

# 1. Duty Cycle

## 1.1 Test Result

### 1.1.1 Ant0

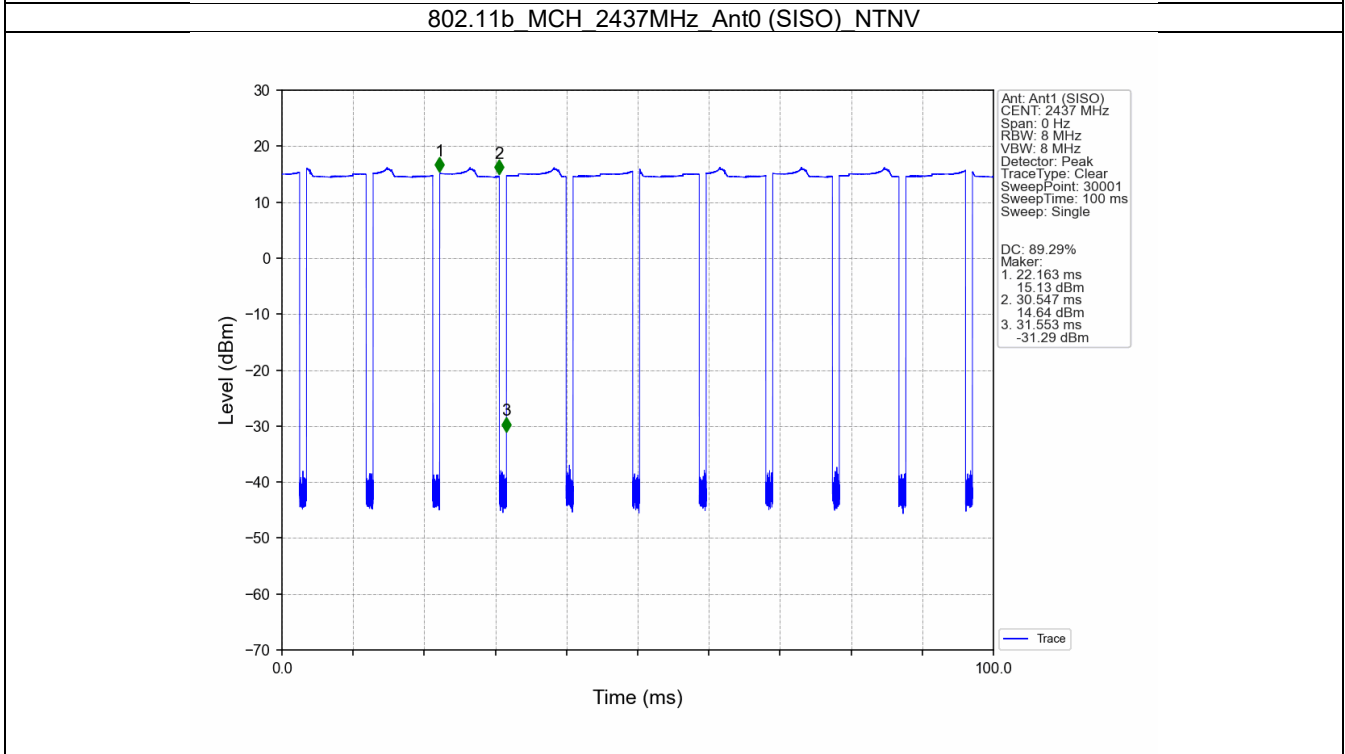
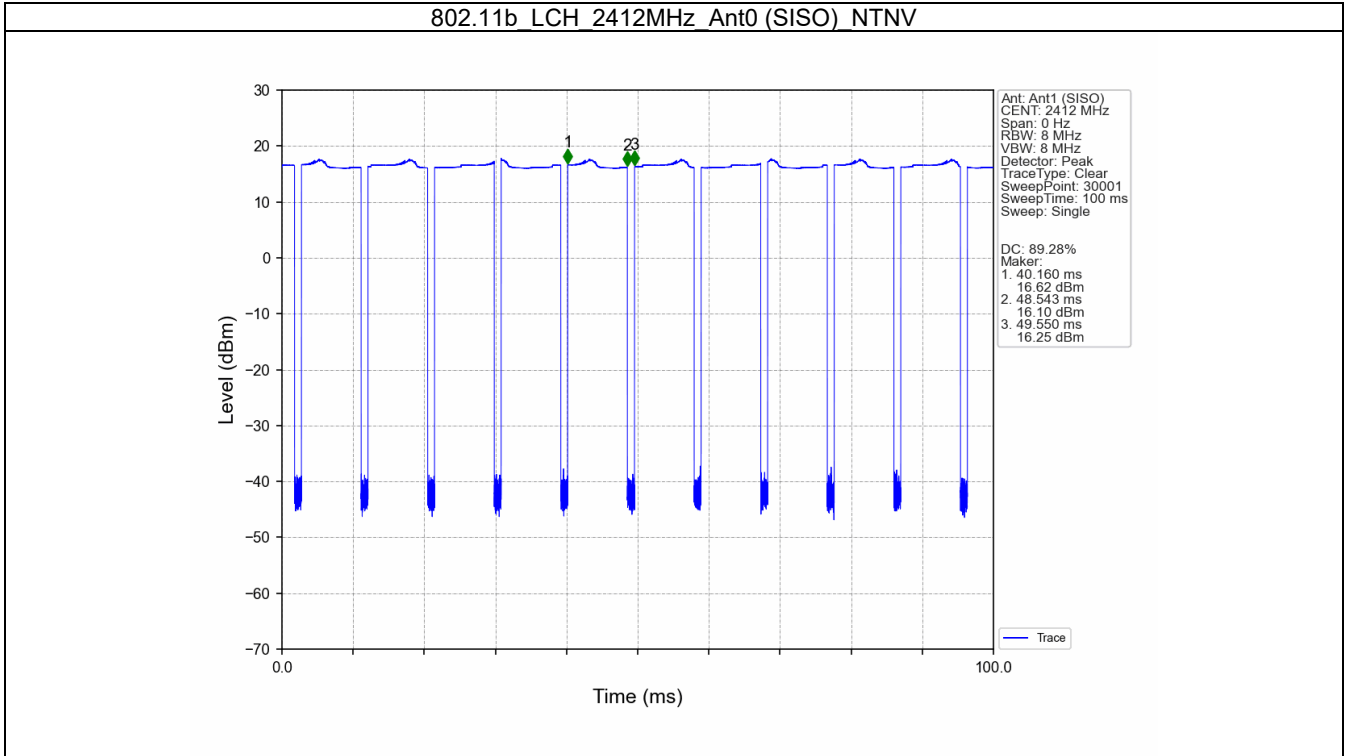
| Ant0             |         |                 |       |        |           |             |                |                                   |                       |
|------------------|---------|-----------------|-------|--------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode             | TX Type | Frequency (MHz) | RU    | RU Pos | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| 802.11b          | SISO    | 2412            | /     | /      | 8.383     | 9.390       | 89.28          | 0.49                              | 0.35                  |
|                  |         | 2437            | /     | /      | 8.384     | 9.390       | 89.29          | 0.49                              | 0.35                  |
|                  |         | 2462            | /     | /      | 8.387     | 9.367       | 89.54          | 0.48                              | 0.10                  |
| 802.11g          | SISO    | 2412            | /     | /      | 1.392     | 2.362       | 58.93          | 2.30                              | 1.40                  |
|                  |         | 2437            | /     | /      | 1.392     | 2.362       | 58.93          | 2.30                              | 0.03                  |
|                  |         | 2462            | /     | /      | 1.393     | 2.408       | 57.85          | 2.38                              | 1.10                  |
| 802.11n (HT20)   | MIMO    | 2412            | /     | /      | 1.289     | 2.268       | 56.83          | 2.45                              | 0.22                  |
|                  |         | 2437            | /     | /      | 1.289     | 2.304       | 55.95          | 2.52                              | 2.52                  |
|                  |         | 2462            | /     | /      | 1.288     | 2.268       | 56.79          | 2.46                              | 0.28                  |
| 802.11n (HT40)   | MIMO    | 2422            | /     | /      | 0.633     | 1.603       | 39.49          | 4.04                              | 0.03                  |
|                  |         | 2437            | /     | /      | 0.633     | 1.603       | 39.49          | 4.04                              | 0.03                  |
|                  |         | 2452            | /     | /      | 0.633     | 1.612       | 39.27          | 4.06                              | 17.84                 |
| 802.11ax (HEW20) | MIMO    | 2412            | RU242 | Left   | 1.015     | 1.993       | 50.93          | 2.93                              | 0.27                  |
|                  |         | 2437            | RU242 | Left   | 1.014     | 1.984       | 51.11          | 2.92                              | 0.00                  |
|                  |         | 2462            | RU242 | Left   | 1.014     | 2.029       | 49.98          | 3.01                              | 1.16                  |
| 802.11ax (HEW40) | MIMO    | 2422            | RU484 | Left   | 0.534     | 1.522       | 35.09          | 4.55                              | 13.12                 |
|                  |         | 2437            | RU484 | Left   | 0.534     | 1.513       | 35.29          | 4.52                              | 13.31                 |
|                  |         | 2452            | RU484 | Left   | 0.534     | 1.512       | 35.32          | 4.52                              | 0.24                  |

### 1.1.2 Ant1

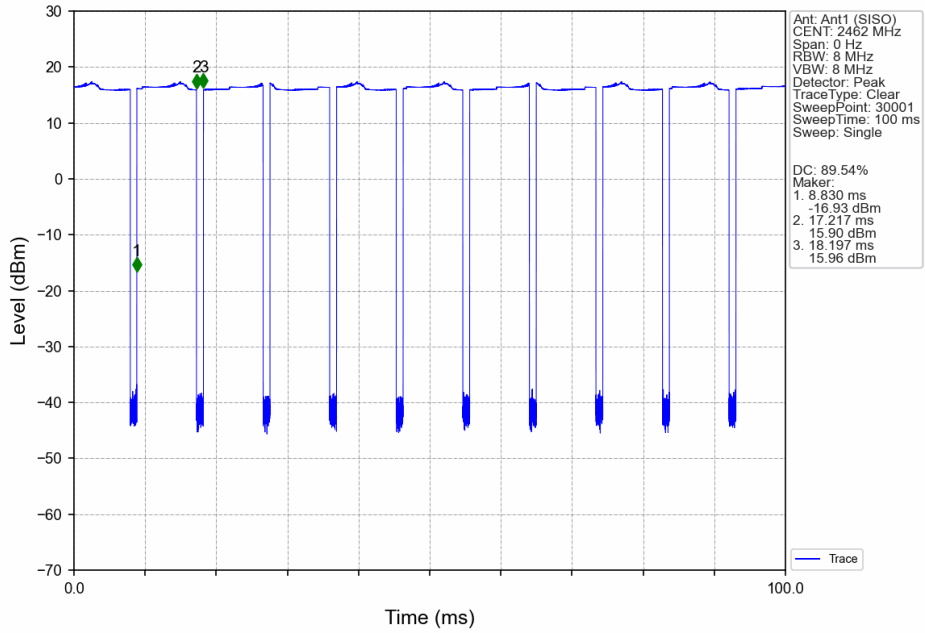
| Ant1             |         |                 |       |        |           |             |                |                                   |                       |
|------------------|---------|-----------------|-------|--------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode             | TX Type | Frequency (MHz) | RU    | RU Pos | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| 802.11b          | SISO    | 2412            | /     | /      | 8.387     | 9.400       | 89.22          | 0.50                              | 0.41                  |
|                  |         | 2437            | /     | /      | 8.383     | 9.363       | 89.53          | 0.48                              | 1.29                  |
|                  |         | 2462            | /     | /      | 8.383     | 9.356       | 89.60          | 0.48                              | 0.61                  |
| 802.11g          | SISO    | 2412            | /     | /      | 1.392     | 2.362       | 58.93          | 2.30                              | 1.40                  |
|                  |         | 2437            | /     | /      | 1.392     | 2.362       | 58.93          | 2.30                              | 0.01                  |
|                  |         | 2462            | /     | /      | 1.392     | 2.381       | 58.46          | 2.33                              | 0.46                  |
| 802.11n (HT20)   | MIMO    | 2412            | /     | /      | 1.289     | 2.268       | 56.83          | 2.45                              | 0.22                  |
|                  |         | 2437            | /     | /      | 1.288     | 2.259       | 57.02          | 2.44                              | 0.02                  |
|                  |         | 2462            | /     | /      | 1.289     | 2.295       | 56.17          | 2.51                              | 0.90                  |
| 802.11n (HT40)   | MIMO    | 2422            | /     | /      | 0.633     | 1.612       | 39.27          | 4.06                              | 0.22                  |
|                  |         | 2437            | /     | /      | 0.633     | 1.613       | 39.24          | 4.06                              | 0.27                  |
|                  |         | 2452            | /     | /      | 0.632     | 1.603       | 39.43          | 4.04                              | 17.65                 |
| 802.11ax (HEW20) | MIMO    | 2412            | RU242 | Left   | 1.015     | 2.030       | 50.00          | 3.01                              | 1.14                  |
|                  |         | 2437            | RU242 | Left   | 1.014     | 1.993       | 50.88          | 2.93                              | 0.26                  |
|                  |         | 2462            | RU242 | Left   | 1.015     | 1.994       | 50.90          | 2.93                              | 0.24                  |
| 802.11ax (HEW40) | MIMO    | 2422            | RU484 | Left   | 0.534     | 1.503       | 35.53          | 4.49                              | 0.02                  |
|                  |         | 2437            | RU484 | Left   | 0.534     | 1.504       | 35.51          | 4.50                              | 0.02                  |
|                  |         | 2452            | RU484 | Left   | 0.534     | 1.513       | 35.29          | 4.52                              | 0.24                  |

## 1.2 Test Graph

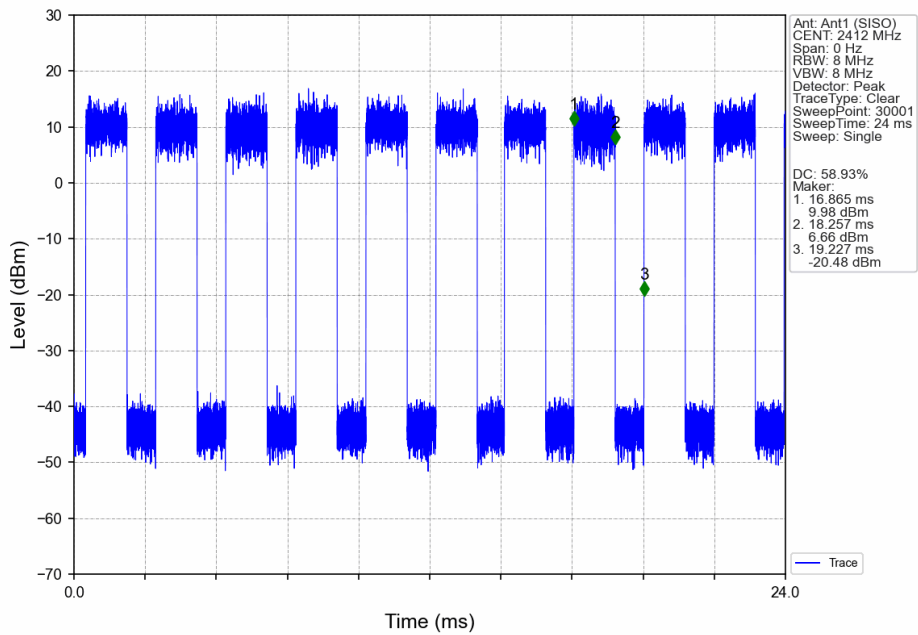
### 1.2.1 Ant0



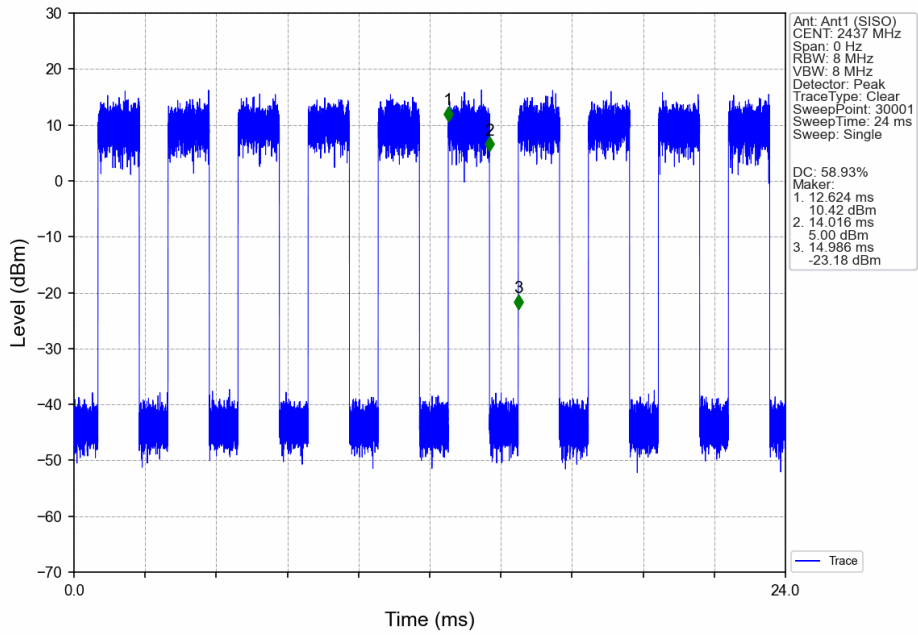
802.11b HCH 2462MHz Ant0 (SISO) NTN



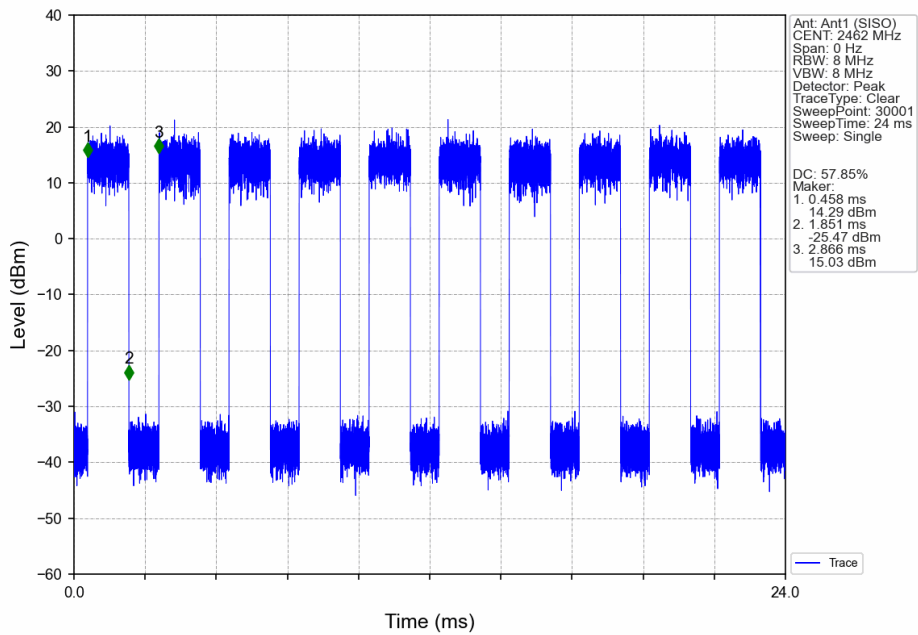
802.11g LCH 2412MHz Ant0 (SISO) NTN



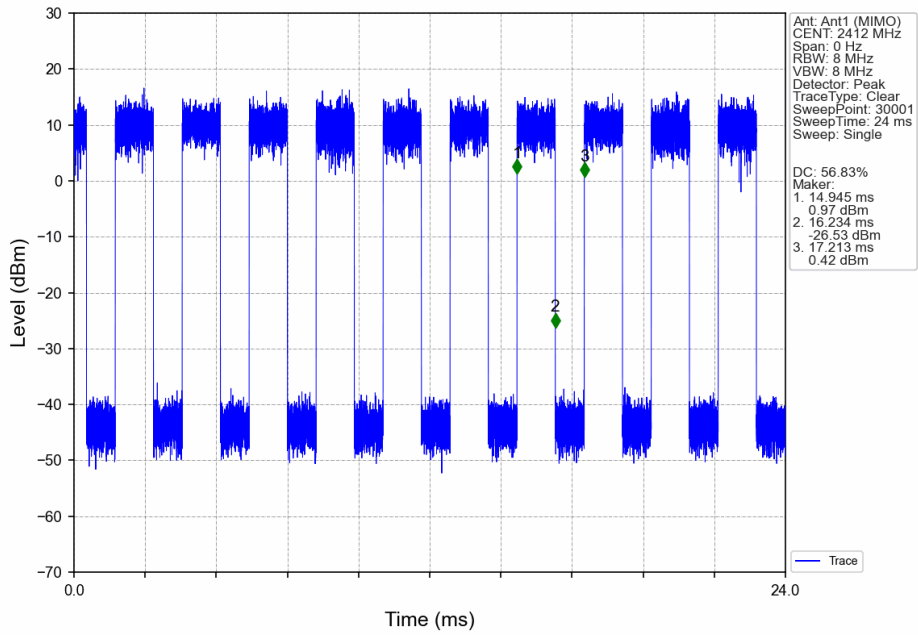
802.11g MCH 2437MHz Ant0 (SISO) NTN



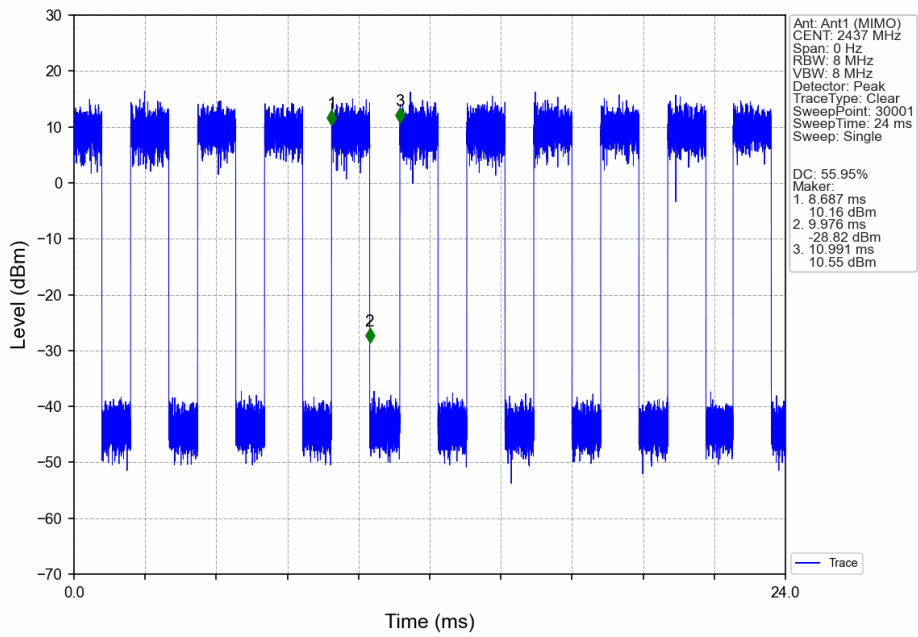
802.11g HCH 2462MHz Ant0 (SISO) NTN



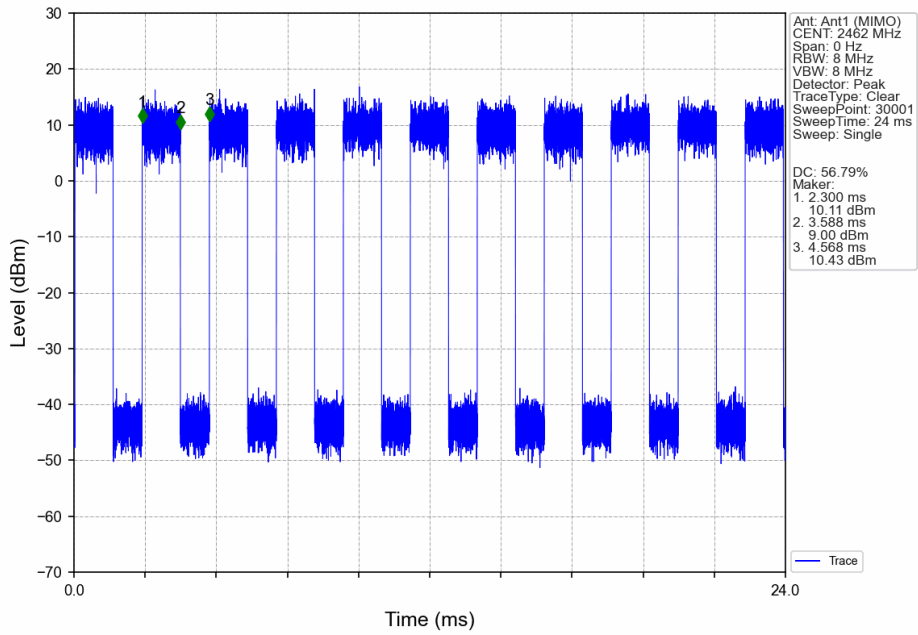
802.11n(HT20) LCH 2412MHz Ant0 (MIMO) NTVN



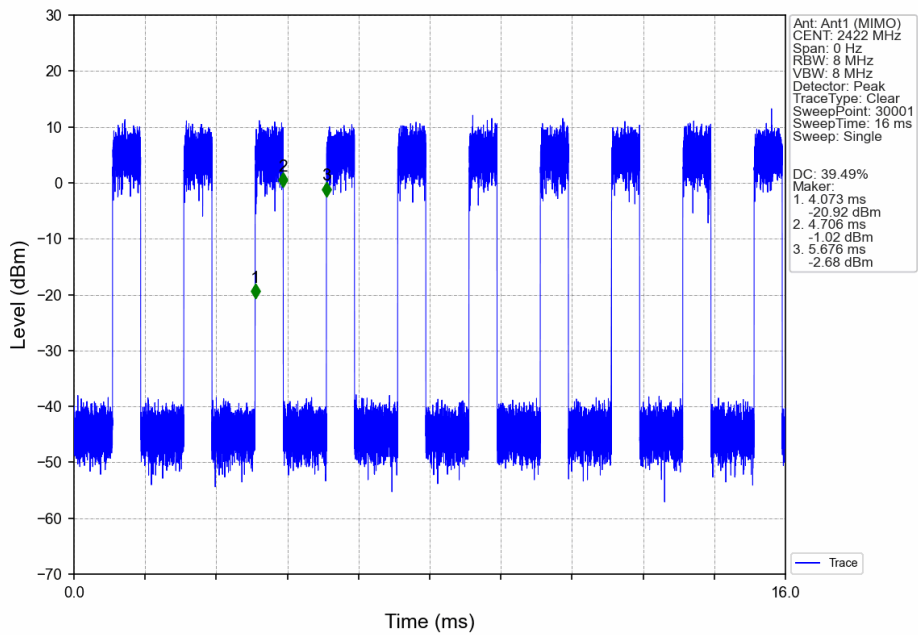
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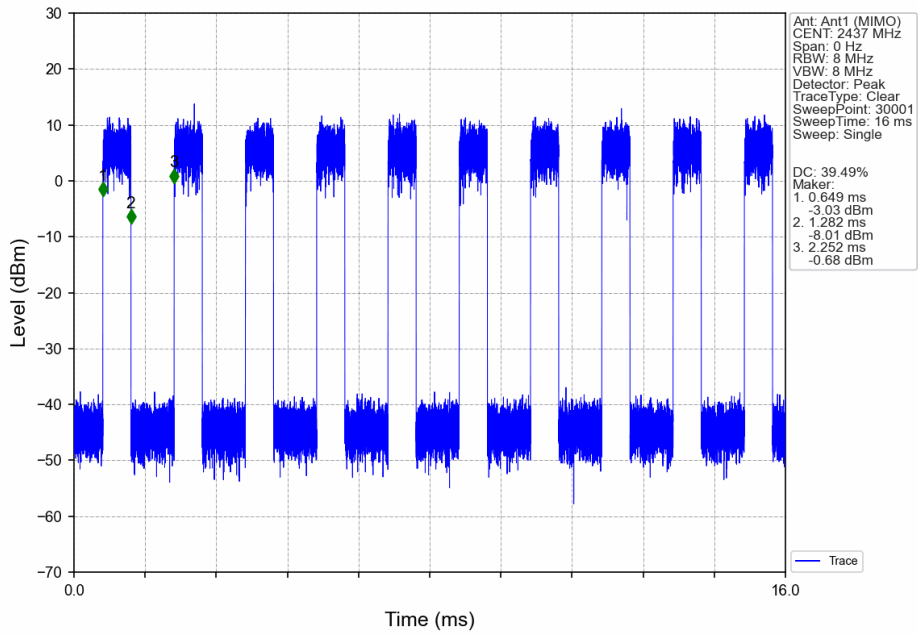
802.11n(HT20) HCH 2462MHz Ant0 (MIMO) NTVN



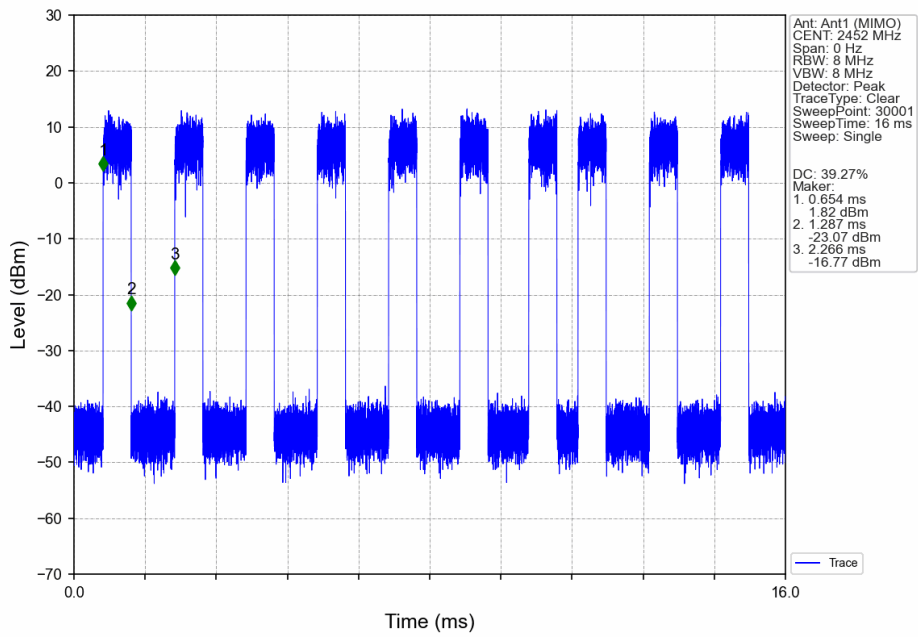
802.11n(HT40) LCH 2422MHz Ant0 (MIMO) NTVN



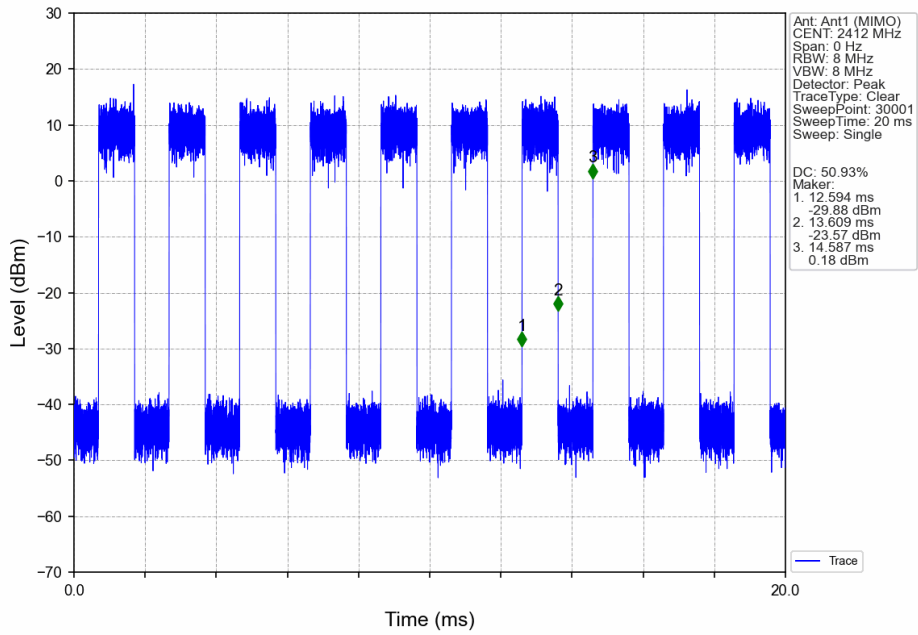
802.11n(HT40) MCH 2437MHz Ant0 (MIMO) NTN



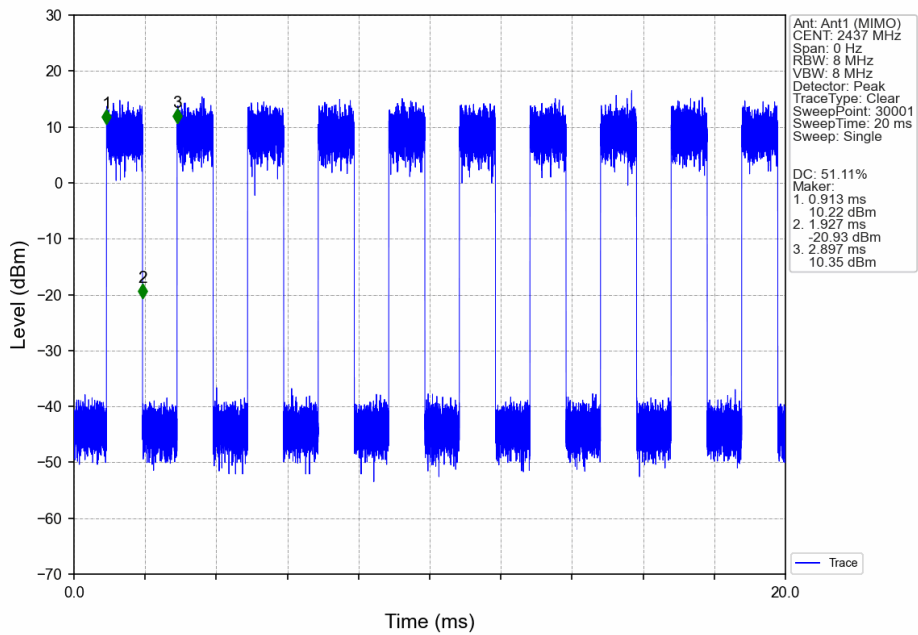
802.11n(HT40) HCH 2452MHz Ant0 (MIMO) NTN



802.11ax(HEW20) LCH 2412MHz RU242 Left Ant0 (MIMO) NTV

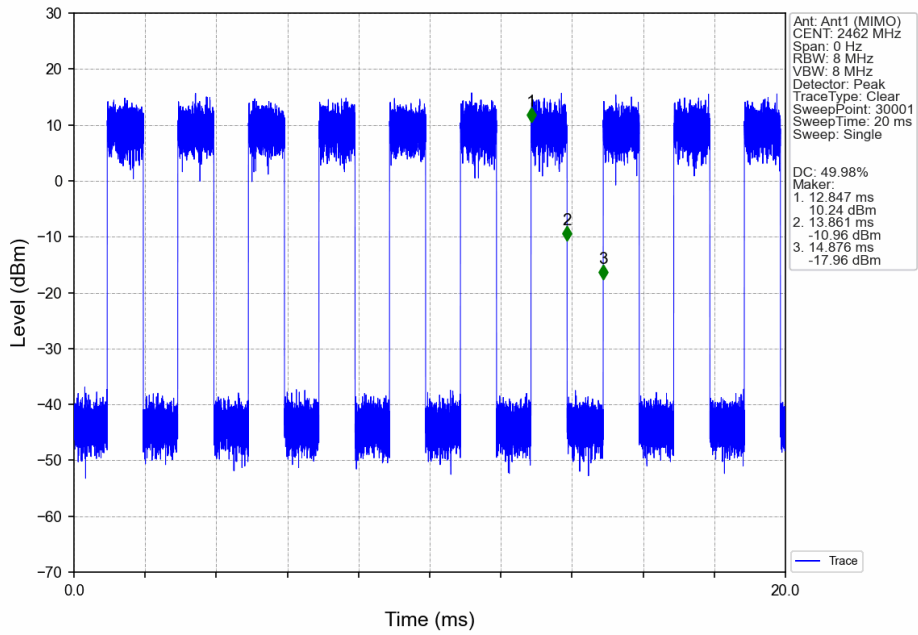


802.11ax(HEW20) MCH 2437MHz RU242 Left Ant0 (MIMO) NTV

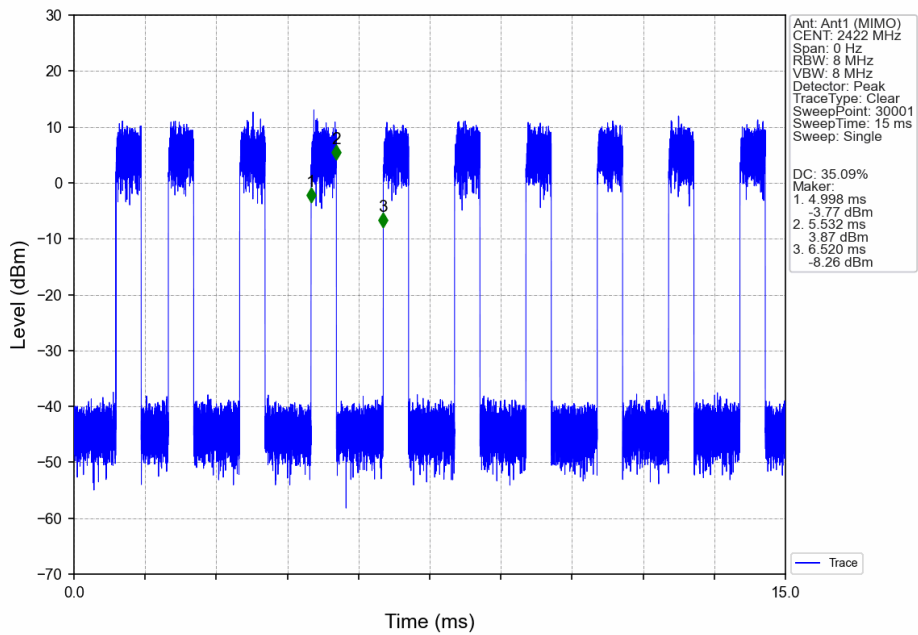




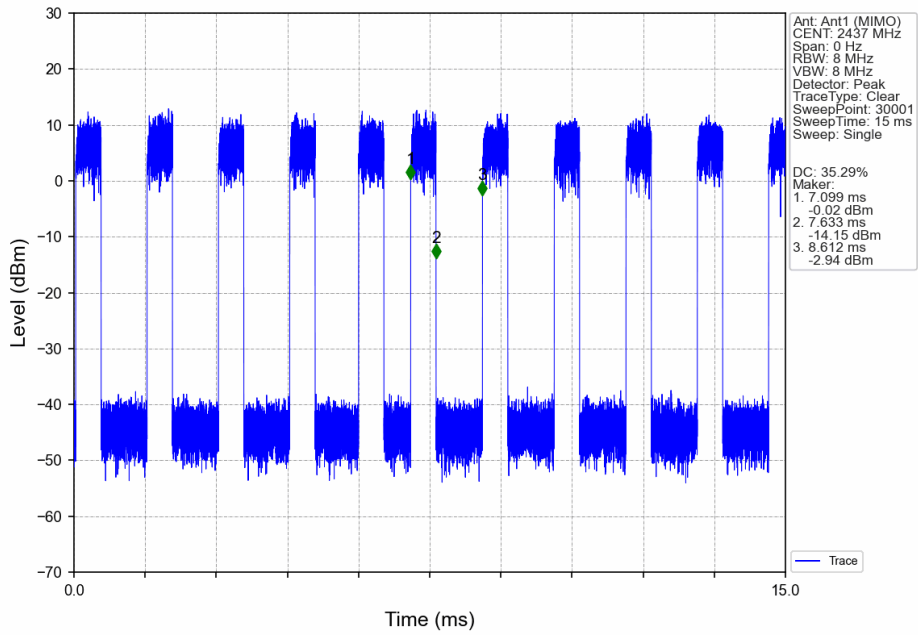
802.11ax(HEW20) HCH 2462MHz RU242 Left Ant0 (MIMO) NTN



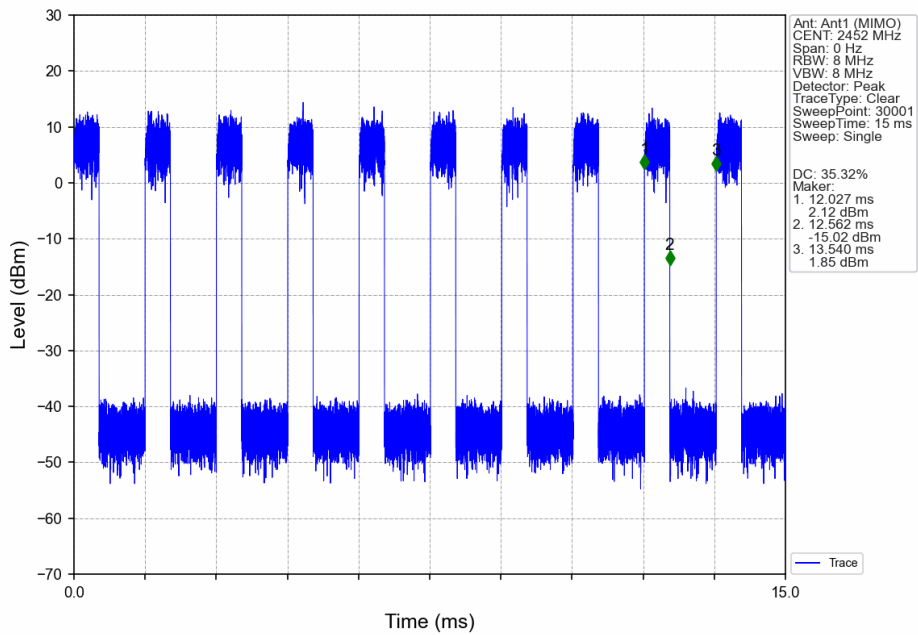
802.11ax(HEW40) LCH 2422MHz RU484 Left Ant0 (MIMO) NTN



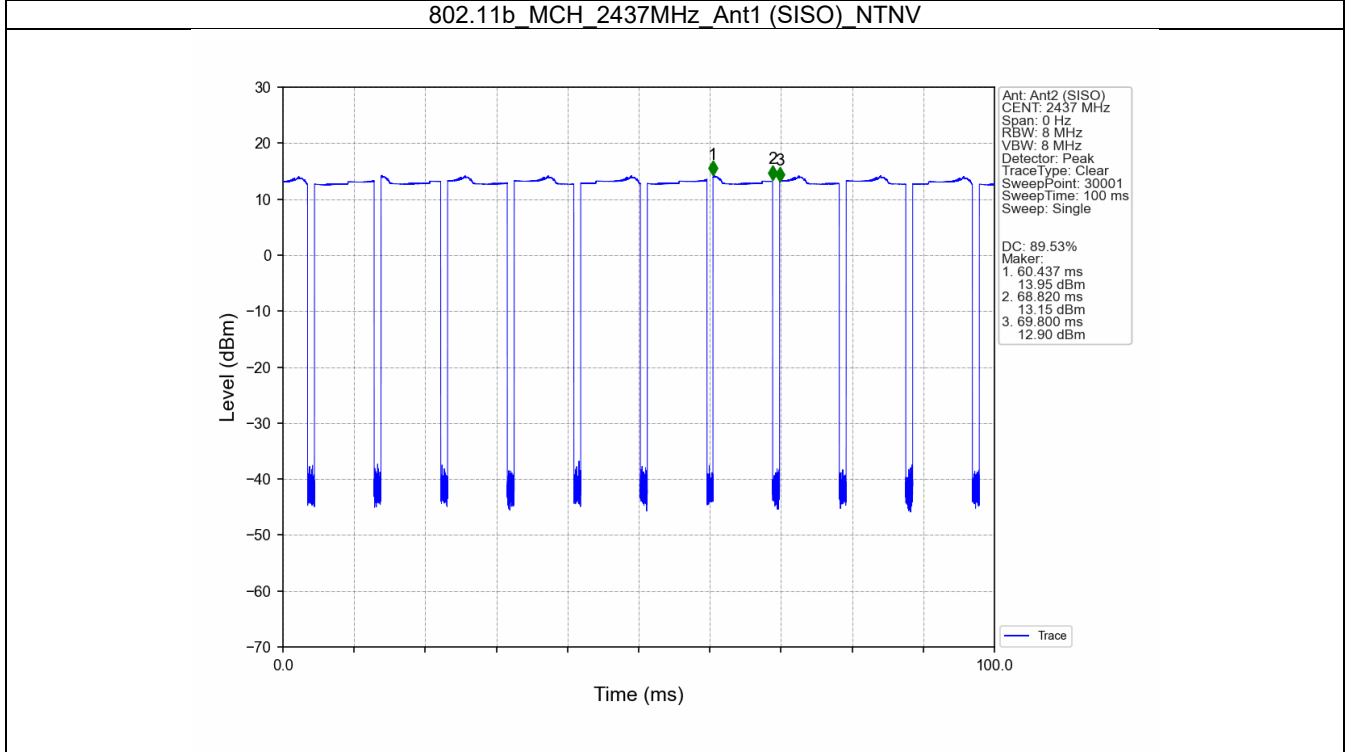
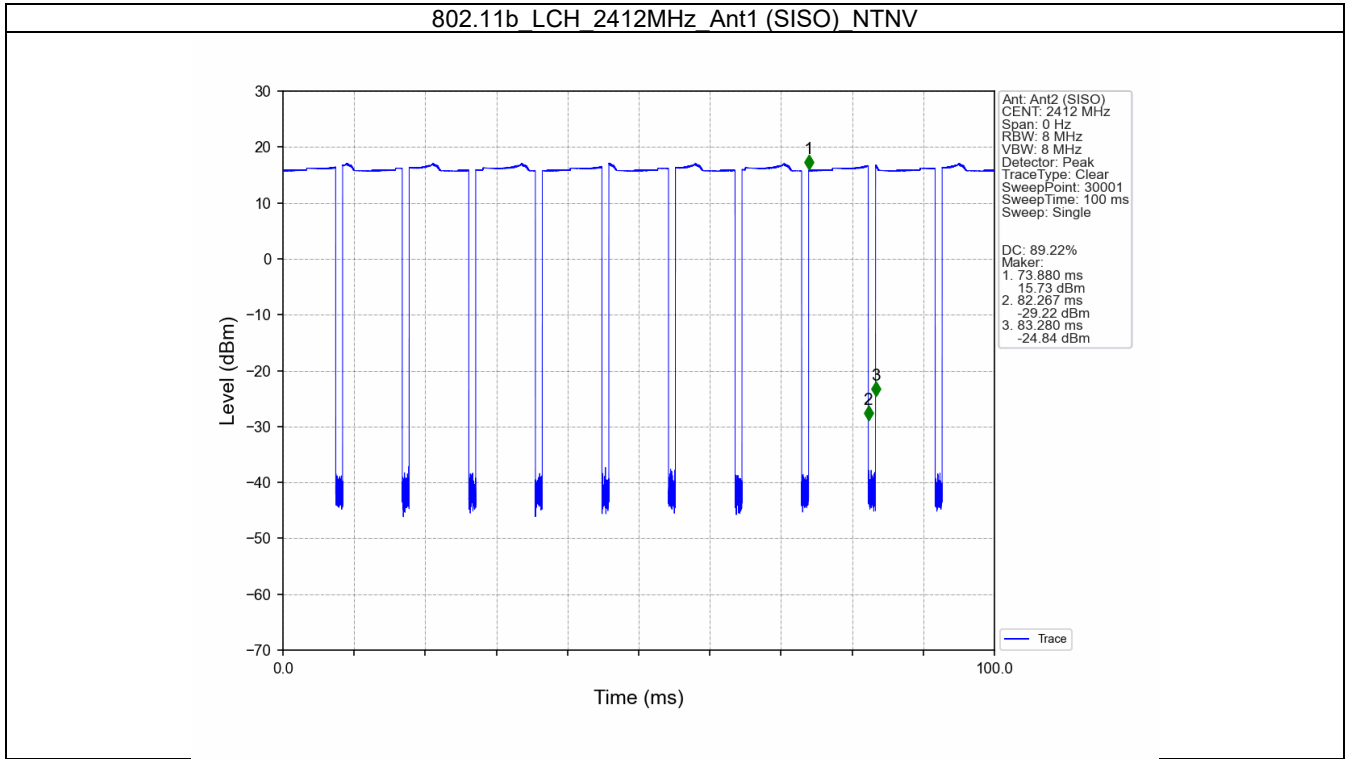
802.11ax(HEW40) MCH 2437MHz RU484 Left Ant0 (MIMO) NTV



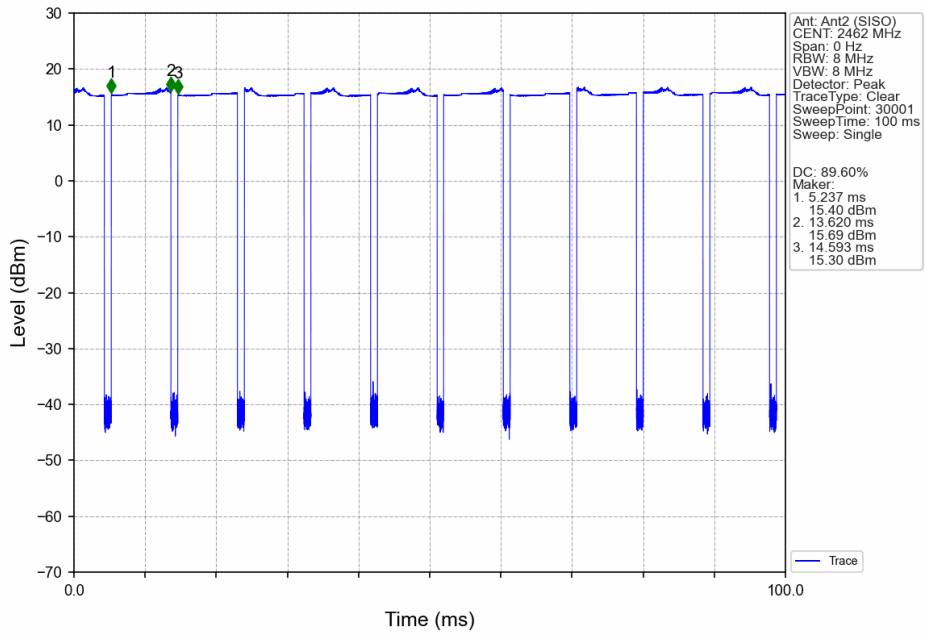
802.11ax(HEW40) HCH 2452MHz RU484 Left Ant0 (MIMO) NTV



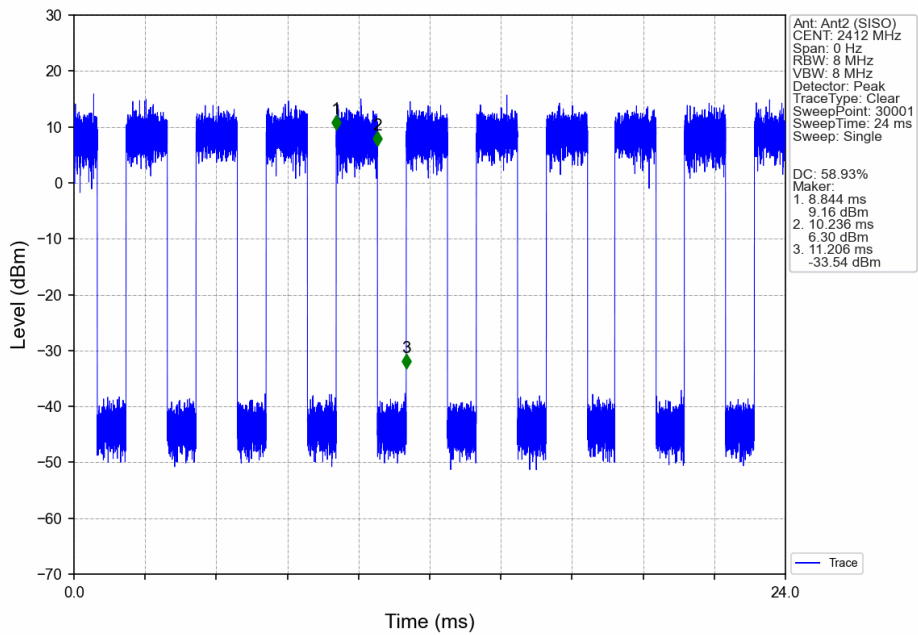
### 1.2.2 Ant1



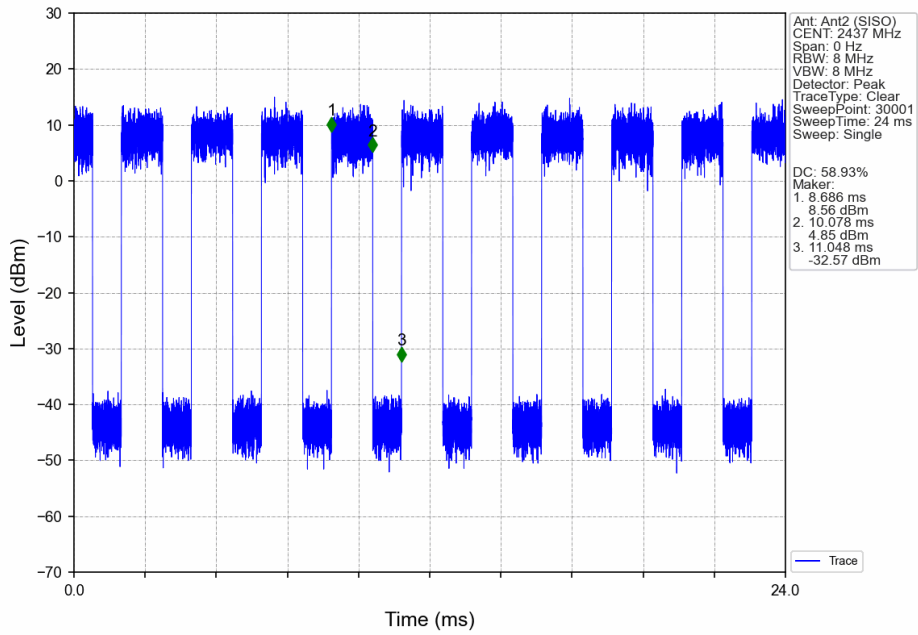
802.11b HCH 2462MHz Ant1 (SISO) NTN



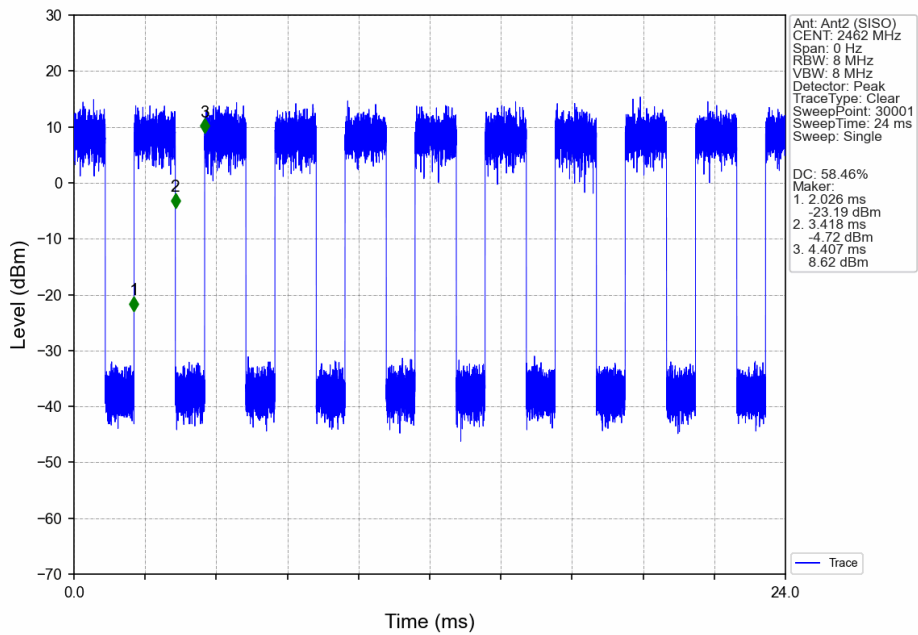
802.11g LCH 2412MHz Ant1 (SISO) NTN



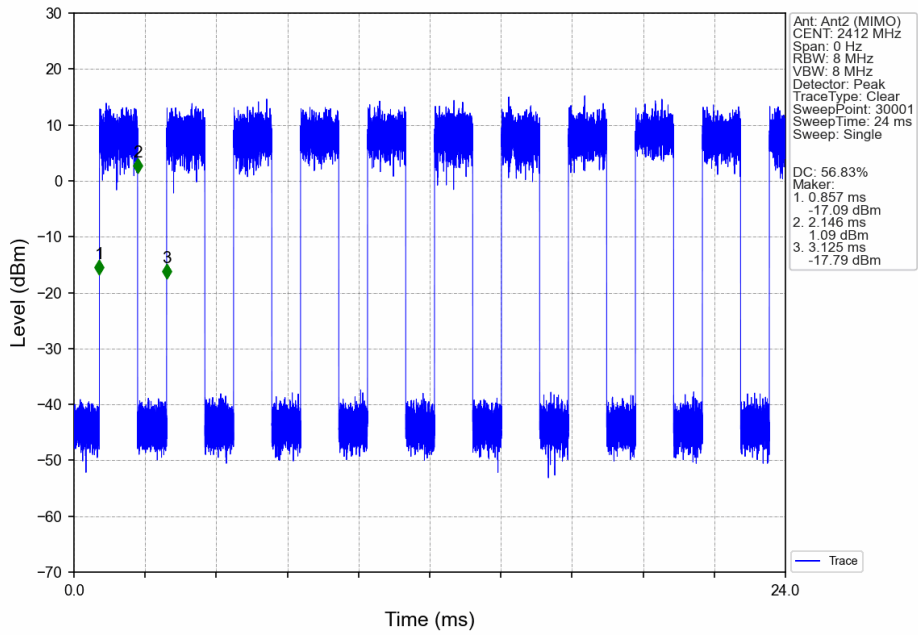
802.11g MCH 2437MHz Ant1 (SISO) NTN



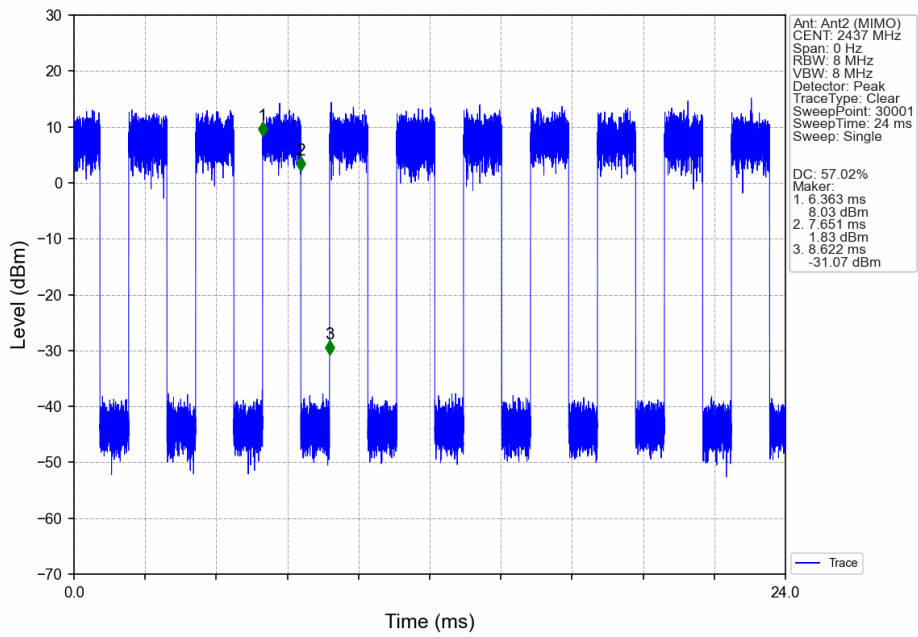
802.11g HCH 2462MHz Ant1 (SISO) NTN



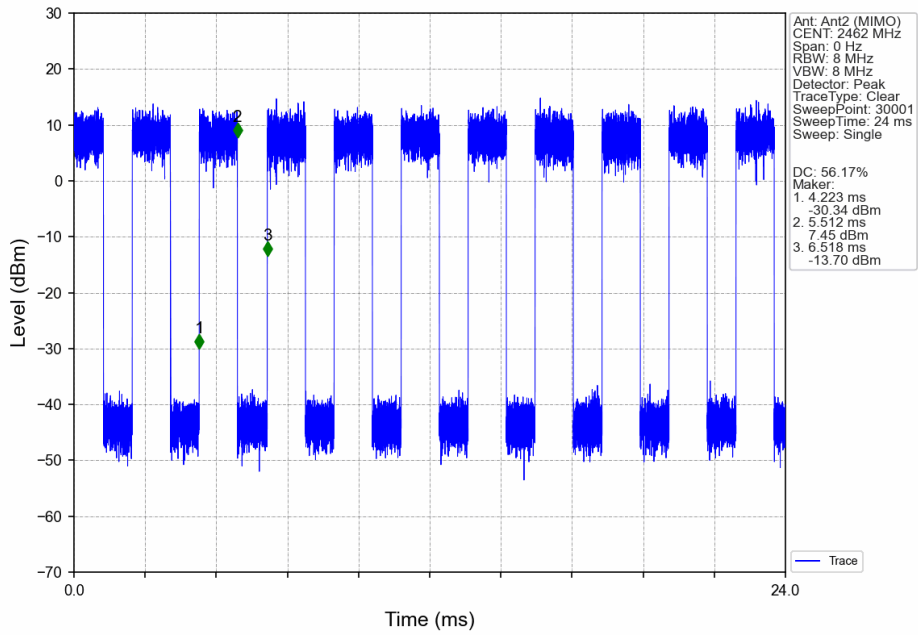
802.11n(HT20) LCH 2412MHz Ant1 (MIMO) NTVN



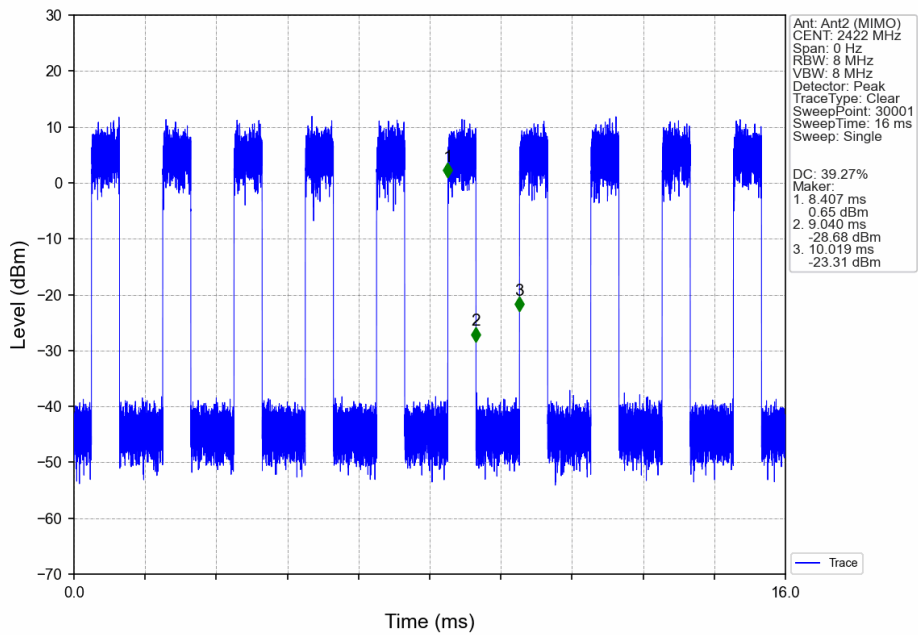
802.11n(HT20) MCH 2437MHz Ant1 (MIMO) NTVN



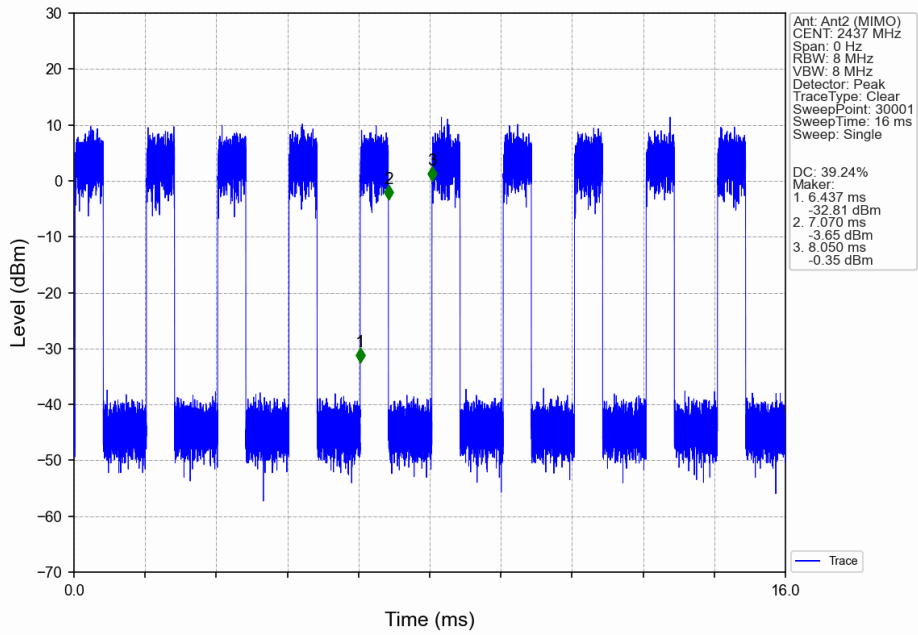
802.11n(HT20) HCH 2462MHz Ant1 (MIMO) NTVN



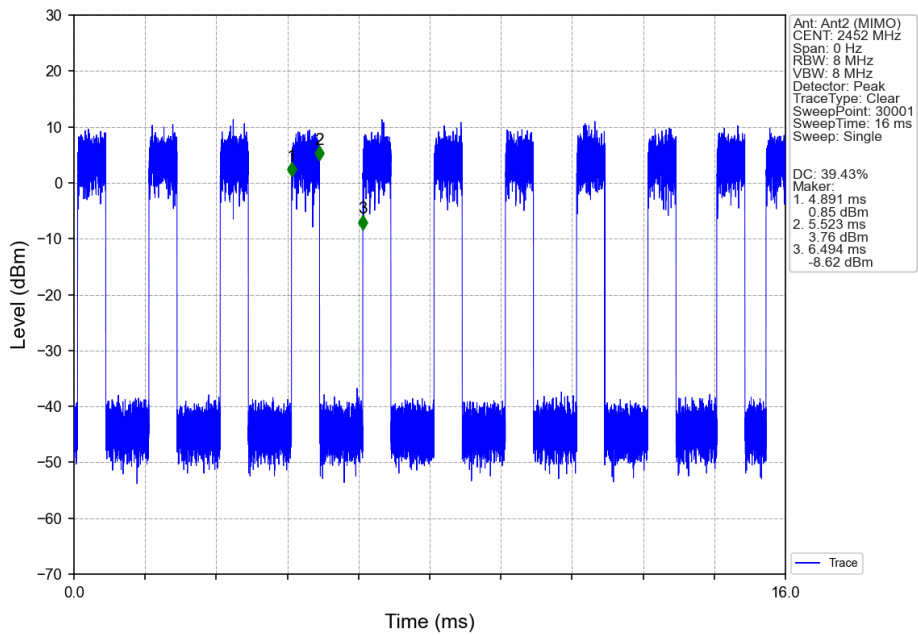
802.11n(HT40) LCH 2422MHz Ant1 (MIMO) NTVN



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

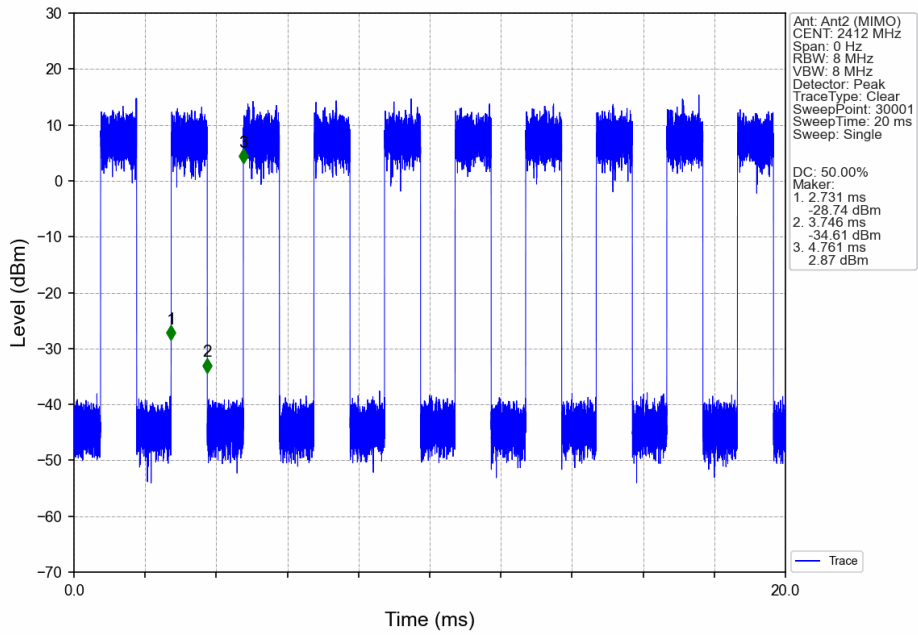


802.11n(HT40) HCH 2452MHz Ant1 (MIMO) NTN

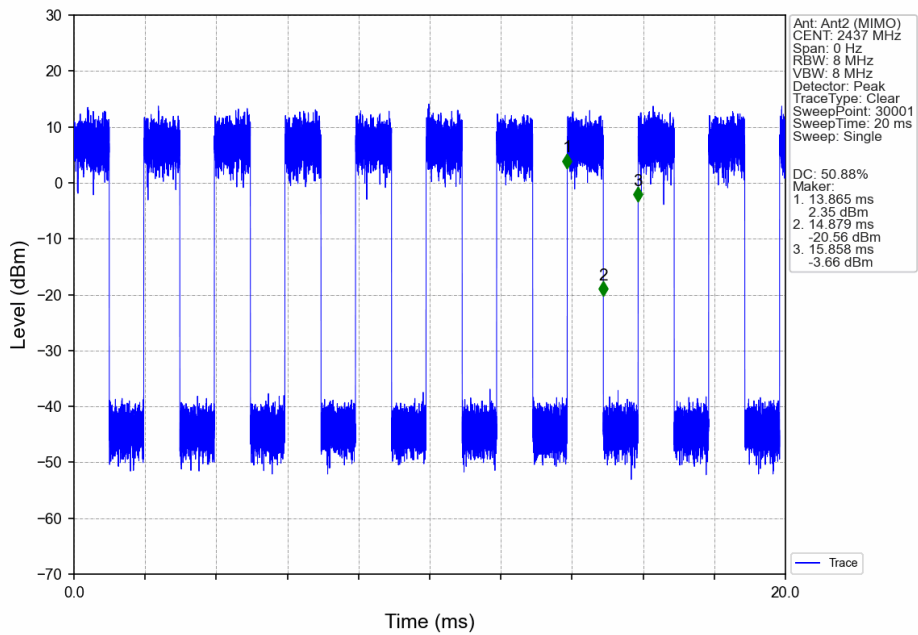




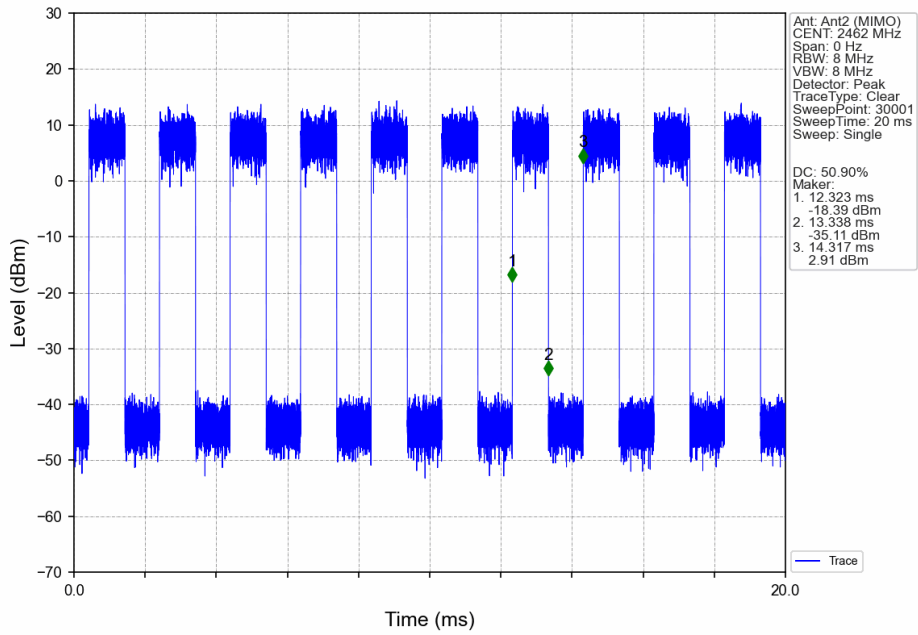
802.11ax(HEW20) LCH 2412MHz RU242 Left Ant1 (MIMO) NTV



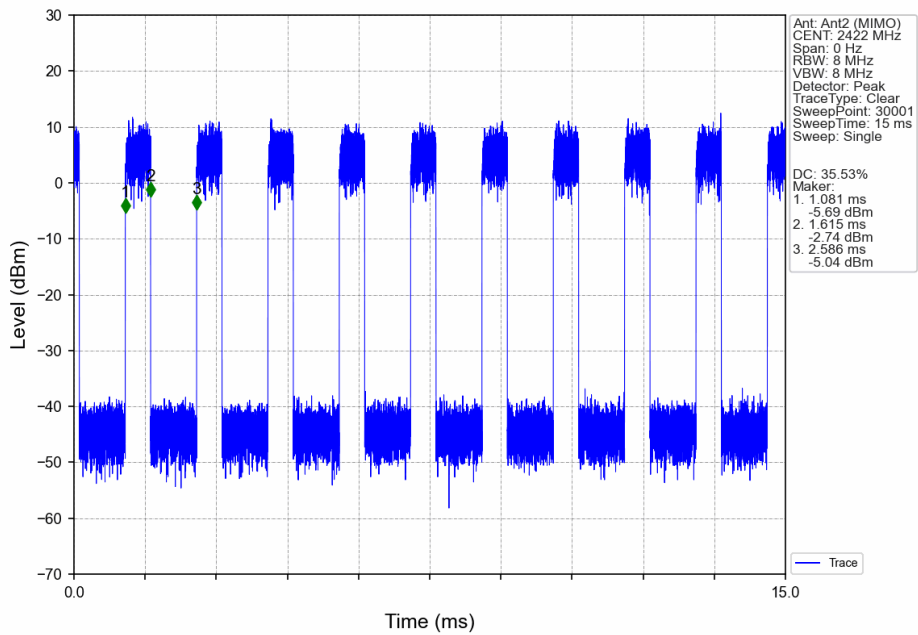
802.11ax(HEW20) MCH 2437MHz RU242 Left Ant1 (MIMO) NTV



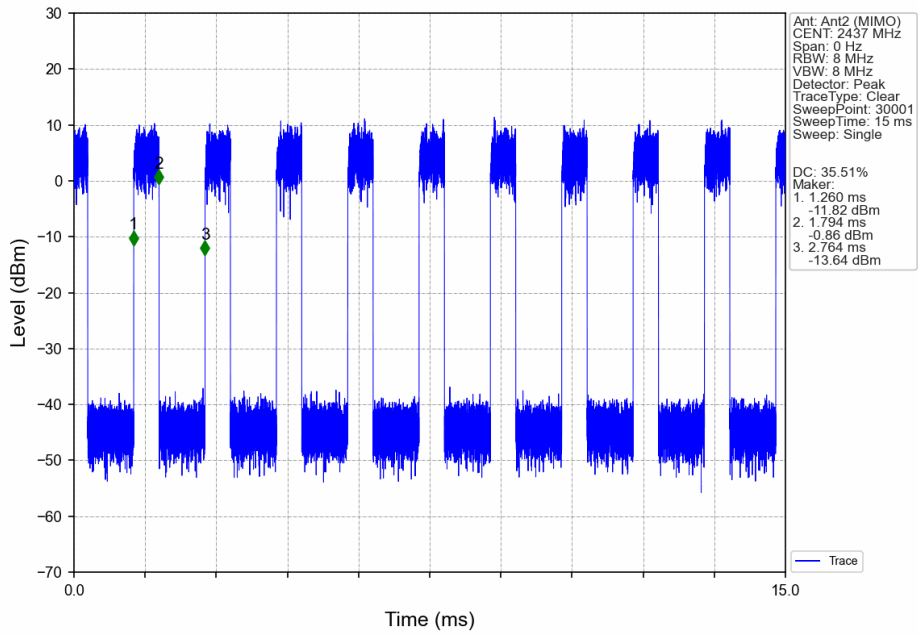
802.11ax(HEW20) HCH 2462MHz RU242 Left Ant1 (MIMO) NTN



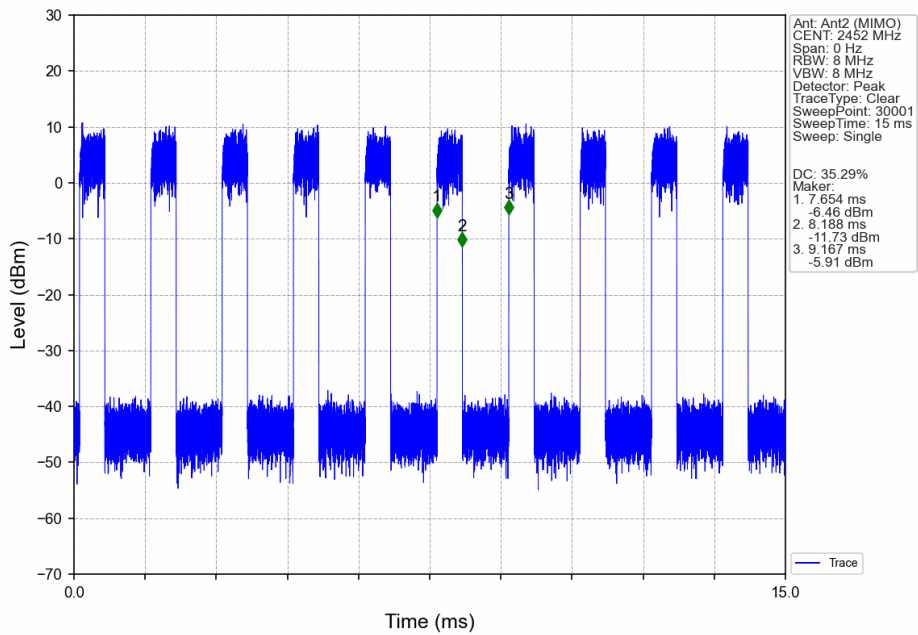
802.11ax(HEW40) LCH 2422MHz RU484 Left Ant1 (MIMO) NTN



802.11ax(HEW40) MCH 2437MHz RU484 Left Ant1 (MIMO) NTV



802.11ax(HEW40) HCH 2452MHz RU484 Left Ant1 (MIMO) NTV



## 2. Bandwidth

### 2.1 Test Result

#### 2.1.1 OBW

| Mode             | TX Type | Frequency (MHz) | RU    | RU Pos | ANT | 99% Occupied Bandwidth (MHz) |       | Verdict |
|------------------|---------|-----------------|-------|--------|-----|------------------------------|-------|---------|
|                  |         |                 |       |        |     | Result                       | Limit |         |
| 802.11b          | SISO    | 2412            | /     | /      | 0   | 12.869                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 12.638                       | /     | Pass    |
|                  |         | 2437            | /     | /      | 0   | 12.866                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 12.948                       | /     | Pass    |
|                  |         | 2462            | /     | /      | 0   | 13.146                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 12.472                       | /     | Pass    |
| 802.11g          | SISO    | 2412            | /     | /      | 0   | 18.152                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 17.539                       | /     | Pass    |
|                  |         | 2437            | /     | /      | 0   | 17.789                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 17.859                       | /     | Pass    |
|                  |         | 2462            | /     | /      | 0   | 18.408                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 17.304                       | /     | Pass    |
| 802.11n (HT20)   | MIMO    | 2412            | /     | /      | 0   | 18.768                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 18.037                       | /     | Pass    |
|                  |         | 2437            | /     | /      | 0   | 18.614                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 21.880                       | /     | Pass    |
|                  |         | 2462            | /     | /      | 0   | 18.925                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 17.846                       | /     | Pass    |
| 802.11n (HT40)   | MIMO    | 2422            | /     | /      | 0   | 37.406                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 36.499                       | /     | Pass    |
|                  |         | 2437            | /     | /      | 0   | 37.520                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 37.162                       | /     | Pass    |
|                  |         | 2452            | /     | /      | 0   | 37.007                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 36.801                       | /     | Pass    |
| 802.11ax (HEW20) | MIMO    | 2412            | RU242 | Left   | 0   | 19.085                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 18.946                       | /     | Pass    |
|                  |         | 2437            | RU242 | Left   | 0   | 19.064                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 19.100                       | /     | Pass    |
|                  |         | 2462            | RU242 | Left   | 0   | 19.180                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 18.837                       | /     | Pass    |
| 802.11ax (HEW40) | MIMO    | 2422            | RU484 | Left   | 0   | 38.280                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 37.947                       | /     | Pass    |
|                  |         | 2437            | RU484 | Left   | 0   | 38.183                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 38.222                       | /     | Pass    |
|                  |         | 2452            | RU484 | Left   | 0   | 38.141                       | /     | Pass    |
|                  |         |                 |       |        | 1   | 37.950                       | /     | Pass    |

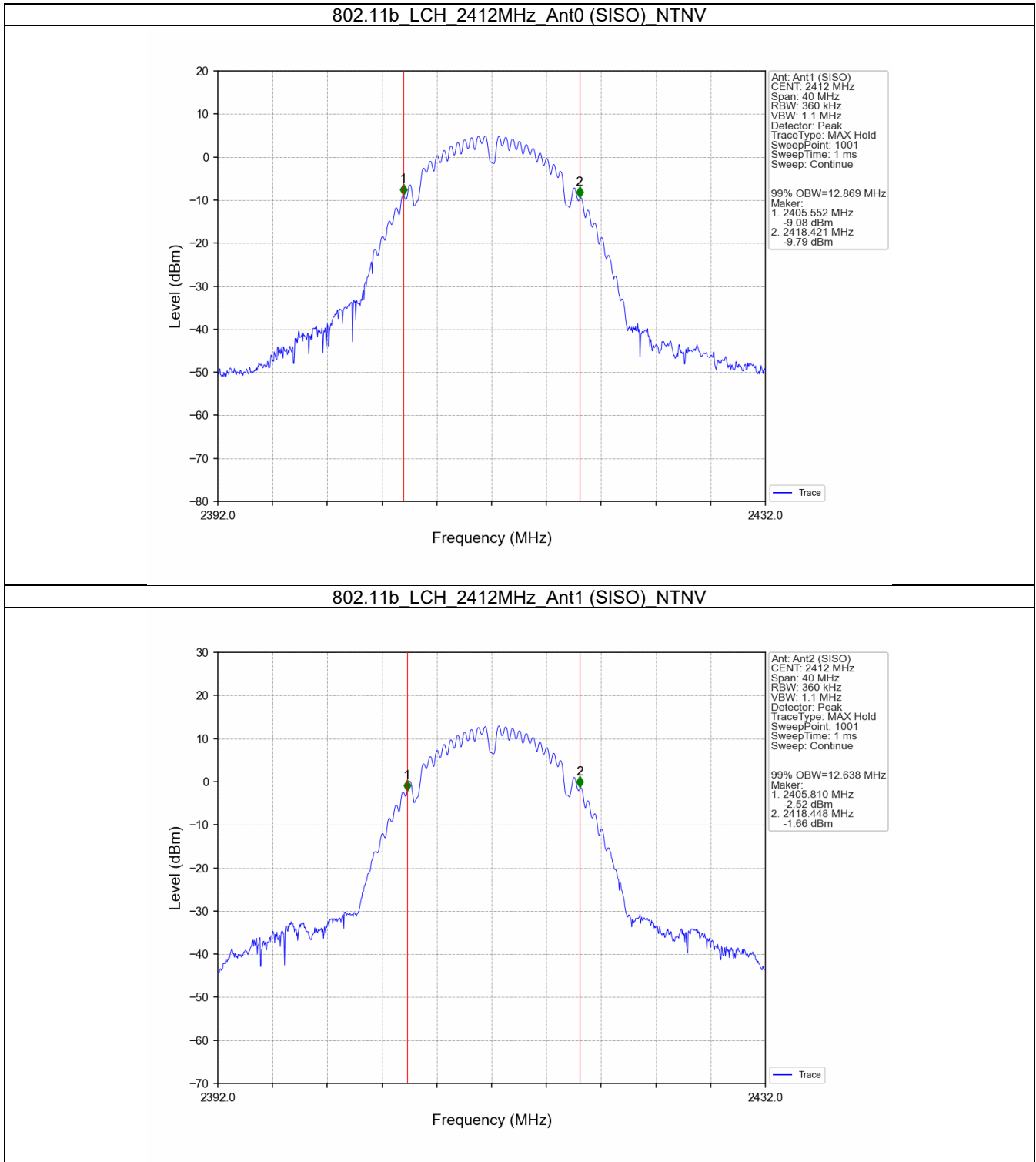
#### 2.1.2 6dB BW

| Mode    | TX Type | Frequency (MHz) | RU | RU Pos | ANT | 6dB Bandwidth (MHz) |       | Verdict |
|---------|---------|-----------------|----|--------|-----|---------------------|-------|---------|
|         |         |                 |    |        |     | Result              | Limit |         |
| 802.11b | SISO    | 2412            | /  | /      | 0   | 8.573               | >=0.5 | Pass    |
|         |         |                 |    |        | 1   | 8.088               | >=0.5 | Pass    |
|         |         | 2437            | /  | /      | 0   | 7.633               | >=0.5 | Pass    |
|         |         |                 |    |        | 1   | 8.110               | >=0.5 | Pass    |
|         |         | 2462            | /  | /      | 0   | 8.575               | >=0.5 | Pass    |
|         |         |                 |    |        | 1   | 8.575               | >=0.5 | Pass    |

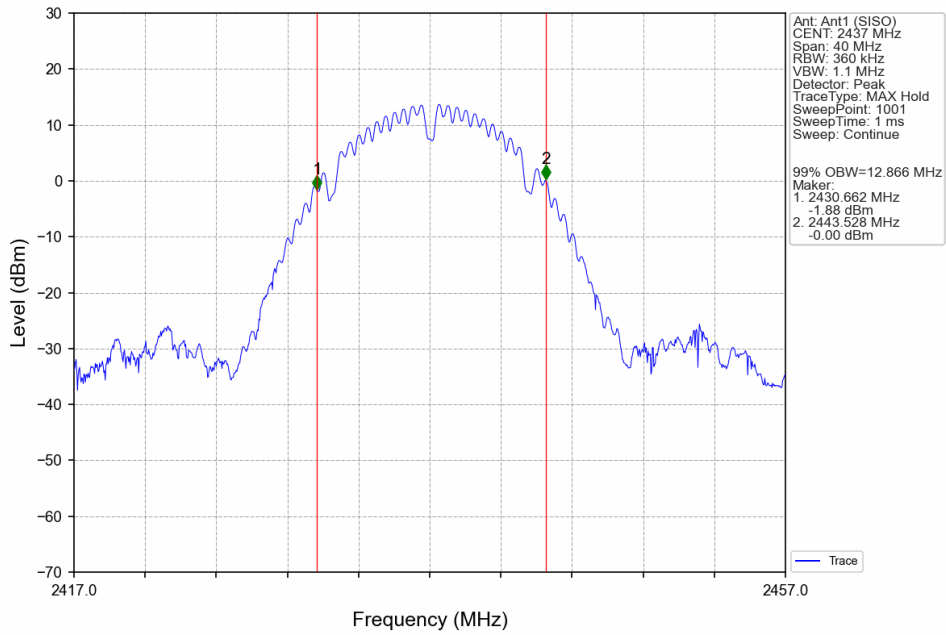
|                     |      |      |       |      |   |        |            |      |
|---------------------|------|------|-------|------|---|--------|------------|------|
|                     |      |      |       |      | 1 | 8.053  | $\geq 0.5$ | Pass |
| 802.11g             | SISO | 2412 | /     | /    | 0 | 15.154 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 15.127 | $\geq 0.5$ | Pass |
|                     |      | 2437 | /     | /    | 0 | 15.145 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 15.132 | $\geq 0.5$ | Pass |
|                     |      | 2462 | /     | /    | 0 | 15.147 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 15.132 | $\geq 0.5$ | Pass |
| 802.11n<br>(HT20)   | MIMO | 2412 | /     | /    | 0 | 15.154 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 15.683 | $\geq 0.5$ | Pass |
|                     |      | 2437 | /     | /    | 0 | 15.150 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 16.296 | $\geq 0.5$ | Pass |
|                     |      | 2462 | /     | /    | 0 | 15.156 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 15.126 | $\geq 0.5$ | Pass |
| 802.11n<br>(HT40)   | MIMO | 2422 | /     | /    | 0 | 35.162 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 35.115 | $\geq 0.5$ | Pass |
|                     |      | 2437 | /     | /    | 0 | 35.142 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 35.167 | $\geq 0.5$ | Pass |
|                     |      | 2452 | /     | /    | 0 | 35.105 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 35.091 | $\geq 0.5$ | Pass |
| 802.11ax<br>(HEW20) | MIMO | 2412 | RU242 | Left | 0 | 18.459 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 15.579 | $\geq 0.5$ | Pass |
|                     |      | 2437 | RU242 | Left | 0 | 18.200 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 18.368 | $\geq 0.5$ | Pass |
|                     |      | 2462 | RU242 | Left | 0 | 18.400 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 16.335 | $\geq 0.5$ | Pass |
| 802.11ax<br>(HEW40) | MIMO | 2422 | RU484 | Left | 0 | 37.532 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 35.163 | $\geq 0.5$ | Pass |
|                     |      | 2437 | RU484 | Left | 0 | 37.077 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 37.453 | $\geq 0.5$ | Pass |
|                     |      | 2452 | RU484 | Left | 0 | 36.141 | $\geq 0.5$ | Pass |
|                     |      |      |       |      | 1 | 35.153 | $\geq 0.5$ | Pass |

## 2.2 Test Graph

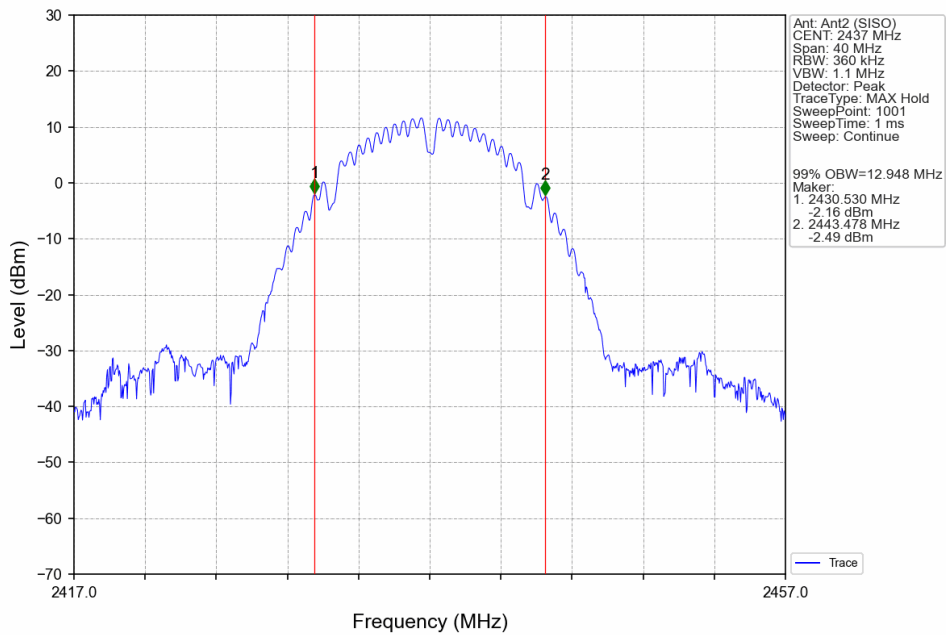
### 2.2.1 OBW



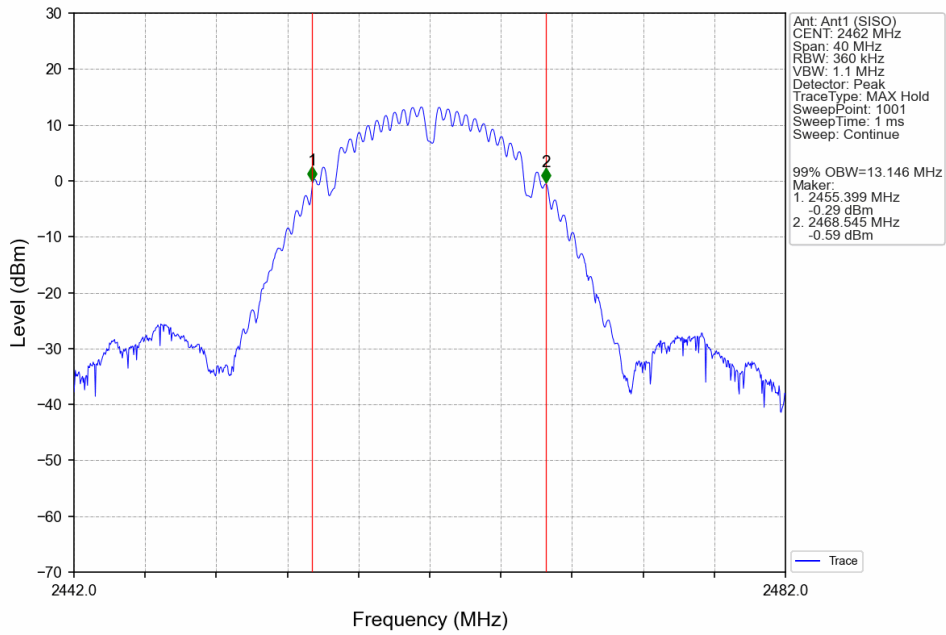
802.11b MCH 2437MHz Ant0 (SISO) NTN



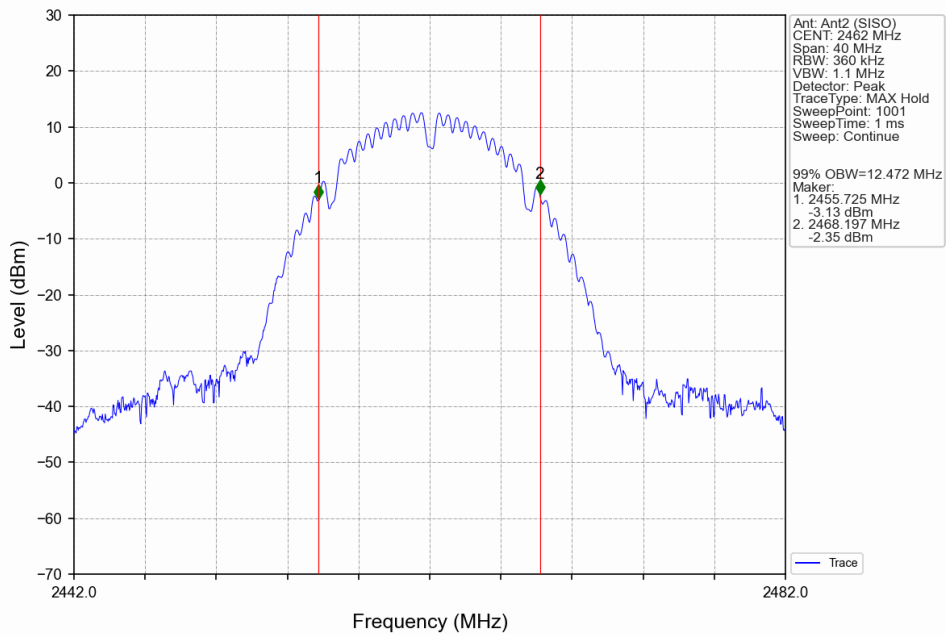
802.11b MCH 2437MHz Ant1 (SISO) NTN



802.11b HCH 2462MHz Ant0 (SISO) NTN

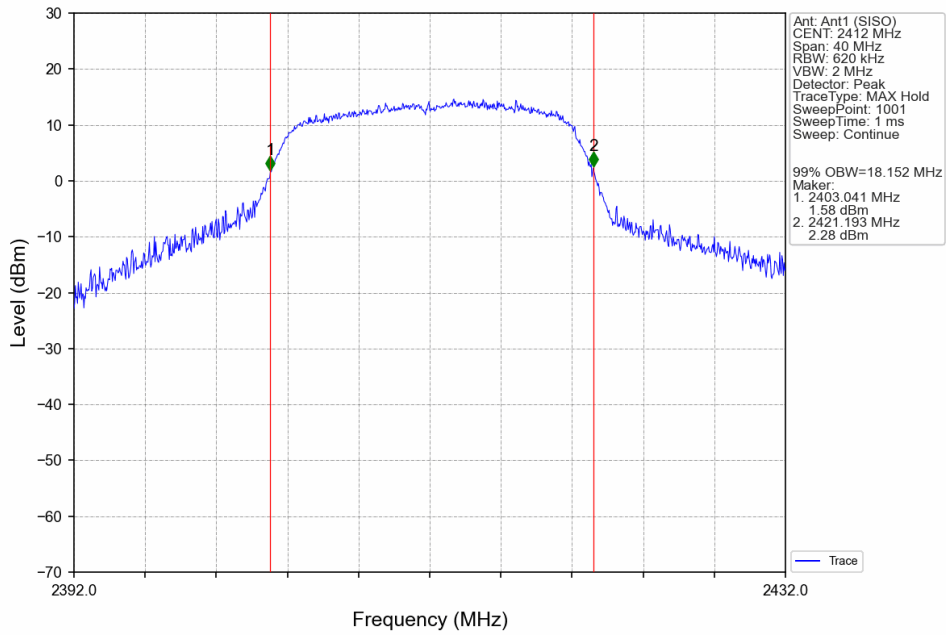


802.11b HCH 2462MHz Ant1 (SISO) NTN

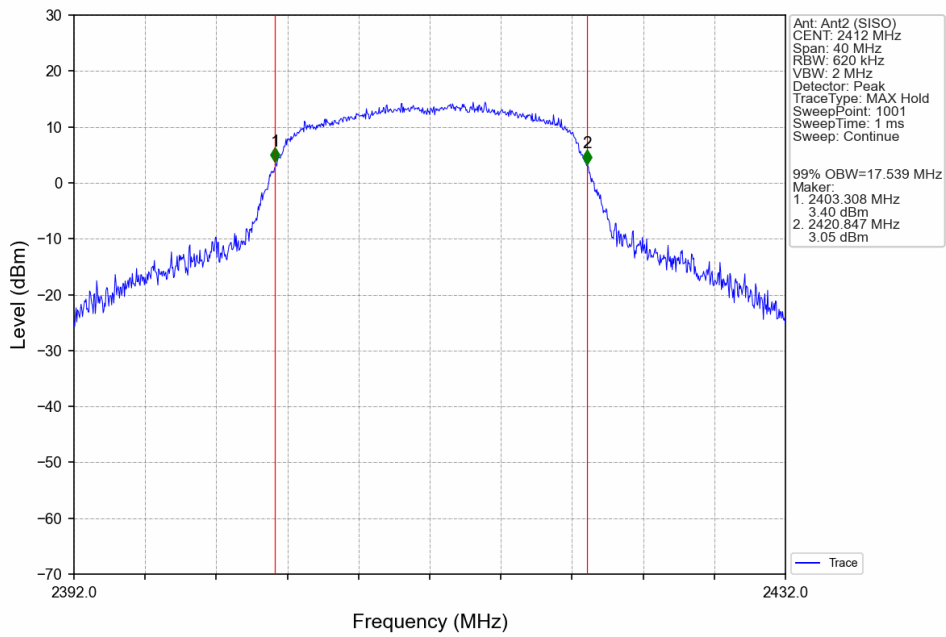




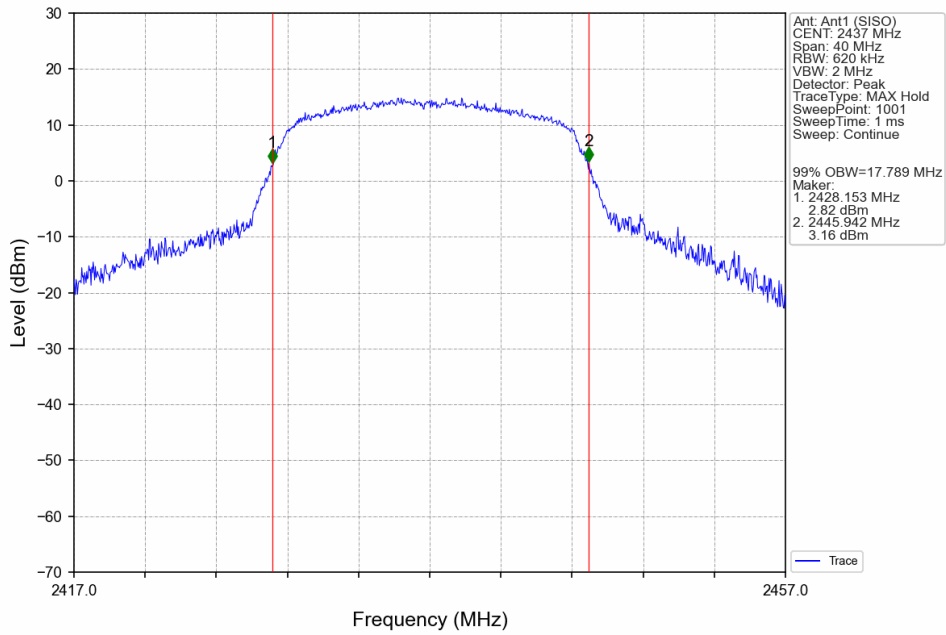
802.11g LCH 2412MHz Ant0 (SISO) NTN



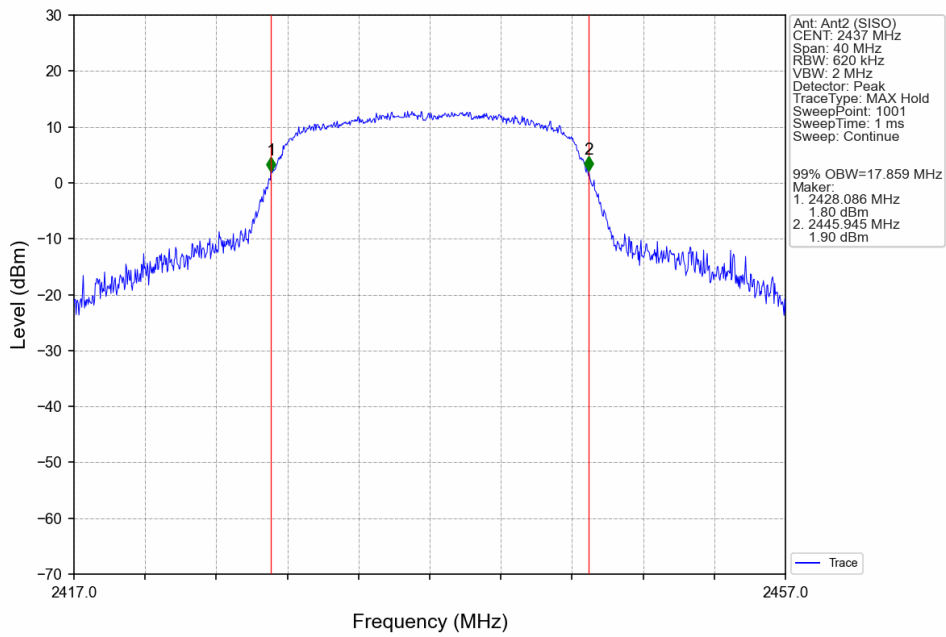
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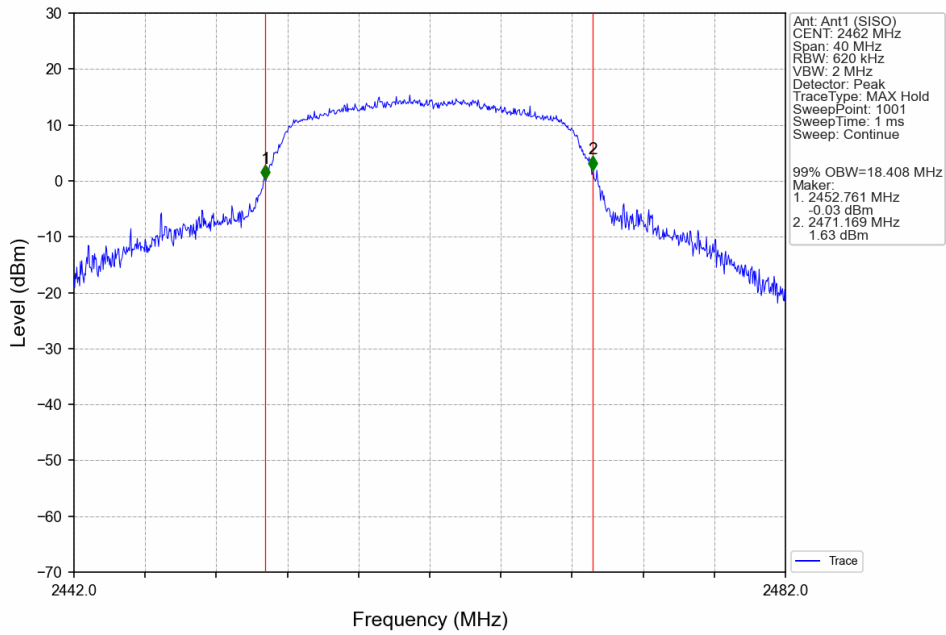
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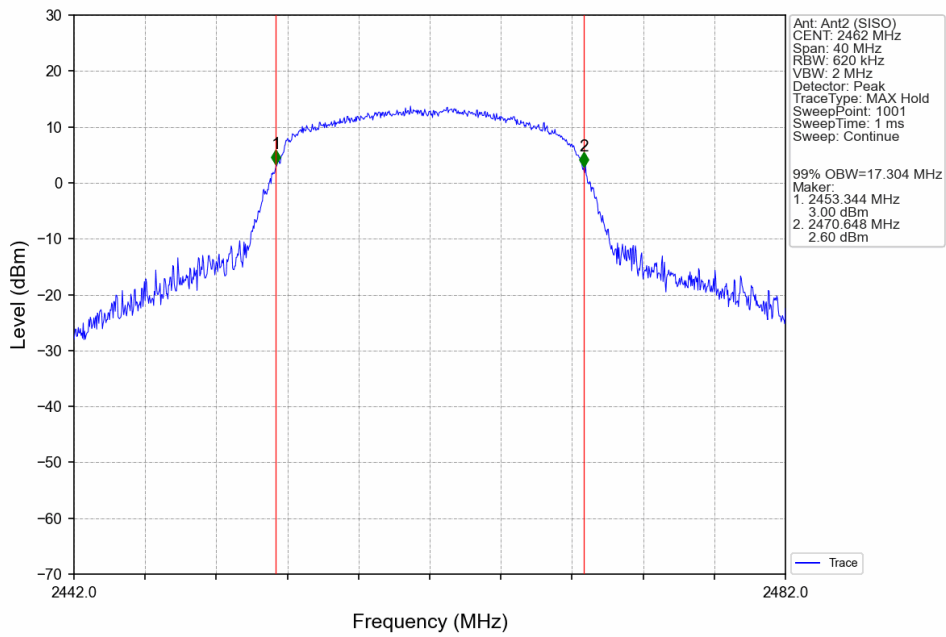
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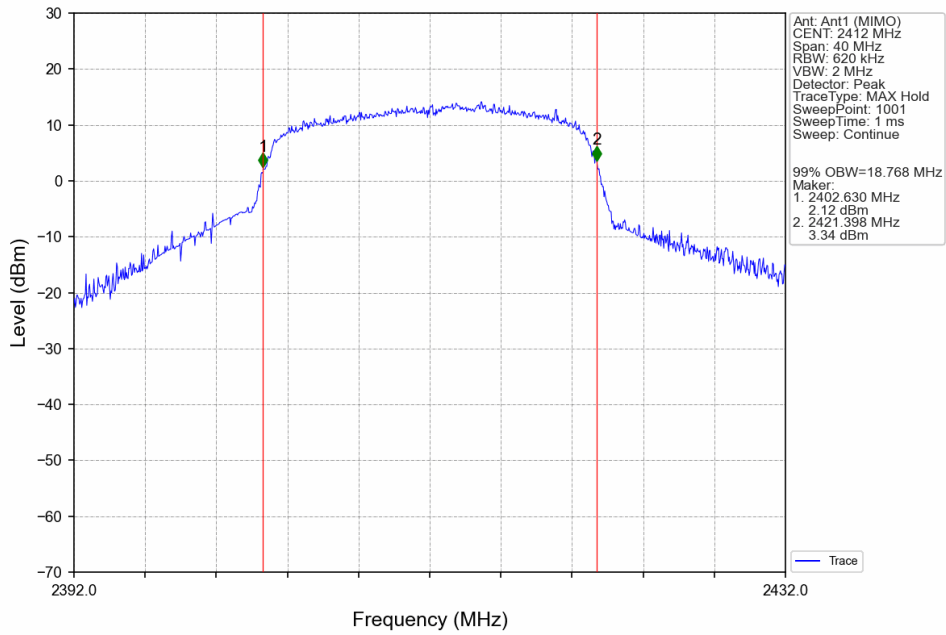
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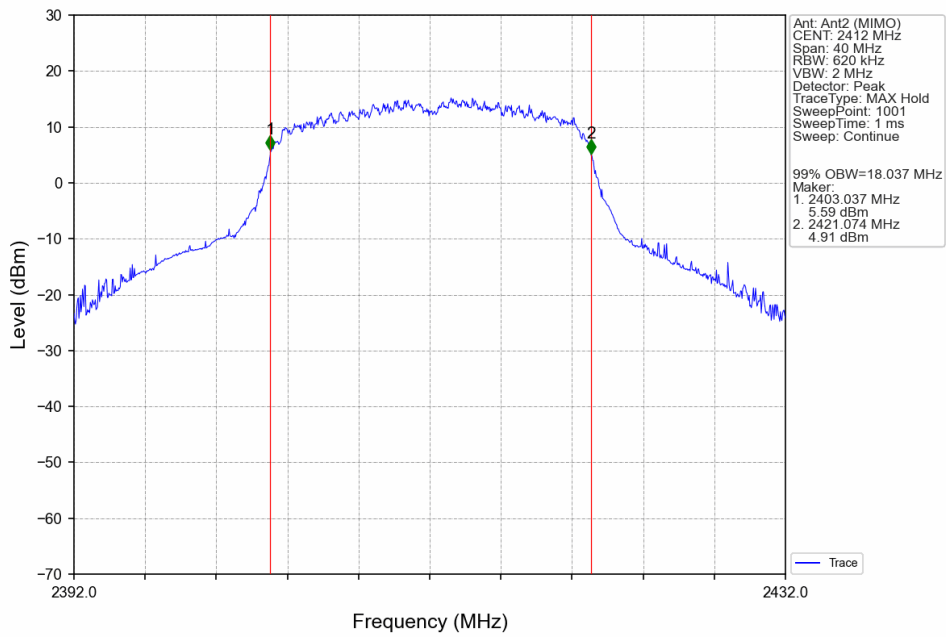
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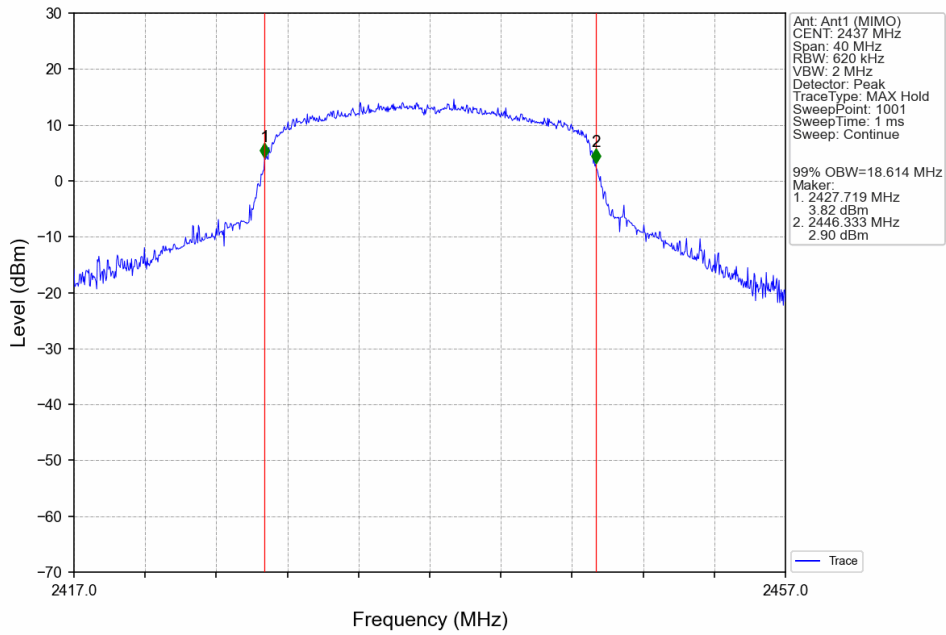
802.11n(HT20) LCH 2412MHz Ant0 (MIMO) NTN



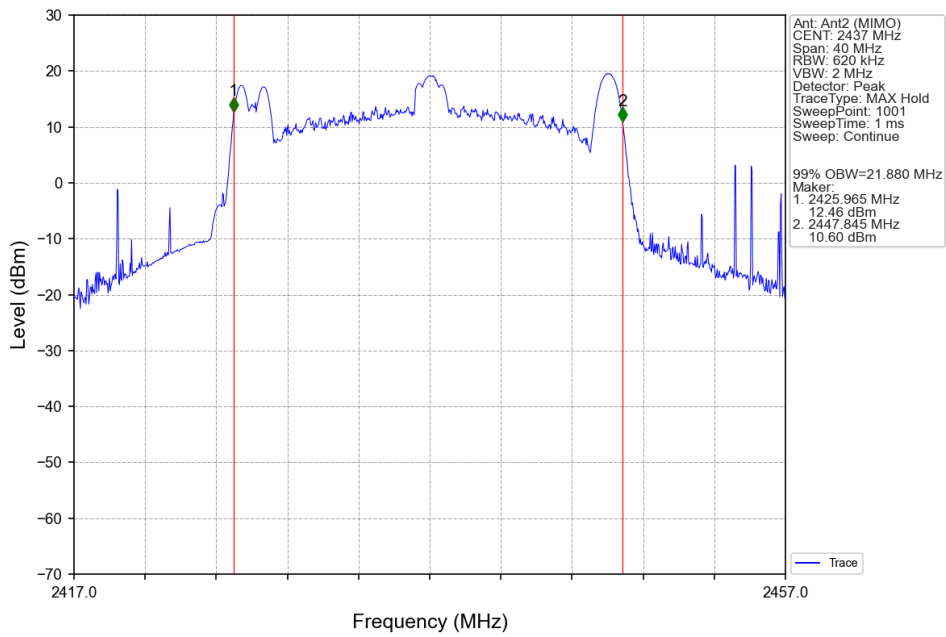
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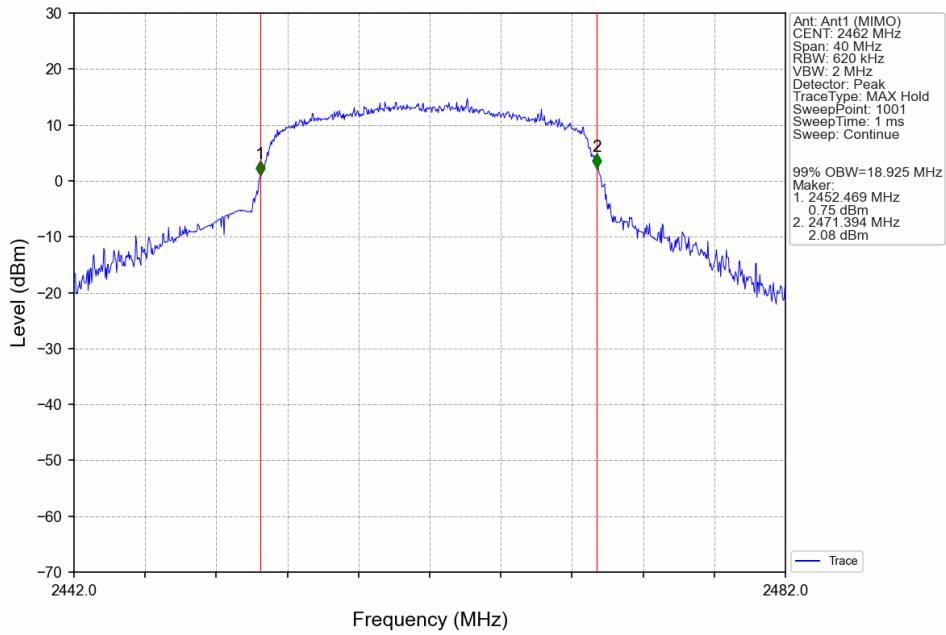
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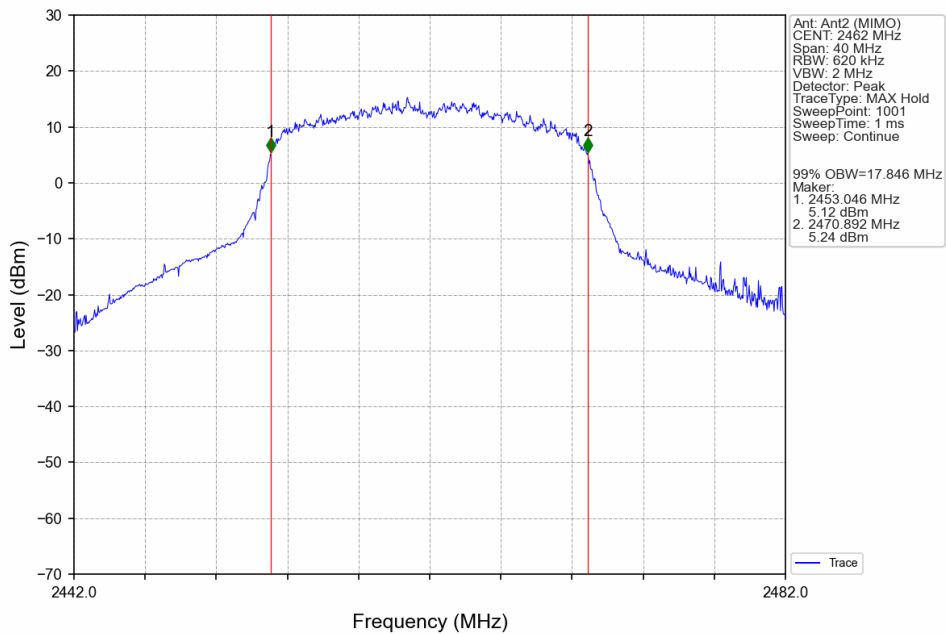
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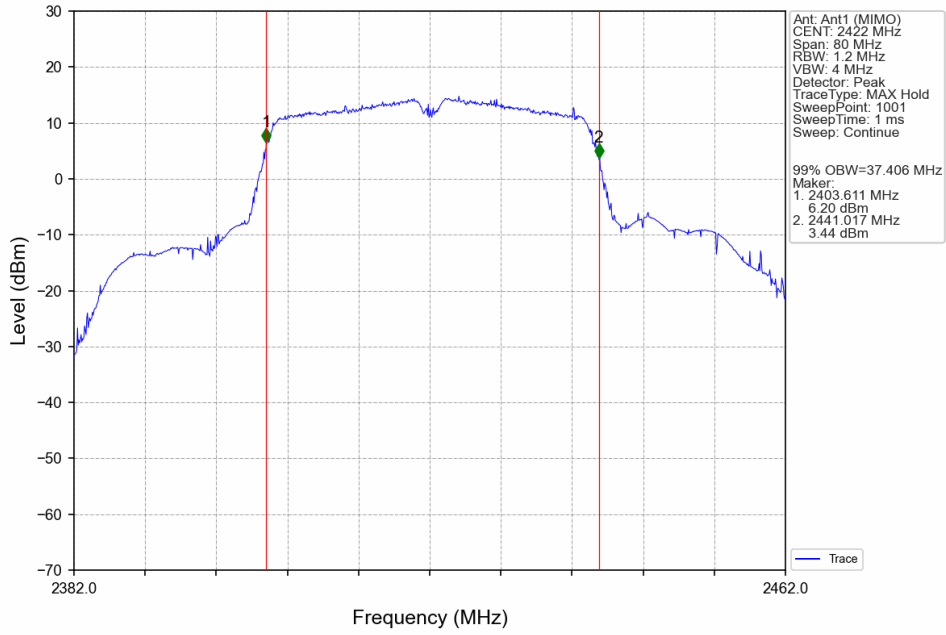
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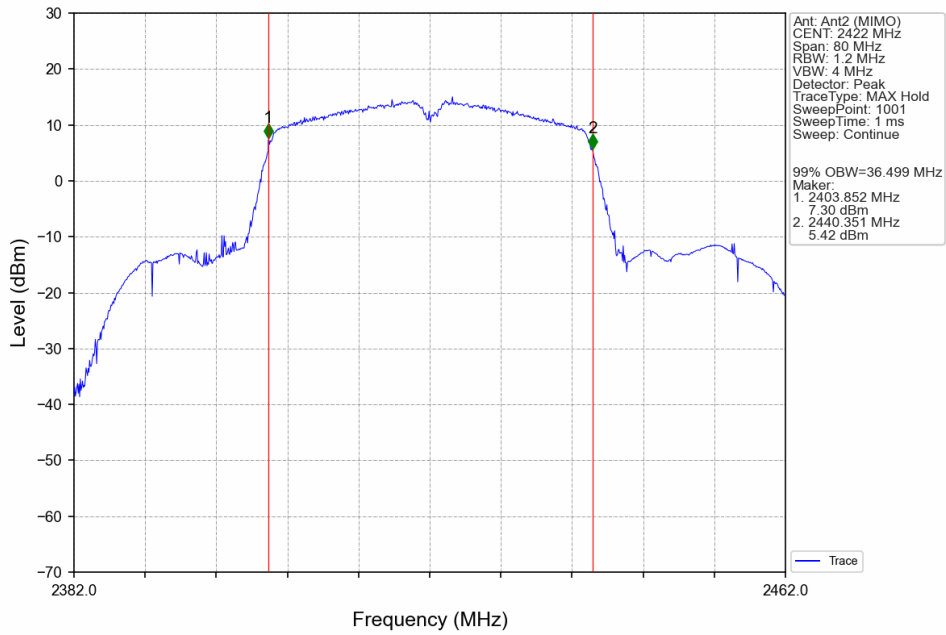
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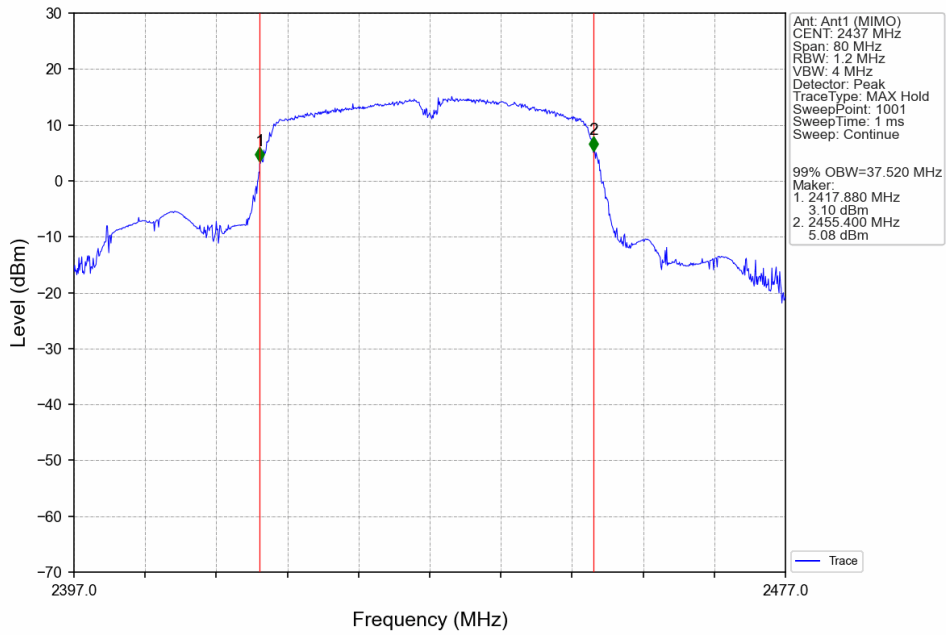
802.11n(HT40) LCH 2422MHz Ant0 (MIMO) NTV



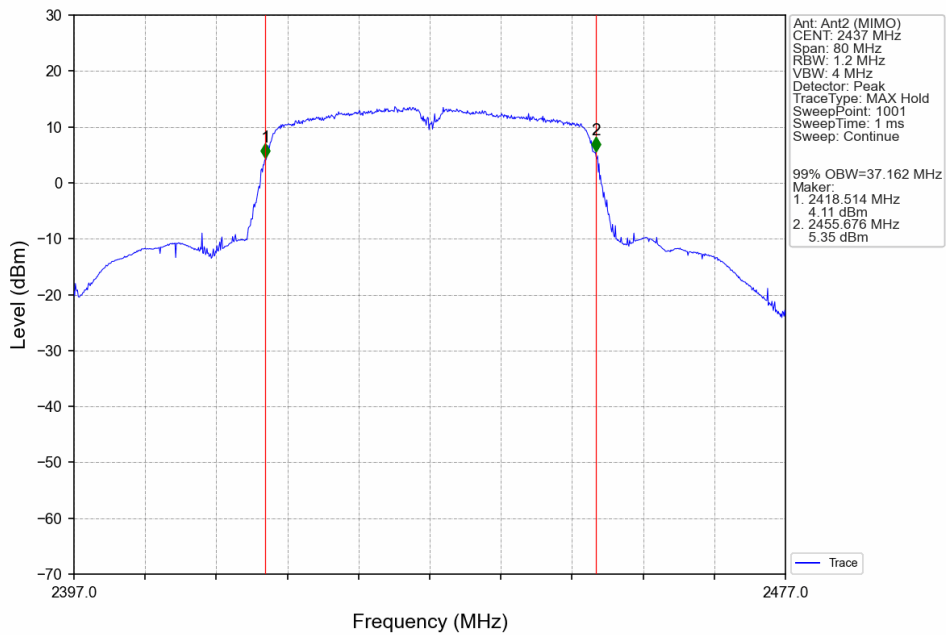
802.11n(HT40) LCH 2422MHz Ant1 (MIMO) NTV



802.11n(HT40) MCH 2437MHz Ant0 (MIMO) NTN

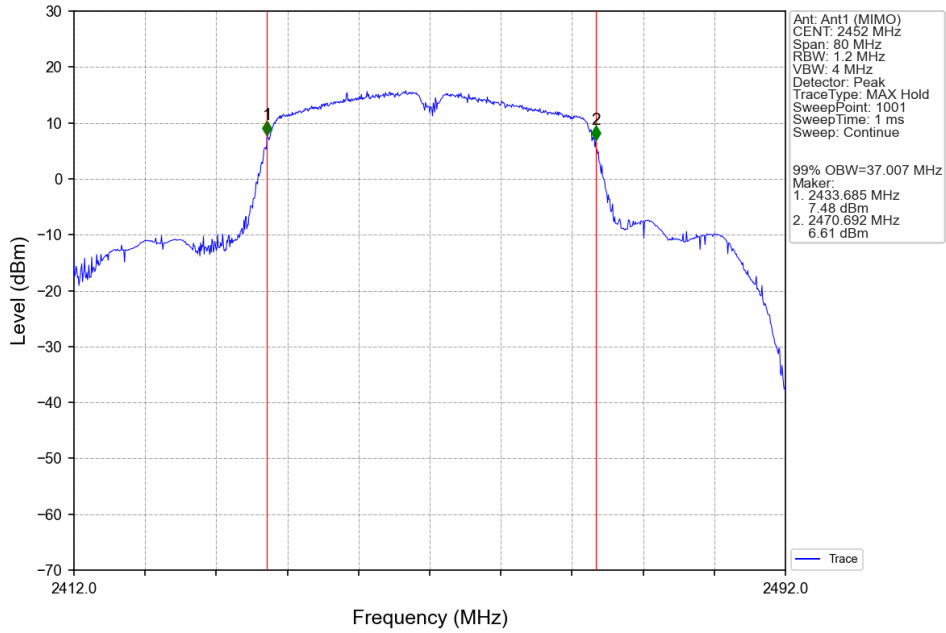


802.11n(HT40) MCH 2437MHz Ant1 (MIMO) NTN

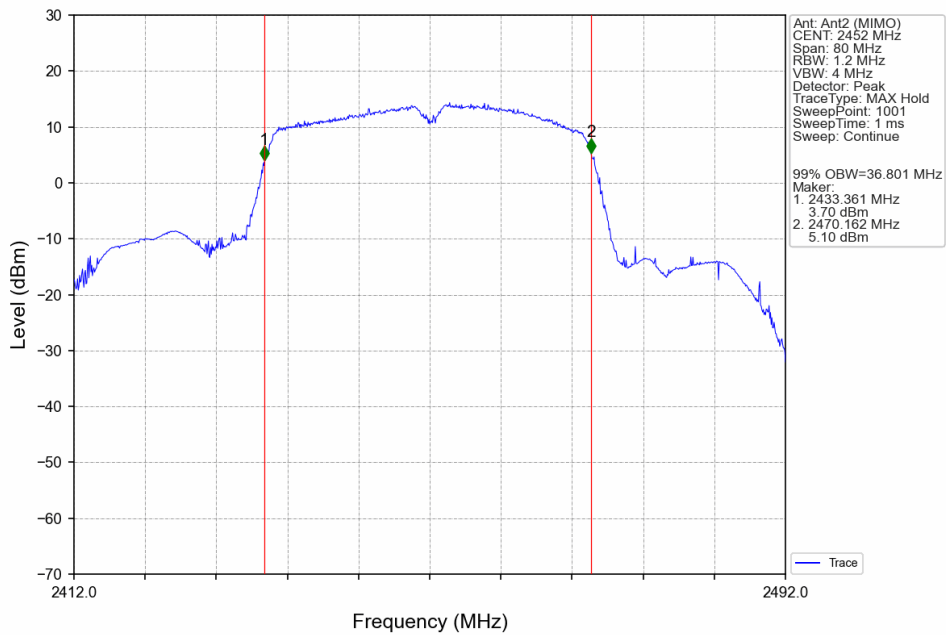




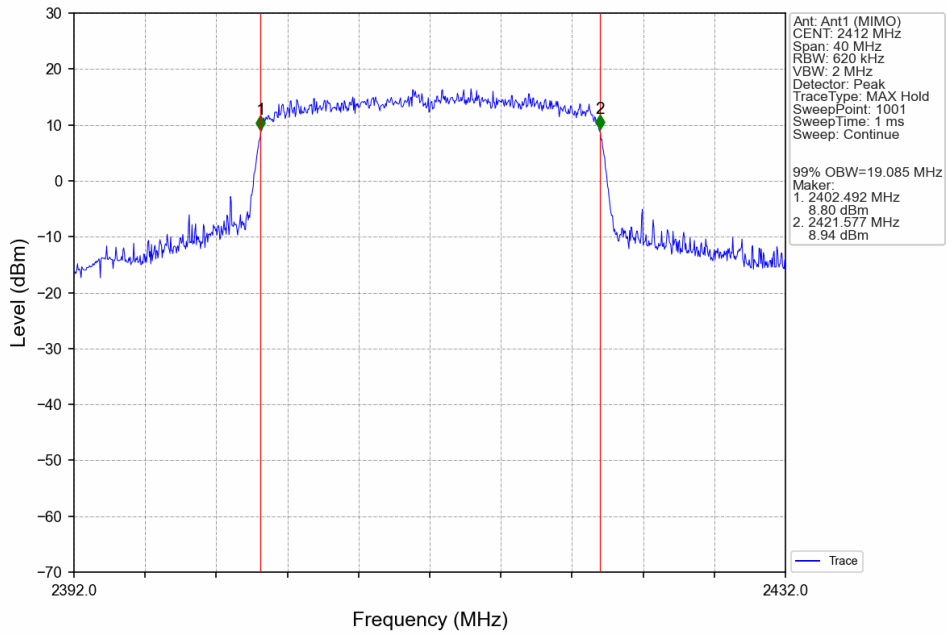
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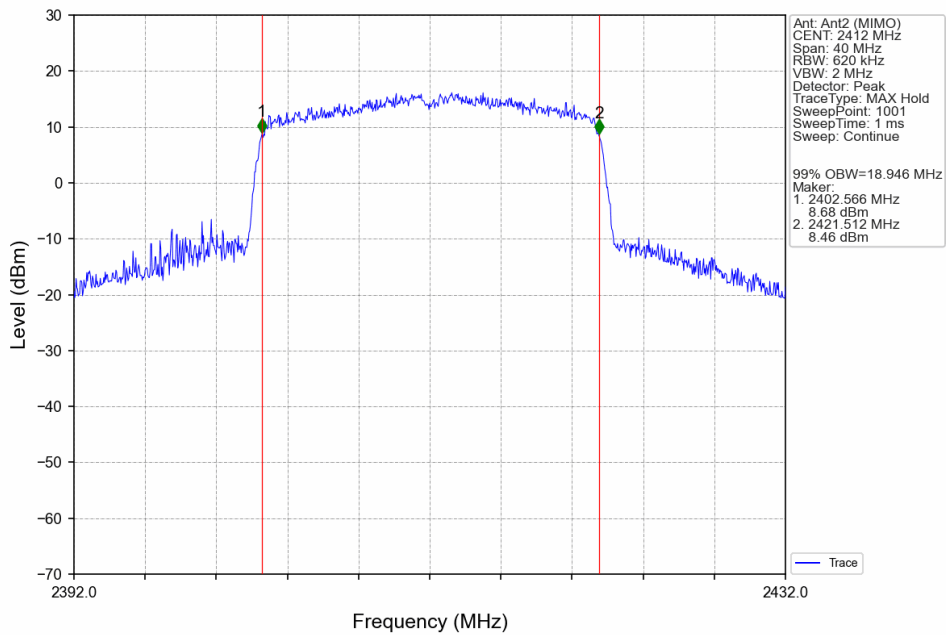
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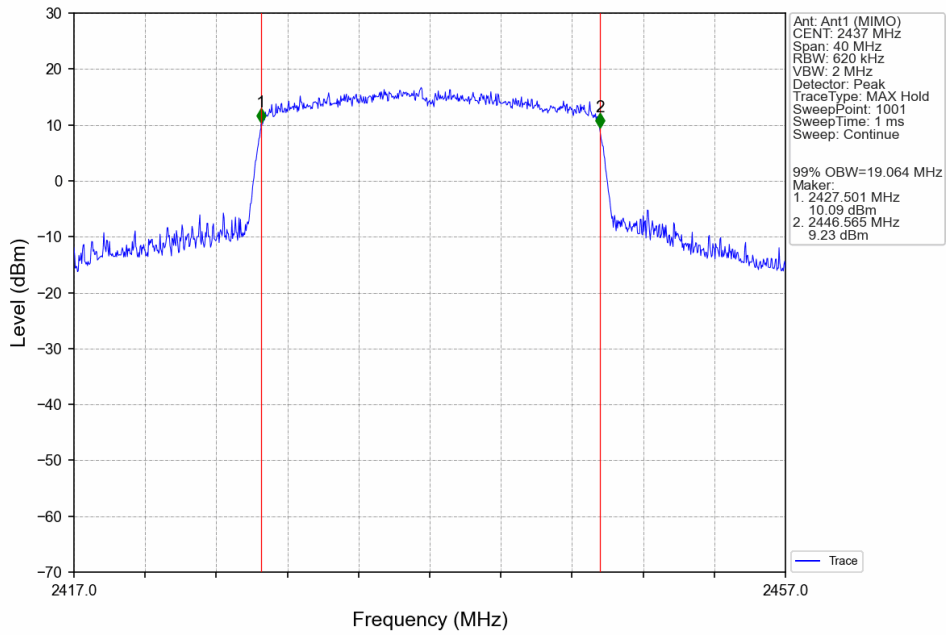
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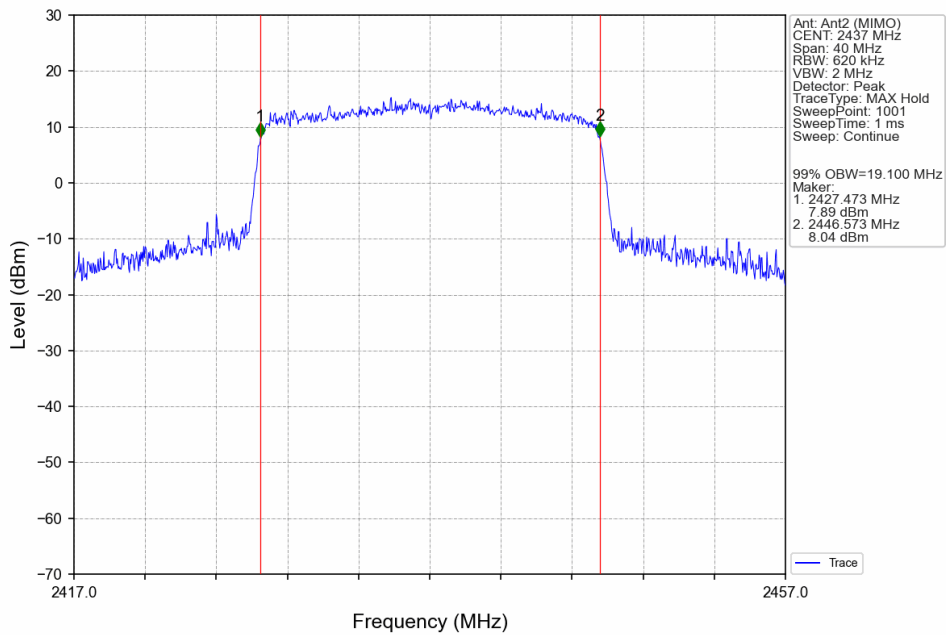
802.11ax(HEW20) LCH 2412MHz RU242 Left Ant1 (MIMO) NTN



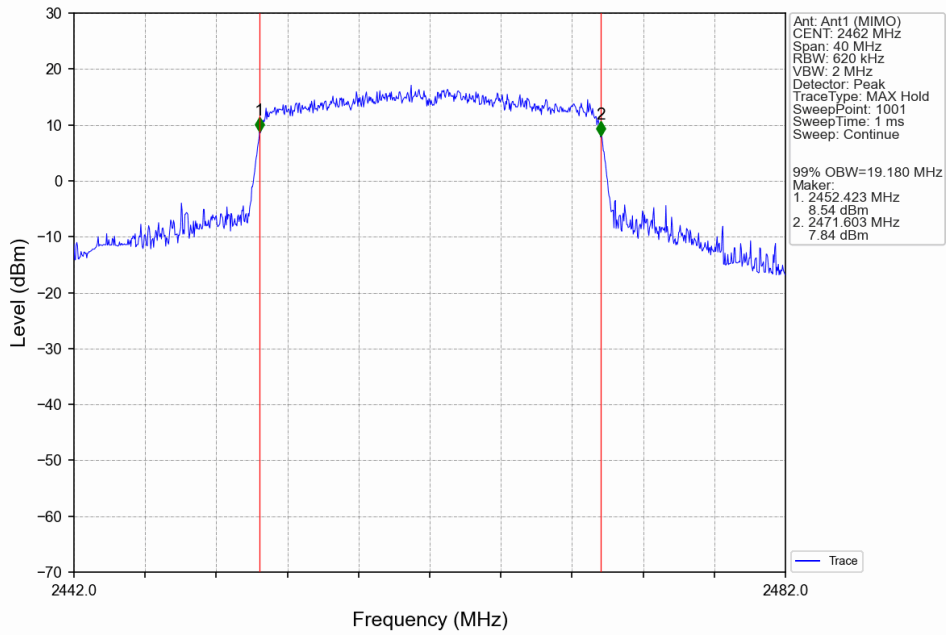
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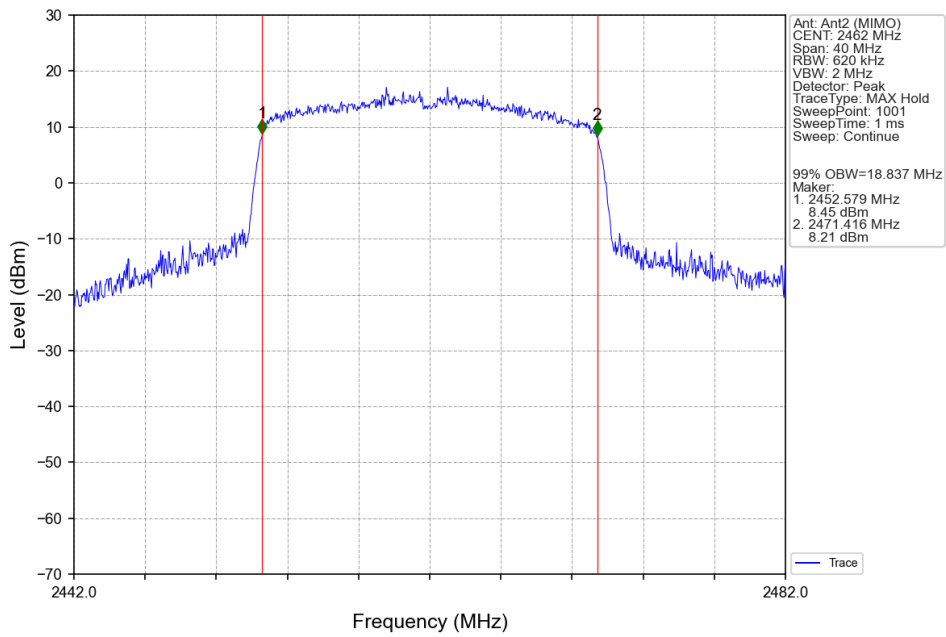
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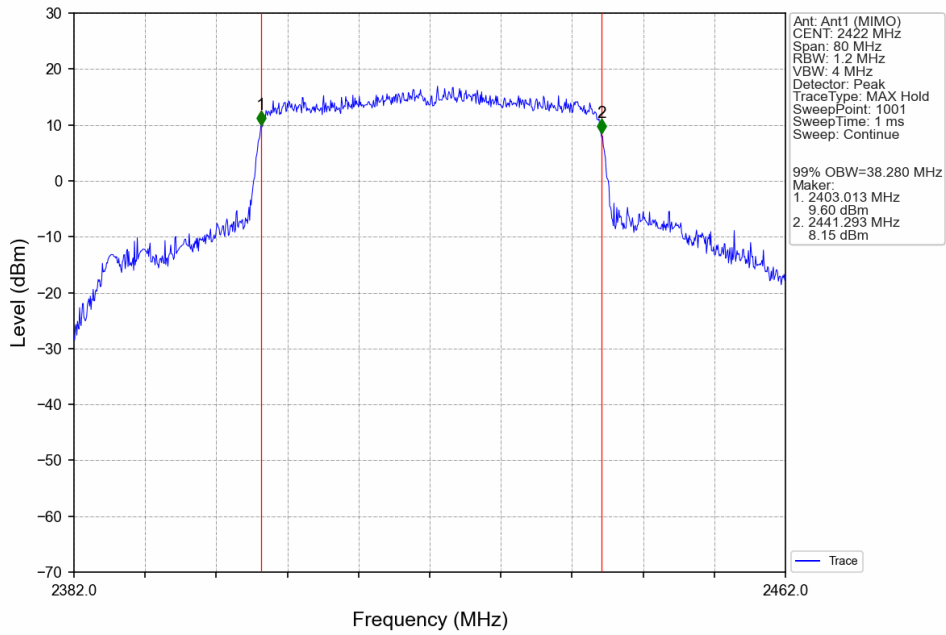
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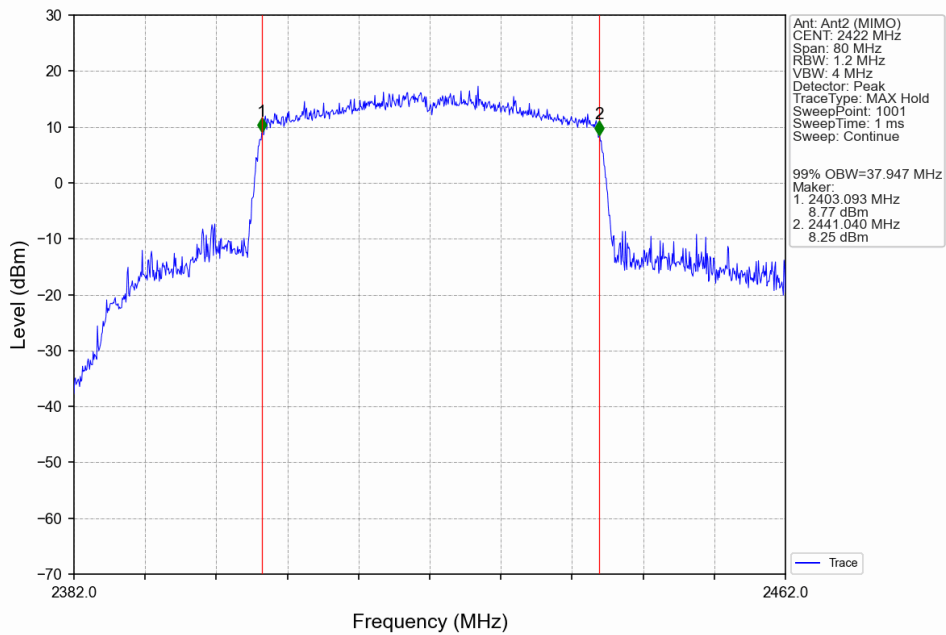
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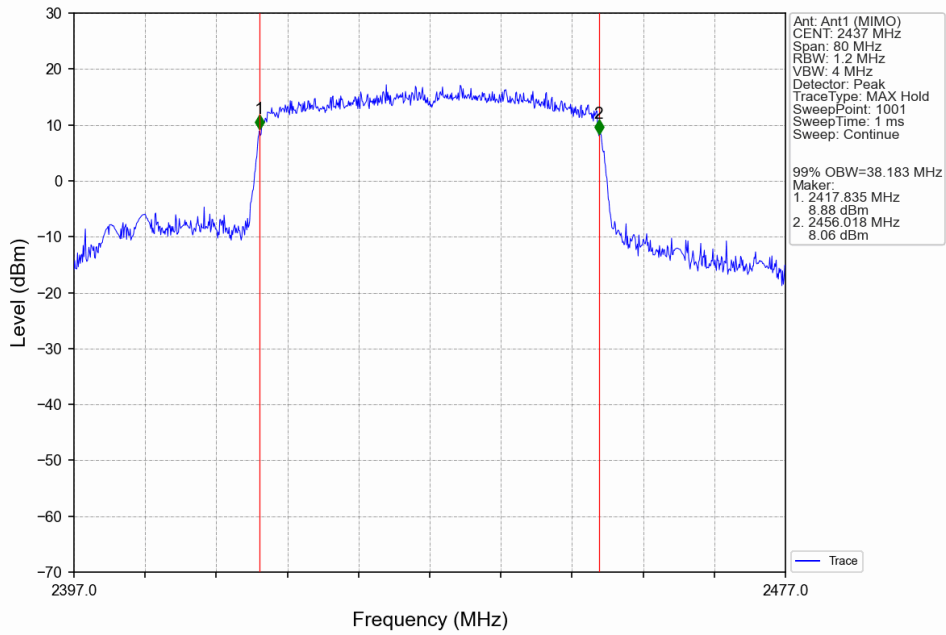
802.11ax(HEW40) LCH 2422MHz RU484 Left Ant0 (MIMO) NTN



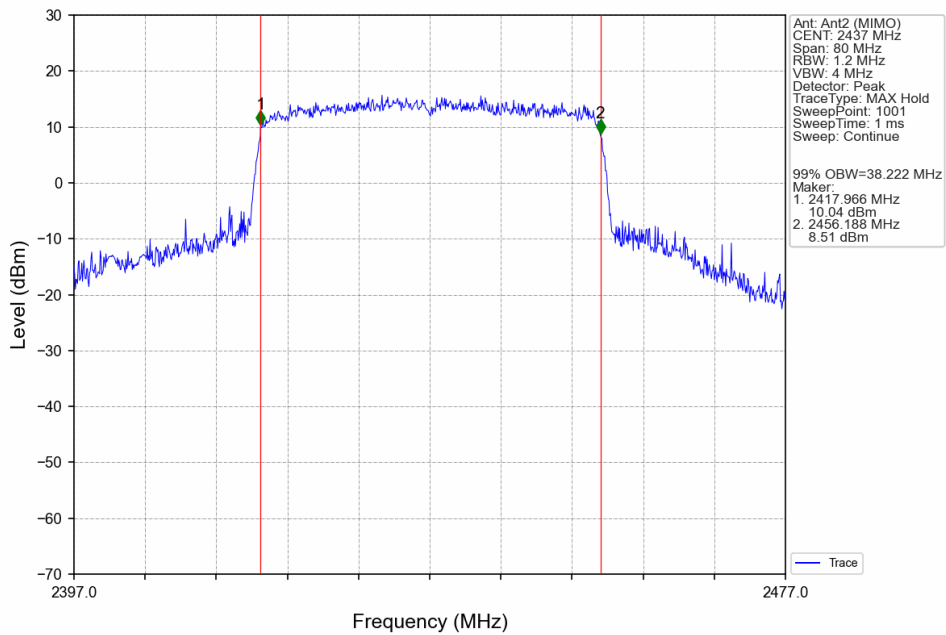
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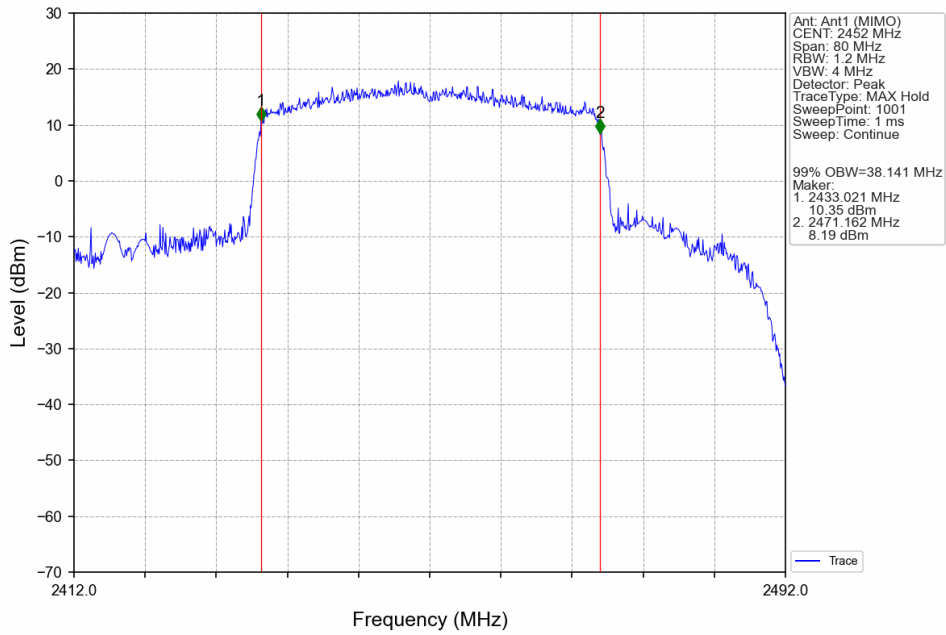
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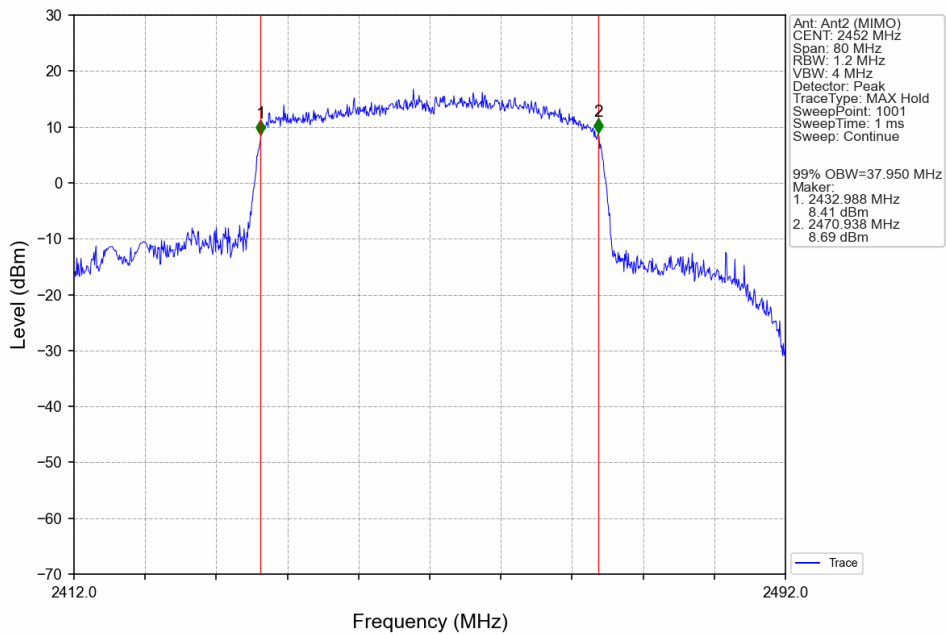
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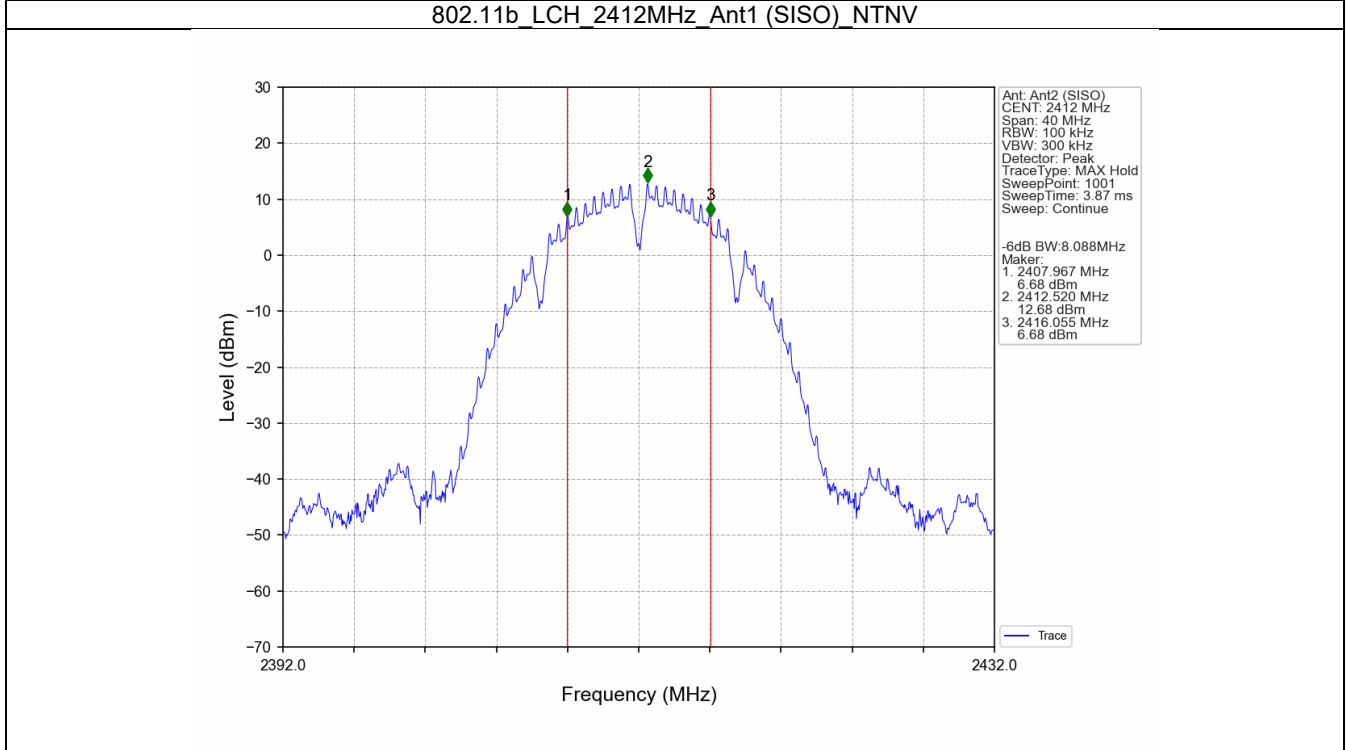
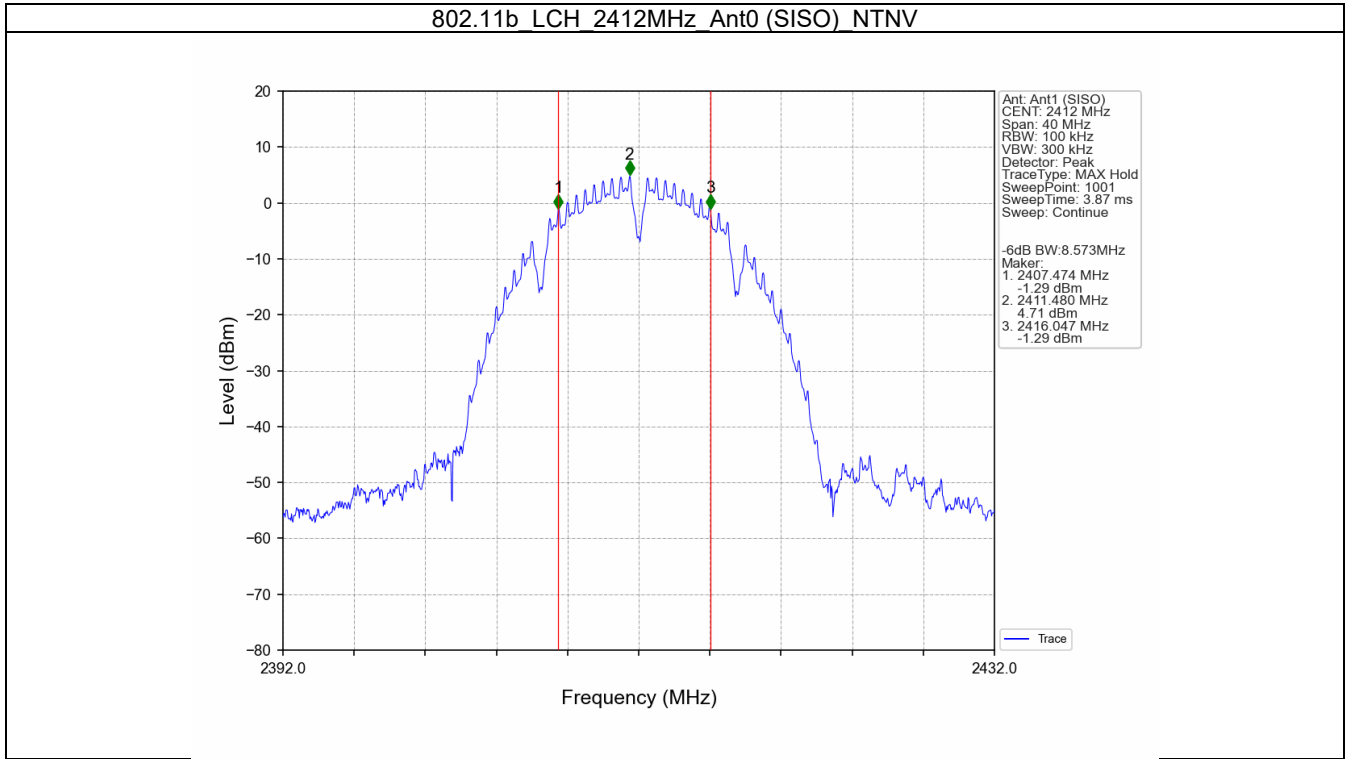
802.11ax(HEW40) HCH 2452MHz RU484 Left Ant0 (MIMO) NTN



802.11ax(HEW40) HCH 2452MHz RU484 Left Ant1 (MIMO) NTN

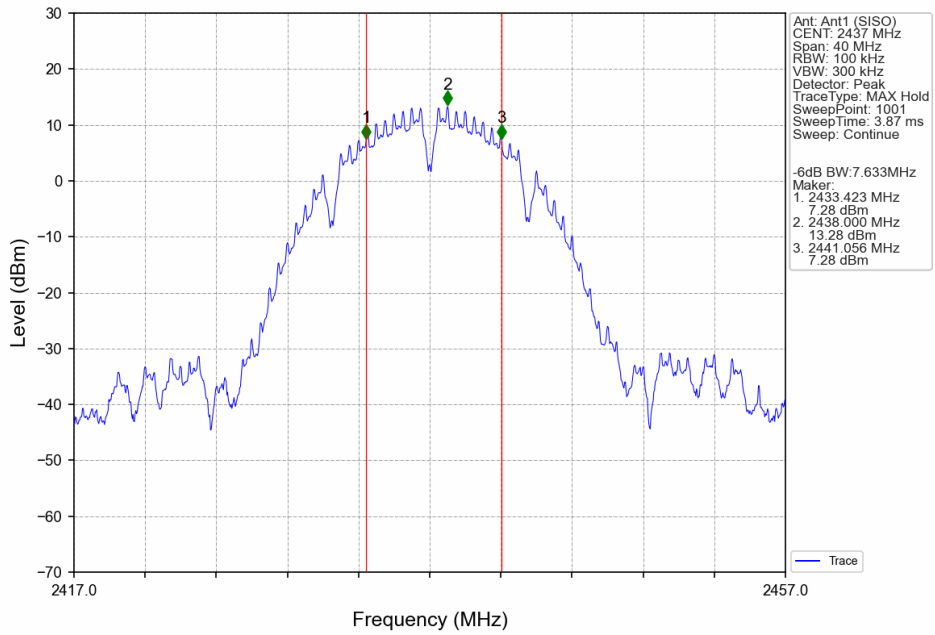


### 2.2.2 6dB BW

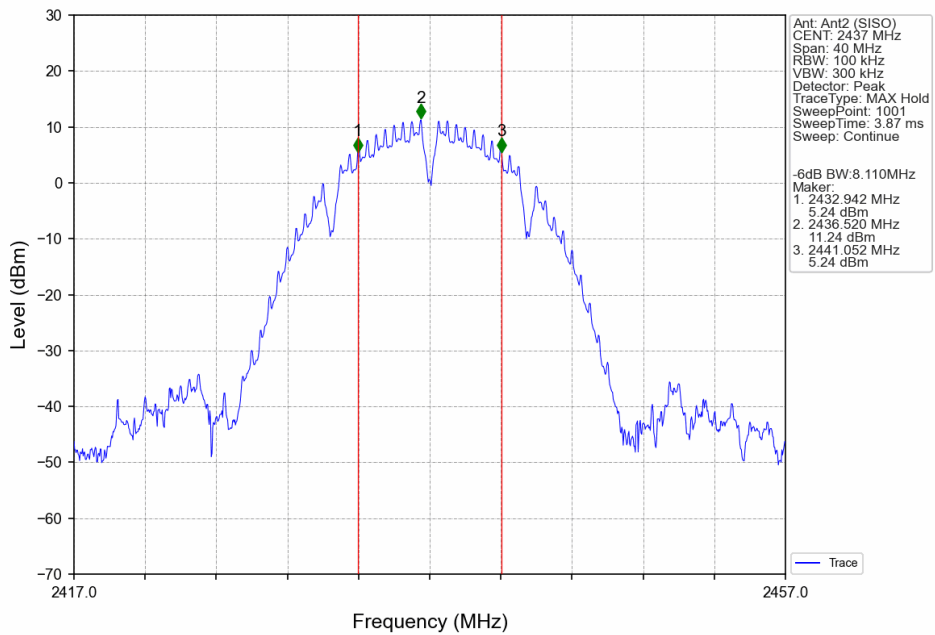




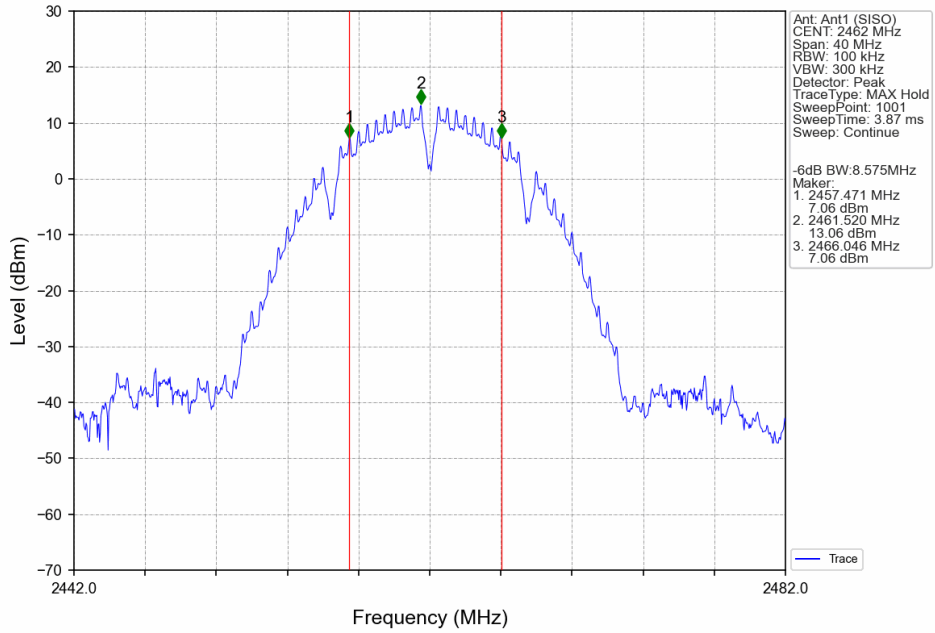
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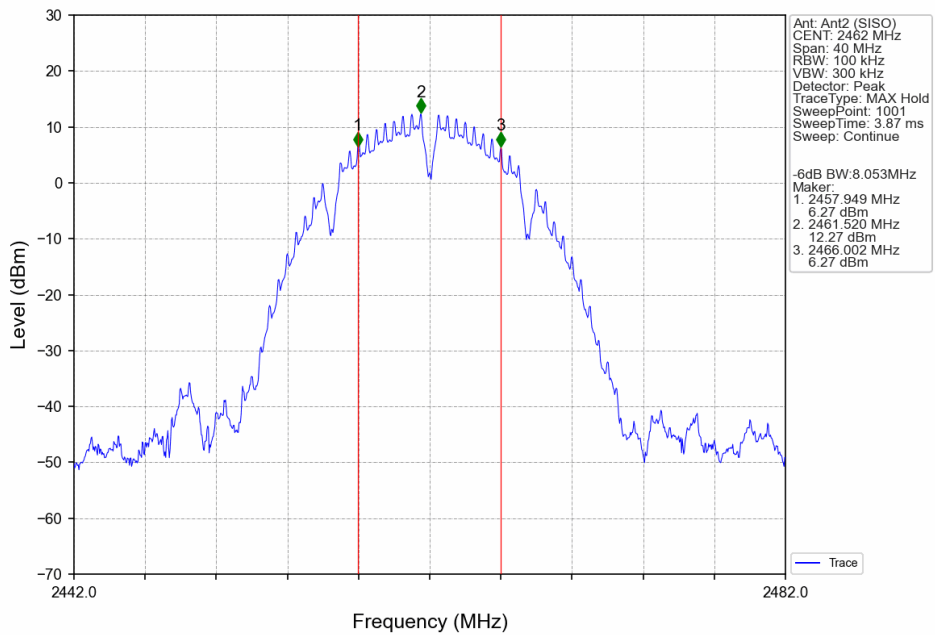
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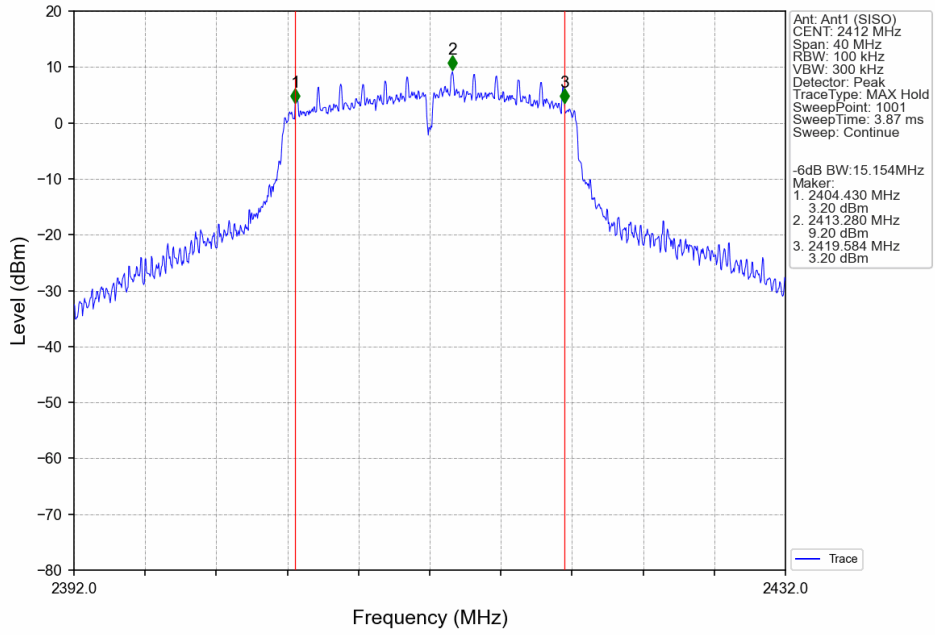
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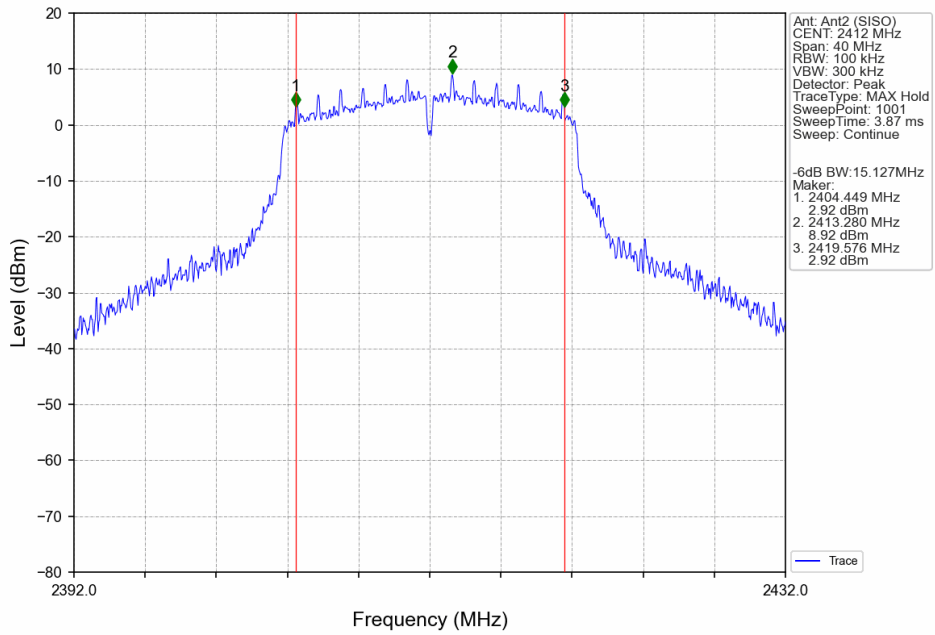
802.11b HCH 2462MHz Ant1 (SISO) NTVN



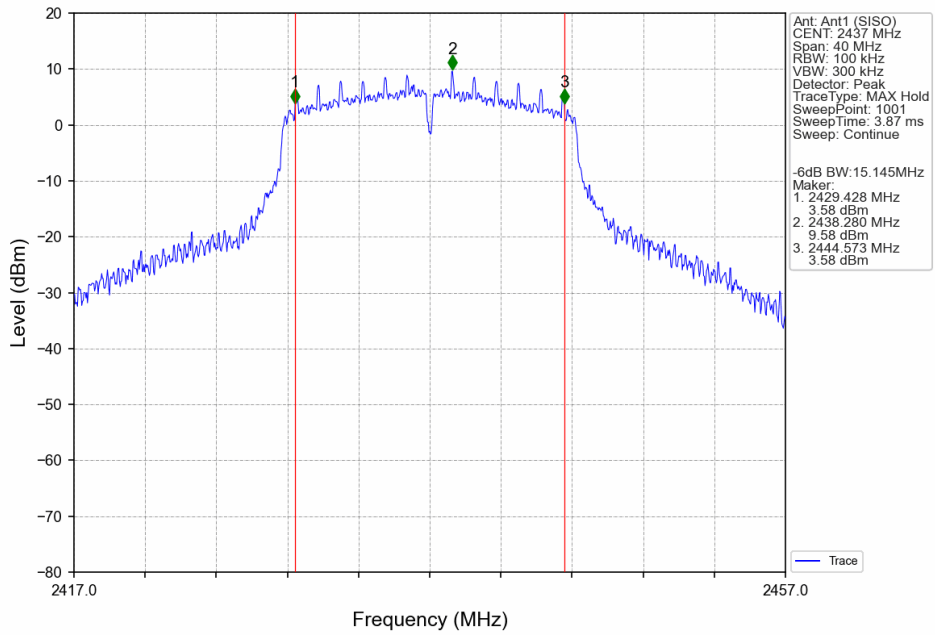
802.11g LCH 2412MHz Ant0 (SISO) NTN



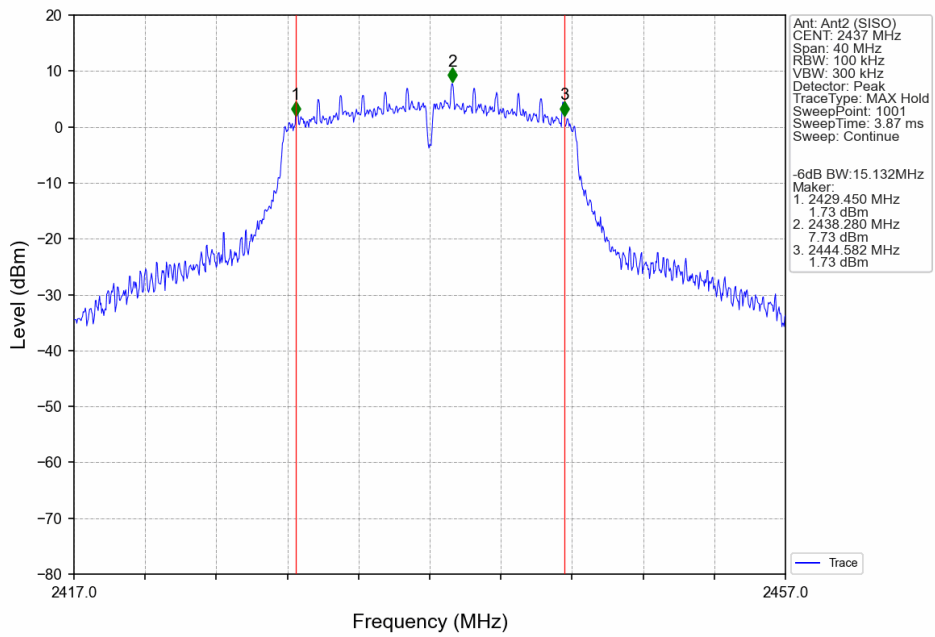
802.11g LCH 2412MHz Ant1 (SISO) NTN



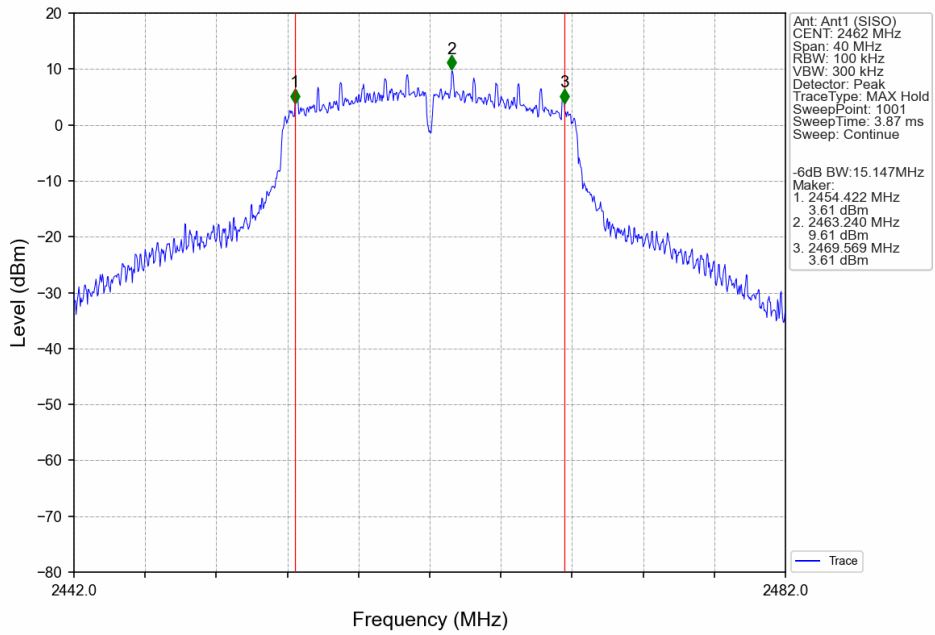
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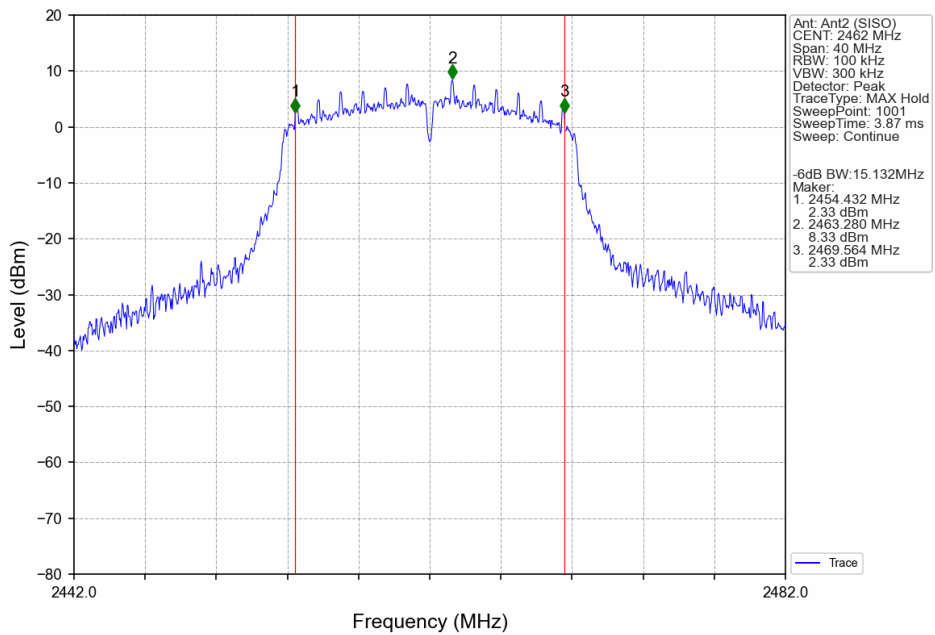
802.11g MCH 2437MHz Ant1 (SISO) NTVN



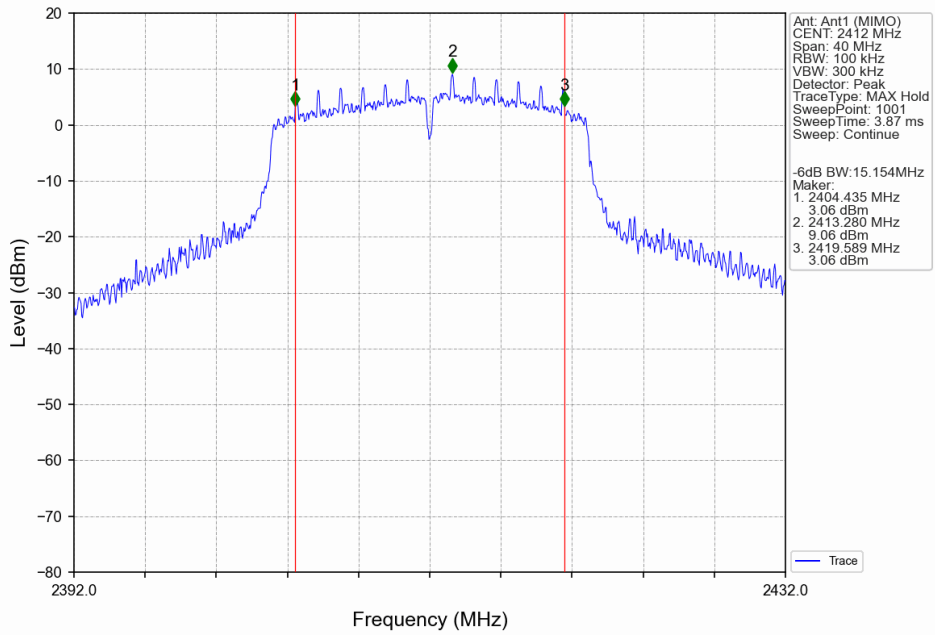
802.11g HCH 2462MHz Ant0 (SISO) NTN



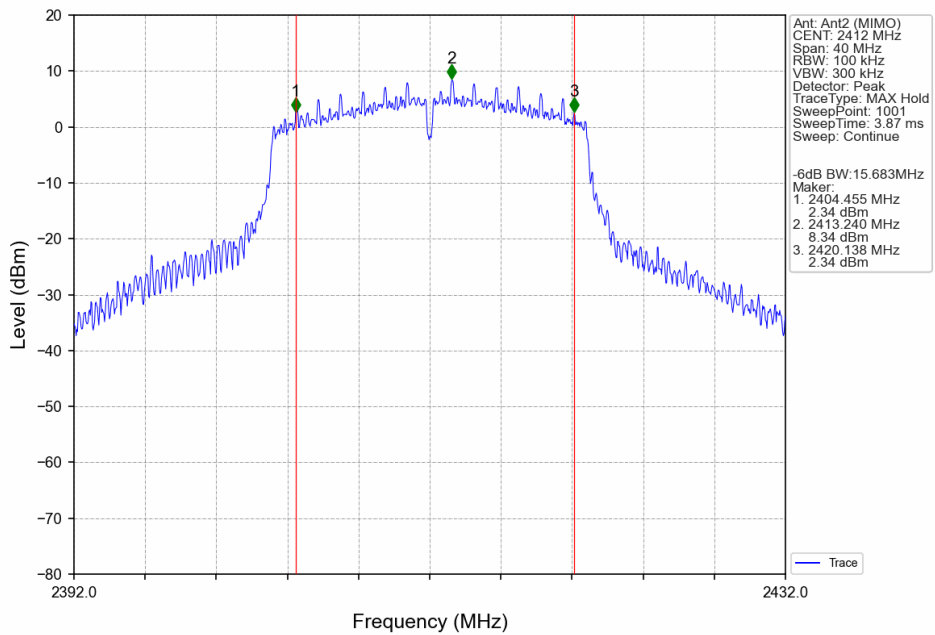
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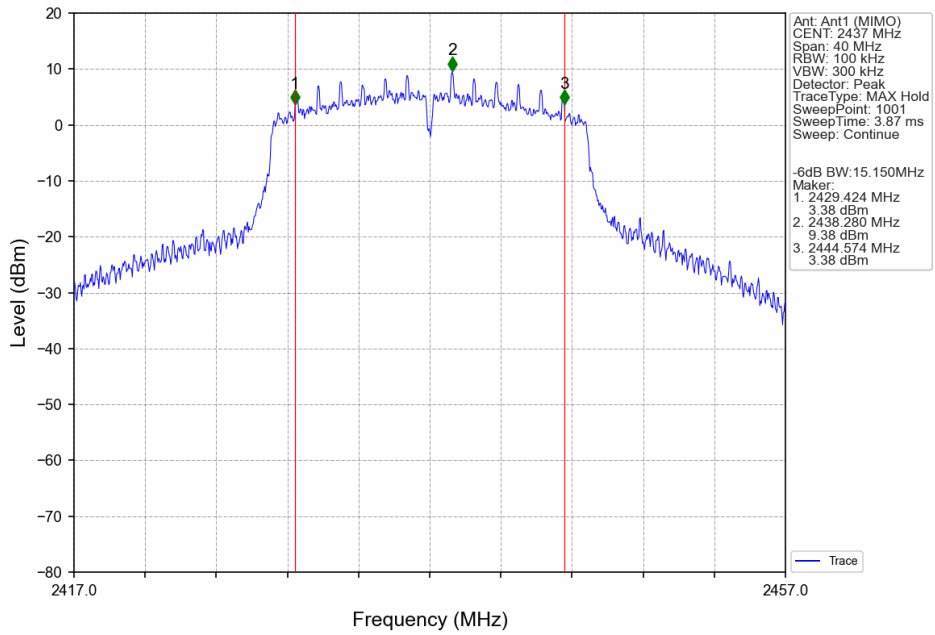
802.11n(HT20) LCH 2412MHz Ant0 (MIMO) NTN



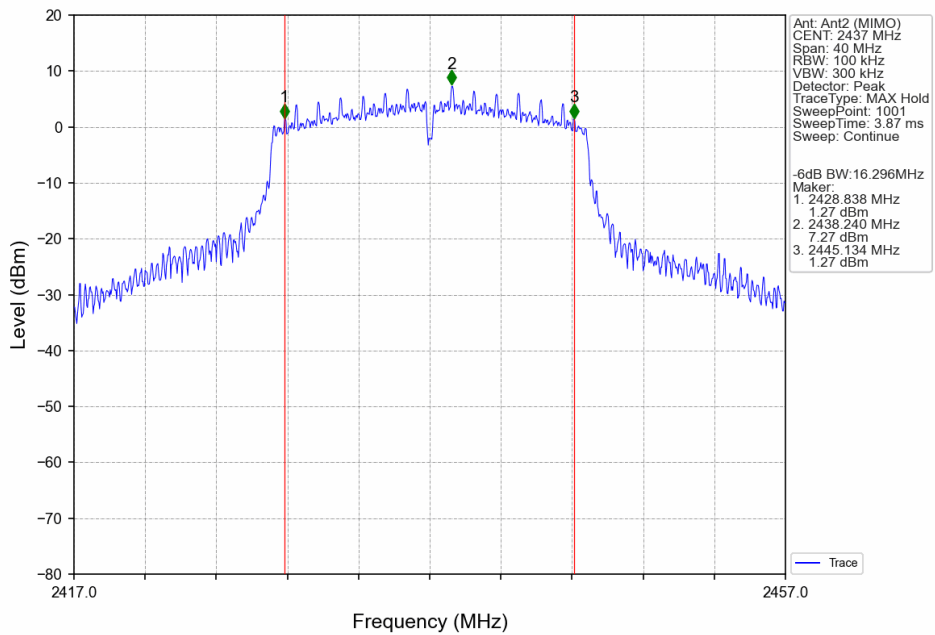
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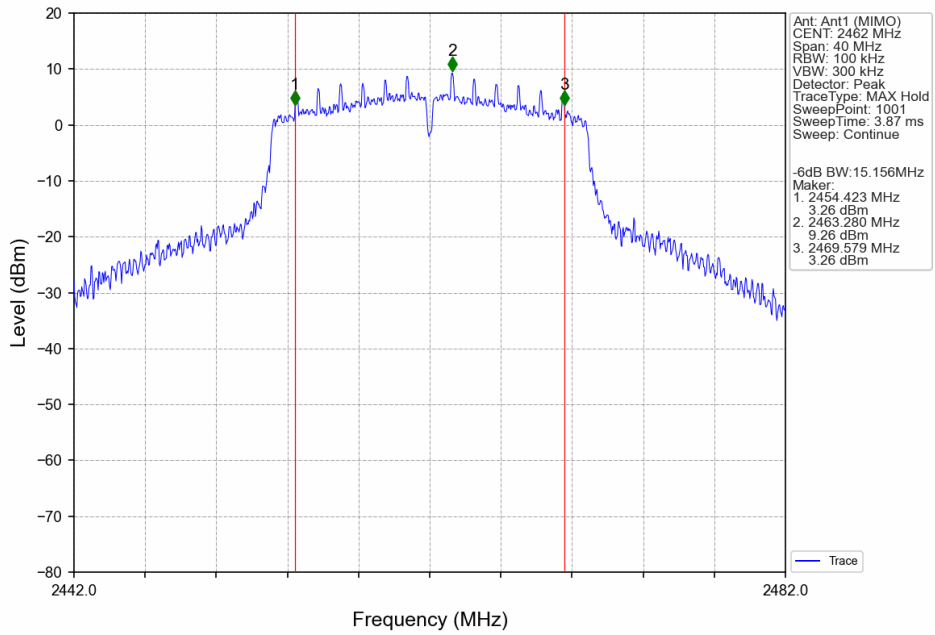
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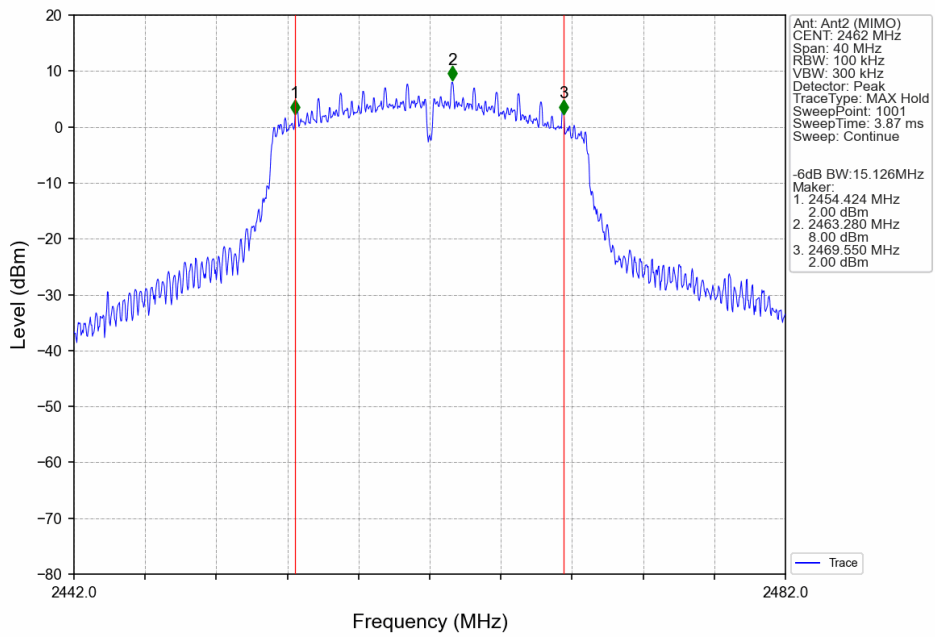
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802.11n(HT20) HCH 2462MHz Ant0 (MIMO) NTN

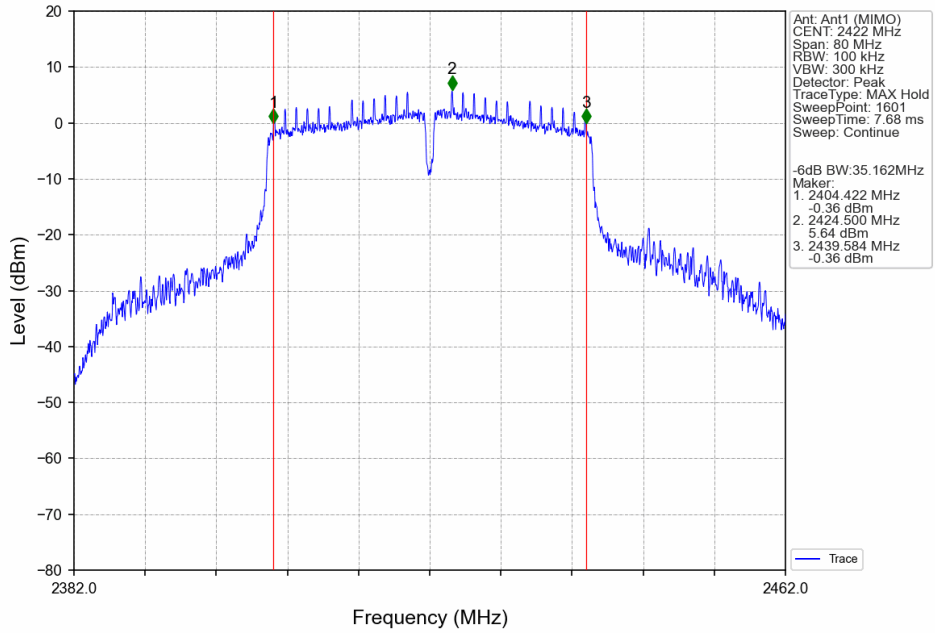


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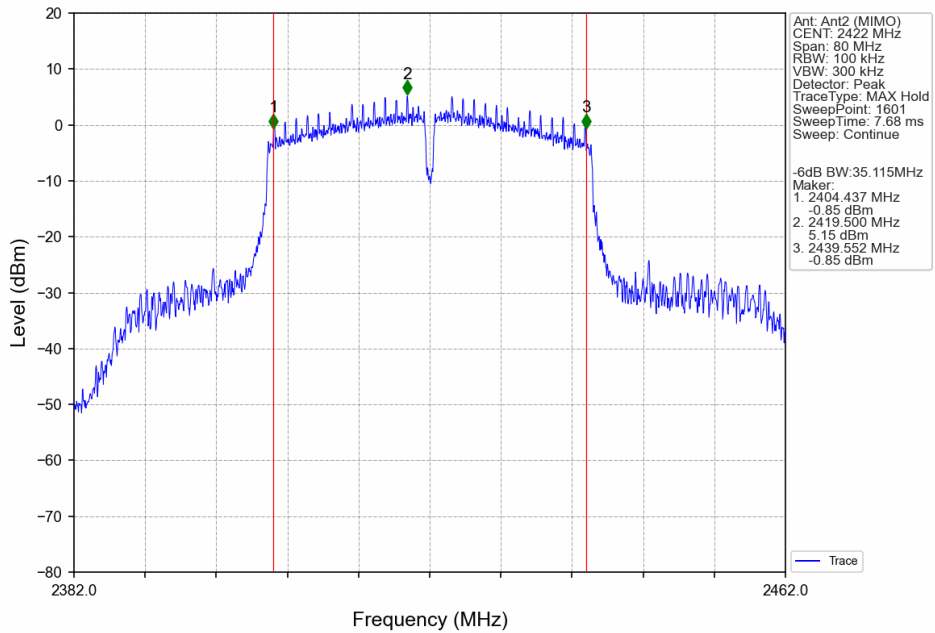




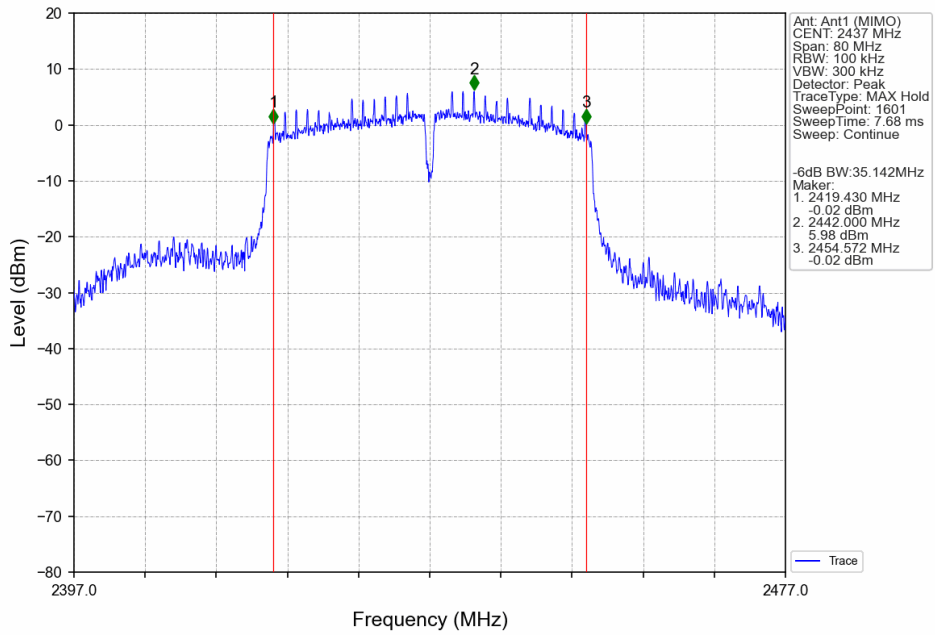
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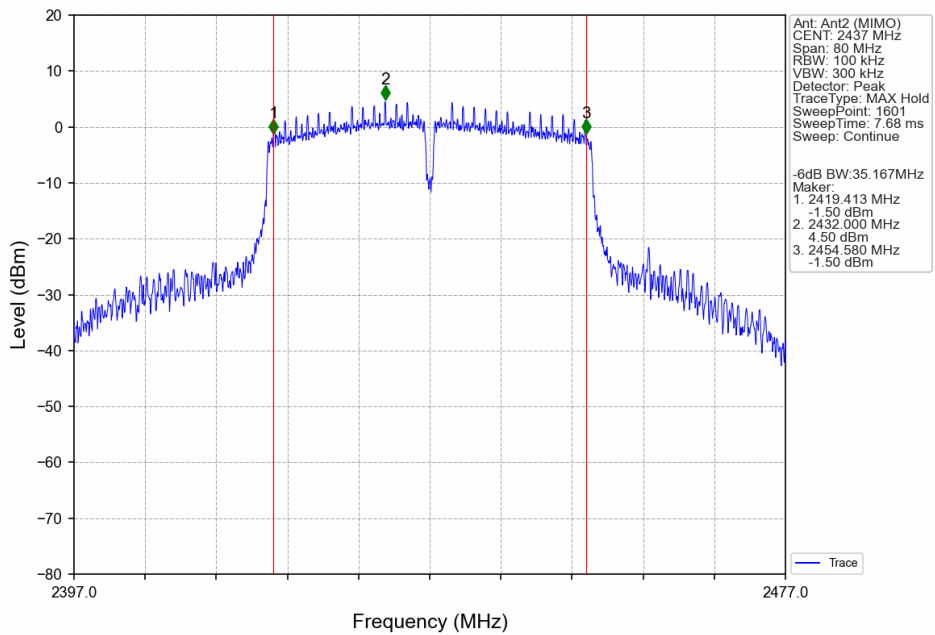
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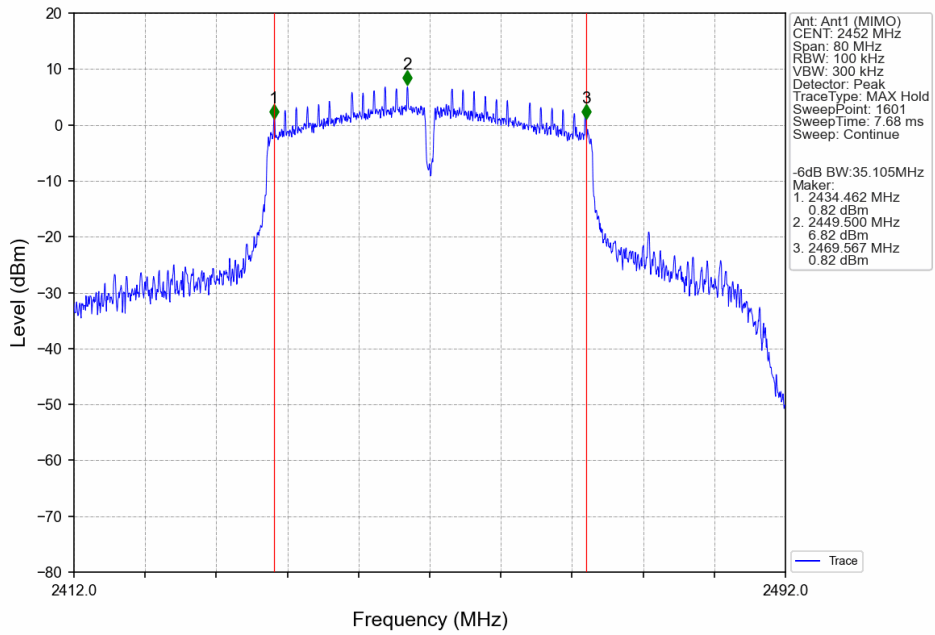
802.11n(HT40) MCH 2437MHz Ant0 (MIMO) NTN



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



802.11n(HT40) HCH 2452MHz Ant0 (MIMO) NTN



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

