# 1. Duty Cycle

## 1.1 Test Result

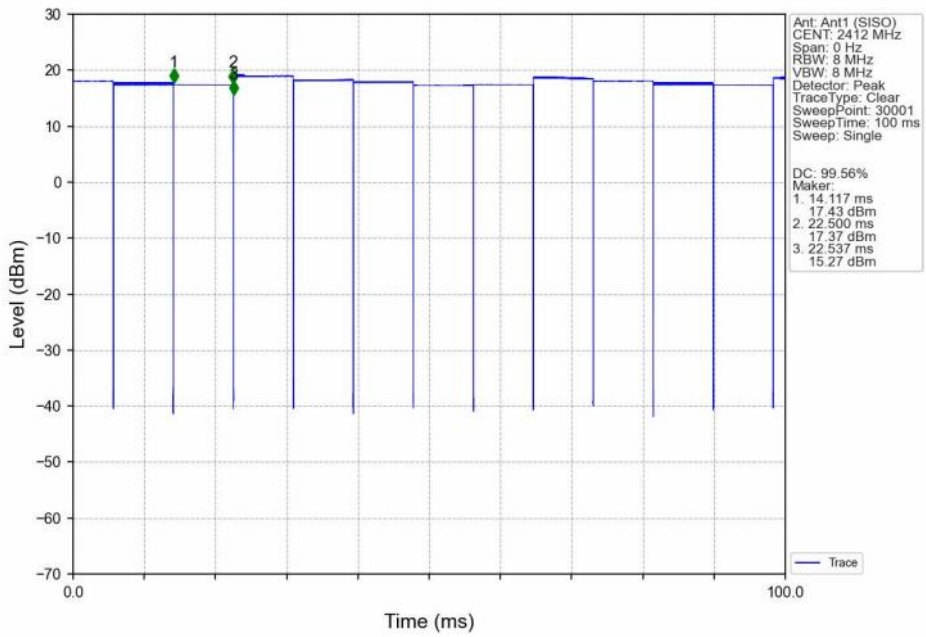
### 1.1.1 Ant1

| 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 | 8.383 | 8.420 | 99.56 | 0.02 | 0.00 |
| | | 2437 | 8.383 | 8.423 | 99.53 | 0.02 | 0.04 |
| | | 2462 | 8.383 | 8.420 | 99.56 | 0.02 | 0.00 |
| 802.11g | SISO | 2412 | 1.393 | 1.436 | 97.01 | 0.13 | 0.03 |
| | | 2437 | 1.394 | 1.436 | 97.08 | 0.13 | 0.00 |
| | | 2462 | 1.394 | 1.437 | 97.01 | 0.13 | 0.03 |
| 802.11n (HT20) | SISO | 2412 | 1.302 | 1.345 | 96.80 | 0.14 | 0.03 |
| | | 2437 | 1.302 | 1.344 | 96.88 | 0.14 | 0.03 |
| | | 2462 | 1.301 | 1.344 | 96.80 | 0.14 | 0.07 |
| 802.11n (HT40) | SISO | 2422 | 0.648 | 0.692 | 93.64 | 0.29 | 0.03 |
| | | 2437 | 0.648 | 0.692 | 93.64 | 0.29 | 0.04 |
| | | 2452 | 0.648 | 0.692 | 93.64 | 0.29 | 0.07 |

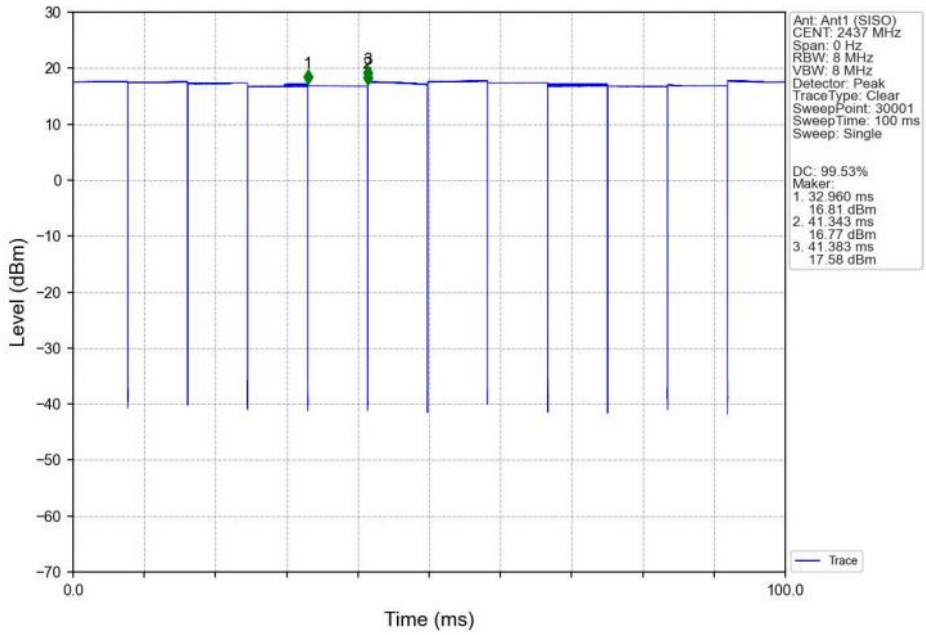
## 1.2 Test Graph

### 1.2.1 Ant1

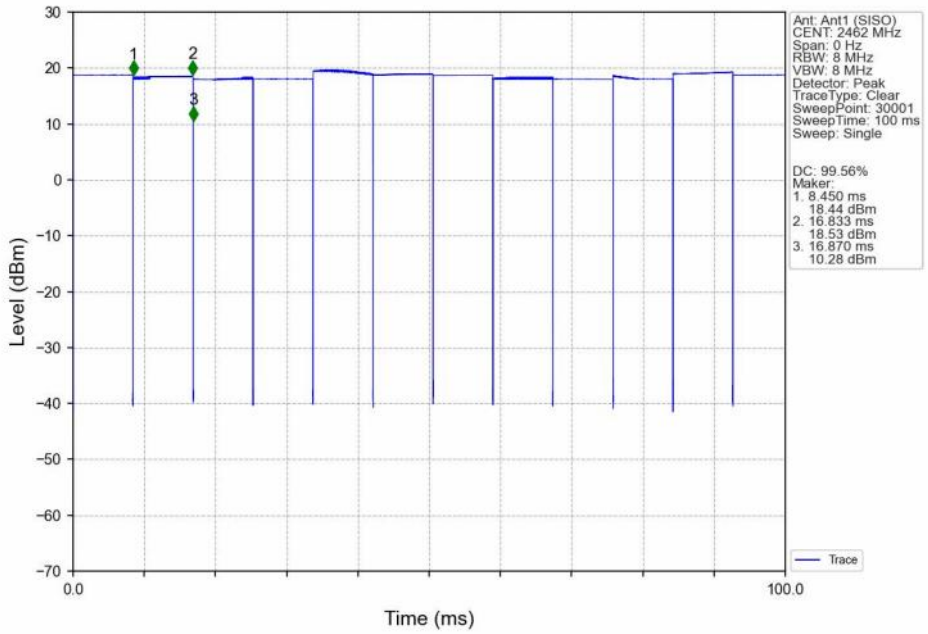
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



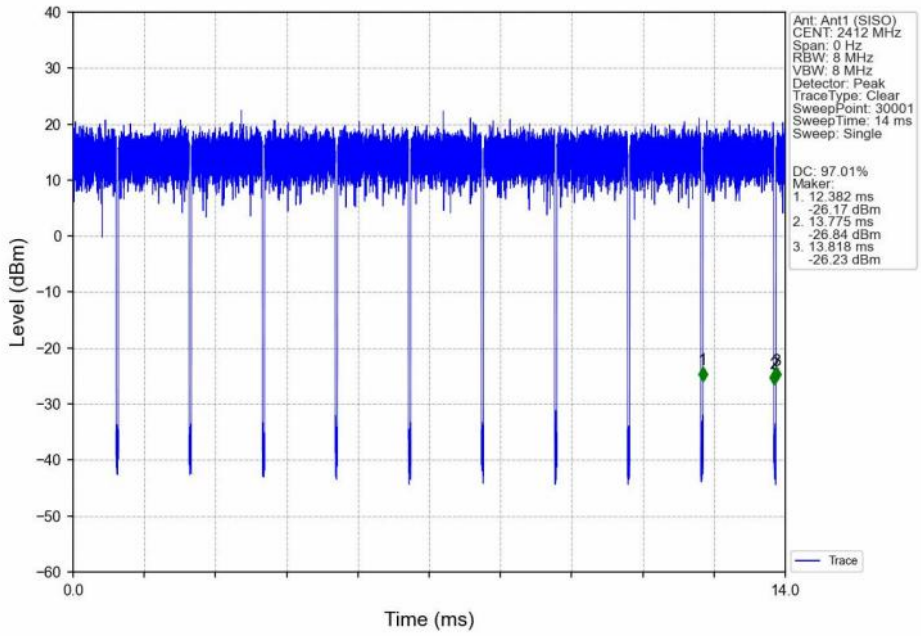

802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



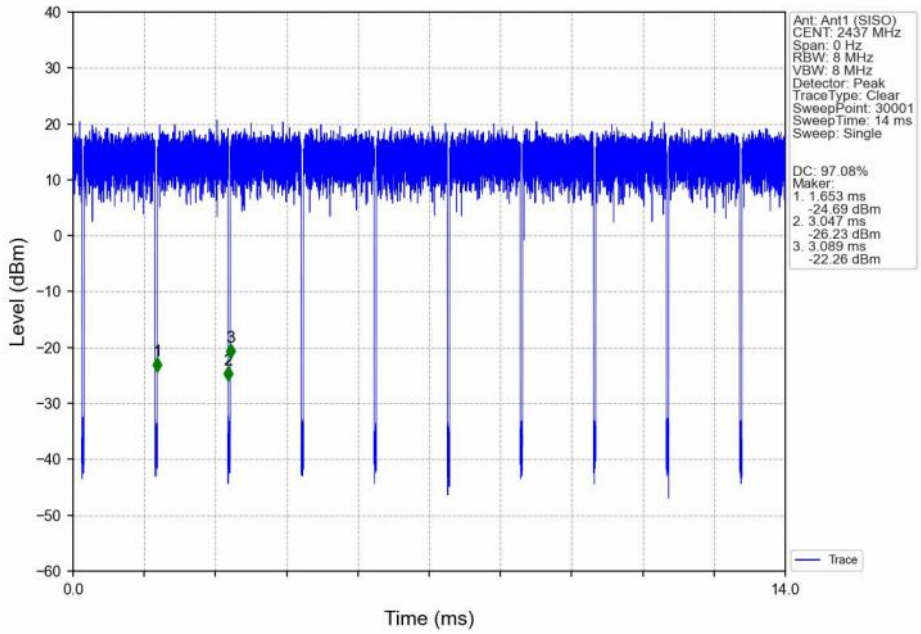
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



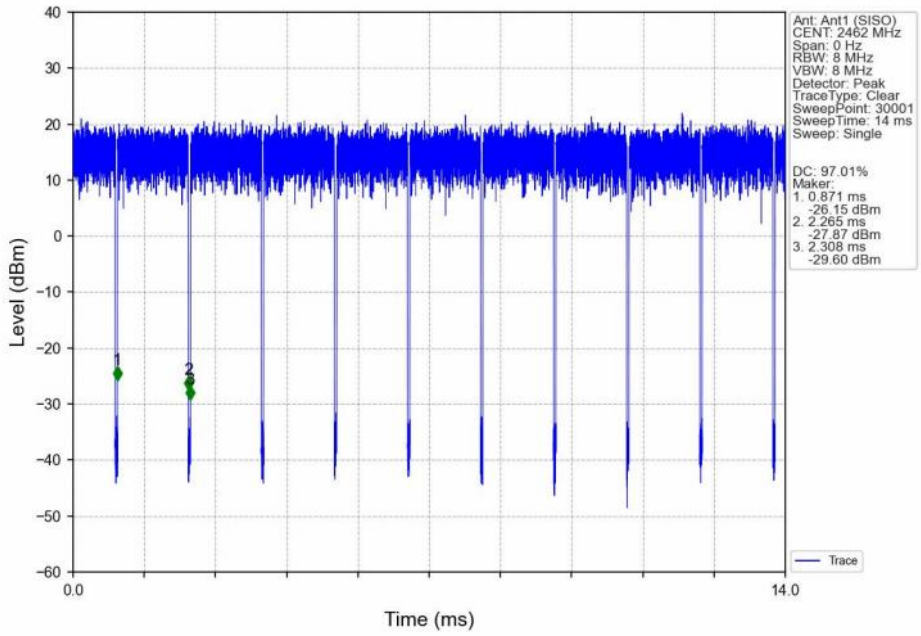

802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



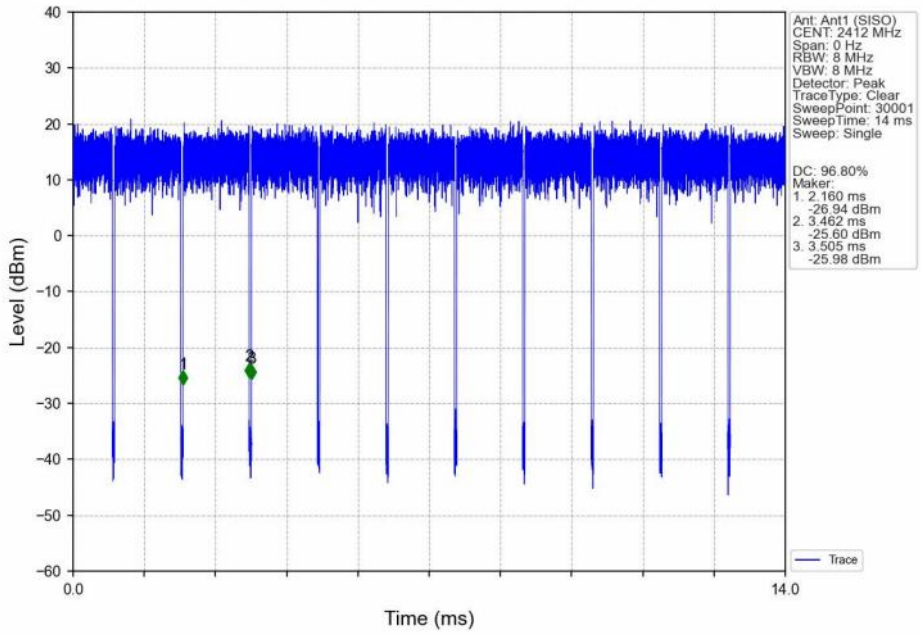
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



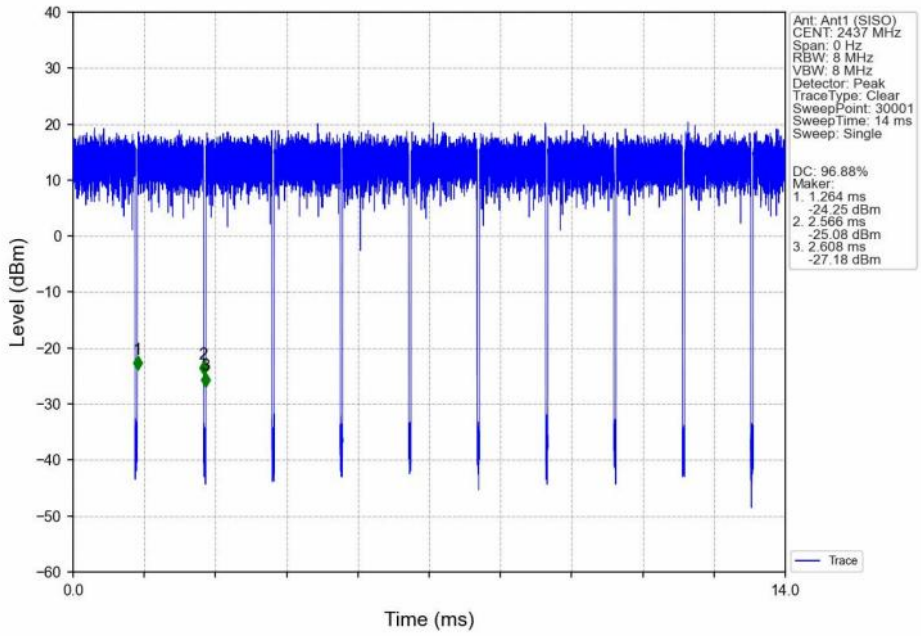

802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



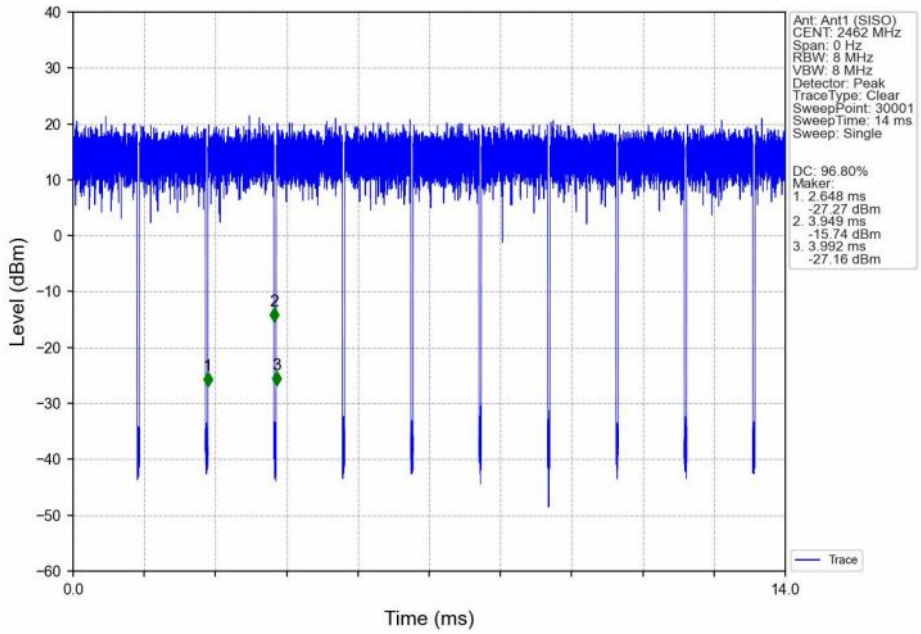
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



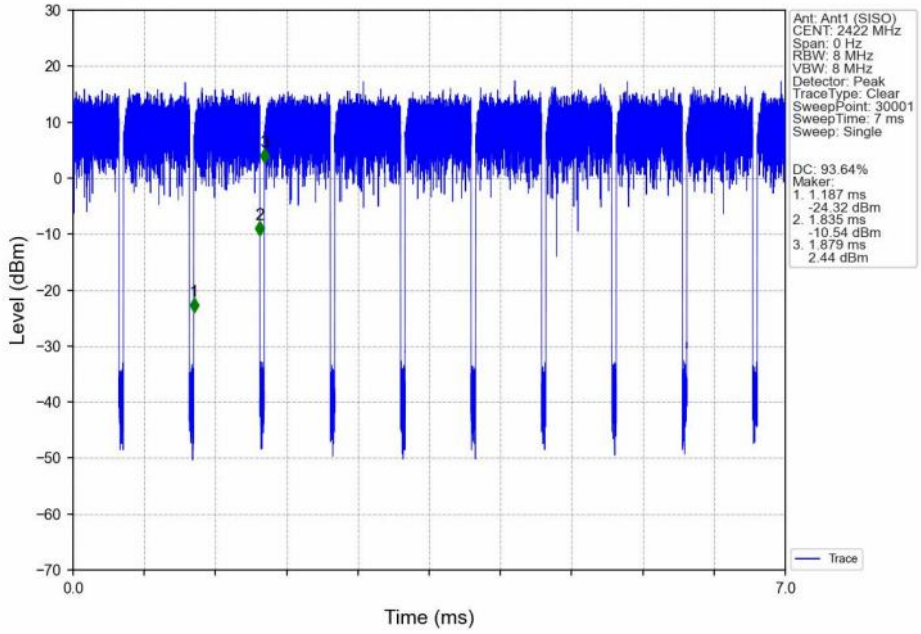

802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



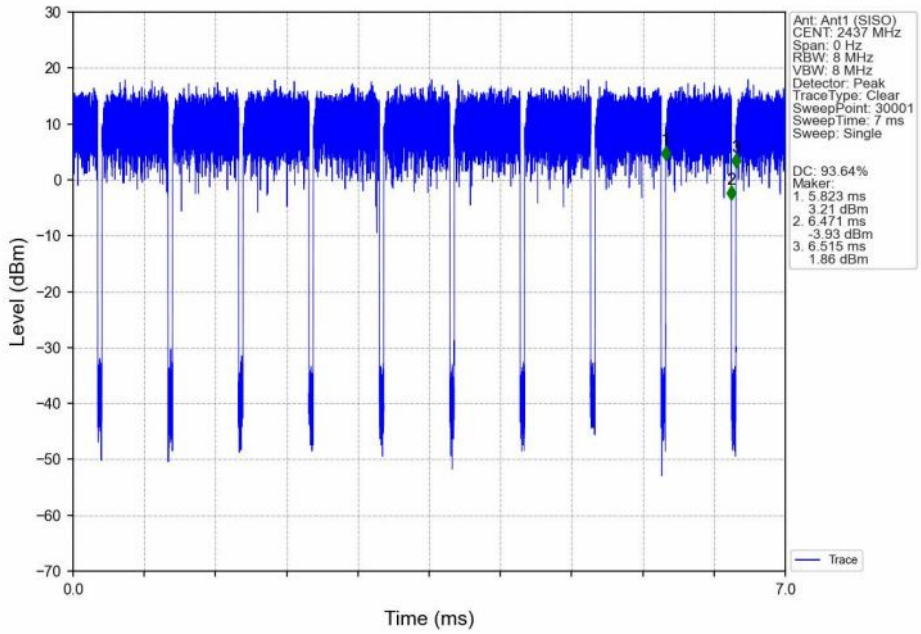
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



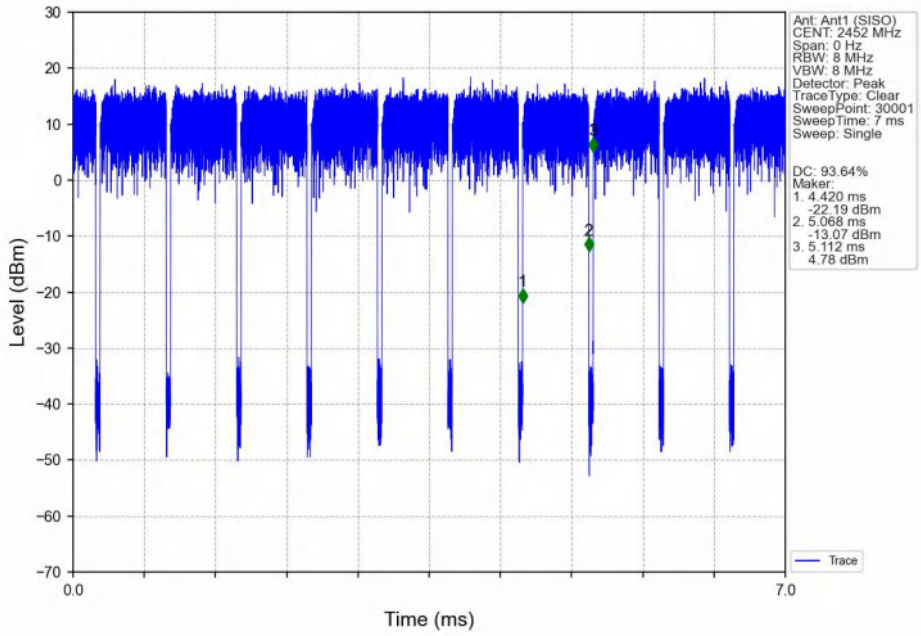

802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



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 | 12.905 | / | Pass |
| | | 2437 | 1 | 12.648 | / | Pass |
| | | 2462 | 1 | 13.247 | / | Pass |
| 802.11g | SISO | 2412 | 1 | 17.811 | / | Pass |
| | | 2437 | 1 | 19.463 | / | Pass |
| | | 2462 | 1 | 18.569 | / | Pass |
| 802.11n (HT20) | SISO | 2412 | 1 | 18.575 | / | Pass |
| | | 2437 | 1 | 19.580 | / | Pass |
| | | 2462 | 1 | 19.410 | / | Pass |
| 802.11n (HT40) | SISO | 2422 | 1 | 38.467 | / | Pass |
| | | 2437 | 1 | 36.820 | / | Pass |
| | | 2452 | 1 | 36.942 | / | Pass |

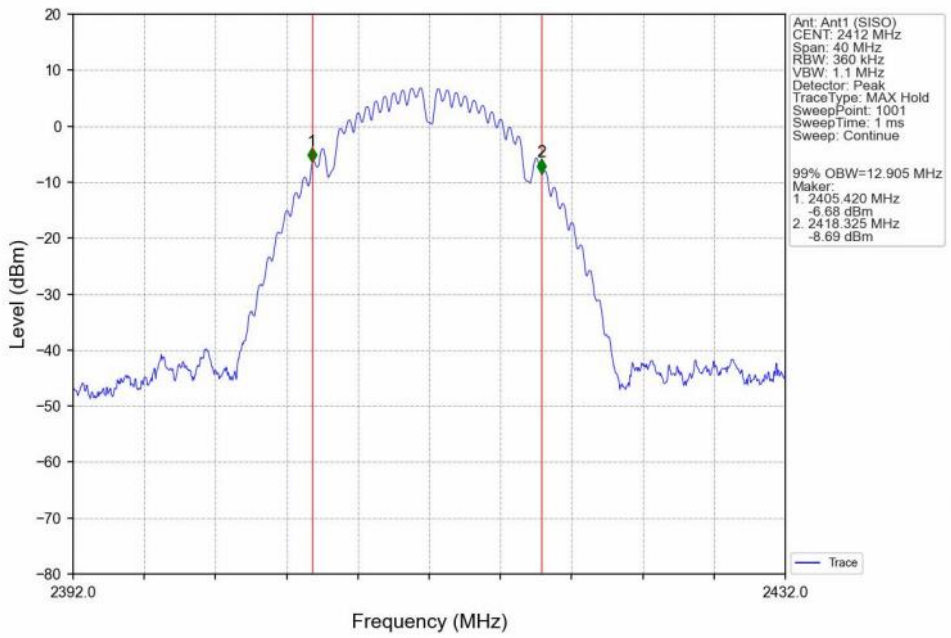
### 2.1.2 6dB BW

| Mode | TX Type | Frequency (MHz) | ANT | 6dB Bandwidth (MHz) | | Verdict |
|---|---|---|---|---|---|---|
| | | | | Result | Limit | |
| 802.11b | SISO | 2412 | 1 | 8.664 | >=0.5 | Pass |
| | | 2437 | 1 | 8.222 | >=0.5 | Pass |
| | | 2462 | 1 | 8.714 | >=0.5 | Pass |
| 802.11g | SISO | 2412 | 1 | 16.366 | >=0.5 | Pass |
| | | 2437 | 1 | 15.573 | >=0.5 | Pass |
| | | 2462 | 1 | 16.086 | >=0.5 | Pass |
| 802.11n (HT20) | SISO | 2412 | 1 | 17.133 | >=0.5 | Pass |
| | | 2437 | 1 | 15.474 | >=0.5 | Pass |
| | | 2462 | 1 | 17.669 | >=0.5 | Pass |
| 802.11n (HT40) | SISO | 2422 | 1 | 36.441 | >=0.5 | Pass |
| | | 2437 | 1 | 29.089 | >=0.5 | Pass |
| | | 2452 | 1 | 28.212 | >=0.5 | Pass |

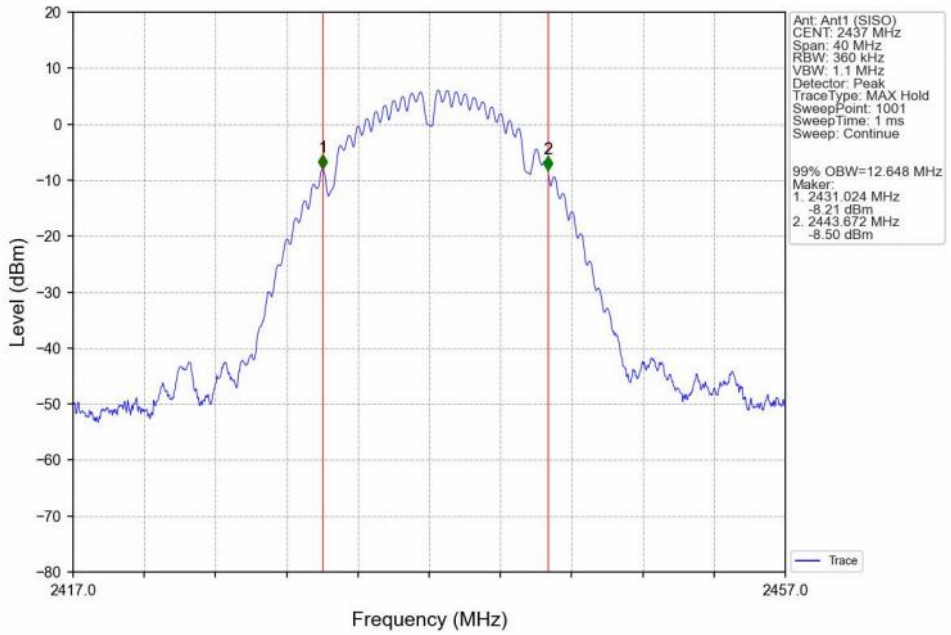
## 2.2 Test Graph

### 2.2.1 OBW

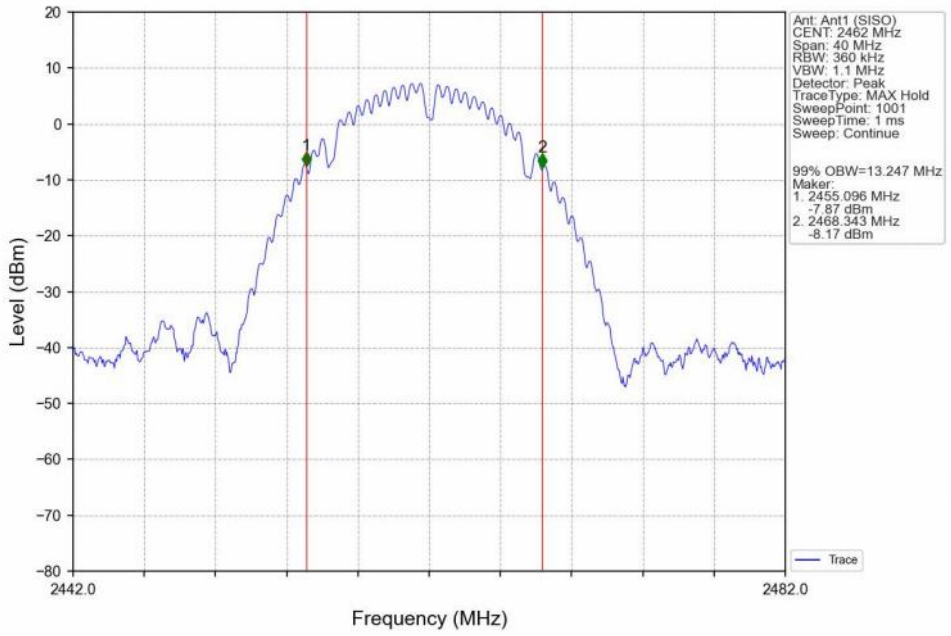
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



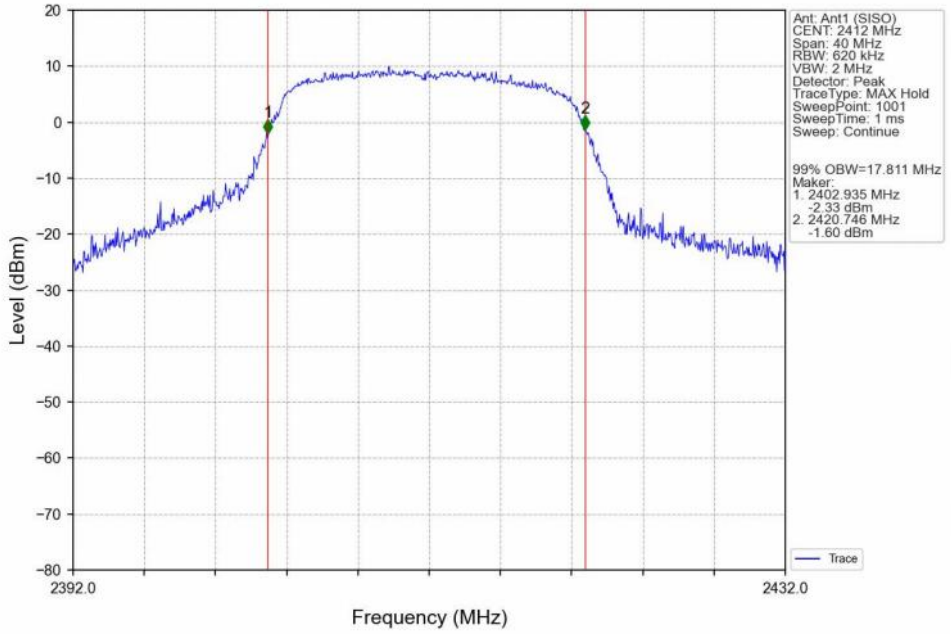

802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



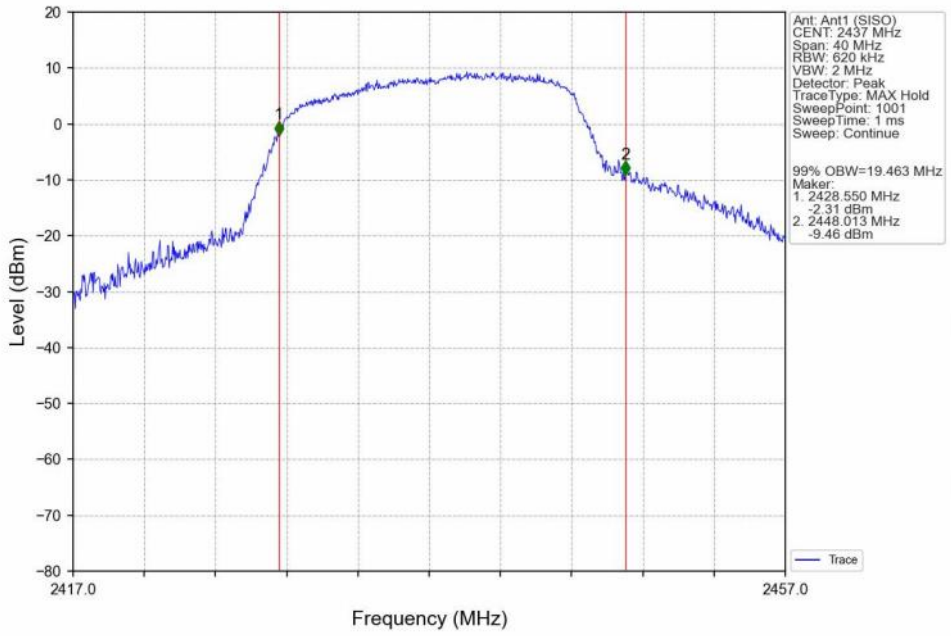
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



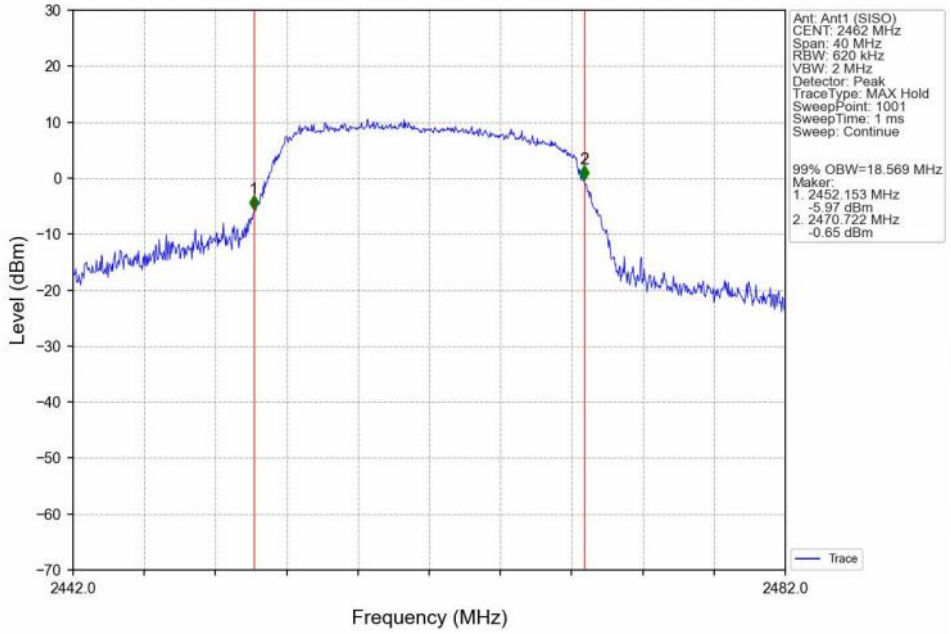

802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



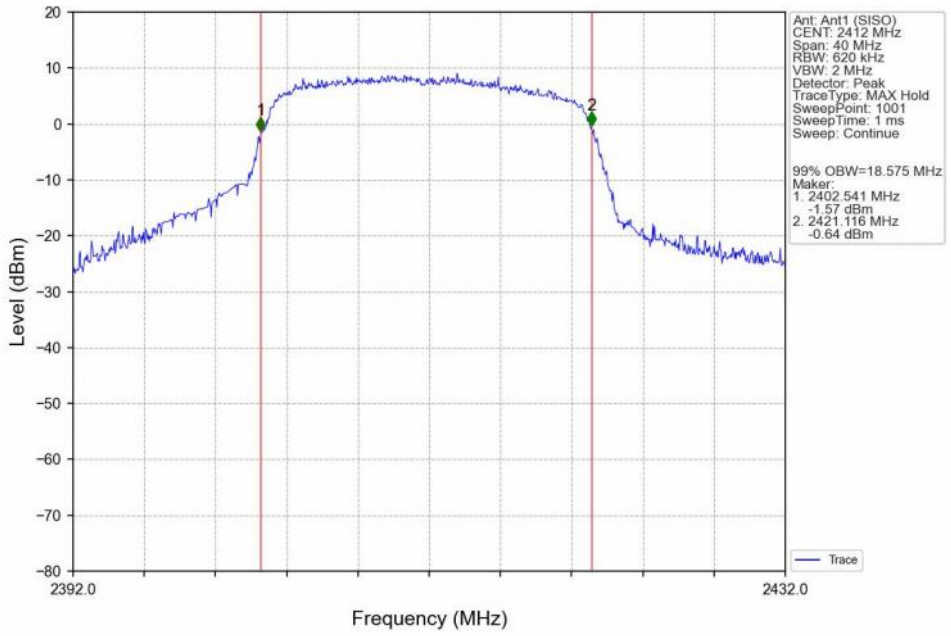
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



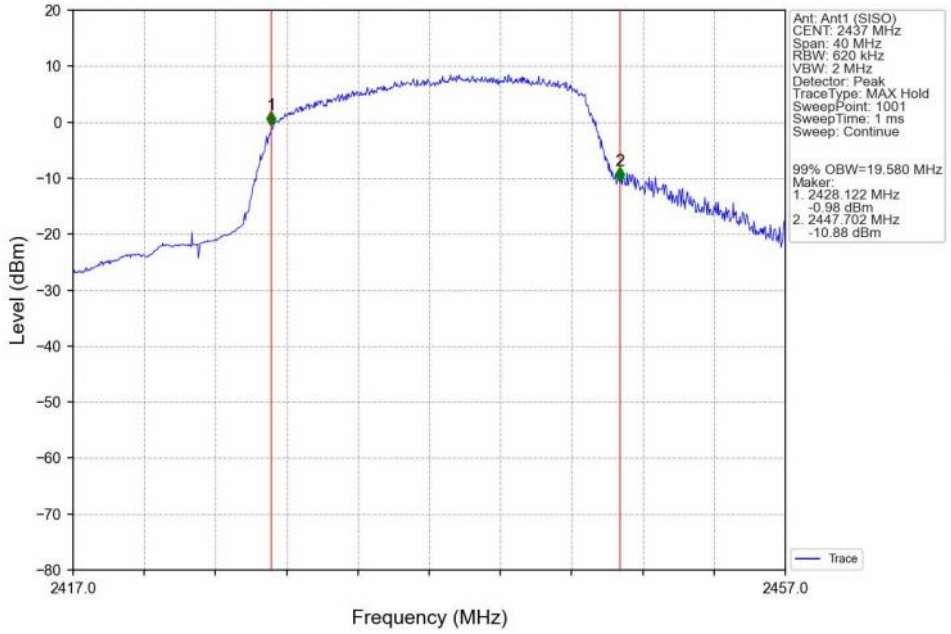

802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



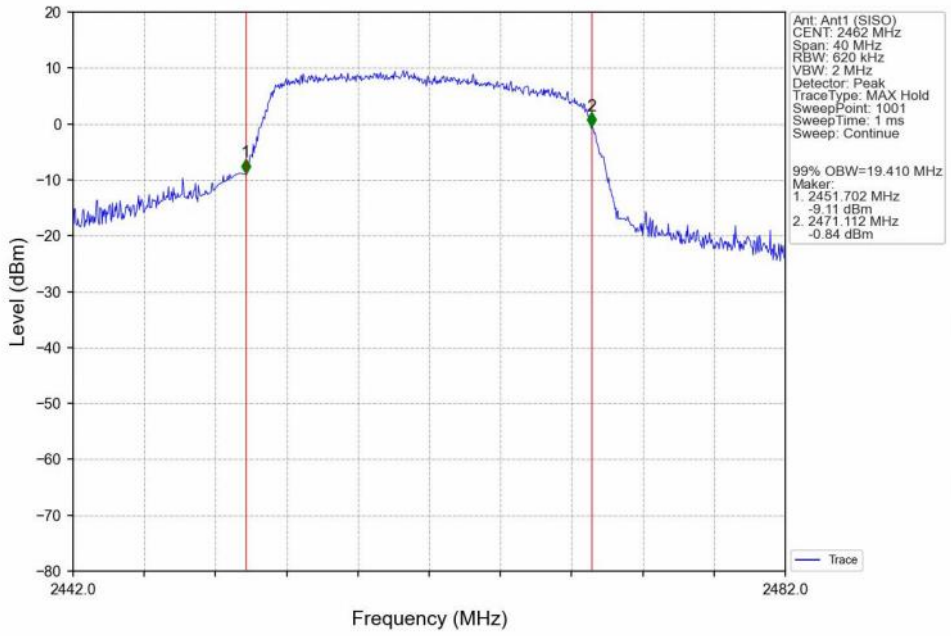
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



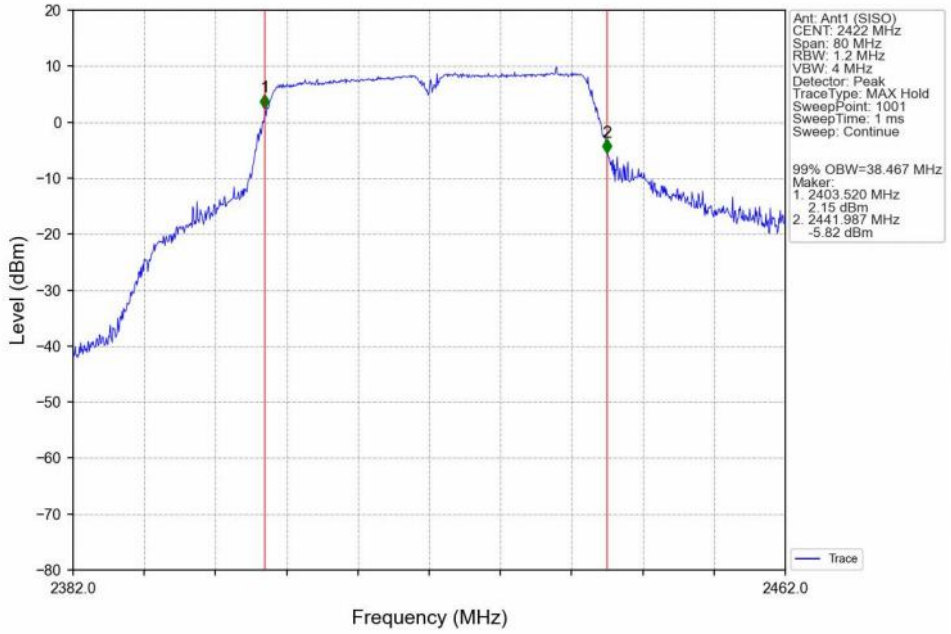

802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



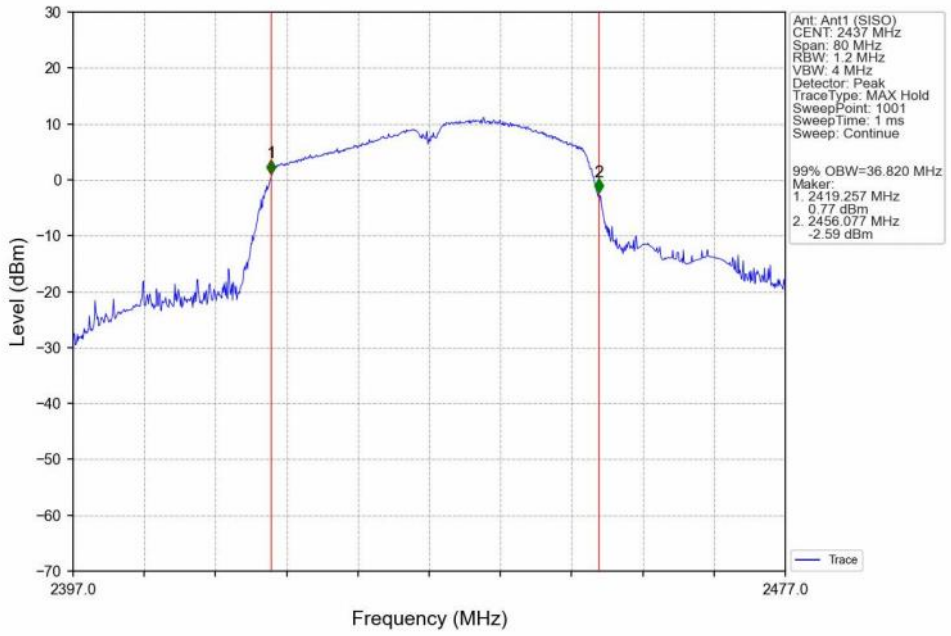
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



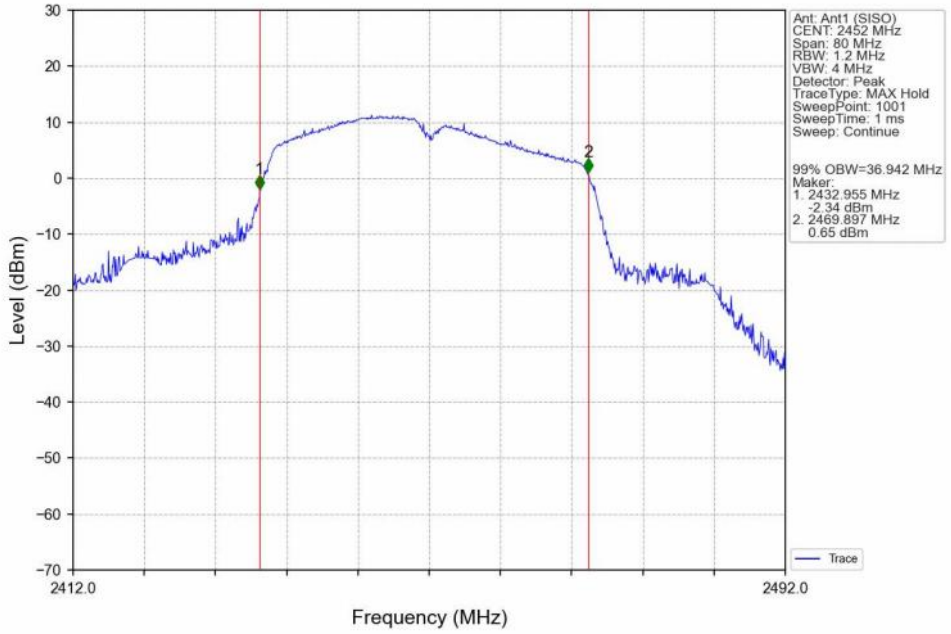

802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV

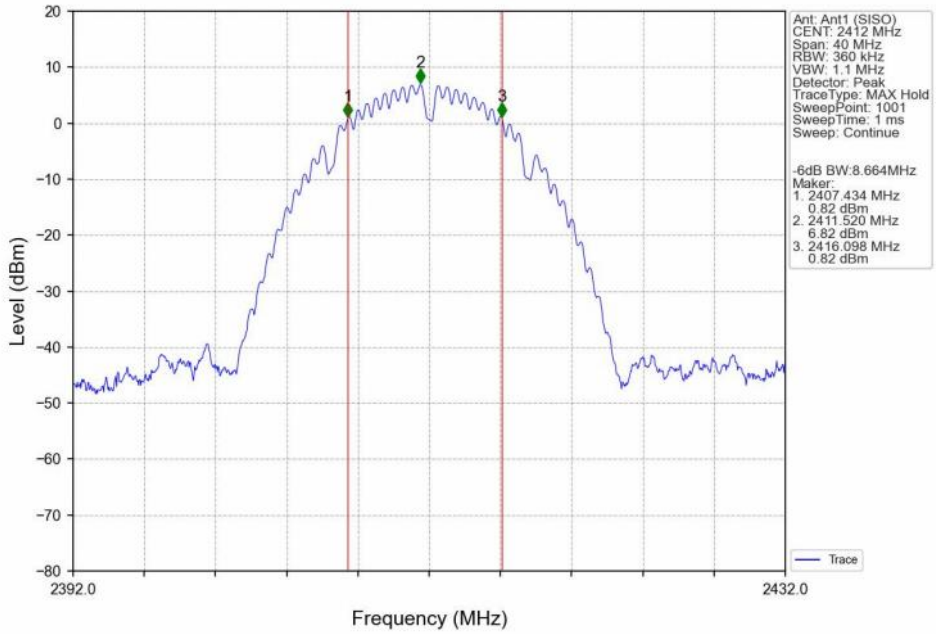



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV

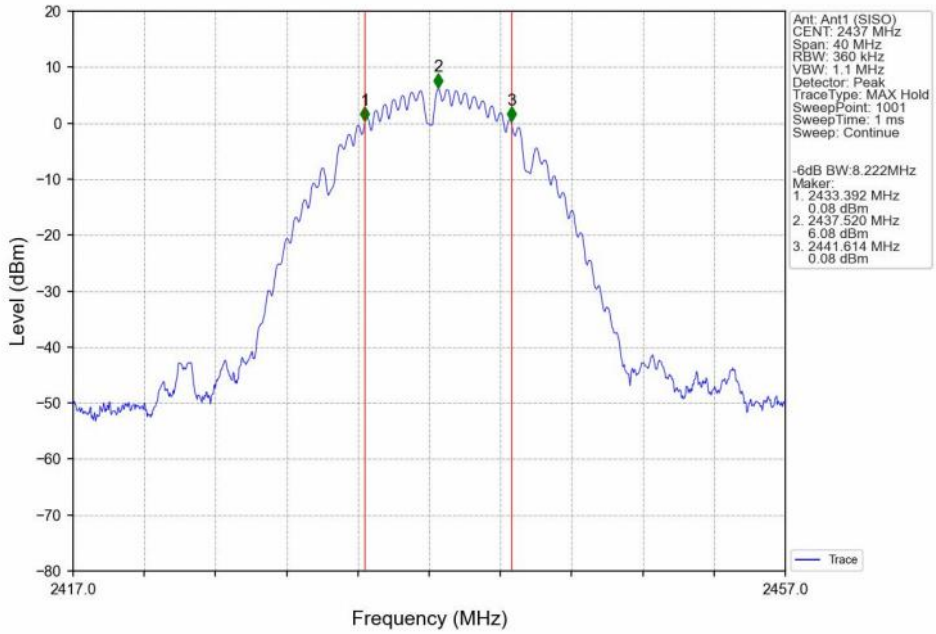


## 2.2.2 6dB BW

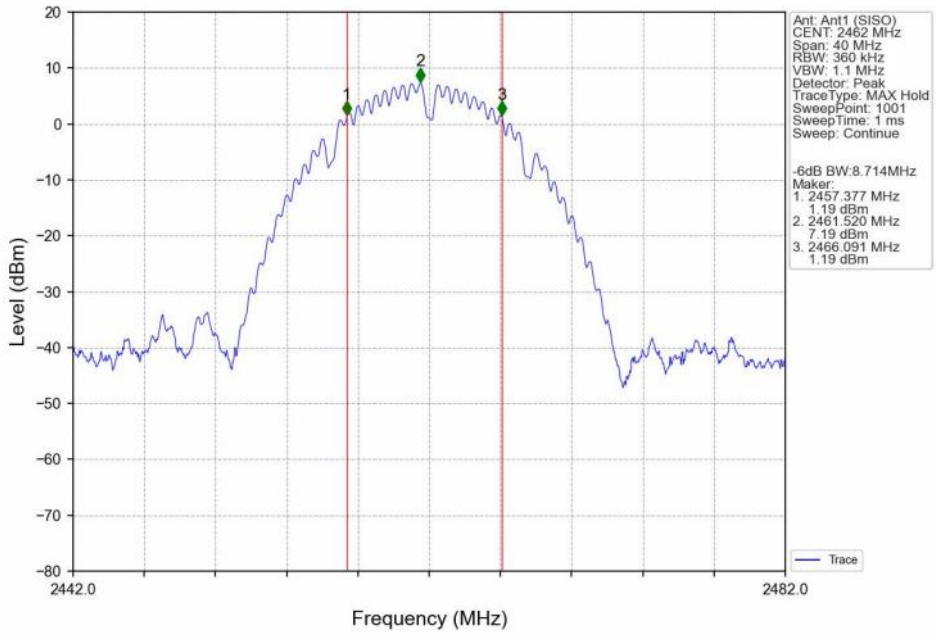
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



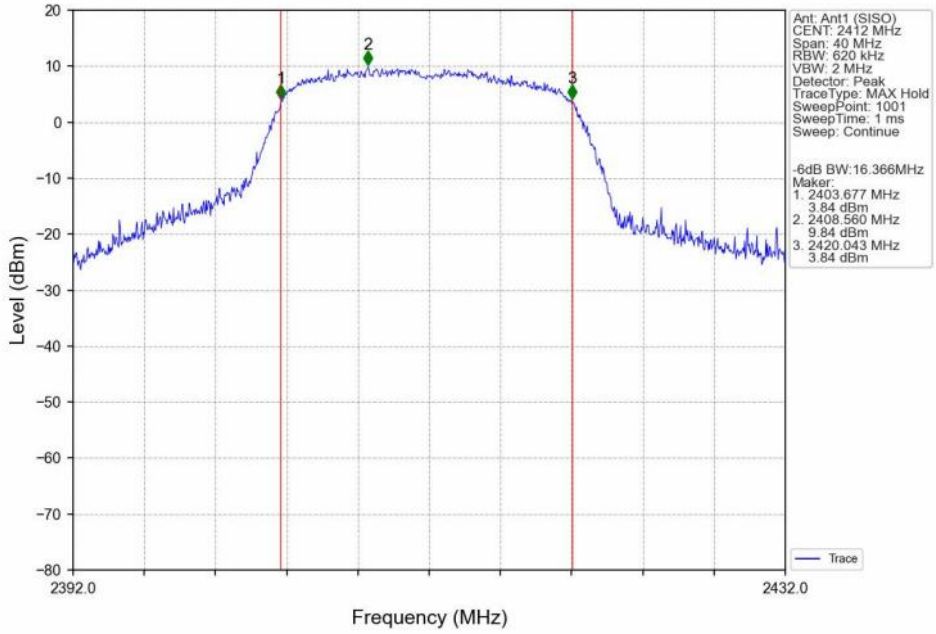

802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



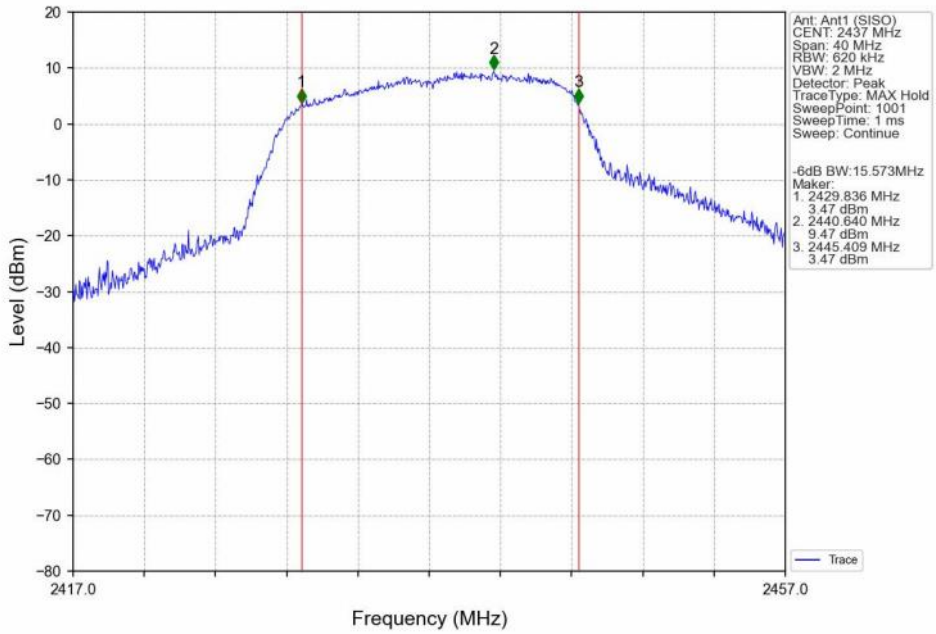
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



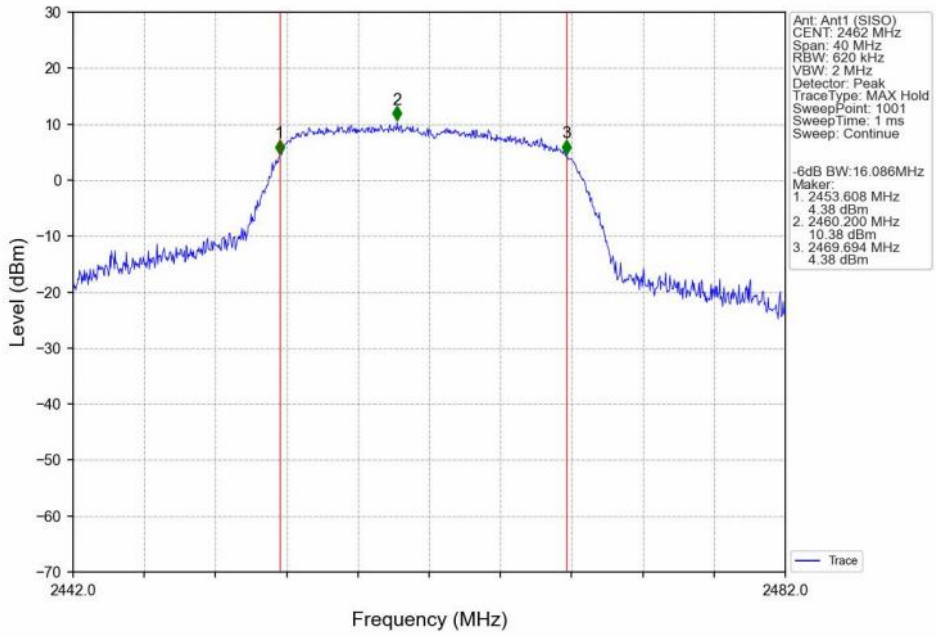

802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



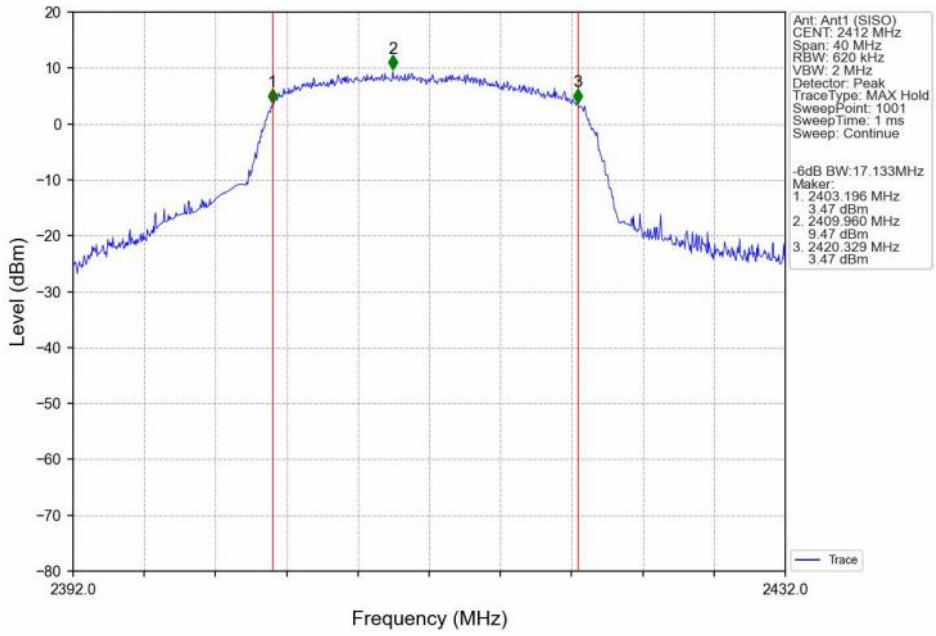
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



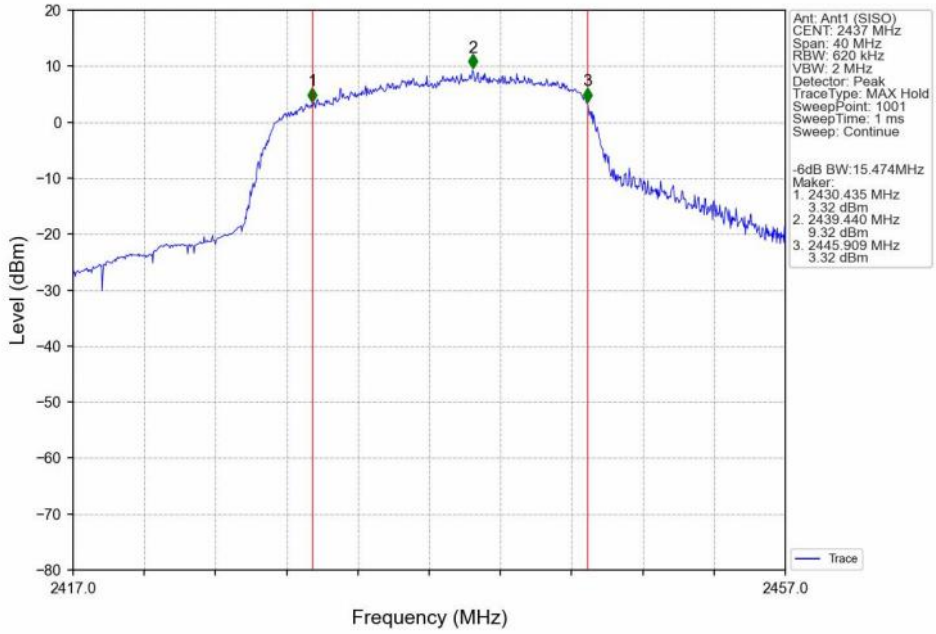

802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



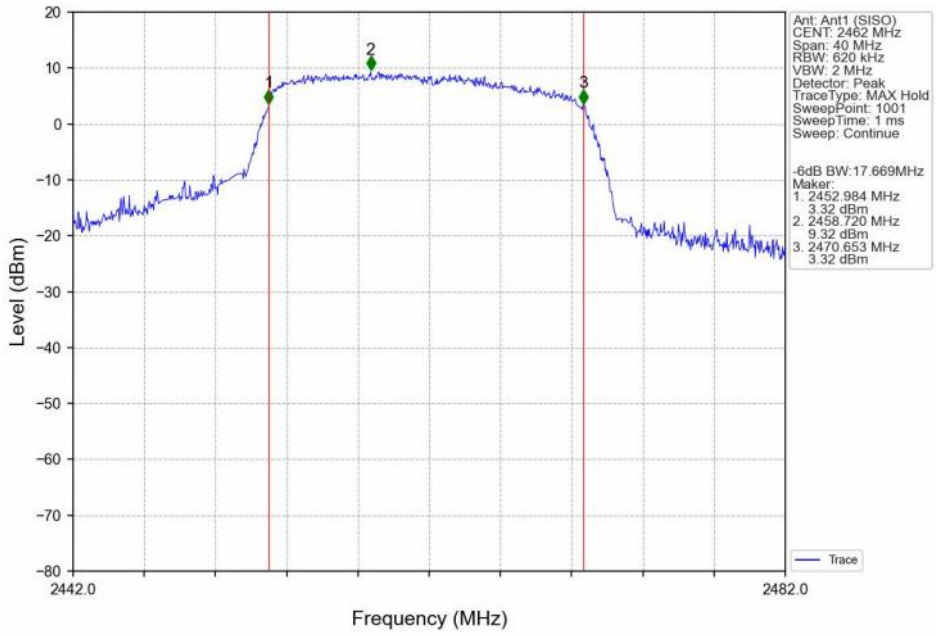
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



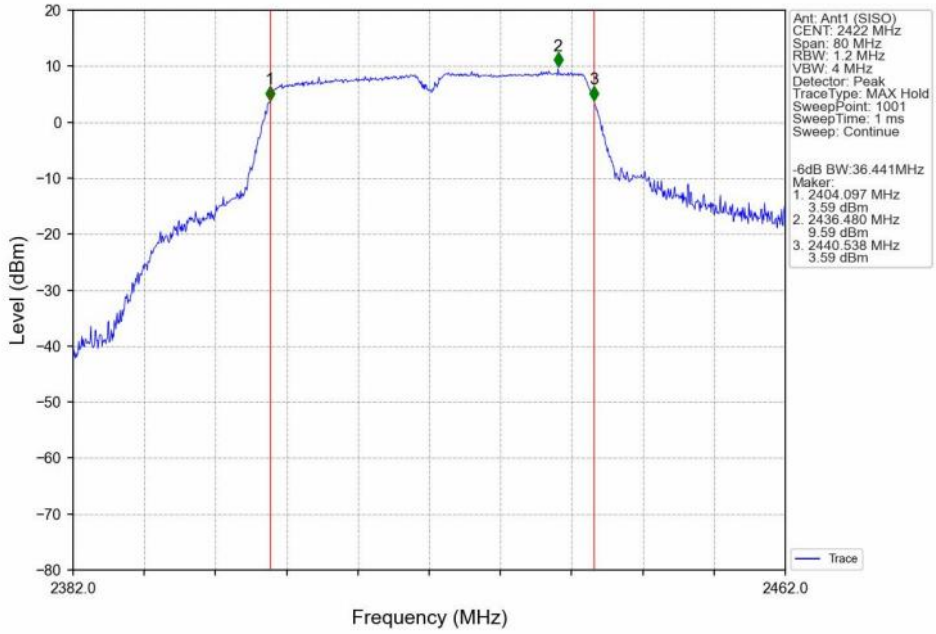

802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



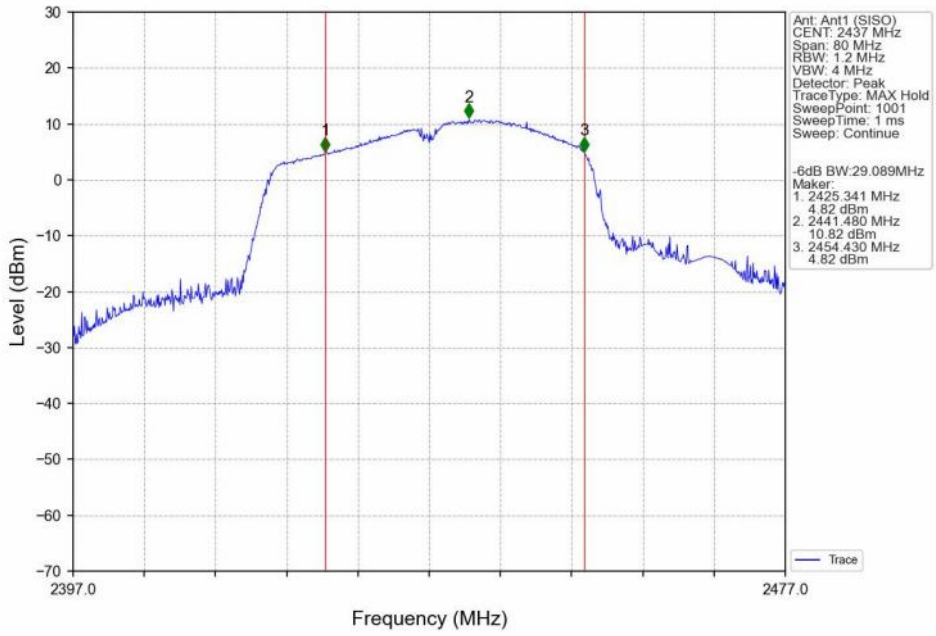
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



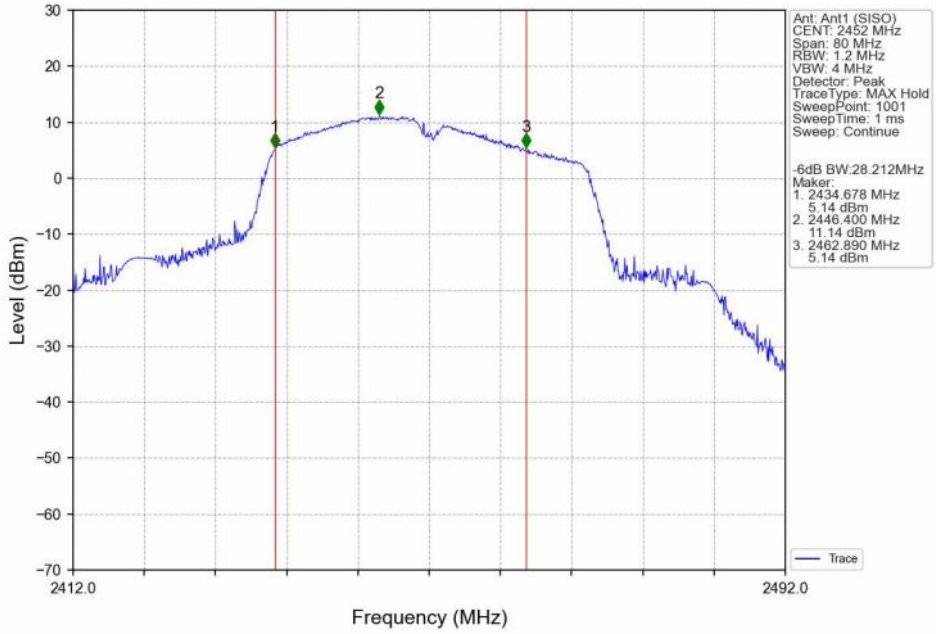

802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



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 Average Conducted Output Power (dBm) | | Verdict |
|---|---|---|---|---|---|
| | | | ANT1 | Limit | |
| 802.11b | SISO | 2412 | 14.41 | <=30 | Pass |
| | | 2437 | 13.57 | <=30 | Pass |
| | | 2462 | 14.89 | <=30 | Pass |
| 802.11g | SISO | 2412 | 14.04 | <=30 | Pass |
| | | 2437 | 13.30 | <=30 | Pass |
| | | 2462 | 14.23 | <=30 | Pass |
| 802.11n (HT20) | SISO | 2412 | 13.71 | <=30 | Pass |
| | | 2437 | 12.96 | <=30 | Pass |
| | | 2462 | 14.24 | <=30 | Pass |
| 802.11n (HT40) | SISO | 2422 | 13.68 | <=30 | Pass |
| | | 2437 | 13.56 | <=30 | Pass |
| | | 2452 | 13.72 | <=30 | Pass |
| Note1: Antenna Gain: Ant1: -0.30dBi; | | | | | |

# 4. Maximum Power Spectral Density

## 4.1 Test Result

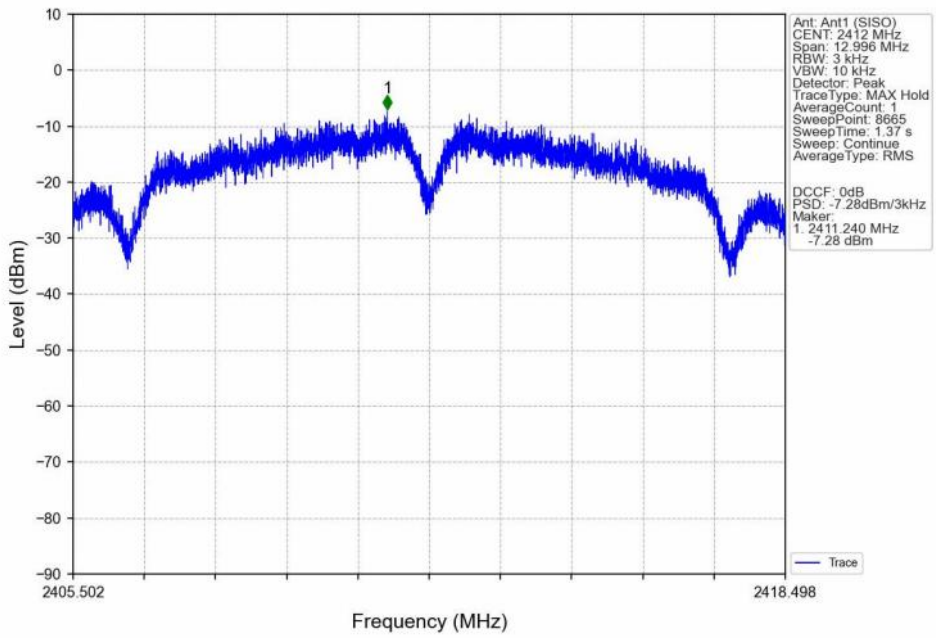
### 4.1.1 PSD

| Mode | TX Type | Frequency (MHz) | Maximum PSD (dBm/3kHz) | | Verdict |
|---|---|---|---|---|---|
| | | | ANT1 | Limit | |
| 802.11b | SISO | 2412 | -7.28 | <=8 | Pass |
| | | 2437 | -8.24 | <=8 | Pass |
| | | 2462 | -6.58 | <=8 | Pass |
| 802.11g | SISO | 2412 | -9.24 | <=8 | Pass |
| | | 2437 | -9.96 | <=8 | Pass |
| | | 2462 | -10.47 | <=8 | Pass |
| 802.11n (HT20) | SISO | 2412 | -10.99 | <=8 | Pass |
| | | 2437 | -11.06 | <=8 | Pass |
| | | 2462 | -10.40 | <=8 | Pass |
| 802.11n (HT40) | SISO | 2422 | -13.37 | <=8 | Pass |
| | | 2437 | -12.77 | <=8 | Pass |
| | | 2452 | -11.27 | <=8 | Pass |
| Note1: Antenna Gain: Ant1: -0.30dBi; | | | | | |

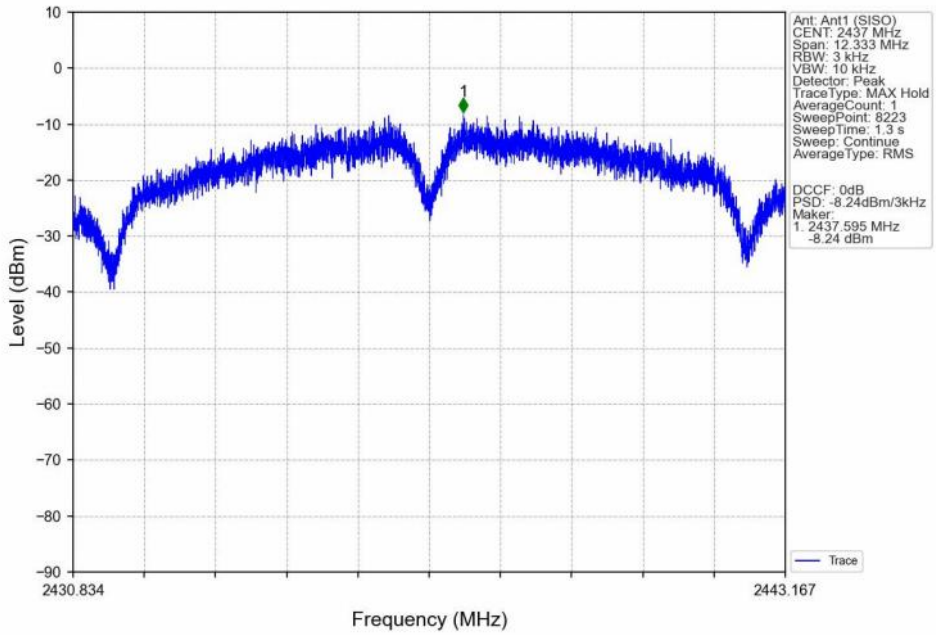
## 4.2 Test Graph

### 4.2.1 PSD

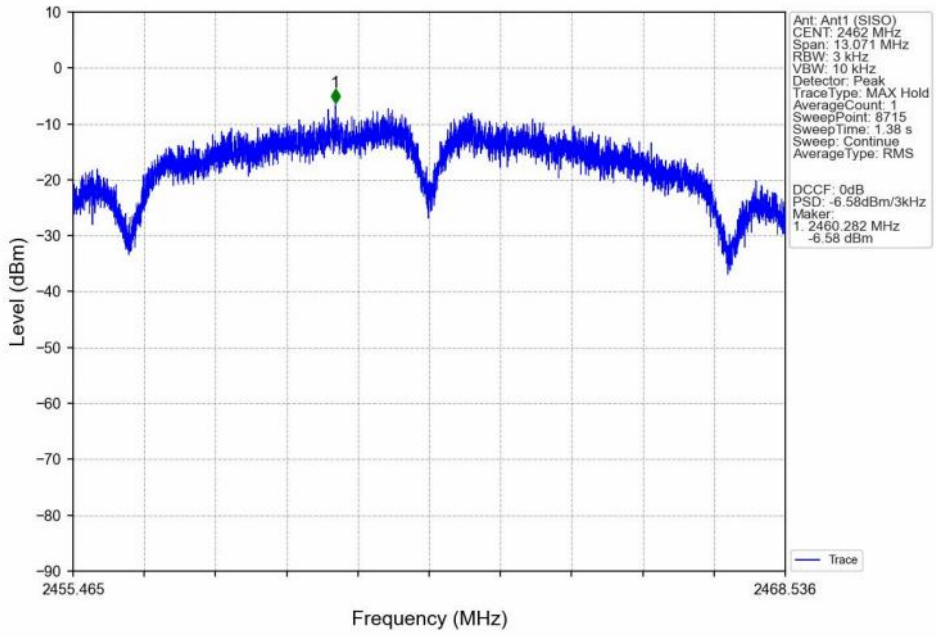
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



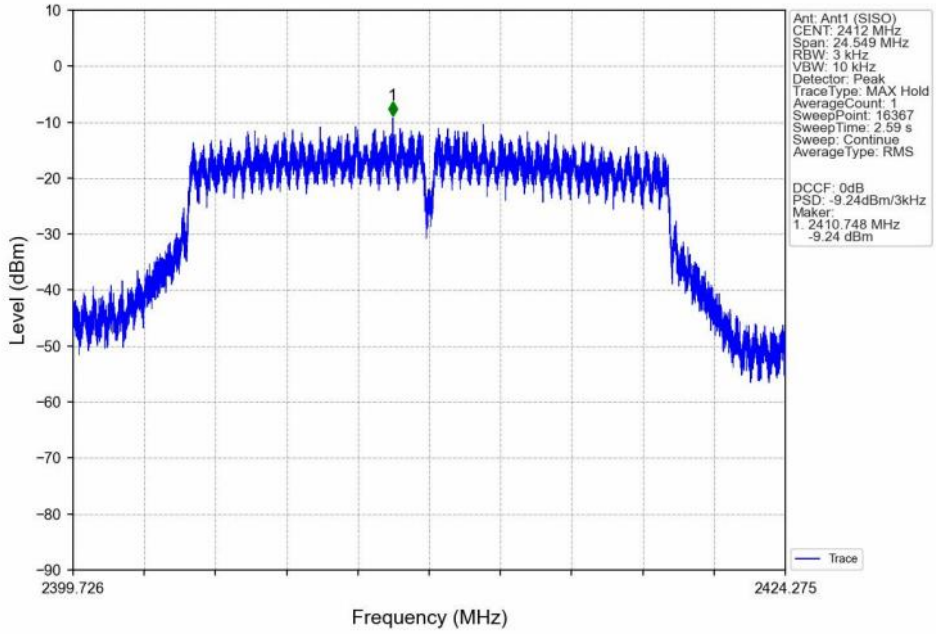

802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



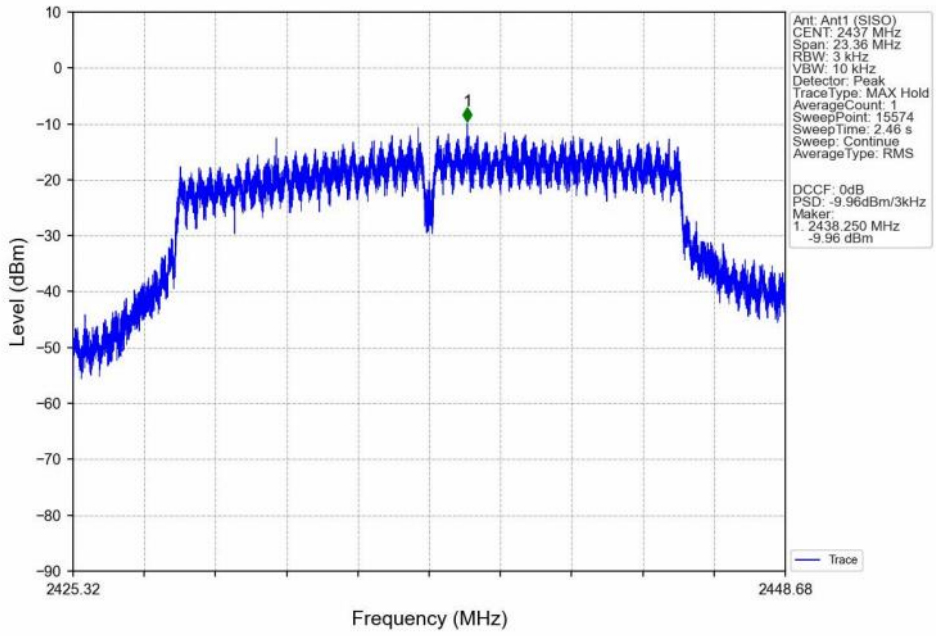
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



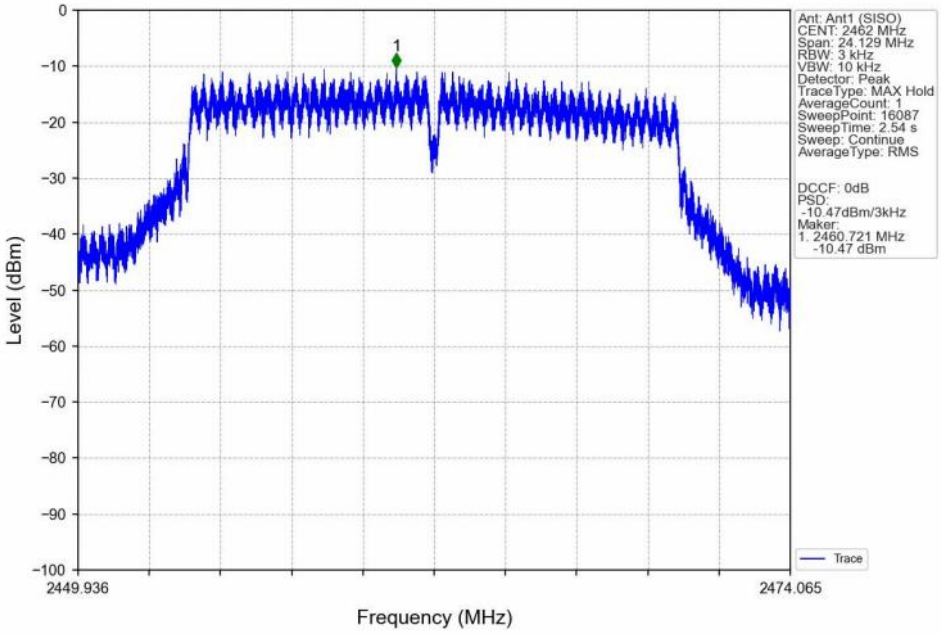

802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



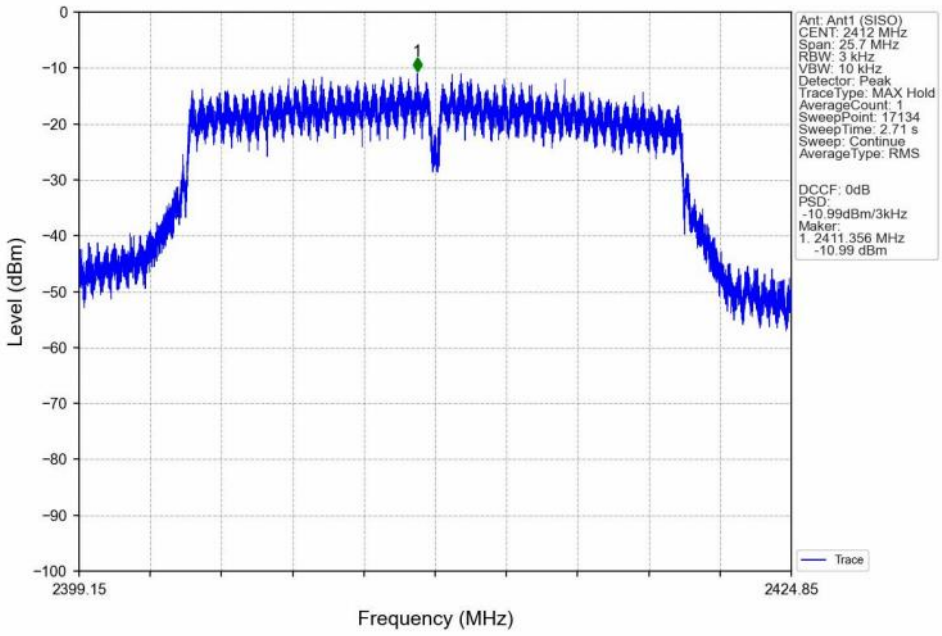
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



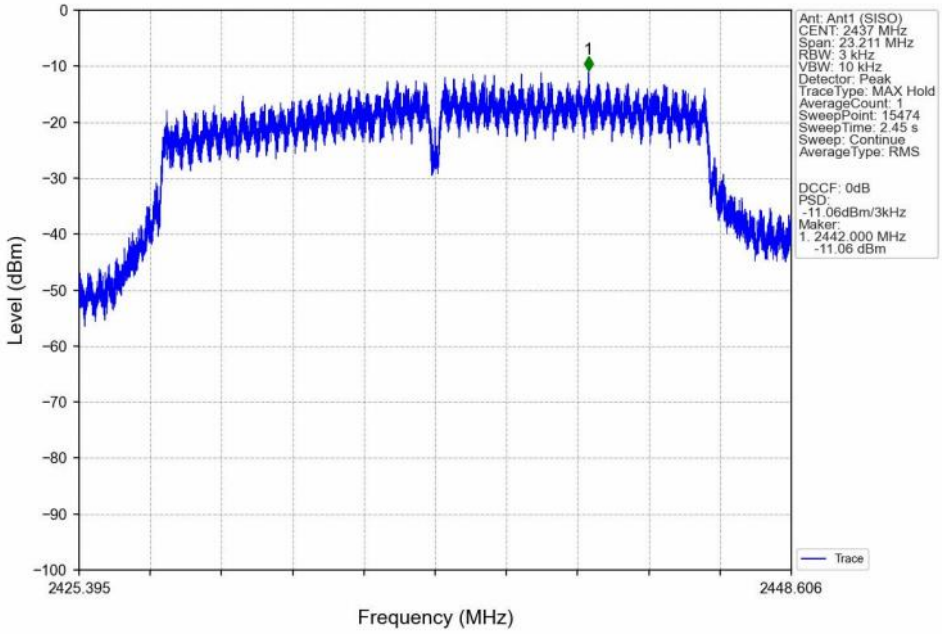

802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



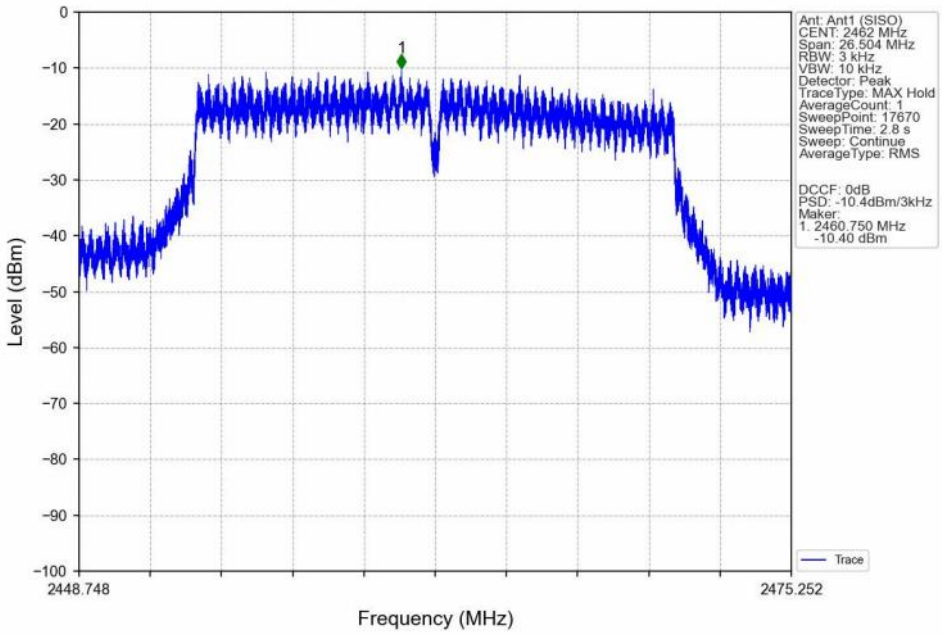
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



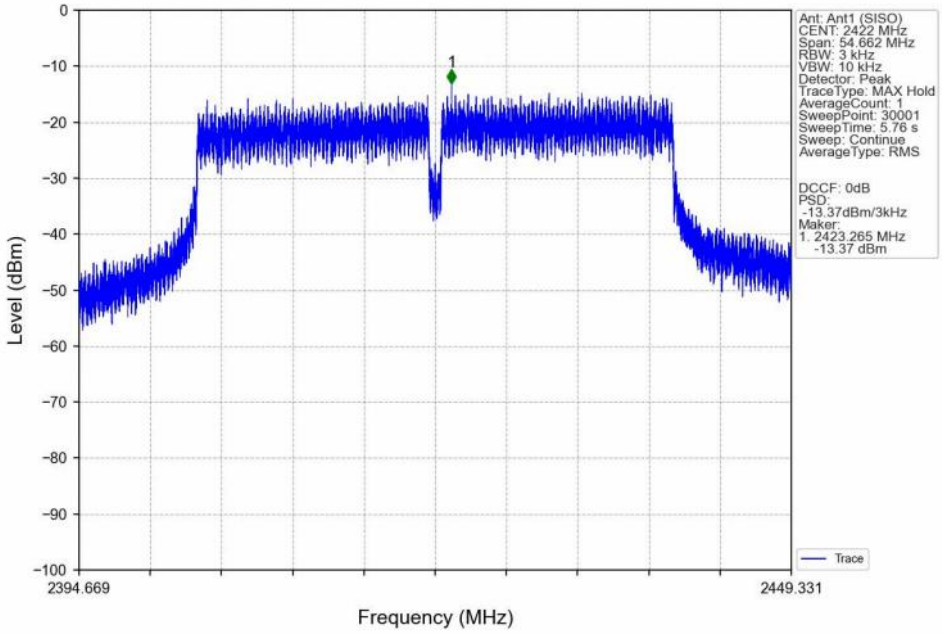

802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



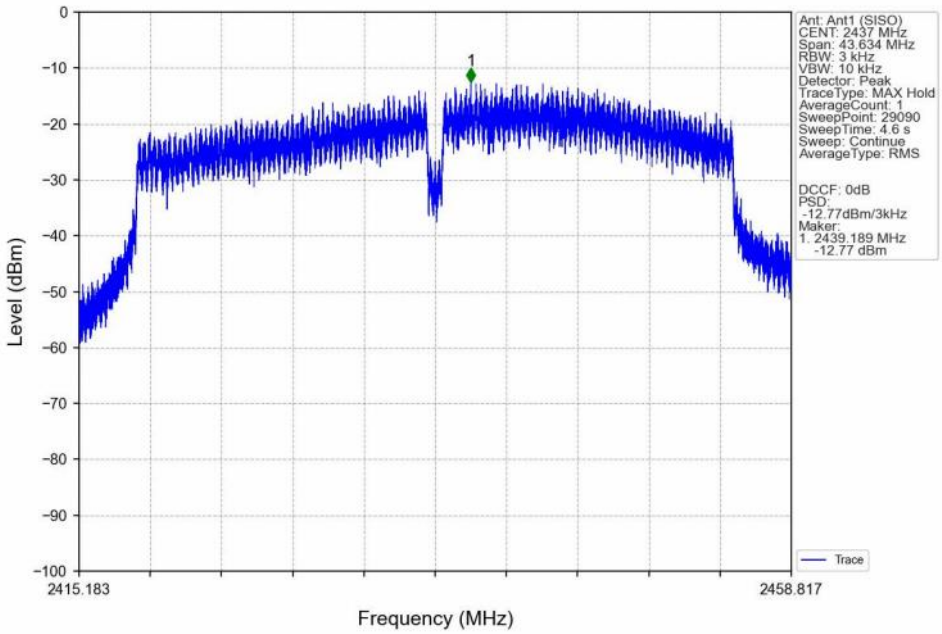
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



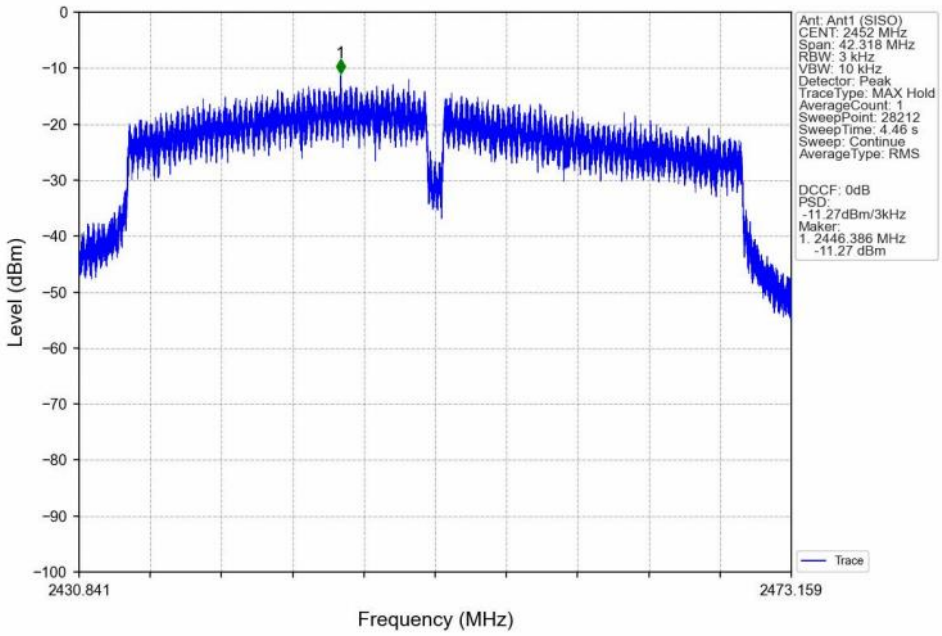

802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



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 | 6.62 |
| | | 2437 | 1 | 5.86 |
| | | 2462 | 1 | **6.83** |
| 802.11g | SISO | 2412 | 1 | **3.86** |
| | | 2437 | 1 | 3.71 |
| | | 2462 | 1 | 3.55 |
| 802.11n (HT20) | SISO | 2412 | 1 | 3.19 |
| | | 2437 | 1 | 3.45 |
| | | 2462 | 1 | **3.69** |
| 802.11n (HT40) | SISO | 2422 | 1 | -0.02 |
| | | 2437 | 1 | 2.05 |
| | | 2452 | 1 | **2.38** |
| Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level. | | | | |

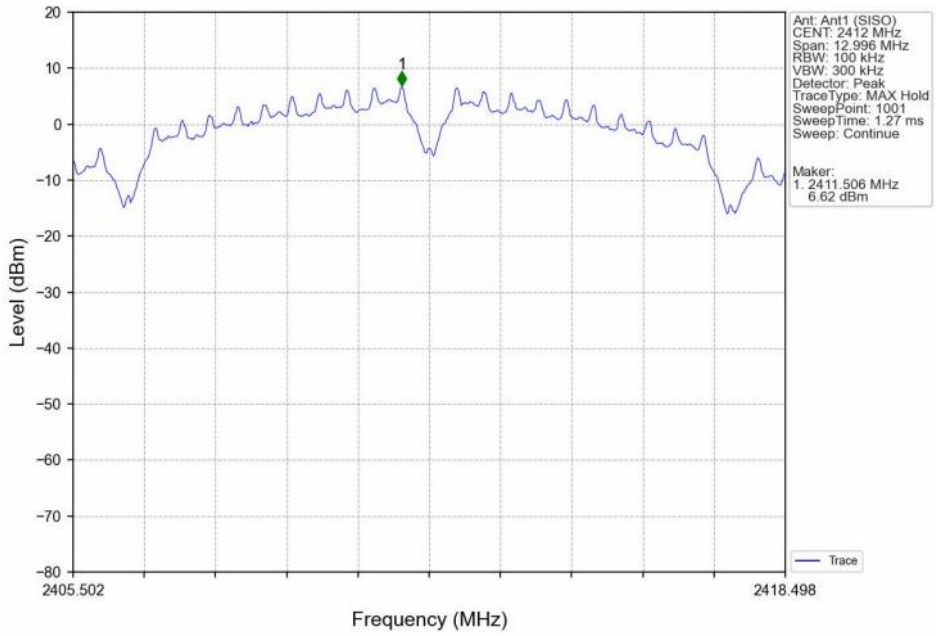
### 5.1.2 CSE

| Mode | TX Type | Frequency (MHz) | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|
| 802.11b | SISO | 2412 | 1 | 6.83 | -23.17 | Pass |
| | | 2437 | 1 | 6.83 | -23.17 | Pass |
| | | 2462 | 1 | 6.83 | -23.17 | Pass |
| 802.11g | SISO | 2412 | 1 | 3.86 | -26.14 | Pass |
| | | 2437 | 1 | 3.86 | -26.14 | Pass |
| | | 2462 | 1 | 3.86 | -26.14 | Pass |
| 802.11n (HT20) | SISO | 2412 | 1 | 3.69 | -26.31 | Pass |
| | | 2437 | 1 | 3.69 | -26.31 | Pass |
| | | 2462 | 1 | 3.69 | -26.31 | Pass |
| 802.11n (HT40) | SISO | 2422 | 1 | 2.38 | -27.62 | Pass |
| | | 2437 | 1 | 2.38 | -27.62 | Pass |
| | | 2452 | 1 | 2.38 | -27.62 | Pass |
| Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level. | | | | | | |

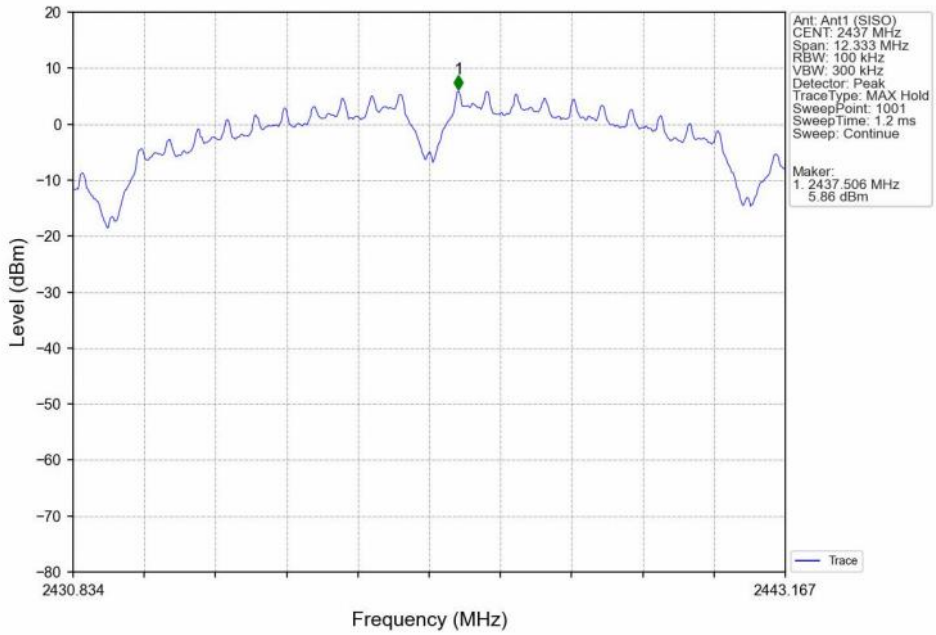
## 5.2 Test Graph

### 5.2.1 Ref

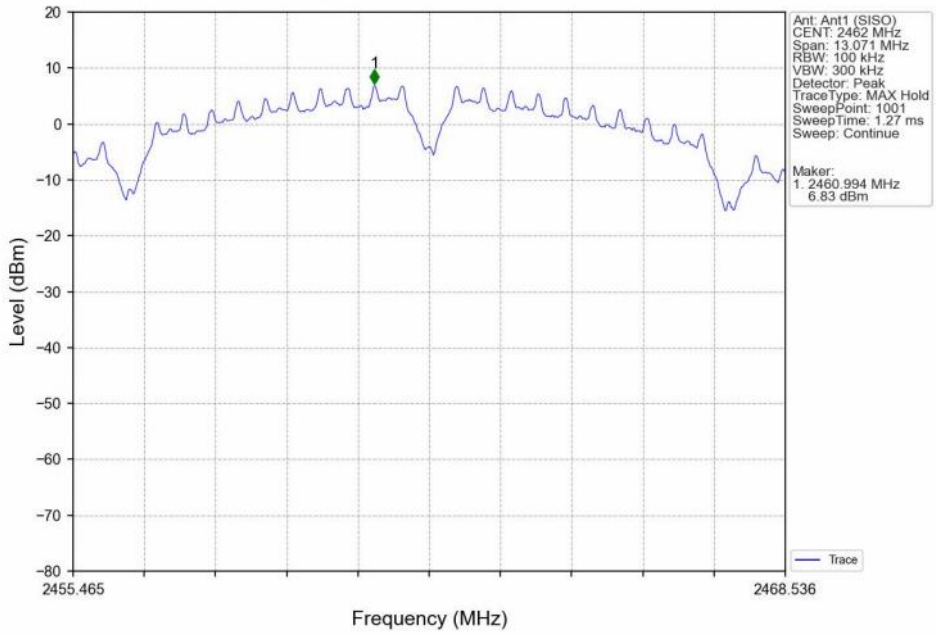
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



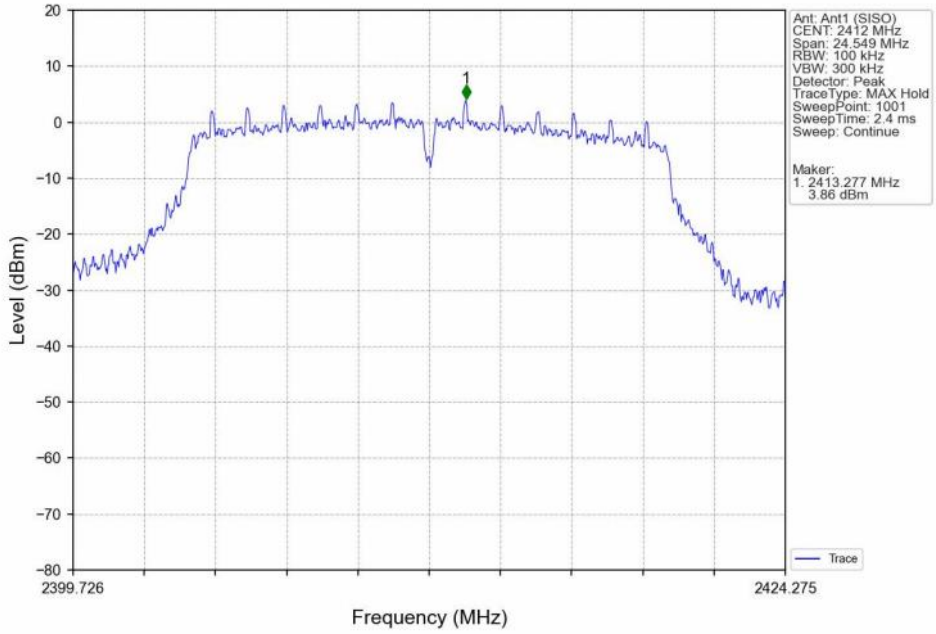

802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



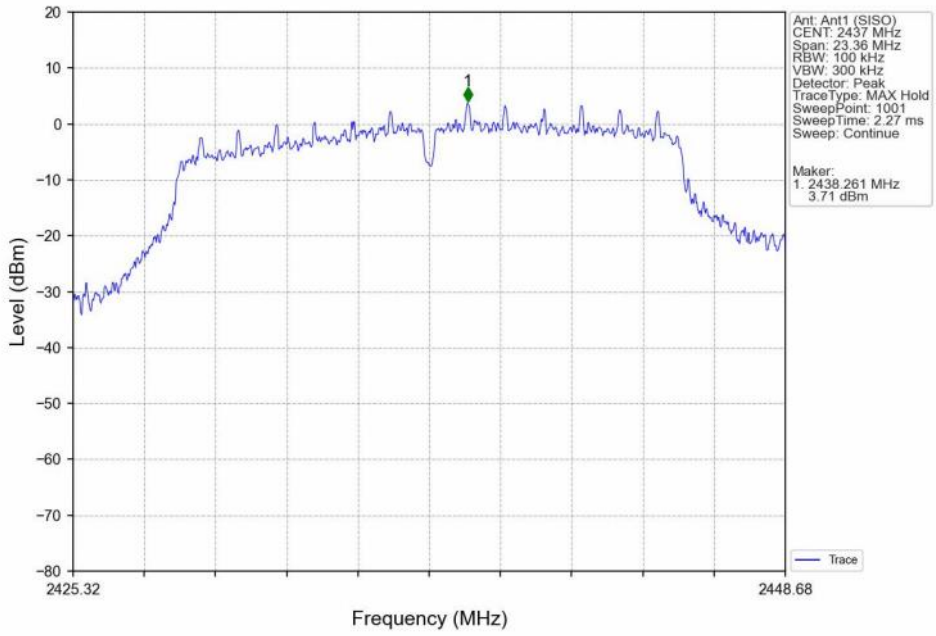
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



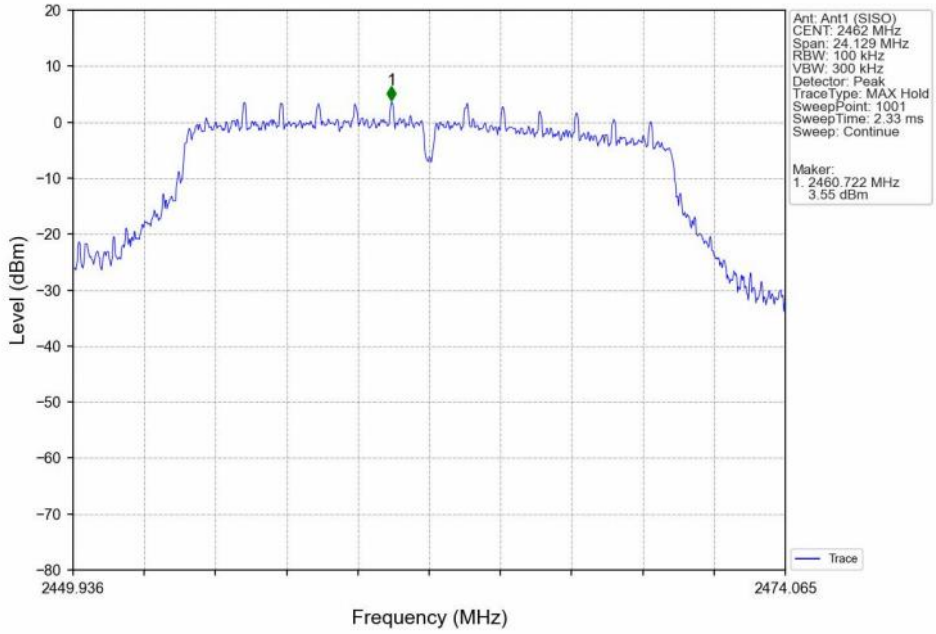

802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



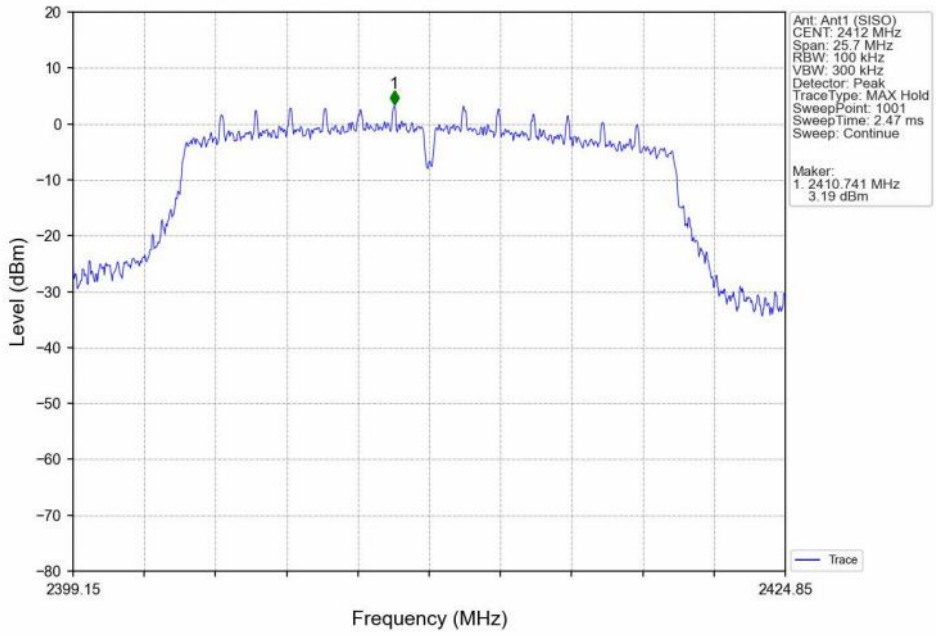
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



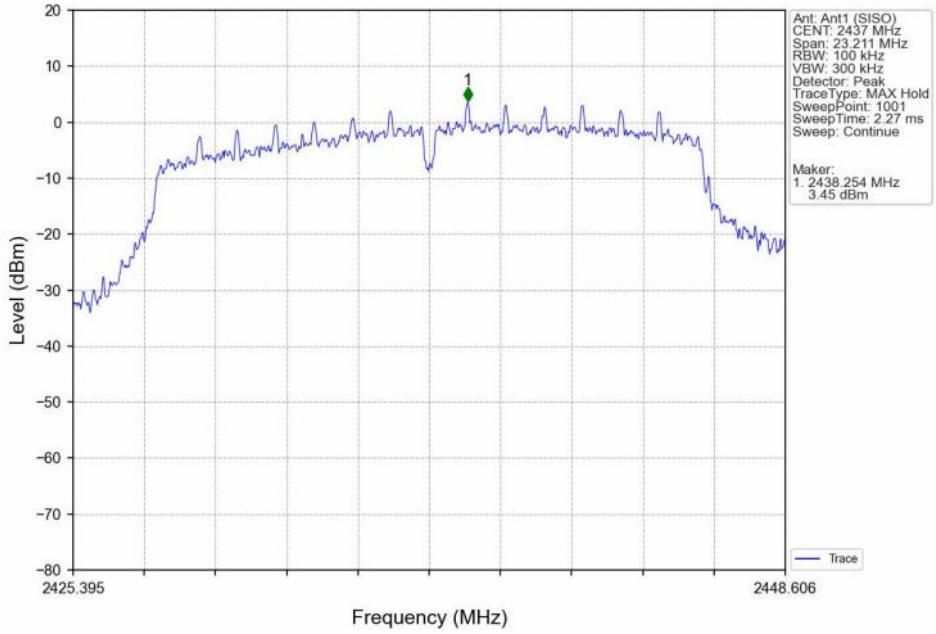

802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



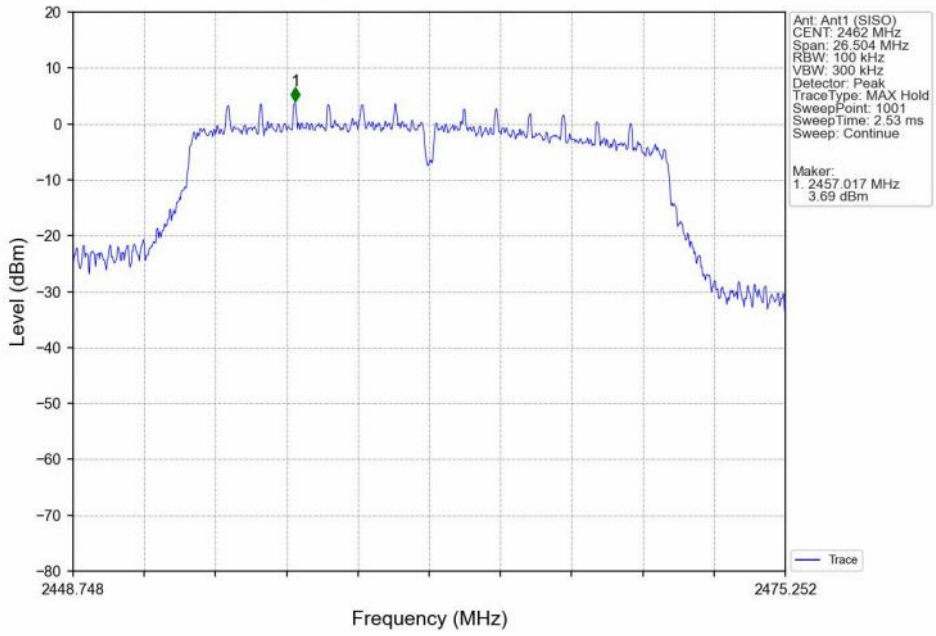
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



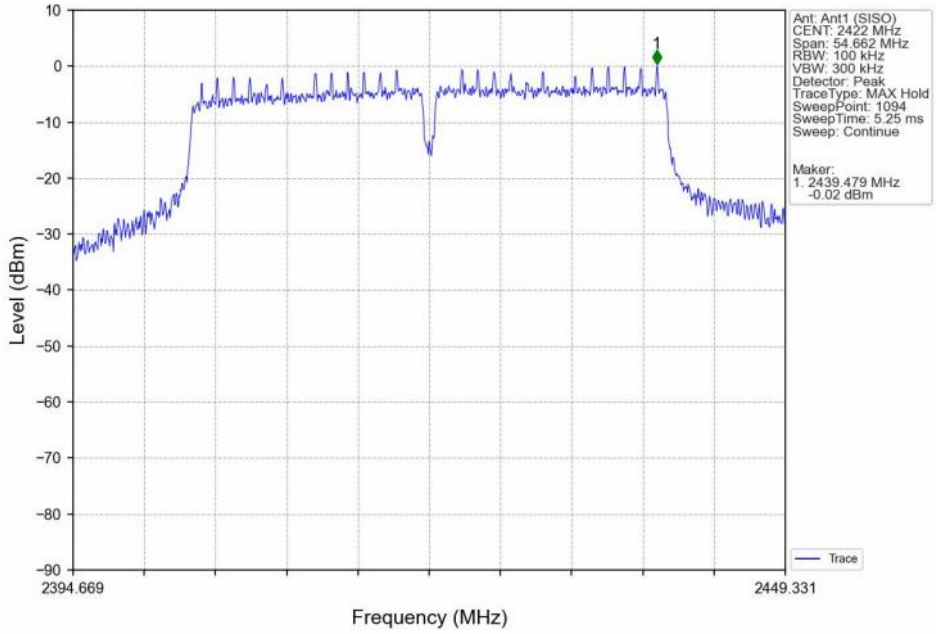

802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



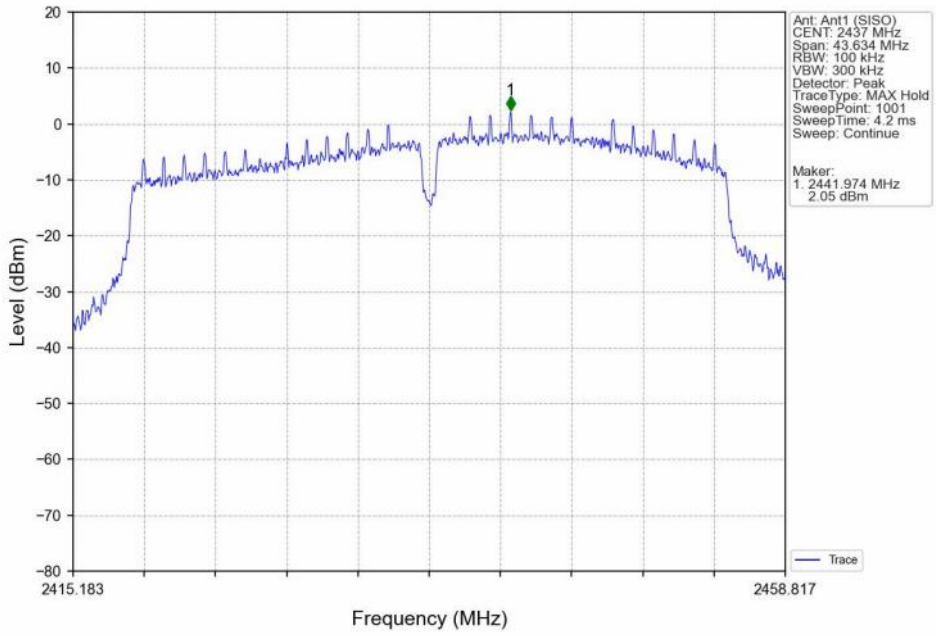
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



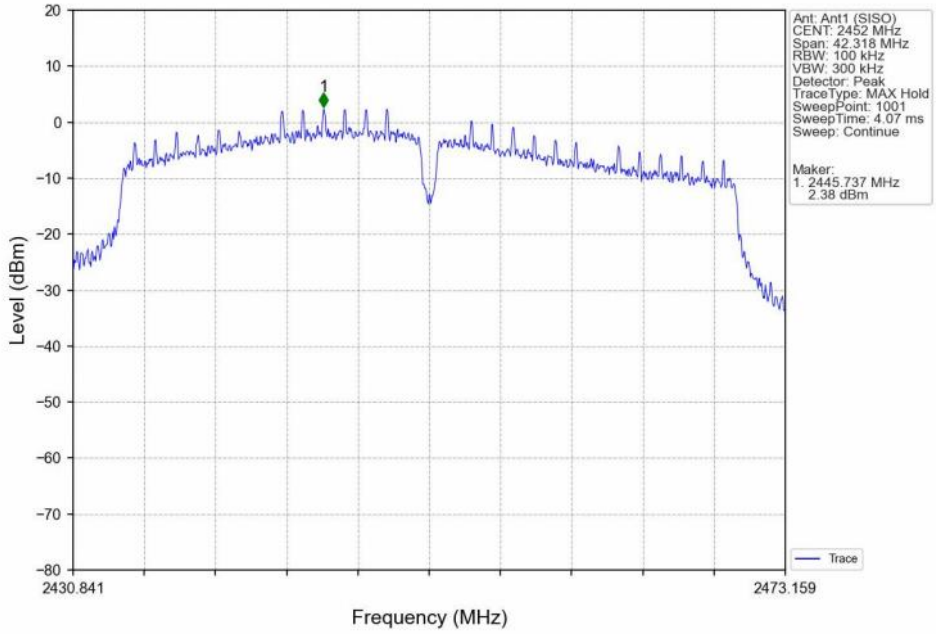

802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV

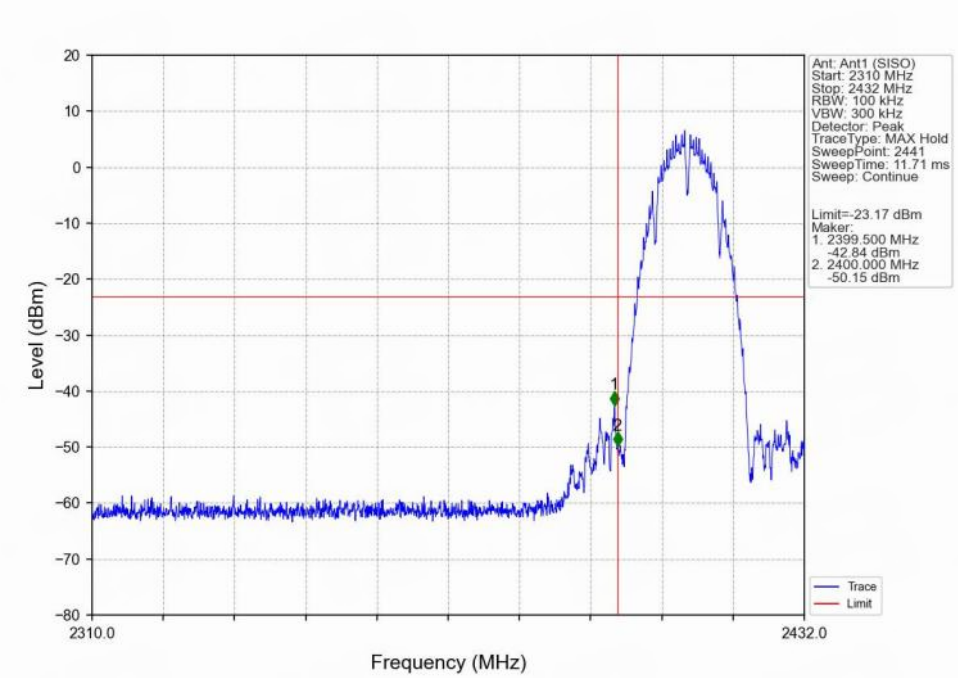



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV

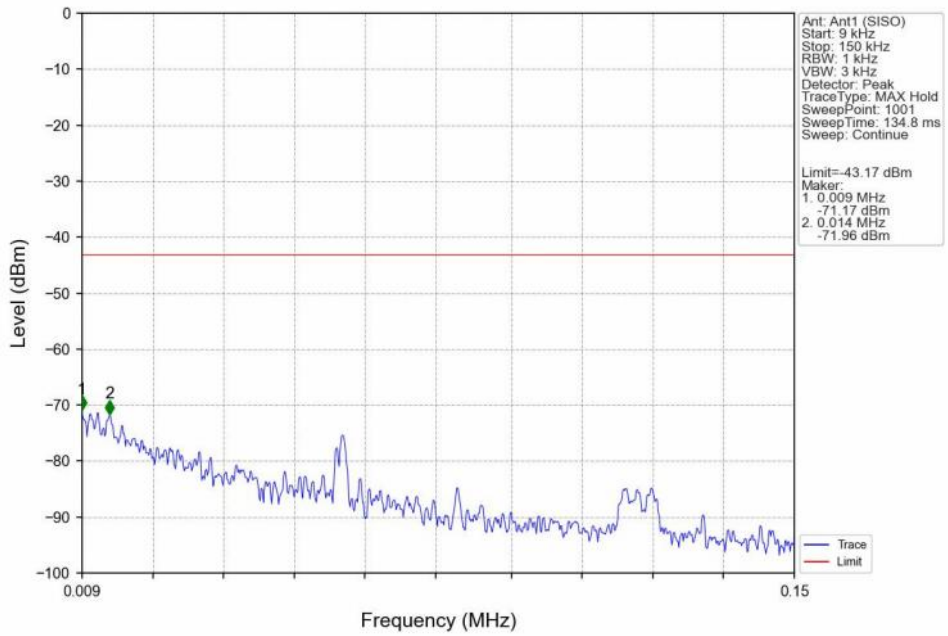


## 5.2.2 CSE

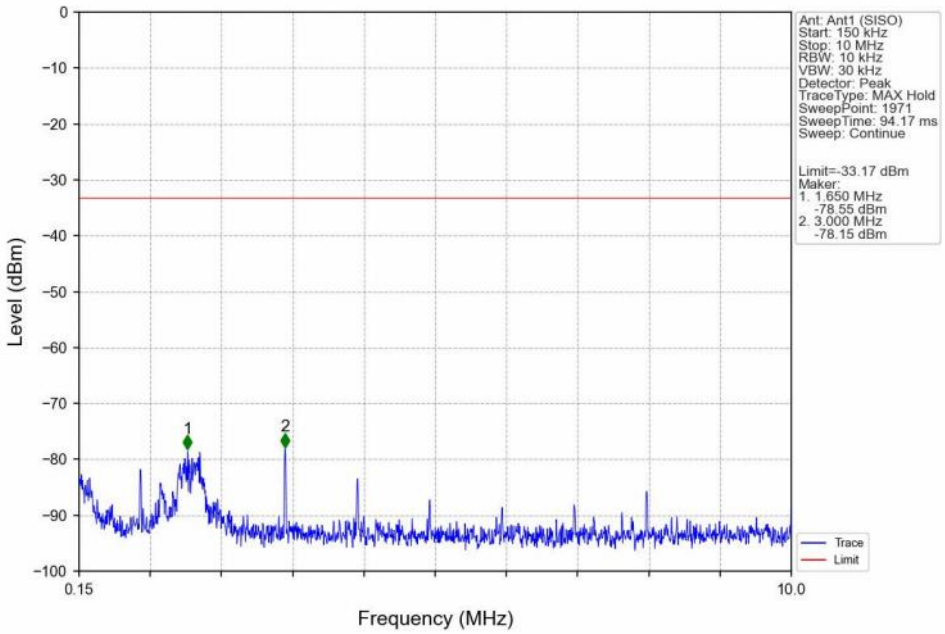
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



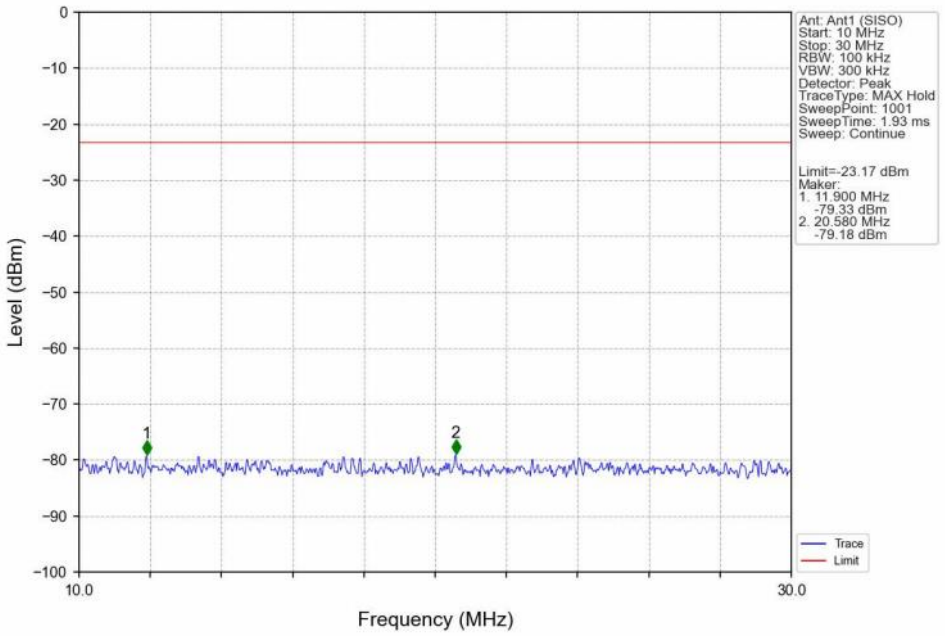

802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



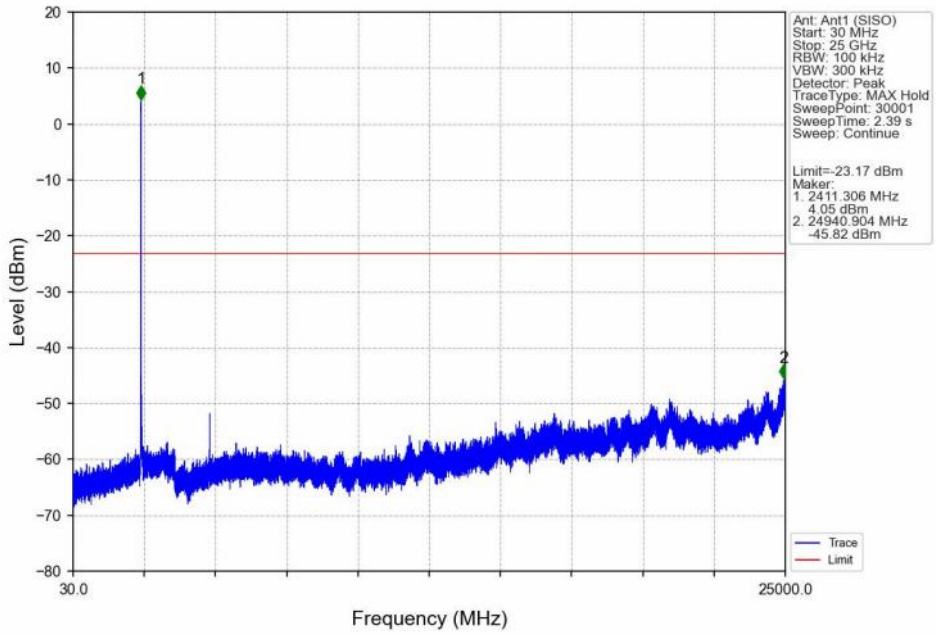
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



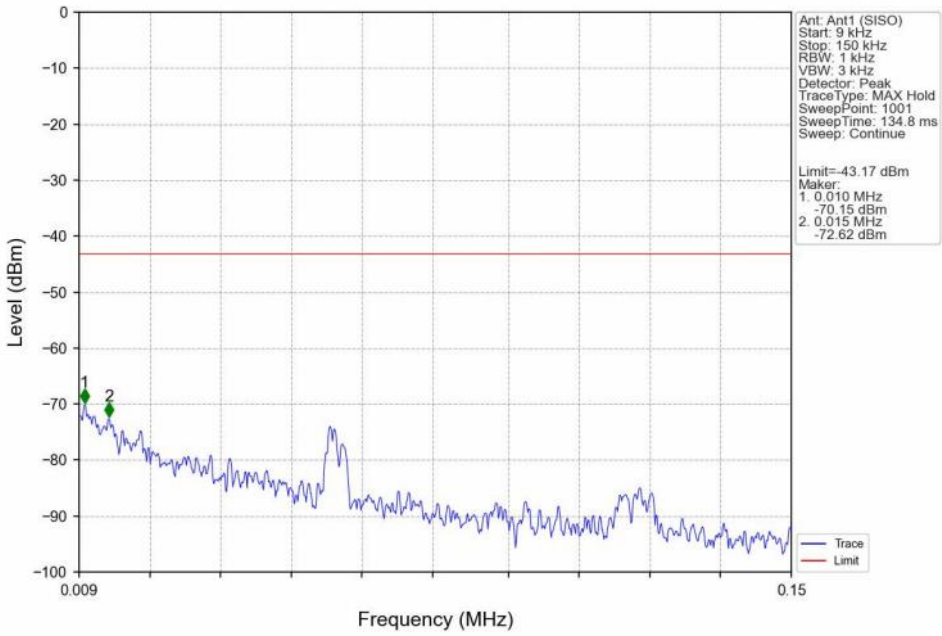

802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



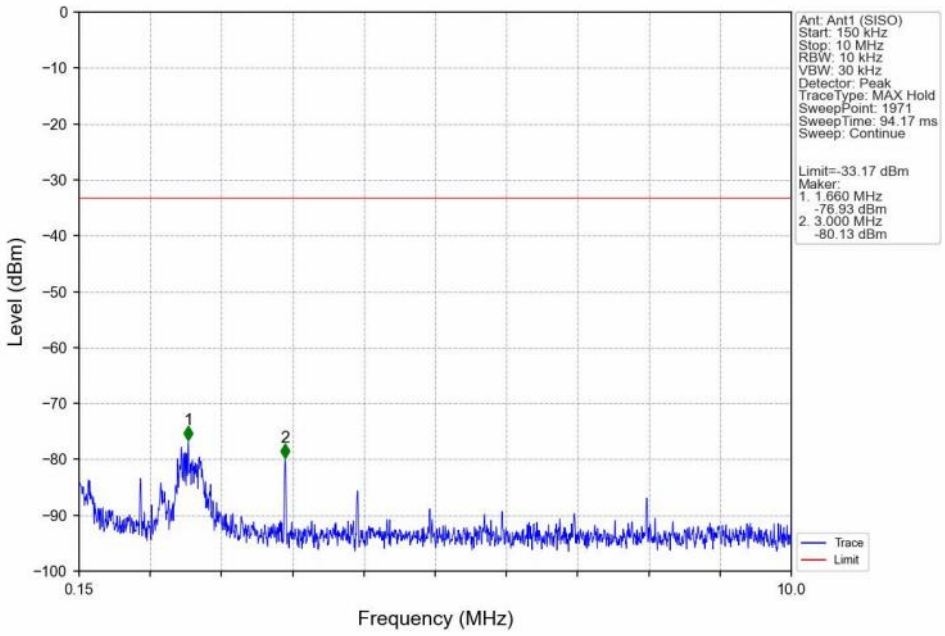
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



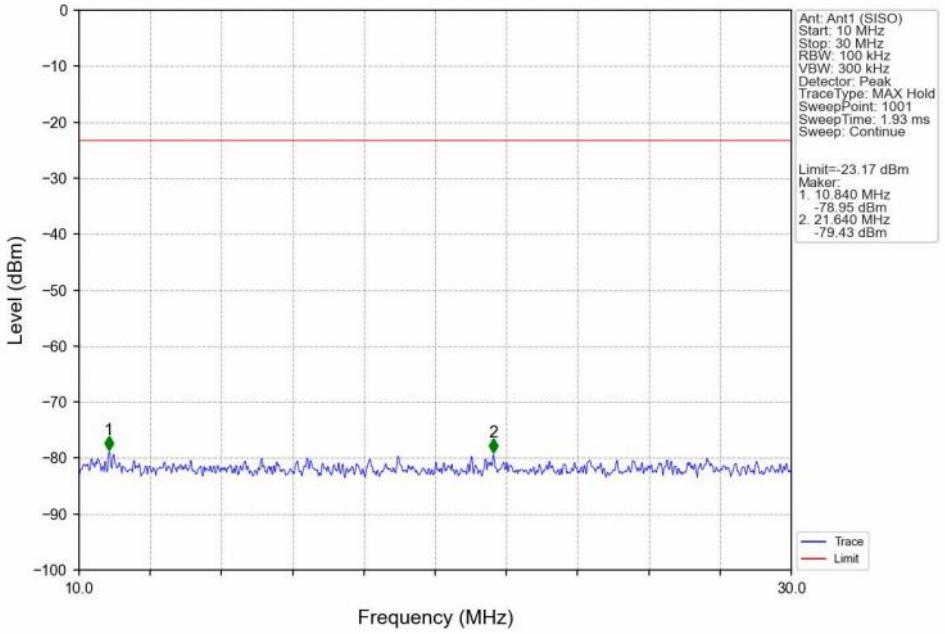

802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



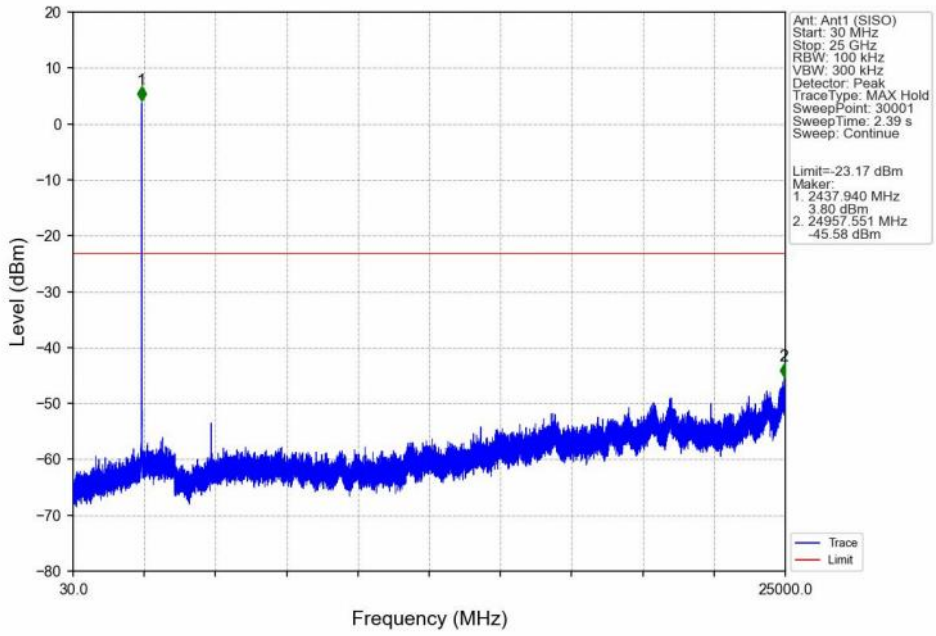
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



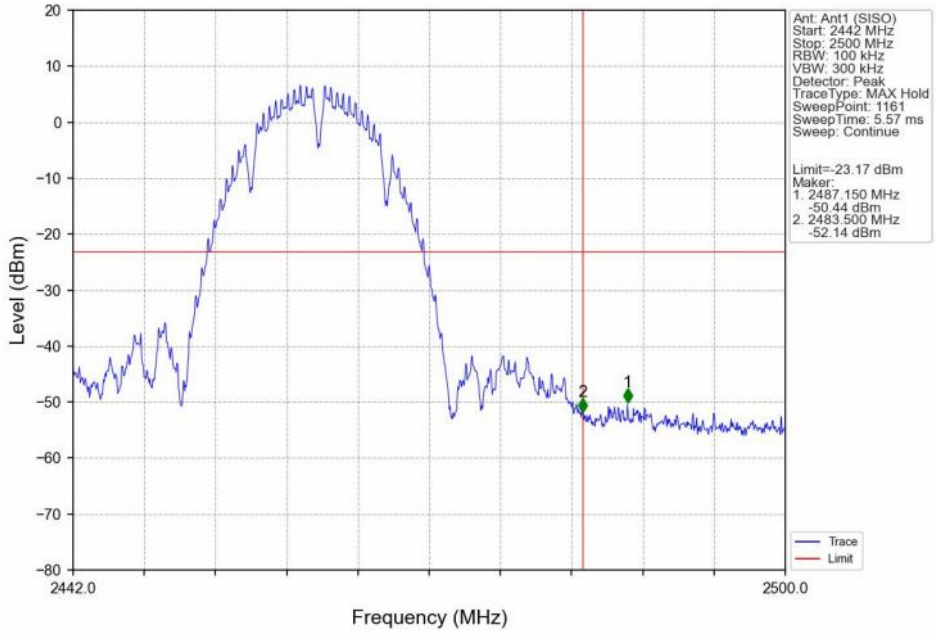

802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



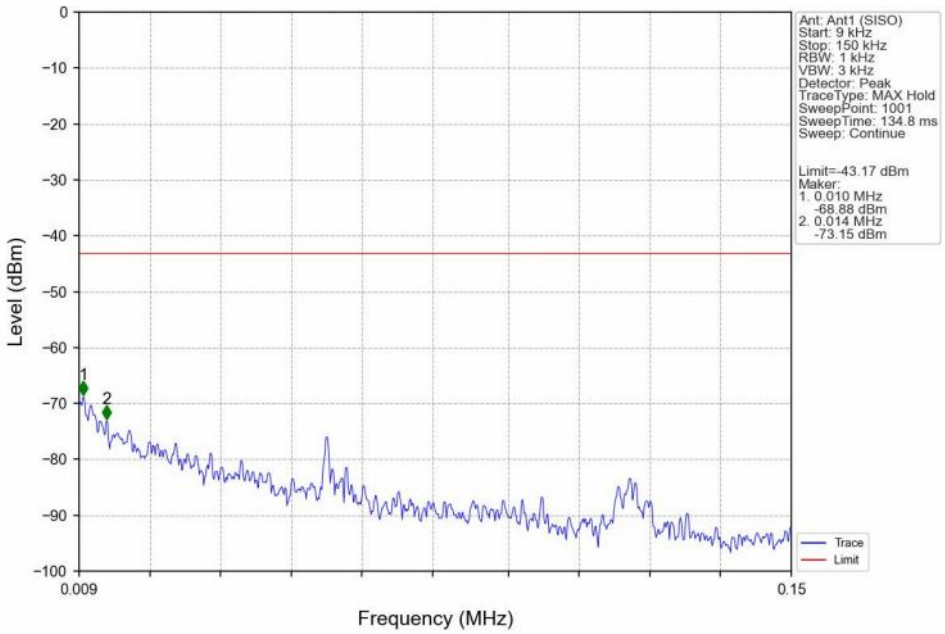
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV




802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV

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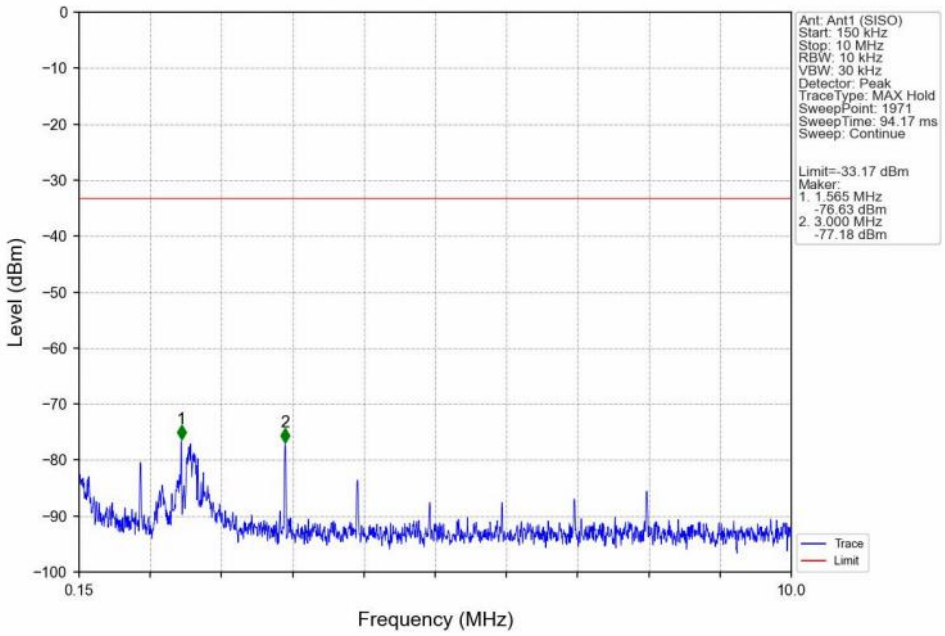
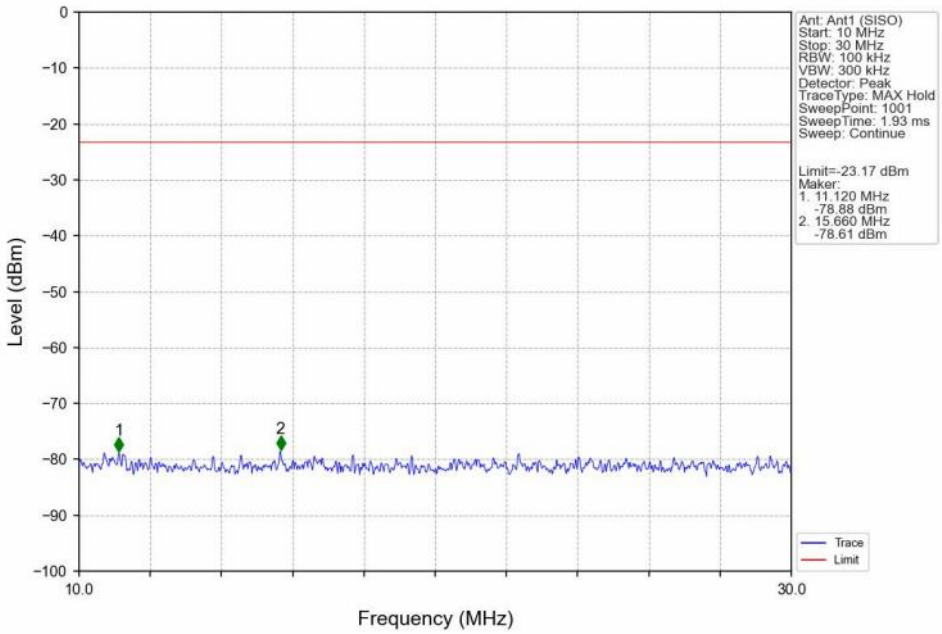
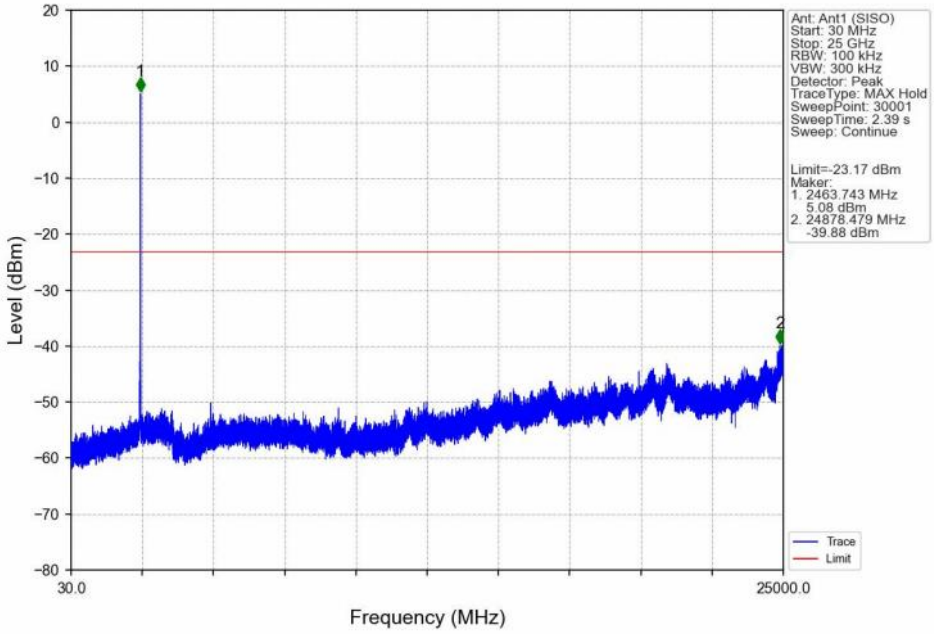


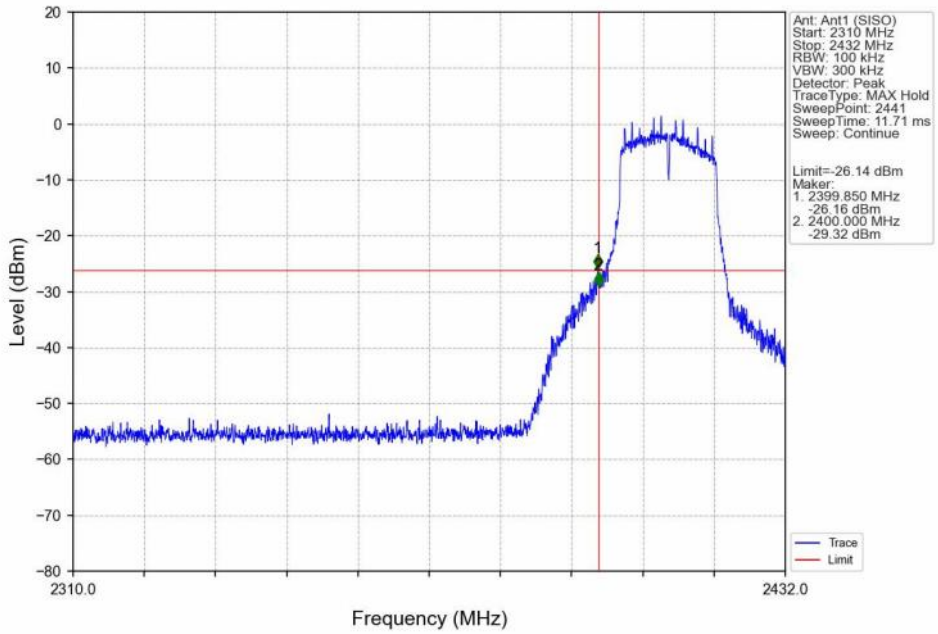
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



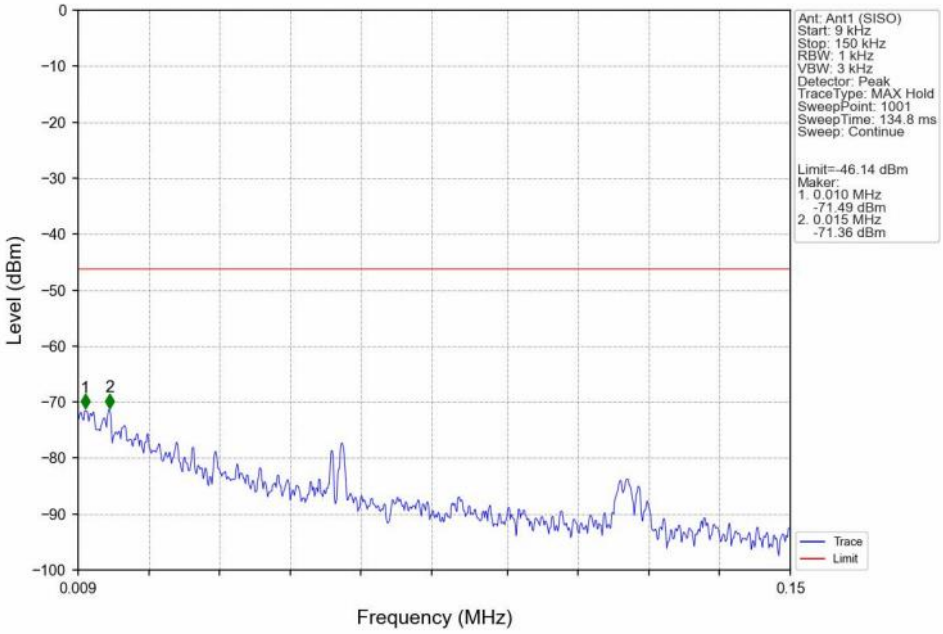

802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



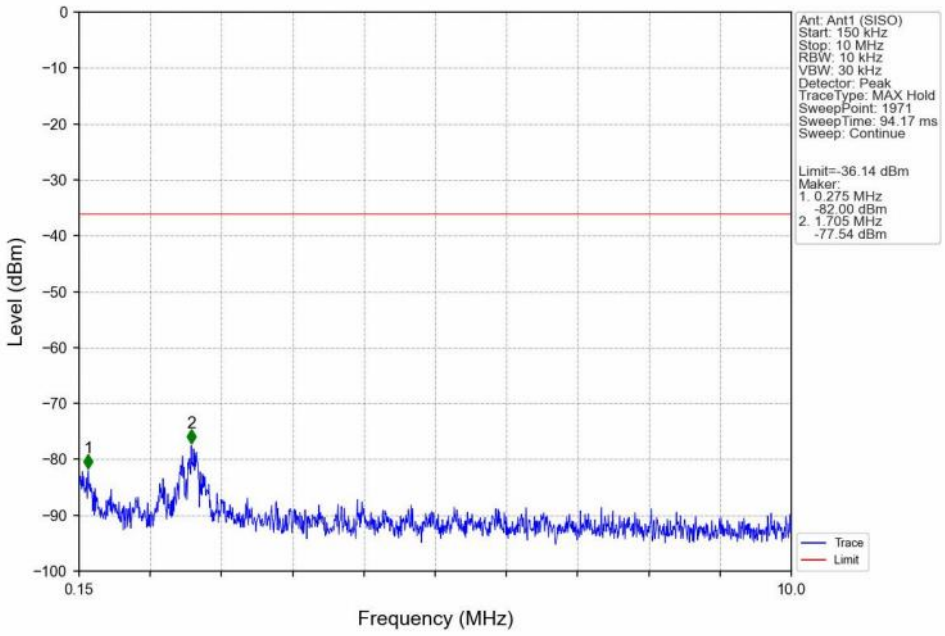
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



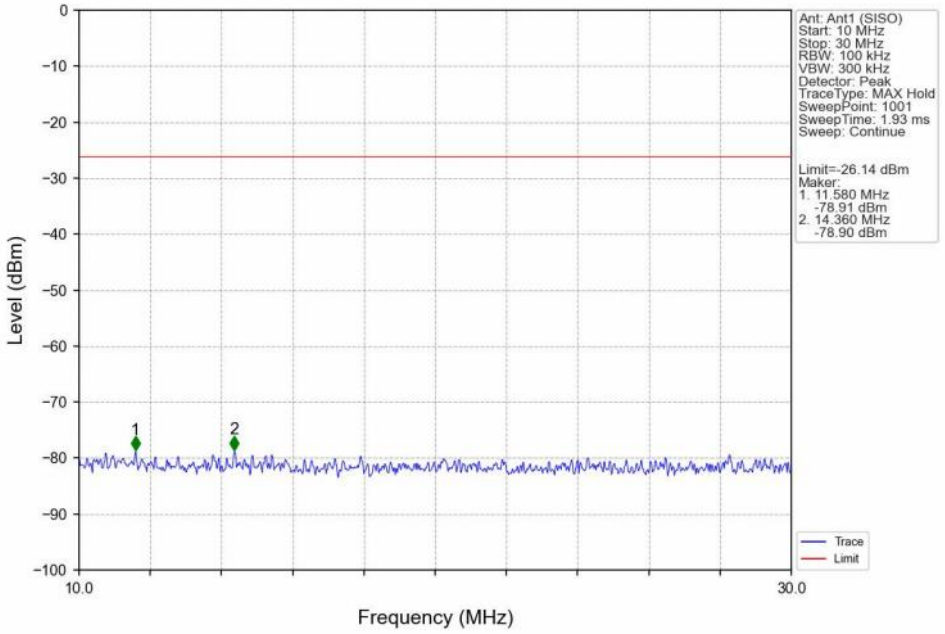

802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



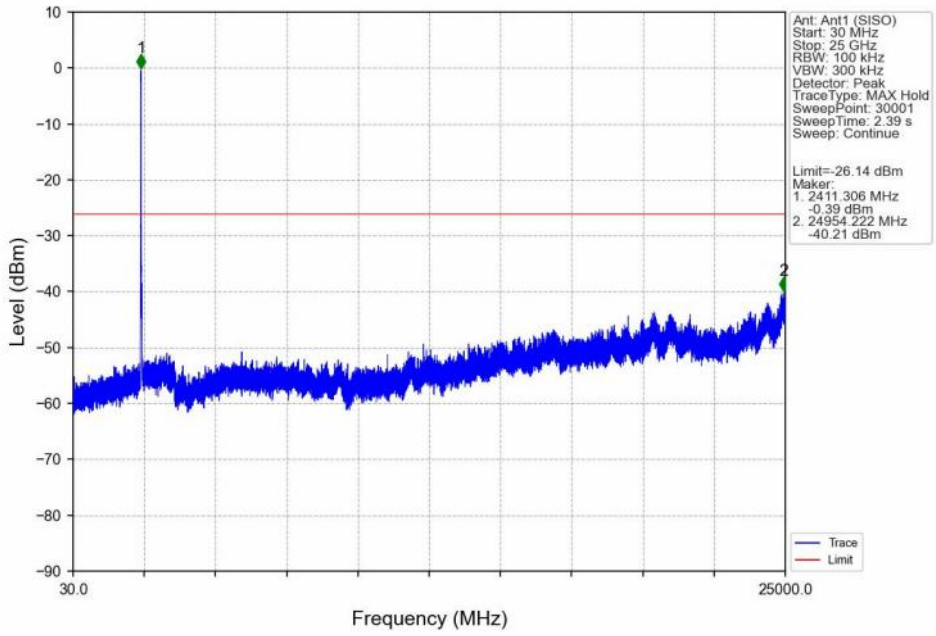
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



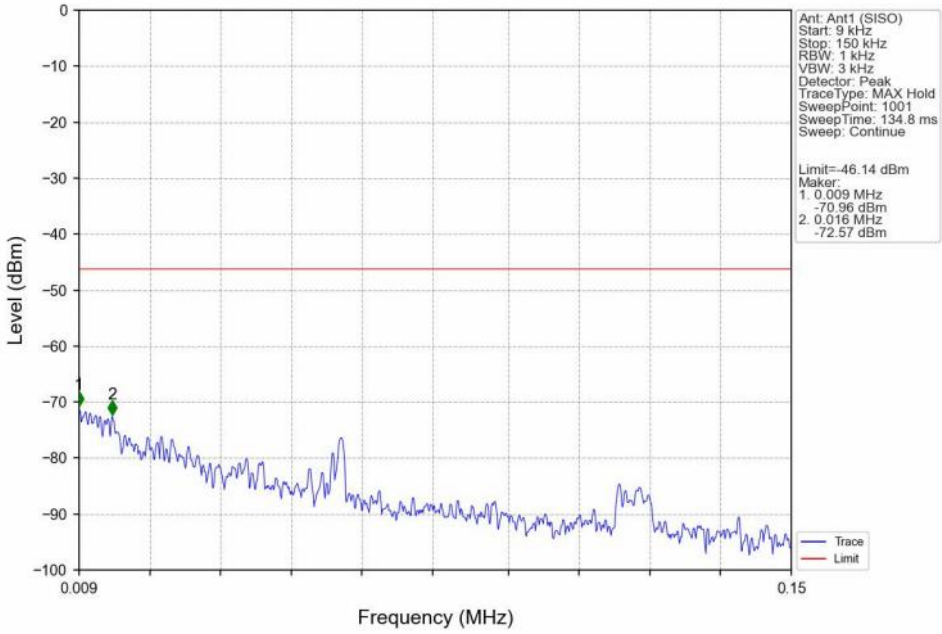

802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



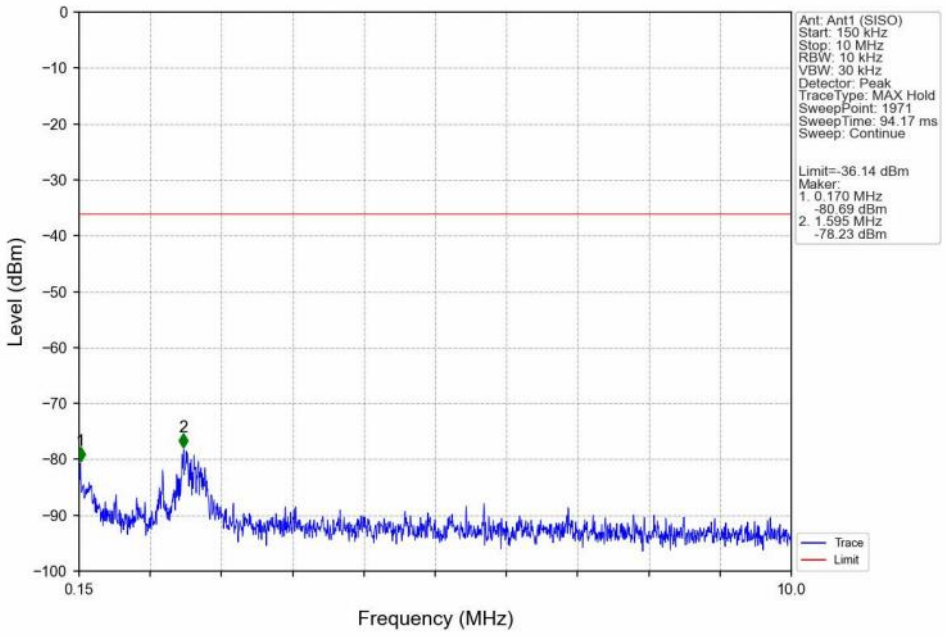
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



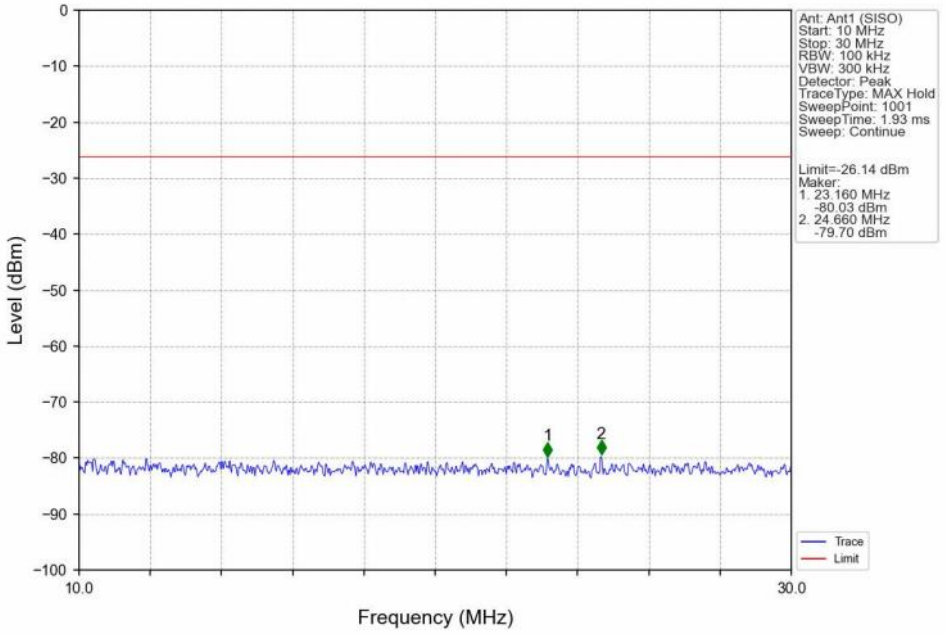

802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



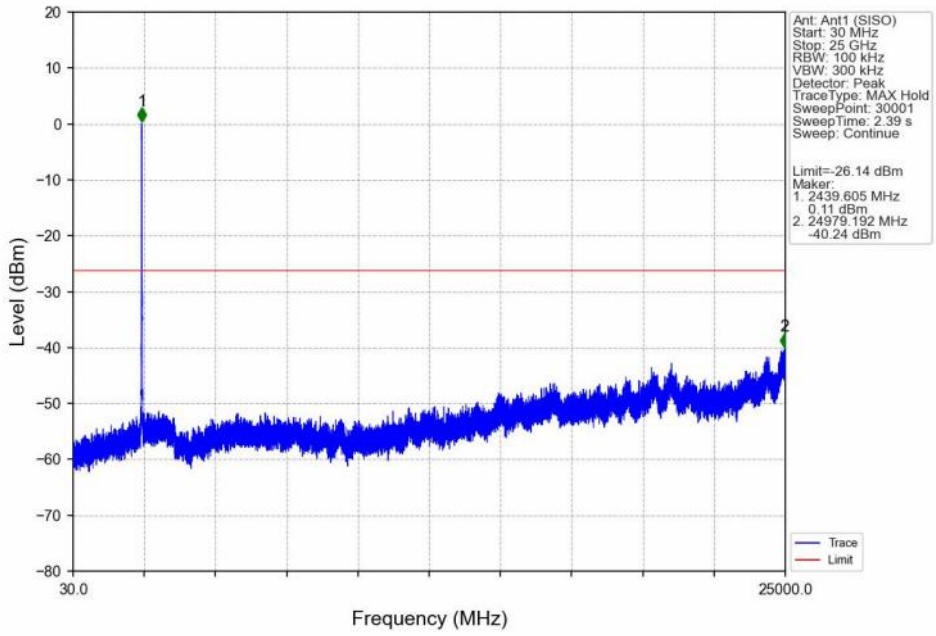
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV




802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV

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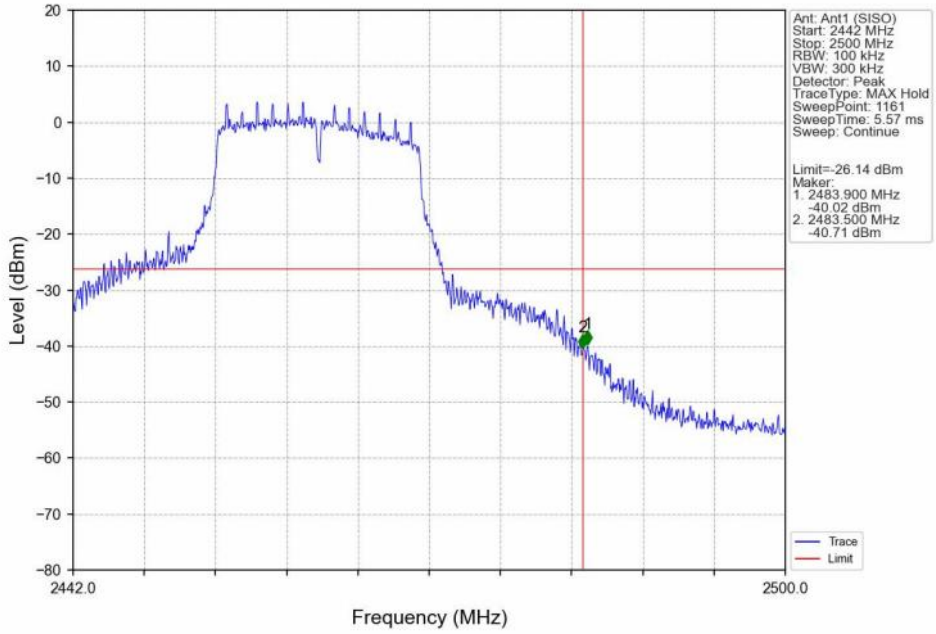
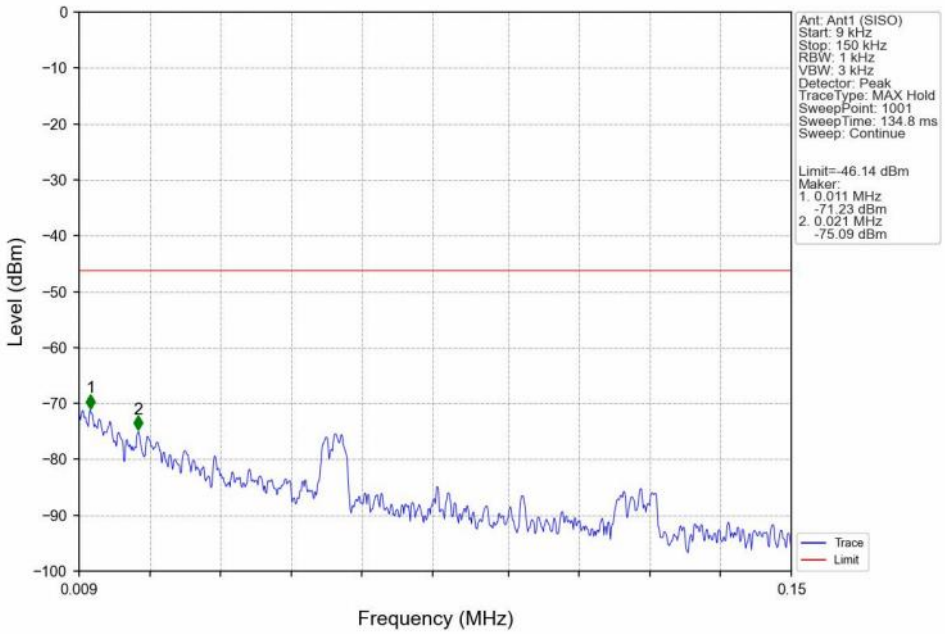


802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

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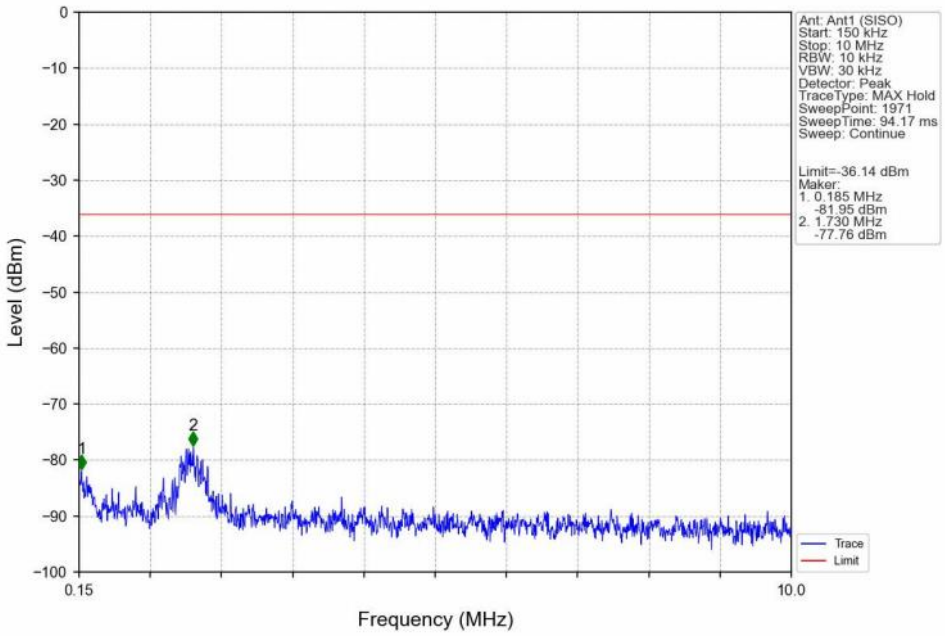

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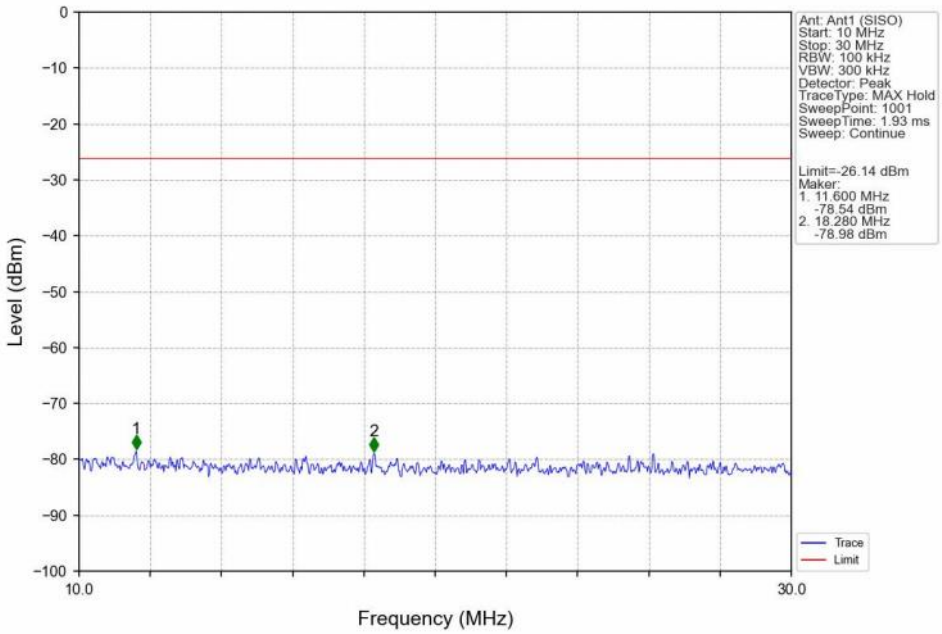


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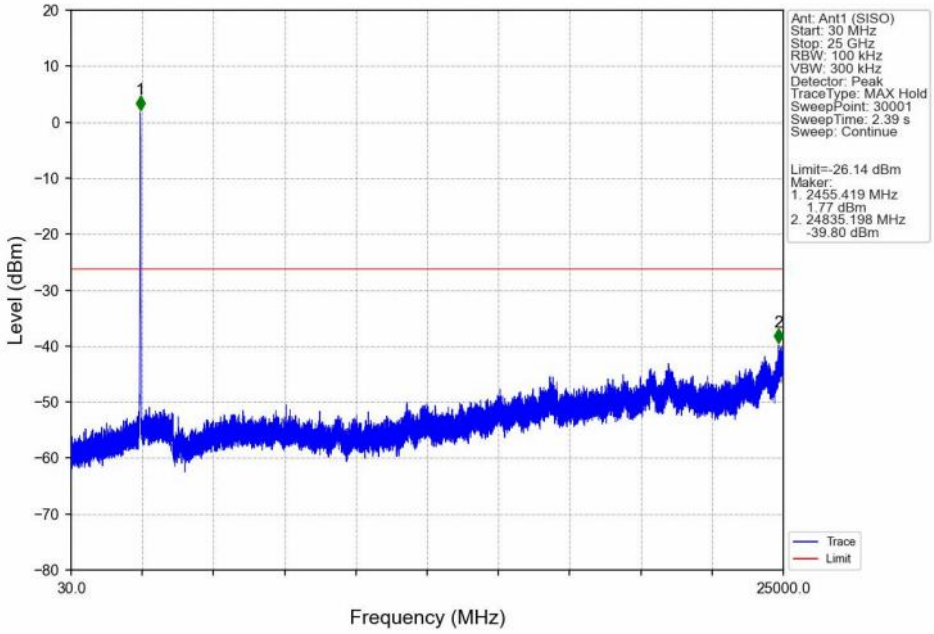

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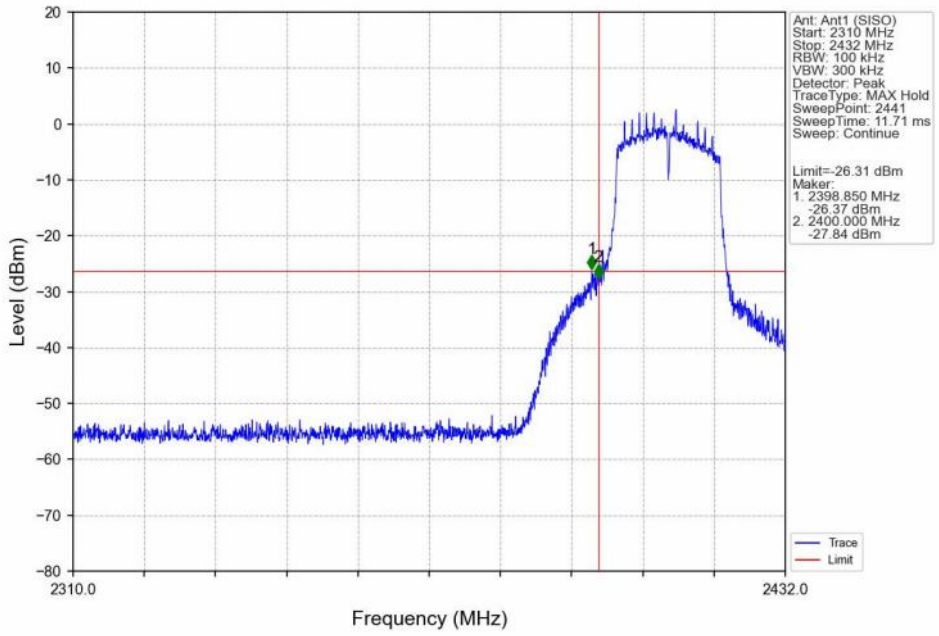


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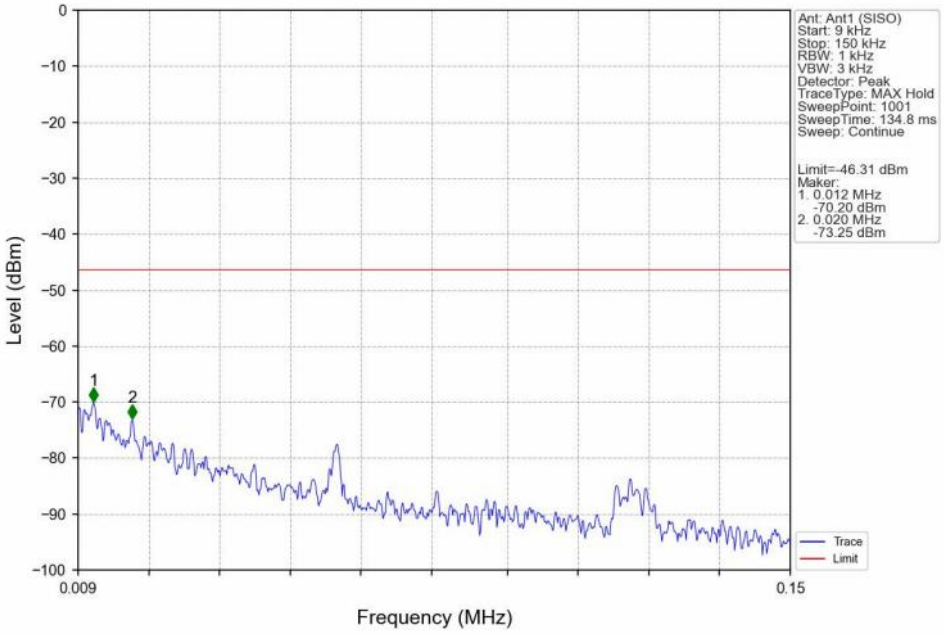

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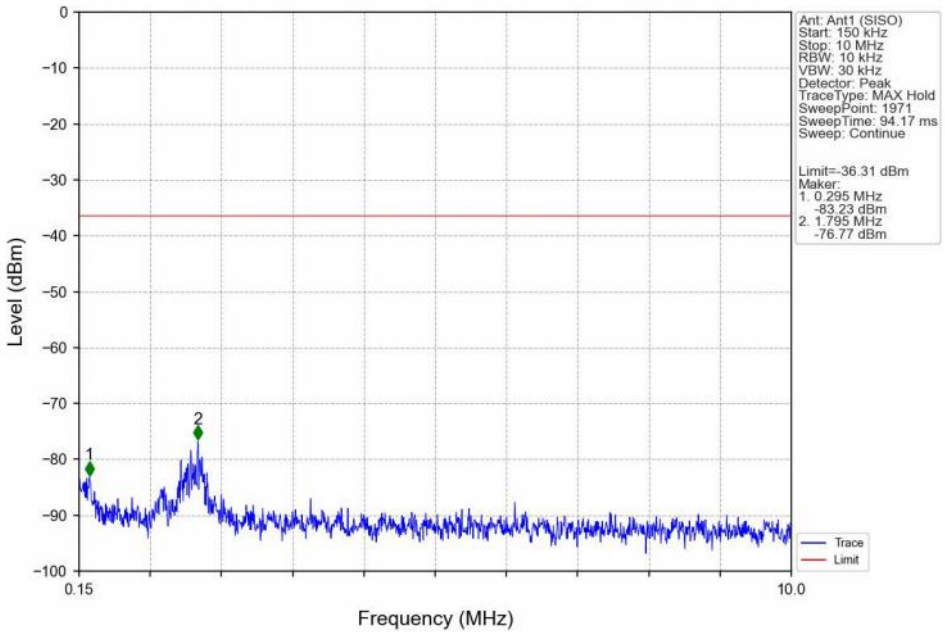


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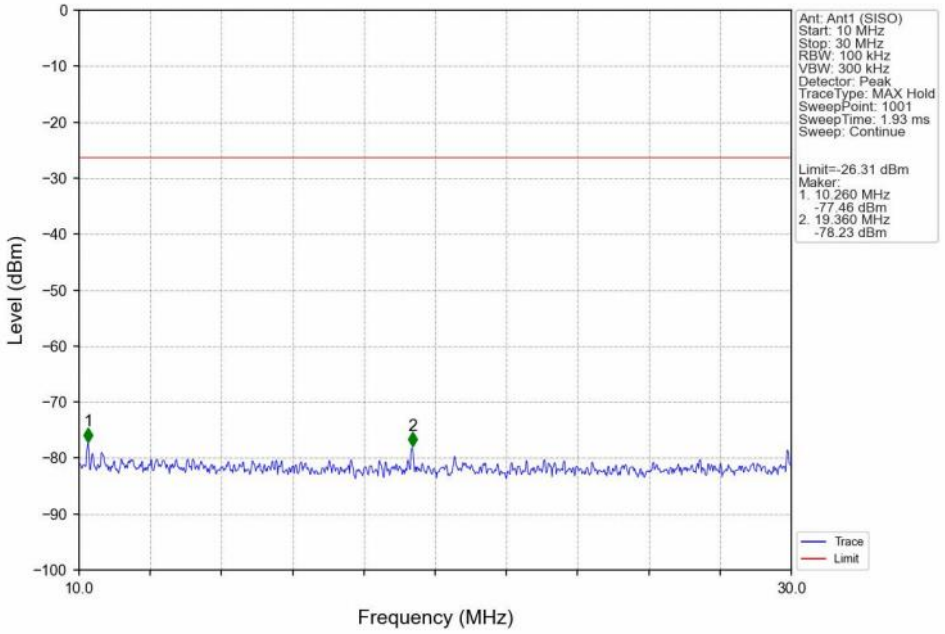

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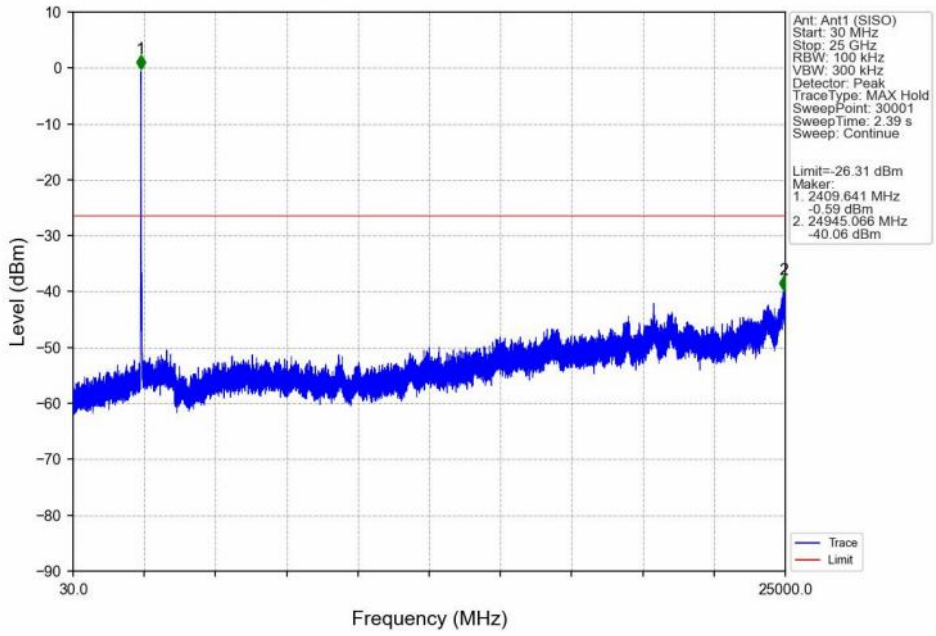


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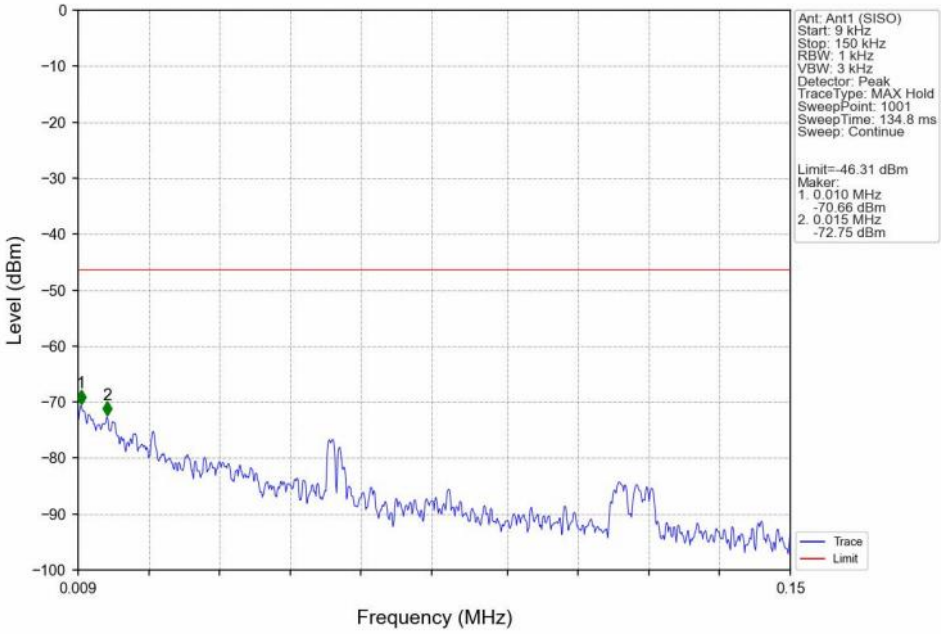

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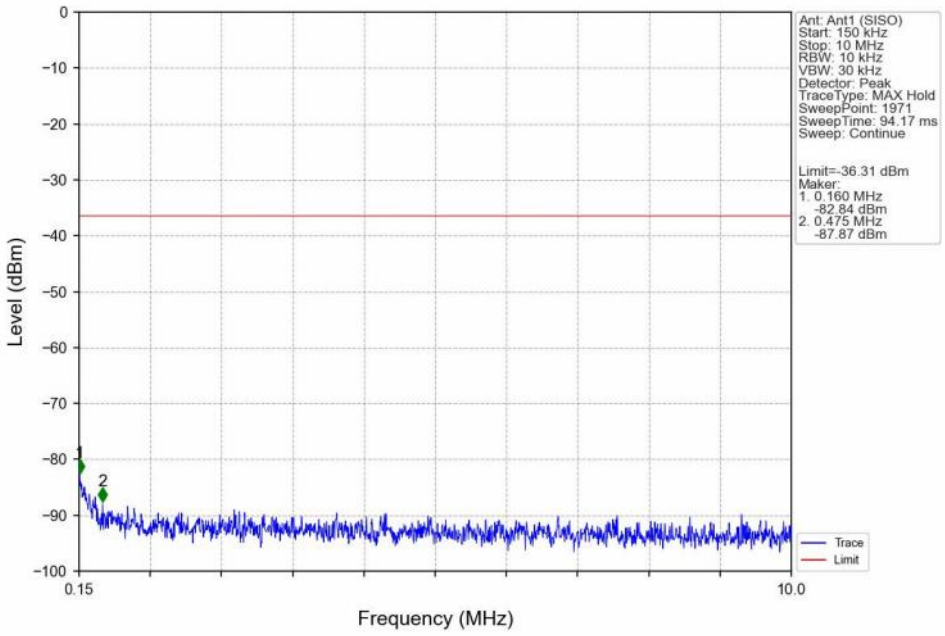


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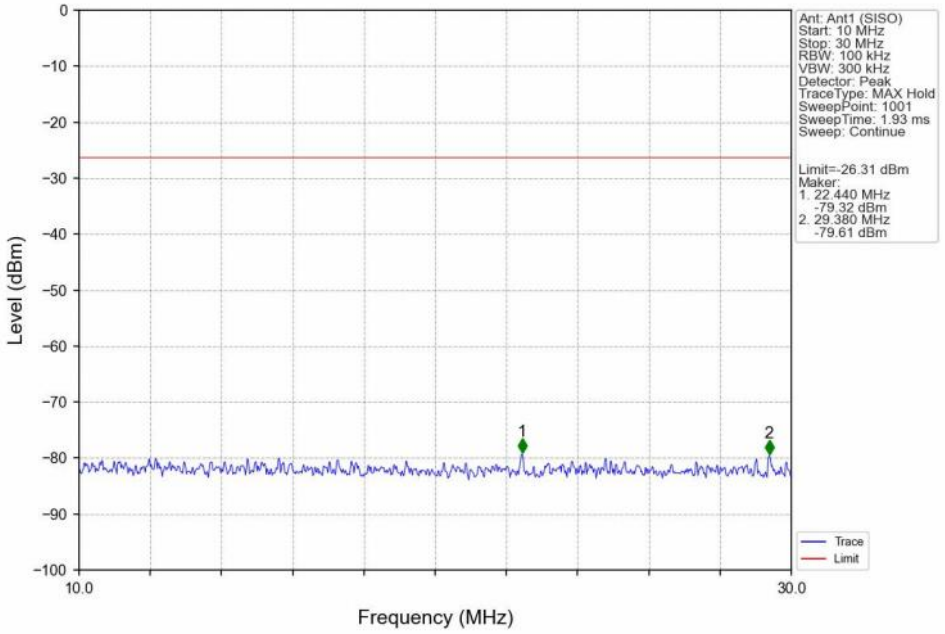

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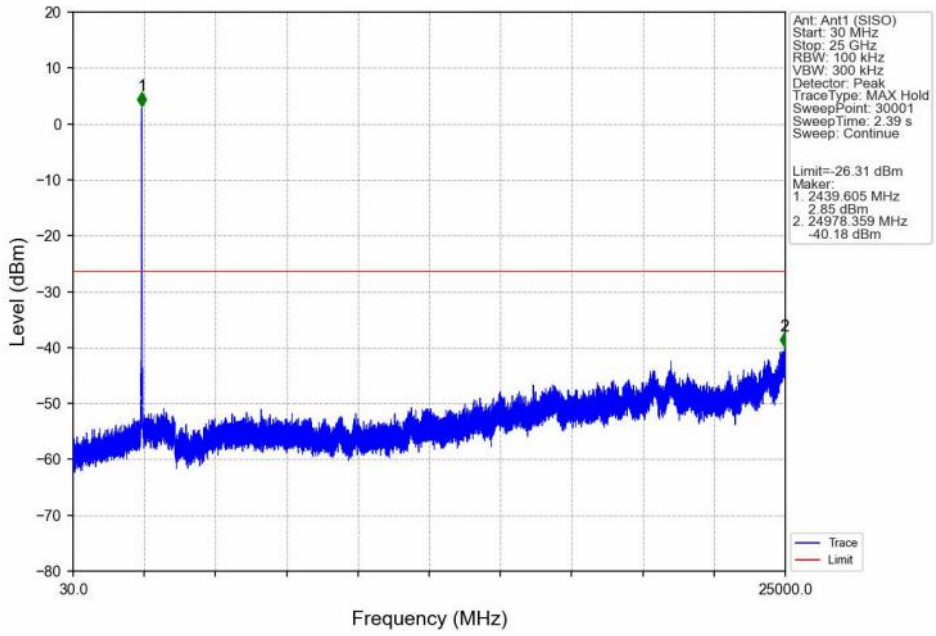
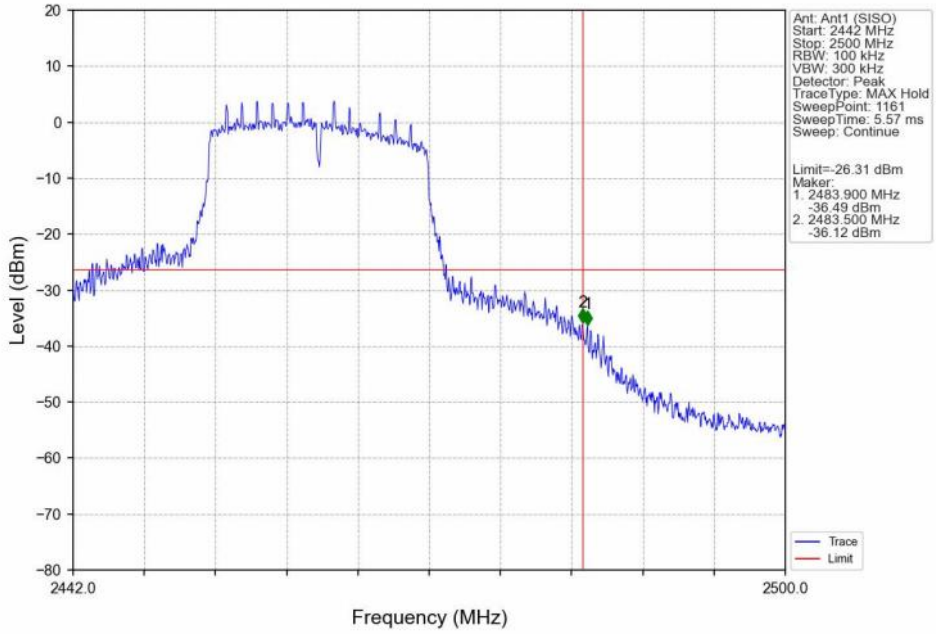



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



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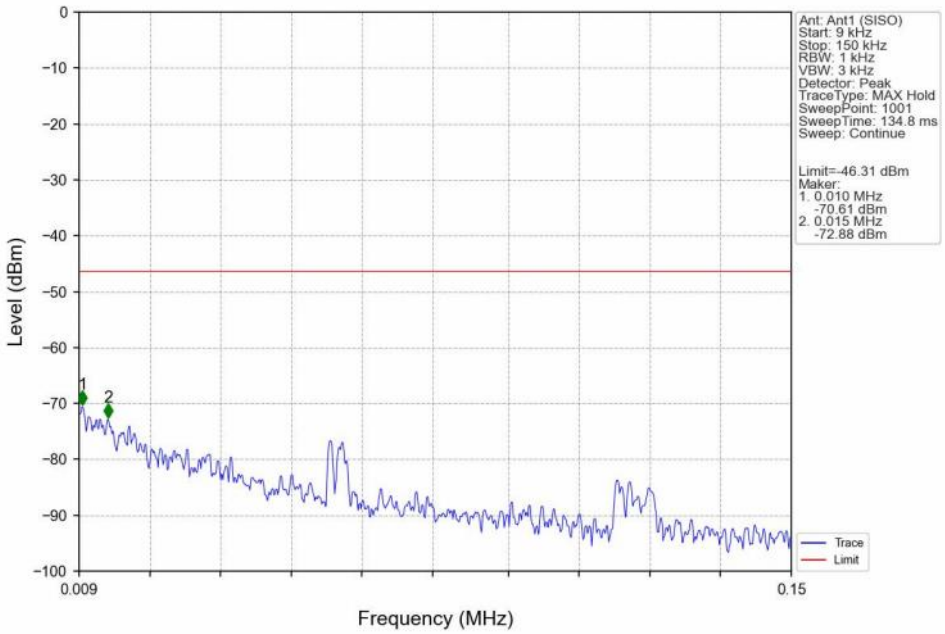


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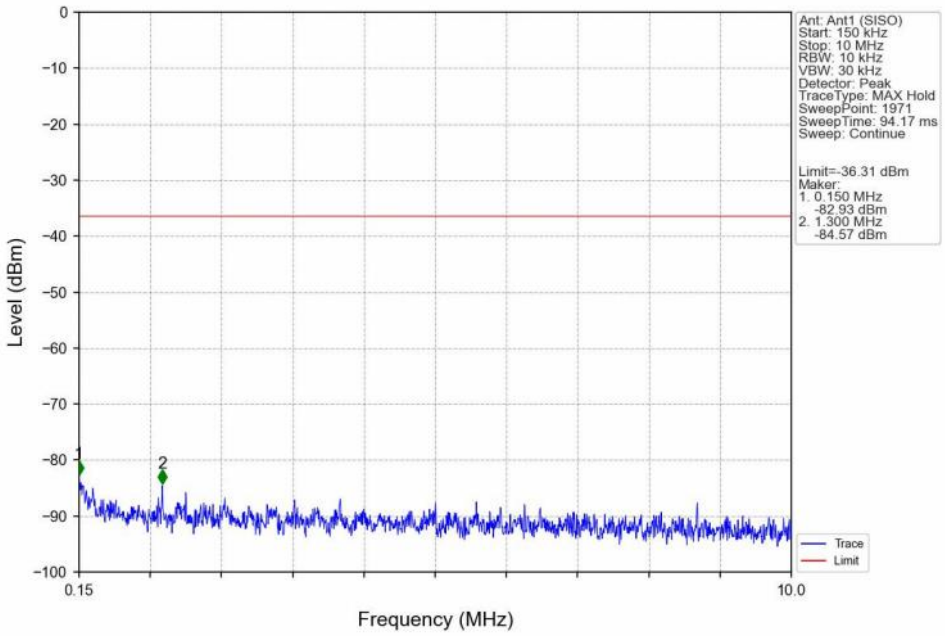

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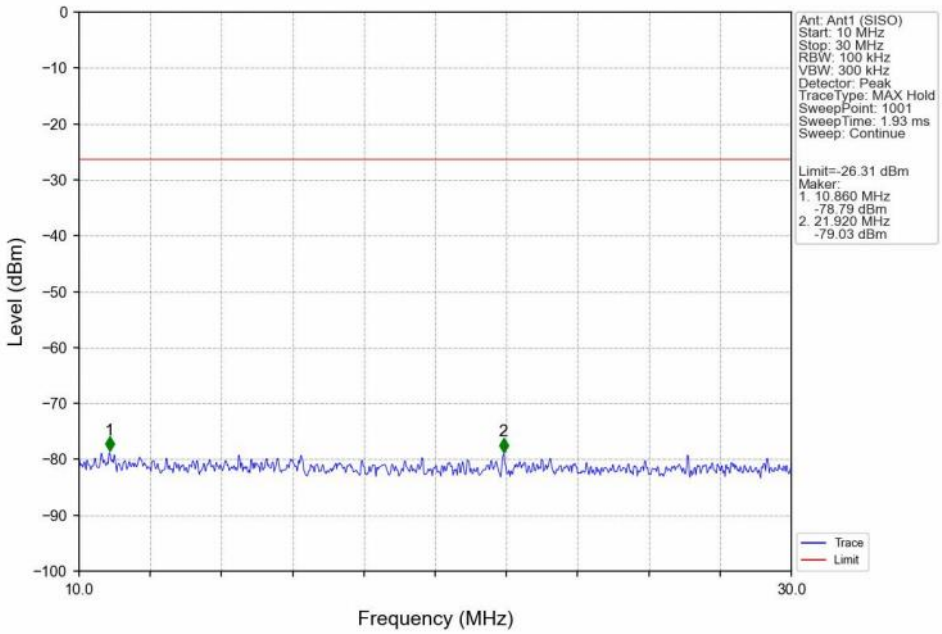


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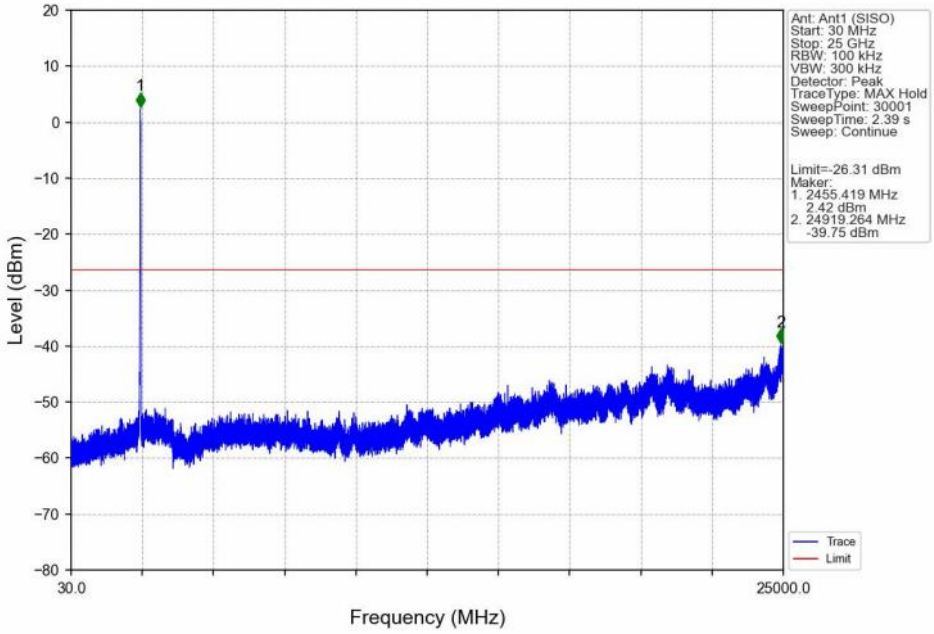
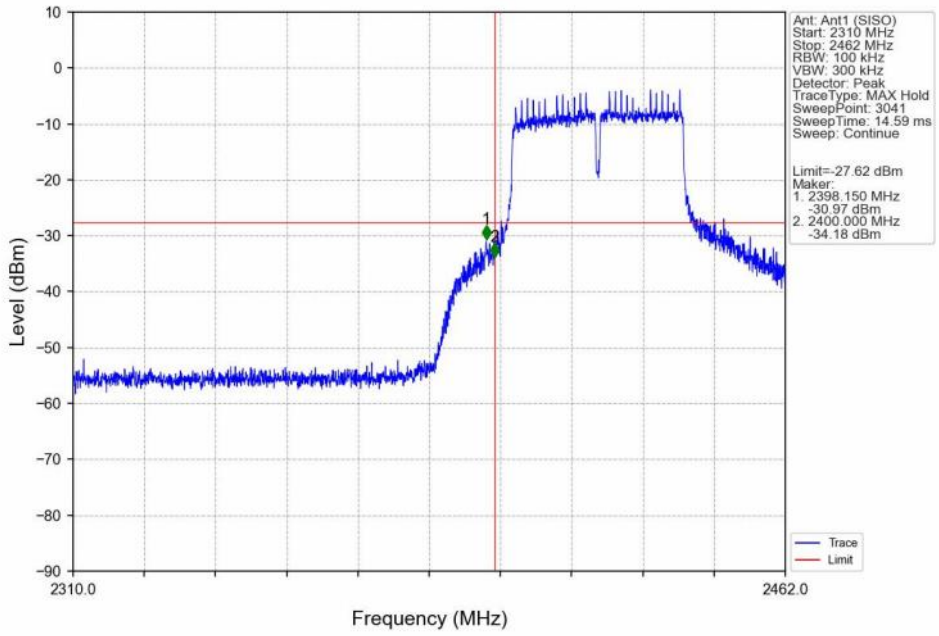
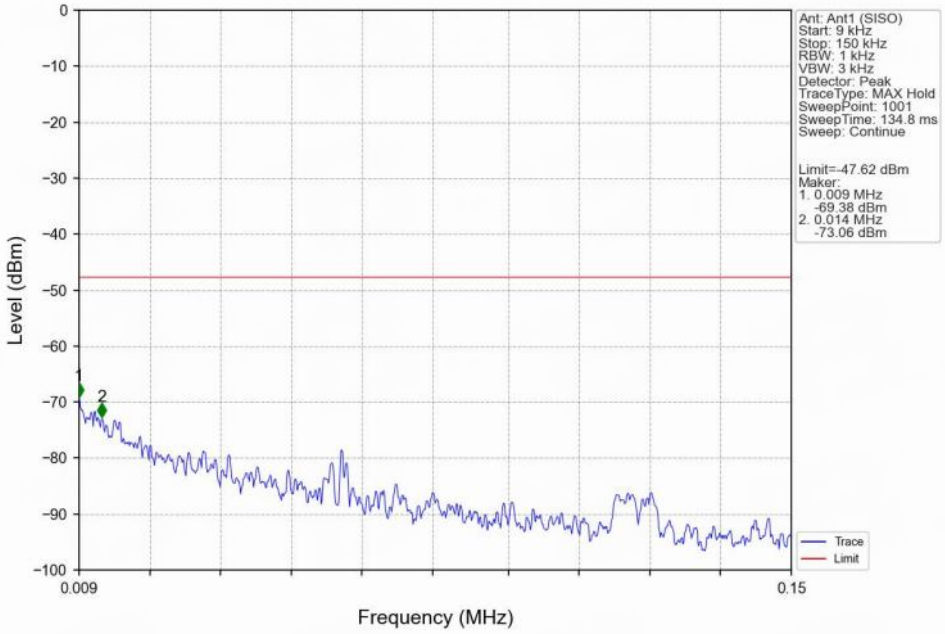


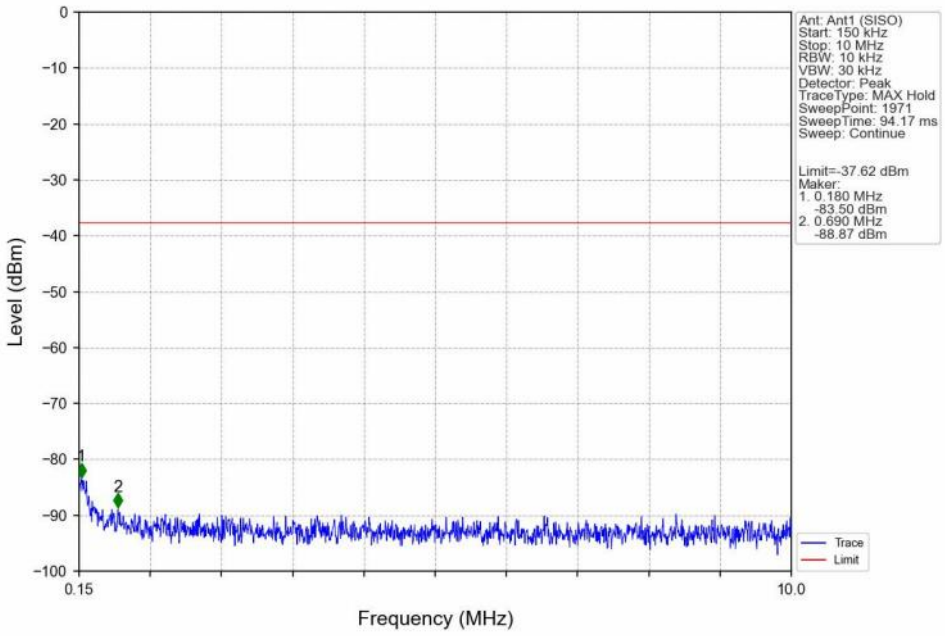
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



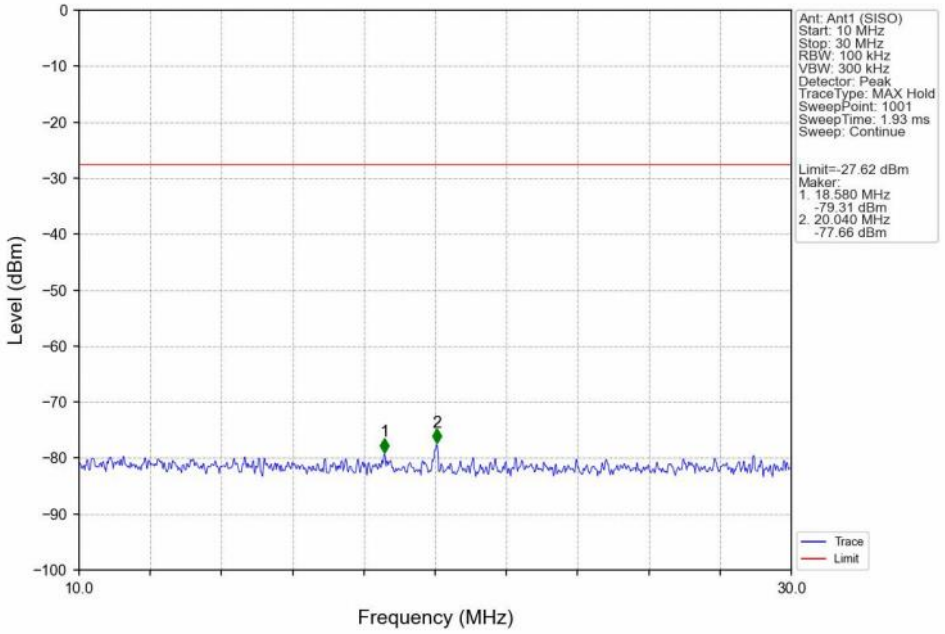

802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



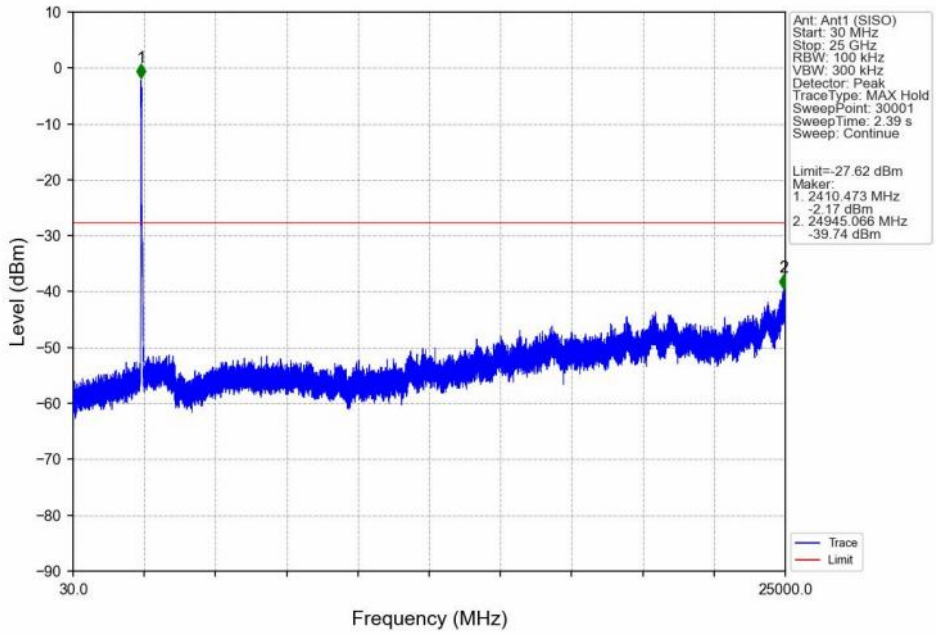
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



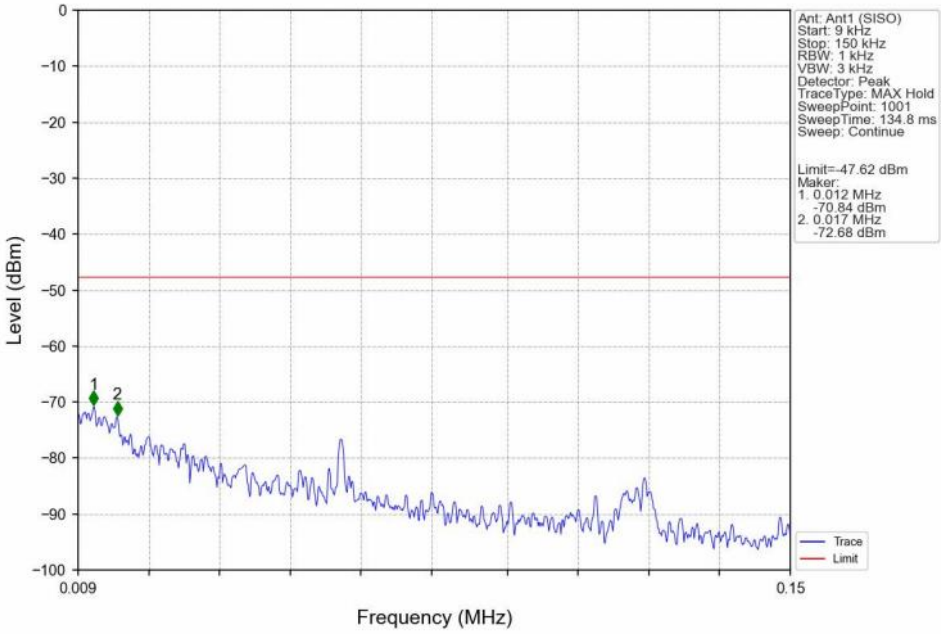

802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



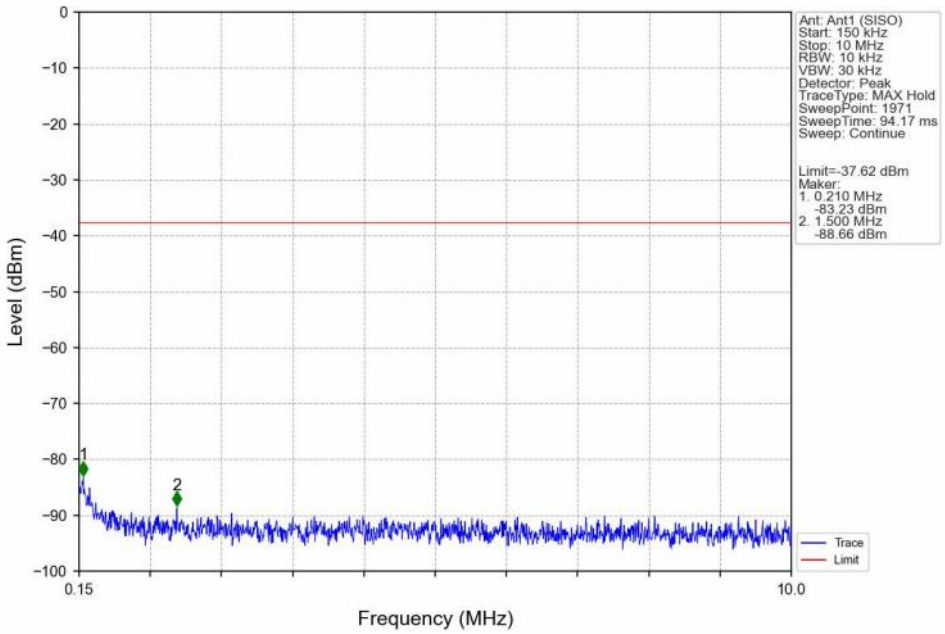
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



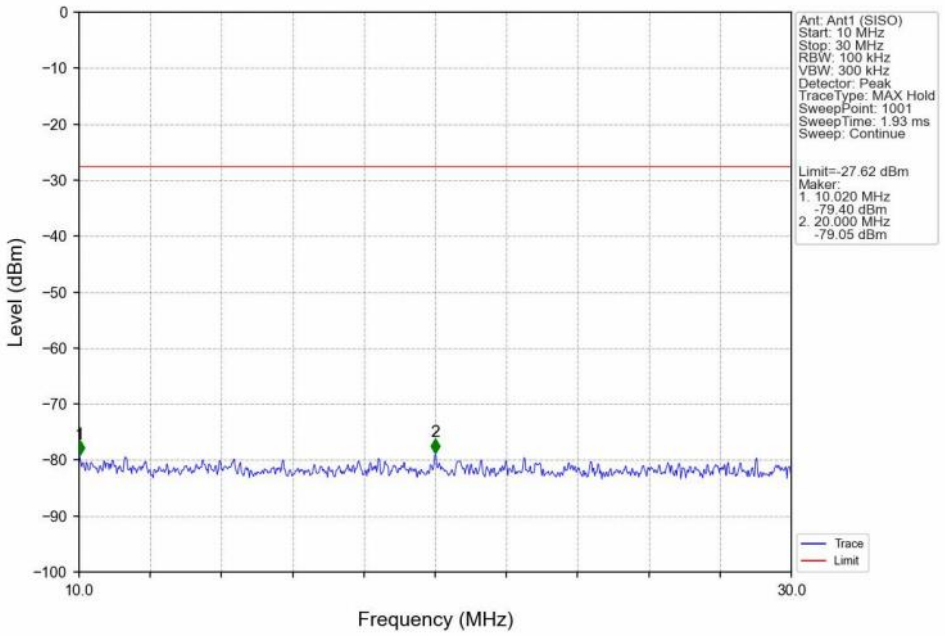

802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



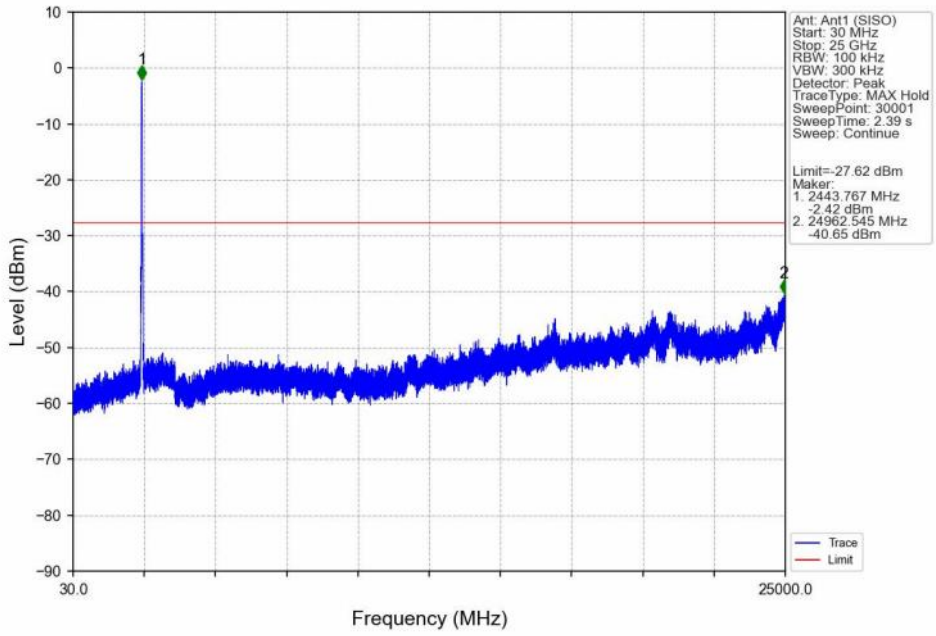
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



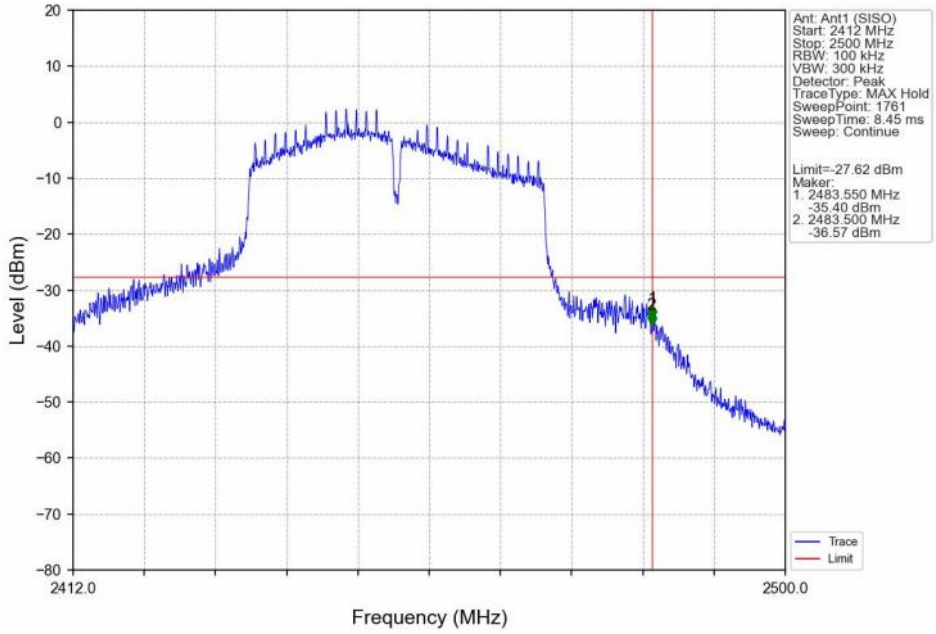

802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



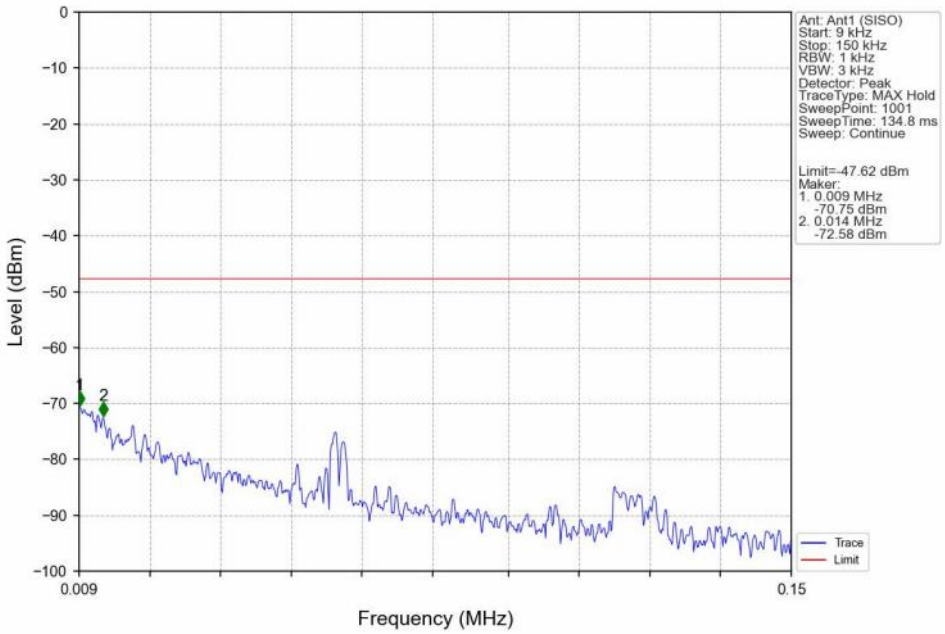
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



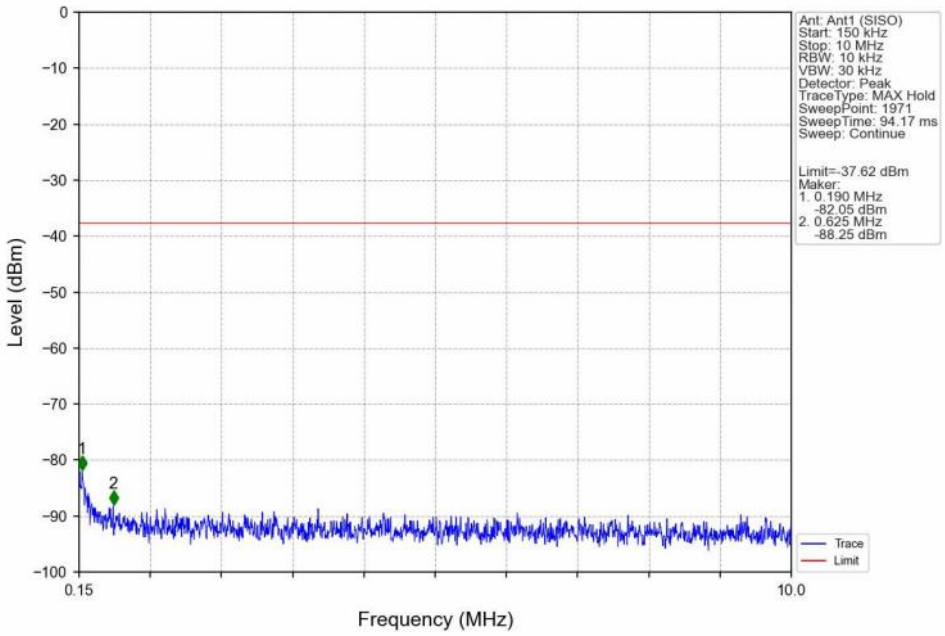

802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



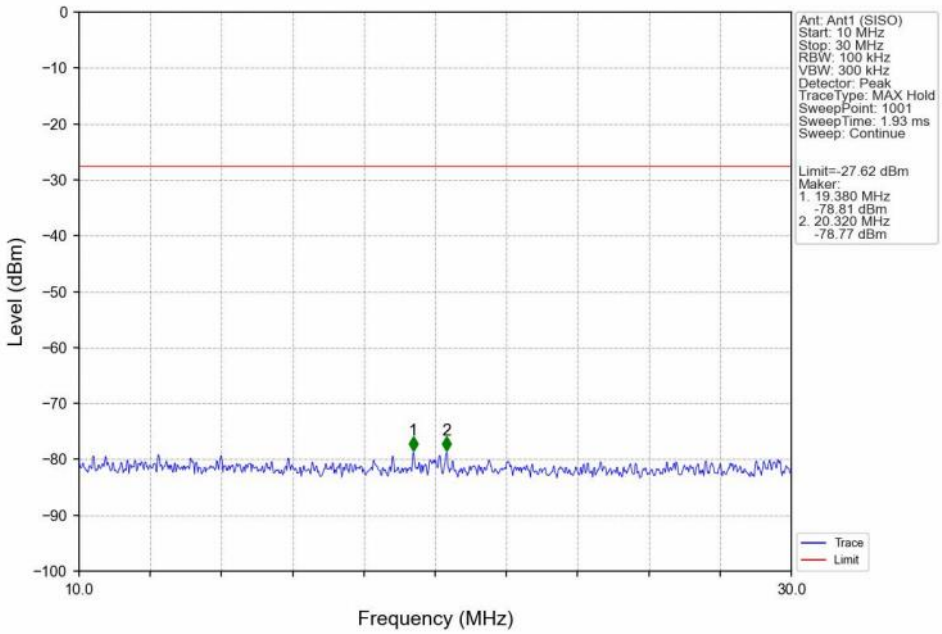
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



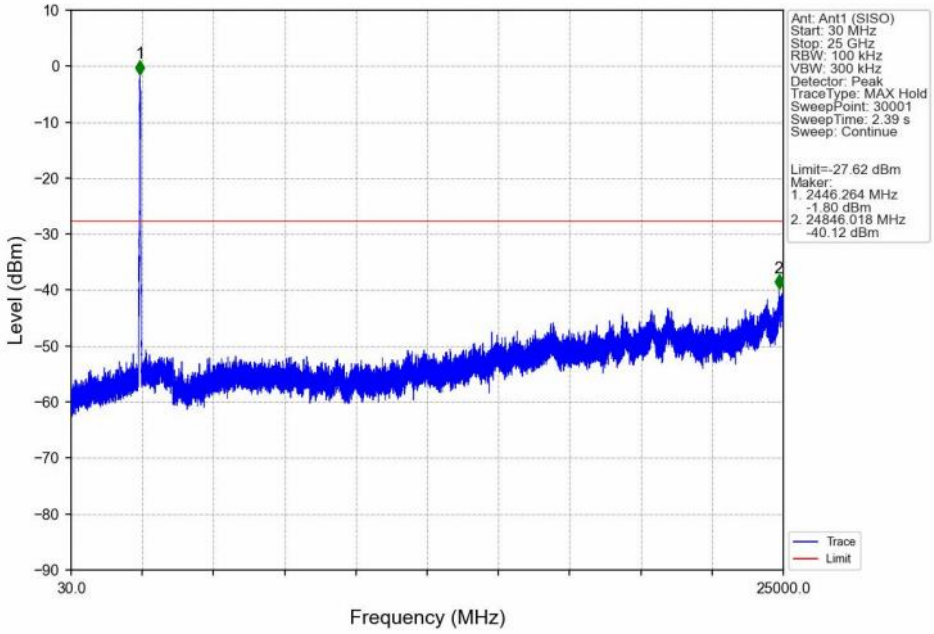

802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV




802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



# 6. Form731

## 6.1 Test Result

### 6.1.1 Form731

| Lower Freq (MHz) | High Freq (MHz) | MAX Power (W) | MAX Power (dBm) |
|---|---|---|---|
| 2412 | 2462 | 0.0308 | 14.89 |
| 2422 | 2452 | 0.0236 | 13.72 |