# 1. Bandwidth

## 1.1 OBW

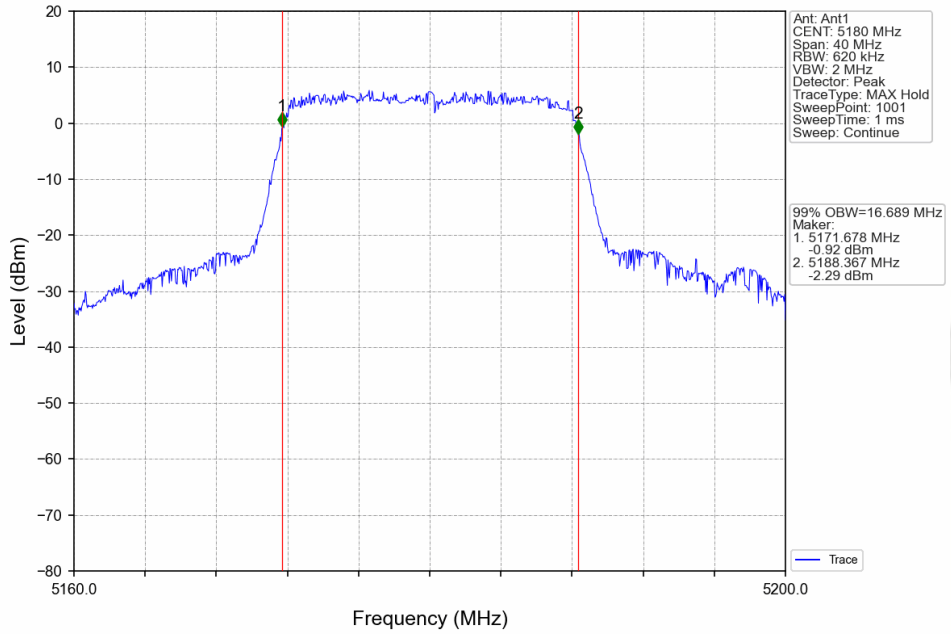
### 1.1.1 Test Result

| Mode | TX Type | Frequency (MHz) | ANT | 99% Occupied Bandwidth (MHz) Result | Verdict |
|---|---|---|---|---|---|
| 802.11a | SISO | 5180 | 1 | 16.689 | Pass |
| | | 5200 | 1 | 16.707 | Pass |
| | | 5240 | 1 | 16.726 | Pass |
| 802.11n (HT20) | SISO | 5180 | 1 | 18.015 | Pass |
| | | 5200 | 1 | 17.978 | Pass |
| | | 5240 | 1 | 17.953 | Pass |
| 802.11n (HT40) | SISO | 5190 | 1 | 37.084 | Pass |
| | | 5230 | 1 | 37.001 | Pass |
| 802.11n (HT20) | MIMO | 5180 | / | 18.019 | Pass |
| | | 5200 | / | 17.942 | Pass |
| | | 5240 | / | 17.978 | Pass |
| 802.11n (HT40) | MIMO | 5190 | / | 36.992 | Pass |
| | | 5230 | / | 37.160 | Pass |
| 802.11ac (VHT20) | SISO | 5180 | 1 | 17.933 | Pass |
| | | 5200 | 1 | 17.930 | Pass |
| | | 5240 | 1 | 17.928 | Pass |
| 802.11ac (VHT40) | SISO | 5190 | 1 | 36.803 | Pass |
| | | 5230 | 1 | 36.741 | Pass |
| 802.11ac (VHT80) | SISO | 5210 | 1 | 75.608 | Pass |
| 802.11ac (VHT20) | MIMO | 5180 | / | 17.826 | Pass |
| | | 5200 | / | 17.806 | Pass |
| | | 5240 | / | 17.810 | Pass |
| 802.11ac (VHT40) | MIMO | 5190 | / | 36.739 | Pass |
| | | 5230 | / | 36.699 | Pass |
| 802.11ac (VHT80) | MIMO | 5210 | / | 75.707 | Pass |

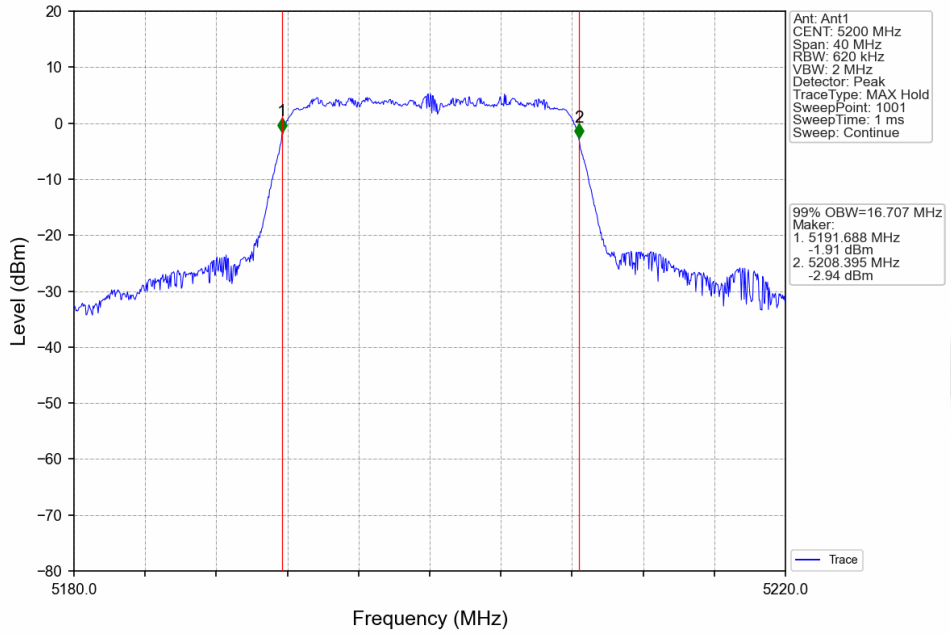
| Mode | TX Type | Frequency (MHz) | ANT | 99% Occupied Bandwidth (MHz) Result | Verdict |
|---|---|---|---|---|---|
| 802.11a | SISO | 5180 | 2 | 16.676 | Pass |
| | | 5200 | 2 | 16.670 | Pass |
| | | 5240 | 2 | 16.672 | Pass |
| 802.11n (HT20) | SISO | 5180 | 2 | 17.804 | Pass |
| | | 5200 | 2 | 17.798 | Pass |
| | | 5240 | 2 | 17.805 | Pass |
| 802.11n (HT40) | SISO | 5190 | 2 | 36.903 | Pass |
| | | 5230 | 2 | 36.701 | Pass |
| 802.11ac (VHT20) | SISO | 5180 | 2 | 17.778 | Pass |
| | | 5200 | 2 | 17.771 | Pass |
| | | 5240 | 2 | 17.783 | Pass |
| 802.11ac (VHT40) | SISO | 5190 | 2 | 36.521 | Pass |
| | | 5230 | 2 | 36.369 | Pass |
| 802.11ac (VHT80) | SISO | 5210 | 2 | 74.968 | Pass |

## 1.1.2 Test Graph

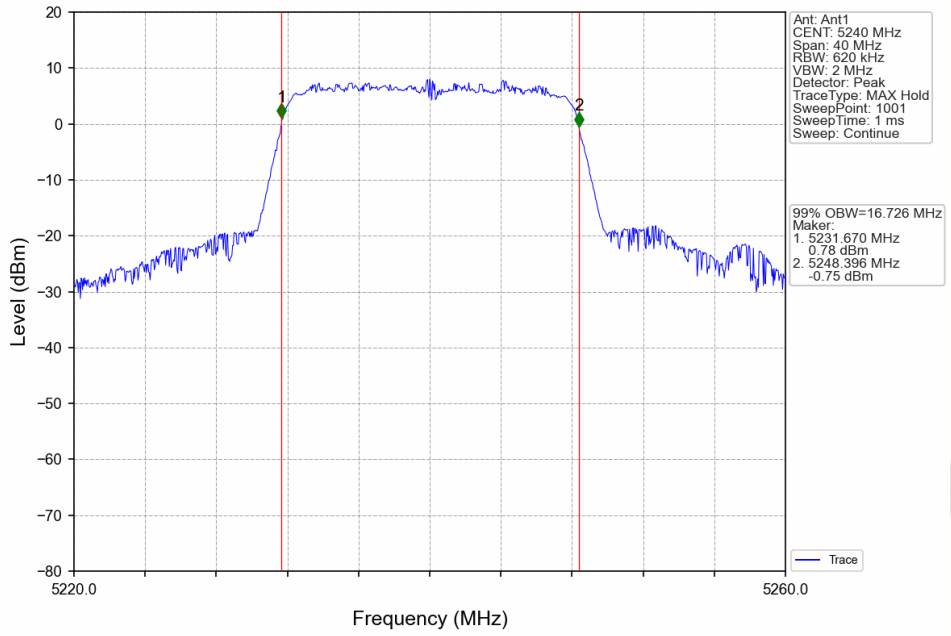
802.11a_LCH_5180MHz_Ant1_NTNV



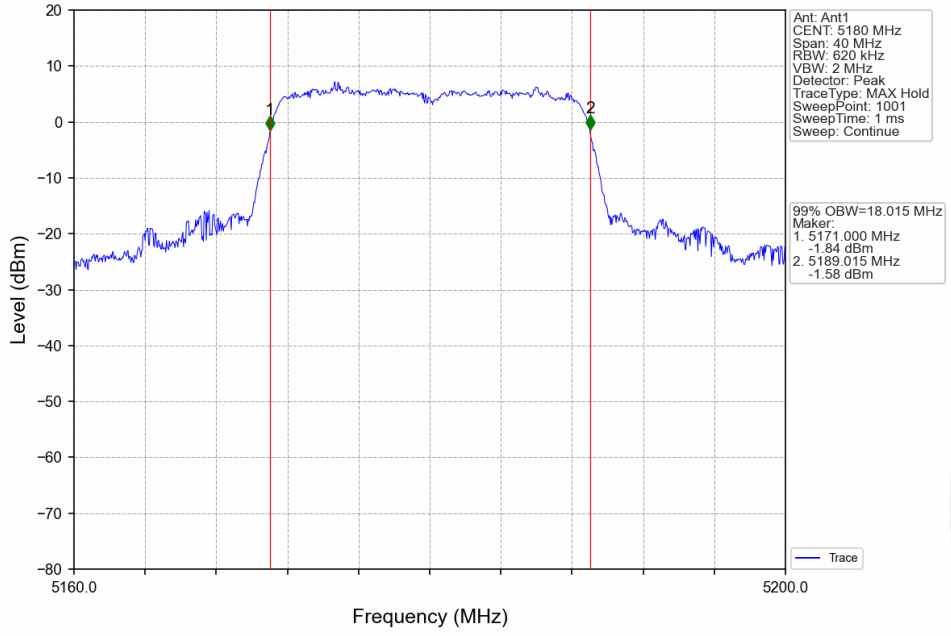

802.11a_MCH_5200MHz_Ant1_NTNV



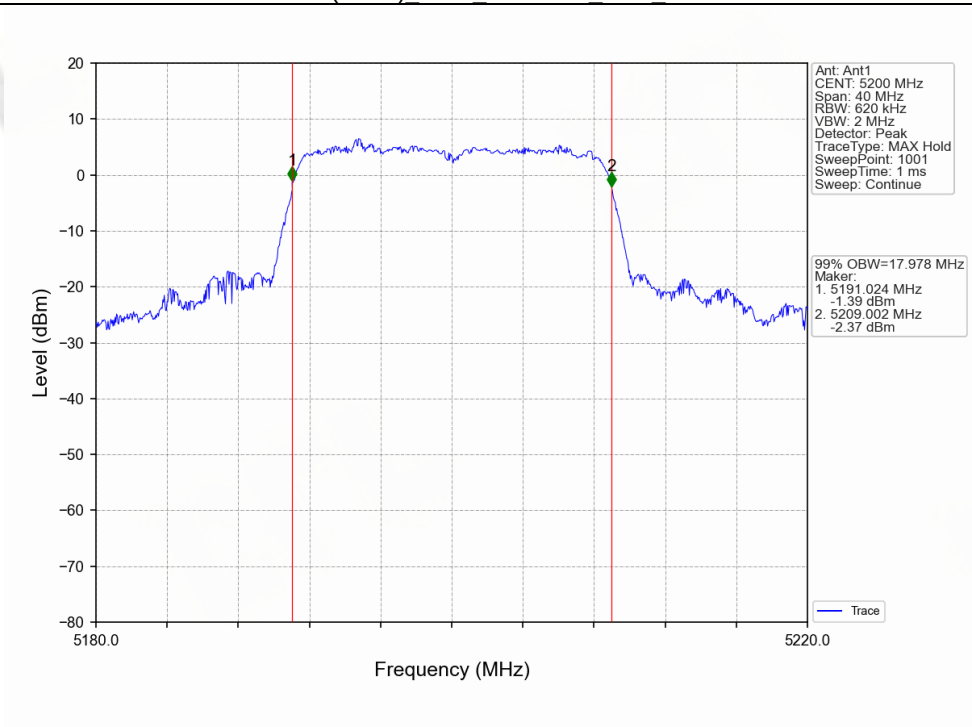
802.11a_HCH_5240MHz_Ant1_NTNV



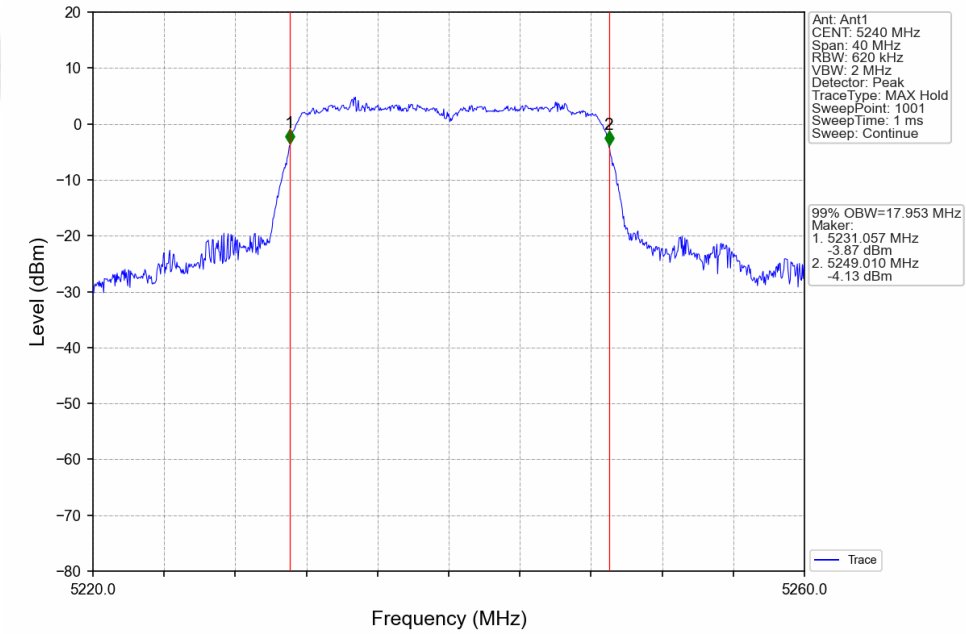

802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



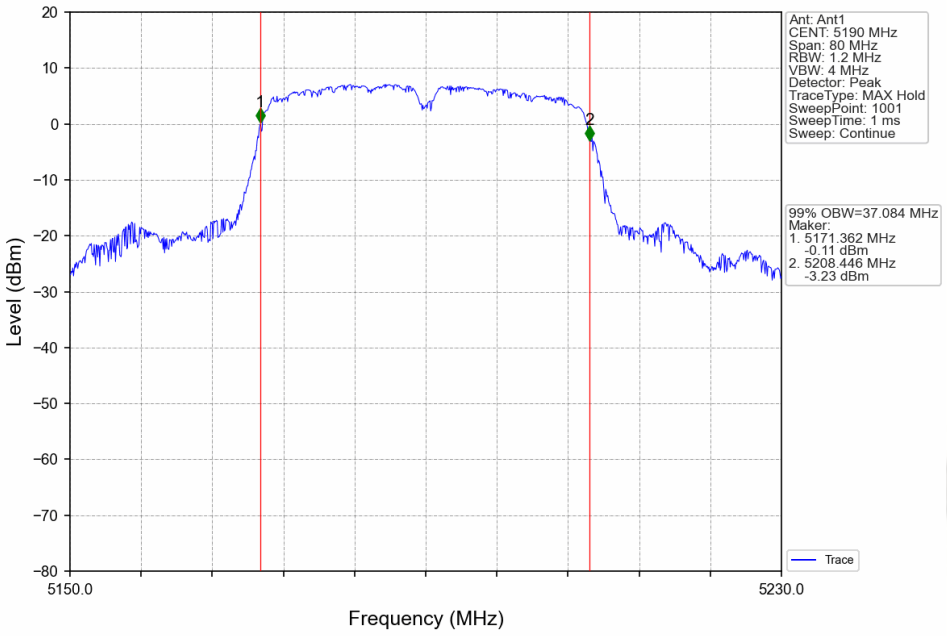
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



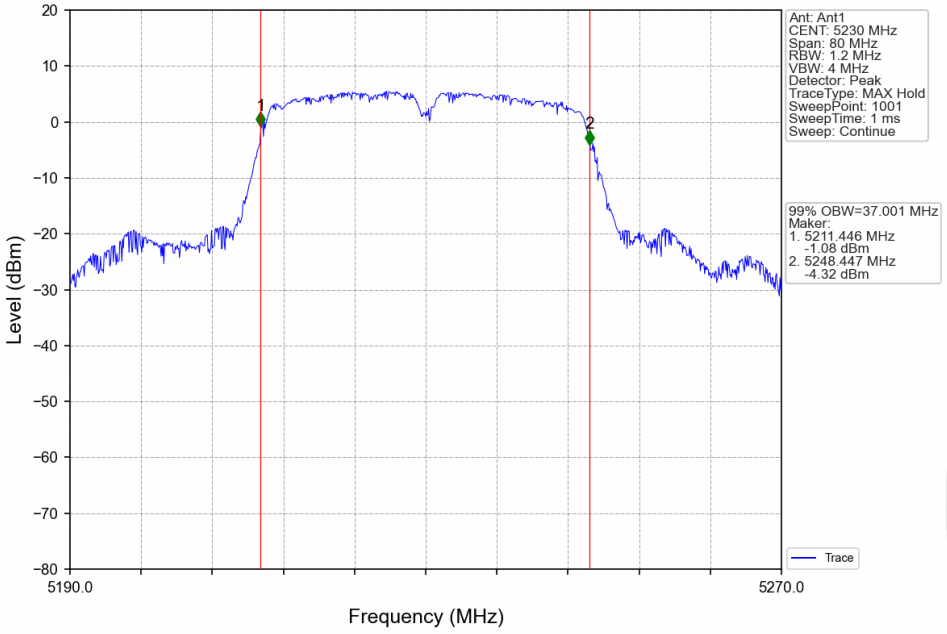

802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



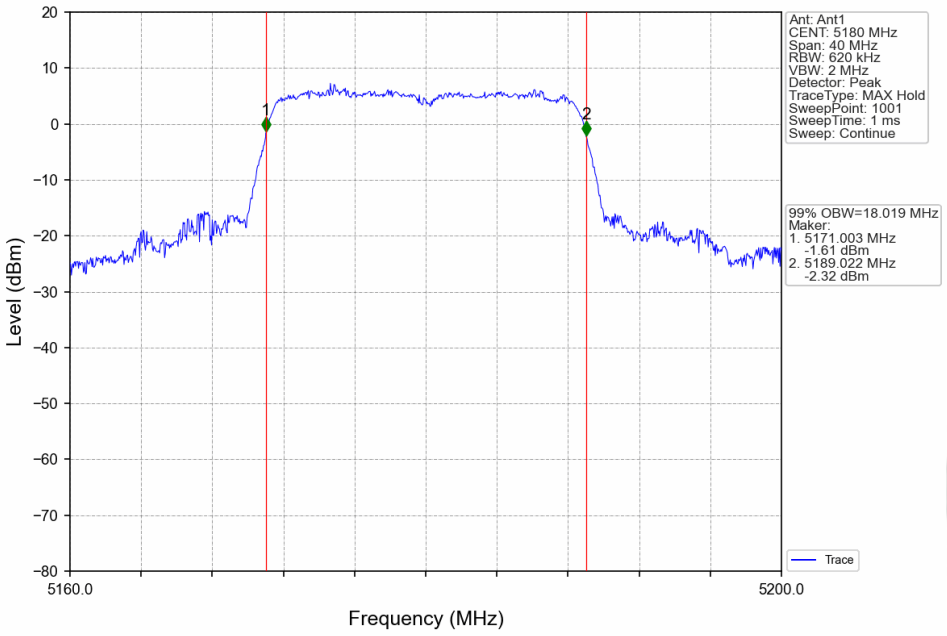
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



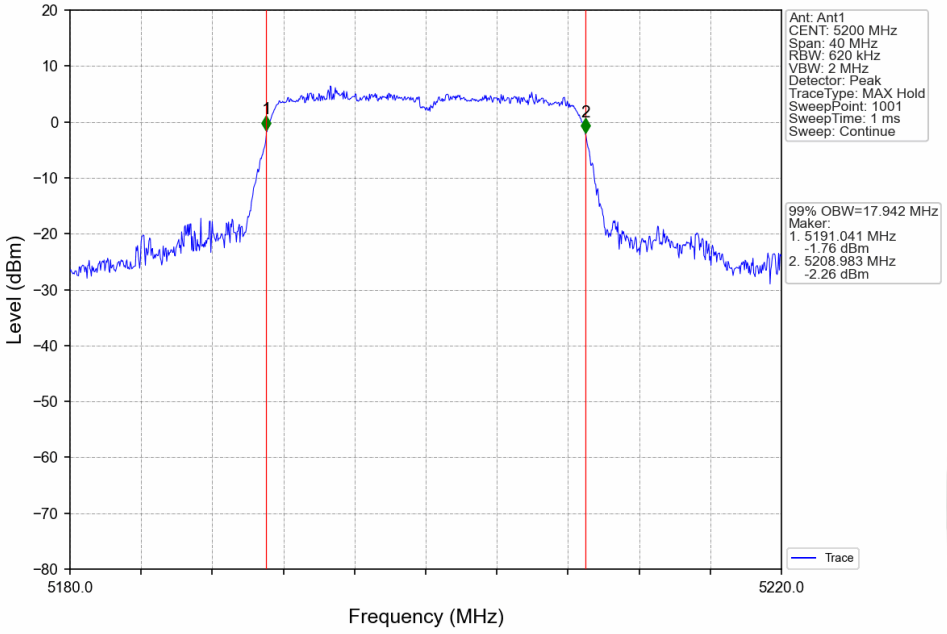

802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



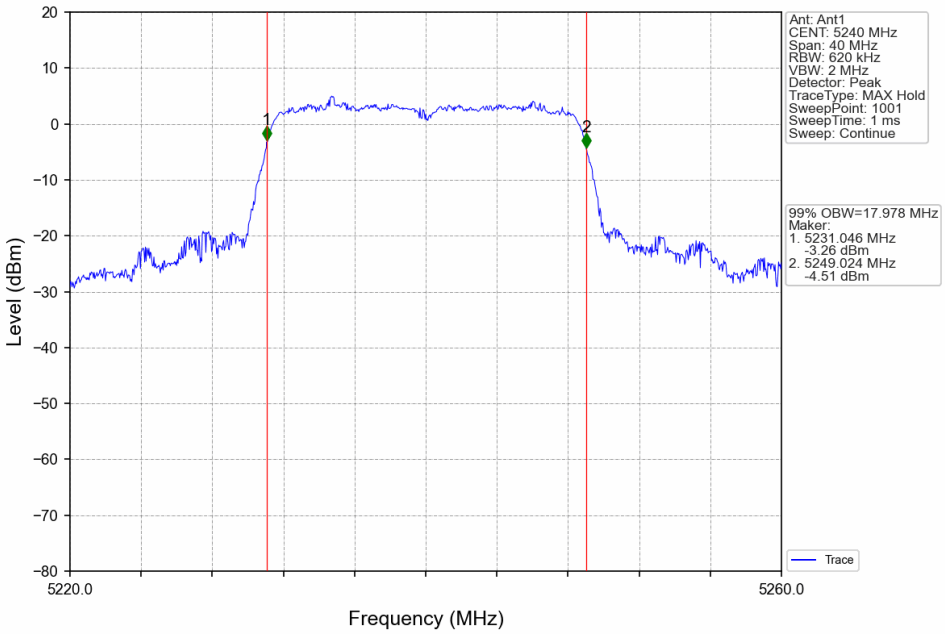
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



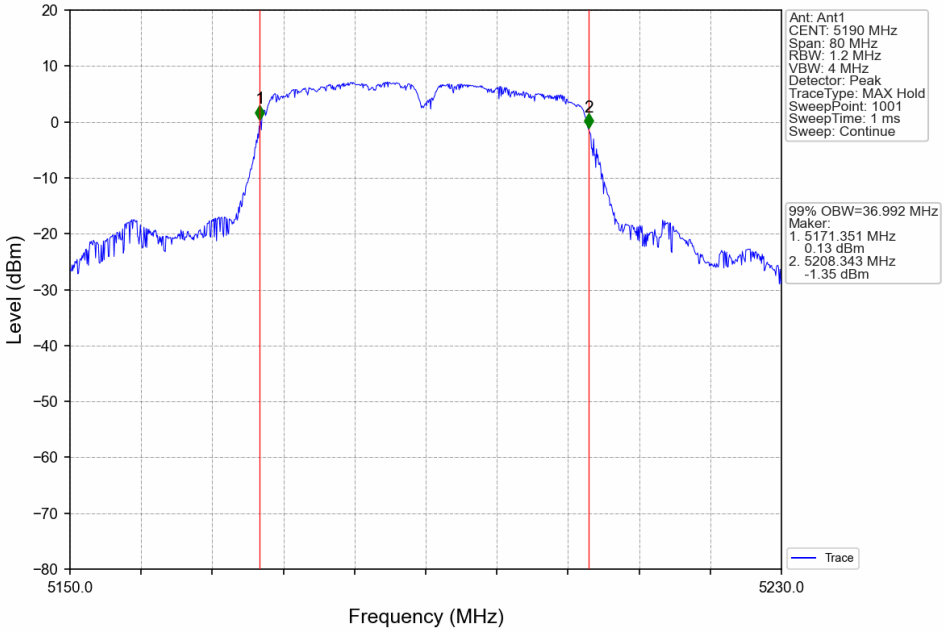

802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



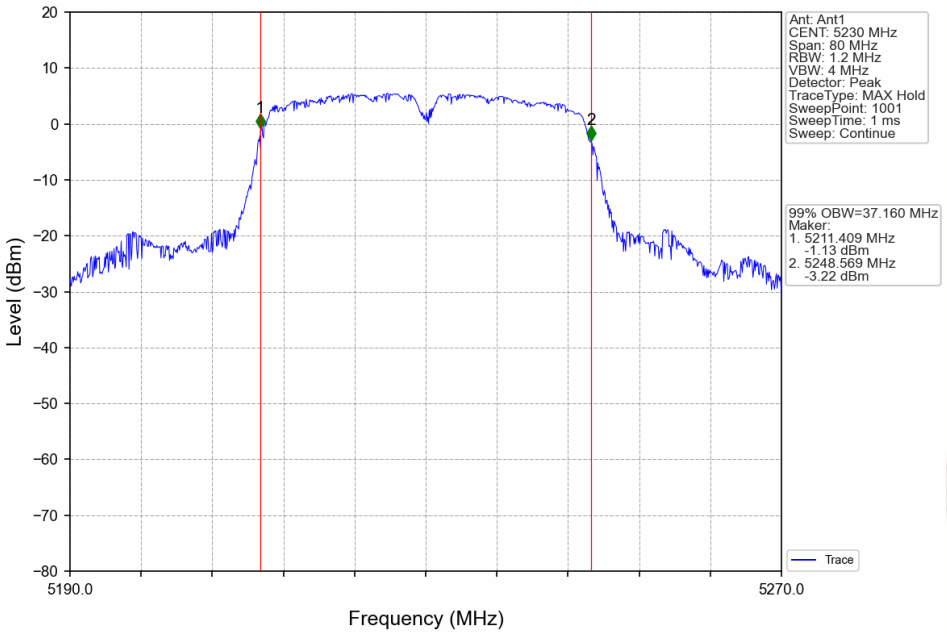
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



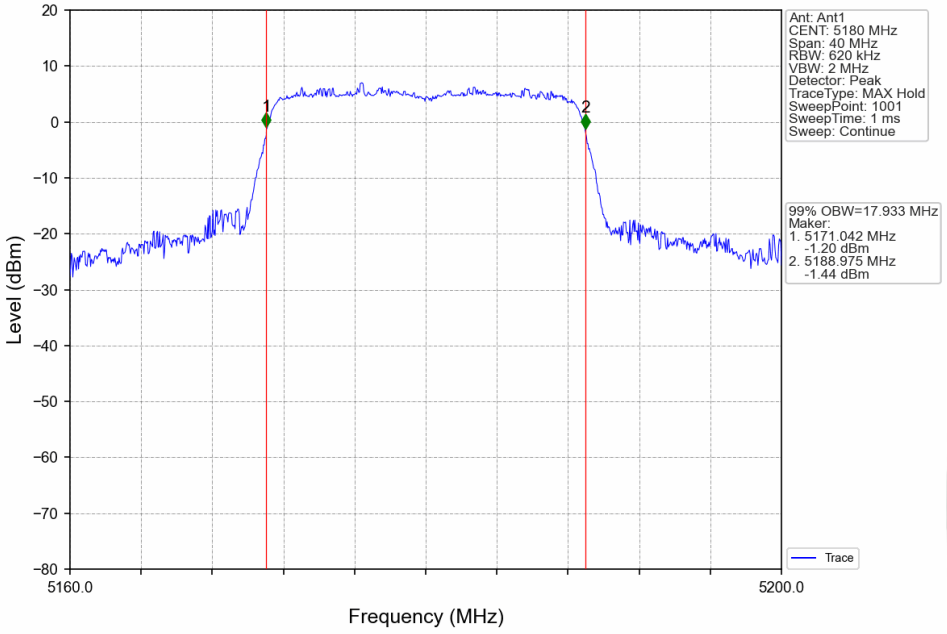

802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



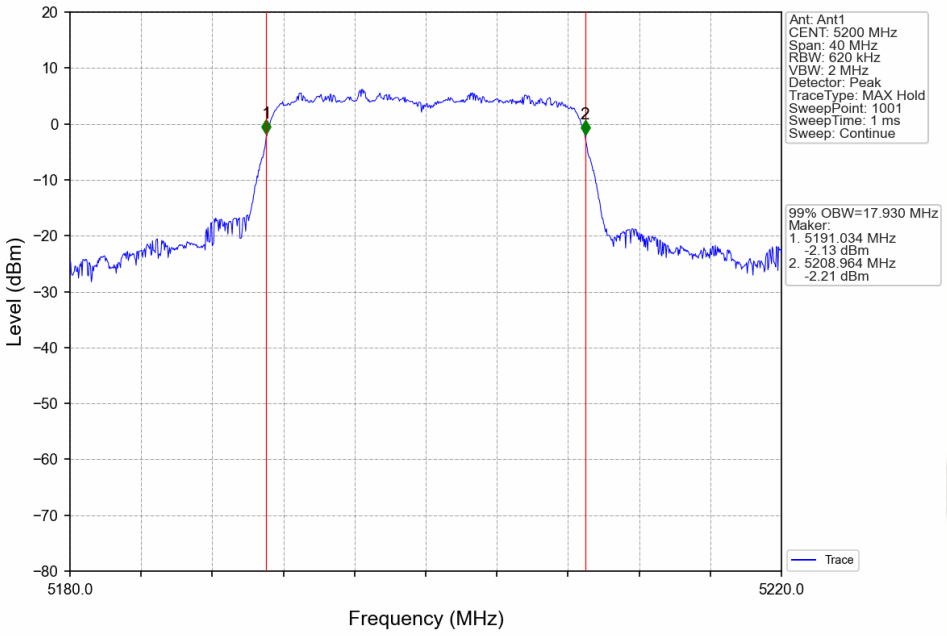
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



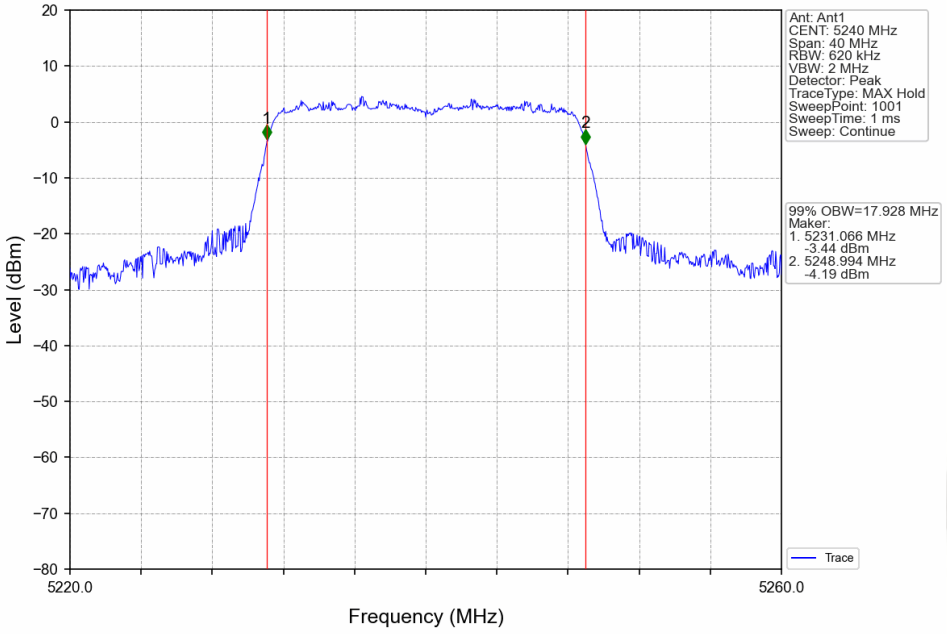

802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



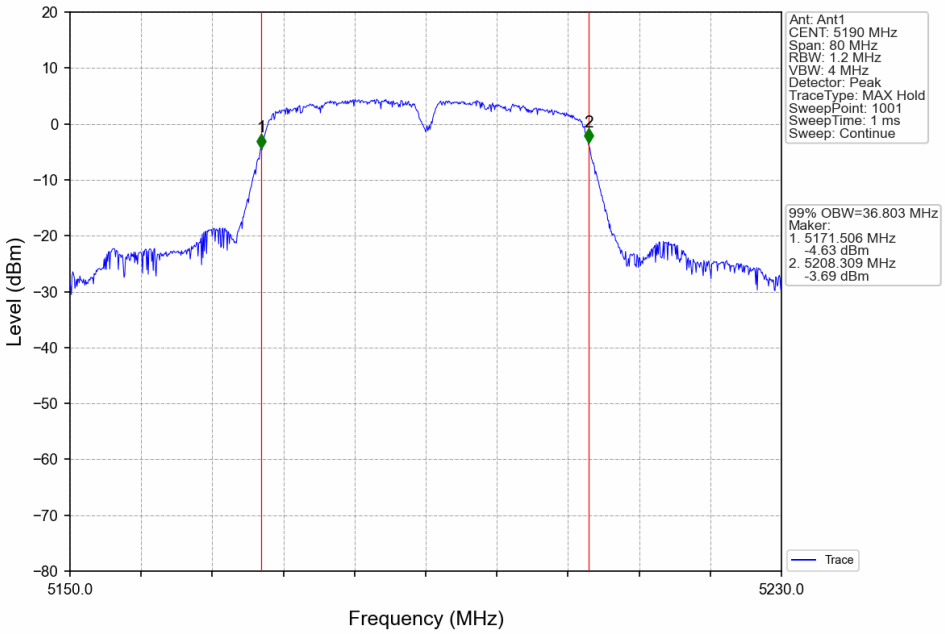
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



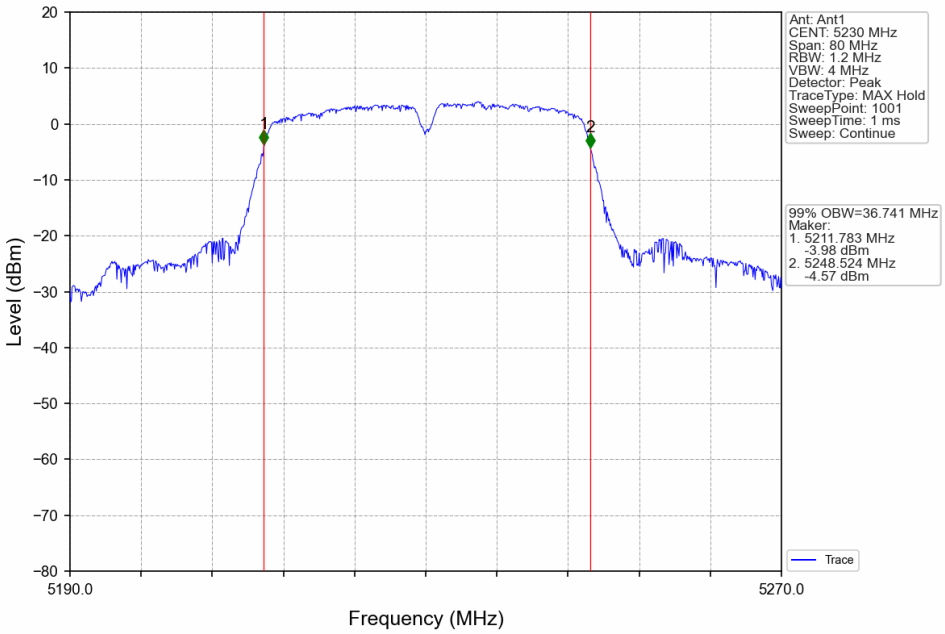

802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



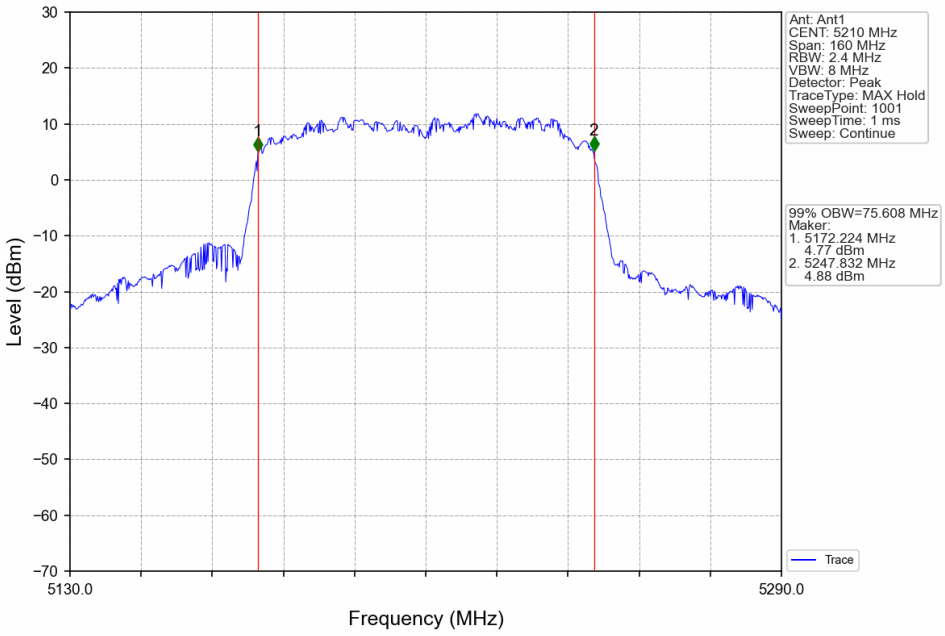
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



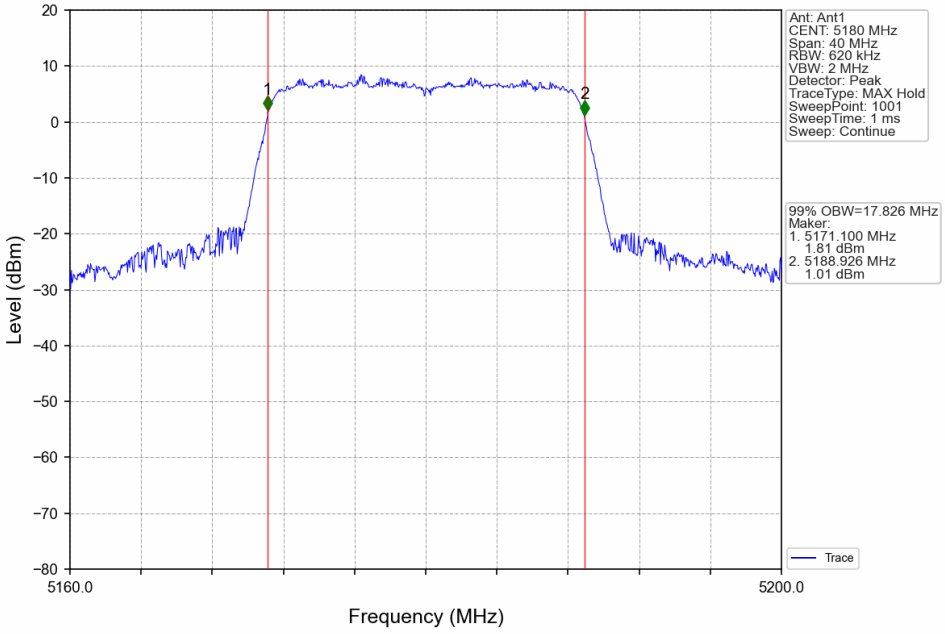

802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



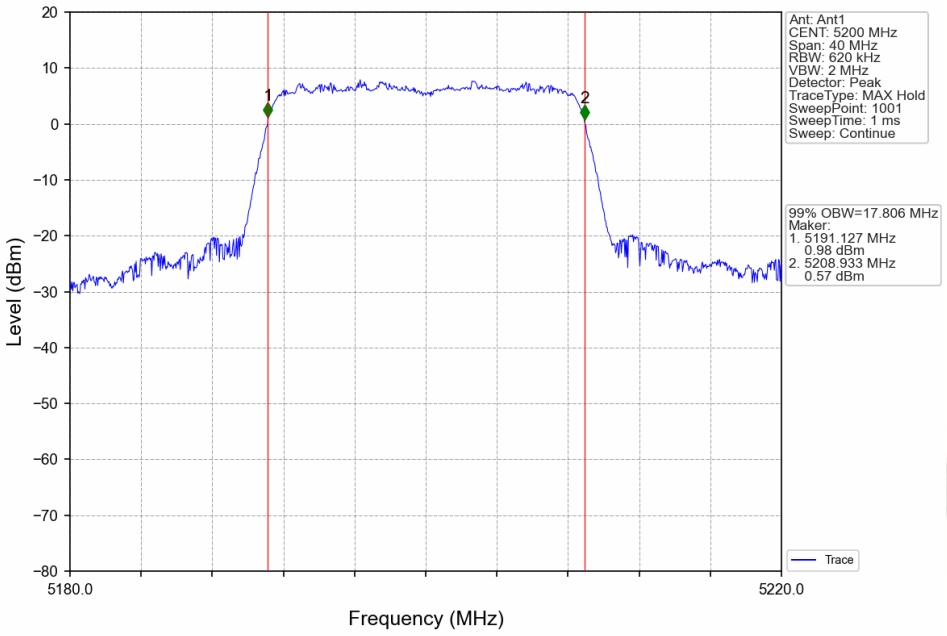
802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



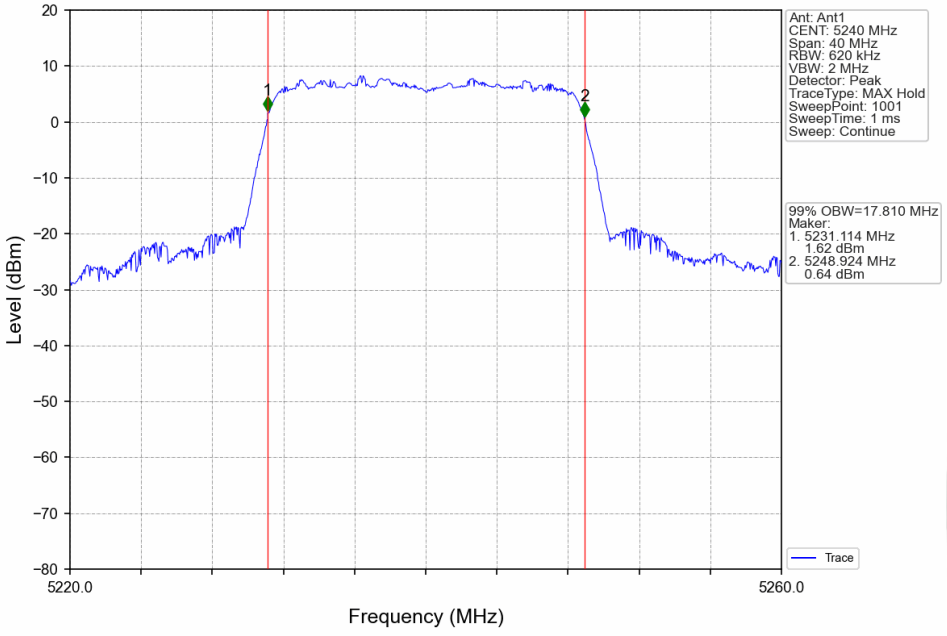

802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



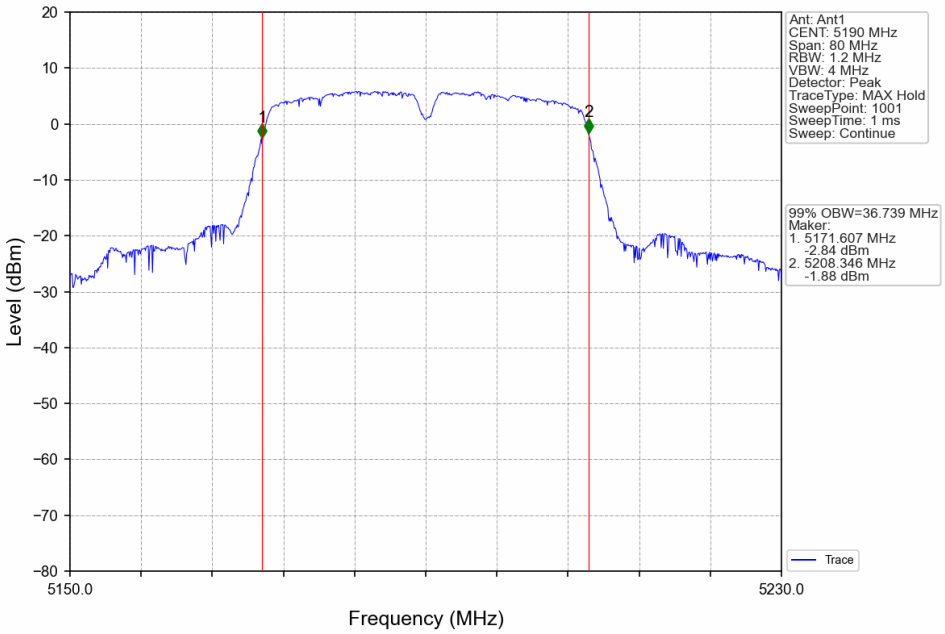
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



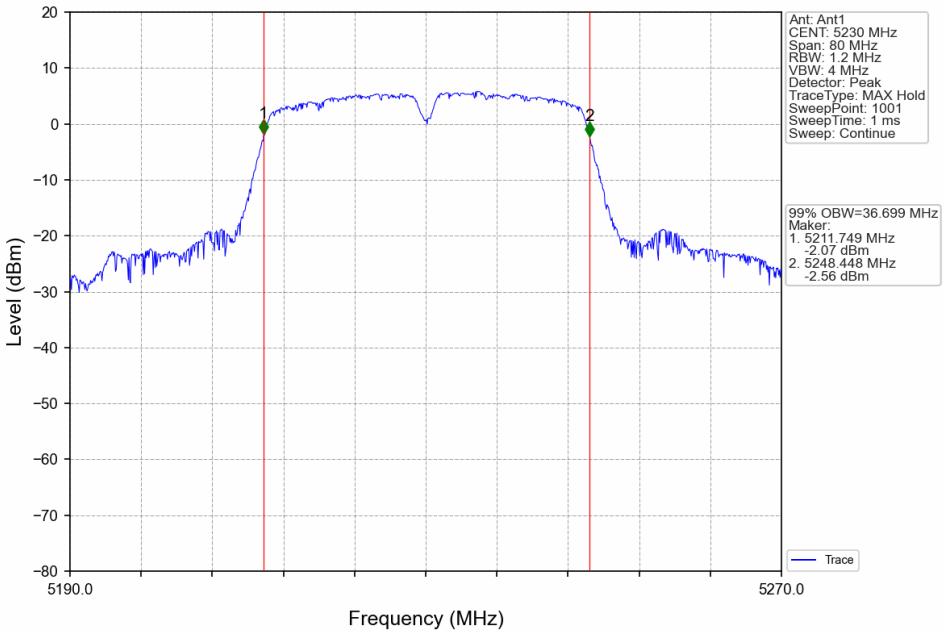

802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



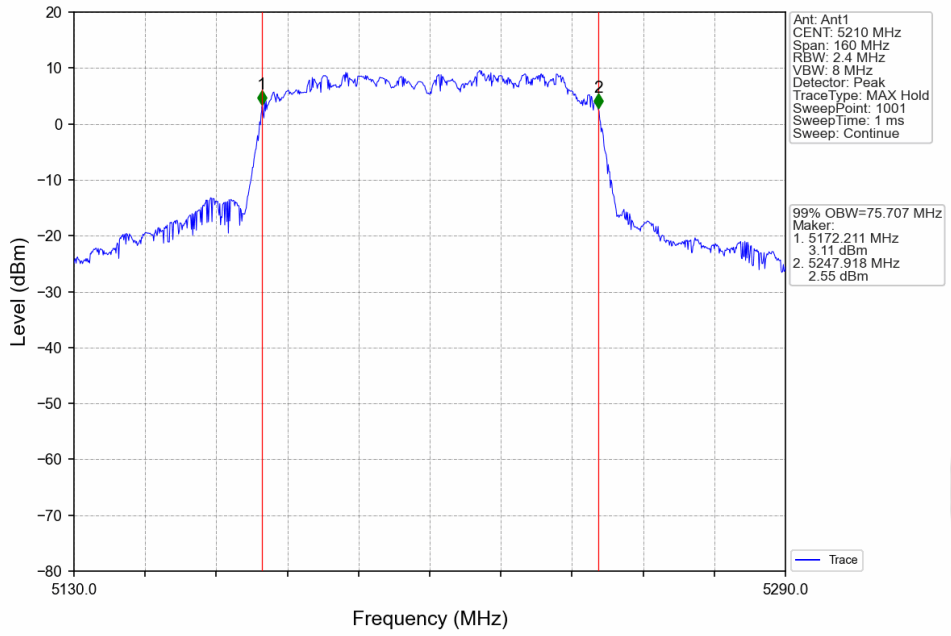
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



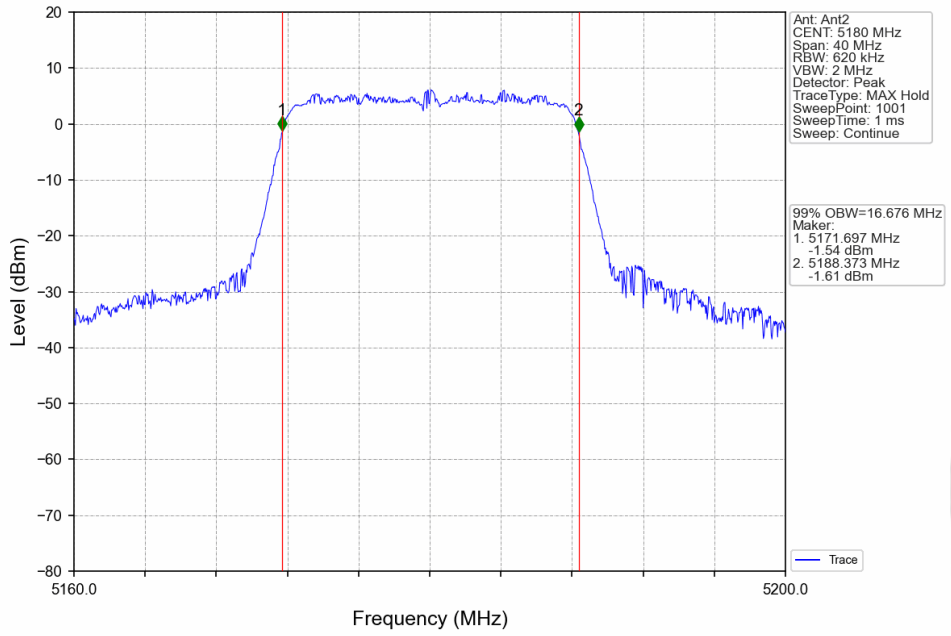

802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



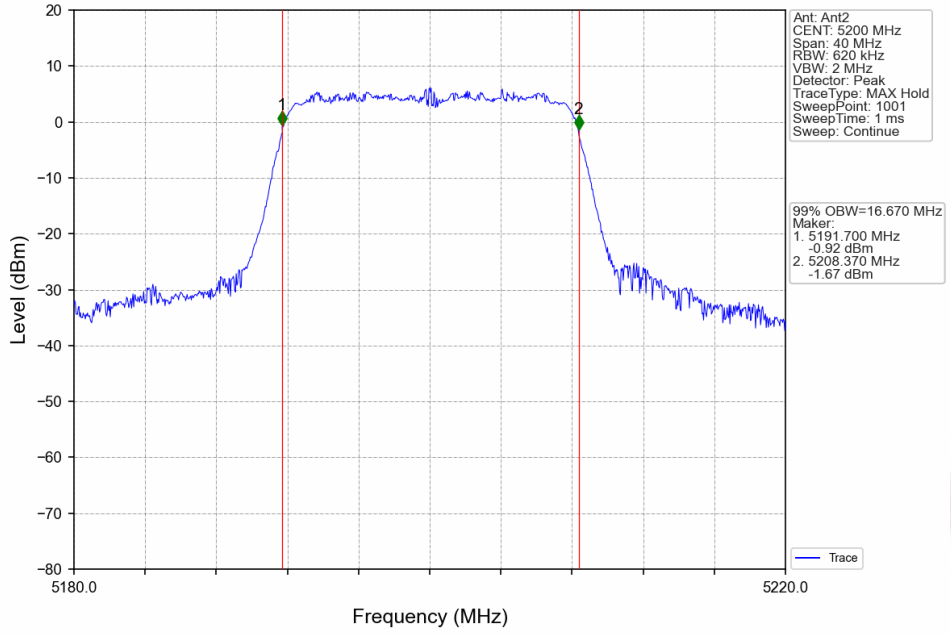
802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



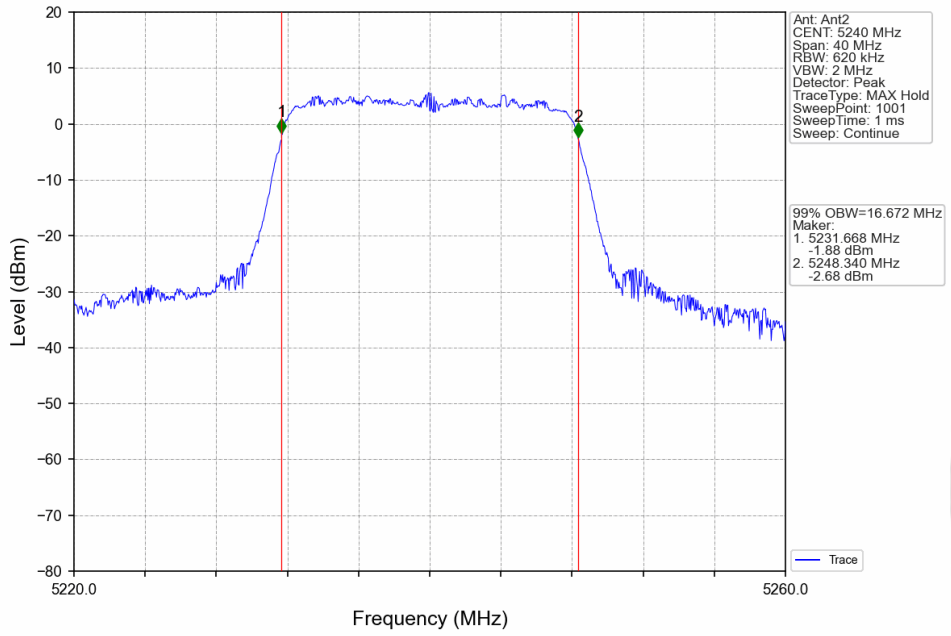
802.11a_LCH_5180MHz_Ant2_NTNV



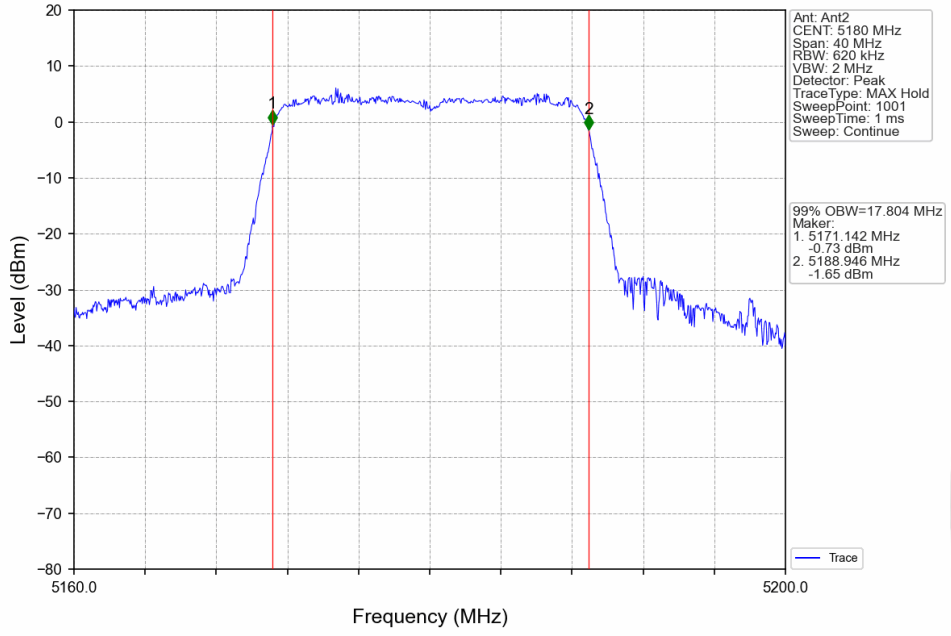

802.11a_MCH_5200MHz_Ant2_NTNV



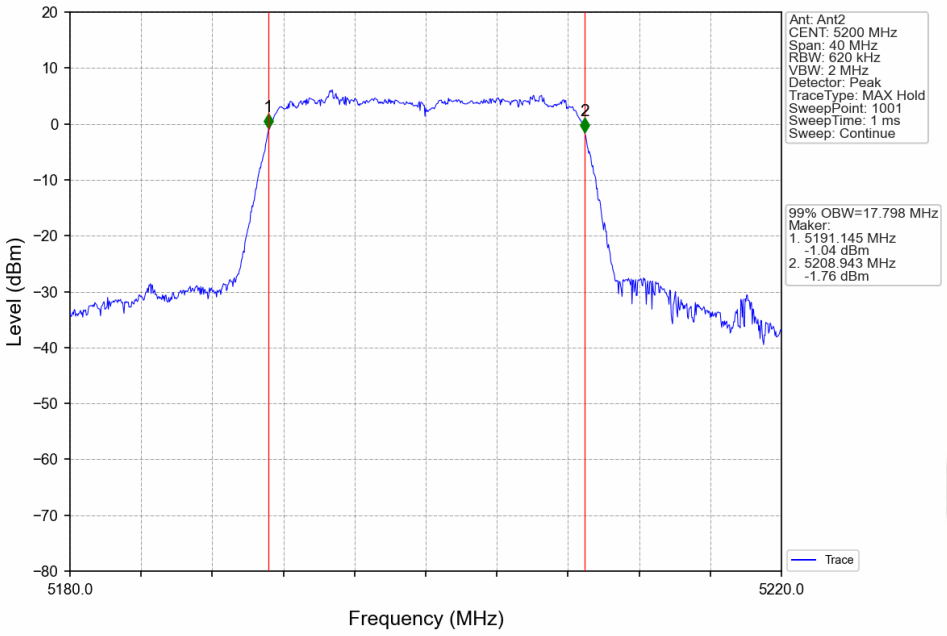
802.11a_HCH_5240MHz_Ant2_NTNV



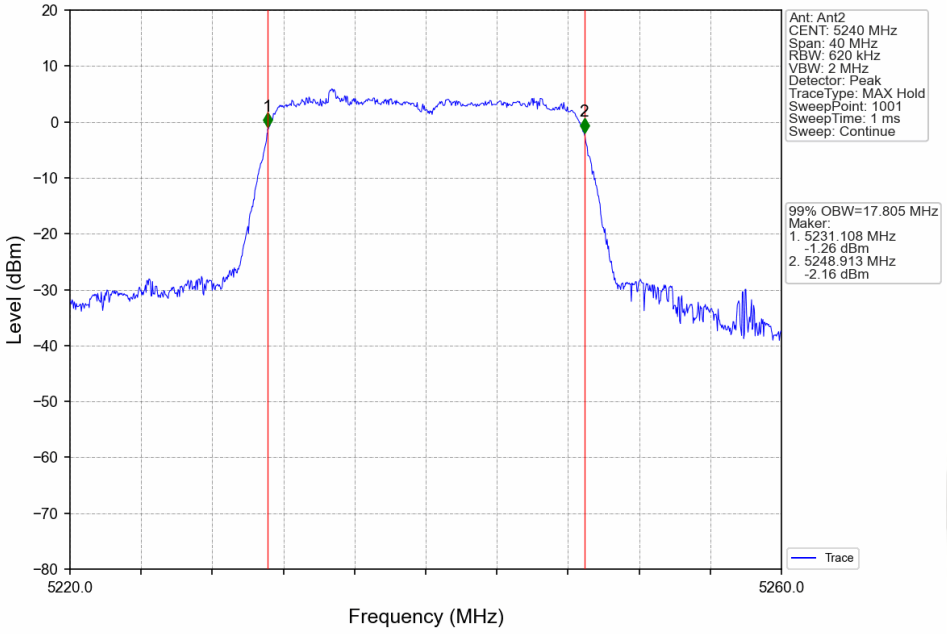

802.11n(HT20)_LCH_5180MHz_Ant2_NTNV



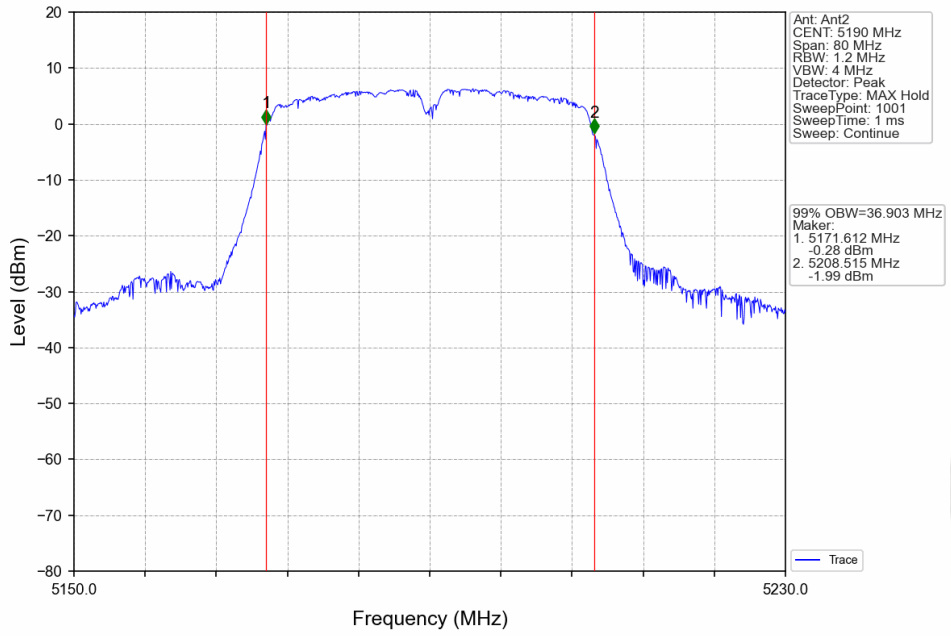
802.11n(HT20)_MCH_5200MHz_Ant2_NTNV



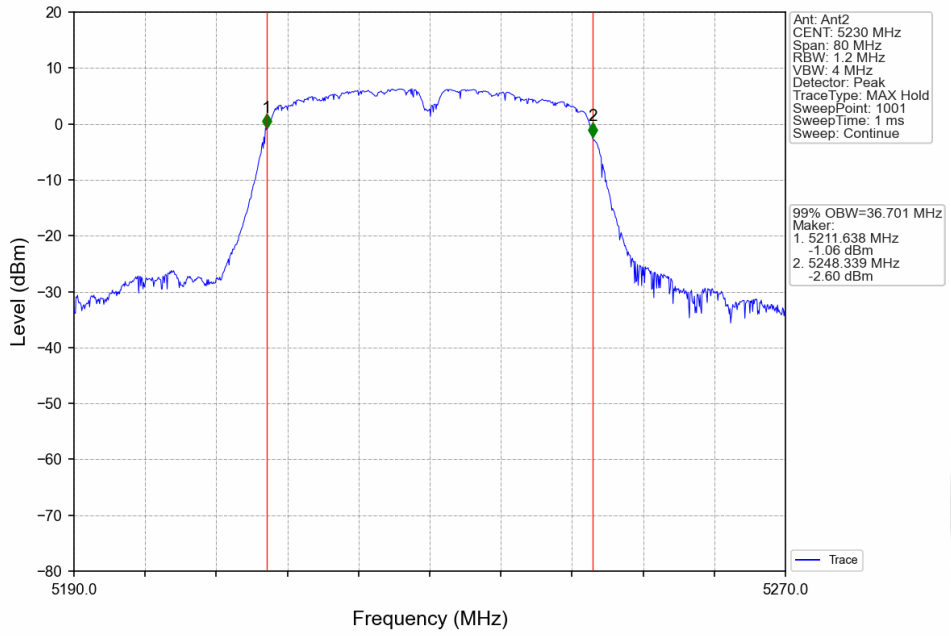

802.11n(HT20)_HCH_5240MHz_Ant2_NTNV



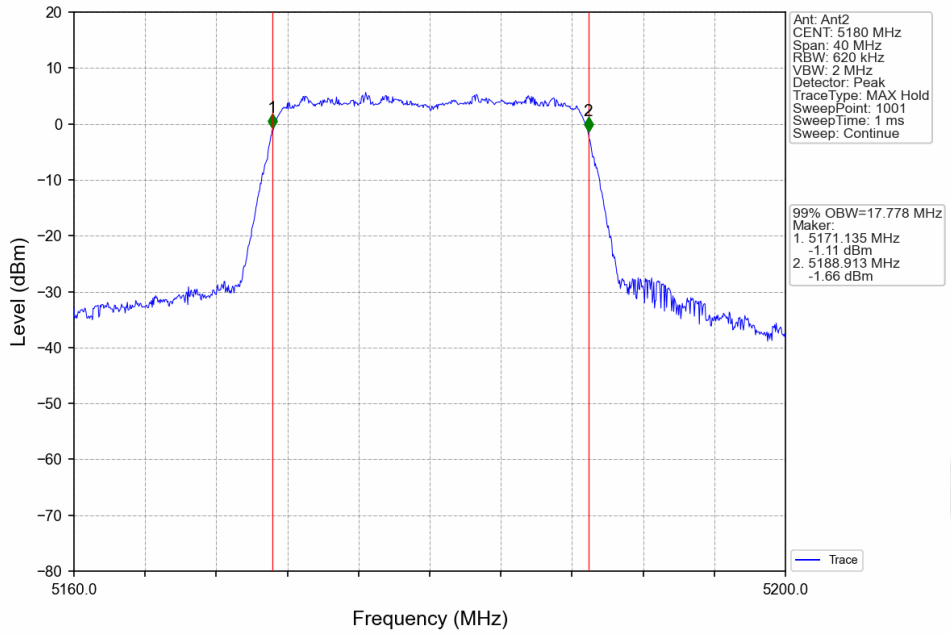
802.11n(HT40)_LCH_5190MHz_Ant2_NTNV



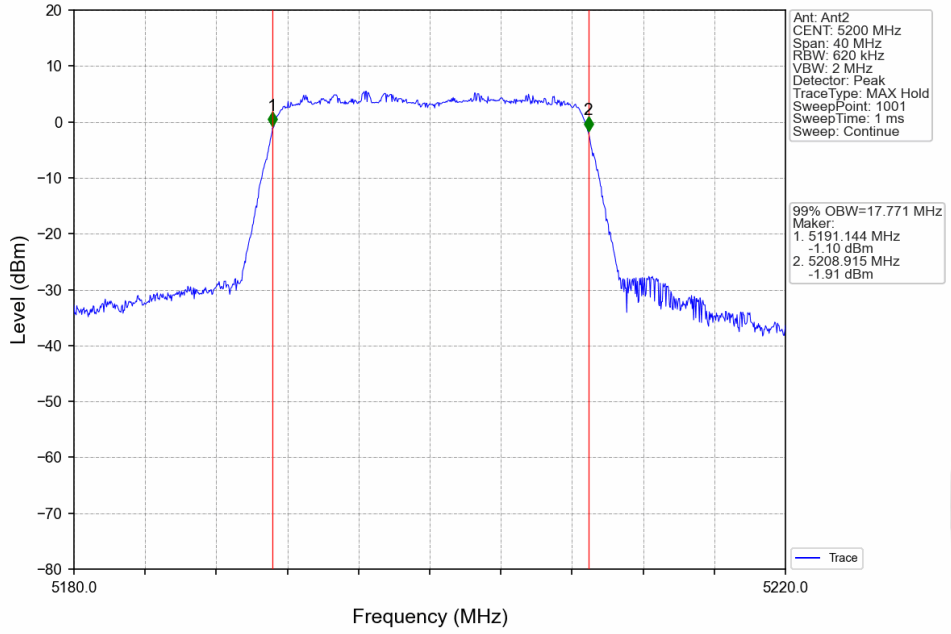

802.11n(HT40)_HCH_5230MHz_Ant2_NTNV



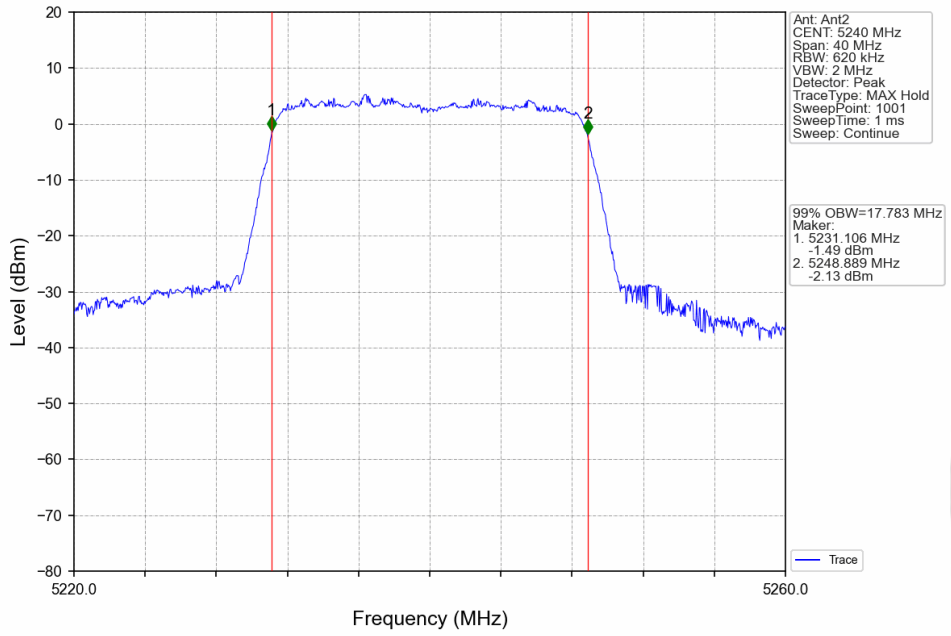
802.11ac(VHT20)_LCH_5180MHz_Ant2_NTNV



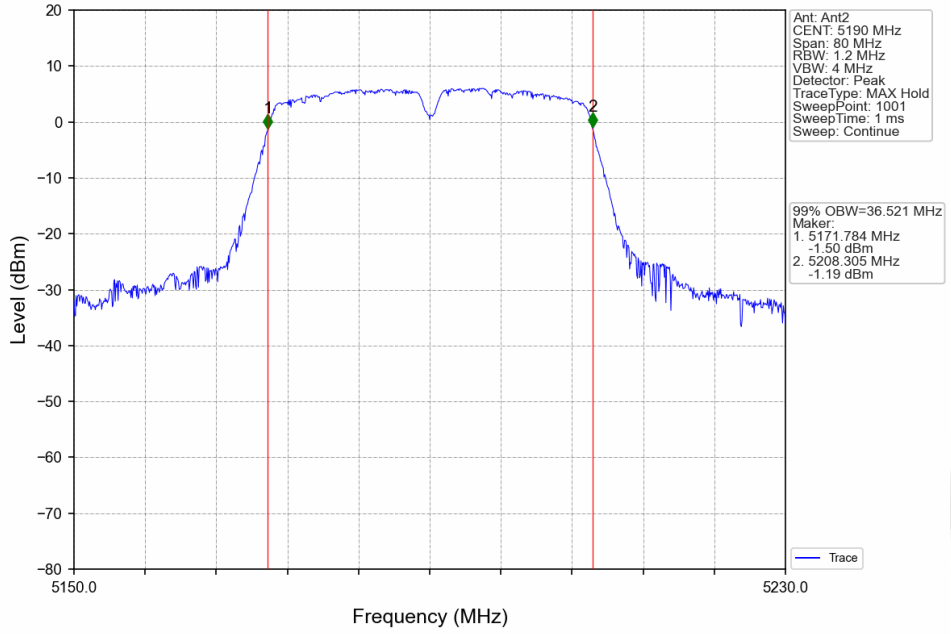

802.11ac(VHT20)_MCH_5200MHz_Ant2_NTNV



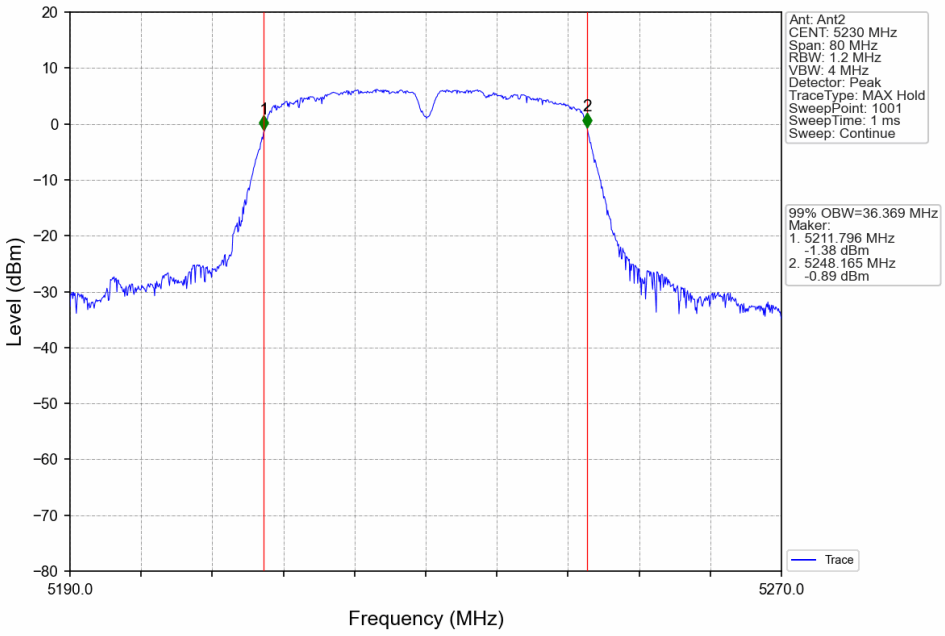
802.11ac(VHT20)_HCH_5240MHz_Ant2_NTNV



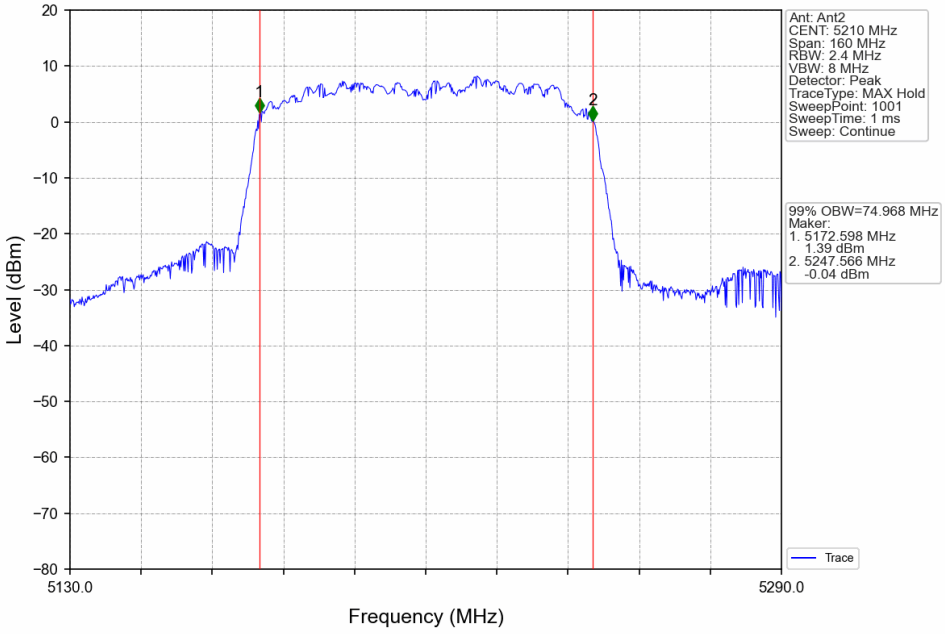

802.11ac(VHT40)_LCH_5190MHz_Ant2_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant2_NTNV




802.11ac(VHT80)_MCH_5210MHz_Ant2_NTNV



## 1.2 26dB BW

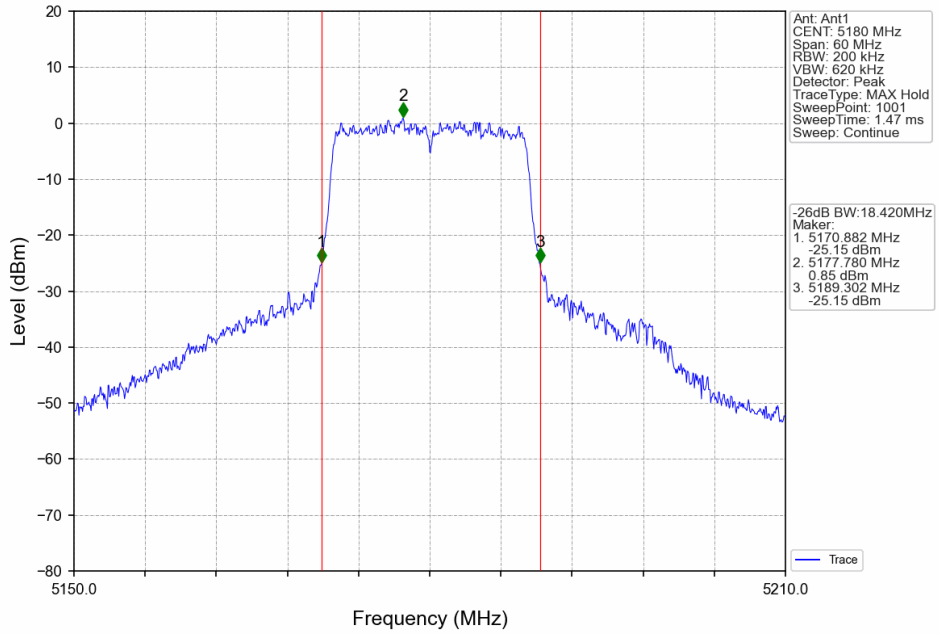
### 1.2.1 Test Result

| Mode | TX Type | Frequency (MHz) | ANT | 26dB Bandwidth (MHz) Result | Verdict |
|---|---|---|---|---|---|
| 802.11a | SISO | 5180 | 1 | 18.420 | Pass |
| | | 5200 | 1 | 18.506 | Pass |
| | | 5240 | 1 | 18.473 | Pass |
| 802.11n (HT20) | SISO | 5180 | 1 | 19.990 | Pass |
| | | 5200 | 1 | 19.992 | Pass |
| | | 5240 | 1 | 19.882 | Pass |
| 802.11n (HT40) | SISO | 5190 | 1 | 41.995 | Pass |
| | | 5230 | 1 | 45.084 | Pass |
| 802.11n (HT20) | MIMO | 5180 | / | 20.022 | Pass |
| | | 5200 | / | 19.864 | Pass |
| | | 5240 | / | 19.901 | Pass |
| 802.11n (HT40) | MIMO | 5190 | / | 43.461 | Pass |
| | | 5230 | / | 42.203 | Pass |
| 802.11ac (VHT20) | SISO | 5180 | 1 | 20.958 | Pass |
| | | 5200 | 1 | 20.373 | Pass |
| | | 5240 | 1 | 19.707 | Pass |
| 802.11ac (VHT40) | SISO | 5190 | 1 | 45.540 | Pass |
| | | 5230 | 1 | 41.530 | Pass |
| 802.11ac (VHT80) | SISO | 5210 | 1 | 92.126 | Pass |
| 802.11ac (VHT20) | MIMO | 5180 | / | 19.459 | Pass |
| | | 5200 | / | 19.402 | Pass |
| | | 5240 | / | 19.423 | Pass |
| 802.11ac (VHT40) | MIMO | 5190 | / | 41.318 | Pass |
| | | 5230 | / | 41.204 | Pass |
| 802.11ac (VHT80) | MIMO | 5210 | / | 95.162 | Pass |

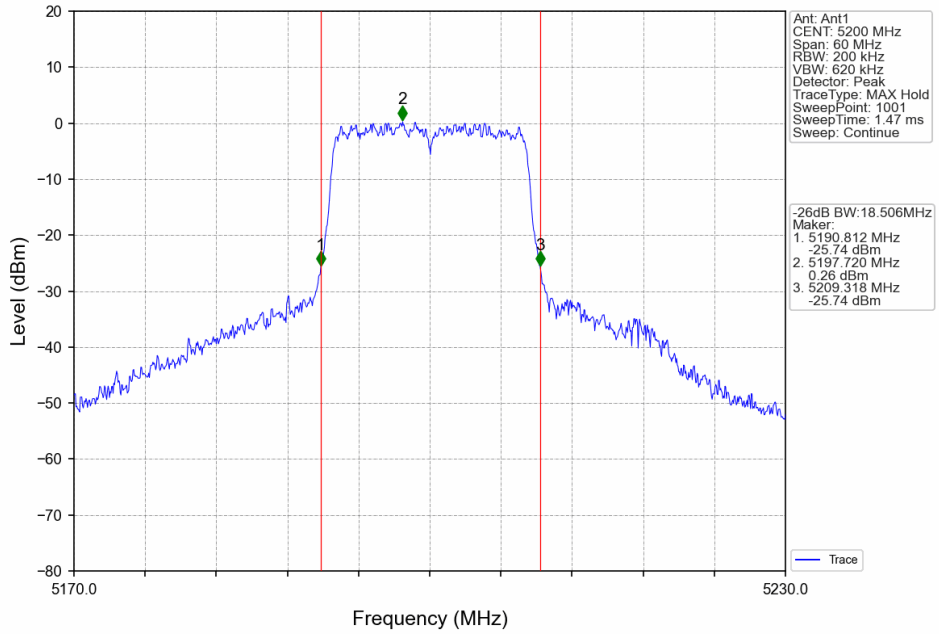
| Mode | TX Type | Frequency (MHz) | ANT | 26dB Bandwidth (MHz) Result | Verdict |
|---|---|---|---|---|---|
| 802.11a | SISO | 5180 | 2 | 18.534 | Pass |
| | | 5200 | 2 | 18.515 | Pass |
| | | 5240 | 2 | 18.356 | Pass |
| 802.11n (HT20) | SISO | 5180 | 2 | 19.447 | Pass |
| | | 5200 | 2 | 19.379 | Pass |
| | | 5240 | 2 | 19.321 | Pass |
| 802.11n (HT40) | SISO | 5190 | 2 | 41.792 | Pass |
| | | 5230 | 2 | 41.548 | Pass |
| 802.11ac (VHT20) | SISO | 5180 | 2 | 19.470 | Pass |
| | | 5200 | 2 | 19.416 | Pass |
| | | 5240 | 2 | 19.355 | Pass |
| 802.11ac (VHT40) | SISO | 5190 | 2 | 41.393 | Pass |
| | | 5230 | 2 | 40.901 | Pass |
| 802.11ac (VHT80) | SISO | 5210 | 2 | 81.027 | Pass |

## 1.2.2 Test Graph

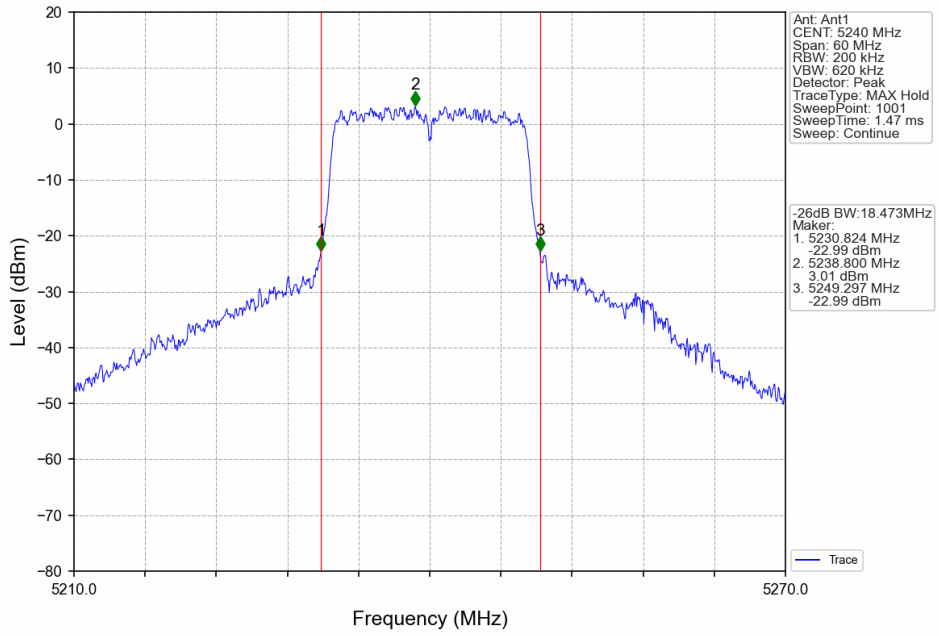
802.11a_LCH_5180MHz_Ant1_NTNV



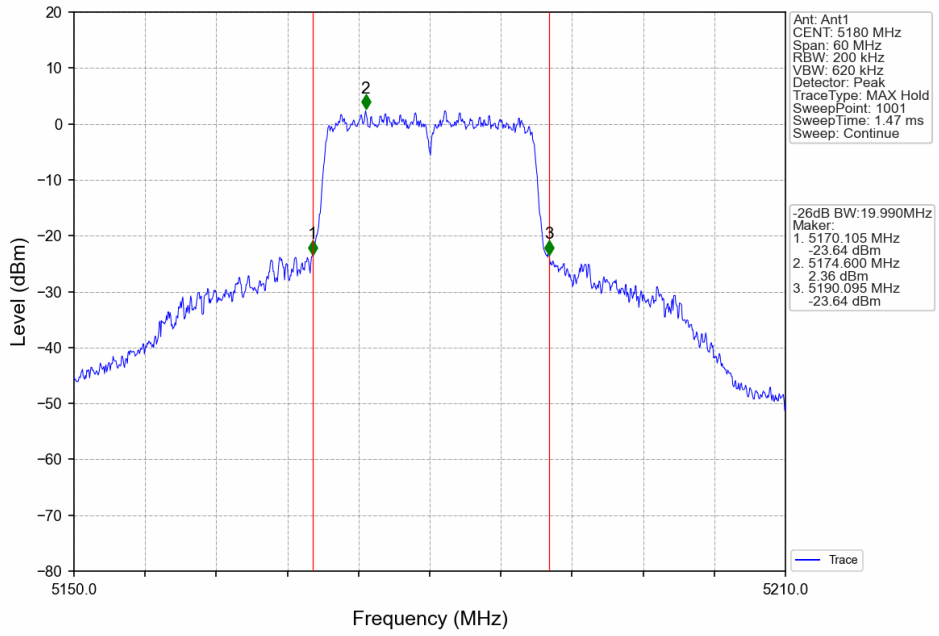

802.11a_MCH_5200MHz_Ant1_NTNV



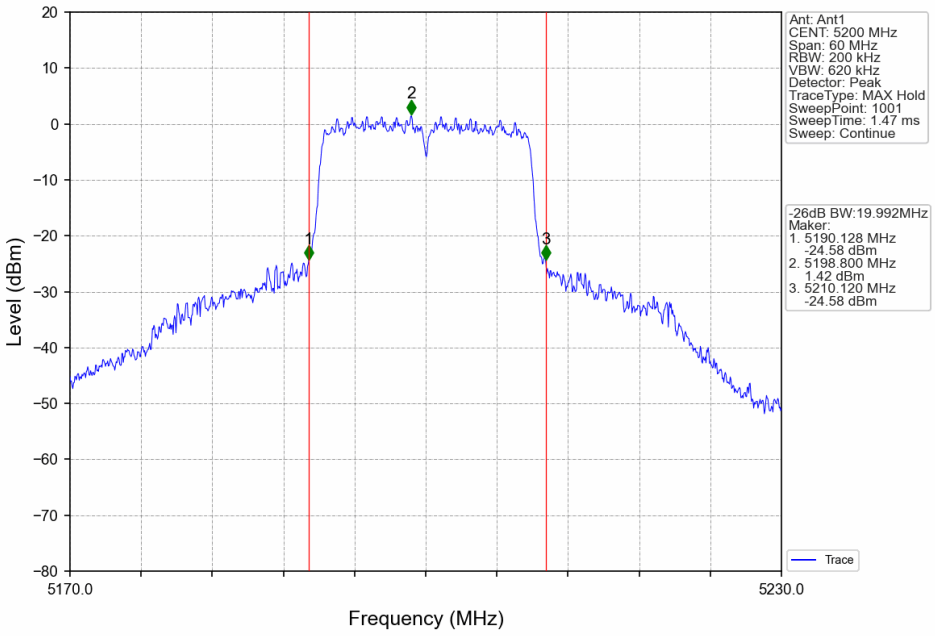
802.11a_HCH_5240MHz_Ant1_NTNV



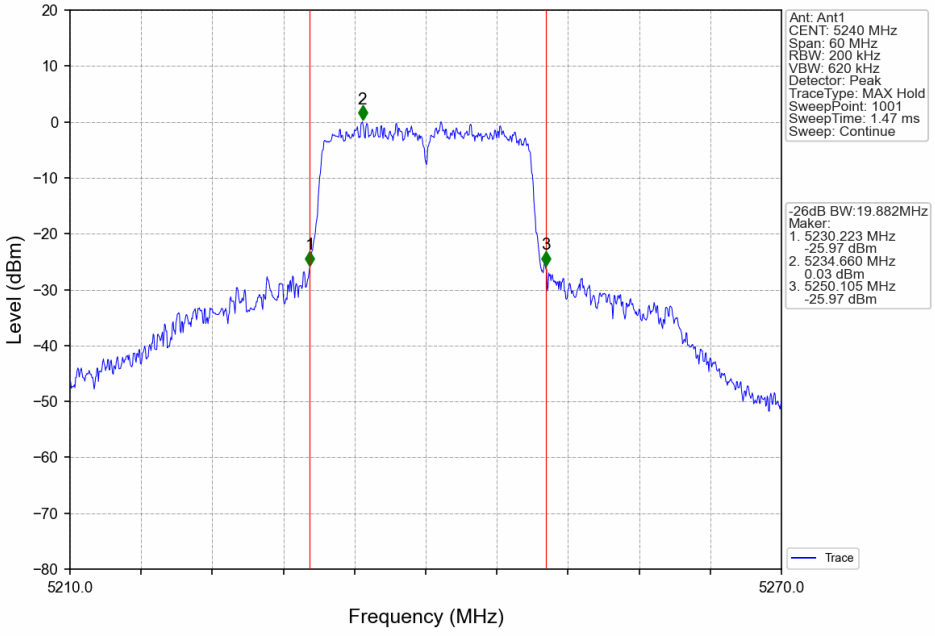

802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



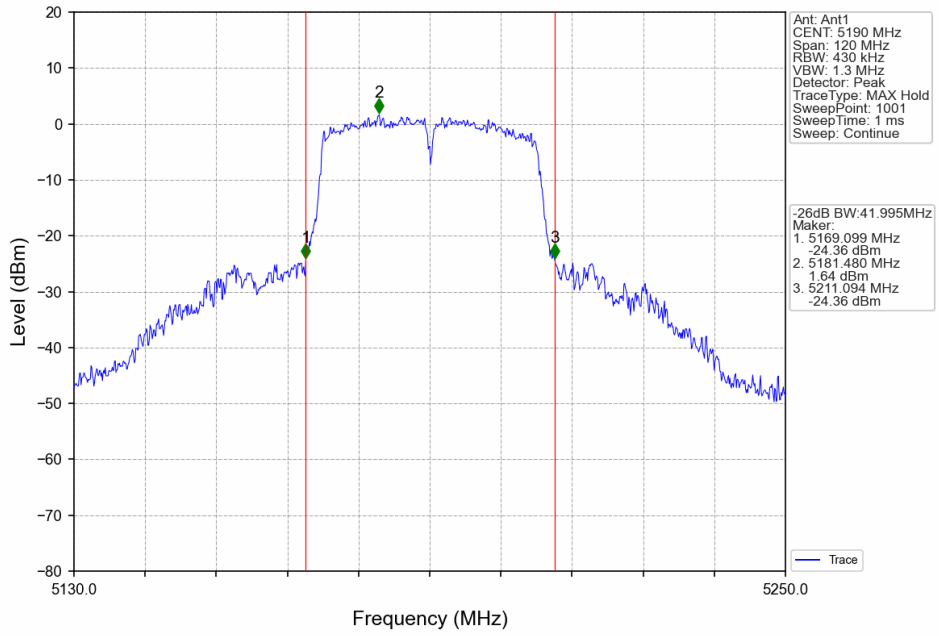
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



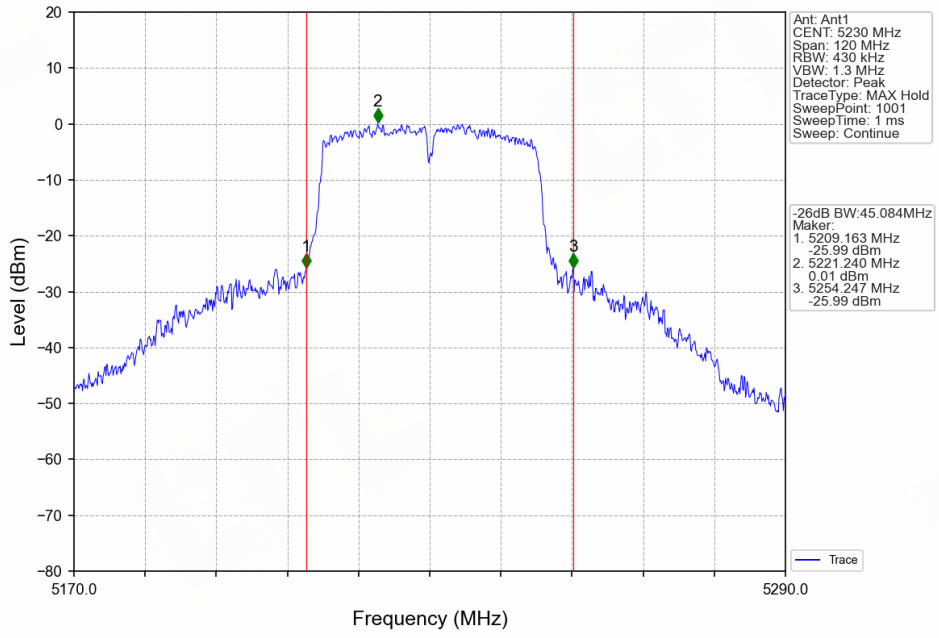

802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



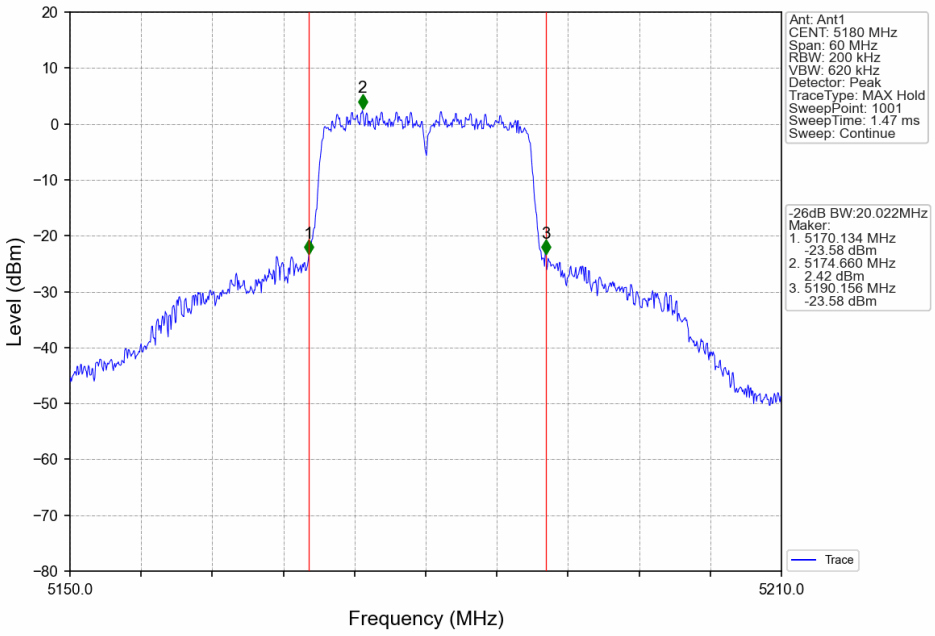
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



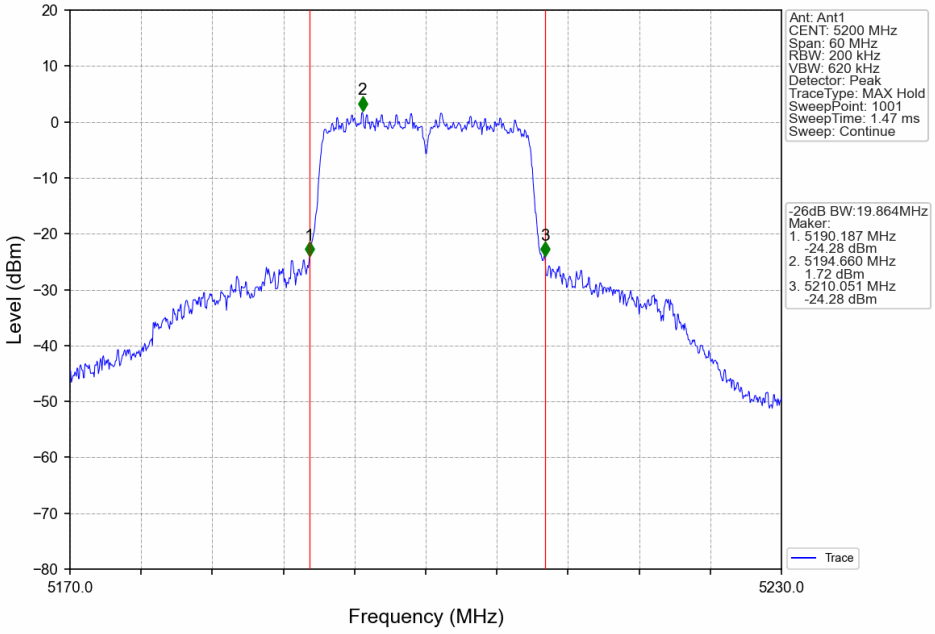

802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



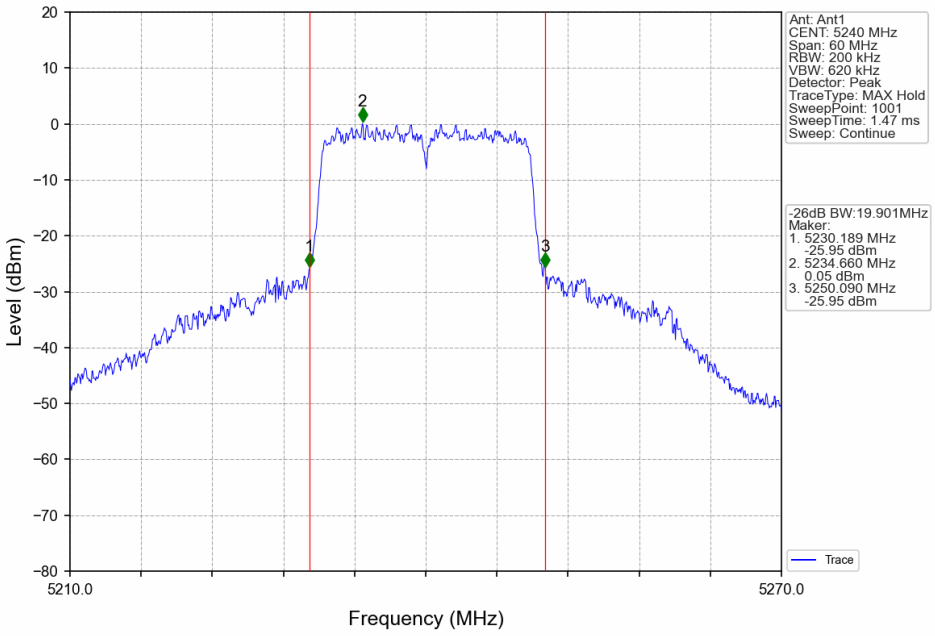
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



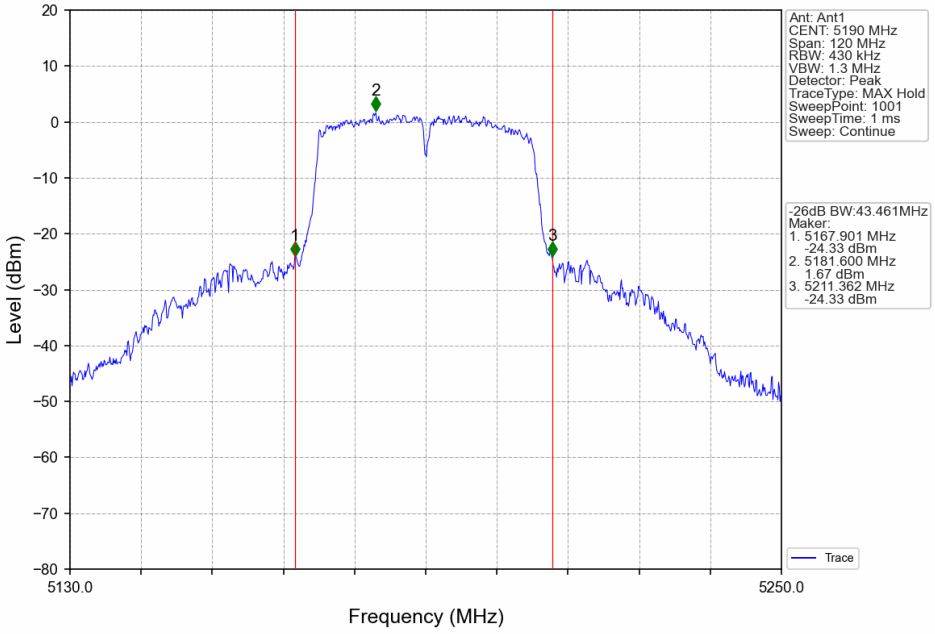

802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



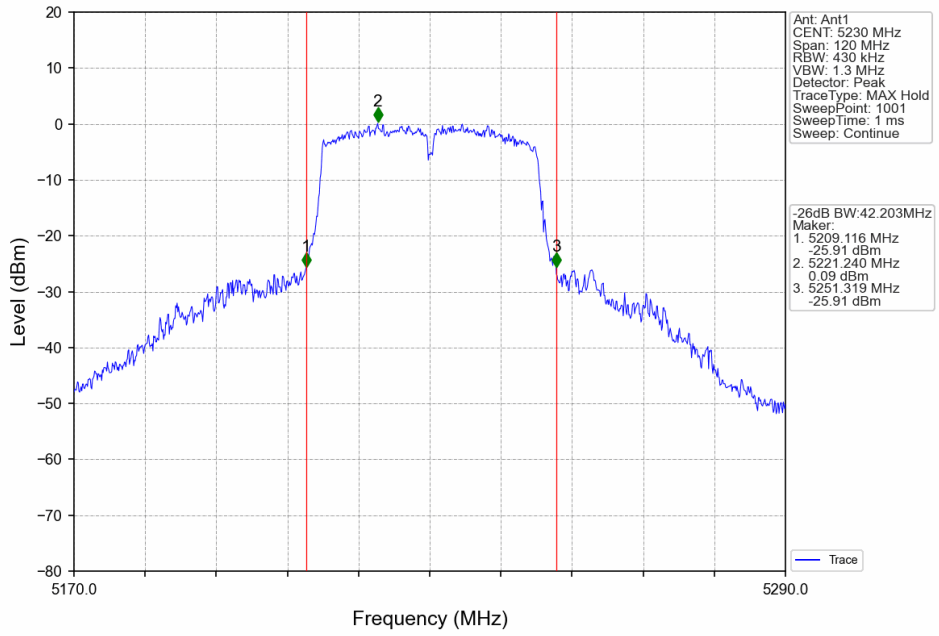
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



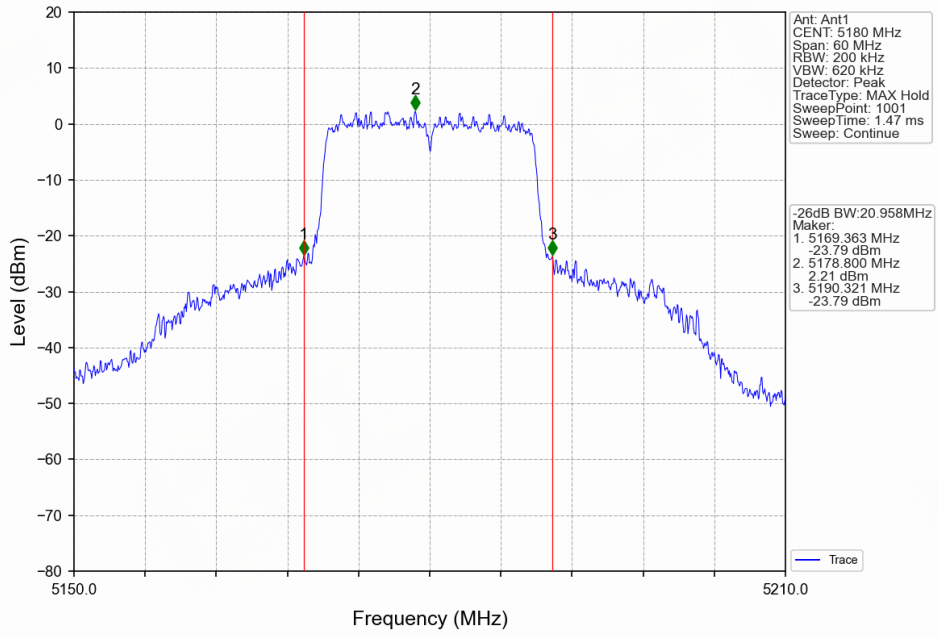

802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



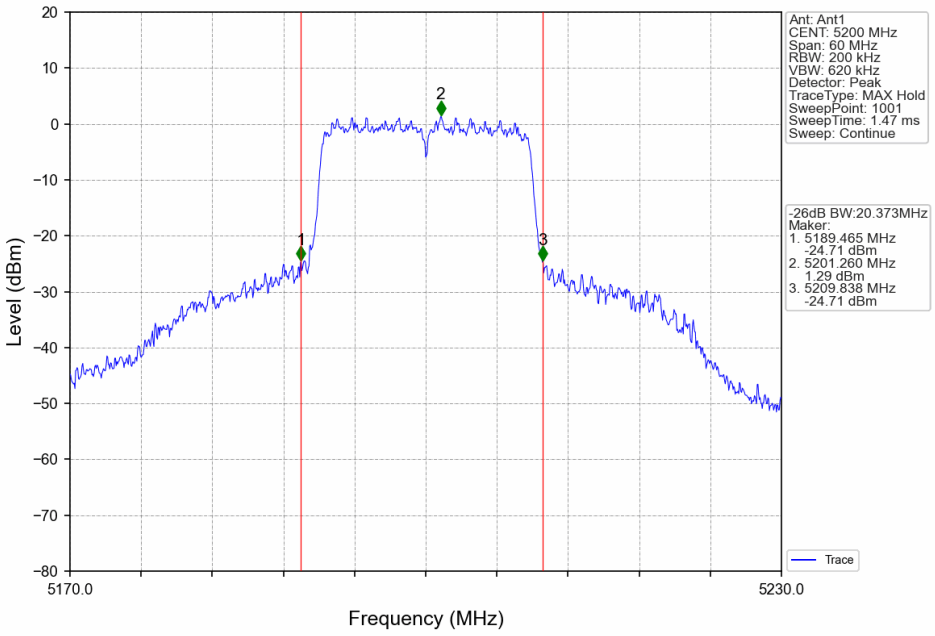
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



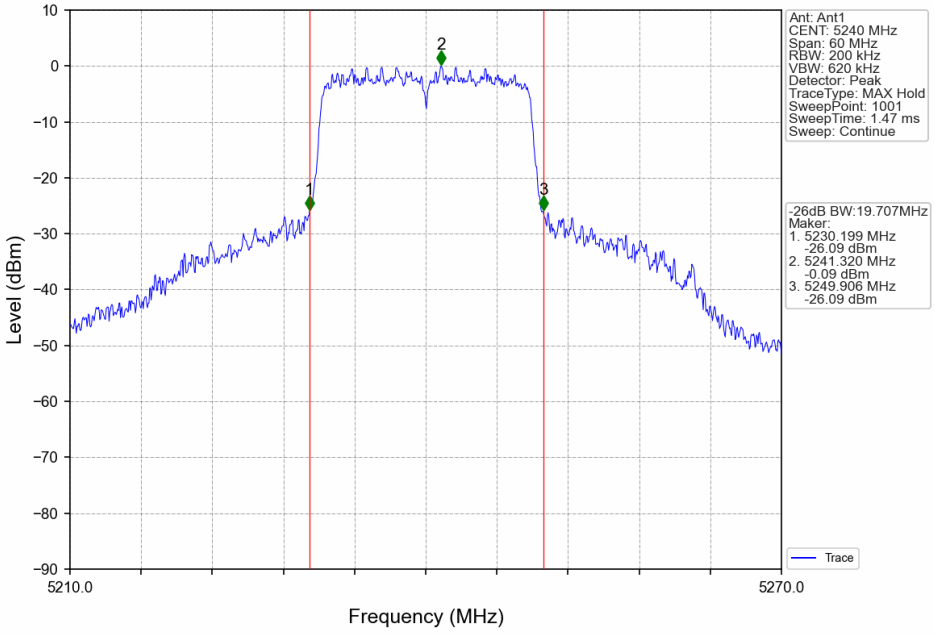

802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



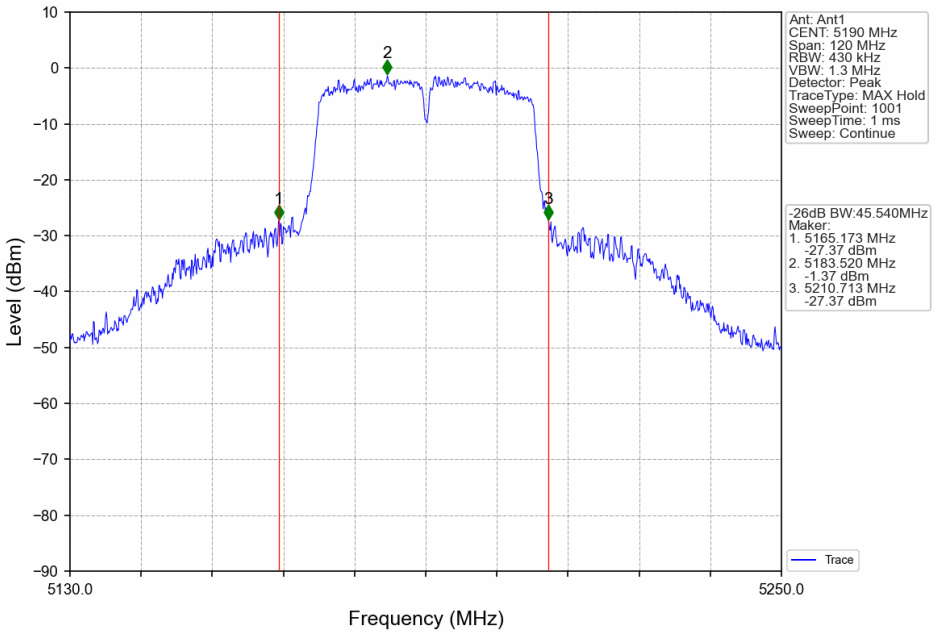
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



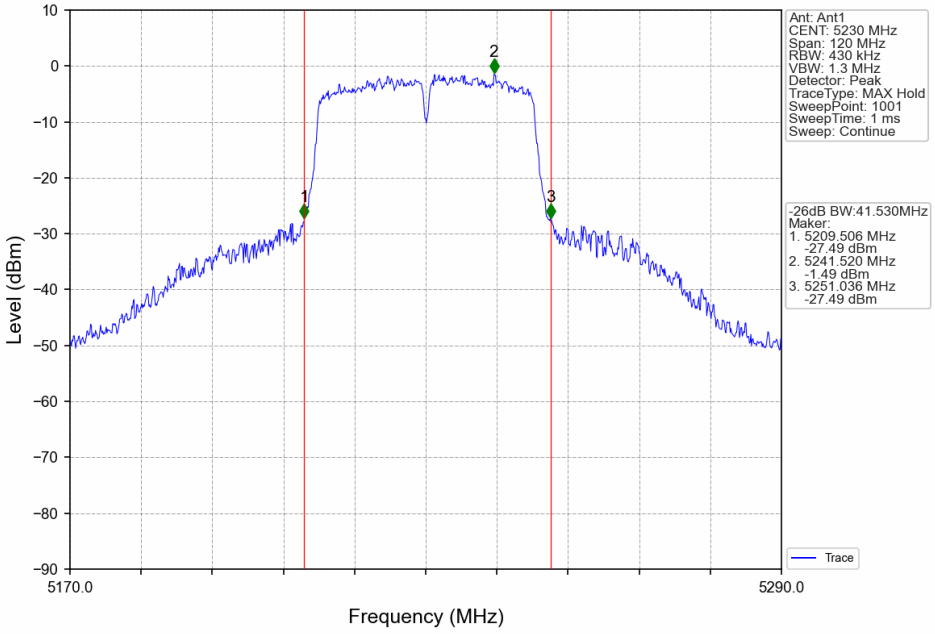

802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



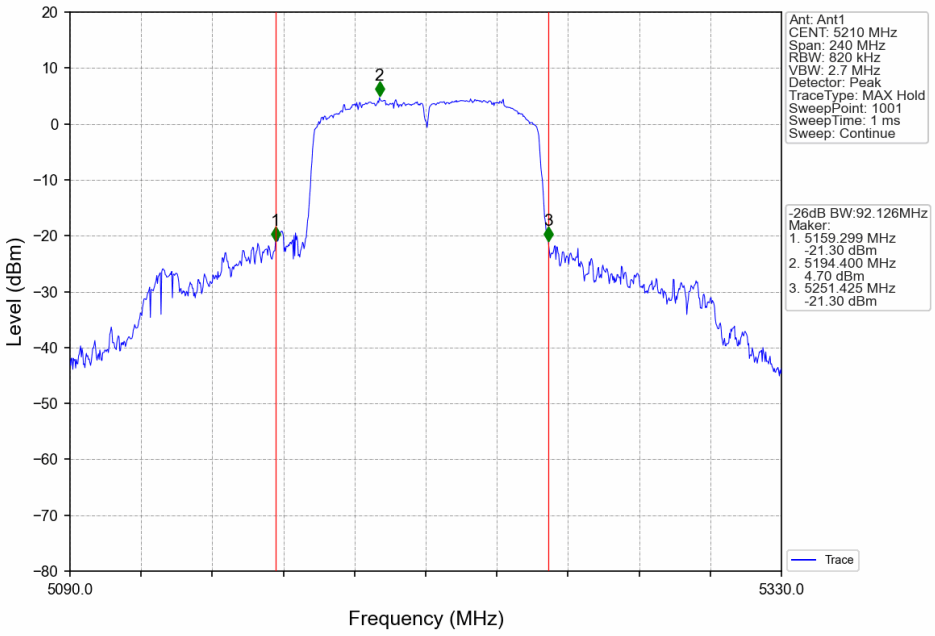
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



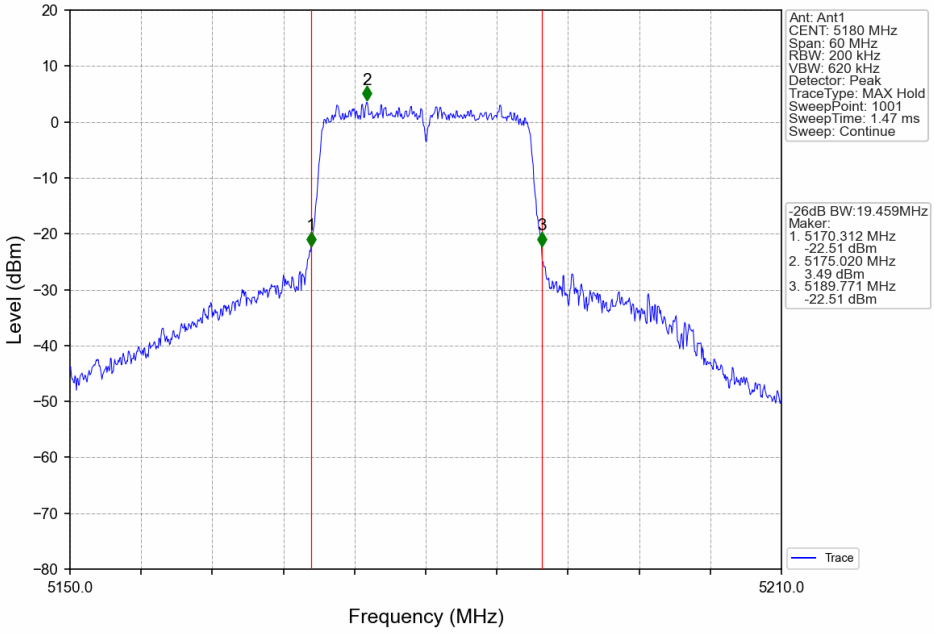

802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



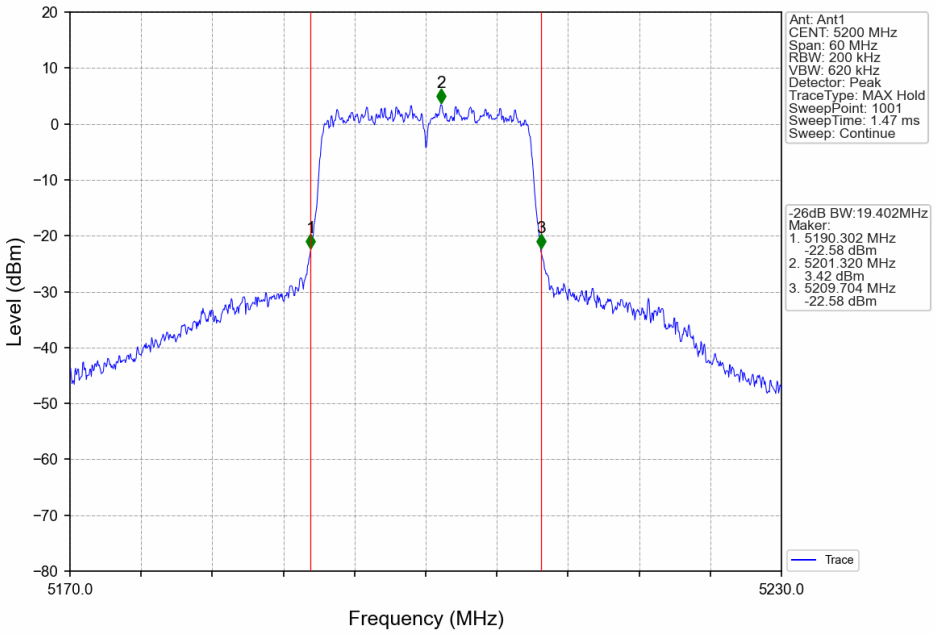
802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



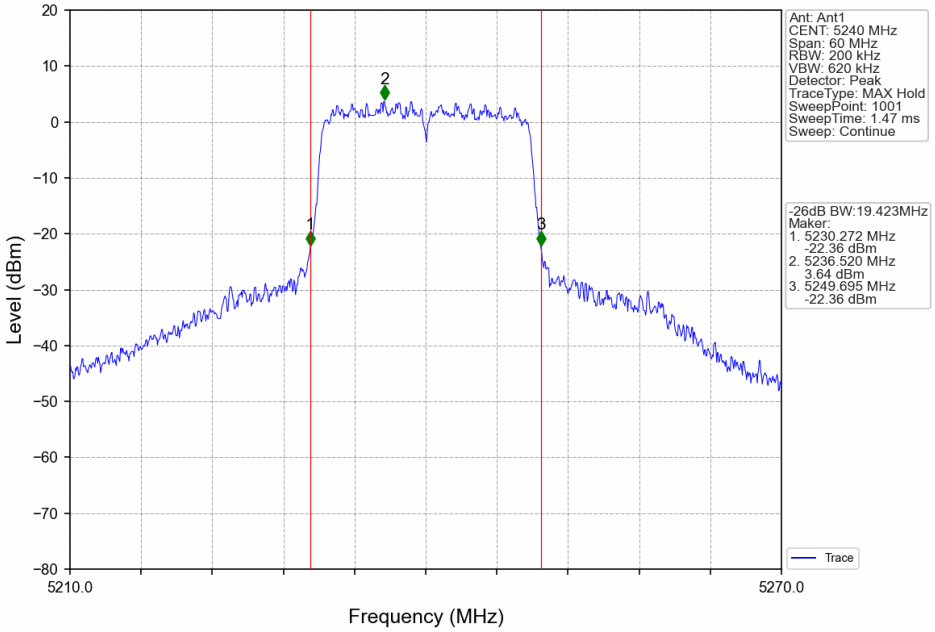

802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



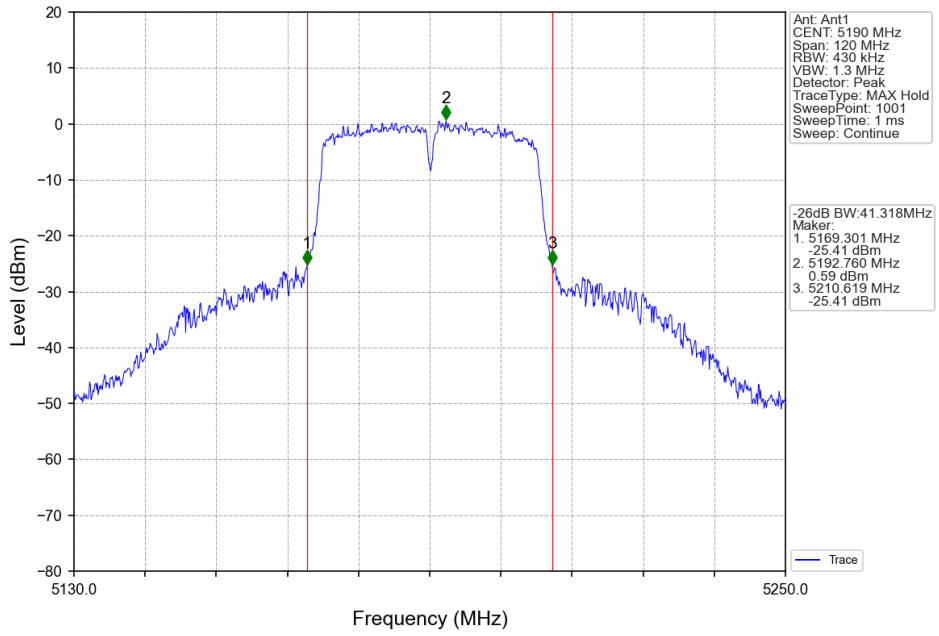
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



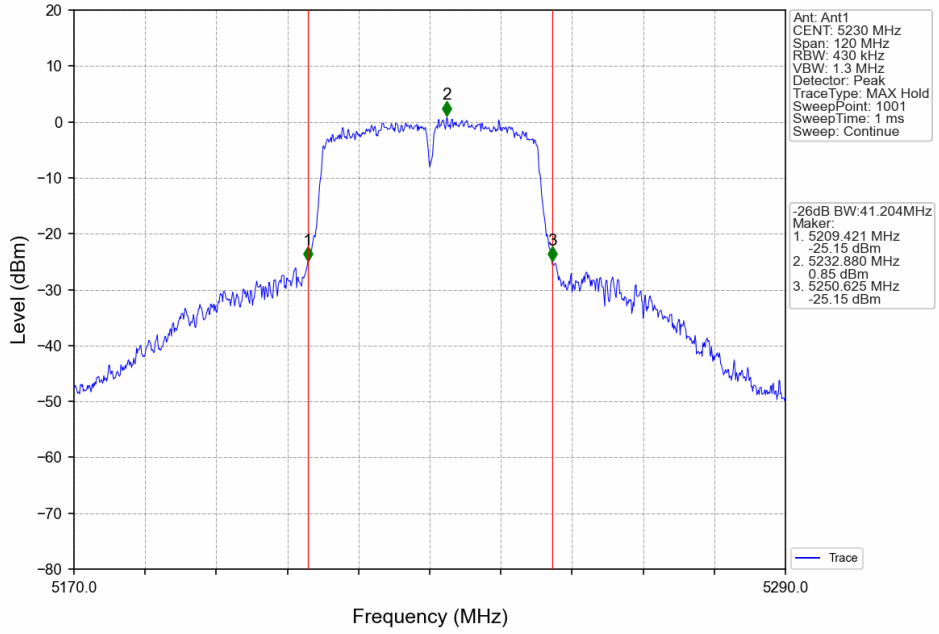

802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



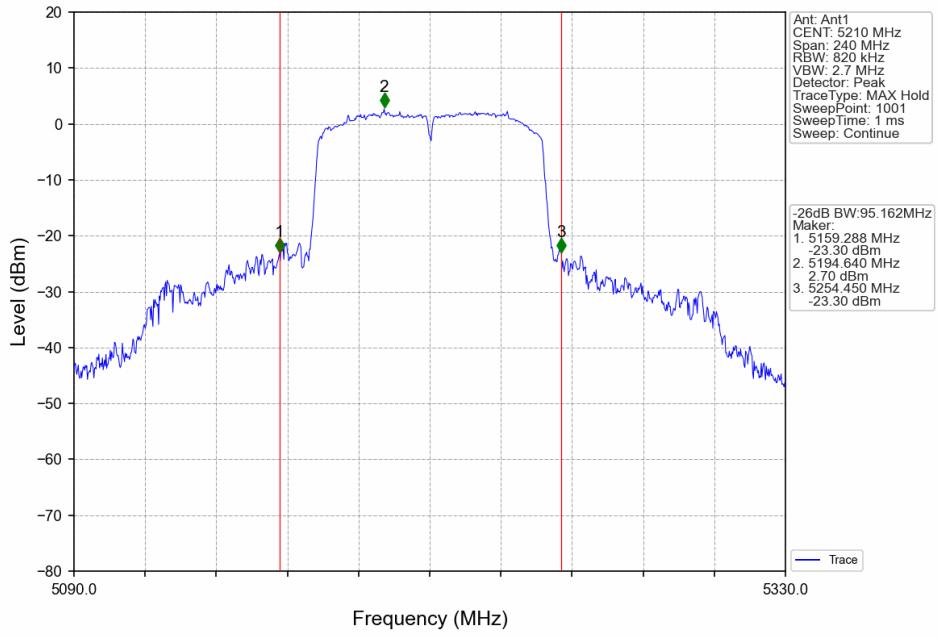
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



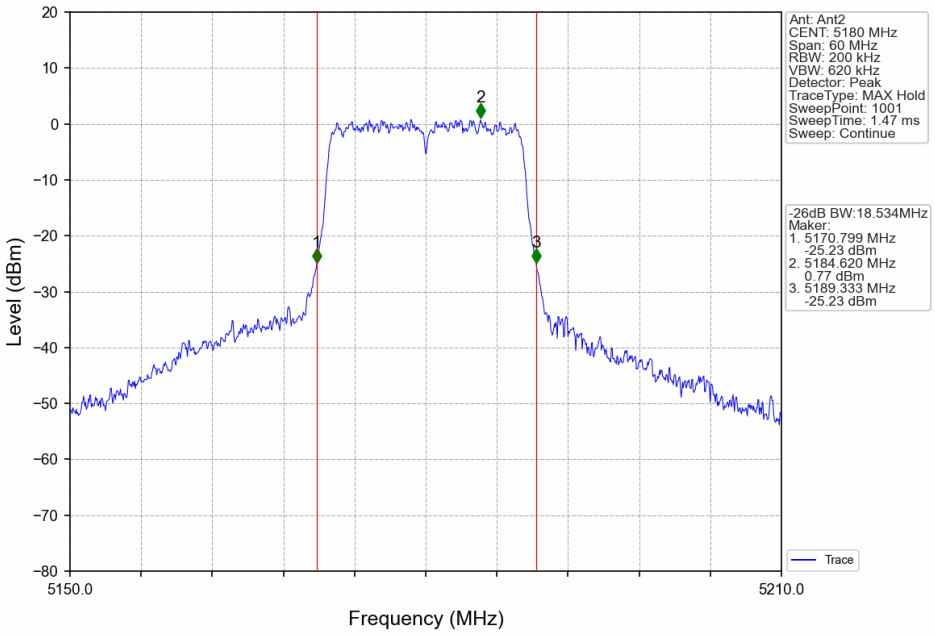

802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



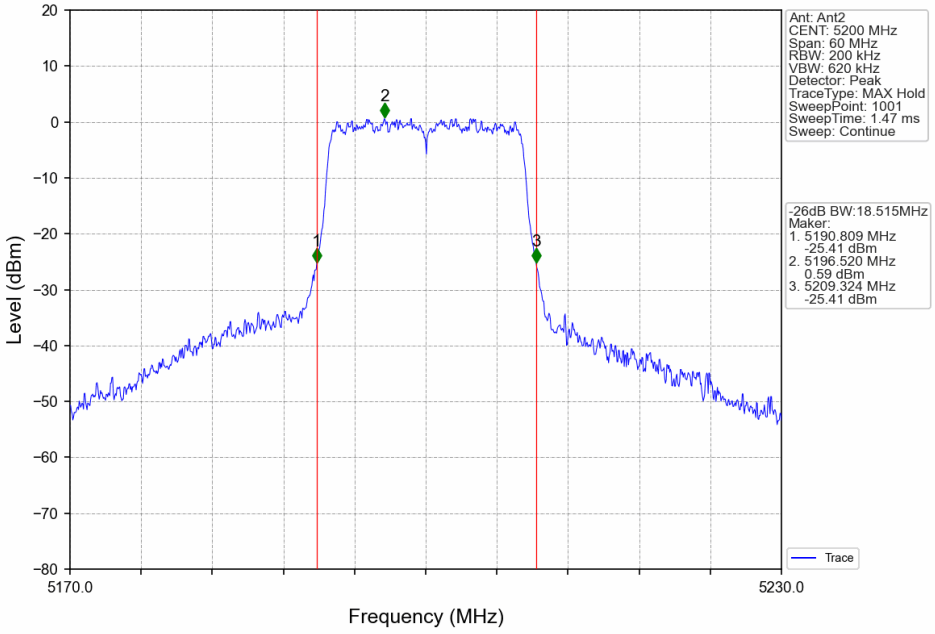
802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



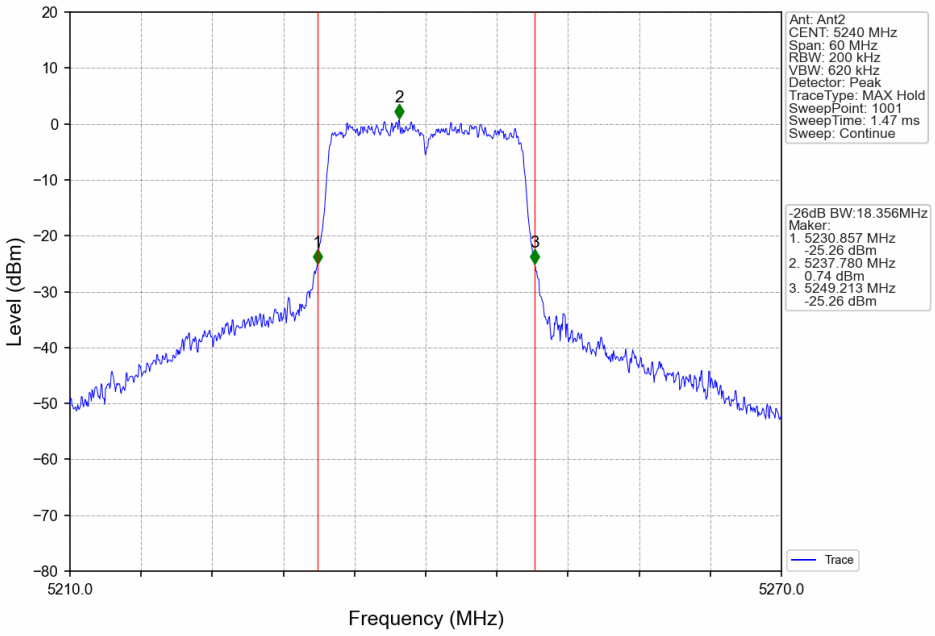
802.11a_LCH_5180MHz_Ant2_NTNV



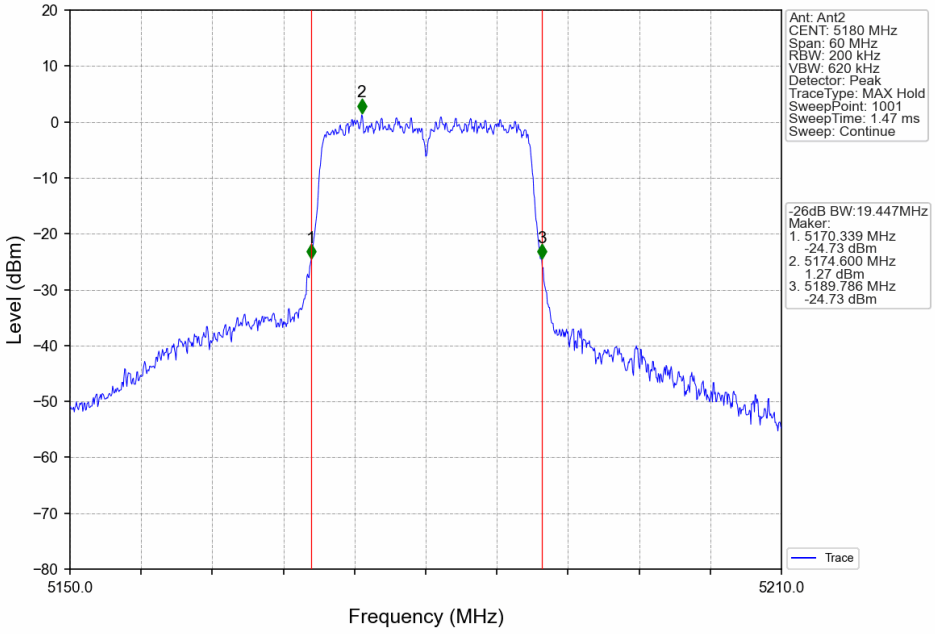

802.11a_MCH_5200MHz_Ant2_NTNV



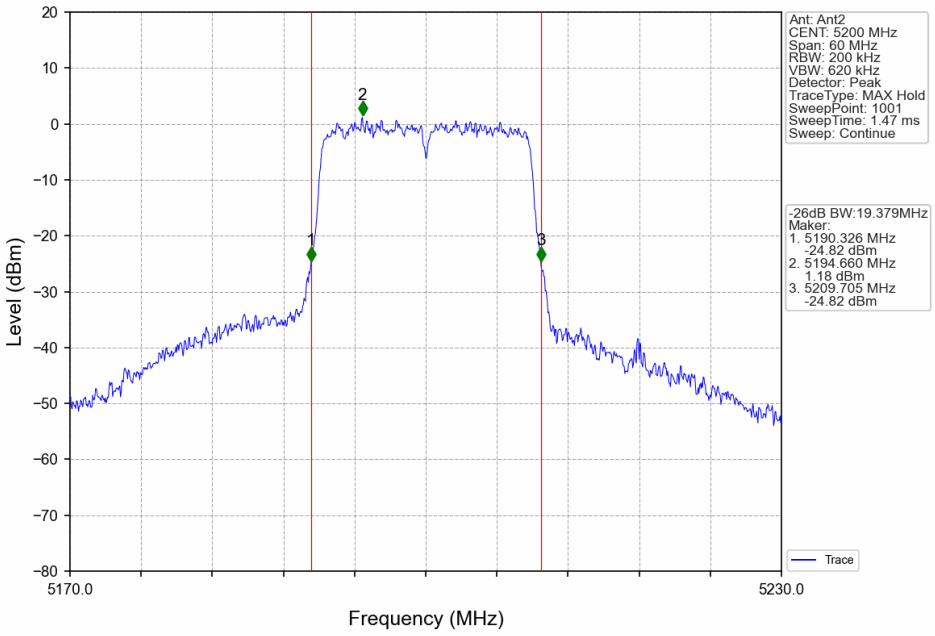
802.11a_HCH_5240MHz_Ant2_NTNV



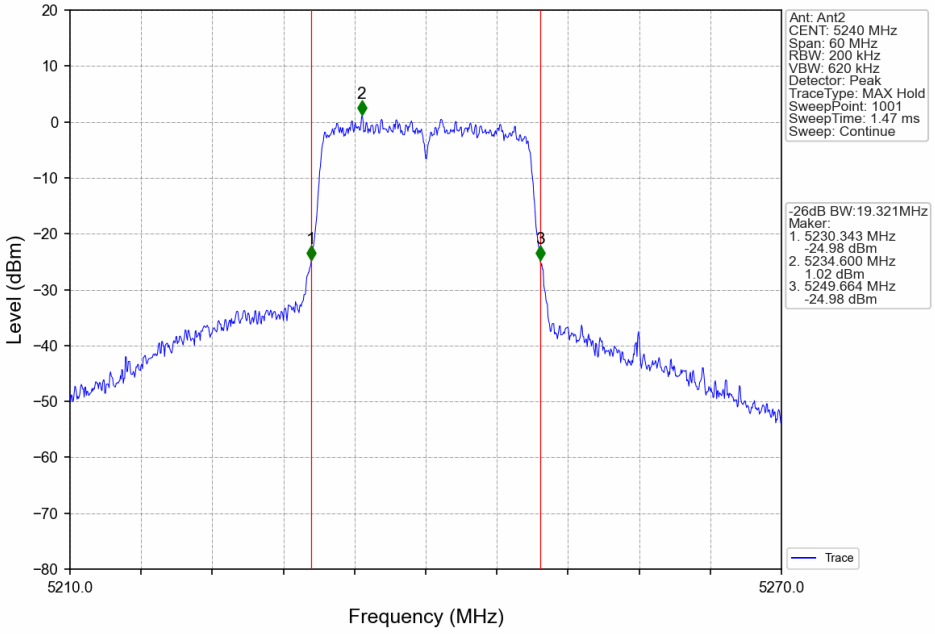

802.11n(HT20)_LCH_5180MHz_Ant2_NTNV



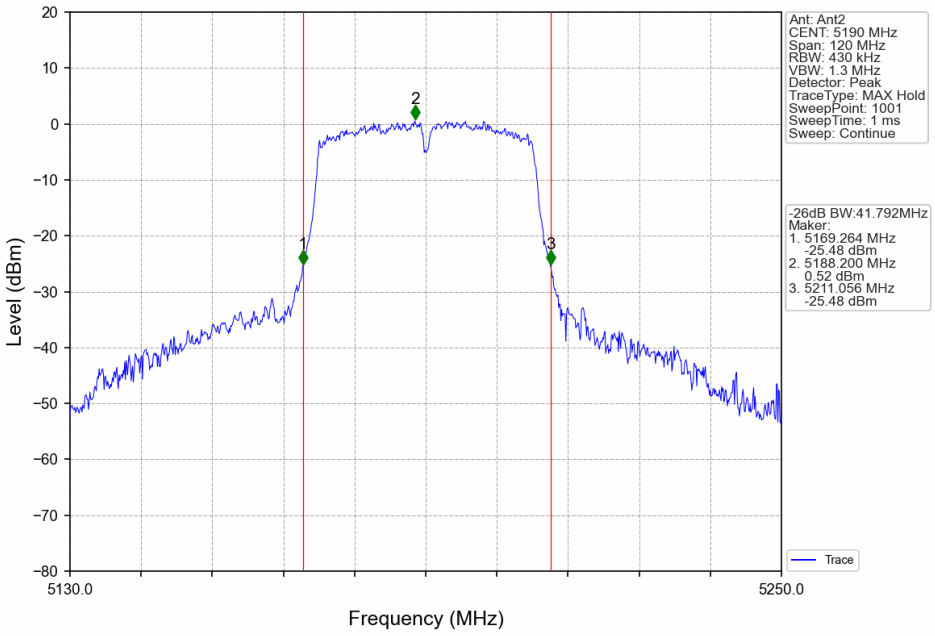
802.11n(HT20)_MCH_5200MHz_Ant2_NTNV



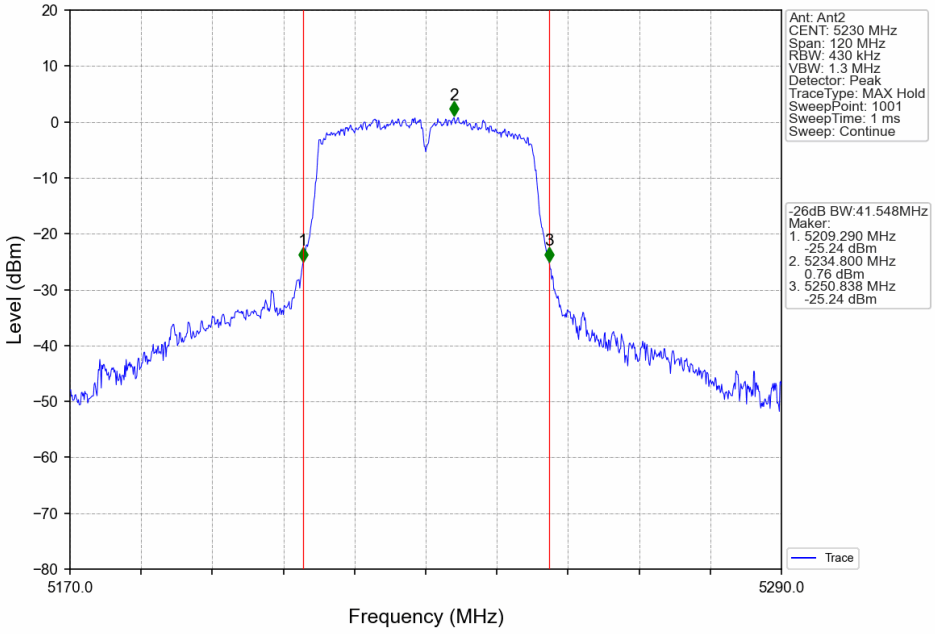

802.11n(HT20)_HCH_5240MHz_Ant2_NTNV



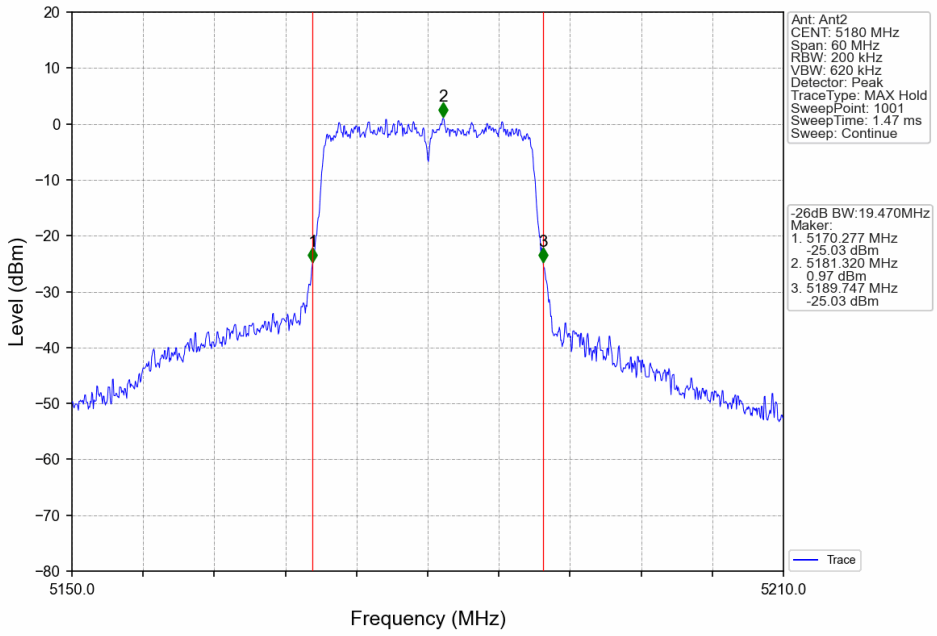
802.11n(HT40)_LCH_5190MHz_Ant2_NTNV



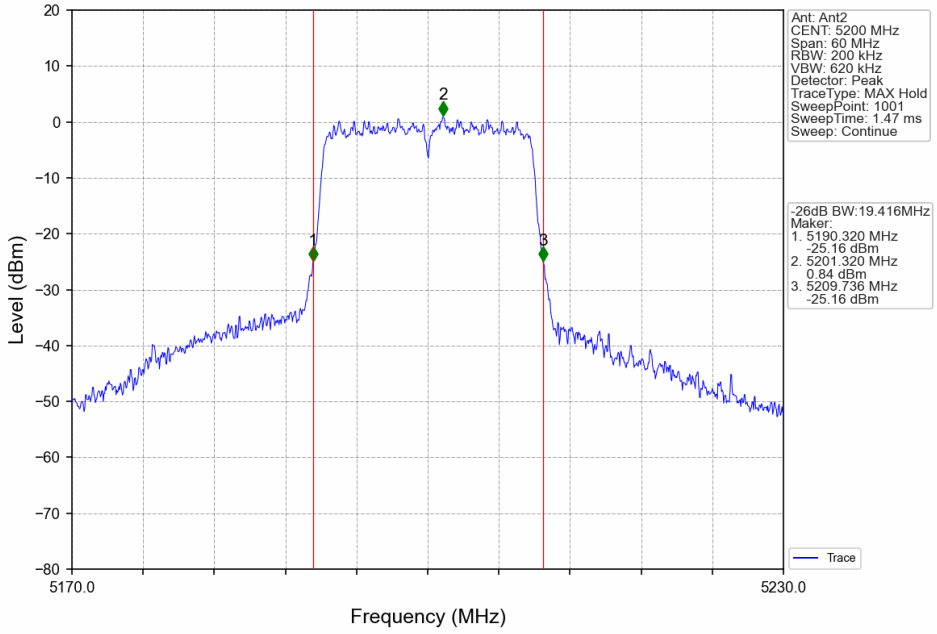

802.11n(HT40)_HCH_5230MHz_Ant2_NTNV



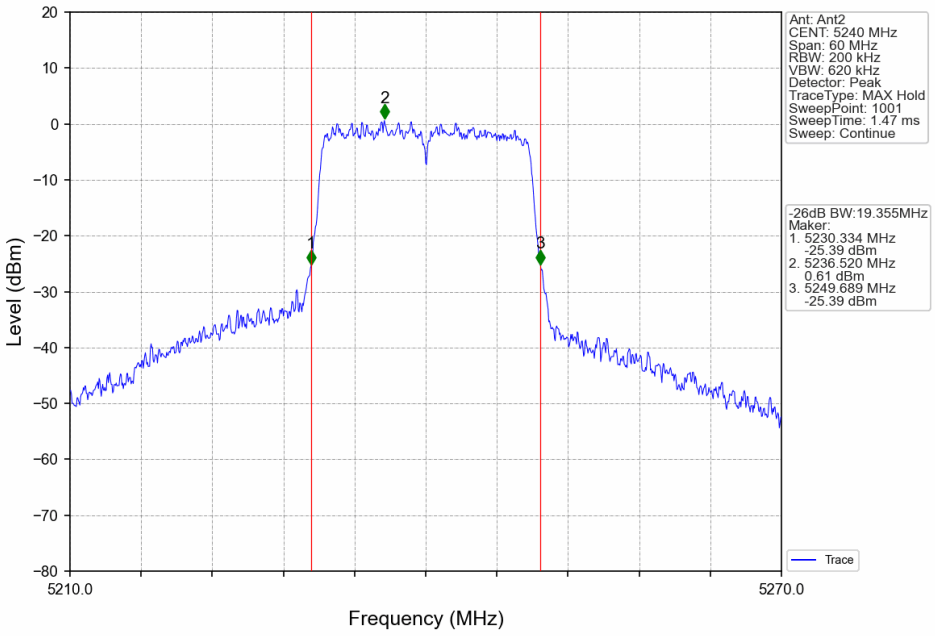
802.11ac(VHT20)_LCH_5180MHz_Ant2_NTNV



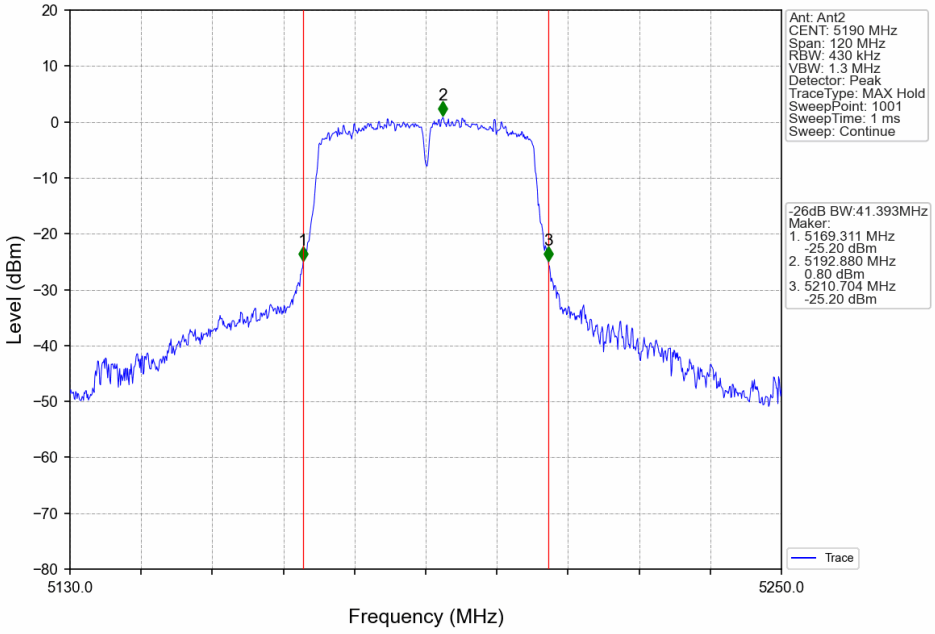

802.11ac(VHT20)_MCH_5200MHz_Ant2_NTNV



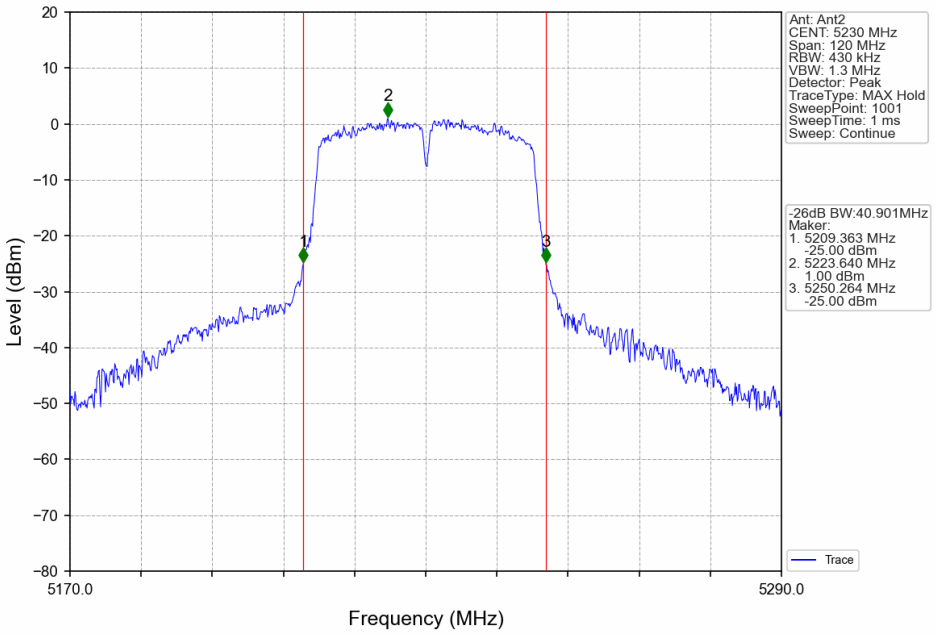
802.11ac(VHT20)_HCH_5240MHz_Ant2_NTNV



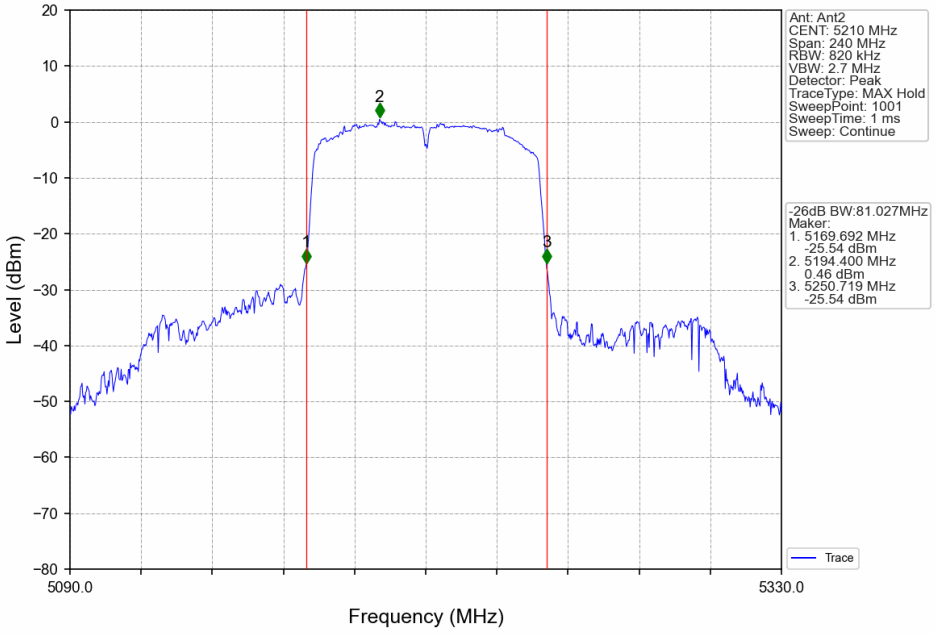

802.11ac(VHT40)_LCH_5190MHz_Ant2_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant2_NTNV




802.11ac(VHT80)_MCH_5210MHz_Ant2_NTNV



# 2. Maximum Conducted Output Power

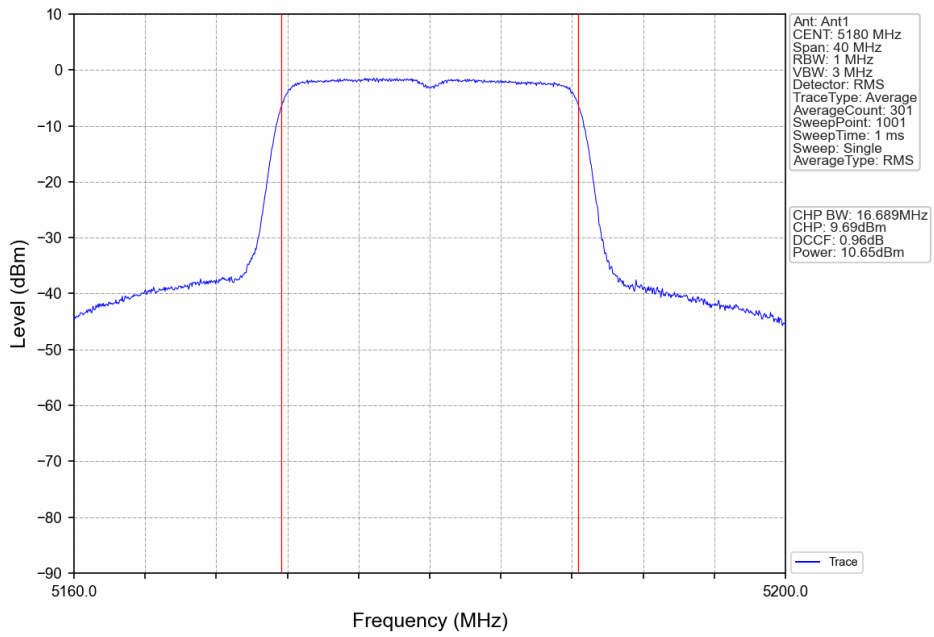
## 2.1 Power

### 2.1.1 Test Result

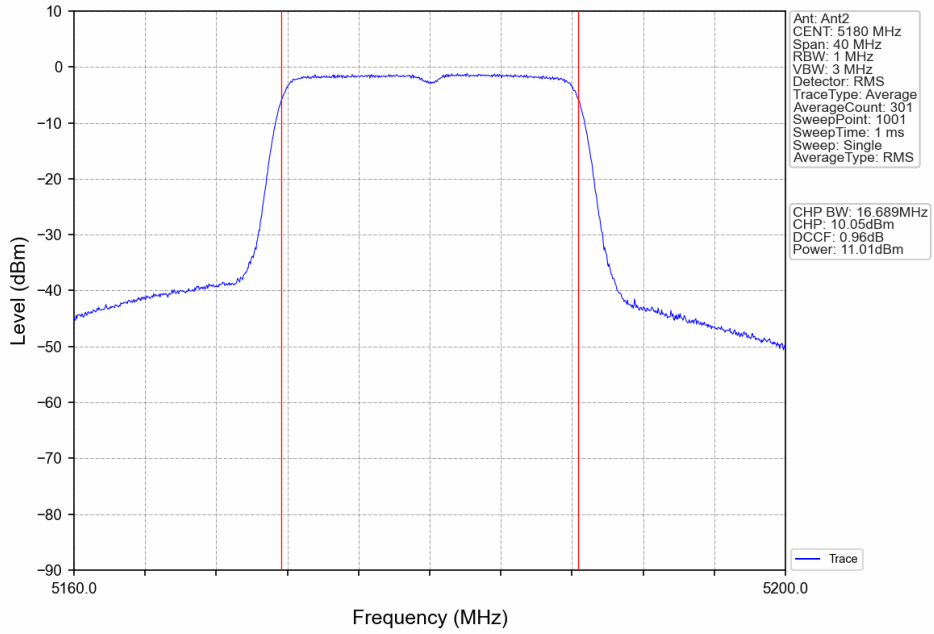
| Mode | TX Type | Frequency (MHz) | Maximum Average Conducted Output Power (dBm) | | | | Verdict |
|---|---|---|---|---|---|---|---|
| | | | ANT1 | ANT2 | MIMO | Limit | |
| 802.11a | SISO | 5180 | 10.65 | 11.01 | / | <=23.98 | Pass |
| | | 5200 | 10.37 | 11.10 | / | <=23.98 | Pass |
| | | 5240 | 13.01 | 10.72 | / | <=23.98 | Pass |
| 802.11n (HT20) | SISO | 5180 | 12.17 | 11.13 | / | <=23.98 | Pass |
| | | 5200 | 11.46 | 10.96 | / | <=23.98 | Pass |
| | | 5240 | 9.89 | 10.97 | / | <=23.98 | Pass |
| 802.11n (HT40) | SISO | 5190 | 11.57 | 11.15 | / | <=23.98 | Pass |
| | | 5230 | 10.39 | 10.97 | / | <=23.98 | Pass |
| 802.11n (HT20) | MIMO | 5180 | 12.25 | 10.98 | 14.67 | <=23.98 | Pass |
| | | 5200 | 11.42 | 11.18 | 14.31 | <=23.98 | Pass |
| | | 5240 | 9.92 | 11.03 | 13.52 | <=23.98 | Pass |
| 802.11n (HT40) | MIMO | 5190 | 12.00 | 11.10 | 14.58 | <=23.98 | Pass |
| | | 5230 | 10.50 | 12.31 | 14.51 | <=23.98 | Pass |
| 802.11ac (VHT20) | SISO | 5180 | 12.17 | 10.86 | / | <=23.98 | Pass |
| | | 5200 | 11.24 | 11.27 | / | <=23.98 | Pass |
| | | 5240 | 9.92 | 11.09 | / | <=23.98 | Pass |
| 802.11ac (VHT40) | SISO | 5190 | 8.29 | 11.08 | / | <=23.98 | Pass |
| | | 5230 | 8.71 | 11.57 | / | <=23.98 | Pass |
| 802.11ac (VHT80) | SISO | 5210 | 14.98 | 11.39 | / | <=23.98 | Pass |
| 802.11ac (VHT20) | MIMO | 5180 | 13.64 | 11.46 | 15.70 | <=23.98 | Pass |
| | | 5200 | 13.30 | 11.30 | 15.42 | <=23.98 | Pass |
| | | 5240 | 13.58 | 10.82 | 15.43 | <=23.98 | Pass |
| 802.11ac (VHT40) | MIMO | 5190 | 10.93 | 11.30 | 14.13 | <=23.98 | Pass |
| | | 5230 | 10.72 | 11.28 | 14.02 | <=23.98 | Pass |
| 802.11ac (VHT80) | MIMO | 5210 | 12.72 | 11.16 | 15.02 | <=23.98 | Pass |
| Note1: Antenna Gain: Ant1: 2.50dBi; Ant2: 2.50dBi;<br>Note2: Directional Gain: 5.5dBi | | | | | | | |

## 2.1.2 Test Graph

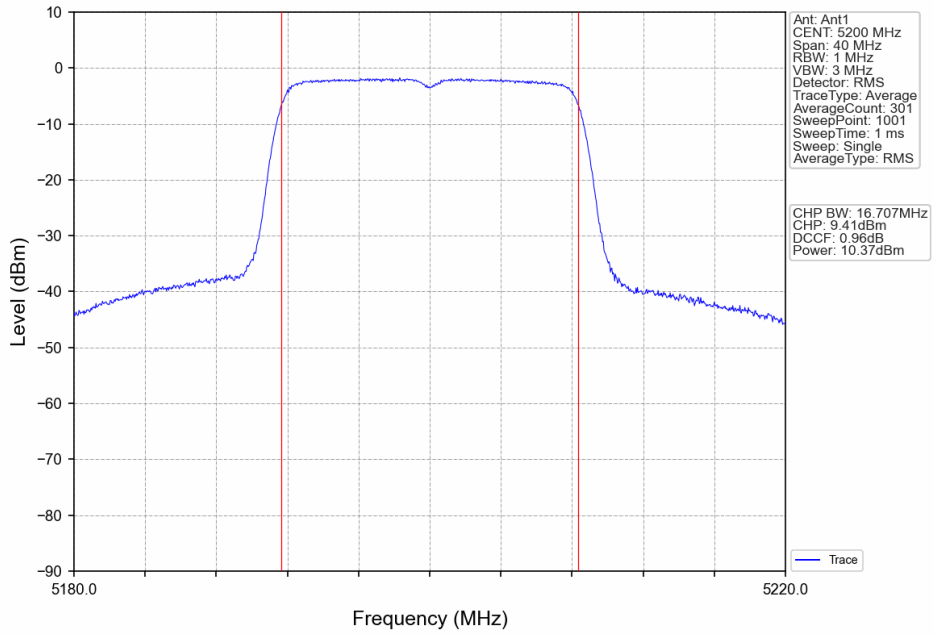
802.11a_LCH_5180MHz_Ant1_NTNV



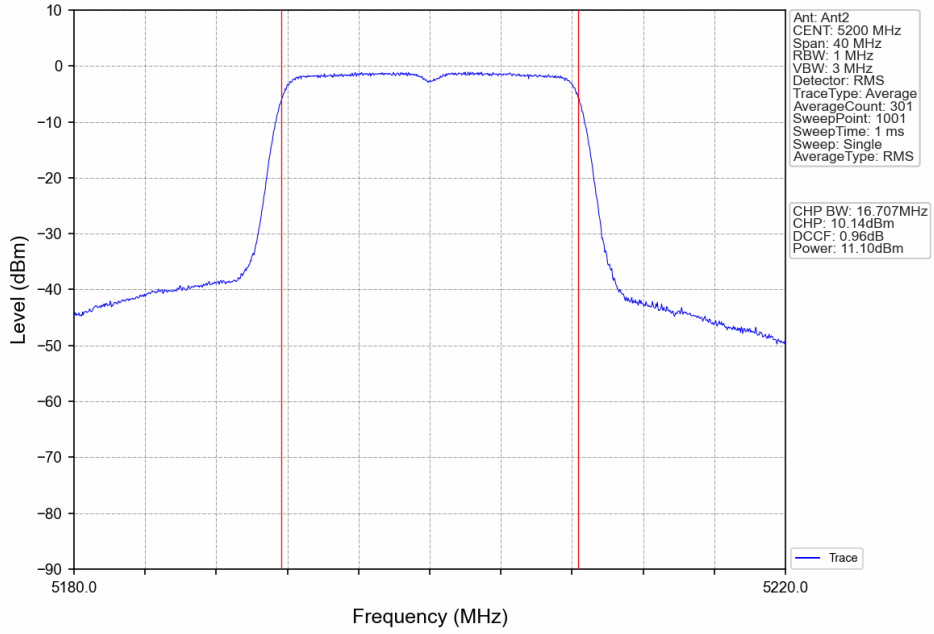

802.11a_LCH_5180MHz_Ant2_NTNV



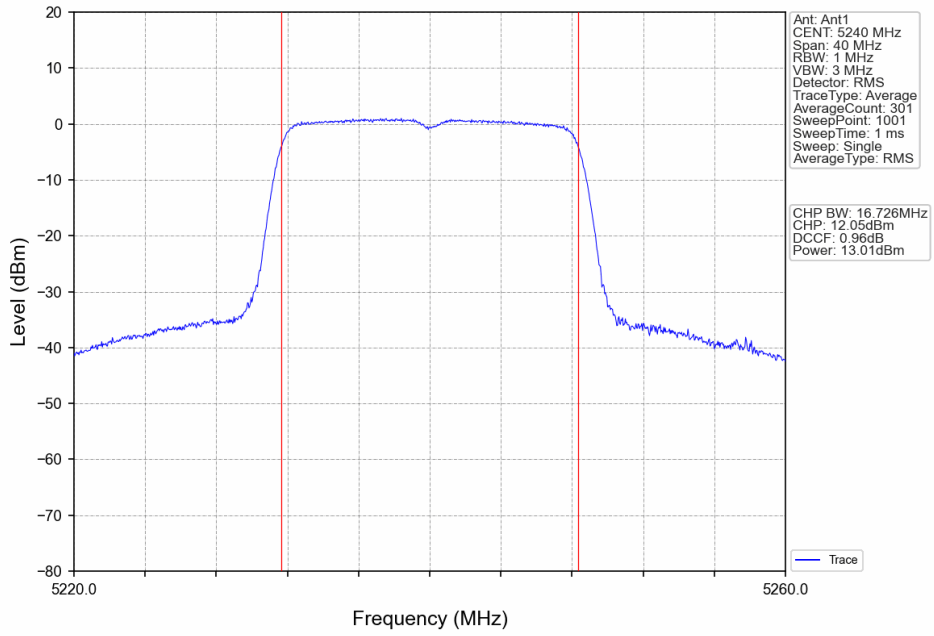
802.11a_MCH_5200MHz_Ant1_NTNV



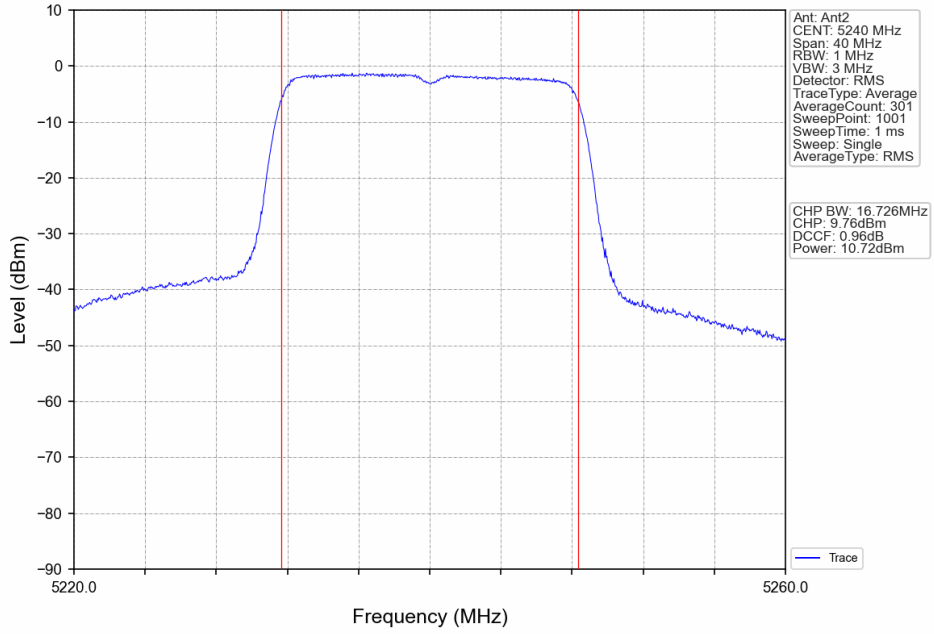

802.11a_MCH_5200MHz_Ant2_NTNV



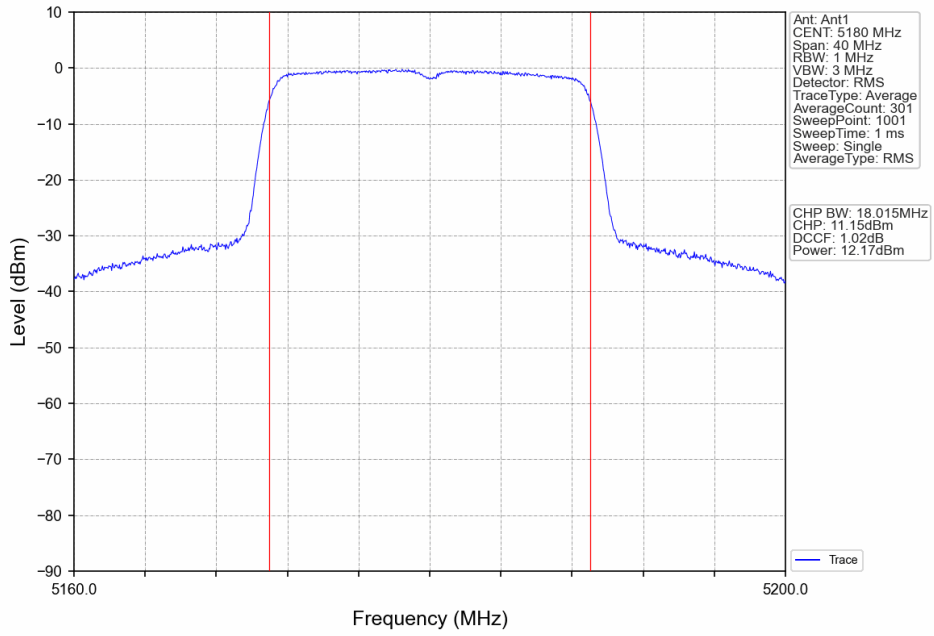
802.11a_HCH_5240MHz_Ant1_NTNV



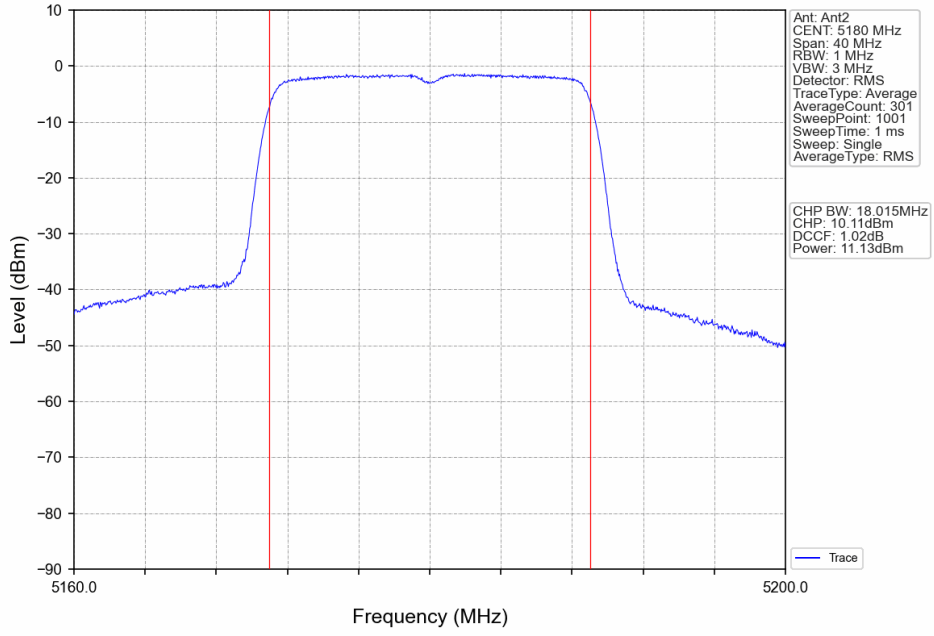

802.11a_HCH_5240MHz_Ant2_NTNV



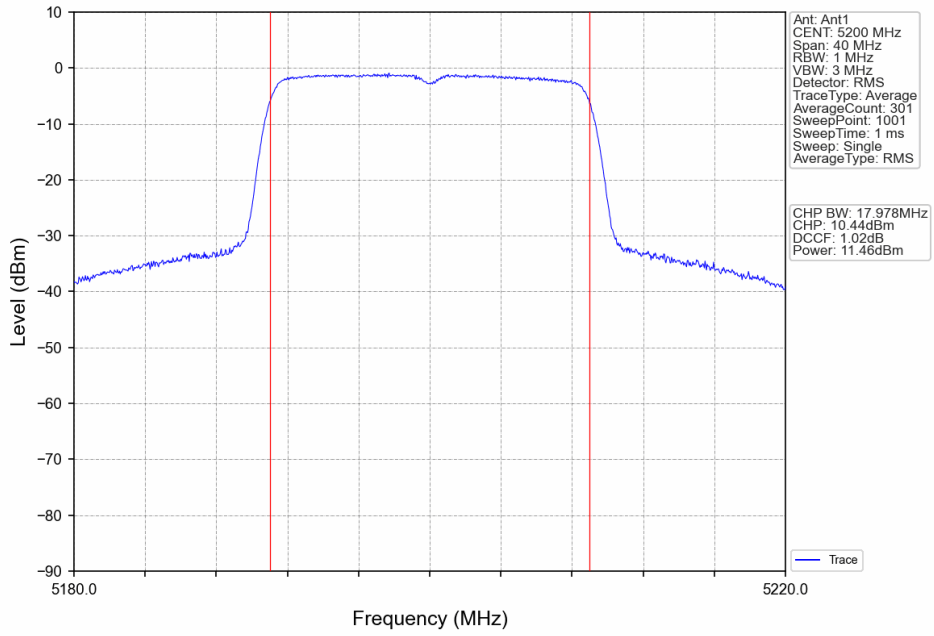
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



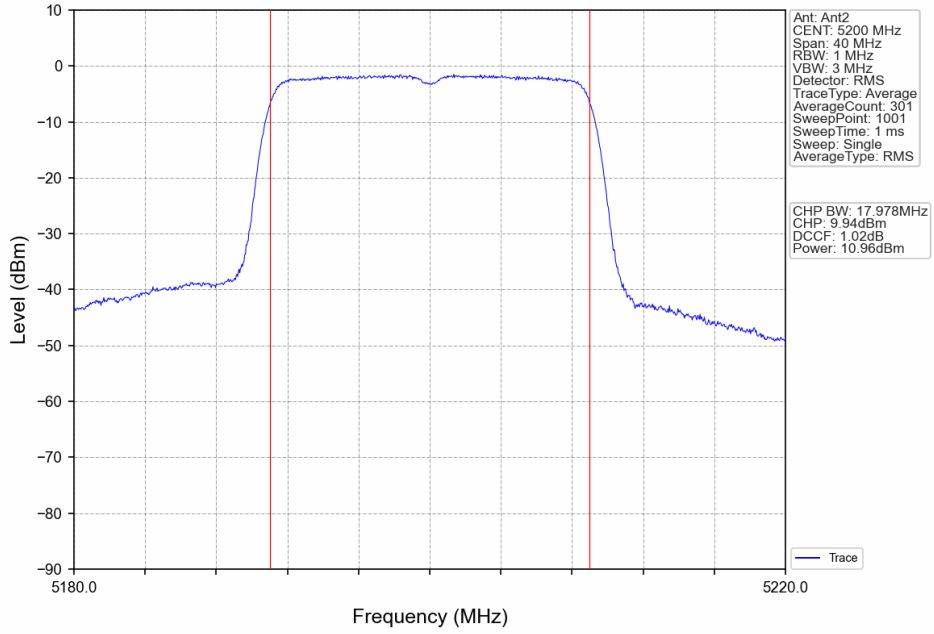

802.11n(HT20)_LCH_5180MHz_Ant2_NTNV



802.11n(HT20)_MCH_5200MHz_Ant1_NTNV




802.11n(HT20)_MCH_5200MHz_Ant2_NTNV



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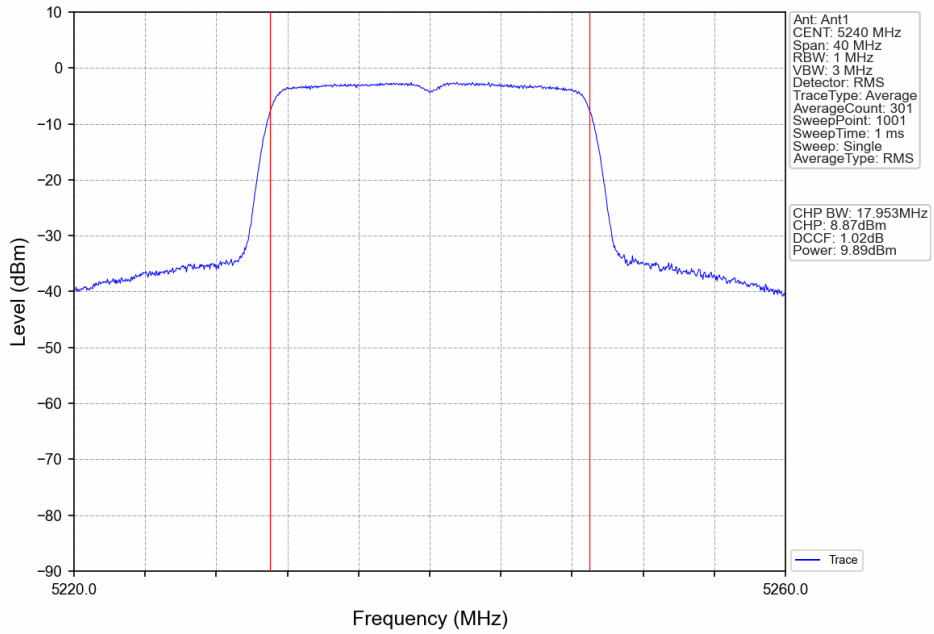


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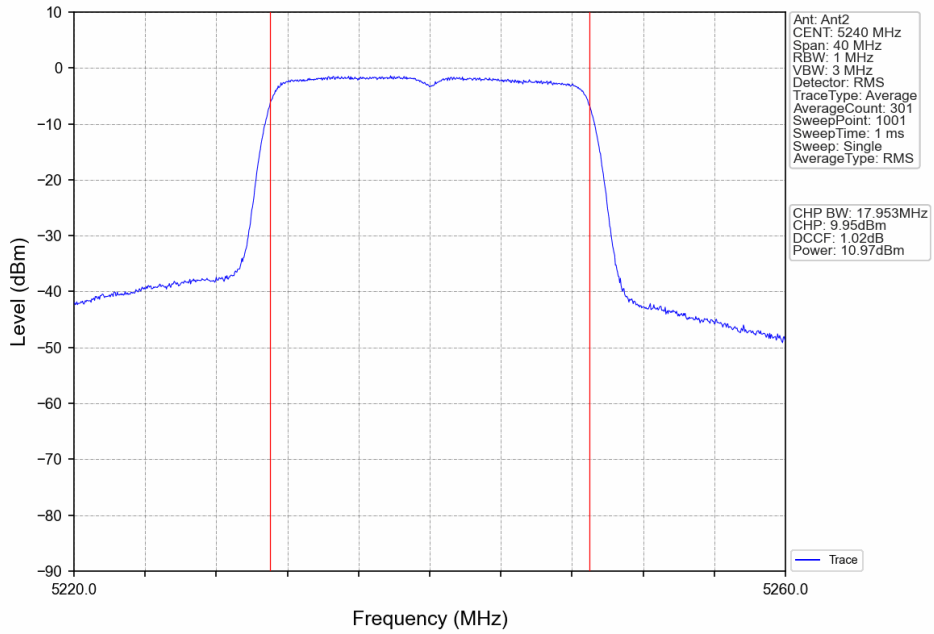
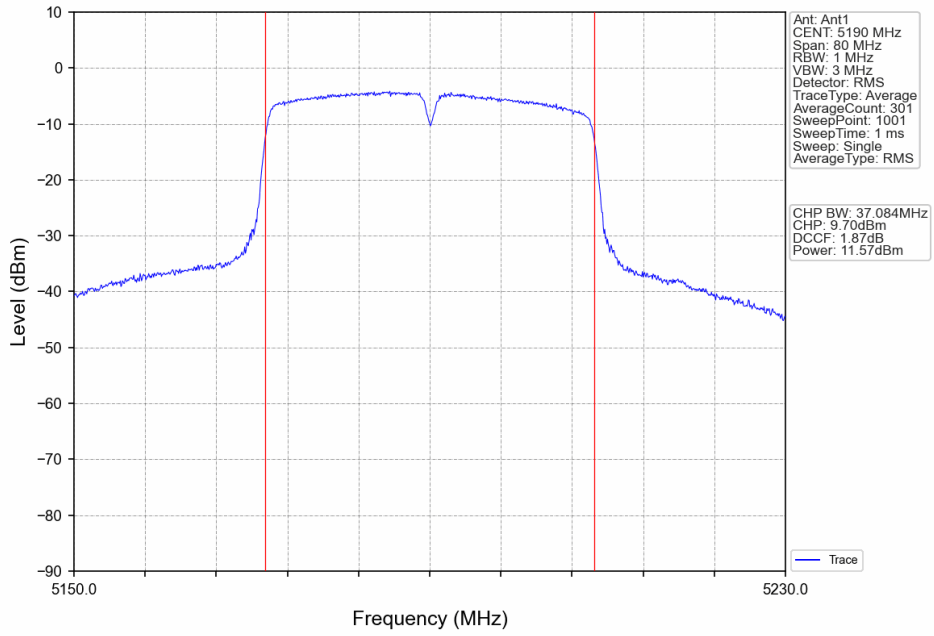
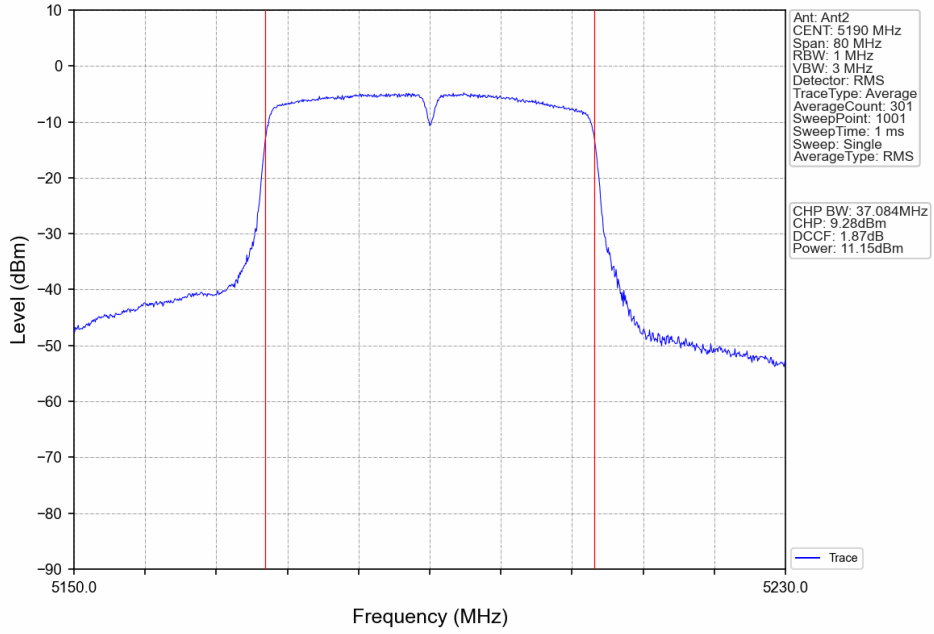


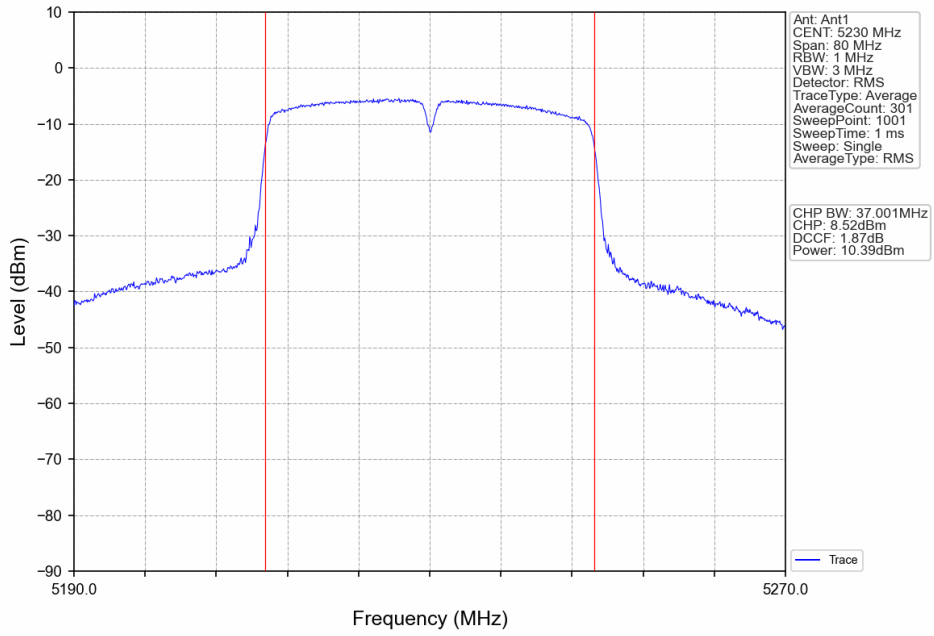
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



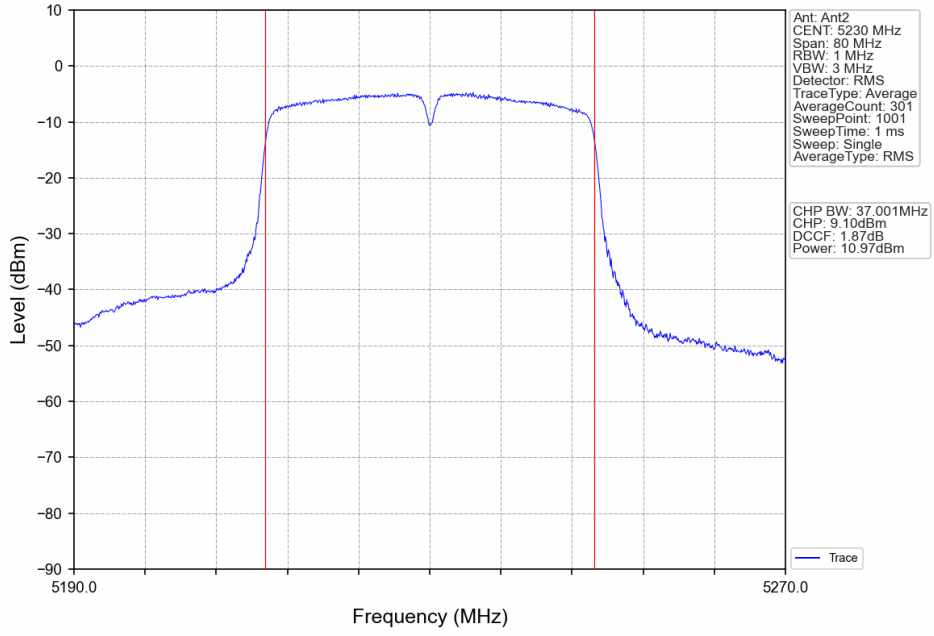

802.11n(HT40)_LCH_5190MHz_Ant2_NTNV



802.11n(HT40)_HCH_5230MHz_Ant1_NTNV




802.11n(HT40)_HCH_5230MHz_Ant2_NTNV



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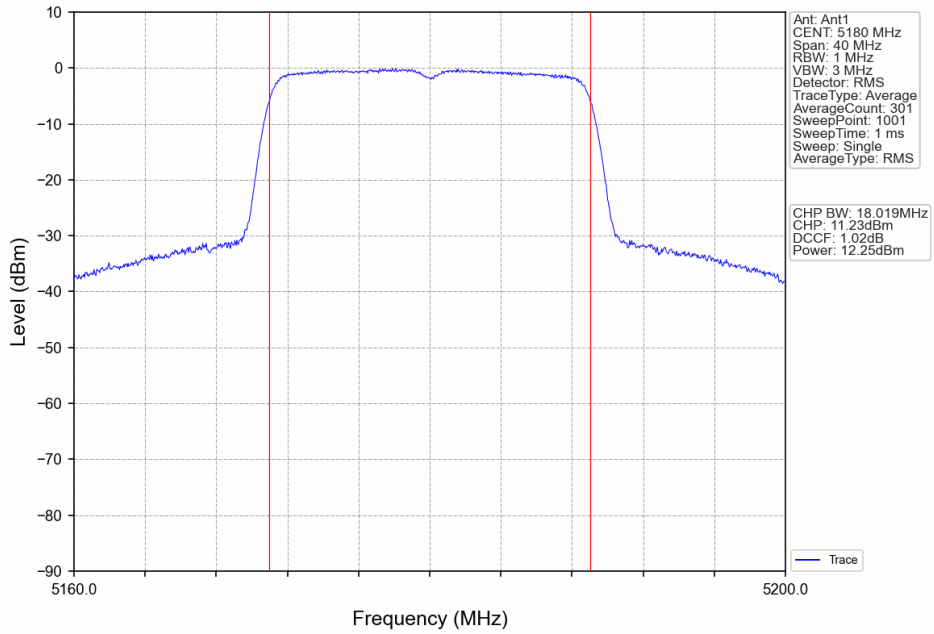
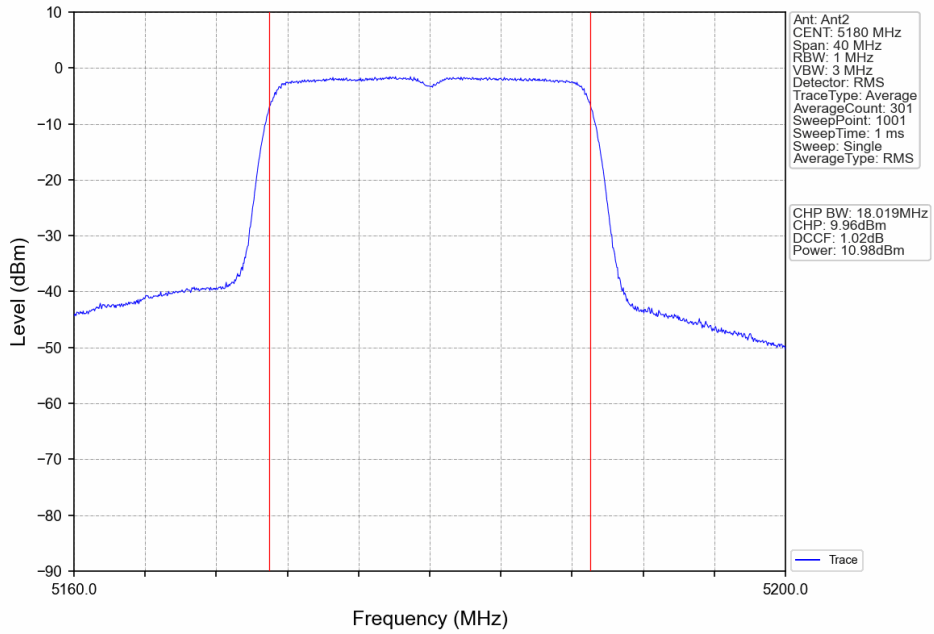
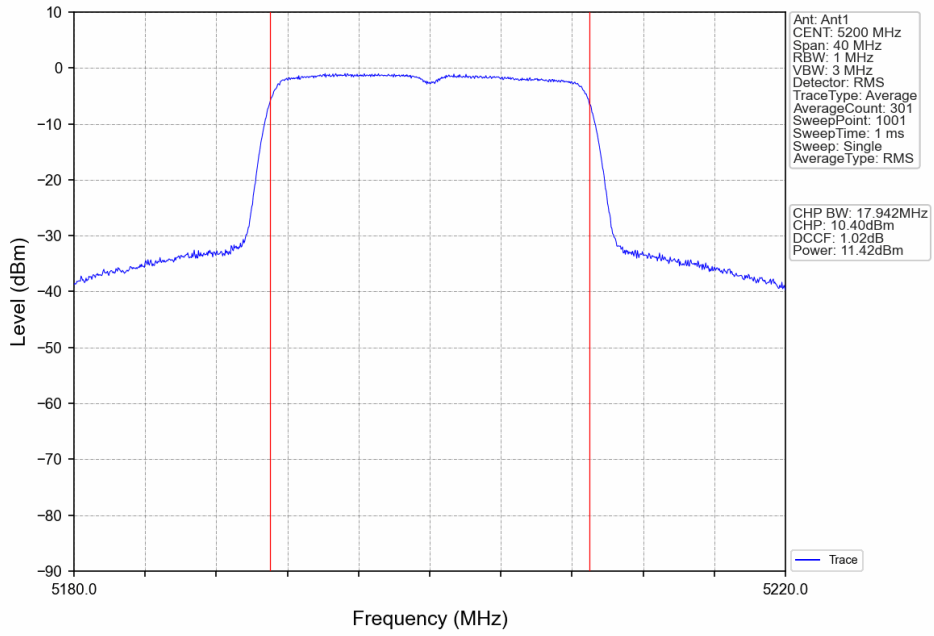


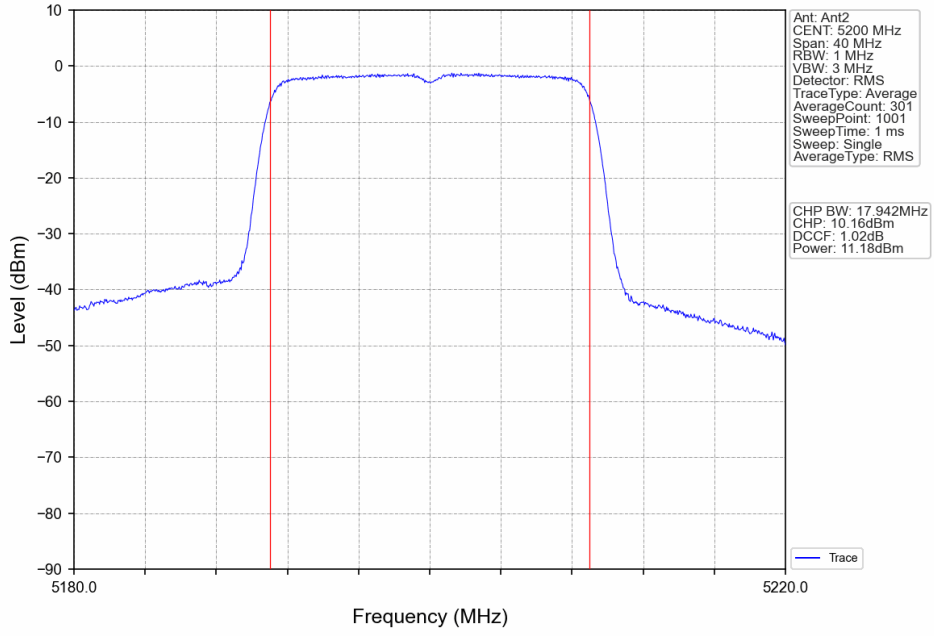

802.11n(HT20)_LCH_5180MHz_Ant2_NTNV



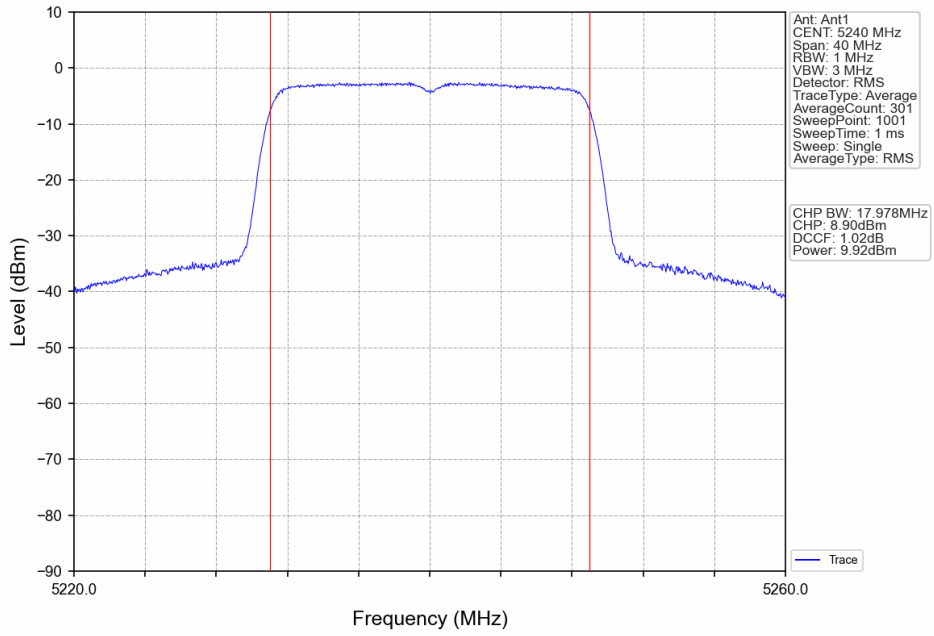
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



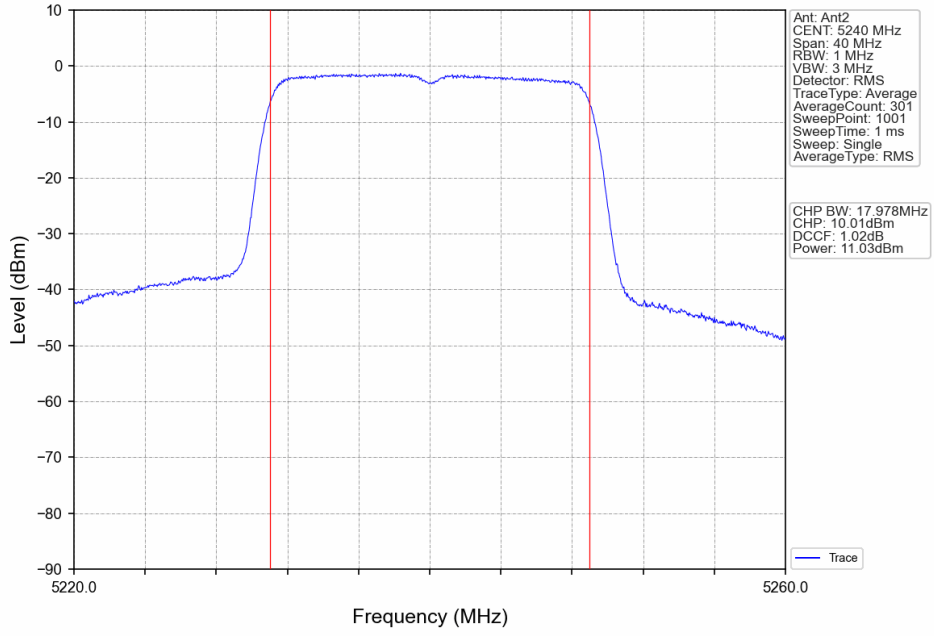

802.11n(HT20)_MCH_5200MHz_Ant2_NTNV



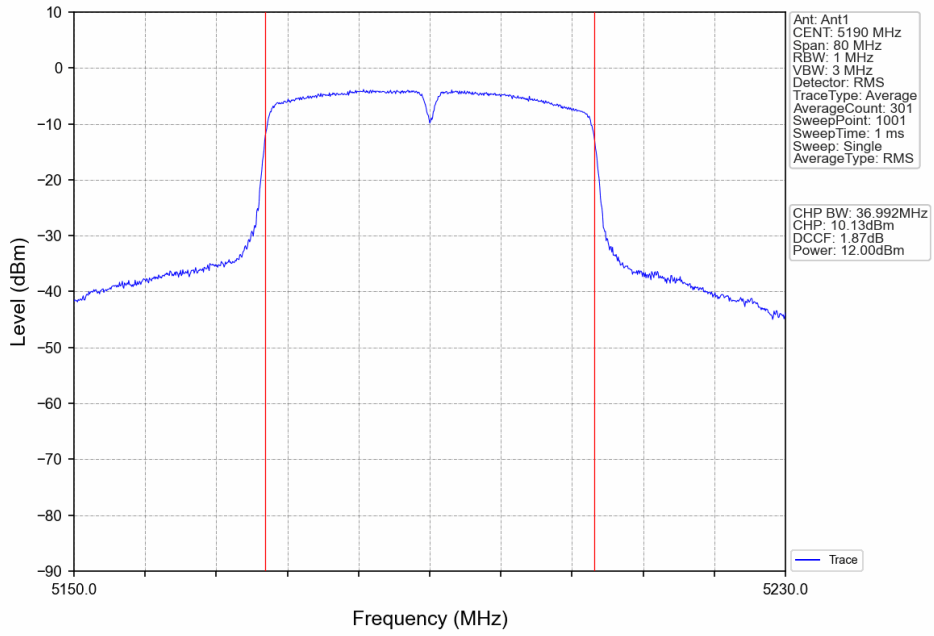
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV

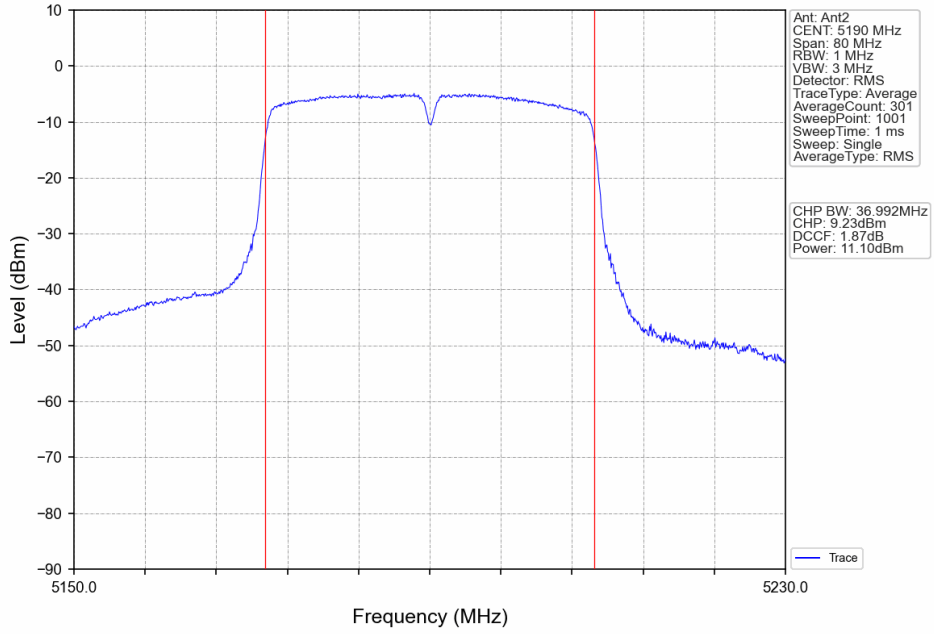



802.11n(HT20)_HCH_5240MHz_Ant2_NTNV



802.11n(HT40)_LCH_5190MHz_Ant1_NTNV




802.11n(HT40)_LCH_5190MHz_Ant2_NTNV