



Shenzhen CTL Testing Technology Co., Ltd.

Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road, Nanshan District, Shenzhen, China 518055

Tel: +86-755-89486194 E-mail: ctl@ctl-lab.com

## Annex for BT

Test Report No.: CTL2505272071-WF01

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## 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   | 0.859                        | /     | Pass    |
|           |         | 2441            | DH5         | 1   | 0.859                        | /     | Pass    |
|           |         | 2480            | DH5         | 1   | 0.858                        | /     | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.152                        | /     | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.161                        | /     | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.154                        | /     | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 1.161                        | /     | Pass    |
|           |         | 2441            | 3DH5        | 1   | 1.162                        | /     | Pass    |
|           |         | 2480            | 3DH5        | 1   | 1.166                        | /     | Pass    |

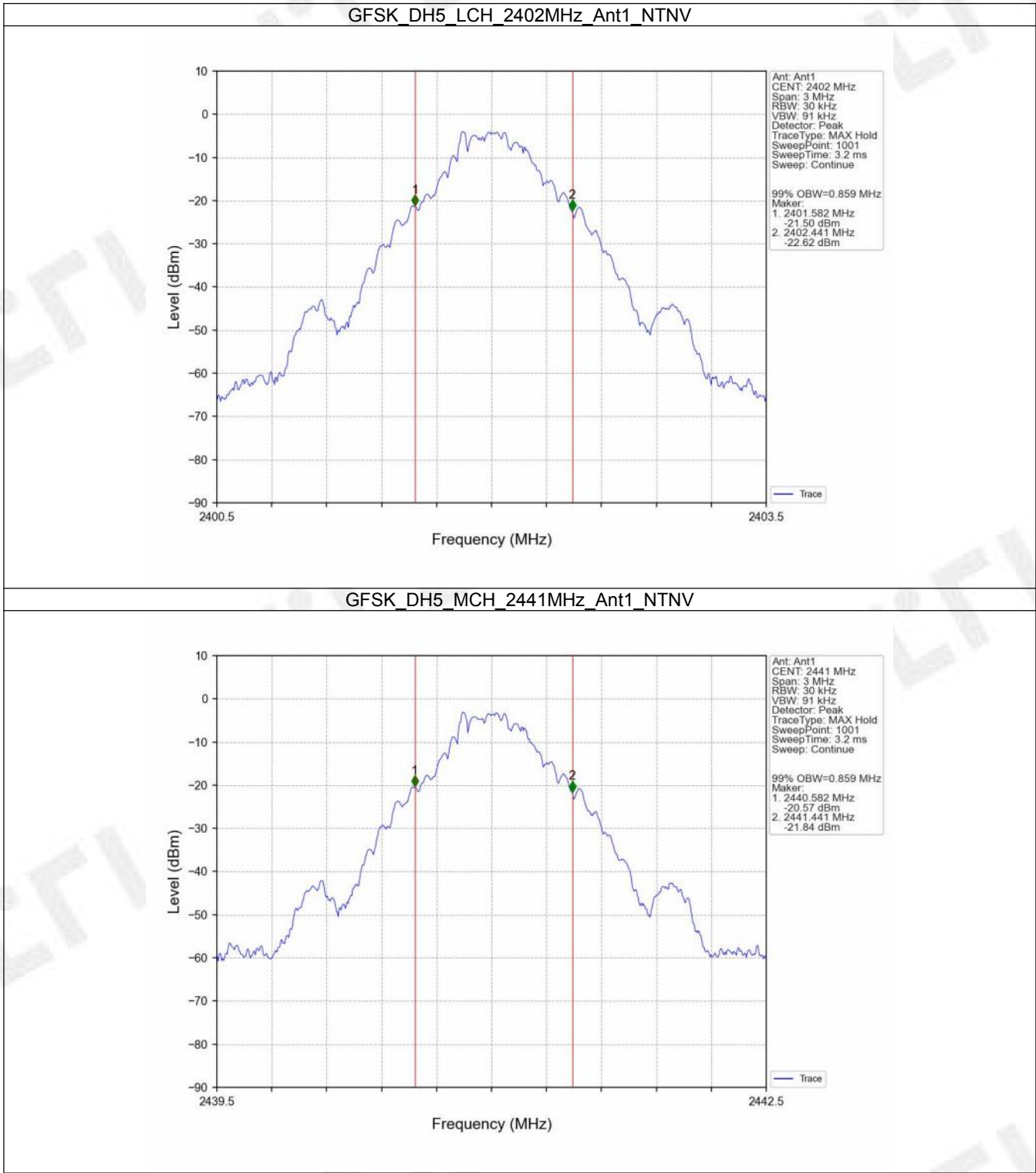
#### 1.1.2 20dB BW

| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | 20dB Bandwidth (MHz) |       | Verdict |
|-----------|---------|-----------------|-------------|-----|----------------------|-------|---------|
|           |         |                 |             |     | Result               | Limit |         |
| GFSK      | SISO    | 2402            | DH5         | 1   | 0.959                | /     | Pass    |
|           |         | 2441            | DH5         | 1   | 0.959                | /     | Pass    |
|           |         | 2480            | DH5         | 1   | 0.961                | /     | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | 1.275                | /     | Pass    |
|           |         | 2441            | 2DH5        | 1   | 1.276                | /     | Pass    |
|           |         | 2480            | 2DH5        | 1   | 1.280                | /     | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | 1.303                | /     | Pass    |
|           |         | 2441            | 3DH5        | 1   | 1.298                | /     | Pass    |
|           |         | 2480            | 3DH5        | 1   | 1.298                | /     | Pass    |

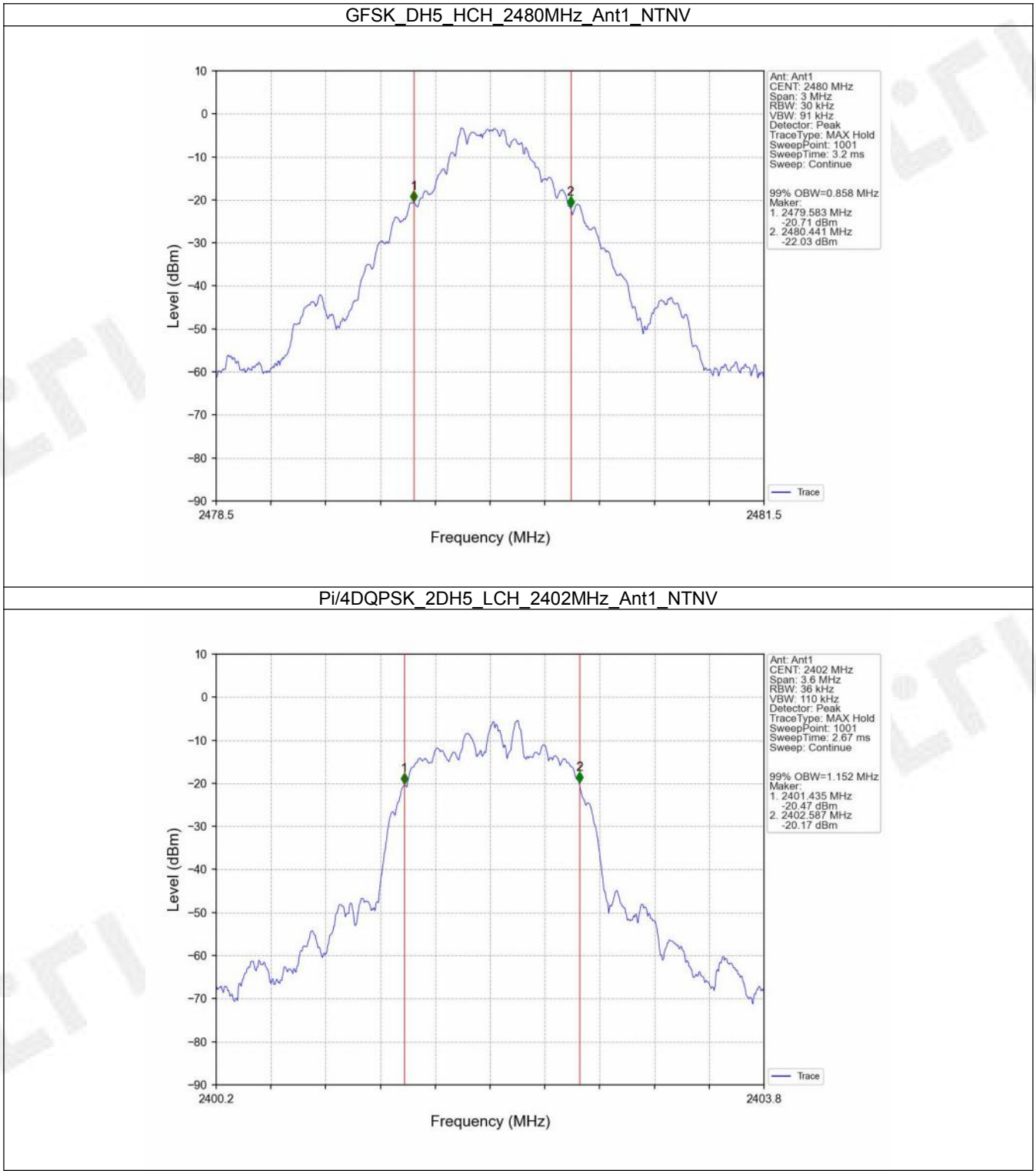
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1.2 Test Graph

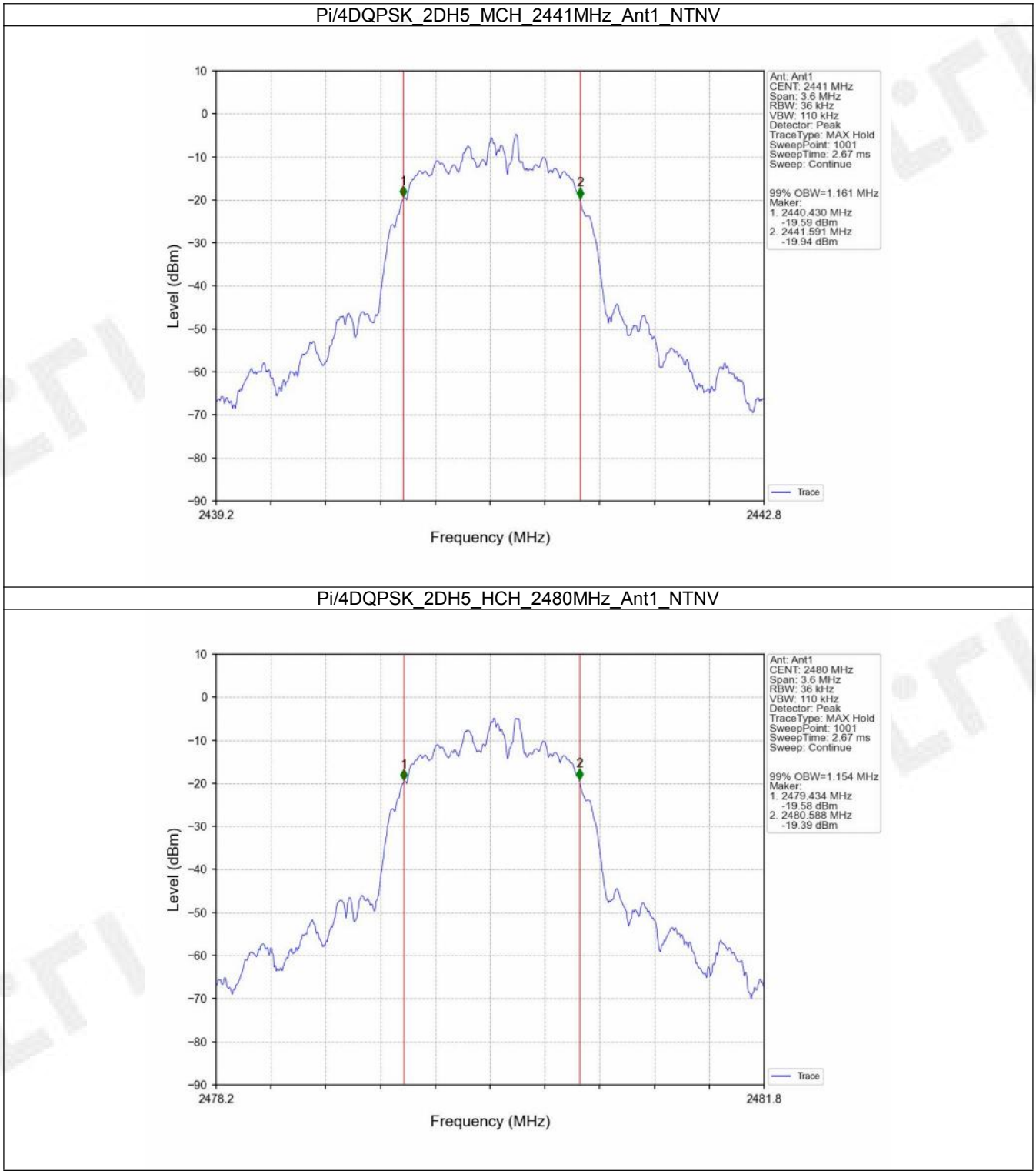
1.2.1 OBW



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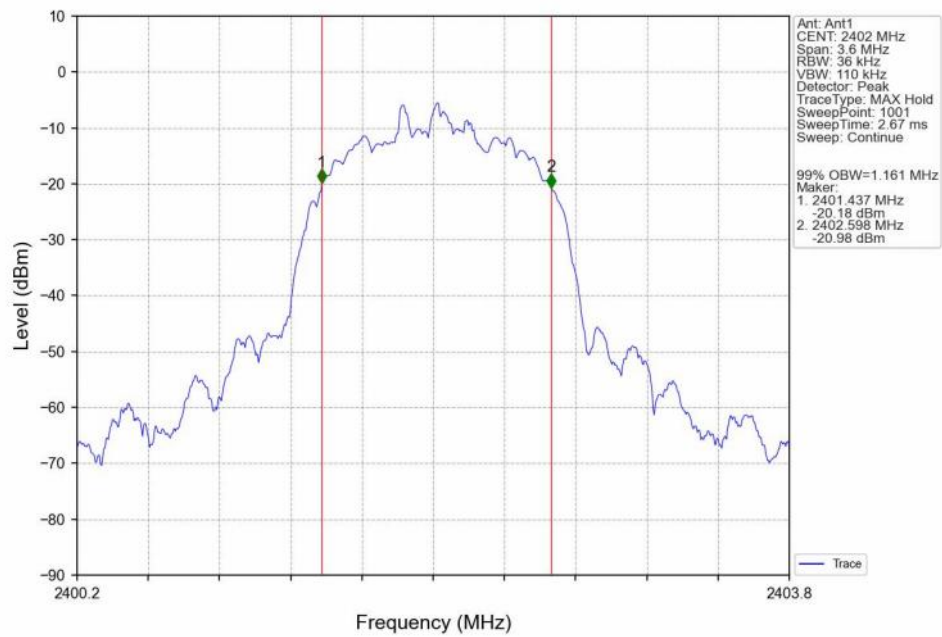


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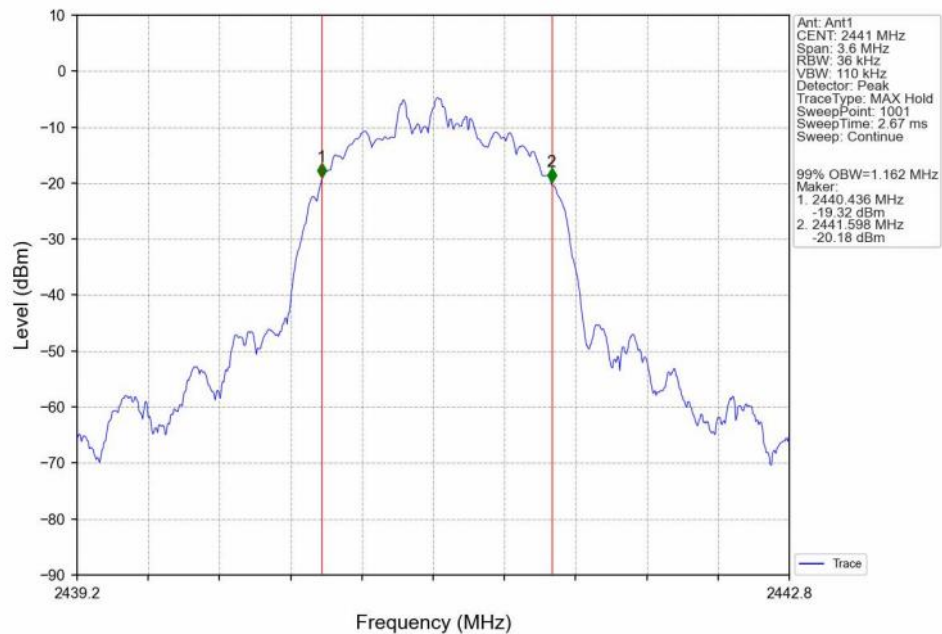


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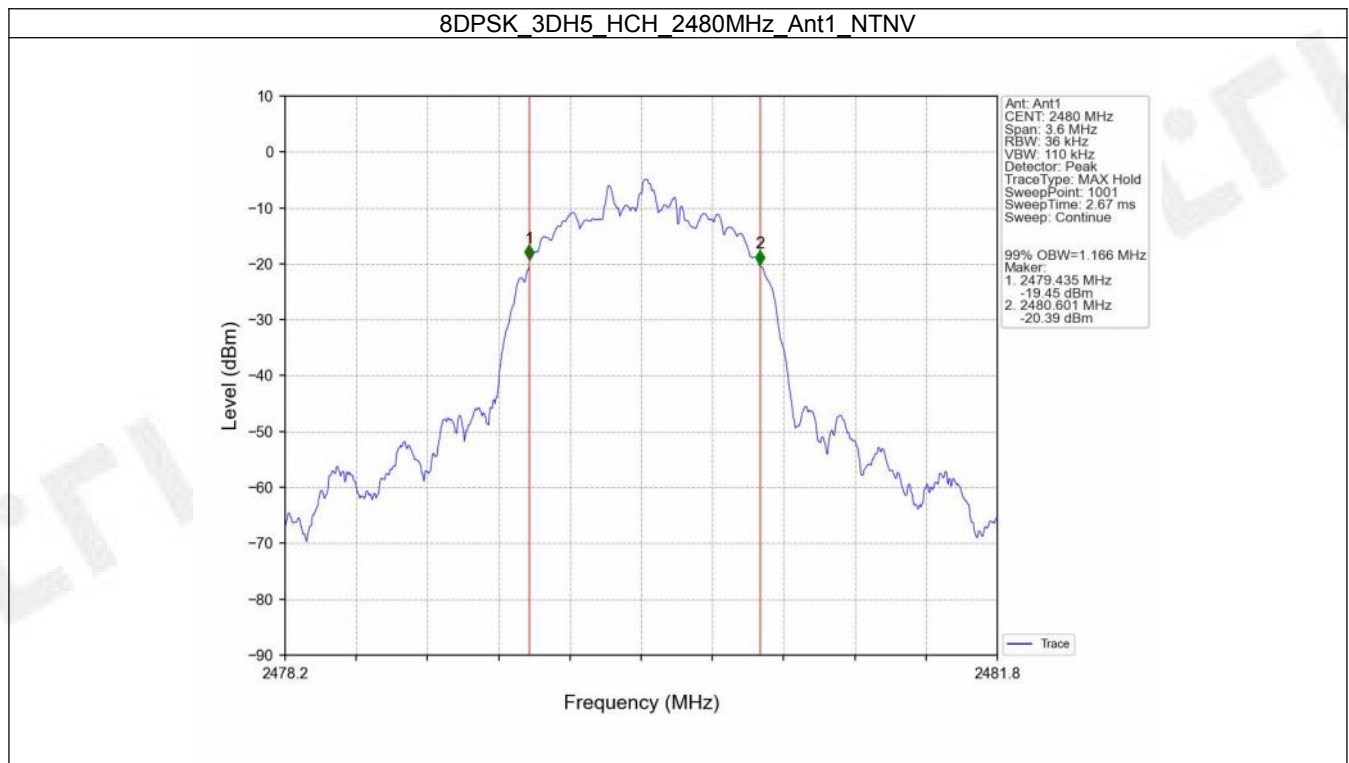
8DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



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

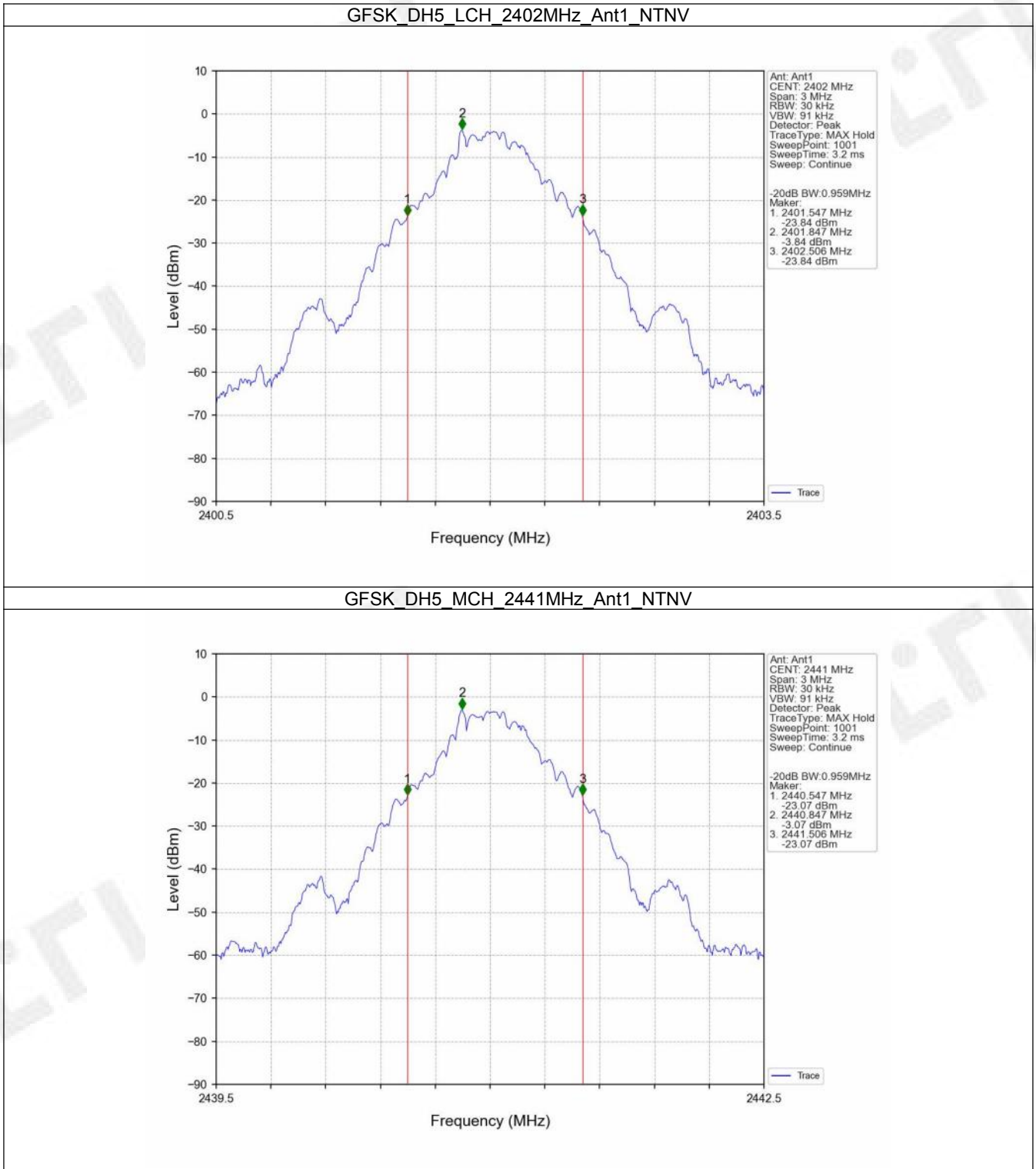


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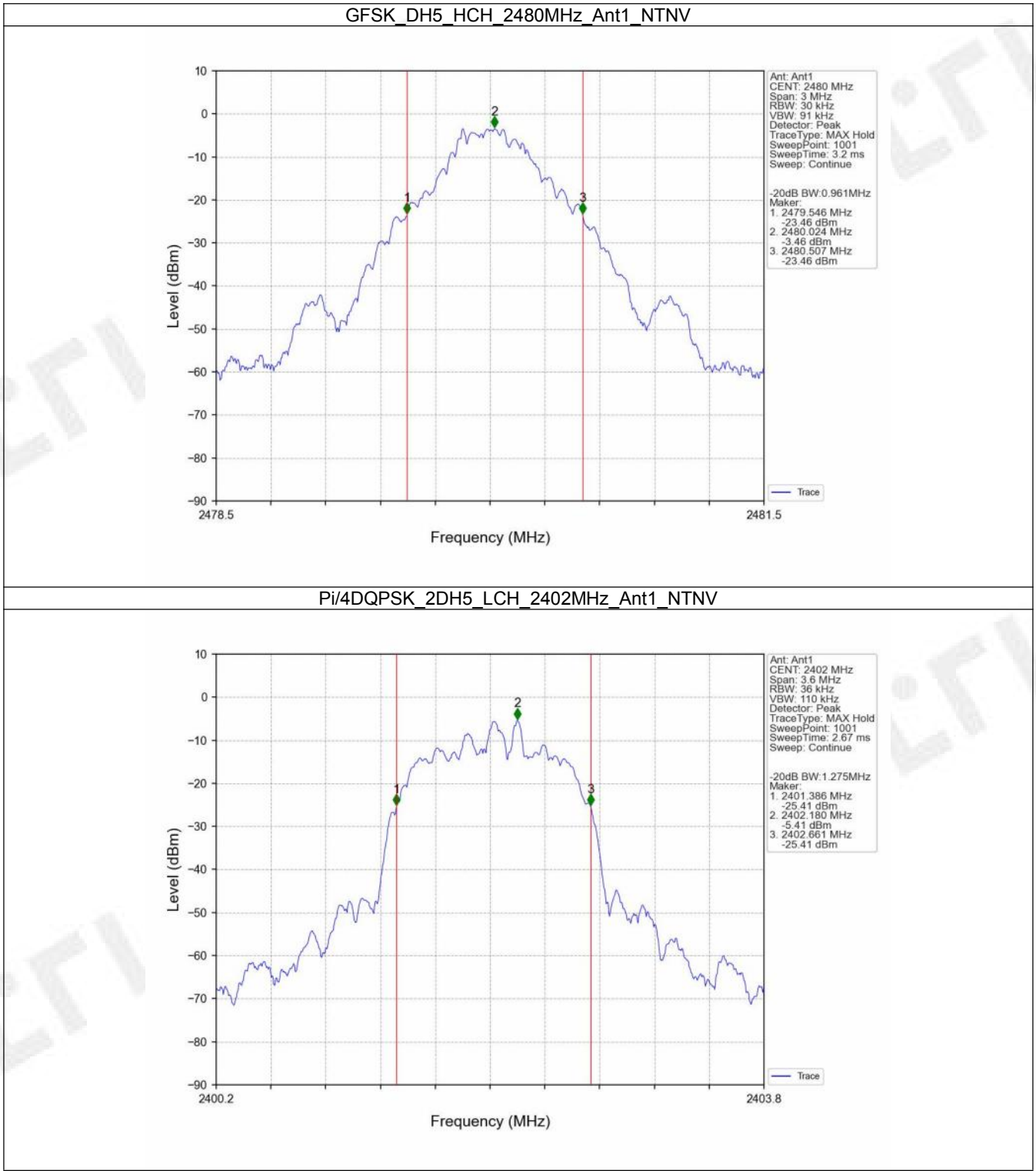


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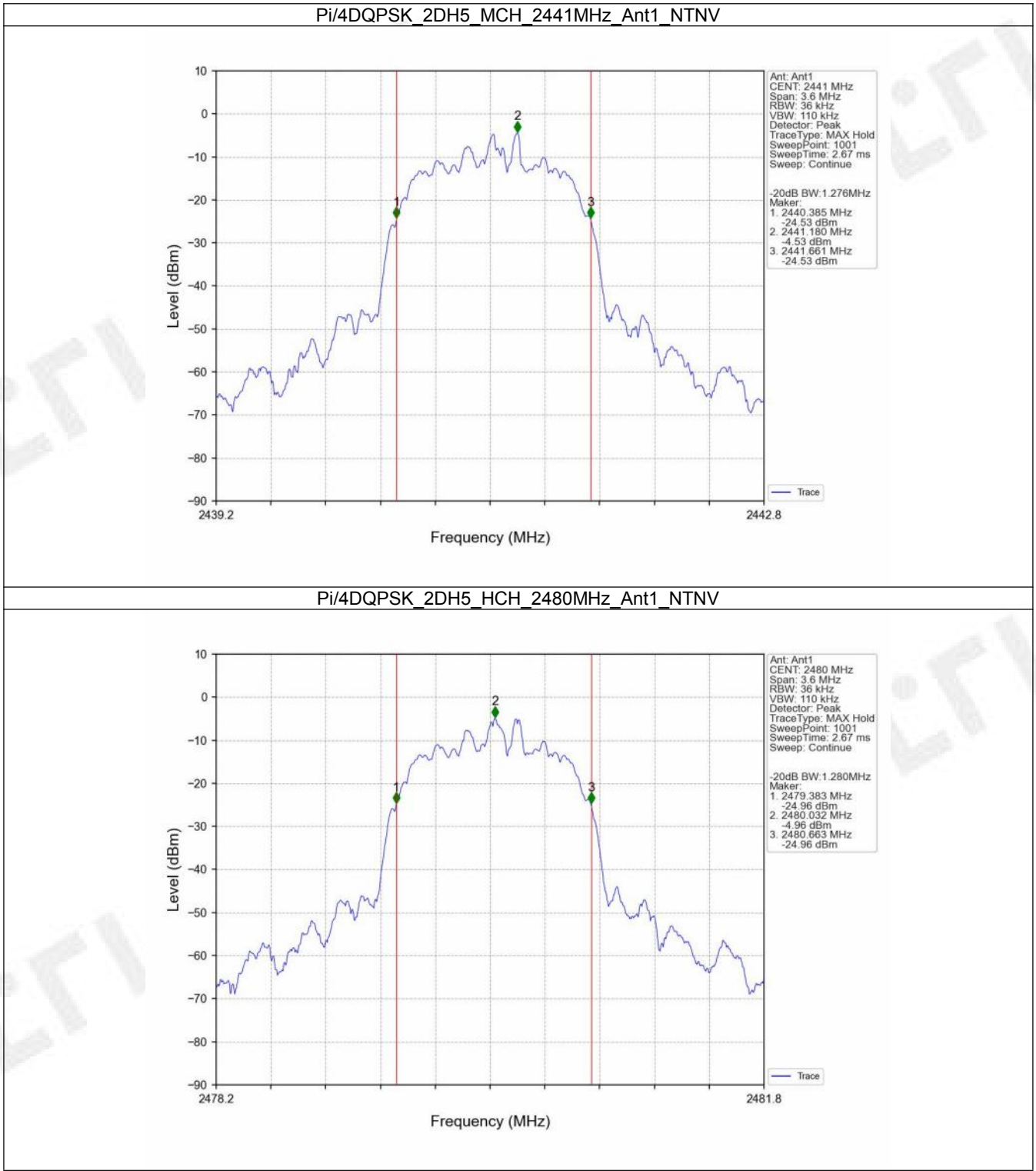
1.2.2 20dB BW



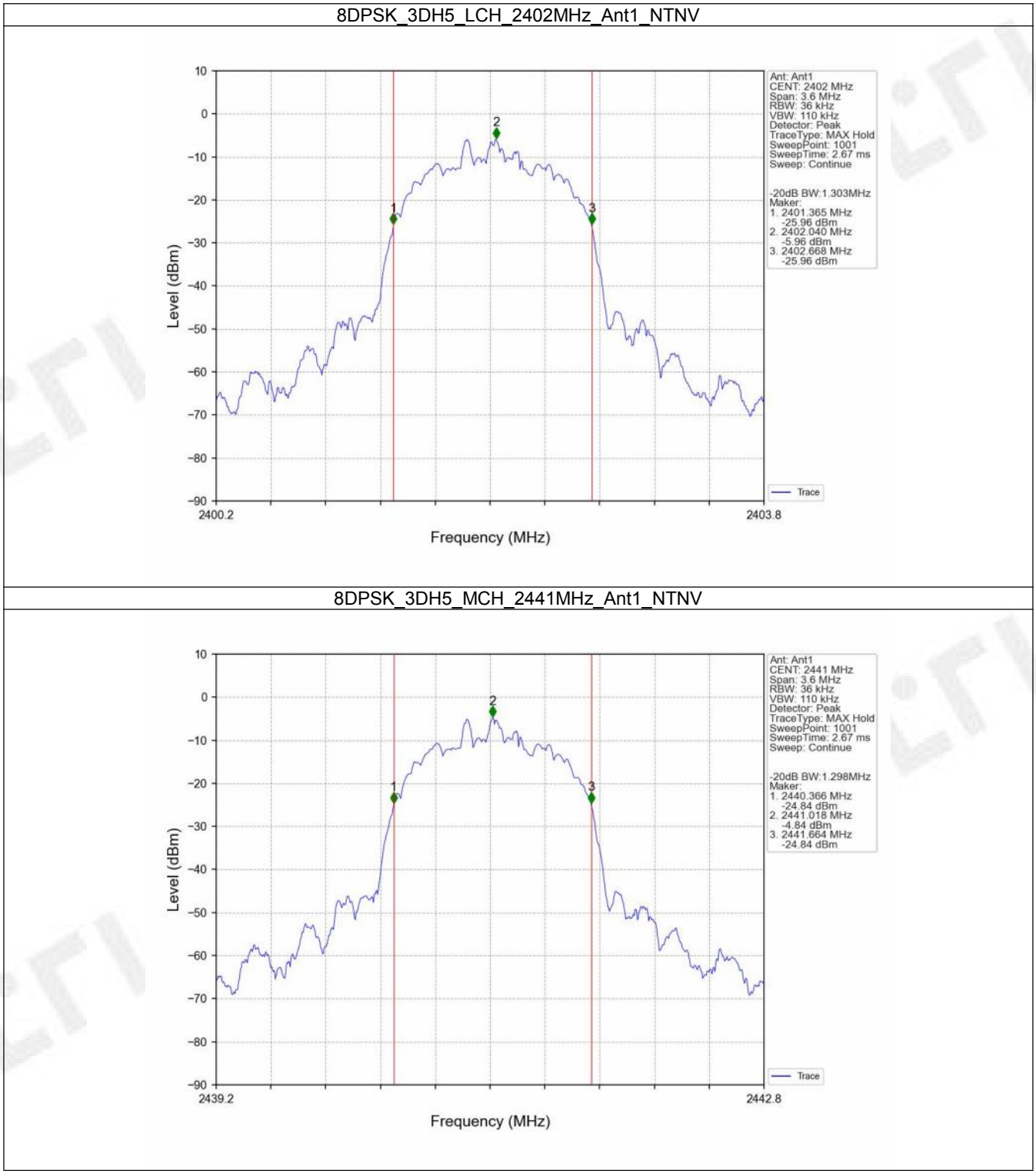
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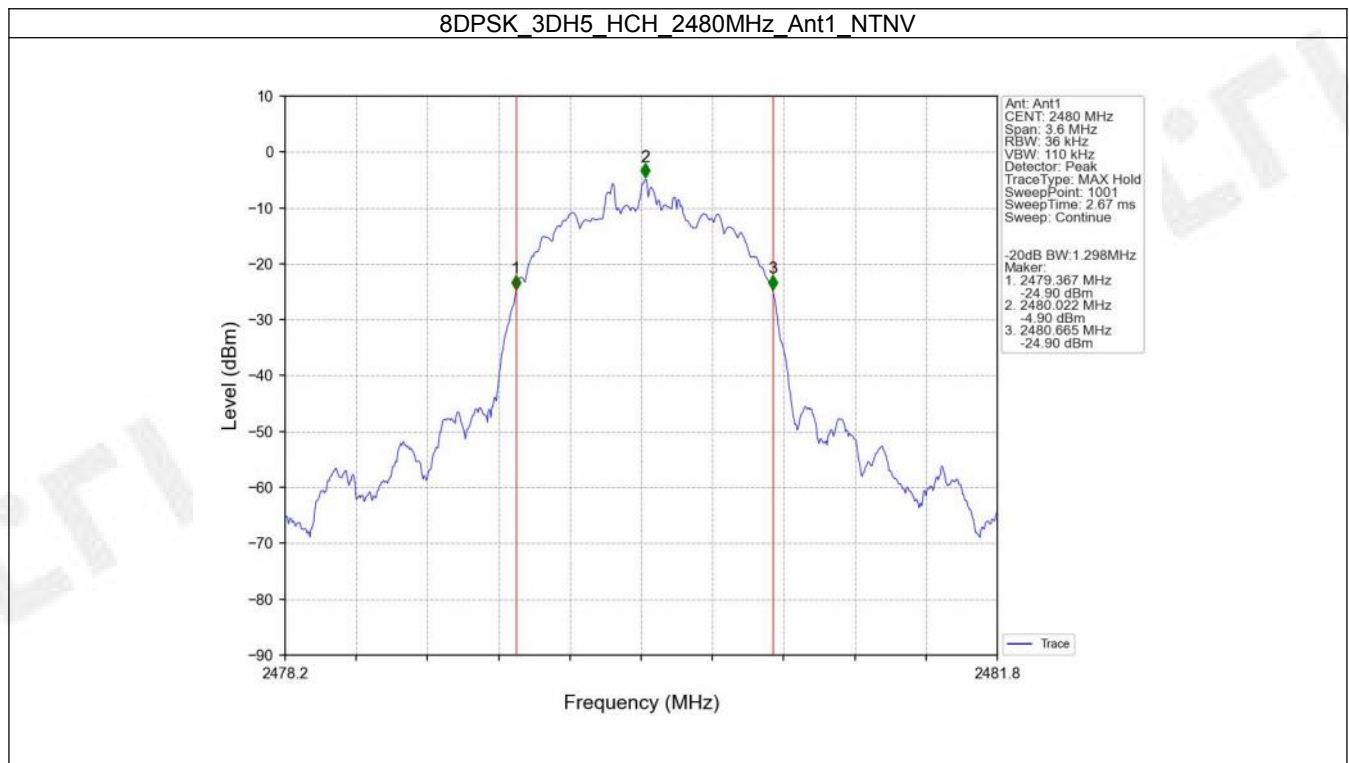
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## 2. Maximum Conducted Output Power

### 2.1 Test Result

#### 2.1.1 Power

| Mode      | TX Type | Frequency (MHz) | Packet Type | Maximum Peak Conducted Output Power (dBm) |              | Verdict |
|-----------|---------|-----------------|-------------|-------------------------------------------|--------------|---------|
|           |         |                 |             | ANT1                                      | Limit        |         |
| GFSK      | SISO    | 2402            | DH5         | -1.25                                     | $\leq 30$    | Pass    |
|           |         | 2441            | DH5         | -0.53                                     | $\leq 30$    | Pass    |
|           |         | 2480            | DH5         | -0.67                                     | $\leq 30$    | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | -2.64                                     | $\leq 20.97$ | Pass    |
|           |         | 2441            | 2DH5        | -1.77                                     | $\leq 20.97$ | Pass    |
|           |         | 2480            | 2DH5        | -1.88                                     | $\leq 20.97$ | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | -1.99                                     | $\leq 20.97$ | Pass    |
|           |         | 2441            | 3DH5        | -1.27                                     | $\leq 20.97$ | Pass    |
|           |         | 2480            | 3DH5        | -1.41                                     | $\leq 20.97$ | Pass    |

Note1: Antenna Gain: Ant1: 2.87dBi;

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### 3. Carrier Frequency Separation

#### 3.1 Test Result

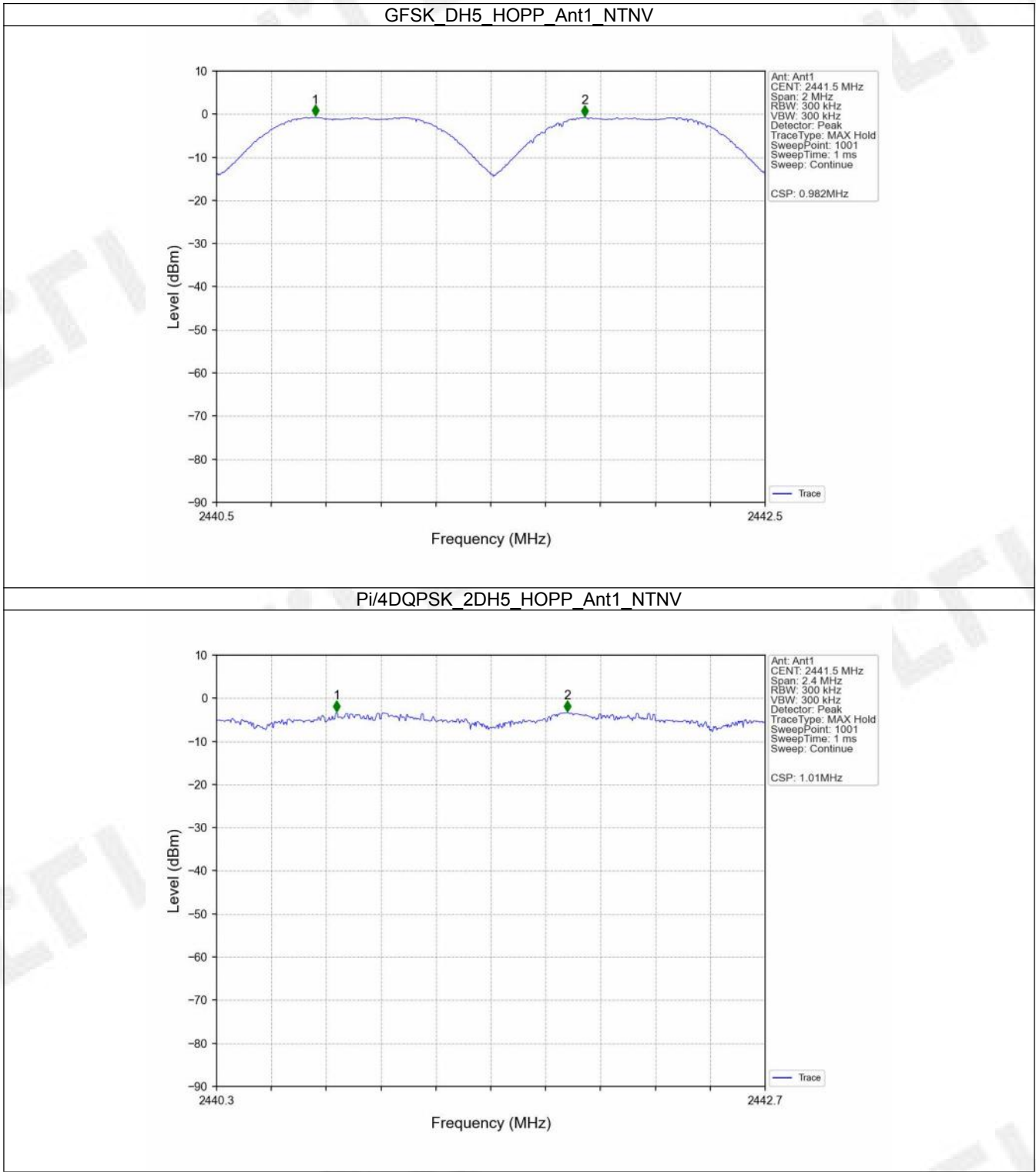
##### 3.1.1 Ant1

| Ant1      |         |                 |             |                          |                      |              |         |
|-----------|---------|-----------------|-------------|--------------------------|----------------------|--------------|---------|
| Mode      | TX Type | Frequency (MHz) | Packet Type | Channel Separation (MHz) | 20dB Bandwidth (MHz) | Limit (MHz)  | Verdict |
| GFSK      | SISO    | HOPP            | DH5         | 0.982                    | 0.961                | $\geq 0.961$ | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH5        | 1.010                    | 1.280                | $\geq 0.853$ | Pass    |
| 8DPSK     | SISO    | HOPP            | 3DH5        | 1.001                    | 1.303                | $\geq 0.869$ | Pass    |

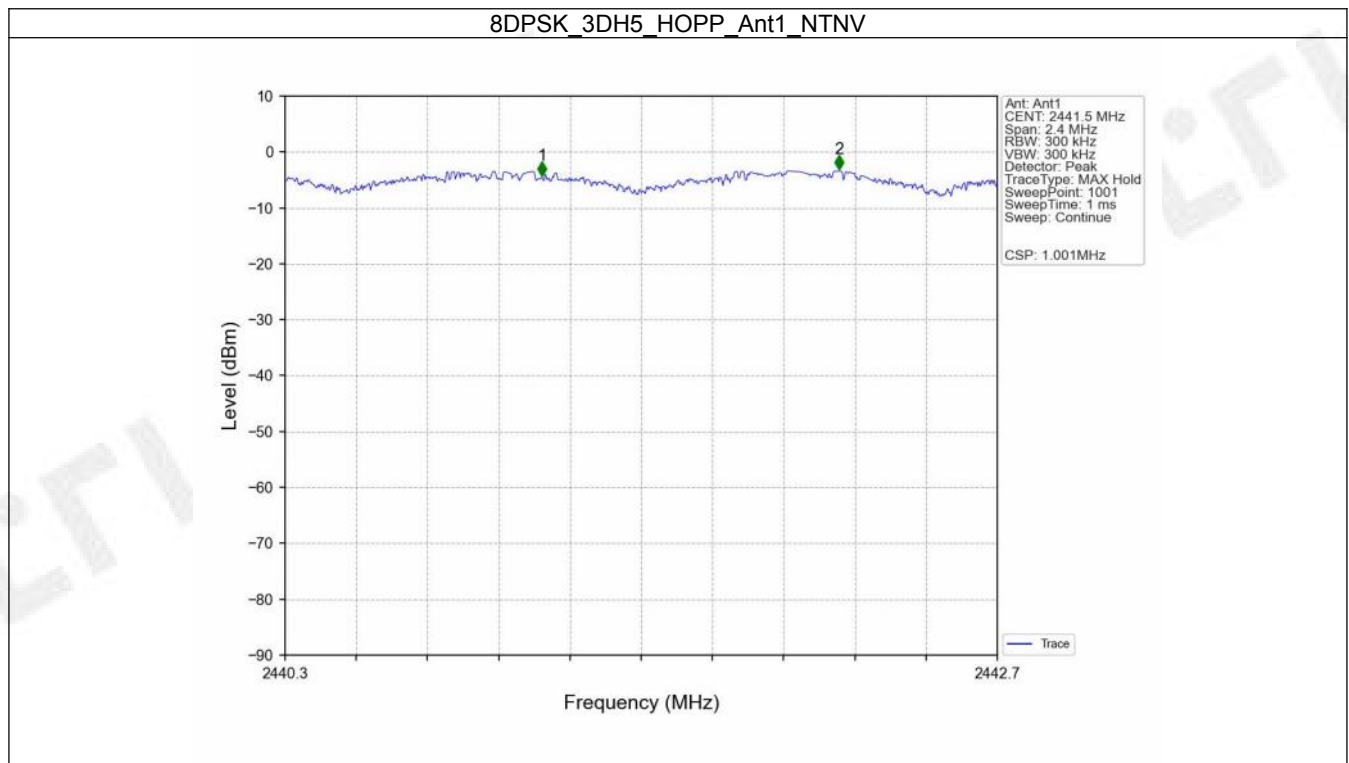
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3.2 Test Graph

3.2.1 Ant1



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FCCID: 2AUARHDY9S

## 4. Number of Hopping Frequencies

### 4.1 Test Result

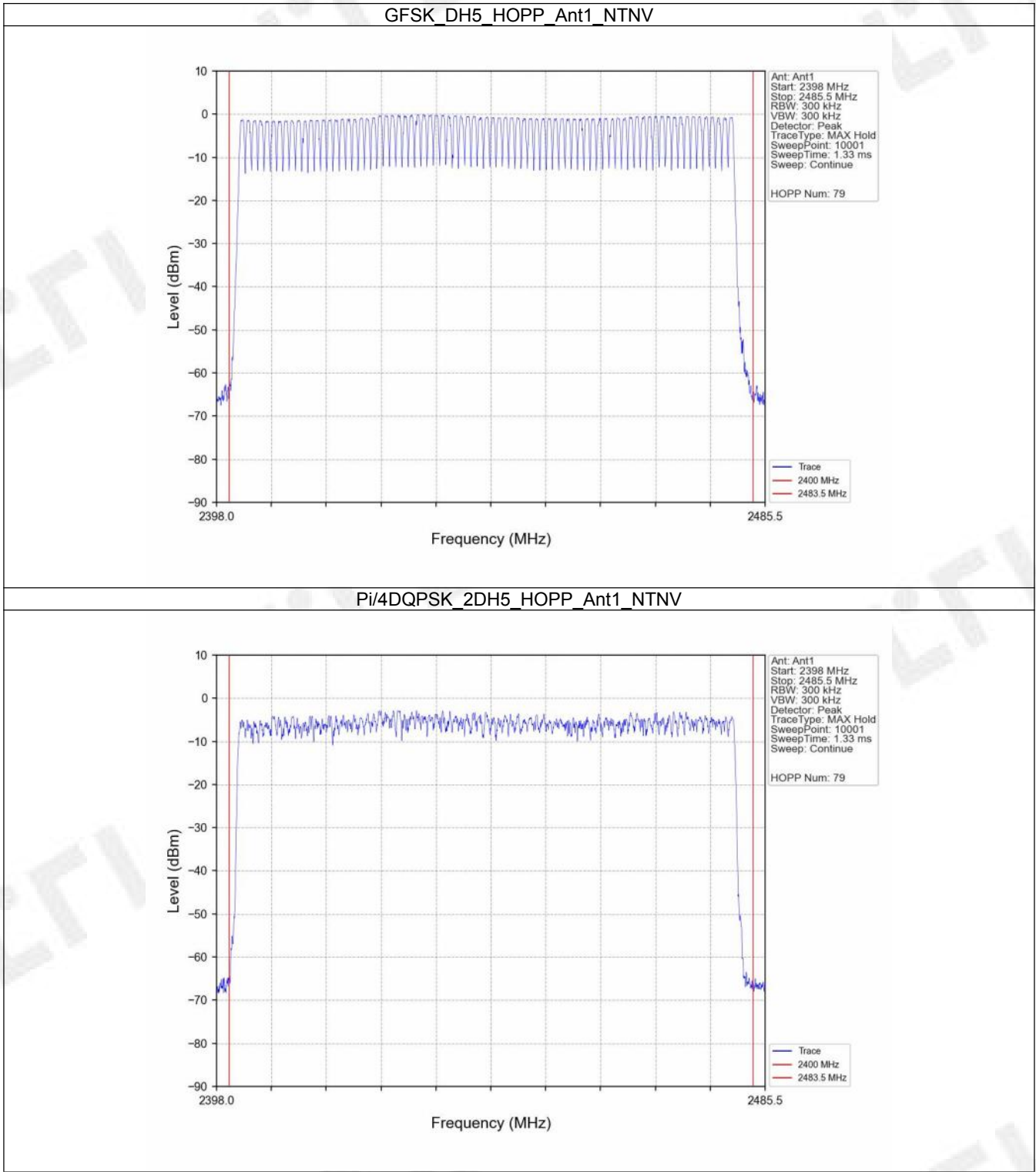
#### 4.1.1 HoppNum

| 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    |

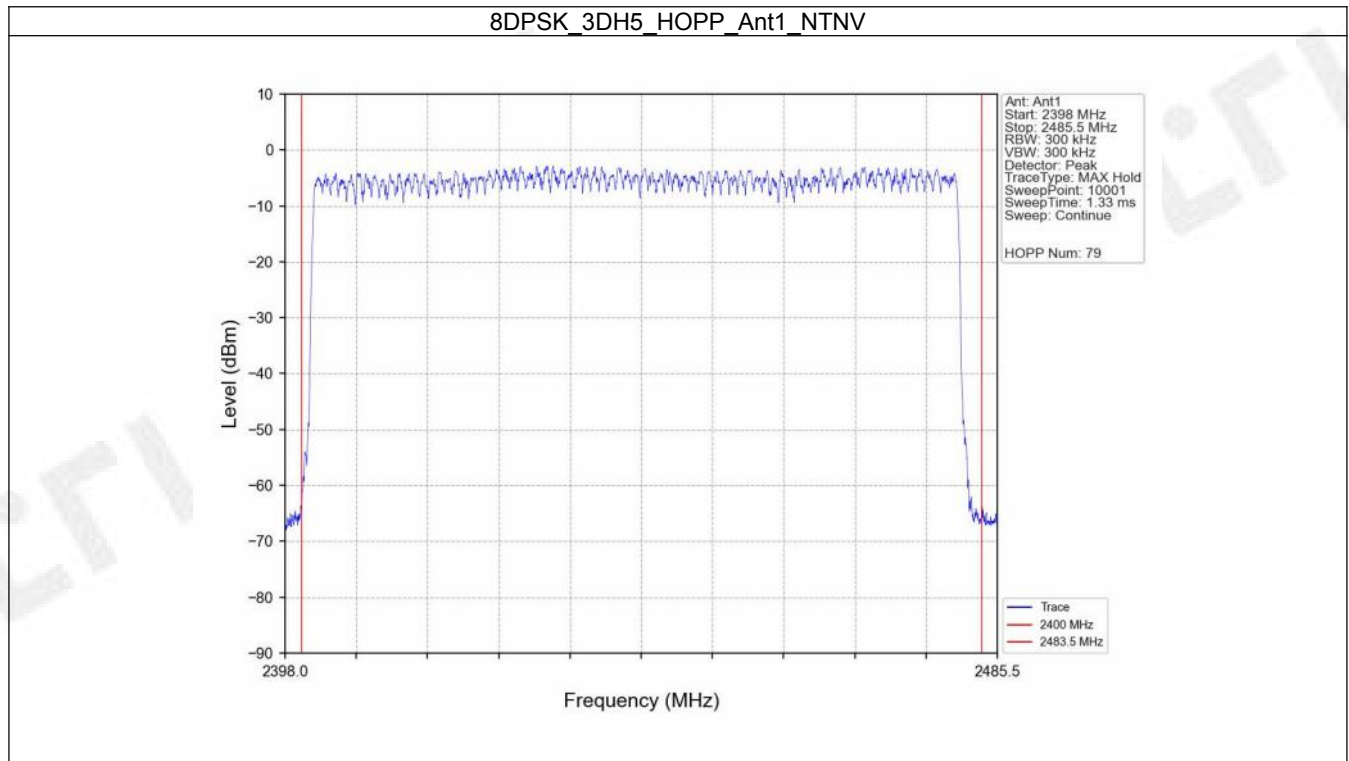
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4.2 Test Graph

4.2.1 HoppNum



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## 5. Time of Occupancy (Dwell Time)

### 5.1 Test Result

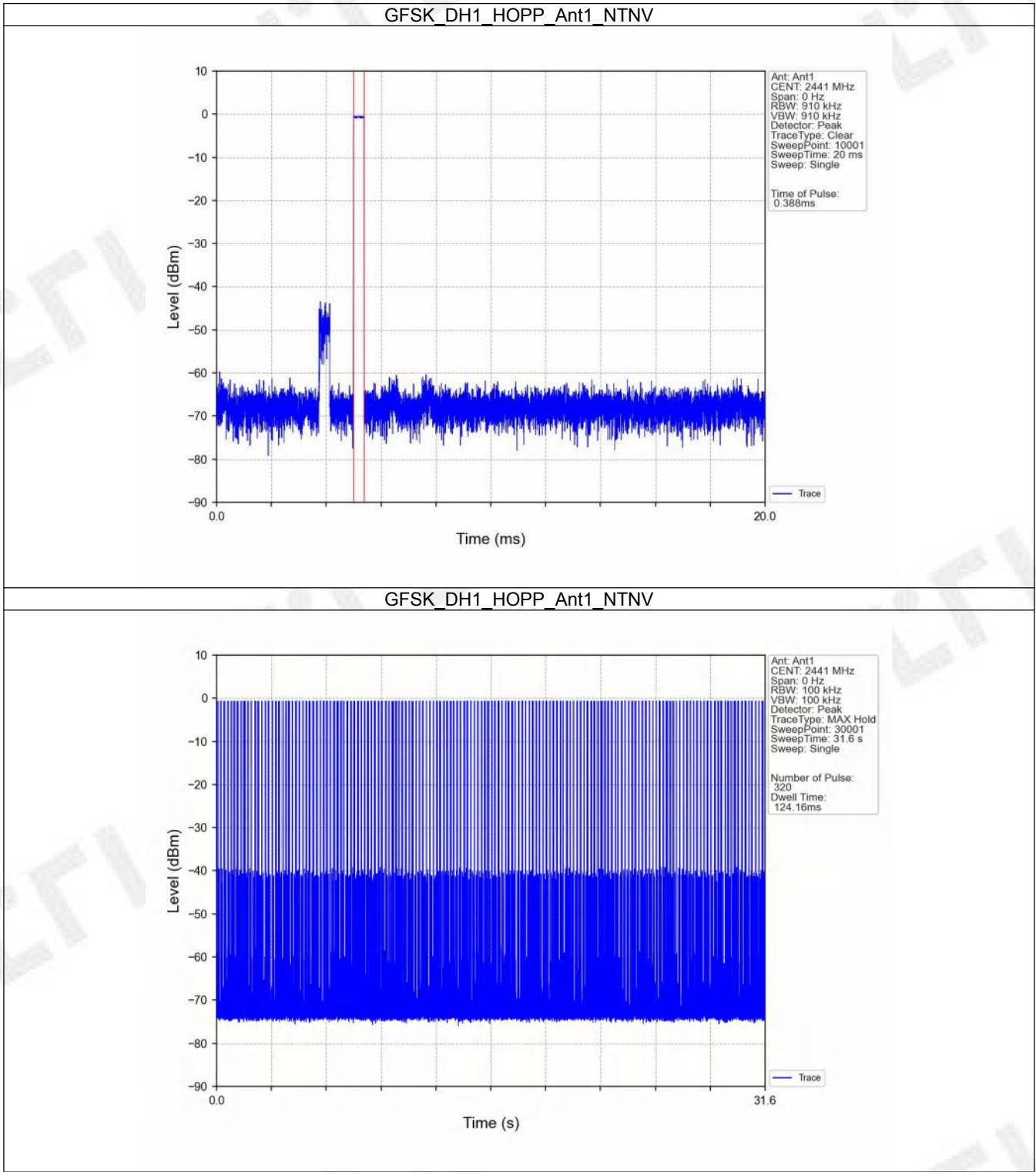
#### 5.1.1 Ant1

| 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         | 0.388                         | 31.600                 | 320                                | 124.160         | <=400      | Pass    |
|           |         |                 | DH3         | 1.652                         | 31.600                 | 159                                | 262.668         | <=400      | Pass    |
|           |         |                 | DH5         | 2.900                         | 31.600                 | 106                                | 307.400         | <=400      | Pass    |
| Pi/4DQPSK | SISO    | HOPP            | 2DH1        | 0.396                         | 31.600                 | 320                                | 126.720         | <=400      | Pass    |
|           |         |                 | 2DH3        | 1.656                         | 31.600                 | 164                                | 271.584         | <=400      | Pass    |
|           |         |                 | 2DH5        | 2.906                         | 31.600                 | 107                                | 310.942         | <=400      | Pass    |
| 8DPSK     | SISO    | HOPP            | 3DH1        | 0.394                         | 31.600                 | 320                                | 126.080         | <=400      | Pass    |
|           |         |                 | 3DH3        | 1.656                         | 31.600                 | 160                                | 264.960         | <=400      | Pass    |
|           |         |                 | 3DH5        | 2.898                         | 31.600                 | 101                                | 292.698         | <=400      | Pass    |

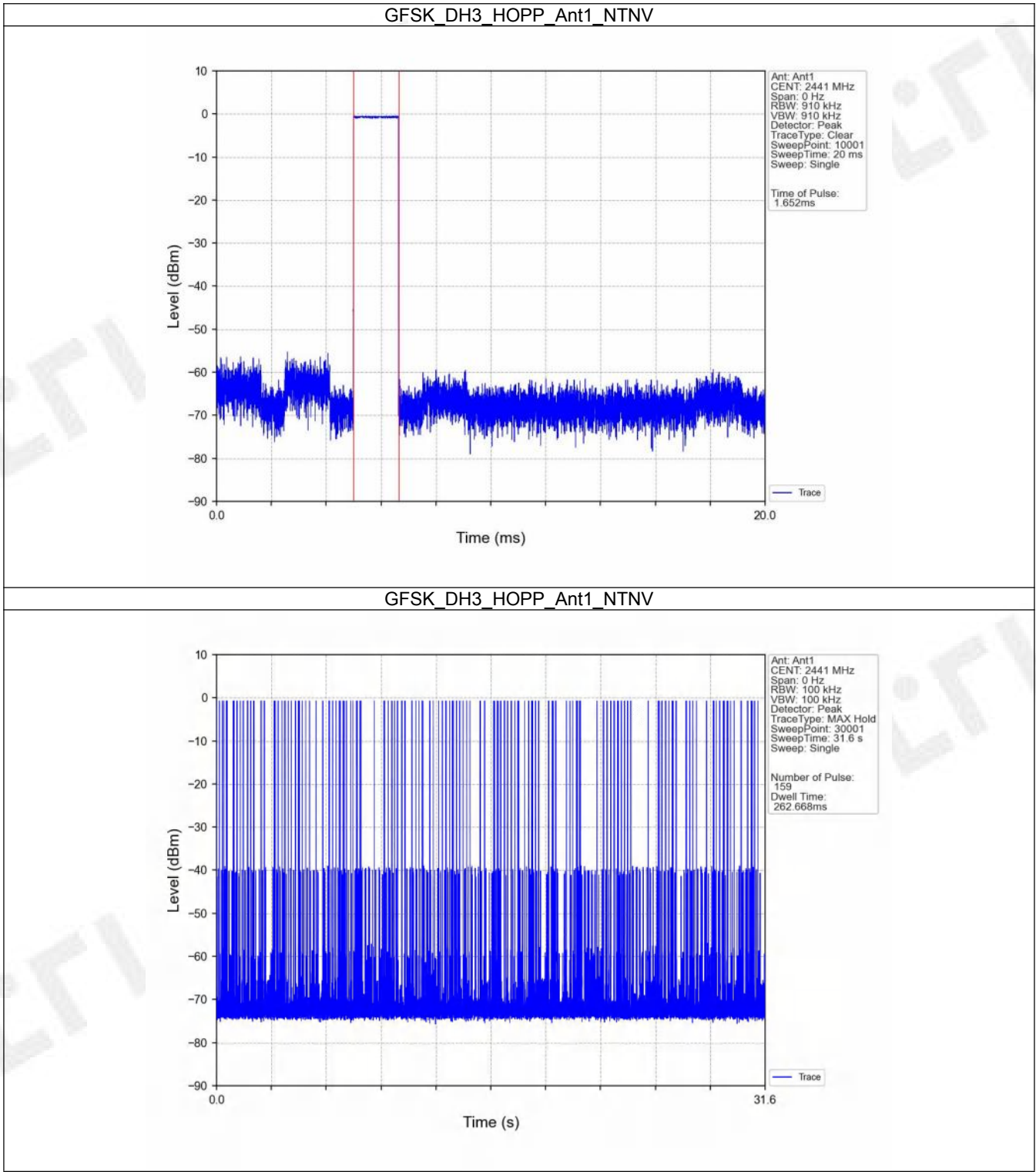
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5.2 Test Graph

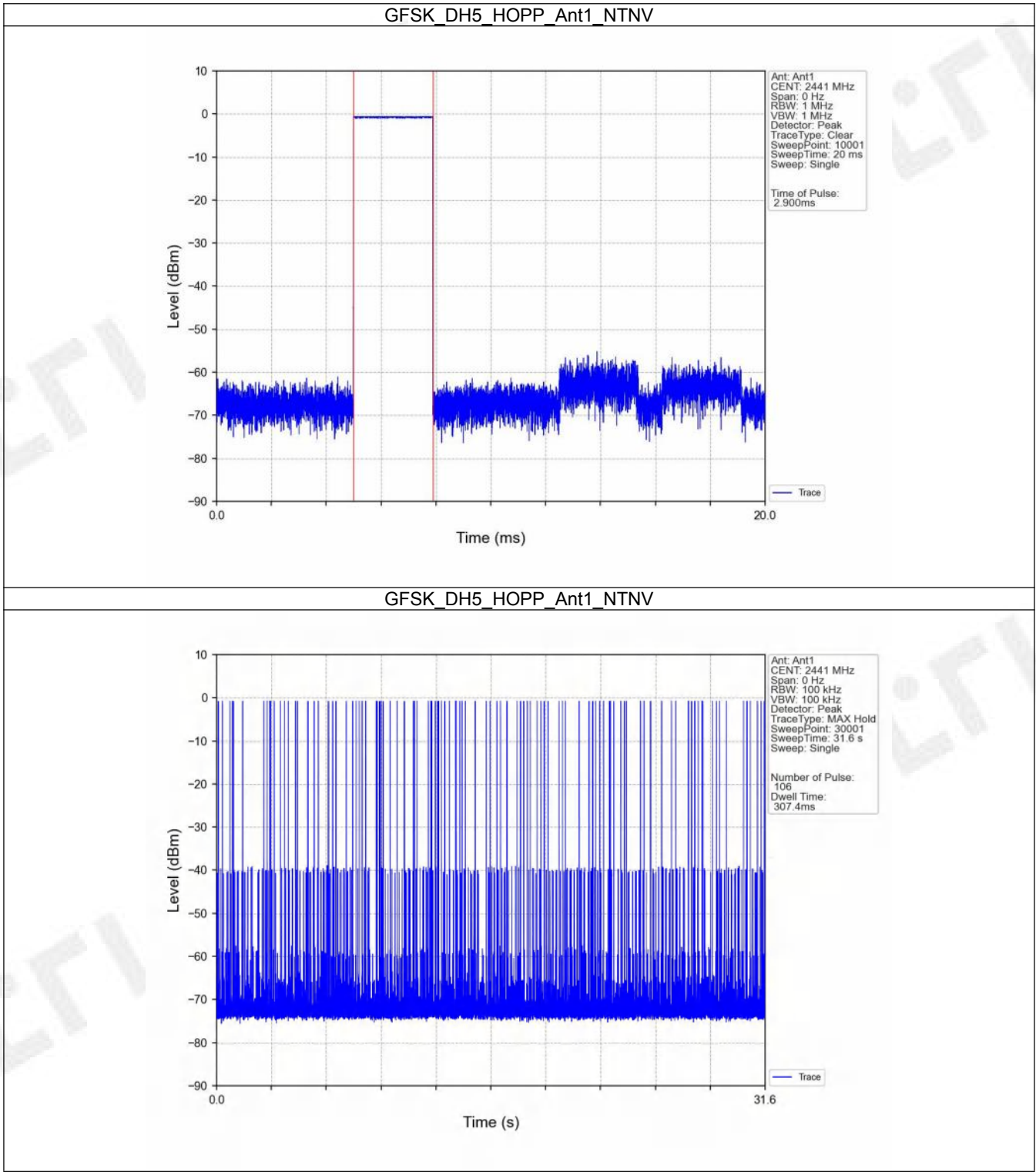
5.2.1 Ant1



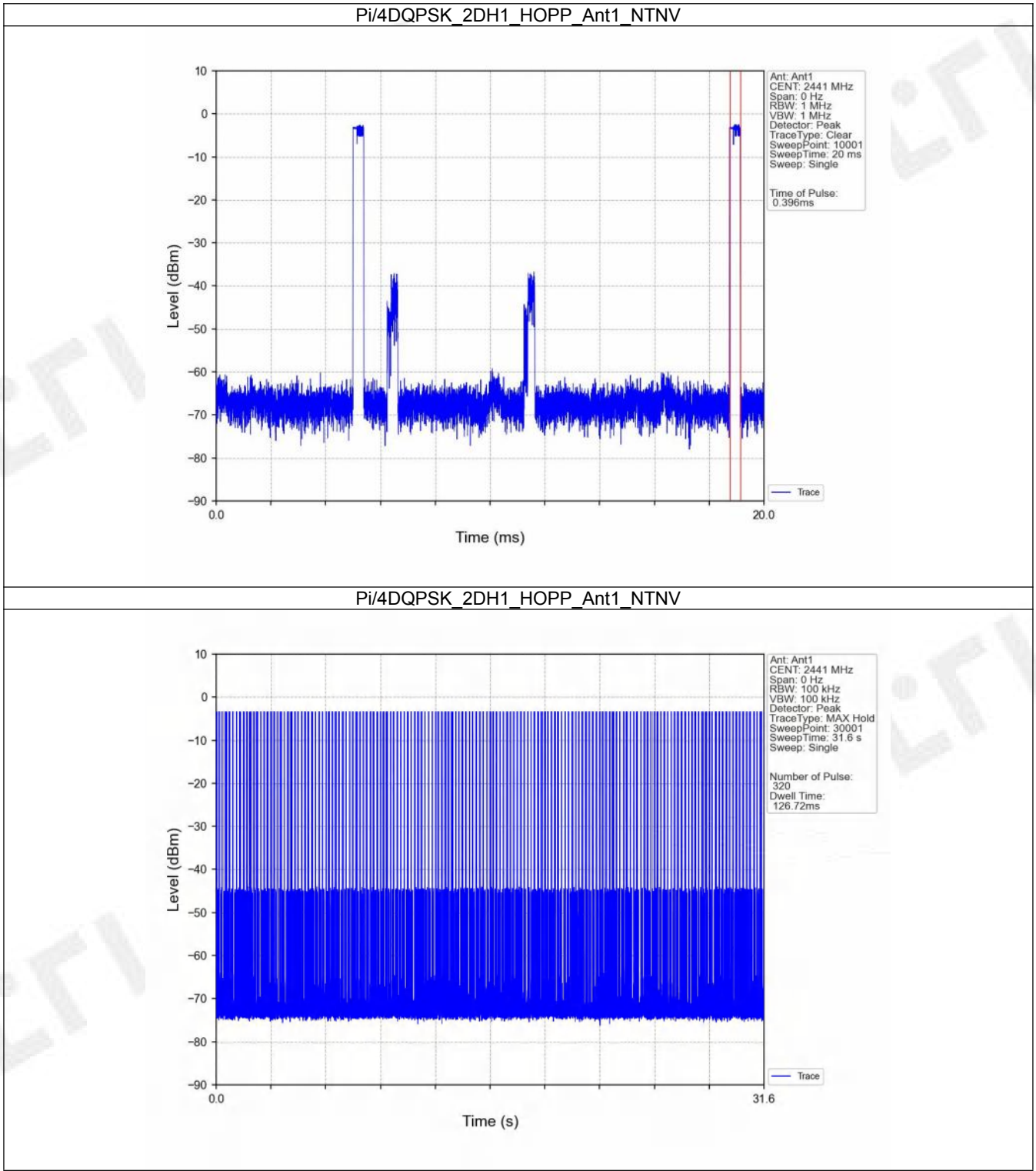
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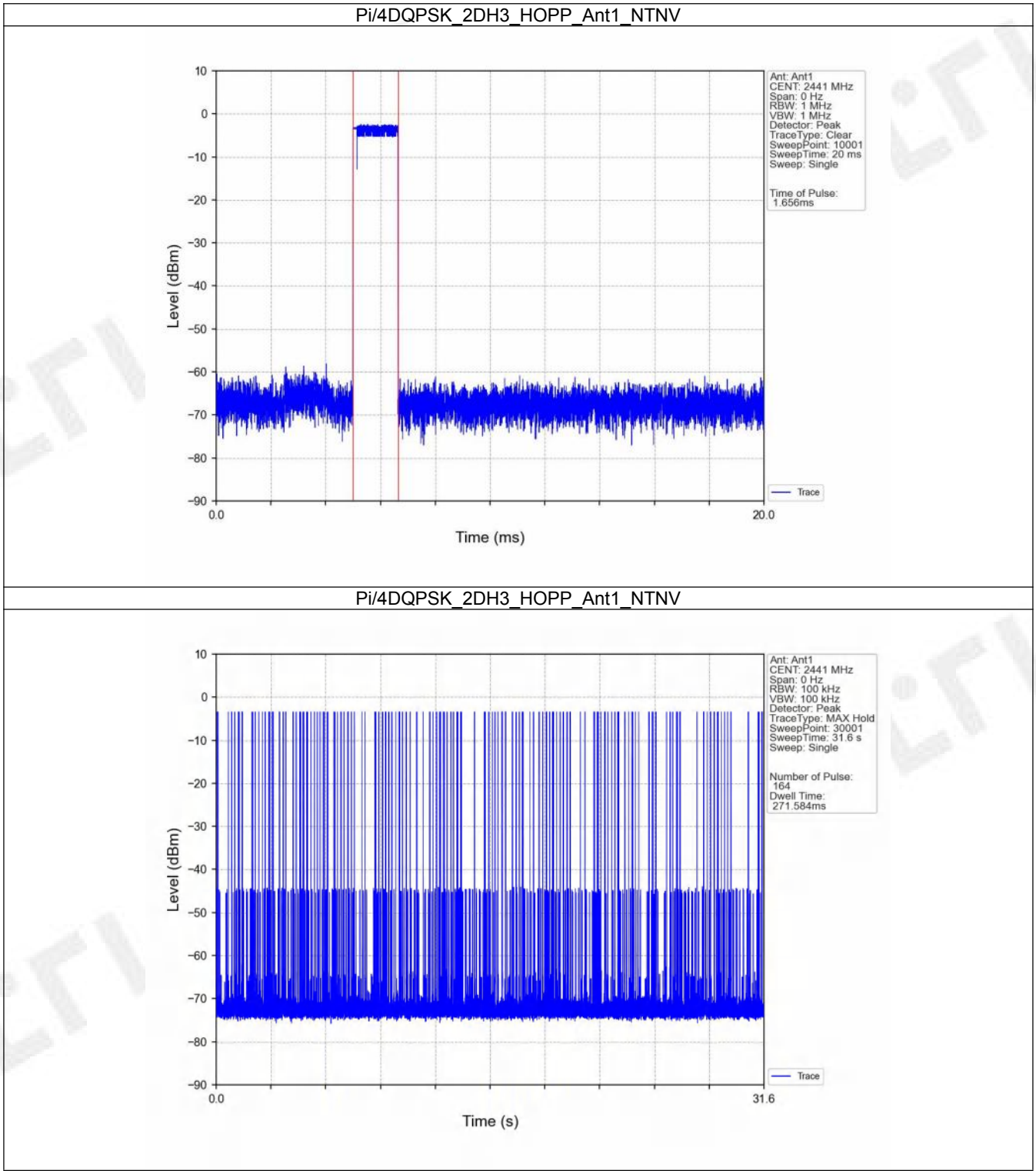
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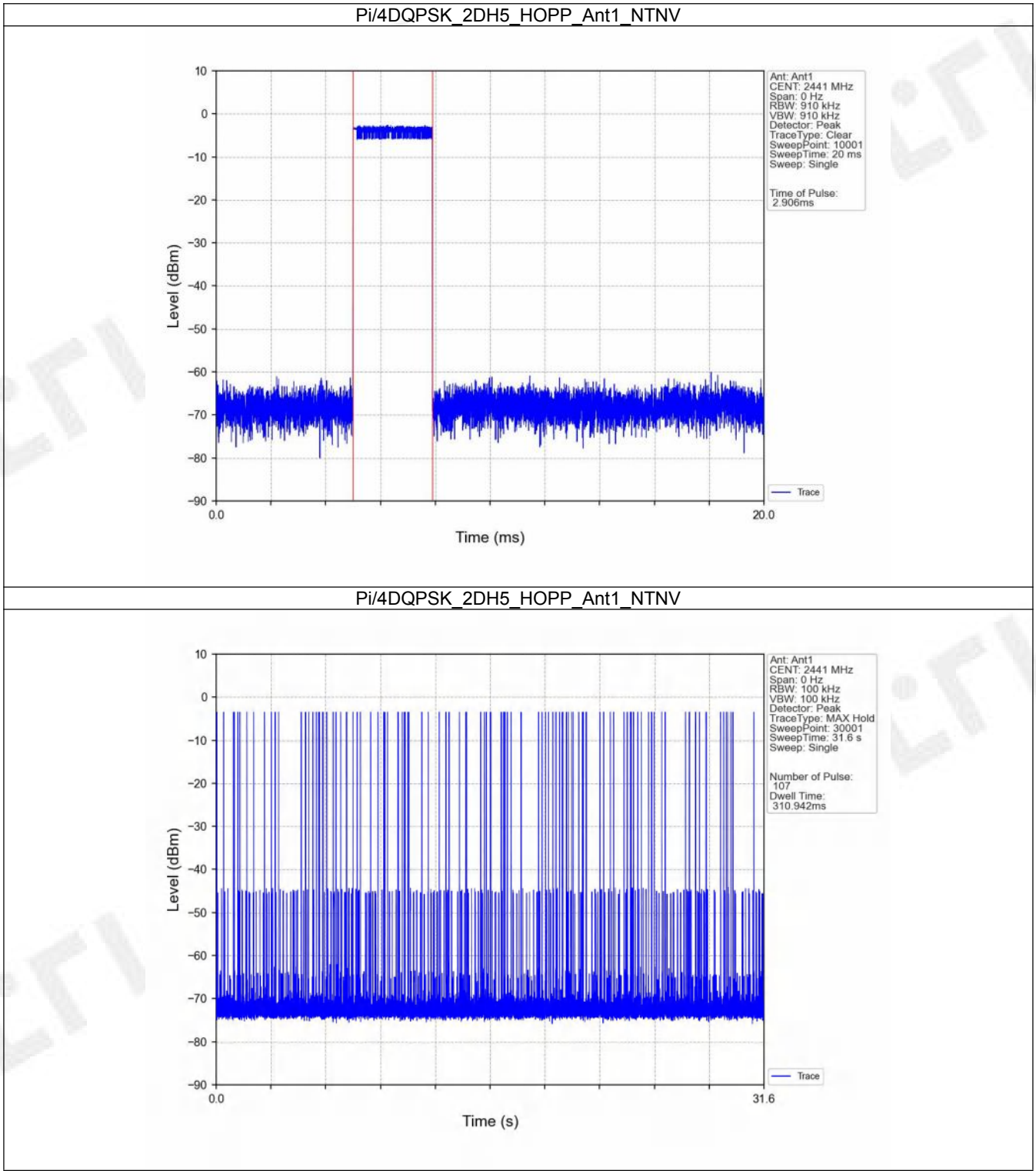
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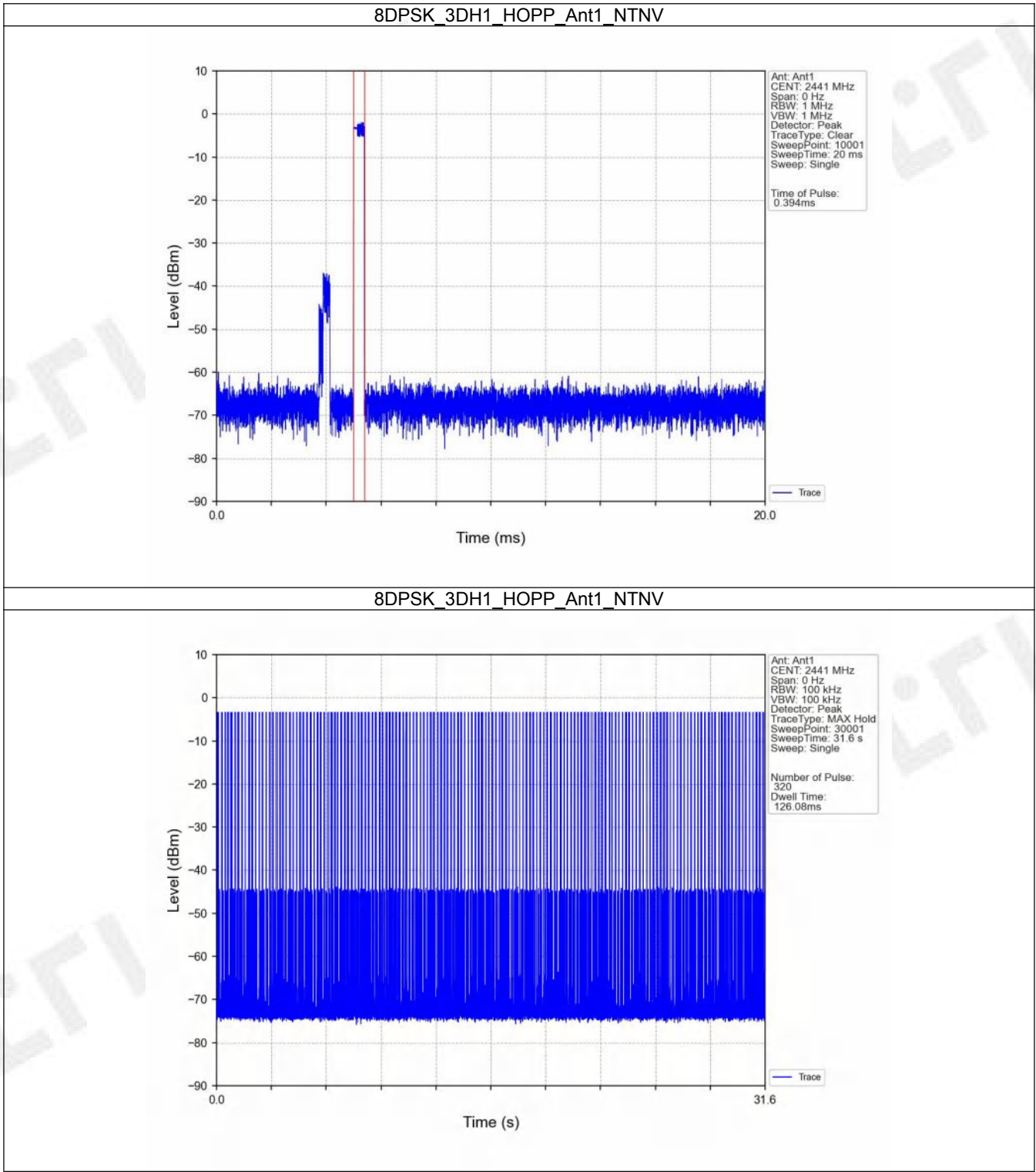
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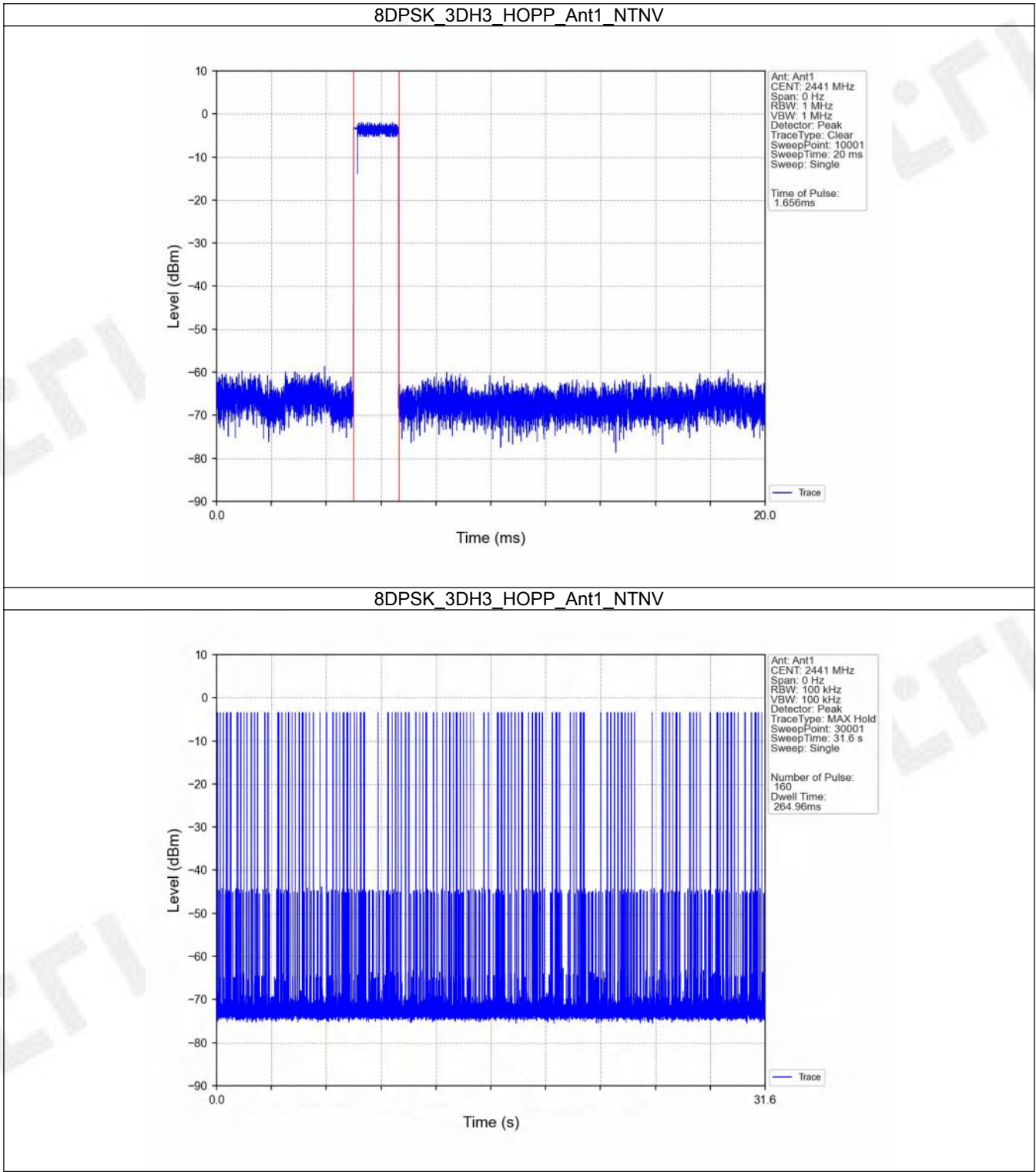
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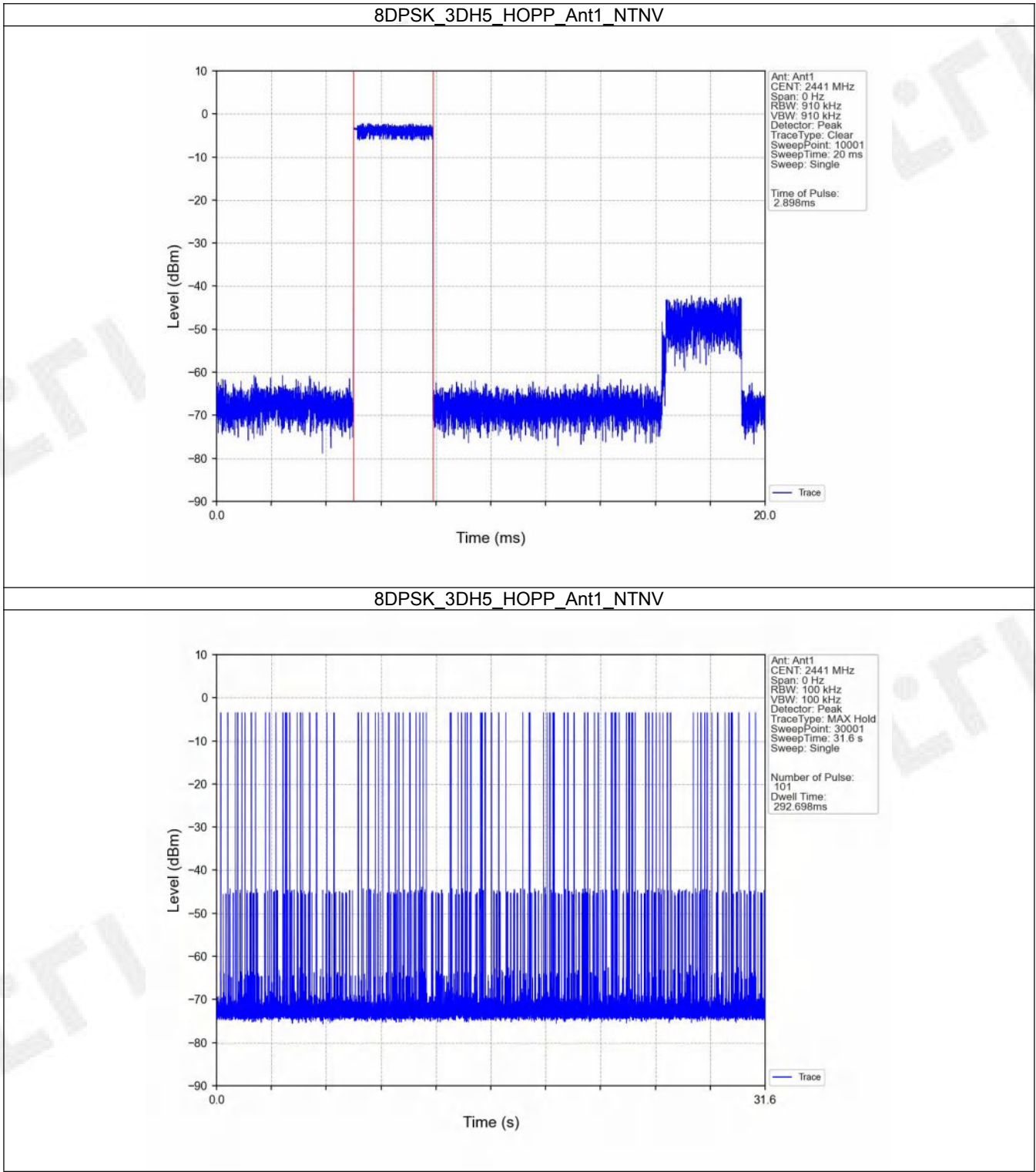
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## 6. Unwanted Emissions In Non-restricted Frequency Bands

### 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   | -1.45                    |
|           |         | 2441            | DH5         | 1   | -0.80                    |
|           |         | 2480            | DH5         | 1   | -0.93                    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | -1.13                    |
|           |         | 2441            | 2DH5        | 1   | -3.34                    |
|           |         | 2480            | 2DH5        | 1   | -3.44                    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | -4.20                    |
|           |         | 2441            | 3DH5        | 1   | -3.33                    |
|           |         | 2480            | 3DH5        | 1   | -3.44                    |

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

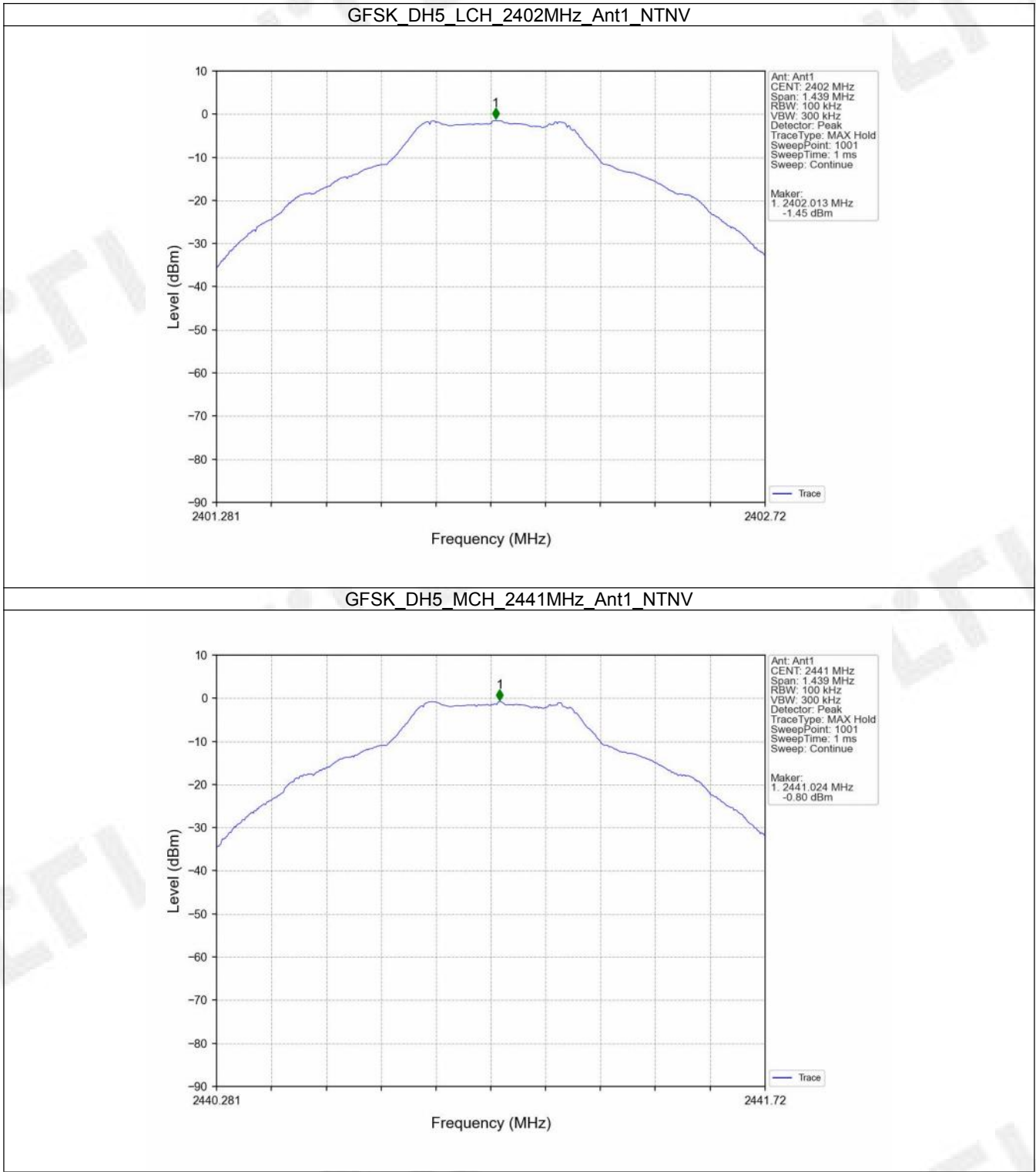
| Mode      | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|-----------|---------|-----------------|-------------|-----|--------------------------|-------------|---------|
| GFSK      | SISO    | 2402            | DH5         | 1   | -0.80                    | -20.80      | Pass    |
|           |         | 2441            | DH5         | 1   | -0.80                    | -20.80      | Pass    |
|           |         | 2480            | DH5         | 1   | -0.80                    | -20.80      | Pass    |
|           |         | HOPP            | DH5         | 1   | -0.80                    | -20.80      | Pass    |
|           |         |                 |             |     | -0.80                    | -20.80      | Pass    |
| Pi/4DQPSK | SISO    | 2402            | 2DH5        | 1   | -1.13                    | -21.13      | Pass    |
|           |         | 2441            | 2DH5        | 1   | -1.13                    | -21.13      | Pass    |
|           |         | 2480            | 2DH5        | 1   | -1.13                    | -21.13      | Pass    |
|           |         | HOPP            | 2DH5        | 1   | -1.13                    | -21.13      | Pass    |
|           |         |                 |             |     | -1.13                    | -21.13      | Pass    |
| 8DPSK     | SISO    | 2402            | 3DH5        | 1   | -3.33                    | -23.33      | Pass    |
|           |         | 2441            | 3DH5        | 1   | -3.33                    | -23.33      | Pass    |
|           |         | 2480            | 3DH5        | 1   | -3.33                    | -23.33      | Pass    |
|           |         | HOPP            | 3DH5        | 1   | -3.33                    | -23.33      | Pass    |
|           |         |                 |             |     | -3.33                    | -23.33      | 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.

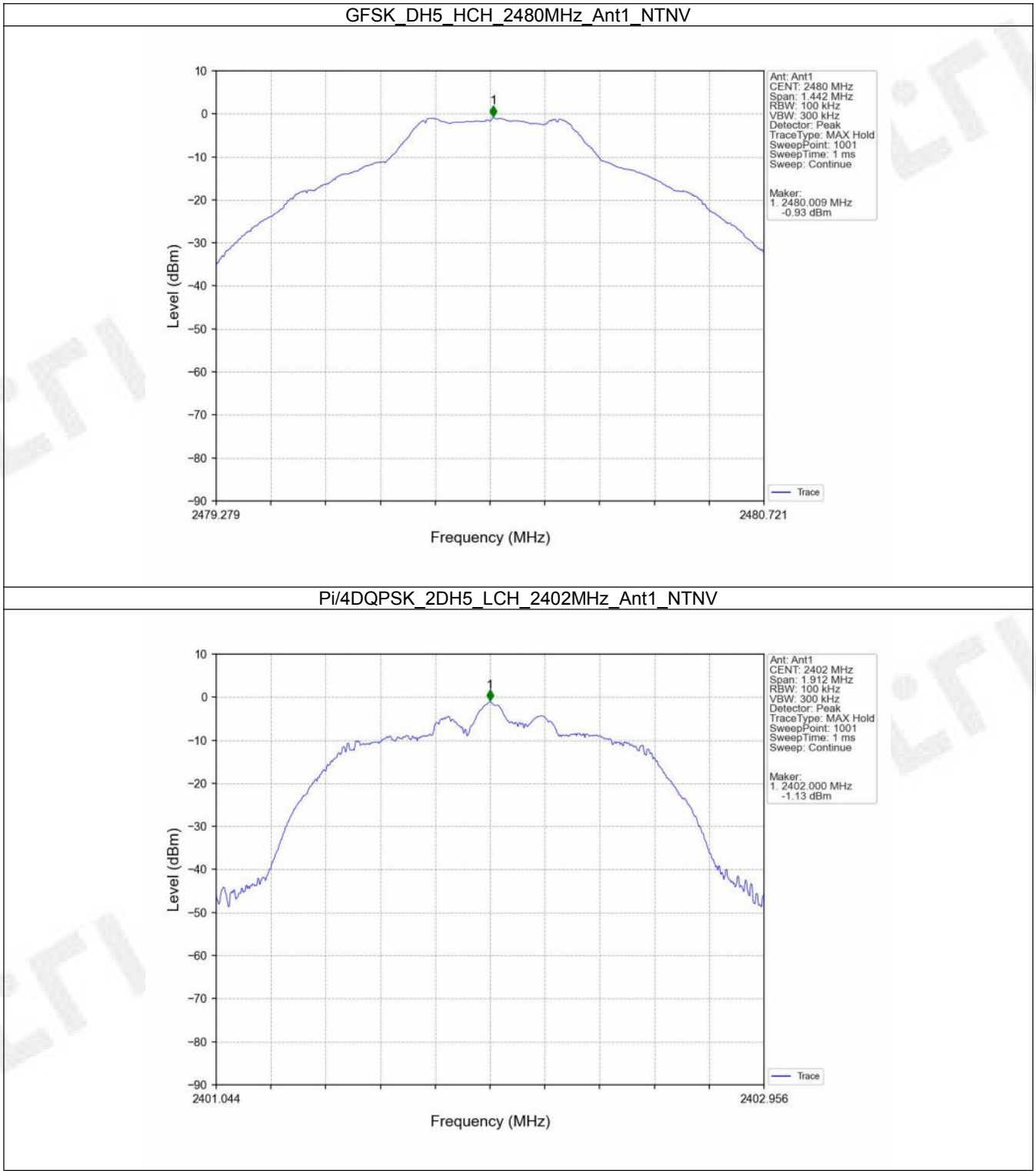
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6.2 Test Graph

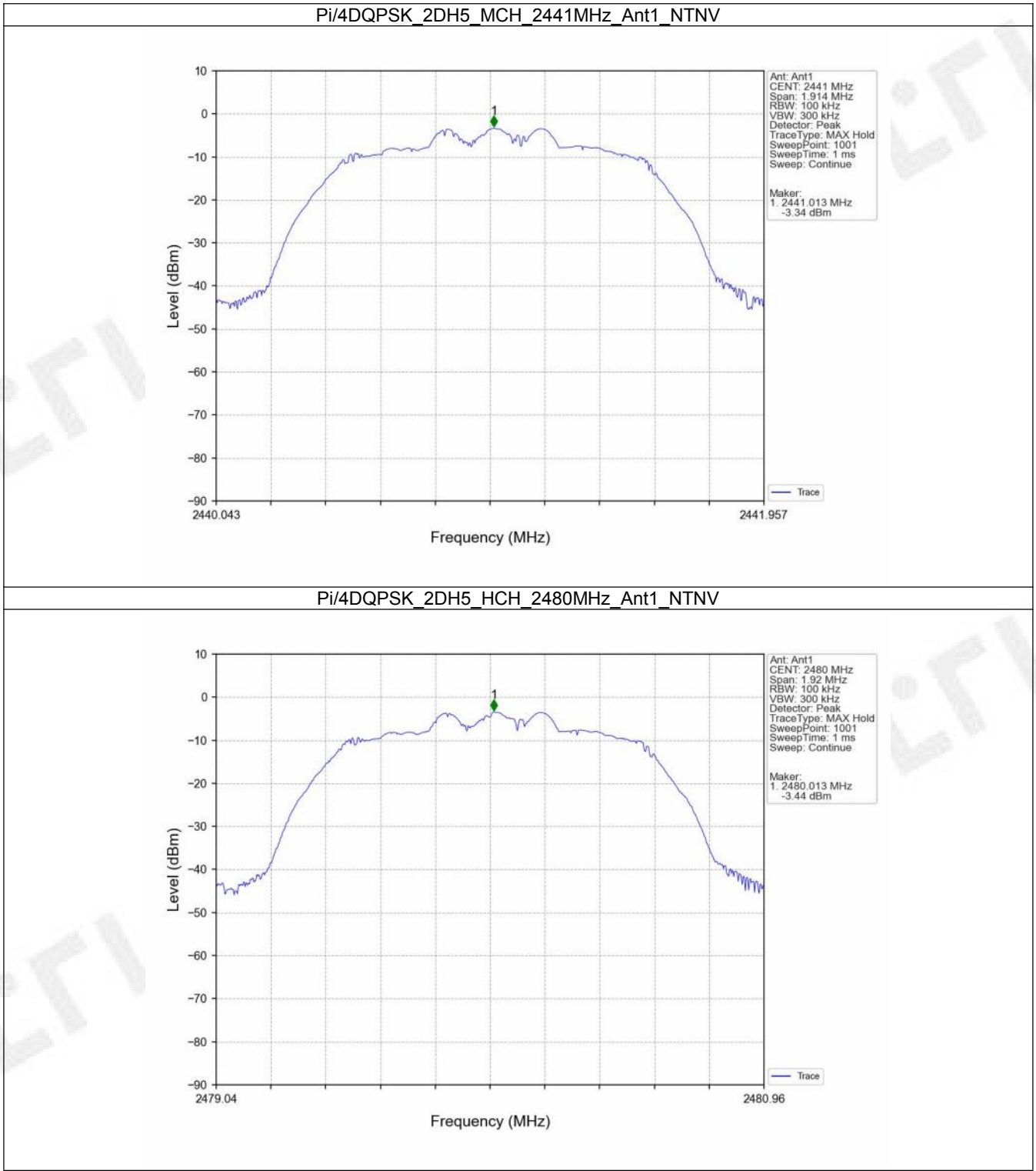
6.2.1 Ref



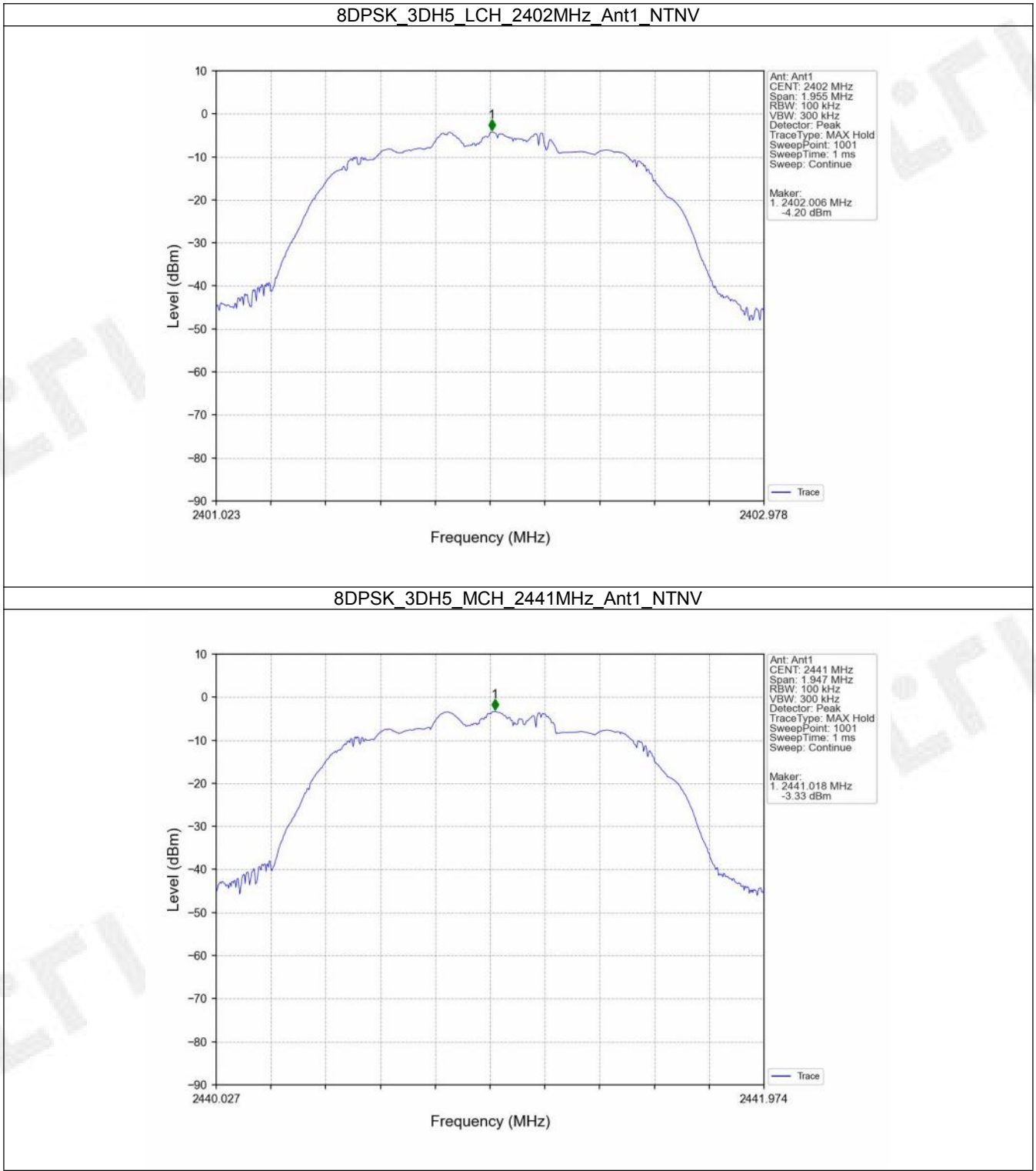
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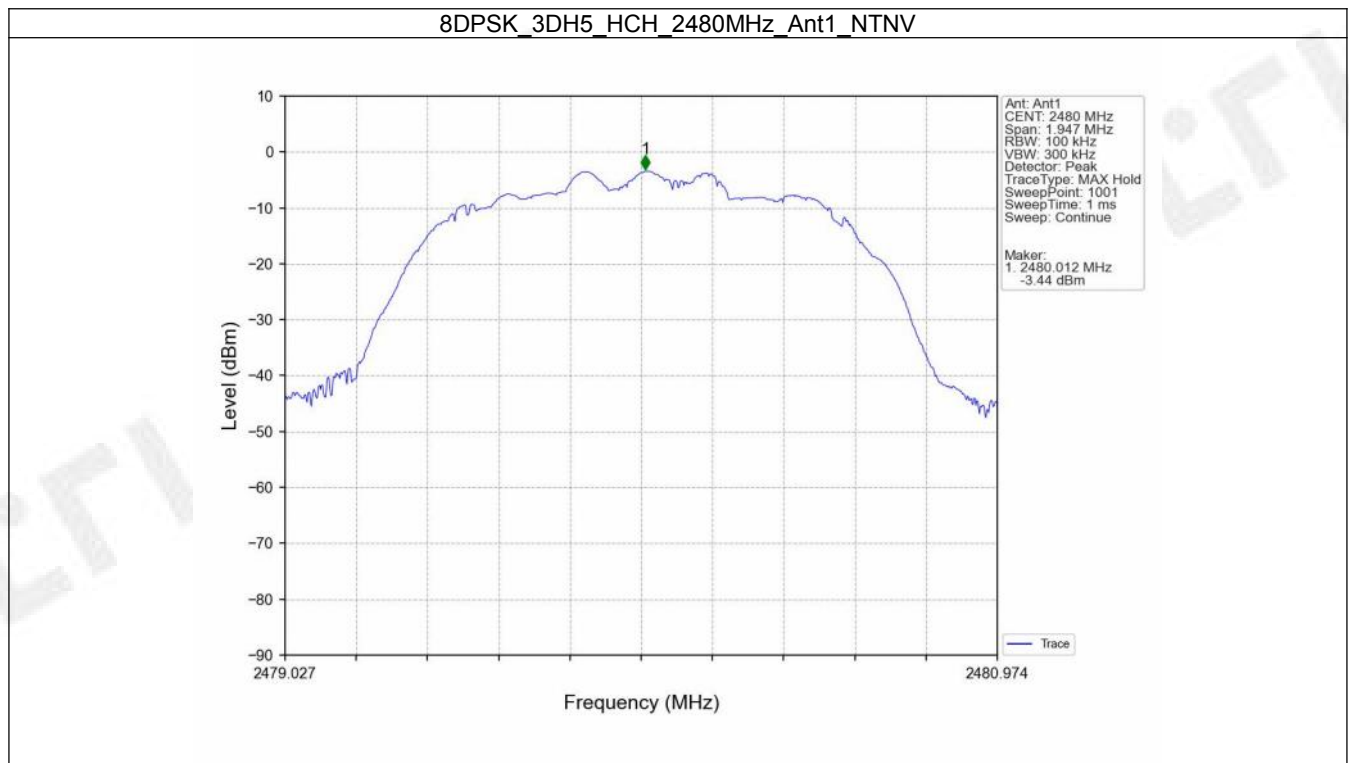
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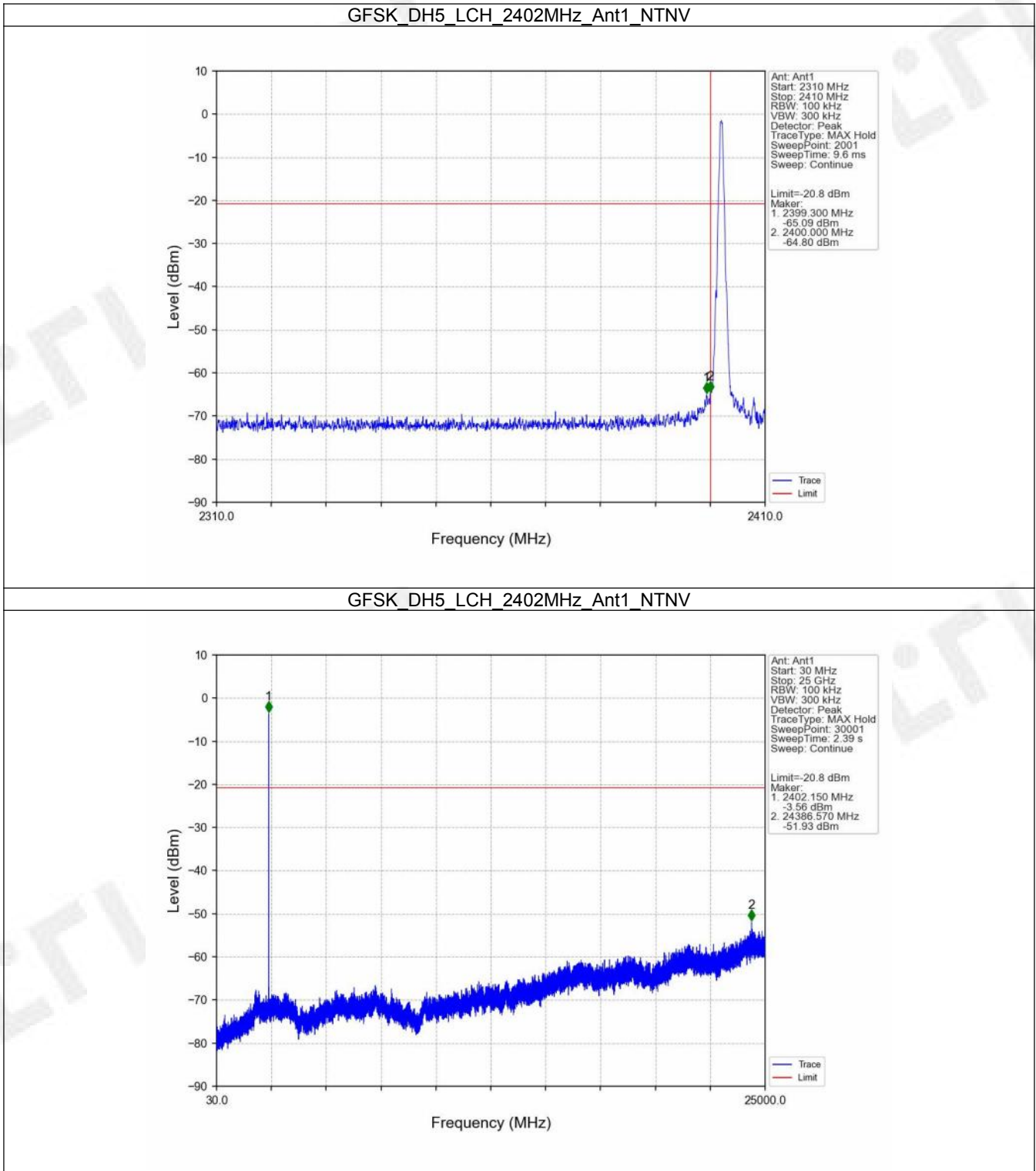


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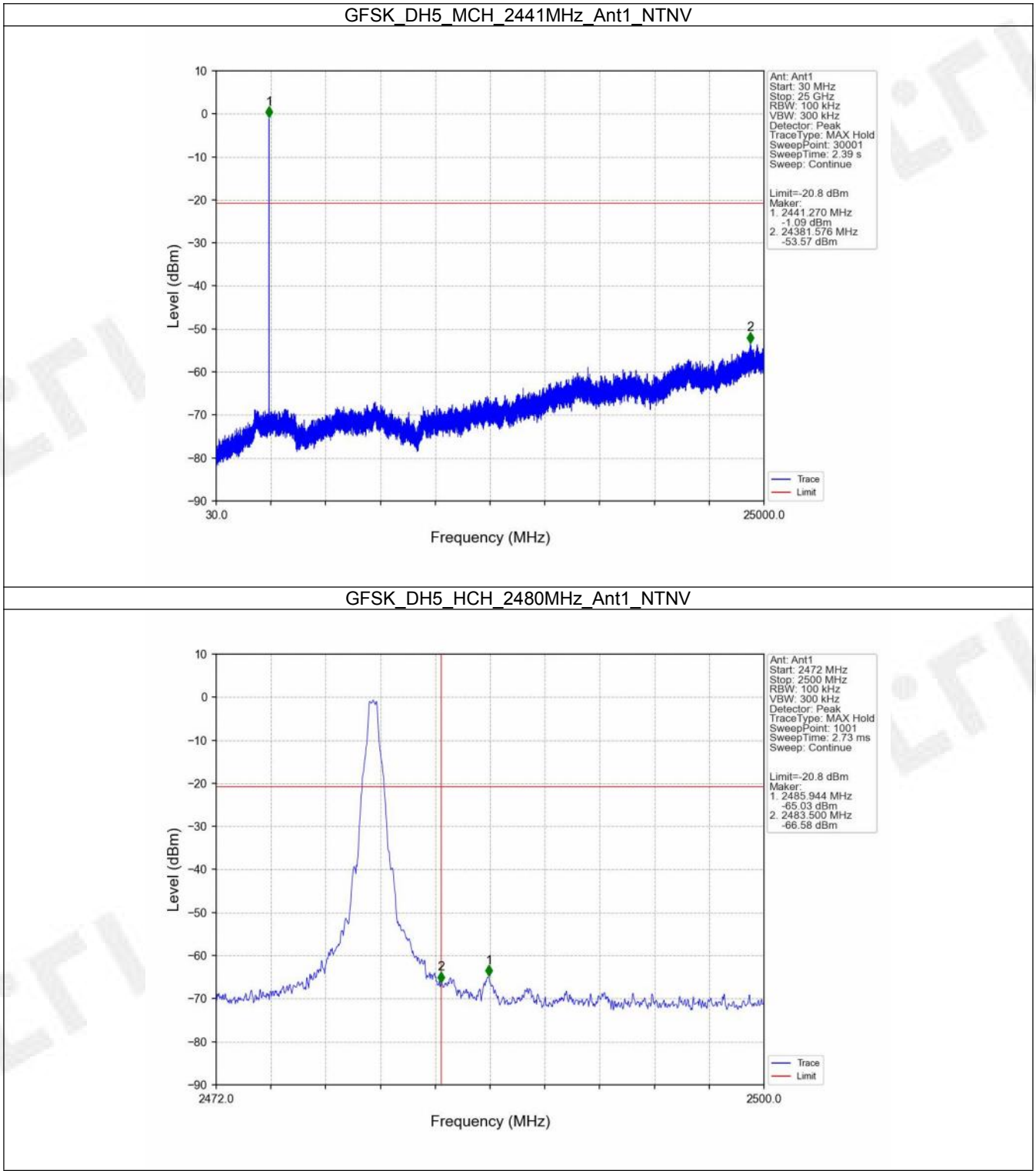


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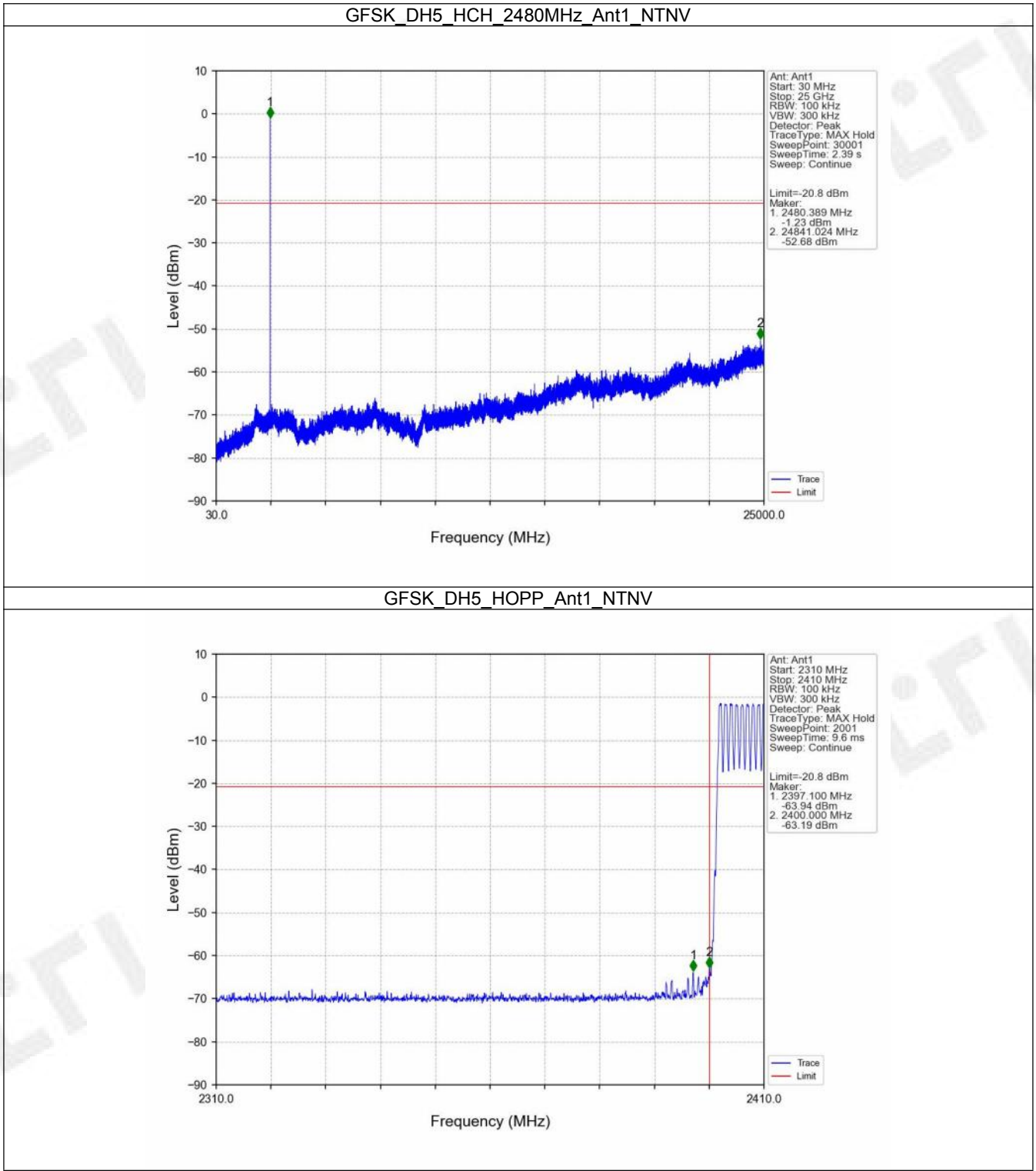
6.2.2 CSE



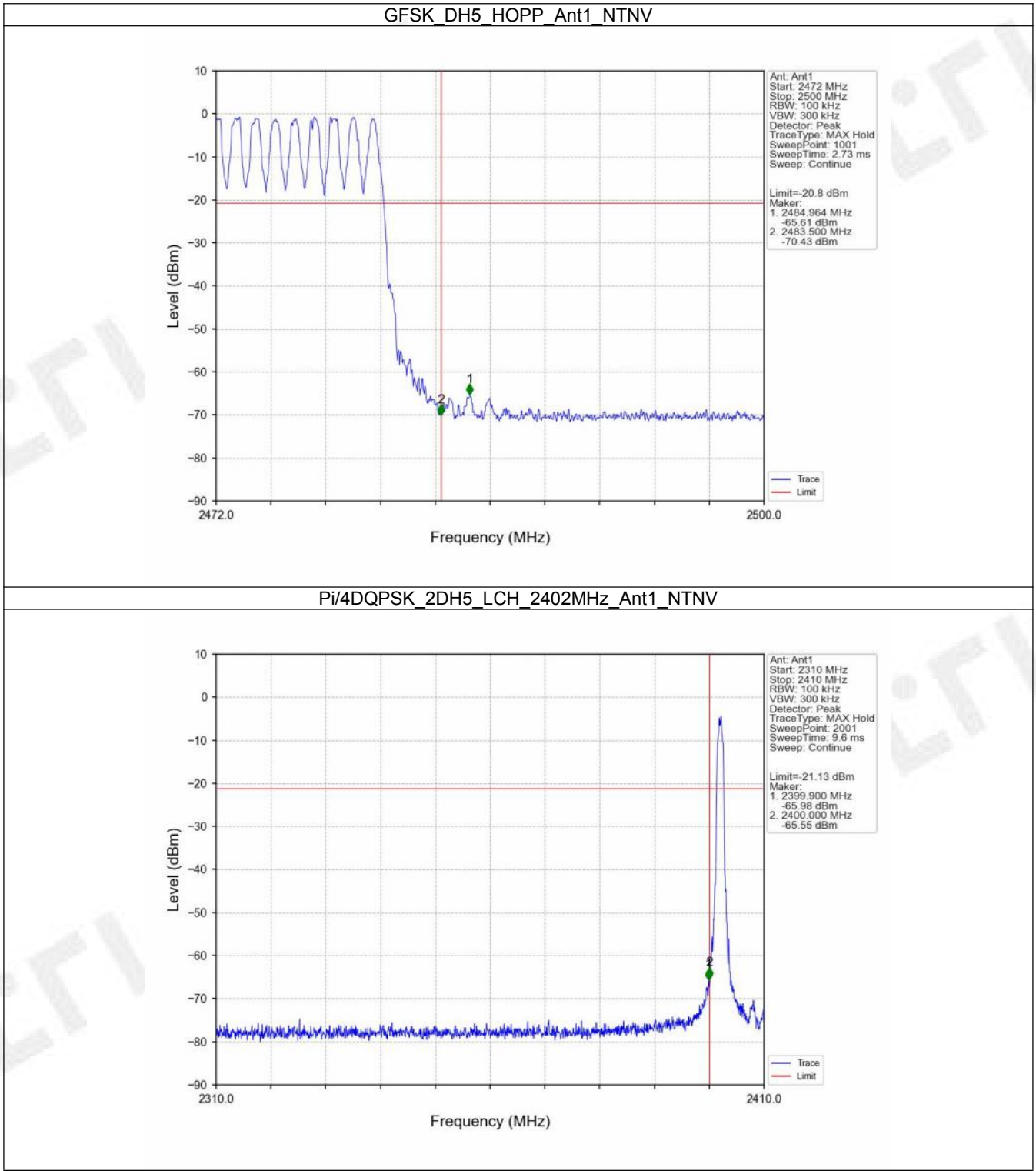
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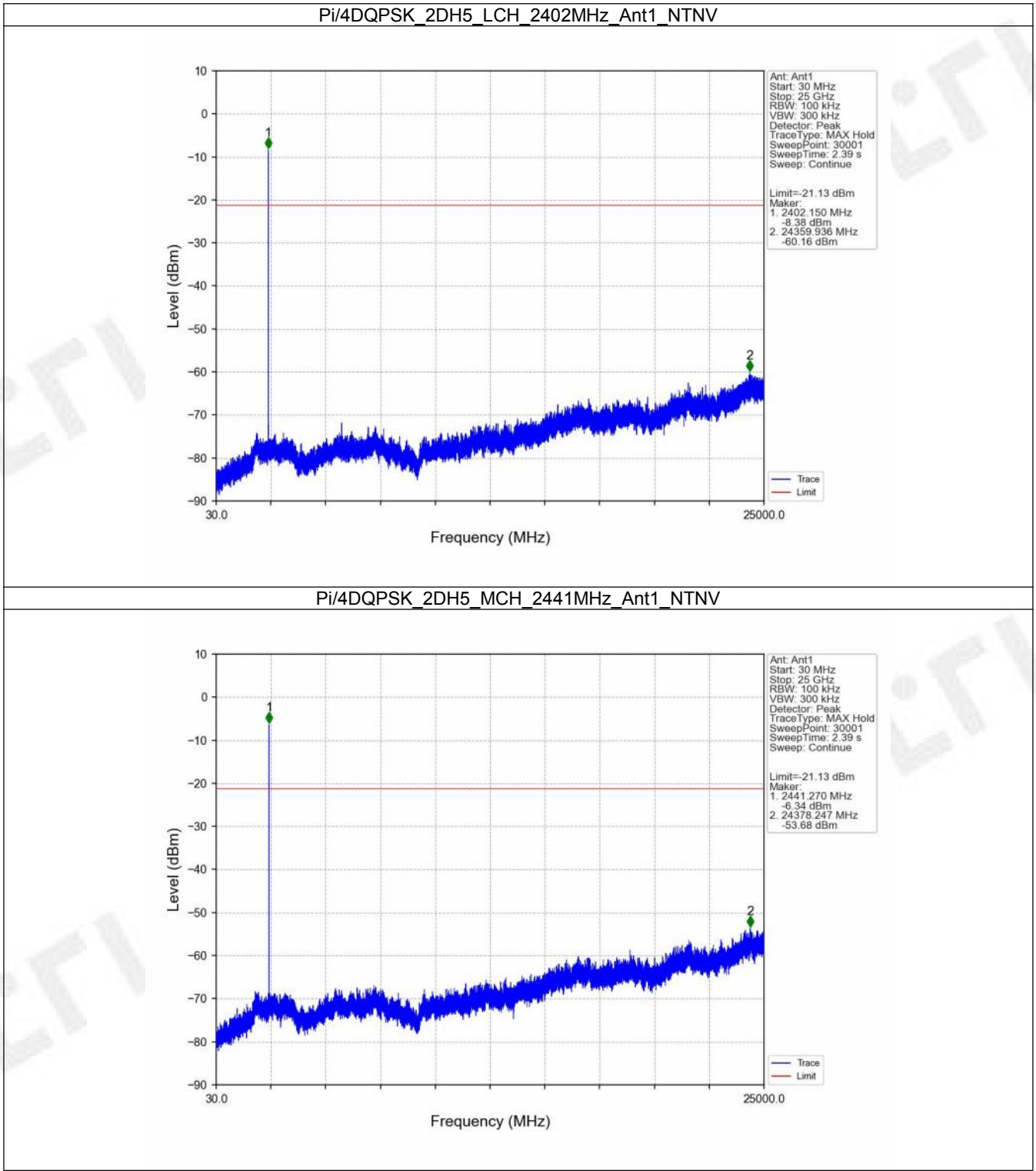
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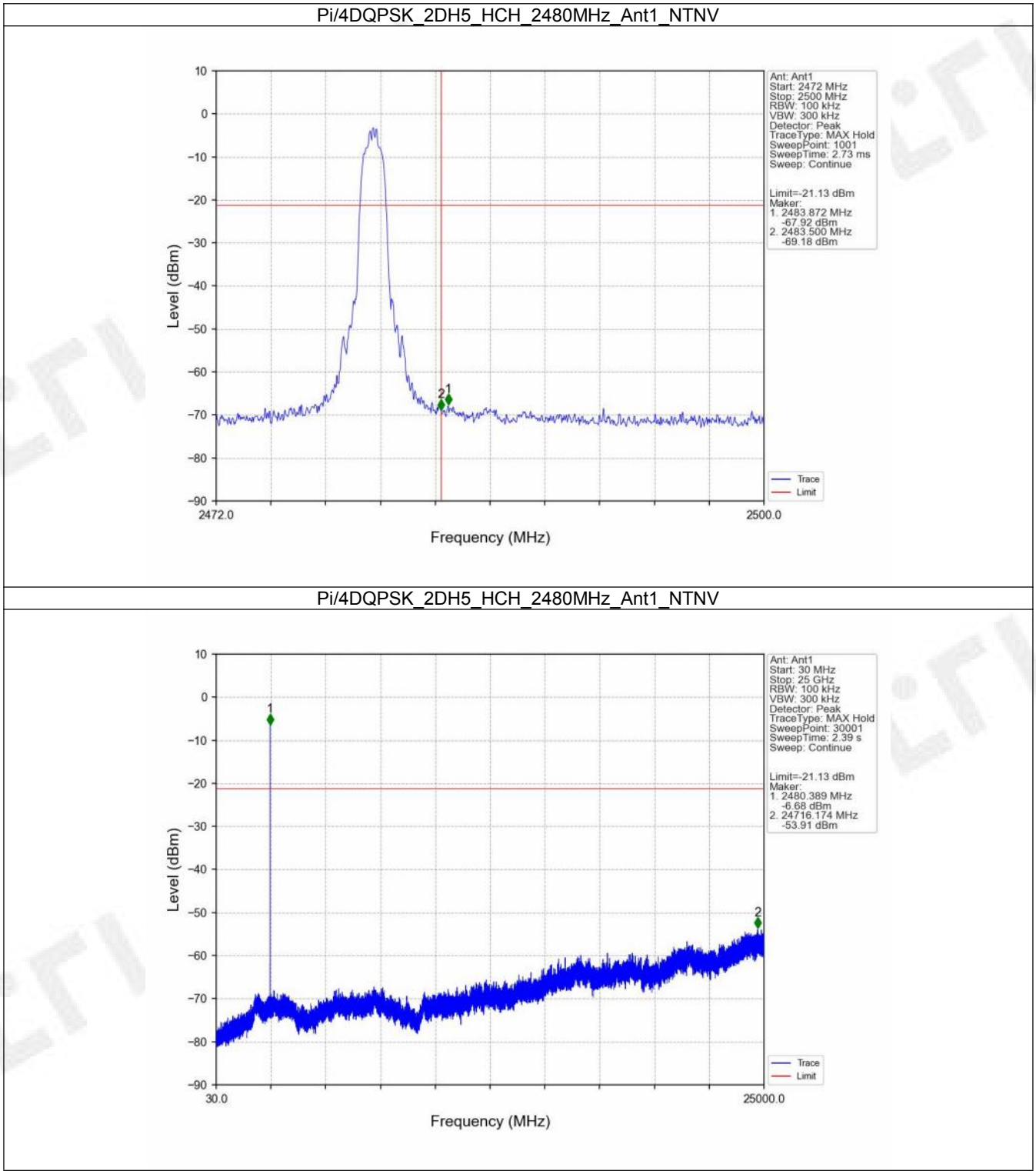
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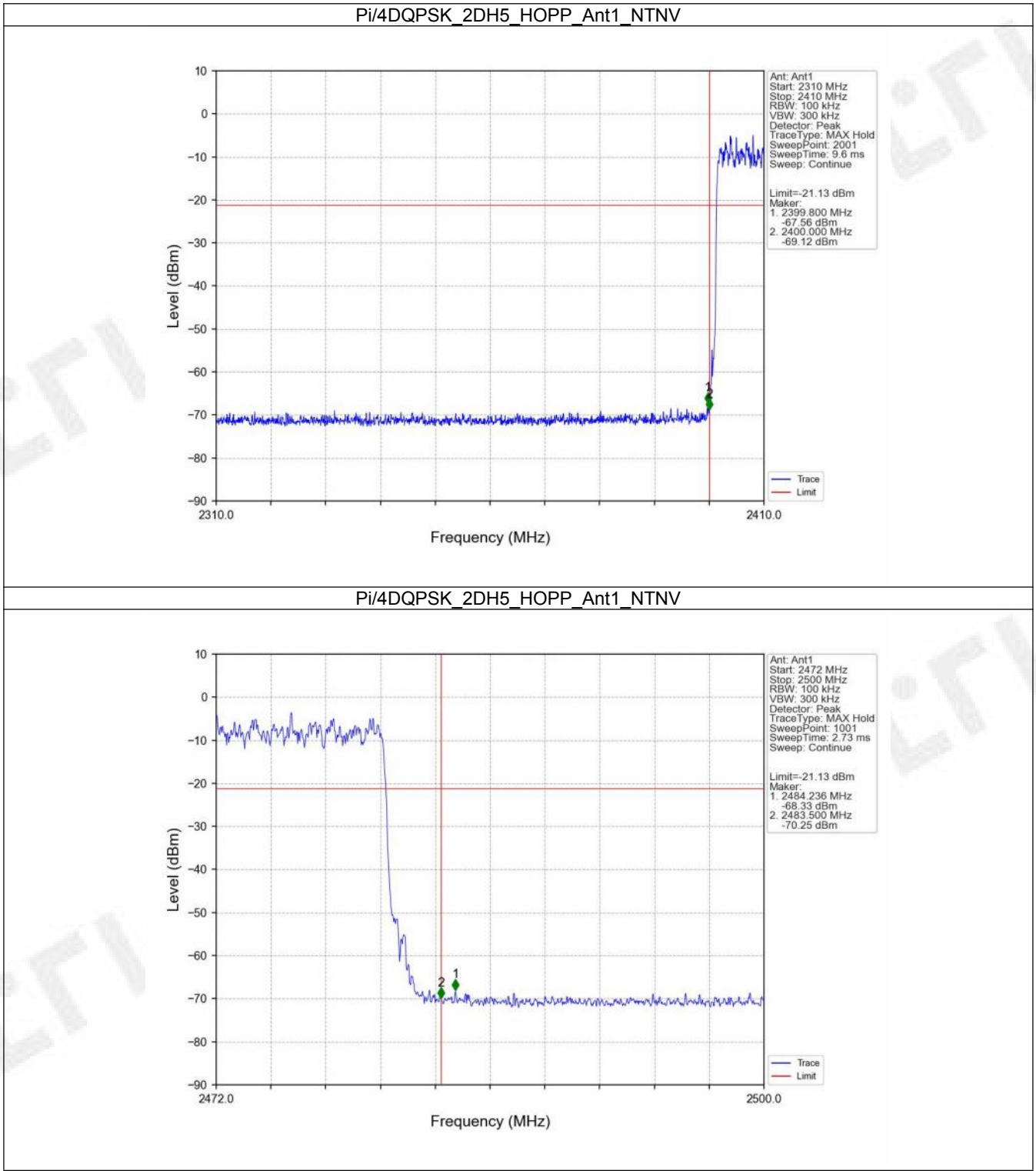
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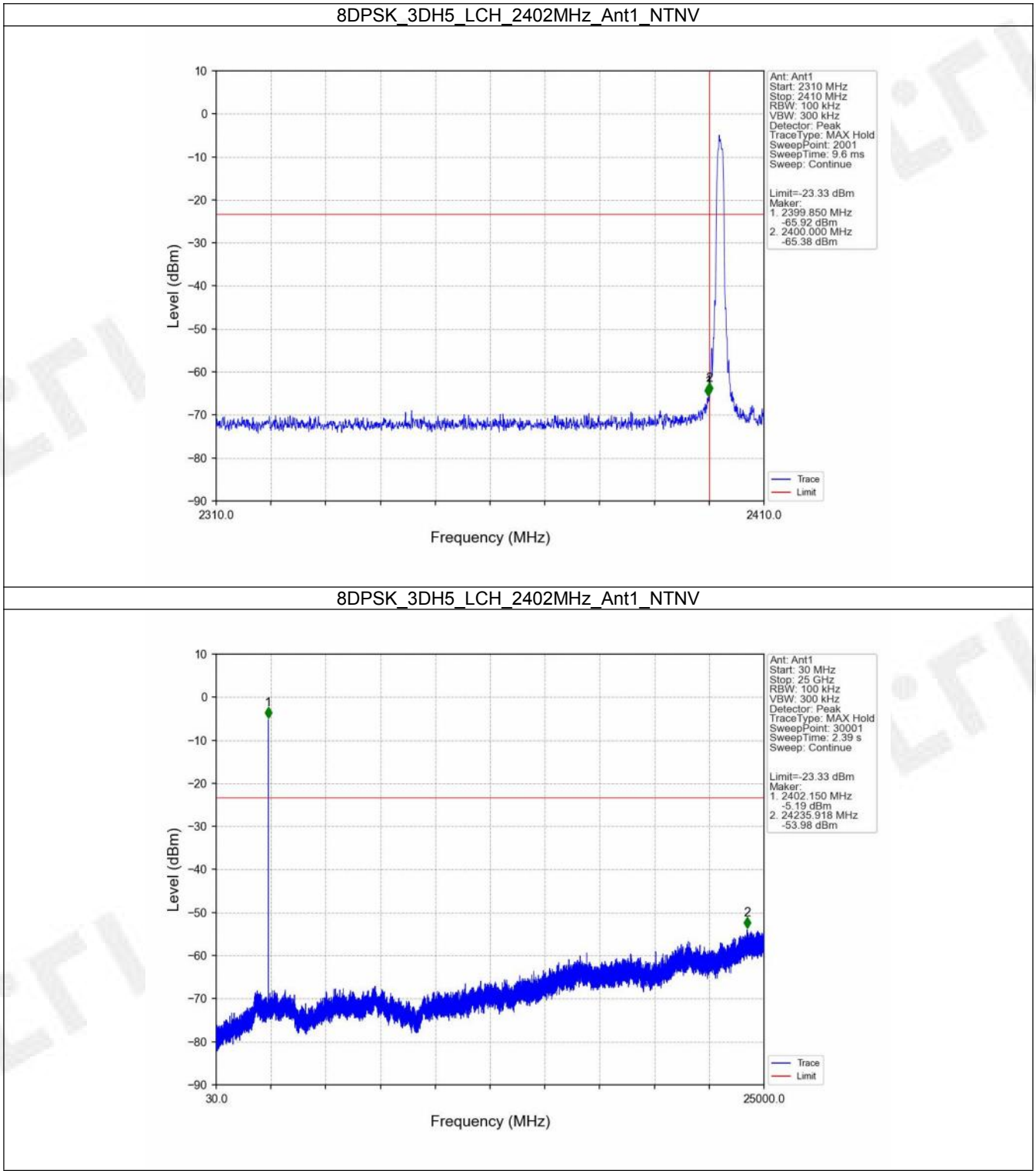
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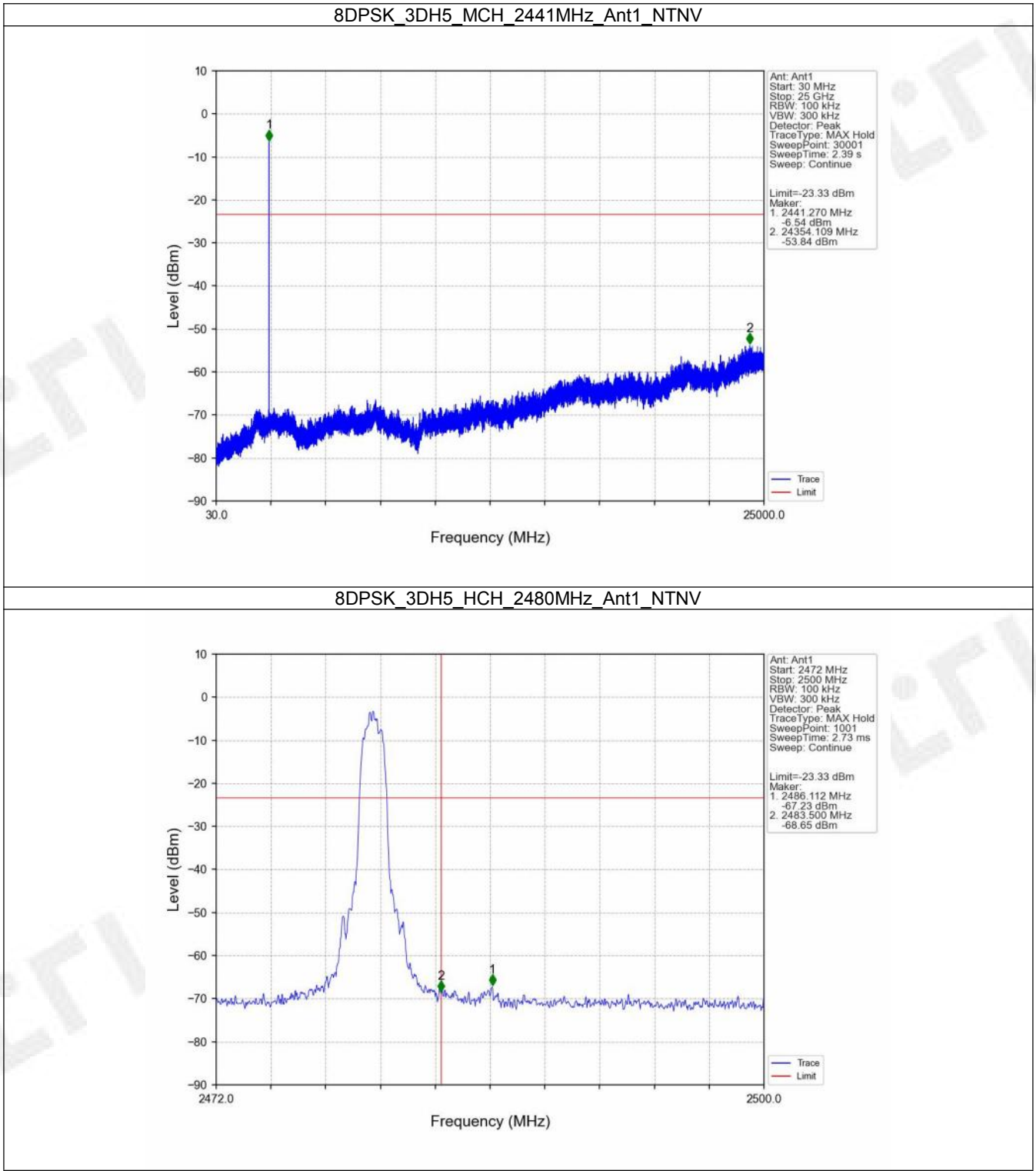
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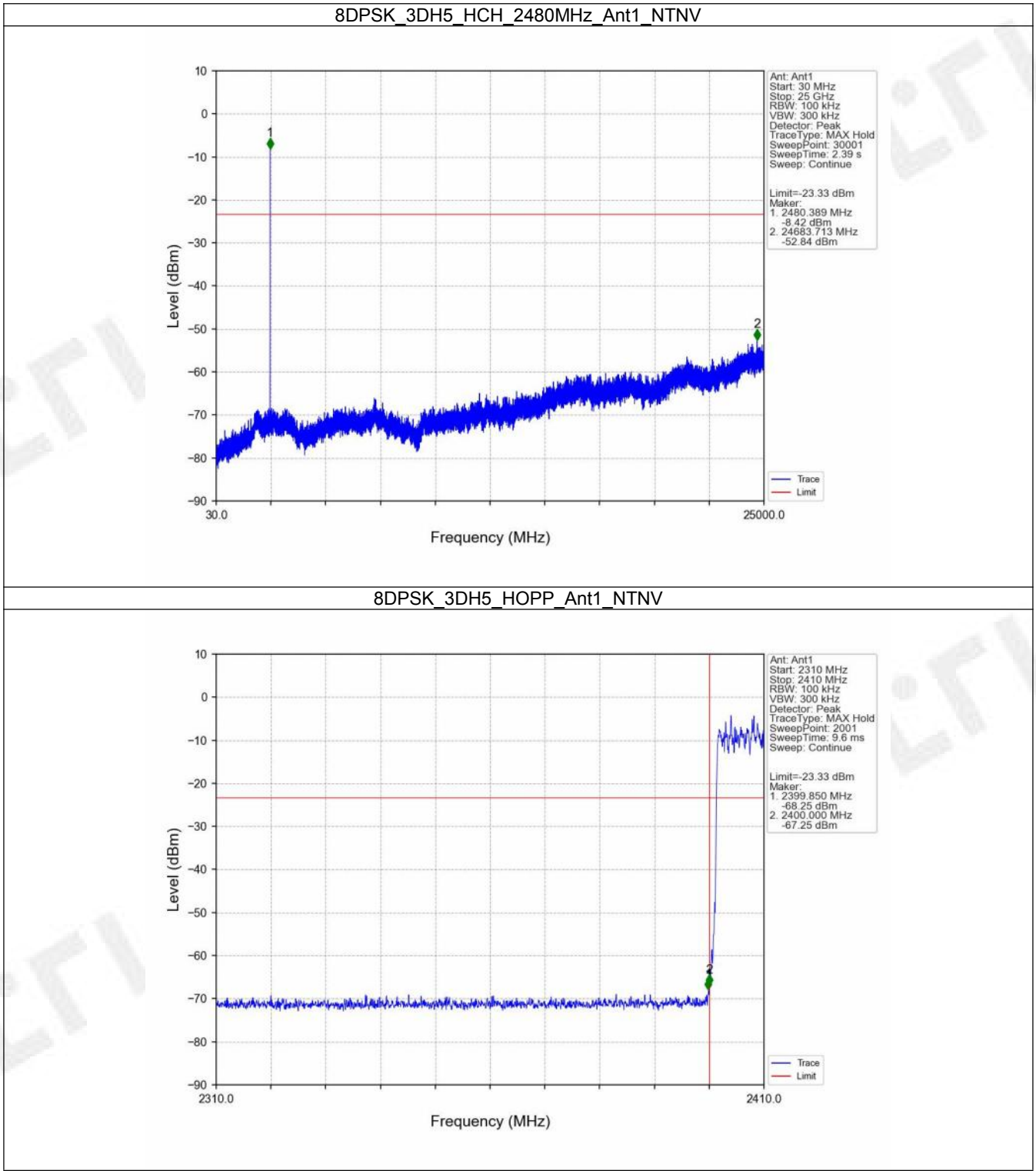
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