

## 1. Bandwidth

### 1.1 Test Result

#### 1.1.1 OBW

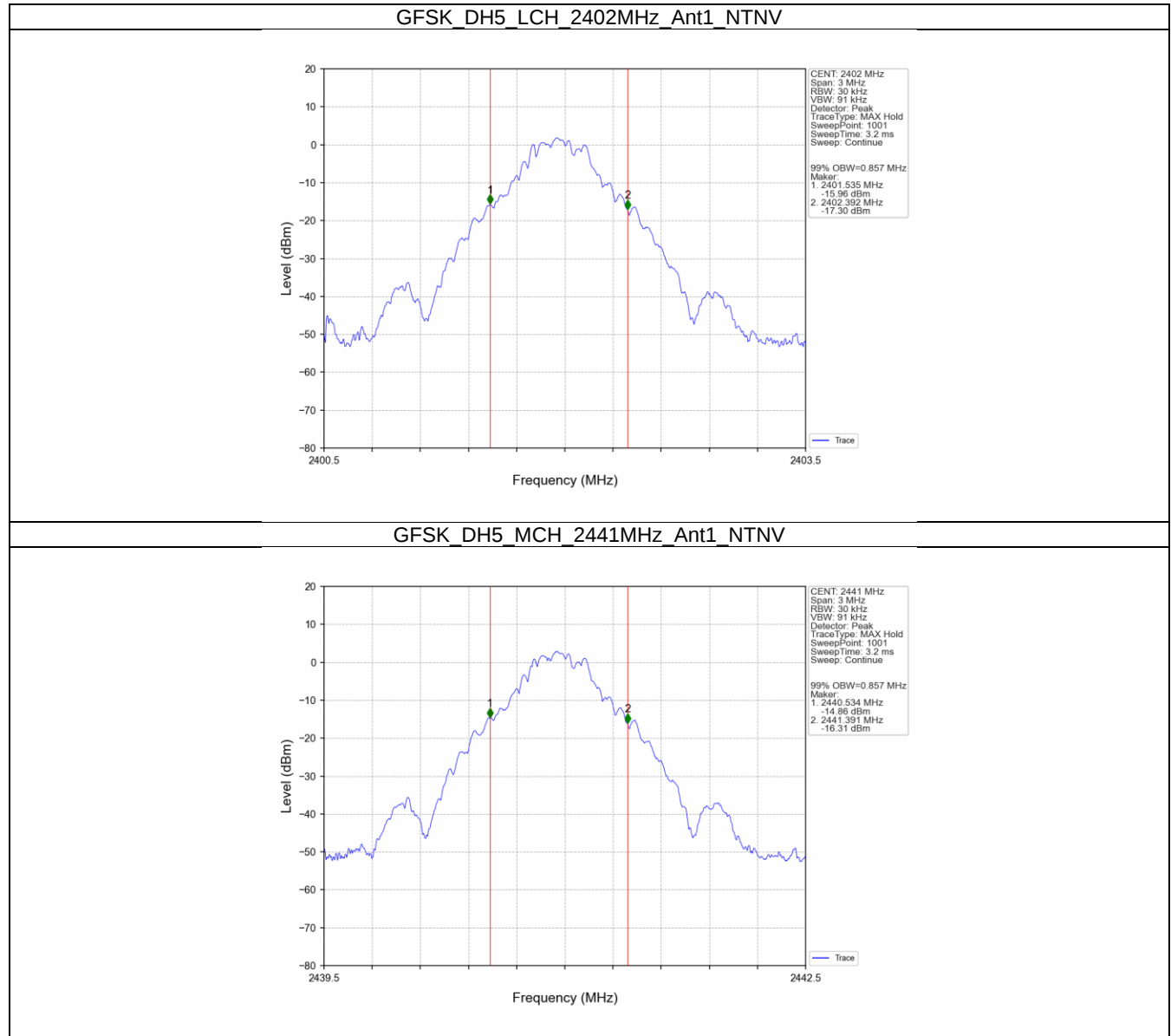
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | 99% Occupied Bandwidth (MHz) |       | Verdict |
|-----------|---------|-----------------|-------------|-----|------------------------------|-------|---------|
|           |         |                 |             |     | Result                       | Limit |         |
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.857                        | /     | Pass    |
|           |         | 2441            | DH5         | 1   | 0.857                        | /     | Pass    |
|           |         | 2480            | DH5         | 1   | 0.856                        | /     | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.173                        | /     | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.168                        | /     | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.170                        | /     | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 1.181                        | /     | Pass    |
|           |         | 2441            | 3DH5        | 1   | 1.179                        | /     | Pass    |
|           |         | 2480            | 3DH5        | 1   | 1.184                        | /     | Pass    |

#### 1.1.2 20dB BW

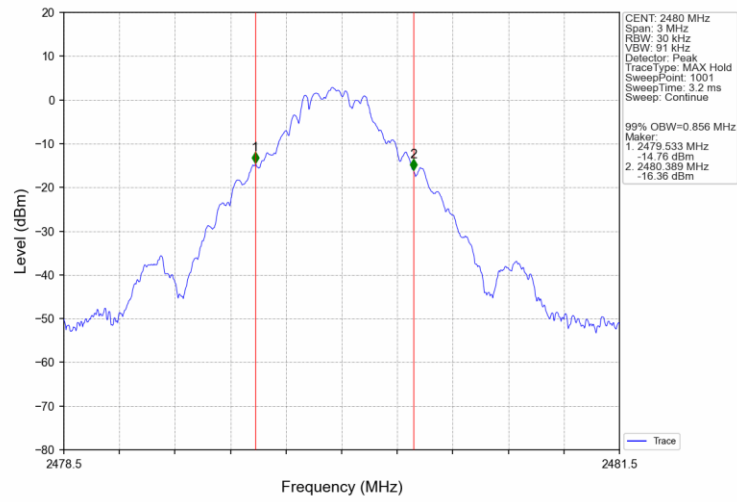
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | 20dB Bandwidth (MHz) |       | Verdict |
|-----------|---------|-----------------|-------------|-----|----------------------|-------|---------|
|           |         |                 |             |     | Result               | Limit |         |
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.953                | /     | Pass    |
|           |         | 2441            | DH5         | 1   | 0.951                | /     | Pass    |
|           |         | 2480            | DH5         | 1   | 0.952                | /     | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.285                | /     | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.282                | /     | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.281                | /     | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 1.304                | /     | Pass    |
|           |         | 2441            | 3DH5        | 1   | 1.302                | /     | Pass    |
|           |         | 2480            | 3DH5        | 1   | 1.303                | /     | Pass    |

## 1.2 Test Graph

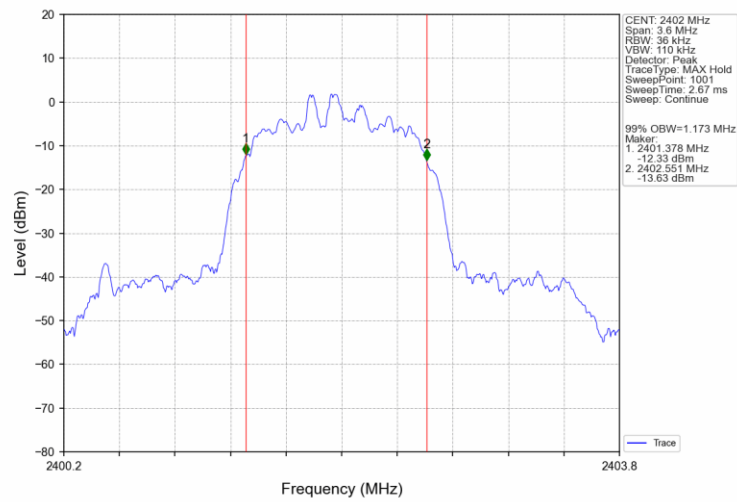
### 1.2.1 OBW



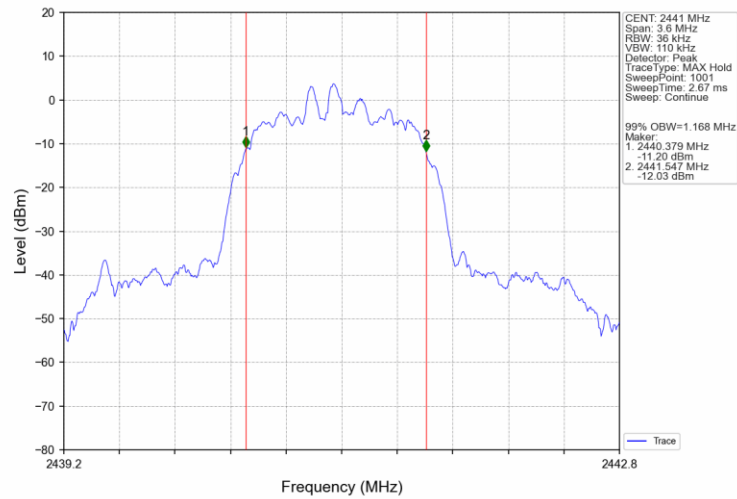
## GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



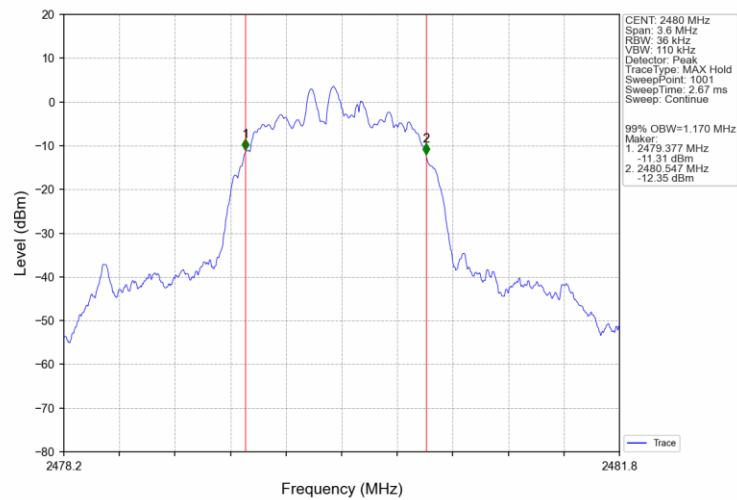
## Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



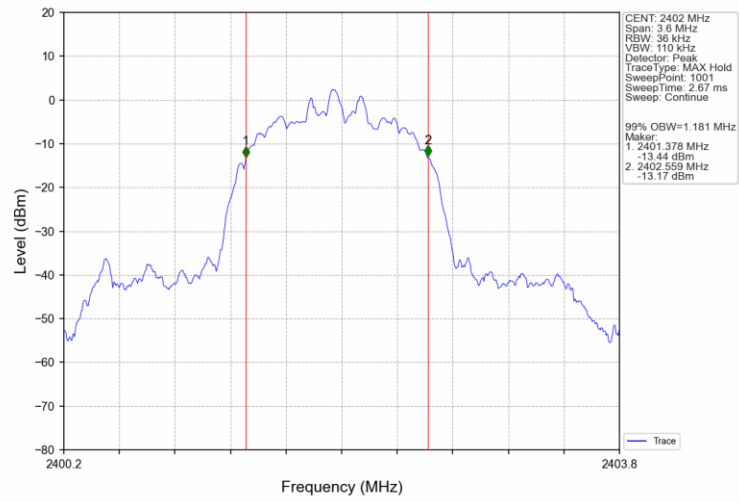
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



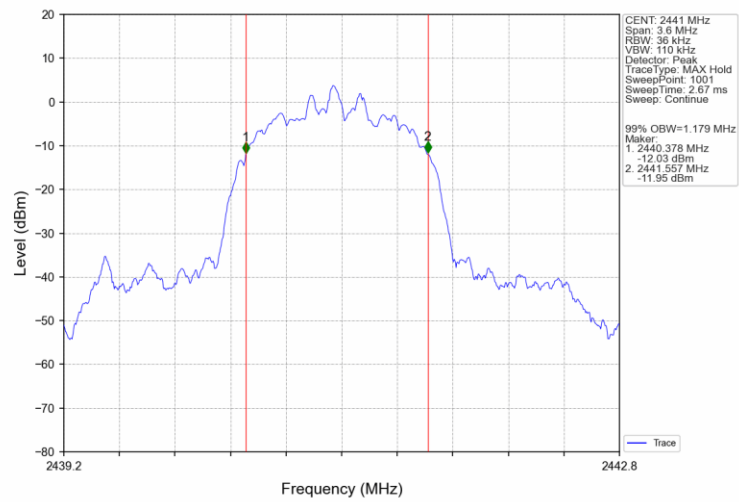
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



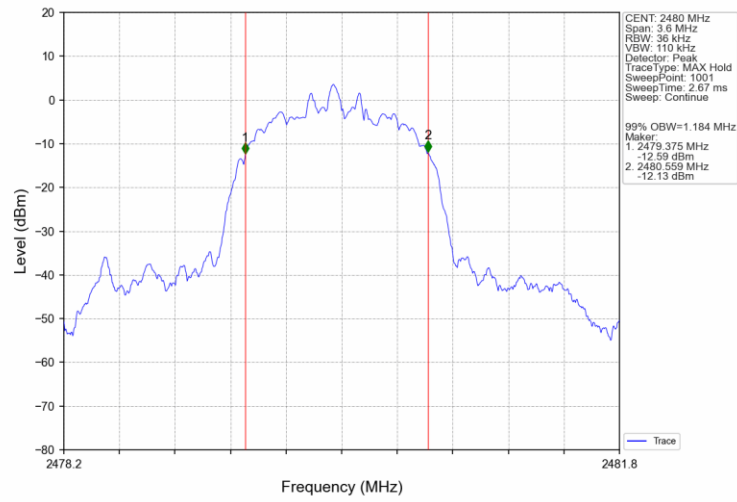
## 8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



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

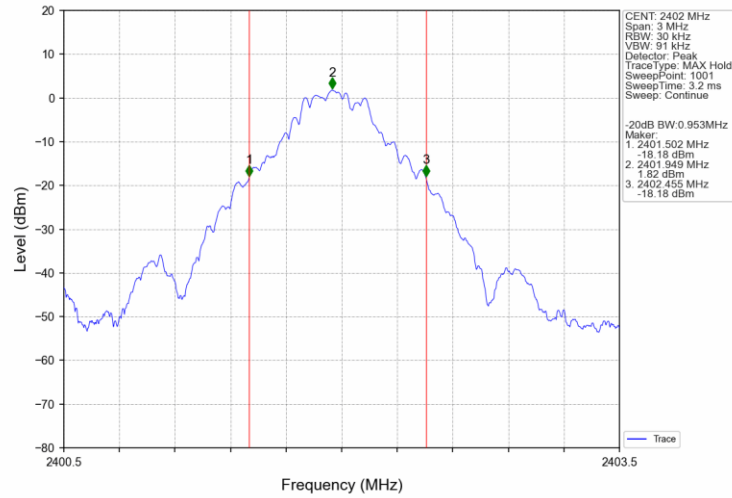


## 8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV

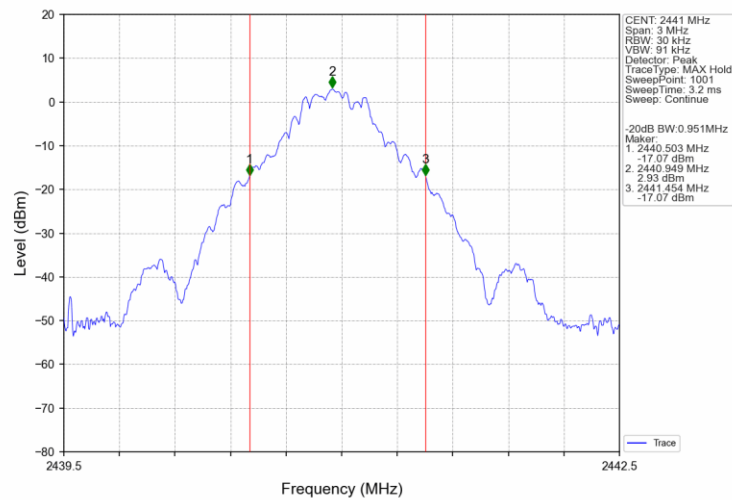


## 1.2.2 20dB BW

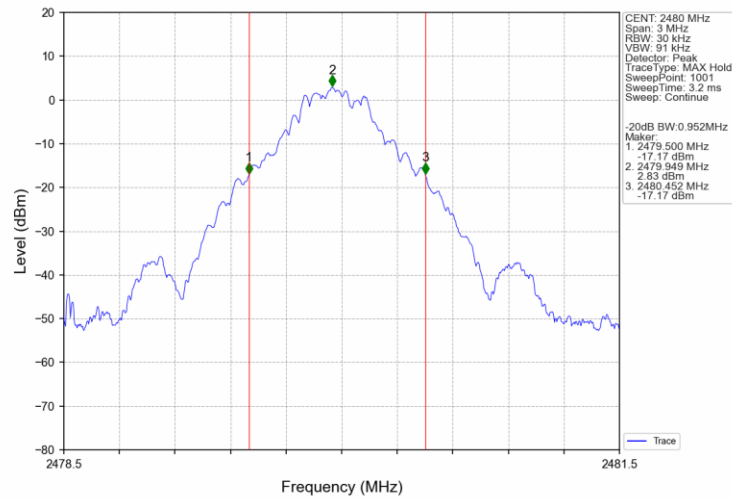
GFSK\_DH5\_LCH\_2402MHz\_Ant1\_NTNV



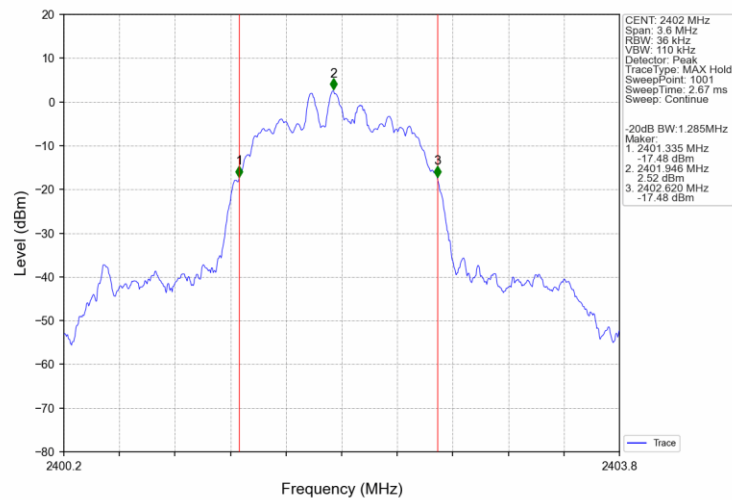
GFSK\_DH5\_MCH\_2441MHz\_Ant1\_NTNV



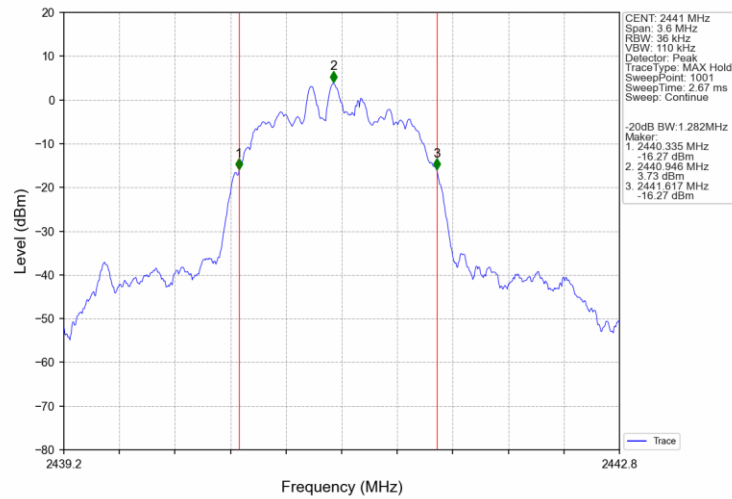
## GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



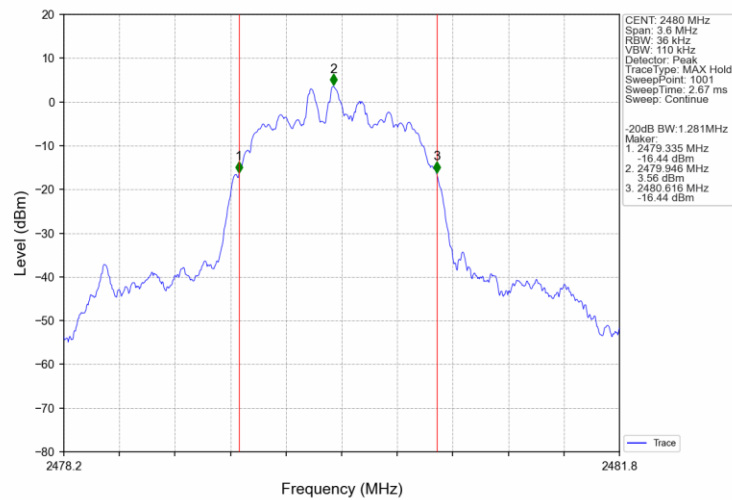
## Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



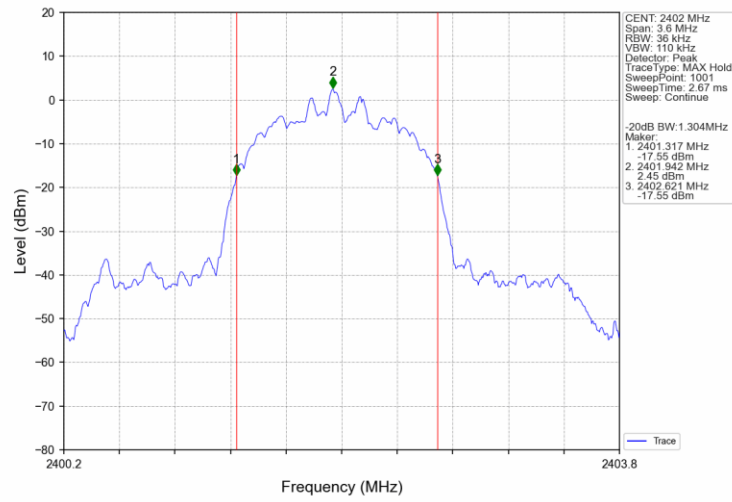
## Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



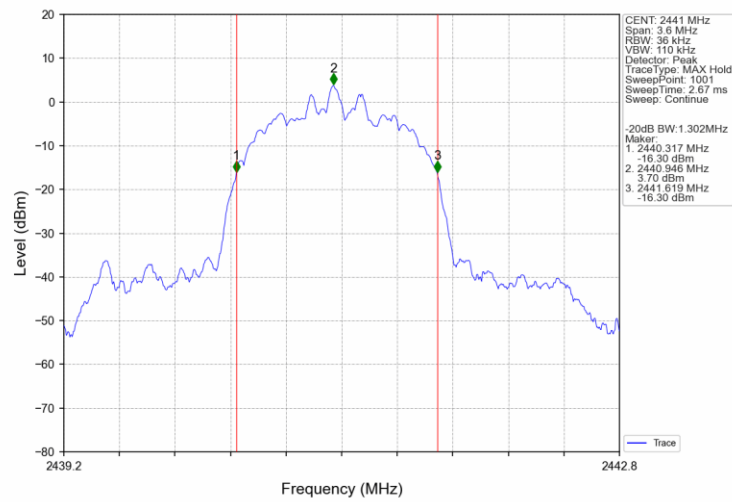
## Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



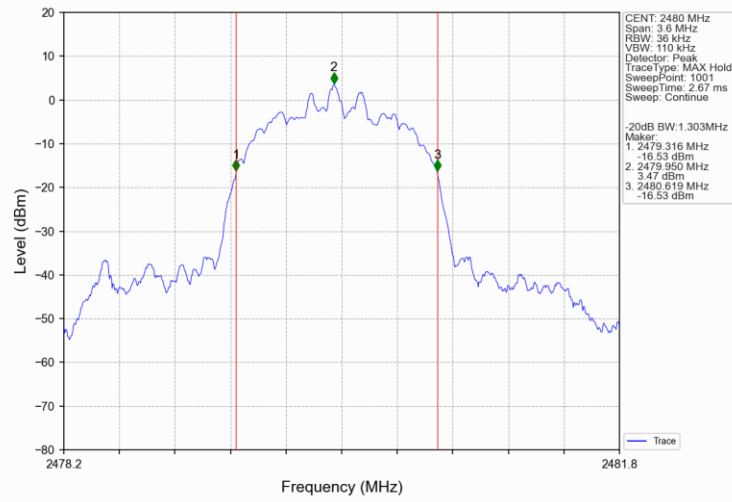
## 8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



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



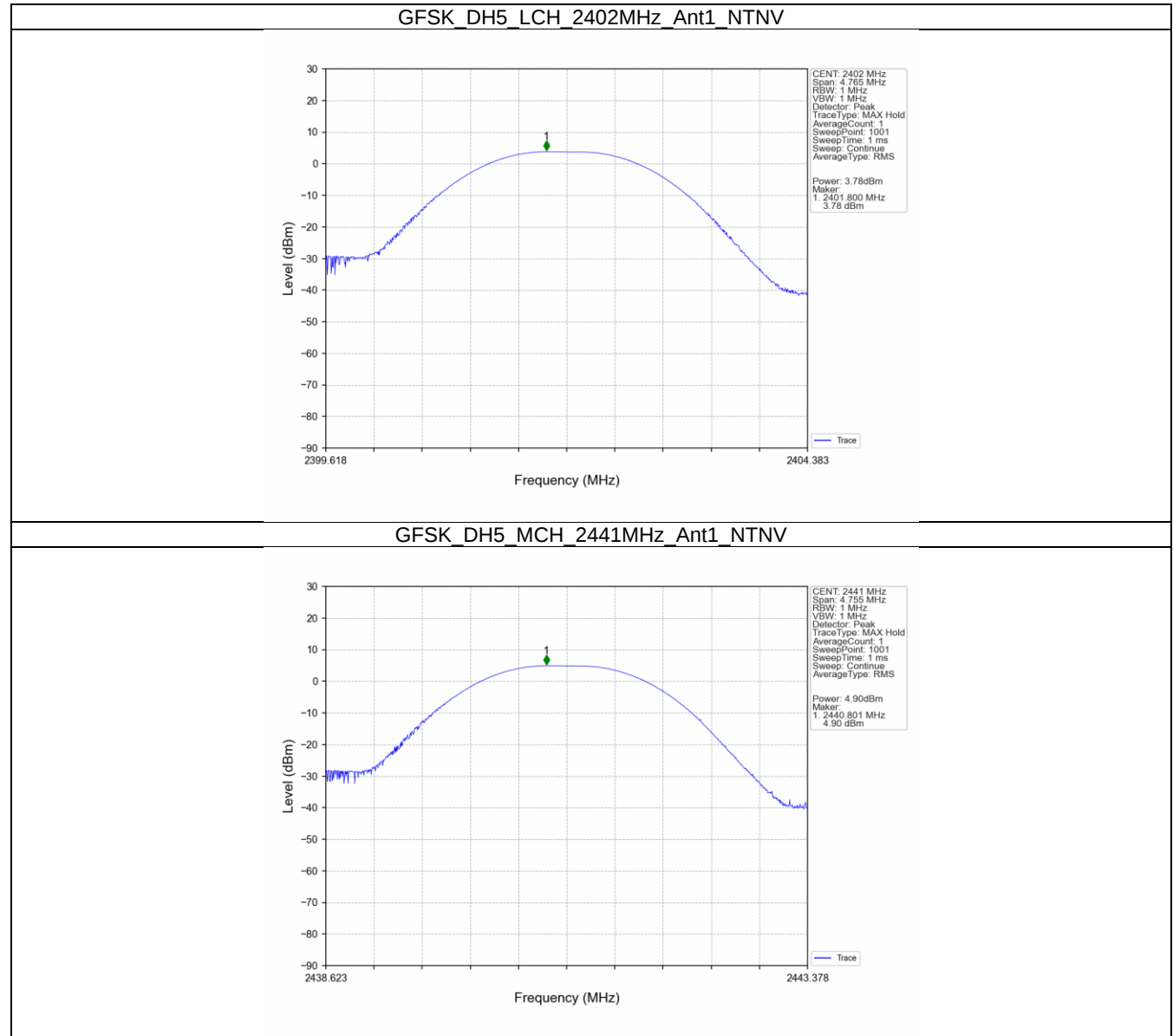
## 8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV



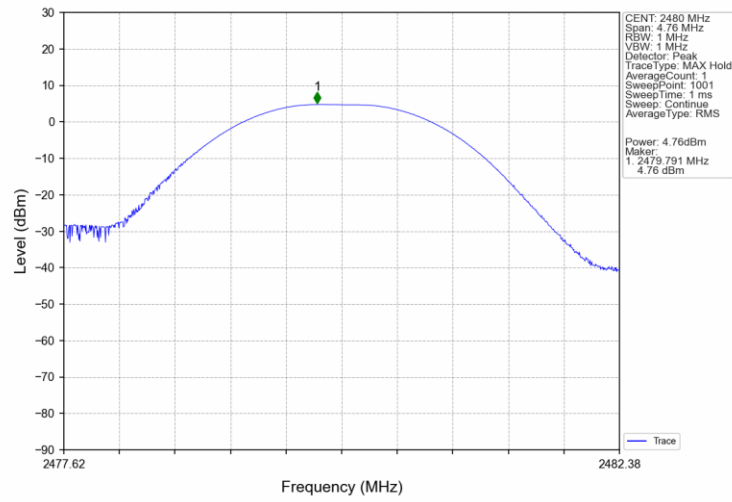


## 2.2 Test Graph

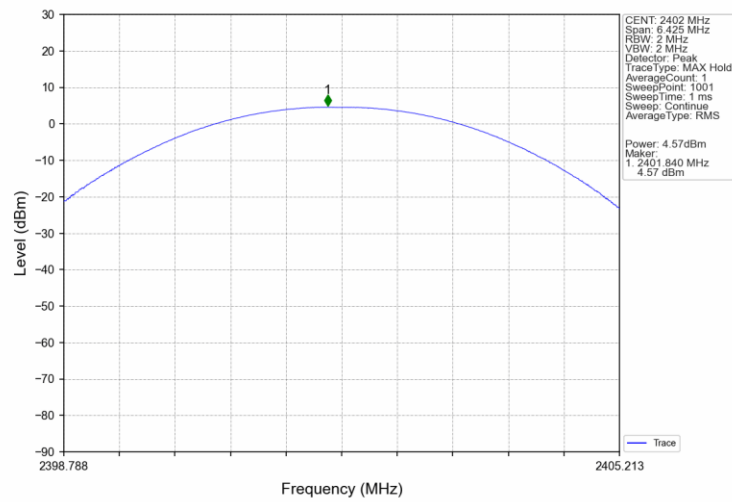
### 2.2.1 Power



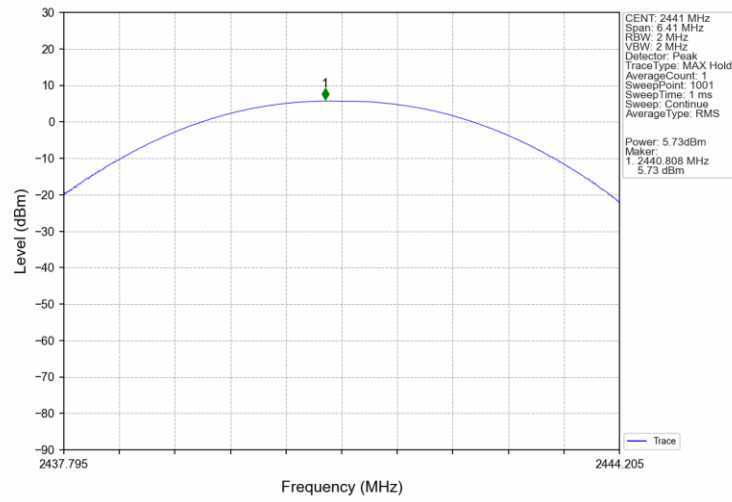
## GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



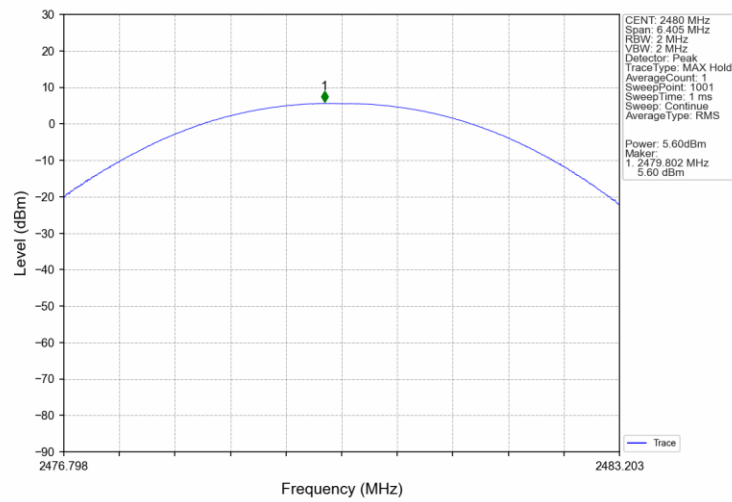
## Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



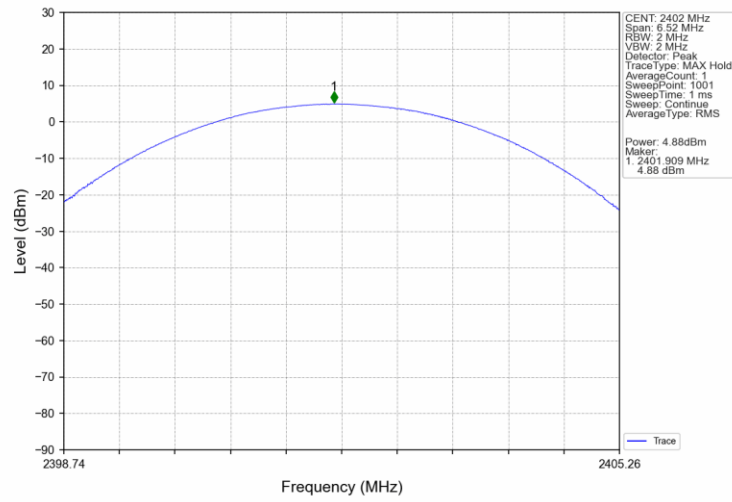
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



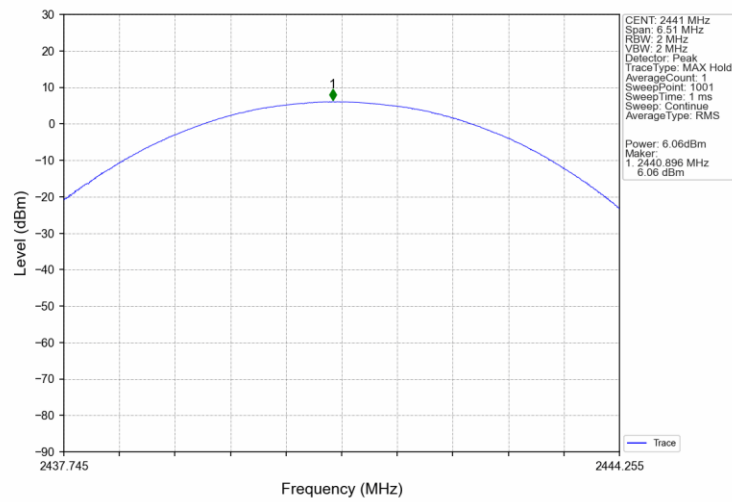
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



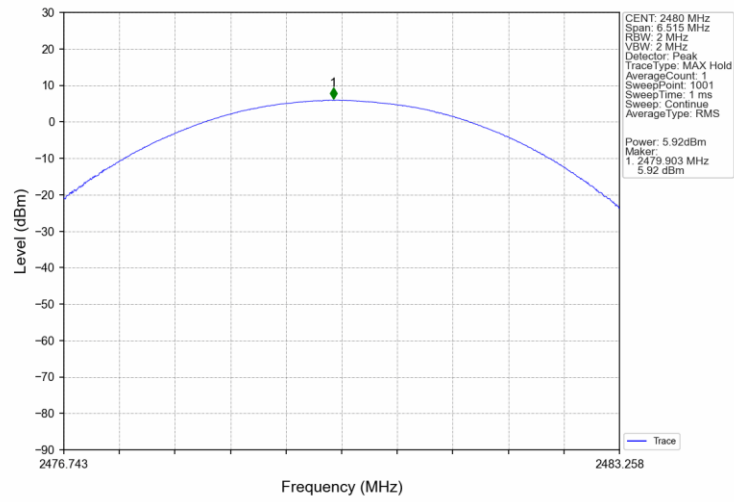
## 8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



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



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



### 3. Carrier Frequency Separation

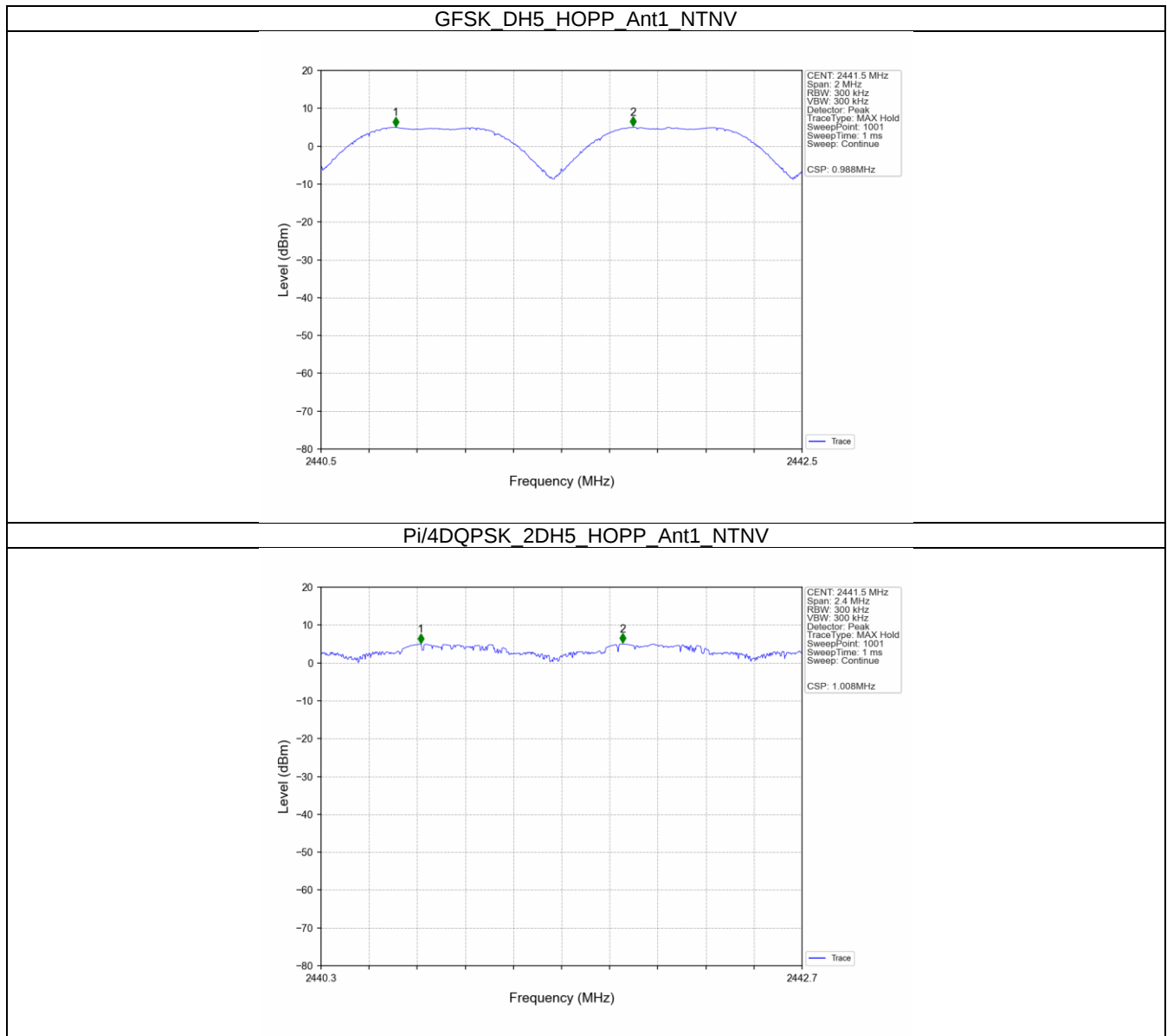
#### 3.1 Test Result

##### 3.1.1 Ant1

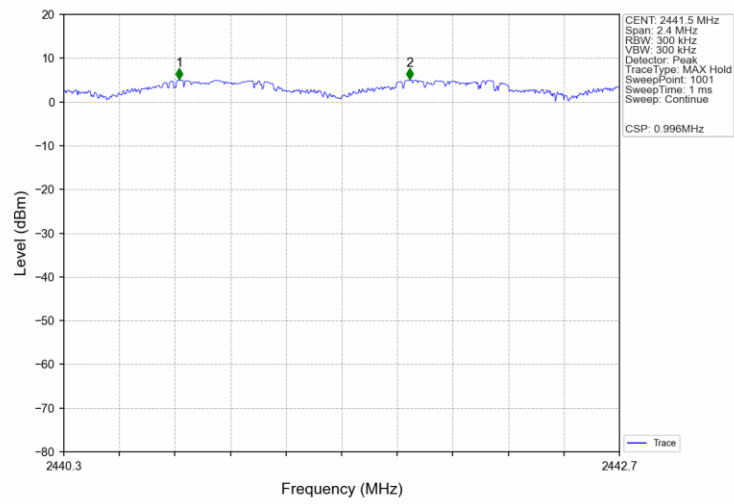
| Ant1      |         |                 |             |                          |                      |              |         |
|-----------|---------|-----------------|-------------|--------------------------|----------------------|--------------|---------|
| Mode      | TX Type | Frequency (MHz) | Packet Type | Channel Separation (MHz) | 20dB Bandwidth (MHz) | Limit (MHz)  | Verdict |
| GFSK      | SISO    | HOPP            | DH5         | 0.988                    | 0.953                | $\geq 0.953$ | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH5        | 1.008                    | 1.285                | $\geq 0.857$ | Pass    |
| 8DPSK     | SISO    | HOPP            | 3DH5        | 0.996                    | 1.304                | $\geq 0.869$ | Pass    |

## 3.2 Test Graph

### 3.2.1 Ant1



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



## 4. Number of Hopping Frequencies

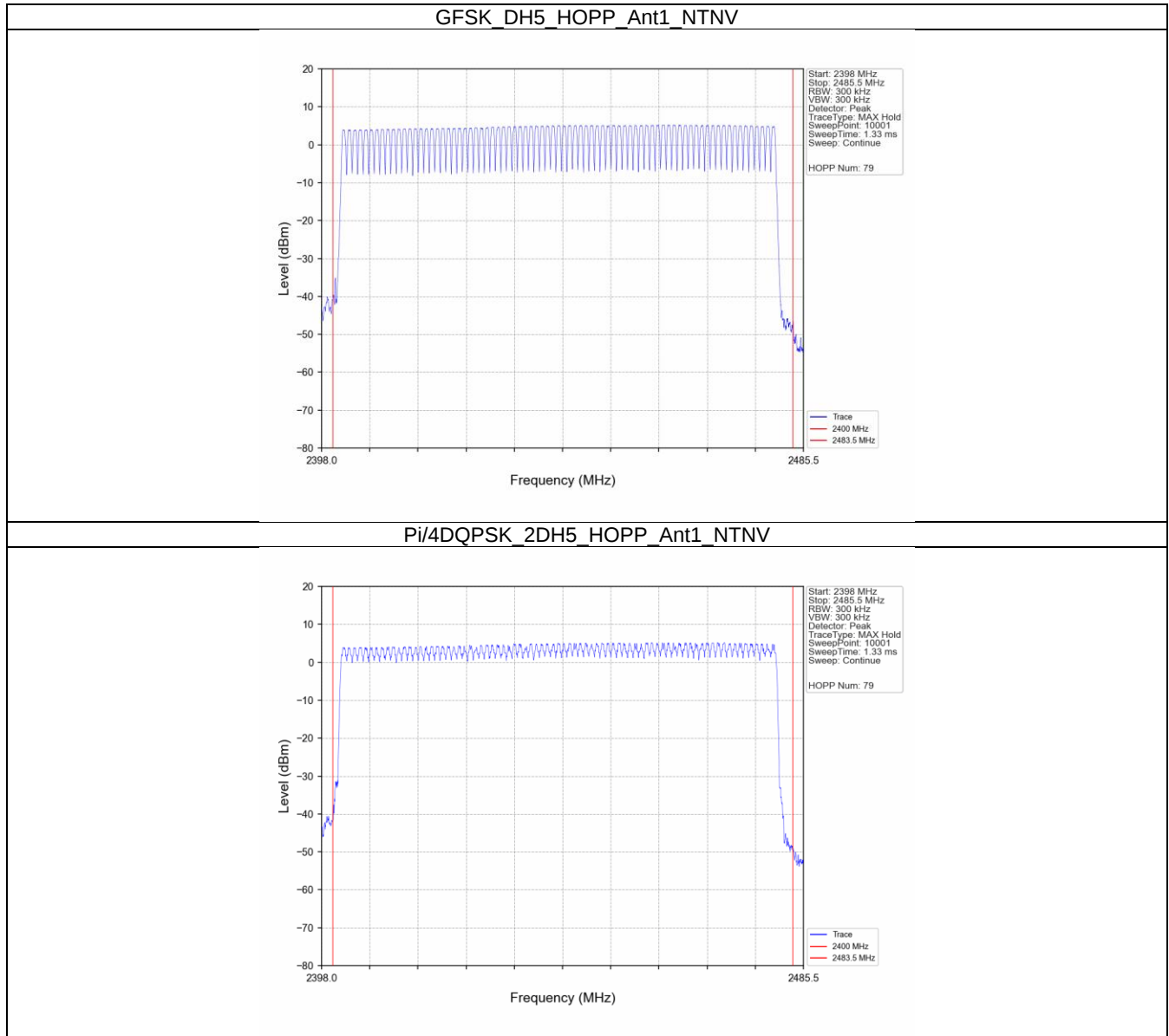
### 4.1 Test Result

#### 4.1.1 HoppNum

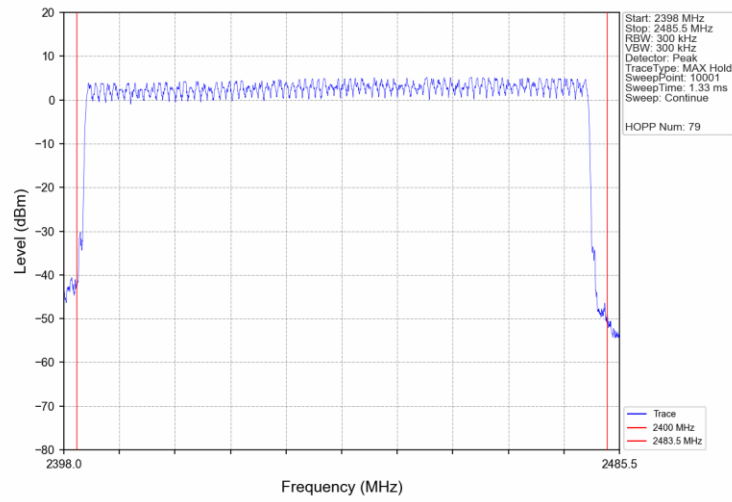
| Mode      | TX Type | Frequency (MHz) | Packet Type | Num of Hopping Frequencies |           | Verdict |
|-----------|---------|-----------------|-------------|----------------------------|-----------|---------|
|           |         |                 |             | ANT1                       | Limit     |         |
| 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



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



## 5. Time of Occupancy (Dwell Time)

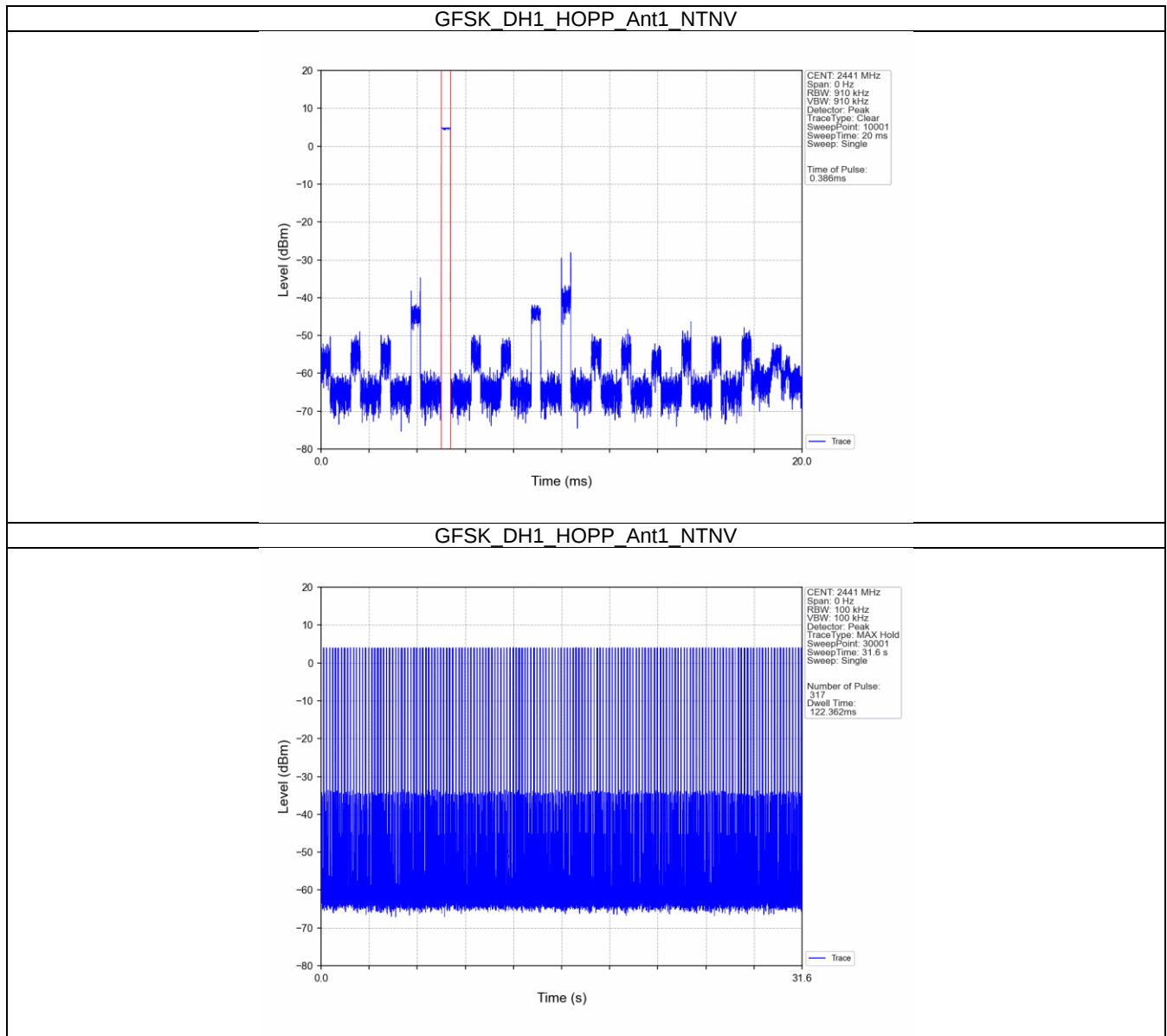
### 5.1 Test Result

#### 5.1.1 Ant1

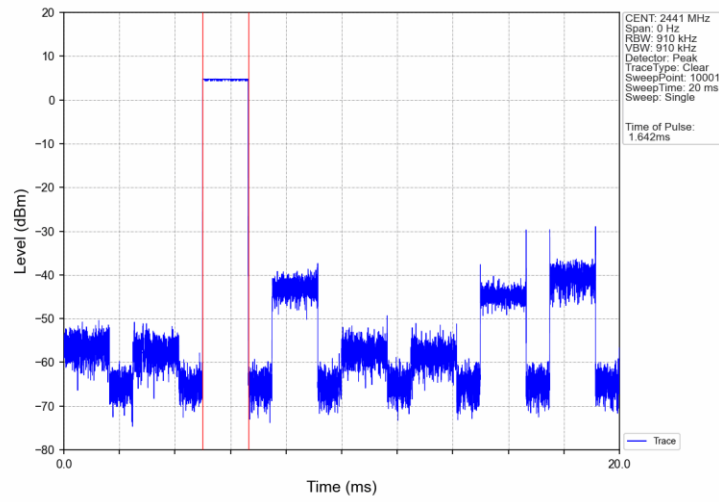
| Ant1      |         |                 |             |                               |                        |                                    |                 |            |         |
|-----------|---------|-----------------|-------------|-------------------------------|------------------------|------------------------------------|-----------------|------------|---------|
| 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         | 0.386                         | 31.600                 | 317                                | 122.362         | <=400      | Pass    |
|           |         |                 | DH3         | 1.642                         | 31.600                 | 156                                | 256.152         | <=400      | Pass    |
|           |         |                 | DH5         | 2.892                         | 31.600                 | 81                                 | 234.252         | <=400      | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH1        | 0.396                         | 31.600                 | 319                                | 126.324         | <=400      | Pass    |
|           |         |                 | 2DH3        | 1.648                         | 31.600                 | 158                                | 260.384         | <=400      | Pass    |
|           |         |                 | 2DH5        | 2.896                         | 31.600                 | 114                                | 330.144         | <=400      | Pass    |
| 8DPSK     | SISO    | HOPP            | 3DH1        | 0.396                         | 31.600                 | 320                                | 126.720         | <=400      | Pass    |
|           |         |                 | 3DH3        | 1.652                         | 31.600                 | 167                                | 275.884         | <=400      | Pass    |
|           |         |                 | 3DH5        | 2.898                         | 31.600                 | 94                                 | 272.412         | <=400      | Pass    |

## 5.2 Test Graph

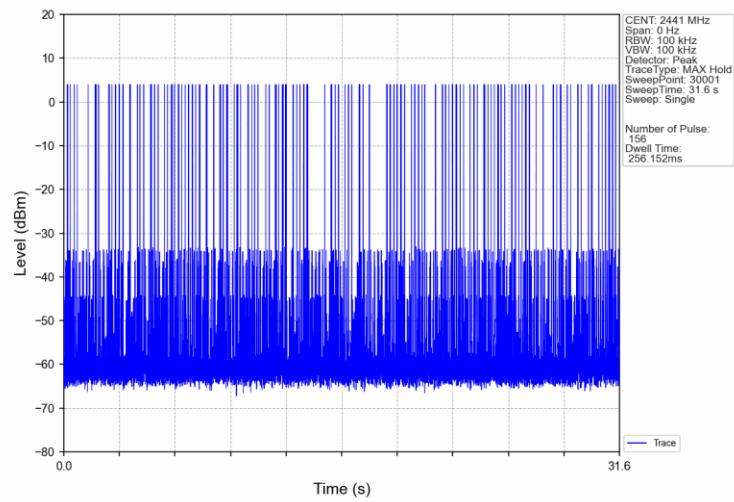
### 5.2.1 Ant1



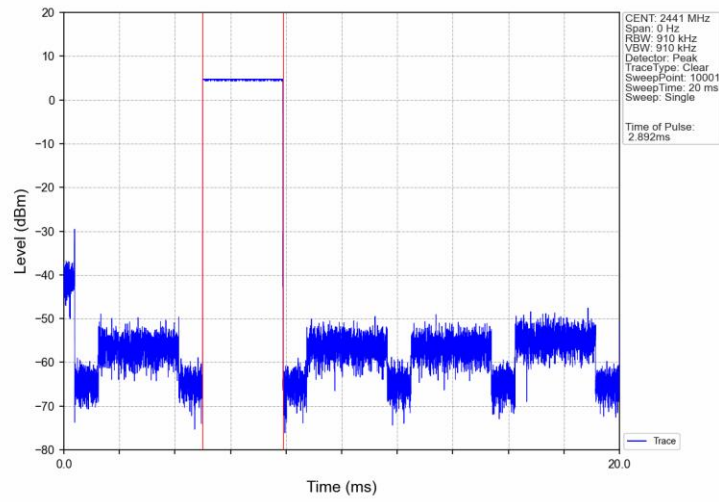
## GFSK\_DH3\_HOPP\_Ant1\_NTNV



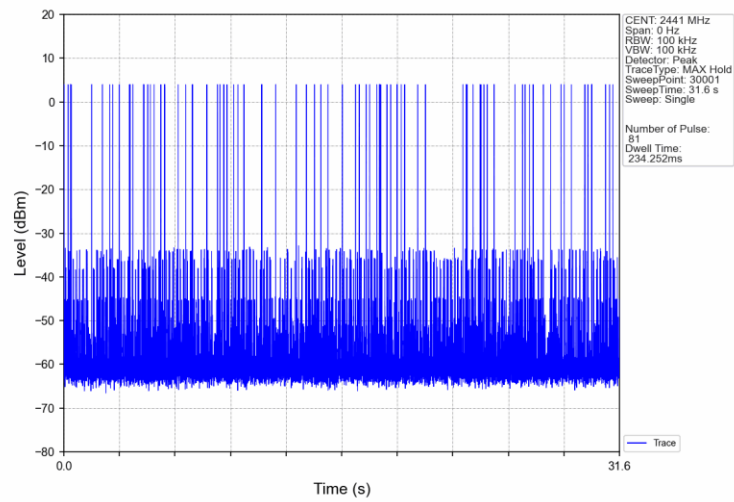
## GFSK\_DH3\_HOPP\_Ant1\_NTNV



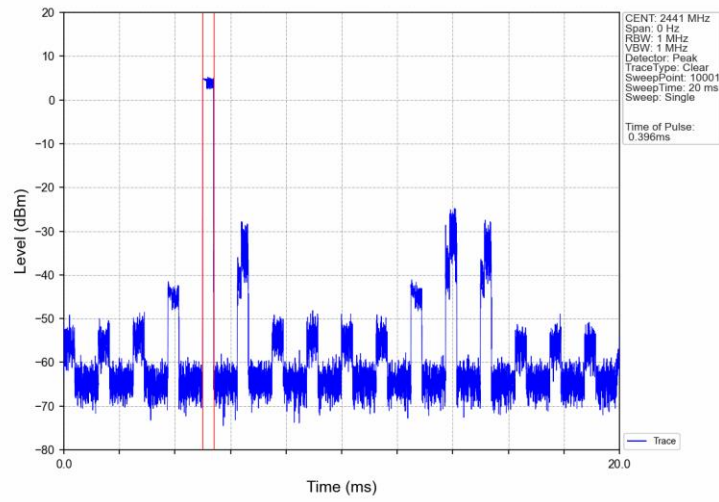
## GFSK\_DH5\_HOPP\_Ant1\_NTNV



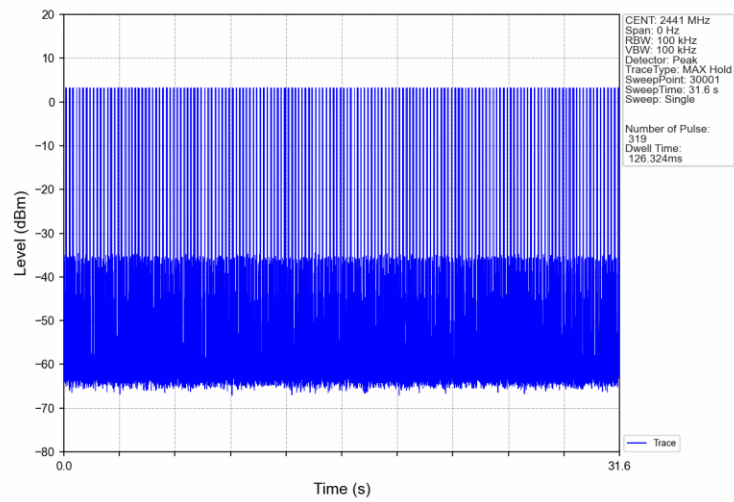
## GFSK\_DH5\_HOPP\_Ant1\_NTNV



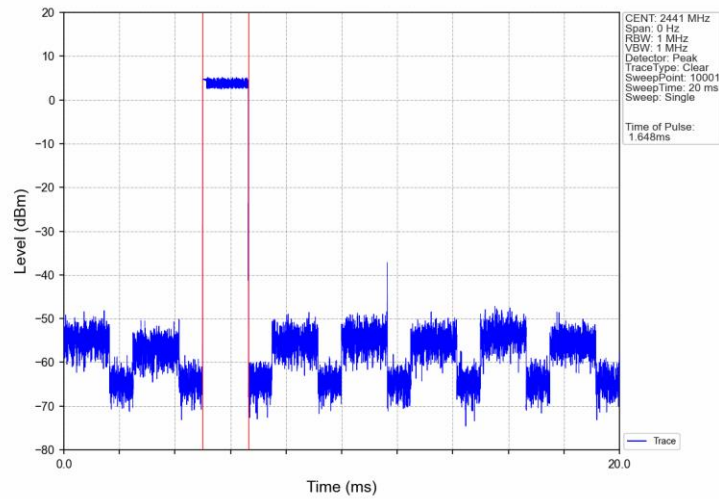
Pi/4DQPSK\_2DH1\_HOPP\_Ant1\_NTNV



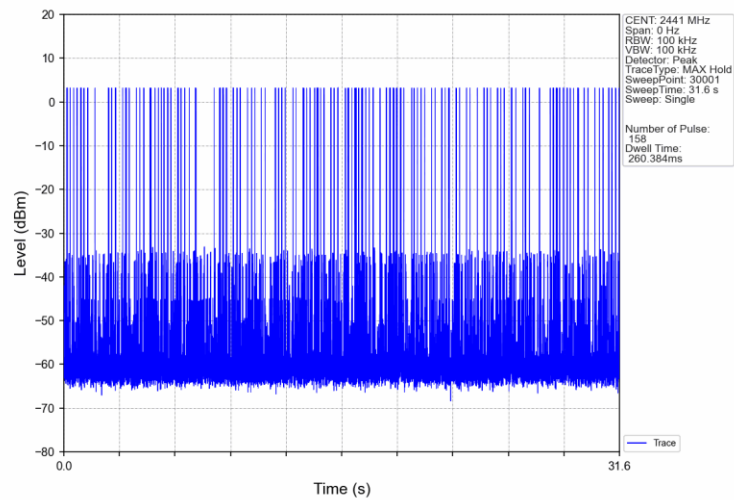
Pi/4DQPSK\_2DH1\_HOPP\_Ant1\_NTNV



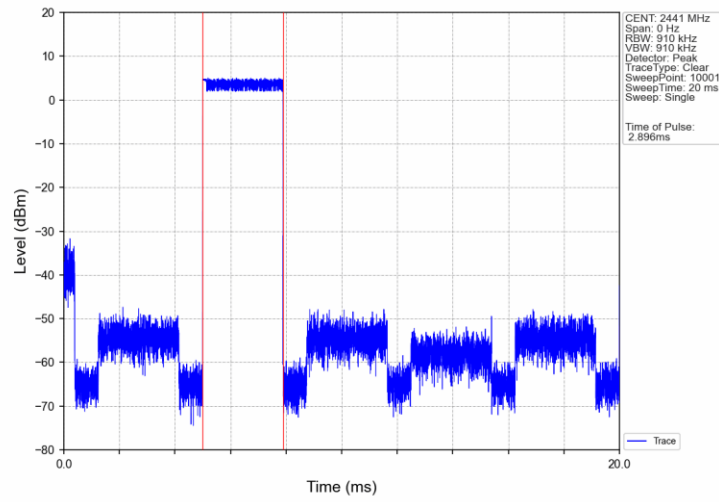
### Pi/4DQPSK\_2DH3\_HOPP\_Ant1\_NTNV



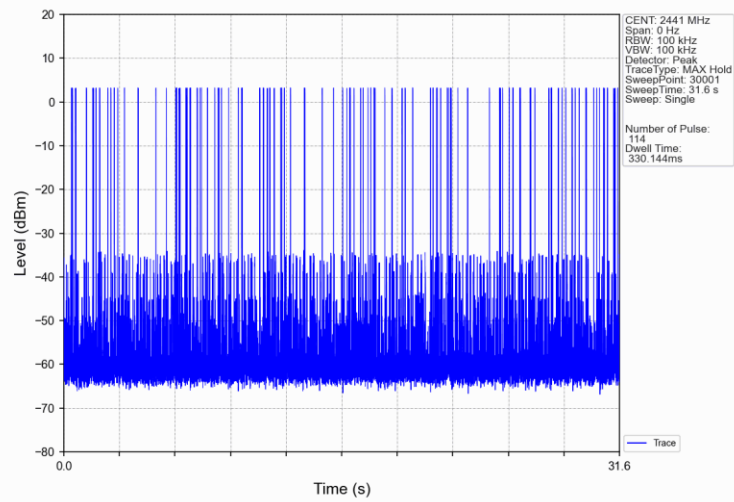
### Pi/4DQPSK\_2DH3\_HOPP\_Ant1\_NTNV



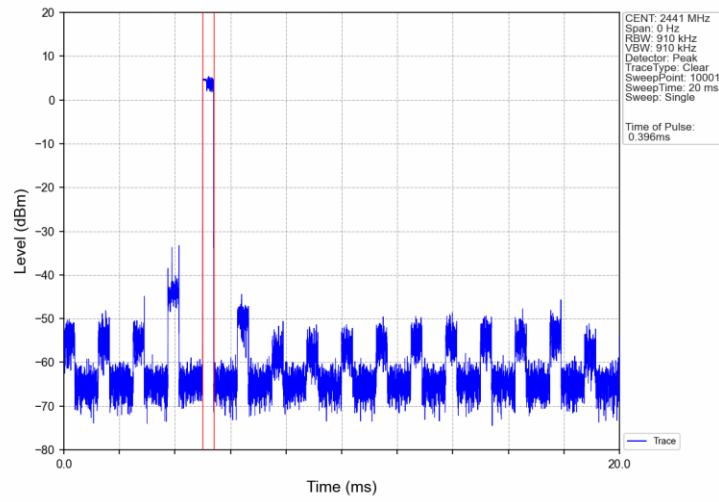
## Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



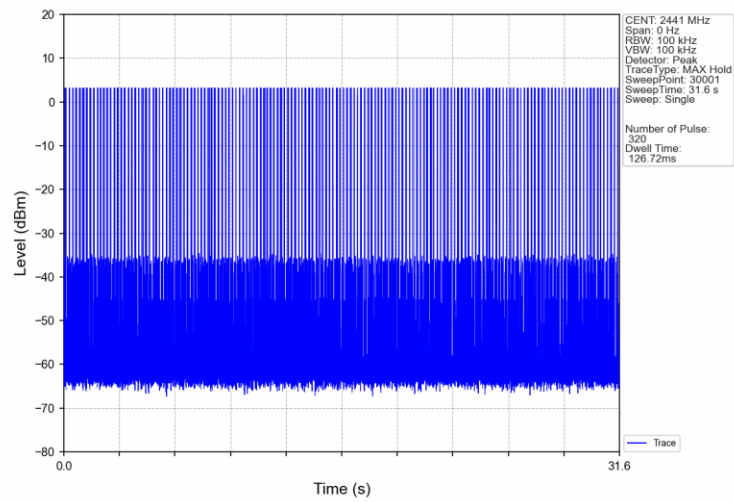
## Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



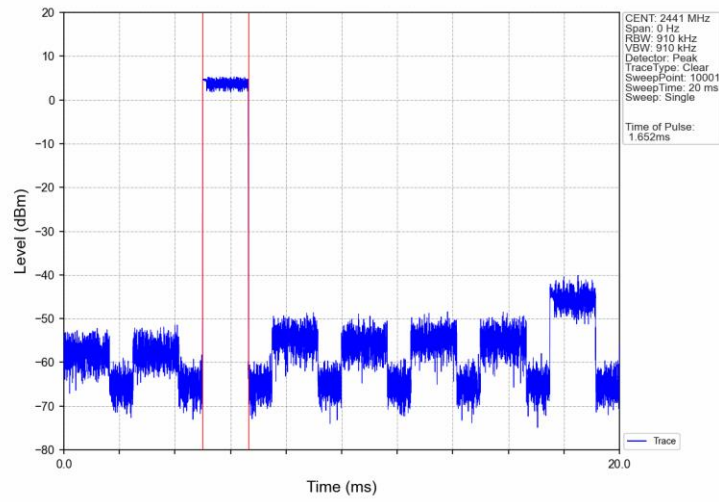
## 8DPSK\_3DH1\_HOPP\_Ant1\_NTNV



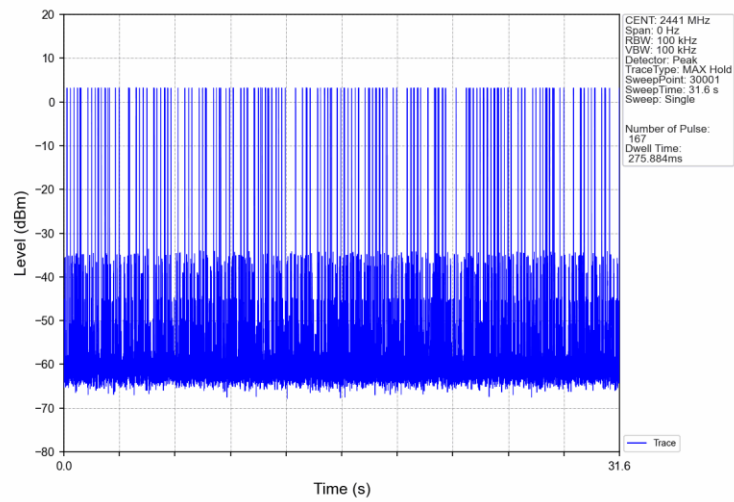
## 8DPSK\_3DH1\_HOPP\_Ant1\_NTNV



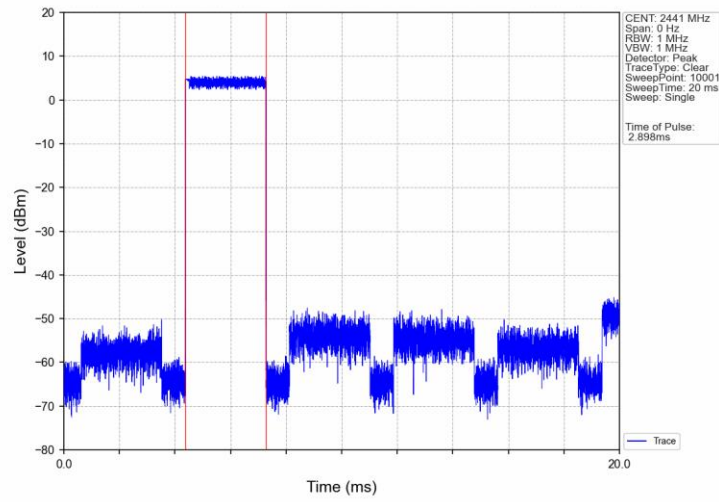
## 8DPSK\_3DH3\_HOPP\_Ant1\_NTNV



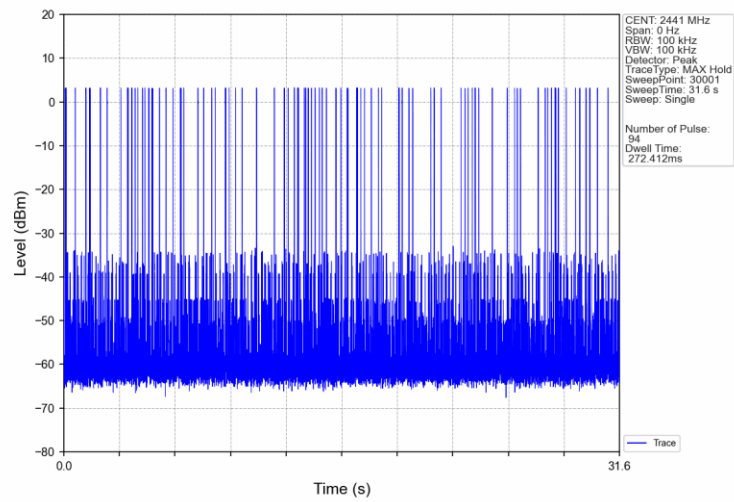
## 8DPSK\_3DH3\_HOPP\_Ant1\_NTNV



## 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   | 3.66                     |
|           |         | 2441            | DH5         | 1   | 4.77                     |
|           |         | 2480            | DH5         | 1   | 4.63                     |
|           |         | HOPP            | DH5         | 1   | 5.03                     |
|           |         |                 |             |     | 5.03                     |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 3.70                     |
|           |         | 2441            | 2DH5        | 1   | 4.87                     |
|           |         | 2480            | 2DH5        | 1   | 4.73                     |
|           |         | HOPP            | 2DH5        | 1   | 5.10                     |
|           |         |                 |             |     | 5.10                     |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 3.65                     |
|           |         | 2441            | 3DH5        | 1   | 4.77                     |
|           |         | 2480            | 3DH5        | 1   | 4.62                     |
|           |         | HOPP            | 3DH5        | 1   | 5.14                     |
|           |         |                 |             |     | 5.14                     |

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.

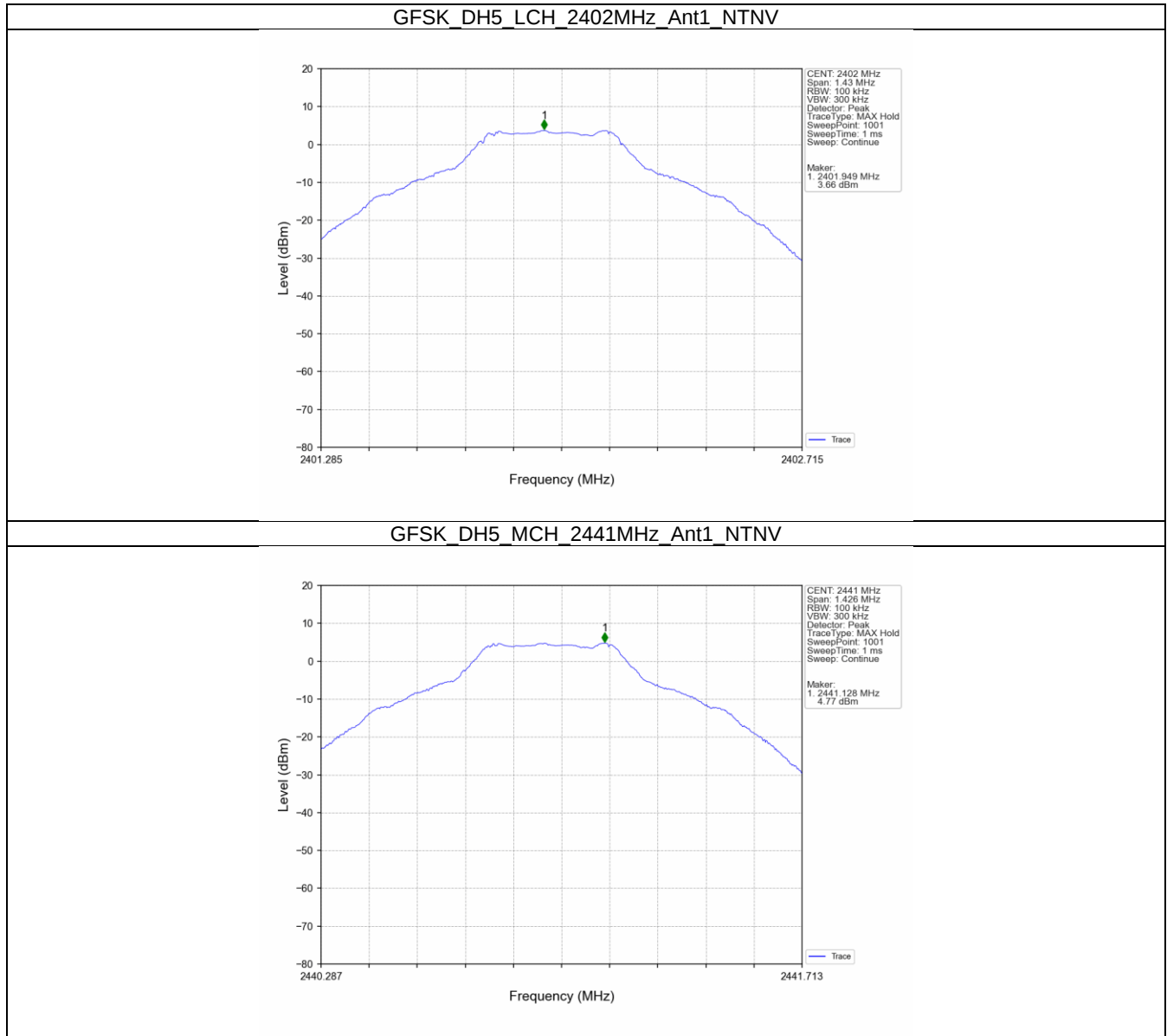
#### 6.1.2 CSE

| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|-----------|---------|-----------------|-------------|-----|--------------------------|-------------|---------|
| GFSK      | SISO    | 2402            | DH5         | 1   | 3.66                     | -16.34      | Pass    |
|           |         | 2441            | DH5         | 1   | 4.77                     | -15.23      | Pass    |
|           |         | 2480            | DH5         | 1   | 4.63                     | -15.37      | Pass    |
|           |         | HOPP            | DH5         | 1   | 5.03                     | -14.97      | Pass    |
|           |         |                 |             |     | 5.03                     | -14.97      | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 3.70                     | -16.30      | Pass    |
|           |         | 2441            | 2DH5        | 1   | 4.87                     | -15.13      | Pass    |
|           |         | 2480            | 2DH5        | 1   | 4.73                     | -15.27      | Pass    |
|           |         | HOPP            | 2DH5        | 1   | 5.10                     | -14.90      | Pass    |
|           |         |                 |             |     | 5.10                     | -14.90      | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 3.65                     | -16.35      | Pass    |
|           |         | 2441            | 3DH5        | 1   | 4.77                     | -15.23      | Pass    |
|           |         | 2480            | 3DH5        | 1   | 4.62                     | -15.38      | Pass    |
|           |         | HOPP            | 3DH5        | 1   | 5.14                     | -14.86      | Pass    |
|           |         |                 |             |     | 5.14                     | -14.86      | Pass    |

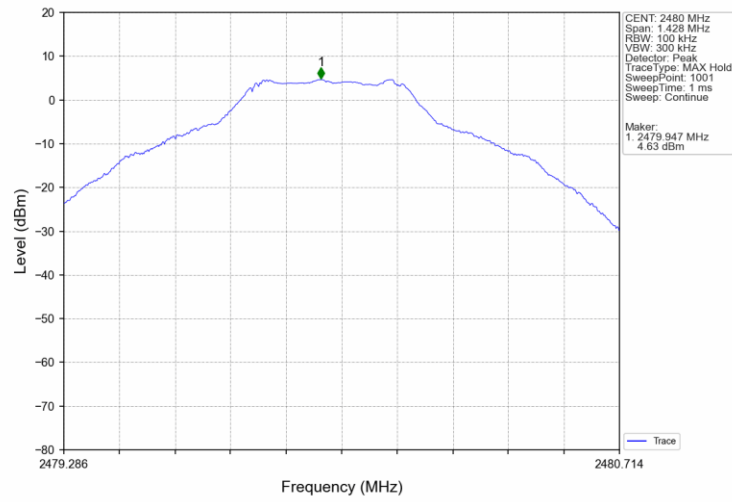
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

## 6.2 Test Graph

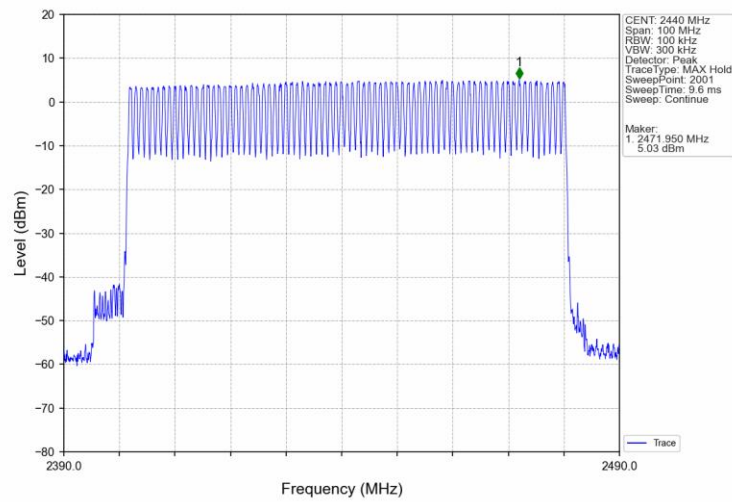
### 6.2.1 Ref



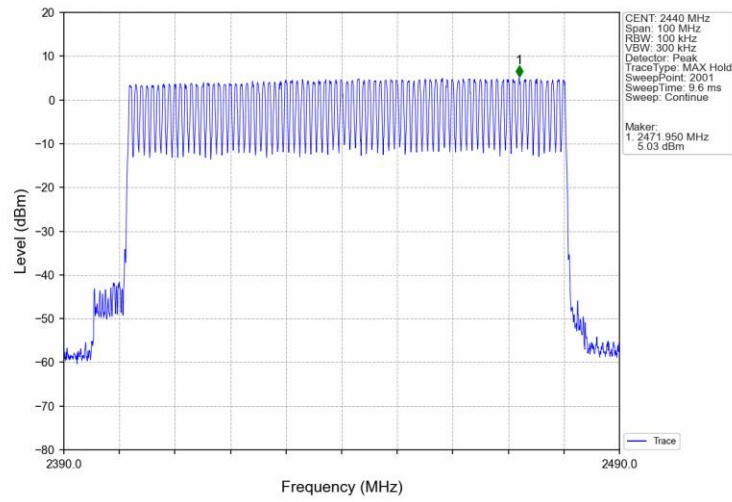
## GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



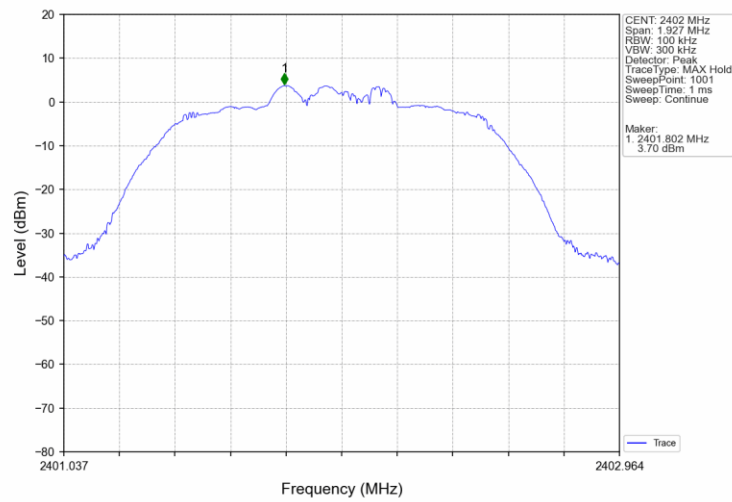
## GFSK\_DH5\_HOPP\_Ant1\_NTNV



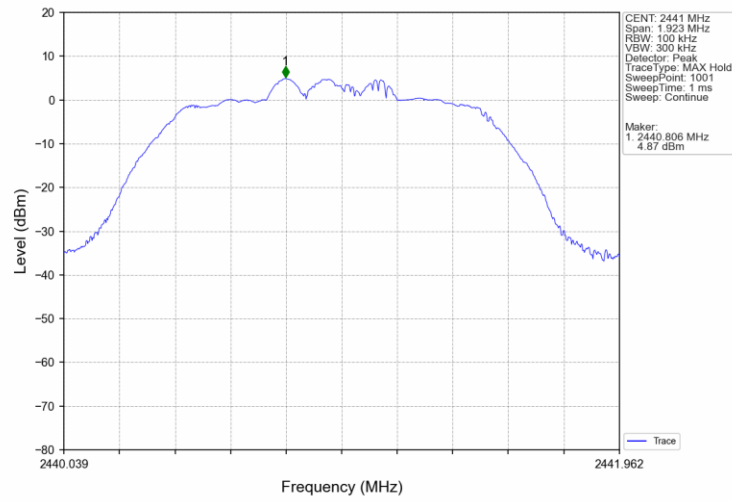
## GFSK\_DH5\_HOPP\_Ant1\_NTNV



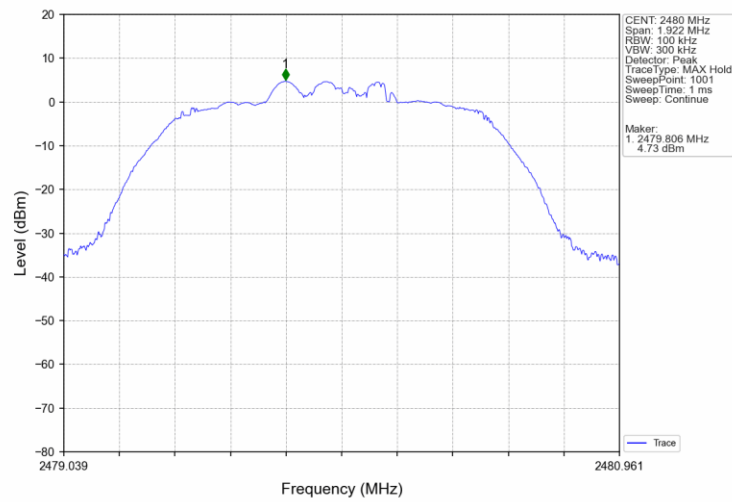
## Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



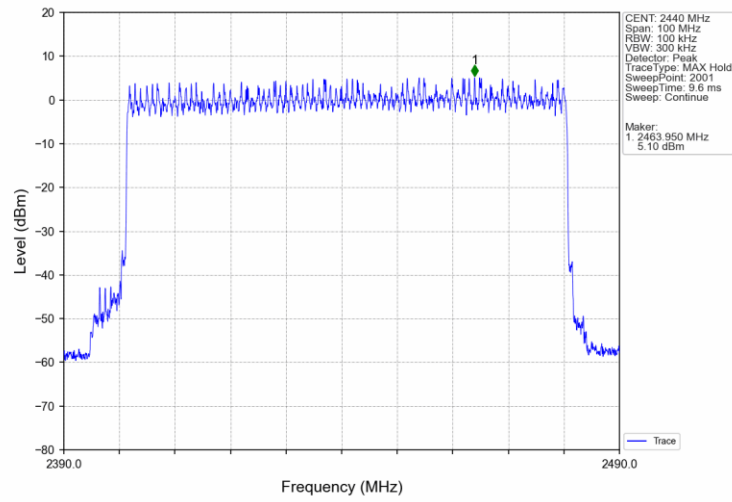
Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



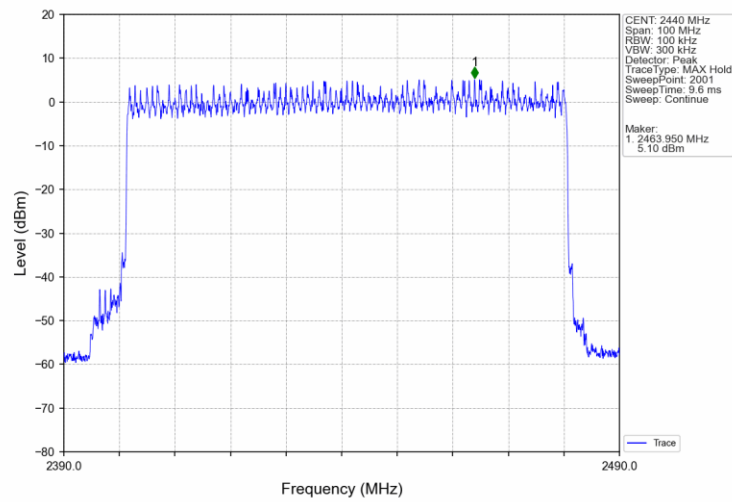
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



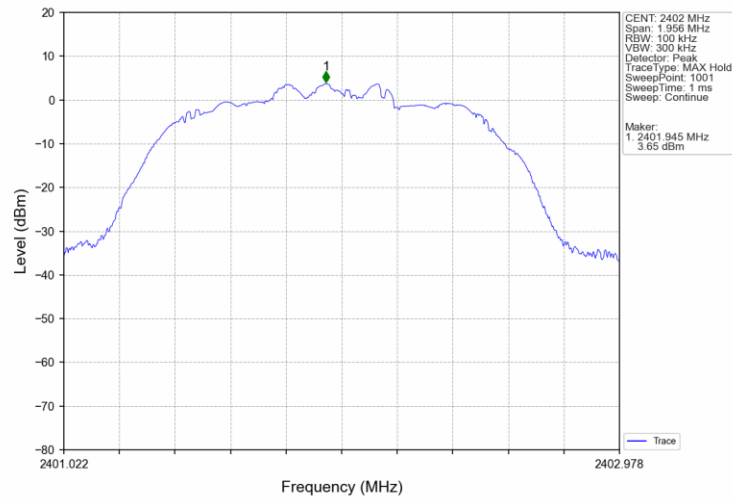
## Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



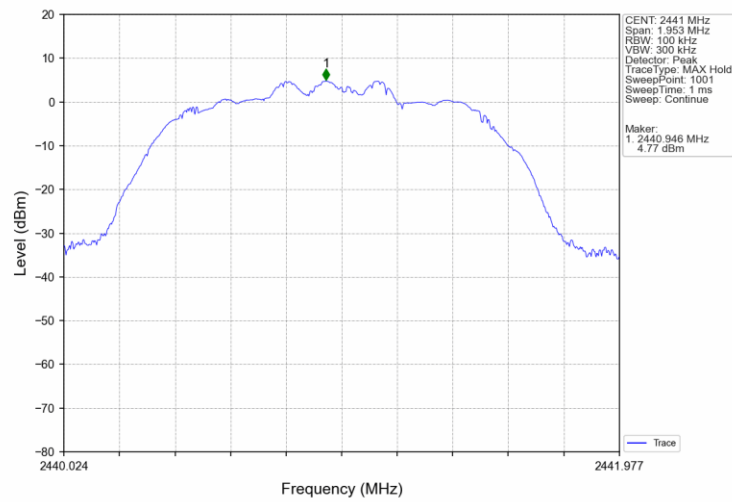
## Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



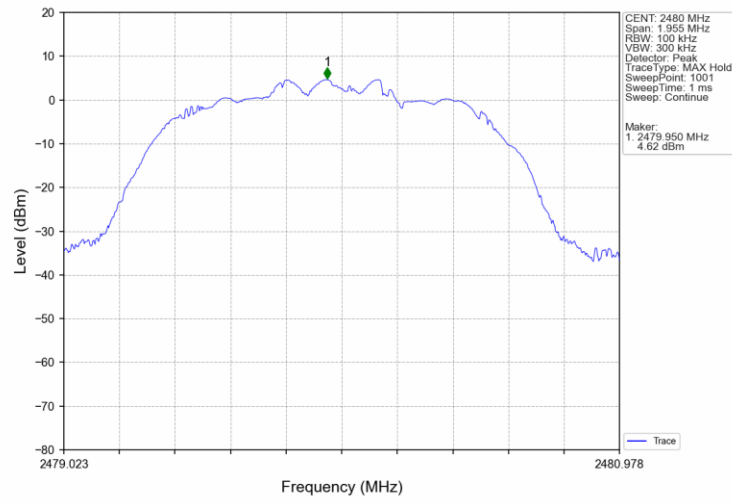
## 8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



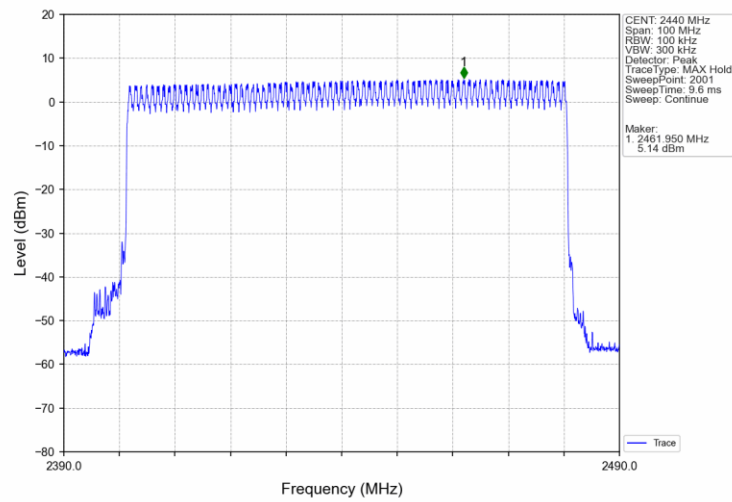
## 8DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



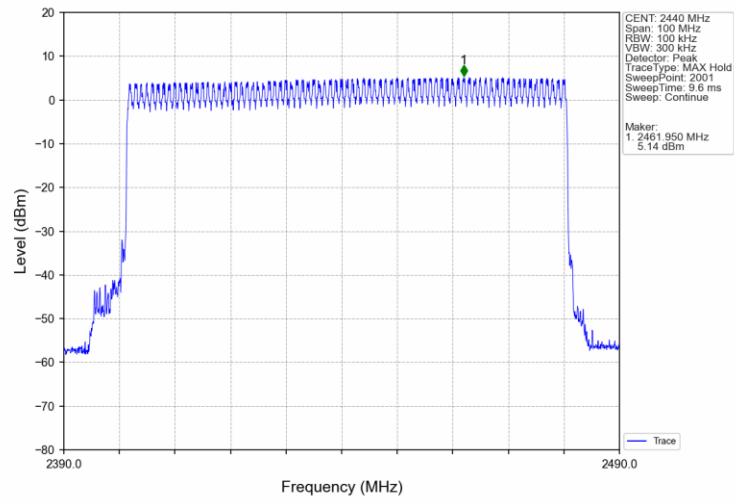
## 8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV



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

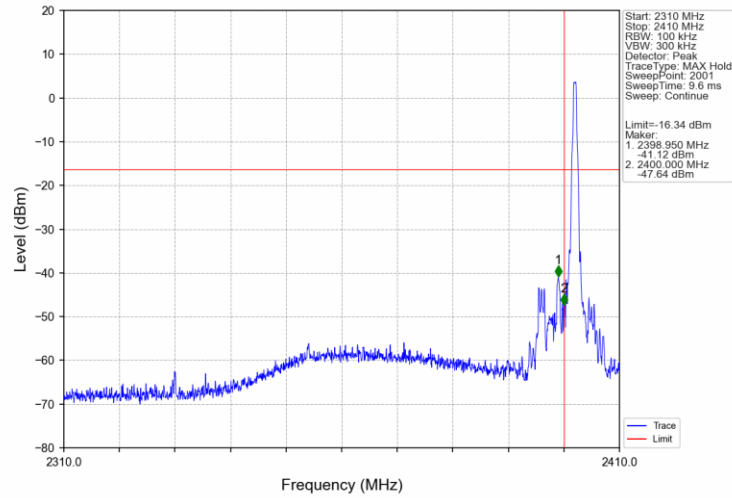


## 8DPSK\_3DH5\_HOPP\_Ant1\_NTNV

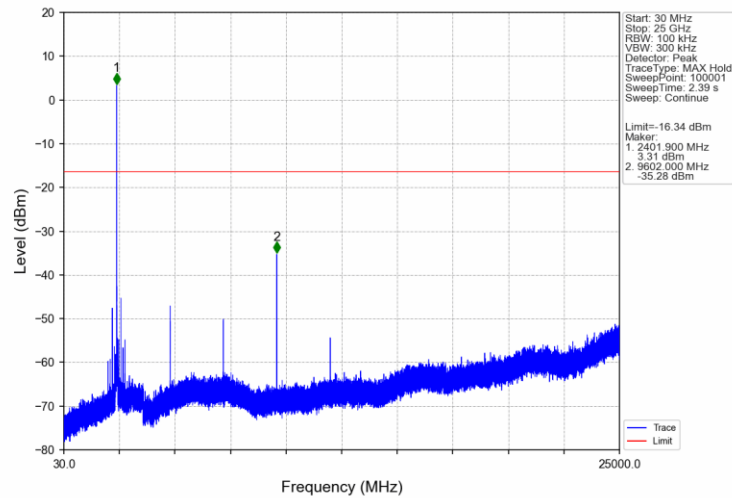


## 6.2.2 CSE

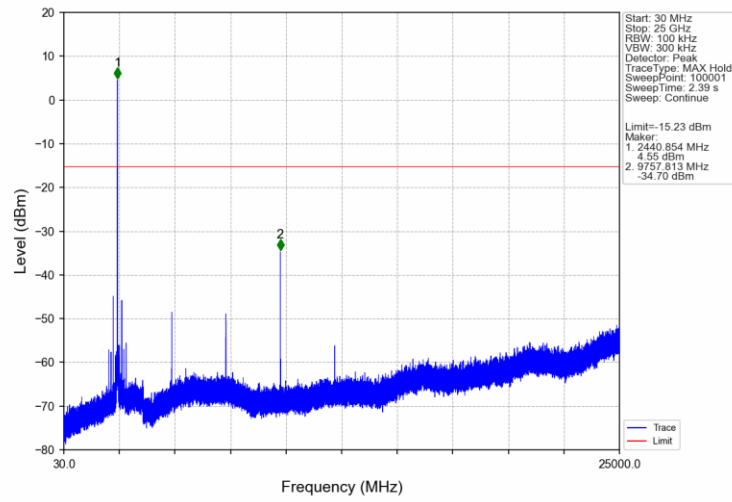
GFSK\_DH5\_LCH\_2402MHz\_Ant1\_NTNV



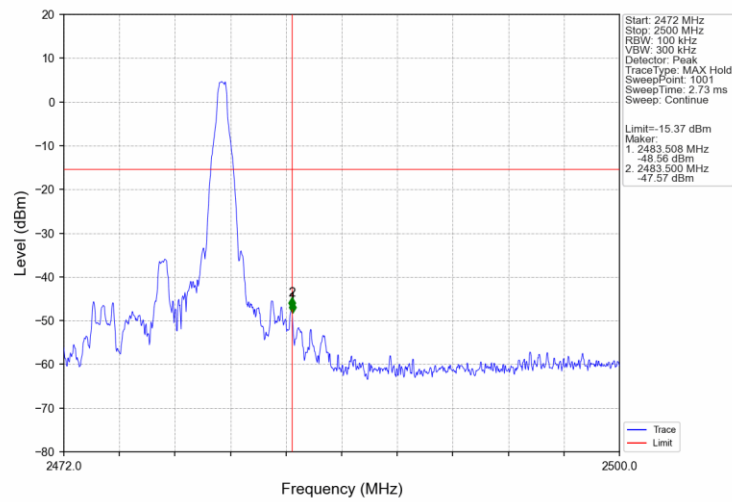
GFSK\_DH5\_LCH\_2402MHz\_Ant1\_NTNV



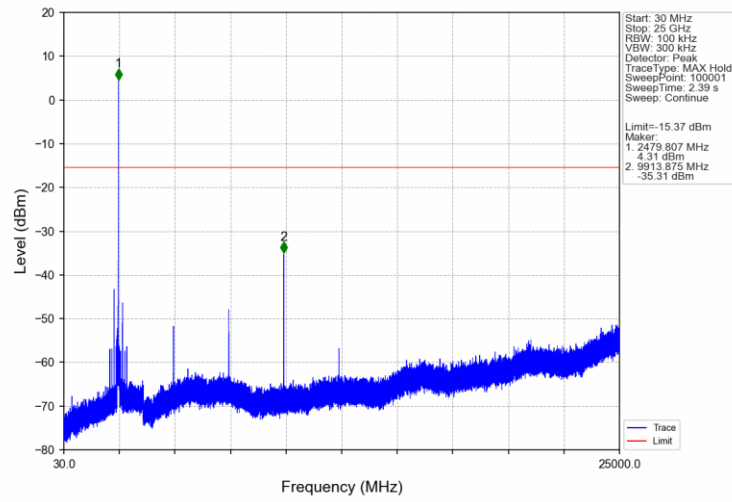
## GFSK\_DH5\_MCH\_2441MHz\_Ant1\_NTNV



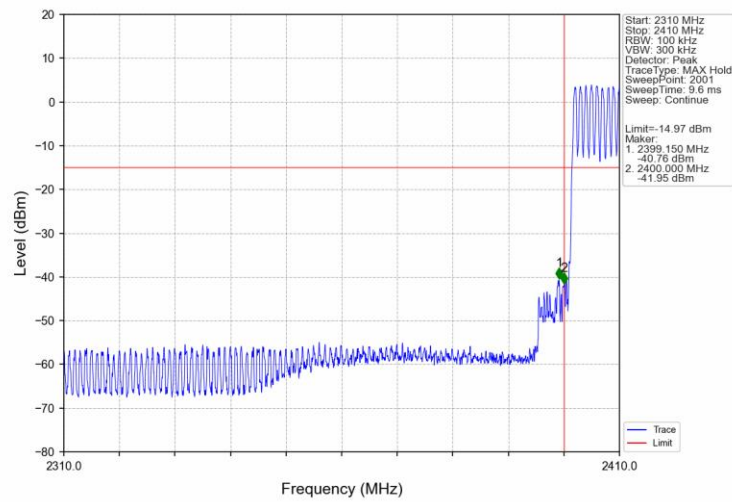
## GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



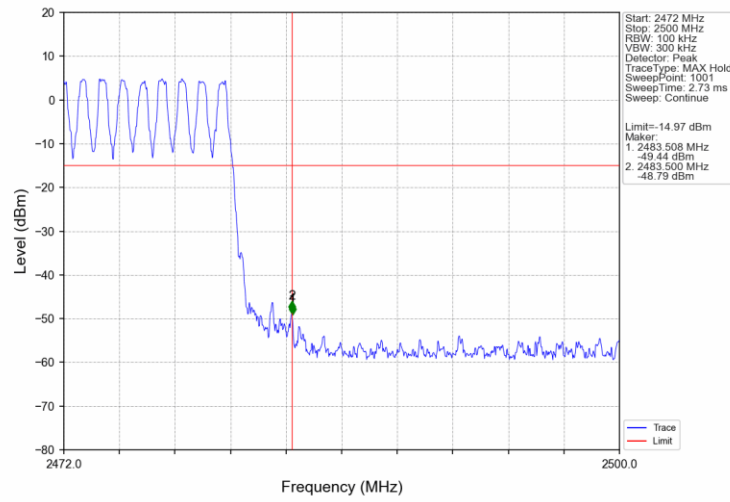
## GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



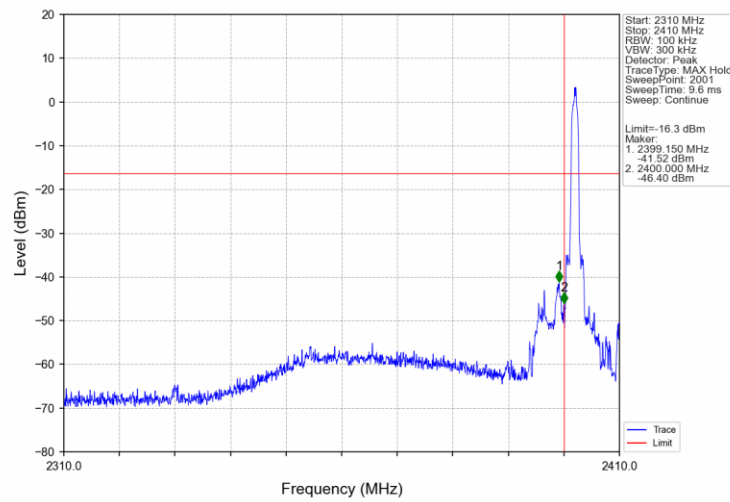
## GFSK\_DH5\_HOPP\_Ant1\_NTNV



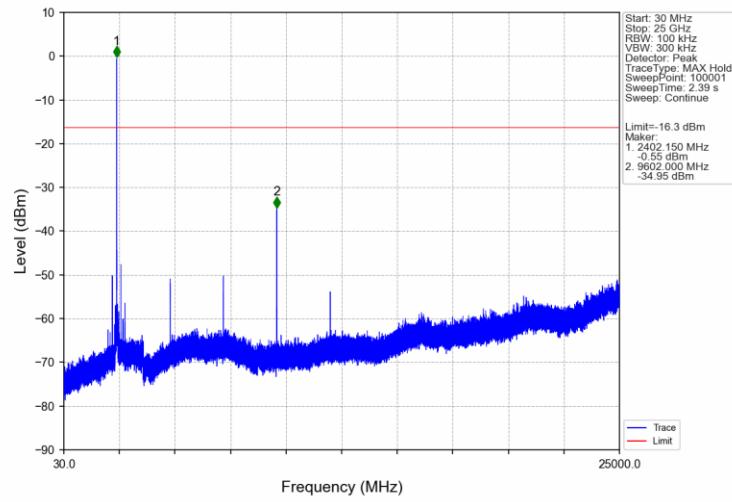
## GFSK\_DH5\_HOPP\_Ant1\_NTNV



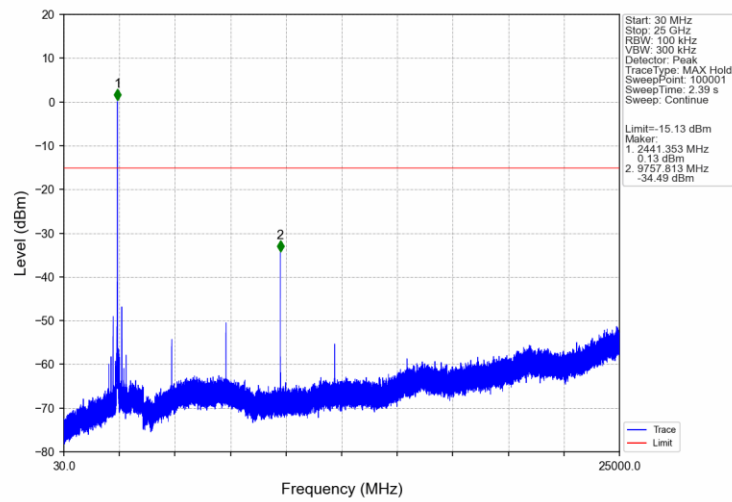
## Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



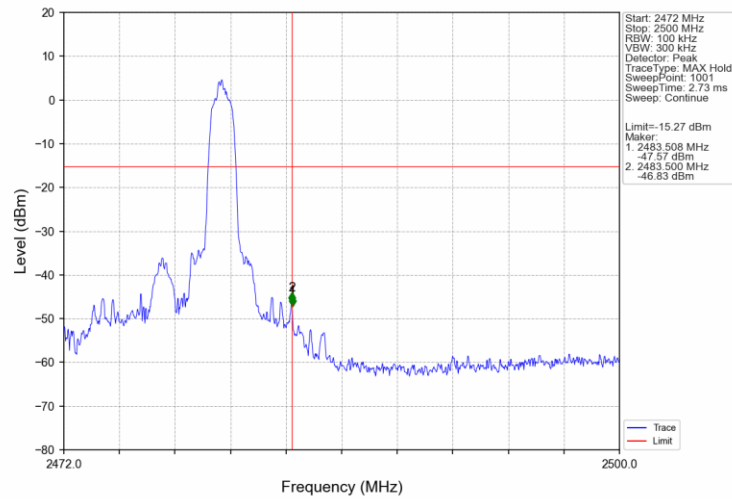
### Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



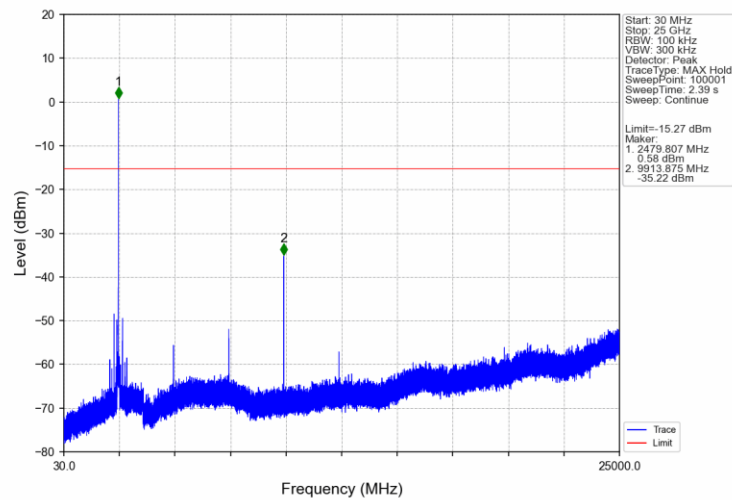
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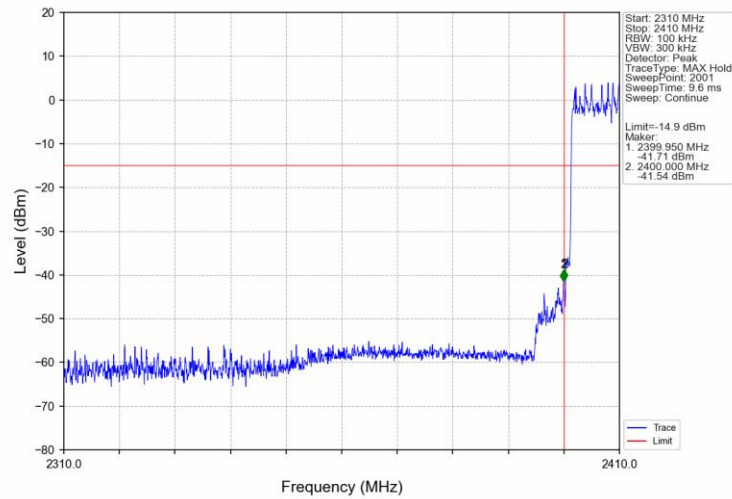
## Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



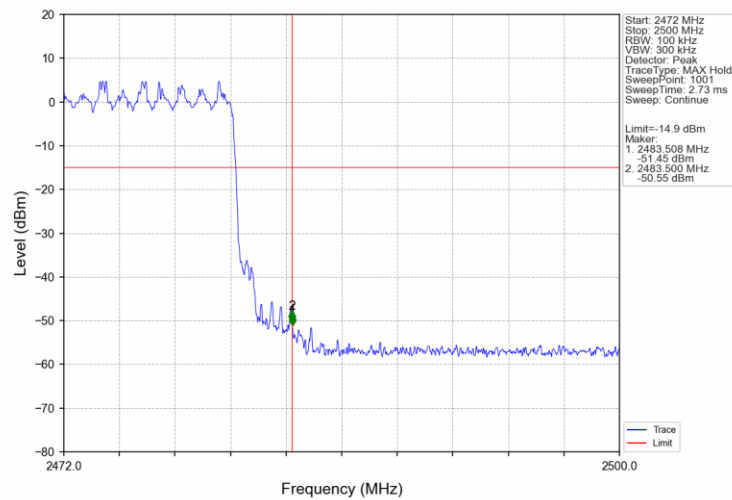
## Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



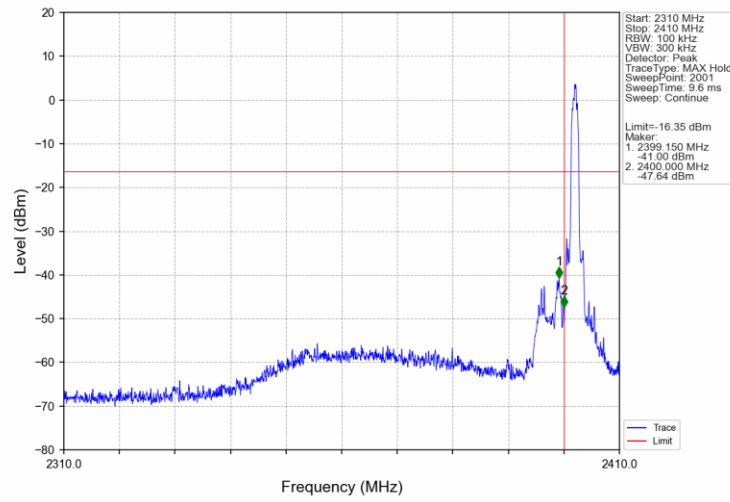
## Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



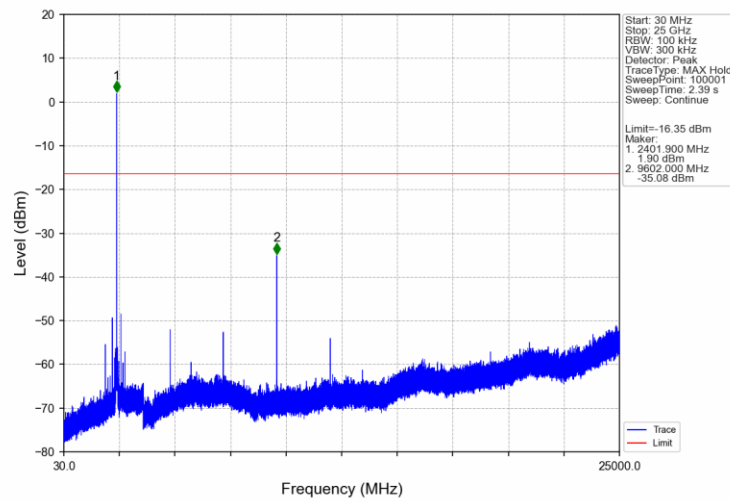
## Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



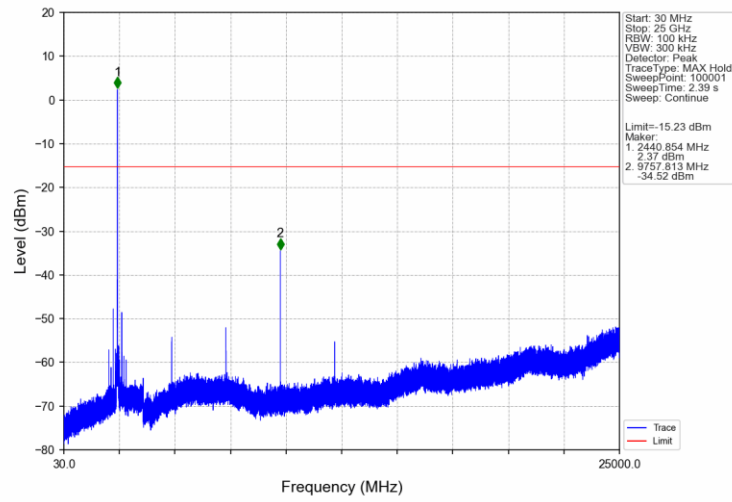
## 8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



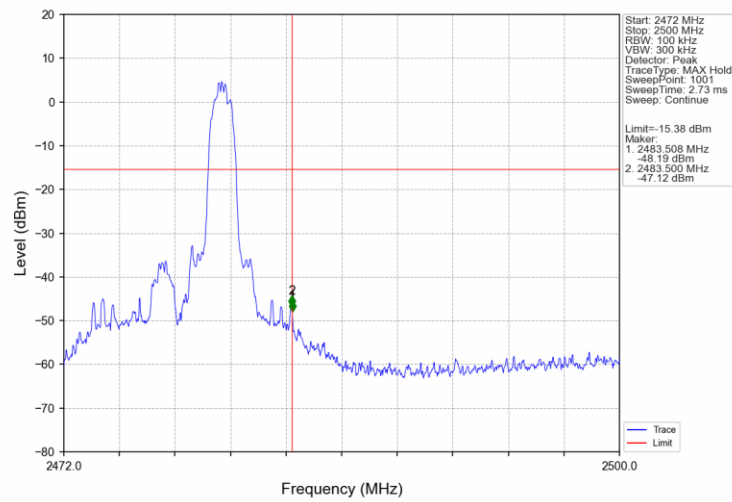
## 8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



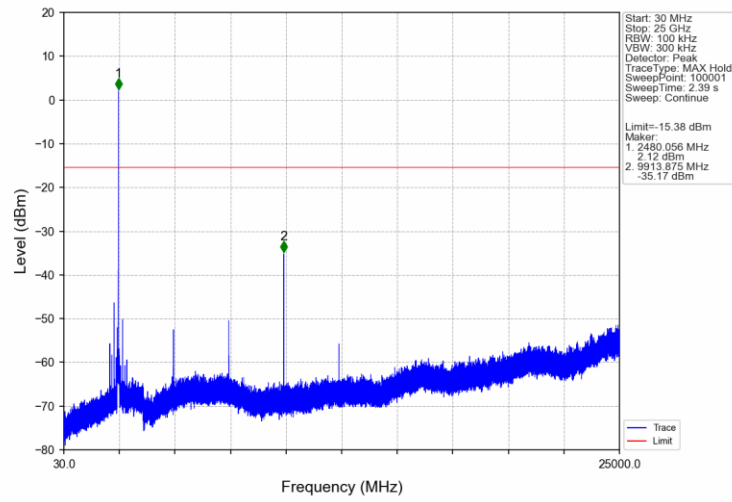
## 8DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



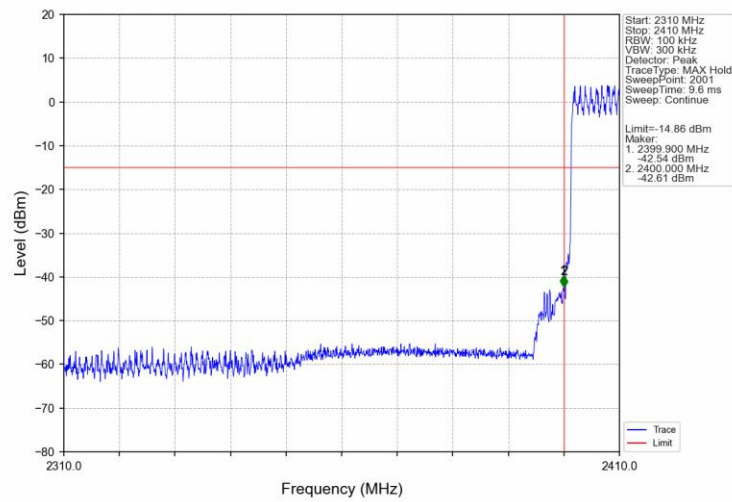
## 8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV



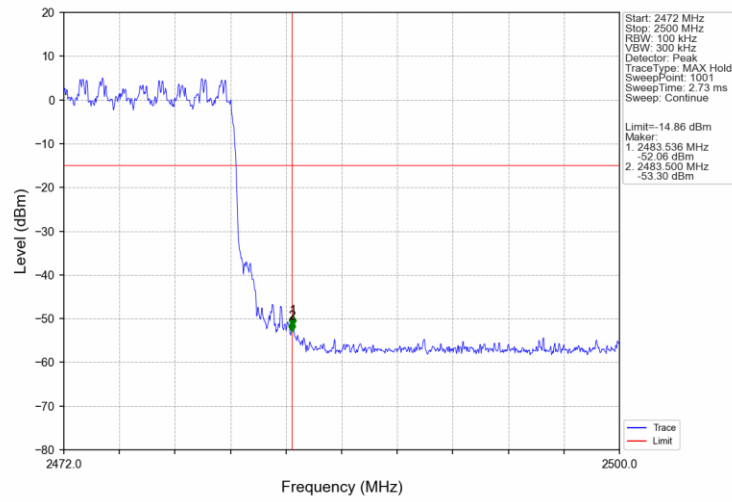
## 8DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV



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



## 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            | 0.0040        | 6.06            |