

## **Appendix RF Test Data for 2.4G WiFi**

**Company:** : Dongguan Ruikangqi Intelligent Technology Co., Ltd

**EUT** : CAMERA

**FCC ID:** : 2BX7Q-VHSMOVOL1

**Model Number** : VHSMO Vol. 1

**Report No.** : HTT202608723F01

**Reviewed By** : Heber He

## 1. Duty Cycle

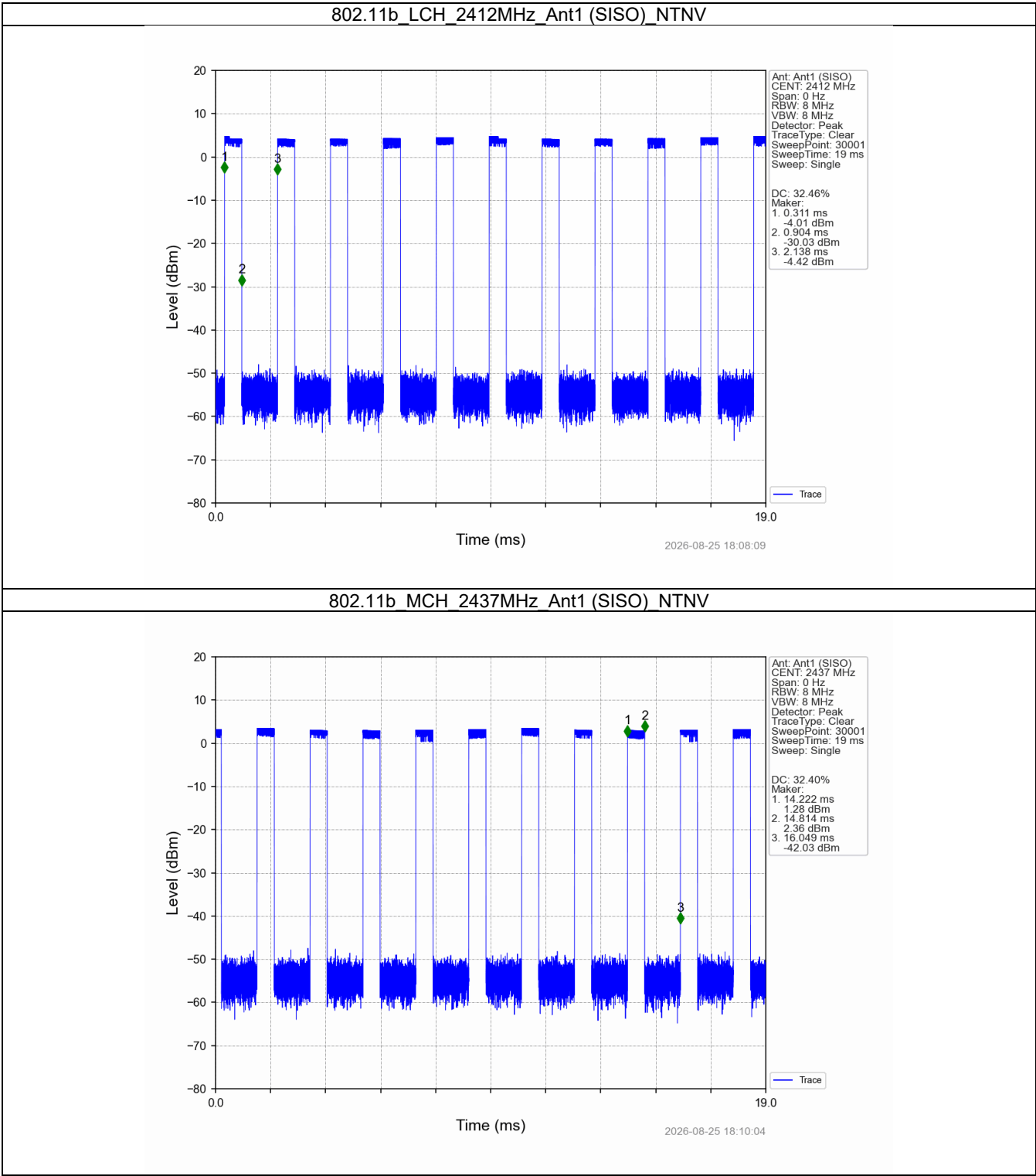
### 1.1 Test Result

#### 1.1.1 Ant1

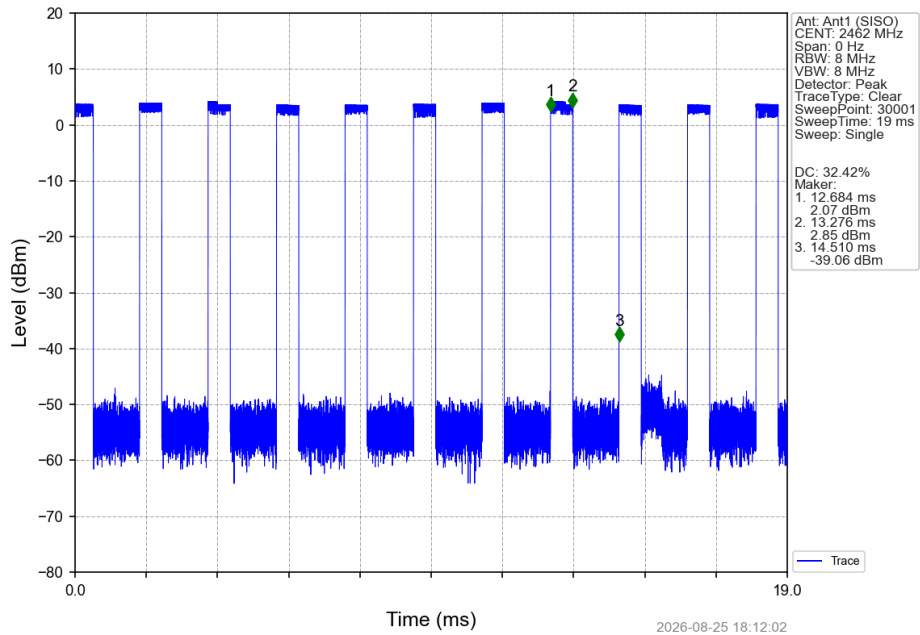
| Ant1           |         |                 |           |             |                |                                   |                       |
|----------------|---------|-----------------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode           | TX Type | Frequency (MHz) | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| 802.11b        | SISO    | 2412            | 0.593     | 1.827       | 32.46          | 4.89                              | 0.01                  |
|                |         | 2437            | 0.592     | 1.827       | 32.40          | 4.89                              | 0.03                  |
|                |         | 2462            | 0.592     | 1.826       | 32.42          | 4.89                              | 0.02                  |
| 802.11g        | SISO    | 2412            | 0.584     | 2.261       | 25.83          | 5.88                              | 6.37                  |
|                |         | 2437            | 0.584     | 1.816       | 32.16          | 4.93                              | 0.03                  |
|                |         | 2462            | 0.585     | 1.817       | 32.20          | 4.92                              | 0.03                  |
| 802.11n (HT20) | SISO    | 2412            | 0.561     | 1.793       | 31.29          | 5.05                              | 0.04                  |
|                |         | 2437            | 0.561     | 1.792       | 31.31          | 5.04                              | 0.03                  |
|                |         | 2462            | 0.561     | 1.792       | 31.31          | 5.04                              | 0.03                  |
| 802.11n (HT40) | SISO    | 2422            | 0.581     | 1.812       | 32.06          | 4.94                              | 0.03                  |
|                |         | 2437            | 0.581     | 1.812       | 32.06          | 4.94                              | 0.03                  |
|                |         | 2452            | 0.581     | 1.812       | 32.06          | 4.94                              | 0.03                  |

1.2 Test Graph

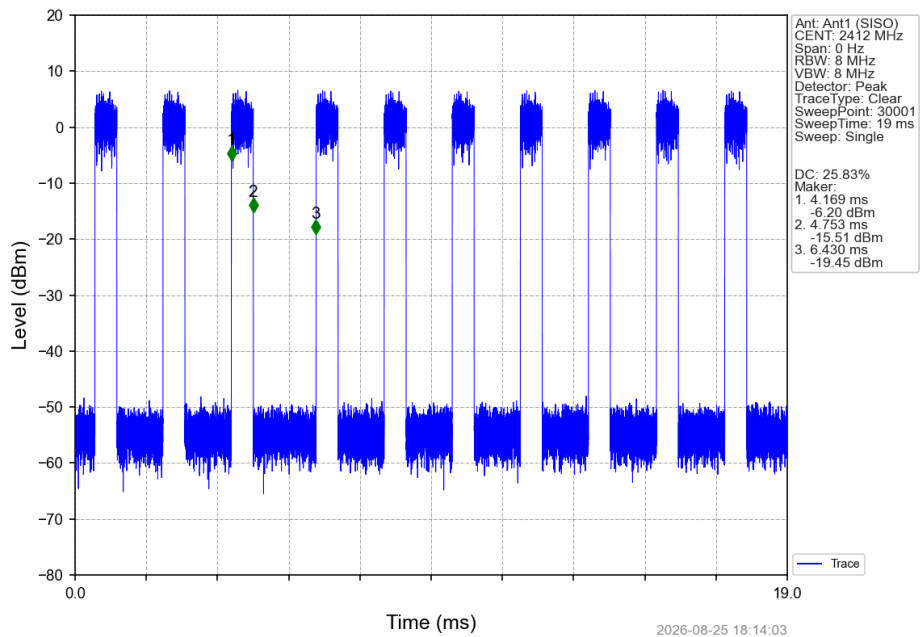
1.2.1 Ant1



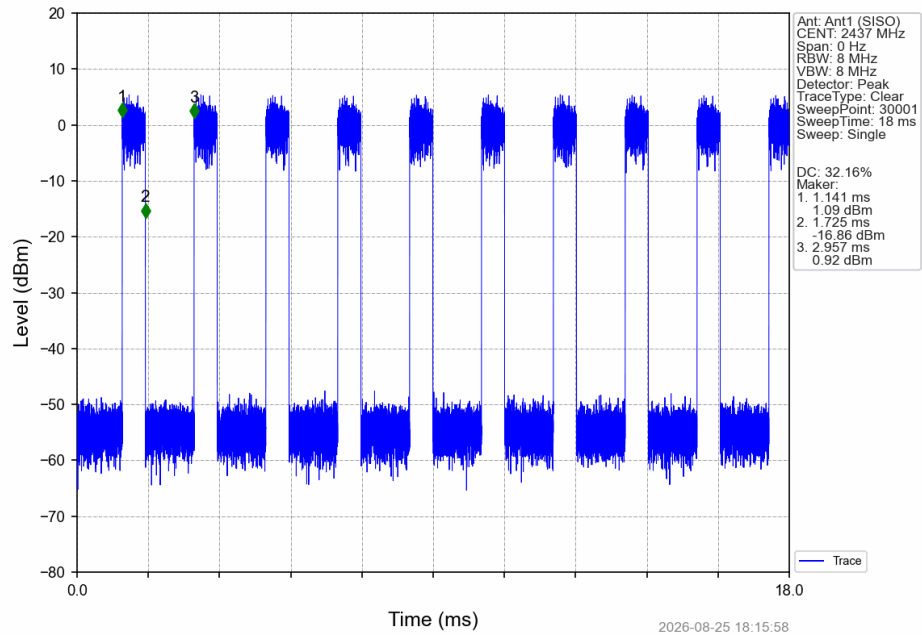
# 802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



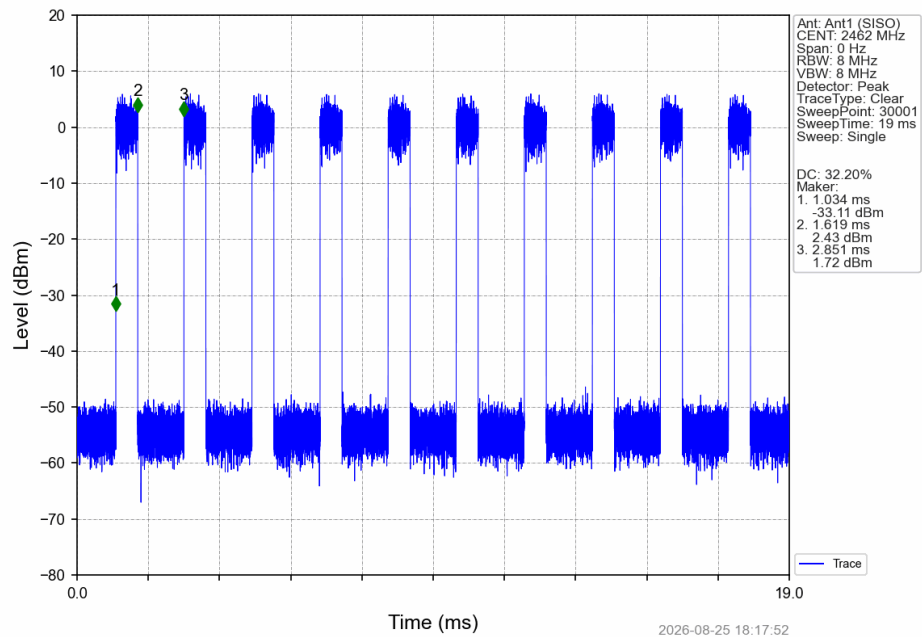
# 802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



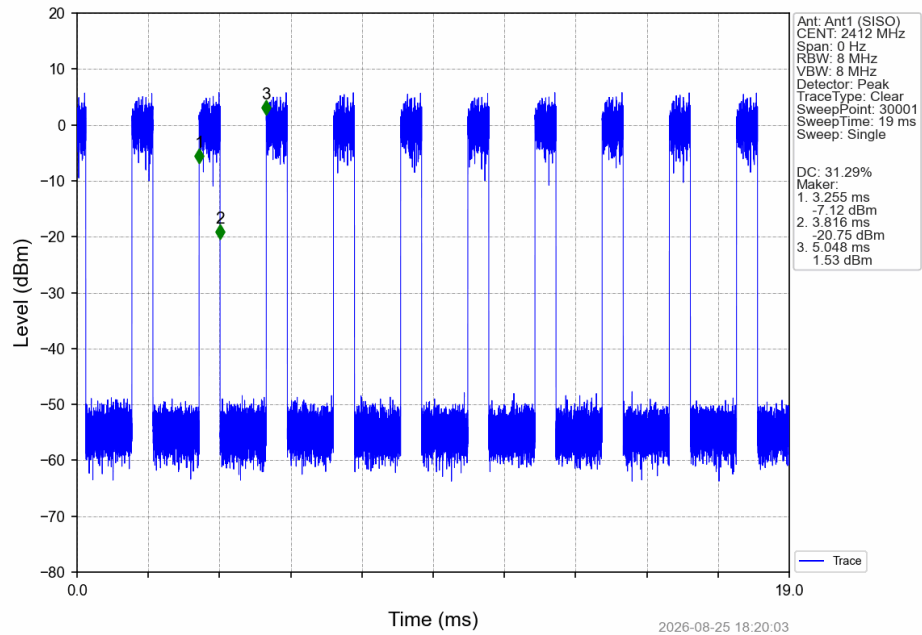
### 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



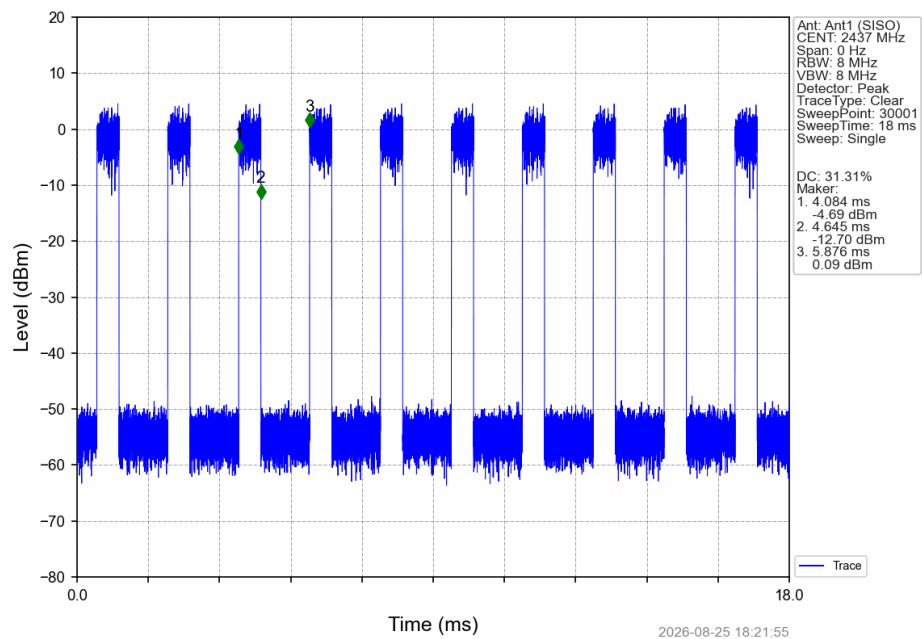
### 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



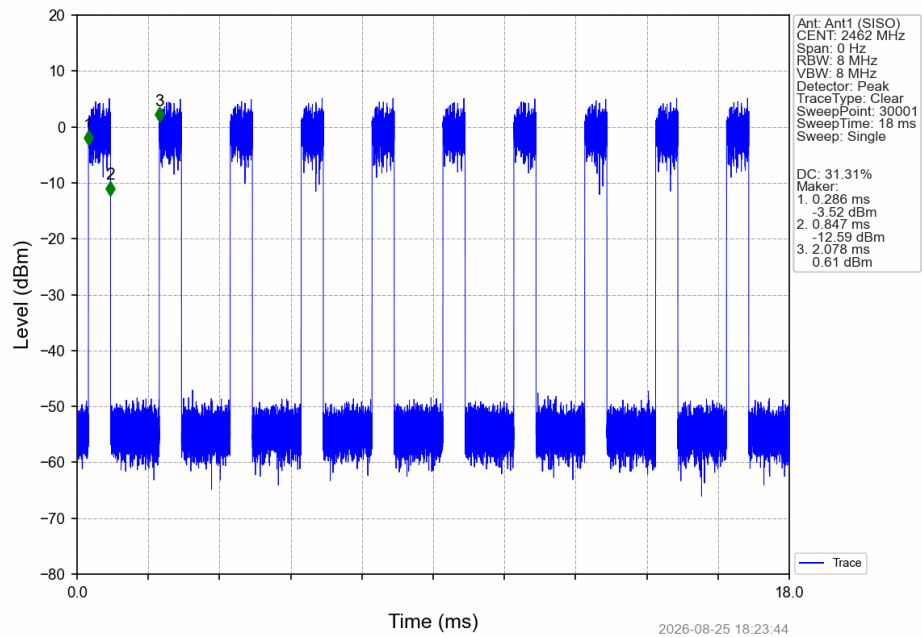
# 802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



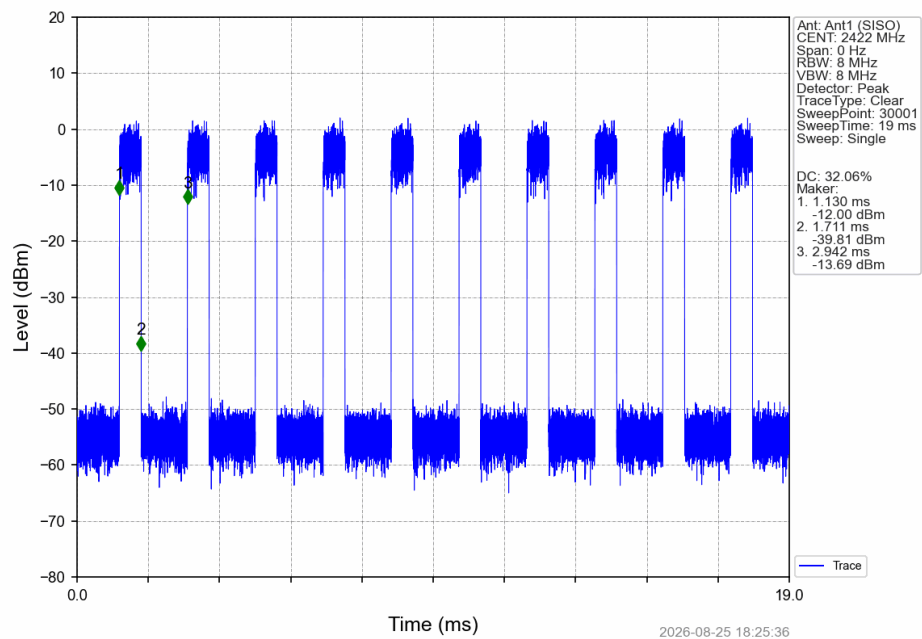
# 802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



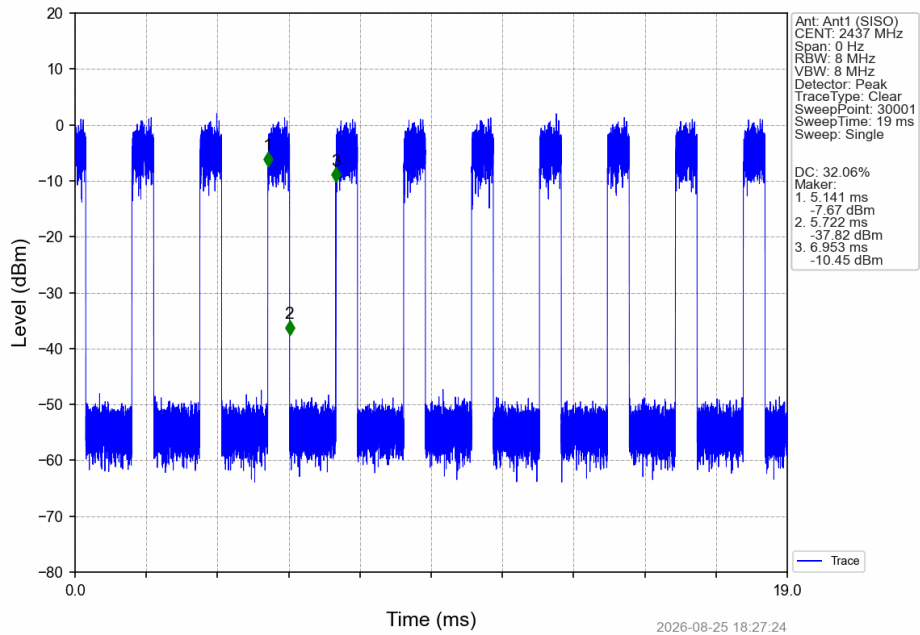
# 802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



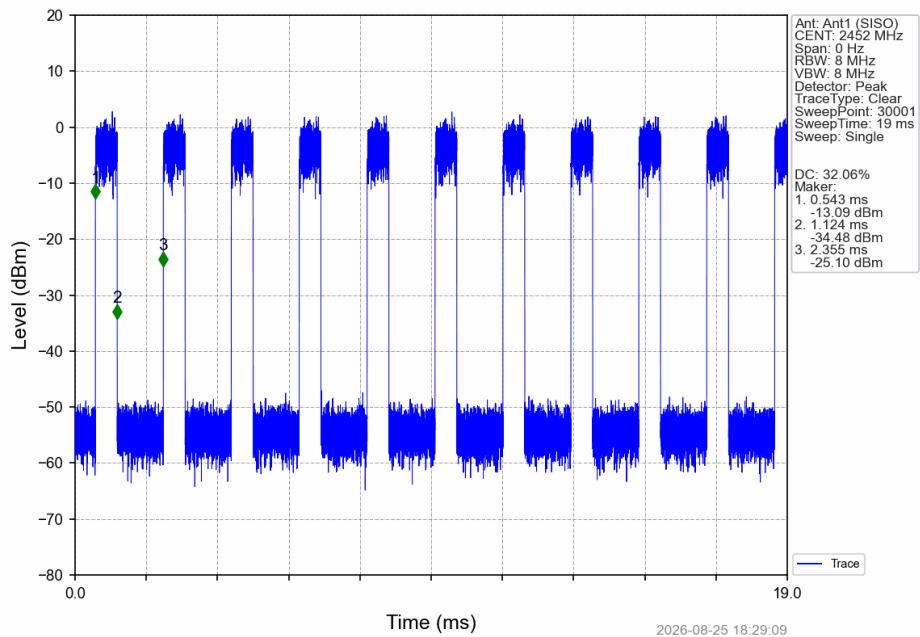
# 802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



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



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



## 2. Bandwidth

### 2.1 Test Result

#### 2.1.1 OBW

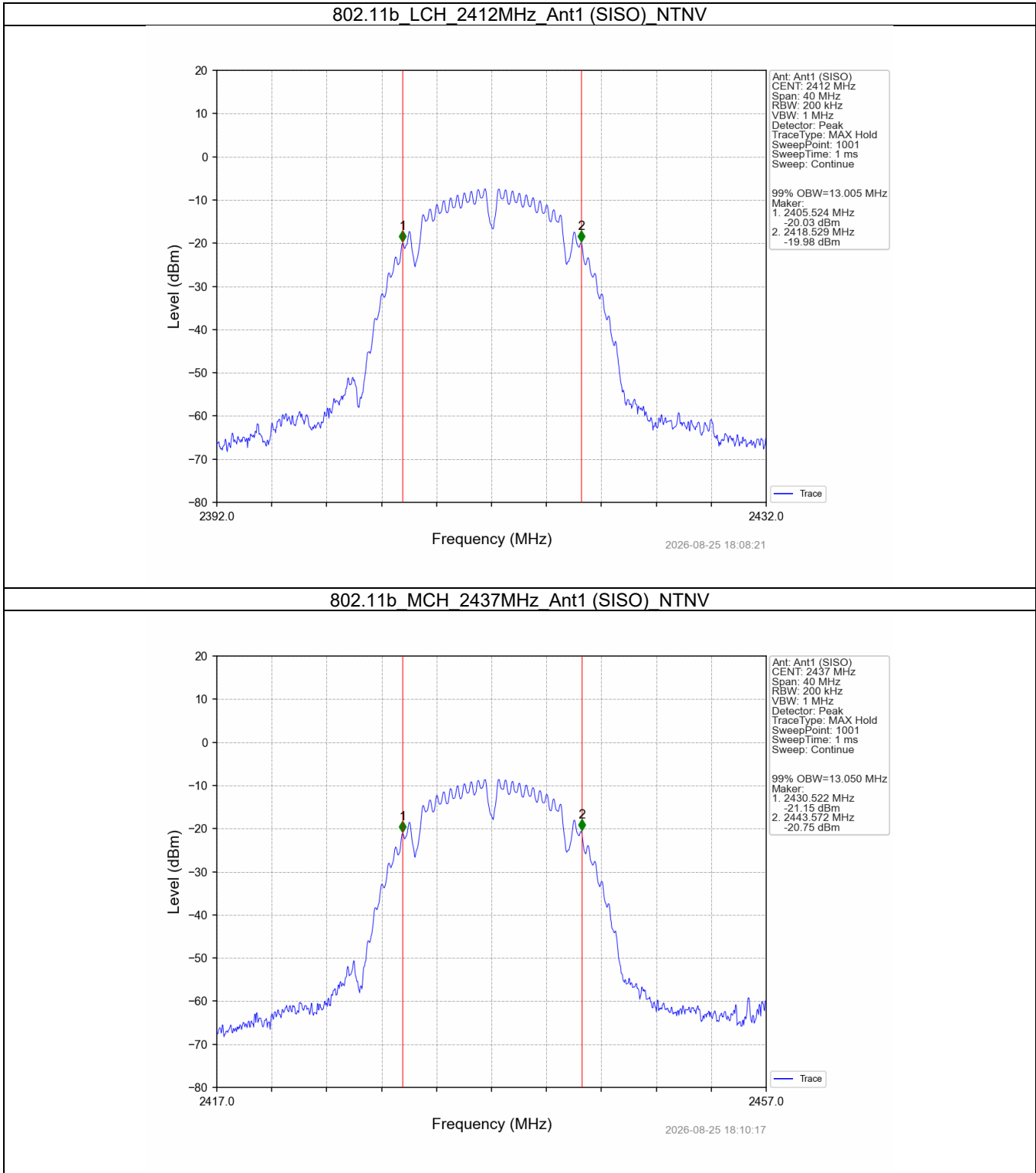
| Mode           | TX Type | Frequency (MHz) | ANT | 99% Occupied Bandwidth (MHz) |       | Verdict |
|----------------|---------|-----------------|-----|------------------------------|-------|---------|
|                |         |                 |     | Result                       | Limit |         |
| 802.11b        | SISO    | 2412            | 1   | 13.005                       | /     | Pass    |
|                |         | 2437            | 1   | 13.050                       | /     | Pass    |
|                |         | 2462            | 1   | 13.044                       | /     | Pass    |
| 802.11g        | SISO    | 2412            | 1   | 16.652                       | /     | Pass    |
|                |         | 2437            | 1   | 16.706                       | /     | Pass    |
|                |         | 2462            | 1   | 16.661                       | /     | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 1   | 17.784                       | /     | Pass    |
|                |         | 2437            | 1   | 17.799                       | /     | Pass    |
|                |         | 2462            | 1   | 17.793                       | /     | Pass    |
| 802.11n (HT40) | SISO    | 2422            | 1   | 36.744                       | /     | Pass    |
|                |         | 2437            | 1   | 36.892                       | /     | Pass    |
|                |         | 2452            | 1   | 36.737                       | /     | Pass    |

#### 2.1.2 6dB BW

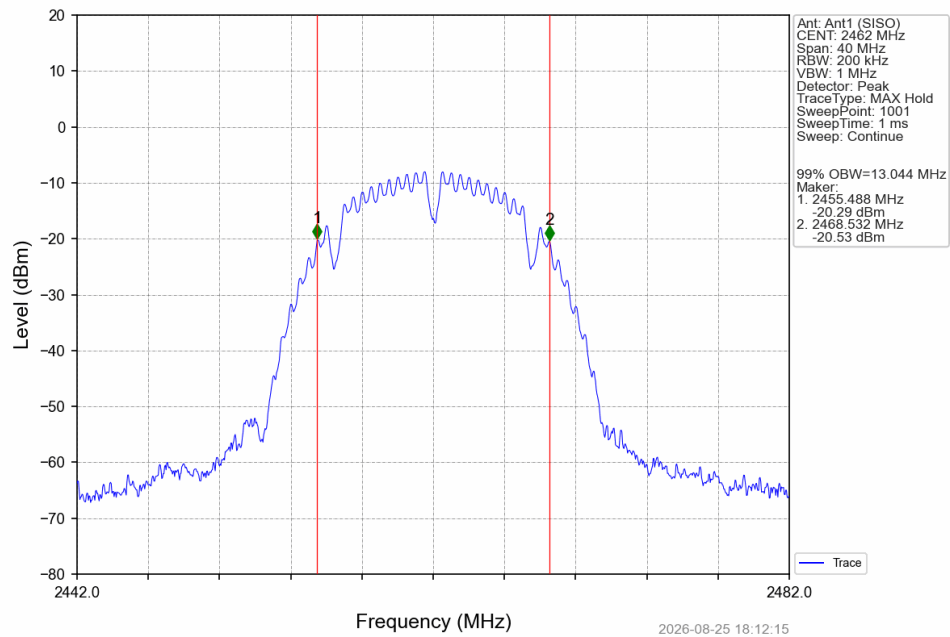
| Mode           | TX Type | Frequency (MHz) | ANT | 6dB Bandwidth (MHz) |            | Verdict |
|----------------|---------|-----------------|-----|---------------------|------------|---------|
|                |         |                 |     | Result              | Limit      |         |
| 802.11b        | SISO    | 2412            | 1   | 9.217               | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 9.630               | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 9.625               | $\geq 0.5$ | Pass    |
| 802.11g        | SISO    | 2412            | 1   | 16.402              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 16.396              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 16.428              | $\geq 0.5$ | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 1   | 17.589              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 17.524              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 17.580              | $\geq 0.5$ | Pass    |
| 802.11n (HT40) | SISO    | 2422            | 1   | 36.096              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 36.132              | $\geq 0.5$ | Pass    |
|                |         | 2452            | 1   | 35.919              | $\geq 0.5$ | Pass    |

# 2.2 Test Graph

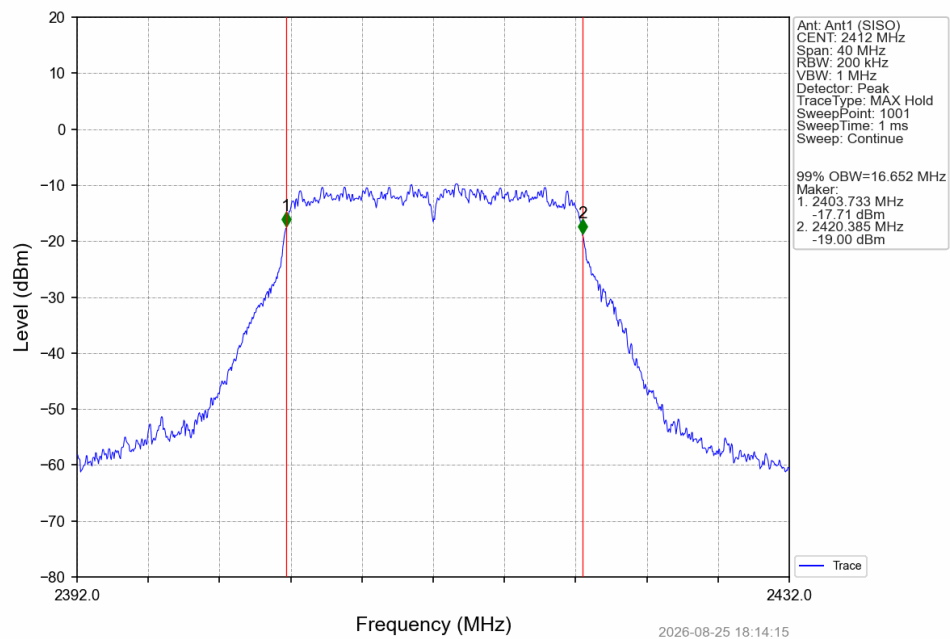
## 2.2.1 OBW



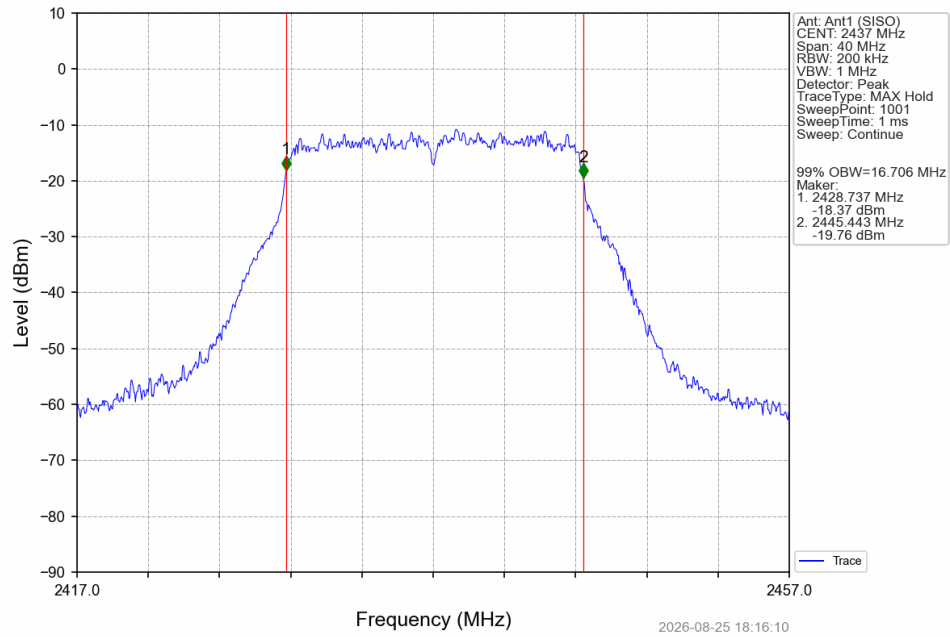
### 802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



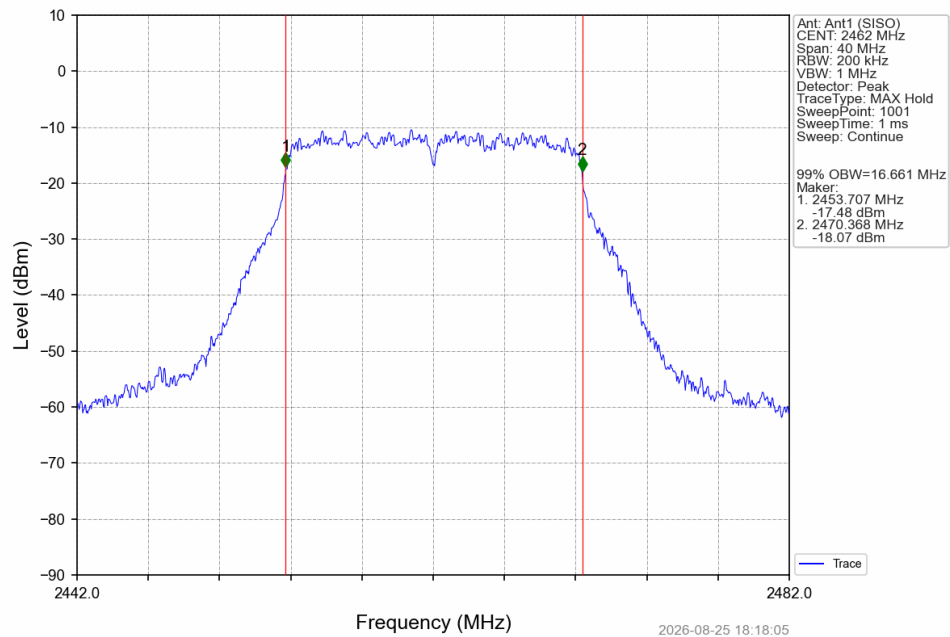
### 802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



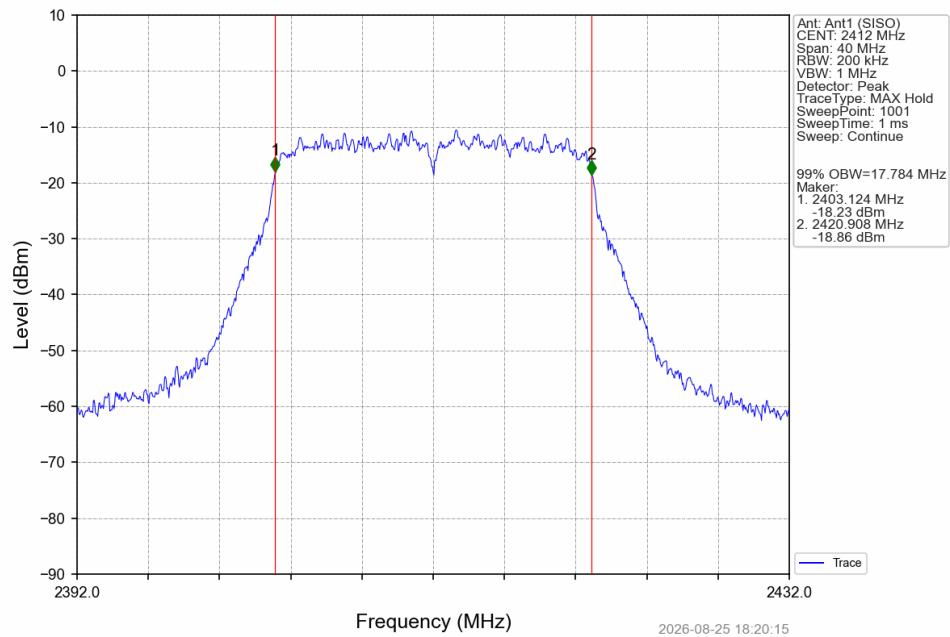
### 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



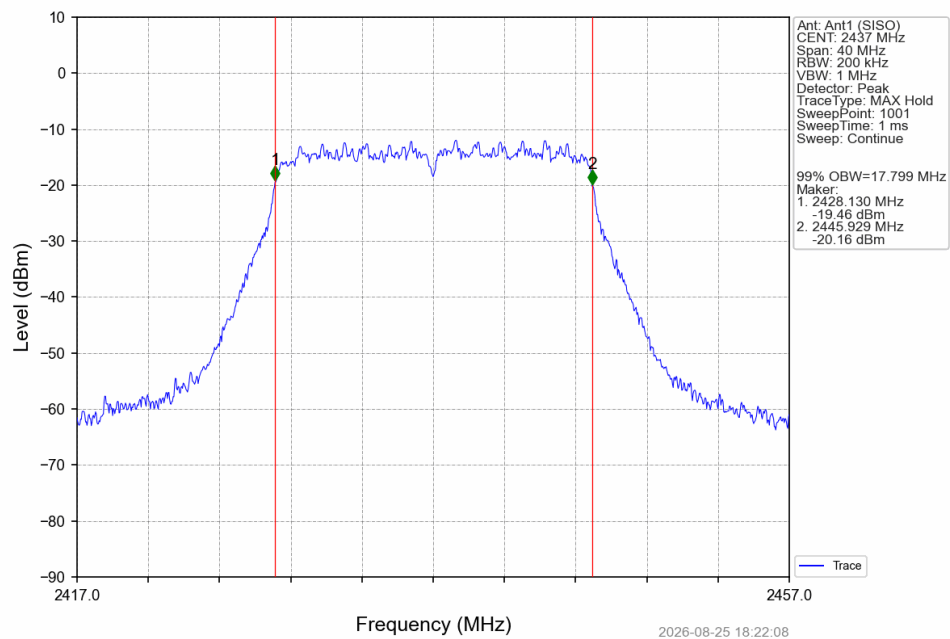
### 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



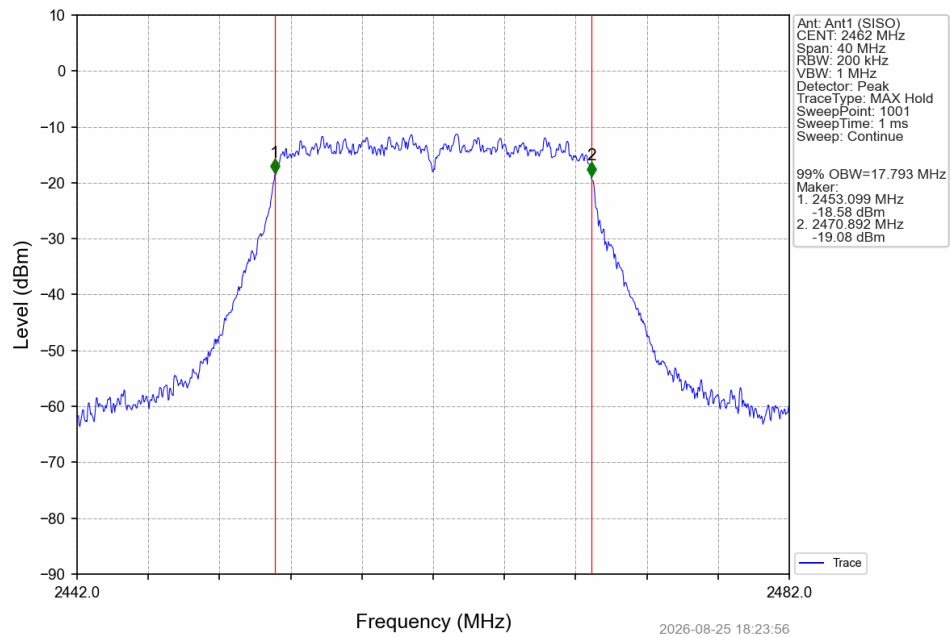
# 802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



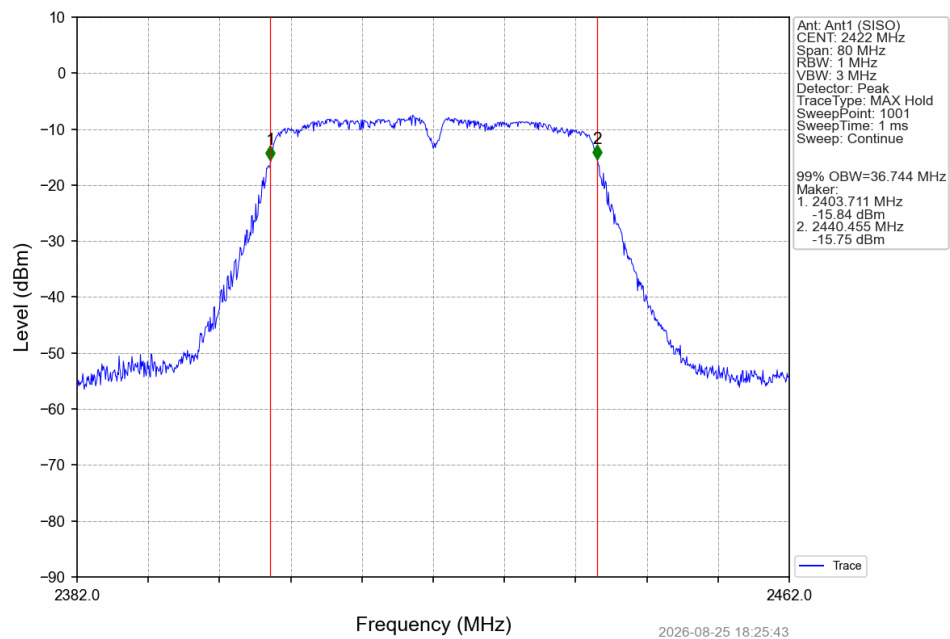
# 802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



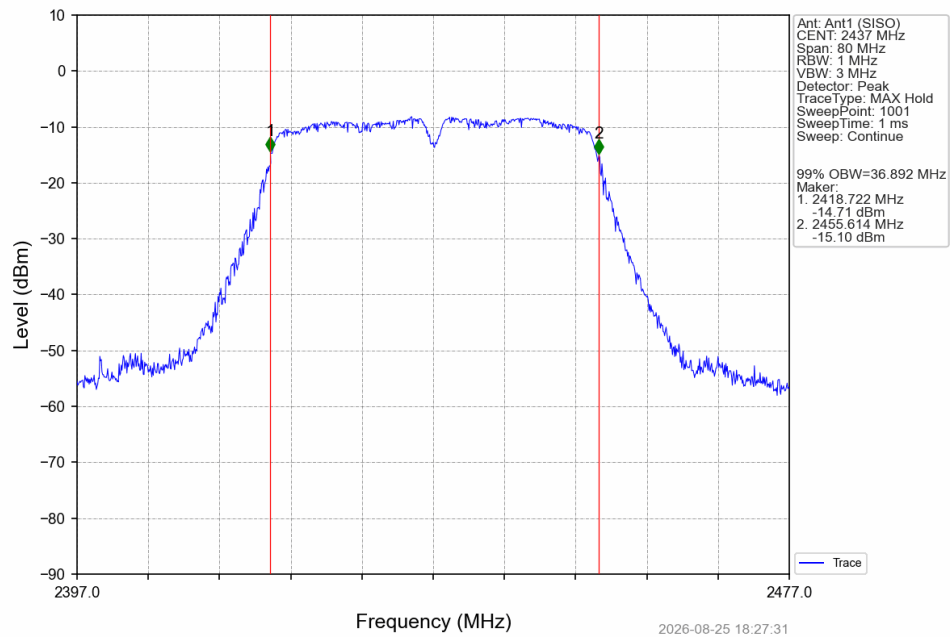
# 802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



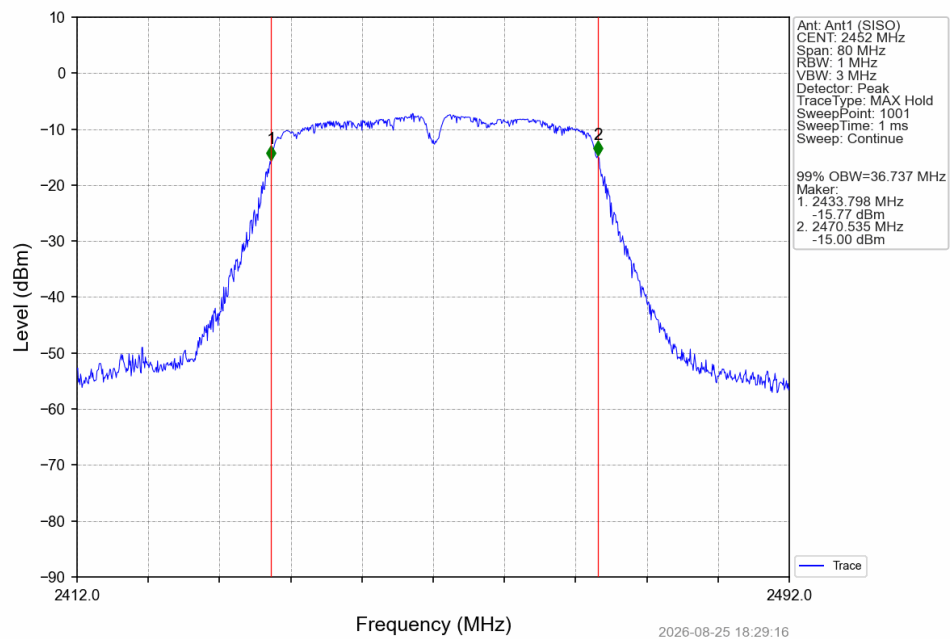
# 802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



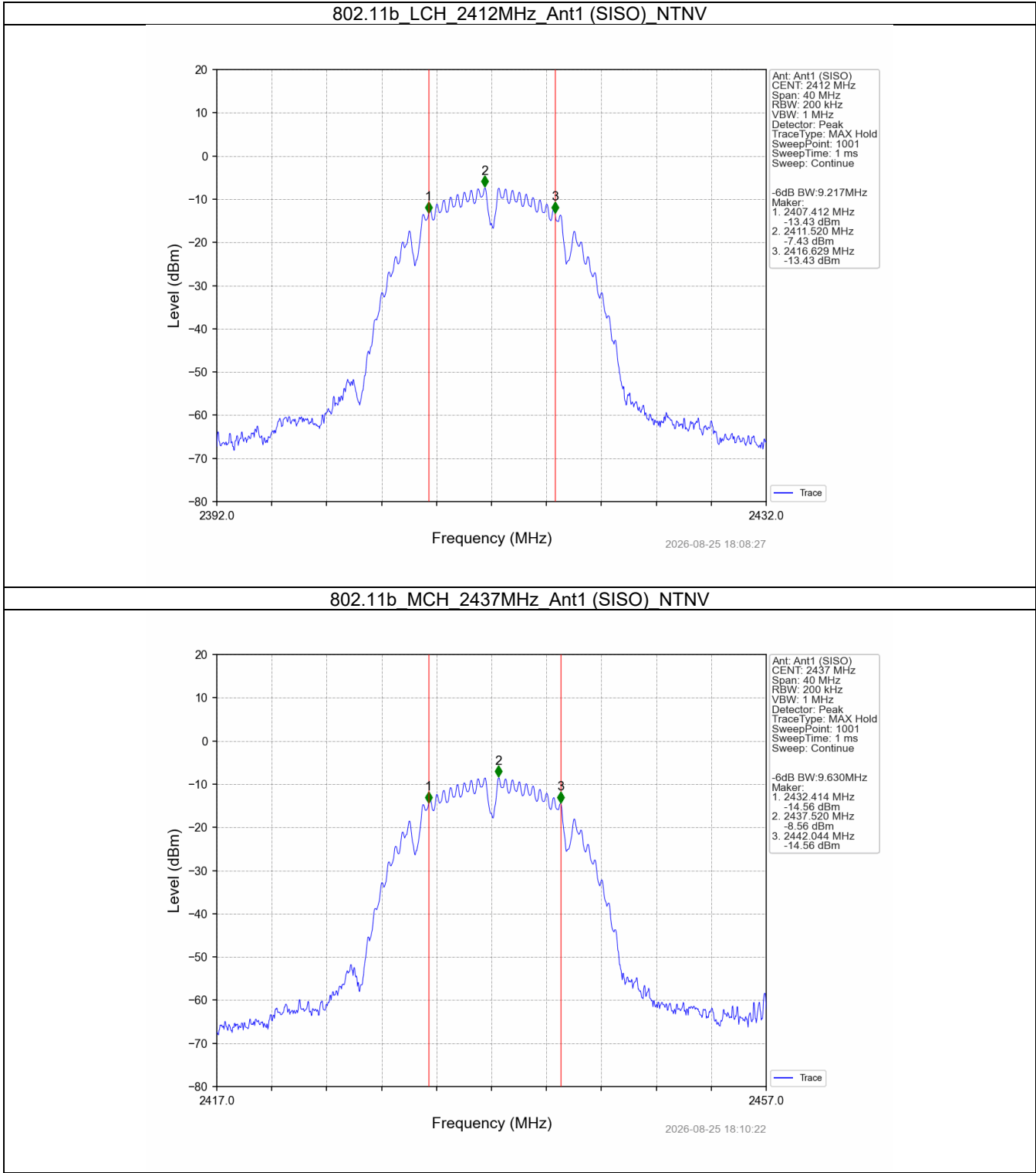
### 802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



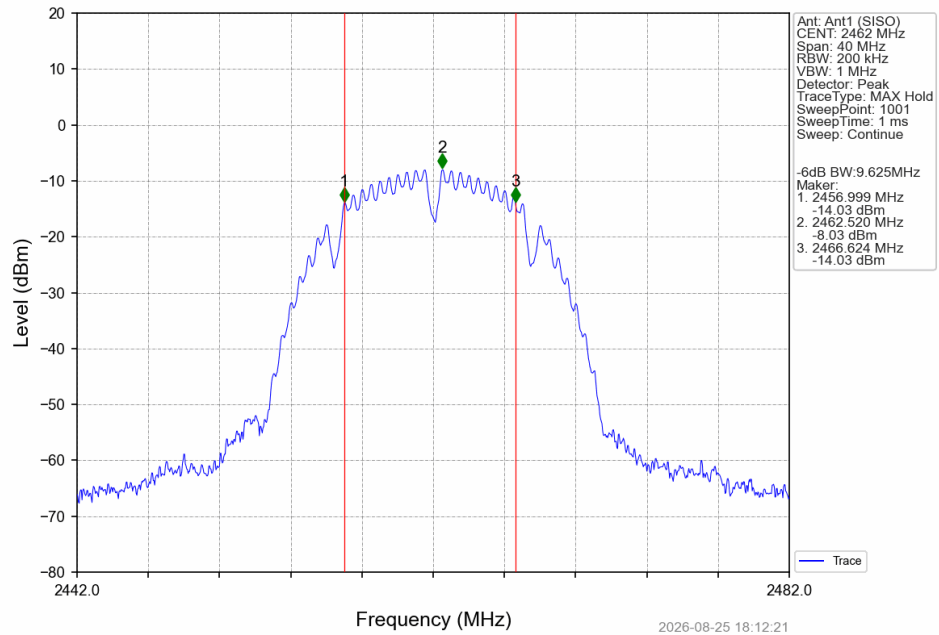
### 802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



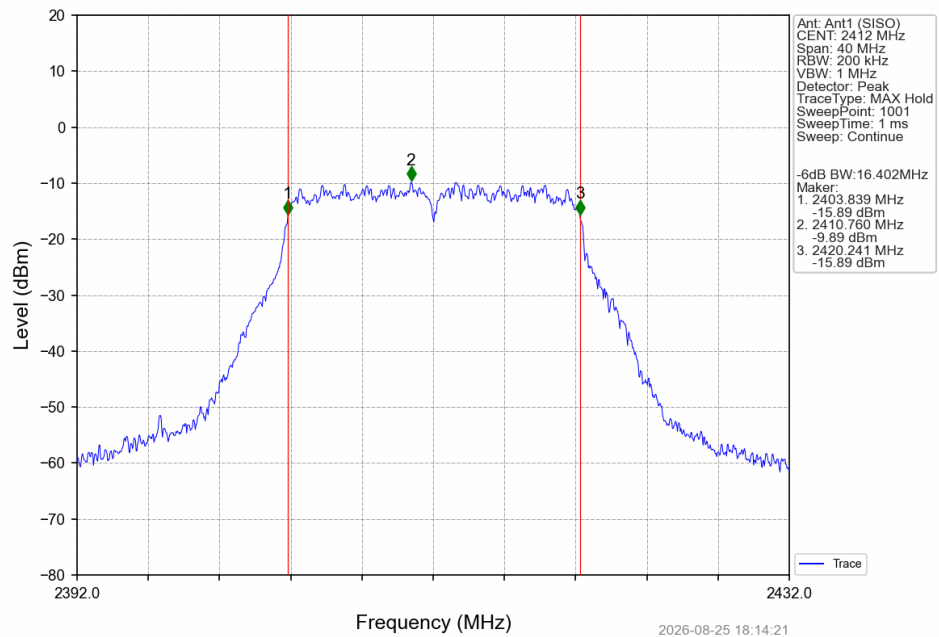
2.2.2 6dB BW



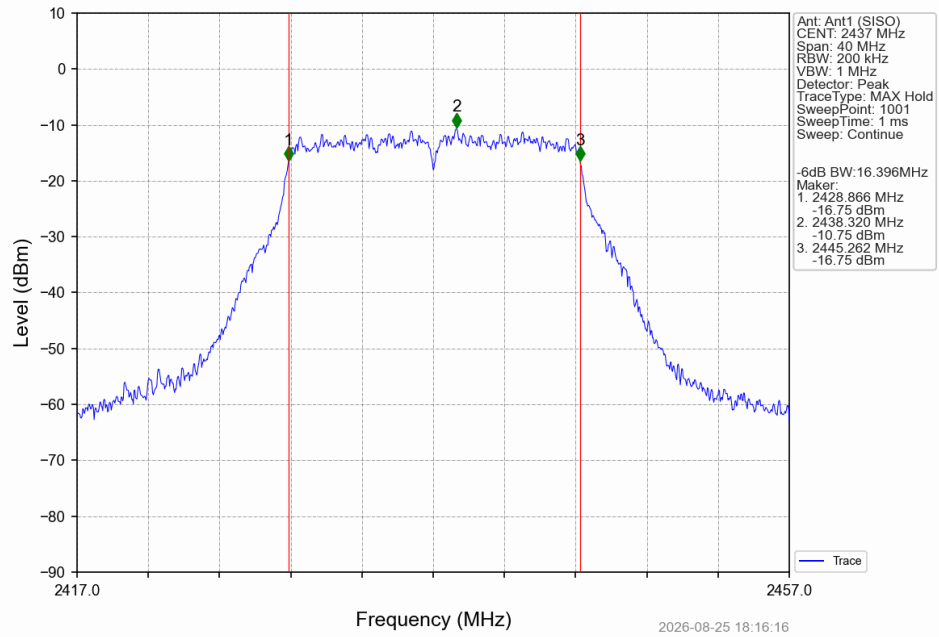
### 802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



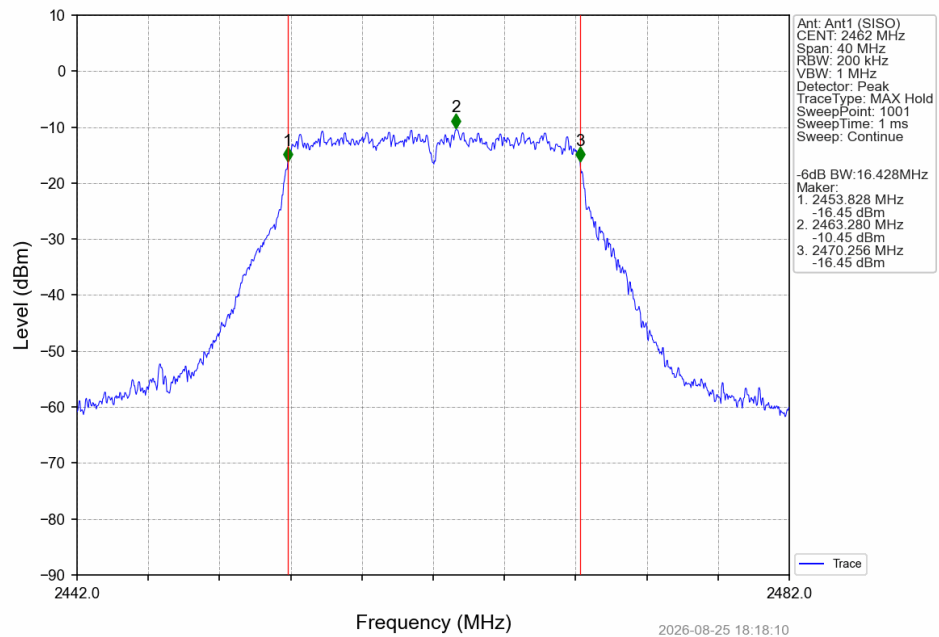
### 802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



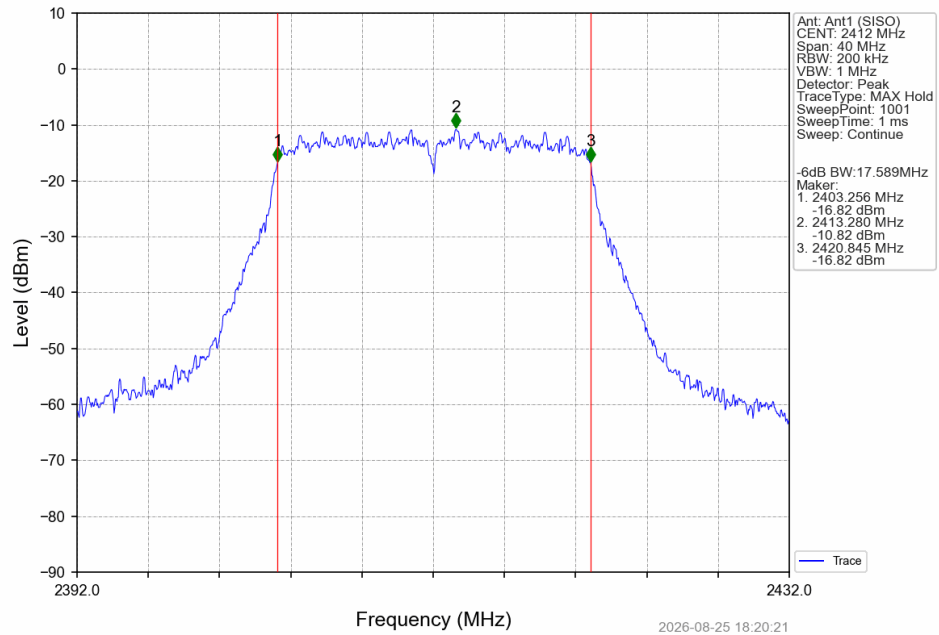
### 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



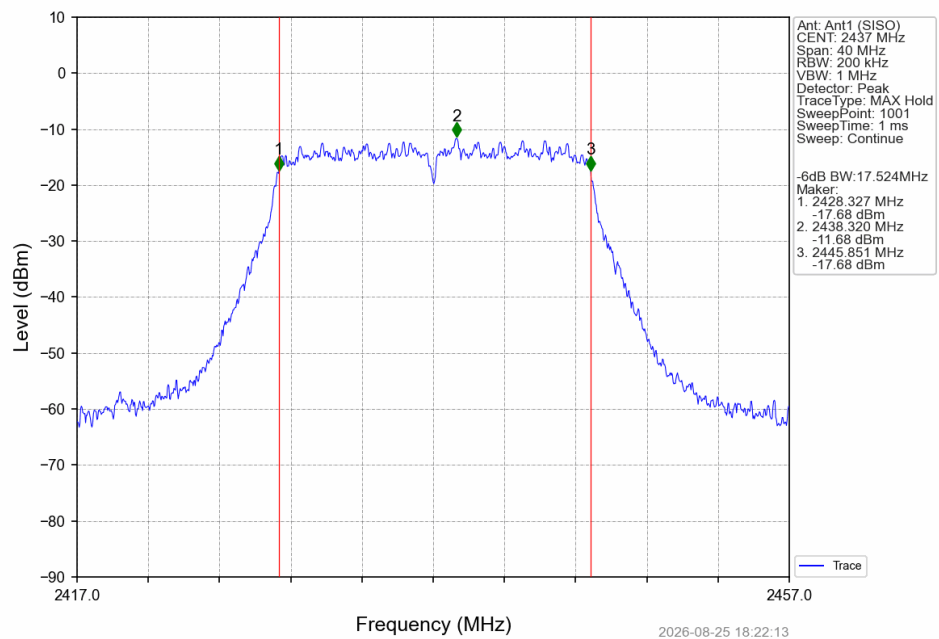
### 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



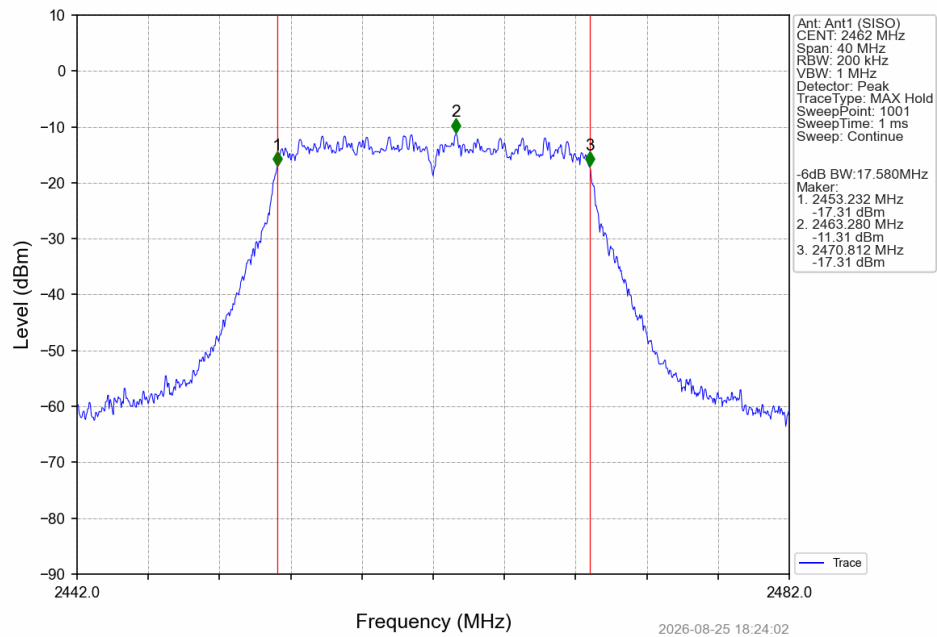
### 802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



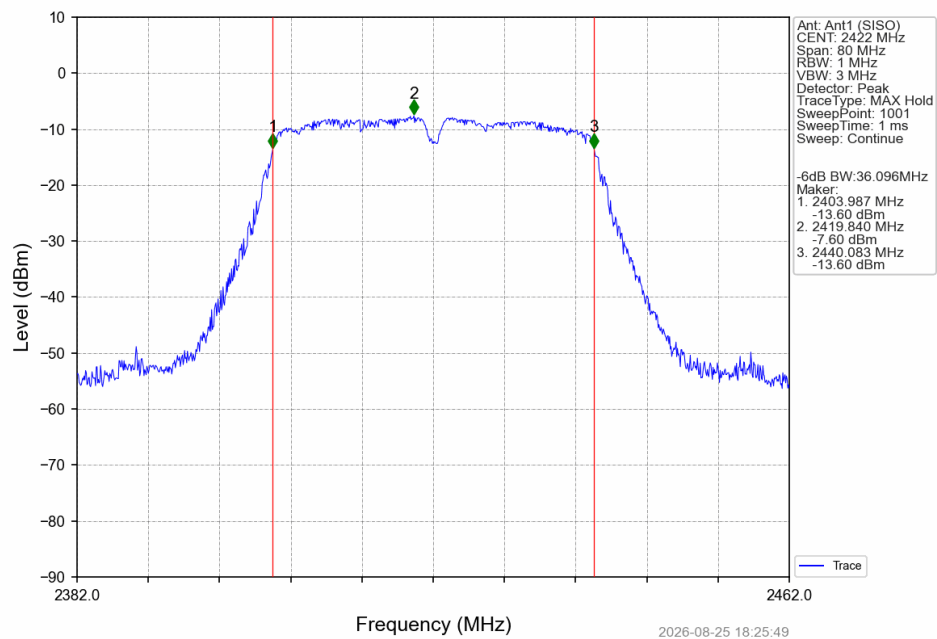
### 802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



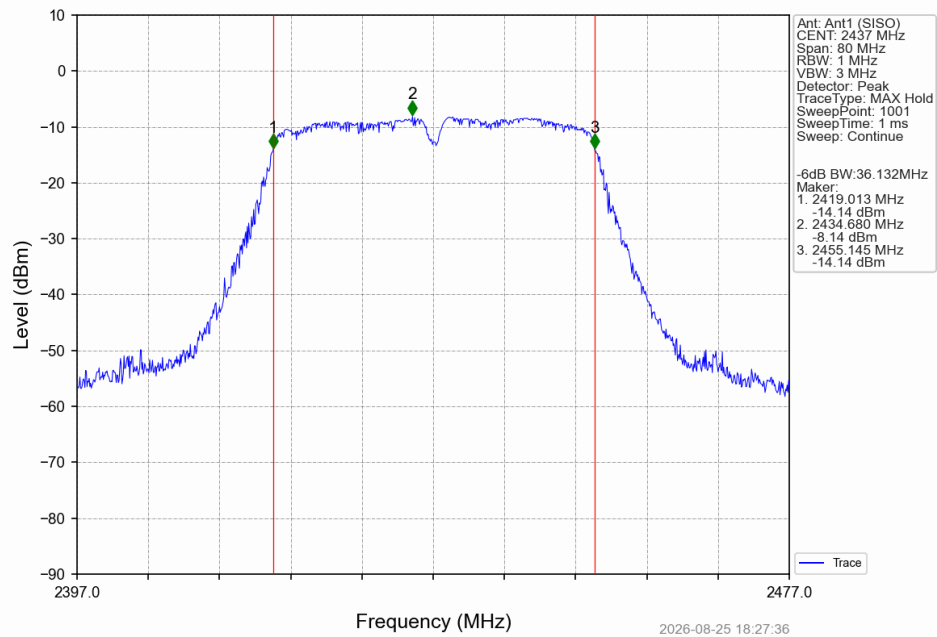
# 802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



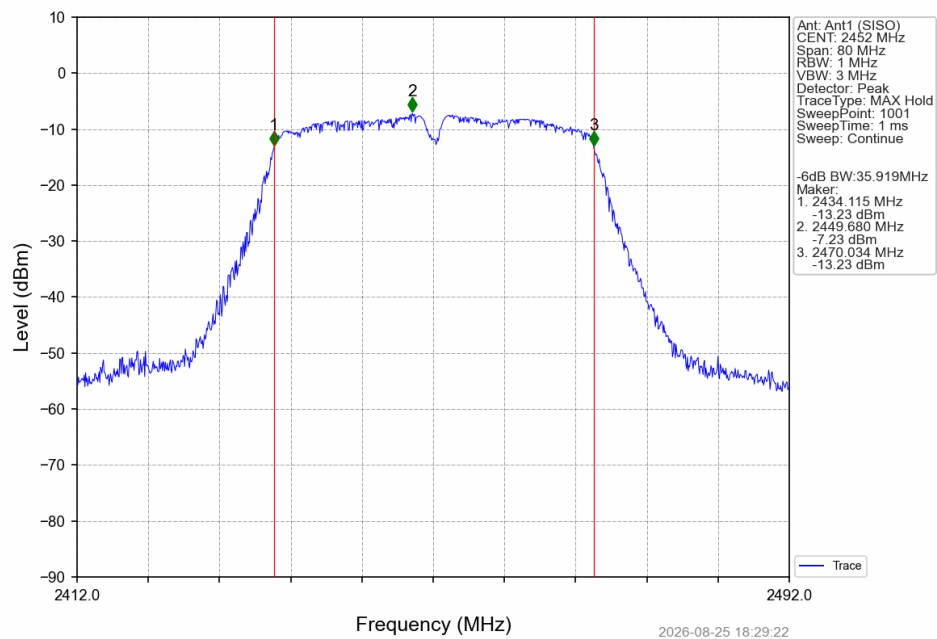
# 802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



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



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



### 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            | 3.40                                      | <=30  | Pass    |
|                |         | 2437            | 2.38                                      | <=30  | Pass    |
|                |         | 2462            | 2.92                                      | <=30  | Pass    |
| 802.11g        | SISO    | 2412            | 7.74                                      | <=30  | Pass    |
|                |         | 2437            | 6.67                                      | <=30  | Pass    |
|                |         | 2462            | 7.19                                      | <=30  | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 6.83                                      | <=30  | Pass    |
|                |         | 2437            | 5.71                                      | <=30  | Pass    |
|                |         | 2462            | 6.23                                      | <=30  | Pass    |
| 802.11n (HT40) | SISO    | 2422            | 5.99                                      | <=30  | Pass    |
|                |         | 2437            | 5.59                                      | <=30  | Pass    |
|                |         | 2452            | 6.12                                      | <=30  | Pass    |

## 4. Maximum Power Spectral Density

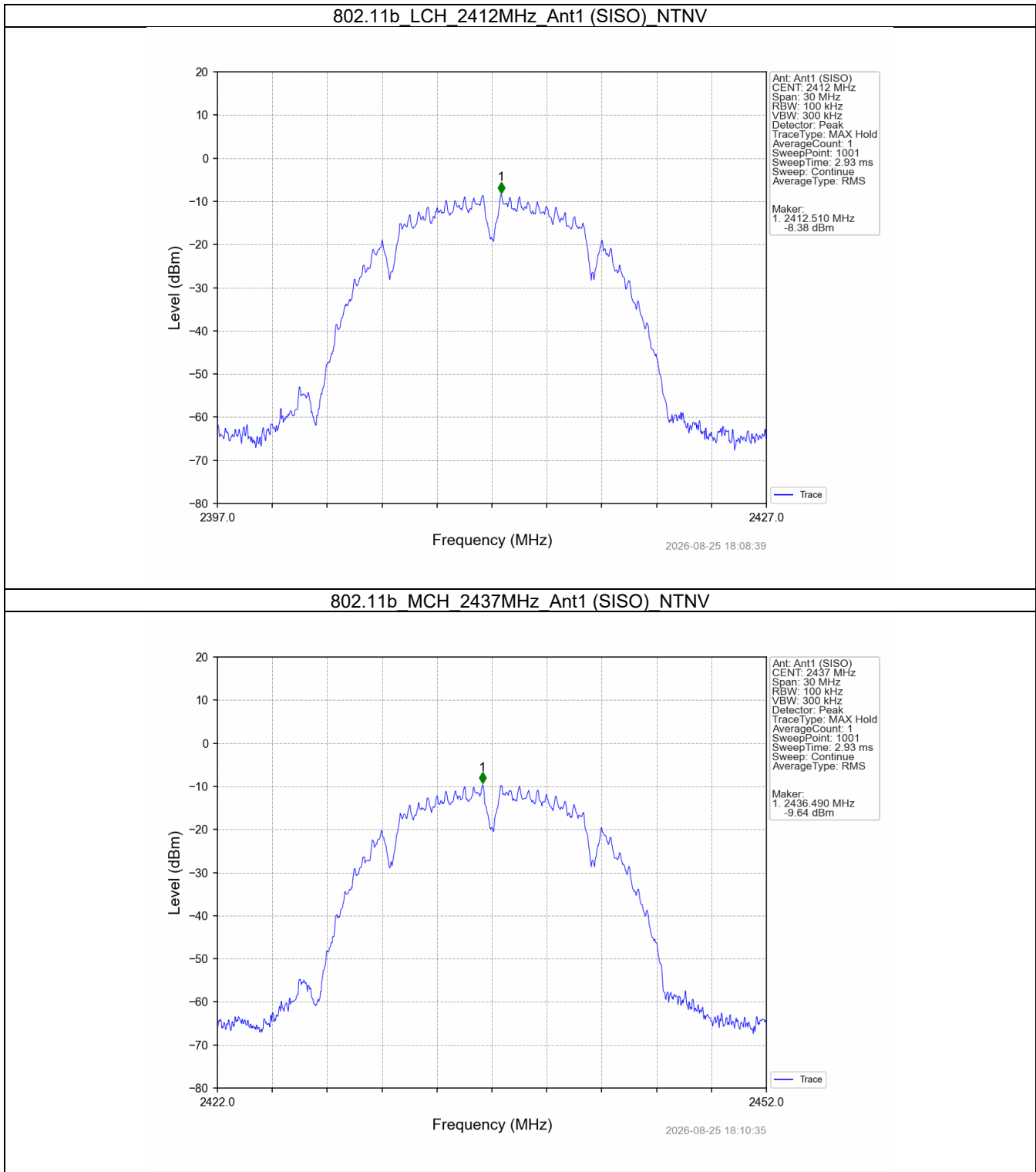
### 4.1 Test Result

#### 4.1.1 PSD

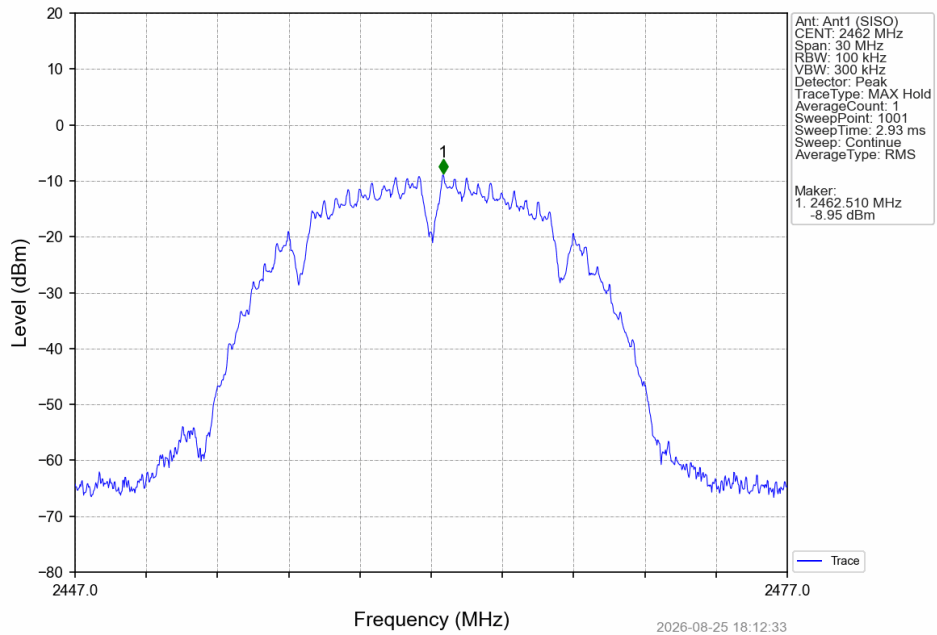
| Mode           | TX Type | Frequency (MHz) | Maximum PSD (dBm) |                 | Verdict |
|----------------|---------|-----------------|-------------------|-----------------|---------|
|                |         |                 | ANT1              | Limit(dBm/3kHz) |         |
| 802.11b        | SISO    | 2412            | -8.38dBm/100kHz   | <=8             | Pass    |
|                |         | 2437            | -9.64dBm/100kHz   | <=8             | Pass    |
|                |         | 2462            | -8.95dBm/100kHz   | <=8             | Pass    |
| 802.11g        | SISO    | 2412            | -11.05dBm/100kHz  | <=8             | Pass    |
|                |         | 2437            | -11.48dBm/100kHz  | <=8             | Pass    |
|                |         | 2462            | -11.03dBm/100kHz  | <=8             | Pass    |
| 802.11n (HT20) | SISO    | 2412            | -11.27dBm/100kHz  | <=8             | Pass    |
|                |         | 2437            | -12.56dBm/100kHz  | <=8             | Pass    |
|                |         | 2462            | -12.27dBm/100kHz  | <=8             | Pass    |
| 802.11n (HT40) | SISO    | 2422            | -15.34dBm/100kHz  | <=8             | Pass    |
|                |         | 2437            | -15.57dBm/100kHz  | <=8             | Pass    |
|                |         | 2452            | -14.97dBm/100kHz  | <=8             | Pass    |

# 4.2 Test Graph

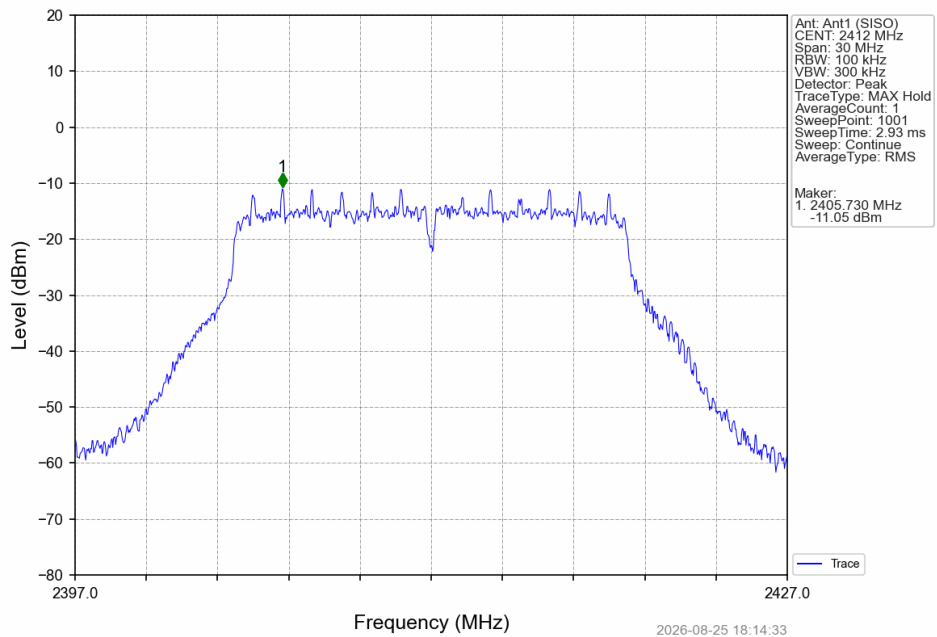
## 4.2.1 PSD



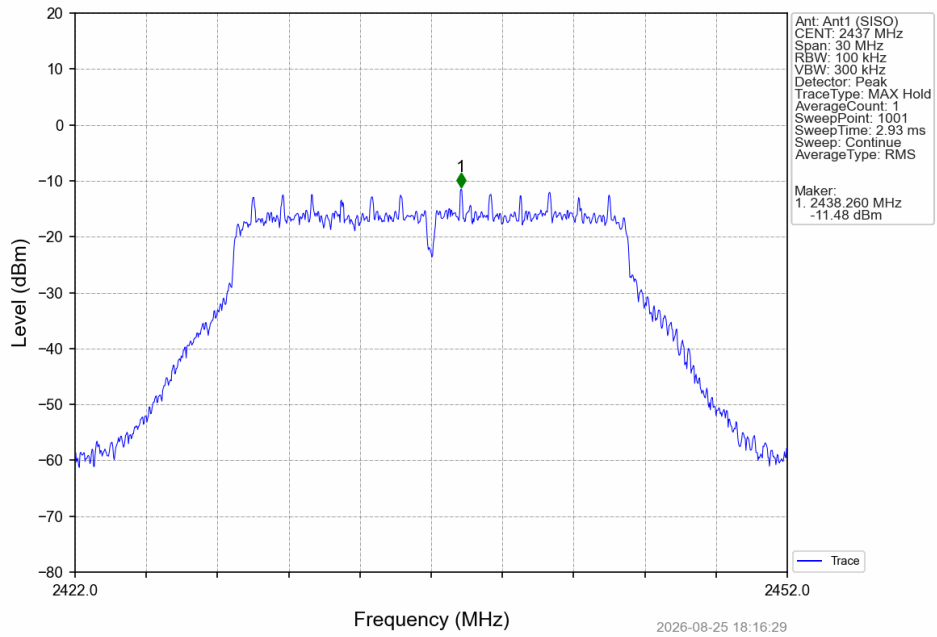
### 802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



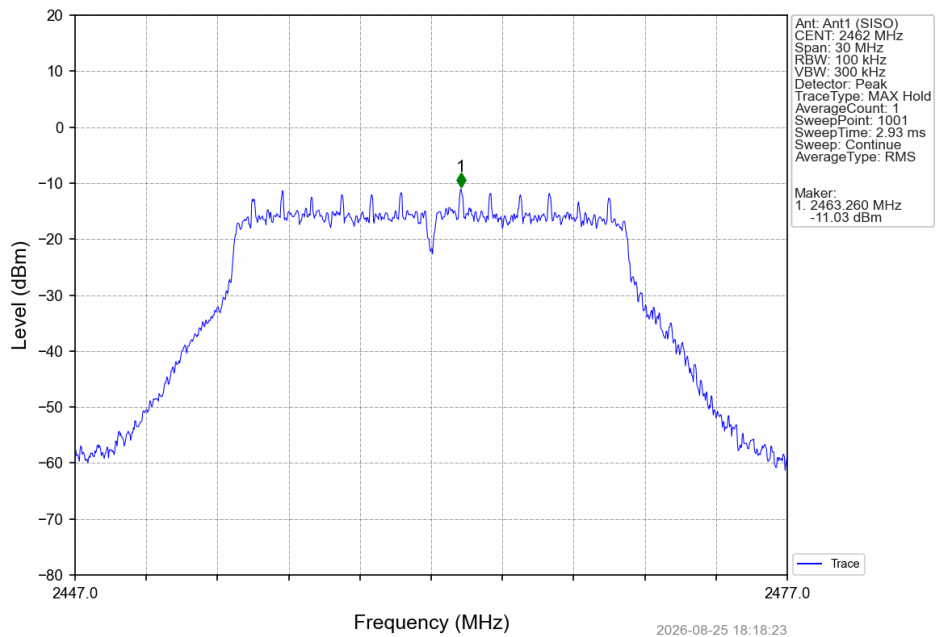
### 802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



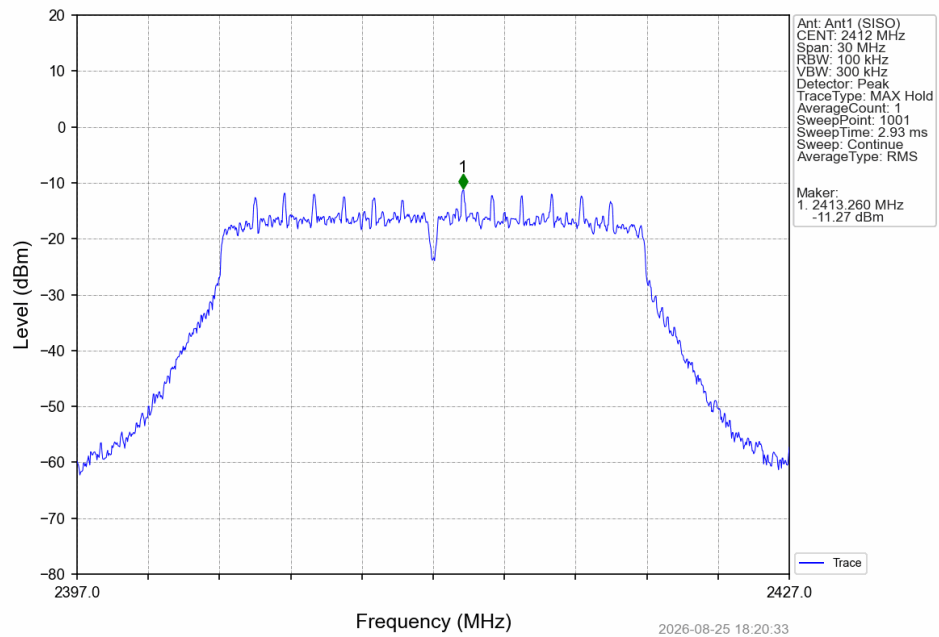
### 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



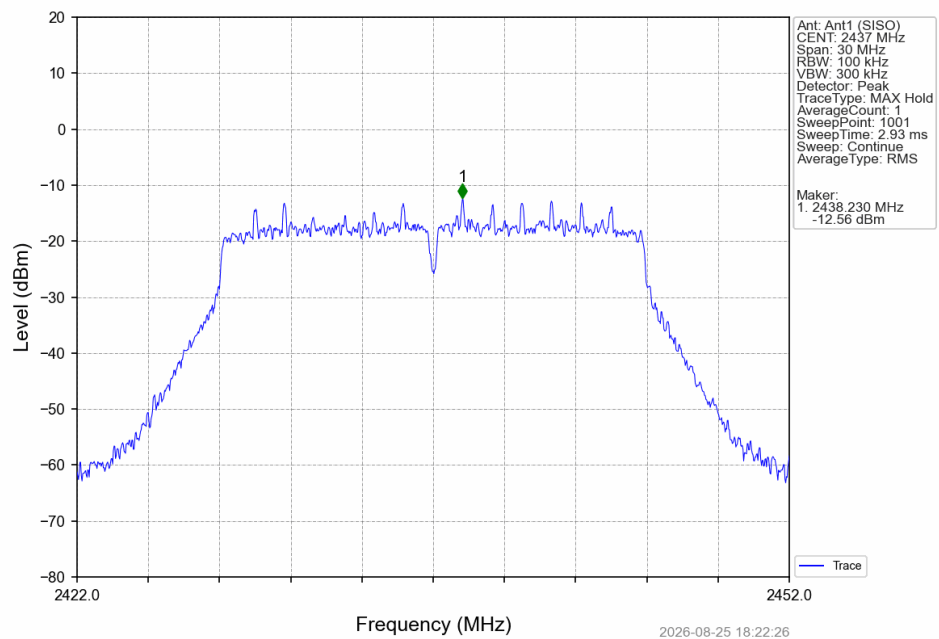
### 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



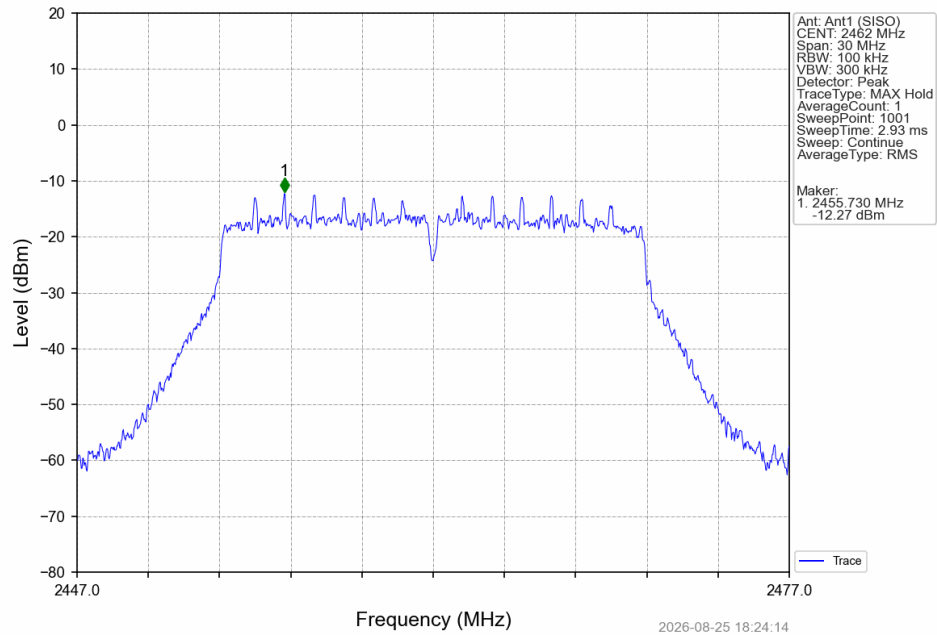
# 802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



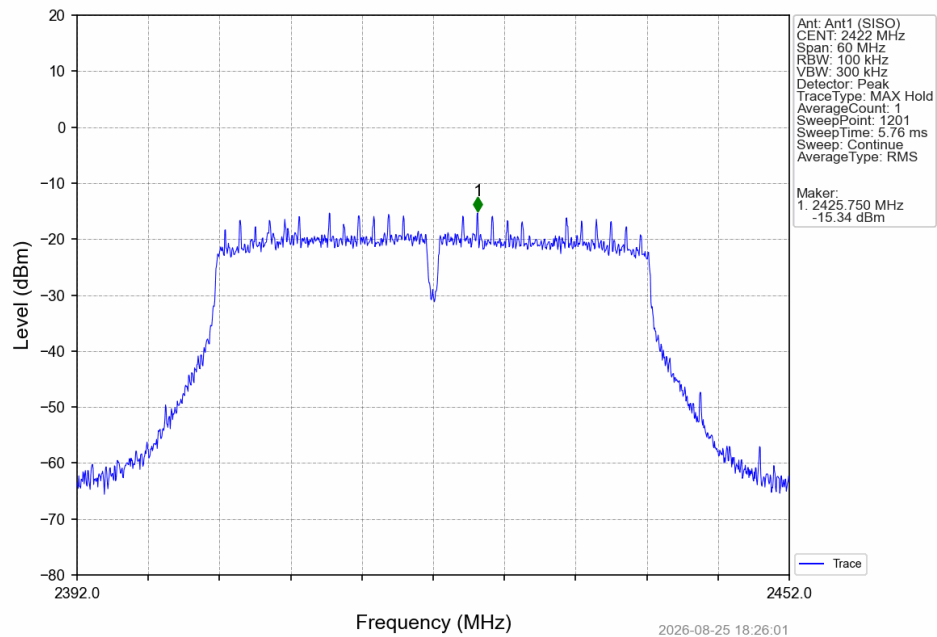
# 802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



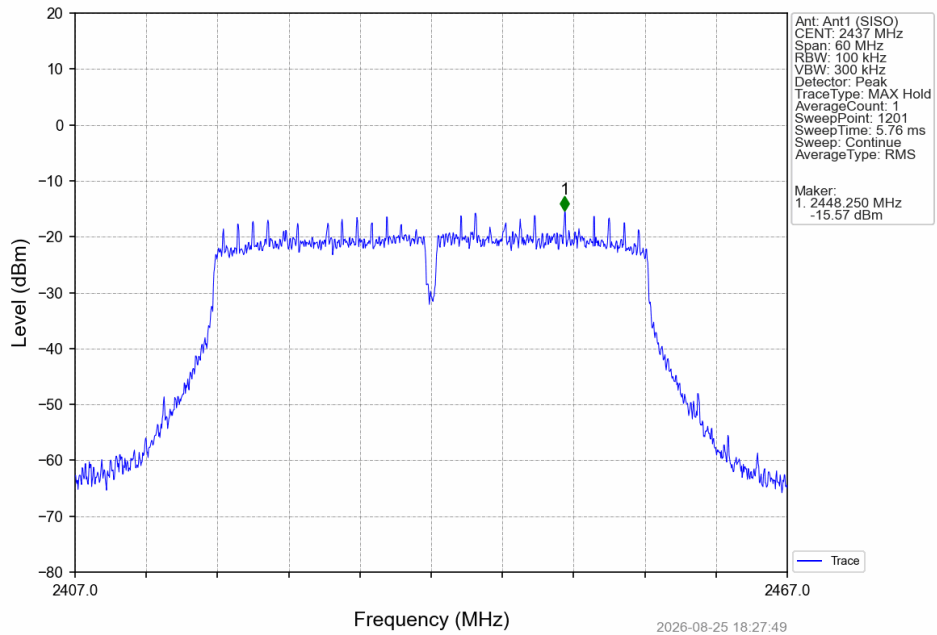
# 802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



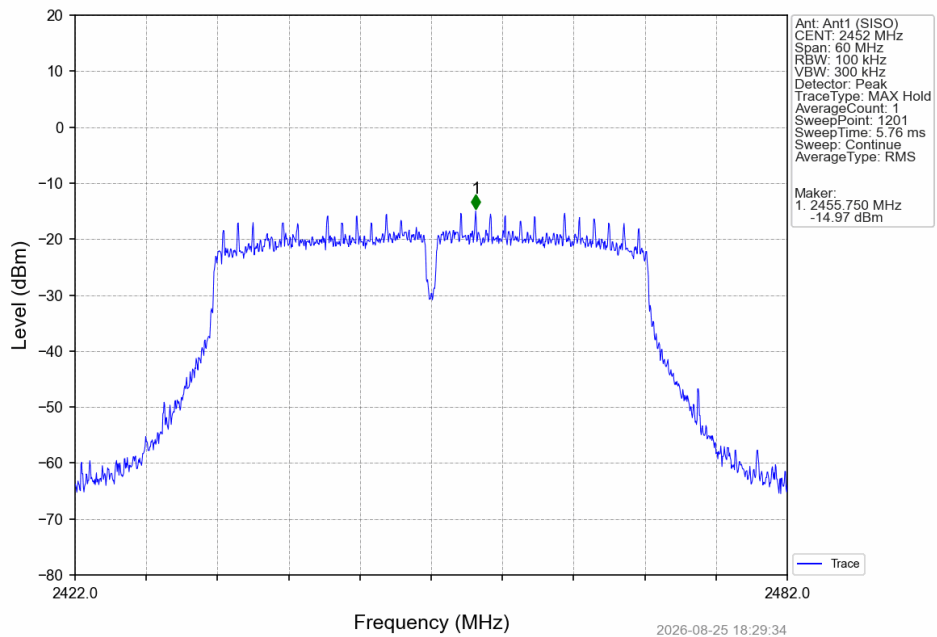
# 802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



# 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

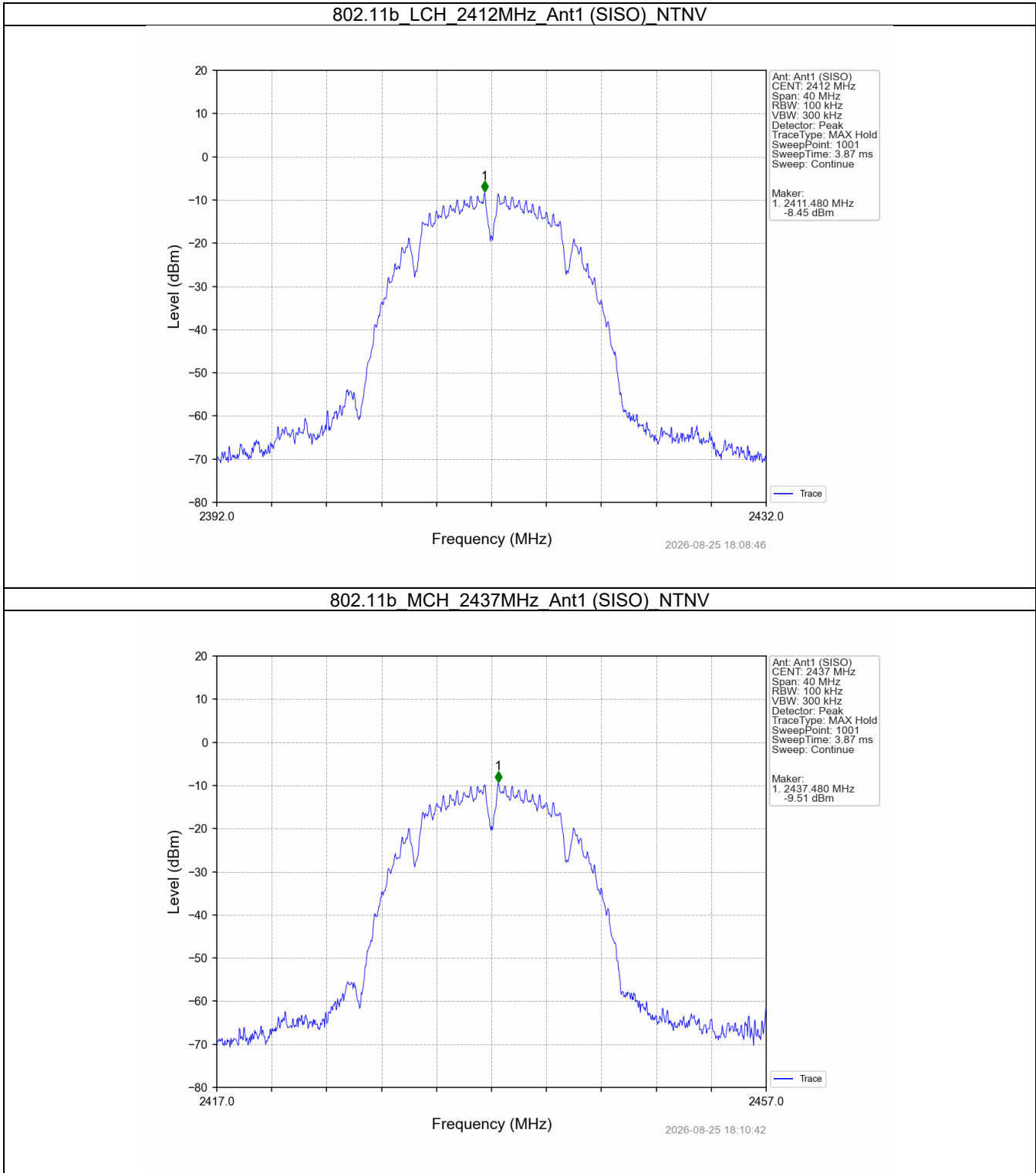
| Mode           | TX Type | Frequency (MHz) | ANT | Level of Reference (dBm) |
|----------------|---------|-----------------|-----|--------------------------|
| 802.11b        | SISO    | 2412            | 1   | -8.45                    |
|                |         | 2437            | 1   | -9.51                    |
|                |         | 2462            | 1   | -9.02                    |
| 802.11g        | SISO    | 2412            | 1   | -10.73                   |
|                |         | 2437            | 1   | -11.77                   |
|                |         | 2462            | 1   | -11.50                   |
| 802.11n (HT20) | SISO    | 2412            | 1   | -11.93                   |
|                |         | 2437            | 1   | -12.41                   |
|                |         | 2462            | 1   | -12.40                   |
| 802.11n (HT40) | SISO    | 2422            | 1   | -15.51                   |
|                |         | 2437            | 1   | -15.51                   |
|                |         | 2452            | 1   | -14.94                   |

#### 5.1.2 CSE

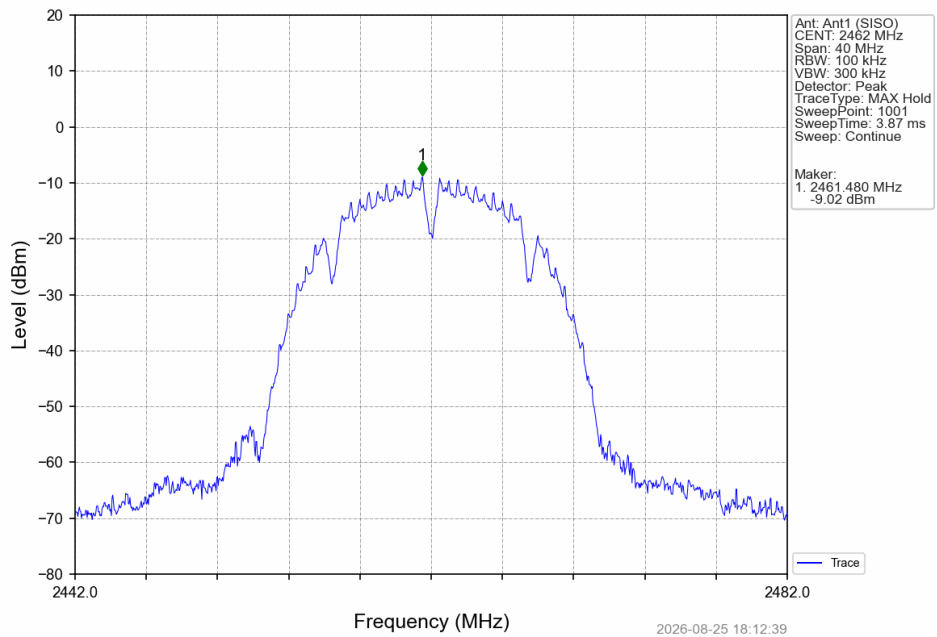
| Mode           | TX Type | Frequency (MHz) | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|----------------|---------|-----------------|-----|--------------------------|-------------|---------|
| 802.11b        | SISO    | 2412            | 1   | -8.45                    | -28.45      | Pass    |
|                |         | 2437            | 1   | -9.51                    | -29.51      | Pass    |
|                |         | 2462            | 1   | -9.02                    | -29.02      | Pass    |
| 802.11g        | SISO    | 2412            | 1   | -10.73                   | -30.73      | Pass    |
|                |         | 2437            | 1   | -11.77                   | -31.77      | Pass    |
|                |         | 2462            | 1   | -11.50                   | -31.50      | Pass    |
| 802.11n (HT20) | SISO    | 2412            | 1   | -11.93                   | -31.93      | Pass    |
|                |         | 2437            | 1   | -12.41                   | -32.41      | Pass    |
|                |         | 2462            | 1   | -12.40                   | -32.40      | Pass    |
| 802.11n (HT40) | SISO    | 2422            | 1   | -15.51                   | -35.51      | Pass    |
|                |         | 2437            | 1   | -15.51                   | -35.51      | Pass    |
|                |         | 2452            | 1   | -14.94                   | -34.94      | Pass    |

5.2 Test Graph

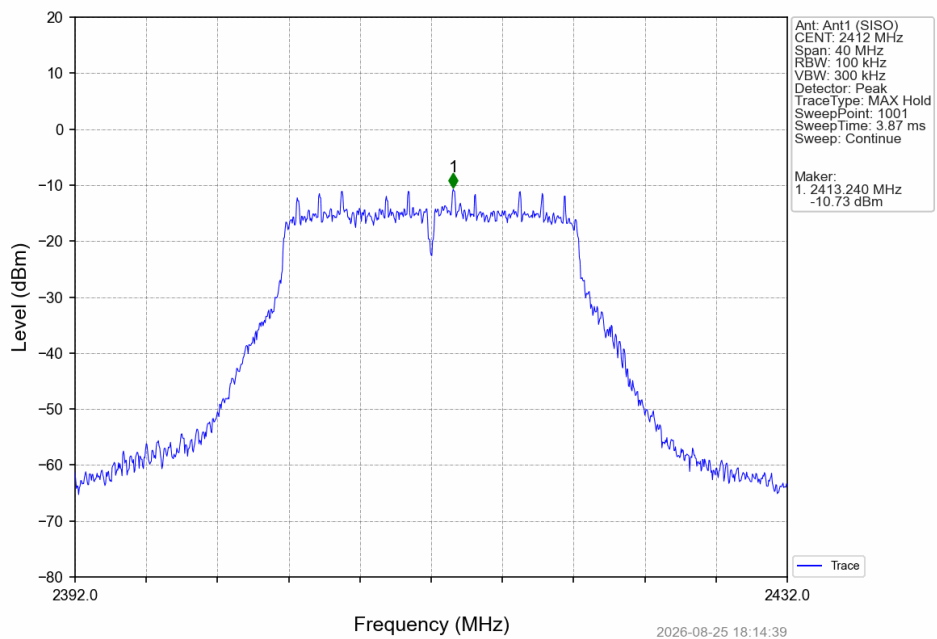
5.2.1 Ref



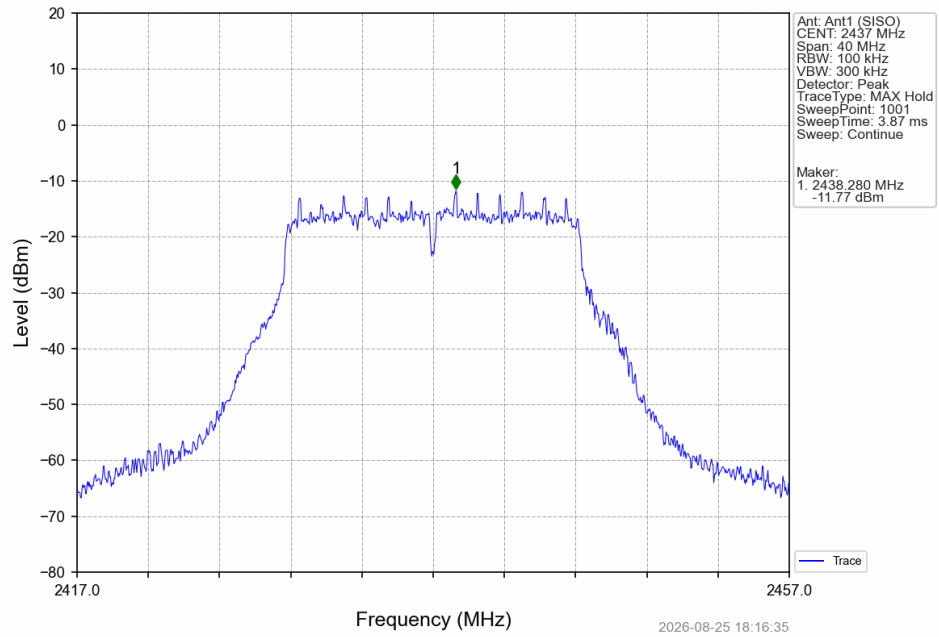
### 802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



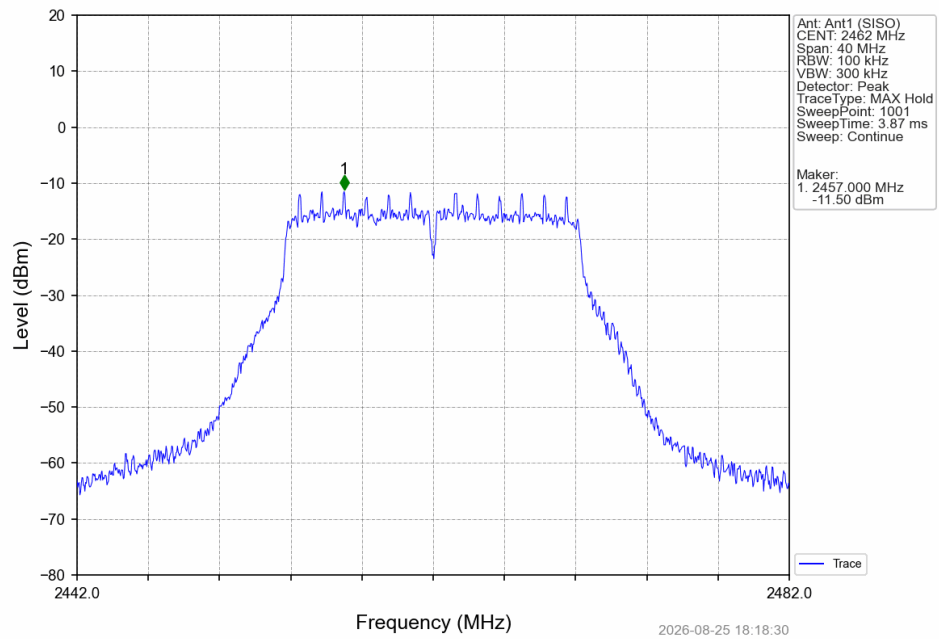
### 802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



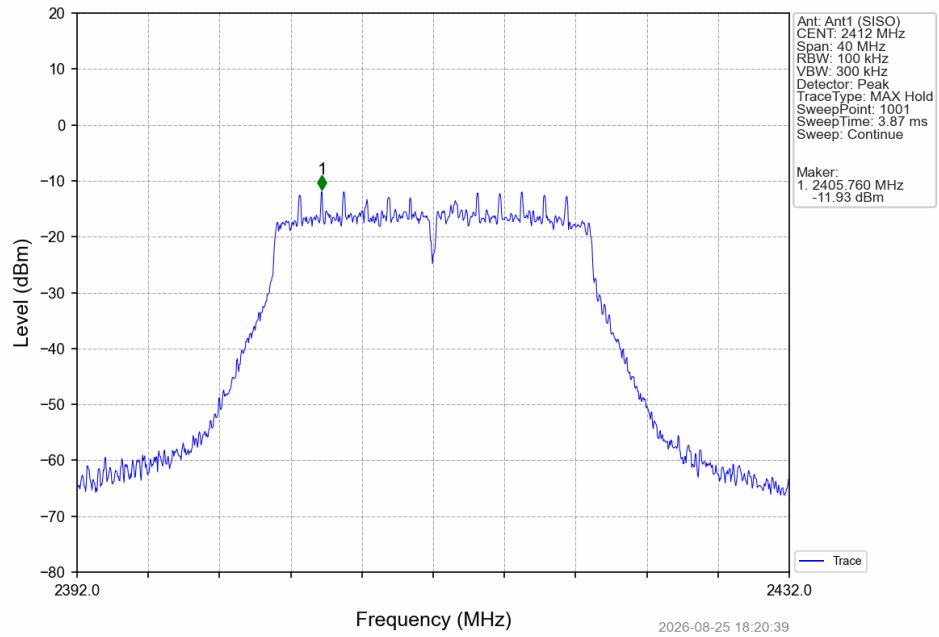
### 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



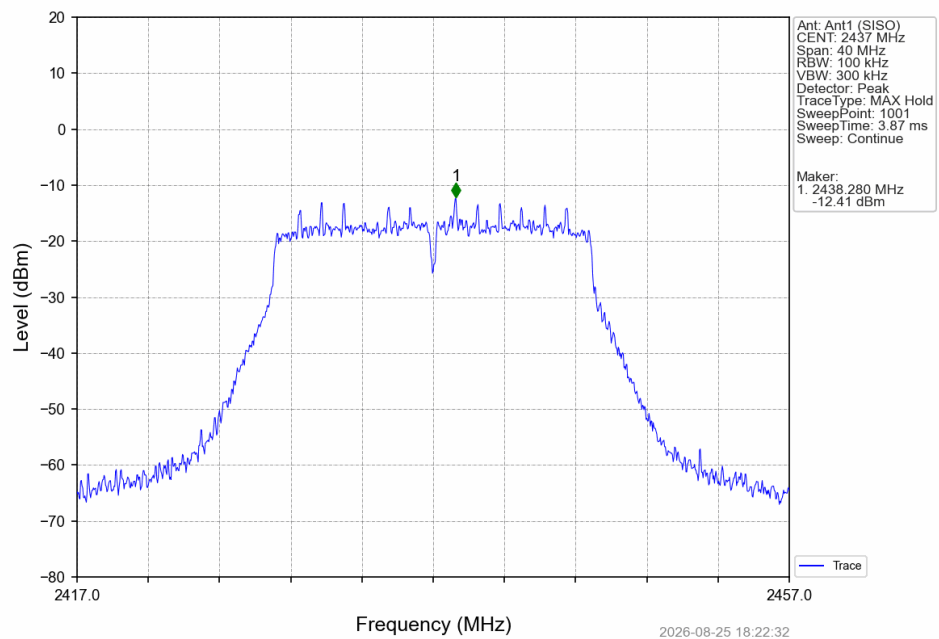
### 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



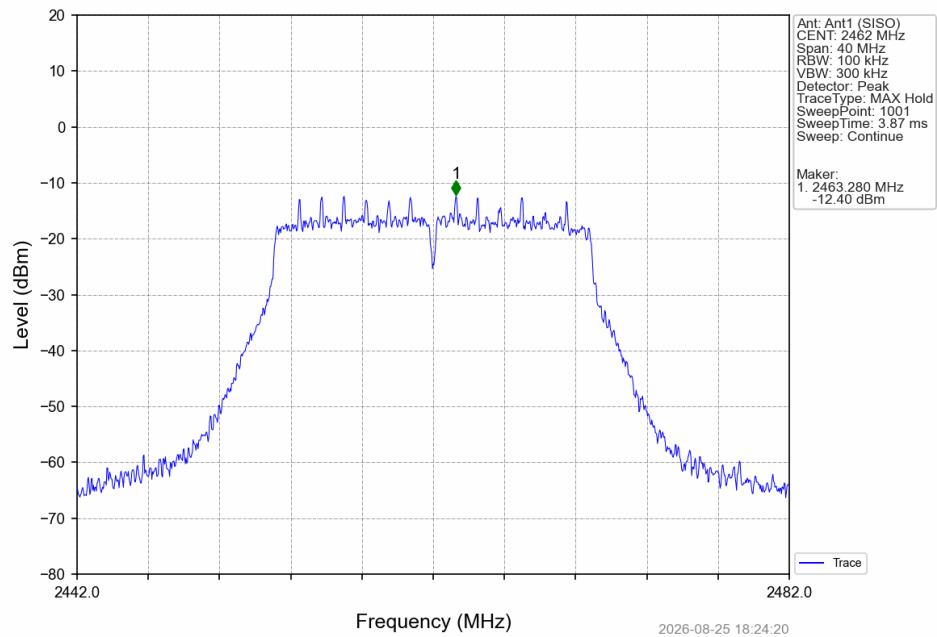
### 802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



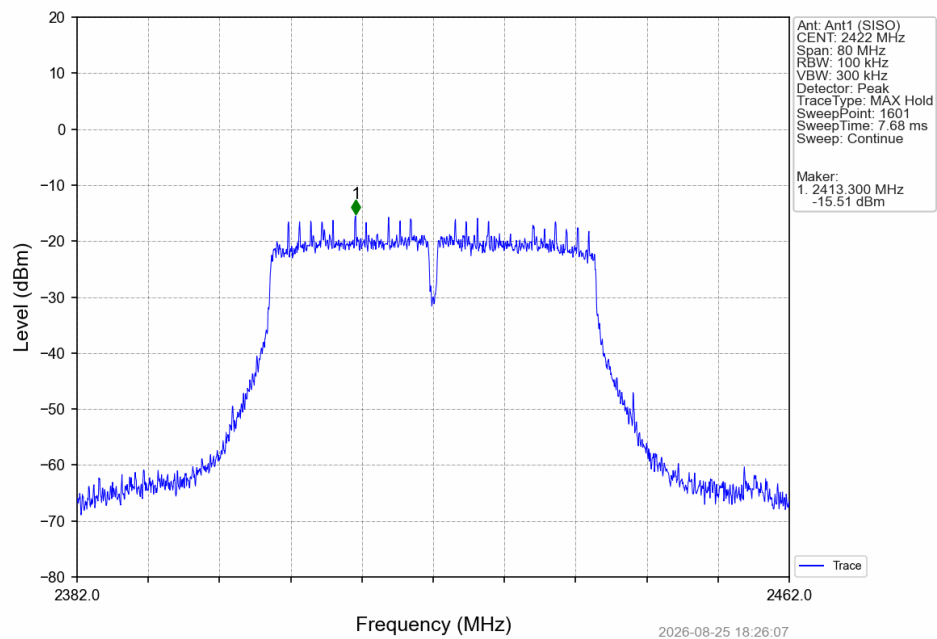
### 802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



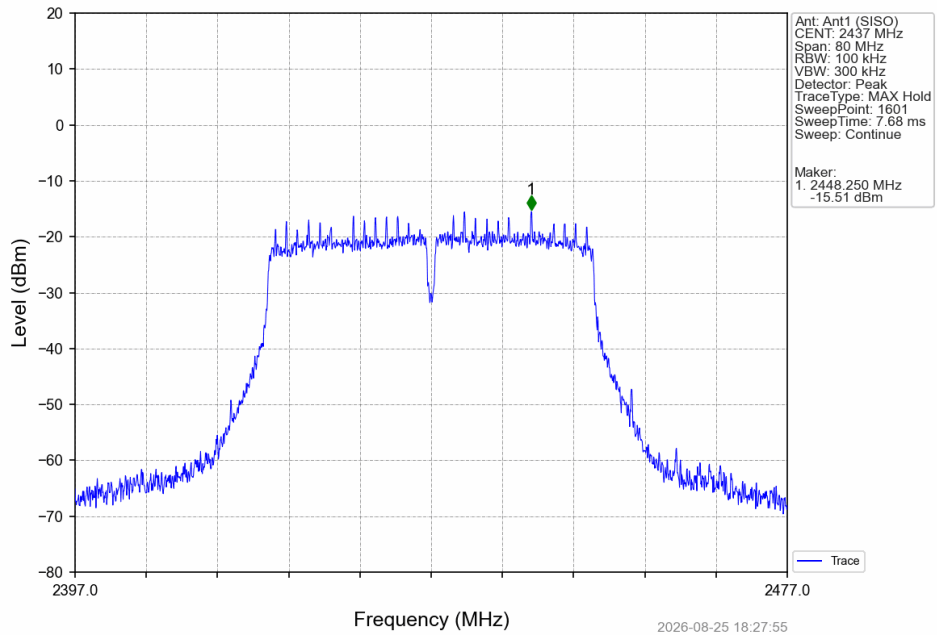
# 802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



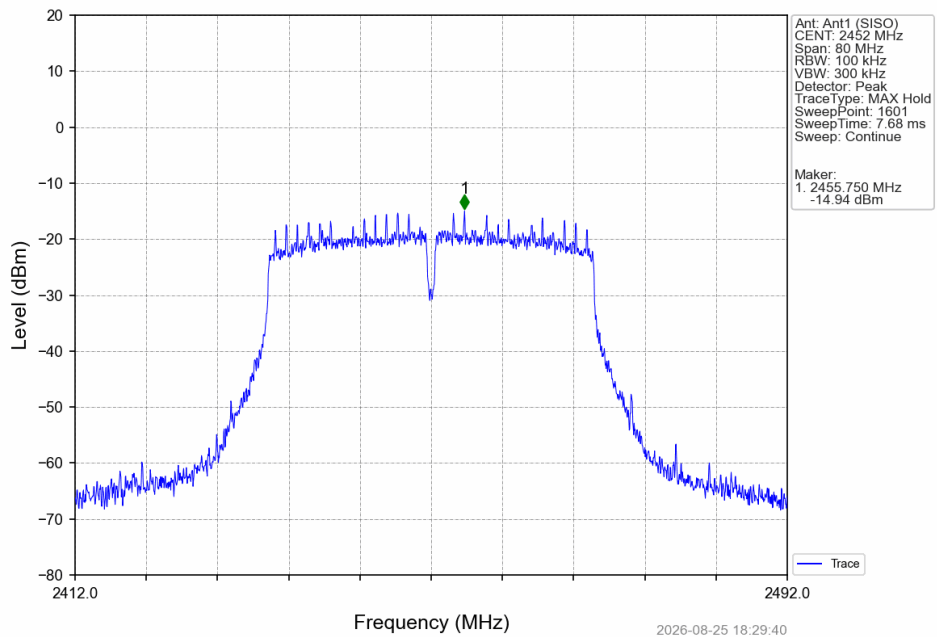
# 802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



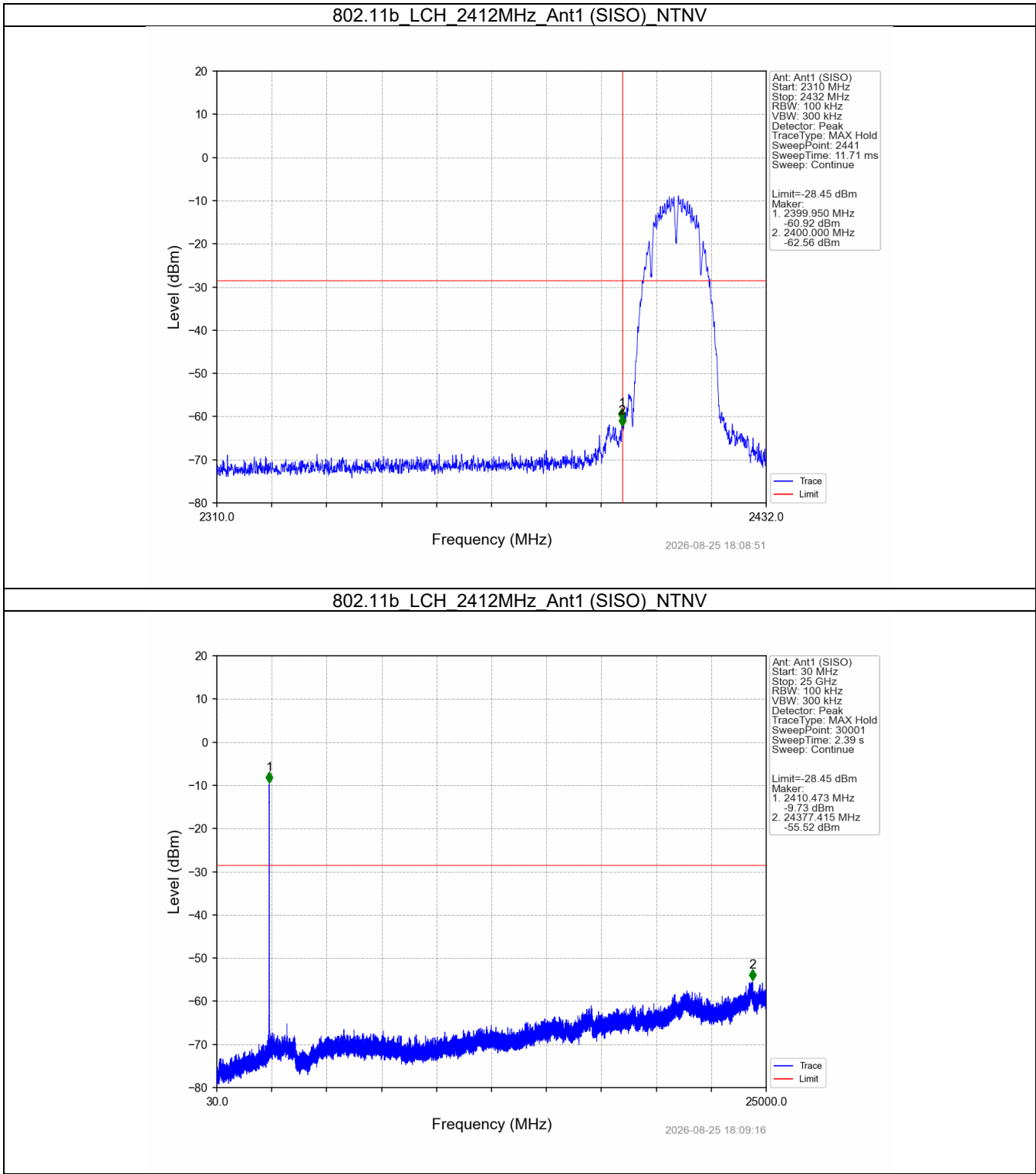
# 802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



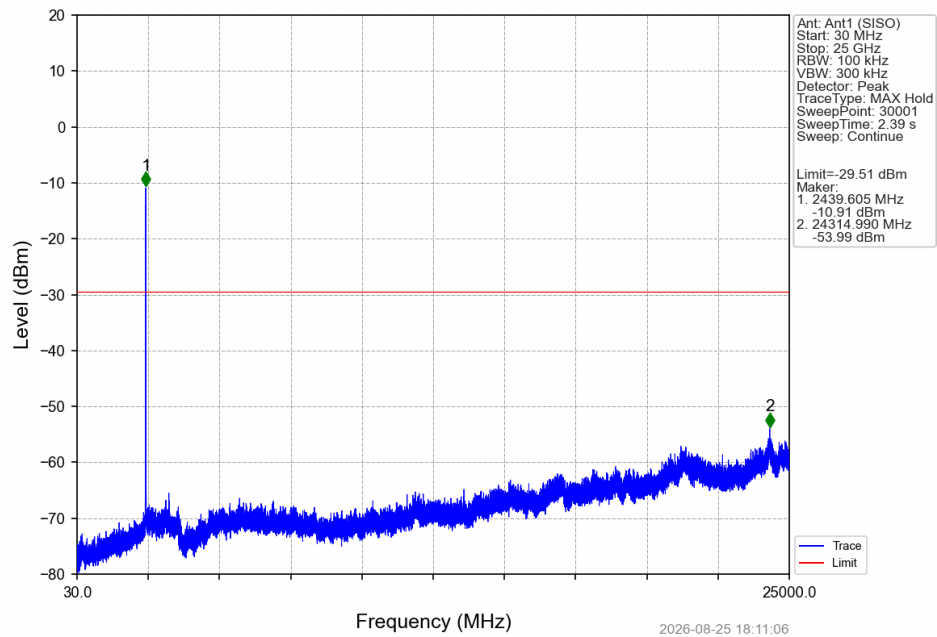
# 802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



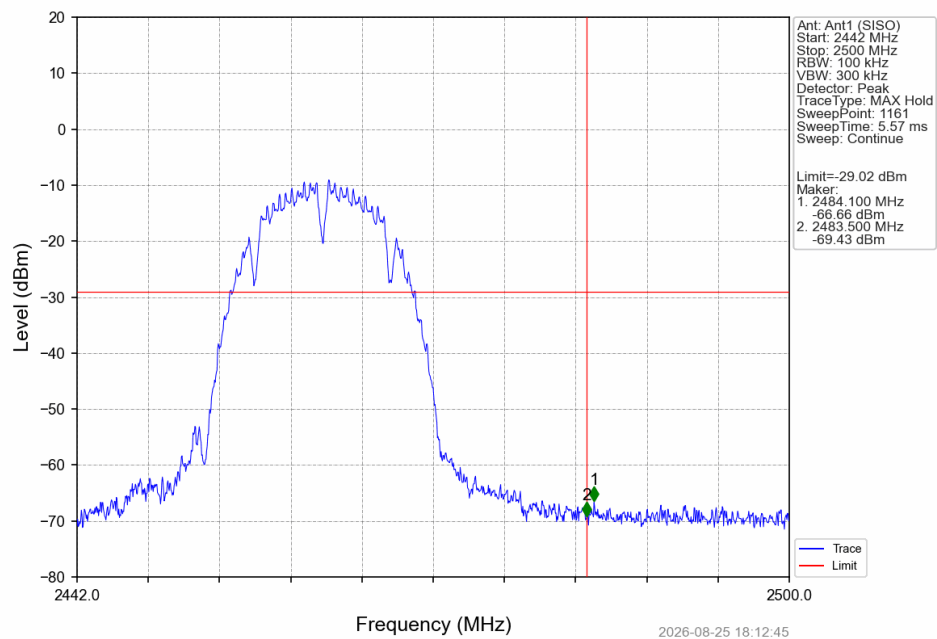
5.2.2 CSE



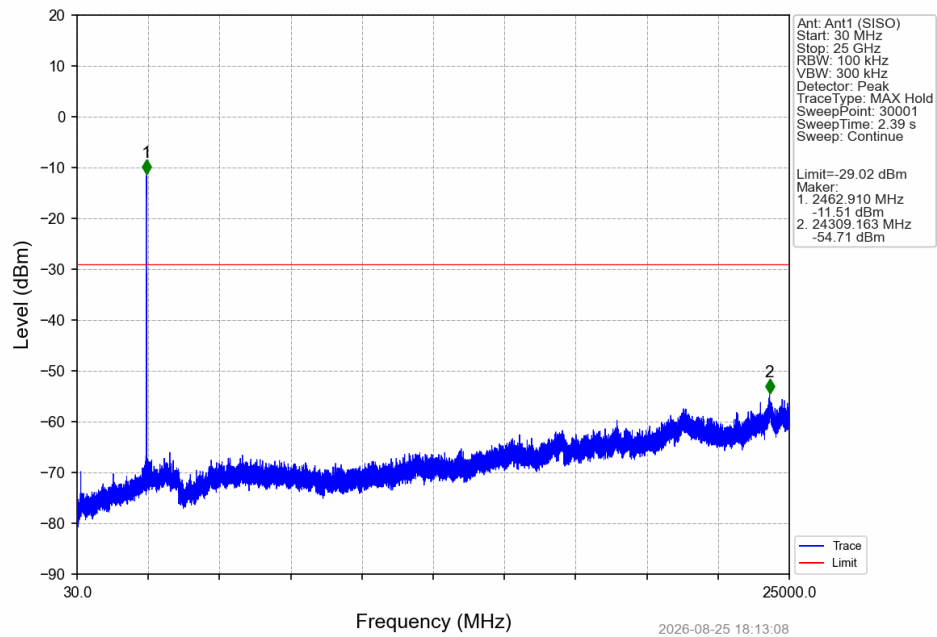
### 802.11b\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



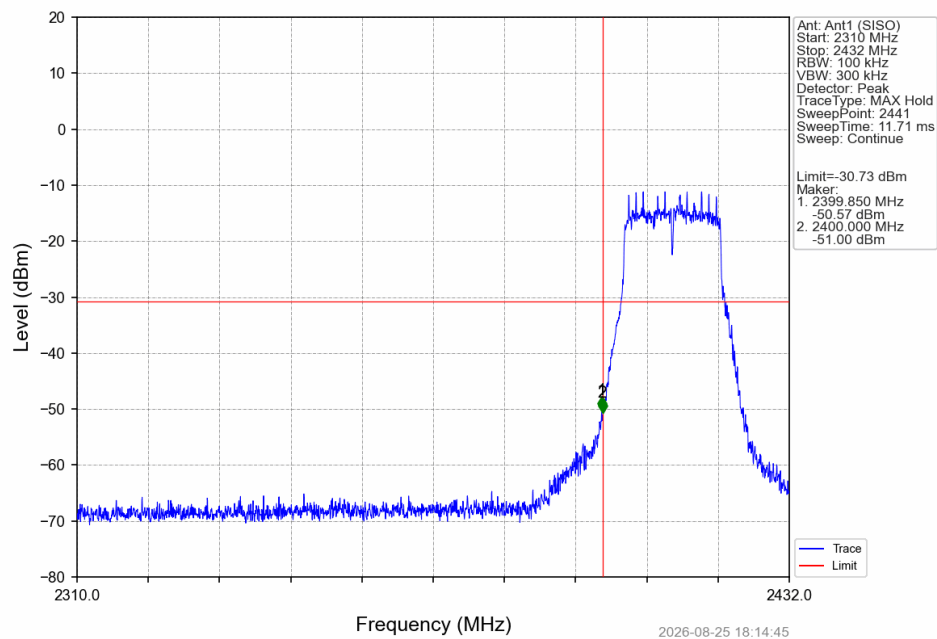
### 802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



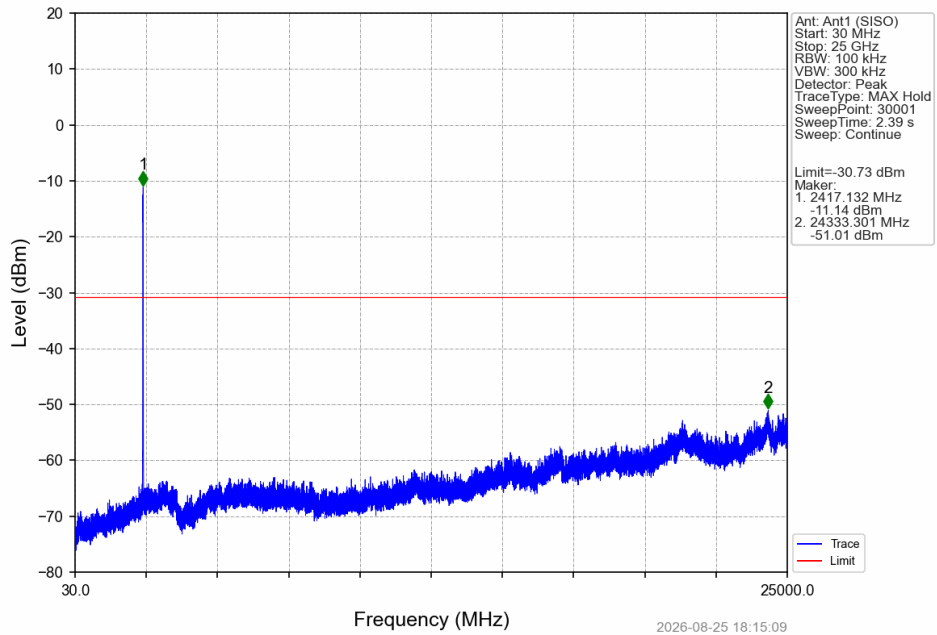
### 802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



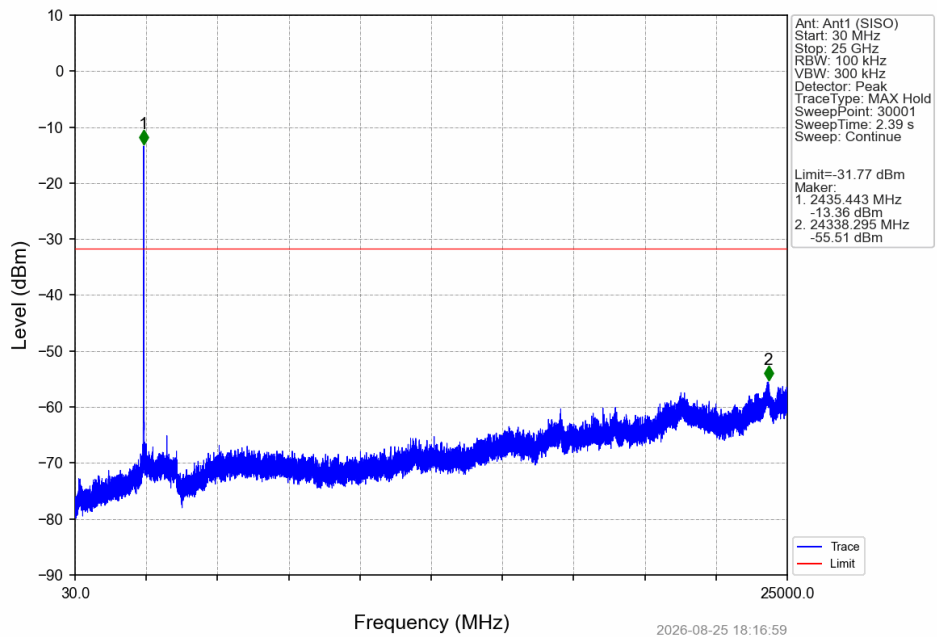
### 802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



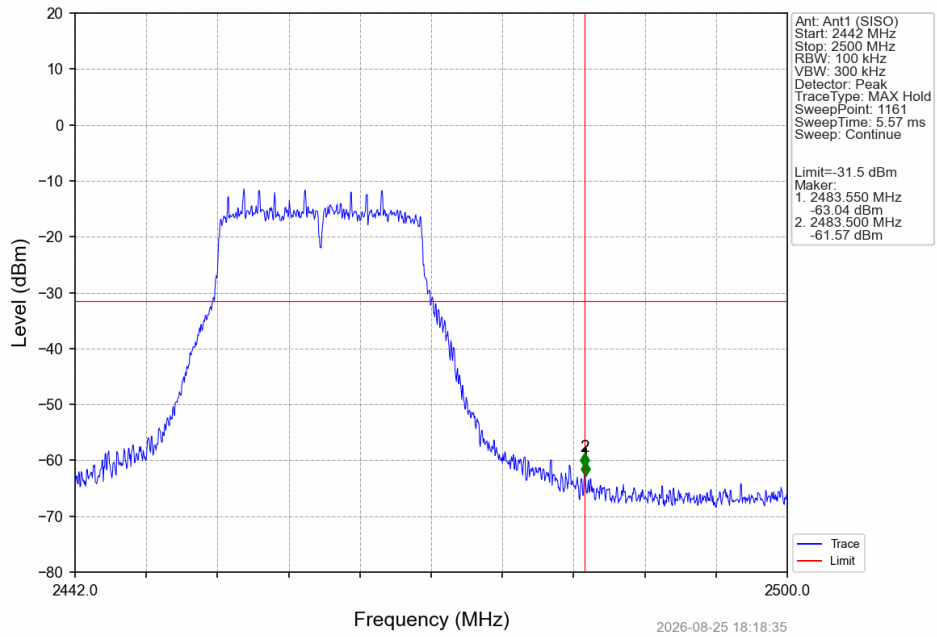
### 802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



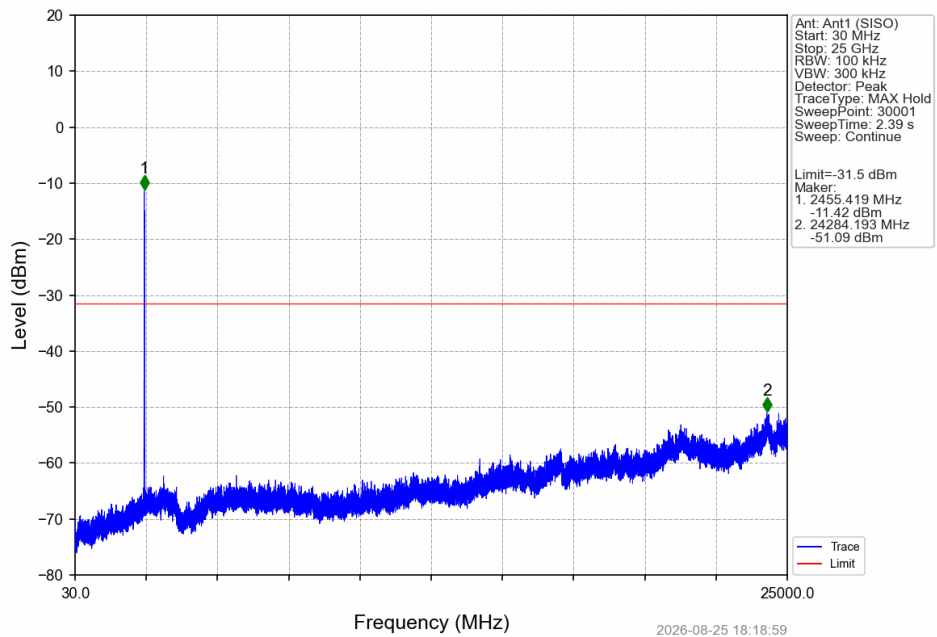
### 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



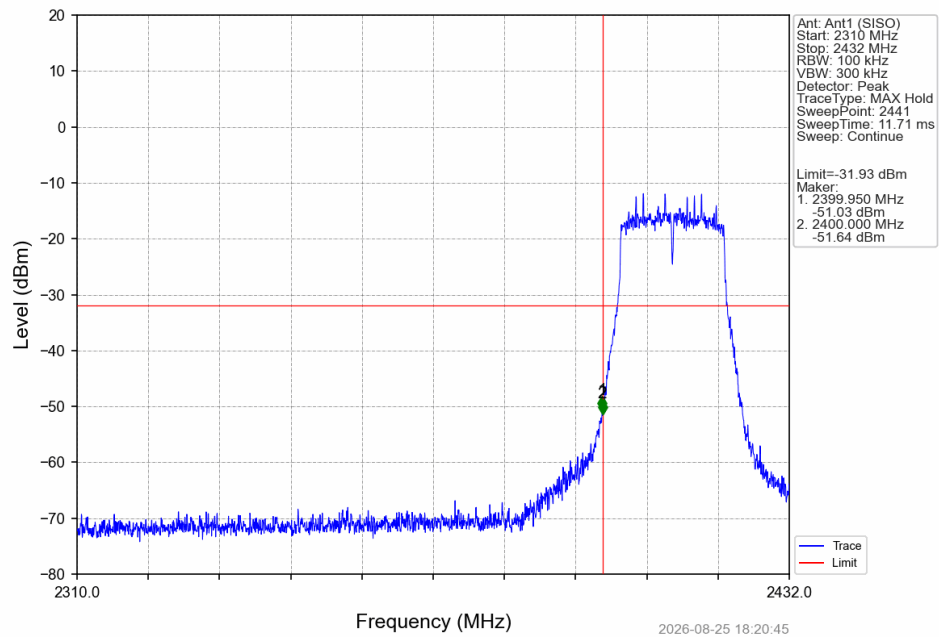
### 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



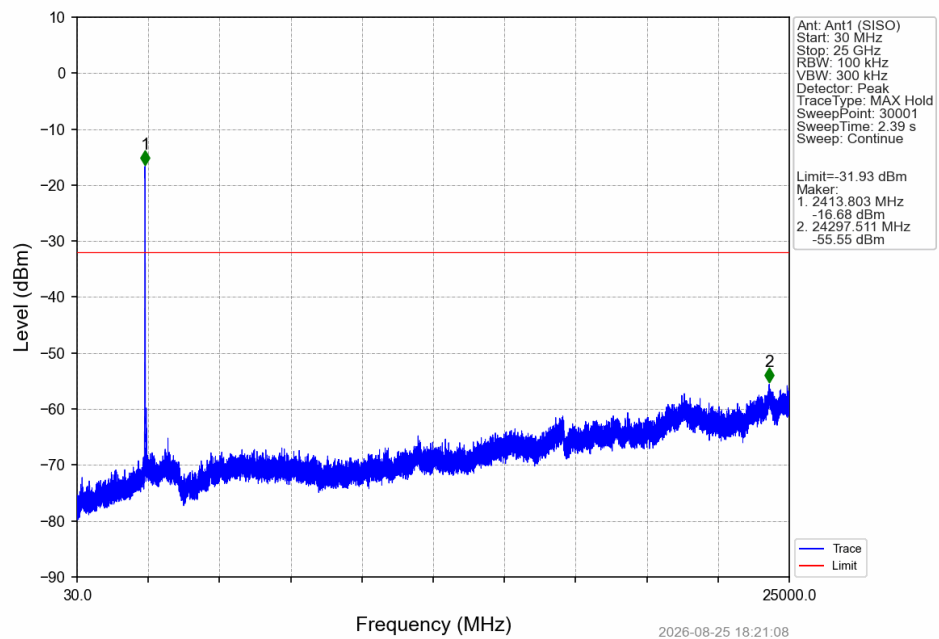
### 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



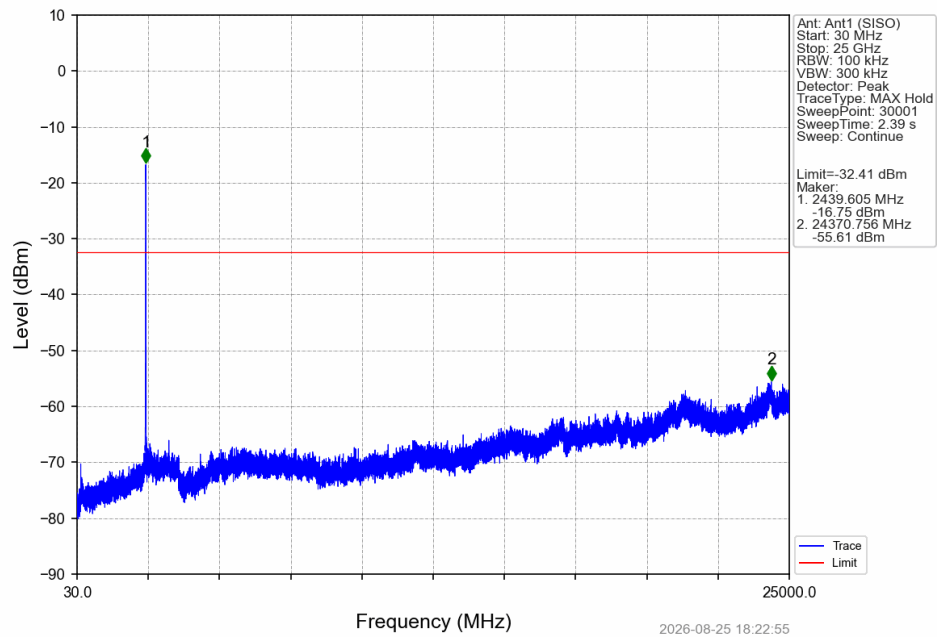
# 802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



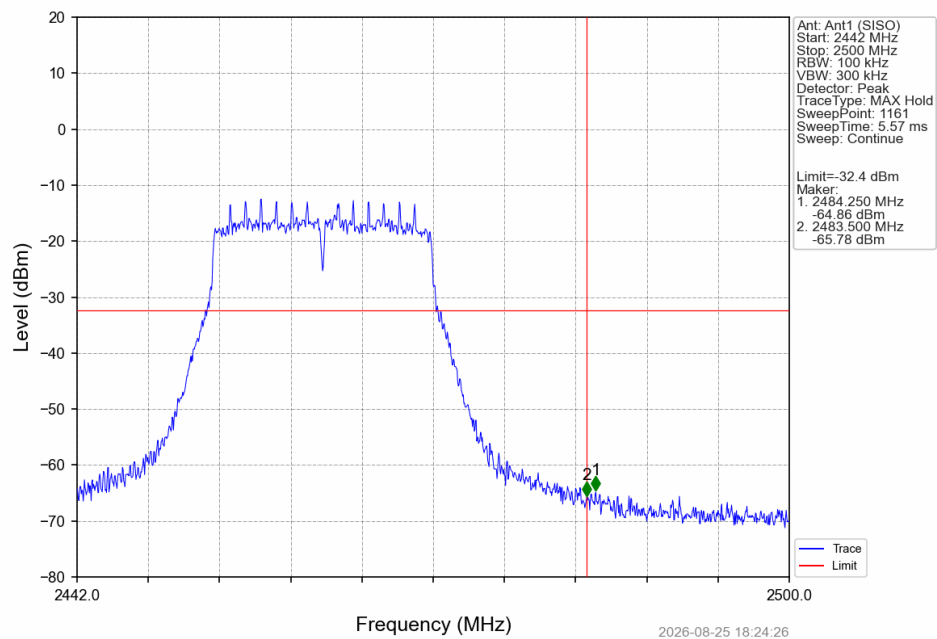
# 802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



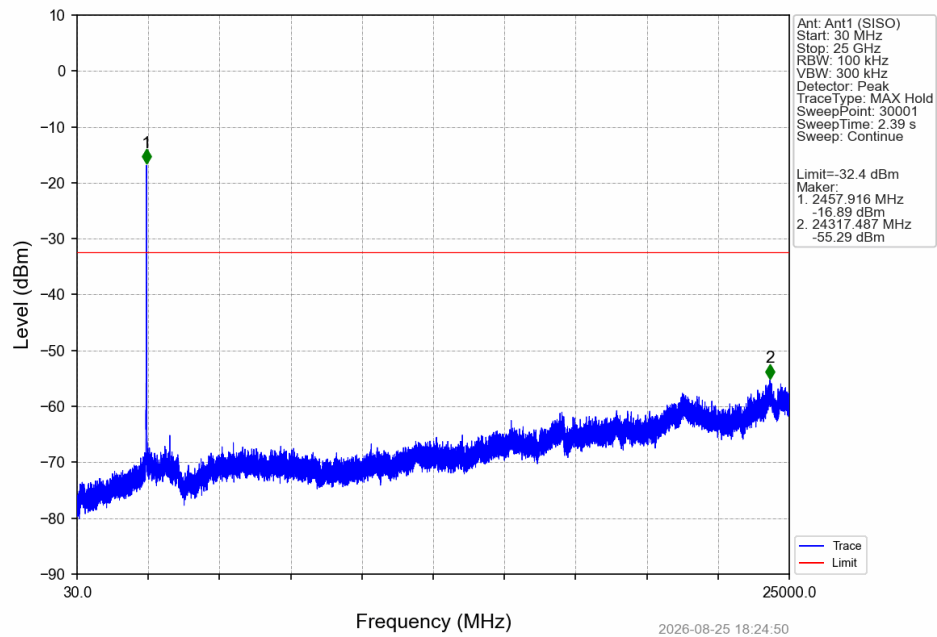
### 802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



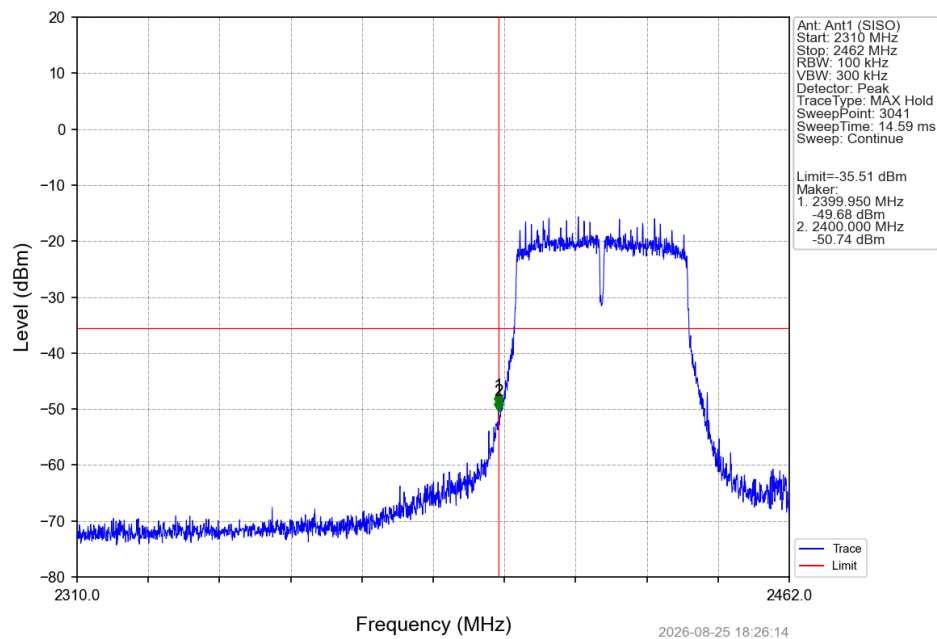
### 802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



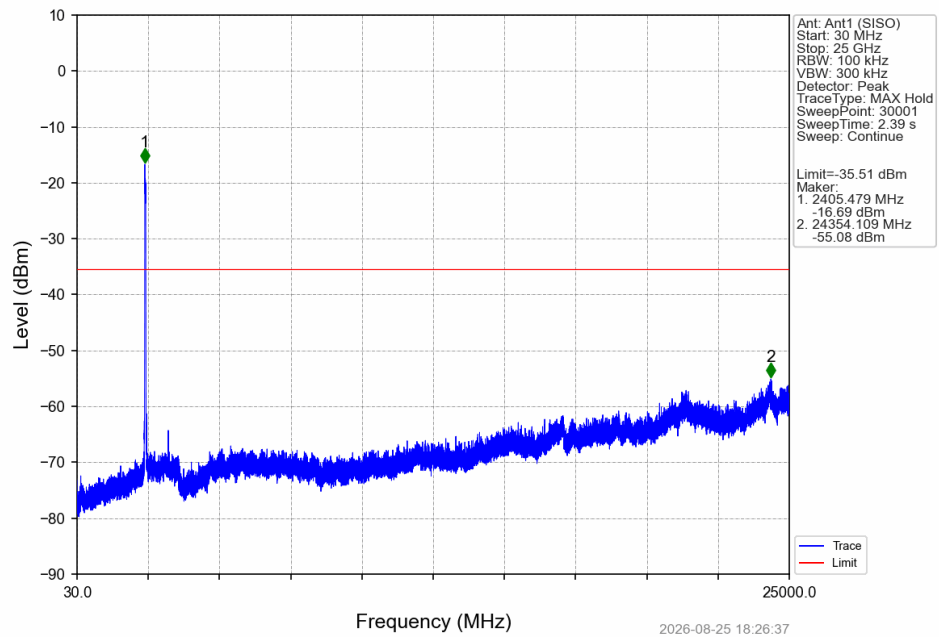
# 802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



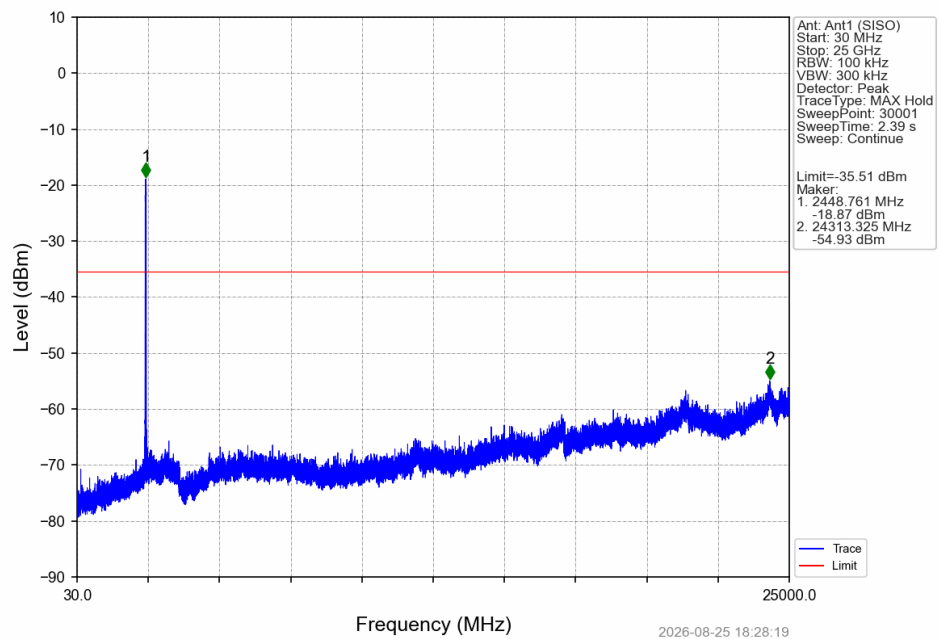
# 802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



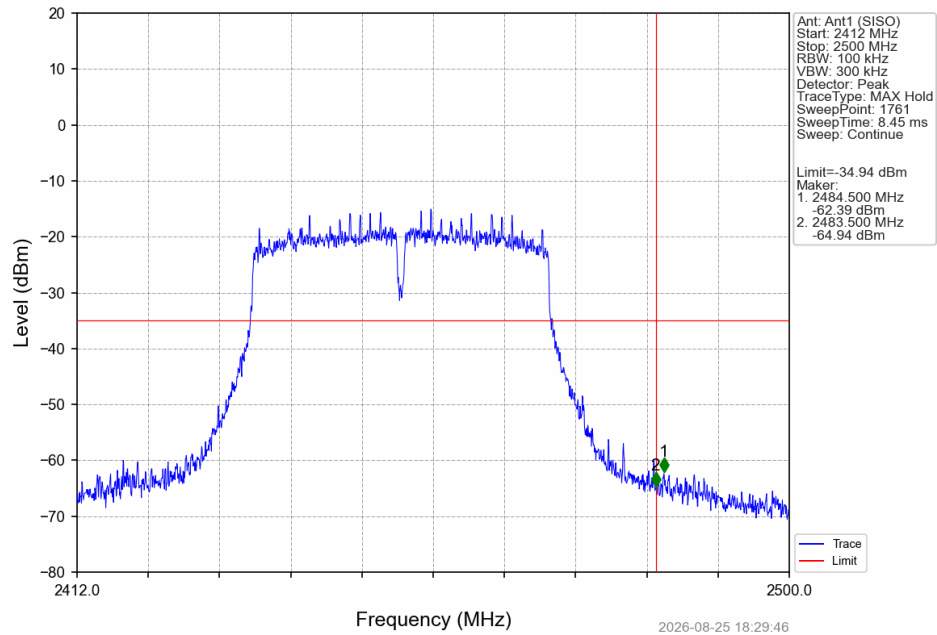
# 802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



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



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



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

