

# TEST REPORT

Applicant : Ningbo Feiliu Office Supplies Co., Ltd.  
Address : No. 31 Lianzhong Road, Gaoqiao Village, Gaoqiao Town, Haishu District  
Manufacturer : Ningbo Feiliu Office Supplies Co., Ltd.  
Address : No. 31 Lianzhong Road, Gaoqiao Village, Gaoqiao Town, Haishu District  
Product Name : label printer  
Model Number : Q21, Q22, Q23, Q24  
Trademark : N/A  
FCC ID : 2BU7S-Q21  
Test Date : Mar. 11, 2026 - Mar. 17, 2026  
Date of Report : Mar. 17, 2026

Test Result : This device described above has been tested by BKC, and the test results show that the equipment under test (EUT) is in compliance with the Standard requirements. And it is applicable only to the tested sample identified in the report.

## Test Procedure Used:

Standards : FCC CFR Title 47 Part 15 Subpart C Section 15.247  
ANSI C63.10:2020  
RSS-Gen Issue 5, Amendment 2 (February 2021)

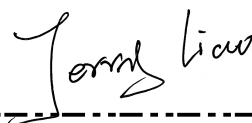
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Sten Huang



Approved(Manager):  
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[illegible]

## 1. General Information

### 1.1. Customer basic information

Contacts : Hu Weiqi  
E-Mail : kathy@ccti-lab.com  
Telephone : 18058251616

### 1.2. Description of Device (EUT)

EUT Name : label printer  
Model No. : Q21, Q22, Q23, Q24  
Model Difference : Only the appearance and model name are different, everything else is the same.  
Power supply : Input:AC 120V/60Hz  
DC 3.7V from battery  
Operation frequency : 2402-2480MHz  
Max. RF output power: : -5.92dBm  
Modulation : GFSK  
Antenna Type : PCB Antenna, Maximum Gain is -0.93dBi  
Intend use environment : Residential, commercial and light industrial environment

### 1.3. Channel List

| Channel | Frequency<br>(MHz) | Channel   | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) |
|---------|--------------------|-----------|--------------------|---------|--------------------|
| 00      | <b>2402</b>        | 14        | 2430               | 28      | 2458               |
| 01      | 2404               | 15        | 2432               | 29      | 2460               |
| 02      | 2406               | 16        | 2434               | 30      | 2462               |
| 03      | 2408               | 17        | 2436               | 31      | 2464               |
| 04      | 2410               | 18        | 2438               | 32      | 2466               |
| 05      | 2412               | <b>19</b> | <b>2440</b>        | 33      | 2468               |
| 06      | 2414               | 20        | 2442               | 34      | 2470               |
| 07      | 2416               | 21        | 2444               | 35      | 2472               |
| 08      | 2418               | 22        | 2446               | 36      | 2474               |
| 09      | 2420               | 23        | 2448               | 37      | 2476               |
| 10      | 2422               | 24        | 2450               | 38      | 2478               |
| 11      | 2424               | 25        | 2452               | 39      | <b>2480</b>        |
| 12      | 2426               | 26        | 2454               |         |                    |
| 13      | 2428               | 27        | 2456               |         |                    |

## 1.4.Summary of test result

| RF PART                                                                                                                             |                                                     |        |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------|
| Test Items                                                                                                                          | Test Requirement                                    | Result |
| Antenna requirement                                                                                                                 | FCC part 15.203/15.247 (c)<br>RSS-Gen Section 7.1.2 | PASS   |
| AC Power Line Conducted Emission                                                                                                    | FCC part 15.207<br>RSS-Gen 8.8                      | PASS   |
| Conducted Peak Output Power                                                                                                         | FCC part 15.247 (b)(3)                              | PASS   |
| Channel Bandwidth& 99% OCB                                                                                                          | FCC part 15.247 (a)(2)                              | PASS   |
| Power Spectral Density                                                                                                              | FCC part 15.247 (e)                                 | PASS   |
| Band Edge                                                                                                                           | FCC part 15.247(d)<br>RSS-Gen 8.9                   | PASS   |
| Spurious Emission                                                                                                                   | FCC part 15.205/15.209<br>RSS-Gen 8.9               | PASS   |
| Remark:<br>N/A is an abbreviation for Not Applicable.<br>Measurement Uncertainty is not taken into account for conformity statement |                                                     |        |

## 1.5.Special Accessories and Auxiliary Equipment

| Description | Manufacturer | Model No. | Hardware Version | Software Version |
|-------------|--------------|-----------|------------------|------------------|
| Computer    | HP           | 14s       | /                | /                |
| Adapter     | /            | HW088     | /                | /                |
| Serial port | DOREWIN      | CH 340    |                  |                  |

## 1.6.Test mode

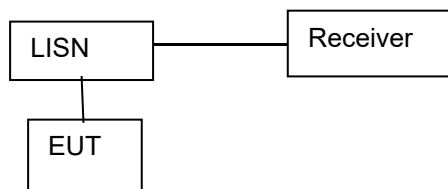
The special RF test software was used to control EUT work in Continuous BLE TX mode, and select test channel, wireless mode.

| Test mode | Low channel | Middle channel | High channel |
|-----------|-------------|----------------|--------------|
| GFSK      | 2402MHz     | 2440MHz        | 2480MHz      |

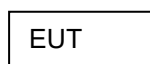
Note: Only the worst Data Record in the report

## 1.7.Block Diagram

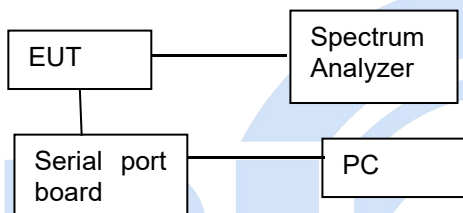
### Conducted Emission



### Radiated Emission



### Conducted Spurious



## 1.8.Test Conditions

| Category                                         | Normal Conditions                          | Extreme Conditions |
|--------------------------------------------------|--------------------------------------------|--------------------|
| Temperature range                                | 15-35℃                                     | N/A                |
| Humidity range                                   | 20-75%                                     | N/A                |
| Pressure range                                   | 86-106kPa                                  | N/A                |
| Power supply                                     | Input:AC 120V/60Hz<br>DC 3.7V from battery | N/A                |
| Note: N/A is an abbreviation for Not Applicable. |                                            |                    |

## 1.9.Measurement Uncertainty (95% confidence levels, k=2)

| Item                               | MU                                                               | Remark |
|------------------------------------|------------------------------------------------------------------|--------|
| Uncertainty for radio frequency    | $\pm 7 \times 10^{-8}$                                           |        |
| Conducted Emissions (150kHz~30MHz) | $\pm 2.54\text{dB}$                                              |        |
| Radiated Emission(9KHz~30MHz)      | $\pm 1.6\text{ dB}$                                              |        |
| Radiated Emission(30MHz~1GHz)      | Vertical: $\pm 4.14\text{dB}$<br>Horizontal: $\pm 4.25\text{dB}$ |        |
| Radiated Emission(1GHz~6GHz)       | $\pm 3.9\text{dB}$                                               |        |
| Radiated Emission(6GHz~18GHz)      | $\pm 4.3\text{dB}$                                               |        |
| Radiated Emission(18GHz~40GHz)     | $\pm 3.38\text{dB}$                                              |        |
| Uncertainty for conducted RF Power | $\pm 0.20\text{dB}$                                              |        |
| Conducted spurious emissions       | $\pm 0.24\text{dB}$                                              |        |

|                                                                                                 |                          |  |
|-------------------------------------------------------------------------------------------------|--------------------------|--|
| Uncertainty for temperature                                                                     | 0.6℃                     |  |
| Uncertainty for humidity                                                                        | 1%                       |  |
| Bandwidth                                                                                       | $\pm 1.5 \times 10^{-6}$ |  |
| Time                                                                                            | $\pm 2\%$                |  |
| Duty Cycle                                                                                      | $\pm 2\%$                |  |
| Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95% |                          |  |

## 1.10.Test Facility

| Site Description                  |   |                                                                                                                        |
|-----------------------------------|---|------------------------------------------------------------------------------------------------------------------------|
| Name of Firm                      | : | Shenzhen BKC Testing Co., Ltd.                                                                                         |
| Site Location                     | : | Room 103, 1/F, Huaya Building, Huaya Industrial Park, Longhua Community, Longhua District, Shenzhen, Guangdong, China. |
| ISED CAB identifier               | : | CN0188                                                                                                                 |
| ISED Company Number               | : | 34333                                                                                                                  |
| FCC Designation Number            | : | CN1416                                                                                                                 |
| FCC Test Firm Registration Number | : | 701543                                                                                                                 |

## 1.11.Test Equipment

### Conducted Test Site

| Item | Kind of Equipment               | Manufacturer | Type No.  | Serial No. | Last calibration | Calibrated until |
|------|---------------------------------|--------------|-----------|------------|------------------|------------------|
| 1    | LISN                            | R&S          | ENV216    | 102762     | Mar. 10. 2026    | Mar. 09. 2027    |
| 2    | EMI Test Receiver               | R&S          | ESCI      | 101424     | Mar. 10. 2026    | Mar. 09. 2027    |
| 3    | Rf cables                       | HTEC         | HCE 2M-CE | N/A        | Mar. 10. 2026    | Mar. 09. 2027    |
| 4    | Coupling/<br>Decoupling Network | Diamond      | CX210     | N/A        | Mar. 10. 2026    | Mar. 09. 2027    |
| 5    | CE Testing software             | EZ           | EZ-EMC    | N/A        | N/A              | N/A              |

### Radiated Test Site(Below 1G and Above 1G)

| Item | Kind of Equipment                          | Manufacturer | Type No.   | Serial No. | Last calibration | Calibrated until |
|------|--------------------------------------------|--------------|------------|------------|------------------|------------------|
| 1    | Antenna                                    | Schwarzbeck  | VULB 9168  | 01321      | Mar. 20. 2025    | Mar. 19. 2028    |
| 2    | EMI Test Receiver                          | R&S          | ESRP       | 101478     | Mar. 10. 2026    | Mar. 09. 2027    |
| 3    | Preamplifier                               | HP           | 8447D      | 2727A05345 | Mar. 10. 2026    | Mar. 09. 2027    |
| 4    | Double Ridged<br>Broadband                 | SCHWARZBECK  | BBHA 9120D | 02621      | Mar. 10. 2025    | Mar. 19. 2028    |
| 5    | Preamplifier                               | Schwarzbeck  | BBV 9718D  | 00041      | Mar. 10. 2026    | Mar. 09. 2027    |
| 6    | Rf cables                                  | HUBER+SUHNER | 8M-RE      | N/A        | Mar. 10. 2026    | Mar. 09. 2027    |
| 7    | Rf cables                                  | HUBER+SUHNER | 1.5M-RE    | N/A        | Mar. 10. 2026    | Mar. 09. 2027    |
| 8    | Rf cables                                  | HUBER+SUHNER | 1.5M-AP-RE | N/A        | Mar. 10. 2026    | Mar. 09. 2027    |
| 9    | Loop antenna                               | TESEQ        | HLA6121    | 58357      | Mar. 09. 2026    | Mar. 10. 2027    |
| 10   | Spectrum analyzer                          | R&S          | FSP40      | 200061     | Mar. 09. 2026    | Mar. 10. 2027    |
| 11   | Double Ridged<br>Broadband Horn<br>Antenna | COM-POWER    | AH-1840    | 10100009   | Mar. 10. 2026    | Mar. 09. 2027    |
| 12   | Spectrum                                   | Agilent      | N9020A     | MY50510311 | Mar. 10. 2026    | Mar. 09. 2027    |
| 13   | RE Testing software                        | EZ           | EZ-EMC     | N/A        | N/A              | N/A              |

### RF Test Site

| Item | Kind of Equipment           | Manufacturer    | Type No. | Serial No.    | Last calibration | Calibrated until |
|------|-----------------------------|-----------------|----------|---------------|------------------|------------------|
| 1    | Spectrum                    | Agilent         | N9020A   | MY50510311    | Mar. 10. 2026    | Mar. 09. 2027    |
| 2    | Vector source               | Agilent         | N5182A   | MY47420223    | Mar. 10. 2026    | Mar. 09. 2027    |
| 3    | All instrument              | Rohde & Schwarz | CMW 500  | 101131        | Mar. 10. 2026    | Mar. 09. 2027    |
| 4    | RF Automatic Test<br>System | TST             | TSTRF562 | MW200411BK-34 | Mar. 09. 2026    | Mar. 10. 2027    |
| 5    | Spectrum analyzer           | R&S             | FSP40    | 200061        | Mar. 09. 2026    | Mar. 10. 2027    |

## Test software

|                  |                     |
|------------------|---------------------|
| Software name    | RF Testing software |
| Software version | 2.0.0.0             |
| Software name    | RE Testing software |
| Software version | EMEC-03A2 RE+       |
| Software name    | CE Testing software |
| Software version | EMEC-3A1+           |



## 2. Conducted emission at the mains terminals test

### 2.1.Limit

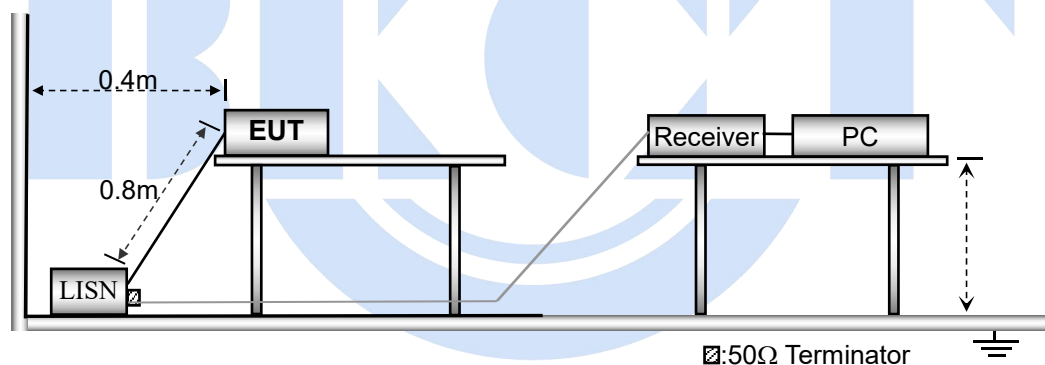
|                       |                                          |
|-----------------------|------------------------------------------|
| Test Requirement:     | FCC Part15 C Section 15.207, RSS-Gen 8.8 |
| Test Method:          | ANSI C63.10:2020                         |
| Test Frequency Range: | 150KHz to 30MHz                          |
| Receiver setup:       | RBW=9KHz, VBW=30KHz, Sweep time=auto     |

| Frequency<br>MHz | Limits dB( $\mu$ V) |               |
|------------------|---------------------|---------------|
|                  | Quasi-peak Level    | Average Level |
| 0.15 ~ 0.50      | 66 ~ 56*            | 56 ~ 46*      |
| 0.50 ~ 5.00      | 56                  | 46            |
| 5.00 ~ 30.00     | 60                  | 50            |

Notes: 1. \*Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

### 2.2.Test Setup

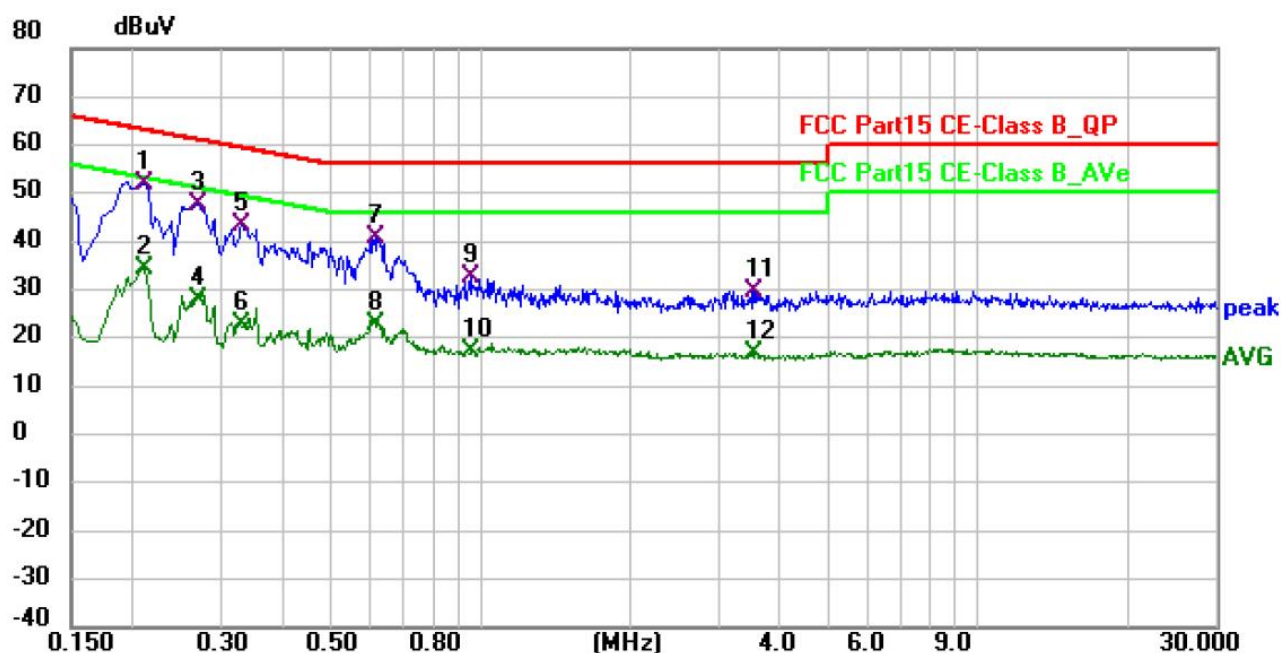


### 2.3.Test Procedure

1. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
2. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
3. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
4. LISN at least 80 cm from nearest part of EUT chassis.
5. For the actual test configuration, please refer to the related Item - EUT Test Photos.

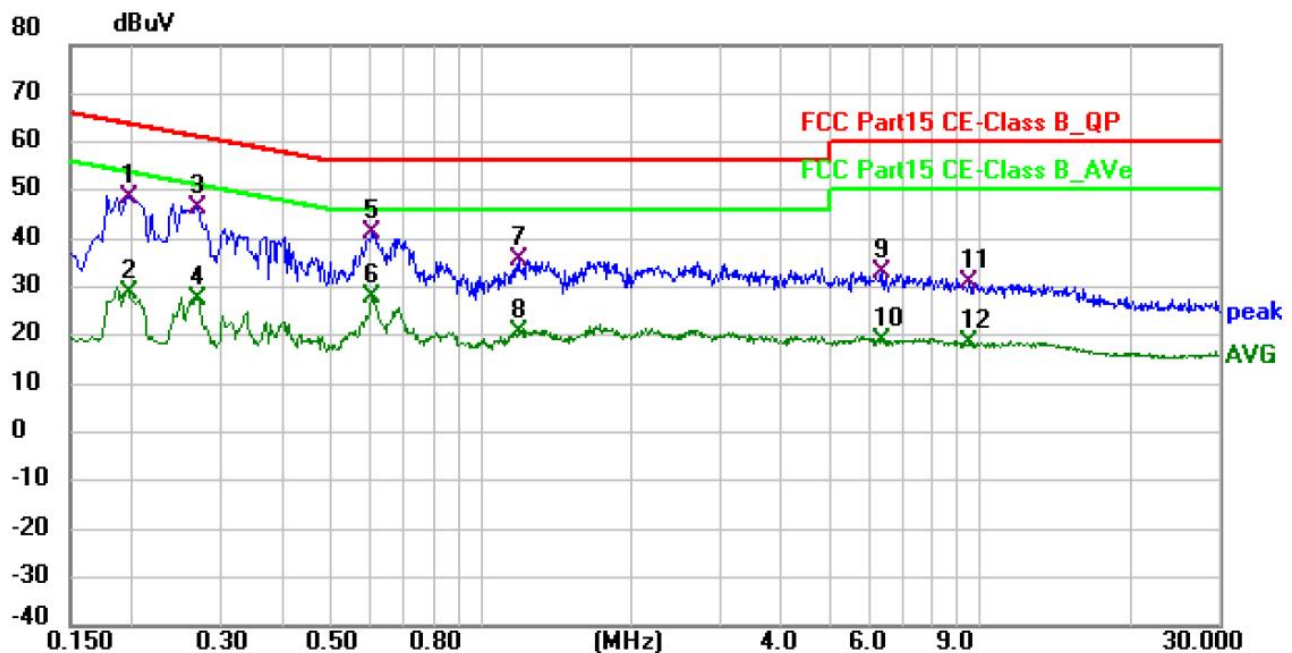
## 2.4.Test Result

| Conducted Emission Test Data |              |                    |                     |
|------------------------------|--------------|--------------------|---------------------|
| Temperature:                 | 25.3℃        | Relative Humidity: | 55%                 |
| Pressure:                    | 1008hPa      | Phase :            | L                   |
| Test Voltage :               | AC 120V/60Hz | Test Mode          | Charging+BLE1M CH00 |



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|-----|-----------------|----------------|-------------|--------------|--------------|-------------|----------|-----|
| 1 * | 0.2100          | 32.25          | 19.68       | 51.93        | 63.21        | -11.28      | QP       | P   |
| 2   | 0.2100          | 14.61          | 19.68       | 34.29        | 53.21        | -18.92      | AVG      | P   |
| 3   | 0.2700          | 28.08          | 19.68       | 47.76        | 61.12        | -13.36      | QP       | P   |
| 4   | 0.2700          | 8.20           | 19.68       | 27.88        | 51.12        | -23.24      | AVG      | P   |
| 5   | 0.3300          | 23.50          | 19.68       | 43.18        | 59.45        | -16.27      | QP       | P   |
| 6   | 0.3300          | 2.97           | 19.68       | 22.65        | 49.45        | -26.80      | AVG      | P   |
| 7   | 0.6180          | 21.02          | 19.80       | 40.82        | 56.00        | -15.18      | QP       | P   |
| 8   | 0.6180          | 3.11           | 19.80       | 22.91        | 46.00        | -23.09      | AVG      | P   |
| 9   | 0.9540          | 12.81          | 19.67       | 32.48        | 56.00        | -23.52      | QP       | P   |
| 10  | 0.9540          | -2.35          | 19.67       | 17.32        | 46.00        | -28.68      | AVG      | P   |
| 11  | 3.5380          | 10.01          | 19.75       | 29.76        | 56.00        | -26.24      | QP       | P   |
| 12  | 3.5380          | -3.12          | 19.75       | 16.63        | 46.00        | -29.37      | AVG      | P   |

| Conducted Emission Test Data |              |                    |                     |
|------------------------------|--------------|--------------------|---------------------|
| Temperature:                 | 25.3℃        | Relative Humidity: | 55%                 |
| Pressure:                    | 1008hPa      | Phase :            | N                   |
| Test Voltage :               | AC 120V/60Hz | Test Mode          | Charging+BLE1M CH00 |



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|-----|-----------------|----------------|-------------|--------------|--------------|-------------|----------|-----|
| 1   | 0.1980          | 28.79          | 19.68       | 48.47        | 63.69        | -15.22      | QP       | P   |
| 2   | 0.1980          | 8.93           | 19.68       | 28.61        | 53.69        | -25.08      | AVG      | P   |
| 3   | 0.2700          | 26.80          | 19.70       | 46.50        | 61.12        | -14.62      | QP       | P   |
| 4   | 0.2700          | 7.84           | 19.70       | 27.54        | 51.12        | -23.58      | AVG      | P   |
| 5 * | 0.6060          | 21.63          | 19.78       | 41.41        | 56.00        | -14.59      | QP       | P   |
| 6   | 0.6060          | 8.07           | 19.78       | 27.85        | 46.00        | -18.15      | AVG      | P   |
| 7   | 1.1900          | 15.94          | 19.85       | 35.79        | 56.00        | -20.21      | QP       | P   |
| 8   | 1.1900          | 0.70           | 19.85       | 20.55        | 46.00        | -25.45      | AVG      | P   |
| 9   | 6.3260          | 13.15          | 19.83       | 32.98        | 60.00        | -27.02      | QP       | P   |
| 10  | 6.3260          | -0.96          | 19.83       | 18.87        | 50.00        | -31.13      | AVG      | P   |
| 11  | 9.5500          | 10.96          | 19.81       | 30.77        | 60.00        | -29.23      | QP       | P   |
| 12  | 9.5500          | -1.32          | 19.81       | 18.49        | 50.00        | -31.51      | AVG      | P   |

Note:1.Level = Reading + factor; Margin = Level - Limit

2.Have pre-scan all test channel, found CH00(GFSK-1M-2402) which it was worst case, so only show the worst case' s data on this report.

### 3. Radiated Spurious Emissions

#### 3.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.247,RSS-Gen 8.9  
Test Method: KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018;  
ANSI C63.10:2020  
Test Result: PASS  
Measurement Distance: 3m

| Frequency    | Detector   | RBW    | VBW    | Value      |
|--------------|------------|--------|--------|------------|
| 9KHz-150KHz  | Quasi-peak | 200Hz  | 600Hz  | Quasi-peak |
| 150KHz-30MHz | Quasi-peak | 9KHz   | 30KHz  | Quasi-peak |
| 30MHz-1GHz   | Quasi-peak | 100KHz | 300KHz | Quasi-peak |
| Above 1GHz   | Peak       | 1MHz   | 3MHz   | Peak       |
|              | Peak       | 1MHz   | 10Hz   | Average    |

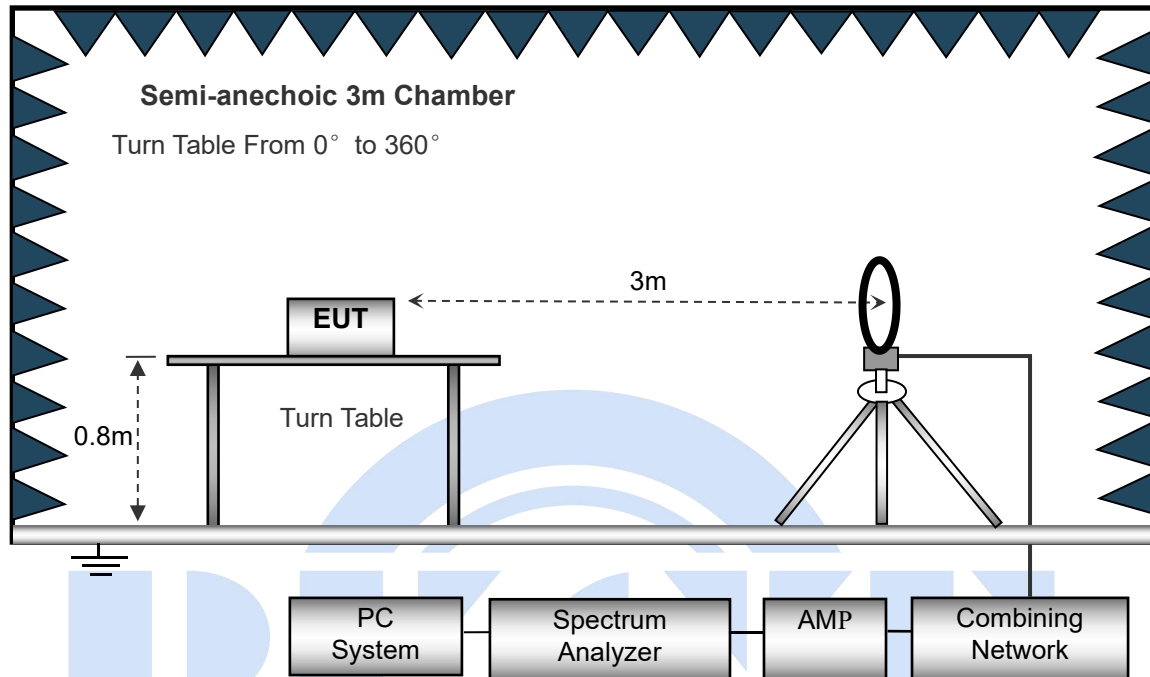
Limit:

| Frequency (MHz) | Field Strength        |              | Field Strength Limit at 3m Measurement Dist |                                    |
|-----------------|-----------------------|--------------|---------------------------------------------|------------------------------------|
|                 | uV/m                  | Distance (m) | uV/m                                        | dBuV/m                             |
| 0.009 ~ 0.490   | $2400/F(\text{kHz})$  | 300          | $10000 * 2400/F(\text{kHz})$                | $20\log(2400/F(\text{kHz})) + 80$  |
| 0.490 ~ 1.705   | $24000/F(\text{kHz})$ | 30           | $100 * 24000/F(\text{kHz})$                 | $20\log(24000/F(\text{kHz})) + 40$ |
| 1.705 ~ 30      | 30                    | 30           | $100 * 30$                                  | $20\log(30) + 40$                  |
| 30 ~ 88         | 100                   | 3            | 100                                         | $20\log(100)$                      |
| 88 ~ 216        | 150                   | 3            | 150                                         | $20\log(150)$                      |
| 216 ~ 960       | 200                   | 3            | 200                                         | $20\log(200)$                      |
| Above 960       | 500                   | 3            | 500                                         | $20\log(500)$                      |

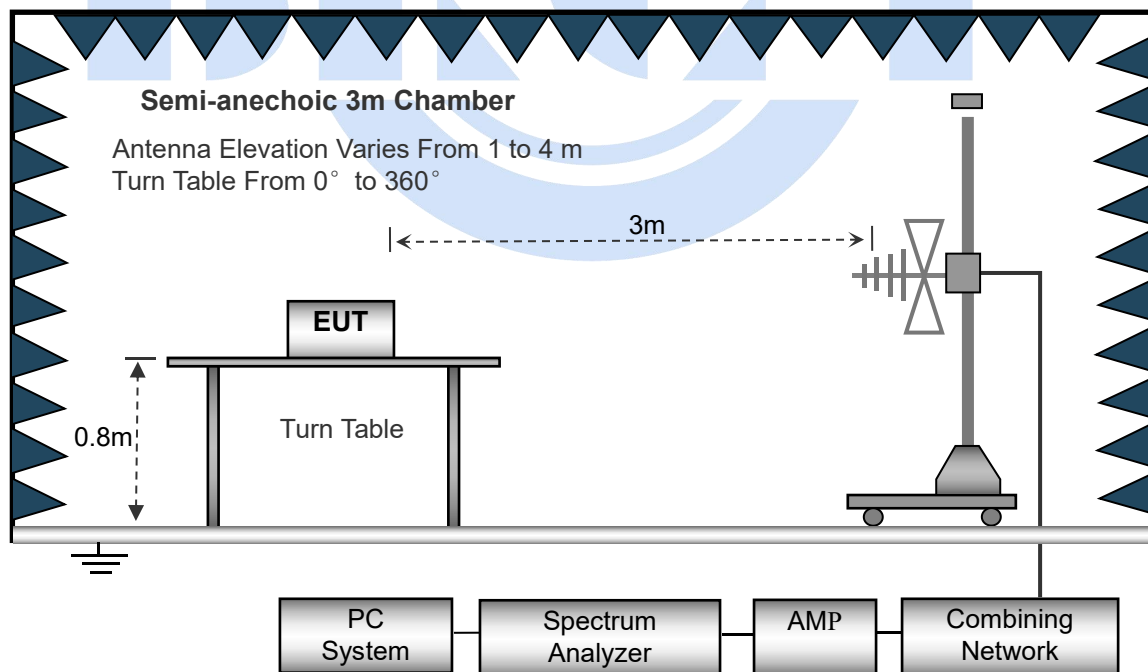
### 3.2.Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10.

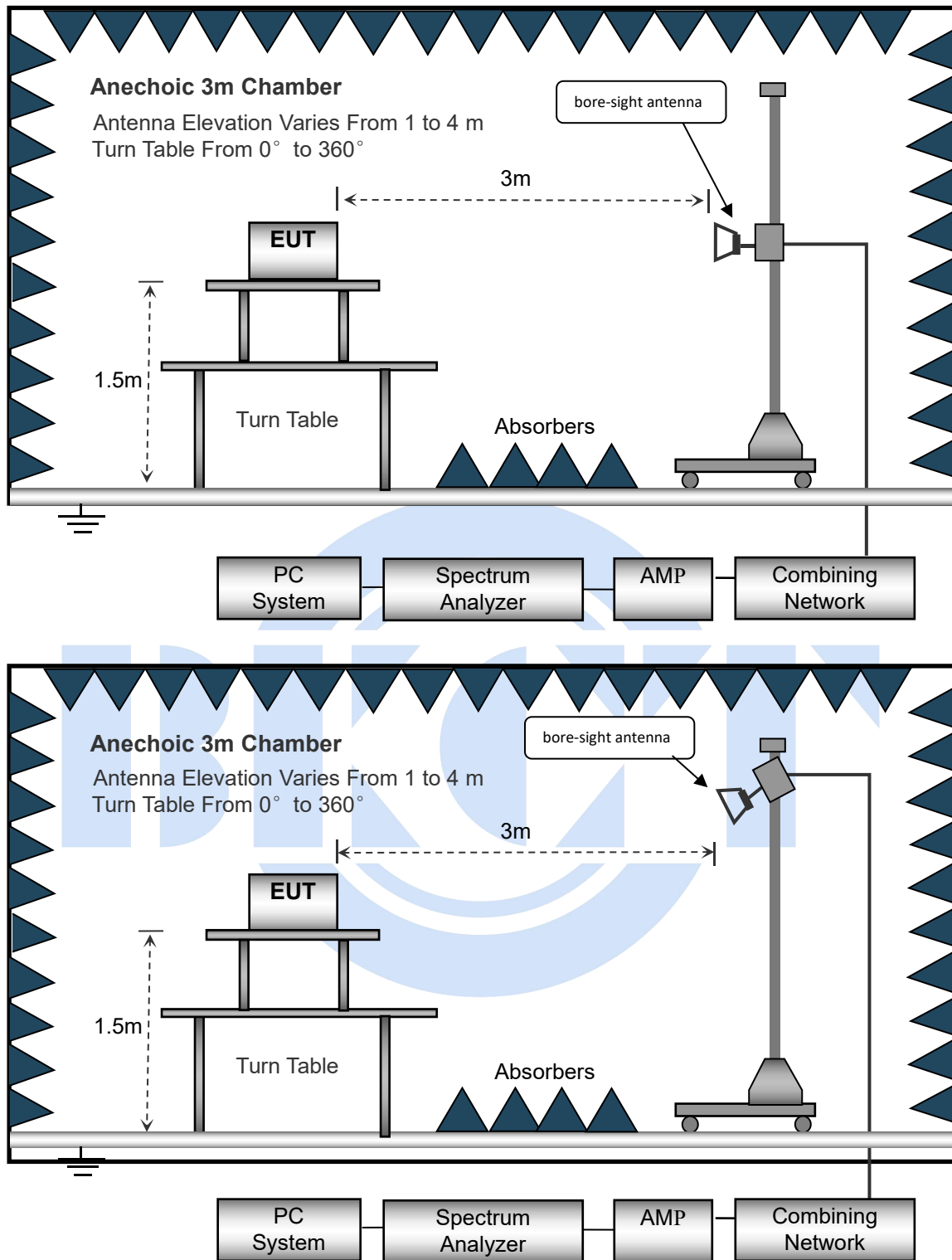
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



### 3.3.Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in Z axis,so the worst data were shown as follow.
8. A 2.4GHz high - pass filter is used during radiated emissions above 1GHz measurement.



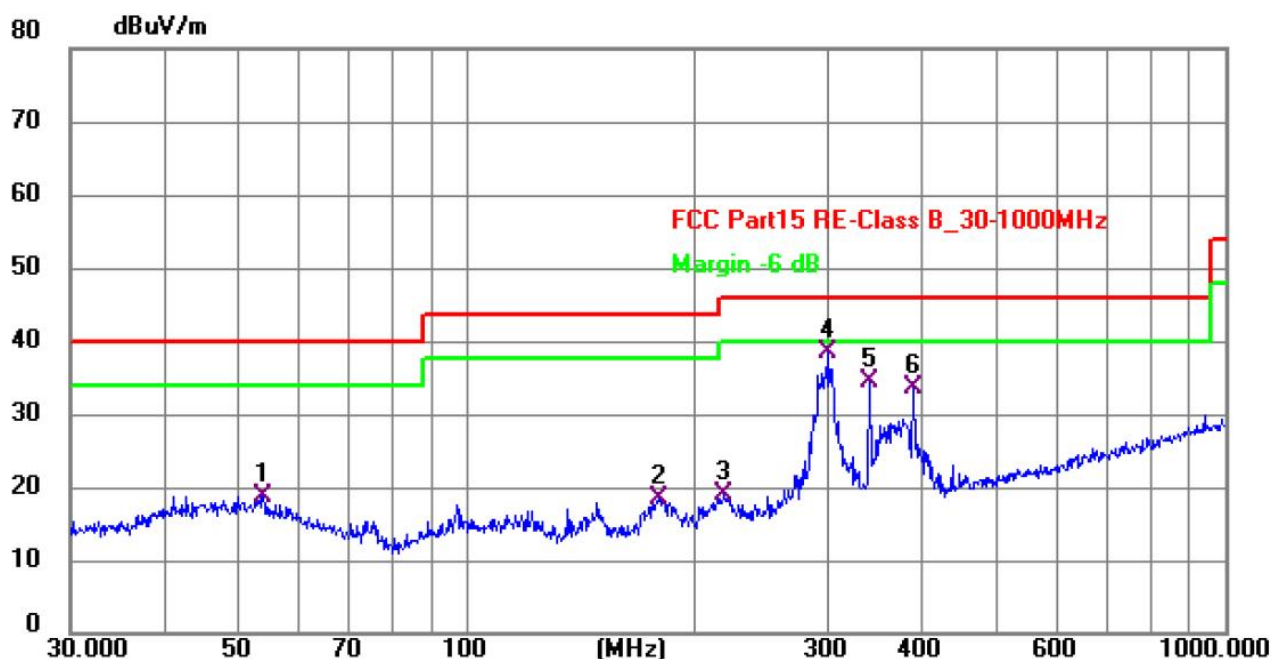
### 3.4.Test Result

Test Frequency: 9KHz~30MHz

The measurements were more than 20 dB below the limit and not reported.

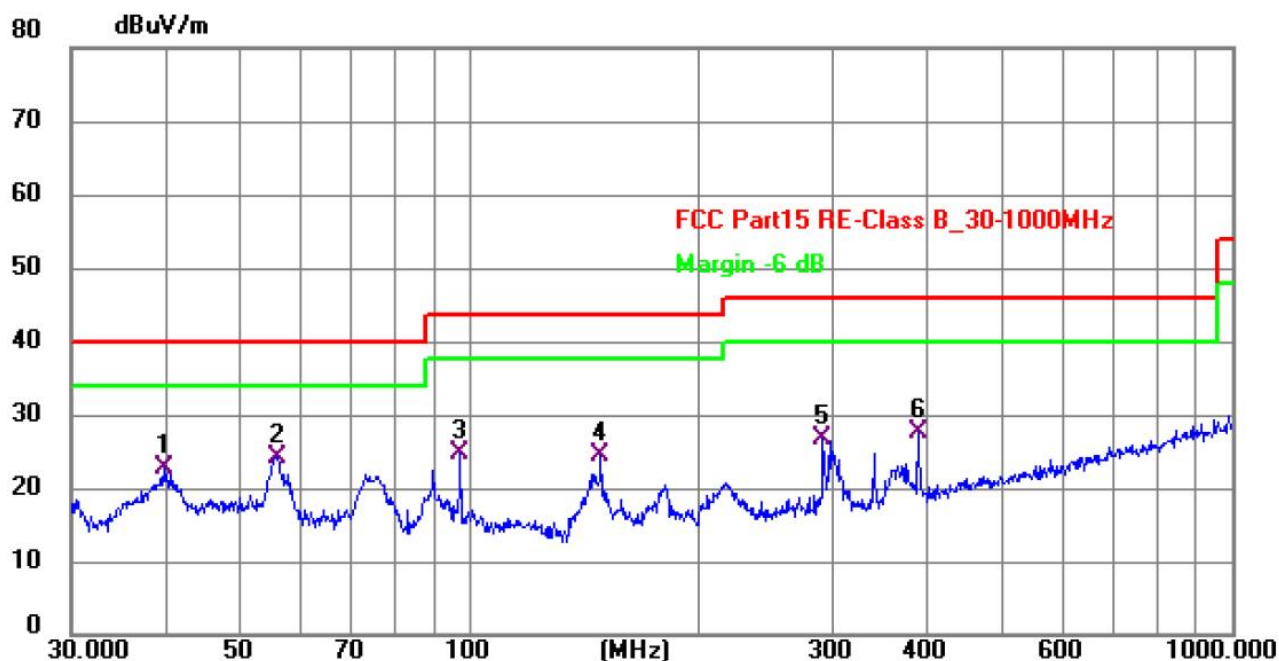
Test Frequency : 30MHz ~ 1GHz

| Radiation Emission Test Data |         |                    |            |
|------------------------------|---------|--------------------|------------|
| Temperature:                 | 25.1℃   | Relative Humidity: | 56%        |
| Pressure:                    | 1008hPa | Phase :            | Horizontal |
| Test Voltage :               | DC 3.7V | Test Mode          | BLE1M CH00 |



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1   | 53.8818         | 29.10          | -10.38        | 18.72          | 40.00          | -21.28      | QP       |
| 2   | 179.3863        | 30.46          | -12.13        | 18.33          | 43.50          | -25.17      | QP       |
| 3   | 218.3085        | 29.94          | -10.91        | 19.03          | 46.00          | -26.97      | QP       |
| 4   | 300.3672        | 48.13          | -9.66         | 38.47          | 46.00          | -7.53       | QP       |
| 5   | 340.7817        | 43.71          | -9.19         | 34.52          | 46.00          | -11.48      | QP       |
| 6   | 389.3549        | 42.13          | -8.60         | 33.53          | 46.00          | -12.47      | QP       |

| Radiation Emission Test Data |         |                    |            |
|------------------------------|---------|--------------------|------------|
| Temperature:                 | 25.1°C  | Relative Humidity: | 56%        |
| Pressure:                    | 1008hPa | Phase :            | Vertical   |
| Test Voltage :               | DC 3.7V | Test Mode          | BLE1M CH00 |



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1   | 39.7146         | 33.50          | -10.77        | 22.73          | 40.00          | -17.27      | QP       |
| 2   | 55.8047         | 34.89          | -10.71        | 24.18          | 40.00          | -15.82      | QP       |
| 3   | 97.1148         | 37.13          | -12.50        | 24.63          | 43.50          | -18.87      | QP       |
| 4   | 148.4410        | 39.25          | -14.87        | 24.38          | 43.50          | -19.12      | QP       |
| 5   | 291.0360        | 36.47          | -9.81         | 26.66          | 46.00          | -19.34      | QP       |
| 6   | 387.9920        | 36.30          | -8.62         | 27.68          | 46.00          | -18.32      | QP       |

Note:

1.Level = Reading + factor; Margin = Level - Limit

2.Have pre-scan all test channel, found CH00(GFSK-1M-2402) which it was worst case, so only show the worst case' s data on this report.

1GHz~25GHz

| Polar (H/V)         | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---------------------|-----------------|----------------------|--------------------|-----------------|---------------------|-------------------------|-----------------|-------------|---------------|
| Low Channel:2402MHz |                 |                      |                    |                 |                     |                         |                 |             |               |
| V                   | 4804.00         | 66.05                | 30.55              | 5.77            | 24.66               | 65.93                   | 74.00           | -8.07       | Pk            |
| V                   | 4804.00         | 46.69                | 30.55              | 5.77            | 24.66               | 46.57                   | 54.00           | -7.43       | AV            |
| V                   | 7206.00         | 66.78                | 30.33              | 6.32            | 24.55               | 67.32                   | 74.00           | -6.68       | Pk            |
| V                   | 7206.00         | 46.30                | 30.33              | 6.32            | 24.55               | 46.84                   | 54.00           | -7.16       | AV            |
| V                   | 9608.00         | 66.98                | 30.85              | 7.45            | 24.69               | 68.27                   | 74.00           | -5.73       | Pk            |
| V                   | 9608.00         | 46.53                | 30.85              | 7.45            | 24.69               | 47.82                   | 54.00           | -6.18       | AV            |
| V                   | 12010.00        | 66.09                | 31.02              | 8.99            | 25.57               | 69.63                   | 74.00           | -4.37       | Pk            |
| V                   | 12010.00        | 47.01                | 31.02              | 8.99            | 25.57               | 50.55                   | 54.00           | -3.45       | AV            |
| H                   | 4804.00         | 66.42                | 30.55              | 5.77            | 24.66               | 66.30                   | 74.00           | -7.70       | Pk            |
| H                   | 4804.00         | 47.20                | 30.55              | 5.77            | 24.66               | 47.08                   | 54.00           | -6.92       | AV            |
| H                   | 7206.00         | 66.95                | 30.33              | 6.32            | 24.55               | 67.49                   | 74.00           | -6.51       | Pk            |
| H                   | 7206.00         | 46.65                | 30.33              | 6.32            | 24.55               | 47.19                   | 54.00           | -6.81       | AV            |
| H                   | 9608.00         | 66.53                | 30.85              | 7.45            | 24.69               | 67.82                   | 74.00           | -6.18       | Pk            |
| H                   | 9608.00         | 46.41                | 30.85              | 7.45            | 24.69               | 47.70                   | 54.00           | -6.30       | AV            |
| H                   | 12010.00        | 66.70                | 31.02              | 8.99            | 25.57               | 70.24                   | 74.00           | -3.76       | Pk            |
| H                   | 12010.00        | 46.42                | 31.02              | 8.99            | 25.57               | 49.96                   | 54.00           | -4.04       | AV            |

| Polar (H/V)            | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|------------------------|-----------------|----------------------|--------------------|-----------------|---------------------|-------------------------|-----------------|-------------|---------------|
| Middle Channel:2440MHz |                 |                      |                    |                 |                     |                         |                 |             |               |
| V                      | 4880.00         | 66.40                | 30.55              | 5.77            | 24.66               | 66.28                   | 74.00           | -7.72       | Pk            |
| V                      | 4880.00         | 45.99                | 30.55              | 5.77            | 24.66               | 45.87                   | 54.00           | -8.13       | AV            |
| V                      | 7320.00         | 66.44                | 30.33              | 6.32            | 24.55               | 66.98                   | 74.00           | -7.02       | Pk            |
| V                      | 7320.00         | 46.27                | 30.33              | 6.32            | 24.55               | 46.81                   | 54.00           | -7.19       | AV            |
| V                      | 9760.00         | 66.31                | 30.85              | 7.45            | 24.69               | 67.60                   | 74.00           | -6.40       | Pk            |
| V                      | 9760.00         | 46.65                | 30.85              | 7.45            | 24.69               | 47.94                   | 54.00           | -6.06       | AV            |
| V                      | 12200.00        | 66.27                | 31.02              | 8.99            | 25.57               | 69.81                   | 74.00           | -4.19       | Pk            |
| V                      | 12200.00        | 46.98                | 31.02              | 8.99            | 25.57               | 50.52                   | 54.00           | -3.48       | AV            |
| H                      | 4880.00         | 66.67                | 30.55              | 5.77            | 24.66               | 66.55                   | 74.00           | -7.45       | Pk            |
| H                      | 4880.00         | 46.32                | 30.55              | 5.77            | 24.66               | 46.20                   | 54.00           | -7.80       | AV            |
| H                      | 7320.00         | 66.80                | 30.33              | 6.32            | 24.55               | 67.34                   | 74.00           | -6.66       | Pk            |
| H                      | 7320.00         | 46.63                | 30.33              | 6.32            | 24.55               | 47.17                   | 54.00           | -6.83       | AV            |
| H                      | 9760.00         | 66.90                | 30.85              | 7.45            | 24.69               | 68.19                   | 74.00           | -5.81       | Pk            |
| H                      | 9760.00         | 46.28                | 30.85              | 7.45            | 24.69               | 47.57                   | 54.00           | -6.43       | AV            |
| H                      | 12200.00        | 66.71                | 31.02              | 8.99            | 25.57               | 70.25                   | 74.00           | -3.75       | Pk            |
| H                      | 12200.00        | 47.06                | 31.02              | 8.99            | 25.57               | 50.60                   | 54.00           | -3.40       | AV            |

| Polar<br>(H/V)       | Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-ampli<br>fier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Detector<br>Type |
|----------------------|--------------------|----------------------------|---------------------------|-----------------------|---------------------------|-------------------------------|--------------------|----------------|------------------|
| High Channel:2480MHz |                    |                            |                           |                       |                           |                               |                    |                |                  |
| V                    | 4960.00            | 66.43                      | 30.55                     | 5.77                  | 24.66                     | 66.31                         | 74.00              | -7.69          | Pk               |
| V                    | 4960.00            | 46.24                      | 30.55                     | 5.77                  | 24.66                     | 46.12                         | 54.00              | -7.88          | AV               |
| V                    | 7440.00            | 66.22                      | 30.33                     | 6.32                  | 24.55                     | 66.76                         | 74.00              | -7.24          | Pk               |
| V                    | 7440.00            | 46.67                      | 30.33                     | 6.32                  | 24.55                     | 47.21                         | 54.00              | -6.79          | AV               |
| V                    | 9920.00            | 66.25                      | 30.85                     | 7.45                  | 24.69                     | 67.54                         | 74.00              | -6.46          | Pk               |
| V                    | 9920.00            | 46.84                      | 30.85                     | 7.45                  | 24.69                     | 48.13                         | 54.00              | -5.87          | AV               |
| V                    | 12400.00           | 66.46                      | 31.02                     | 8.99                  | 25.57                     | 70.00                         | 74.00              | -4.00          | Pk               |
| V                    | 12400.00           | 46.35                      | 31.02                     | 8.99                  | 25.57                     | 49.89                         | 54.00              | -4.11          | AV               |
| H                    | 4960.00            | 66.07                      | 30.55                     | 5.77                  | 24.66                     | 65.95                         | 74.00              | -8.05          | Pk               |
| H                    | 4960.00            | 46.23                      | 30.55                     | 5.77                  | 24.66                     | 46.11                         | 54.00              | -7.89          | AV               |
| H                    | 7440.00            | 66.25                      | 30.33                     | 6.32                  | 24.55                     | 66.79                         | 74.00              | -7.21          | Pk               |
| H                    | 7440.00            | 46.54                      | 30.33                     | 6.32                  | 24.55                     | 47.08                         | 54.00              | -6.92          | AV               |
| H                    | 9920.00            | 66.14                      | 30.85                     | 7.45                  | 24.69                     | 67.43                         | 74.00              | -6.57          | Pk               |
| H                    | 9920.00            | 46.62                      | 30.85                     | 7.45                  | 24.69                     | 47.91                         | 54.00              | -6.09          | AV               |
| H                    | 12400.00           | 66.26                      | 31.02                     | 8.99                  | 25.57                     | 69.80                         | 74.00              | -4.20          | Pk               |
| H                    | 12400.00           | 46.80                      | 31.02                     | 8.99                  | 25.57                     | 50.34                         | 54.00              | -3.66          | AV               |

Note: 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier;

Margin= Emission Level - Limit

2. If peak below the average limit, the average emission was no test.

3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

4. Have pre-scan all test channel, found GFSK-1M which it was worst case, so only show the worst case' s data on this report.

## Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz

|                                                                                                                                                                                                                                                             | Polar<br>(H/V)        | Frequenc<br>y<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB/m) | Emission<br>level<br>(dBuV/m) | Limit<br>(dBuV<br>/m) | Detec<br>tor<br>Type | Result |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------|----------------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|-----------------------|----------------------|--------|
| GFSK                                                                                                                                                                                                                                                        | Low Channel: 2402MHz  |                        |                            |                           |                       |                             |                               |                       |                      |        |
|                                                                                                                                                                                                                                                             | H                     | 2310.00                | 66.23                      | 30.22                     | 4.85                  | 23.98                       | 64.84                         | 74.00                 | PK                   | PASS   |
|                                                                                                                                                                                                                                                             | H                     | 2310.00                | 46.52                      | 30.22                     | 4.85                  | 23.98                       | 45.13                         | 54.00                 | AV                   | PASS   |
|                                                                                                                                                                                                                                                             | H                     | 2390.00                | 63.80                      | 30.22                     | 4.85                  | 23.98                       | 62.41                         | 74.00                 | PK                   | PASS   |
|                                                                                                                                                                                                                                                             | H                     | 2390.00                | 46.80                      | 30.22                     | 4.85                  | 23.98                       | 45.41                         | 54.00                 | AV                   | PASS   |
|                                                                                                                                                                                                                                                             | H                     | 2400.00                | 65.47                      | 30.22                     | 4.85                  | 23.98                       | 64.08                         | 74.00                 | PK                   | PASS   |
|                                                                                                                                                                                                                                                             | H                     | 2400.00                | 46.65                      | 30.22                     | 4.85                  | 23.98                       | 45.26                         | 54.00                 | AV                   | PASS   |
|                                                                                                                                                                                                                                                             | V                     | 2310.00                | 66.89                      | 30.22                     | 4.85                  | 23.98                       | 65.5                          | 74.00                 | PK                   | PASS   |
|                                                                                                                                                                                                                                                             | V                     | 2310.00                | 46.50                      | 30.22                     | 4.85                  | 23.98                       | 45.11                         | 54.00                 | AV                   | PASS   |
|                                                                                                                                                                                                                                                             | V                     | 2390.00                | 59.21                      | 30.22                     | 4.85                  | 23.98                       | 57.82                         | 74.00                 | PK                   | PASS   |
|                                                                                                                                                                                                                                                             | V                     | 2390.00                | 46.39                      | 30.22                     | 4.85                  | 23.98                       | 45                            | 54.00                 | AV                   | PASS   |
|                                                                                                                                                                                                                                                             | V                     | 2400.00                | 61.46                      | 30.22                     | 4.85                  | 23.98                       | 60.07                         | 74.00                 | PK                   | PASS   |
|                                                                                                                                                                                                                                                             | V                     | 2400.00                | 46.96                      | 30.22                     | 4.85                  | 23.98                       | 45.57                         | 54.00                 | AV                   | PASS   |
|                                                                                                                                                                                                                                                             | High Channel: 2480MHz |                        |                            |                           |                       |                             |                               |                       |                      |        |
|                                                                                                                                                                                                                                                             | H                     | 2483.50                | 63.89                      | 30.22                     | 4.85                  | 23.98                       | 62.5                          | 74.00                 | PK                   | PASS   |
|                                                                                                                                                                                                                                                             | H                     | 2483.50                | 47.03                      | 30.22                     | 4.85                  | 23.98                       | 45.64                         | 54.00                 | AV                   | PASS   |
|                                                                                                                                                                                                                                                             | H                     | 2500.00                | 65.13                      | 30.22                     | 4.85                  | 23.98                       | 63.74                         | 74.00                 | PK                   | PASS   |
|                                                                                                                                                                                                                                                             | H                     | 2500.00                | 46.24                      | 30.22                     | 4.85                  | 23.98                       | 44.85                         | 54.00                 | AV                   | PASS   |
|                                                                                                                                                                                                                                                             | V                     | 2483.50                | 66.34                      | 30.22                     | 4.85                  | 23.98                       | 64.95                         | 74.00                 | PK                   | PASS   |
|                                                                                                                                                                                                                                                             | V                     | 2483.50                | 46.94                      | 30.22                     | 4.85                  | 23.98                       | 45.55                         | 54.00                 | AV                   | PASS   |
|                                                                                                                                                                                                                                                             | V                     | 2500.00                | 59.65                      | 30.22                     | 4.85                  | 23.98                       | 58.26                         | 74.00                 | PK                   | PASS   |
|                                                                                                                                                                                                                                                             | V                     | 2500.00                | 46.94                      | 30.22                     | 4.85                  | 23.98                       | 45.55                         | 54.00                 | AV                   | PASS   |
| Remark:<br>1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier; Margin= Emission Level - Limit<br>2. Have pre-scan all test channel, found GFSK-1M which it was worst case, so only show the worst case' s data on this report. |                       |                        |                            |                           |                       |                             |                               |                       |                      |        |

## 4. Conducted Spurious Emissions

### 4.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247  
Test Method: KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018;  
ANSI C63.10:2020  
Test Result: PASS

#### Limit:

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 Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

### 4.2.Test Setup



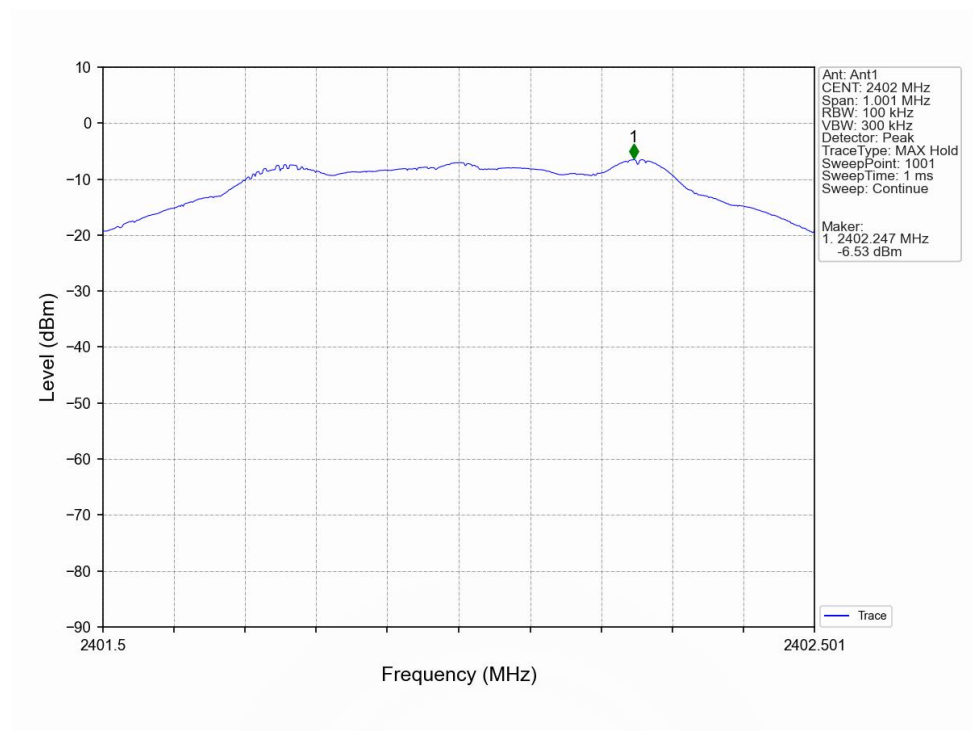
### 4.3.Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer:
  - a) Set instrument center frequency to DTS channel center frequency.
  - b) Set the span to  $\approx 1.5$  times the DTS bandwidth.
  - c) Set the RBW = 100 kHz.
  - d) Set the VBW  $\approx [3 \times \text{RBW}]$ .
  - e) Detector = peak.
  - f) Sweep time = auto couple.
  - g) Trace mode = max hold.
  - h) Allow trace to fully stabilize.
  - i) Use the peak marker function to determine the maximum PSD level.

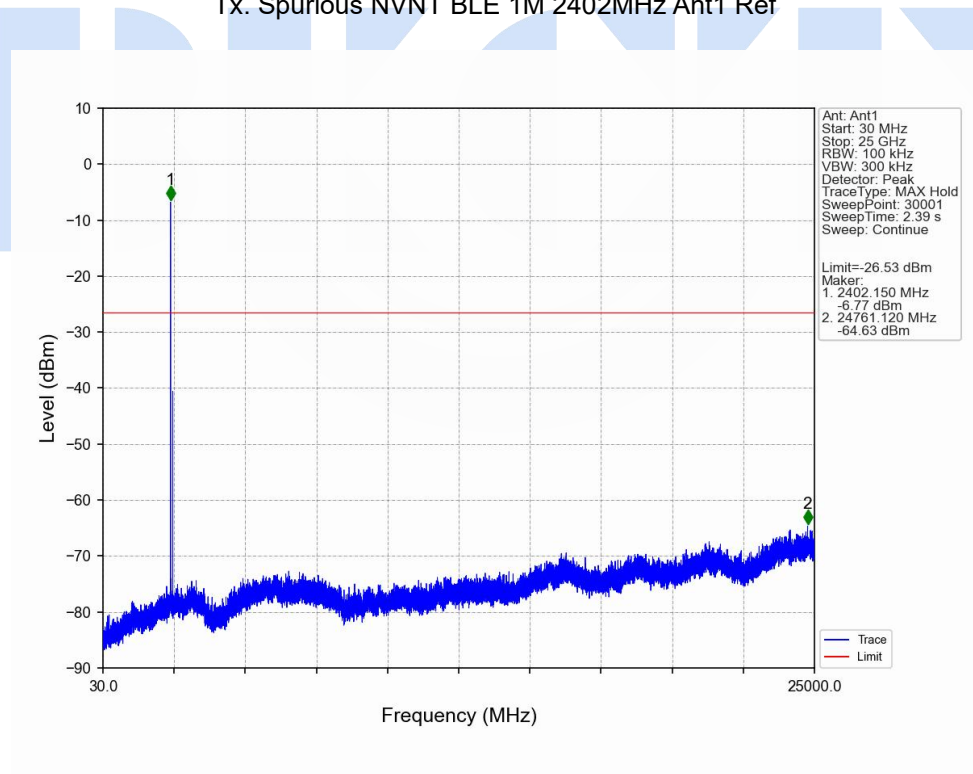
Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

### 4.4.Test Result

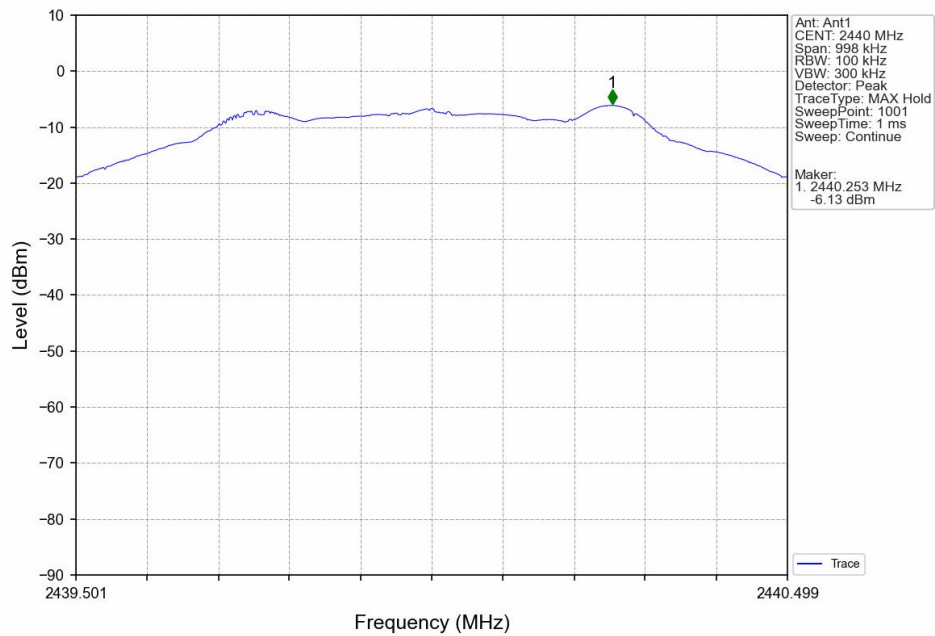
| Mode   | Frequency (MHz) | Max Value (dBm) | Limit (dBm) | Verdict |
|--------|-----------------|-----------------|-------------|---------|
| BLE 1M | 2402            | -64.63          | -26.53      | Pass    |
| BLE 1M | 2440            | -65.12          | -26.13      | Pass    |
| BLE 1M | 2480            | -63.91          | -26.48      | Pass    |
| BLE 2M | 2402            | -65.17          | -27.01      | Pass    |
| BLE 2M | 2440            | -64.11          | -26.72      | Pass    |
| BLE 2M | 2480            | -61.75          | -26.91      | Pass    |



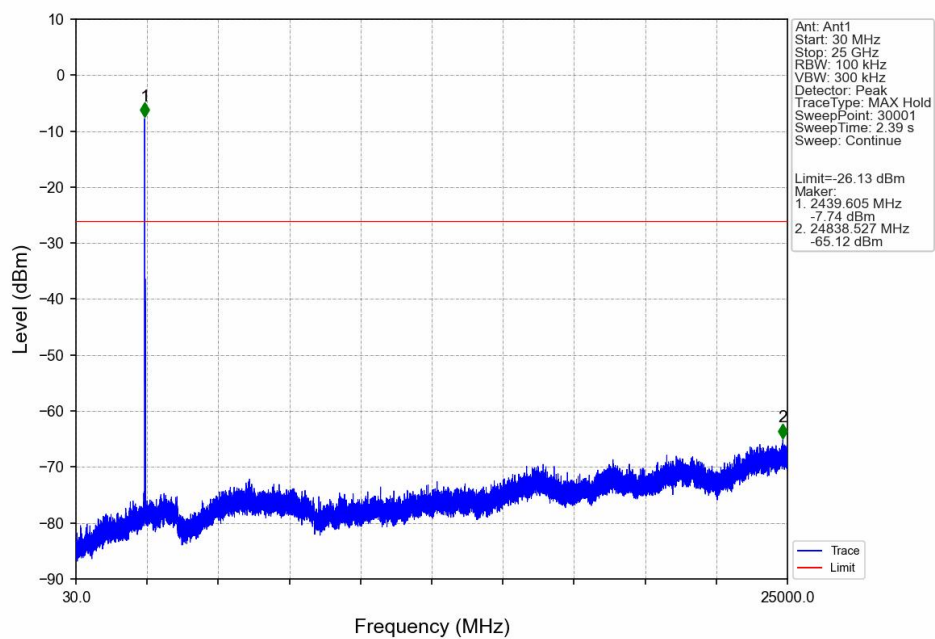
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



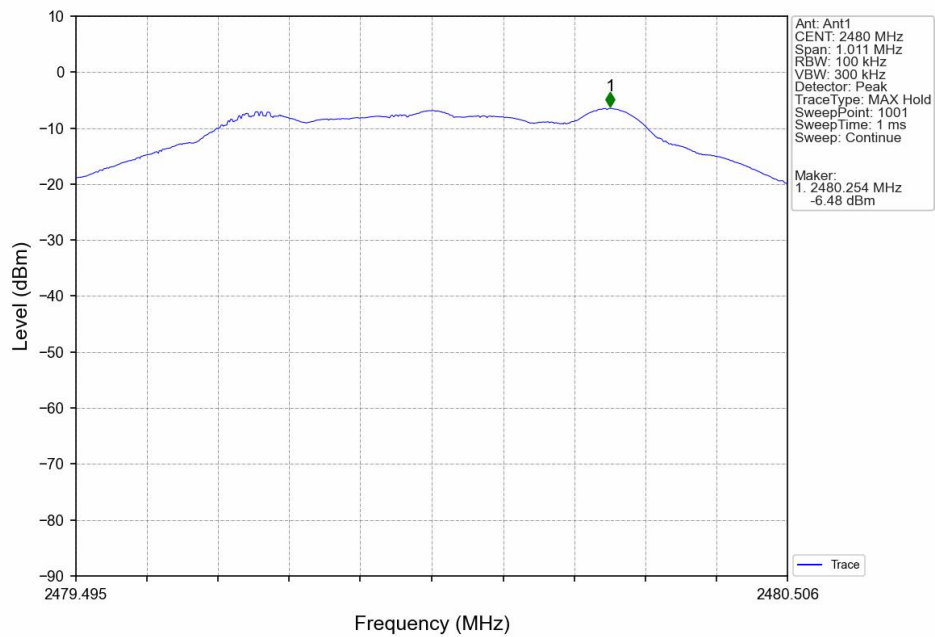
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



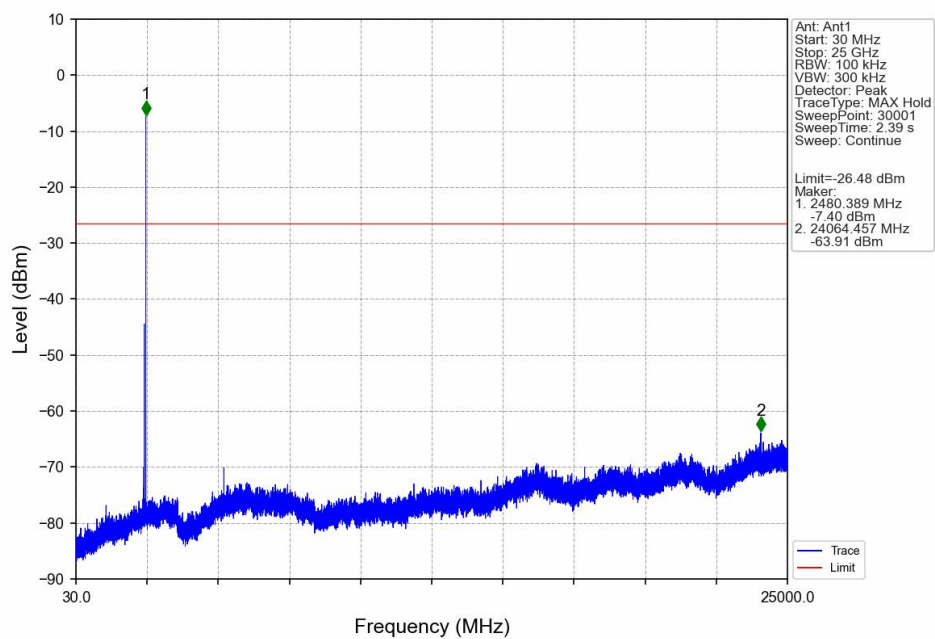
Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



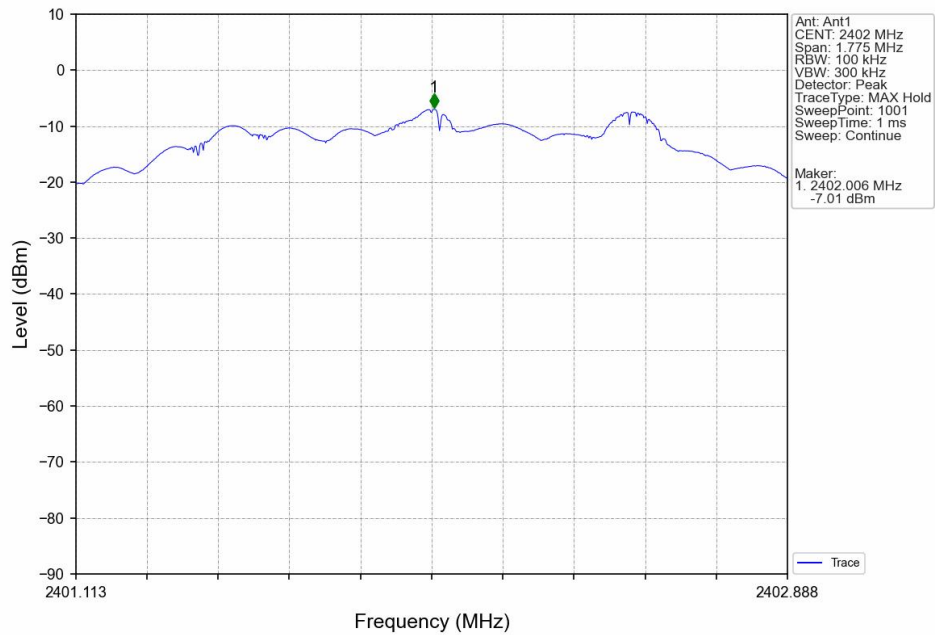
Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



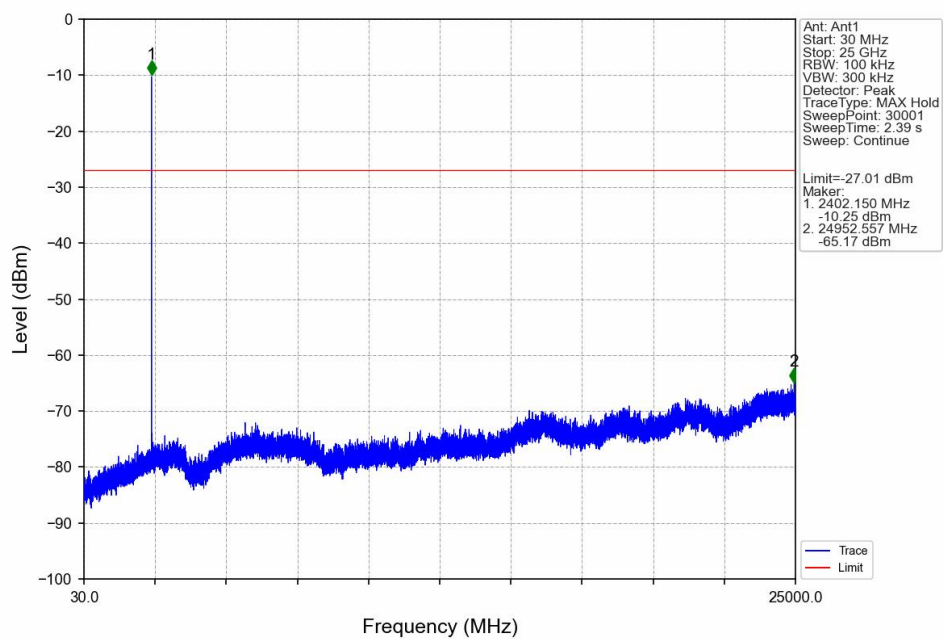
Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



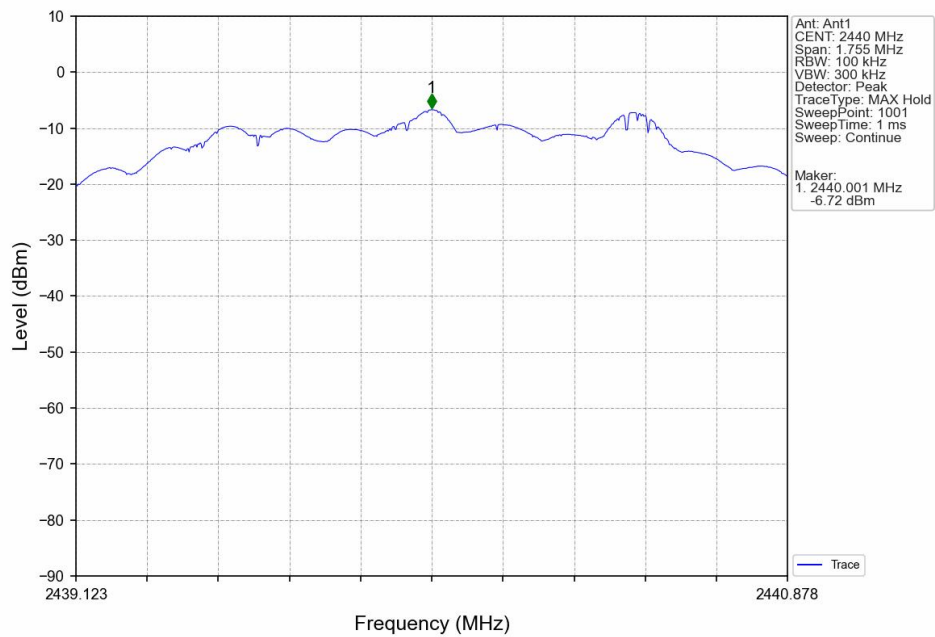
Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



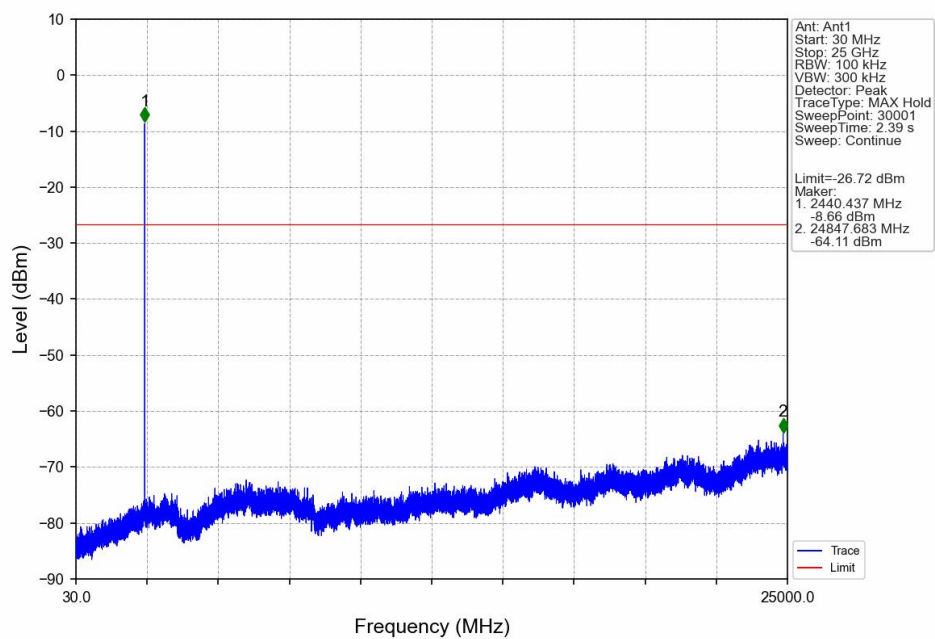
Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Ref



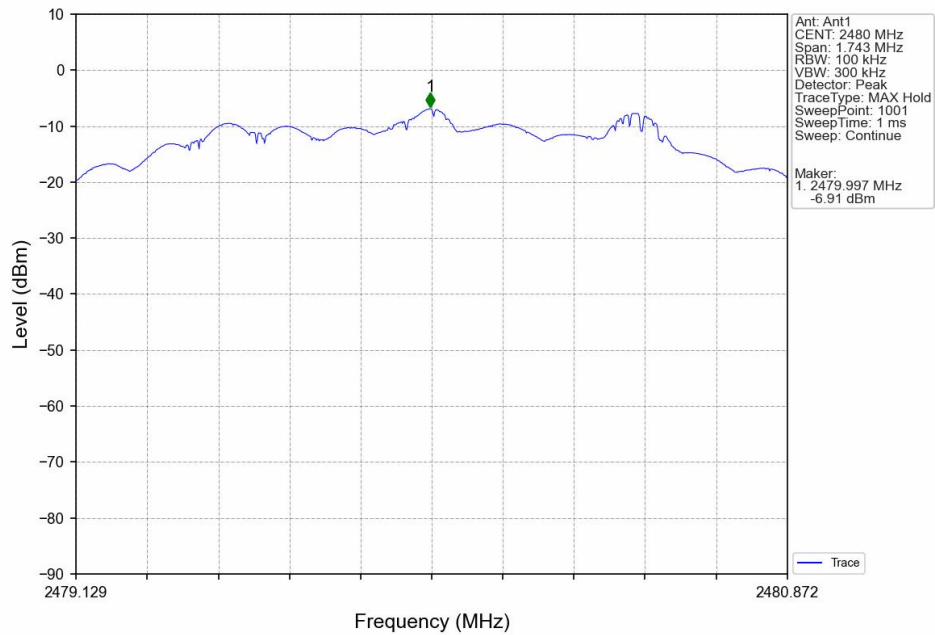
Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Emission



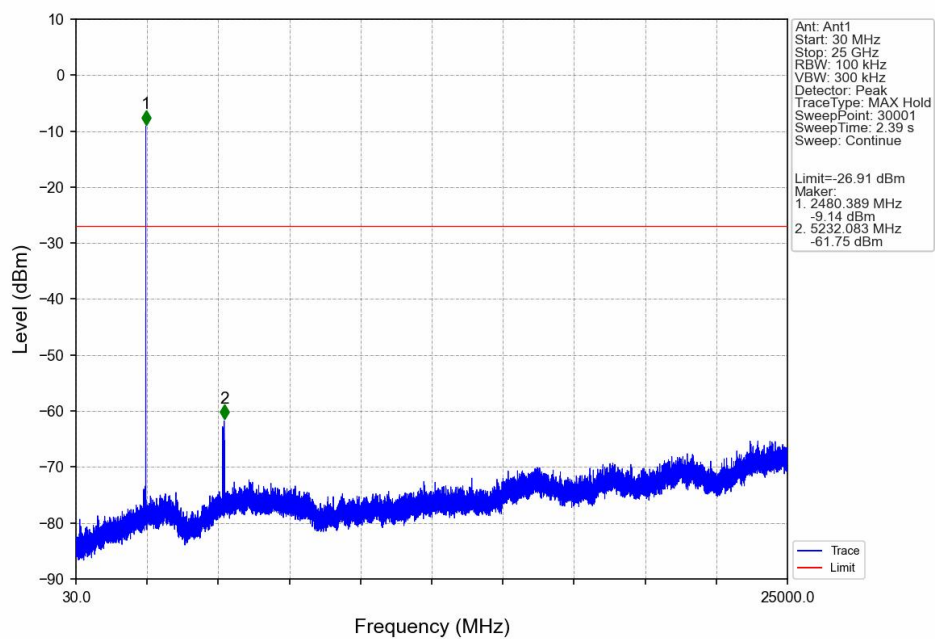
Tx. Spurious NVNT BLE2M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Emission



Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Emission

## 5. Band Edge Measurement

### 5.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247,RSS-Gen 8.9

Test Method: KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018;

ANSI C63.10:2020

Test Limit: Regulation 15.247 (d),In any 100 kHz bandwidth outside the frequency band 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 Mode: Transmitting

### 5.2.Test setup

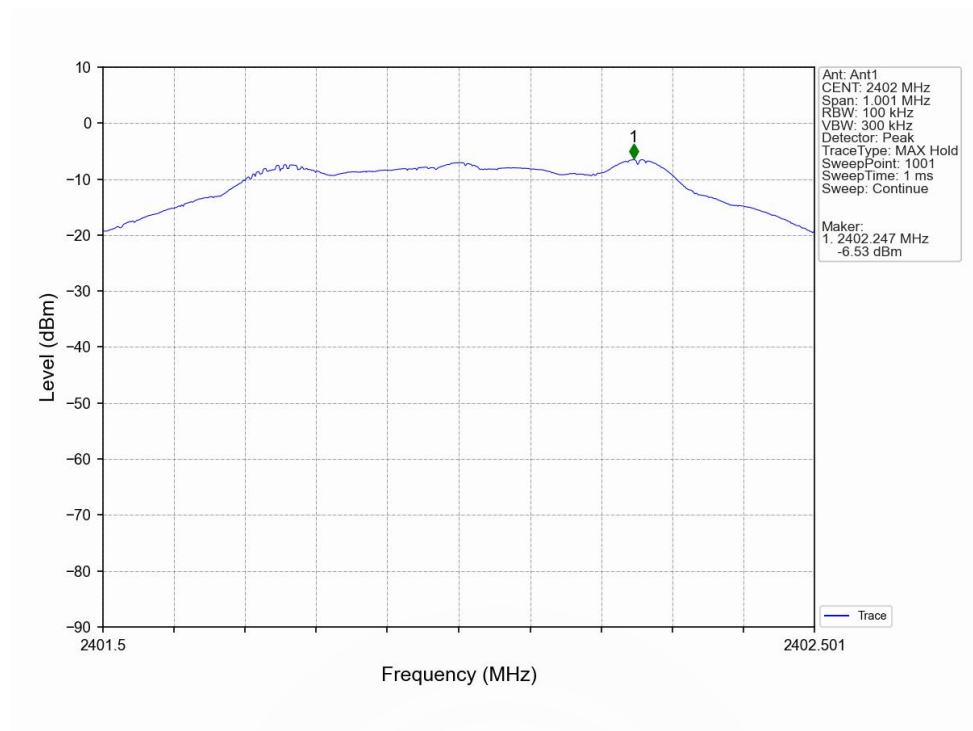


### 5.3.Test Procedure

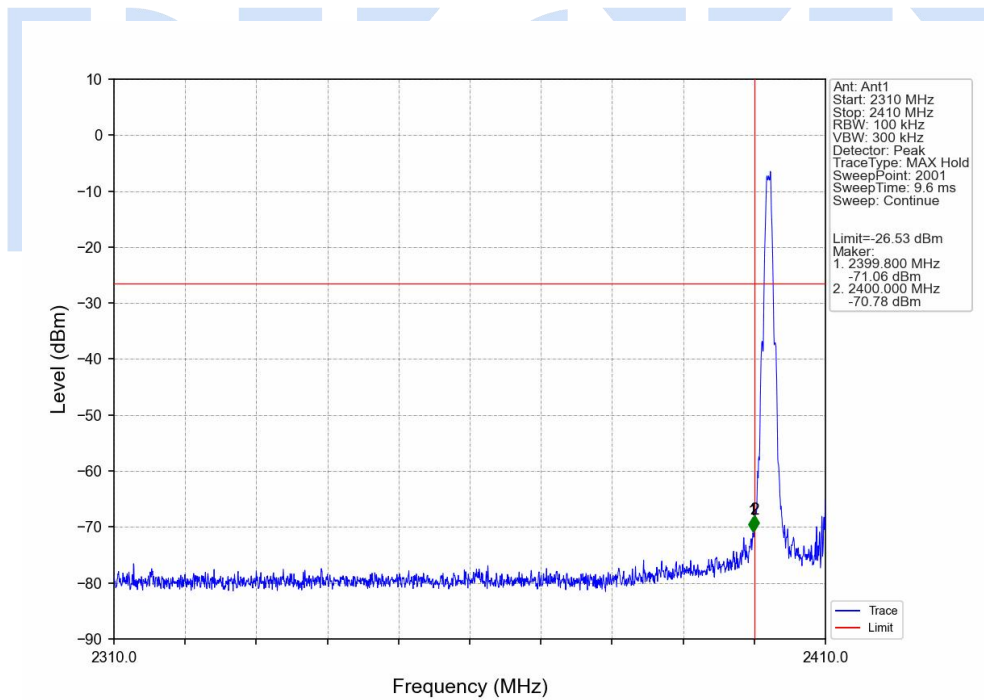
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

### 5.4.Test Result

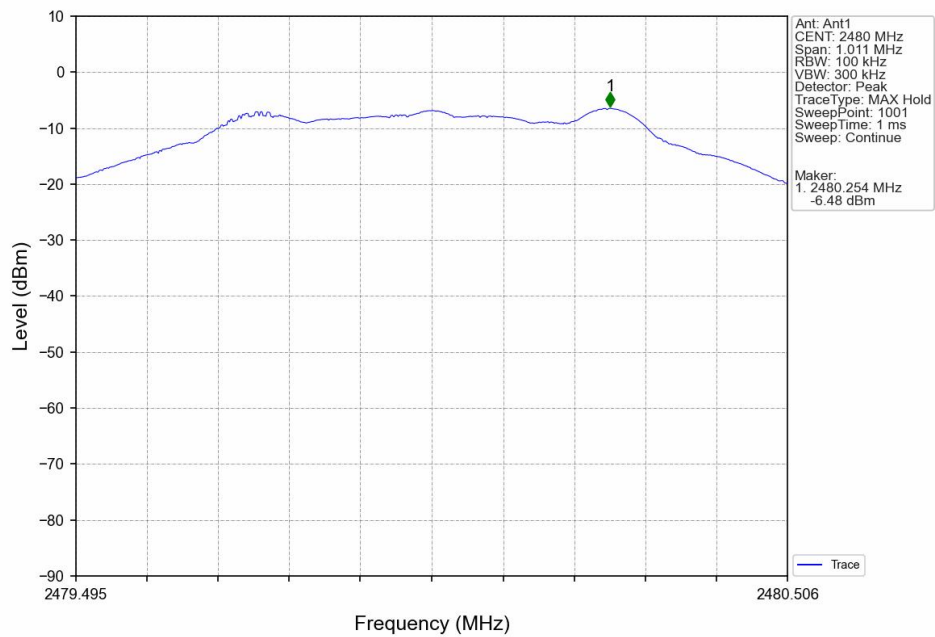
| Mode   | Frequency (MHz) | Max Value (dBm) | Limit (dBm) | Verdict |
|--------|-----------------|-----------------|-------------|---------|
| BLE 1M | 2402            | -71.06          | -26.53      | Pass    |
| BLE 1M | 2480            | -73.33          | -26.48      | Pass    |
| BLE 2M | 2402            | -41.27          | -27.01      | Pass    |
| BLE 2M | 2480            | -69.87          | -26.91      | Pass    |



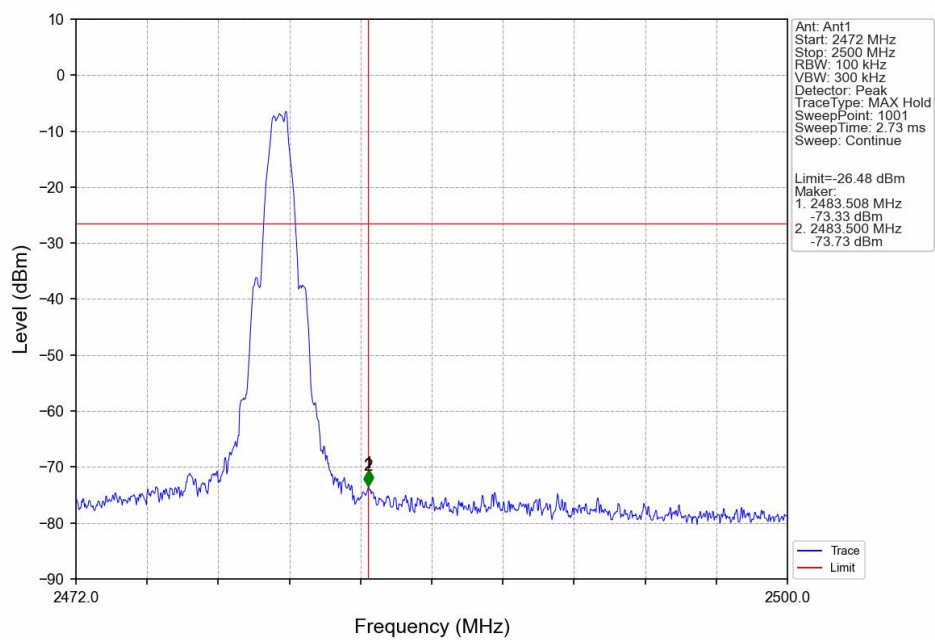
Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



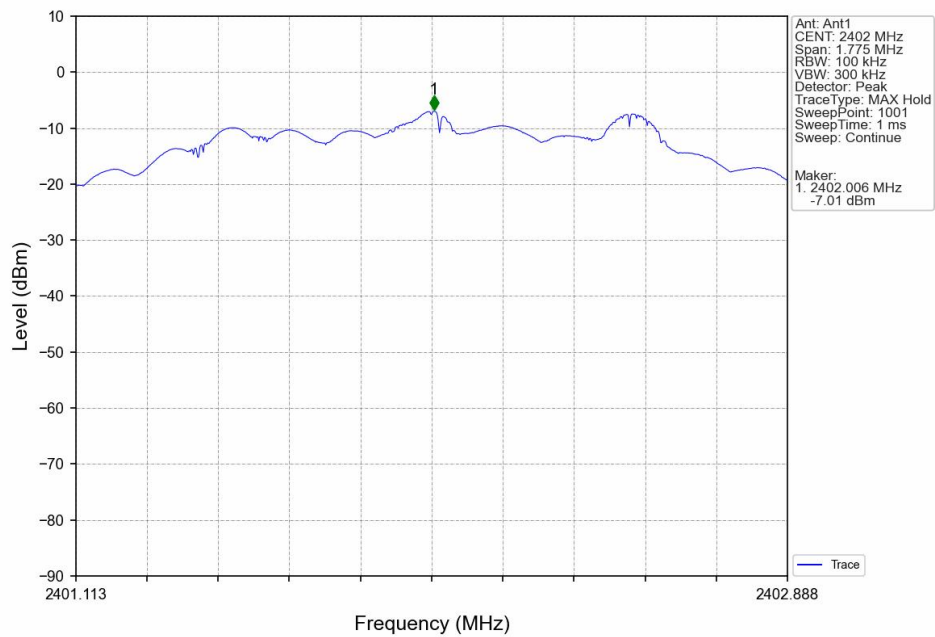
Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



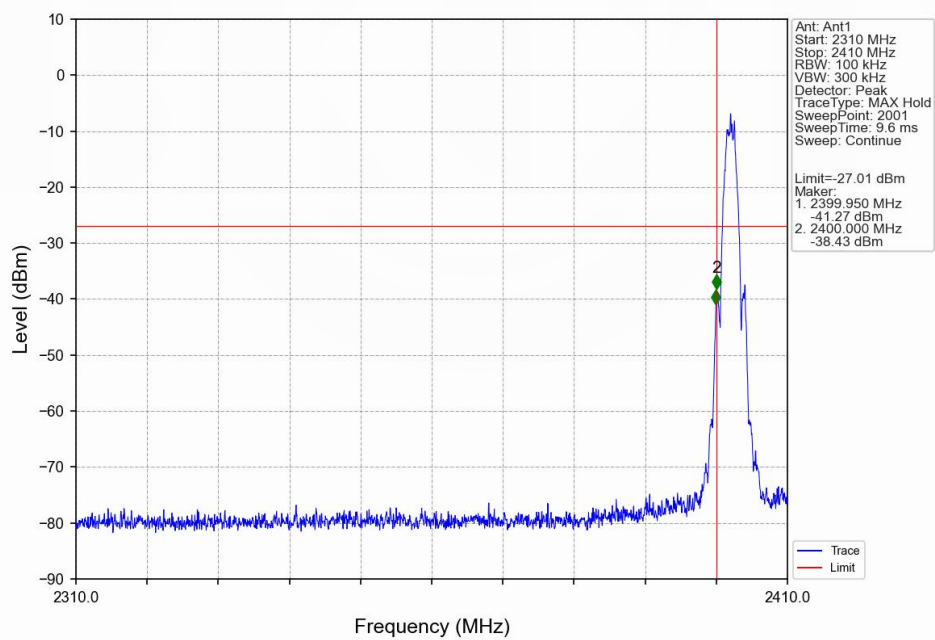
Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



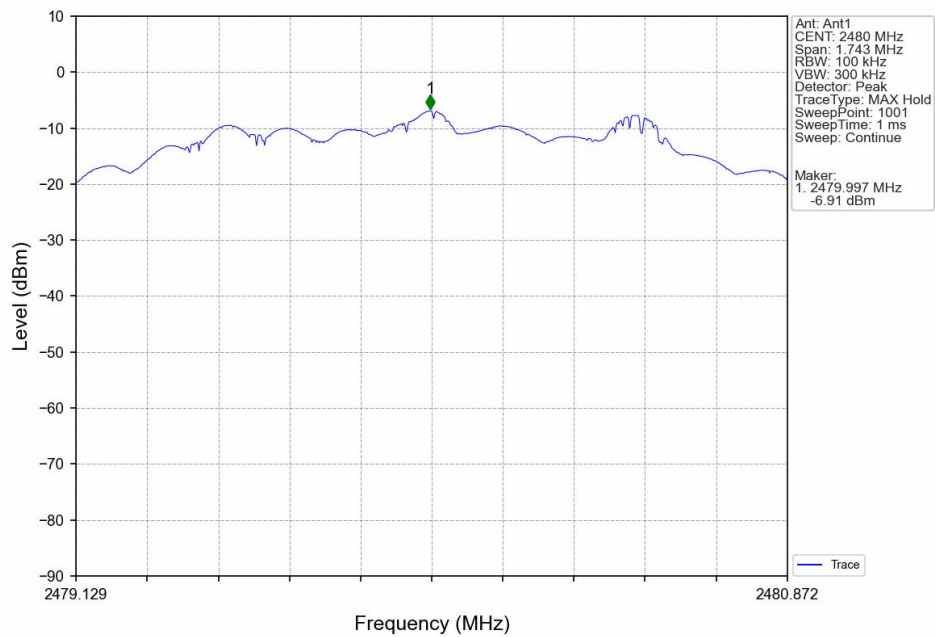
Band Edge NVNT BLE 1M 2480MHz Ant1 Emission



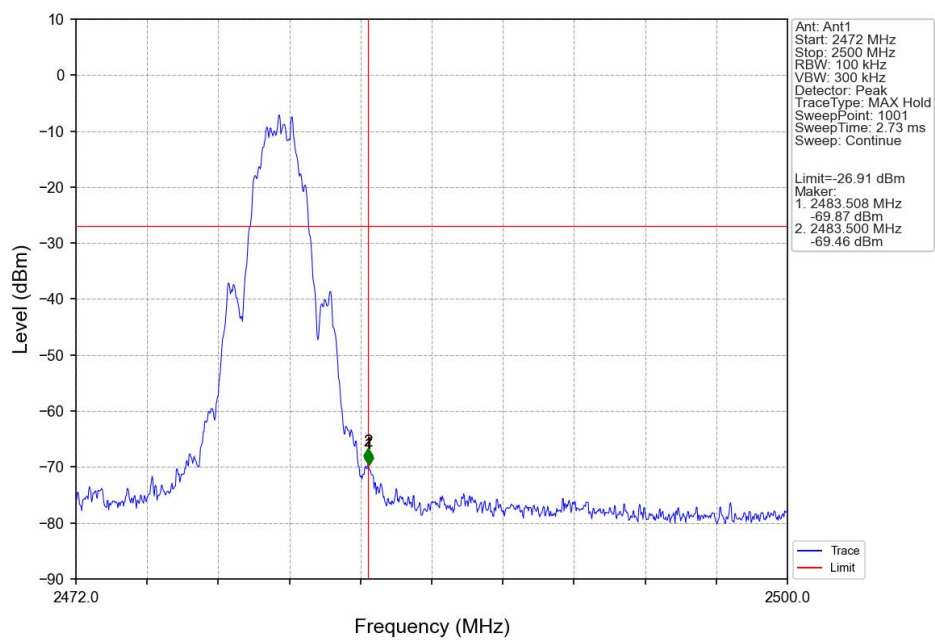
Band Edge NVNT BLE 2M 2402MHz Ant1 Ref



Band Edge NVNT BLE 2M 2402MHz Ant1 Emission



Band Edge NVNT BLE 2M 2480MHz Ant1 Ref



Band Edge NVNT BLE 2M 2480MHz Ant1 Emission

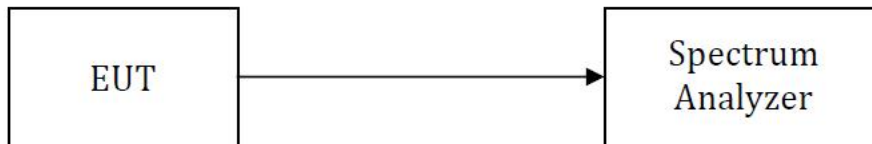
## 6. -6 dB Bandwidth and 99% Bandwidth Measurement

### 6.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018; ANSI C63.10:2020

### 6.2.Test Setup

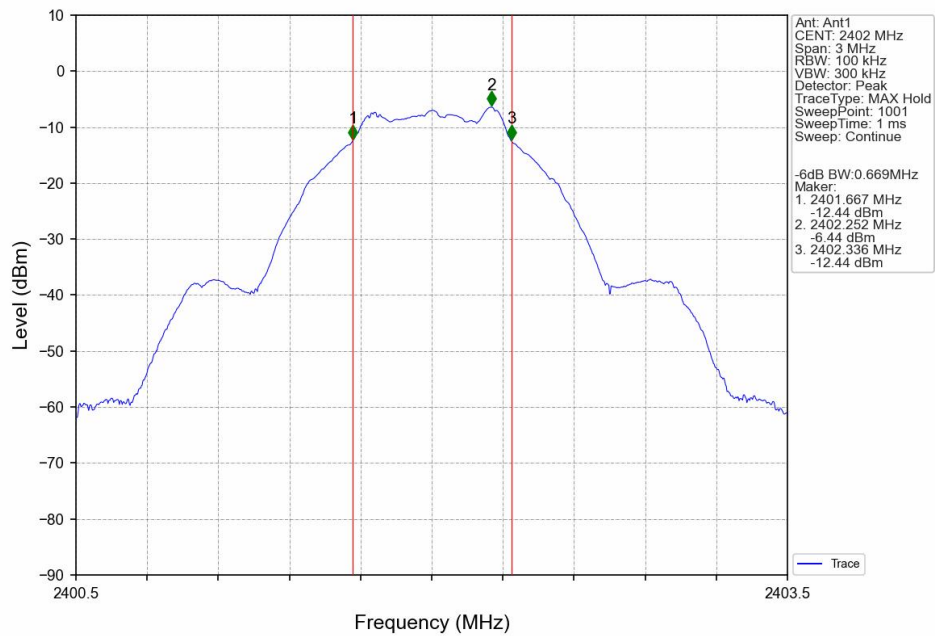


### 6.3.Test Procedure

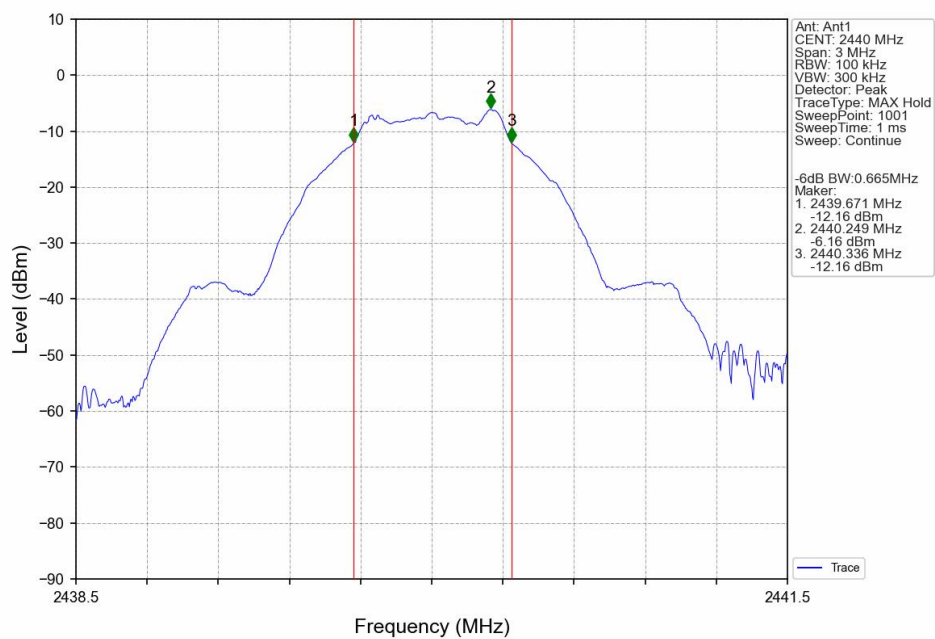
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz

### 6.4.Test Result

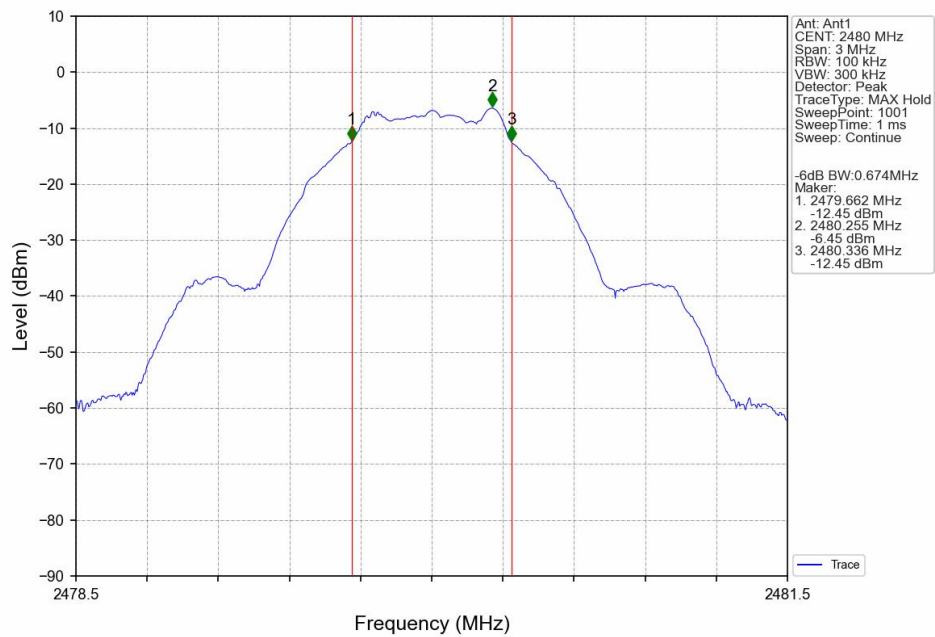
| Mode   | Frequency (MHz) | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | 99% OBW (MHz) | Verdict |
|--------|-----------------|-----------------------|-----------------------------|---------------|---------|
| BLE 1M | 2402            | 0.669                 | 0.5                         | 1.039         | Pass    |
| BLE 1M | 2440            | 0.665                 | 0.5                         | 1.037         | Pass    |
| BLE 1M | 2480            | 0.674                 | 0.5                         | 1.040         | Pass    |
| BLE 2M | 2402            | 1.183                 | 0.5                         | 2.077         | Pass    |
| BLE 2M | 2440            | 1.170                 | 0.5                         | 2.076         | Pass    |
| BLE 2M | 2480            | 1.162                 | 0.5                         | 2.077         | Pass    |



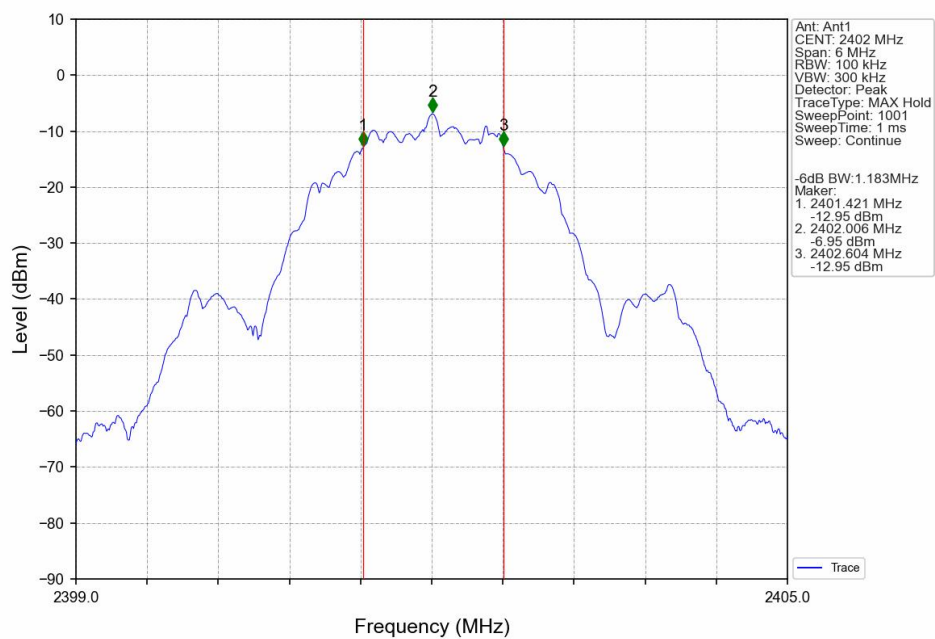
-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



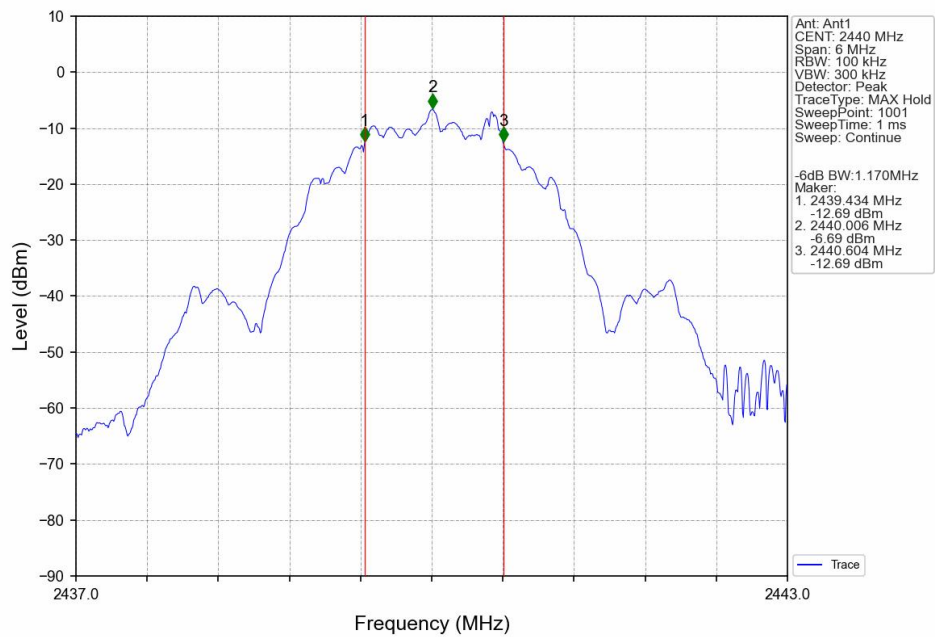
-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1



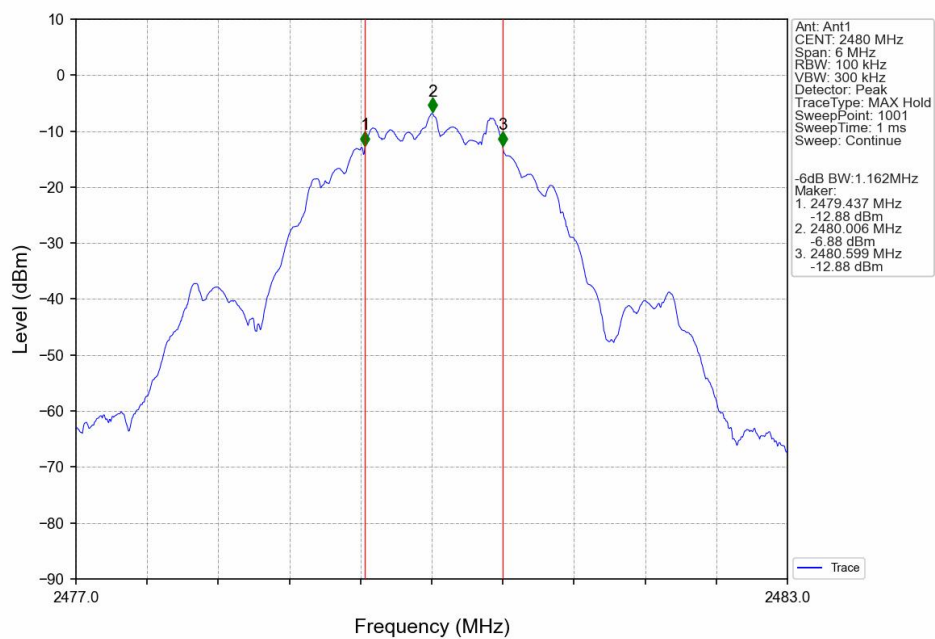
-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1



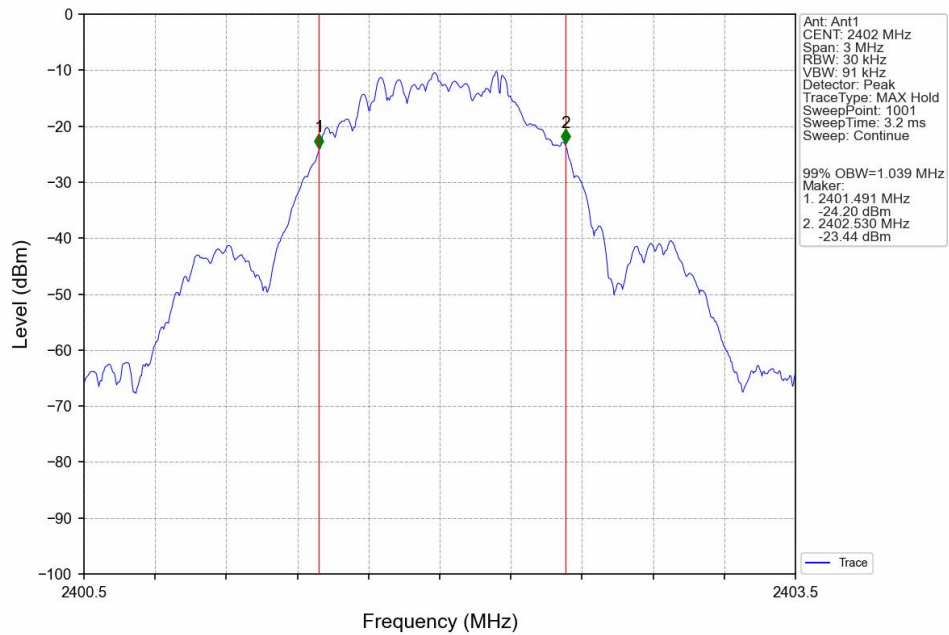
-6dB Bandwidth NVNT BLE 2M 2402MHz Ant1



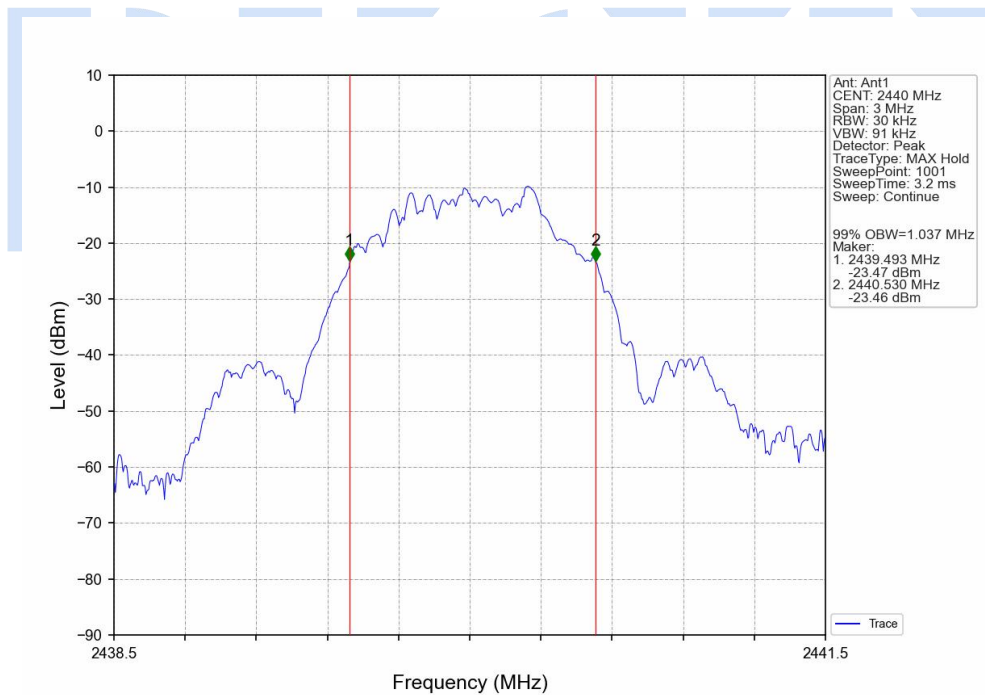
-6dB Bandwidth NVNT BLE 2M 2440MHz Ant1



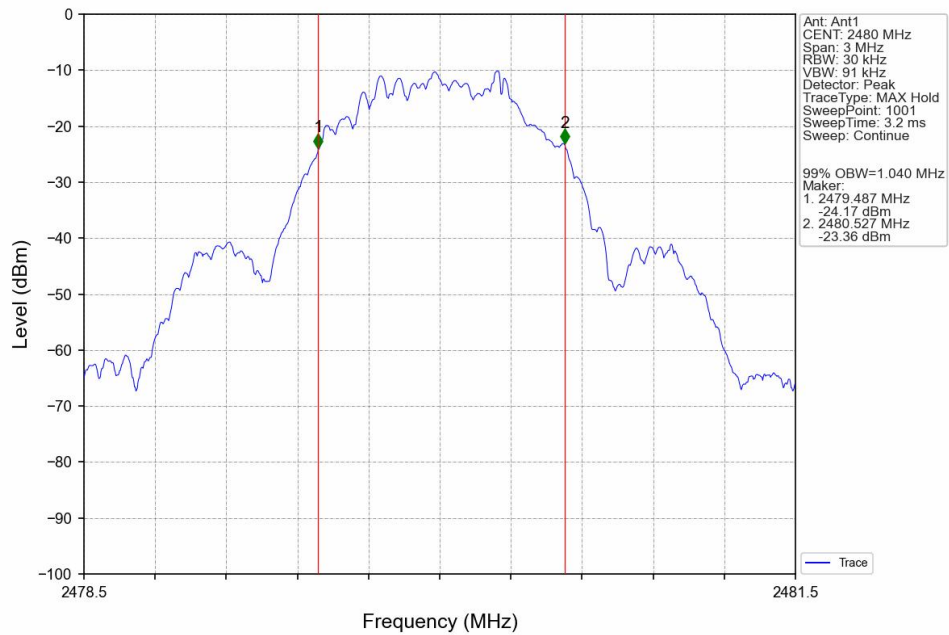
-6dB Bandwidth NVNT BLE 2M 2480MHz Ant1



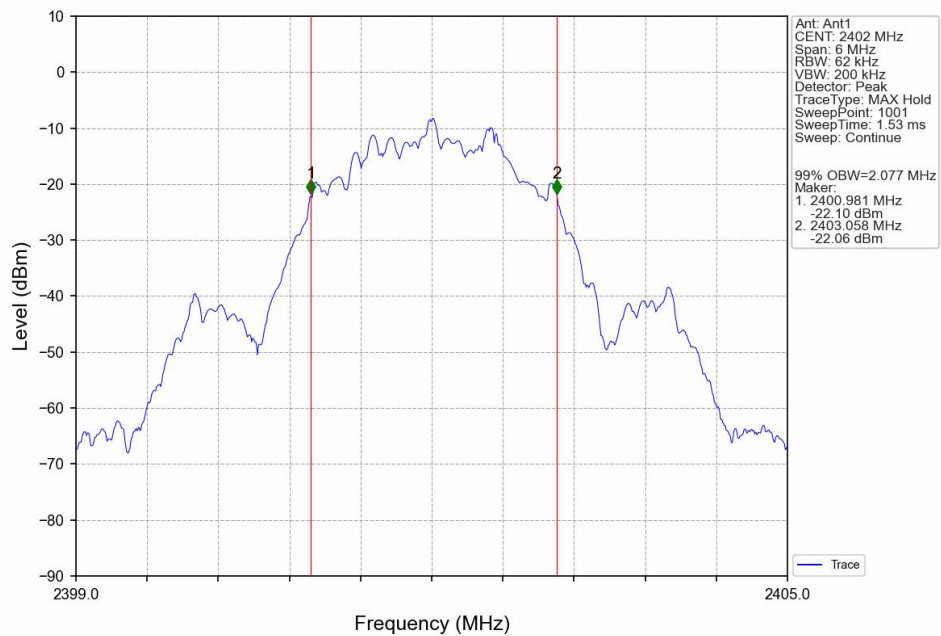
OBW NVNT BLE 1M 2402MHz Ant1



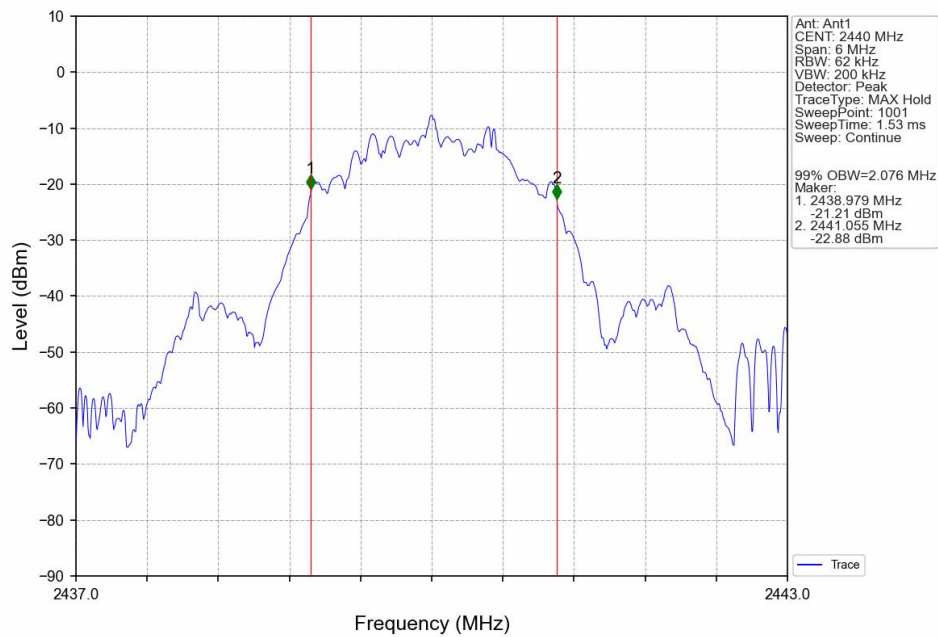
OBW NVNT BLE 1M 2440MHz Ant1



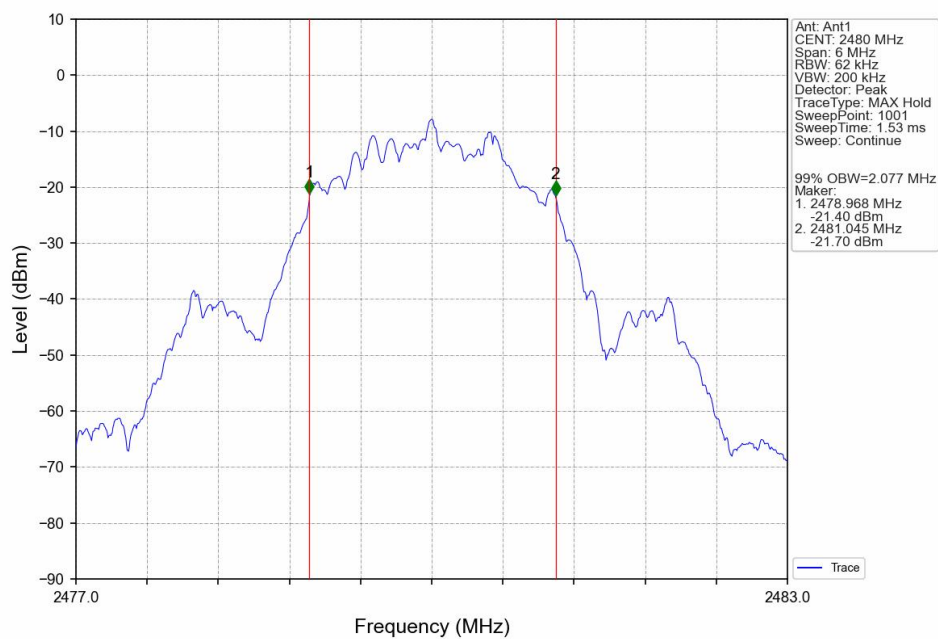
OBW NVNT BLE 1M 2480MHz Ant1



OBW NVNT BLE 2M 2402MHz Ant1



OBW NVNT BLE 2M 2440MHz Ant1



OBW NVNT BLE 2M 2480MHz Ant1

## 7. Maximum Peak Output Power

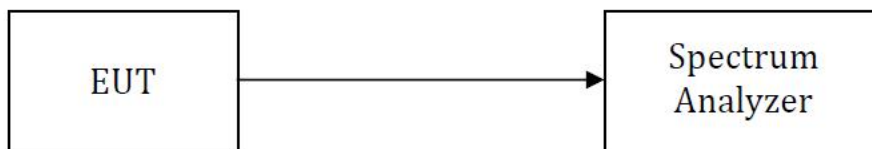
### 7.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018;  
ANSI C63.10:2020

| FCC Part15 (15.247) , Subpart C |                   |                 |                       |        |
|---------------------------------|-------------------|-----------------|-----------------------|--------|
| Section                         | Test Item         | Limit           | Frequency Range (MHz) | Result |
| 15.247(b)(3)                    | Peak Output Power | 1 watt or 30dBm | 2400-2483.5           | PASS   |

### 7.2.Test Setup



### 7.3.Test Procedure

KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018

section 8.3.1.1 (For BLE)

This procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the DTS bandwidth.

- Set the RBW  $\geq$  DTS bandwidth.
- Set VBW  $\geq$  3 RBW.
- Set span  $\geq$  3 x RBW
- Sweep time = auto couple.
- Detector = peak.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level.

section 8.3.1.2 (For WIFI)

This procedure may be used when the maximum available RBW of the measurement instrument is less than the DTS bandwidth.

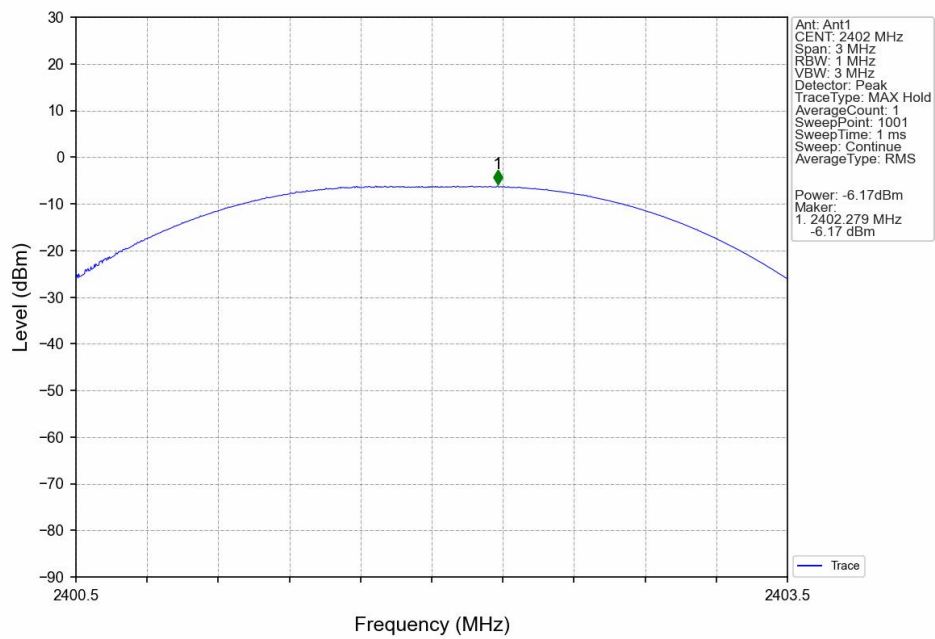
- Set the RBW = 1% to 5% of the OBW, not to exceed 1 MHz..
- Set the VBW  $\geq$  3 x RBW
- Set the span  $\geq$  1.5 x OBW.
- Detector = RMS.
- Sweep time = auto couple.
- trigger = free run..
- Number of points in sweep  $\geq$   $[2 \times \text{span} / \text{RBW}]$ . (This gives bin-to-bin spacing  $\geq$  RBW / 2, so that narrowband signals are not lost between frequency bins.)
- Trace average at least 100 traces in power averaging (rms) mode.
- Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

## 7.4.Test Result

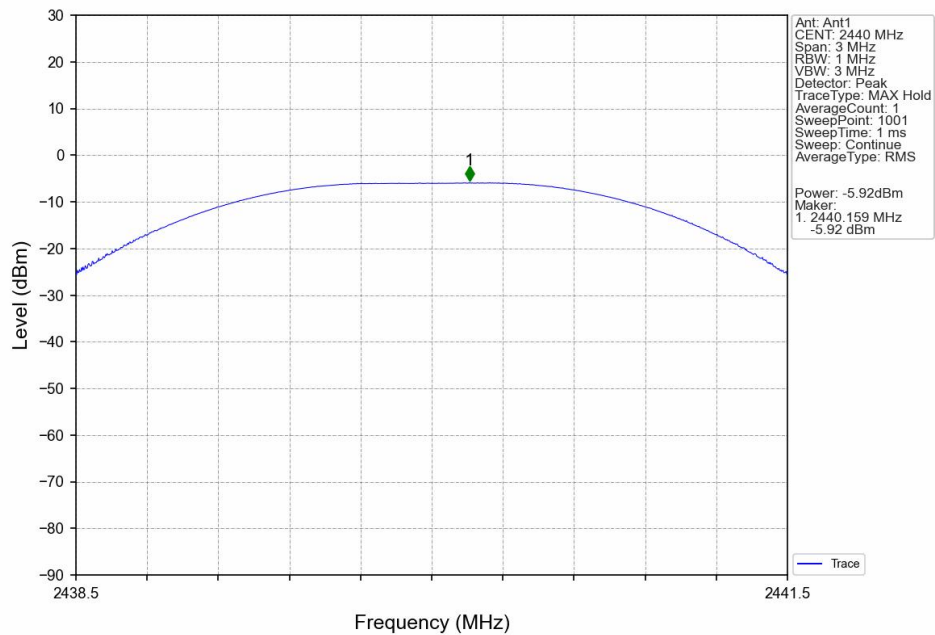
| Mode   | Frequency (MHz) | Conducted Power (dBm) | Limit (dBm) | Test Result |
|--------|-----------------|-----------------------|-------------|-------------|
| BLE 1M | 2402            | -6.17                 | 30          | PASS        |
| BLE 1M | 2440            | -5.92                 | 30          | PASS        |
| BLE 1M | 2480            | -6.11                 | 30          | PASS        |
| BLE 2M | 2402            | -6.19                 | 30          | PASS        |
| BLE 2M | 2440            | -6.00                 | 30          | PASS        |
| BLE 2M | 2480            | -5.98                 | 30          | PASS        |

Note: ANT Gain =-0.93dBi.

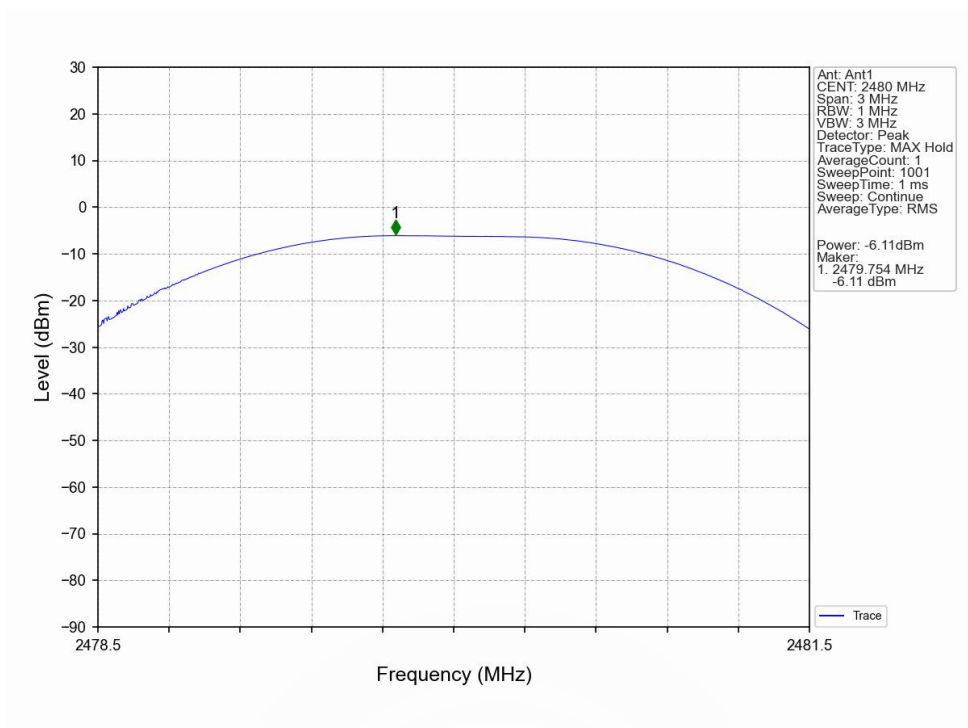




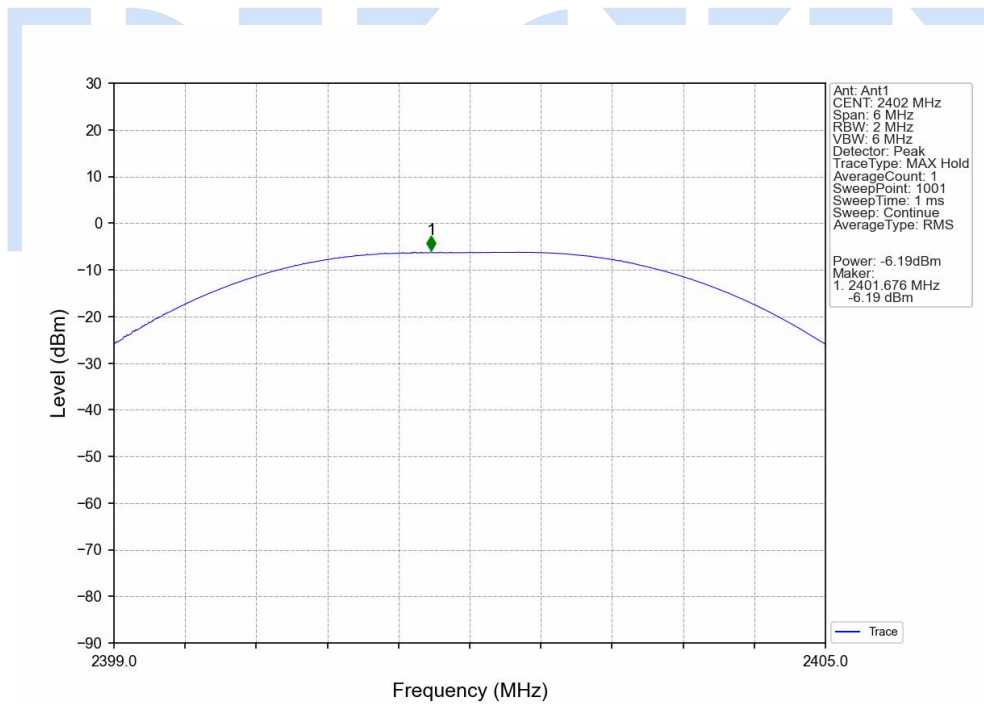
Peak Power NVNT BLE 1M 2402MHz Ant1



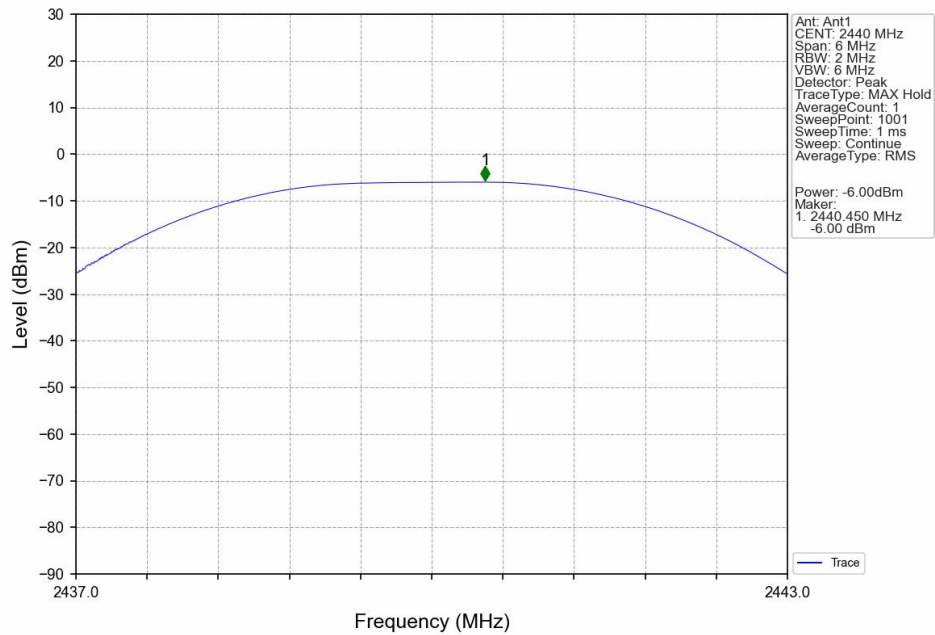
Peak Power NVNT BLE 1M 2440MHz Ant1



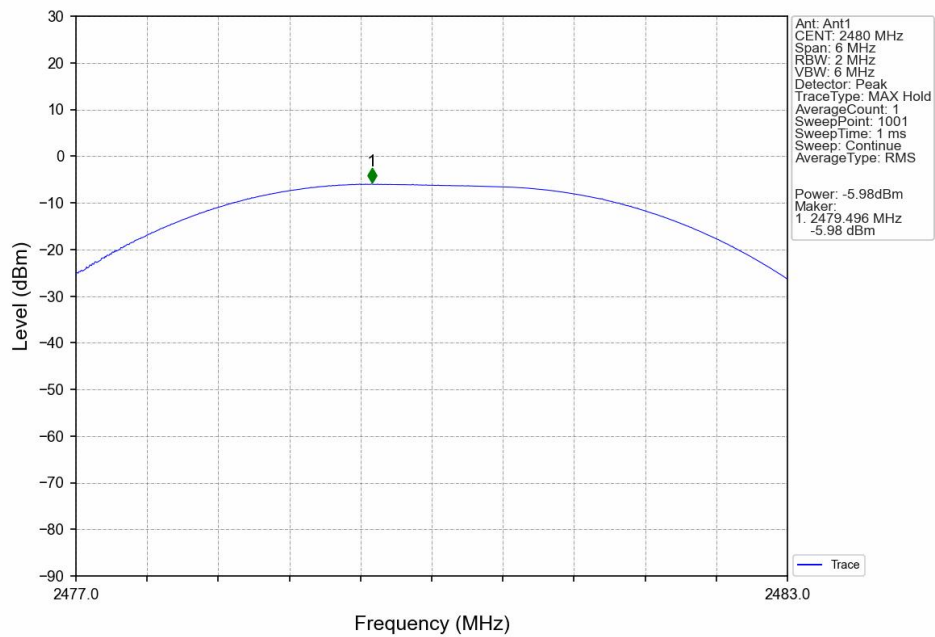
Peak Power NVNT BLE 1M 2480MHz Ant1



Peak Power NVNT BLE 2M 2402MHz Ant1



Peak Power NVNT BLE 2M 2440MHz Ant1



Peak Power NVNT BLE 2M 2480MHz Ant1

## 8. Power Spectral Density

### 8.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018; ANSI C63.10:2020

| FCC Part15 (15.247) , Subpart C |                        |           |                       |        |
|---------------------------------|------------------------|-----------|-----------------------|--------|
| Section                         | Test Item              | Limit     | Frequency Range (MHz) | Result |
| 15.247                          | Power Spectral Density | 8dBm/3kHz | 2400-2483.5           | PASS   |

### 8.2.Test Setup



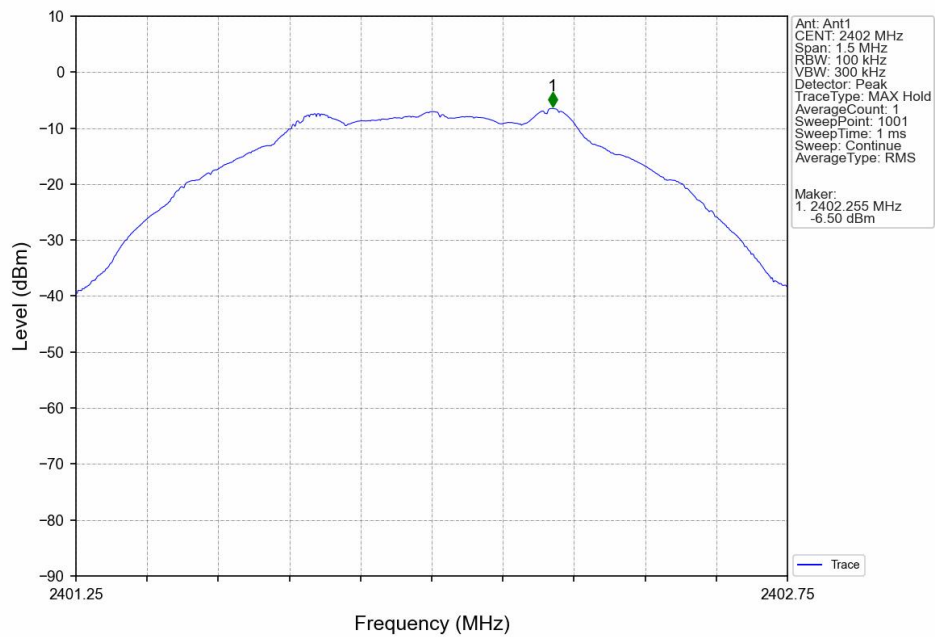
### 8.3.Test Procedure

KDB 558074 D01 DTS Meas Guidance v04 April 5, 2017 section 10.2

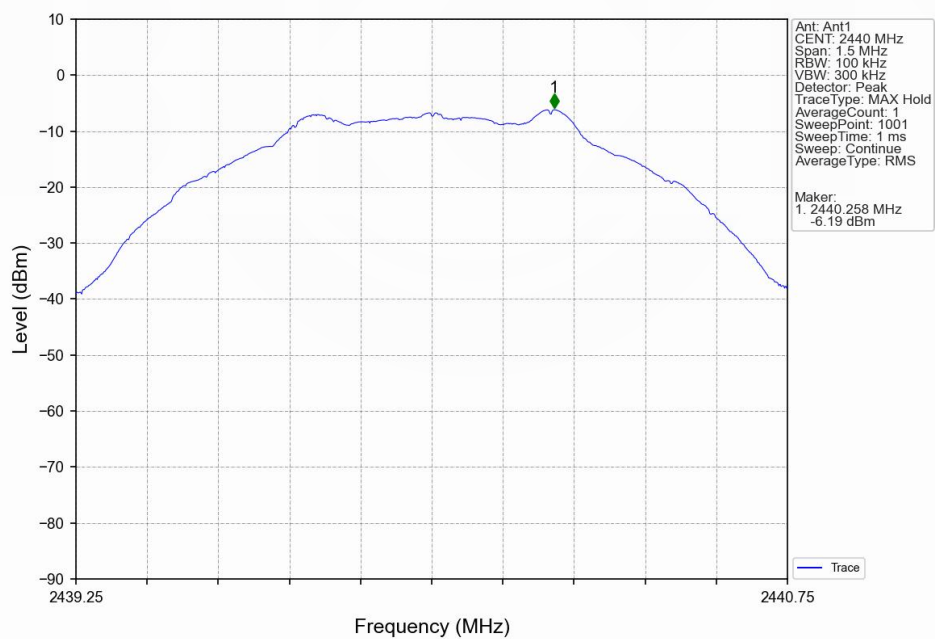
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 100kHz. VBW = 300kHz , Span = 1.5 times the DTS channel bandwidth(6 dB bandwidth). Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

### 8.4.Test Result

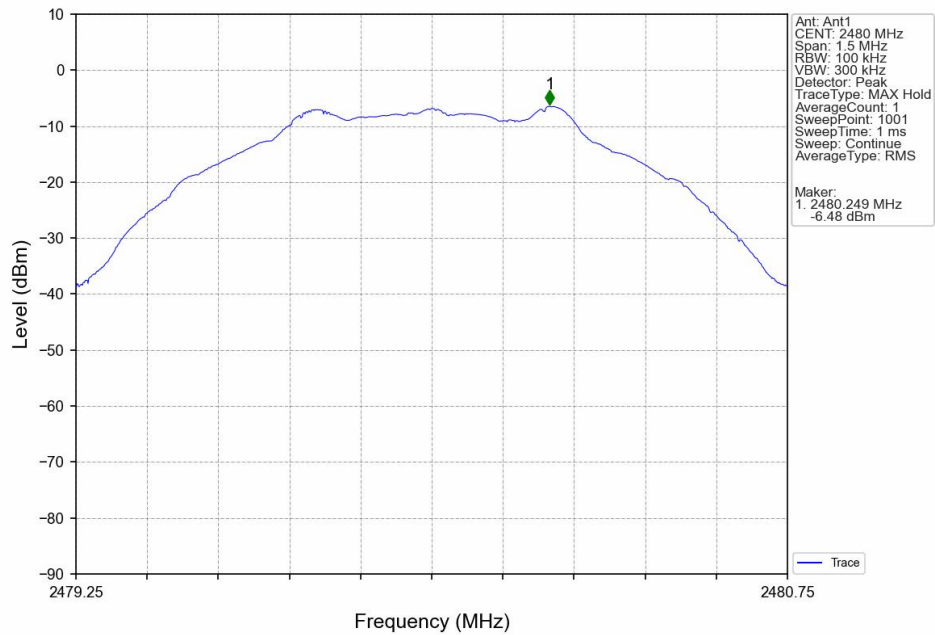
| Mode   | Frequency (MHz) | Total PSD (dBm/100KHz) | Limit (dBm/3KHz) | Verdict |
|--------|-----------------|------------------------|------------------|---------|
| BLE 1M | 2402            | -6.50                  | 8                | Pass    |
| BLE 1M | 2440            | -6.19                  | 8                | Pass    |
| BLE 1M | 2480            | -6.48                  | 8                | Pass    |
| BLE 2M | 2402            | -6.98                  | 8                | Pass    |
| BLE 2M | 2440            | -6.78                  | 8                | Pass    |
| BLE 2M | 2480            | -6.90                  | 8                | Pass    |



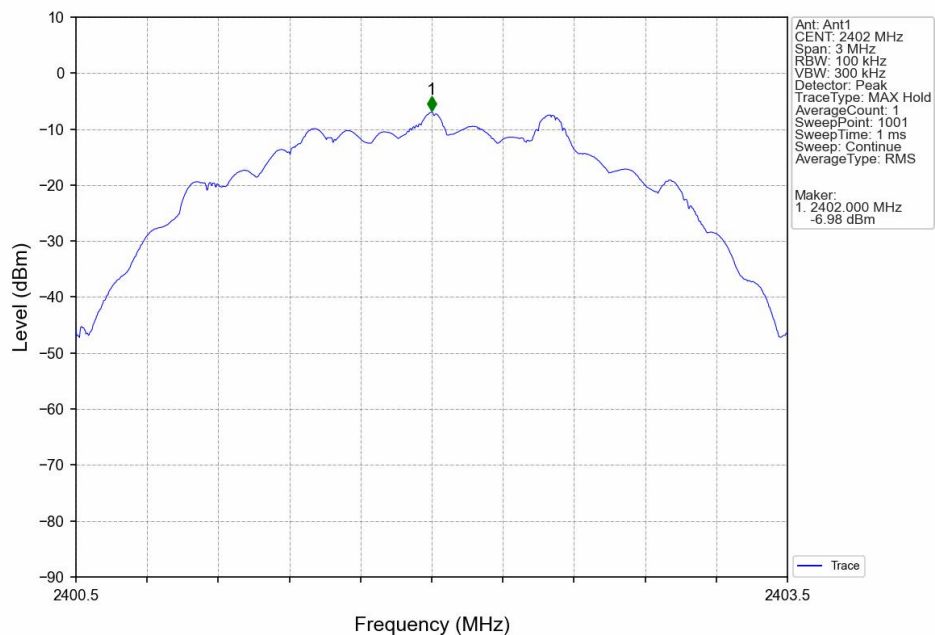
PSD NVNT BLE 1M 2402MHz Ant1



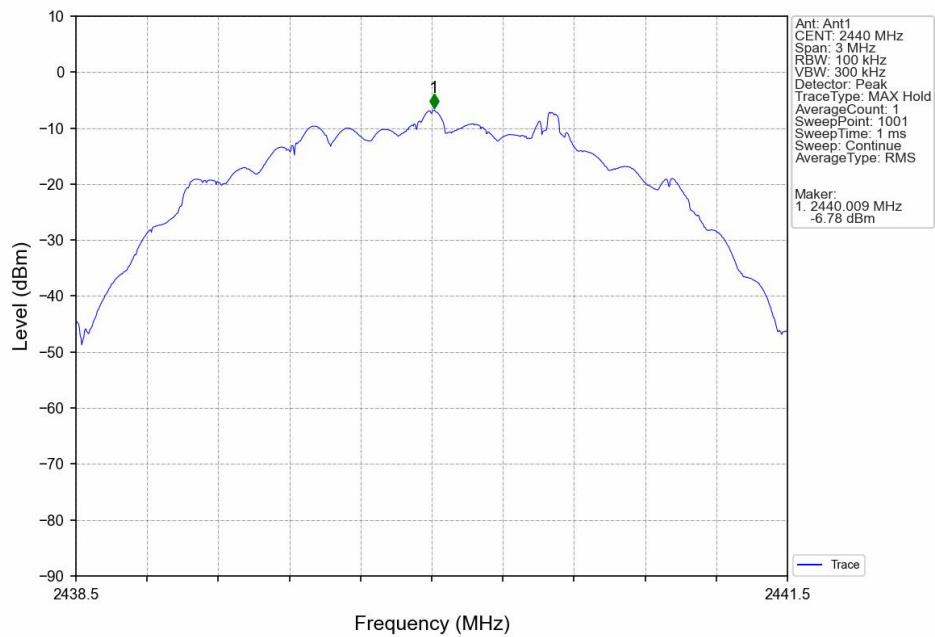
PSD NVNT BLE 1M 2440MHz Ant1



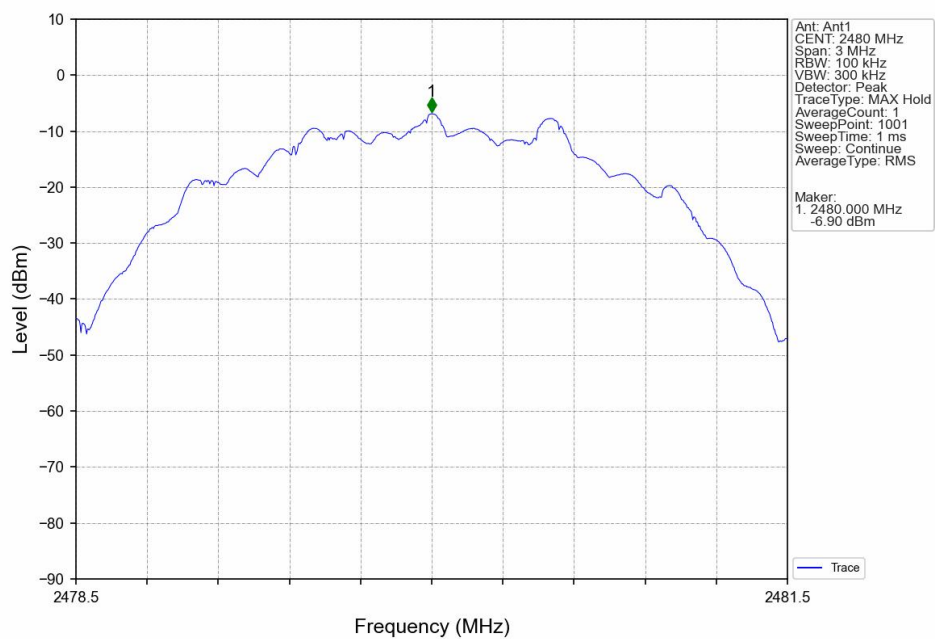
PSD NVNT BLE 1M 2480MHz Ant1



PSD NVNT BLE 2M 2402MHz Ant1



PSD NVNT BLE 2M 2440MHz Ant1



PSD NVNT BLE 2M 2480MHz Ant1

## 9. Antenna Requirement

According to the FCC Part 15 Paragraph 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. This product has an integrated antenna fulfills the requirement of this section.

According to the RSS-Gen Section 7.1.2, 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. This product has an integrated antenna fulfills the requirement of this section.

This product has an PCB antenna, and the maximum antenna gain is -0.93dBi, fulfills the requirement of this section.



## 10. Test Photographs

Please see the attachment for Test Photographs.

## Appendix I: Photos of the EUT

Please see the attachment for External Photographs and Internal Photographs.

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

