

## Appendix - BT

### 1. Bandwidth

#### 1.1 Test Result

##### 1.1.1 OBW

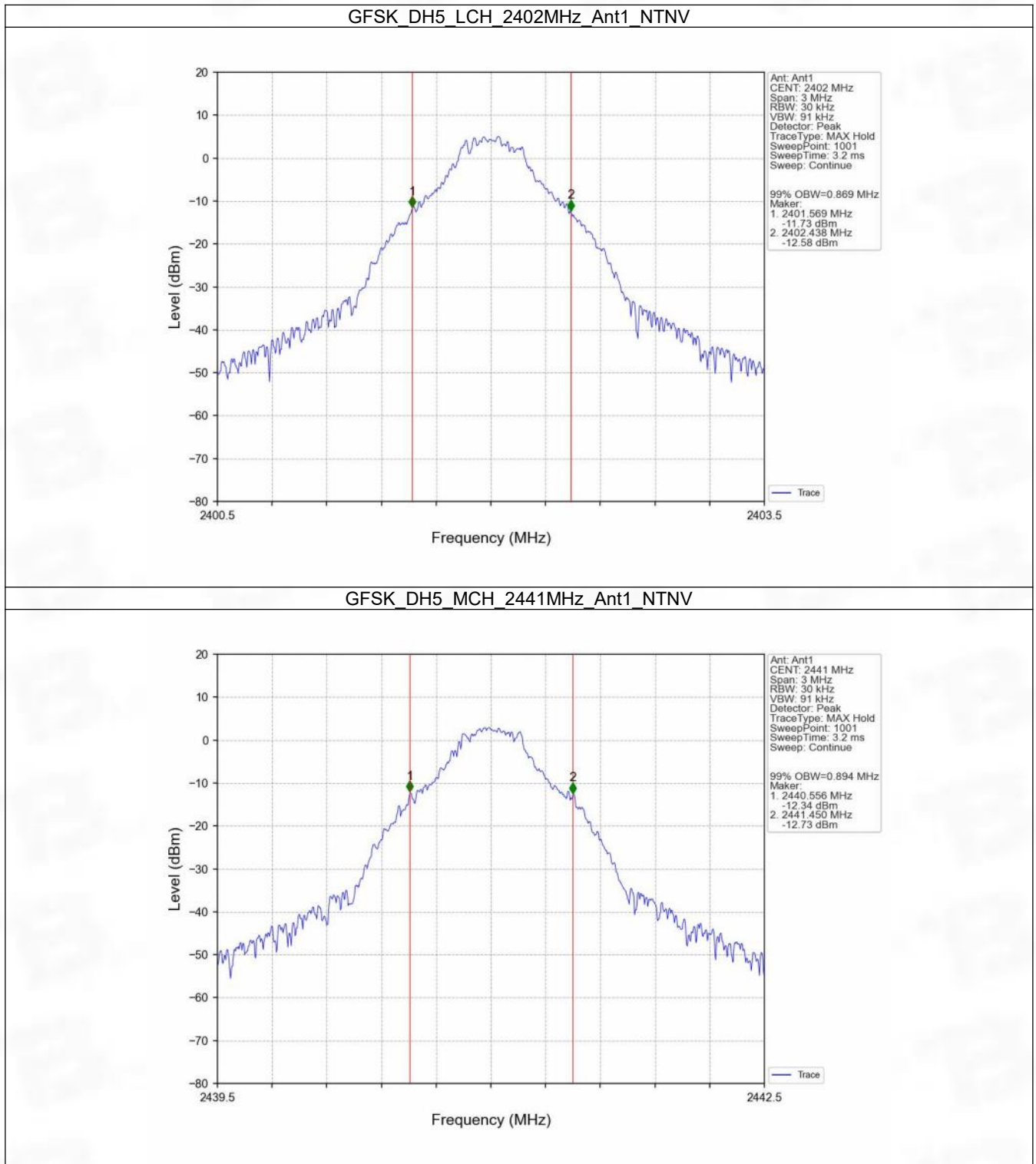
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | 99% Occupied Bandwidth (MHz) |       | Verdict |
|-----------|---------|-----------------|-------------|-----|------------------------------|-------|---------|
|           |         |                 |             |     | Result                       | Limit |         |
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.869                        | /     | Pass    |
|           |         | 2441            | DH5         | 1   | 0.894                        | /     | Pass    |
|           |         | 2480            | DH5         | 1   | 0.893                        | /     | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.185                        | /     | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.184                        | /     | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.194                        | /     | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 1.175                        | /     | Pass    |
|           |         | 2441            | 3DH5        | 1   | 1.182                        | /     | Pass    |
|           |         | 2480            | 3DH5        | 1   | 1.183                        | /     | Pass    |

##### 1.1.2 20dB BW

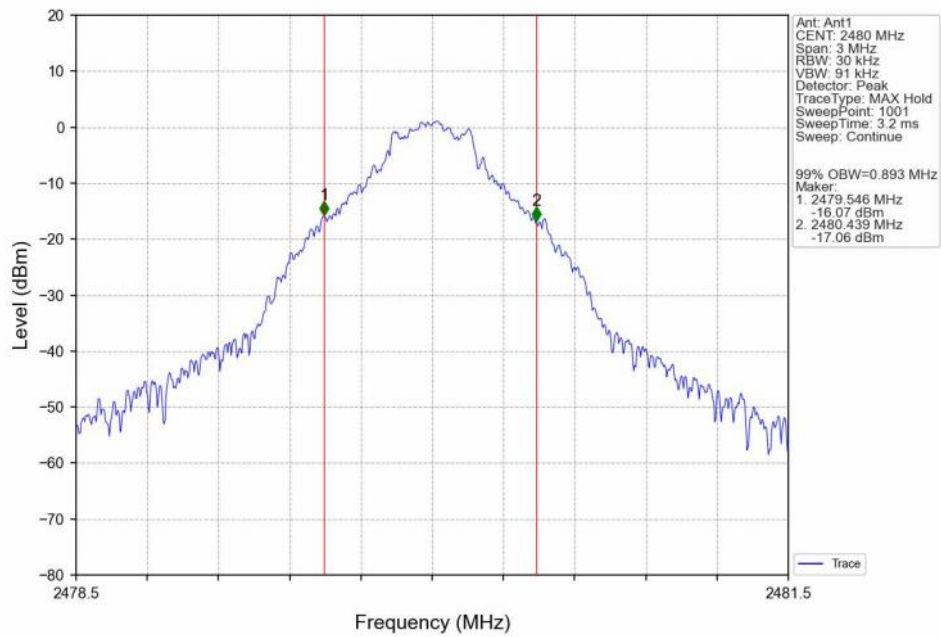
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | 20dB Bandwidth (MHz) |       | Verdict |
|-----------|---------|-----------------|-------------|-----|----------------------|-------|---------|
|           |         |                 |             |     | Result               | Limit |         |
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.970                | /     | Pass    |
|           |         | 2441            | DH5         | 1   | 0.990                | /     | Pass    |
|           |         | 2480            | DH5         | 1   | 0.968                | /     | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.294                | /     | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.315                | /     | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.307                | /     | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 1.300                | /     | Pass    |
|           |         | 2441            | 3DH5        | 1   | 1.303                | /     | Pass    |
|           |         | 2480            | 3DH5        | 1   | 1.304                | /     | Pass    |

## 1.2 Test Graph

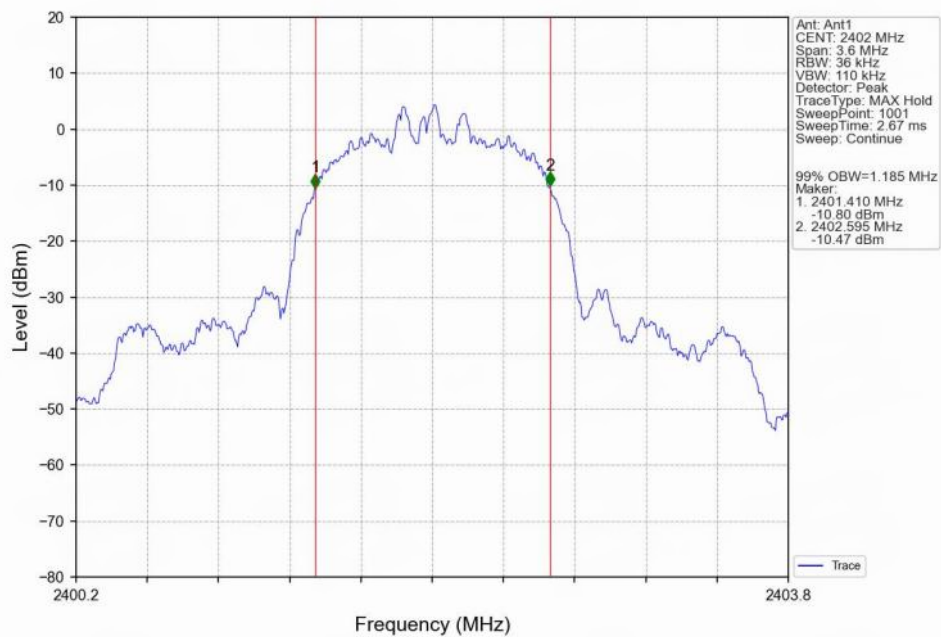
### 1.2.1 OBW



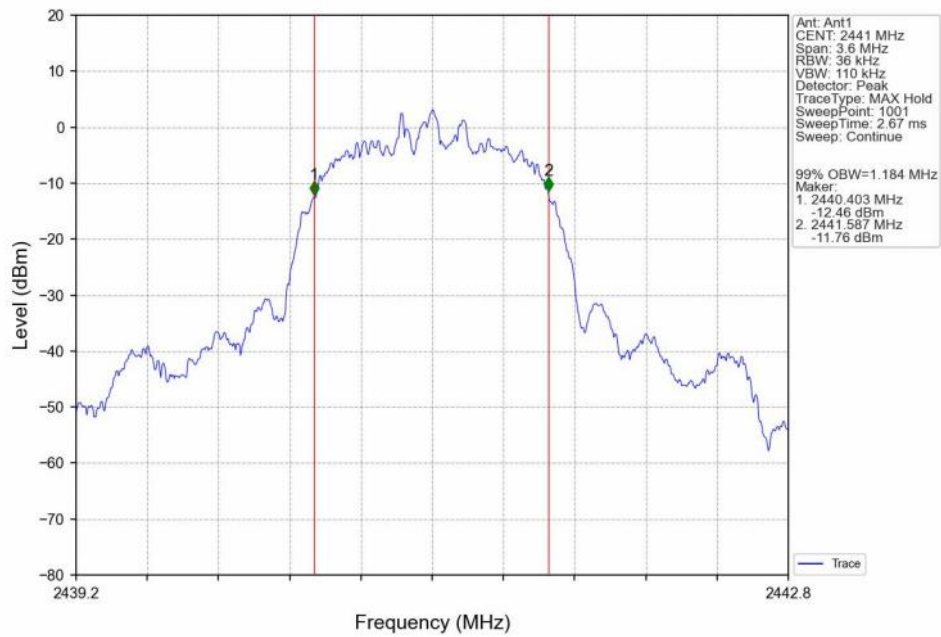
GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



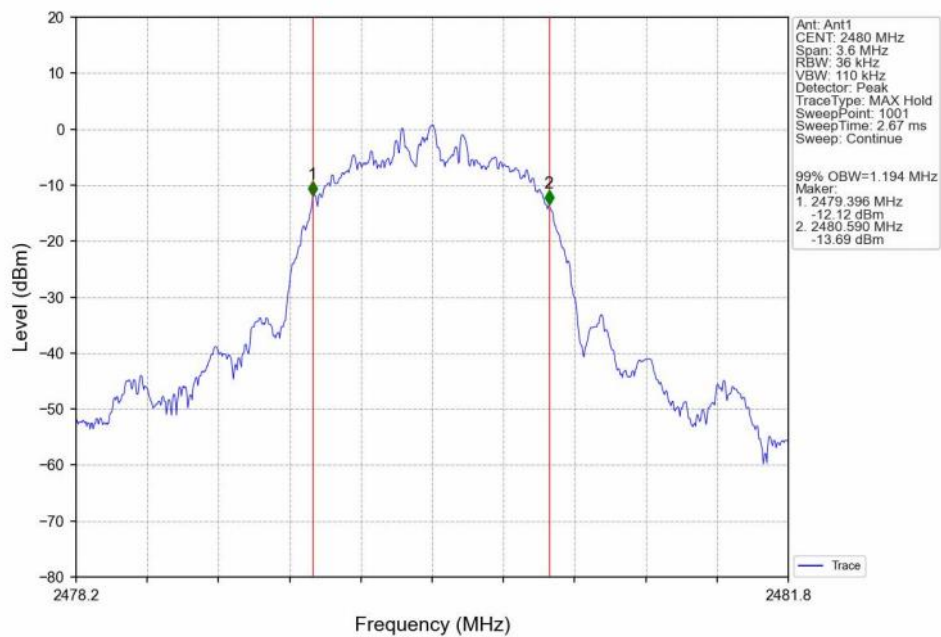
Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



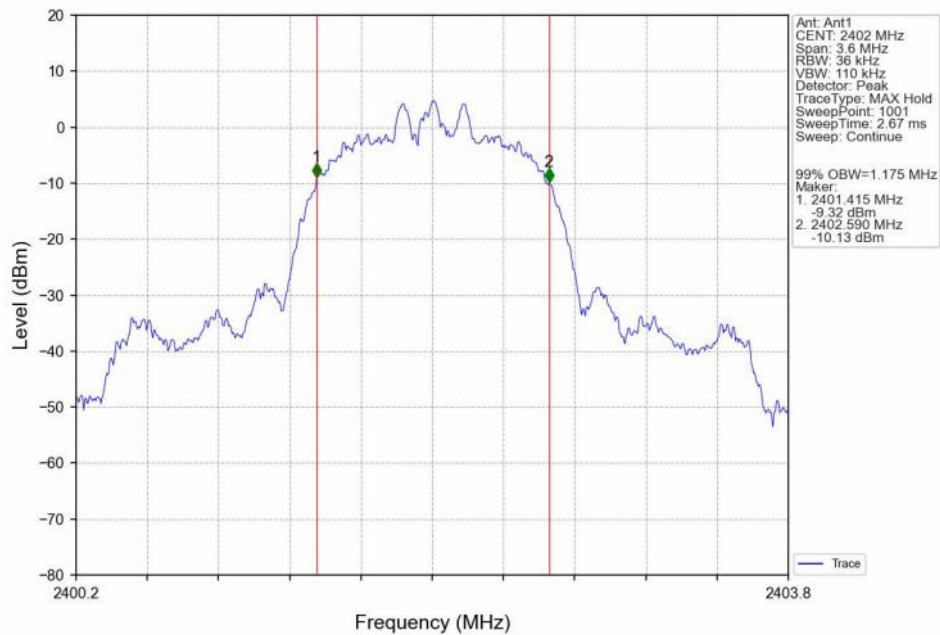
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



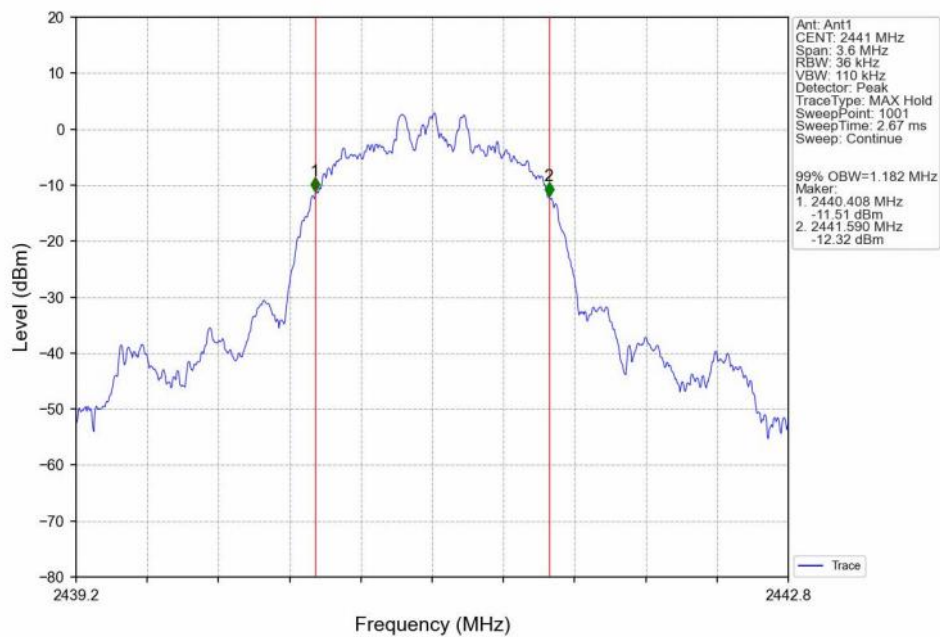
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV

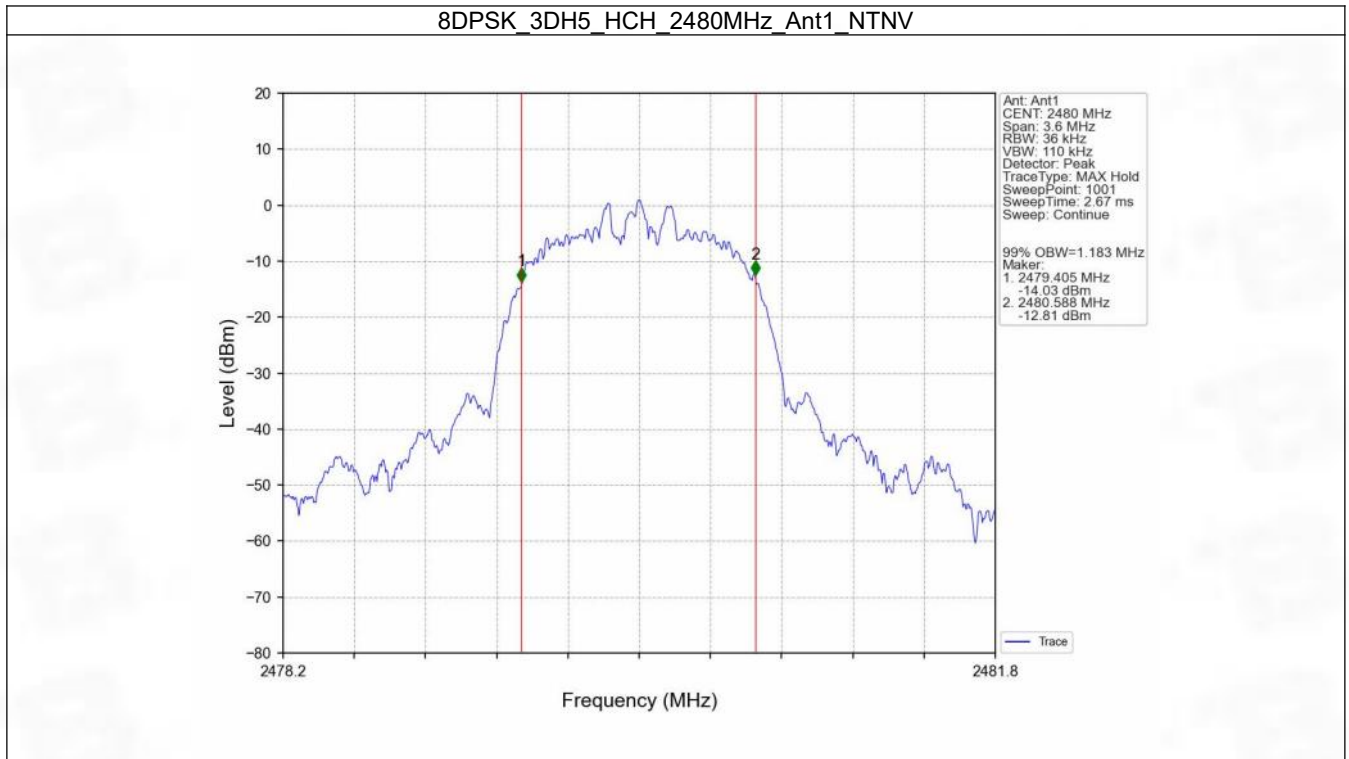


8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



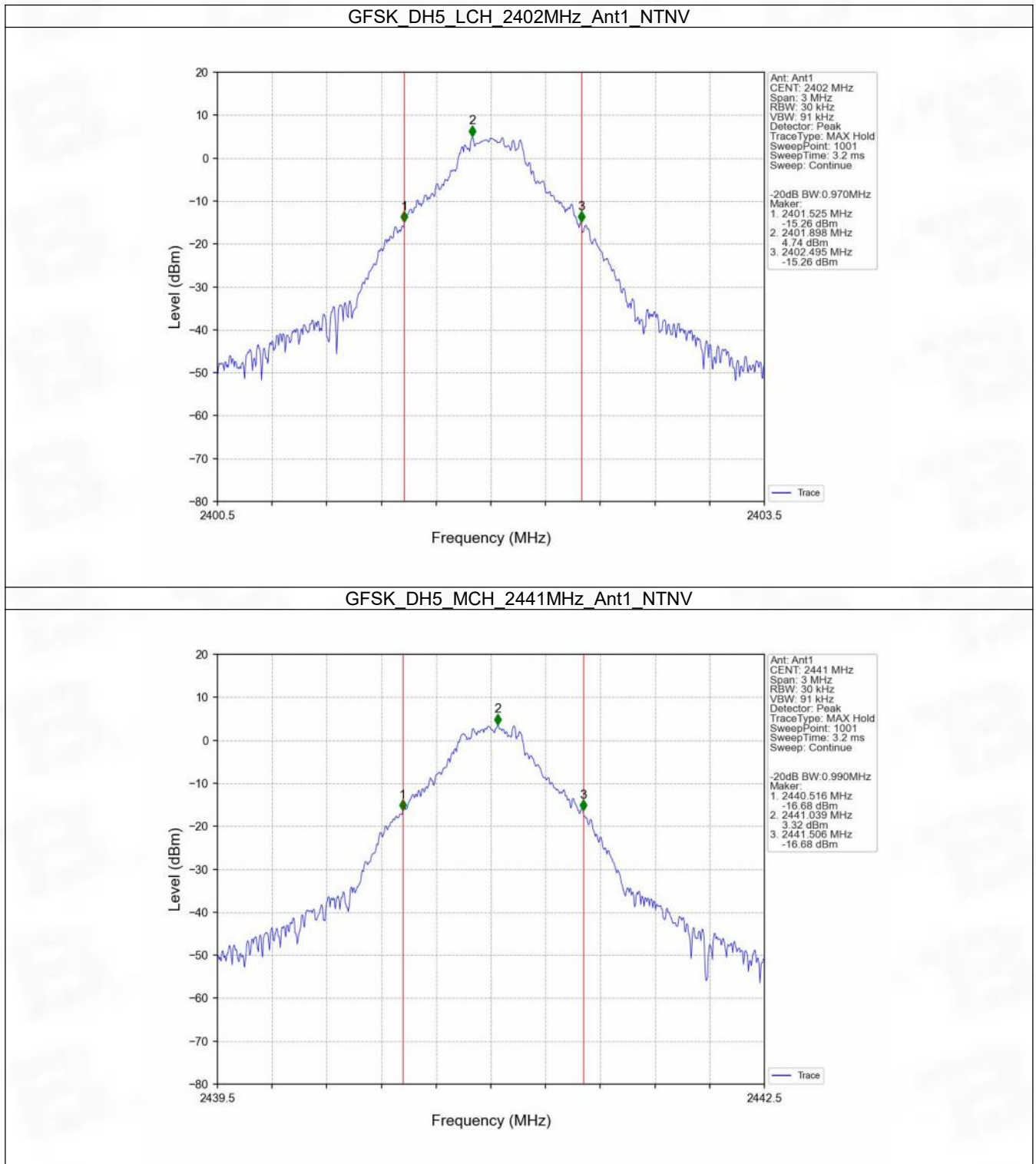
8DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



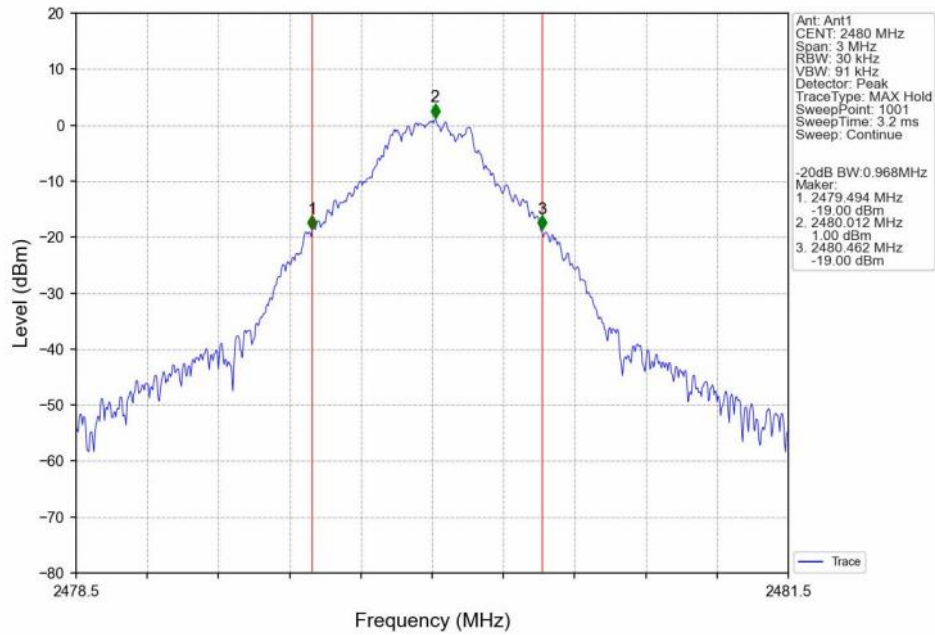




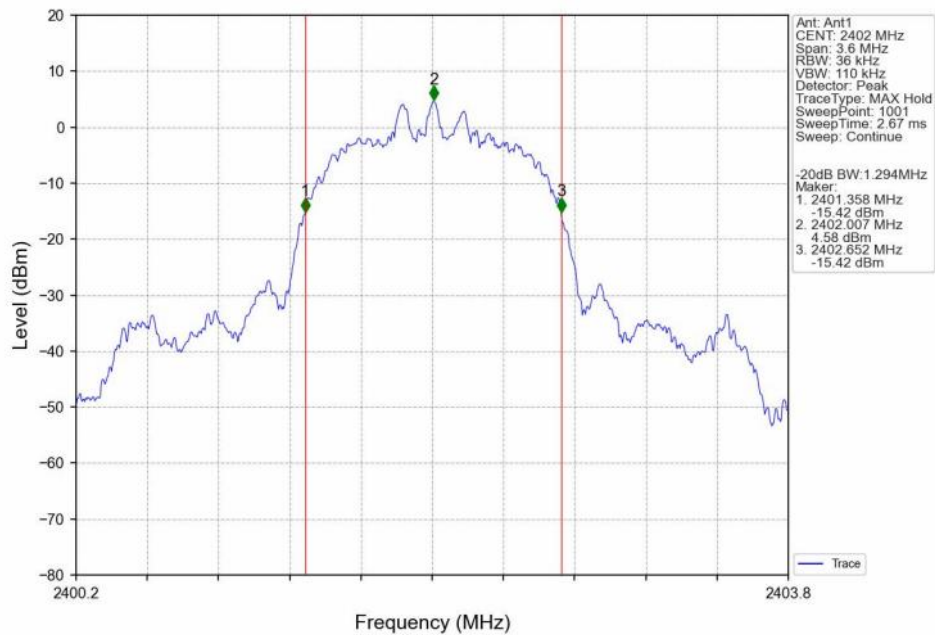
## 1.2.2 20dB BW



GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV

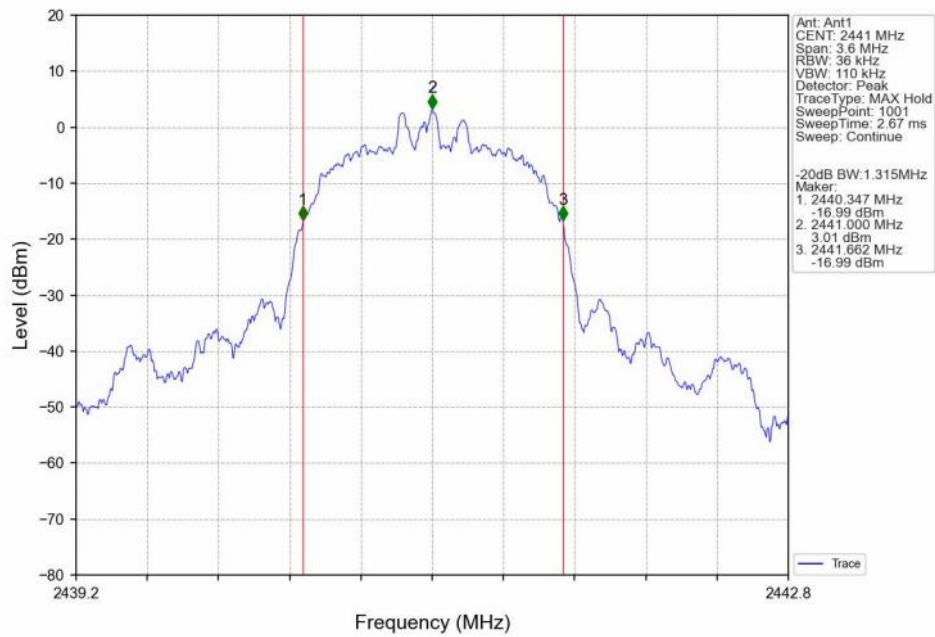


Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV

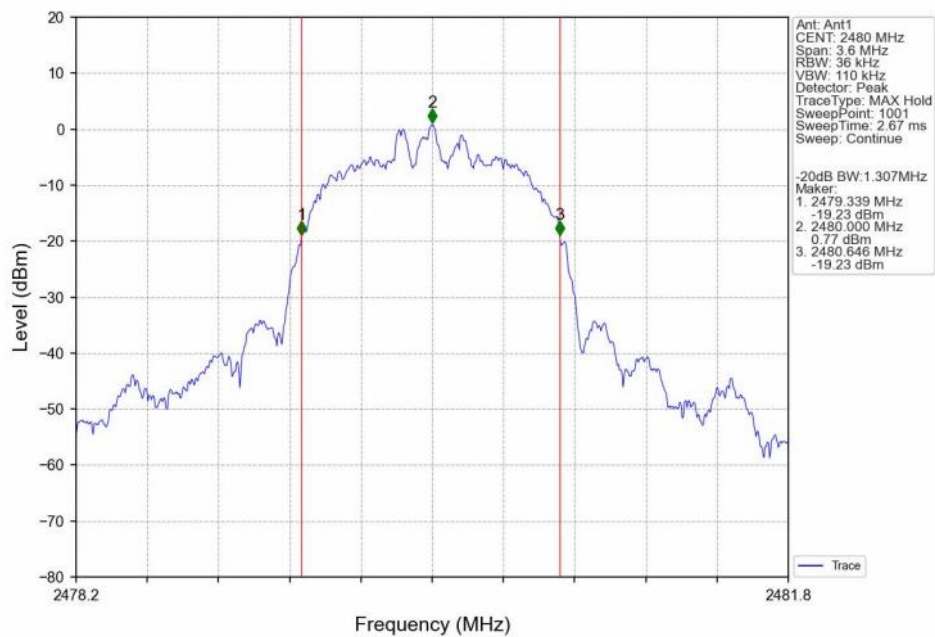




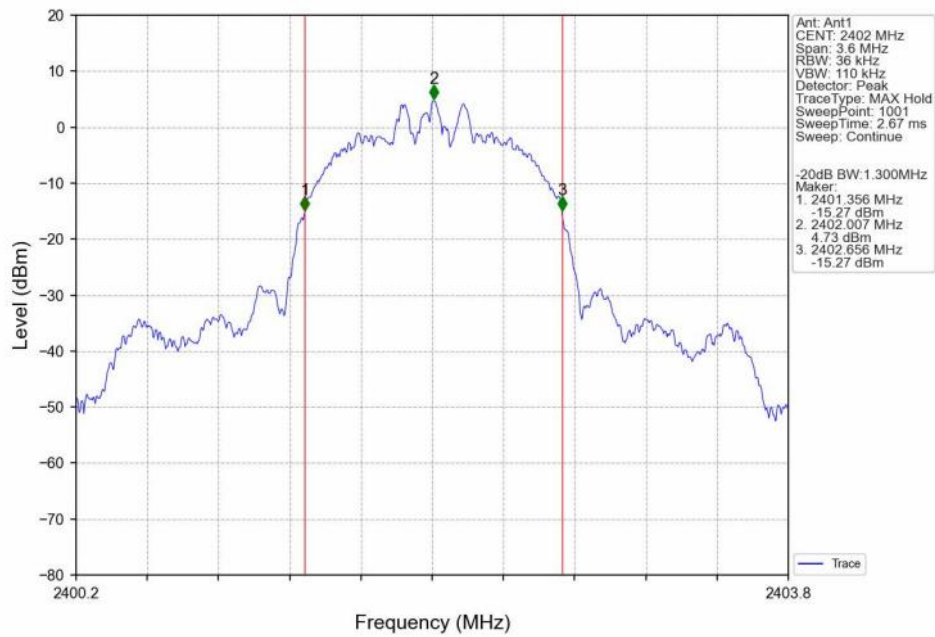
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



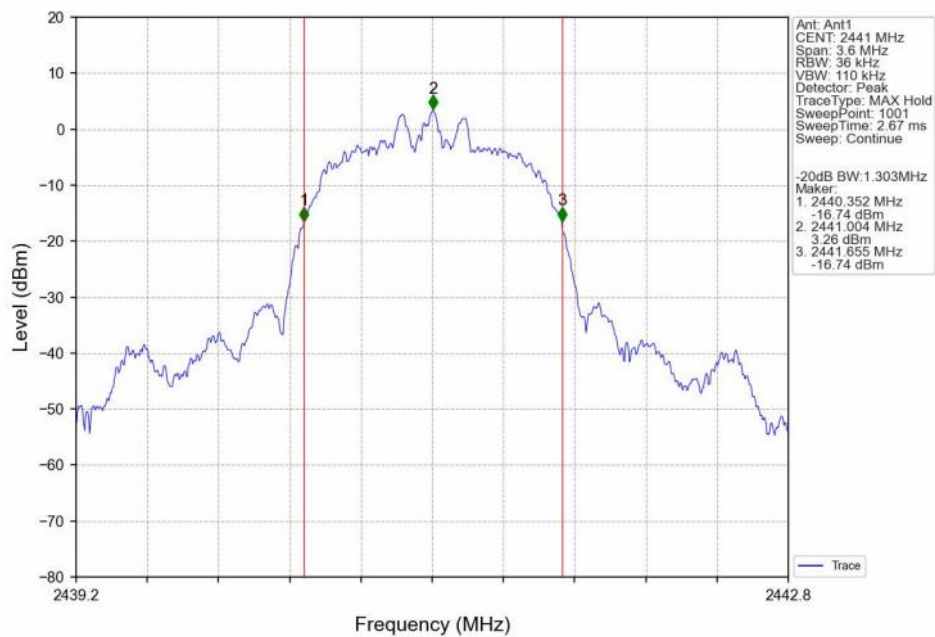
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV

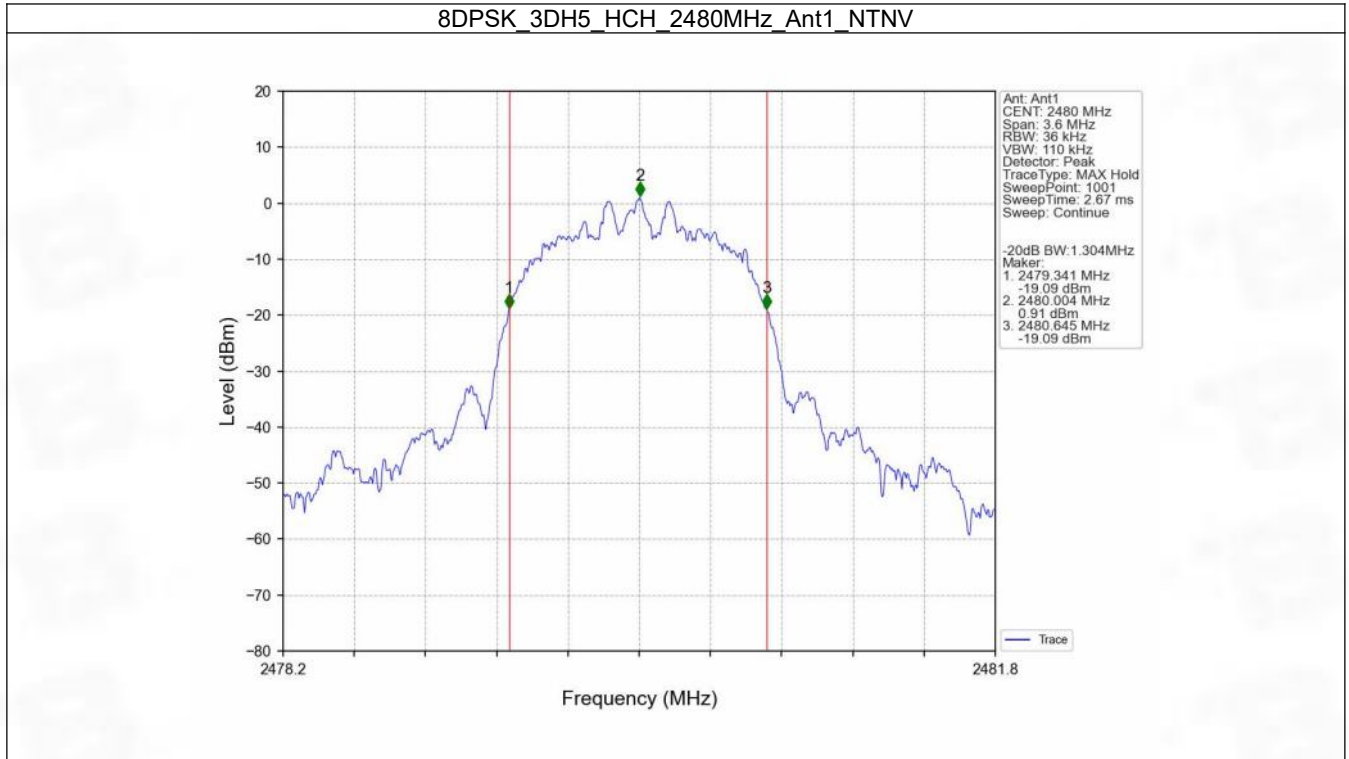


8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



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





## 2. Maximum Conducted Output Power

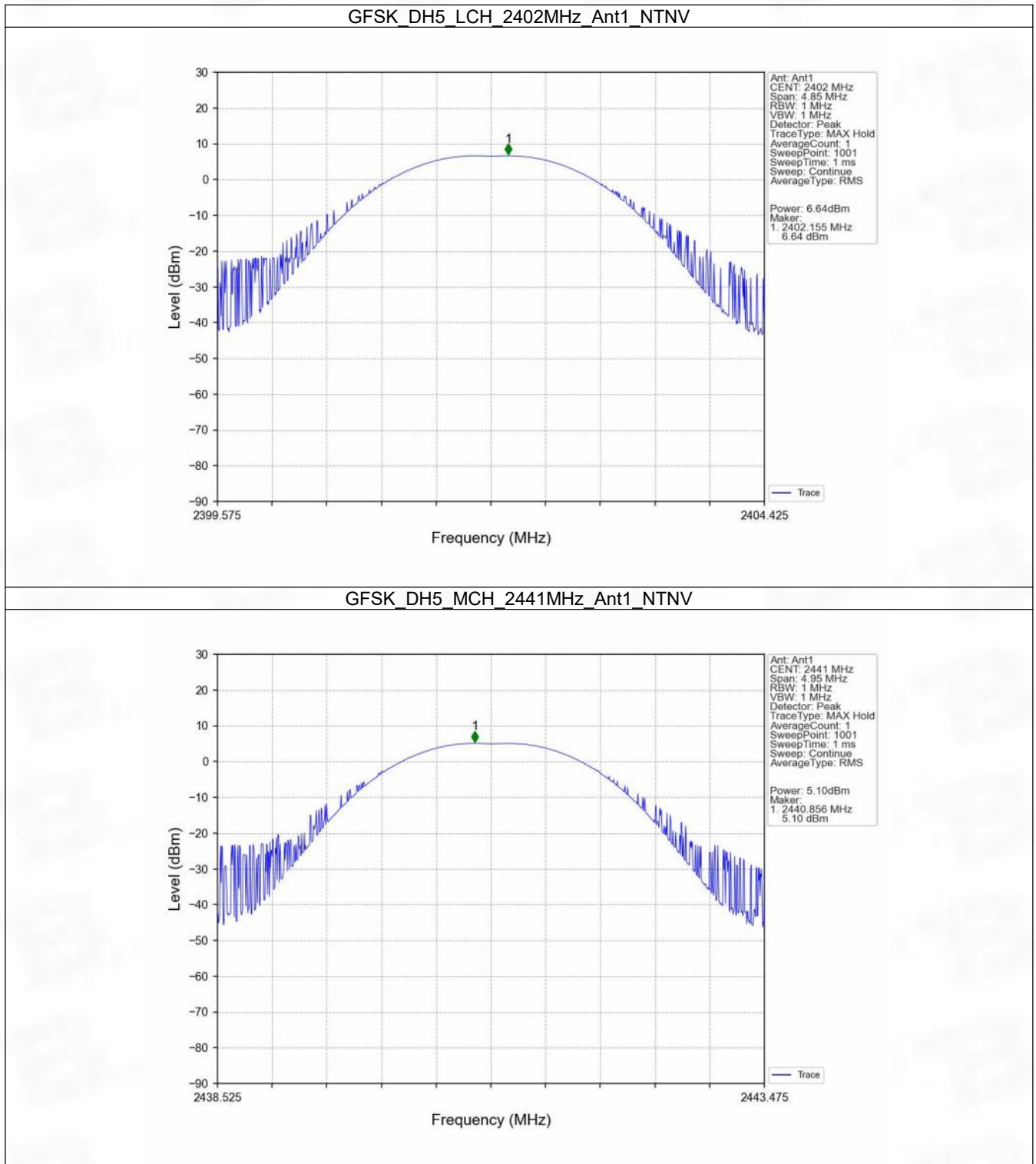
### 2.1 Test Result

#### 2.1.1 Power

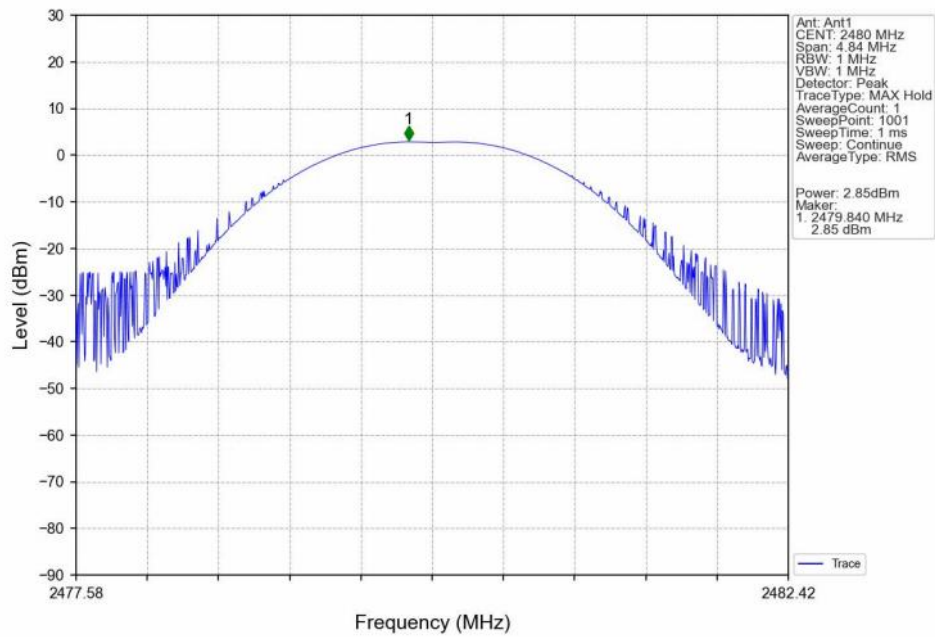
| Mode                                | TX Type | Frequency (MHz) | Packet Type | Maximum Peak Conducted Output Power (dBm) |         | Verdict |
|-------------------------------------|---------|-----------------|-------------|-------------------------------------------|---------|---------|
|                                     |         |                 |             | ANT1                                      | Limit   |         |
| GFSK                                | SISO    | 2402            | DH5         | 6.64                                      | <=30    | Pass    |
|                                     |         | 2441            | DH5         | 5.10                                      | <=30    | Pass    |
|                                     |         | 2480            | DH5         | 2.85                                      | <=30    | Pass    |
| Pi/4DQPSK                           | SISO    | 2402            | 2DH5        | 6.63                                      | <=20.97 | Pass    |
|                                     |         | 2441            | 2DH5        | 5.07                                      | <=20.97 | Pass    |
|                                     |         | 2480            | 2DH5        | 2.77                                      | <=20.97 | Pass    |
| 8DPSK                               | SISO    | 2402            | 3DH5        | 7.14                                      | <=20.97 | Pass    |
|                                     |         | 2441            | 3DH5        | 5.56                                      | <=20.97 | Pass    |
|                                     |         | 2480            | 3DH5        | 3.19                                      | <=20.97 | Pass    |
| Note1: Antenna Gain: Ant1: 3.38dBi; |         |                 |             |                                           |         |         |

## 2.2 Test Graph

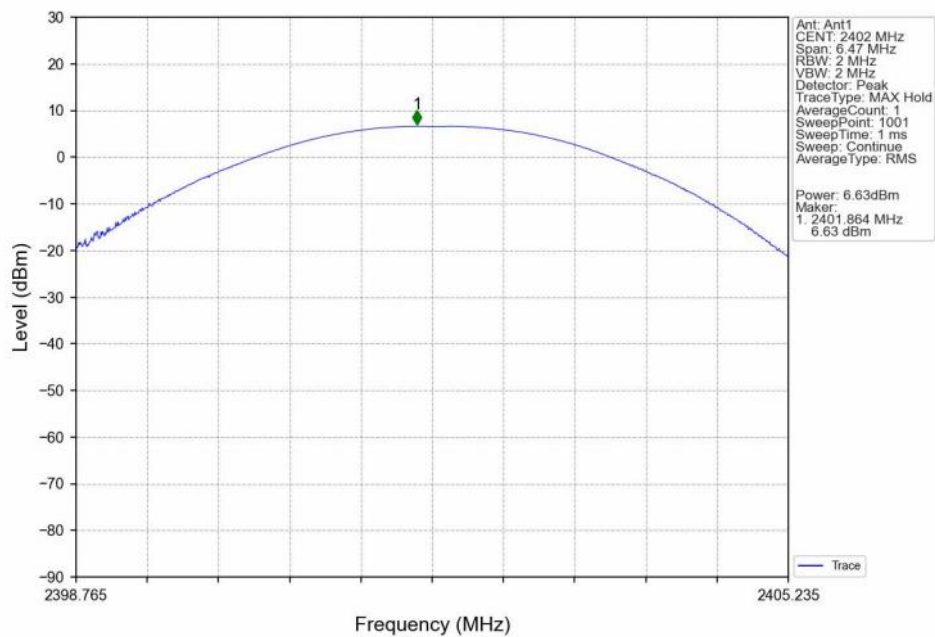
### 2.2.1 Power



GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV

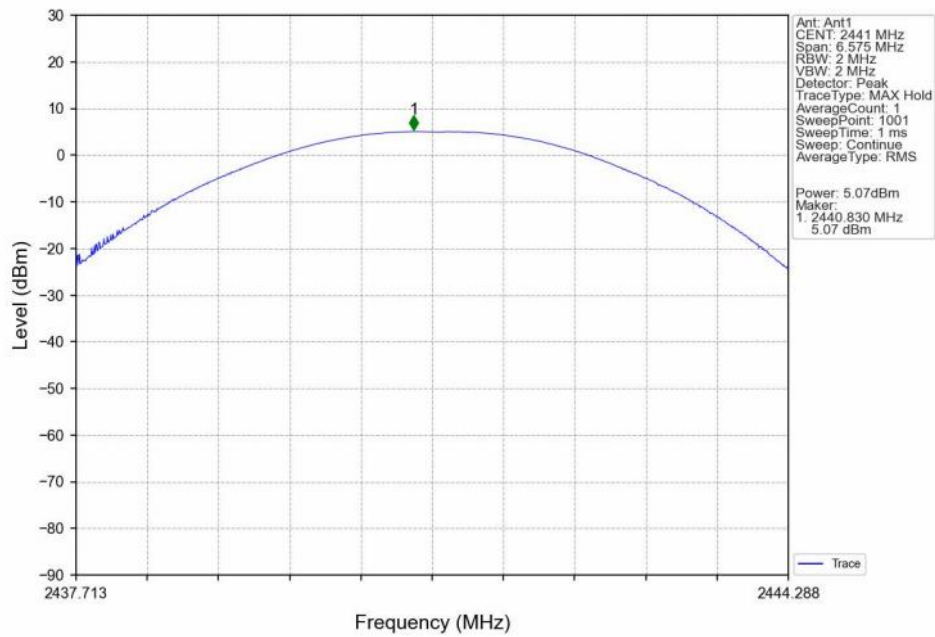


Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV

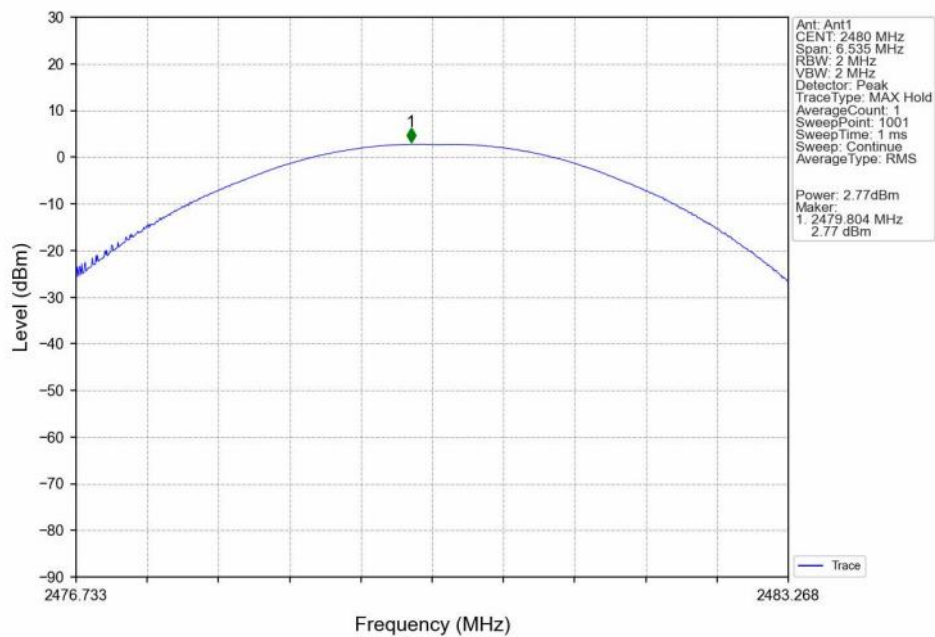




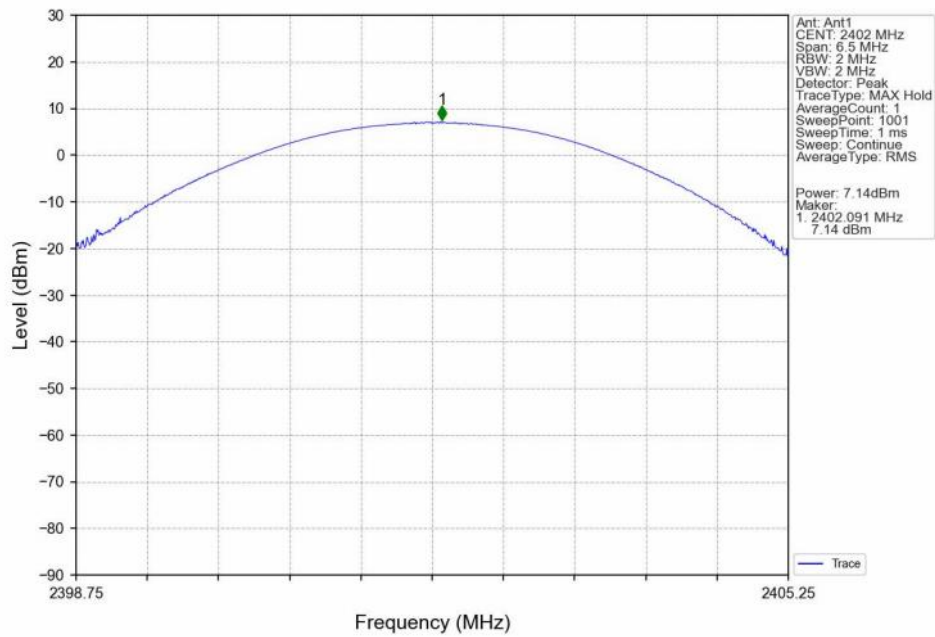
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



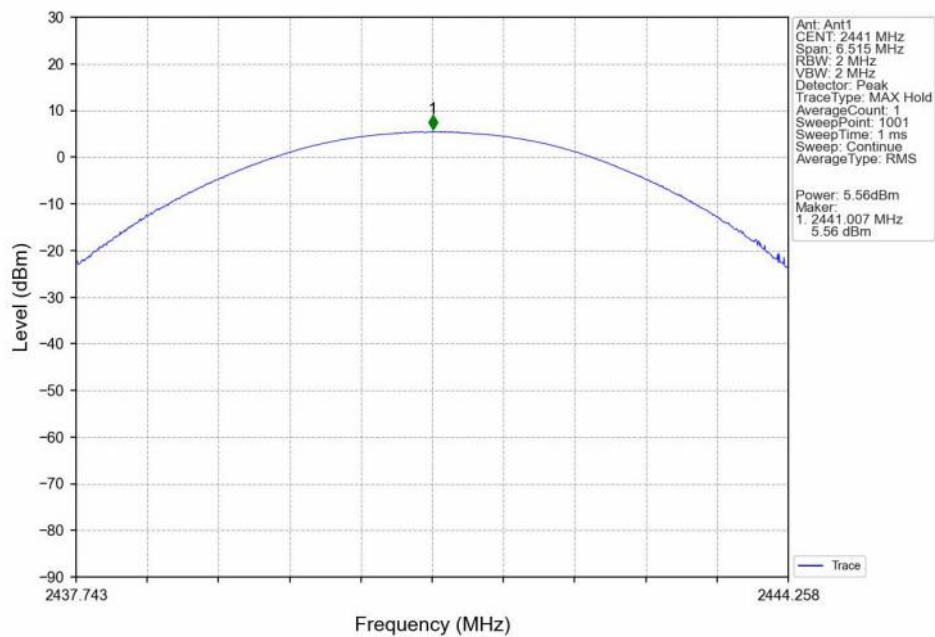
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV

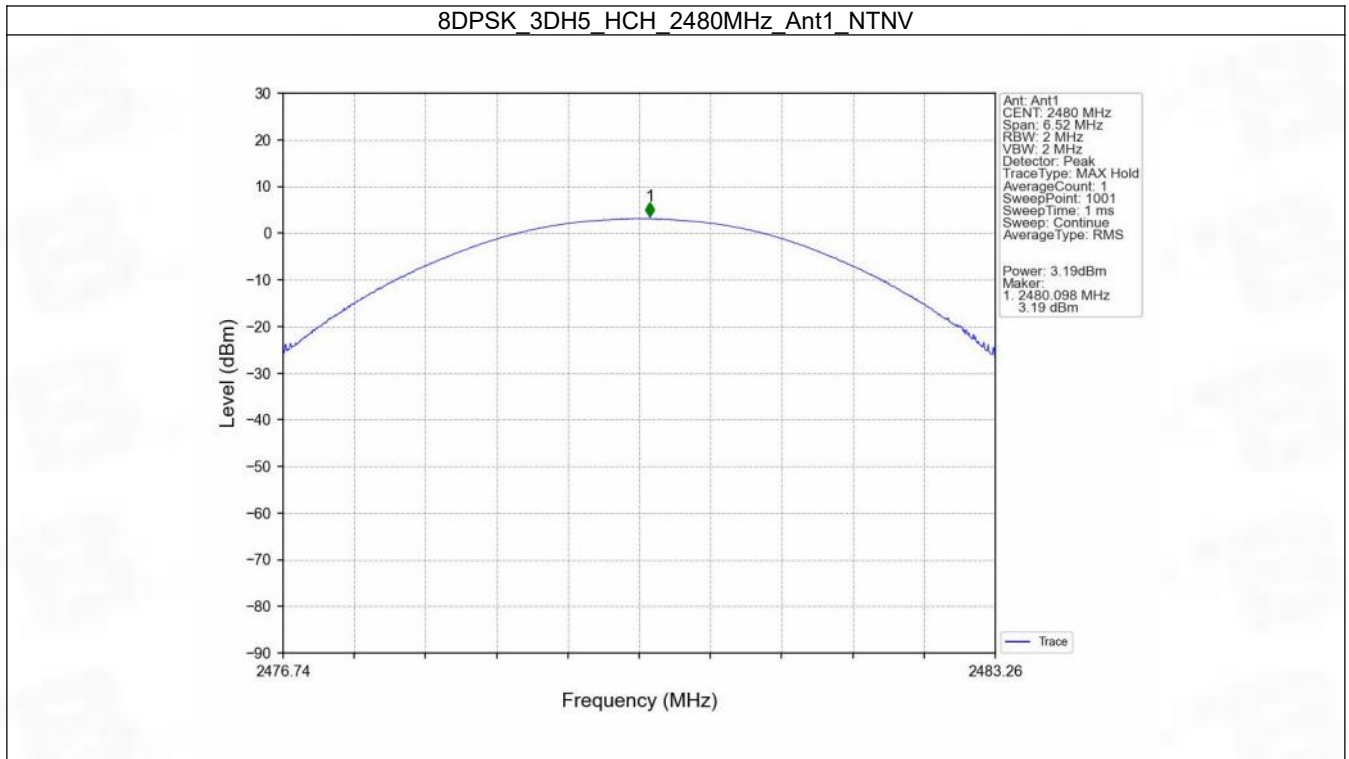


8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



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





### 3. Carrier Frequency Separation

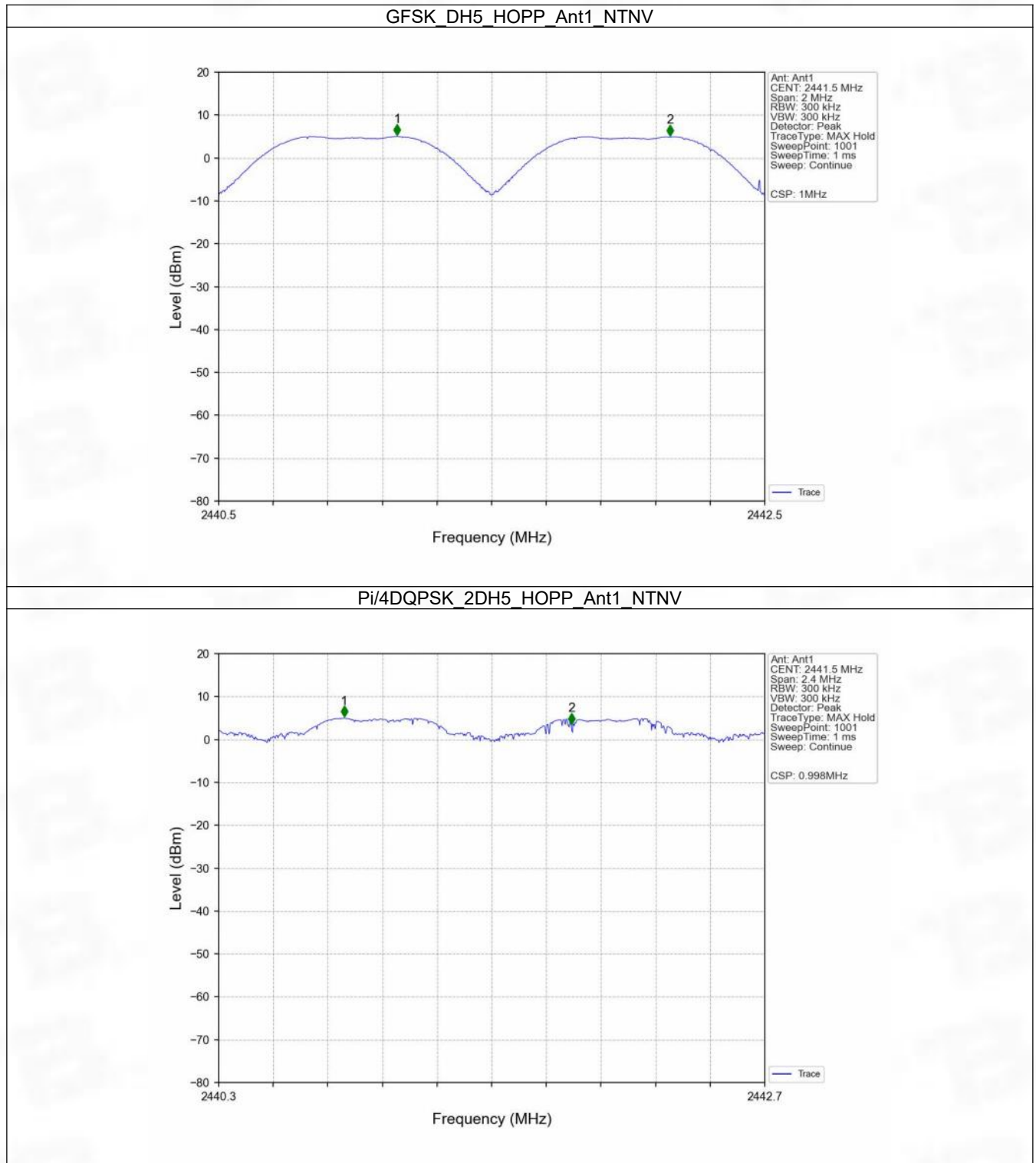
#### 3.1 Test Result

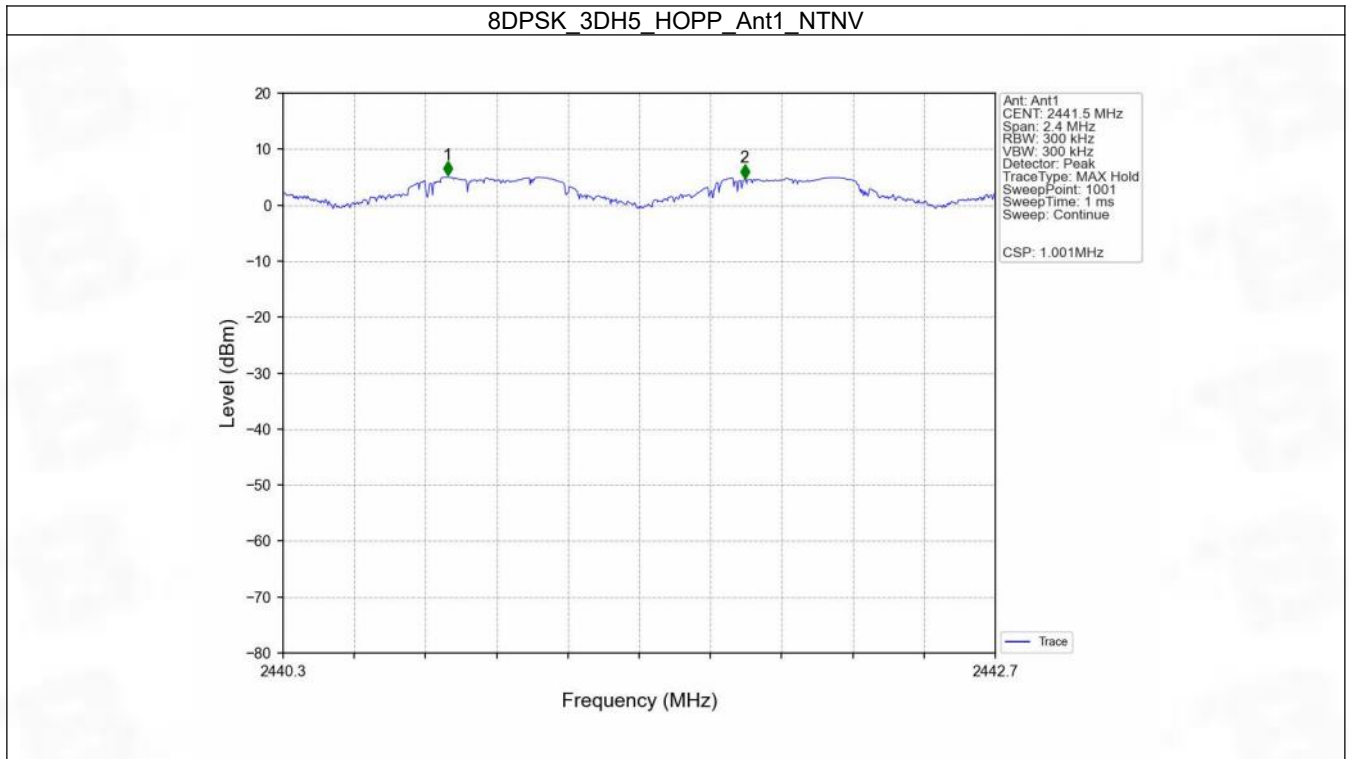
##### 3.1.1 Ant1

| Ant1      |         |                 |             |                          |                      |              |         |
|-----------|---------|-----------------|-------------|--------------------------|----------------------|--------------|---------|
| Mode      | TX Type | Frequency (MHz) | Packet Type | Channel Separation (MHz) | 20dB Bandwidth (MHz) | Limit (MHz)  | Verdict |
| GFSK      | SISO    | HOPP            | DH5         | 1.000                    | 0.990                | $\geq 0.99$  | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH5        | 0.998                    | 1.315                | $\geq 0.877$ | Pass    |
| 8DPSK     | SISO    | HOPP            | 3DH5        | 1.001                    | 1.304                | $\geq 0.869$ | Pass    |

## 3.2 Test Graph

### 3.2.1 Ant1







## 4. Number of Hopping Frequencies

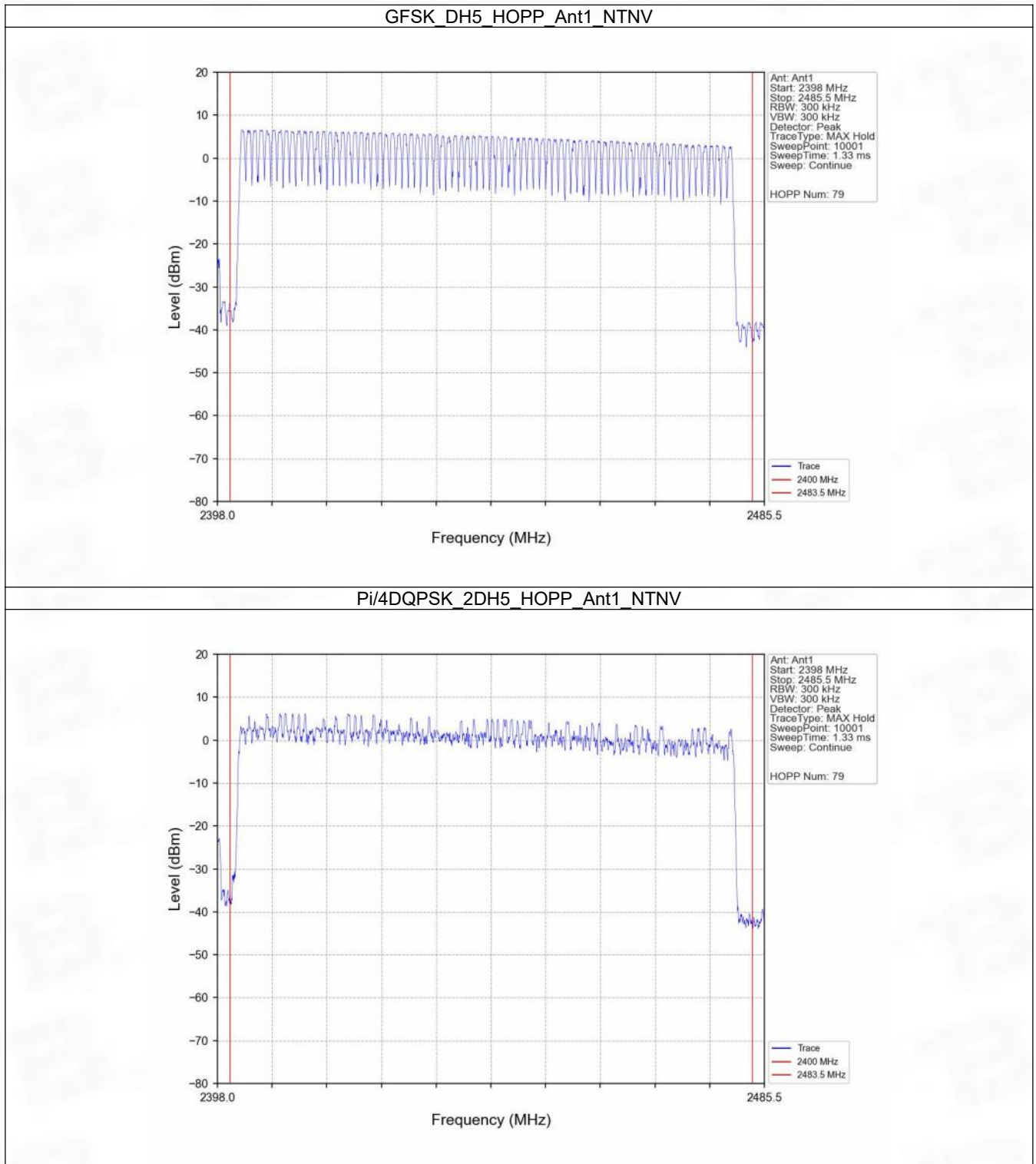
### 4.1 Test Result

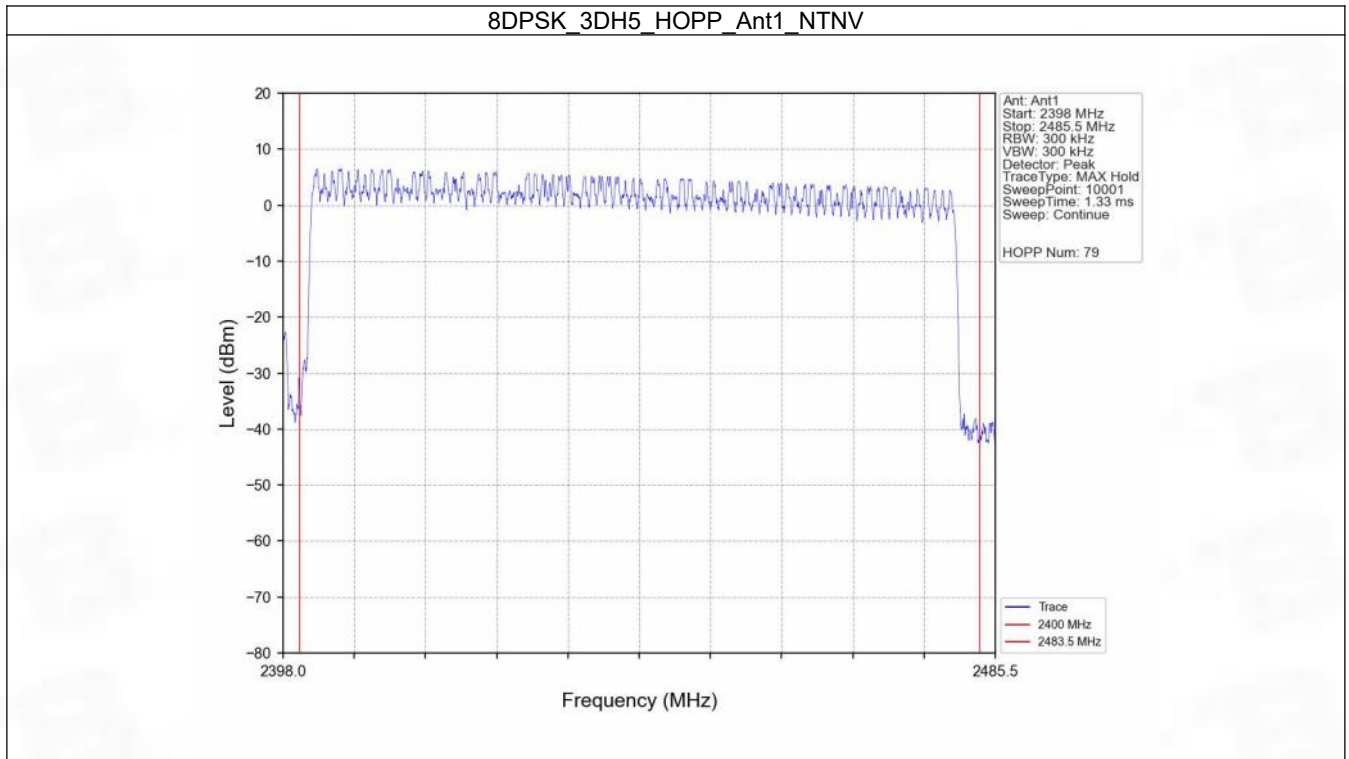
#### 4.1.1 HoppNum

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

## 4.2 Test Graph

### 4.2.1 HoppNum





## 5. Time of Occupancy (Dwell Time)

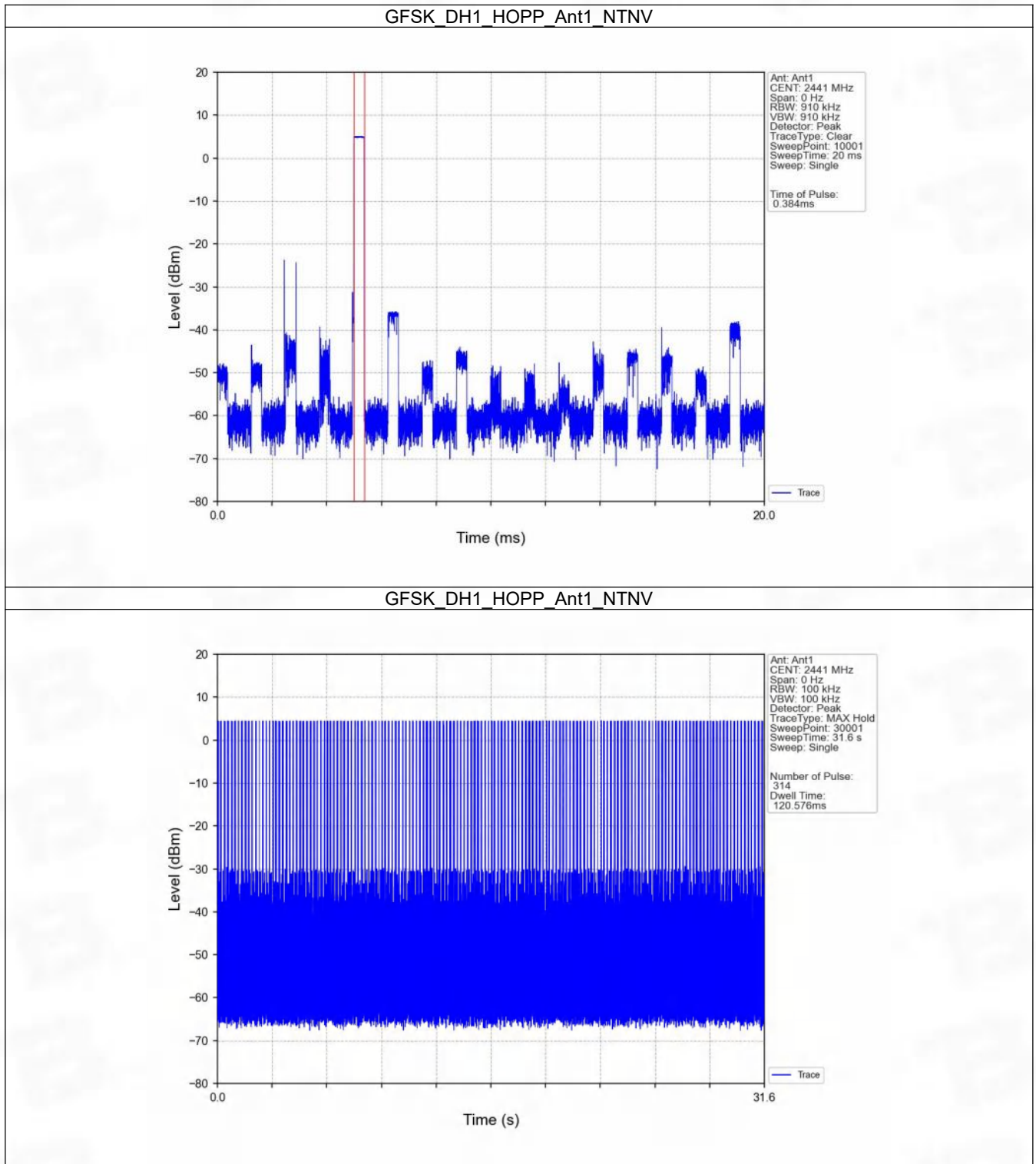
### 5.1 Test Result

#### 5.1.1 Ant1

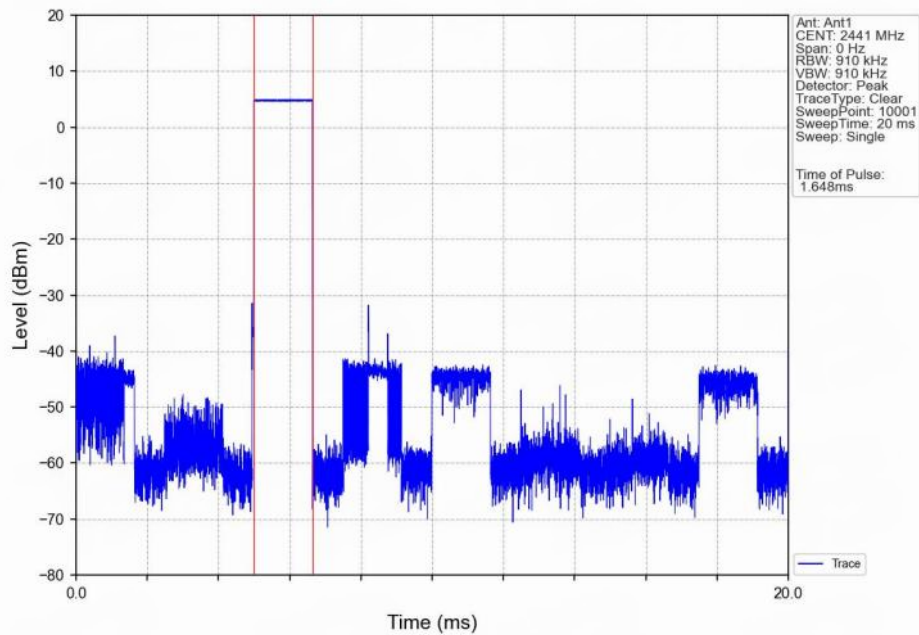
| Ant1      |         |                 |             |                               |                        |                                    |                 |            |         |
|-----------|---------|-----------------|-------------|-------------------------------|------------------------|------------------------------------|-----------------|------------|---------|
| 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                 | 314                                | 120.576         | <=400      | Pass    |
|           |         |                 | DH3         | 1.648                         | 31.600                 | 174                                | 286.752         | <=400      | Pass    |
|           |         |                 | DH5         | 2.894                         | 31.600                 | 95                                 | 274.930         | <=400      | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH1        | 0.392                         | 31.600                 | 315                                | 123.480         | <=400      | Pass    |
|           |         |                 | 2DH3        | 1.644                         | 31.600                 | 170                                | 279.480         | <=400      | Pass    |
|           |         |                 | 2DH5        | 2.892                         | 31.600                 | 95                                 | 274.740         | <=400      | Pass    |
| 8DPSK     | SISO    | HOPP            | 3DH1        | 0.390                         | 31.600                 | 314                                | 122.460         | <=400      | Pass    |
|           |         |                 | 3DH3        | 1.640                         | 31.600                 | 172                                | 282.080         | <=400      | Pass    |
|           |         |                 | 3DH5        | 2.892                         | 31.600                 | 112                                | 323.904         | <=400      | Pass    |

## 5.2 Test Graph

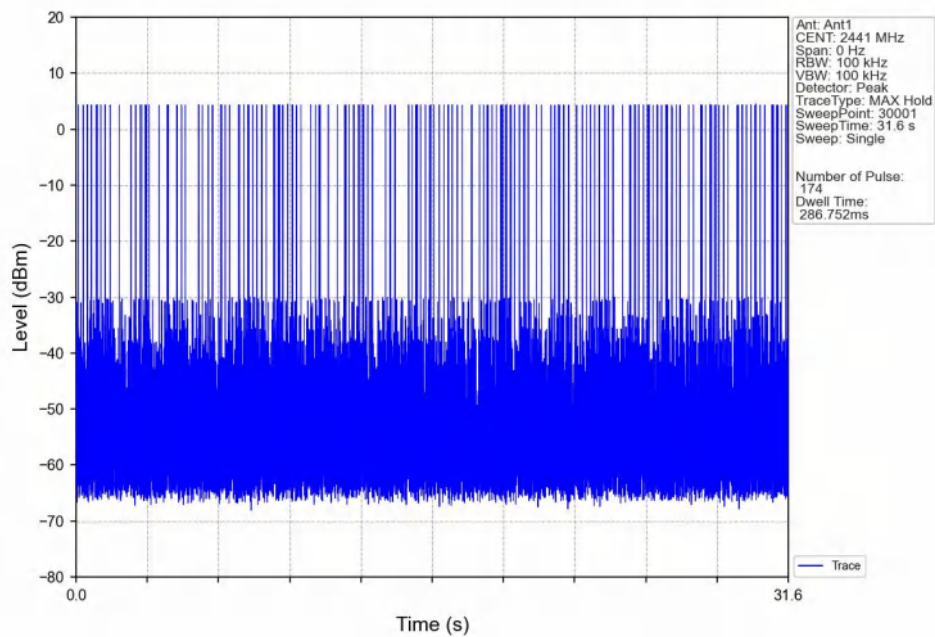
### 5.2.1 Ant1



GFSK\_DH3\_HOPP\_Ant1\_NTNV

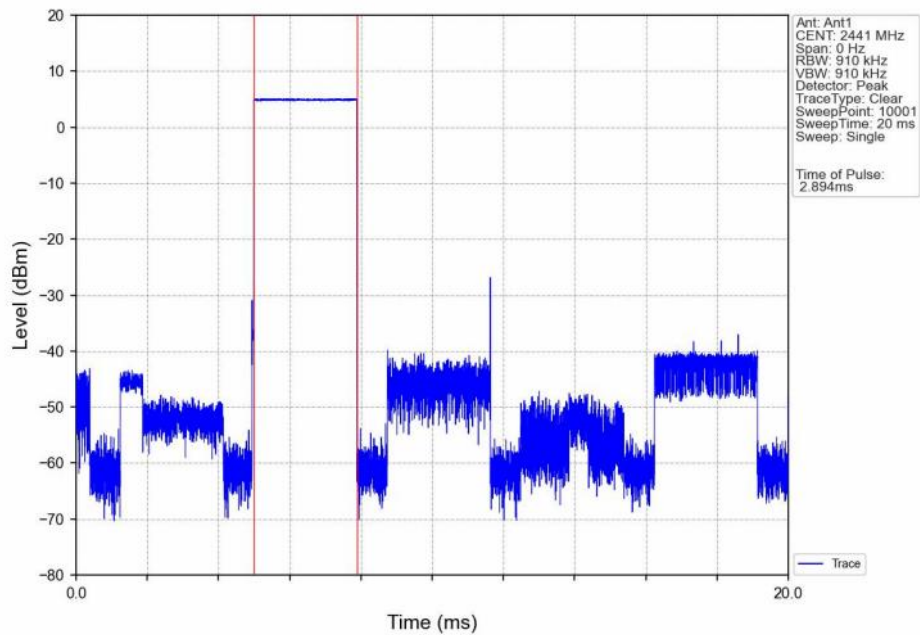


GFSK\_DH3\_HOPP\_Ant1\_NTNV

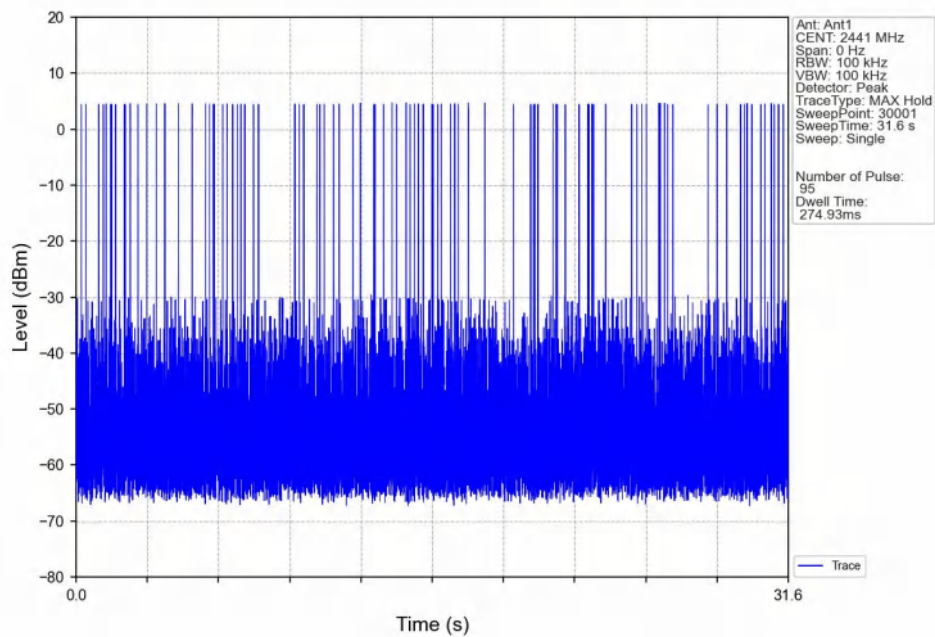




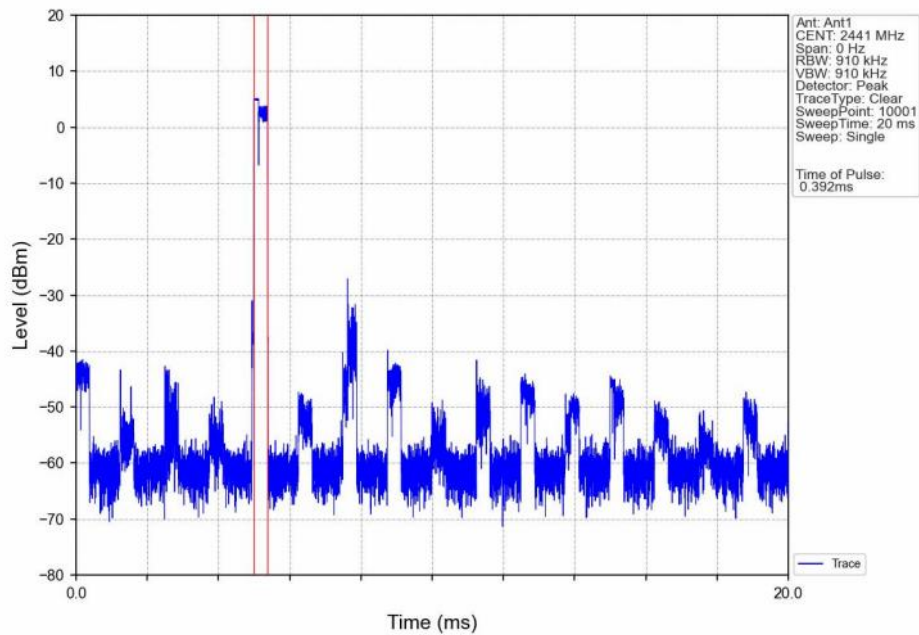
GFSK\_DH5\_HOPP\_Ant1\_NTNV



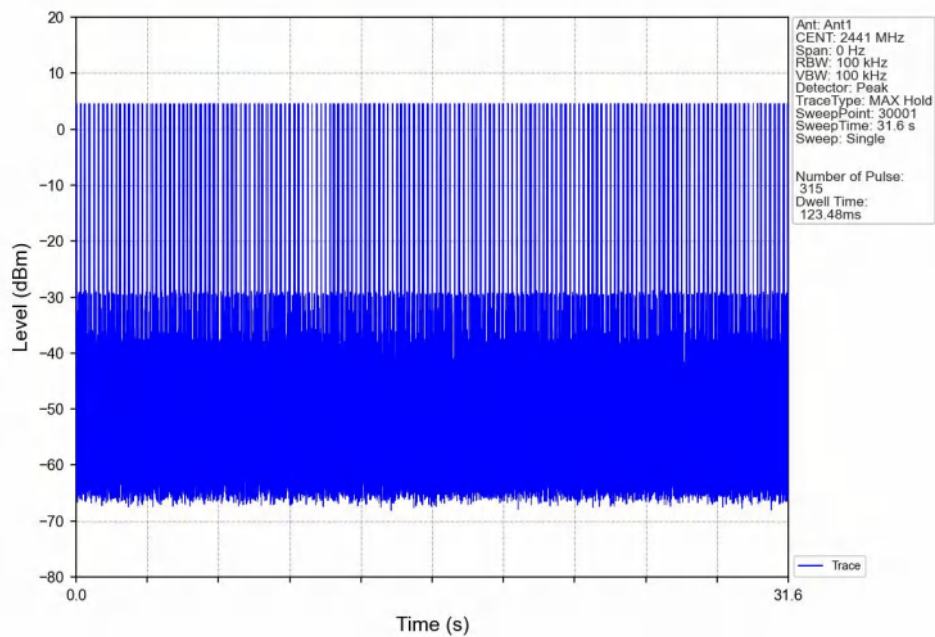
GFSK\_DH5\_HOPP\_Ant1\_NTNV



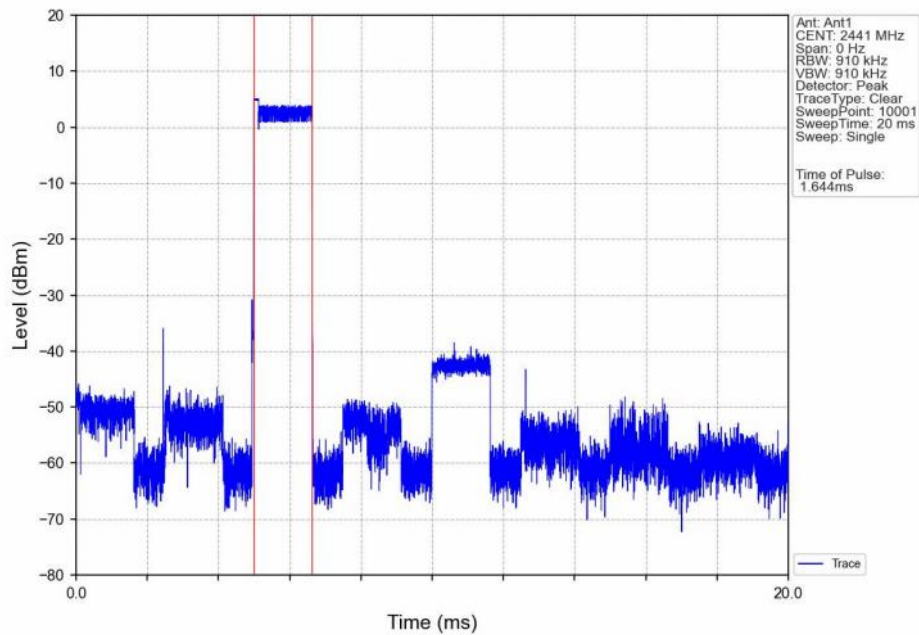
Pi/4DQPSK\_2DH1\_HOPP\_Ant1\_NTNV



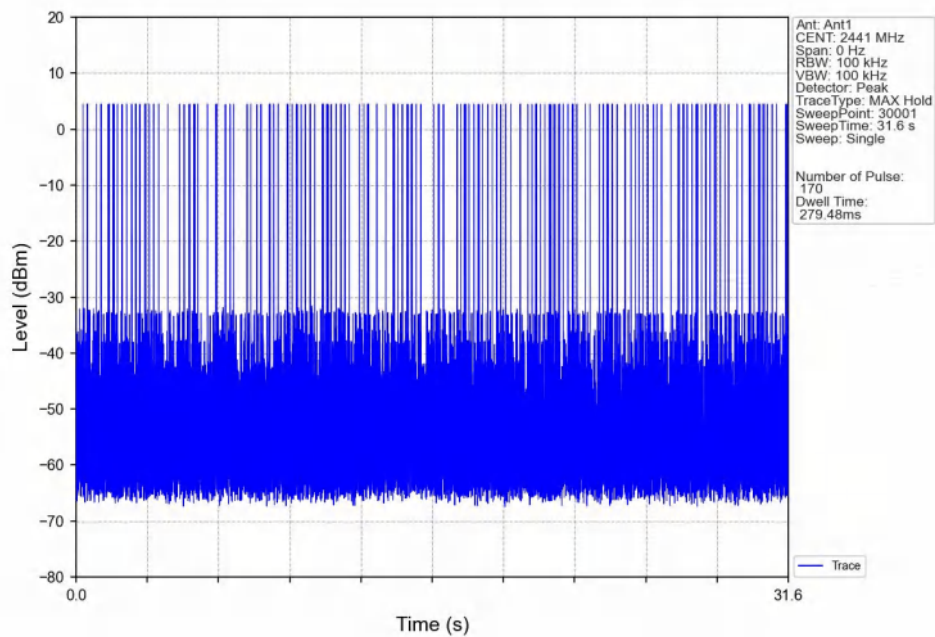
Pi/4DQPSK\_2DH1\_HOPP\_Ant1\_NTNV



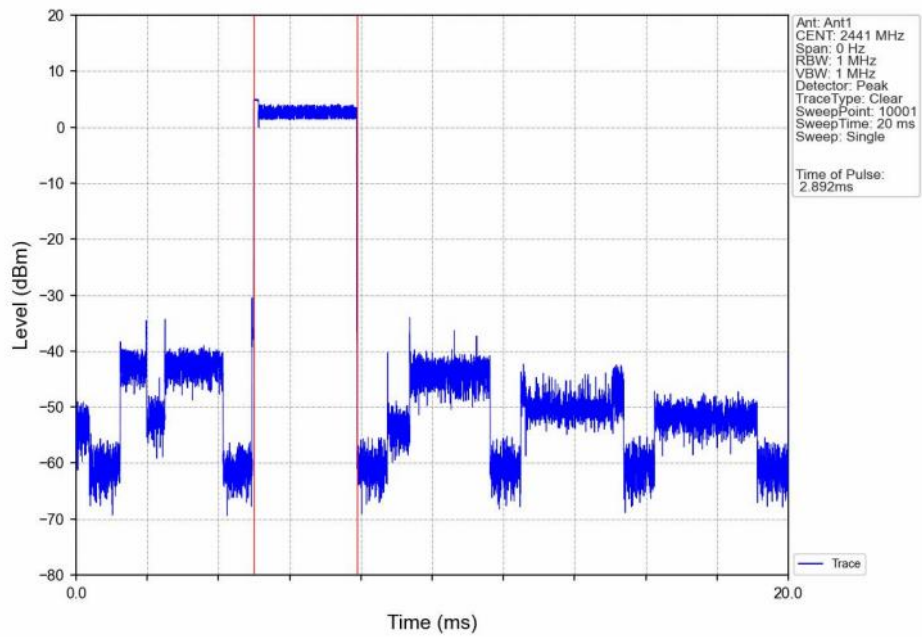
Pi/4DQPSK\_2DH3\_HOPP\_Ant1\_NTNV



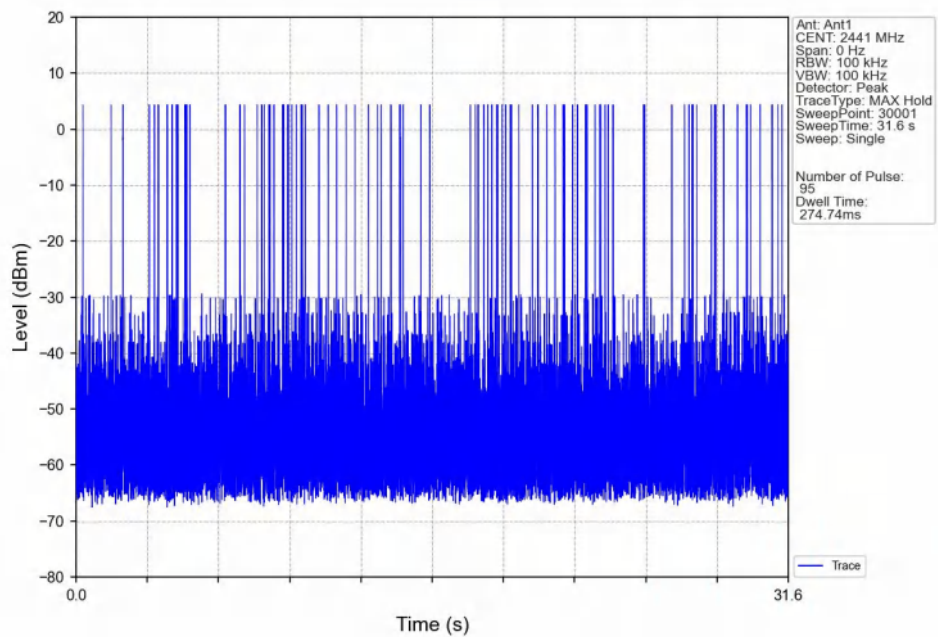
Pi/4DQPSK\_2DH3\_HOPP\_Ant1\_NTNV



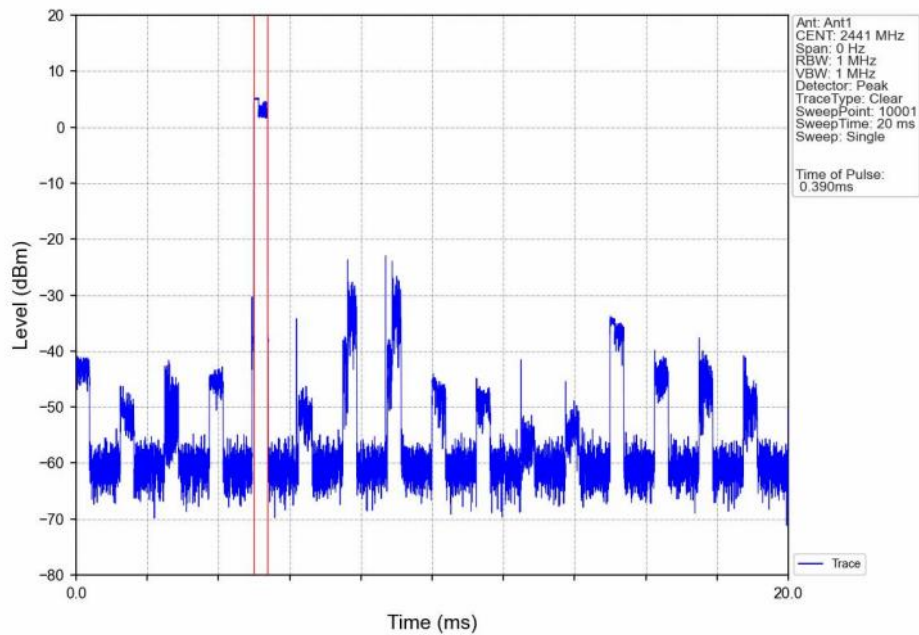
Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



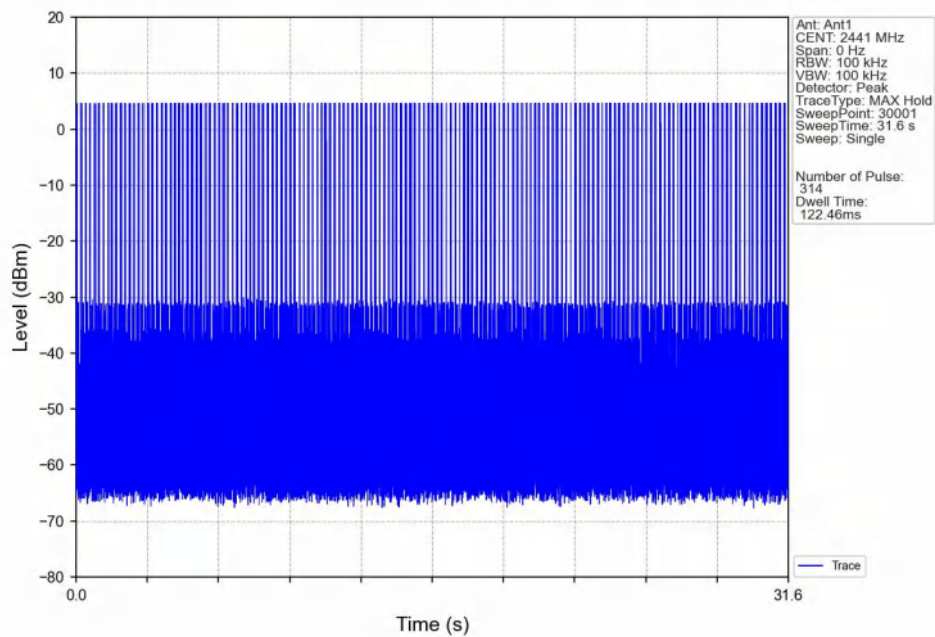
Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



8DPSK\_3DH1\_HOPP\_Ant1\_NTNV

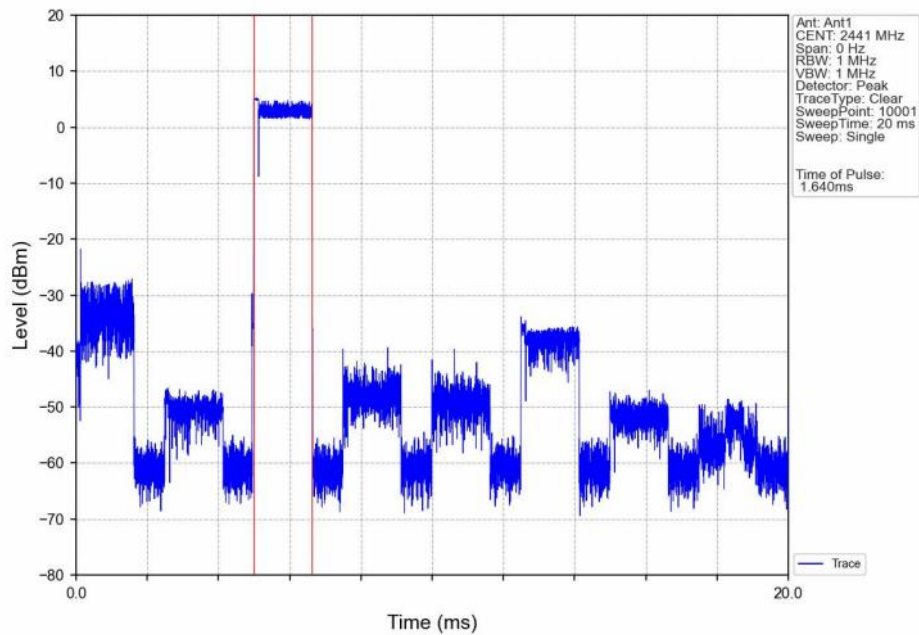


8DPSK\_3DH1\_HOPP\_Ant1\_NTNV

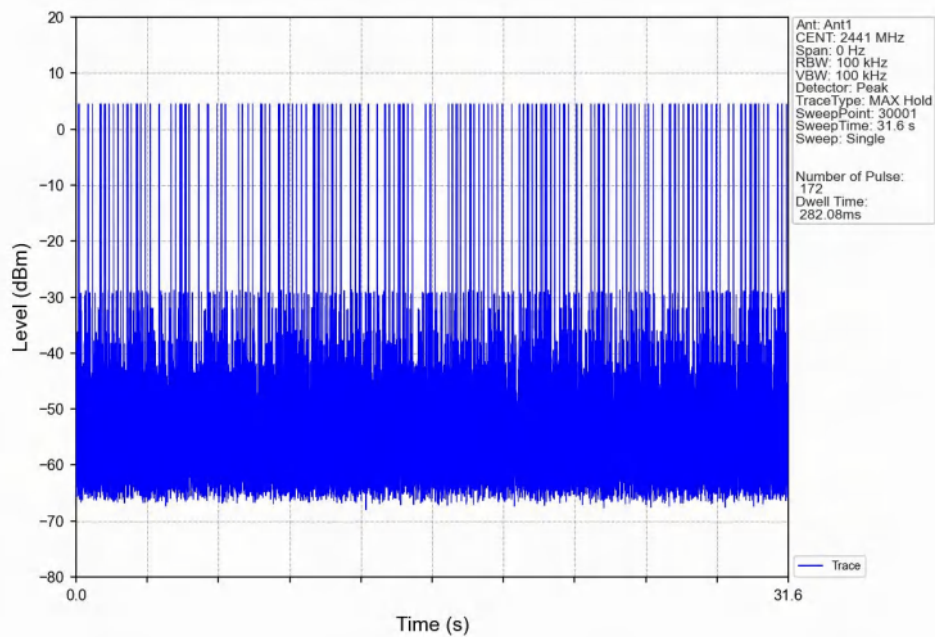




8DPSK\_3DH3\_HOPP\_Ant1\_NTNV

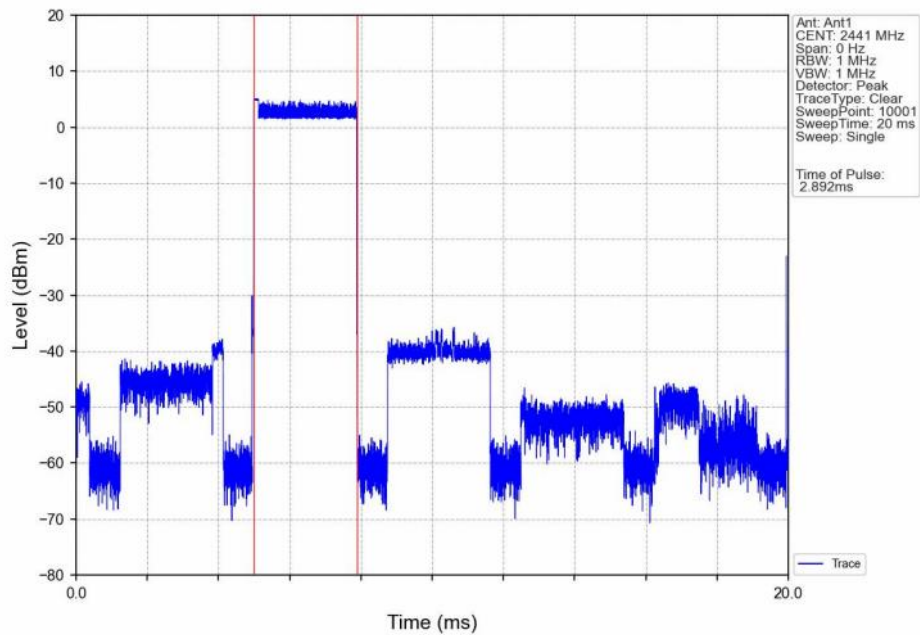


8DPSK\_3DH3\_HOPP\_Ant1\_NTNV

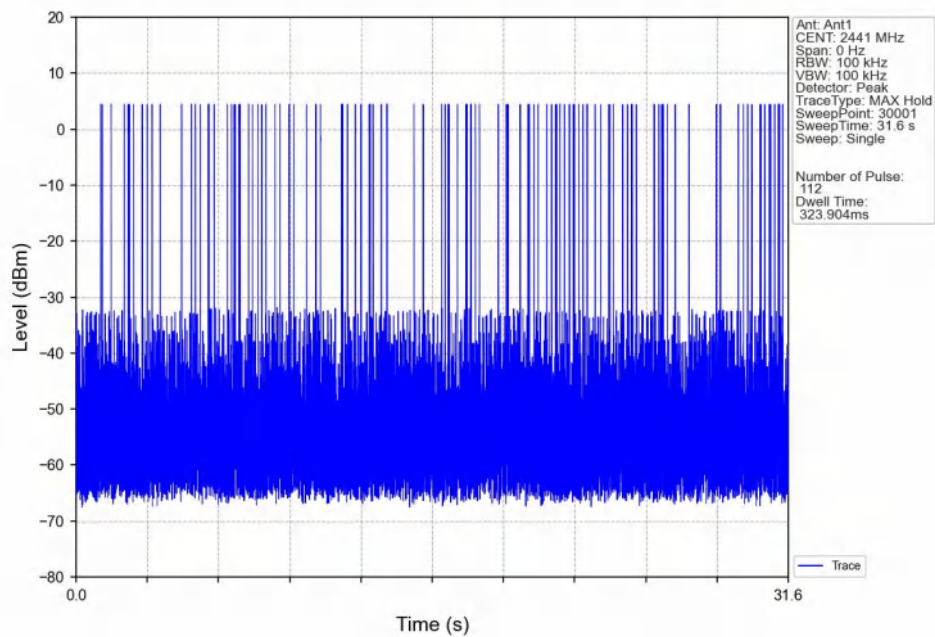




8DPSK\_3DH5\_HOPP\_Ant1\_NTNV



8DPSK\_3DH5\_HOPP\_Ant1\_NTNV



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

### 6.1 Test Result

#### 6.1.1 Ref

| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) |
|-----------|---------|-----------------|-------------|-----|--------------------------|
| GFSK      | SISO    | 2402            | DH5         | 1   | 6.39                     |
|           |         | 2441            | DH5         | 1   | 4.83                     |
|           |         | 2480            | DH5         | 1   | 2.58                     |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 6.22                     |
|           |         | 2441            | 2DH5        | 1   | 4.79                     |
|           |         | 2480            | 2DH5        | 1   | 2.42                     |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 6.42                     |
|           |         | 2441            | 3DH5        | 1   | 4.93                     |
|           |         | 2480            | 3DH5        | 1   | 2.60                     |

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

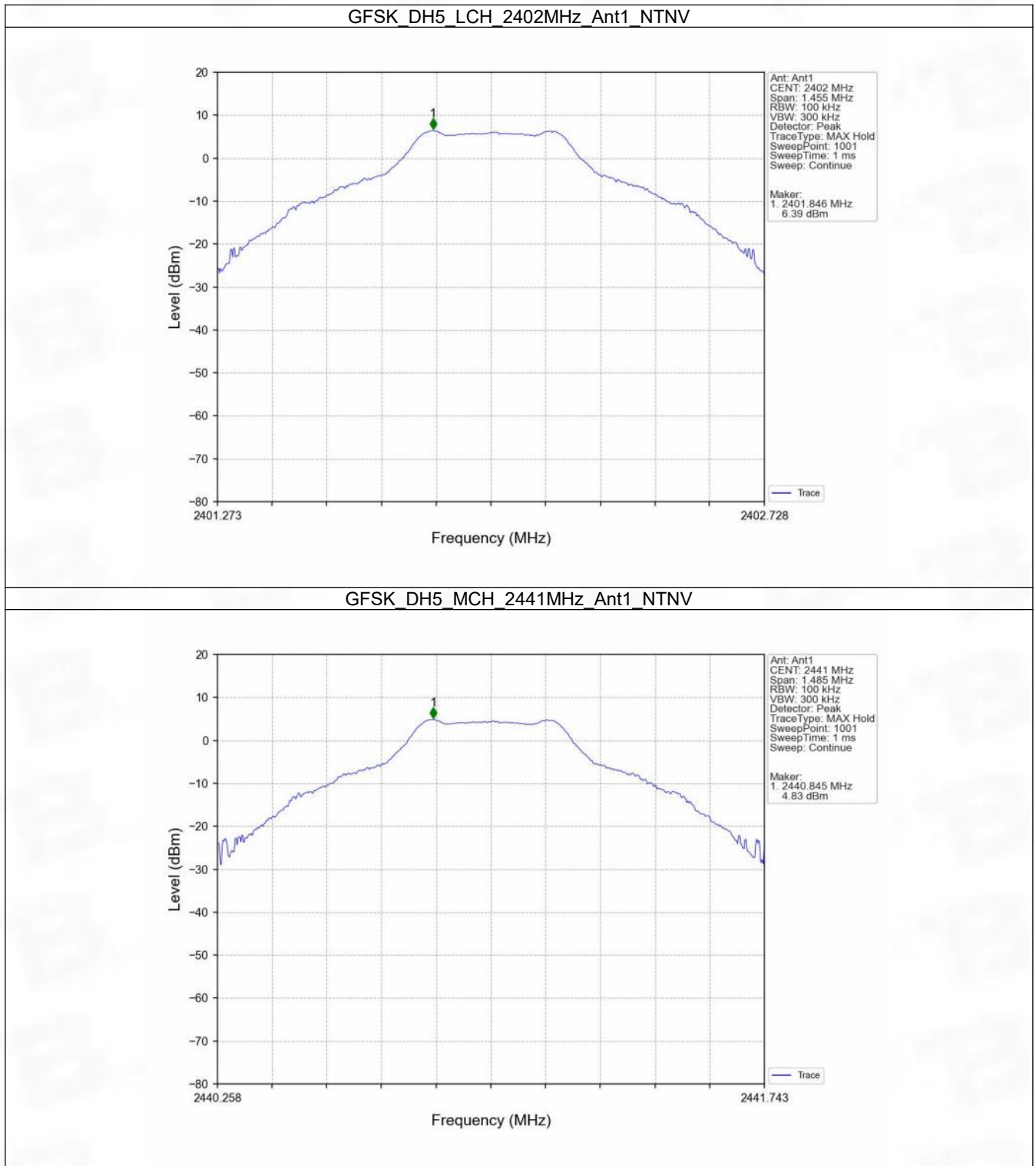
#### 6.1.2 CSE

| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | Measure | Level of Reference (dBm) | Limit (dBm) | Verdict |
|-----------|---------|-----------------|-------------|-----|---------|--------------------------|-------------|---------|
| GFSK      | SISO    | 2402            | DH5         | 1   | -37.32  | 6.39                     | -13.61      | Pass    |
|           |         | 2441            | DH5         | 1   | -41.35  | 6.39                     | -13.61      | Pass    |
|           |         | 2480            | DH5         | 1   | -39.73  | 6.39                     | -13.61      | Pass    |
|           |         | HOPP            | DH5         | 1   | -25.25  | 6.39                     | -13.61      | Pass    |
|           |         |                 |             |     | -38.80  | 6.39                     | -13.61      | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | -24.21  | 6.22                     | -13.78      | Pass    |
|           |         | 2441            | 2DH5        | 1   | -37.61  | 6.22                     | -13.78      | Pass    |
|           |         | 2480            | 2DH5        | 1   | -39.97  | 6.22                     | -13.78      | Pass    |
|           |         | HOPP            | 2DH5        | 1   | -22.88  | 6.22                     | -13.78      | Pass    |
|           |         |                 |             |     | -38.59  | 6.22                     | -13.78      | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | -25.20  | 6.42                     | -13.58      | Pass    |
|           |         | 2441            | 3DH5        | 1   | -39.42  | 6.42                     | -13.58      | Pass    |
|           |         | 2480            | 3DH5        | 1   | -39.66  | 6.42                     | -13.58      | Pass    |
|           |         | HOPP            | 3DH5        | 1   | -23.86  | 6.42                     | -13.58      | Pass    |
|           |         |                 |             |     | -39.32  | 6.42                     | -13.58      | Pass    |

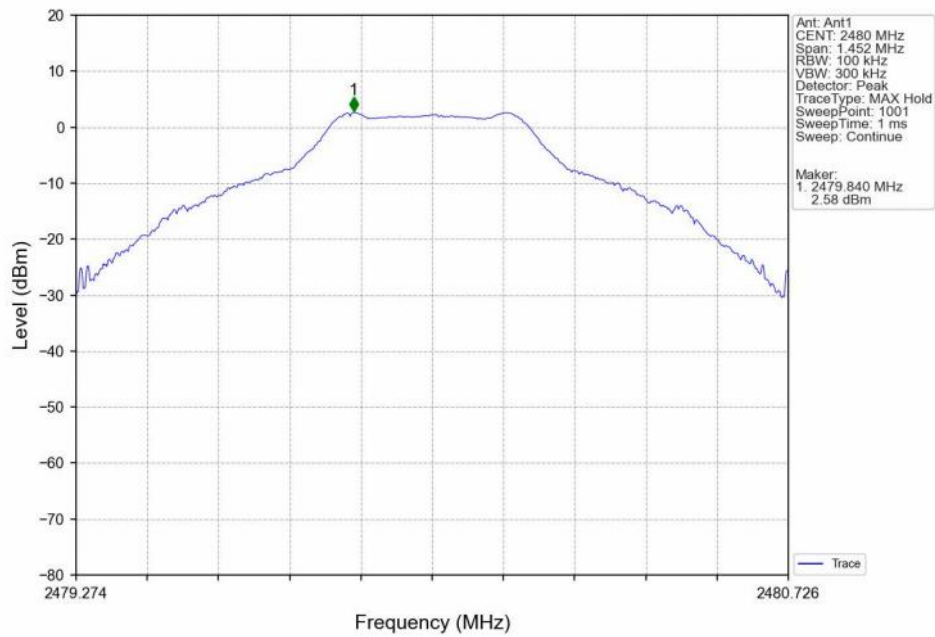
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

## 6.2 Test Graph

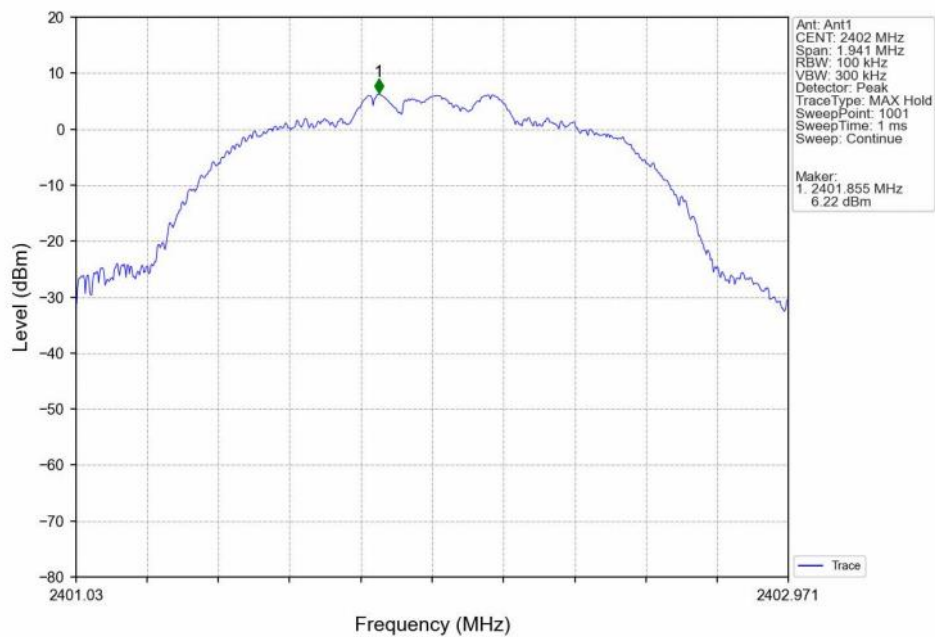
### 6.2.1 Ref



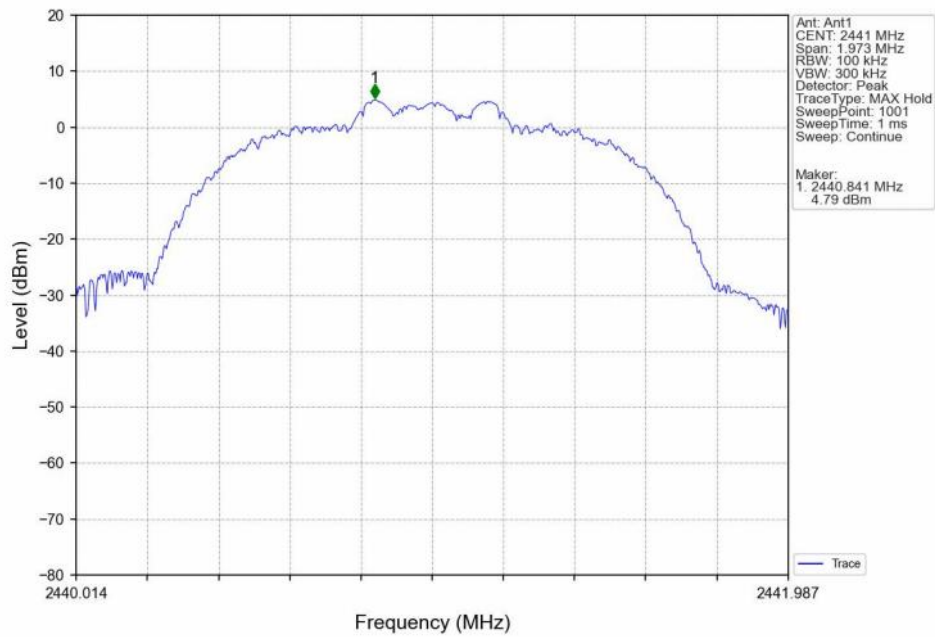
GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



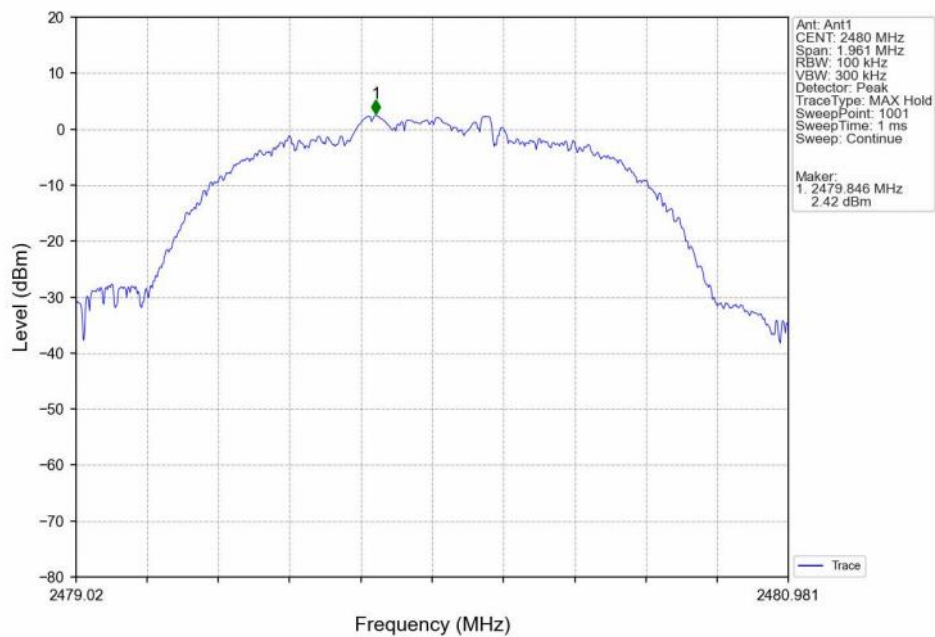
Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



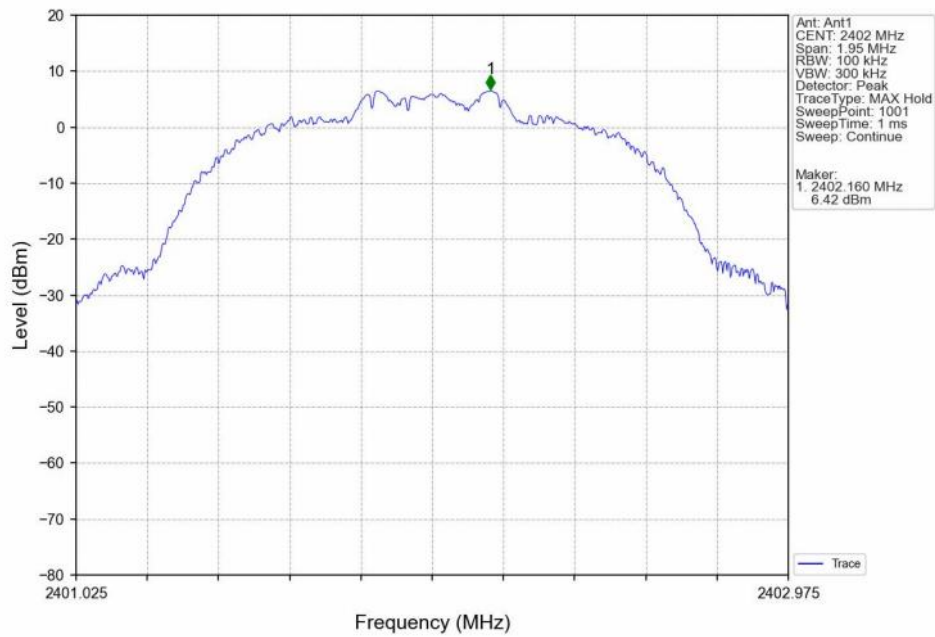
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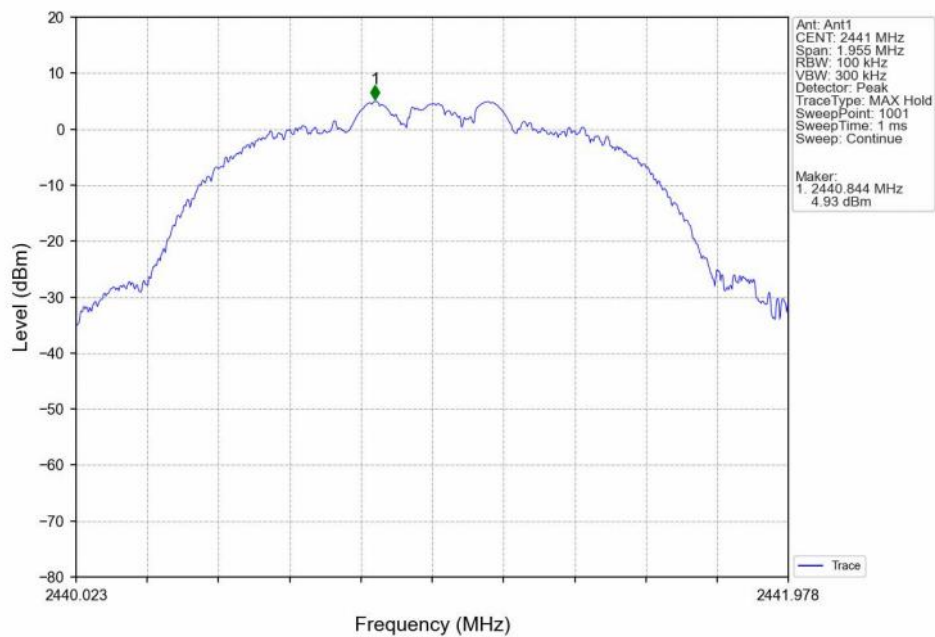
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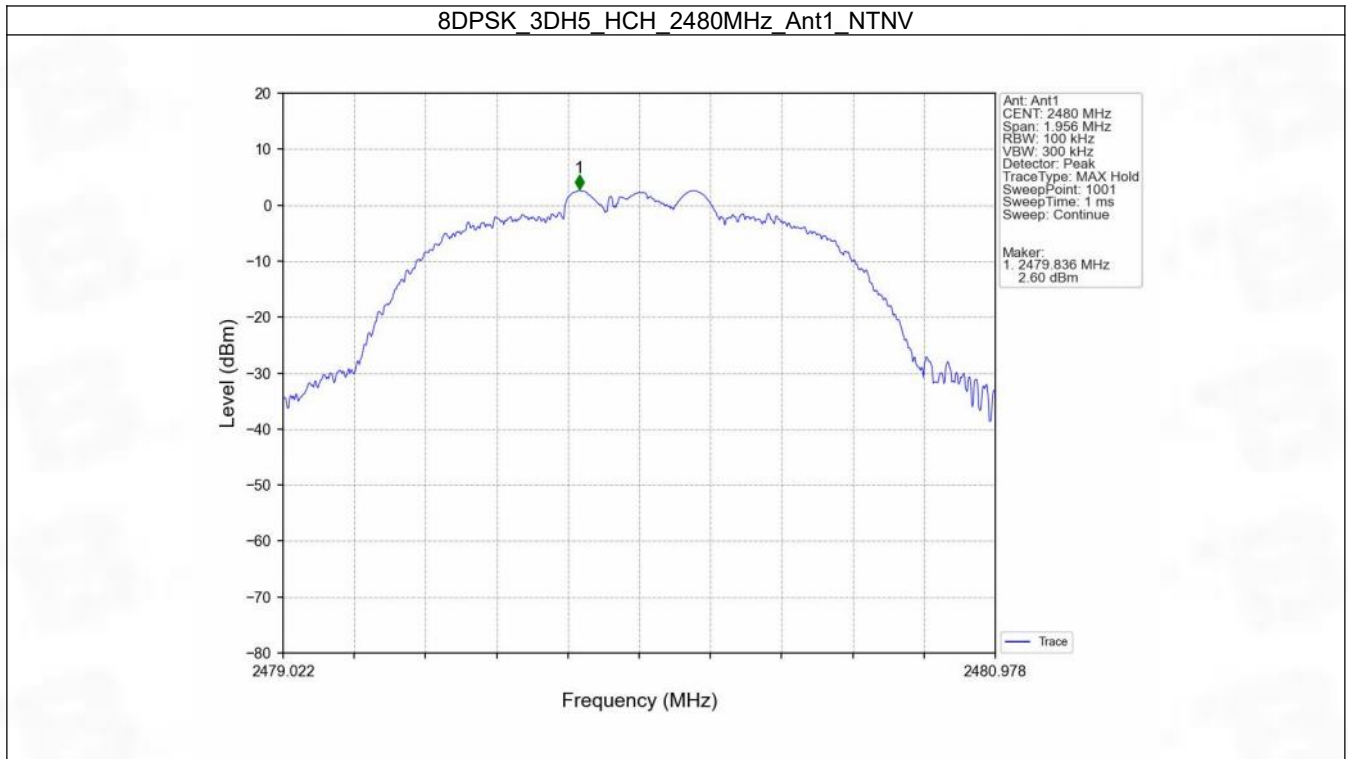
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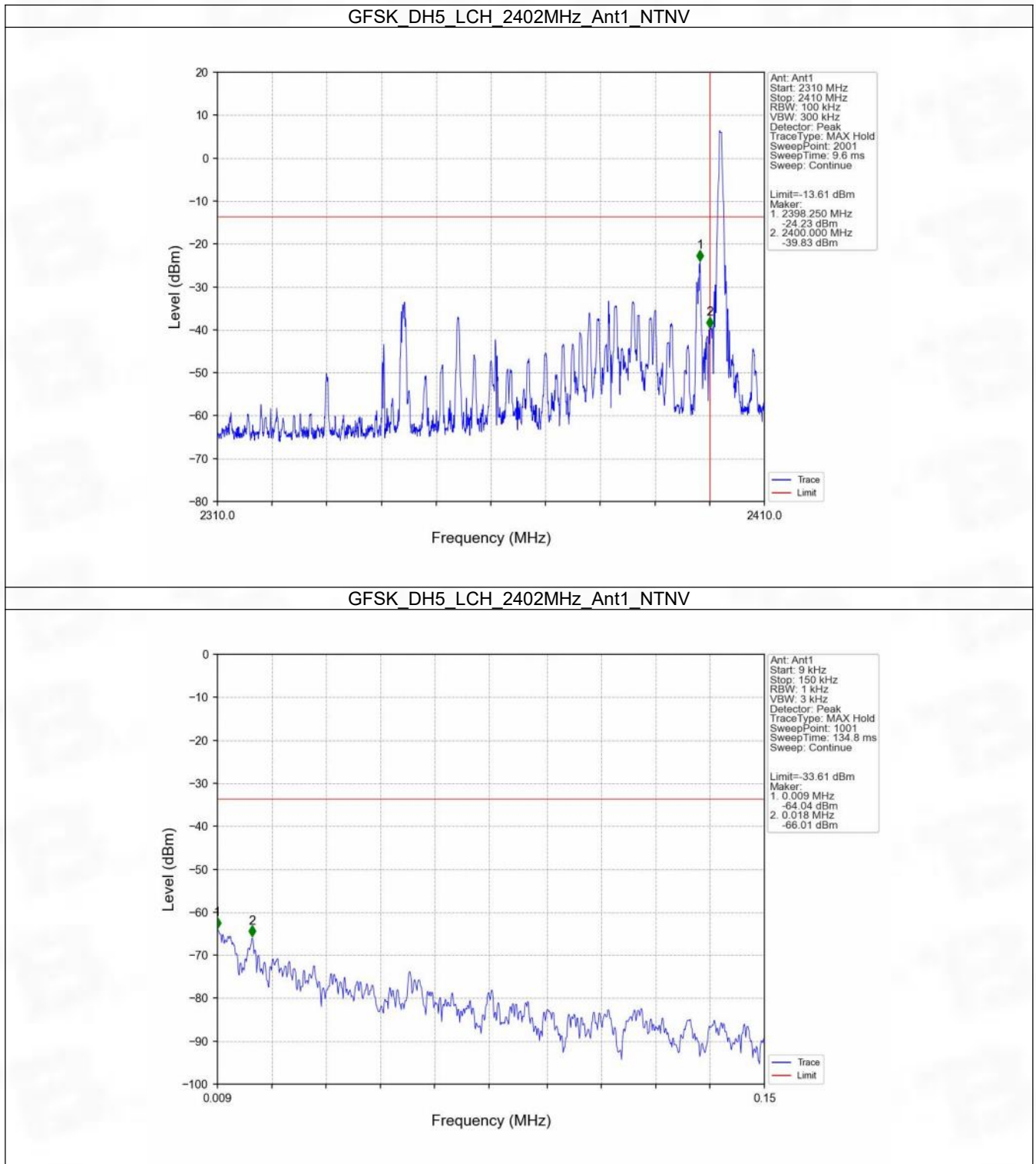
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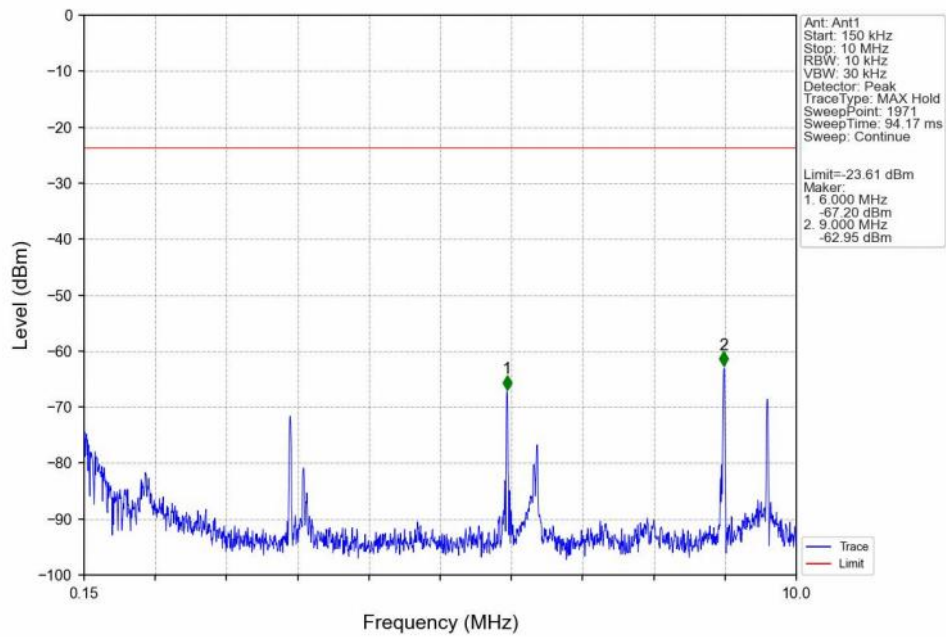




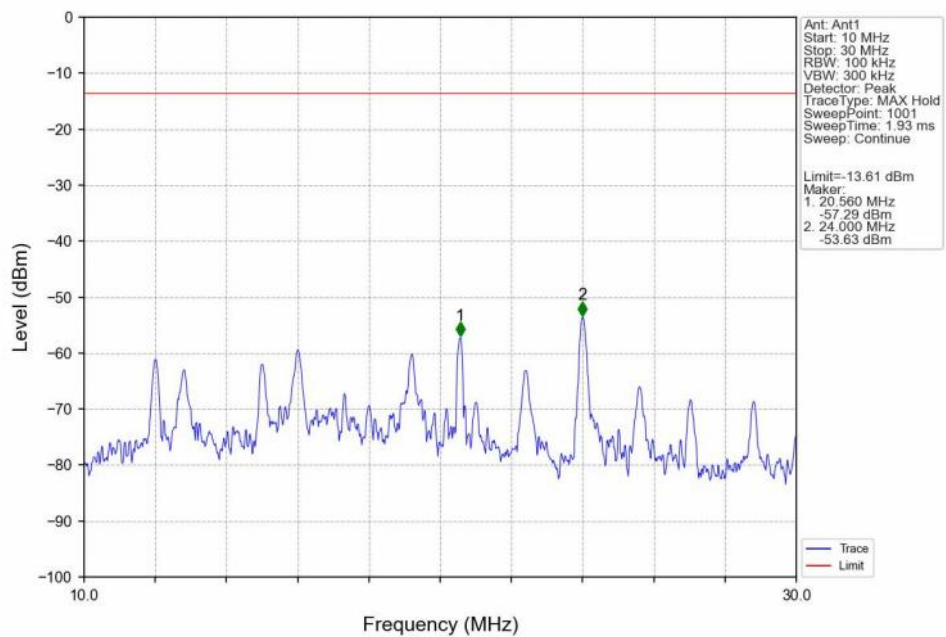
## 6.2.2 CSE



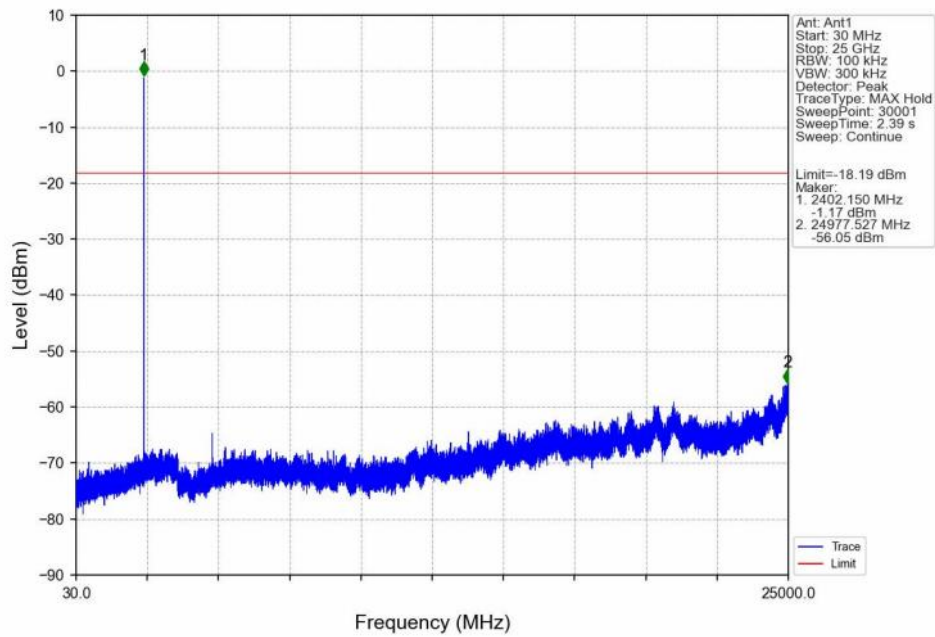
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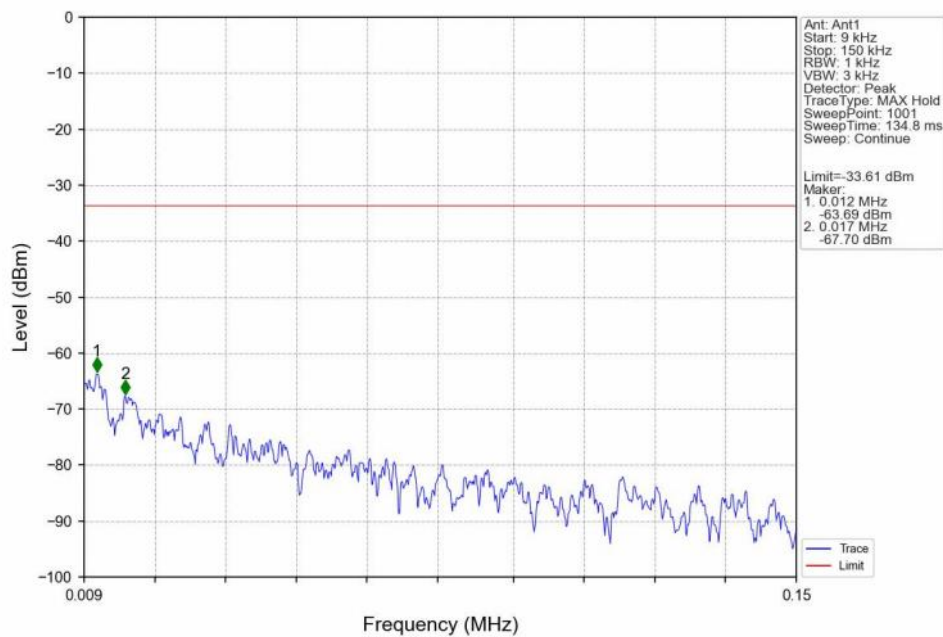
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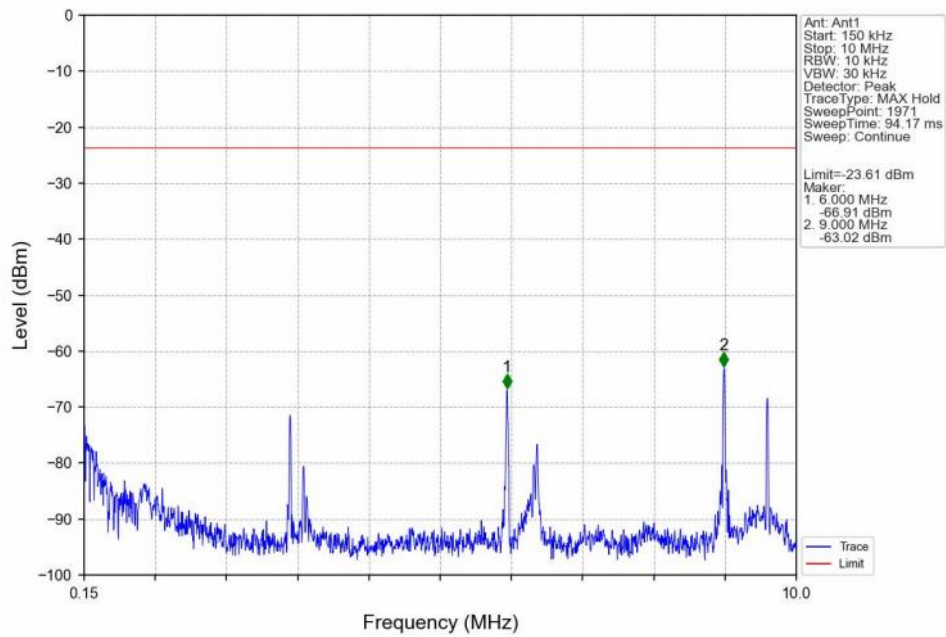
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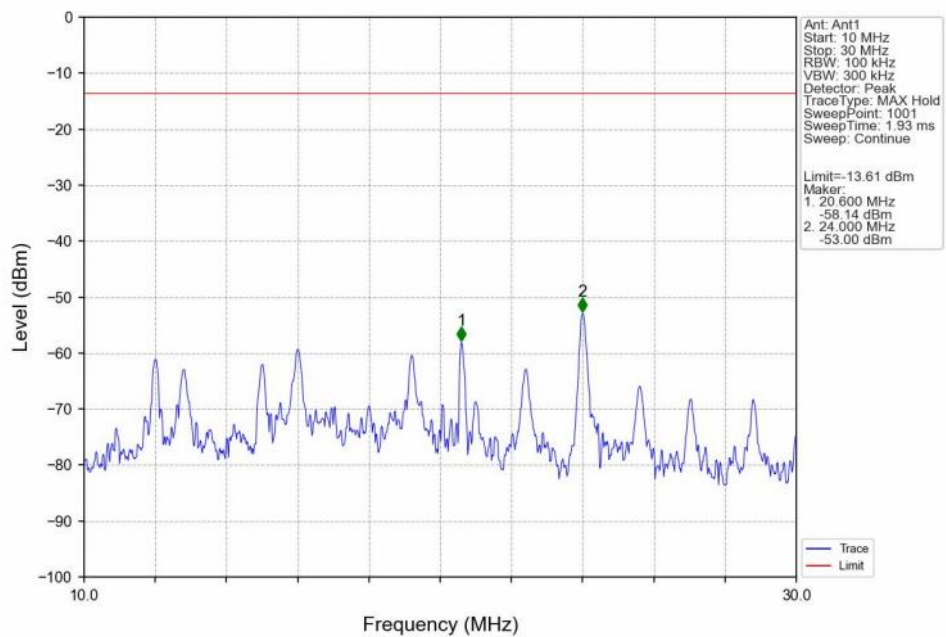
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GFSK\_DH5\_MCH\_2441MHz\_Ant1\_NTNV

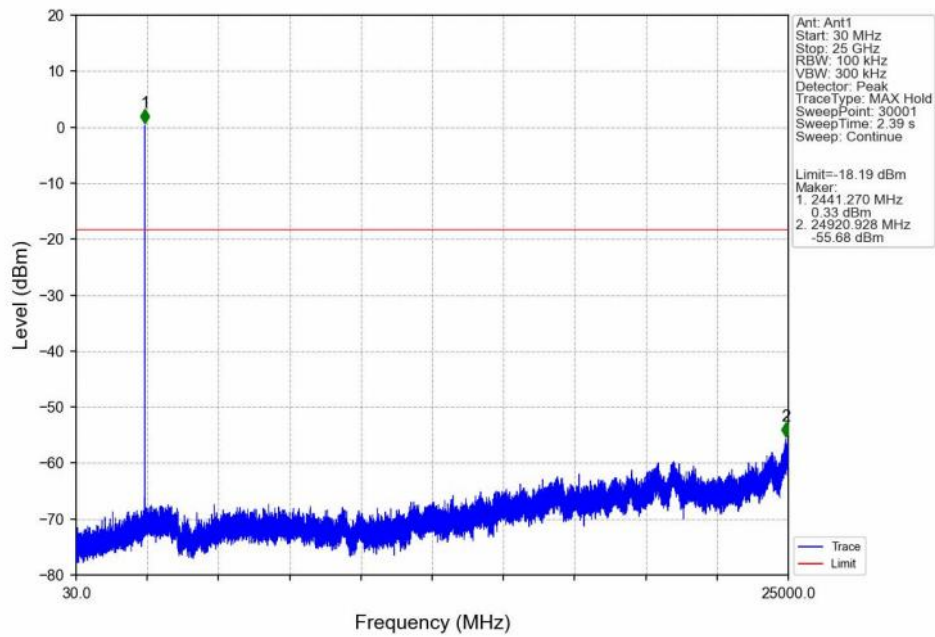


GFSK\_DH5\_MCH\_2441MHz\_Ant1\_NTNV

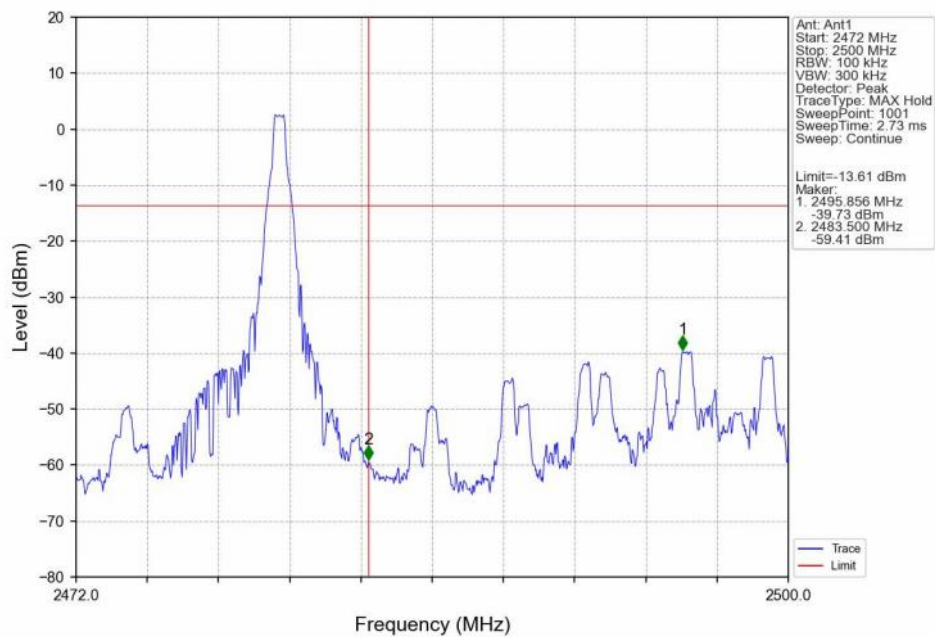




GFSK\_DH5\_MCH\_2441MHz\_Ant1\_NTNV

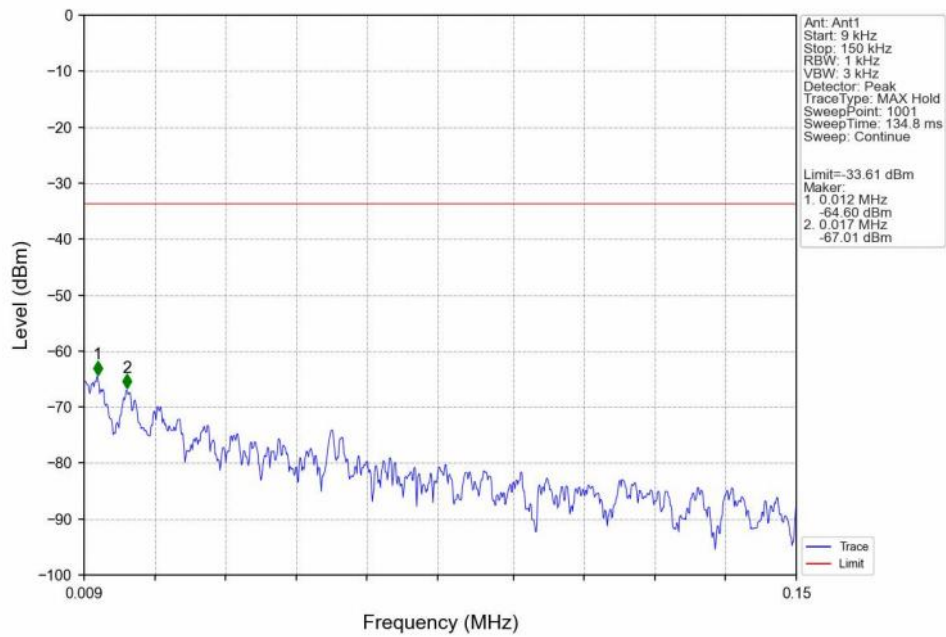


GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV

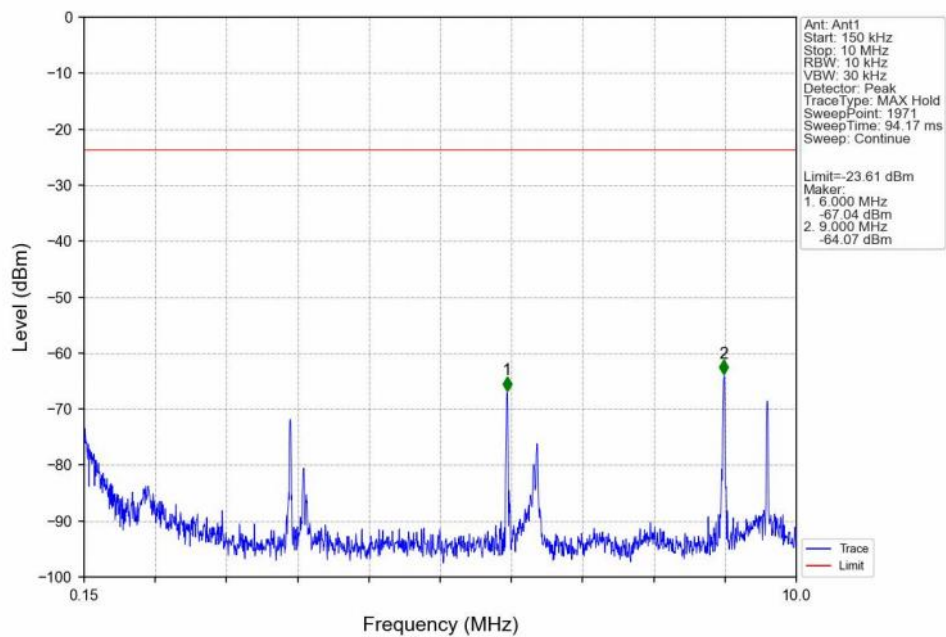




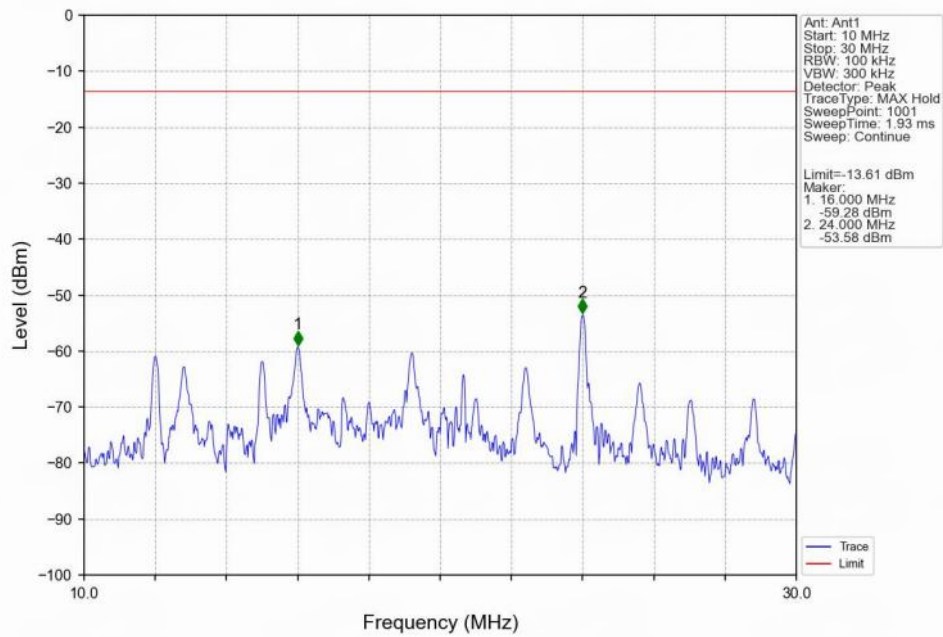
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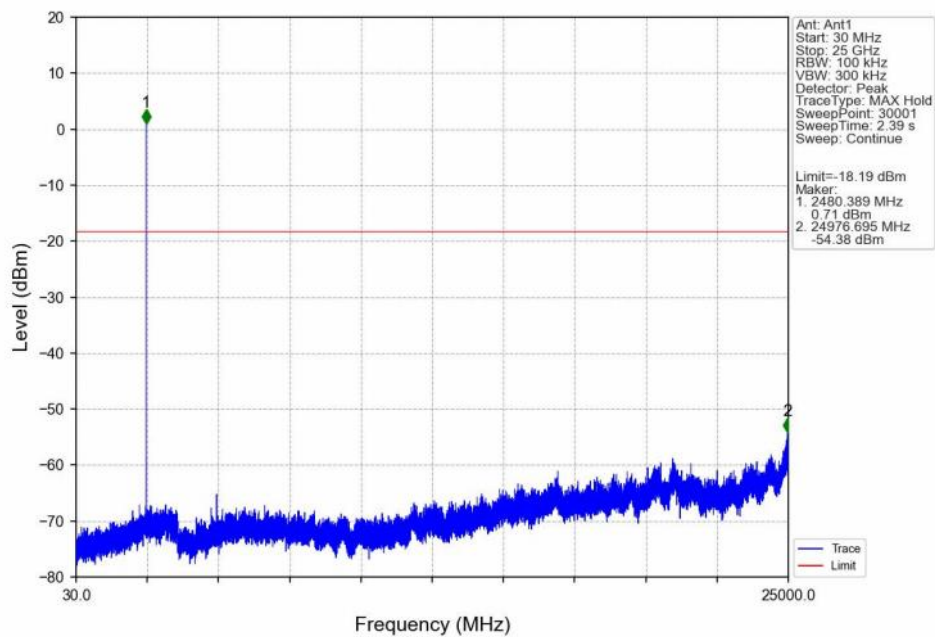
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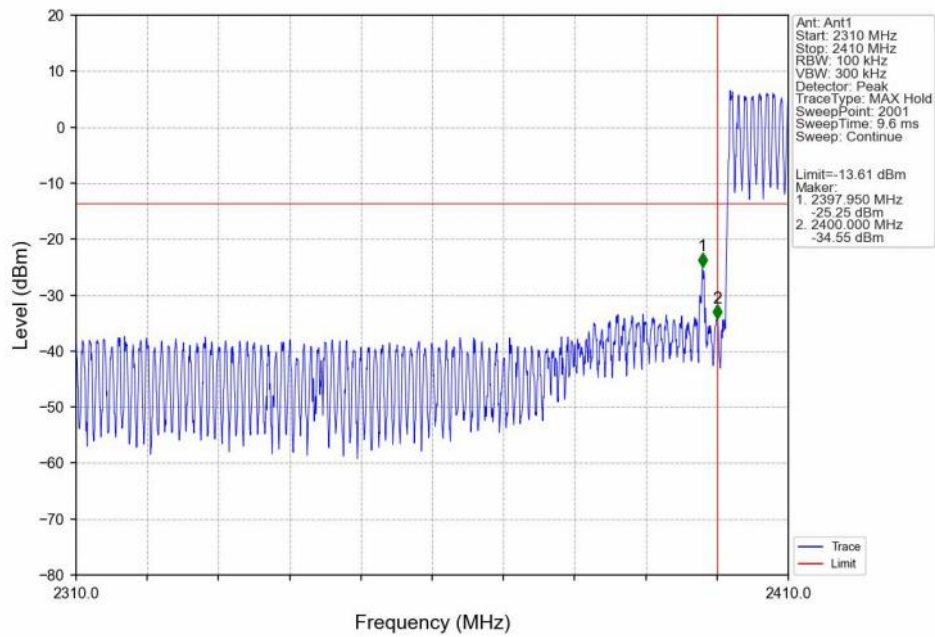
GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



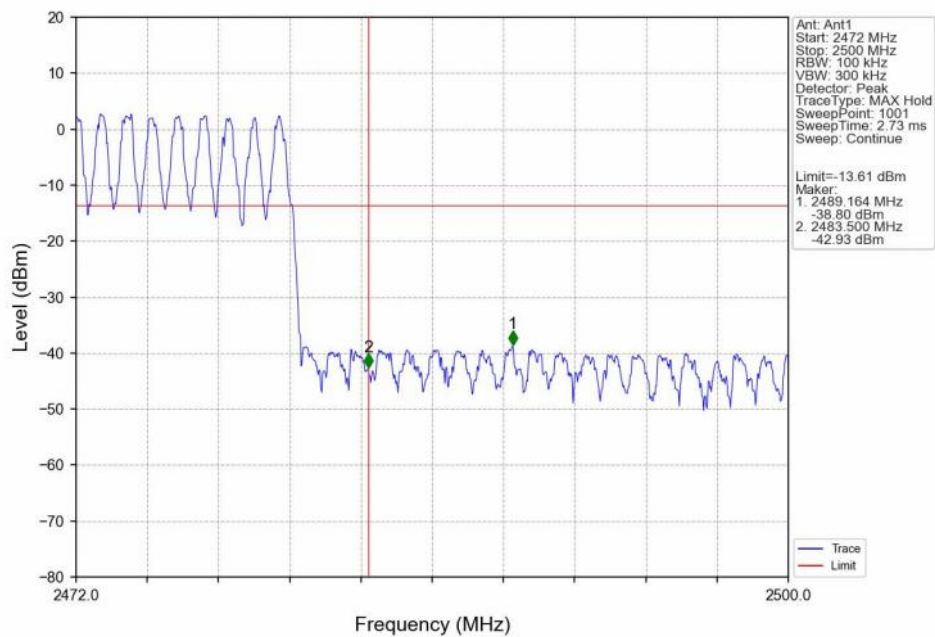
GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



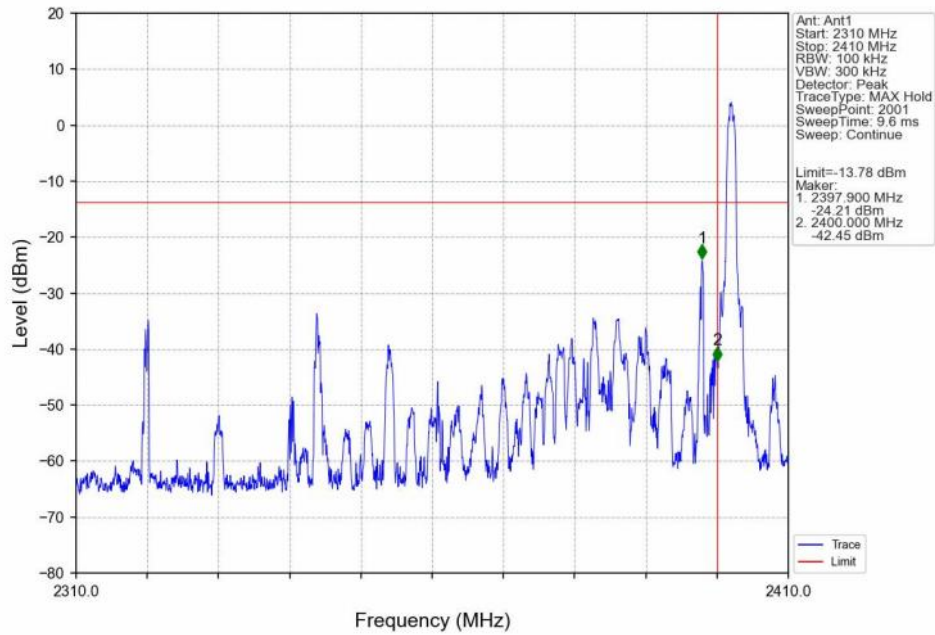
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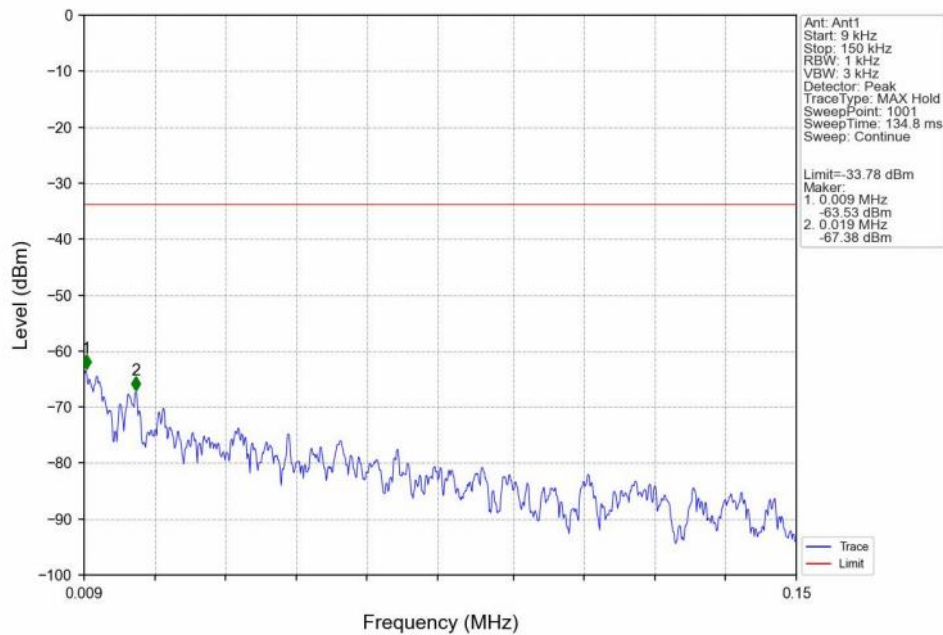
GFSK\_DH5\_HOPP\_Ant1\_NTNV



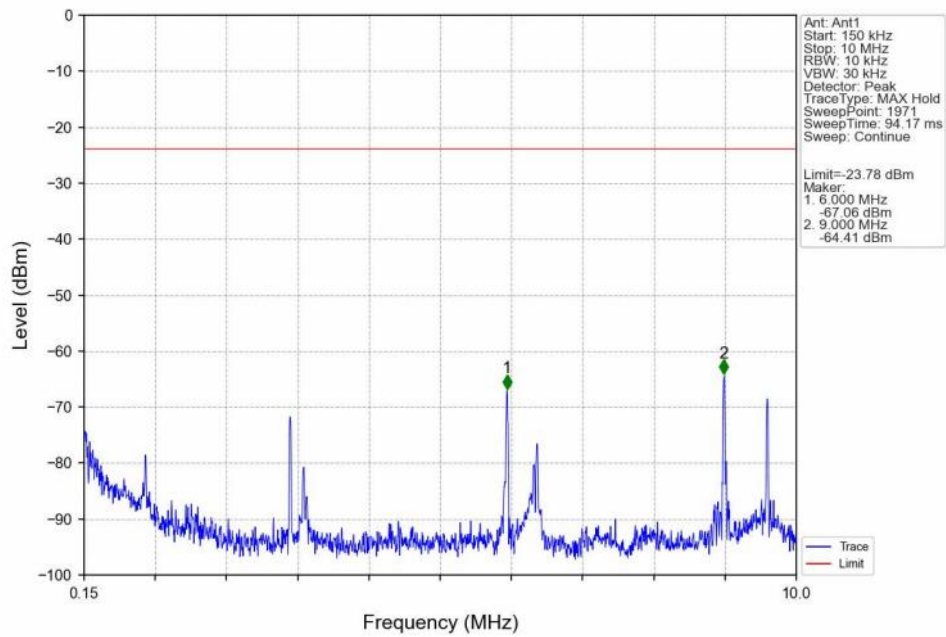
Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



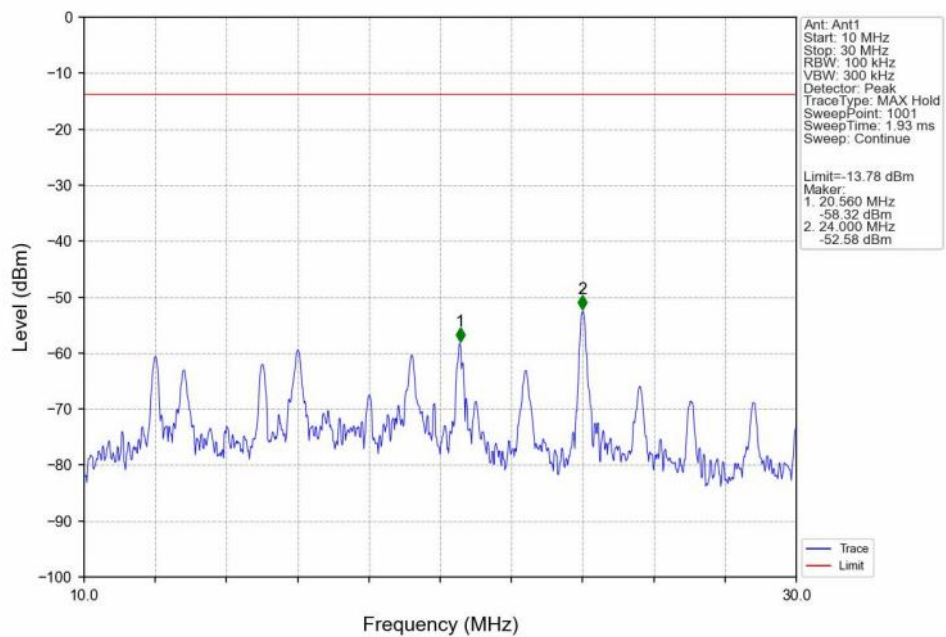
Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



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

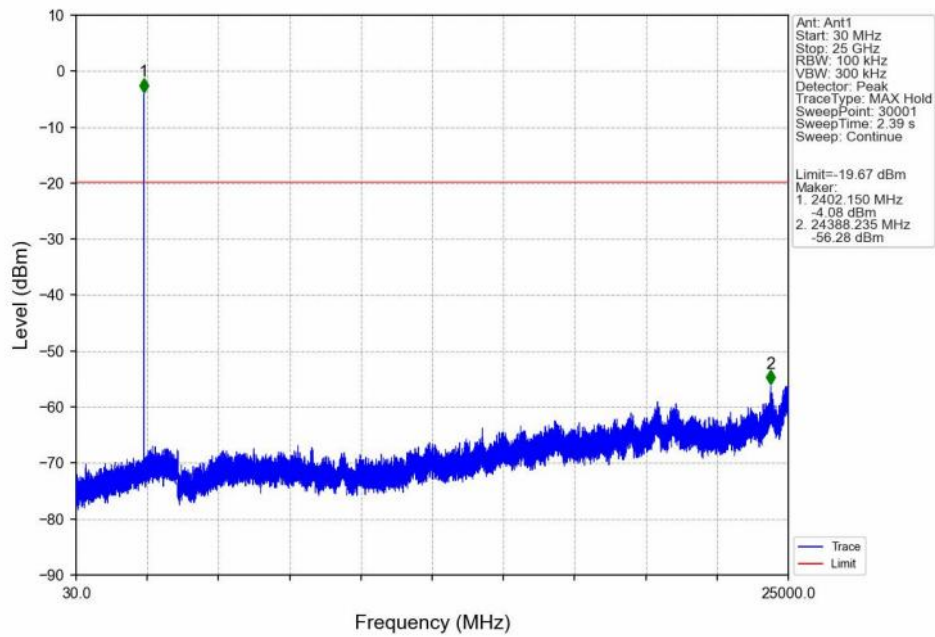


Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV

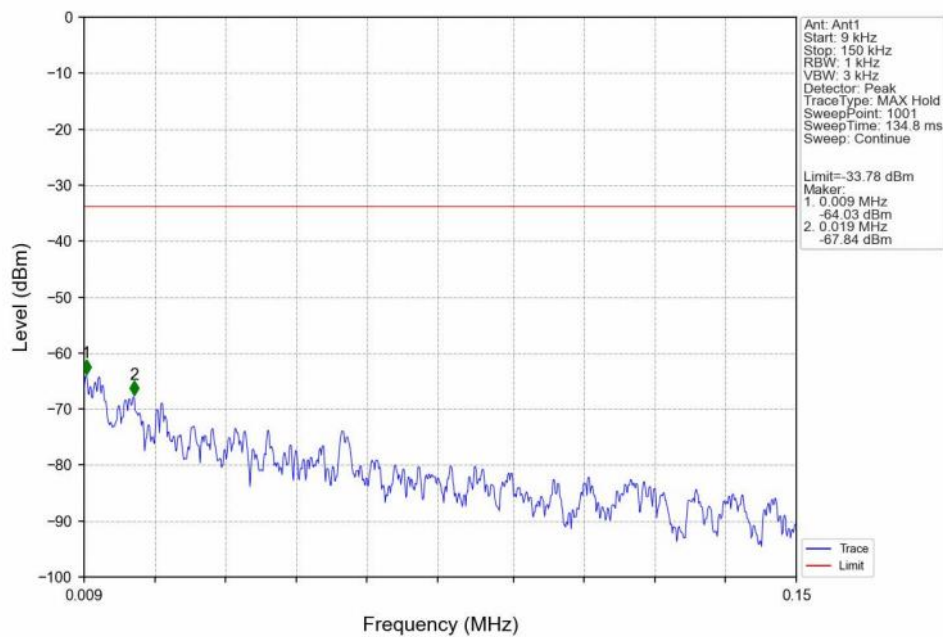




Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV

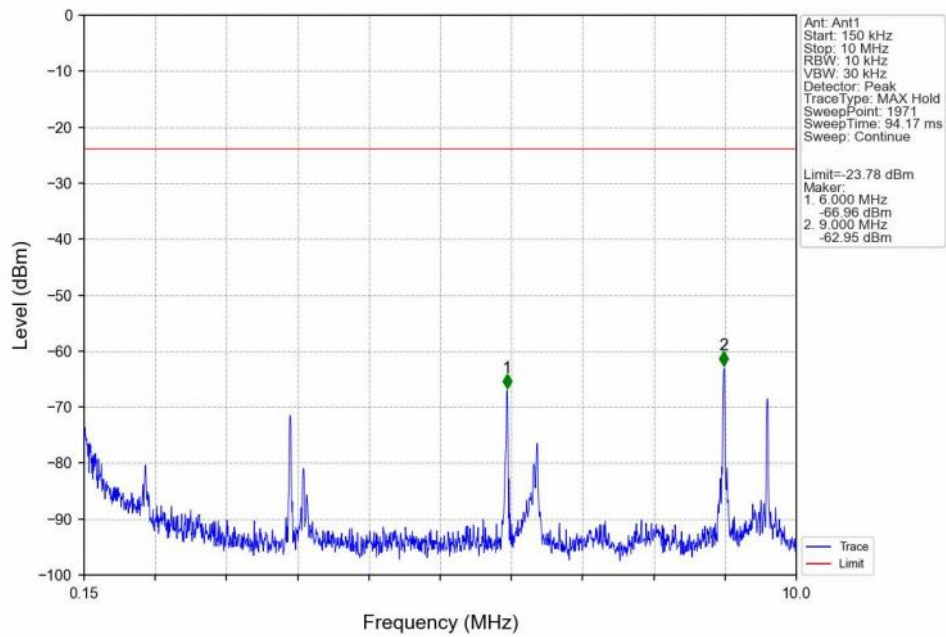


Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV

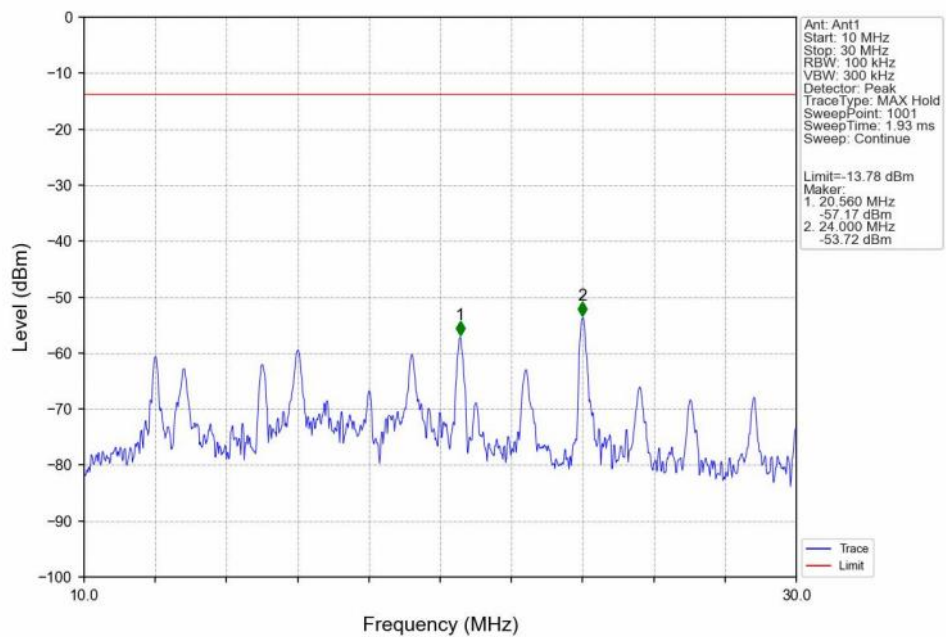




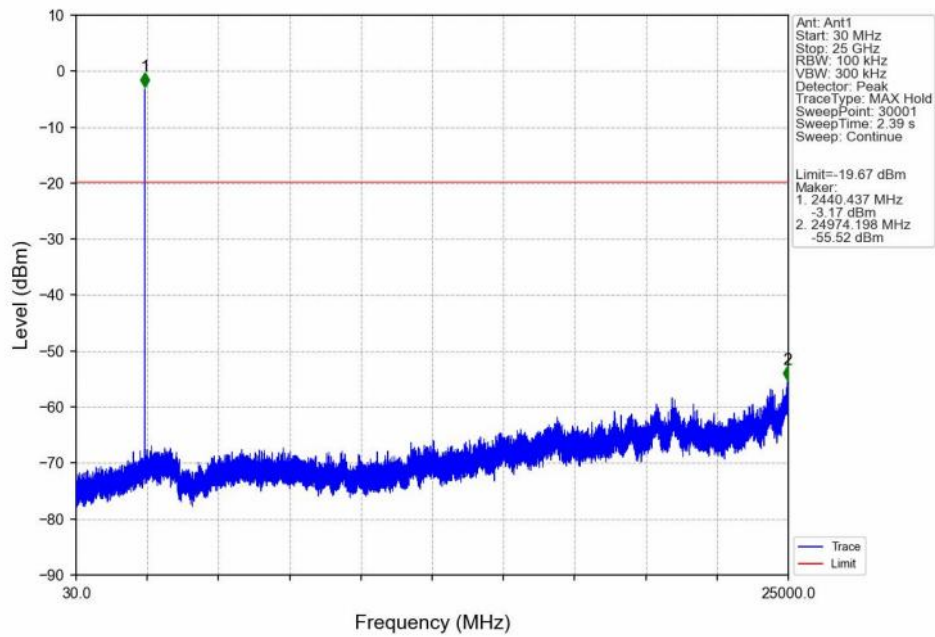
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



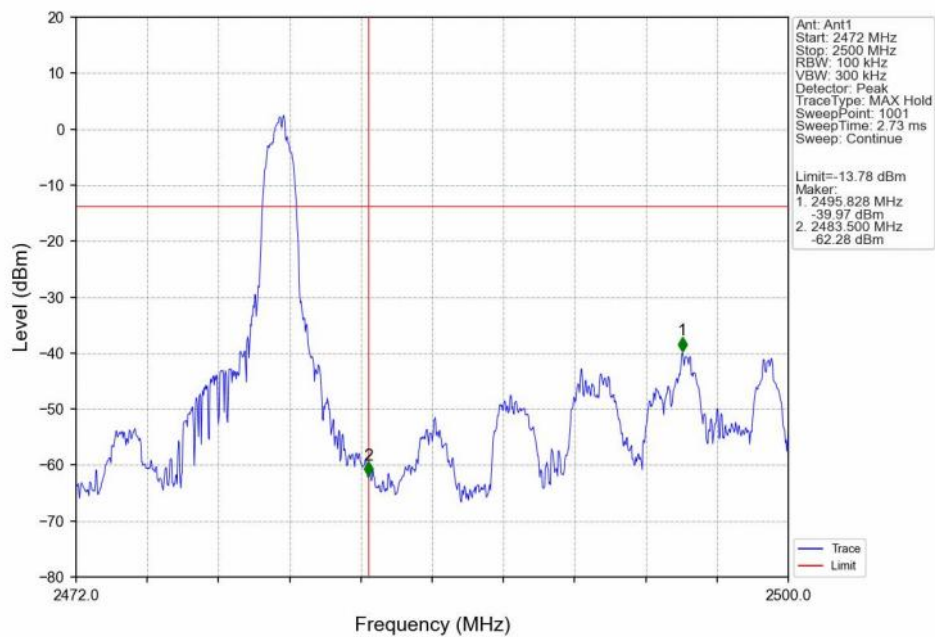
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



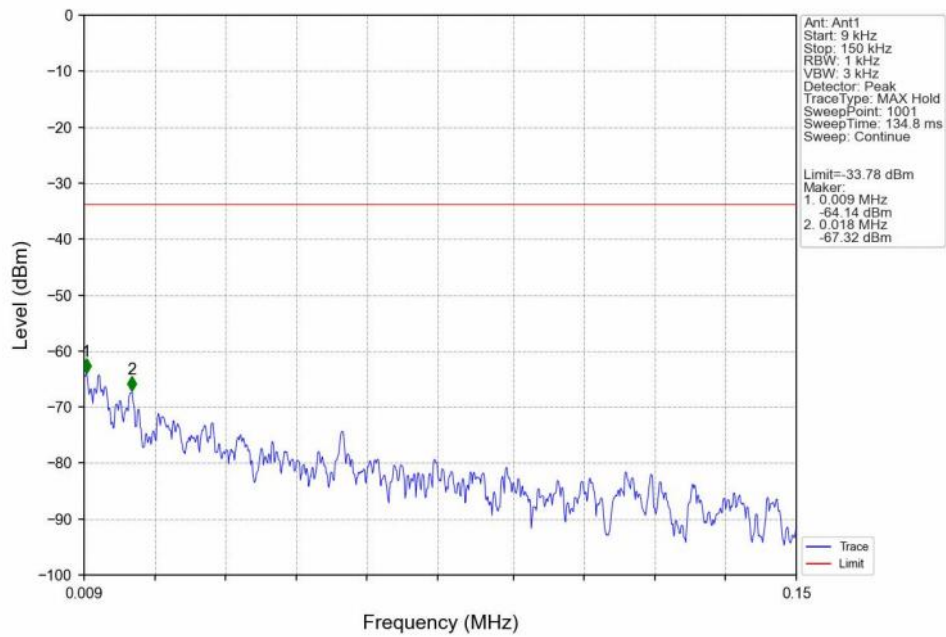
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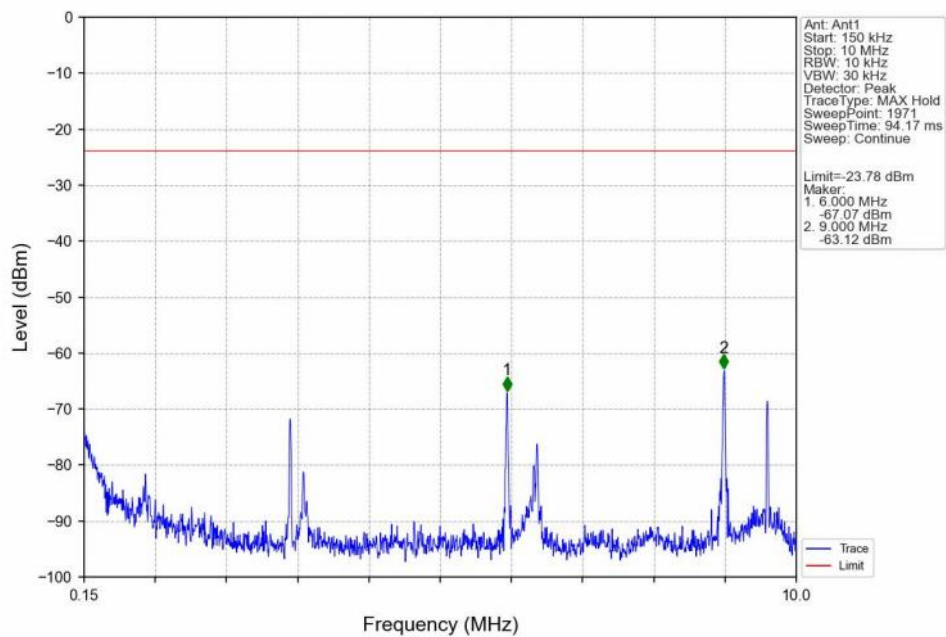
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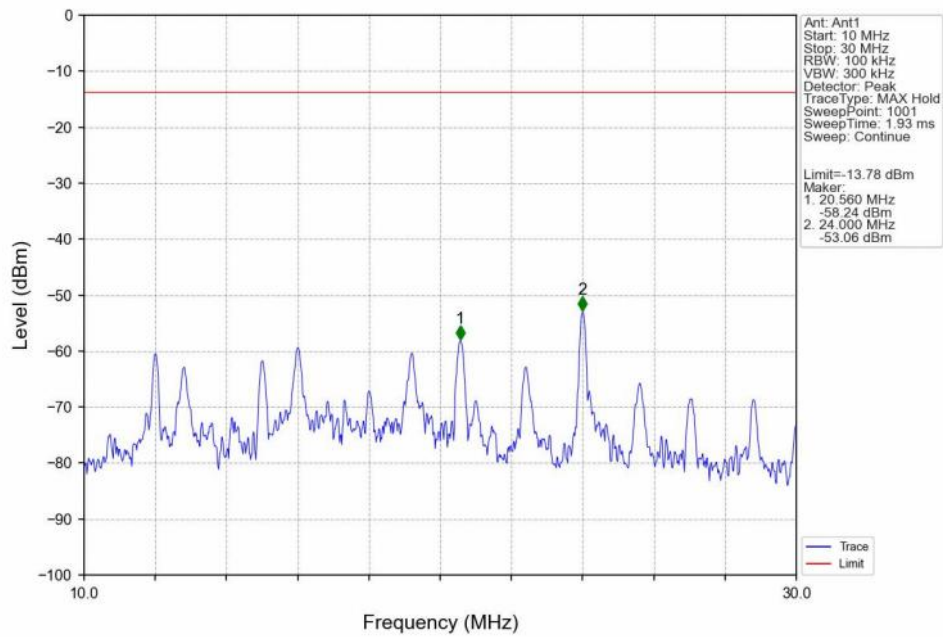
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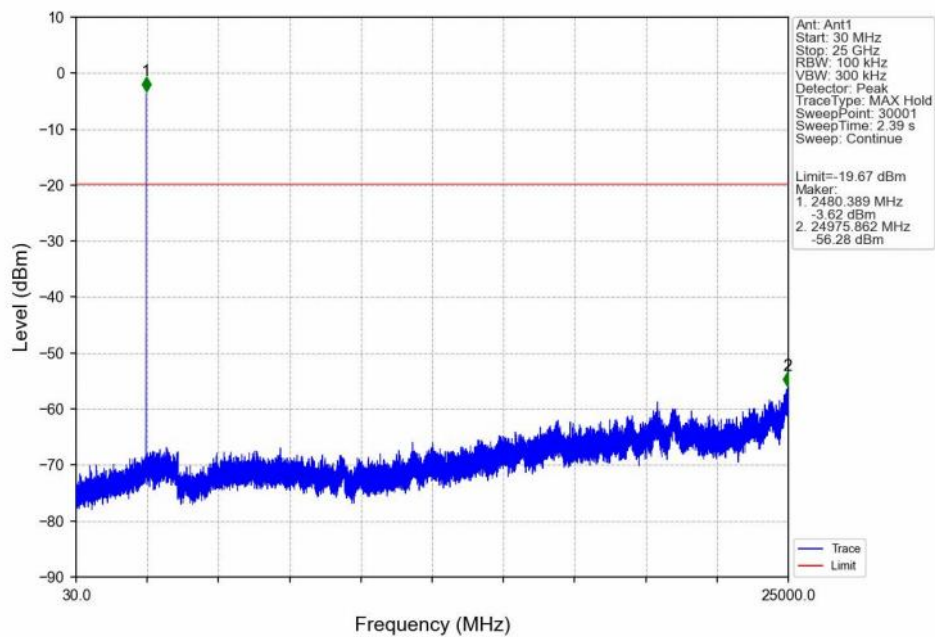
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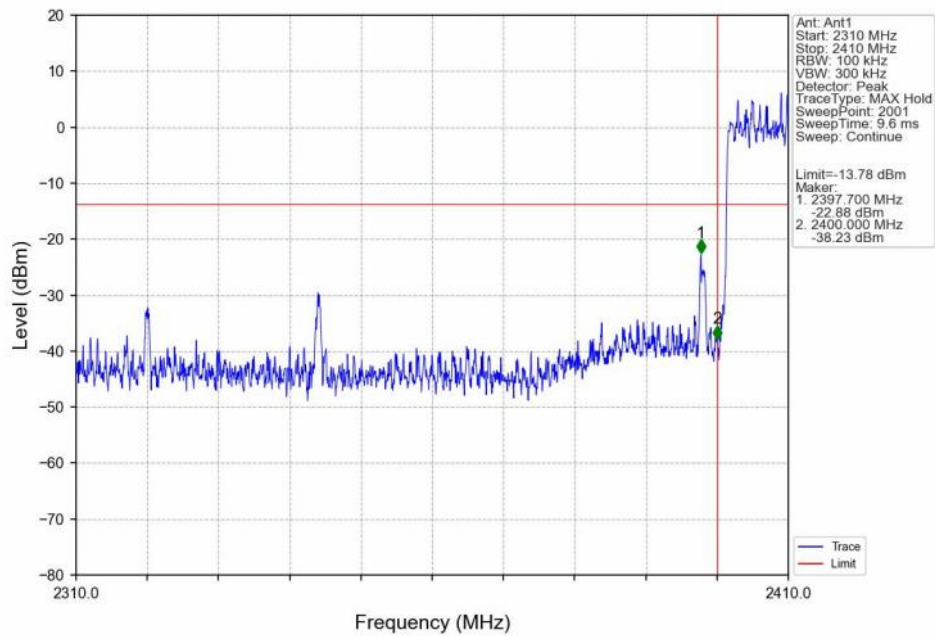
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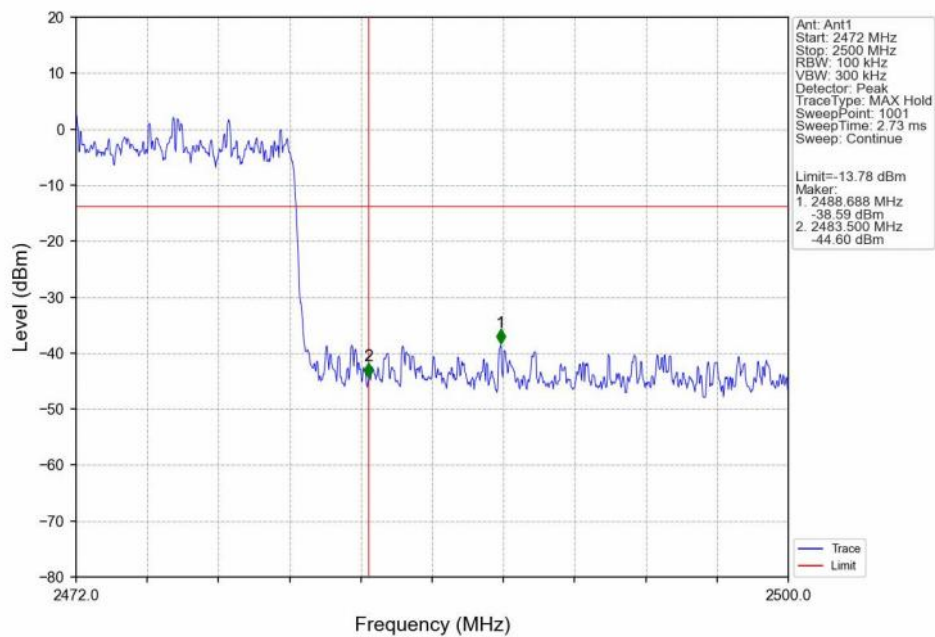
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



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

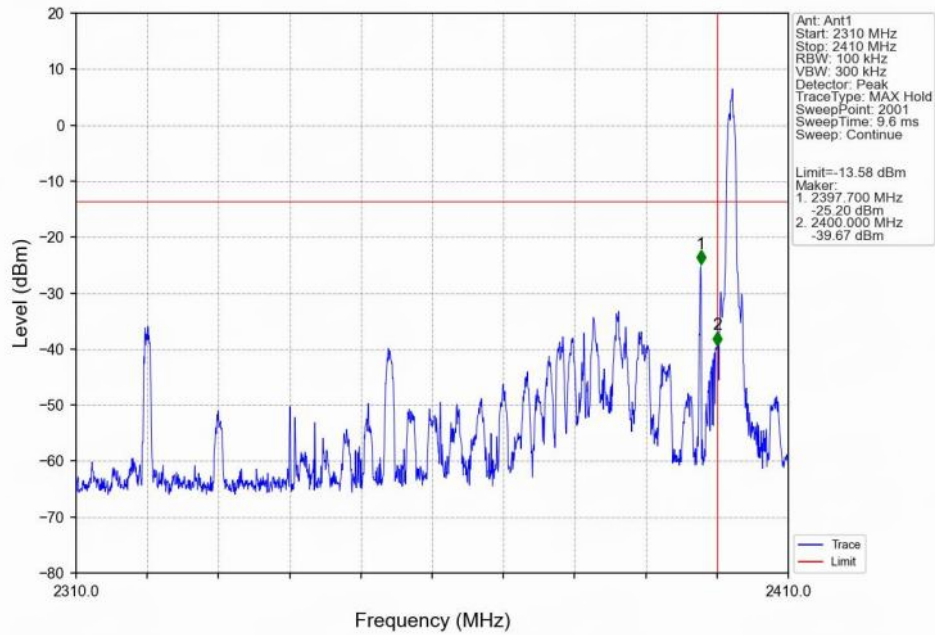


Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV

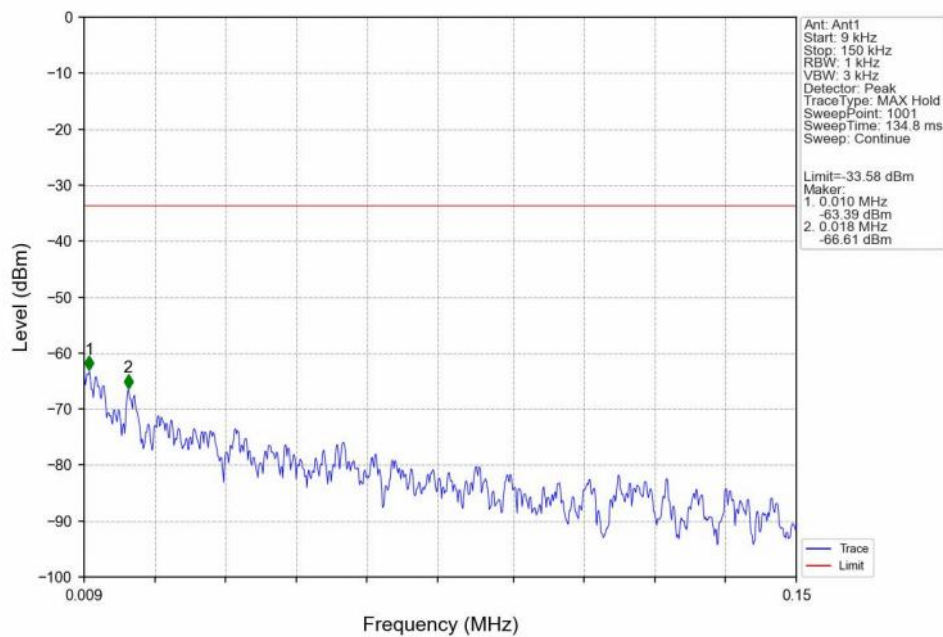




8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV

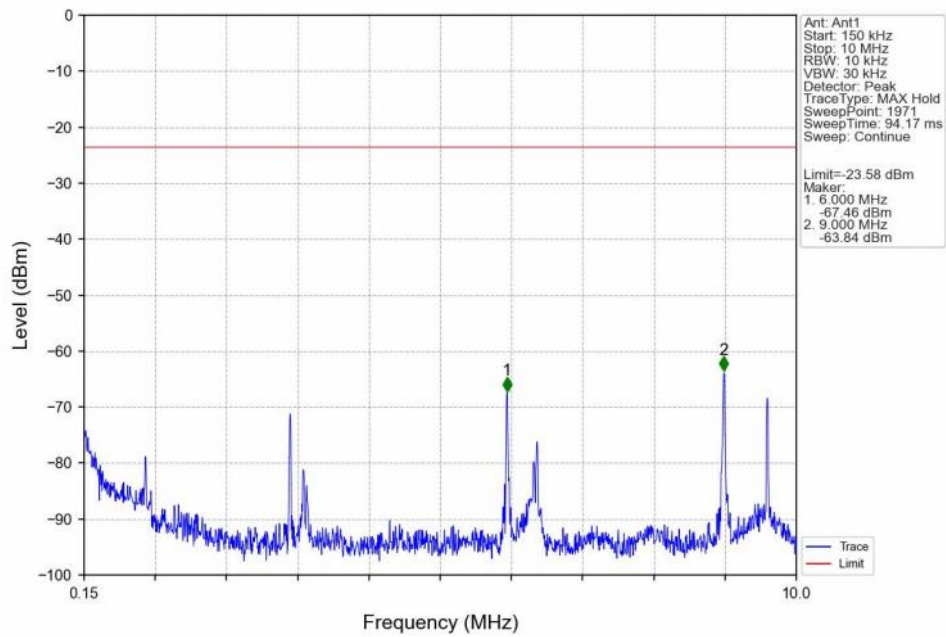


8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV

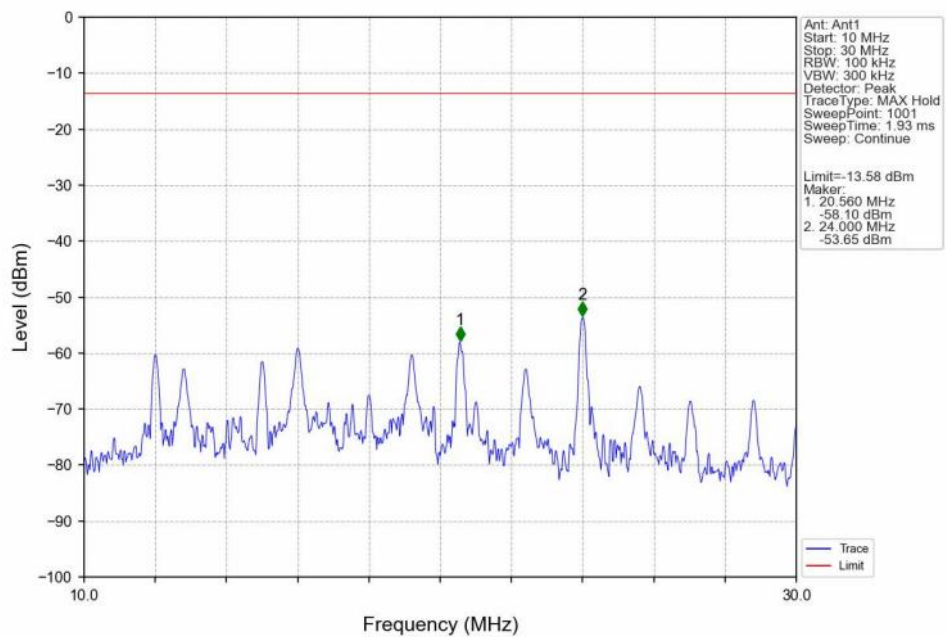




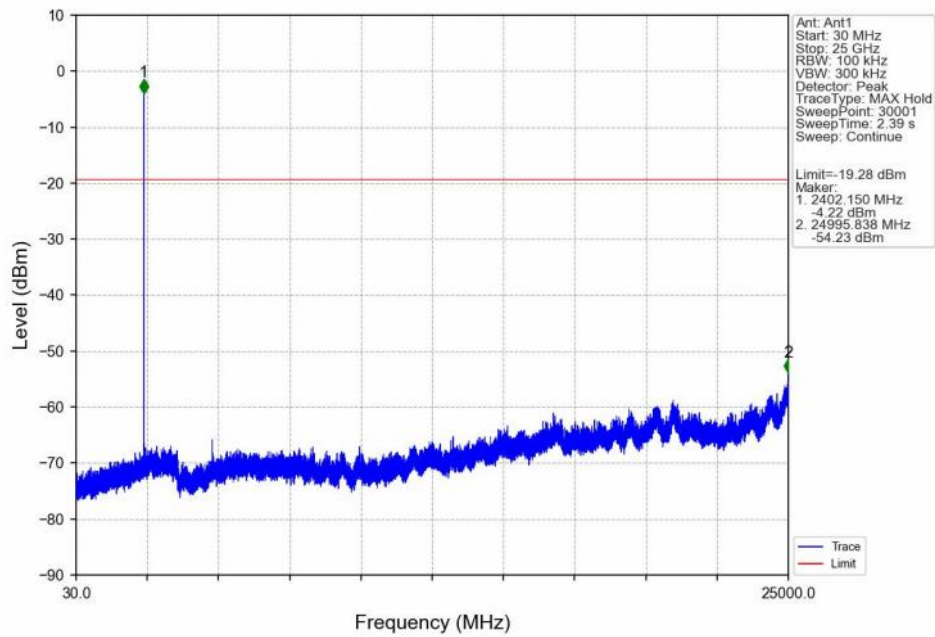
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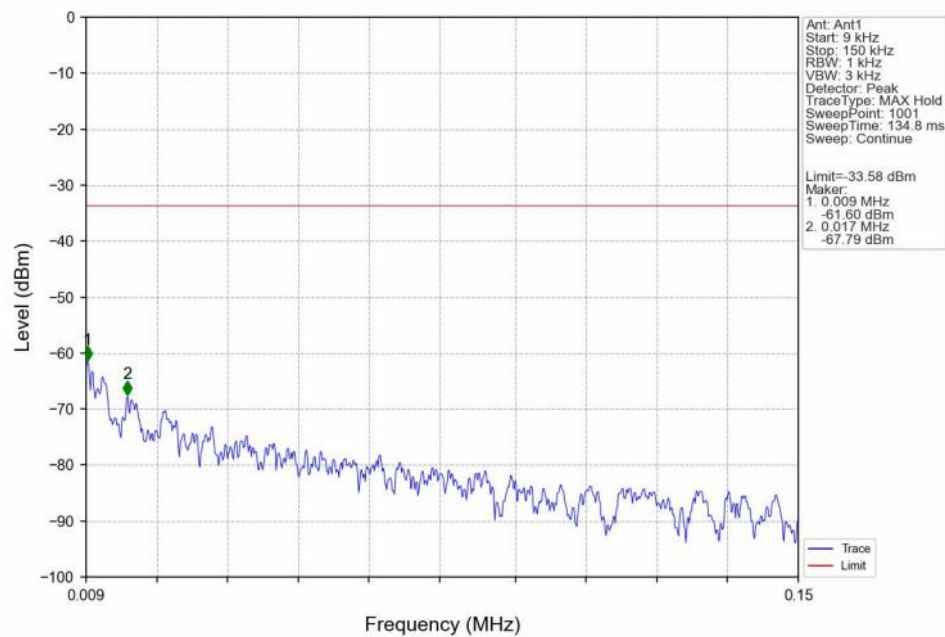
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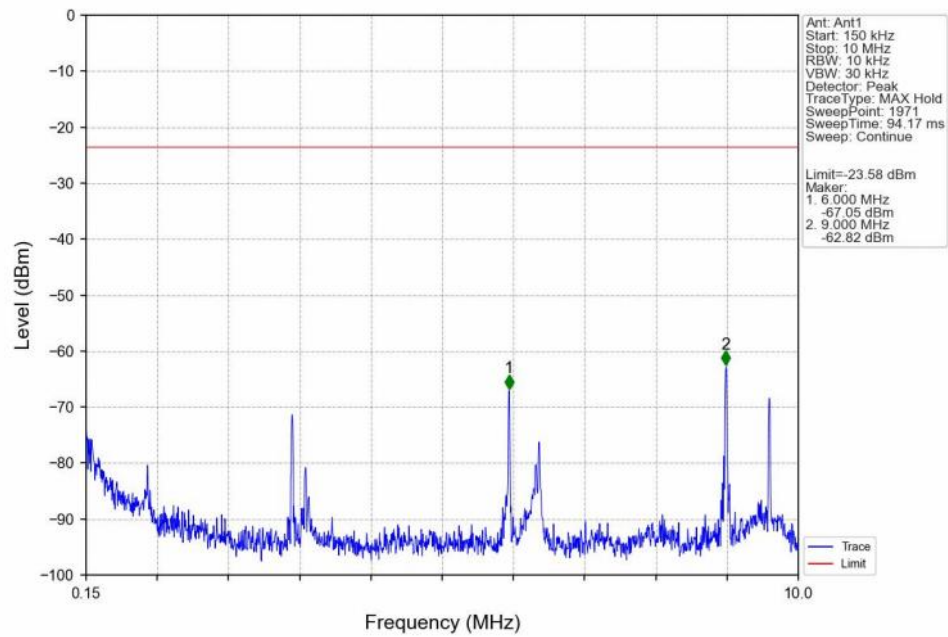
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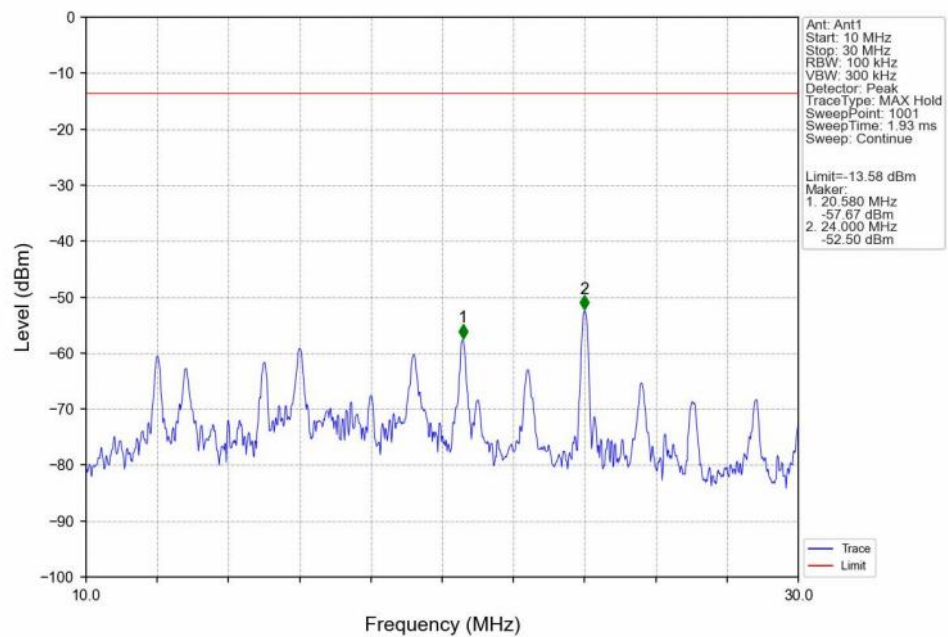
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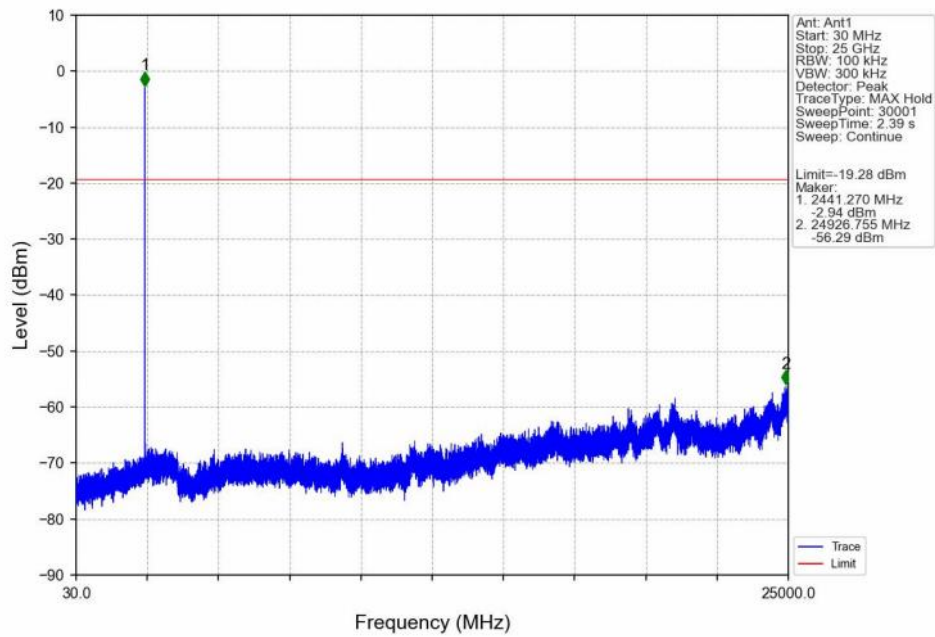
8DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



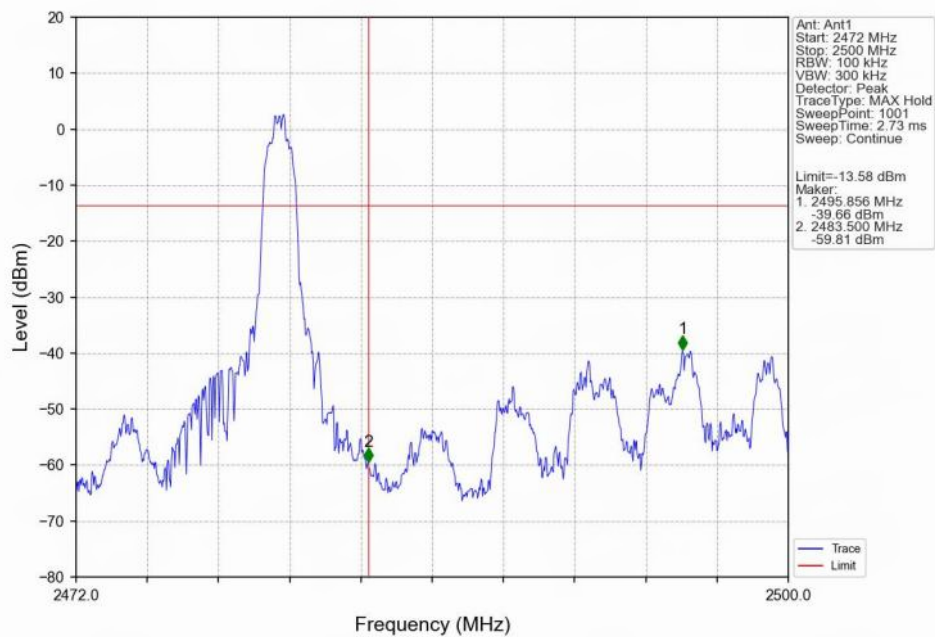
8DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



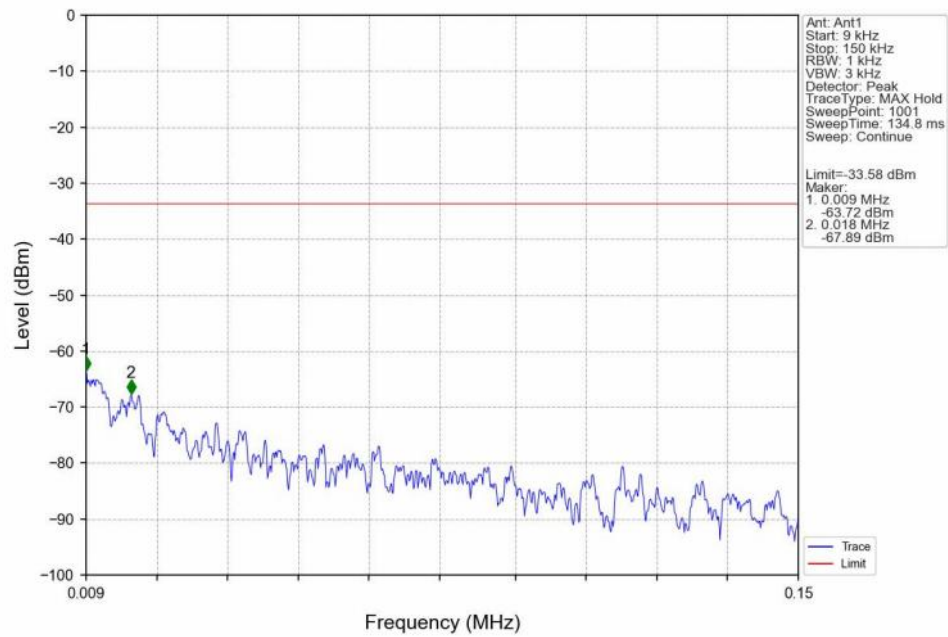
8DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



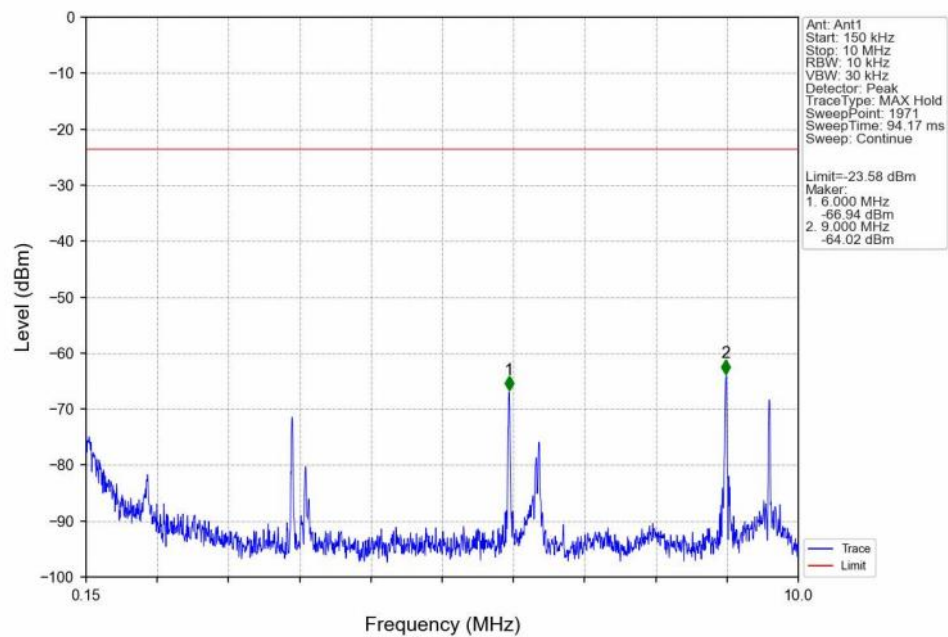
8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV



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

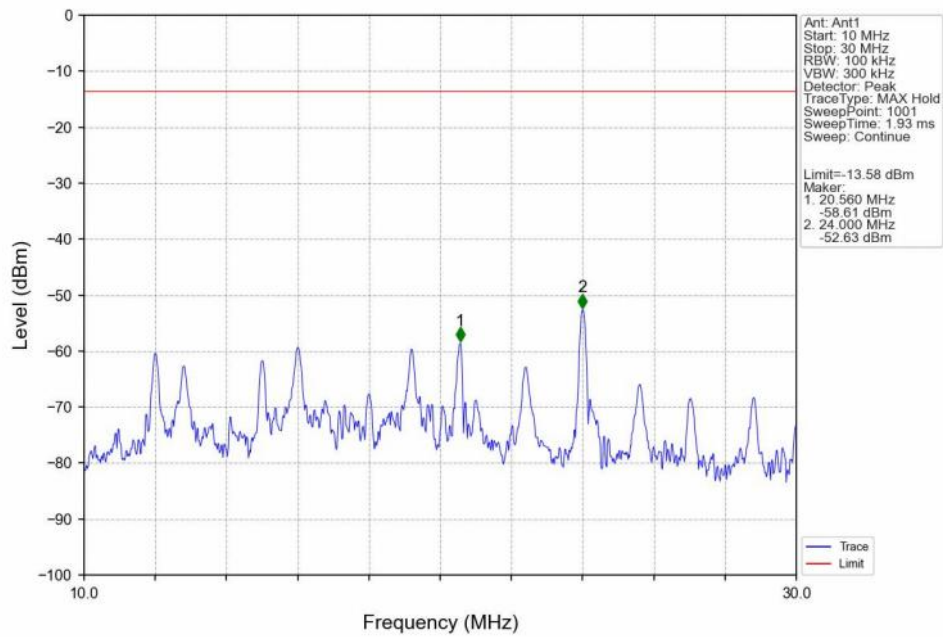


8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV

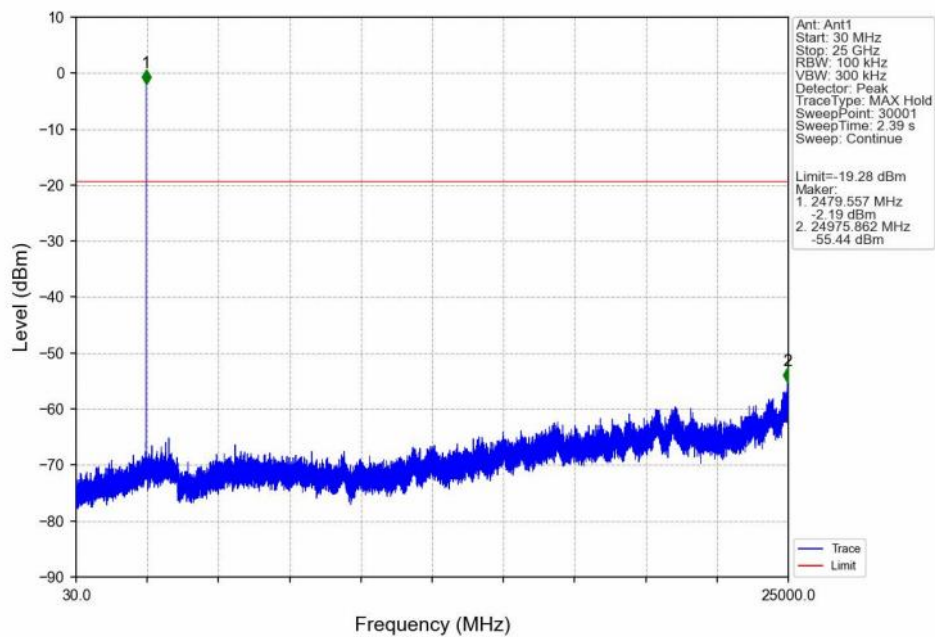




8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV

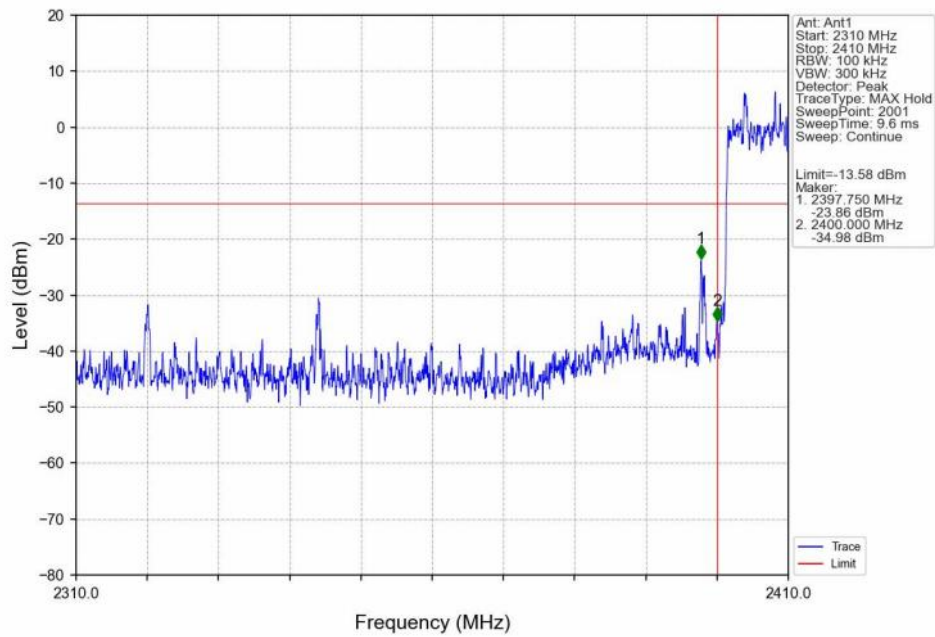


8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV

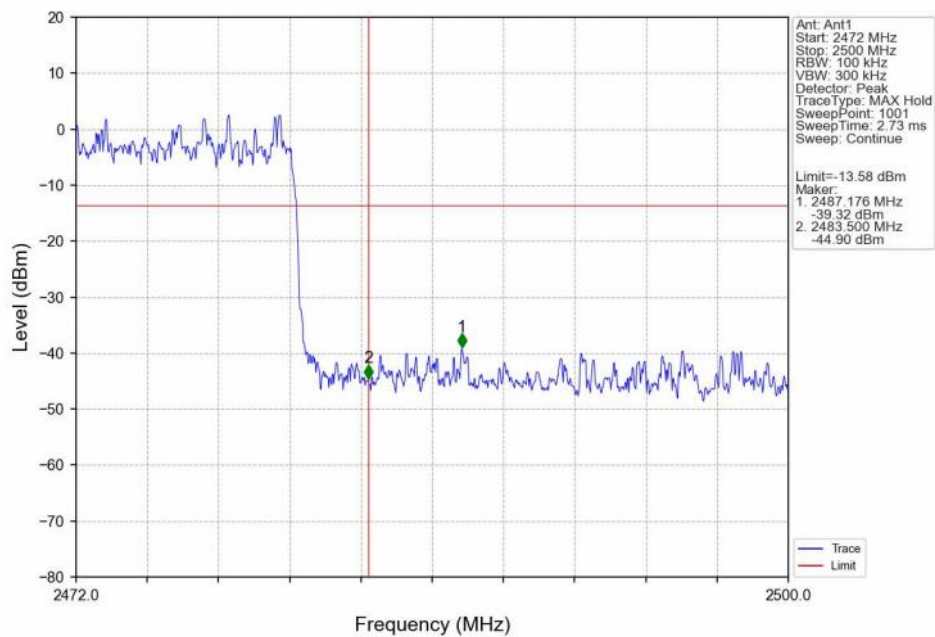




8DPSK\_3DH5\_HOPP\_Ant1\_NTNV



8DPSK\_3DH5\_HOPP\_Ant1\_NTNV



## 7. Form731

### 7.1 Test Result

#### 7.1.1 Form731

| Lower Freq (MHz) | High Freq (MHz) | MAX Power (W) | MAX Power (dBm) |
|------------------|-----------------|---------------|-----------------|
| 2402             | 2480            | 0.0052        | 7.14            |