

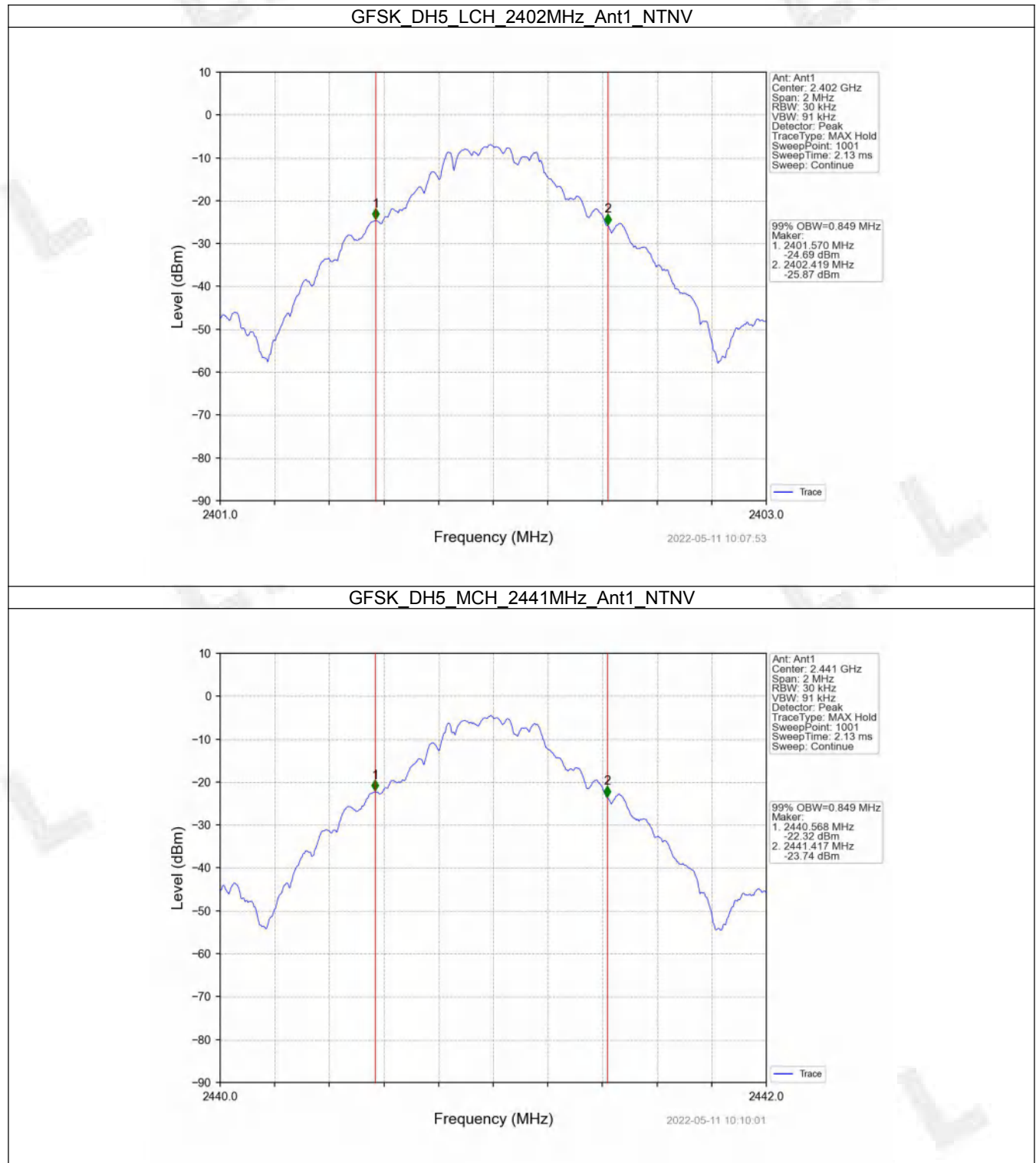
## 1. Bandwidth

### 1.1 OBW

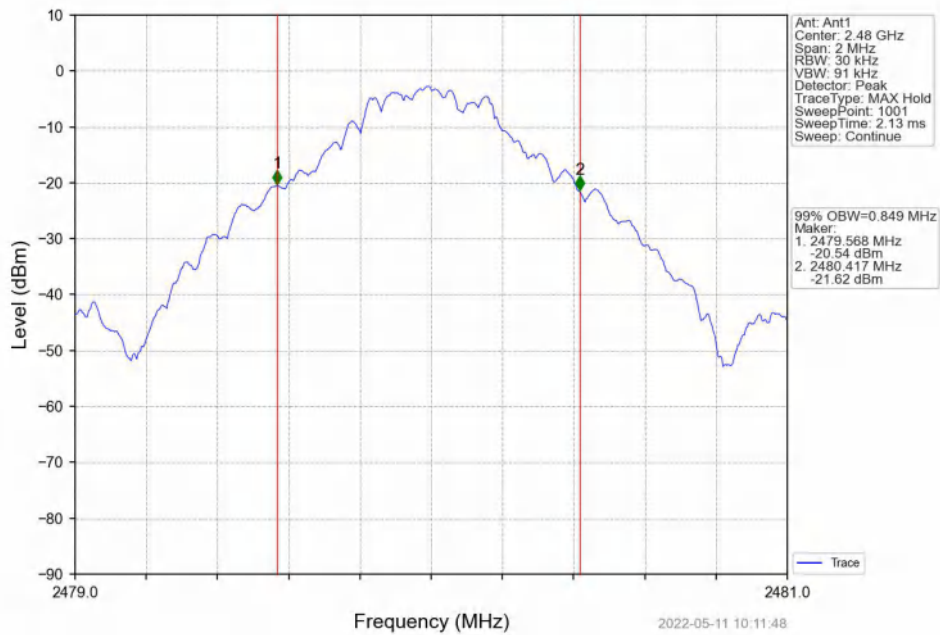
#### 1.1.1 Test Result

| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | 99% Occupied Bandwidth (MHz) | Verdict |
|-----------|---------|-----------------|-------------|-----|------------------------------|---------|
|           |         |                 |             |     | Result                       |         |
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.849                        | Pass    |
|           |         | 2441            | DH5         | 1   | 0.849                        | Pass    |
|           |         | 2480            | DH5         | 1   | 0.849                        | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.169                        | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.169                        | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.170                        | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 1.162                        | Pass    |
|           |         | 2441            | 3DH5        | 1   | 1.164                        | Pass    |
|           |         | 2480            | 3DH5        | 1   | 1.164                        | Pass    |

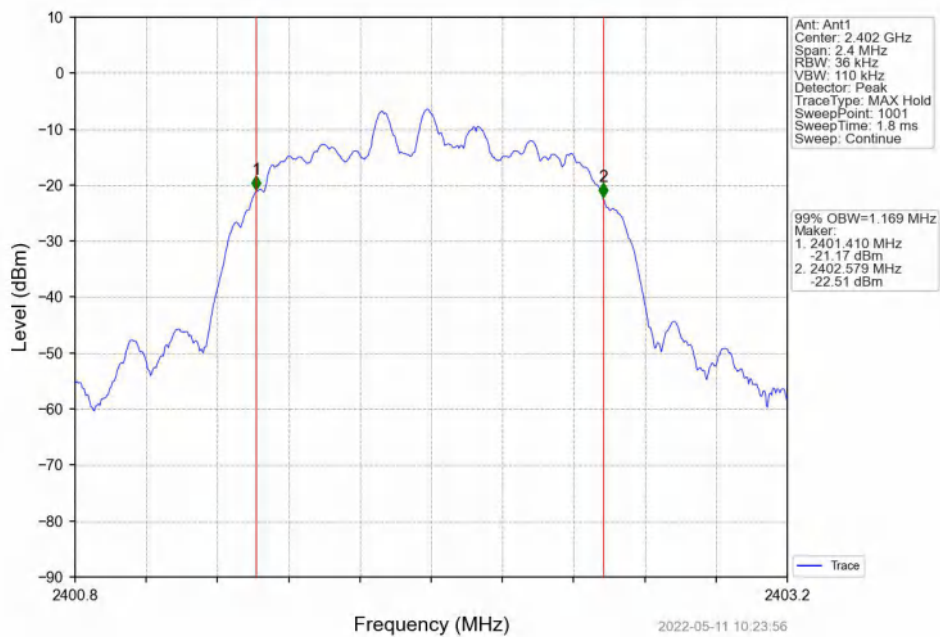
## 1.1.2 Test Graph



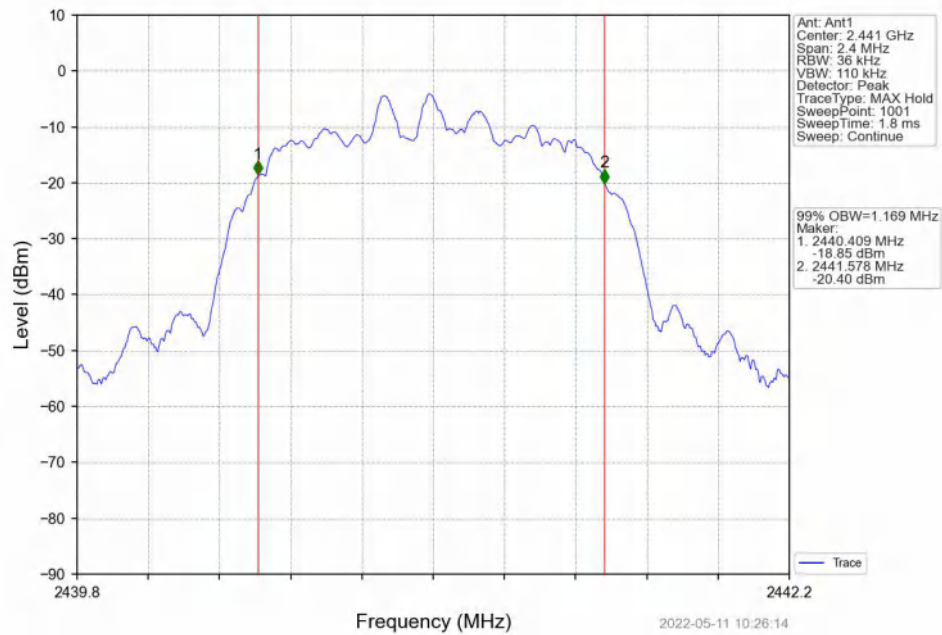
## GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



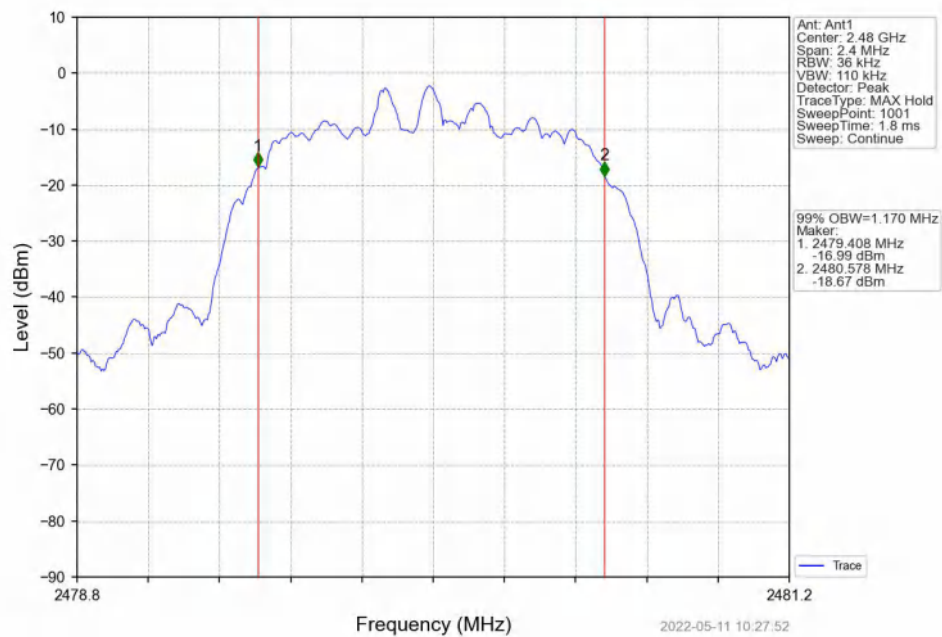
## Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



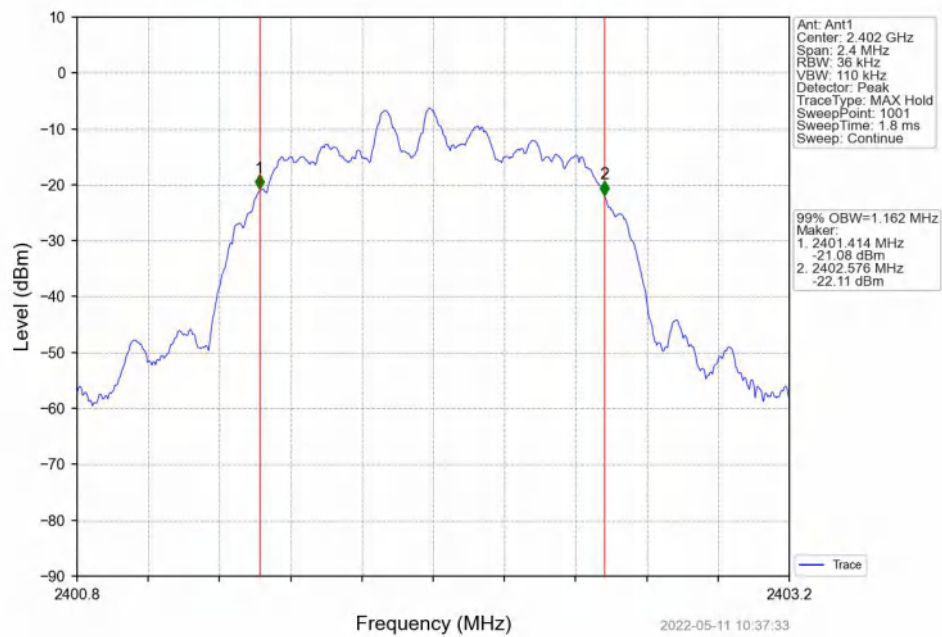
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



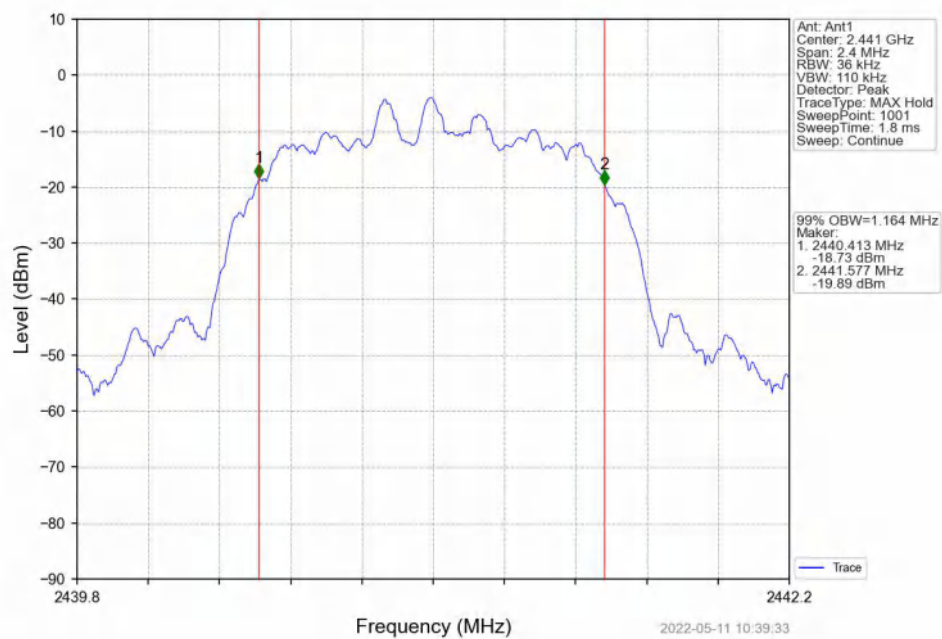
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



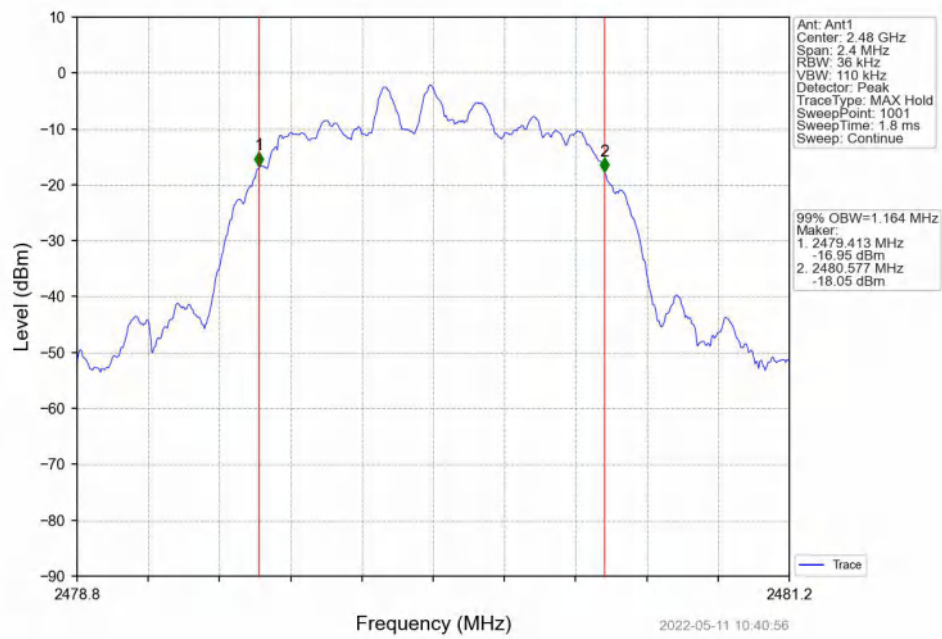
## 8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



## 8DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



## 8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV

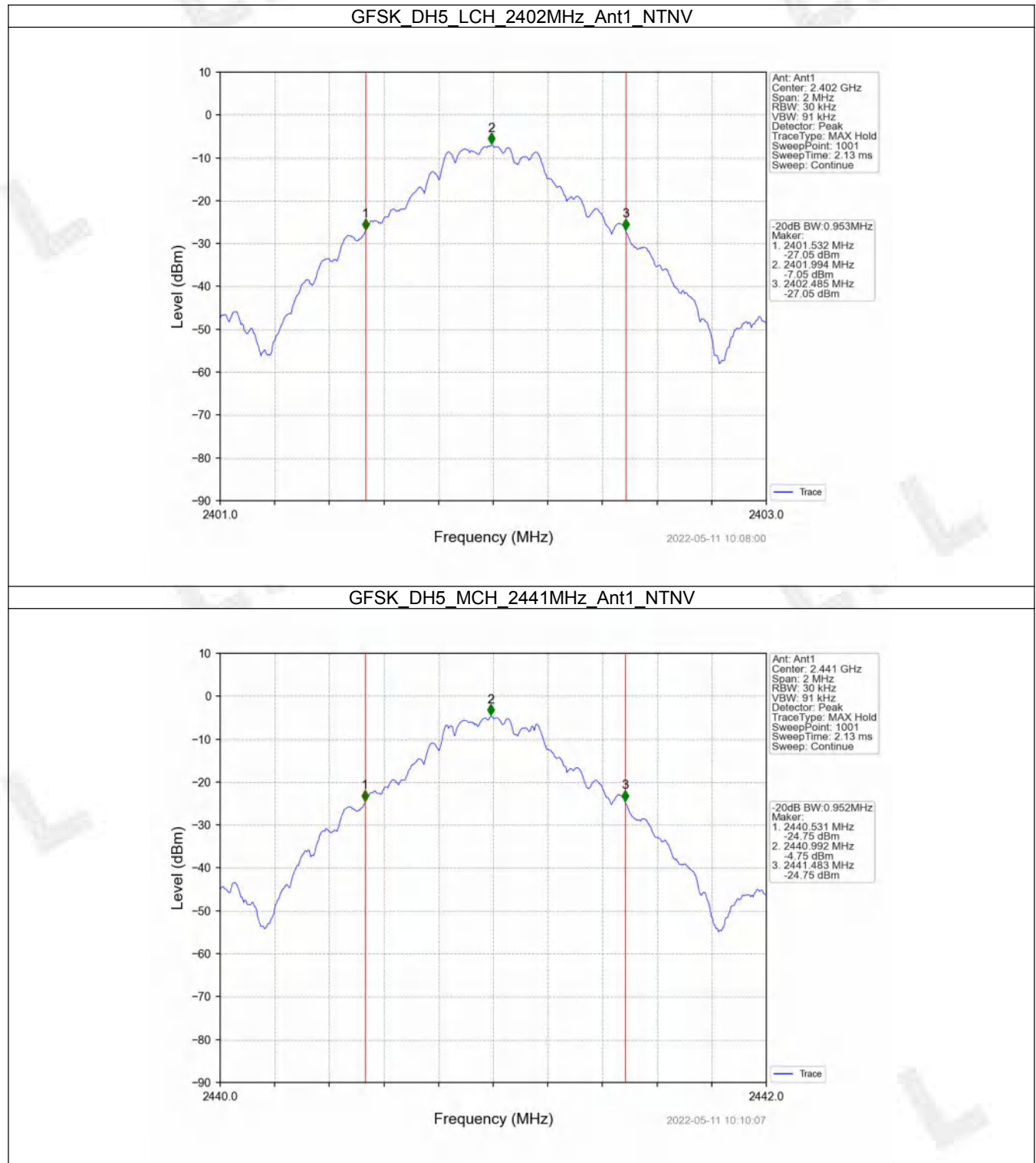


## 1.2 20dB BW

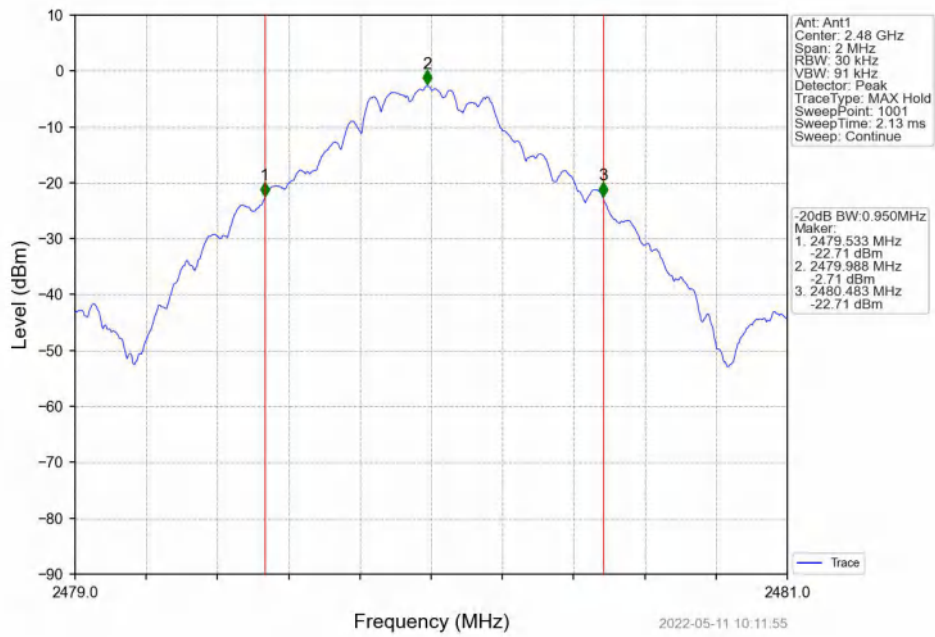
## 1.2.1 Test Result

| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | 20dB Bandwidth (MHz) | Verdict |
|-----------|---------|-----------------|-------------|-----|----------------------|---------|
|           |         |                 |             |     | Result               |         |
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.953                | Pass    |
|           |         | 2441            | DH5         | 1   | 0.952                | Pass    |
|           |         | 2480            | DH5         | 1   | 0.950                | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.283                | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.283                | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.284                | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 1.281                | Pass    |
|           |         | 2441            | 3DH5        | 1   | 1.283                | Pass    |
|           |         | 2480            | 3DH5        | 1   | 1.282                | Pass    |

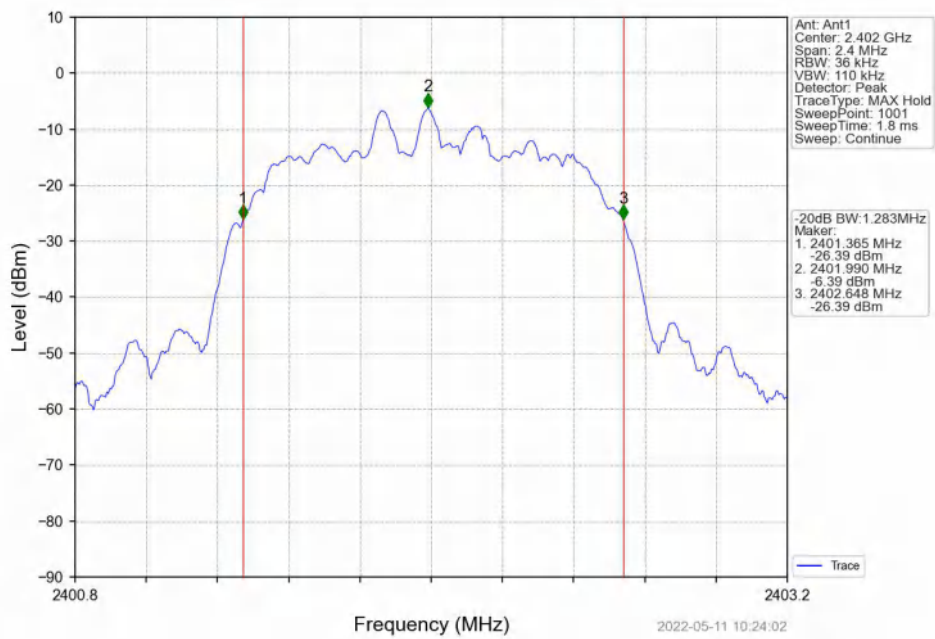
## 1.2.2 Test Graph



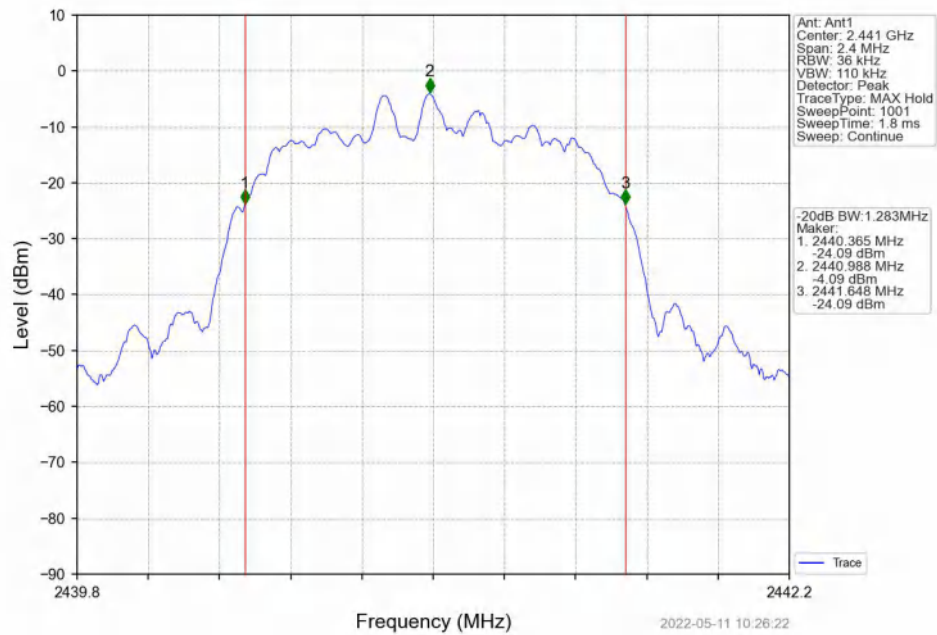
## GFSK DH5\_HCH\_2480MHz\_Ant1\_NTNV



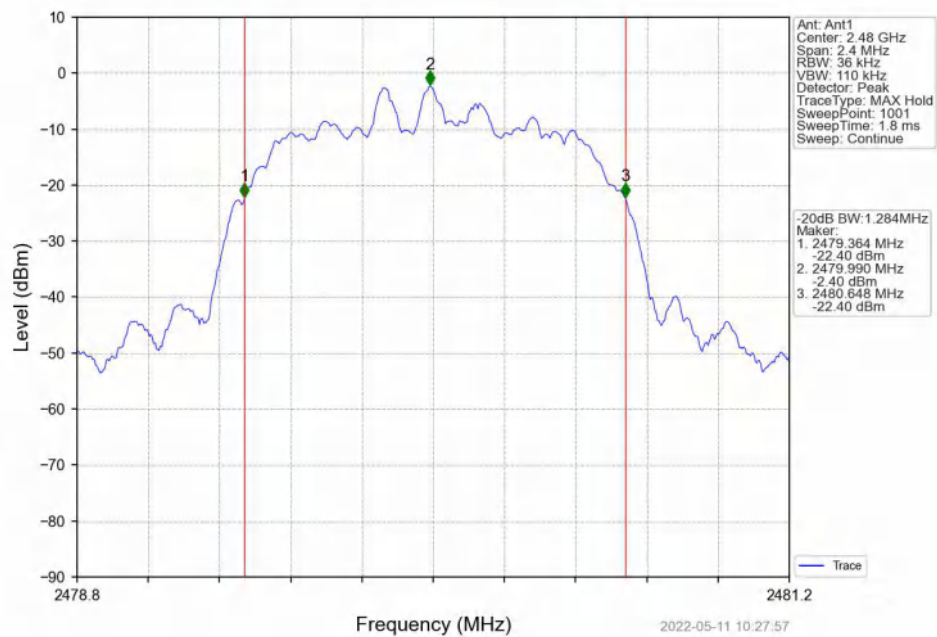
## Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



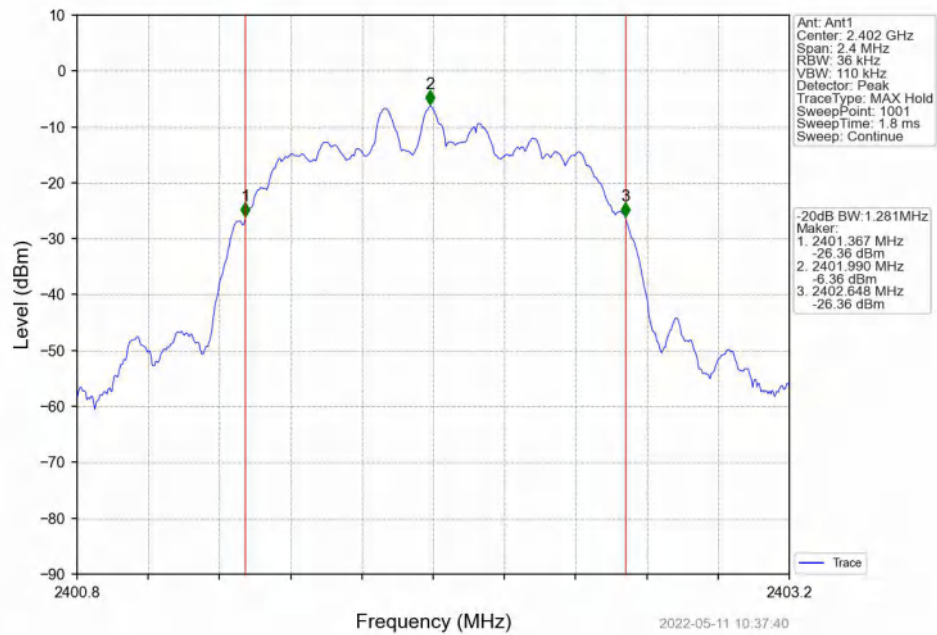
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



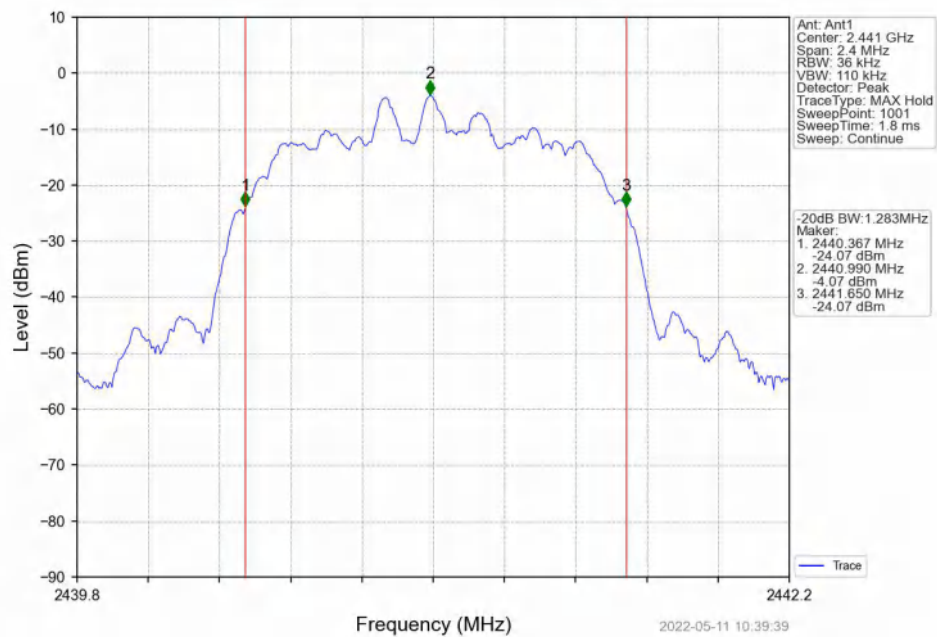
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV

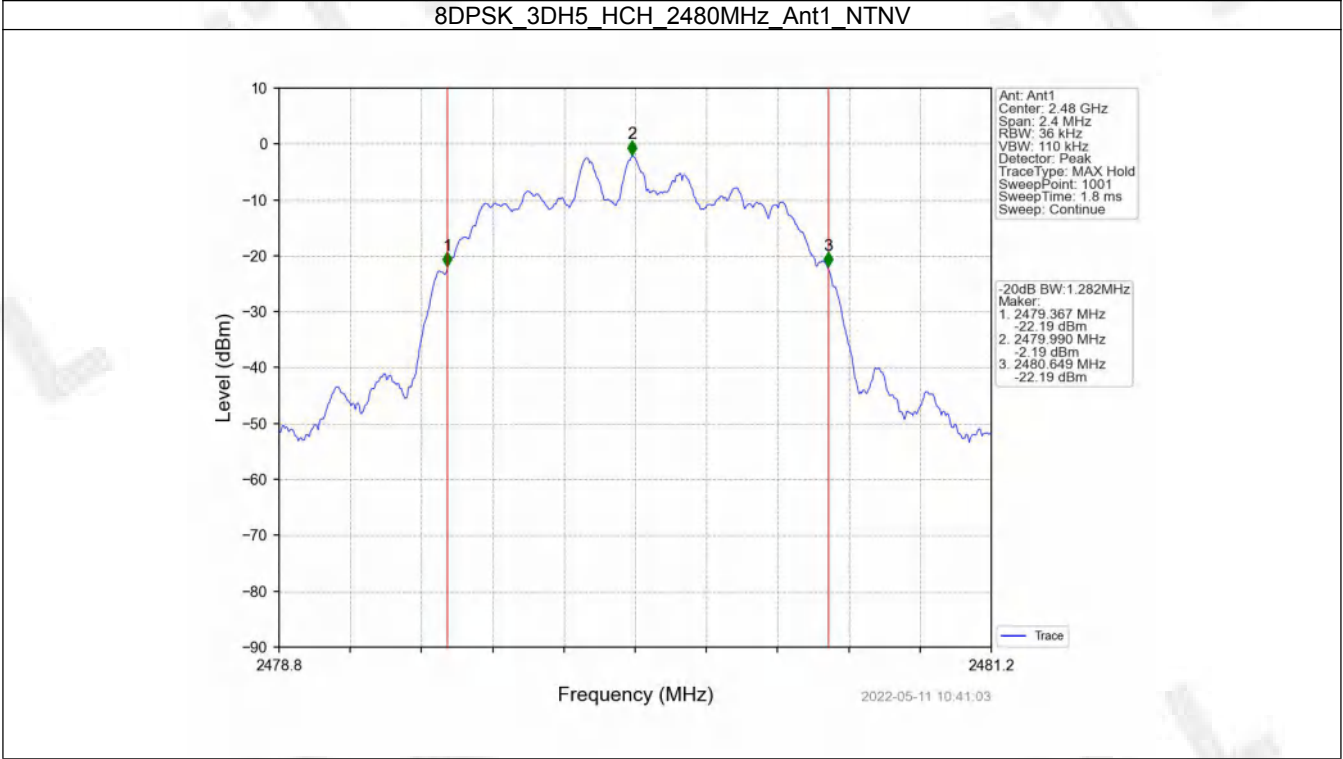


8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



8DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV





## 2. Maximum Conducted Output Power

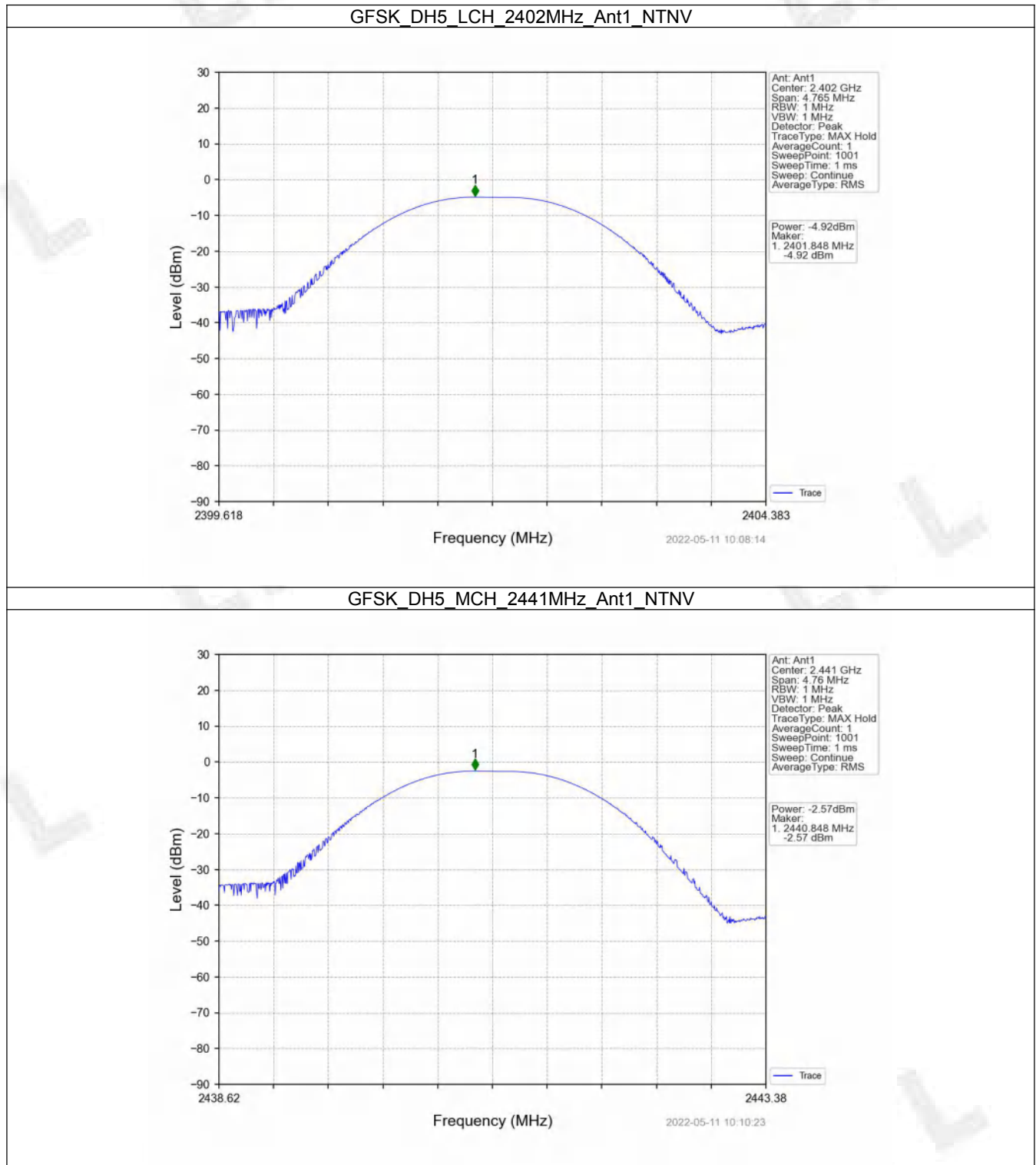
### 2.1 Power

#### 2.1.1 Test Result

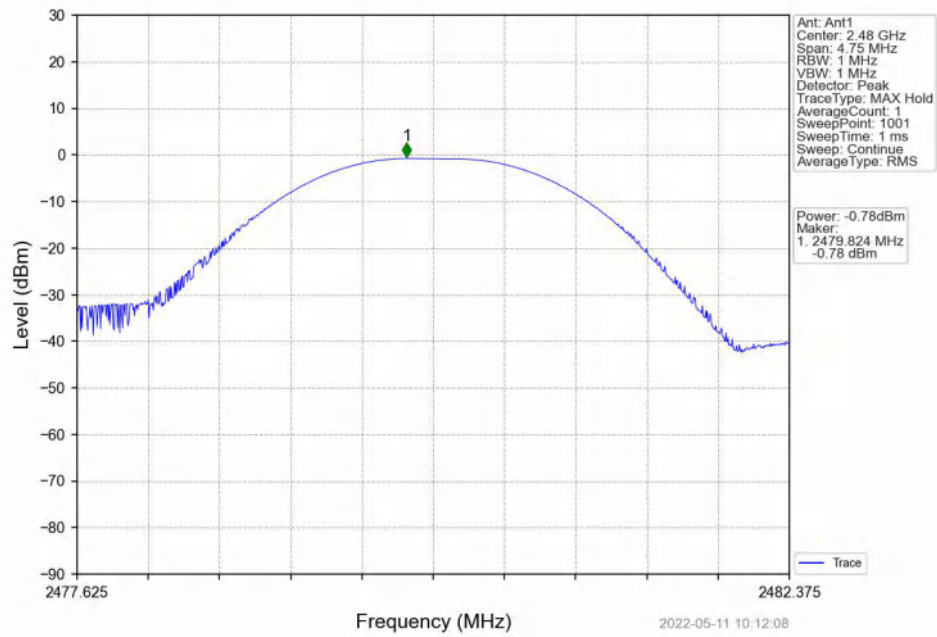
| Mode      | TX Type | Frequency (MHz) | Packet Type | Maximum Peak Conducted Output Power (dBm) |         | Verdict |
|-----------|---------|-----------------|-------------|-------------------------------------------|---------|---------|
|           |         |                 |             | ANT1                                      | Limit   |         |
| GFSK      | SISO    | 2402            | DH5         | -4.92                                     | <=30    | Pass    |
|           |         | 2441            | DH5         | -2.57                                     | <=30    | Pass    |
|           |         | 2480            | DH5         | -0.78                                     | <=30    | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | -3.98                                     | <=20.97 | Pass    |
|           |         | 2441            | 2DH5        | -1.63                                     | <=20.97 | Pass    |
|           |         | 2480            | 2DH5        | 0.12                                      | <=20.97 | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | -3.95                                     | <=20.97 | Pass    |
|           |         | 2441            | 3DH5        | -1.59                                     | <=20.97 | Pass    |
|           |         | 2480            | 3DH5        | 0.20                                      | <=20.97 | Pass    |

Note1: Antenna Gain: Ant1: 1.75dBi;

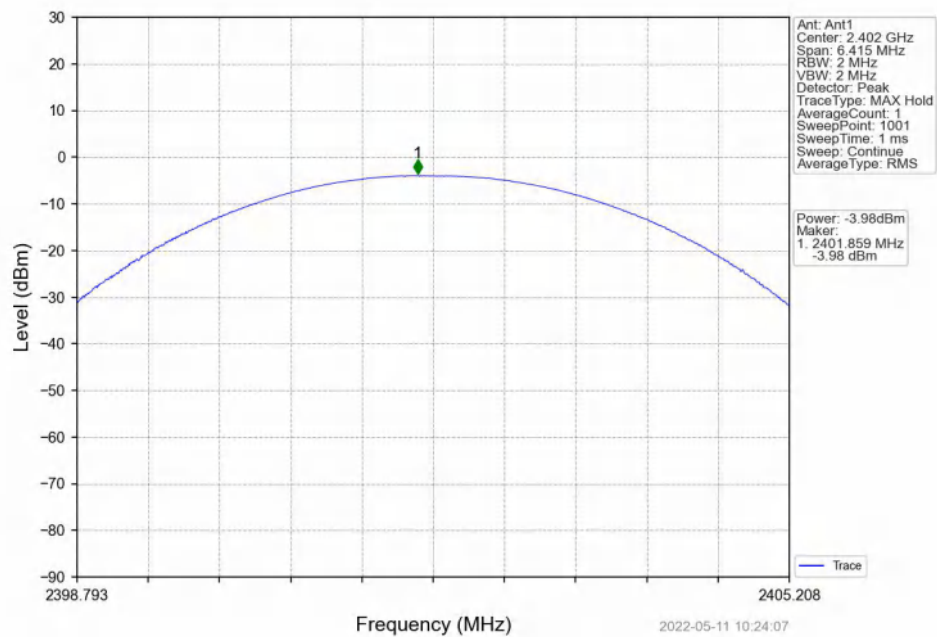
## 2.1.2 Test Graph



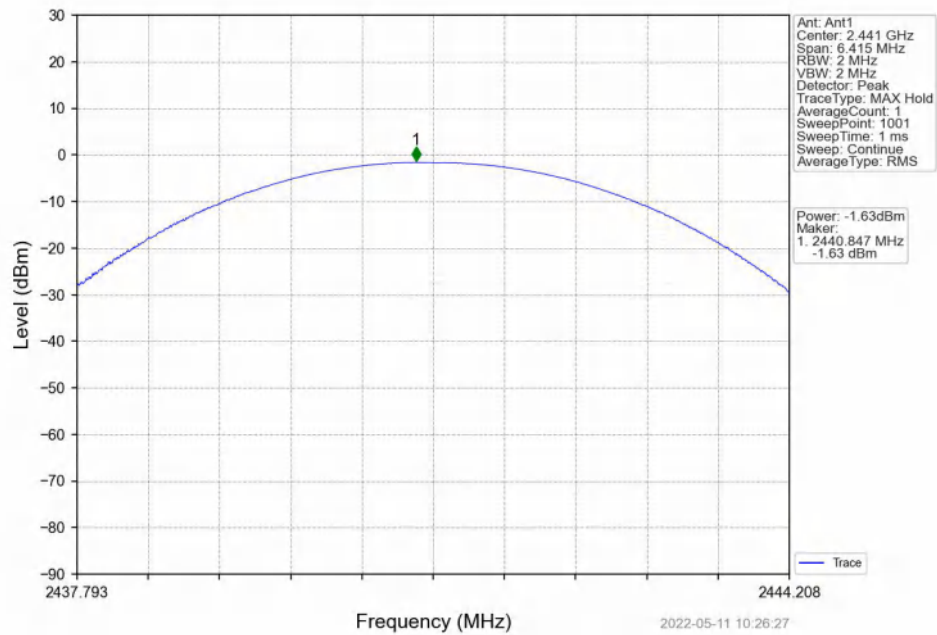
## GFSK DH5\_HCH\_2480MHz\_Ant1\_NTNV



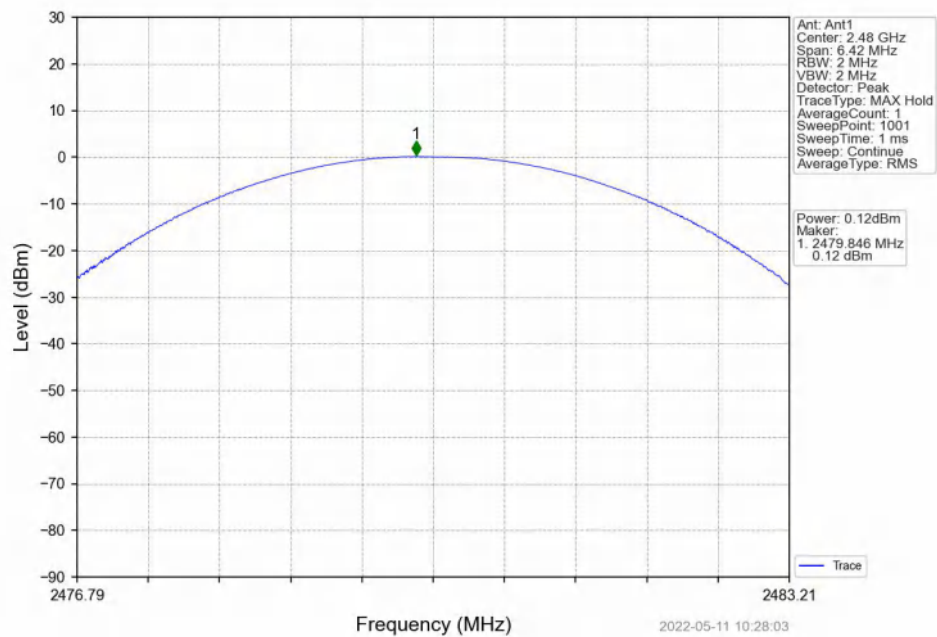
## Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



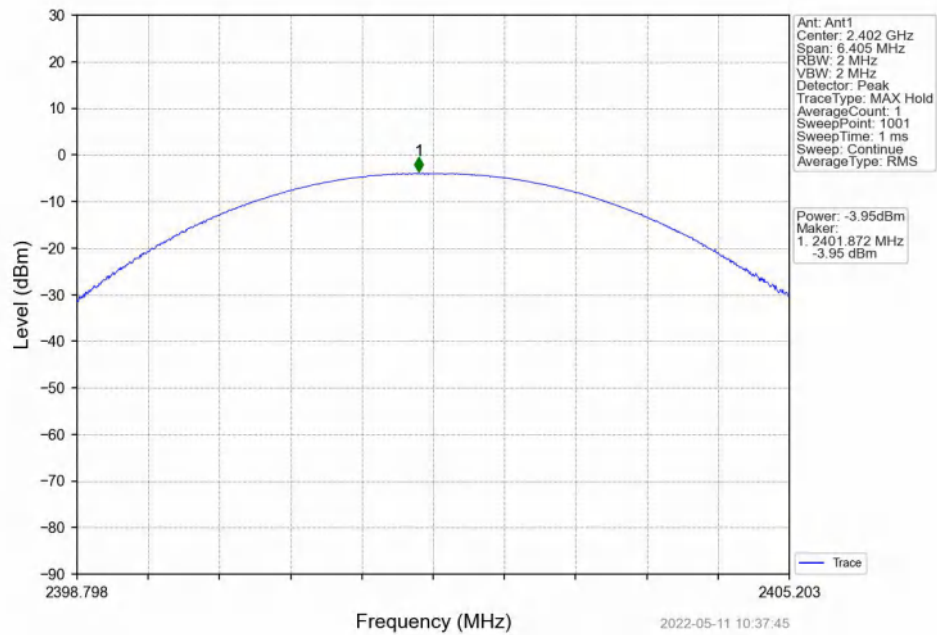
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



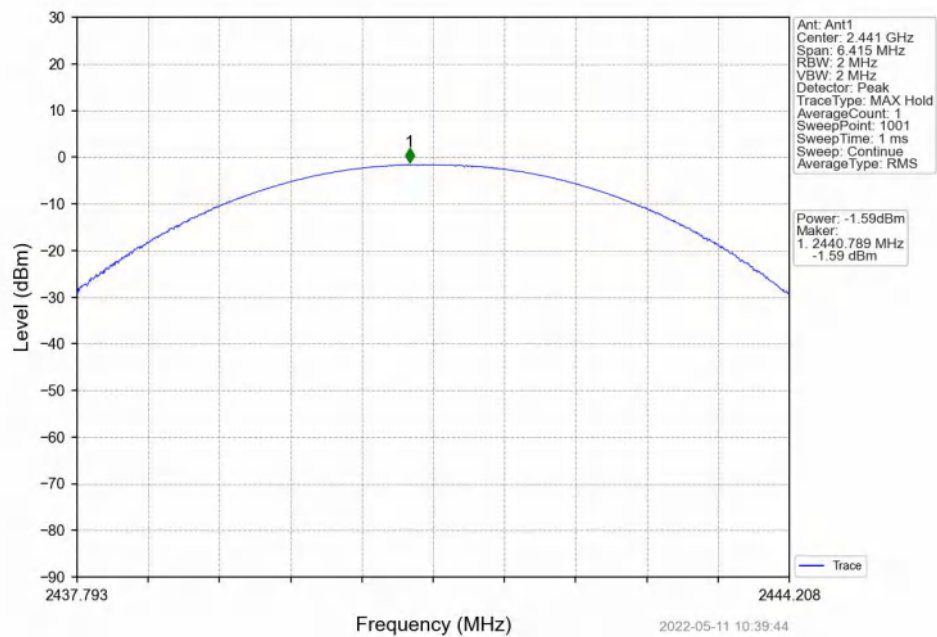
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



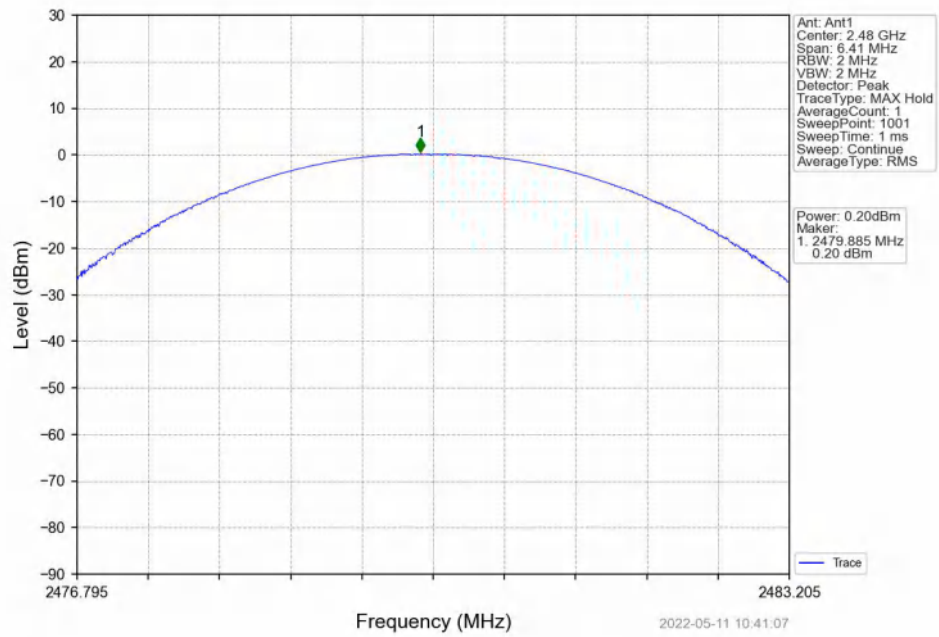
## 8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



## 8DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



## 8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV



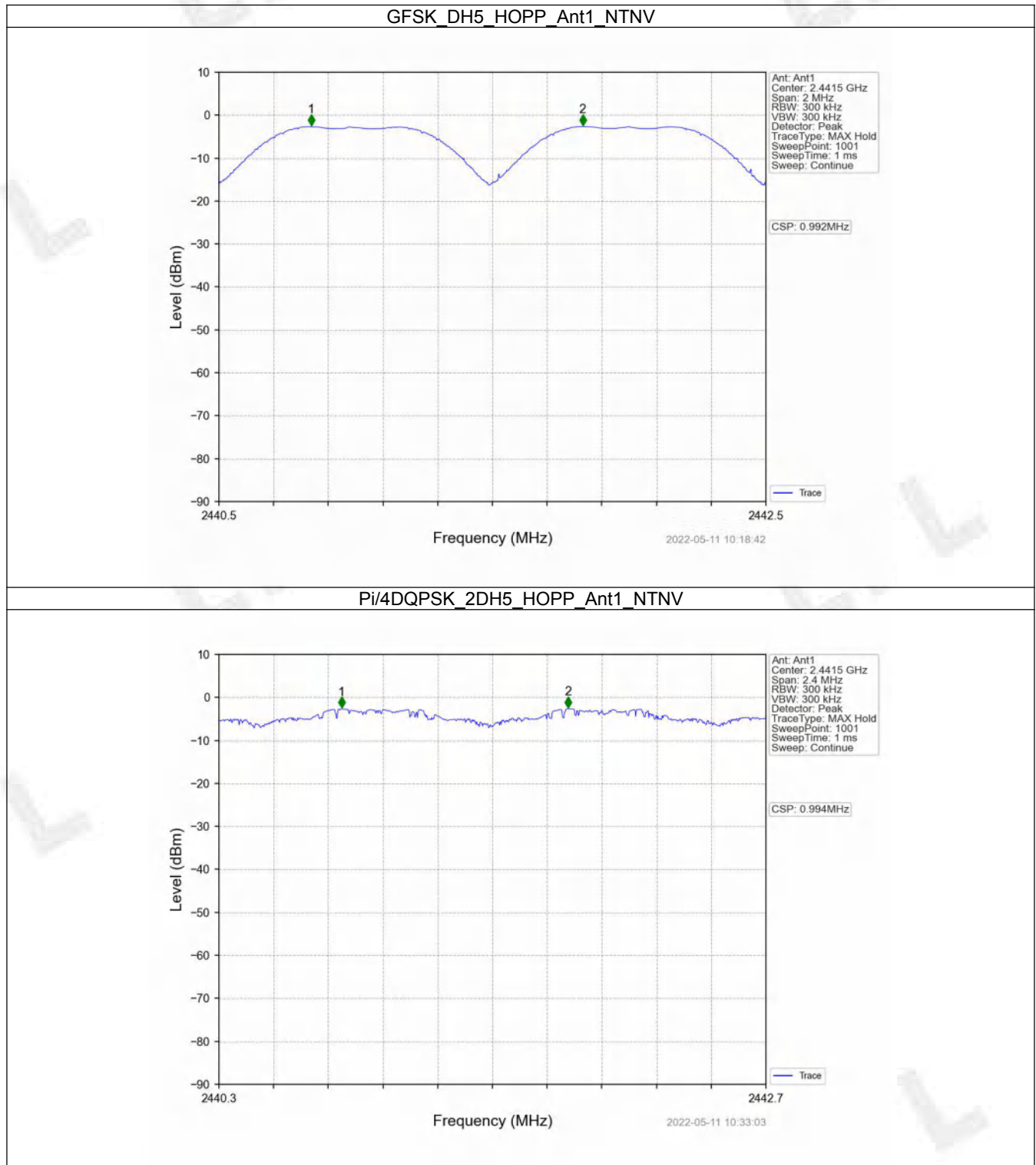
### 3. Carrier Frequency Separation

#### 3.1 Ant1

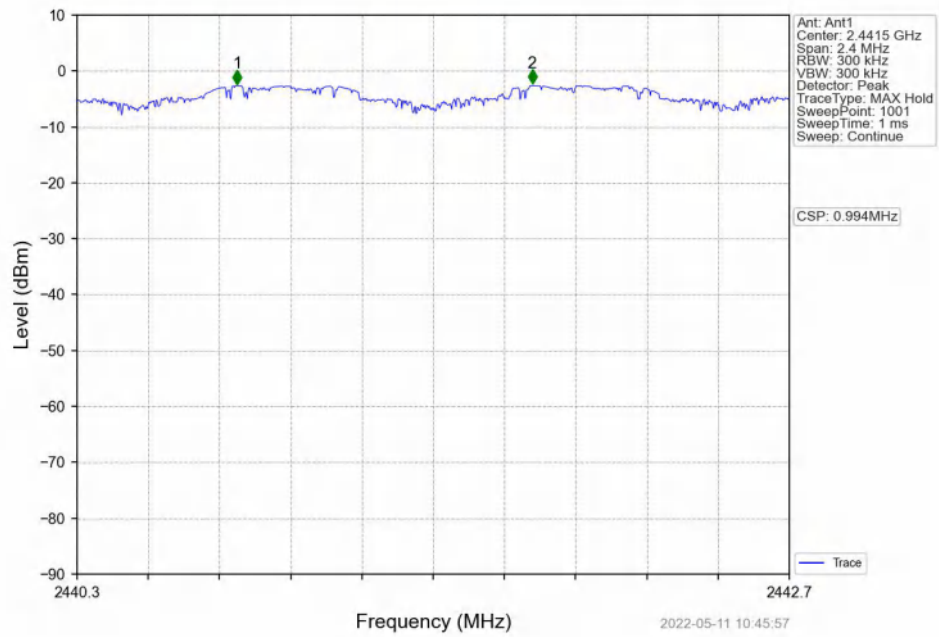
##### 3.1.1 Test Result

| Ant1      |         |                 |             |                          |                      |              |         |
|-----------|---------|-----------------|-------------|--------------------------|----------------------|--------------|---------|
| Mode      | TX Type | Frequency (MHz) | Packet Type | Channel Separation (MHz) | 20dB Bandwidth (MHz) | Limit (MHz)  | Verdict |
| GFSK      | SISO    | HOPP            | DH5         | 0.992                    | 0.953                | $\geq 0.953$ | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH5        | 0.994                    | 1.284                | $\geq 0.856$ | Pass    |
| 8DPSK     | SISO    | HOPP            | 3DH5        | 0.994                    | 1.283                | $\geq 0.855$ | Pass    |

## 3.1.2 Test Graph



## 8DPSK\_3DH5\_HOPP\_Ant1\_NTNV



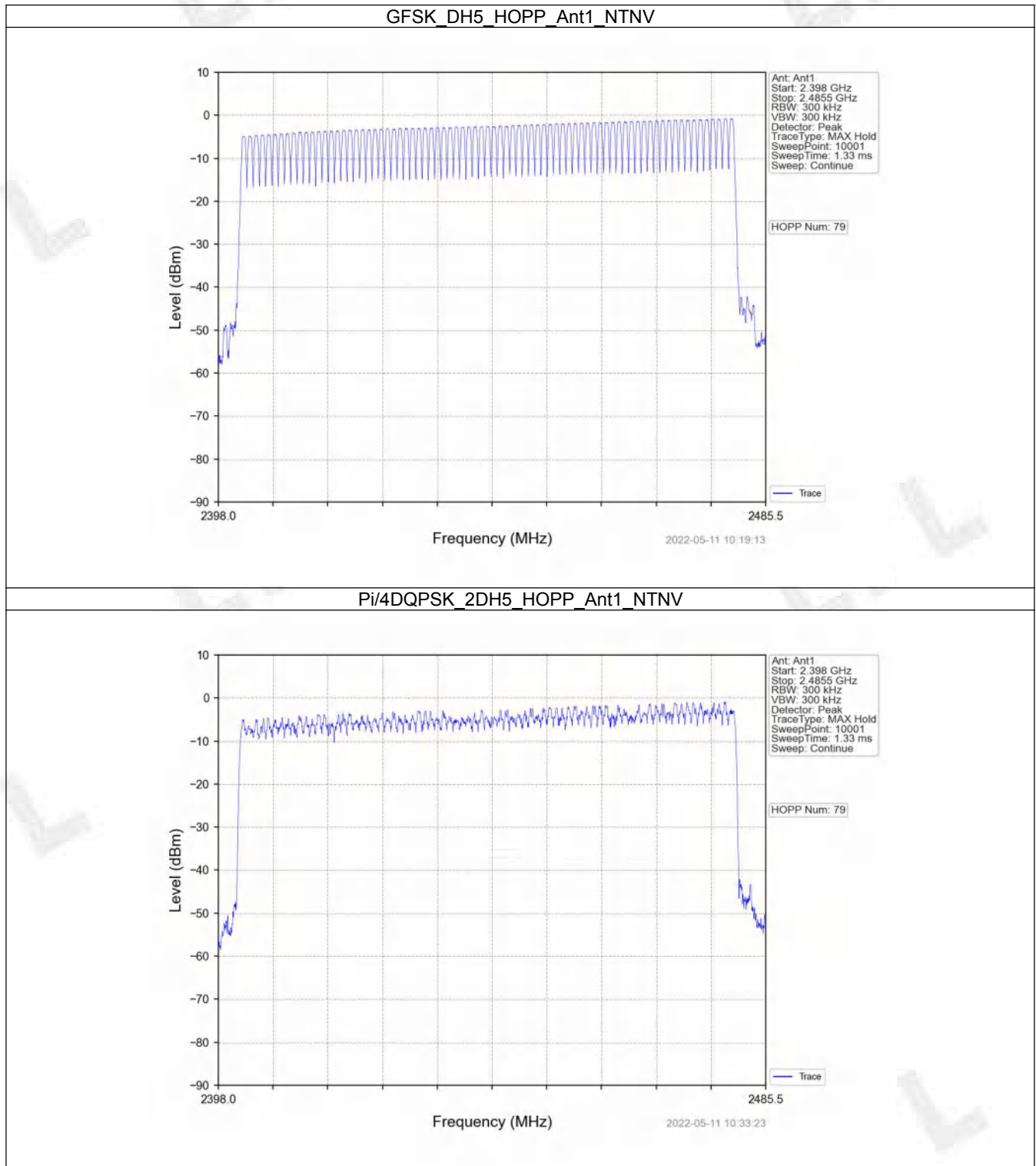
## 4. Number of Hopping Frequencies

### 4.1 HoppNum

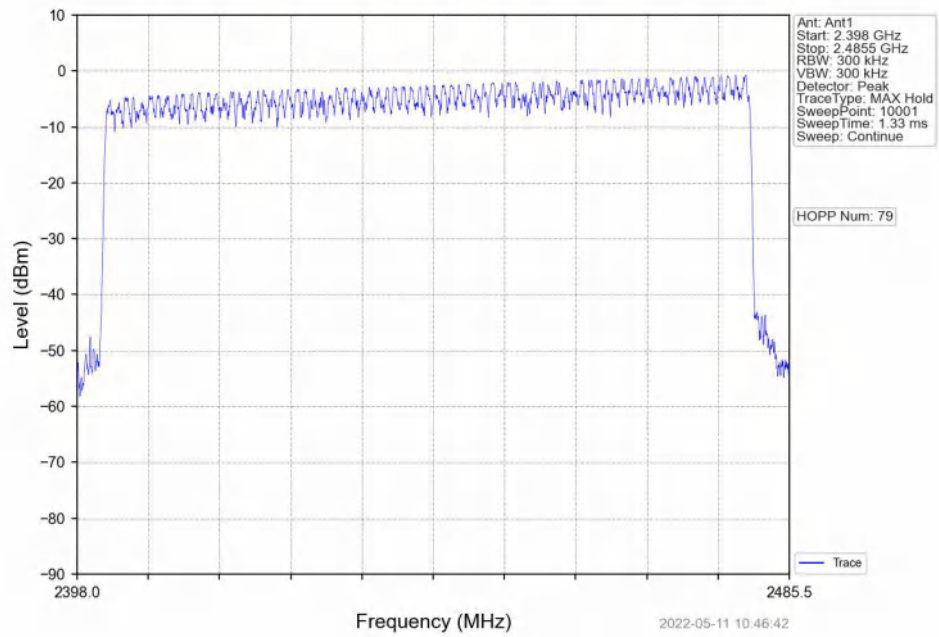
#### 4.1.1 Test Result

| Mode      | TX Type | Frequency (MHz) | Packet Type | Num of Hopping Frequencies |       | Verdict |
|-----------|---------|-----------------|-------------|----------------------------|-------|---------|
|           |         |                 |             | ANT1                       | Limit |         |
| GFSK      | SISO    | HOPP            | DH5         | 79                         | >=15  | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH5        | 79                         | >=15  | Pass    |
| 8DPSK     | SISO    | HOPP            | 3DH5        | 79                         | >=15  | Pass    |

## 4.1.2 Test Graph



## 8DPSK\_3DH5\_HOPP\_Ant1\_NTNV



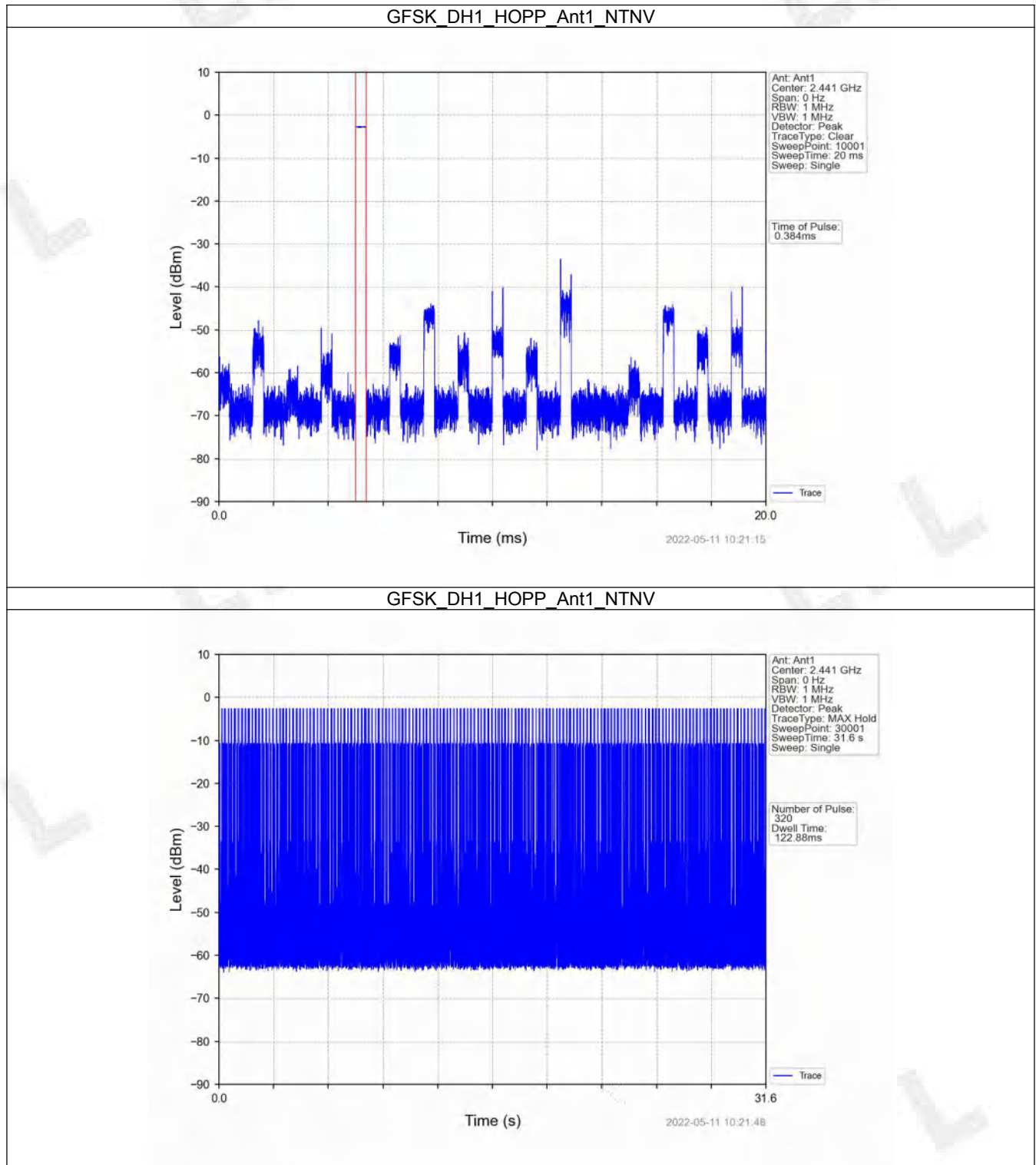
## 5. Time of Occupancy (Dwell Time)

### 5.1 Ant1

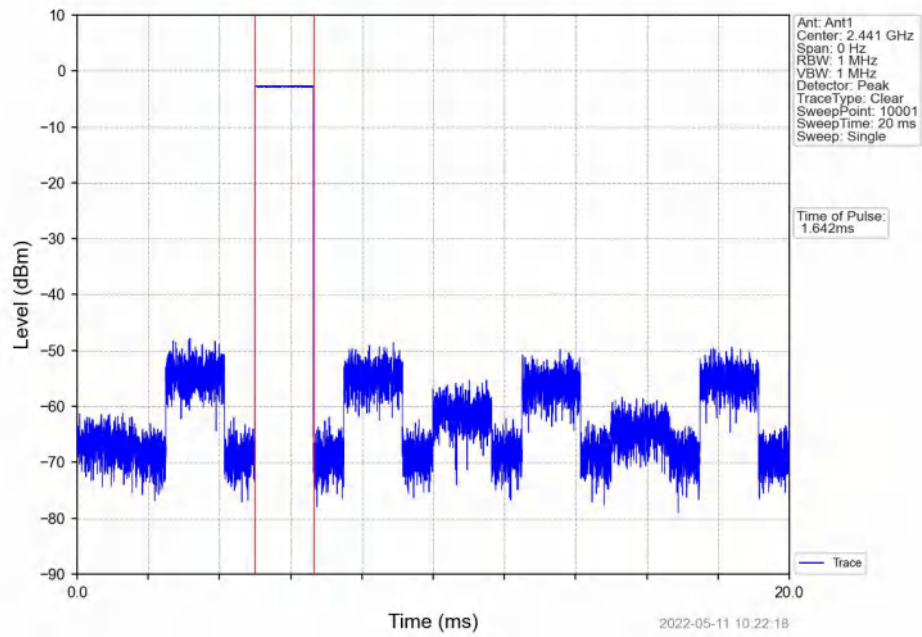
#### 5.1.1 Test Result

| Ant1      |         |                 |             |                               |                        |                                    |                 |            |         |
|-----------|---------|-----------------|-------------|-------------------------------|------------------------|------------------------------------|-----------------|------------|---------|
| Mode      | Tx Type | Frequency (MHz) | Packet Type | Duration of Single Pulse (ms) | Observation Period (s) | Num of Pulse in Observation Period | Dwell Time (ms) | Limit (ms) | Verdict |
| GFSK      | SISO    | HOPP            | DH1         | 0.384                         | 31.600                 | 320                                | 122.880         | <=400      | Pass    |
|           |         |                 | DH3         | 1.642                         | 31.600                 | 154                                | 252.868         | <=400      | Pass    |
|           |         |                 | DH5         | 2.890                         | 31.600                 | 103                                | 297.670         | <=400      | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH1        | 0.396                         | 31.600                 | 321                                | 127.116         | <=400      | Pass    |
|           |         |                 | 2DH3        | 1.648                         | 31.600                 | 169                                | 278.512         | <=400      | Pass    |
|           |         |                 | 2DH5        | 2.902                         | 31.600                 | 100                                | 290.200         | <=400      | Pass    |
| 8DPSK     | SISO    | HOPP            | 3DH1        | 6.674                         | 31.600                 | 46                                 | 307.004         | <=400      | Pass    |
|           |         |                 | 3DH3        | 0.658                         | 31.600                 | 163                                | 107.254         | <=400      | Pass    |
|           |         |                 | 3DH5        | 0.902                         | 31.600                 | 101                                | 91.102          | <=400      | Pass    |

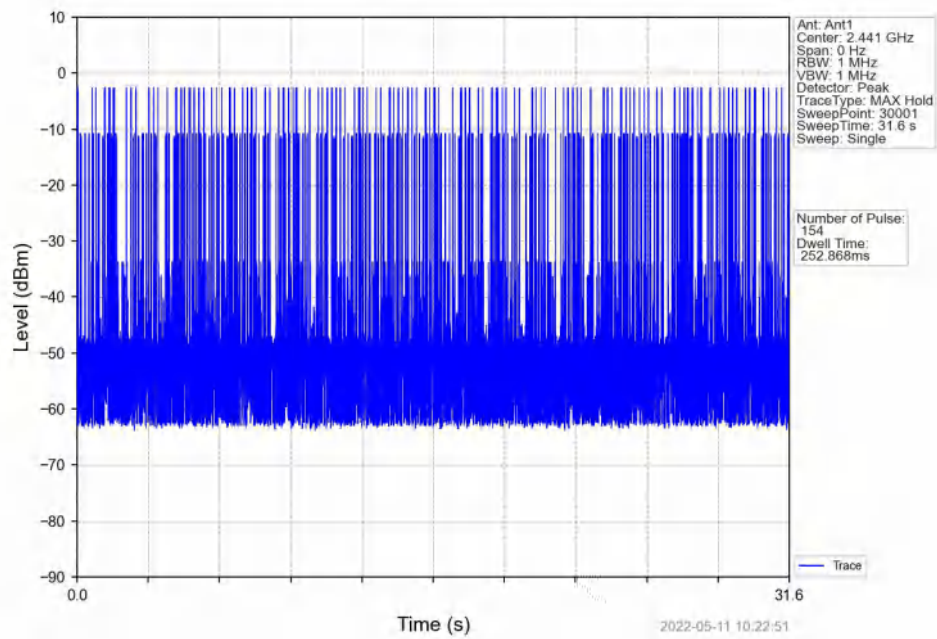
## 5.1.2 Test Graph



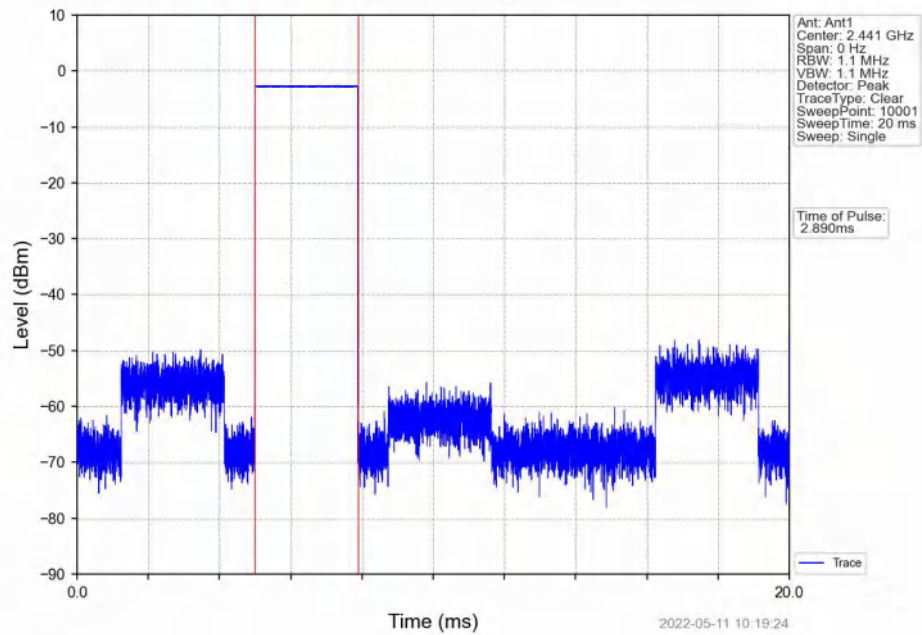
## GFSK\_DH3\_HOPP\_Ant1\_NTNV



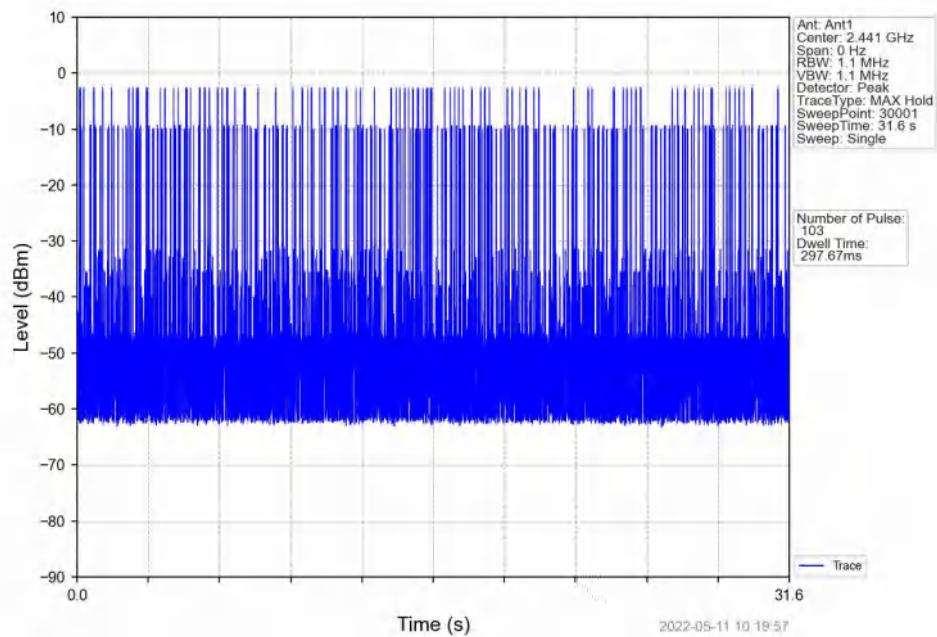
## GFSK\_DH3\_HOPP\_Ant1\_NTNV



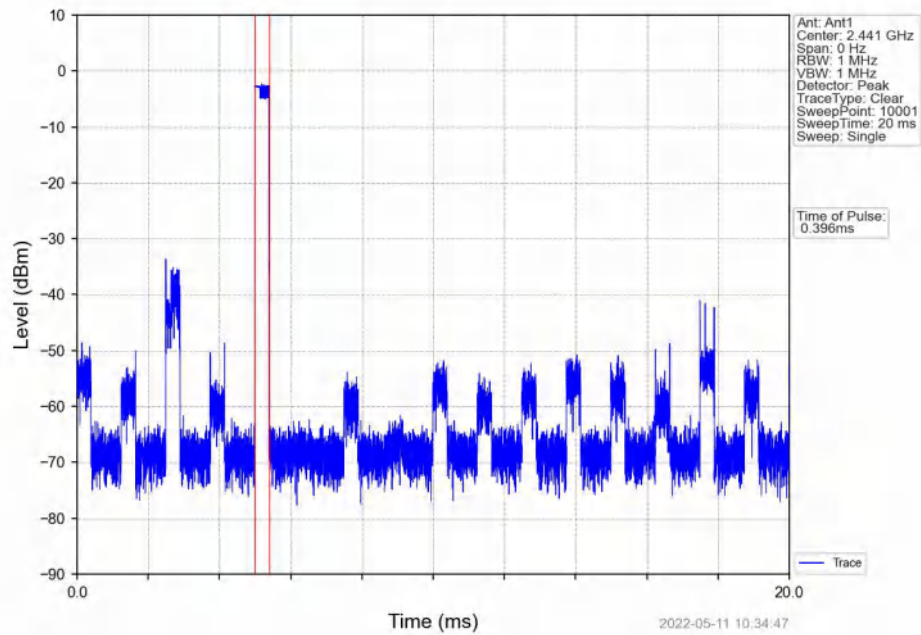
GFSK\_DH5\_HOPP\_Ant1\_NTNV



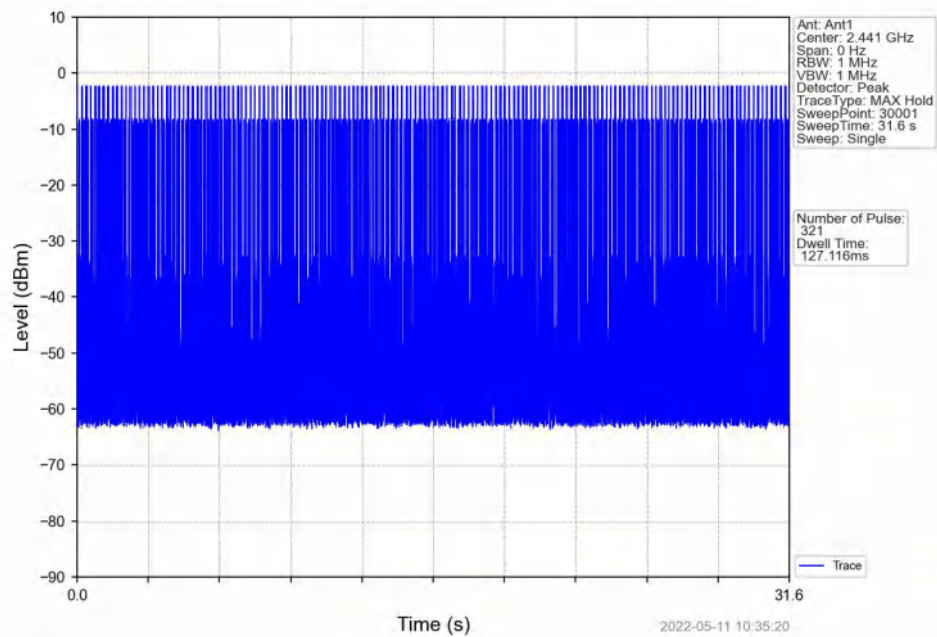
GFSK\_DH5\_HOPP\_Ant1\_NTNV



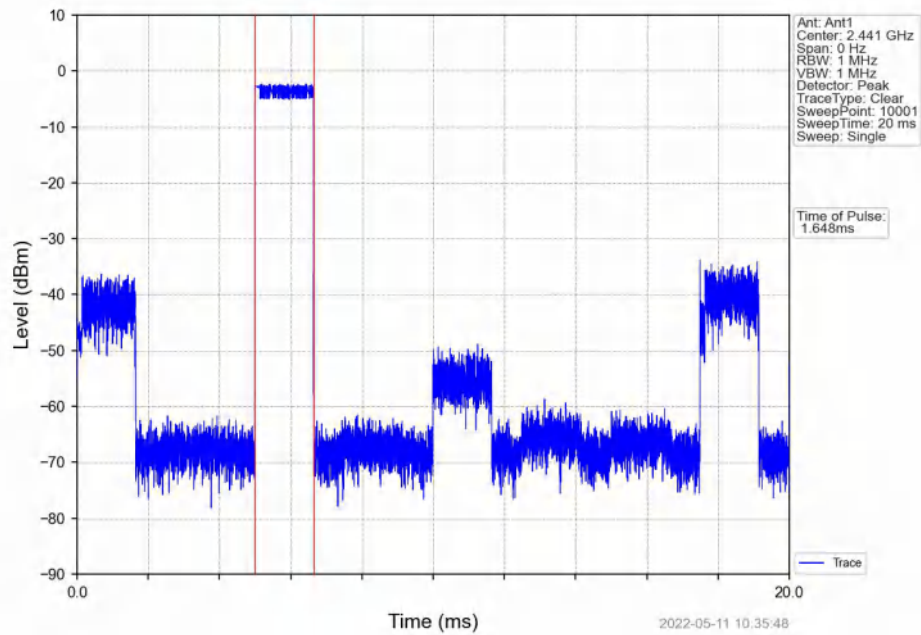
Pi/4DQPSK\_2DH1\_HOPP\_Ant1\_NTNV



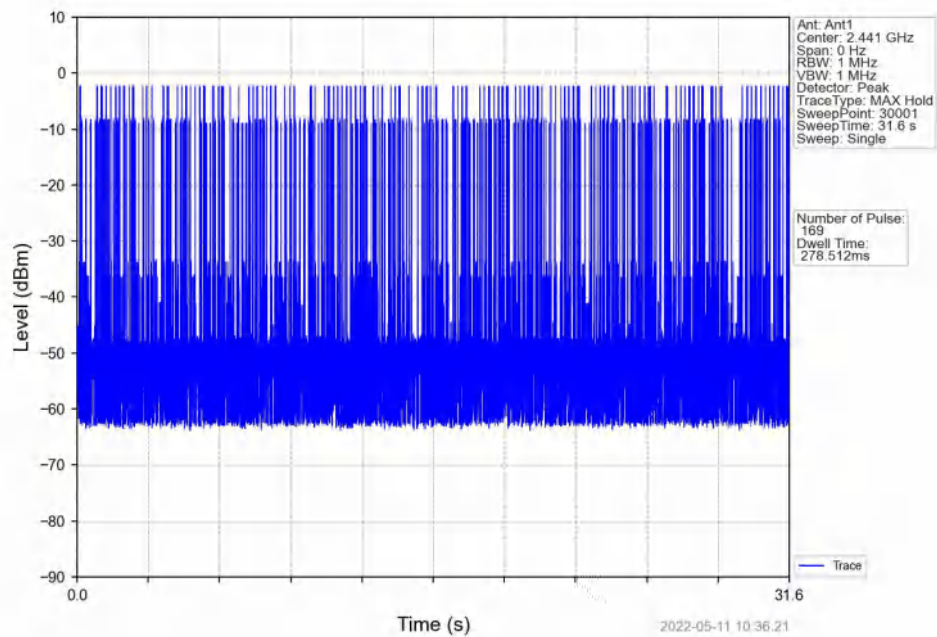
Pi/4DQPSK\_2DH1\_HOPP\_Ant1\_NTNV



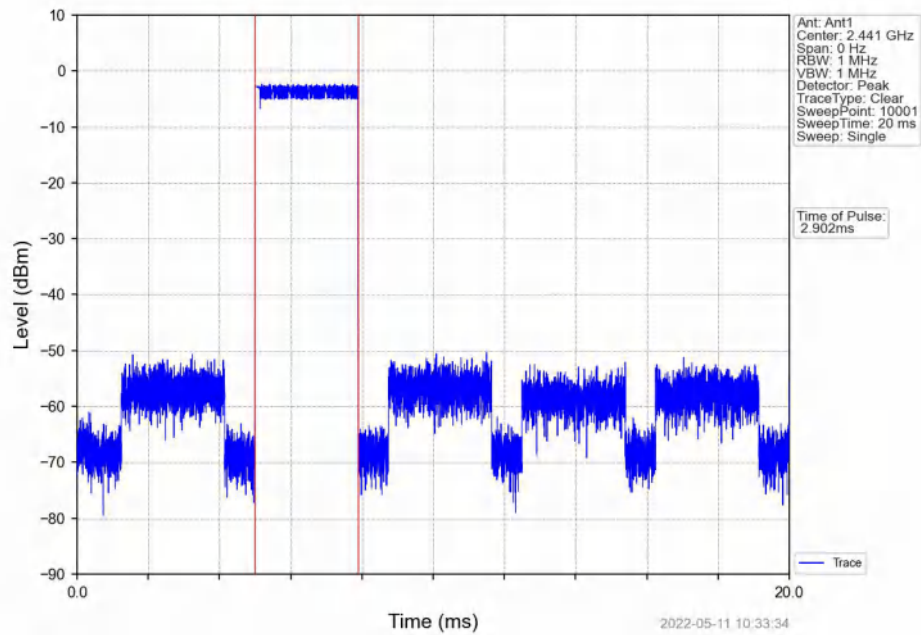
Pi/4DQPSK\_2DH3\_HOPP\_Ant1\_NTNV



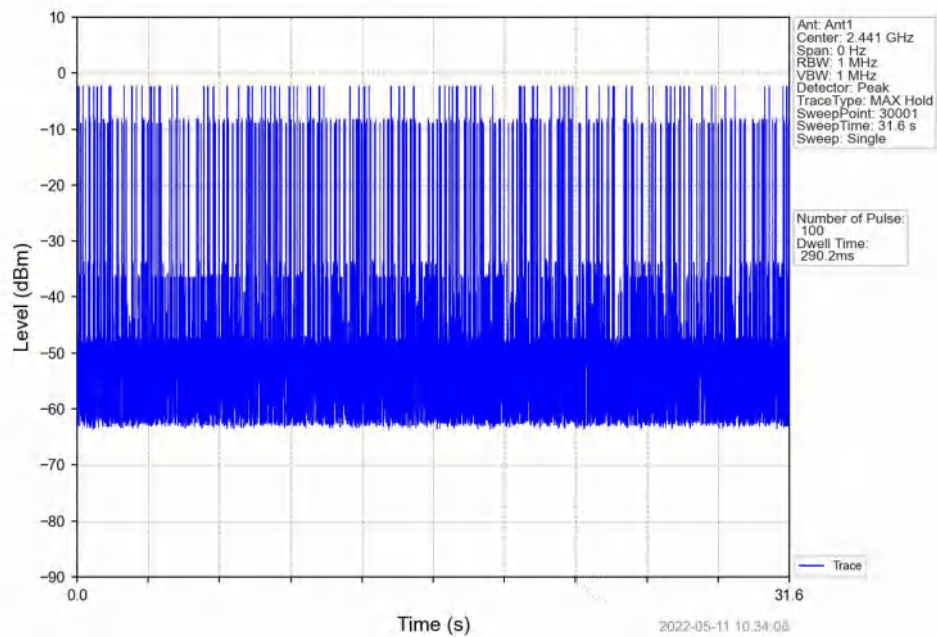
Pi/4DQPSK\_2DH3\_HOPP\_Ant1\_NTNV



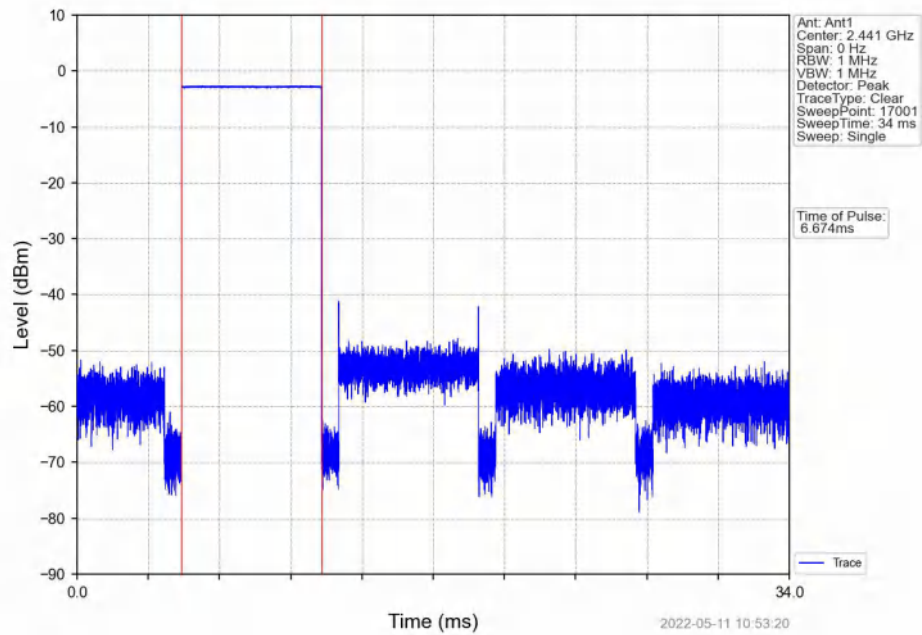
Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



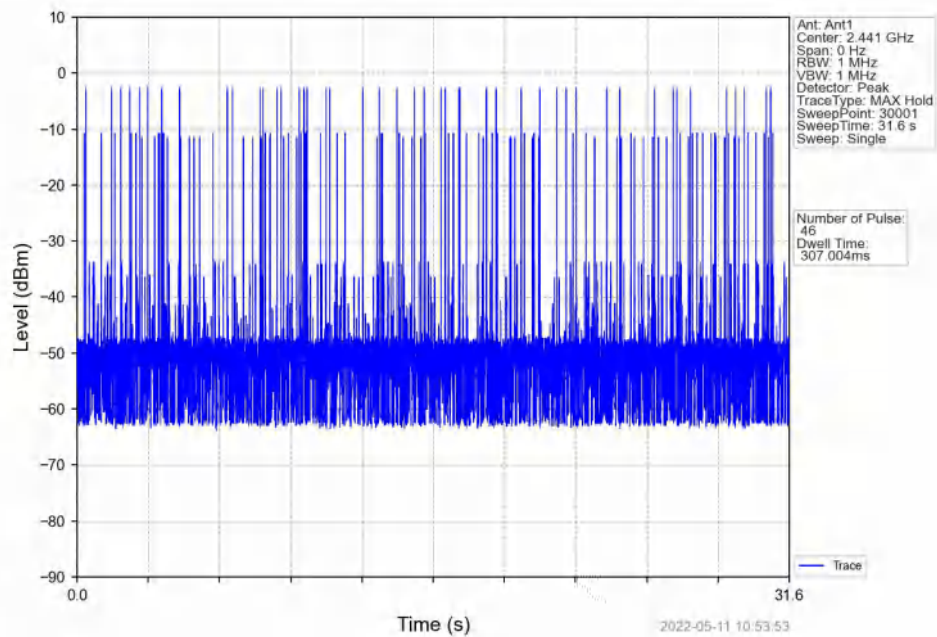
Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



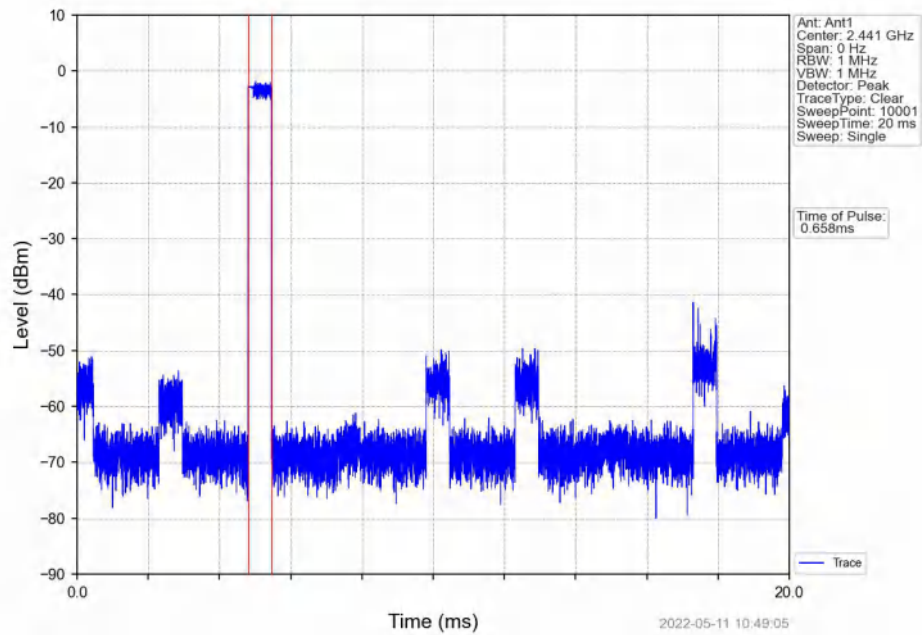
## 8DPSK\_3DH1\_HOPP\_Ant1\_NTNV



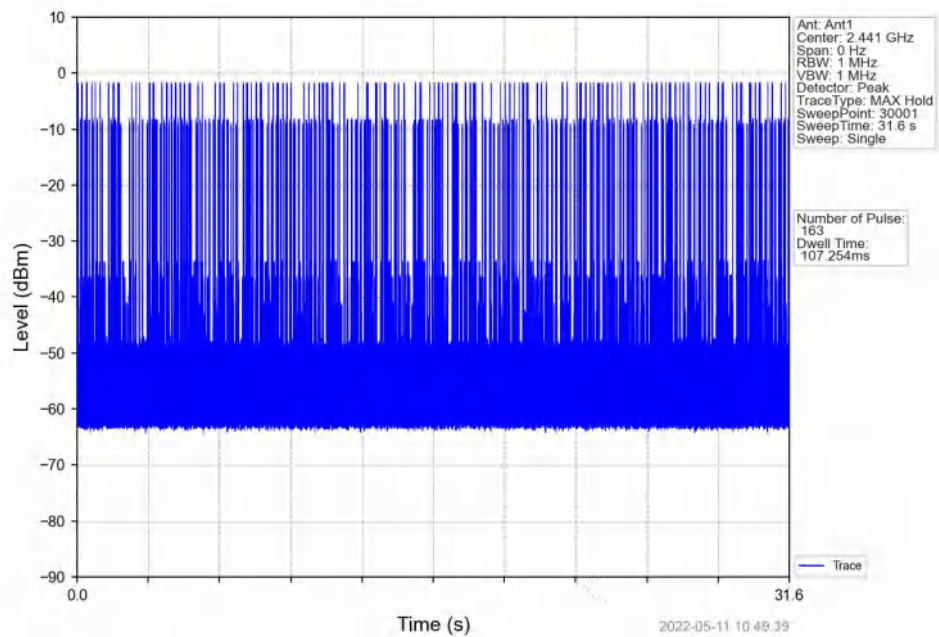
## 8DPSK\_3DH1\_HOPP\_Ant1\_NTNV



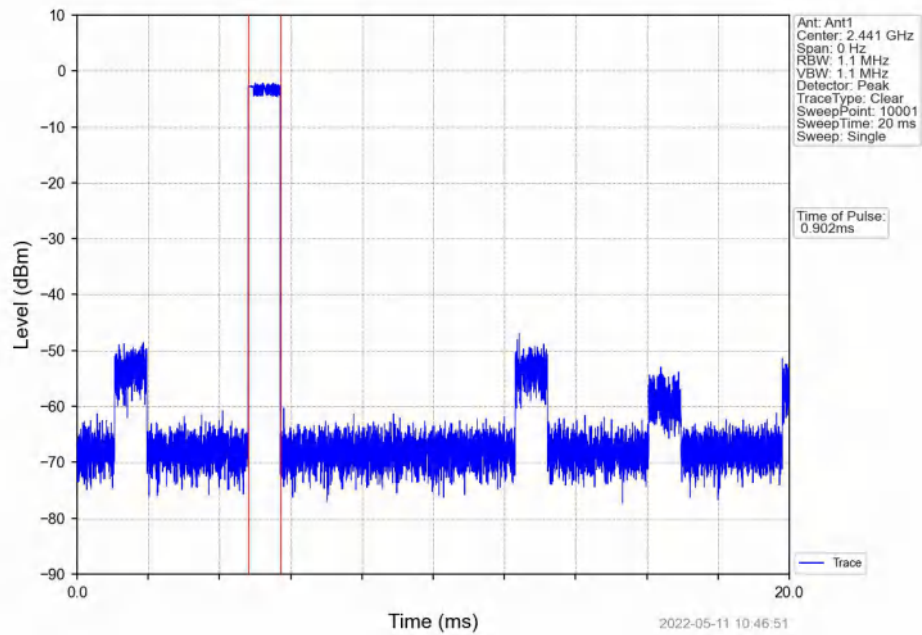
## 8DPSK\_3DH3\_HOPP\_Ant1\_NTNV



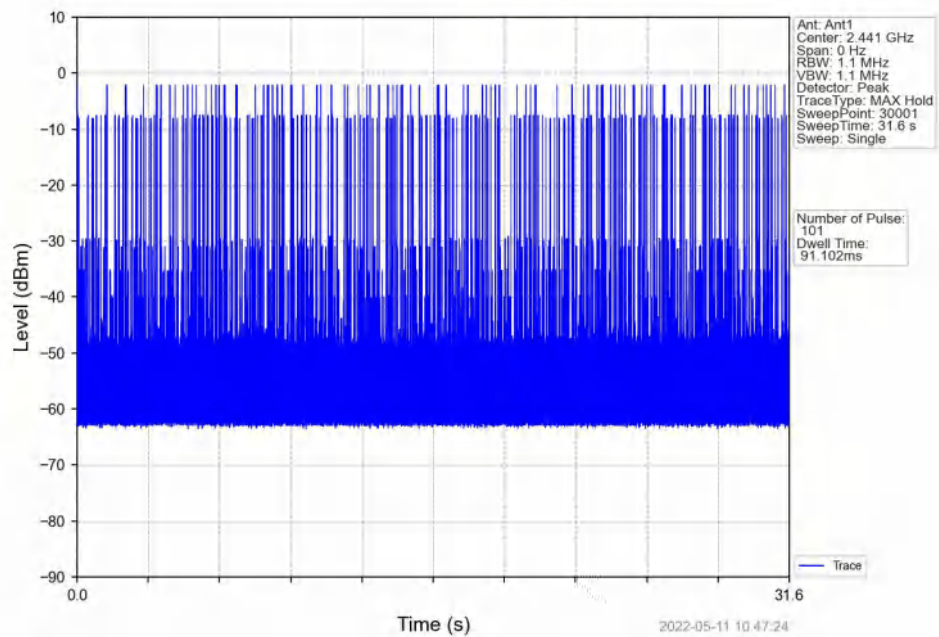
## 8DPSK\_3DH3\_HOPP\_Ant1\_NTNV



## 8DPSK\_3DH5\_HOPP\_Ant1\_NTNV



## 8DPSK\_3DH5\_HOPP\_Ant1\_NTNV



## 6. Unwanted Emissions In Non-restricted Frequency Bands

### 6.1 Ref

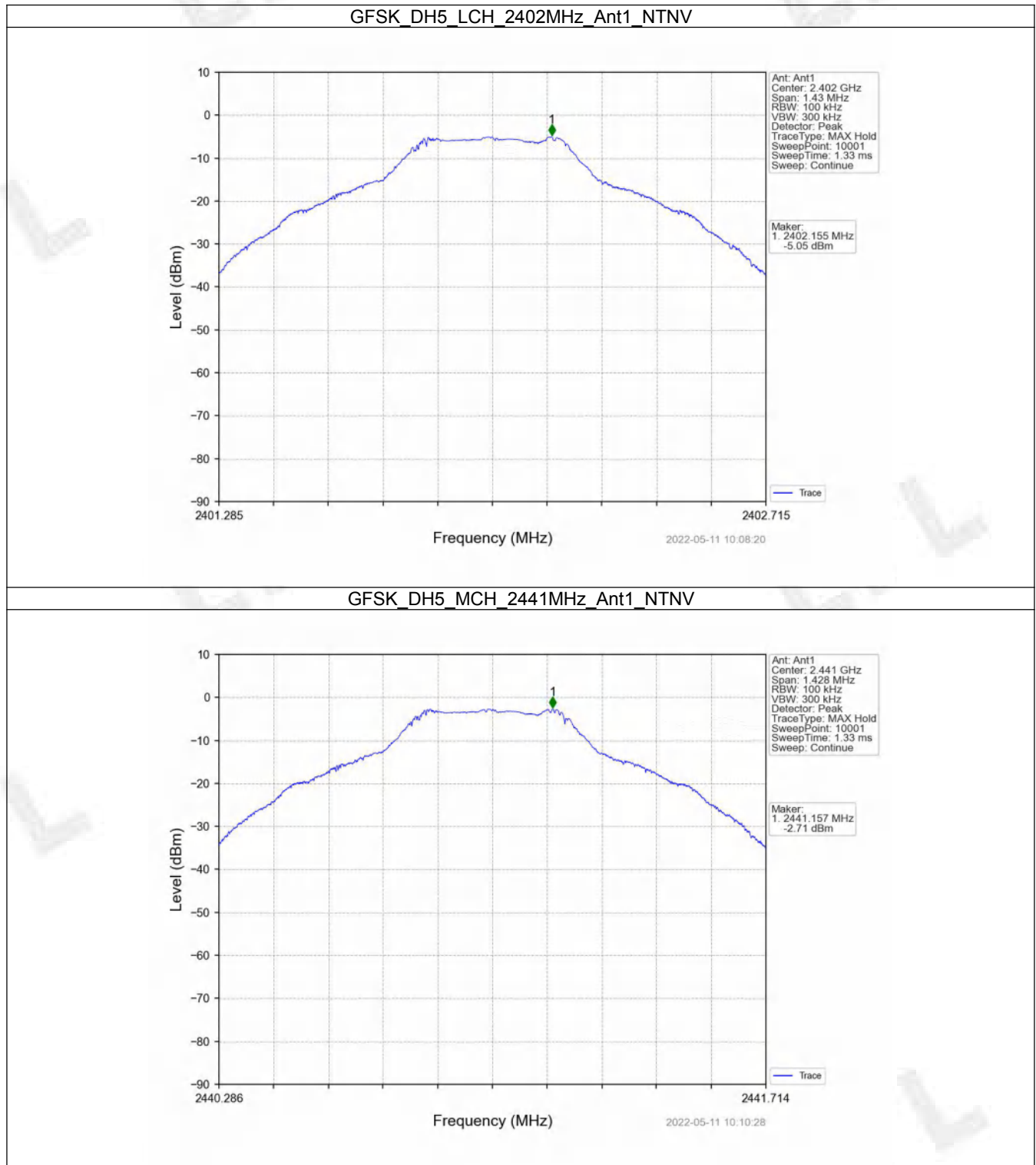
#### 6.1.1 Test Result

| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) |
|-----------|---------|-----------------|-------------|-----|--------------------------|
| GFSK      | SISO    | 2402            | DH5         | 1   | -5.05                    |
|           |         | 2441            | DH5         | 1   | -2.71                    |
|           |         | 2480            | DH5         | 1   | -0.92                    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | -4.96                    |
|           |         | 2441            | 2DH5        | 1   | -2.68                    |
|           |         | 2480            | 2DH5        | 1   | -0.91                    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | -4.96                    |
|           |         | 2441            | 3DH5        | 1   | -2.53                    |
|           |         | 2480            | 3DH5        | 1   | -0.73                    |

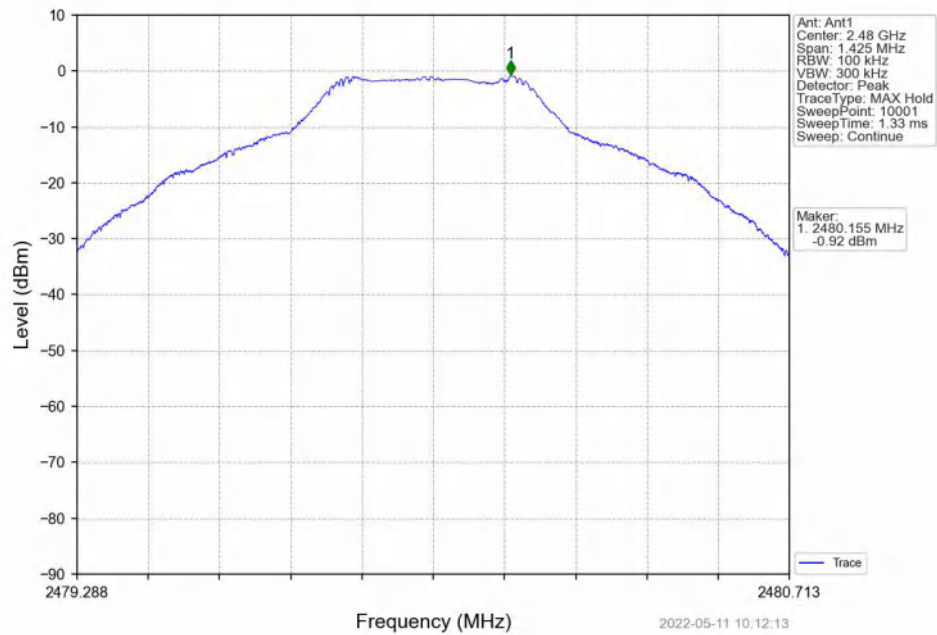
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

Note2: RBW = 1MHz was used during the pre-test. The final test will be performed at RBW=100kHz while the margin is less than 3dB.

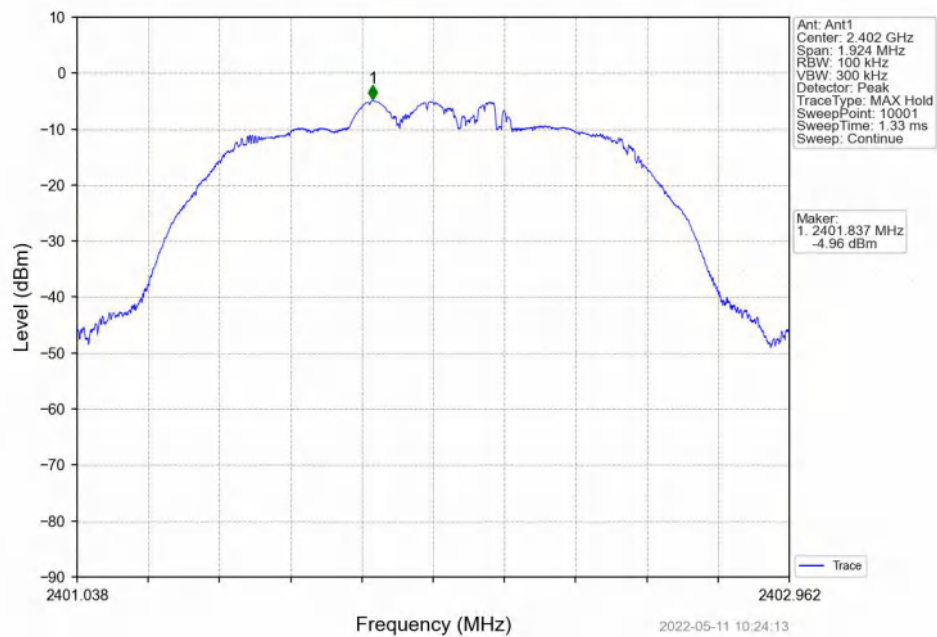
## 6.1.2 Test Graph



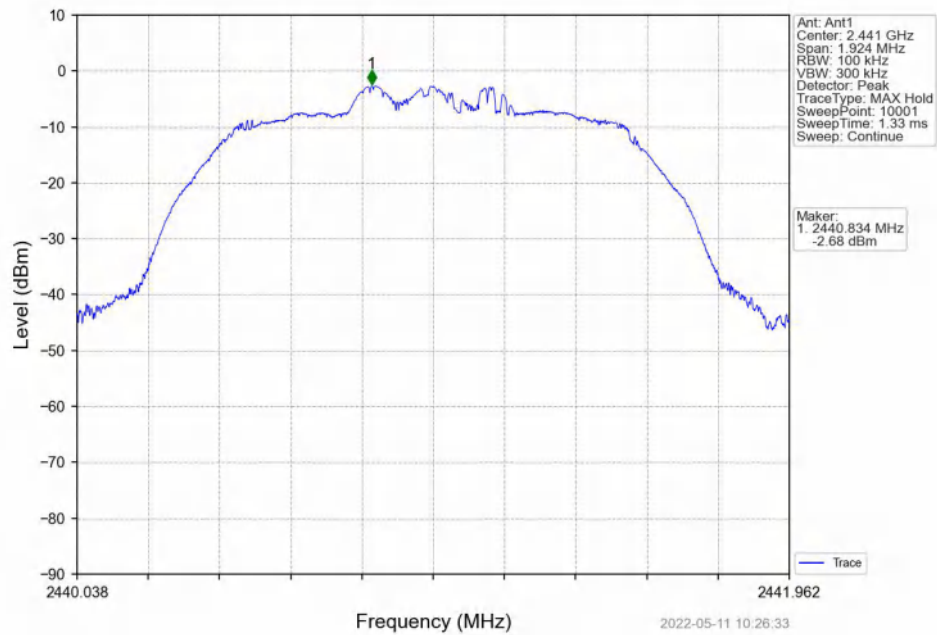
## GFSK DH5\_HCH\_2480MHz\_Ant1\_NTNV



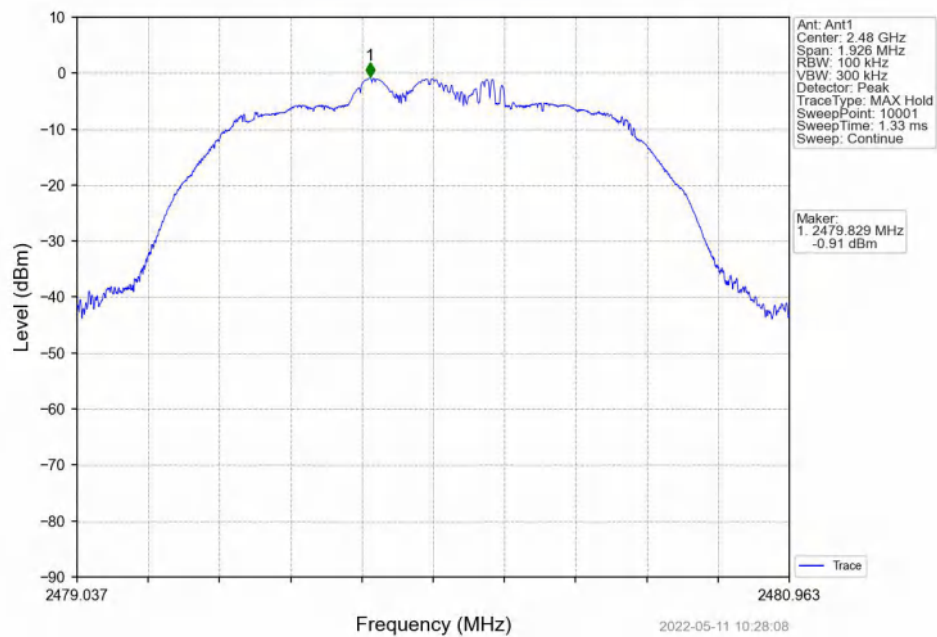
## Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



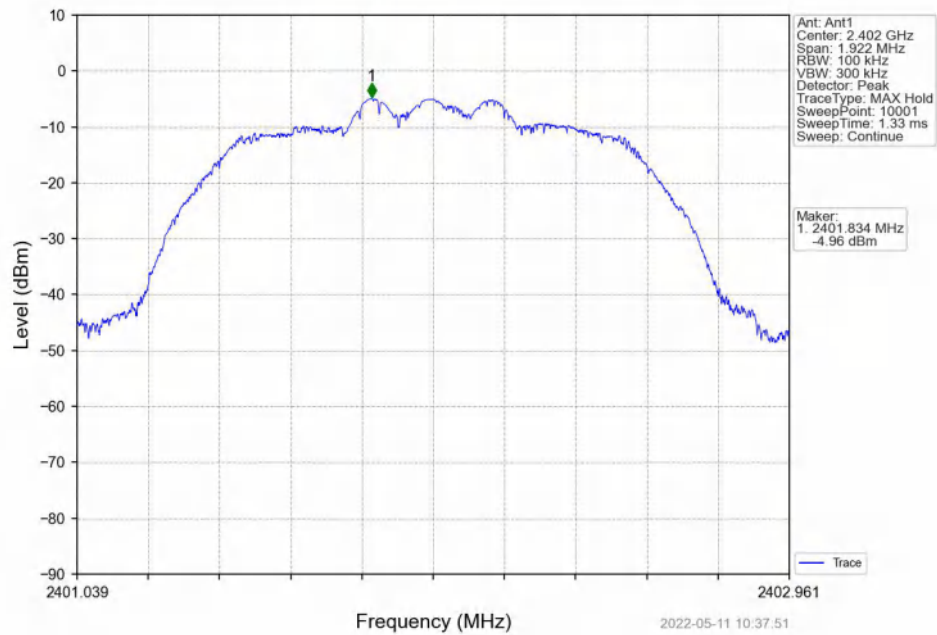
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



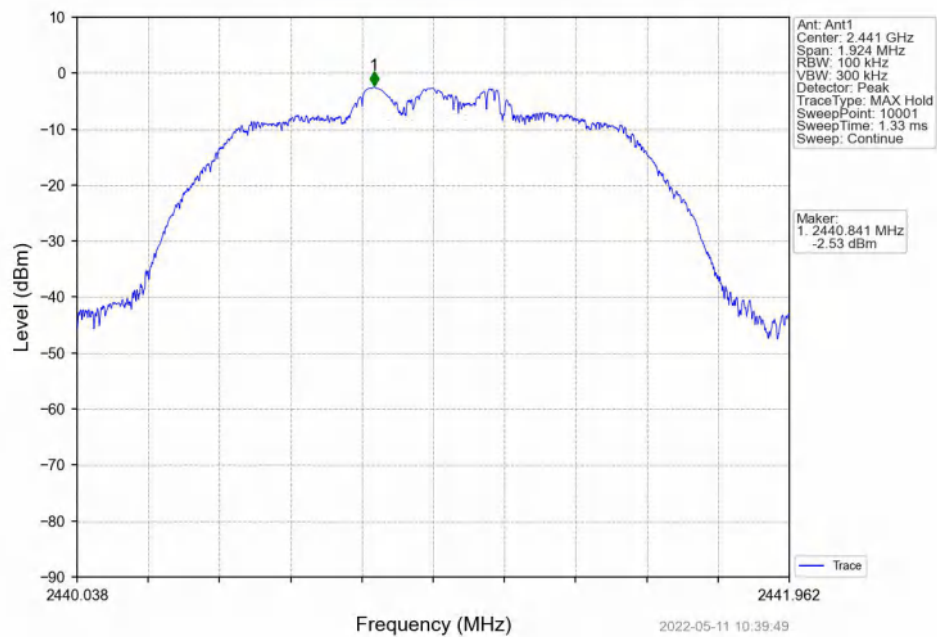
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



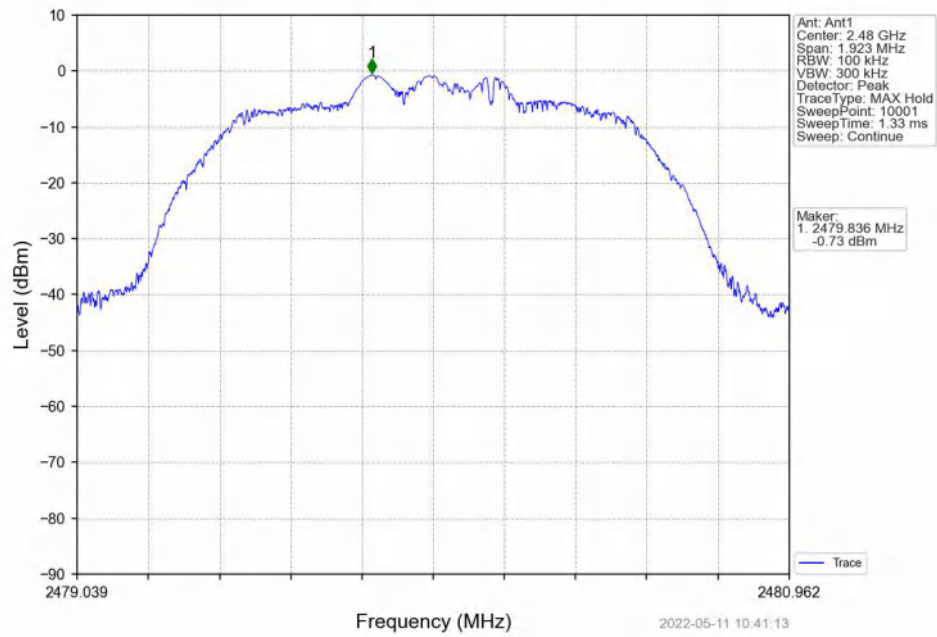
## 8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



## 8DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



## 8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV

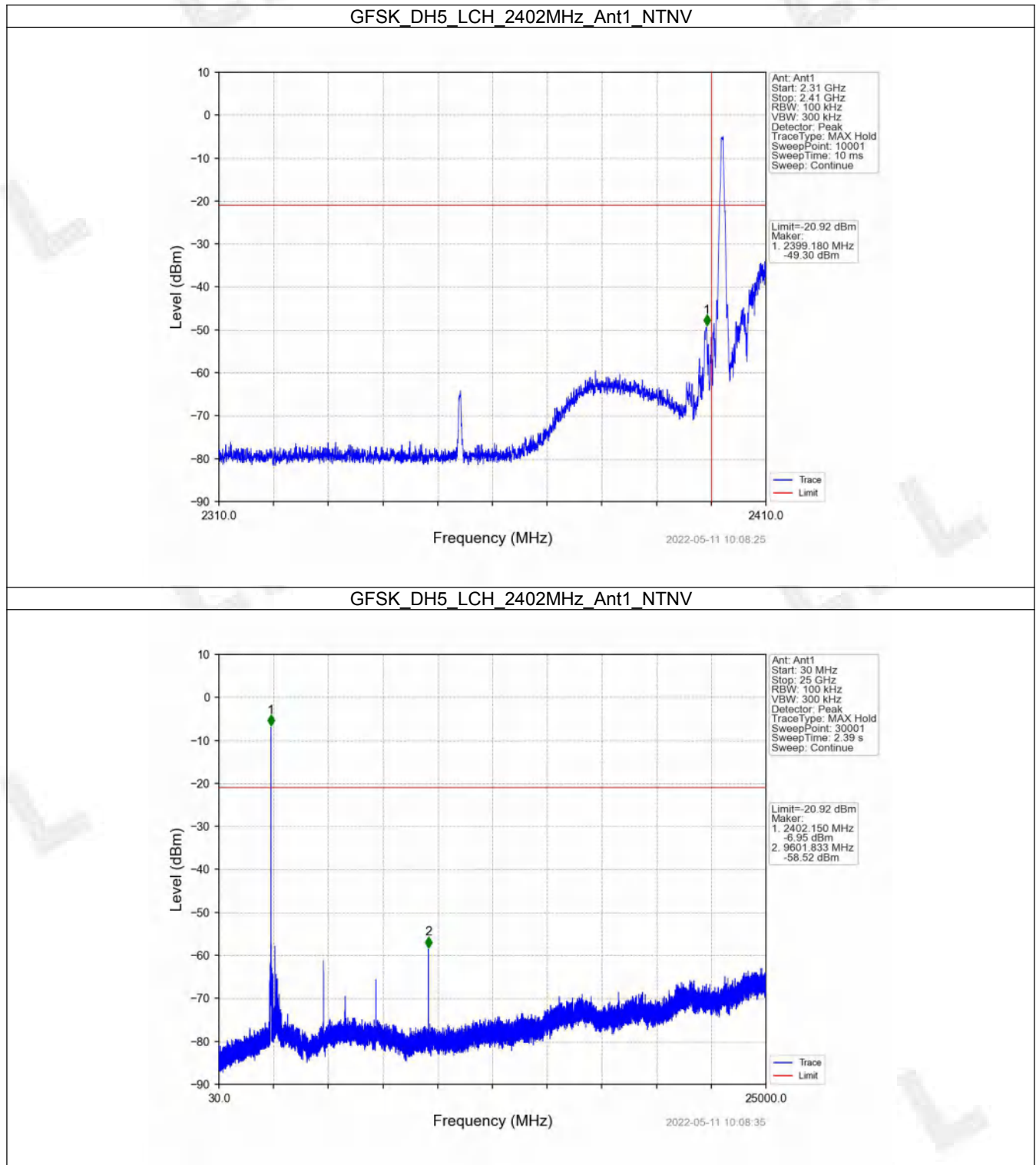


### 6.2.1 Test Result

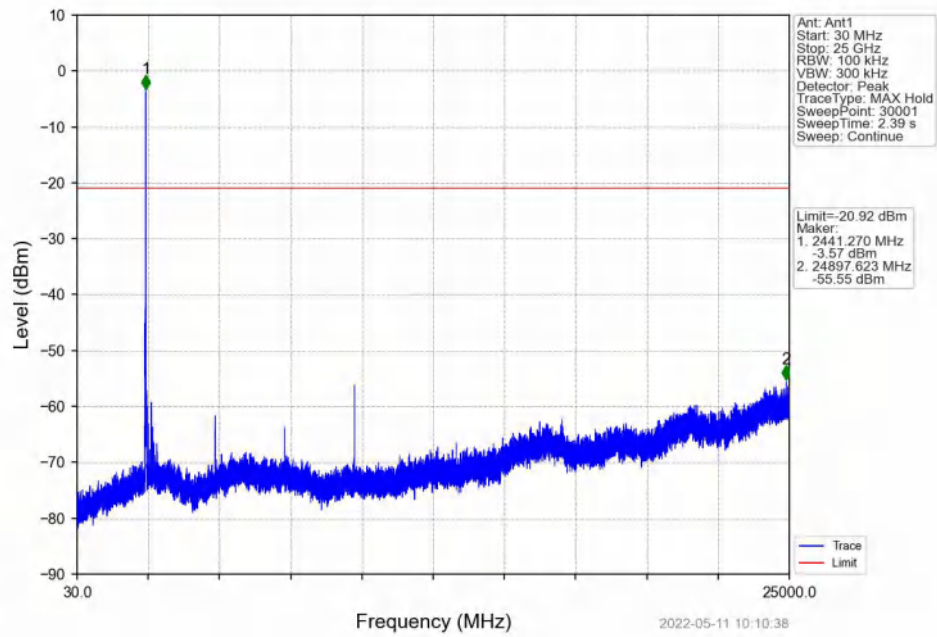
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

Note2: RBW = 1MHz was used during the pre-test. The final test will be performed at RBW=100kHz while the margin is less than 3dB.

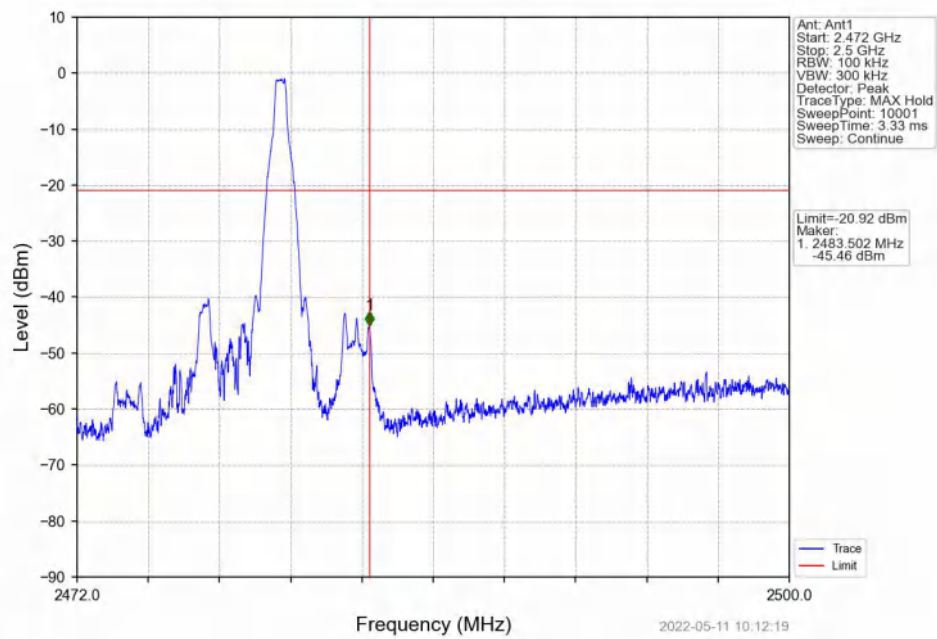
## 6.2.2 Test Graph



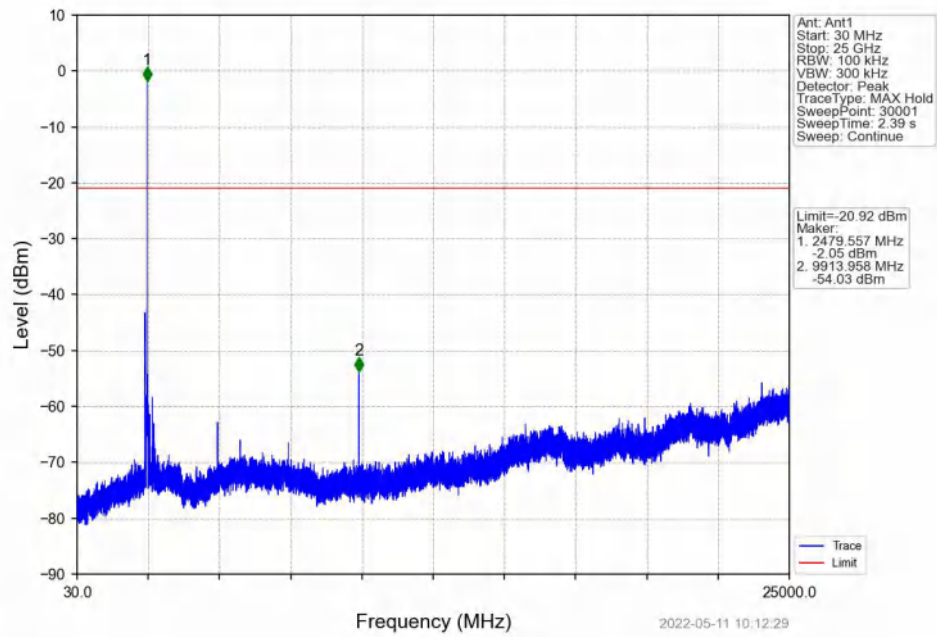
## GFSK\_DH5\_MCH\_2441MHz\_Ant1\_NTNV



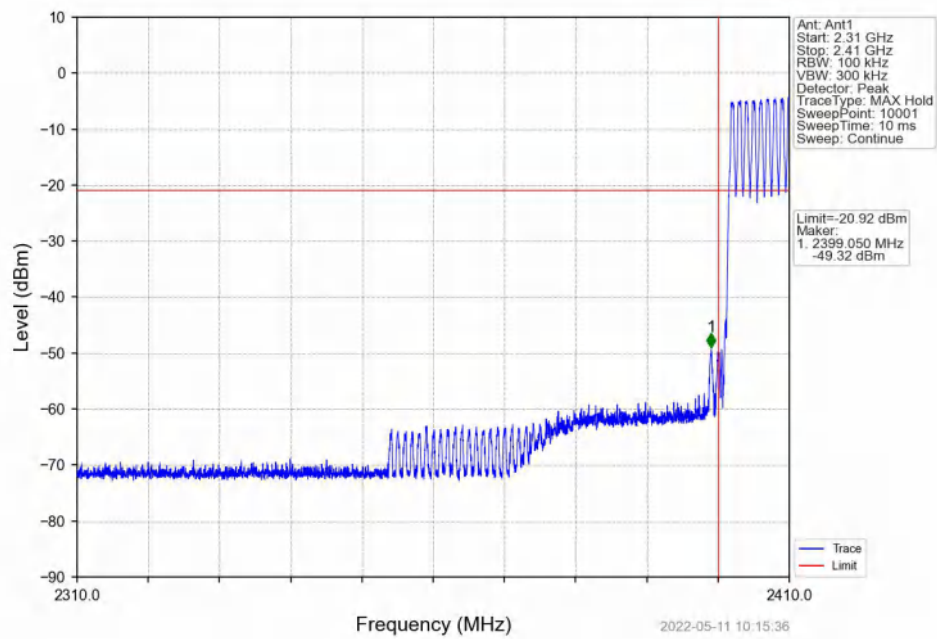
## GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



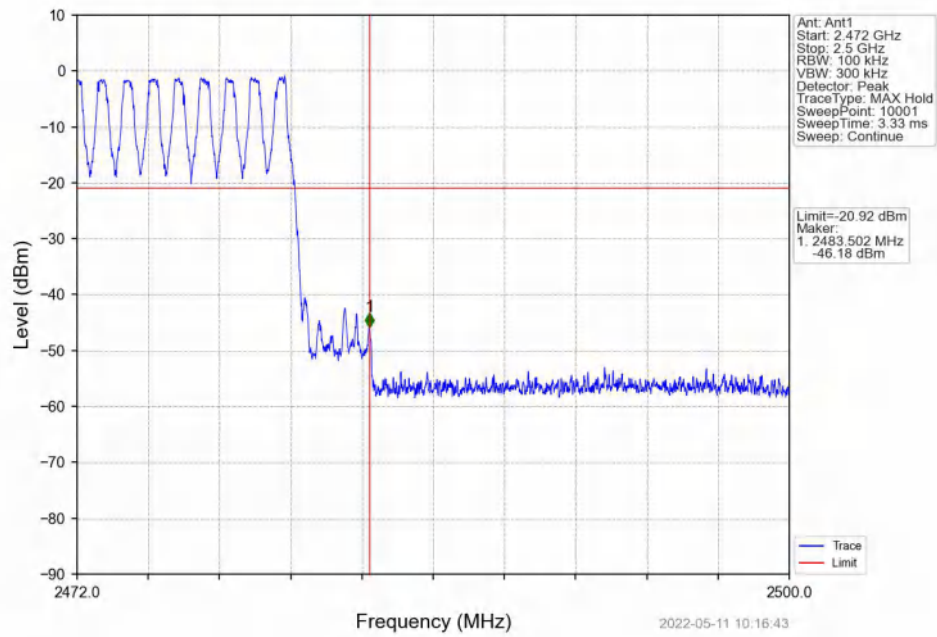
## GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



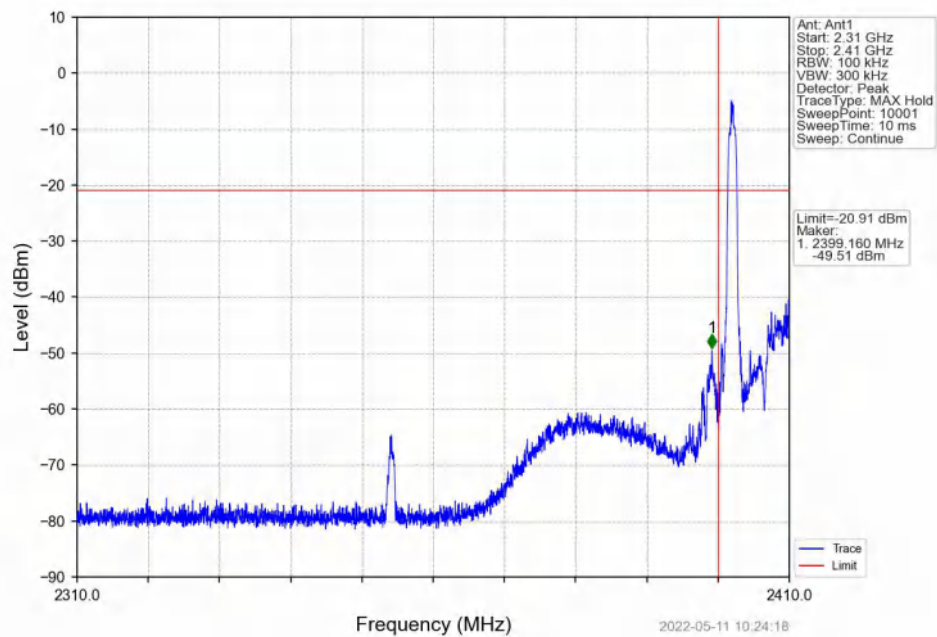
## GFSK\_DH5\_HOPP\_Ant1\_NTNV



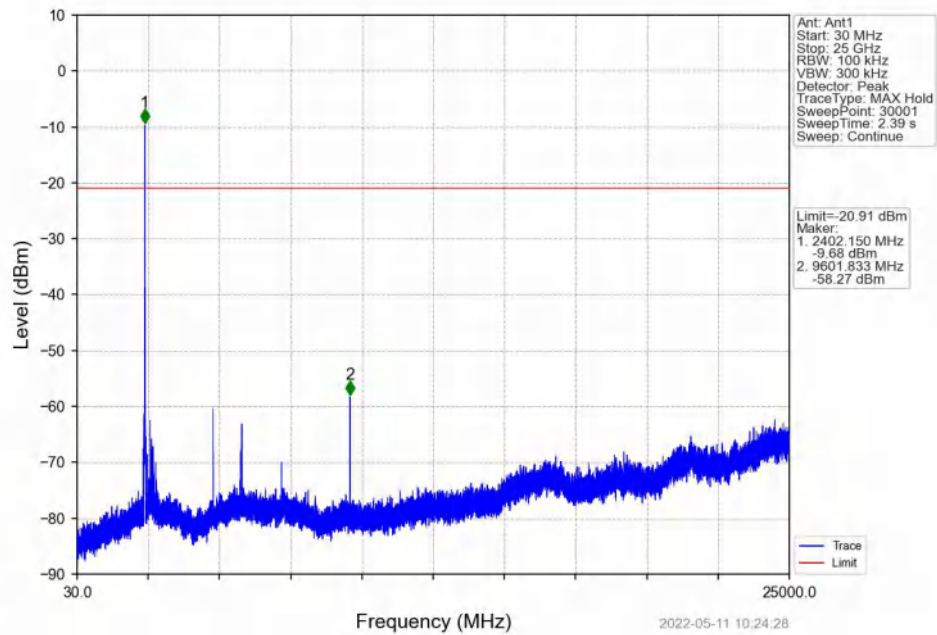
## GFSK\_DH5\_HOPP\_Ant1\_NTNV



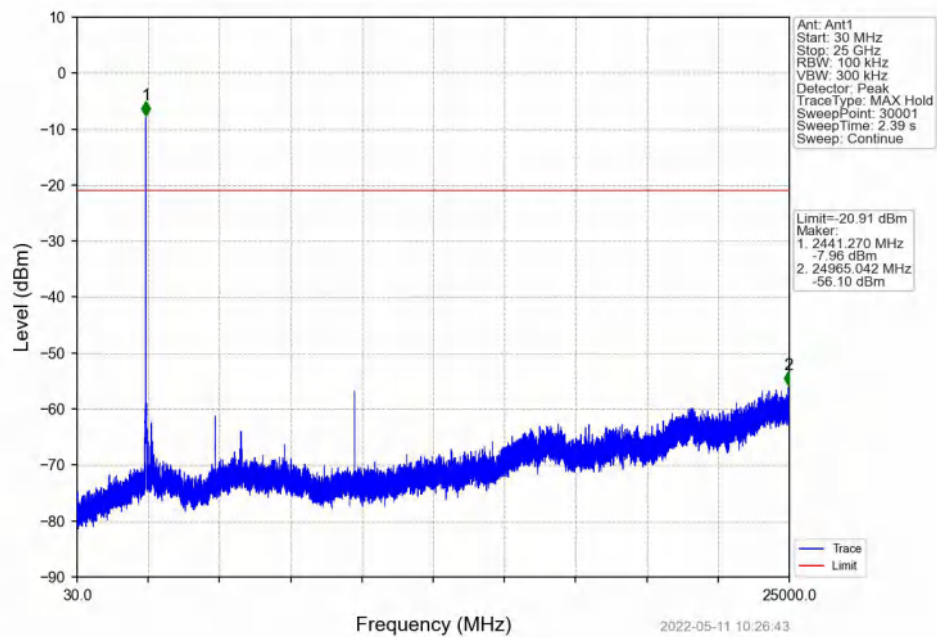
## Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



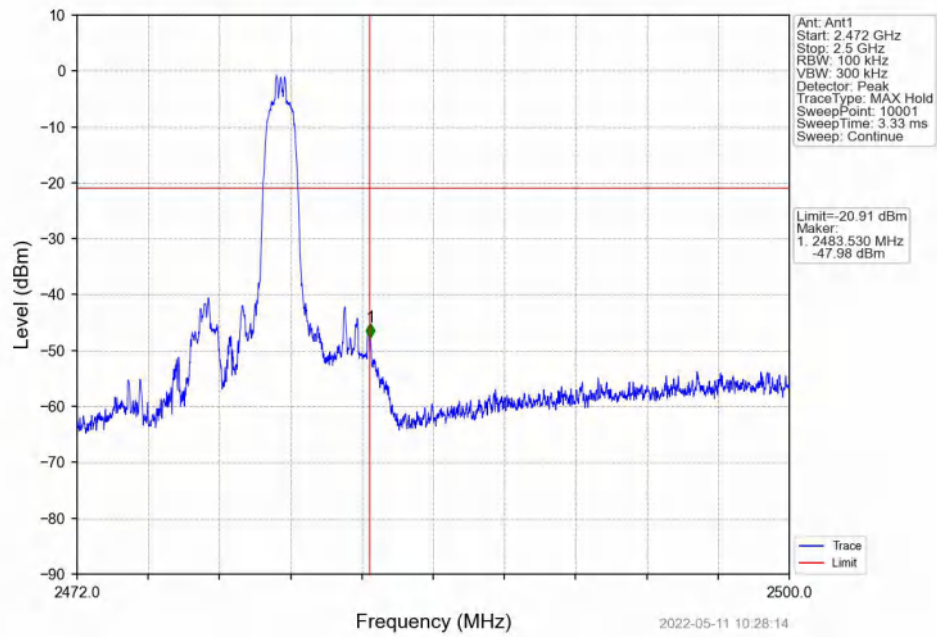
Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



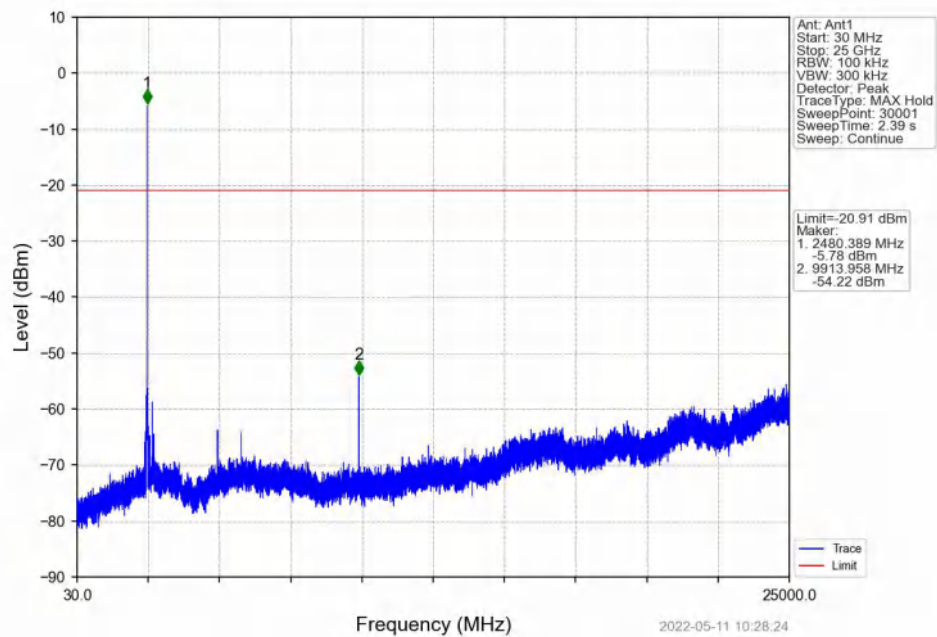
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



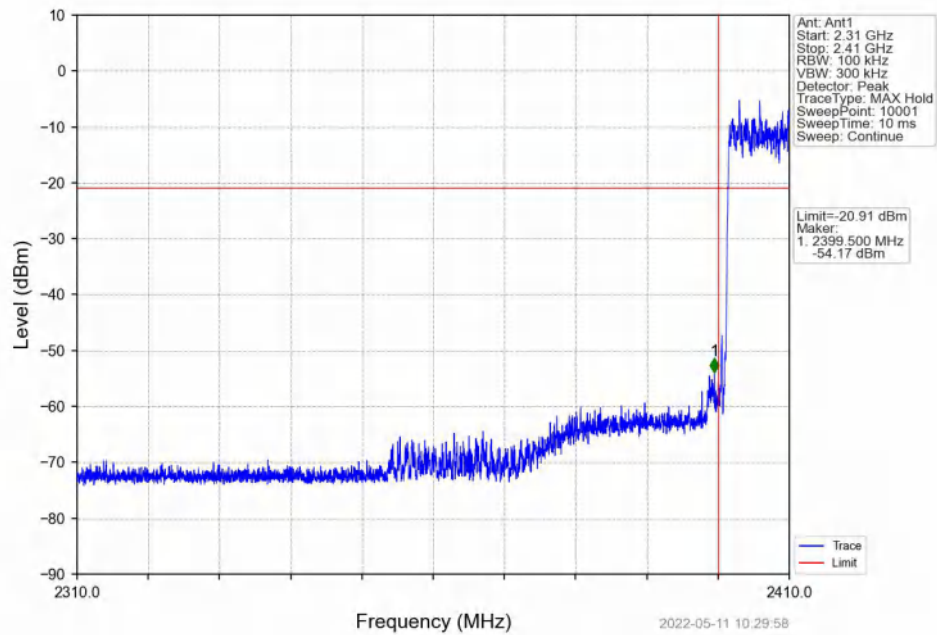
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



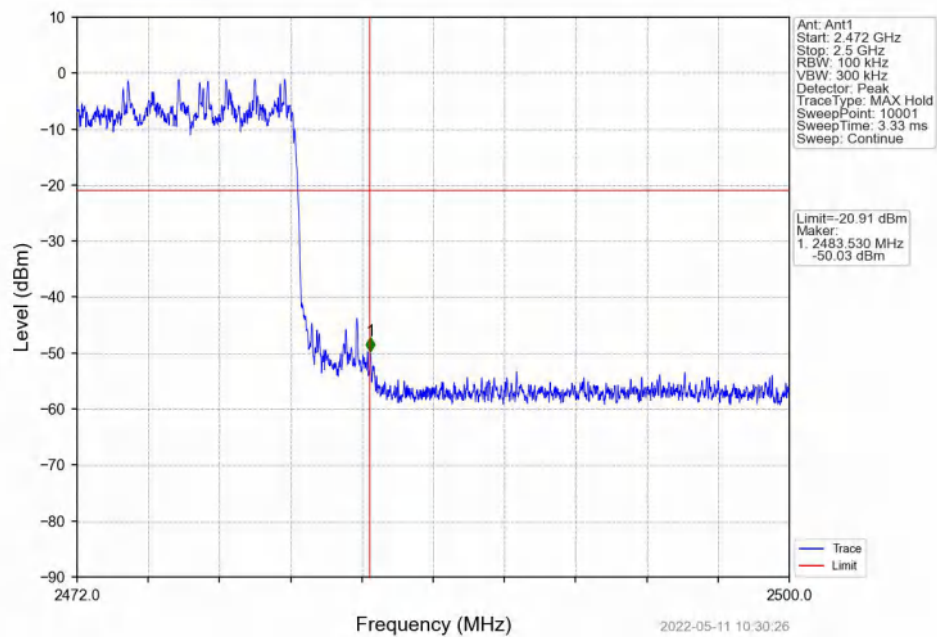
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



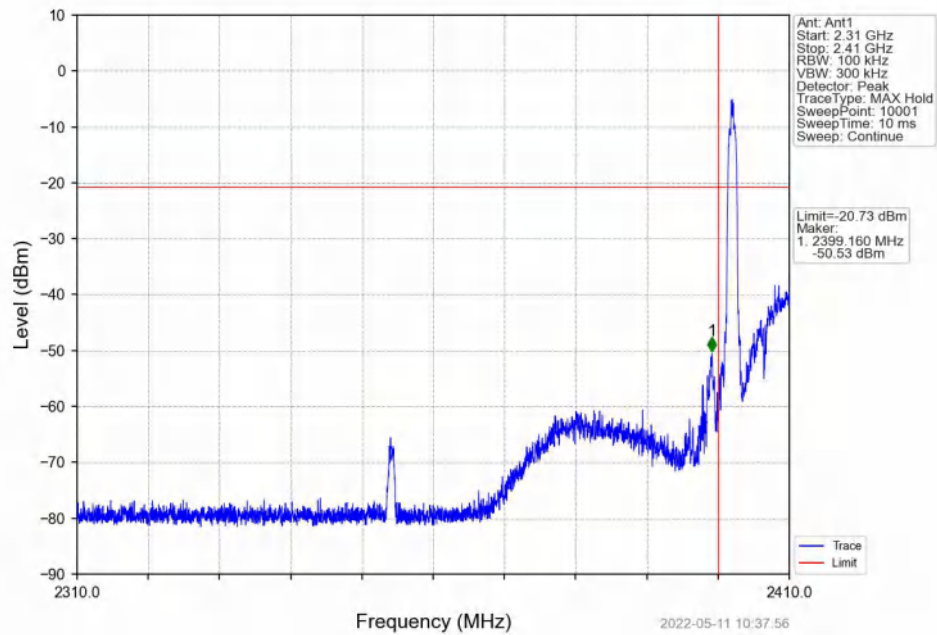
## Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



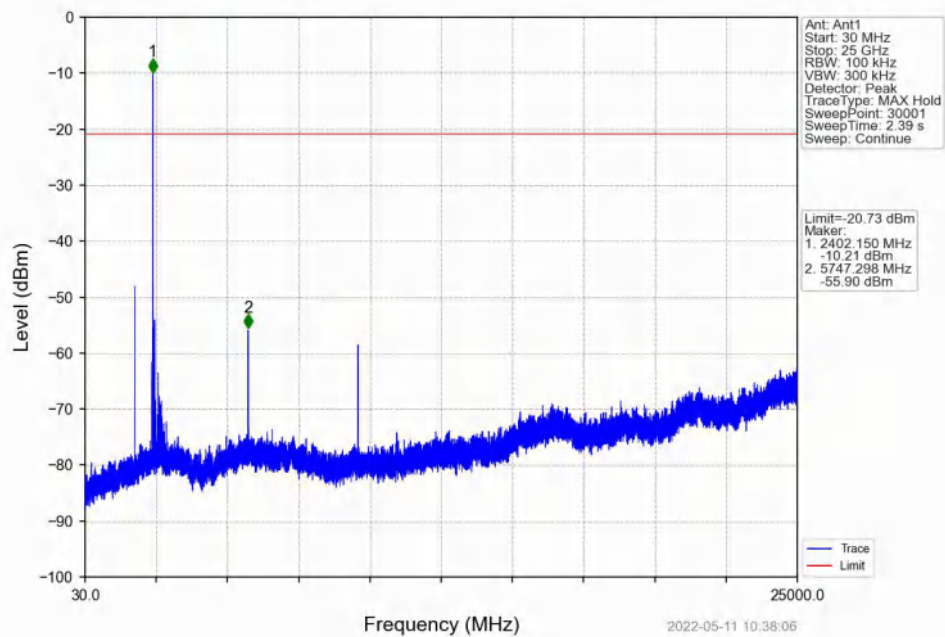
## Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



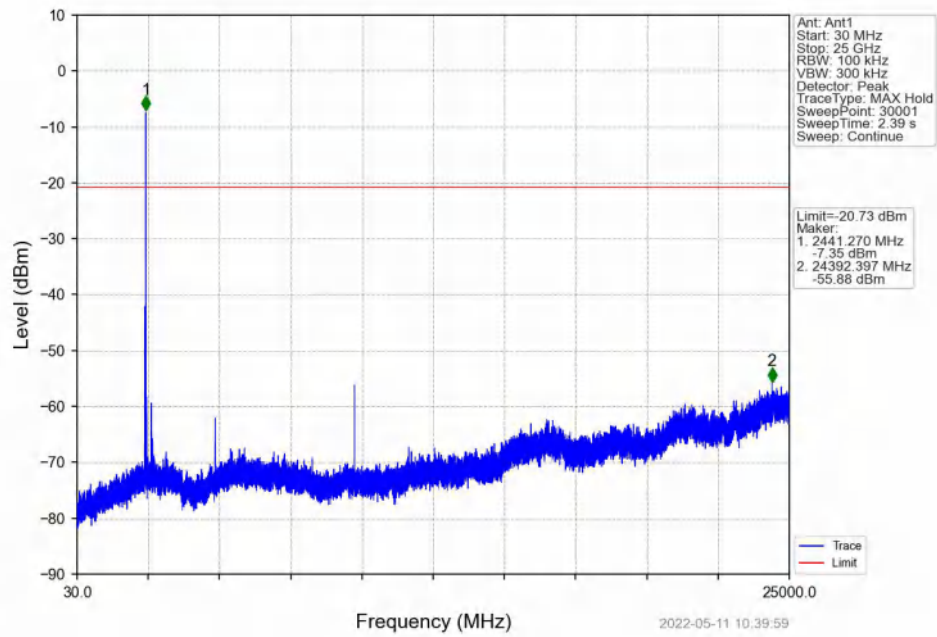
## 8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



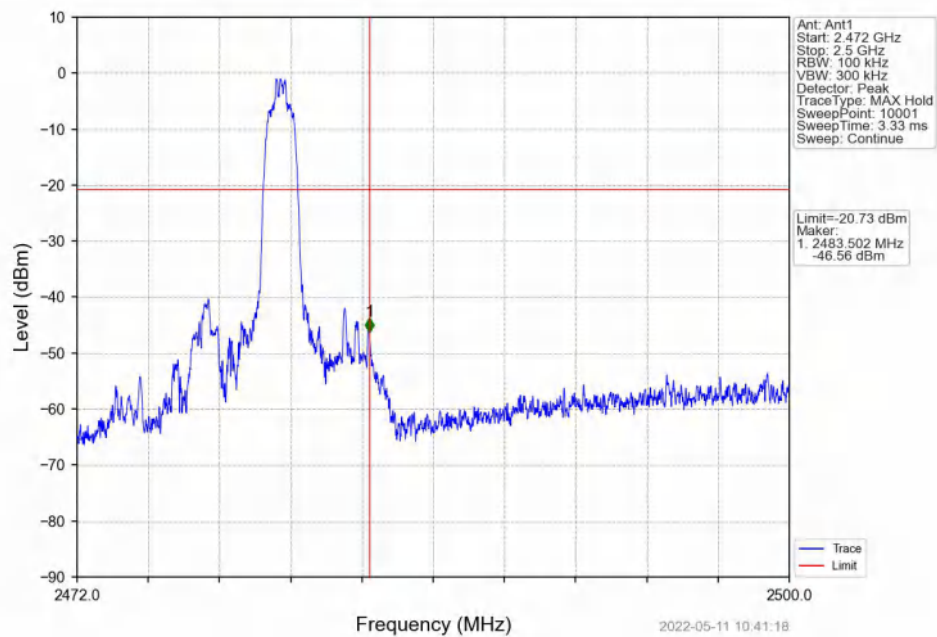
## 8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



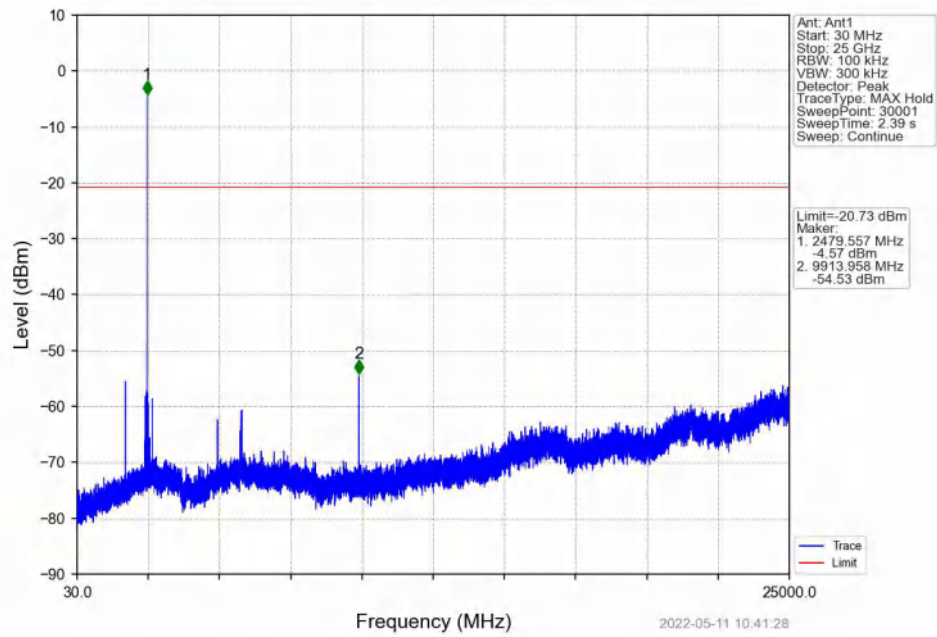
## 8DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



## 8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV



## 8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV



## 8DPSK\_3DH5\_HOPP\_Ant1\_NTNV

