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## Annex for BLE

Test Report No.: CTL2410243061-WF

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## 1. Duty Cycle

### 1.1 Test Result

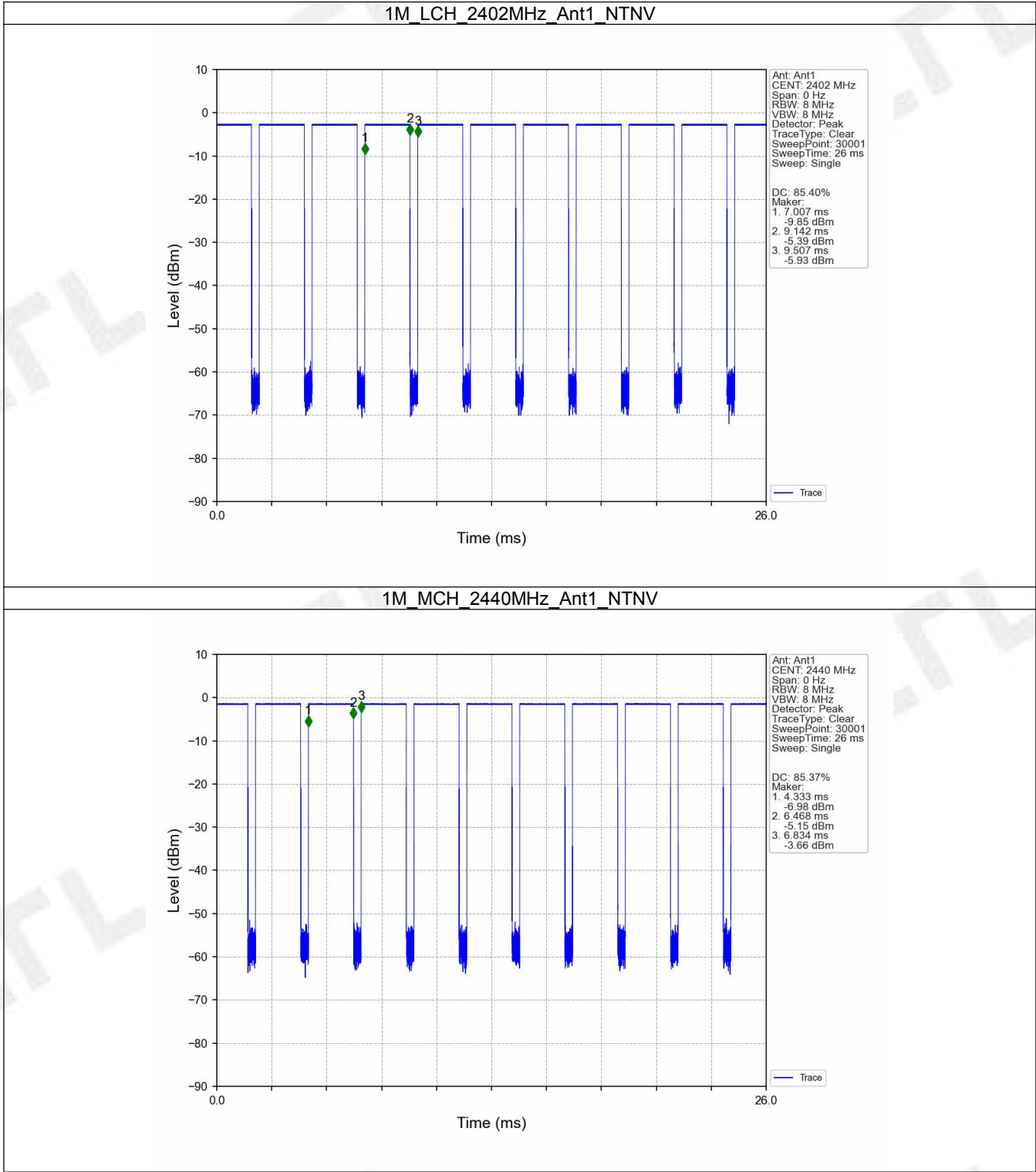
#### 1.1.1 Ant1

| Ant1 |         |                 |           |             |                |                                   |                       |
|------|---------|-----------------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode | TX Type | Frequency (MHz) | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| 1M   | SISO    | 2402            | 2.135     | 2.500       | 85.40          | 0.69                              | 0.03                  |
|      |         | 2440            | 2.135     | 2.501       | 85.37          | 0.69                              | 0.03                  |
|      |         | 2480            | 2.135     | 2.501       | 85.37          | 0.69                              | 0.03                  |
| 2M   | SISO    | 2402            | 1.083     | 2.500       | 43.32          | 3.63                              | 0.02                  |
|      |         | 2440            | 1.082     | 2.500       | 43.28          | 3.64                              | 0.03                  |
|      |         | 2480            | 1.083     | 2.500       | 43.32          | 3.63                              | 0.02                  |

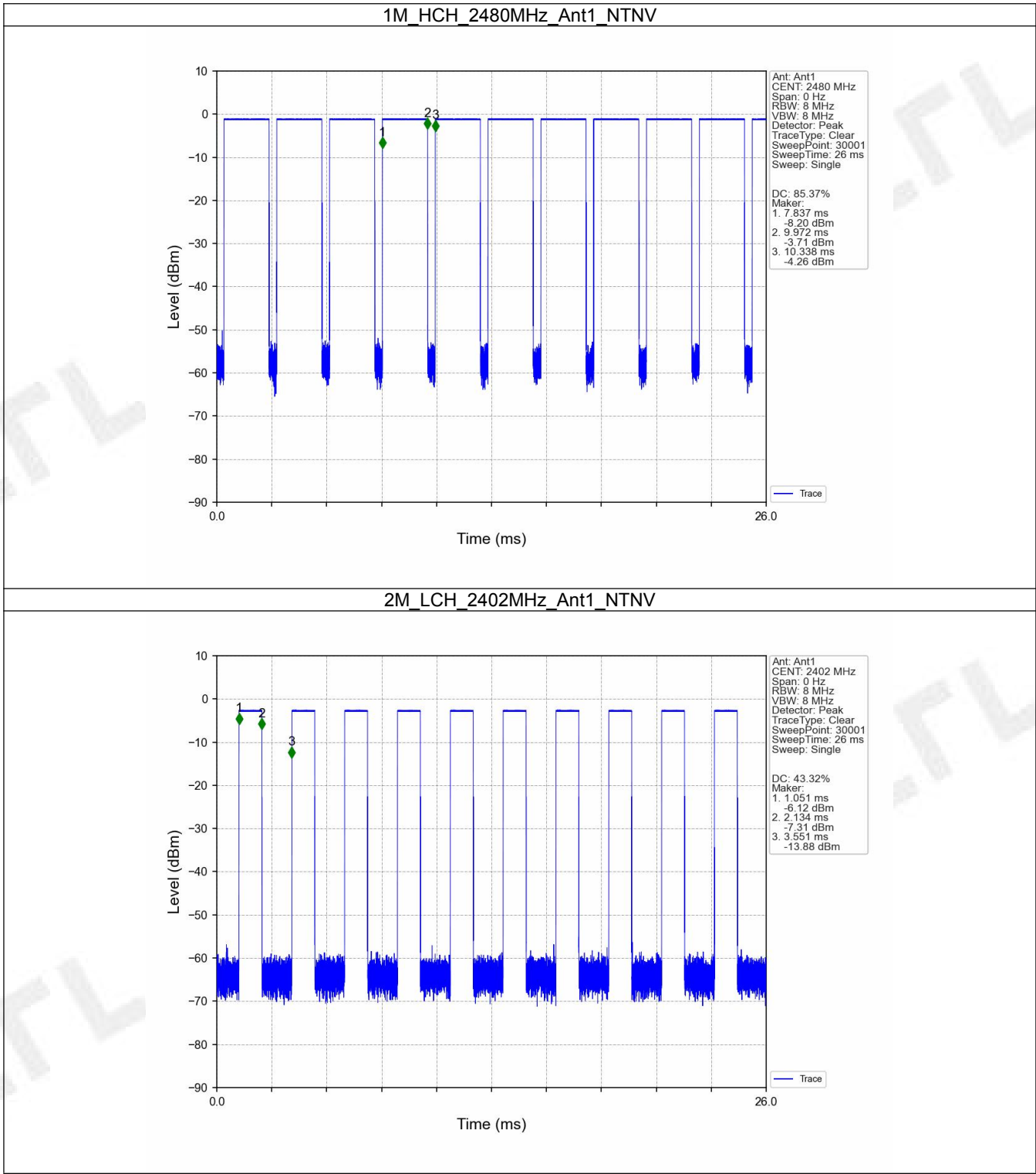
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1.2 Test Graph

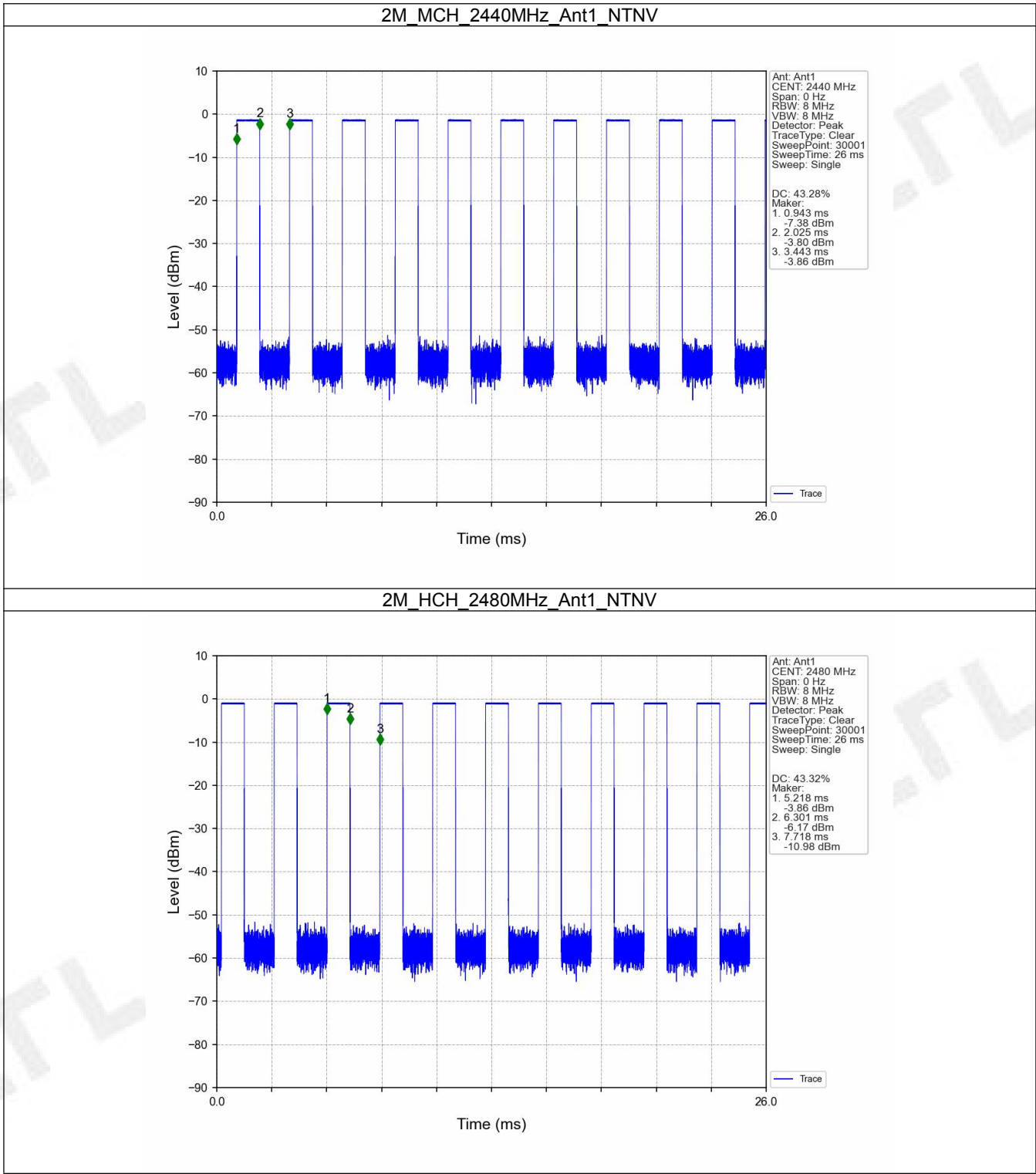
1.2.1 Ant1



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## 2. Bandwidth

### 2.1 Test Result

#### 2.1.1 OBW

| Mode | TX Type | Frequency (MHz) | ANT | 99% Occupied Bandwidth (MHz) |       | Verdict |
|------|---------|-----------------|-----|------------------------------|-------|---------|
|      |         |                 |     | Result                       | Limit |         |
| 1M   | SISO    | 2402            | 1   | 1.033                        | /     | Pass    |
|      |         | 2440            | 1   | 1.030                        | /     | Pass    |
|      |         | 2480            | 1   | 1.034                        | /     | Pass    |
| 2M   | SISO    | 2402            | 1   | 2.041                        | /     | Pass    |
|      |         | 2440            | 1   | 2.040                        | /     | Pass    |
|      |         | 2480            | 1   | 2.041                        | /     | Pass    |

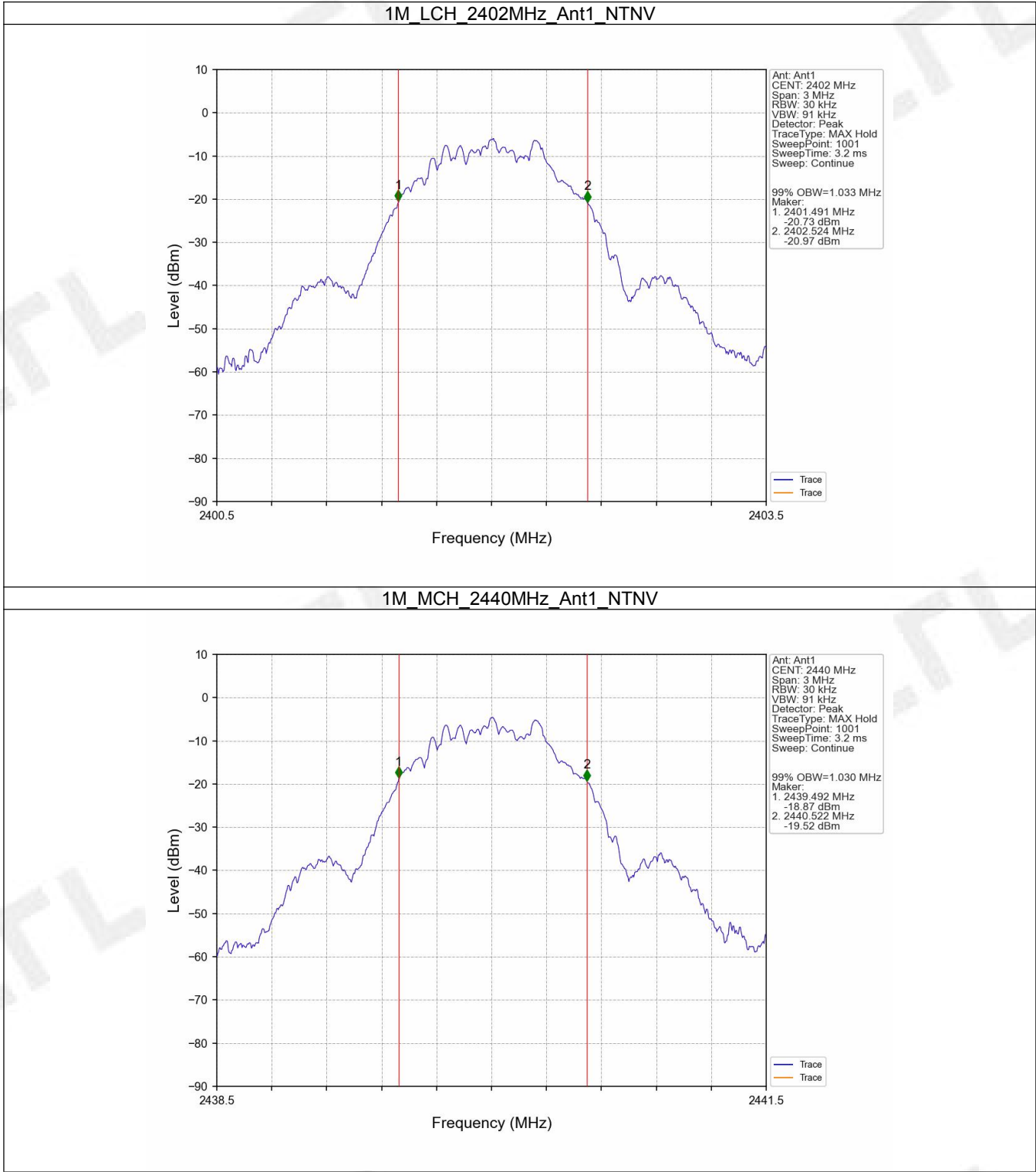
#### 2.1.2 6dB BW

| Mode | TX Type | Frequency (MHz) | ANT | 6dB Bandwidth (MHz) |            | Verdict |
|------|---------|-----------------|-----|---------------------|------------|---------|
|      |         |                 |     | Result              | Limit      |         |
| 1M   | SISO    | 2402            | 1   | 0.677               | $\geq 0.5$ | Pass    |
|      |         | 2440            | 1   | 0.667               | $\geq 0.5$ | Pass    |
|      |         | 2480            | 1   | 0.673               | $\geq 0.5$ | Pass    |
| 2M   | SISO    | 2402            | 1   | 1.153               | $\geq 0.5$ | Pass    |
|      |         | 2440            | 1   | 1.163               | $\geq 0.5$ | Pass    |
|      |         | 2480            | 1   | 1.169               | $\geq 0.5$ | Pass    |

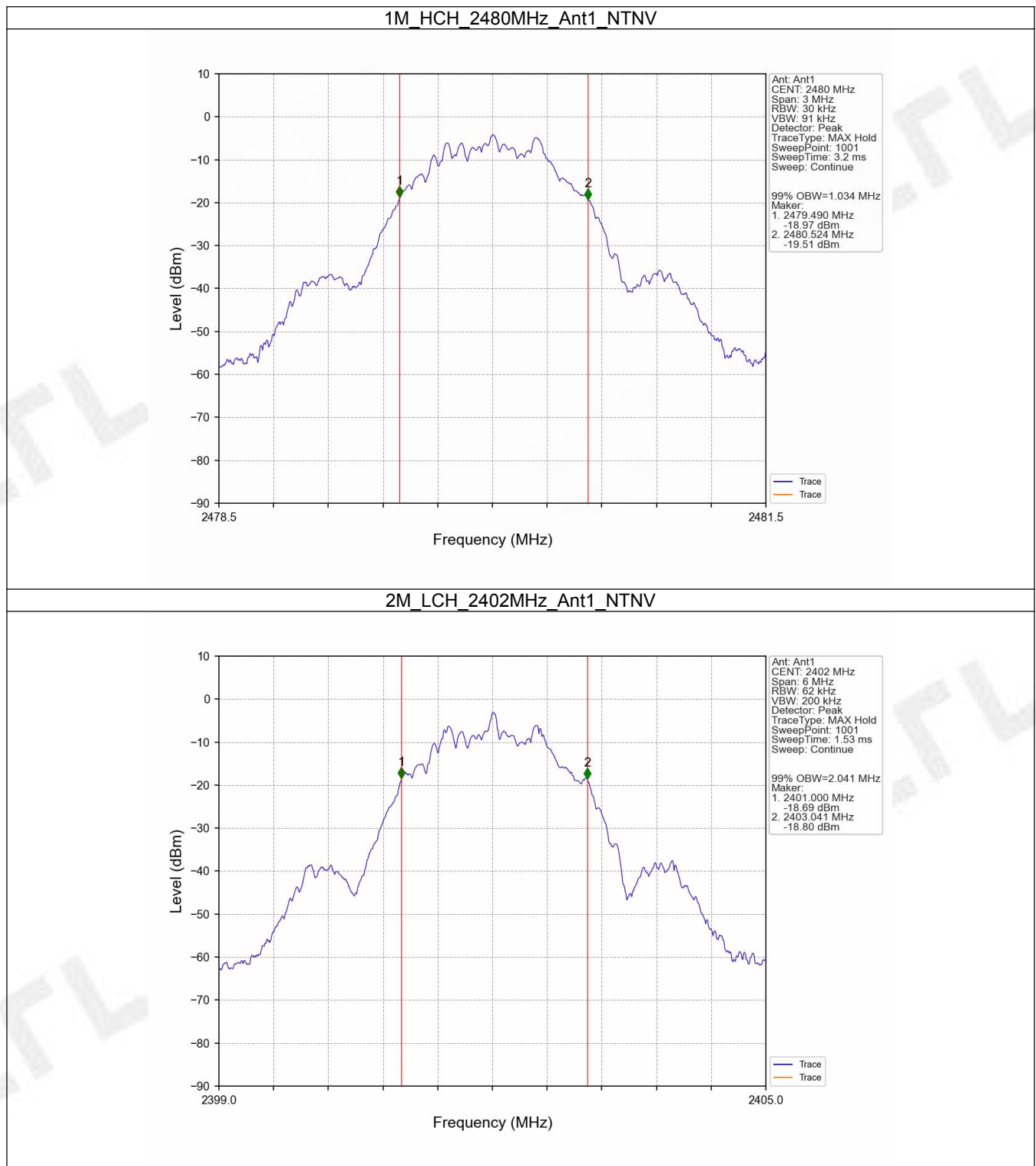
FCCID: 2BMG9-WLQ-S03

2.2 Test Graph

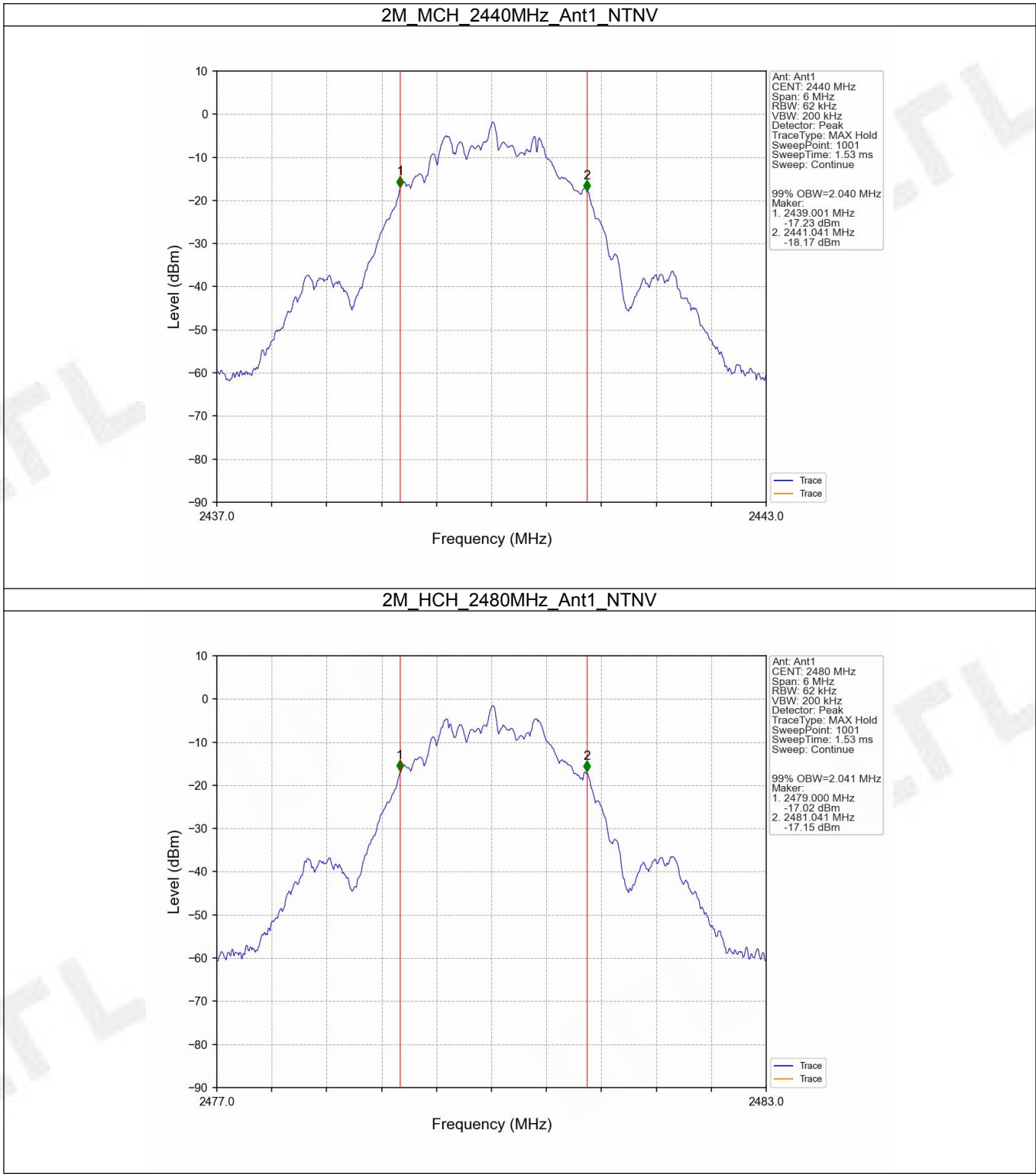
2.2.1 OBW



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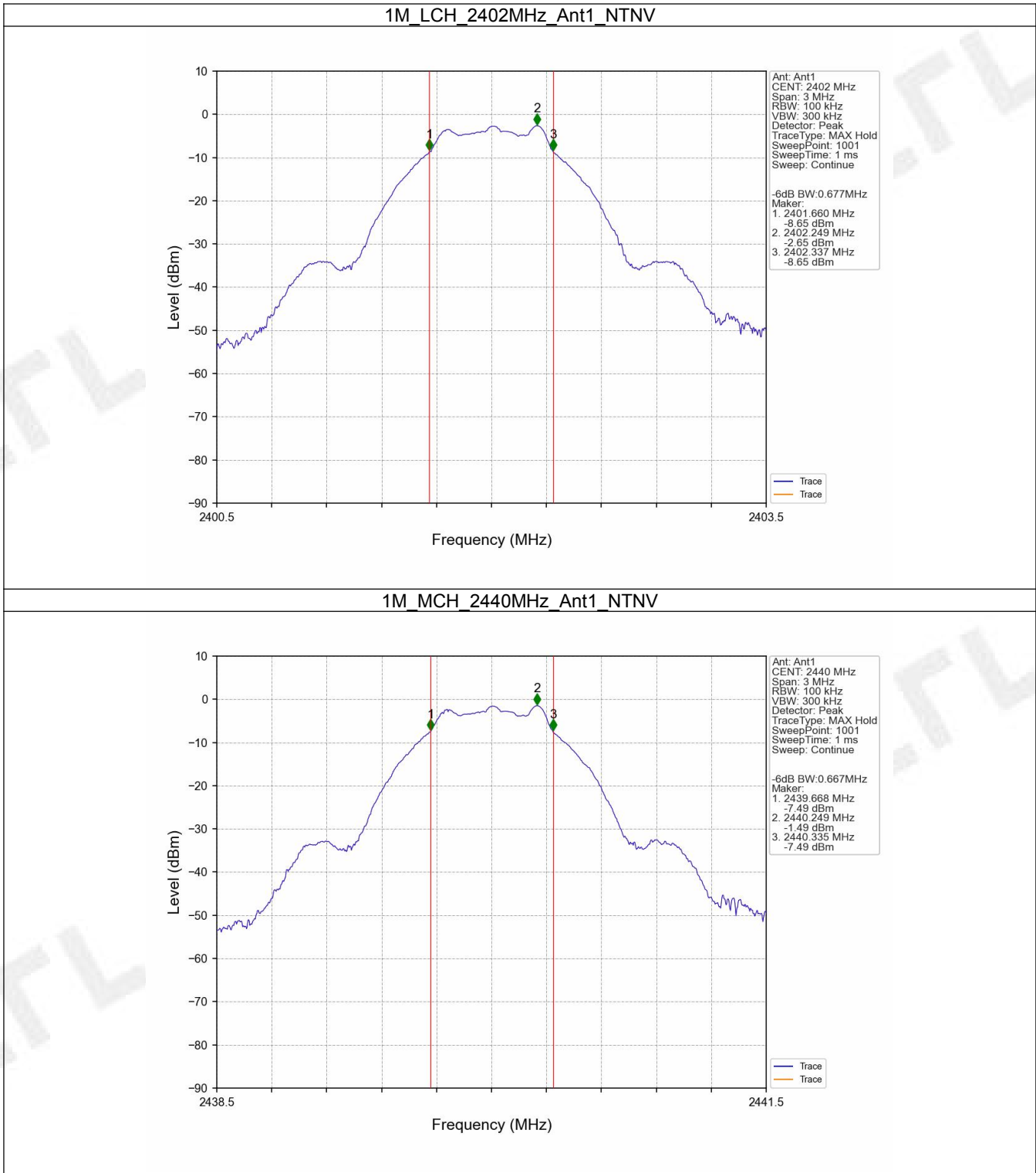


FCCID: 2BMG9-WLQ-S03

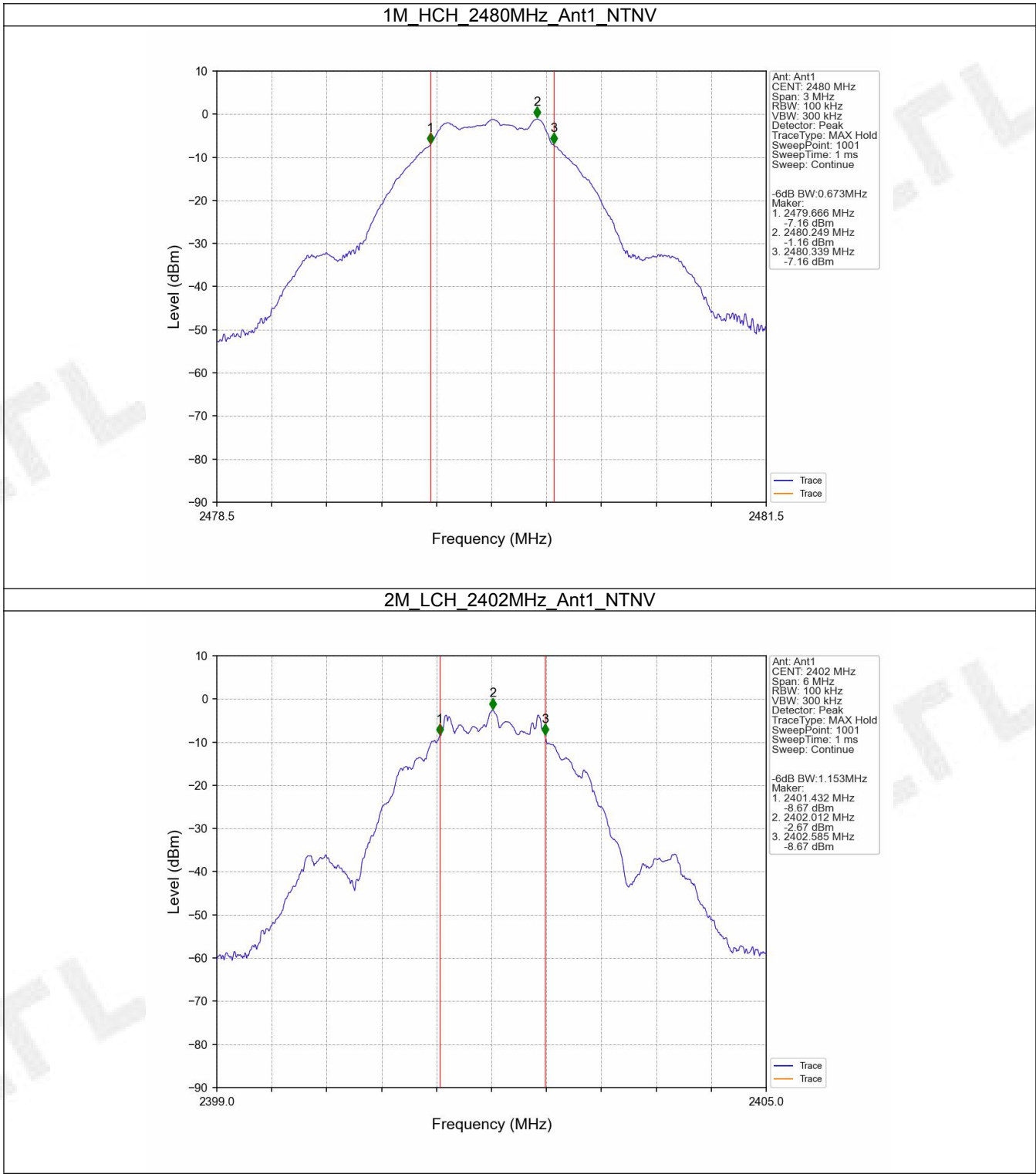


FCCID: 2BMG9-WLQ-S03

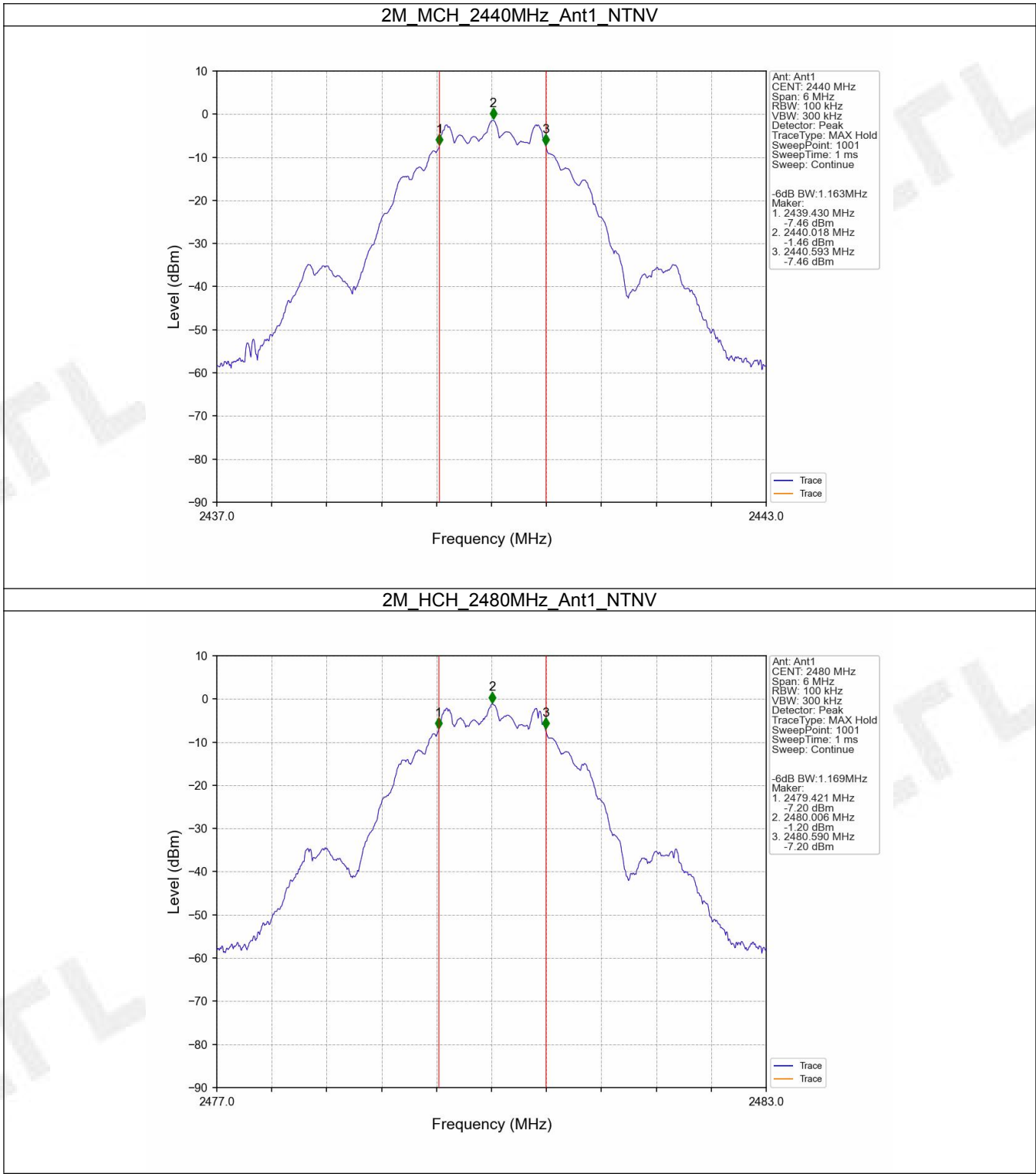
2.2.2 6dB BW



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### 3. Maximum Conducted Output Power

#### 3.1 Test Result

##### 3.1.1 Power

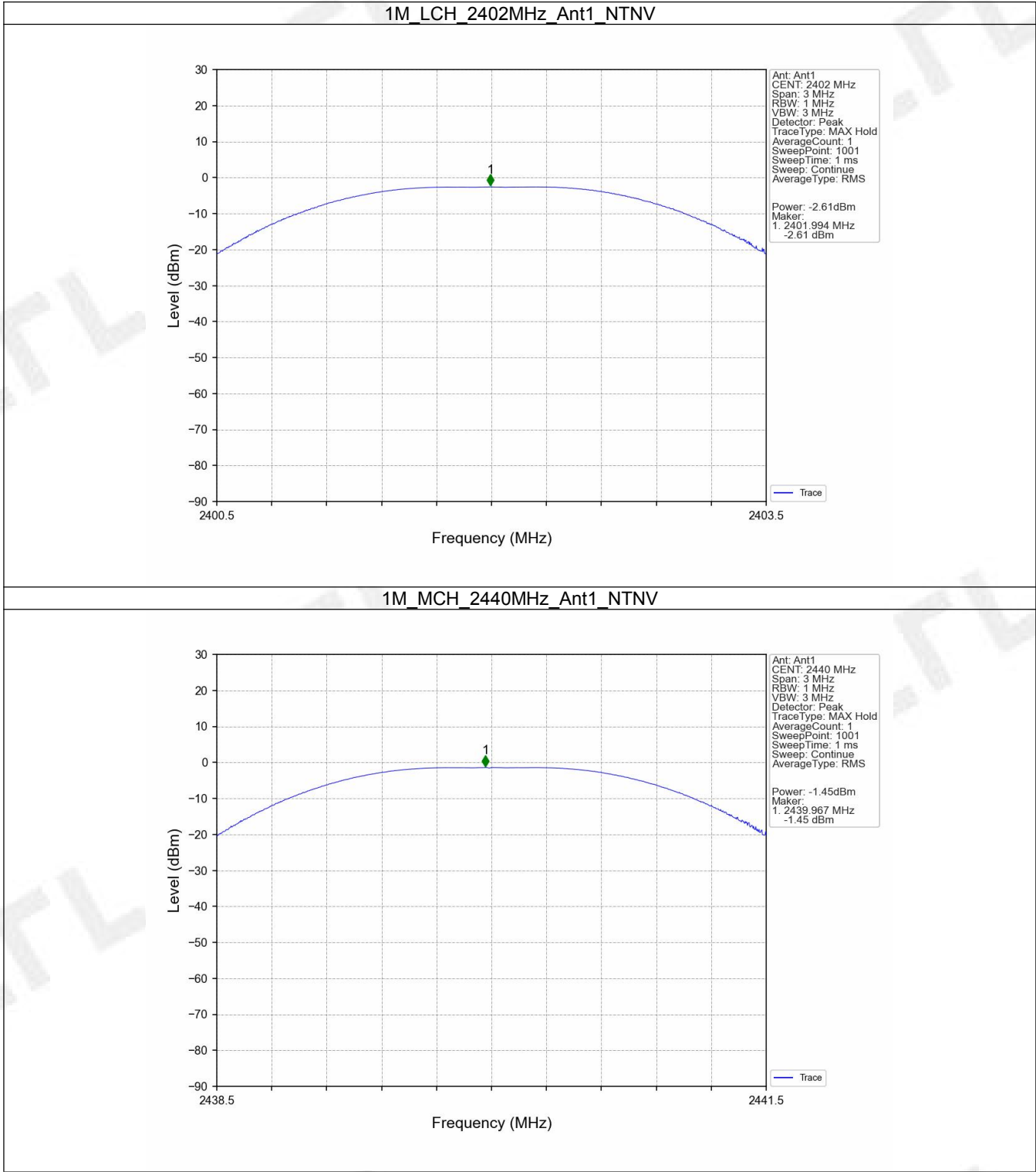
| Mode | TX Type | Frequency (MHz) | Maximum Peak Conducted Output Power (dBm) |       | Verdict |
|------|---------|-----------------|-------------------------------------------|-------|---------|
|      |         |                 | ANT1                                      | Limit |         |
| 1M   | SISO    | 2402            | -2.61                                     | <=30  | Pass    |
|      |         | 2440            | -1.45                                     | <=30  | Pass    |
|      |         | 2480            | -1.13                                     | <=30  | Pass    |
| 2M   | SISO    | 2402            | -2.56                                     | <=30  | Pass    |
|      |         | 2440            | -1.35                                     | <=30  | Pass    |
|      |         | 2480            | -1.00                                     | <=30  | Pass    |

Note1: Antenna Gain: Ant1: -0.58dBi;

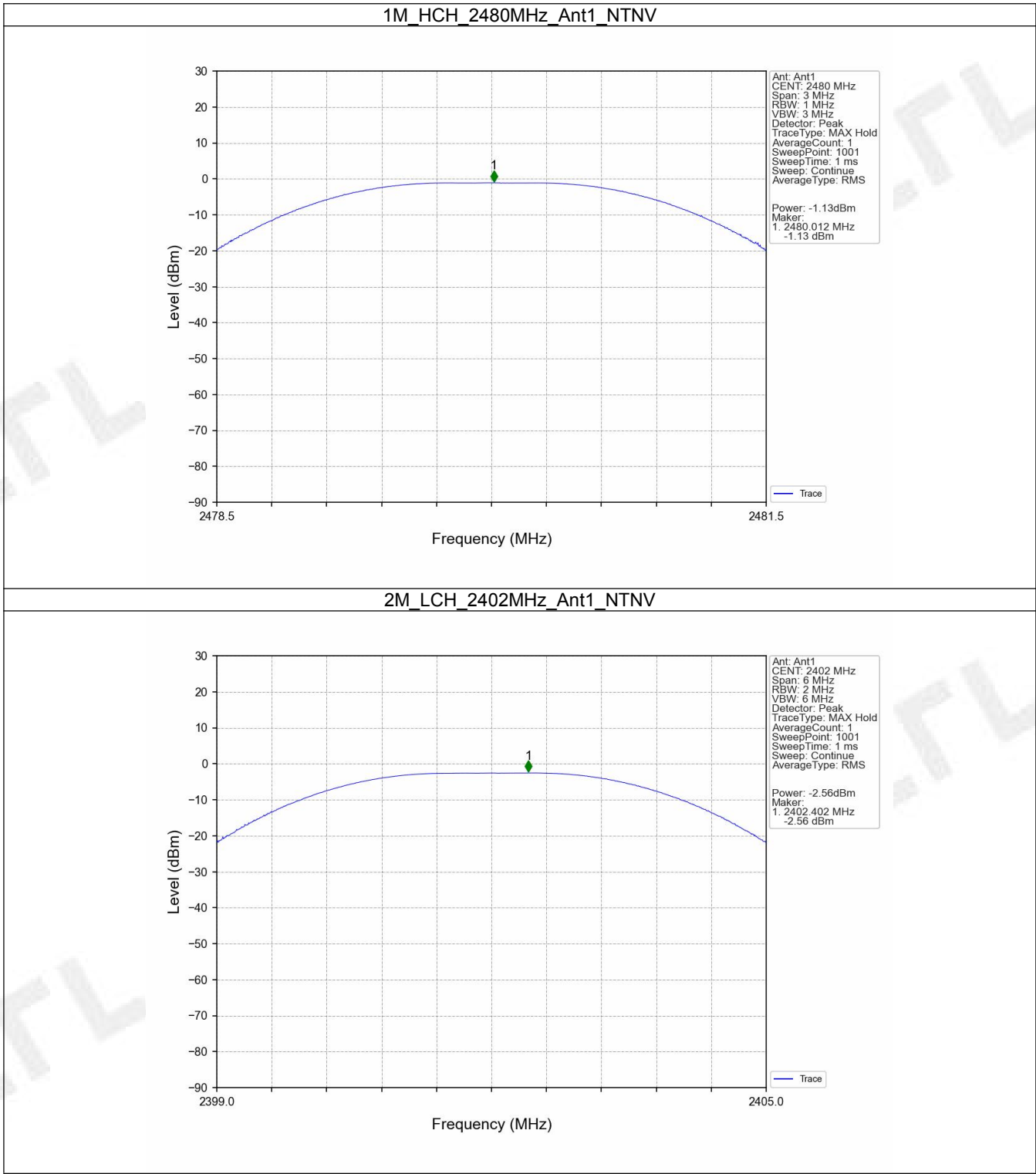
FCCID: 2BMG9-WLQ-S03

3.2 Test Graph

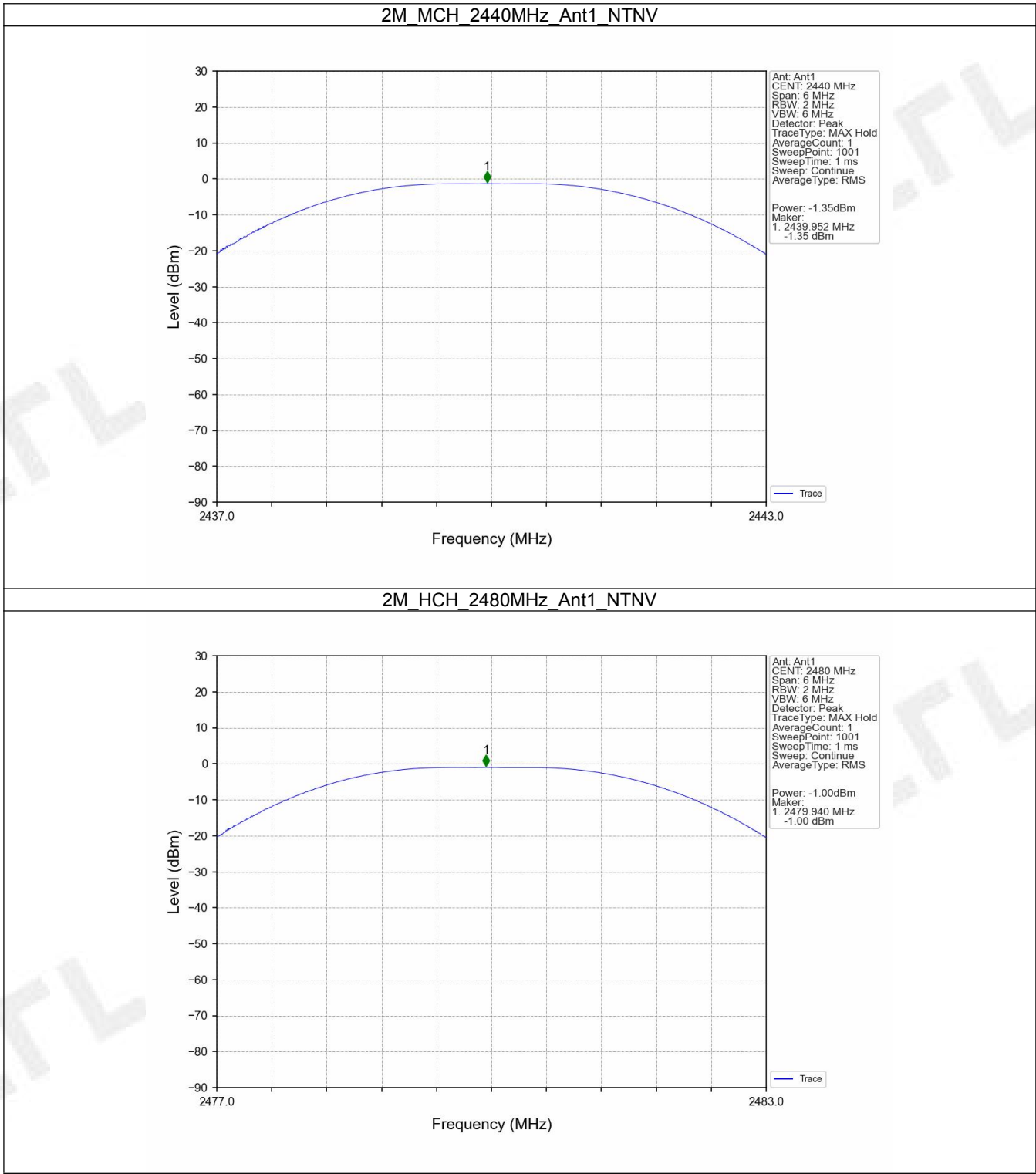
3.2.1 Power



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## 4. Maximum Power Spectral Density

### 4.1 Test Result

#### 4.1.1 PSD

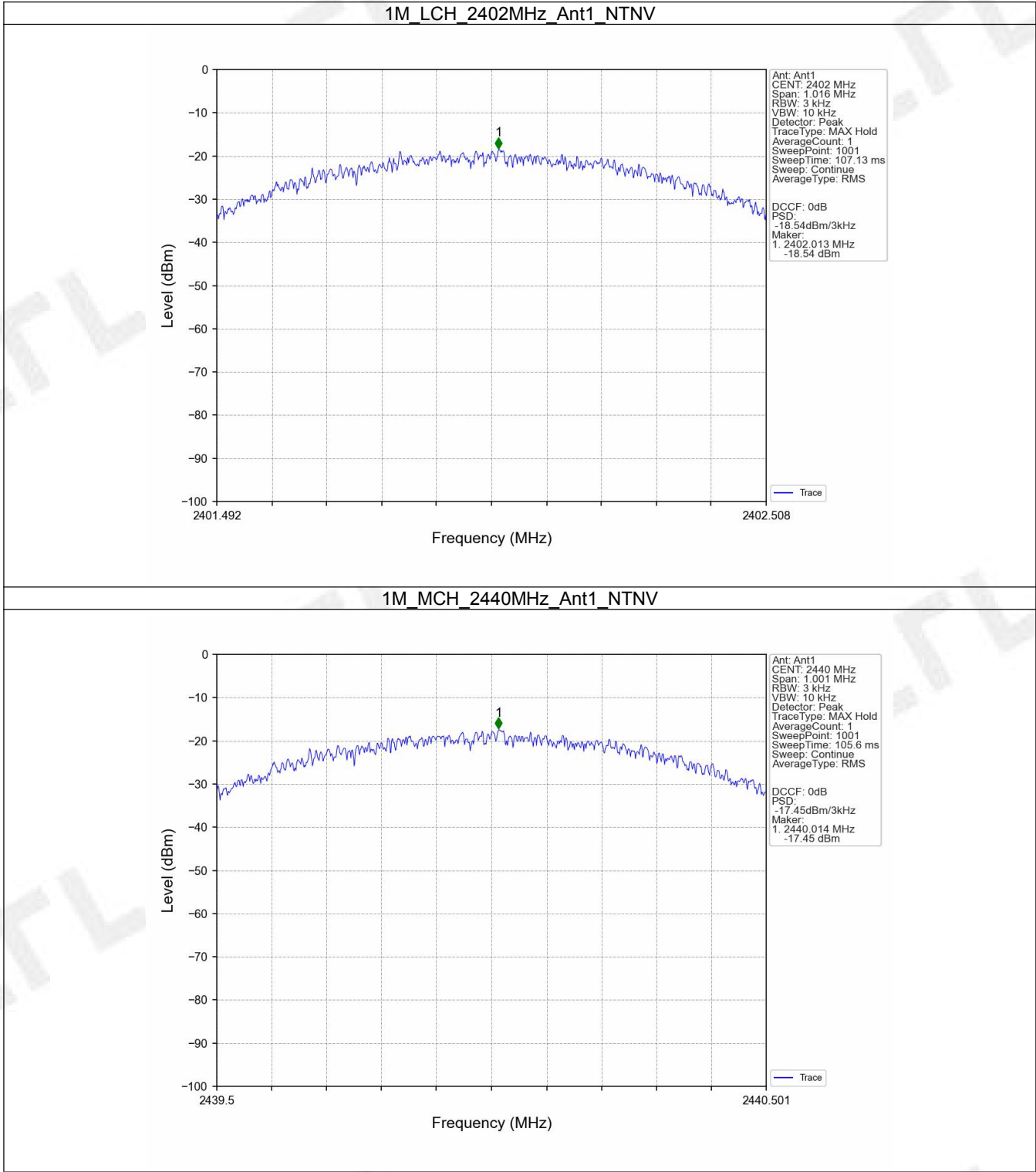
| Mode | TX Type | Frequency (MHz) | Maximum PSD (dBm/3kHz) |       | Verdict |
|------|---------|-----------------|------------------------|-------|---------|
|      |         |                 | ANT1                   | Limit |         |
| 1M   | SISO    | 2402            | -18.54                 | <=8   | Pass    |
|      |         | 2440            | -17.45                 | <=8   | Pass    |
|      |         | 2480            | -17.18                 | <=8   | Pass    |
| 2M   | SISO    | 2402            | -20.69                 | <=8   | Pass    |
|      |         | 2440            | -19.51                 | <=8   | Pass    |
|      |         | 2480            | -19.34                 | <=8   | Pass    |

Note1: Antenna Gain: Ant1: -0.58dBi;

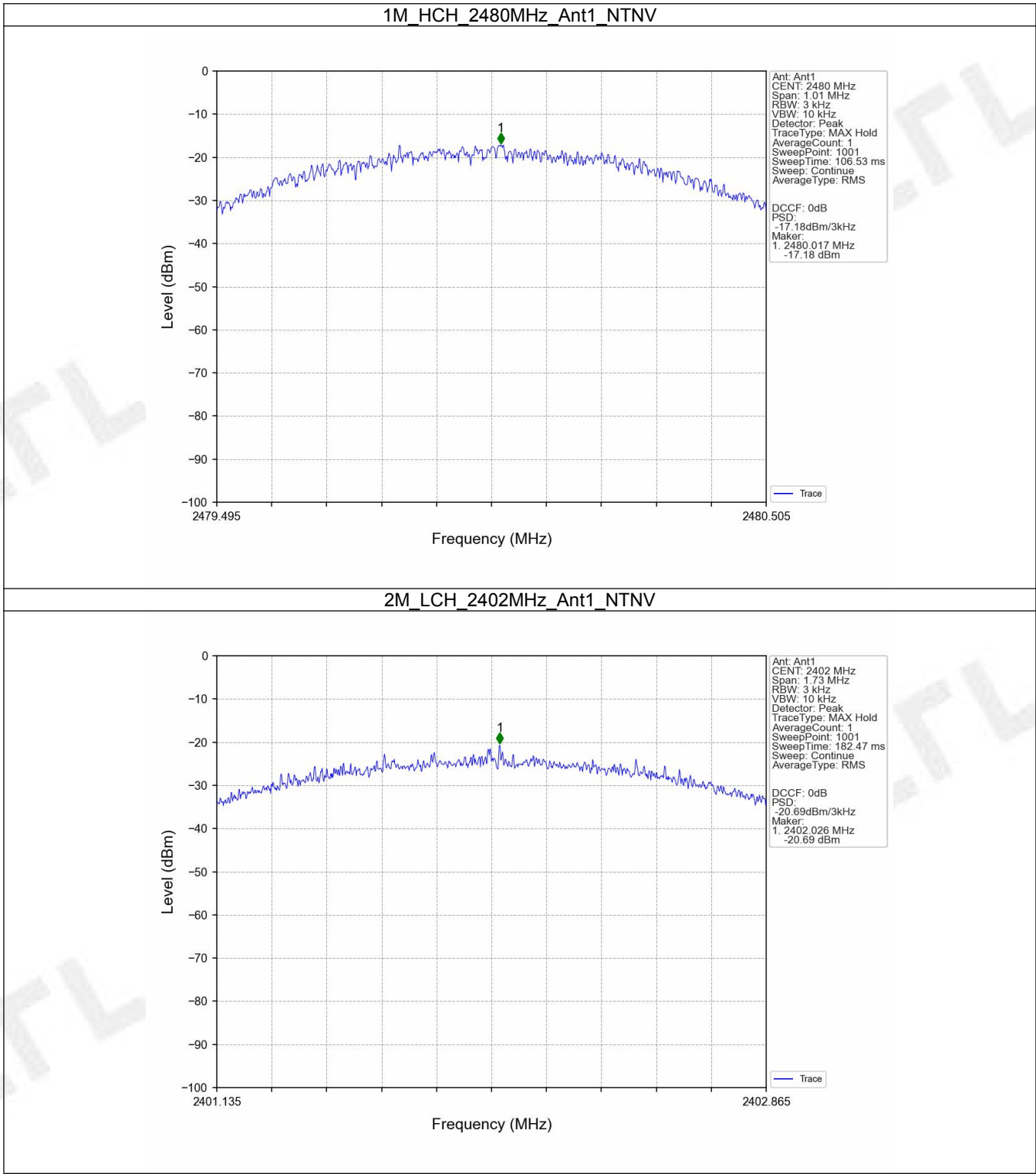
FCCID: 2BMG9-WLQ-S03

4.2 Test Graph

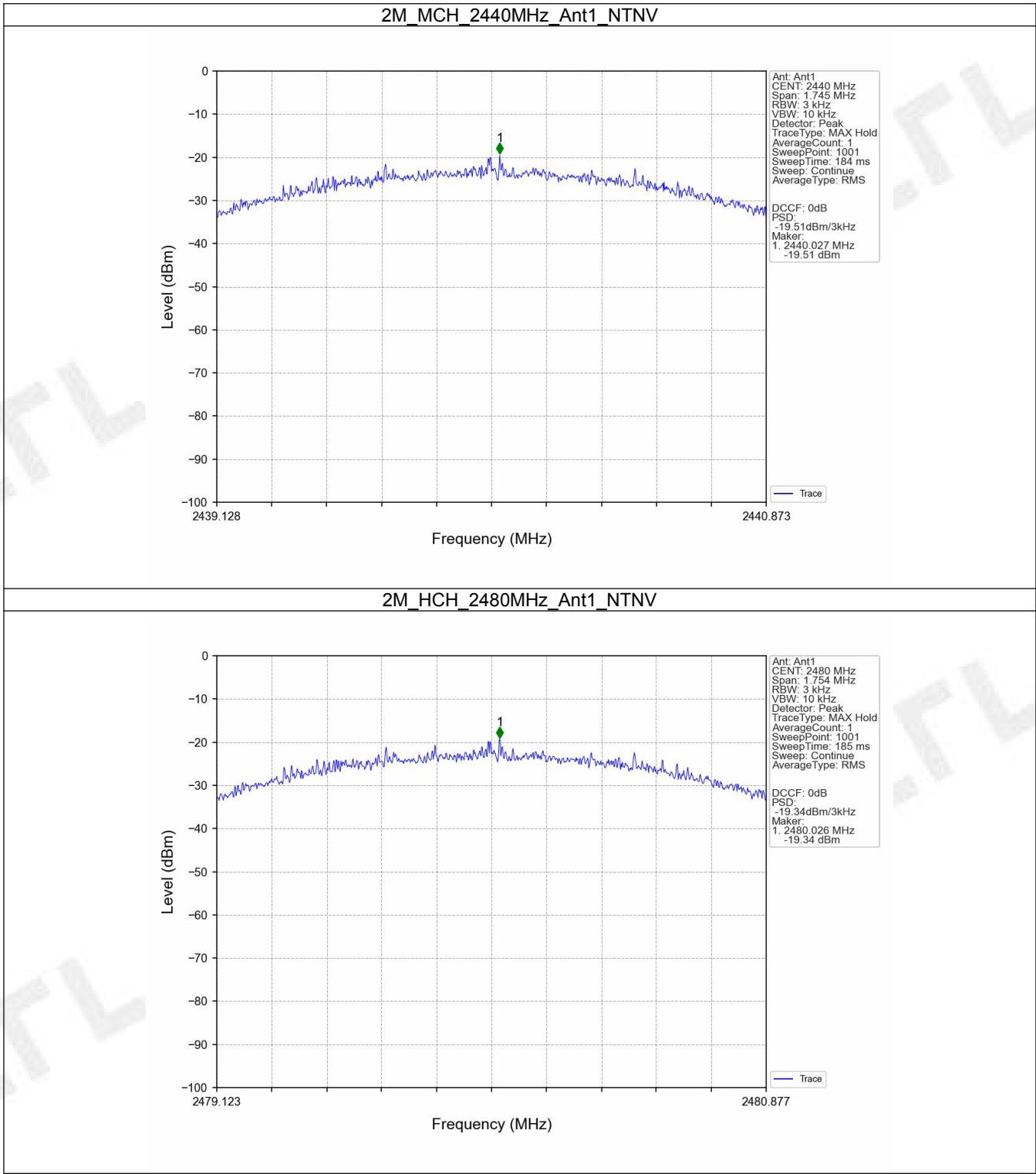
4.2.1 PSD



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

### 5.1 Test Result

#### 5.1.1 Ref

| Mode | TX Type | Frequency (MHz) | ANT | Level of Reference (dBm) |
|------|---------|-----------------|-----|--------------------------|
| 1M   | SISO    | 2402            | 1   | -2.69                    |
|      |         | 2440            | 1   | -1.50                    |
|      |         | 2480            | 1   | -1.22                    |
| 2M   | SISO    | 2402            | 1   | -2.80                    |
|      |         | 2440            | 1   | -1.62                    |
|      |         | 2480            | 1   | -1.26                    |

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.

#### 5.1.2 CSE

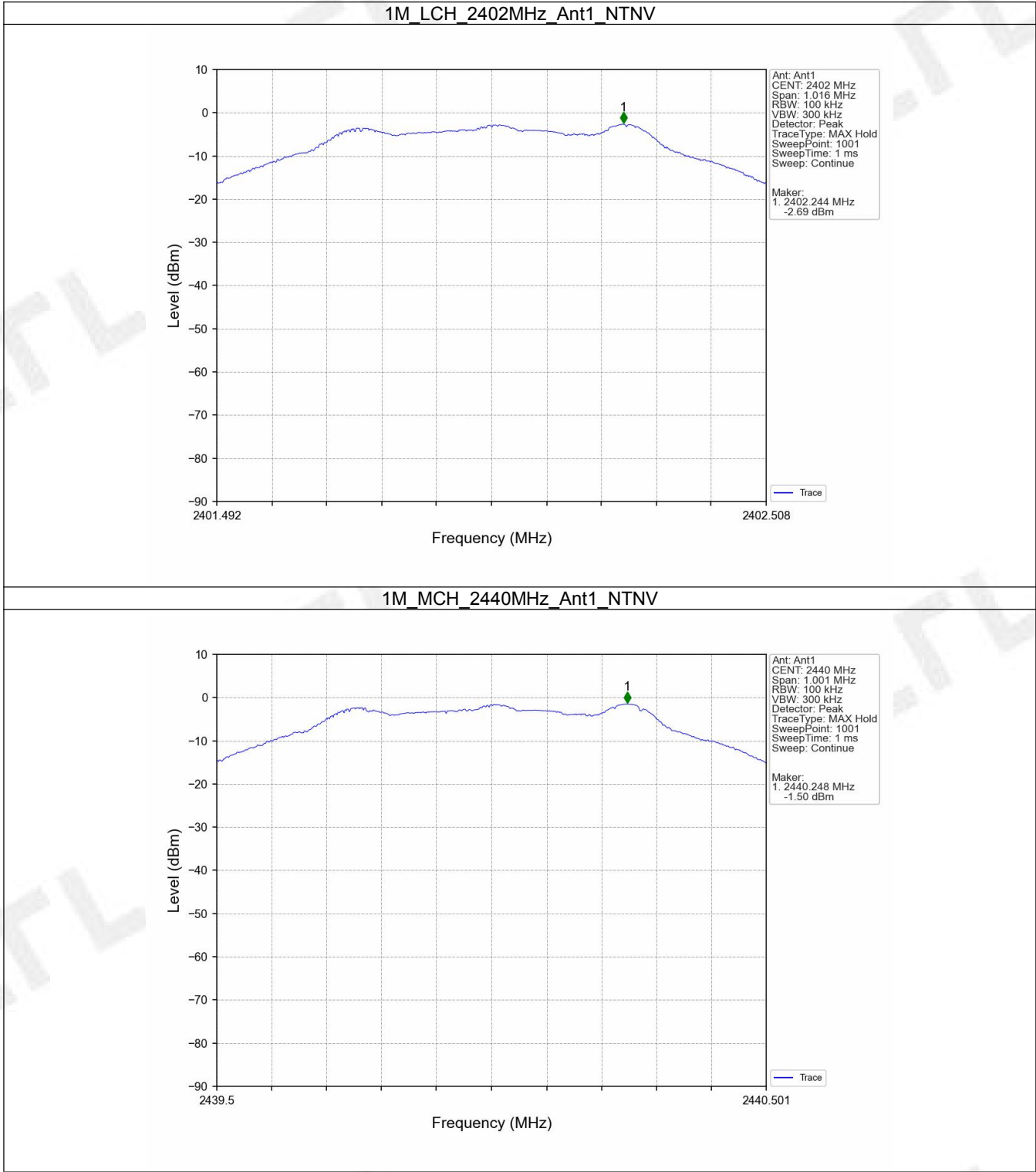
| Mode | TX Type | Frequency (MHz) | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|------|---------|-----------------|-----|--------------------------|-------------|---------|
| 1M   | SISO    | 2402            | 1   | -1.22                    | -21.22      | Pass    |
|      |         | 2440            | 1   | -1.22                    | -21.22      | Pass    |
|      |         | 2480            | 1   | -1.22                    | -21.22      | Pass    |
| 2M   | SISO    | 2402            | 1   | -1.26                    | -21.26      | Pass    |
|      |         | 2440            | 1   | -1.26                    | -21.26      | Pass    |
|      |         | 2480            | 1   | -1.26                    | -21.26      | 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.

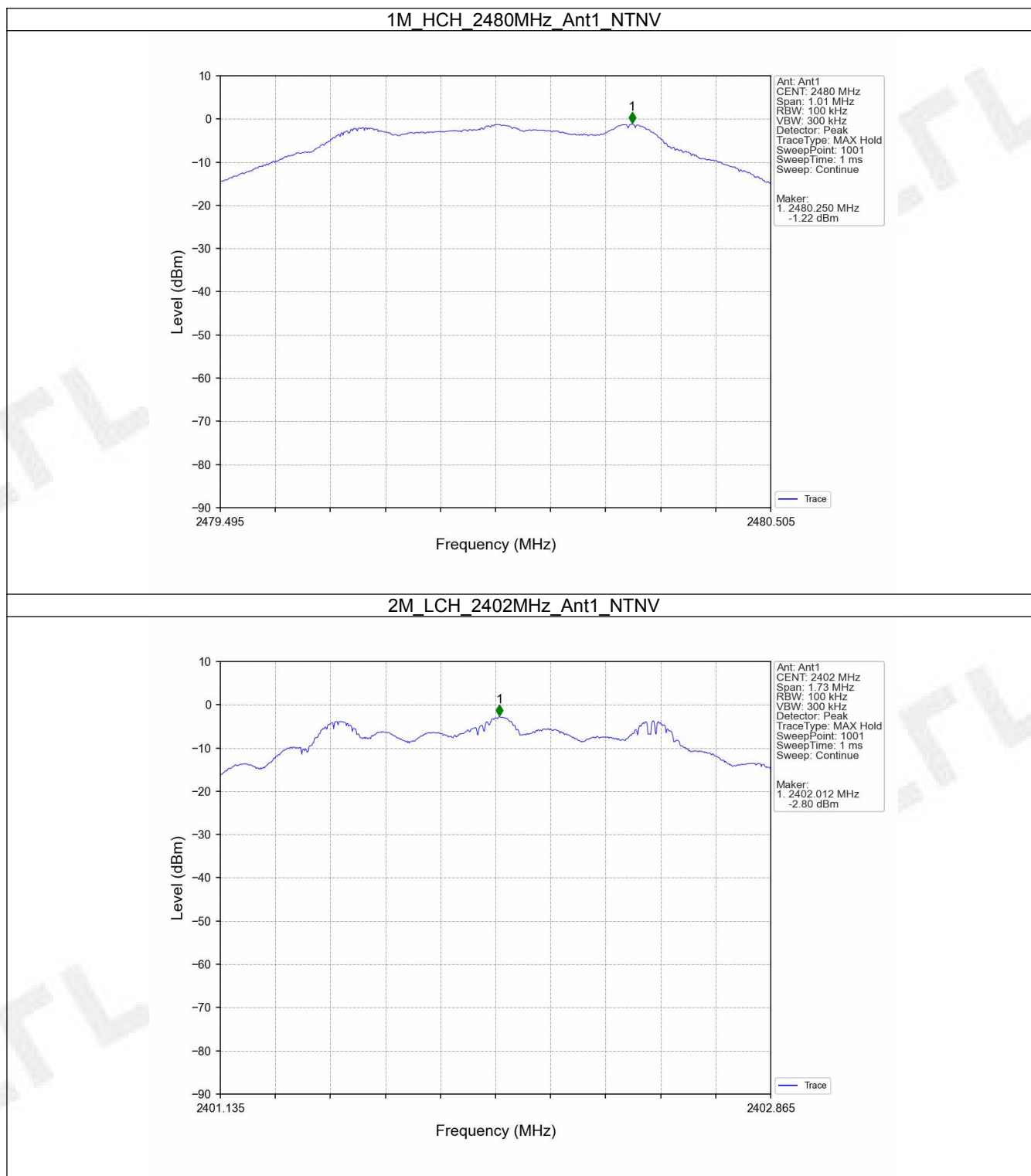
FCCID: 2BMG9-WLQ-S03

5.2 Test Graph

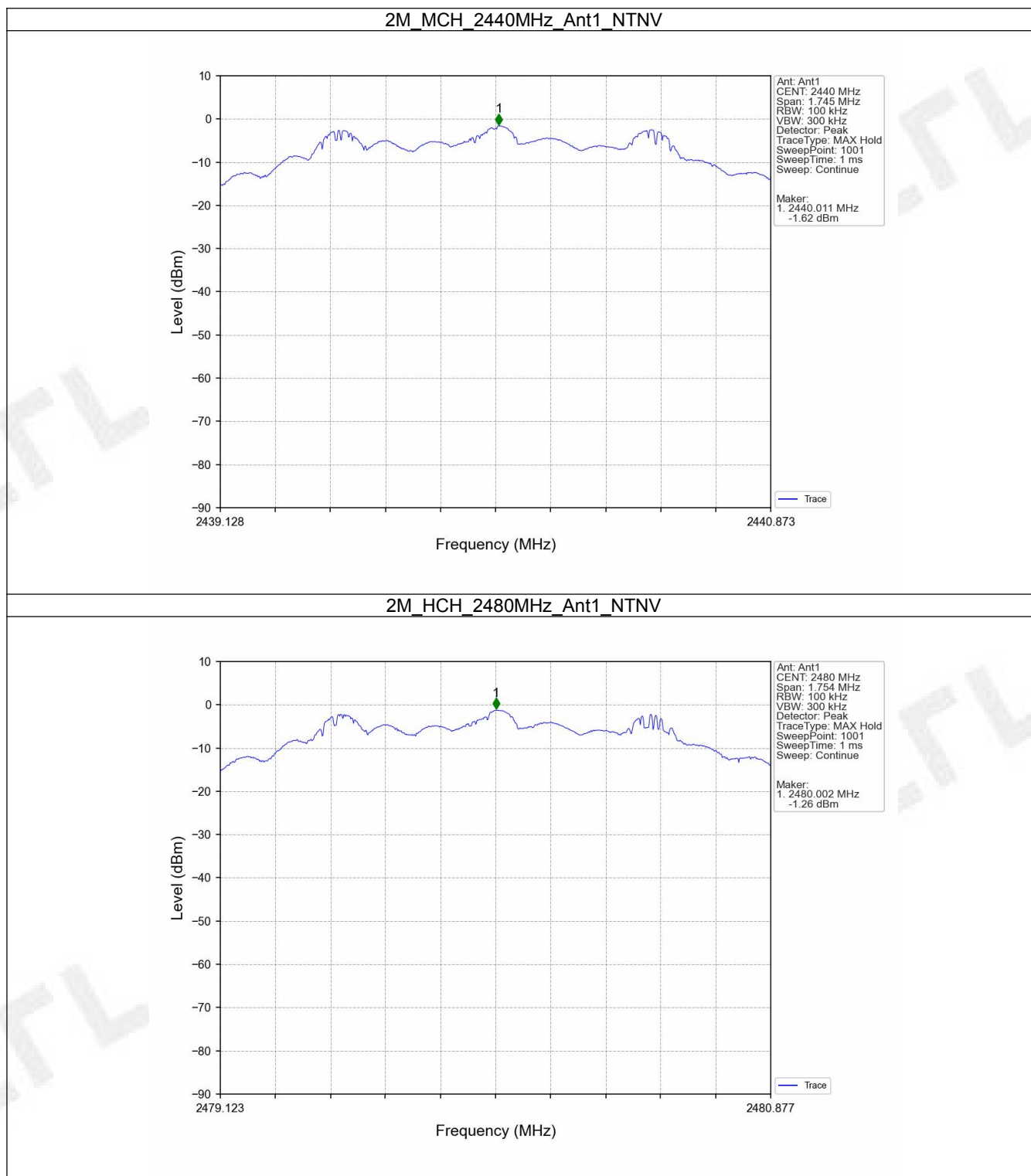
5.2.1 Ref



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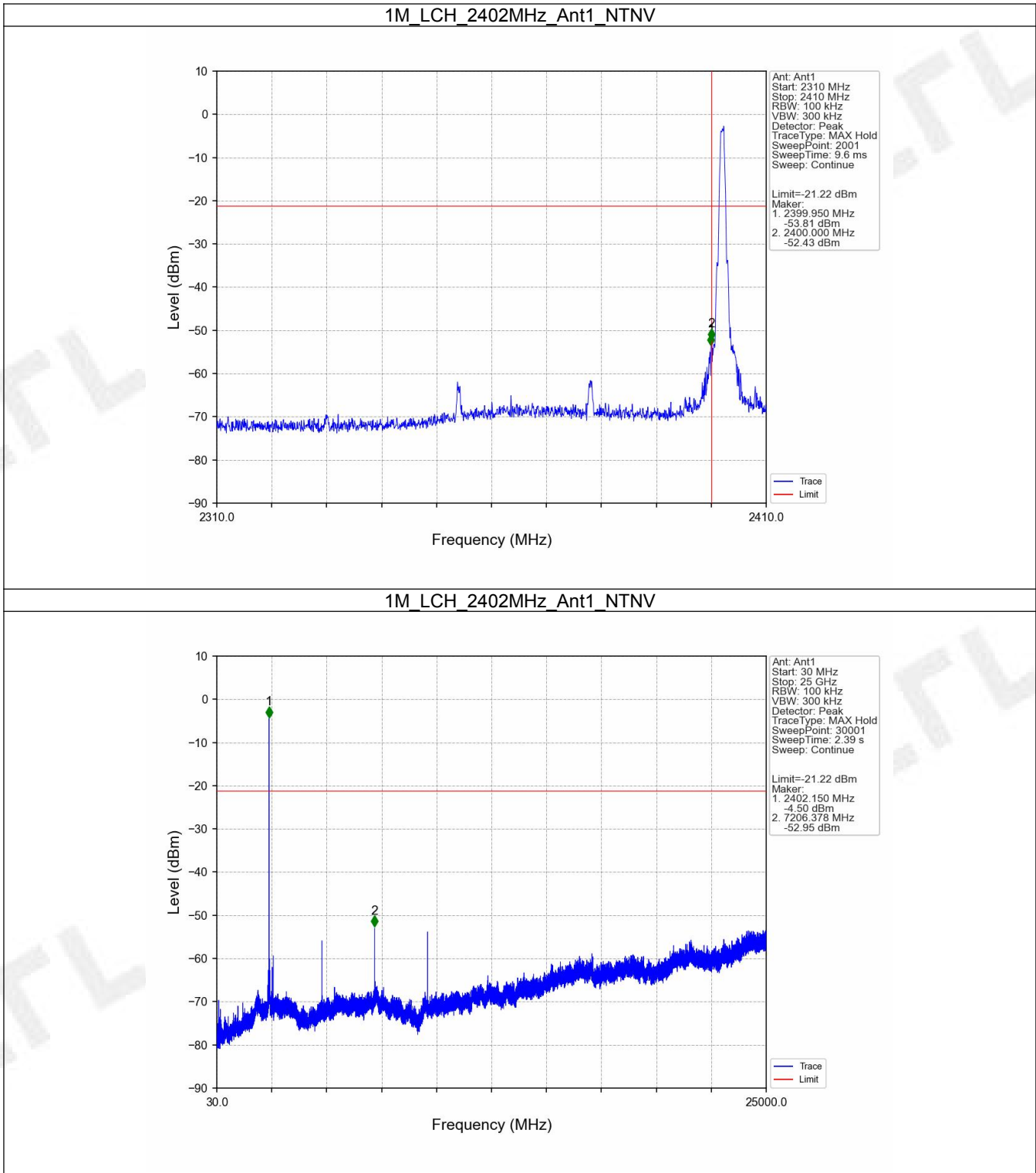


FCCID: 2BMG9-WLQ-S03

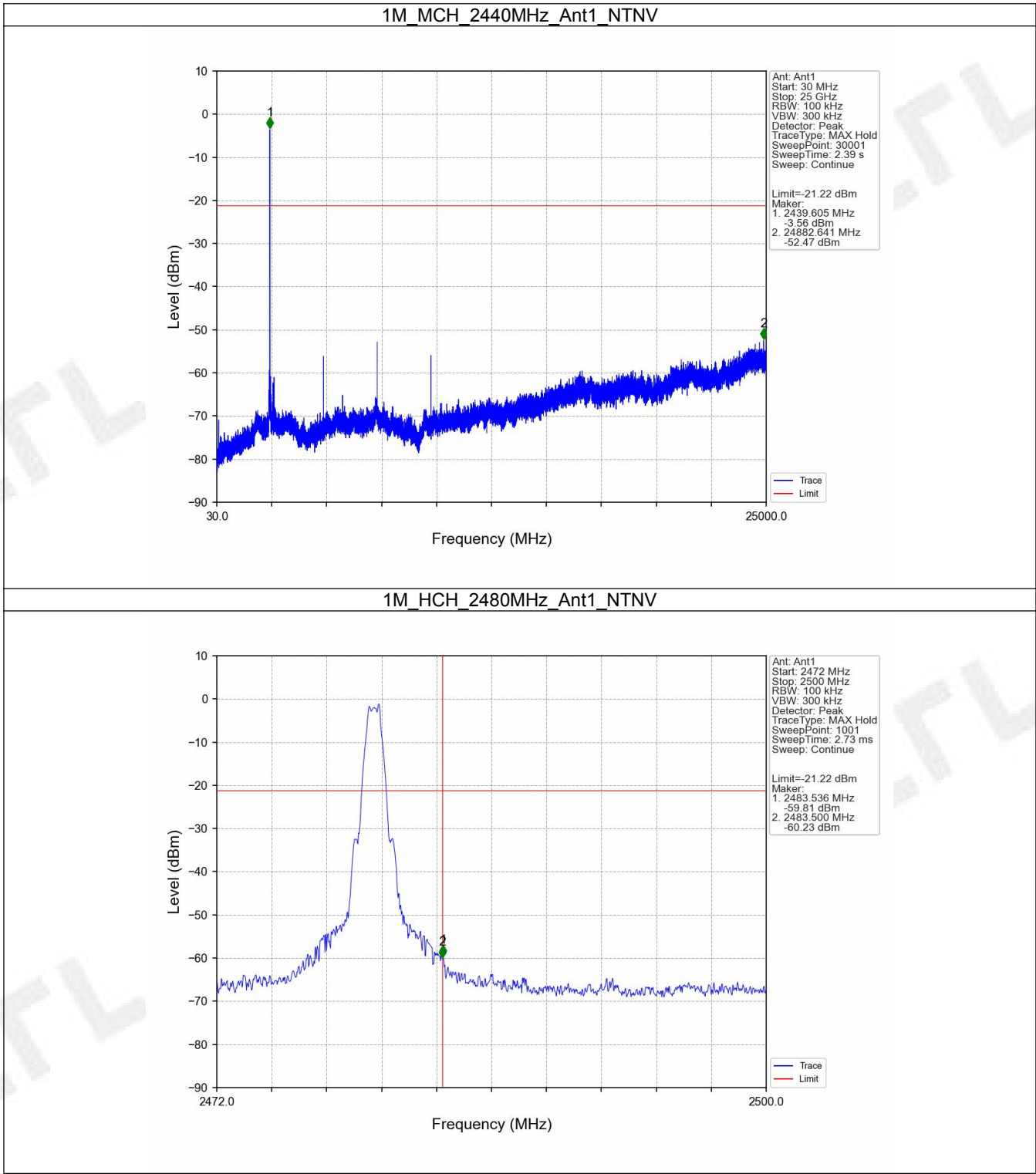


FCCID: 2BMG9-WLQ-S03

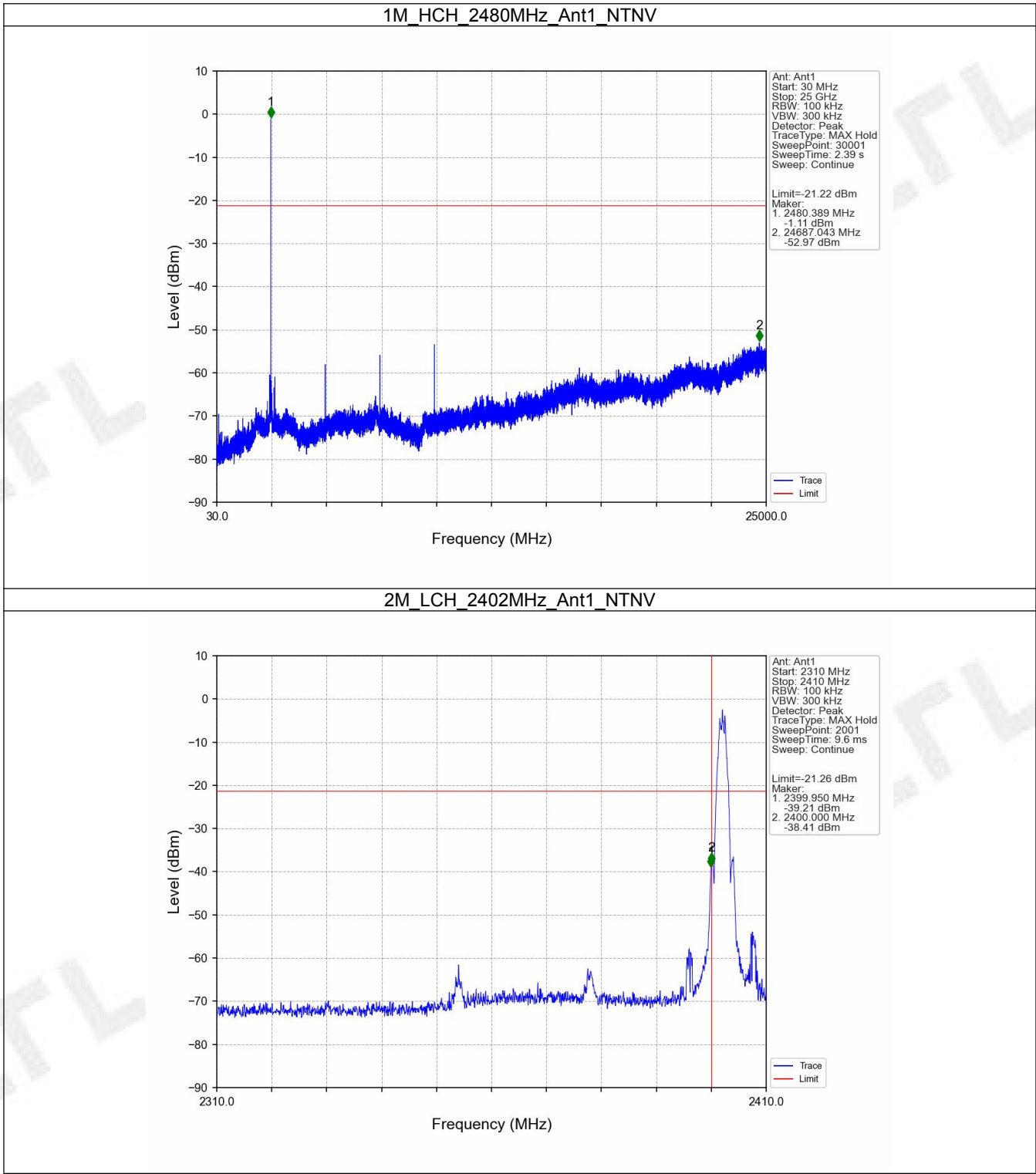
5.2.2 CSE



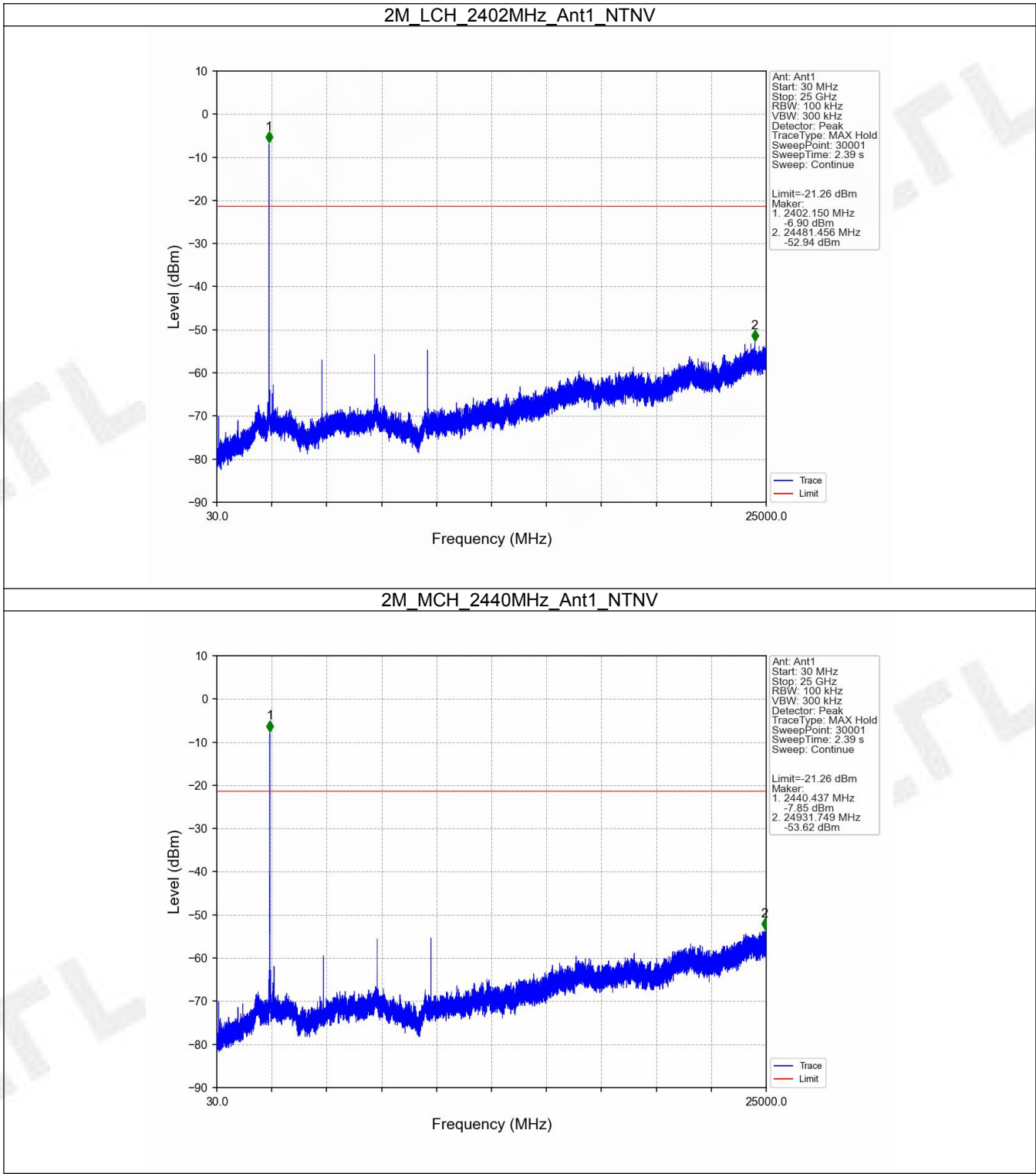
FCCID: 2BMG9-WLQ-S03



FCCID: 2BMG9-WLQ-S03



FCCID: 2BMG9-WLQ-S03



FCCID: 2BMG9-WLQ-S03

