

## ANNEX D TEST DATA

For

|                |                                                   |
|----------------|---------------------------------------------------|
| Project No.:   | 8332EU010402W                                     |
| Client:        | Dongguan Youshifa Electronic Technology Co., Ltd. |
| Product Name:  | 4 inches Light Up Wireless Speaker                |
| Model No.:     | AI6035-BLK                                        |
| FCC ID:        | 2BB2T-AI6035                                      |
| Technology:    | Bluetooth BDR&EDR                                 |
| Test Engineer: | <i>Mikoy zhu</i>                                  |
| Test Date:     | 2025-07-10                                        |

## 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

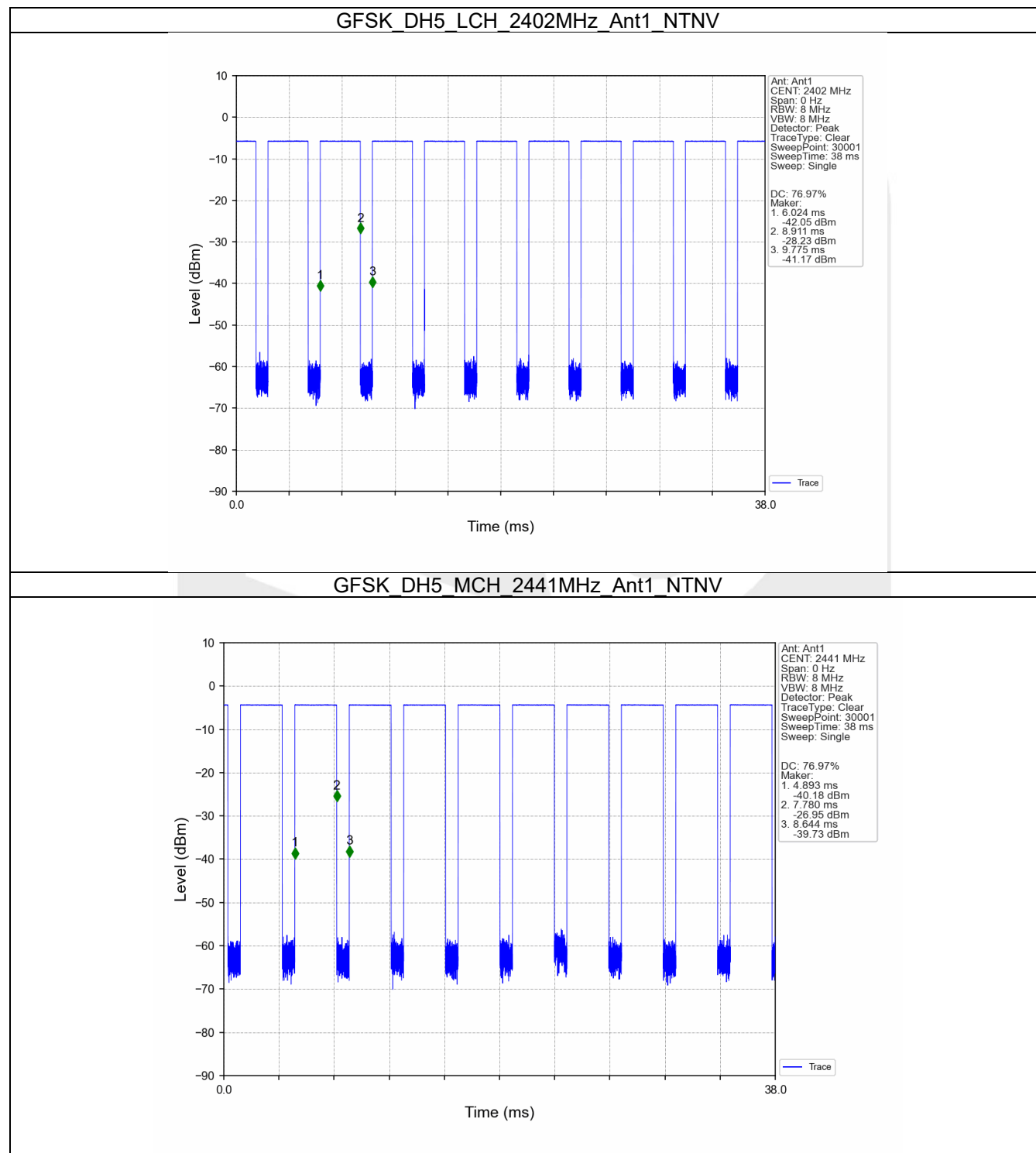
### 1.1 Test Result

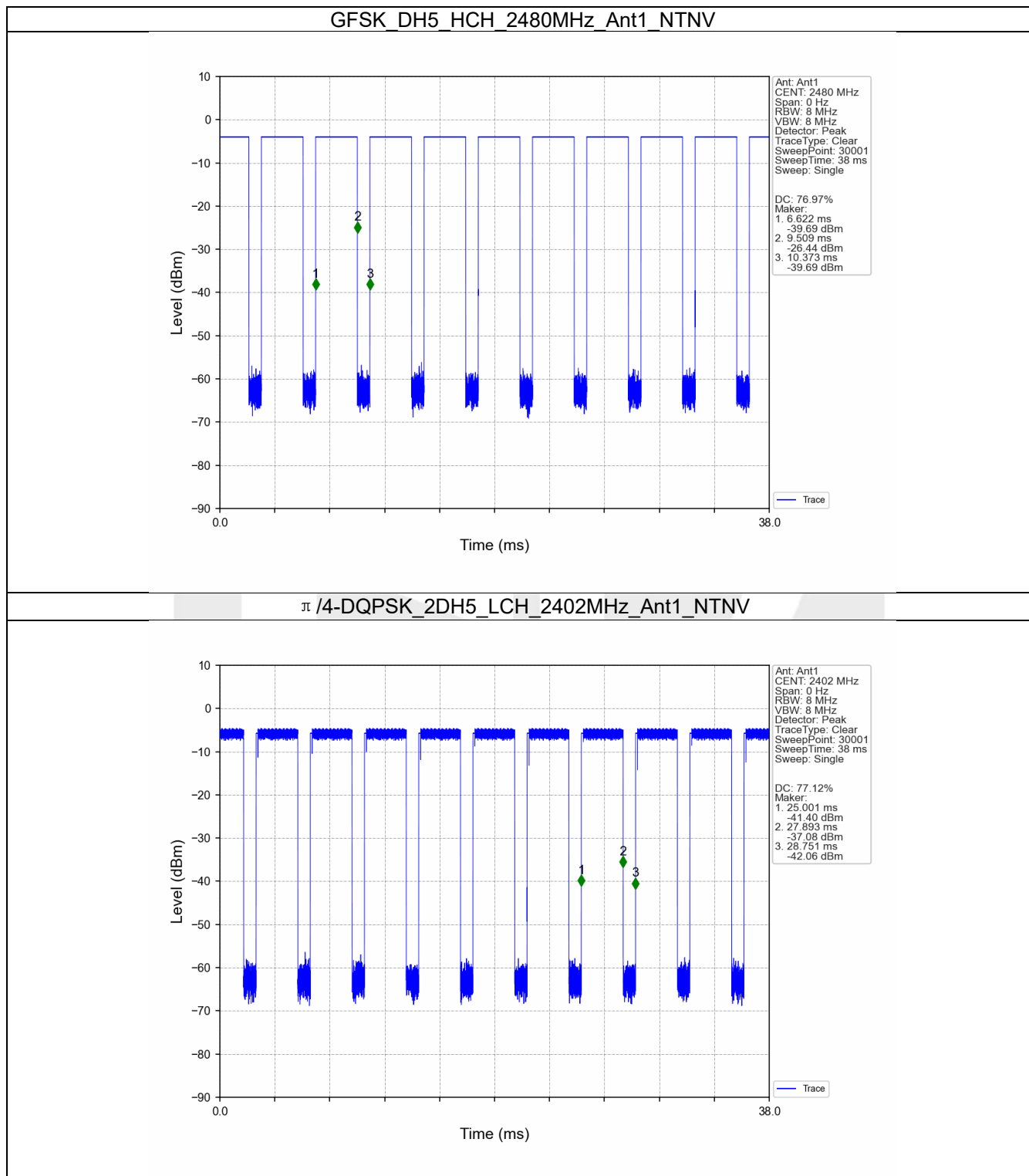
#### 1.1.1 Ant1

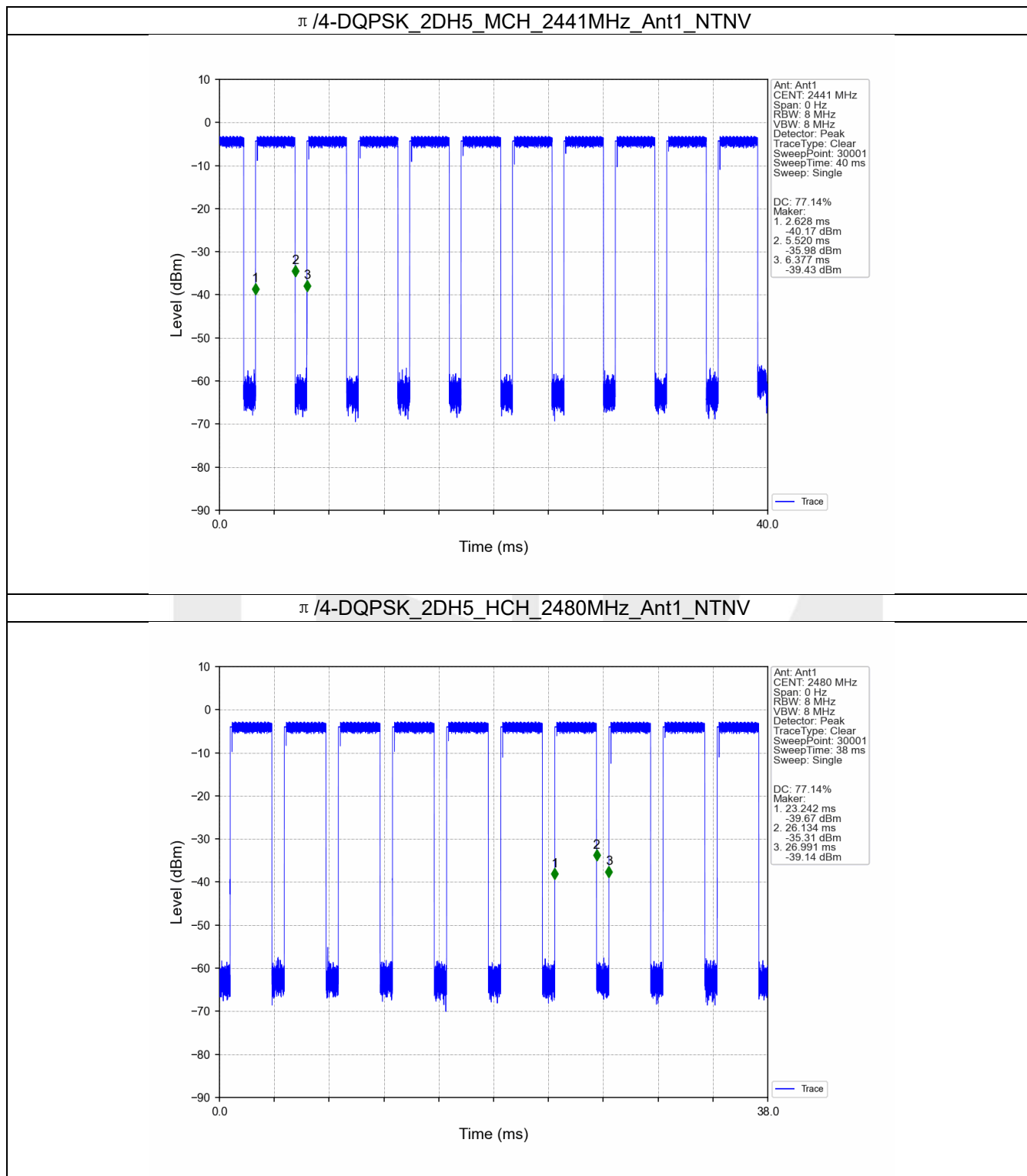
| Ant1           |         |                 |             |           |             |                |                                   |                       |
|----------------|---------|-----------------|-------------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| 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         | 2.887     | 3.751       | 76.97          | 1.14                              | 0.03                  |
|                |         | 2441            | DH5         | 2.887     | 3.751       | 76.97          | 1.14                              | 0.03                  |
|                |         | 2480            | DH5         | 2.887     | 3.751       | 76.97          | 1.14                              | 0.03                  |
| $\pi/4$ -DQPSK | SISO    | 2402            | 2DH5        | 2.892     | 3.750       | 77.12          | 1.13                              | 0.03                  |
|                |         | 2441            | 2DH5        | 2.892     | 3.749       | 77.14          | 1.13                              | 0.01                  |
|                |         | 2480            | 2DH5        | 2.892     | 3.749       | 77.14          | 1.13                              | 0.03                  |
| 8DPSK          | SISO    | 2402            | 3DH5        | 2.894     | 3.749       | 77.19          | 1.12                              | 0.04                  |
|                |         | 2441            | 3DH5        | 2.896     | 3.751       | 77.21          | 1.12                              | 0.03                  |
|                |         | 2480            | 3DH5        | 2.895     | 3.750       | 77.20          | 1.12                              | 0.04                  |

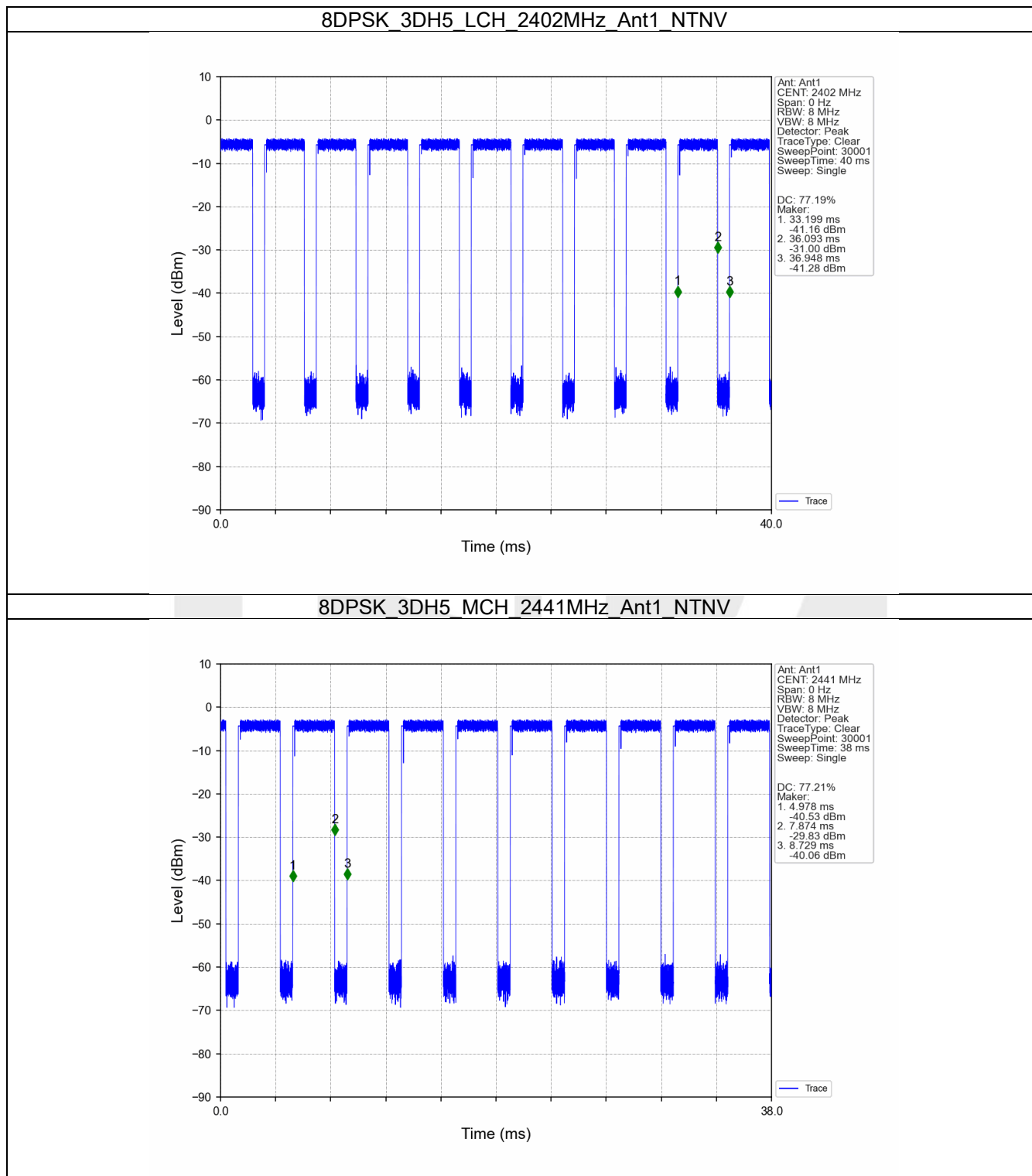
## 1.2 Test Graph

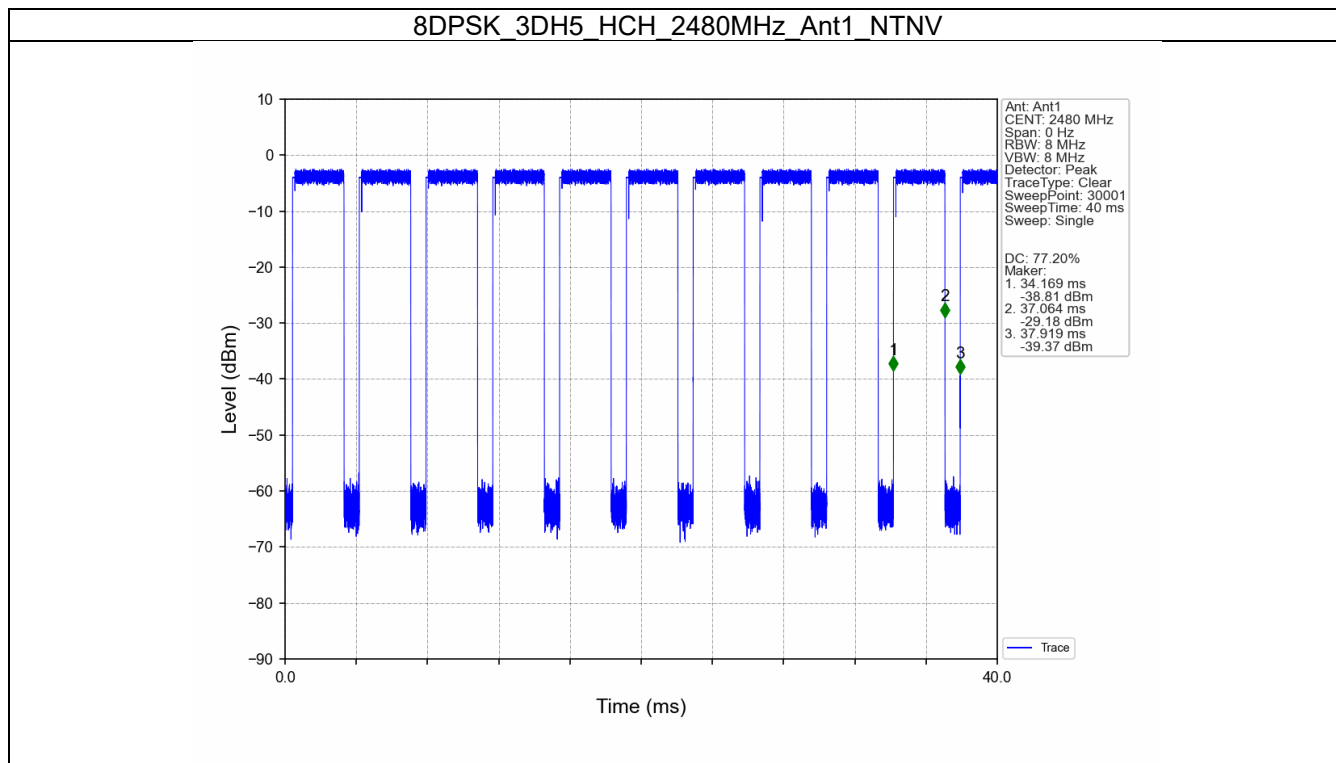
### 1.2.1 Ant1











## 2. Bandwidth

### 2.1 Test Result

#### 2.1.1 OBW

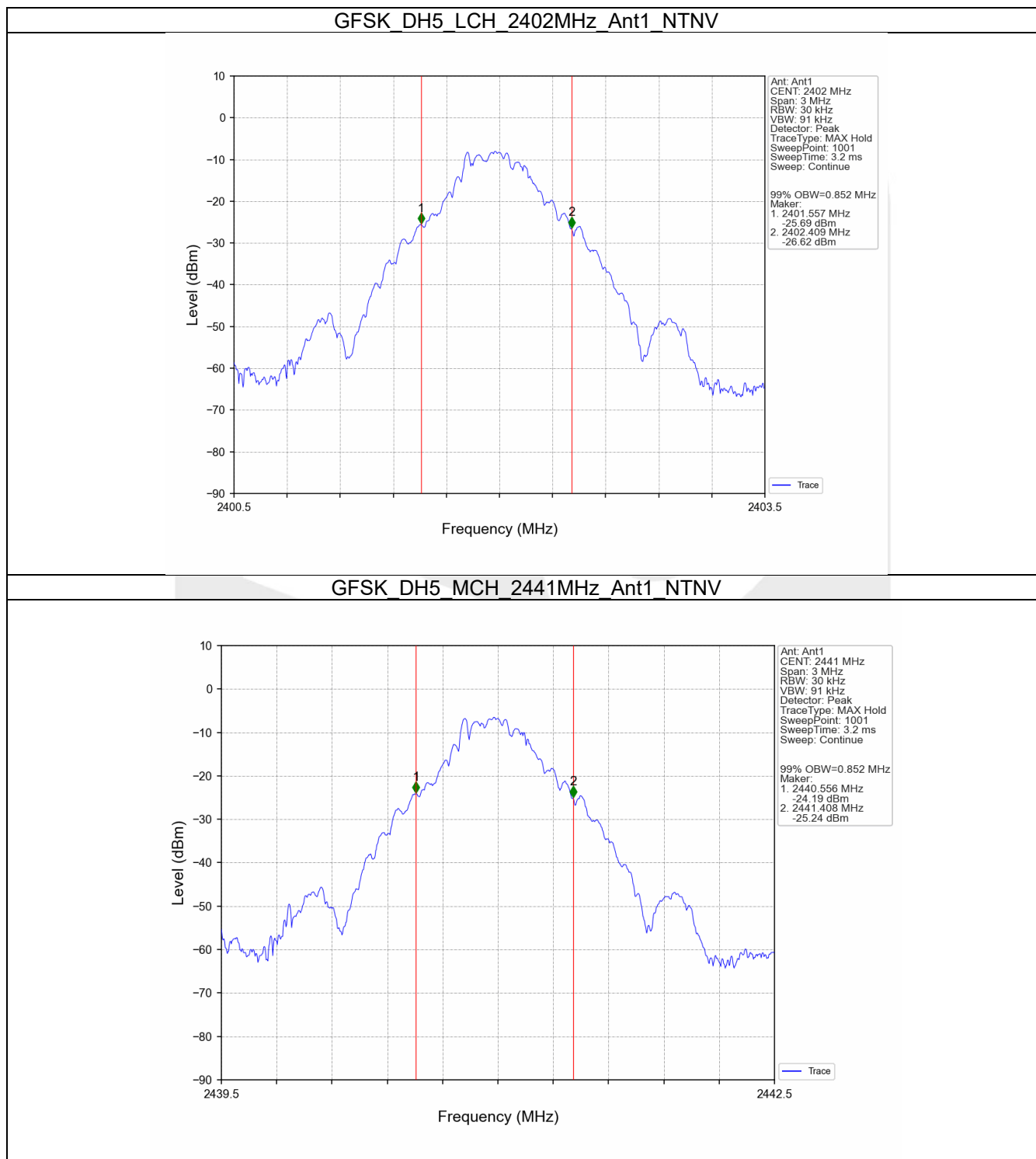
| Mode           | TX Type | Frequency (MHz) | Packet Type | ANT | 99% Occupied Bandwidth (MHz) |       | Verdict |
|----------------|---------|-----------------|-------------|-----|------------------------------|-------|---------|
|                |         |                 |             |     | Result                       | Limit |         |
| GFSK           | SISO    | 2402            | DH5         | 1   | 0.852                        | /     | Pass    |
|                |         | 2441            | DH5         | 1   | 0.852                        | /     | Pass    |
|                |         | 2480            | DH5         | 1   | 0.850                        | /     | Pass    |
| $\pi$ /4-DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.168                        | /     | Pass    |
|                |         | 2441            | 2DH5        | 1   | 1.167                        | /     | Pass    |
|                |         | 2480            | 2DH5        | 1   | 1.167                        | /     | Pass    |
| 8DPSK          | SISO    | 2402            | 3DH5        | 1   | 1.179                        | /     | Pass    |
|                |         | 2441            | 3DH5        | 1   | 1.178                        | /     | Pass    |
|                |         | 2480            | 3DH5        | 1   | 1.183                        | /     | Pass    |

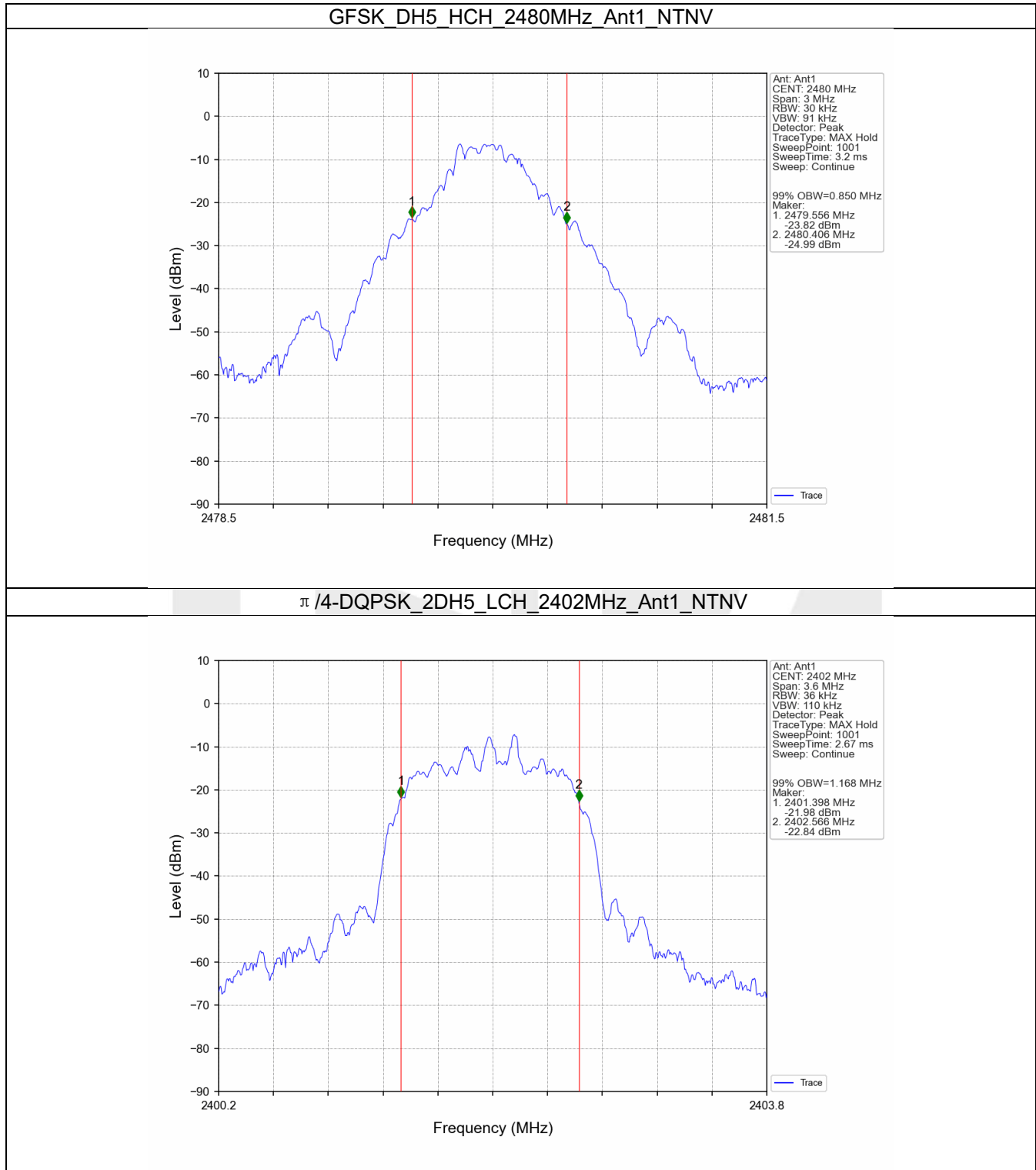
#### 2.1.2 20dB BW

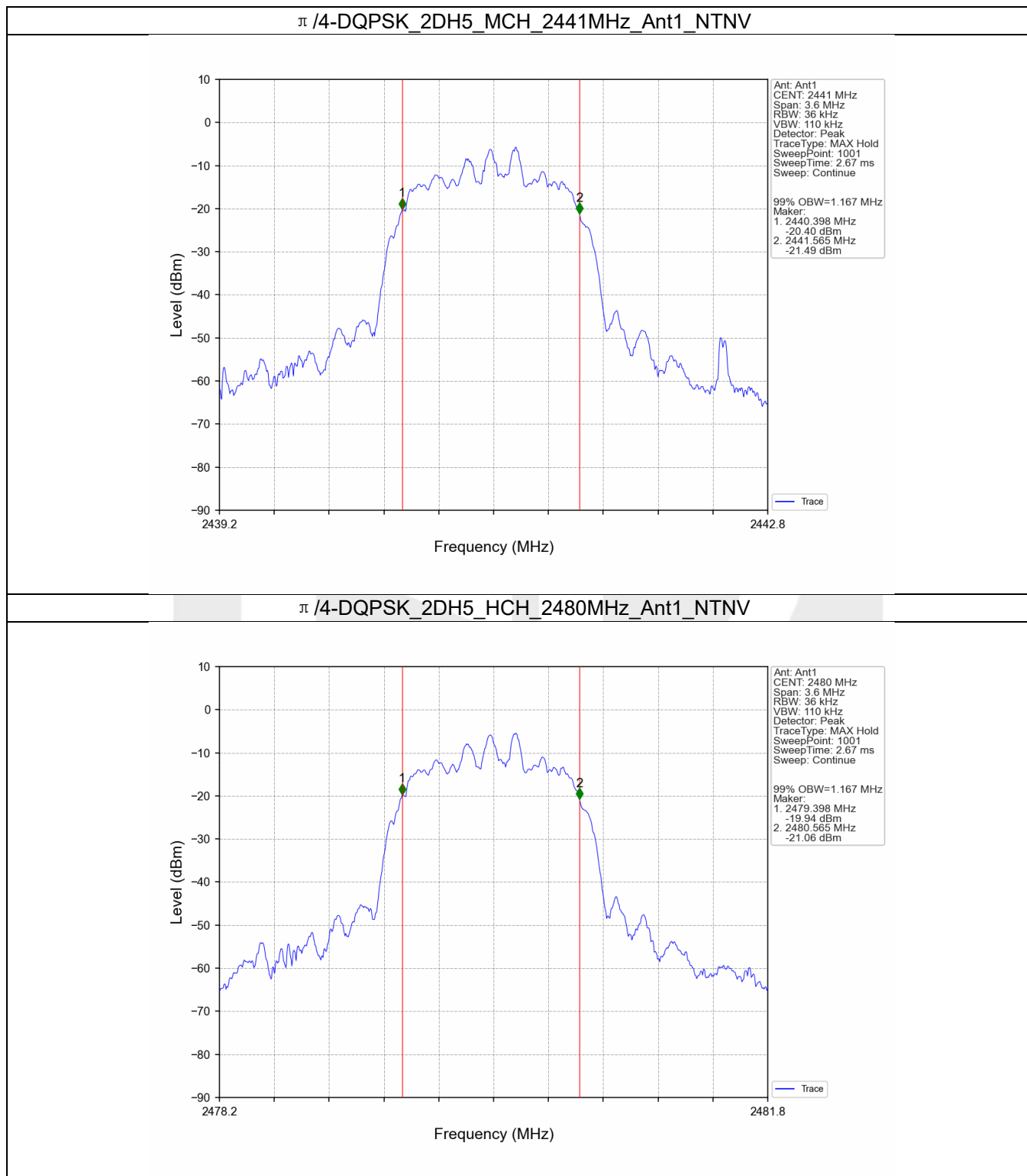
| Mode           | TX Type | Frequency (MHz) | Packet Type | ANT | 20dB Bandwidth (MHz) |       | Verdict |
|----------------|---------|-----------------|-------------|-----|----------------------|-------|---------|
|                |         |                 |             |     | Result               | Limit |         |
| GFSK           | SISO    | 2402            | DH5         | 1   | 0.958                | /     | Pass    |
|                |         | 2441            | DH5         | 1   | 0.958                | /     | Pass    |
|                |         | 2480            | DH5         | 1   | 0.956                | /     | Pass    |
| $\pi$ /4-DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.288                | /     | Pass    |
|                |         | 2441            | 2DH5        | 1   | 1.285                | /     | Pass    |
|                |         | 2480            | 2DH5        | 1   | 1.286                | /     | Pass    |
| 8DPSK          | SISO    | 2402            | 3DH5        | 1   | 1.307                | /     | Pass    |
|                |         | 2441            | 3DH5        | 1   | 1.307                | /     | Pass    |
|                |         | 2480            | 3DH5        | 1   | 1.308                | /     | Pass    |

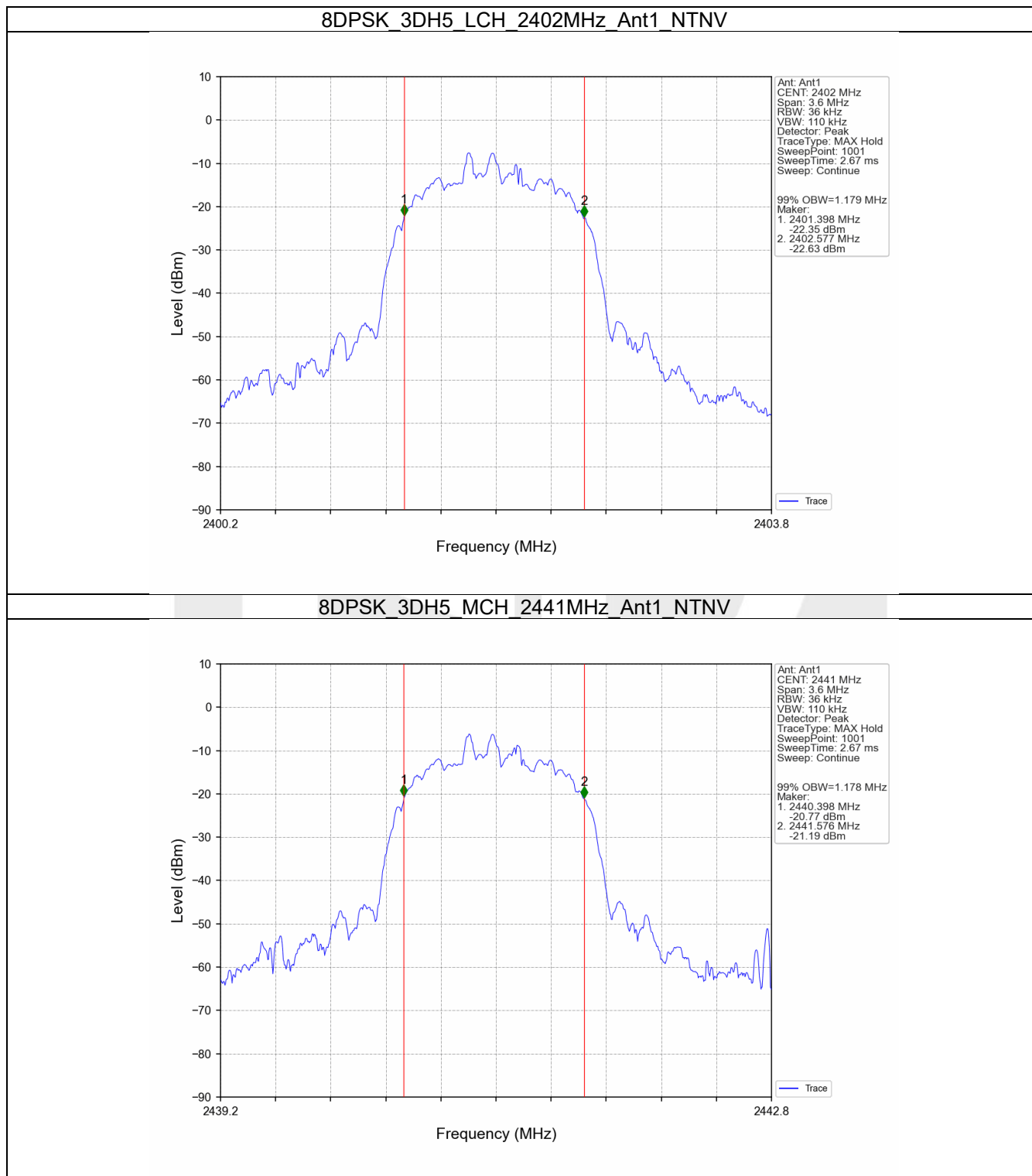
## 2.2 Test Graph

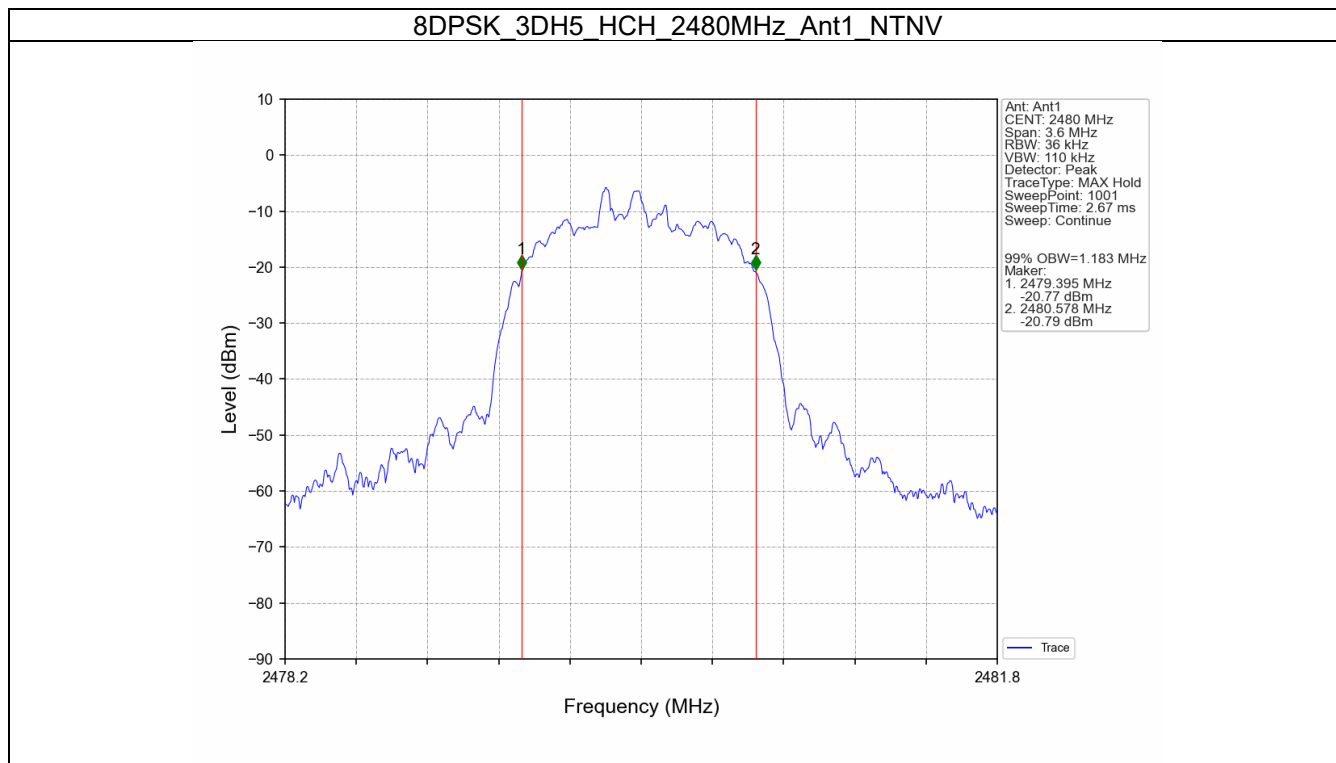
### 2.2.1 OBW



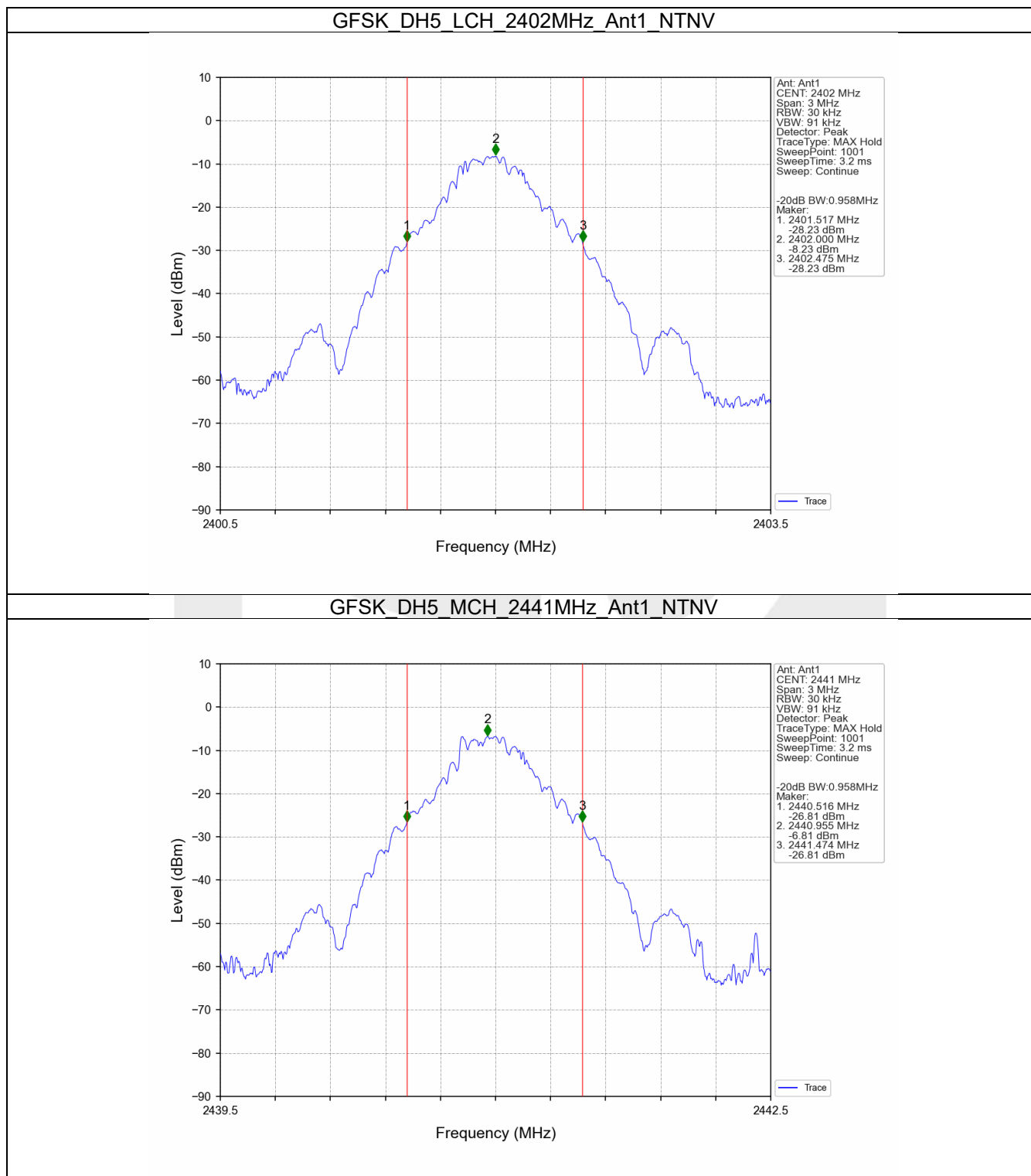


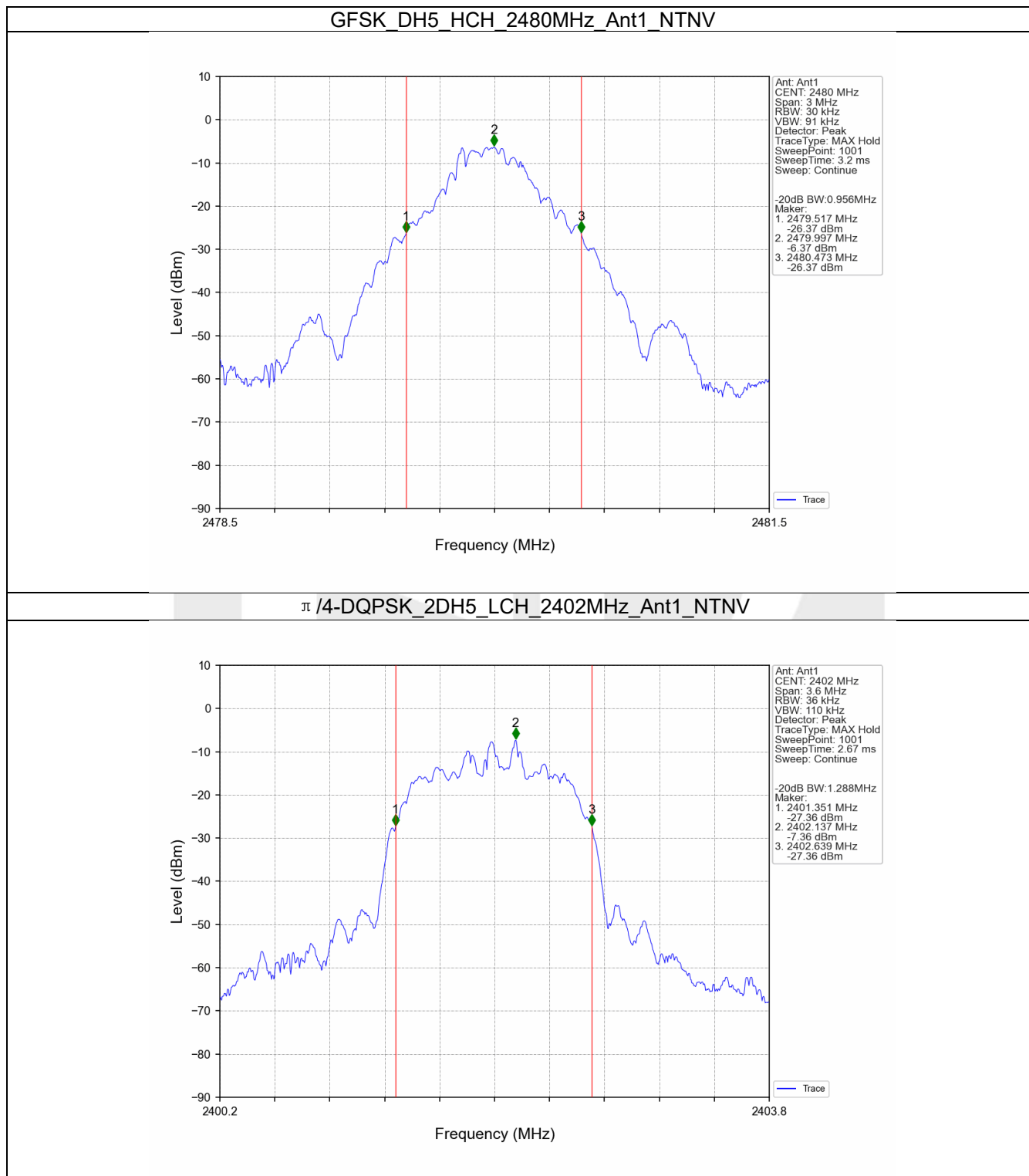


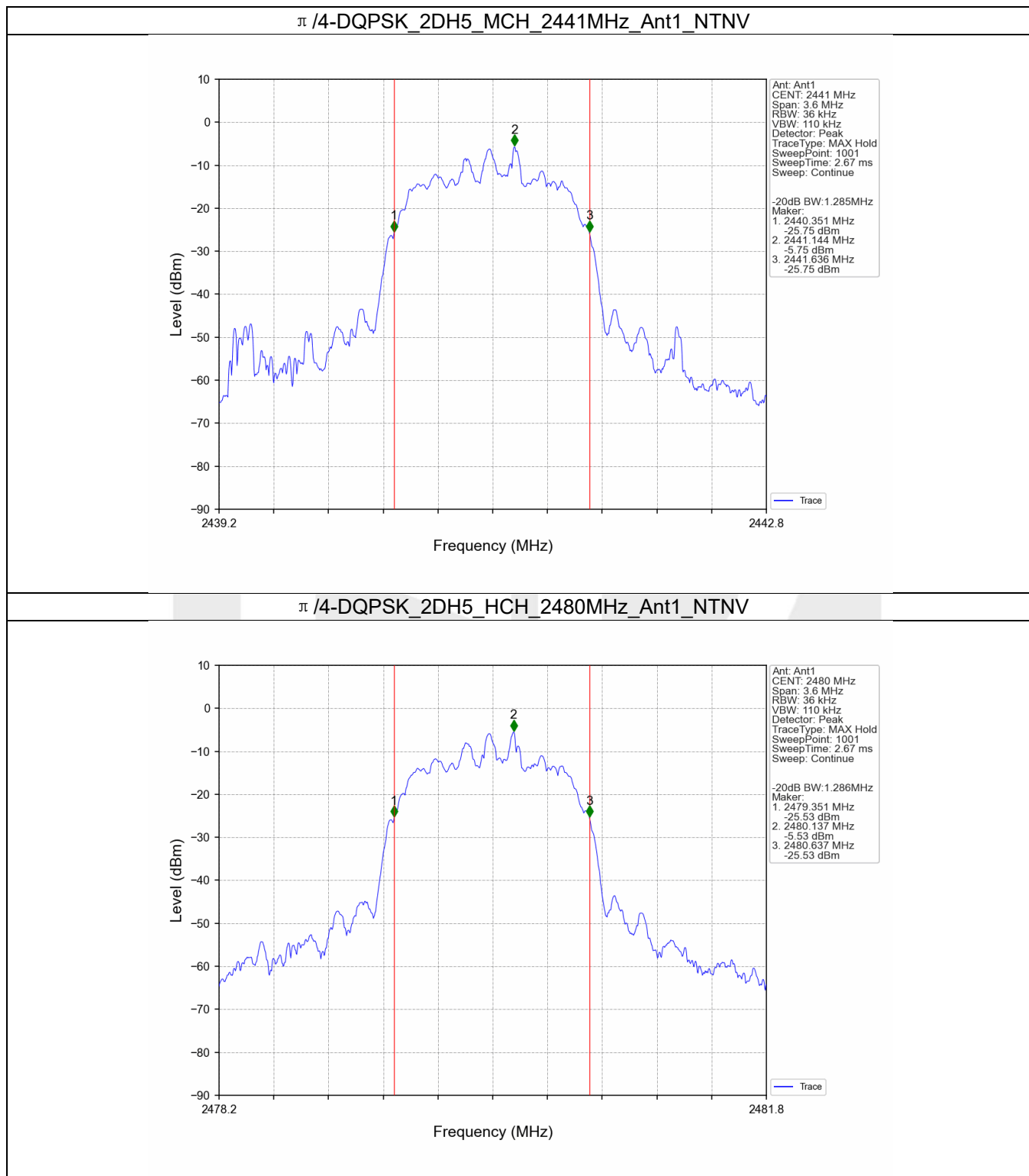


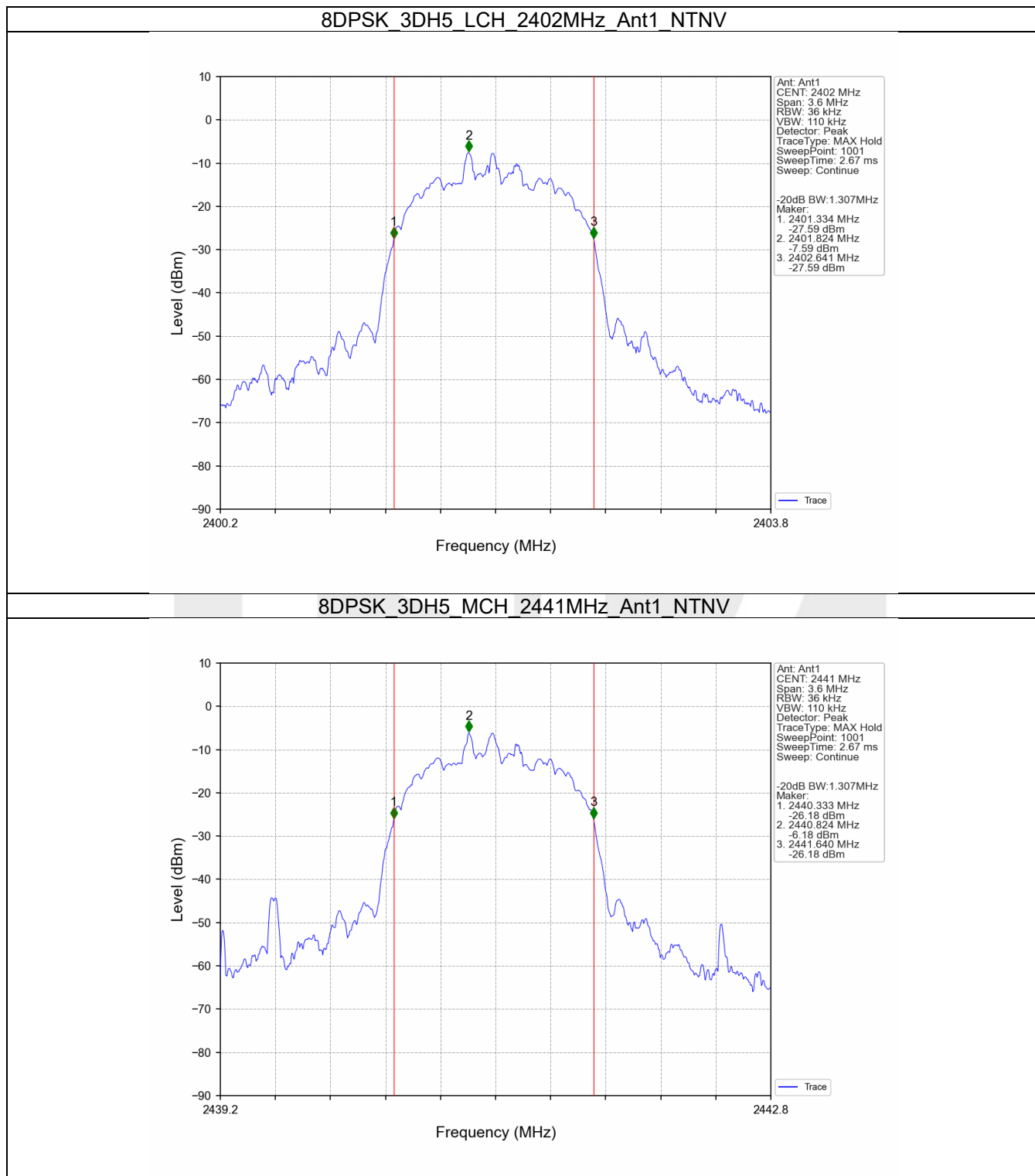


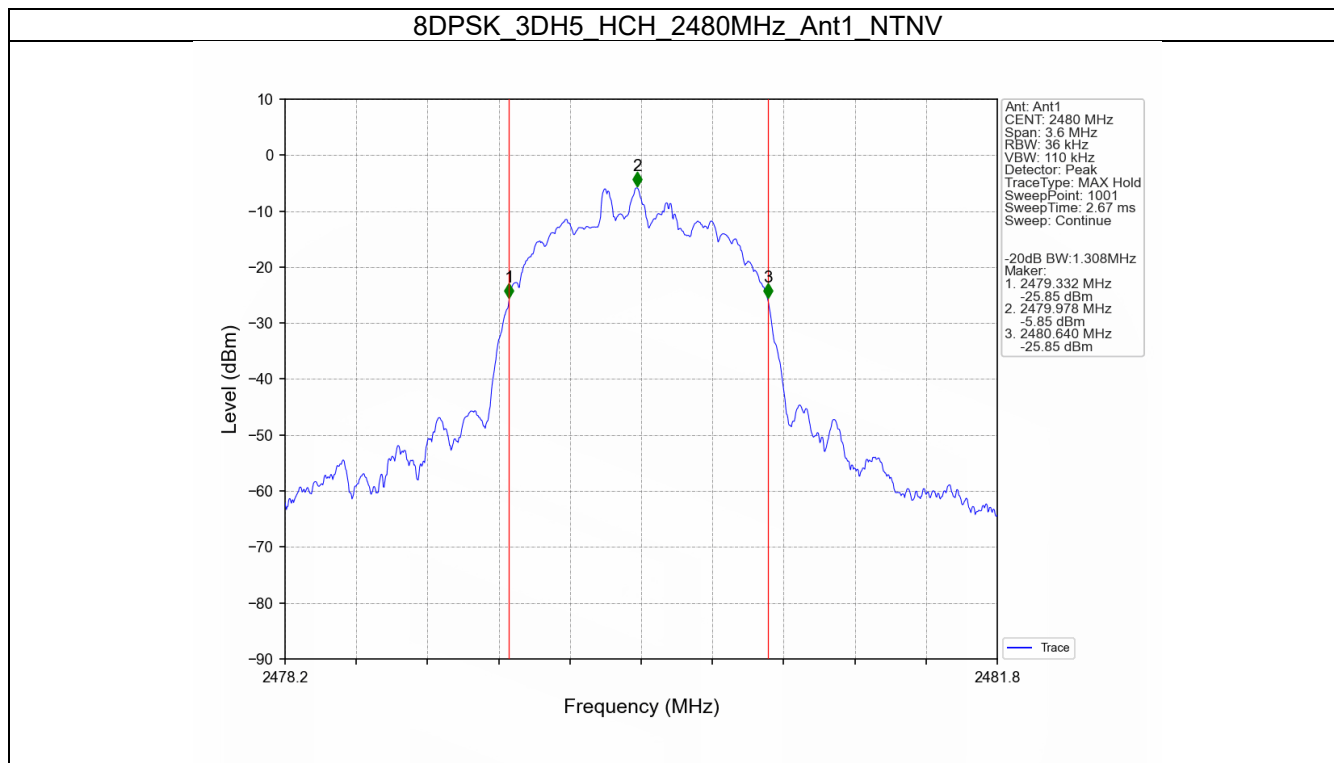
## 2.2.2 20dB BW











### 3. Maximum Conducted Output Power

#### 3.1 Test Result

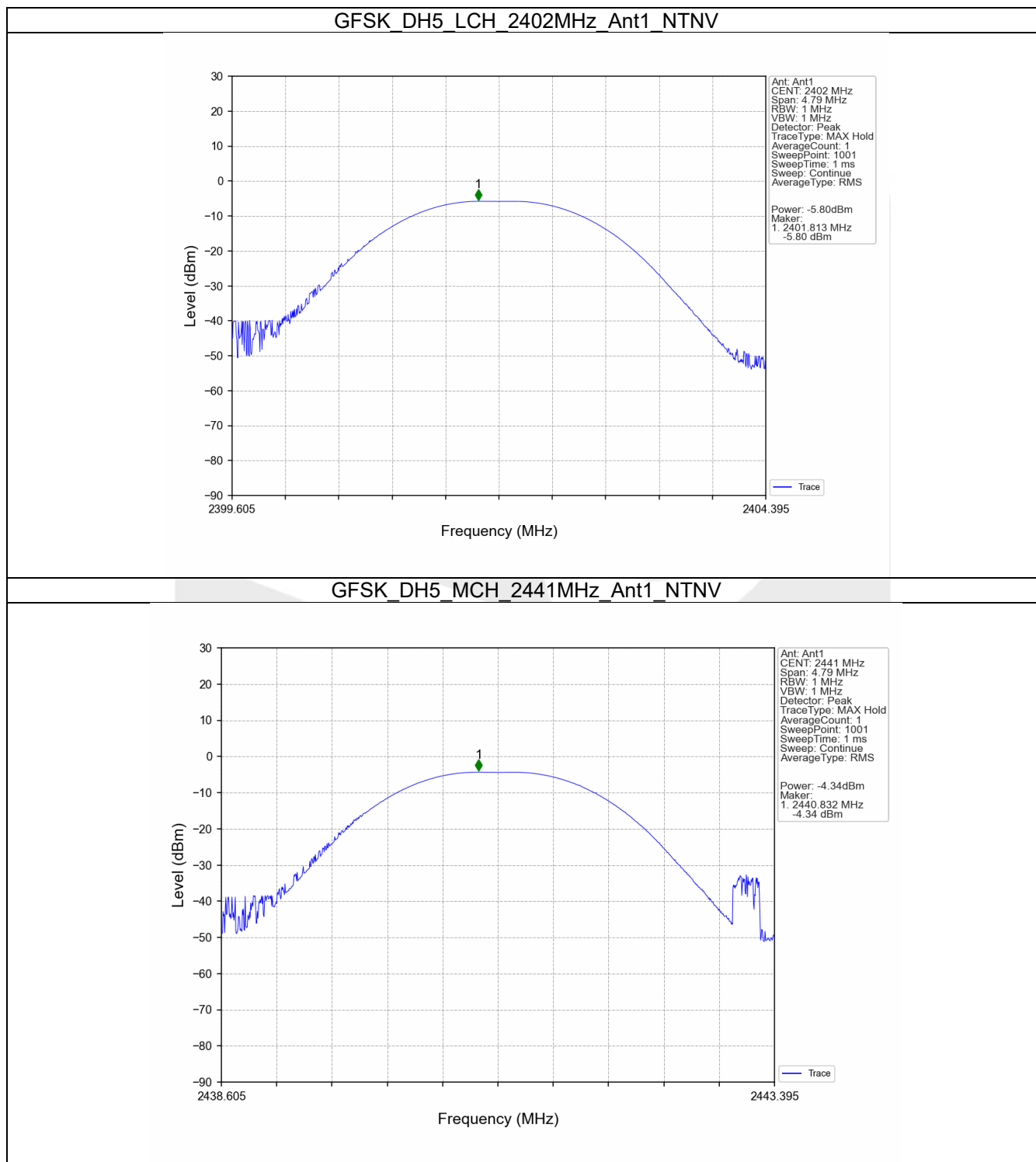
##### 3.1.1 Power

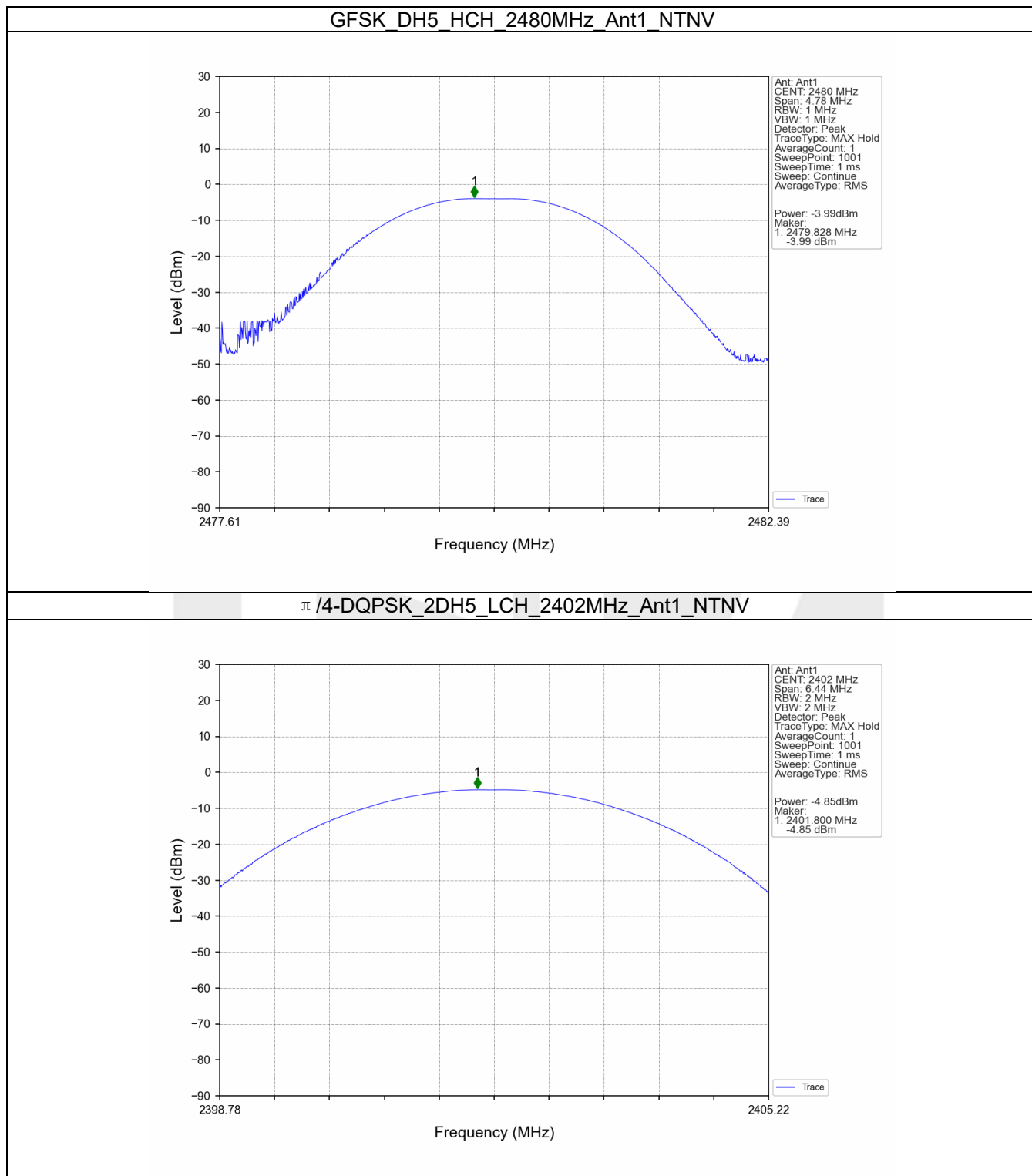
| Mode           | TX Type | Frequency (MHz) | Packet Type | Maximum Peak Conducted Output Power (dBm) |         | Verdict |
|----------------|---------|-----------------|-------------|-------------------------------------------|---------|---------|
|                |         |                 |             | ANT1                                      | Limit   |         |
| GFSK           | SISO    | 2402            | DH5         | -5.80                                     | <=30    | Pass    |
|                |         | 2441            | DH5         | -4.34                                     | <=30    | Pass    |
|                |         | 2480            | DH5         | -3.99                                     | <=30    | Pass    |
| $\pi/4$ -DQPSK | SISO    | 2402            | 2DH5        | -4.85                                     | <=20.97 | Pass    |
|                |         | 2441            | 2DH5        | -3.42                                     | <=20.97 | Pass    |
|                |         | 2480            | 2DH5        | -3.05                                     | <=20.97 | Pass    |
| 8DPSK          | SISO    | 2402            | 3DH5        | -4.40                                     | <=20.97 | Pass    |
|                |         | 2441            | 3DH5        | -2.99                                     | <=20.97 | Pass    |
|                |         | 2480            | 3DH5        | -2.63                                     | <=20.97 | Pass    |

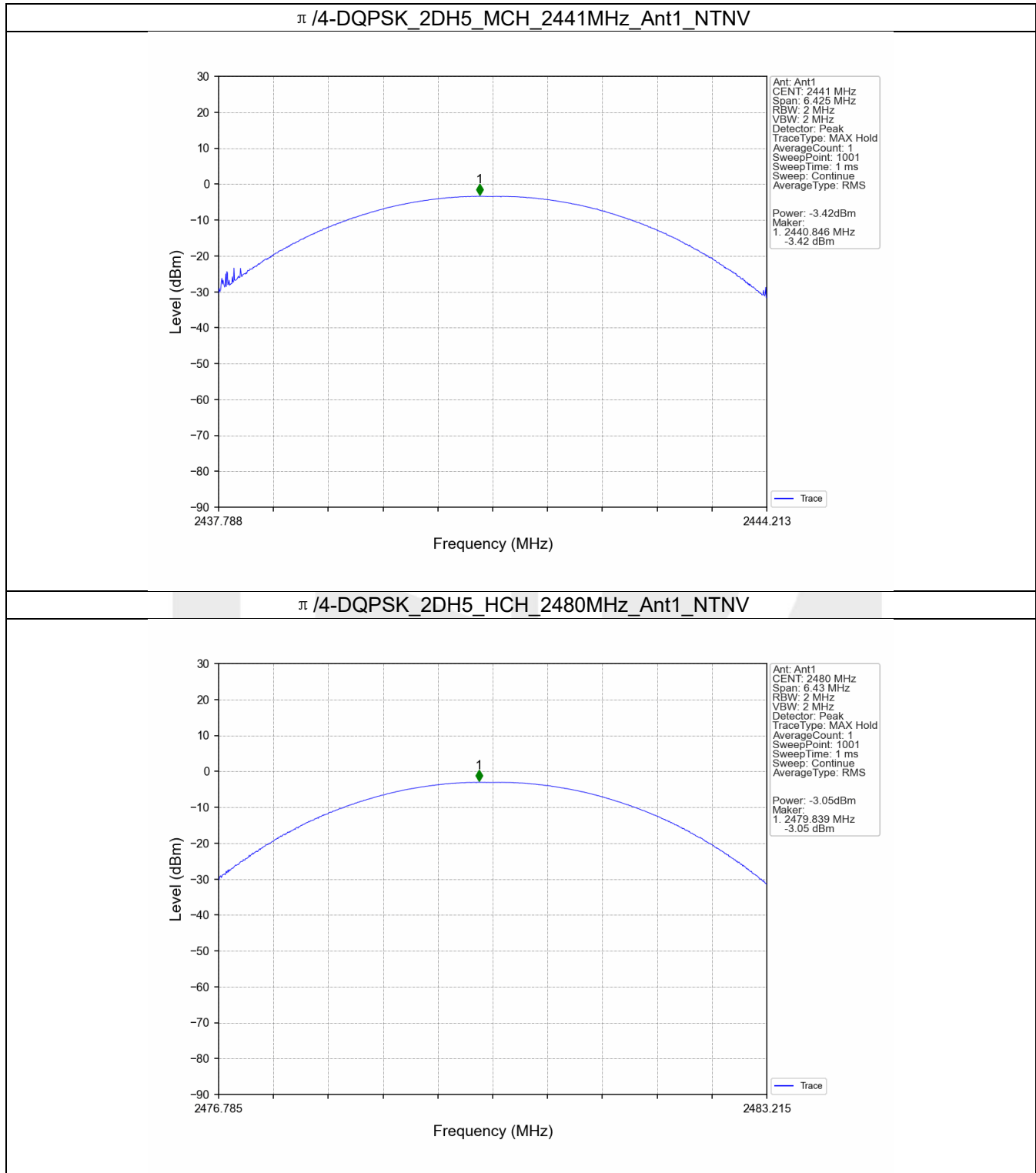
Note1: Antenna Gain: Ant1: 1.90dBi;

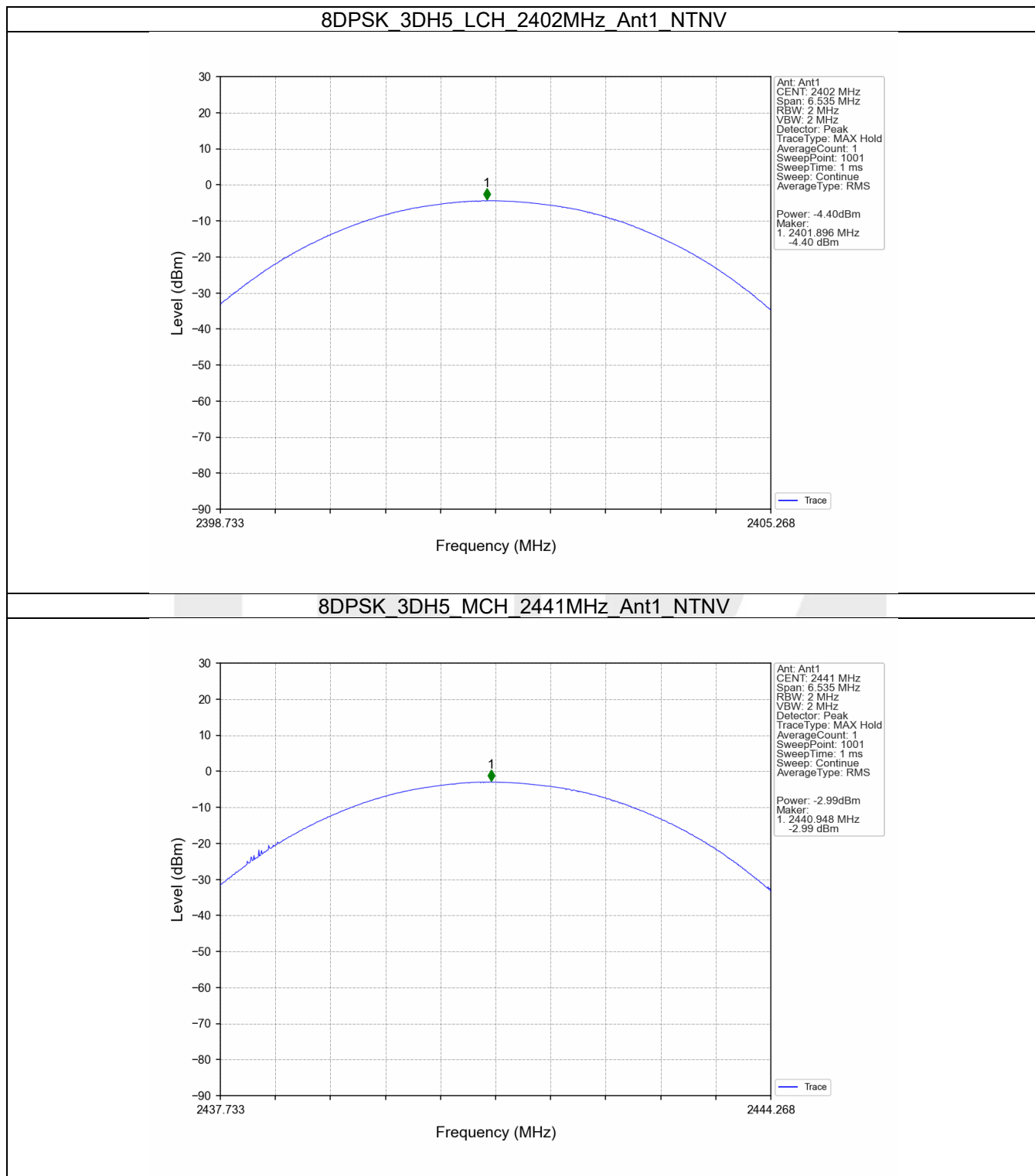
### 3.2 Test Graph

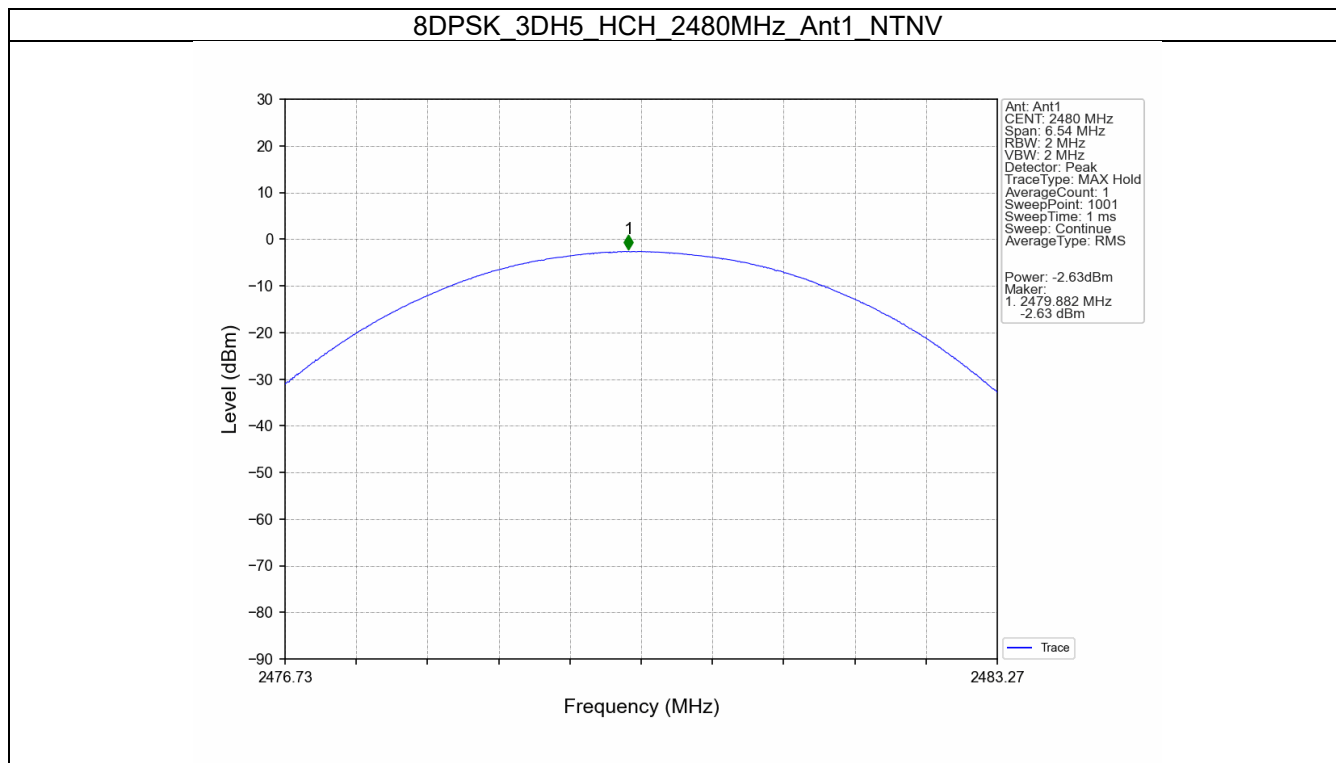
#### 3.2.1 Power











#### 4. Carrier Frequency Separation

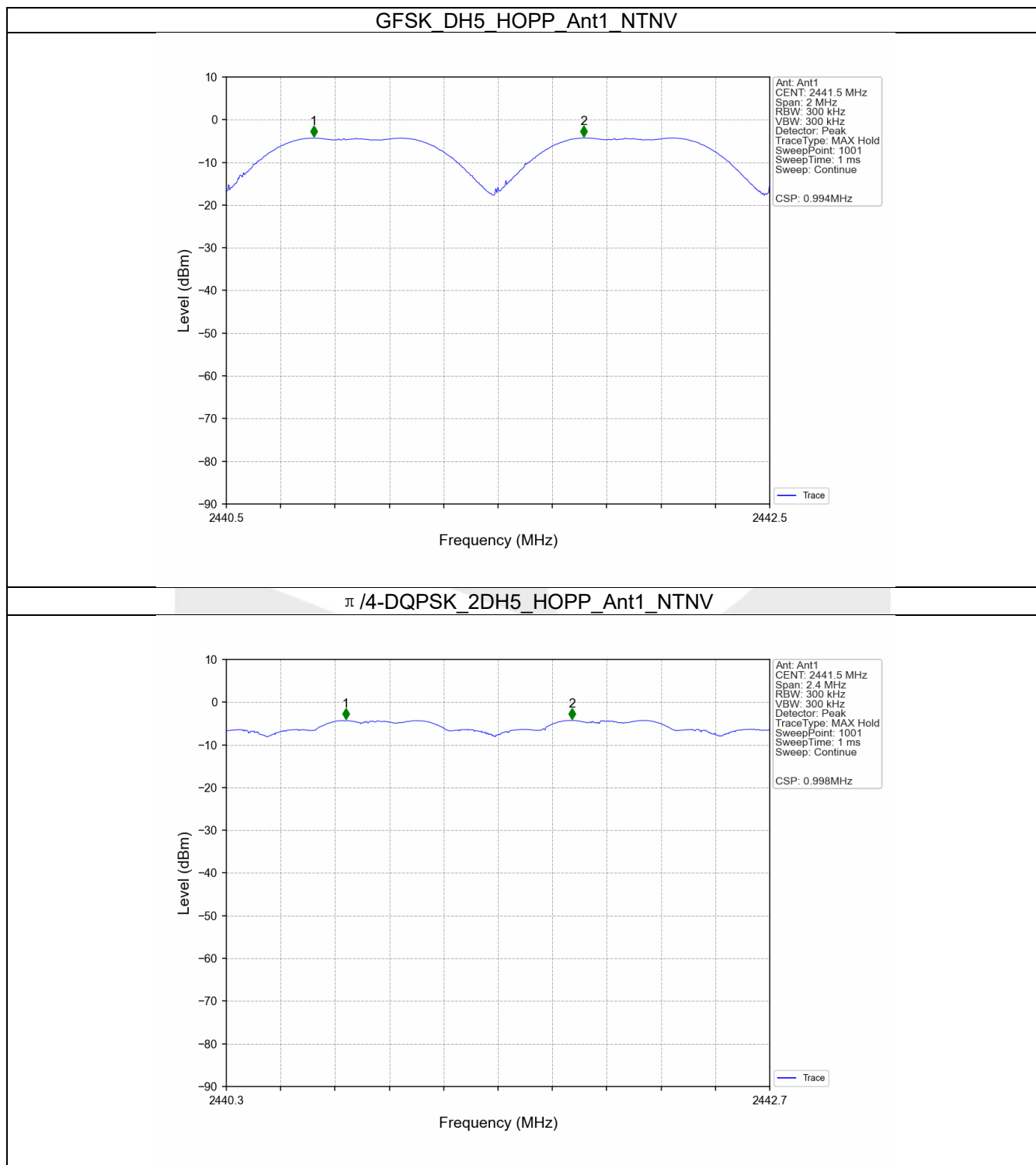
##### 4.1 Test Result

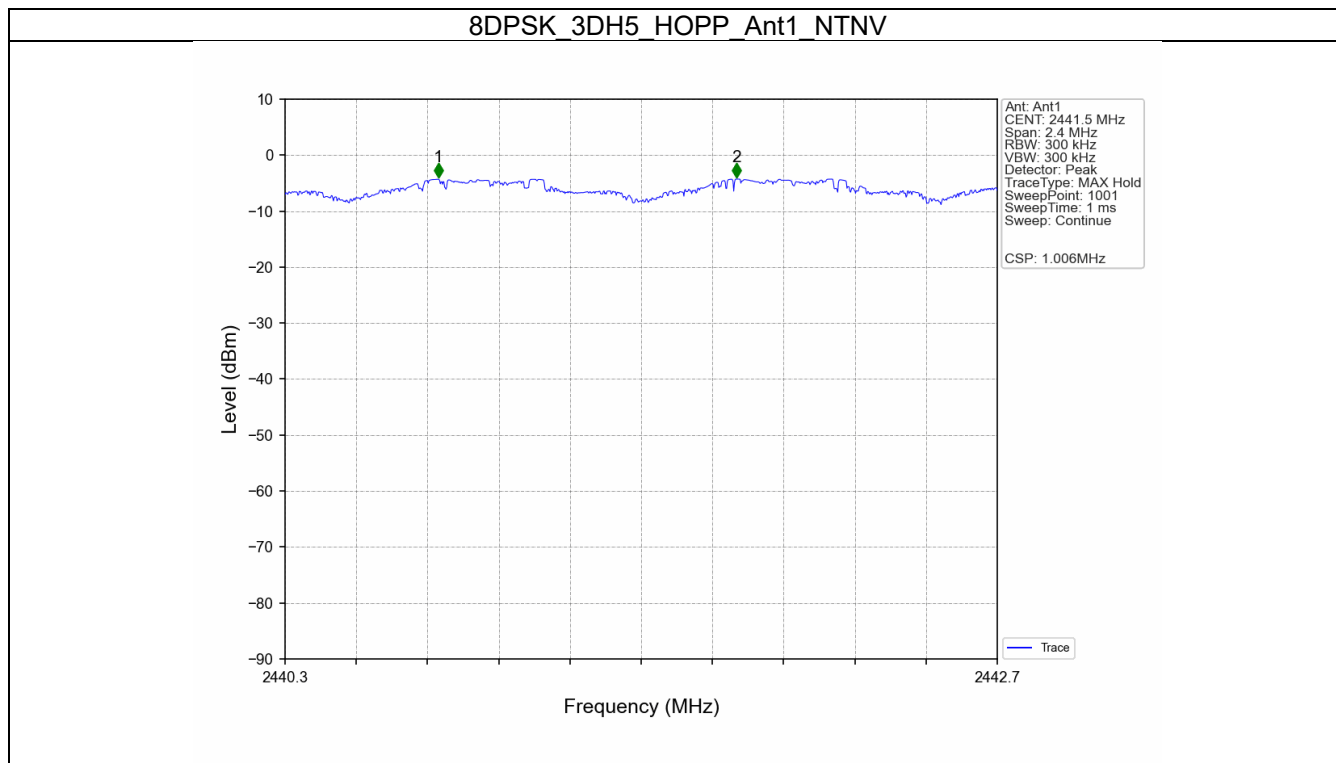
##### 4.1.1 Ant1

| Ant1           |         |                 |             |                          |                      |              |         |
|----------------|---------|-----------------|-------------|--------------------------|----------------------|--------------|---------|
| Mode           | TX Type | Frequency (MHz) | Packet Type | Channel Separation (MHz) | 20dB Bandwidth (MHz) | Limit (MHz)  | Verdict |
| GFSK           | SISO    | HOPP            | DH5         | 0.994                    | 0.958                | $\geq 0.958$ | Pass    |
| $\pi/4$ -DQPSK | SISO    | HOPP            | 2DH5        | 0.998                    | 1.288                | $\geq 0.859$ | Pass    |
| 8DPSK          | SISO    | HOPP            | 3DH5        | 1.006                    | 1.308                | $\geq 0.872$ | Pass    |

## 4.2 Test Graph

### 4.2.1 Ant1





## 5. Number of Hopping Frequencies

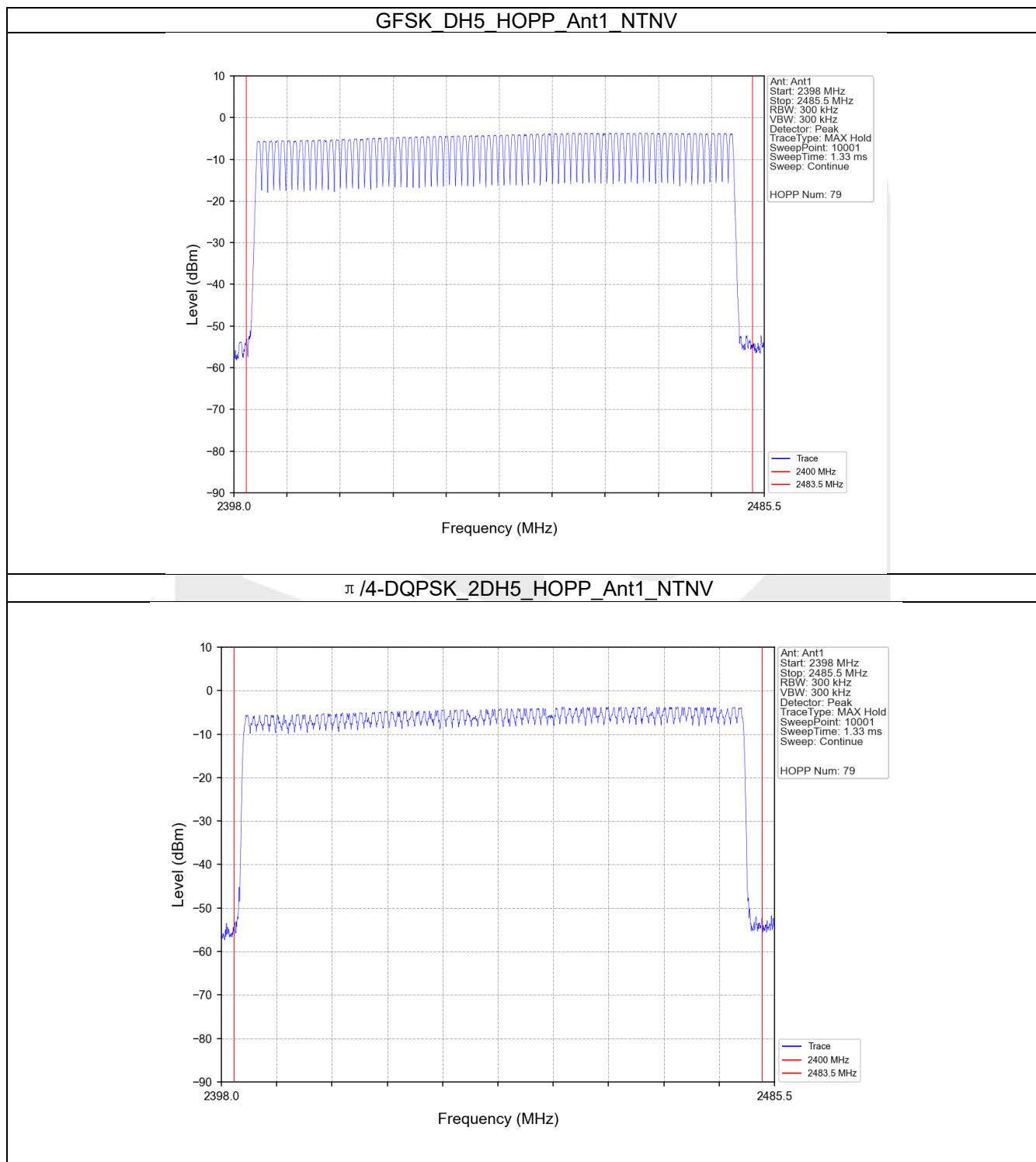
### 5.1 Test Result

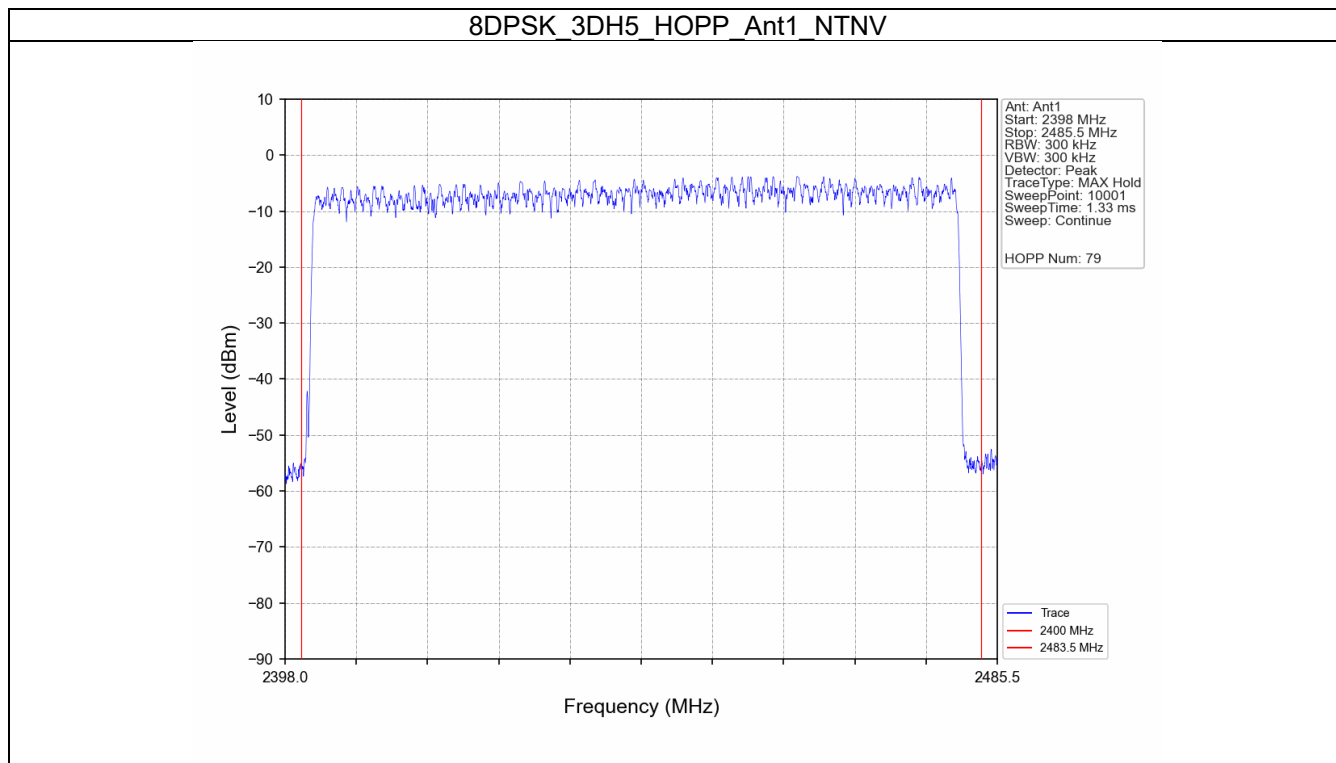
#### 5.1.1 HoppNum

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

## 5.2 Test Graph

### 5.2.1 HoppNum





## 6. Time of Occupancy (Dwell Time)

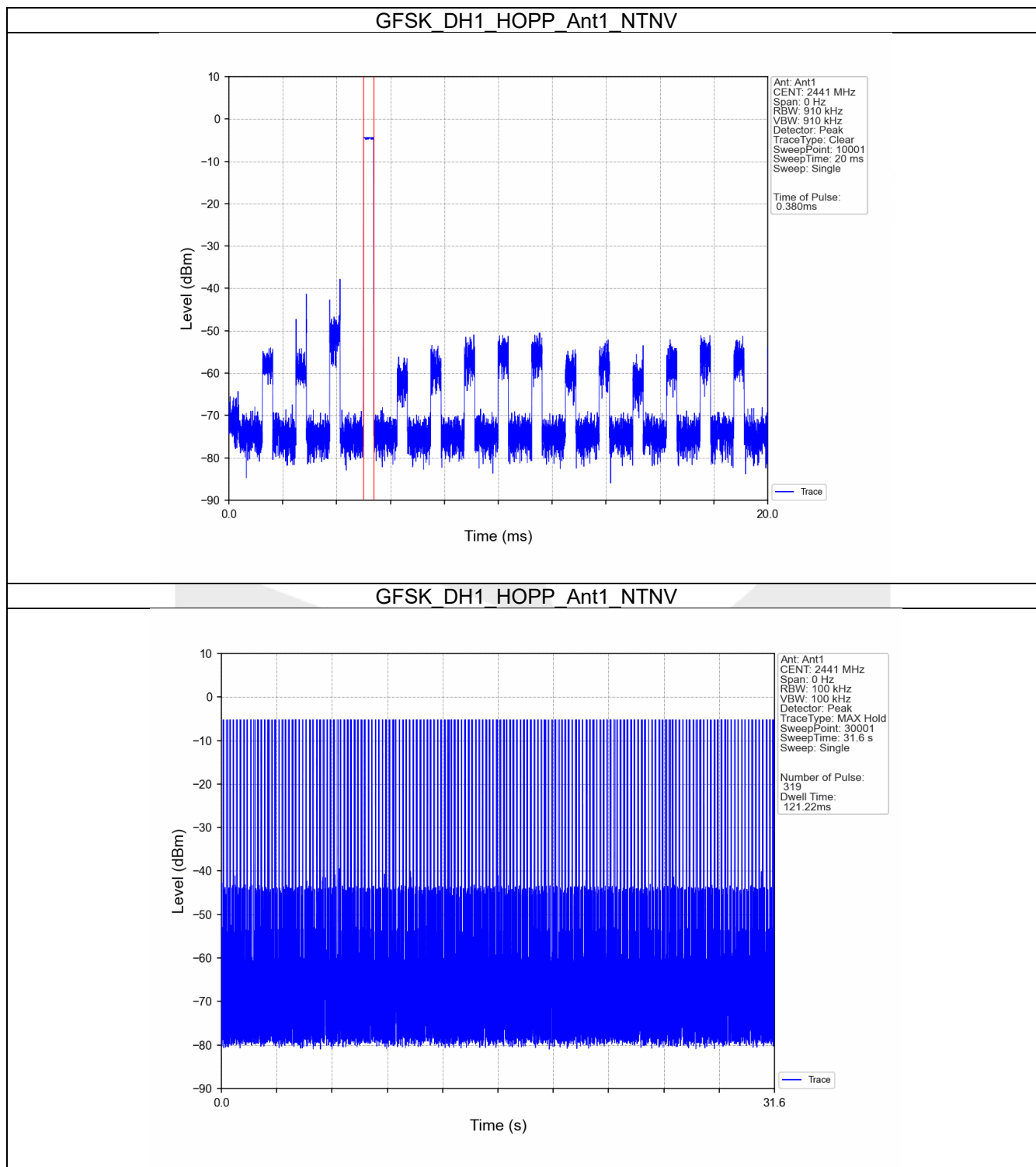
### 6.1 Test Result

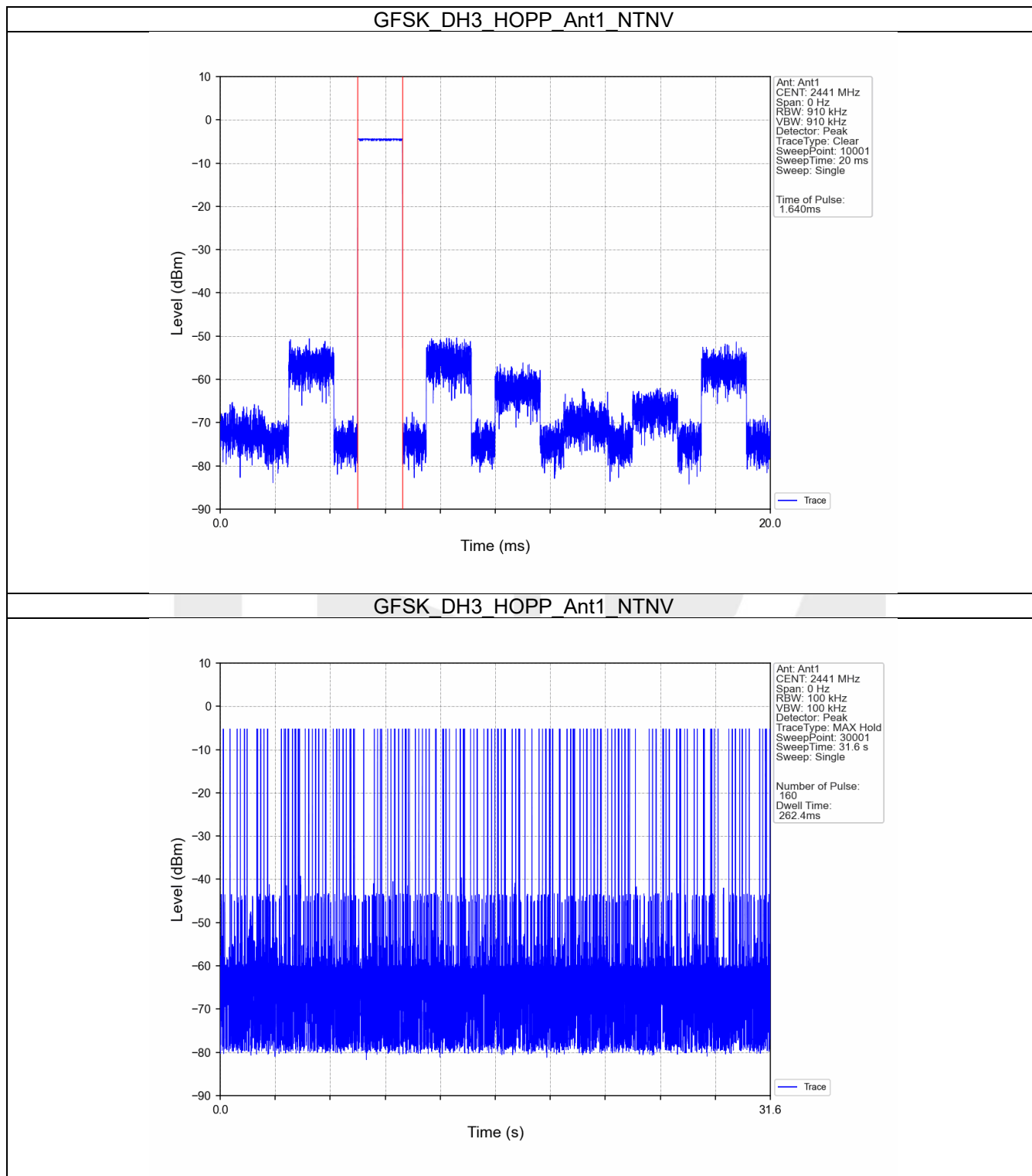
#### 6.1.1 Ant1

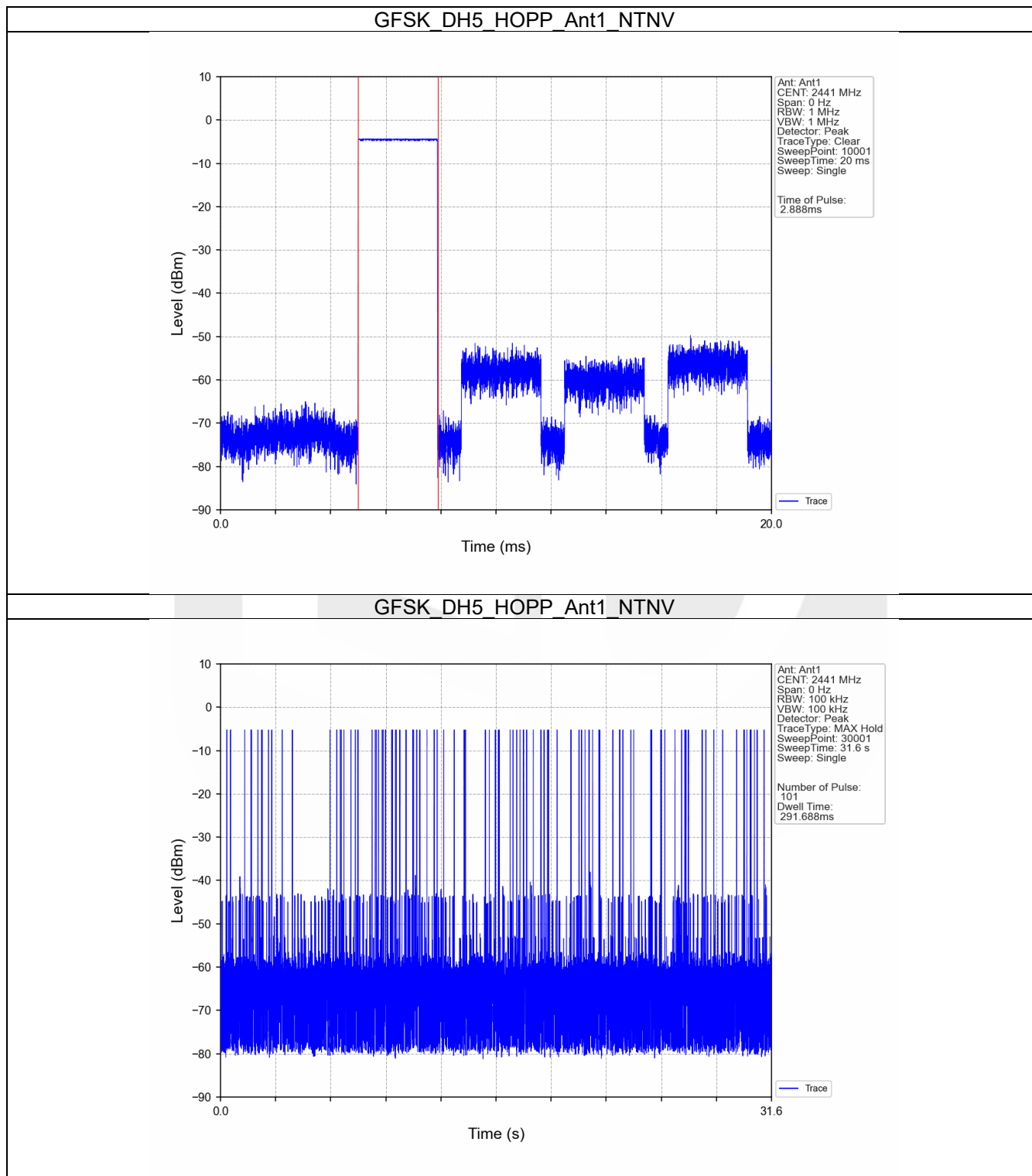
| Ant1           |         |                 |             |                               |                        |                                    |                 |            |         |
|----------------|---------|-----------------|-------------|-------------------------------|------------------------|------------------------------------|-----------------|------------|---------|
| 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         | 0.380                         | 31.600                 | 319                                | 121.220         | <=400      | Pass    |
|                |         |                 | DH3         | 1.640                         | 31.600                 | 160                                | 262.400         | <=400      | Pass    |
|                |         |                 | DH5         | 2.888                         | 31.600                 | 101                                | 291.688         | <=400      | Pass    |
| $\pi/4$ -DQPSK | SISO    | HOPP            | 2DH1        | 0.390                         | 31.600                 | 319                                | 124.410         | <=400      | Pass    |
|                |         |                 | 2DH3        | 1.642                         | 31.600                 | 160                                | 262.720         | <=400      | Pass    |
|                |         |                 | 2DH5        | 2.892                         | 31.600                 | 99                                 | 286.308         | <=400      | Pass    |
| 8DPSK          | SISO    | HOPP            | 3DH1        | 0.392                         | 31.600                 | 320                                | 125.440         | <=400      | Pass    |
|                |         |                 | 3DH3        | 1.640                         | 31.600                 | 162                                | 265.680         | <=400      | Pass    |
|                |         |                 | 3DH5        | 2.892                         | 31.600                 | 99                                 | 286.308         | <=400      | Pass    |

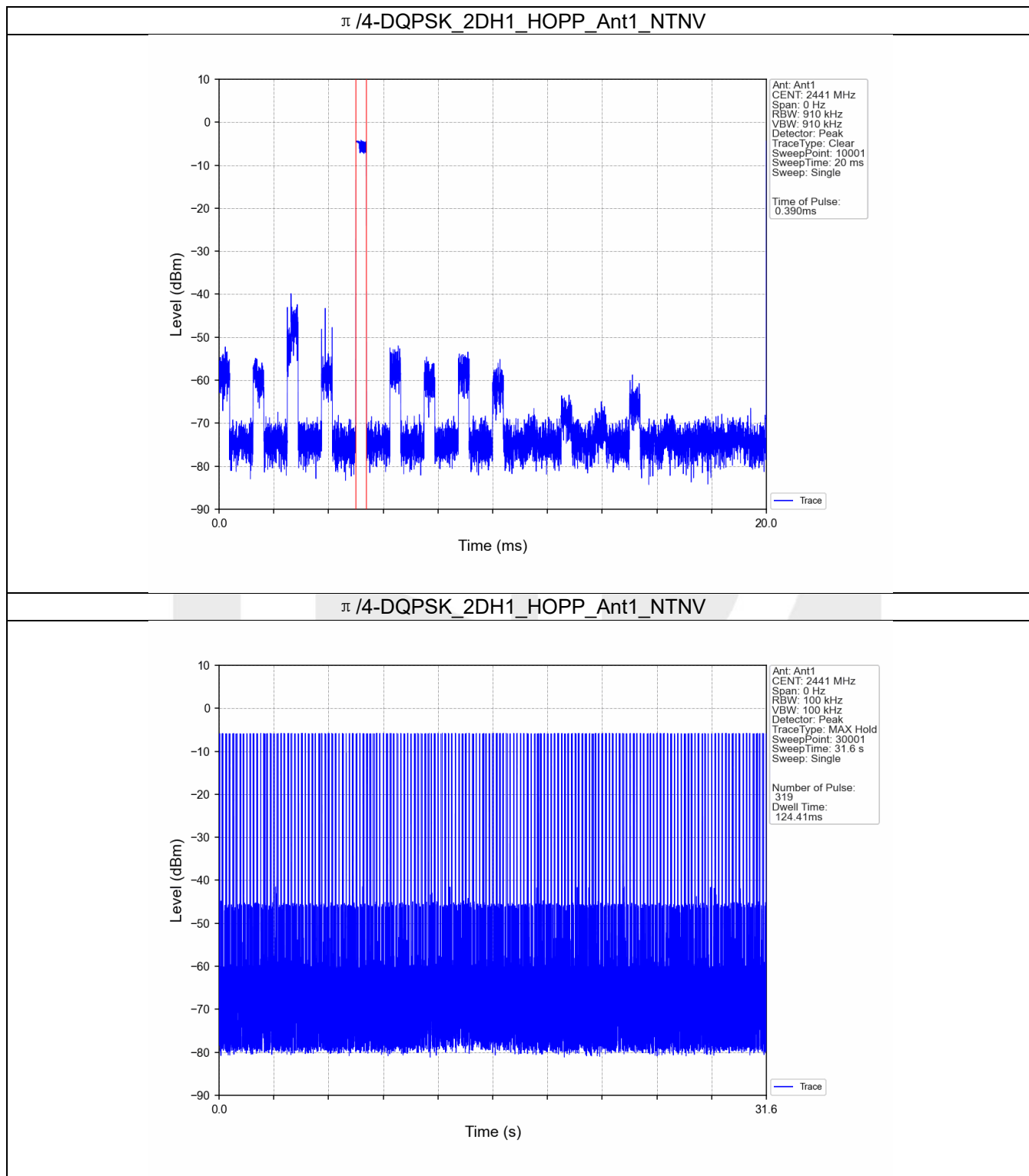
## 6.2 Test Graph

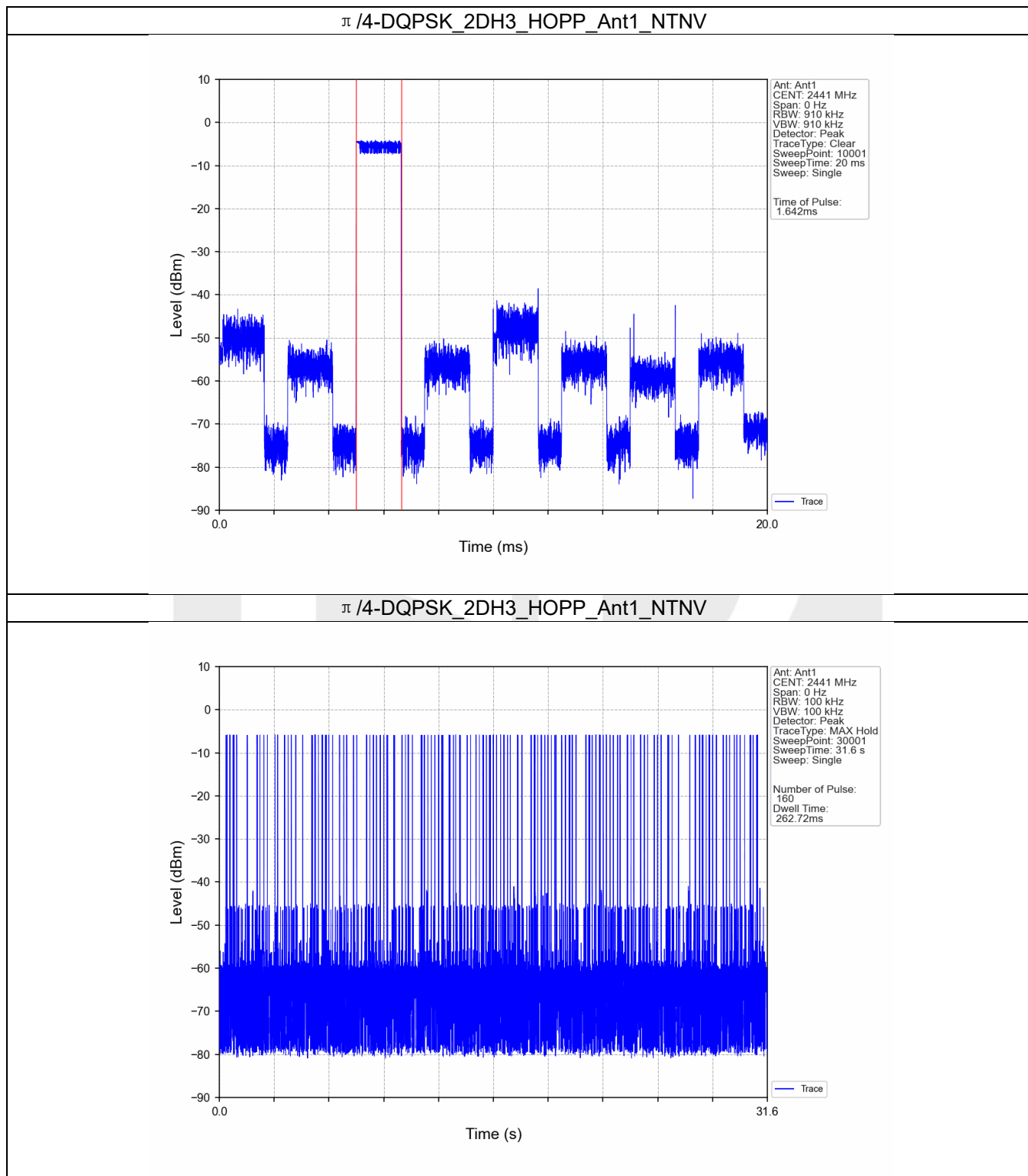
### 6.2.1 Ant1

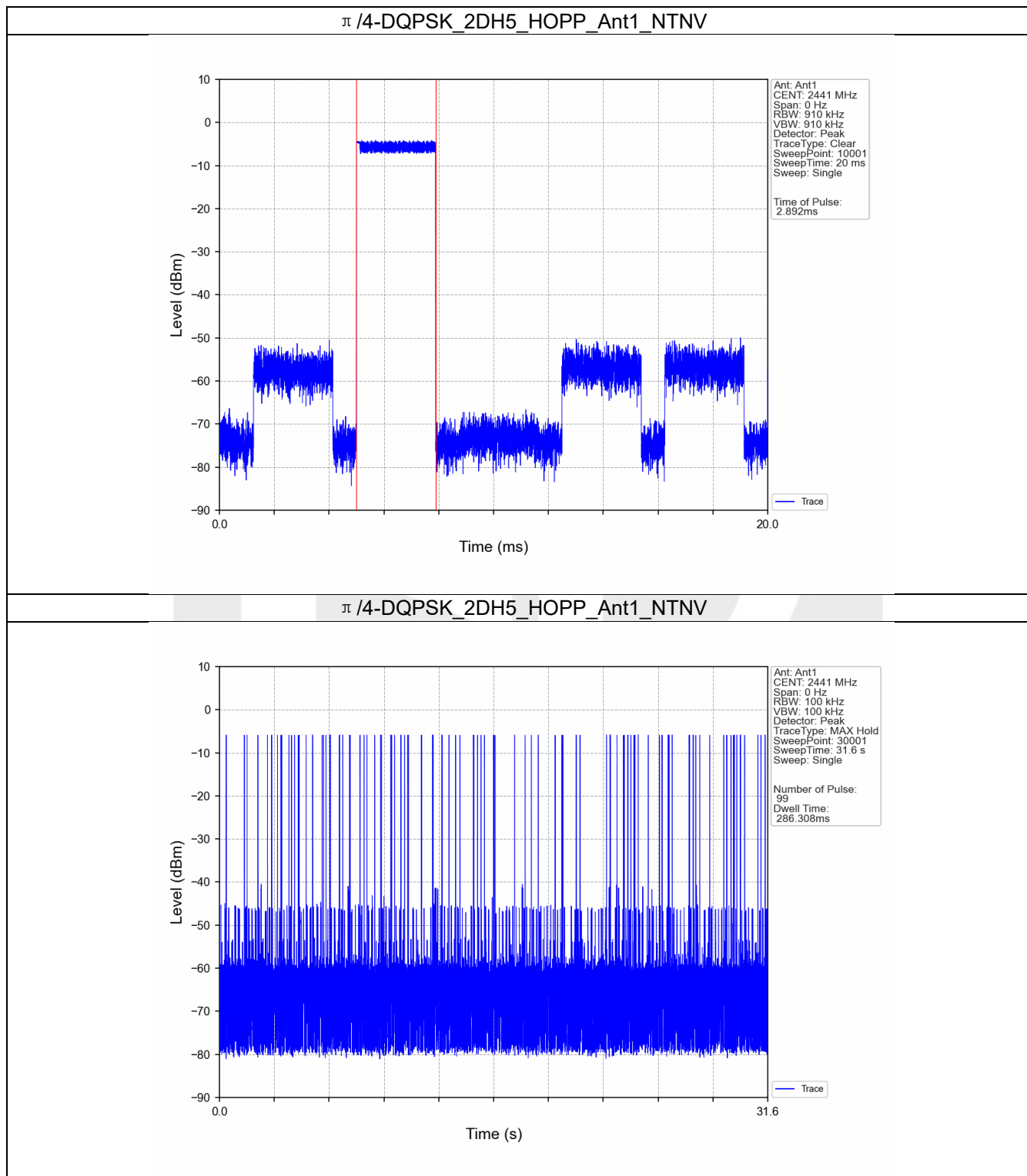


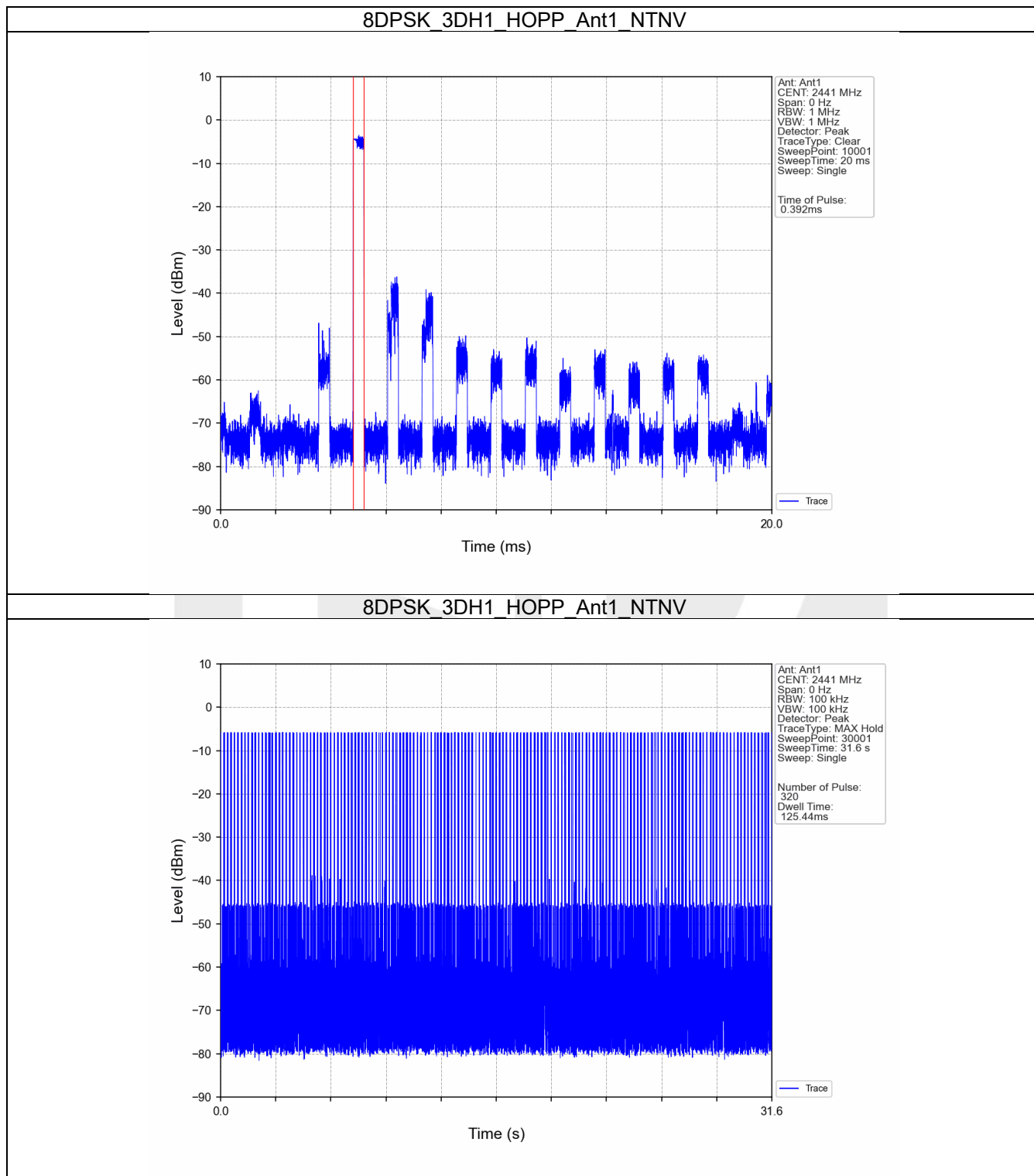


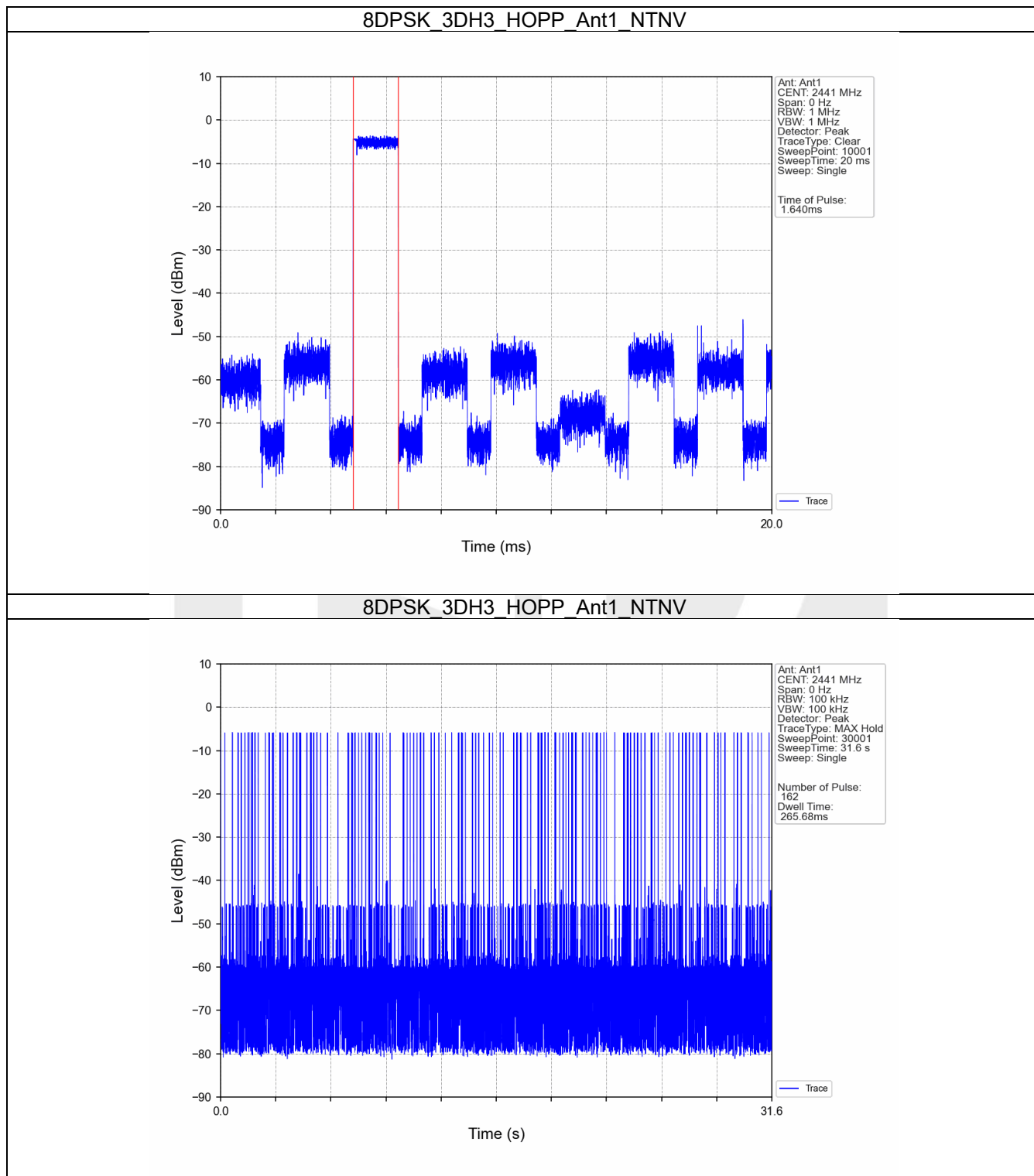


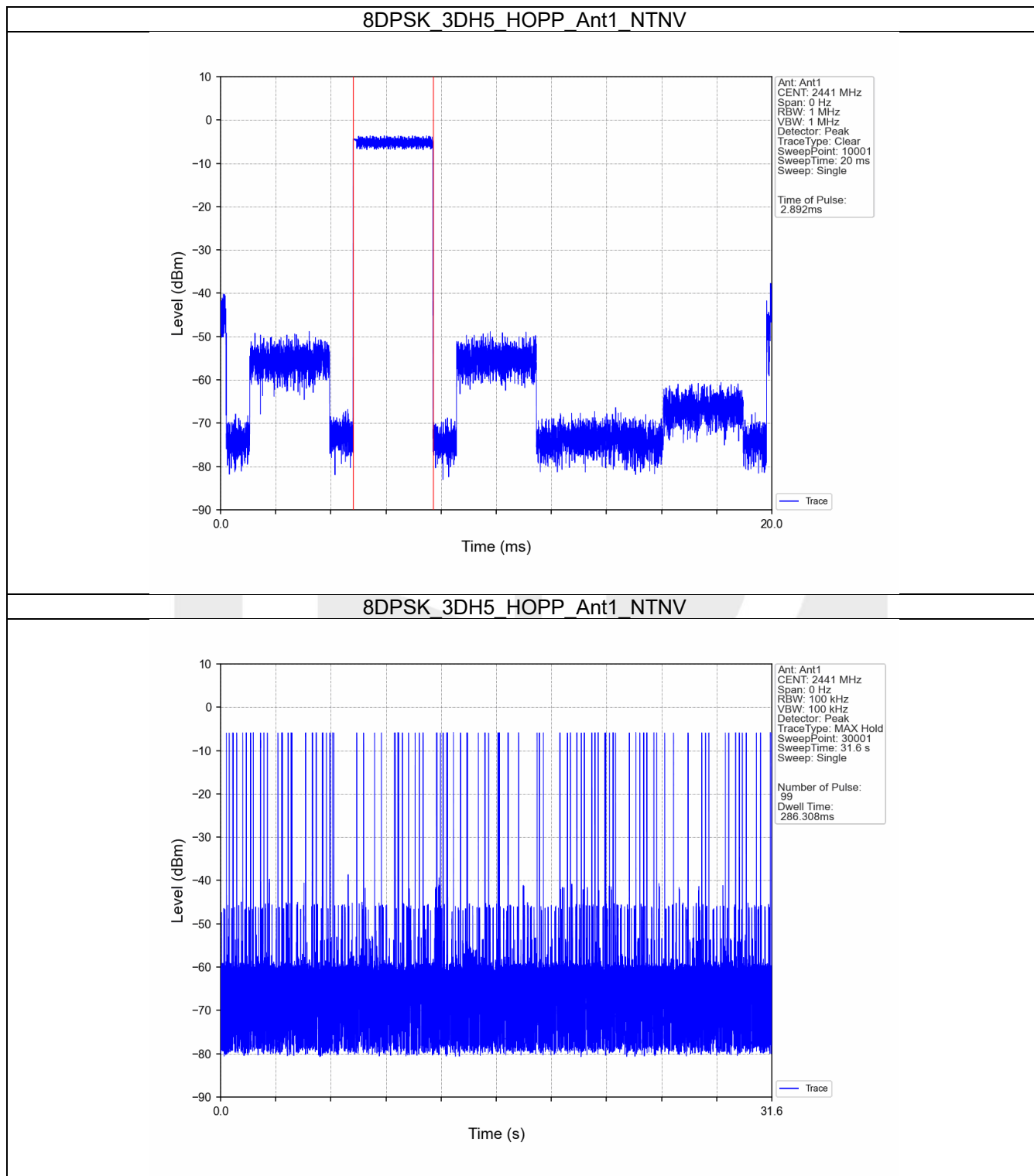












## 7. Unwanted Emissions In Non-restricted Frequency Bands

### 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   | -5.83                    |
|                |         | 2441            | DH5         | 1   | -4.36                    |
|                |         | 2480            | DH5         | 1   | -4.02                    |
|                |         | HOPP            | DH5         | 1   | -3.92                    |
|                |         |                 |             |     | -3.92                    |
| $\pi/4$ -DQPSK | SISO    | 2402            | 2DH5        | 1   | -5.91                    |
|                |         | 2441            | 2DH5        | 1   | -4.37                    |
|                |         | 2480            | 2DH5        | 1   | -4.12                    |
|                |         | HOPP            | 2DH5        | 1   | -3.83                    |
|                |         |                 |             |     | -3.83                    |
| 8DPSK          | SISO    | 2402            | 3DH5        | 1   | -5.78                    |
|                |         | 2441            | 3DH5        | 1   | -4.44                    |
|                |         | 2480            | 3DH5        | 1   | -4.02                    |
|                |         | HOPP            | 3DH5        | 1   | -3.86                    |
|                |         |                 |             |     | -3.86                    |

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.

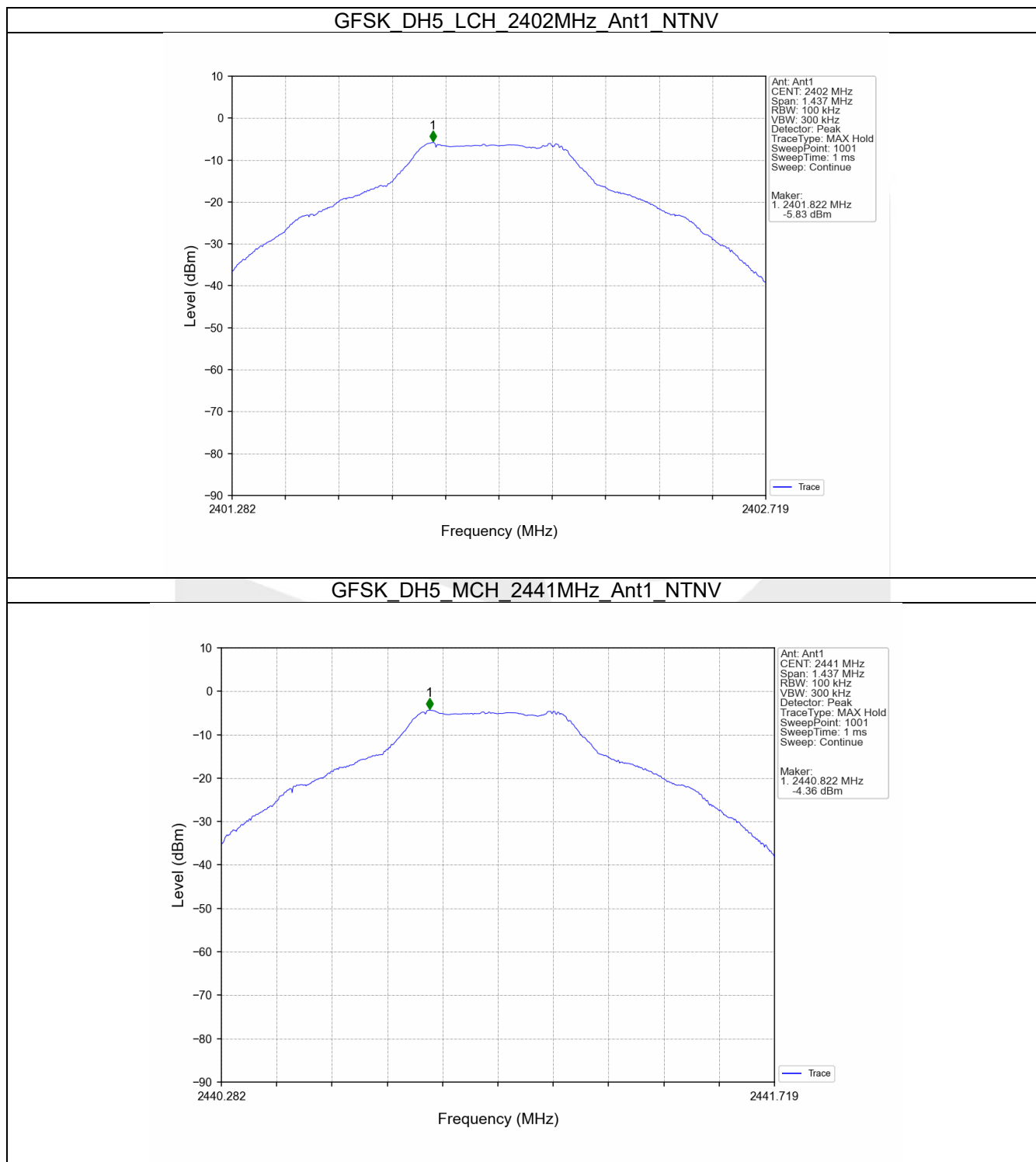
#### 7.1.2 CSE

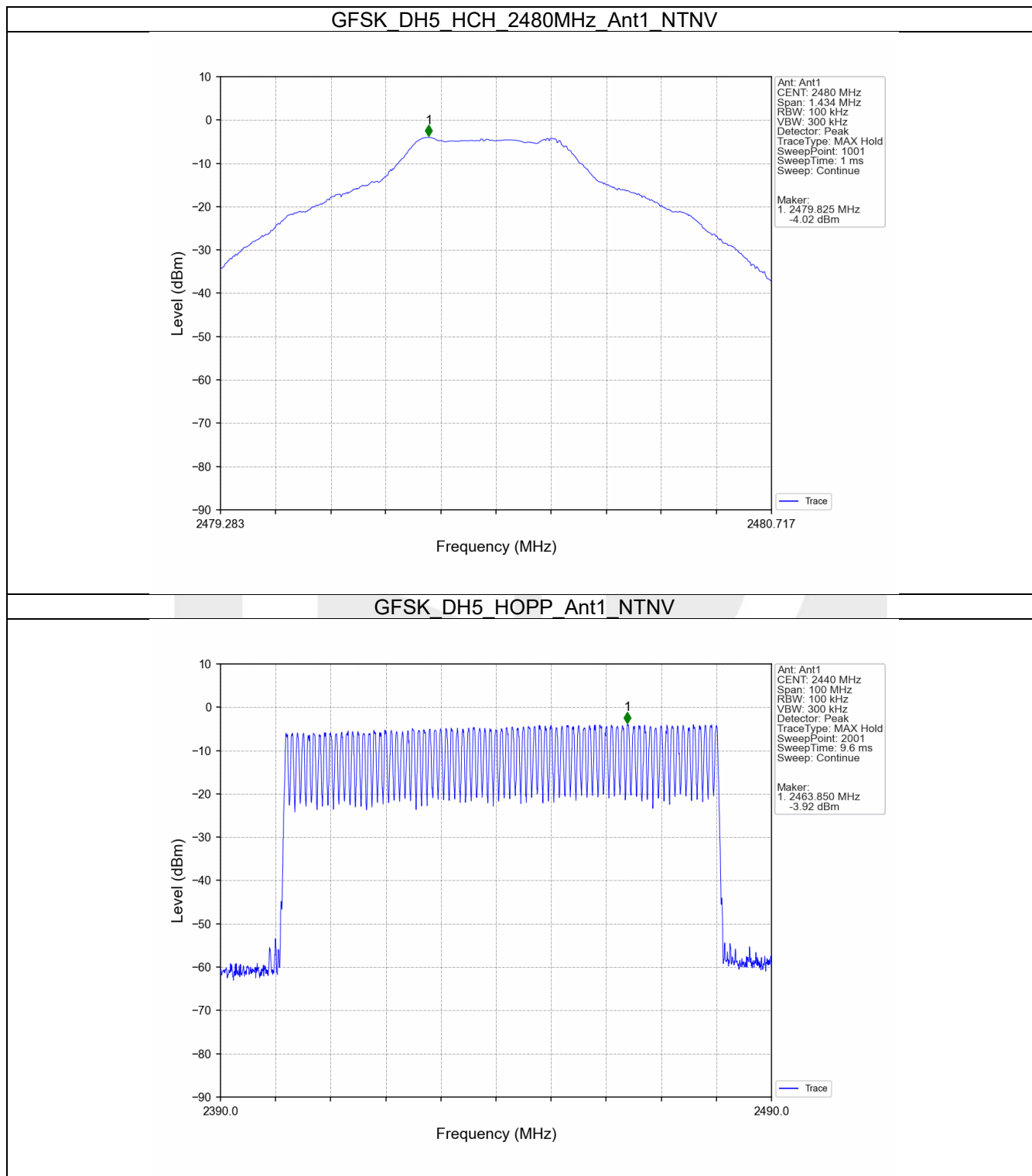
| Mode           | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|----------------|---------|-----------------|-------------|-----|--------------------------|-------------|---------|
| GFSK           | SISO    | 2402            | DH5         | 1   | -5.83                    | -25.83      | Pass    |
|                |         | 2441            | DH5         | 1   | -4.36                    | -24.36      | Pass    |
|                |         | 2480            | DH5         | 1   | -4.02                    | -24.02      | Pass    |
|                |         | HOPP            | DH5         | 1   | -3.92                    | -23.92      | Pass    |
|                |         |                 |             |     | -3.92                    | -23.92      | Pass    |
| $\pi/4$ -DQPSK | SISO    | 2402            | 2DH5        | 1   | -5.91                    | -25.91      | Pass    |
|                |         | 2441            | 2DH5        | 1   | -4.37                    | -24.37      | Pass    |
|                |         | 2480            | 2DH5        | 1   | -4.12                    | -24.12      | Pass    |
|                |         | HOPP            | 2DH5        | 1   | -3.83                    | -23.83      | Pass    |
|                |         |                 |             |     | -3.83                    | -23.83      | Pass    |
| 8DPSK          | SISO    | 2402            | 3DH5        | 1   | -5.78                    | -25.78      | Pass    |
|                |         | 2441            | 3DH5        | 1   | -4.44                    | -24.44      | Pass    |
|                |         | 2480            | 3DH5        | 1   | -4.02                    | -24.02      | Pass    |
|                |         | HOPP            | 3DH5        | 1   | -3.86                    | -23.86      | Pass    |
|                |         |                 |             |     | -3.86                    | -23.86      | Pass    |

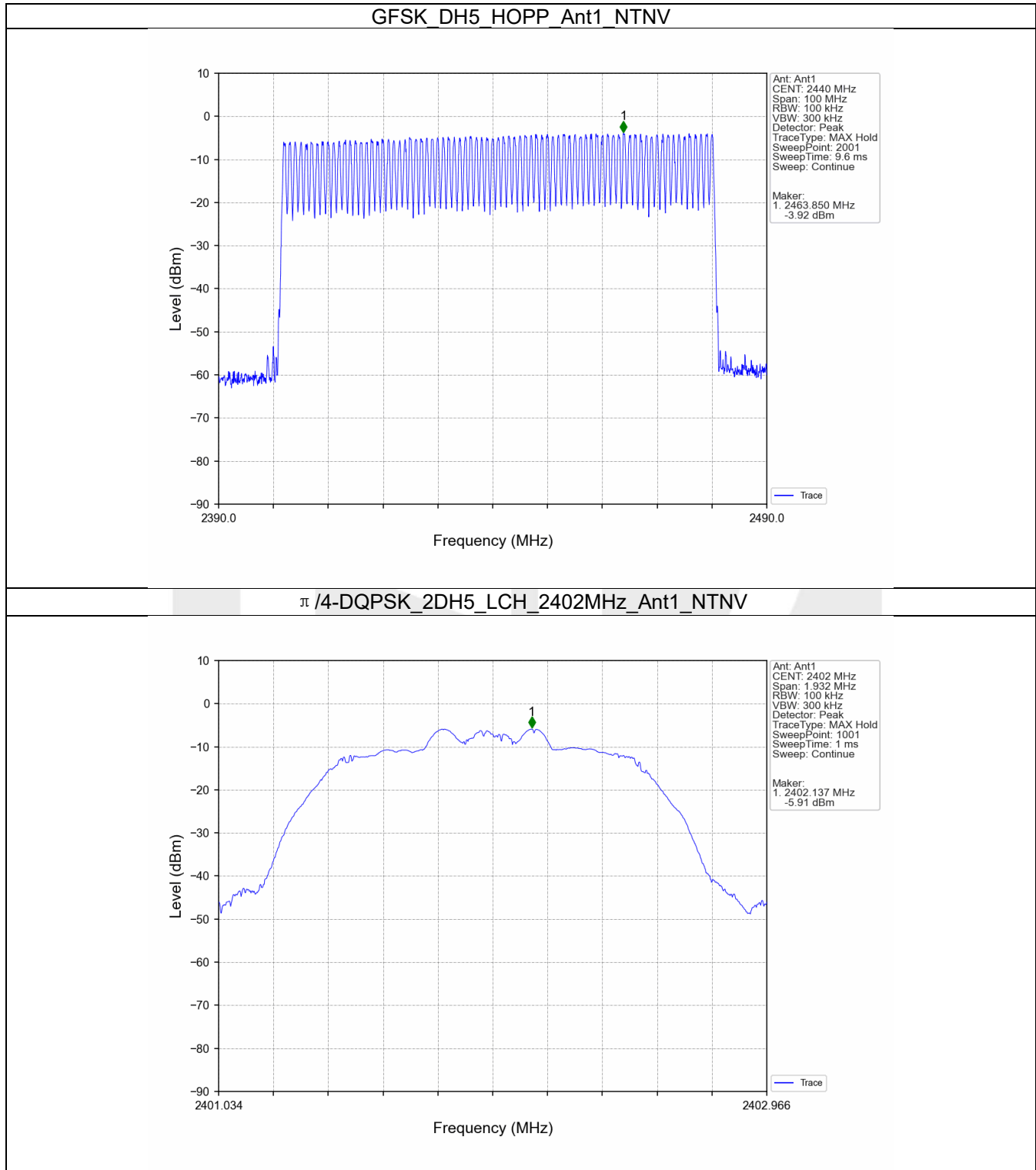
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

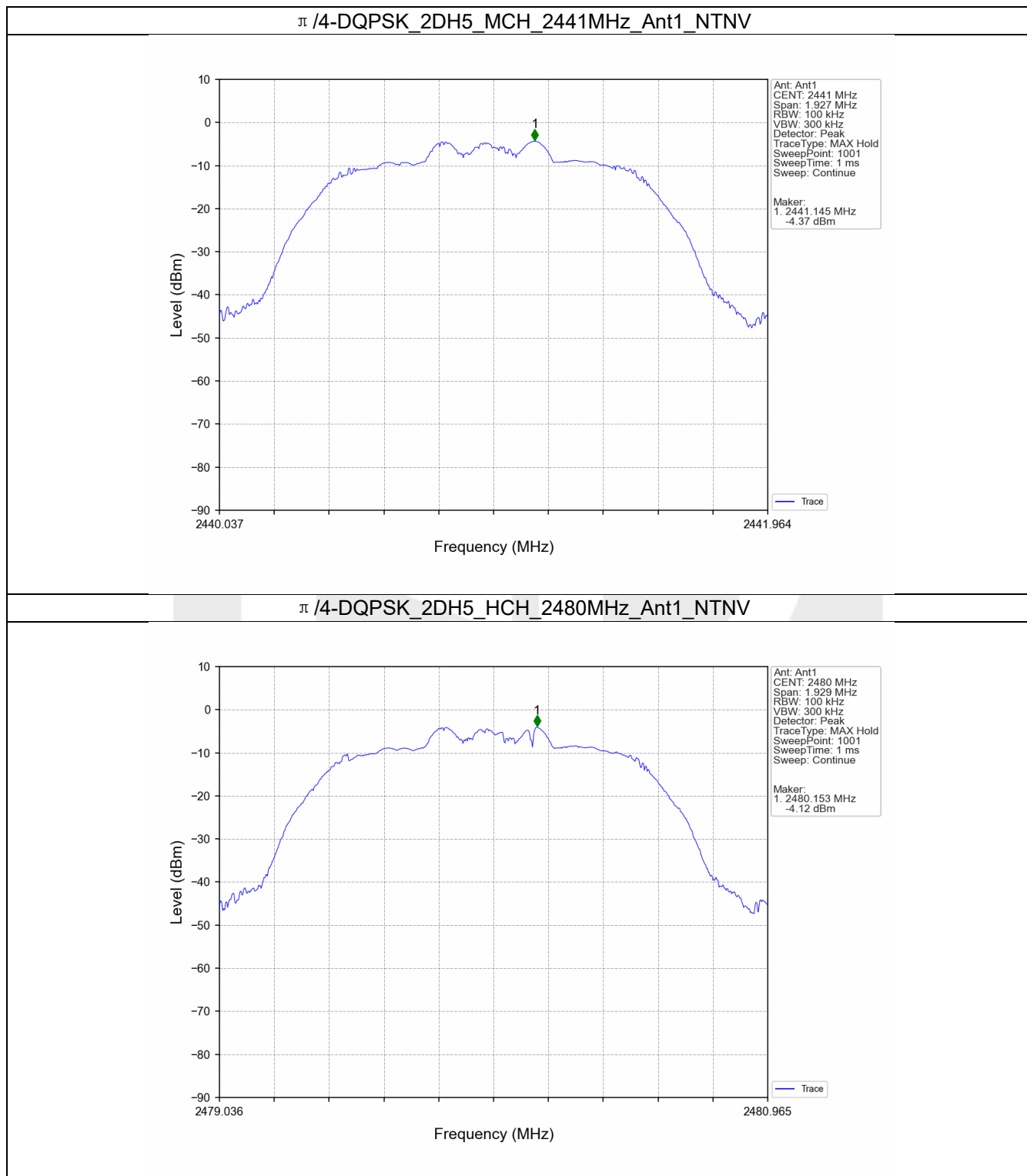
## 7.2 Test Graph

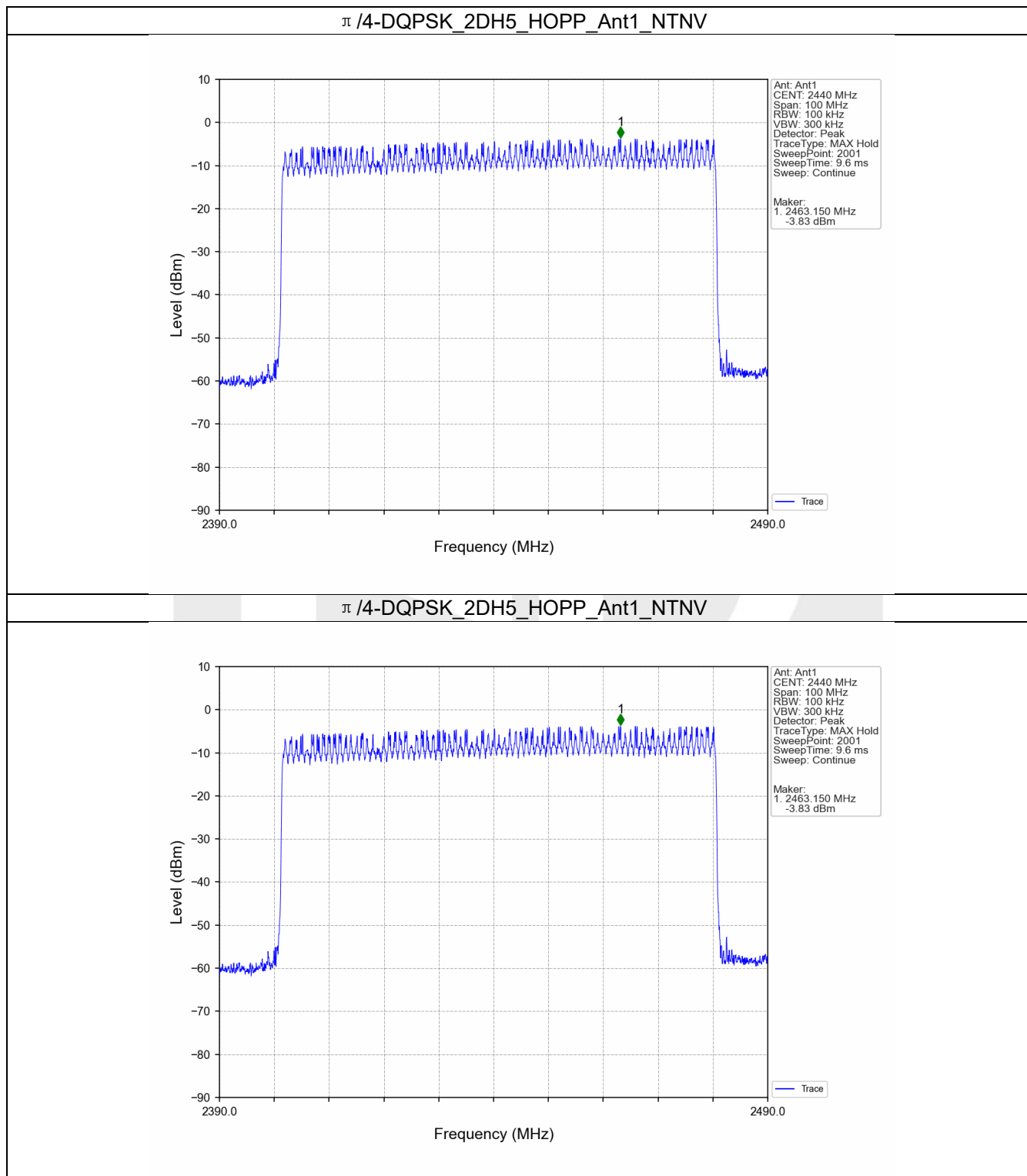
### 7.2.1 Ref

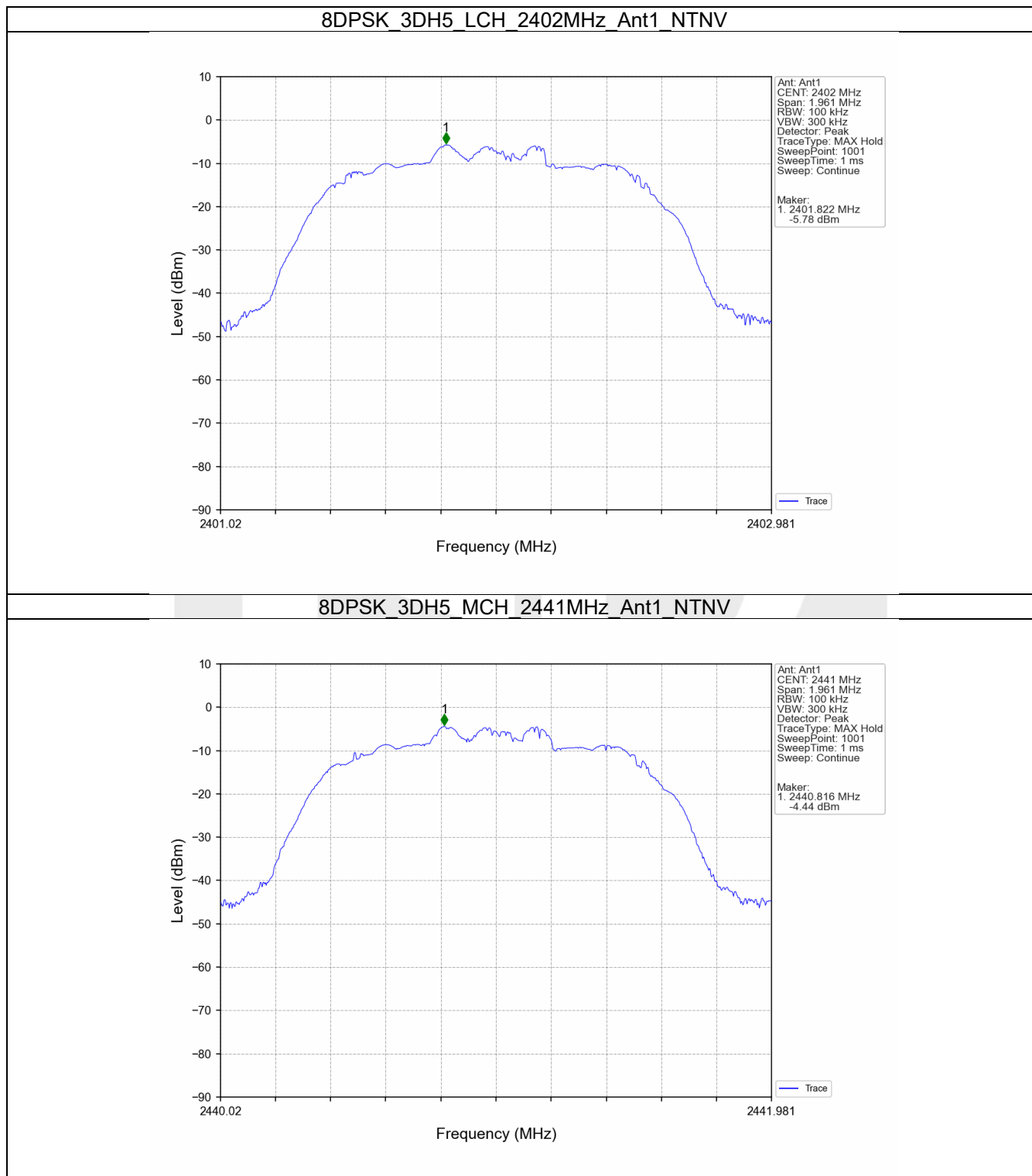


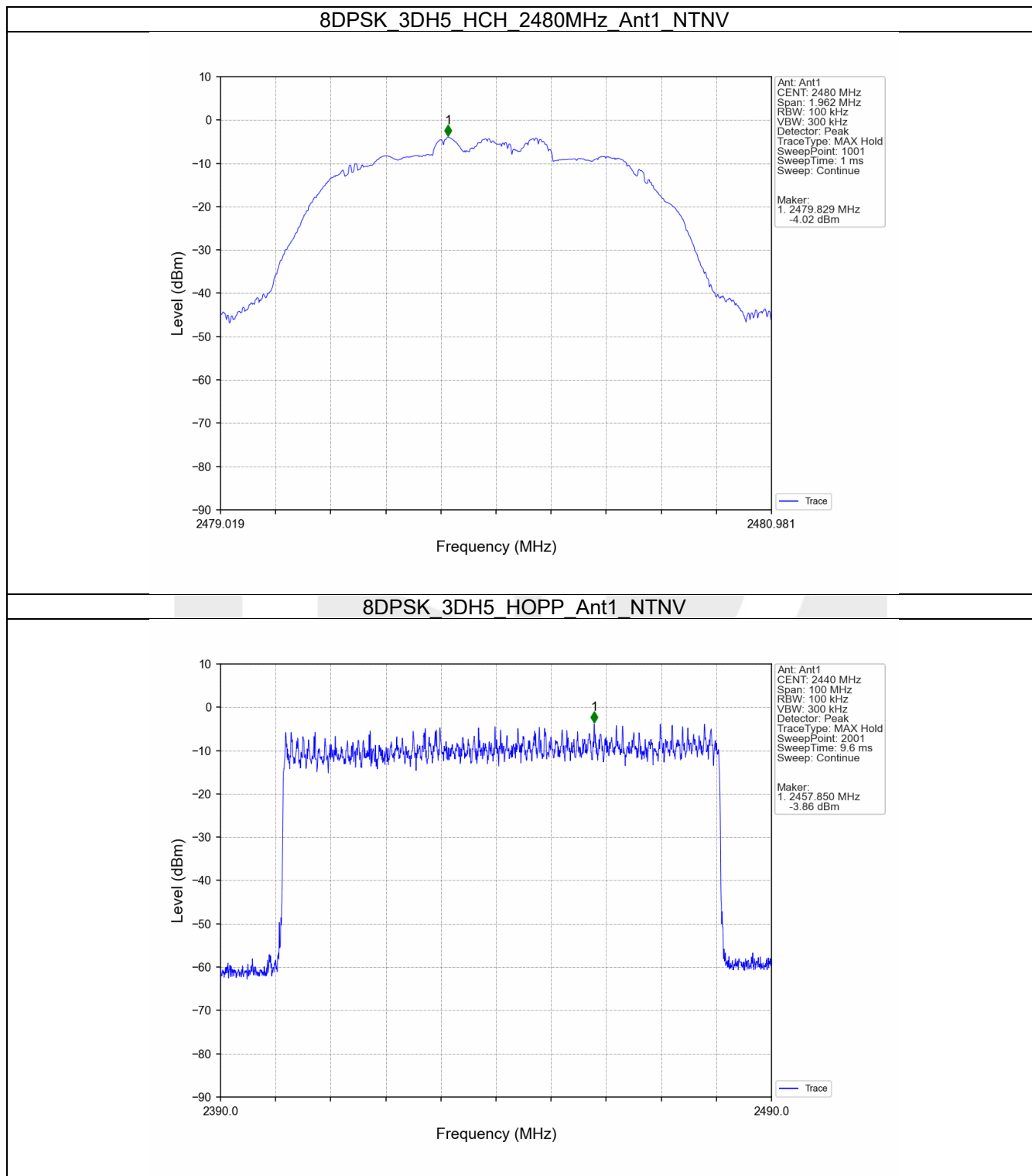


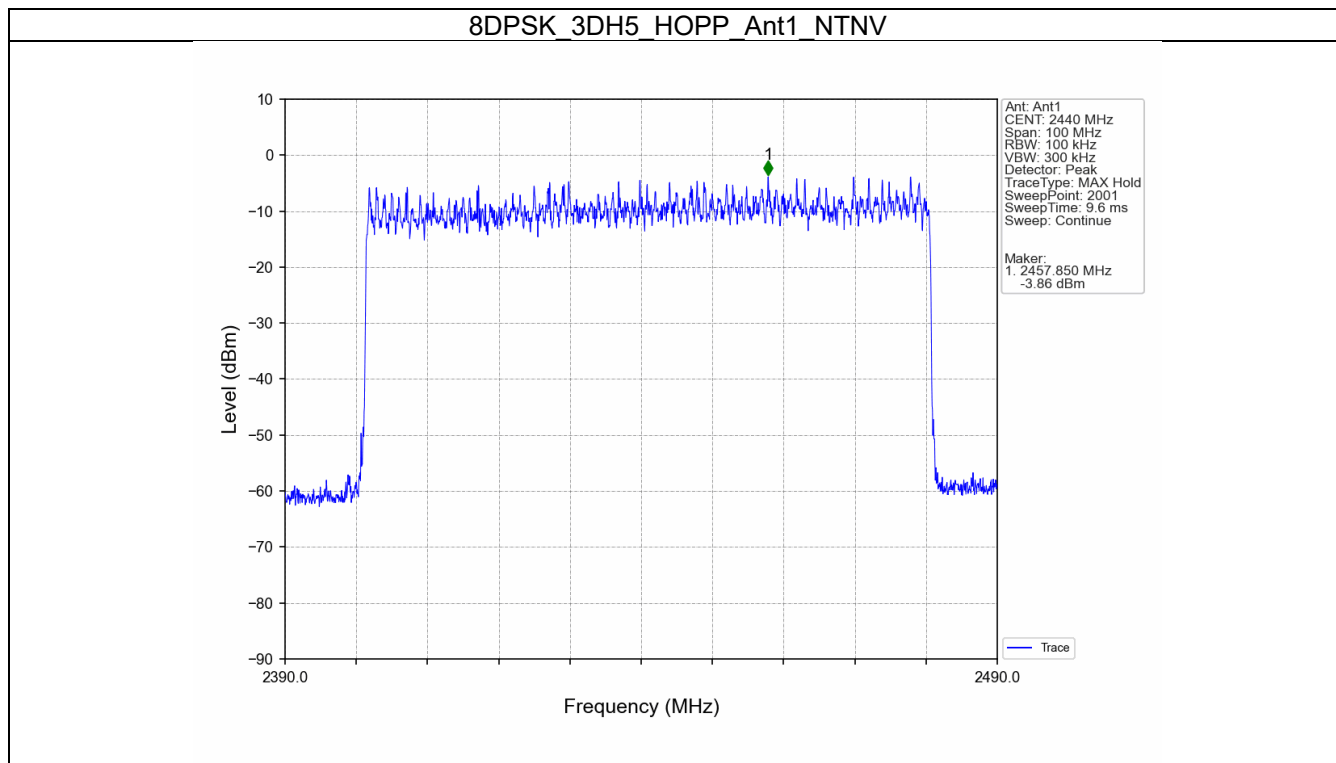




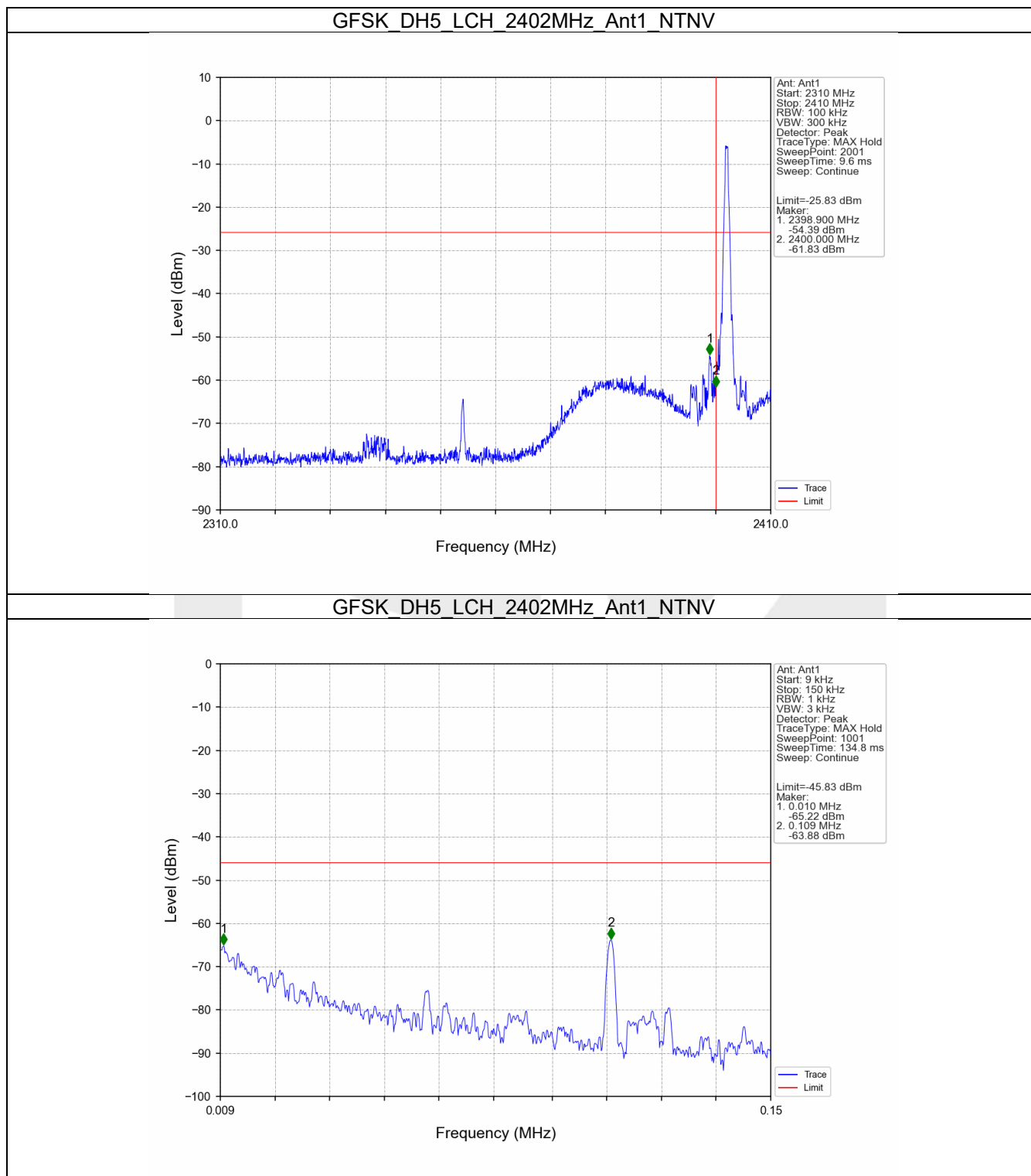


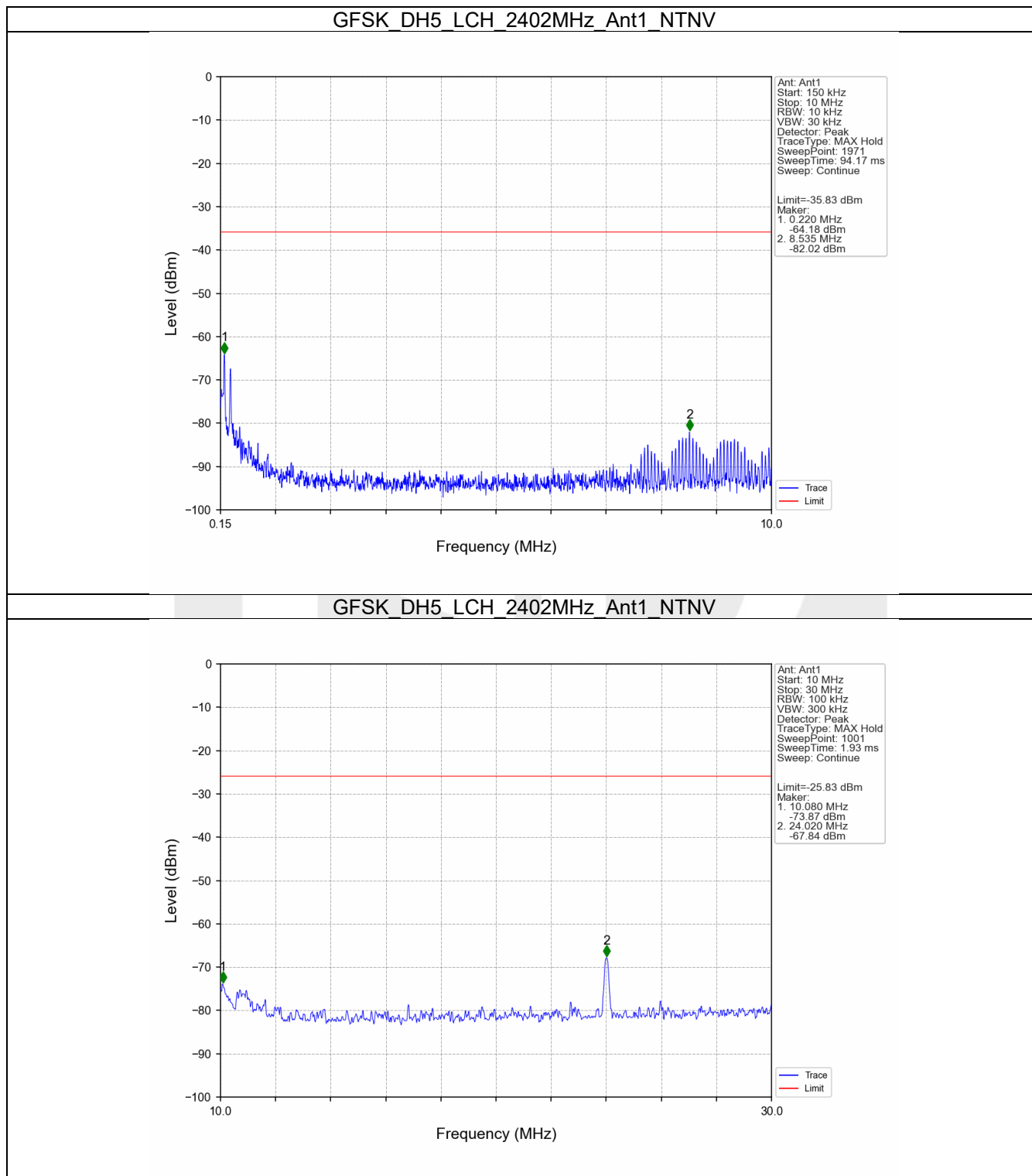


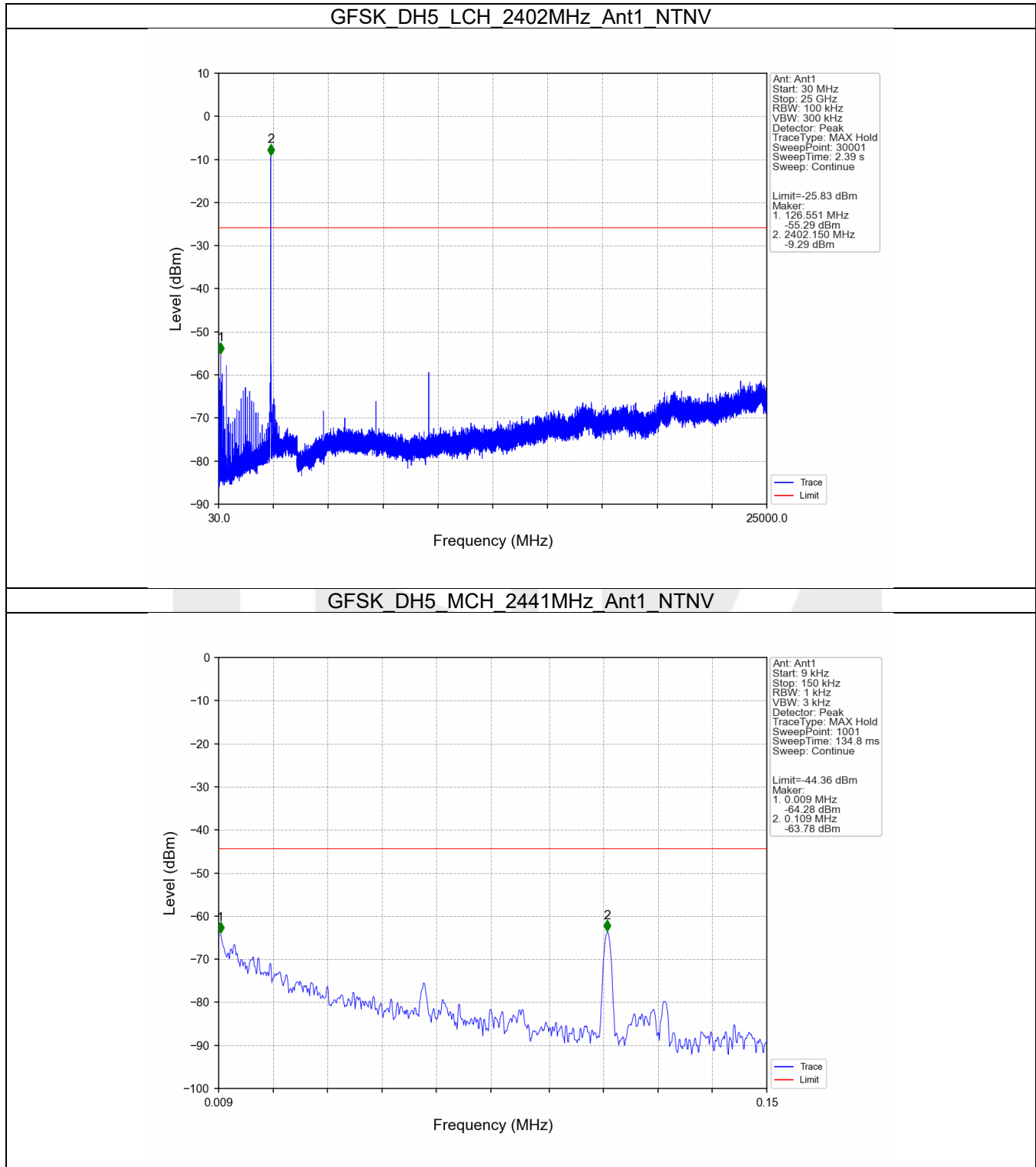


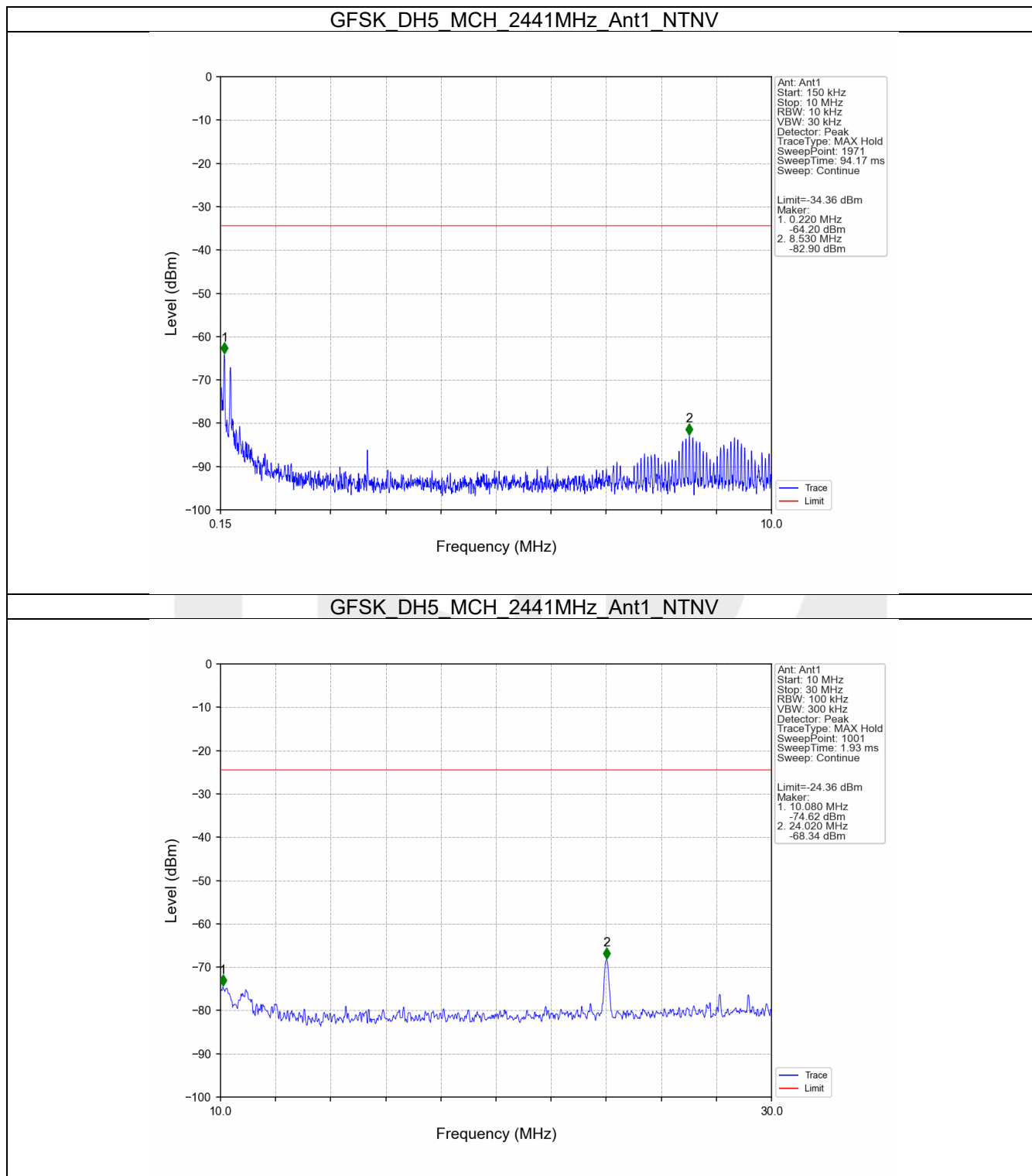


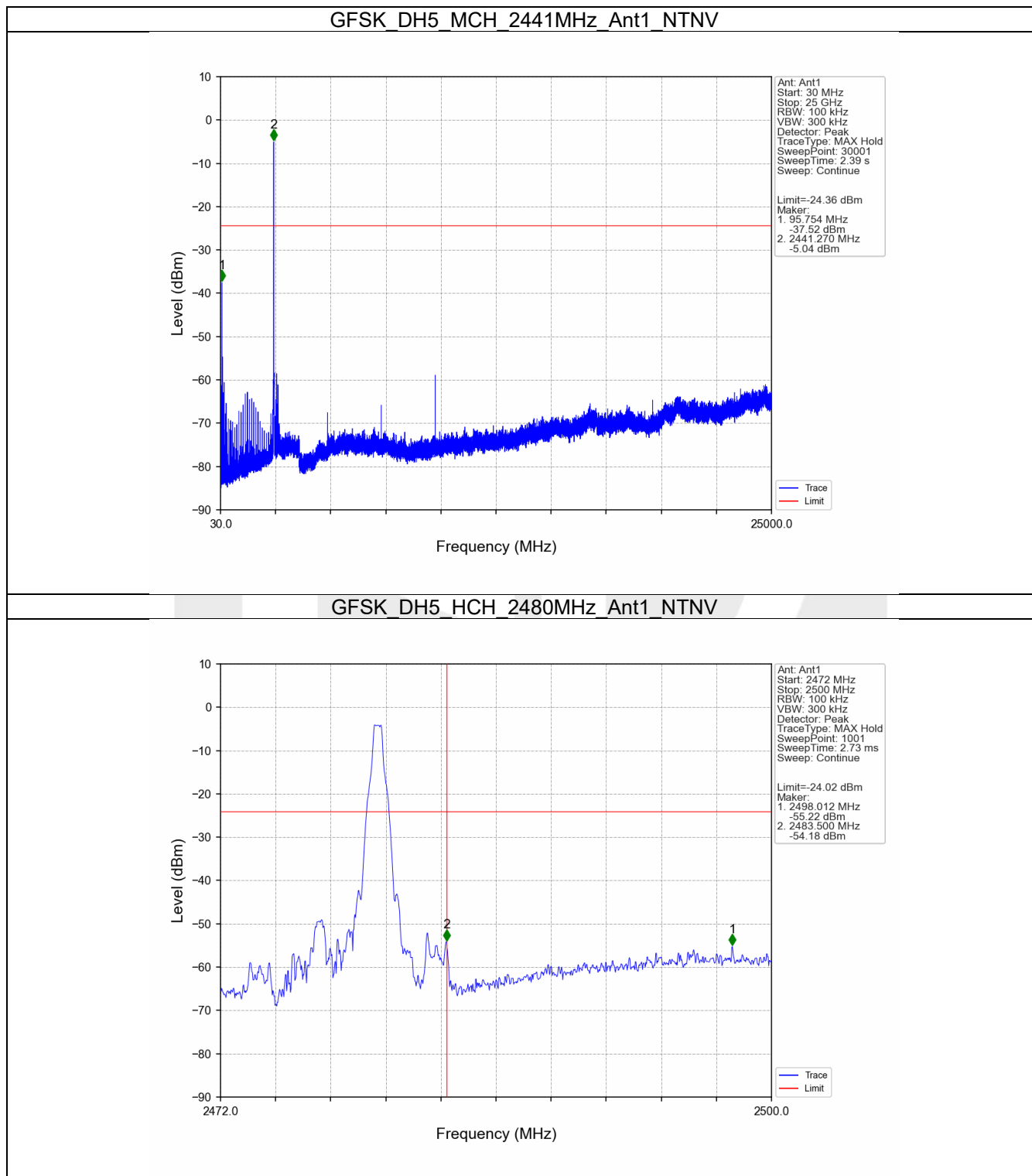
## 7.2.2 CSE

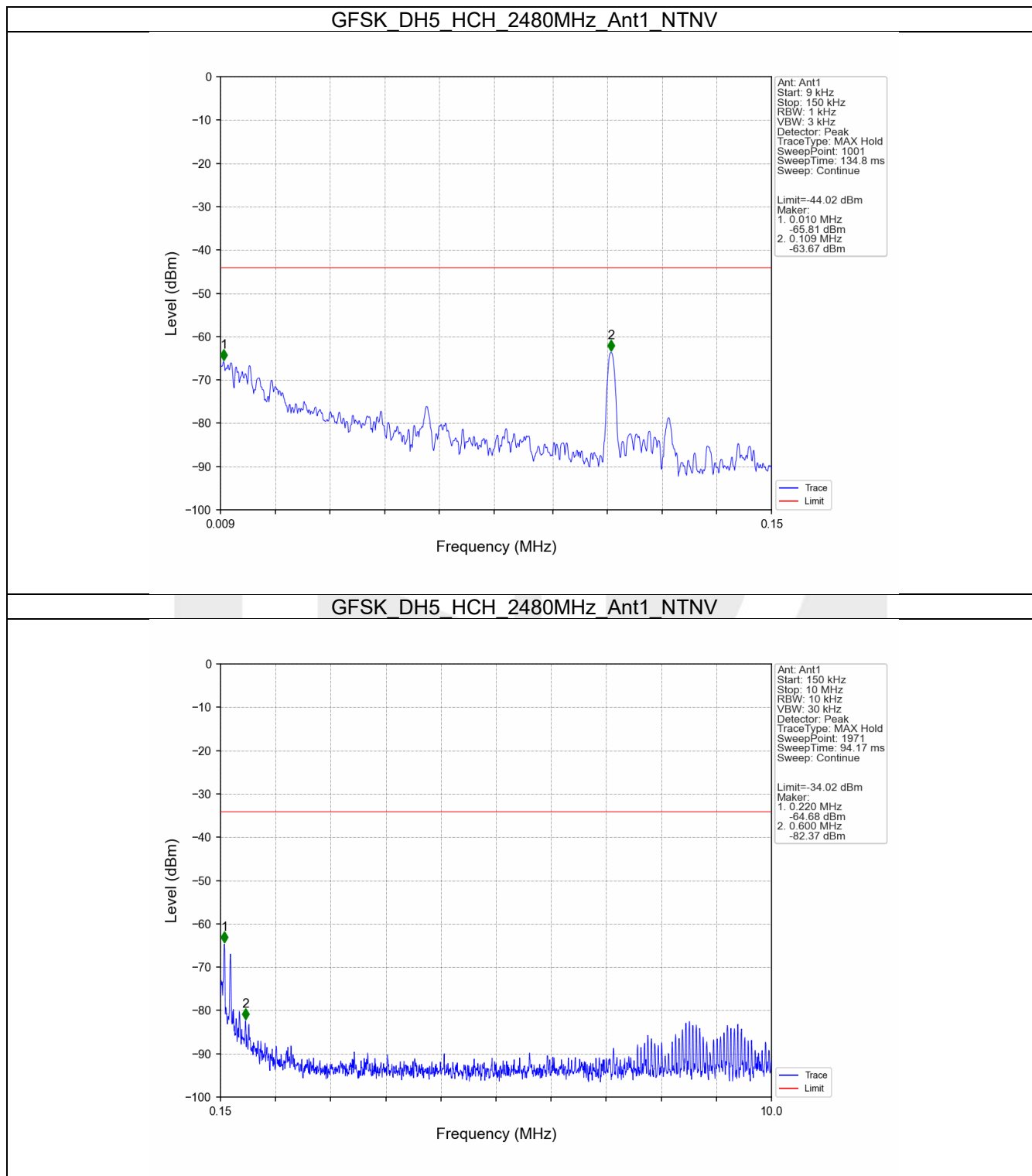


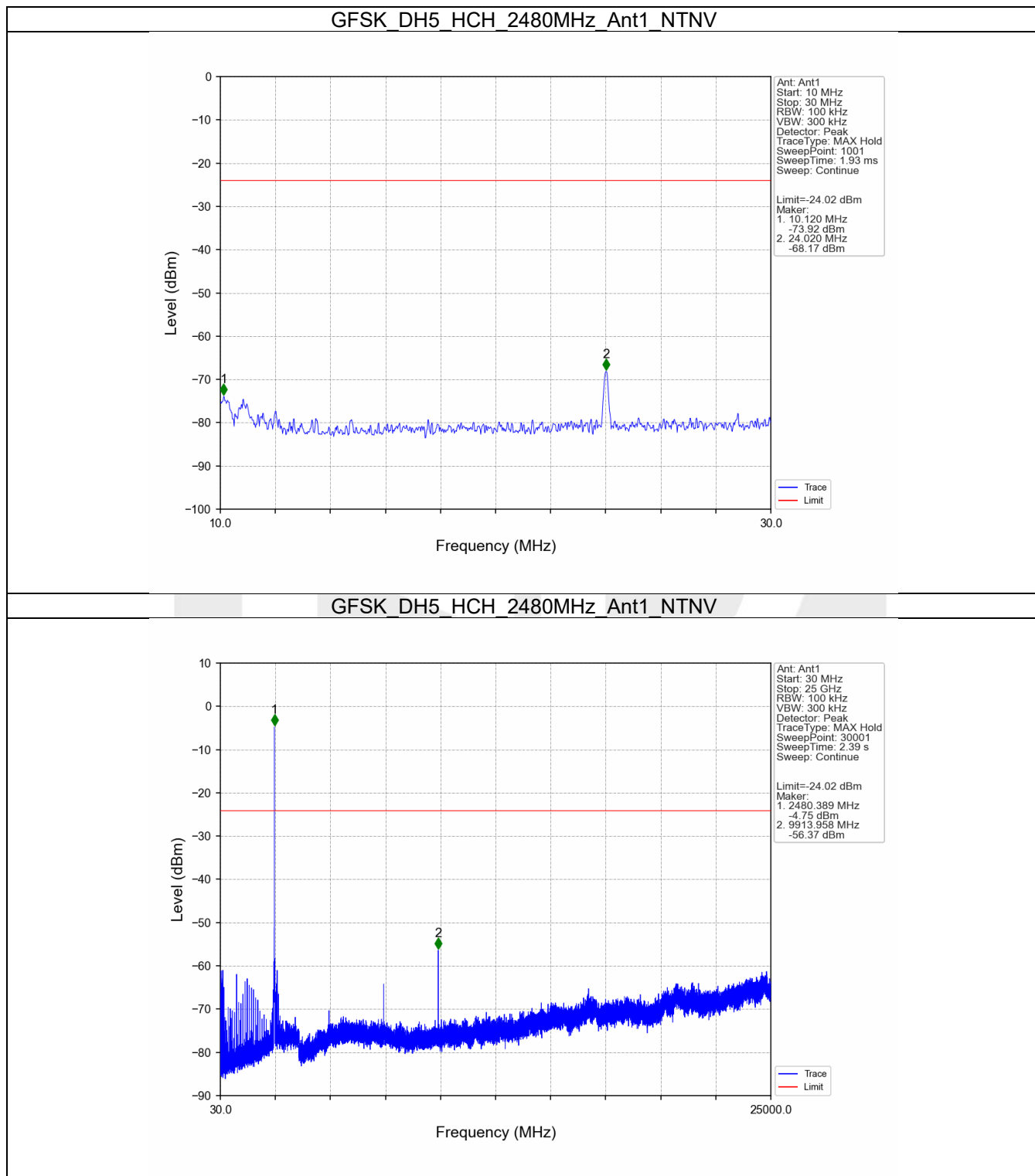


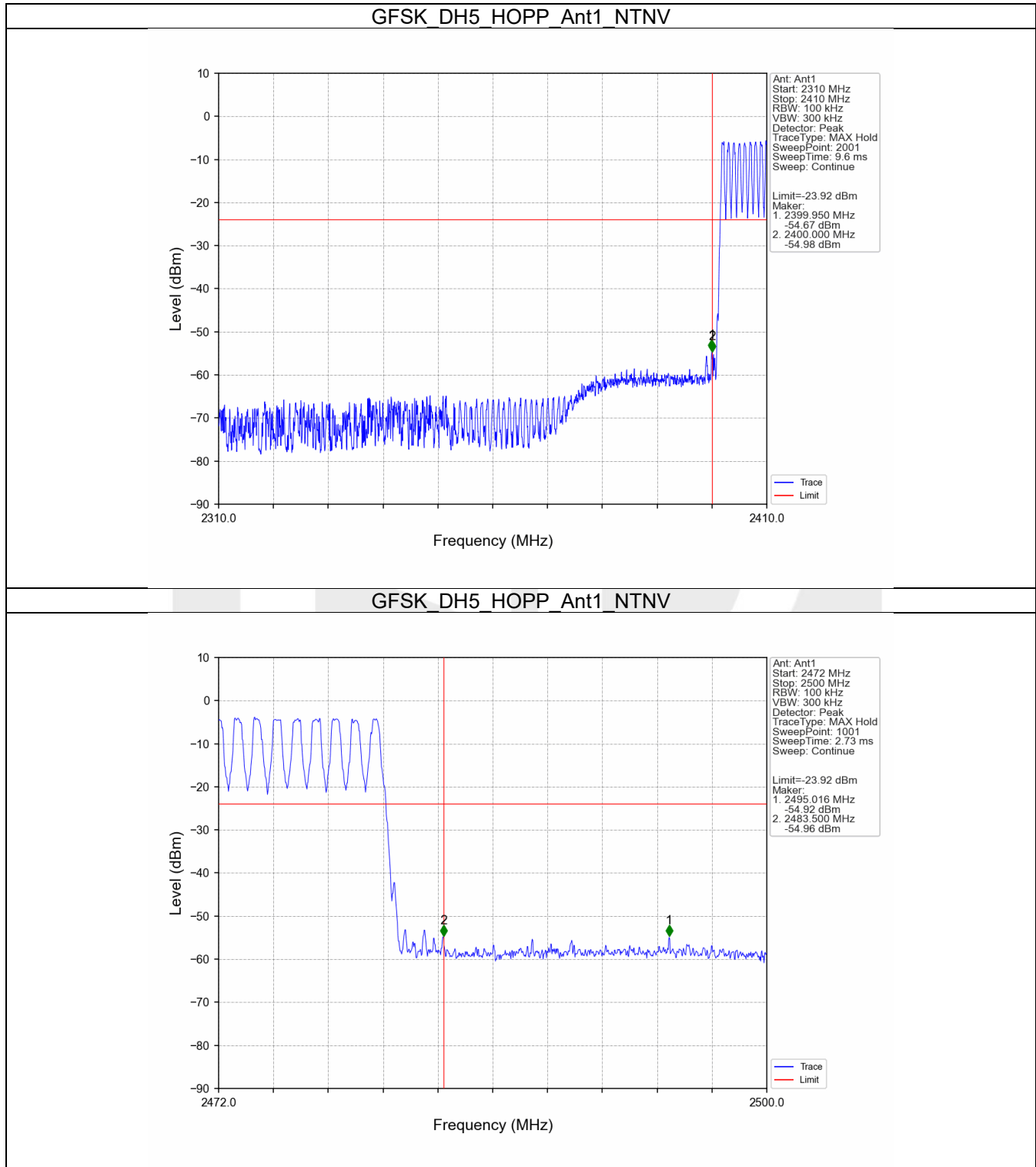


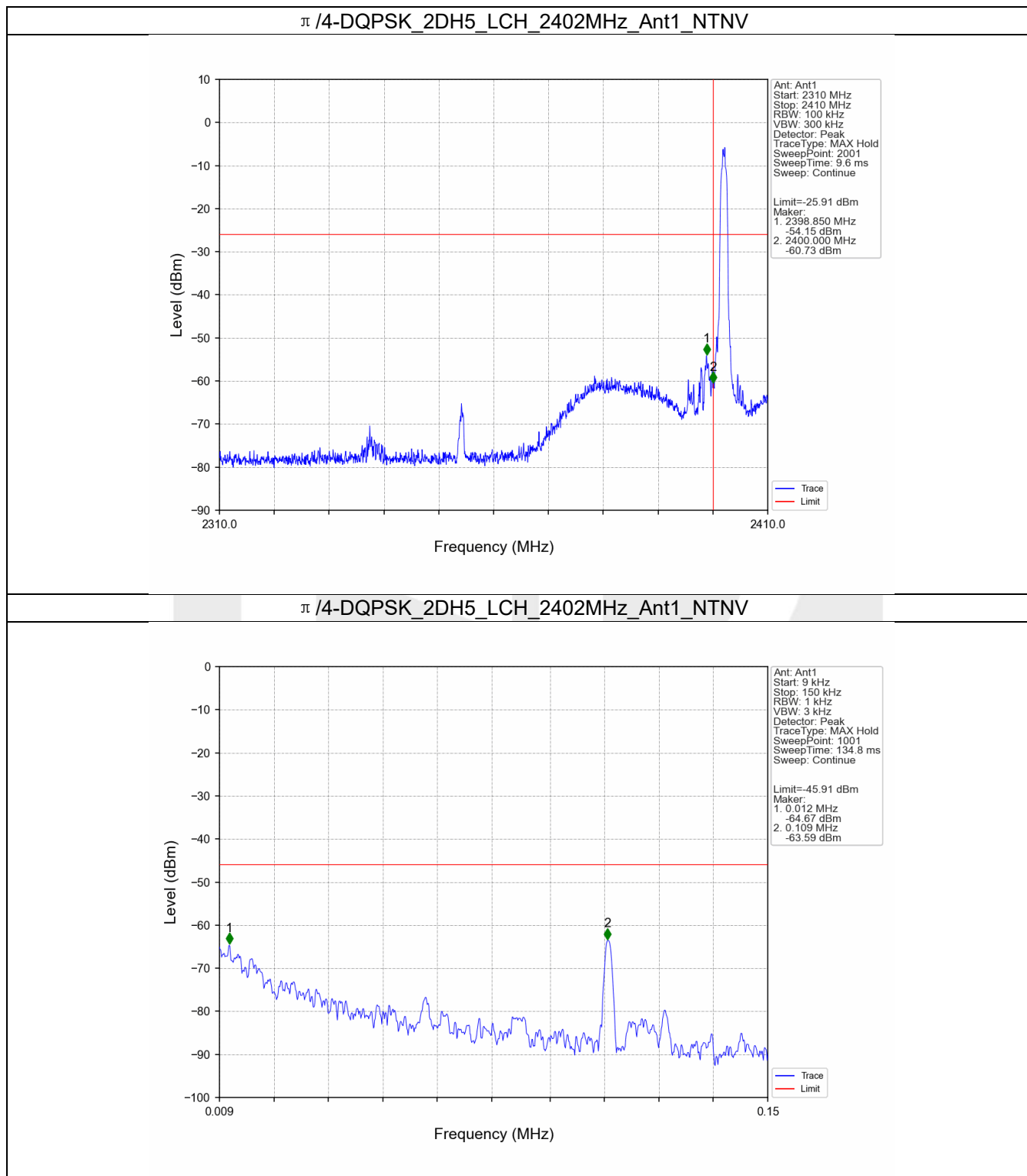


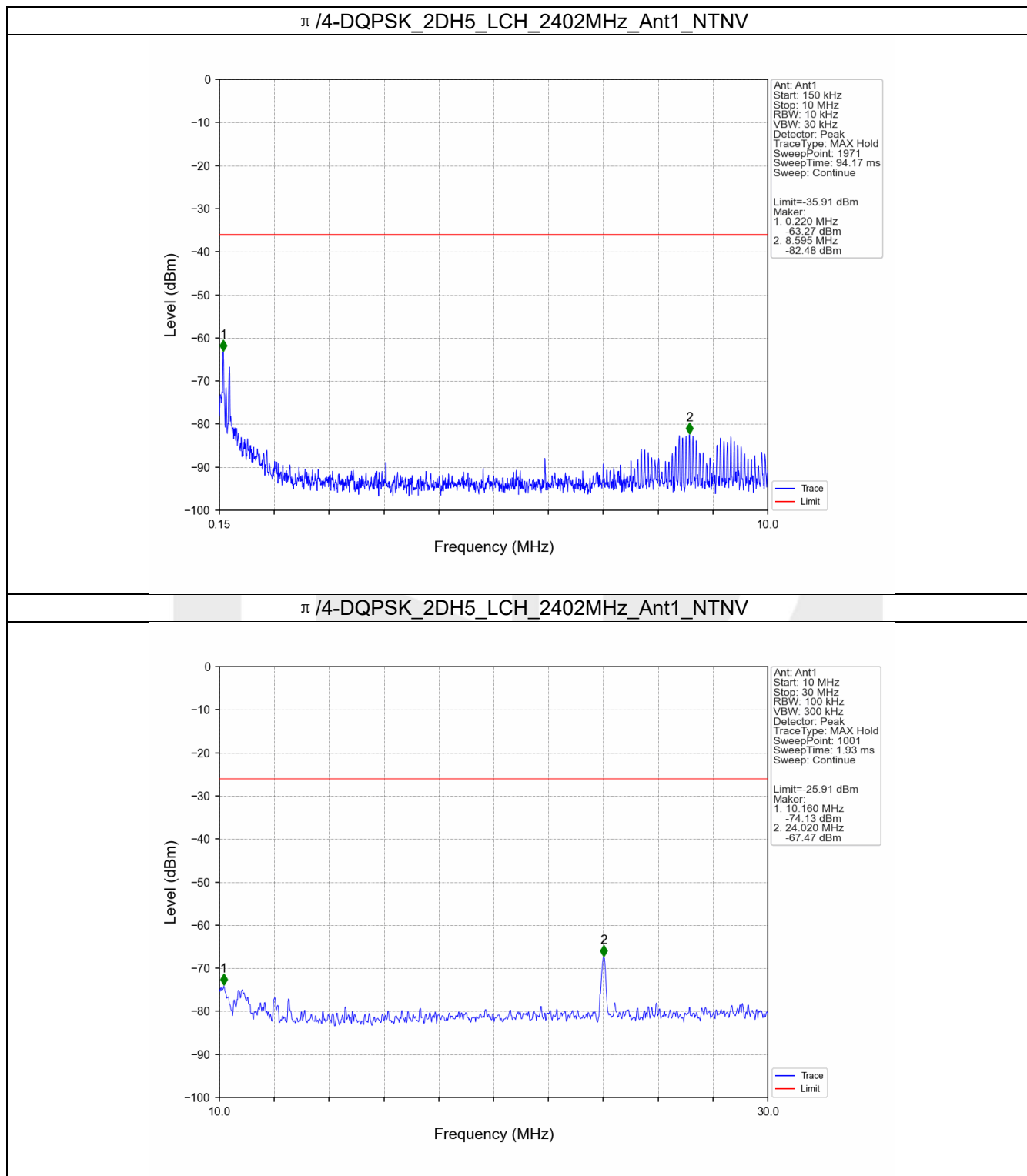


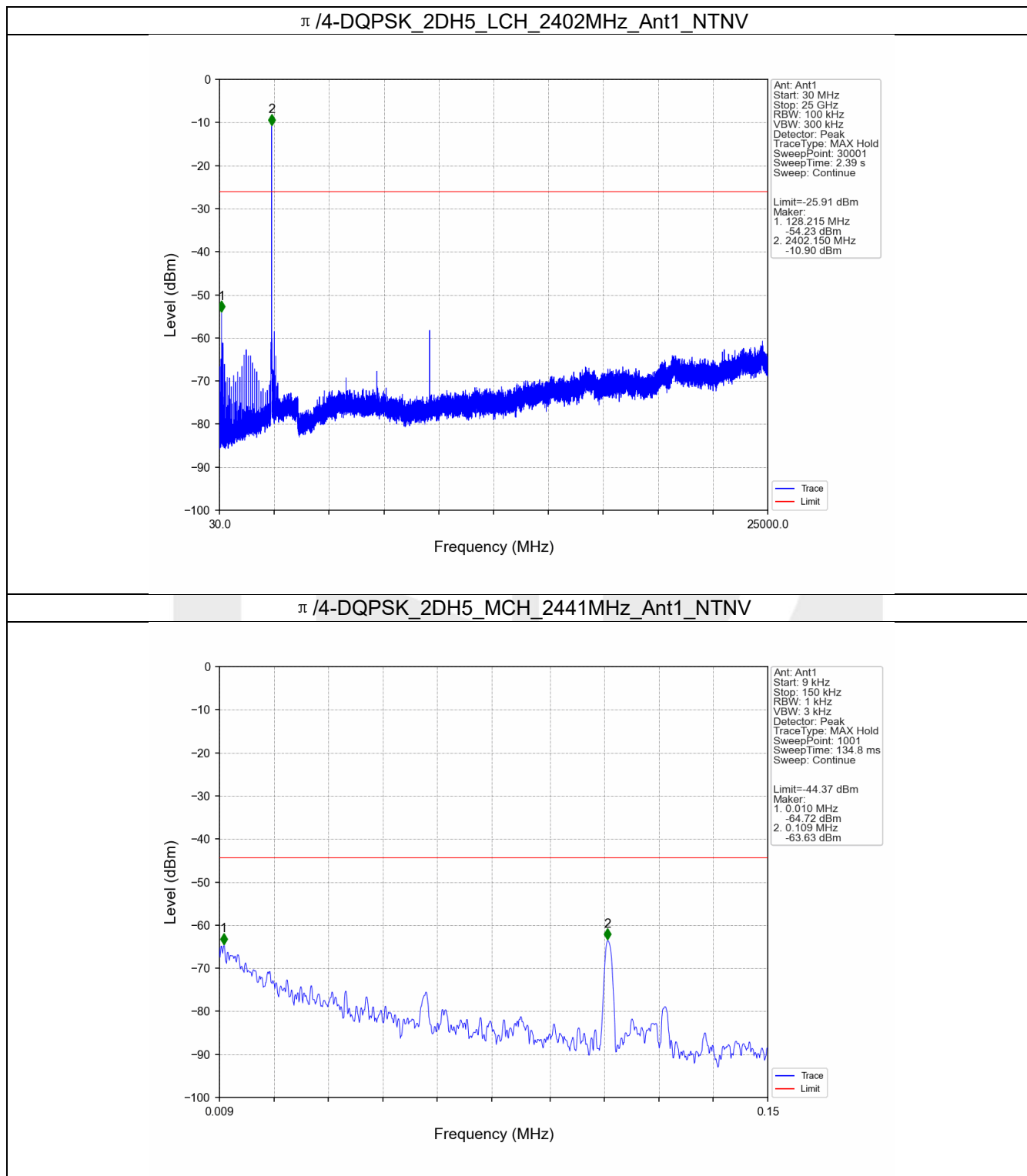


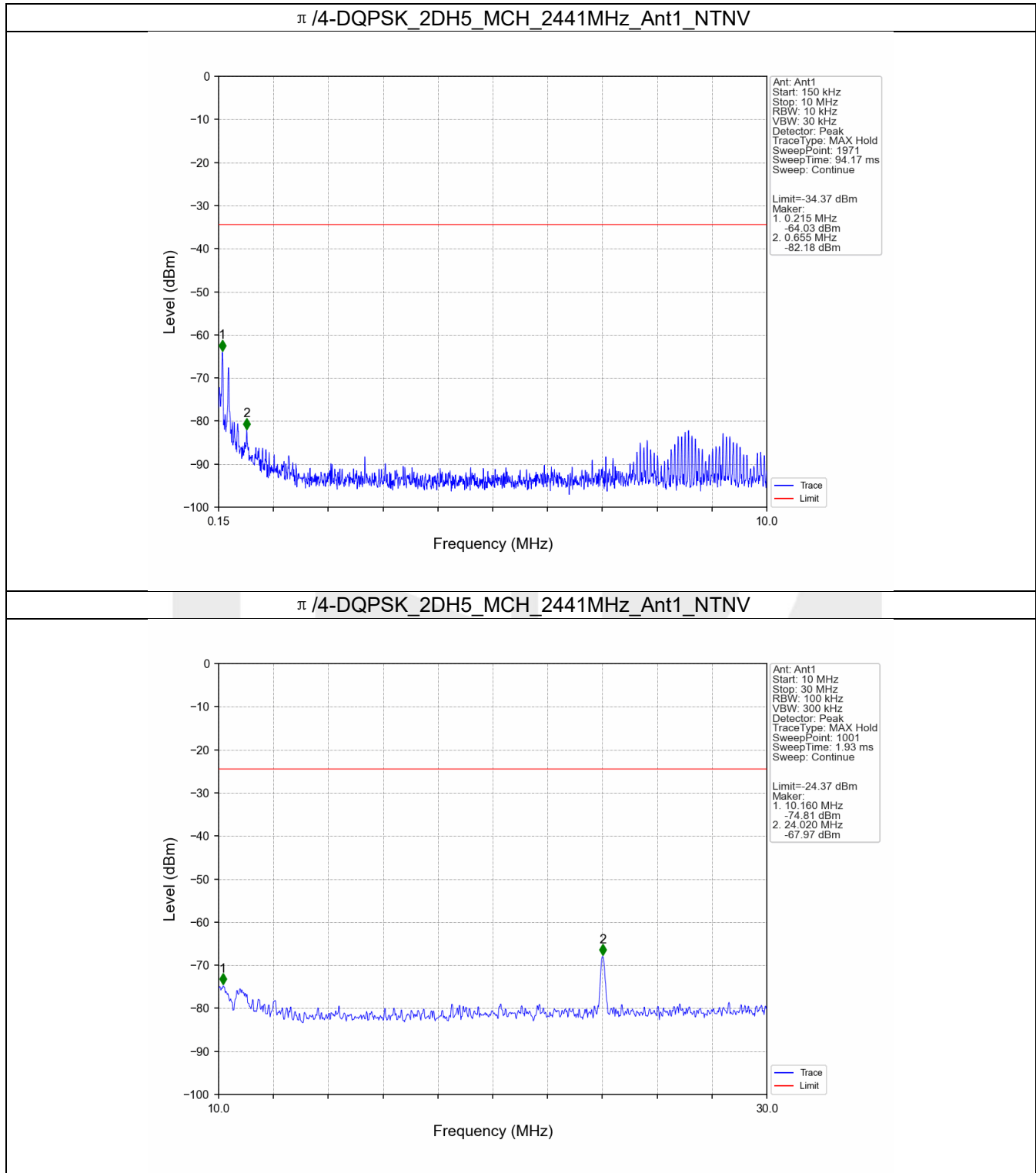


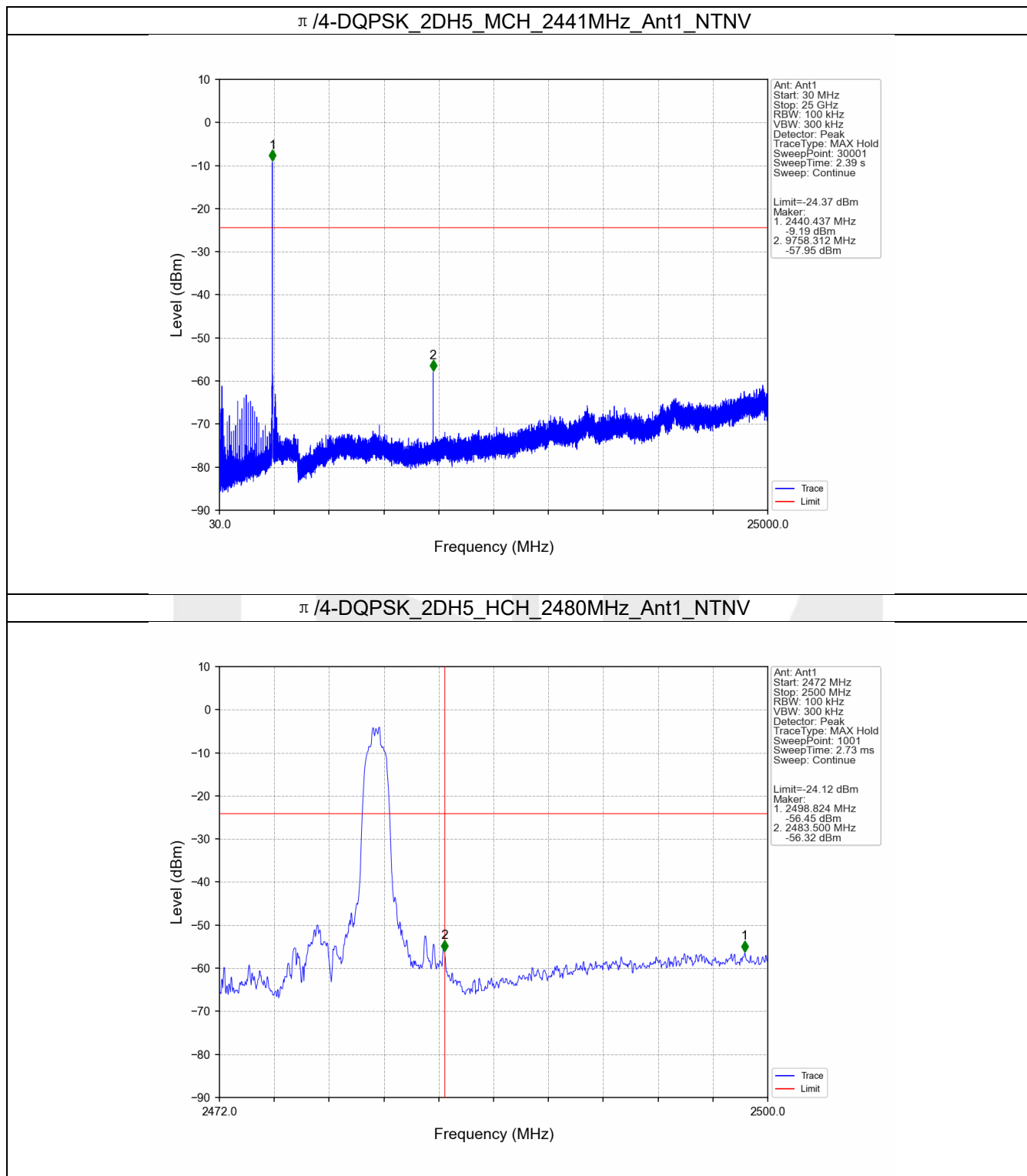


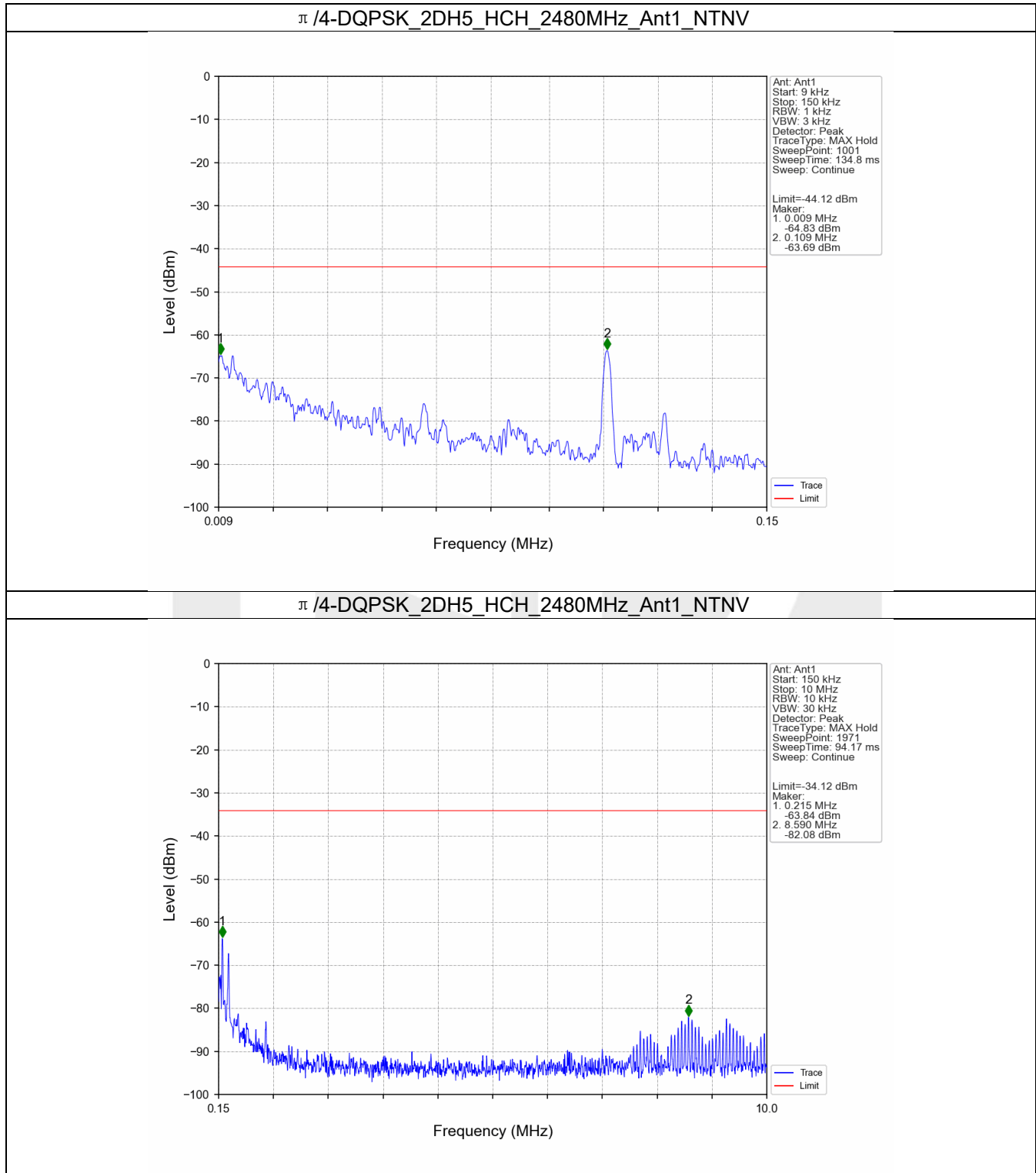


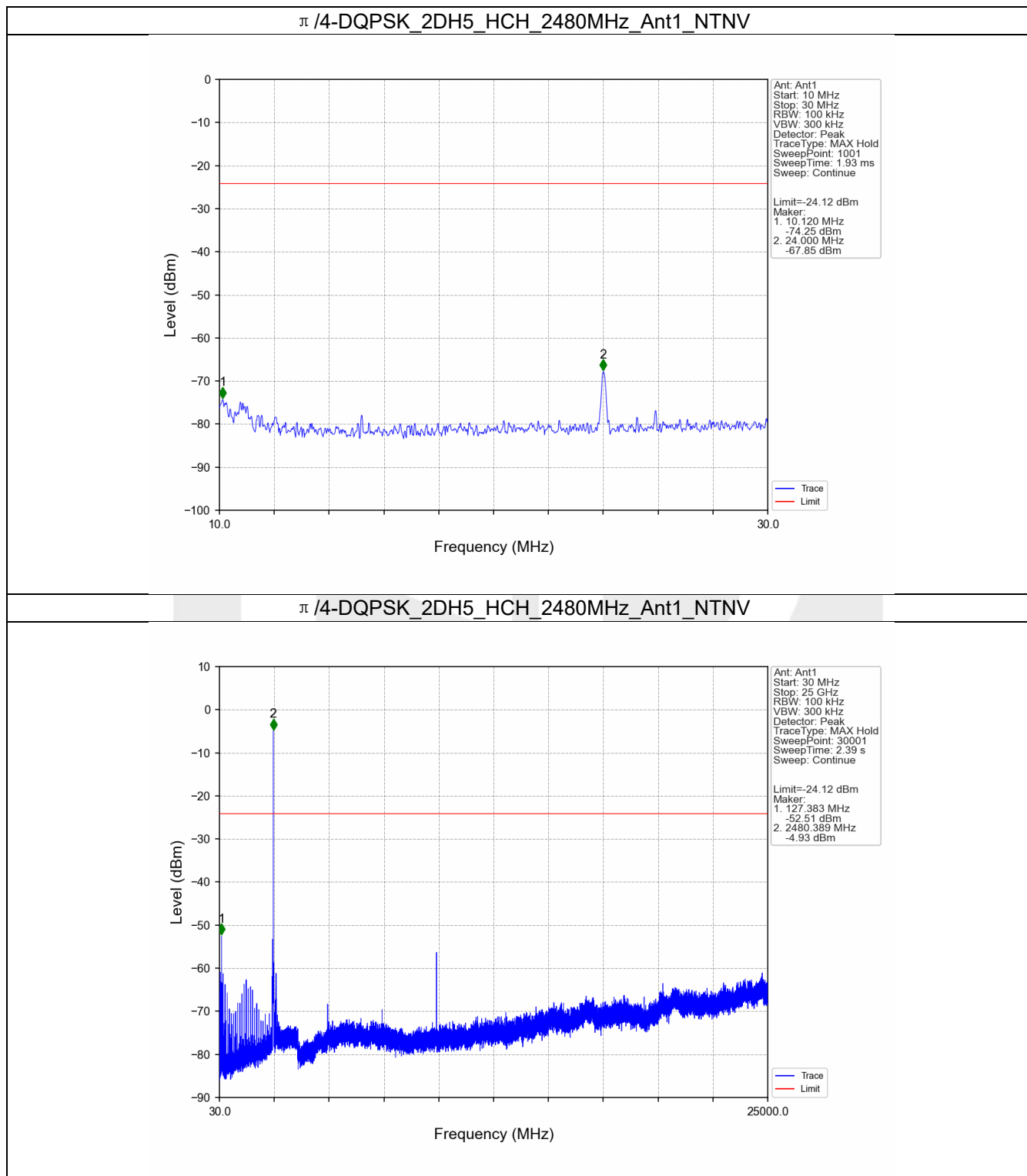


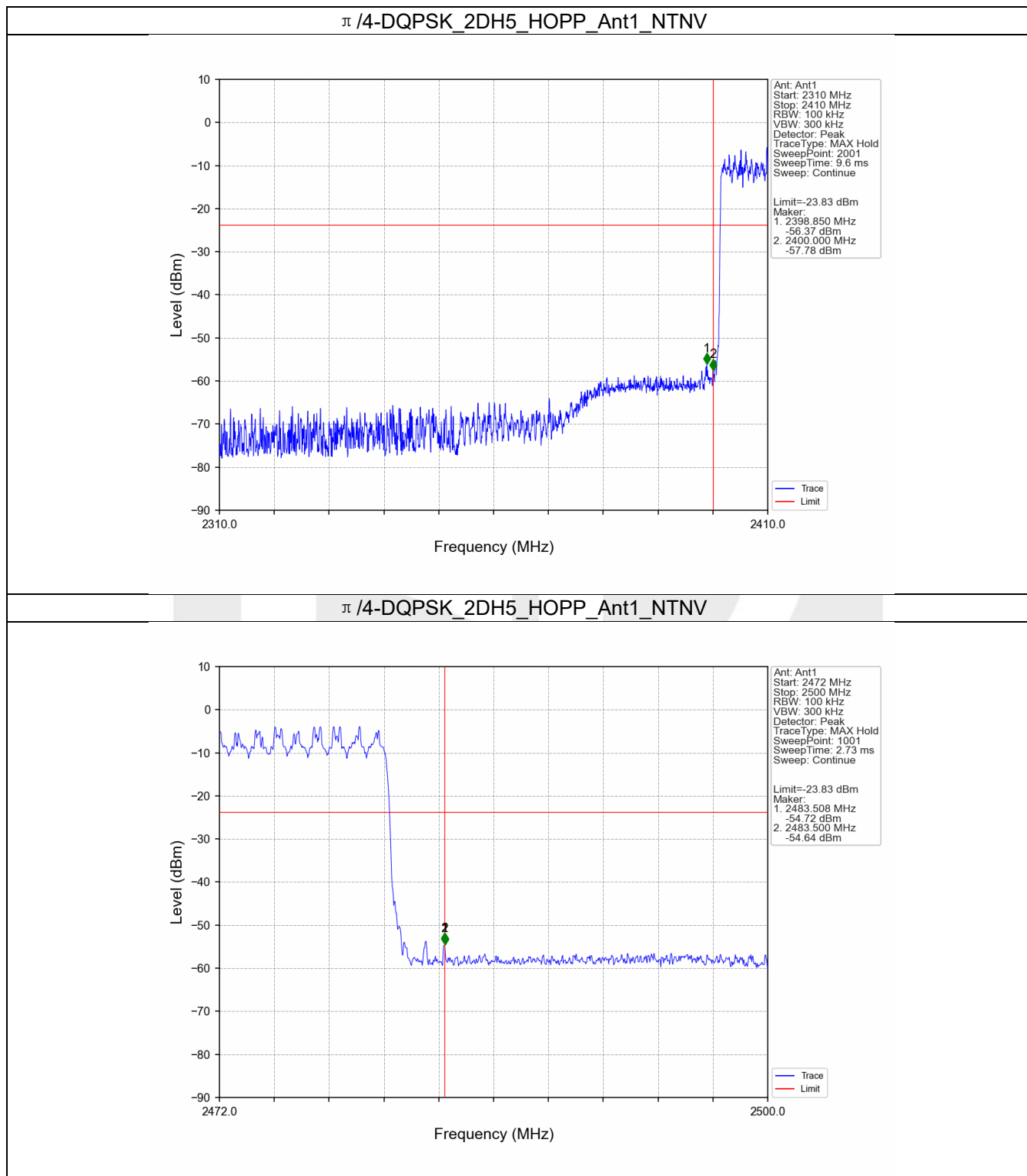


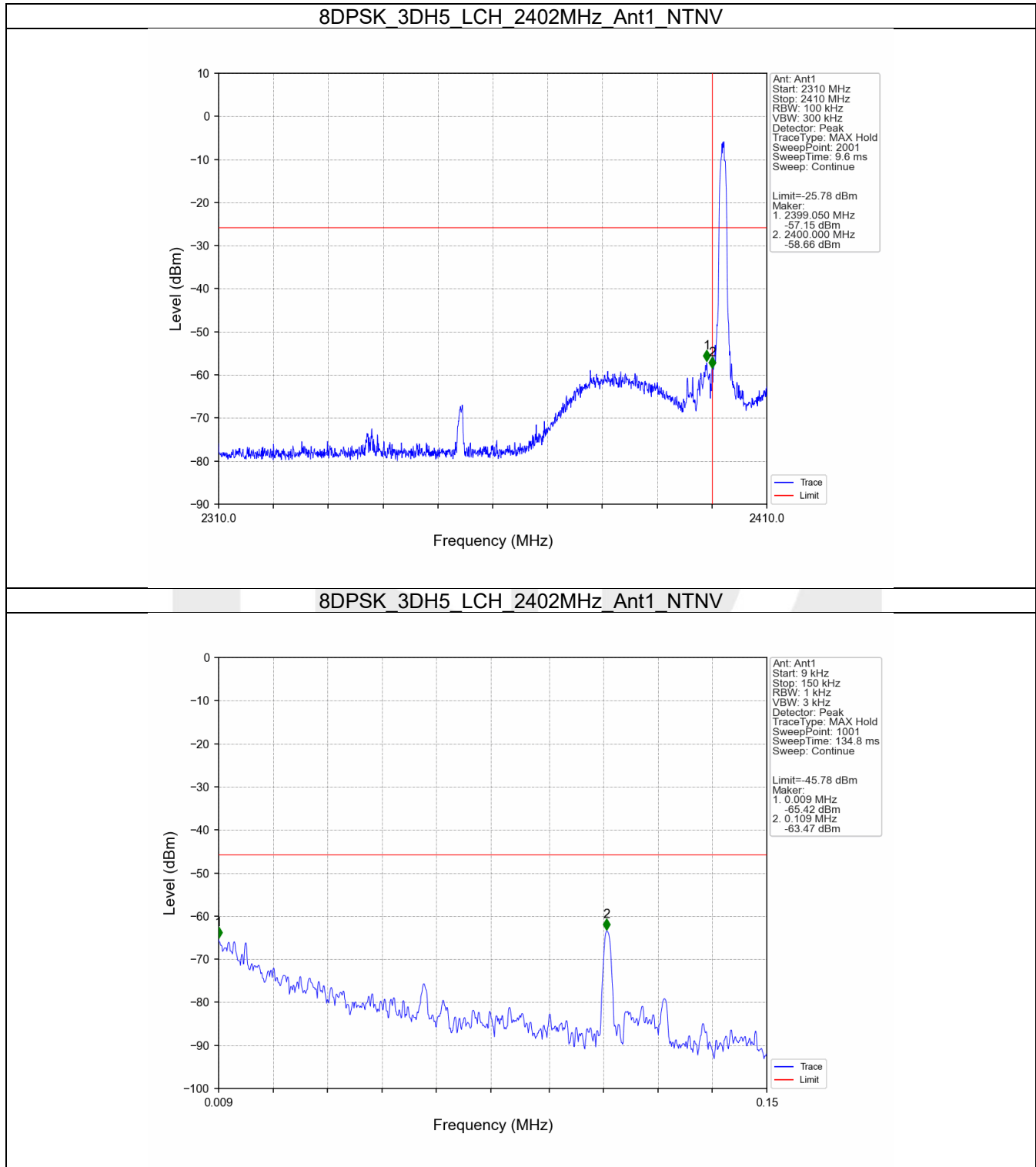


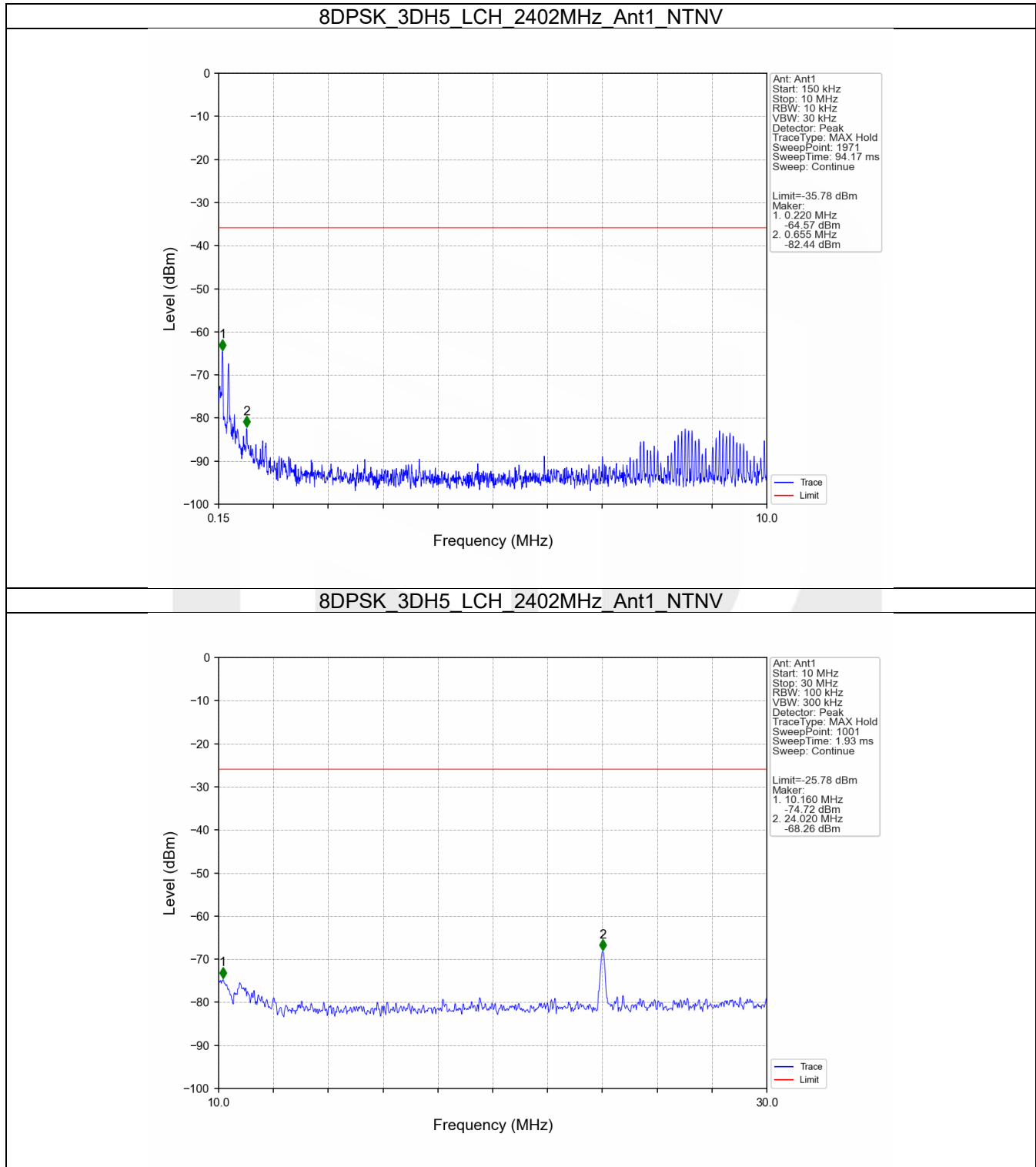


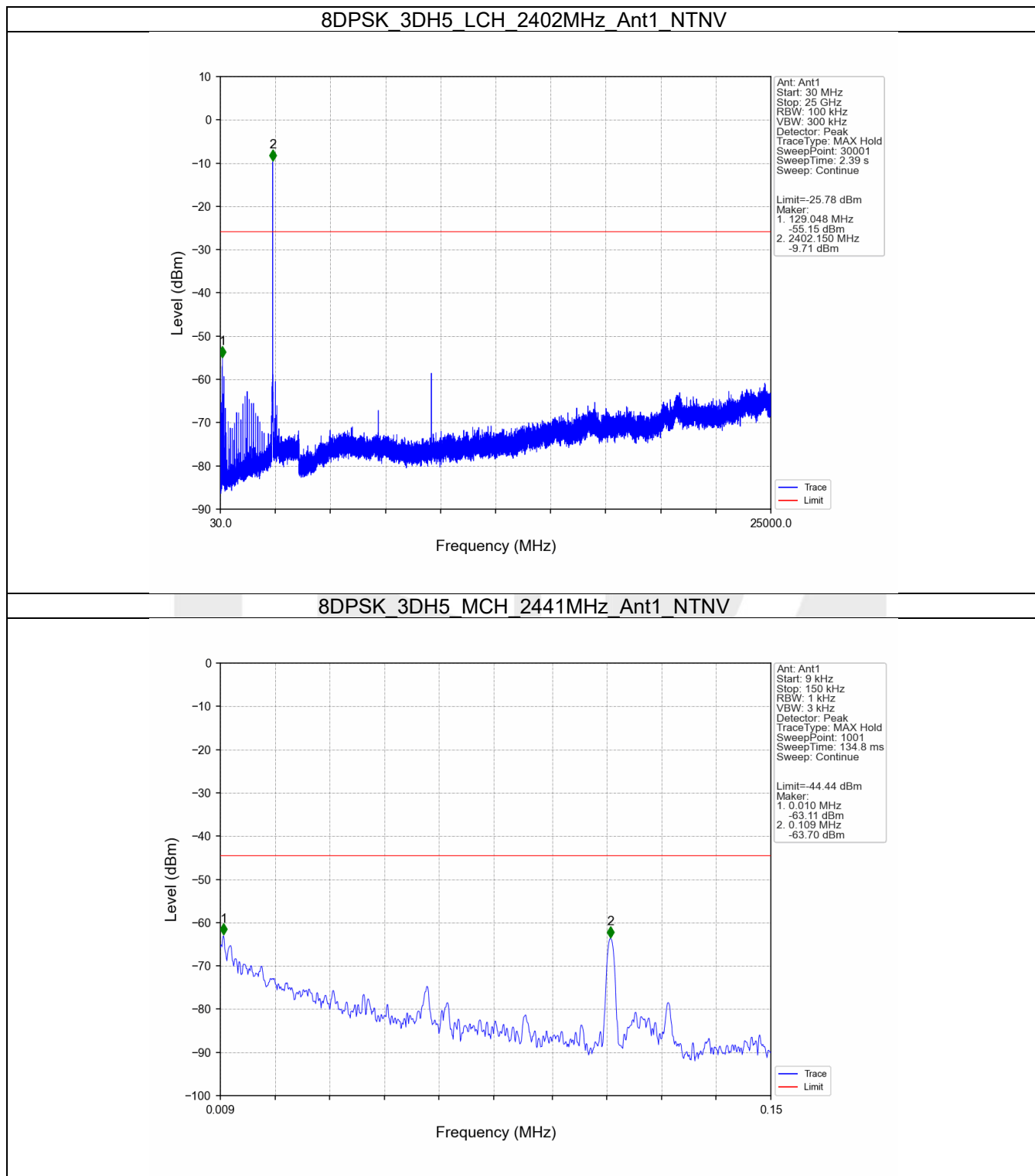


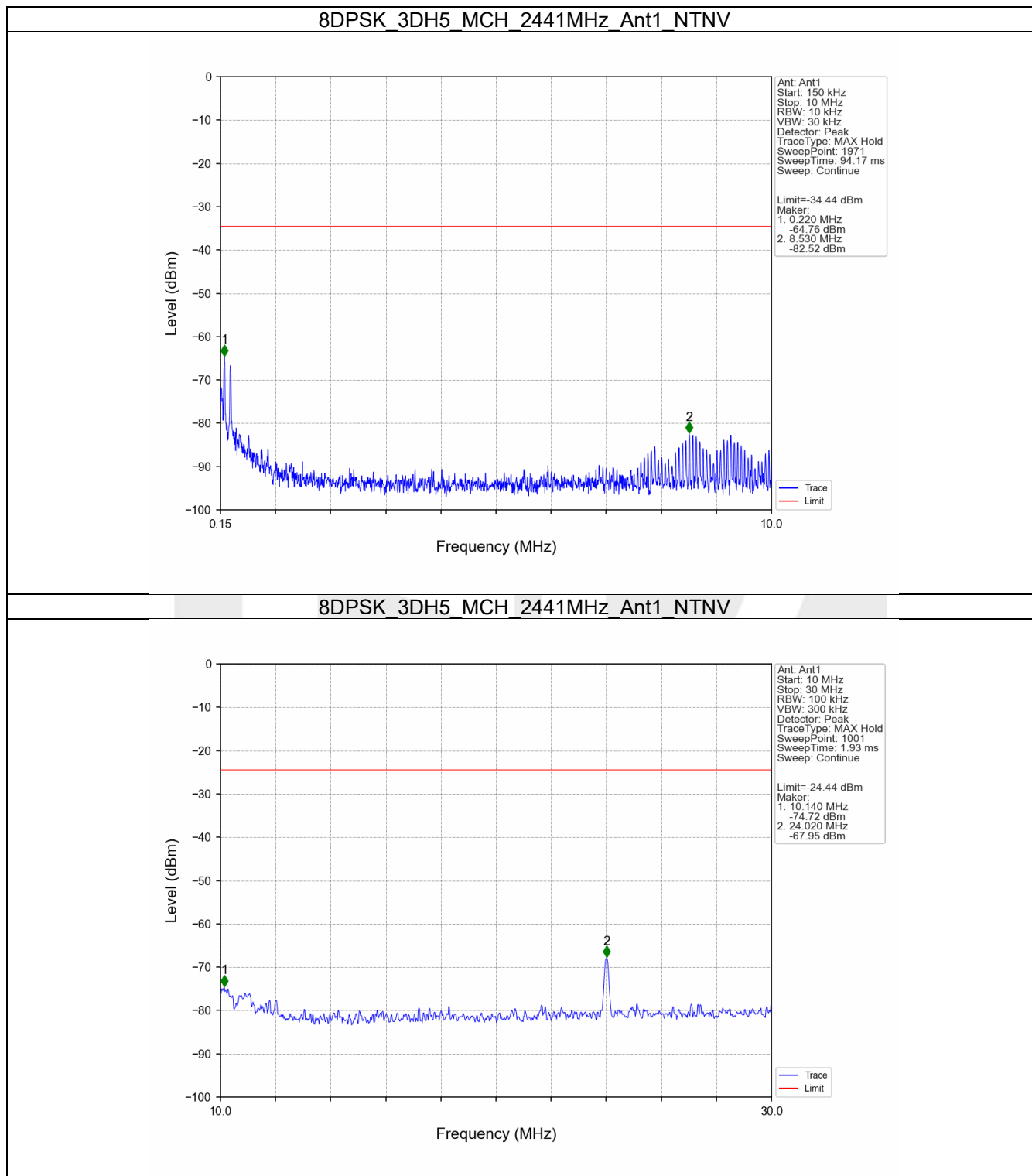


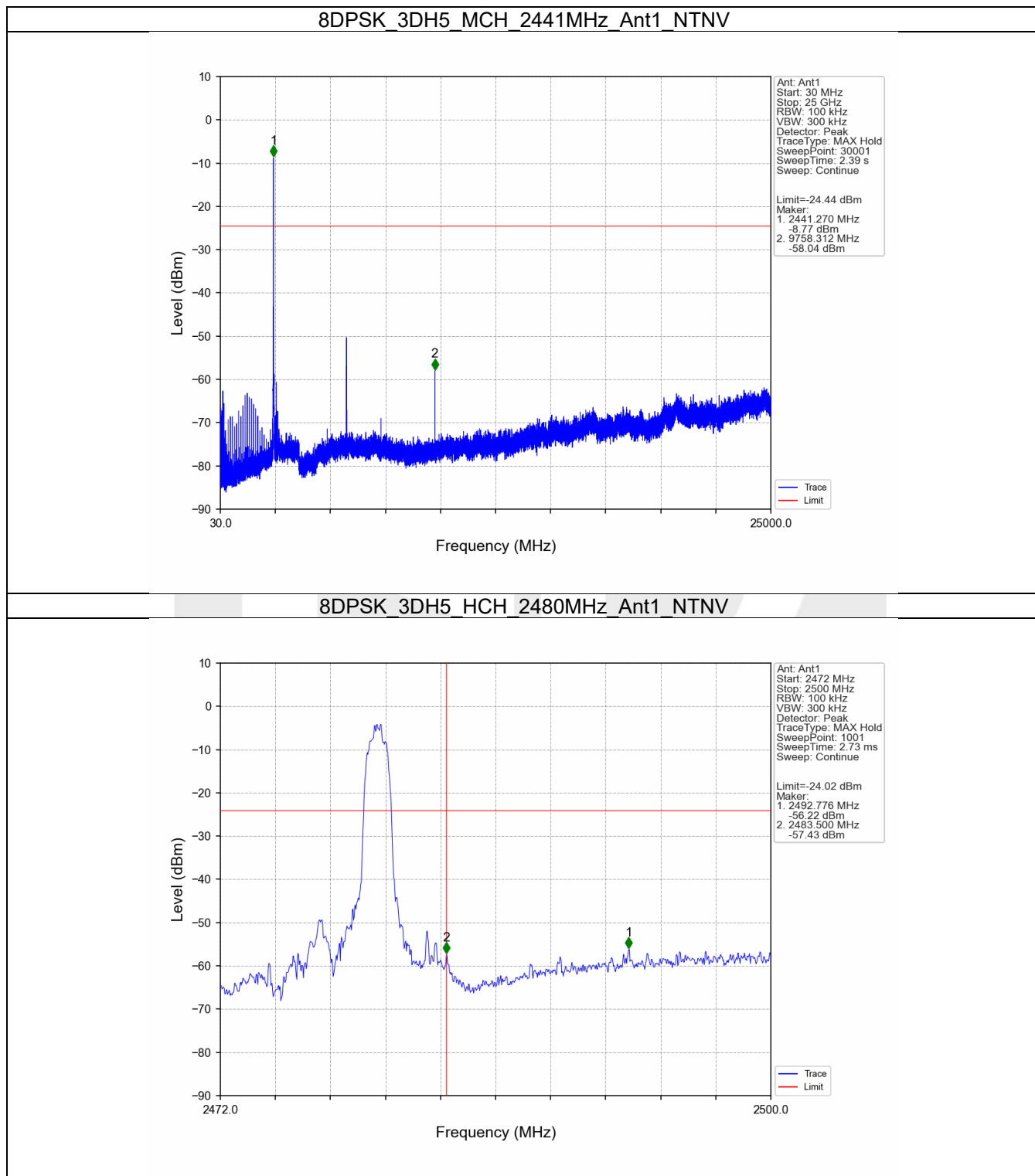


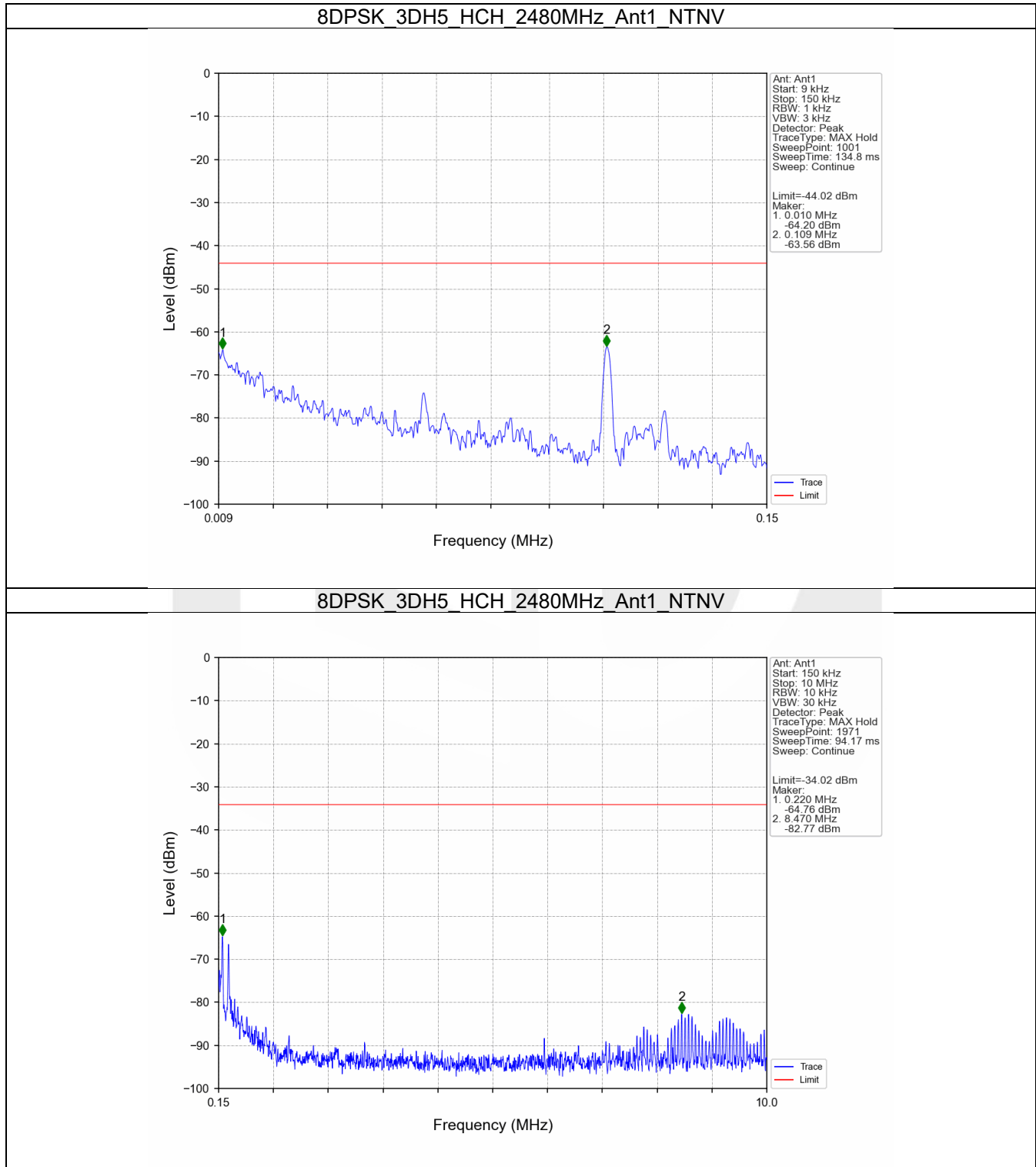


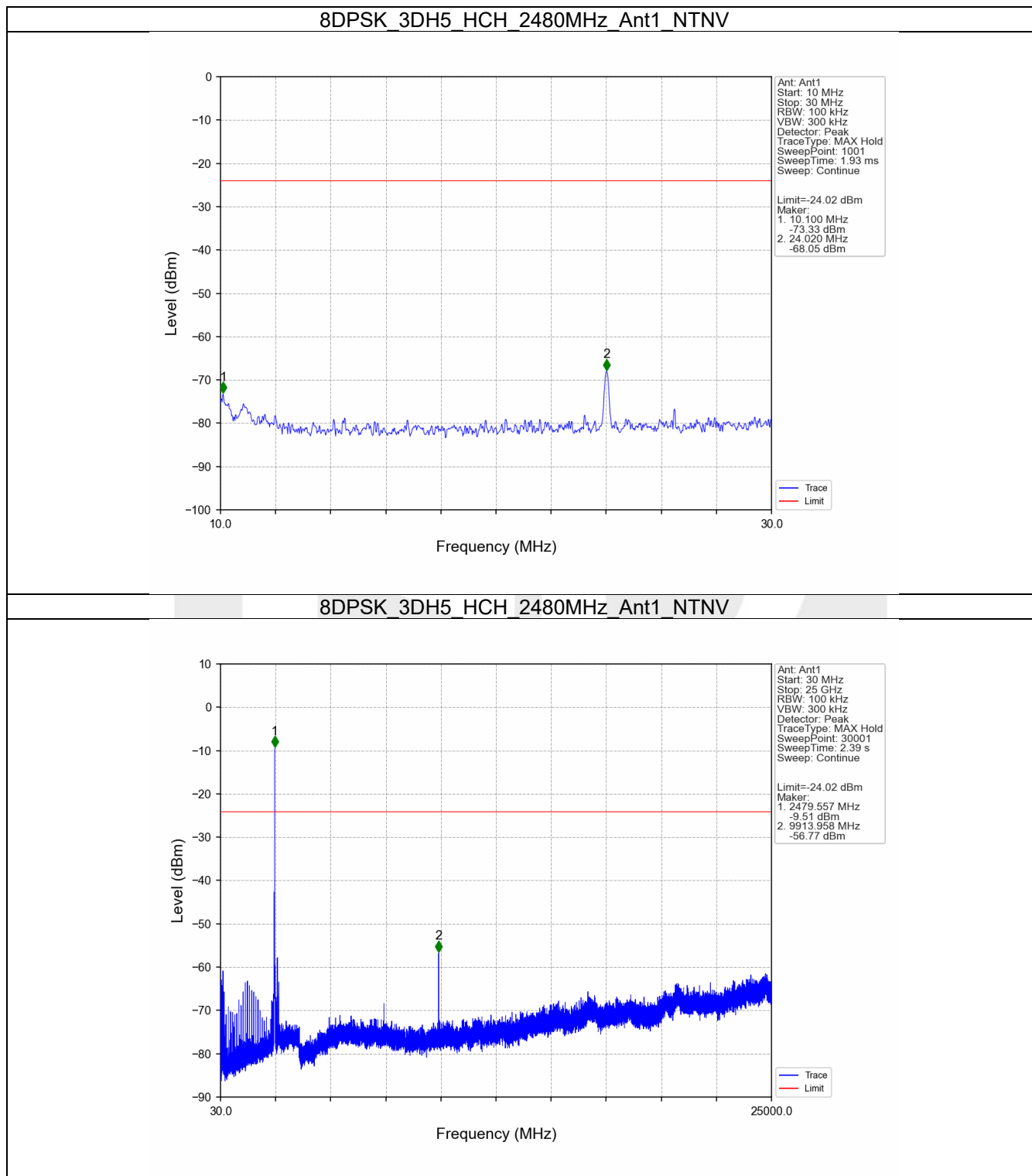


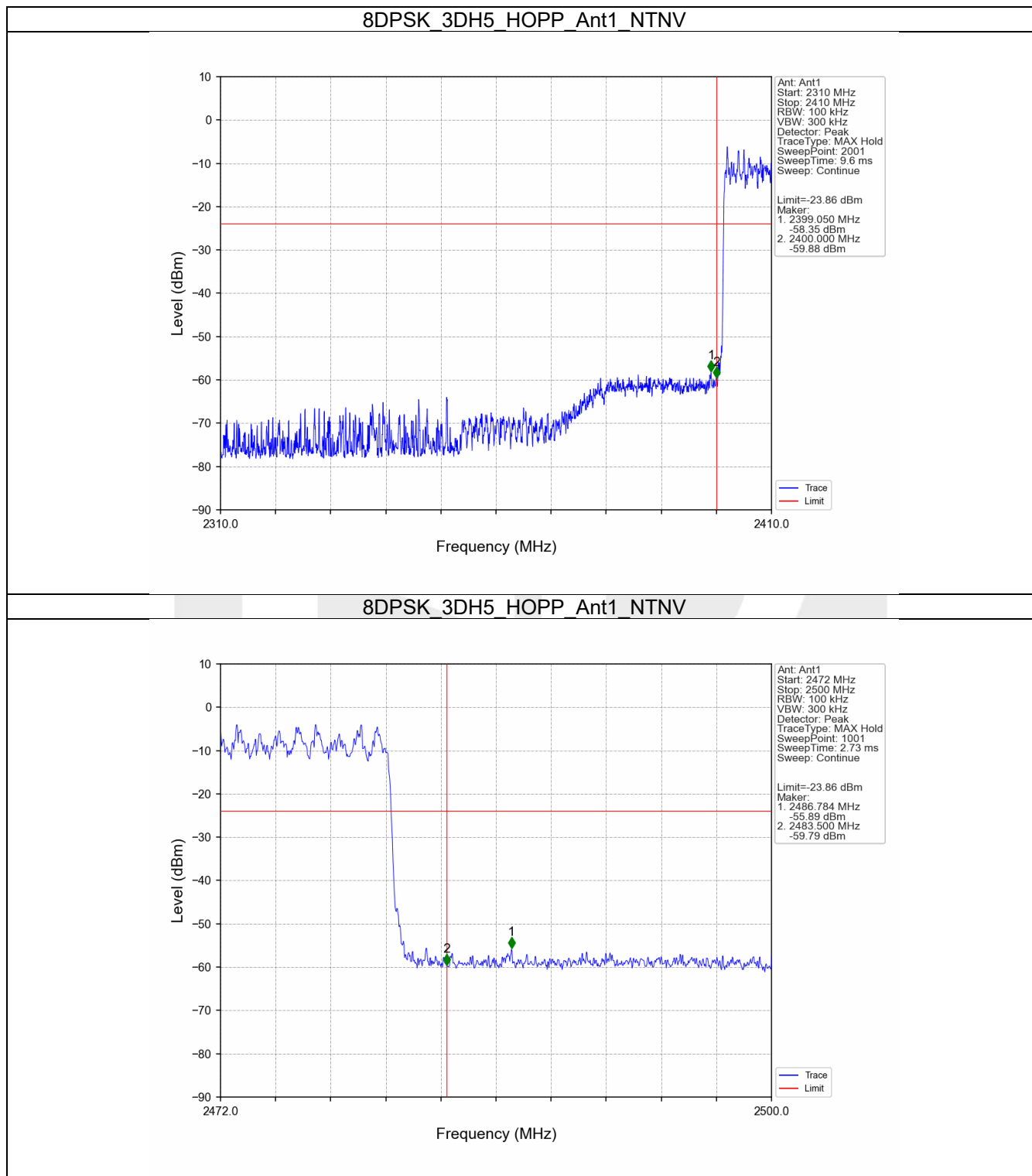












----- End of Report -----