

## **Appendix RF Test Data for BT**

**Company:** : Star Glory Limited

**EUT** : KODAK Portable Wireless Speaker

**FCC ID:** : 2BWFM-KODAKSPIN

**Model Number** : Kodak Spin

**Report No.** : HTT202604575F01

**Reviewed By** : Heber He

## 1. Duty Cycle

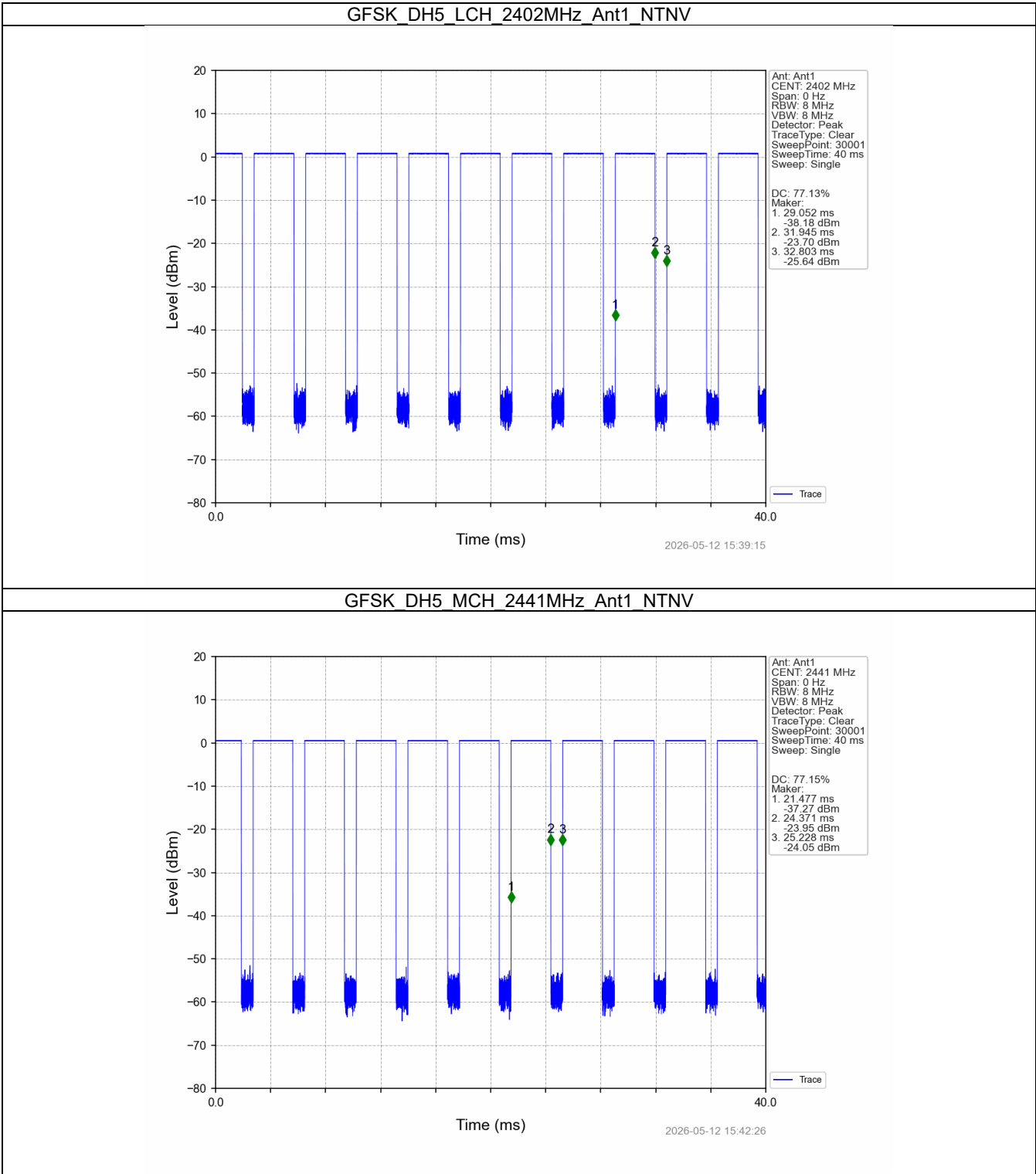
### 1.1 Test Result

#### 1.1.1 Ant1

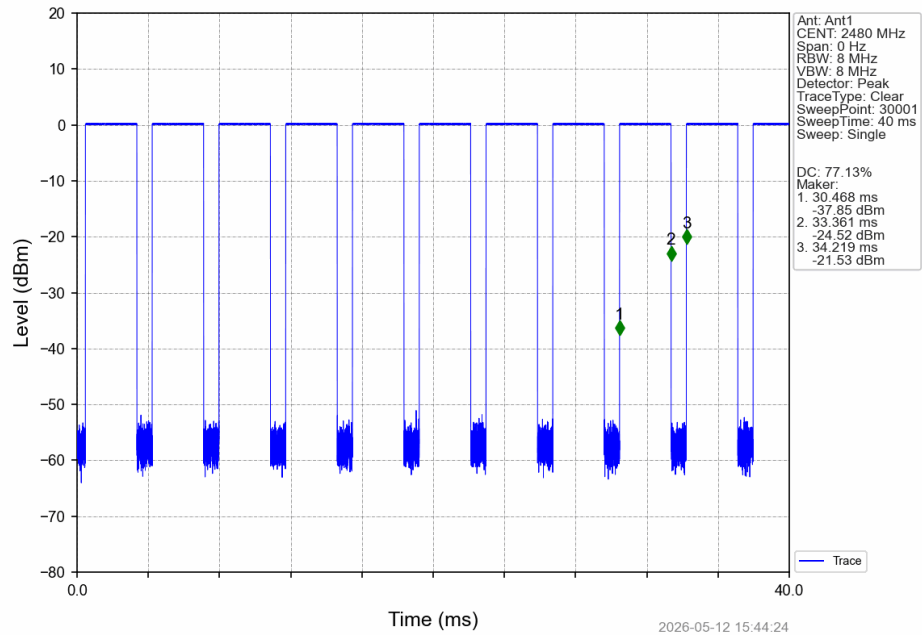
| Ant1      |         |                 |             |           |             |                |                                   |                       |
|-----------|---------|-----------------|-------------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode      | TX Type | Frequency (MHz) | Packet Type | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| GFSK      | SISO    | 2402            | DH5         | 2.893     | 3.751       | 77.13          | 1.13                              | 0.04                  |
|           |         | 2441            | DH5         | 2.894     | 3.751       | 77.15          | 1.13                              | 0.04                  |
|           |         | 2480            | DH5         | 2.893     | 3.751       | 77.13          | 1.13                              | 0.04                  |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 2.900     | 3.751       | 77.31          | 1.12                              | 0.03                  |
|           |         | 2441            | 2DH5        | 2.898     | 3.749       | 77.30          | 1.12                              | 0.03                  |
|           |         | 2480            | 2DH5        | 2.899     | 3.750       | 77.31          | 1.12                              | 0.03                  |

1.2 Test Graph

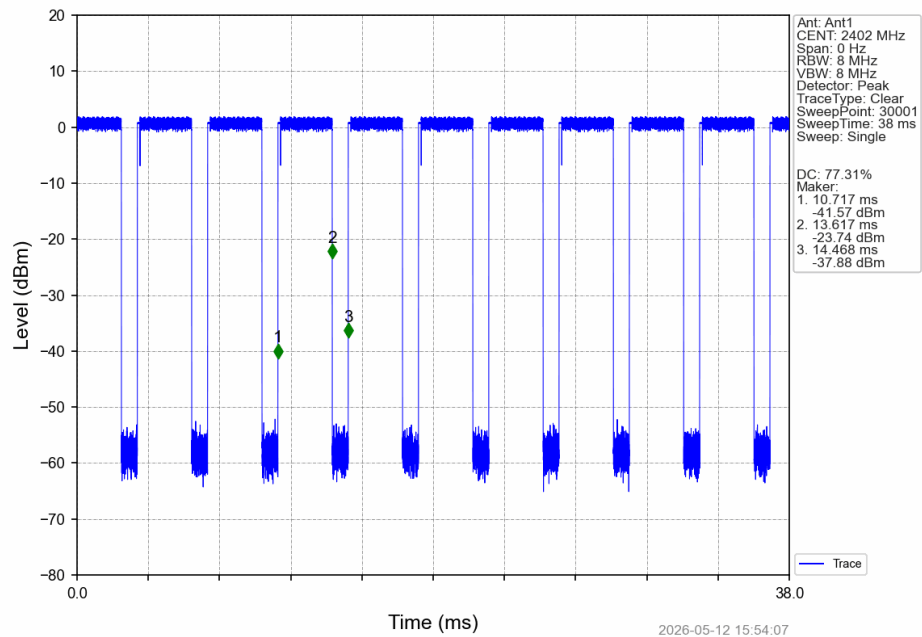
1.2.1 Ant1



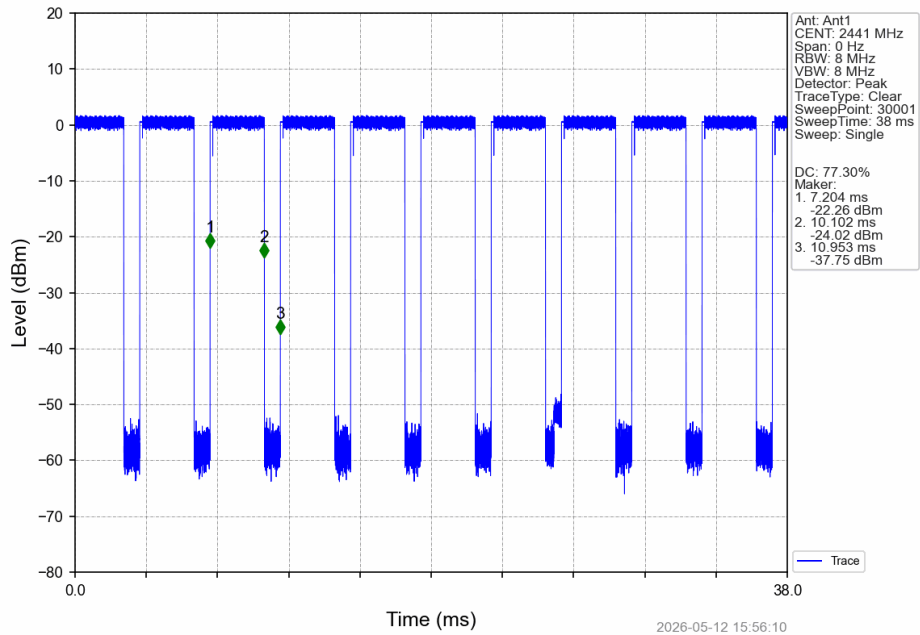
# GFSK DH5\_HCH\_2480MHz\_Ant1\_NTNV



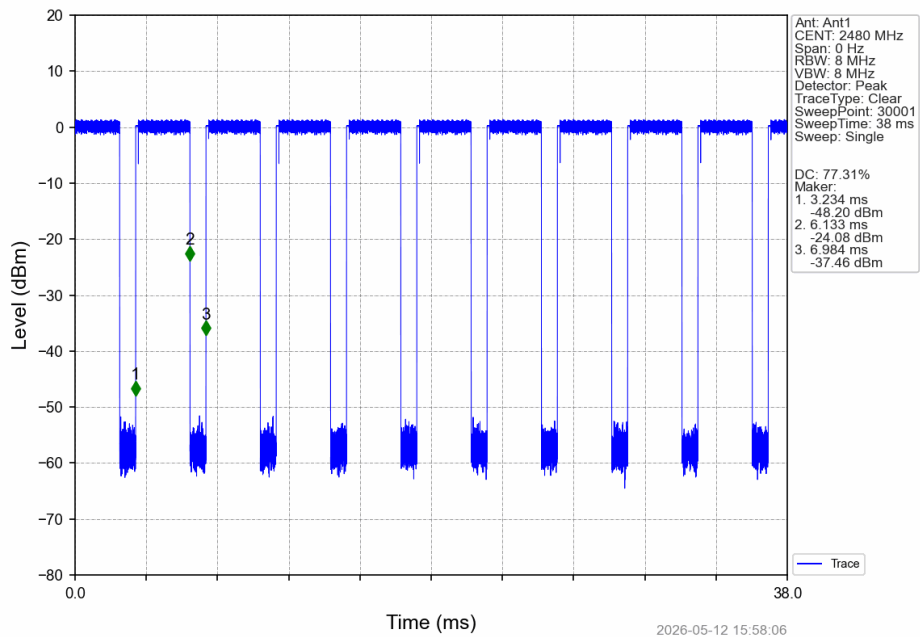
# Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



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



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



## 2. Bandwidth

### 2.1 Test Result

#### 2.1.1 OBW

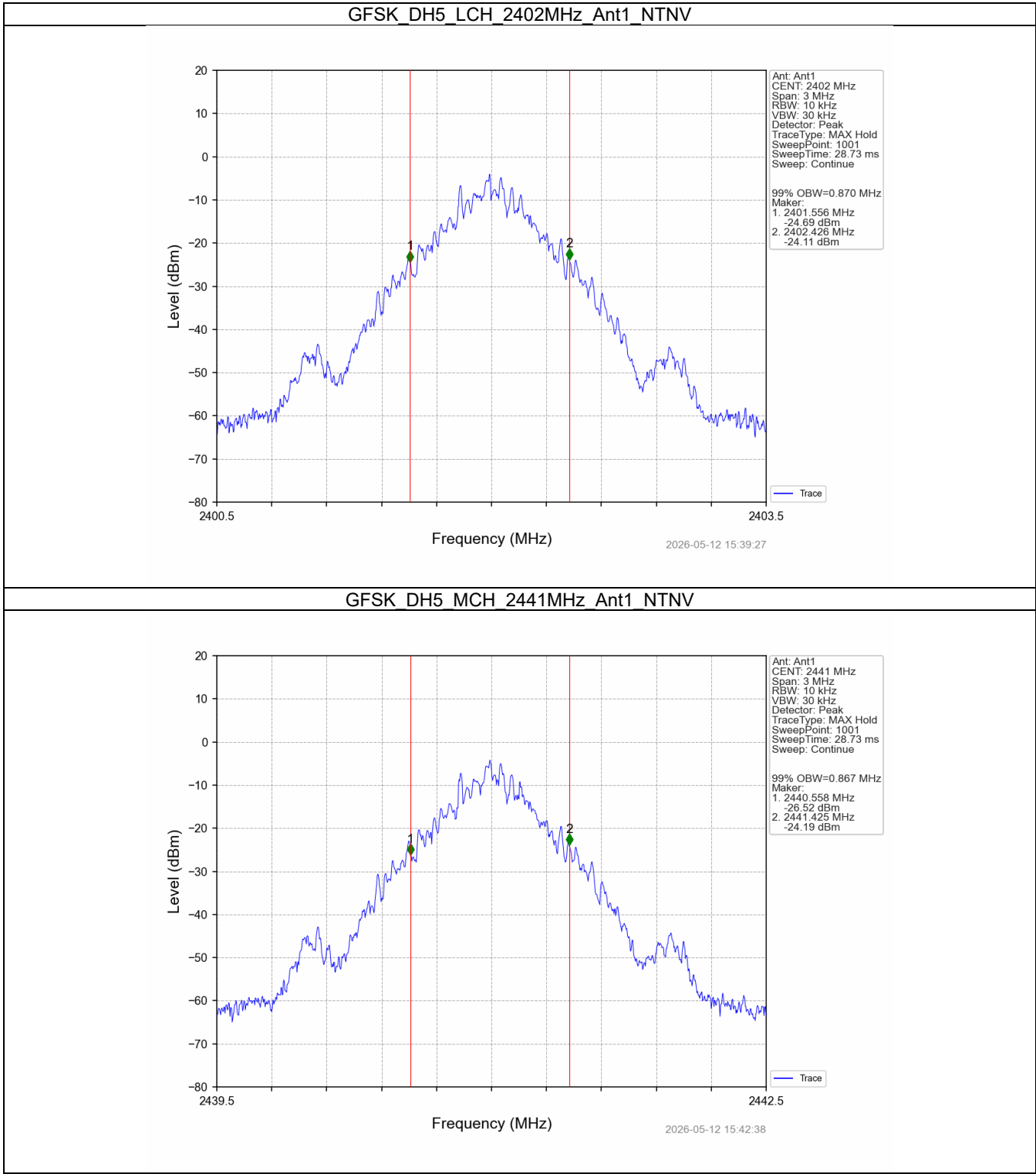
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | 99% Occupied Bandwidth (MHz) |       | Verdict |
|-----------|---------|-----------------|-------------|-----|------------------------------|-------|---------|
|           |         |                 |             |     | Result                       | Limit |         |
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.870                        | /     | Pass    |
|           |         | 2441            | DH5         | 1   | 0.867                        | /     | Pass    |
|           |         | 2480            | DH5         | 1   | 0.862                        | /     | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.182                        | /     | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.186                        | /     | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.181                        | /     | Pass    |

#### 2.1.2 20dB BW

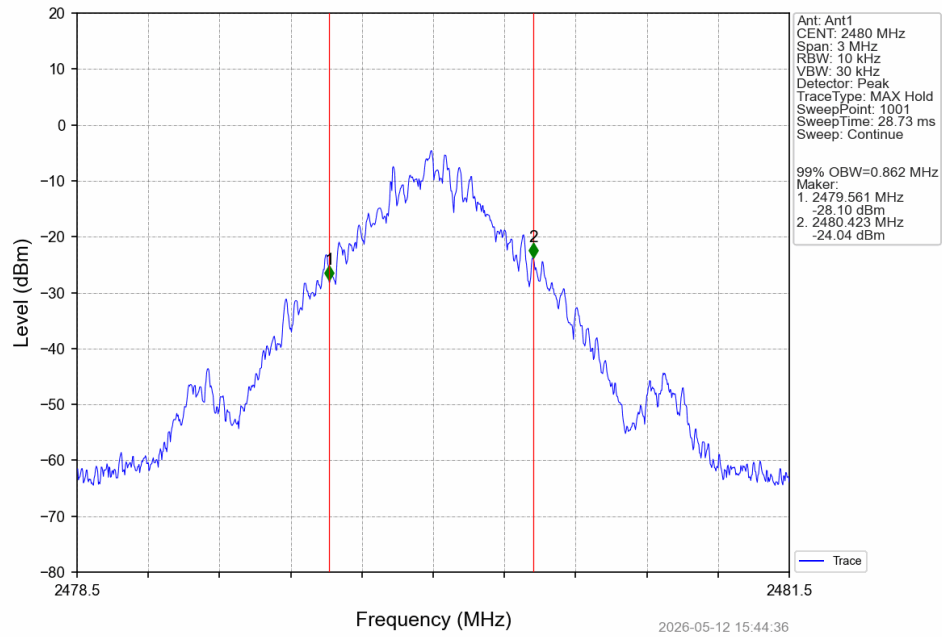
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | 20dB Bandwidth (MHz) |       | Verdict |
|-----------|---------|-----------------|-------------|-----|----------------------|-------|---------|
|           |         |                 |             |     | Result               | Limit |         |
| GFSK      | SISO    | 2402            | DH5         | 1   | 1.102                | /     | Pass    |
|           |         | 2441            | DH5         | 1   | 1.102                | /     | Pass    |
|           |         | 2480            | DH5         | 1   | 1.103                | /     | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.370                | /     | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.374                | /     | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.371                | /     | Pass    |

2.2 Test Graph

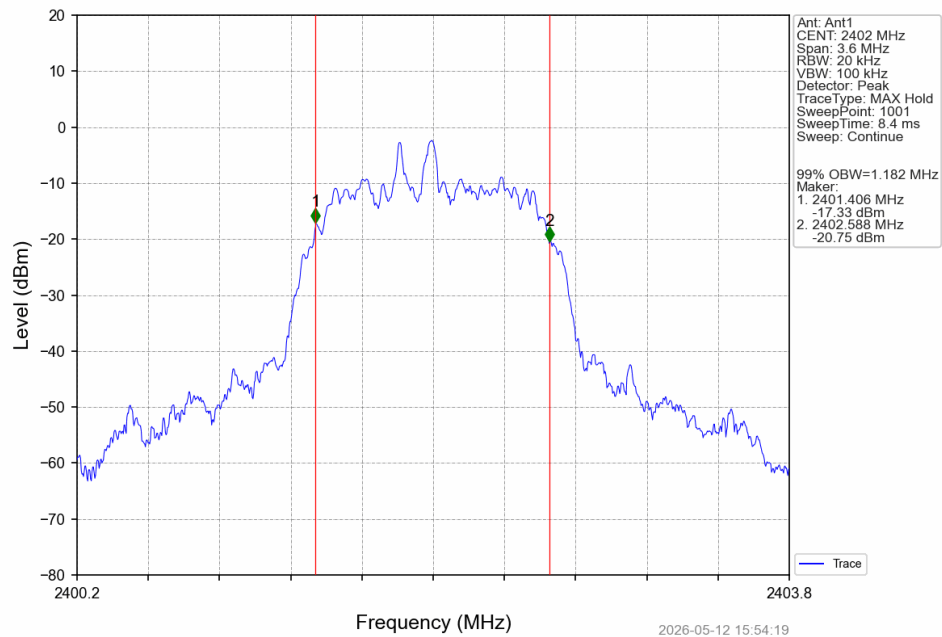
2.2.1 OBW



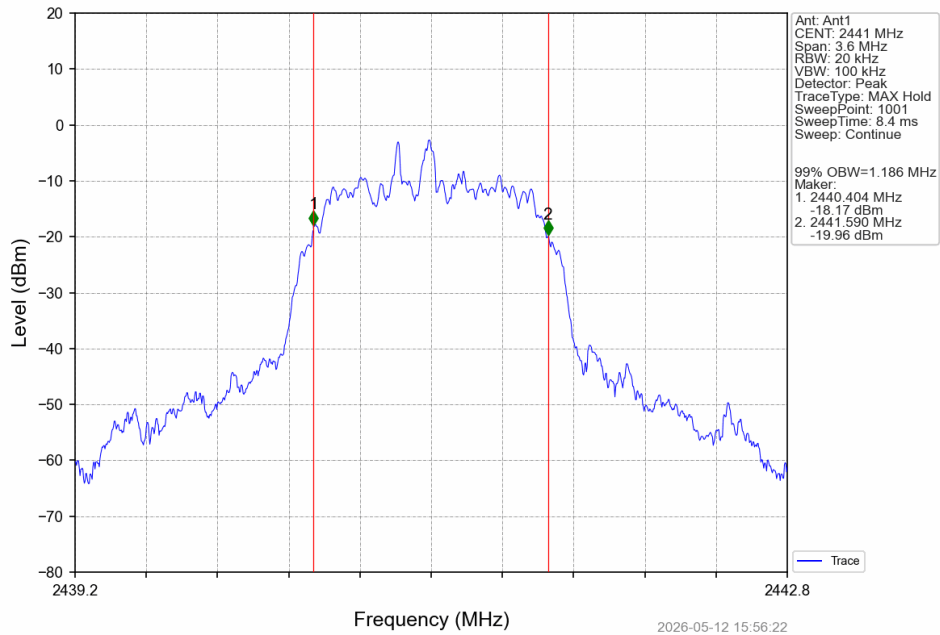
# GFSK DH5\_HCH\_2480MHz\_Ant1\_NTNV



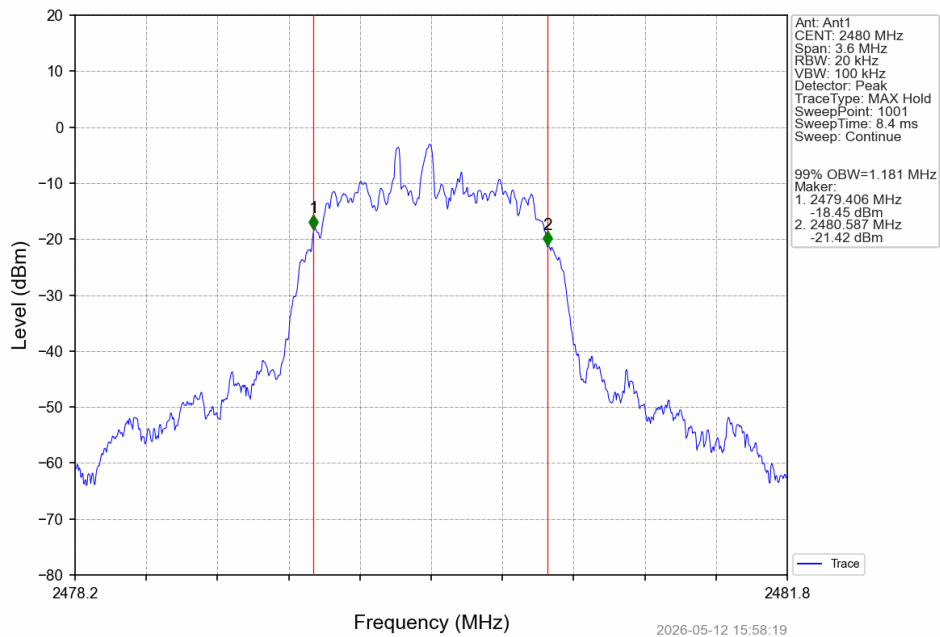
# Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



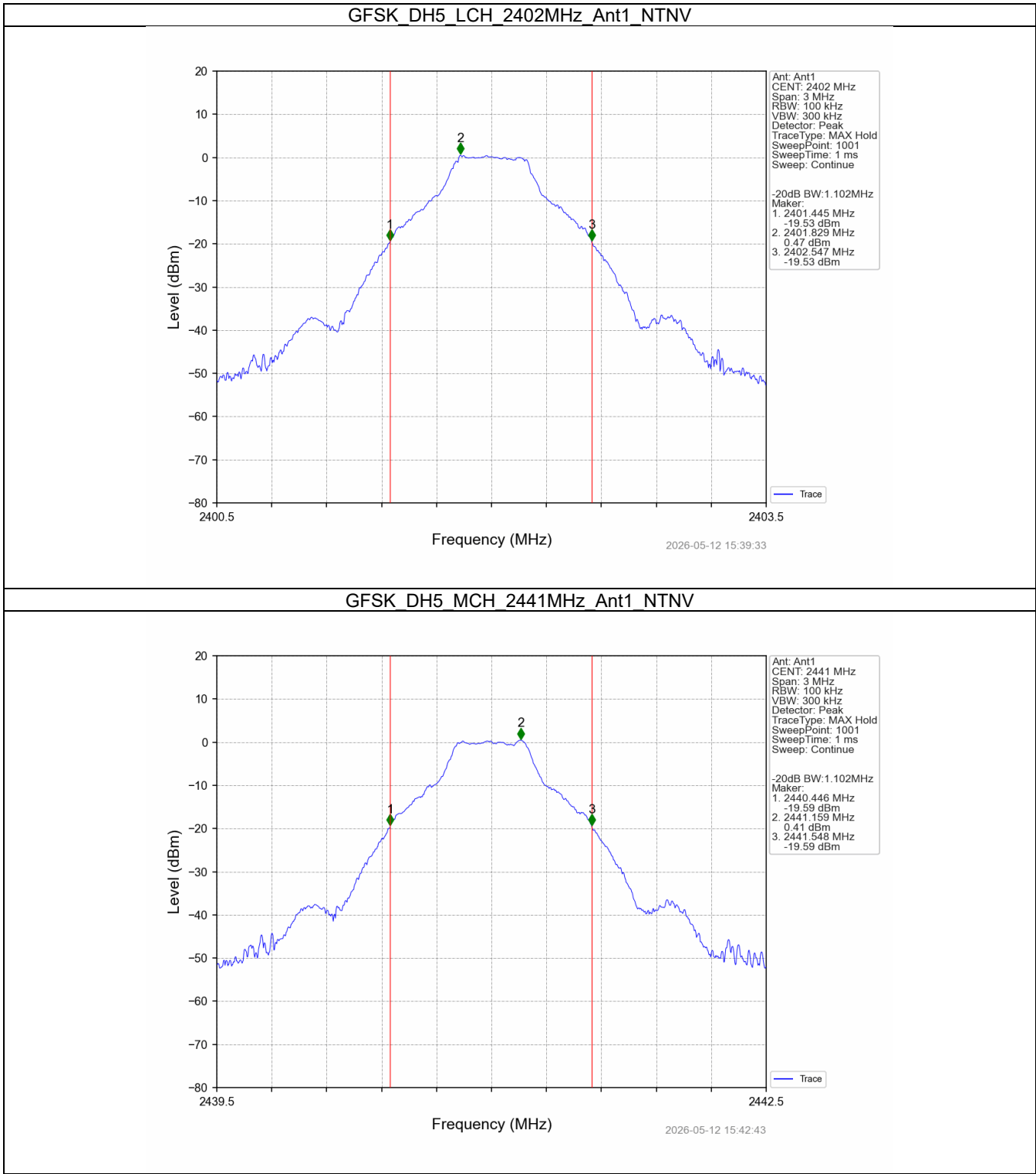
# Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



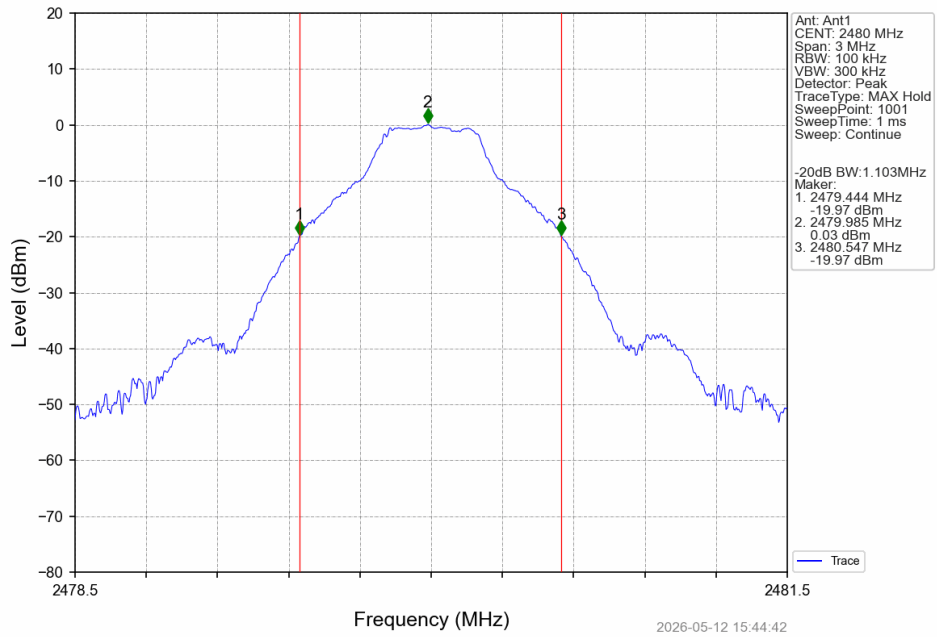
# Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



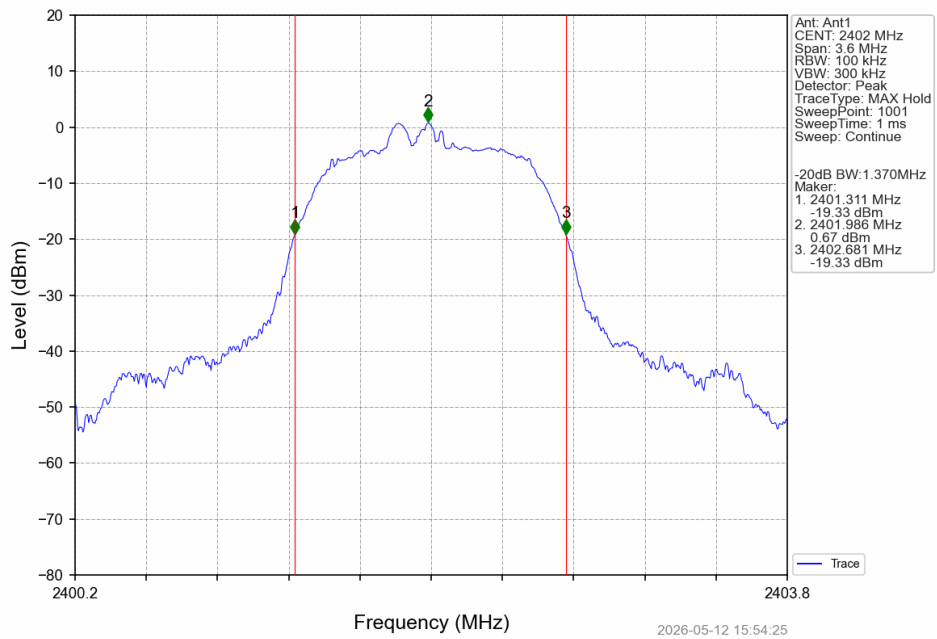
2.2.2 20dB BW



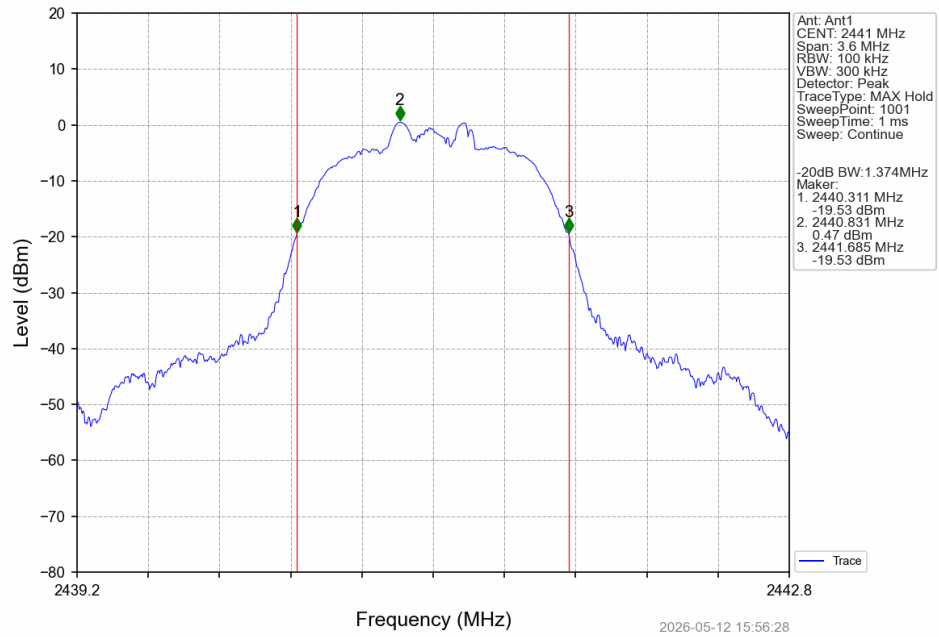
# GFSK DH5\_HCH\_2480MHz\_Ant1\_NTNV



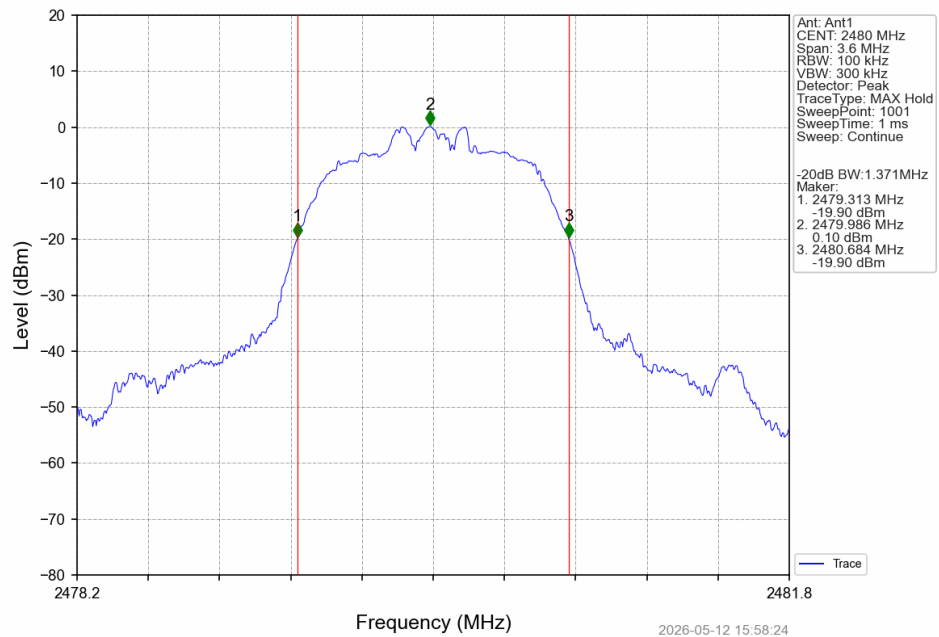
# PI/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



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



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



### 3. Maximum Conducted Output Power

#### 3.1 Test Result

##### 3.1.1 Power

| Mode      | TX Type | Frequency (MHz) | Packet Type | Maximum Peak Conducted Output Power (dBm) |         | Verdict |
|-----------|---------|-----------------|-------------|-------------------------------------------|---------|---------|
|           |         |                 |             | ANT1                                      | Limit   |         |
| GFSK      | SISO    | 2402            | DH5         | 0.80                                      | <=20.97 | Pass    |
|           |         | 2441            | DH5         | 0.57                                      | <=20.97 | Pass    |
|           |         | 2480            | DH5         | 0.21                                      | <=20.97 | Pass    |
| PI/4DQPSK | SISO    | 2402            | 2DH5        | 1.64                                      | <=20.97 | Pass    |
|           |         | 2441            | 2DH5        | 1.45                                      | <=20.97 | Pass    |
|           |         | 2480            | 2DH5        | 1.13                                      | <=20.97 | Pass    |

## 4. Carrier Frequency Separation

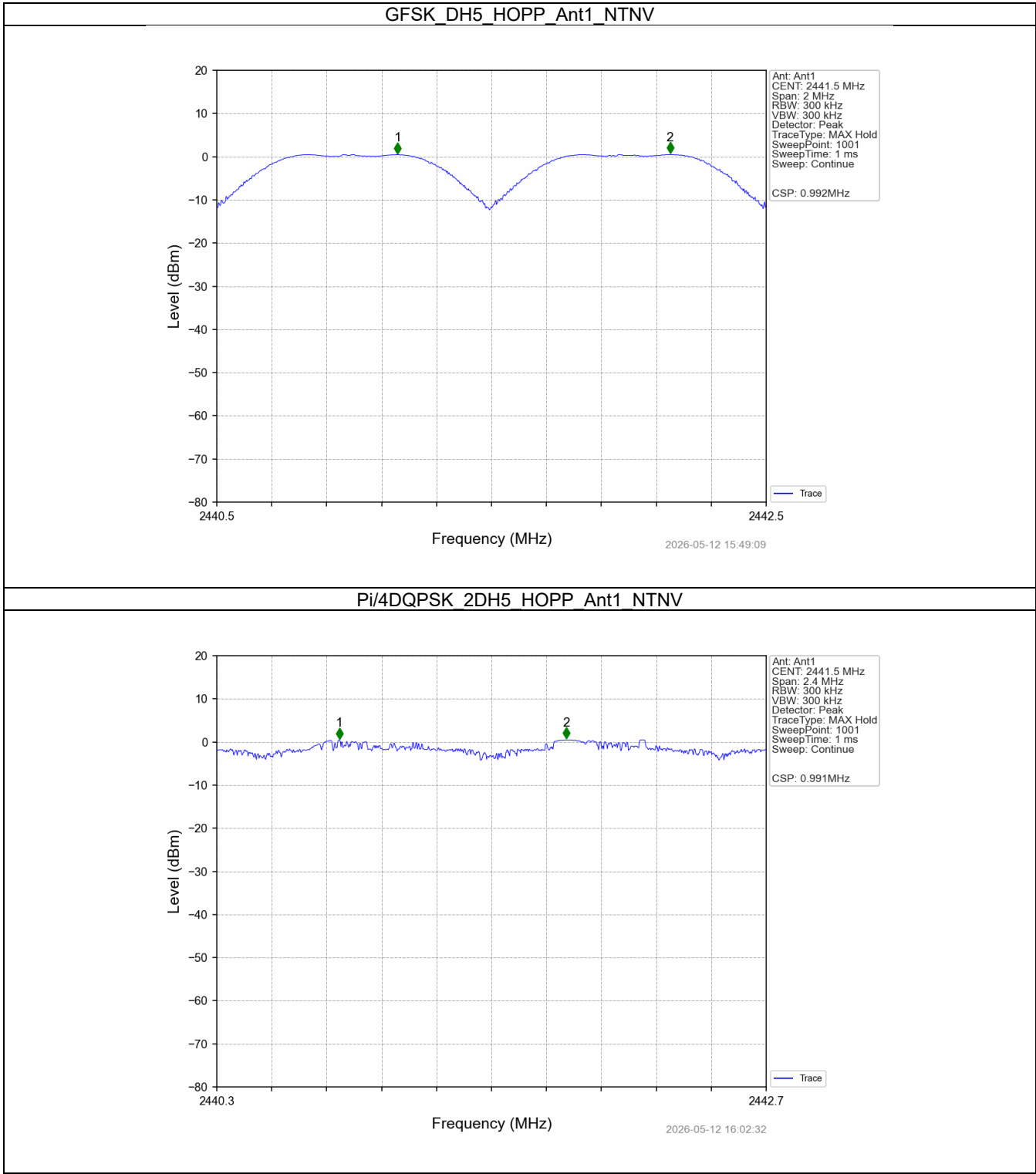
### 4.1 Test Result

#### 4.1.1 Ant1

| Ant1      |         |                 |             |                          |                      |              |         |
|-----------|---------|-----------------|-------------|--------------------------|----------------------|--------------|---------|
| Mode      | TX Type | Frequency (MHz) | Packet Type | Channel Separation (MHz) | 20dB Bandwidth (MHz) | Limit (MHz)  | Verdict |
| GFSK      | SISO    | HOPP            | DH5         | 0.992                    | 1.103                | $\geq 0.735$ | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH5        | 0.991                    | 1.374                | $\geq 0.916$ | Pass    |

4.2 Test Graph

4.2.1 Ant1



## 5. Number of Hopping Frequencies

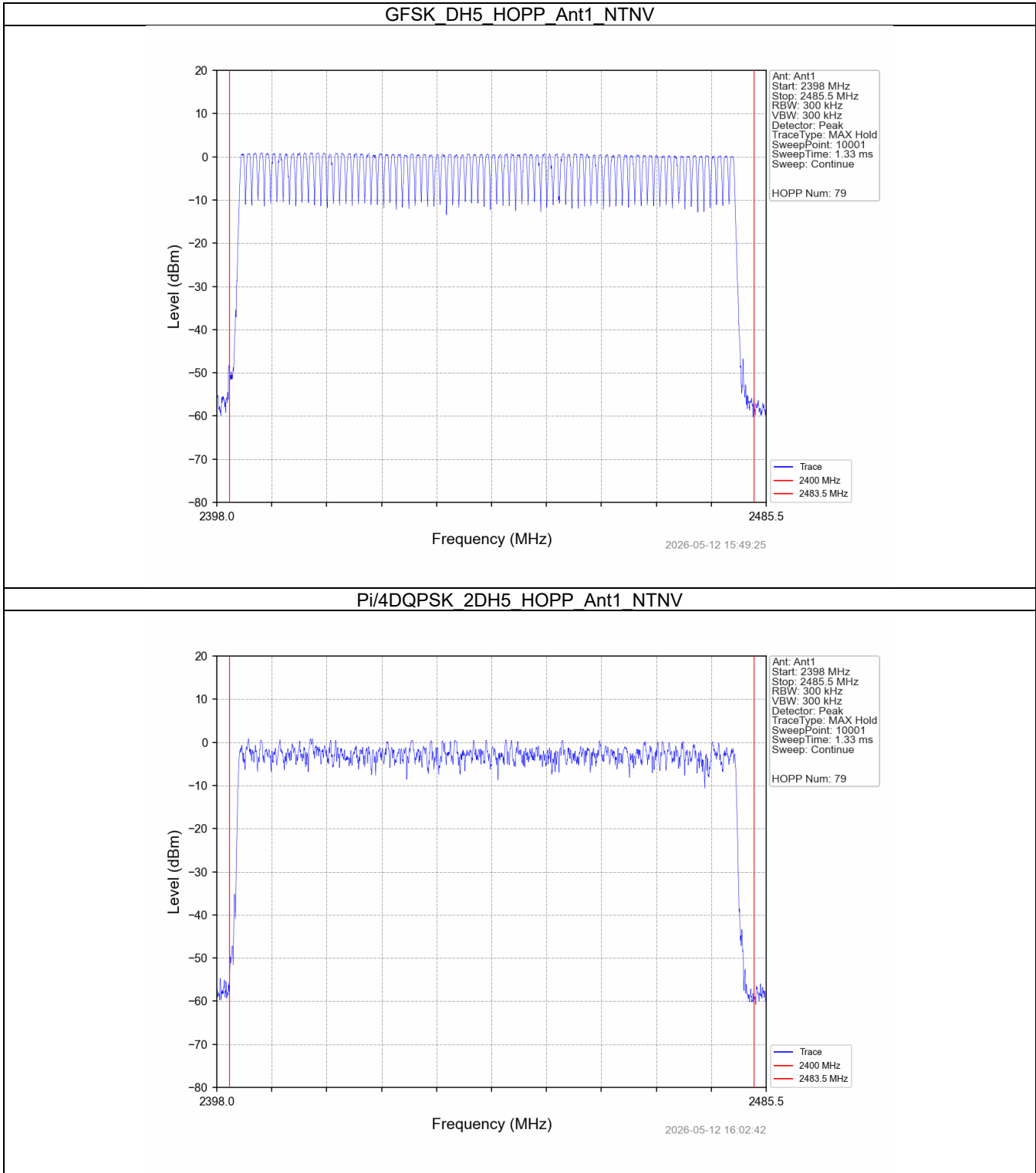
### 5.1 Test Result

#### 5.1.1 HoppNum

| 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    |

5.2 Test Graph

5.2.1 HoppNum



## 6. Time of Occupancy (Dwell Time)

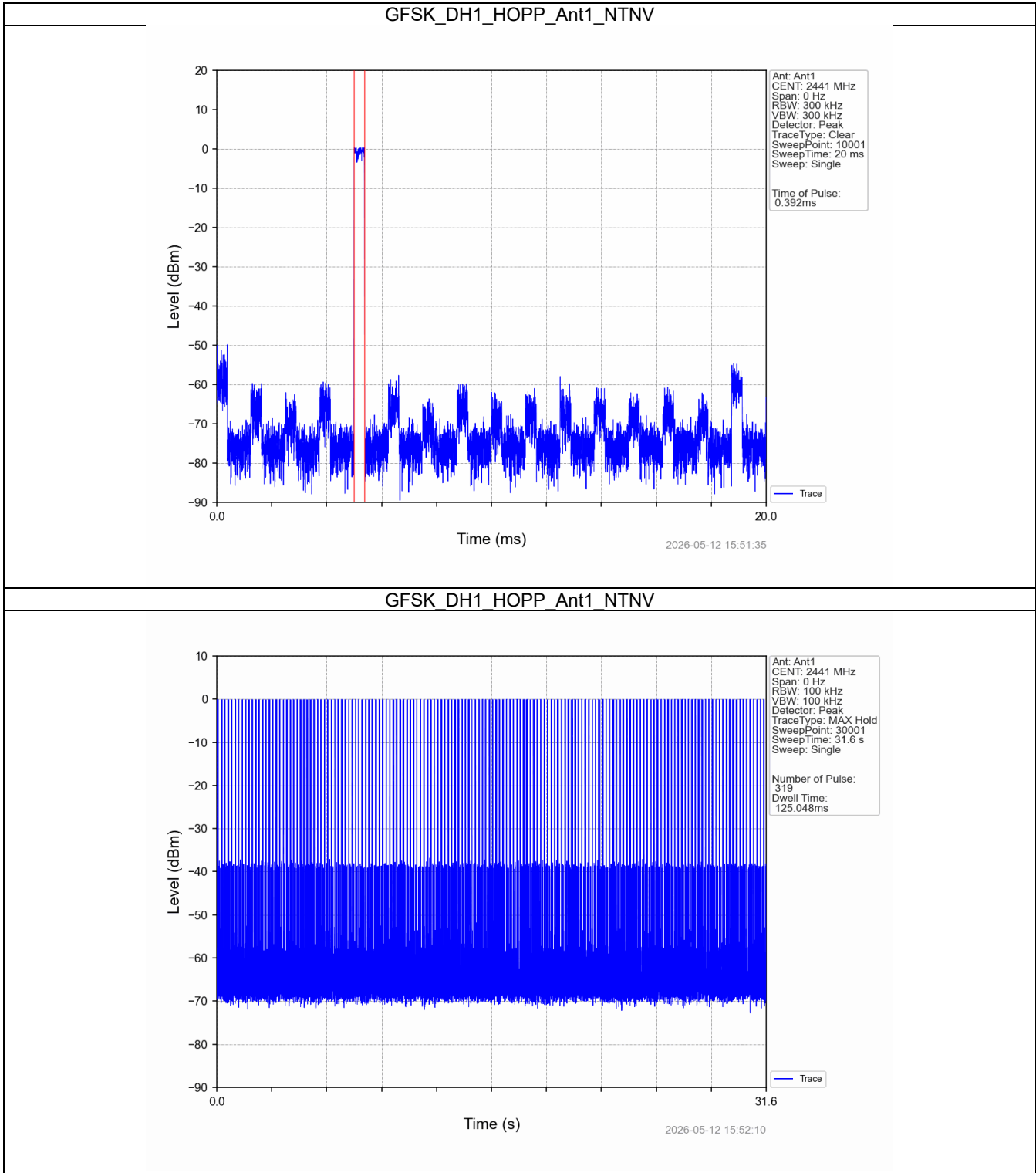
### 6.1 Test Result

#### 6.1.1 Ant1

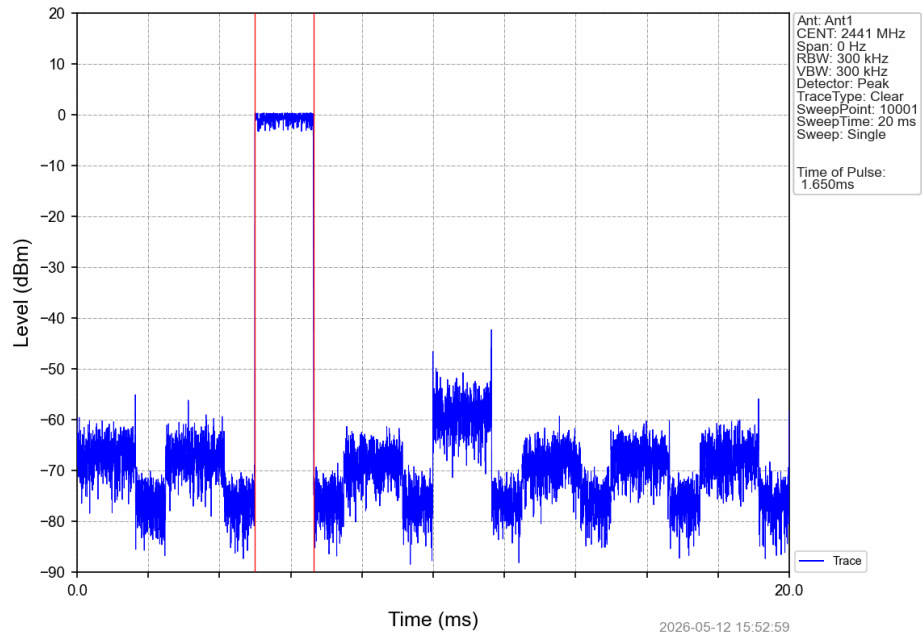
| Ant1      |         |                 |             |                               |                        |                                    |                 |            |         |
|-----------|---------|-----------------|-------------|-------------------------------|------------------------|------------------------------------|-----------------|------------|---------|
| 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         | 0.392                         | 31.600                 | 319                                | 125.048         | <=400      | Pass    |
|           |         |                 | DH3         | 1.650                         | 31.600                 | 166                                | 273.900         | <=400      | Pass    |
|           |         |                 | DH5         | 2.898                         | 31.600                 | 102                                | 295.596         | <=400      | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH1        | 0.400                         | 31.600                 | 320                                | 128.000         | <=400      | Pass    |
|           |         |                 | 2DH3        | 1.654                         | 31.600                 | 154                                | 254.716         | <=400      | Pass    |
|           |         |                 | 2DH5        | 2.904                         | 31.600                 | 112                                | 325.248         | <=400      | Pass    |

6.2 Test Graph

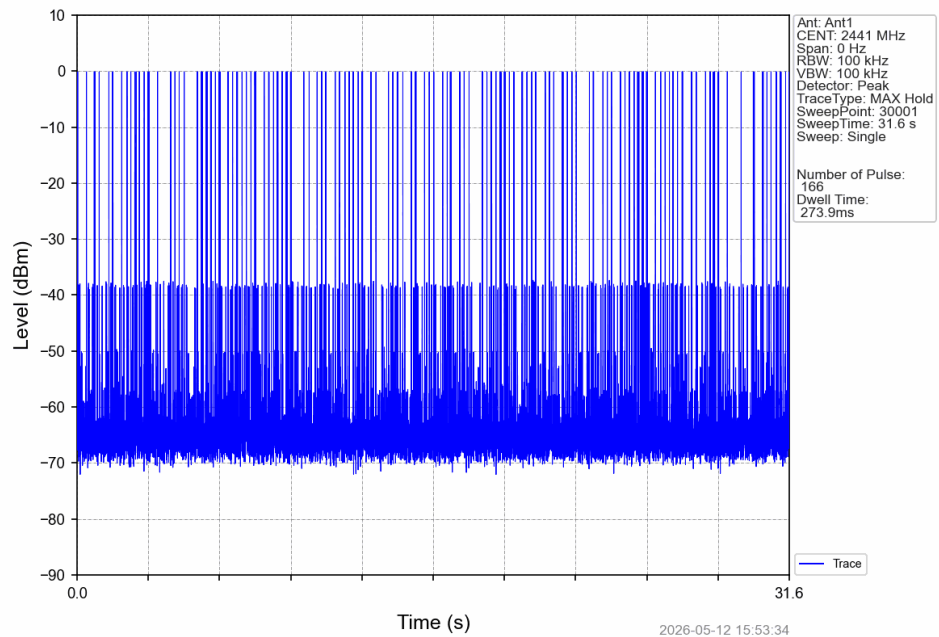
6.2.1 Ant1



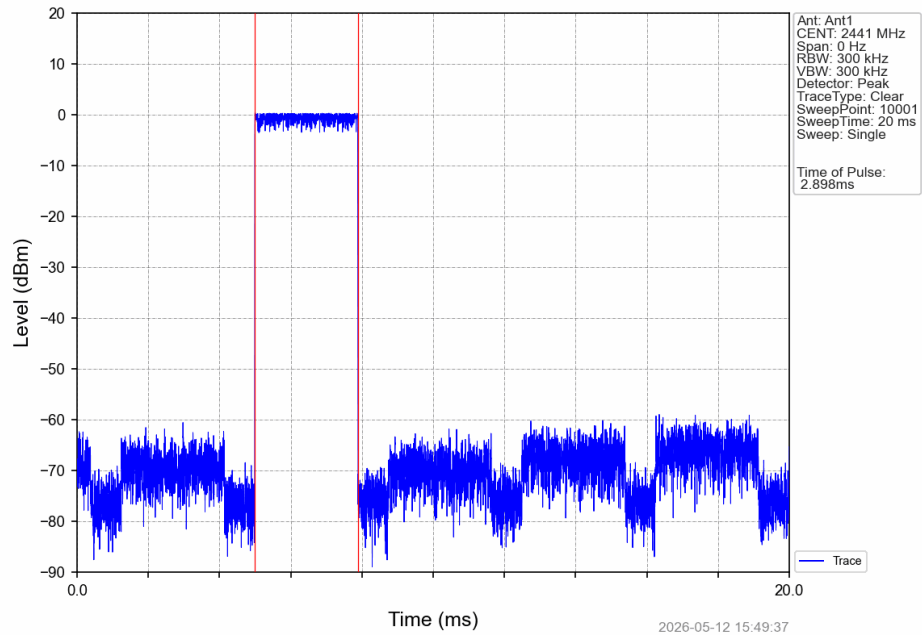
# GFSK\_DH3\_HOPP\_Ant1\_NTNV



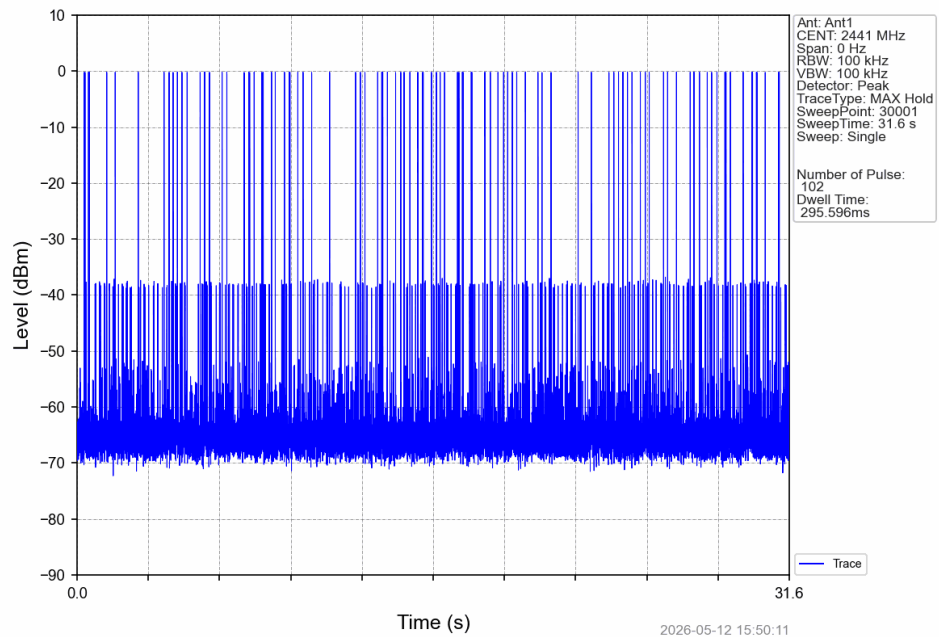
# GFSK\_DH3\_HOPP\_Ant1\_NTNV



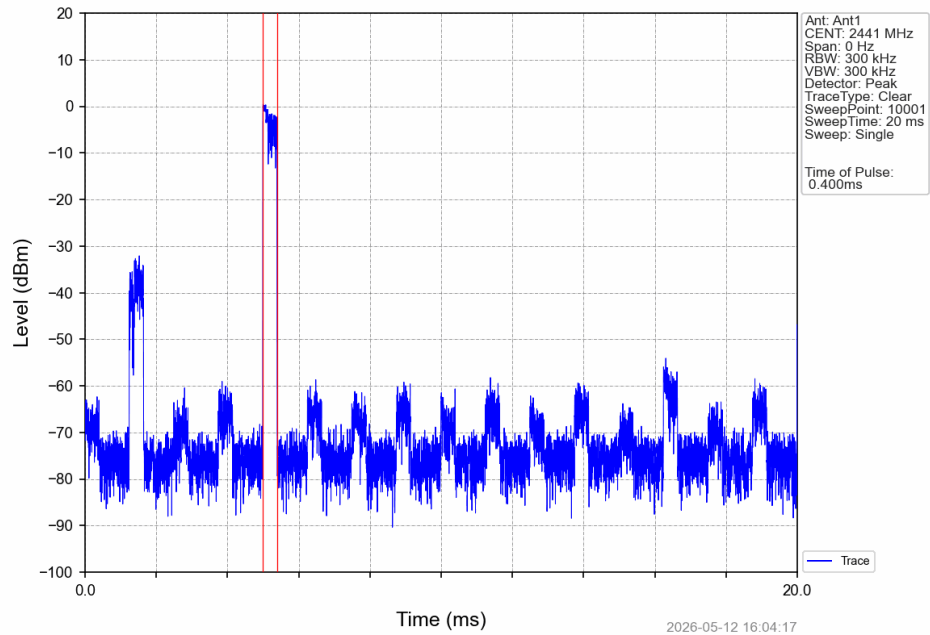
# GFSK\_DH5\_HOPP\_Ant1\_NTNV



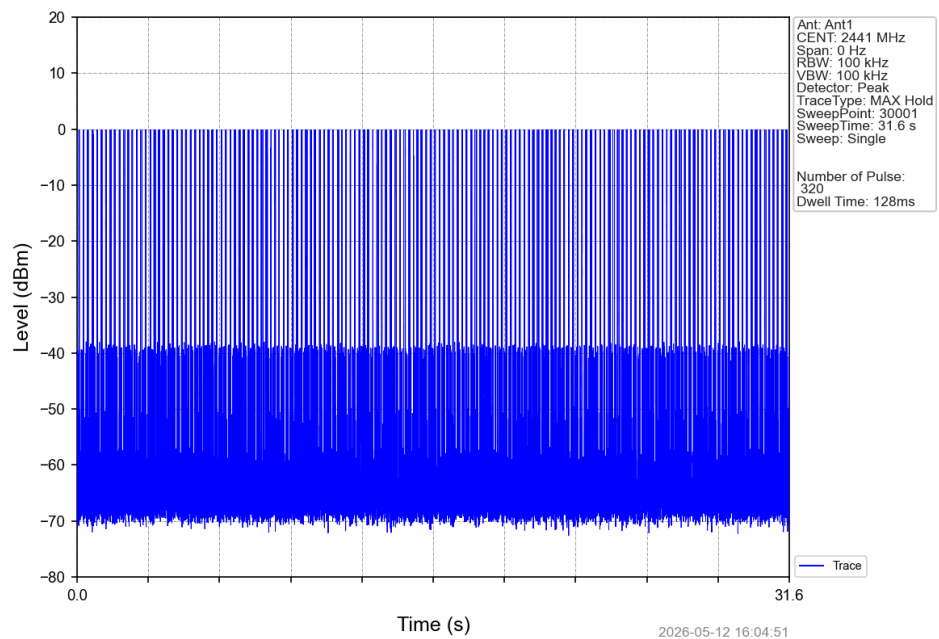
# GFSK\_DH5\_HOPP\_Ant1\_NTNV



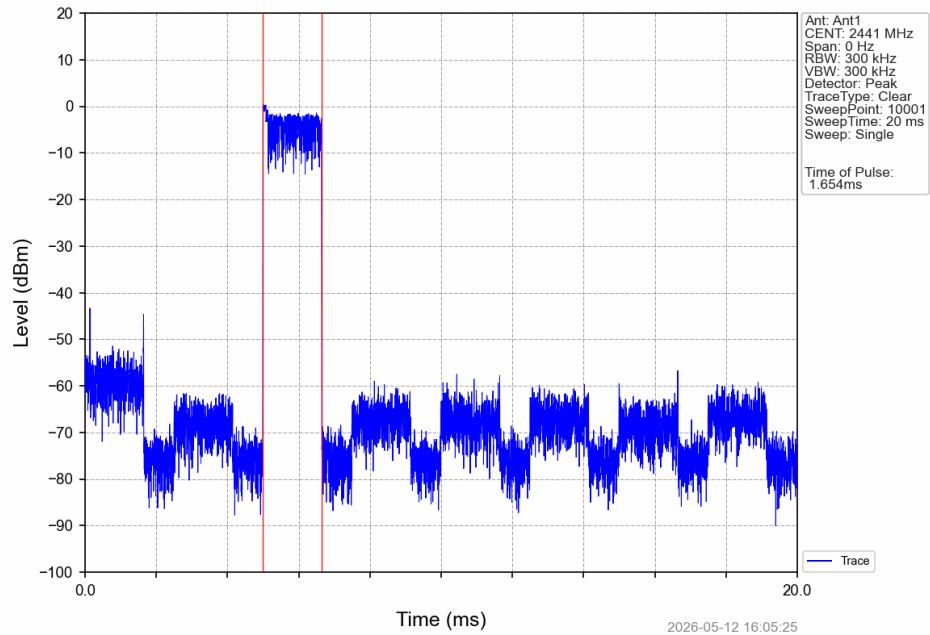
# Pi/4DQPSK\_2DH1\_HOPP\_Ant1\_NTNV



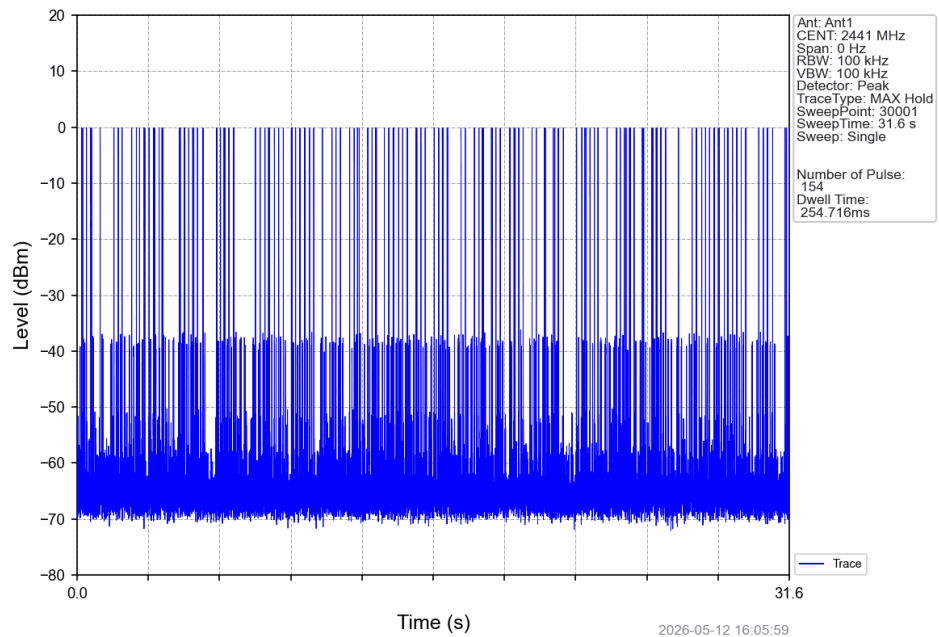
# Pi/4DQPSK\_2DH1\_HOPP\_Ant1\_NTNV



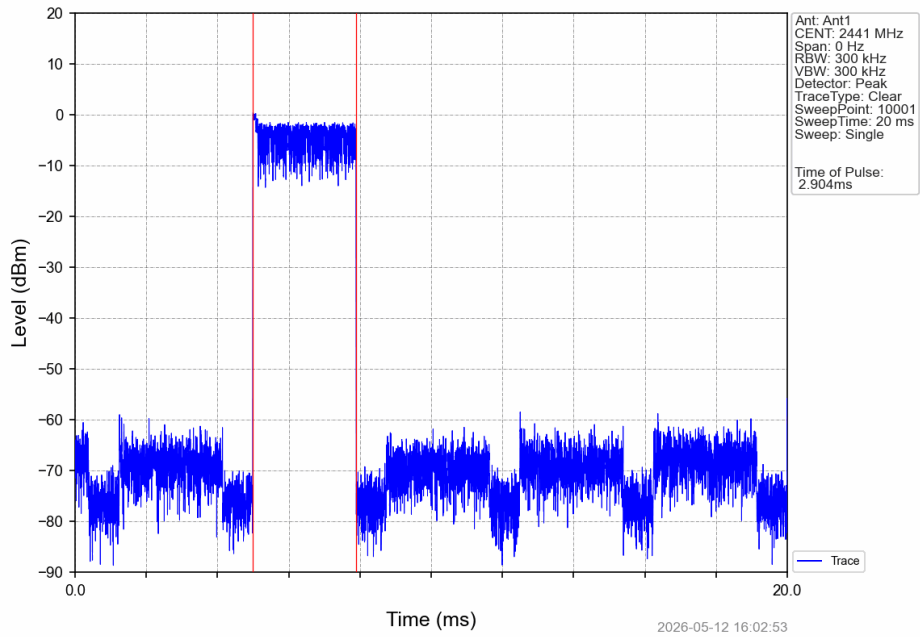
# Pi/4DQPSK\_2DH3\_HOPP\_Ant1\_NTNV



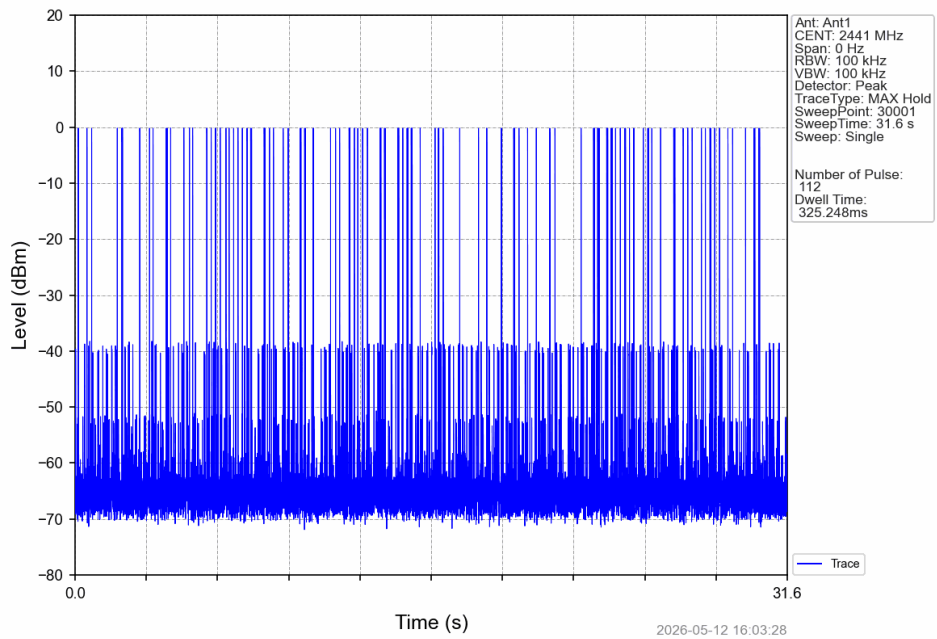
# Pi/4DQPSK\_2DH3\_HOPP\_Ant1\_NTNV



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



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



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

### 7.1 Test Result

#### 7.1.1 Ref

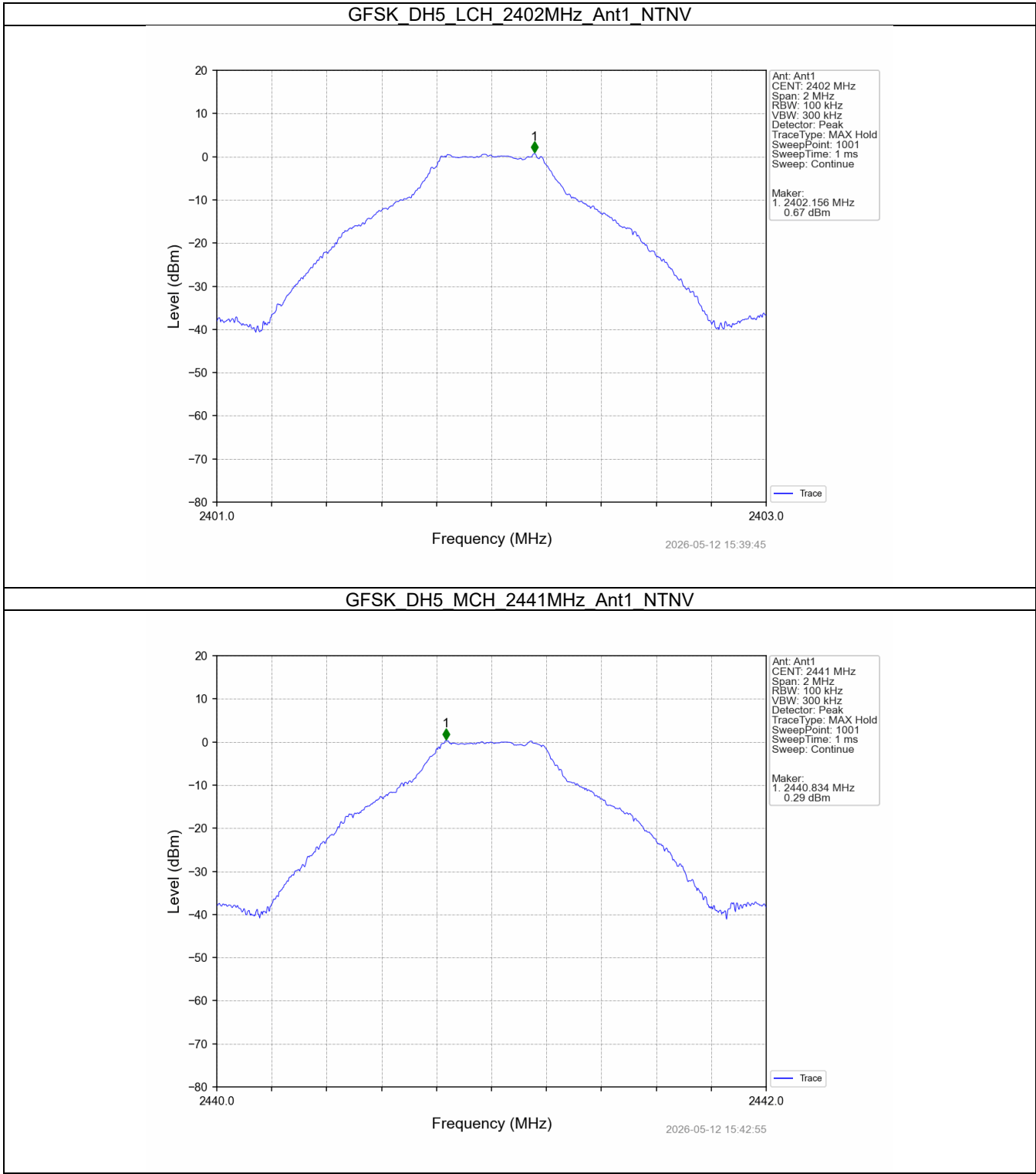
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) |
|-----------|---------|-----------------|-------------|-----|--------------------------|
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.67                     |
|           |         | 2441            | DH5         | 1   | 0.29                     |
|           |         | 2480            | DH5         | 1   | 0.04                     |
|           |         | HOPP            | DH5         | 1   | 0.60                     |
|           |         |                 |             |     | 0.60                     |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 0.66                     |
|           |         | 2441            | 2DH5        | 1   | 0.42                     |
|           |         | 2480            | 2DH5        | 1   | 0.15                     |
|           |         | HOPP            | 2DH5        | 1   | 0.76                     |
|           |         |                 |             |     | 0.76                     |

#### 7.1.2 CSE

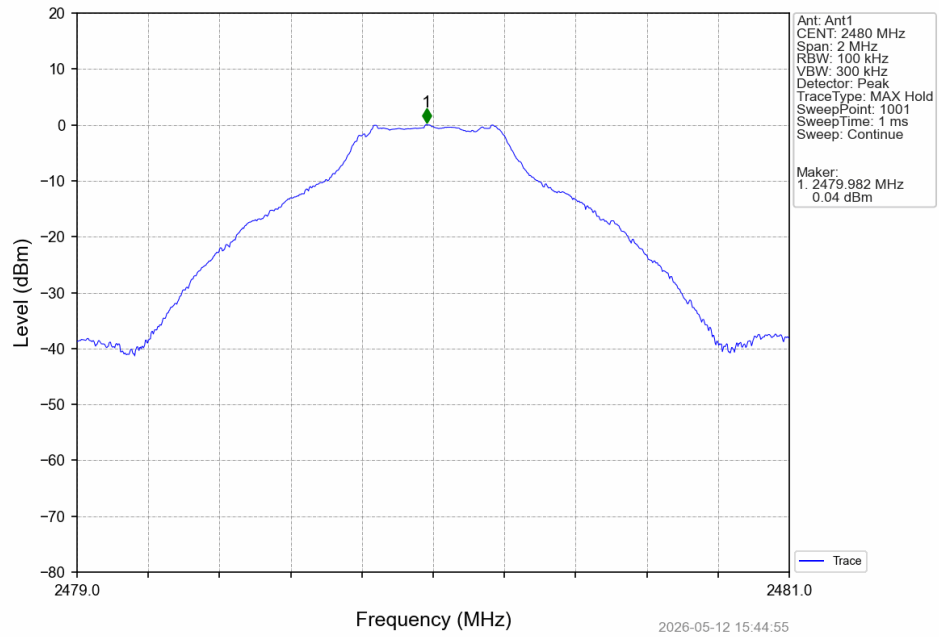
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|-----------|---------|-----------------|-------------|-----|--------------------------|-------------|---------|
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.67                     | -19.33      | Pass    |
|           |         | 2441            | DH5         | 1   | 0.29                     | -19.71      | Pass    |
|           |         | 2480            | DH5         | 1   | 0.04                     | -19.96      | Pass    |
|           |         | HOPP            | DH5         | 1   | 0.60                     | -19.40      | Pass    |
|           |         |                 |             |     | 0.60                     | -19.40      | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 0.66                     | -19.34      | Pass    |
|           |         | 2441            | 2DH5        | 1   | 0.42                     | -19.58      | Pass    |
|           |         | 2480            | 2DH5        | 1   | 0.15                     | -19.85      | Pass    |
|           |         | HOPP            | 2DH5        | 1   | 0.76                     | -19.24      | Pass    |
|           |         |                 |             |     | 0.76                     | -19.24      | Pass    |

7.2 Test Graph

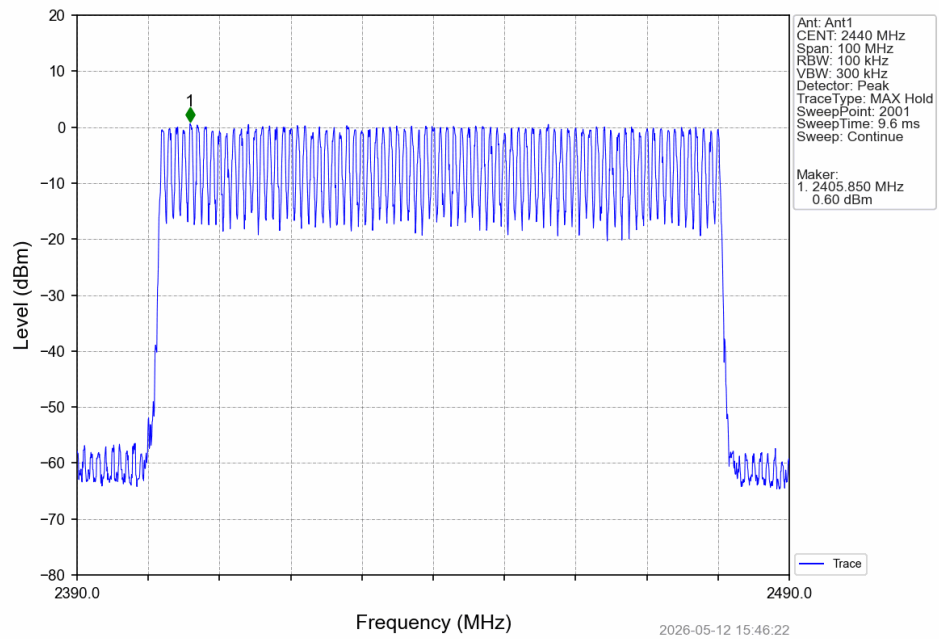
7.2.1 Ref



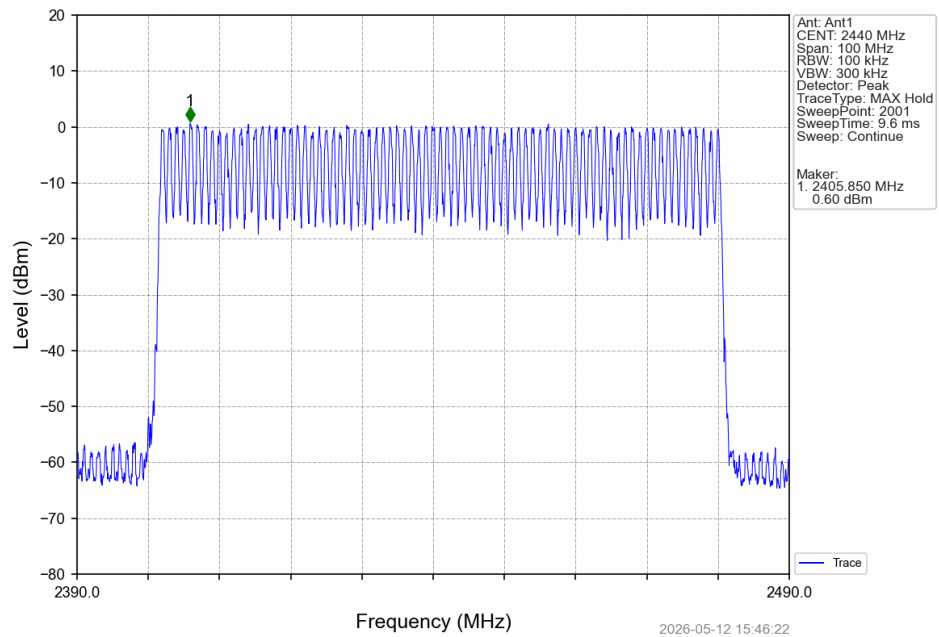
# GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



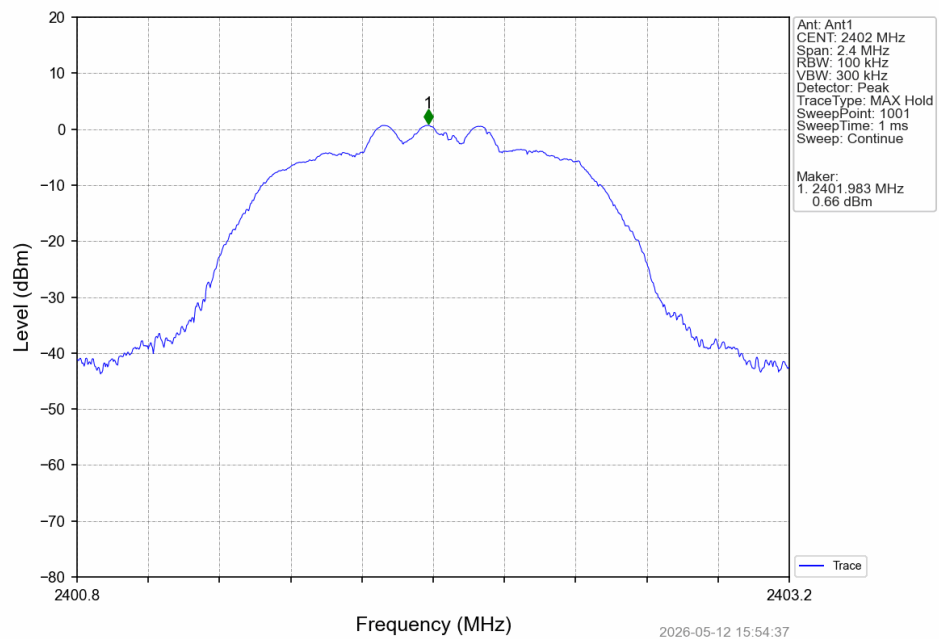
# GFSK\_DH5\_HOPP\_Ant1\_NTNV



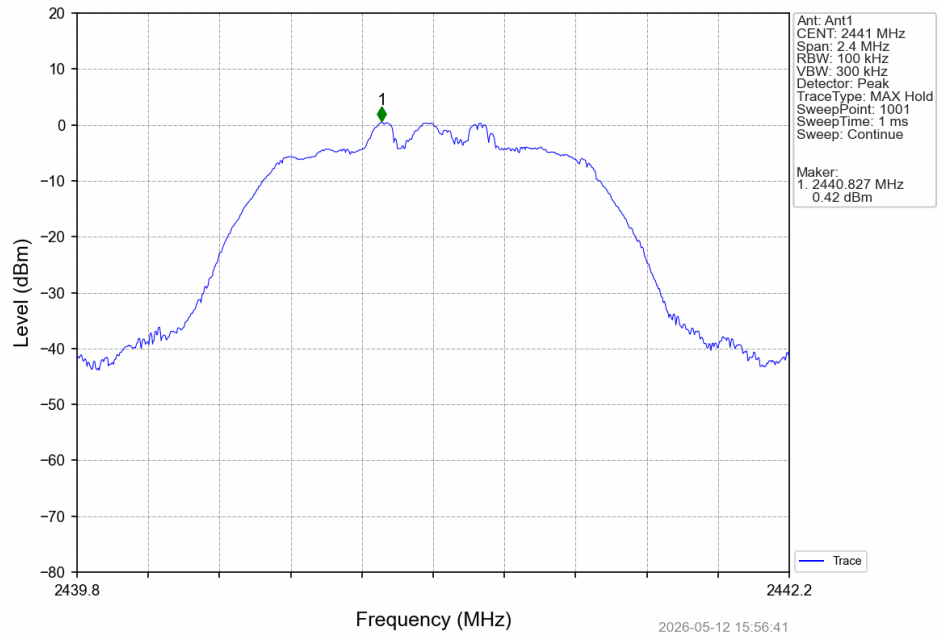
### GFSK\_DH5\_HOPP\_Ant1\_NTNV



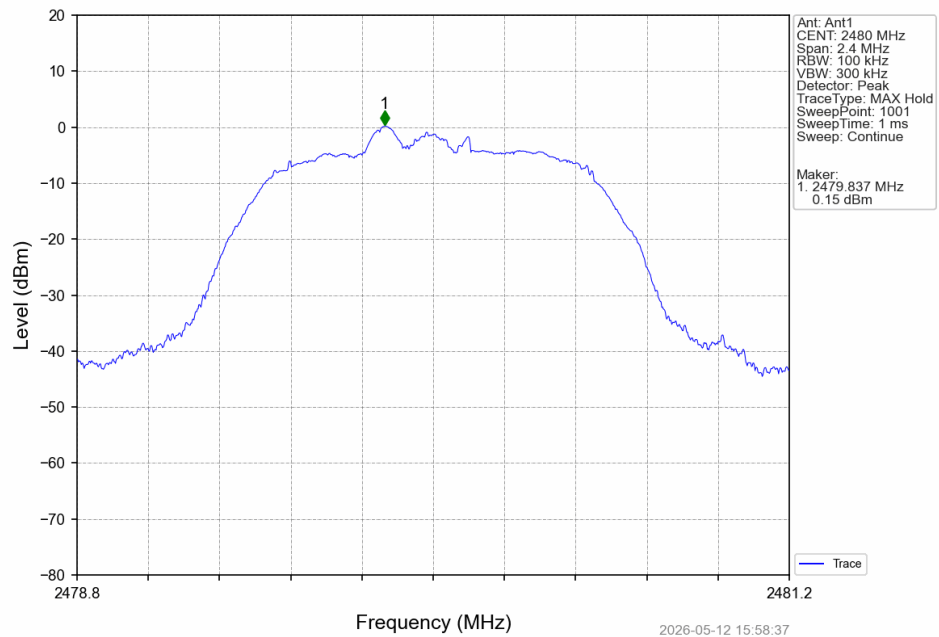
### Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



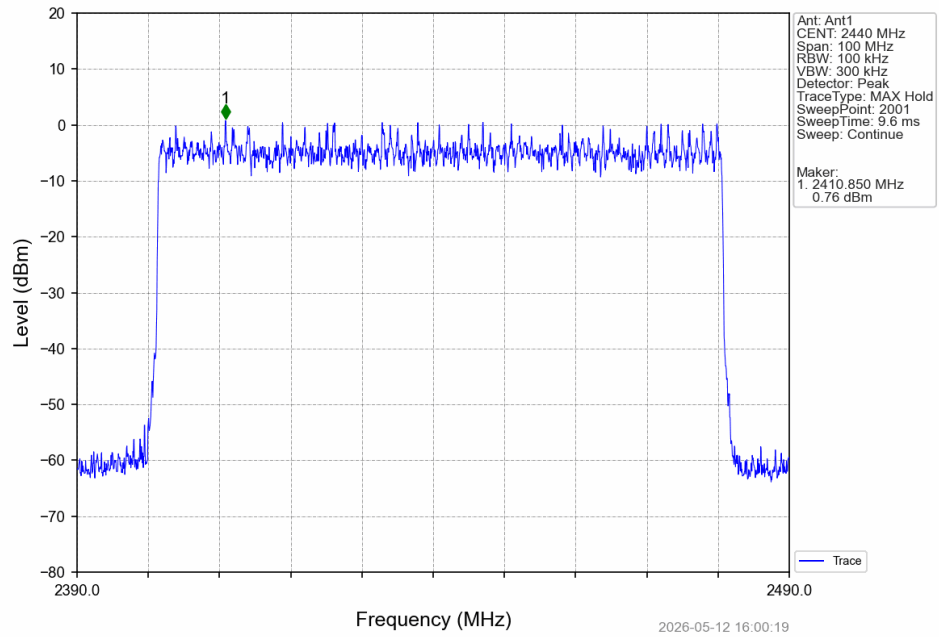
# Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



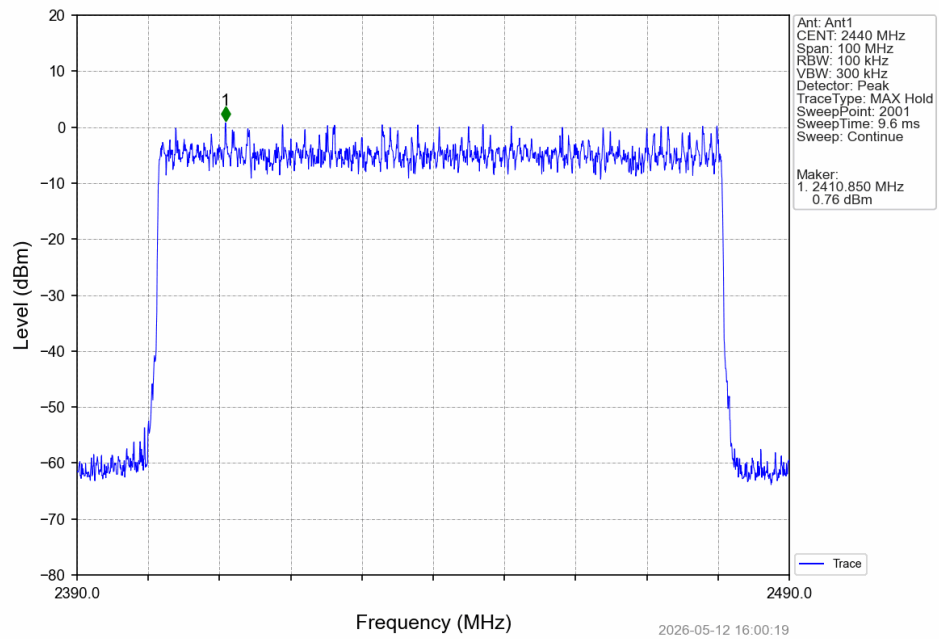
# Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



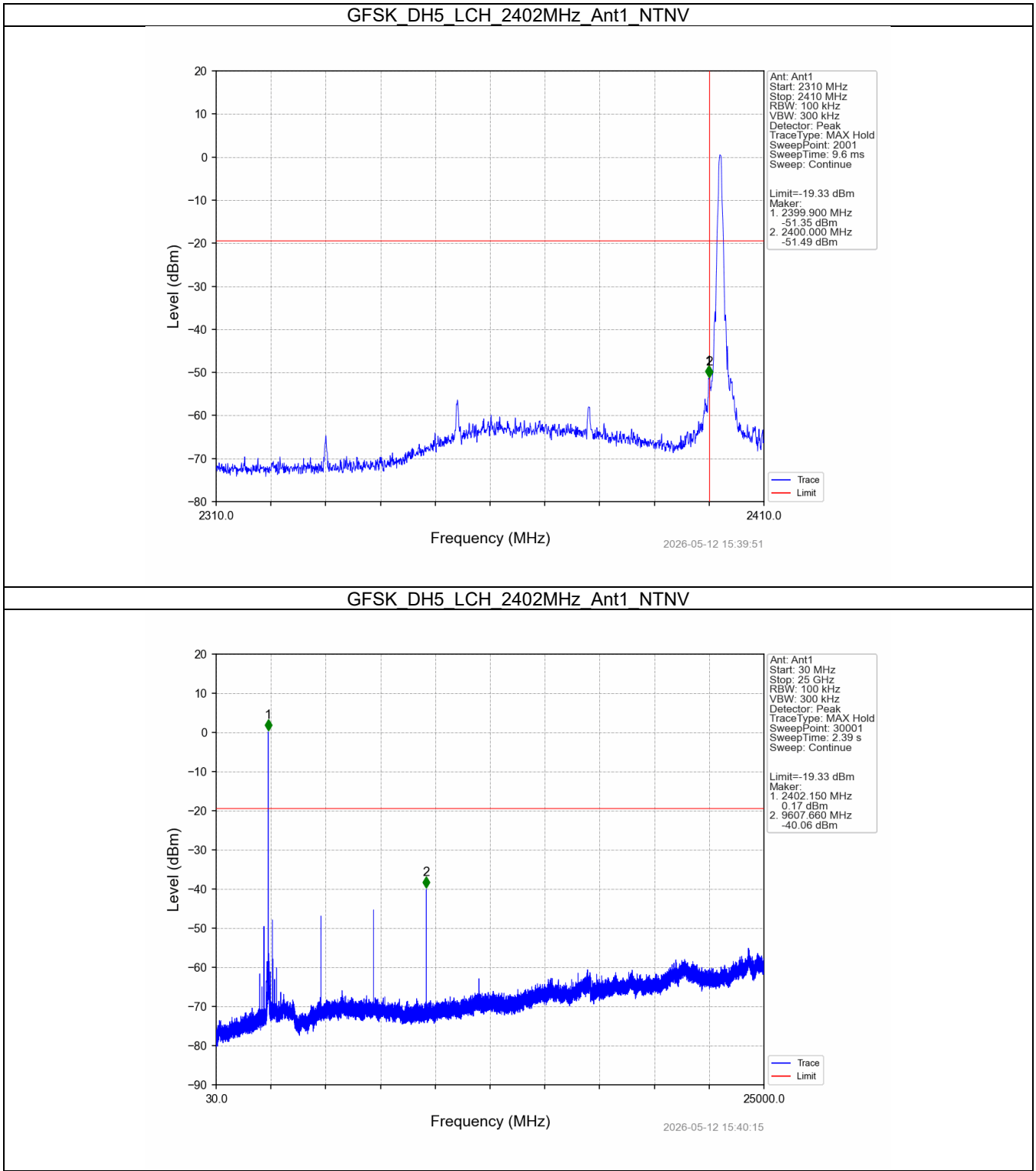
# Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



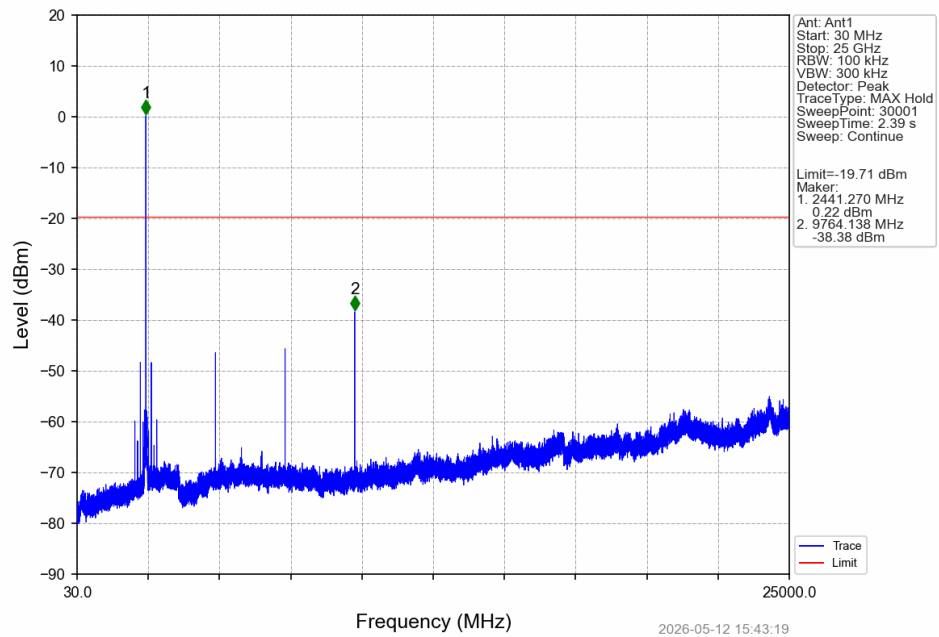
# Pi/4DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



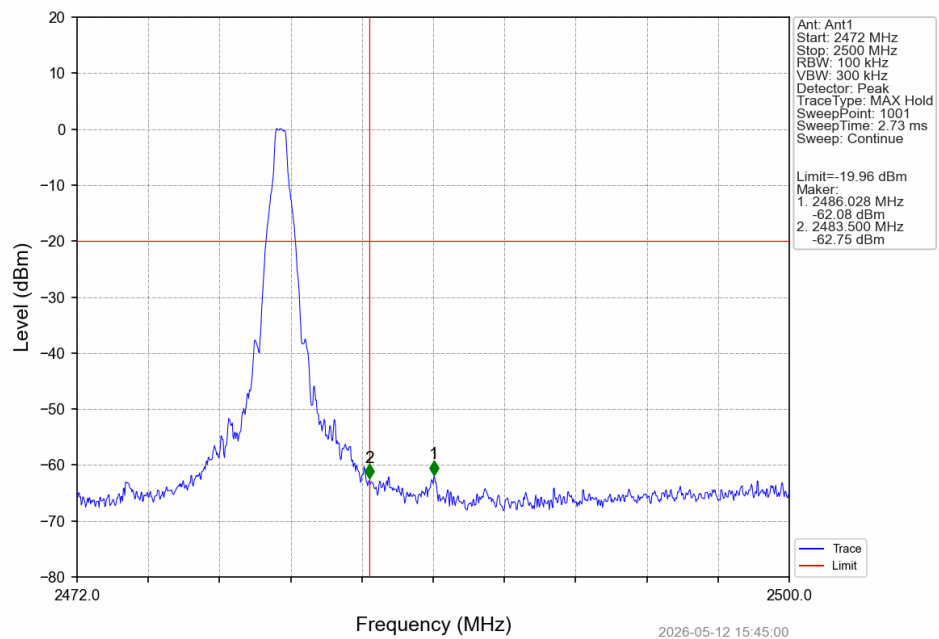
7.2.2 CSE



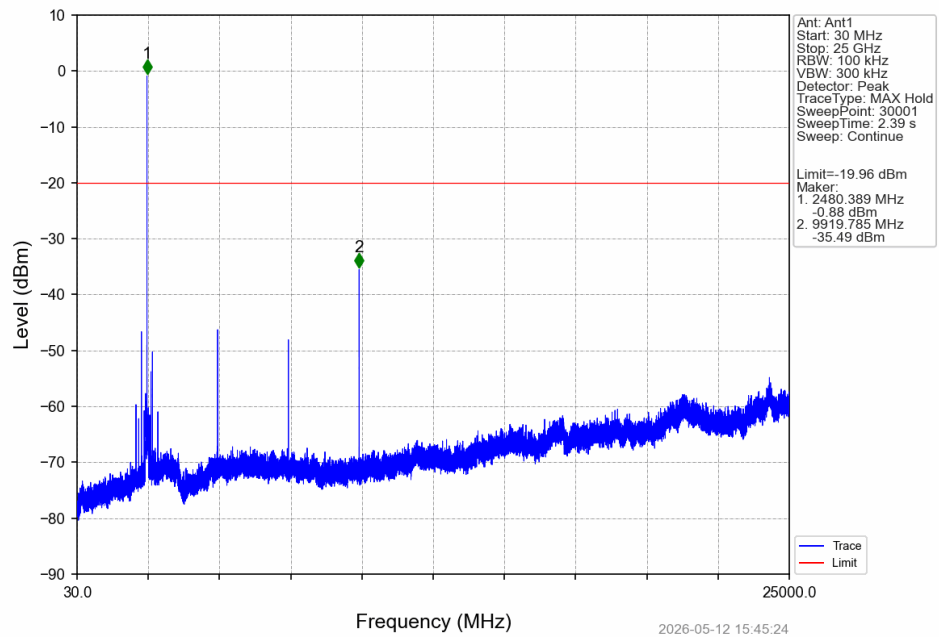
### GFSK\_DH5\_MCH\_2441MHz\_Ant1\_NTNV



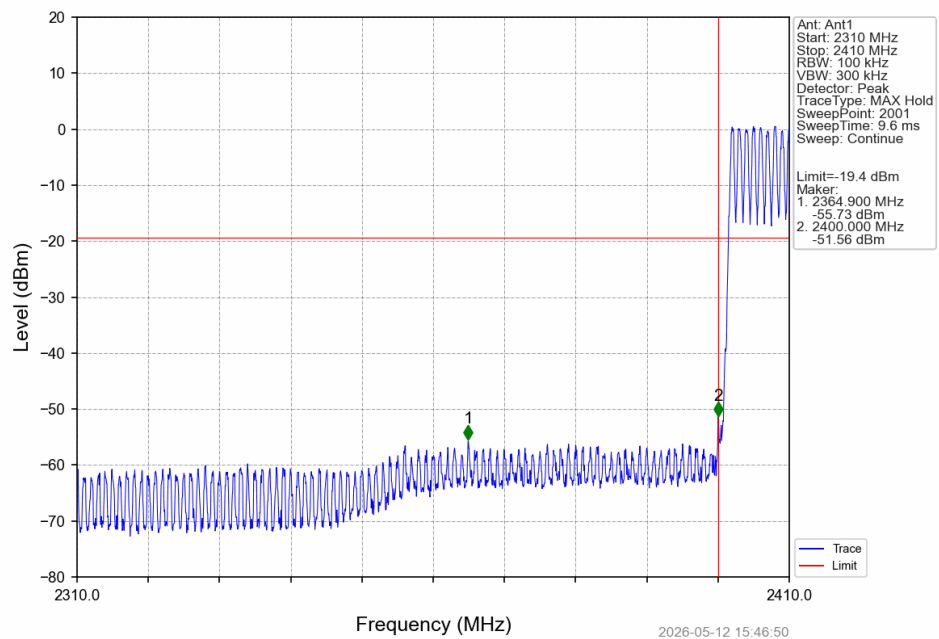
### GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



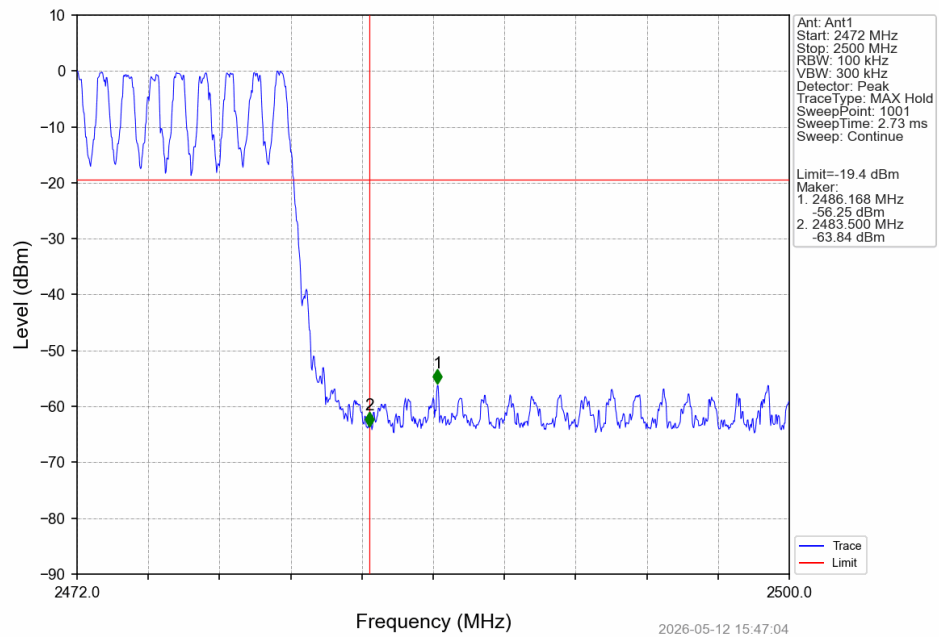
# GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



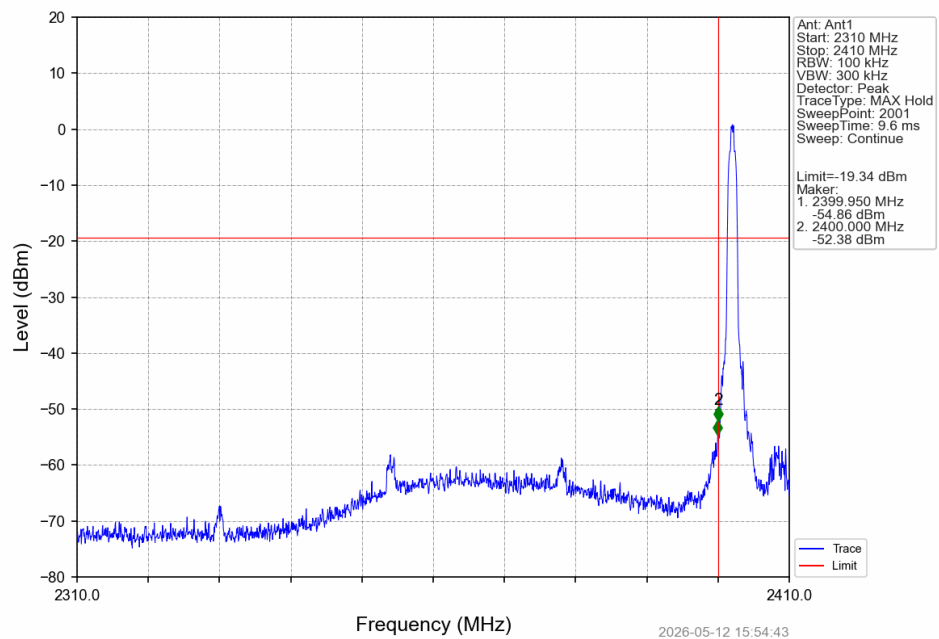
# GFSK\_DH5\_HOPP\_Ant1\_NTNV



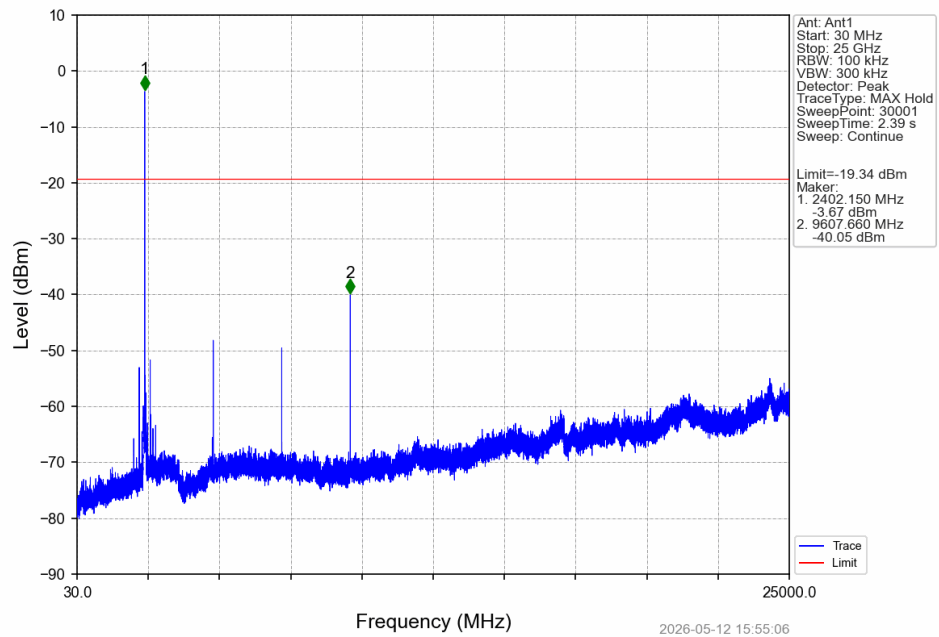
# GFSK\_DH5\_HOPP\_Ant1\_NTNV



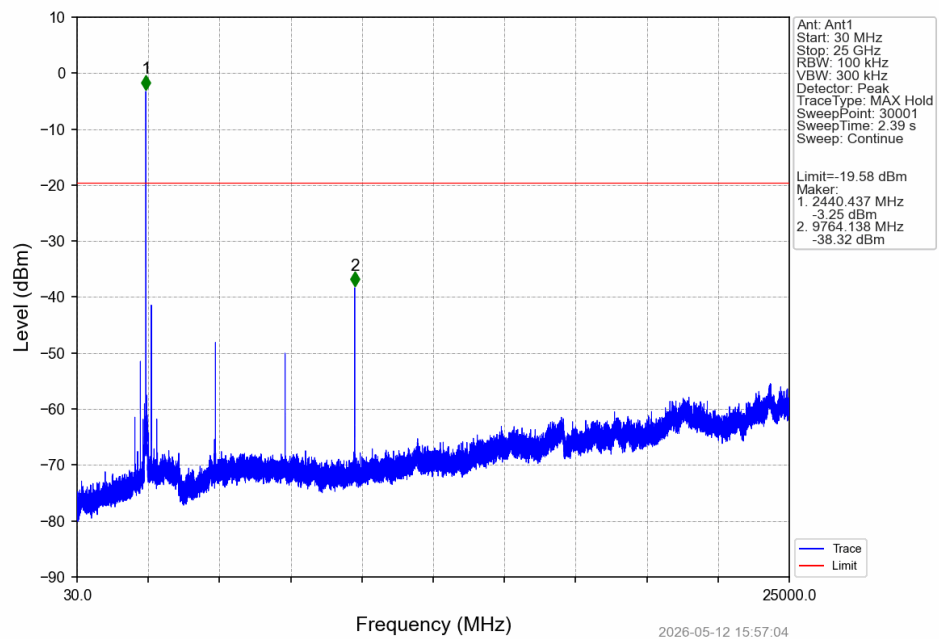
# Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



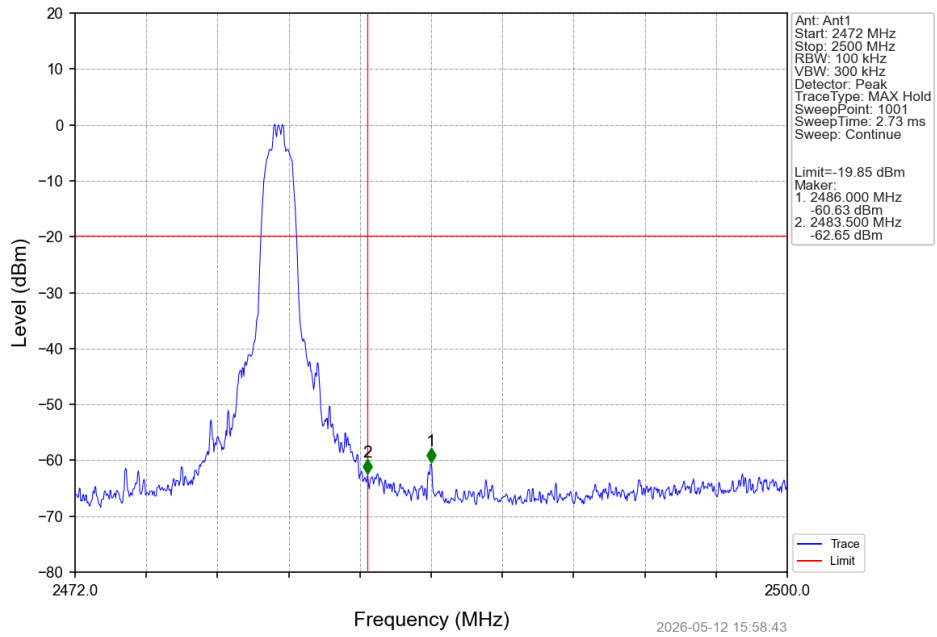
# Pi/4DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



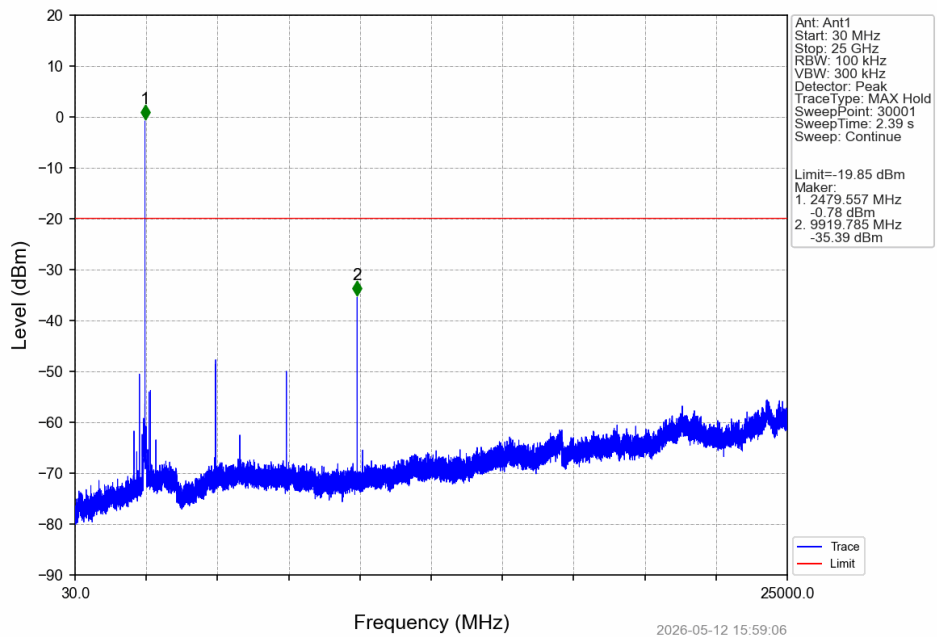
# Pi/4DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



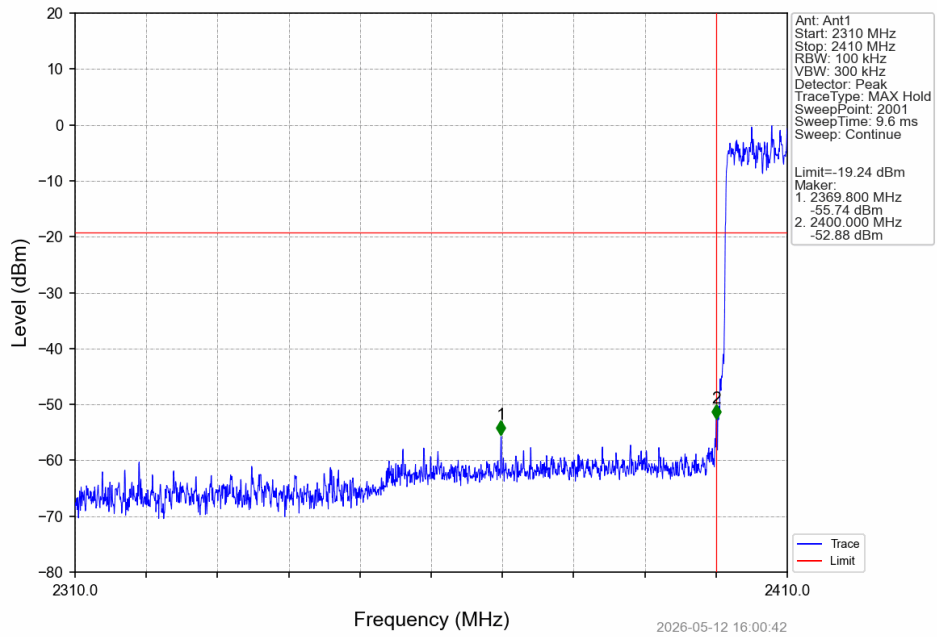
# Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



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



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



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

