

# **Appendix RF test data for 5G WIFI\_UNII\_Band 1**

## 1. Duty Cycle

### 1.1 Test Result

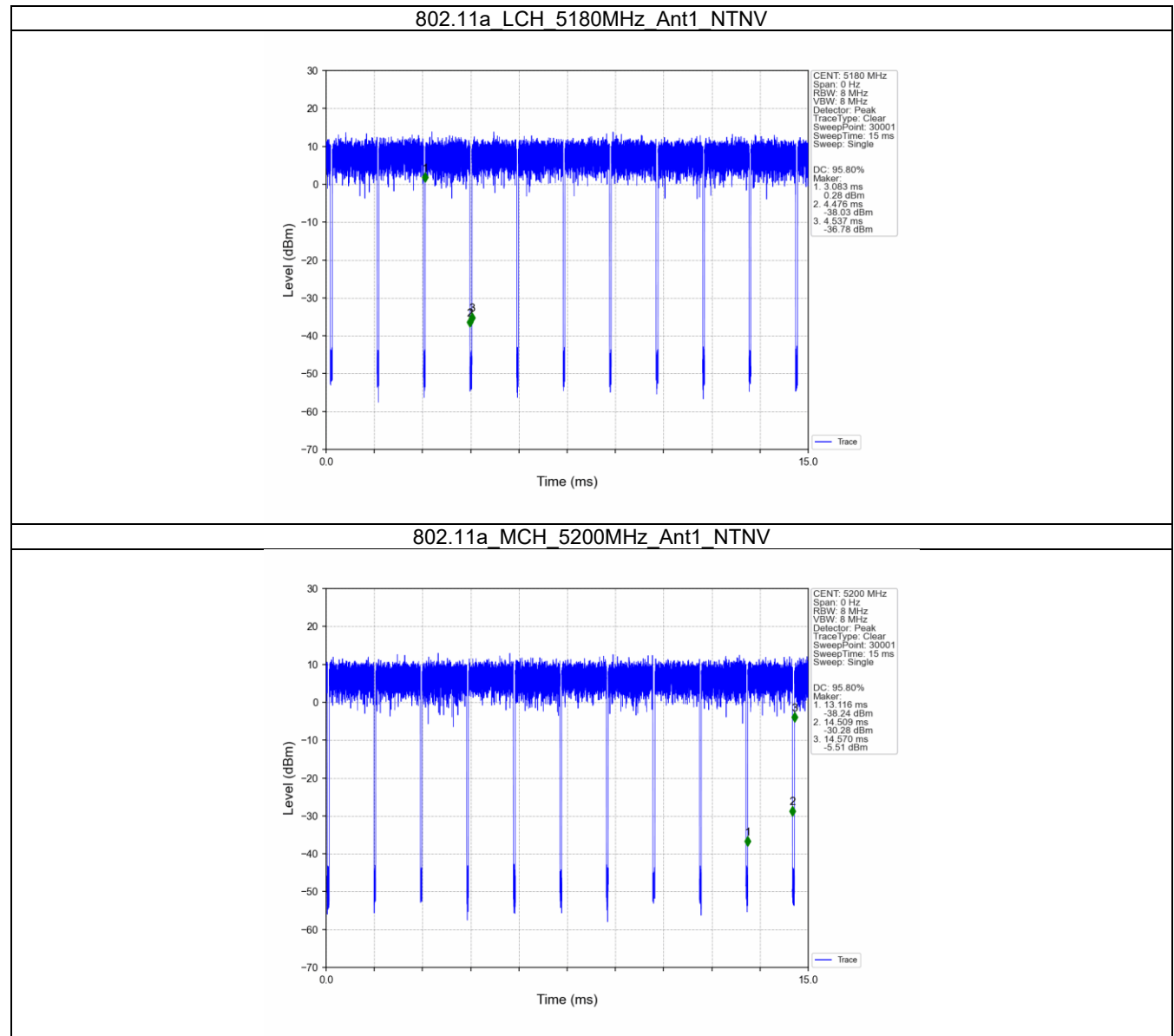
#### 1.1.1 Ant1

| Ant1             |         |                 |    |        |           |             |                |                                   |                       |
|------------------|---------|-----------------|----|--------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode             | Tx Type | Frequency (MHz) | RU | RU Pos | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| 802.11a          | MIMO    | 5180            | /  | /      | 1.393     | 1.454       | 95.80          | 0.19                              | 0.63                  |
|                  |         | 5200            | /  | /      | 1.393     | 1.454       | 95.80          | 0.19                              | 0.63                  |
|                  |         | 5240            | /  | /      | 1.393     | 1.454       | 95.80          | 0.19                              | 0.63                  |
| 802.11n (HT20)   | MIMO    | 5180            | /  | /      | 1.309     | 1.370       | 95.55          | 0.20                              | 0.66                  |
|                  |         | 5200            | /  | /      | 1.309     | 1.370       | 95.55          | 0.20                              | 0.66                  |
|                  |         | 5240            | /  | /      | 1.309     | 1.370       | 95.55          | 0.20                              | 0.69                  |
| 802.11n (HT40)   | MIMO    | 5190            | /  | /      | 0.649     | 0.710       | 91.41          | 0.39                              | 1.19                  |
|                  |         | 5230            | /  | /      | 0.649     | 0.710       | 91.41          | 0.39                              | 1.22                  |
| 802.11ac (VHT20) | MIMO    | 5180            | /  | /      | 0.479     | 0.538       | 89.03          | 0.50                              | 1.55                  |
|                  |         | 5200            | /  | /      | 0.476     | 0.537       | 88.64          | 0.52                              | 1.60                  |
|                  |         | 5240            | /  | /      | 0.476     | 0.537       | 88.64          | 0.52                              | 1.57                  |
| 802.11ac (VHT40) | MIMO    | 5190            | /  | /      | 0.256     | 0.317       | 80.76          | 0.93                              | 2.39                  |
|                  |         | 5230            | /  | /      | 0.259     | 0.318       | 81.45          | 0.89                              | 2.47                  |
| 802.11ac (VHT80) | MIMO    | 5210            | /  | /      | 0.148     | 0.209       | 70.81          | 1.50                              | 3.24                  |
| 802.11ax (HEW20) | MIMO    | 5180            | SU | /      | 0.425     | 0.478       | 88.91          | 0.51                              | 0.07                  |
|                  |         | 5200            | SU | /      | 0.428     | 0.478       | 89.54          | 0.48                              | 0.07                  |
|                  |         | 5240            | SU | /      | 0.428     | 0.478       | 89.54          | 0.48                              | 0.10                  |
| 802.11ax (HEW40) | MIMO    | 5190            | SU | /      | 0.433     | 0.494       | 87.65          | 0.57                              | 1.66                  |
|                  |         | 5230            | SU | /      | 0.435     | 0.494       | 88.06          | 0.55                              | 1.70                  |
| 802.11ax (HEW80) | MIMO    | 5210            | SU | /      | 0.417     | 0.477       | 87.42          | 0.58                              | 1.75                  |
| 802.11be (EHT20) | MIMO    | 5180            | SU | /      | 0.435     | 0.485       | 89.69          | 0.47                              | 0.06                  |
|                  |         | 5200            | SU | /      | 0.435     | 0.485       | 89.69          | 0.47                              | 0.10                  |
|                  |         | 5240            | SU | /      | 0.435     | 0.485       | 89.69          | 0.47                              | 0.07                  |
| 802.11be (EHT40) | MIMO    | 5190            | SU | /      | 0.441     | 0.502       | 87.85          | 0.56                              | 1.61                  |
|                  |         | 5230            | SU | /      | 0.444     | 0.503       | 88.27          | 0.54                              | 1.64                  |
| 802.11be (EHT80) | MIMO    | 5210            | SU | /      | 0.423     | 0.485       | 87.22          | 0.59                              | 1.72                  |

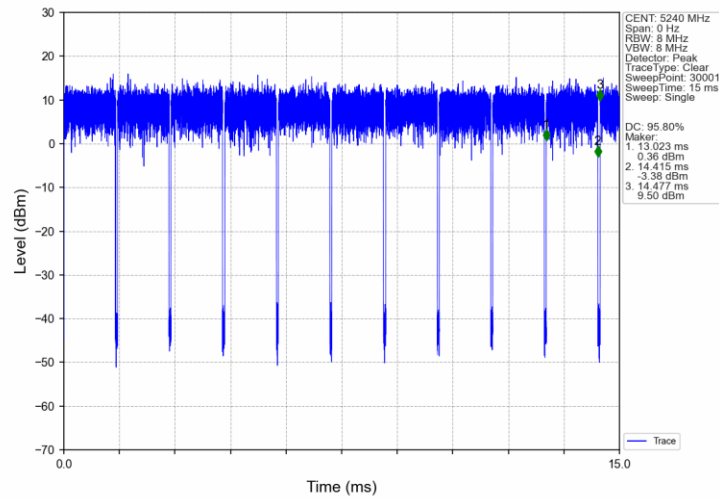
Note: Antennas 1, 2 and 3 were all tested, with the worst result recorded for Antenna 1.

## 1.2 Test Graph

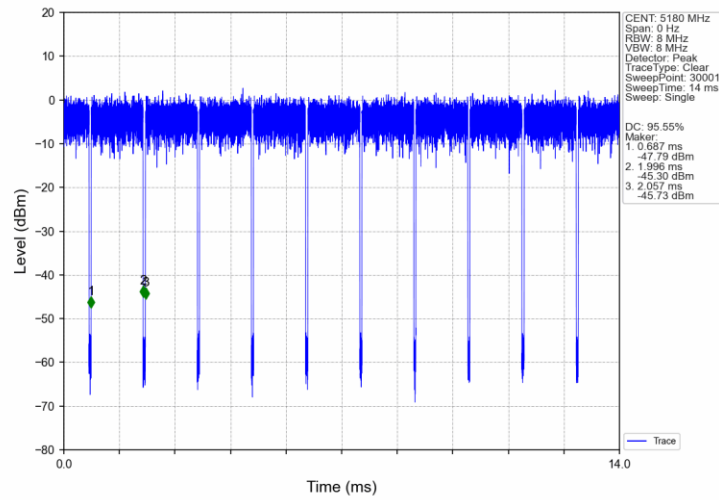
### 1.2.1 Ant1



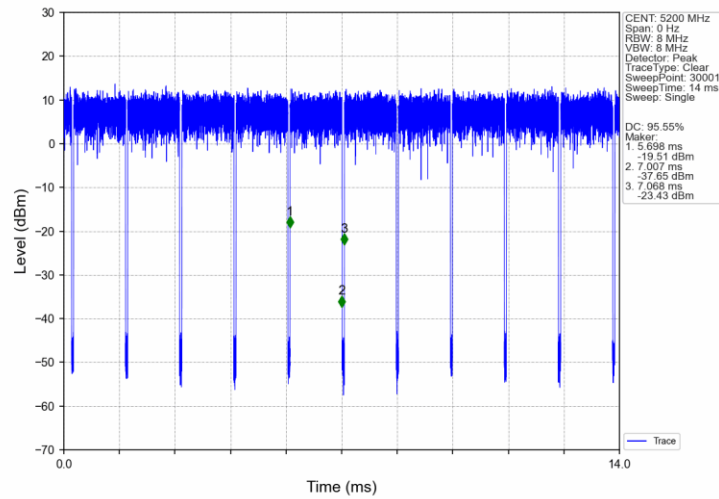
## 802.11a\_HCH\_5240MHz\_Ant1\_NTNV



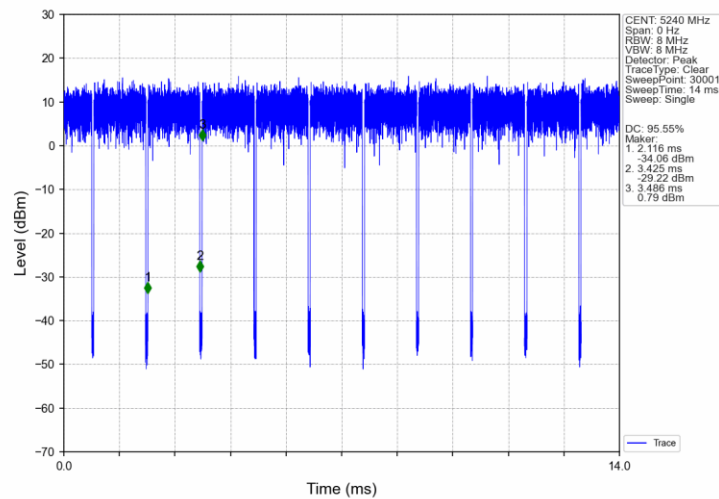
## 802.11n(HT20)\_LCH\_5180MHz\_Ant1\_NTNV



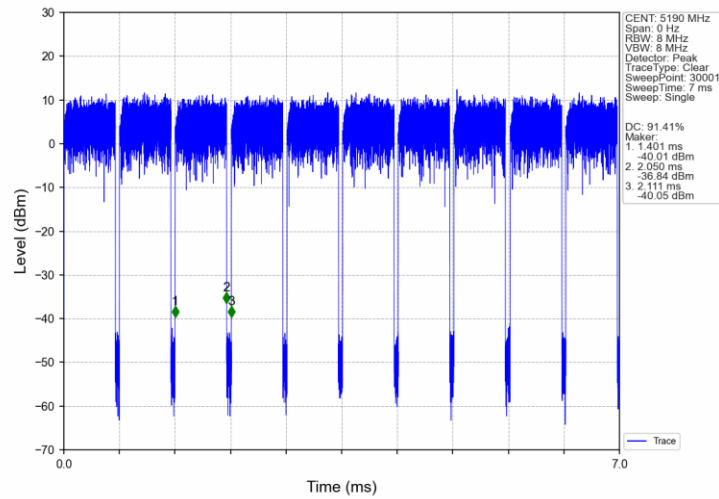
## 802.11n(HT20) MCH 5200MHz Ant1 NTNV



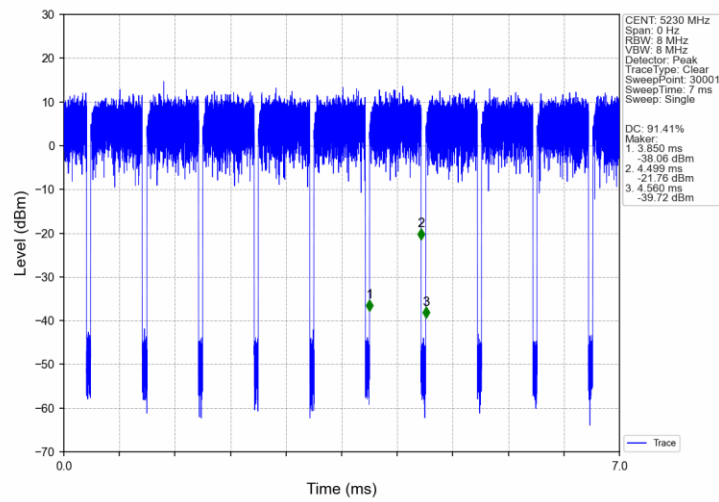
## 802.11n(HT20) HCH 5240MHz Ant1 NTNV



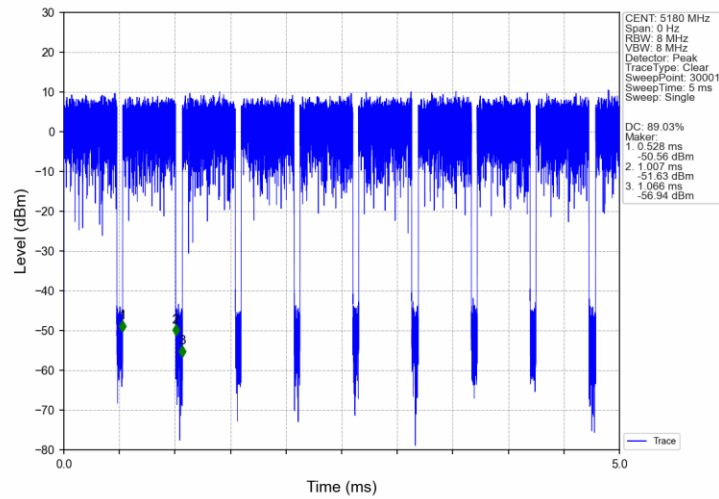
## 802.11n(HT40) LCH 5190MHz Ant1 NTN



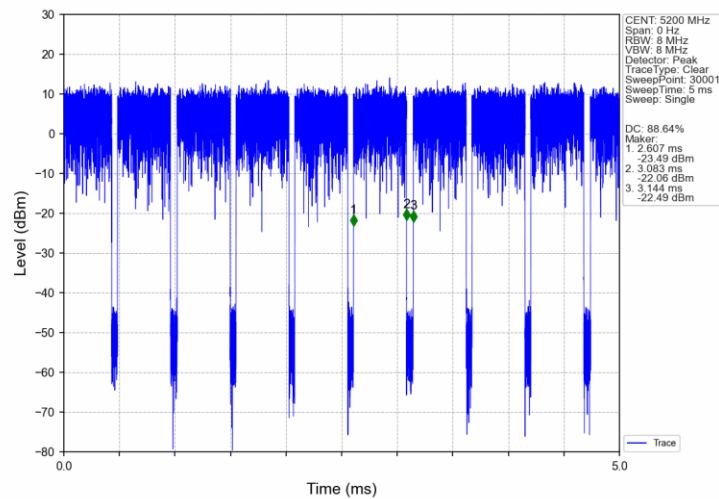
## 802.11n(HT40) HCH 5230MHz Ant1 NTN



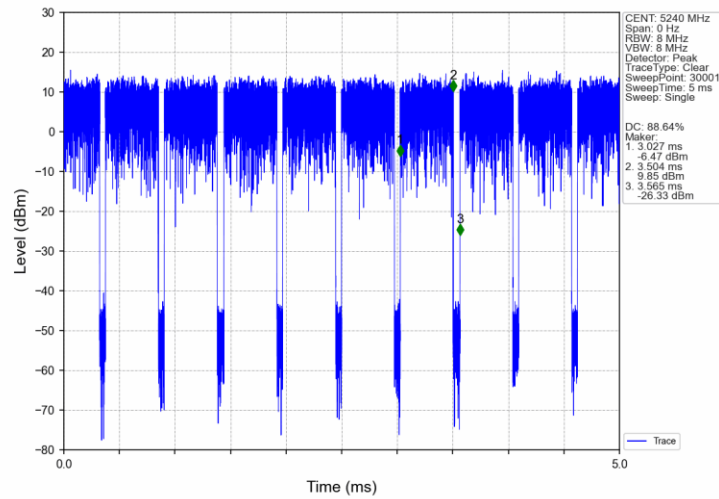
## 802.11ac(VHT20) LCH 5180MHz Ant1 NTN



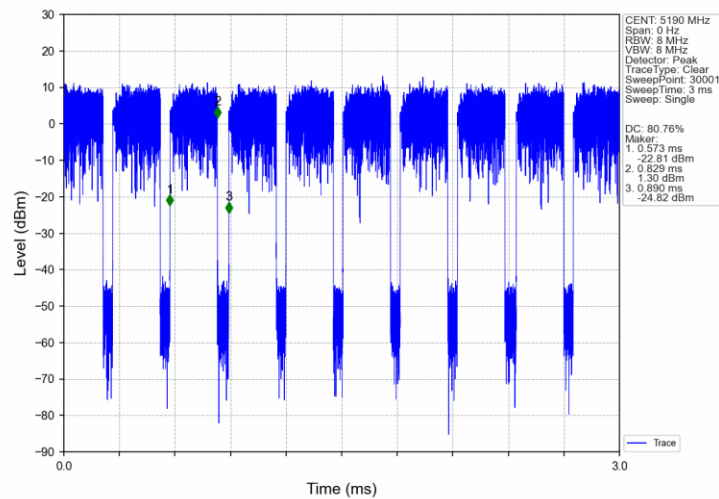
## 802.11ac(VHT20) MCH 5200MHz Ant1 NTN



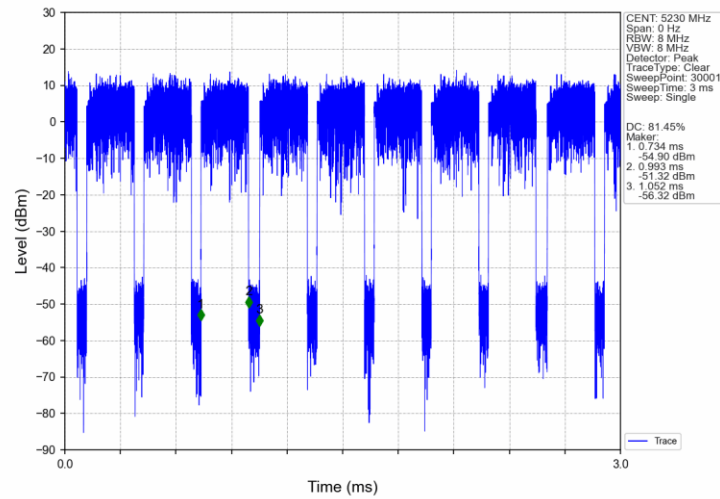
## 802.11ac(VHT20) HCH 5240MHz Ant1 NTN



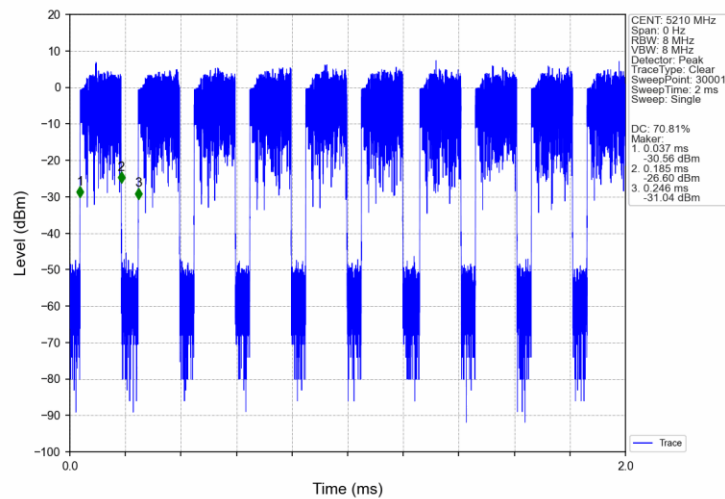
## 802.11ac(VHT40) LCH 5190MHz Ant1 NTN



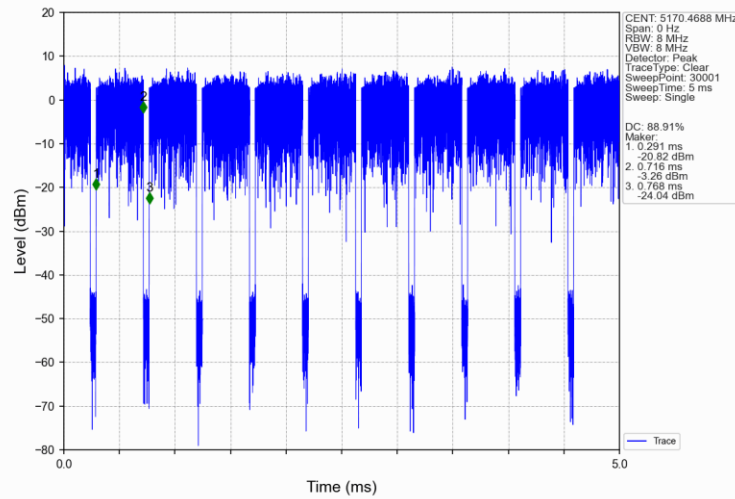
## 802.11ac(VHT40) HCH 5230MHz Ant1 NTN



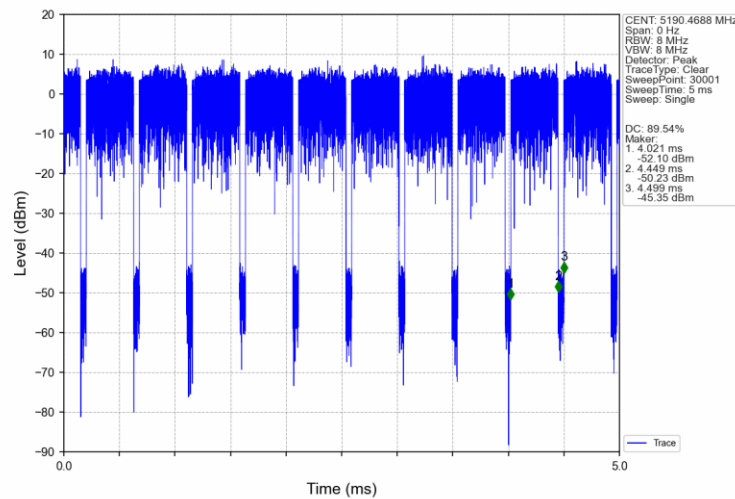
## 802.11ac(VHT80) MCH 5210MHz Ant1 NTN



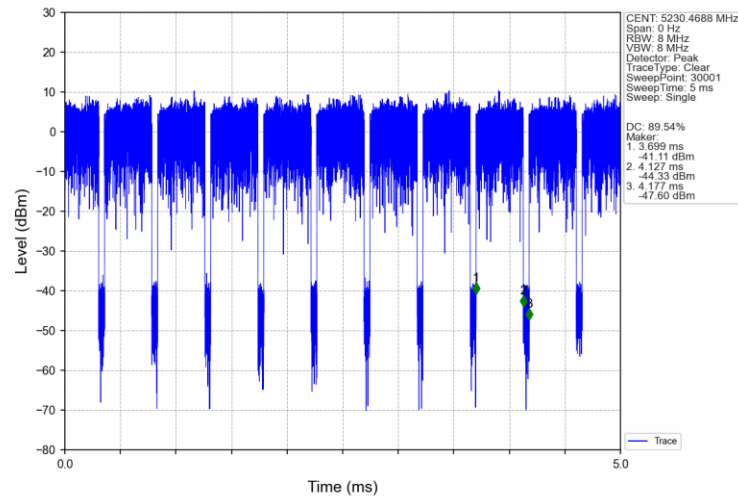
## 802.11ax(HEW20) LCH 5180MHz SU / Ant1 NTN



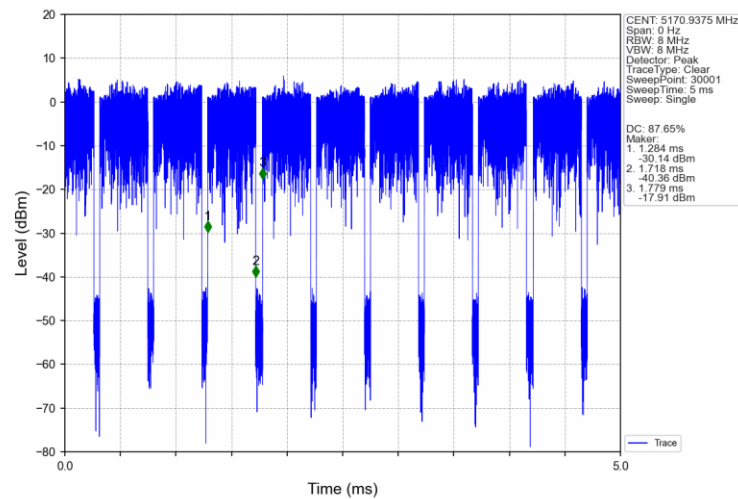
## 802.11ax(HEW20) MCH 5200MHz SU / Ant1 NTN



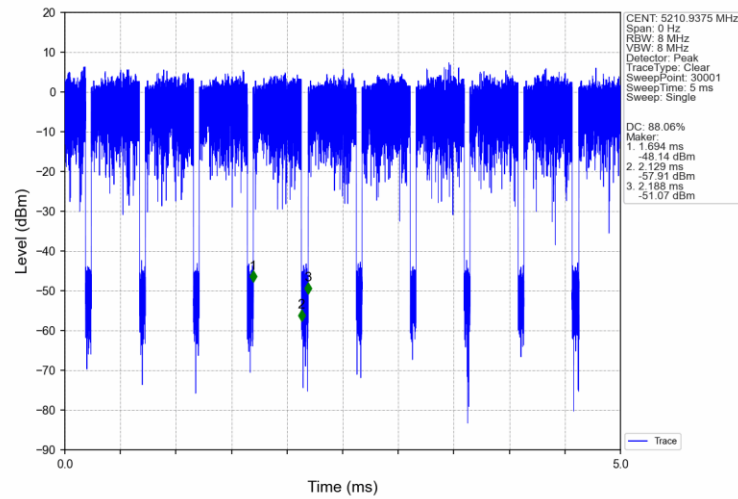
## 802.11ax(HEW20) HCH 5240MHz SU / Ant1 NTN



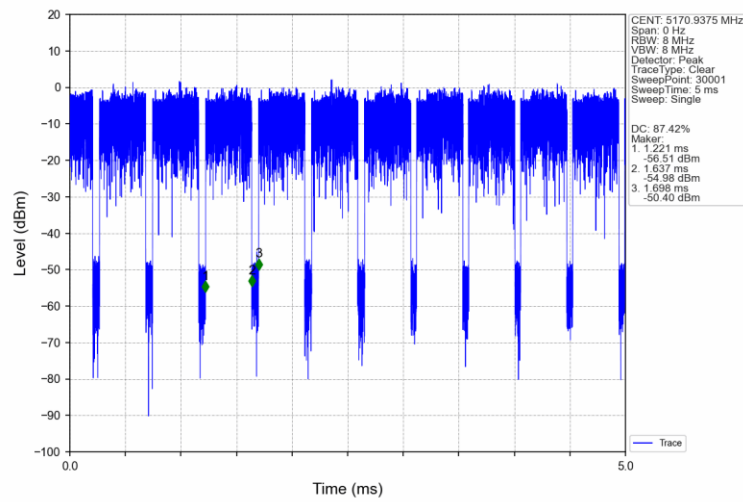
## 802.11ax(HEW40) LCH 5190MHz SU / Ant1 NTN



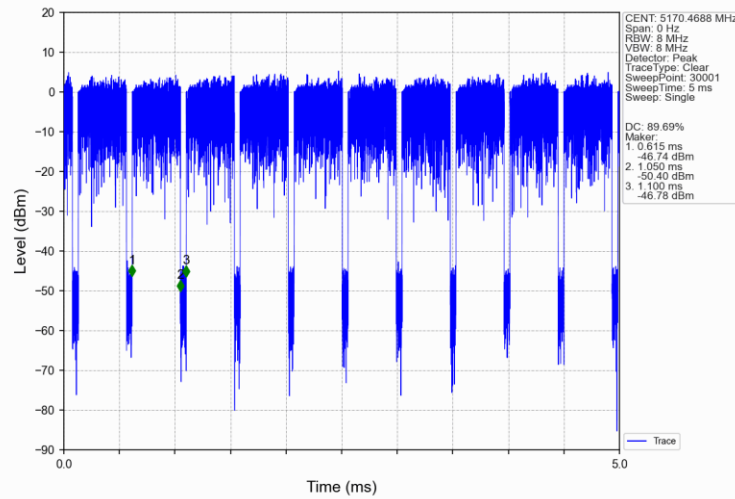
## 802.11ax(HEW40) HCH 5230MHz SU / Ant1 NTN



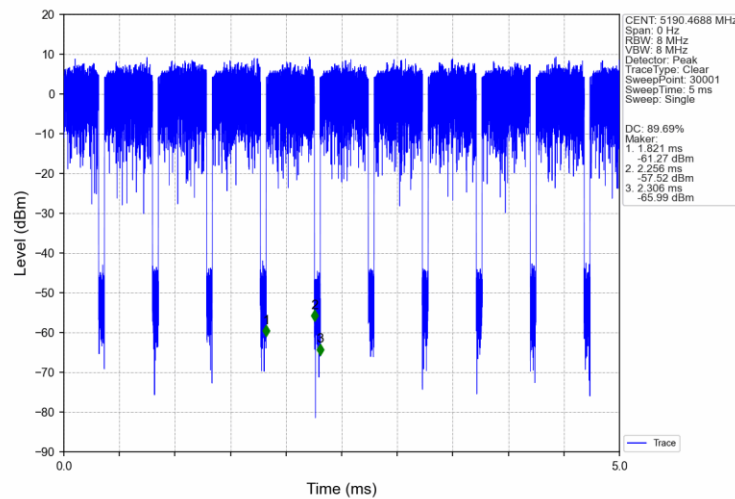
## 802.11ax(HEW80) MCH 5210MHz SU / Ant1 NTN



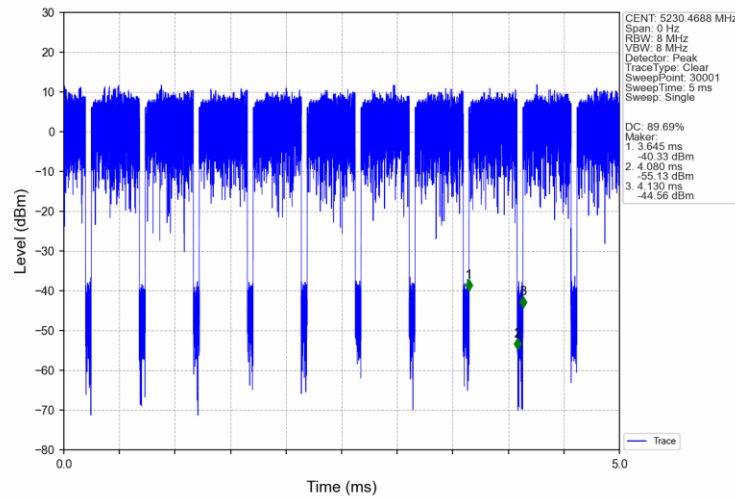
## 802.11be(EHT20) LCH 5180MHz SU / Ant1 NTN



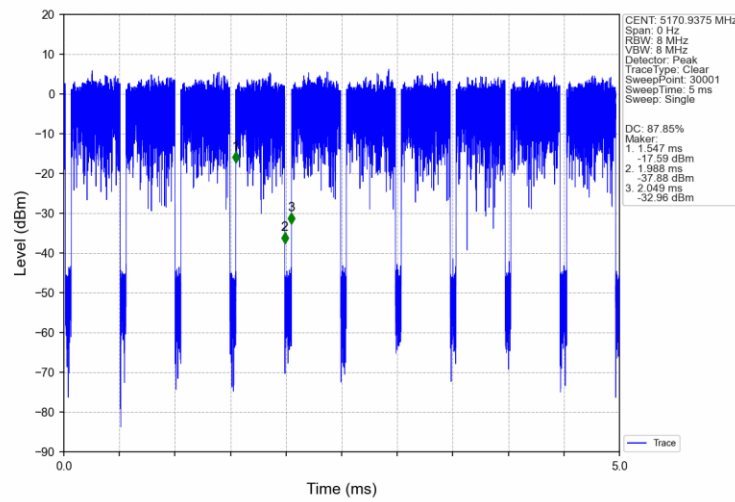
## 802.11be(EHT20) MCH 5200MHz SU / Ant1 NTN



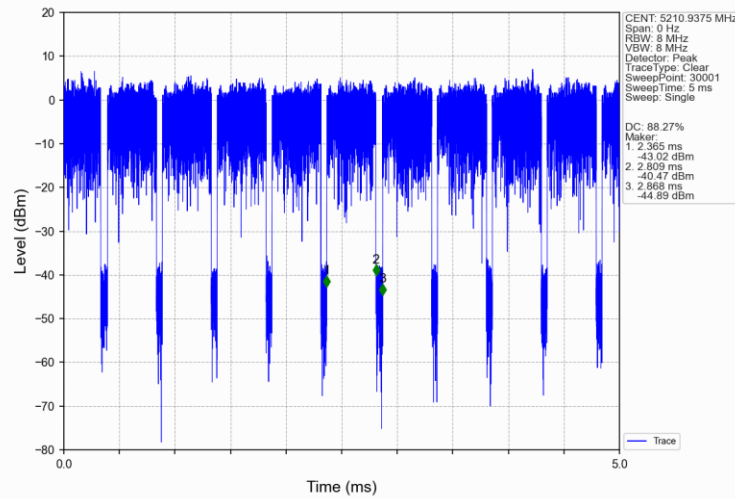
## 802.11be(EHT20) HCH 5240MHz SU / Ant1 NTN



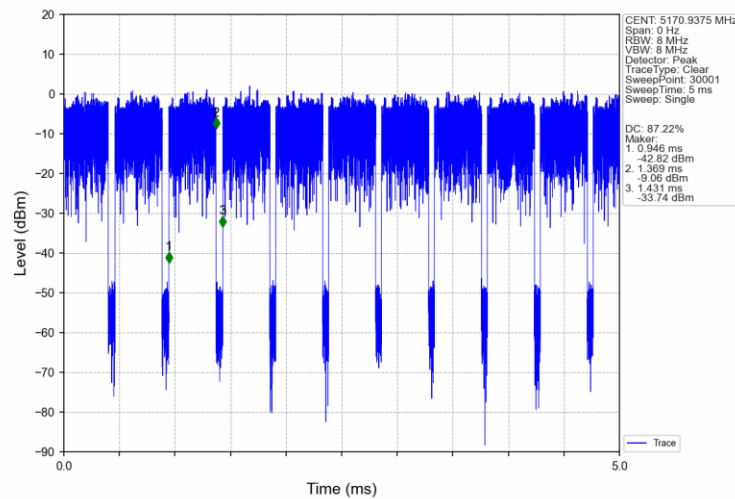
## 802.11be(EHT40) LCH 5190MHz SU / Ant1 NTN



## 802.11be(EHT40) HCH 5230MHz SU / Ant1 NTN



## 802.11be(EHT80) MCH 5210MHz SU / Ant1 NTN



## 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 |         |
| 802.11a          | SISO    | 5180            | /  | /      | 1   | 16.637                       | /     | Pass    |
|                  |         | 5200            | /  | /      | 1   | 16.606                       | /     | Pass    |
|                  |         | 5240            | /  | /      | 1   | 16.508                       | /     | Pass    |
| 802.11n (HT20)   | MIMO    | 5180            | /  | /      | 1   | 17.577                       | /     | Pass    |
|                  |         | 5200            | /  | /      | 1   | 17.587                       | /     | Pass    |
|                  |         | 5240            | /  | /      | 1   | 17.500                       | /     | Pass    |
| 802.11n (HT40)   | MIMO    | 5190            | /  | /      | 1   | 35.773                       | /     | Pass    |
|                  |         | 5230            | /  | /      | 1   | 35.623                       | /     | Pass    |
| 802.11ac (VHT20) | MIMO    | 5180            | /  | /      | 1   | 17.617                       | /     | Pass    |
|                  |         | 5200            | /  | /      | 1   | 17.604                       | /     | Pass    |
|                  |         | 5240            | /  | /      | 1   | 17.520                       | /     | Pass    |
| 802.11ac (VHT40) | MIMO    | 5190            | /  | /      | 1   | 35.866                       | /     | Pass    |
|                  |         | 5230            | /  | /      | 1   | 35.718                       | /     | Pass    |
| 802.11ac (VHT80) | MIMO    | 5210            | /  | /      | 1   | 75.517                       | /     | Pass    |
| 802.11ax (HEW20) | MIMO    | 5180            | SU | /      | 1   | 18.891                       | /     | Pass    |
|                  |         | 5200            | SU | /      | 1   | 18.913                       | /     | Pass    |
|                  |         | 5240            | SU | /      | 1   | 18.796                       | /     | Pass    |
| 802.11ax (HEW40) | MIMO    | 5190            | SU | /      | 1   | 37.416                       | /     | Pass    |
|                  |         | 5230            | SU | /      | 1   | 37.362                       | /     | Pass    |
| 802.11ax (HEW80) | MIMO    | 5210            | SU | /      | 1   | 76.933                       | /     | Pass    |
| 802.11be (EHT20) | MIMO    | 5180            | SU | /      | 1   | 18.897                       | /     | Pass    |
|                  |         | 5200            | SU | /      | 1   | 18.930                       | /     | Pass    |
|                  |         | 5240            | SU | /      | 1   | 18.912                       | /     | Pass    |
| 802.11be (EHT40) | MIMO    | 5190            | SU | /      | 1   | 37.500                       | /     | Pass    |
|                  |         | 5230            | SU | /      | 1   | 37.273                       | /     | Pass    |
| 802.11be (EHT80) | MIMO    | 5210            | SU | /      | 1   | 77.037                       | /     | Pass    |

Note: Antennas 1, 2 and 3 were all tested, with the worst result recorded for Antenna 1.

#### 2.1.2 26dB BW

| Mode             | TX Type | Frequency (MHz) | RU | RU Pos | ANT | 26dB Bandwidth (MHz) |       | Verdict |
|------------------|---------|-----------------|----|--------|-----|----------------------|-------|---------|
|                  |         |                 |    |        |     | Result               | Limit |         |
| 802.11a          | SISO    | 5180            | /  | /      | 1   | 18.611               | /     | Pass    |
|                  |         | 5200            | /  | /      | 1   | 19.756               | /     | Pass    |
|                  |         | 5240            | /  | /      | 1   | 18.503               | /     | Pass    |
| 802.11n (HT20)   | MIMO    | 5180            | /  | /      | 1   | 19.503               | /     | Pass    |
|                  |         | 5200            | /  | /      | 1   | 20.722               | /     | Pass    |
|                  |         | 5240            | /  | /      | 1   | 19.105               | /     | Pass    |
| 802.11n (HT40)   | MIMO    | 5190            | /  | /      | 1   | 39.031               | /     | Pass    |
|                  |         | 5230            | /  | /      | 1   | 38.759               | /     | Pass    |
| 802.11ac (VHT20) | MIMO    | 5180            | /  | /      | 1   | 21.216               | /     | Pass    |
|                  |         | 5200            | /  | /      | 1   | 19.956               | /     | Pass    |
|                  |         | 5240            | /  | /      | 1   | 19.137               | /     | Pass    |
| 802.11ac         | MIMO    | 5190            | /  | /      | 1   | 38.906               | /     | Pass    |

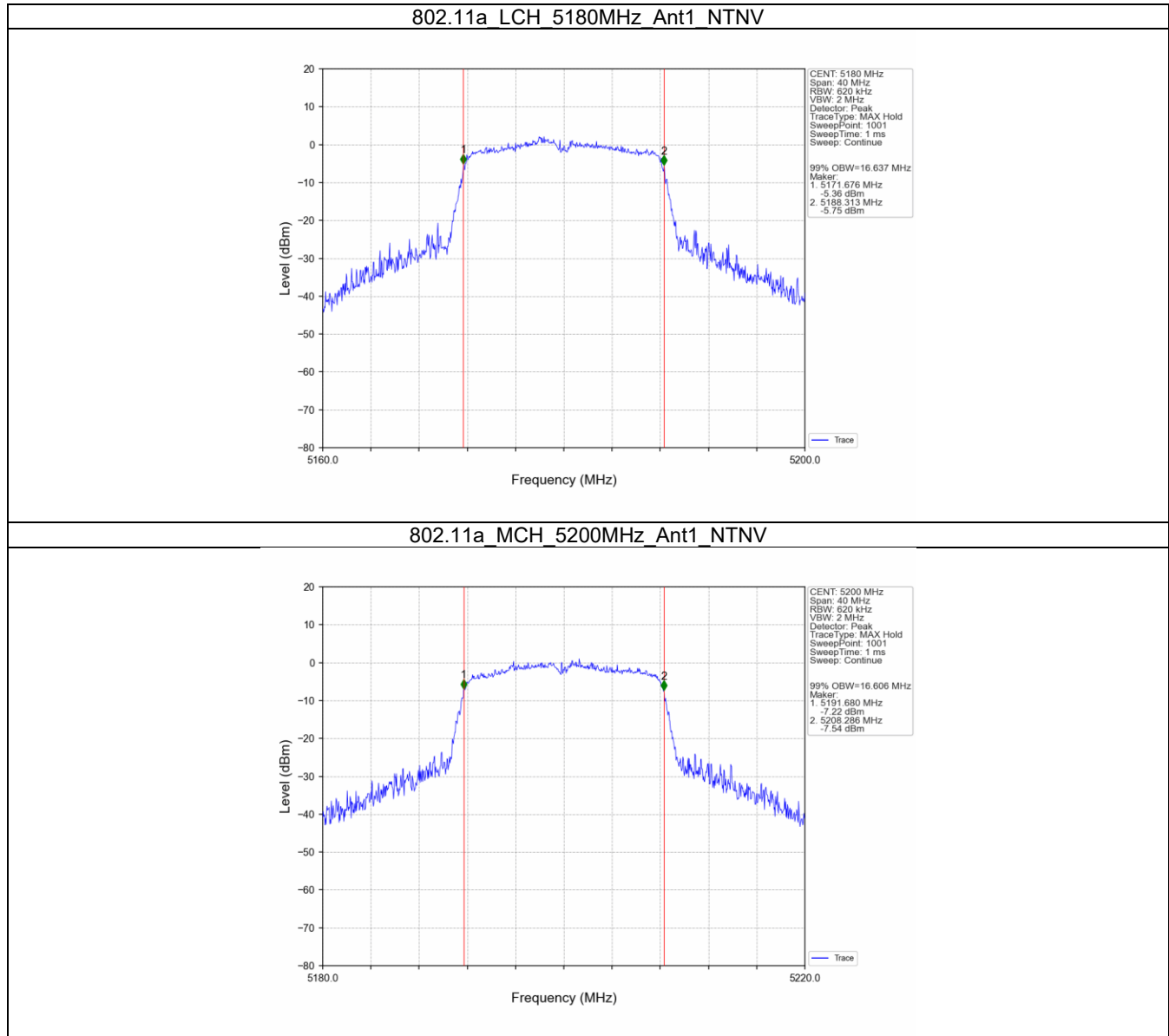


|                     |      |      |    |   |   |        |   |      |
|---------------------|------|------|----|---|---|--------|---|------|
| (VHT40)             |      | 5230 | /  | / | 1 | 38.911 | / | Pass |
| 802.11ac<br>(VHT80) | MIMO | 5210 | /  | / | 1 | 79.952 | / | Pass |
| 802.11ax<br>(HEW20) | MIMO | 5180 | SU | / | 1 | 20.127 | / | Pass |
|                     |      | 5200 | SU | / | 1 | 20.195 | / | Pass |
|                     |      | 5240 | SU | / | 1 | 20.012 | / | Pass |
| 802.11ax<br>(HEW40) | MIMO | 5190 | SU | / | 1 | 40.021 | / | Pass |
|                     |      | 5230 | SU | / | 1 | 39.571 | / | Pass |
| 802.11ax<br>(HEW80) | MIMO | 5210 | SU | / | 1 | 81.137 | / | Pass |
| 802.11be<br>(EHT20) | MIMO | 5180 | SU | / | 1 | 20.052 | / | Pass |
|                     |      | 5200 | SU | / | 1 | 20.072 | / | Pass |
|                     |      | 5240 | SU | / | 1 | 20.051 | / | Pass |
| 802.11be<br>(EHT40) | MIMO | 5190 | SU | / | 1 | 40.060 | / | Pass |
|                     |      | 5230 | SU | / | 1 | 39.758 | / | Pass |
| 802.11be<br>(EHT80) | MIMO | 5210 | SU | / | 1 | 81.519 | / | Pass |

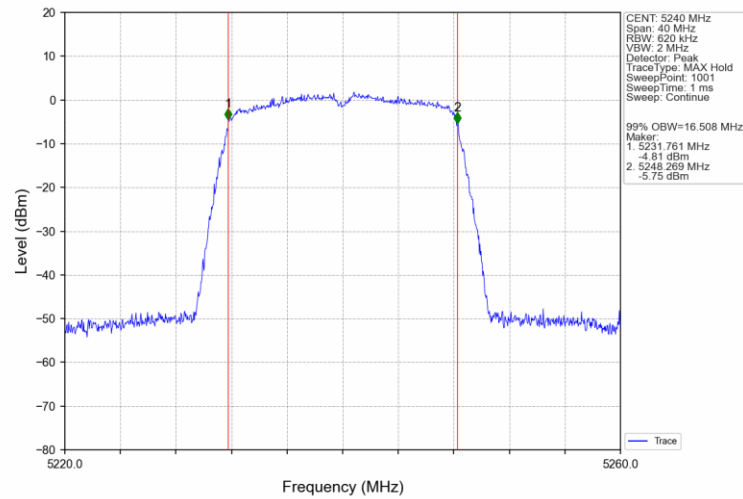
Note: Antennas 1, 2 and 3 were all tested, with the worst result recorded for Antenna 1.

## 2.2 Test Graph

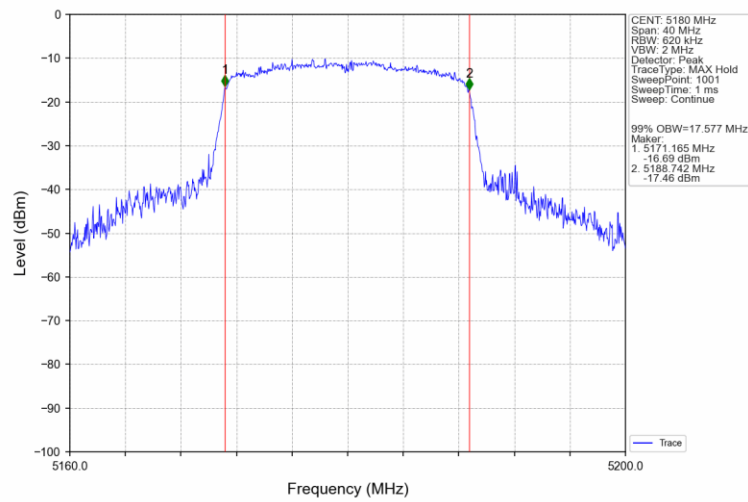
### 2.2.1 OBW



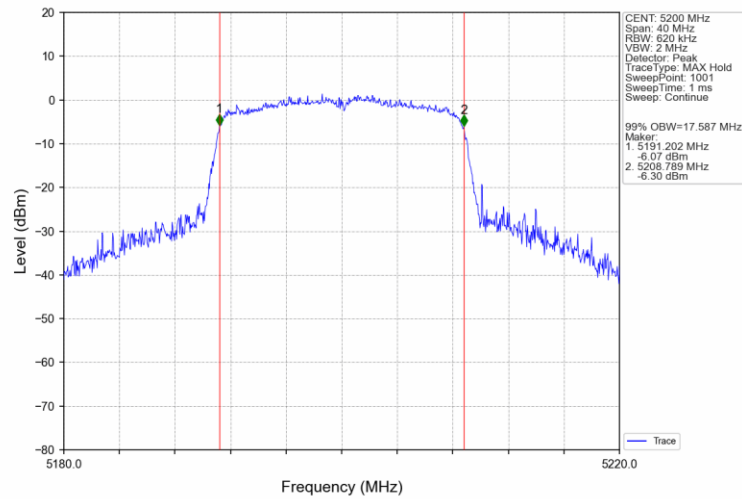
## 802.11a\_HCH\_5240MHz\_Ant1\_NTNV



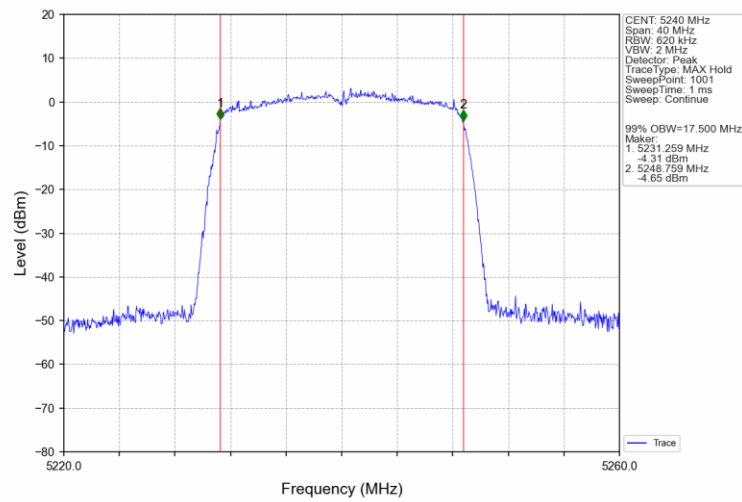
## 802.11n(HT20)\_LCH\_5180MHz\_Ant1\_NTNV



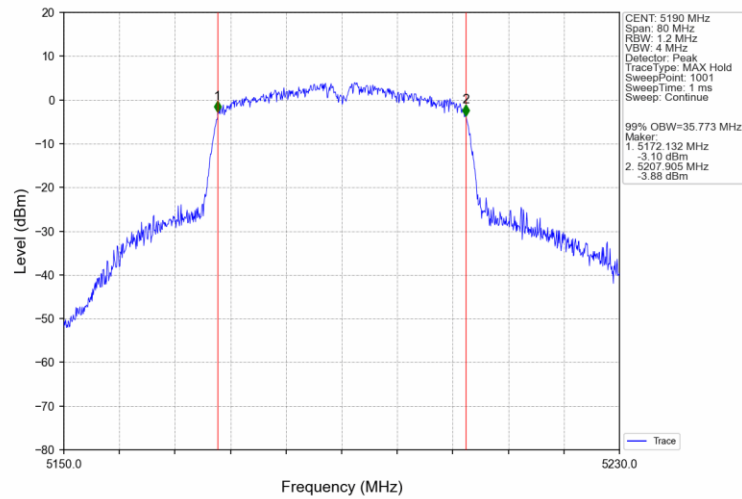
## 802.11n(HT20) MCH 5200MHz Ant1 NTNv



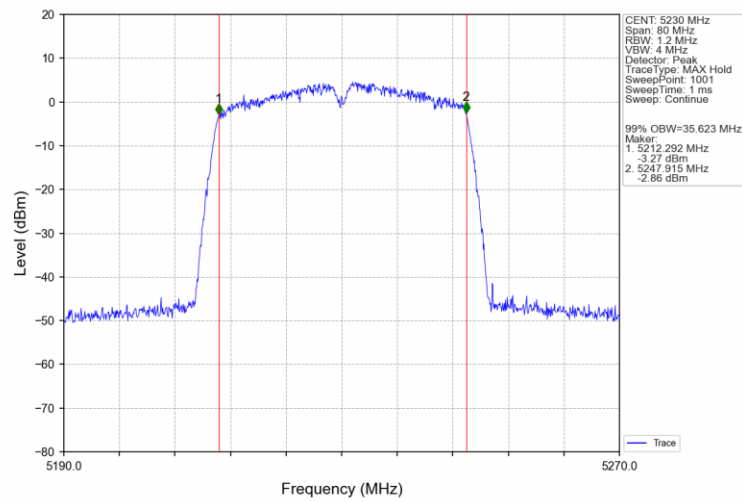
## 802.11n(HT20) HCH 5240MHz Ant1 NTNv



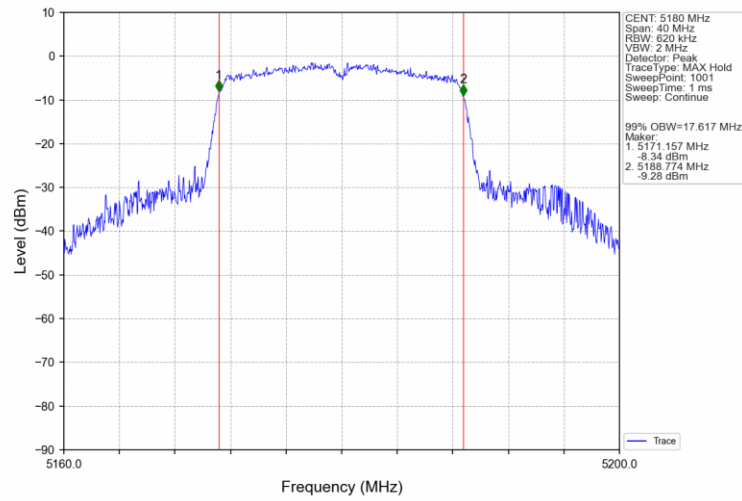
## 802.11n(HT40) LCH 5190MHz Ant1 NTN



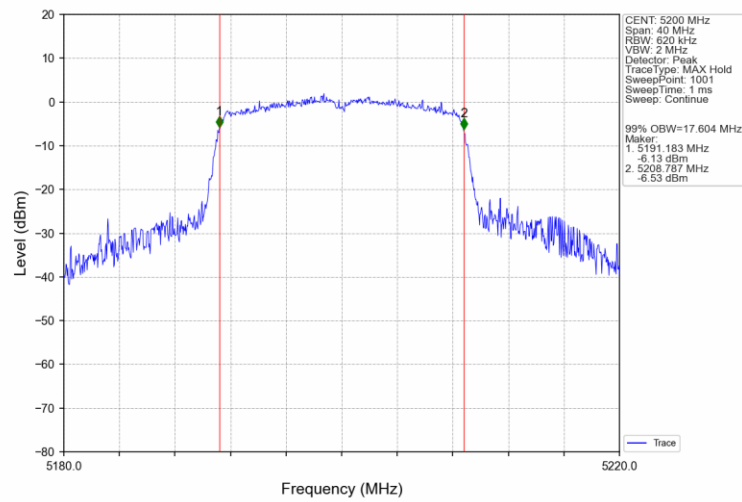
## 802.11n(HT40) HCH 5230MHz Ant1 NTN



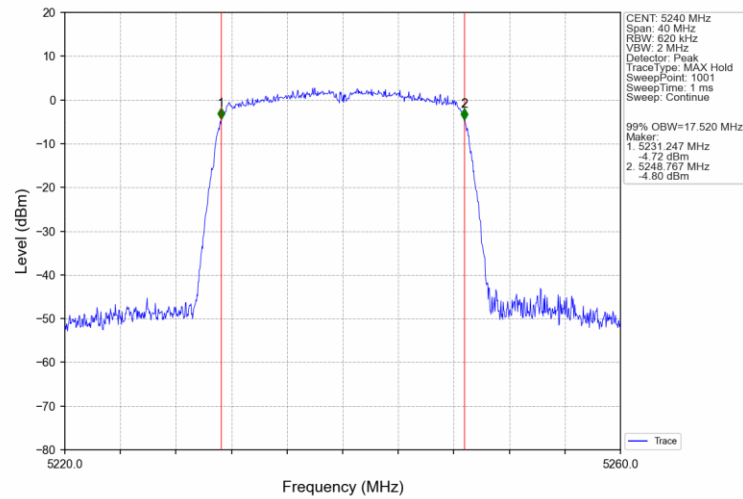
## 802.11ac(VHT20) LCH 5180MHz Ant1 NTN



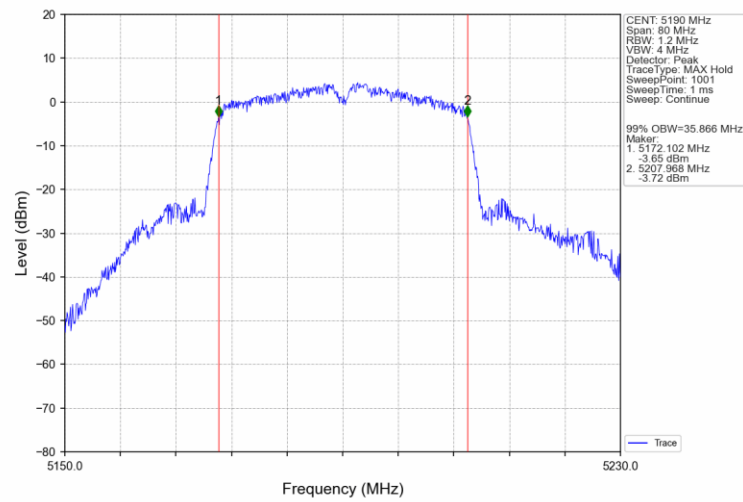
## 802.11ac(VHT20) MCH 5200MHz Ant1 NTN



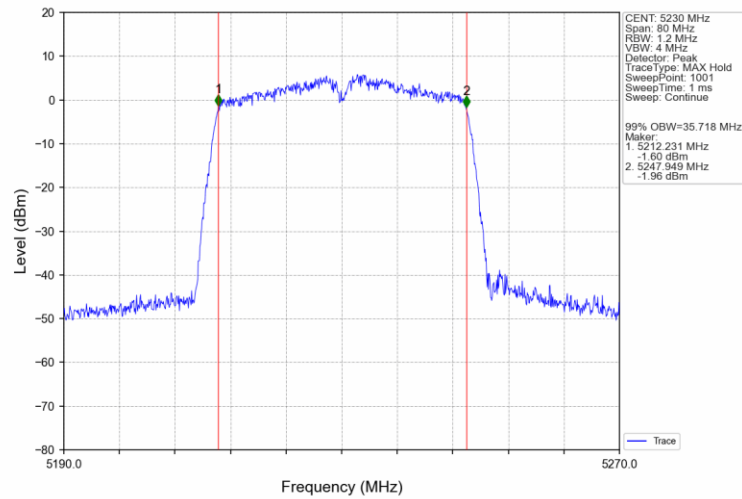
## 802.11ac(VHT20) HCH 5240MHz Ant1 NTN



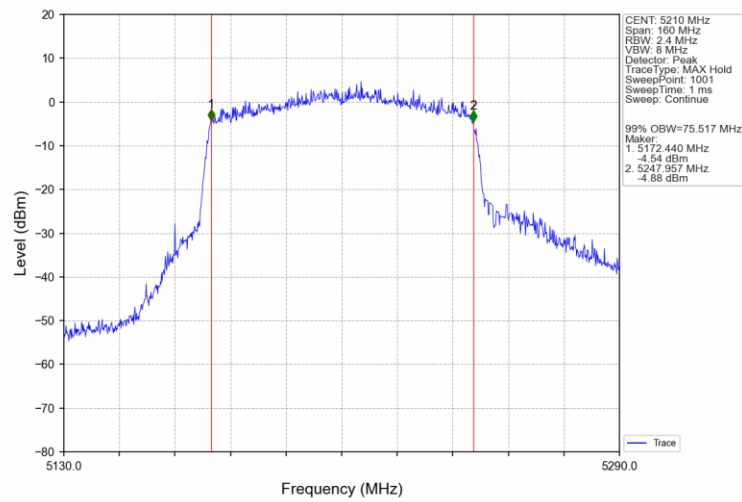
## 802.11ac(VHT40) LCH 5190MHz Ant1 NTN



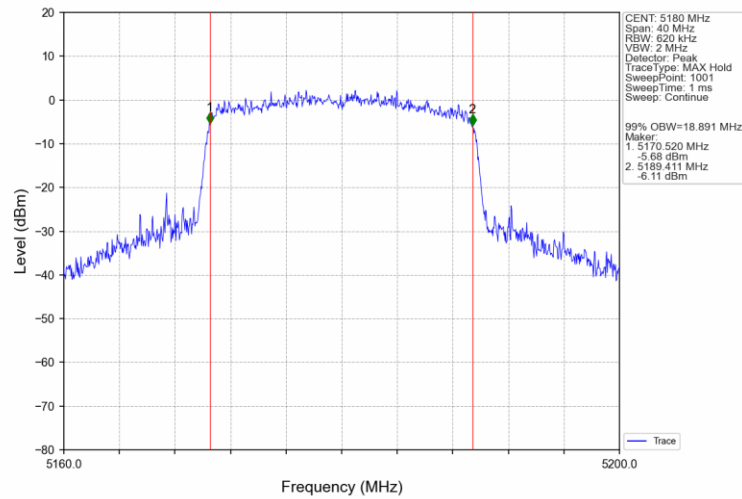
## 802.11ac(VHT40) HCH 5230MHz Ant1 NTN



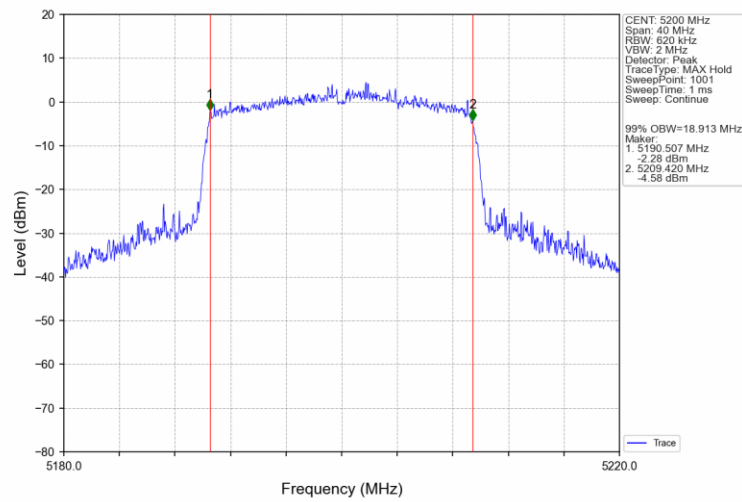
## 802.11ac(VHT80) MCH 5210MHz Ant1 NTN



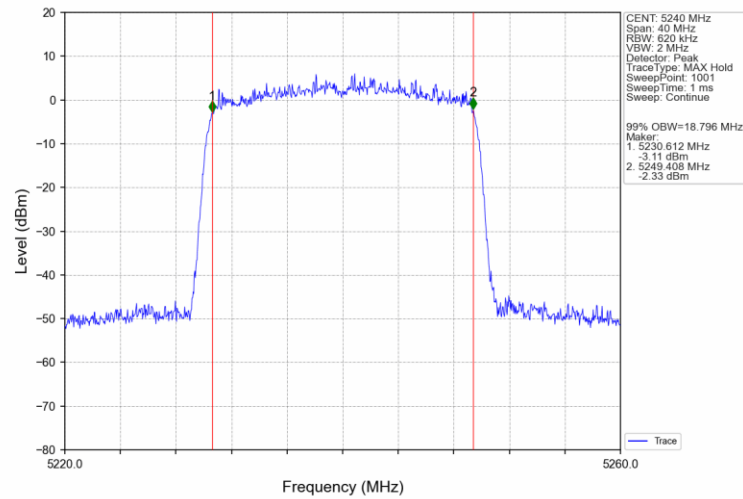
## 802.11ax(HEW20) LCH 5180MHz SU / Ant1 NTNv



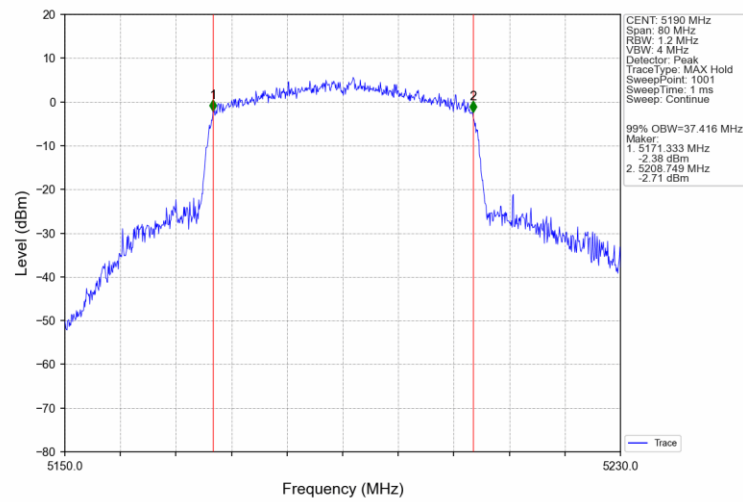
## 802.11ax(HEW20) MCH 5200MHz SU / Ant1 NTNv



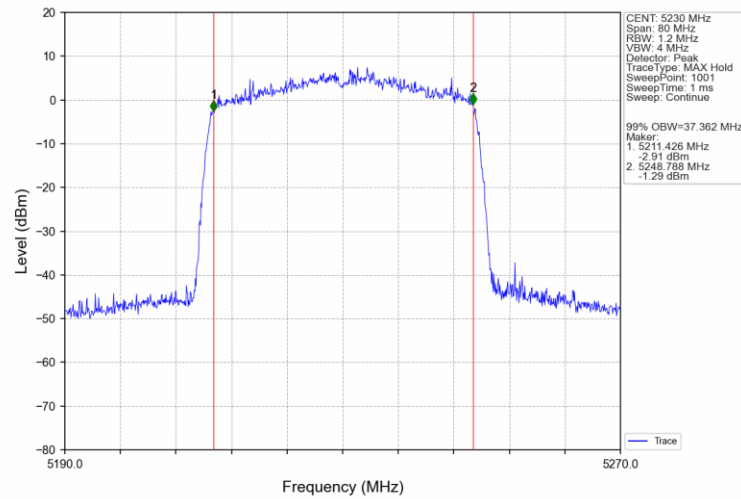
## 802.11ax(HEW20) HCH 5240MHz SU / Ant1 NTN



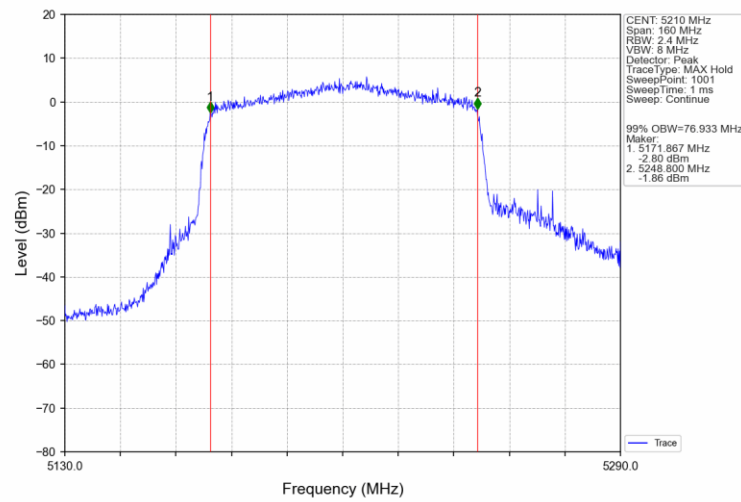
## 802.11ax(HEW40) LCH 5190MHz SU / Ant1 NTN



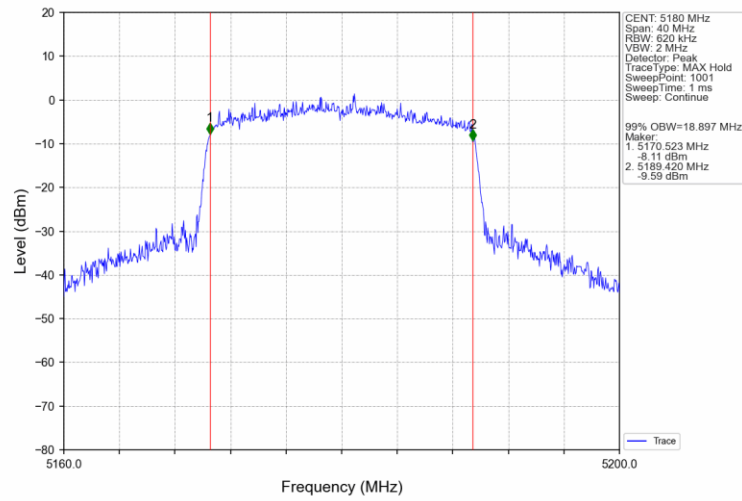
## 802.11ax(HEW40) HCH 5230MHz SU / Ant1 NTNv



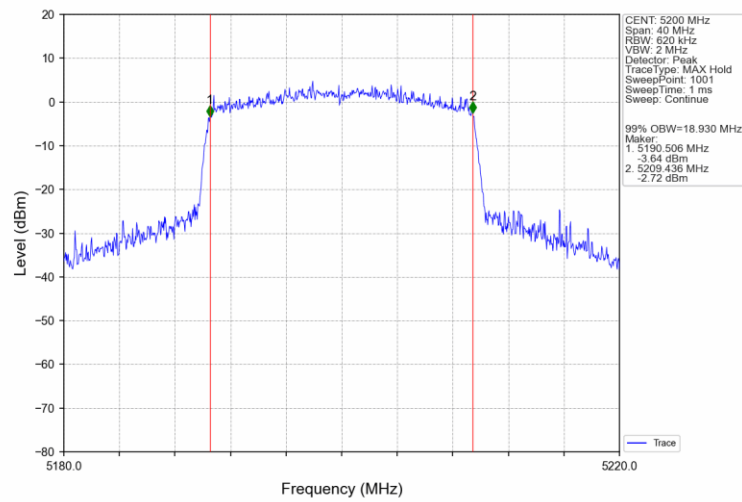
## 802.11ax(HEW80) MCH 5210MHz SU / Ant1 NTNv



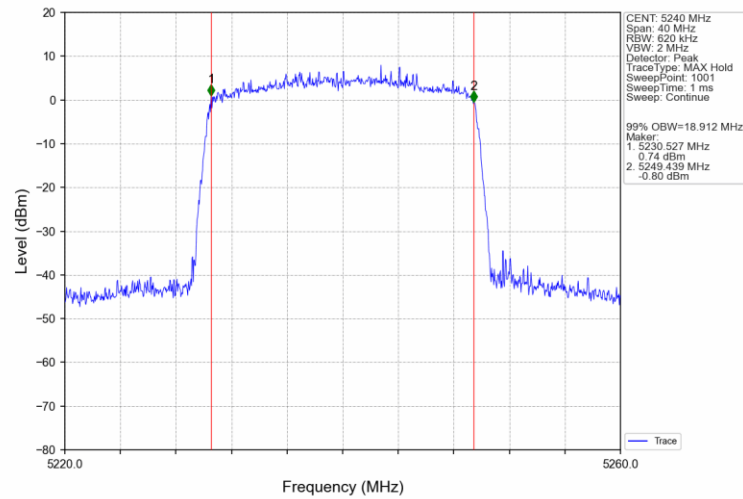
## 802.11be(EHT20) LCH 5180MHz SU / Ant1 NTN



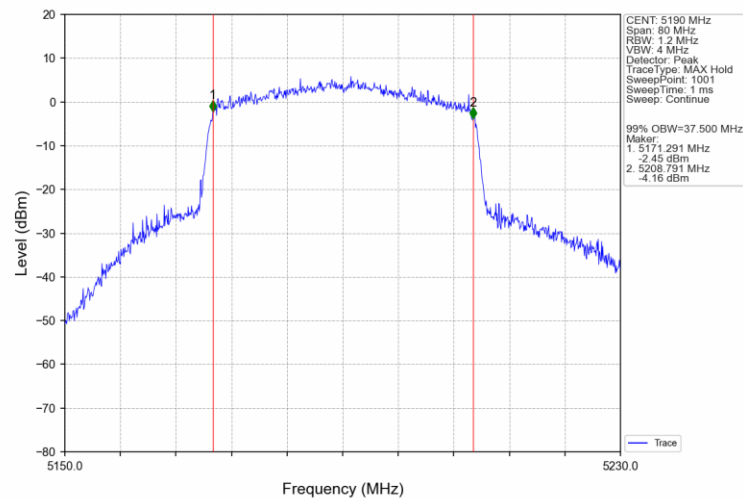
## 802.11be(EHT20) MCH 5200MHz SU / Ant1 NTN



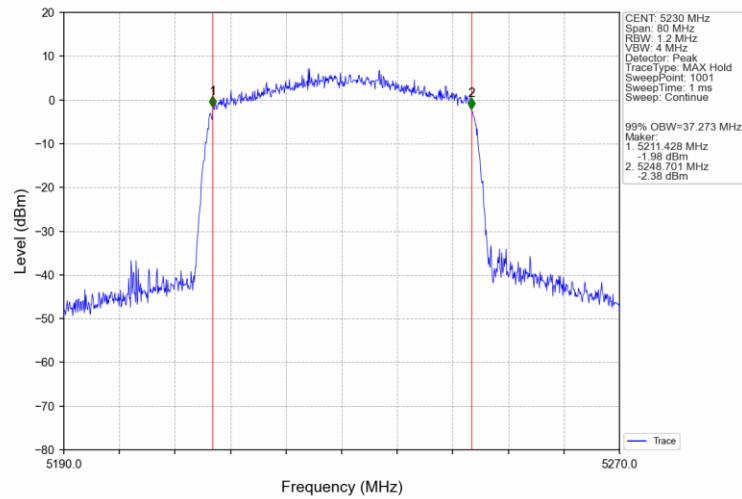
## 802.11be(EHT20) HCH 5240MHz SU / Ant1 NTN



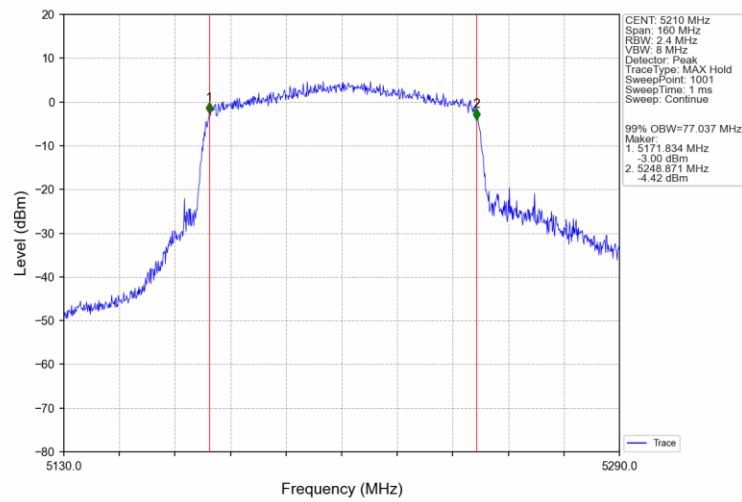
## 802.11be(EHT40) LCH 5190MHz SU / Ant1 NTN



## 802.11be(EHT40) HCH 5230MHz SU / Ant1 NTN

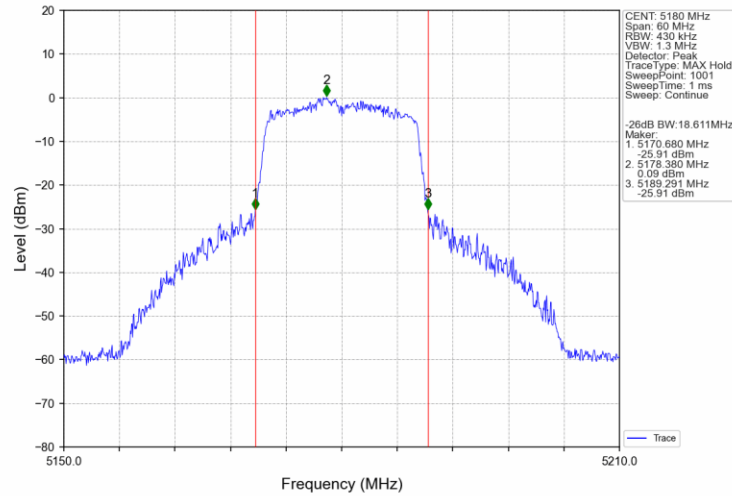


## 802.11be(EHT80) MCH 5210MHz SU / Ant1 NTN

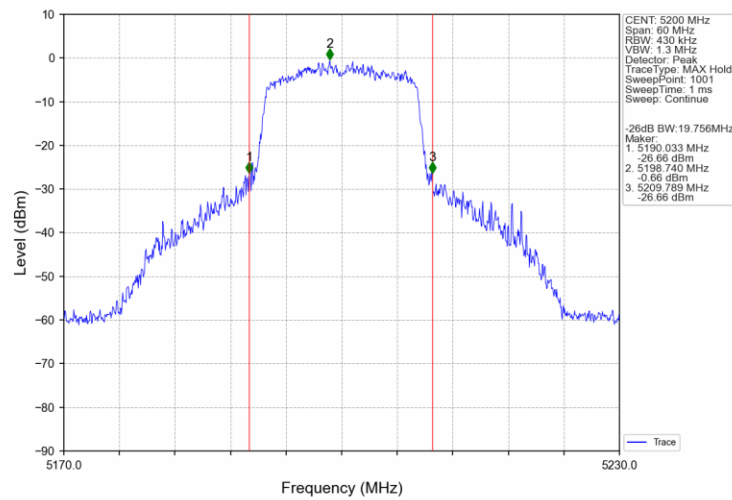


## 2.2.2 26dB BW

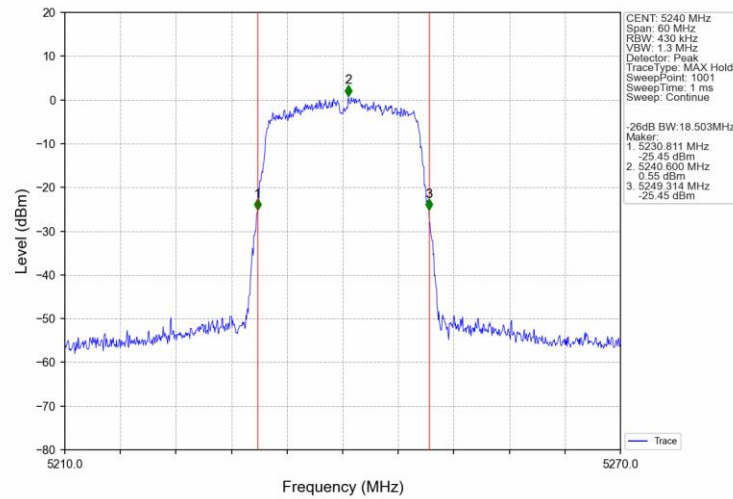
802.11a LCH 5180MHz Ant1 NTN



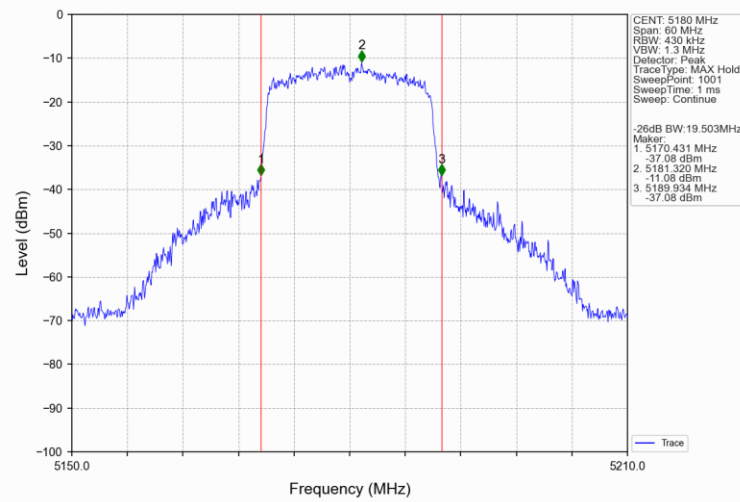
802.11a MCH 5200MHz Ant1 NTN



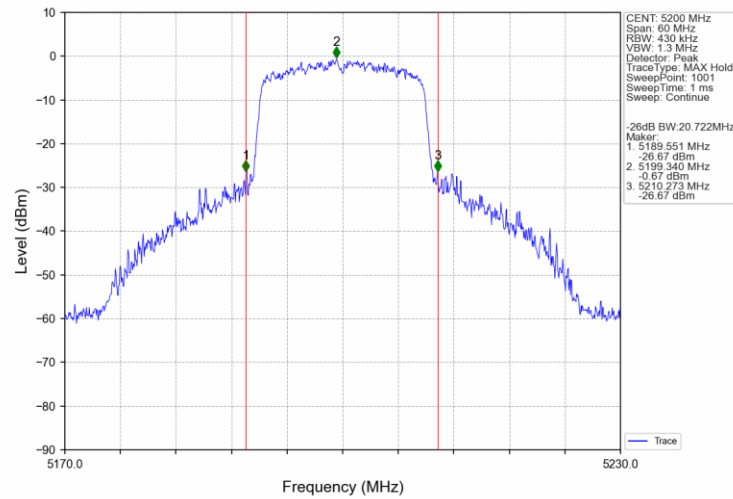
## 802.11a\_HCH\_5240MHz\_Ant1\_NTNV



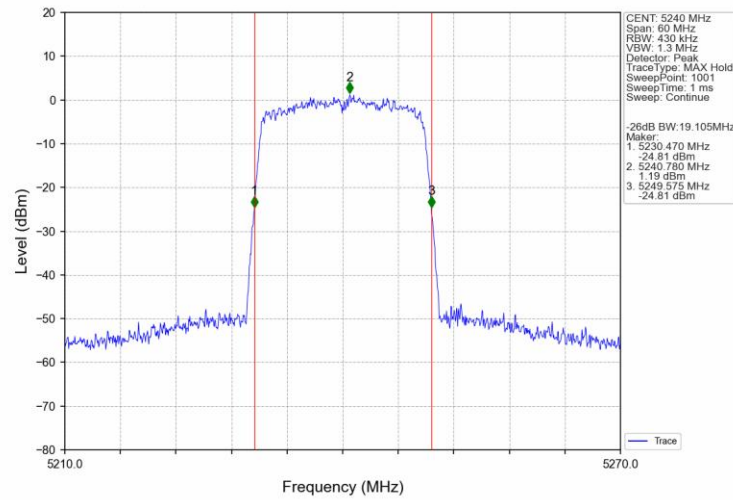
## 802.11n(HT20)\_LCH\_5180MHz\_Ant1\_NTNV



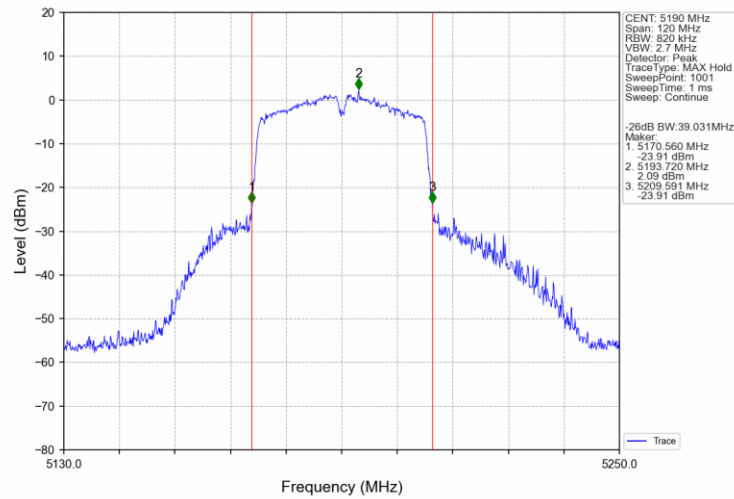
## 802.11n(HT20) MCH 5200MHz Ant1 NTN



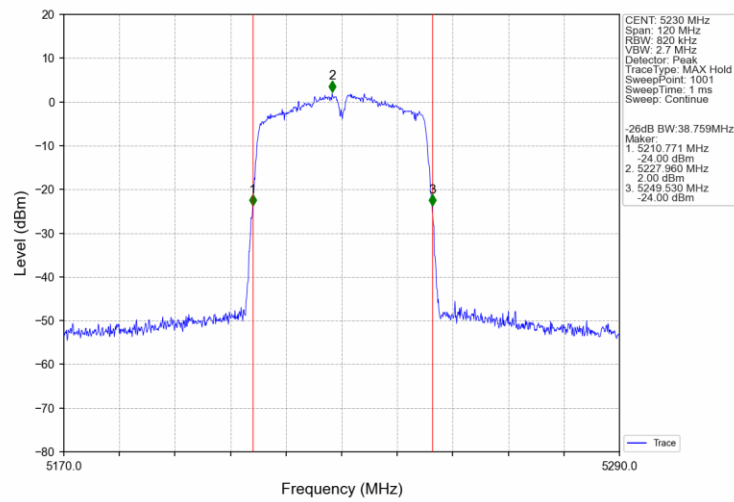
## 802.11n(HT20) HCH 5240MHz Ant1 NTN



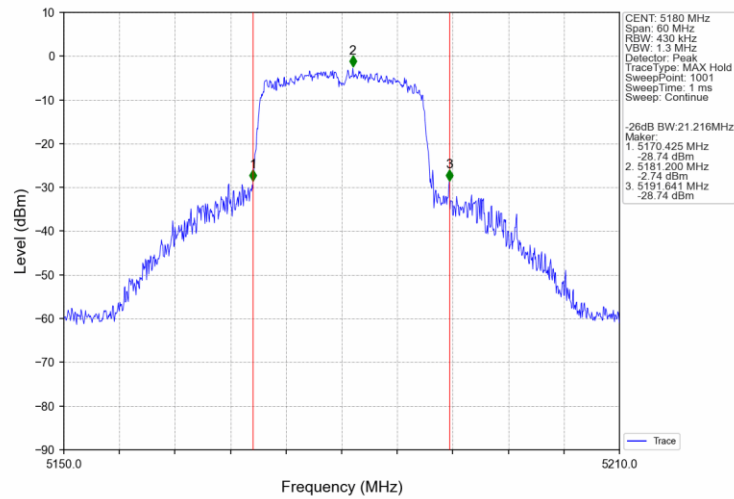
## 802.11n(HT40) LCH 5190MHz Ant1 NTN



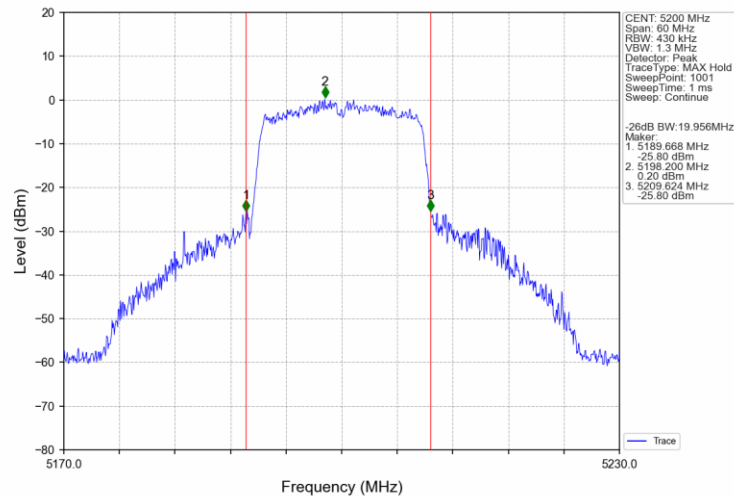
## 802.11n(HT40) HCH 5230MHz Ant1 NTN



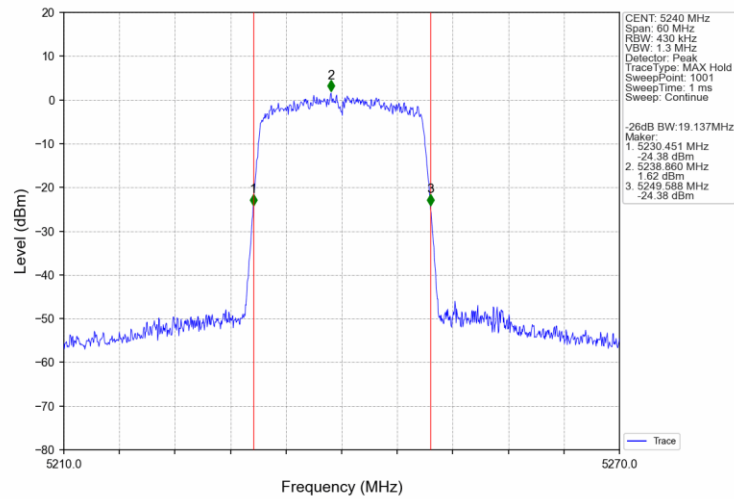
## 802.11ac(VHT20) LCH 5180MHz Ant1 NTNv



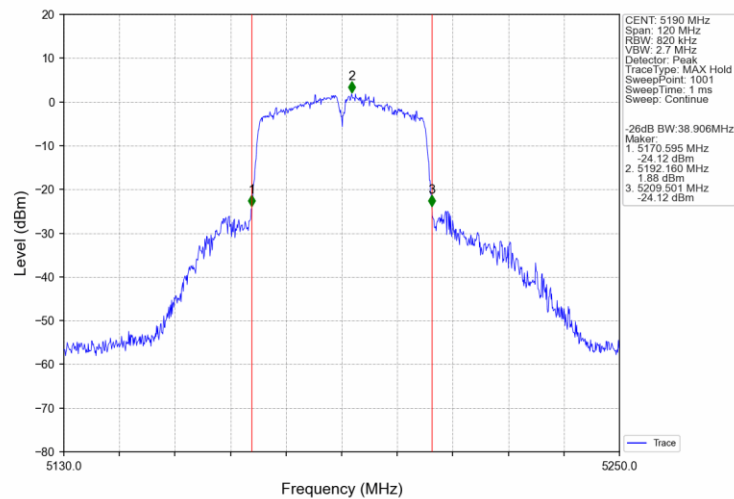
## 802.11ac(VHT20) MCH 5200MHz Ant1 NTNv



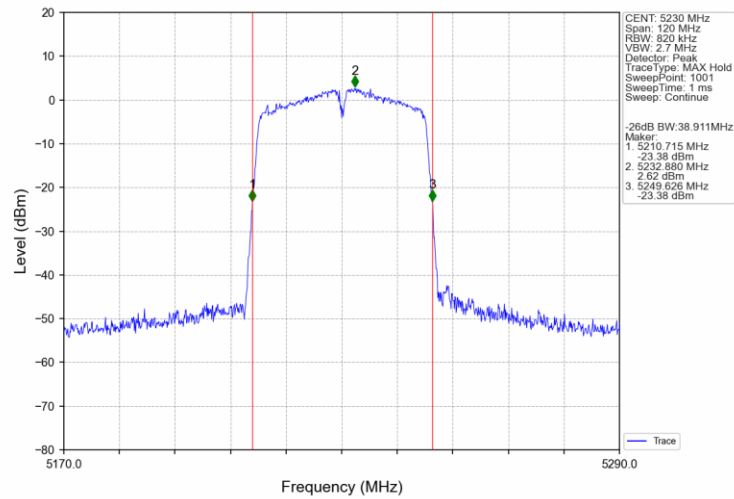
## 802.11ac(VHT20) HCH 5240MHz Ant1 NTN



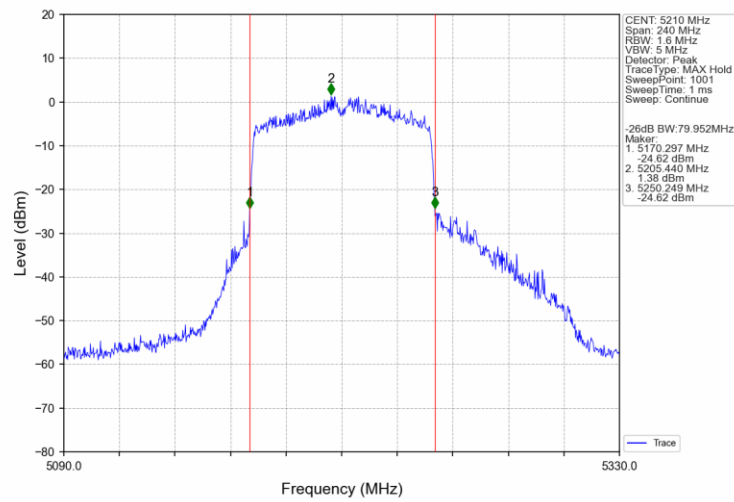
## 802.11ac(VHT40) LCH 5190MHz Ant1 NTN



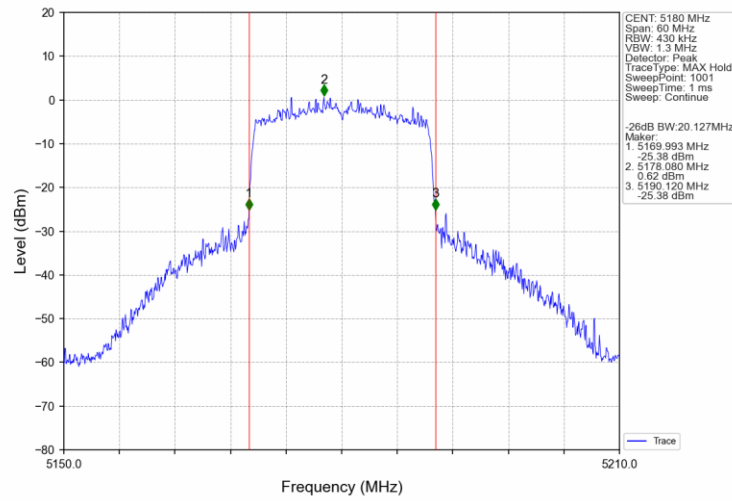
## 802.11ac(VHT40) HCH 5230MHz Ant1 NTN



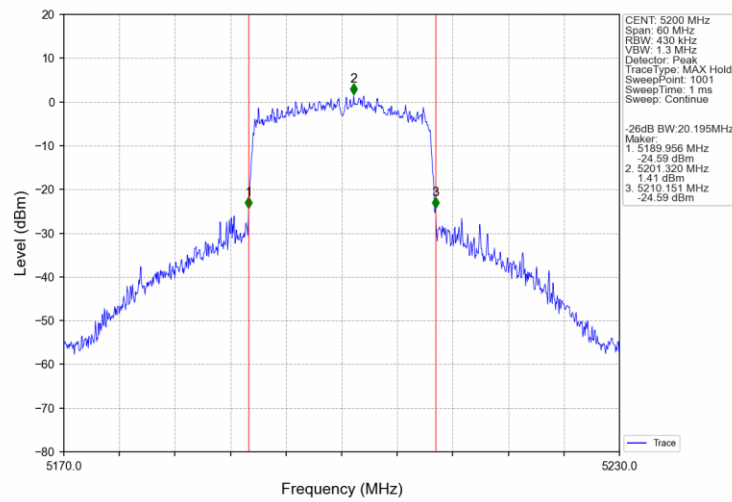
## 802.11ac(VHT80) MCH 5210MHz Ant1 NTN



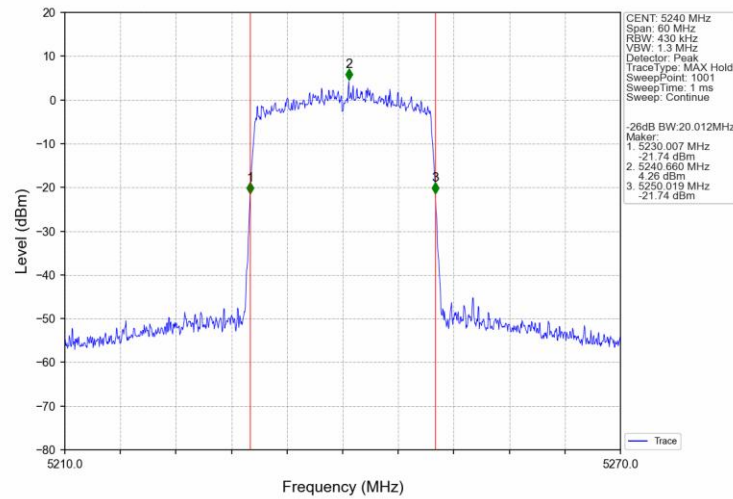
## 802.11ax(HEW20) LCH 5180MHz SU / Ant1 NTN



## 802.11ax(HEW20) MCH 5200MHz SU / Ant1 NTN



## 802.11ax(HEW20) HCH 5240MHz SU / Ant1 NTN



## 802.11ax(HEW40) LCH 5190MHz SU / Ant1 NTN

