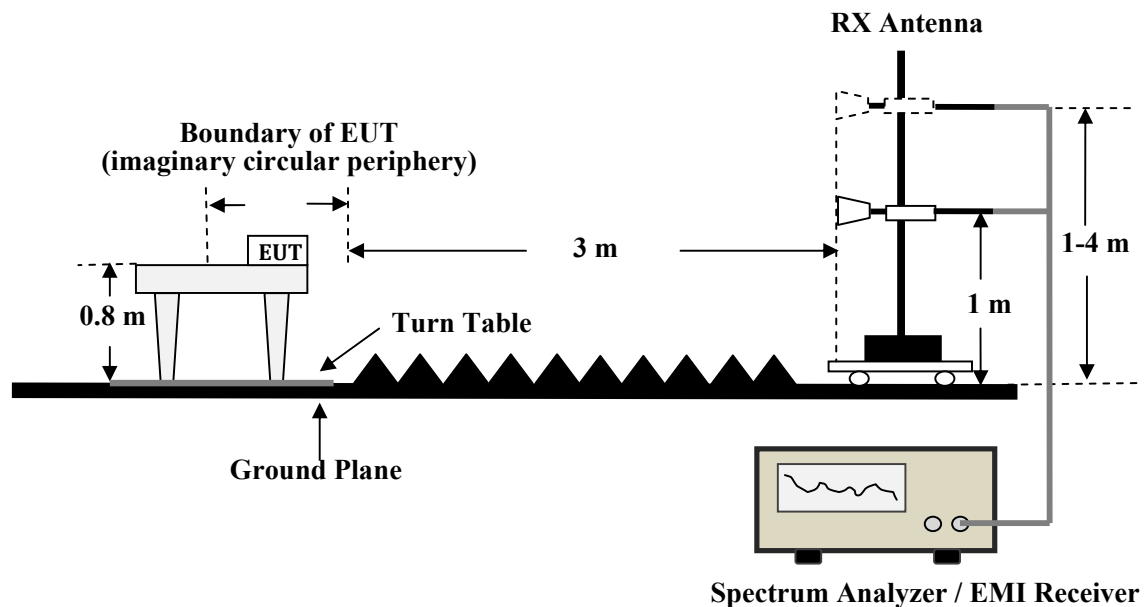
FCC §15.109

EUT Setup

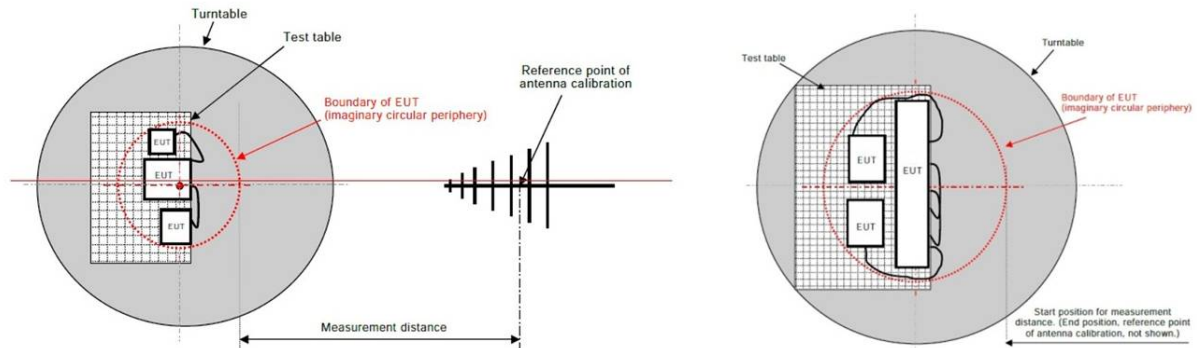
Below 1GHz for Radiated Emissions



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 ANSI C63.4-2014. The related limit was specified in FCC Part 15B.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver and Spectrum analyzer Setup

During the radiated emission test, the EMI test receiver and spectrum analyzer setup was set with the following configurations:

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

Test Procedure

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

If emission level of the EUT in Peak measurement mode is 20dB lower than peak limit line (that means the emission level in Peak measurement mode complies with both Peak and average limit lines) then only Peak measurement result is reported .Otherwise, Emission in average measurement mode shall be measured, and reported for frequency range above 1GHz.

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 6dB below the limit for Class A. The equation for Over Limit calculation is as follows:

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

Test Data

Environmental Conditions

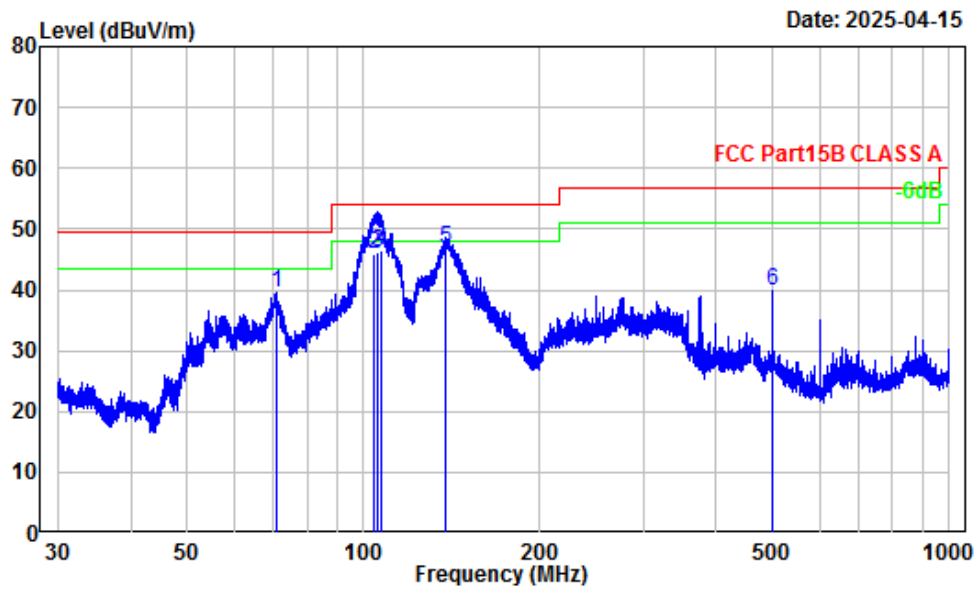
| | |
|--------------------|-----------------|
| Temperature: | 22.5~25 °C |
| Relative Humidity: | 42~56% |
| ATM Pressure: | 101.1~101.2 kPa |

The testing was performed by Alex Yan on 2025-04-15 for below 1GHz and Wing K Ji on 2025-04-18 for above 1GHz.

Test Mode 1

30 MHz~1 GHz

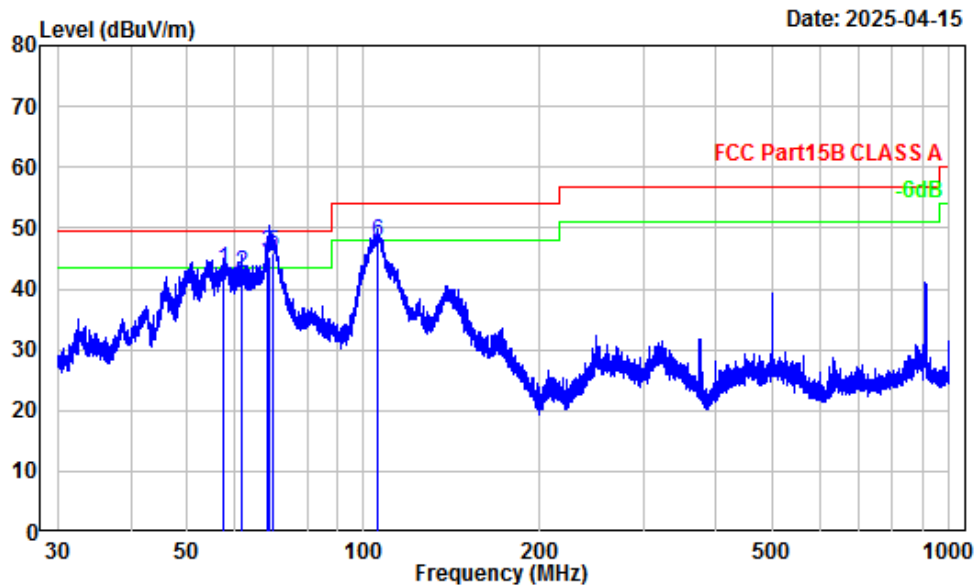
Horizontal



Site : Chamber A
Condition : 3m Horizontal
Project Number : 2501R01185E-EM
Test Mode : Mode1
Detector: Peak RBW/VBW: 100/300kHz
Tester : Alex Yan

| | Freq Factor | | Read | Limit | Over | Remark |
|---|-------------|--------|-------|--------|--------|-------------|
| | MHz | dB/m | Level | Level | Line | |
| | MHz | dB/m | dBuV | dBuV/m | dBuV/m | dB |
| 1 | 70.86 | -17.87 | 57.51 | 39.64 | 49.54 | -9.90 Peak |
| 2 | 103.85 | -14.72 | 60.61 | 45.89 | 53.98 | -8.09 QP |
| 3 | 105.36 | -14.32 | 60.39 | 46.07 | 53.98 | -7.91 QP |
| 4 | 107.18 | -13.78 | 60.13 | 46.35 | 53.98 | -7.63 QP |
| 5 | 138.21 | -11.72 | 58.45 | 46.73 | 53.98 | -7.25 QP |
| 6 | 500.08 | -5.76 | 45.62 | 39.86 | 56.90 | -17.04 Peak |

Vertical

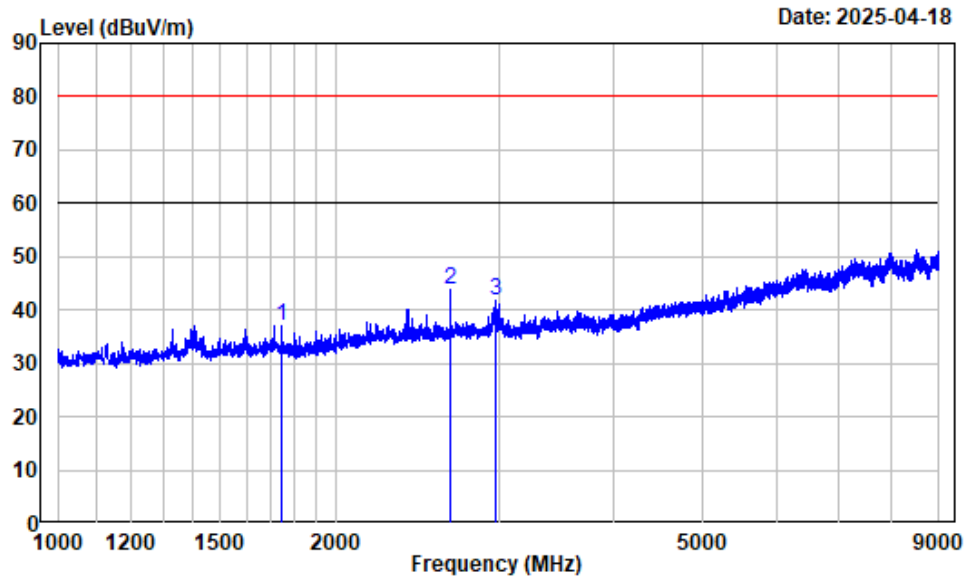


Site : Chamber A
Condition : 3m Vertical
Project Number : 2501R01185E-EM
Test Mode : Mode1
Detector: Peak RBW/VBW: 100/300kHz
Tester : Alex Yan

| | Freq Factor | | Read Level | Level | Limit Line | Over Limit | Remark |
|---|-------------|--------|------------|--------|------------|------------|--------|
| | MHz | dB/m | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 57.70 | -18.25 | 61.36 | 43.11 | 49.54 | -6.43 | QP |
| 2 | 61.83 | -18.11 | 60.62 | 42.51 | 49.54 | -7.03 | QP |
| 3 | 68.63 | -17.88 | 63.70 | 45.82 | 49.54 | -3.72 | QP |
| 4 | 69.08 | -17.87 | 63.18 | 45.31 | 49.54 | -4.23 | QP |
| 5 | 69.94 | -17.87 | 63.62 | 45.75 | 49.54 | -3.79 | QP |
| 6 | 105.36 | -14.32 | 62.02 | 47.70 | 53.98 | -6.28 | QP |

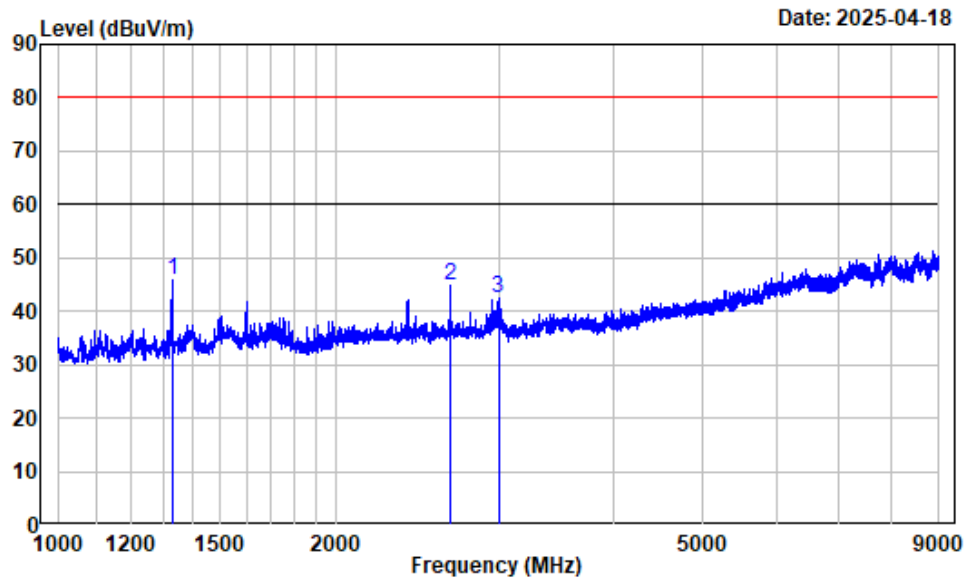
1 ~ 9 GHz

Horizontal



Site : chamber B
 Condition : Horizontal
 Project Number : 2501R01185E-EM
 Test mode : mode1
 Tester : Wing K Ji
 Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

| | Freq | Factor | Read Level | Level | Limit | Over | |
|---|----------|--------|------------|--------|--------|--------|--------|
| | MHz | dB/m | dBuV | dBuV/m | dBuV/m | dB | Remark |
| 1 | 1748.094 | -14.01 | 50.97 | 36.96 | 80.00 | -43.04 | Peak |
| 2 | 2657.207 | -11.03 | 54.75 | 43.72 | 80.00 | -36.28 | Peak |
| 3 | 2975.247 | -10.30 | 52.20 | 41.90 | 80.00 | -38.10 | Peak |

Vertical

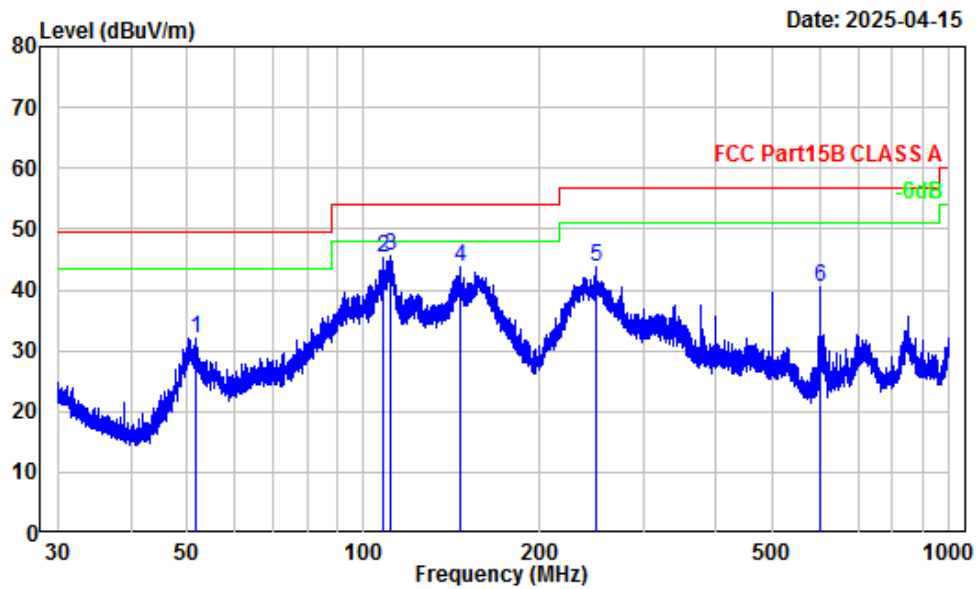
Site : chamber B
Condition : Vertical
Project Number : 2501R01185E-EM
Test mode : mode1
Tester : Wing K Ji
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

| | Freq Factor | | Read Level | | Limit | Over | Remark |
|---|-------------|--------|------------|--------|-------|--------|--------|
| | MHz | dB/m | dBuV | dBuV/m | Line | Limit | |
| 1 | 1330.041 | -14.34 | 60.18 | 45.84 | 80.00 | -34.16 | Peak |
| 2 | 2656.207 | -11.05 | 56.00 | 44.95 | 80.00 | -35.05 | Peak |
| 3 | 3000.250 | -10.12 | 52.69 | 42.57 | 80.00 | -37.43 | Peak |

Test Mode 2

30 MHz~1 GHz

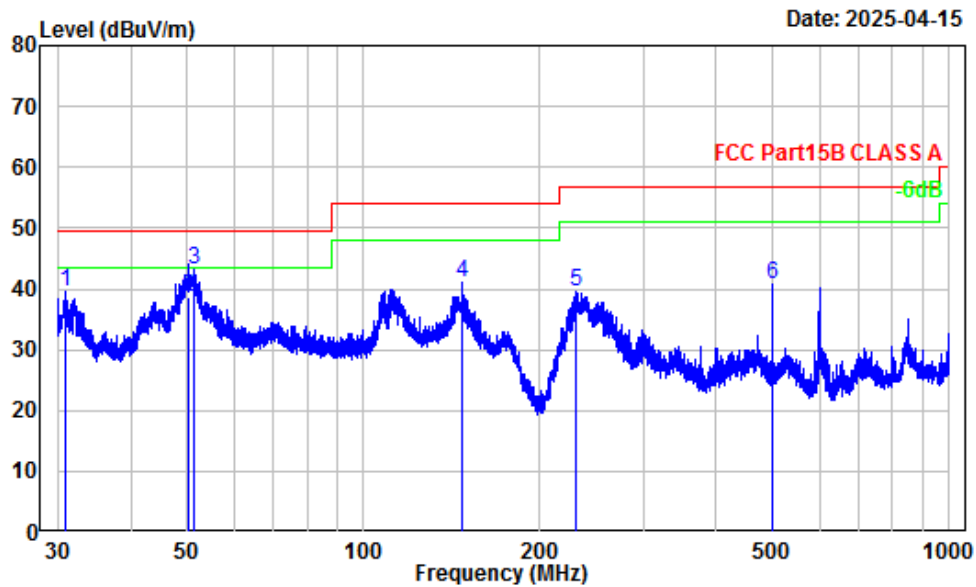
Horizontal



Site : Chamber A
Condition : 3m Horizontal
Project Number : 2501R01185E-EM
Test Mode : Mode2
Detector: Peak RBW/VBW: 100/300kHz
Tester : Alex Yan

| | Freq | Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|--------|--------|------------|--------|------------|------------|--------|
| | MHz | dB/m | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 51.53 | -18.17 | 50.14 | 31.97 | 49.54 | -17.57 | Peak |
| 2 | 108.27 | -13.55 | 58.76 | 45.21 | 53.98 | -8.77 | Peak |
| 3 | 111.01 | -12.88 | 58.38 | 45.50 | 53.98 | -8.48 | Peak |
| 4 | 145.86 | -12.26 | 56.10 | 43.84 | 53.98 | -10.14 | Peak |
| 5 | 250.08 | -13.09 | 56.98 | 43.89 | 56.90 | -13.01 | Peak |
| 6 | 600.11 | -5.28 | 45.83 | 40.55 | 56.90 | -16.35 | Peak |

Vertical

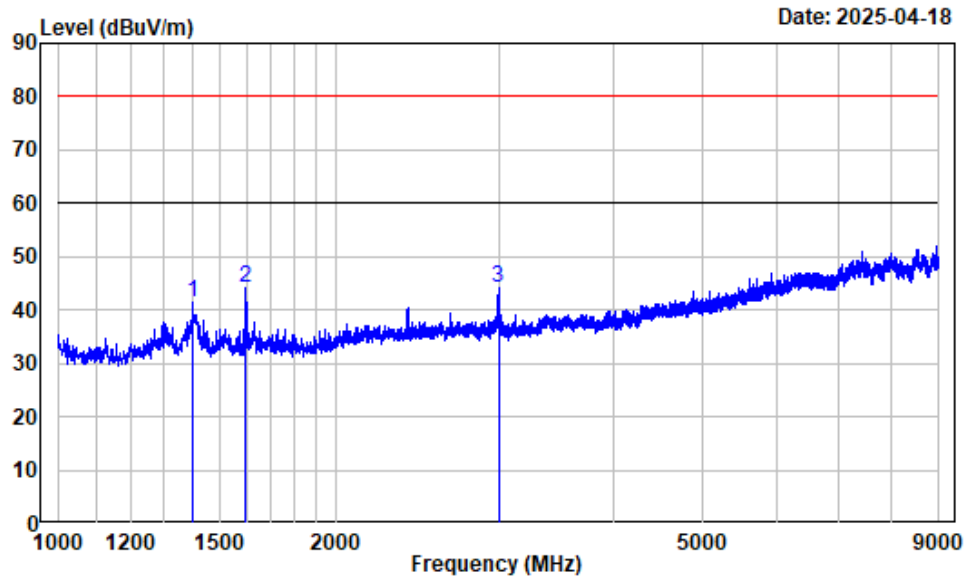


Site : Chamber A
Condition : 3m Vertical
Project Number : 2501R01185E-EM
Test Mode : Mode2
Detector: Peak RBW/VBW: 100/300kHz
Tester : Alex Yan

| | Freq | Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|--------|--------|---------------|--------|---------------|---------------|--------|
| | MHz | dB/m | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 31.00 | -6.47 | 46.08 | 39.61 | 49.54 | -9.93 | Peak |
| 2 | 50.14 | -17.94 | 56.60 | 38.66 | 49.54 | -10.88 | QP |
| 3 | 51.17 | -18.14 | 61.41 | 43.27 | 49.54 | -6.27 | Peak |
| 4 | 147.27 | -12.30 | 53.22 | 40.92 | 53.98 | -13.06 | Peak |
| 5 | 231.01 | -13.79 | 53.44 | 39.65 | 56.90 | -17.25 | Peak |
| 6 | 500.08 | -5.76 | 46.66 | 40.90 | 56.90 | -16.00 | Peak |

1 ~ 9 GHz

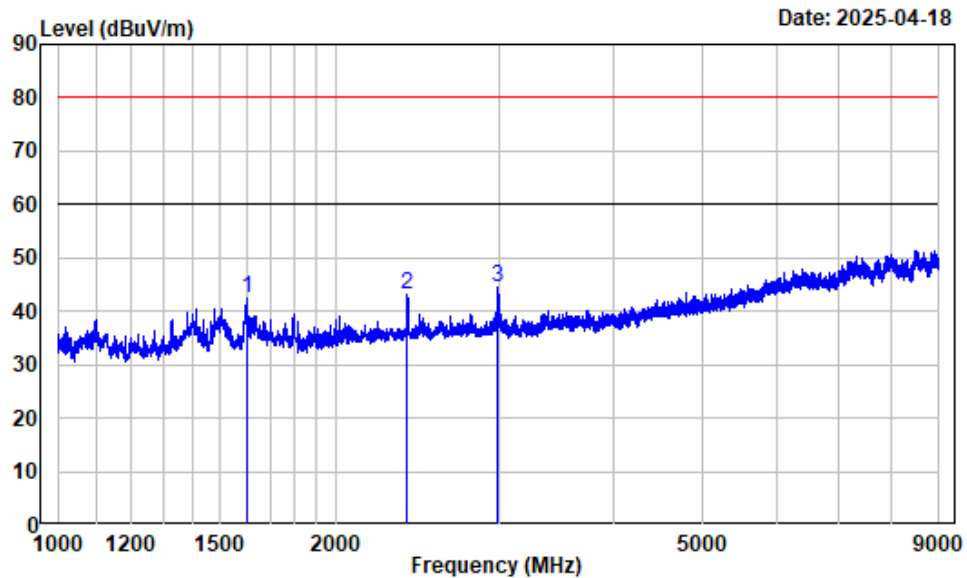
Horizontal



Site : chamber B
Condition : Horizontal
Project Number : 2501R01185E-EM
Test mode : mode2
Tester : Wing K Ji
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

| | Freq Factor | | Read | Limit | Over | Remark |
|---|-------------|--------|-------|--------|--------|-------------|
| | MHz | dB/m | Level | Level | Line | |
| | | | dBuV | dBuV/m | dBuV/m | dB |
| 1 | 1398.050 | -14.03 | 55.44 | 41.41 | 80.00 | -38.59 Peak |
| 2 | 1598.075 | -14.33 | 58.50 | 44.17 | 80.00 | -35.83 Peak |
| 3 | 3000.250 | -10.12 | 54.14 | 44.02 | 80.00 | -35.98 Peak |

Vertical



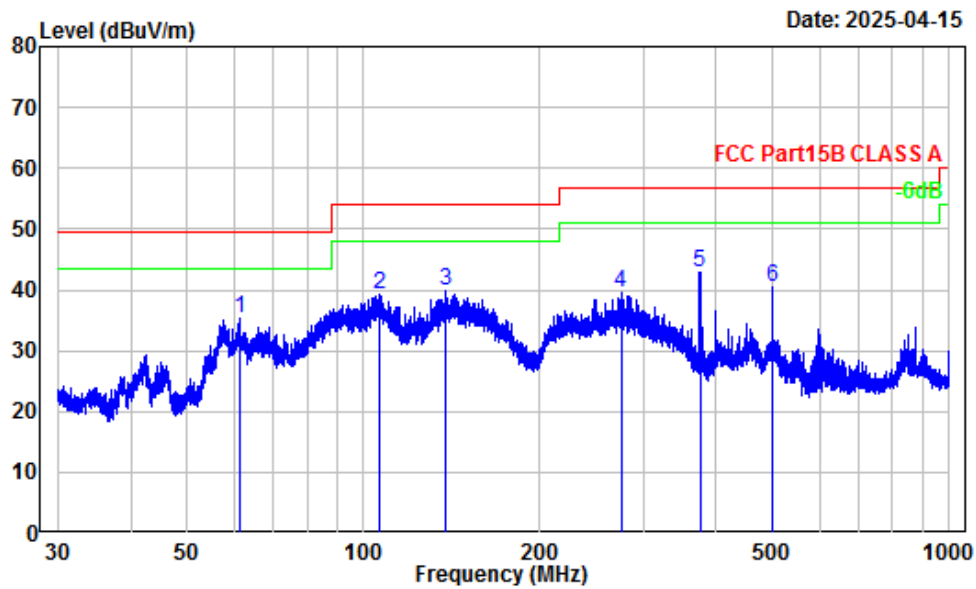
Site : chamber B
Condition : Vertical
Project Number : 2501R01185E-EM
Test mode : mode2
Tester : Wing K Ji
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

| | Freq Factor | | Read Level | | Limit | Over | Remark |
|---|-------------|--------|------------|--------|--------|--------|--------|
| | MHz | dB/m | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 1600.075 | -14.34 | 56.81 | 42.47 | 80.00 | -37.53 | Peak |
| 2 | 2391.174 | -10.98 | 54.22 | 43.24 | 80.00 | -36.76 | Peak |
| 3 | 2999.250 | -10.12 | 54.70 | 44.58 | 80.00 | -35.42 | Peak |

Test Mode 3

30 MHz~1 GHz

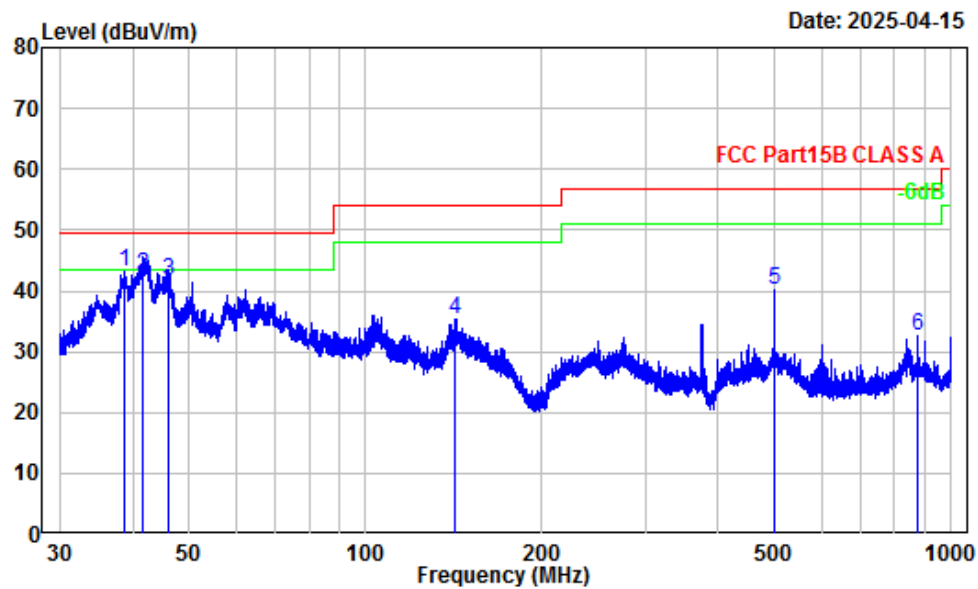
Horizontal



Site : Chamber A
Condition : 3m Horizontal
Project Number : 2501R01185E-EM
Test Mode : Mode3
Detector: Peak RBW/VBW: 100/300kHz
Tester : Alex Yan

| | Freq | Factor | Read Level | Limit Level | Over Line | Over Limit | Remark |
|---|--------|--------|---------------|----------------|--------------|---------------|--------|
| | MHz | dB/m | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 61.59 | -18.11 | 53.37 | 35.26 | 49.54 | -14.28 | Peak |
| 2 | 106.20 | -14.06 | 53.27 | 39.21 | 53.98 | -14.77 | Peak |
| 3 | 138.45 | -11.73 | 51.59 | 39.86 | 53.98 | -14.12 | Peak |
| 4 | 275.04 | -11.34 | 50.94 | 39.60 | 56.90 | -17.30 | Peak |
| 5 | 375.12 | -9.28 | 52.27 | 42.99 | 56.90 | -13.91 | Peak |
| 6 | 500.08 | -5.76 | 46.16 | 40.40 | 56.90 | -16.50 | Peak |

Vertical

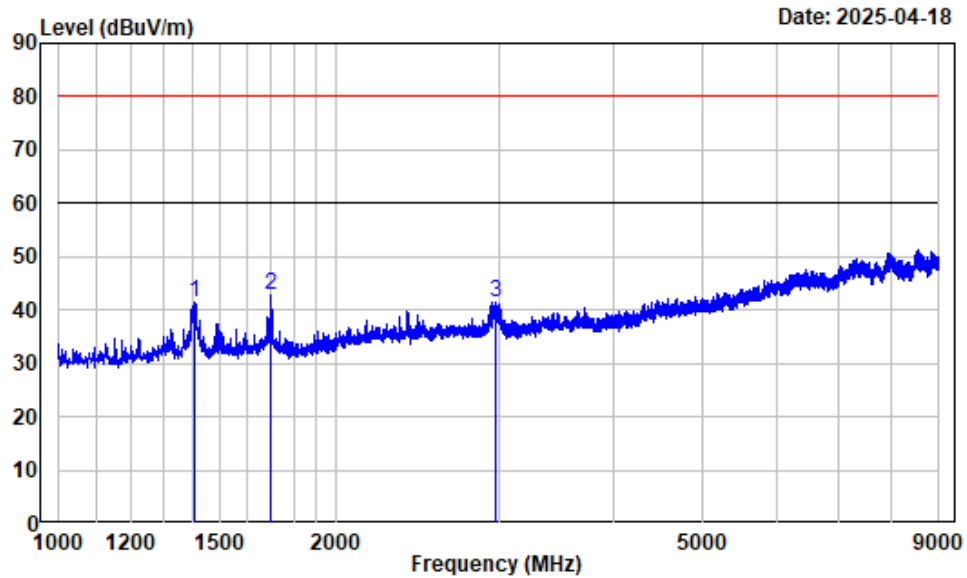


Site : Chamber A
Condition : 3m Vertical
Project Number : 2501R01185E-EM
Test Mode : Mode3
Detector: Peak RBW/VBW: 100/300kHz
Tester : Alex Yan

| | Freq | Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|--------|--------|---------------|--------|---------------|---------------|--------|
| | MHz | dB/m | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 38.60 | -11.40 | 54.45 | 43.05 | 49.54 | -6.49 | Peak |
| 2 | 41.64 | -13.58 | 56.15 | 42.57 | 49.54 | -6.97 | QP |
| 3 | 45.96 | -16.43 | 58.02 | 41.59 | 49.54 | -7.95 | QP |
| 4 | 141.83 | -11.96 | 47.40 | 35.44 | 53.98 | -18.54 | Peak |
| 5 | 500.08 | -5.76 | 45.97 | 40.21 | 56.90 | -16.69 | Peak |
| 6 | 875.25 | -1.52 | 34.00 | 32.48 | 56.90 | -24.42 | Peak |

1 ~ 9 GHz

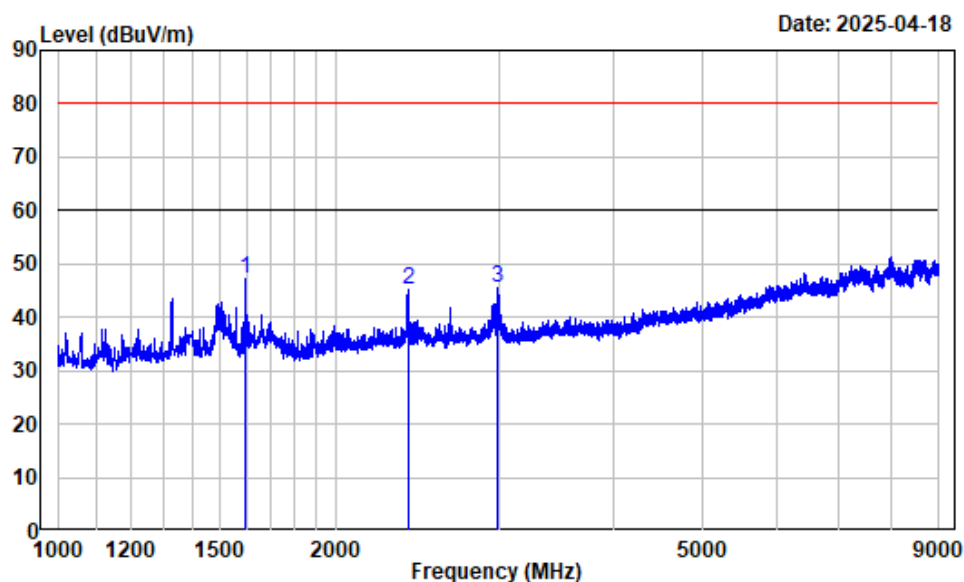
Horizontal



Site : chamber B
 Condition : Horizontal
 Project Number : 2501R01185E-EM
 Test mode : mode3
 Tester : Wing K Ji
 Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

| | Freq Factor | | Read Level | | Limit | Over | Remark |
|---|-------------|--------|------------|--------|--------|--------|--------|
| | MHz | dB/m | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 1403.050 | -14.03 | 55.42 | 41.39 | 80.00 | -38.61 | Peak |
| 2 | 1699.087 | -13.90 | 56.55 | 42.65 | 80.00 | -37.35 | Peak |
| 3 | 2976.247 | -10.29 | 51.78 | 41.49 | 80.00 | -38.51 | Peak |

Vertical



Site : chamber B
Condition : Vertical
Project Number : 2501R01185E-EM
Test mode : mode3
Tester : Wing K Ji
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

| | Freq Factor | | Read Level | | Limit | Over | Remark |
|---|-------------|--------|------------|--------|--------|--------|--------|
| | MHz | dB/m | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 1598.075 | -14.33 | 61.68 | 47.35 | 80.00 | -32.65 | Peak |
| 2 | 2393.174 | -10.99 | 56.13 | 45.14 | 80.00 | -34.86 | Peak |
| 3 | 2999.250 | -10.12 | 55.50 | 45.38 | 80.00 | -34.62 | Peak |

EUT PHOTOGRAPHS

Please refer to the attachment 2501R01185E-EM External photo and 2501R01185E-EM Internal photo.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2501R01185E-EM Test Setup photo.

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