

# RF Test Report

## For

|                      |                          |
|----------------------|--------------------------|
| Project No.:         | RF251027002-01-003       |
| Client:              | Autel Robotics Co., Ltd. |
| Manufacturer:        | Autel Robotics Co., Ltd. |
| Product Description: | OmniLink                 |
| Model No.:           | Nest RF-6                |
| Test Engineer:       | Jason Huang              |
| Test Date:           | 2025-10-28               |

## Test Summary

| Item                           | Result |
|--------------------------------|--------|
| Duty Cycle                     | Pass   |
| Bandwidth                      | Pass   |
| Maximum Conducted Output Power | Pass   |
| Maximum Power Spectral Density | Pass   |
| Frequency Stability            | Pass   |

# 1. Duty Cycle

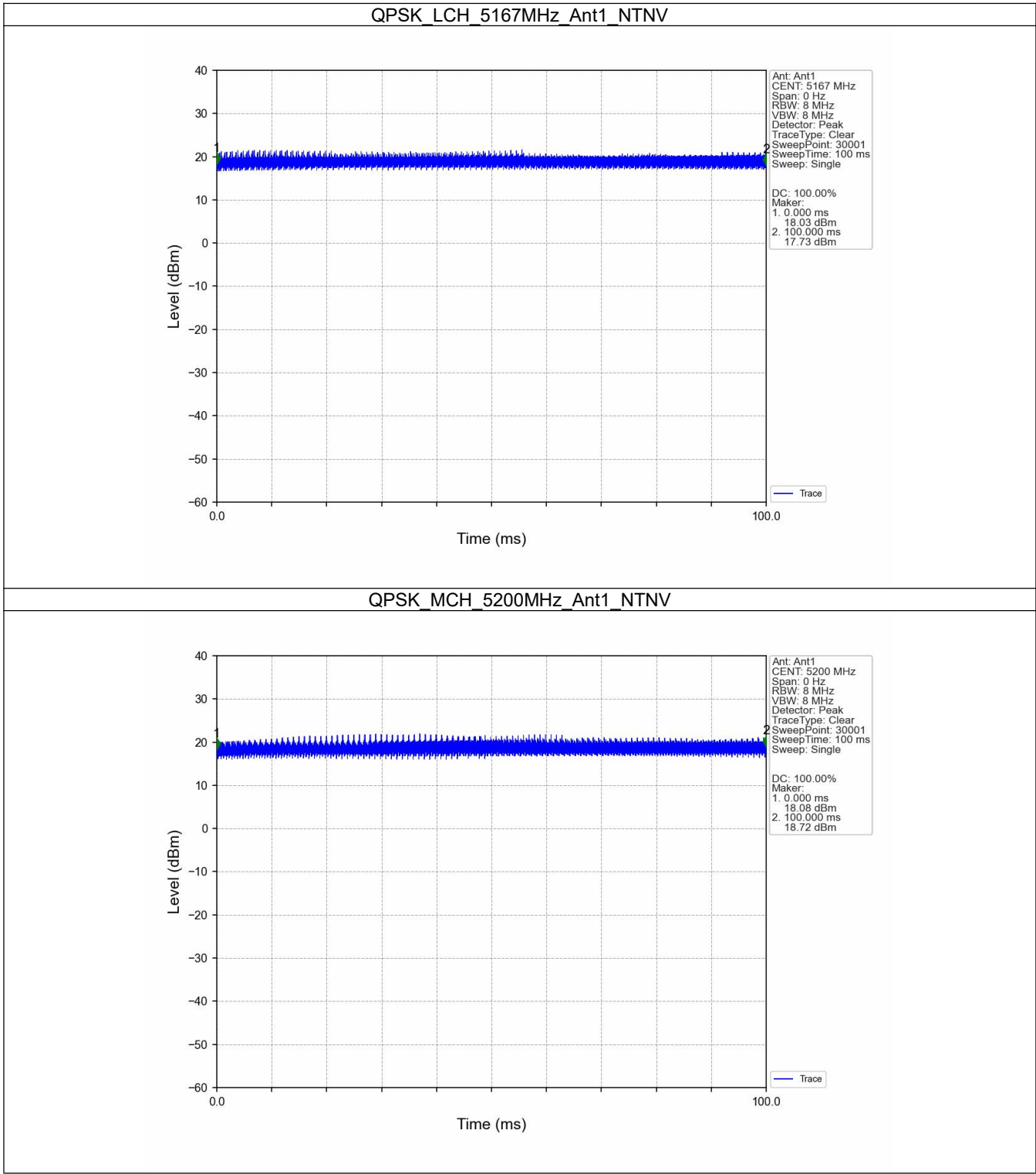
## 1.1 Test Result

### 1.1.1 Ant1

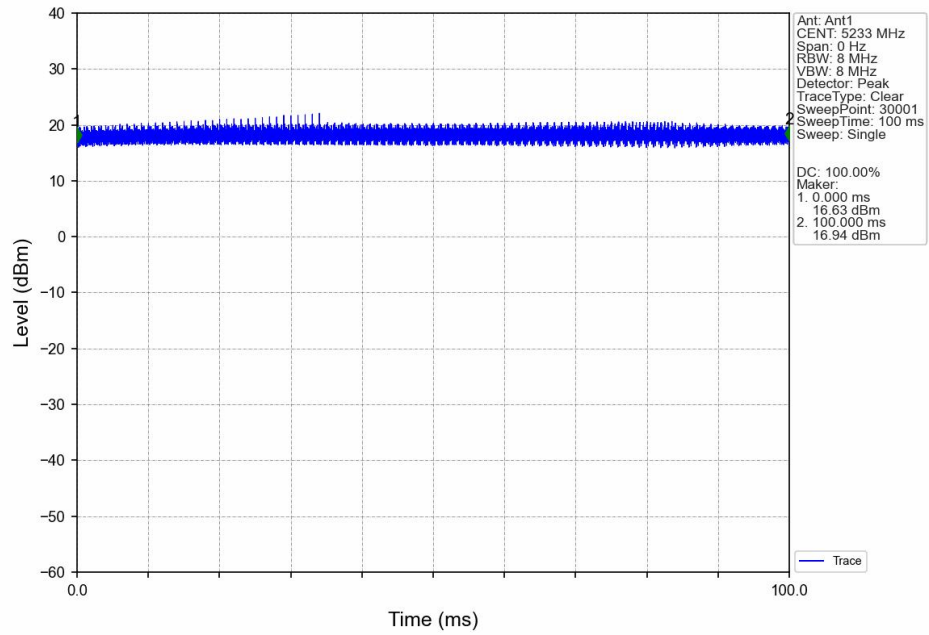
| Ant1  |         |                 |           |             |                |                                   |                       |
|-------|---------|-----------------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode  | TX Type | Frequency (MHz) | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| QPSK  | MIMO    | 5167            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
|       |         | 5200            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
|       |         | 5233            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
| 16QAM | MIMO    | 5167            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
|       |         | 5200            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
|       |         | 5233            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |

# 1.2 Test Graph

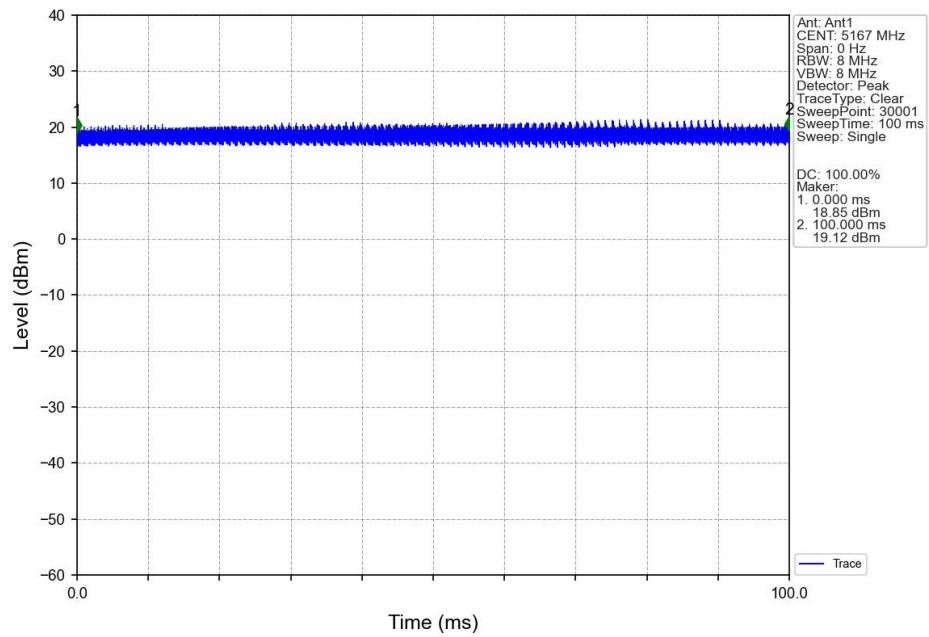
## 1.2.1 Ant1



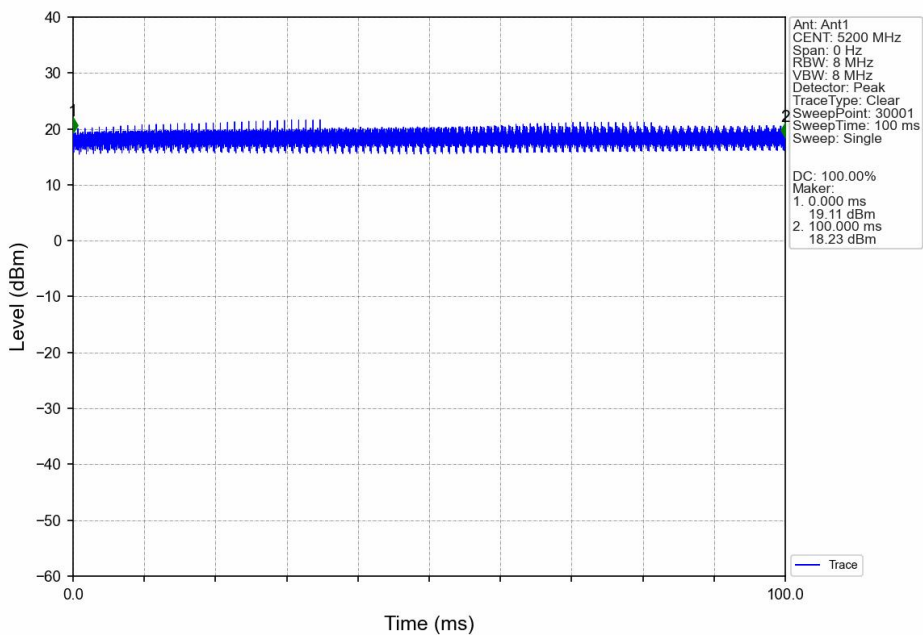
### QPSK\_HCH\_5233MHz\_Ant1\_NTNV



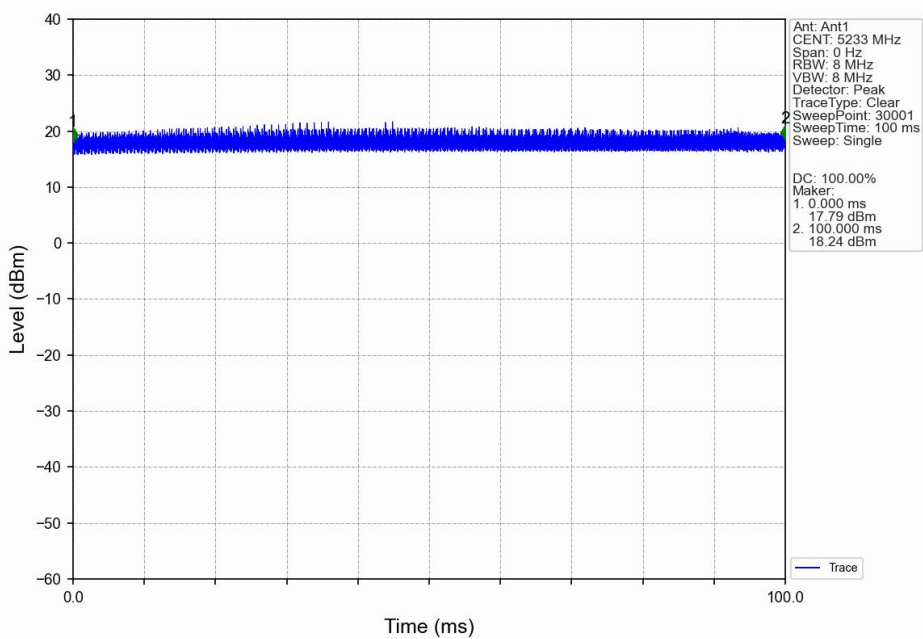
### 16QAM\_LCH\_5167MHz\_Ant1\_NTNV



16QAM\_MCH\_5200MHz\_Ant1\_NTNV



16QAM\_HCH\_5233MHz\_Ant1\_NTNV



## 2. Bandwidth

### 2.1 Test Result

#### 2.1.1 OBW

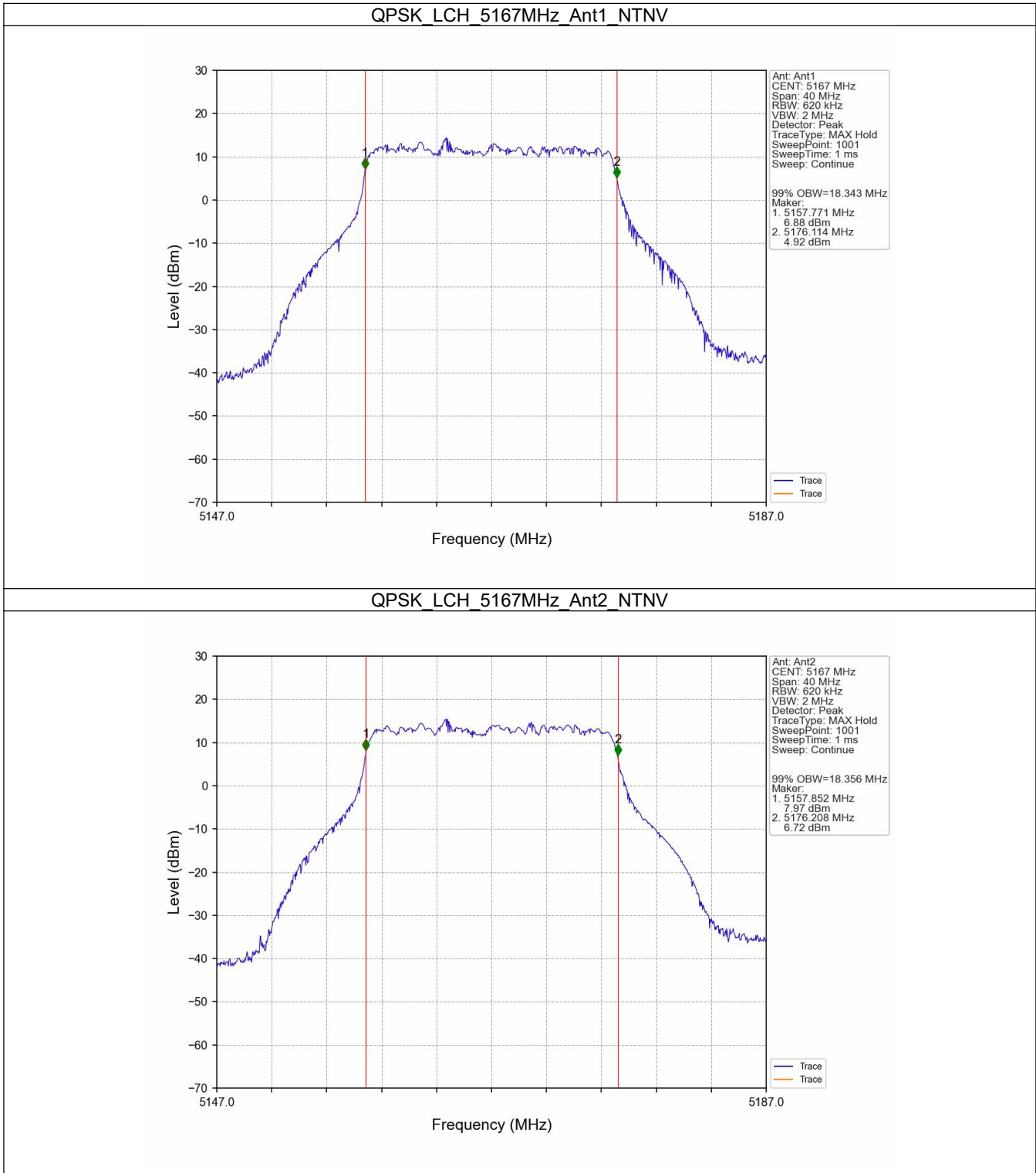
| Mode  | TX Type | Frequency (MHz) | ANT | 99% Occupied Bandwidth (MHz) |       | Verdict |
|-------|---------|-----------------|-----|------------------------------|-------|---------|
|       |         |                 |     | Result                       | Limit |         |
| QPSK  | MIMO    | 5167            | 1   | 18.343                       | /     | Pass    |
|       |         |                 | 2   | 18.356                       | /     | Pass    |
|       |         | 5200            | 1   | 18.390                       | /     | Pass    |
|       |         |                 | 2   | 18.318                       | /     | Pass    |
|       |         | 5233            | 1   | 18.411                       | /     | Pass    |
|       |         |                 | 2   | 18.324                       | /     | Pass    |
| 16QAM | MIMO    | 5167            | 1   | 18.344                       | /     | Pass    |
|       |         |                 | 2   | 18.359                       | /     | Pass    |
|       |         | 5200            | 1   | 18.370                       | /     | Pass    |
|       |         |                 | 2   | 18.328                       | /     | Pass    |
|       |         | 5233            | 1   | 18.367                       | /     | Pass    |
|       |         |                 | 2   | 18.325                       | /     | Pass    |

#### 2.1.2 26dB BW

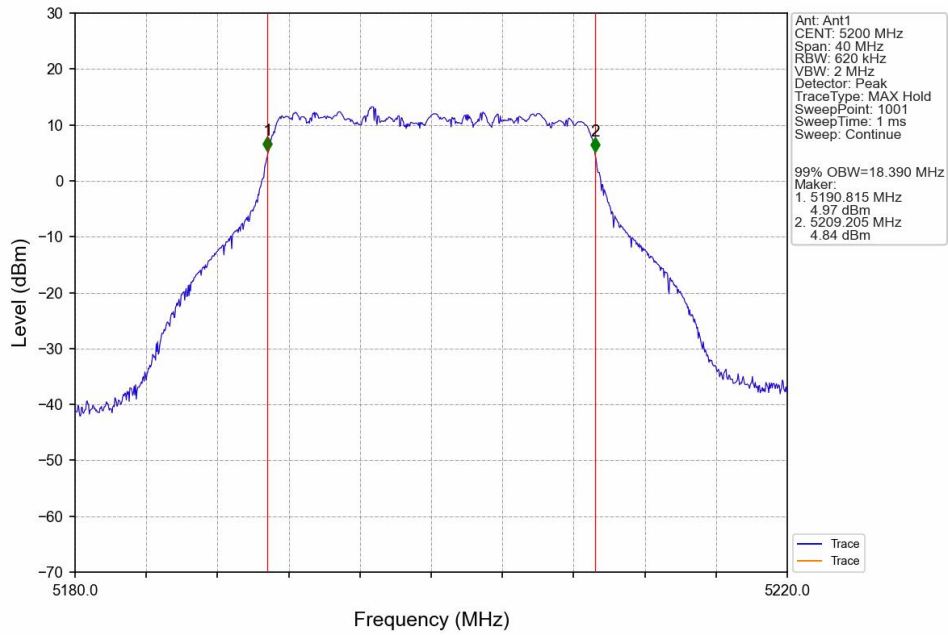
| Mode  | TX Type | Frequency (MHz) | ANT | 26dB Bandwidth (MHz) |       | Verdict |
|-------|---------|-----------------|-----|----------------------|-------|---------|
|       |         |                 |     | Result               | Limit |         |
| QPSK  | MIMO    | 5167            | 1   | 20.932               | /     | Pass    |
|       |         |                 | 2   | 21.379               | /     | Pass    |
|       |         | 5200            | 1   | 21.457               | /     | Pass    |
|       |         |                 | 2   | 21.225               | /     | Pass    |
|       |         | 5233            | 1   | 21.458               | /     | Pass    |
|       |         |                 | 2   | 21.446               | /     | Pass    |
| 16QAM | MIMO    | 5167            | 1   | 21.326               | /     | Pass    |
|       |         |                 | 2   | 21.490               | /     | Pass    |
|       |         | 5200            | 1   | 21.231               | /     | Pass    |
|       |         |                 | 2   | 21.358               | /     | Pass    |
|       |         | 5233            | 1   | 21.234               | /     | Pass    |
|       |         |                 | 2   | 21.291               | /     | Pass    |

## 2.2 Test Graph

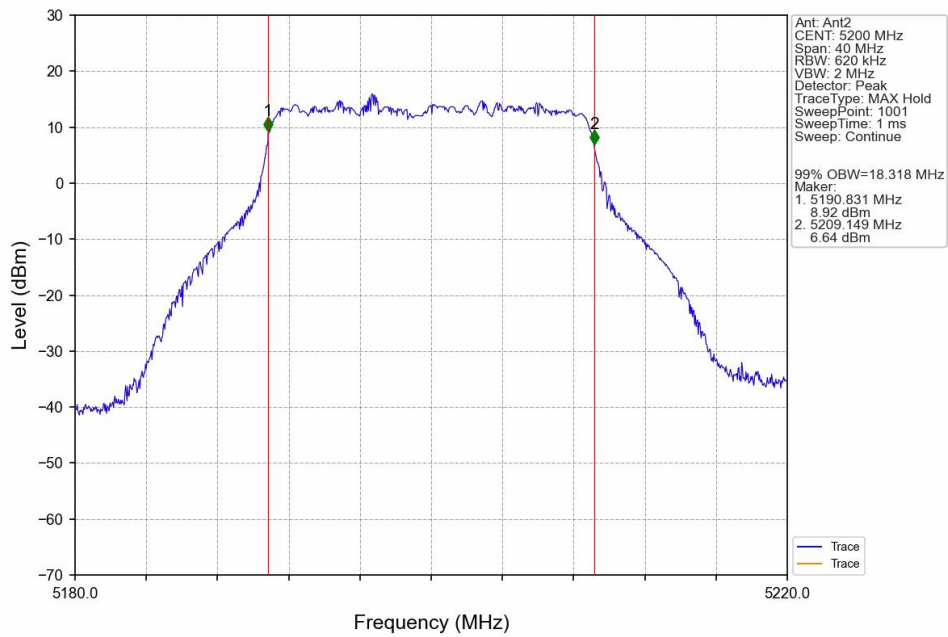
### 2.2.1 OBW



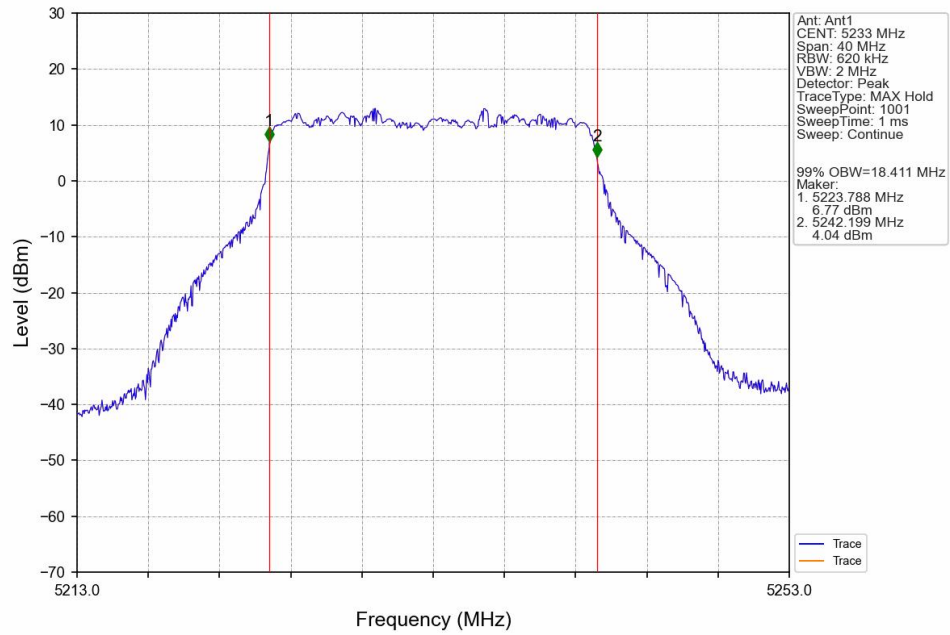
QPSK\_MCH\_5200MHz\_Ant1\_NTNV



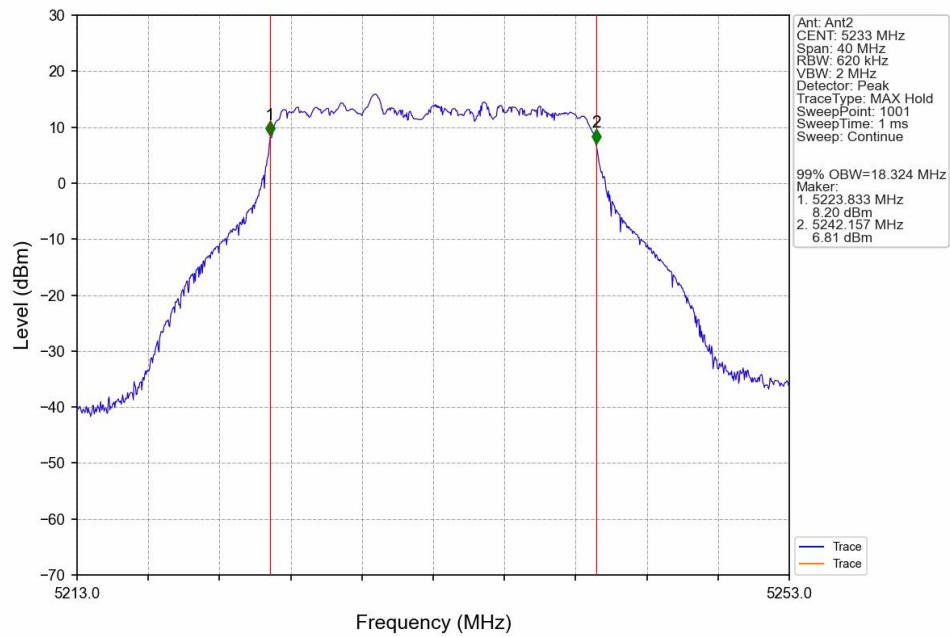
QPSK\_MCH\_5200MHz\_Ant2\_NTNV



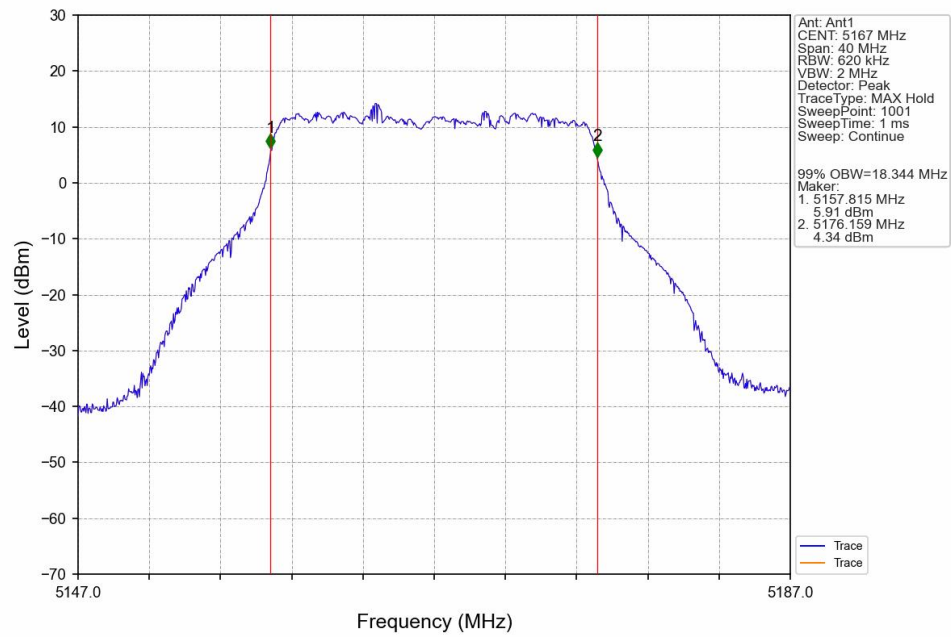
QPSK\_HCH\_5233MHz\_Ant1\_NTNV



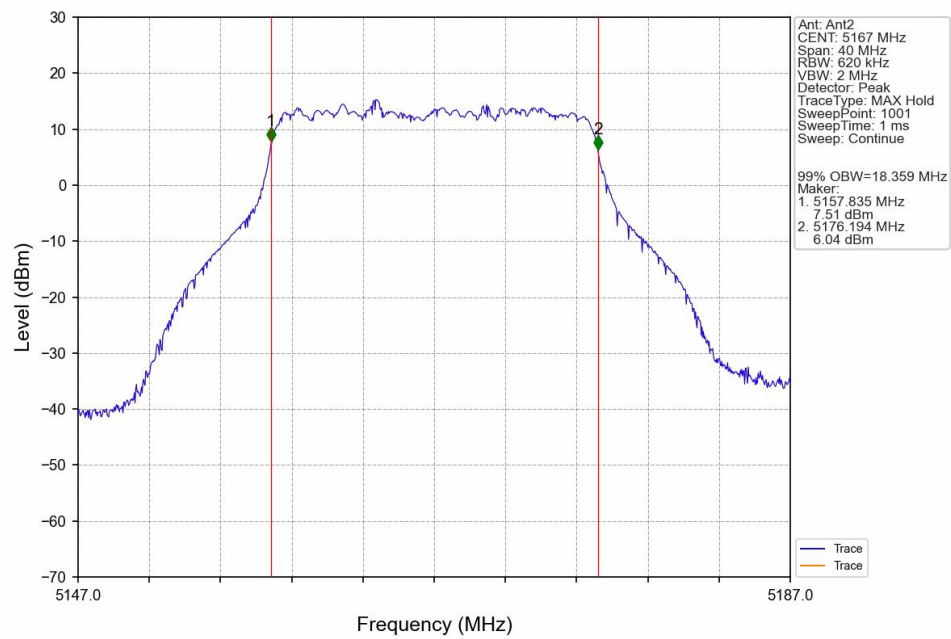
QPSK\_HCH\_5233MHz\_Ant2\_NTNV



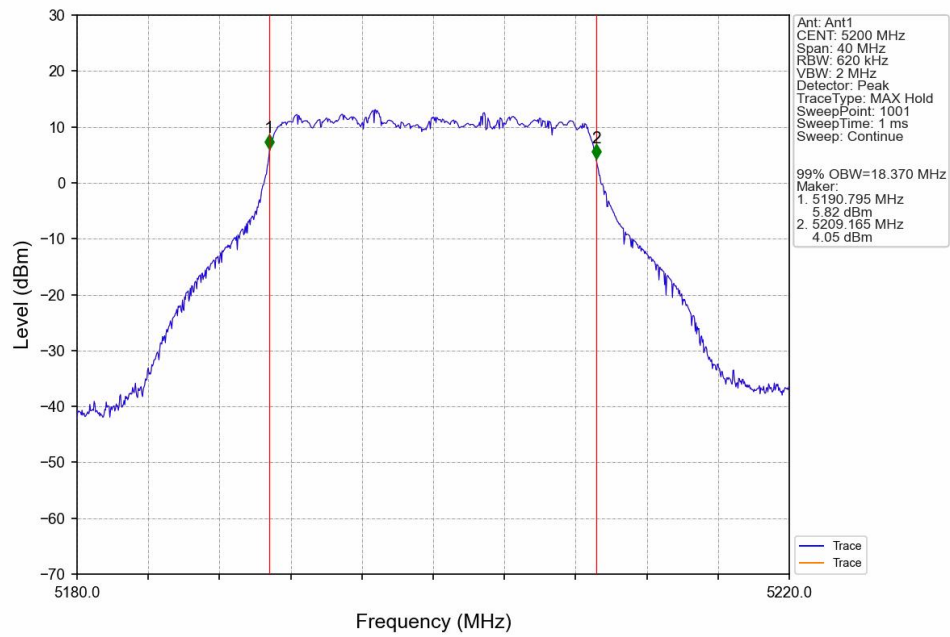
# 16QAM\_LCH\_5167MHz\_Ant1\_NTNV



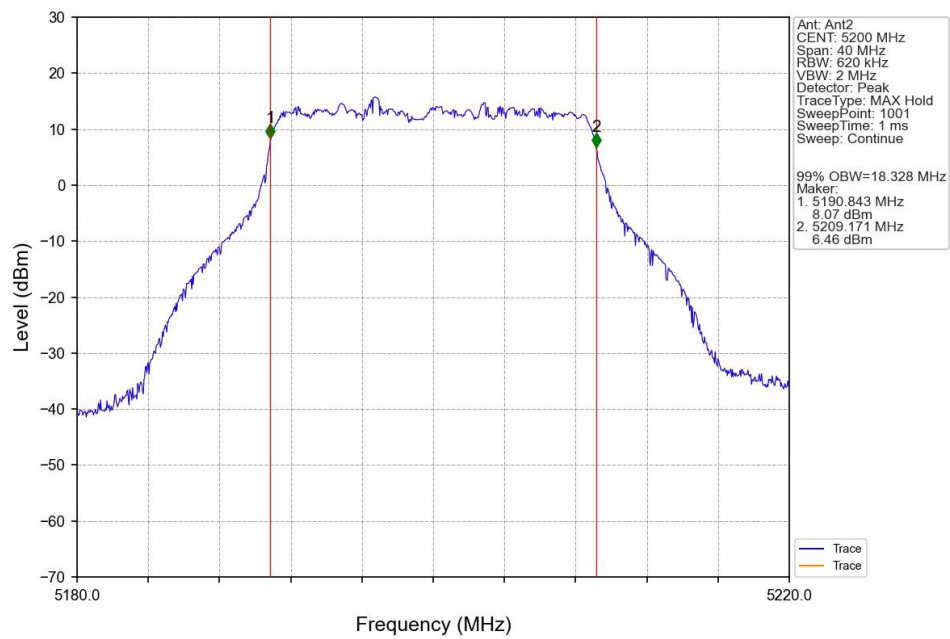
# 16QAM\_LCH\_5167MHz\_Ant2\_NTNV



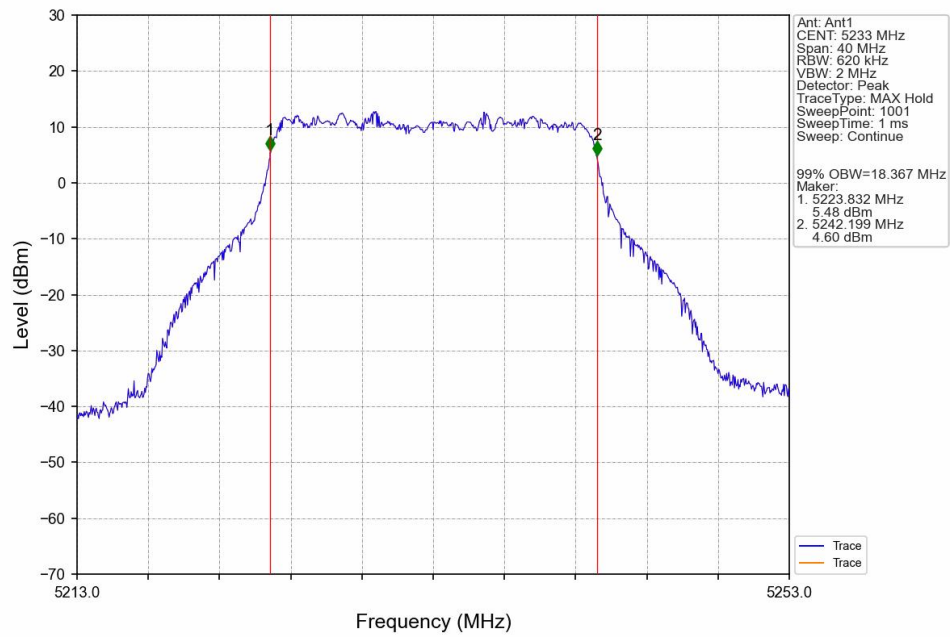
16QAM\_MCH\_5200MHz\_Ant1\_NTNV



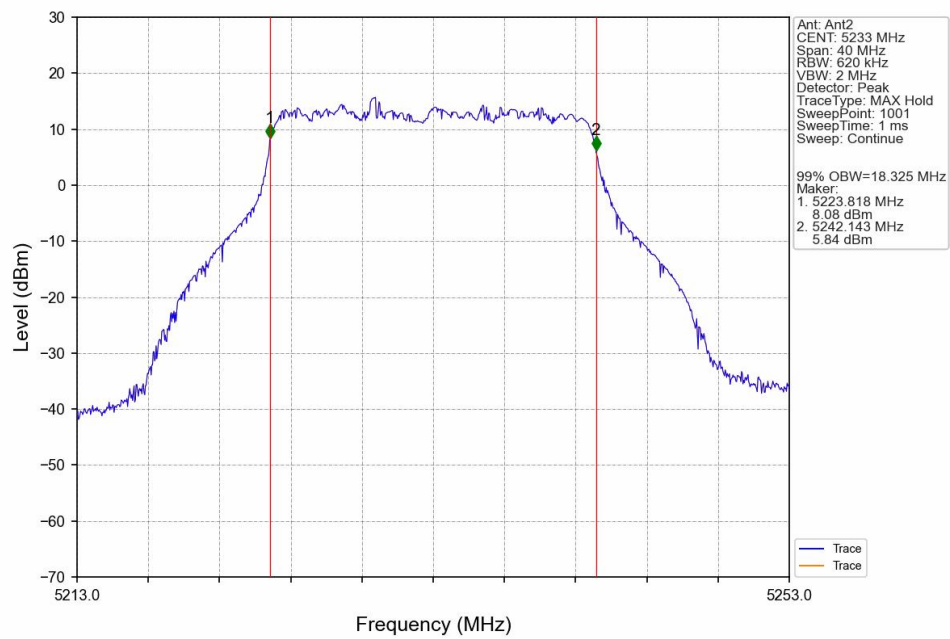
16QAM\_MCH\_5200MHz\_Ant2\_NTNV



16QAM\_HCH\_5233MHz\_Ant1\_NTNV

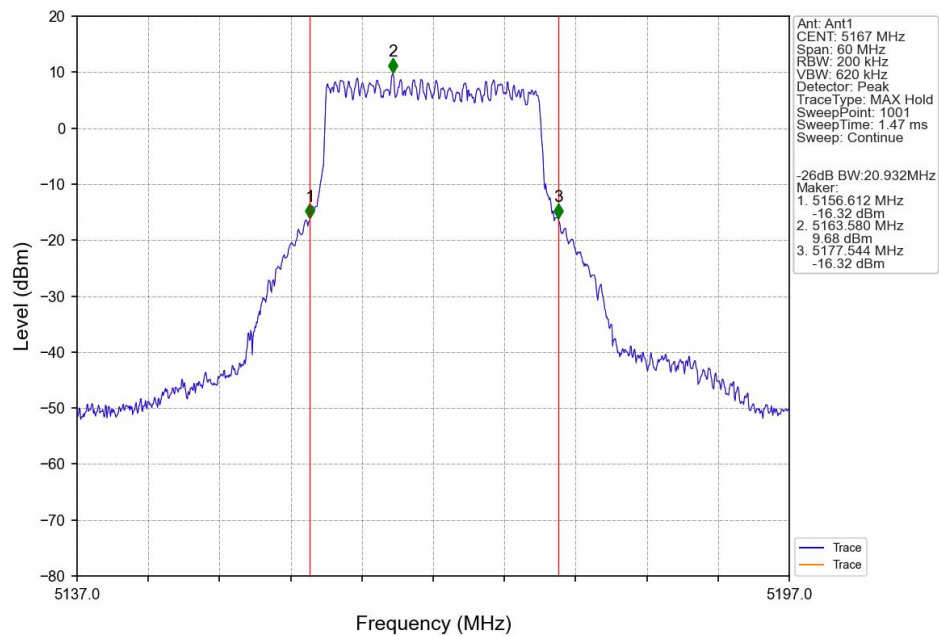


16QAM\_HCH\_5233MHz\_Ant2\_NTNV

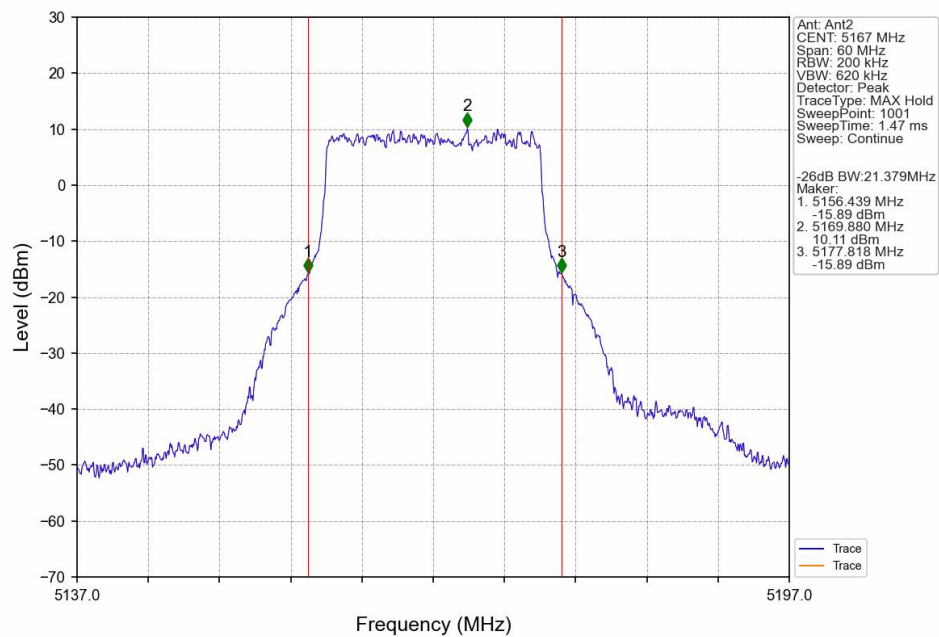


2.2.2 26dB BW

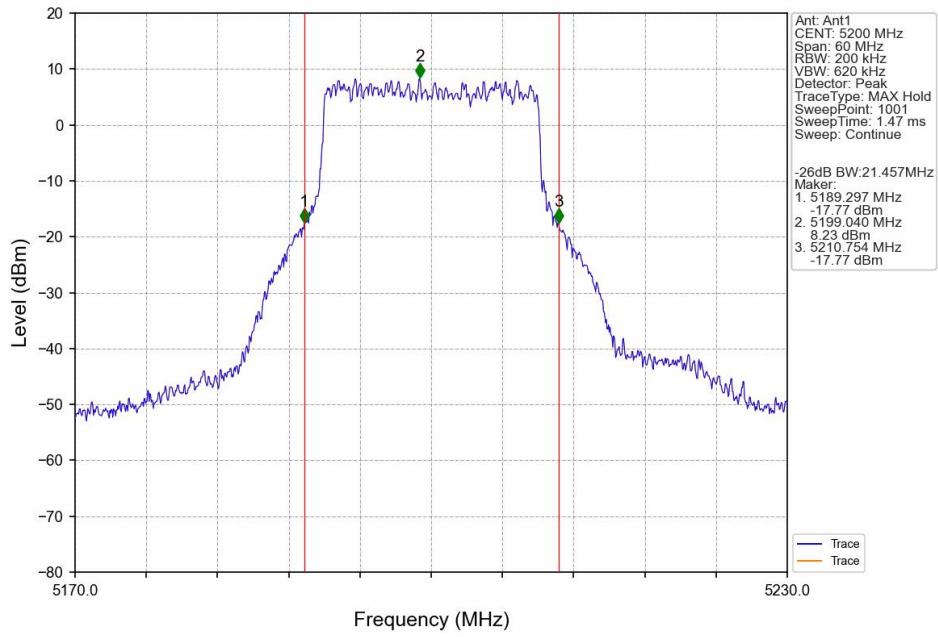
QPSK LCH 5167MHz\_Ant1\_NTNV



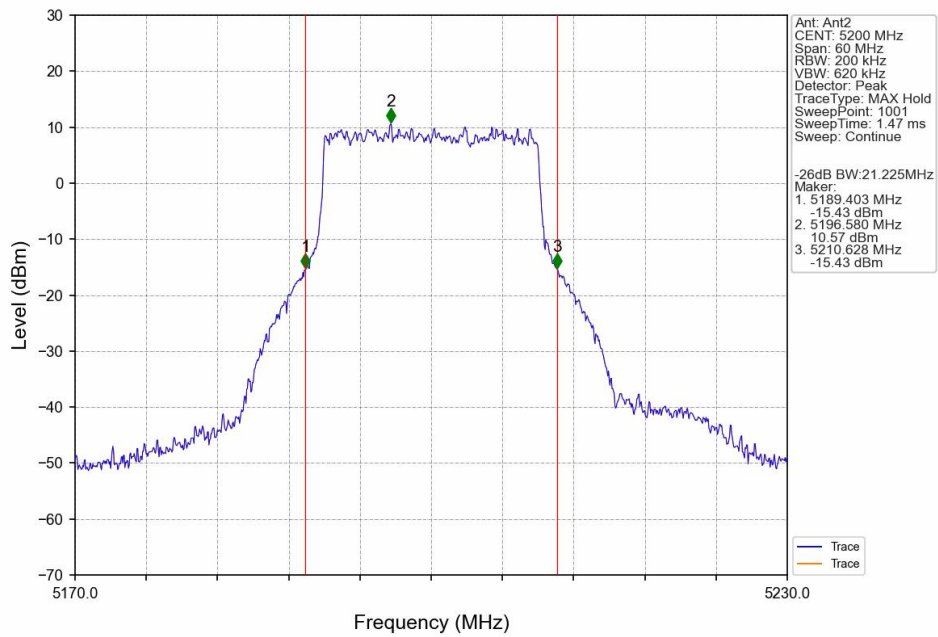
QPSK LCH 5167MHz\_Ant2\_NTNV



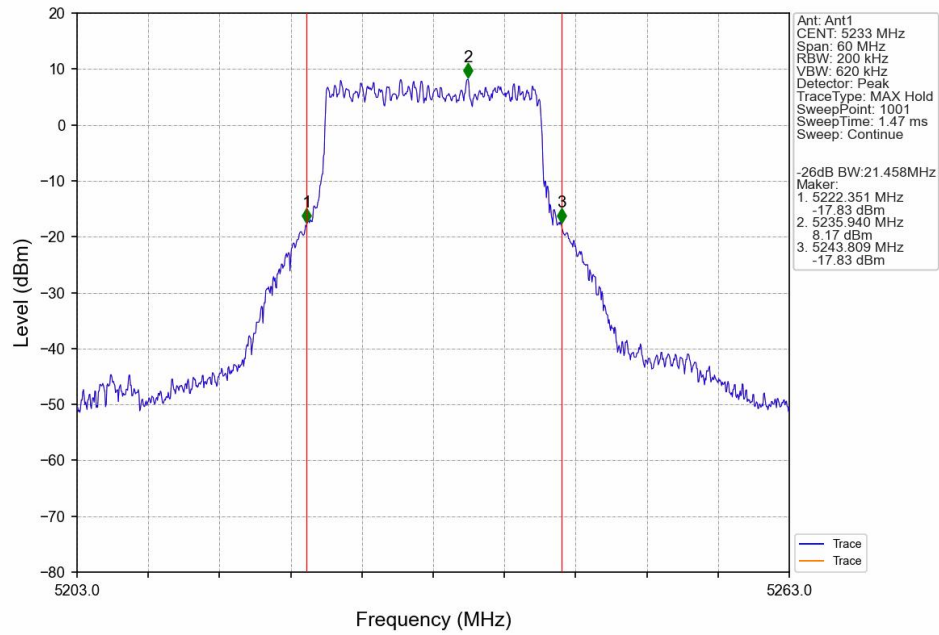
# QPSK\_MCH\_5200MHz\_Ant1\_NTNV



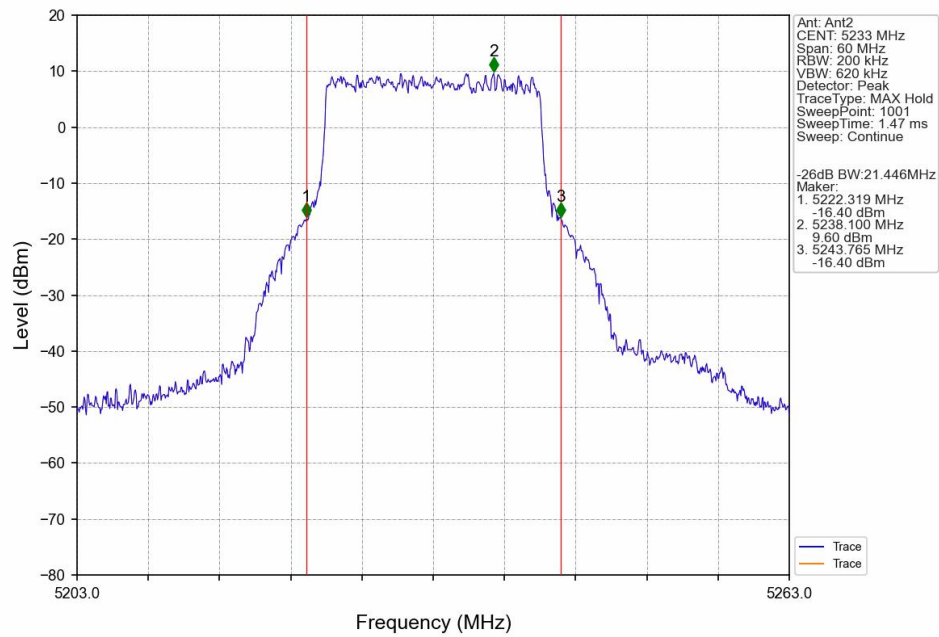
# QPSK\_MCH\_5200MHz\_Ant2\_NTNV



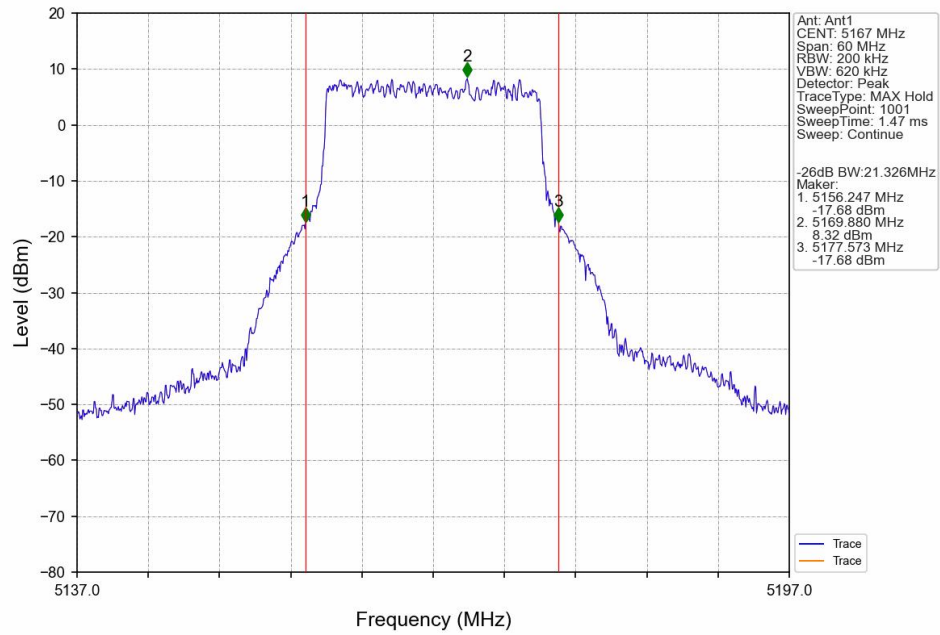
QPSK\_HCH\_5233MHz\_Ant1\_NTNV



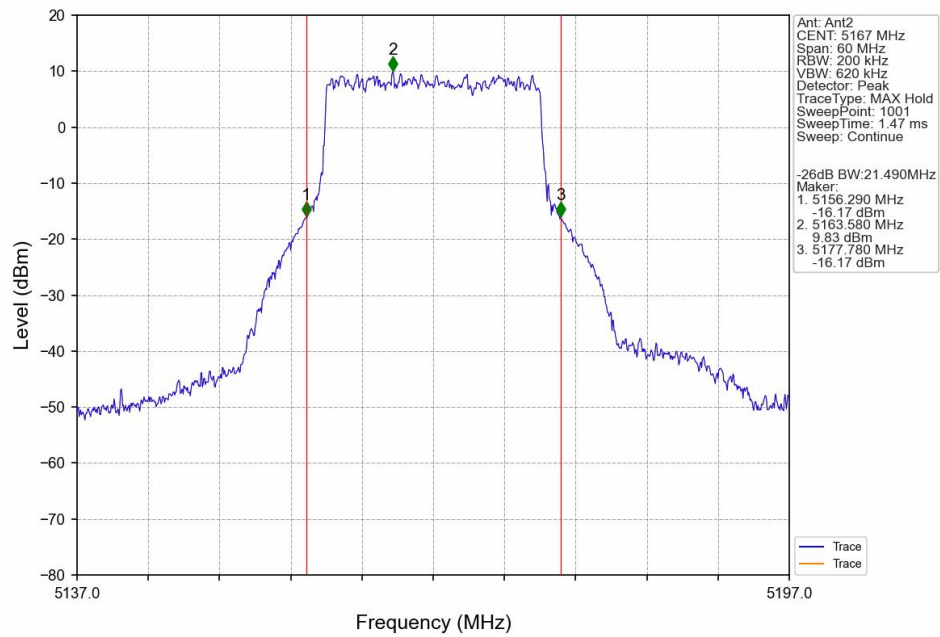
QPSK\_HCH\_5233MHz\_Ant2\_NTNV



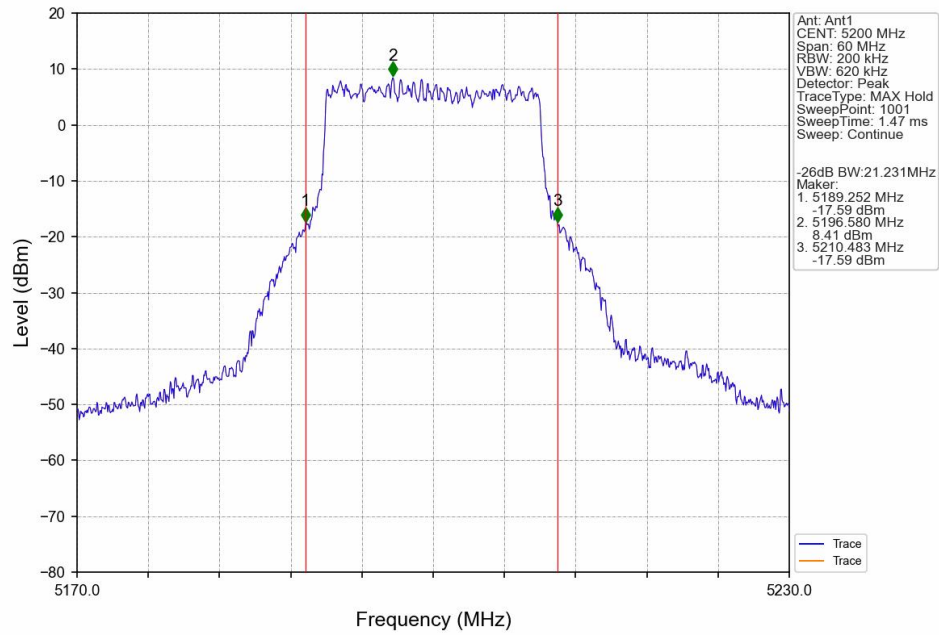
# 16QAM\_LCH\_5167MHz\_Ant1\_NTNV



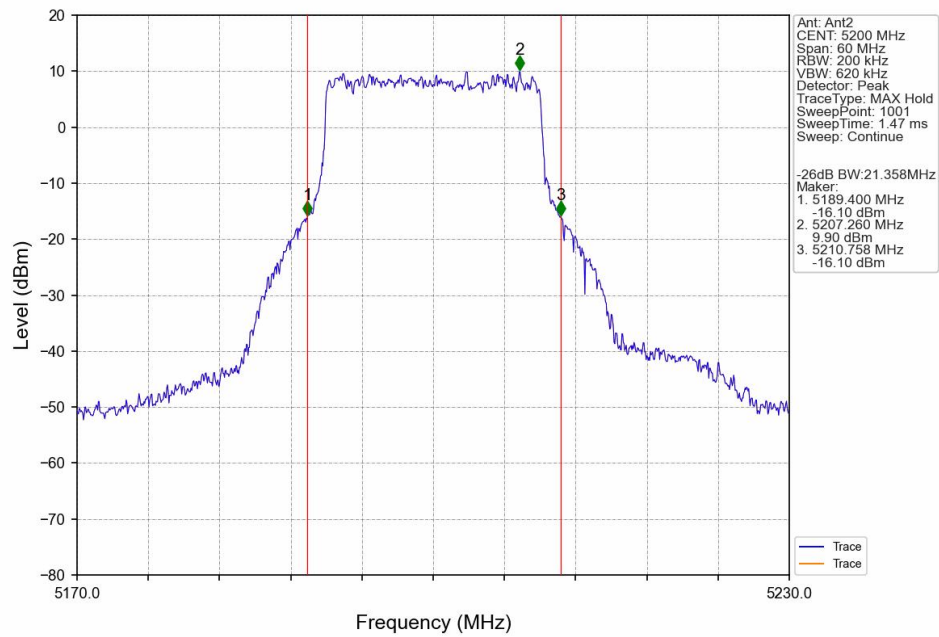
# 16QAM\_LCH\_5167MHz\_Ant2\_NTNV



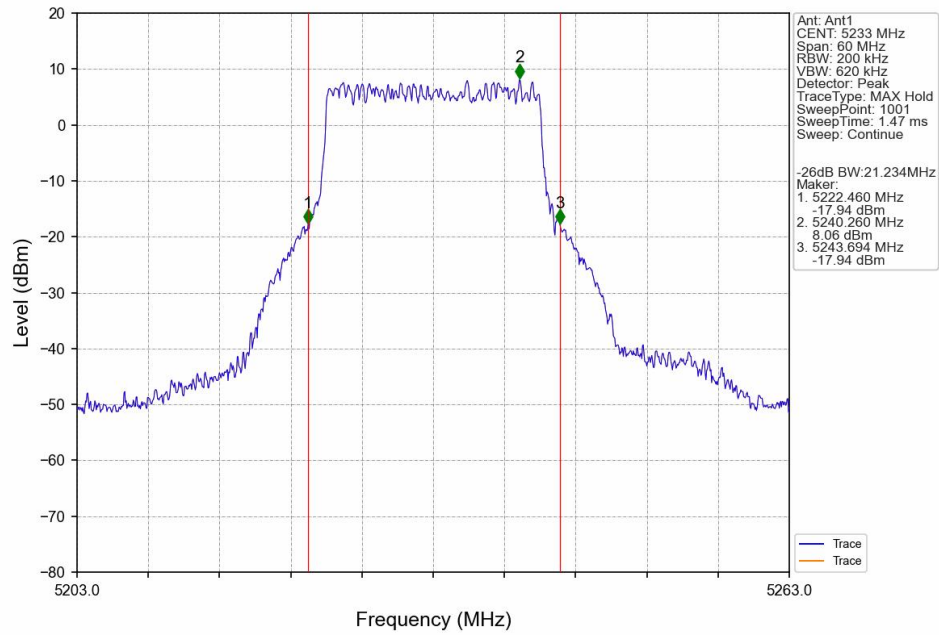
# 16QAM\_MCH\_5200MHz\_Ant1\_NTNV



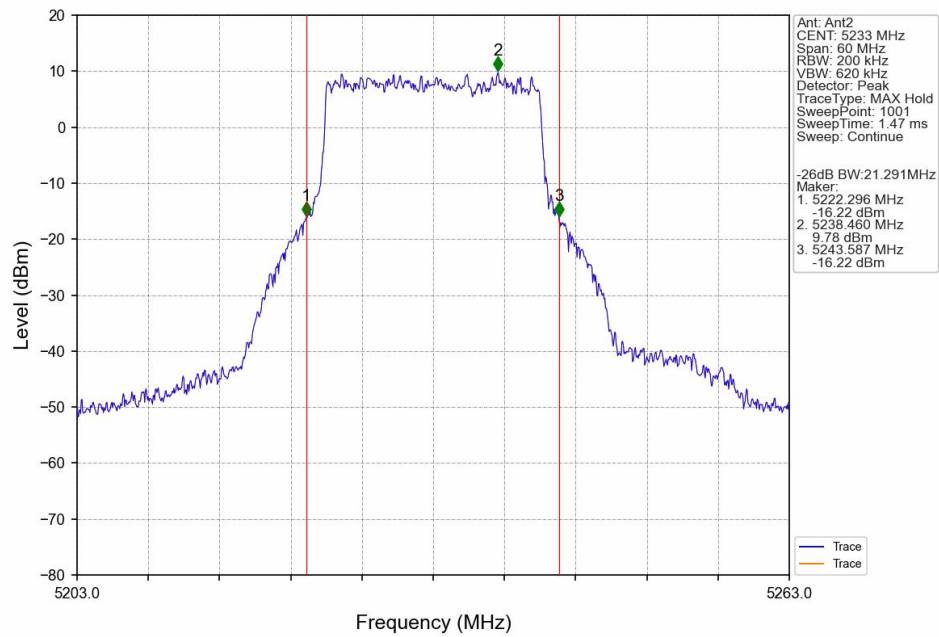
# 16QAM\_MCH\_5200MHz\_Ant2\_NTNV



# 16QAM\_HCH\_5233MHz\_Ant1\_NTNV



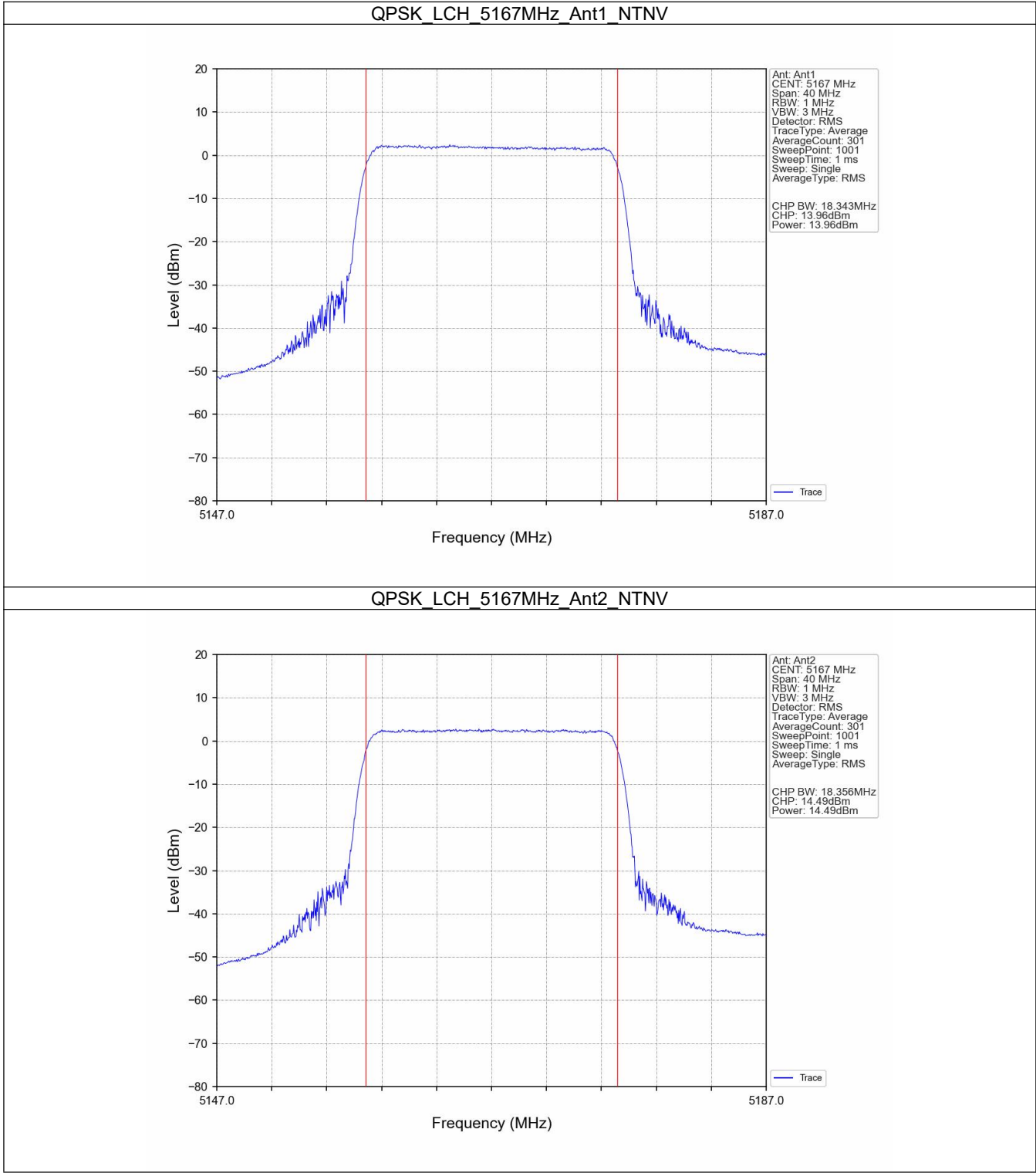
# 16QAM\_HCH\_5233MHz\_Ant2\_NTNV



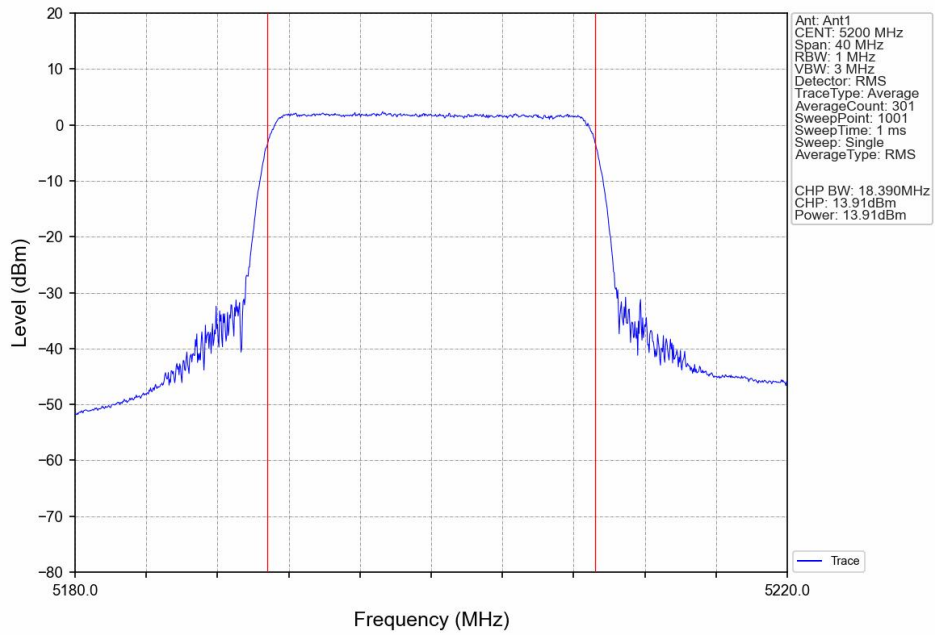
| Mode                                                                                          | TX Type | Frequency (MHz) | Maximum Average Conducted Output Power (dBm) |       |       |         | Verdict |
|-----------------------------------------------------------------------------------------------|---------|-----------------|----------------------------------------------|-------|-------|---------|---------|
|                                                                                               |         |                 | ANT1                                         | ANT2  | MIMO  | Limit   |         |
| QPSK                                                                                          | MIMO    | 5167            | 13.96                                        | 14.49 | 17.24 | <=23.37 | Pass    |
|                                                                                               |         | 5200            | 13.91                                        | 14.46 | 17.20 | <=23.37 | Pass    |
|                                                                                               |         | 5233            | 13.52                                        | 14.37 | 16.98 | <=23.37 | Pass    |
| 16QAM                                                                                         | MIMO    | 5167            | 13.96                                        | 14.48 | 17.24 | <=23.37 | Pass    |
|                                                                                               |         | 5200            | 13.89                                        | 14.43 | 17.18 | <=23.37 | Pass    |
|                                                                                               |         | 5233            | 13.50                                        | 14.37 | 16.97 | <=23.37 | Pass    |
| Note1: Antenna Gain: Ant1: 3.60dBi; Ant2: 3.60dBi;<br>Note2: Directional Gain: Band1: 6.61dBi |         |                 |                                              |       |       |         |         |

# 3.2 Test Graph

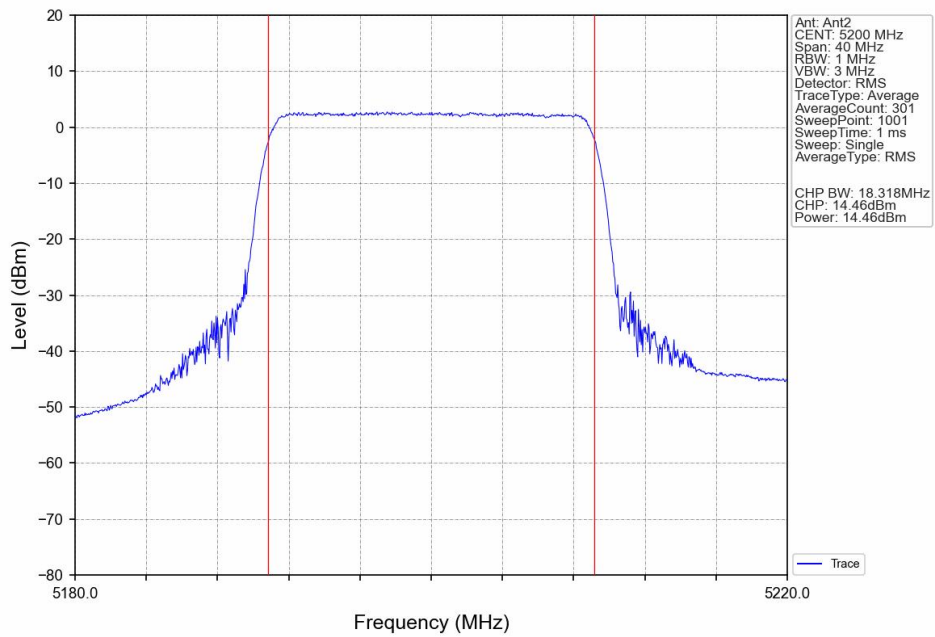
## 3.2.1 Power



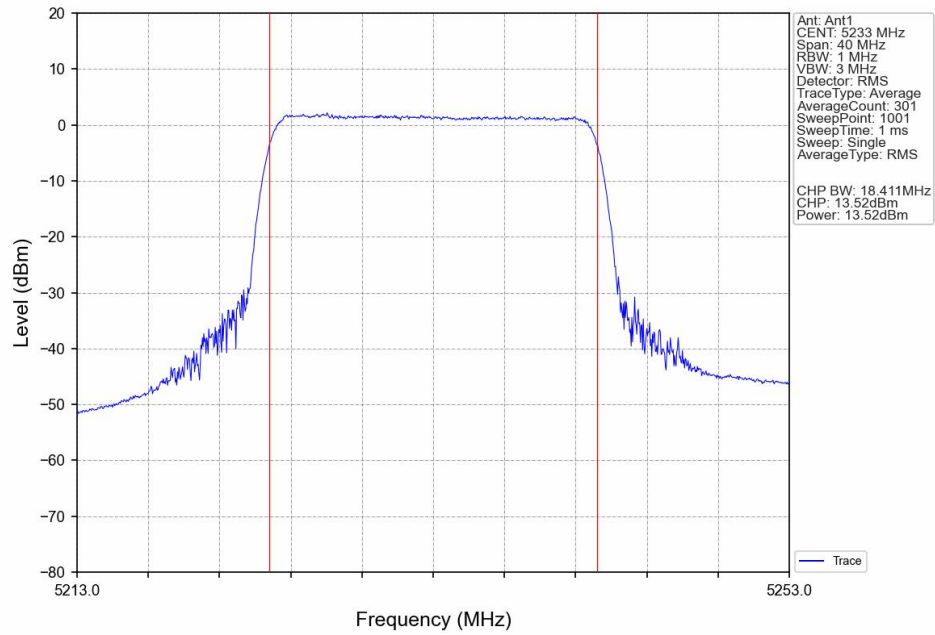
QPSK\_MCH\_5200MHz\_Ant1\_NTNV



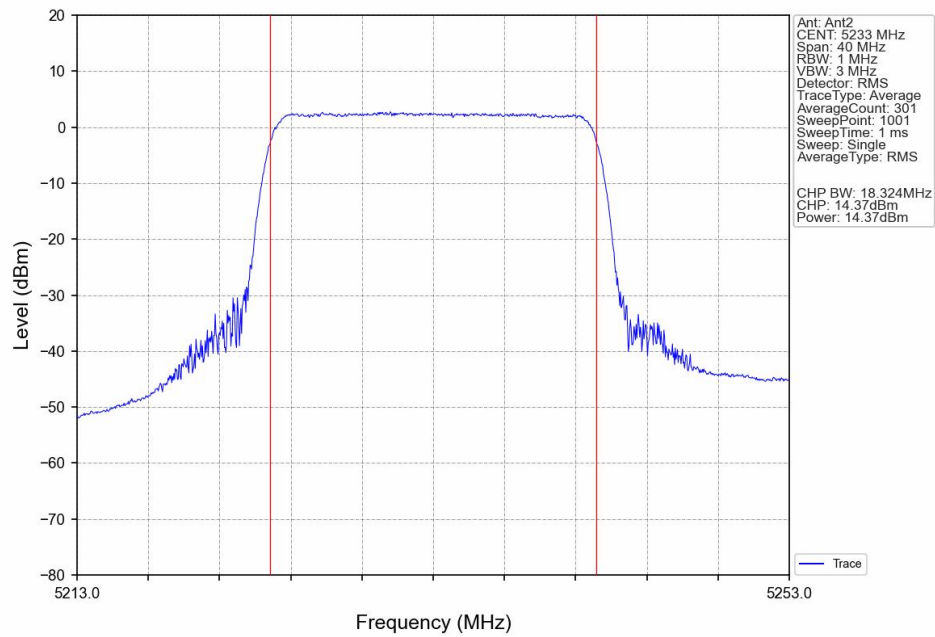
QPSK\_MCH\_5200MHz\_Ant2\_NTNV



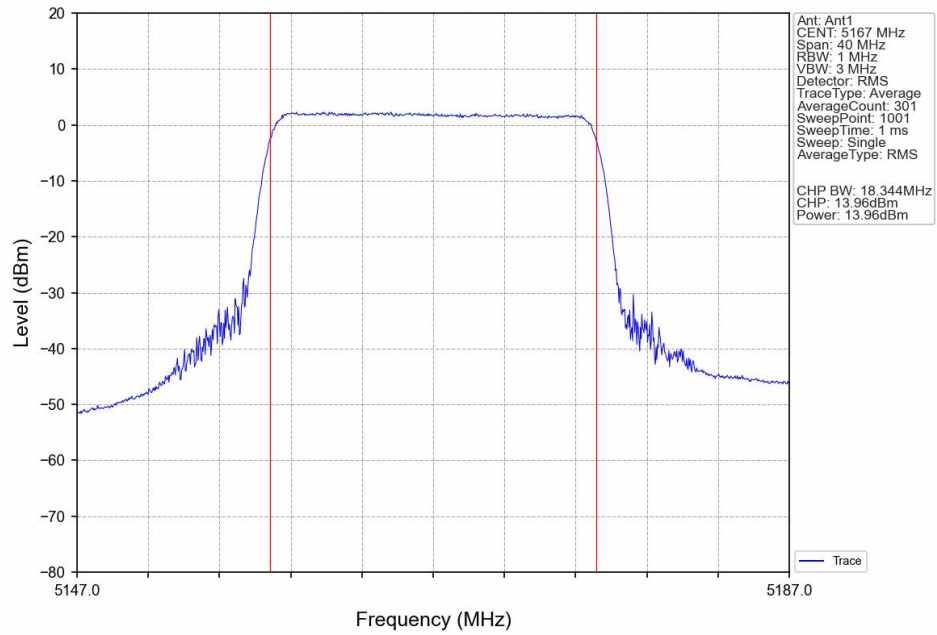
QPSK\_HCH\_5233MHz\_Ant1\_NTNV



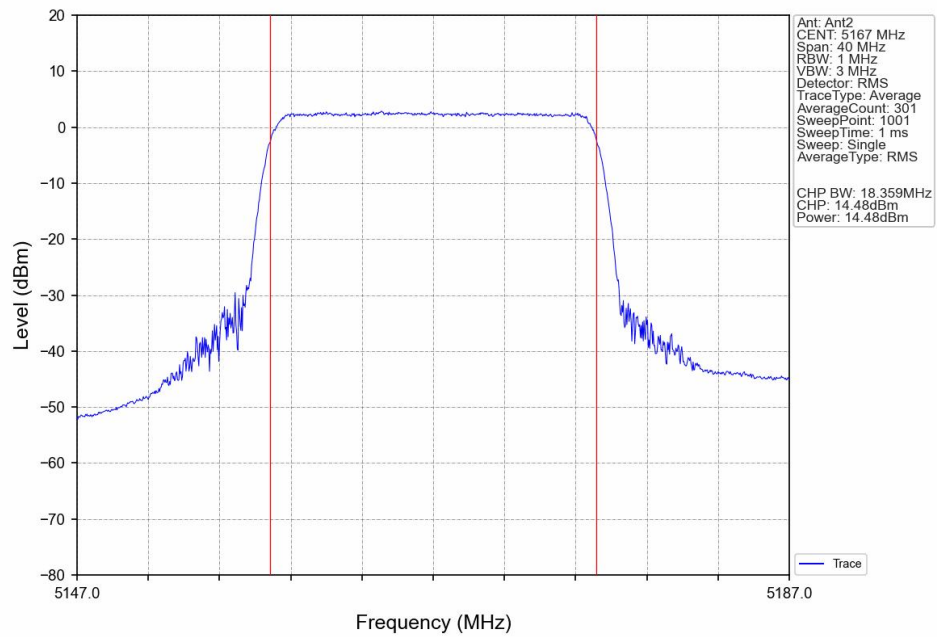
QPSK\_HCH\_5233MHz\_Ant2\_NTNV



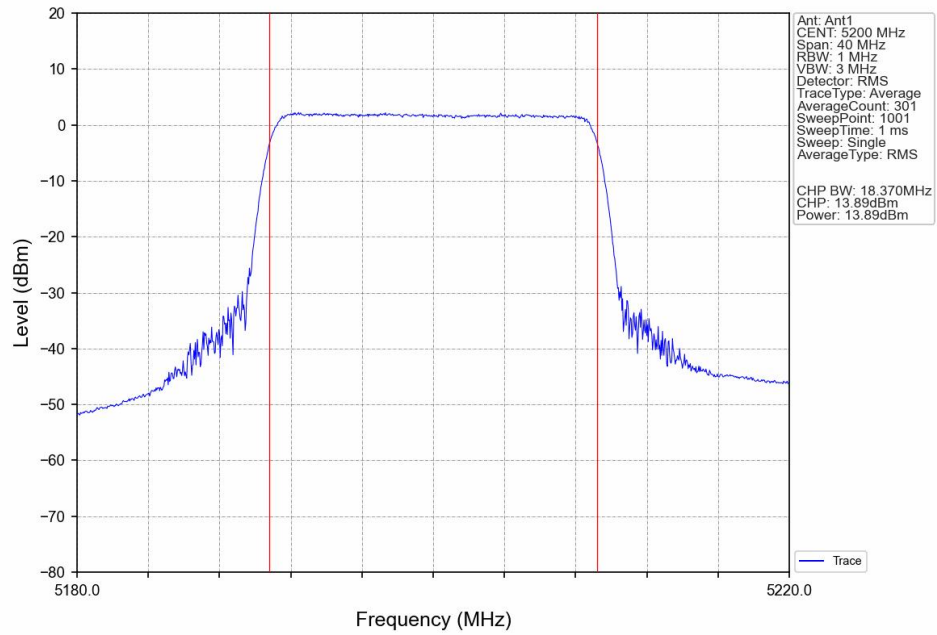
16QAM\_LCH\_5167MHz\_Ant1\_NTNV



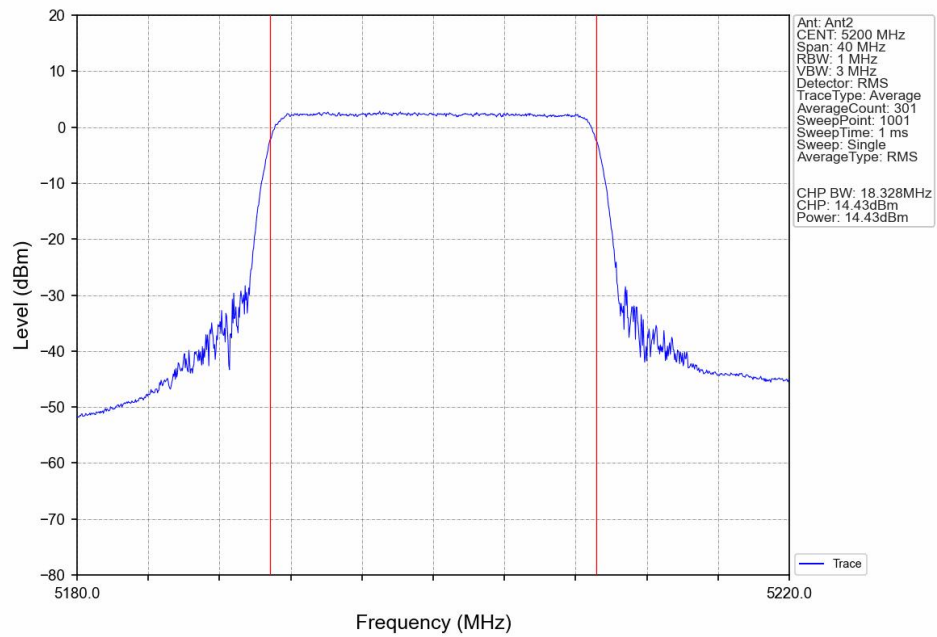
16QAM\_LCH\_5167MHz\_Ant2\_NTNV



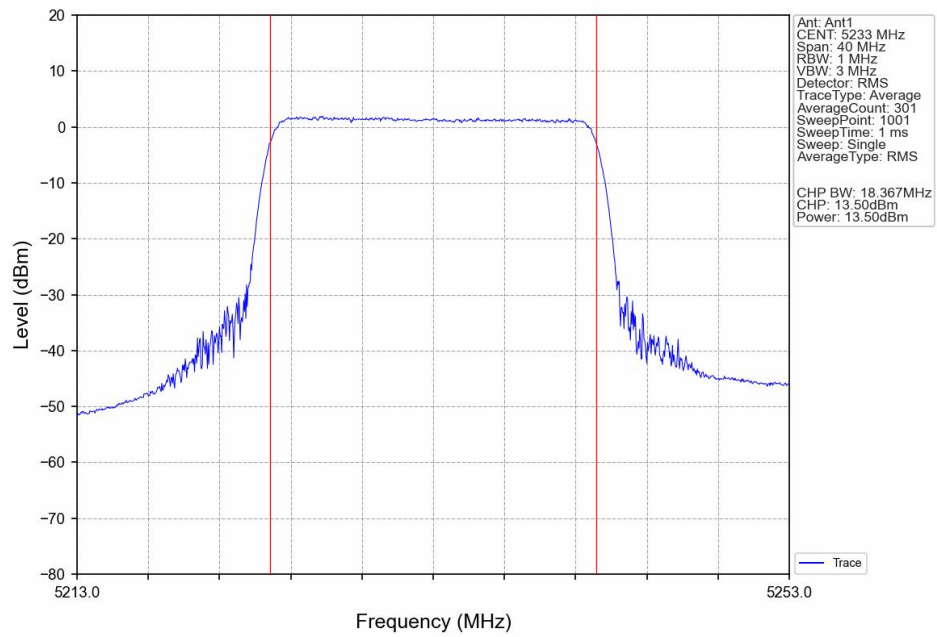
16QAM\_MCH\_5200MHz\_Ant1\_NTNV



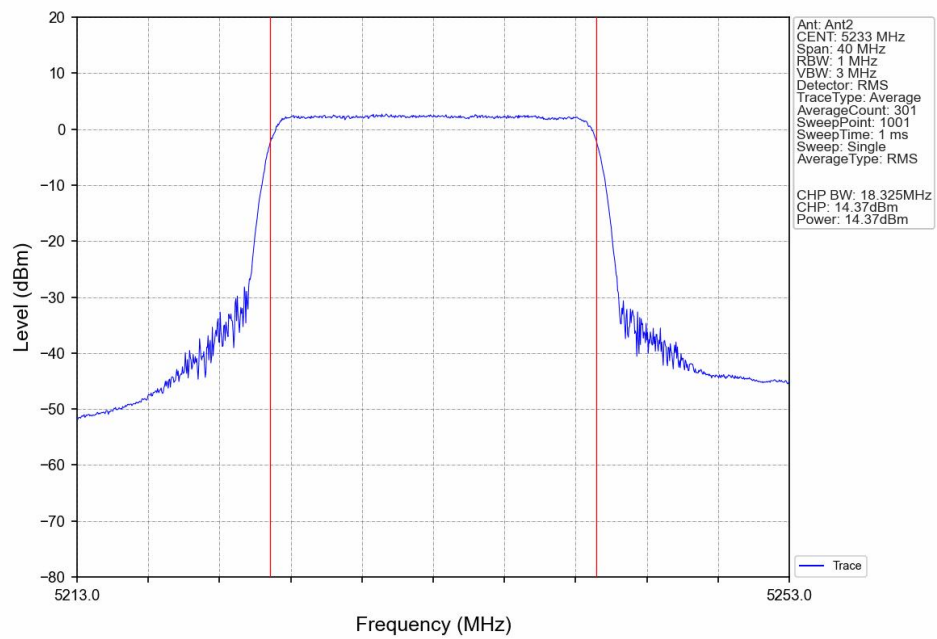
16QAM\_MCH\_5200MHz\_Ant2\_NTNV



16QAM\_HCH\_5233MHz\_Ant1\_NTNV



16QAM\_HCH\_5233MHz\_Ant2\_NTNV



#### 4. Maximum Power Spectral Density

## 4.1 Test Result

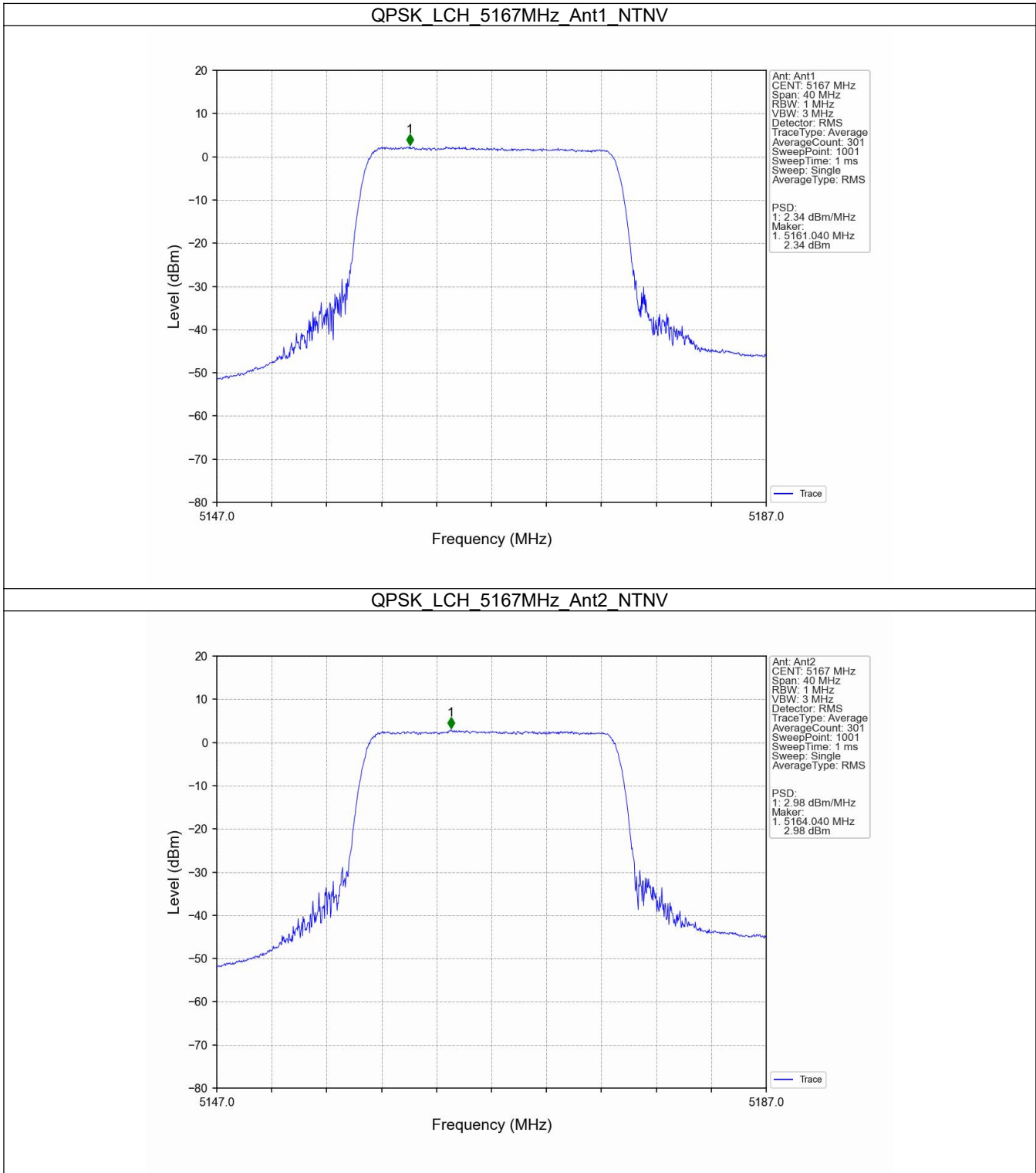
#### 4.1.1 PSD

| Mode  | TX Type | Frequency (MHz) | Maximum PSD (dBm/MHz) |      |      |         | Verdict |
|-------|---------|-----------------|-----------------------|------|------|---------|---------|
|       |         |                 | ANT1                  | ANT2 | MIMO | Limit   |         |
| QPSK  | MIMO    | 5167            | 2.34                  | 2.98 | 5.54 | <=10.39 | Pass    |
|       |         | 5200            | 2.28                  | 2.74 | 5.41 | <=10.39 | Pass    |
|       |         | 5233            | 1.86                  | 2.66 | 5.12 | <=10.39 | Pass    |
| 16QAM | MIMO    | 5167            | 2.32                  | 2.80 | 5.46 | <=10.39 | Pass    |
|       |         | 5200            | 2.23                  | 2.72 | 5.36 | <=10.39 | Pass    |
|       |         | 5233            | 1.92                  | 2.64 | 5.17 | <=10.39 | Pass    |

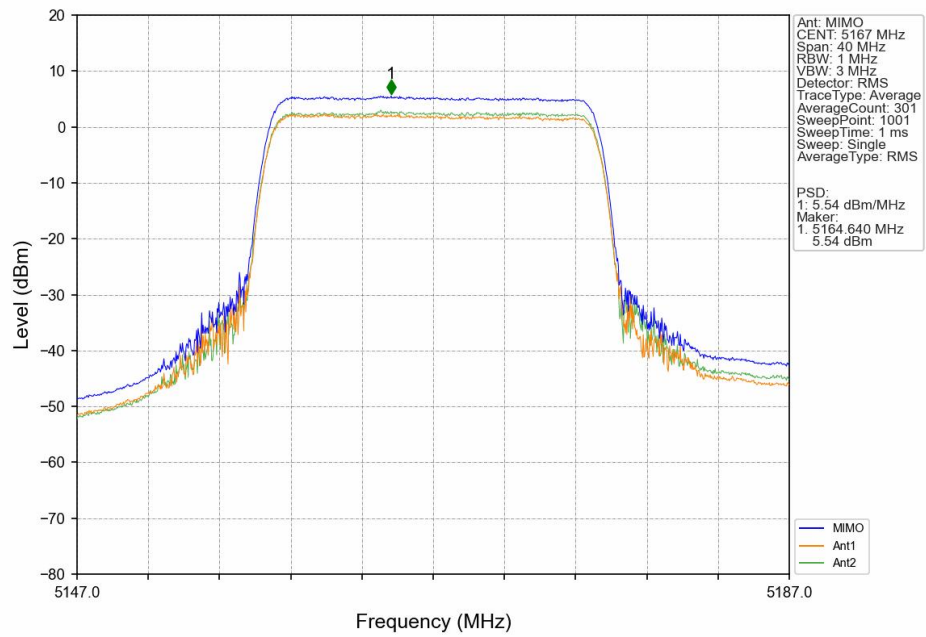
Note1: Antenna Gain: Ant1: 3.60dBi; Ant2: 3.60dBi;  
Note2: Directional Gain: Band1: 6.61dBi

## 4.2 Test Graph

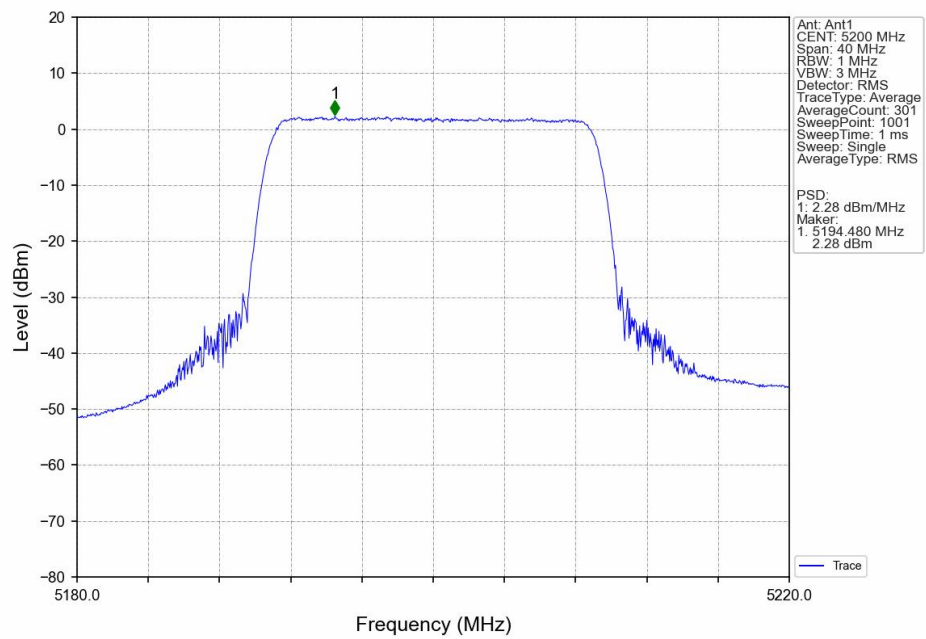
### 4.2.1 PSD



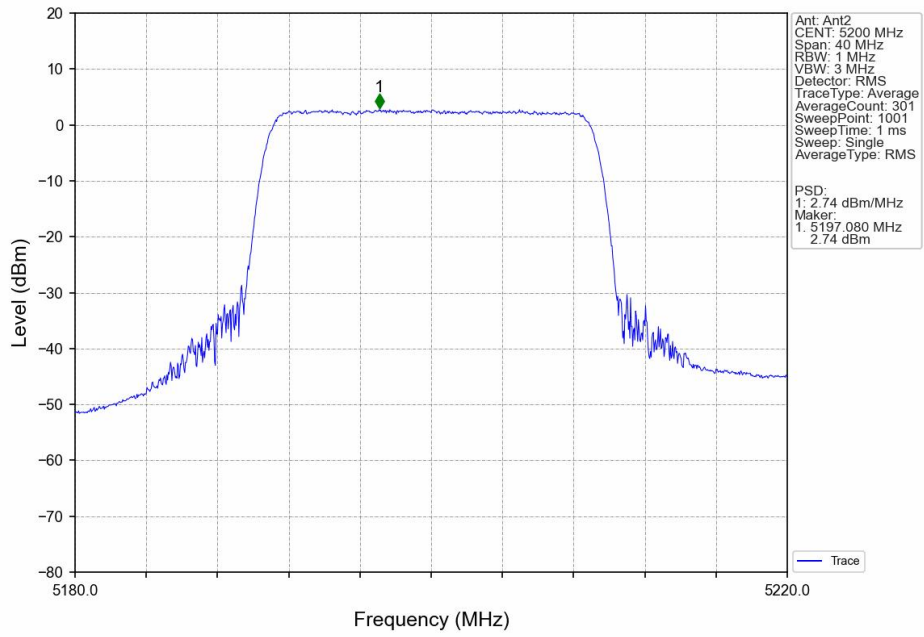
# QPSK\_LCH\_5167MHz\_MIMO\_NTNV



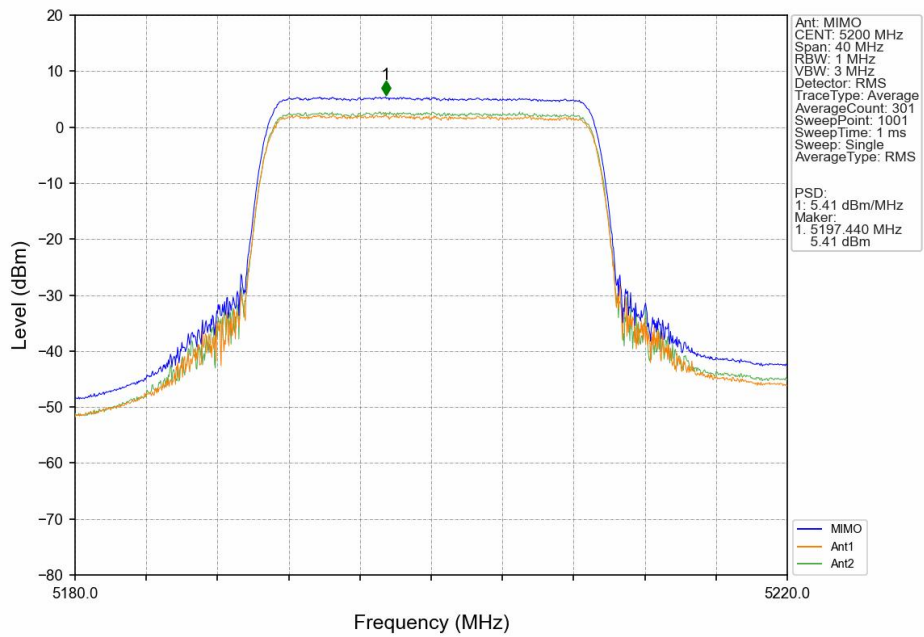
# QPSK\_MCH\_5200MHz\_Ant1\_NTNV



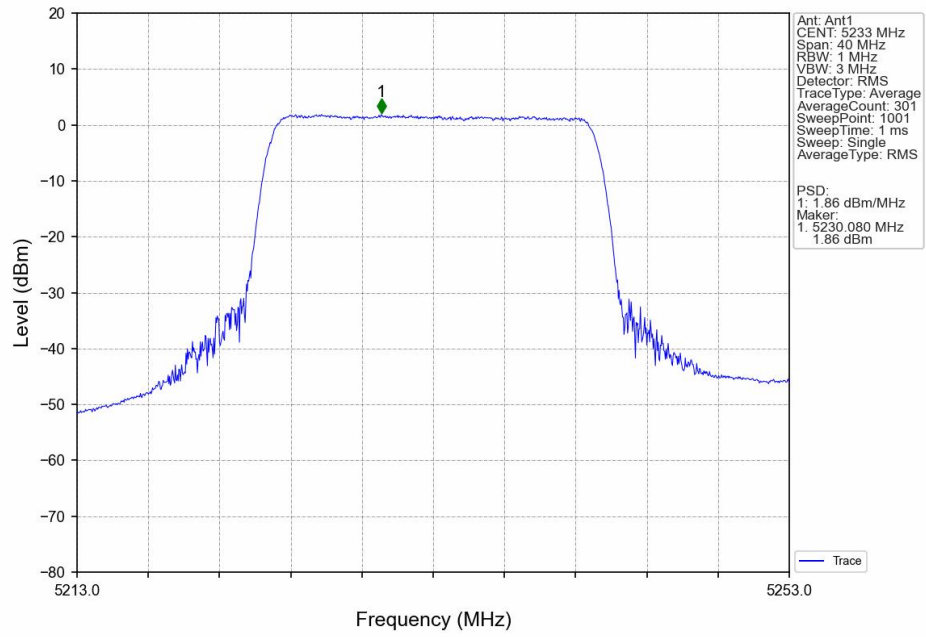
# QPSK\_MCH\_5200MHz\_Ant2\_NTNV



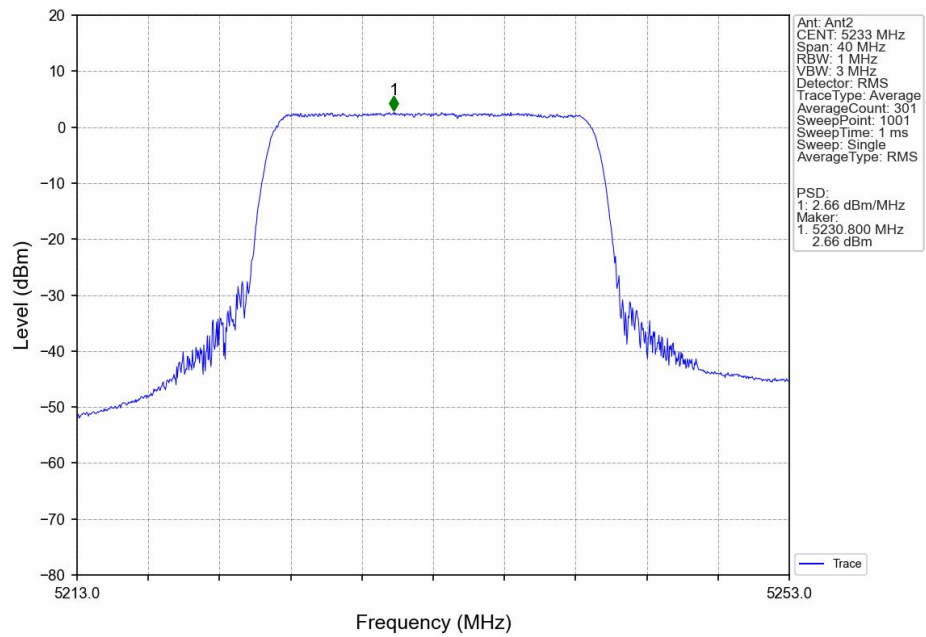
# QPSK\_MCH\_5200MHz\_MIMO\_NTNV



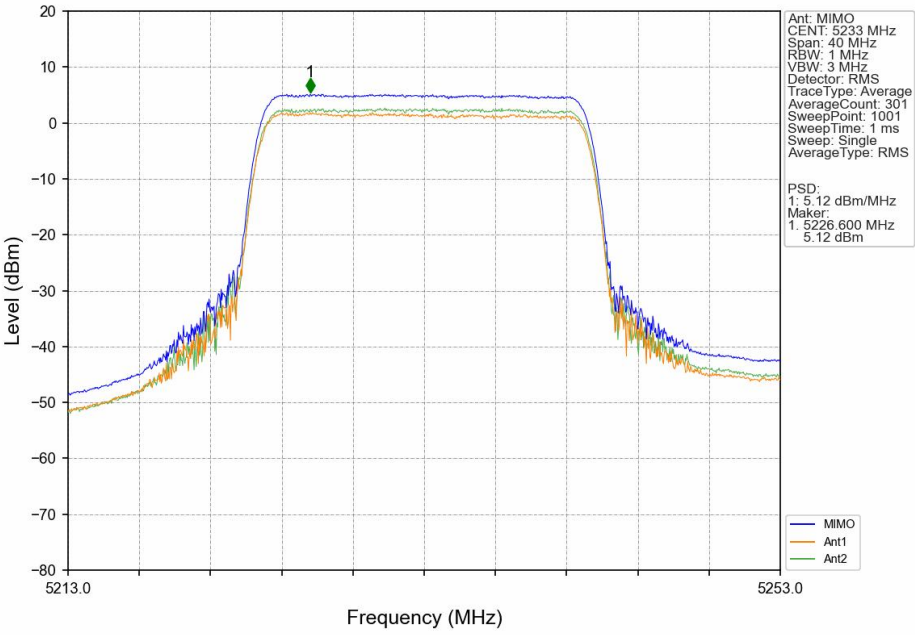
QPSK\_HCH\_5233MHz\_Ant1\_NTNV



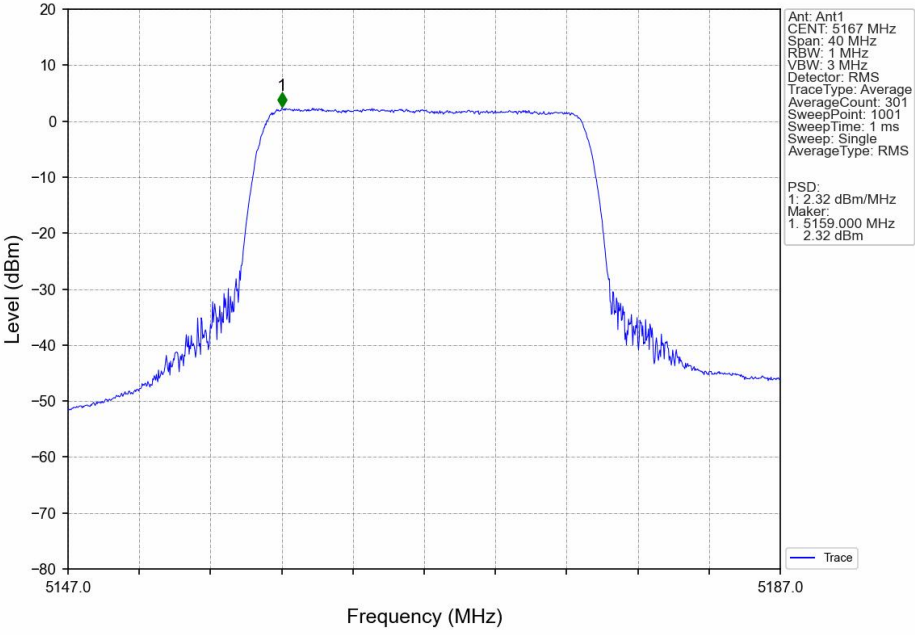
QPSK\_HCH\_5233MHz\_Ant2\_NTNV



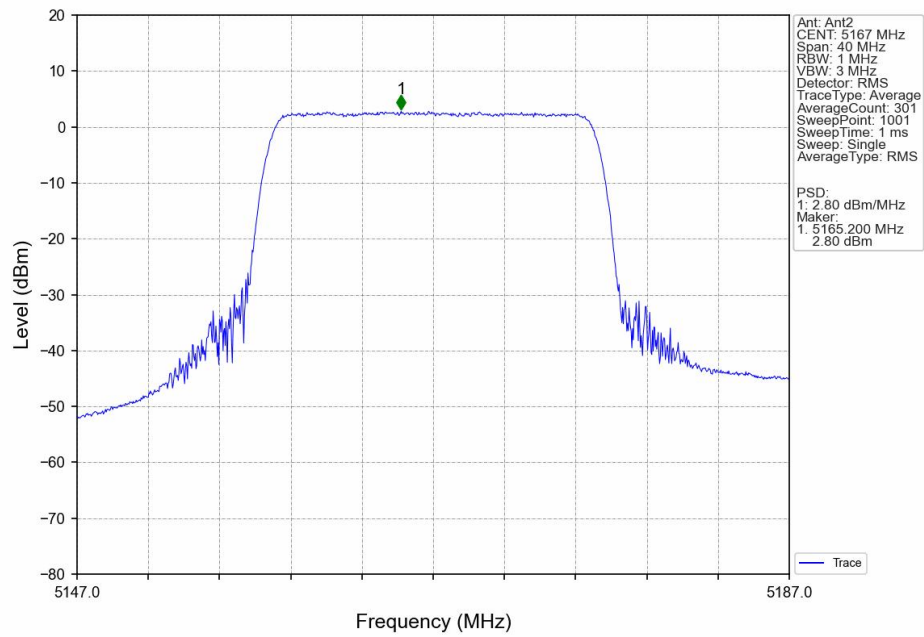
QPSK\_HCH\_5233MHz\_MIMO\_NTNV



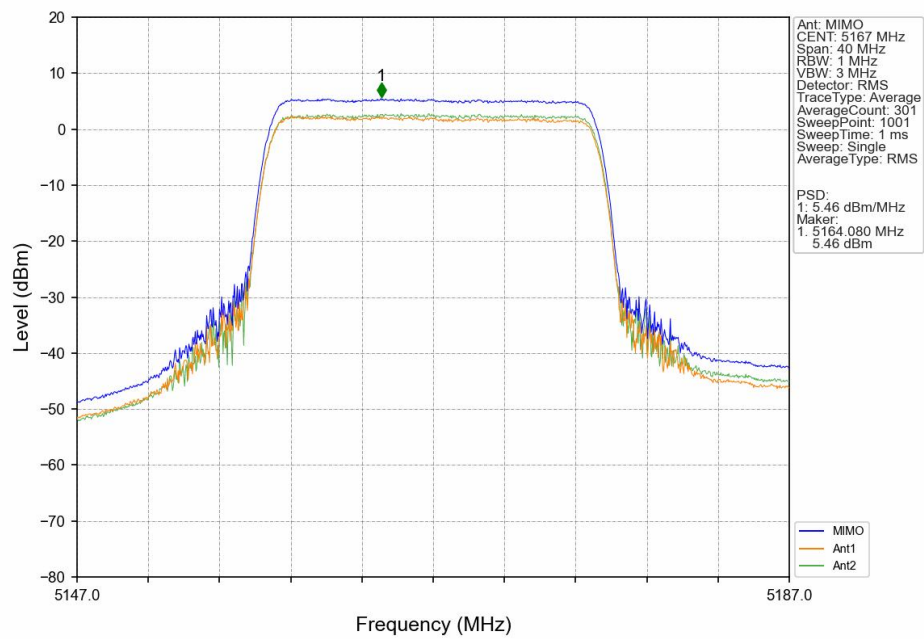
16QAM\_LCH\_5167MHz\_Ant1\_NTNV



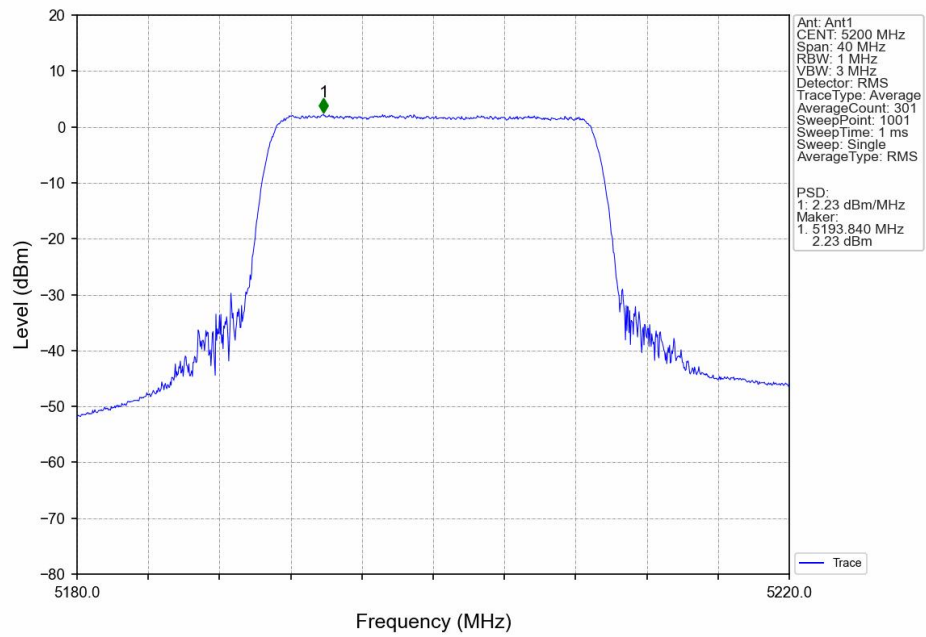
16QAM\_LCH\_5167MHz\_Ant2\_NTNV



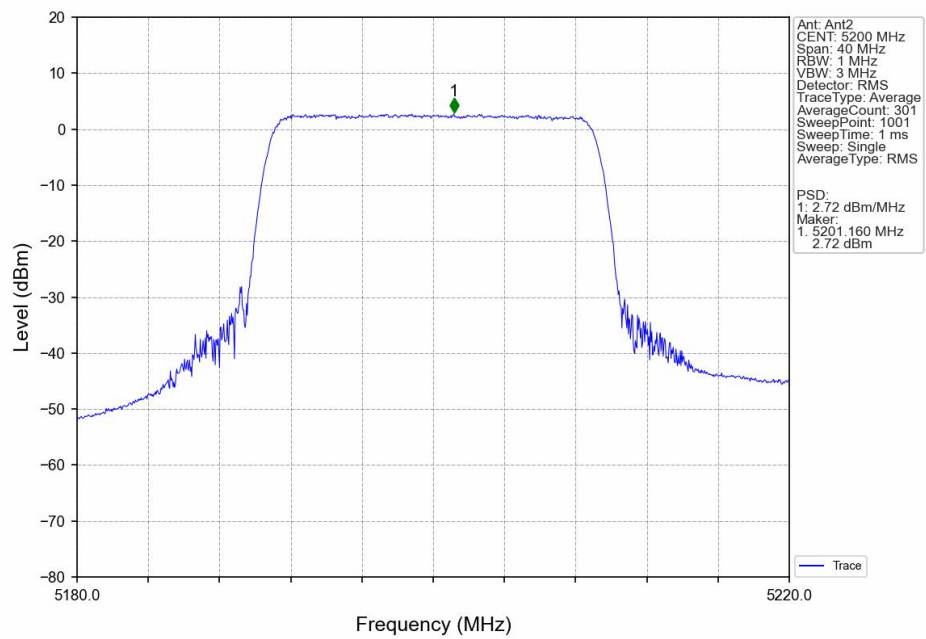
16QAM\_LCH\_5167MHz\_MIMO\_NTNV



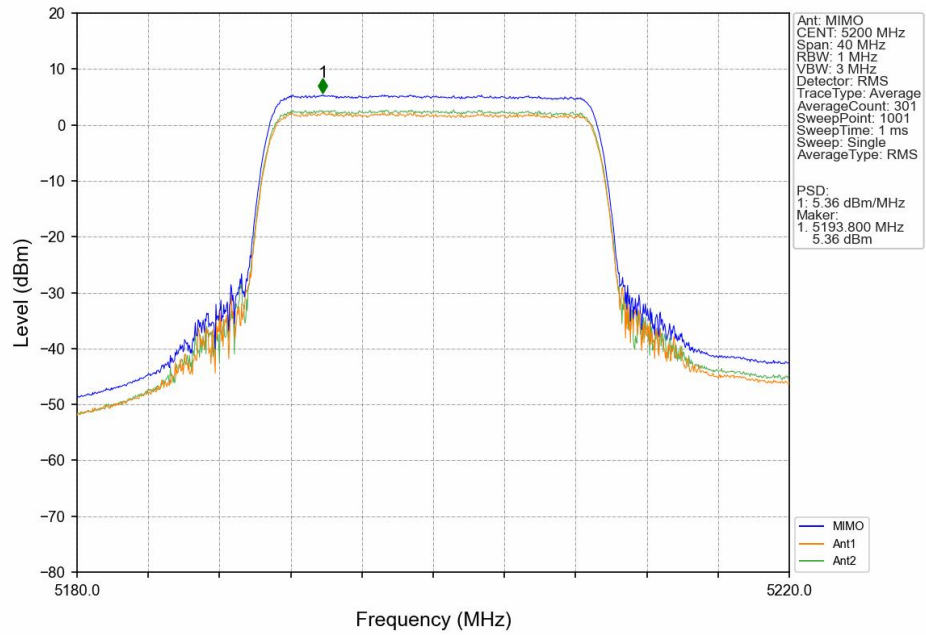
16QAM\_MCH\_5200MHz\_Ant1\_NTNV



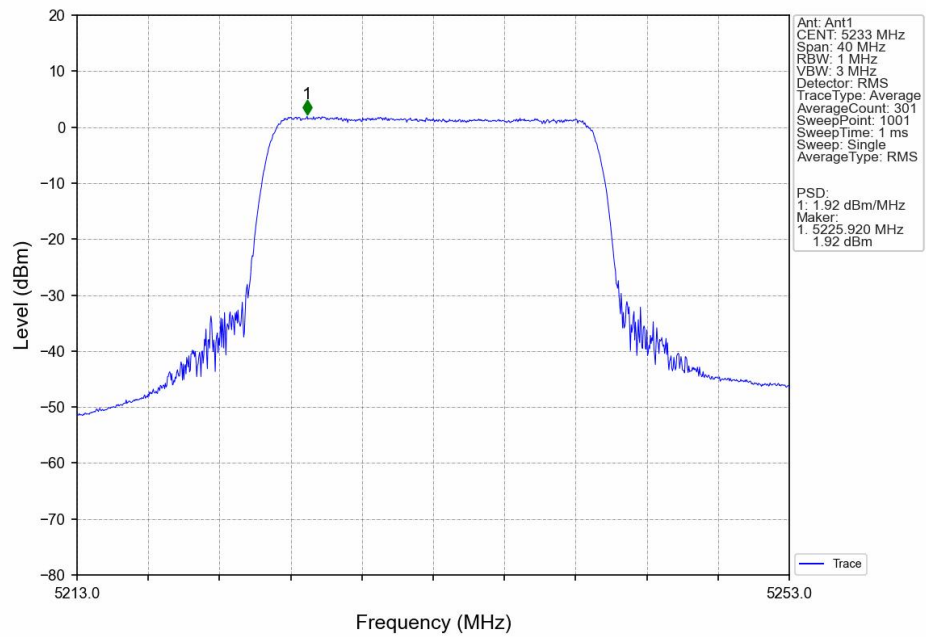
16QAM\_MCH\_5200MHz\_Ant2\_NTNV



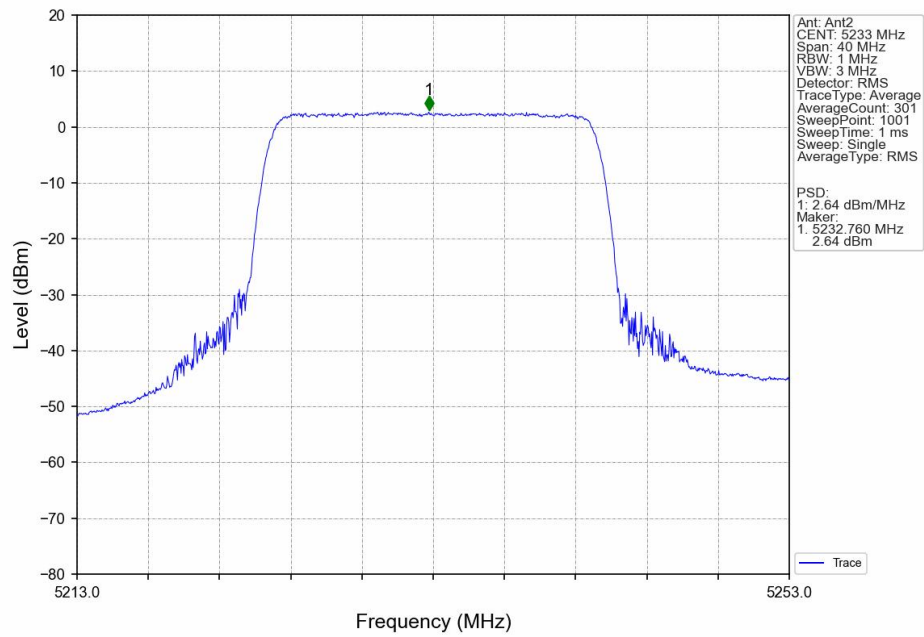
# 16QAM\_MCH\_5200MHz\_MIMO\_NTNV



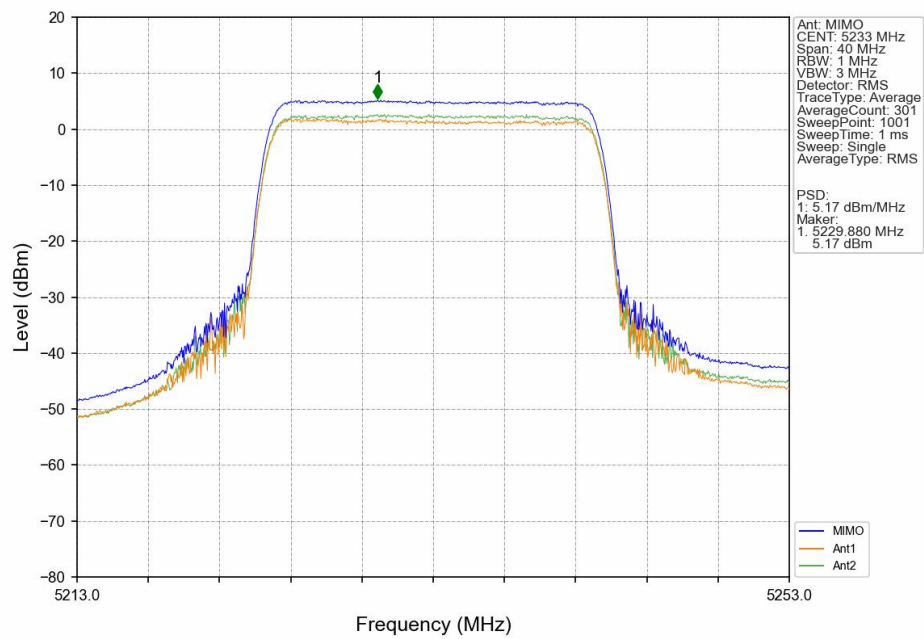
# 16QAM\_HCH\_5233MHz\_Ant1\_NTNV



16QAM\_HCH\_5233MHz\_Ant2\_NTNV



16QAM\_HCH\_5233MHz\_MIMO\_NTNV



## 5. Frequency Stability

### 5.1 Test Result

#### 5.1.1 Ant1

| Ant1  |         |                 |                  |               |                          |              |         |
|-------|---------|-----------------|------------------|---------------|--------------------------|--------------|---------|
| Mode  | TX Type | Frequency (MHz) | Temperature (°C) | Voltage (VAC) | Measured Frequency (MHz) | Limit (MHz)  | Verdict |
| QPSK  | MIMO    | 5167            | 20               | 102           | 5166.960                 | 5150 to 5250 | Pass    |
|       |         |                 |                  | 120           | 5166.960                 | 5150 to 5250 | Pass    |
|       |         |                 |                  | 138           | 5167.000                 | 5150 to 5250 | Pass    |
|       |         |                 | -30              | 120           | 5166.980                 | 5150 to 5250 | Pass    |
|       |         |                 | -20              | 120           | 5166.980                 | 5150 to 5250 | Pass    |
|       |         |                 | -10              | 120           | 5166.980                 | 5150 to 5250 | Pass    |
|       |         |                 | 0                | 120           | 5166.960                 | 5150 to 5250 | Pass    |
|       |         |                 | 10               | 120           | 5166.980                 | 5150 to 5250 | Pass    |
|       |         |                 | 30               | 120           | 5166.960                 | 5150 to 5250 | Pass    |
|       |         |                 | 40               | 120           | 5166.980                 | 5150 to 5250 | Pass    |
|       |         |                 | 50               | 120           | 5166.960                 | 5150 to 5250 | Pass    |
|       |         | 5200            | 20               | 102           | 5200.040                 | 5150 to 5250 | Pass    |
|       |         |                 |                  | 120           | 5200.020                 | 5150 to 5250 | Pass    |
|       |         |                 |                  | 138           | 5200.020                 | 5150 to 5250 | Pass    |
|       |         |                 | -30              | 120           | 5200.020                 | 5150 to 5250 | Pass    |
|       |         |                 | -20              | 120           | 5200.020                 | 5150 to 5250 | Pass    |
|       |         |                 | -10              | 120           | 5200.040                 | 5150 to 5250 | Pass    |
|       |         |                 | 0                | 120           | 5200.040                 | 5150 to 5250 | Pass    |
|       |         |                 | 10               | 120           | 5200.000                 | 5150 to 5250 | Pass    |
|       |         |                 | 30               | 120           | 5200.020                 | 5150 to 5250 | Pass    |
|       |         |                 | 40               | 120           | 5200.020                 | 5150 to 5250 | Pass    |
|       |         |                 | 50               | 120           | 5200.020                 | 5150 to 5250 | Pass    |
|       |         | 5233            | 20               | 102           | 5233.000                 | 5150 to 5250 | Pass    |
|       |         |                 |                  | 120           | 5232.980                 | 5150 to 5250 | Pass    |
|       |         |                 |                  | 138           | 5232.980                 | 5150 to 5250 | Pass    |
|       |         |                 | -30              | 120           | 5232.980                 | 5150 to 5250 | Pass    |
|       |         |                 | -20              | 120           | 5233.000                 | 5150 to 5250 | Pass    |
|       |         |                 | -10              | 120           | 5232.980                 | 5150 to 5250 | Pass    |
|       |         |                 | 0                | 120           | 5233.000                 | 5150 to 5250 | Pass    |
|       |         |                 | 10               | 120           | 5233.000                 | 5150 to 5250 | Pass    |
|       |         |                 | 30               | 120           | 5232.980                 | 5150 to 5250 | Pass    |
|       |         |                 | 40               | 120           | 5233.020                 | 5150 to 5250 | Pass    |
|       |         |                 | 50               | 120           | 5233.000                 | 5150 to 5250 | Pass    |
| 16QAM | MIMO    | 5167            | 20               | 102           | 5167.000                 | 5150 to 5250 | Pass    |
|       |         |                 |                  | 120           | 5167.020                 | 5150 to 5250 | Pass    |
|       |         |                 |                  | 138           | 5167.020                 | 5150 to 5250 | Pass    |
|       |         |                 | -30              | 120           | 5167.000                 | 5150 to 5250 | Pass    |
|       |         |                 | -20              | 120           | 5167.020                 | 5150 to 5250 | Pass    |
|       |         |                 | -10              | 120           | 5167.040                 | 5150 to 5250 | Pass    |
|       |         |                 | 0                | 120           | 5167.020                 | 5150 to 5250 | Pass    |
|       |         |                 | 10               | 120           | 5167.000                 | 5150 to 5250 | Pass    |
|       |         |                 | 30               | 120           | 5167.020                 | 5150 to 5250 | Pass    |
|       |         |                 | 40               | 120           | 5167.020                 | 5150 to 5250 | Pass    |
|       |         |                 | 50               | 120           | 5167.000                 | 5150 to 5250 | Pass    |
|       |         | 5200            | 20               | 102           | 5199.980                 | 5150 to 5250 | Pass    |
|       |         |                 |                  | 120           | 5199.960                 | 5150 to 5250 | Pass    |

|  |  |      |     |     |          |              |      |
|--|--|------|-----|-----|----------|--------------|------|
|  |  |      |     | 138 | 5199.980 | 5150 to 5250 | Pass |
|  |  |      | -30 | 120 | 5200.000 | 5150 to 5250 | Pass |
|  |  |      | -20 | 120 | 5199.980 | 5150 to 5250 | Pass |
|  |  |      | -10 | 120 | 5199.980 | 5150 to 5250 | Pass |
|  |  |      | 0   | 120 | 5200.000 | 5150 to 5250 | Pass |
|  |  |      | 10  | 120 | 5200.000 | 5150 to 5250 | Pass |
|  |  |      | 30  | 120 | 5199.980 | 5150 to 5250 | Pass |
|  |  |      | 40  | 120 | 5200.020 | 5150 to 5250 | Pass |
|  |  |      | 50  | 120 | 5199.980 | 5150 to 5250 | Pass |
|  |  | 5233 | 20  | 102 | 5233.020 | 5150 to 5250 | Pass |
|  |  |      |     | 120 | 5233.020 | 5150 to 5250 | Pass |
|  |  |      |     | 138 | 5233.040 | 5150 to 5250 | Pass |
|  |  |      | -30 | 120 | 5233.020 | 5150 to 5250 | Pass |
|  |  |      | -20 | 120 | 5233.020 | 5150 to 5250 | Pass |
|  |  |      | -10 | 120 | 5233.020 | 5150 to 5250 | Pass |
|  |  |      | 0   | 120 | 5233.000 | 5150 to 5250 | Pass |
|  |  |      | 10  | 120 | 5233.020 | 5150 to 5250 | Pass |
|  |  |      | 30  | 120 | 5233.020 | 5150 to 5250 | Pass |
|  |  |      | 40  | 120 | 5233.020 | 5150 to 5250 | Pass |
|  |  |      | 50  | 120 | 5233.060 | 5150 to 5250 | Pass |

## 6. Form731

### 6.1 Test Result

#### 6.1.1 Form731

| Lower Freq (MHz) | High Freq (MHz) | MAX Power (W) | MAX Power (dBm) |
|------------------|-----------------|---------------|-----------------|
| 5167             | 5233            | 0.0530        | 17.24           |