

## **Appendix RF Test Data for 2.4GWIFI**

**Company:** : Shenzhen Showtop Technology Co., Ltd

**EUT** : advertising machine commercial intelligent terminal

**FCC ID:** : 2BD4M-AI75W

**Model Number** : AI75W

**Report No.** : HTT202510060F01

**Reviewed By** : Heber He

## 1. Duty Cycle

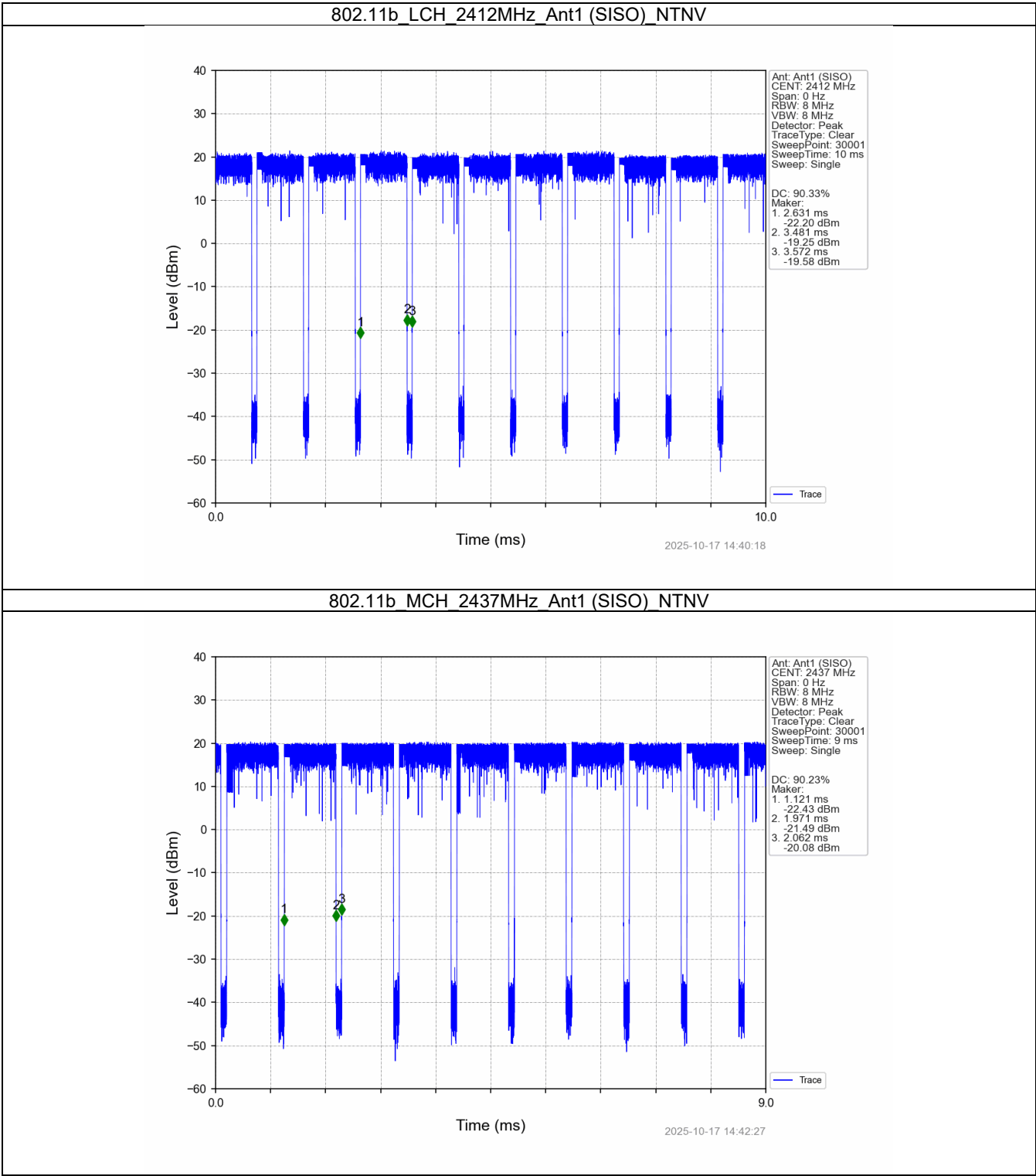
### 1.1 Test Result

#### 1.1.1 Ant1

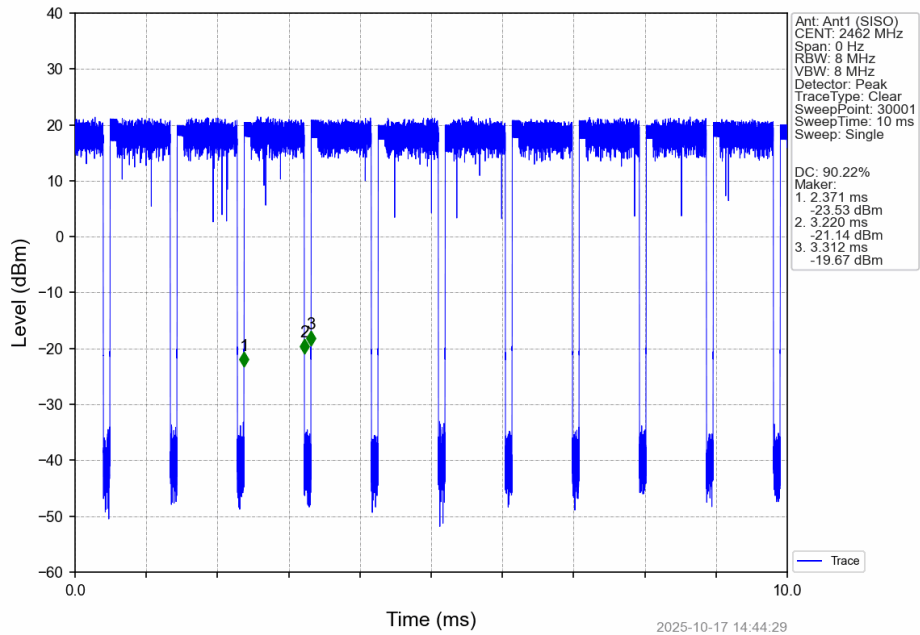
| Ant1           |         |                 |           |             |                |                                   |                       |
|----------------|---------|-----------------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode           | Tx Type | Frequency (MHz) | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| 802.11b        | SISO    | 2412            | 0.850     | 0.941       | 90.33          | 0.44                              | 0.04                  |
|                |         | 2437            | 0.850     | 0.942       | 90.23          | 0.45                              | 0.03                  |
|                |         | 2462            | 0.849     | 0.941       | 90.22          | 0.45                              | 0.04                  |
| 802.11g        | SISO    | 2412            | 0.177     | 0.276       | 64.13          | 1.93                              | 0.11                  |
|                |         | 2437            | 0.177     | 0.276       | 64.13          | 1.93                              | 0.10                  |
|                |         | 2462            | 0.177     | 0.276       | 64.13          | 1.93                              | 0.07                  |
| 802.11n (HT20) | SISO    | 2412            | 0.165     | 0.265       | 62.26          | 2.06                              | 0.15                  |
|                |         | 2437            | 0.165     | 0.265       | 62.26          | 2.06                              | 0.06                  |
|                |         | 2462            | 0.165     | 0.264       | 62.50          | 2.04                              | 0.05                  |

1.2 Test Graph

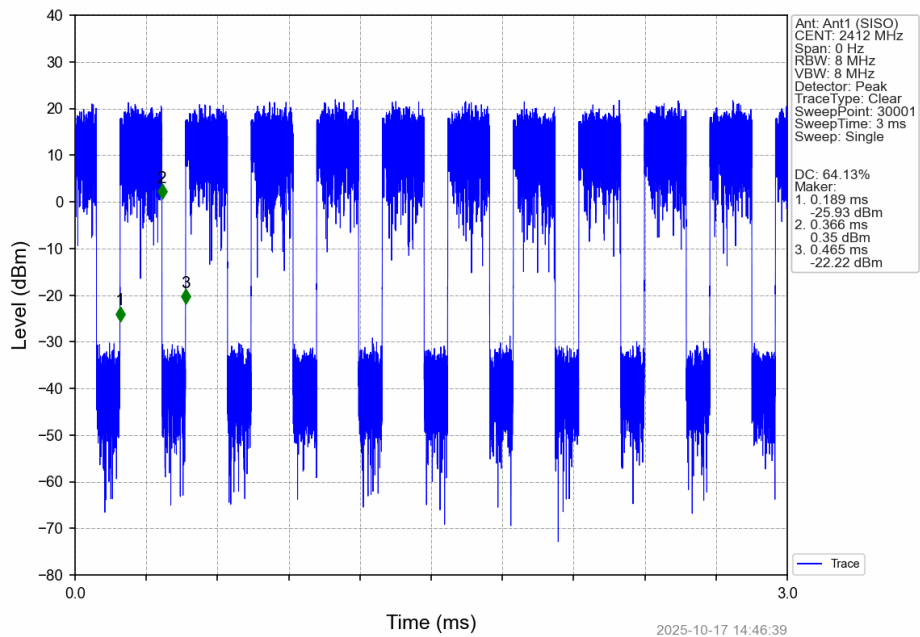
1.2.1 Ant1



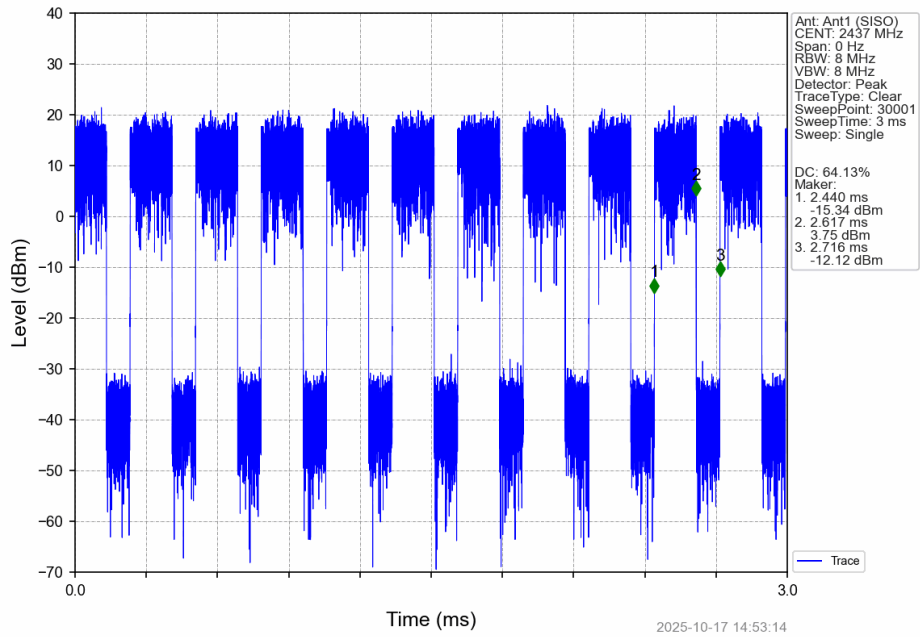
# 802.11b HCH 2462MHz Ant1 (SISO) NTN



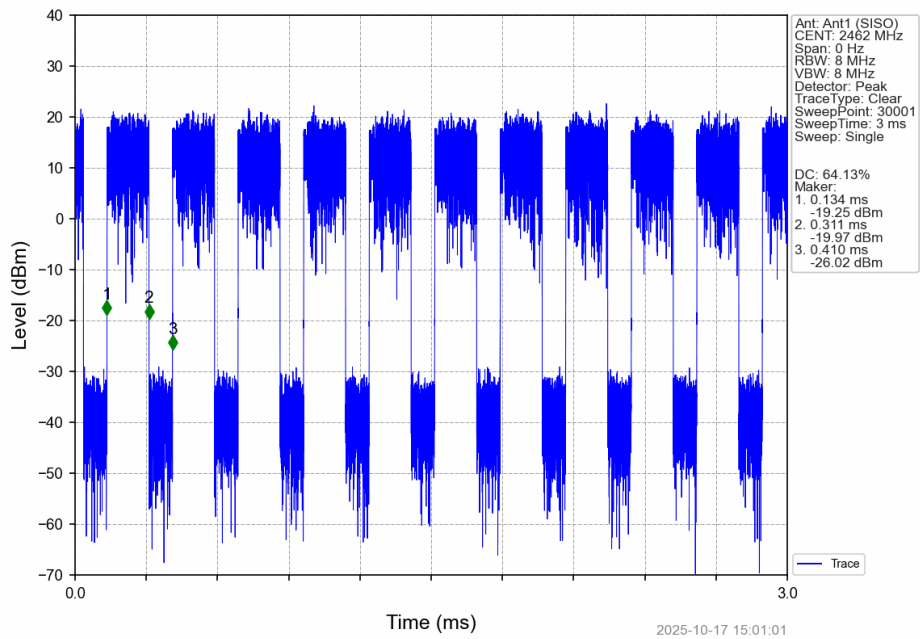
# 802.11g LCH 2412MHz Ant1 (SISO) NTN



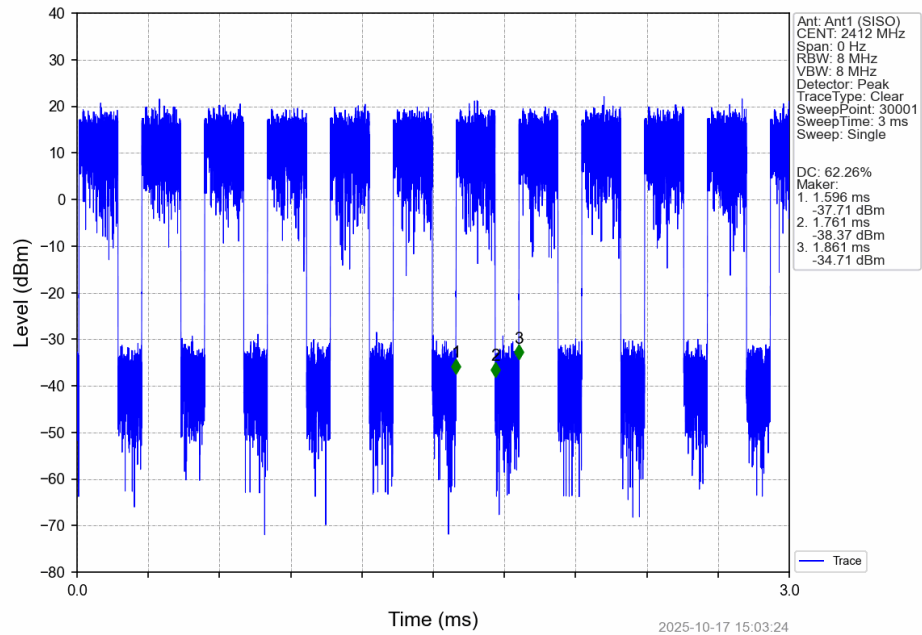
# 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



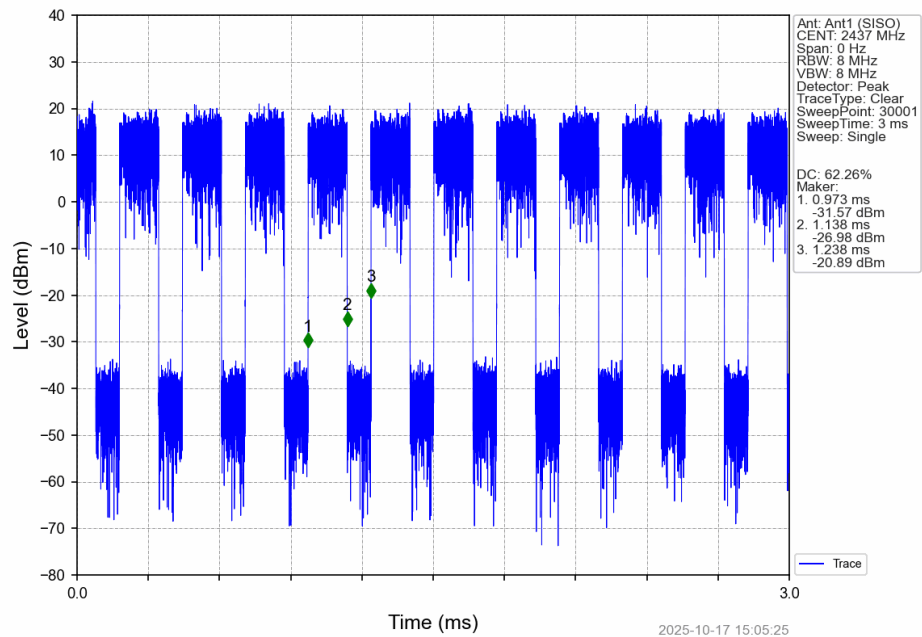
# 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



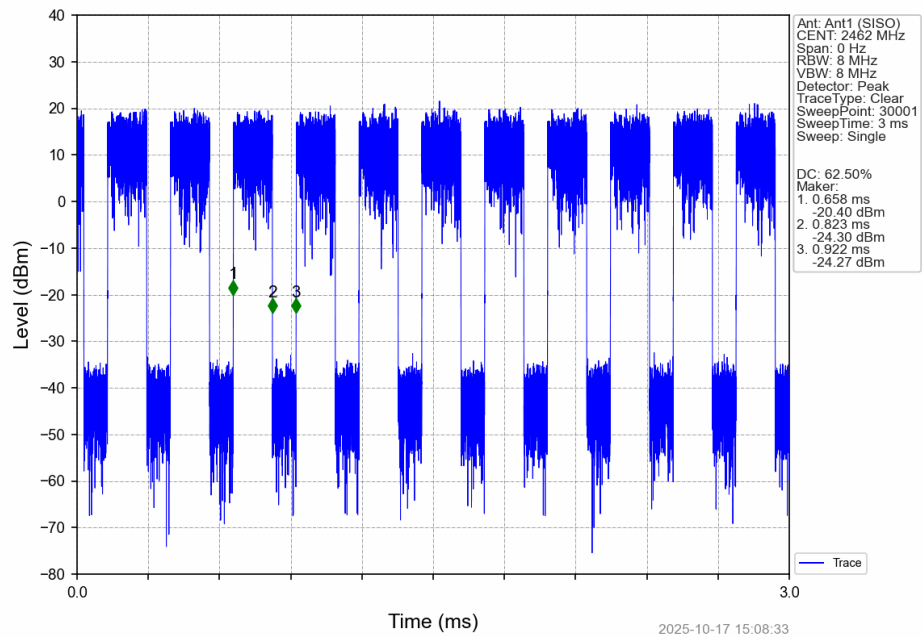
# 802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTN



# 802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTN



802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTN



## 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   | 13.829                       | /     | Pass    |
|                |         | 2437            | 1   | 13.850                       | /     | Pass    |
|                |         | 2462            | 1   | 13.799                       | /     | Pass    |
| 802.11g        | SISO    | 2412            | 1   | 16.893                       | /     | Pass    |
|                |         | 2437            | 1   | 16.920                       | /     | Pass    |
|                |         | 2462            | 1   | 16.828                       | /     | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 1   | 17.897                       | /     | Pass    |
|                |         | 2437            | 1   | 17.884                       | /     | Pass    |
|                |         | 2462            | 1   | 17.927                       | /     | Pass    |

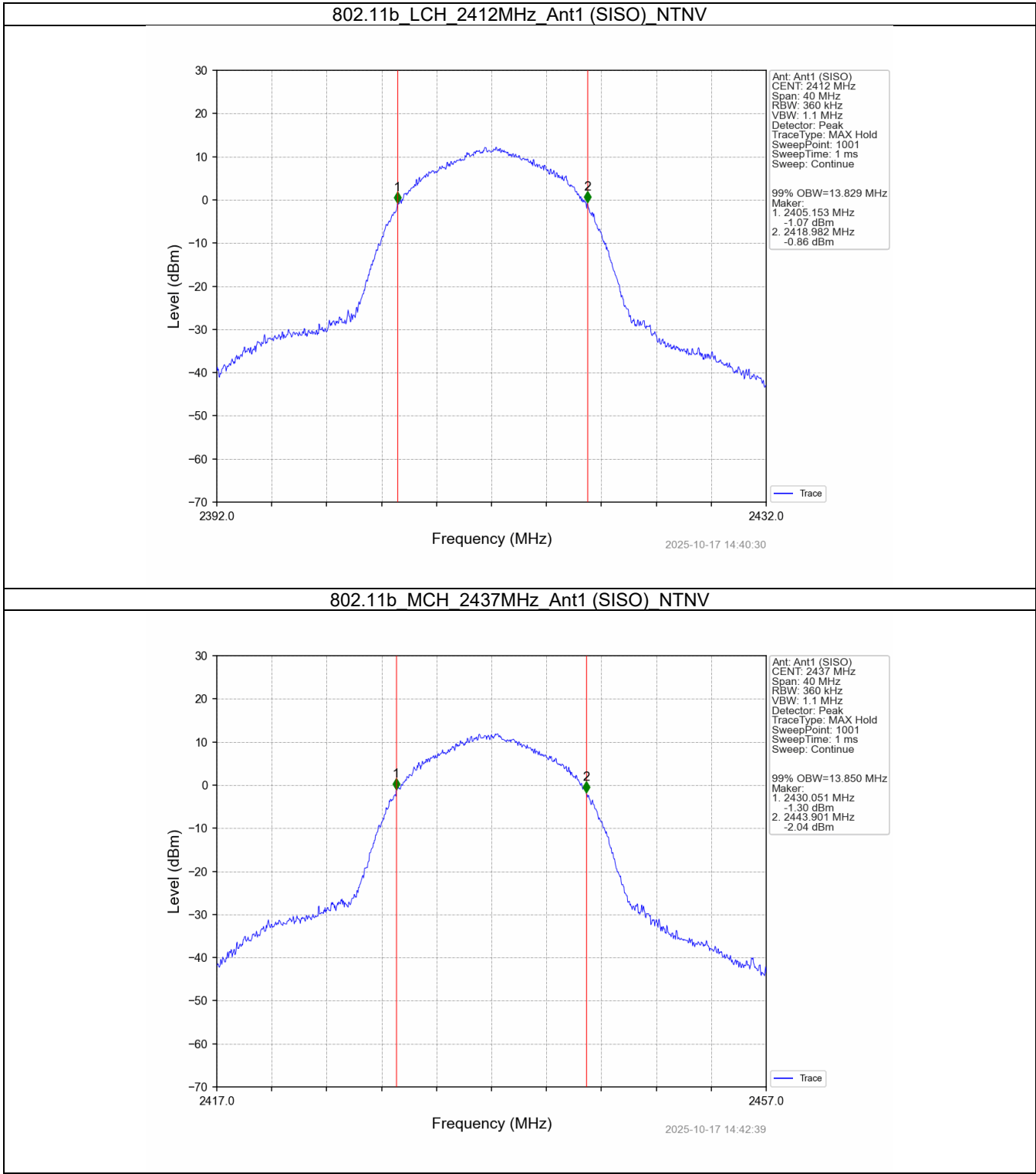
#### 2.1.2 6dB BW

| Mode           | TX Type | Frequency (MHz) | ANT | 6dB Bandwidth (MHz) |            | Verdict |
|----------------|---------|-----------------|-----|---------------------|------------|---------|
|                |         |                 |     | Result              | Limit      |         |
| 802.11b        | SISO    | 2412            | 1   | 8.976               | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 8.879               | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 8.935               | $\geq 0.5$ | Pass    |
| 802.11g        | SISO    | 2412            | 1   | 15.859              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 15.804              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 15.994              | $\geq 0.5$ | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 1   | 16.878              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 16.518              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 16.092              | $\geq 0.5$ | Pass    |

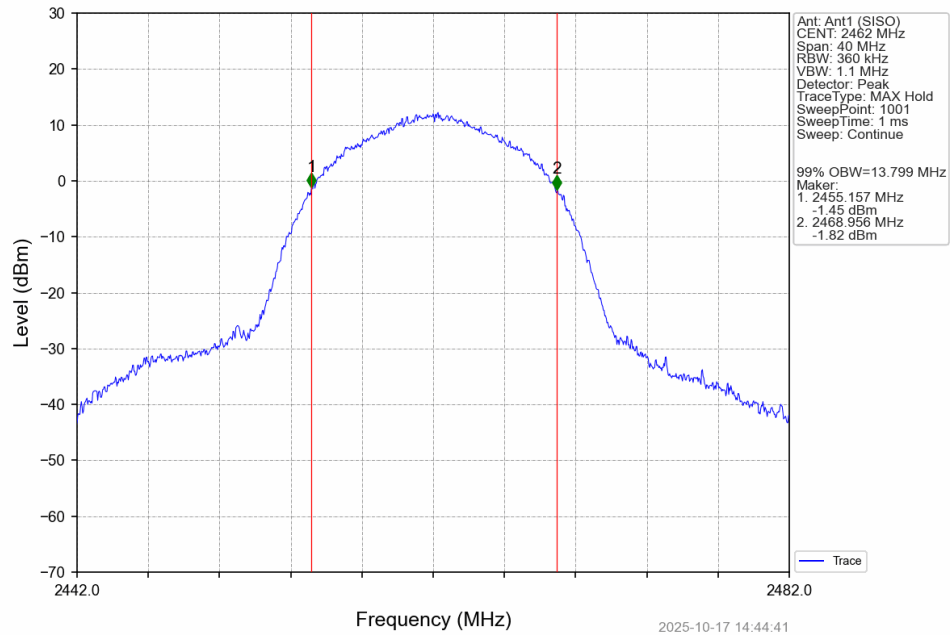


2.2 Test Graph

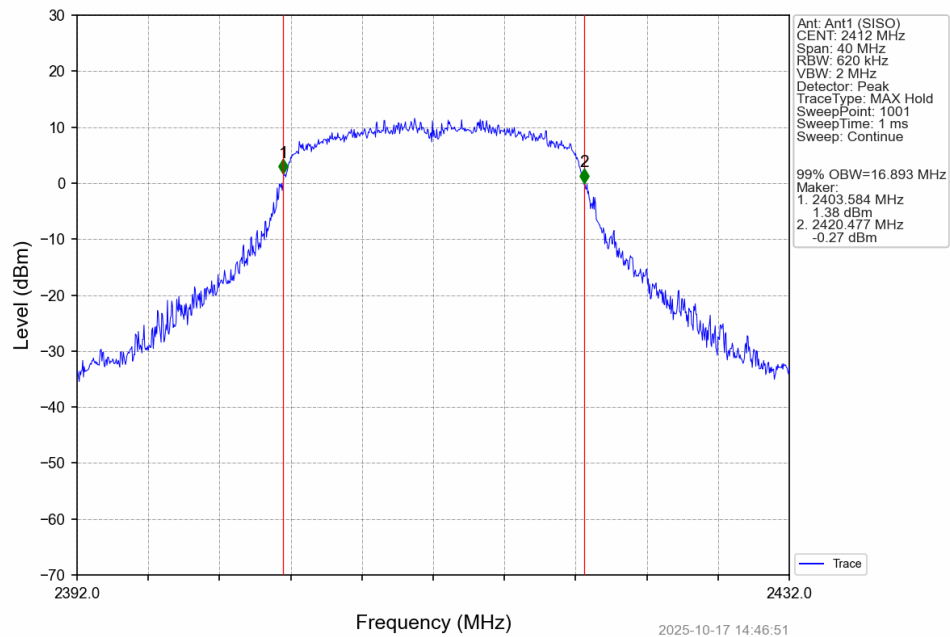
2.2.1 OBW



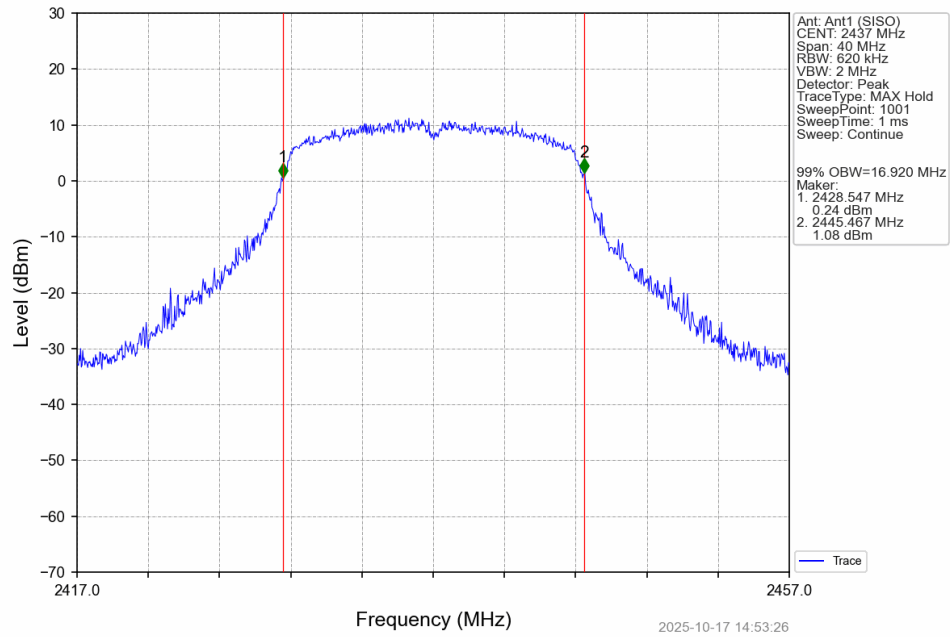
# 802.11b HCH 2462MHz Ant1 (SISO) NTN



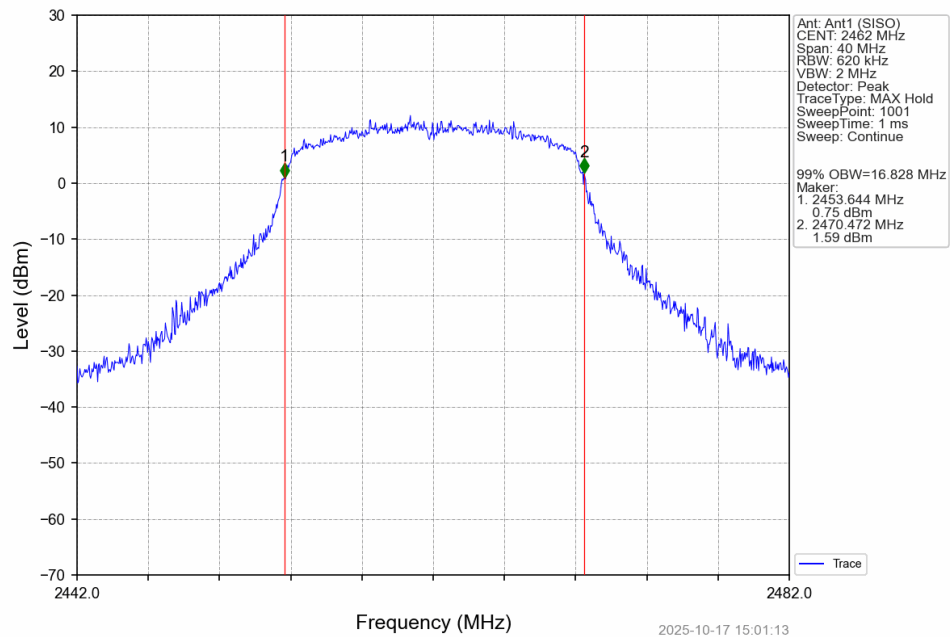
# 802.11g LCH 2412MHz Ant1 (SISO) NTN



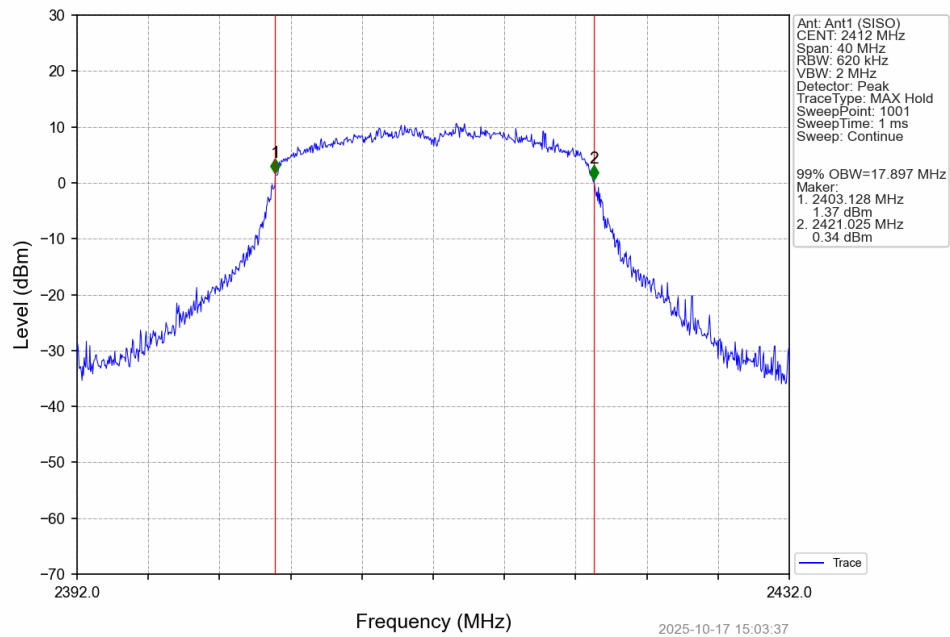
### 802.11g MCH 2437MHz Ant1 (SISO) NTN



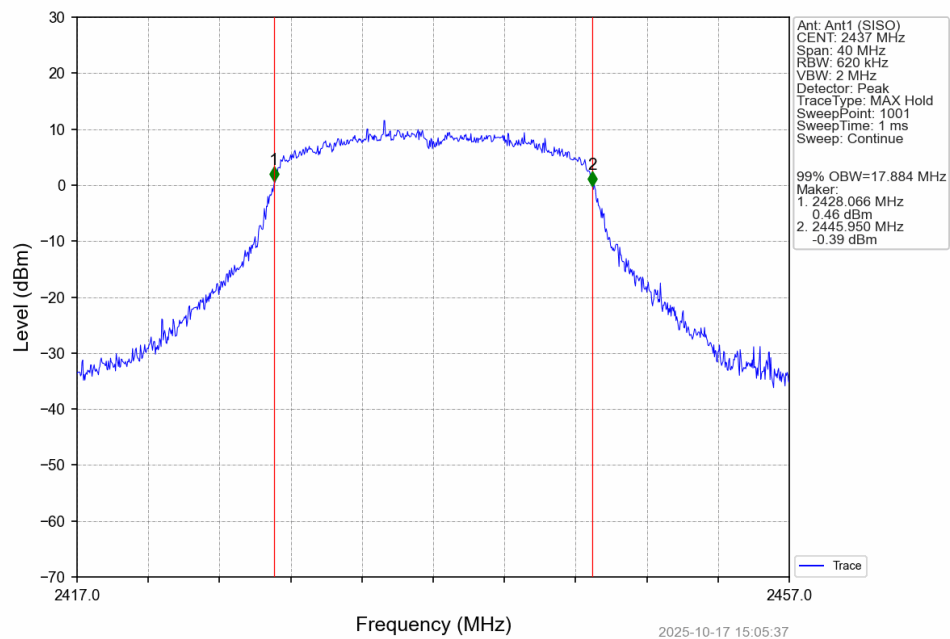
### 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



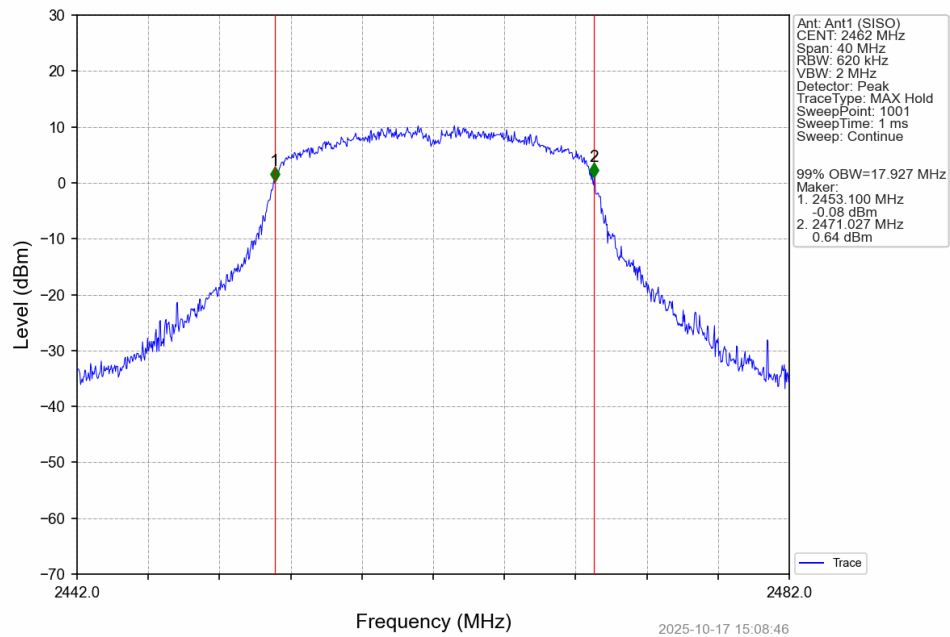
# 802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV



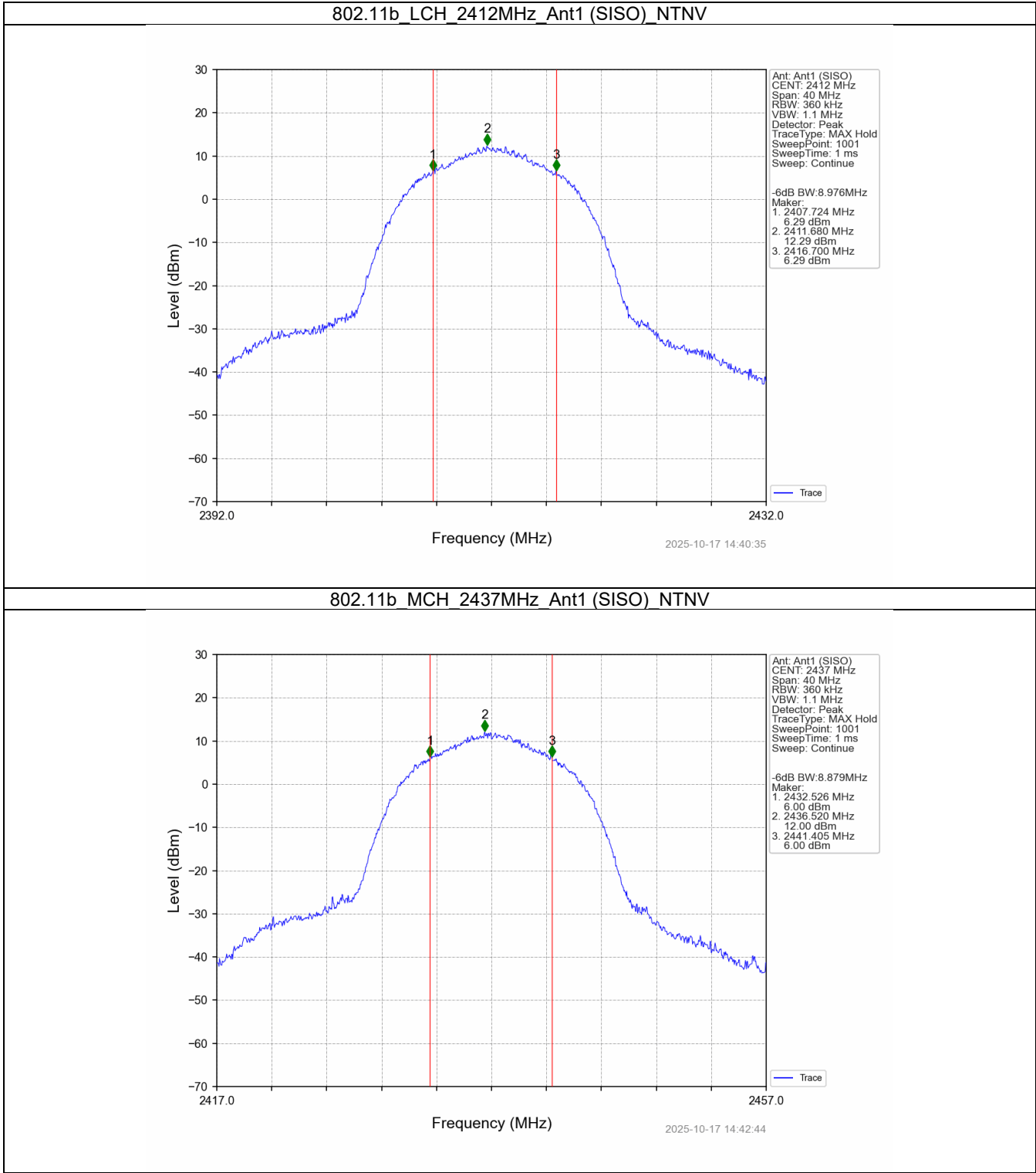
# 802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTNV



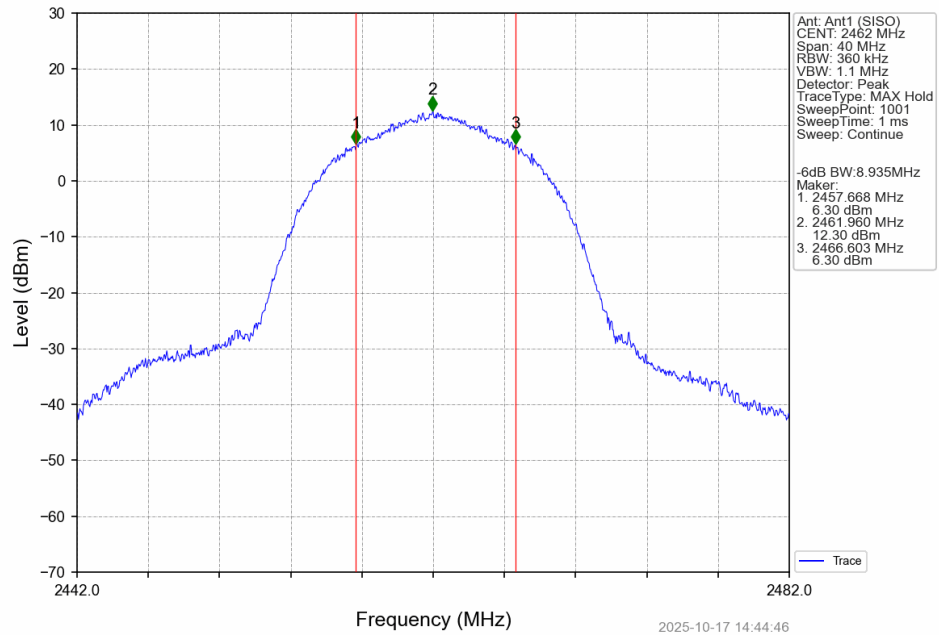
802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTNV



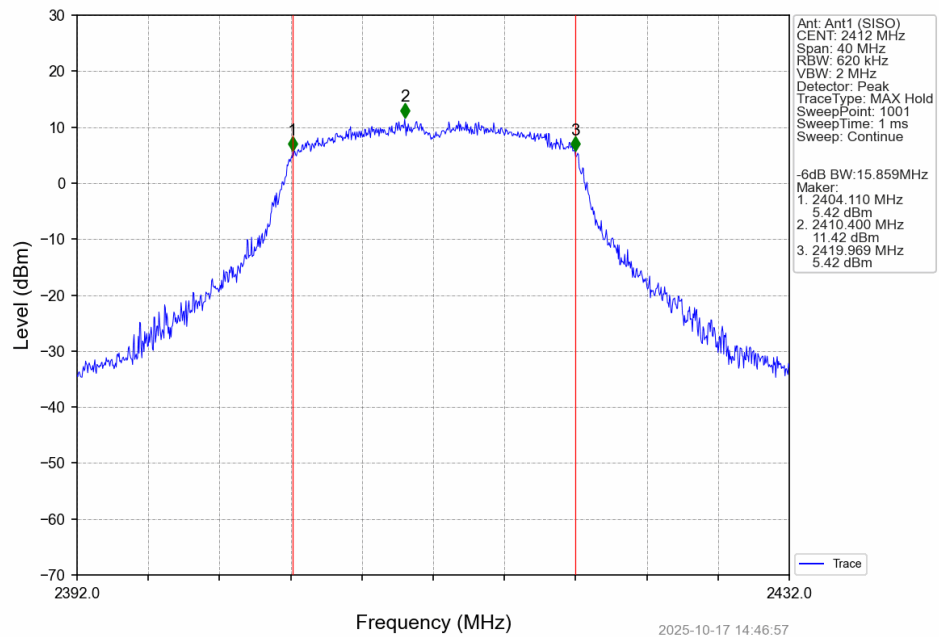
2.2.2 6dB BW



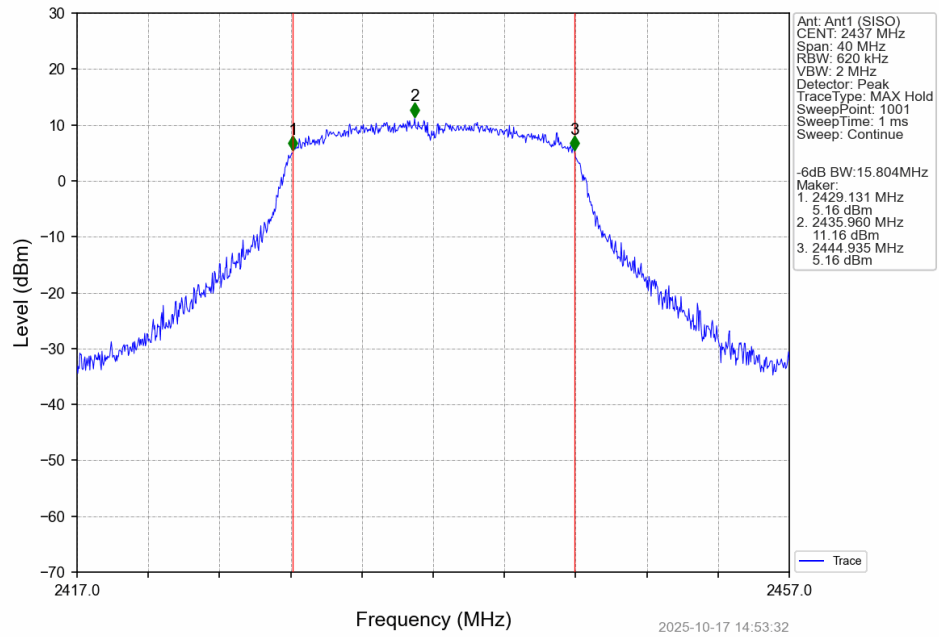
# 802.11b HCH 2462MHz Ant1 (SISO) NTN



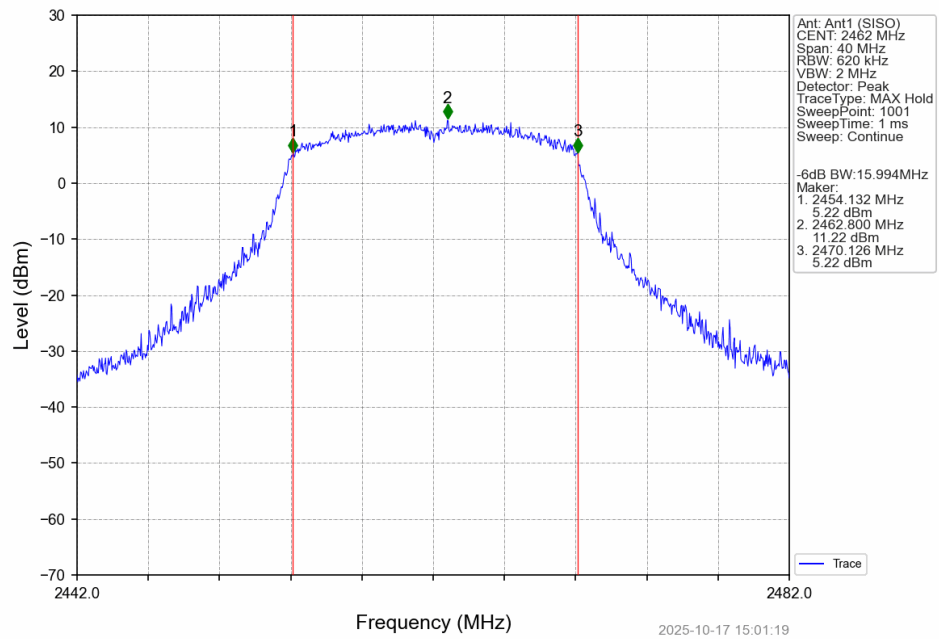
# 802.11g LCH 2412MHz Ant1 (SISO) NTN



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

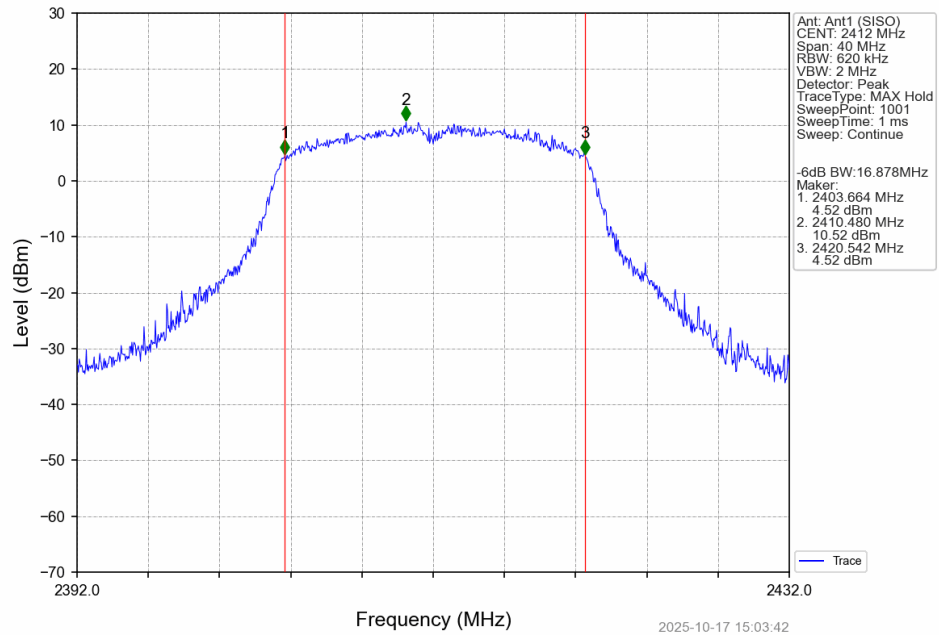


### 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV

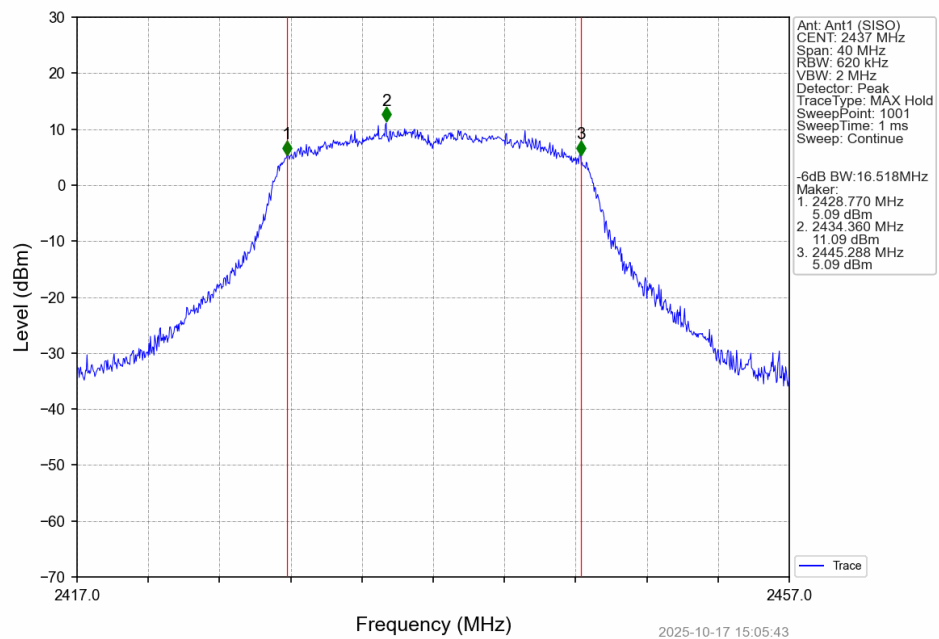




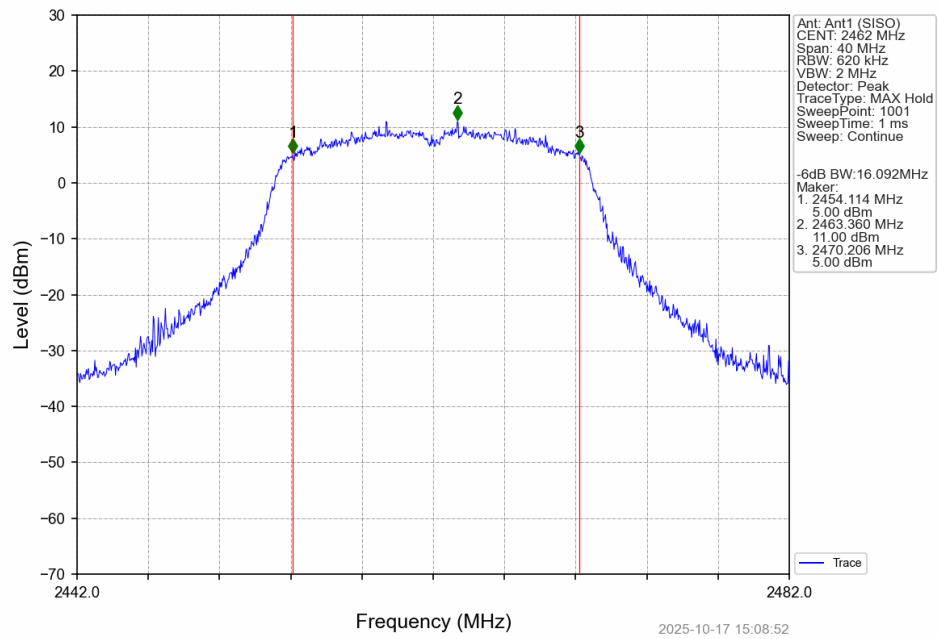
# 802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV



# 802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTNV



802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTV



### 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 |         |
| 802.11b        | SISO    | 2412            | 22.50                                     | <=30  | Pass    |
|                |         | 2437            | 22.23                                     | <=30  | Pass    |
|                |         | 2462            | 22.45                                     | <=30  | Pass    |
| 802.11g        | SISO    | 2412            | 23.03                                     | <=30  | Pass    |
|                |         | 2437            | 22.88                                     | <=30  | Pass    |
|                |         | 2462            | 23.10                                     | <=30  | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 22.29                                     | <=30  | Pass    |
|                |         | 2437            | 22.15                                     | <=30  | Pass    |
|                |         | 2462            | 22.05                                     | <=30  | Pass    |

## 4. Maximum Power Spectral Density

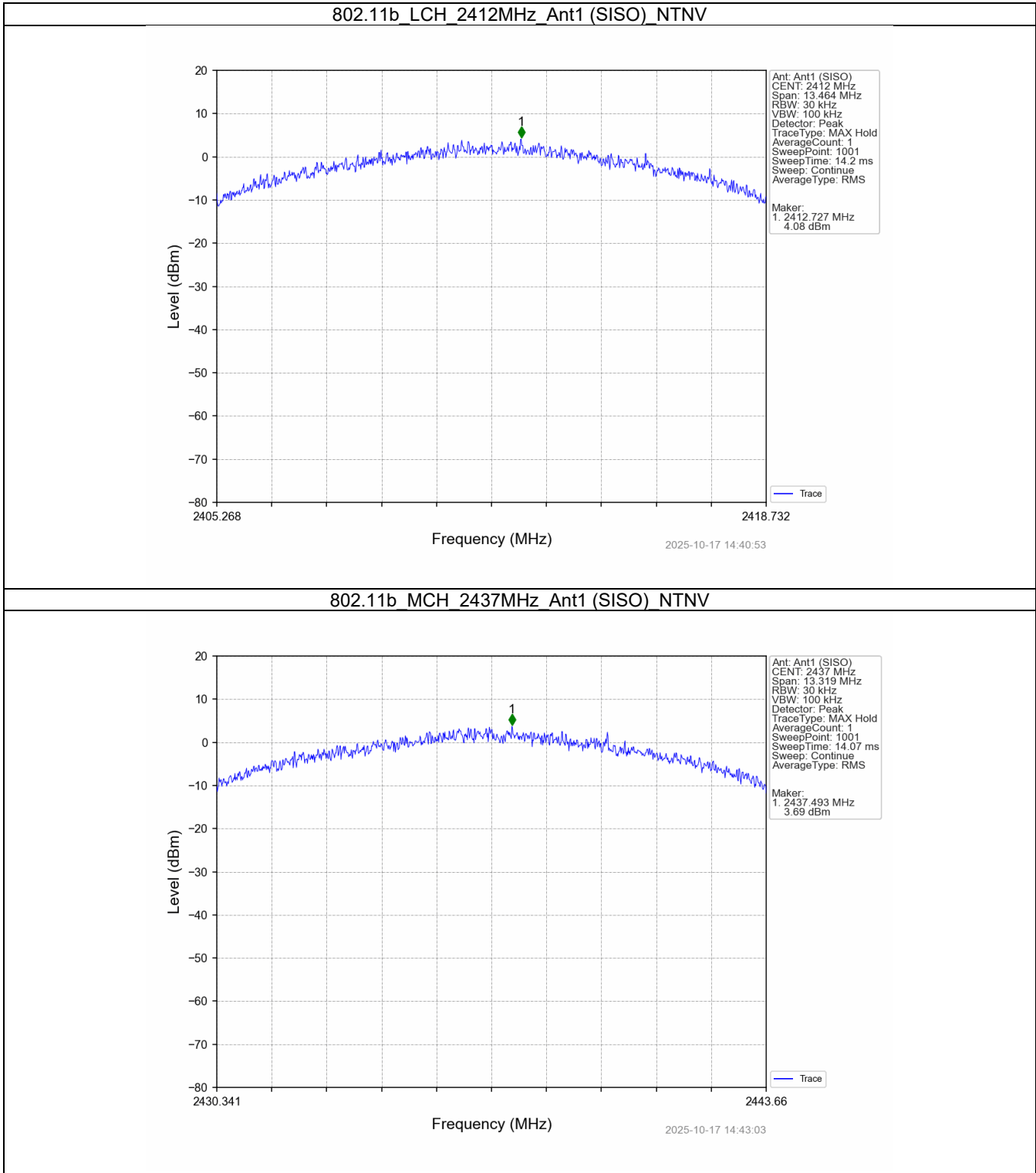
### 4.1 Test Result

#### 4.1.1 PSD

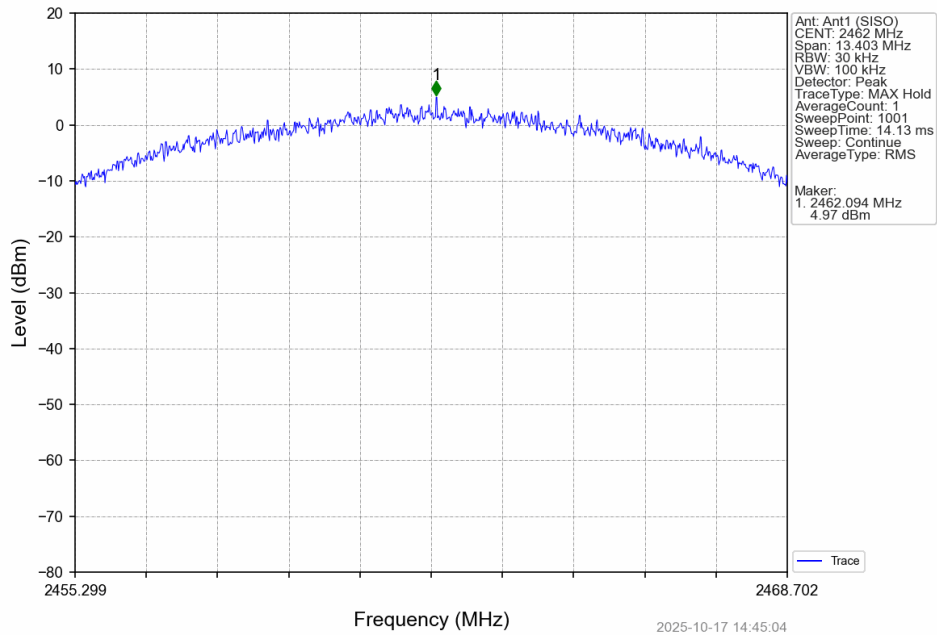
| Mode           | TX Type | Frequency (MHz) | Maximum PSD (dBm) |       | Verdict |
|----------------|---------|-----------------|-------------------|-------|---------|
|                |         |                 | ANT1              | Limit |         |
| 802.11b        | SISO    | 2412            | 4.08              | <=8   | Pass    |
|                |         | 2437            | 3.69              | <=8   | Pass    |
|                |         | 2462            | 4.97              | <=8   | Pass    |
| 802.11g        | SISO    | 2412            | 4.77              | <=8   | Pass    |
|                |         | 2437            | 4.58              | <=8   | Pass    |
|                |         | 2462            | 4.88              | <=8   | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 4.39              | <=8   | Pass    |
|                |         | 2437            | 4.21              | <=8   | Pass    |
|                |         | 2462            | 4.27              | <=8   | Pass    |

4.2 Test Graph

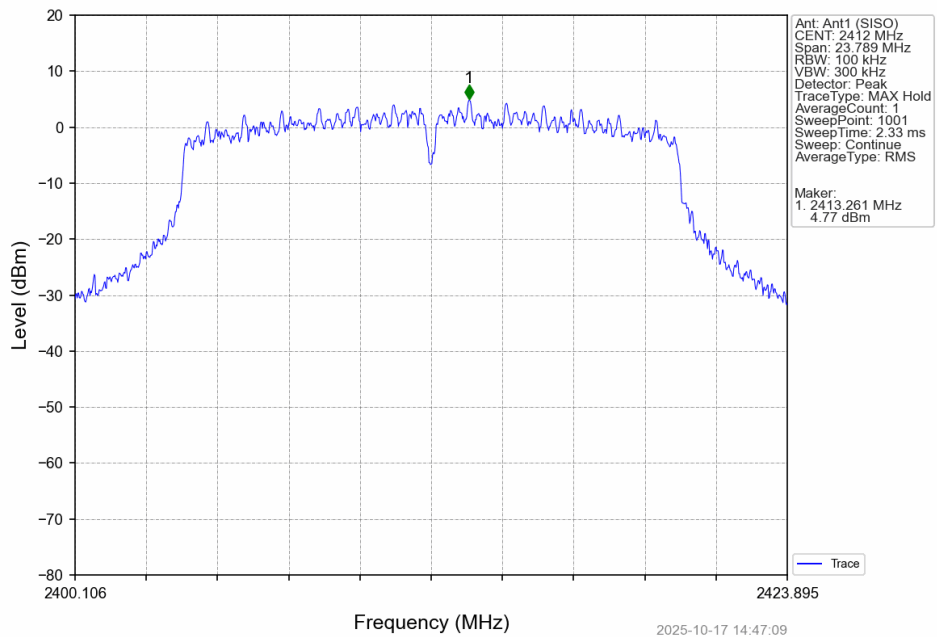
4.2.1 PSD



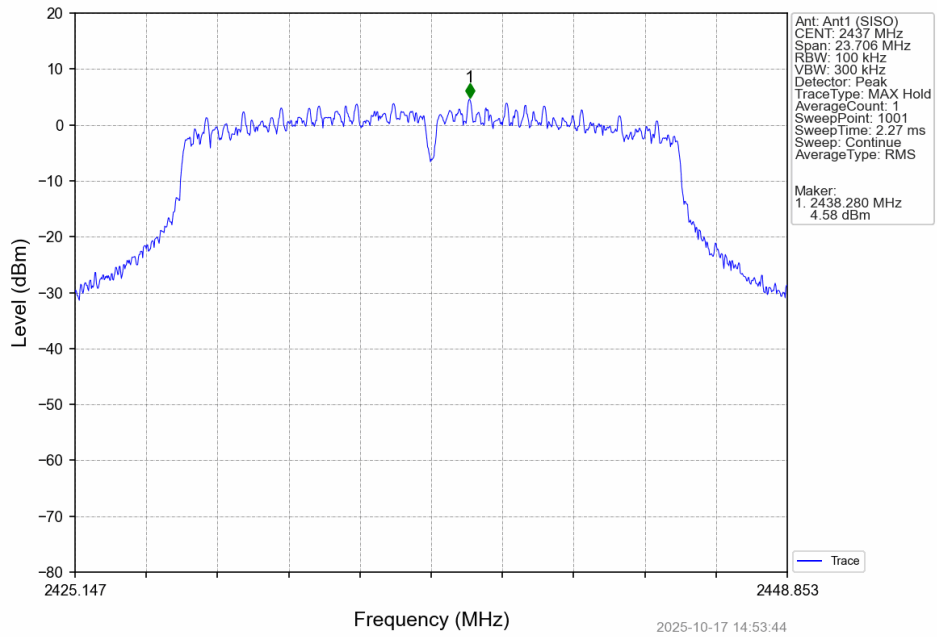
### 802.11b HCH 2462MHz Ant1 (SISO) NTN



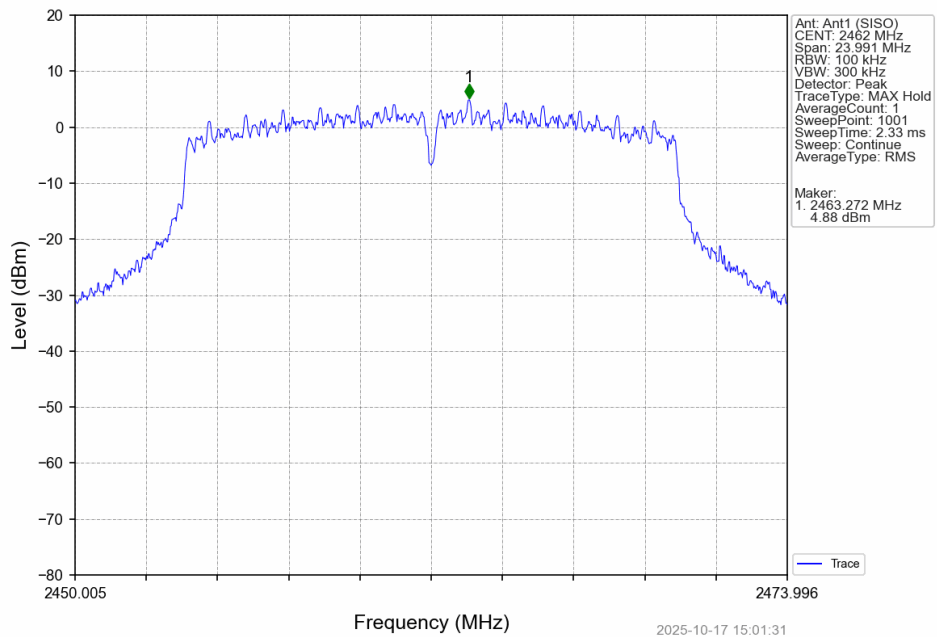
### 802.11g\_LCH\_2412MHz\_Ant1 (SISO) NTN



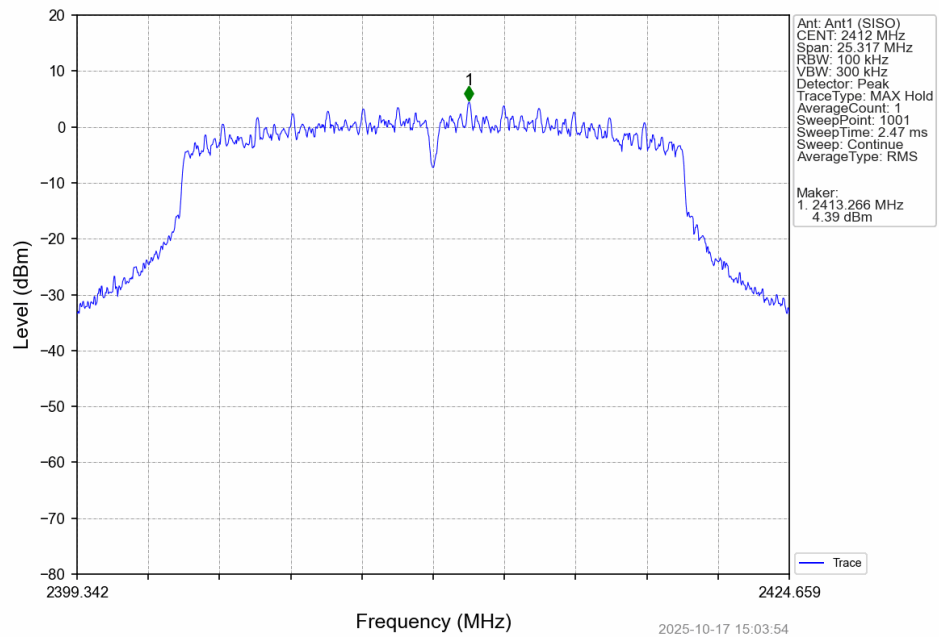
### 802.11g MCH 2437MHz Ant1 (SISO) NTN



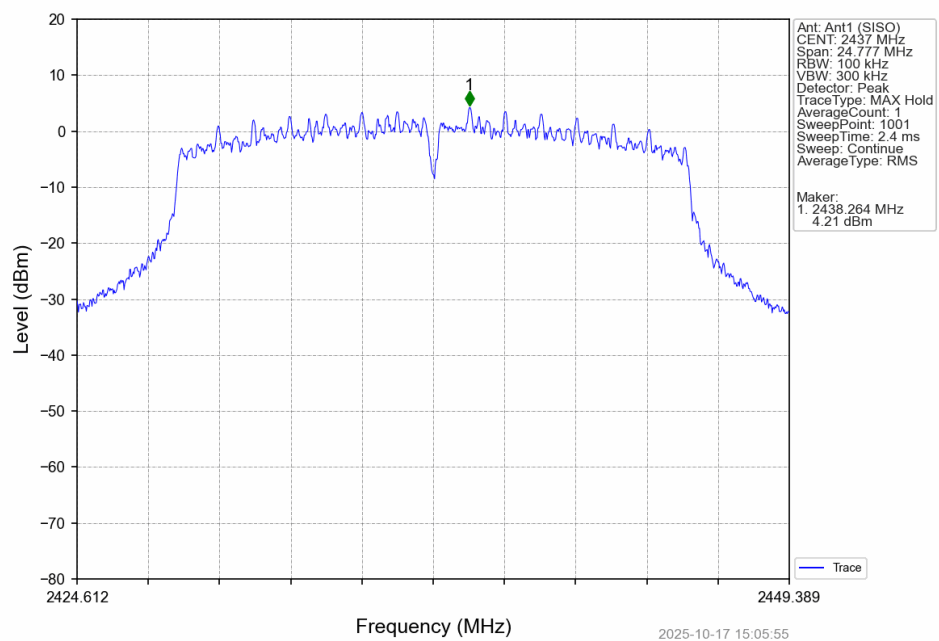
### 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



# 802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV

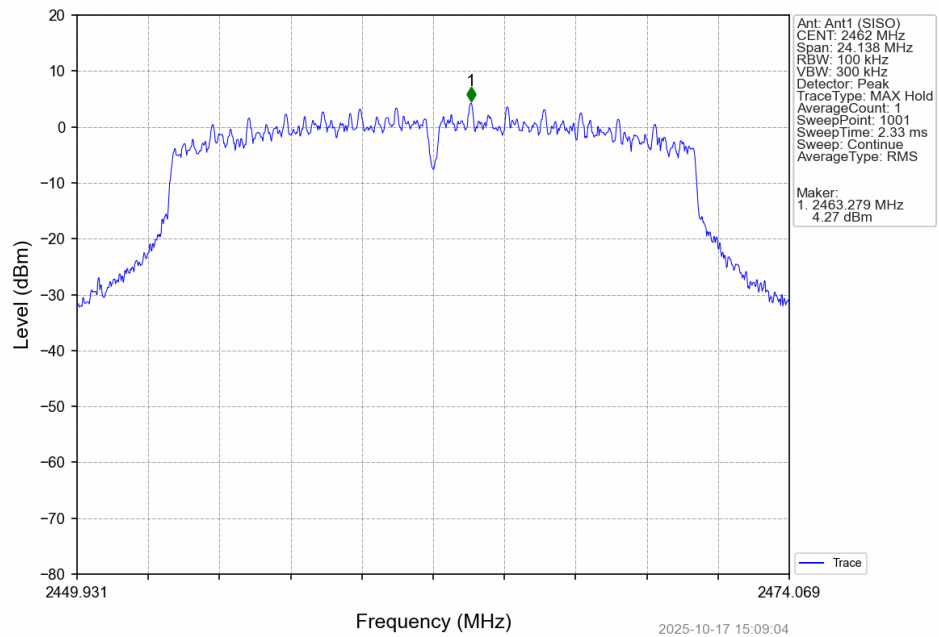


# 802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTNV





802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTV



## 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   | 8.72                     |
|                |         | 2437            | 1   | 8.52                     |
|                |         | 2462            | 1   | 9.62                     |
| 802.11g        | SISO    | 2412            | 1   | 4.82                     |
|                |         | 2437            | 1   | 4.56                     |
|                |         | 2462            | 1   | 4.95                     |
| 802.11n (HT20) | SISO    | 2412            | 1   | 4.38                     |
|                |         | 2437            | 1   | 4.15                     |
|                |         | 2462            | 1   | 4.22                     |

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.

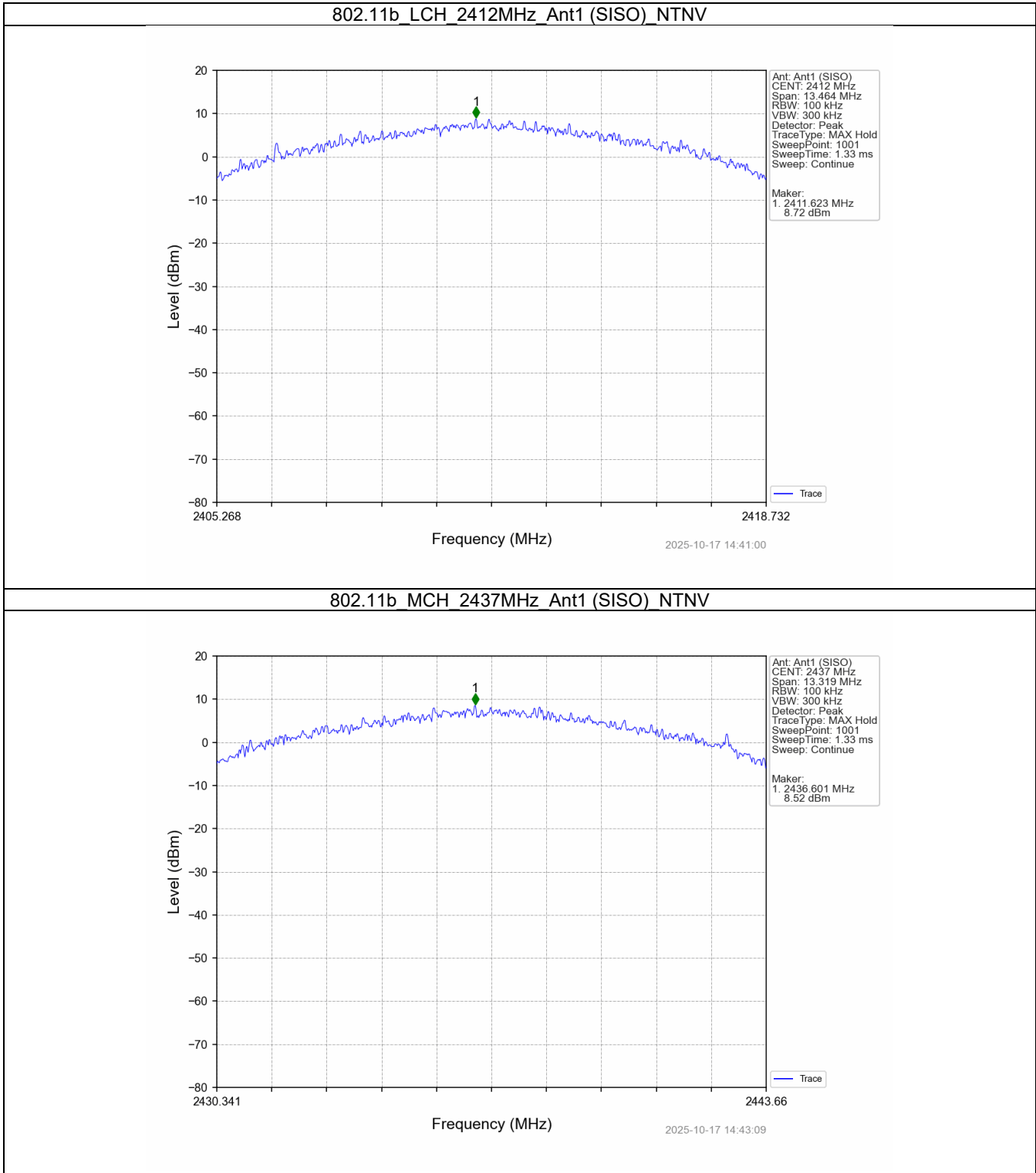
#### 5.1.2 CSE

| Mode           | Tx Type | Frequency (MHz) | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|----------------|---------|-----------------|-----|--------------------------|-------------|---------|
| 802.11b        | SISO    | 2412            | 1   | 8.72                     | -11.28      | Pass    |
|                |         | 2437            | 1   | 8.52                     | -11.48      | Pass    |
|                |         | 2462            | 1   | 9.62                     | -10.38      | Pass    |
| 802.11g        | SISO    | 2412            | 1   | 4.82                     | -15.18      | Pass    |
|                |         | 2437            | 1   | 4.56                     | -15.44      | Pass    |
|                |         | 2462            | 1   | 4.95                     | -15.05      | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 1   | 4.38                     | -15.62      | Pass    |
|                |         | 2437            | 1   | 4.15                     | -15.85      | Pass    |
|                |         | 2462            | 1   | 4.22                     | -15.78      | Pass    |

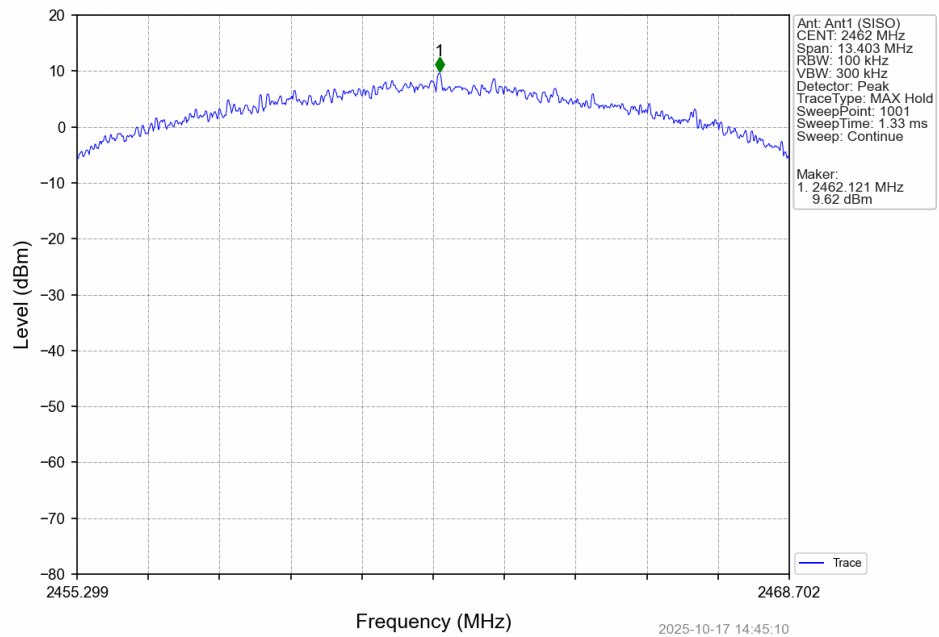
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

5.2 Test Graph

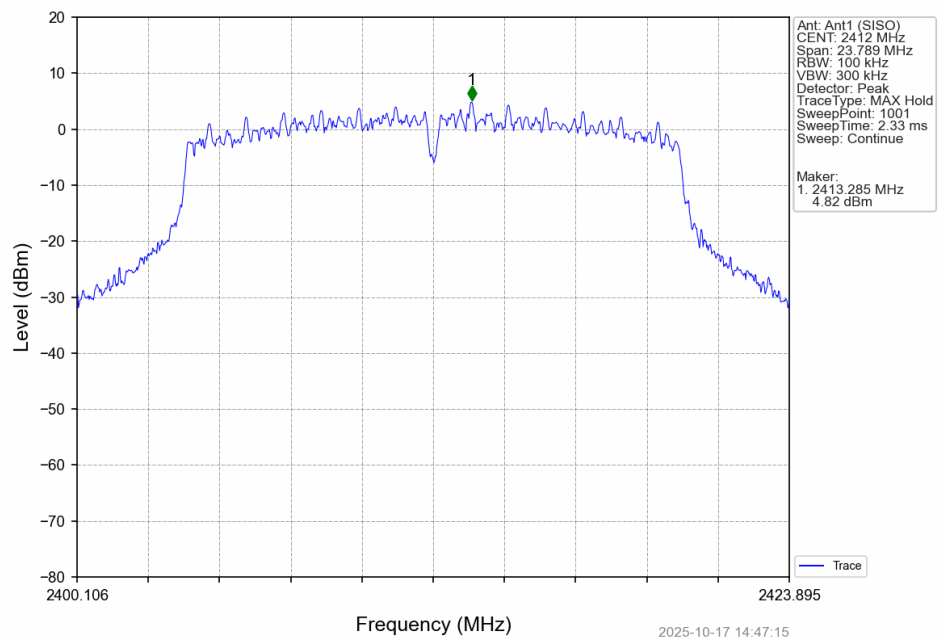
5.2.1 Ref



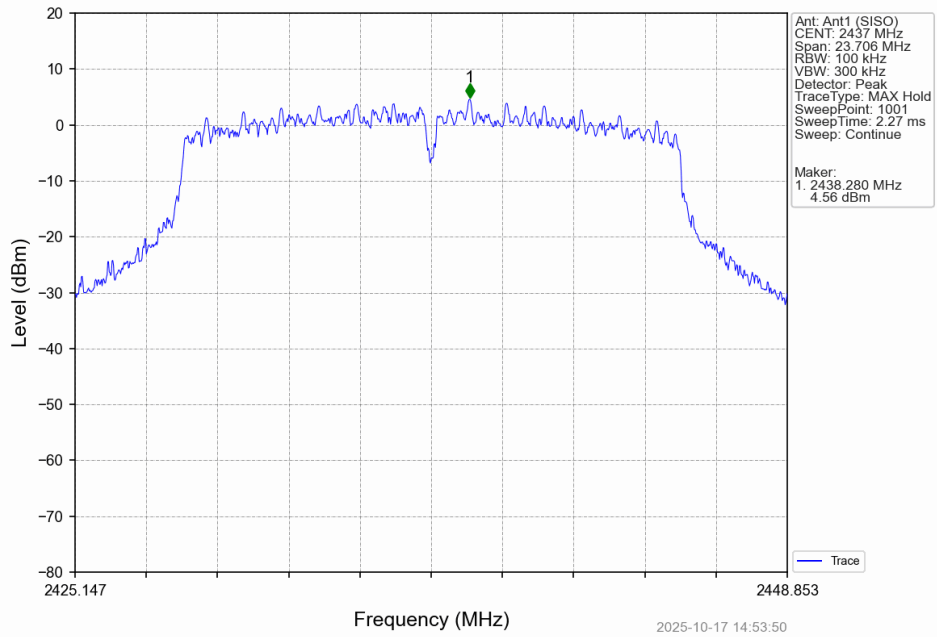
### 802.11b HCH 2462MHz Ant1 (SISO) NTN



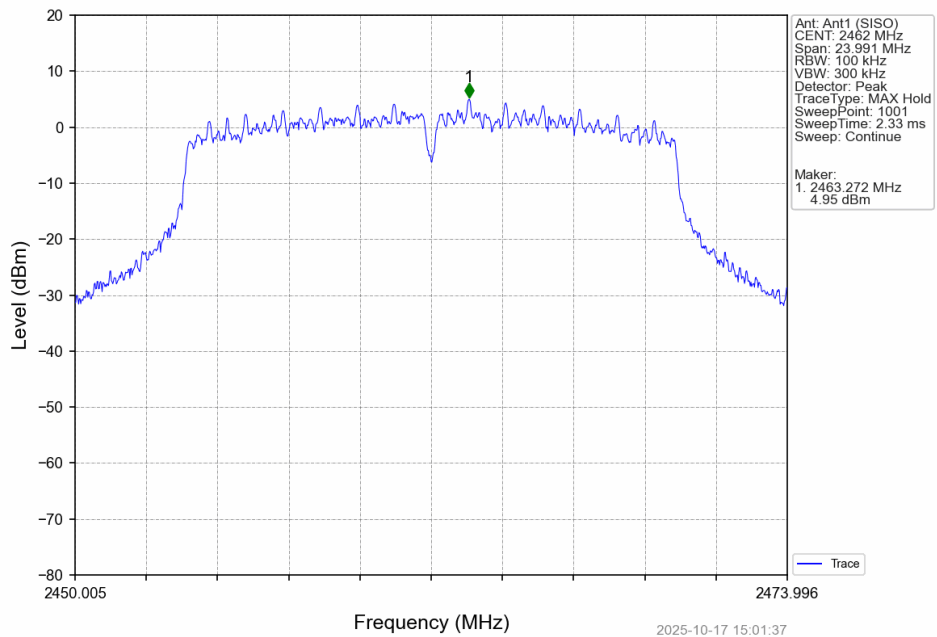
### 802.11g LCH 2412MHz Ant1 (SISO) NTN



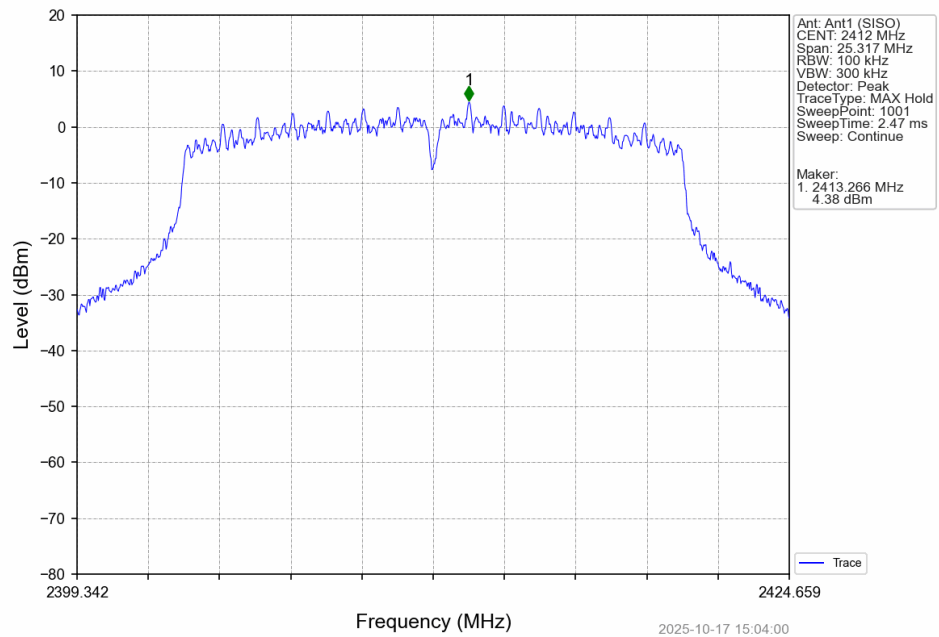
### 802.11g MCH 2437MHz Ant1 (SISO) NTN



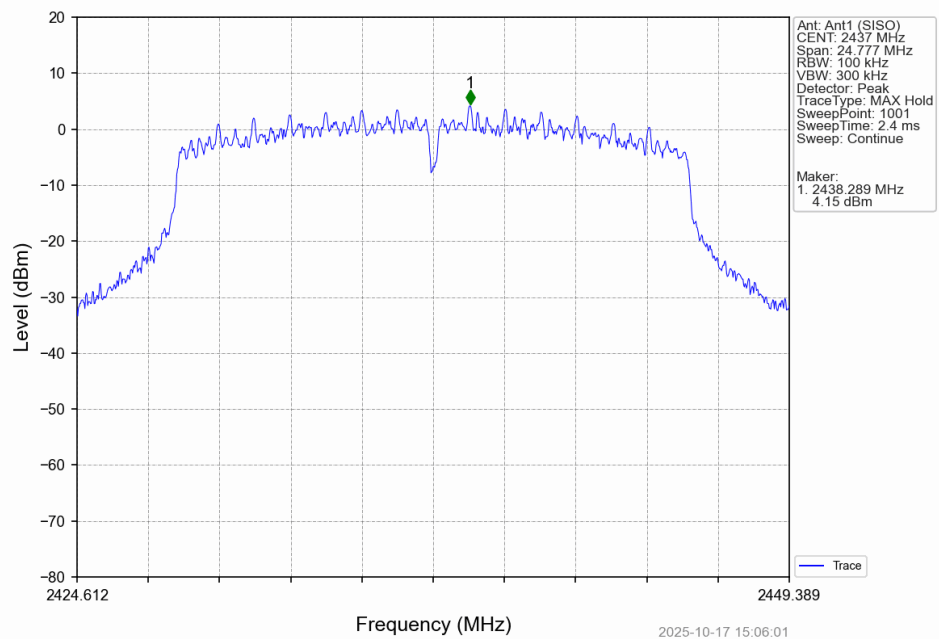
### 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



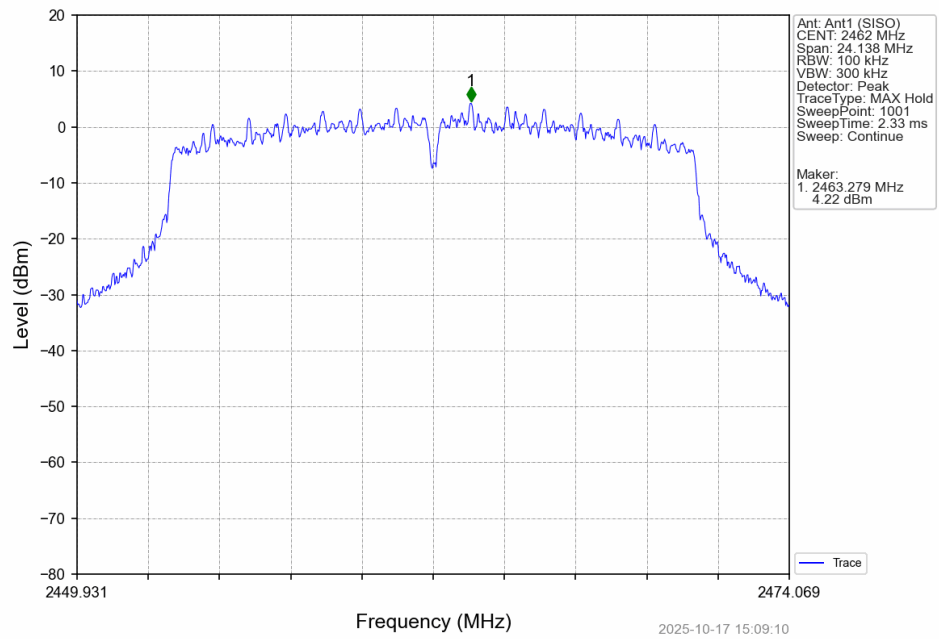
# 802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTN



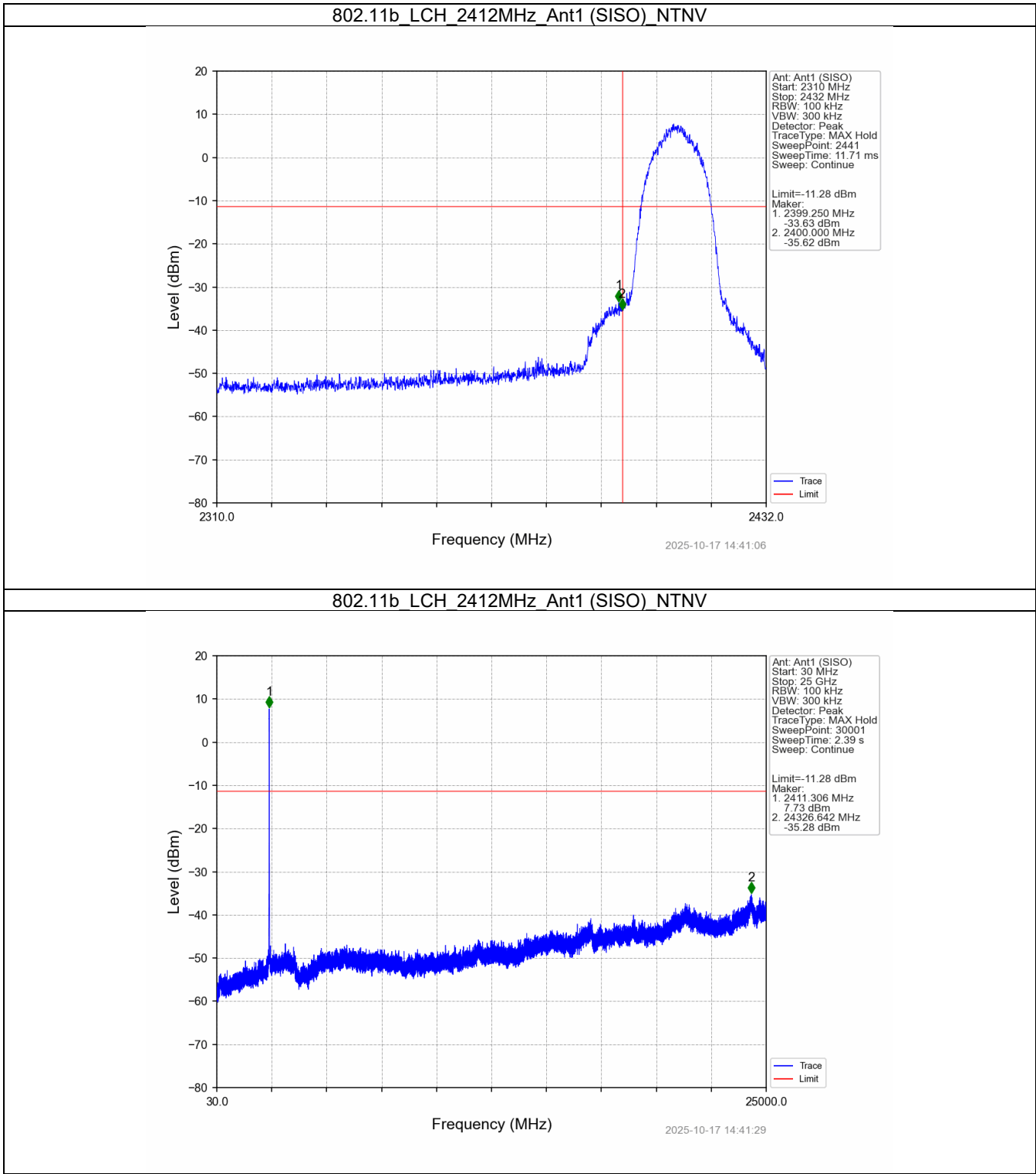
# 802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTN



802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTV

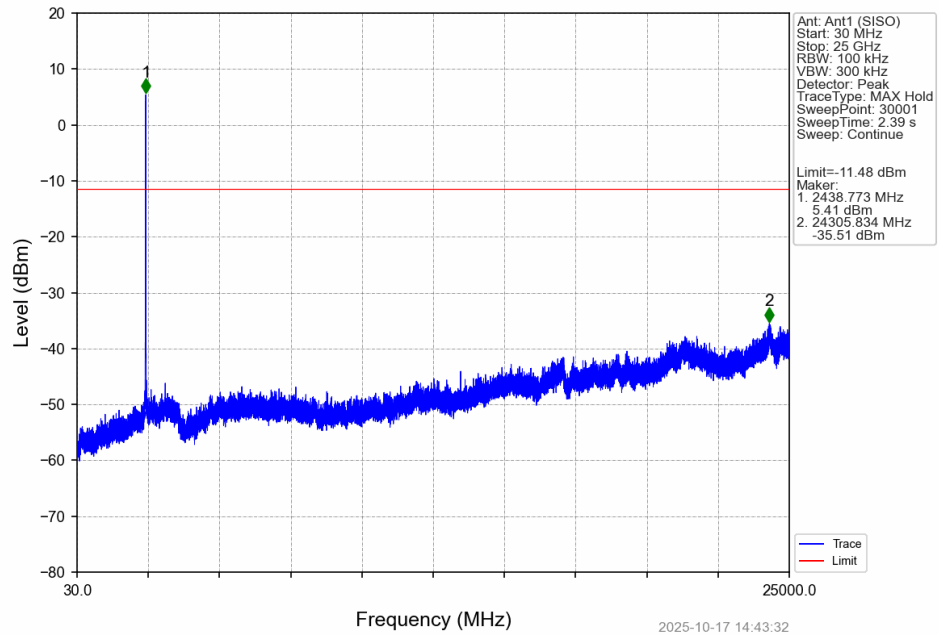


5.2.2 CSE

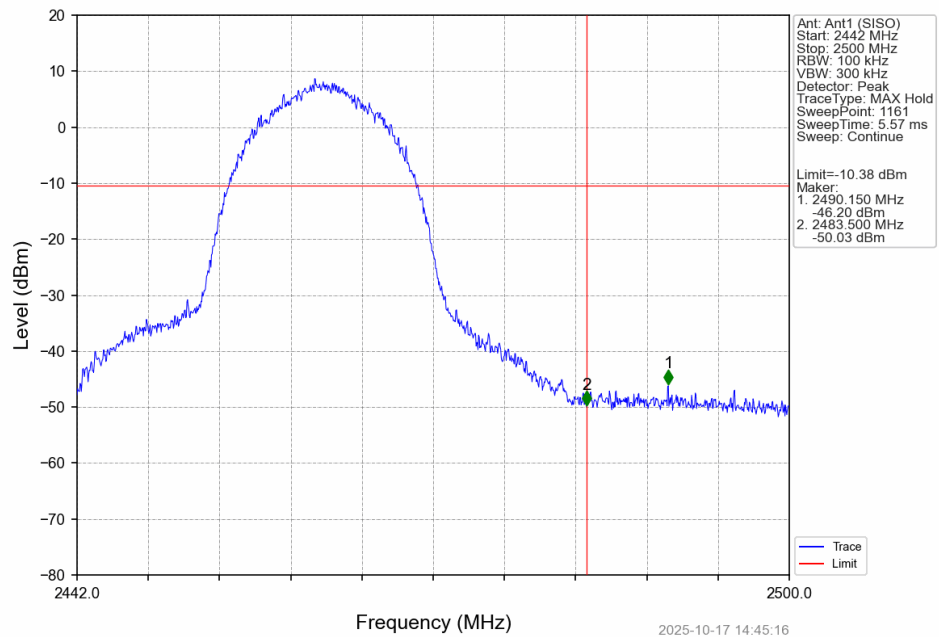




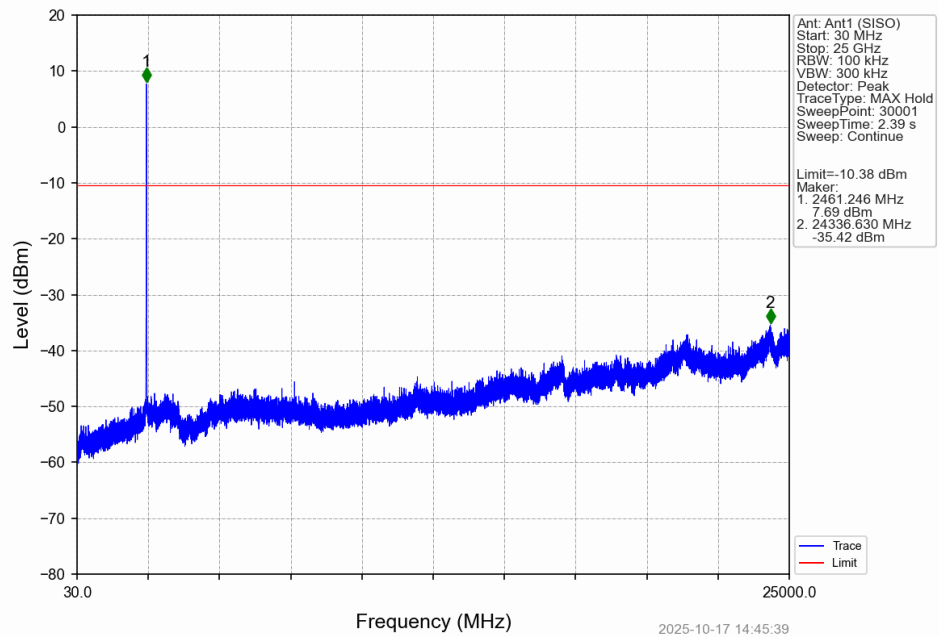
### 802.11b MCH 2437MHz Ant1 (SISO) NTN



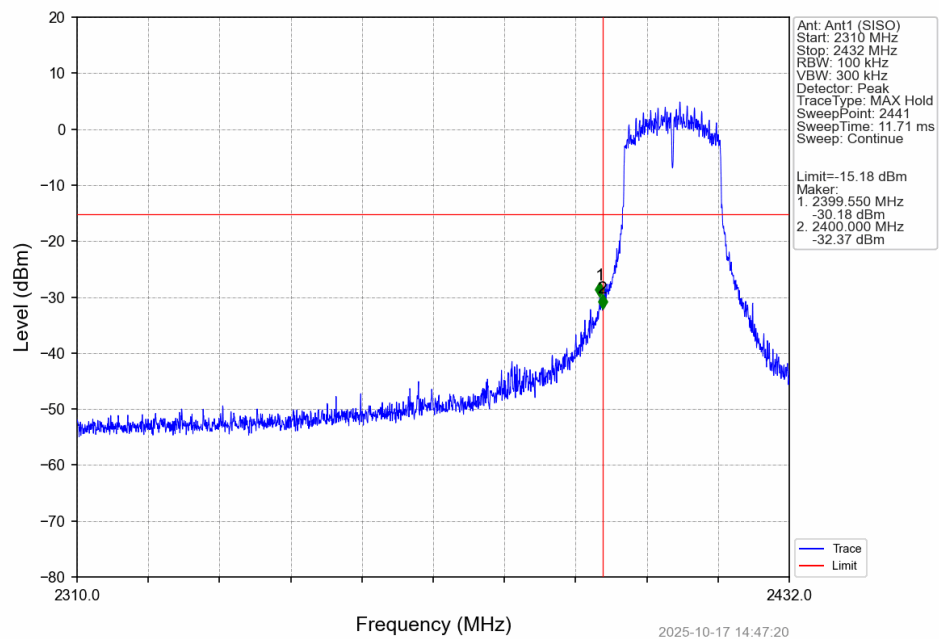
### 802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



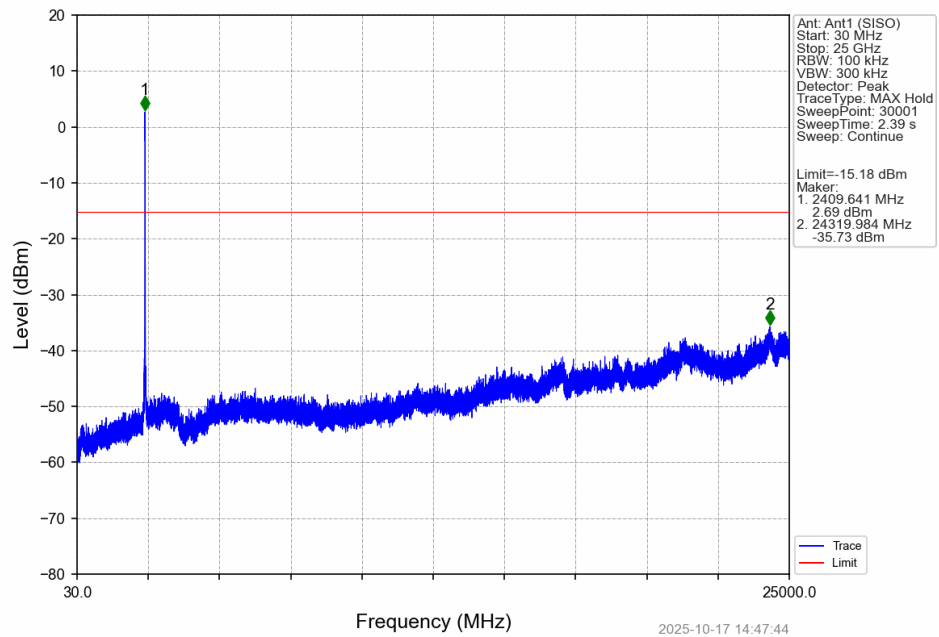
### 802.11b HCH 2462MHz Ant1 (SISO) NTN



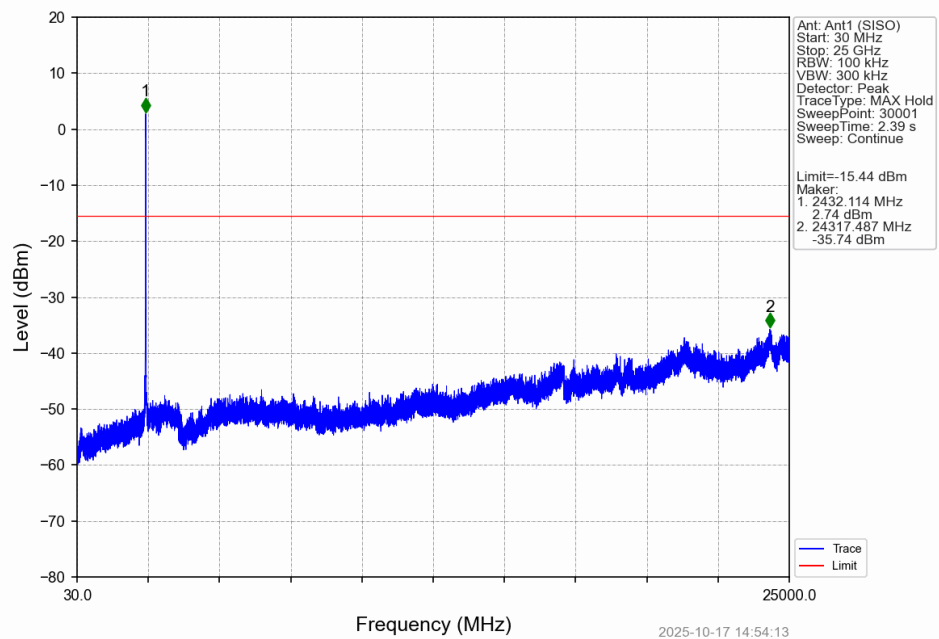
### 802.11g LCH 2412MHz Ant1 (SISO) NTN



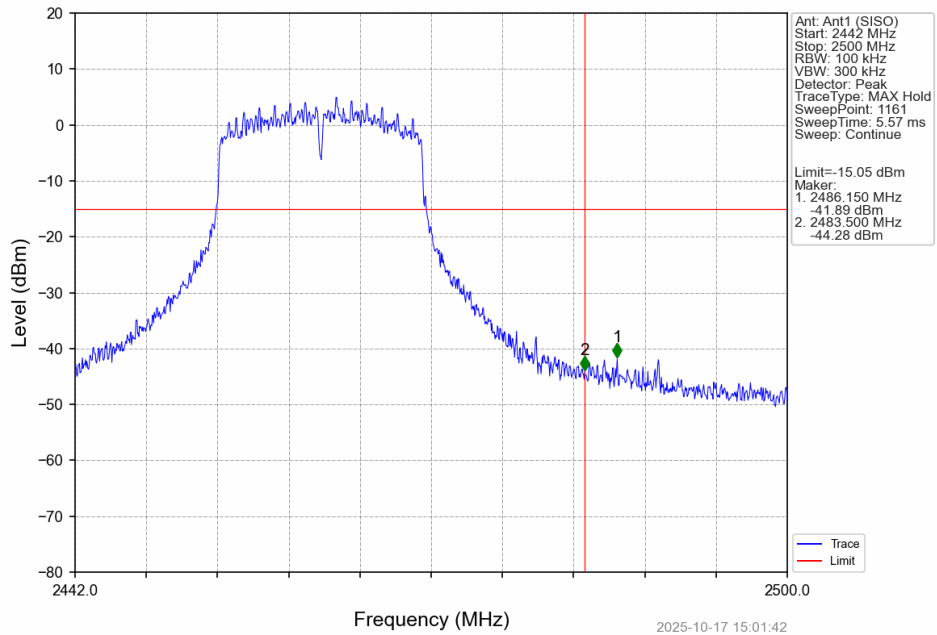
# 802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



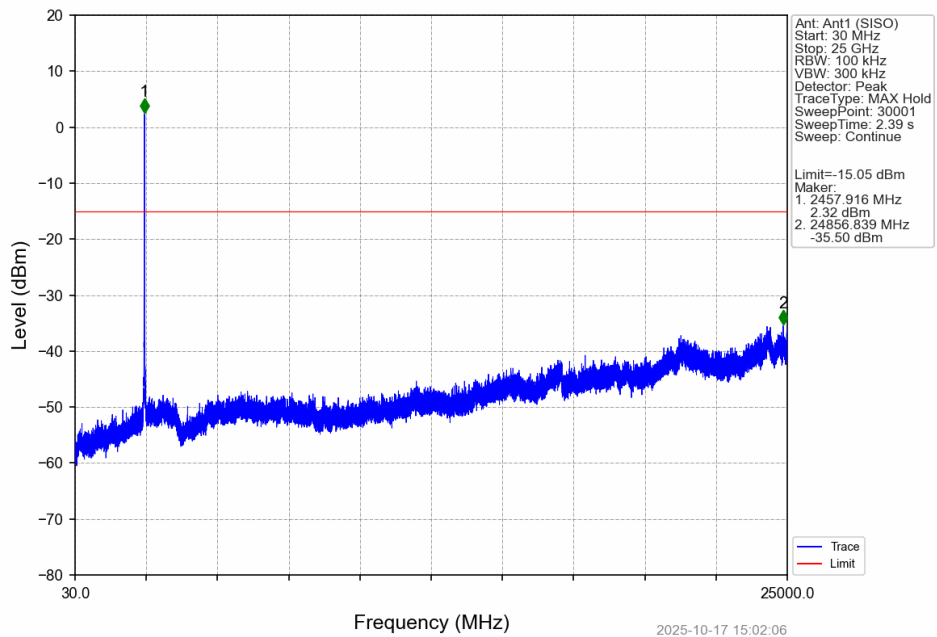
# 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



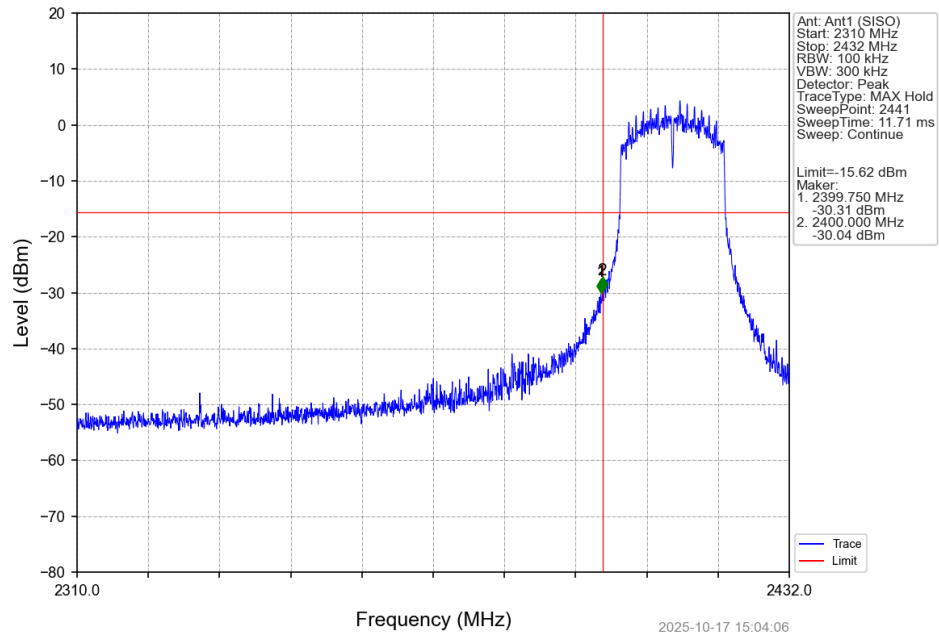
# 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



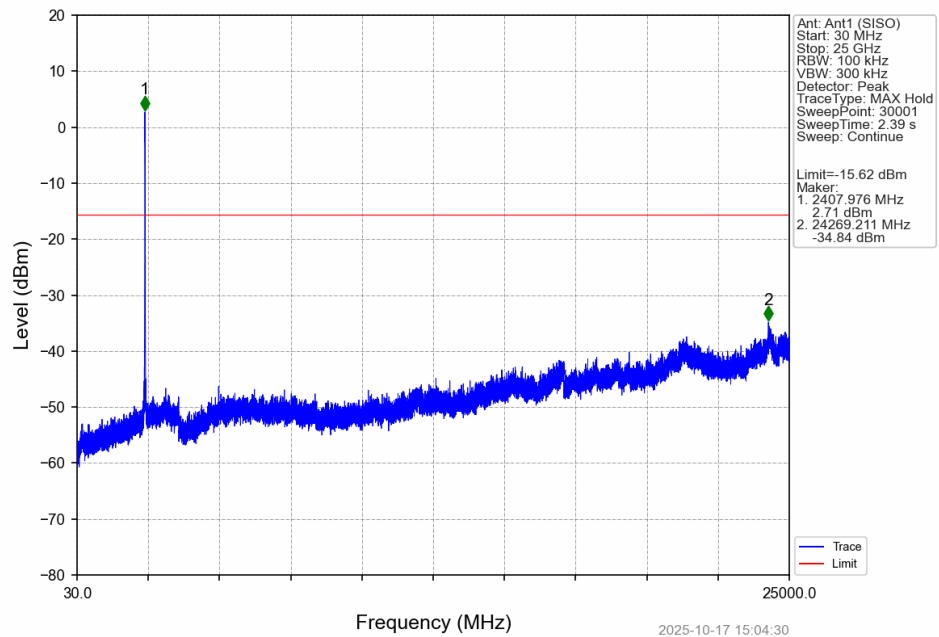
# 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



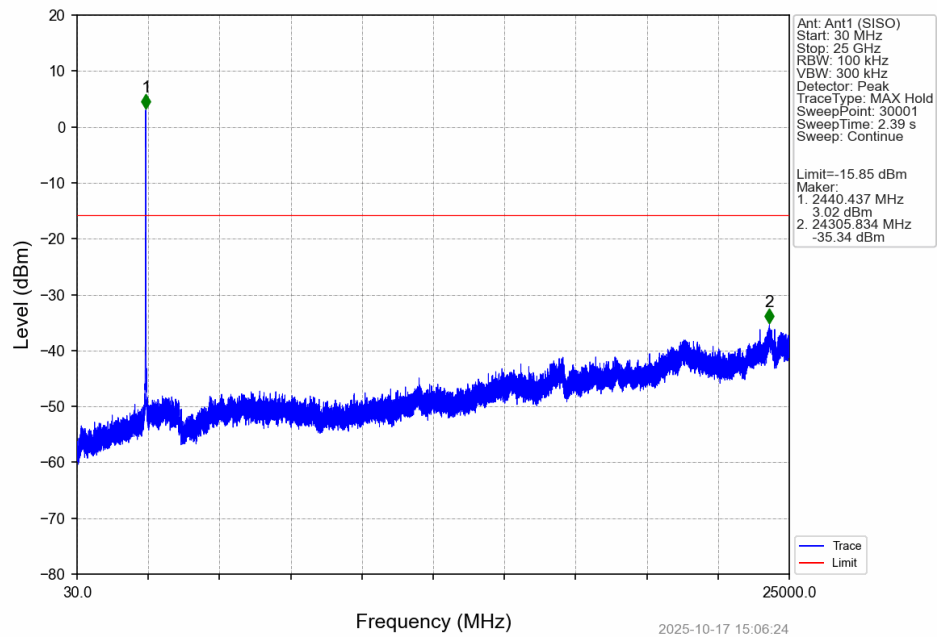
# 802.11n(HT20) LCH\_2412MHz\_Ant1 (SISO)\_NTNV



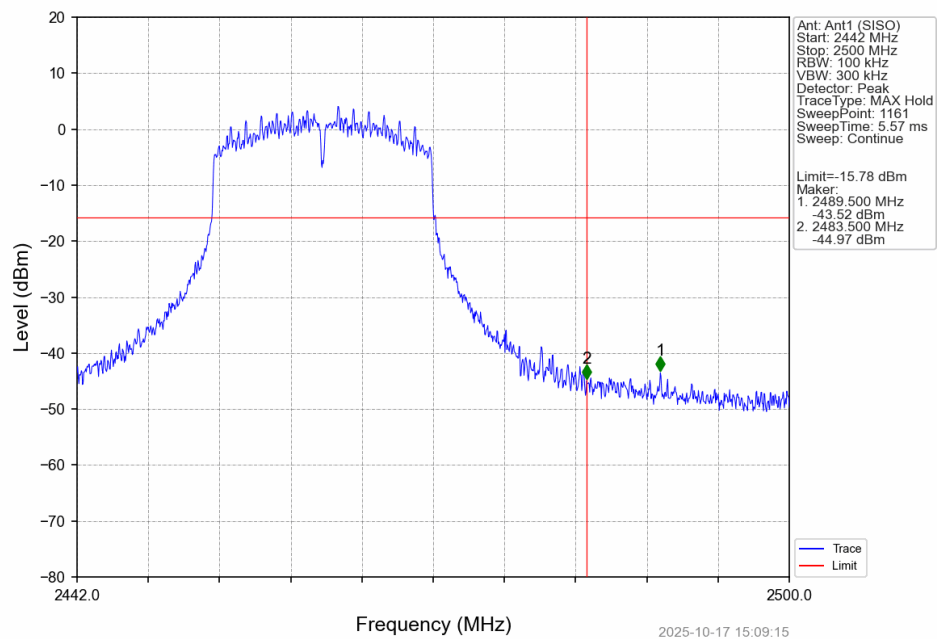
# 802.11n(HT20) LCH\_2412MHz\_Ant1 (SISO)\_NTNV



### 802.11n(HT20) MCH\_2437MHz\_Ant1 (SISO) NTN



### 802.11n(HT20) HCH\_2462MHz\_Ant1 (SISO) NTN



# 802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTNV

