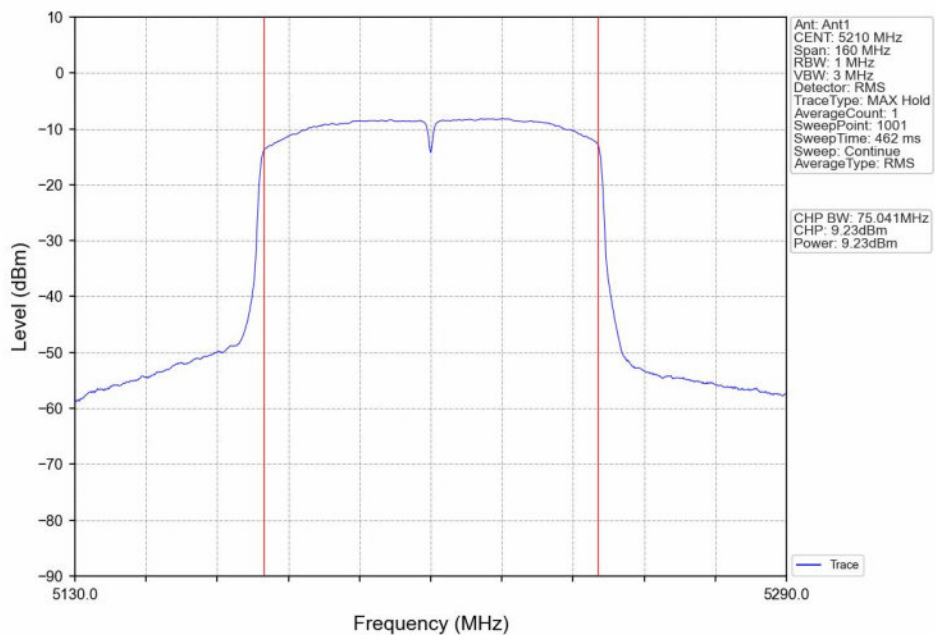
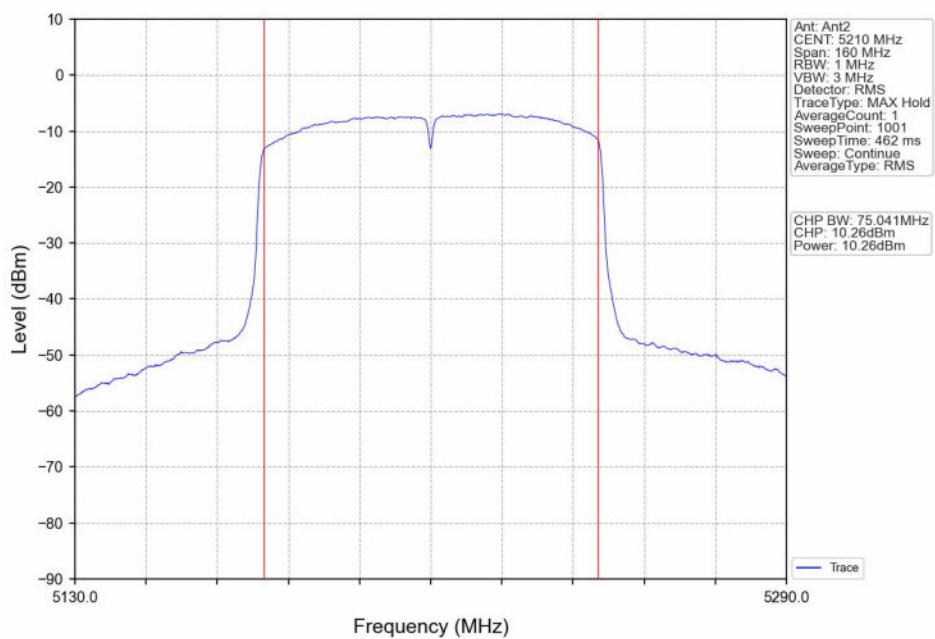


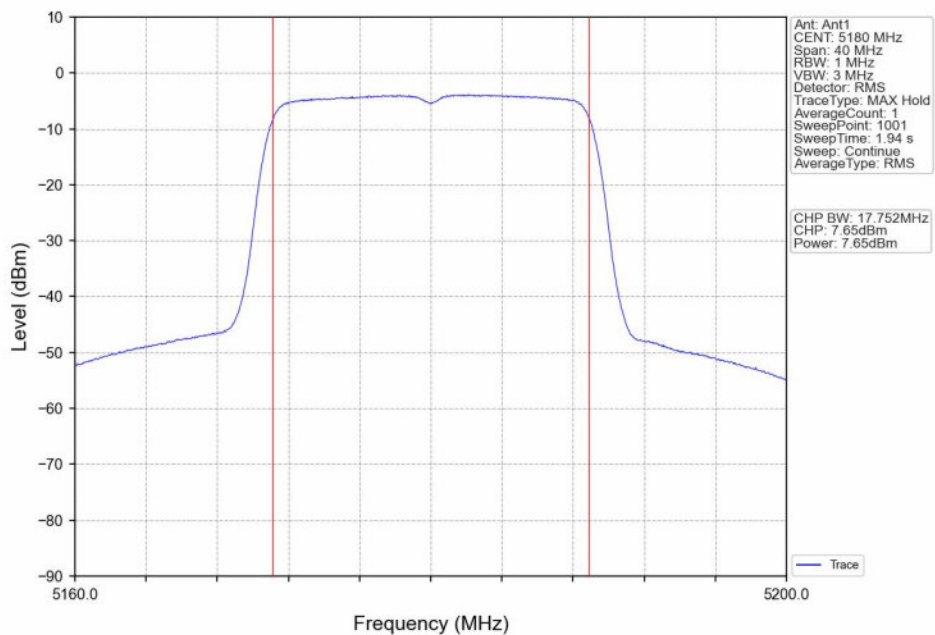
802.11ac(VHT80)\_MCH\_5210MHz\_Ant1\_NTNV



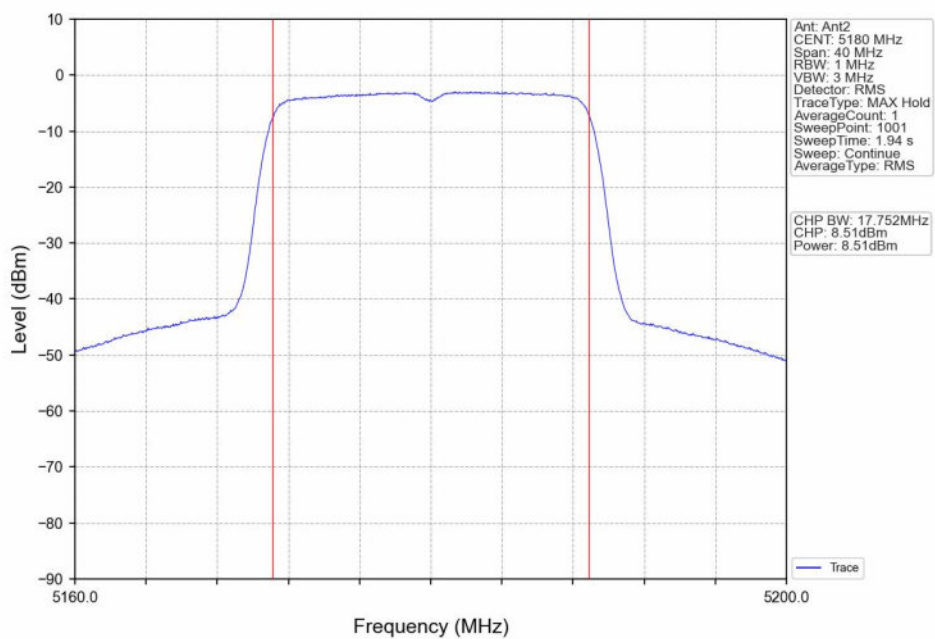
802.11ac(VHT80)\_MCH\_5210MHz\_Ant2\_NTNV



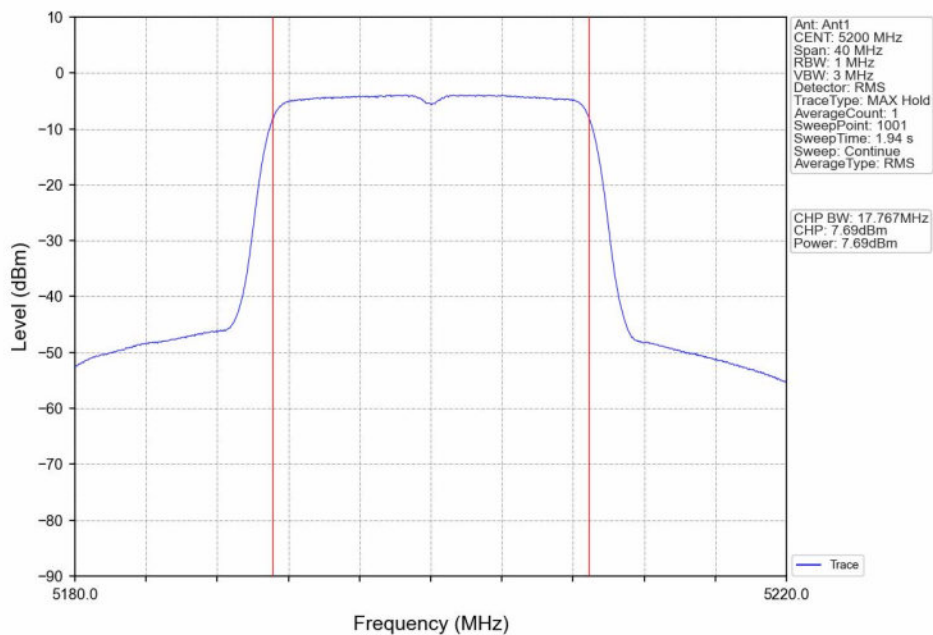
802.11ac(VHT20)\_LCH\_5180MHz\_Ant1\_NTNV



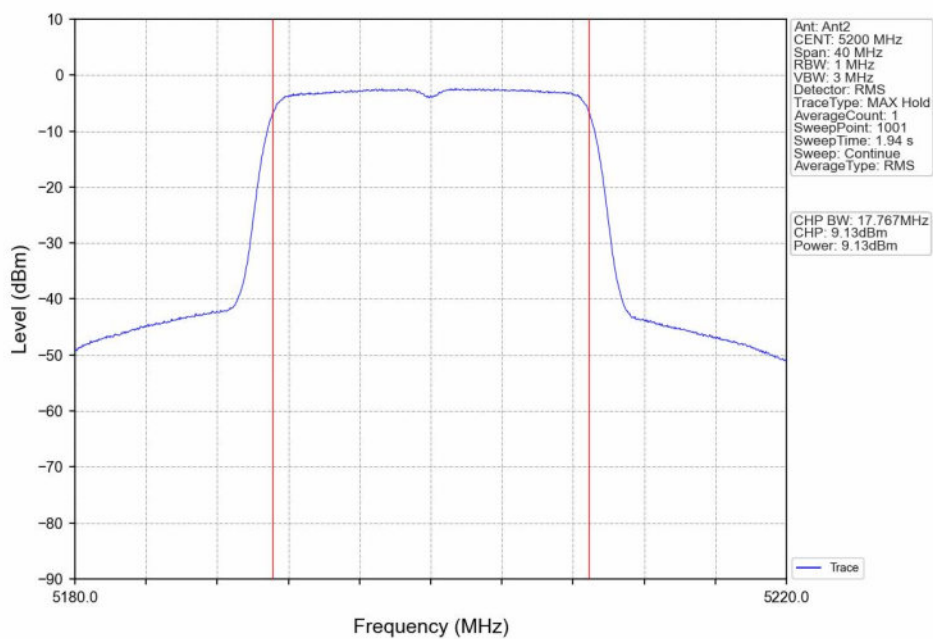
802.11ac(VHT20)\_LCH\_5180MHz\_Ant2\_NTNV



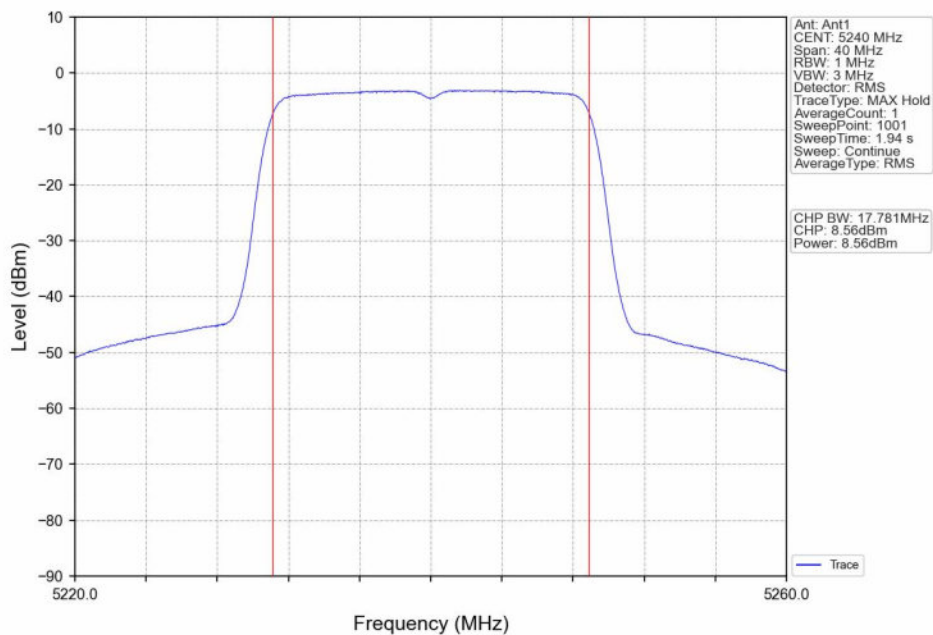
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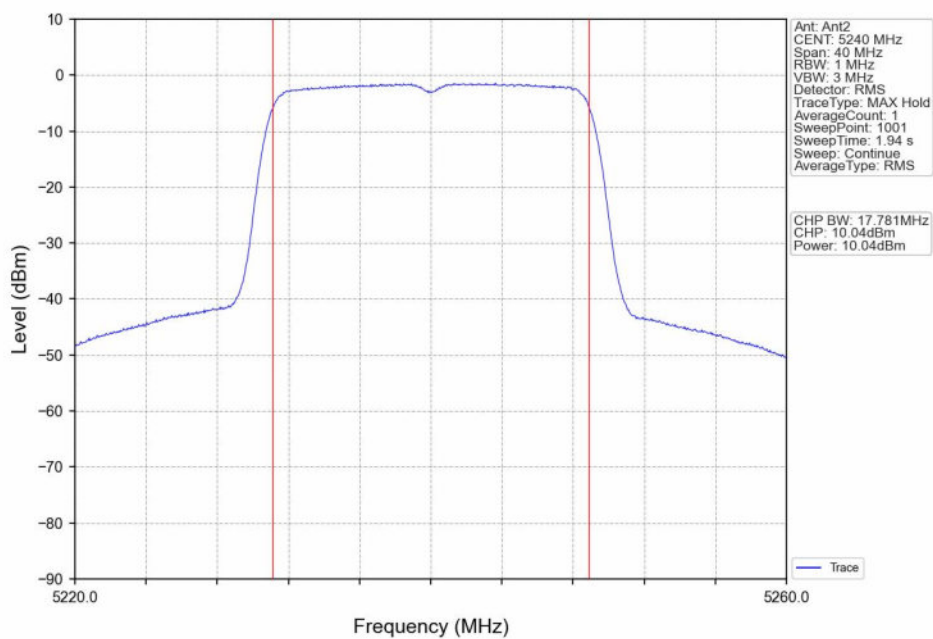
802.11ac(VHT20)\_MCH\_5200MHz\_Ant2\_NTNV



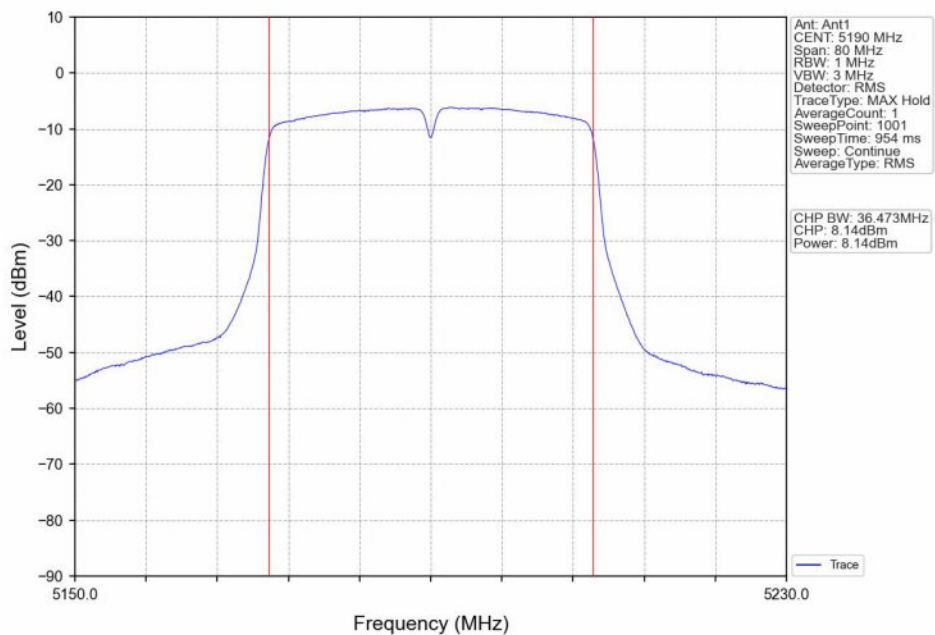
802.11ac(VHT20)\_HCH\_5240MHz\_Ant1\_NTNV



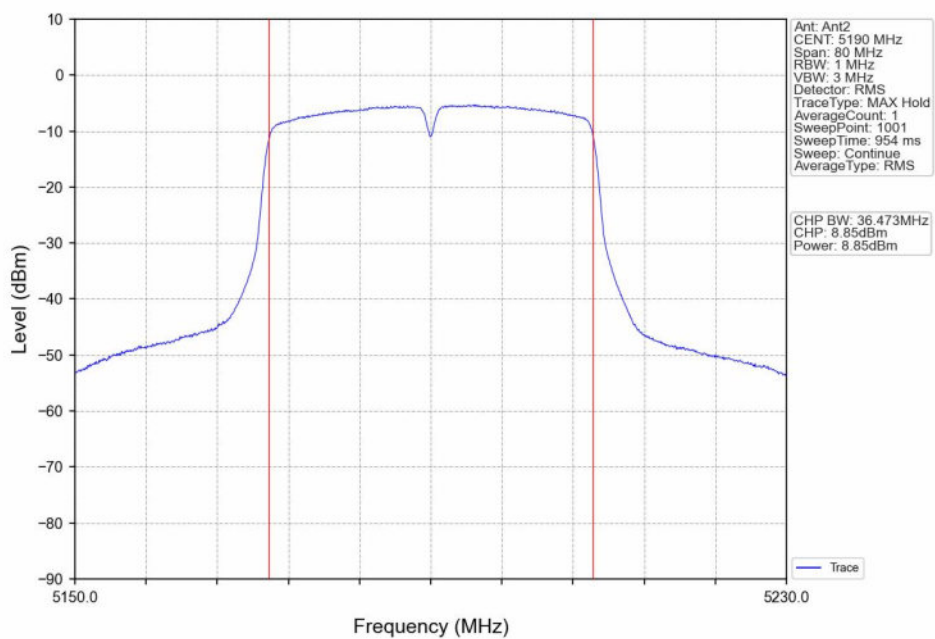
802.11ac(VHT20)\_HCH\_5240MHz\_Ant2\_NTNV



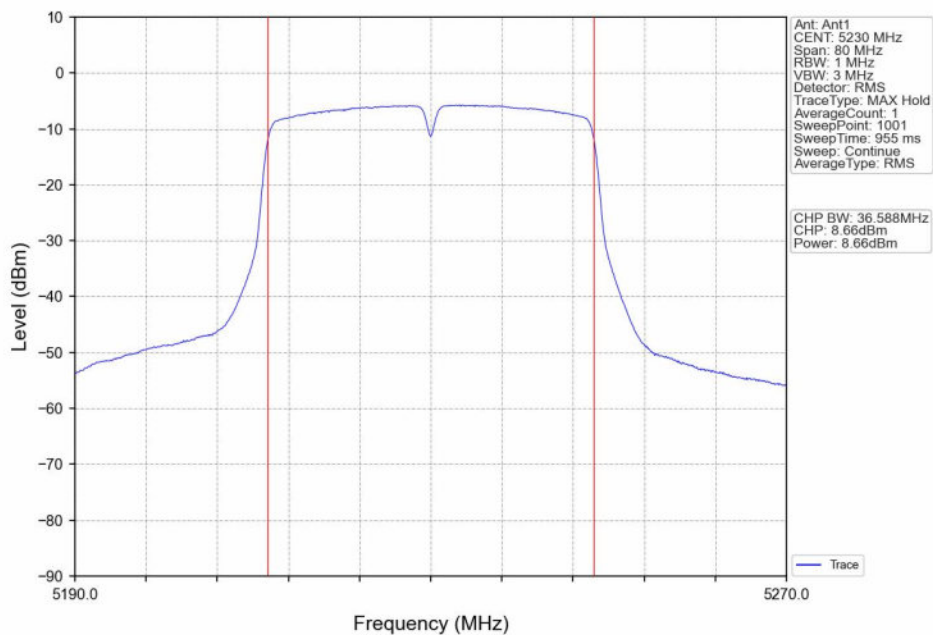
802.11ac(VHT40)\_LCH\_5190MHz\_Ant1\_NTNV



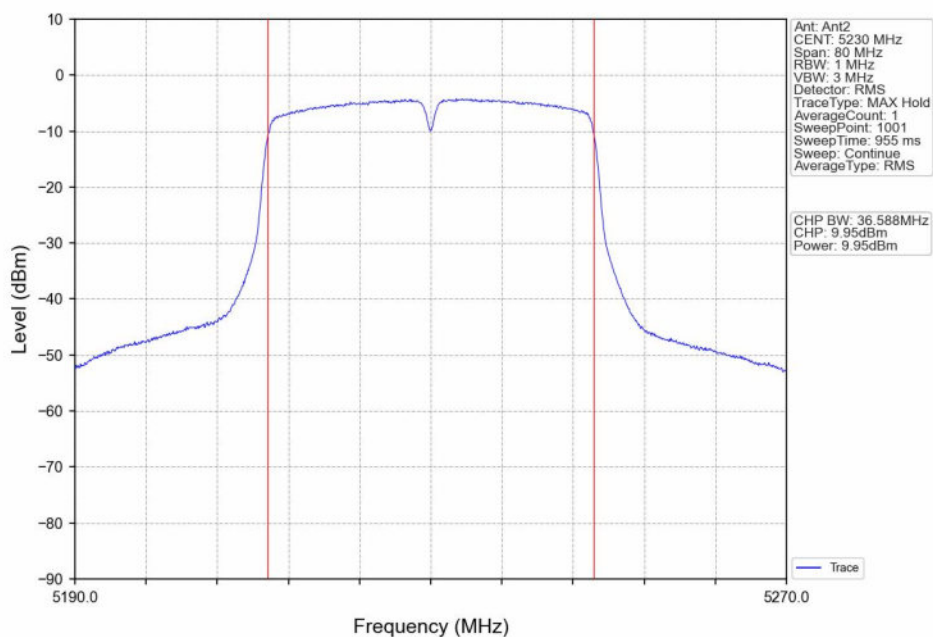
802.11ac(VHT40)\_LCH\_5190MHz\_Ant2\_NTNV



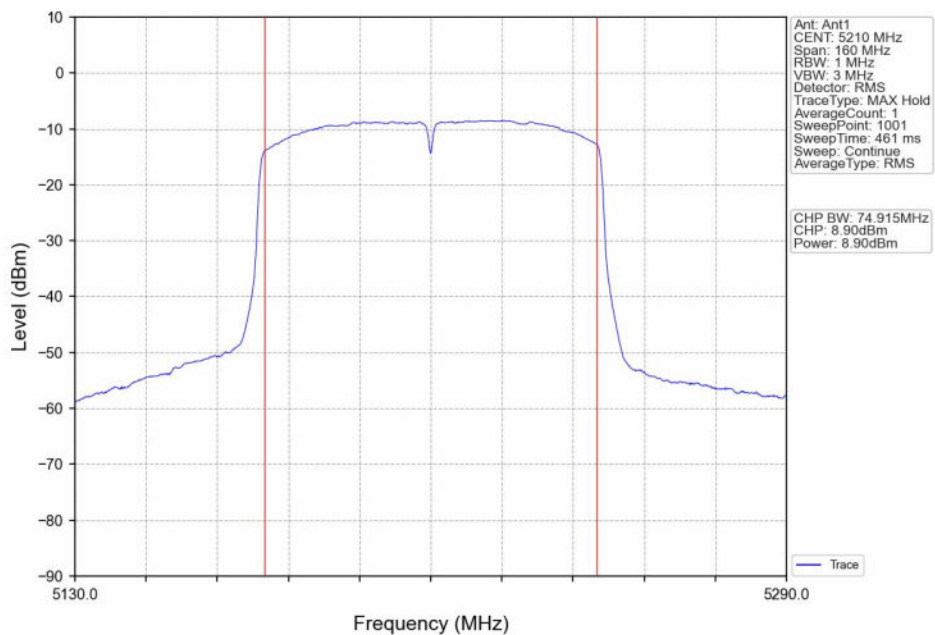
802.11ac(VHT40)\_HCH\_5230MHz\_Ant1\_NTNV



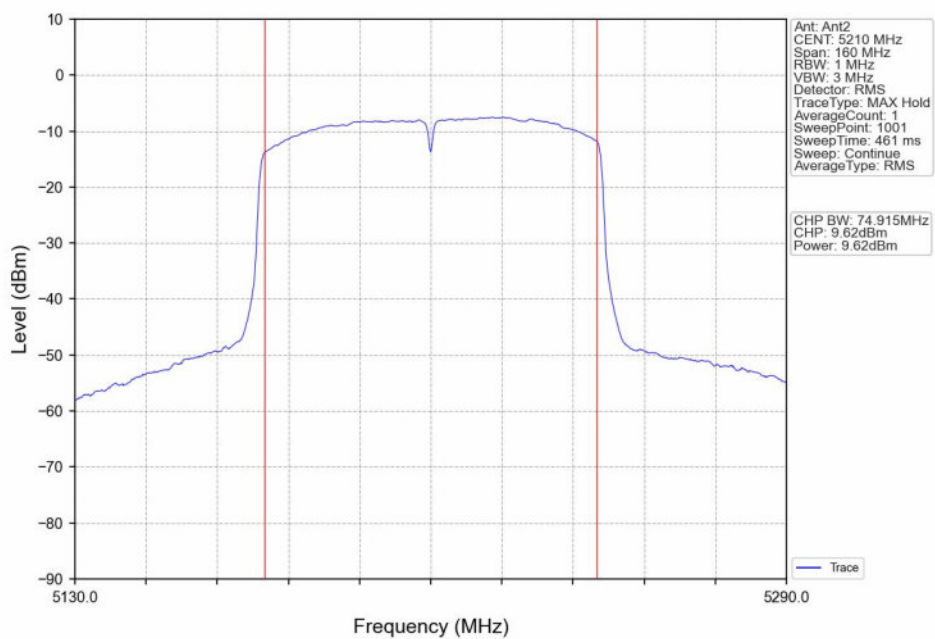
802.11ac(VHT40)\_HCH\_5230MHz\_Ant2\_NTNV



802.11ac(VHT80)\_MCH\_5210MHz\_Ant1\_NTNV

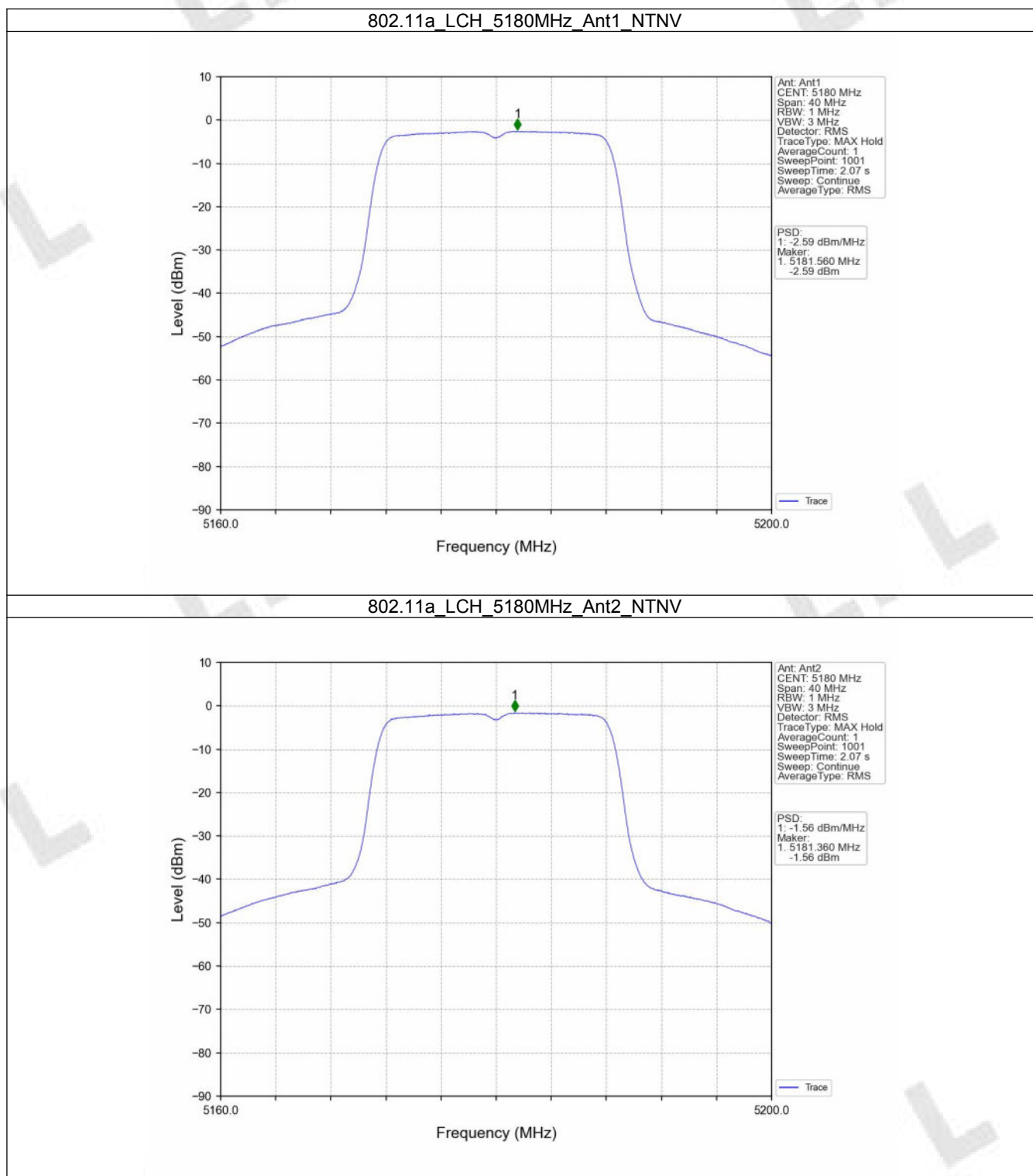


802.11ac(VHT80)\_MCH\_5210MHz\_Ant2\_NTNV

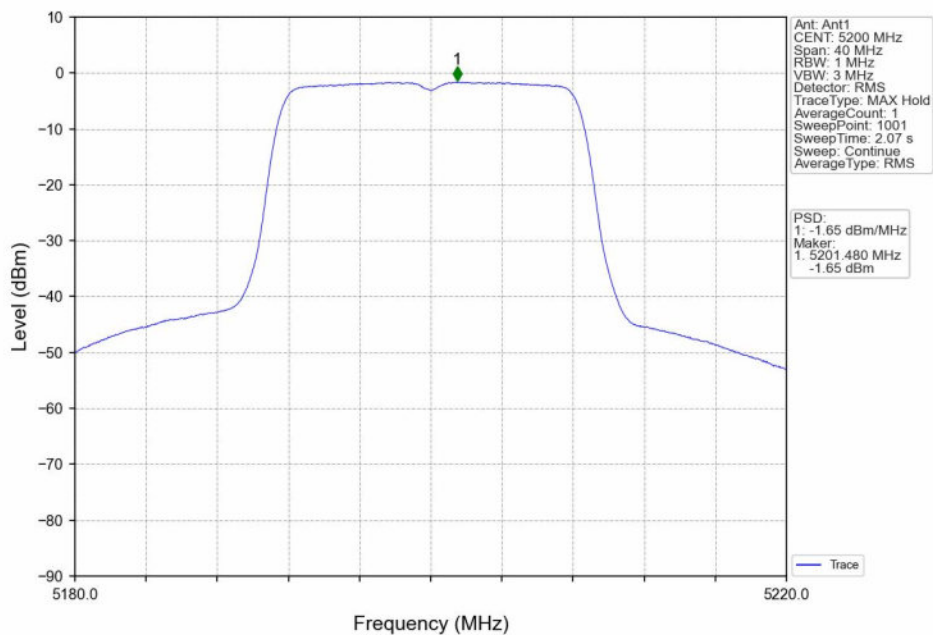


Note2: Directional gain= $10\log[(10^{G1/20}+10^{G2/20}+\dots+10^{G_N/20})^2/N_{ANT}]$  dBi [Note the “20” s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]

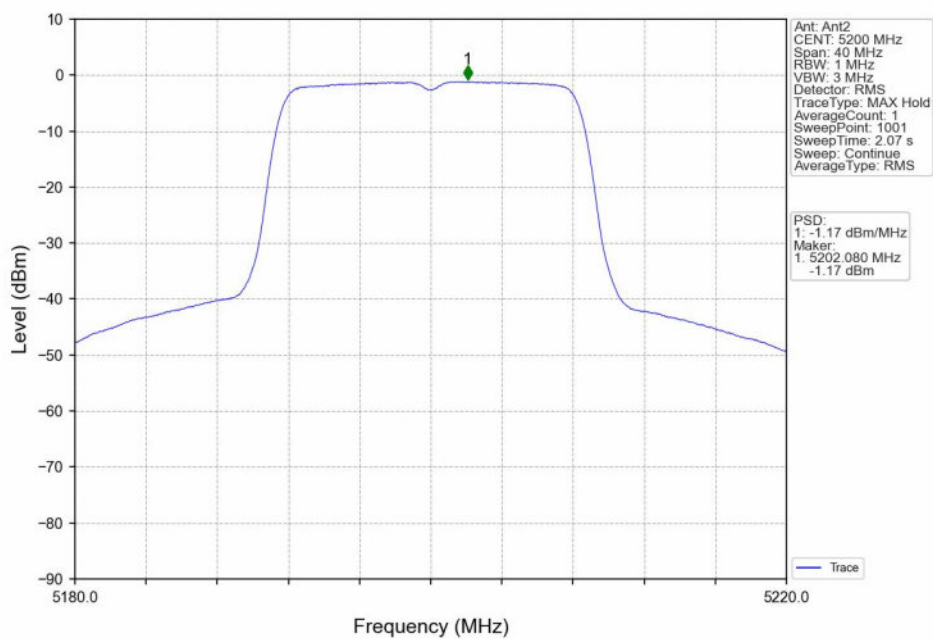
## 3.1.2 Test Graph



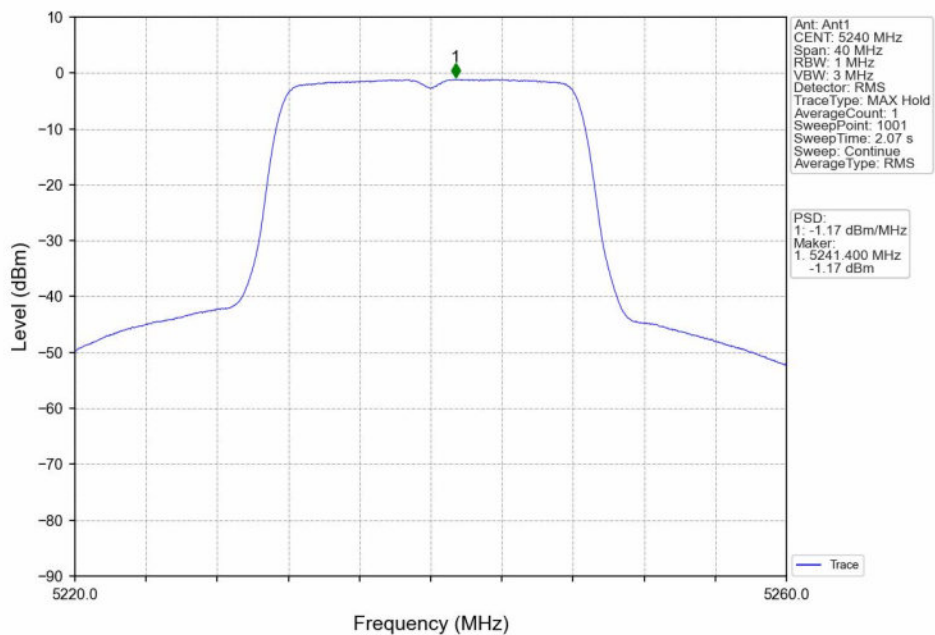
802.11a\_MCH\_5200MHz\_Ant1\_NTNV



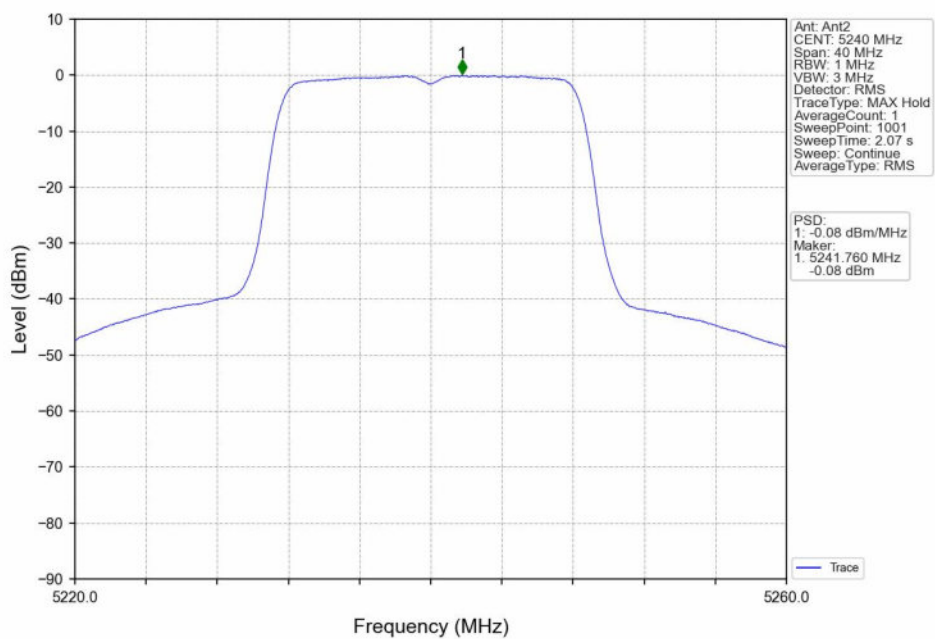
802.11a\_MCH\_5200MHz\_Ant2\_NTNV



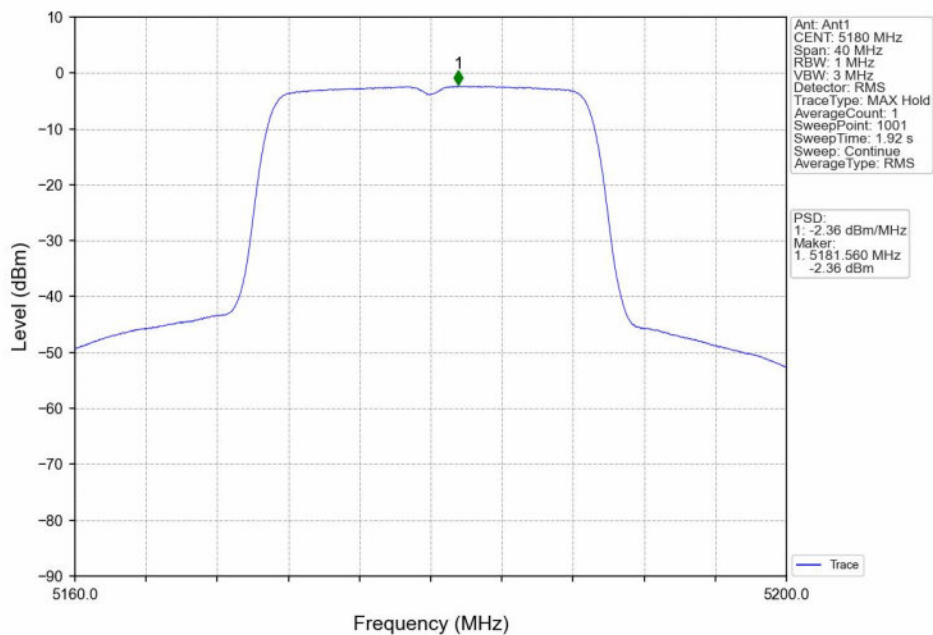
802.11a\_HCH\_5240MHz\_Ant1\_NTNV



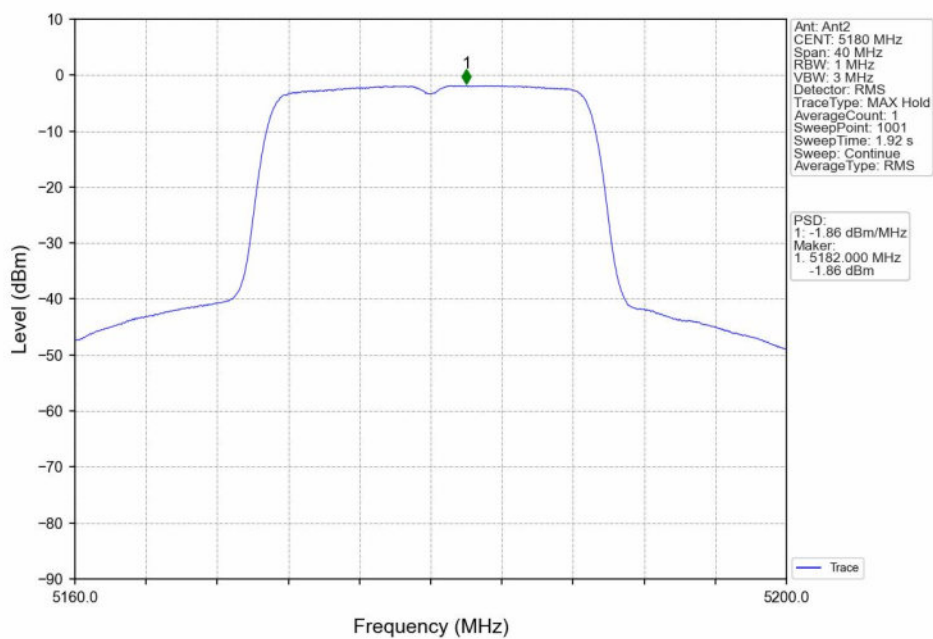
802.11a\_HCH\_5240MHz\_Ant2\_NTNV



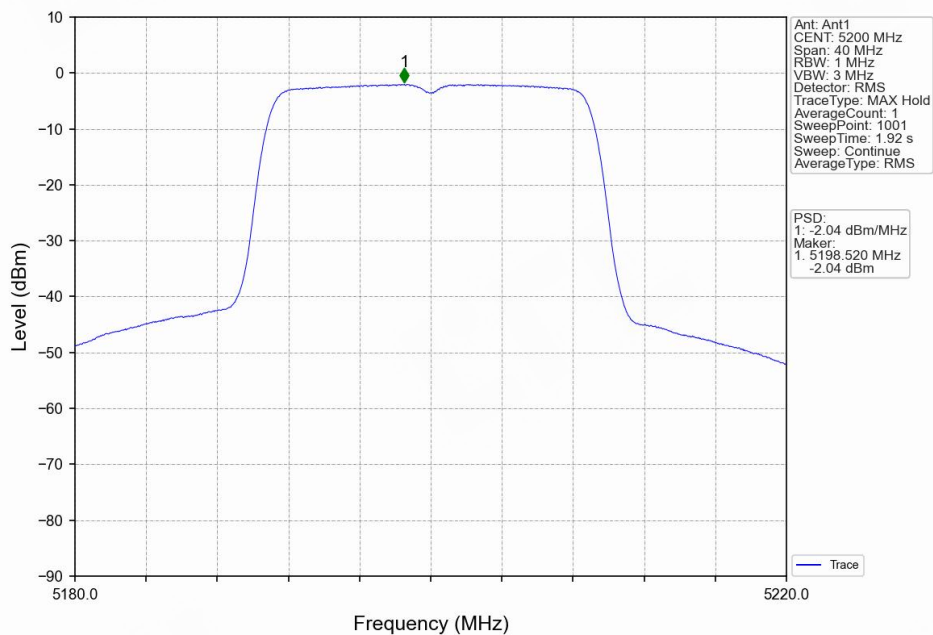
802.11n(HT20)\_LCH\_5180MHz\_Ant1\_NTNV



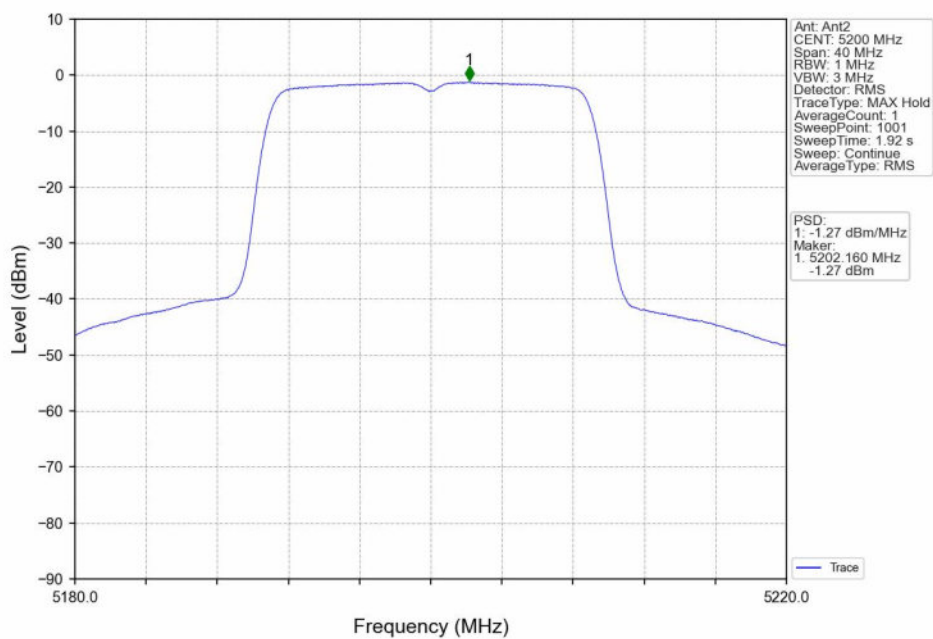
802.11n(HT20)\_LCH\_5180MHz\_Ant2\_NTNV



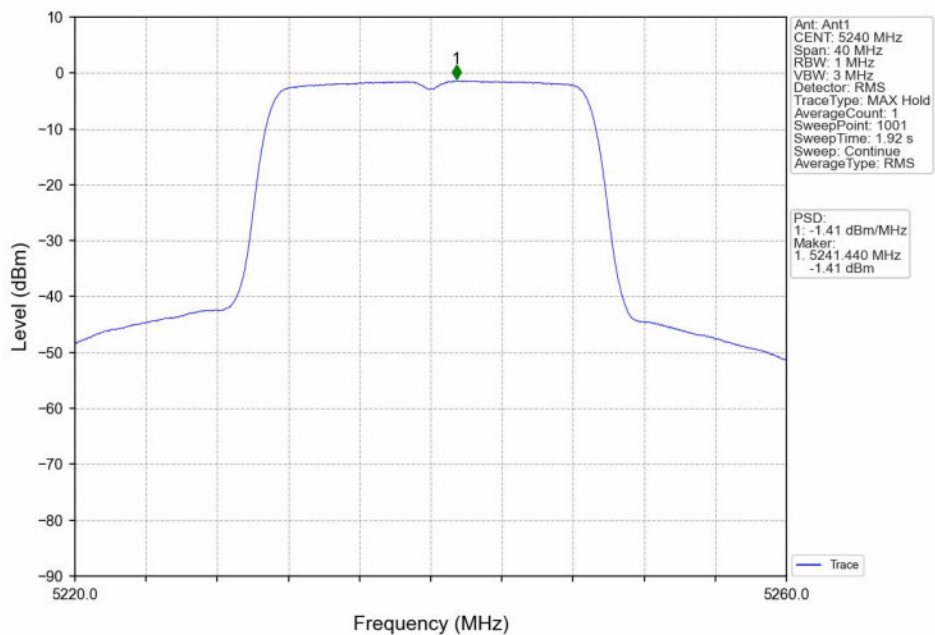
802.11n(HT20)\_MCH\_5200MHz\_Ant1\_NTNV



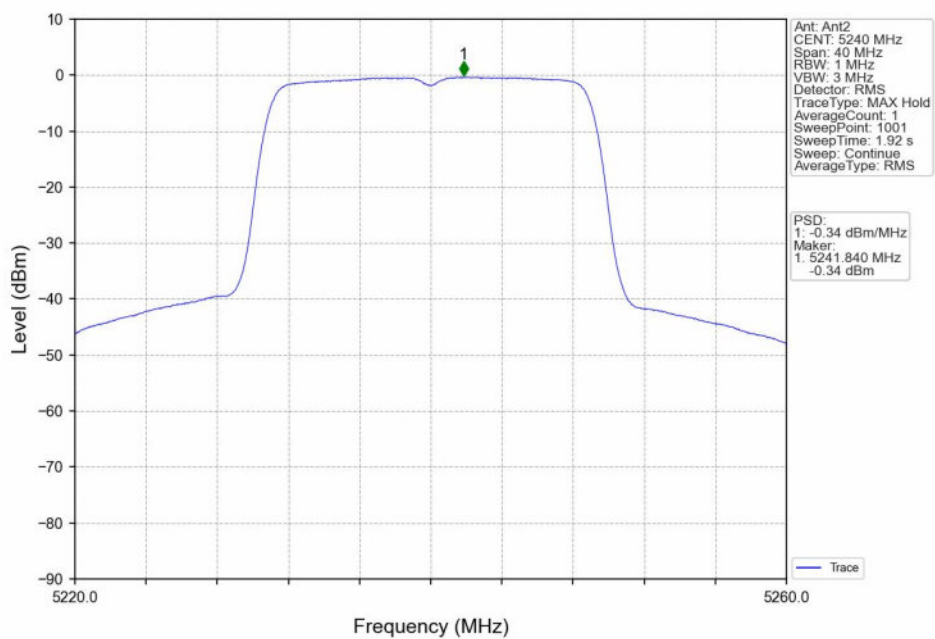
802.11n(HT20)\_MCH\_5200MHz\_Ant2\_NTNV



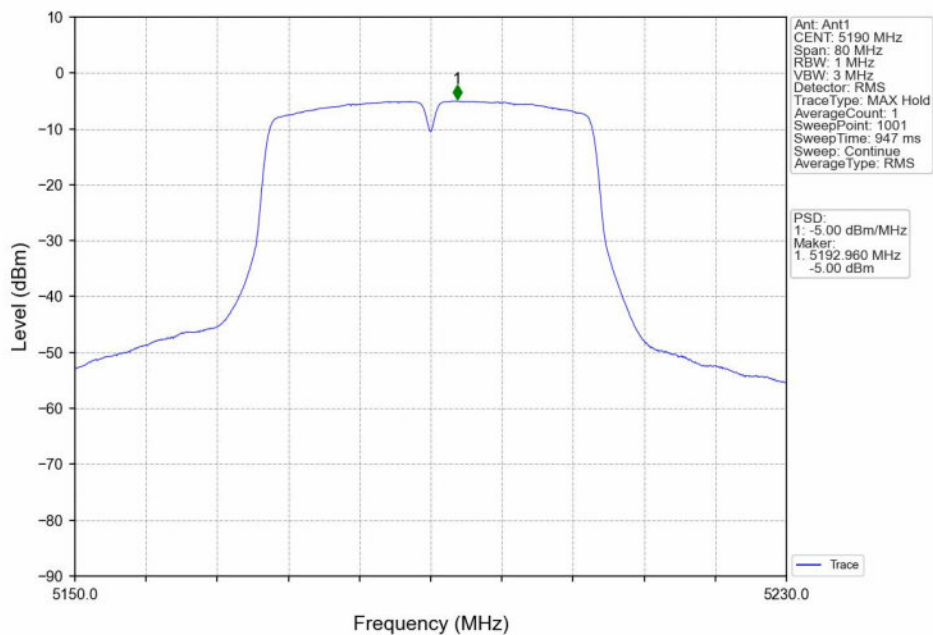
802.11n(HT20)\_HCH\_5240MHz\_Ant1\_NTNV



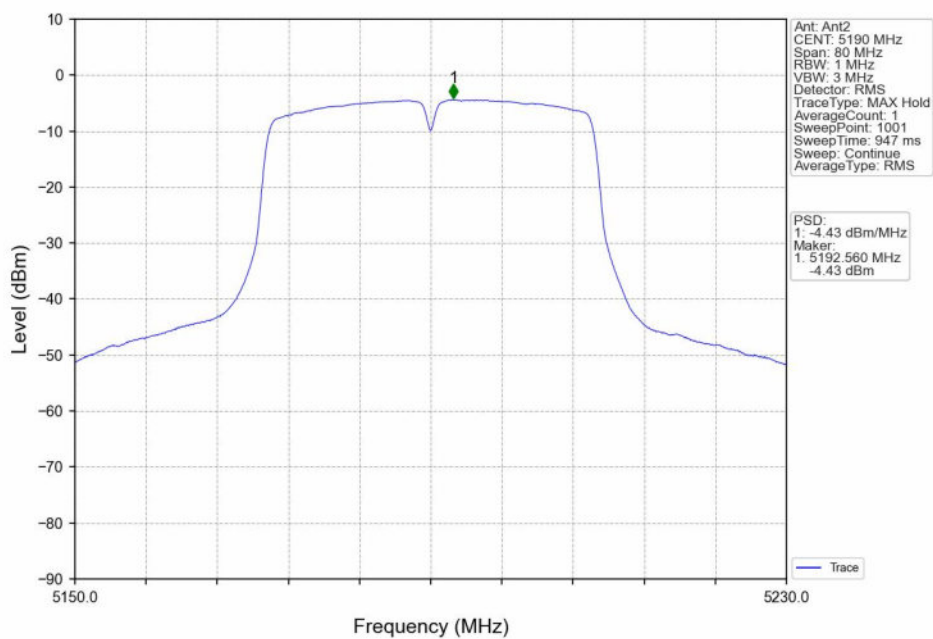
802.11n(HT20)\_HCH\_5240MHz\_Ant2\_NTNV



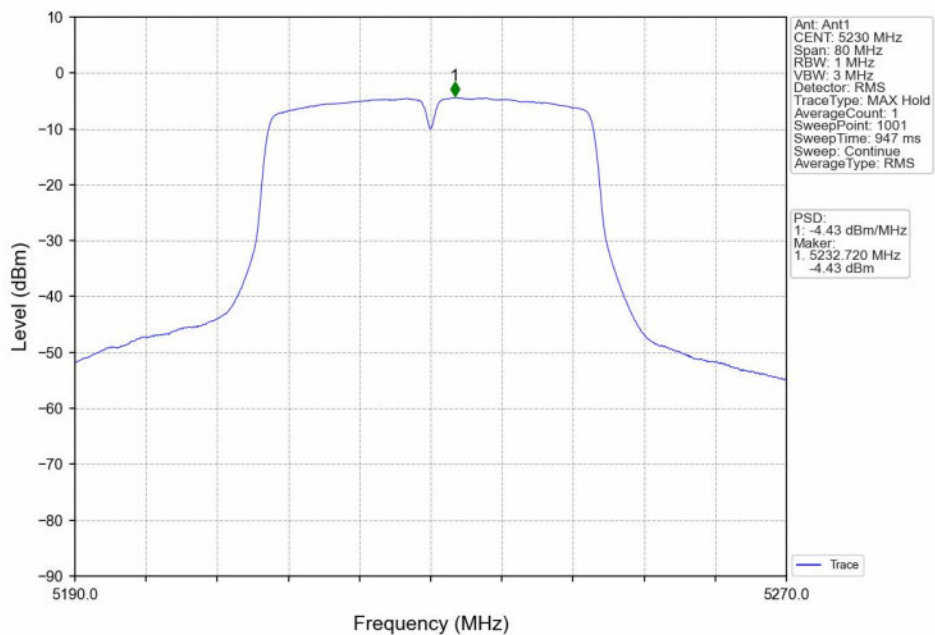
802.11n(HT40)\_LCH\_5190MHz\_Ant1\_NTNV



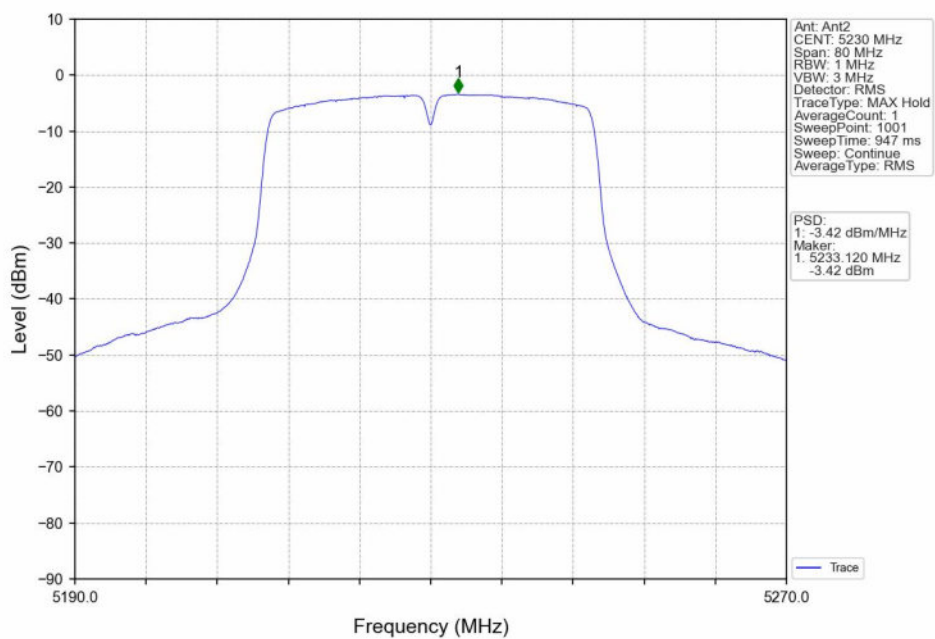
802.11n(HT40)\_LCH\_5190MHz\_Ant2\_NTNV



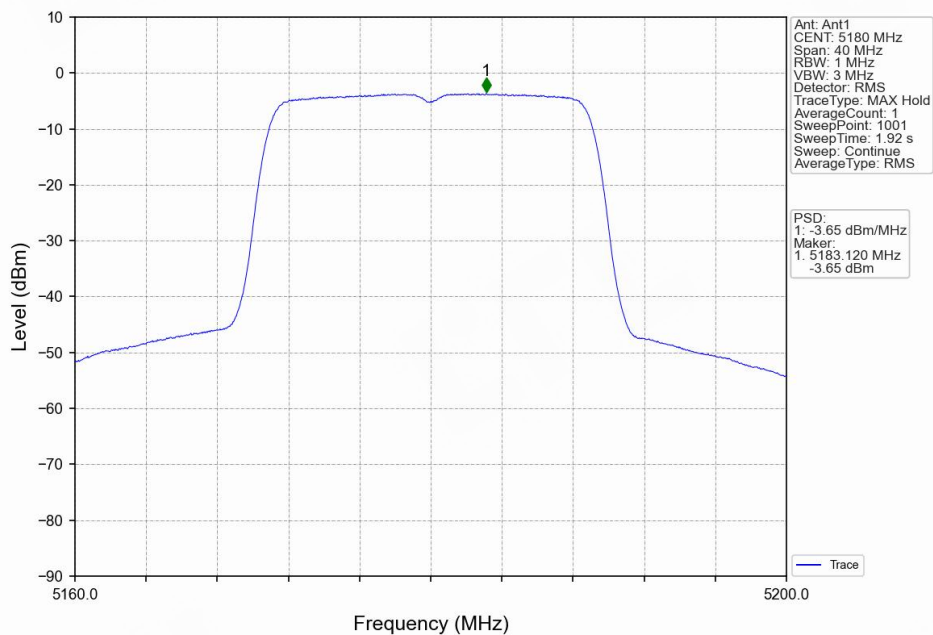
802.11n(HT40)\_HCH\_5230MHz\_Ant1\_NTNV



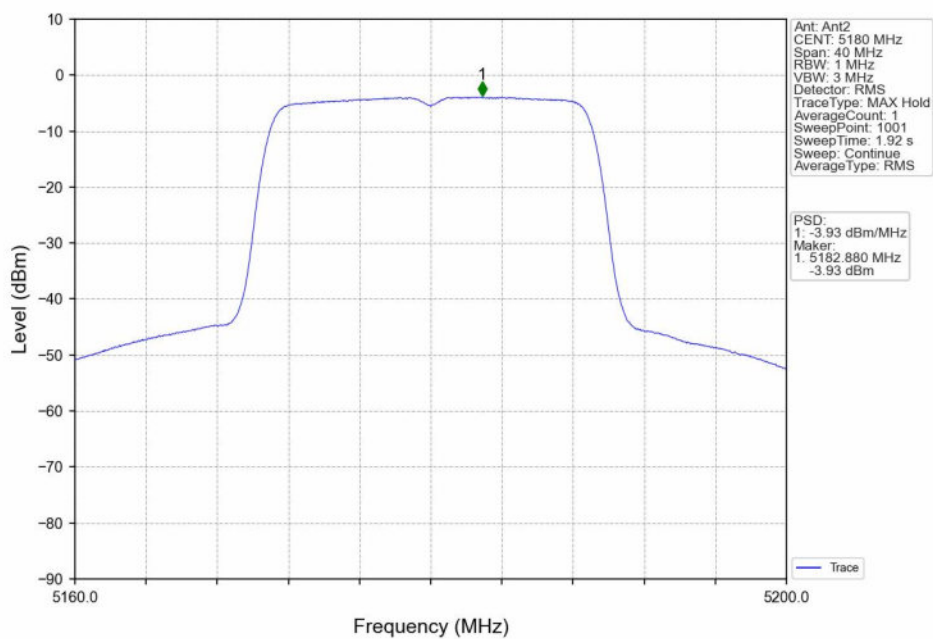
802.11n(HT40)\_HCH\_5230MHz\_Ant2\_NTNV



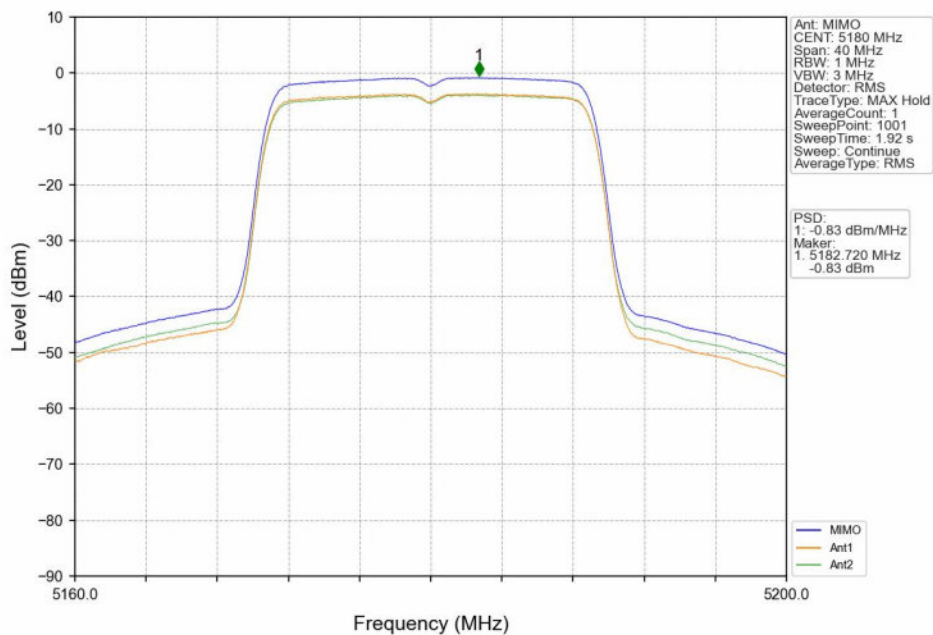
802.11n(HT20)\_LCH\_5180MHz\_Ant1\_NTNV



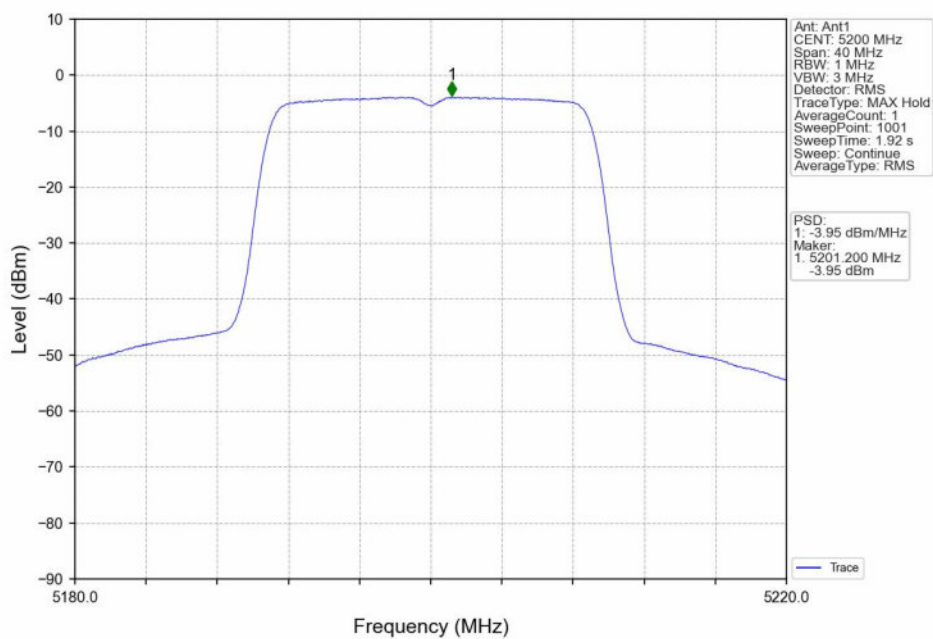
802.11n(HT20)\_LCH\_5180MHz\_Ant2\_NTNV



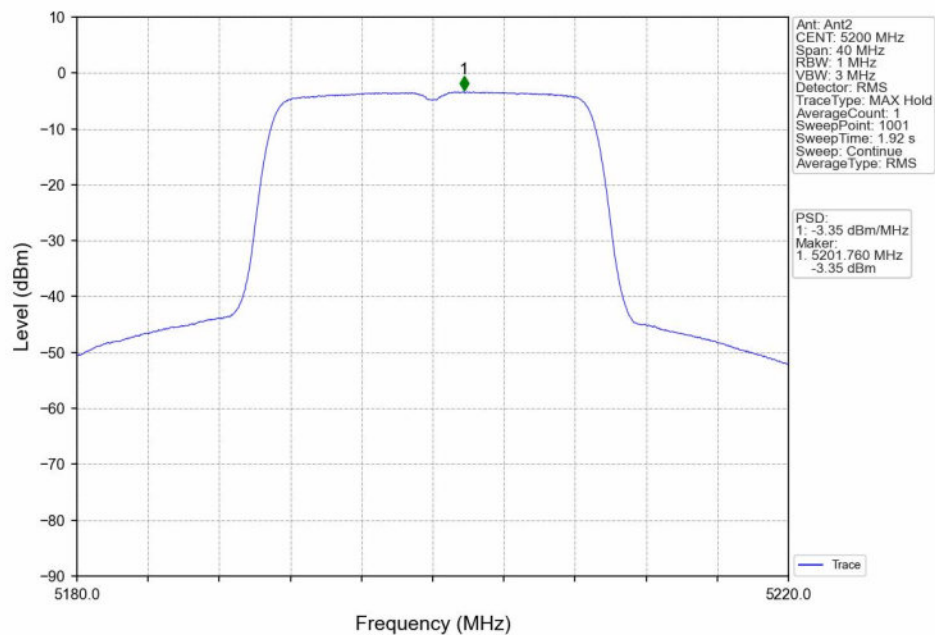
802.11n(HT20)\_LCH\_5180MHz\_MIMO\_NTNV



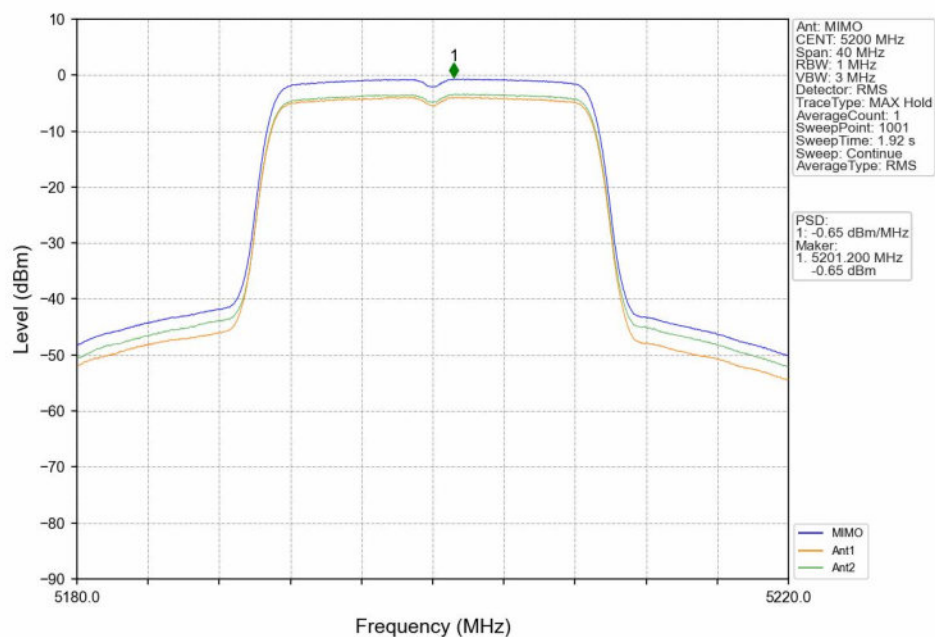
802.11n(HT20)\_MCH\_5200MHz\_Ant1\_NTNV



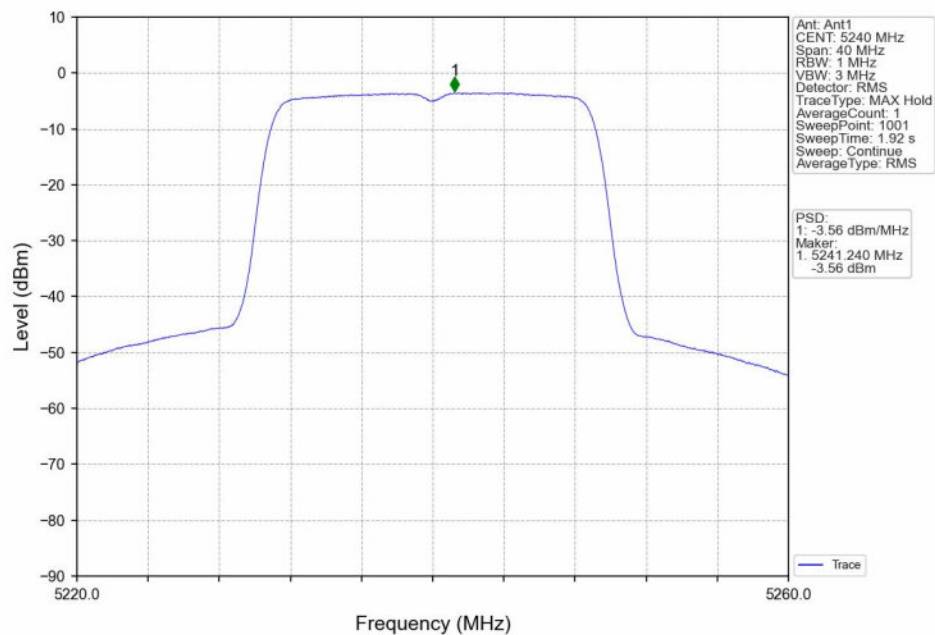
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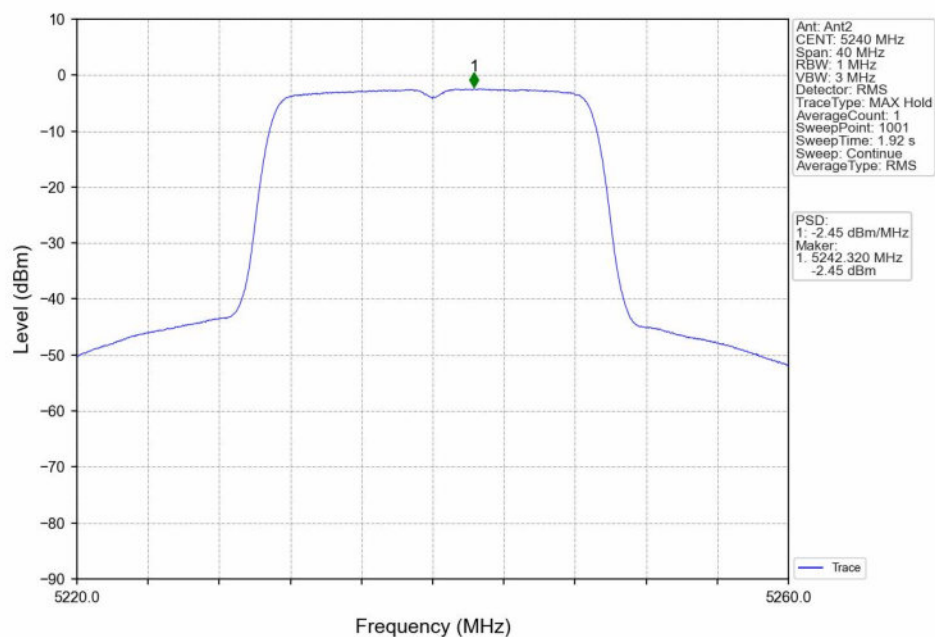
802.11n(HT20)\_MCH\_5200MHz\_MIMO\_NTNV



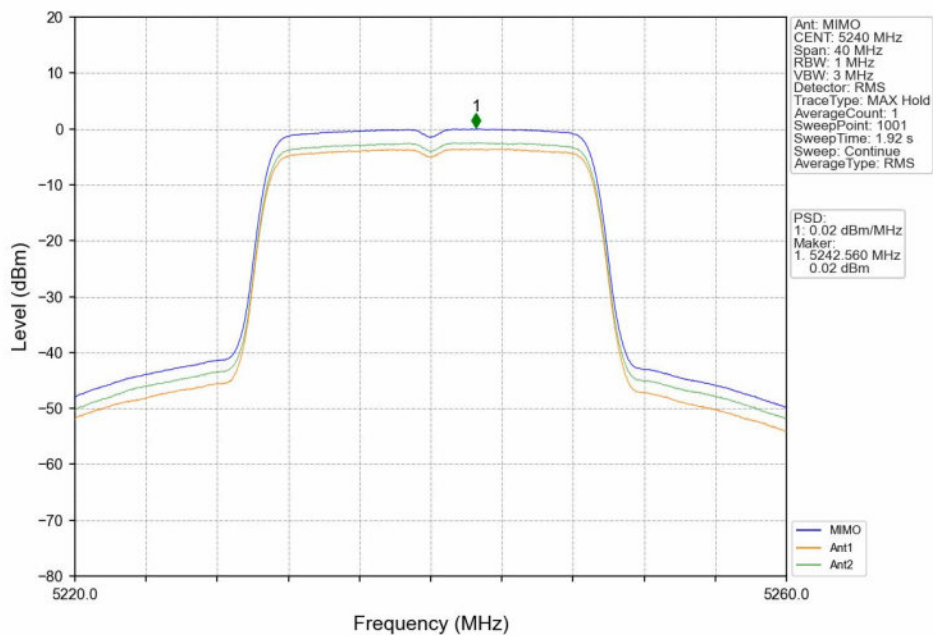
802.11n(HT20)\_HCH\_5240MHz\_Ant1\_NTNV



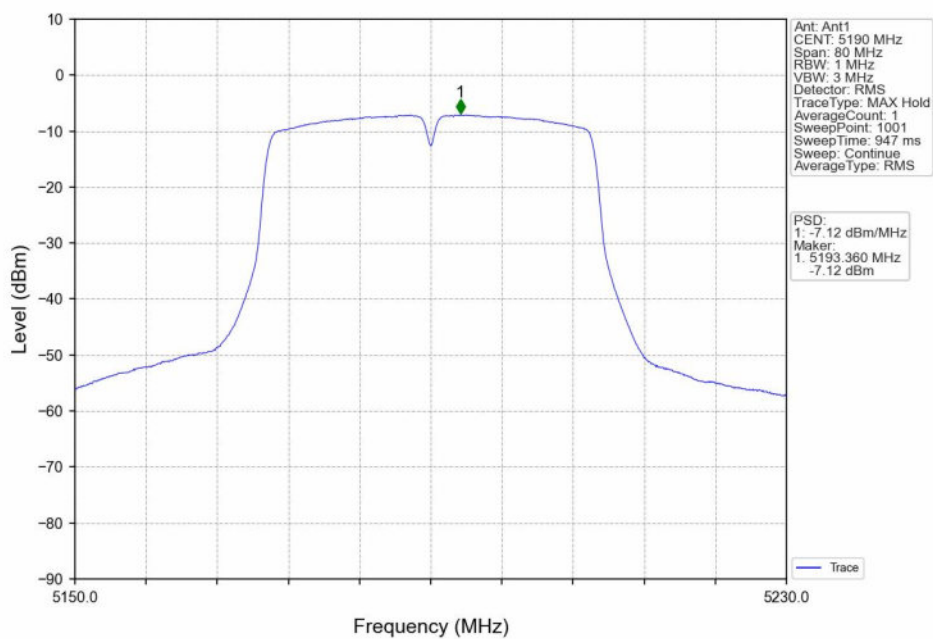
802.11n(HT20)\_HCH\_5240MHz\_Ant2\_NTNV



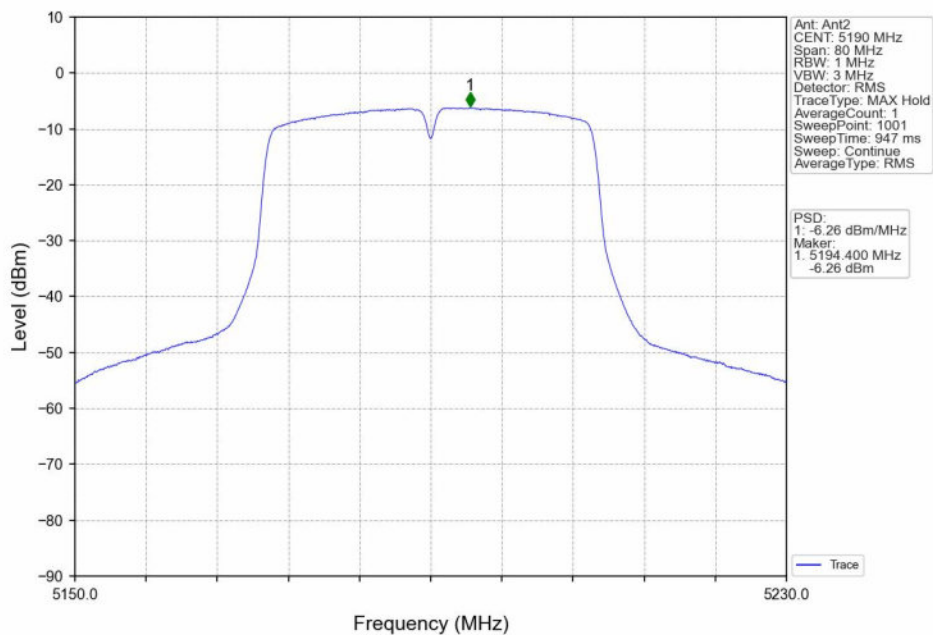
802.11n(HT20)\_HCH\_5240MHz\_MIMO\_NTNV



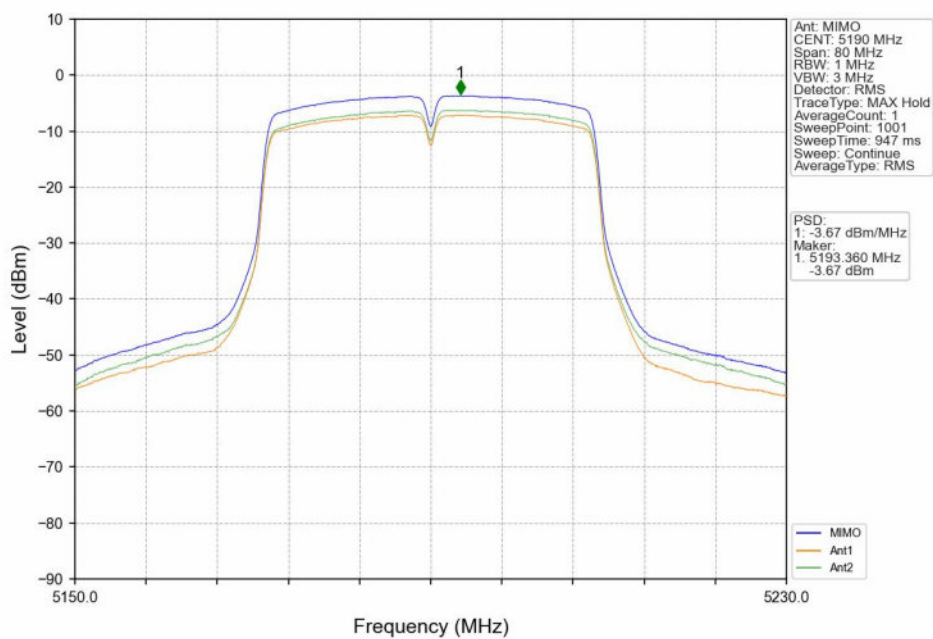
802.11n(HT40)\_LCH\_5190MHz\_Ant1\_NTNV



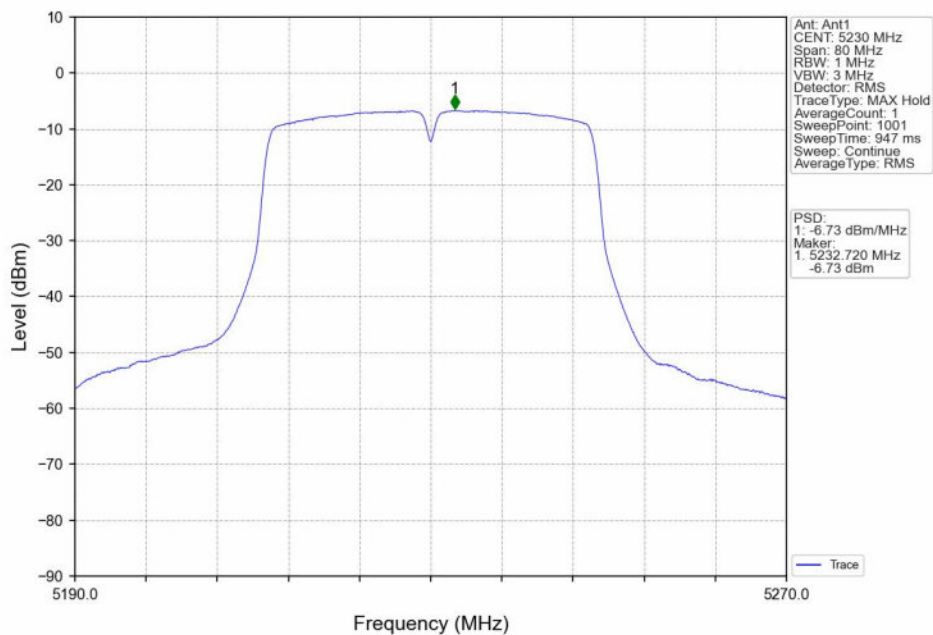
802.11n(HT40)\_LCH\_5190MHz\_Ant2\_NTNV



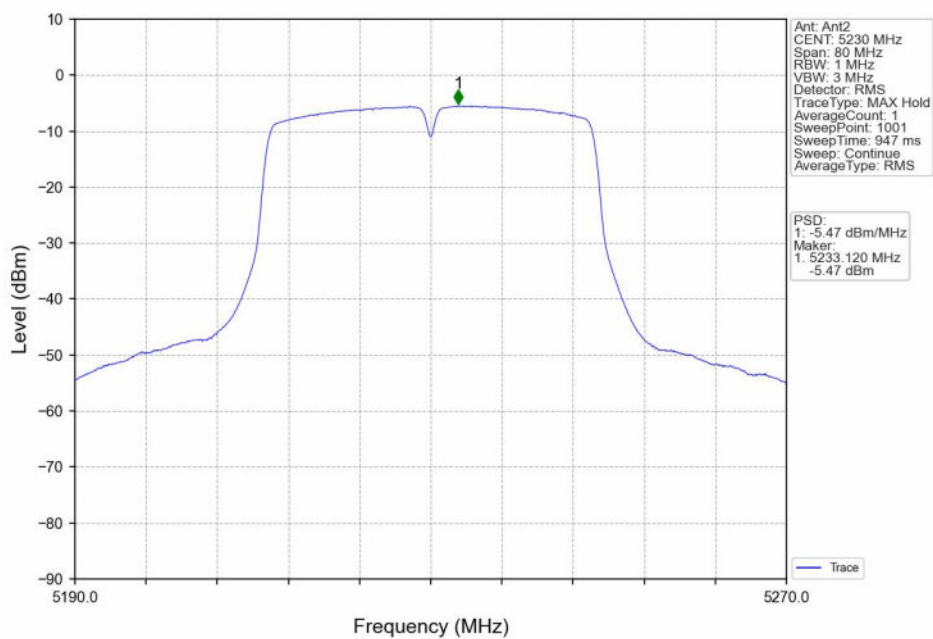
802.11n(HT40)\_LCH\_5190MHz\_MIMO\_NTNV



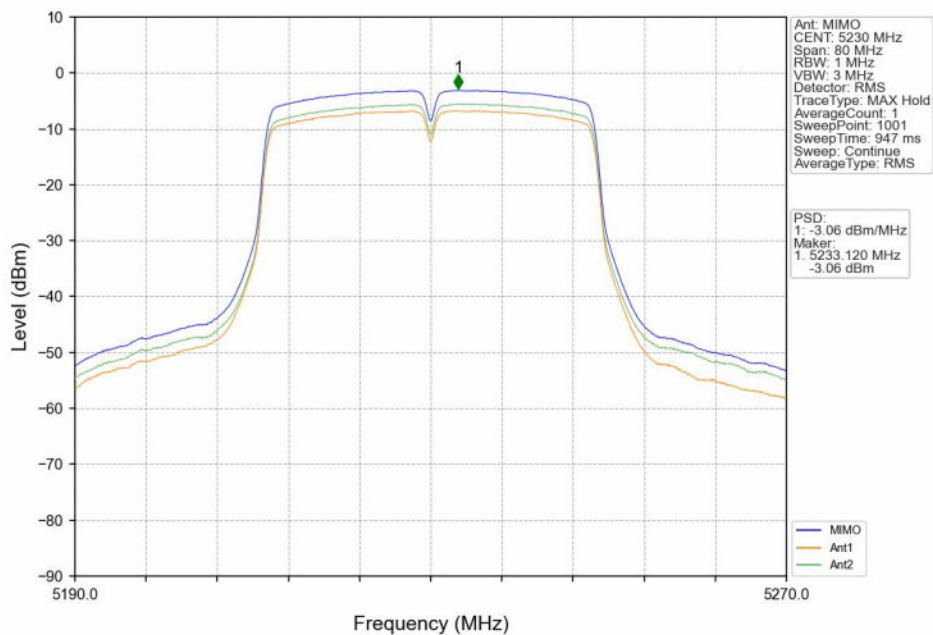
802.11n(HT40)\_HCH\_5230MHz\_Ant1\_NTNV



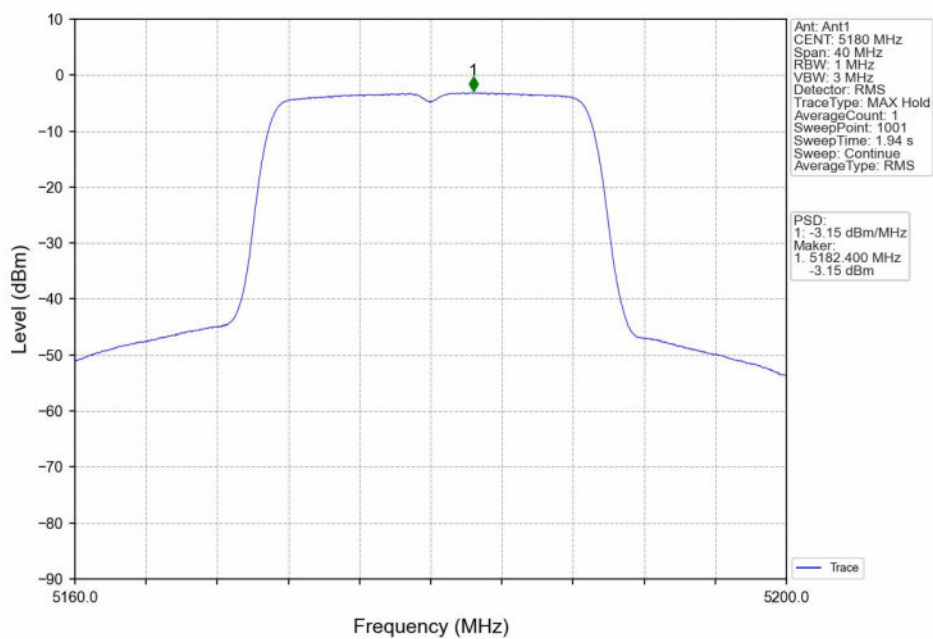
802.11n(HT40)\_HCH\_5230MHz\_Ant2\_NTNV



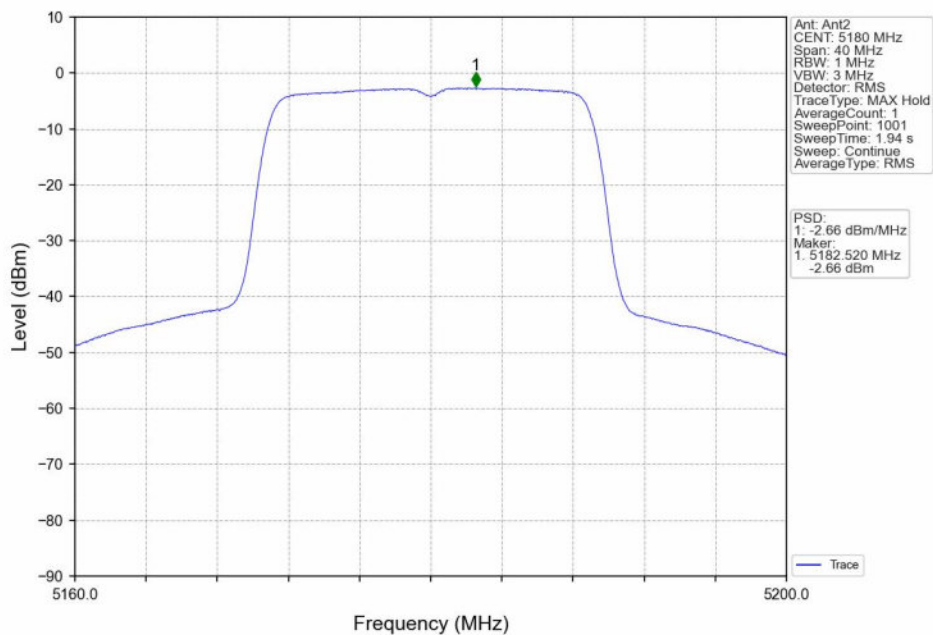
802.11n(HT40)\_HCH\_5230MHz\_MIMO\_NTNV



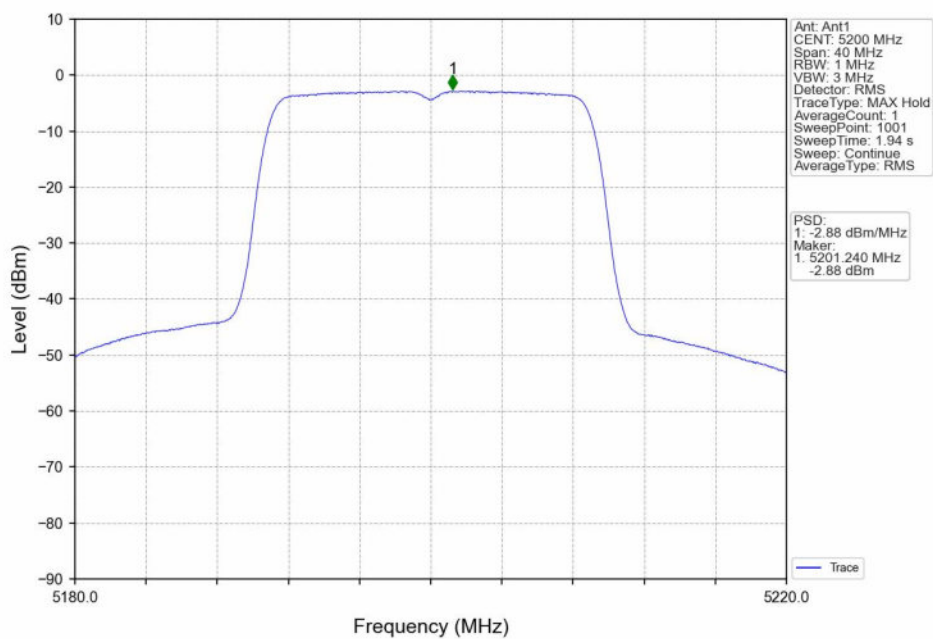
802.11ac(VHT20)\_LCH\_5180MHz\_Ant1\_NTNV



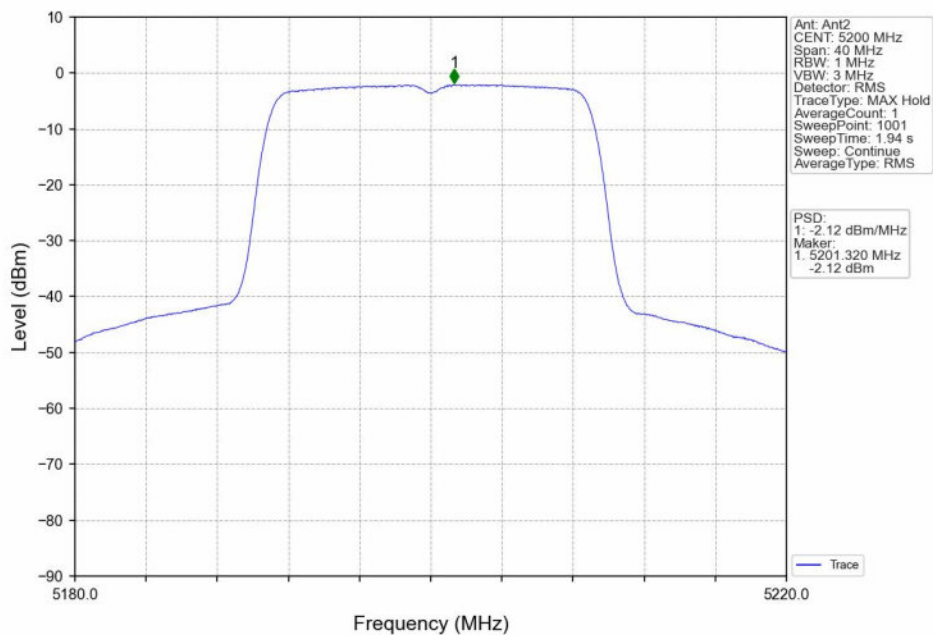
802.11ac(VHT20)\_LCH\_5180MHz\_Ant2\_NTNV



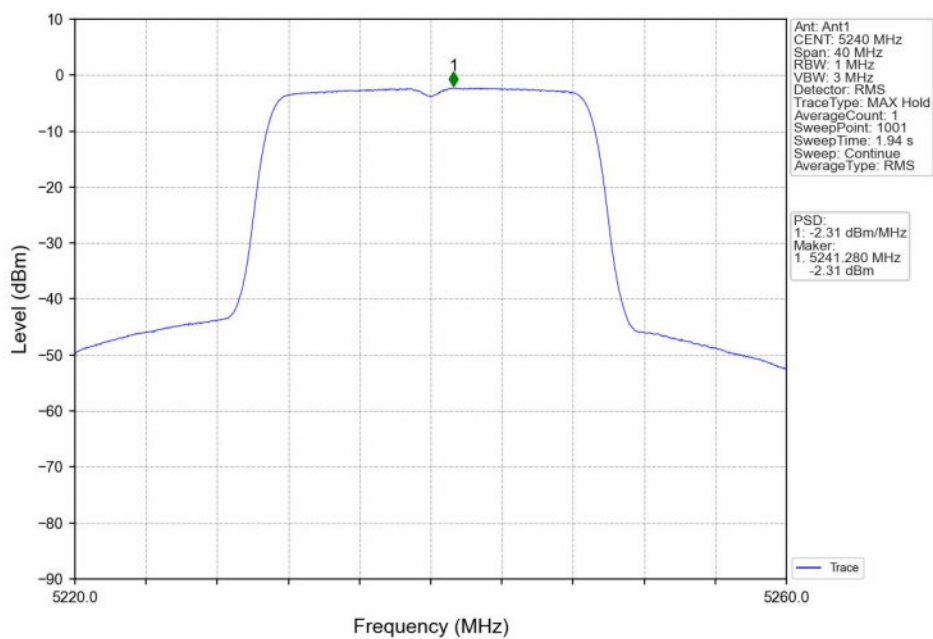
802.11ac(VHT20)\_MCH\_5200MHz\_Ant1\_NTNV



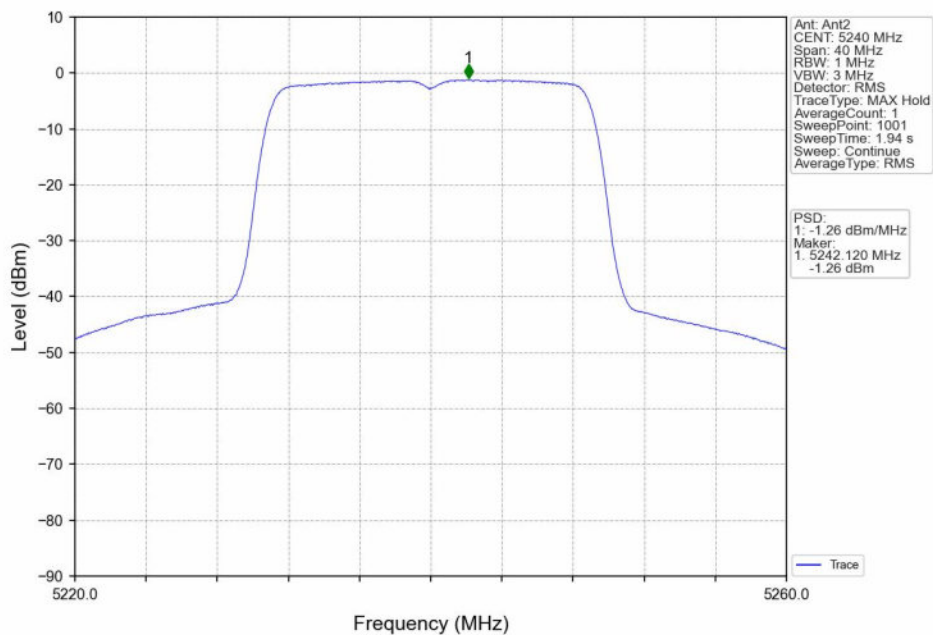
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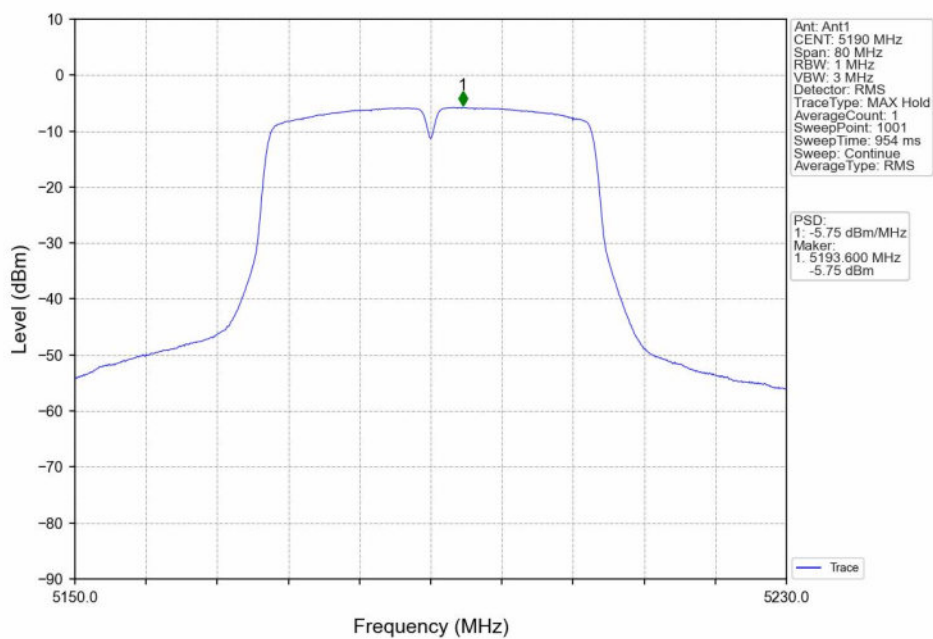
802.11ac(VHT20)\_HCH\_5240MHz\_Ant1\_NTNV



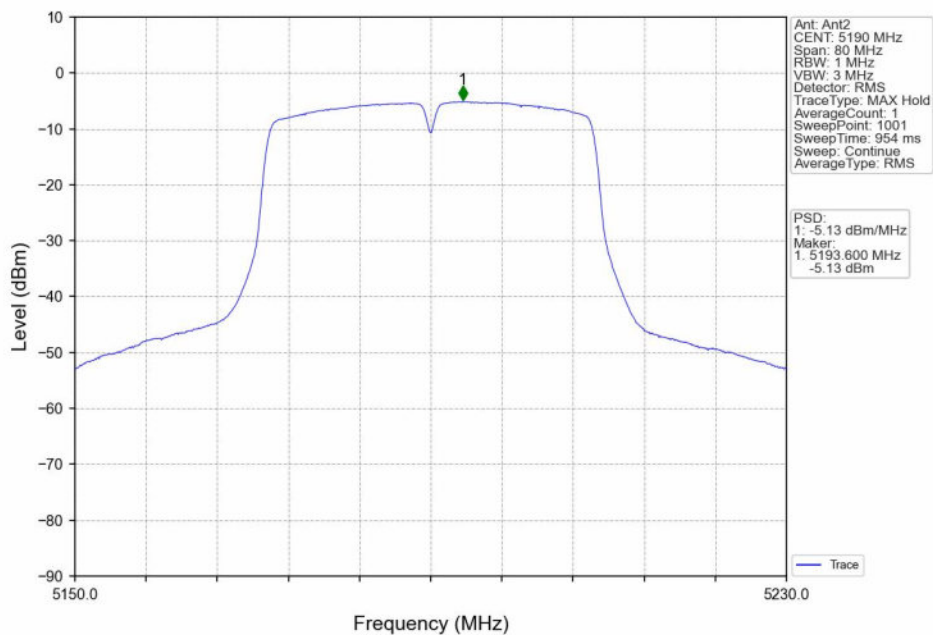
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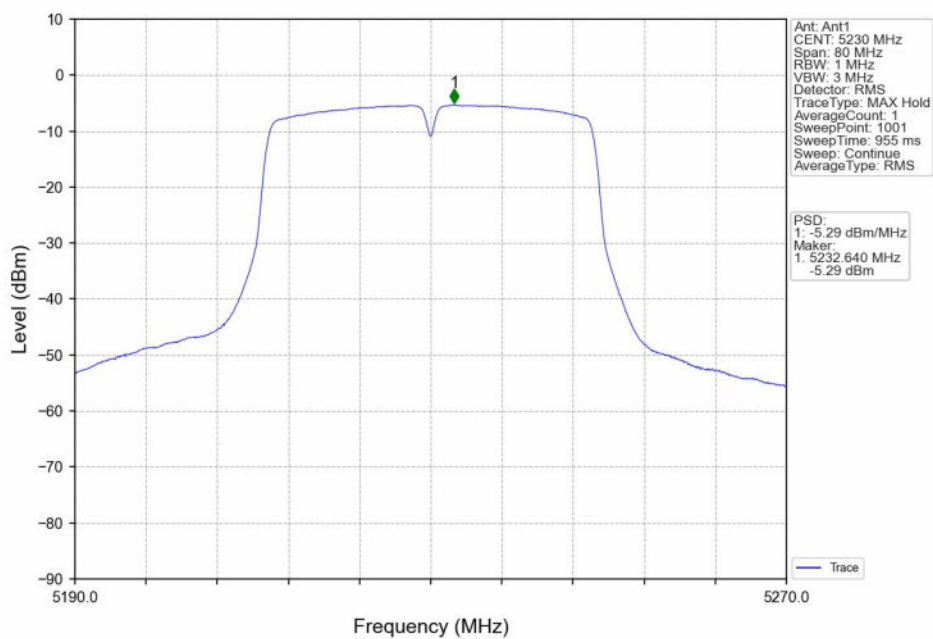
802.11ac(VHT40)\_LCH\_5190MHz\_Ant1\_NTNV



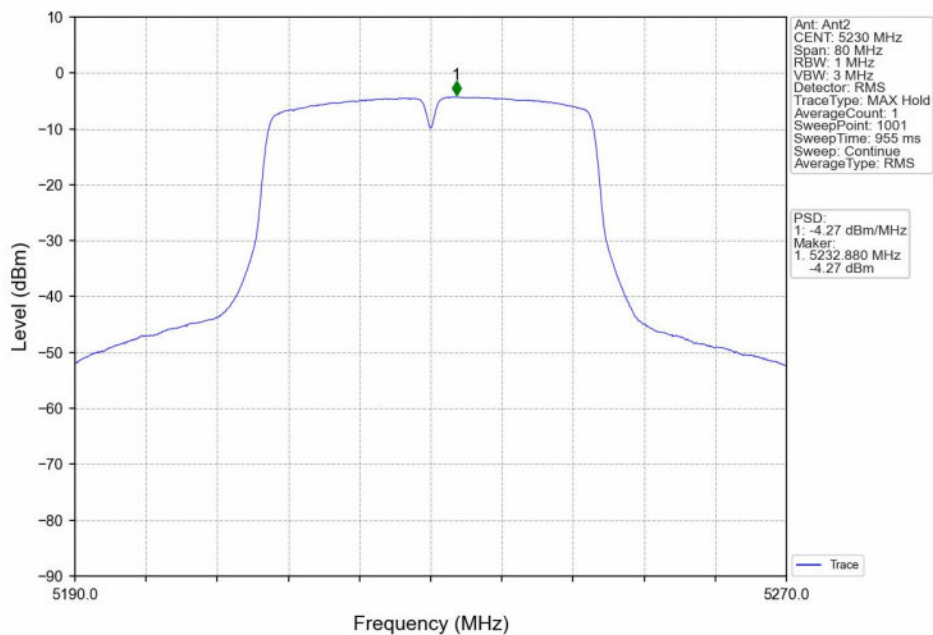
802.11ac(VHT40)\_LCH\_5190MHz\_Ant2\_NTNV



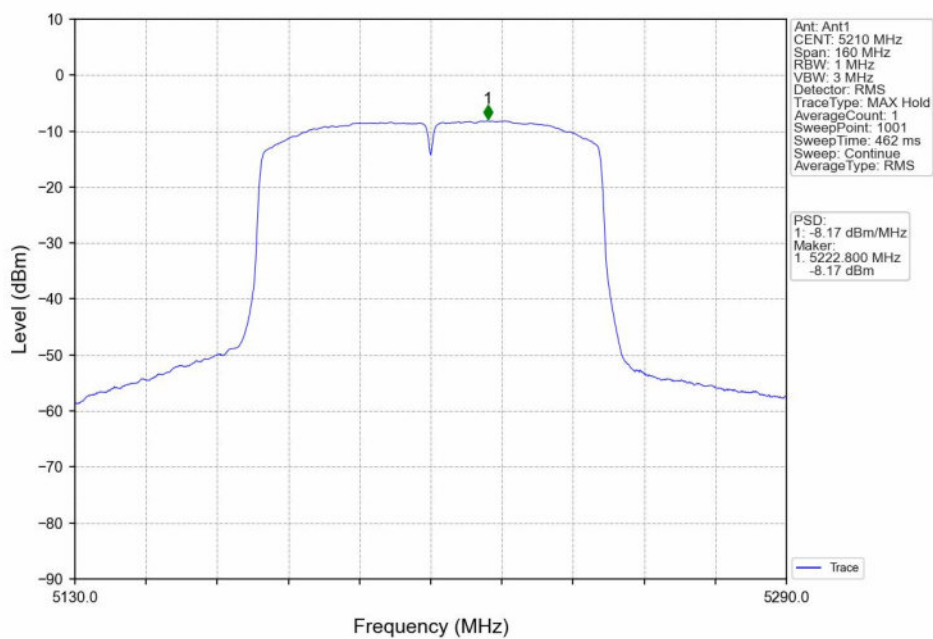
802.11ac(VHT40)\_HCH\_5230MHz\_Ant1\_NTNV



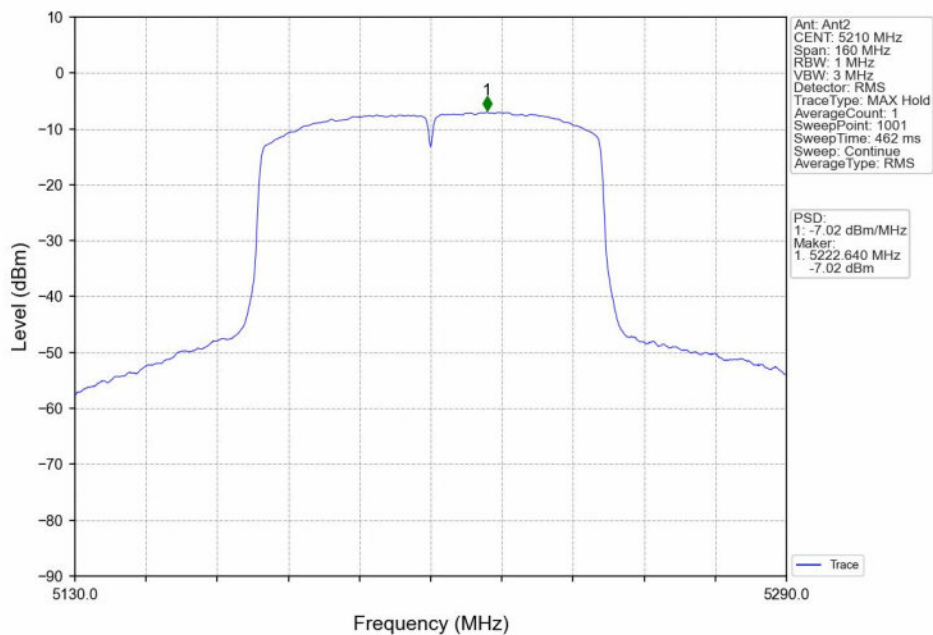
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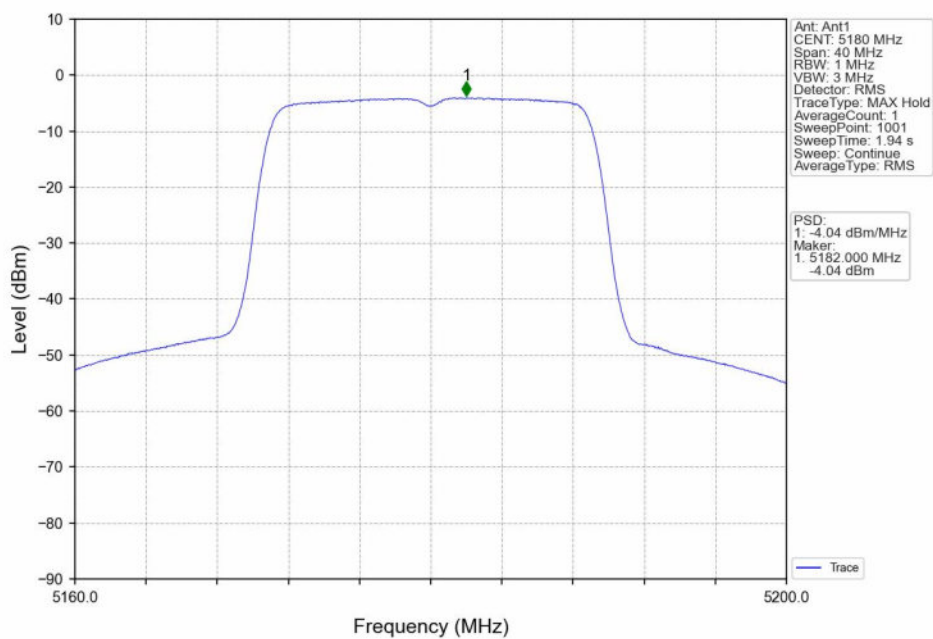
802.11ac(VHT80)\_MCH\_5210MHz\_Ant1\_NTNV



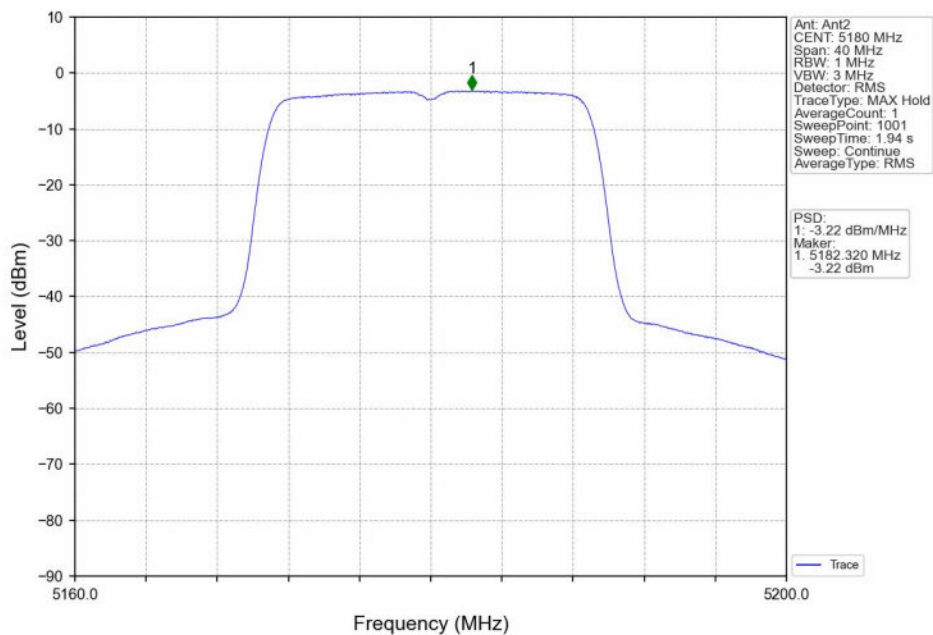
802.11ac(VHT80)\_MCH\_5210MHz\_Ant2\_NTNV



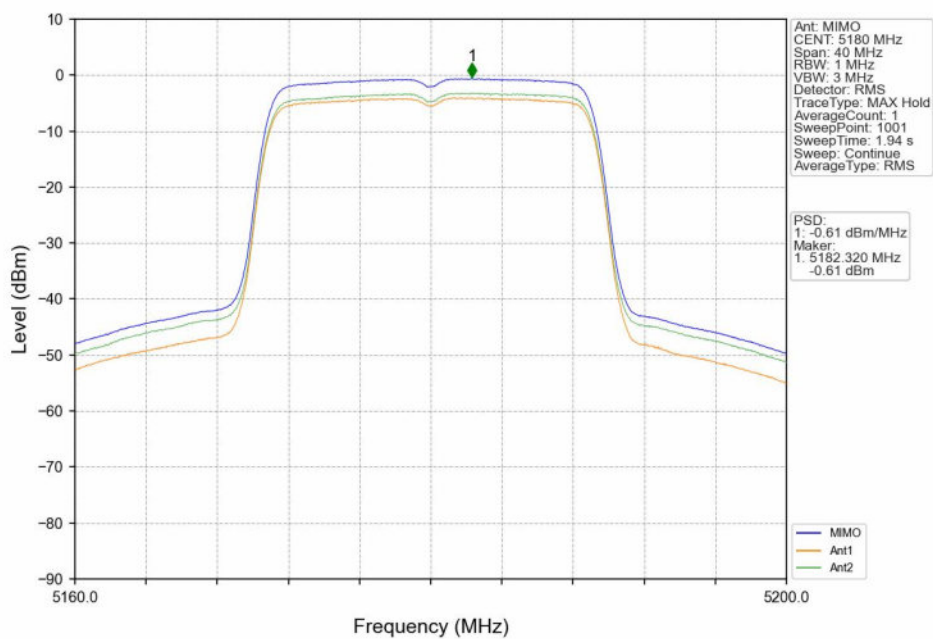
802.11ac(VHT20)\_LCH\_5180MHz\_Ant1\_NTNV



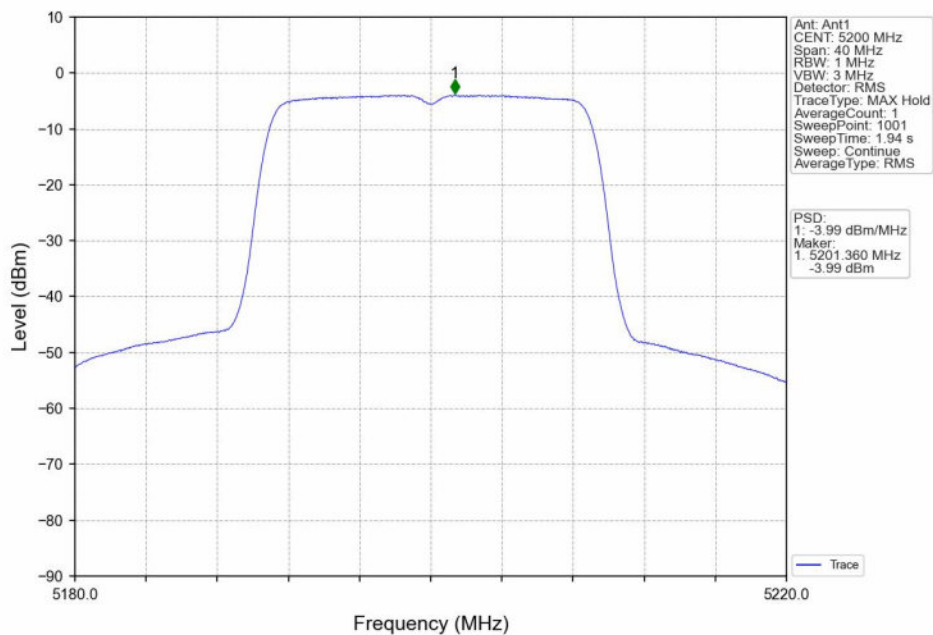
802.11ac(VHT20)\_LCH\_5180MHz\_Ant2\_NTNV



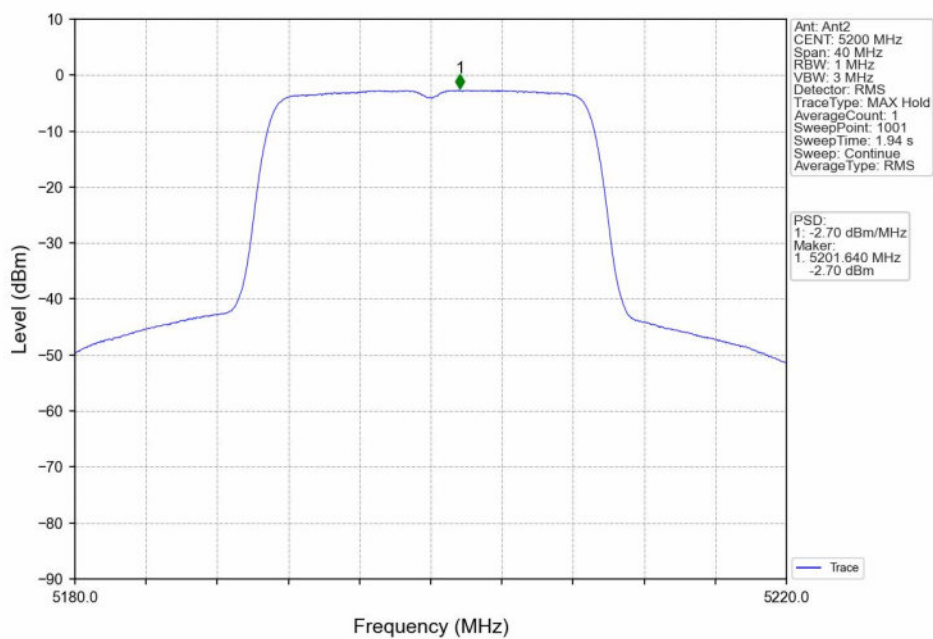
802.11ac(VHT20)\_LCH\_5180MHz\_MIMO\_NTNV



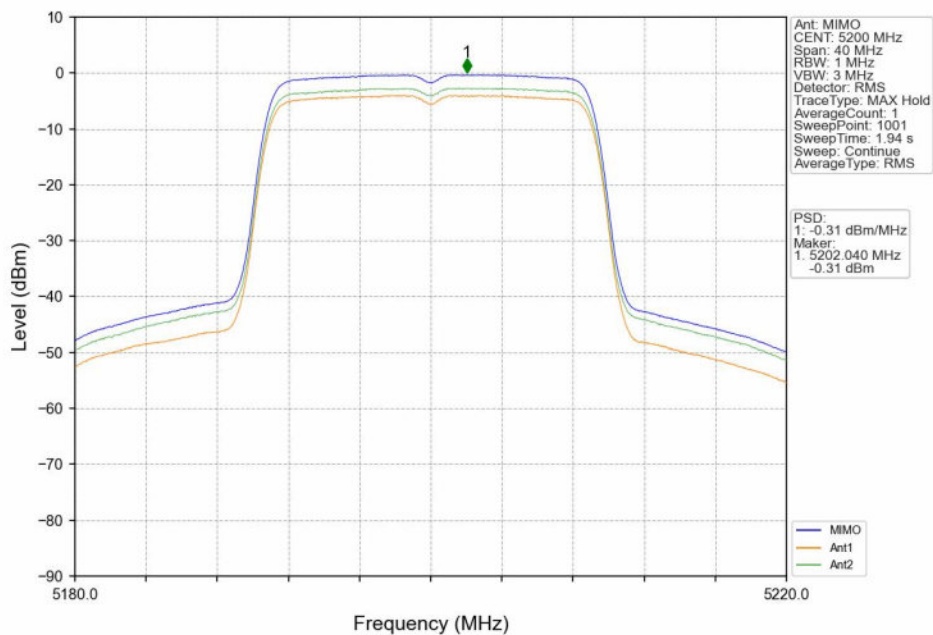
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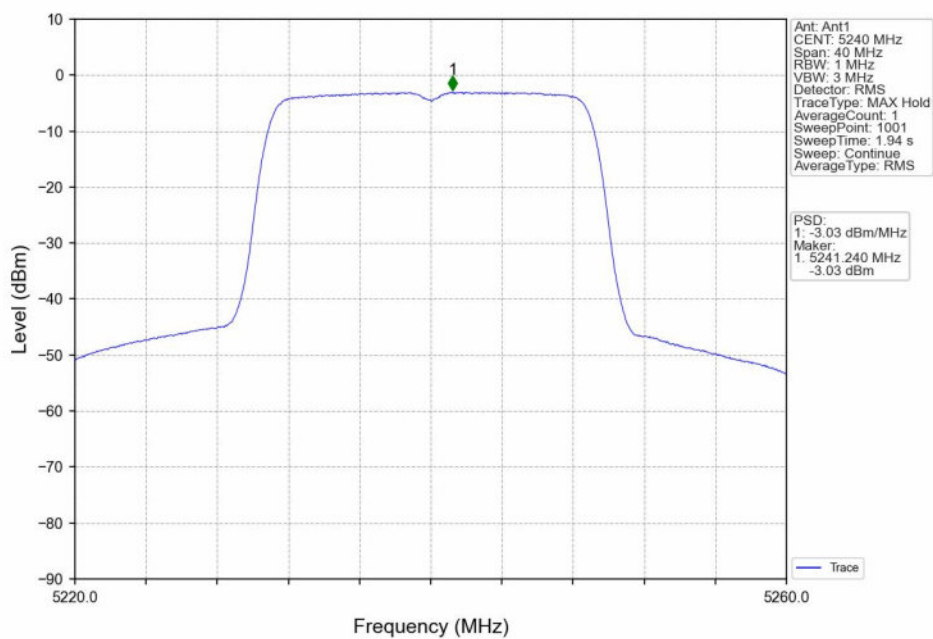
802.11ac(VHT20)\_MCH\_5200MHz\_Ant2\_NTNV



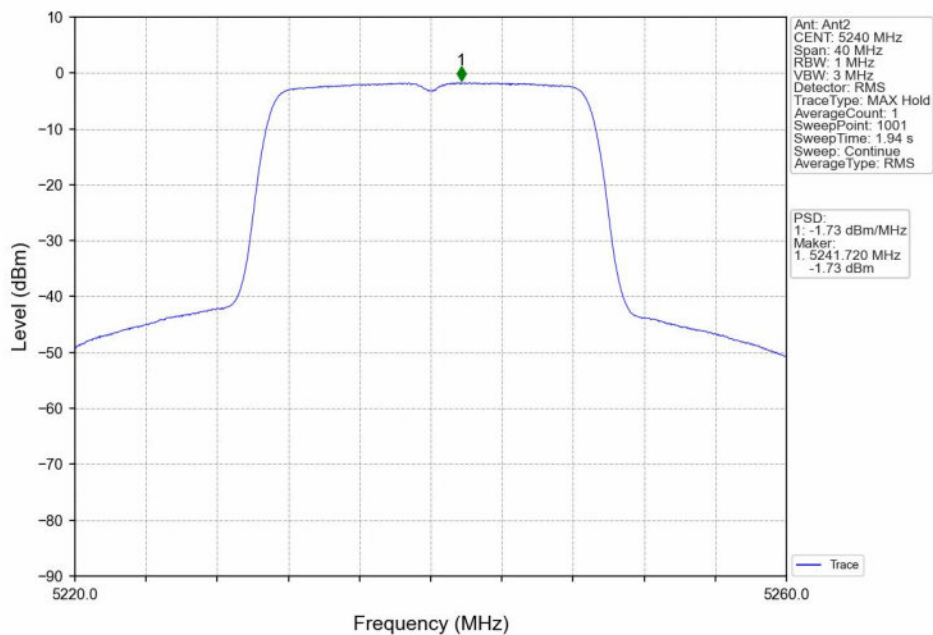
802.11ac(VHT20)\_MCH\_5200MHz\_MIMO\_NTNV



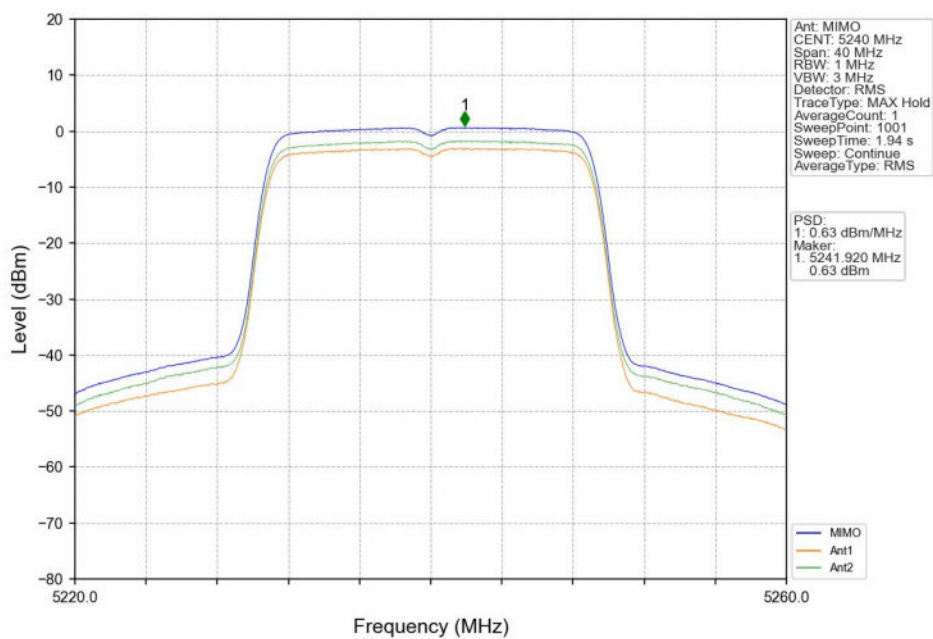
802.11ac(VHT20)\_HCH\_5240MHz\_Ant1\_NTNV



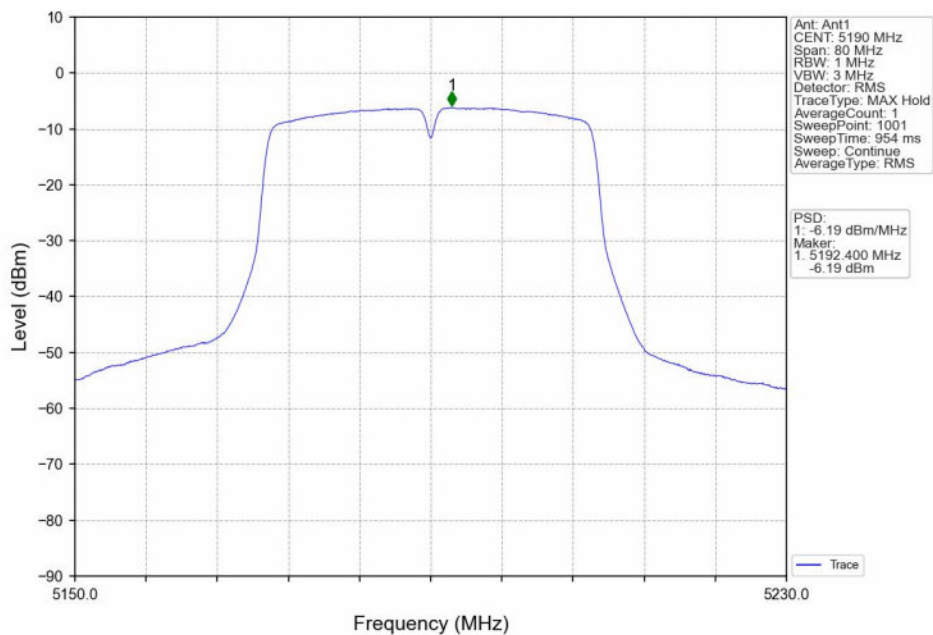
802.11ac(VHT20)\_HCH\_5240MHz\_Ant2\_NTNV



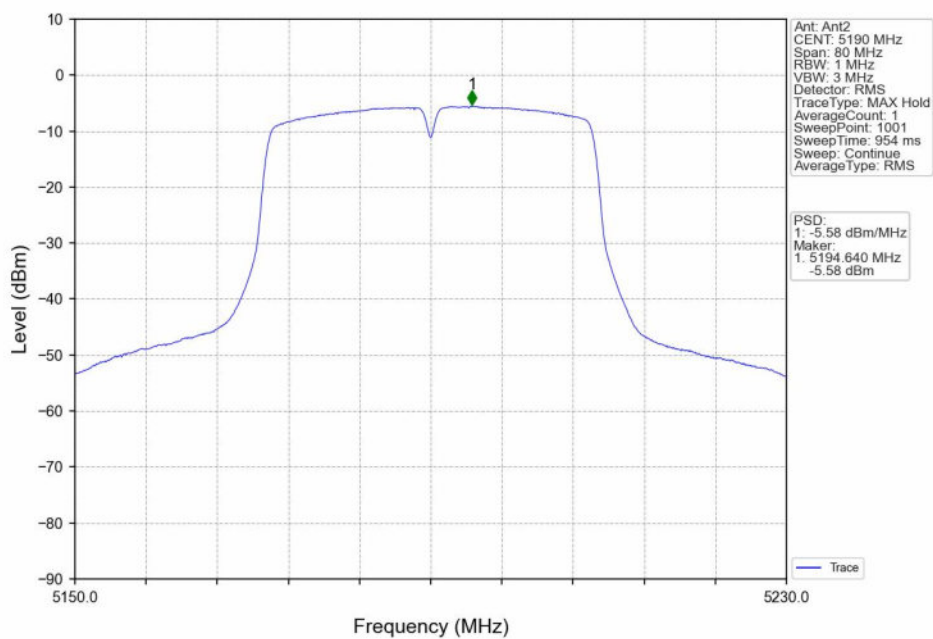
802.11ac(VHT20)\_HCH\_5240MHz\_MIMO\_NTNV



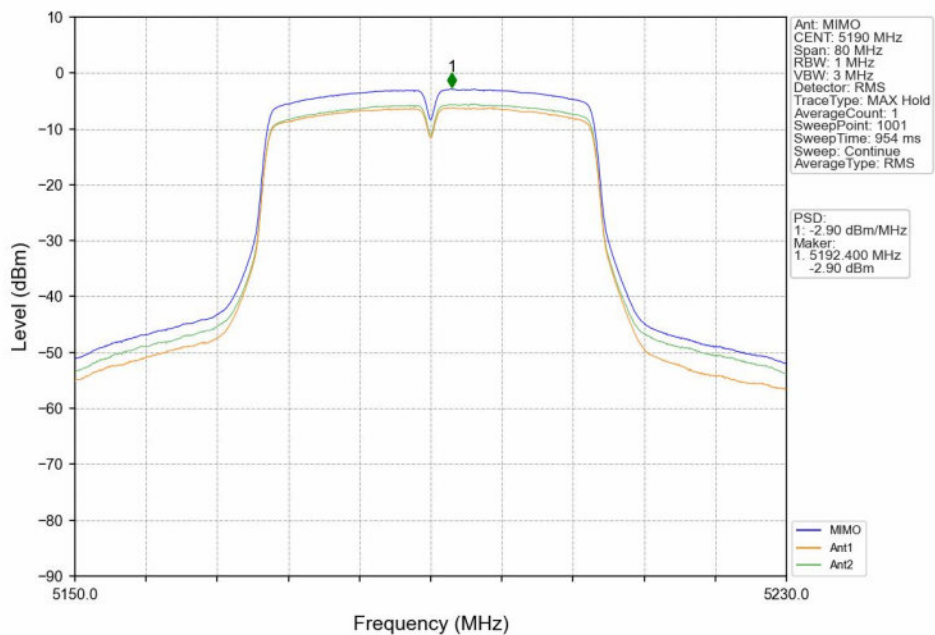
802.11ac(VHT40)\_LCH\_5190MHz\_Ant1\_NTNV



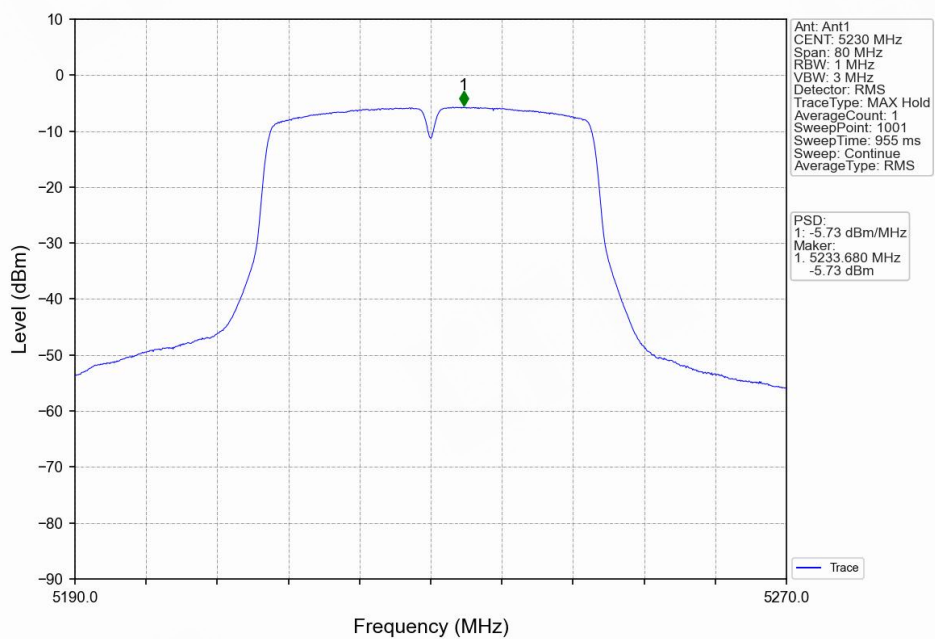
802.11ac(VHT40)\_LCH\_5190MHz\_Ant2\_NTNV



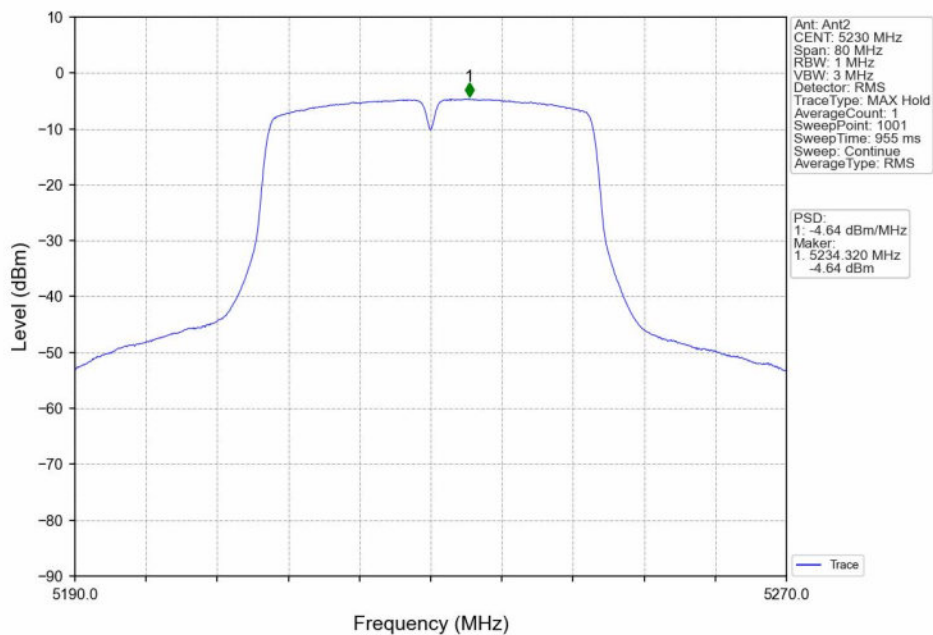
802.11ac(VHT40)\_LCH\_5190MHz\_MIMO\_NTNV



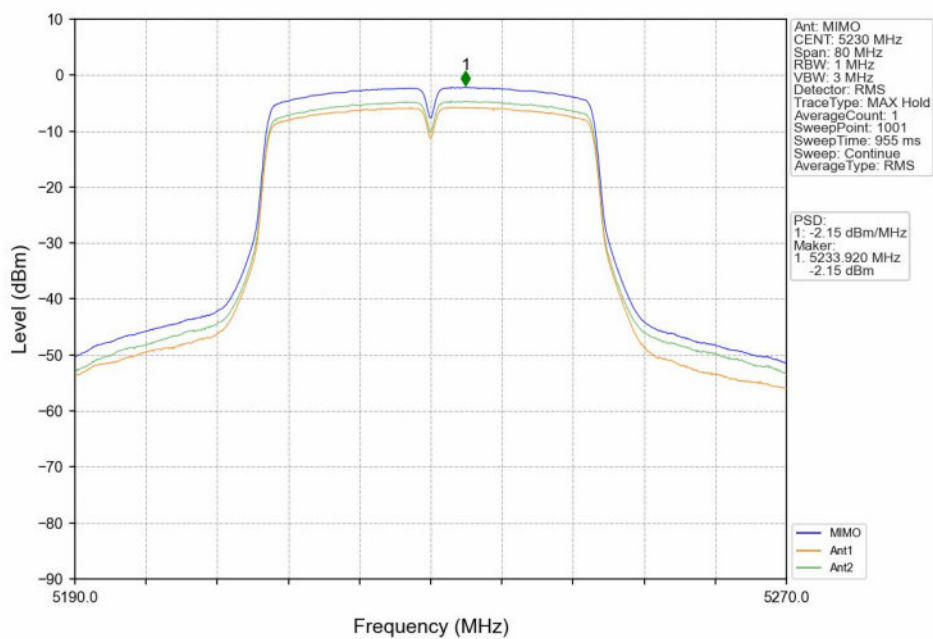
802.11ac(VHT40)\_HCH\_5230MHz\_Ant1\_NTNV



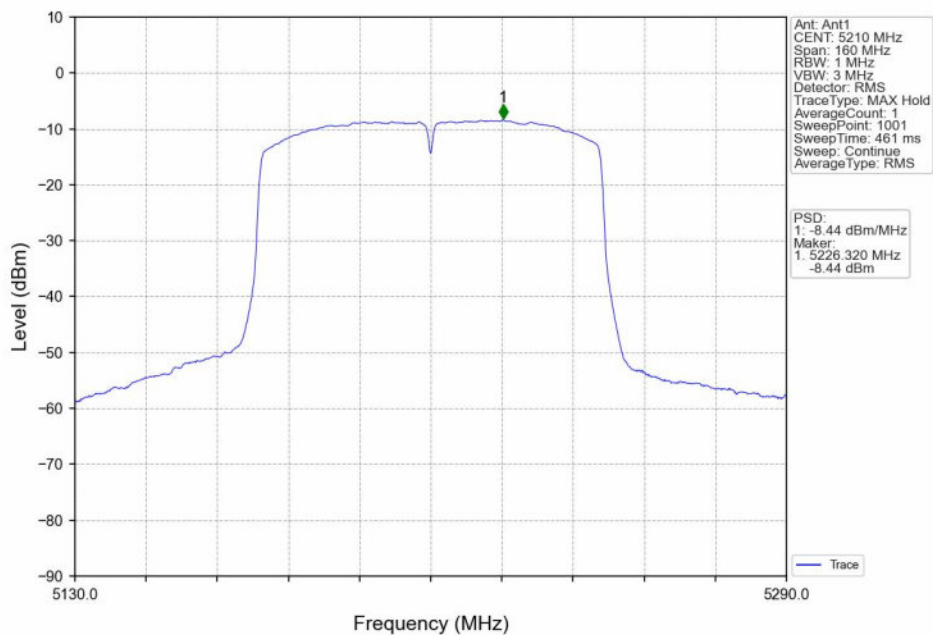
802.11ac(VHT40)\_HCH\_5230MHz\_Ant2\_NTNV



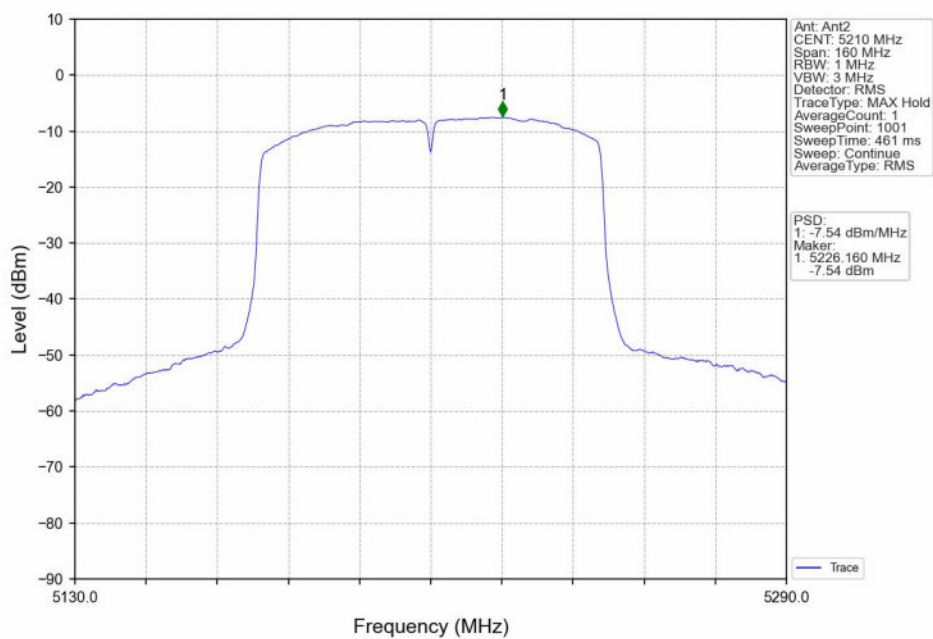
802.11ac(VHT40)\_HCH\_5230MHz\_MIMO\_NTNV



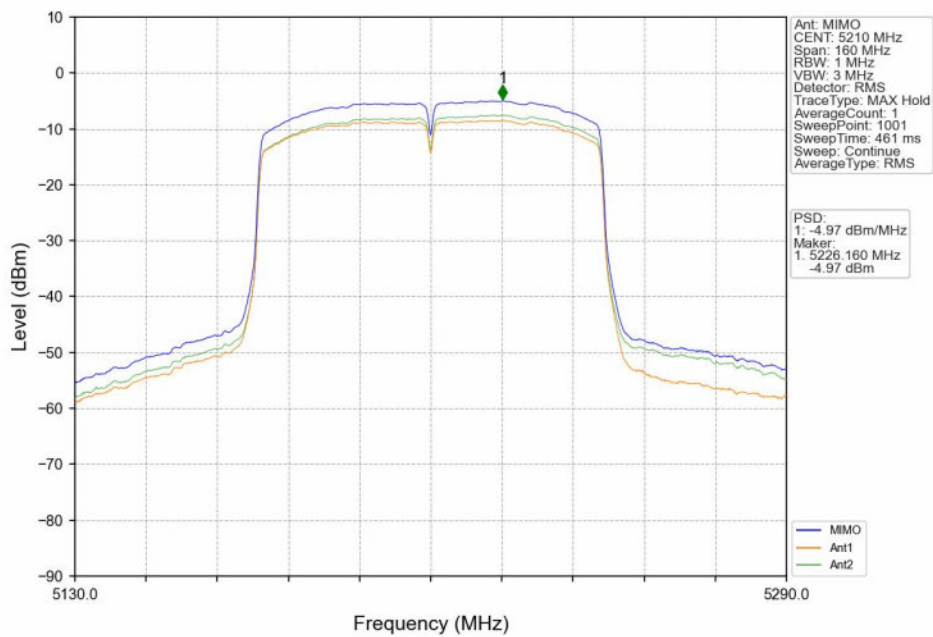
802.11ac(VHT80)\_MCH\_5210MHz\_Ant1\_NTNV



802.11ac(VHT80)\_MCH\_5210MHz\_Ant2\_NTNV



802.11ac(VHT80)\_MCH\_5210MHz\_MIMO\_NTNV



## 4. Frequency Stability

### 4.1 Ant1

#### 4.1.1 Test Result

| Ant1         |         |                 |                  |               |                          |              |         |
|--------------|---------|-----------------|------------------|---------------|--------------------------|--------------|---------|
| Mode         | TX Type | Frequency (MHz) | Temperature (°C) | Voltage (VAC) | Measured Frequency (MHz) | Limit (MHz)  | Verdict |
| Carrier Wave | SISO    | 5180            | 20               | 102           | 5179.999                 | 5150 to 5250 | Pass    |
|              |         |                 |                  | 120           | 5179.998                 | 5150 to 5250 | Pass    |
|              |         |                 |                  | 138           | 5179.998                 | 5150 to 5250 | Pass    |
|              |         |                 | -30              | 120           | 5179.999                 | 5150 to 5250 | Pass    |
|              |         |                 | -20              | 120           | 5179.999                 | 5150 to 5250 | Pass    |
|              |         |                 | -10              | 120           | 5180.000                 | 5150 to 5250 | Pass    |
|              |         |                 | 0                | 120           | 5180.000                 | 5150 to 5250 | Pass    |
|              |         |                 | 10               | 120           | 5180.000                 | 5150 to 5250 | Pass    |
|              |         |                 | 30               | 120           | 5180.001                 | 5150 to 5250 | Pass    |
|              |         |                 | 40               | 120           | 5180.001                 | 5150 to 5250 | Pass    |
|              |         |                 | 50               | 120           | 5180.001                 | 5150 to 5250 | Pass    |
|              |         | 5200            | 20               | 102           | 5200.000                 | 5150 to 5250 | Pass    |
|              |         |                 |                  | 120           | 5200.000                 | 5150 to 5250 | Pass    |
|              |         |                 |                  | 138           | 5200.000                 | 5150 to 5250 | Pass    |
|              |         |                 | -30              | 120           | 5200.001                 | 5150 to 5250 | Pass    |
|              |         |                 | -20              | 120           | 5200.001                 | 5150 to 5250 | Pass    |
|              |         |                 | -10              | 120           | 5200.001                 | 5150 to 5250 | Pass    |
|              |         |                 | 0                | 120           | 5200.002                 | 5150 to 5250 | Pass    |
|              |         |                 | 10               | 120           | 5200.002                 | 5150 to 5250 | Pass    |
|              |         |                 | 30               | 120           | 5200.002                 | 5150 to 5250 | Pass    |
|              |         |                 | 40               | 120           | 5200.002                 | 5150 to 5250 | Pass    |
|              |         |                 | 50               | 120           | 5200.003                 | 5150 to 5250 | Pass    |
|              |         | 5240            | 20               | 102           | 5240.001                 | 5150 to 5250 | Pass    |
|              |         |                 |                  | 120           | 5240.002                 | 5150 to 5250 | Pass    |
|              |         |                 |                  | 138           | 5240.002                 | 5150 to 5250 | Pass    |
|              |         |                 | -30              | 120           | 5240.002                 | 5150 to 5250 | Pass    |
|              |         |                 | -20              | 120           | 5240.003                 | 5150 to 5250 | Pass    |
|              |         |                 | -10              | 120           | 5240.003                 | 5150 to 5250 | Pass    |
|              |         |                 | 0                | 120           | 5240.003                 | 5150 to 5250 | Pass    |
|              |         |                 | 10               | 120           | 5240.003                 | 5150 to 5250 | Pass    |
|              |         |                 | 30               | 120           | 5240.003                 | 5150 to 5250 | Pass    |
|              |         |                 | 40               | 120           | 5240.003                 | 5150 to 5250 | Pass    |
|              |         |                 | 50               | 120           | 5240.004                 | 5150 to 5250 | Pass    |
|              | MIMO    | 5190            | 20               | 102           | 5189.998                 | 5150 to 5250 | Pass    |
|              |         |                 |                  | 120           | 5189.998                 | 5150 to 5250 | Pass    |
|              |         |                 |                  | 138           | 5189.999                 | 5150 to 5250 | Pass    |
|              |         |                 | -30              | 120           | 5189.999                 | 5150 to 5250 | Pass    |
|              |         |                 | -20              | 120           | 5190.000                 | 5150 to 5250 | Pass    |
|              |         |                 | -10              | 120           | 5190.000                 | 5150 to 5250 | Pass    |
|              |         |                 | 0                | 120           | 5190.000                 | 5150 to 5250 | Pass    |
|              |         |                 | 10               | 120           | 5190.001                 | 5150 to 5250 | Pass    |
|              |         |                 | 30               | 120           | 5190.001                 | 5150 to 5250 | Pass    |
|              |         |                 | 40               | 120           | 5190.001                 | 5150 to 5250 | Pass    |
|              |         |                 | 50               | 120           | 5190.001                 | 5150 to 5250 | Pass    |
|              |         | 5230            | 20               | 102           | 5230.000                 | 5150 to 5250 | Pass    |
|              |         |                 |                  | 120           | 5230.000                 | 5150 to 5250 | Pass    |
|              |         |                 |                  | 138           | 5230.001                 | 5150 to 5250 | Pass    |

|  |  |      |     |     |          |              |      |
|--|--|------|-----|-----|----------|--------------|------|
|  |  |      | -30 | 120 | 5230.001 | 5150 to 5250 | Pass |
|  |  |      | -20 | 120 | 5230.001 | 5150 to 5250 | Pass |
|  |  |      | -10 | 120 | 5230.002 | 5150 to 5250 | Pass |
|  |  |      | 0   | 120 | 5230.002 | 5150 to 5250 | Pass |
|  |  |      | 10  | 120 | 5230.002 | 5150 to 5250 | Pass |
|  |  |      | 30  | 120 | 5230.002 | 5150 to 5250 | Pass |
|  |  |      | 40  | 120 | 5230.002 | 5150 to 5250 | Pass |
|  |  |      | 50  | 120 | 5230.003 | 5150 to 5250 | Pass |
|  |  | 5210 | 20  | 102 | 5209.500 | 5150 to 5250 | Pass |
|  |  |      |     | 120 | 5209.500 | 5150 to 5250 | Pass |
|  |  |      |     | 138 | 5209.500 | 5150 to 5250 | Pass |
|  |  |      | -30 | 120 | 5209.500 | 5150 to 5250 | Pass |
|  |  |      | -20 | 120 | 5209.500 | 5150 to 5250 | Pass |
|  |  |      | -10 | 120 | 5209.501 | 5150 to 5250 | Pass |
|  |  |      | 0   | 120 | 5209.501 | 5150 to 5250 | Pass |
|  |  |      | 10  | 120 | 5209.500 | 5150 to 5250 | Pass |
|  |  |      | 30  | 120 | 5209.500 | 5150 to 5250 | Pass |
|  |  |      | 40  | 120 | 5209.500 | 5150 to 5250 | Pass |
|  |  |      | 50  | 120 | 5209.500 | 5150 to 5250 | Pass |