

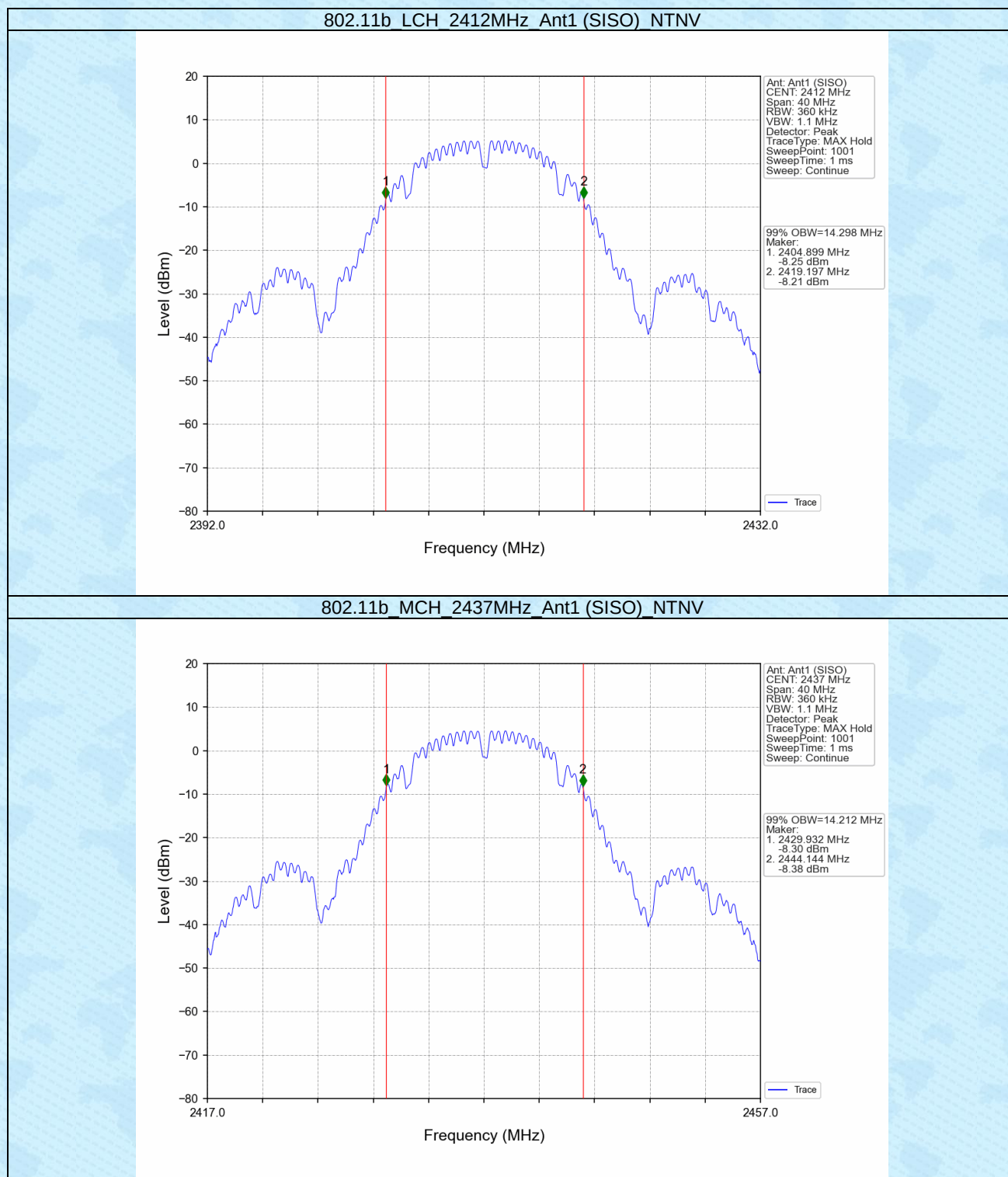
**Appendix for 15.247****1. Bandwidth****1.1 OBW****1.1.1 Test Result**

| Mode           | TX Type | Frequency (MHz) | ANT | 99% Occupied Bandwidth (MHz) | Verdict |
|----------------|---------|-----------------|-----|------------------------------|---------|
|                |         |                 |     | Result                       |         |
| 802.11b        | SISO    | 2412            | 1   | 14.298                       | Pass    |
|                |         | 2437            | 1   | 14.212                       | Pass    |
|                |         | 2462            | 1   | 14.223                       | Pass    |
| 802.11g        | SISO    | 2412            | 1   | 16.462                       | Pass    |
|                |         | 2437            | 1   | 16.417                       | Pass    |
|                |         | 2462            | 1   | 16.454                       | Pass    |
| 802.11n (HT20) | MIMO    | 2412            | 1   | 17.376                       | Pass    |
|                |         | 2437            | 1   | 17.457                       | Pass    |
|                |         | 2462            | 1   | 17.377                       | Pass    |
| 802.11n (HT40) | MIMO    | 2422            | 1   | 36.076                       | Pass    |
|                |         | 2437            | 1   | 35.989                       | Pass    |
|                |         | 2452            | 1   | 36.149                       | Pass    |

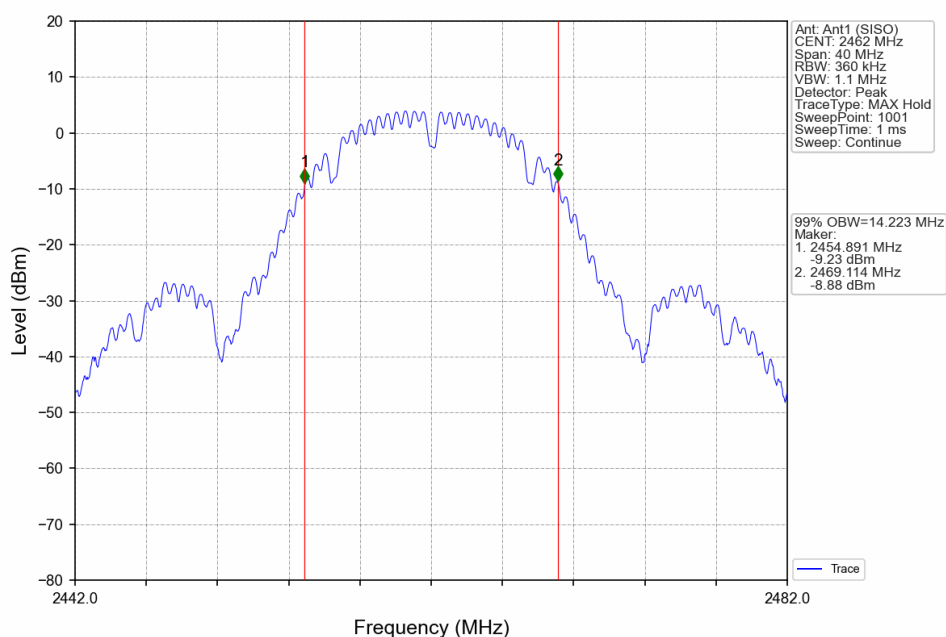
| Mode           | TX Type | Frequency (MHz) | ANT | 99% Occupied Bandwidth (MHz) | Verdict |
|----------------|---------|-----------------|-----|------------------------------|---------|
|                |         |                 |     | Result                       |         |
| 802.11b        | SISO    | 2412            | 2   | 14.373                       | Pass    |
|                |         | 2437            | 2   | 14.260                       | Pass    |
|                |         | 2462            | 2   | 14.181                       | Pass    |
| 802.11g        | SISO    | 2412            | 2   | 17.810                       | Pass    |
|                |         | 2437            | 2   | 17.412                       | Pass    |
|                |         | 2462            | 2   | 17.192                       | Pass    |
| 802.11n (HT20) | MIMO    | 2412            | 2   | 17.490                       | Pass    |
|                |         | 2437            | 2   | 17.478                       | Pass    |
|                |         | 2462            | 2   | 17.506                       | Pass    |
| 802.11n (HT40) | MIMO    | 2422            | 2   | 36.207                       | Pass    |
|                |         | 2437            | 2   | 36.057                       | Pass    |
|                |         | 2452            | 2   | 36.290                       | Pass    |

## 1.1.2 Test Graph

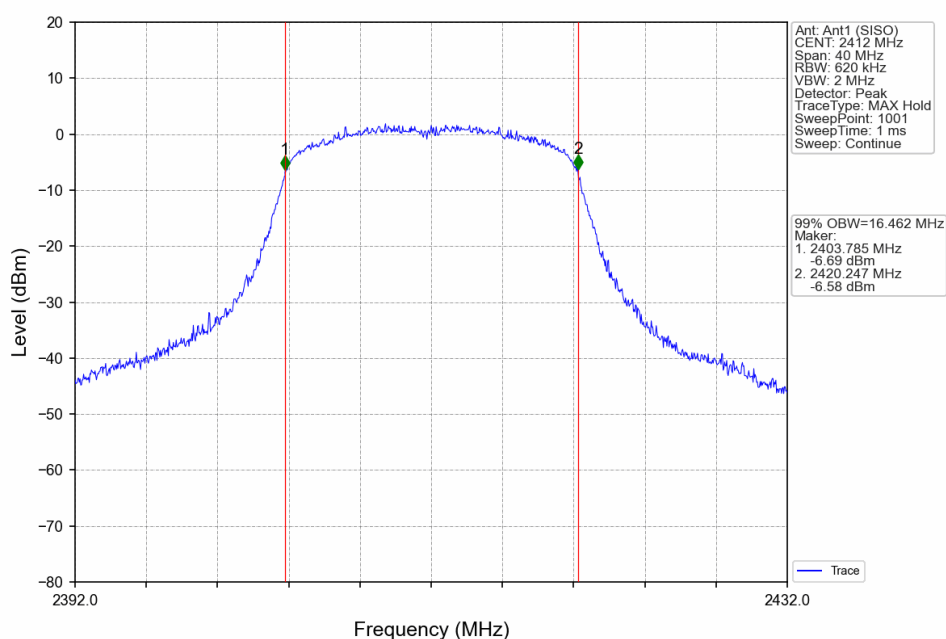
ANT 1:



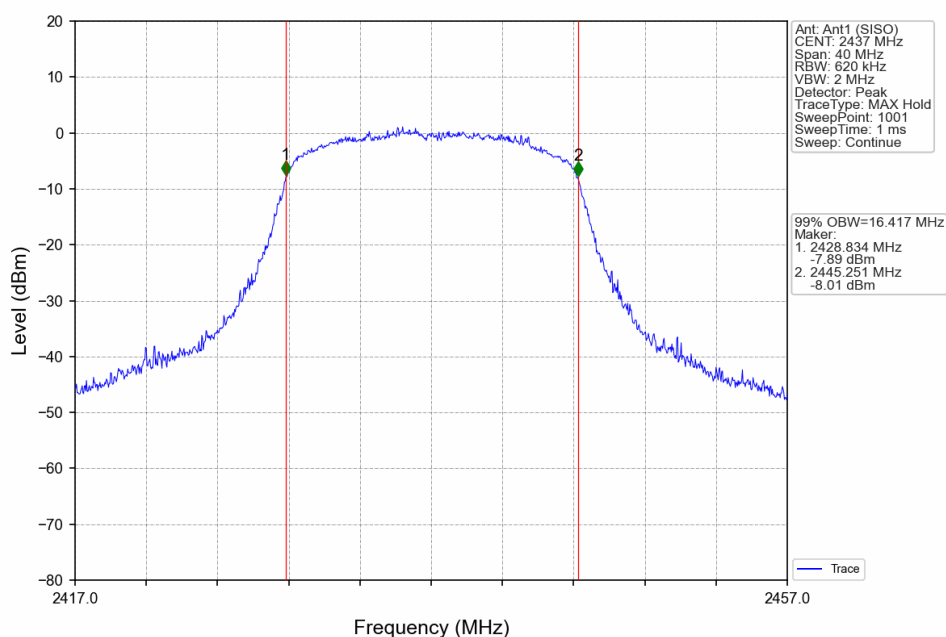
802.11b HCH 2462MHz Ant1 (SISO) NTNV



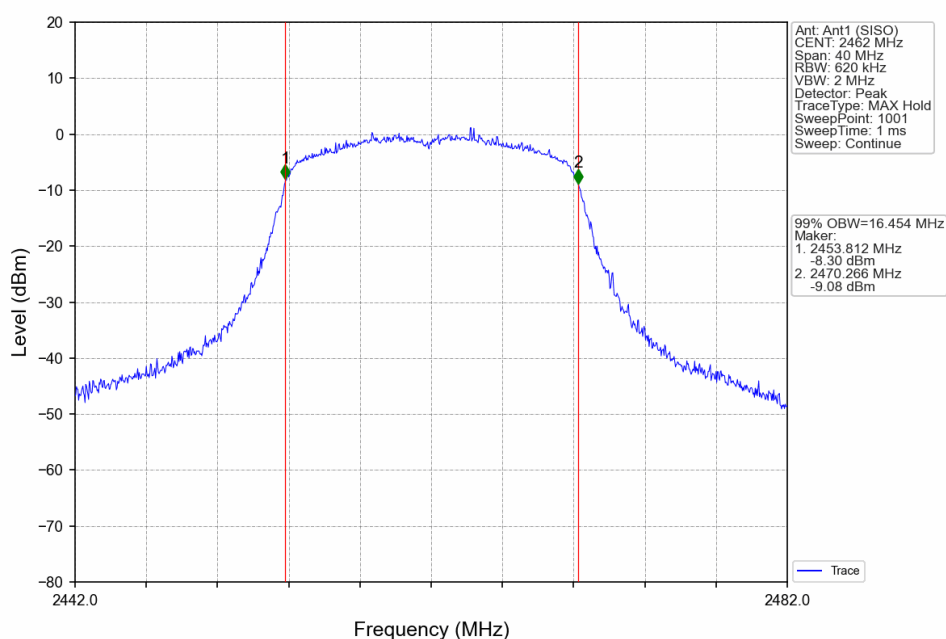
802.11g LCH 2412MHz Ant1 (SISO) NTNV



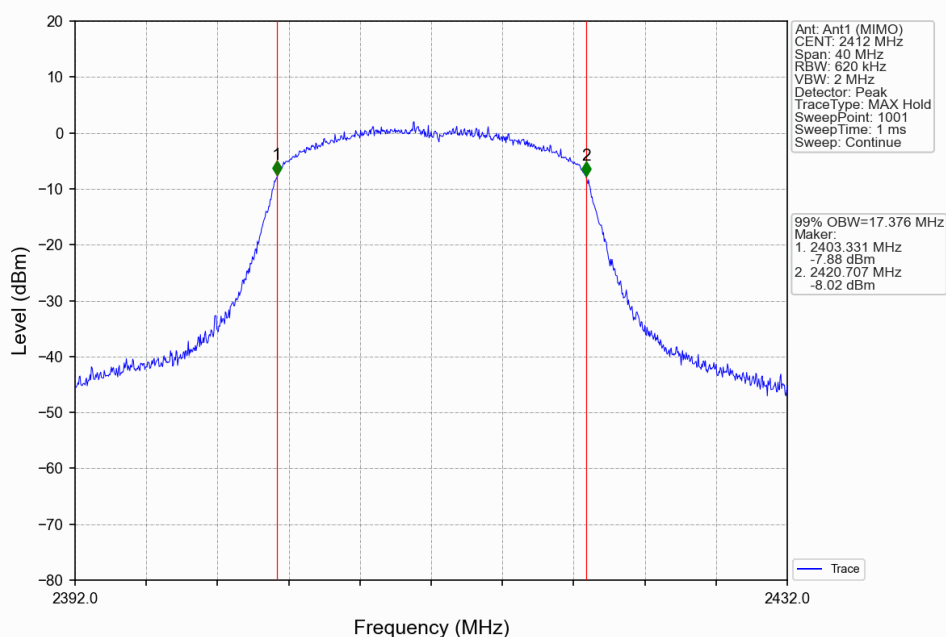
802.11g MCH 2437MHz Ant1 (SISO) NTNV



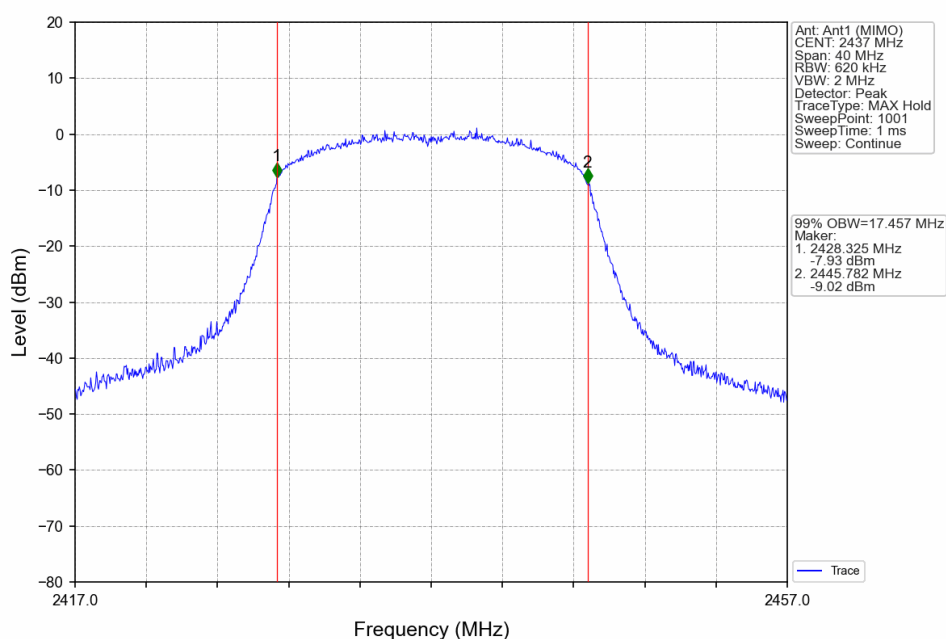
802.11g HCH 2462MHz Ant1 (SISO) NTNV



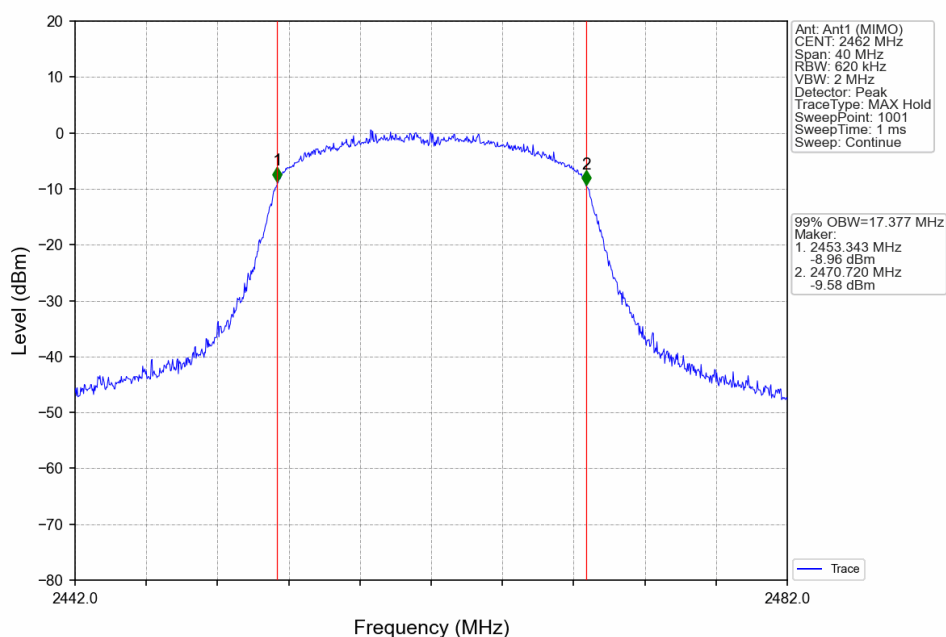
802.11n(HT20) LCH 2412MHz Ant1 (MIMO) NTNV



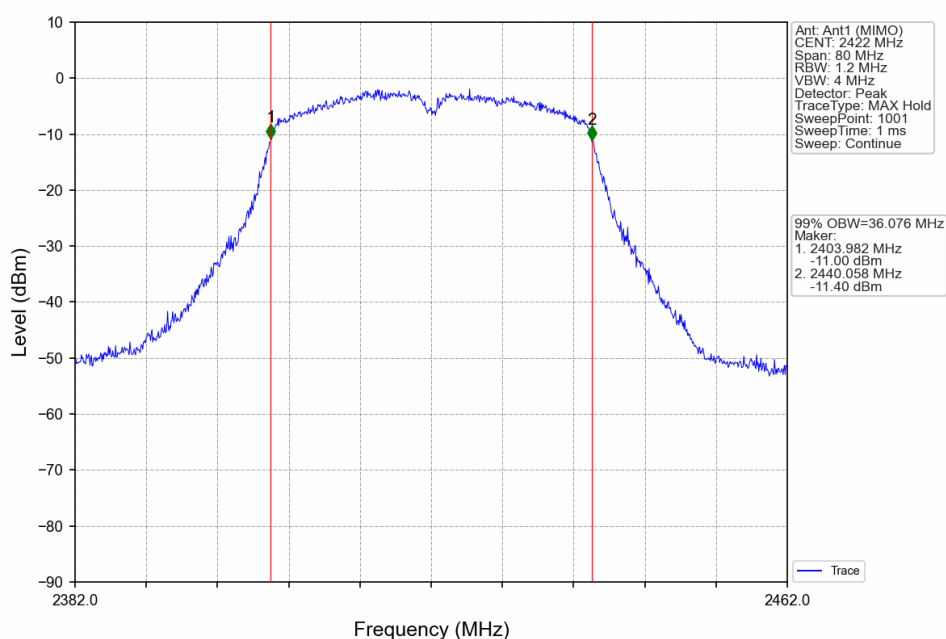
802.11n(HT20) MCH 2437MHz Ant1 (MIMO) NTNV



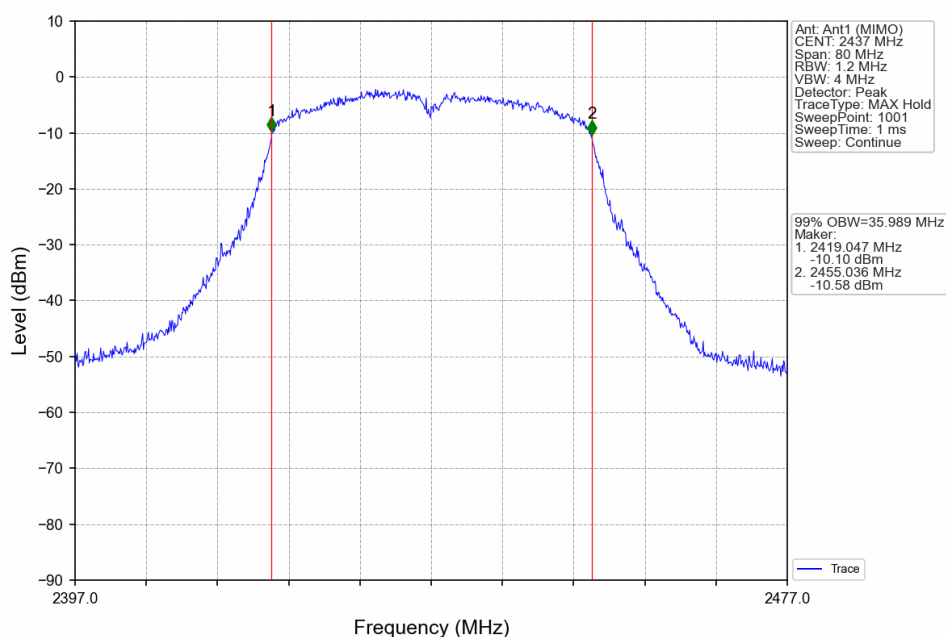
802.11n(HT20) HCH 2462MHz Ant1 (MIMO) NTNV



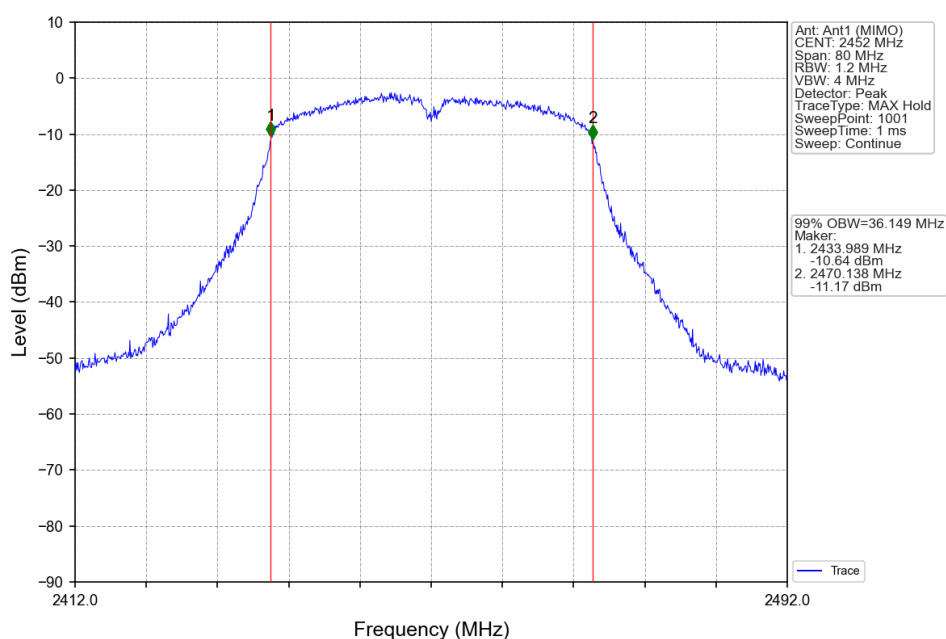
802.11n(HT40) LCH 2422MHz Ant1 (MIMO) NTNV



802.11n(HT40) MCH 2437MHz Ant1 (MIMO) NTN

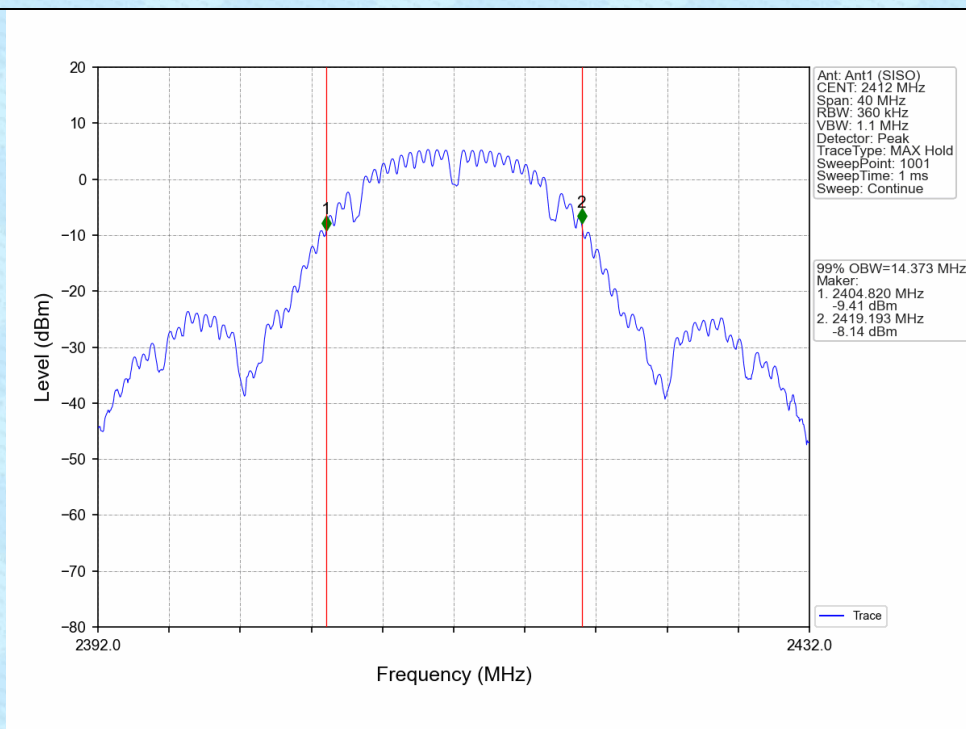


802.11n(HT40) HCH 2452MHz Ant1 (MIMO) NTN

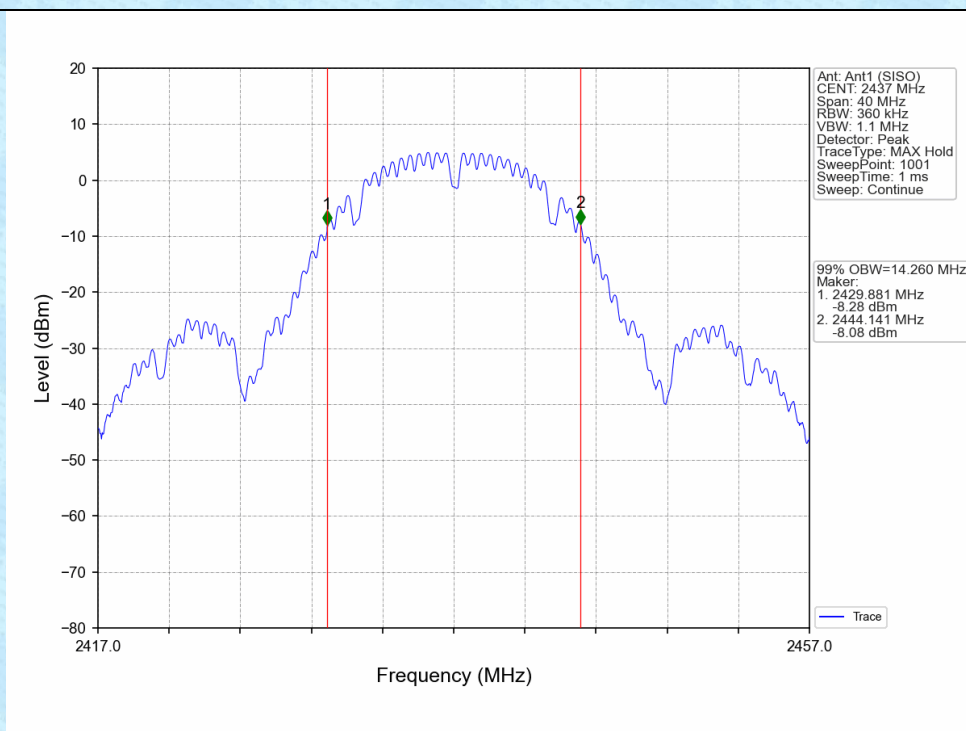


ANT2:

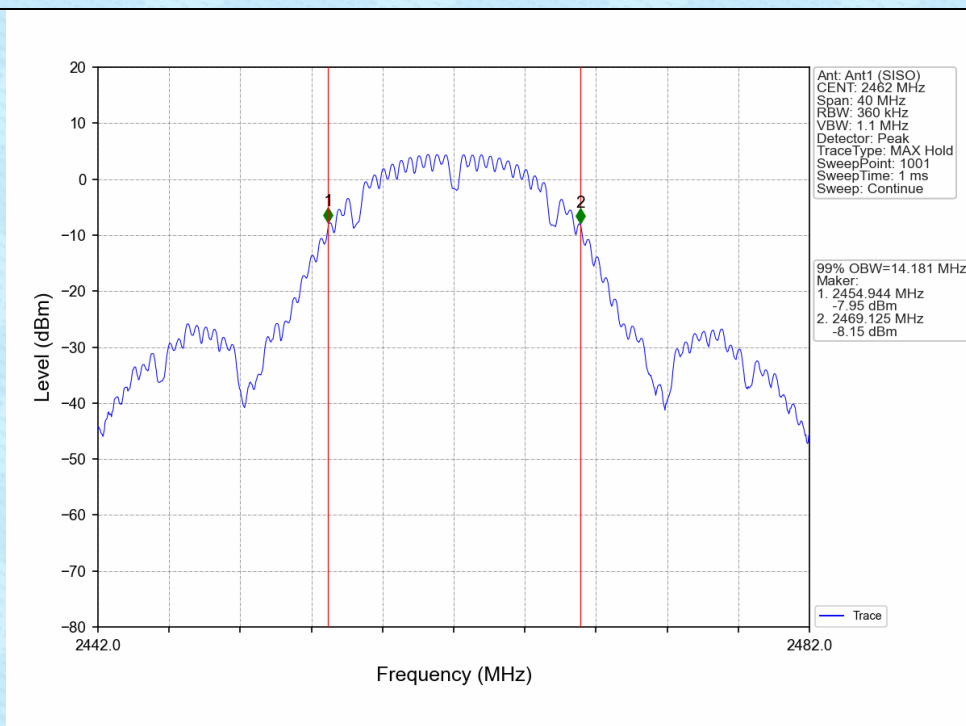
## 802.11b\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



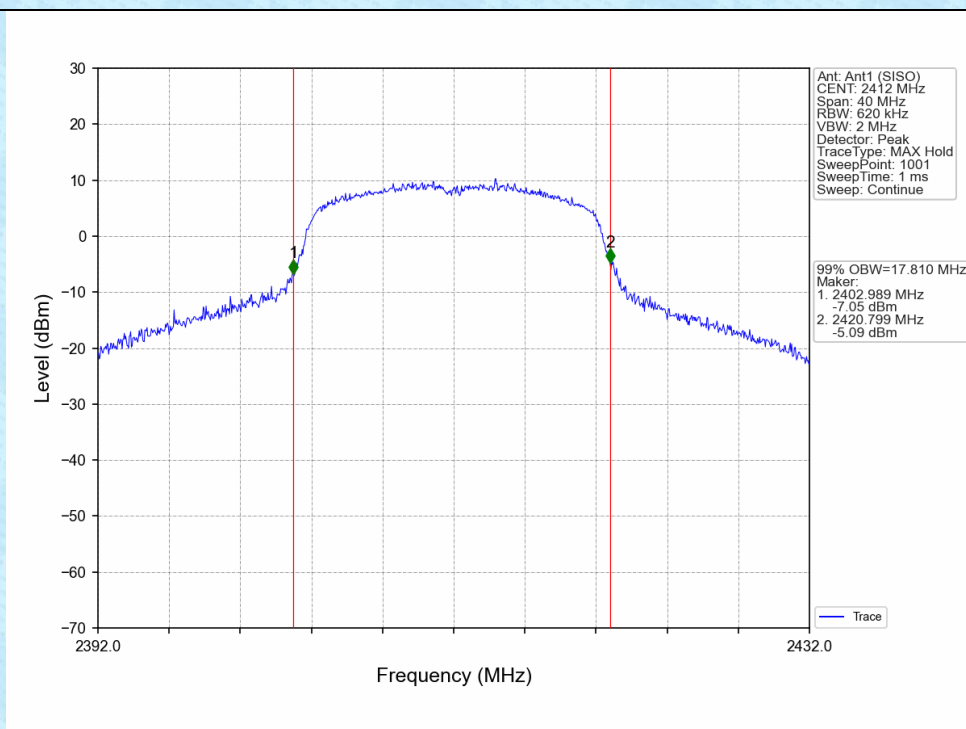
## 802.11b\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



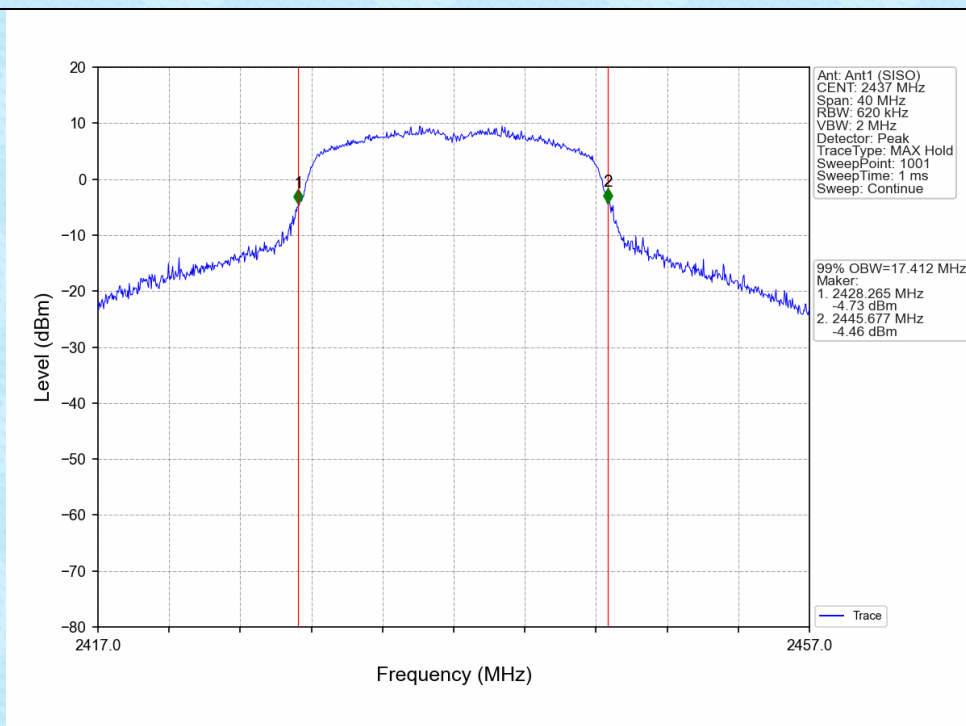
## 802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



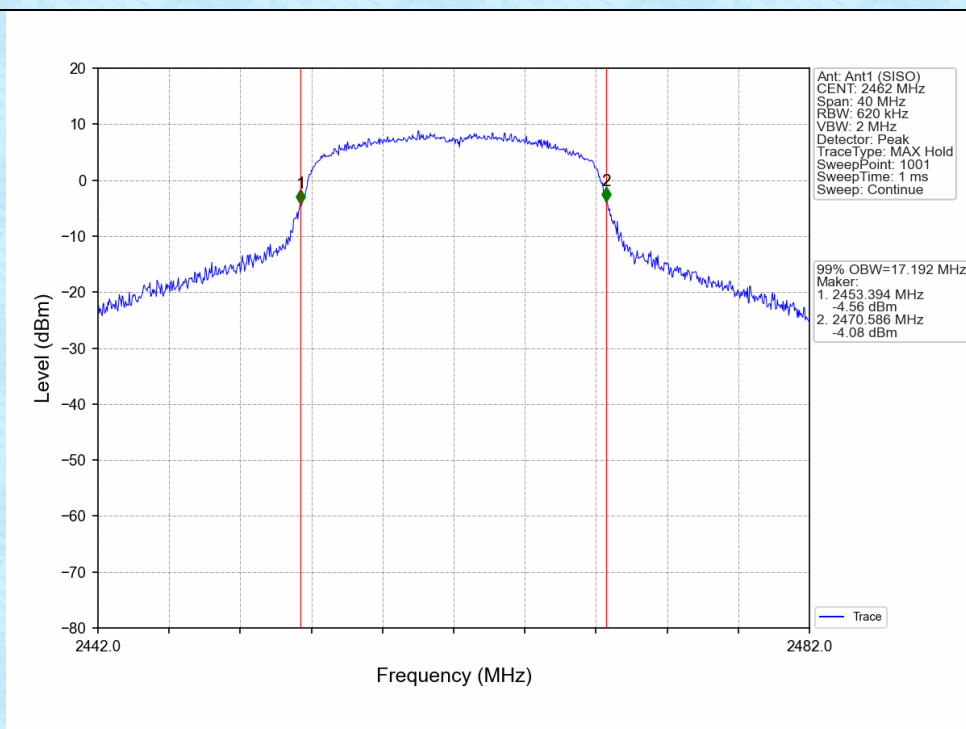
## 802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



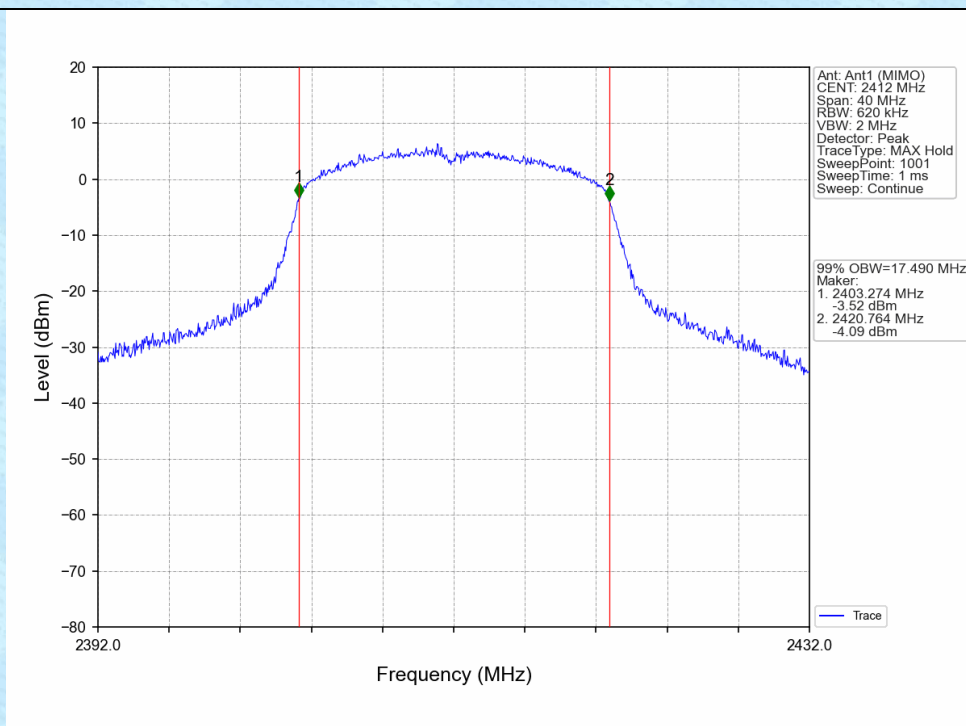
## 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



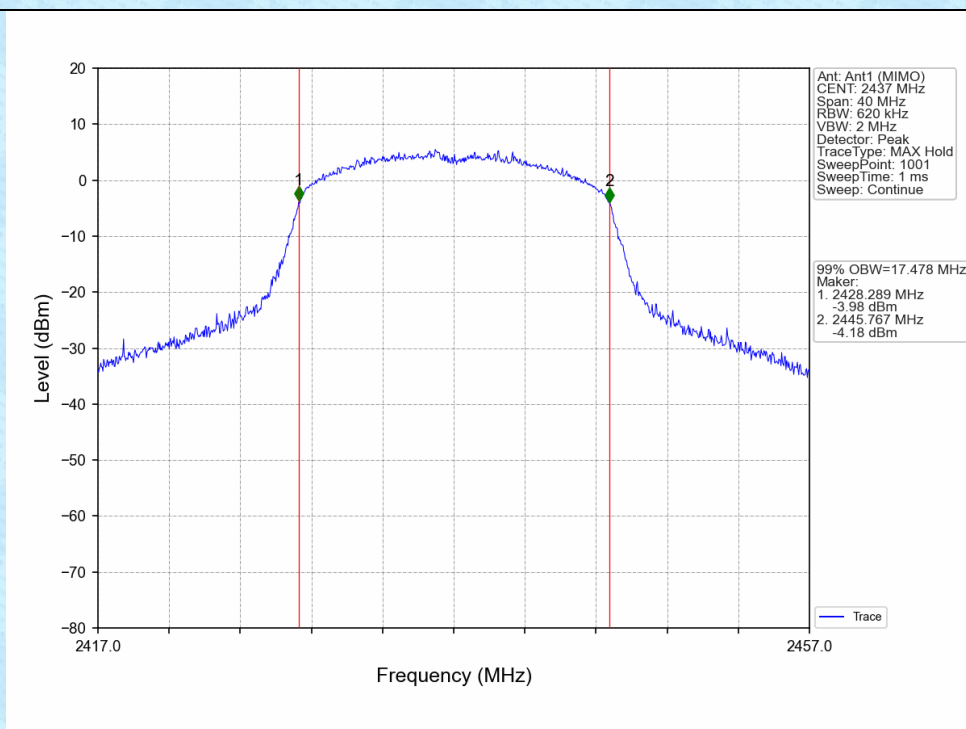
## 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



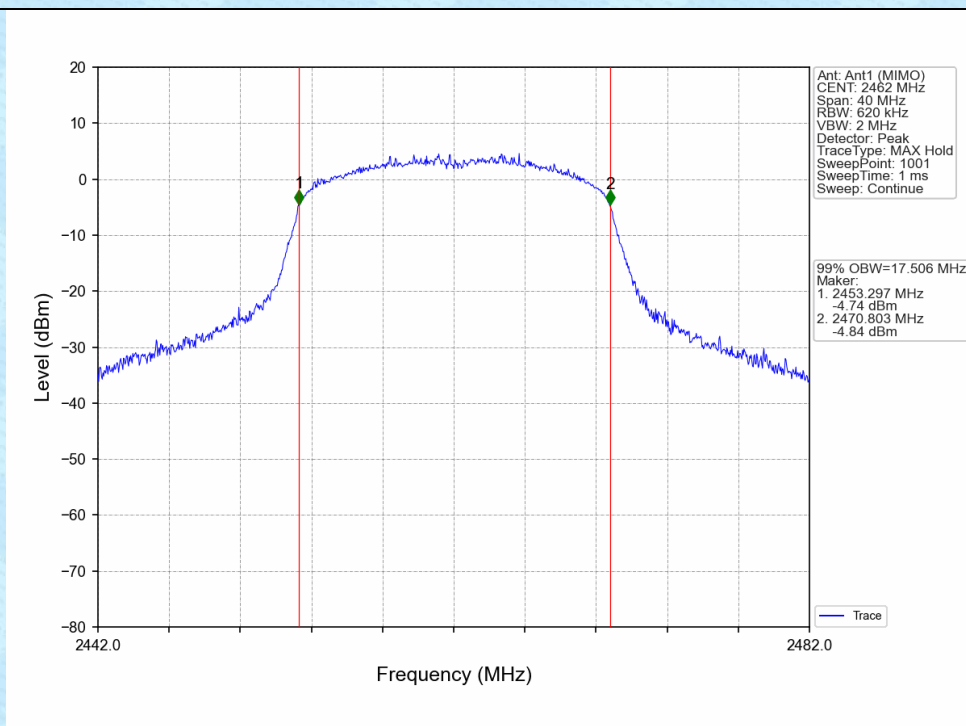
## 802.11n(HT20)\_LCH\_2412MHz\_Ant1 (MIMO)\_NTNV



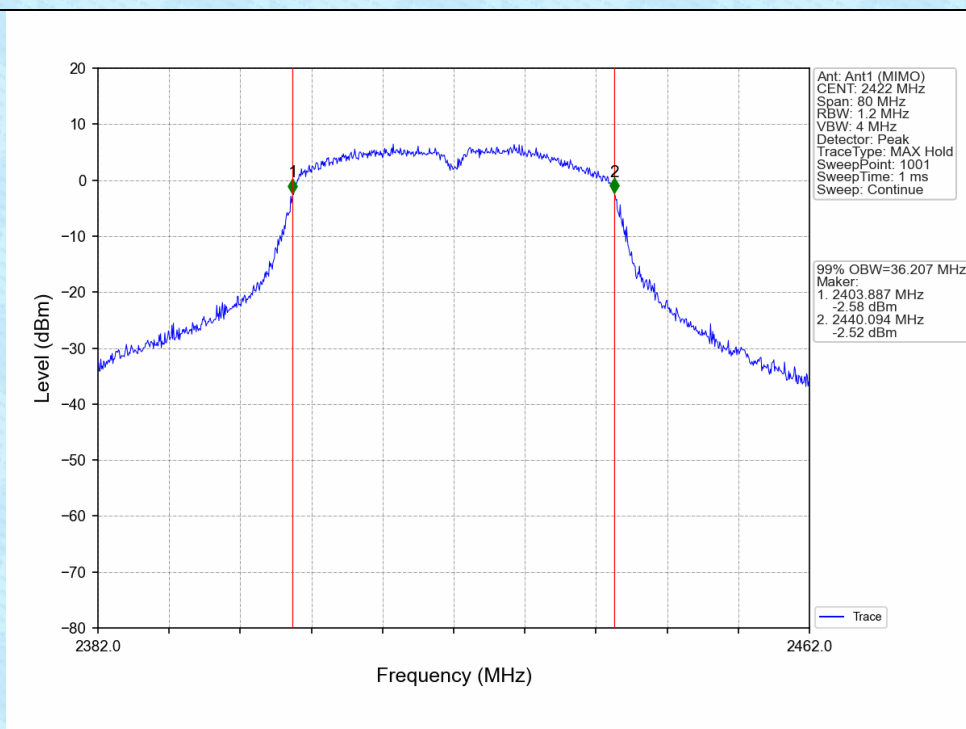
## 802.11n(HT20)\_MCH\_2437MHz\_Ant1 (MIMO)\_NTNV



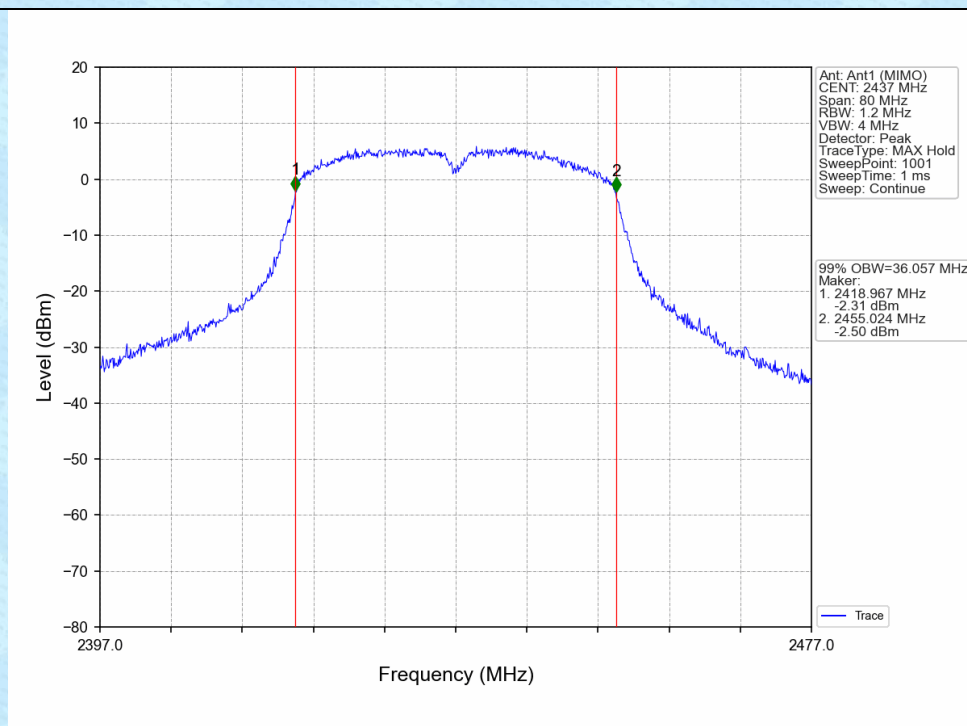
## 802.11n(HT20)\_HCH\_2462MHz\_Ant1 (MIMO)\_NTNV



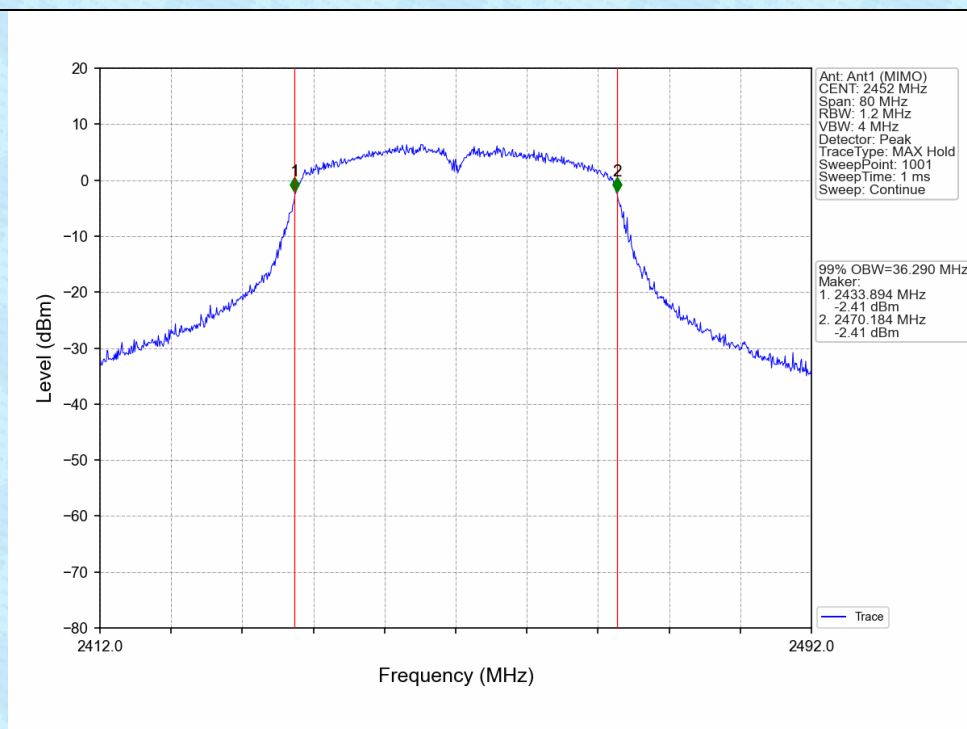
## 802.11n(HT40)\_LCH\_2422MHz\_Ant1 (MIMO)\_NTNV



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



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



## 1.2 6dB BW

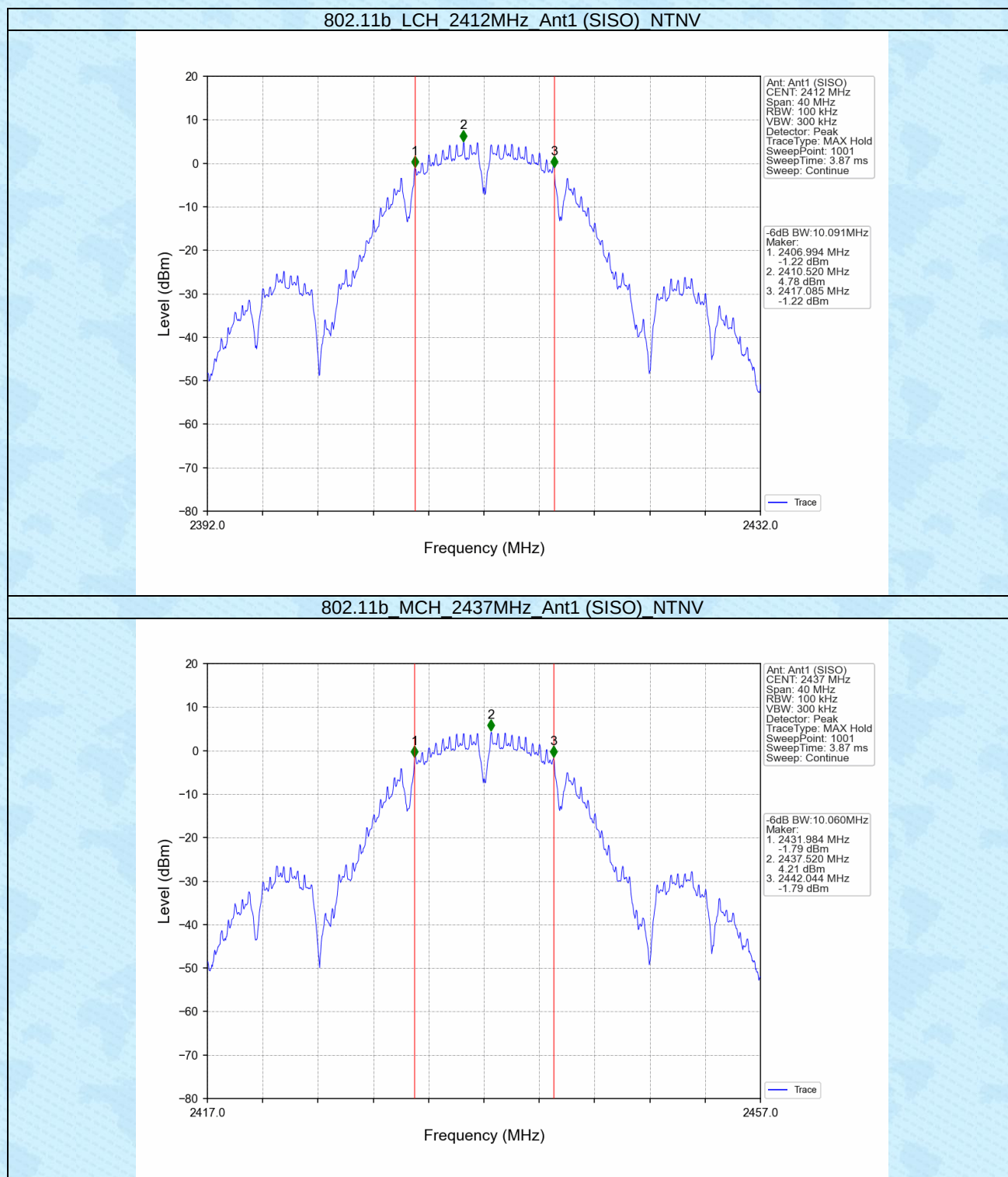
### 1.2.1 Test Result

| Mode           | TX Type | Frequency (MHz) | ANT | 6dB Bandwidth (MHz) |            | Verdict |
|----------------|---------|-----------------|-----|---------------------|------------|---------|
|                |         |                 |     | Result              | Limit      |         |
| 802.11b        | SISO    | 2412            | 1   | 10.091              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 10.060              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 10.060              | $\geq 0.5$ | Pass    |
| 802.11g        | SISO    | 2412            | 1   | 15.967              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 15.105              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 15.116              | $\geq 0.5$ | Pass    |
| 802.11n (HT20) | MIMO    | 2412            | 1   | 15.136              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 15.075              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 1   | 15.141              | $\geq 0.5$ | Pass    |
| 802.11n (HT40) | MIMO    | 2422            | 1   | 33.766              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 1   | 33.830              | $\geq 0.5$ | Pass    |
|                |         | 2452            | 1   | 33.862              | $\geq 0.5$ | Pass    |

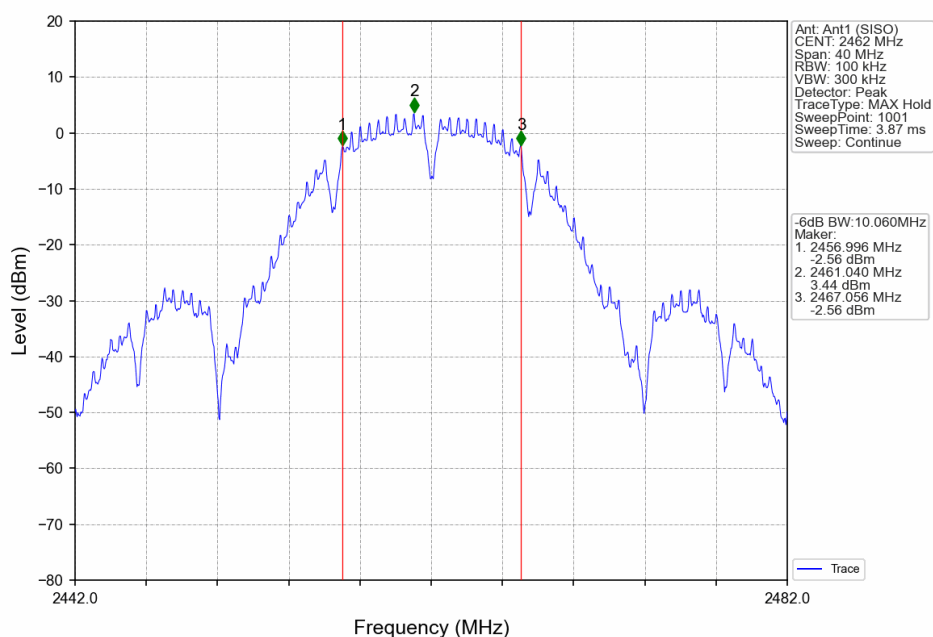
| Mode           | TX Type | Frequency (MHz) | ANT | 6dB Bandwidth (MHz) |            | Verdict |
|----------------|---------|-----------------|-----|---------------------|------------|---------|
|                |         |                 |     | Result              | Limit      |         |
| 802.11b        | SISO    | 2412            | 2   | 10.081              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 2   | 10.068              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 2   | 10.091              | $\geq 0.5$ | Pass    |
| 802.11g        | SISO    | 2412            | 2   | 15.150              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 2   | 15.141              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 2   | 15.132              | $\geq 0.5$ | Pass    |
| 802.11n (HT20) | MIMO    | 2412            | 2   | 15.151              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 2   | 15.140              | $\geq 0.5$ | Pass    |
|                |         | 2462            | 2   | 15.140              | $\geq 0.5$ | Pass    |
| 802.11n (HT40) | MIMO    | 2422            | 2   | 35.064              | $\geq 0.5$ | Pass    |
|                |         | 2437            | 2   | 33.869              | $\geq 0.5$ | Pass    |
|                |         | 2452            | 2   | 32.644              | $\geq 0.5$ | Pass    |

## 1.2.2 Test Graph

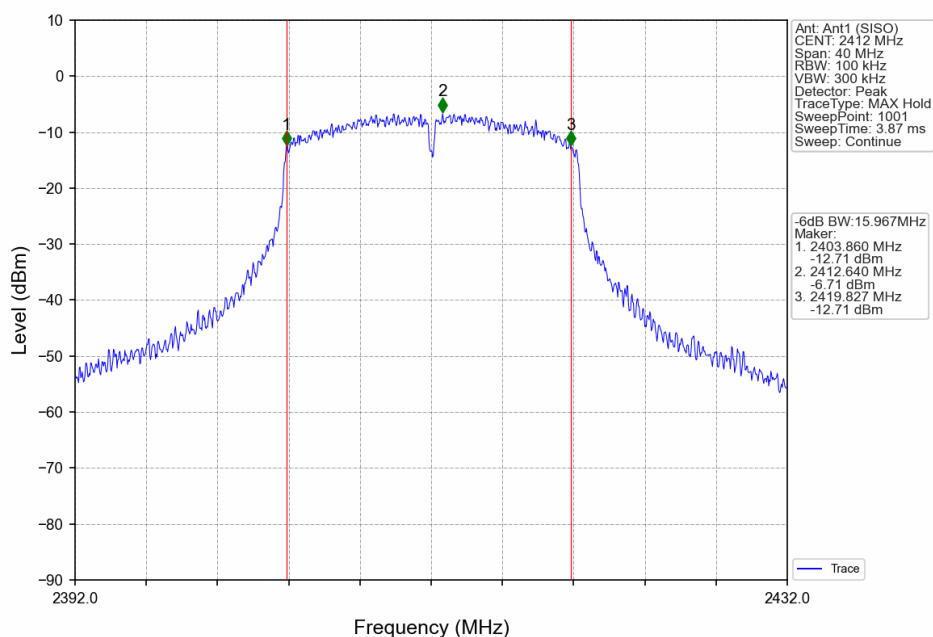
ANT1:



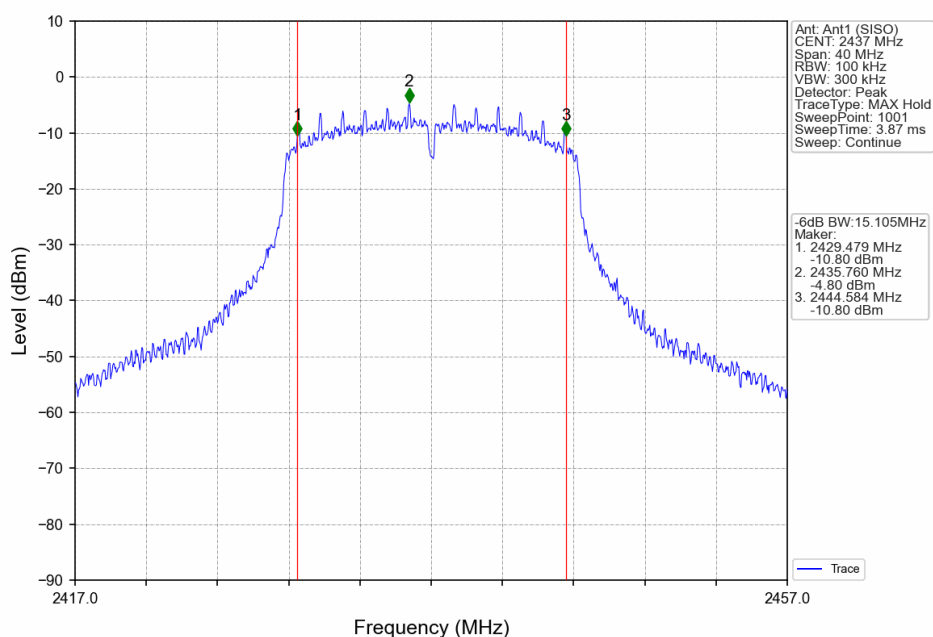
## 802.11b HCH 2462MHz Ant1 (SISO) NTNV



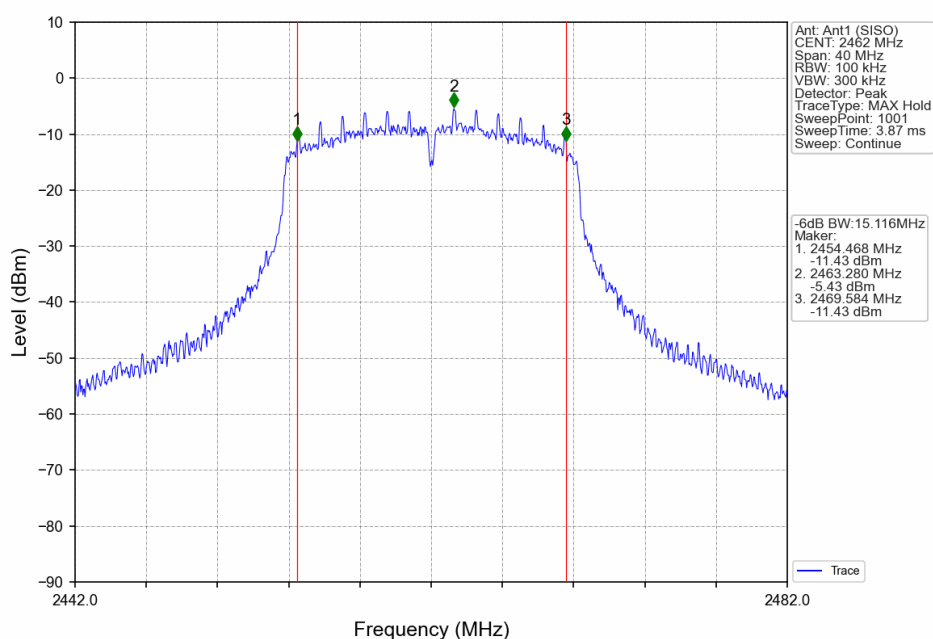
## 802.11g LCH 2412MHz Ant1 (SISO) NTNV



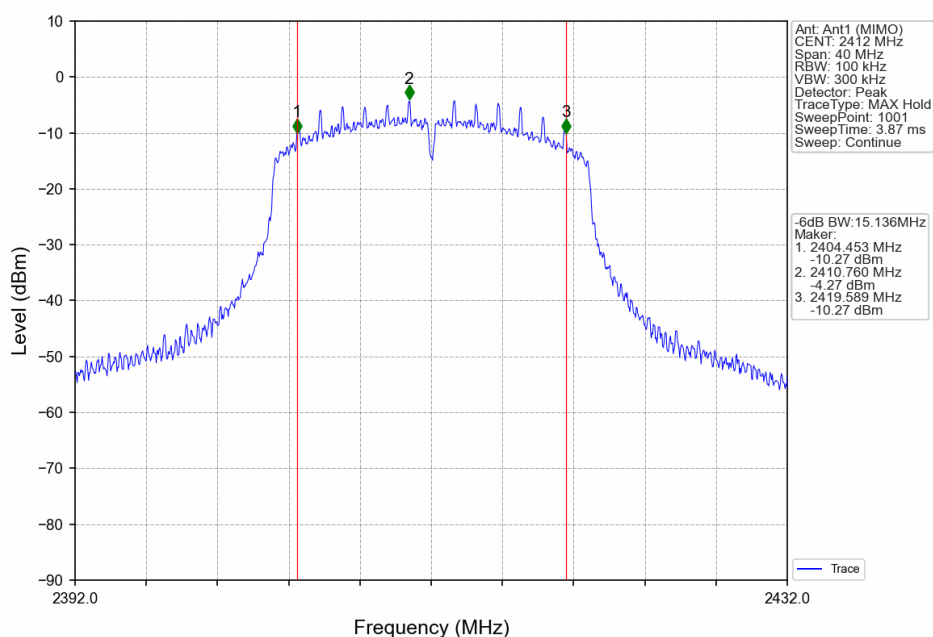
802.11g MCH 2437MHz Ant1 (SISO) NTNV



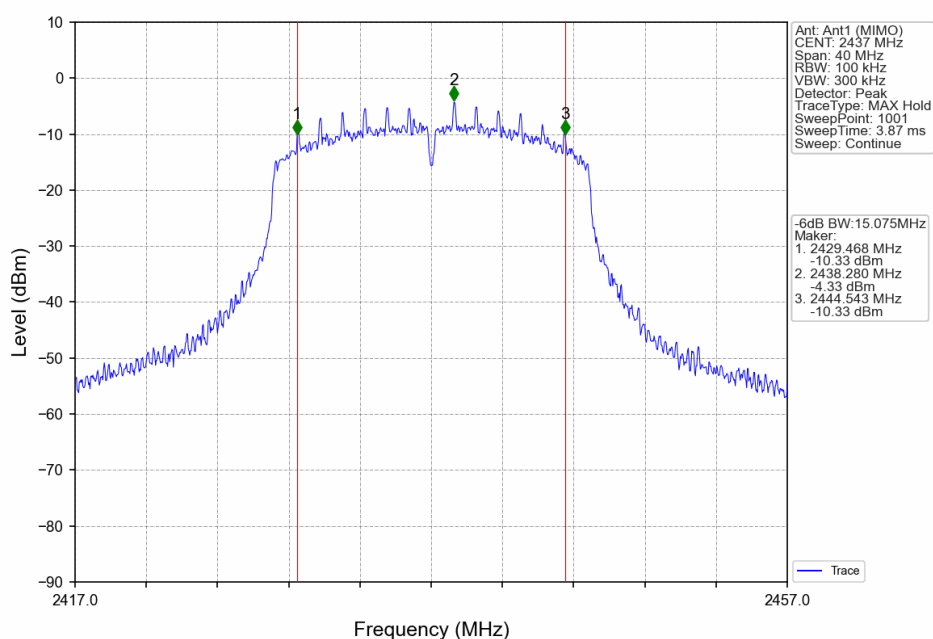
802.11g HCH 2462MHz Ant1 (SISO) NTNV



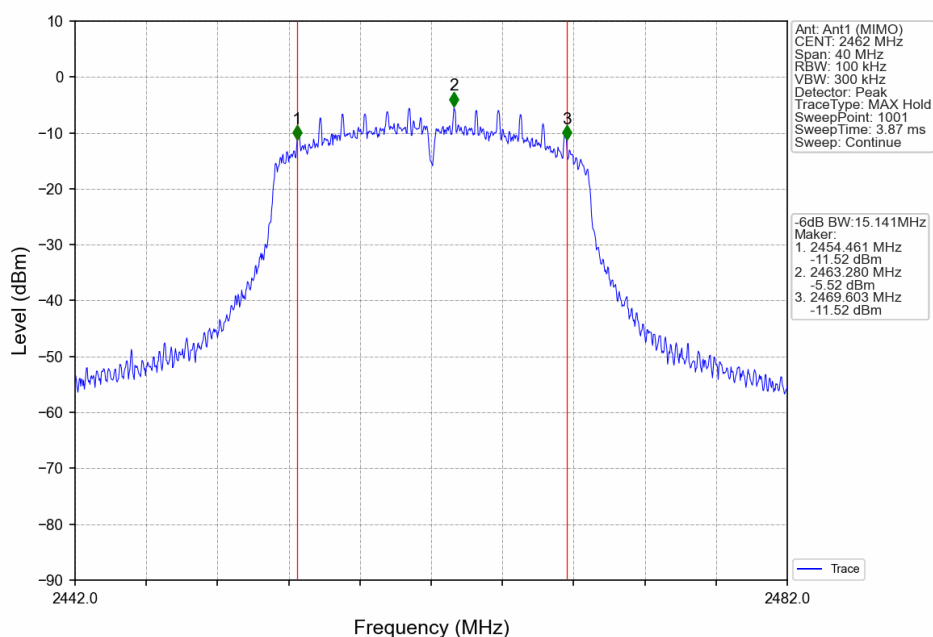
802.11n(HT20) LCH 2412MHz Ant1 (MIMO) NTVN



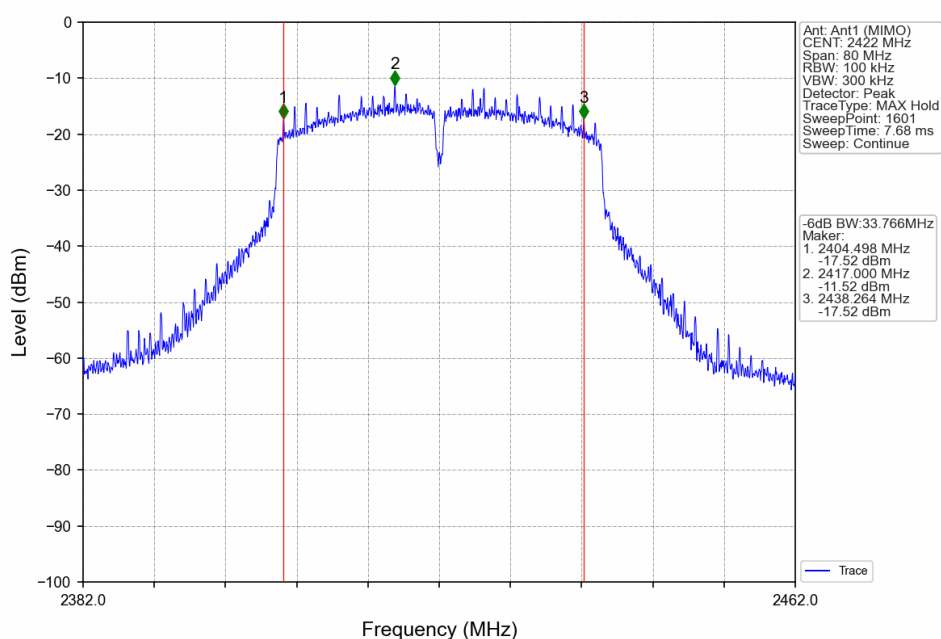
802.11n(HT20) MCH 2437MHz Ant1 (MIMO) NTVN



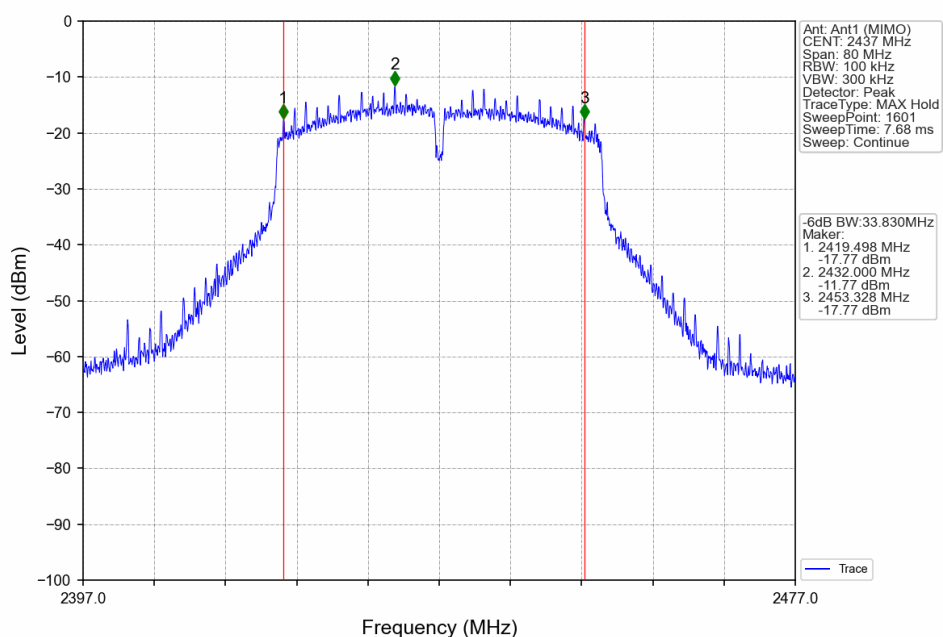
802.11n(HT20) HCH 2462MHz Ant1 (MIMO) NTNV



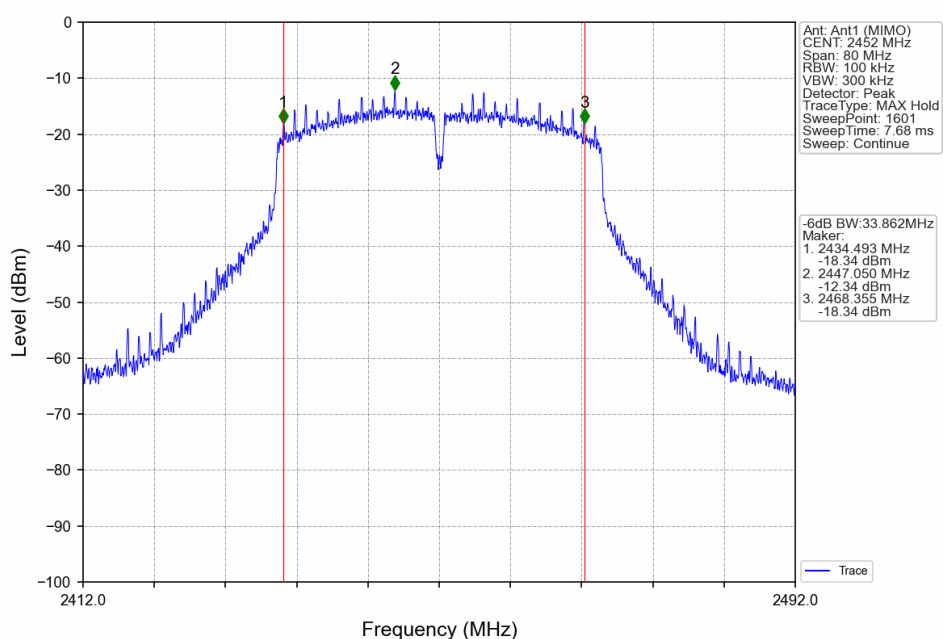
802.11n(HT40) LCH 2422MHz Ant1 (MIMO) NTNV



802.11n(HT40) MCH 2437MHz Ant1 (MIMO) NTN

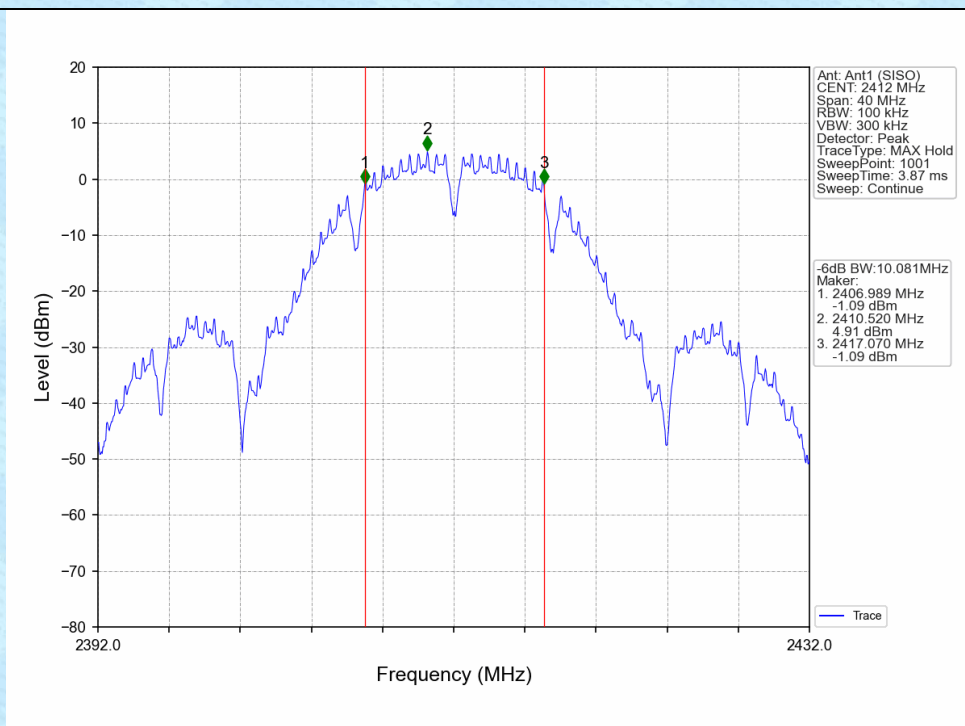


802.11n(HT40) HCH 2452MHz Ant1 (MIMO) NTN

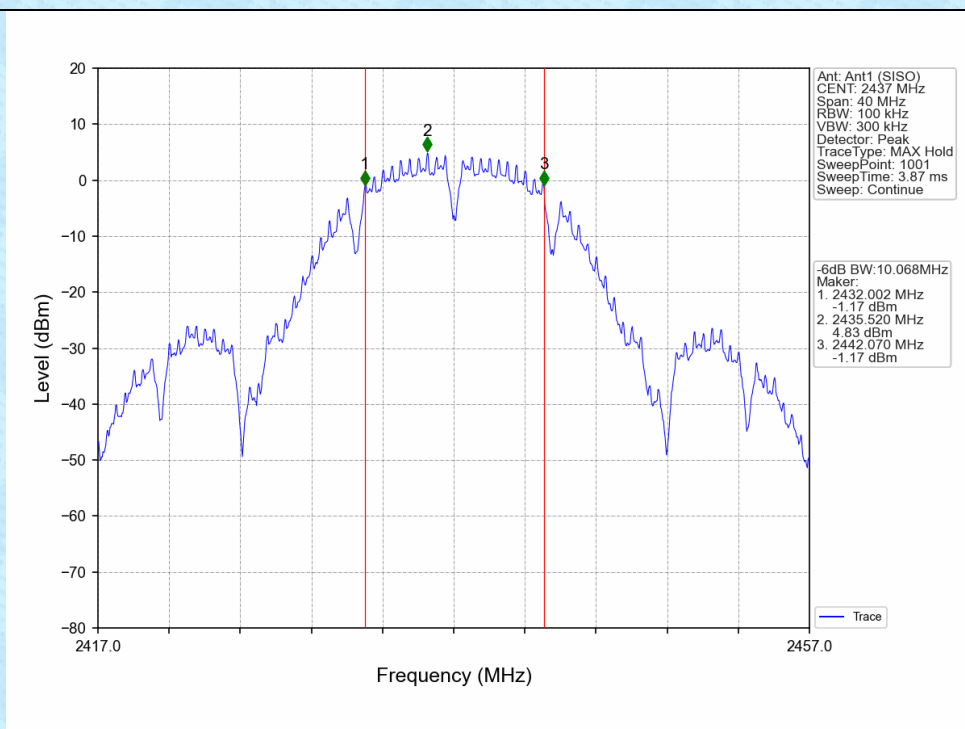


ANT2:

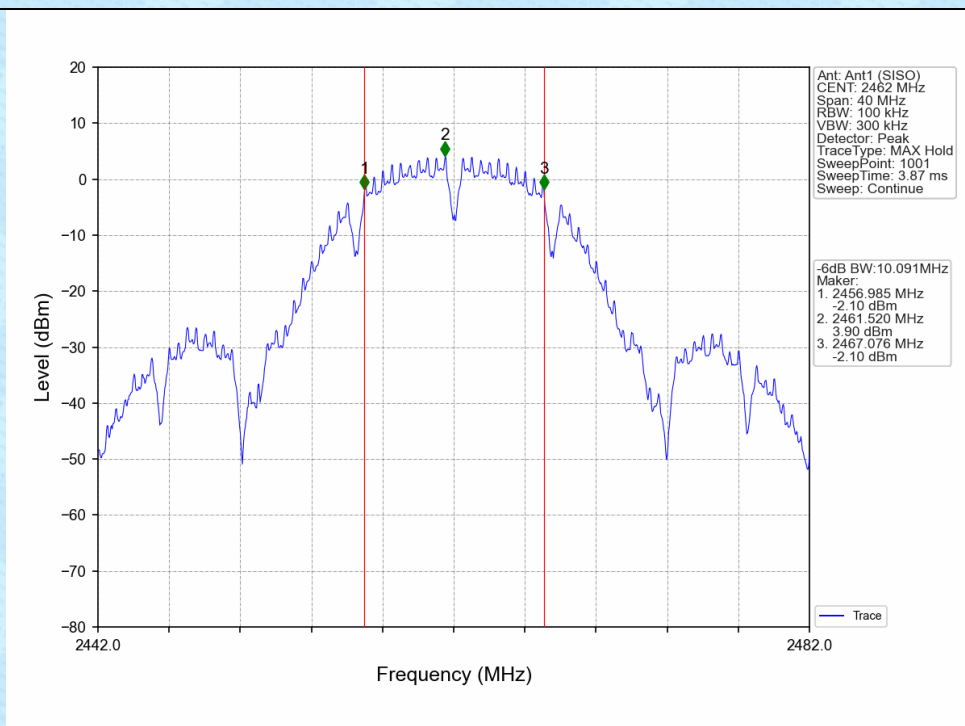
## 802.11b\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



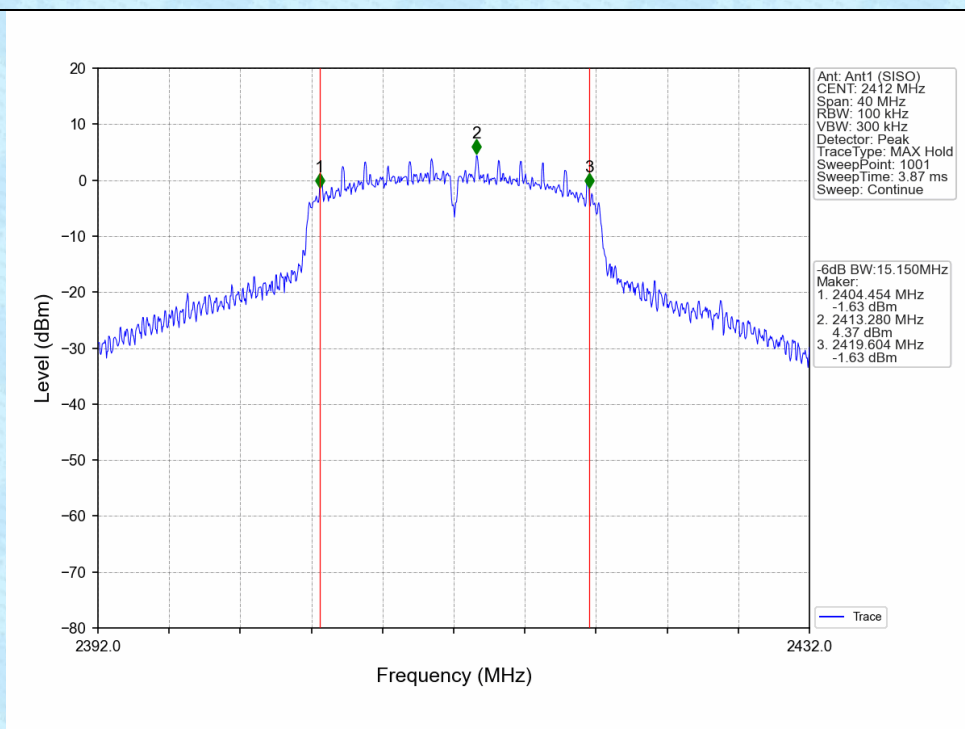
## 802.11b\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



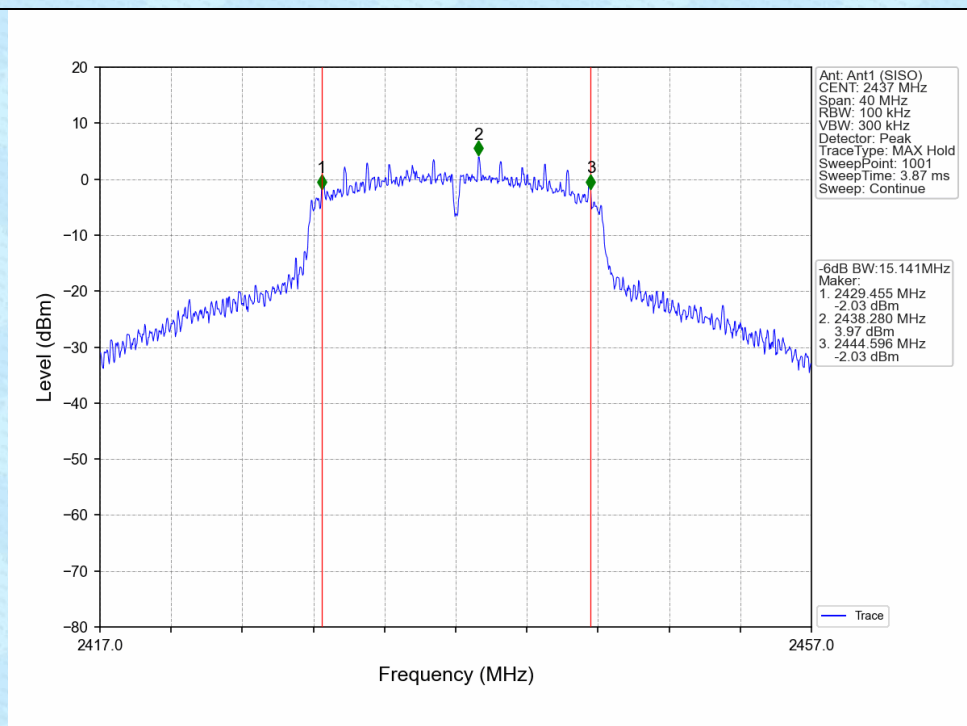
## 802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



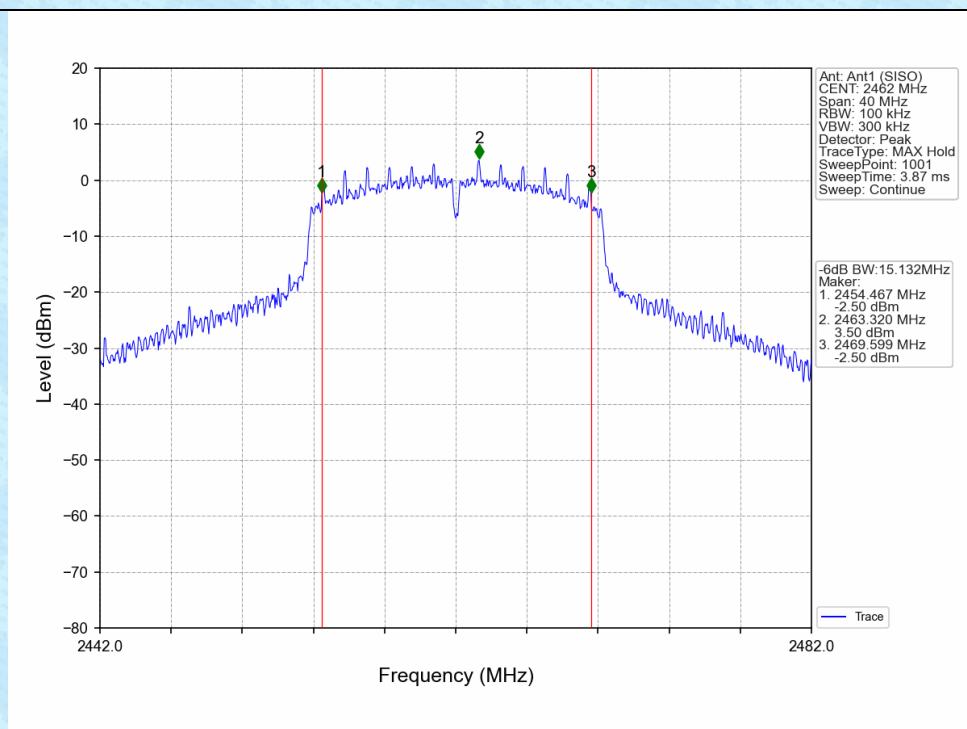
## 802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



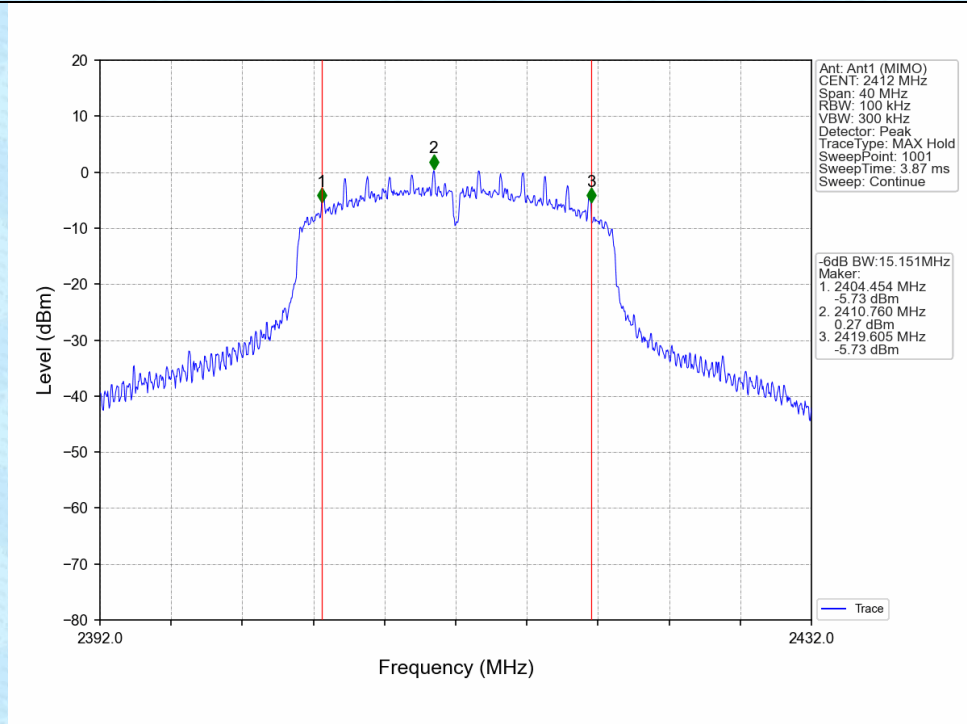
## 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



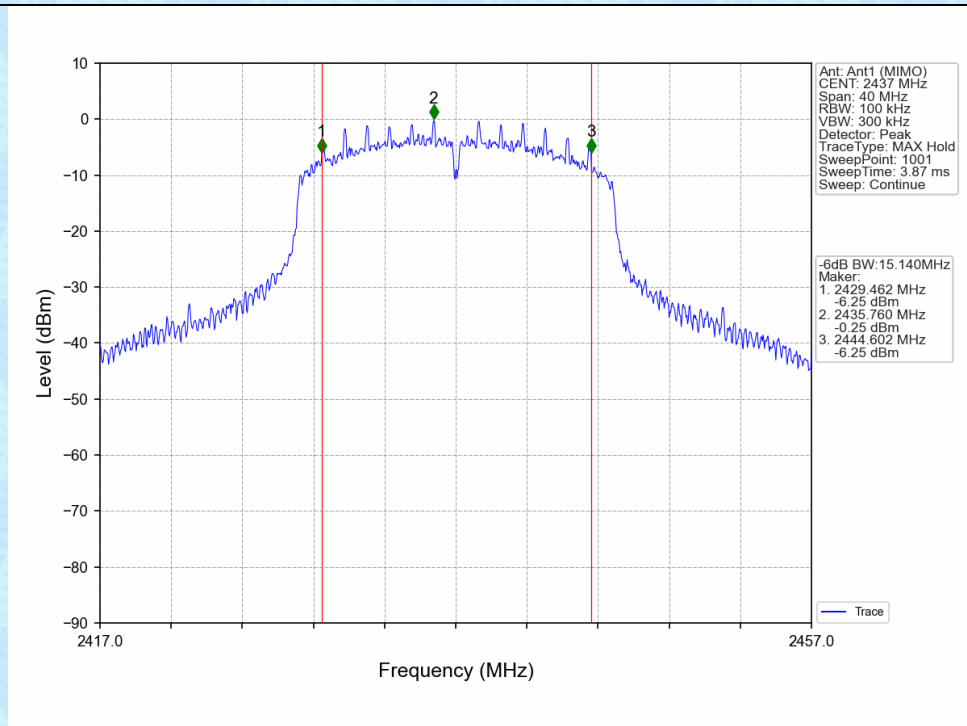
## 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



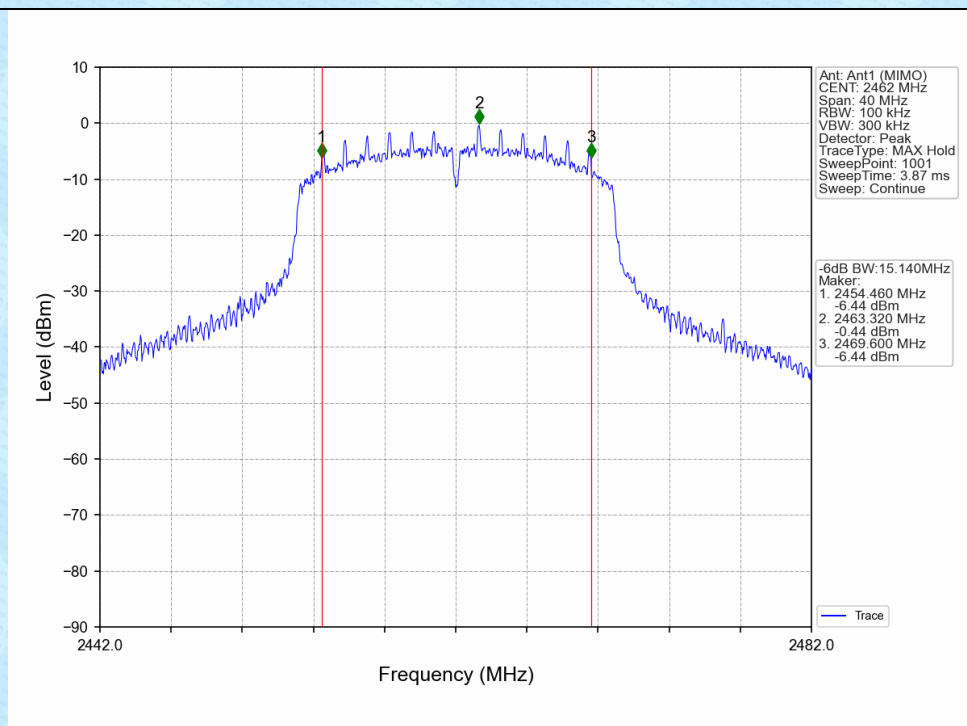
## 802.11n(HT20)\_LCH\_2412MHz\_Ant1 (MIMO)\_NTNV



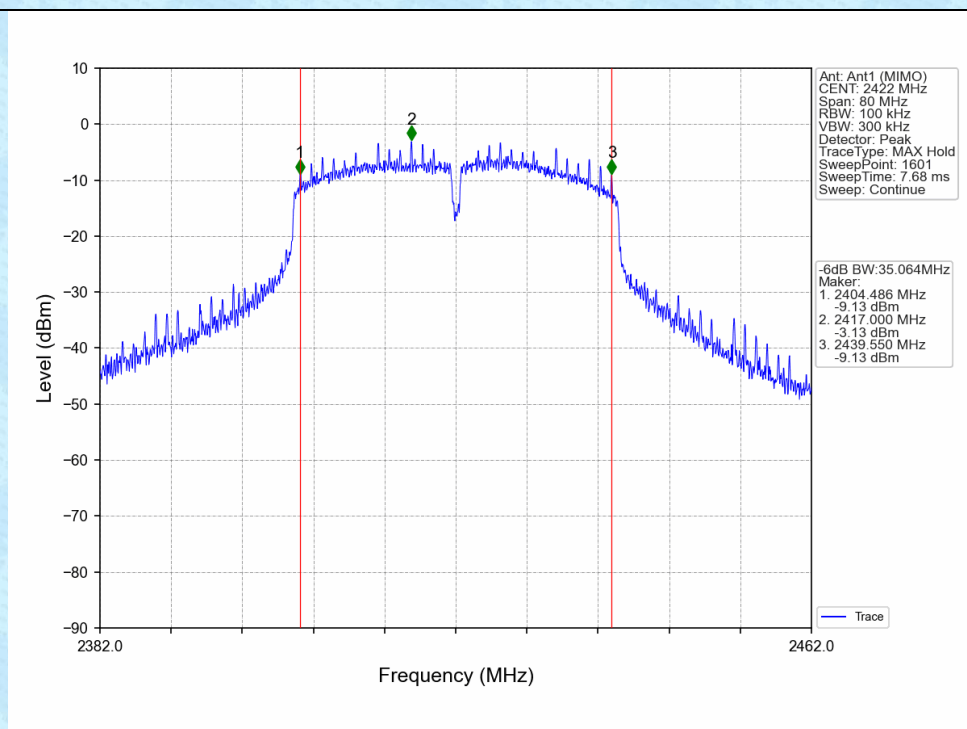
## 802.11n(HT20)\_MCH\_2437MHz\_Ant1 (MIMO)\_NTNV



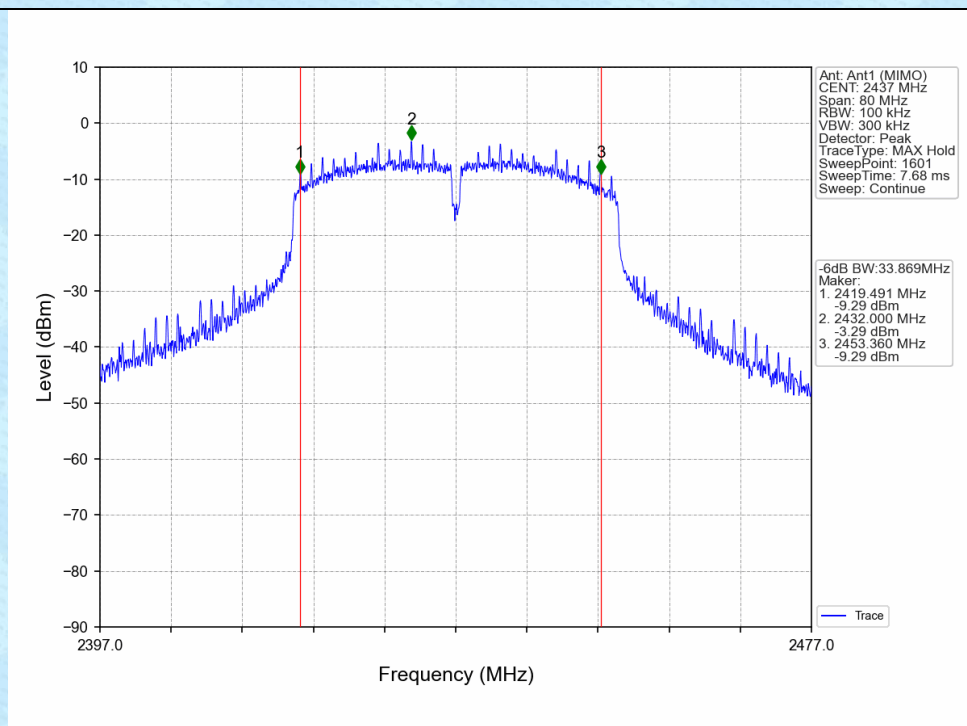
## 802.11n(HT20)\_HCH\_2462MHz\_Ant1 (MIMO)\_NTNV



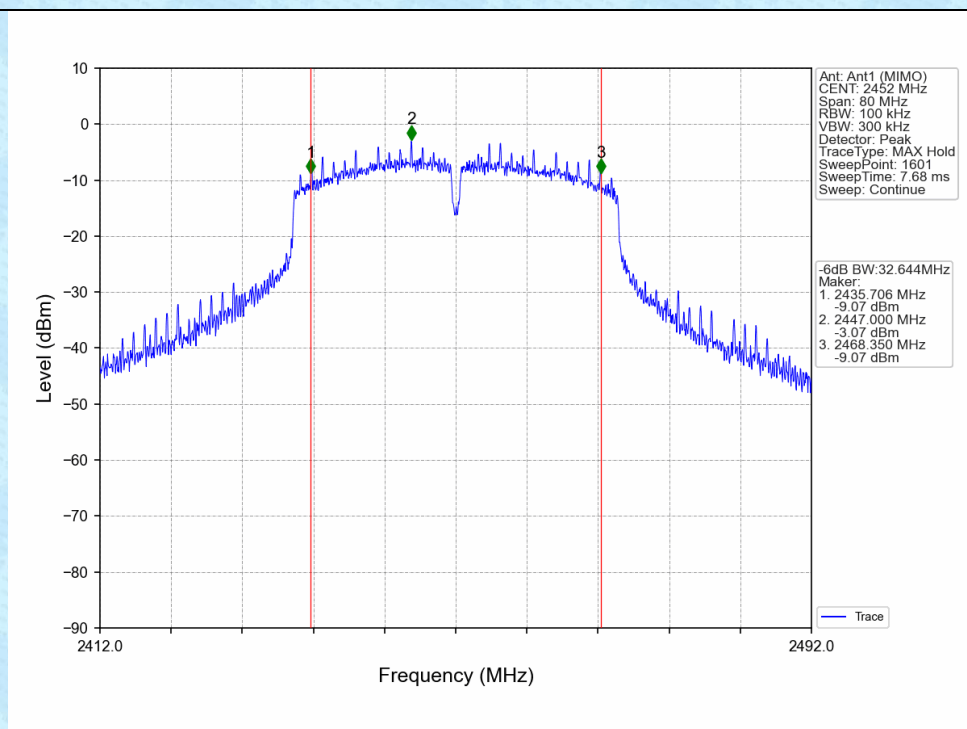
## 802.11n(HT40)\_LCH\_2422MHz\_Ant1 (MIMO)\_NTNV



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



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



## 2. Maximum Conducted Output Power

### 2.1 Test Result

| Mode           | TX Type | Frequency (MHz) | Maximum Peak Conducted Output Power (dBm) |       |       |         | Verdict |
|----------------|---------|-----------------|-------------------------------------------|-------|-------|---------|---------|
|                |         |                 | ANT1                                      | ANT2  | MIMO  | Limit   |         |
| 802.11b        | SISO    | 2412            | 16.57                                     | 16.03 | /     | <=29    | Pass    |
|                |         | 2437            | 15.94                                     | 15.54 | /     | <=29    | Pass    |
|                |         | 2462            | 15.21                                     | 15.42 | /     | <=29    | Pass    |
| 802.11g        | SISO    | 2412            | 14.01                                     | 13.72 | /     | <=29    | Pass    |
|                |         | 2437            | 13.03                                     | 13.12 | /     | <=29    | Pass    |
|                |         | 2462            | 12.36                                     | 12.74 | /     | <=29    | Pass    |
| 802.11n (HT20) | MIMO    | 2412            | 13.36                                     | 13.03 | 16.21 | <=25.99 | Pass    |
|                |         | 2437            | 12.63                                     | 12.35 | 15.50 | <=25.99 | Pass    |
|                |         | 2462            | 12.07                                     | 11.94 | 15.02 | <=25.99 | Pass    |
| 802.11n (HT40) | MIMO    | 2422            | 9.38                                      | 8.86  | 12.14 | <=25.99 | Pass    |
|                |         | 2437            | 9.06                                      | 8.67  | 11.88 | <=25.99 | Pass    |
|                |         | 2452            | 8.68                                      | 8.34  | 11.52 | <=25.99 | Pass    |

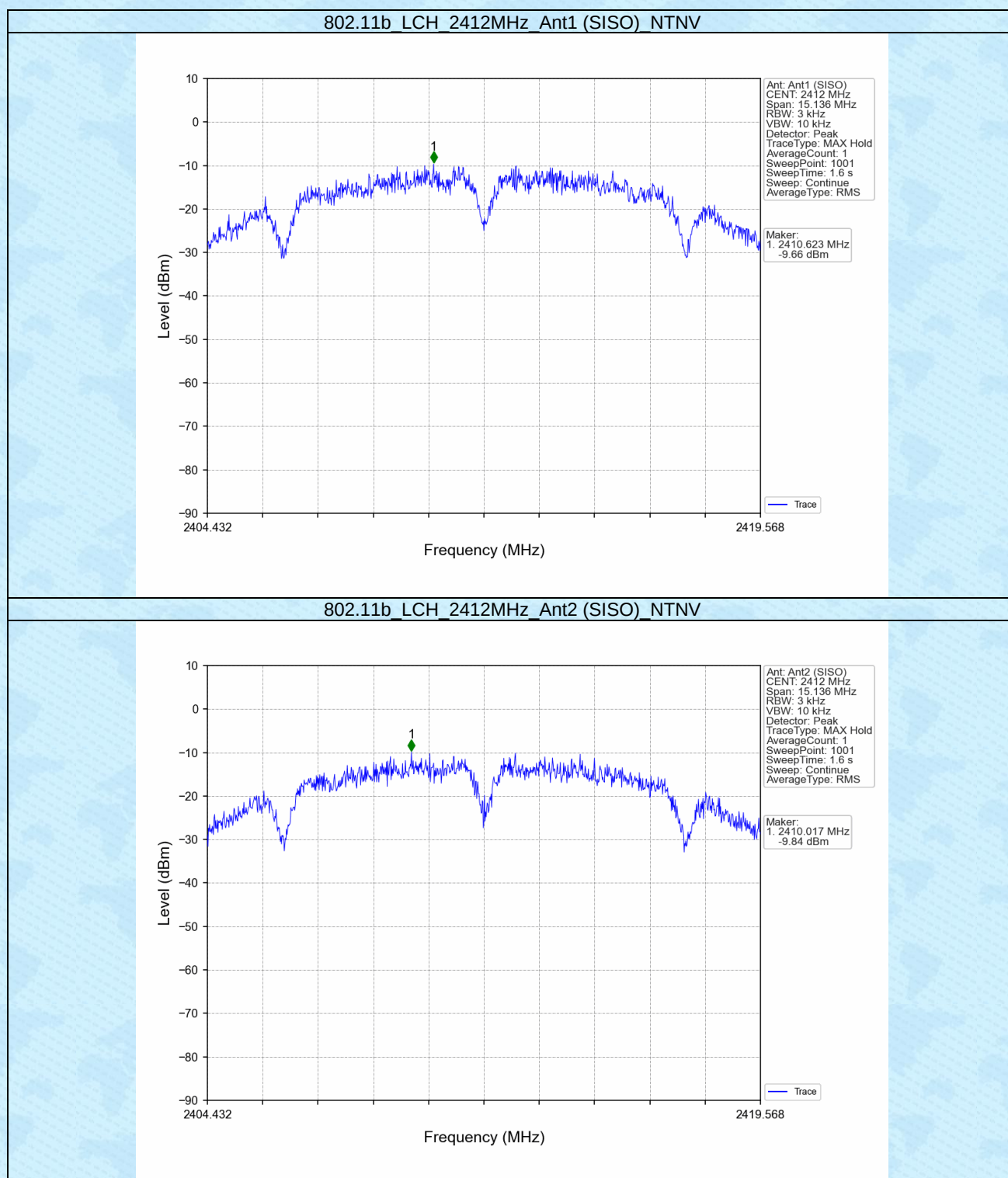
**Note:** transmit signals are completely correlated,  
Directional gain= $10 \times \log[(10^{7/20} + 10^{7/20})^2/2] = 10.01\text{dBi}$

### 3. Maximum Power Spectral Density

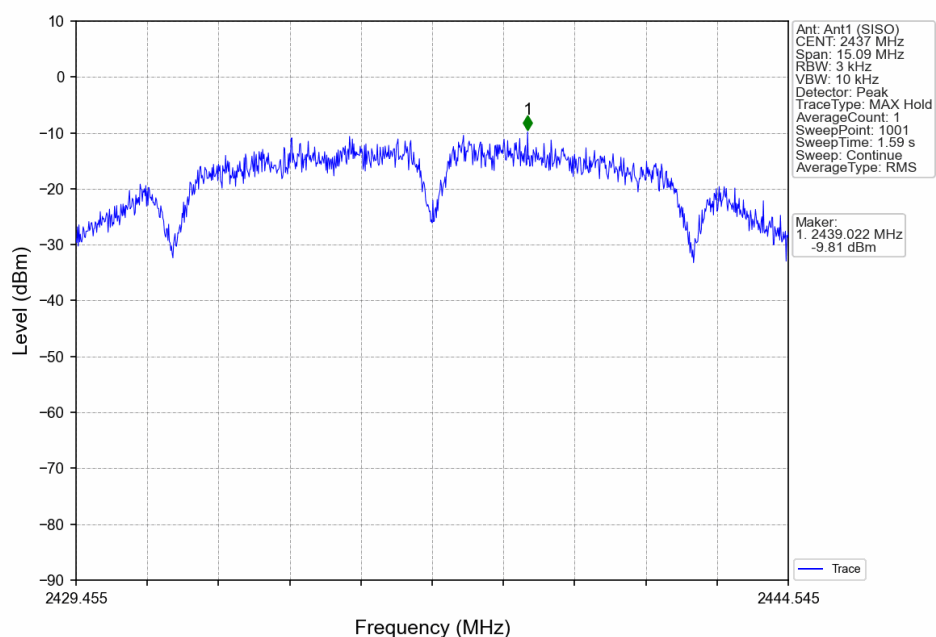
#### 3.1 Test Result

| Mode           | TX Type | Frequency (MHz) | Maximum PSD (dBm/3kHz) |        |        |        | Verdict |
|----------------|---------|-----------------|------------------------|--------|--------|--------|---------|
|                |         |                 | ANT1                   | ANT2   | MIMO   | Limit  |         |
| 802.11b        | SISO    | 2412            | -9.66                  | -9.84  | /      | <=7    | Pass    |
|                |         | 2437            | -9.81                  | -10.53 | /      | <=7    | Pass    |
|                |         | 2462            | -10.17                 | -10.25 | /      | <=7    | Pass    |
| 802.11g        | SISO    | 2412            | -18.59                 | -18.61 | /      | <=7    | Pass    |
|                |         | 2437            | -19.63                 | -20.21 | /      | <=7    | Pass    |
|                |         | 2462            | -19.77                 | -19.94 | /      | <=7    | Pass    |
| 802.11n (HT20) | MIMO    | 2412            | -19.14                 | -19.62 | -17.30 | <=3.99 | Pass    |
|                |         | 2437            | -18.63                 | -20.22 | -17.02 | <=3.99 | Pass    |
|                |         | 2462            | -20.92                 | -20.84 | -18.52 | <=3.99 | Pass    |
| 802.11n (HT40) | MIMO    | 2422            | -27.09                 | -26.67 | -24.74 | <=3.99 | Pass    |
|                |         | 2437            | -26.72                 | -27.11 | -24.43 | <=3.99 | Pass    |
|                |         | 2452            | -27.09                 | -27.30 | -25.28 | <=3.99 | Pass    |

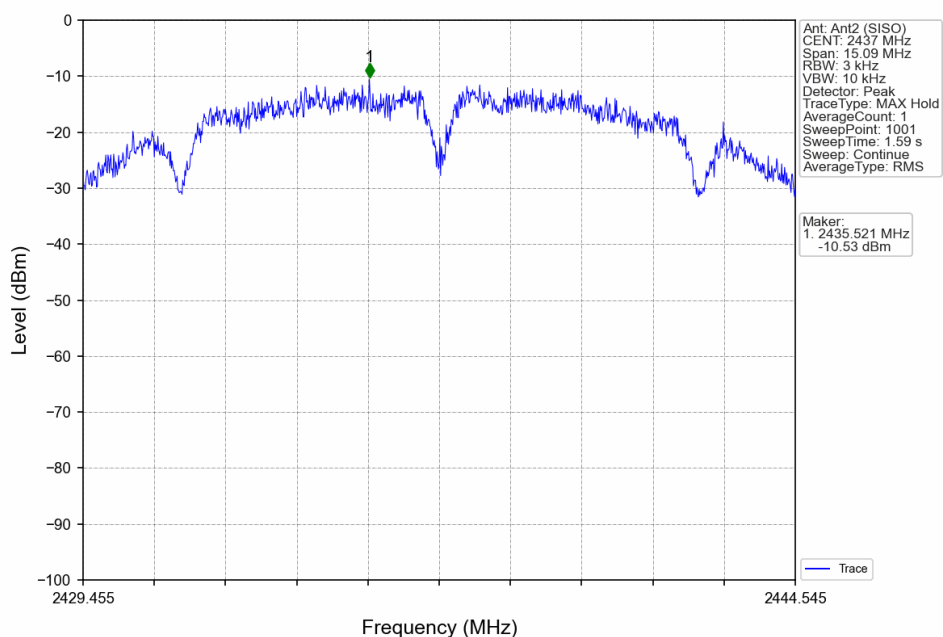
## 3.2 Test Graph



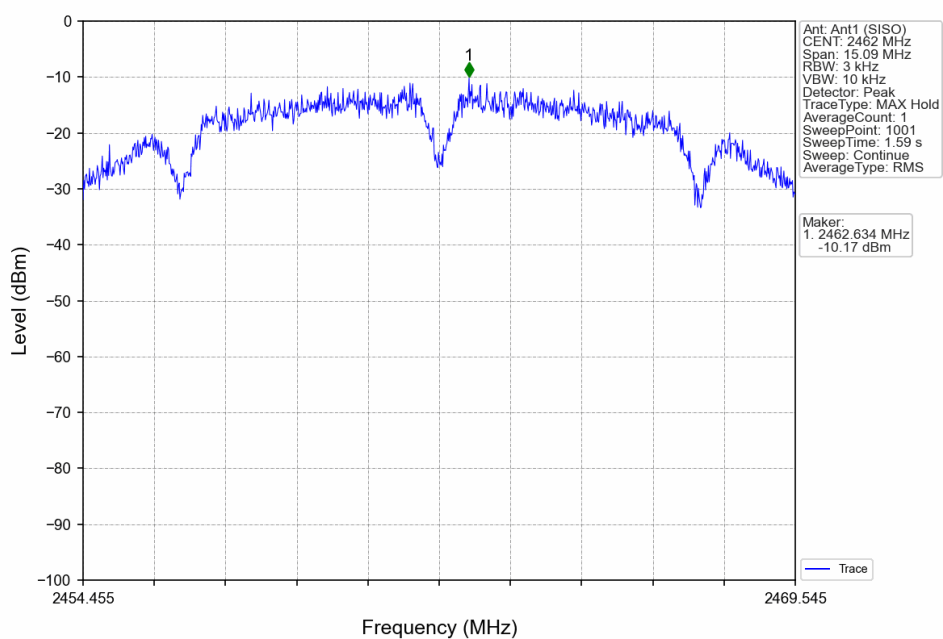
802.11b MCH 2437MHz Ant1 (SISO) NTNV



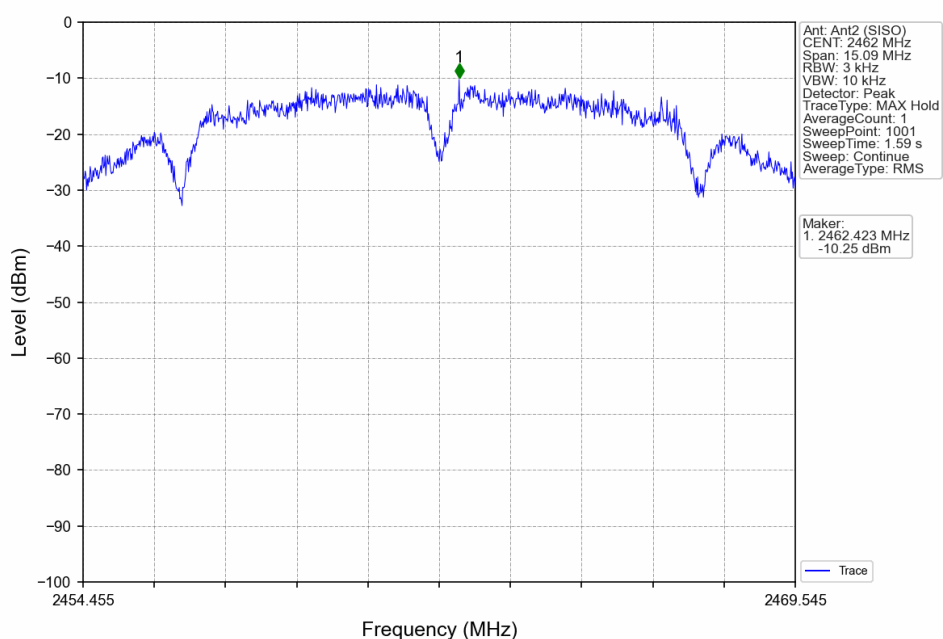
802.11b MCH 2437MHz Ant2 (SISO) NTNV



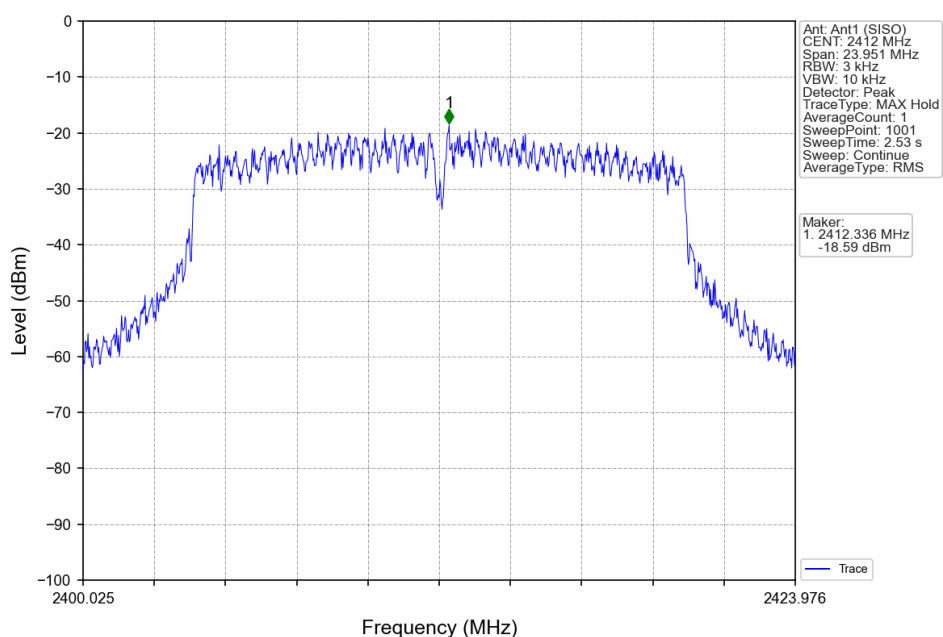
802.11b HCH 2462MHz Ant1 (SISO) NTNV



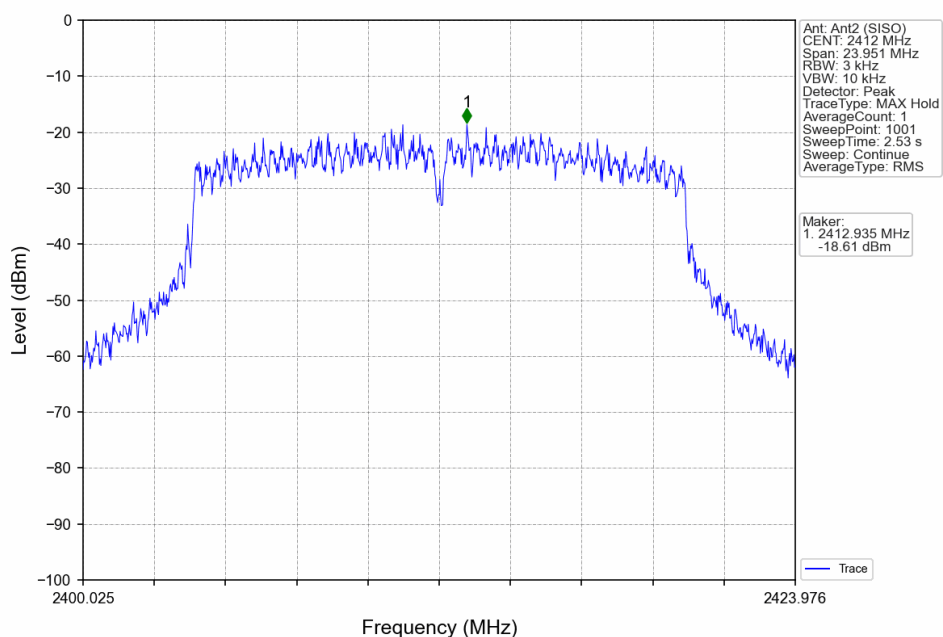
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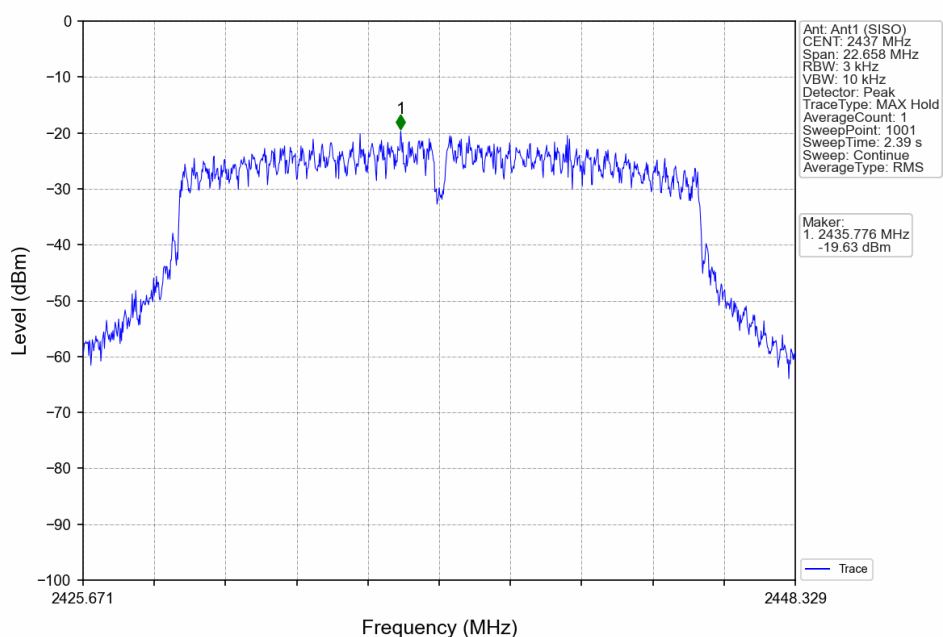
802.11g LCH 2412MHz Ant1 (SISO) NTNV



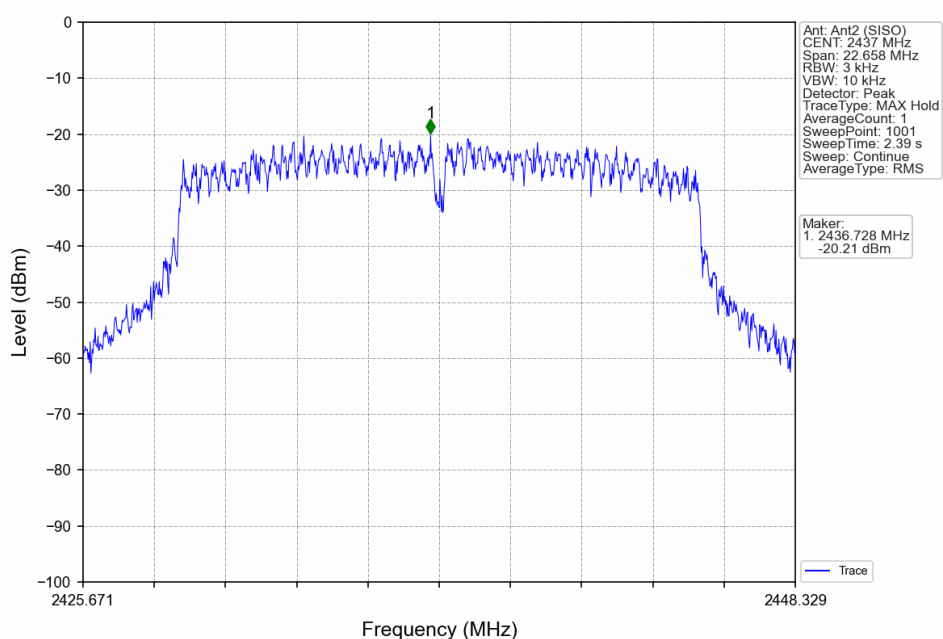
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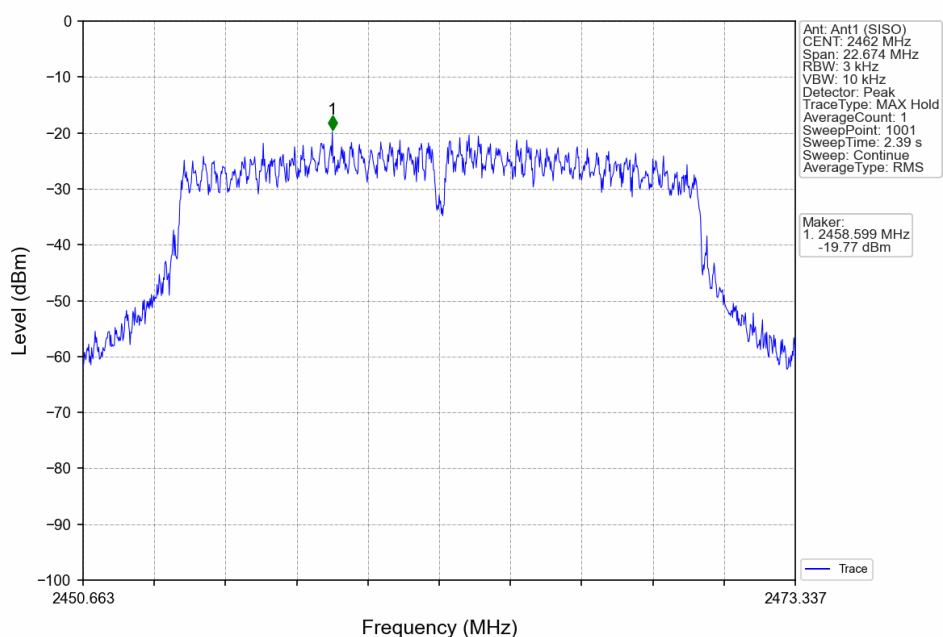
802.11g MCH 2437MHz Ant1 (SISO) NTNV



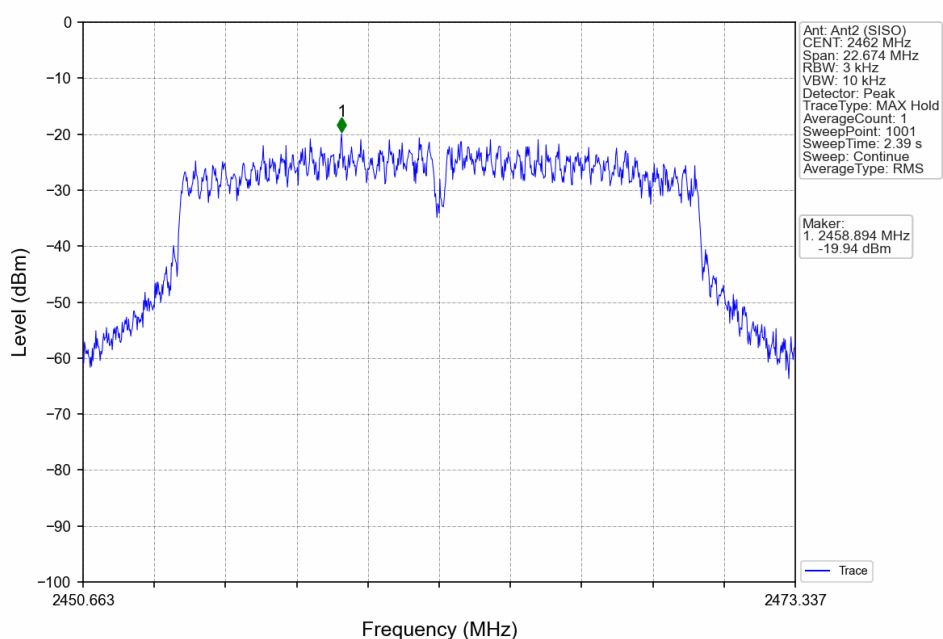
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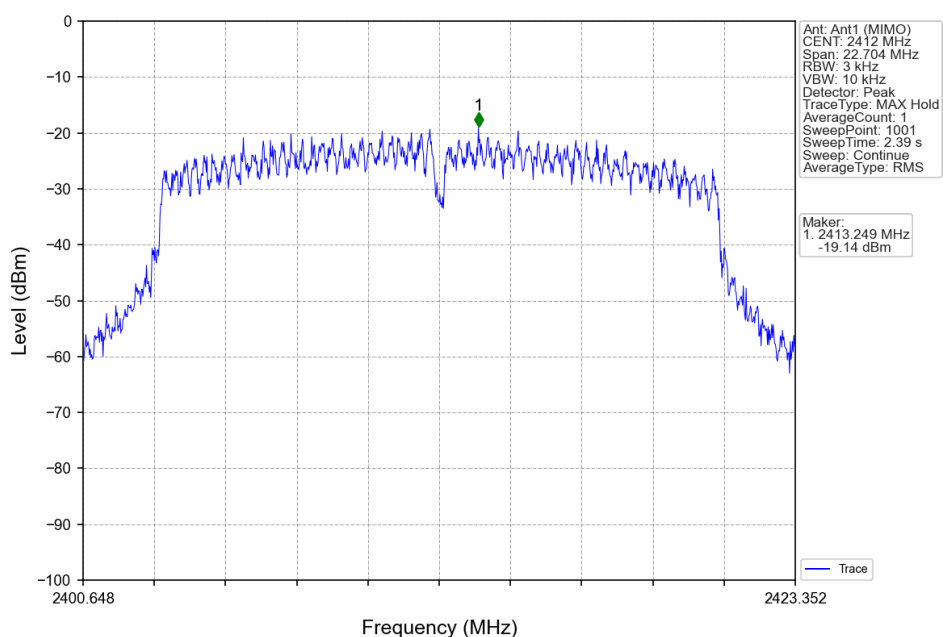
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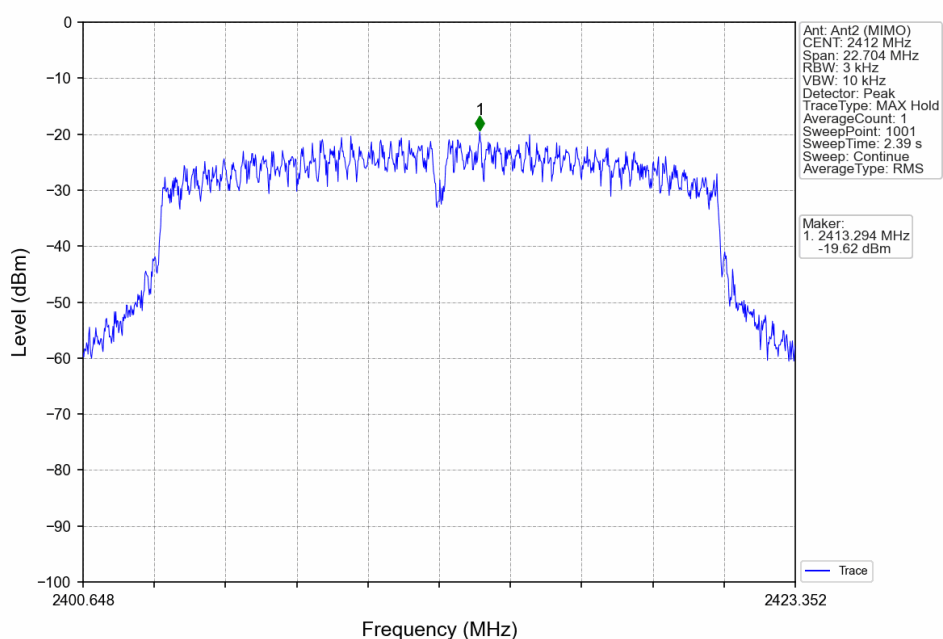
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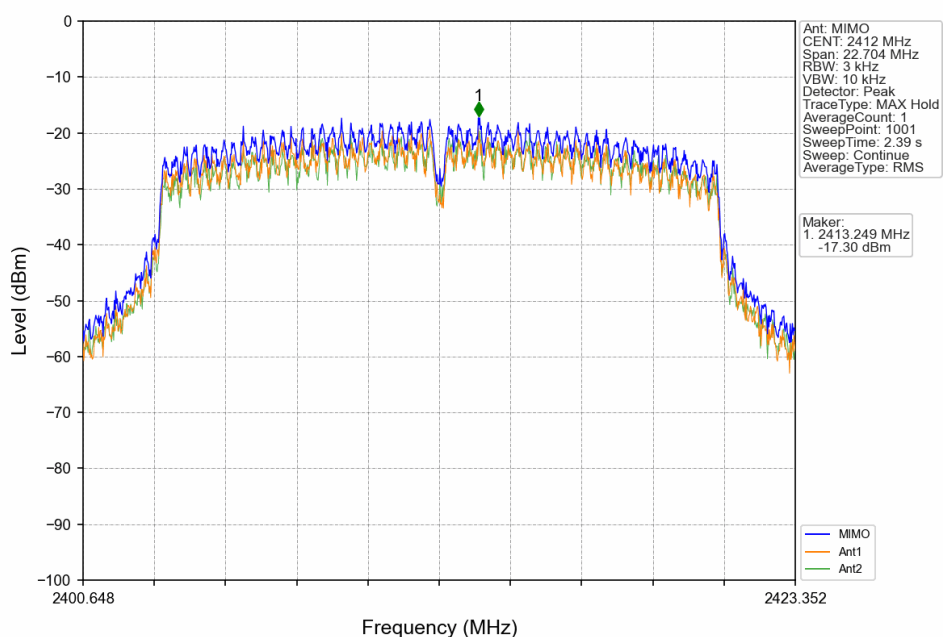
802.11n(HT20) LCH 2412MHz Ant1 (MIMO) NTNV



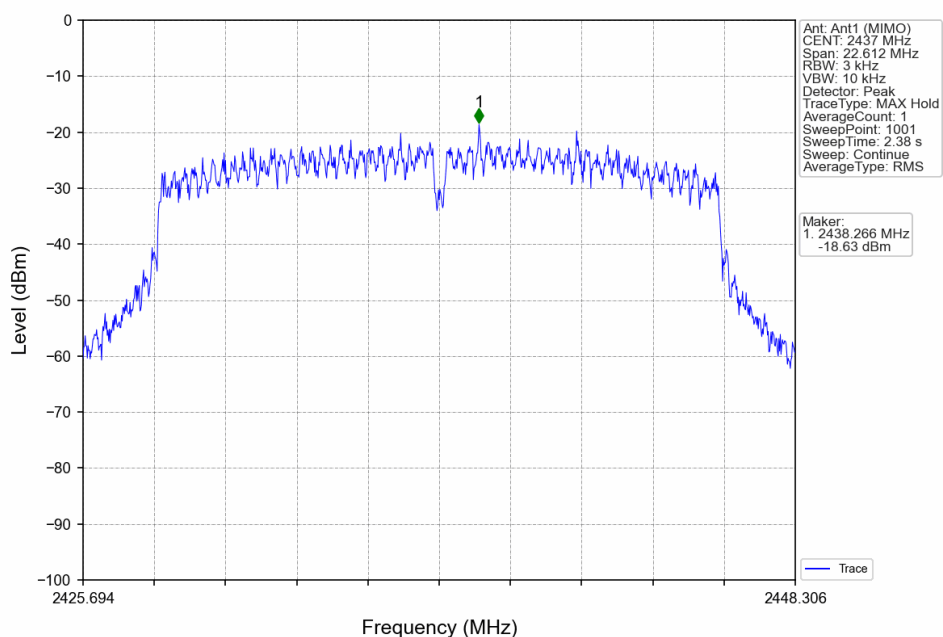
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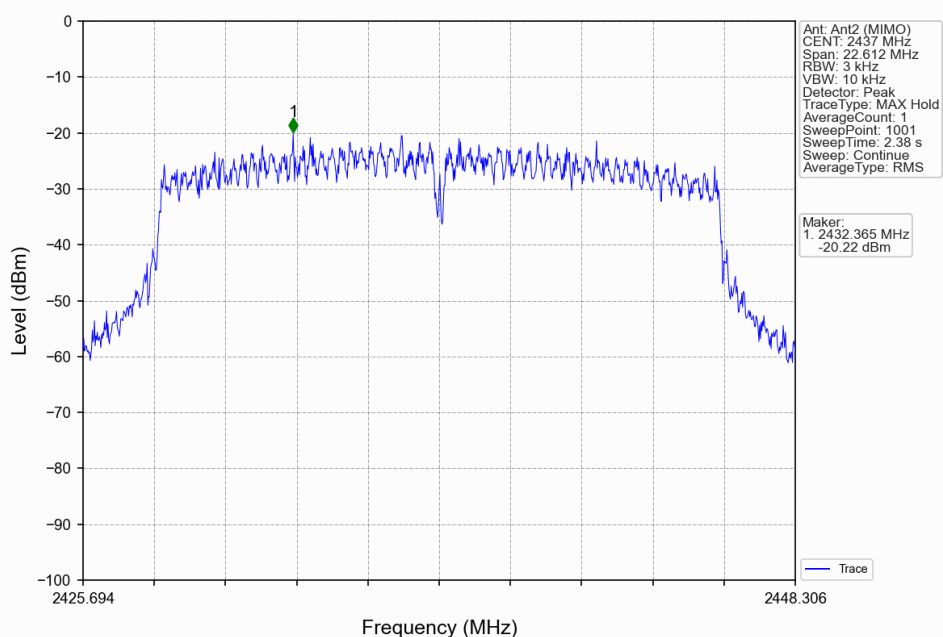
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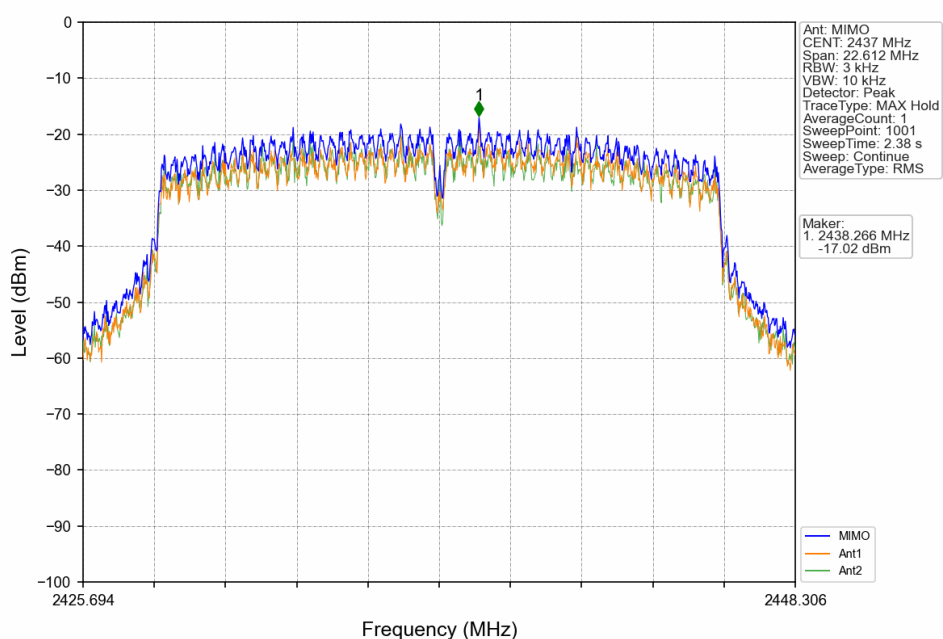
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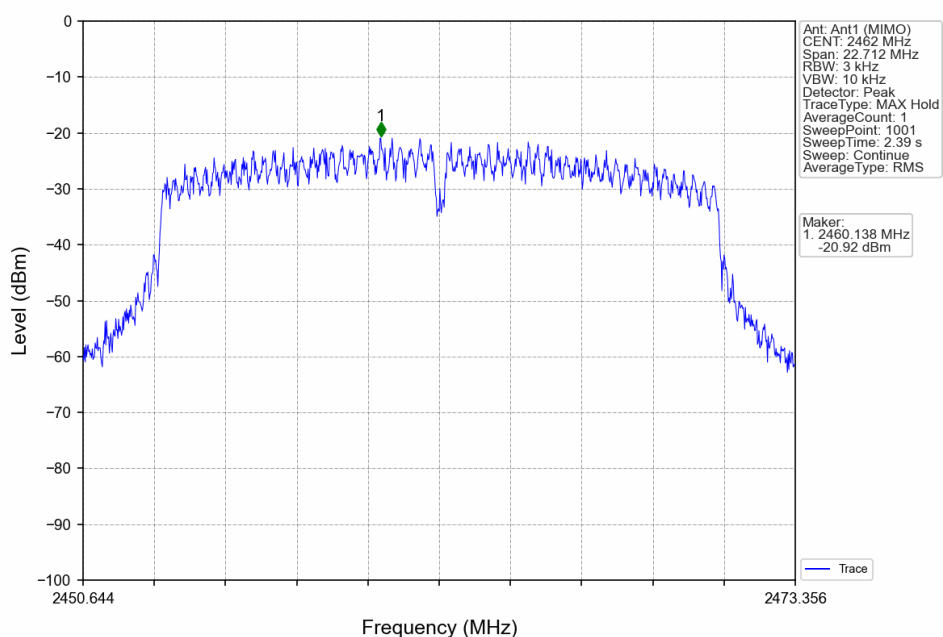
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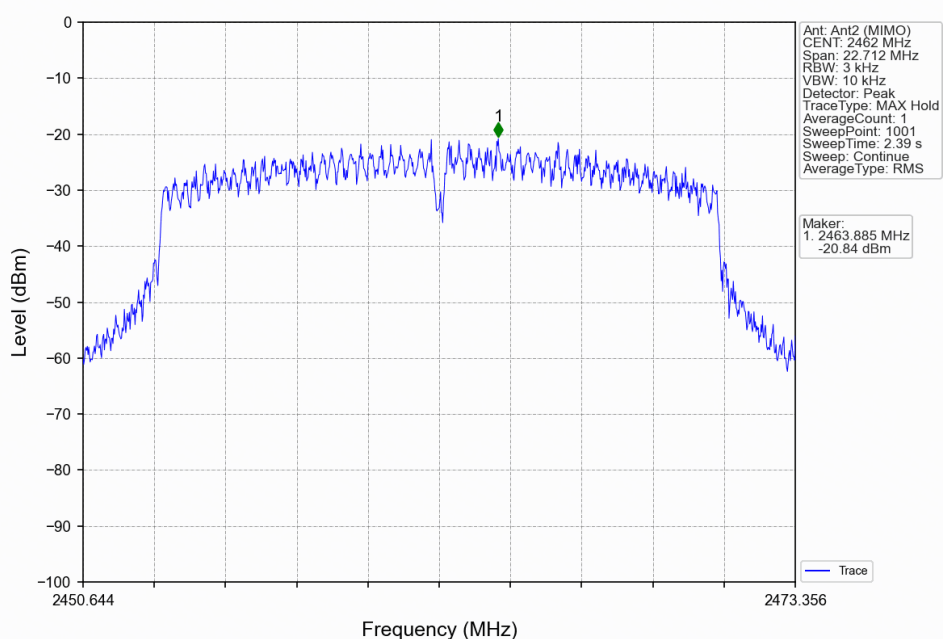
802.11n(HT20) MCH 2437MHz MIMO NTN



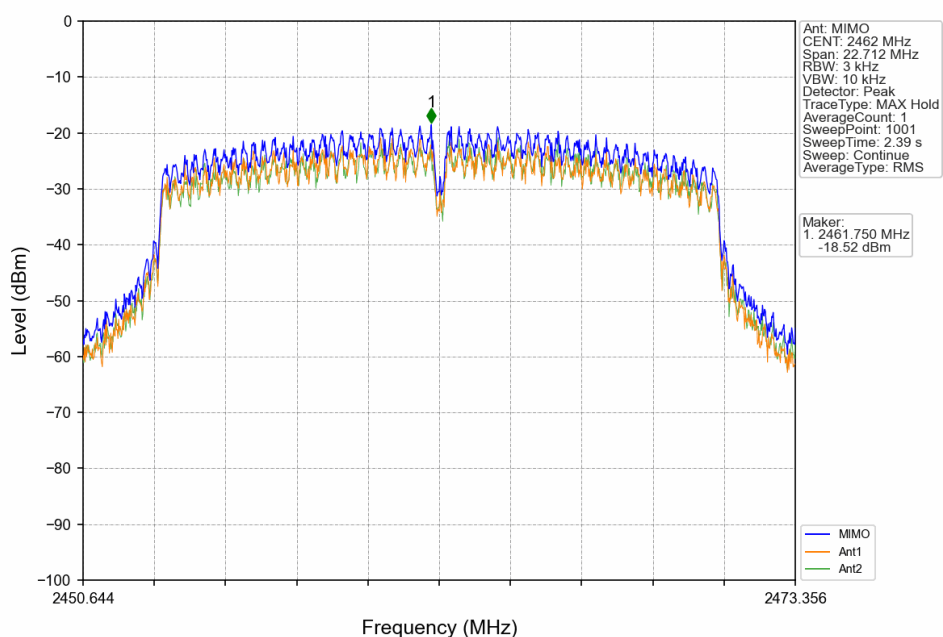
802.11n(HT20) HCH 2462MHz Ant1 (MIMO) NTNV



802.11n(HT20) HCH 2462MHz Ant2 (MIMO) NTNV



802.11n(HT20) HCH 2462MHz MIMO NTNV



802.11n(HT40) LCH 2422MHz\_Ant1 (MIMO) NTNV

