

### 1.1.1 B13\_5MHz\_ERP

Note1: ERP=Conducted Power+Antenna Gain-2.15

### 1.1.2 B13\_10MHz\_ERP

| Band: 13 / Bandwidth: 10MHz / NTNV           |                 |               |        |                       |            |           |         |         |
|----------------------------------------------|-----------------|---------------|--------|-----------------------|------------|-----------|---------|---------|
| Modulation                                   | Frequency (MHz) | RB Allocation |        | Conducted Power (dBm) | Gain (dBi) | ERP (dBm) |         | Verdict |
|                                              |                 | Size          | Offset |                       |            | Result    | Limit   |         |
| QPSK                                         | 782             | 1             | 0      | 22.76                 | -2.18      | 18.43     | <=34.77 | Pass    |
|                                              |                 |               | 25     | 22.80                 | -2.18      | 18.47     | <=34.77 | Pass    |
|                                              |                 |               | 49     | 22.61                 | -2.18      | 18.28     | <=34.77 | Pass    |
|                                              |                 | 25            | 0      | 21.40                 | -2.18      | 17.07     | <=34.77 | Pass    |
|                                              |                 |               | 13     | 21.70                 | -2.18      | 17.37     | <=34.77 | Pass    |
|                                              |                 |               | 25     | 21.47                 | -2.18      | 17.14     | <=34.77 | Pass    |
|                                              |                 | 50            | 0      | 21.42                 | -2.18      | 17.09     | <=34.77 | Pass    |
| 16QAM                                        | 782             | 1             | 0      | 21.93                 | -2.18      | 17.60     | <=34.77 | Pass    |
|                                              |                 |               | 25     | 22.03                 | -2.18      | 17.70     | <=34.77 | Pass    |
|                                              |                 |               | 49     | 21.82                 | -2.18      | 17.49     | <=34.77 | Pass    |
|                                              |                 | 25            | 0      | 20.47                 | -2.18      | 16.14     | <=34.77 | Pass    |
|                                              |                 |               | 13     | 20.77                 | -2.18      | 16.44     | <=34.77 | Pass    |
|                                              |                 |               | 25     | 20.46                 | -2.18      | 16.13     | <=34.77 | Pass    |
|                                              |                 | 50            | 0      | 20.46                 | -2.18      | 16.13     | <=34.77 | Pass    |
| Note1: ERP=Conducted Power+Antenna Gain-2.15 |                 |               |        |                       |            |           |         |         |

## 2. Frequency Stability

### 2.1 Test Result

#### 2.1.1 B13\_10MHz

| Band: 13 / Bandwidth: 10MHz |                    |               |        |               |                  |                     |                       |             |         |
|-----------------------------|--------------------|---------------|--------|---------------|------------------|---------------------|-----------------------|-------------|---------|
| Modulation                  | Frequency<br>(MHz) | RB Allocation |        | Temp.<br>(°C) | Voltage<br>(VDC) | Freq. Error<br>(Hz) | Freq. vs. Rated (ppm) |             | Verdict |
|                             |                    | Size          | Offset |               |                  |                     | Result                | Limit       |         |
| QPSK                        | 782                | 50            | 0      | 20            | 3.40             | -6.480              | -0.0083               | -2.5 to 2.5 | Pass    |
|                             |                    |               |        |               | 3.70             | -5.507              | -0.0070               | -2.5 to 2.5 | Pass    |
|                             |                    |               |        |               | 4.20             | -4.535              | -0.0058               | -2.5 to 2.5 | Pass    |
|                             |                    |               |        | -30           | 3.70             | -6.967              | -0.0089               | -2.5 to 2.5 | Pass    |
|                             |                    |               |        | -20           | 3.70             | -7.010              | -0.0090               | -2.5 to 2.5 | Pass    |
|                             |                    |               |        | -10           | 3.70             | -5.136              | -0.0066               | -2.5 to 2.5 | Pass    |
|                             |                    |               |        | 0             | 3.70             | -7.854              | -0.0100               | -2.5 to 2.5 | Pass    |
|                             |                    |               |        | 10            | 3.70             | -5.994              | -0.0077               | -2.5 to 2.5 | Pass    |
|                             |                    |               |        | 30            | 3.70             | -6.938              | -0.0089               | -2.5 to 2.5 | Pass    |
|                             |                    |               |        | 40            | 3.70             | -4.420              | -0.0057               | -2.5 to 2.5 | Pass    |
|                             |                    |               |        | 50            | 3.70             | -7.825              | -0.0100               | -2.5 to 2.5 | Pass    |

### 3. 99% & 26dB Bandwidth

#### 3.1 Test Result

##### 3.1.1 Band13\_OBW

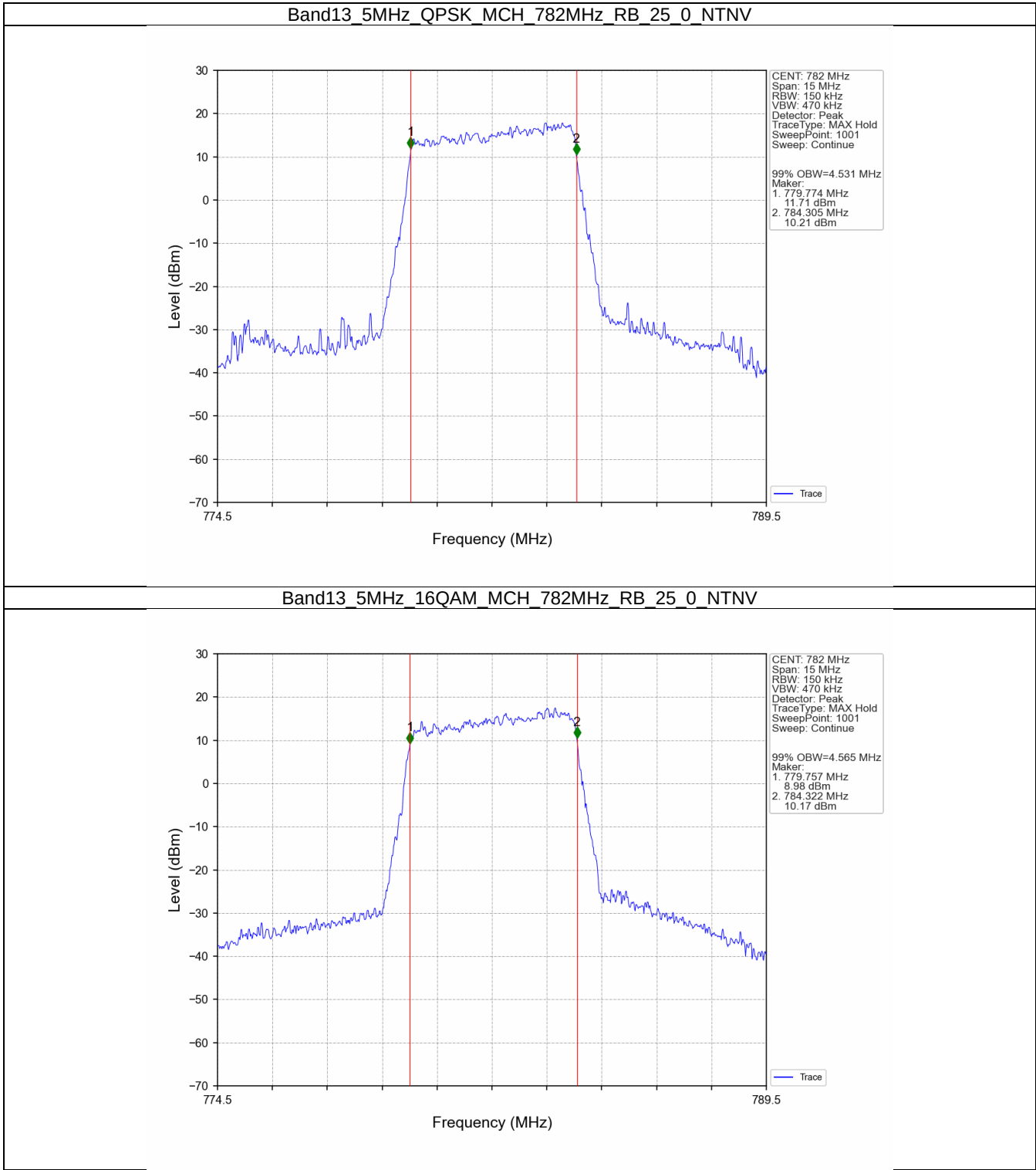
| Band: 13 / NTNV |            |                 |               |        |                              |       |         |
|-----------------|------------|-----------------|---------------|--------|------------------------------|-------|---------|
| Bandwidth (MHz) | Modulation | Frequency (MHz) | RB Allocation |        | 99% Occupied Bandwidth (MHz) |       | Verdict |
|                 |            |                 | Size          | Offset | Result                       | Limit |         |
| 5               | QPSK       | 782             | 25            | 0      | 4.531                        | /     | Pass    |
|                 | 16QAM      | 782             | 25            | 0      | 4.565                        | /     | Pass    |
| 10              | QPSK       | 782             | 50            | 0      | 8.986                        | /     | Pass    |
|                 | 16QAM      | 782             | 50            | 0      | 9.003                        | /     | Pass    |

##### 3.1.2 Band13\_XDB

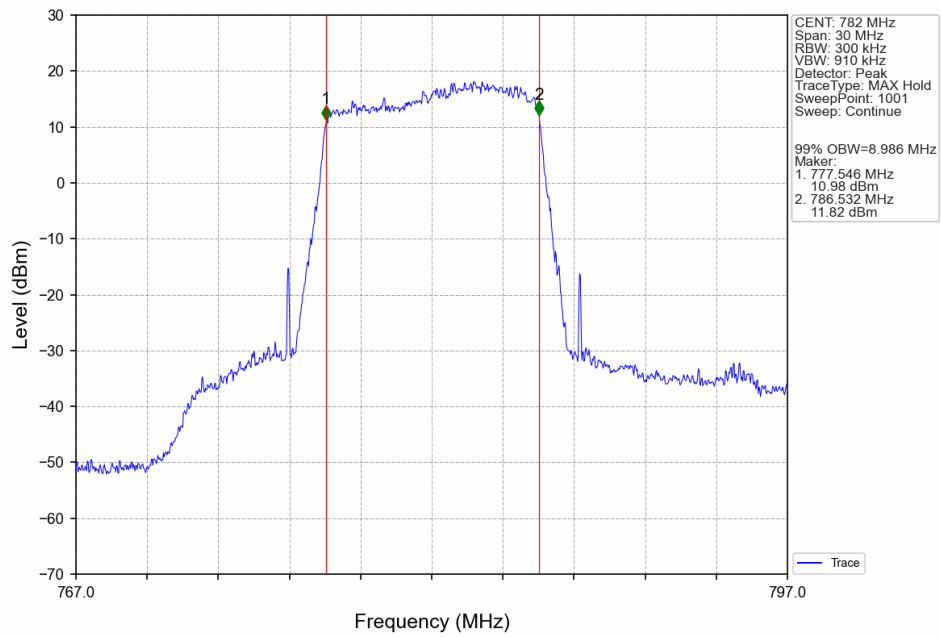
| Band: 13 / NTNV |            |                 |               |        |                      |       |         |
|-----------------|------------|-----------------|---------------|--------|----------------------|-------|---------|
| Bandwidth (MHz) | Modulation | Frequency (MHz) | RB Allocation |        | 26dB Bandwidth (MHz) |       | Verdict |
|                 |            |                 | Size          | Offset | Result               | Limit |         |
| 5               | QPSK       | 782             | 25            | 0      | 5.182                | /     | Pass    |
|                 | 16QAM      | 782             | 25            | 0      | 5.183                | /     | Pass    |
| 10              | QPSK       | 782             | 50            | 0      | 10.043               | /     | Pass    |
|                 | 16QAM      | 782             | 50            | 0      | 9.920                | /     | Pass    |

3.2 Test Graph

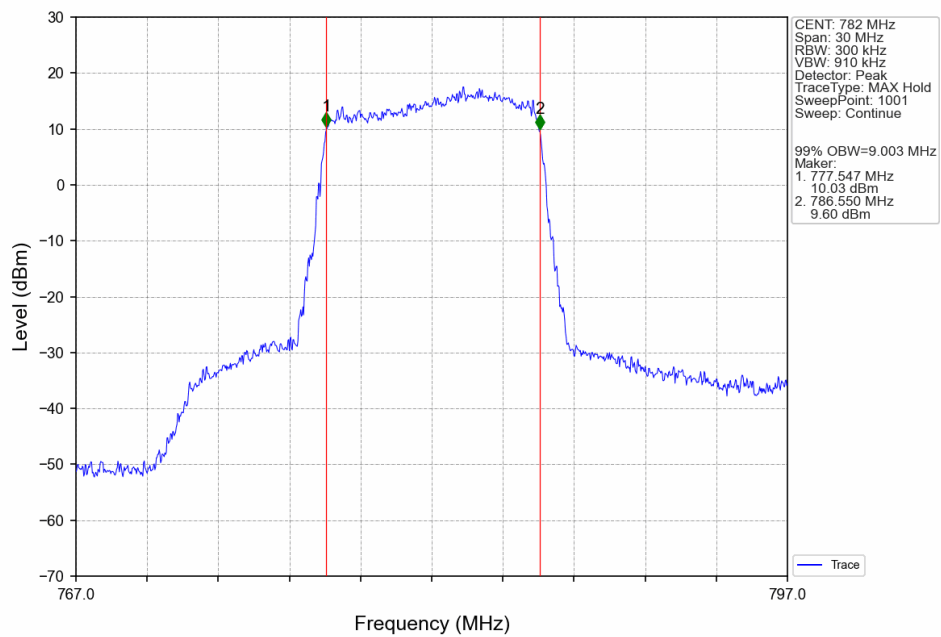
3.2.1 Band13\_OBW



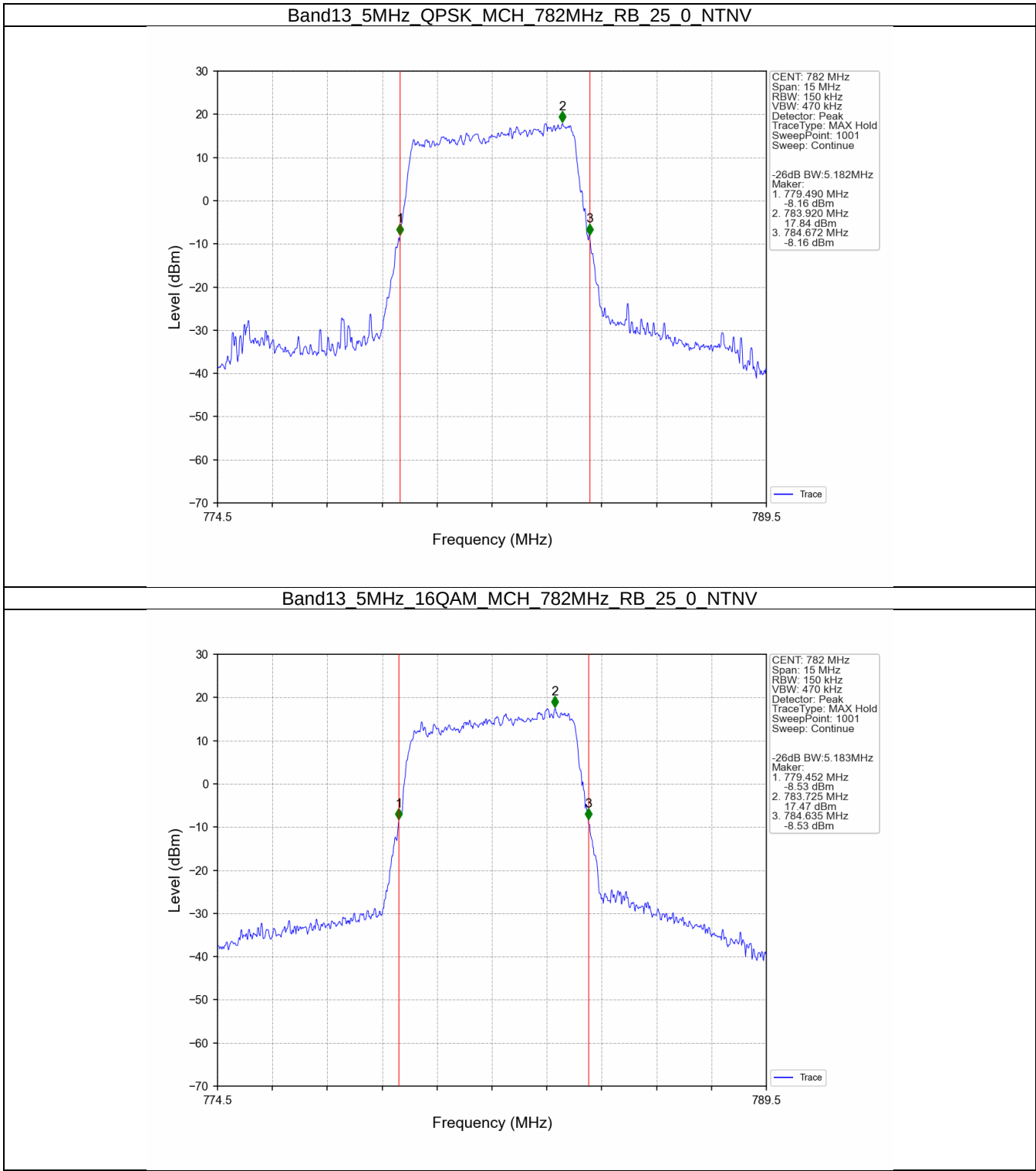
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTN



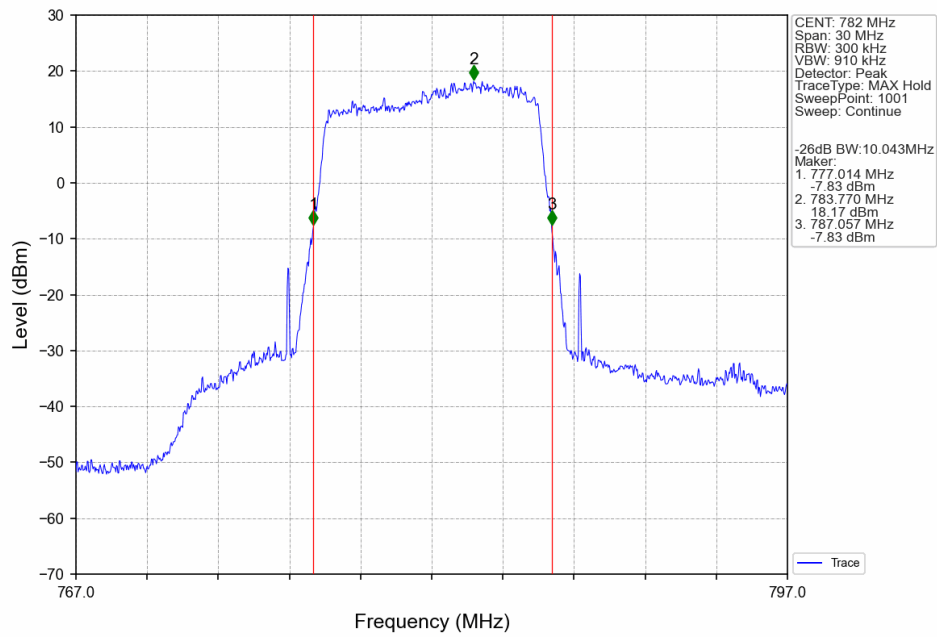
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTN



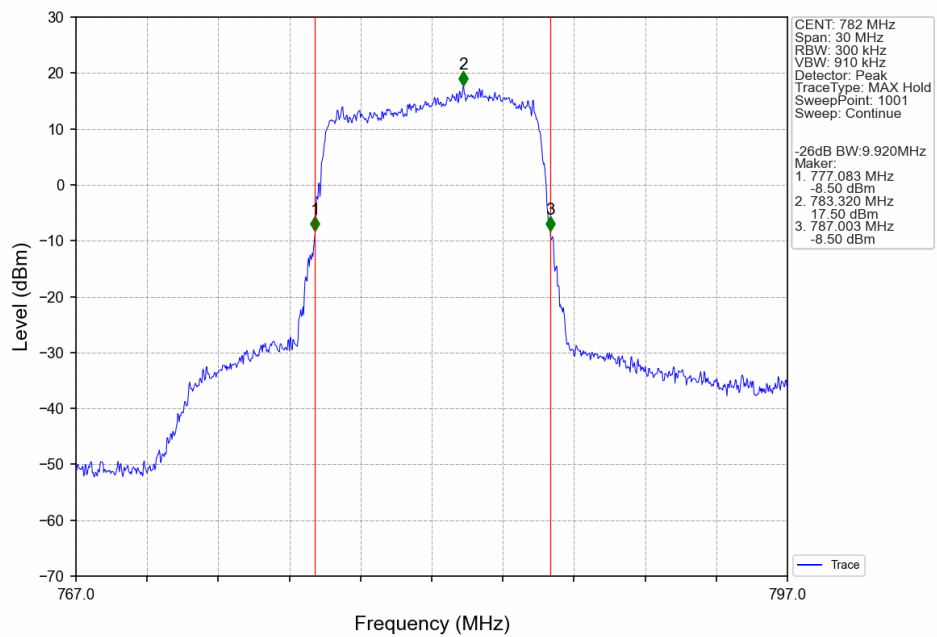
3.2.2 Band13\_XDB



# Band13 10MHz QPSK MCH 782MHz RB 50 0 NTN



# Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTN





## 4. Peak-Average Ratio

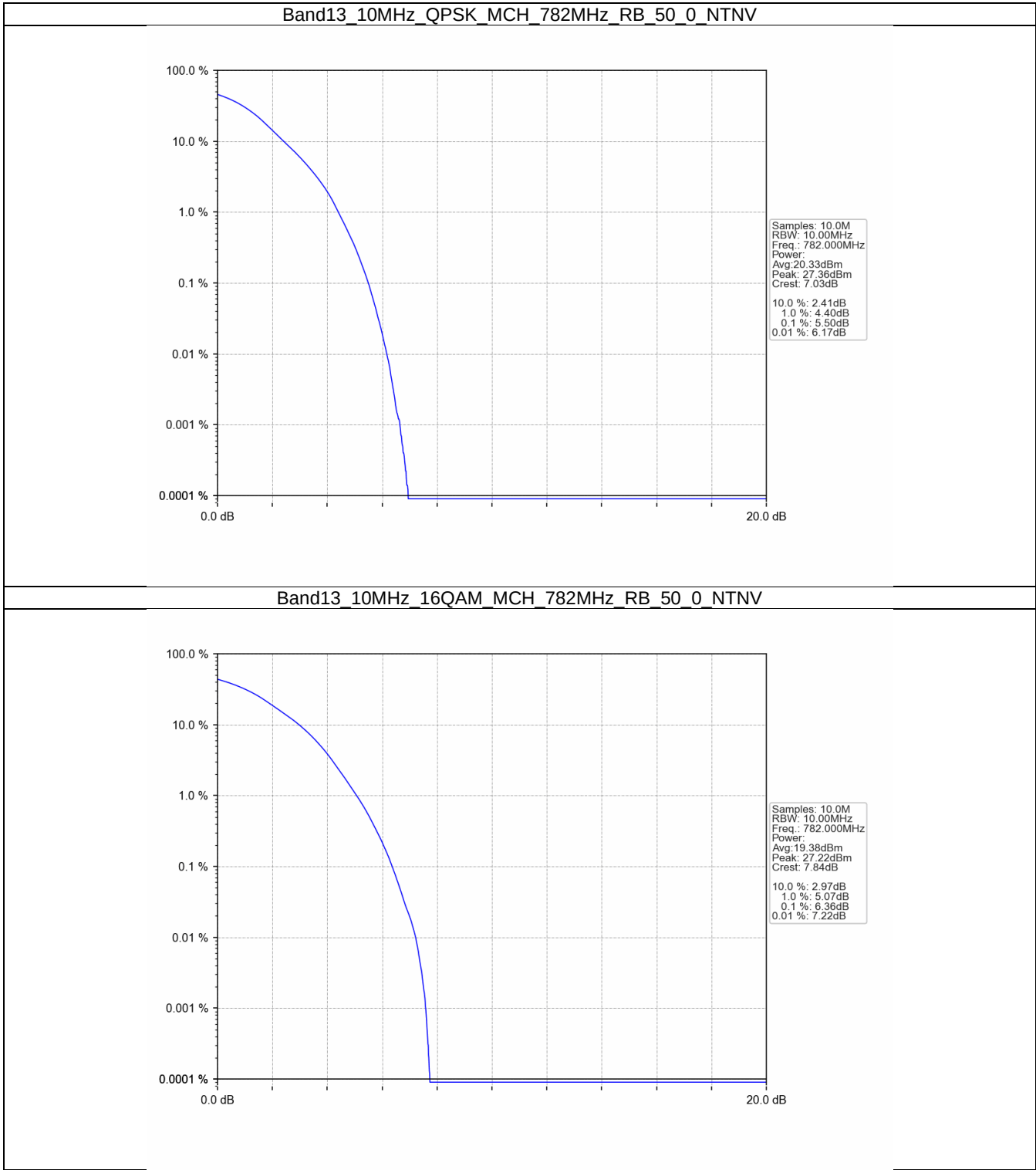
### 4.1 Test Result

#### 4.1.1 B13\_10MHz

| Band: 13 / Bandwidth: 10MHz / NTNV |                    |               |        |                         |       |         |
|------------------------------------|--------------------|---------------|--------|-------------------------|-------|---------|
| Modulation                         | Frequency<br>(MHz) | RB Allocation |        | Peak-Average Ratio (dB) |       | Verdict |
|                                    |                    | Size          | Offset | Result                  | Limit |         |
| QPSK                               | 782                | 50            | 0      | 5.50                    | <=13  | Pass    |
| 16QAM                              | 782                | 50            | 0      | 6.36                    | <=13  | Pass    |

4.2 Test Graph

4.2.1 B13\_10MHz



## 5. Spurious Emission

### 5.1 Test Result

#### 5.1.1 B13\_5MHz

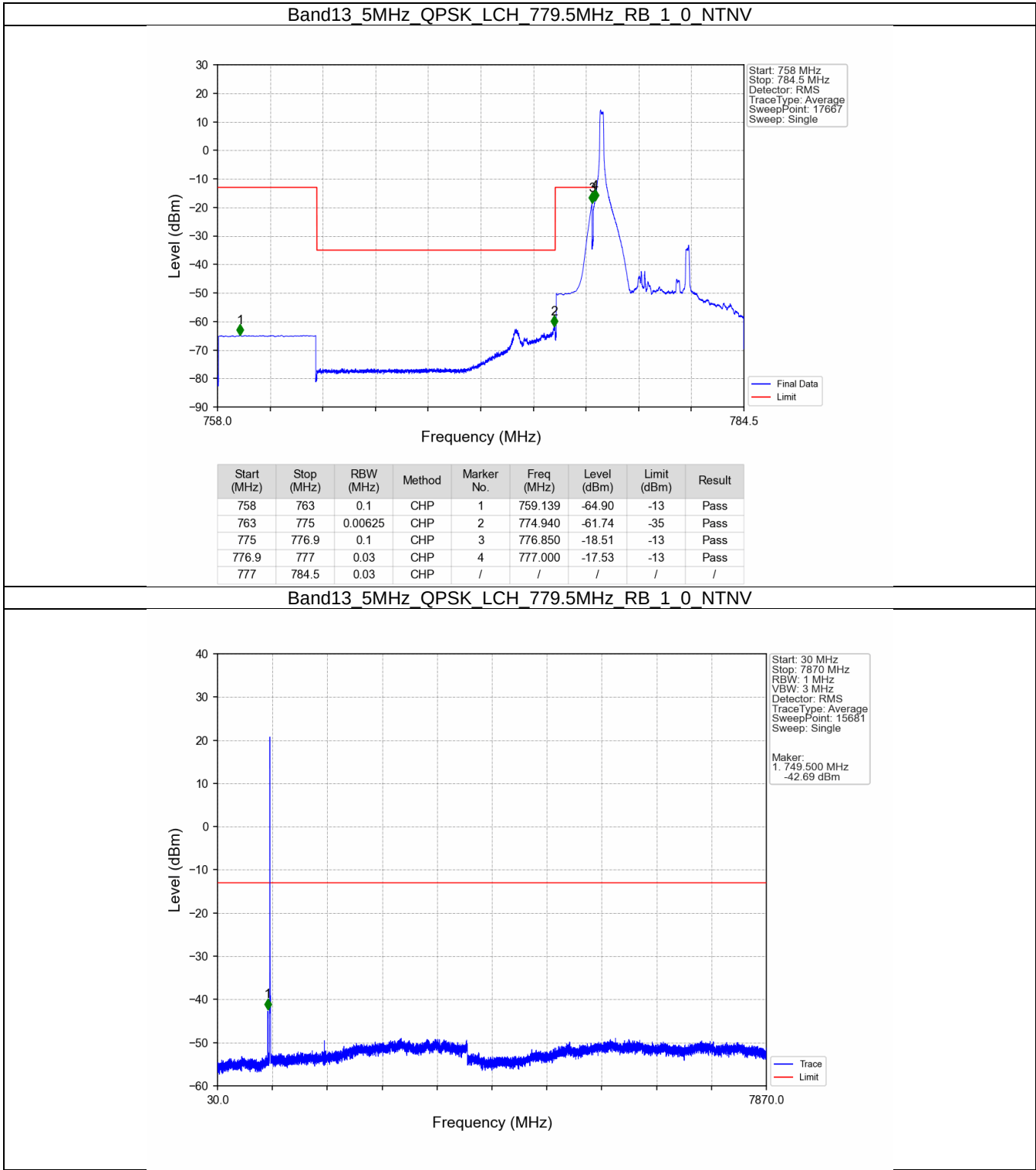
| Band: 13 / Bandwidth: 5MHz / NTV |                 |               |        |                     |       |         |
|----------------------------------|-----------------|---------------|--------|---------------------|-------|---------|
| Modulation                       | Frequency (MHz) | RB Allocation |        | Spurious Emission   |       | Verdict |
|                                  |                 | Size          | Offset | Result              | Limit |         |
| QPSK                             | 779.5           | 1             | 0      | Refer To Test Graph |       | Pass    |
|                                  |                 | 25            | 0      | Refer To Test Graph |       | Pass    |
|                                  | 782             | 1             | 0      | Refer To Test Graph |       | Pass    |
|                                  | 784.5           | 1             | 0      | Refer To Test Graph |       | Pass    |
|                                  |                 |               | 24     | Refer To Test Graph |       | Pass    |
|                                  |                 | 25            | 0      | Refer To Test Graph |       | Pass    |

#### 5.1.2 B13\_10MHz

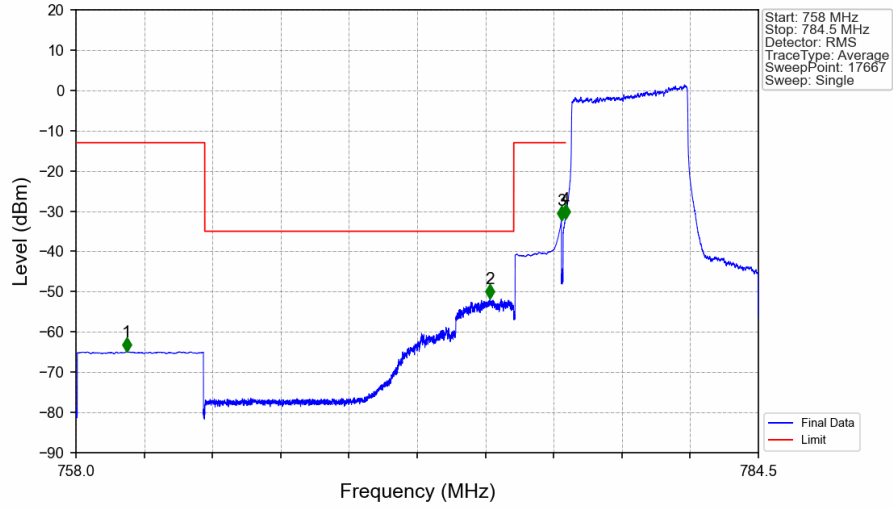
| Band: 13 / Bandwidth: 10MHz / NTV |                 |               |        |                     |       |         |
|-----------------------------------|-----------------|---------------|--------|---------------------|-------|---------|
| Modulation                        | Frequency (MHz) | RB Allocation |        | Spurious Emission   |       | Verdict |
|                                   |                 | Size          | Offset | Result              | Limit |         |
| QPSK                              | 782             | 1             | 0      | Refer To Test Graph |       | Pass    |
|                                   |                 | 50            | 0      | Refer To Test Graph |       | Pass    |
|                                   | 782             | 1             | 49     | Refer To Test Graph |       | Pass    |
|                                   |                 | 50            | 0      | Refer To Test Graph |       | Pass    |

5.2 Test Graph

5.2.1 B13\_5MHz

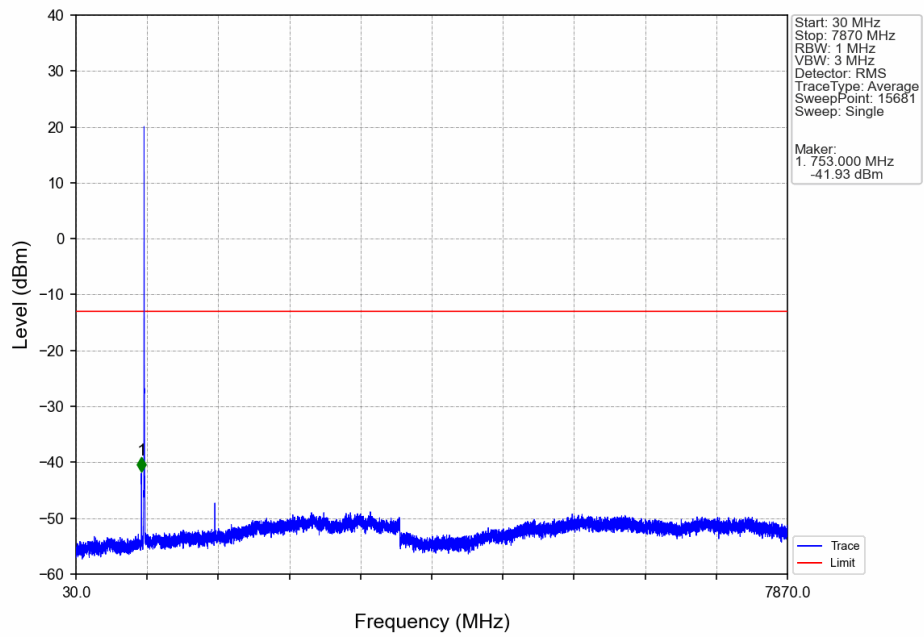


# Band13 5MHz QPSK LCH 779.5MHz RB 25 0 NTNV

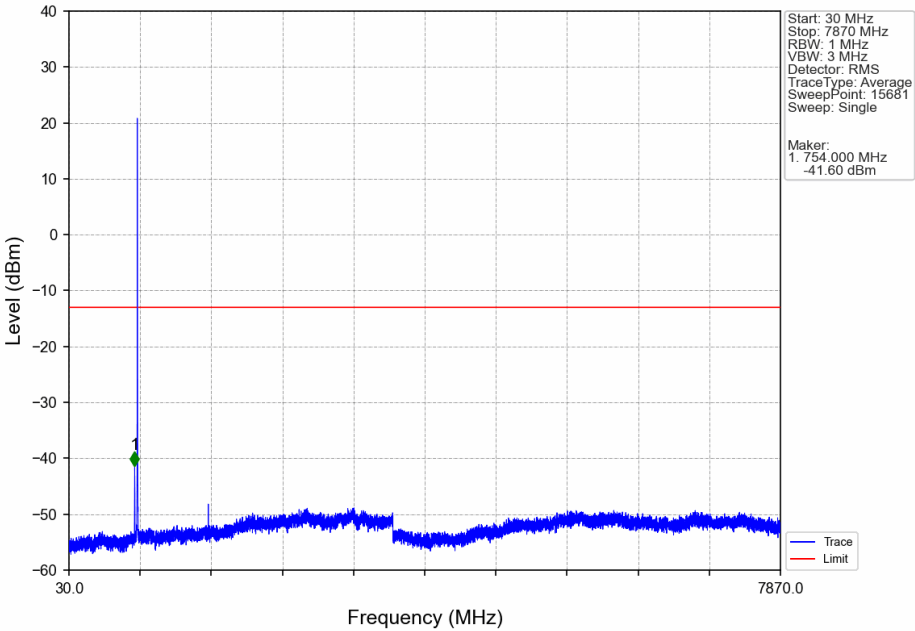


| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 758         | 763        | 0.1       | CHP    | 1          | 759.973    | -64.92      | -13         | Pass   |
| 763         | 775        | 0.00625   | CHP    | 2          | 774.078    | -51.63      | -35         | Pass   |
| 775         | 776.9      | 0.1       | CHP    | 3          | 776.850    | -32.33      | -13         | Pass   |
| 776.9       | 777        | 0.03      | CHP    | 4          | 777.000    | -31.93      | -13         | Pass   |
| 777         | 784.5      | 0.03      | CHP    | /          | /          | /           | /           | /      |

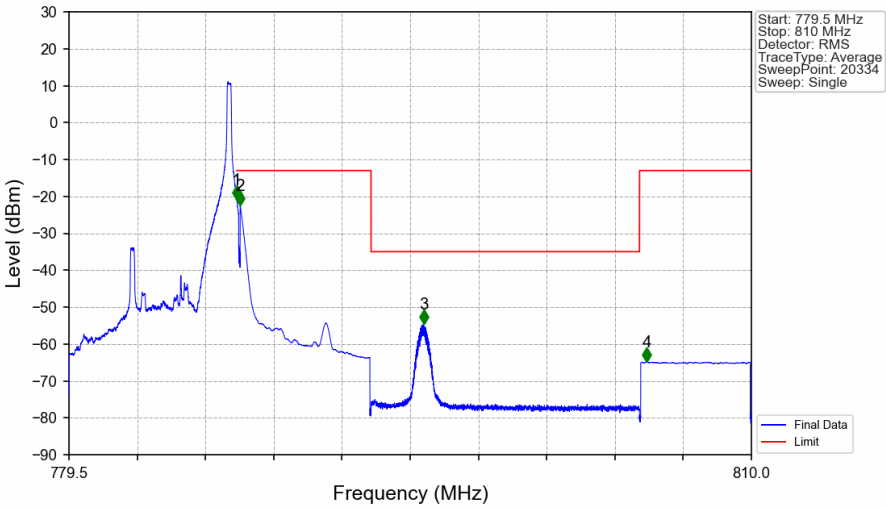
# Band13 5MHz QPSK MCH 782MHz RB 1 0 NTNV



Band13 5MHz QPSK HCH 784.5MHz RB 1 0 NTNV

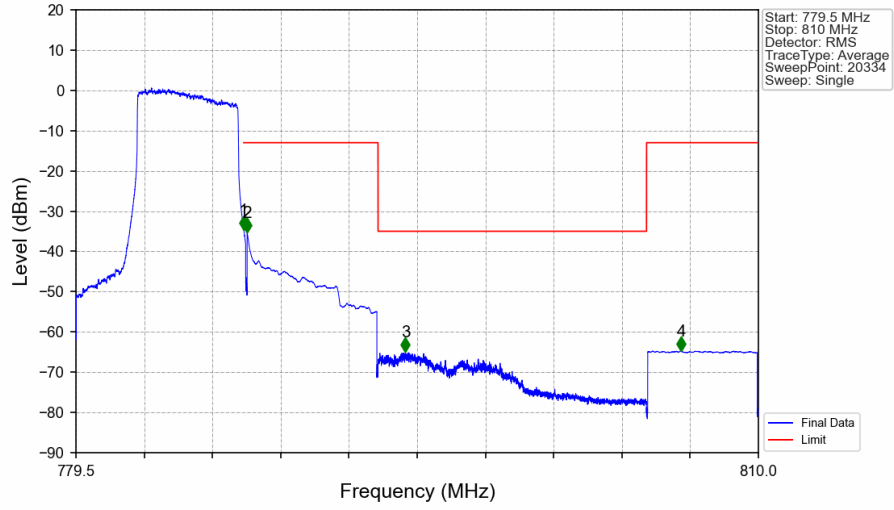


Band13 5MHz QPSK HCH 784.5MHz RB 1 24 NTNV



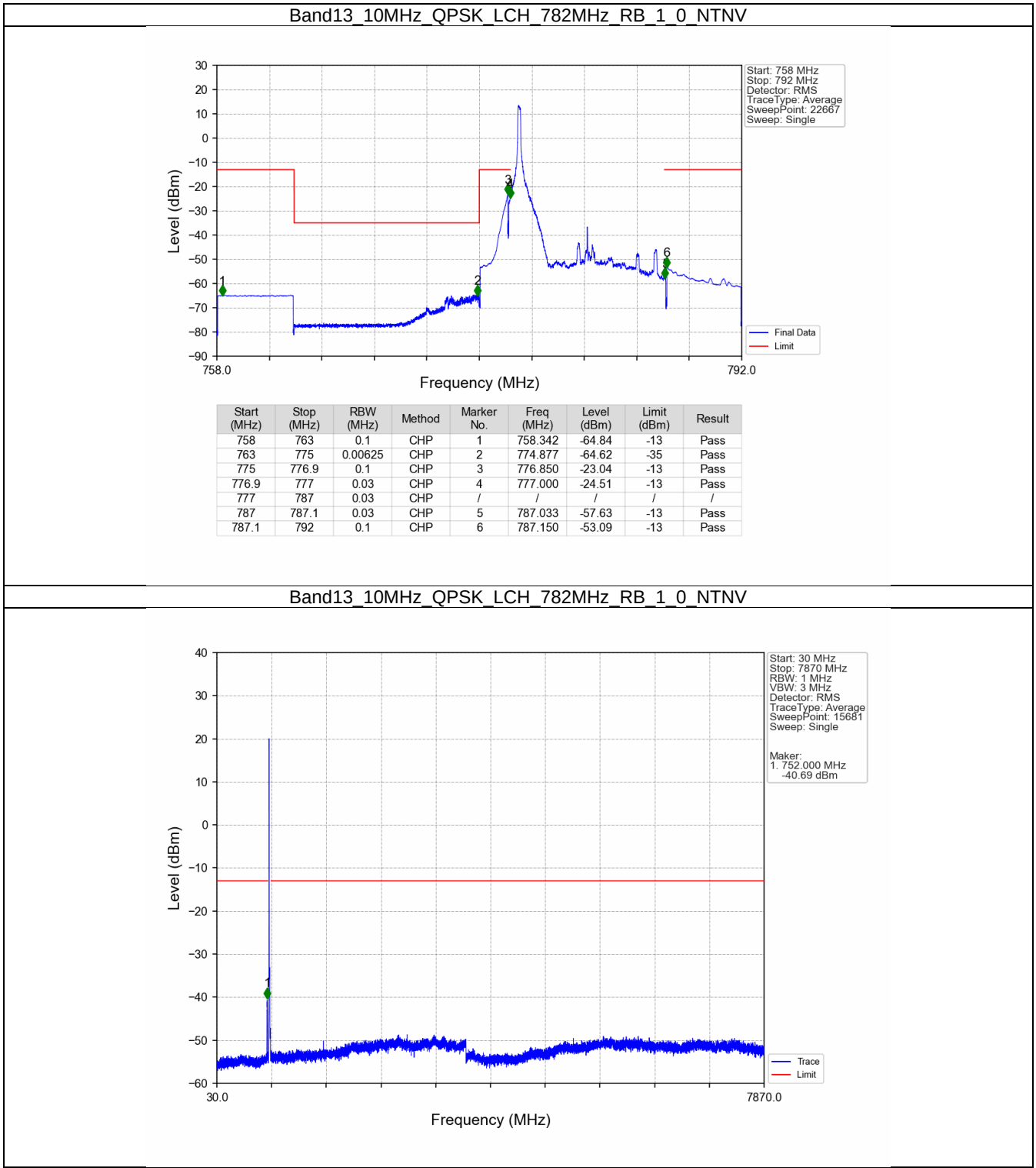
| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 779.5       | 787        | 0.03      | CHP    | /          | /          | /           | /           | /      |
| 787         | 787.1      | 0.03      | CHP    | 1          | 787.000    | -20.92      | -13         | Pass   |
| 787.1       | 793        | 0.1       | CHP    | 2          | 787.150    | -22.34      | -13         | Pass   |
| 793         | 805        | 0.00625   | CHP    | 3          | 795.349    | -54.57      | -35         | Pass   |
| 805         | 810        | 0.1       | CHP    | 4          | 805.330    | -64.85      | -13         | Pass   |

# Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTV



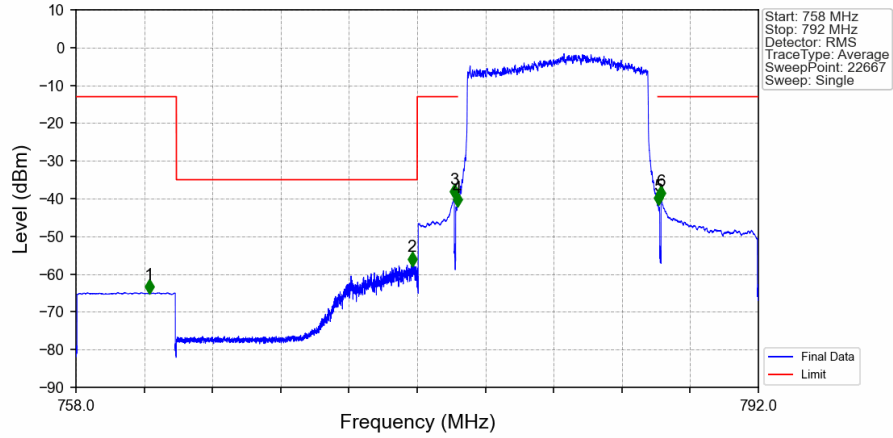
| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 779.5       | 787        | 0.03      | CHP    | /          | /          | /           | /           | /      |
| 787         | 787.1      | 0.03      | CHP    | 1          | 787.000    | -34.57      | -13         | Pass   |
| 787.1       | 793        | 0.1       | CHP    | 2          | 787.150    | -35.16      | -13         | Pass   |
| 793         | 805        | 0.00625   | CHP    | 3          | 794.227    | -64.93      | -35         | Pass   |
| 805         | 810        | 0.1       | CHP    | 4          | 806.545    | -64.75      | -13         | Pass   |

5.2.2 B13\_10MHz



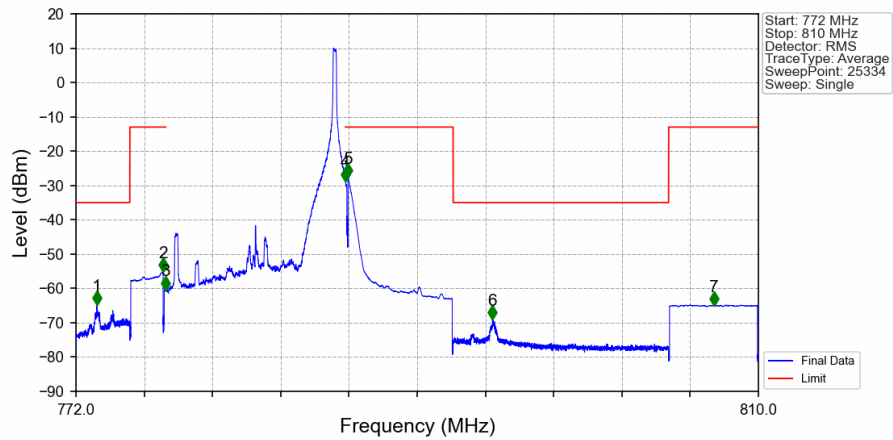


# Band13 10MHz QPSK LCH 782MHz RB 50 0 NTNV



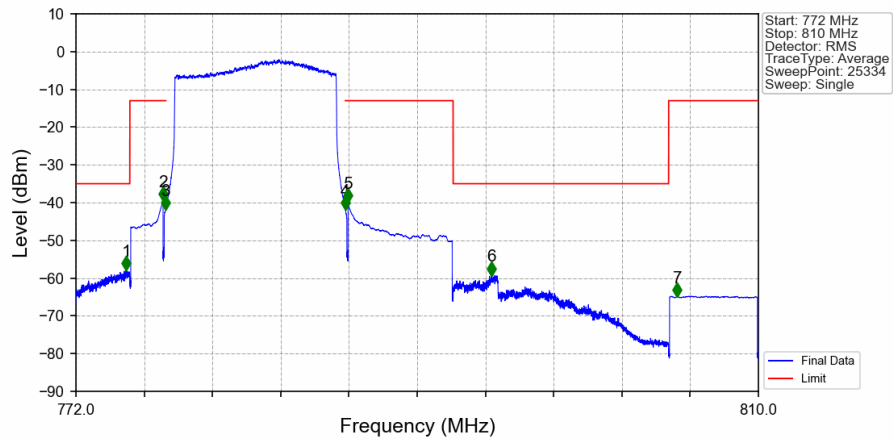
| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 758         | 763        | 0.1       | CHP    | 1          | 761.645    | -64.90      | -13         | Pass   |
| 763         | 775        | 0.00625   | CHP    | 2          | 774.745    | -57.51      | -35         | Pass   |
| 775         | 776.9      | 0.1       | CHP    | 3          | 776.836    | -39.67      | -13         | Pass   |
| 776.9       | 777        | 0.03      | CHP    | 4          | 776.998    | -41.84      | -13         | Pass   |
| 777         | 787        | 0.03      | CHP    | /          | /          | /           | /           | /      |
| 787         | 787.1      | 0.03      | CHP    | 5          | 787.000    | -41.36      | -13         | Pass   |
| 787.1       | 792        | 0.1       | CHP    | 6          | 787.156    | -40.14      | -13         | Pass   |

# Band13 10MHz QPSK HCH 782MHz RB 1 49 NTNV



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 772         | 775        | 0.00625   | CHP    | 1          | 773.164    | -64.58      | -35         | Pass   |
| 775         | 776.9      | 0.1       | CHP    | 2          | 776.850    | -54.94      | -13         | Pass   |
| 776.9       | 777        | 0.03      | CHP    | 3          | 776.988    | -60.19      | -13         | Pass   |
| 777         | 787        | 0.03      | CHP    | /          | /          | /           | /           | /      |
| 787         | 787.1      | 0.03      | CHP    | 4          | 787.000    | -28.43      | -13         | Pass   |
| 787.1       | 793        | 0.1       | CHP    | 5          | 787.150    | -27.40      | -13         | Pass   |
| 793         | 805        | 0.00625   | CHP    | 6          | 795.195    | -68.73      | -35         | Pass   |
| 805         | 810        | 0.1       | CHP    | 7          | 807.513    | -64.81      | -13         | Pass   |

Band13 10MHz QPSK HCH 782MHz RB 50 0 NTNV



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|-------------|------------|-----------|--------|------------|------------|-------------|-------------|--------|
| 772         | 775        | 0.00625   | CHP    | 1          | 774.793    | -57.62      | -35         | Pass   |
| 775         | 776.9      | 0.1       | CHP    | 2          | 776.850    | -39.27      | -13         | Pass   |
| 776.9       | 777        | 0.03      | CHP    | 3          | 776.998    | -41.56      | -13         | Pass   |
| 777         | 787        | 0.03      | CHP    | /          | /          | /           | /           | /      |
| 787         | 787.1      | 0.03      | CHP    | 4          | 787.000    | -41.59      | -13         | Pass   |
| 787.1       | 793        | 0.1       | CHP    | 5          | 787.150    | -39.71      | -13         | Pass   |
| 793         | 805        | 0.00625   | CHP    | 6          | 795.115    | -59.03      | -35         | Pass   |
| 805         | 810        | 0.1       | CHP    | 7          | 805.483    | -64.68      | -13         | Pass   |

-The End-