

# TEST REPORT

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Report Number : 2504V71150E-RF-00A  
FCC ID: 2A4G9-021

## Test Standard (s)

FCC PART 15.247

## Sample Description

Product Type: WIFI+BLE module  
Model No.: UAM057  
Trade Mark:   
Date Received: 2025-07-31  
Date of Test: 2025-08-05 to 2025-08-15  
Report Date: 2025-08-15

|              |                                            |
|--------------|--------------------------------------------|
| Test Result: | The EUT complied with the standards above. |
|--------------|--------------------------------------------|

## Prepared and Checked By:



Roger.Ling  
EMC Engineer

## Approved By:



Bob.Liao  
EMC Engineer

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DOCUMENT REVISION HISTORY

| Revision Number | Report Number      | Description of Revision | Date of Revision |
|-----------------|--------------------|-------------------------|------------------|
| Rev.00          | 2504V71150E-RF-00A | Original Report         | 2025-08-15       |

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

|                                                                                                                                                                                                                                                                  |                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Product                                                                                                                                                                                                                                                          | WIFI+BLE module               |
| Tested Model                                                                                                                                                                                                                                                     | UAM057                        |
| Voltage Range <sup>#</sup>                                                                                                                                                                                                                                       | DC 3.0~3.6V( typical DC 3.3V) |
| Note: The module has two types of antenna configuration, one use PCB antenna, another use external I-PEX antenna, the two version share the same antenna path, the antenna path was selected by component jump, only one antenna would be active on each device. |                               |

|                                     |                                                                                                                                                    |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Range                     | BLE 1M: 2402-2480MHz                                                                                                                               |
| Maximum Conducted Peak Output Power | 4.07 dBm                                                                                                                                           |
| Modulation Technique                | GFSK                                                                                                                                               |
| Antenna Specification <sup>#</sup>  | PCB Antenna: -1.3dBi<br>External I-PEX Antenna: 2.0dBi<br>(It is provided by the applicant.)                                                       |
| Sample Serial Number                | PCB antenna version: 37BS-2 (CE&RSE), 37BS-3 (RF Conducted Test)<br>External I-PEX antenna version: 37BS-4 (CE&RSE)<br>(Assigned by ATC, Shenzhen) |
| Sample/EUT Status                   | Good condition                                                                                                                                     |

## Objective

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

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

## Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2020, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices. And KDB 558074 D01 15.247 Meas Guidance v05r02.

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            |
|------------------------------------|-----------------|------------------------|
| Occupied Channel Bandwidth         |                 | 5 %                    |
| RF Frequency                       |                 | $0.064 \times 10^{-7}$ |
| RF output power, conducted         |                 | 0.3 dB                 |
| Unwanted Emission, conducted       |                 | 1.2 dB                 |
| AC Power Lines Conducted Emissions |                 | 2.7 dB                 |
| Emissions,<br>Radiated             | 9kHz - 30MHz    | 2.1 dB                 |
|                                    | 30MHz - 1GHz    | 4.3 dB                 |
|                                    | 1GHz - 18GHz    | 4.9 dB                 |
|                                    | 18GHz - 26.5GHz | 5.2 dB                 |
| 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.*

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

For BLE, 40 channels are provided to testing:

| Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) |
|---------|----------------|---------|----------------|---------|----------------|---------|----------------|
| 0       | 2402           | 10      | 2422           | 20      | 2442           | 30      | 2462           |
| 1       | 2404           | 11      | 2424           | 21      | 2444           | 31      | 2464           |
| ...     | ...            | ...     | ...            | ...     | ...            | ...     | ...            |
| ...     | ...            | ...     | ...            | ...     | ...            | ...     | ...            |
| 8       | 2418           | 18      | 2438           | 28      | 2458           | 38      | 2478           |
| 9       | 2420           | 19      | 2440           | 29      | 2460           | 39      | 2480           |

EUT was tested with Channel 0, 19 and 39.

Note: For the two types of antenna configuration, AC power line conducted emission and radiated spurious emission were tested for each antenna, as the two configuration share same antenna path, only the PCB antenna version was selected for RF conducted test.

### EUT Exercise Software and Power Level<sup>#</sup>

|                           |                      |
|---------------------------|----------------------|
| <b>Exercise Software:</b> | Wifi_Test_Tool_1.7.5 |
| <b>Power Level:</b>       | 35                   |

Note: The information in the above table is provided by the applicant.

### Special Accessories

No special accessory.

### Equipment Modifications

No modification was made to the EUT tested.

### Duty Cycle

**Test result:** Please refer to Appendix.

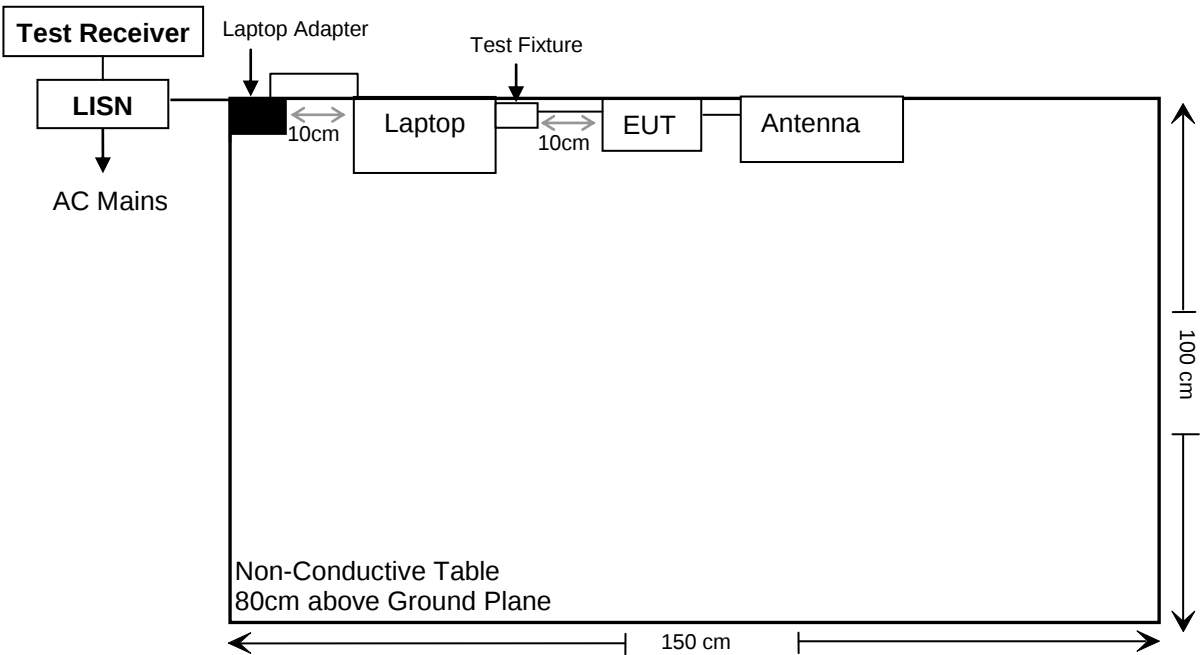
| Manufacturer | Description  | Model       | Serial Number          |
|--------------|--------------|-------------|------------------------|
| Lenovo       | Laptop       | T430        | 23447YC                |
| Lenovo       | Adapter      | ADLX65NLC3A | 11S45N0257Z1ZX1773ND2K |
| Unknown      | Test Fixture | Unknown     | Unknown                |
| Unknown      | Antenna      | Unknown     | Unknown                |

| Cable Description | Shielding Type | Length (m) | From Port      | To      |
|-------------------|----------------|------------|----------------|---------|
| DC Cable          | NO             | 1.2        | Laptop Adapter | Laptop  |
| RF Cable          | YES            | 0.2        | EUT            | Antenna |
| Data Cable①       | NO             | 0.1        | Test Fixture   | EUT     |
| Data Cable②       | NO             | 2.0        | Test Fixture   | Laptop  |

The diagram illustrates the Test Receiver setup on a Non-Conductive Table, which is 80cm above the Ground Plane. The setup includes the following components and dimensions:

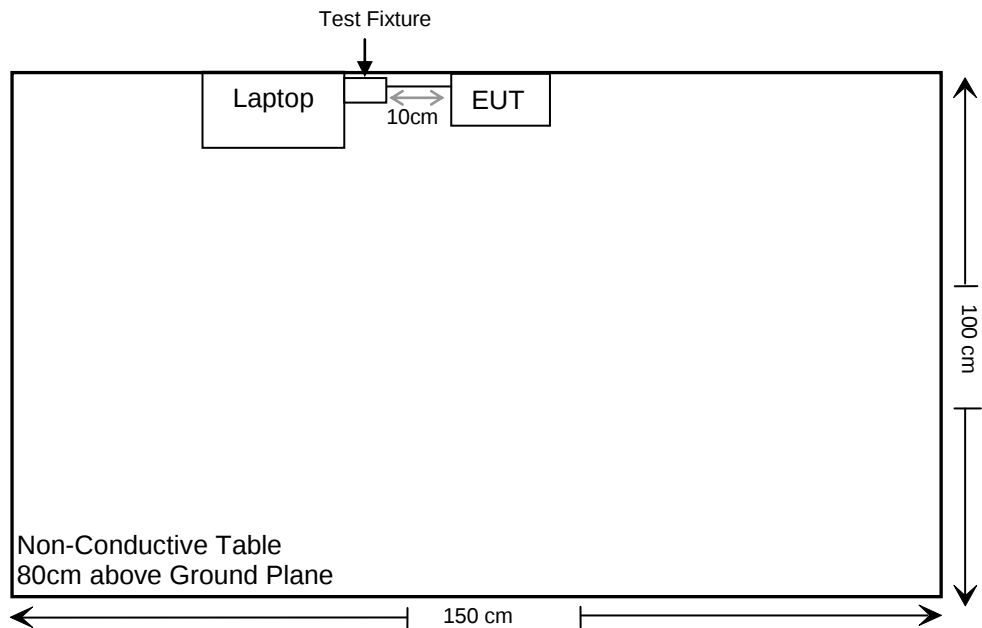
- Test Receiver**: A box connected to the **LISN** and **AC Mains**.
- LISN** (Line Impedance Stabilization Network): A box connected to the Test Receiver and the **AC Mains**.
- AC Mains**: The power source for the setup.
- Laptop Adapter**: A component connected to the **LISN** and the **Laptop**.
- Laptop**: A component connected to the Laptop Adapter and the **Test Fixture**.
- Test Fixture**: A component connected to the Laptop and the **EUT**.
- EUT** (Equipment Under Test): The device being tested.
- Non-Conductive Table**: The surface on which the components are placed, 80cm above the Ground Plane.
- Dimensions**:
  - The distance between the Laptop Adapter and the Laptop is 10cm.
  - The distance between the Test Fixture and the EUT is 10cm.
  - The total width of the setup is 150 cm.
  - The height of the setup is 100 cm.

For External I-PEX Antenna

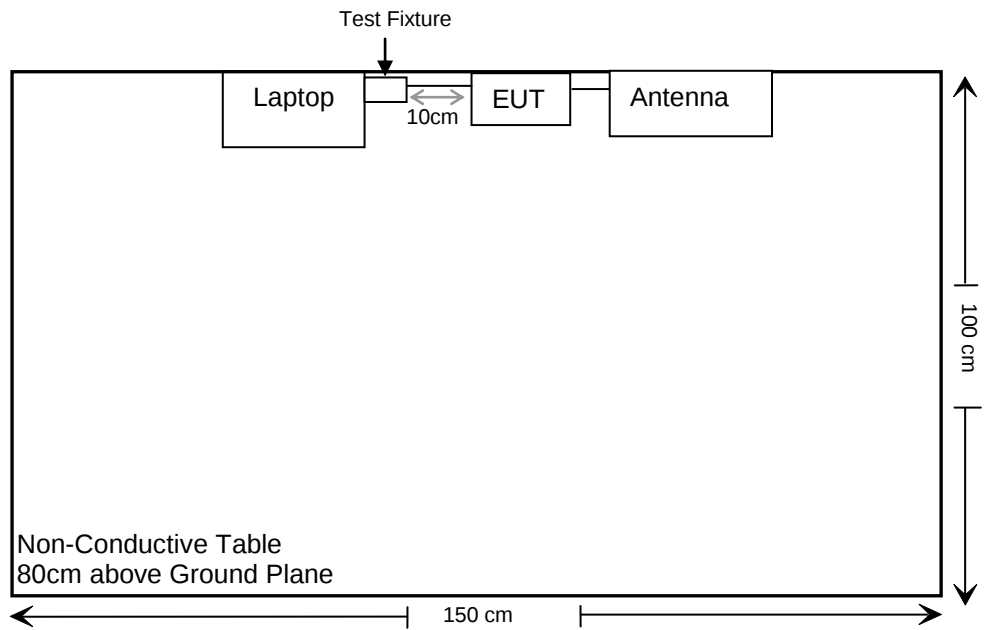


For Radiated Emission(Below 1GHz):

For PCB Antenna

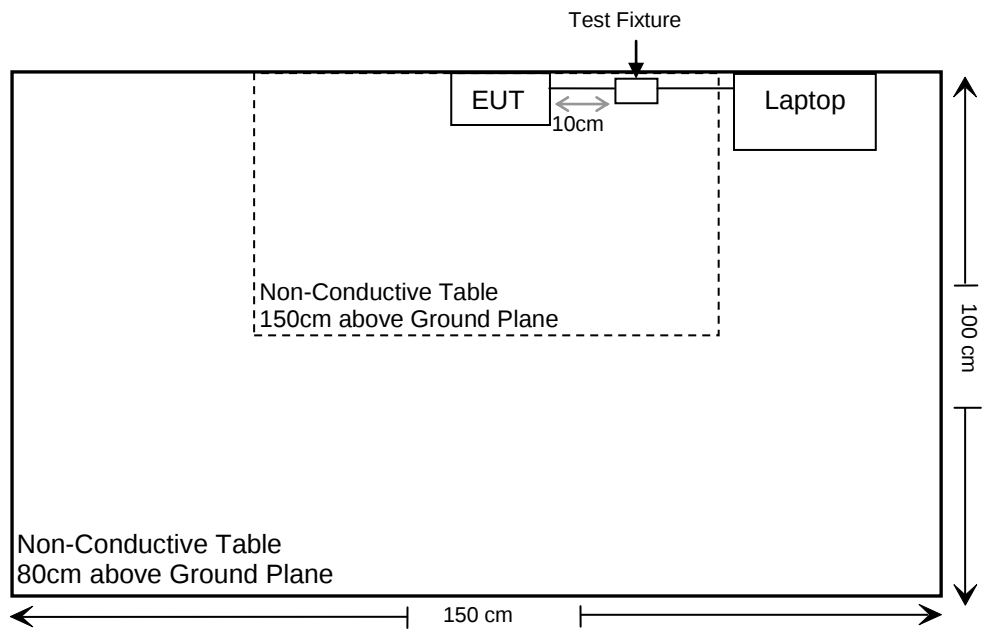


For External I-PEX Antenna

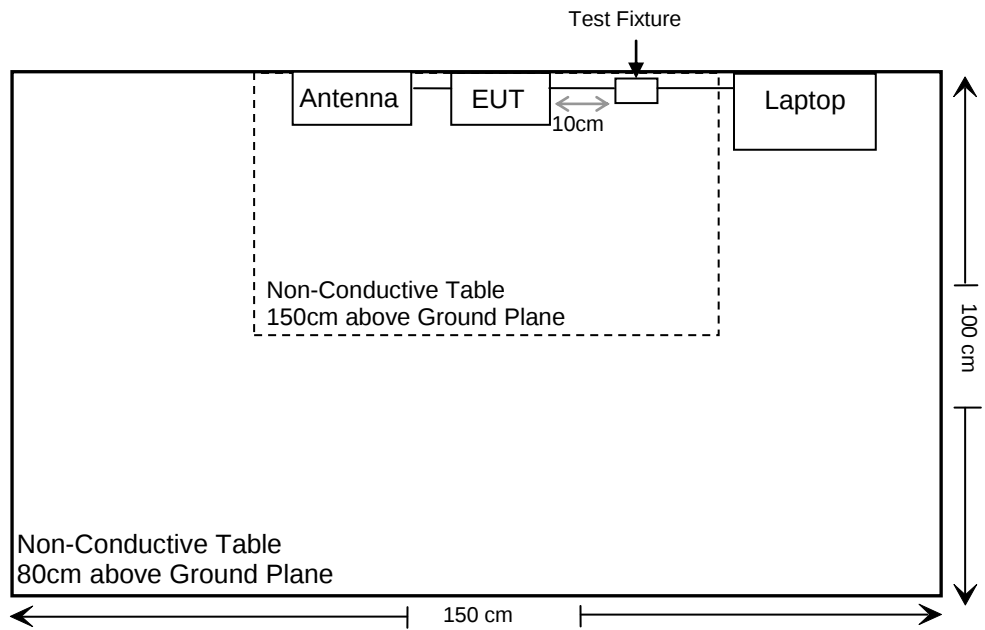


For Radiated Emission(Above 1GHz):

For PCB Antenna



For External I-PEX Antenna



## SUMMARY OF TEST RESULTS

| FCC Rules                       | Description of Test                             | Result     |
|---------------------------------|-------------------------------------------------|------------|
| §15.203                         | Antenna Requirement                             | Compliance |
| §15.207(a)                      | AC Line Conducted Emissions                     | Compliance |
| §15.205, §15.209,<br>§15.247(d) | Radiated Spurious Emissions                     | Compliance |
| §15.247 (a)(2)                  | 6 dB Emission Bandwidth<br>& Occupied Bandwidth | Compliance |
| §15.247(b)(3)                   | Maximum Conducted Output Power                  | Compliance |
| §15.247(d)                      | 100 kHz Bandwidth of Frequency Band Edge        | Compliance |
| §15.247(e)                      | Power Spectral Density                          | Compliance |

Note 1: For AC line conducted emissions, the maximum output power mode and channel was tested.

Note 2: For Radiated Spurious Emissions 9kHz~1GHz/18GHz~25GHz, the maximum output power mode and channel was tested.

Note 3: For Radiated Spurious Emissions, after pre-scan in the X, Y and Z axes of orientation, the worst case as setup photos was recorded.

Note 4: The cable loss is 0.5dB, which was added into the all RF test results.

**TEST EQUIPMENT LIST**

| Manufacturer                                       | Description                       | Model           | Serial Number | Calibration Date | Calibration Due Date |
|----------------------------------------------------|-----------------------------------|-----------------|---------------|------------------|----------------------|
| <b>Conducted Emissions Test</b>                    |                                   |                 |               |                  |                      |
| Rohde & Schwarz                                    | EMI Test Receiver                 | ESCI            | 100784        | 2024/11/08       | 2025/11/07           |
| Rohde & Schwarz                                    | L.I.S.N.                          | ENV216          | 101314        | 2024/11/08       | 2025/11/07           |
| Anritsu Corp                                       | 50 Coaxial Switch                 | MP59B           | 6100237248    | 2024/10/08       | 2025/10/07           |
| 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)                      |                                   |                 |               |                  |                      |
| <b>Radiated Spurious Emission Test(Below 1GHz)</b> |                                   |                 |               |                  |                      |
| Rohde & Schwarz                                    | Test Receiver                     | ESR             | 102725        | 2024/11/08       | 2025/11/07           |
| 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)                      |                                   |                 |               |                  |                      |
| <b>Radiated Spurious Emission Test(Above 1GHz)</b> |                                   |                 |               |                  |                      |
| Rohde & Schwarz                                    | Spectrum Analyzer                 | FSV40           | 101949        | 2024/10/08       | 2025/10/07           |
| Decentest                                          | Filter Switch Unit                | DT7220FSU       | DQ77927       | 2024/10/08       | 2025/10/07           |
| Decentest                                          | Multiplex Switch Test Control Set | DT7220CSU       | DQ77924       | 2024/10/08       | 2025/10/07           |
| 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)                      |                                   |                 |               |                  |                      |

| Manufacturer                           | Description       | Model  | Serial Number | Calibration Date | Calibration Due Date |
|----------------------------------------|-------------------|--------|---------------|------------------|----------------------|
| RF Conducted test                      |                   |        |               |                  |                      |
| Rohde & Schwarz                        | Spectrum Analyzer | FSV-40 | 101948        | 2024/10/08       | 2025/10/07           |
| WEINSCHEL                              | 10dB Attenuator   | 5324   | AU 3842       | 2025/03/26       | 2026/03/25           |
| Test Software: JDAutoTestSystem V1.0.0 |                   |        |               |                  |                      |

**\* 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).

## FCC §15.203-ANTENNA REQUIREMENT

### Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.
- c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### Antenna Connector Construction

The EUT has two types of antenna configuration, one use PCB antenna, another use external I-PEX antenna. PCB antenna is an internal antenna arrangement, which is permanently attached to the EUT. External I-PEX antenna is an external antenna arrangement, which used a unique coupling to the EUT. Two antennas meet fulfill the requirement of this section. Please refer to the EUT photos.

| Frequency Range | Antenna Type           | Antenna Gain |
|-----------------|------------------------|--------------|
| 2402-2480MHz    | PCB antenna            | -1.3dBi      |
|                 | External I-PEX antenna | 2.0dBi       |

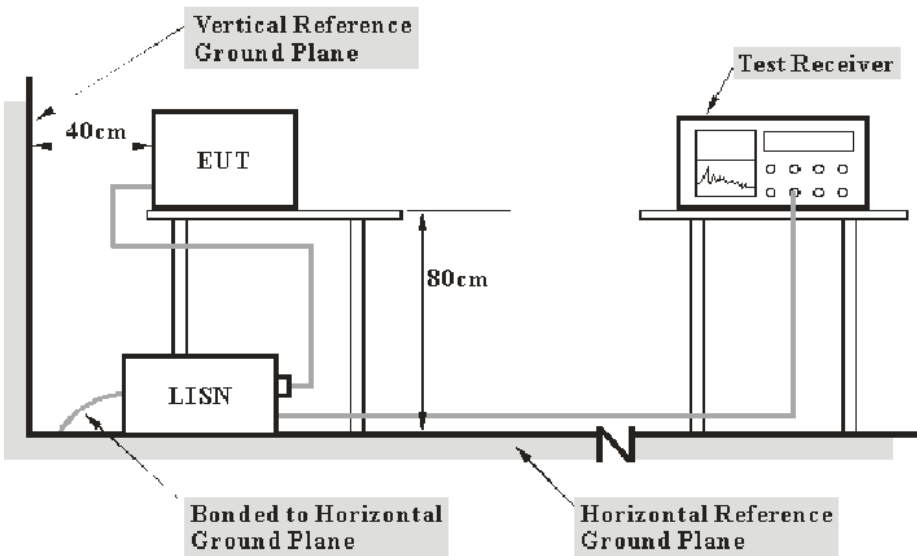
**Result:** Compliance.

FCC §15.207 (a)-AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a).

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 C63.10-2020. The related limit was specified in FCC Part 15.207.

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  | IF B/W |
|------------------|--------|
| 150 kHz – 30 MHz | 9 kHz  |

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

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) and Cable Loss. 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

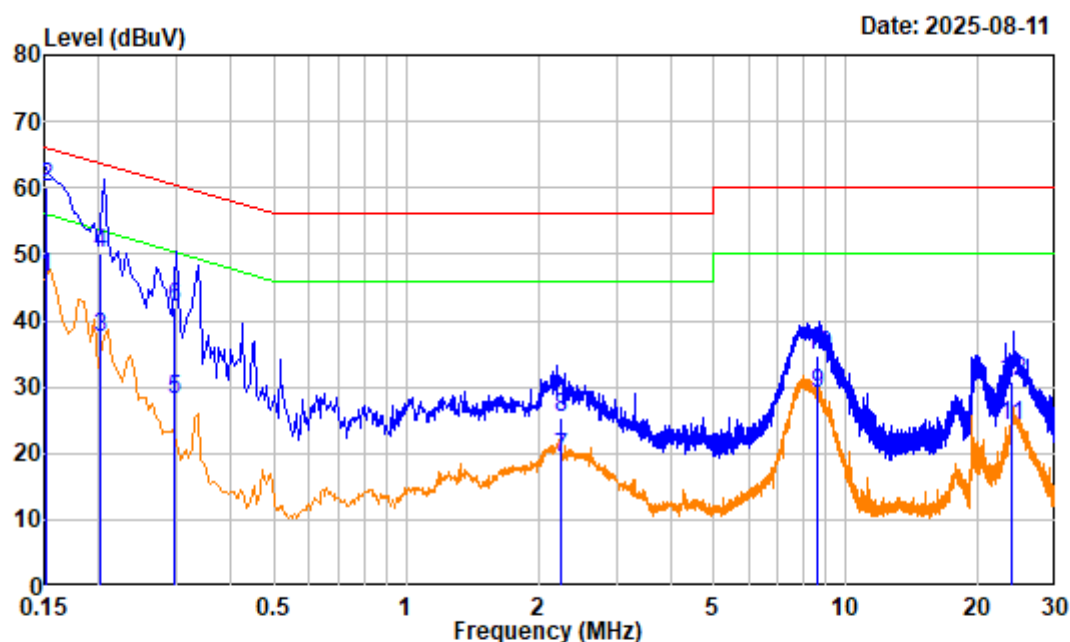
|                            |                  |
|----------------------------|------------------|
| <b>Temperature:</b>        | 24.6 °C          |
| <b>Relative Humidity:</b>  | 43 %             |
| <b>ATM Pressure:</b>       | 99.3 kPa         |
| <b>Test Engineer:</b>      | Jason Fan        |
| <b>Test Date:</b>          | 2025-08-11       |
| <b>EUT Operation Mode:</b> | BLE Transmitting |

**Test Result:** Compliance, please refer to the below data.

*Note: The maximum output power mode and channel: BLE 1M High channel was tested.*

## For PCB Antenna

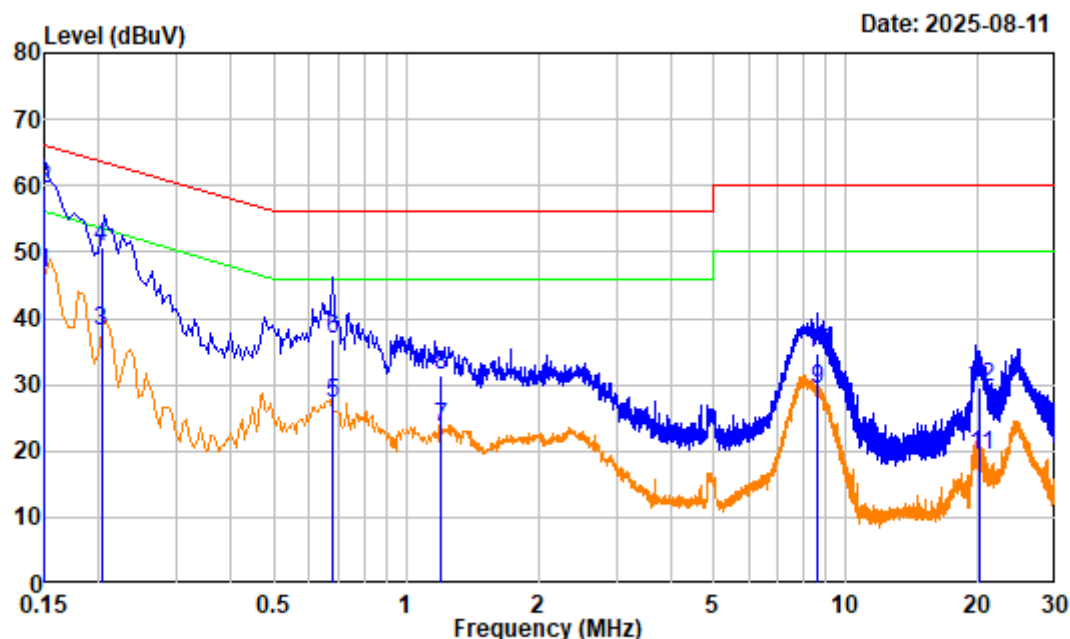
AC 120V/60Hz, Line:



Site : Shielding Room  
 Condition: Line  
 Job No. : 2504V71150E-RF  
 Test Mode: BLE Transmitting  
 Note : PCB Ant  
 Tester : Jason Fan  
 Setting : IF B/W 9kHz PK/AV

|    | Freq   | Factor | Read Level | Level | Limit Line | Over Limit | Remark  |
|----|--------|--------|------------|-------|------------|------------|---------|
|    | MHz    | dB     | dBuV       | dBuV  | dBuV       | dB         |         |
| 1  | 0.152  | 19.77  | 26.76      | 46.53 | 55.89      | -9.36      | Average |
| 2  | 0.152  | 19.77  | 40.29      | 60.06 | 65.89      | -5.83      | QP      |
| 3  | 0.202  | 19.83  | 17.71      | 37.54 | 53.53      | -15.99     | Average |
| 4  | 0.202  | 19.83  | 30.35      | 50.18 | 63.53      | -13.35     | QP      |
| 5  | 0.297  | 19.82  | 8.20       | 28.02 | 50.31      | -22.29     | Average |
| 6  | 0.297  | 19.82  | 22.04      | 41.86 | 60.31      | -18.45     | QP      |
| 7  | 2.241  | 20.47  | -1.02      | 19.45 | 46.00      | -26.55     | Average |
| 8  | 2.241  | 20.47  | 4.77       | 25.24 | 56.00      | -30.76     | QP      |
| 9  | 8.609  | 21.05  | 7.96       | 29.01 | 50.00      | -20.99     | Average |
| 10 | 8.609  | 21.05  | 13.53      | 34.58 | 60.00      | -25.42     | QP      |
| 11 | 23.773 | 21.01  | 3.14       | 24.15 | 50.00      | -25.85     | Average |
| 12 | 23.773 | 21.01  | 9.73       | 30.74 | 60.00      | -29.26     | QP      |

## AC 120V/60Hz, Neutral:

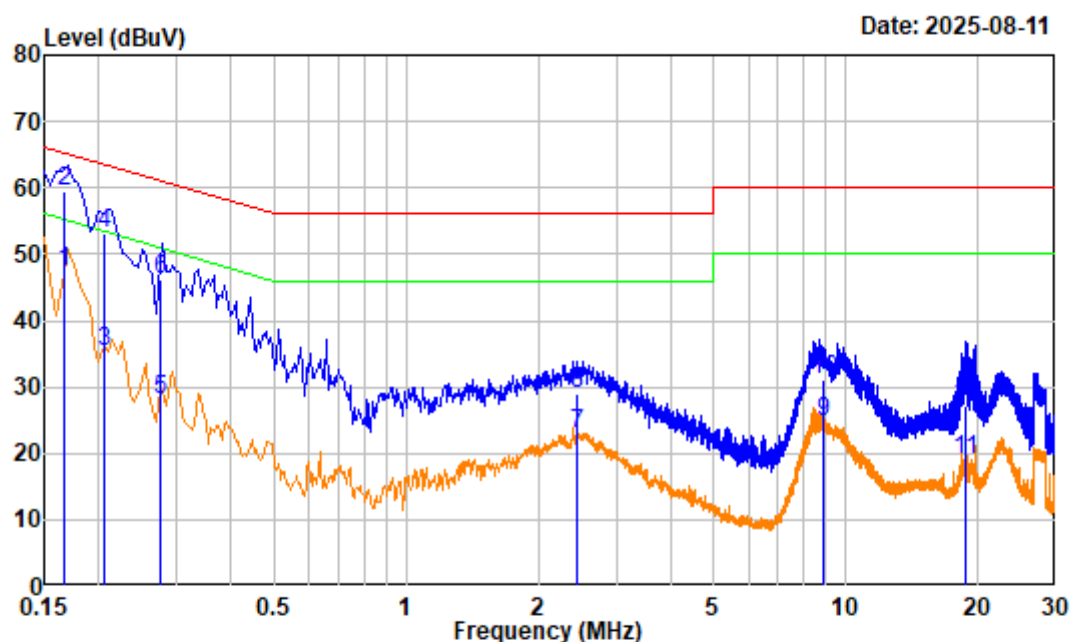


Site : Shielding Room  
 Condition: neutral  
 Job No. : 2504V71150E-RF  
 Test Mode: BLE Transmitting  
 Note : PCB Ant  
 Tester : Jason Fan  
 Setting : IF B/W 9kHz PK/AV

|    | Freq   | Factor | Read<br>Level | Level | Limit<br>Line | Over<br>Limit | Remark  |
|----|--------|--------|---------------|-------|---------------|---------------|---------|
|    | MHz    | dB     | dBuV          | dBuV  | dBuV          | dB            |         |
| 1  | 0.150  | 19.94  | 26.88         | 46.82 | 55.97         | -9.15         | Average |
| 2  | 0.150  | 19.94  | 39.56         | 59.50 | 65.97         | -6.47         | QP      |
| 3  | 0.202  | 19.92  | 18.00         | 37.92 | 53.51         | -15.59        | Average |
| 4  | 0.202  | 19.92  | 30.88         | 50.80 | 63.51         | -12.71        | QP      |
| 5  | 0.680  | 19.94  | 7.12          | 27.06 | 46.00         | -18.94        | Average |
| 6  | 0.680  | 19.94  | 16.79         | 36.73 | 56.00         | -19.27        | QP      |
| 7  | 1.194  | 20.21  | 3.36          | 23.57 | 46.00         | -22.43        | Average |
| 8  | 1.194  | 20.21  | 11.22         | 31.43 | 56.00         | -24.57        | QP      |
| 9  | 8.603  | 21.05  | 8.11          | 29.16 | 50.00         | -20.84        | Average |
| 10 | 8.603  | 21.05  | 13.65         | 34.70 | 60.00         | -25.30        | QP      |
| 11 | 20.207 | 20.71  | -1.28         | 19.43 | 50.00         | -30.57        | Average |
| 12 | 20.207 | 20.71  | 8.80          | 29.51 | 60.00         | -30.49        | QP      |

## For External I-PEX Antenna

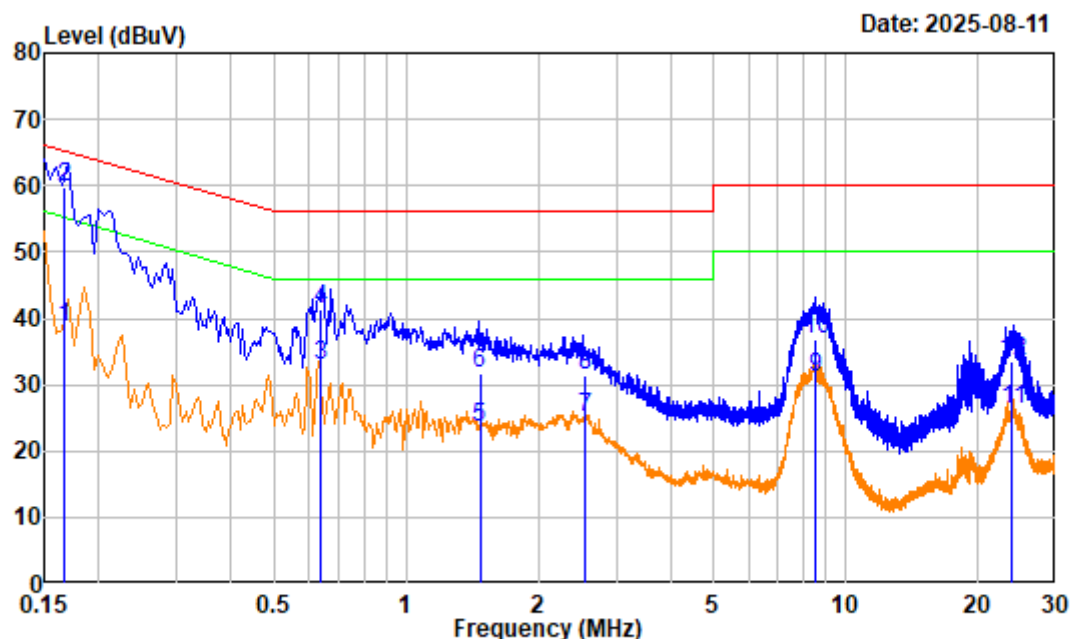
AC 120V/60Hz, Line:



Site : Shielding Room  
 Condition: Line  
 Job No. : 2504V71150E-RF  
 Test Mode: BLE Transmitting  
 Note : I-PEX Ant  
 Tester : Jason Fan  
 Setting : IF B/W 9kHz PK/AV

|    | Freq   | Factor | Read Level | Level | Limit Line | Over Limit | Remark  |
|----|--------|--------|------------|-------|------------|------------|---------|
|    | MHz    | dB     | dBuV       | dBuV  | dBuV       | dB         |         |
| 1  | 0.167  | 19.87  | 27.41      | 47.28 | 55.09      | -7.81      | Average |
| 2  | 0.167  | 19.87  | 39.55      | 59.42 | 65.09      | -5.67      | QP      |
| 3  | 0.205  | 19.84  | 15.34      | 35.18 | 53.41      | -18.23     | Average |
| 4  | 0.205  | 19.84  | 33.29      | 53.13 | 63.41      | -10.28     | QP      |
| 5  | 0.275  | 19.86  | 8.09       | 27.95 | 50.96      | -23.01     | Average |
| 6  | 0.275  | 19.86  | 26.39      | 46.25 | 60.96      | -14.71     | QP      |
| 7  | 2.436  | 20.56  | 2.28       | 22.84 | 46.00      | -23.16     | Average |
| 8  | 2.436  | 20.56  | 8.47       | 29.03 | 56.00      | -26.97     | QP      |
| 9  | 8.884  | 21.01  | 3.89       | 24.90 | 50.00      | -25.10     | Average |
| 10 | 8.884  | 21.01  | 10.03      | 31.04 | 60.00      | -28.96     | QP      |
| 11 | 18.635 | 20.79  | -1.66      | 19.13 | 50.00      | -30.87     | Average |
| 12 | 18.635 | 20.79  | 6.48       | 27.27 | 60.00      | -32.73     | QP      |

## AC 120V/60Hz, Neutral:



Site : Shielding Room  
 Condition: neutral  
 Job No. : 2504V71150E-RF  
 Test Mode: BLE Transmitting  
 Note : I-PEX Ant  
 Tester : Jason Fan  
 Setting : IF B/W 9kHz PK/AV

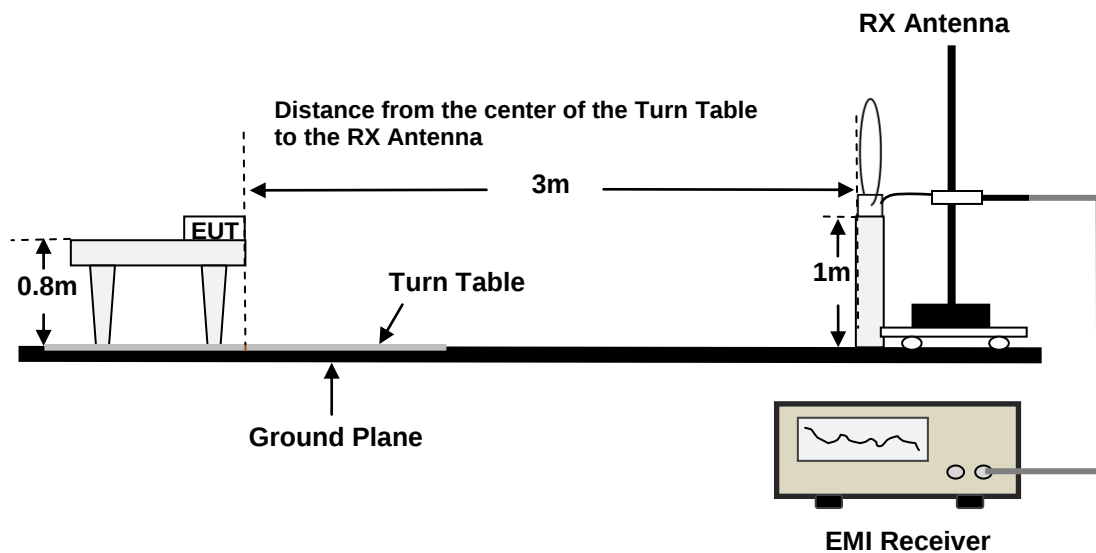
|    | Freq   | Factor | Read<br>Level | Level | Limit<br>Line | Over<br>Limit | Remark  |
|----|--------|--------|---------------|-------|---------------|---------------|---------|
|    | MHz    | dB     | dBuV          | dBuV  | dBuV          | dB            |         |
| 1  | 0.166  | 19.83  | 18.90         | 38.73 | 55.15         | -16.42        | Average |
| 2  | 0.166  | 19.83  | 39.86         | 59.69 | 65.15         | -5.46         | QP      |
| 3  | 0.635  | 19.95  | 12.81         | 32.76 | 46.00         | -13.24        | Average |
| 4  | 0.635  | 19.95  | 21.41         | 41.36 | 56.00         | -14.64        | QP      |
| 5  | 1.470  | 20.26  | 3.21          | 23.47 | 46.00         | -22.53        | Average |
| 6  | 1.470  | 20.26  | 11.42         | 31.68 | 56.00         | -24.32        | QP      |
| 7  | 2.541  | 20.61  | 4.59          | 25.20 | 46.00         | -20.80        | Average |
| 8  | 2.541  | 20.61  | 10.68         | 31.29 | 56.00         | -24.71        | QP      |
| 9  | 8.530  | 21.06  | 9.99          | 31.05 | 50.00         | -18.95        | Average |
| 10 | 8.530  | 21.06  | 15.83         | 36.89 | 60.00         | -23.11        | QP      |
| 11 | 23.896 | 20.93  | 5.25          | 26.18 | 50.00         | -23.82        | Average |
| 12 | 23.896 | 20.93  | 12.69         | 33.62 | 60.00         | -26.38        | QP      |

**FCC §15.205, §15.209 & §15.247(d)-RADIATED EMISSIONS****Applicable Standard**

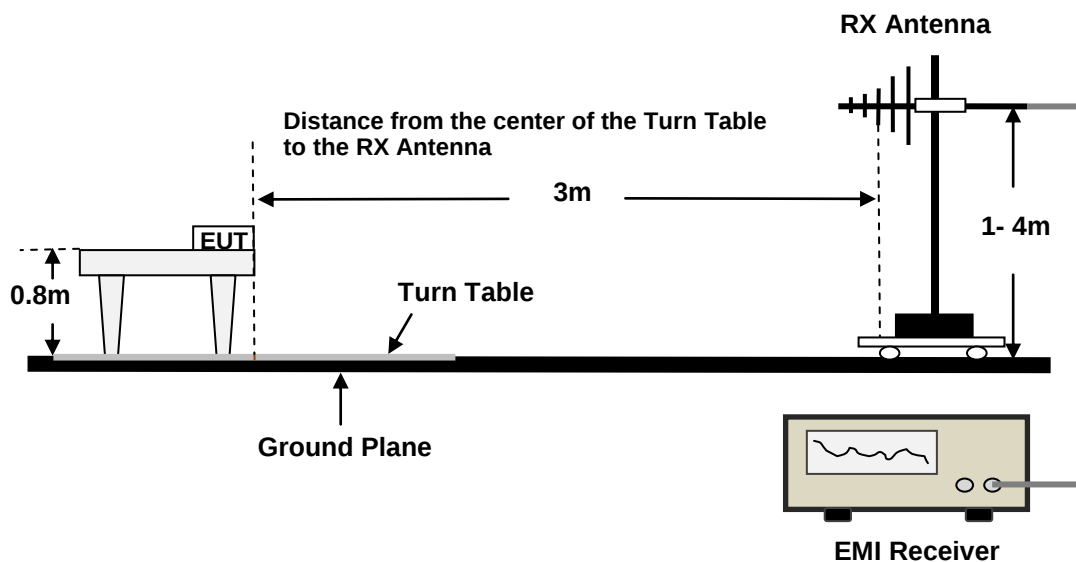
FCC §15.205; §15.209; §15.247(d)

**EUT Setup**

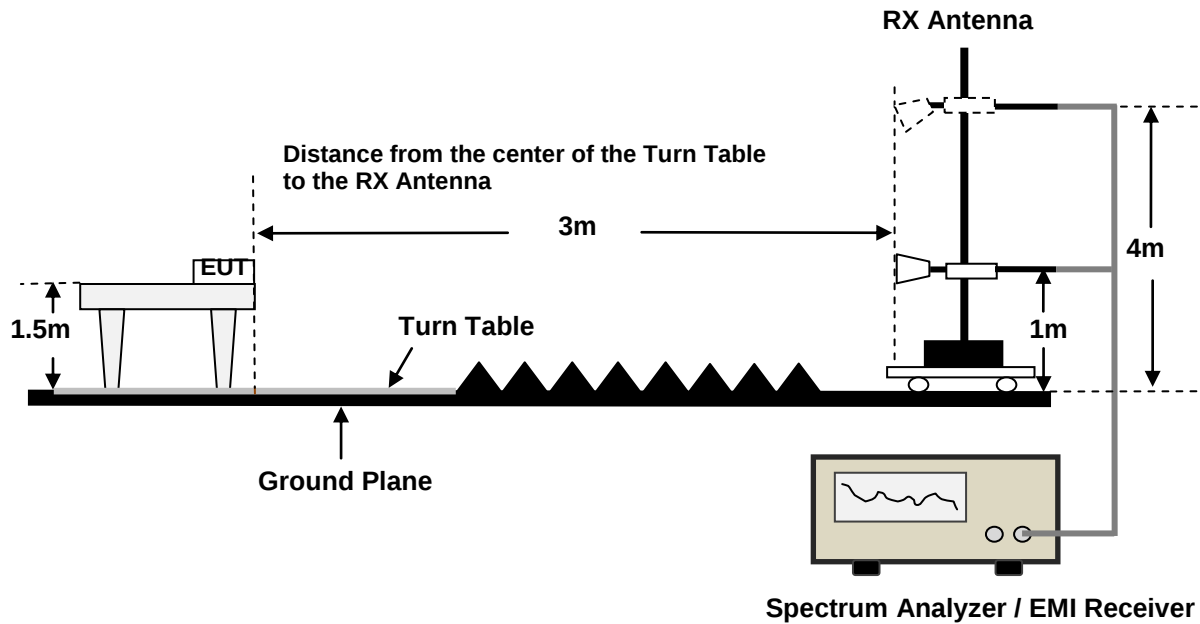
9kHz - 30MHz:



30MHz - 1GHz:



Above 1GHz:



The radiated emission performed in the 3 meters, using the setup accordance with the ANSI C63.10-2020. The specification used was the FCC 15.209, FCC 15.247 limits.

EMI Test Receiver & 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:

9kHz - 1000MHz:

| Frequency Range | Measurement | RBW    | Video B/W | IF B/W | Detector |
|-----------------|-------------|--------|-----------|--------|----------|
| 9kHz - 150kHz   | PK          | 0.3kHz | 1kHz      | /      | PK       |
|                 | QP/AV       | /      | /         | 200Hz  | QP/AV    |
| 150kHz - 30MHz  | PK          | 10kHz  | 30kHz     | /      | PK       |
|                 | QP/AV       | /      | /         | 9kHz   | QP/AV    |
| 30MHz - 1000MHz | PK          | 100kHz | 300kHz    | /      | PK       |
|                 | QP          | /      | /         | 120kHz | QP       |

1GHz - 25GHz:

Pre-scan:

| Measurement | Detector | Duty cycle | RBW  | Video B/W               |
|-------------|----------|------------|------|-------------------------|
| PK          | Peak     | Any        | 1MHz | 3MHz                    |
| Ave.        | Peak     | >98%       | 1MHz | 3kHz                    |
|             |          | <98%       | 1MHz | ≥1/T, no less than 3kHz |

Final measurement for emission identified during the pre-scan:

| Measurement | Detector | Duty cycle | RBW  | Video B/W |
|-------------|----------|------------|------|-----------|
| PK          | Peak     | Any        | 1MHz | 3MHz      |
| Ave.        | Peak     | >98%       | 1MHz | 10Hz      |
|             |          | <98%       | 1MHz | ≥1/T      |

Note 1: T is minimum transmission duration

Note 2: The 1GHz-4GHz testing use the notch filter and the 4GHz-18GHz testing use high-pass filter.

Note 3: The band edge testing use 10dB attenuator.

Note 4: The filters and attenuators are all integrated within the filter switch unit.

## Test Procedure

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

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

According to ANSI C63.10-2020, 9.2: For field strength measurements made at other than the distance specified by the limit, extrapolate the measured field strength to the field strength at the distance specified by the limit using an inverse distance correction factor (20 dB/decade of distance).

$$E_{SpecLimit} = E_{Meas} + 20 \log \left( \frac{D_{Meas}}{D_{SpecLimit}} \right)$$

where

|                 |                                                                                         |
|-----------------|-----------------------------------------------------------------------------------------|
| $E_{SpecLimit}$ | is the field strength of the emission at the distance specified by the limit, in dBuV/m |
| $E_{Meas}$      | is the field strength of the emission at the measurement distance, in dBuV/m            |
| $D_{Meas}$      | is the measurement distance, in m                                                       |
| $D_{SpecLimit}$ | is the distance specified by the limit, in m                                            |

Note 1: If the maximized peak measured value is under the QP/Average limit by more than 6dB, then it is unnecessary to perform an QP/Average measurement.

Note 2: For above 1GHz, the test result of peak was 20dB below to the limit of peak, which can be compliant to the average limit, so just peak value was recorded.

## 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

9kHz-1GHz

Environmental Conditions

|                     |                  |
|---------------------|------------------|
| Temperature:        | 24.3 °C          |
| Relative Humidity:  | 57 %             |
| ATM Pressure:       | 99.3 kPa         |
| Test Engineer:      | Colin Lin        |
| Test Date:          | 2025-08-08       |
| EUT Operation Mode: | BLE Transmitting |

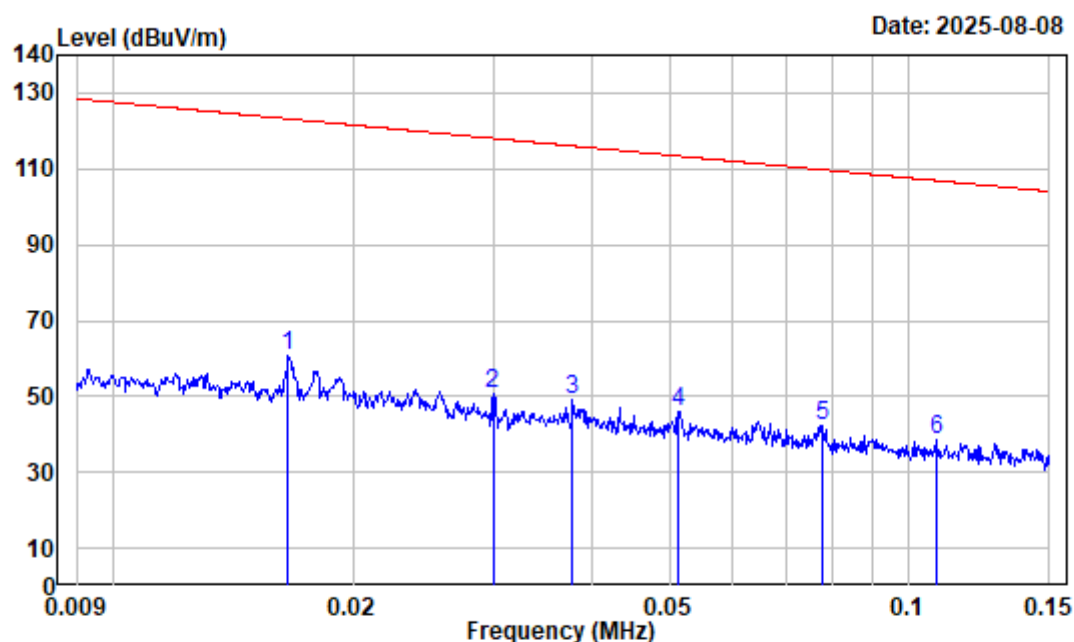
**Test Result:** Compliance, please refer to the below data.

*Note 1: The Loop Antenna were tested in parallel, perpendicular, and ground-parallel. The worst orientation was parallel and the data was recorded in report.*

*Note 2: The maximum output power mode and channel: BLE 1M High channel was tested.*

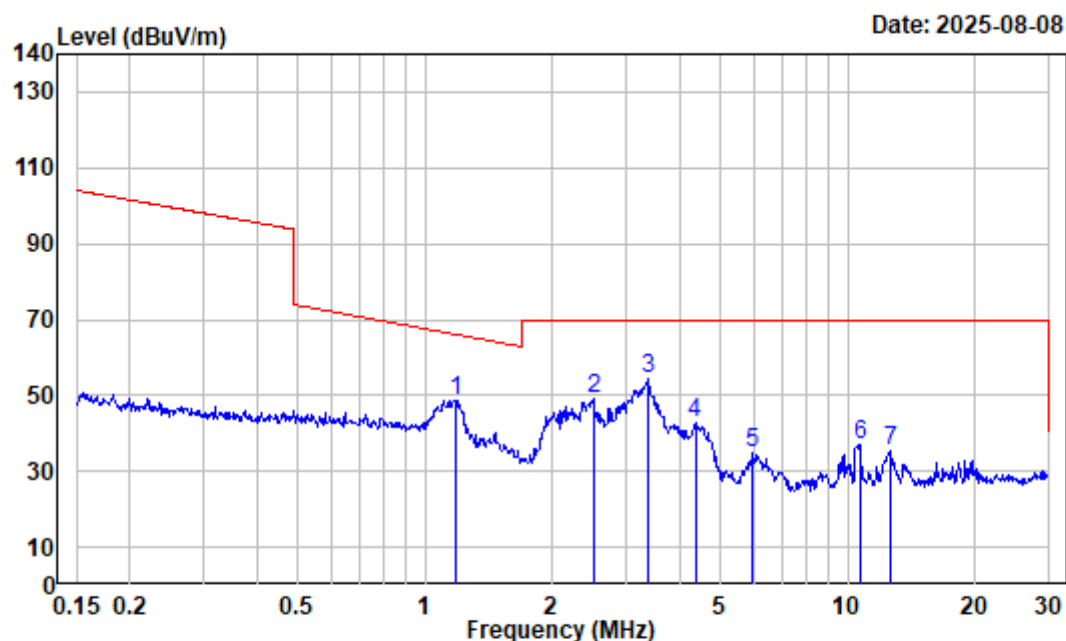
## For PCB Antenna

9kHz~30MHz:



Site : Chamber  
Condition : 3m  
Job No. : 2504V71150E-RF  
Polarization : Parallel Tester: Colin Lin  
Test Mode : BLE Transmitting  
Note : PCB Ant  
Receiver Setting: RBW:300Hz VBW:1kHz

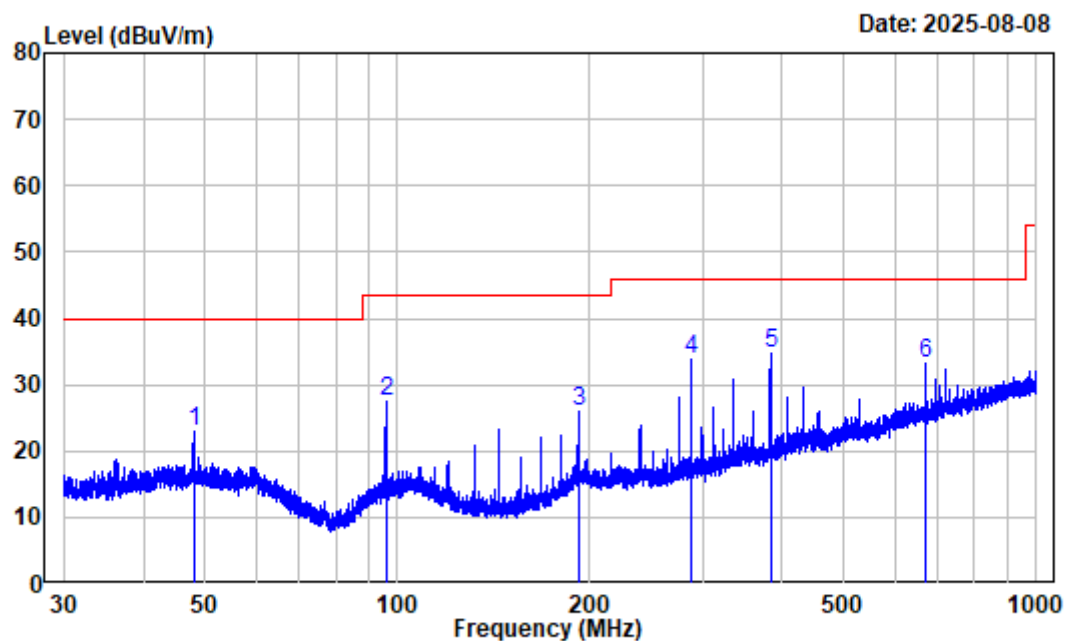
|   | Freq  | Factor | Read Level | Level  | Limit Line | Over Limit | Remark |
|---|-------|--------|------------|--------|------------|------------|--------|
|   | MHz   | dB/m   | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 | 0.017 | 32.92  | 27.60      | 60.52  | 123.22     | -62.70     | Peak   |
| 2 | 0.030 | 26.95  | 23.68      | 50.63  | 118.06     | -67.43     | Peak   |
| 3 | 0.038 | 25.33  | 23.96      | 49.29  | 116.06     | -66.77     | Peak   |
| 4 | 0.051 | 22.64  | 23.38      | 46.02  | 113.42     | -67.40     | Peak   |
| 5 | 0.078 | 18.87  | 23.60      | 42.47  | 109.80     | -67.33     | Peak   |
| 6 | 0.108 | 16.06  | 22.55      | 38.61  | 106.92     | -68.31     | Peak   |



Site : Chamber  
 Condition : 3m  
 Job No. : 2504V71150E-RF  
 Polarization : Parallel Tester: Colin Lin  
 Test Mode : BLE Transmitting  
 Note : PCB Ant  
 Receiver Setting: RBW:10kHz VBW:30kHz

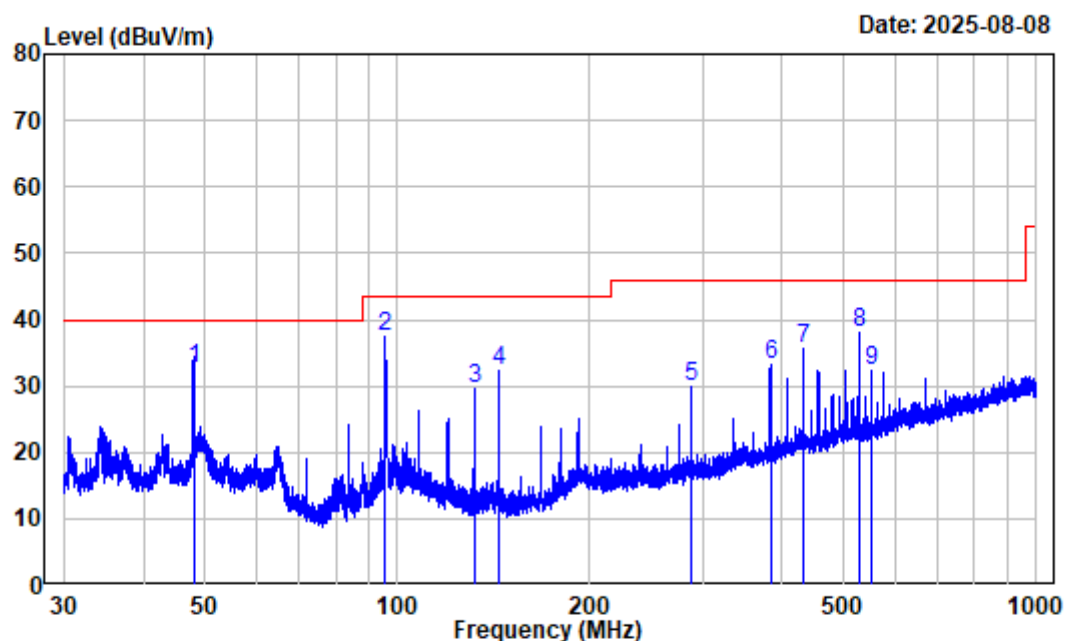
|   | Freq   | Factor | Read<br>Level | Level  | Limit<br>Line | Over<br>Limit | Remark |
|---|--------|--------|---------------|--------|---------------|---------------|--------|
|   | MHz    | dB/m   | dBuV          | dBuV/m | dBuV/m        | dB            |        |
| 1 | 1.178  | -2.46  | 51.32         | 48.86  | 66.02         | -17.16        | Peak   |
| 2 | 2.500  | -5.61  | 54.65         | 49.04  | 69.54         | -20.50        | Peak   |
| 3 | 3.381  | -6.01  | 60.18         | 54.17  | 69.54         | -15.37        | Peak   |
| 4 | 4.361  | -6.30  | 49.14         | 42.84  | 69.54         | -26.70        | Peak   |
| 5 | 5.961  | -6.23  | 41.30         | 35.07  | 69.54         | -34.47        | Peak   |
| 6 | 10.676 | -5.18  | 42.39         | 37.21  | 69.54         | -32.33        | Peak   |
| 7 | 12.582 | -4.71  | 39.94         | 35.23  | 69.54         | -34.31        | Peak   |

## 30MHz~1GHz:



Site : Chamber  
Condition : 3m HORIZONTAL  
Job No. : 2504V71150E-RF Tester: Colin Lin  
Test Mode : BLE Transmitting  
Note : PCB Ant  
Receiver Setting: RBW:100kHz VBW:300kHz

|   | Freq    | Factor | Read<br>Level | Level  | Limit<br>Line | Over<br>Limit | Remark |
|---|---------|--------|---------------|--------|---------------|---------------|--------|
|   | MHz     | dB/m   | dBuV          | dBuV/m | dBuV/m        | dB            |        |
| 1 | 47.952  | -9.81  | 32.71         | 22.90  | 40.00         | -17.10        | Peak   |
| 2 | 95.930  | -12.15 | 39.71         | 27.56  | 43.50         | -15.94        | Peak   |
| 3 | 191.745 | -10.20 | 36.01         | 25.81  | 43.50         | -17.69        | Peak   |
| 4 | 287.864 | -9.05  | 42.86         | 33.81  | 46.00         | -12.19        | Peak   |
| 5 | 383.932 | -6.53  | 41.28         | 34.75  | 46.00         | -11.25        | Peak   |
| 6 | 671.960 | -1.14  | 34.22         | 33.08  | 46.00         | -12.92        | Peak   |

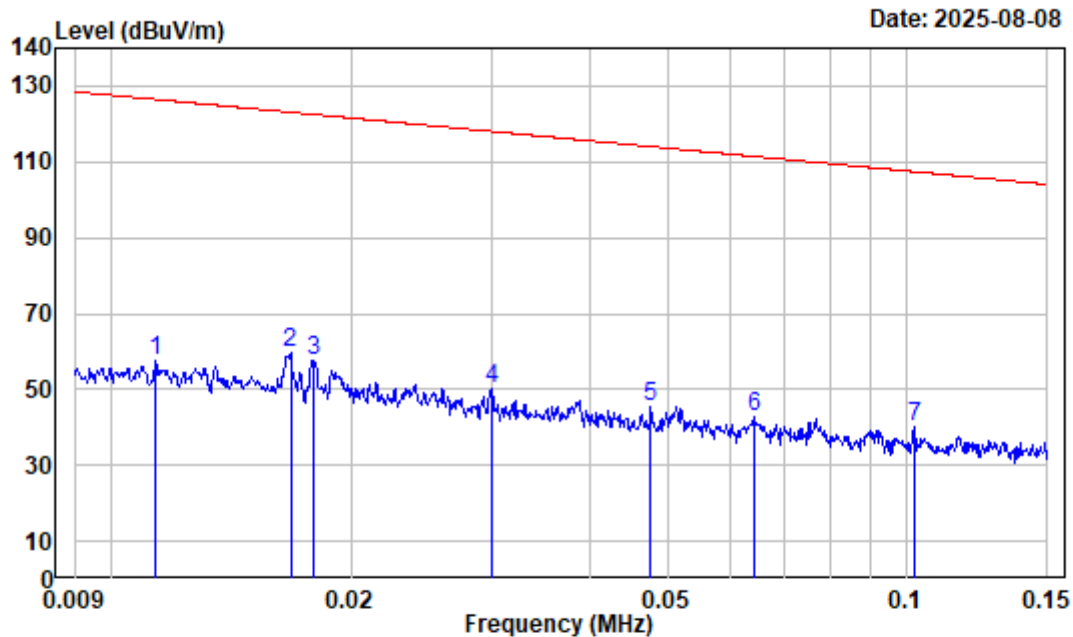


Site : Chamber  
 Condition : 3m VERTICAL  
 Job No. : 2504V71150E-RF Tester: Colin Lin  
 Test Mode : BLE Transmitting  
 Note : PCB Ant  
 Receiver Setting: RBW:100kHz VBW:300kHz

|   | Freq Factor |        | Read Level | Level  | Limit Line | Over Limit | Remark |
|---|-------------|--------|------------|--------|------------|------------|--------|
|   | MHz         | dB/m   | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 | 47.952      | -9.81  | 42.29      | 32.48  | 40.00      | -7.52      | QP     |
| 2 | 95.762      | -12.20 | 49.50      | 37.30  | 43.50      | -6.20      | Peak   |
| 3 | 131.873     | -14.65 | 44.14      | 29.49  | 43.50      | -14.01     | Peak   |
| 4 | 143.956     | -14.96 | 47.16      | 32.20  | 43.50      | -11.30     | Peak   |
| 5 | 287.612     | -9.07  | 38.96      | 29.89  | 46.00      | -16.11     | Peak   |
| 6 | 383.764     | -6.53  | 39.79      | 33.26  | 46.00      | -12.74     | Peak   |
| 7 | 431.410     | -4.89  | 40.63      | 35.74  | 46.00      | -10.26     | Peak   |
| 8 | 527.321     | -3.46  | 41.61      | 38.15  | 46.00      | -7.85      | Peak   |
| 9 | 551.673     | -3.37  | 35.77      | 32.40  | 46.00      | -13.60     | Peak   |

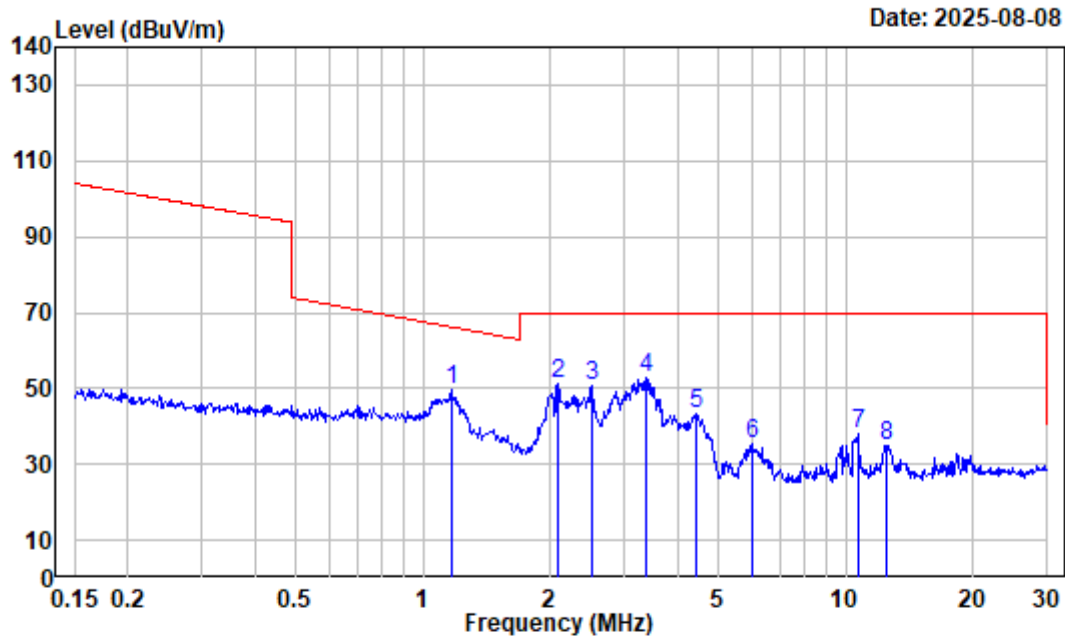
For External I-PEX Antenna

9kHz~30MHz:



Site : Chamber  
Condition : 3m  
Job No. : 2504V71150E-RF  
Polarization : Parallel Tester: Colin Lin  
Test Mode : BLE Transmitting  
Note : I-PEX Ant  
Receiver Setting: RBW:300Hz VBW:1kHz

|   | Freq  | Factor | Read Level | Level  | Limit Line | Over Limit | Remark |
|---|-------|--------|------------|--------|------------|------------|--------|
|   | MHz   | dB/m   | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 | 0.011 | 35.22  | 22.29      | 57.51  | 126.49     | -68.98     | Peak   |
| 2 | 0.017 | 32.81  | 26.74      | 59.55  | 123.09     | -63.54     | Peak   |
| 3 | 0.018 | 32.31  | 25.26      | 57.57  | 122.53     | -64.96     | Peak   |
| 4 | 0.030 | 26.93  | 23.48      | 50.41  | 118.04     | -67.63     | Peak   |
| 5 | 0.048 | 23.30  | 22.07      | 45.37  | 114.05     | -68.68     | Peak   |
| 6 | 0.064 | 20.79  | 21.87      | 42.66  | 111.46     | -68.80     | Peak   |
| 7 | 0.102 | 16.35  | 24.02      | 40.37  | 107.43     | -67.06     | Peak   |



Site : Chamber

Condition : 3m

Job No. : 2504V71150E-RF

Polarization : Parallel Tester: Colin Lin

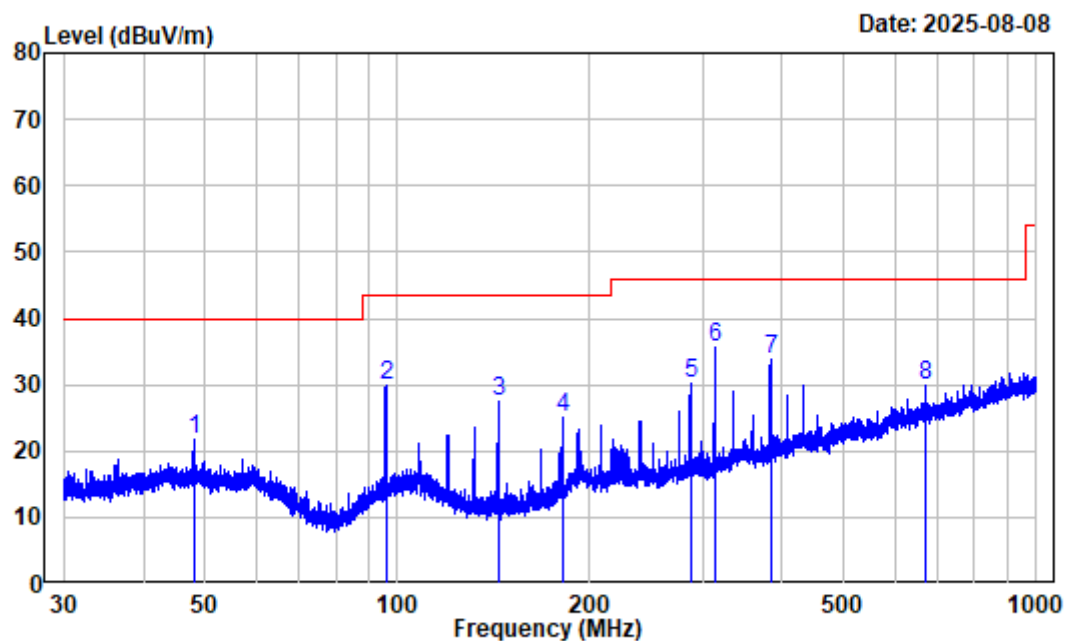
Test Mode : BLE Transmitting

Note : I-PEX Ant

Receiver Setting: RBW:10kHz VBW:30kHz

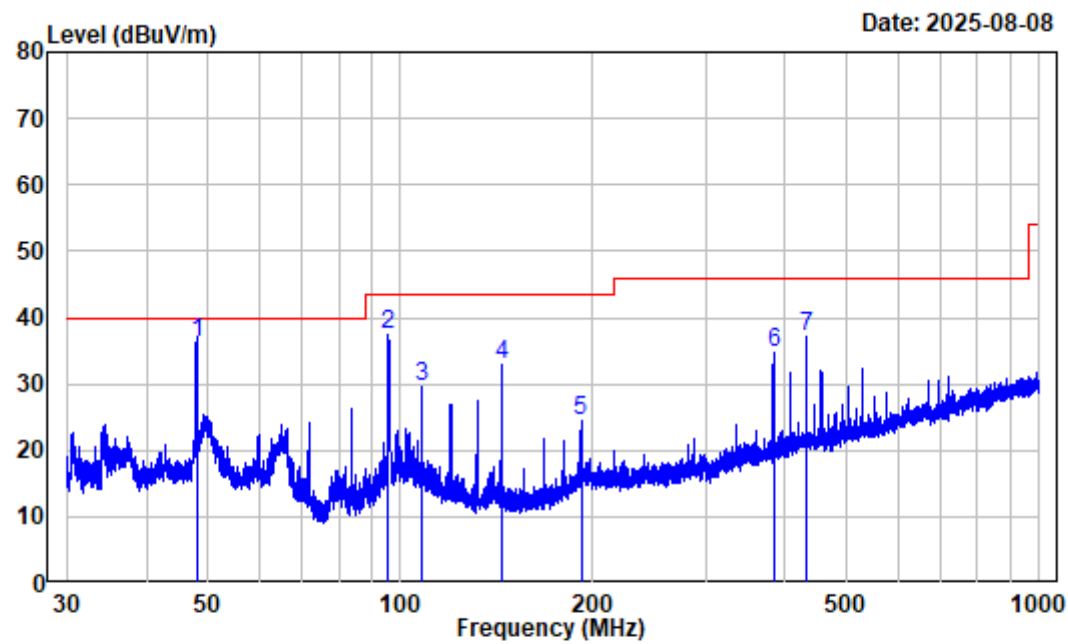
|   | Freq Factor |       | Read Level | Level  | Limit Line | Over Limit | Remark |
|---|-------------|-------|------------|--------|------------|------------|--------|
|   | MHz         | dB/m  | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 | 1.166       | -2.42 | 52.09      | 49.67  | 66.11      | -16.44     | Peak   |
| 2 | 2.077       | -5.42 | 56.91      | 51.49  | 69.54      | -18.05     | Peak   |
| 3 | 2.500       | -5.61 | 56.08      | 50.47  | 69.54      | -19.07     | Peak   |
| 4 | 3.364       | -6.00 | 58.77      | 52.77  | 69.54      | -16.77     | Peak   |
| 5 | 4.430       | -6.30 | 49.40      | 43.10  | 69.54      | -26.44     | Peak   |
| 6 | 5.993       | -6.23 | 41.46      | 35.23  | 69.54      | -34.31     | Peak   |
| 7 | 10.676      | -5.18 | 43.18      | 38.00  | 69.54      | -31.54     | Peak   |
| 8 | 12.449      | -4.75 | 39.43      | 34.68  | 69.54      | -34.86     | Peak   |

## 30MHz~1GHz:



Site : Chamber  
 Condition : 3m HORIZONTAL  
 Job No. : 2504V71150E-RF Tester: Colin Lin  
 Test Mode : BLE Transmitting  
 Note : I-PEX Ant  
 Receiver Setting: RBW:100kHz VBW:300kHz

|   | Freq    | Factor | Read<br>Level | Level  | Limit<br>Line | Over<br>Limit | Remark |
|---|---------|--------|---------------|--------|---------------|---------------|--------|
|   | MHz     | dB/m   | dBuV          | dBuV/m | dBuV/m        | dB            |        |
| 1 | 47.952  | -9.81  | 31.41         | 21.60  | 40.00         | -18.40        | Peak   |
| 2 | 95.888  | -12.16 | 42.18         | 30.02  | 43.50         | -13.48        | Peak   |
| 3 | 143.830 | -14.96 | 42.39         | 27.43  | 43.50         | -16.07        | Peak   |
| 4 | 182.000 | -12.21 | 37.14         | 24.93  | 43.50         | -18.57        | Peak   |
| 5 | 287.864 | -9.05  | 39.32         | 30.27  | 46.00         | -15.73        | Peak   |
| 6 | 314.928 | -8.62  | 44.24         | 35.62  | 46.00         | -10.38        | Peak   |
| 7 | 383.764 | -6.53  | 40.42         | 33.89  | 46.00         | -12.11        | Peak   |
| 8 | 671.372 | -1.15  | 30.94         | 29.79  | 46.00         | -16.21        | Peak   |



Site : Chamber

Condition : 3m VERTICAL

Job No. : 2504V71150E-RF      Tester: Colin Lin

Test Mode : BLE Transmitting

Note : I-PEX Ant

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           | 47.973  | -9.81      | 45.89  | 36.08      | 40.00      | -3.92 QP    |
| 2           | 95.720  | -12.21     | 49.56  | 37.35      | 43.50      | -6.15 Peak  |
| 3           | 107.888 | -11.30     | 41.00  | 29.70      | 43.50      | -13.80 Peak |
| 4           | 143.893 | -14.96     | 47.91  | 32.95      | 43.50      | -10.55 Peak |
| 5           | 191.661 | -10.20     | 34.65  | 24.45      | 43.50      | -19.05 Peak |
| 6           | 383.595 | -6.54      | 41.20  | 34.66      | 46.00      | -11.34 Peak |
| 7           | 431.788 | -4.89      | 42.00  | 37.11      | 46.00      | -8.89 Peak  |

About 1GHz-25GHz Data, please refer to the Appendix B.

## FCC §15.247(a) (2)-6 dB EMISSION BANDWIDTH & OCCUPIED BANDWIDTH

### Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

### Test Procedure

According to ANSI C63.10-2020, section 11.8 and section 6.9

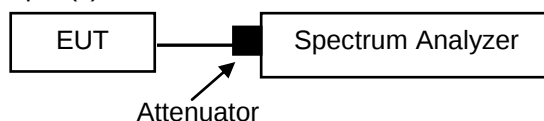
The steps for the first option are as follows:

- Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- Set the VBW  $\geq [3 \times \text{RBW}]$ .
- Detector = peak.
- Trace mode = max-hold.
- Sweep = No faster than coupled (auto) time.
- Allow the trace to stabilize.
- Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “–6 dB down amplitude”. If a marker is below this “–6 dB down amplitude” value, then it shall be as close as possible to this value.

According to ANSI C63.10-2020, section 7.8.6 and section 6.9.3

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

- The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be at least three times the RBW, unless otherwise specified by the applicable requirement.
- Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than  $[10 \log (\text{OBW}/\text{RBW})]$  below the reference level. Specific guidance is given in 4.1.6.2.
- Step a) through step c) might require iteration to adjust within the specified range.
- Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max-hold mode (until the trace stabilizes) shall be used.
- Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
- If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
- The occupied bandwidth shall be reported by providing spectral plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).



### Test Data

**Test Result:** Compliance. Please refer to the Appendix A.

## FCC §15.247(b) (3)-MAXIMUM CONDUCTED OUTPUT POWER

### Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

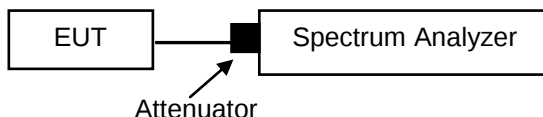
### Test Procedure

According to ANSI C63.10-2020, section 11.9.1.1

- Measurement using a spectrum analyzer (SA)

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

- Set the RBW  $\geq$  DTS bandwidth.
- Set VBW  $\geq [3 \times \text{RBW}]$ .
- Set span  $\geq [3 \times \text{RBW}]$ .
- Sweep time = No faster than coupled (auto) time.
- Detector = peak.
- Trace mode = max-hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level.



### Test Data

**Test Result:** Compliance. Please refer to the Appendix A.

## FCC §15.247(d)-100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

### Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

### Test Procedure

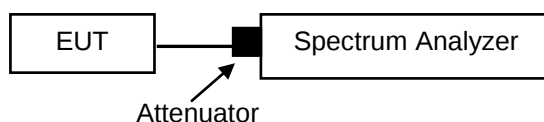
According to ANSI C63.10-2020, section 11.11

- a) Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.

NOTE—the number of points can also be increased for large spans to retain frequency resolution

- b) Set the RBW = 100 kHz.  
c) Set the VBW  $\geq [3 \times \text{RBW}]$ .  
d) Detector = peak.  
e) Sweep time = No faster than coupled (auto) time.  
f) Trace mode = max-hold.  
g) Allow trace to fully stabilize.  
h) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.



### Test Data

**Test Result:** Compliance. Please refer to the Appendix A.

## FCC §15.247(e)-POWER SPECTRAL DENSITY

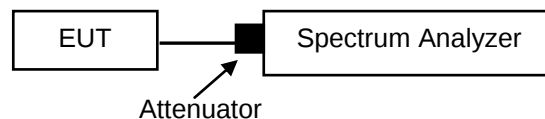
### Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

### Test Procedure

According to ANSI C63.10-2020, section 11.10.2

- Set analyzer center frequency to DTS channel center frequency.
- Set the span  $>1.5$  times the DTS bandwidth.
- Set the RBW to  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
- Set the VBW  $\geq [3 \times \text{RBW}]$ .
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max-hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.
- If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.



### Test Data

**Test Result:** Compliance. Please refer to the Appendix A.

APPENDIX A

RF Test Result

Test Information:

|             |           |              |              |
|-------------|-----------|--------------|--------------|
| Sample No.: | 37BS-3    | Test Date:   | 2025/08/15   |
| Test Site:  | RF        | Test Mode:   | Transmitting |
| Tester:     | Cayde Hou | Test Result: | Pass         |

Environmental Conditions:

|                      |      |                              |    |                        |      |
|----------------------|------|------------------------------|----|------------------------|------|
| Temperature:<br>(°C) | 24.8 | Relative<br>Humidity:<br>(%) | 55 | ATM Pressure:<br>(kPa) | 99.3 |
|----------------------|------|------------------------------|----|------------------------|------|

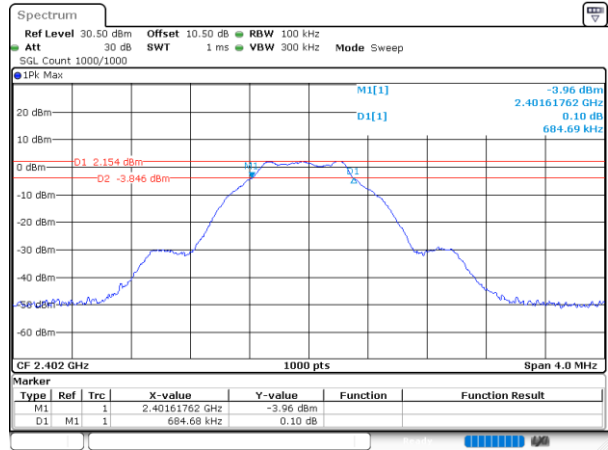
6dB Emission Bandwidth

Chain 0, BLE 1M

| Channel | Result (MHz) | Limit (MHz) | Verdict |
|---------|--------------|-------------|---------|
| Low     | 0.685        | ≥0.5        | Pass    |
| Middle  | 0.677        | ≥0.5        | Pass    |
| High    | 0.685        | ≥0.5        | Pass    |

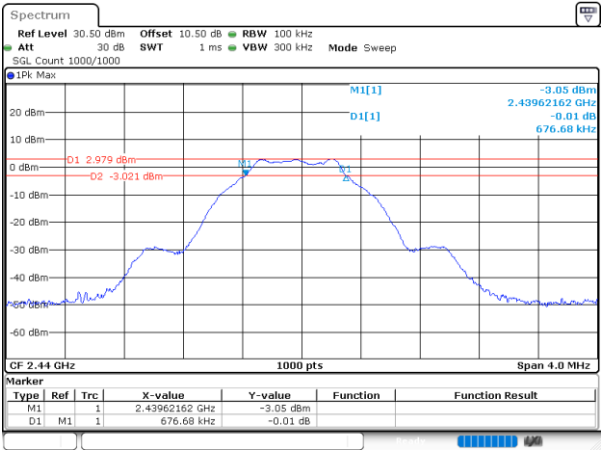
BLE 1M

BLE\_1M\_Low\_Channel



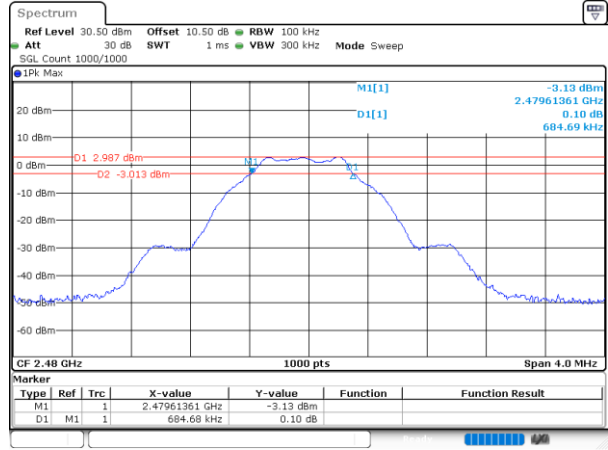
ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:22:47

BLE\_1M\_Middle\_Channel



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:26:18

BLE\_1M\_High\_Channel



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:28:28

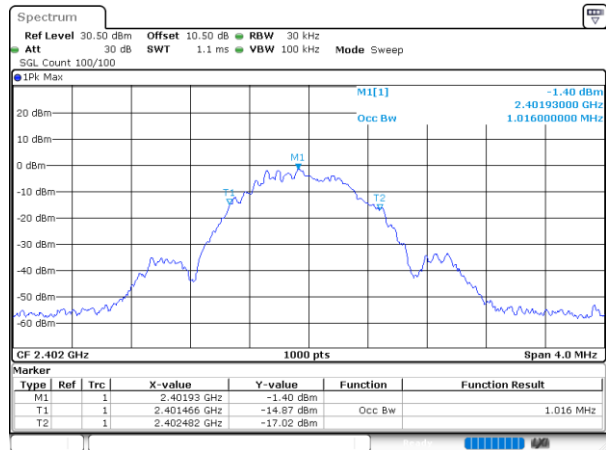
99% Occupied Bandwidth

Chain 0, BLE 1M

| Channel | 99% OBW<br>(MHz) |
|---------|------------------|
| Low     | 1.016            |
| Middle  | 1.024            |
| High    | 1.020            |

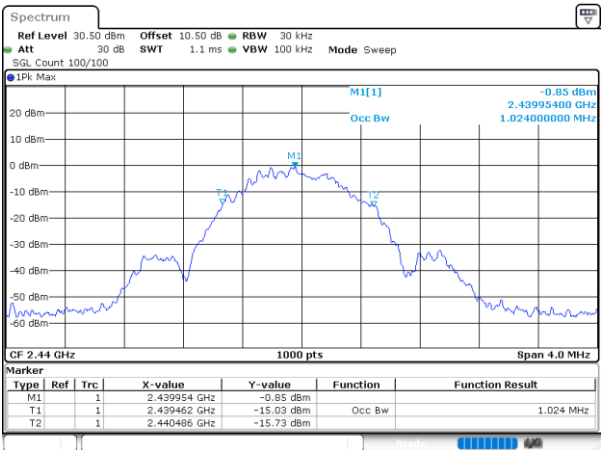
BLE 1M

BLE\_1M\_Low\_Channel



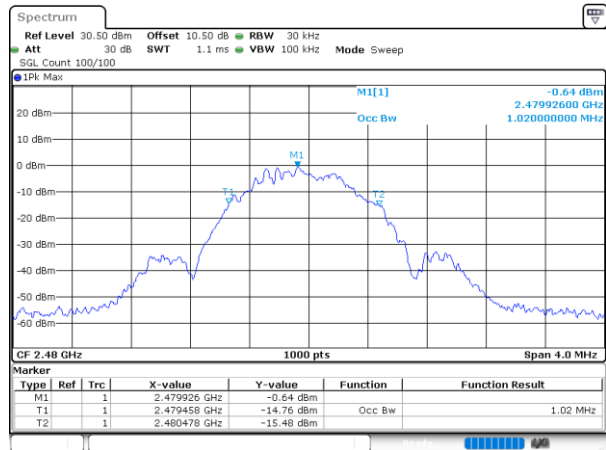
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Date: 15.AUG.2025 09:22:40

BLE\_1M\_Middle\_Channel



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:26:11

BLE\_1M\_High\_Channel



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:28:20

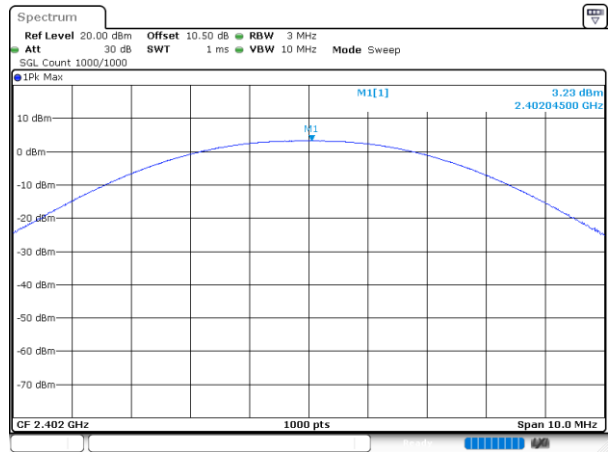
Maximum Conducted Output Power

Chain 0, BLE 1M

| Channel | Peak Output Power (dBm) | Limit (dBm) | Verdict |
|---------|-------------------------|-------------|---------|
| Low     | 3.23                    | 30.00       | Pass    |
| Middle  | 3.97                    | 30.00       | Pass    |
| High    | 4.07                    | 30.00       | Pass    |

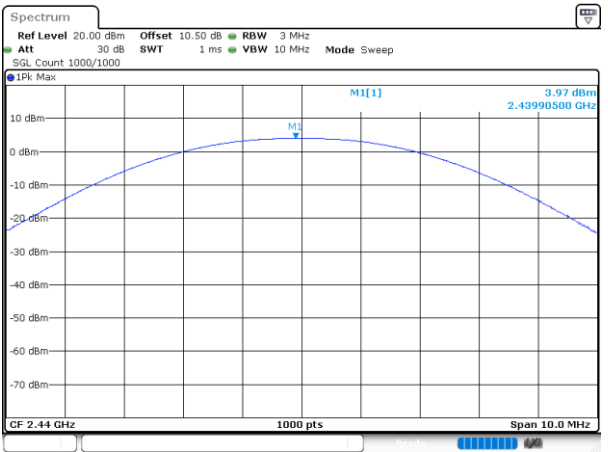
BLE 1M

BLE\_1M\_Low\_Channel



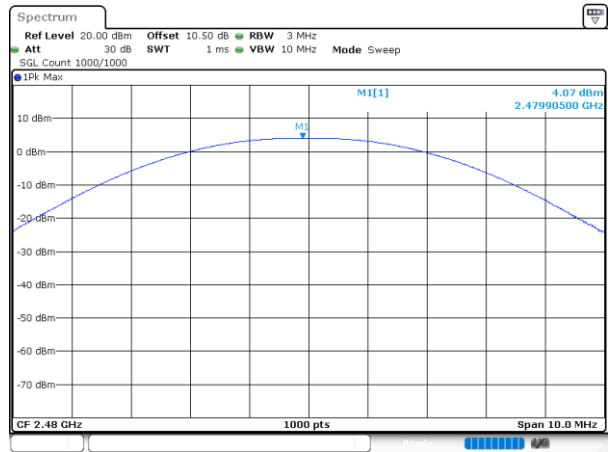
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Date: 15.AUG.2025 09:23:47

BLE\_1M\_Middle\_Channel



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:26:25

BLE\_1M\_High\_Channel



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:29:10

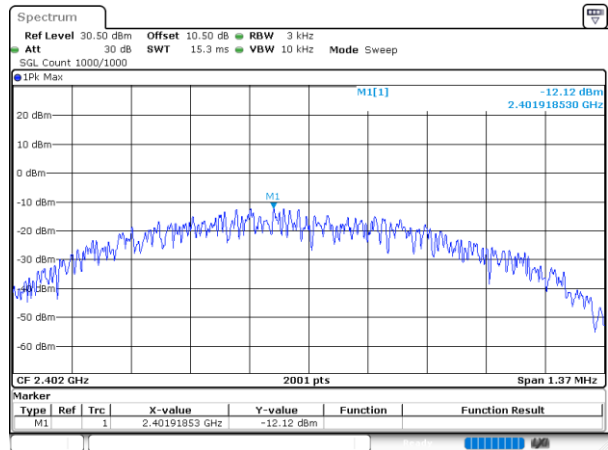
Power Spectral Density

Chain 0, BLE 1M

| Channel | Result<br>(dBm/3kHz) | Limit<br>(dBm/3kHz) | Verdict |
|---------|----------------------|---------------------|---------|
| Low     | -12.12               | 8                   | Pass    |
| Middle  | -11.50               | 8                   | Pass    |
| High    | -11.47               | 8                   | Pass    |

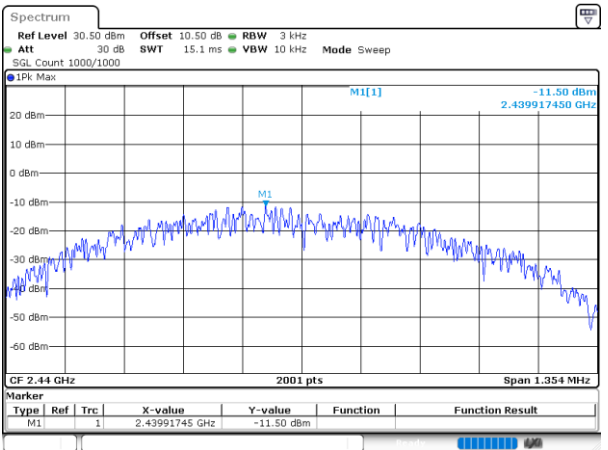
BLE 1M

BLE\_1M\_Low\_Channel



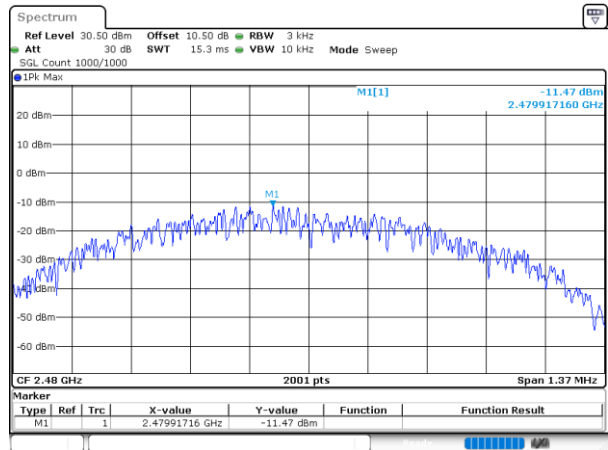
ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:25:12

BLE\_1M\_Middle\_Channel



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:27:33

BLE\_1M\_High\_Channel

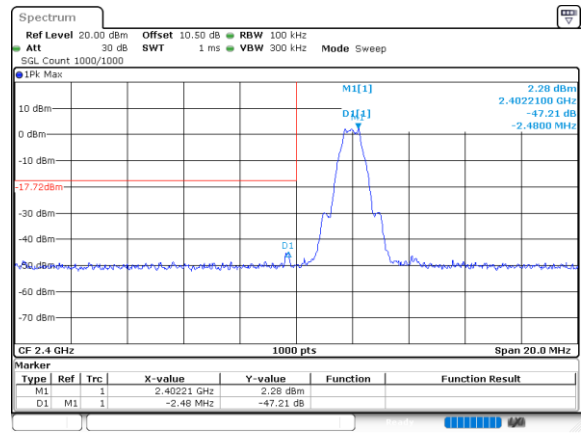


ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:30:31

100 kHz Bandwidth of Frequency Band Edge

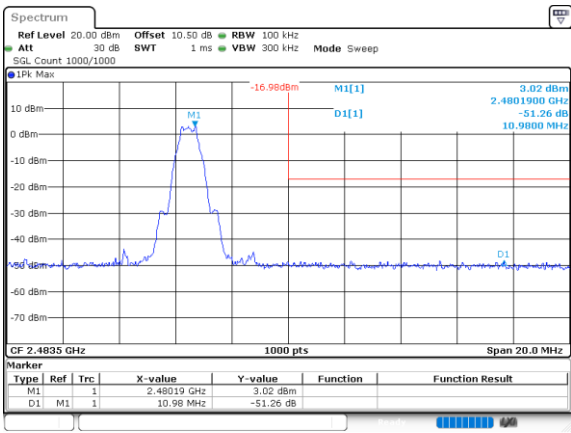
BLE 1M

BLE\_1M\_Low\_Channel



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:24:05

BLE\_1M\_High\_Channel



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:29:24

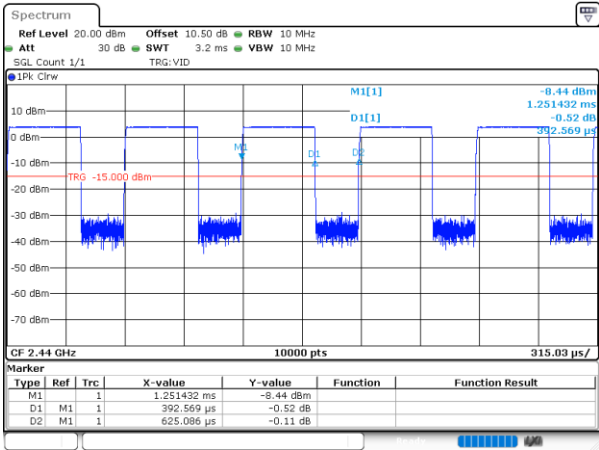
Duty Cycle

Chain 0, BLE 1M

| Channel | Ton<br>(ms) | Ton+Toff<br>(ms) | Duty Cycle<br>(%) | Duty Cycle<br>Factor(dB) | 1/Ton<br>(Hz) | VBW Setting<br>(kHz) |
|---------|-------------|------------------|-------------------|--------------------------|---------------|----------------------|
| Middle  | 0.393       | 0.625            | 62.88             | 2.01                     | 2545          | 3                    |

BLE 1M

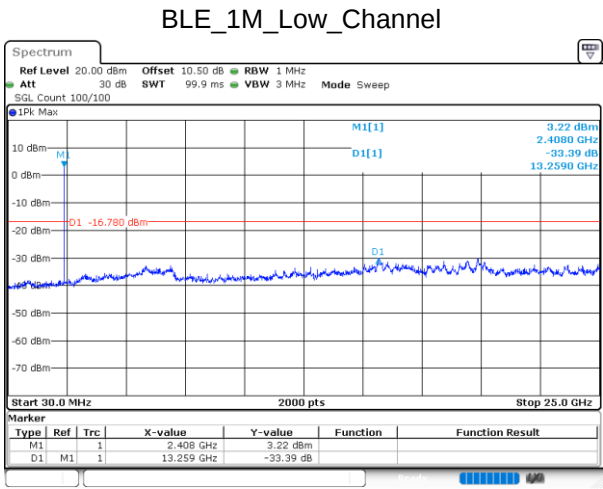
BLE\_1M\_Middle\_Channel



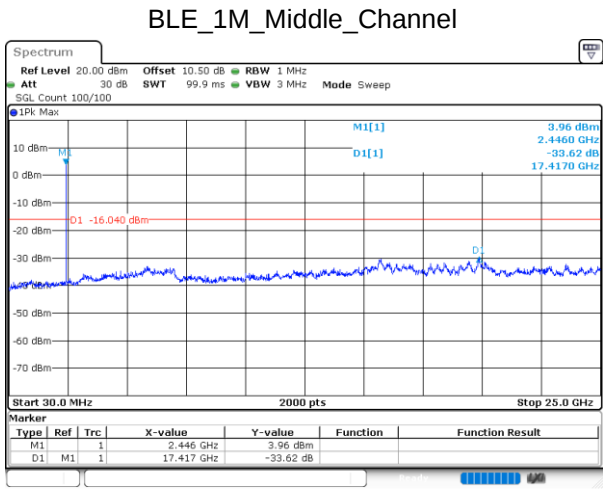
ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:17:09

Conducted Spurious Emission

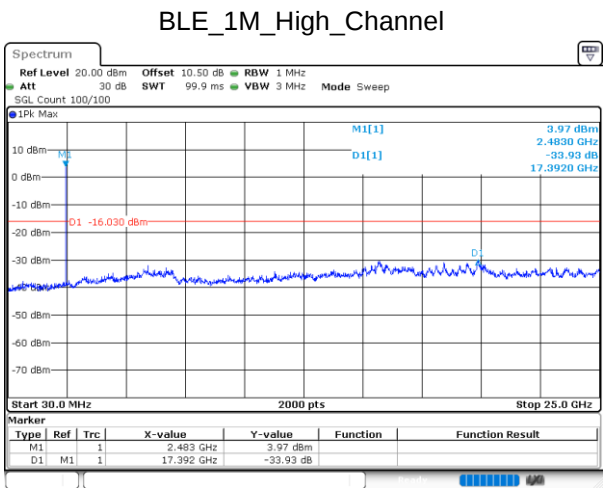
BLE 1M



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:24:46



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:27:07



ProjectNo.:2504V71150E-RF Tester:Cayde Hou  
Date: 15.AUG.2025 09:30:06

APPENDIX B

Radiated Spurious Emissions (1GHz-25GHz)

For PCB Antenna

Environmental Conditions

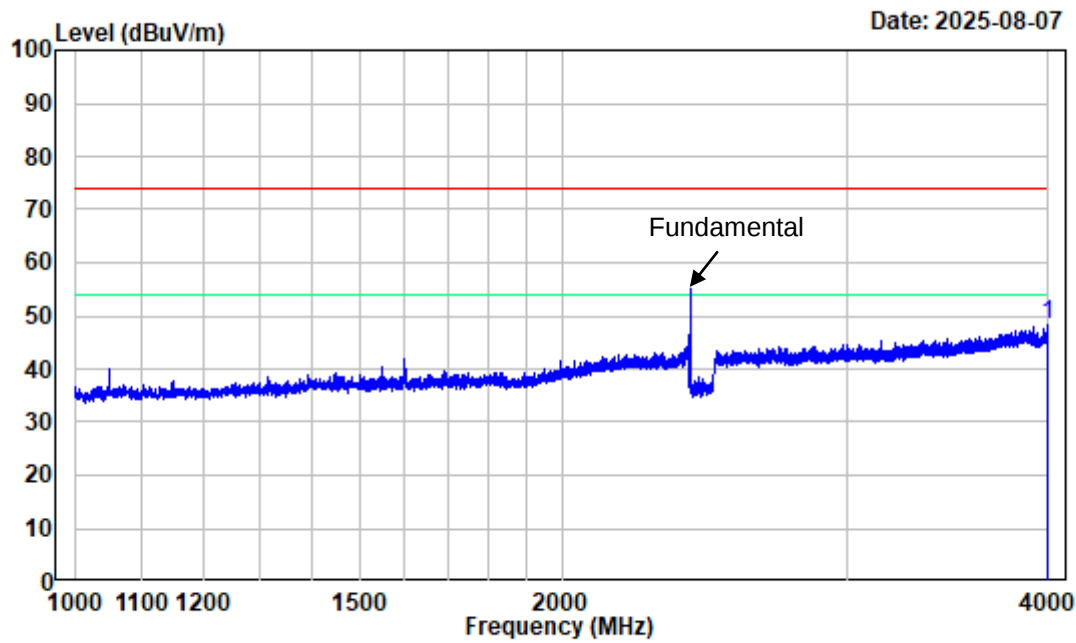
|                     |              |
|---------------------|--------------|
| Temperature:        | 24.2 °C      |
| Relative Humidity:  | 54 %         |
| ATM Pressure:       | 99.3 kPa     |
| Test Engineer:      | Lorne Huang  |
| Test Date:          | 2025-08-07   |
| EUT Operation Mode: | Transmitting |

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

Note 1: For 1GHz-4GHz, the fundamental with band reject filter.

Note 2: For 18-25GHz, the maximum output power mode and channel: BLE 1M High channel was tested.

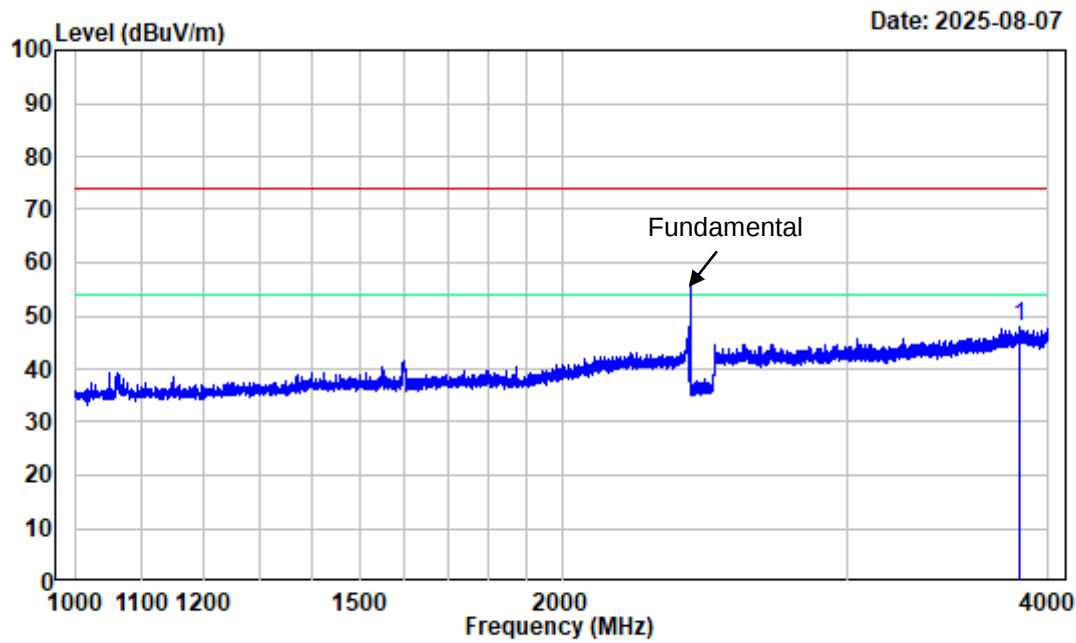
BLE 1M Low Channel 1GHz-4GHz\_HORIZONTAL



Site : chamber  
Condition : 3m HORIZONTAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Low Channel 2402MHz 1GHz-4GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit | Over  | Remark      |
|-------------|----------|------------|--------|-------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | Line  | Limit |             |
| 1           | 3991.750 | -8.15      | 56.32  | 48.17 | 74.00 | -25.83 Peak |

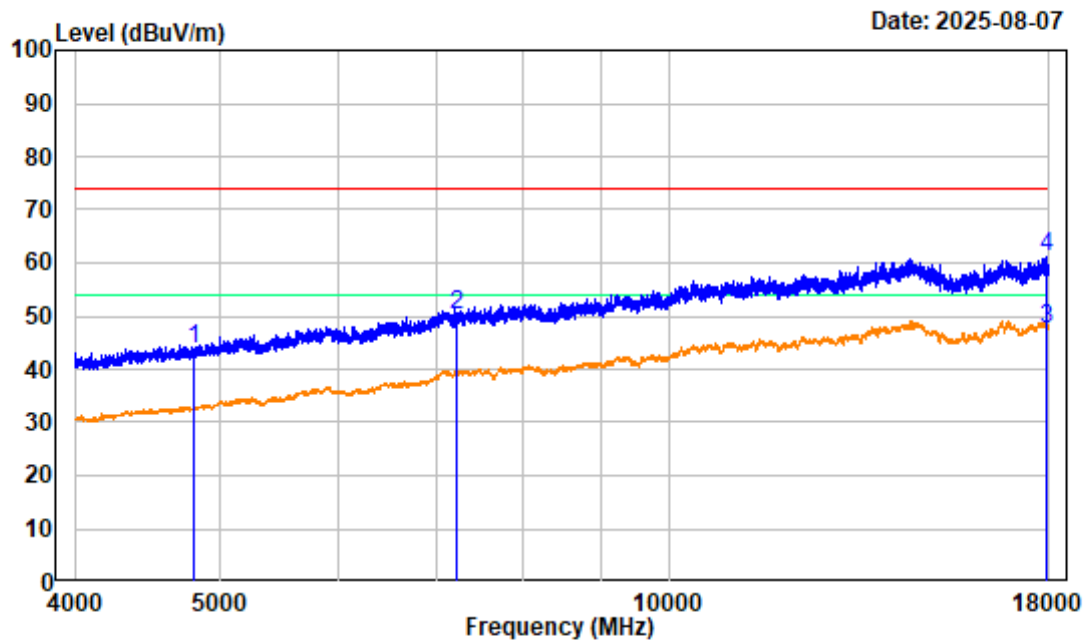
BLE 1M Low Channel 1GHz-4GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Low Channel 2402MHz 1GHz-4GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit  | Over  | Remark      |
|-------------|----------|------------|--------|--------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m | dB    |             |
| 1           | 3835.750 | -8.30      | 56.24  | 47.94  | 74.00 | -26.06 Peak |

BLE 1M Low Channel 4GHz-18GHz\_HORIZONTAL



Site : chamber

Condition : 3m HORIZONTAL

Project No.: 2504V71150E-RF

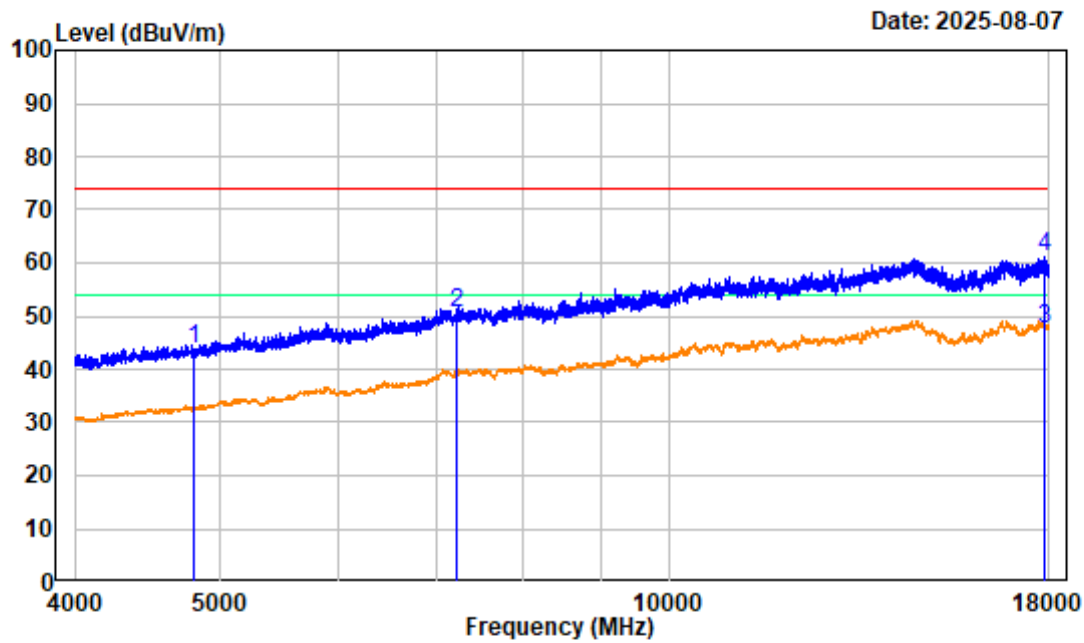
Test Mode : TransmittingTester:Lorne Huang

Note : BLE 1M Low Channel 2402MHz 4GHz-18GHz

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |       | Read Level | Level  | Limit Line | Over Limit | Remark  |
|-------------|-------|------------|--------|------------|------------|---------|
| MHz         | dB/m  | dBuV       | dBuV/m | dBuV/m     | dB         |         |
| 1 4804.000  | -6.64 | 50.29      | 43.65  | 74.00      | -30.35     | Peak    |
| 2 7206.000  | -1.36 | 51.56      | 50.20  | 74.00      | -23.80     | Peak    |
| 3 17924.750 | 8.21  | 39.47      | 47.68  | 54.00      | -6.32      | Average |
| 4 17924.750 | 8.21  | 52.97      | 61.18  | 74.00      | -12.82     | Peak    |

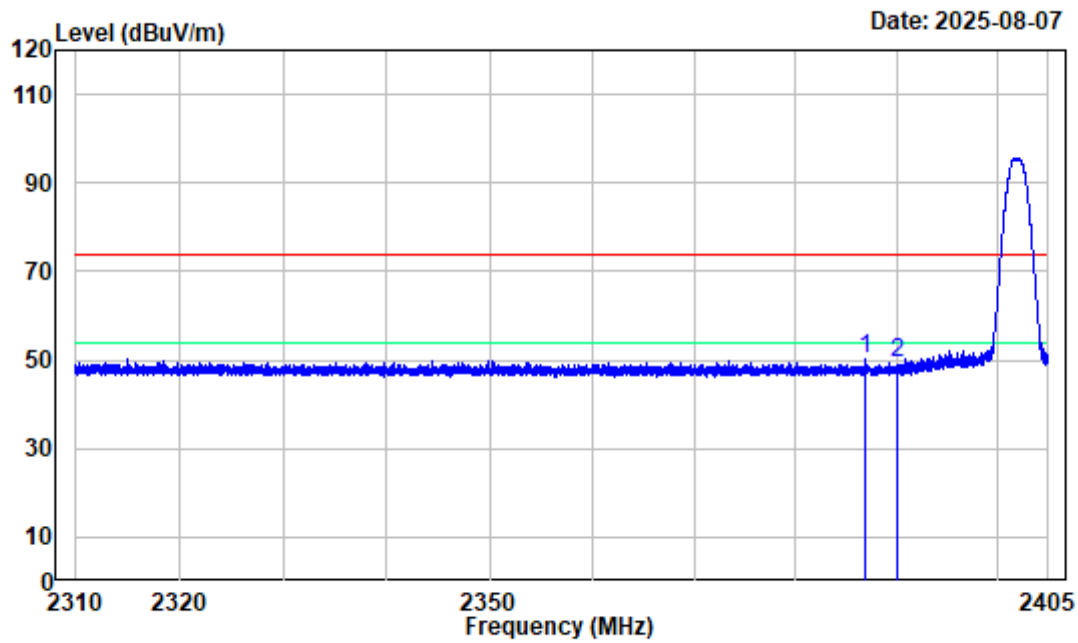
BLE 1M Low Channel 4GHz-18GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Low Channel 2402MHz 4GHz-18GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |           | Read Level | Level  | Limit  | Over  | Remark        |
|-------------|-----------|------------|--------|--------|-------|---------------|
| MHz         | dB/m      | dBuV       | dBuV/m | dBuV/m | dB    |               |
| 1           | 4804.000  | -6.64      | 50.52  | 43.88  | 74.00 | -30.12 Peak   |
| 2           | 7206.000  | -1.36      | 52.09  | 50.73  | 74.00 | -23.27 Peak   |
| 3           | 17889.750 | 8.28       | 39.28  | 47.56  | 54.00 | -6.44 Average |
| 4           | 17889.750 | 8.28       | 53.03  | 61.31  | 74.00 | -12.69 Peak   |

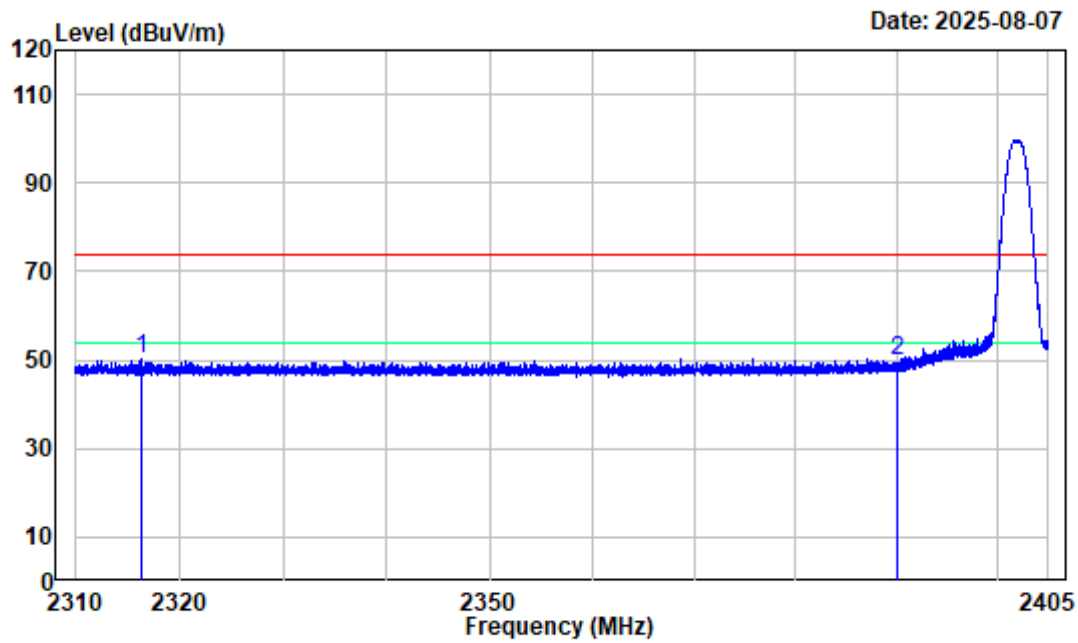
BLE 1M Low Channel Bandedge\_HORIZONTAL



Site : chamber  
Condition : 3m HORIZONTAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Low Channel 2402MHz Bandedge  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit  | Over  | Remark      |
|-------------|----------|------------|--------|--------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m | dB    |             |
| 1           | 2386.819 | -10.25     | 60.69  | 50.44  | 74.00 | -23.56 Peak |
| 2           | 2390.000 | -10.25     | 59.39  | 49.14  | 74.00 | -24.86 peak |

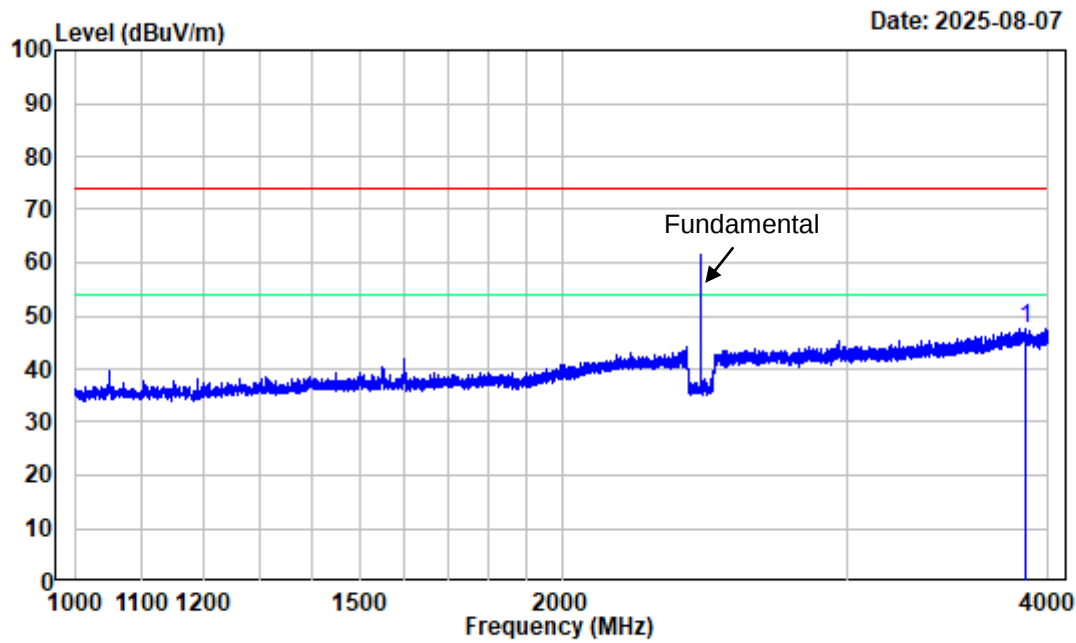
BLE 1M Low Channel Bandedge\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Low Channel 2402MHz Bandedge  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit | Over  | Remark      |
|-------------|----------|------------|--------|-------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | Line  | Limit |             |
| 1           | 2316.365 | -9.92      | 60.19  | 50.27 | 74.00 | -23.73 Peak |
| 2           | 2390.000 | -10.25     | 59.91  | 49.66 | 74.00 | -24.34 peak |

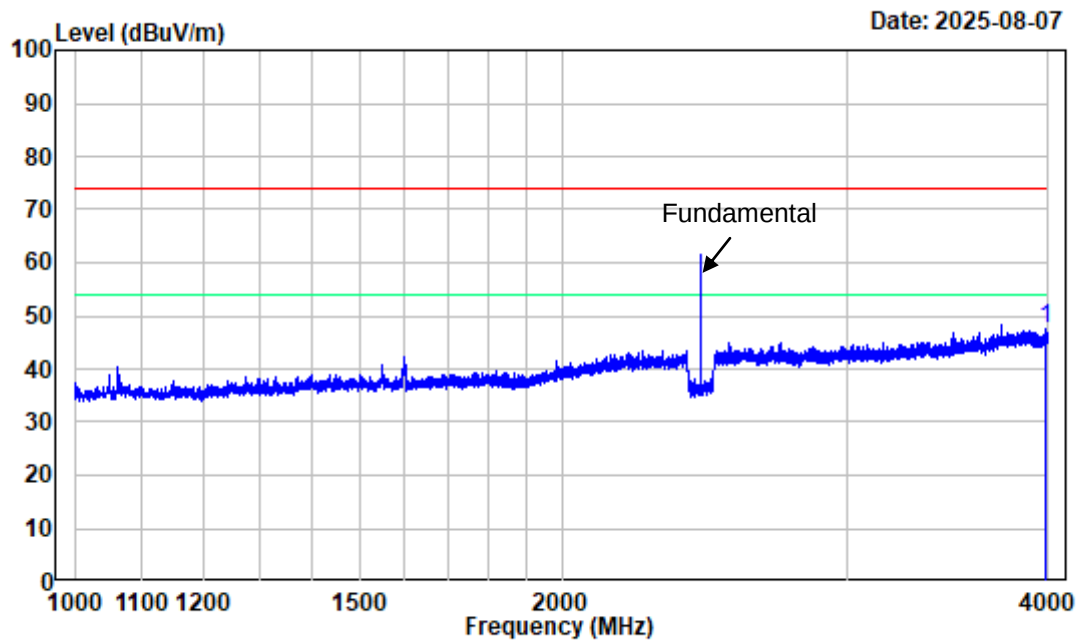
BLE 1M Middle Channel 1GHz-4GHz\_HORIZONTAL



Site : chamber  
Condition : 3m HORIZONTAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Middle Channel 2440MHz 1GHz-4GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit  | Over  | Remark      |
|-------------|----------|------------|--------|--------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m | dB    |             |
| 1           | 3874.750 | -8.06      | 55.77  | 47.71  | 74.00 | -26.29 Peak |

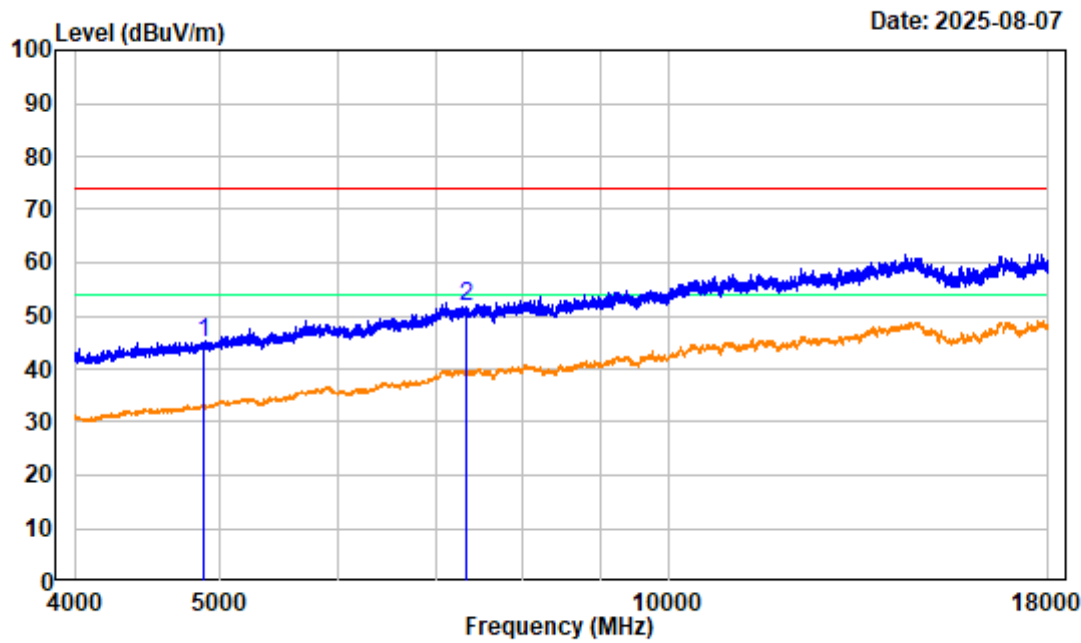
BLE 1M Middle Channel 1GHz-4GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Middle Channel 2440MHz 1GHz-4GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit  | Over  | Remark      |
|-------------|----------|------------|--------|--------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m | dB    |             |
| 1           | 3991.000 | -8.16      | 55.61  | 47.45  | 74.00 | -26.55 Peak |

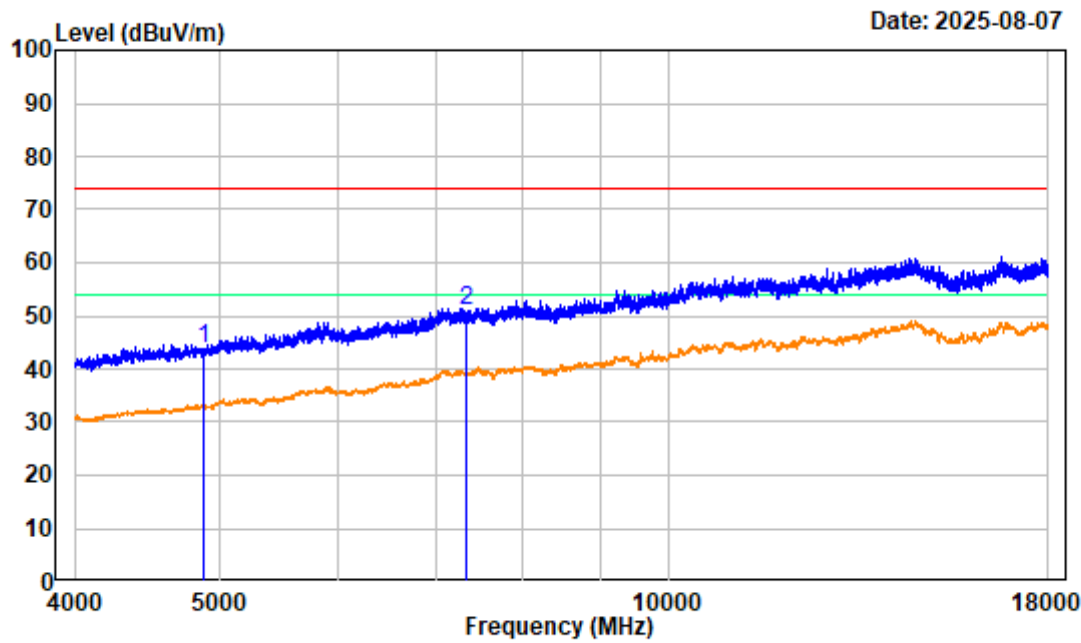
BLE 1M Middle Channel 4GHz-18GHz\_HORTZONTAL



Site : chamber  
Condition : 3m HORIZONTAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Middle Channel 2440MHz 4GHz-18GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

|   | Freq Factor |       | Read Level |        | Limit | Over   | Remark |
|---|-------------|-------|------------|--------|-------|--------|--------|
|   | MHz         | dB/m  | dBuV       | dBuV/m | Line  | Limit  |        |
| 1 | 4880.000    | -6.57 | 51.44      | 44.87  | 74.00 | -29.13 | Peak   |
| 2 | 7320.000    | -1.16 | 52.71      | 51.55  | 74.00 | -22.45 | Peak   |

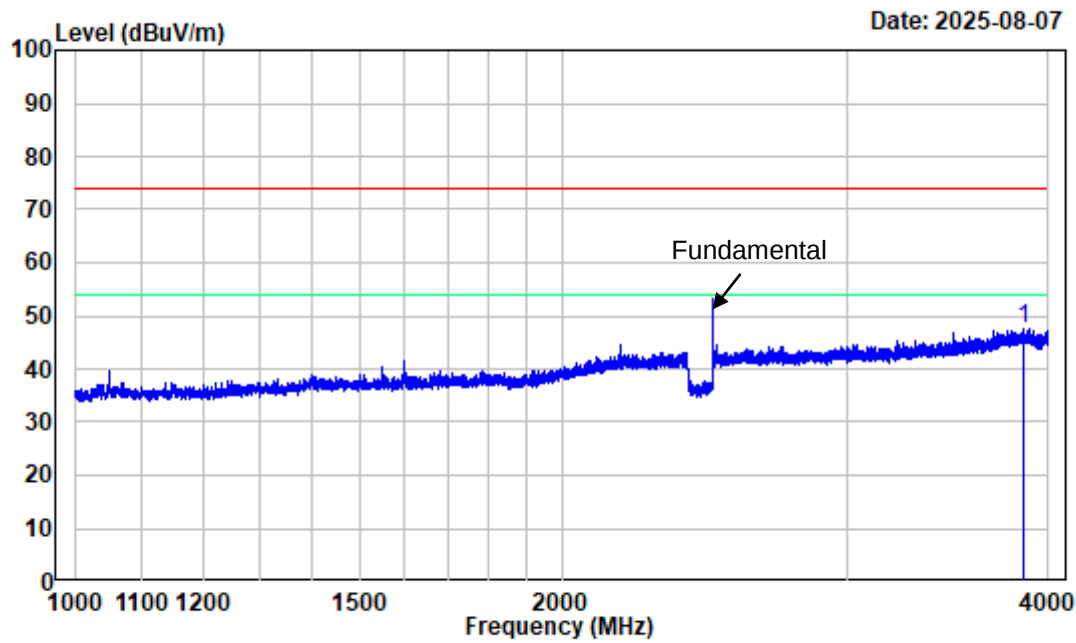
BLE 1M Middle Channel 4GHz-18GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Middle Channel 2440MHz 4GHz-18GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq |          | Factor | Read Level | Level  | Limit Line | Over Limit | Remark |
|------|----------|--------|------------|--------|------------|------------|--------|
| MHz  |          | dB/m   | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1    | 4880.000 | -6.57  | 50.46      | 43.89  | 74.00      | -30.11     | Peak   |
| 2    | 7320.000 | -1.16  | 52.05      | 50.89  | 74.00      | -23.11     | Peak   |

BLE 1M High Channel 1GHz-4GHz\_HORIZONTAL



Site : chamber

Condition : 3m HORIZONTAL

Project No.: 2504V71150E-RF

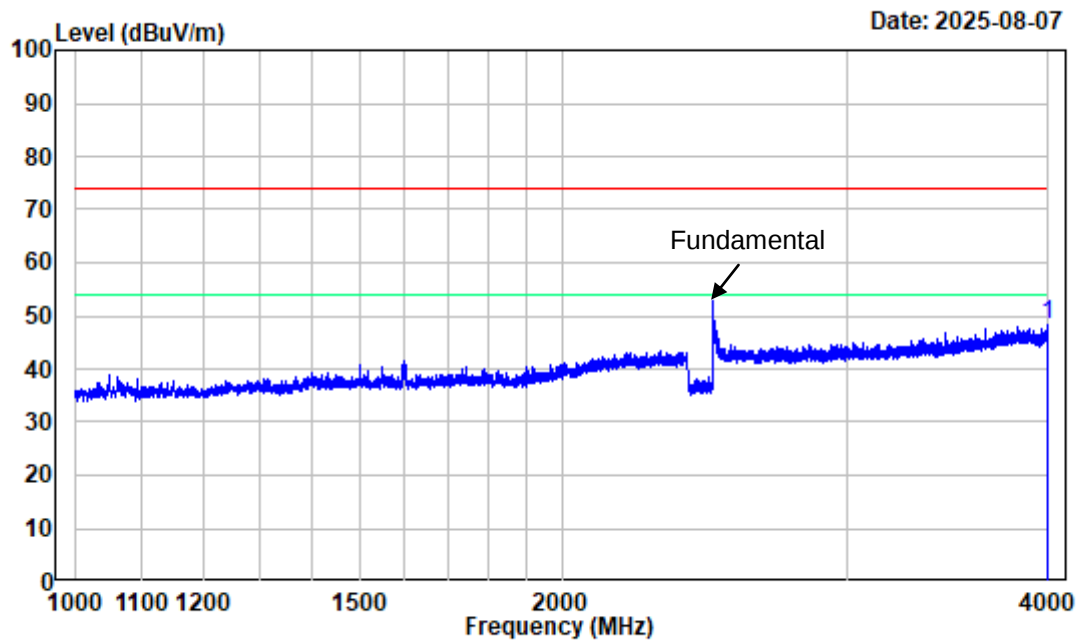
Test Mode : TransmittingTester:Lorne Huang

Note : BLE 1M High Channel 2480MHz 1GHz-4GHz

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit  | Over  | Remark      |
|-------------|----------|------------|--------|--------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m | dB    |             |
| 1           | 3865.375 | -8.13      | 55.82  | 47.69  | 74.00 | -26.31 Peak |

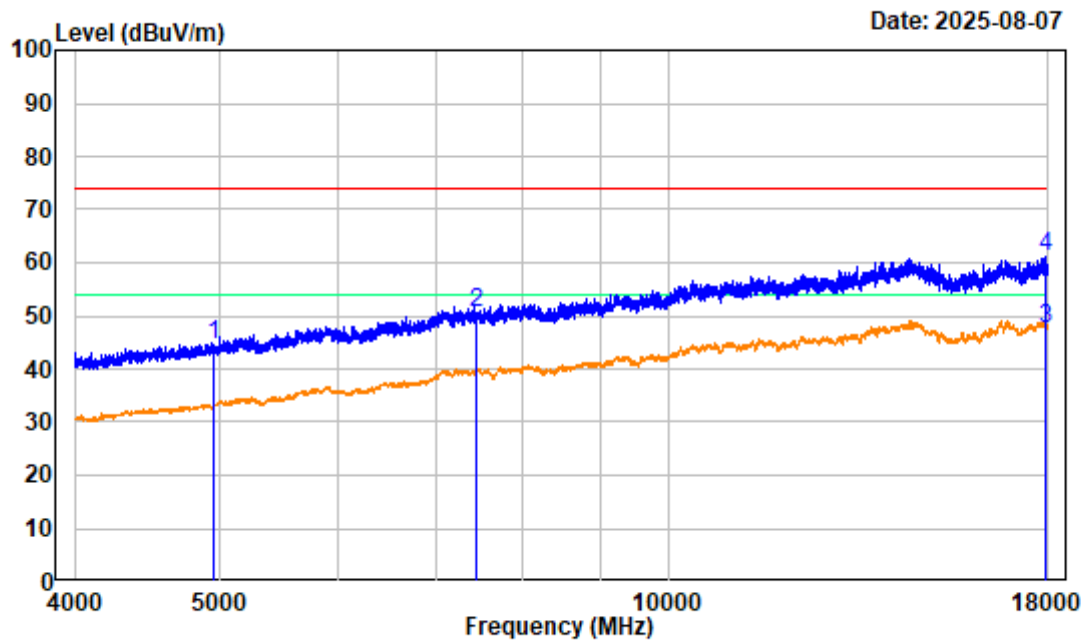
BLE 1M High Channel 1GHz-4GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M High Channel 2480MHz 1GHz-4GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit  | Over  | Remark      |
|-------------|----------|------------|--------|--------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m | dB    |             |
| 1           | 3994.750 | -8.13      | 56.25  | 48.12  | 74.00 | -25.88 Peak |

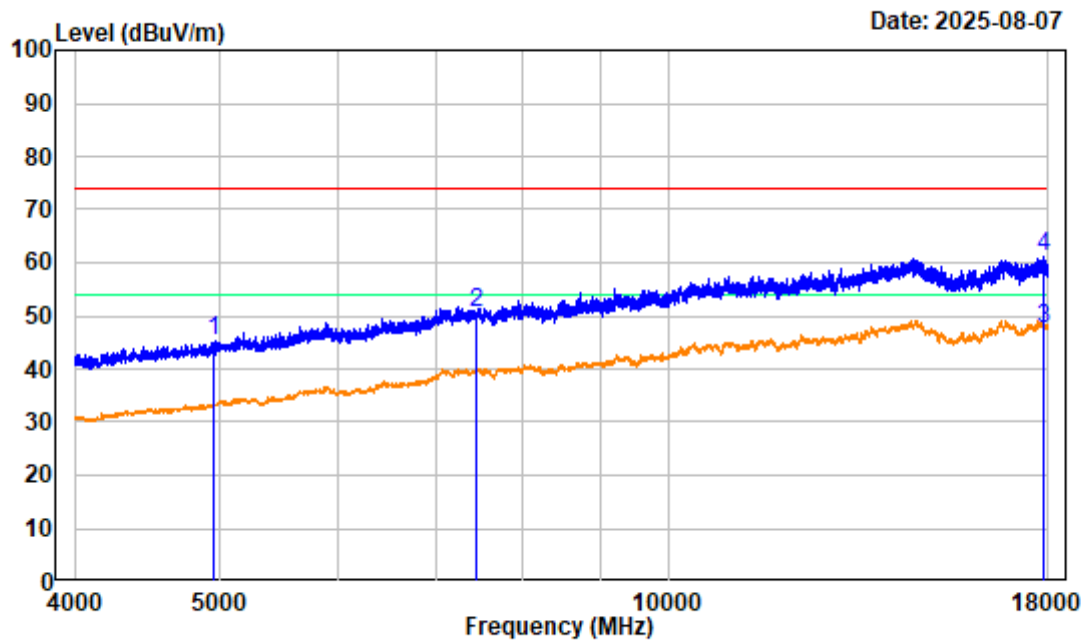
BLE 1M High Channel 4GHz-18GHz\_HORIZONTAL



Site : chamber  
Condition : 3m HORIZONTAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M High Channel 2480MHz 4GHz-18GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |       | Read Level | Level  | Limit Line | Over Limit | Remark  |
|-------------|-------|------------|--------|------------|------------|---------|
| MHz         | dB/m  | dBuV       | dBuV/m | dBuV/m     | dB         |         |
| 1 4960.000  | -6.32 | 50.93      | 44.61  | 74.00      | -29.39     | Peak    |
| 2 7440.000  | -0.97 | 51.44      | 50.47  | 74.00      | -23.53     | Peak    |
| 3 17924.750 | 8.21  | 39.47      | 47.68  | 54.00      | -6.32      | Average |
| 4 17924.750 | 8.21  | 52.97      | 61.18  | 74.00      | -12.82     | Peak    |

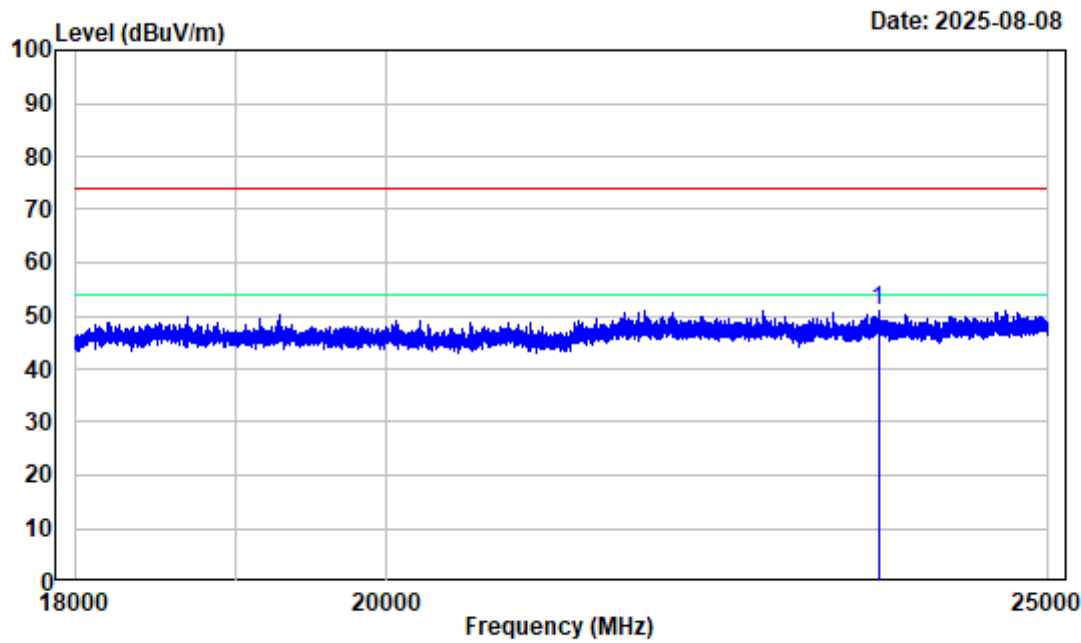
BLE 1M High Channel 4GHz-18GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M High Channel 2480MHz 4GHz-18GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |           | Read Level | Level  | Limit Line | Over Limit | Remark        |
|-------------|-----------|------------|--------|------------|------------|---------------|
| MHz         | dB/m      | dBuV       | dBuV/m | dBuV/m     | dB         |               |
| 1           | 4960.000  | -6.32      | 51.77  | 45.45      | 74.00      | -28.55 Peak   |
| 2           | 7440.000  | -0.97      | 51.54  | 50.57      | 74.00      | -23.43 Peak   |
| 3           | 17889.750 | 8.28       | 39.28  | 47.56      | 54.00      | -6.44 Average |
| 4           | 17889.750 | 8.28       | 53.03  | 61.31      | 74.00      | -12.69 Peak   |

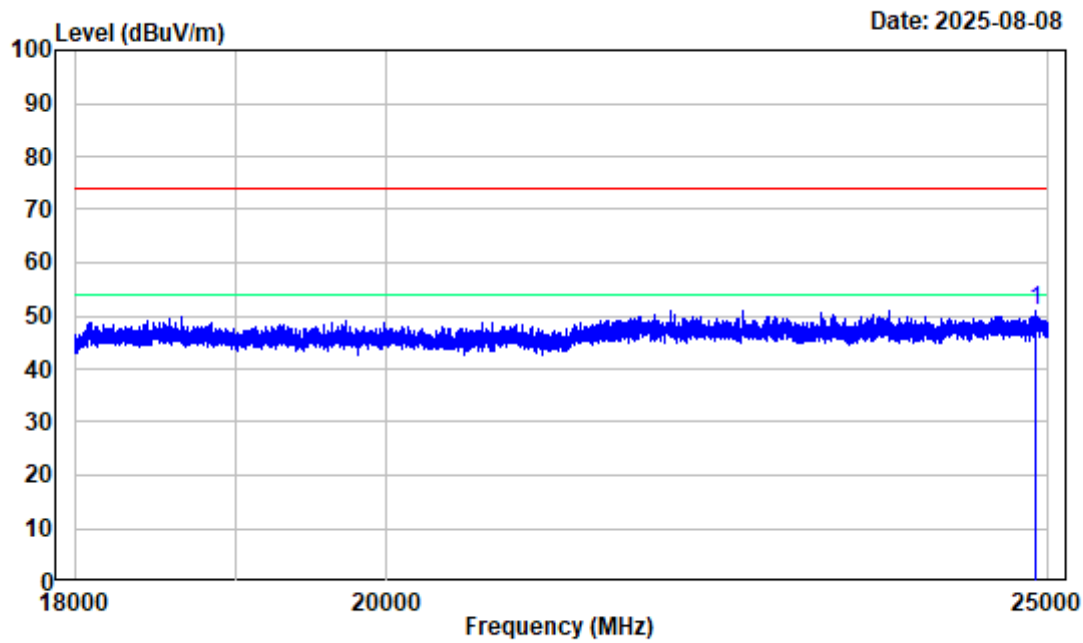
BLE 1M High Channel 18GHz-25GHz\_HORIZONTAL



Site : chamber  
Condition : 3m HORIZONTAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M High Channel 2480MHz 18GHz-25GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz

| Freq Factor |      | Read Level | Level  | Limit Line | Over Limit | Remark |
|-------------|------|------------|--------|------------|------------|--------|
| MHz         | dB/m | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 23607.000 | 1.24 | 49.85      | 51.09  | 74.00      | -22.91     | Peak   |

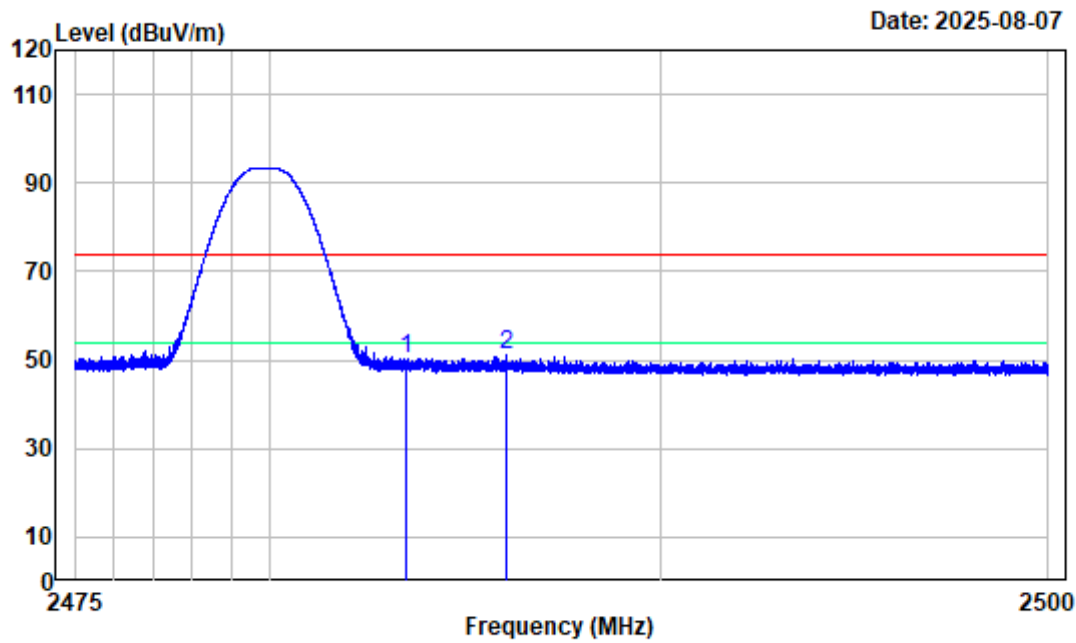
BLE 1M High Channel 18GHz-25GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M High Channel 2480MHz 18GHz-25GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz

| Freq Factor |      | Read Level | Level  | Limit Line | Over Limit | Remark |
|-------------|------|------------|--------|------------|------------|--------|
| MHz         | dB/m | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 24895.880 | 2.92 | 47.93      | 50.85  | 74.00      | -23.15     | Peak   |

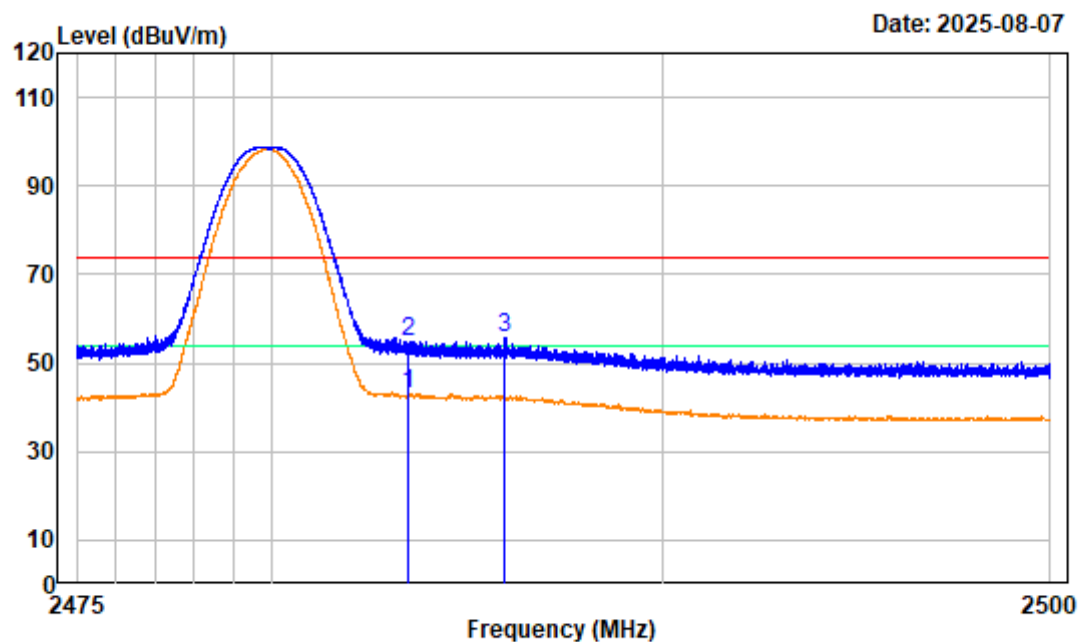
BLE 1M High Channel Bandedge\_HORIZONTAL



Site : chamber  
Condition : 3m HORIZONTAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M High Channel 2480MHz Bandedge  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level | Level  | Limit Line | Over Limit | Remark      |
|-------------|----------|------------|--------|------------|------------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m     | dB         |             |
| 1           | 2483.500 | -10.23     | 60.60  | 50.37      | 74.00      | -23.63 peak |
| 2           | 2486.031 | -10.25     | 61.40  | 51.15      | 74.00      | -22.85 Peak |

## BLE 1M High Channel Bandedge\_VERTICAL



Site : chamber

Condition : 3m VERTICAL

Project No.: 2504V71150E-RF

Test Mode : Transmitting

Tester: Lorne Huang

Note : BLE 1M High Channel 2480MHz Bandedge

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

|   | Freq Factor |        | Read Level |        | Limit  | Over   | Remark  |
|---|-------------|--------|------------|--------|--------|--------|---------|
|   | MHz         | dB/m   | dBuV       | dBuV/m | dBuV/m | dB     |         |
| 1 | 2483.500    | -10.23 | 53.18      | 42.95  | 54.00  | -11.05 | average |
| 2 | 2483.500    | -10.23 | 65.15      | 54.92  | 74.00  | -19.08 | peak    |
| 3 | 2485.975    | -10.25 | 66.10      | 55.85  | 74.00  | -18.15 | Peak    |

For External I-PEX Antenna

Environmental Conditions

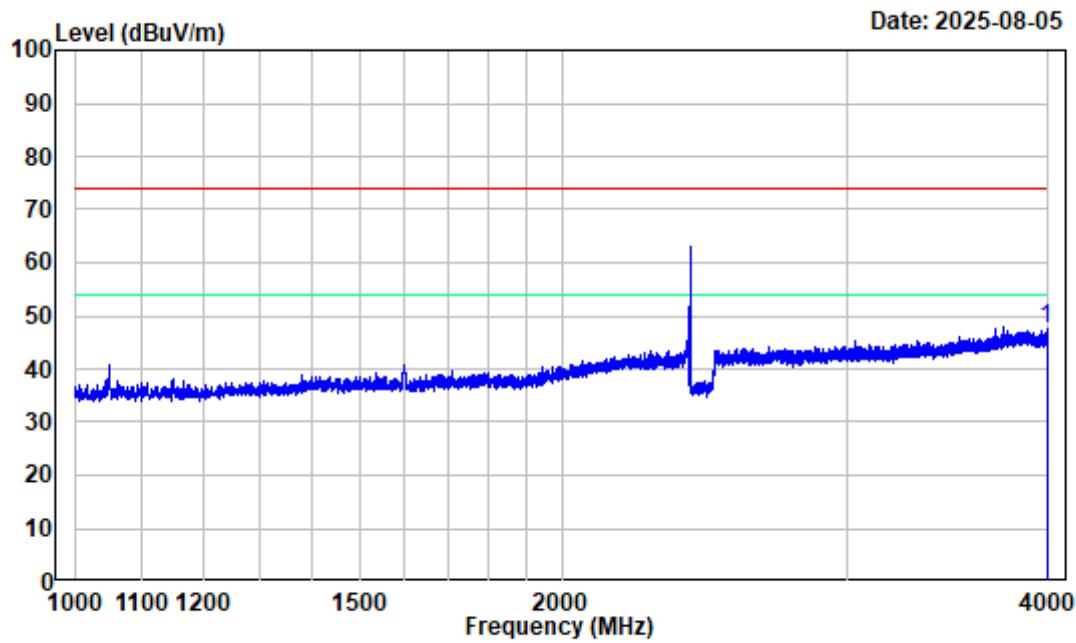
|                     |                          |
|---------------------|--------------------------|
| Temperature:        | 24.3 to 25.1 °C          |
| Relative Humidity:  | 53 to 55 %               |
| ATM Pressure:       | 99.3 kPa                 |
| Test Engineer:      | Lorne Huang              |
| Test Date:          | 2025-08-05 to 2025-08-07 |
| EUT Operation Mode: | Transmitting             |

**Test Result:** Compliance, please refer to the below data.

*Note 1: For 1GHz-4GHz, the fundamental with band reject filter.*

*Note 2: For 18-25GHz, the maximum output power mode and channel: BLE 1M High channel was tested.*

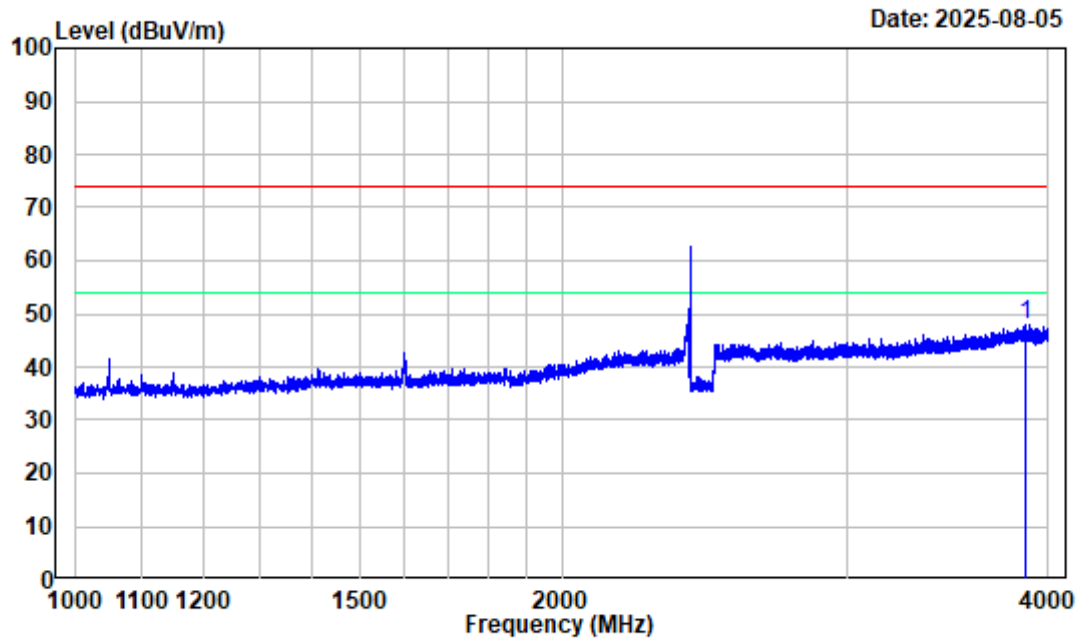
BLE 1M Low Channel 1GHz-4GHz\_HORIZONTAL



Site : chamber  
Condition : 3m HORIZONTAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Low Channel 2402MHz 1GHz-4GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |       | Read Level | Level  | Limit Line | Over Limit | Remark |
|-------------|-------|------------|--------|------------|------------|--------|
| MHz         | dB/m  | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 3991.375  | -8.15 | 55.88      | 47.73  | 74.00      | -26.27     | Peak   |

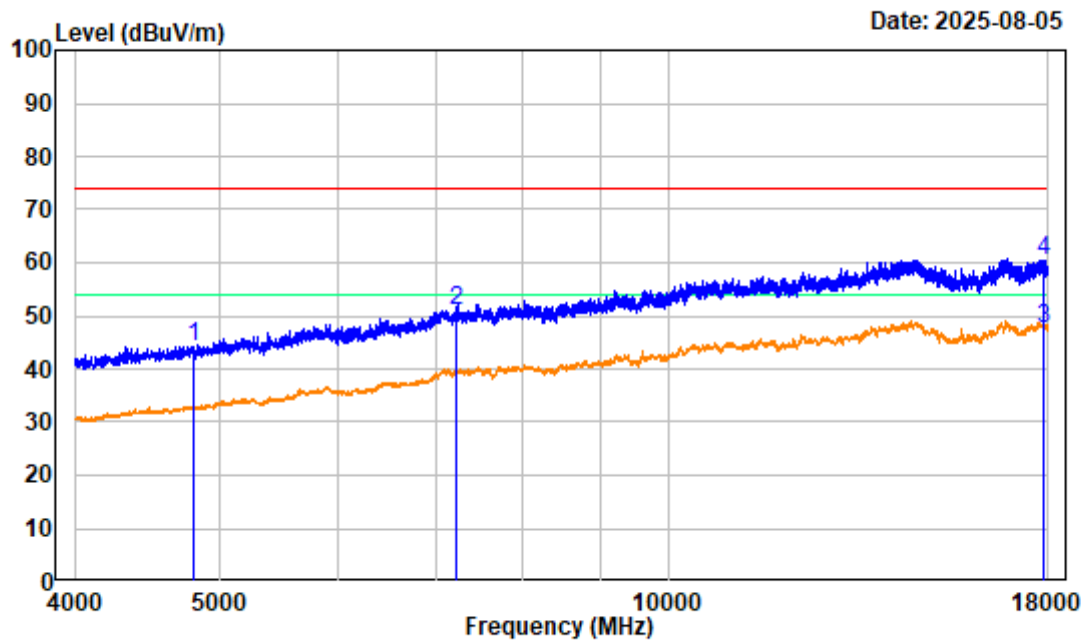
BLE 1M Low Channel 1GHz-4GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Low Channel 2402MHz 1GHz-4GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |       | Read Level | Level  | Limit Line | Over Limit | Remark |
|-------------|-------|------------|--------|------------|------------|--------|
| MHz         | dB/m  | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 3870.625  | -8.09 | 55.94      | 47.85  | 74.00      | -26.15     | Peak   |

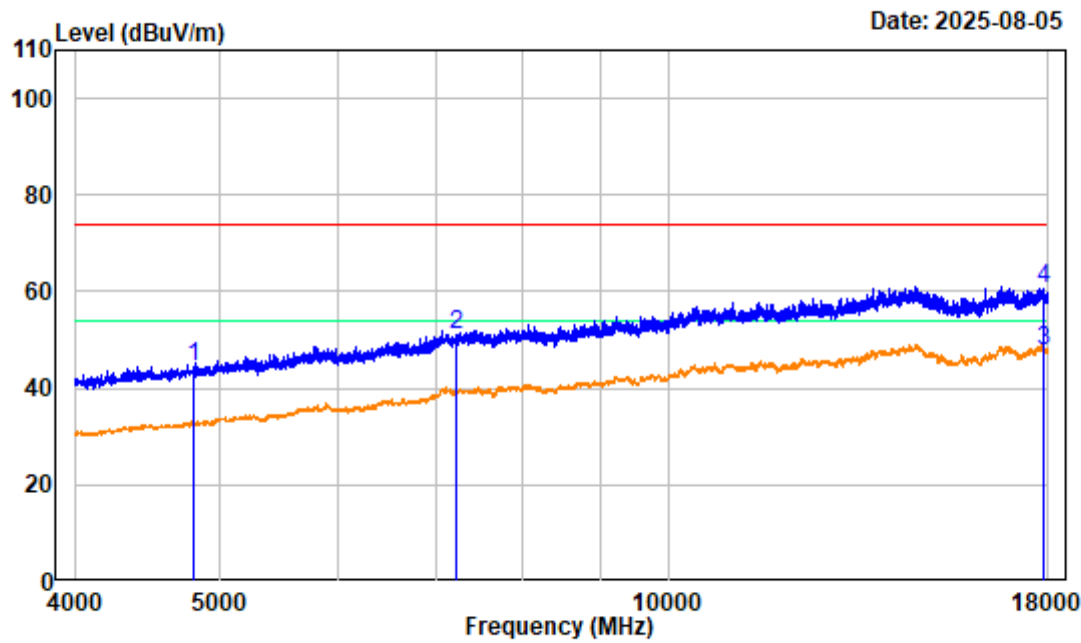
BLE 1M Low Channel 4GHz-18GHz\_HORIZONTAL



Site : chamber  
Condition : 3m HORIZONTAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Low Channel 2402MHz 4GHz-18GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |       | Read Level | Level  | Limit Line | Over Limit | Remark  |
|-------------|-------|------------|--------|------------|------------|---------|
| MHz         | dB/m  | dBuV       | dBuV/m | dBuV/m     | dB         |         |
| 1 4804.000  | -6.64 | 50.66      | 44.02  | 74.00      | -29.98     | Peak    |
| 2 7206.000  | -1.36 | 52.18      | 50.82  | 74.00      | -23.18     | Peak    |
| 3 17849.500 | 8.31  | 39.19      | 47.50  | 54.00      | -6.50      | Average |
| 4 17849.500 | 8.31  | 52.13      | 60.44  | 74.00      | -13.56     | Peak    |

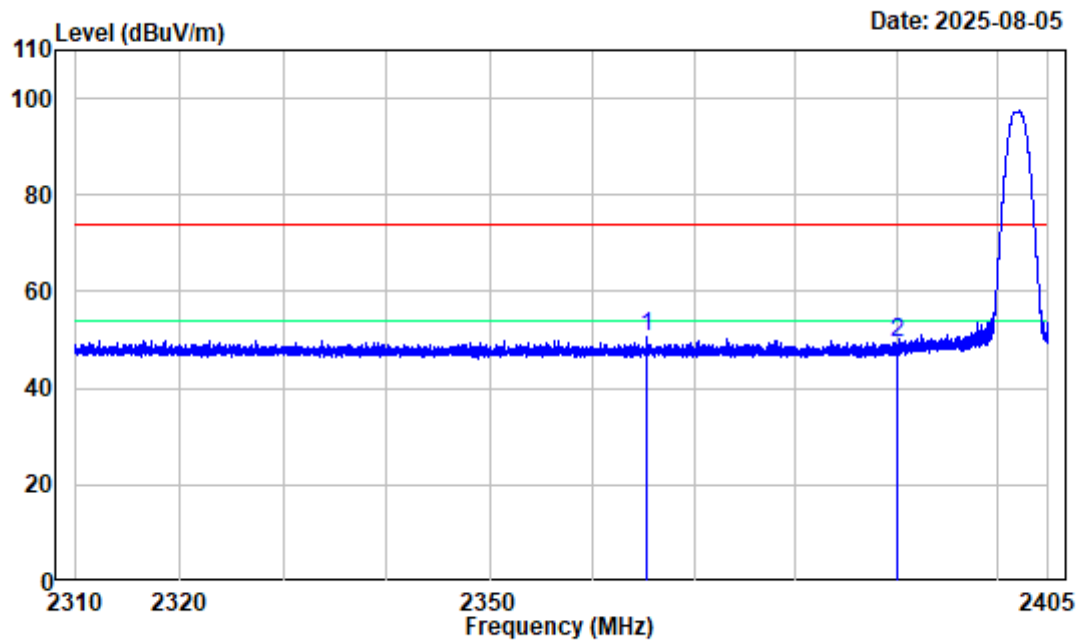
BLE 1M Low Channel 4GHz-18GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Low Channel 2402MHz 4GHz-18GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

|   | Freq      | Factor | Read  |        | Limit  | Over   | Remark  |
|---|-----------|--------|-------|--------|--------|--------|---------|
|   |           |        | Level | Level  | Line   | Limit  |         |
|   | MHz       | dB/m   | dBuV  | dBuV/m | dBuV/m | dB     |         |
| 1 | 4804.000  | -6.64  | 50.93 | 44.29  | 74.00  | -29.71 | Peak    |
| 2 | 7206.000  | -1.36  | 52.46 | 51.10  | 74.00  | -22.90 | Peak    |
| 3 | 17853.000 | 8.32   | 39.45 | 47.77  | 54.00  | -6.23  | Average |
| 4 | 17853.000 | 8.32   | 52.31 | 60.63  | 74.00  | -13.37 | Peak    |

BLE 1M Low Channel Bandedge\_HORIZONTAL



Site : chamber

Condition : 3m HORIZONTAL

Project No.: 2504V71150E-RF

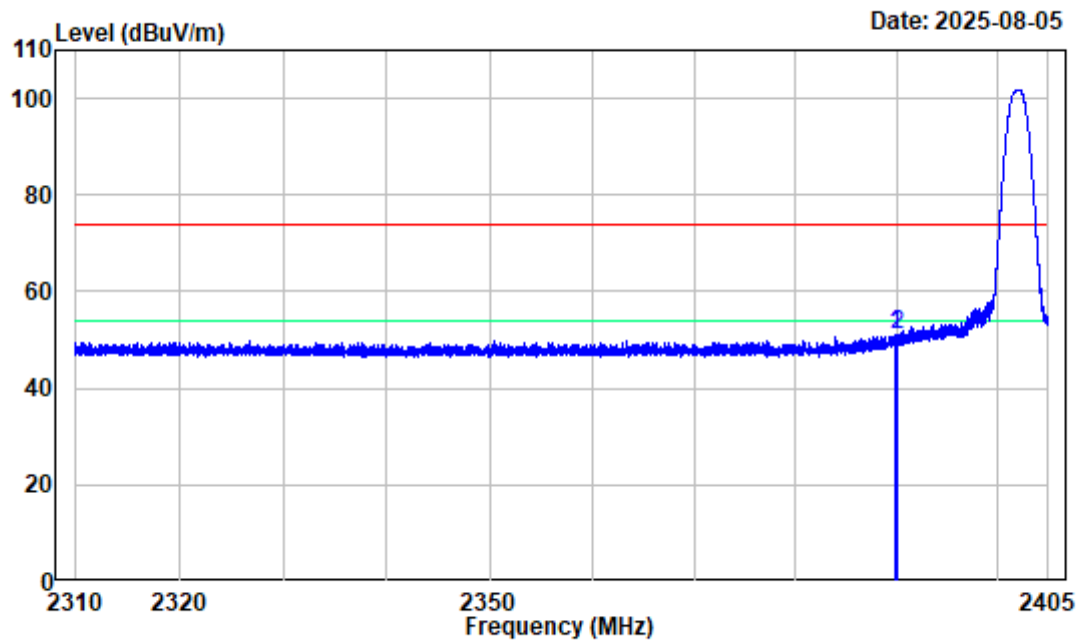
Test Mode : TransmittingTester:Lorne Huang

Note : BLE 1M Low Channel 2402MHz Bandedge

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

|   | Freq Factor |        | Read Level |        | Limit  | Over   | Remark |
|---|-------------|--------|------------|--------|--------|--------|--------|
|   | MHz         | dB/m   | dBuV       | dBuV/m | dBuV/m | dB     |        |
| 1 | 2365.326    | -10.16 | 60.81      | 50.65  | 74.00  | -23.35 | Peak   |
| 2 | 2390.000    | -10.25 | 59.57      | 49.32  | 74.00  | -24.68 | peak   |

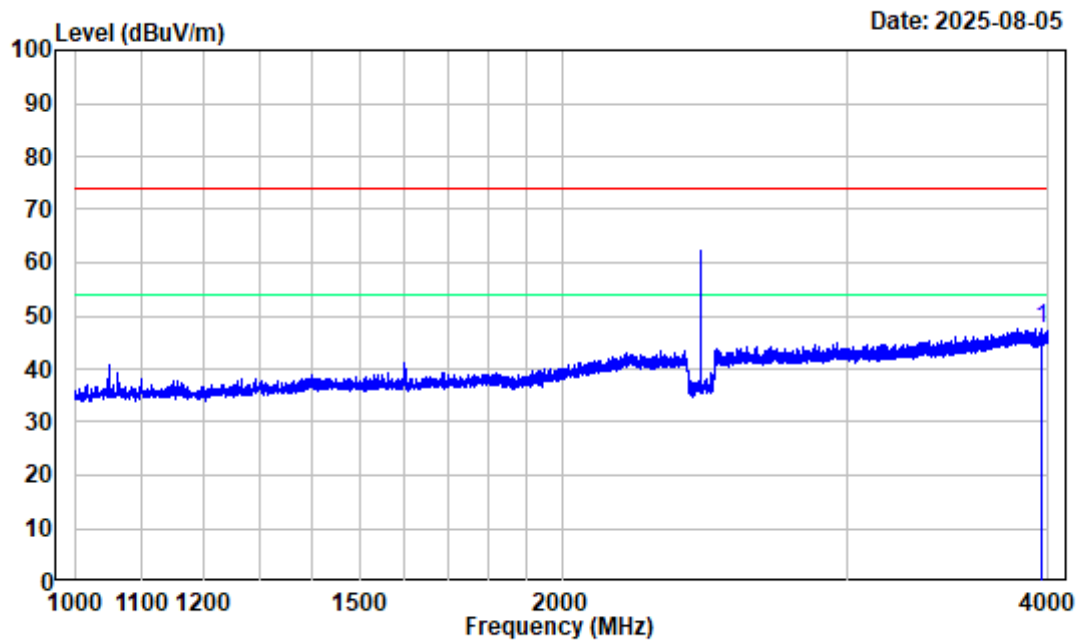
BLE 1M Low Channel Bandedge\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Low Channel 2402MHz Bandedge  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level | Level  | Limit Line | Over Limit | Remark      |
|-------------|----------|------------|--------|------------|------------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m     | dB         |             |
| 1           | 2389.788 | -10.25     | 61.17  | 50.92      | 74.00      | -23.08 Peak |
| 2           | 2390.000 | -10.25     | 61.10  | 50.85      | 74.00      | -23.15 peak |

BLE 1M Middle Channel 1GHz-4GHz\_HORIZONTAL



Site : chamber

Condition : 3m HORIZONTAL

Project No.: 2504V71150E-RF

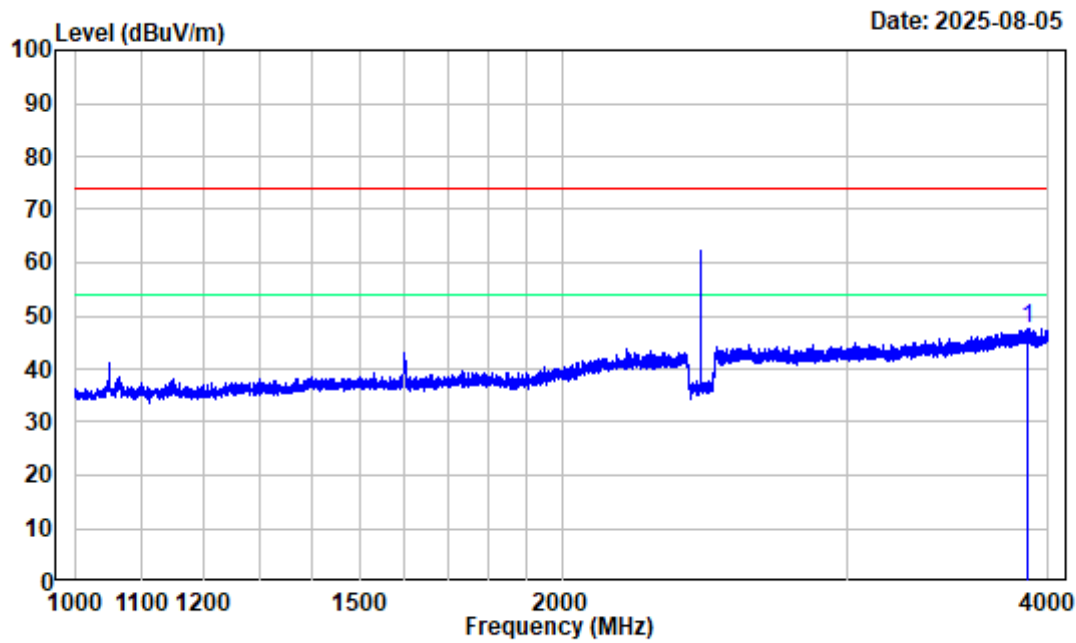
Test Mode : TransmittingTester:Lorne Huang

Note : BLE 1M Middle Channel 2440MHz 1GHz-4GHz

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |       | Read Level | Level  | Limit Line | Over Limit | Remark |
|-------------|-------|------------|--------|------------|------------|--------|
| MHz         | dB/m  | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 3964.375  | -8.35 | 55.92      | 47.57  | 74.00      | -26.43     | Peak   |

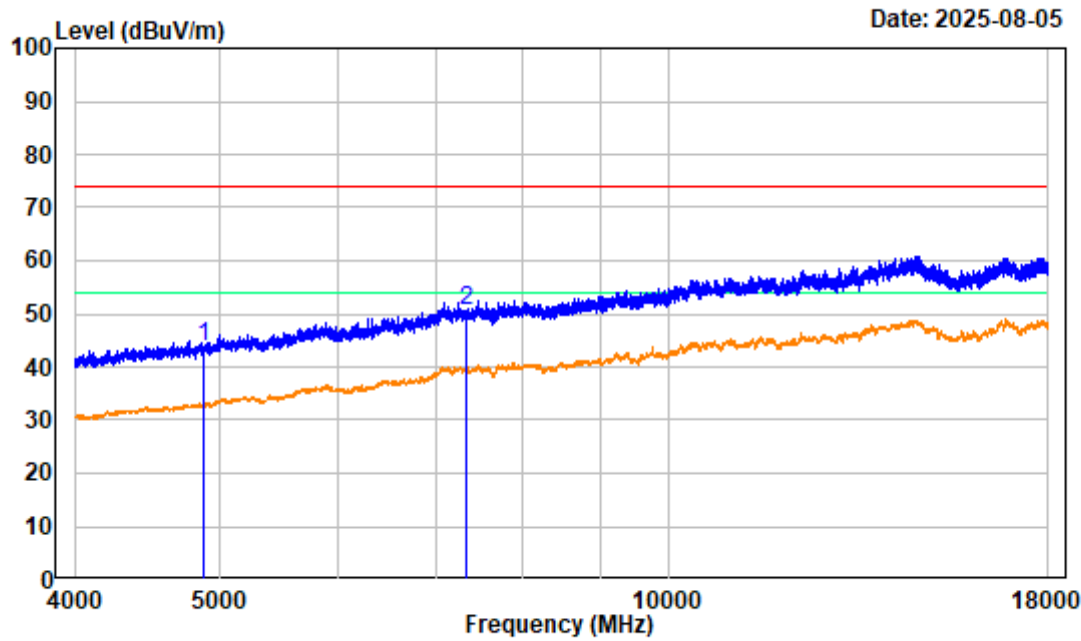
BLE 1M Middle Channel 1GHz-4GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Middle Channel 2440MHz 1GHz-4GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit  | Over  | Remark      |
|-------------|----------|------------|--------|--------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m | dB    |             |
| 1           | 3887.875 | -7.97      | 55.62  | 47.65  | 74.00 | -26.35 Peak |

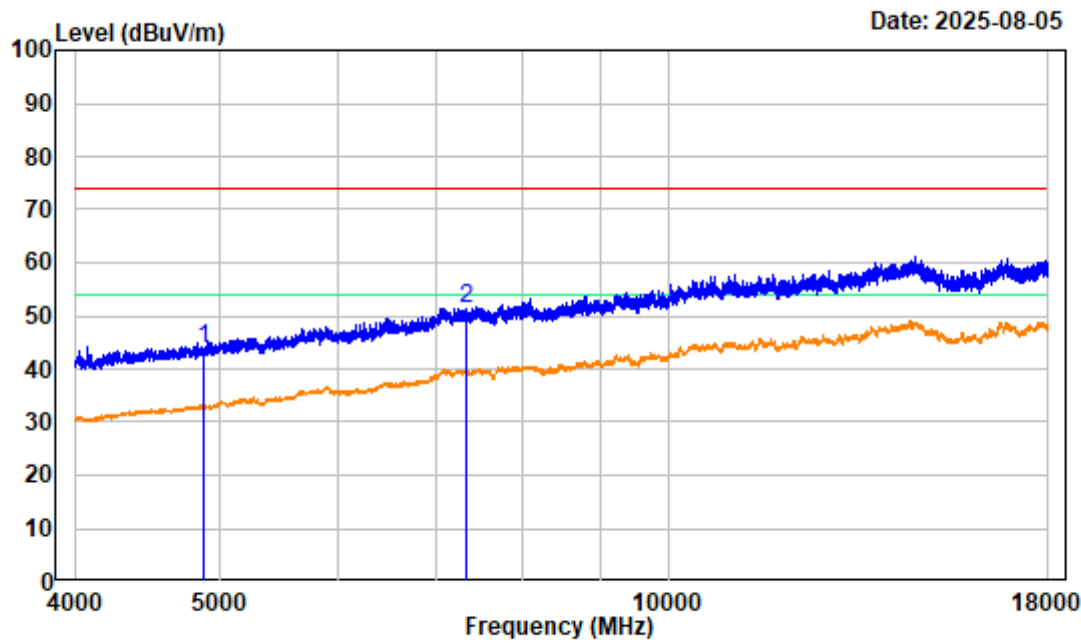
BLE 1M Middle Channel 4GHz-18GHz\_HORIZONTAL



Site : chamber  
Condition : 3m HORIZONTAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Middle Channel 2440MHz 4GHz-18GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit | Over  | Remark      |
|-------------|----------|------------|--------|-------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | Line  | Limit |             |
| 1           | 4880.000 | -6.57      | 50.42  | 43.85 | 74.00 | -30.15 Peak |
| 2           | 7320.000 | -1.16      | 51.87  | 50.71 | 74.00 | -23.29 Peak |

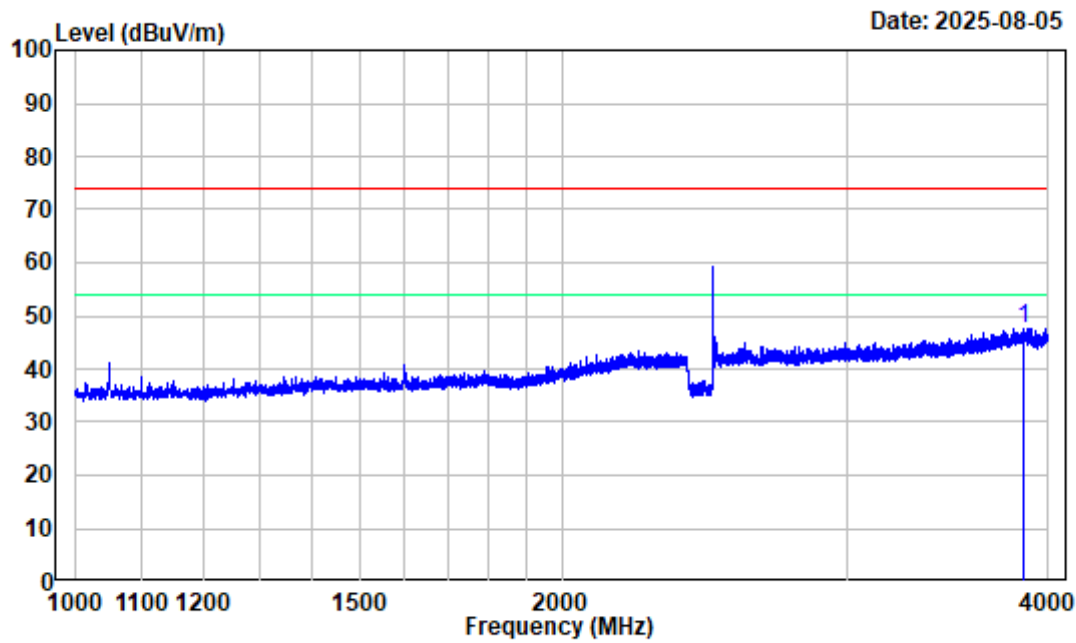
BLE 1M Middle Channel 4GHz-18GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M Middle Channel 2440MHz 4GHz-18GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq   |          | Read  |        | Limit  | Over  | Remark      |
|--------|----------|-------|--------|--------|-------|-------------|
| Factor |          | Level | Level  | Line   | Limit |             |
| MHz    | dB/m     | dBuV  | dBuV/m | dBuV/m | dB    |             |
| 1      | 4880.000 | -6.57 | 50.45  | 43.88  | 74.00 | -30.12 Peak |
| 2      | 7320.000 | -1.16 | 52.40  | 51.24  | 74.00 | -22.76 Peak |

BLE 1M High Channel 1GHz-4GHz\_HORIZONTAL



Site : chamber

Condition : 3m HORIZONTAL

Project No.: 2504V71150E-RF

Test Mode : Transmitting

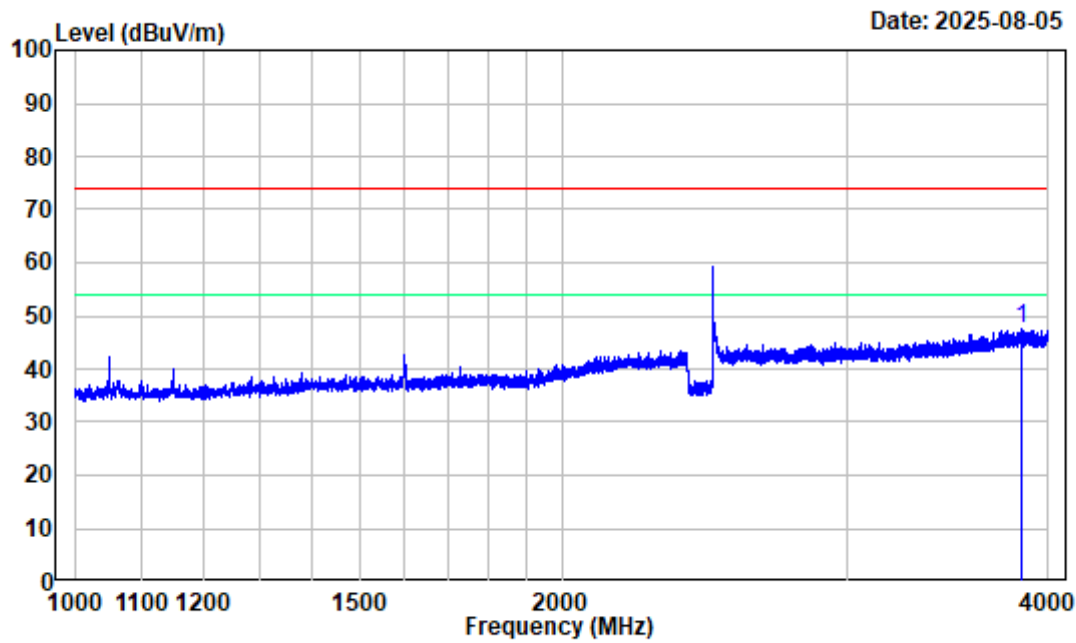
Tester:Lorne Huang

Note : BLE 1M High Channel 2480MHz 1GHz-4GHz

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit  | Over  | Remark      |
|-------------|----------|------------|--------|--------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m | dB    |             |
| 1           | 3859.000 | -8.17      | 55.84  | 47.67  | 74.00 | -26.33 Peak |

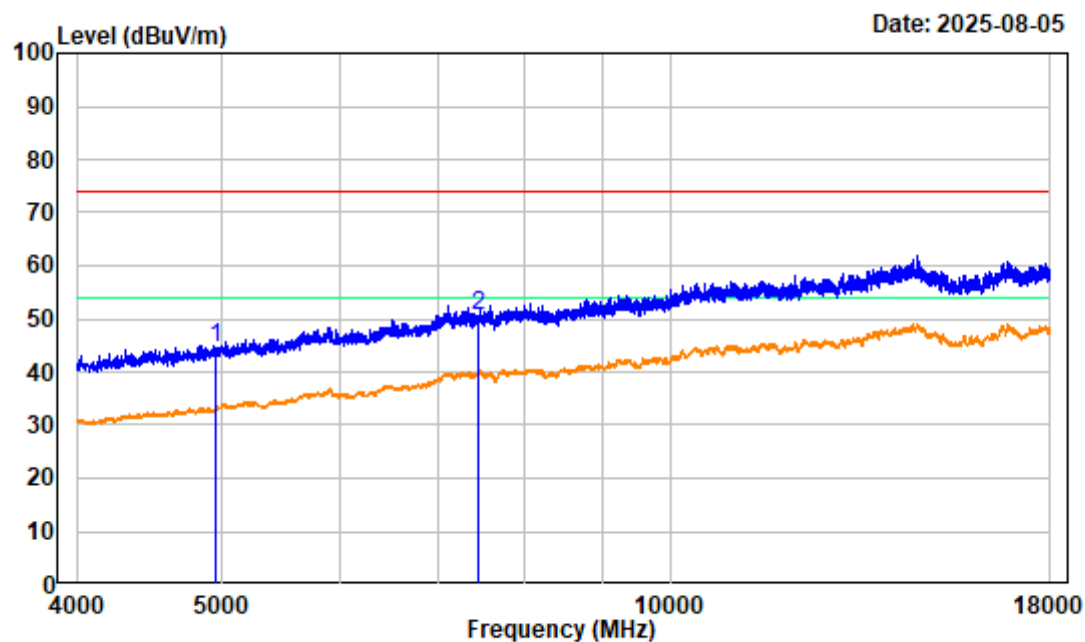
BLE 1M High Channel 1GHz-4GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M High Channel 2480MHz 1GHz-4GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level |        | Limit  | Over  | Remark      |
|-------------|----------|------------|--------|--------|-------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m | dB    |             |
| 1           | 3847.375 | -8.24      | 55.90  | 47.66  | 74.00 | -26.34 Peak |

## BLE 1M High Channel 4GHz-18GHz\_HORIZONTAL



Site : chamber

Condition : 3m HORIZONTAL

Project No.: 2504V71150E-RF

Test Mode : Transmitting

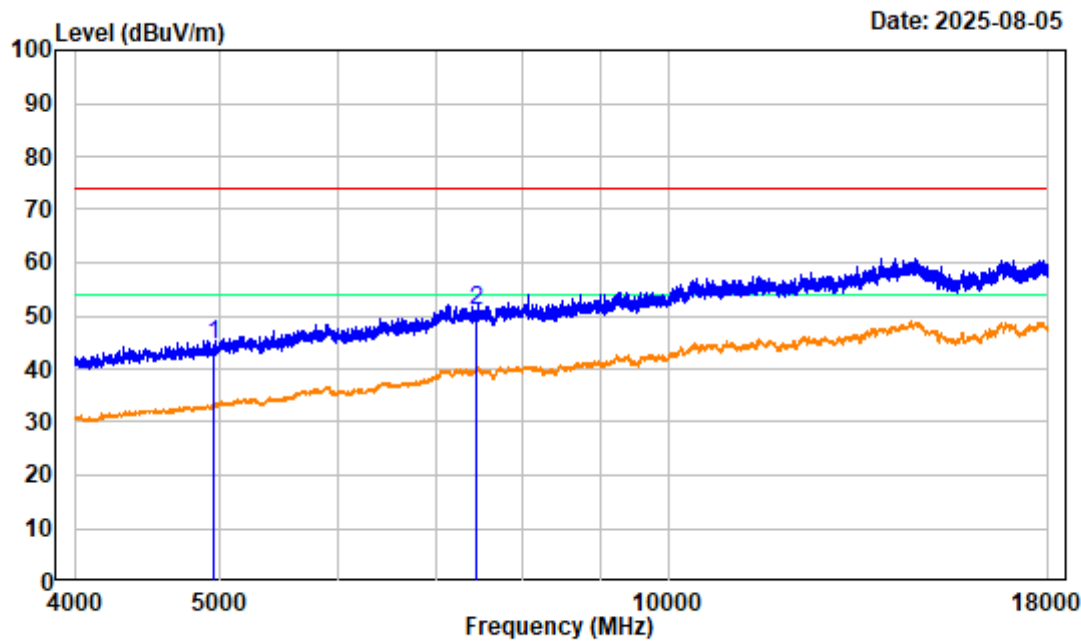
Tester: Lorne Huang

Note : BLE 1M High Channel 2480MHz 4GHz-18GHz

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

|   | Freq Factor |       | Read Level |        | Limit | Over   | Remark |
|---|-------------|-------|------------|--------|-------|--------|--------|
|   | MHz         | dB/m  | dBuV       | dBuV/m | Line  | Limit  |        |
| 1 | 4960.000    | -6.32 | 50.81      | 44.49  | 74.00 | -29.51 | Peak   |
| 2 | 7440.000    | -0.97 | 51.50      | 50.53  | 74.00 | -23.47 | Peak   |

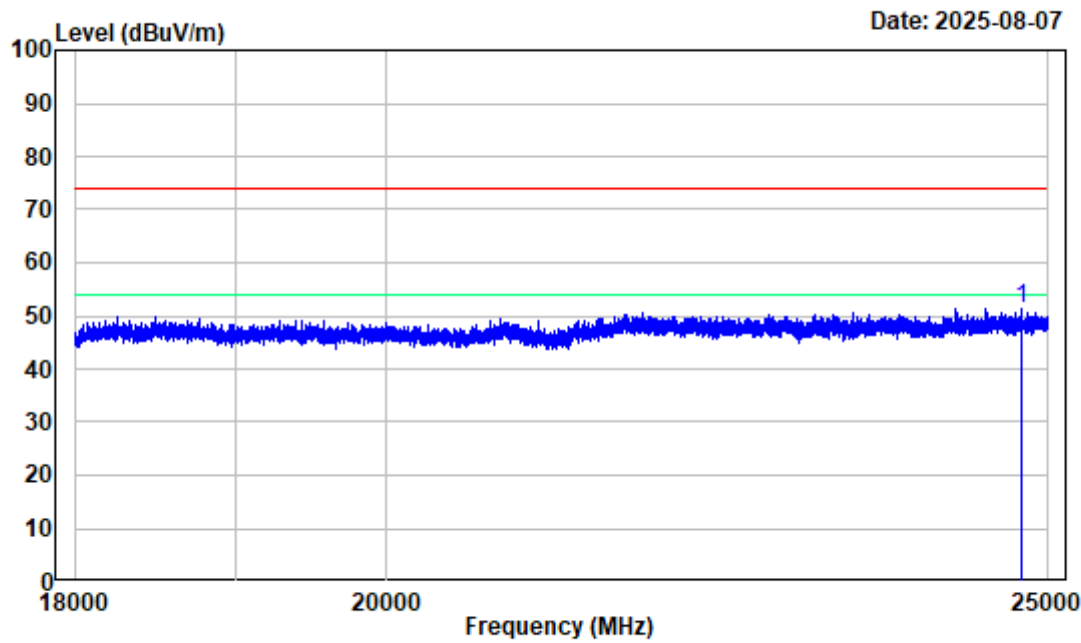
BLE 1M High Channel 4GHz-18GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M High Channel 2480MHz 4GHz-18GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read  | Limit  | Over   | Remark |             |
|-------------|----------|-------|--------|--------|--------|-------------|
| MHz         | dB/m     | Level | Level  | Line   |        |             |
|             |          | dBuV  | dBuV/m | dBuV/m | Limit  | dB          |
| 1           | 4960.000 | -6.32 | 50.89  | 44.57  | 74.00  | -29.43 Peak |
| 2           | 7440.000 | -0.97 | 51.93  | 50.96  | 74.00  | -23.04 Peak |

BLE 1M High Channel 18GHz-25GHz\_HORIZONTAL



Site : chamber

Condition : 3m HORIZONTAL

Project No.: 2504V71150E-RF

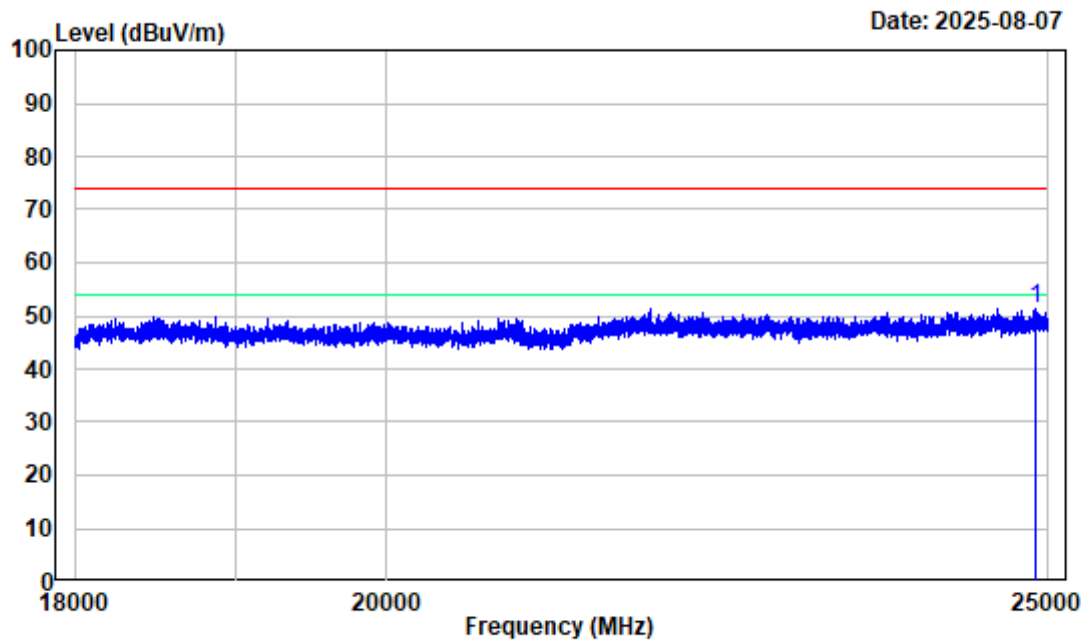
Test Mode : TransmittingTester:Lorne Huang

Note : BLE 1M High Channel 2480MHz 18GHz-25GHz

SA setting : Peak:RBW:1MHz,VBW:3MHz

| Freq Factor |      | Read Level | Level  | Limit Line | Over Limit | Remark |
|-------------|------|------------|--------|------------|------------|--------|
| MHz         | dB/m | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 24778.630 | 2.78 | 48.73      | 51.51  | 74.00      | -22.49     | Peak   |

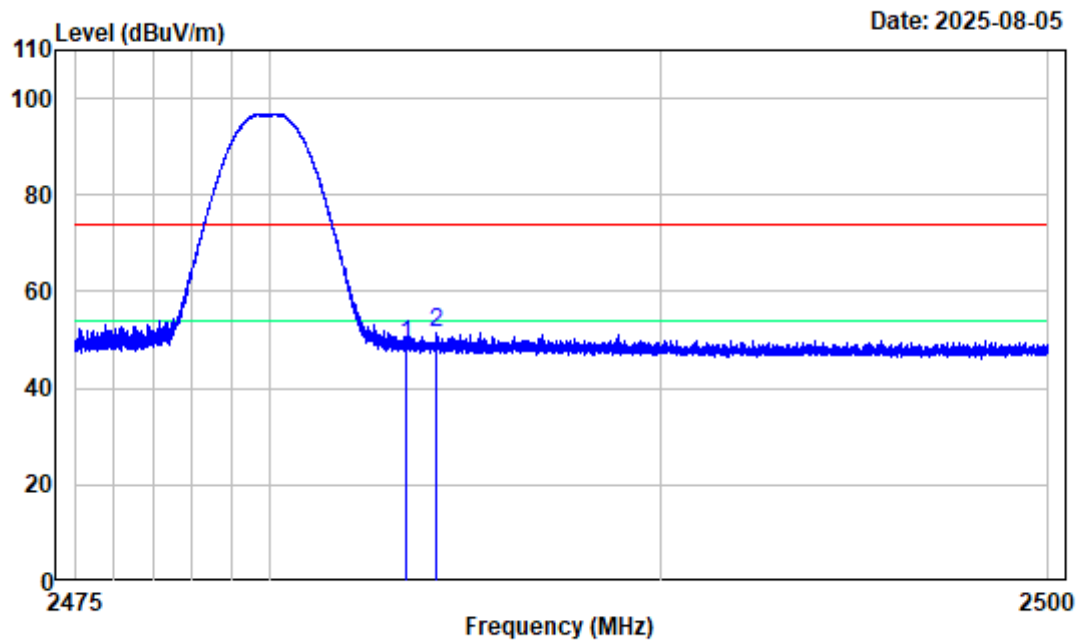
BLE 1M High Channel 18GHz-25GHz\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M High Channel 2480MHz 18GHz-25GHz  
SA setting : Peak:RBW:1MHz,VBW:3MHz

| Freq Factor |      | Read Level | Level  | Limit Line | Over Limit | Remark |
|-------------|------|------------|--------|------------|------------|--------|
| MHz         | dB/m | dBuV       | dBuV/m | dBuV/m     | dB         |        |
| 1 24888.000 | 2.90 | 48.55      | 51.45  | 74.00      | -22.55     | Peak   |

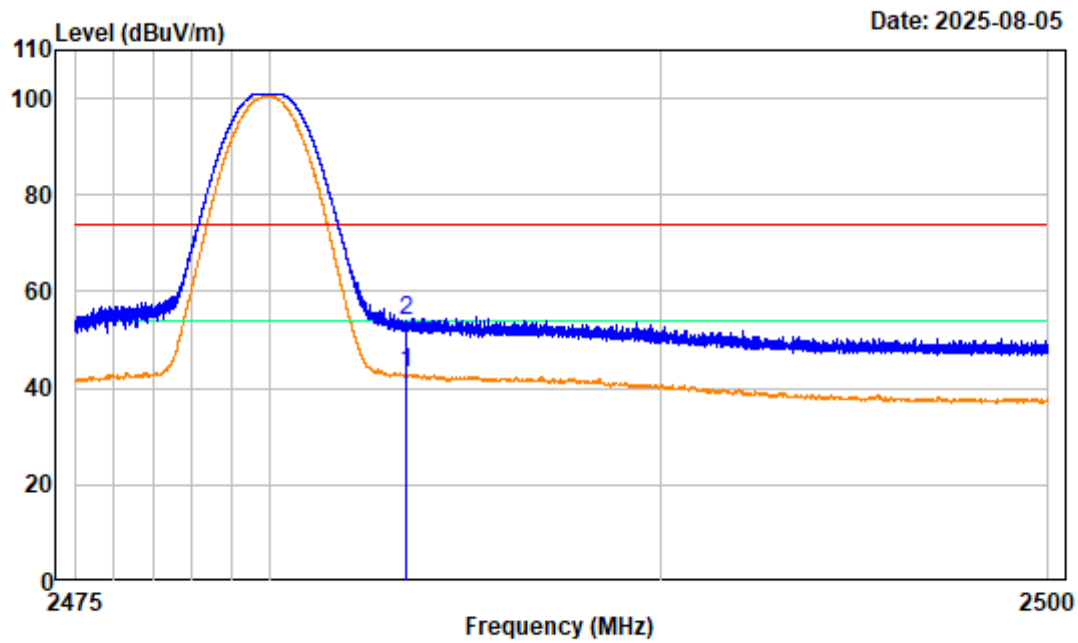
BLE 1M High Channel Bandedge\_HORIZONTAL



Site : chamber  
Condition : 3m HORIZONTAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M High Channel 2480MHz Bandedge  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level | Level  | Limit Line | Over Limit | Remark      |
|-------------|----------|------------|--------|------------|------------|-------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m     | dB         |             |
| 1           | 2483.500 | -10.23     | 59.32  | 49.09      | 74.00      | -24.91 Peak |
| 2           | 2484.256 | -10.23     | 61.85  | 51.62      | 74.00      | -22.38 Peak |

BLE 1M High Channel Bandedge\_VERTICAL



Site : chamber  
Condition : 3m VERTICAL  
Project No.: 2504V71150E-RF  
Test Mode : Transmitting Tester:Lorne Huang  
Note : BLE 1M High Channel 2480MHz Bandedge  
SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

| Freq Factor |          | Read Level | Level  | Limit Line | Over Limit | Remark         |
|-------------|----------|------------|--------|------------|------------|----------------|
| MHz         | dB/m     | dBuV       | dBuV/m | dBuV/m     | dB         |                |
| 1           | 2483.500 | -10.23     | 53.48  | 43.25      | 54.00      | -10.75 Average |
| 2           | 2483.500 | -10.23     | 64.03  | 53.80      | 74.00      | -20.20 Peak    |

**EXHIBIT A-EUT PHOTOGRAPHS**

Please refer to the Attachment No.1 2504V71150E-RF EUT External Photos and Attachment No.2 2504V71150E-RF EUT Internal Photos.

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## EXHIBIT B-TEST SETUP PHOTOGRAPHS

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Please refer to the Attachment No.3 2504V71150E-RF Test Photos.

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