

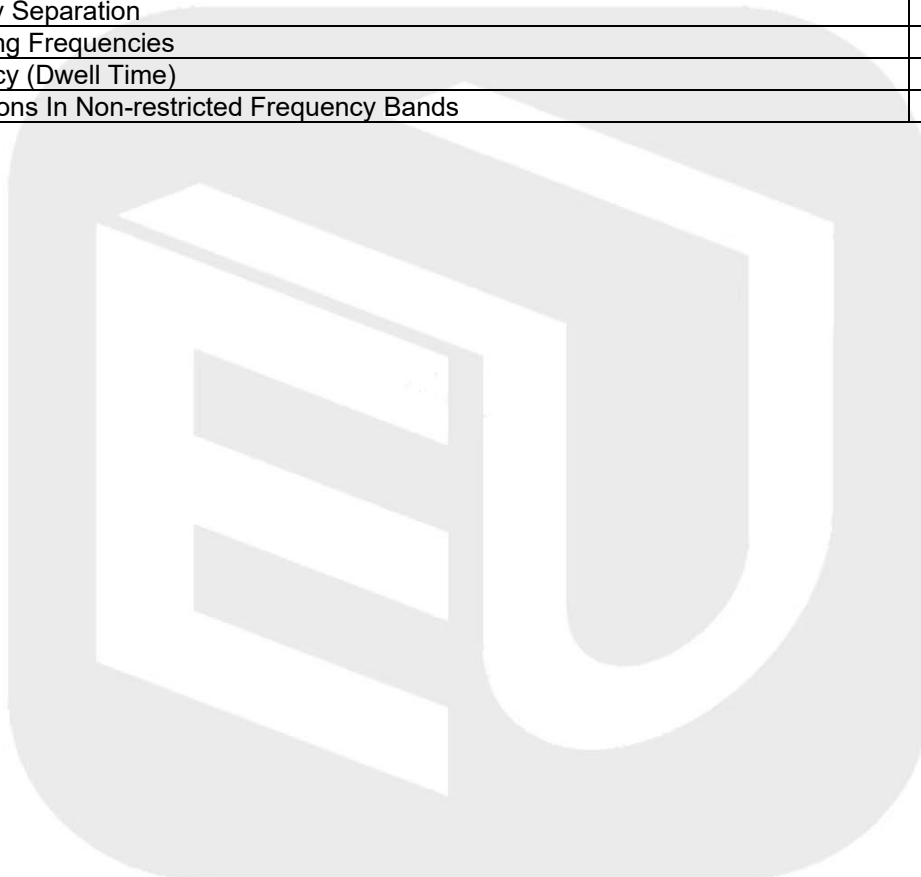
## ANNEX D TEST DATA

For

|                      |                                            |
|----------------------|--------------------------------------------|
| Project No.:         | 8134EU011504W                              |
| Client:              | Guangzhou Zaozhongwan E-Commerce Co., Ltd. |
| Product Description: | Soundbar                                   |
| Model No.:           | KM-Midnight40                              |
| FCC ID:              | 2BDKK-KM-LAV02-BAT                         |
| Technology:          | Bluetooth BDR&EDR                          |
| Test Engineer:       | <i>Mikoy zhu</i>                           |
| Test Date:           | 2023-12-07                                 |

### Test Summary

| Item                                                 | Result |
|------------------------------------------------------|--------|
| Duty Cycle                                           | Pass   |
| Bandwidth                                            | Pass   |
| Maximum Conducted Output Power                       | Pass   |
| Carrier Frequency Separation                         | Pass   |
| Number of Hopping Frequencies                        | Pass   |
| Time of Occupancy (Dwell Time)                       | Pass   |
| Unwanted Emissions In Non-restricted Frequency Bands | Pass   |



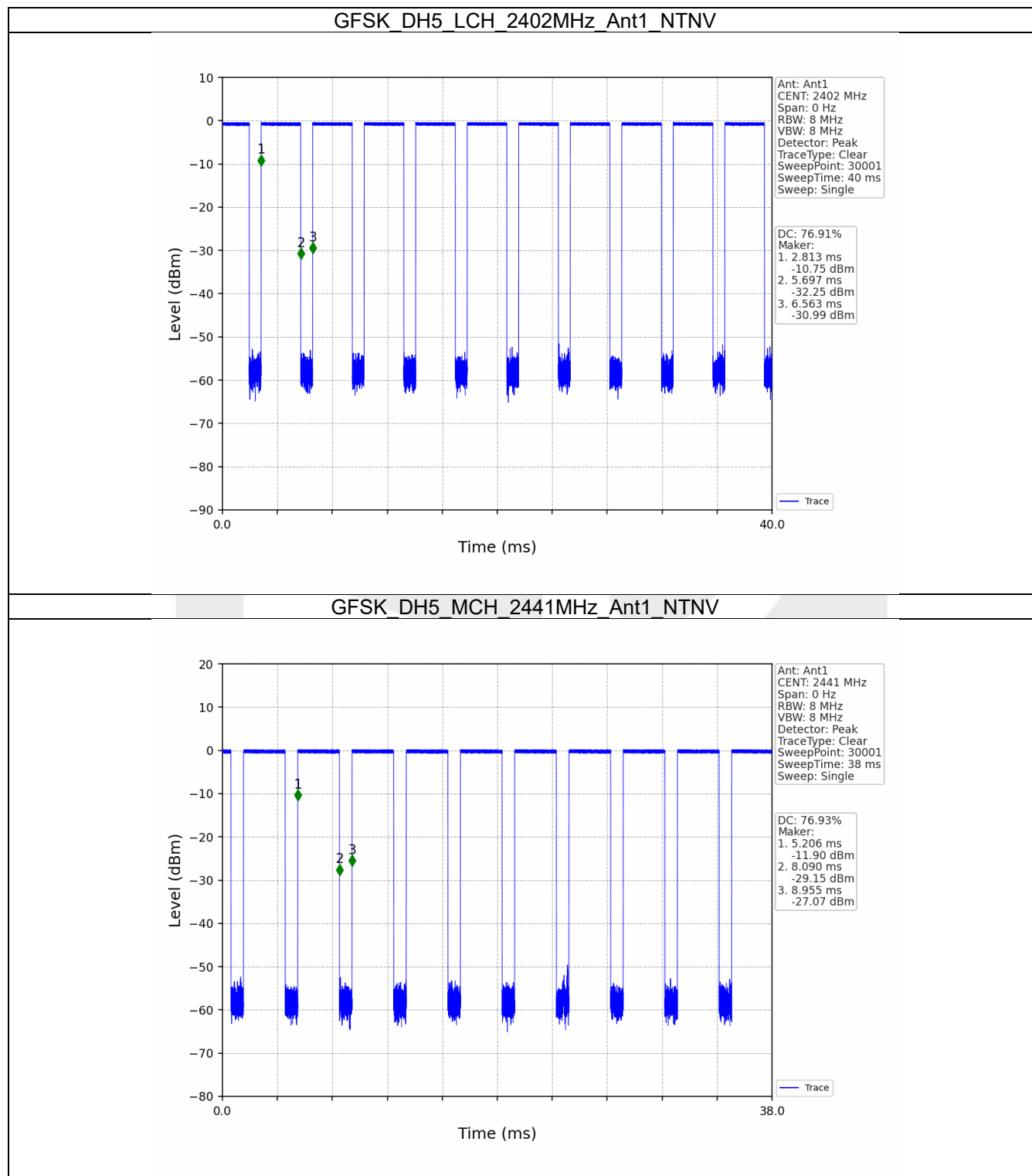
## 1. Duty Cycle

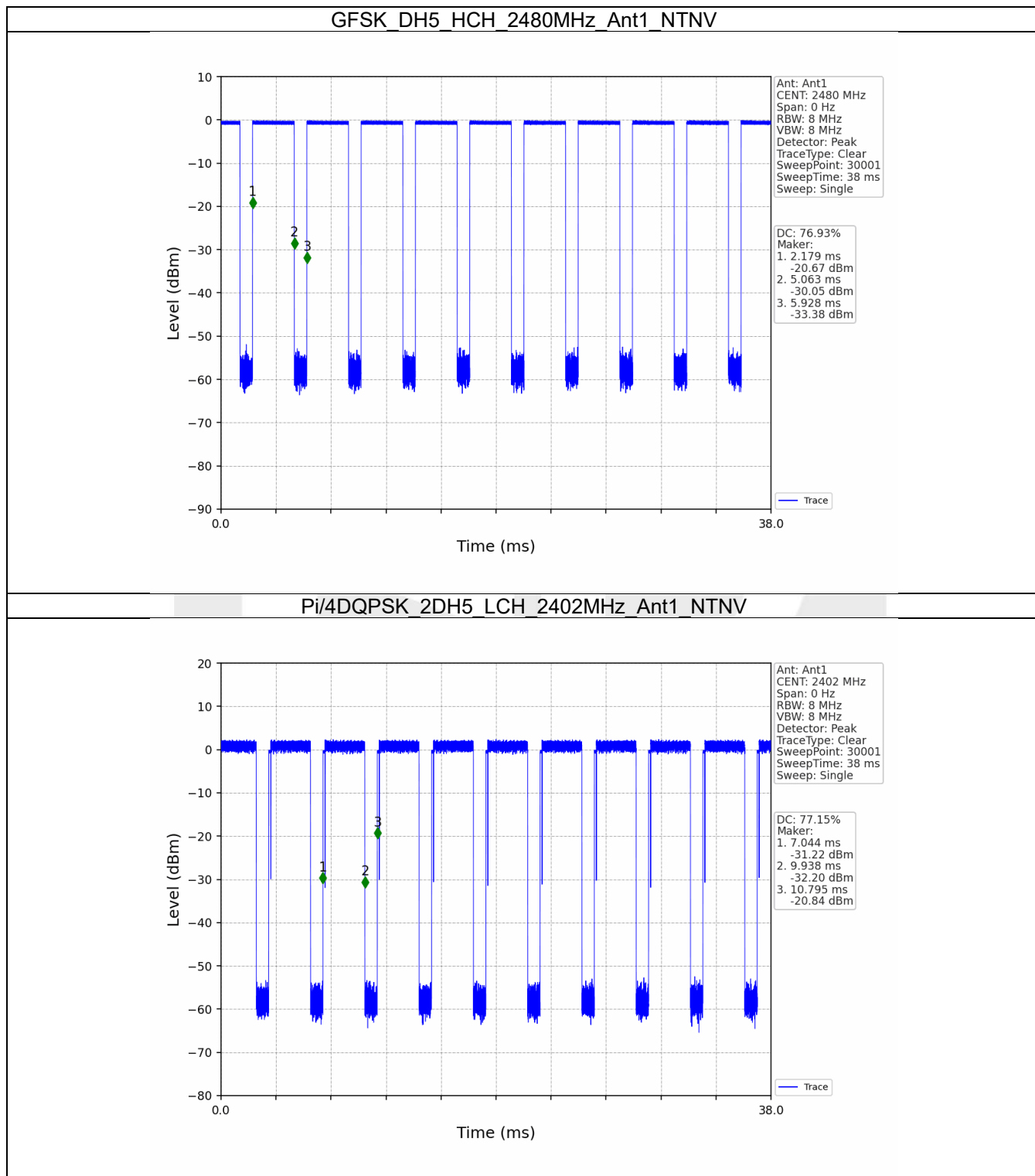
### 1.1 Ant1

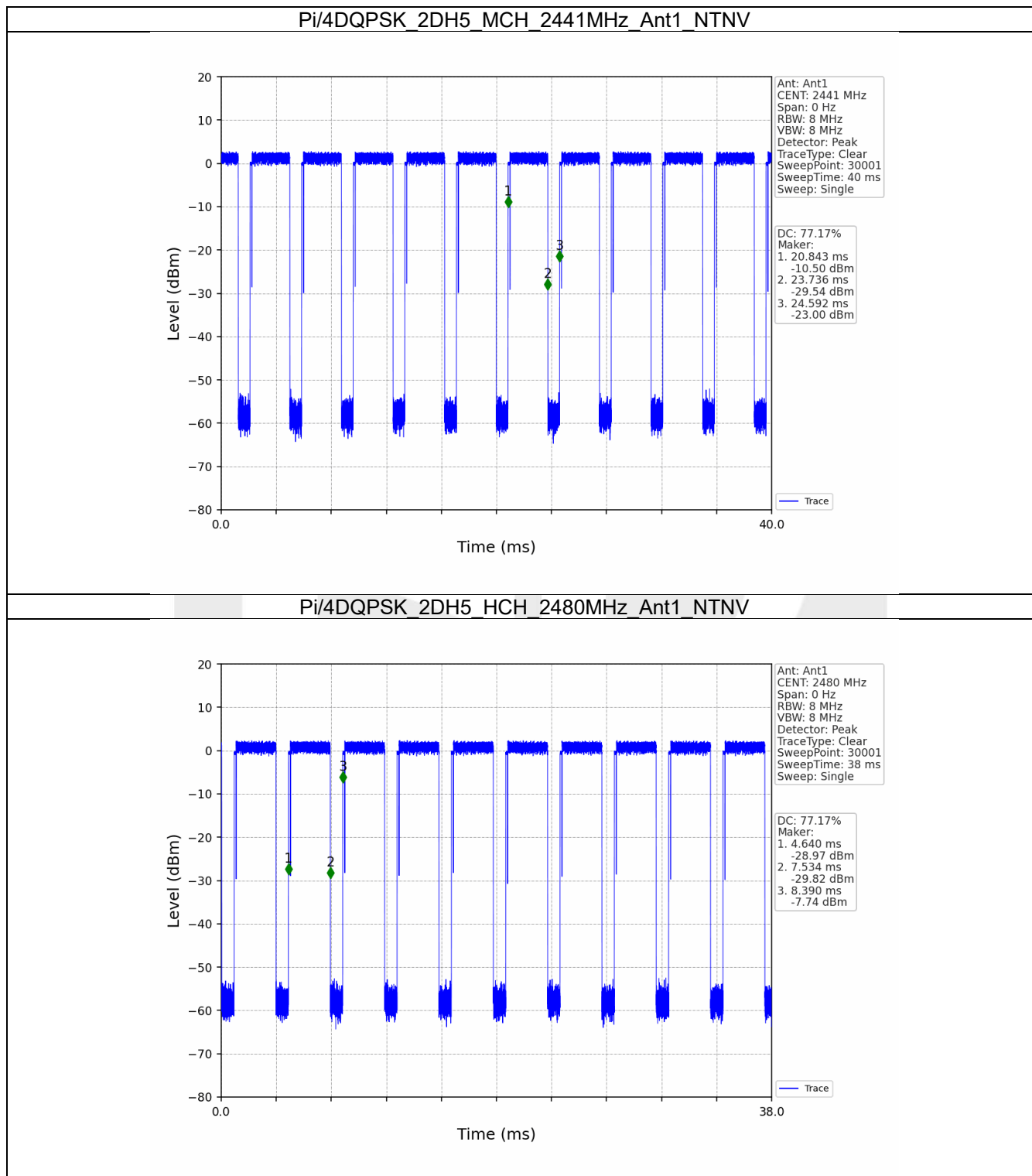
#### 1.1.1 Test Result

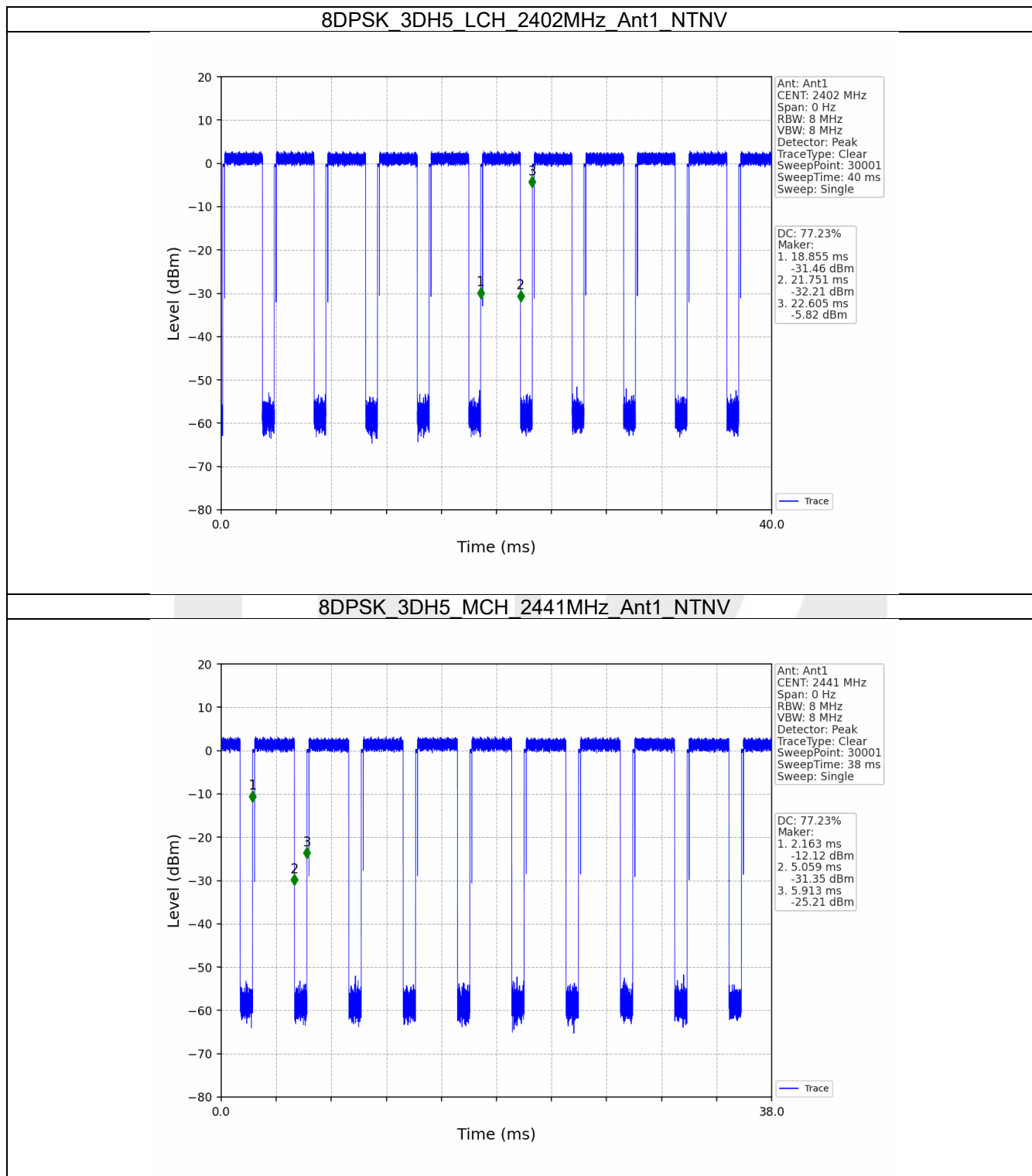
| Ant1      |         |                 |             |           |             |                |                                   |                       |
|-----------|---------|-----------------|-------------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| 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         | 2.884     | 3.750       | 76.91          | 1.14                              | 0.04                  |
|           |         | 2441            | DH5         | 2.884     | 3.749       | 76.93          | 1.14                              | 0.01                  |
|           |         | 2480            | DH5         | 2.884     | 3.749       | 76.93          | 1.14                              | 0.01                  |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 2.894     | 3.751       | 77.15          | 1.13                              | 0.03                  |
|           |         | 2441            | 2DH5        | 2.893     | 3.749       | 77.17          | 1.13                              | 0.04                  |
|           |         | 2480            | 2DH5        | 2.894     | 3.750       | 77.17          | 1.13                              | 0.03                  |
| 8DPSK     | SISO    | 2402            | 3DH5        | 2.896     | 3.750       | 77.23          | 1.12                              | 0.04                  |
|           |         | 2441            | 3DH5        | 2.896     | 3.750       | 77.23          | 1.12                              | 0.03                  |
|           |         | 2480            | 3DH5        | 2.896     | 3.750       | 77.23          | 1.12                              | 0.04                  |

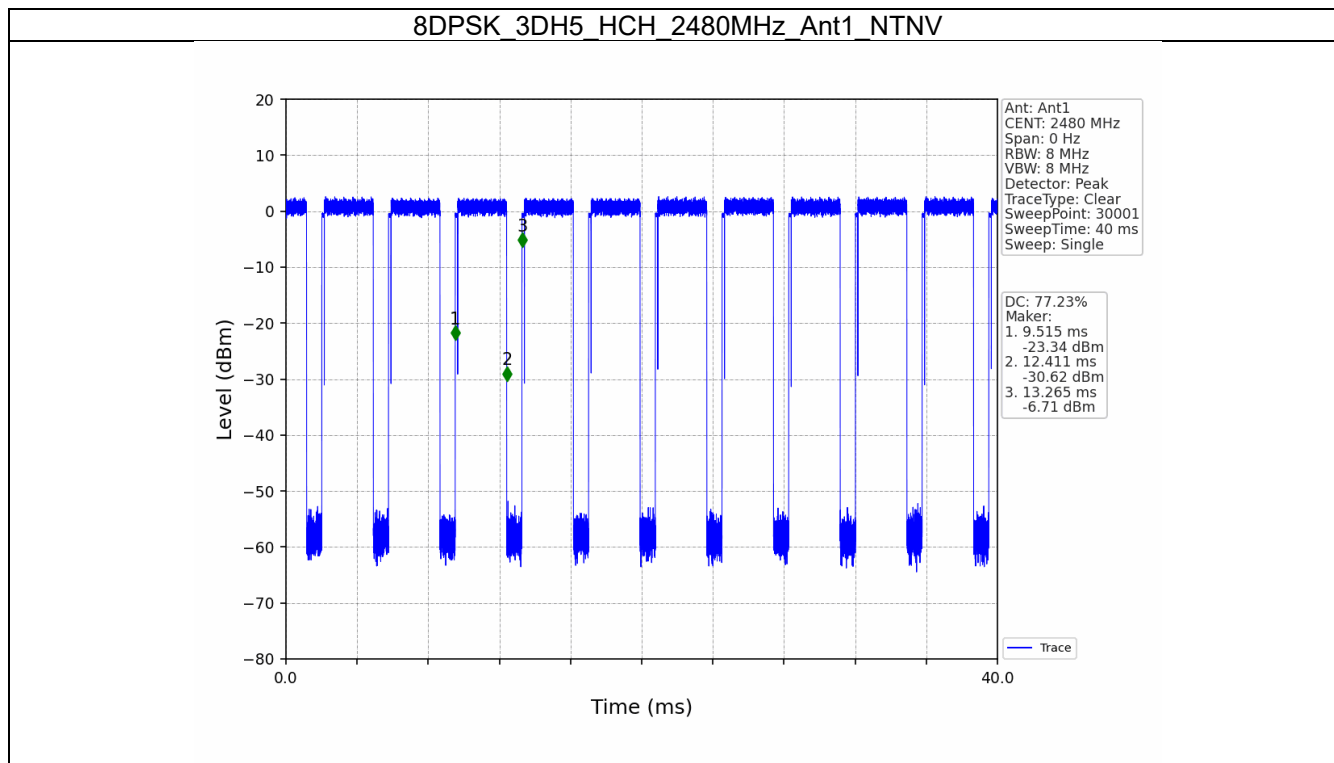
### 1.1.2 Test Graph











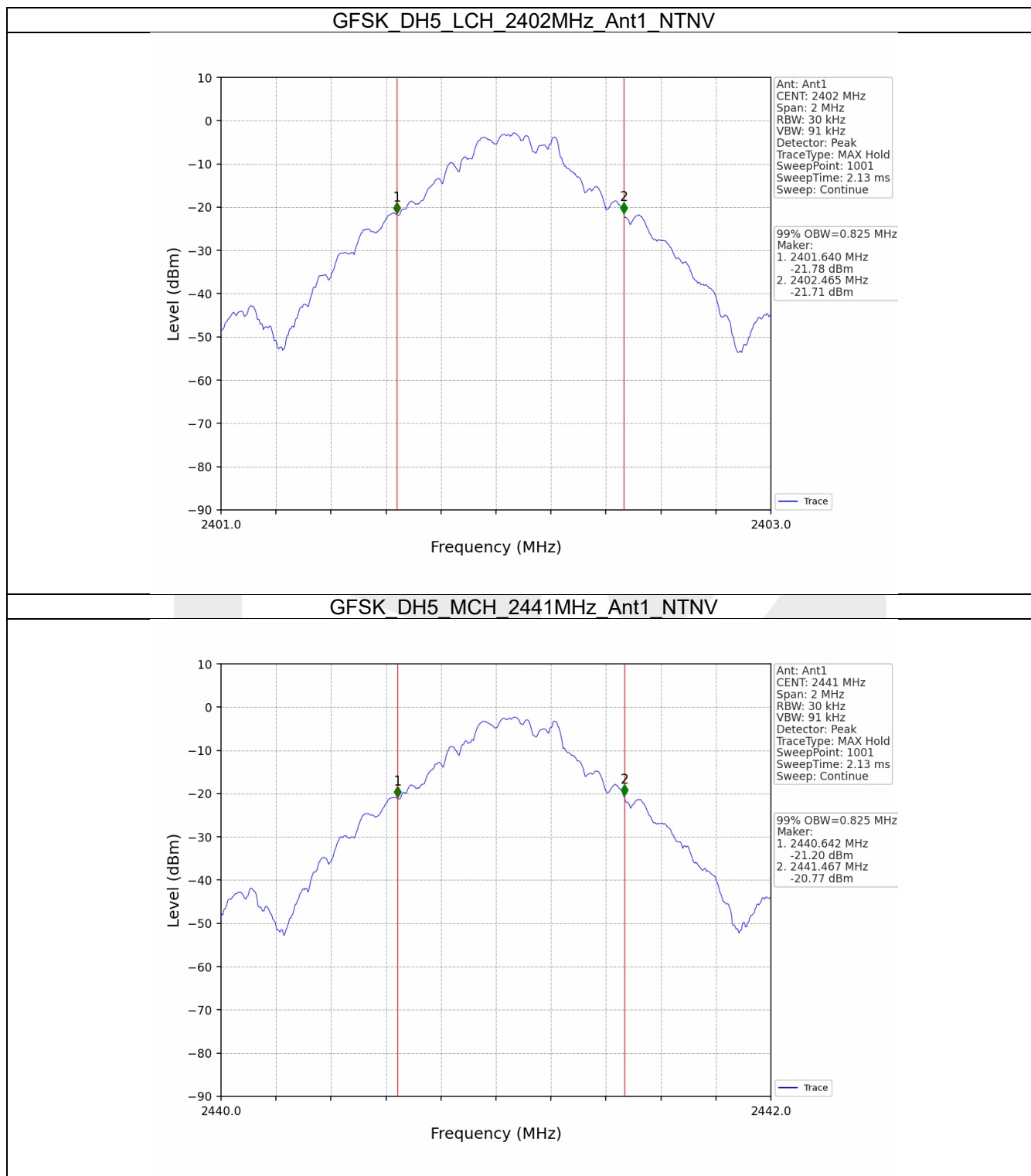
## 2. Bandwidth

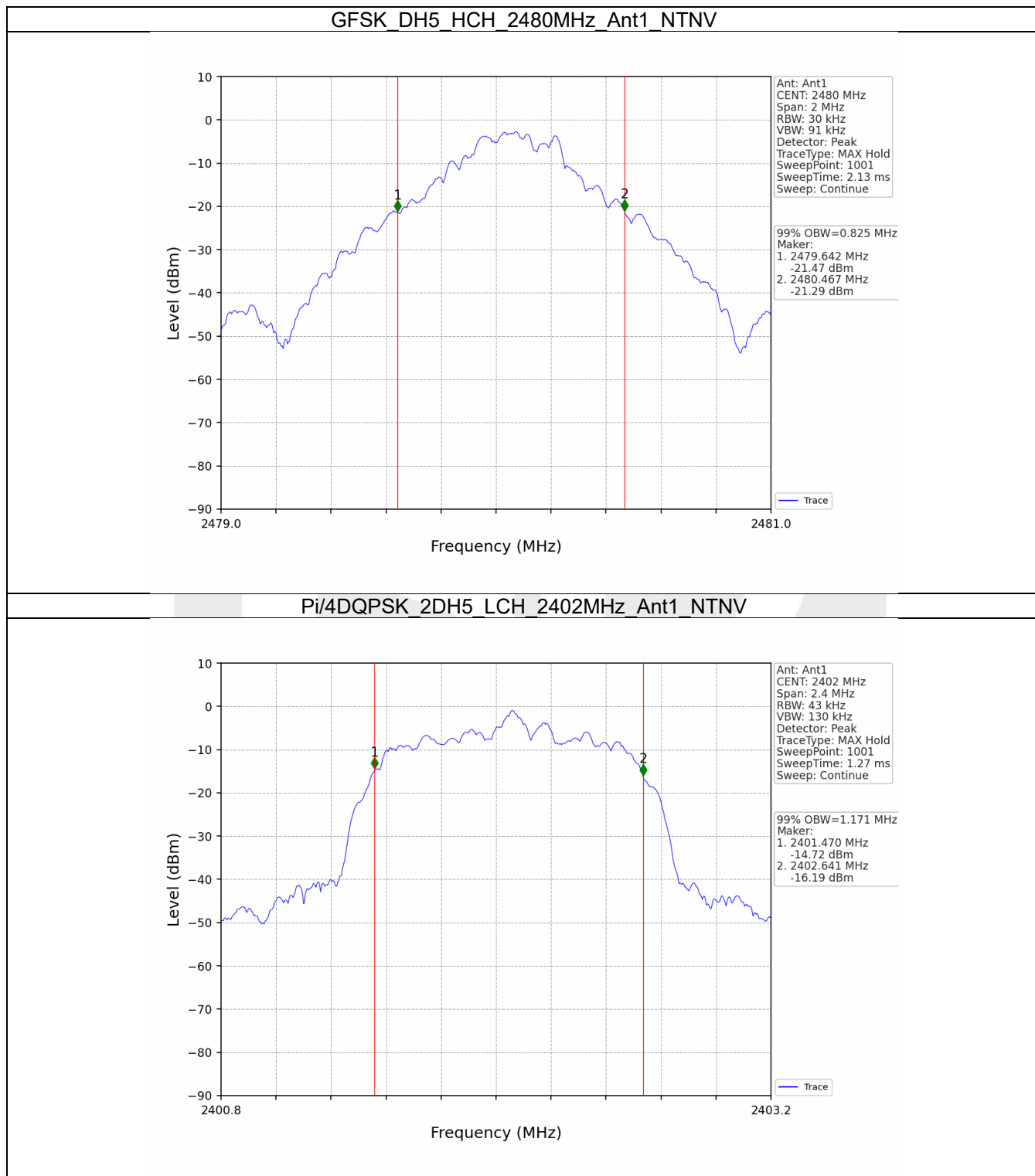
### 2.1 OBW

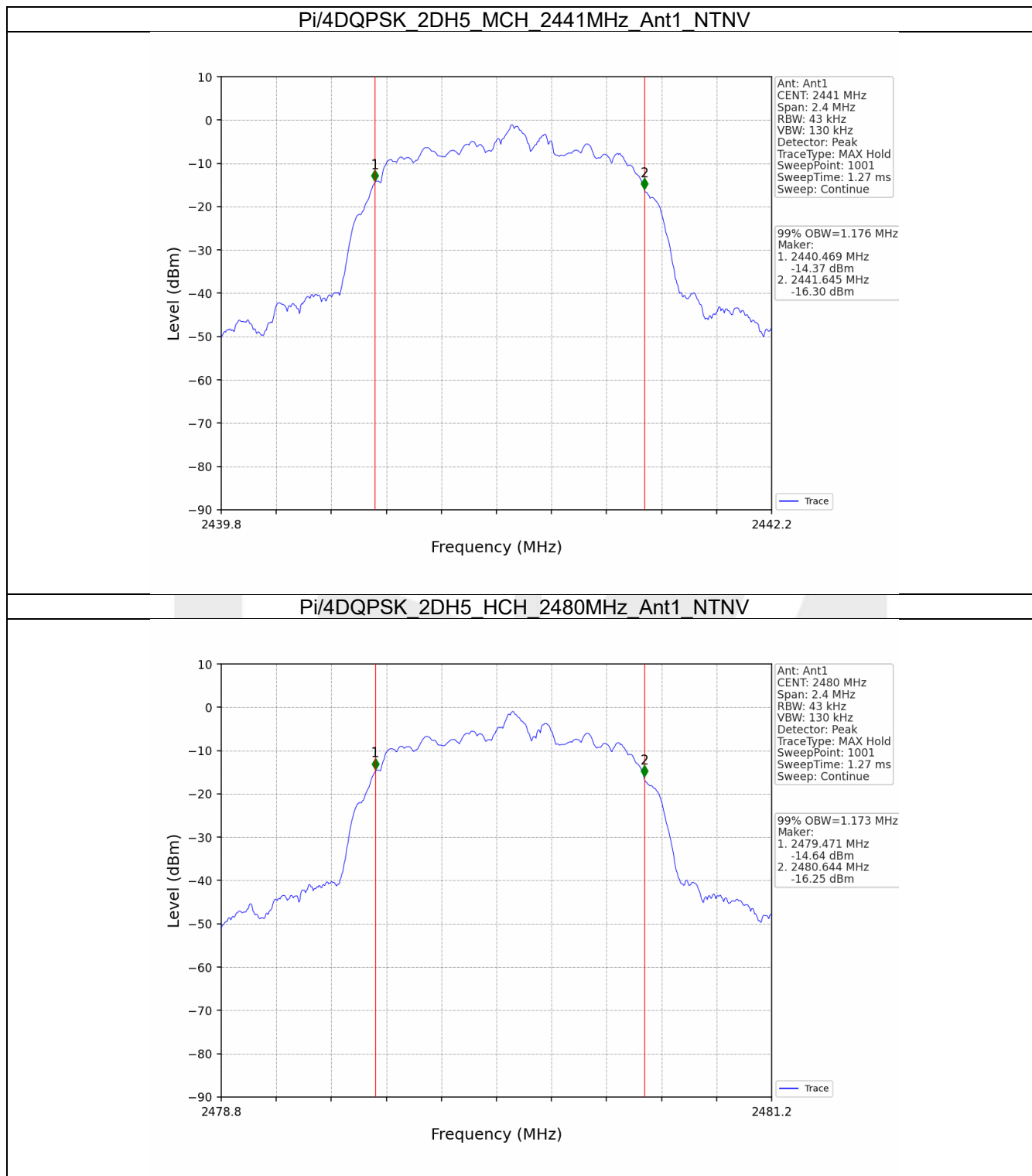
#### 2.1.1 Test Result

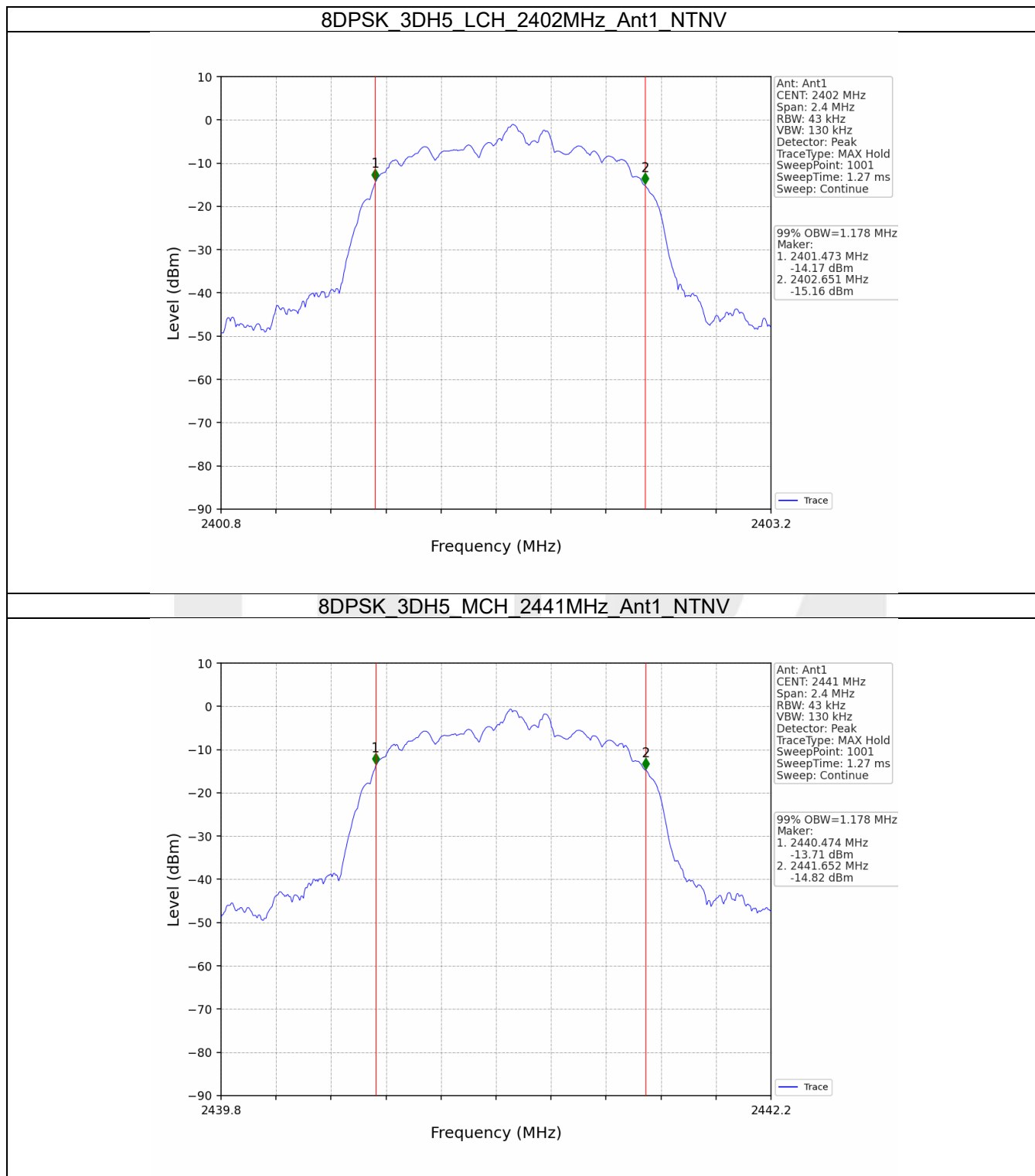
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | 99% Occupied Bandwidth (MHz) | Verdict |
|-----------|---------|-----------------|-------------|-----|------------------------------|---------|
|           |         |                 |             |     | Result                       |         |
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.825                        | Pass    |
|           |         | 2441            | DH5         | 1   | 0.825                        | Pass    |
|           |         | 2480            | DH5         | 1   | 0.825                        | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.171                        | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.176                        | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.173                        | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 1.178                        | Pass    |
|           |         | 2441            | 3DH5        | 1   | 1.178                        | Pass    |
|           |         | 2480            | 3DH5        | 1   | 1.178                        | Pass    |

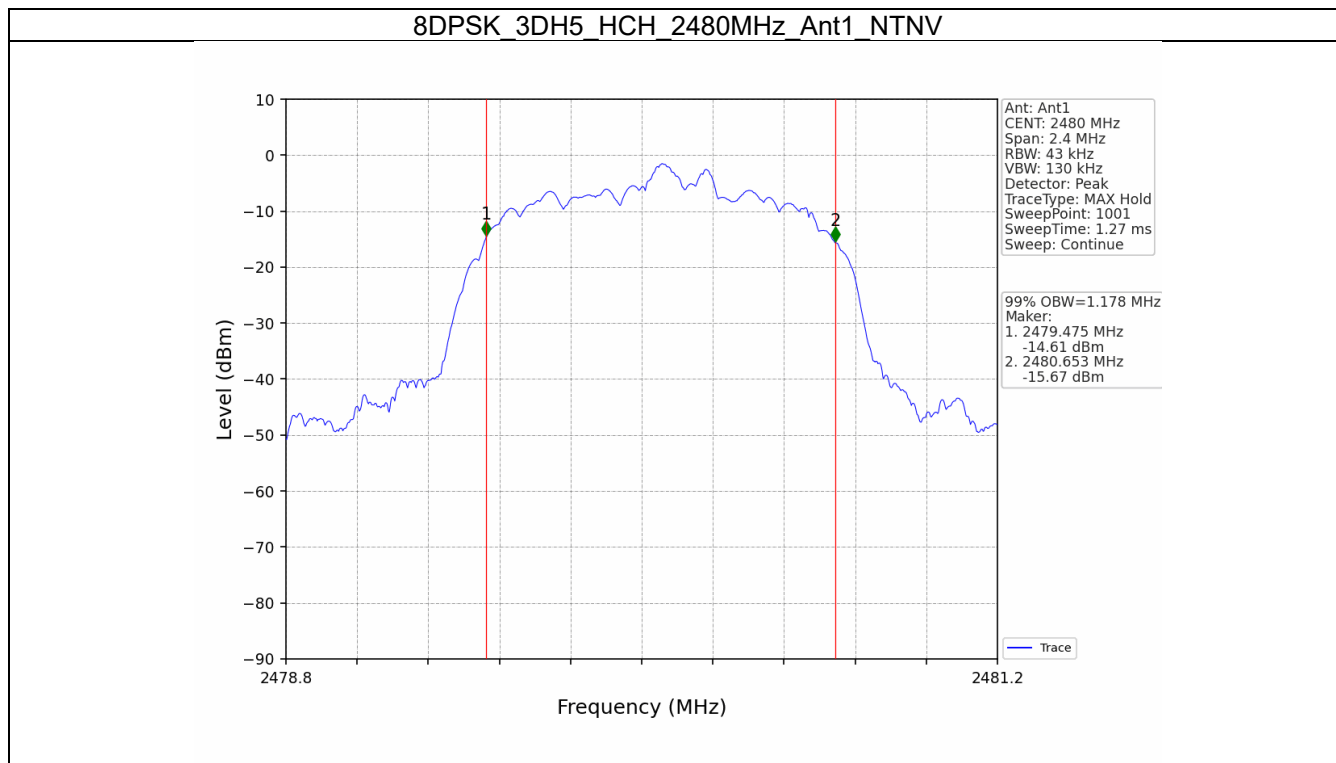
## 2.1.2 Test Graph









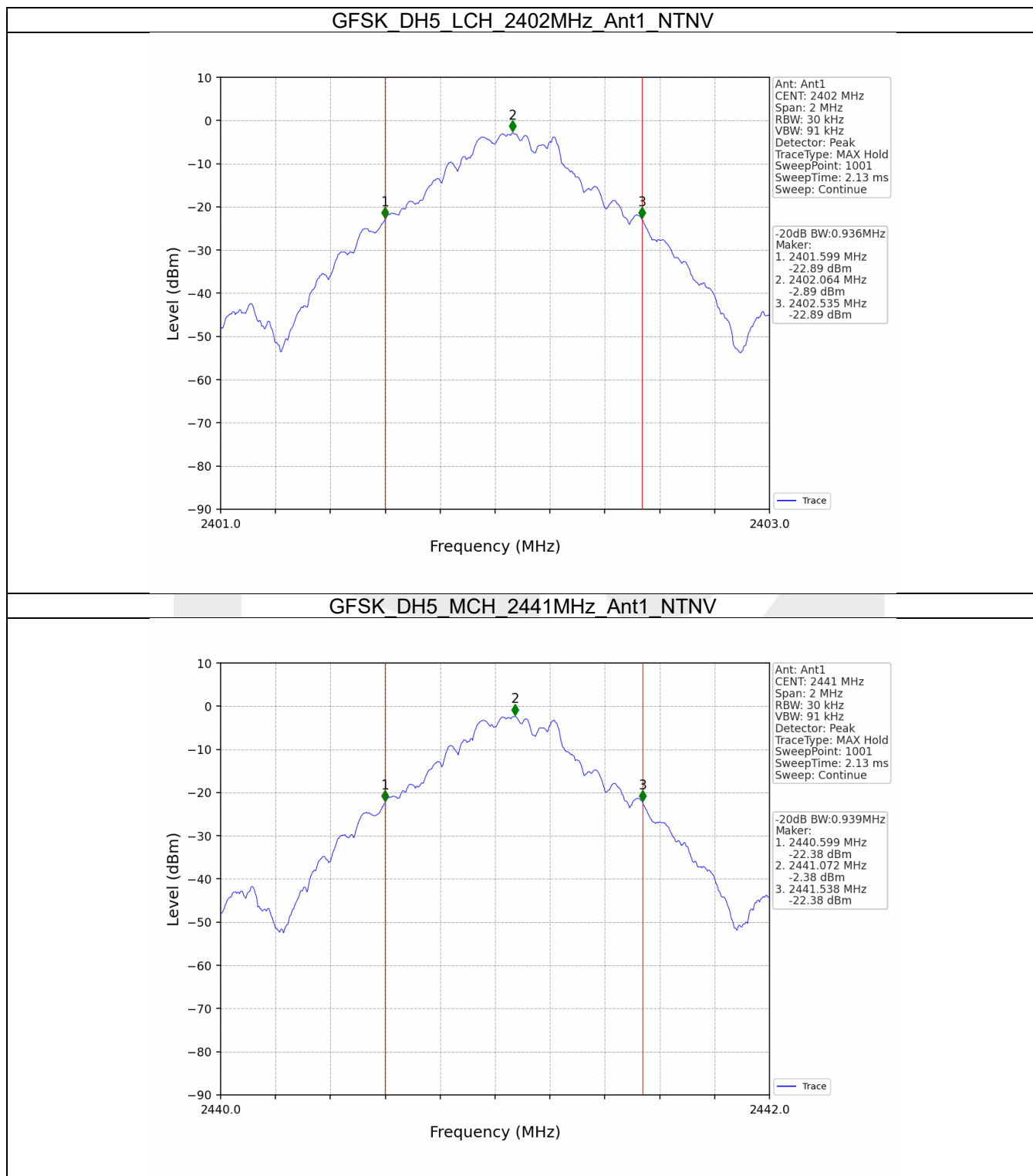


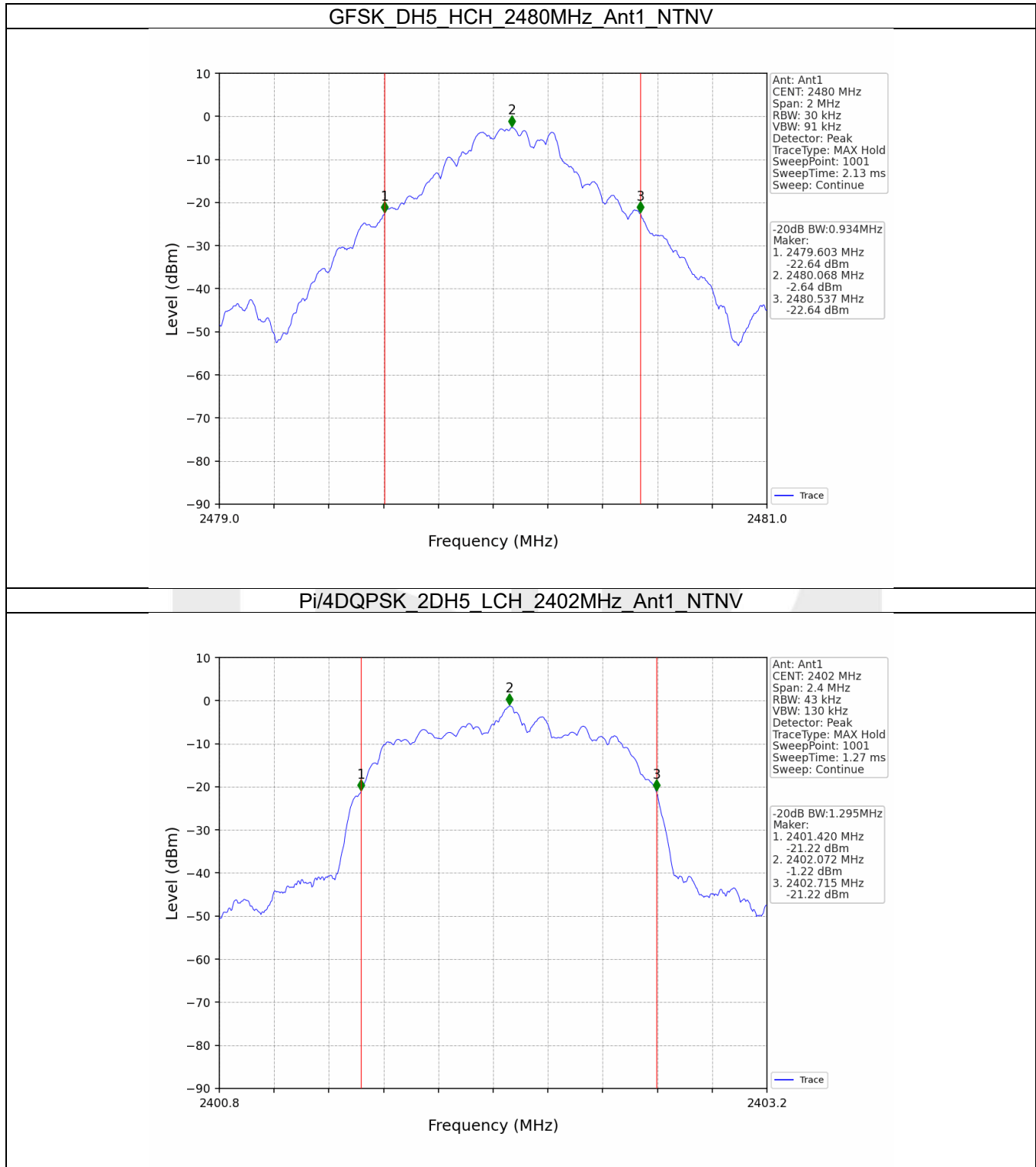
## 2.2 20dB BW

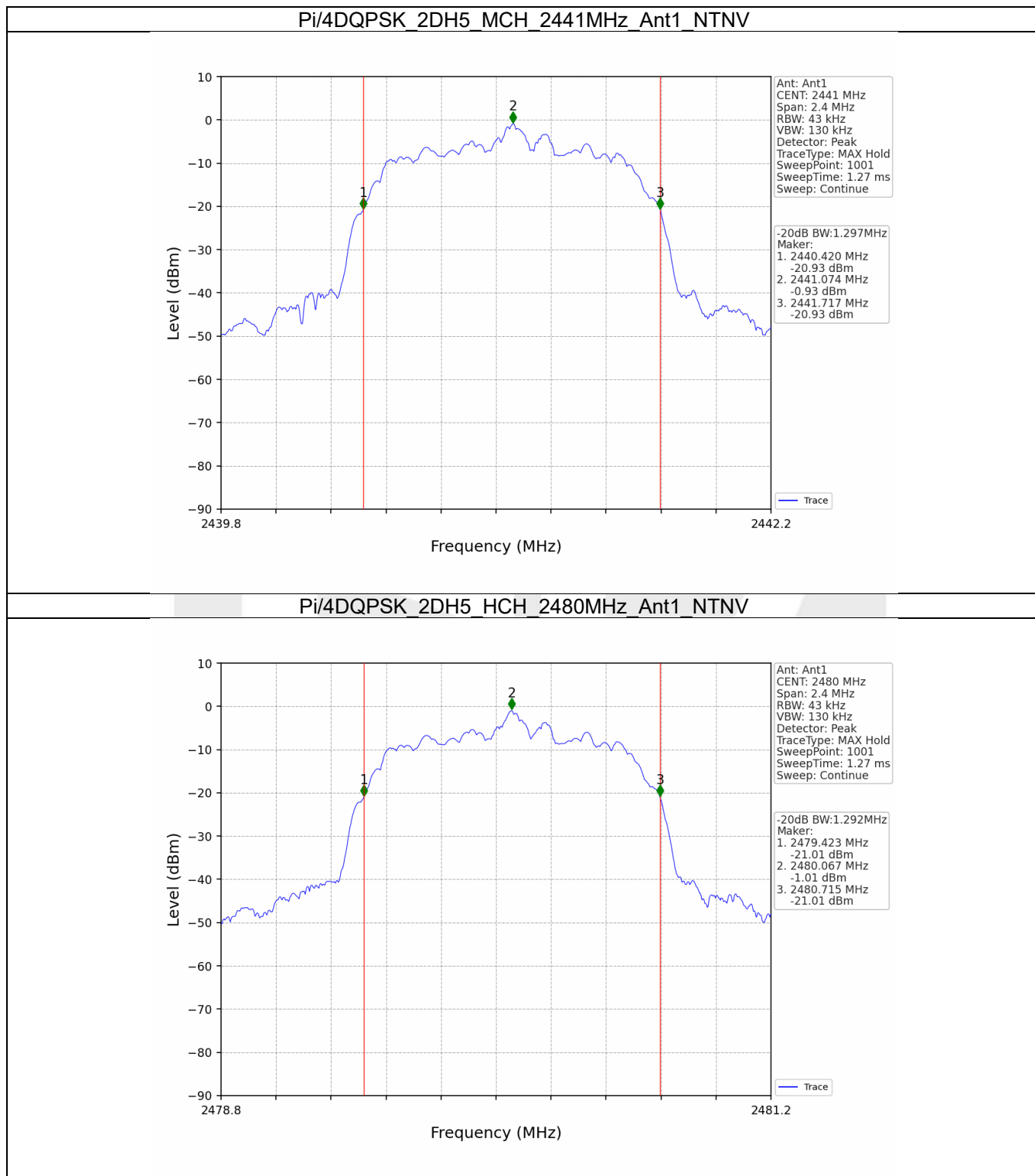
### 2.2.1 Test Result

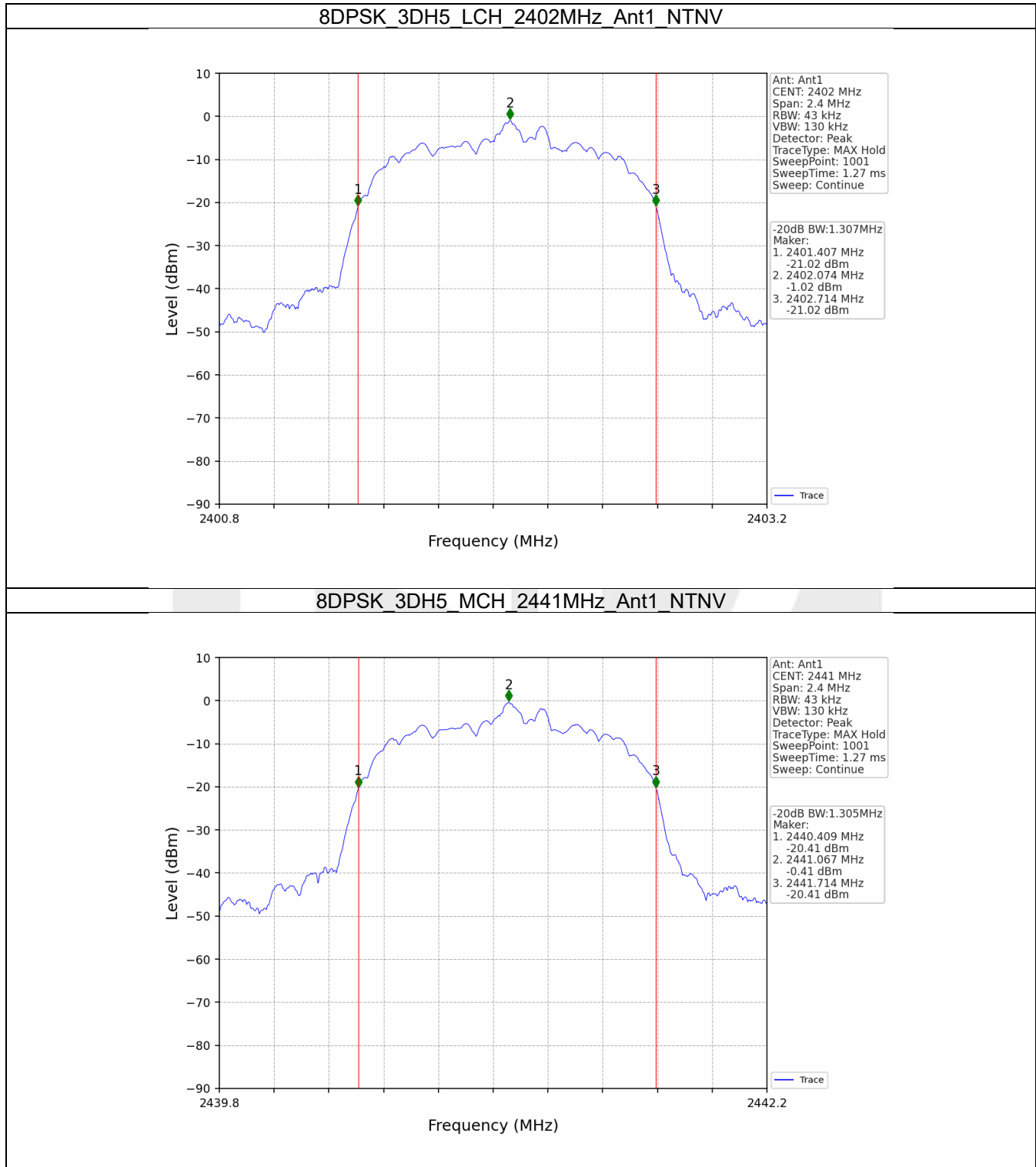
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | 20dB Bandwidth (MHz) | Verdict |
|-----------|---------|-----------------|-------------|-----|----------------------|---------|
|           |         |                 |             |     | Result               |         |
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.936                | Pass    |
|           |         | 2441            | DH5         | 1   | 0.939                | Pass    |
|           |         | 2480            | DH5         | 1   | 0.934                | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.295                | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.297                | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.292                | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 1.307                | Pass    |
|           |         | 2441            | 3DH5        | 1   | 1.305                | Pass    |
|           |         | 2480            | 3DH5        | 1   | 1.307                | Pass    |

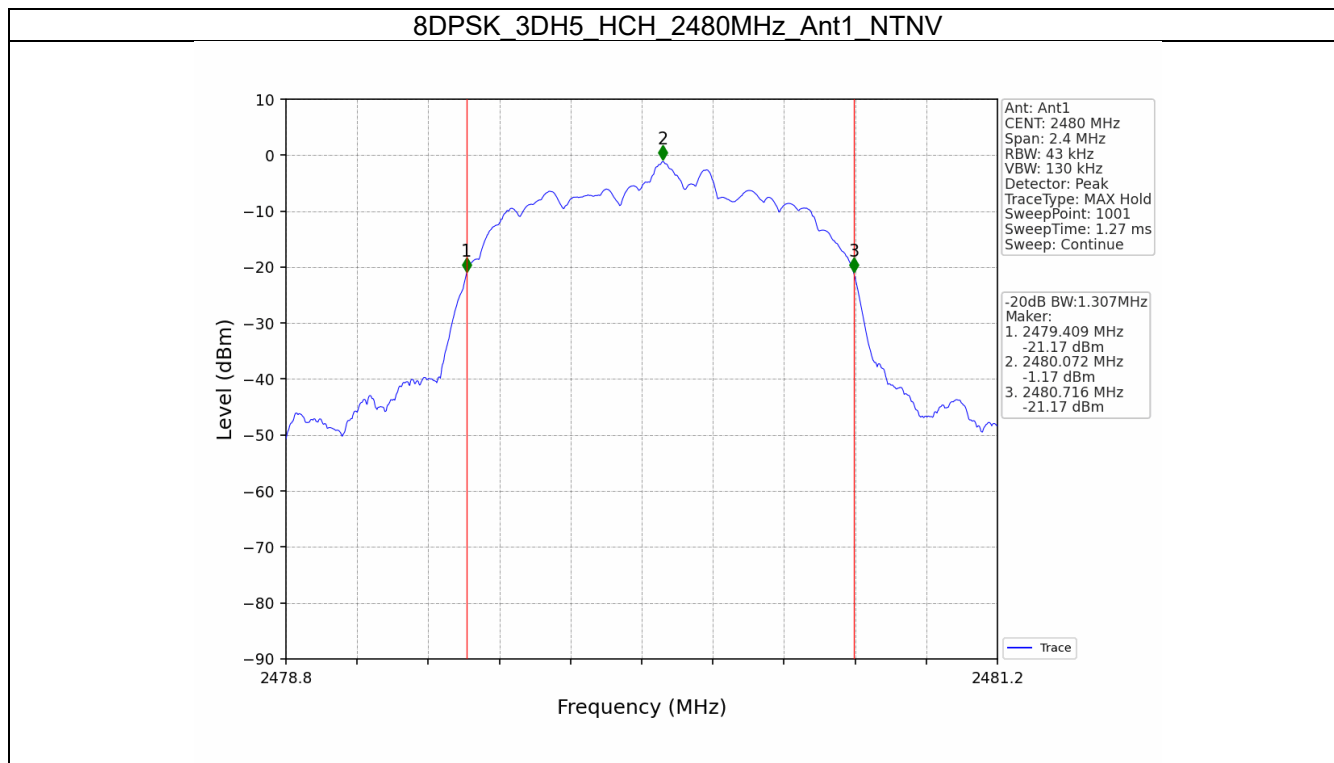
## 2.2.2 Test Graph











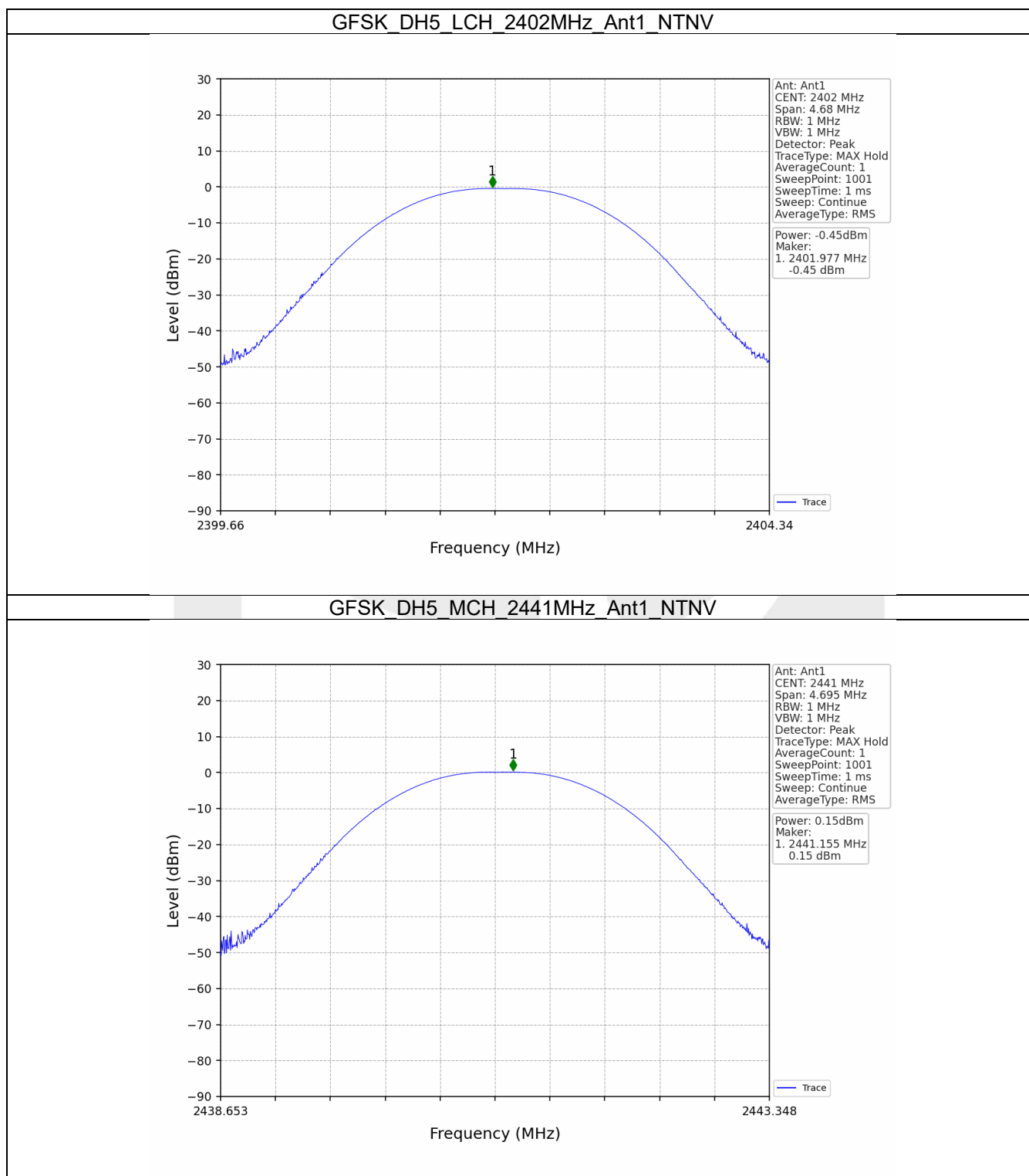
### 3. Maximum Conducted Output Power

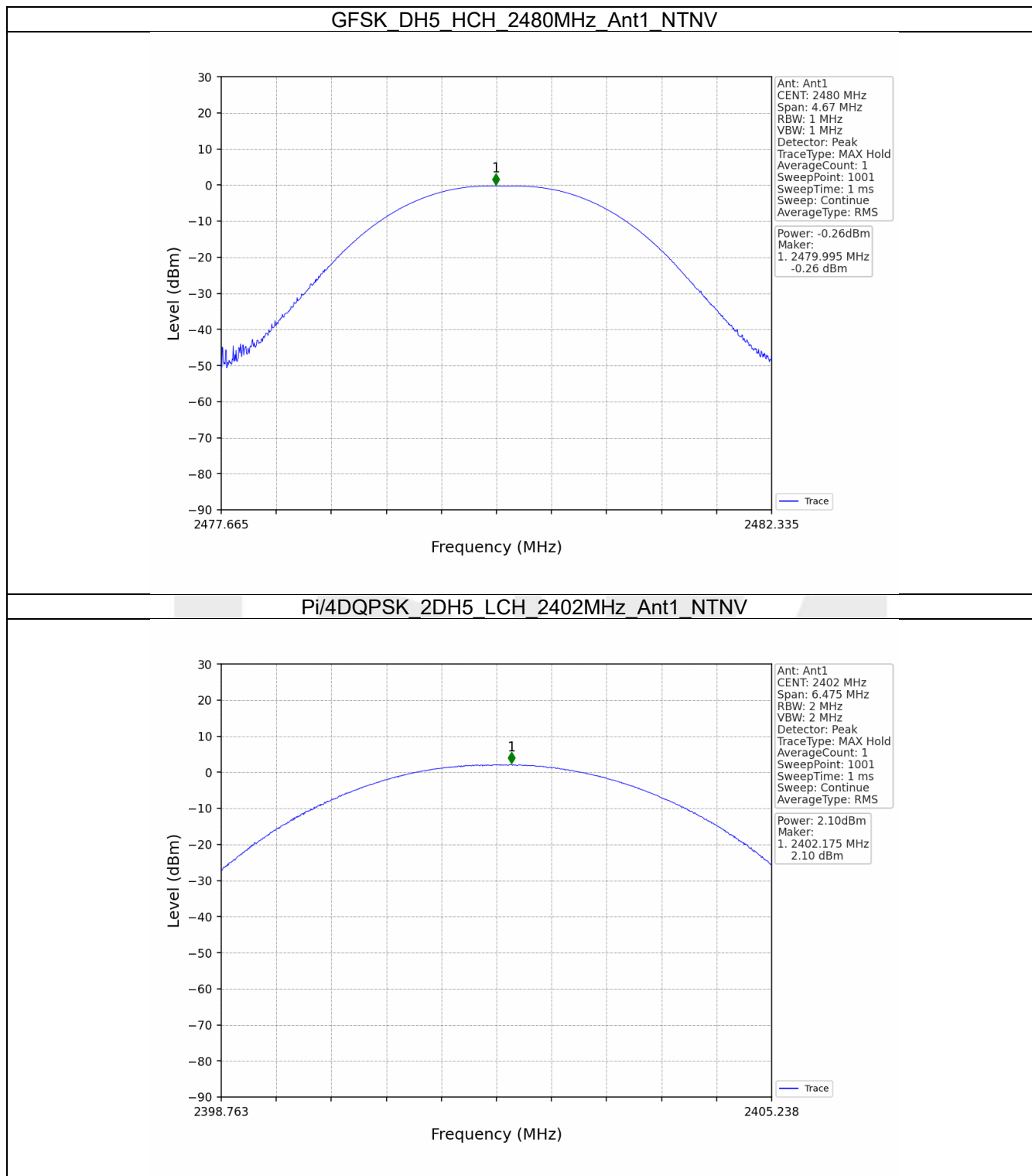
#### 3.1 Power

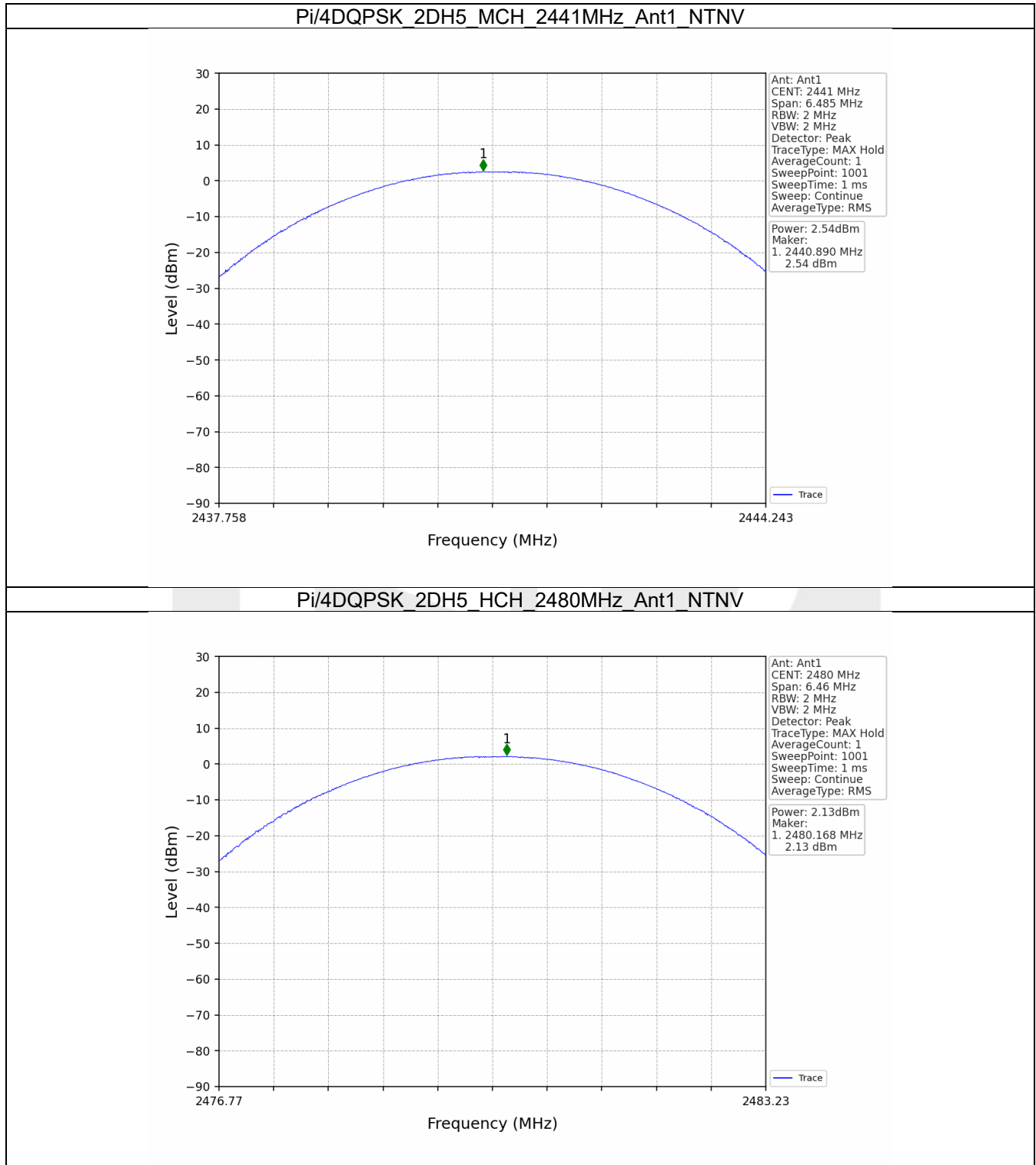
##### 3.1.1 Test Result

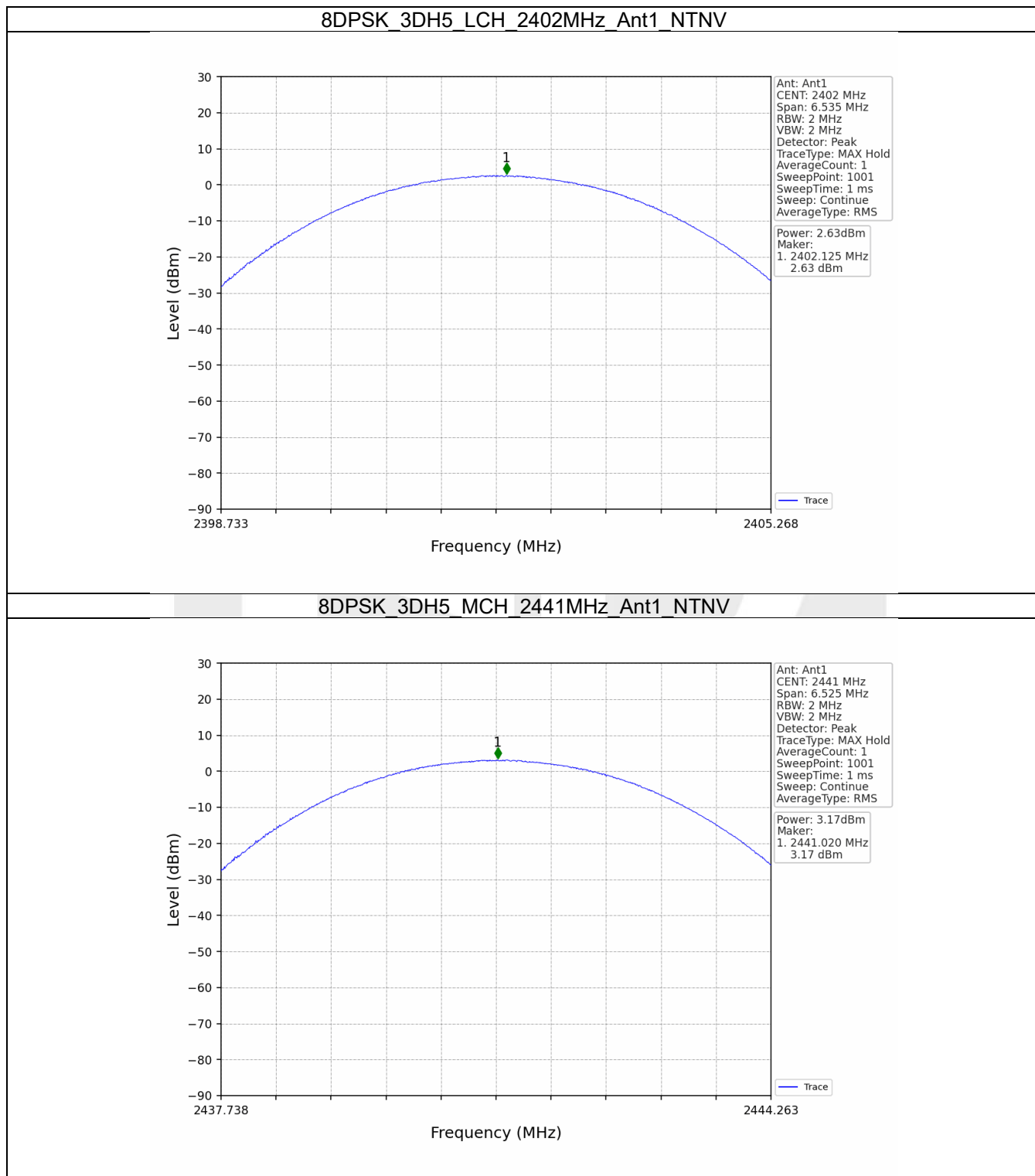
| Mode      | TX Type | Frequency (MHz) | Packet Type | Maximum Peak Conducted Output Power (dBm) |              | Verdict |
|-----------|---------|-----------------|-------------|-------------------------------------------|--------------|---------|
|           |         |                 |             | ANT1                                      | Limit        |         |
| GFSK      | SISO    | 2402            | DH5         | -0.45                                     | $\leq 30$    | Pass    |
|           |         | 2441            | DH5         | 0.15                                      | $\leq 30$    | Pass    |
|           |         | 2480            | DH5         | -0.26                                     | $\leq 30$    | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 2.10                                      | $\leq 20.97$ | Pass    |
|           |         | 2441            | 2DH5        | 2.54                                      | $\leq 20.97$ | Pass    |
|           |         | 2480            | 2DH5        | 2.13                                      | $\leq 20.97$ | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 2.63                                      | $\leq 20.97$ | Pass    |
|           |         | 2441            | 3DH5        | 3.17                                      | $\leq 20.97$ | Pass    |
|           |         | 2480            | 3DH5        | 2.36                                      | $\leq 20.97$ | Pass    |

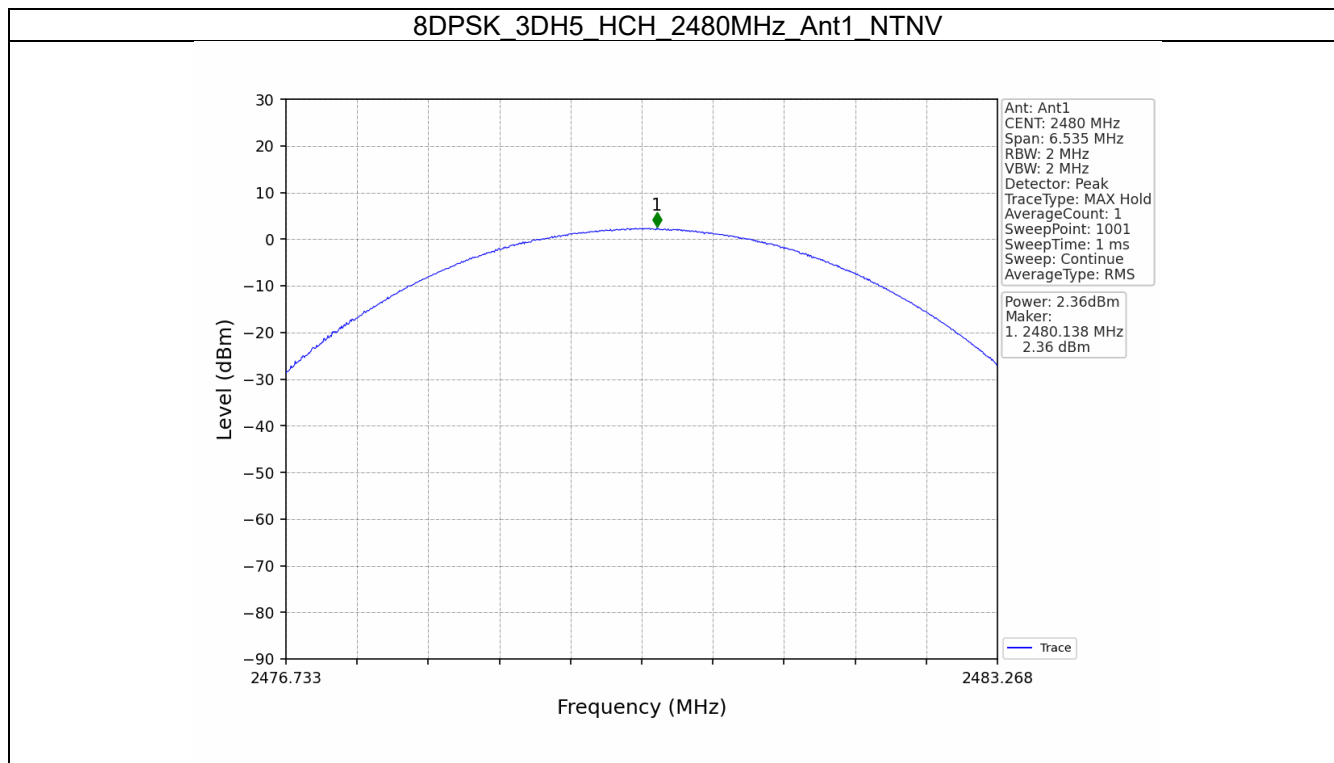
### 3.1.2 Test Graph











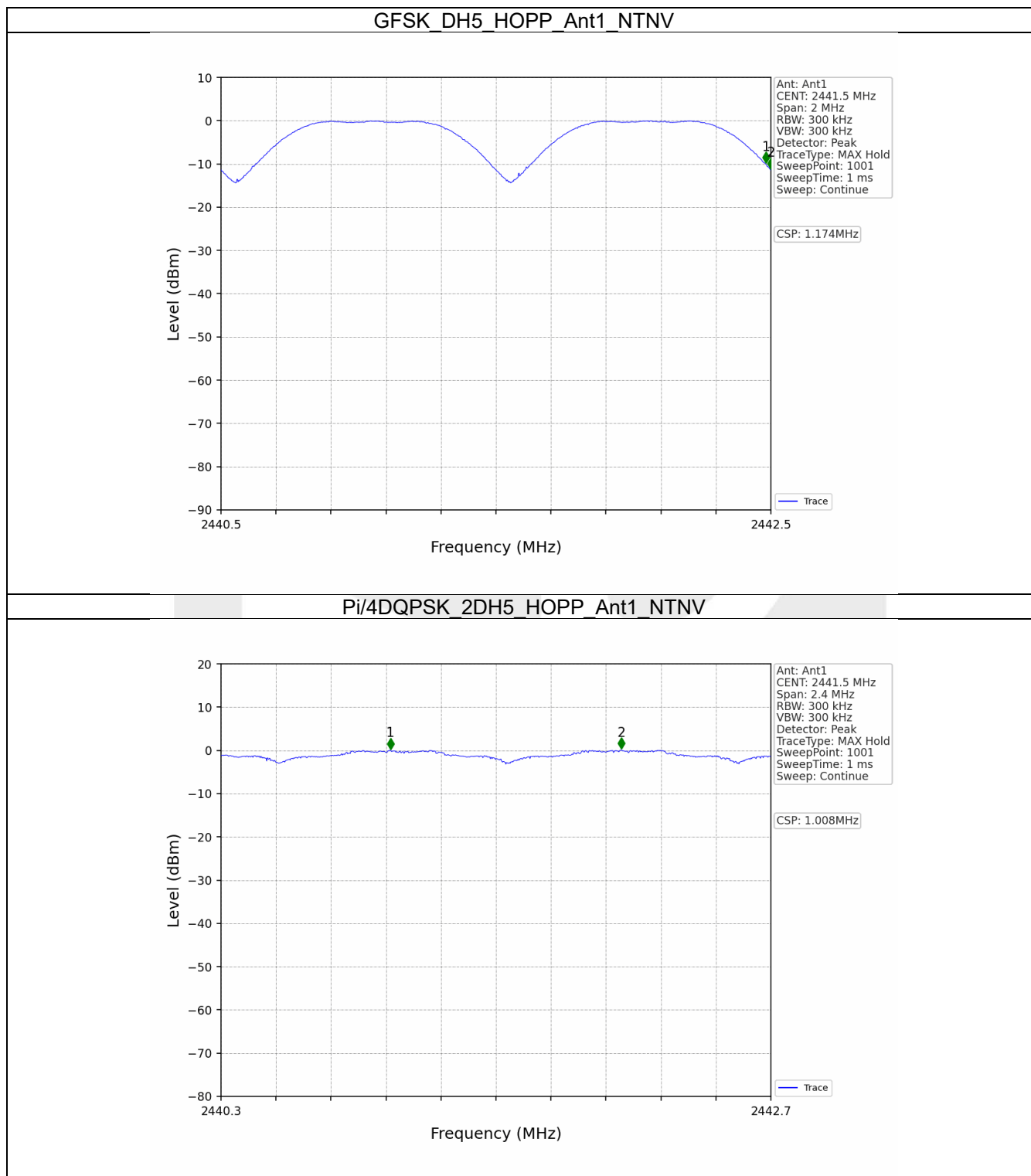
#### 4. Carrier Frequency Separation

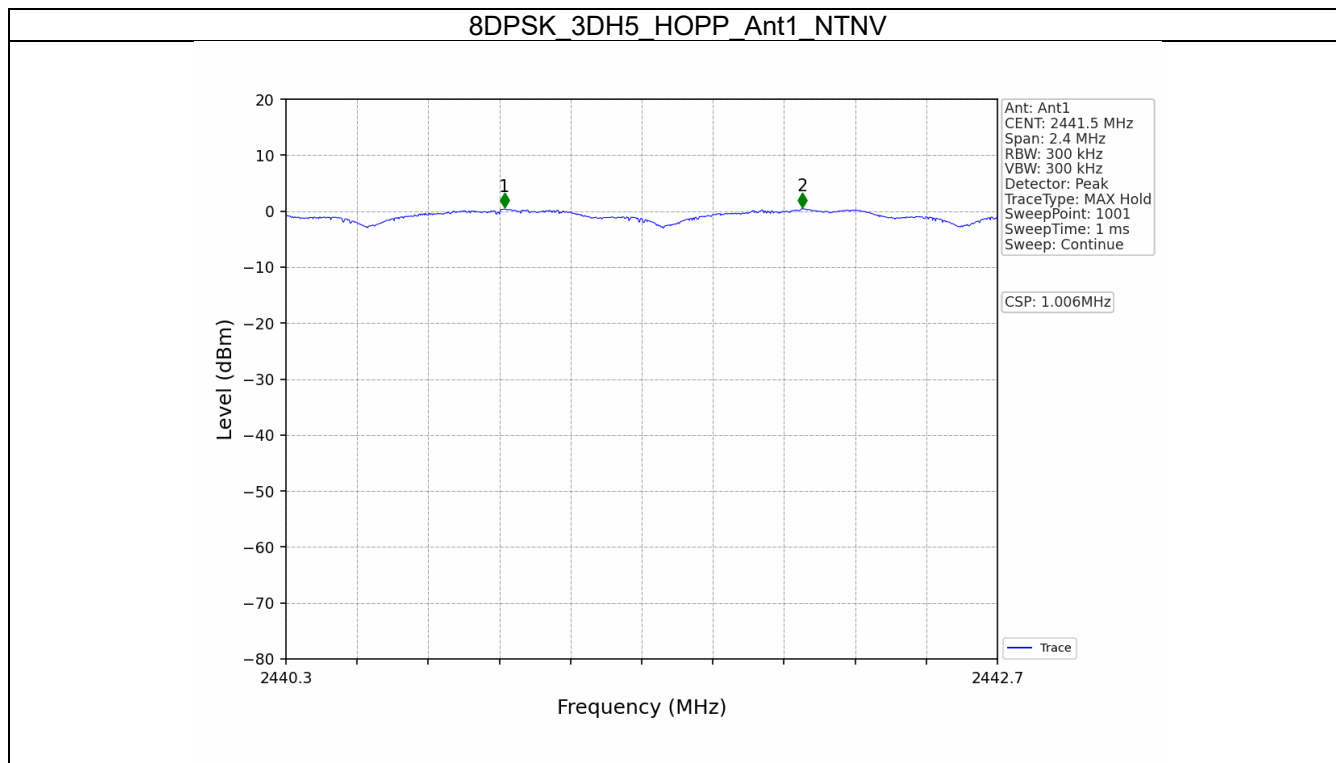
##### 4.1 Ant1

##### 4.1.1 Test Result

| Ant1      |         |                 |             |                          |                      |              |         |
|-----------|---------|-----------------|-------------|--------------------------|----------------------|--------------|---------|
| Mode      | TX Type | Frequency (MHz) | Packet Type | Channel Separation (MHz) | 20dB Bandwidth (MHz) | Limit (MHz)  | Verdict |
| GFSK      | SISO    | HOPP            | DH5         | 1.174                    | 0.939                | $\geq 0.939$ | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH5        | 1.008                    | 1.297                | $\geq 0.865$ | Pass    |
| 8DPSK     | SISO    | HOPP            | 3DH5        | 1.006                    | 1.307                | $\geq 0.871$ | Pass    |

#### 4.1.2 Test Graph





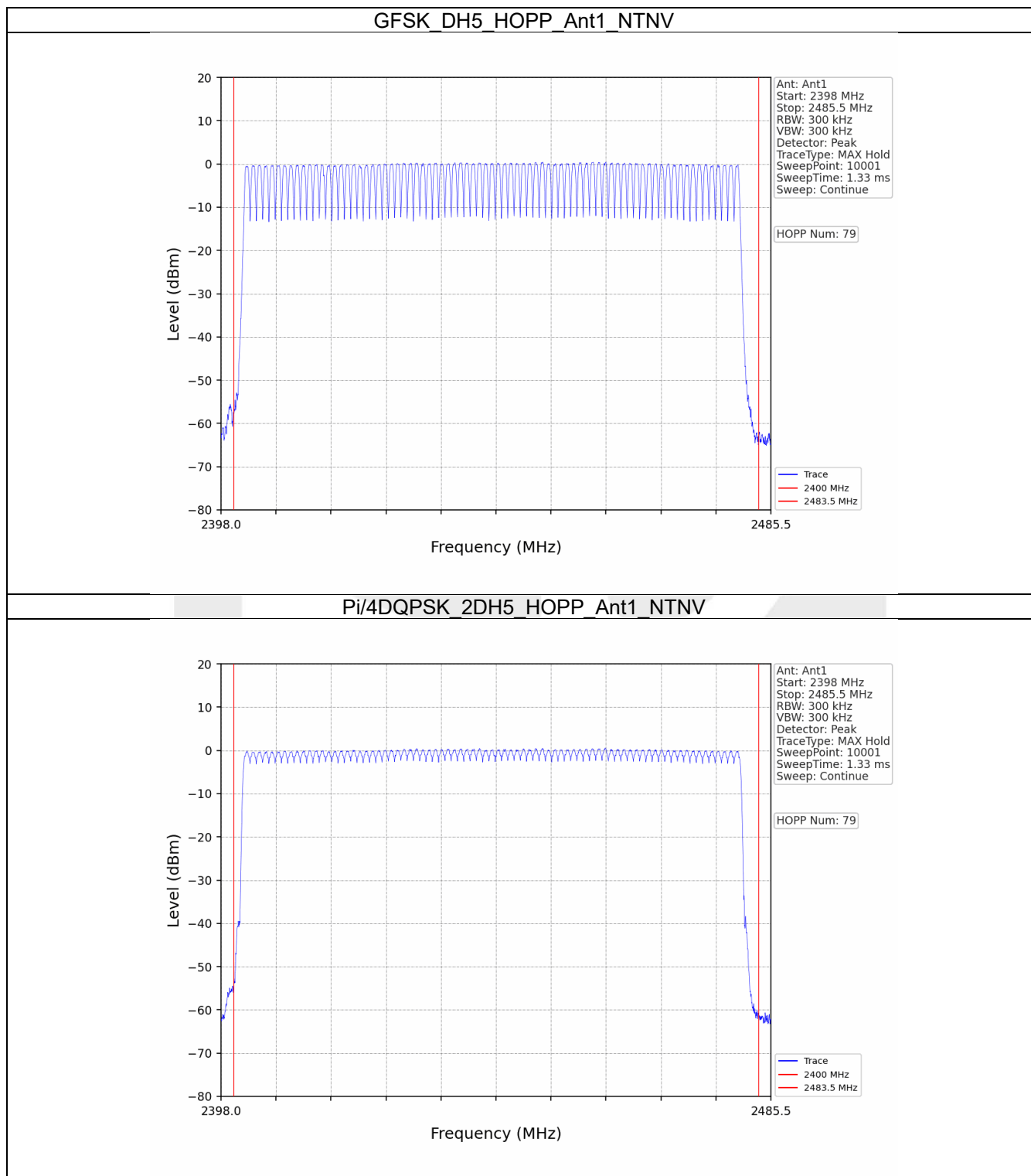
## 5. Number of Hopping Frequencies

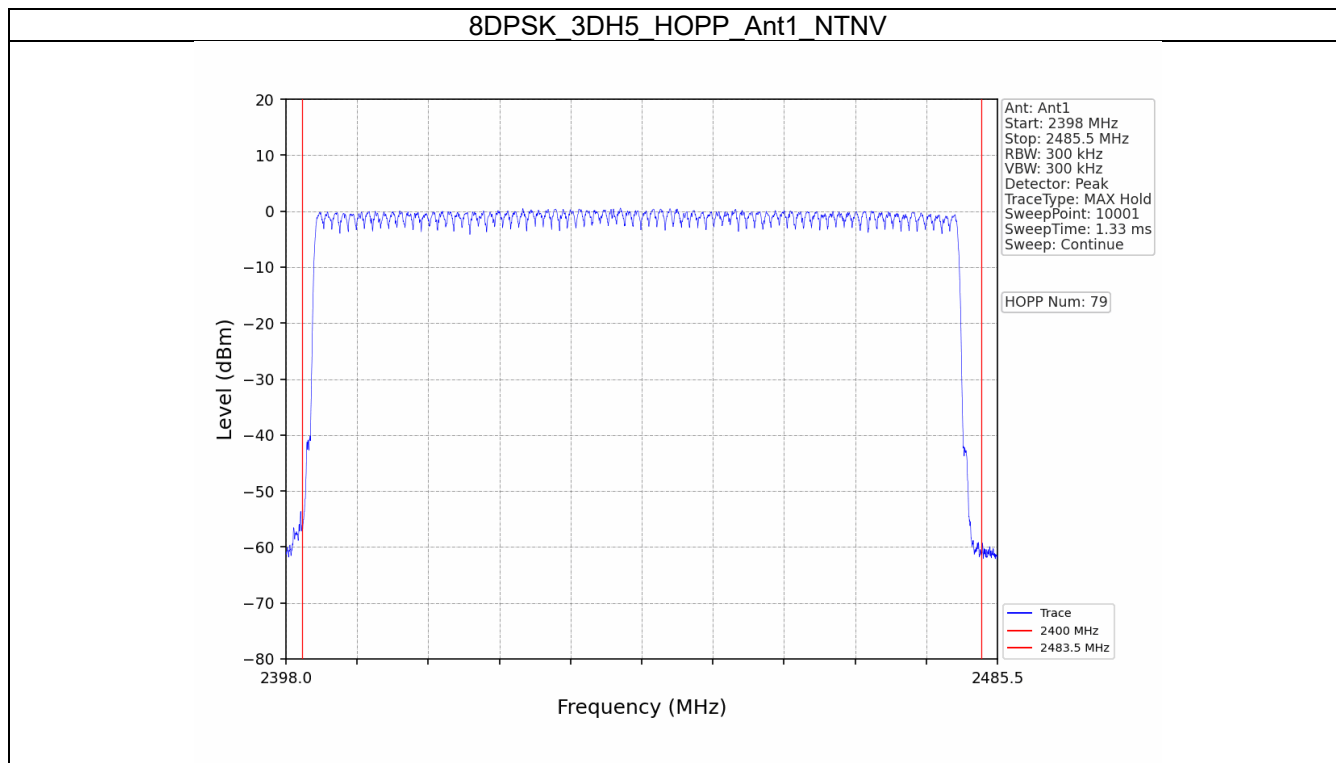
### 5.1 HoppNum

#### 5.1.1 Test Result

| 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    |

### 5.1.2 Test Graph





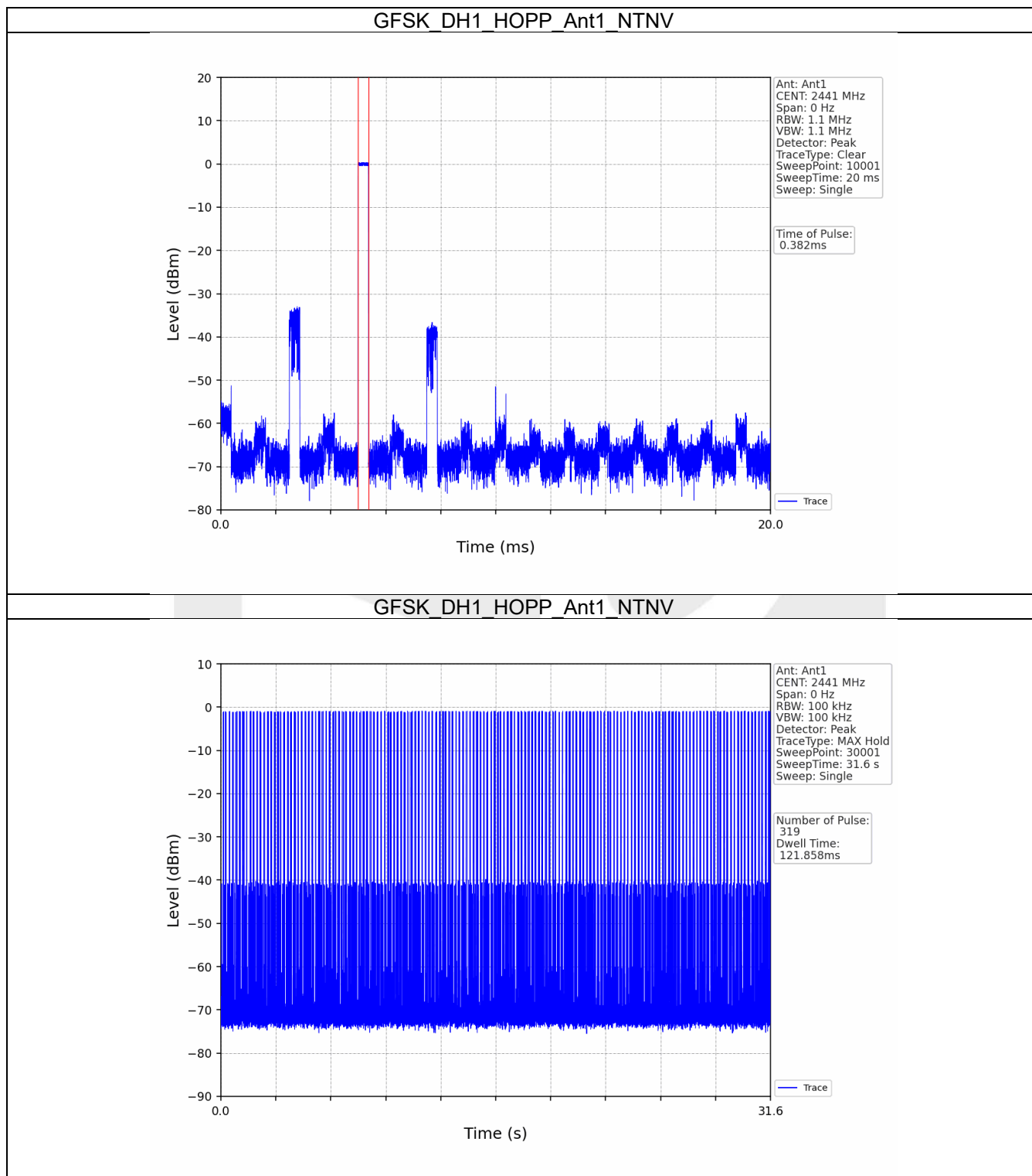
## 6. Time of Occupancy (Dwell Time)

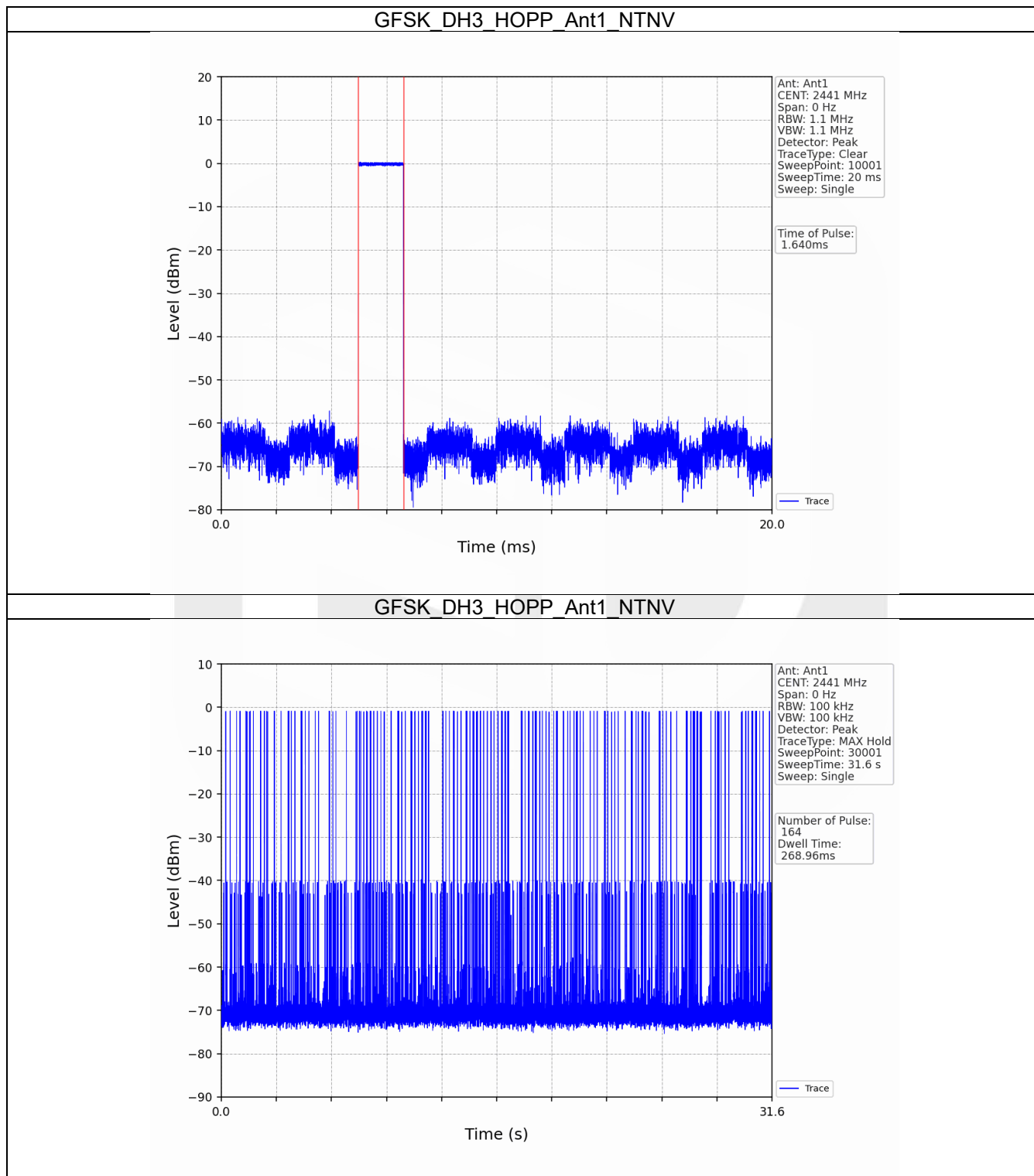
### 6.1 Ant1

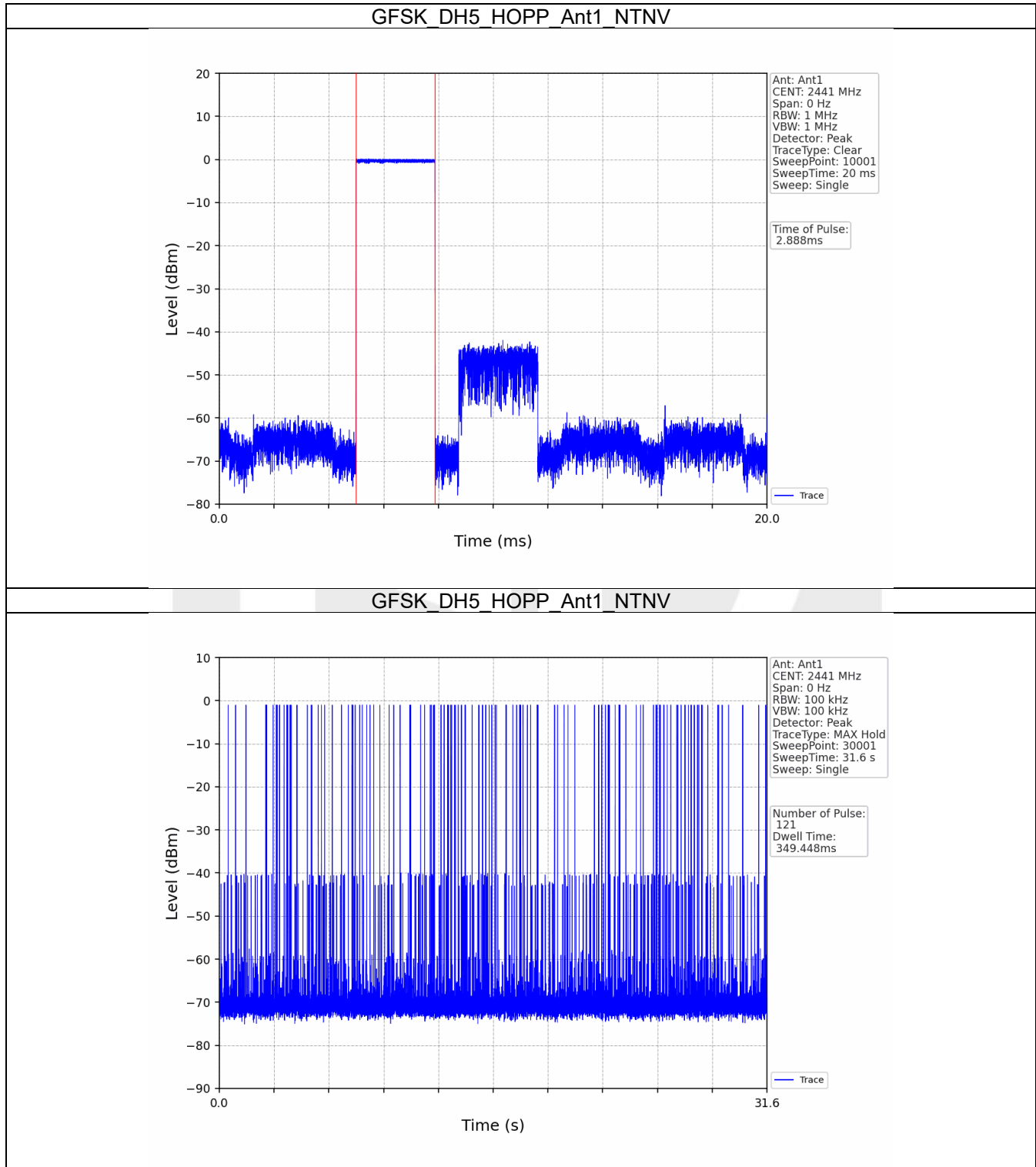
#### 6.1.1 Test Result

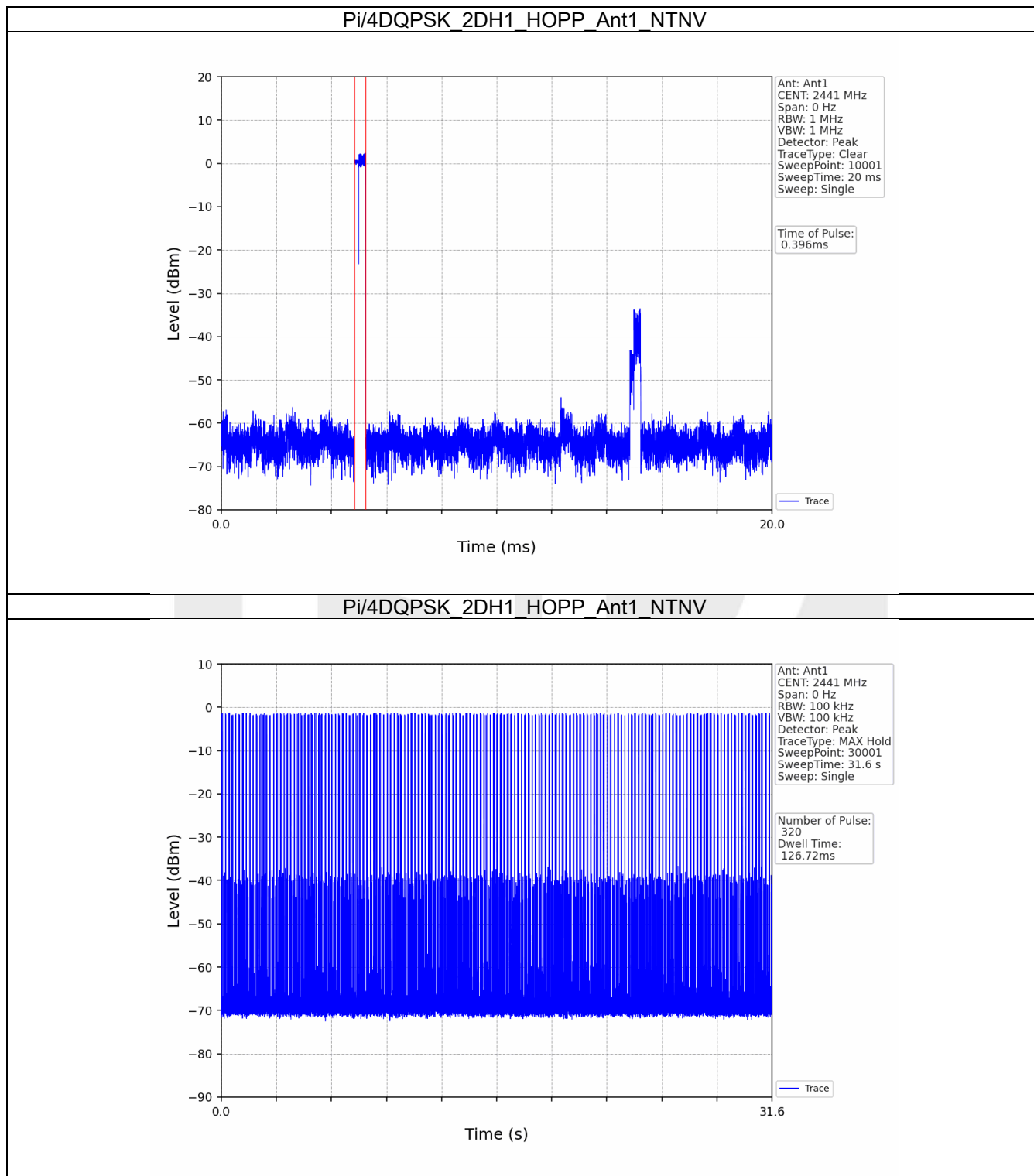
| Ant1      |         |                 |             |                               |                        |                                    |                 |            |         |
|-----------|---------|-----------------|-------------|-------------------------------|------------------------|------------------------------------|-----------------|------------|---------|
| 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         | 0.382                         | 31.600                 | 319                                | 121.858         | <=400      | Pass    |
|           |         |                 | DH3         | 1.640                         | 31.600                 | 164                                | 268.960         | <=400      | Pass    |
|           |         |                 | DH5         | 2.888                         | 31.600                 | 121                                | 349.448         | <=400      | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH1        | 0.396                         | 31.600                 | 320                                | 126.720         | <=400      | Pass    |
|           |         |                 | 2DH3        | 1.648                         | 31.600                 | 163                                | 268.624         | <=400      | Pass    |
|           |         |                 | 2DH5        | 2.896                         | 31.600                 | 93                                 | 269.328         | <=400      | Pass    |
| 8DPSK     | SISO    | HOPP            | 3DH1        | 0.396                         | 31.600                 | 320                                | 126.720         | <=400      | Pass    |
|           |         |                 | 3DH3        | 1.650                         | 31.600                 | 157                                | 259.050         | <=400      | Pass    |
|           |         |                 | 3DH5        | 2.900                         | 31.600                 | 113                                | 327.700         | <=400      | Pass    |

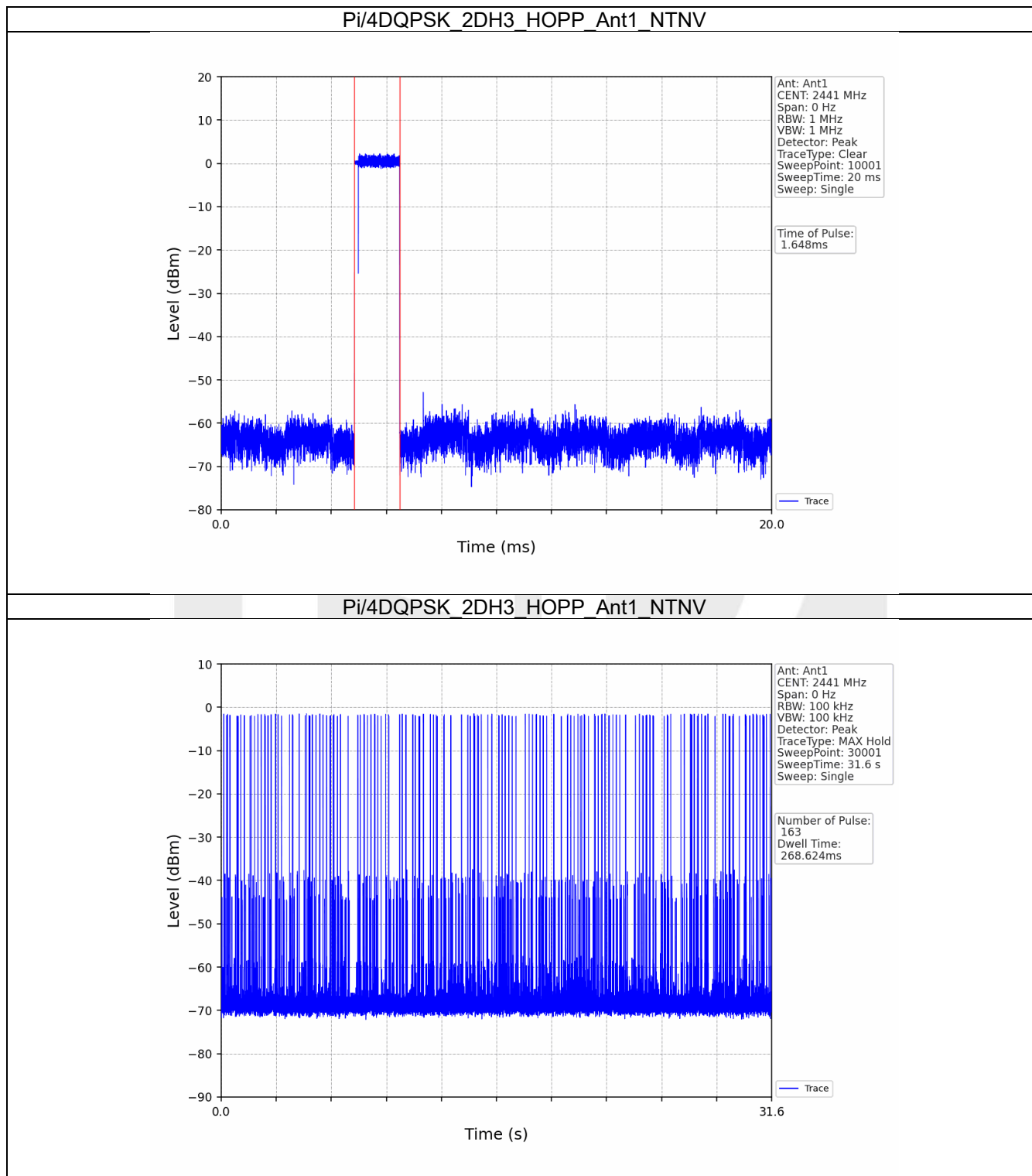
### 6.1.2 Test Graph

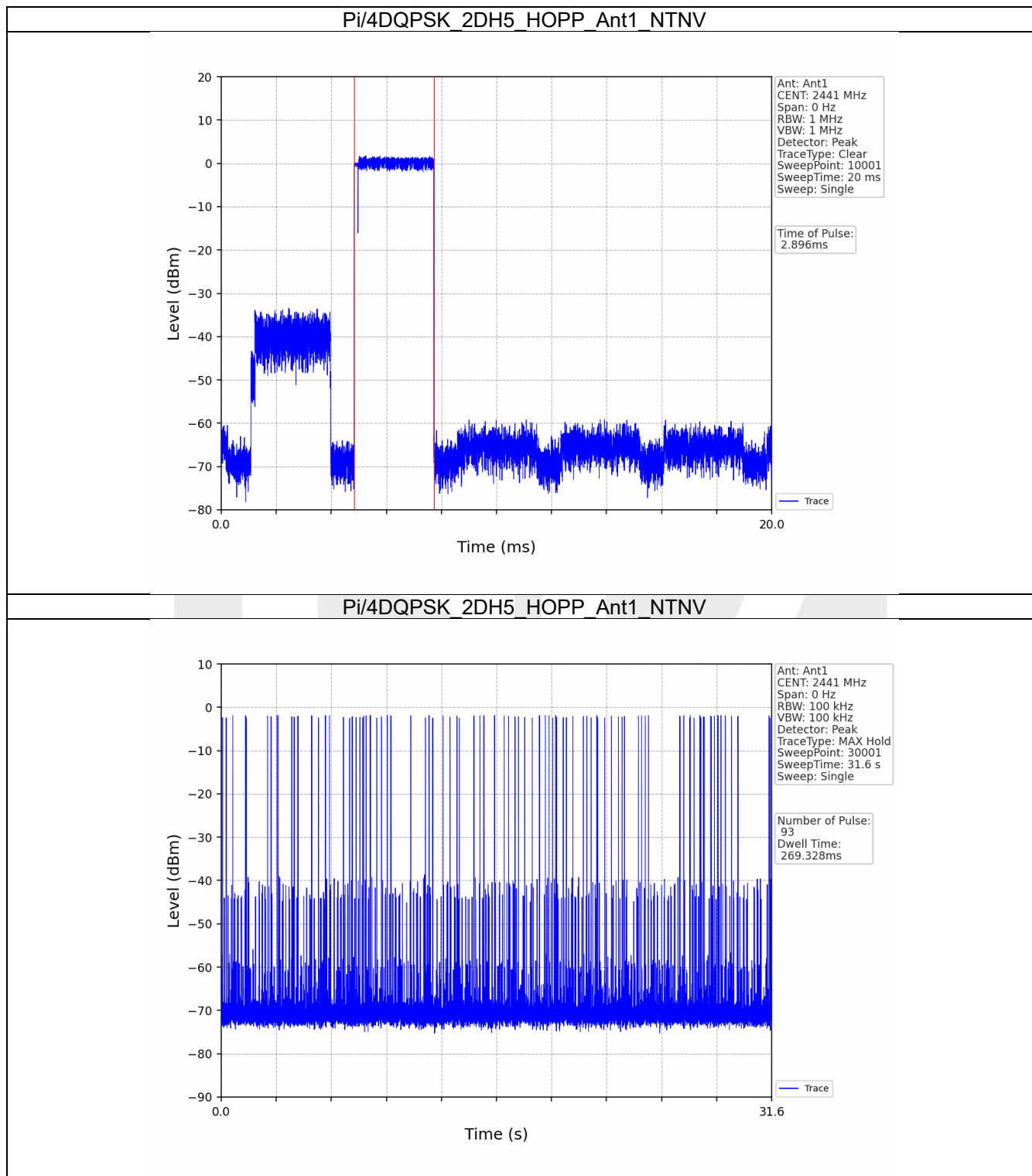


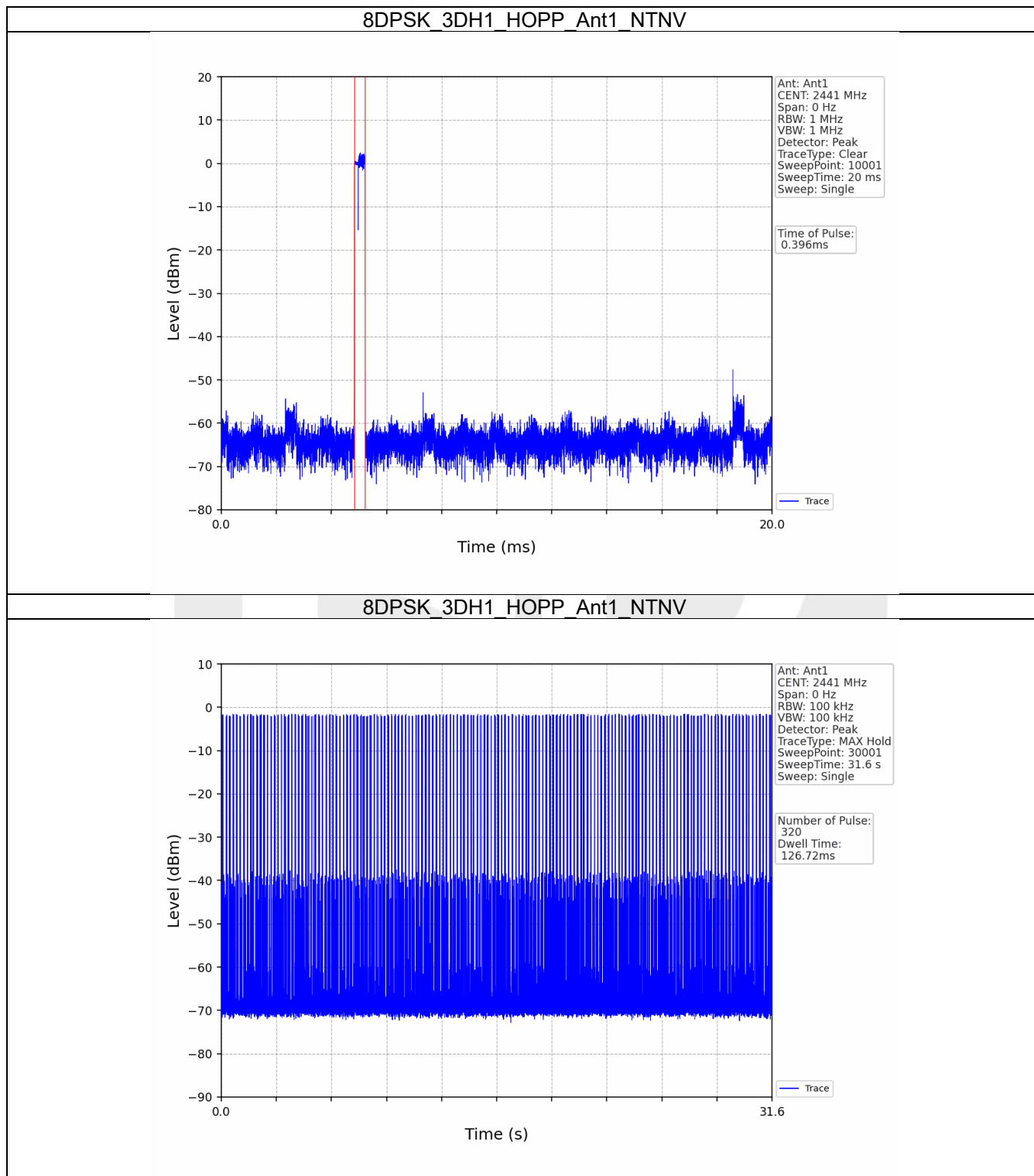


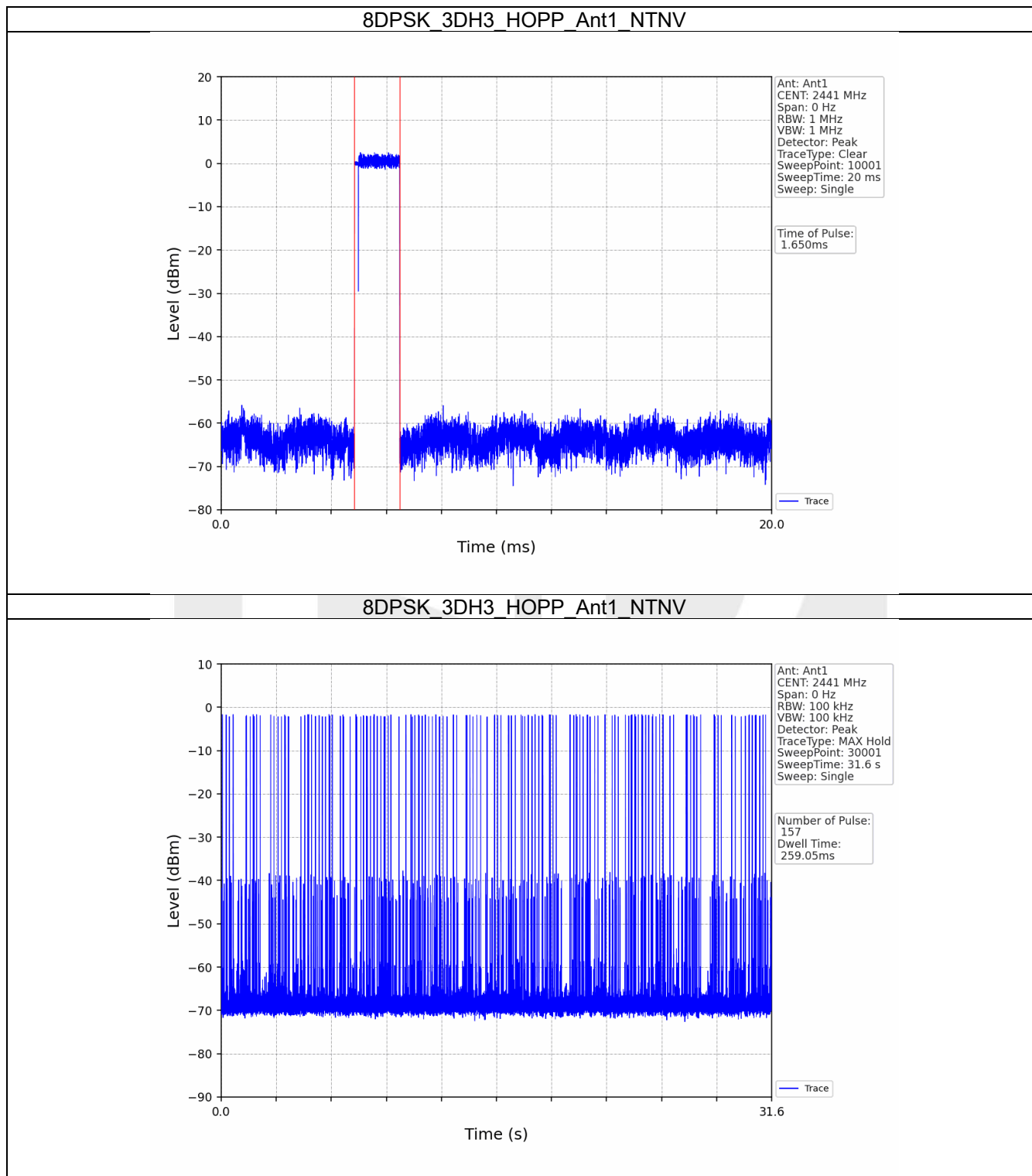


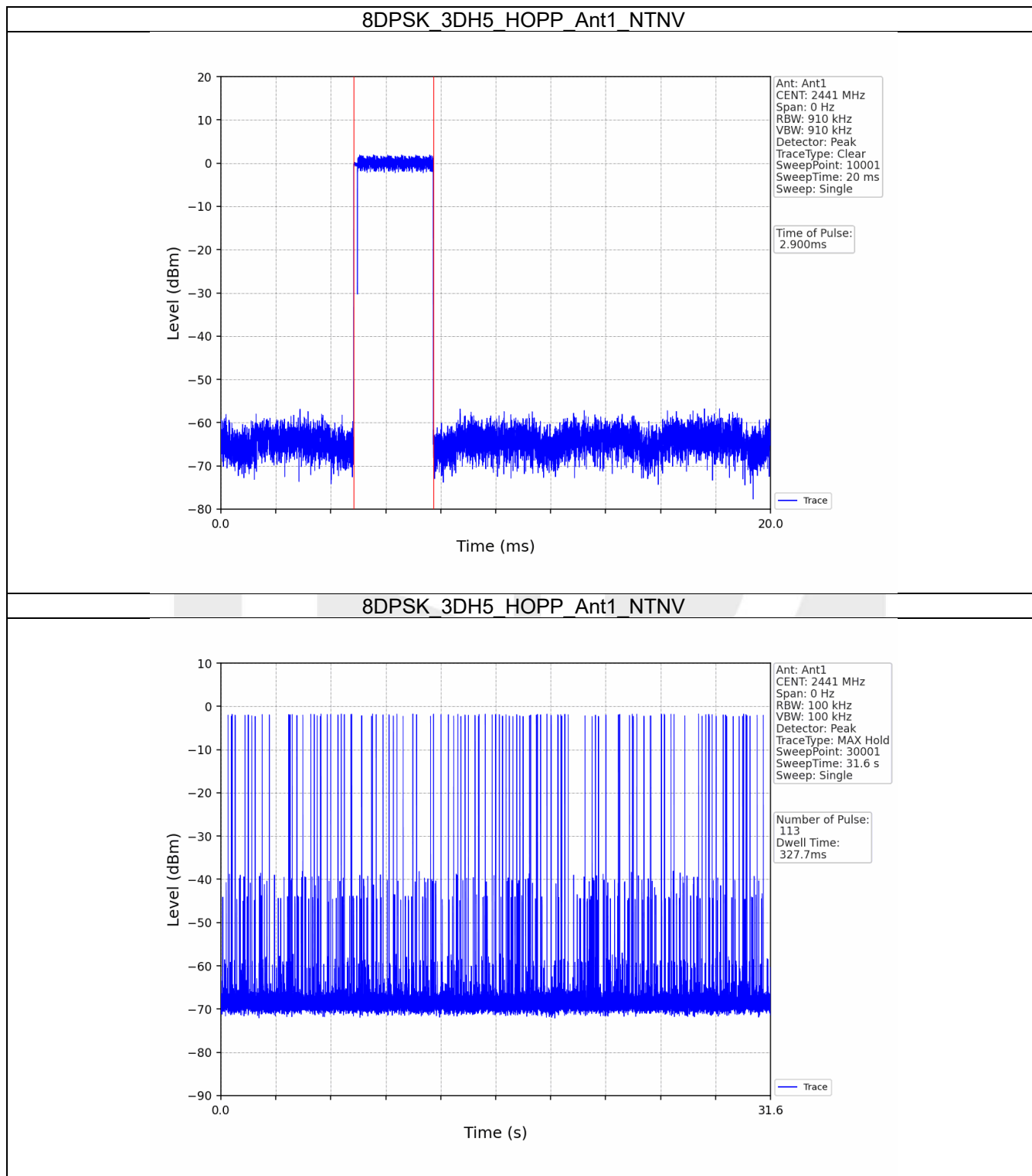












## 7. Unwanted Emissions In Non-restricted Frequency Bands

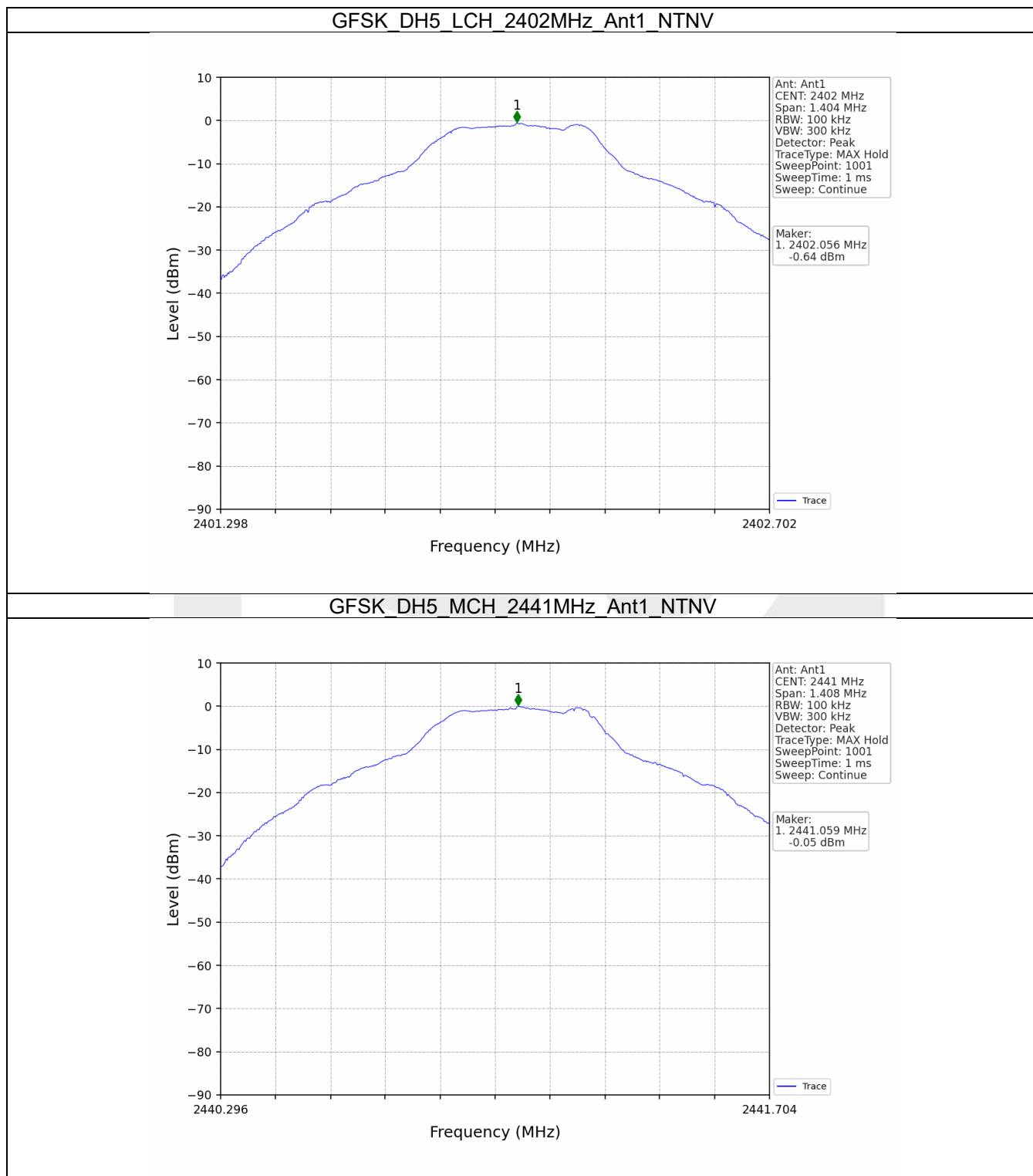
### 7.1 Ref

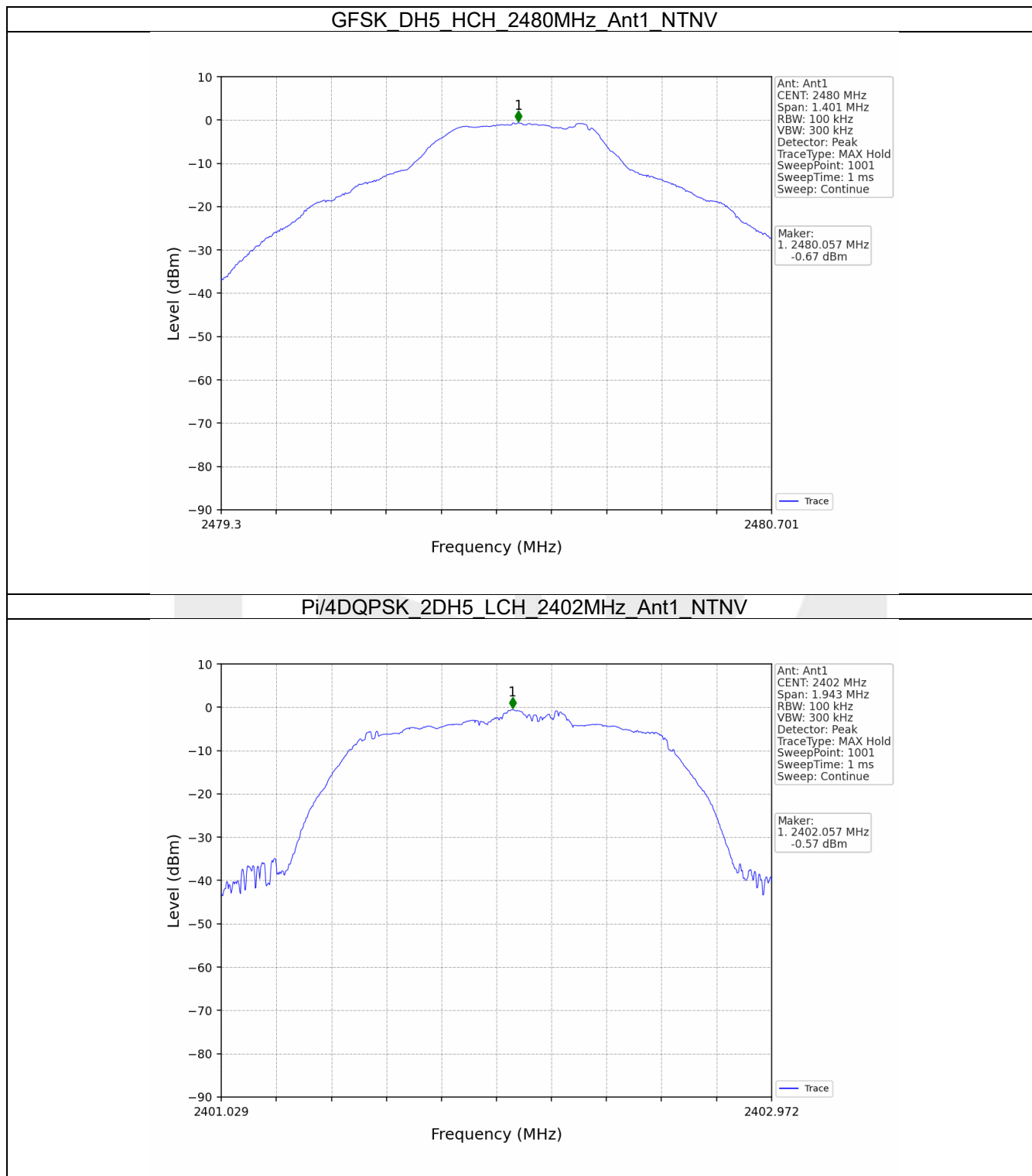
#### 7.1.1 Test Result

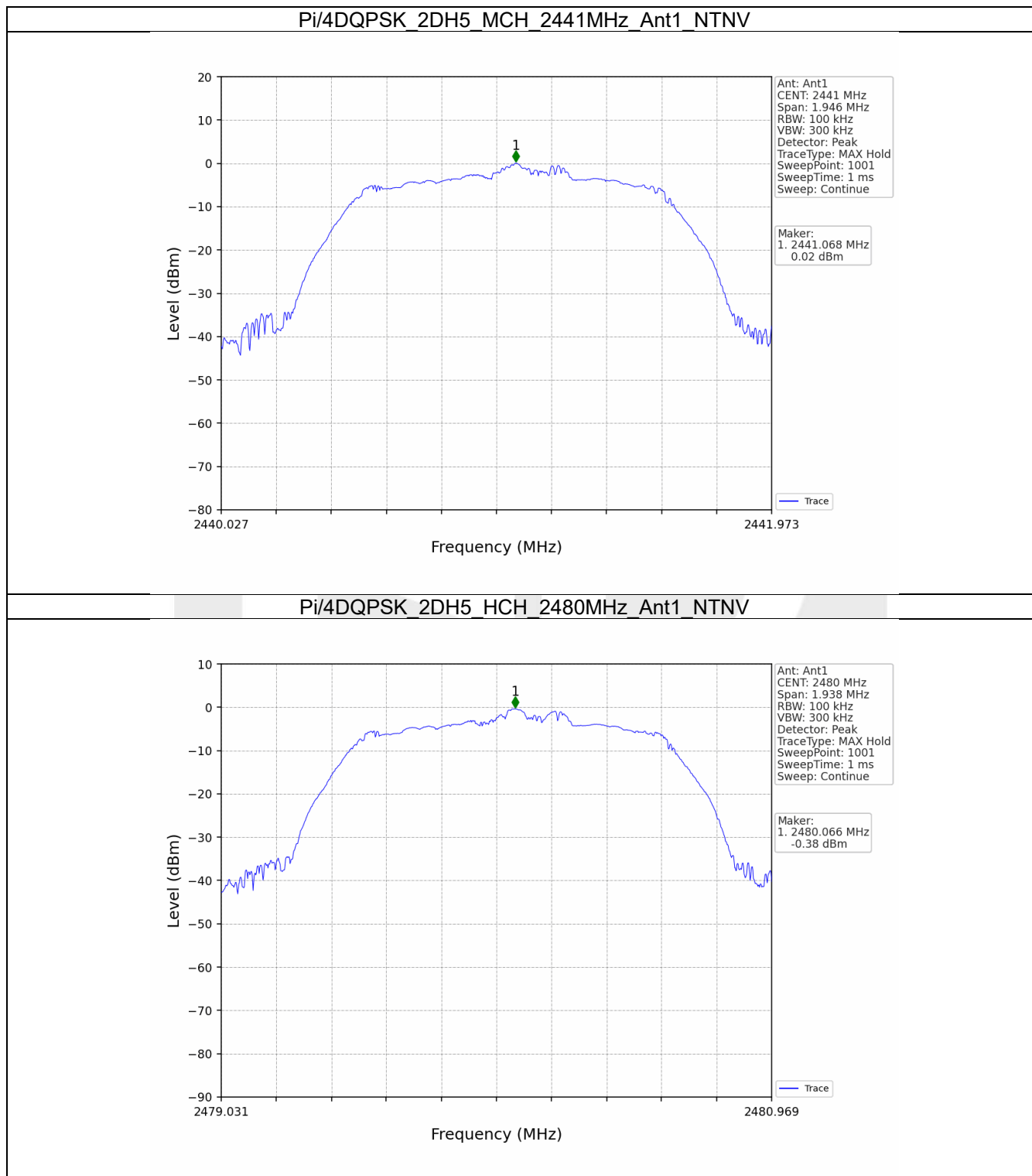
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) |
|-----------|---------|-----------------|-------------|-----|--------------------------|
| GFSK      | SISO    | 2402            | DH5         | 1   | -0.64                    |
|           |         | 2441            | DH5         | 1   | -0.05                    |
|           |         | 2480            | DH5         | 1   | -0.67                    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | -0.57                    |
|           |         | 2441            | 2DH5        | 1   | 0.02                     |
|           |         | 2480            | 2DH5        | 1   | -0.38                    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | -0.48                    |
|           |         | 2441            | 3DH5        | 1   | 0.30                     |
|           |         | 2480            | 3DH5        | 1   | -0.48                    |

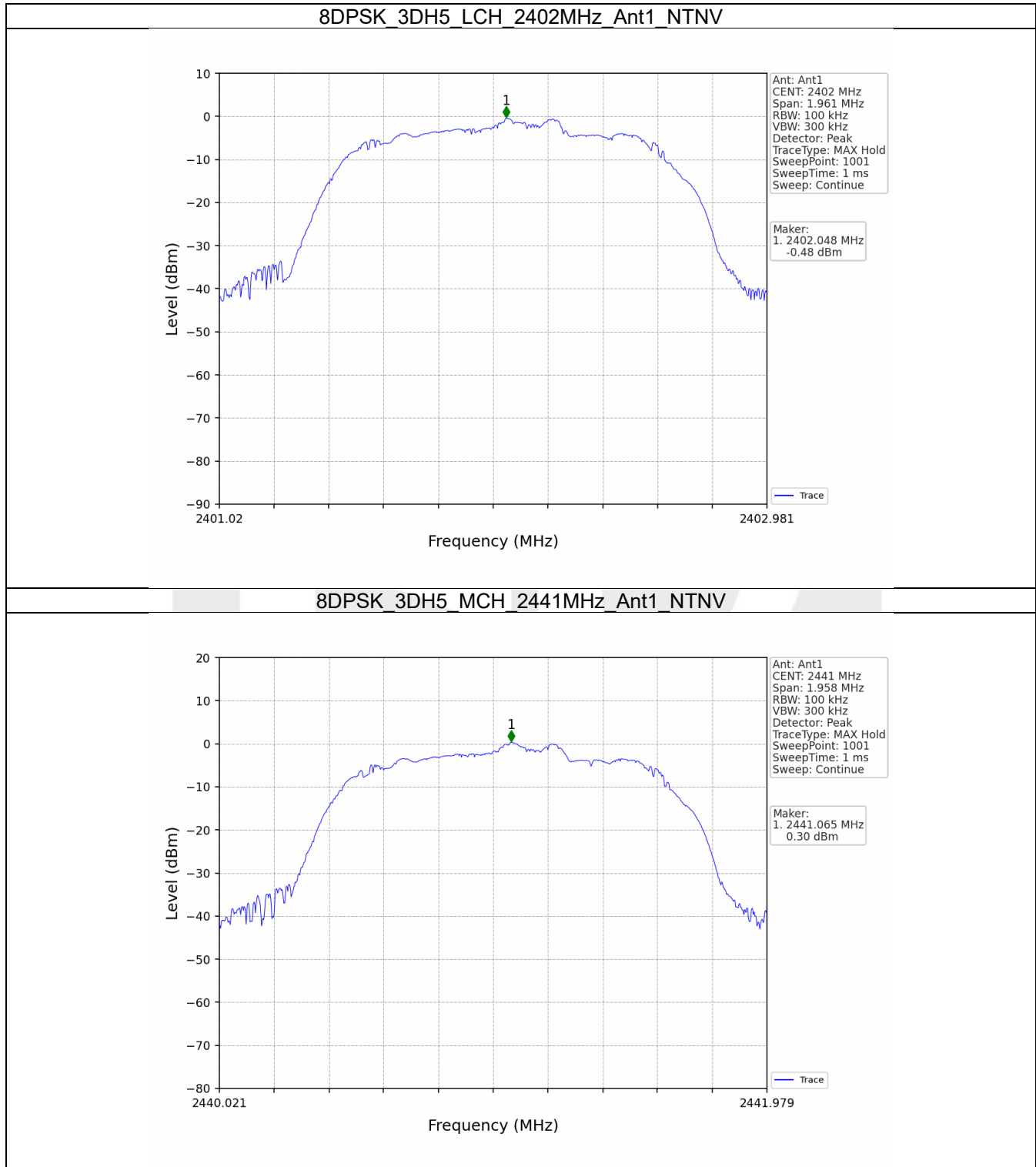
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

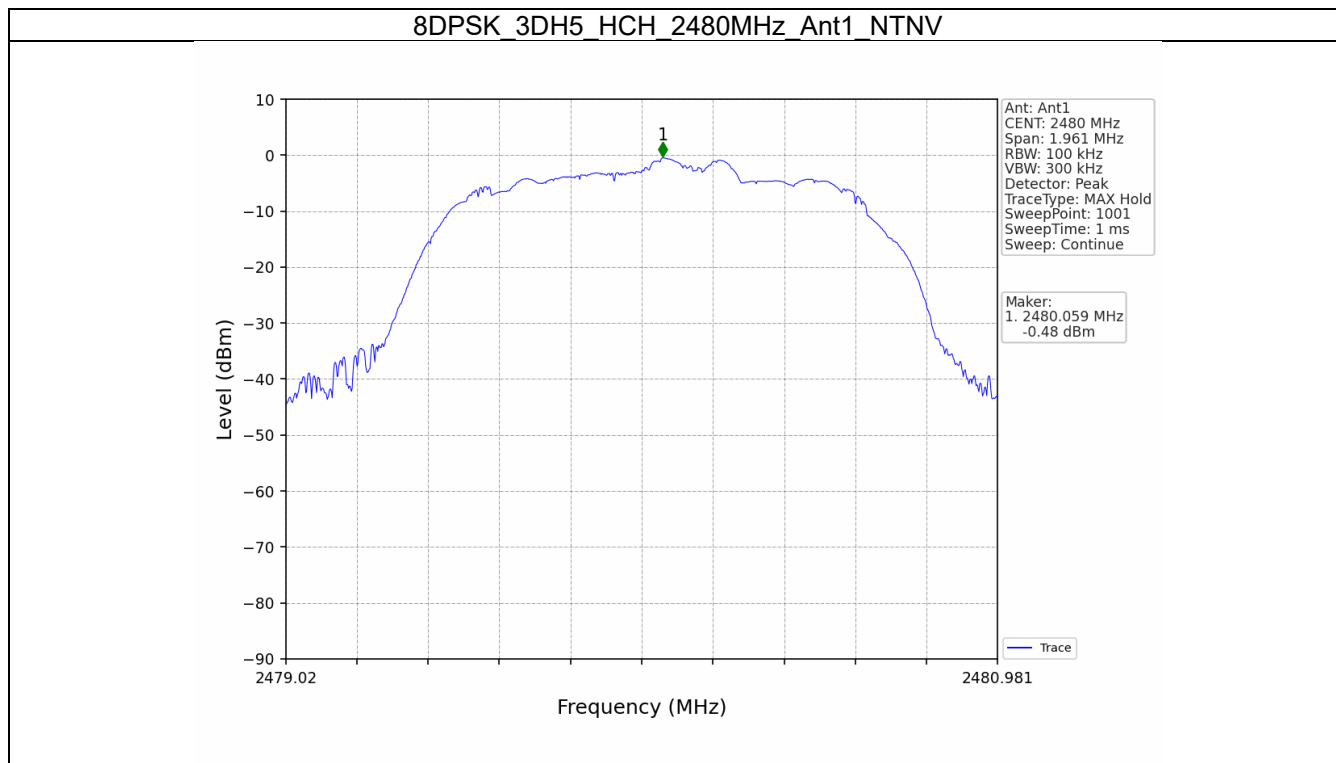
### 7.1.2 Test Graph











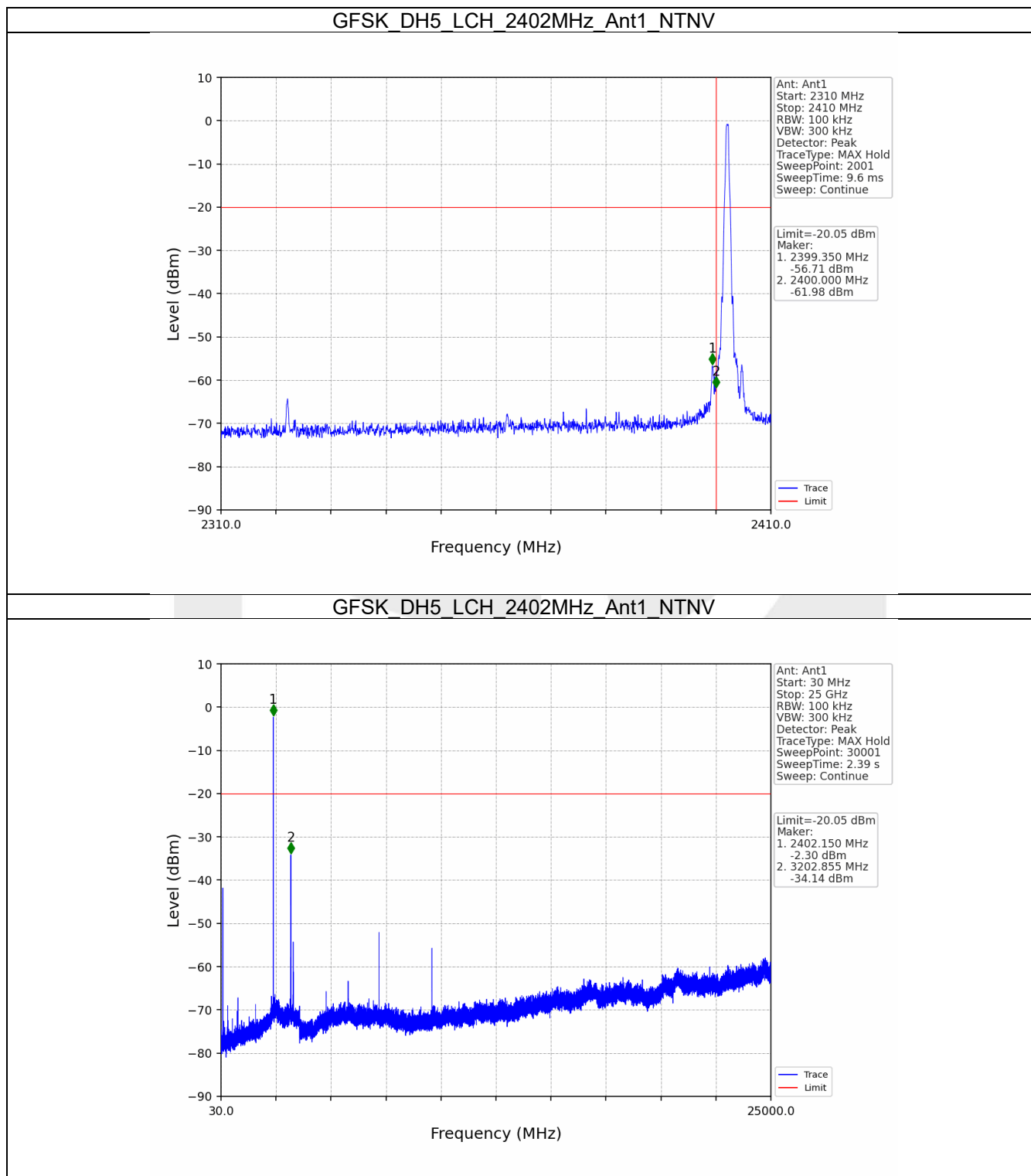
## 7.2 CSE

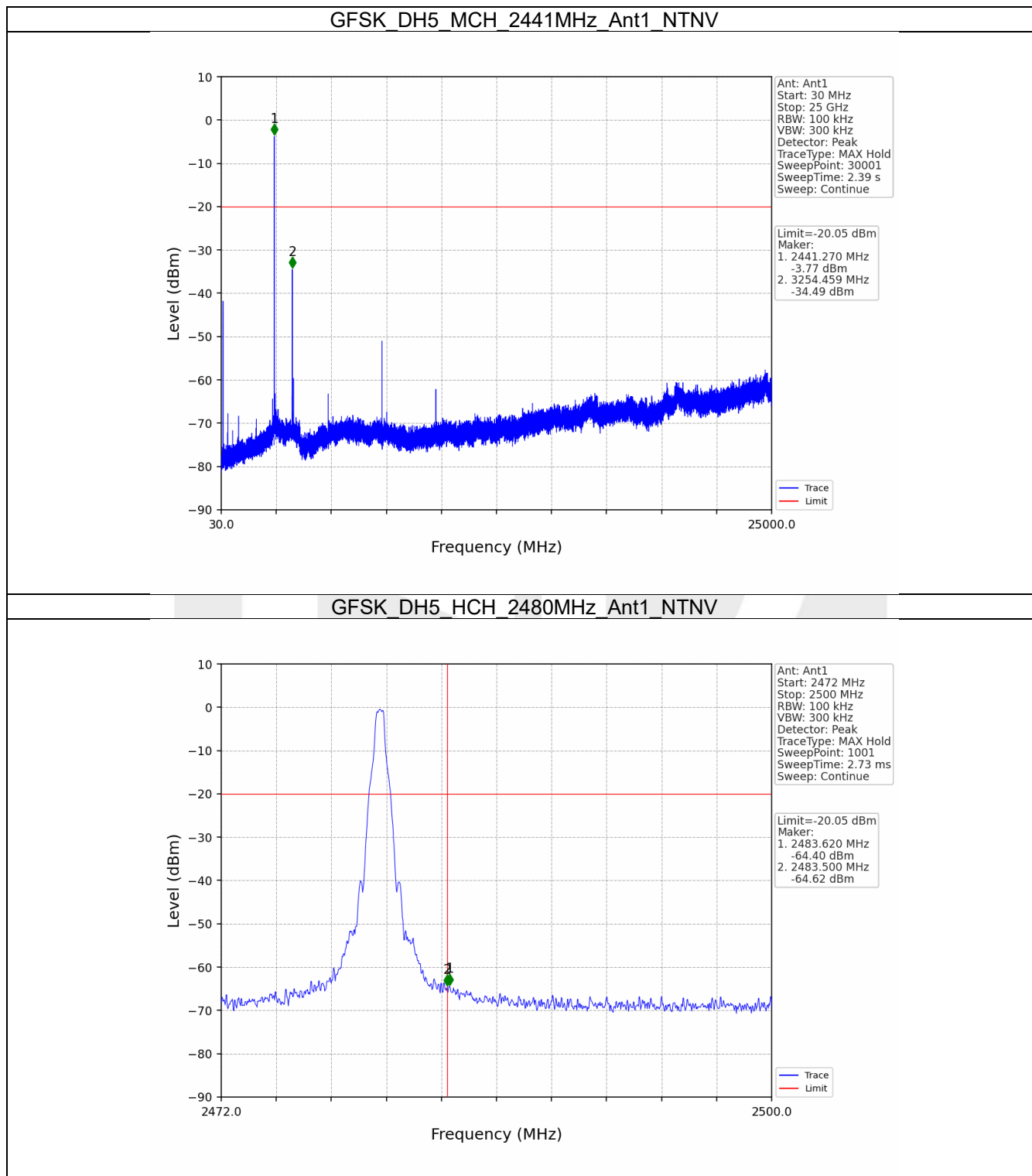
### 7.2.1 Test Result

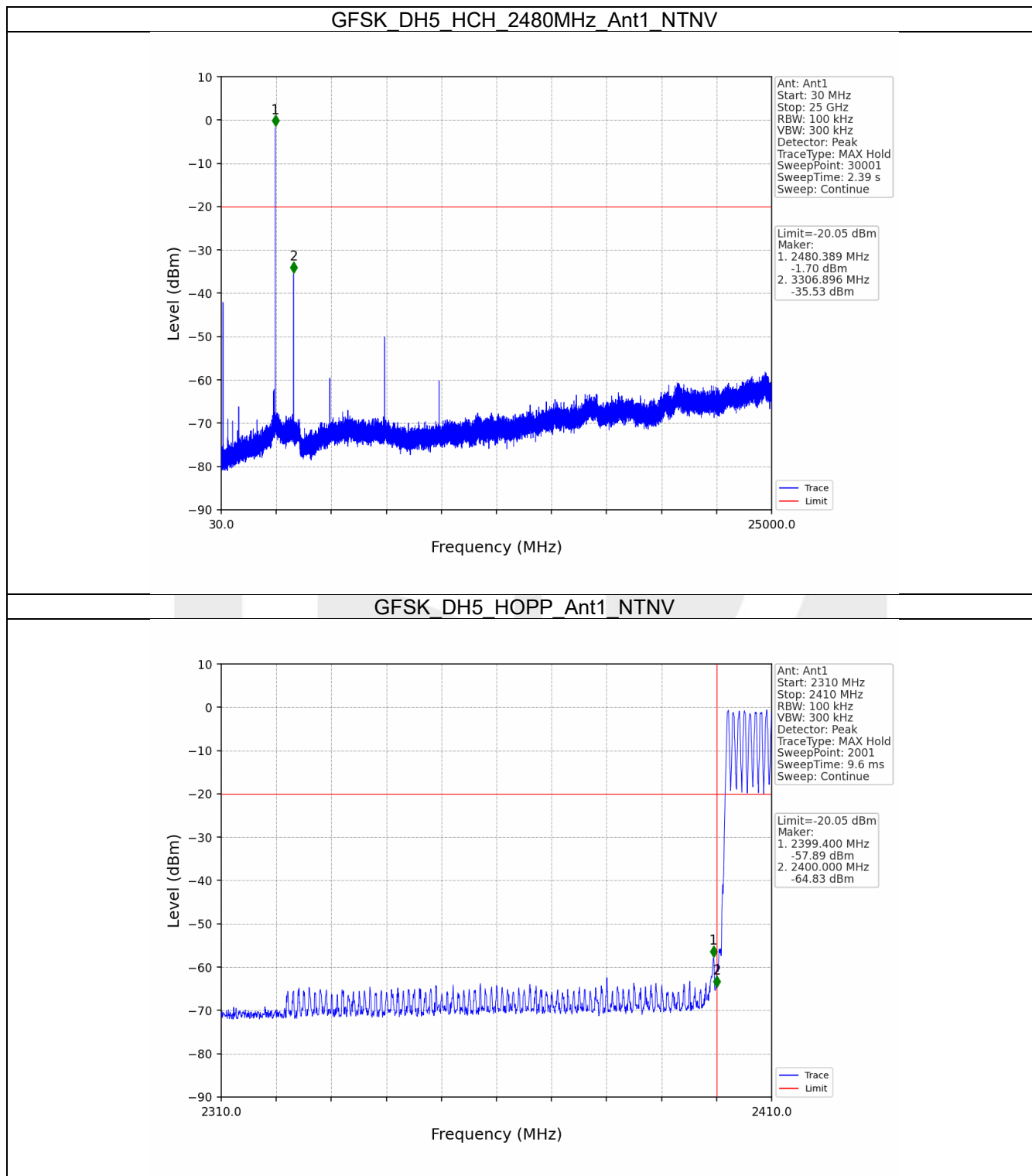
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|-----------|---------|-----------------|-------------|-----|--------------------------|-------------|---------|
| GFSK      | SISO    | 2402            | DH5         | 1   | -0.05                    | -20.05      | Pass    |
|           |         | 2441            | DH5         | 1   | -0.05                    | -20.05      | Pass    |
|           |         | 2480            | DH5         | 1   | -0.05                    | -20.05      | Pass    |
|           |         | HOPP            | DH5         | 1   | -0.05                    | -20.05      | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 0.02                     | -19.98      | Pass    |
|           |         | 2441            | 2DH5        | 1   | 0.02                     | -19.98      | Pass    |
|           |         | 2480            | 2DH5        | 1   | 0.02                     | -19.98      | Pass    |
|           |         | HOPP            | 2DH5        | 1   | 0.02                     | -19.98      | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 0.30                     | -19.70      | Pass    |
|           |         | 2441            | 3DH5        | 1   | 0.30                     | -19.70      | Pass    |
|           |         | 2480            | 3DH5        | 1   | 0.30                     | -19.70      | Pass    |
|           |         | HOPP            | 3DH5        | 1   | 0.30                     | -19.70      | Pass    |

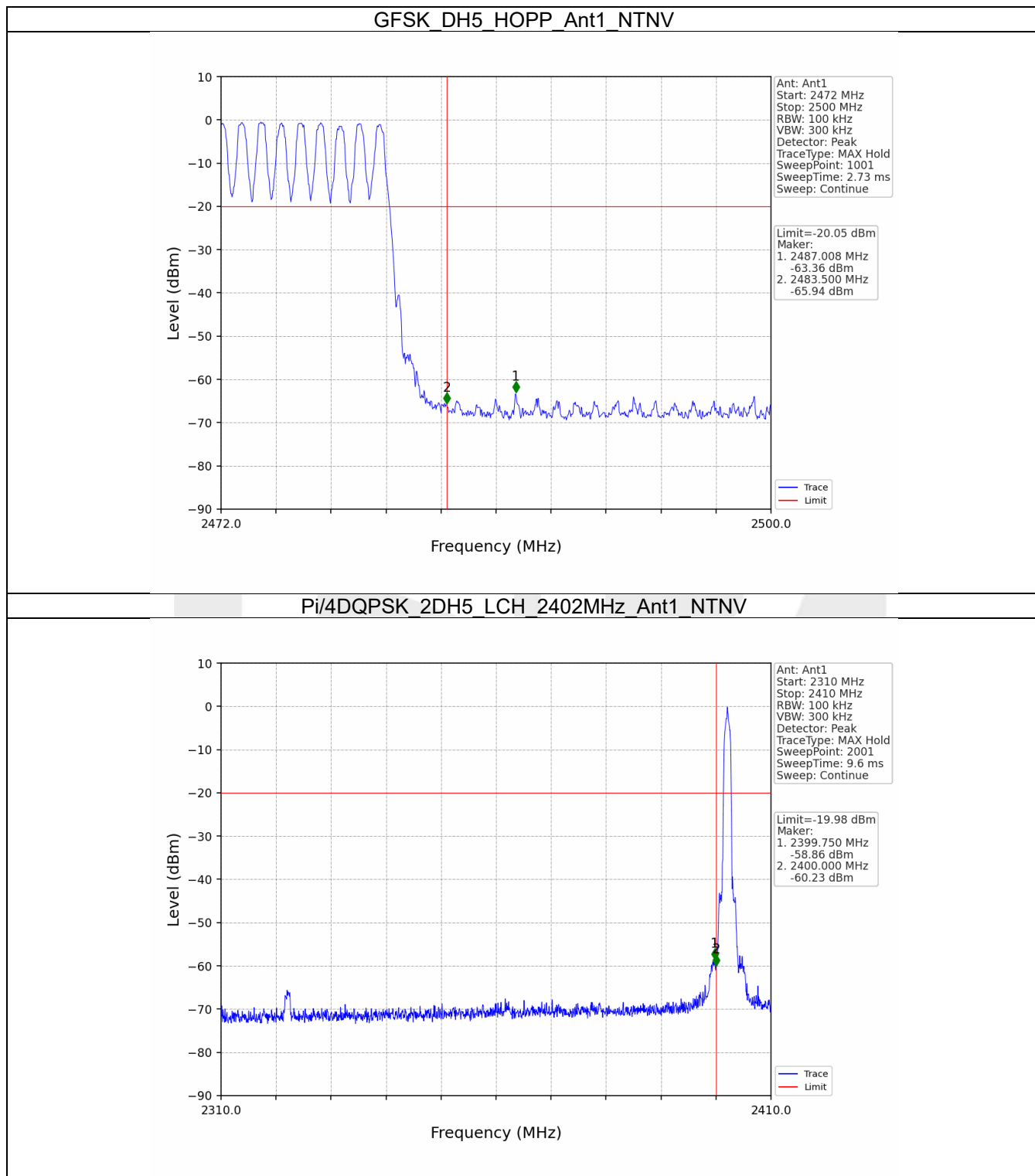
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

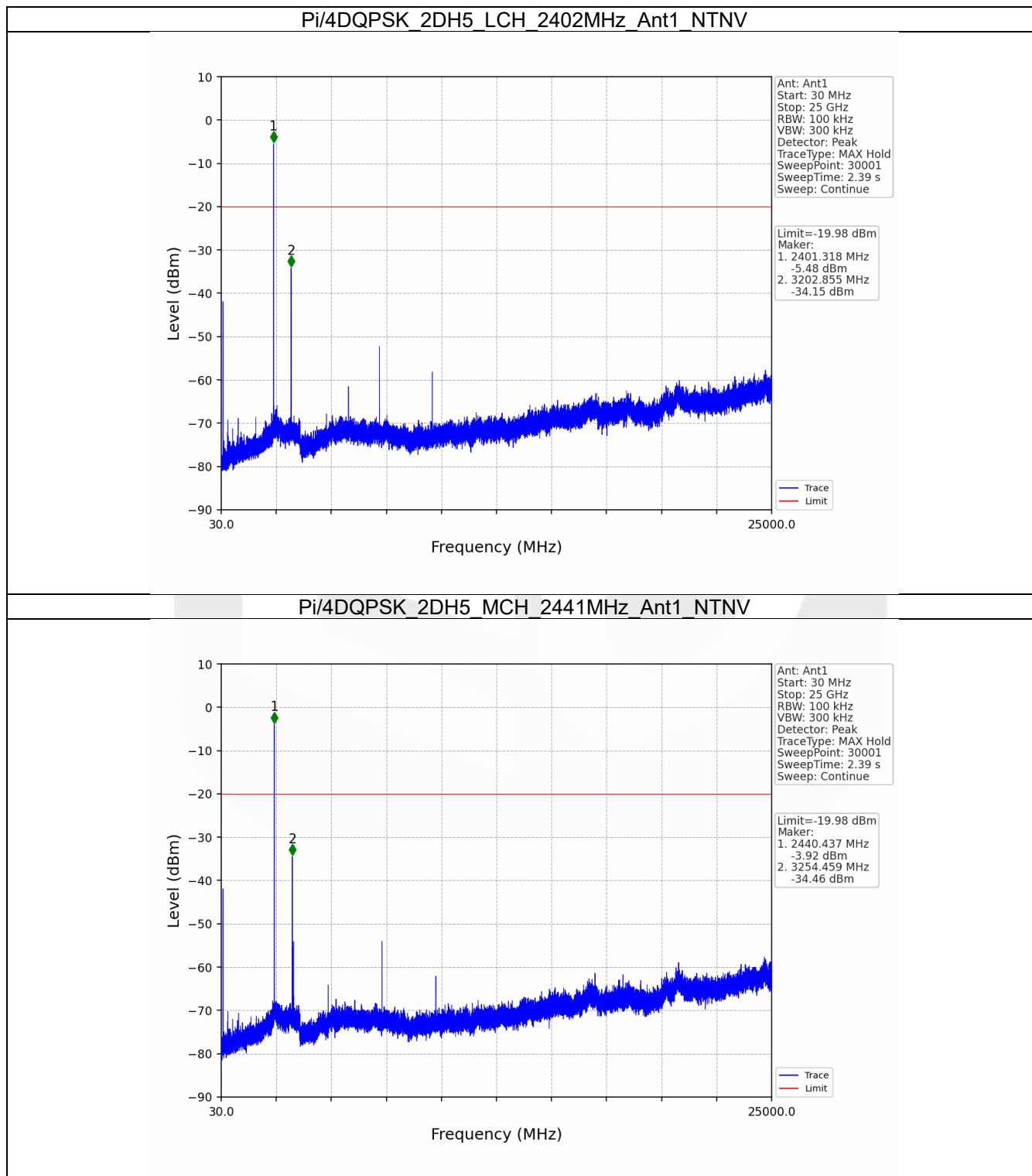
### 7.2.2 Test Graph

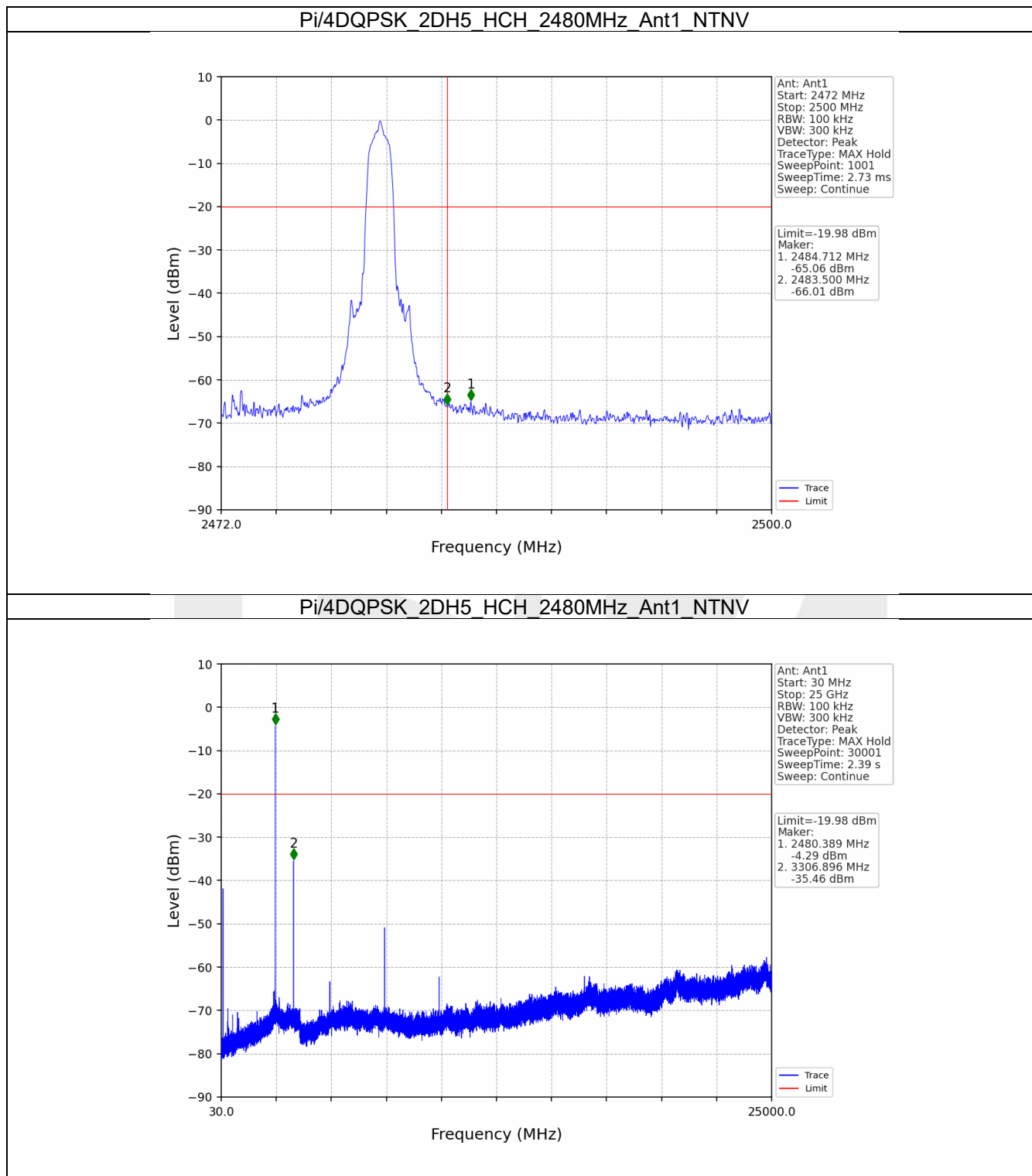


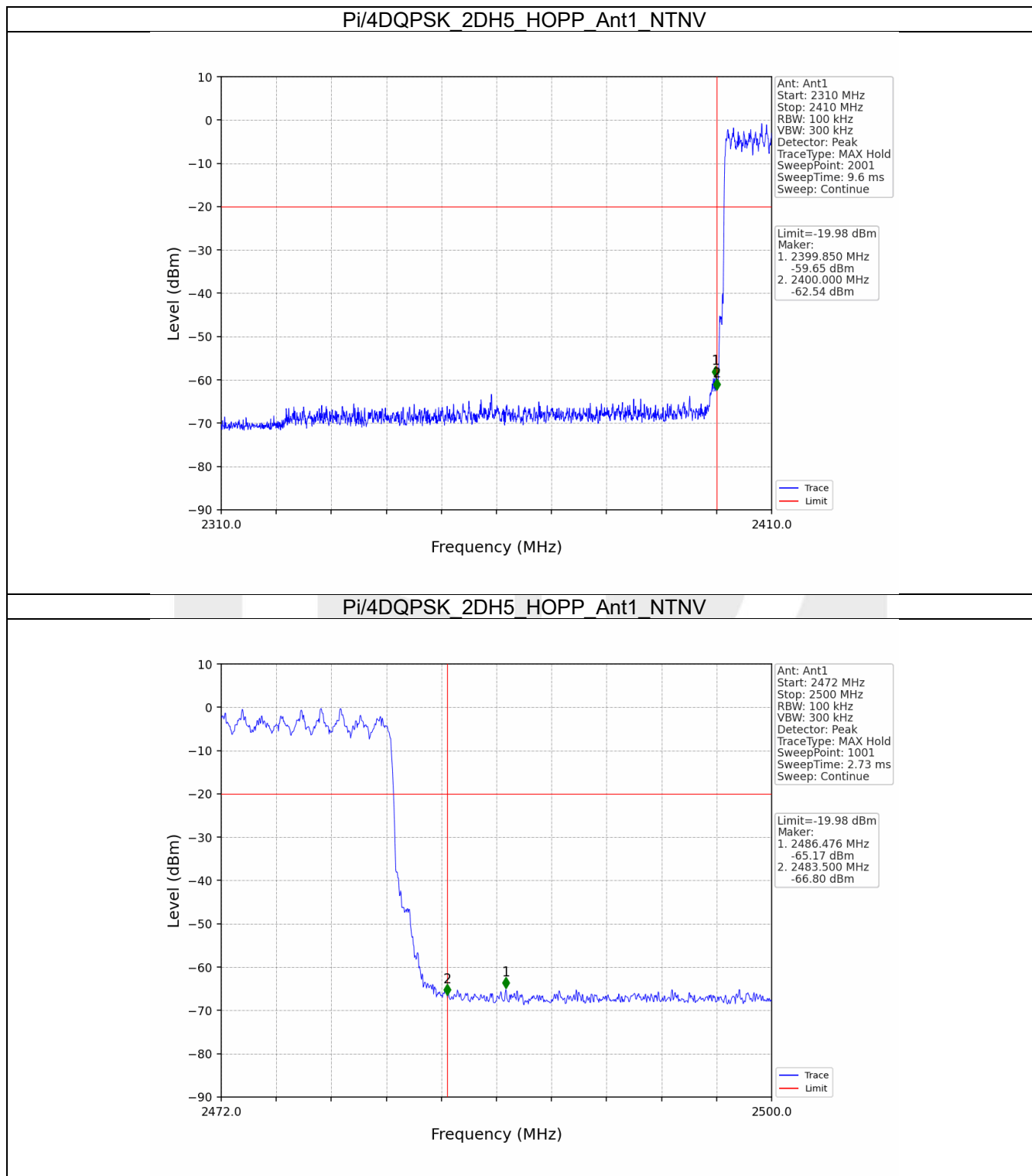


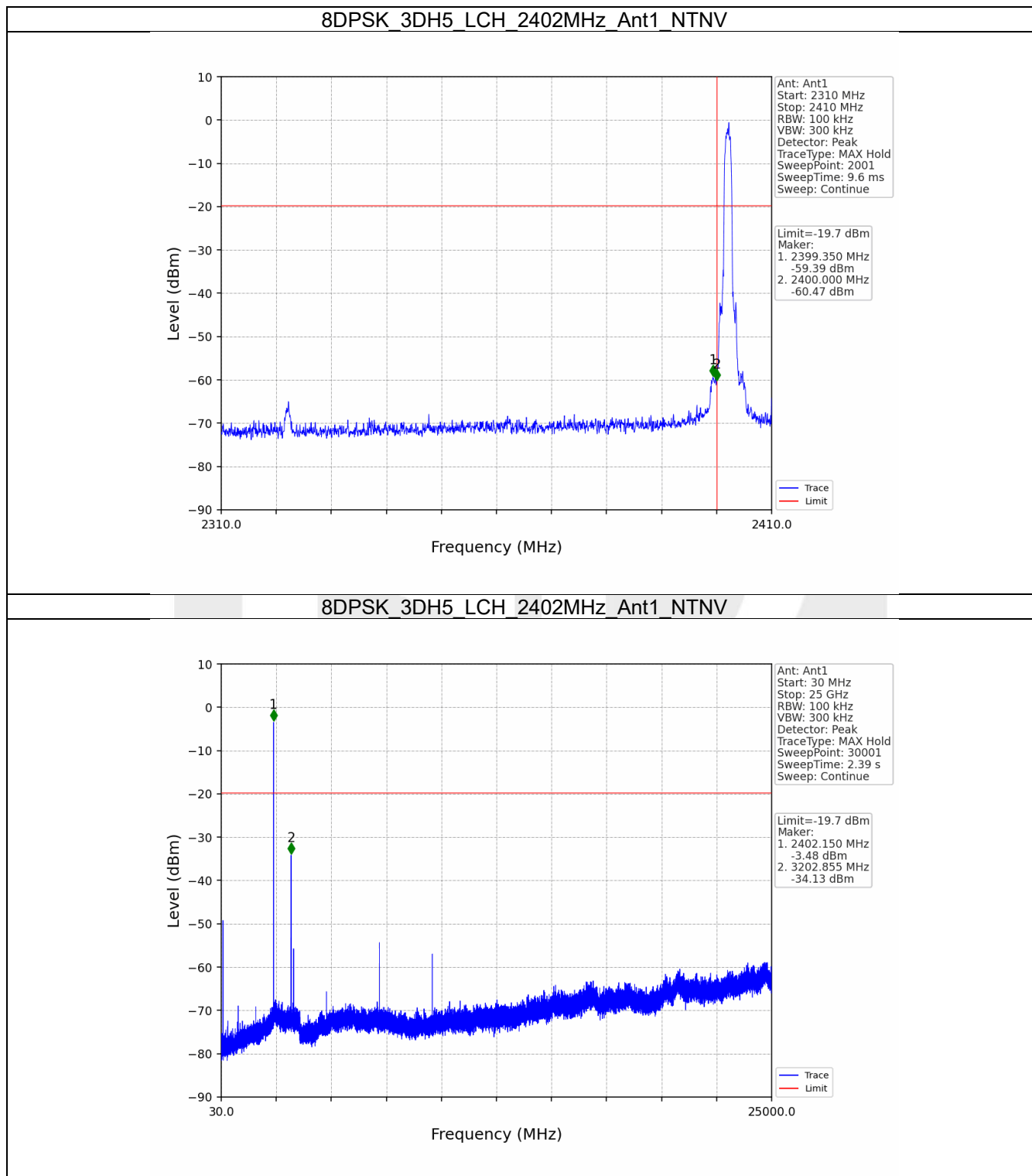


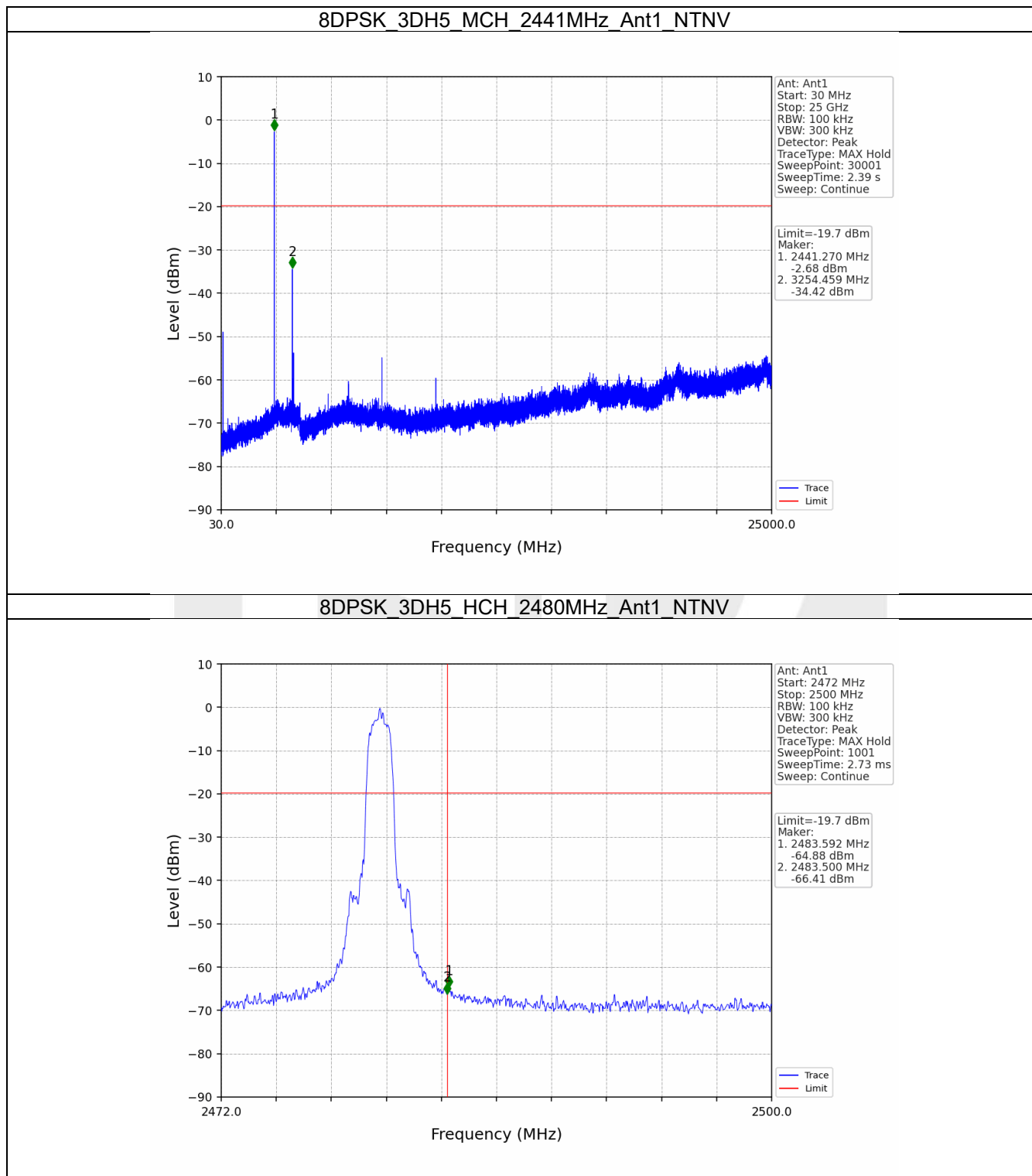


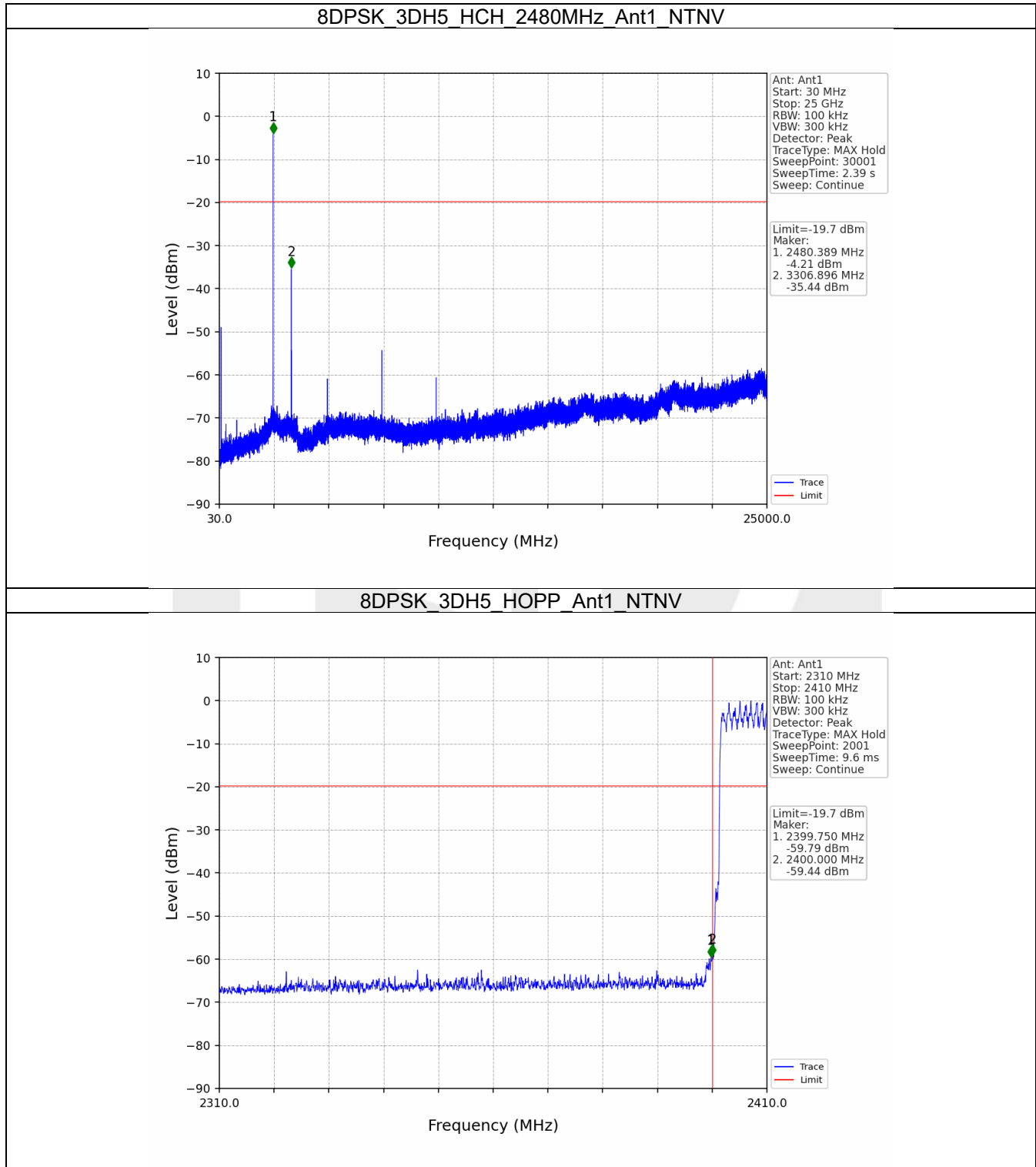


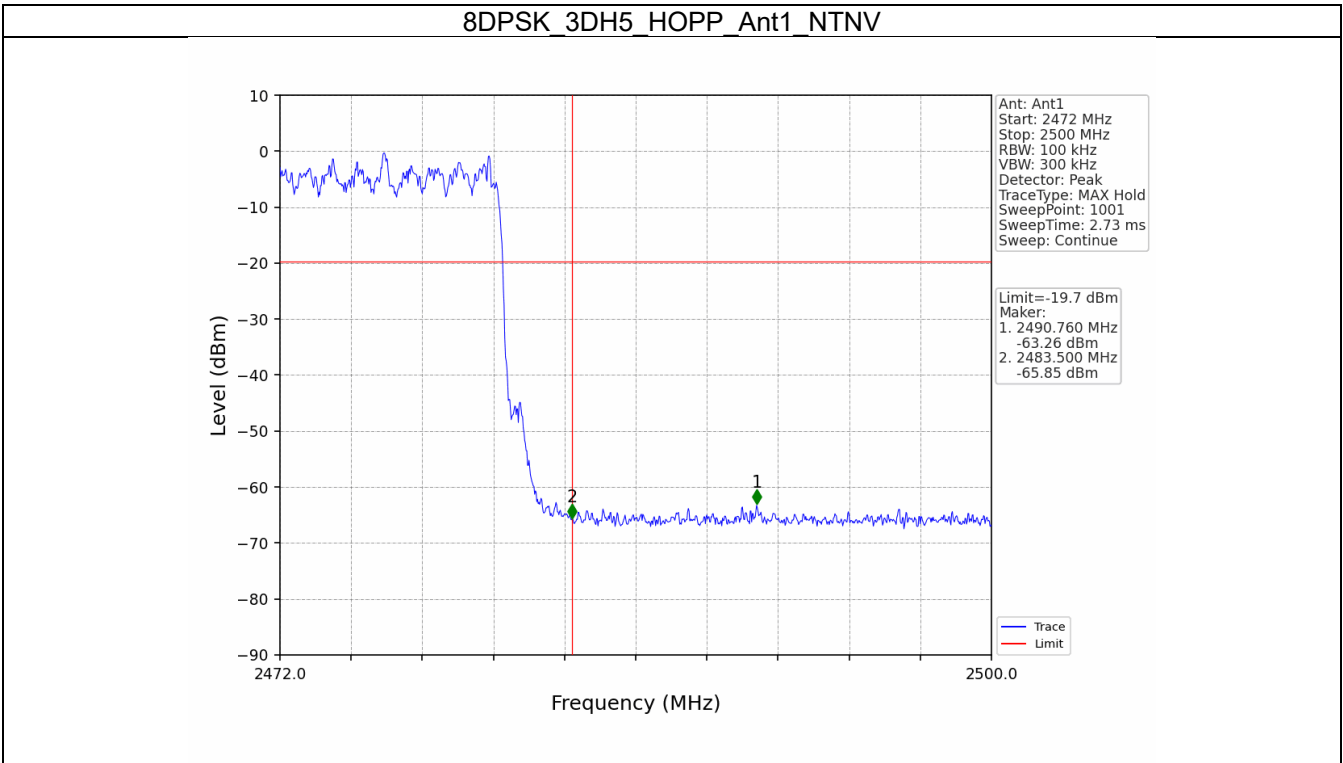












----- End of Report -----