

## Appendix Test Data for WLAN(2.4G) (Conducted Measurement)

Product Name: Smart Camera

Trade Mark: N/A

Test Model: CL200

FCC ID: 2BFDS-CL200

### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23.8℃     |
| Relative Humidity: | 52%       |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Tony luo  |
| Supervised by:     | Max zhang |
| NOTE               | N/A       |

## 1. Duty Cycle

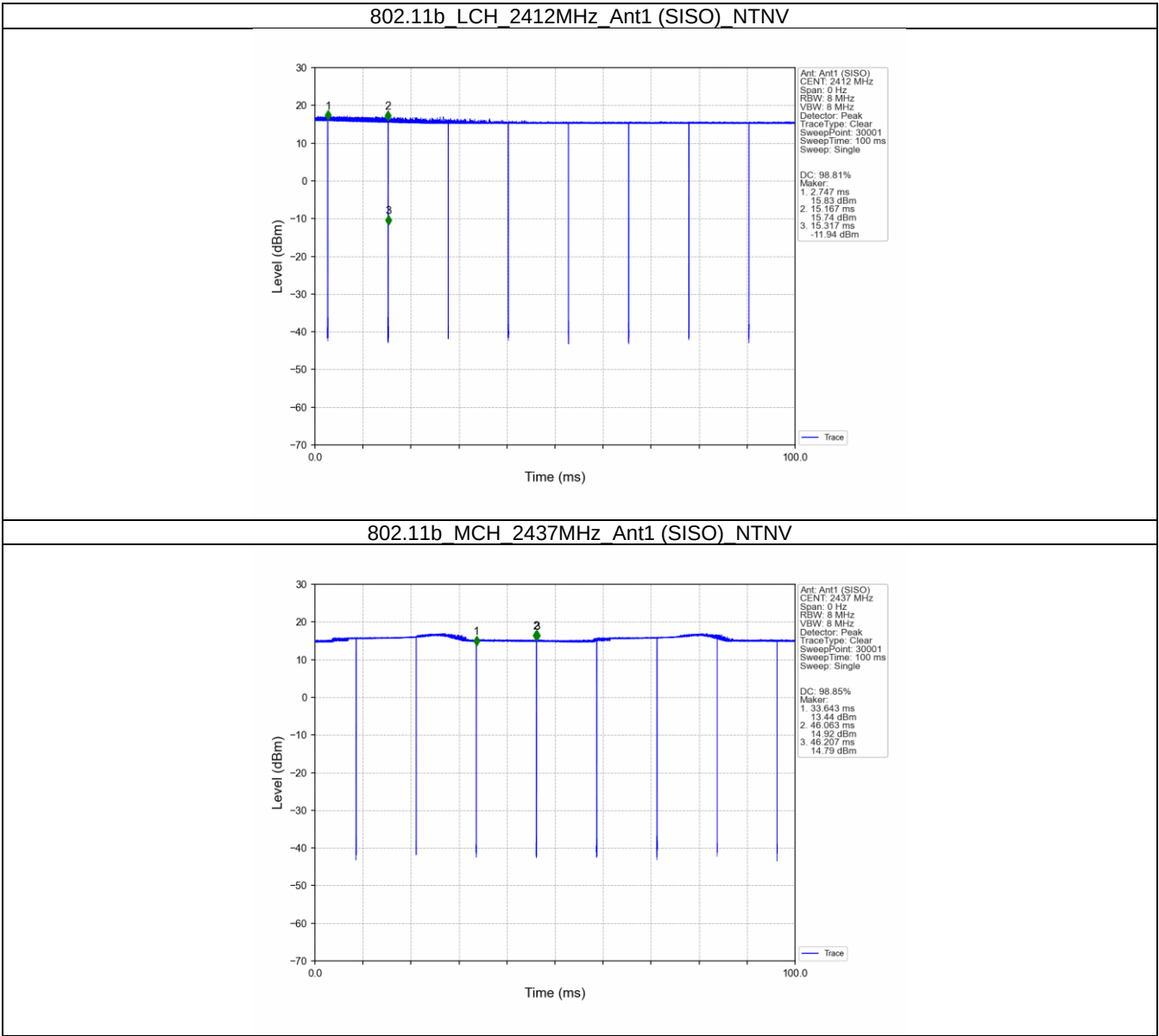
### 1.1 Test Result

#### 1.1.1 Ant1

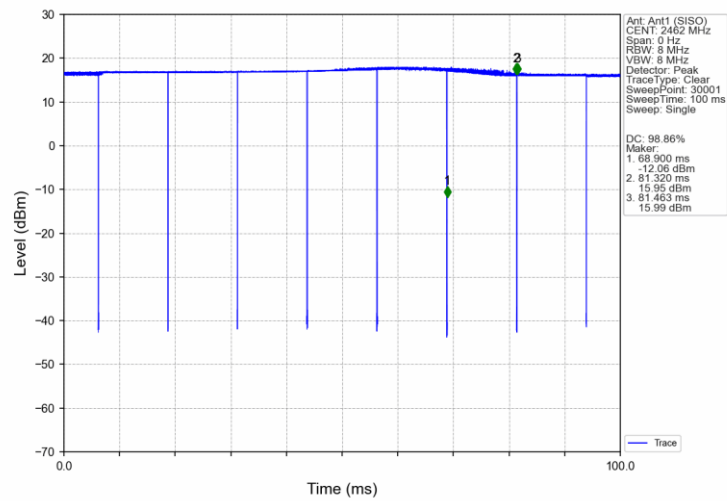
| Ant1           |         |                 |           |             |                |                                   |                       |
|----------------|---------|-----------------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode           | TX Type | Frequency (MHz) | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| 802.11b        | SISO    | 2412            | 12.420    | 12.570      | 98.81          | 0.05                              | 0.77                  |
|                |         | 2437            | 12.420    | 12.564      | 98.85          | 0.05                              | 0.71                  |
|                |         | 2462            | 12.420    | 12.563      | 98.86          | 0.05                              | 0.87                  |
| 802.11g        | SISO    | 2412            | 2.065     | 2.234       | 92.44          | 0.34                              | 4.70                  |
|                |         | 2437            | 2.072     | 2.235       | 92.71          | 0.33                              | 5.97                  |
|                |         | 2462            | 2.070     | 2.218       | 93.33          | 0.30                              | 5.25                  |
| 802.11n (HT20) | SISO    | 2412            | 1.922     | 2.091       | 91.92          | 0.37                              | 4.53                  |
|                |         | 2437            | 1.921     | 2.091       | 91.87          | 0.37                              | 5.46                  |
|                |         | 2462            | 1.926     | 2.055       | 93.72          | 0.28                              | 4.73                  |
| 802.11n (HT40) | SISO    | 2422            | 0.945     | 1.115       | 84.75          | 0.72                              | 10.81                 |
|                |         | 2437            | 0.951     | 1.116       | 85.22          | 0.69                              | 11.73                 |
|                |         | 2452            | 0.945     | 1.115       | 84.75          | 0.72                              | 11.71                 |

1.2 Test Graph

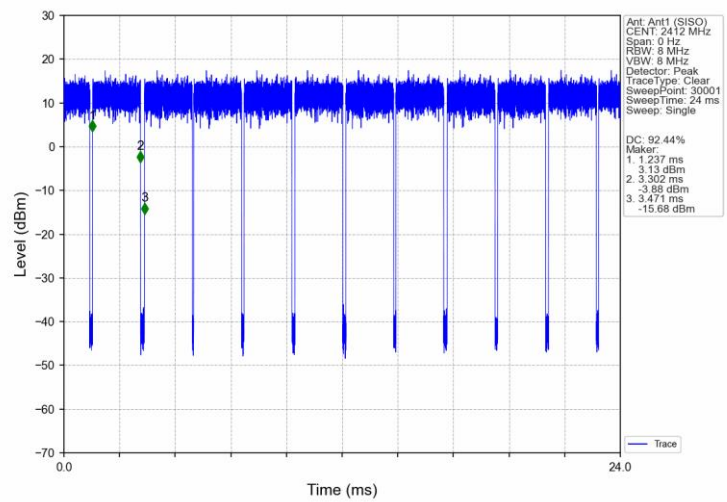
1.2.1 Ant1



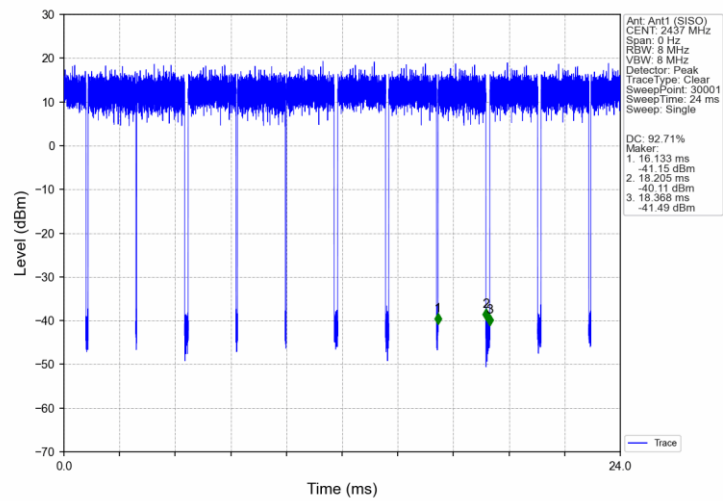
802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



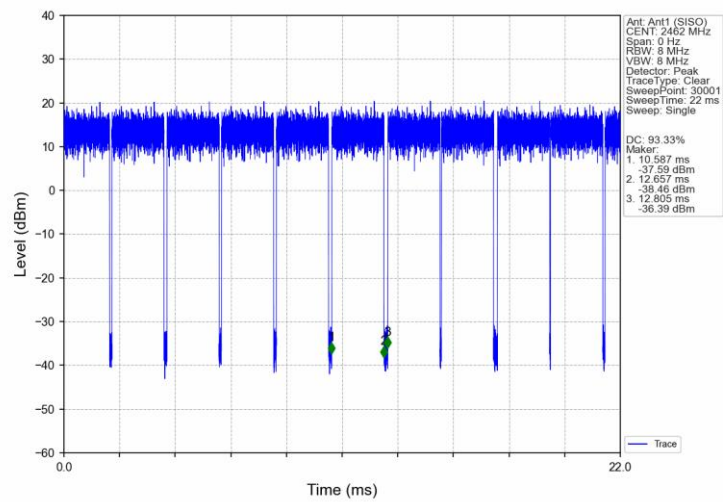
802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV

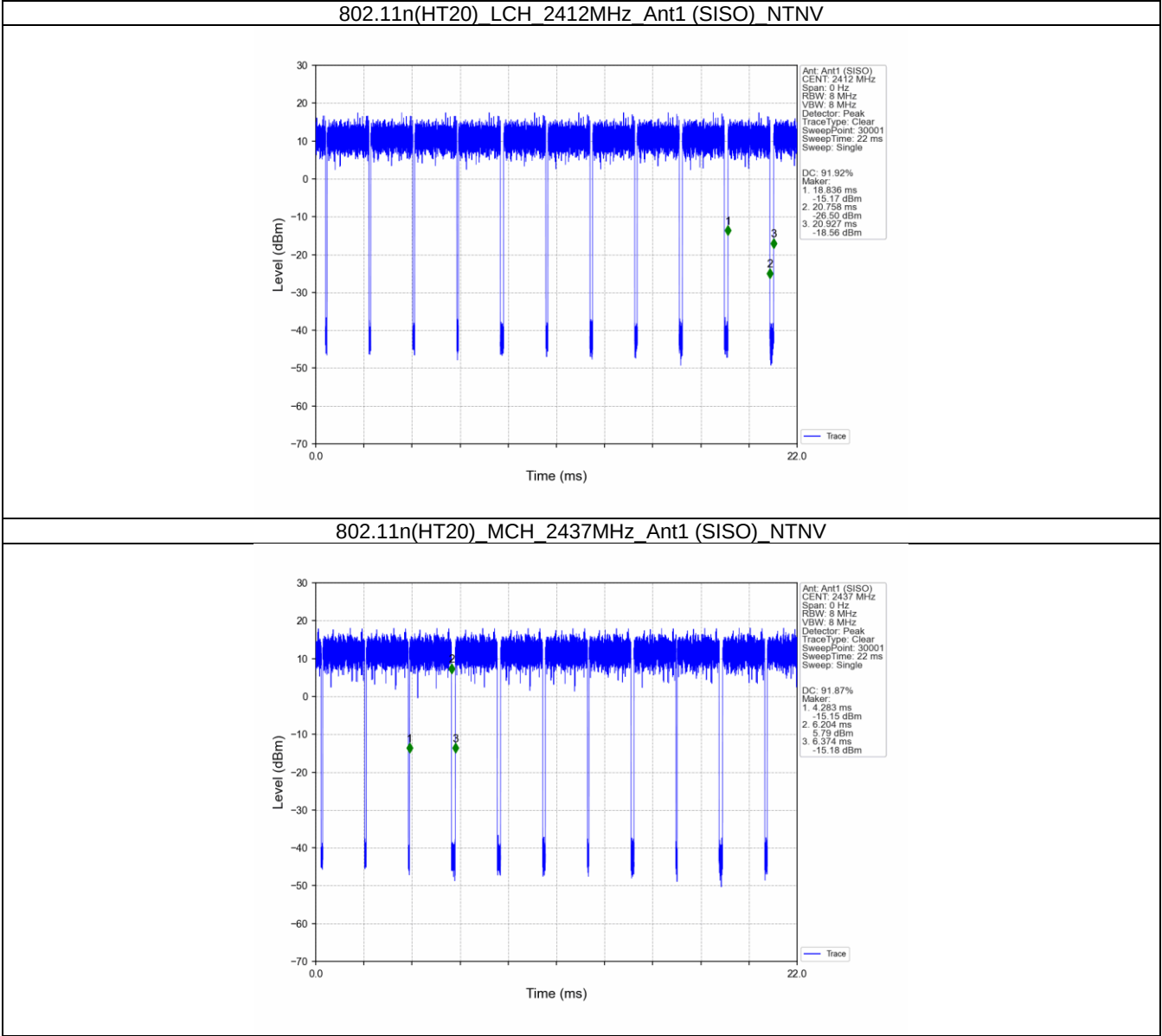


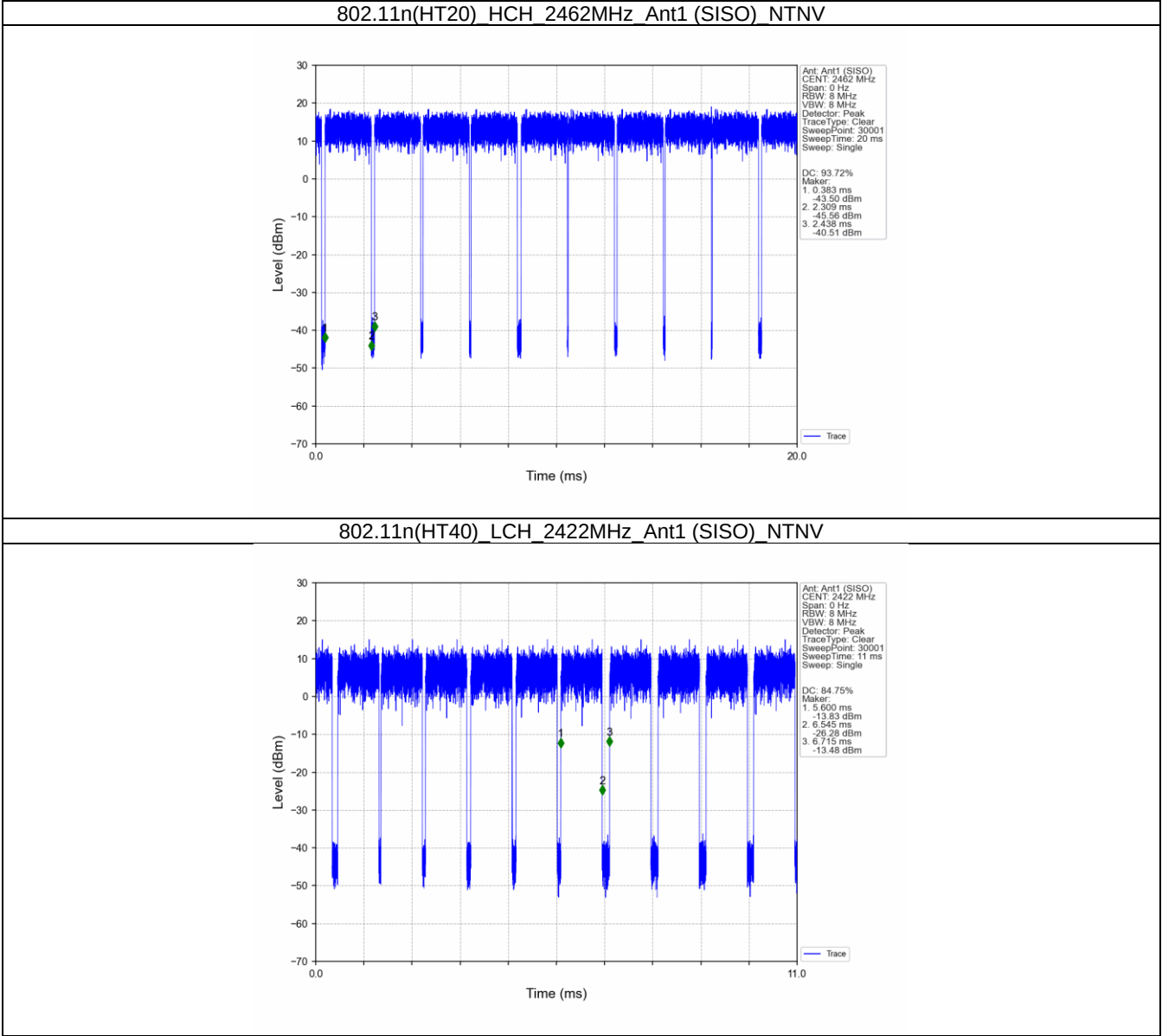
802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV

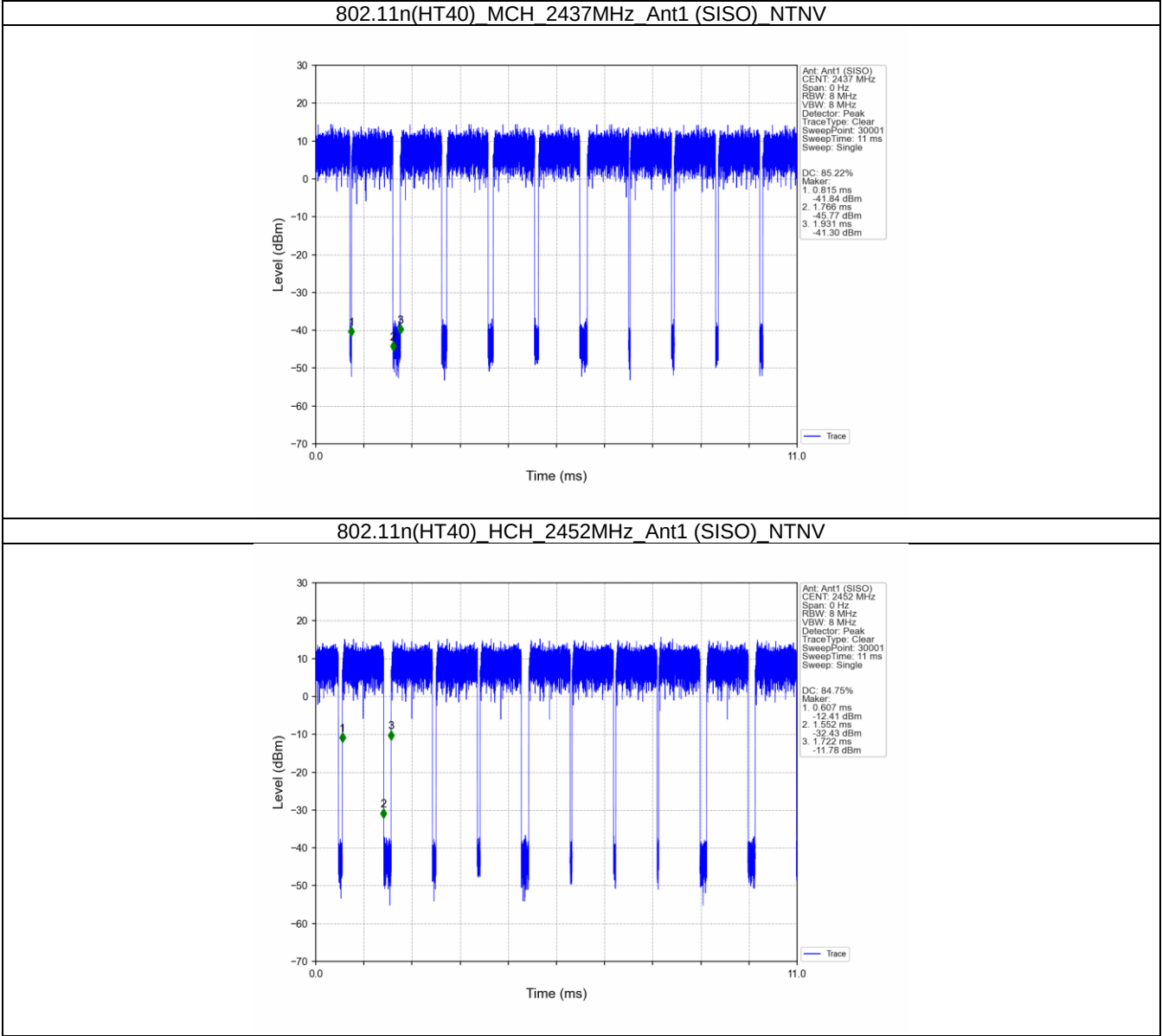


802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV









## 2. Bandwidth

### 2.1 Test Result

#### 2.1.1 OBW

| Mode           | TX Type | Frequency (MHz) | ANT | 99% Occupied Bandwidth (MHz) |       | Verdict |
|----------------|---------|-----------------|-----|------------------------------|-------|---------|
|                |         |                 |     | Result                       | Limit |         |
| 802.11b        | SISO    | 2412            | 1   | 13.555                       | /     | Pass    |
|                |         | 2437            | 1   | 13.586                       | /     | Pass    |
|                |         | 2462            | 1   | 13.457                       | /     | Pass    |
| 802.11g        | SISO    | 2412            | 1   | 17.653                       | /     | Pass    |
|                |         | 2437            | 1   | 17.875                       | /     | Pass    |
|                |         | 2462            | 1   | 17.650                       | /     | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 1   | 18.522                       | /     | Pass    |
|                |         | 2437            | 1   | 18.449                       | /     | Pass    |
|                |         | 2462            | 1   | 18.380                       | /     | Pass    |
| 802.11n (HT40) | SISO    | 2422            | 1   | 36.947                       | /     | Pass    |
|                |         | 2437            | 1   | 37.255                       | /     | Pass    |
|                |         | 2452            | 1   | 36.710                       | /     | Pass    |

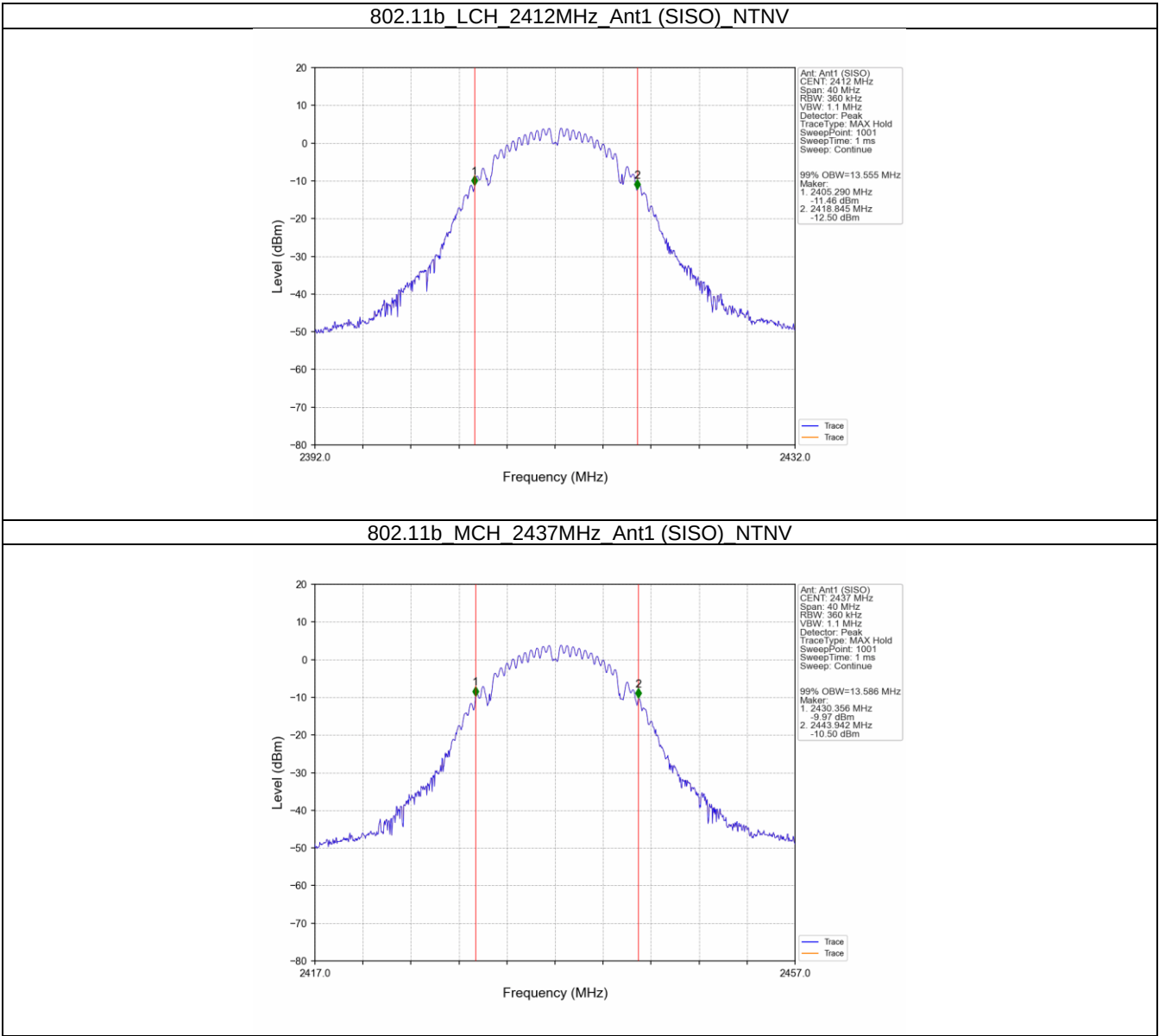
#### 2.1.2 6dB BW

| Mode           | TX Type | Frequency (MHz) | ANT | 6dB Bandwidth (MHz) |            | Verdict |
|----------------|---------|-----------------|-----|---------------------|------------|---------|
|                |         |                 |     | Result              | Limit      |         |
| 802.11b        | SISO    | 2412            | 1   | 9.190               | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 8.756               | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 9.173               | $\geq 0.5$ | Pass    |
| 802.11g        | SISO    | 2412            | 1   | 16.927              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 16.799              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 16.840              | $\geq 0.5$ | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 1   | 17.805              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 17.838              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 17.854              | $\geq 0.5$ | Pass    |
| 802.11n (HT40) | SISO    | 2422            | 1   | 36.907              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 36.297              | $\geq 0.5$ | Pass    |
|                |         | 2452            | 1   | 36.237              | $\geq 0.5$ | Pass    |

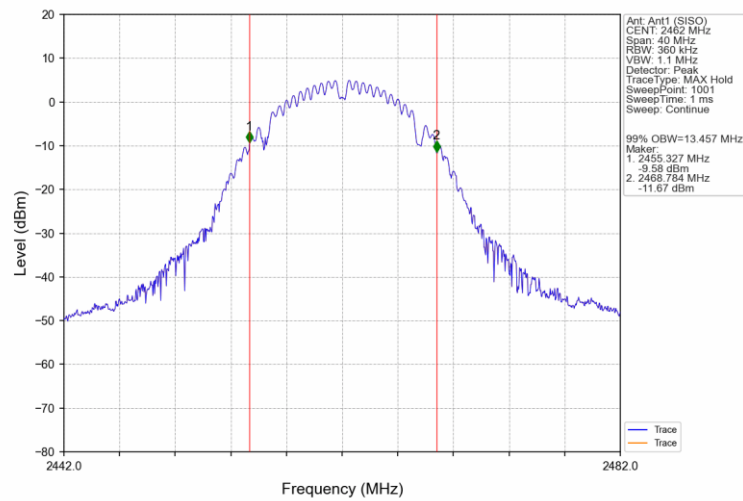


2.2 Test Graph

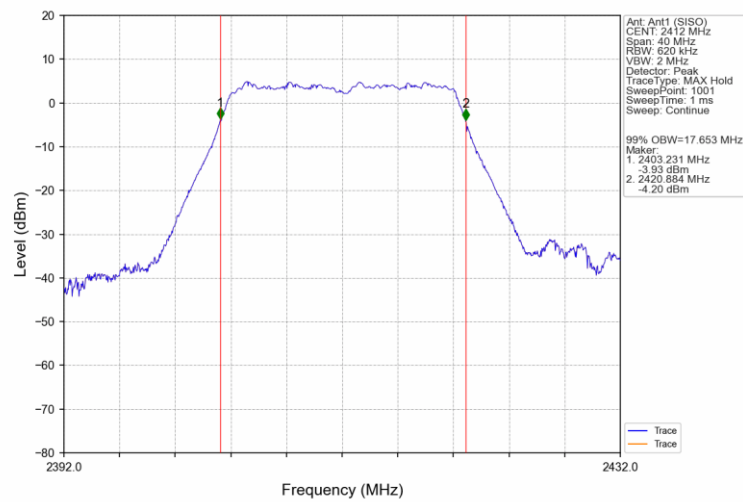
2.2.1 OBW



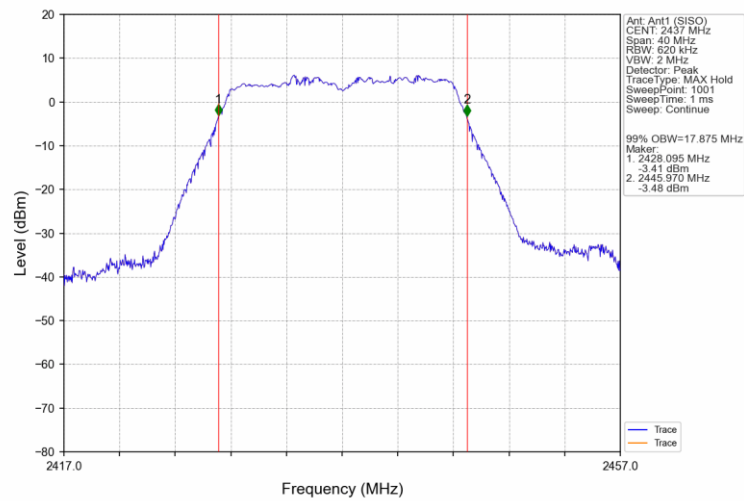
802.11b HCH 2462MHz Ant1 (SISO) NTN



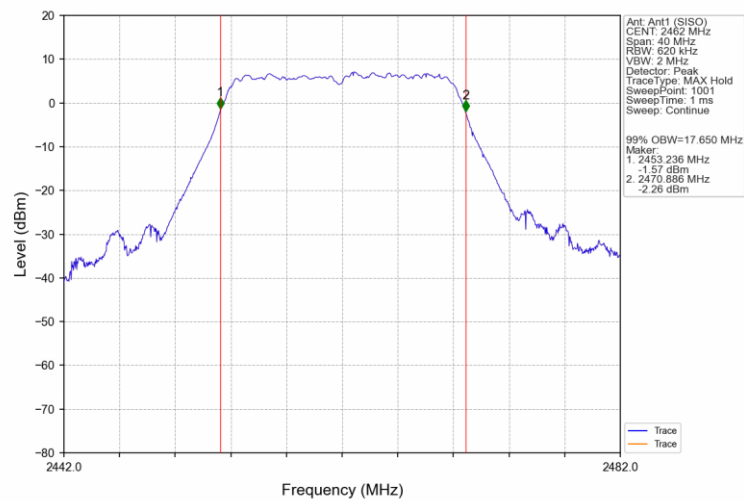
802.11g LCH 2412MHz Ant1 (SISO) NTN



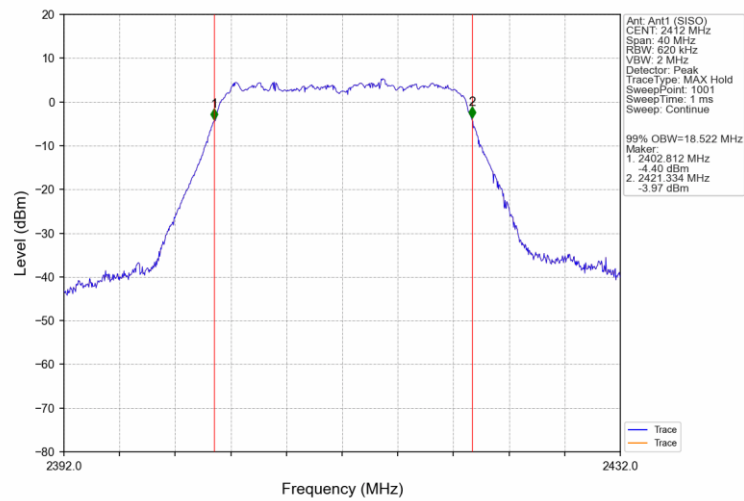
802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



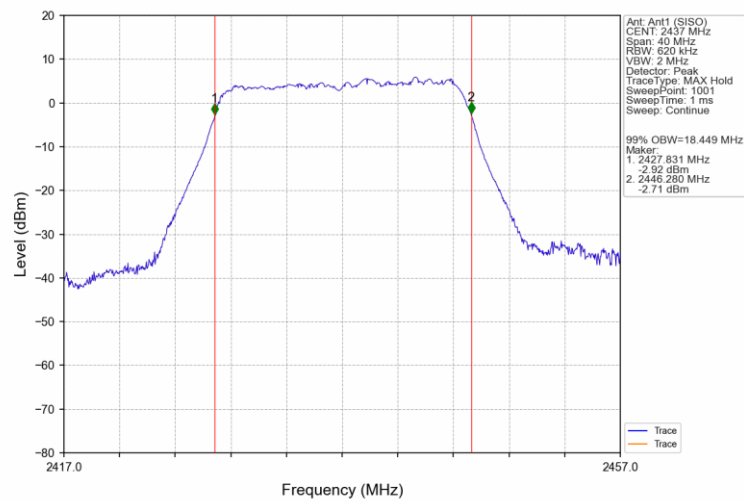
802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV

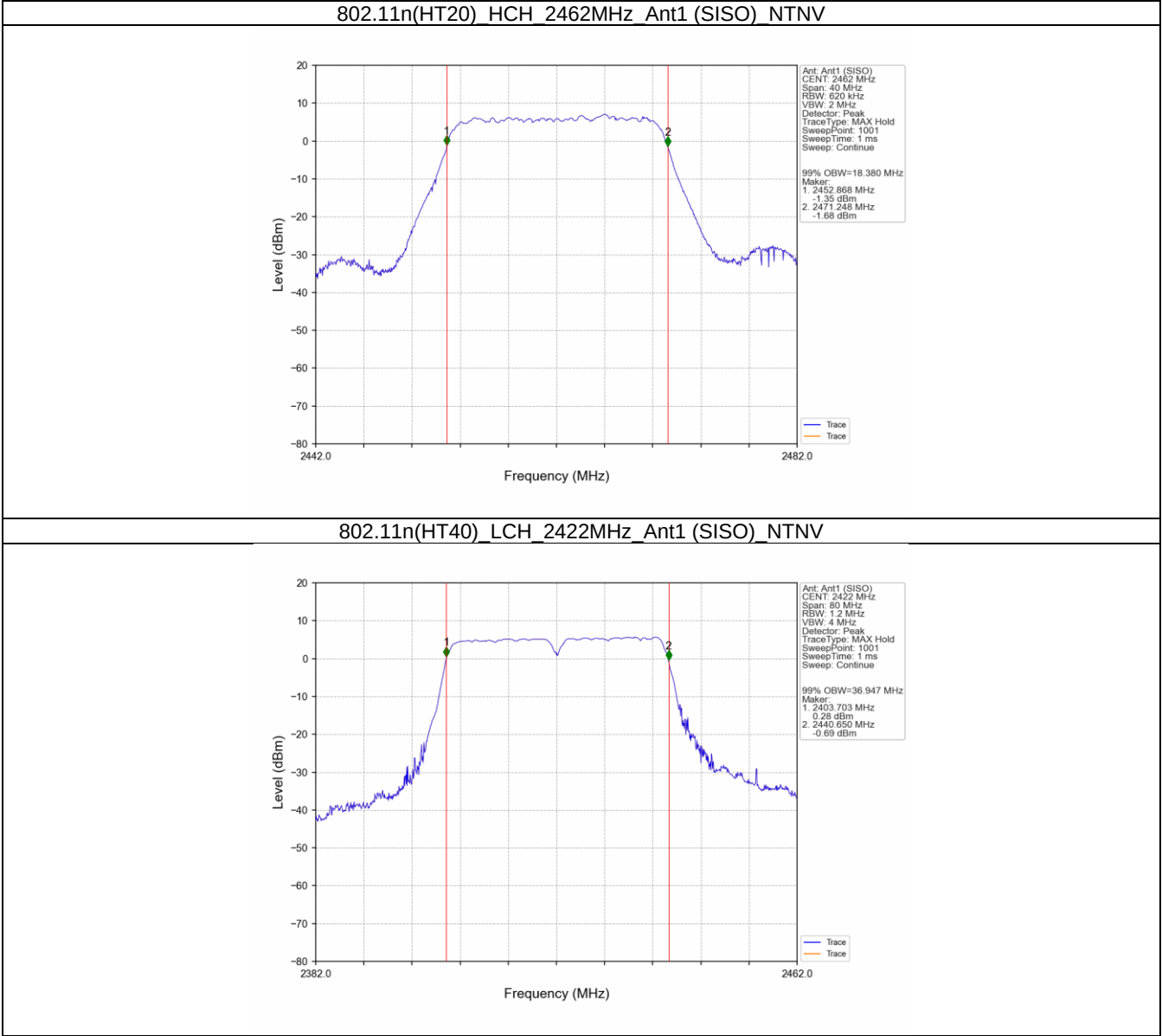


802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV

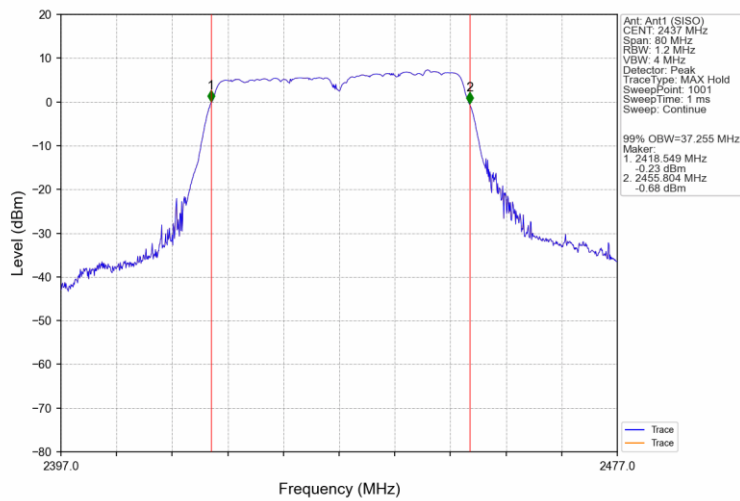


802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV

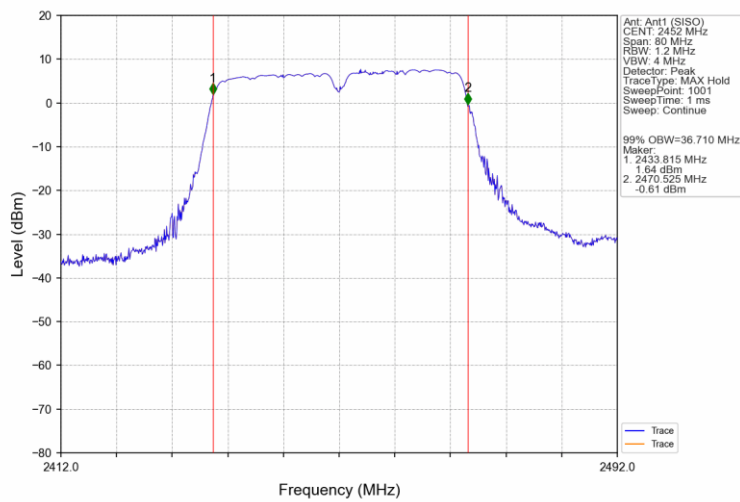




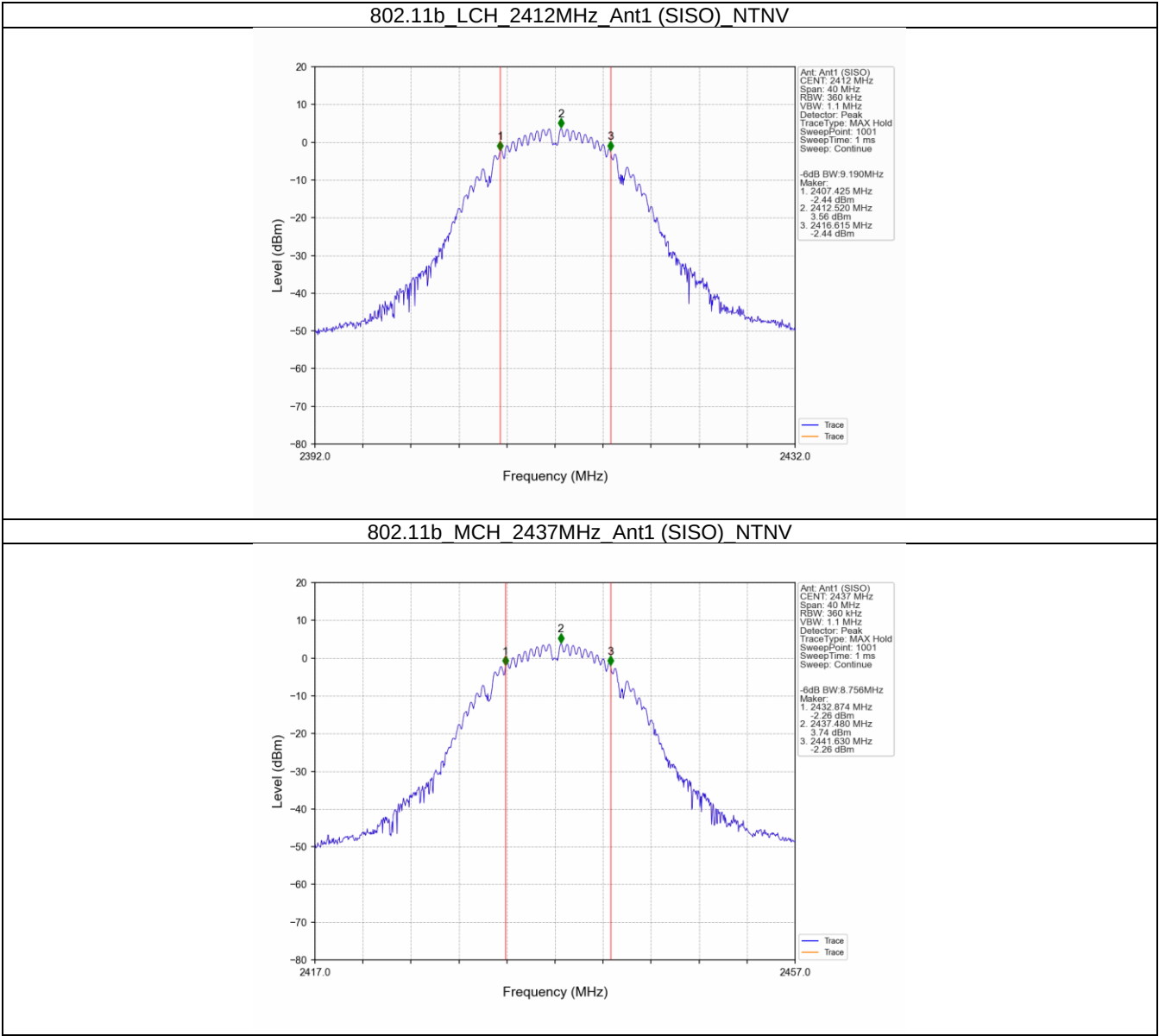
802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



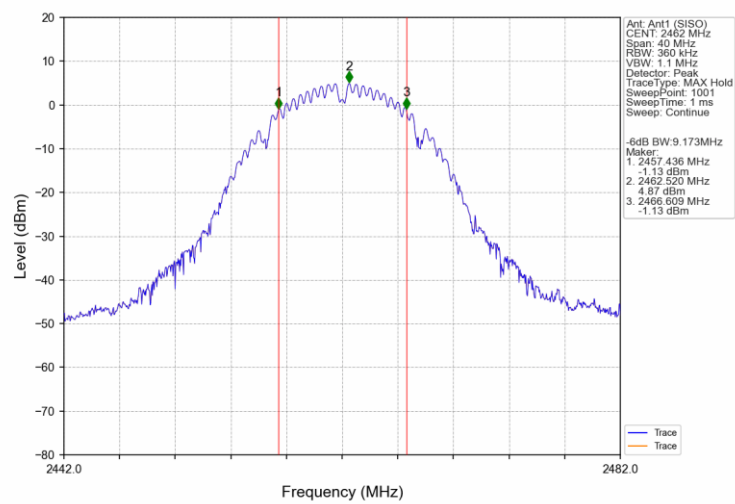
802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



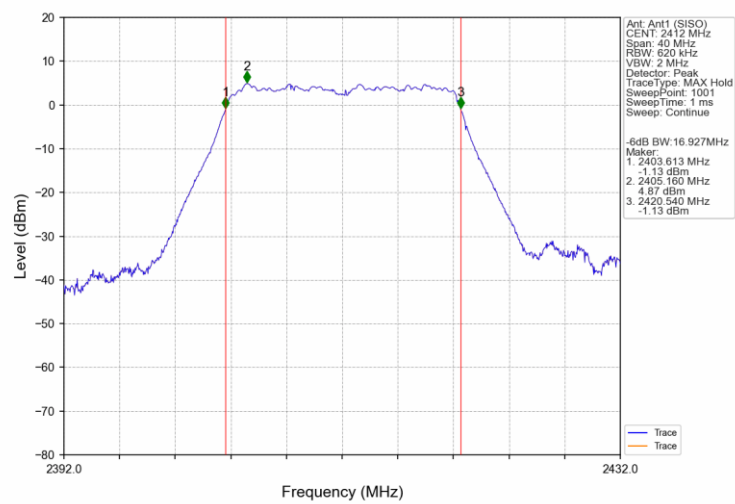
2.2.2 6dB BW



802.11b HCH 2462MHz Ant1 (SISO) NTN

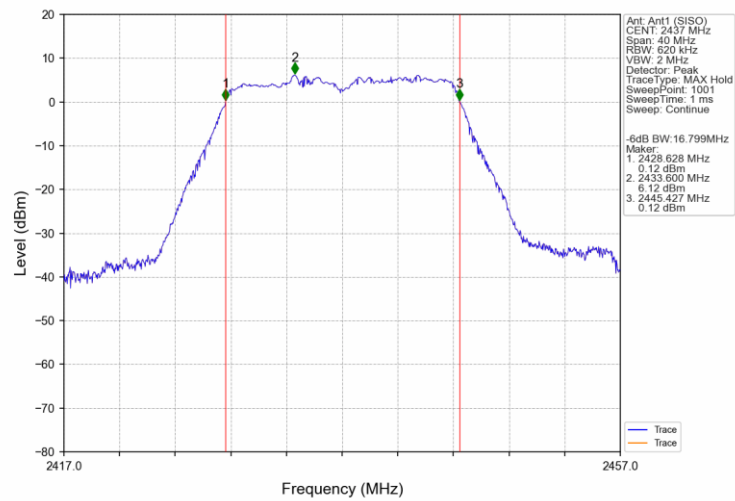


802.11g LCH 2412MHz Ant1 (SISO) NTN

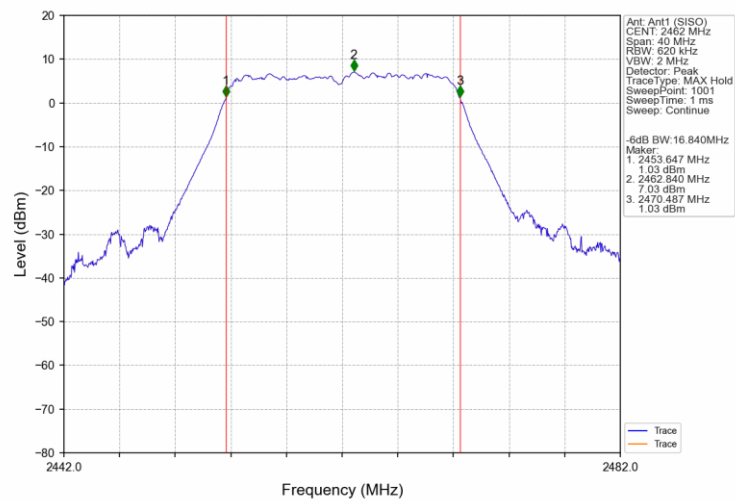




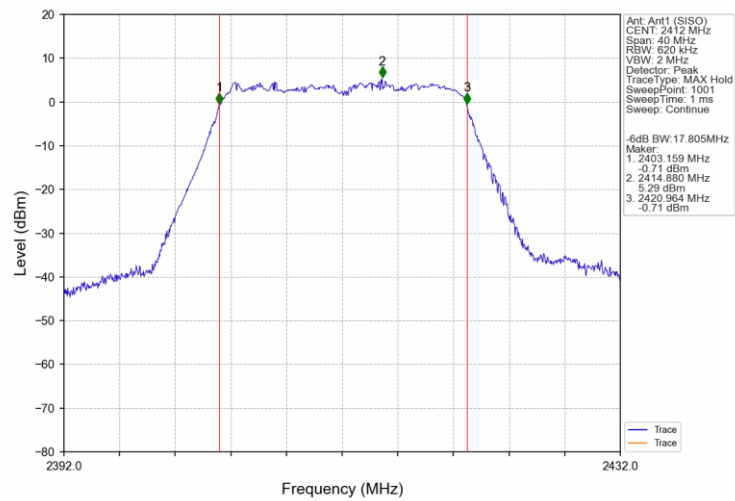
802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



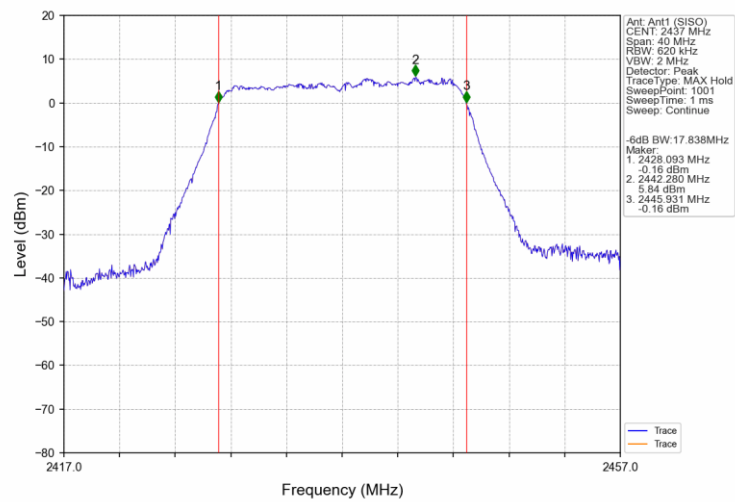
802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV

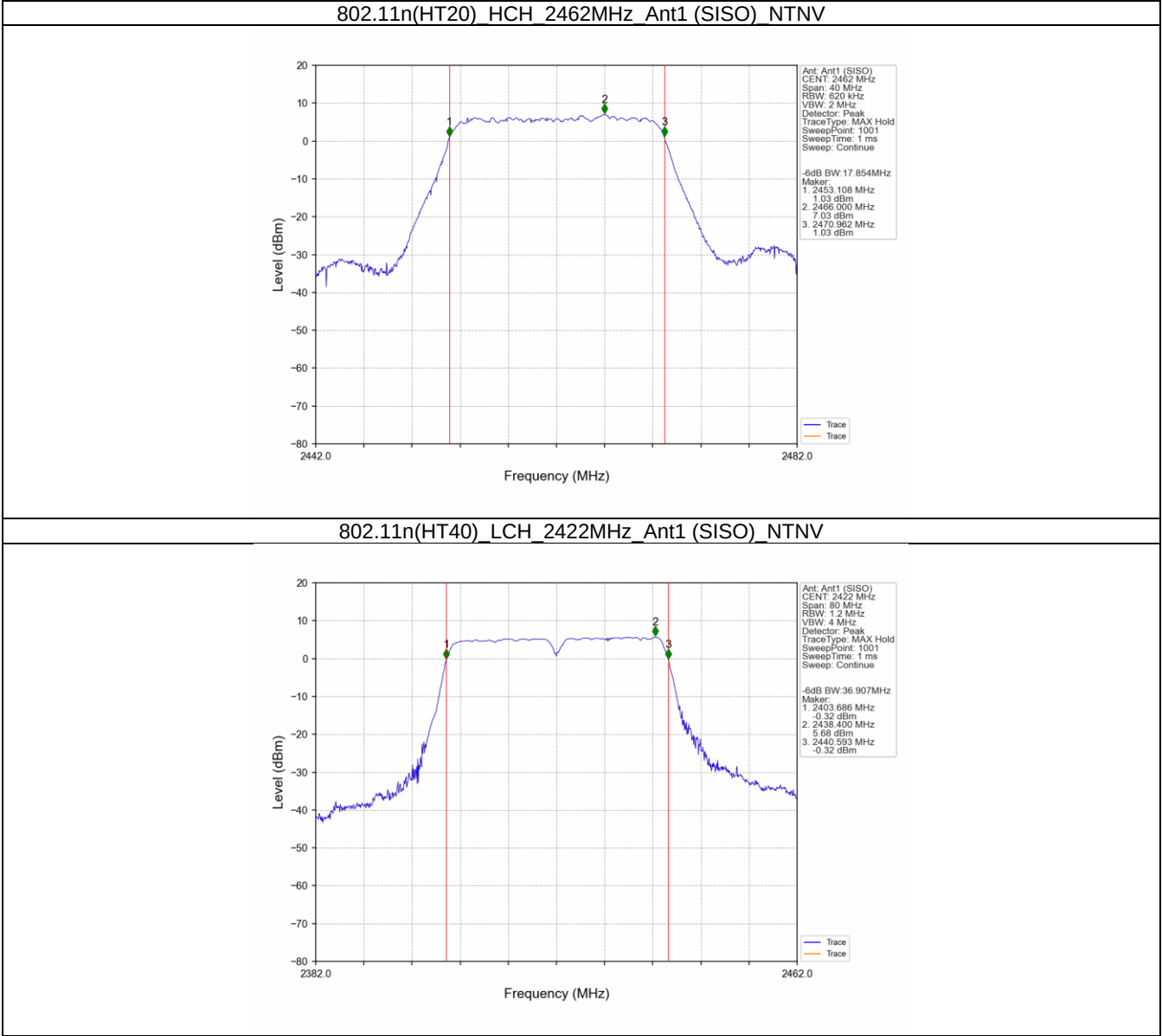


802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV

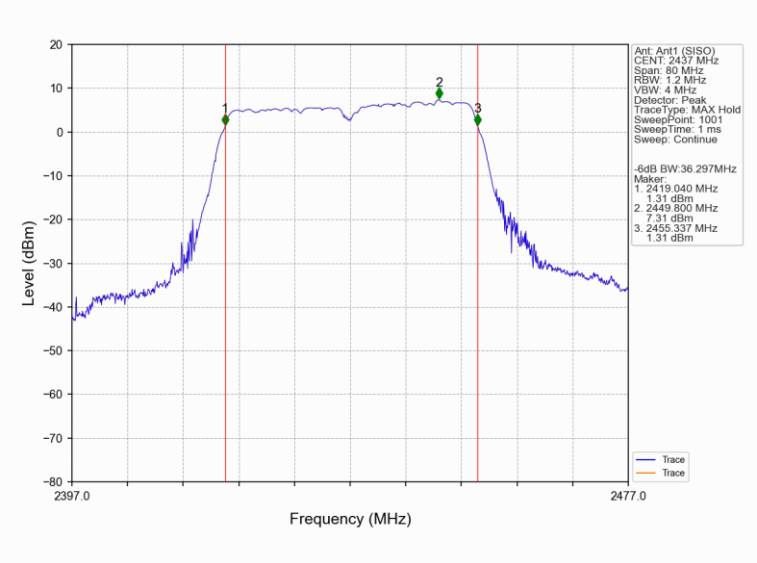


802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV

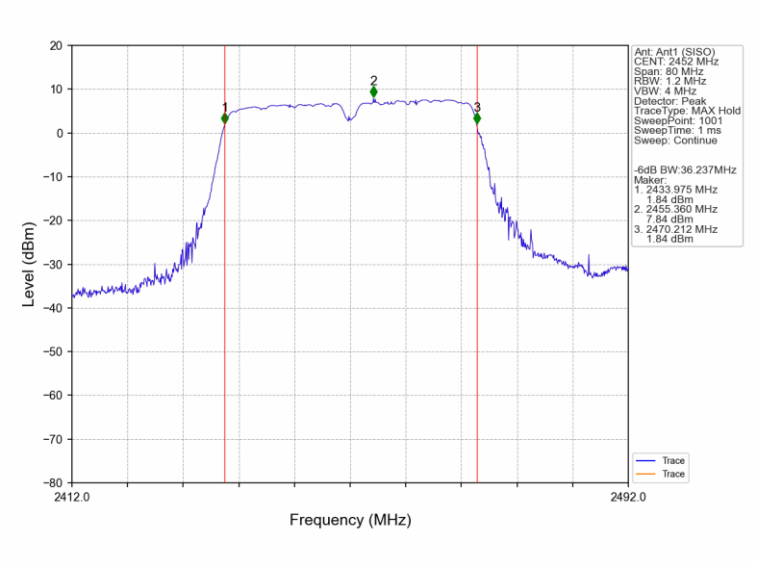




802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



### 3. Maximum Conducted Output Power

#### 3.1 Test Result

##### 3.1.1 Power

| Mode           | TX Type | Frequency (MHz) | Maximum Average Conducted Output Power (dBm) |       | Verdict |
|----------------|---------|-----------------|----------------------------------------------|-------|---------|
|                |         |                 | ANT1                                         | Limit |         |
| 802.11b        | SISO    | 2412            | 11.06                                        | <=30  | Pass    |
|                |         | 2437            | 11.44                                        | <=30  | Pass    |
|                |         | 2462            | 12.61                                        | <=30  | Pass    |
| 802.11g        | SISO    | 2412            | 10.54                                        | <=30  | Pass    |
|                |         | 2437            | 11.37                                        | <=30  | Pass    |
|                |         | 2462            | 12.77                                        | <=30  | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 10.43                                        | <=30  | Pass    |
|                |         | 2437            | 11.29                                        | <=30  | Pass    |
|                |         | 2462            | 12.67                                        | <=30  | Pass    |
| 802.11n (HT40) | SISO    | 2422            | 10.84                                        | <=30  | Pass    |
|                |         | 2437            | 11.57                                        | <=30  | Pass    |
|                |         | 2452            | 12.35                                        | <=30  | Pass    |

Note1: Antenna Gain: Ant1: 3.0dBi;

### 4. Maximum Power Spectral Density

#### 4.1 Test Result

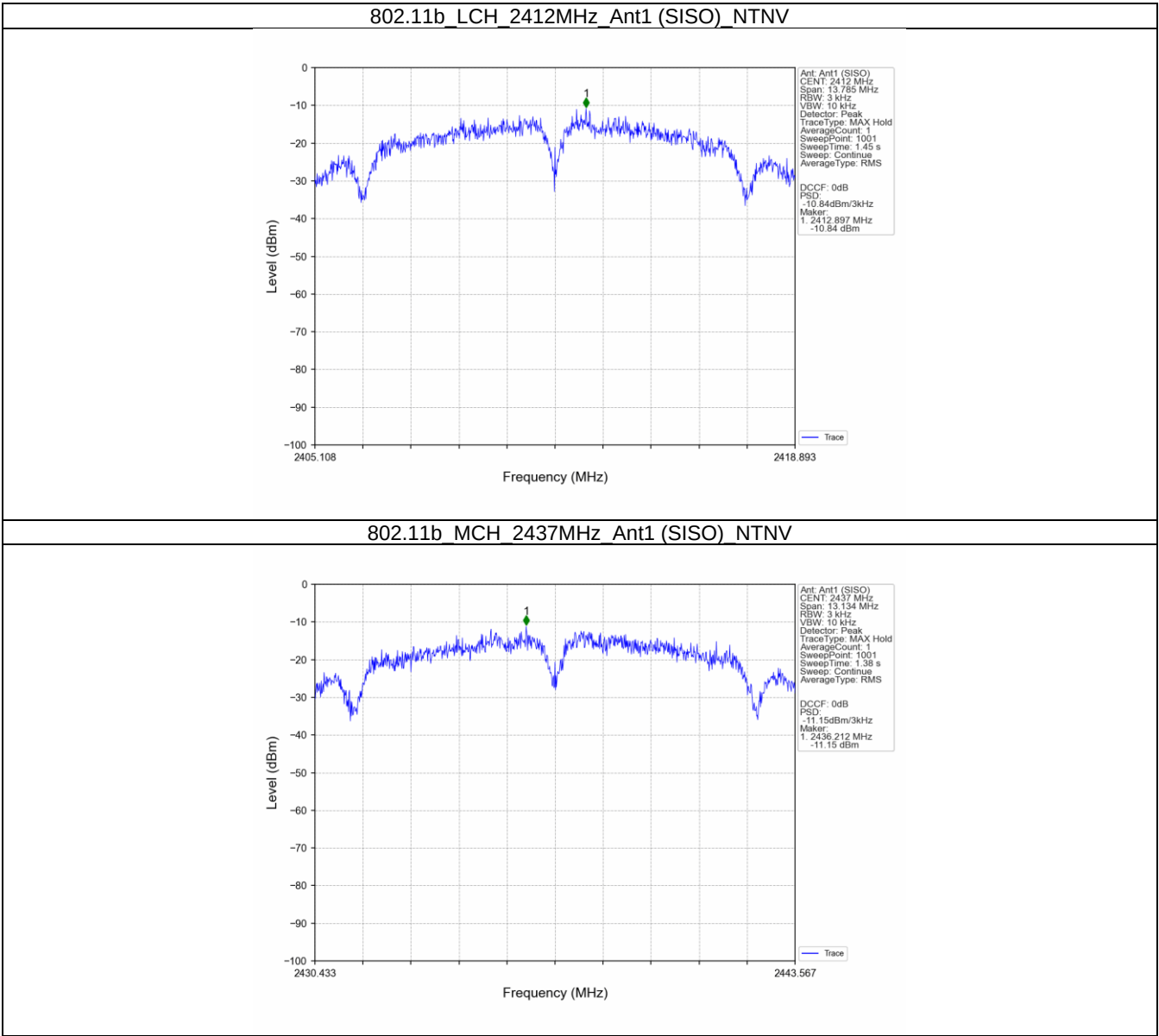
##### 4.1.1 PSD

| Mode           | TX Type | Frequency (MHz) | Maximum PSD (dBm/3kHz) |       | Verdict |
|----------------|---------|-----------------|------------------------|-------|---------|
|                |         |                 | ANT1                   | Limit |         |
| 802.11b        | SISO    | 2412            | -10.84                 | <=8   | Pass    |
|                |         | 2437            | -11.15                 | <=8   | Pass    |
|                |         | 2462            | -9.47                  | <=8   | Pass    |
| 802.11g        | SISO    | 2412            | -15.12                 | <=8   | Pass    |
|                |         | 2437            | -13.53                 | <=8   | Pass    |
|                |         | 2462            | -11.92                 | <=8   | Pass    |
| 802.11n (HT20) | SISO    | 2412            | -14.76                 | <=8   | Pass    |
|                |         | 2437            | -14.09                 | <=8   | Pass    |
|                |         | 2462            | -12.82                 | <=8   | Pass    |
| 802.11n (HT40) | SISO    | 2422            | -17.39                 | <=8   | Pass    |
|                |         | 2437            | -15.11                 | <=8   | Pass    |
|                |         | 2452            | -15.75                 | <=8   | Pass    |

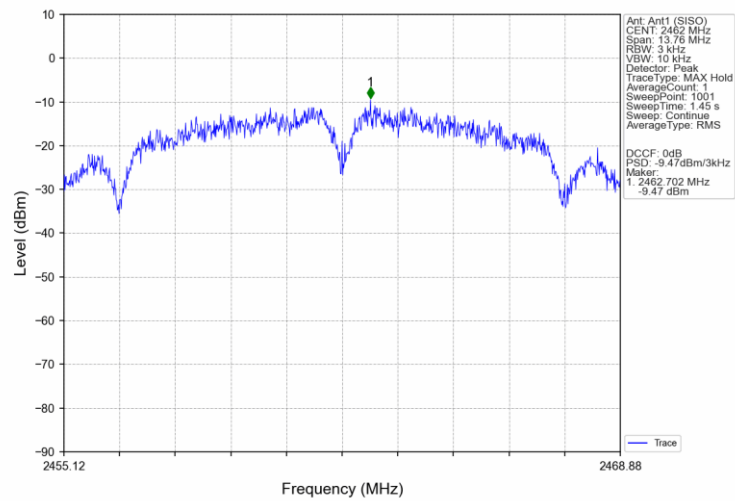
Note1: Antenna Gain: Ant1: 3.0dBi;

4.2 Test Graph

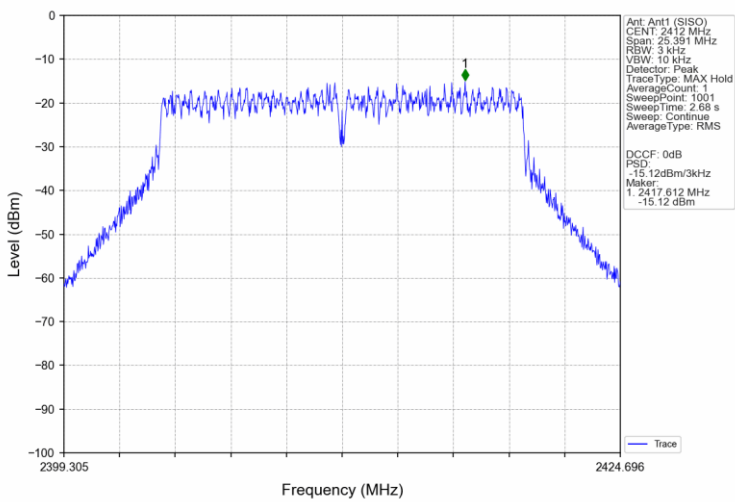
4.2.1 PSD

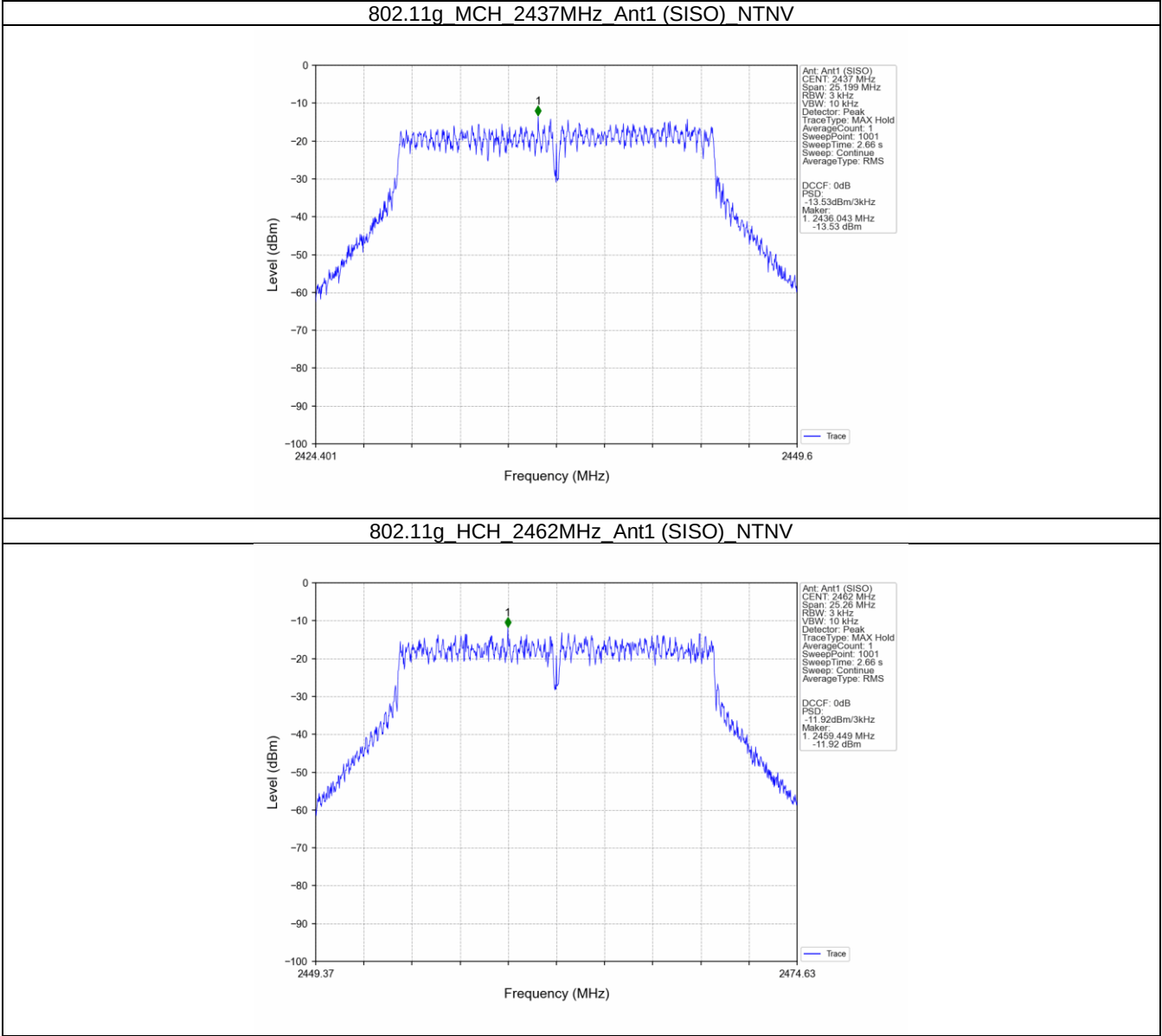


802.11b HCH 2462MHz Ant1 (SISO) NTN



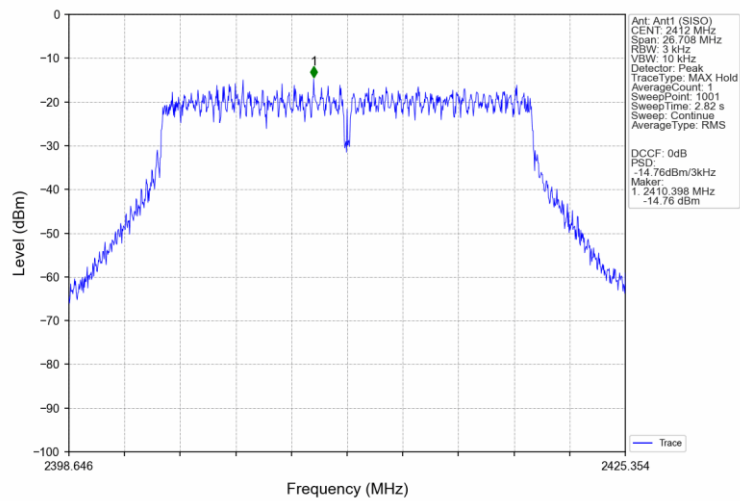
802.11g LCH 2412MHz Ant1 (SISO) NTN



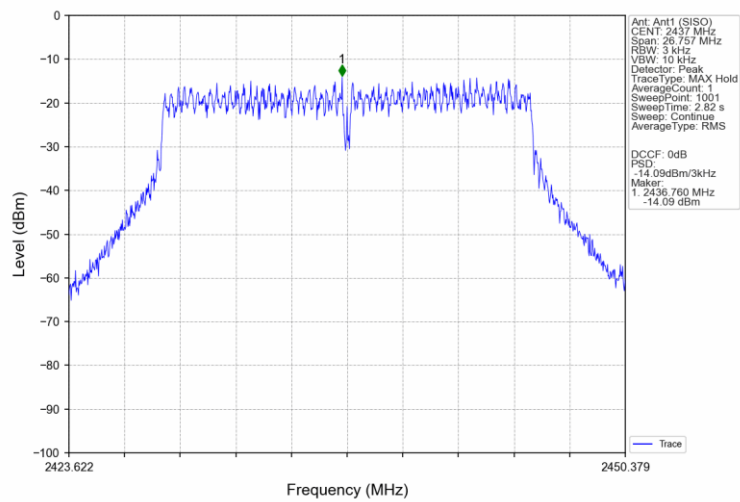




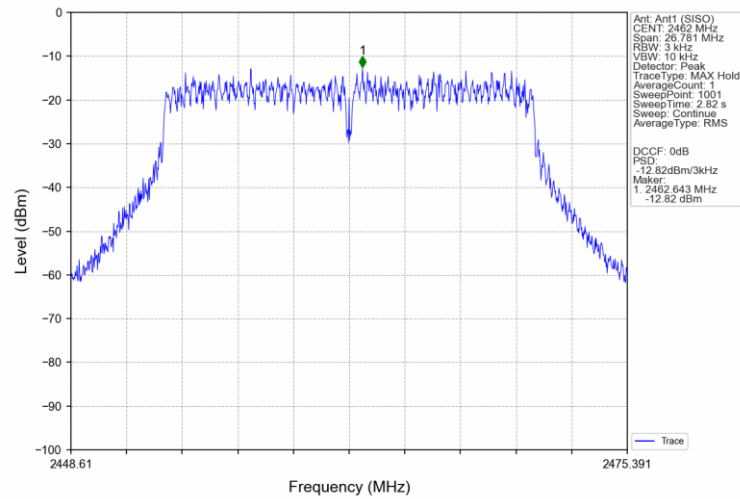
802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



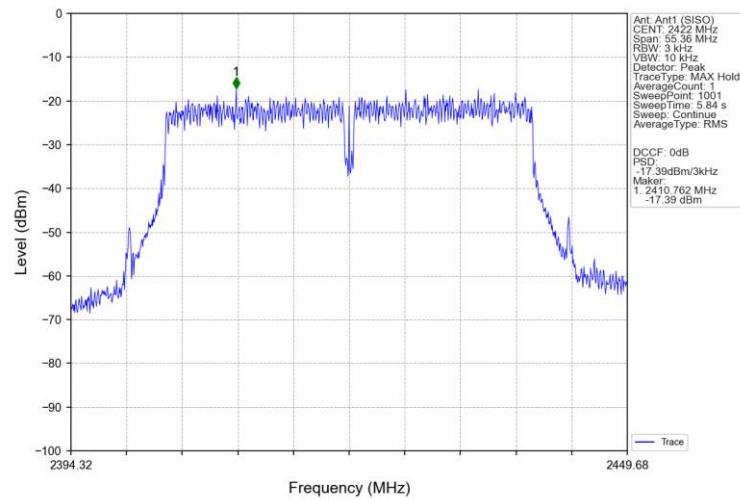
802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



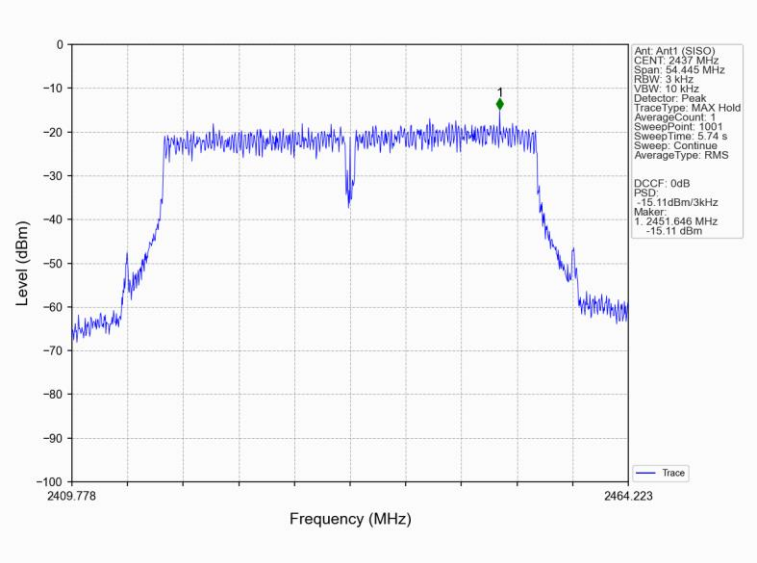
802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



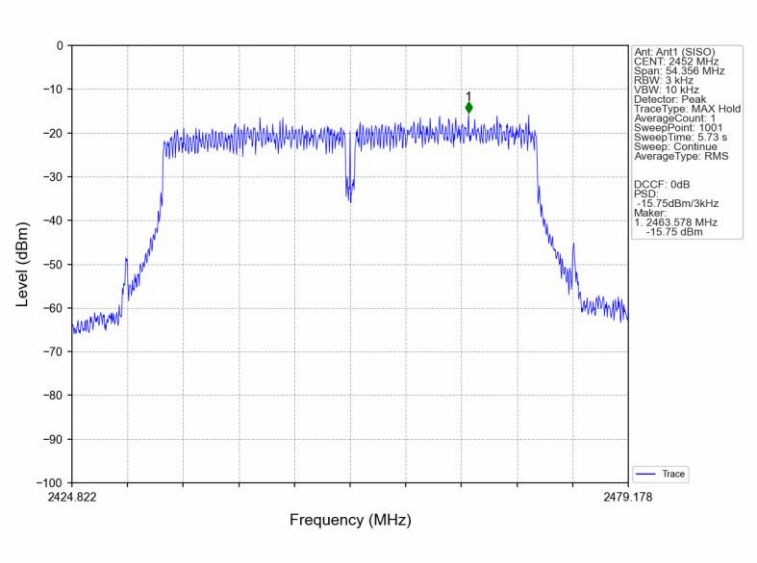
802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



## 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) |
|----------------|---------|-----------------|-----|--------------------------|
| 802.11b        | SISO    | 2412            | 1   | 3.01                     |
|                |         | 2437            | 1   | 3.38                     |
|                |         | 2462            | 1   | 4.65                     |
| 802.11g        | SISO    | 2412            | 1   | -0.65                    |
|                |         | 2437            | 1   | 0.30                     |
|                |         | 2462            | 1   | 1.53                     |
| 802.11n (HT20) | SISO    | 2412            | 1   | -0.54                    |
|                |         | 2437            | 1   | 0.45                     |
|                |         | 2462            | 1   | 1.87                     |
| 802.11n (HT40) | SISO    | 2422            | 1   | -3.36                    |
|                |         | 2437            | 1   | -2.06                    |
|                |         | 2452            | 1   | -1.29                    |

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.

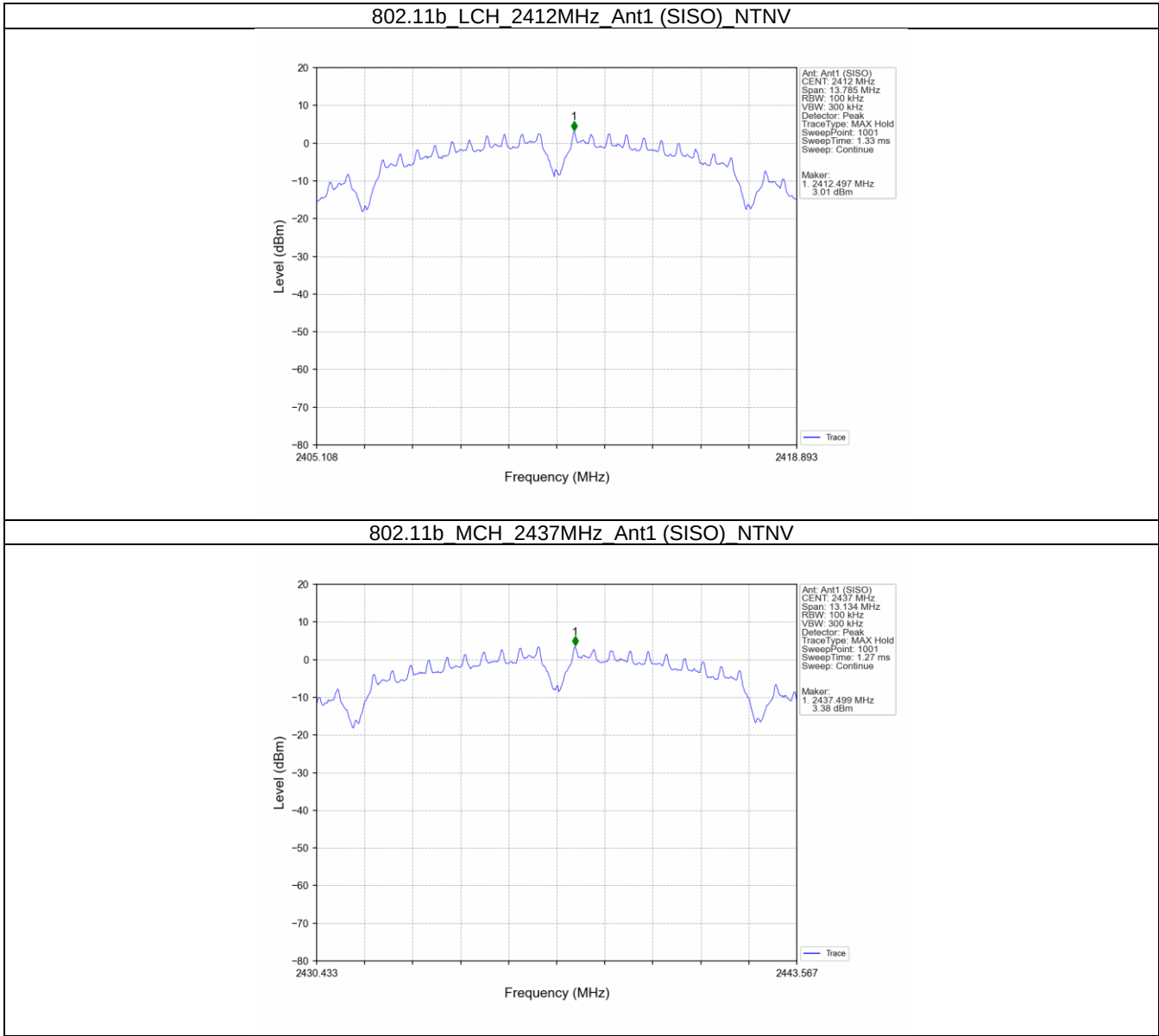
#### 5.1.2 CSE

| Mode           | TX Type | Frequency (MHz) | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|----------------|---------|-----------------|-----|--------------------------|-------------|---------|
| 802.11b        | SISO    | 2412            | 1   | 4.65                     | -25.35      | Pass    |
|                |         | 2437            | 1   | 4.65                     | -25.35      | Pass    |
|                |         | 2462            | 1   | 4.65                     | -25.35      | Pass    |
| 802.11g        | SISO    | 2412            | 1   | 1.53                     | -28.47      | Pass    |
|                |         | 2437            | 1   | 1.53                     | -28.47      | Pass    |
|                |         | 2462            | 1   | 1.53                     | -28.47      | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 1   | 1.87                     | -28.13      | Pass    |
|                |         | 2437            | 1   | 1.87                     | -28.13      | Pass    |
|                |         | 2462            | 1   | 1.87                     | -28.13      | Pass    |
| 802.11n (HT40) | SISO    | 2422            | 1   | -1.29                    | -31.29      | Pass    |
|                |         | 2437            | 1   | -1.29                    | -31.29      | Pass    |
|                |         | 2452            | 1   | -1.29                    | -31.29      | Pass    |

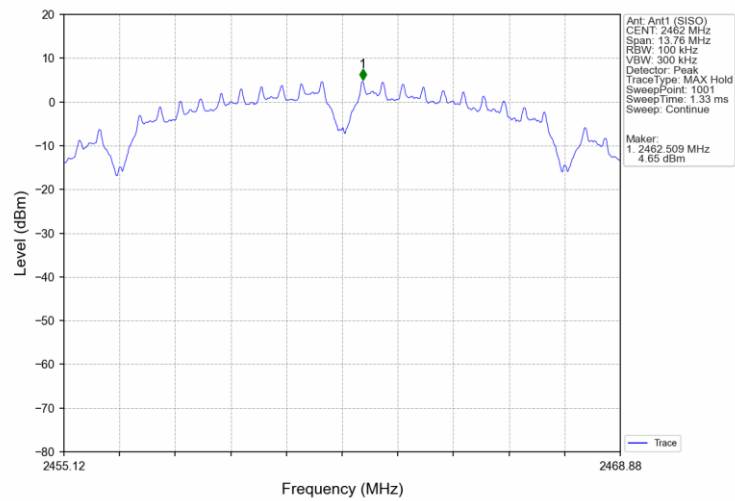
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

5.2 Test Graph

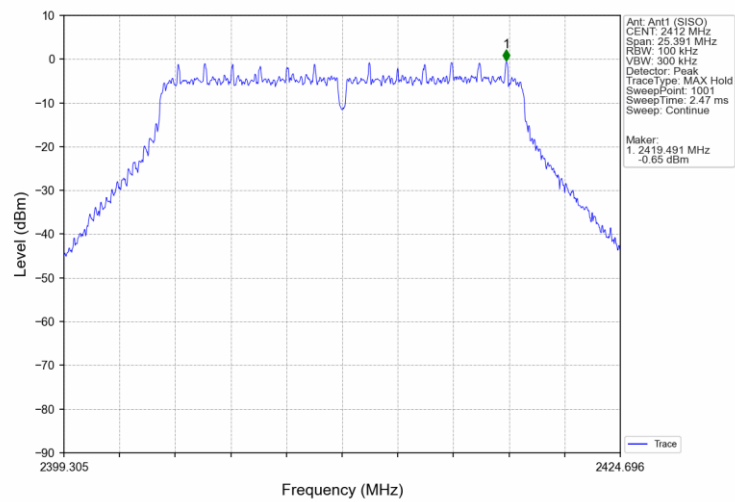
5.2.1 Ref



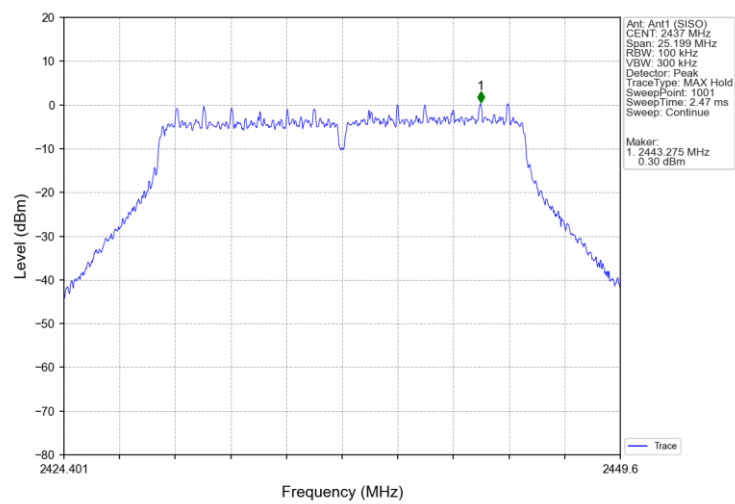
802.11b HCH 2462MHz Ant1 (SISO) NTN



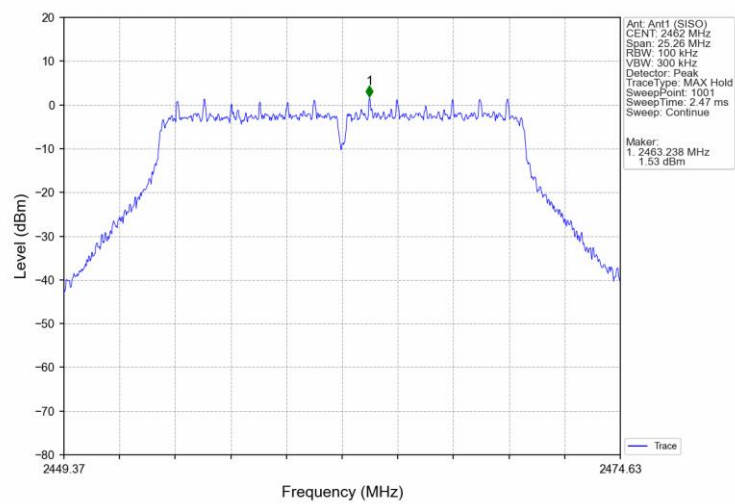
802.11g LCH 2412MHz Ant1 (SISO) NTN

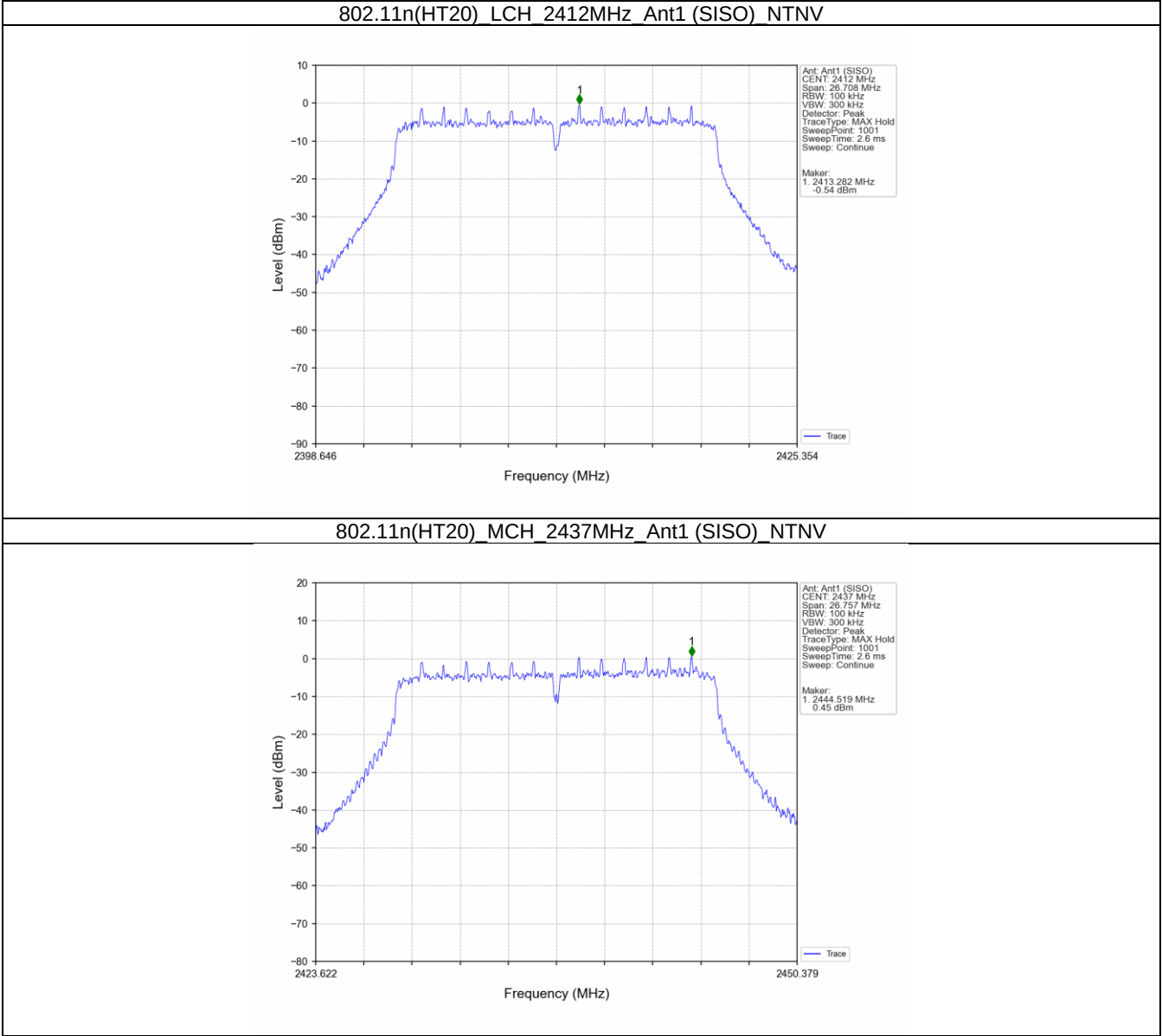


802.11g\_MCH\_2437MHz\_Ant1 (SISO) NTN



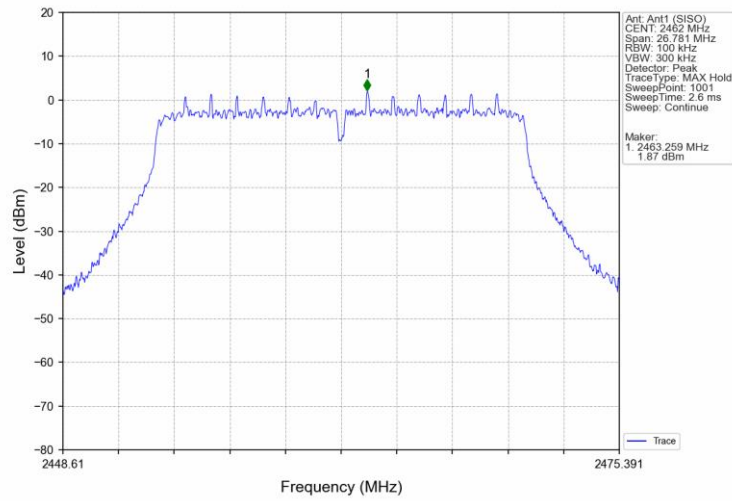
802.11g\_HCH\_2462MHz\_Ant1 (SISO) NTN



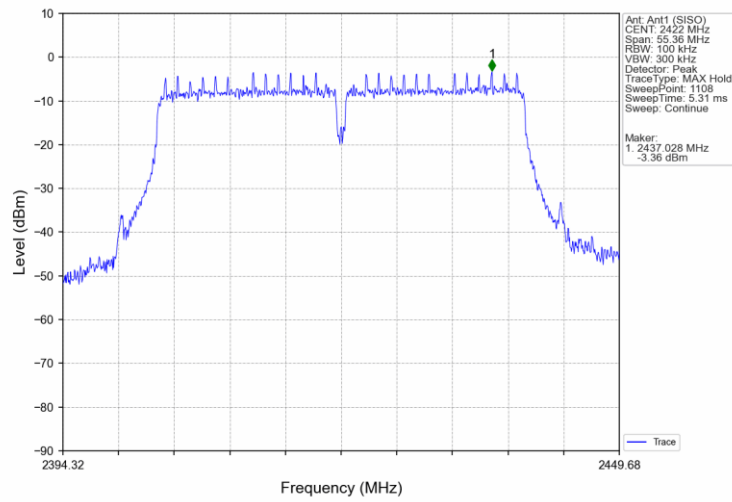


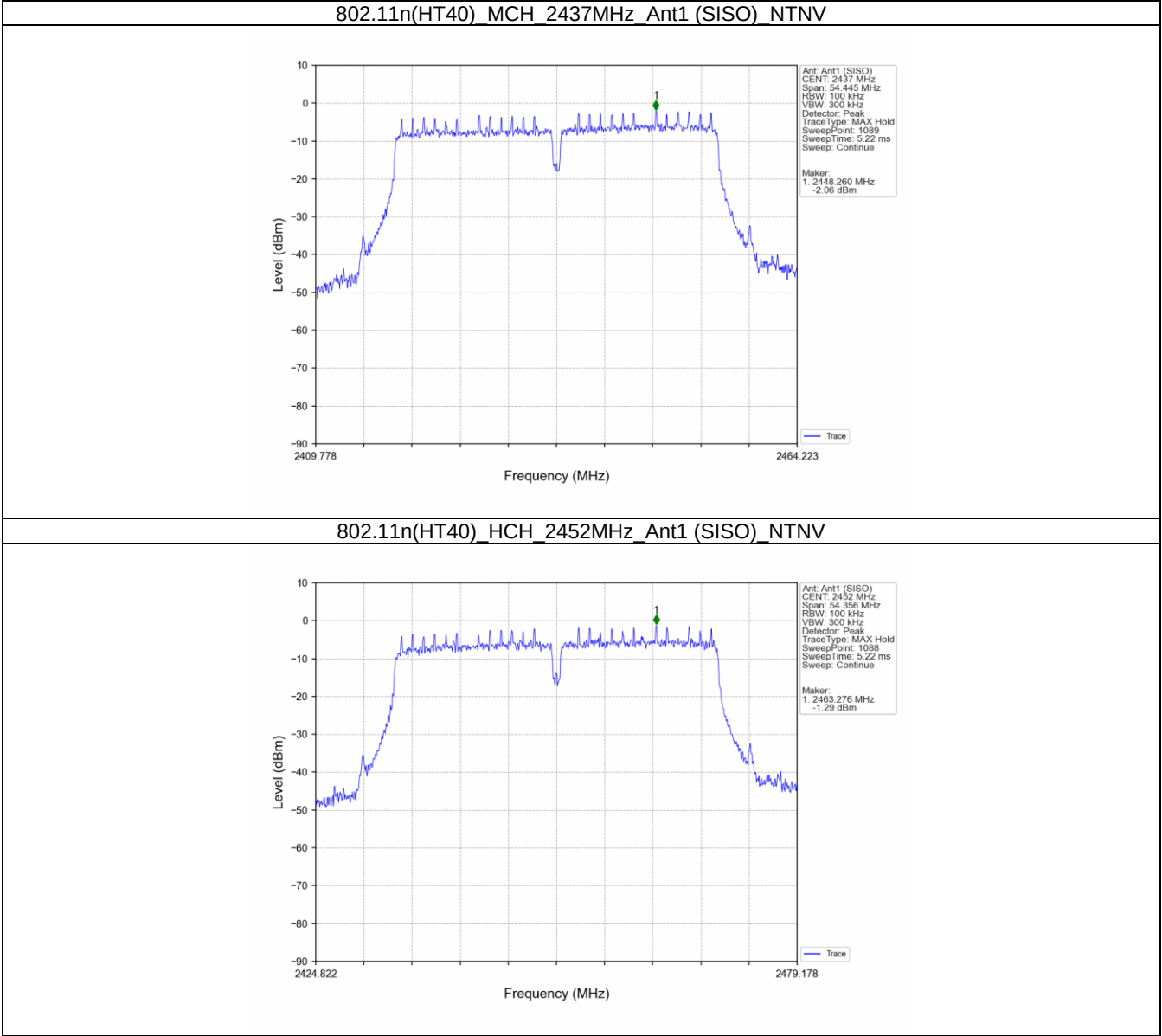


802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV

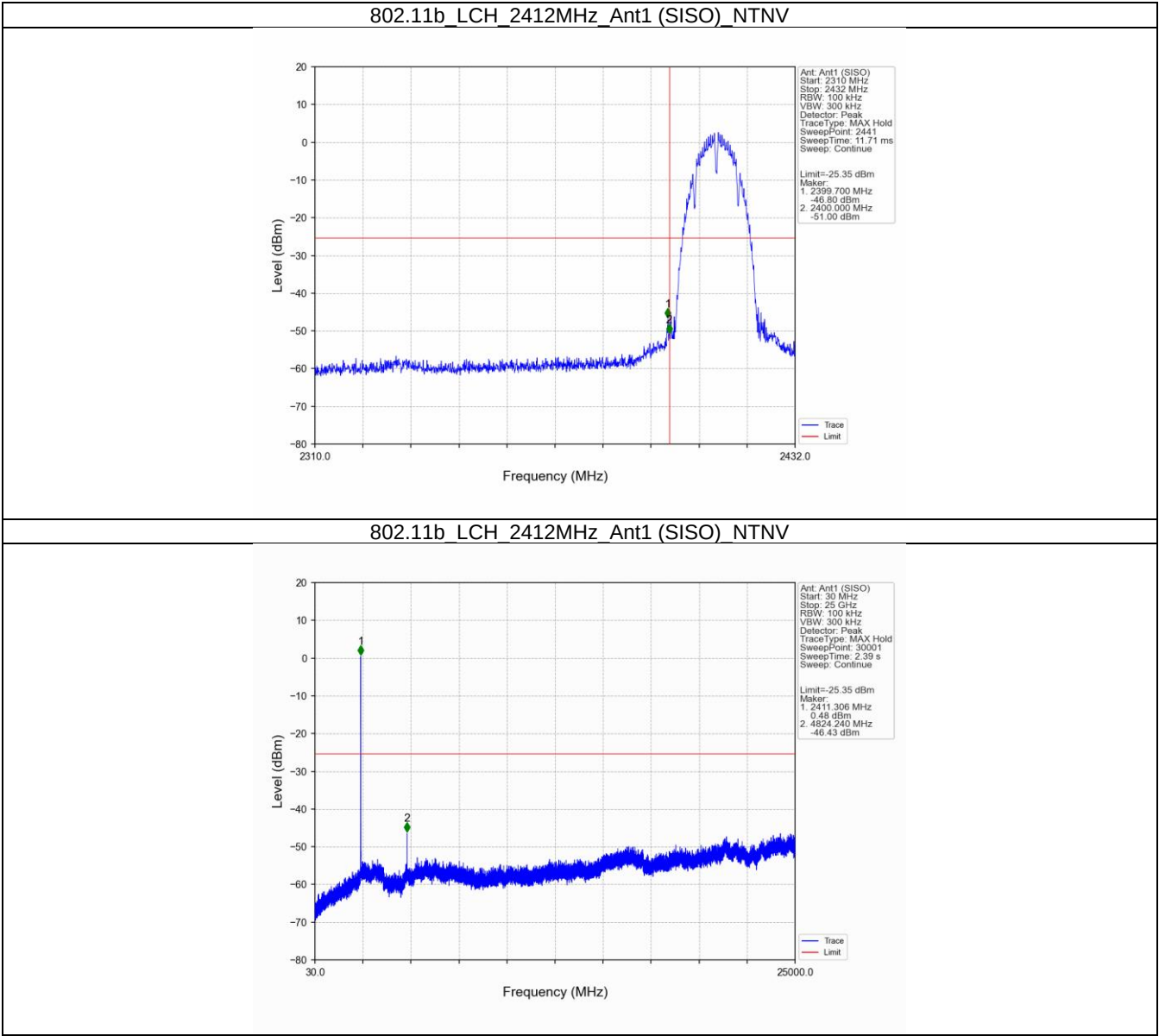


802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV

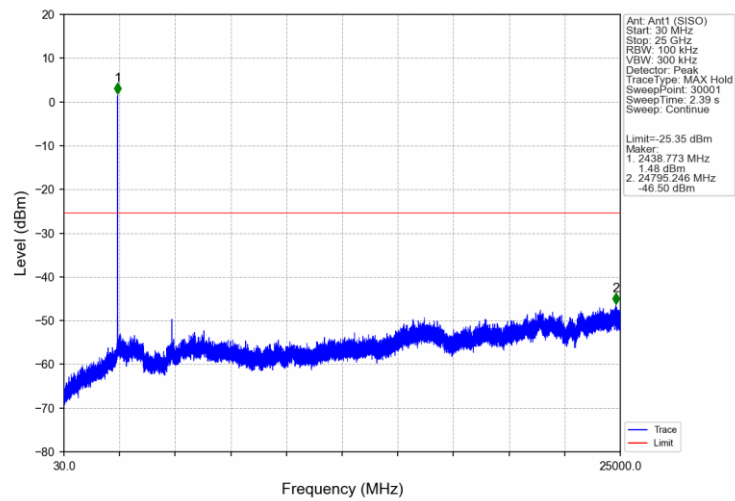




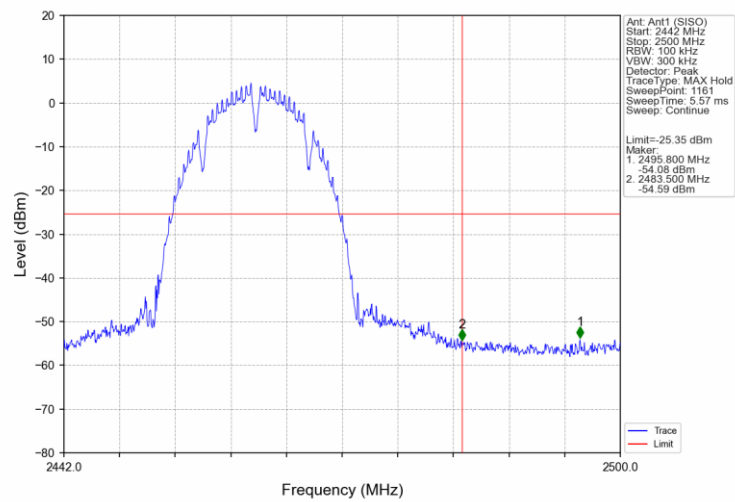
5.2.2 CSE



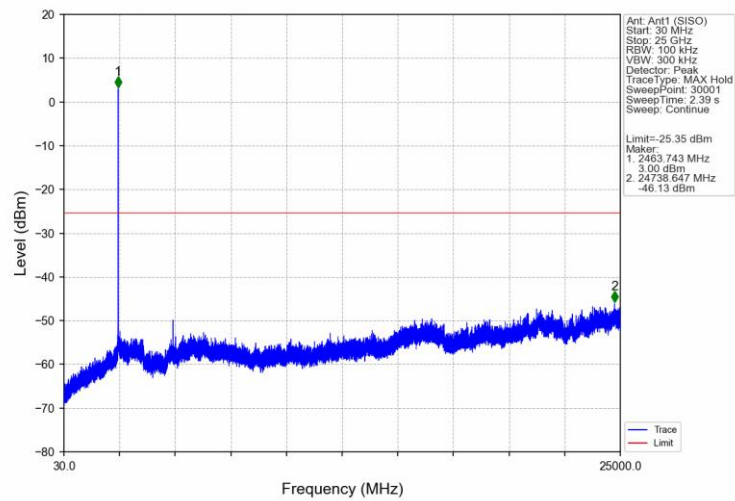
802.11b\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



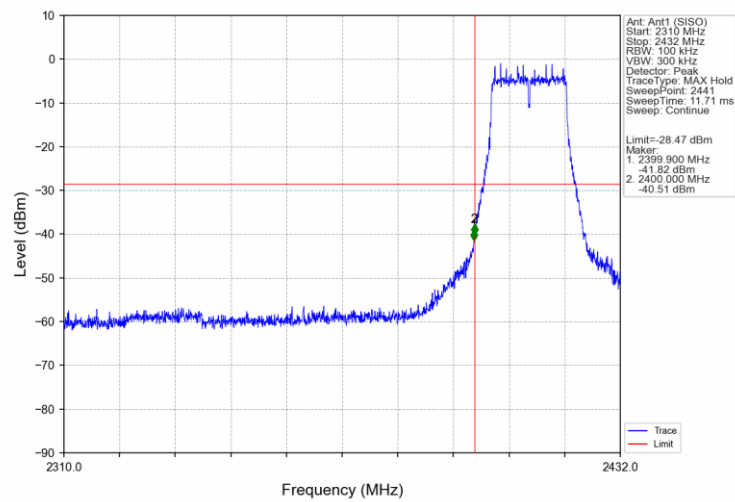
802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



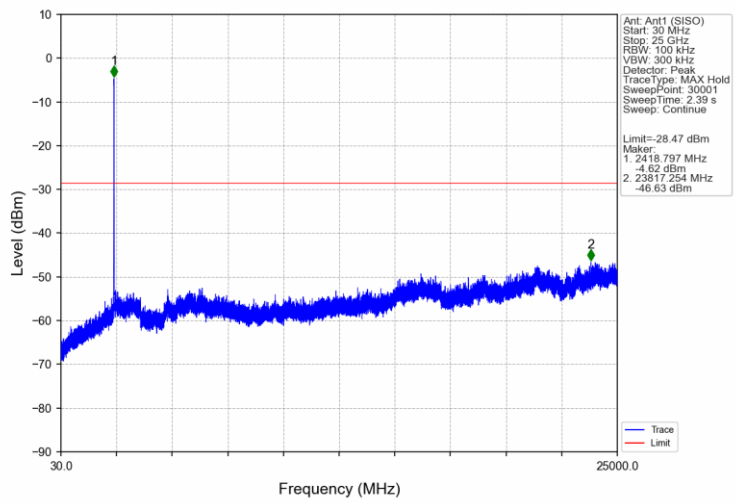
802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



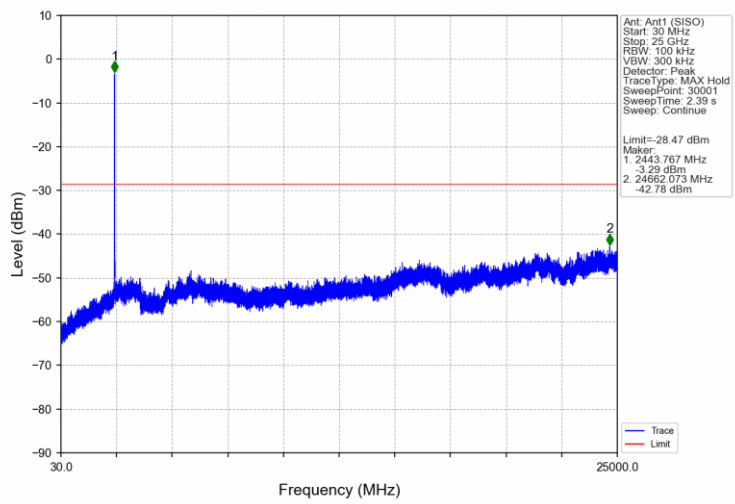
802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



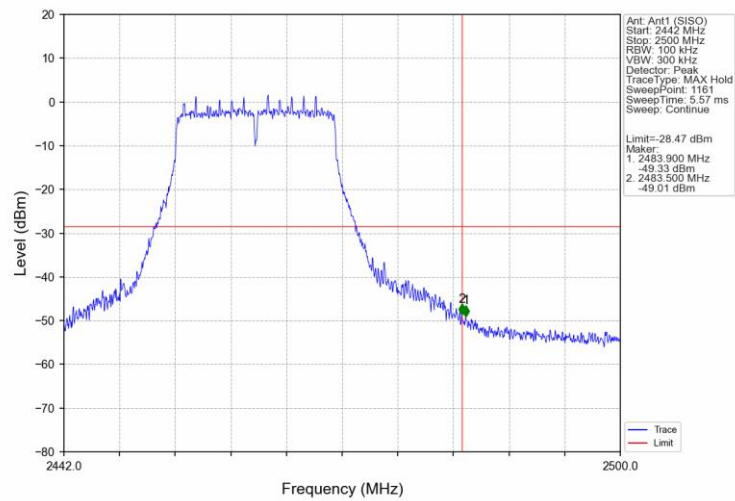
802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



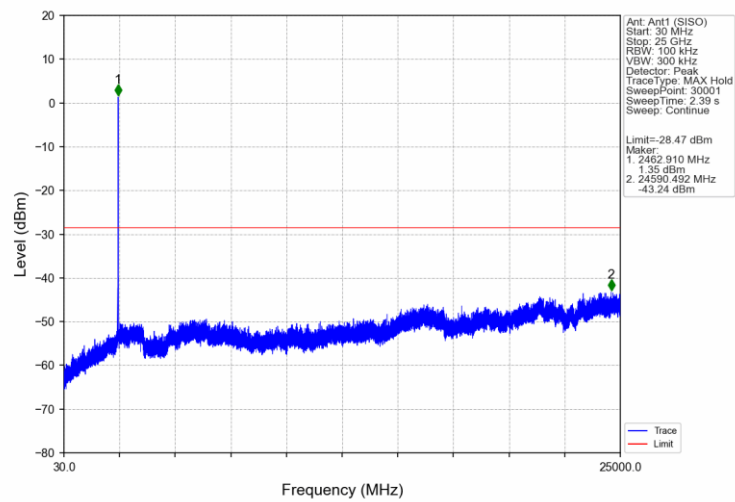
802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



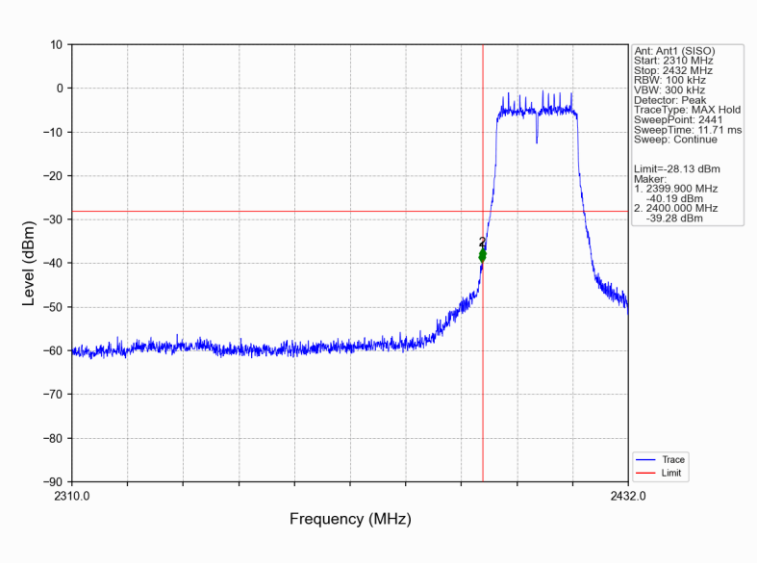
802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



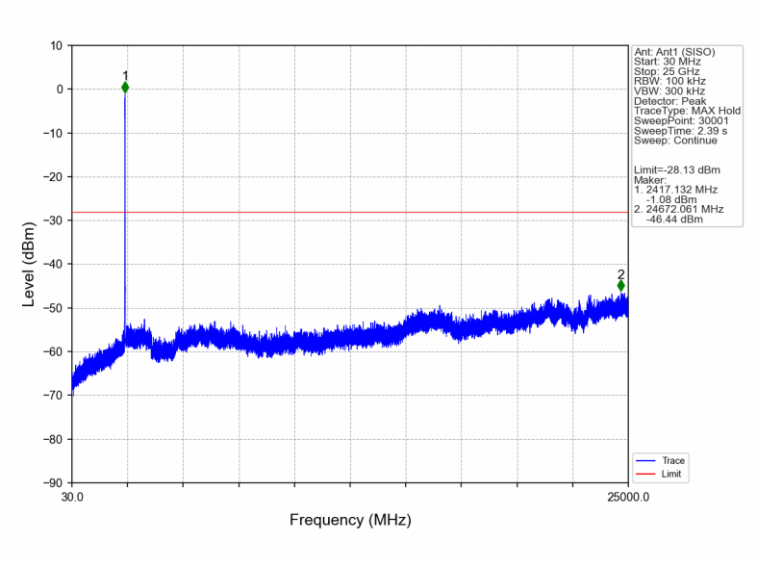
802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



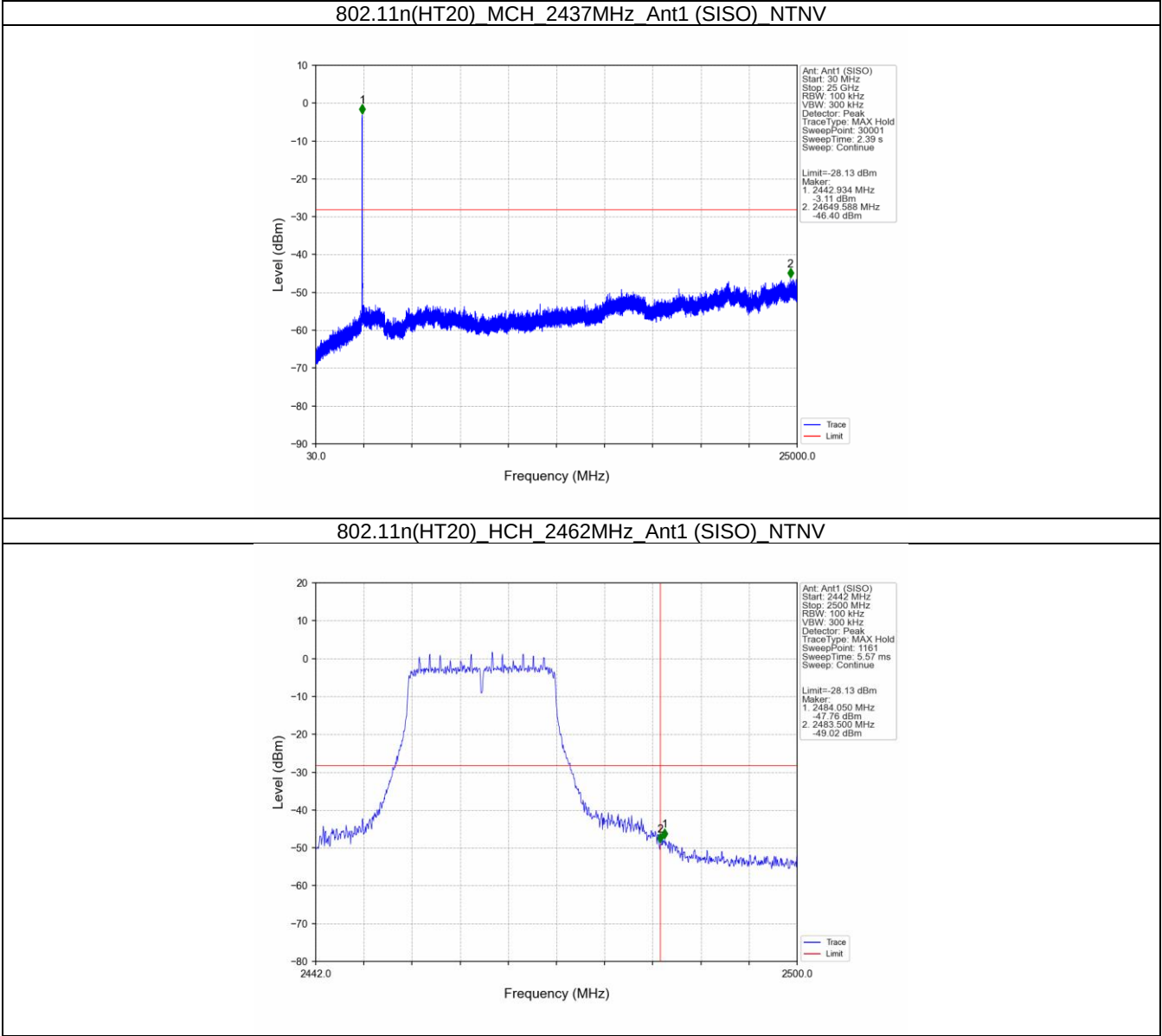
802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV

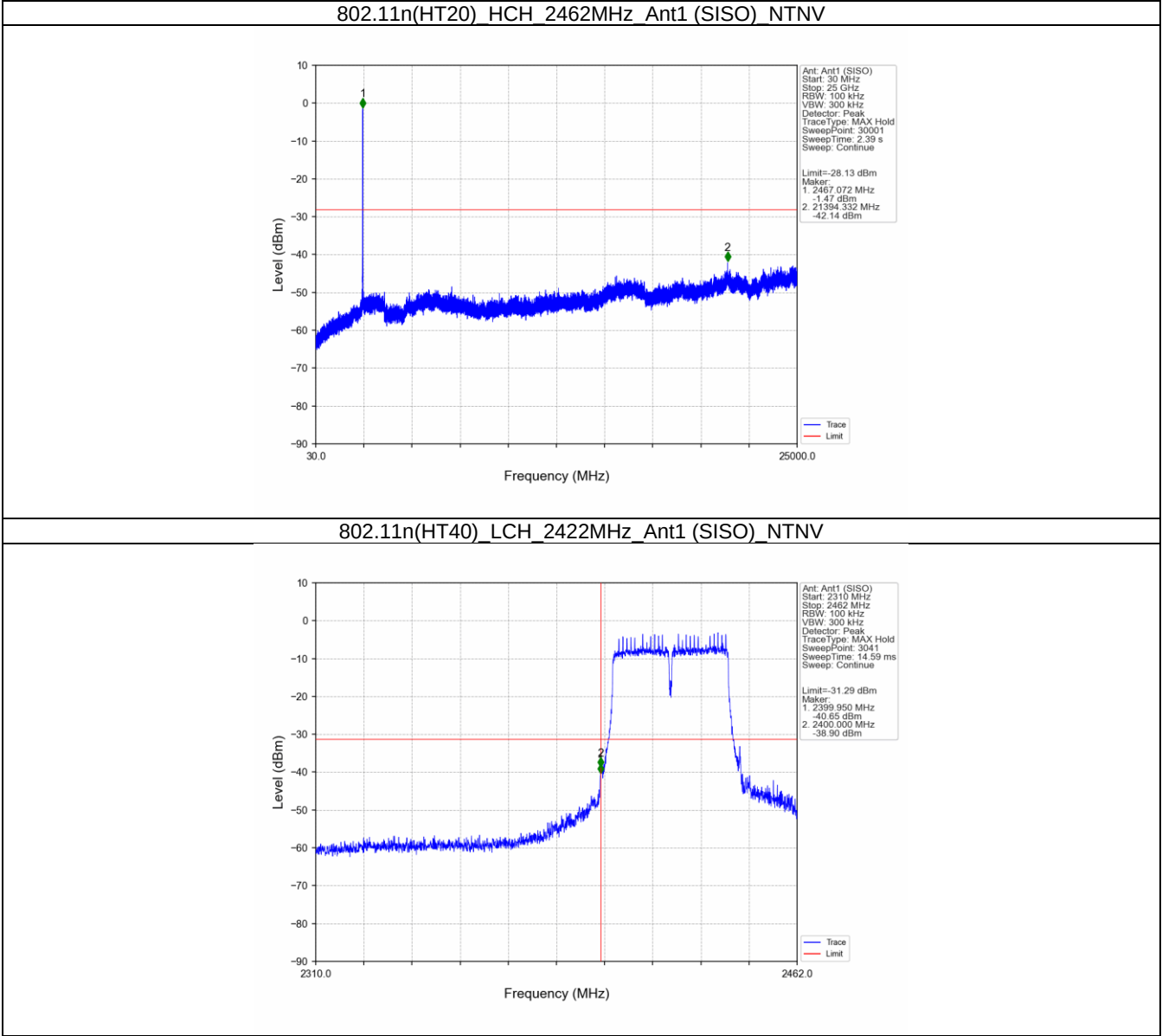


802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV

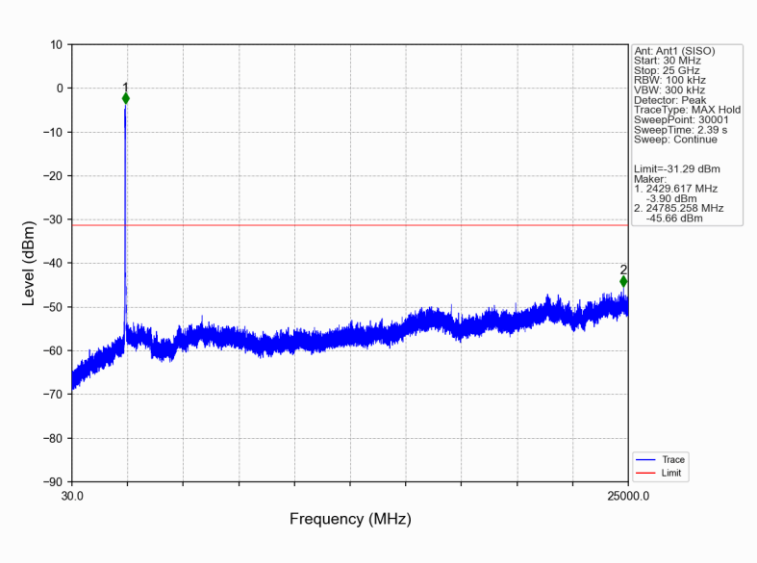




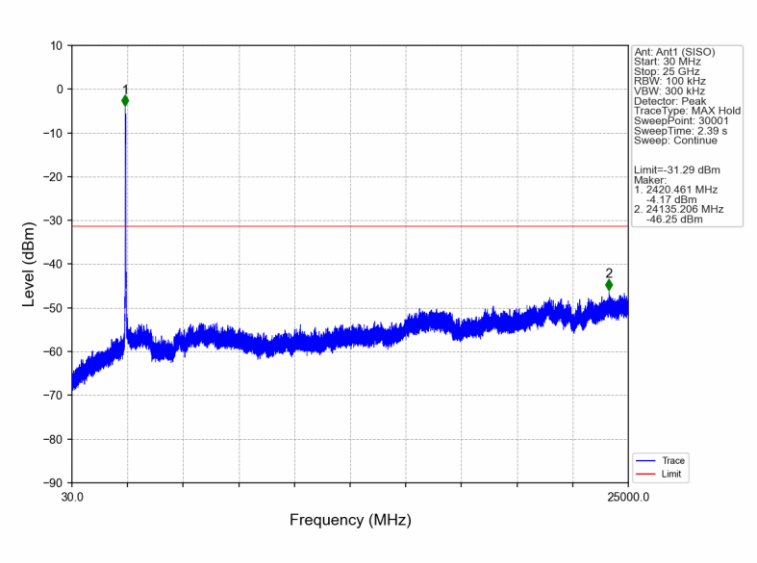


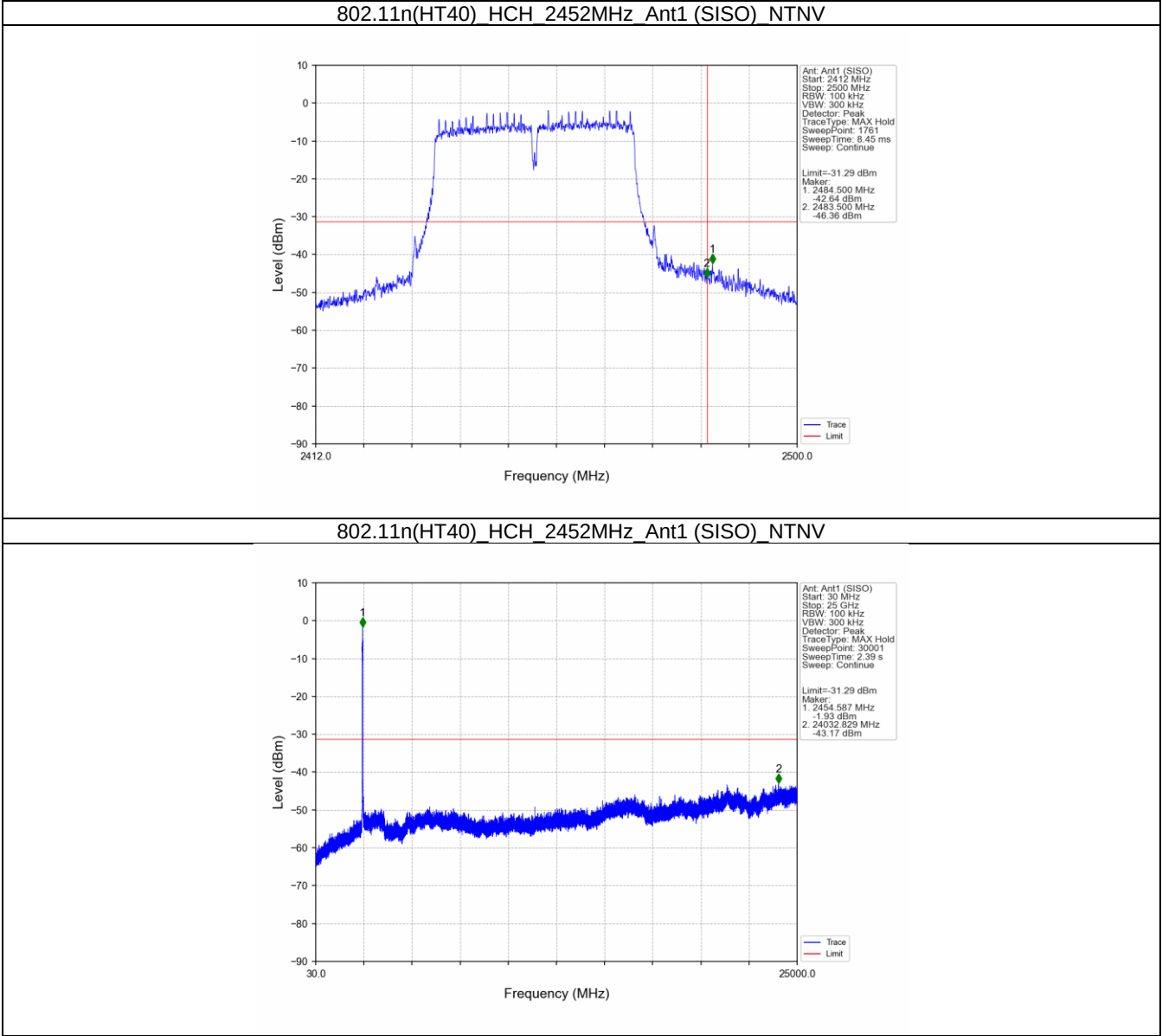


802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV





6. Form731

6.1 Test Result

6.1.1 Form731

| Lower Freq (MHz) | High Freq (MHz) | MAX Power (W) | MAX Power (dBm) |
|------------------|-----------------|---------------|-----------------|
| 2412             | 2462            | 0.0189        | 12.77           |
| 2422             | 2452            | 0.0172        | 12.35           |