

Note:

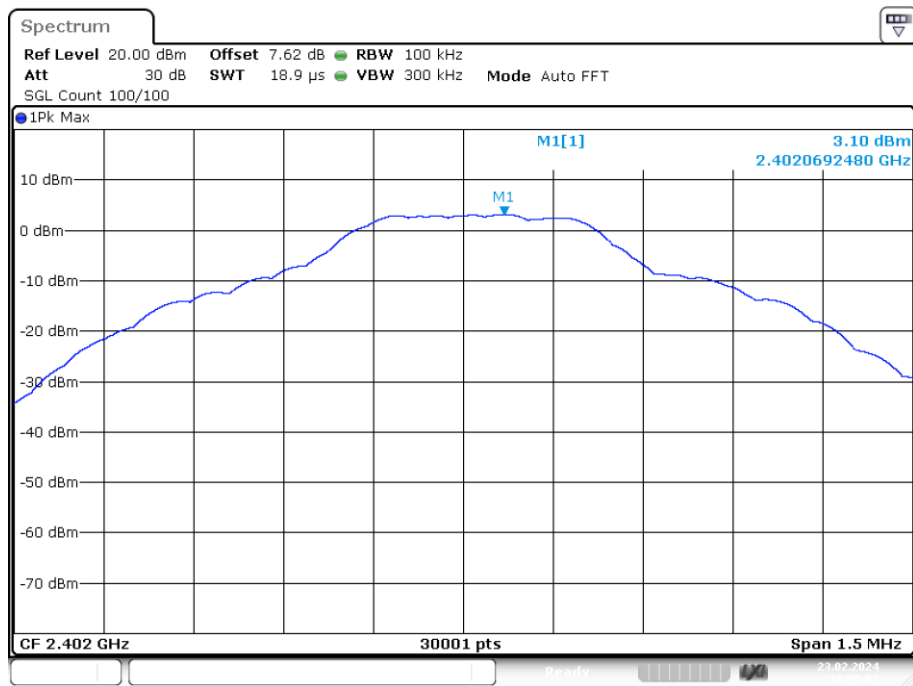
$$1, \text{ Result} = \text{Read level} + \text{Antenna factor} + \text{cable loss-Amp factor}$$

2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.



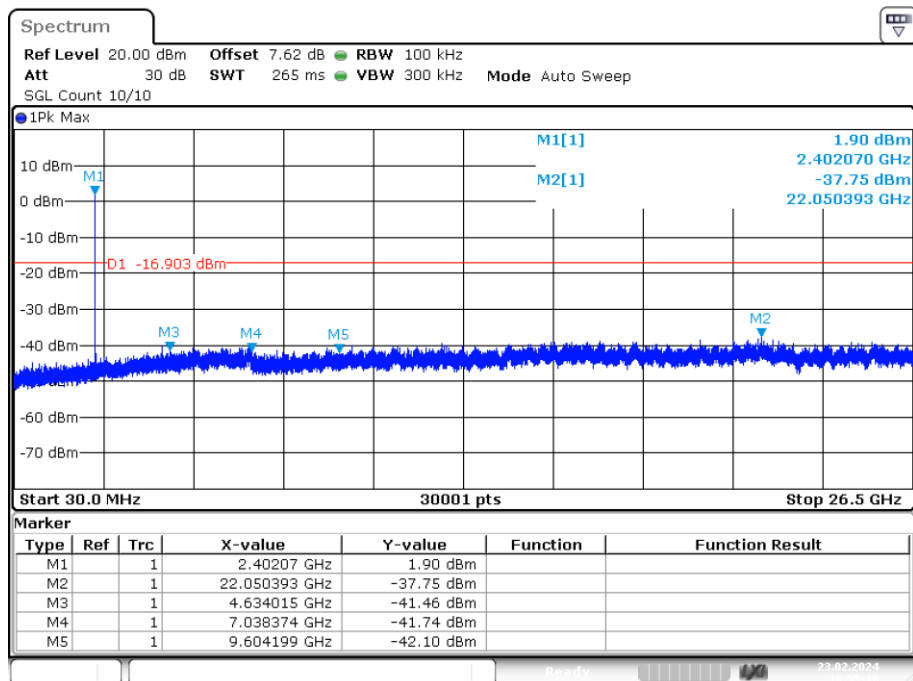
## Conducted RF Spurious Emission

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



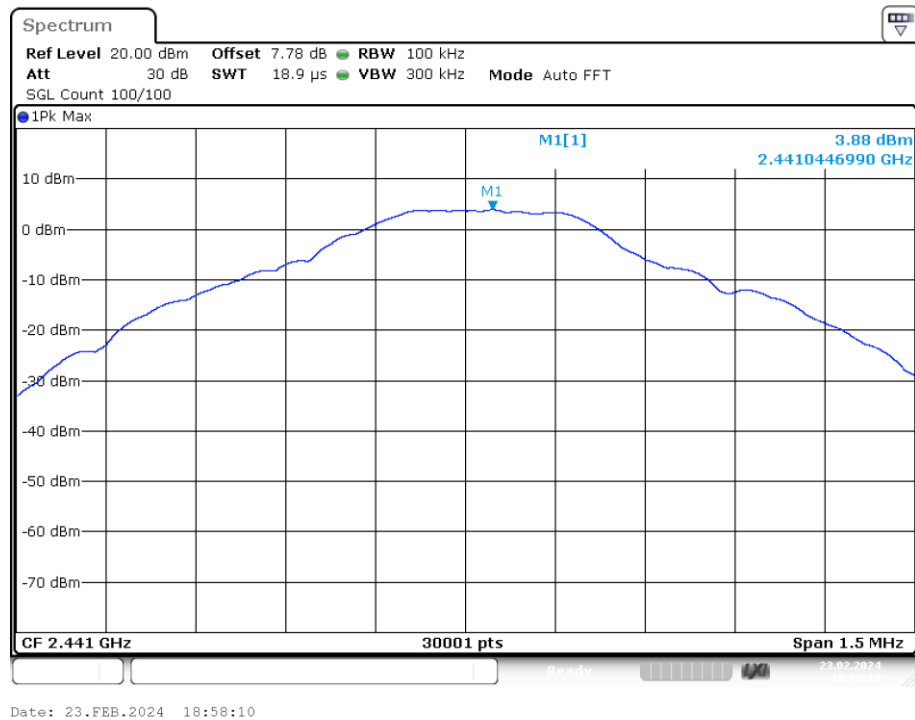
Date: 23.FEB.2024 18:55:02

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission

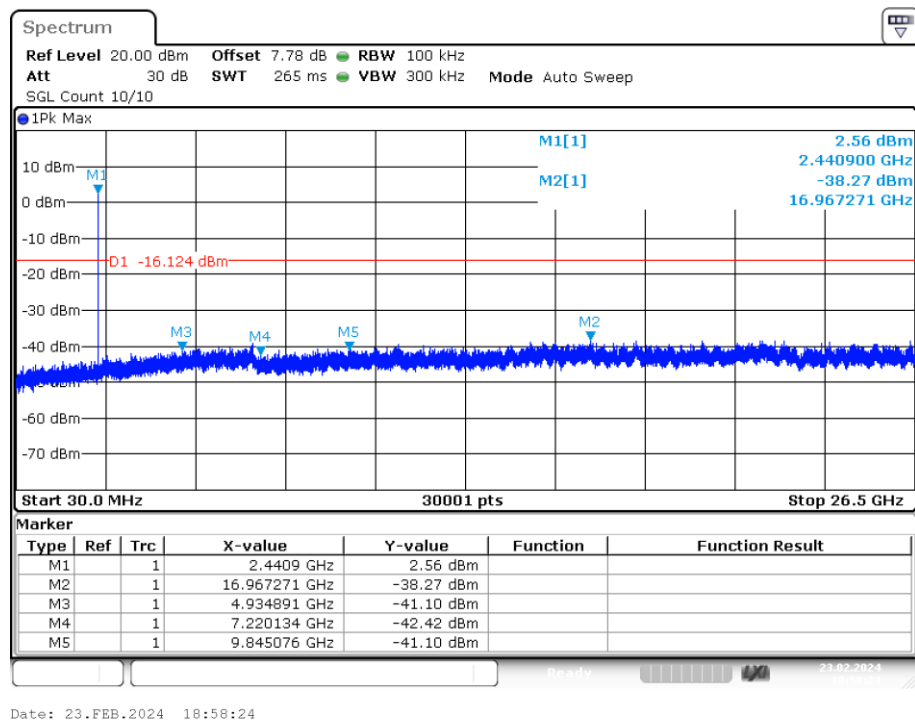


Date: 23.FEB.2024 18:55:16

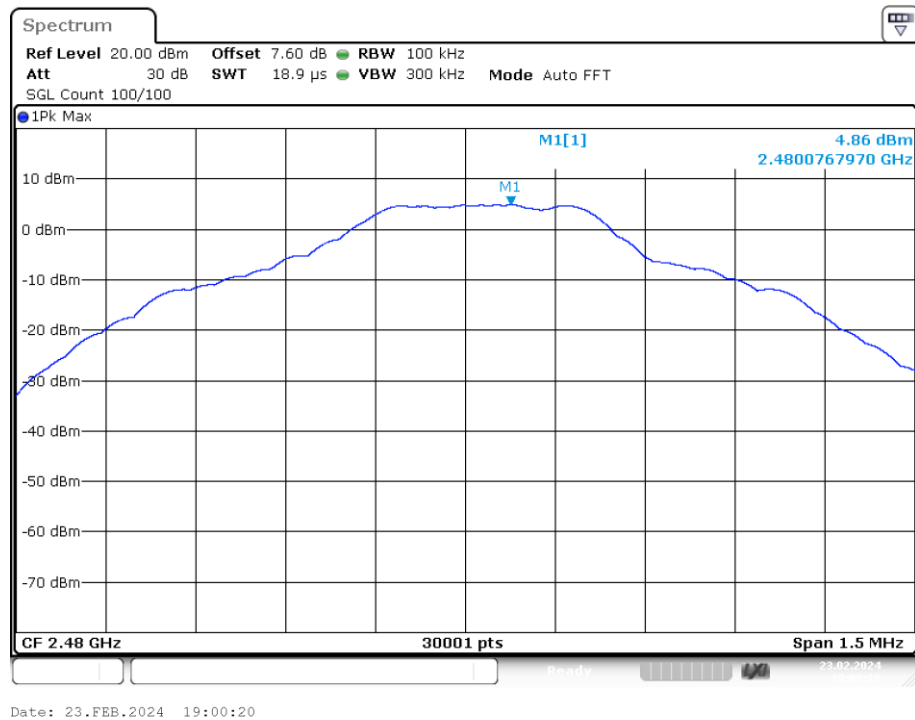
## Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



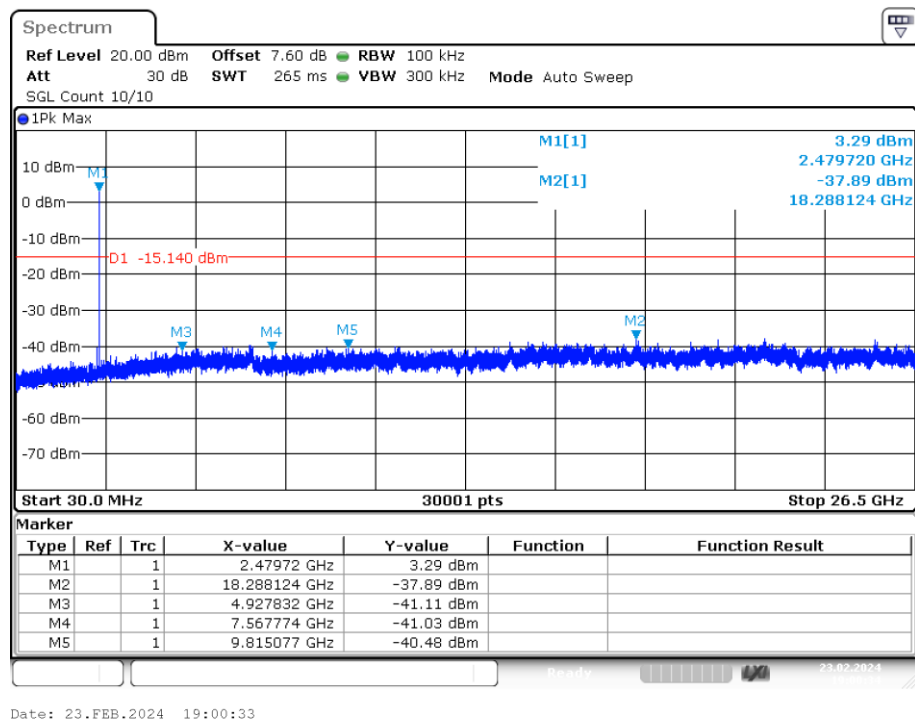
## Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



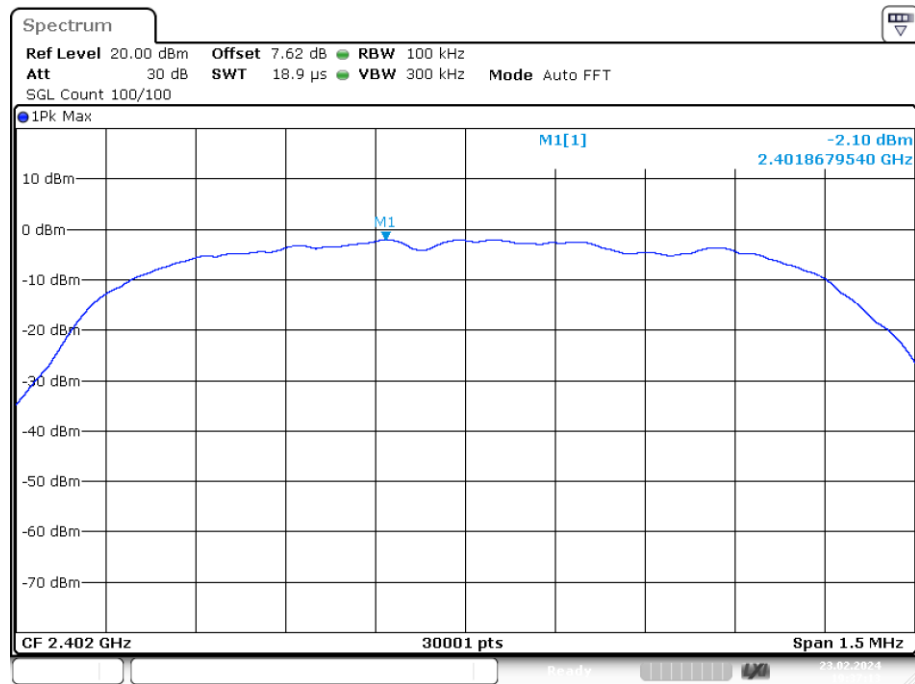
## Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



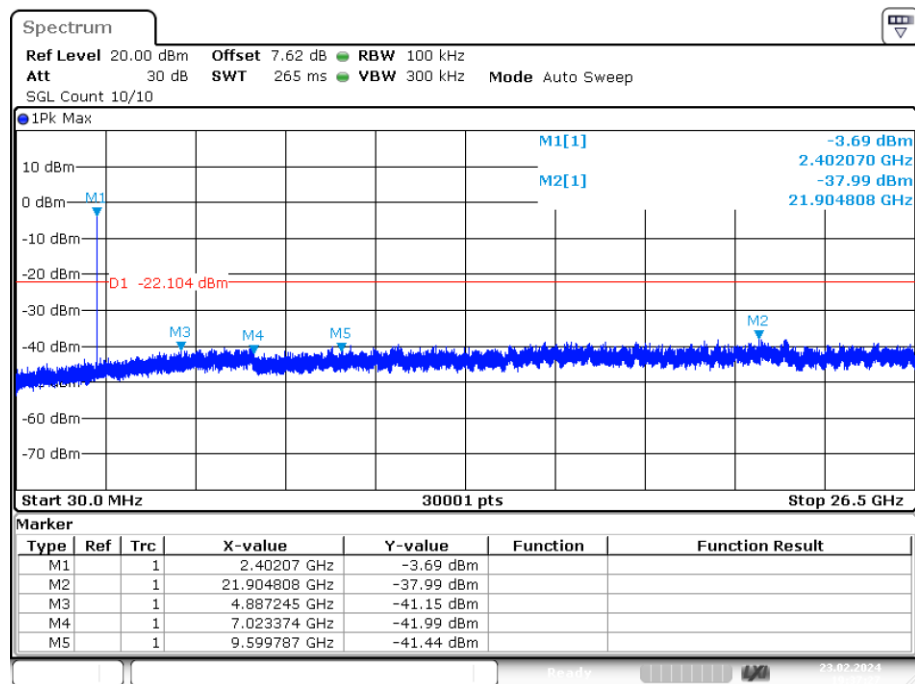
## Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



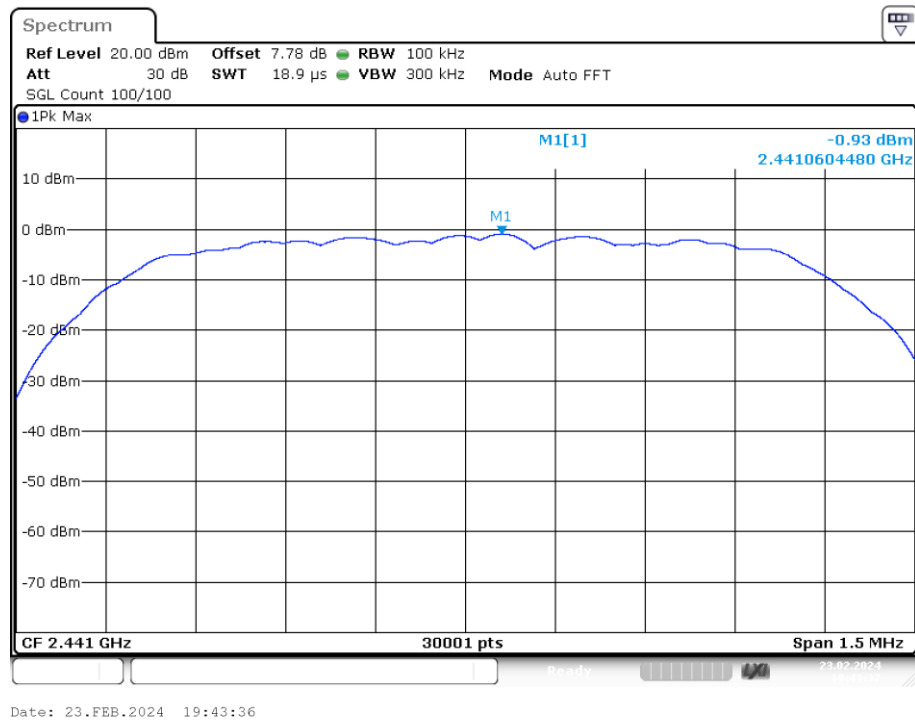
## Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



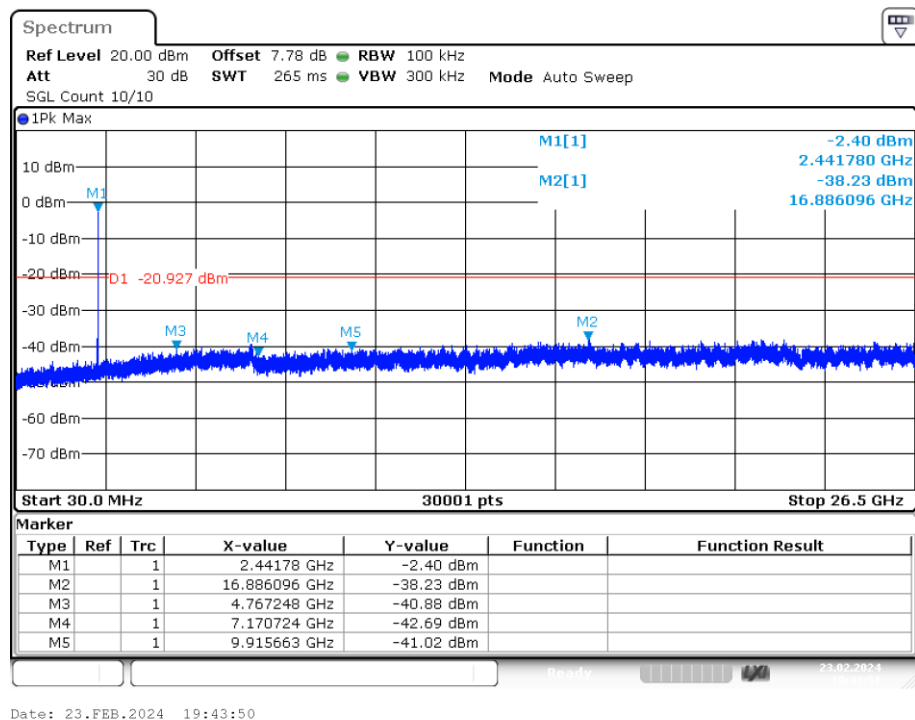
## Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



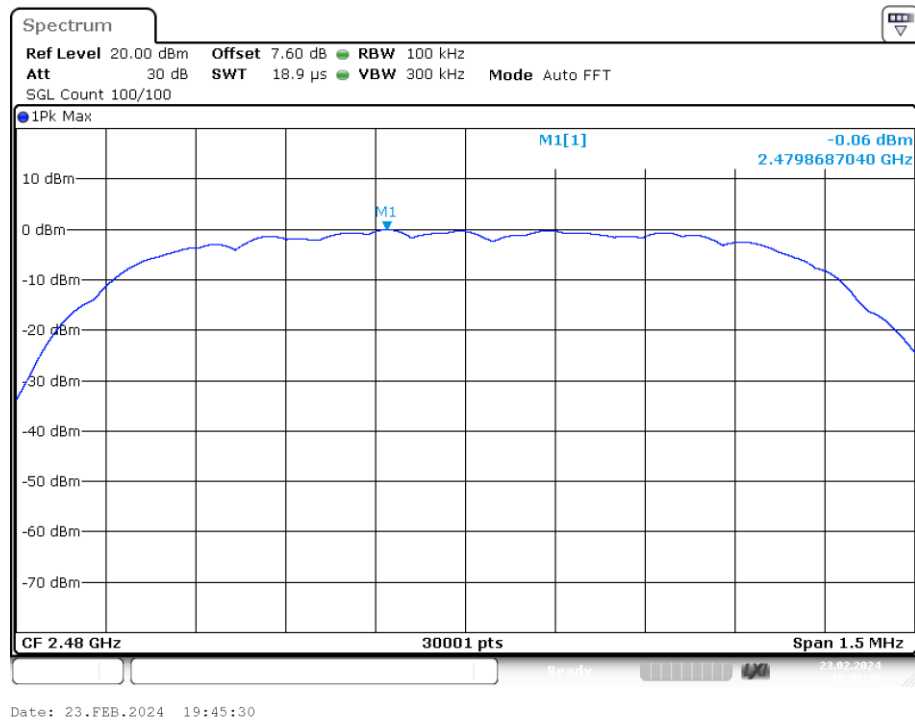
## Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



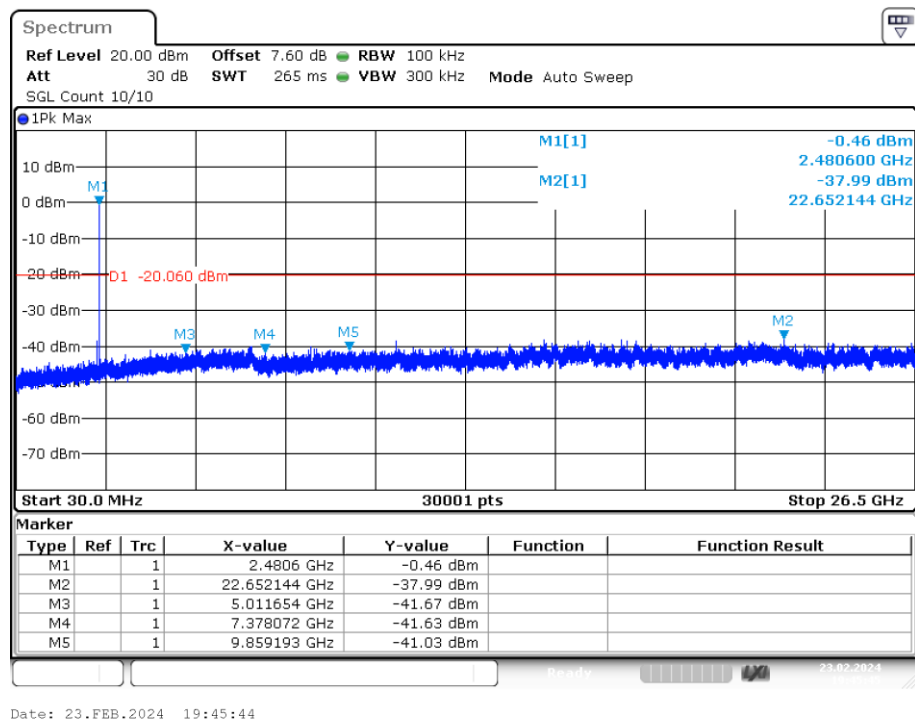
## Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



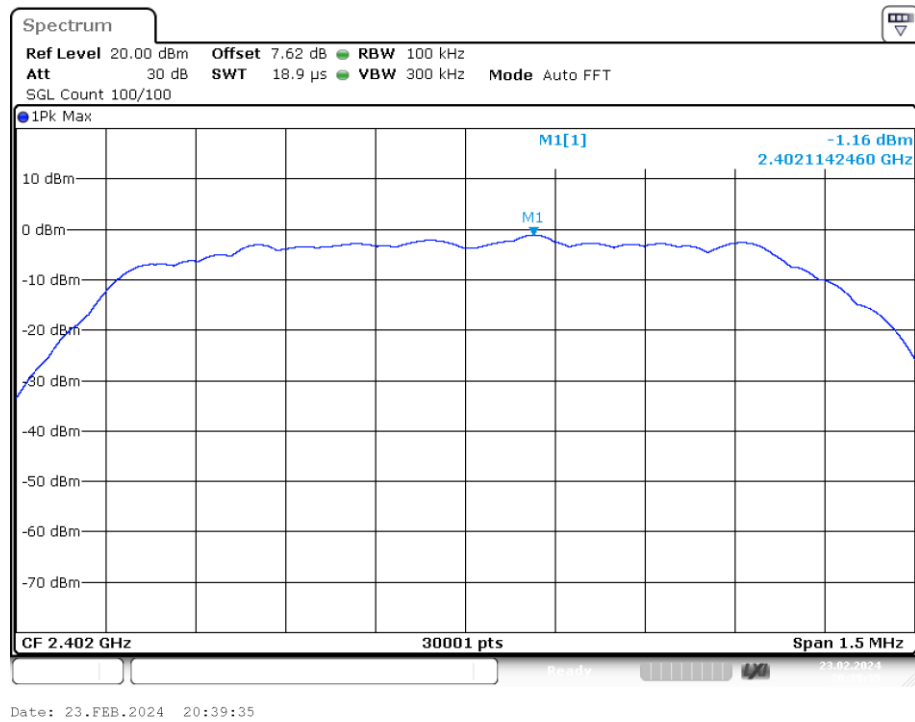
## Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



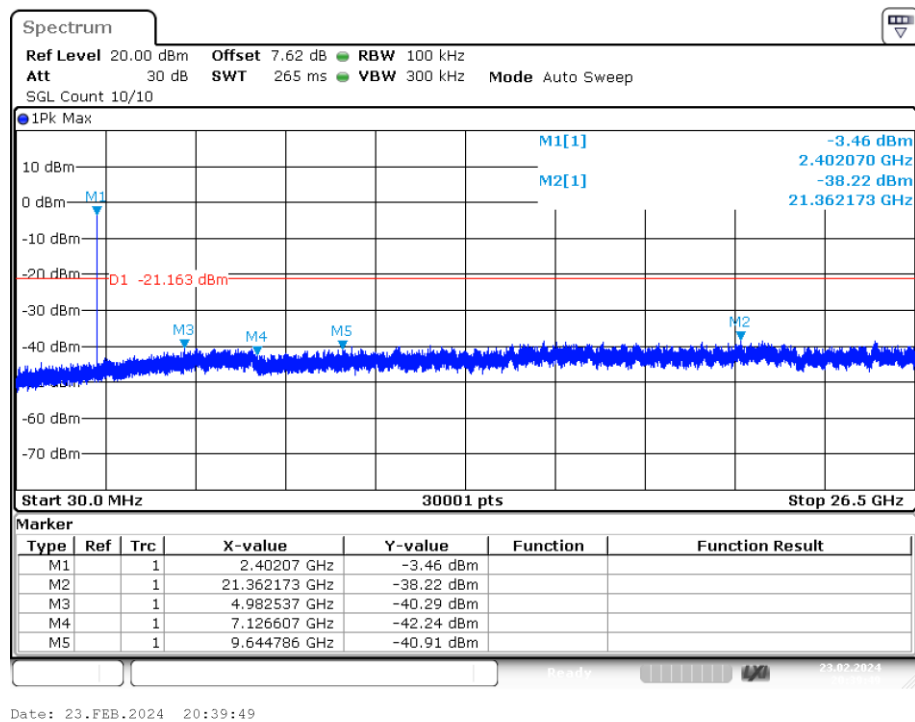
## Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



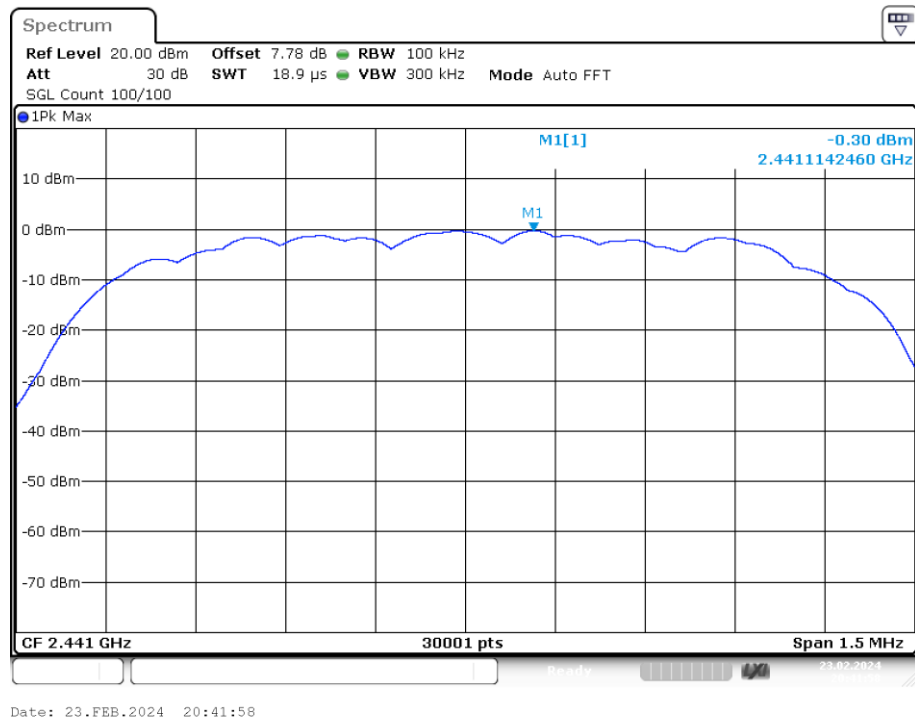
## Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



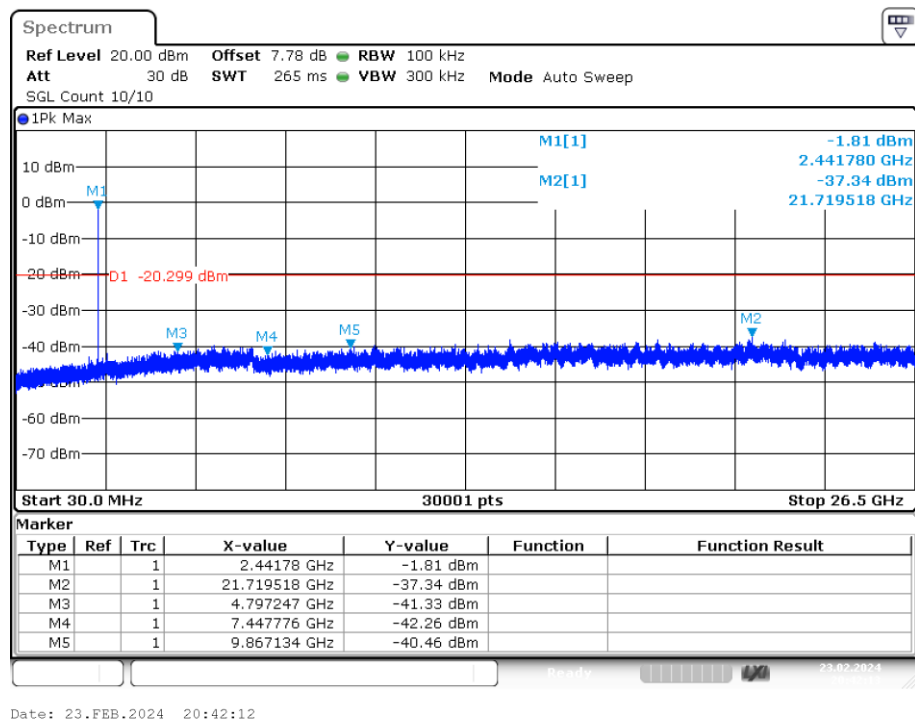
## Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



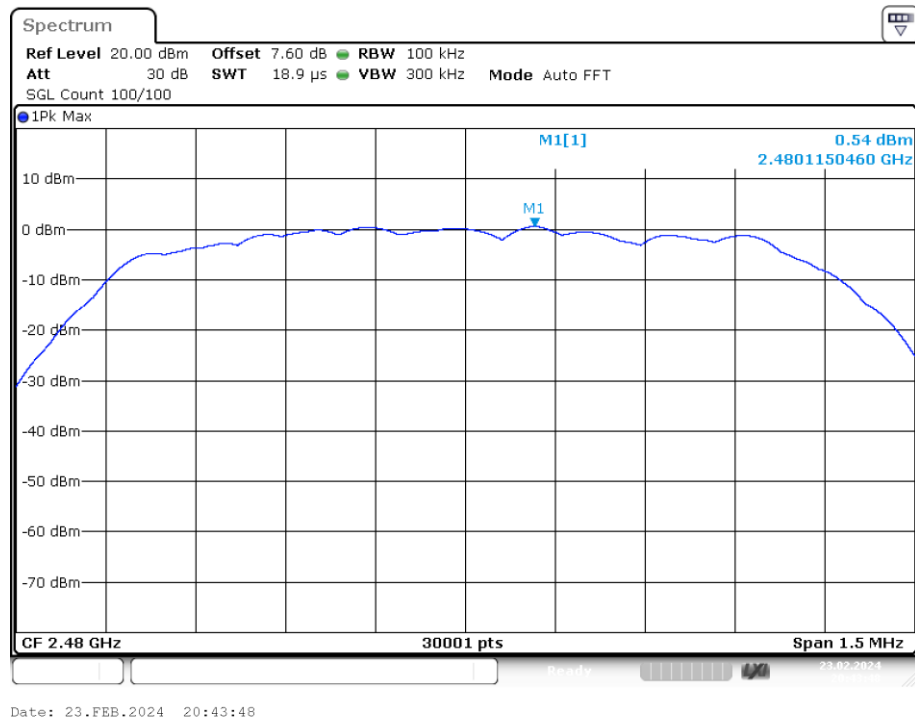
## Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



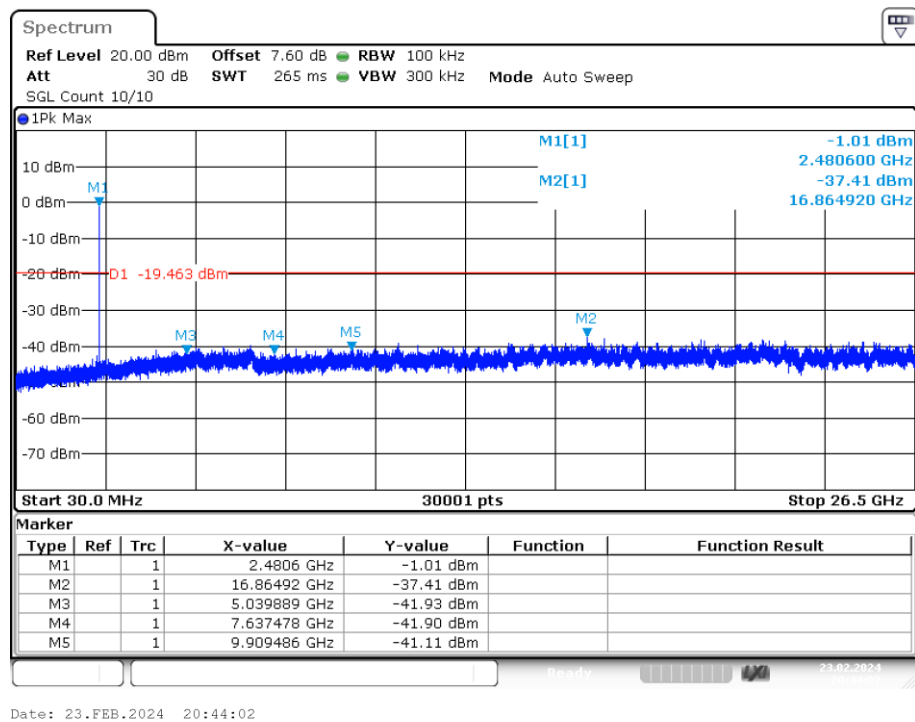
## Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



## Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref

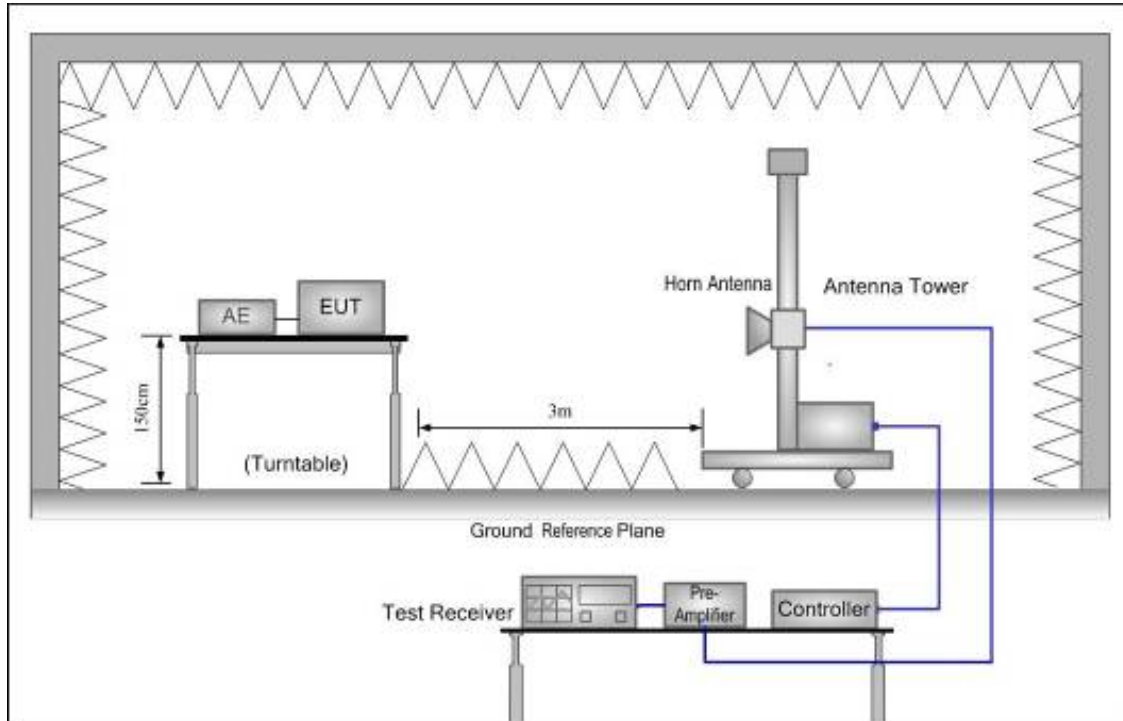


## Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission



## 9. BAND EDGE COMPLIANCE

### 9.1. Block Diagram of Test Setup



### 9.2. Limit

All the lower and upper band-edges emissions appearing within restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

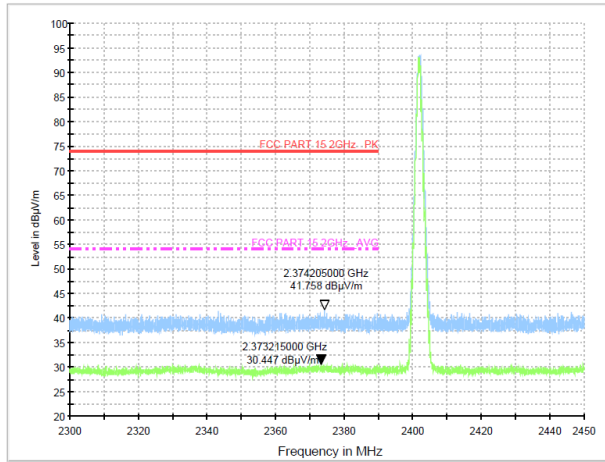
### 9.3. Test Procedure

All restriction band and non- restriction band have been tested , only worse case is reported.

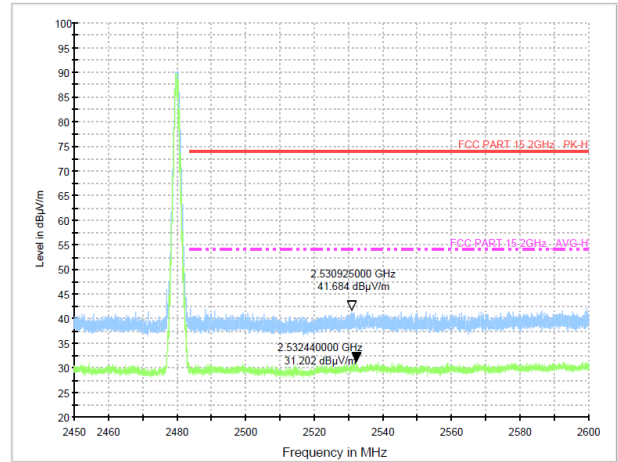
### 9.4. Test Result

PASS. (See below detailed test data)

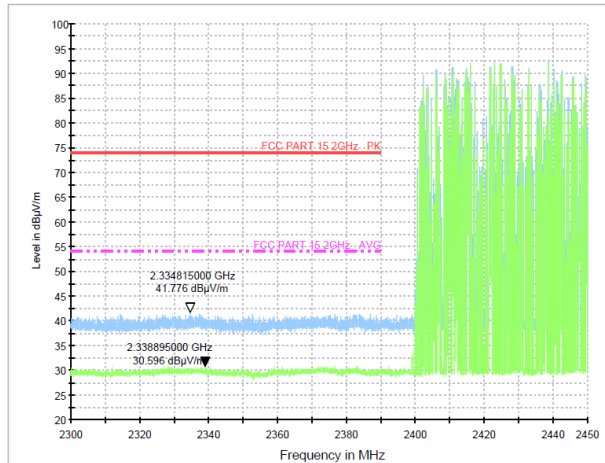
Test Mode: GFSK-Low Hopping-off



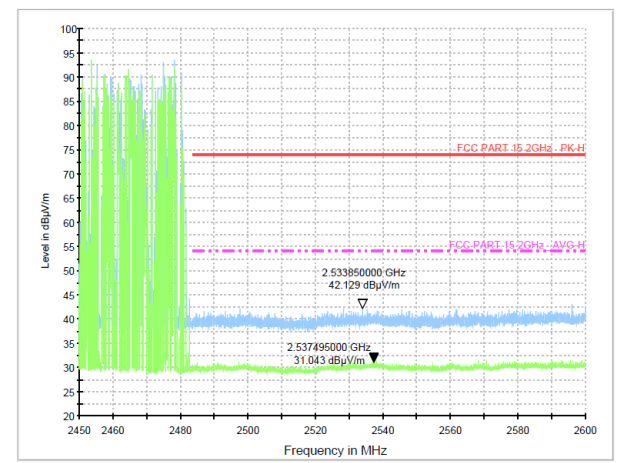
Test Mode: GFSK-High Hopping-off



Test Mode: GFSK-Low Hopping-on

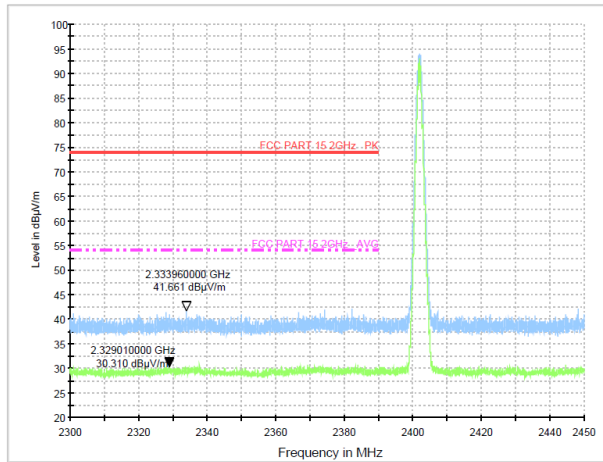
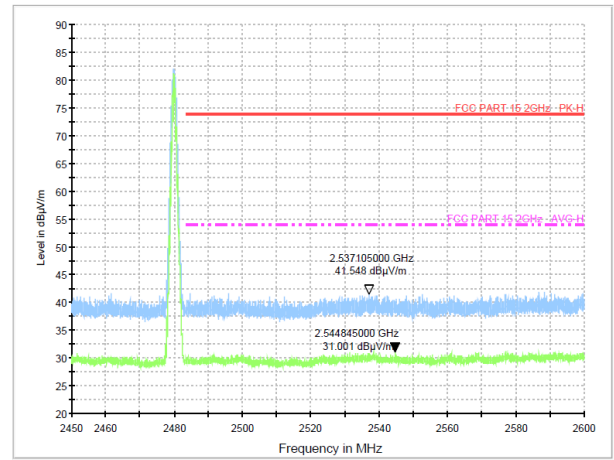
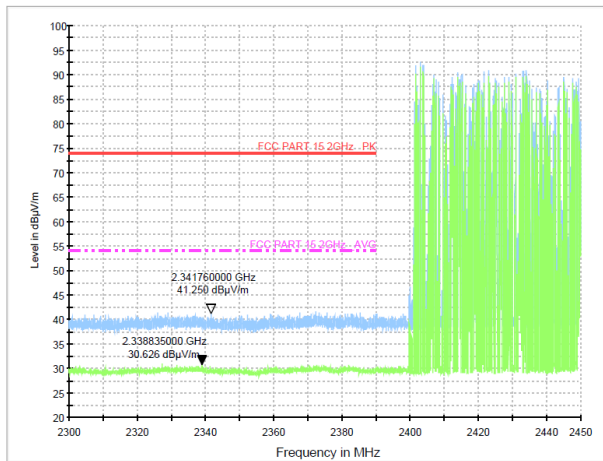
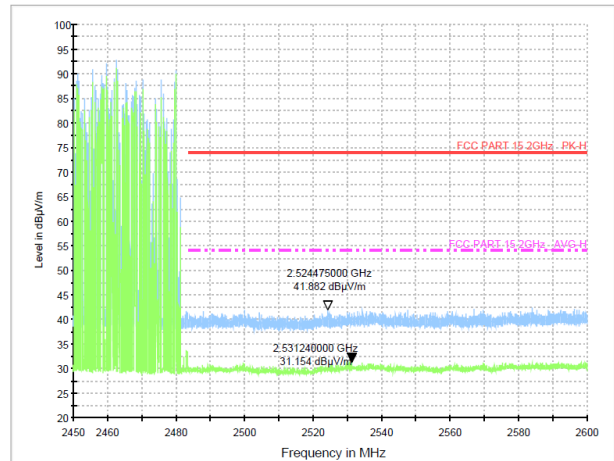


Test Mode: GFSK-High Hopping-on



Note: 1. \*:Maximum data; x:Over limit; !:over margin.

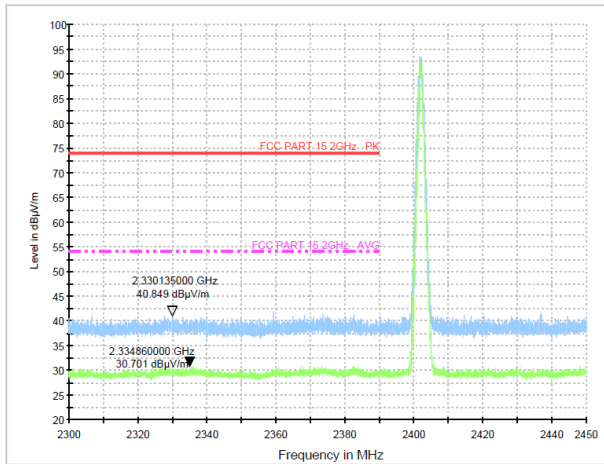
2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Test Mode:  $\pi/4$  DQPSK-Low Hopping-offTest Mode:  $\pi/4$  DQPSK-High Hopping-offTest Mode:  $\pi/4$  DQPSK-Low Hopping-onTest Mode:  $\pi/4$  DQPSK-High Hopping-on

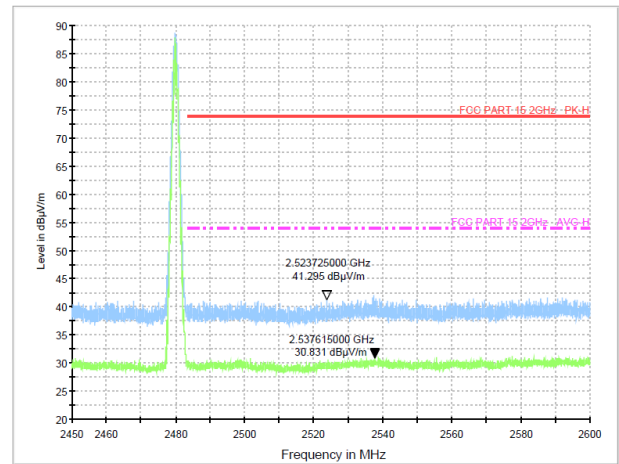
Note: 1. \*:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

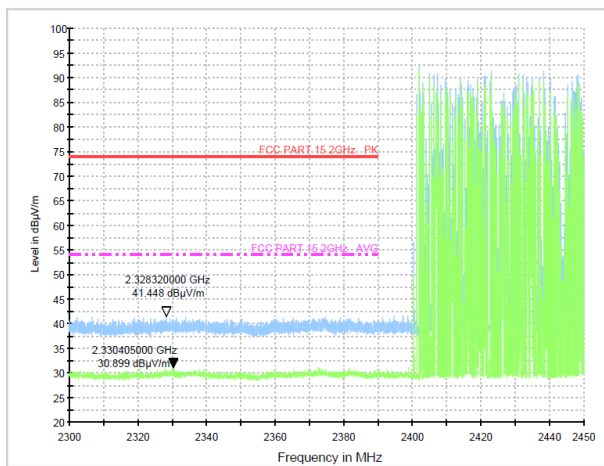
Test Mode: 8DPSK-Low Hopping-off



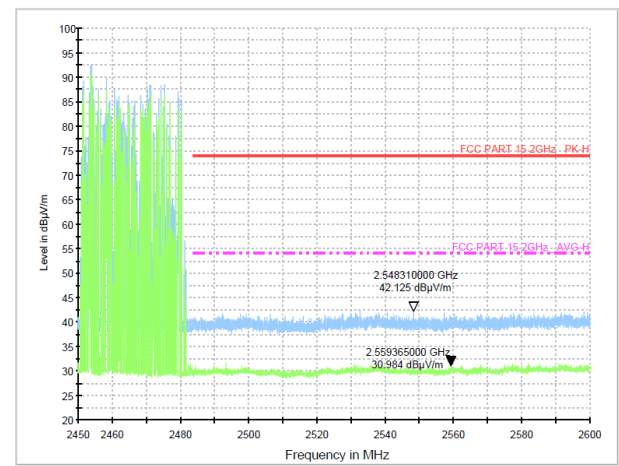
Test Mode: 8DPSK-High Hopping-off



Test Mode: 8DPSK-Low Hopping-on



Test Mode: 8DPSK-High Hopping-on

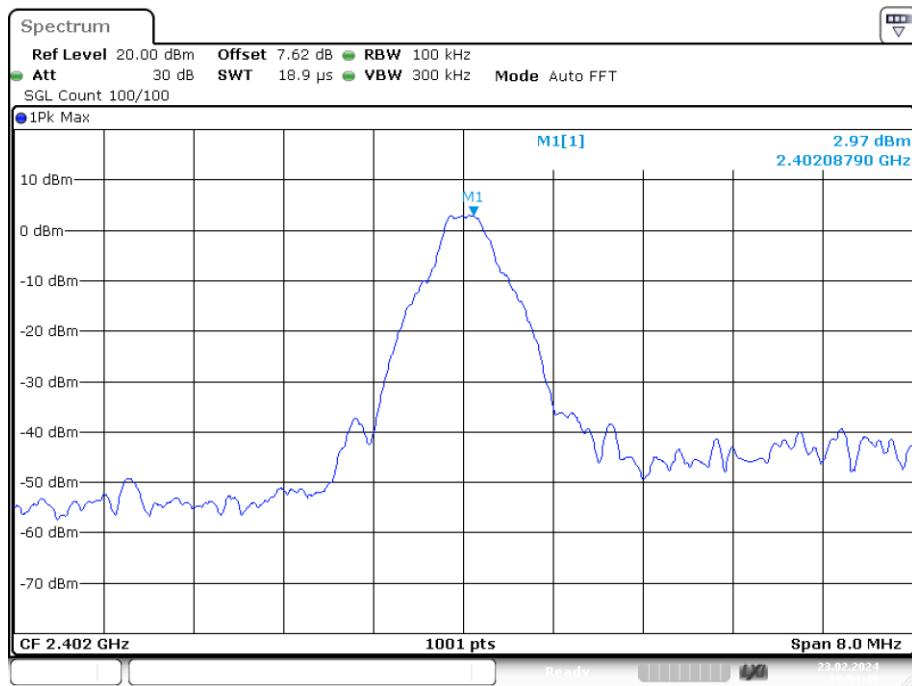


Note: 1. \*:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

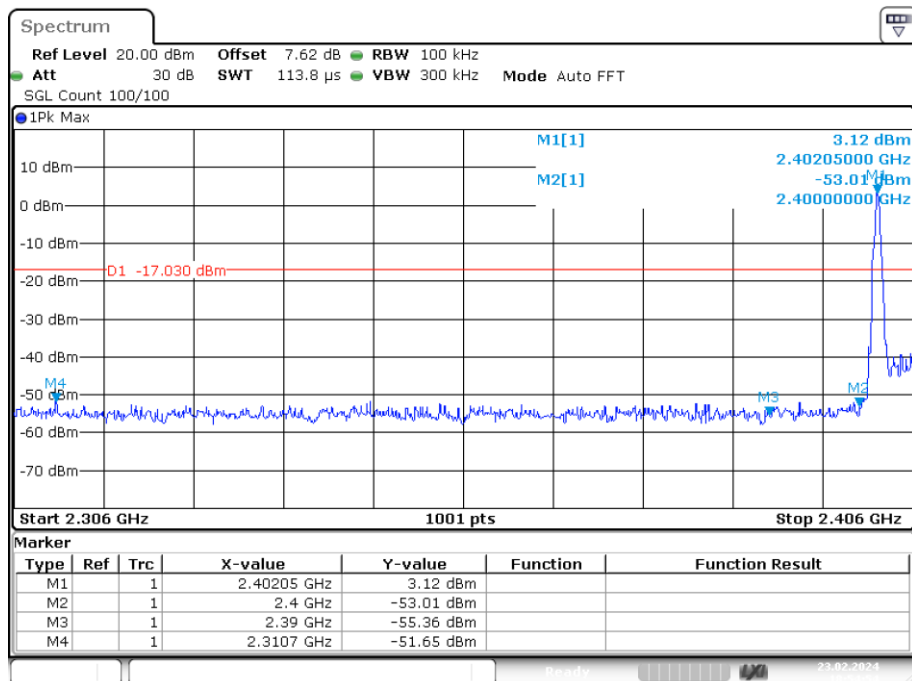
## Conducted Method

## Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



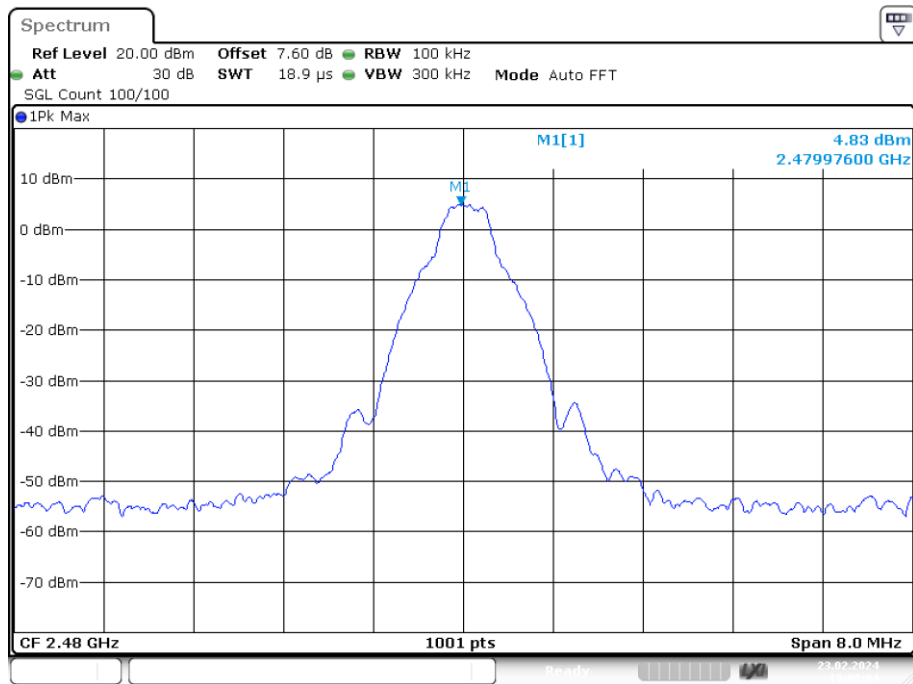
Date: 23.FEB.2024 18:54:47

## Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



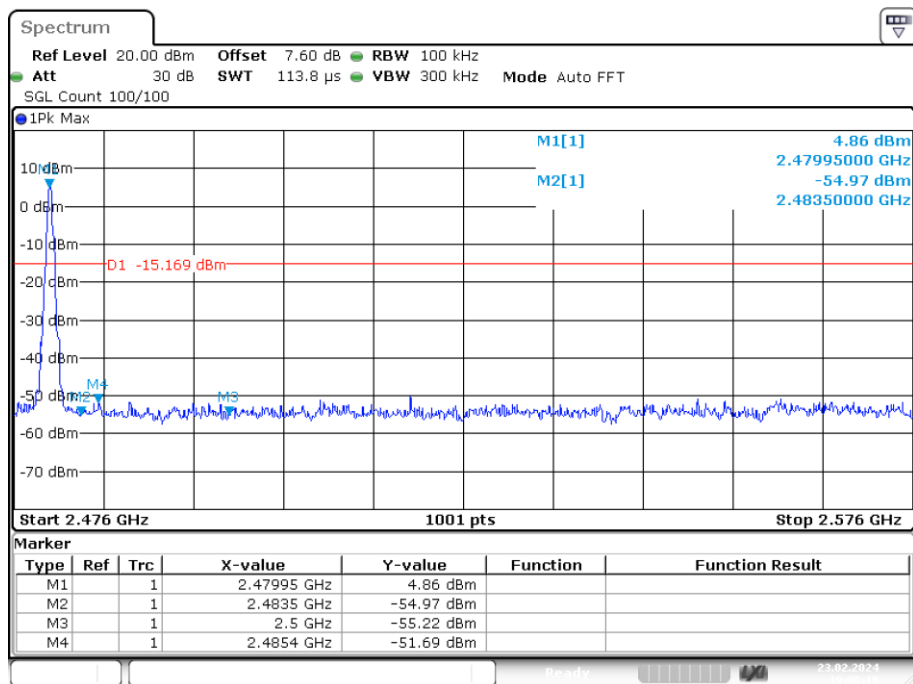
Date: 23.FEB.2024 18:54:53

## Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



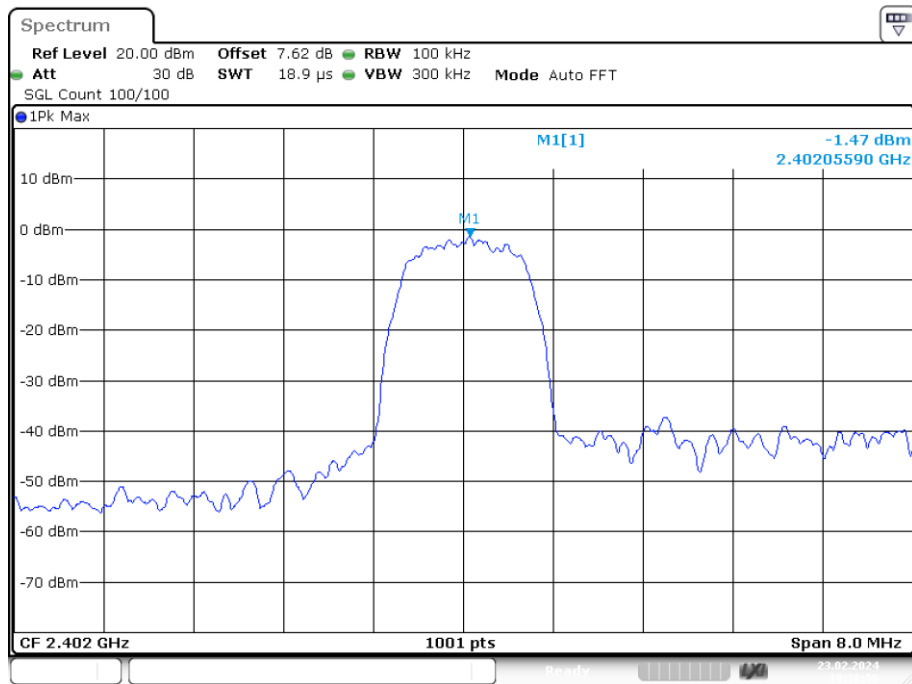
Date: 23.FEB.2024 19:00:03

## Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



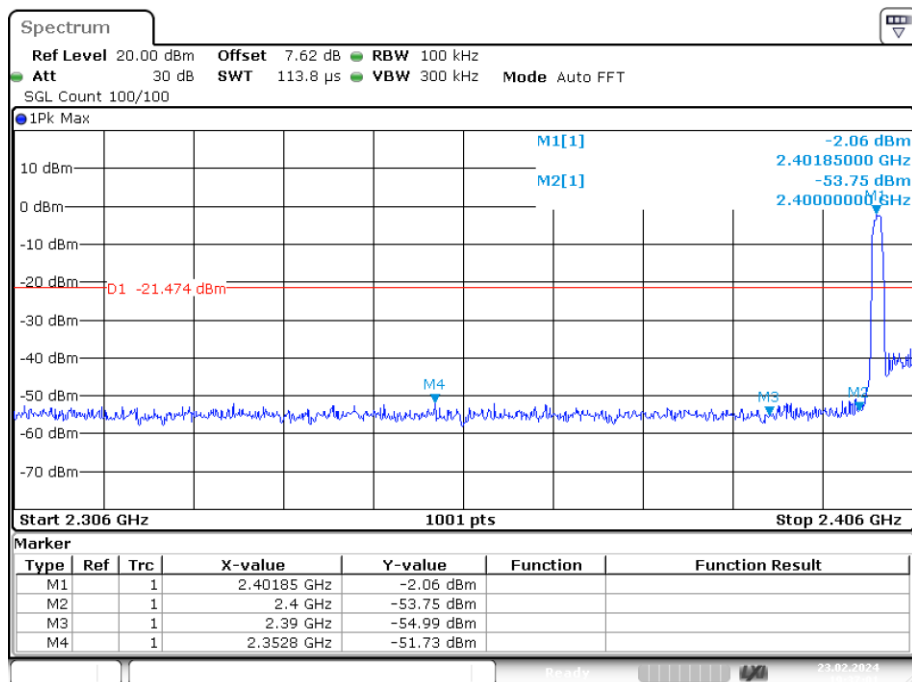
Date: 23.FEB.2024 19:00:09

## Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



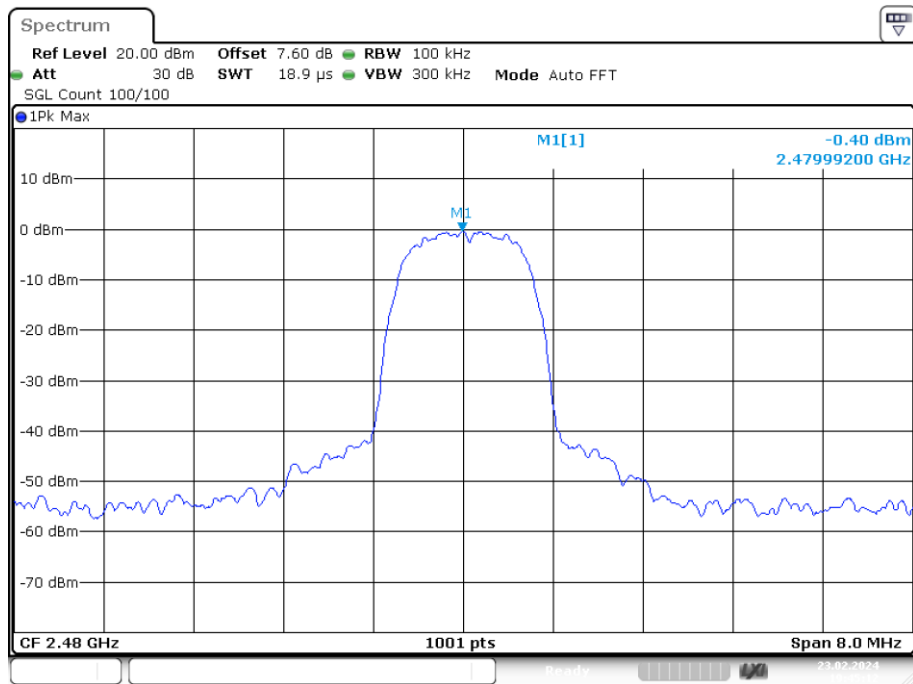
Date: 23.FEB.2024 19:36:55

## Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



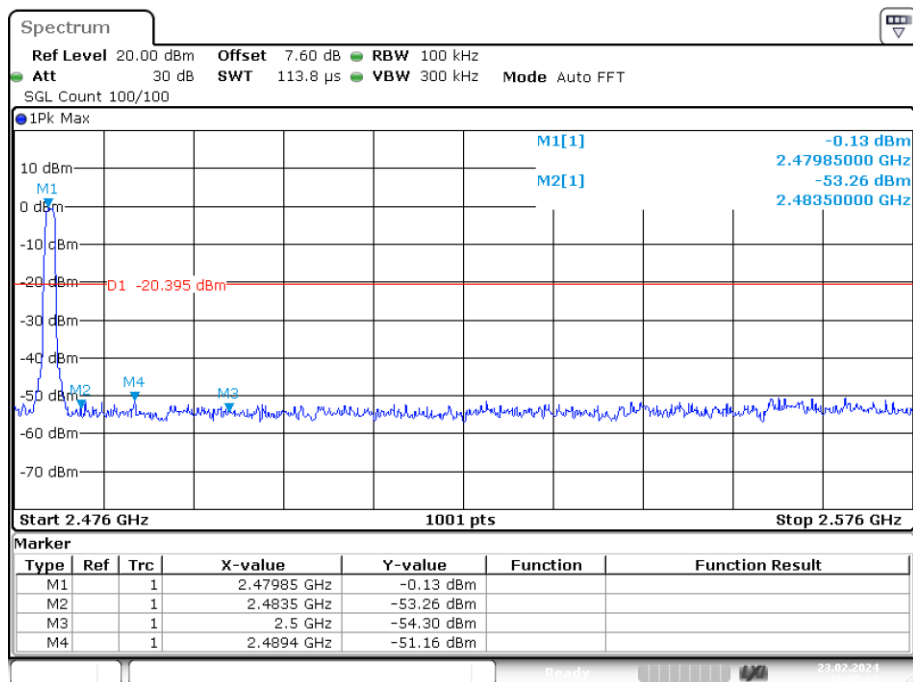
Date: 23.FEB.2024 19:37:01

## Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



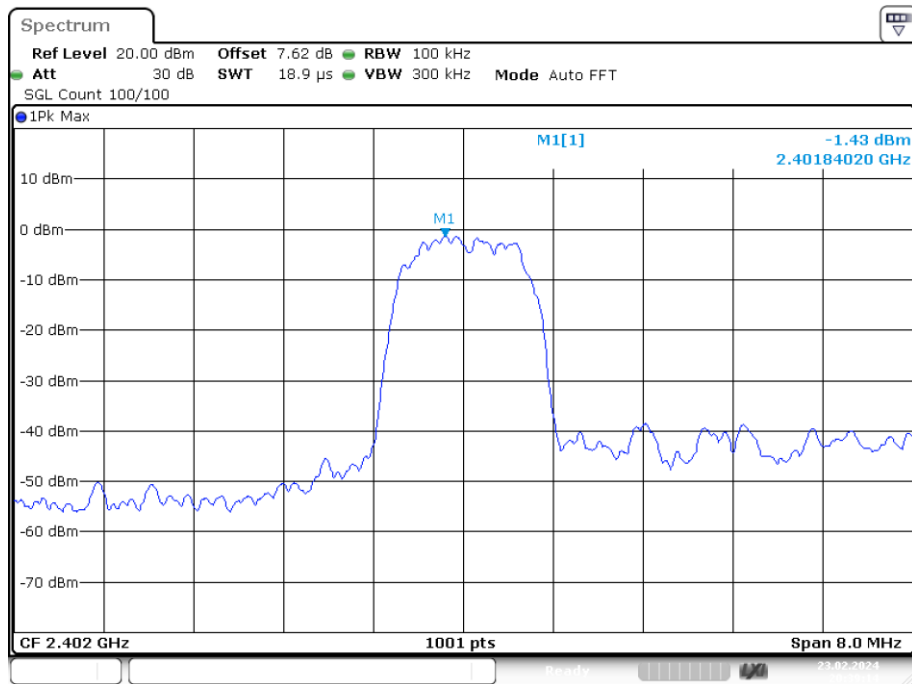
Date: 23.FEB.2024 19:45:12

## Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



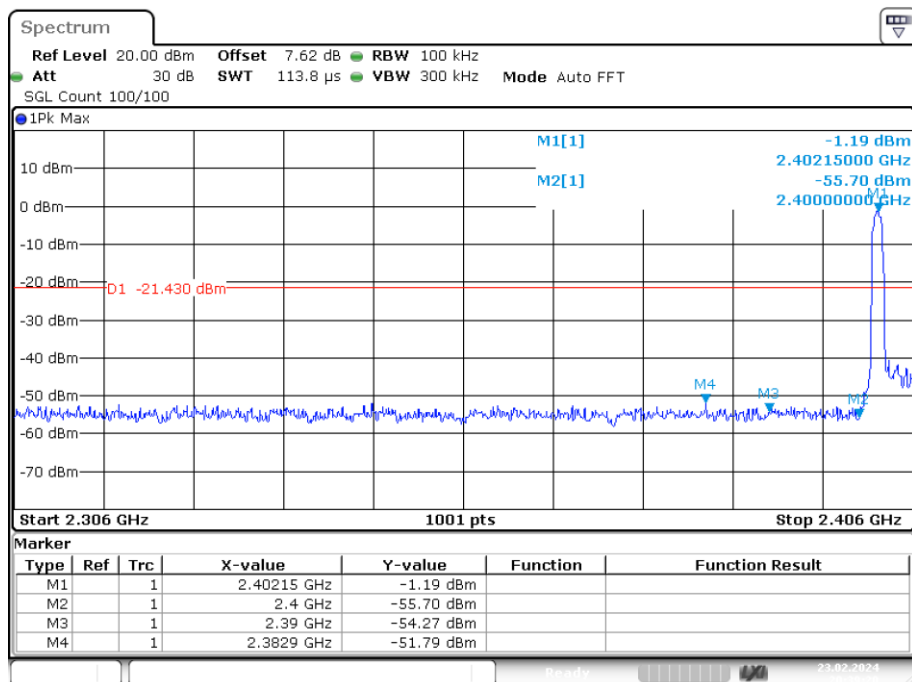
Date: 23.FEB.2024 19:45:18

## Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



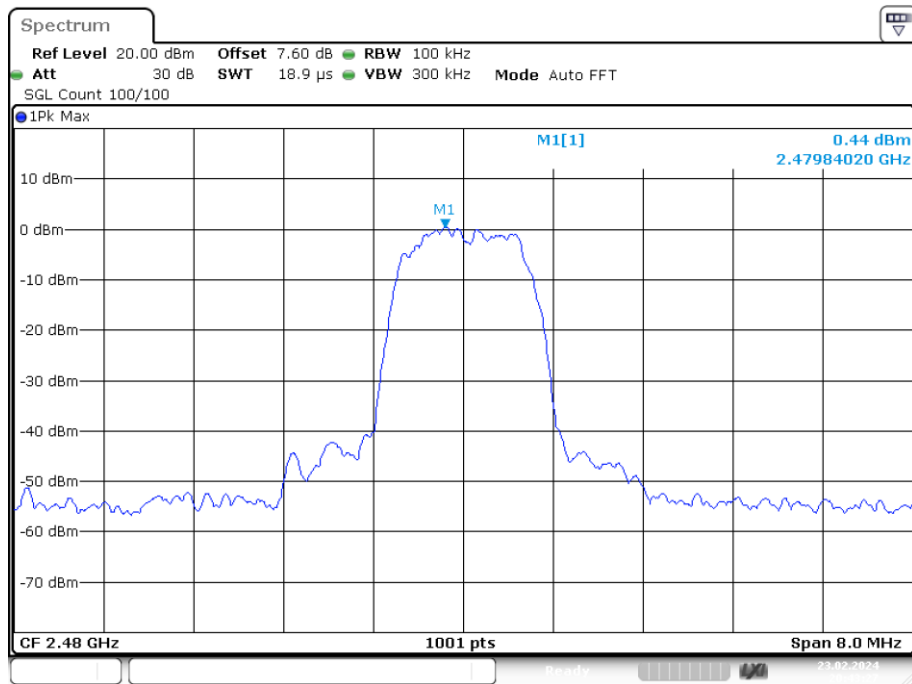
Date: 23.FEB.2024 20:39:14

## Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



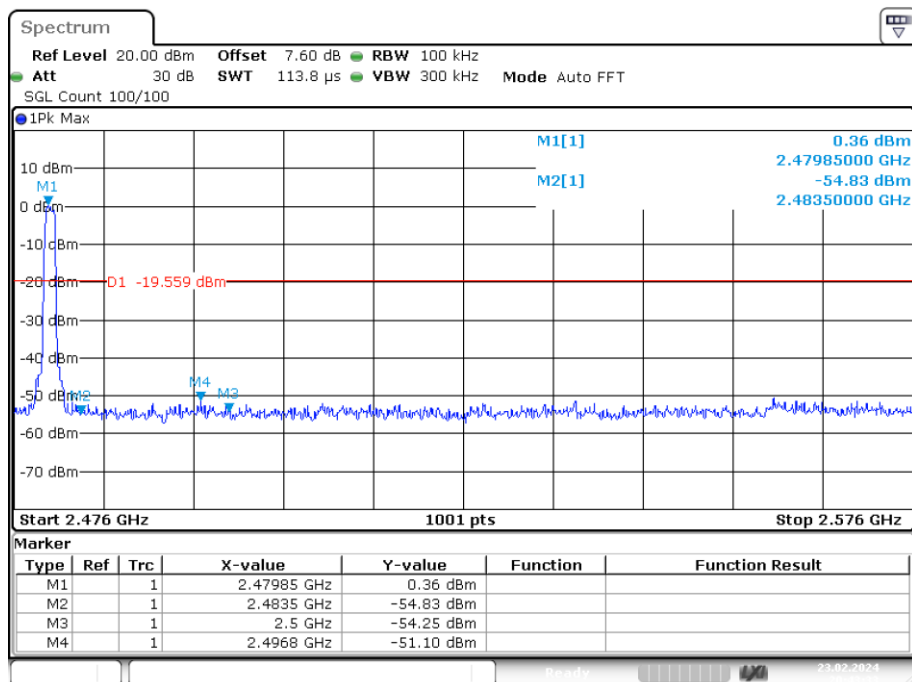
Date: 23.FEB.2024 20:39:20

## Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



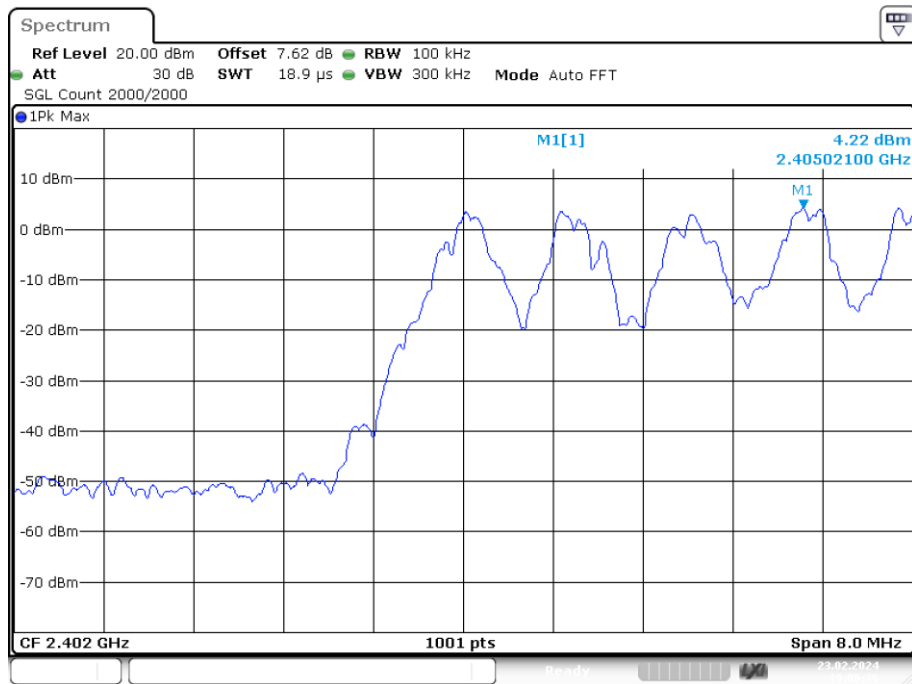
Date: 23.FEB.2024 20:43:27

## Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Emission



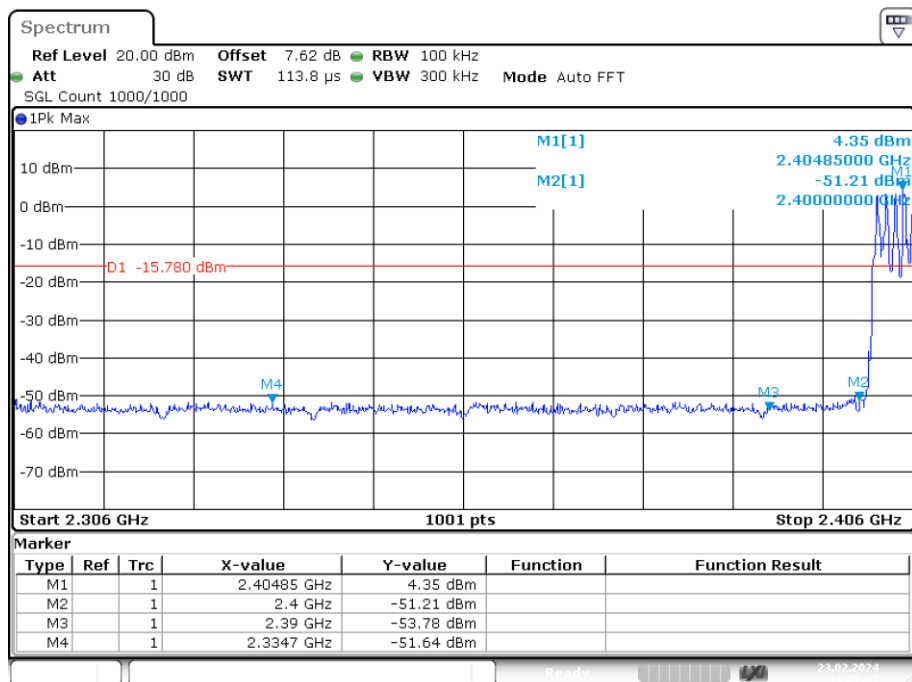
Date: 23.FEB.2024 20:43:33

## Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



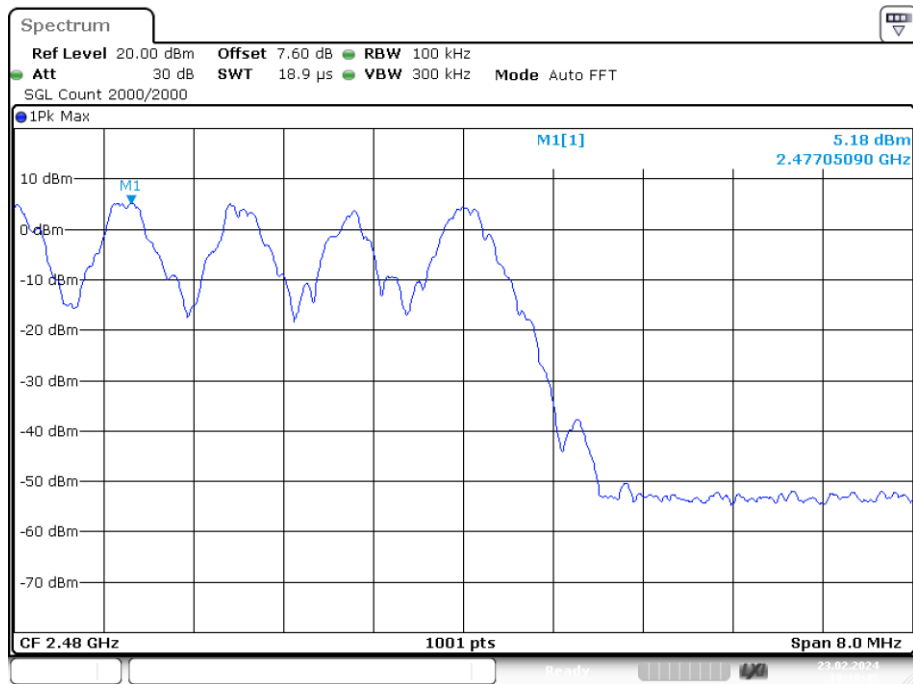
Date: 23.FEB.2024 19:06:36

## Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



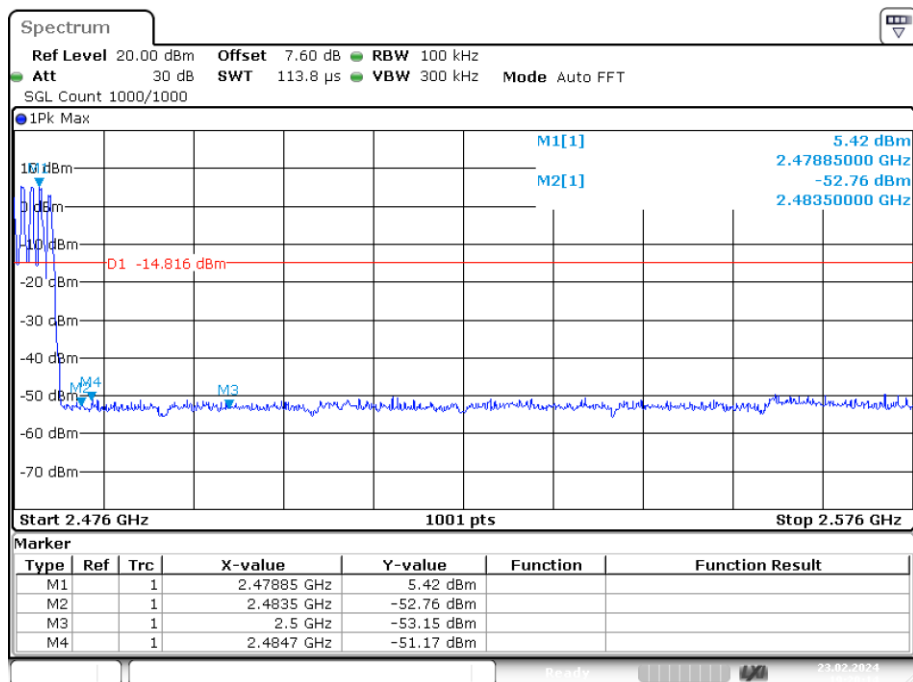
Date: 23.FEB.2024 19:07:07

## Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



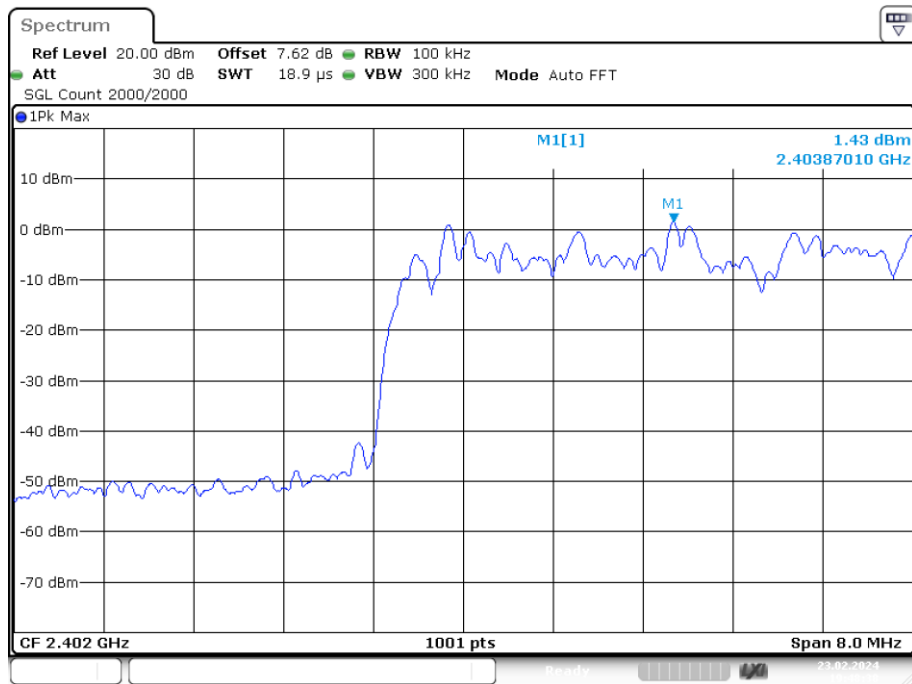
Date: 23.FEB.2024 19:19:44

## Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



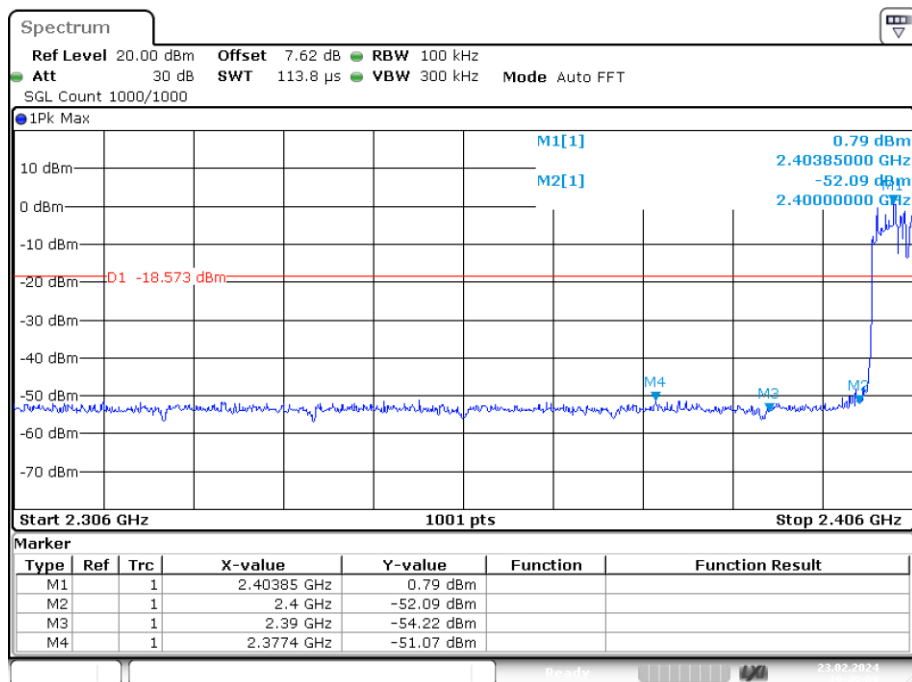
Date: 23.FEB.2024 19:20:13

## Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



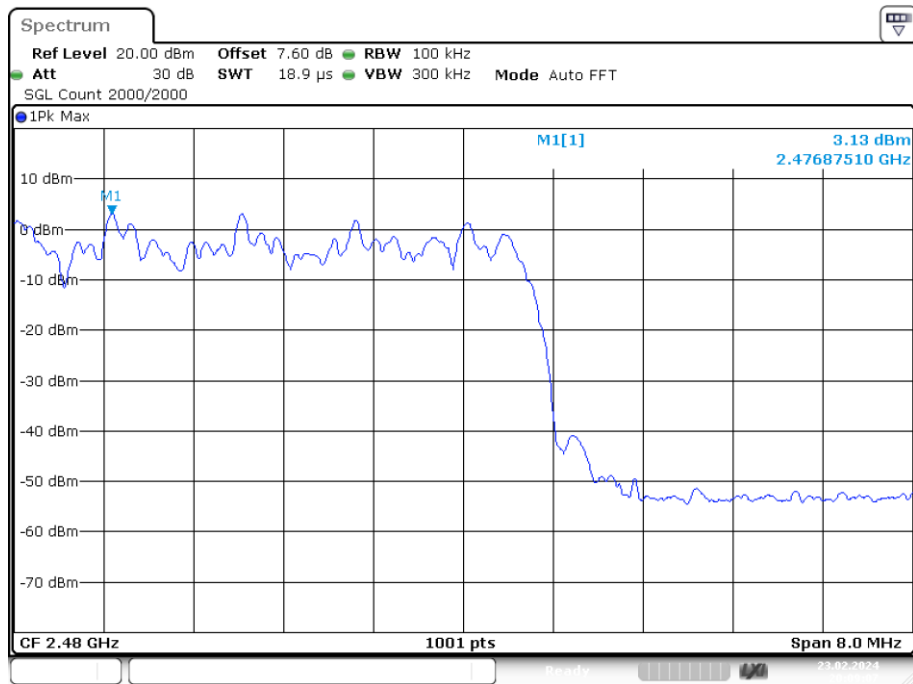
Date: 23.FEB.2024 19:48:38

## Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission

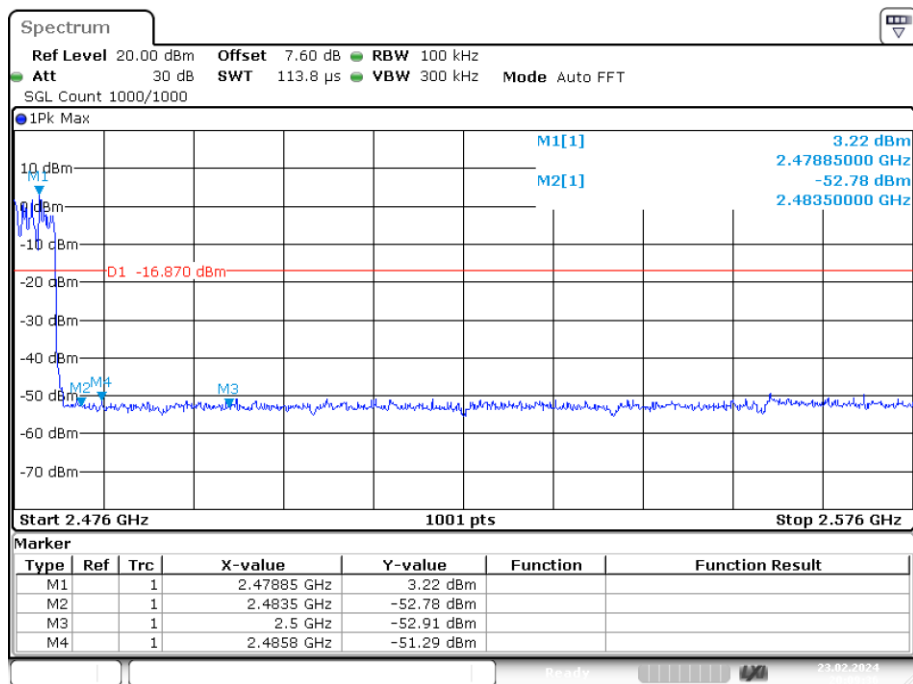


Date: 23.FEB.2024 19:49:09

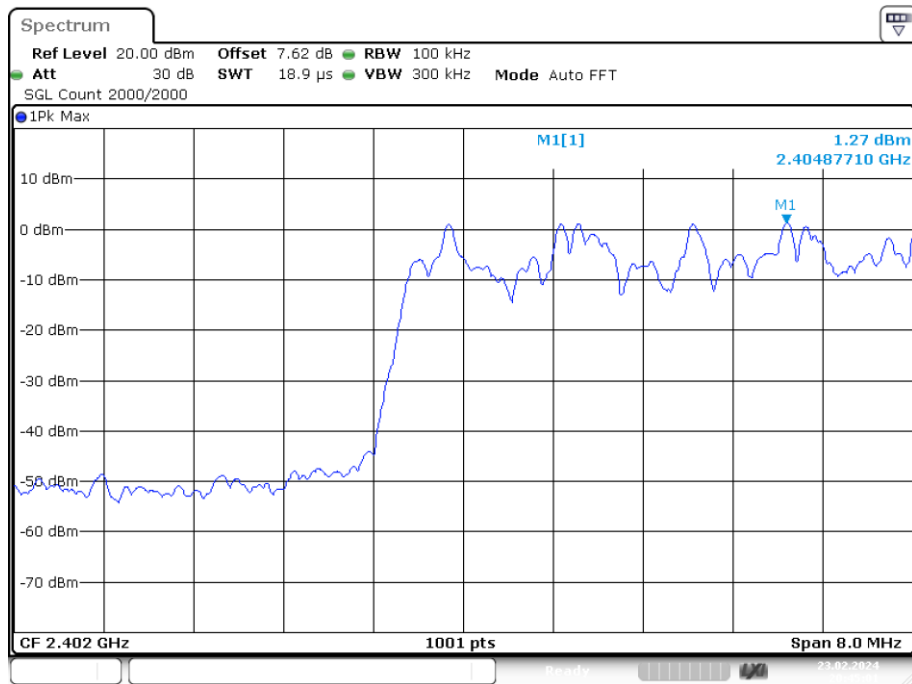
## Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



## Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission

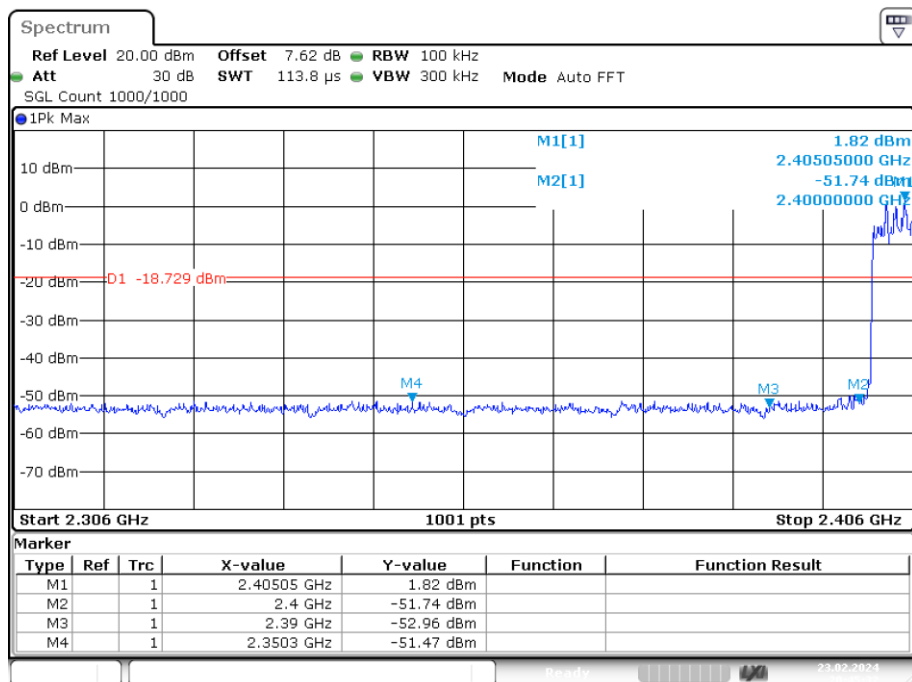


## Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



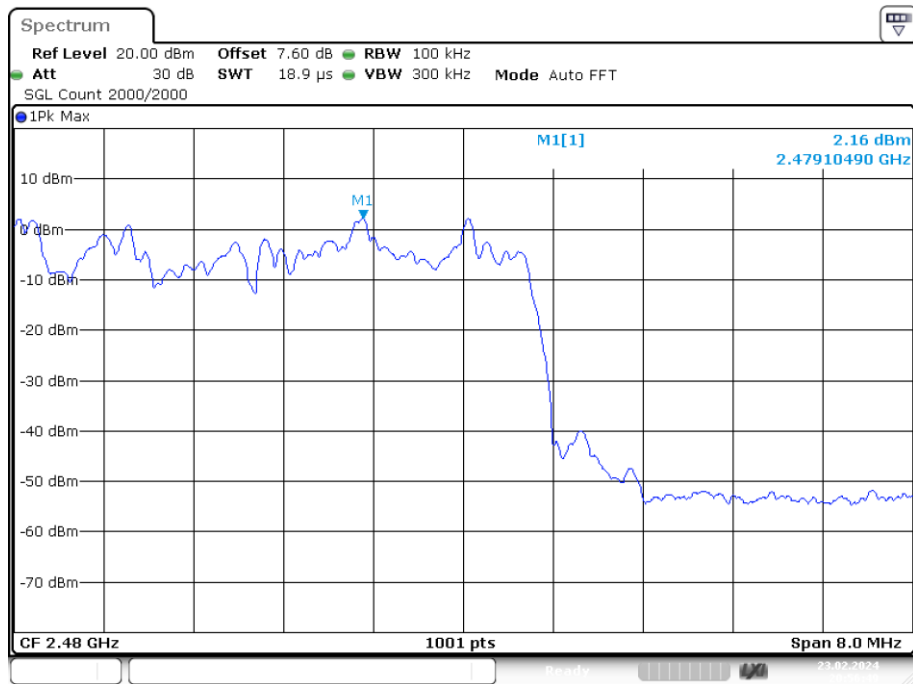
Date: 23.FEB.2024 20:45:01

## Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



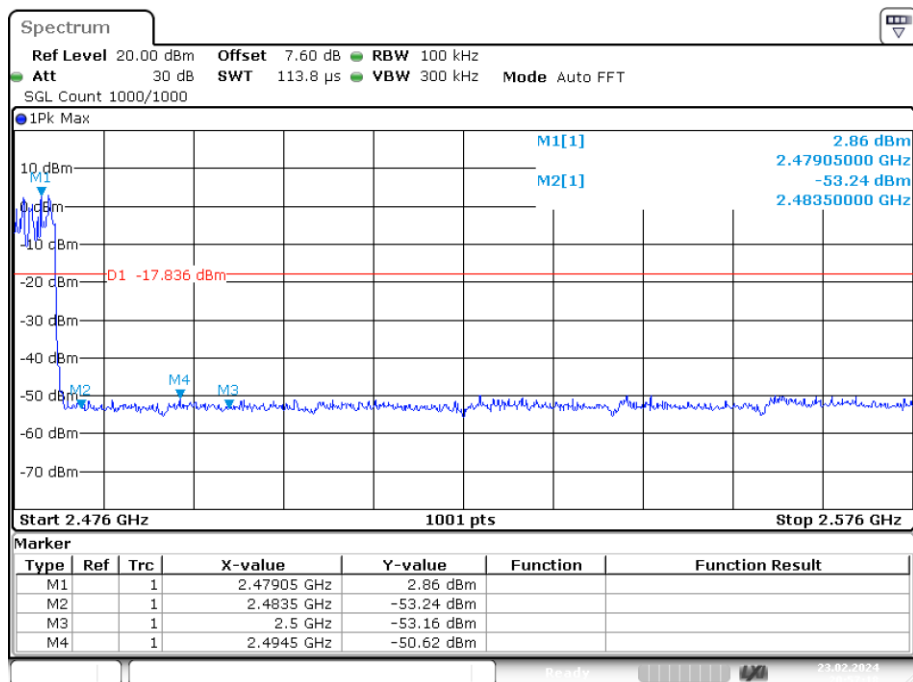
Date: 23.FEB.2024 20:45:32

## Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref



Date: 23.FEB.2024 20:56:49

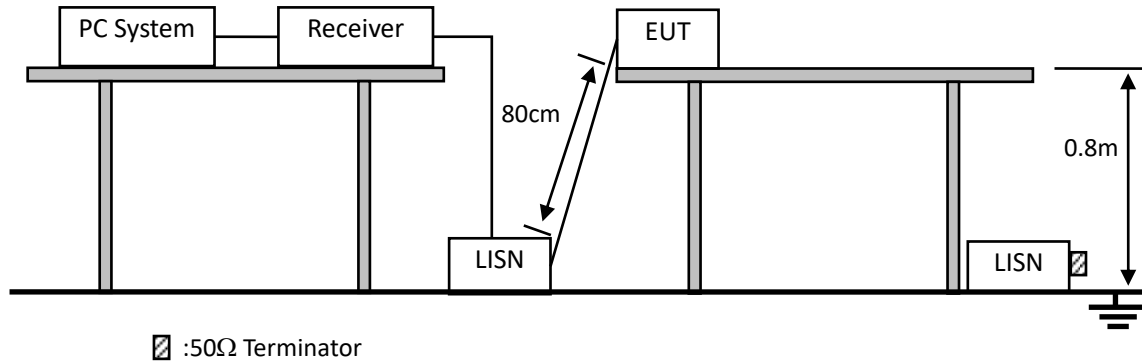
## Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Emission



Date: 23.FEB.2024 20:57:18

## 10. POWER LINE CONDUCTED EMISSIONS

### 10.1. Block Diagram of Test Setup



### 10.2. Limit

| Frequency       | Maximum RF Line Voltage    |                         |
|-----------------|----------------------------|-------------------------|
|                 | Quasi-Peak Level<br>dB(μV) | Average Level<br>dB(μV) |
| 150kHz ~ 500kHz | 66 ~ 56*                   | 56 ~ 46*                |
| 500kHz ~ 5MHz   | 56                         | 46                      |
| 5MHz ~ 30MHz    | 60                         | 50                      |

Notes: 1. \* Decreasing linearly with logarithm of frequency.  
 2. The lower limit shall apply at the transition frequencies.

### 10.3. Test Procedure

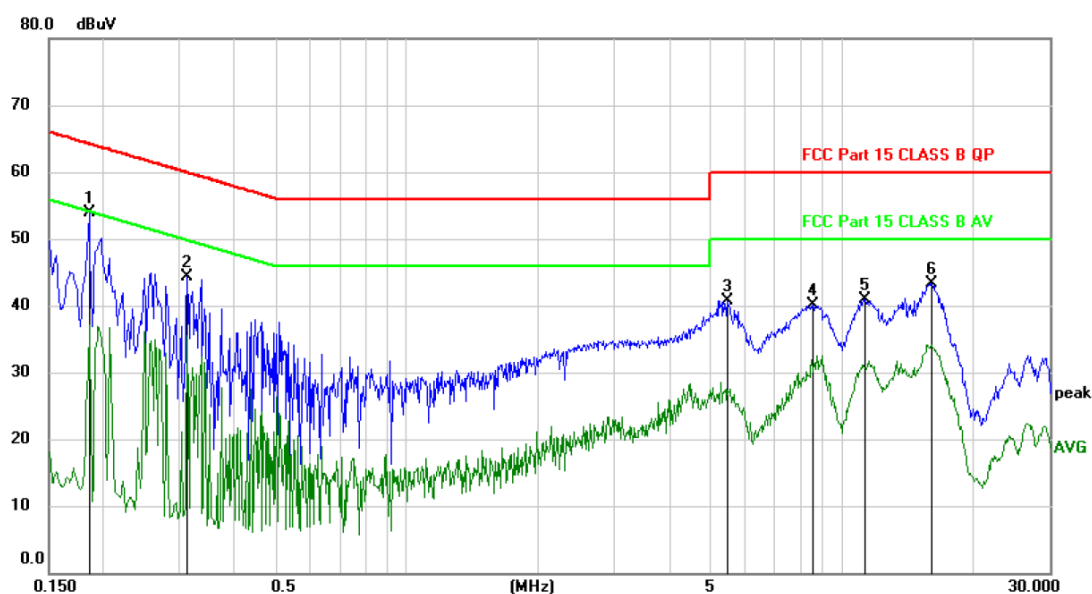
- (1) The EUT was placed on a non-metallic table, 80cm above the ground plane.
- (2) Setup the EUT and simulator as shown in 10.1
- (3) The EUT Power connected to the power mains through a power adapter and a line impedance stabilization network (L.I.S.N1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N2), this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10 :2013on conducted Emission test.
- (4) The bandwidth of test receiver is set at 10KHz.
- (5) The frequency range from 150 KHz to 30MHz is checked.

### 10.4. Test Result

PASS. (See below detailed test data)

Note: If peak Result comply with AV limit, QP and AV Result is deemed to comply with AV limit

Line:

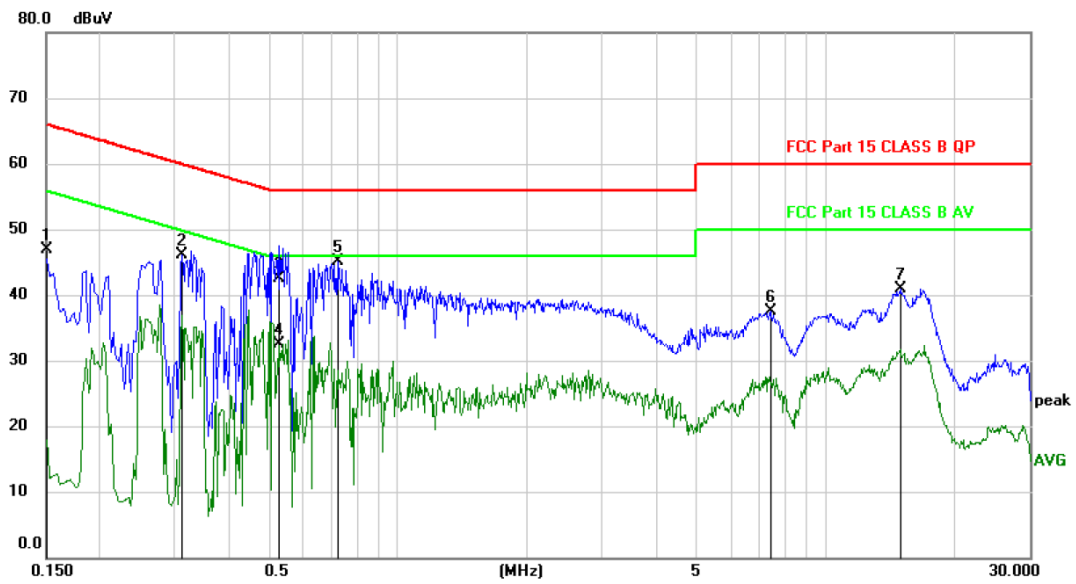


| No. | Mk. | Freq.   | Reading | Correct | Measure- | Limit | Margin |          |         |
|-----|-----|---------|---------|---------|----------|-------|--------|----------|---------|
|     |     | MHz     | Level   | Factor  | ment     |       |        | Detector | Comment |
|     |     |         | dBuV    | dB      | dBuV     | dBuV  | dB     |          |         |
| 1   | *   | 0.1860  | 43.98   | 9.83    | 53.81    | 64.21 | -10.40 | peak     |         |
| 2   |     | 0.3120  | 34.39   | 9.83    | 44.22    | 59.92 | -15.70 | peak     |         |
| 3   |     | 5.4540  | 30.81   | 9.90    | 40.71    | 60.00 | -19.29 | peak     |         |
| 4   |     | 8.5740  | 30.16   | 9.95    | 40.11    | 60.00 | -19.89 | peak     |         |
| 5   |     | 11.2830 | 30.91   | 10.03   | 40.94    | 60.00 | -19.06 | peak     |         |
| 6   |     | 16.0980 | 33.20   | 10.05   | 43.25    | 60.00 | -16.75 | peak     |         |

\*:Maximum data    x:Over limit    !:over margin

(Reference Only)

Note: Measurement=Reading Level+Correc Factor.    Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

**Neutral:**

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1   |     | 0.1500       | 36.99                    | 9.83                    | 46.82                    | 66.00         | -19.18       | peak     |         |
| 2   |     | 0.3120       | 36.24                    | 9.83                    | 46.07                    | 59.92         | -13.85       | peak     |         |
| 3   |     | 0.5280       | 32.77                    | 9.83                    | 42.60                    | 56.00         | -13.40       | QP       |         |
| 4   |     | 0.5280       | 22.69                    | 9.83                    | 32.52                    | 46.00         | -13.48       | AVG      |         |
| 5   | *   | 0.7200       | 35.31                    | 9.84                    | 45.15                    | 56.00         | -10.85       | peak     |         |
| 6   |     | 7.4100       | 27.55                    | 9.93                    | 37.48                    | 60.00         | -22.52       | peak     |         |
| 7   |     | 14.9310      | 30.84                    | 10.04                   | 40.88                    | 60.00         | -19.12       | peak     |         |

\*:Maximum data    x:Over limit    !:over margin

(Reference Only)

Note: Measurement=Reading Level+Correc Factor.    Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

Note: All modes and channels have been tested and only the GFSK 2402MHz mode with the worst data is listed.

## **11. ANTENNA REQUIREMENTS**

### **11.1.Limit**

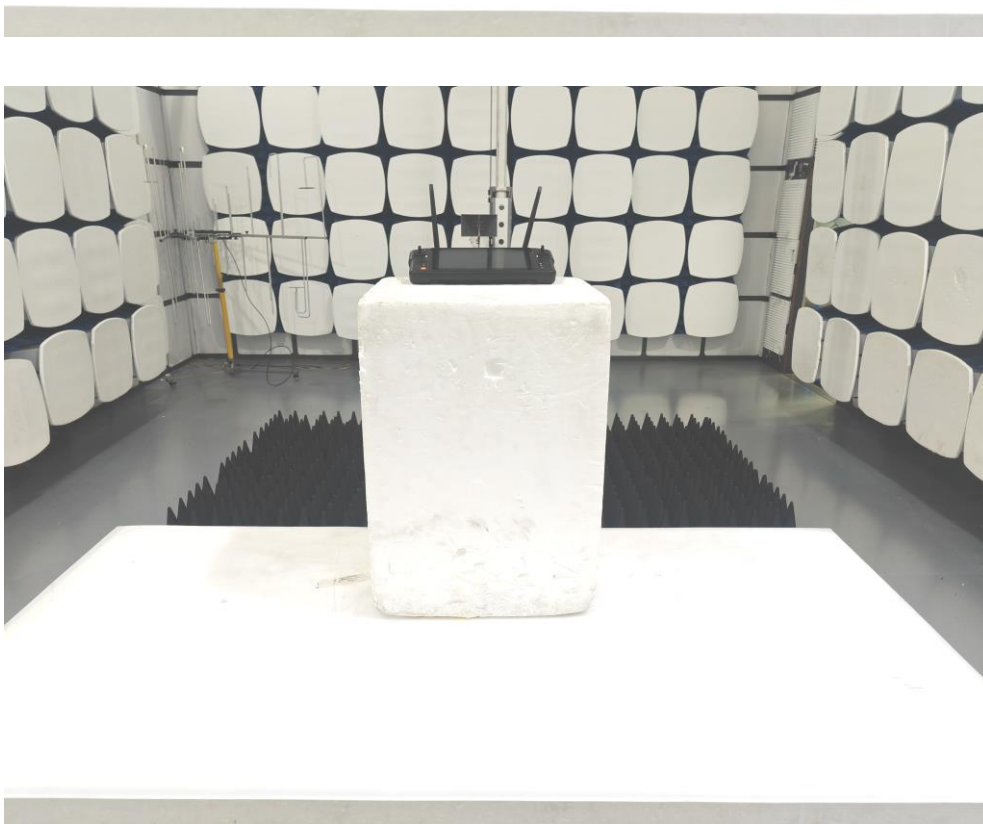
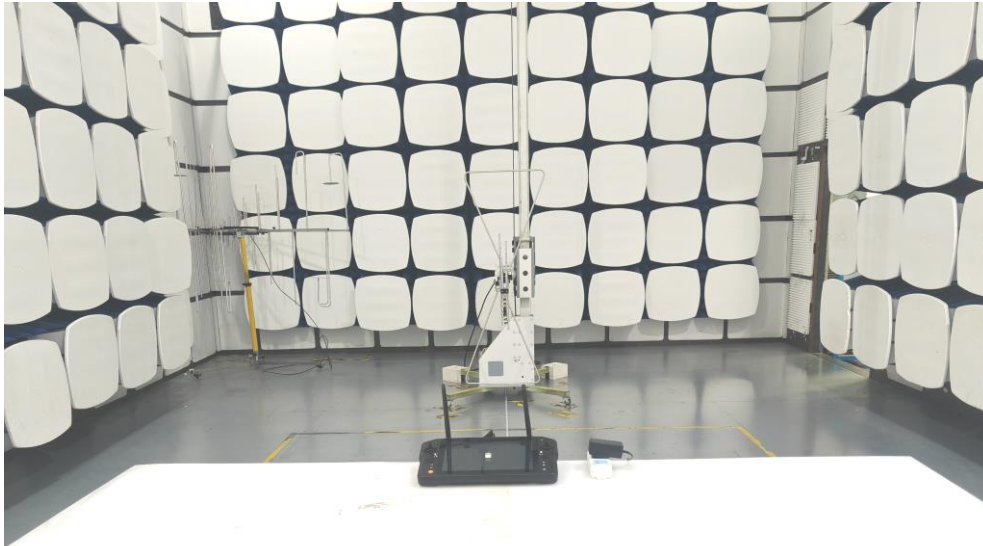
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### **11.2.Result**

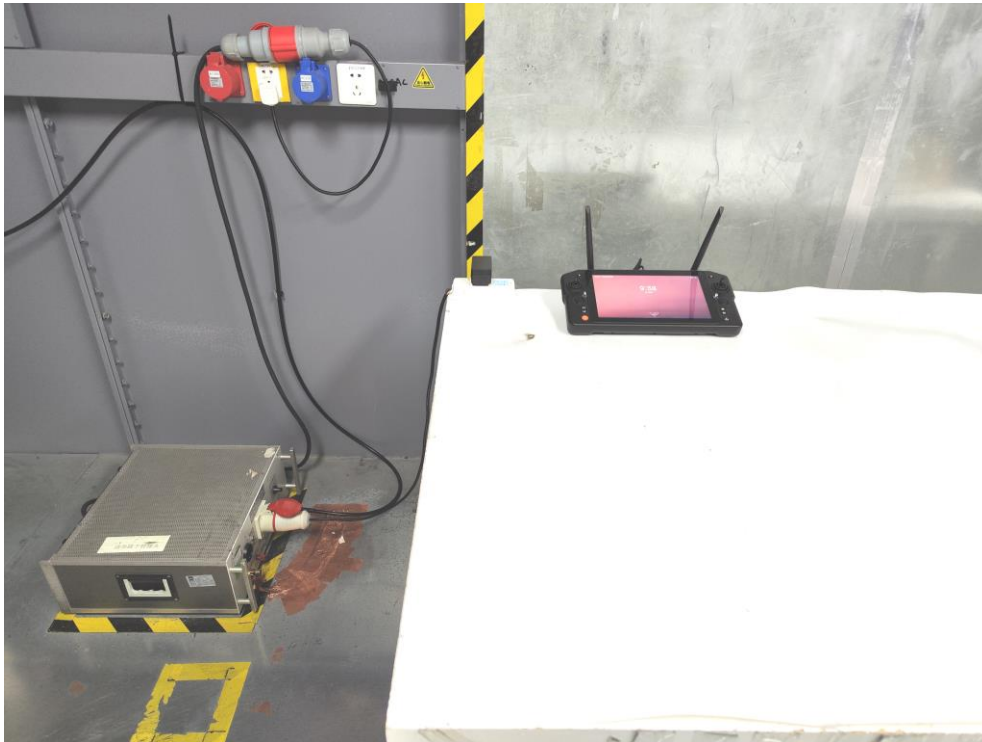
The EUT antenna is Internal Antenna. It complies with the standard requirement.

## 12. TEST SETUP PHOTO

### 12.1. Photo of Radiated Emission test



## 12.2.Photo of Conducted Emission test



-----END OF REPORT-----