

## Appendix for Band 13

### Appendix A: Average Power Output Data

#### Test Result

#### Channel Bandwidth: 5 MHz

| Modulation | Channel | RB Configuration |        | Average Power [dBm] | Verdict |
|------------|---------|------------------|--------|---------------------|---------|
|            |         | Size             | Offset |                     |         |
| QPSK       | LCH     | 1                | 0      | 22.81               | PASS    |
|            |         | 1                | 12     | 23.27               | PASS    |
|            |         | 1                | 24     | 22.88               | PASS    |
|            |         | 12               | 0      | 21.94               | PASS    |
|            |         | 12               | 6      | 21.95               | PASS    |
|            |         | 12               | 13     | 21.80               | PASS    |
|            |         | 25               | 0      | 21.94               | PASS    |
|            | MCH     | 1                | 0      | 22.86               | PASS    |
|            |         | 1                | 12     | 23.22               | PASS    |
|            |         | 1                | 24     | 22.85               | PASS    |
|            |         | 12               | 0      | 21.92               | PASS    |
|            |         | 12               | 6      | 21.98               | PASS    |
|            |         | 12               | 13     | 21.93               | PASS    |
|            |         | 25               | 0      | 21.99               | PASS    |
|            | HCH     | 1                | 0      | 22.87               | PASS    |
|            |         | 1                | 12     | 23.22               | PASS    |
|            |         | 1                | 24     | 22.86               | PASS    |
|            |         | 12               | 0      | 21.81               | PASS    |
|            |         | 12               | 6      | 21.93               | PASS    |
|            |         | 12               | 13     | 21.90               | PASS    |
|            |         | 25               | 0      | 21.96               | PASS    |
| 16QAM      | LCH     | 1                | 0      | 22.09               | PASS    |
|            |         | 1                | 12     | 22.52               | PASS    |
|            |         | 1                | 24     | 22.23               | PASS    |
|            |         | 12               | 0      | 21.04               | PASS    |
|            |         | 12               | 6      | 21.04               | PASS    |
|            |         | 12               | 13     | 20.88               | PASS    |
|            |         | 25               | 0      | 20.98               | PASS    |
|            | MCH     | 1                | 0      | 22.21               | PASS    |
|            |         | 1                | 12     | 22.58               | PASS    |
|            |         | 1                | 24     | 22.16               | PASS    |
|            |         | 12               | 0      | 21.08               | PASS    |

|  |     |    |    |       |      |
|--|-----|----|----|-------|------|
|  |     | 12 | 6  | 21.16 | PASS |
|  |     | 12 | 13 | 21.12 | PASS |
|  |     | 25 | 0  | 20.99 | PASS |
|  | HCH | 1  | 0  | 22.15 | PASS |
|  |     | 1  | 12 | 22.49 | PASS |
|  |     | 1  | 24 | 22.15 | PASS |
|  |     | 12 | 0  | 20.84 | PASS |
|  |     | 12 | 6  | 20.96 | PASS |
|  |     | 12 | 13 | 20.98 | PASS |
|  |     | 25 | 0  | 21.04 | PASS |

### Channel Bandwidth: 10 MHz

| Modulation | Channel | RB Configuration |        | Average Power [dBm] | Verdict |
|------------|---------|------------------|--------|---------------------|---------|
|            |         | Size             | Offset |                     |         |
| QPSK       | MCH     | 1                | 0      | 22.74               | PASS    |
|            |         | 1                | 24     | 23.29               | PASS    |
|            |         | 1                | 49     | 22.79               | PASS    |
|            |         | 25               | 0      | 22.14               | PASS    |
|            |         | 25               | 12     | 21.99               | PASS    |
|            |         | 25               | 25     | 22.22               | PASS    |
|            |         | 50               | 0      | 22.18               | PASS    |
| 16QAM      | MCH     | 1                | 0      | 22.07               | PASS    |
|            |         | 1                | 24     | 22.43               | PASS    |
|            |         | 1                | 49     | 22.20               | PASS    |
|            |         | 25               | 0      | 21.22               | PASS    |
|            |         | 25               | 12     | 21.01               | PASS    |
|            |         | 25               | 25     | 21.24               | PASS    |
|            |         | 50               | 0      | 21.23               | PASS    |

## Appendix B: Peak-to-Average Ratio

### Test Result

#### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz |         |                  |        |                               |               |         |
|--------------------------|---------|------------------|--------|-------------------------------|---------------|---------|
| Modulation               | Channel | RB Configuration |        | Peak-to-Average Ratio<br>[dB] | Limit<br>[dB] | Verdict |
|                          |         | Size             | Offset |                               |               |         |
| QPSK                     | LCH     | 1                | 0      | 4.81                          | <13           | PASS    |
|                          |         | 1                | 12     | 5.16                          | <13           | PASS    |
|                          |         | 1                | 24     | 5.59                          | <13           | PASS    |
|                          |         | 12               | 0      | 5.49                          | <13           | PASS    |
|                          |         | 12               | 6      | 5.67                          | <13           | PASS    |
|                          |         | 12               | 13     | 5.99                          | <13           | PASS    |
|                          |         | 25               | 0      | 5.84                          | <13           | PASS    |
|                          | MCH     | 1                | 0      | 5.22                          | <13           | PASS    |
|                          |         | 1                | 12     | 5.4                           | <13           | PASS    |
|                          |         | 1                | 24     | 5.62                          | <13           | PASS    |
|                          |         | 12               | 0      | 6.09                          | <13           | PASS    |
|                          |         | 12               | 6      | 6                             | <13           | PASS    |
|                          |         | 12               | 13     | 6                             | <13           | PASS    |
|                          |         | 25               | 0      | 6.1                           | <13           | PASS    |
|                          | HCH     | 1                | 0      | 5.84                          | <13           | PASS    |
|                          |         | 1                | 12     | 5.69                          | <13           | PASS    |
|                          |         | 1                | 24     | 5.58                          | <13           | PASS    |
|                          |         | 12               | 0      | 6.12                          | <13           | PASS    |
|                          |         | 12               | 6      | 6.01                          | <13           | PASS    |
|                          |         | 12               | 13     | 5.87                          | <13           | PASS    |
|                          |         | 25               | 0      | 6                             | <13           | PASS    |
| 16QAM                    | LCH     | 1                | 0      | 5.69                          | <13           | PASS    |
|                          |         | 1                | 12     | 5.94                          | <13           | PASS    |
|                          |         | 1                | 24     | 6.8                           | <13           | PASS    |
|                          |         | 12               | 0      | 6.45                          | <13           | PASS    |
|                          |         | 12               | 6      | 6.54                          | <13           | PASS    |
|                          |         | 12               | 13     | 6.74                          | <13           | PASS    |
|                          |         | 25               | 0      | 6.66                          | <13           | PASS    |
|                          | MCH     | 1                | 0      | 6.26                          | <13           | PASS    |
|                          |         | 1                | 12     | 6.44                          | <13           | PASS    |
|                          |         | 1                | 24     | 6.27                          | <13           | PASS    |
|                          |         | 12               | 0      | 6.83                          | <13           | PASS    |
|                          |         | 12               | 6      | 6.86                          | <13           | PASS    |

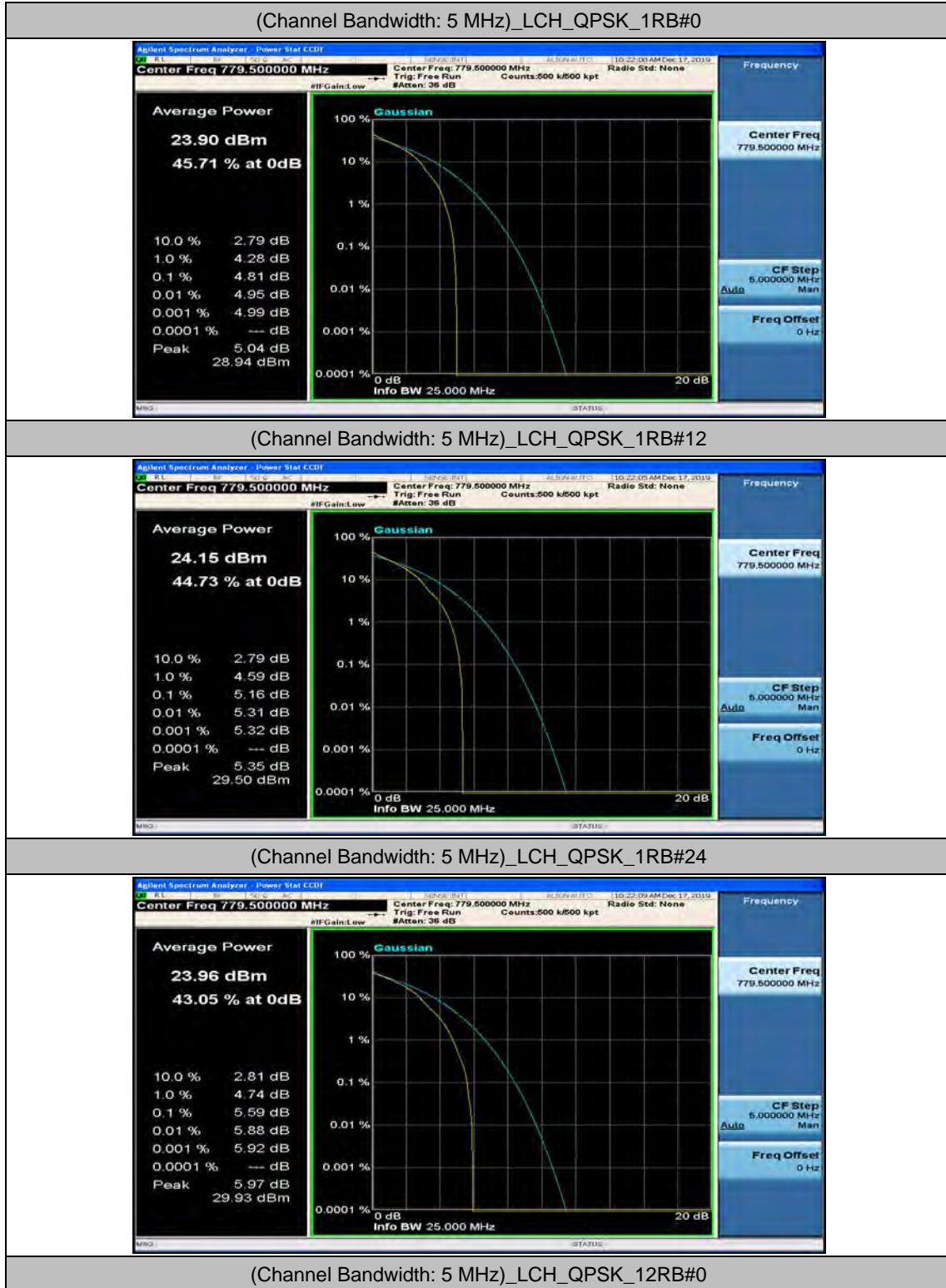
|  |     |    |    |      |     |      |
|--|-----|----|----|------|-----|------|
|  |     | 12 | 13 | 6.82 | <13 | PASS |
|  |     | 25 | 0  | 6.85 | <13 | PASS |
|  | HCH | 1  | 0  | 6.46 | <13 | PASS |
|  |     | 1  | 12 | 6.48 | <13 | PASS |
|  |     | 1  | 24 | 6.29 | <13 | PASS |
|  |     | 12 | 0  | 7.02 | <13 | PASS |
|  |     | 12 | 6  | 6.92 | <13 | PASS |
|  |     | 12 | 13 | 6.82 | <13 | PASS |
|  |     | 25 | 0  | 6.66 | <13 | PASS |

### Channel Bandwidth: 10 MHz

| Channel Bandwidth: 10 MHz |         |                  |        |                               |               |         |
|---------------------------|---------|------------------|--------|-------------------------------|---------------|---------|
| Modulation                | Channel | RB Configuration |        | Peak-to-Average Ratio<br>[dB] | Limit<br>[dB] | Verdict |
|                           |         | Size             | Offset |                               |               |         |
| QPSK                      | MCH     | 1                | 0      | 4.74                          | <13           | PASS    |
|                           |         | 1                | 24     | 5.51                          | <13           | PASS    |
|                           |         | 1                | 49     | 5.21                          | <13           | PASS    |
|                           |         | 25               | 0      | 5.8                           | <13           | PASS    |
|                           |         | 25               | 12     | 6.07                          | <13           | PASS    |
|                           |         | 25               | 25     | 5.84                          | <13           | PASS    |
|                           |         | 50               | 0      | 5.95                          | <13           | PASS    |
| 16QAM                     | MCH     | 1                | 0      | 5.58                          | <13           | PASS    |
|                           |         | 1                | 24     | 6.64                          | <13           | PASS    |
|                           |         | 1                | 49     | 6.37                          | <13           | PASS    |
|                           |         | 25               | 0      | 6.63                          | <13           | PASS    |
|                           |         | 25               | 12     | 6.94                          | <13           | PASS    |
|                           |         | 25               | 25     | 6.78                          | <13           | PASS    |
|                           |         | 50               | 0      | 6.7                           | <13           | PASS    |

## Test Graphs

### Channel Bandwidth: 5 MHz





(Channel Bandwidth: 5 MHz)\_LCH\_QPSK\_12RB#6



(Channel Bandwidth: 5 MHz)\_LCH\_QPSK\_12RB#13

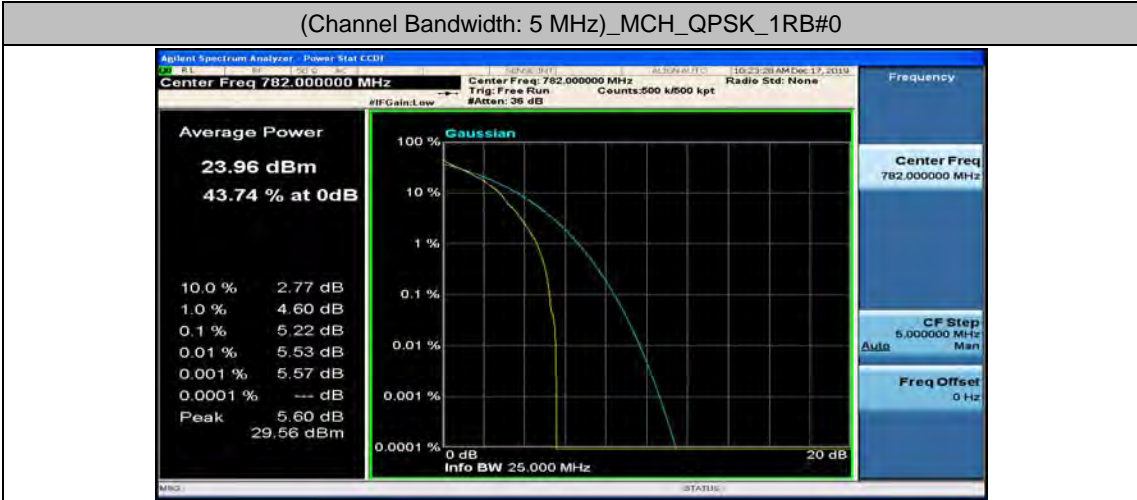


(Channel Bandwidth: 5 MHz)\_LCH\_QPSK\_25RB#0





(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_1RB#0



(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_1RB#12



(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_1RB#24



(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_12RB#0



(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_12RB#6

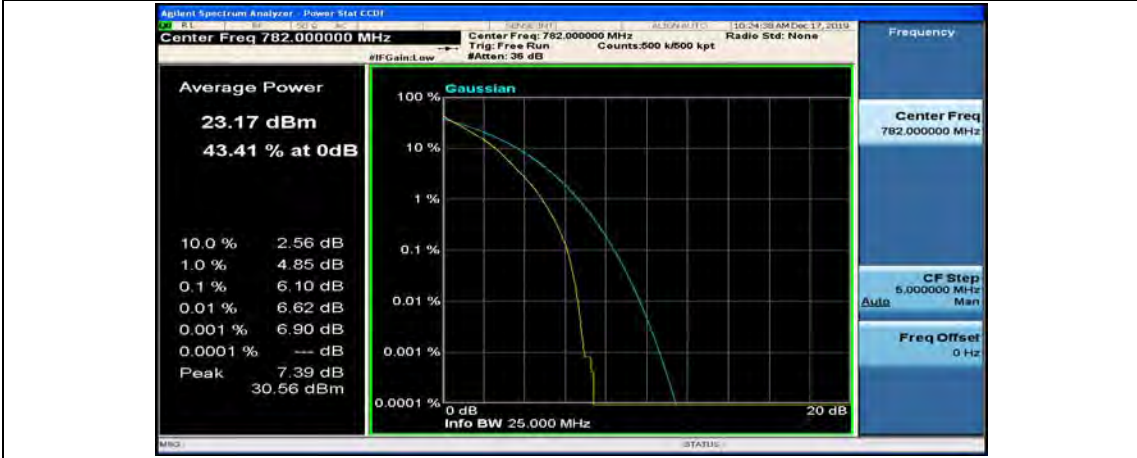


(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_12RB#13

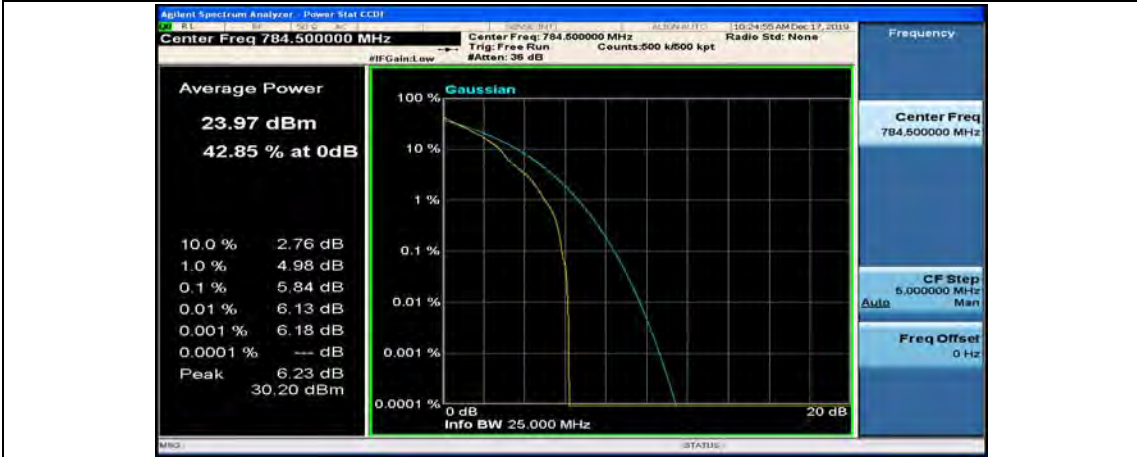




(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_25RB#0



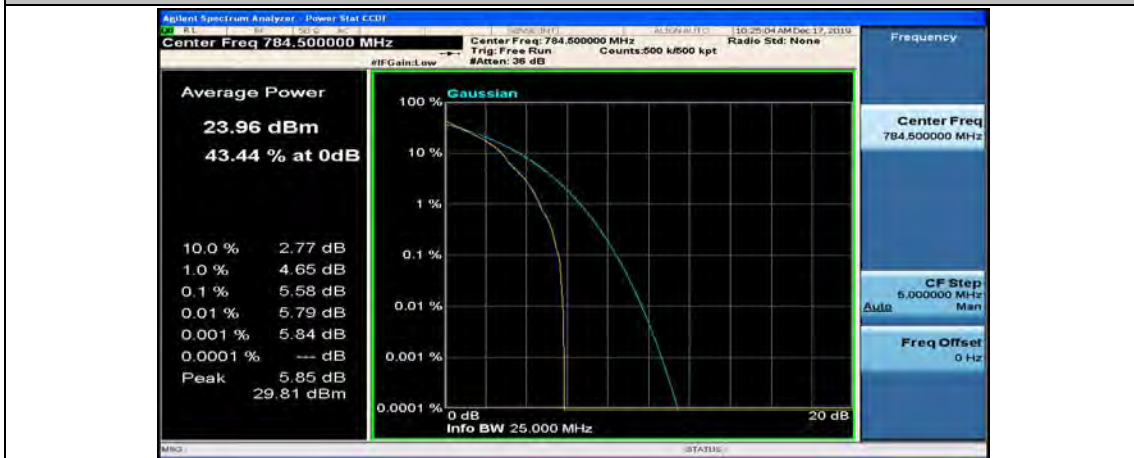
(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#0



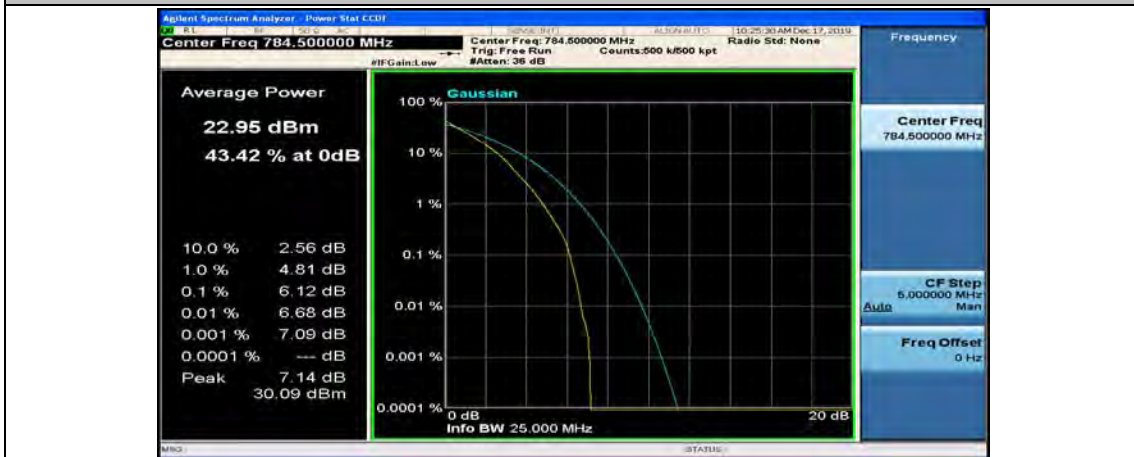
(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#12



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#24



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_12RB#0



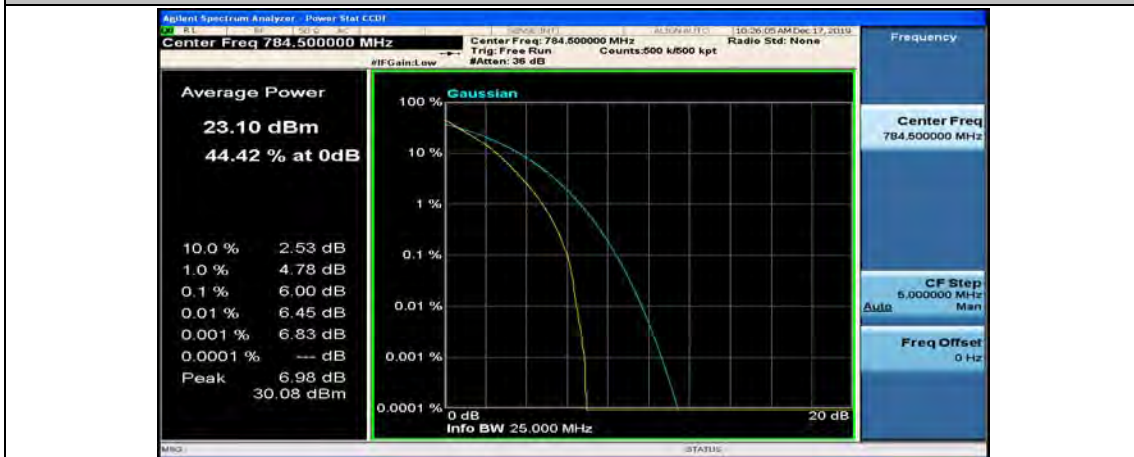
(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_12RB#6



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_12RB#13

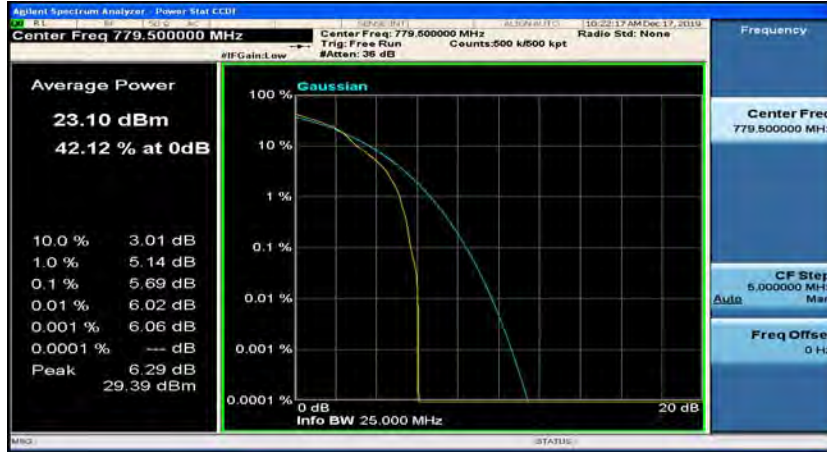


(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_25RB#0

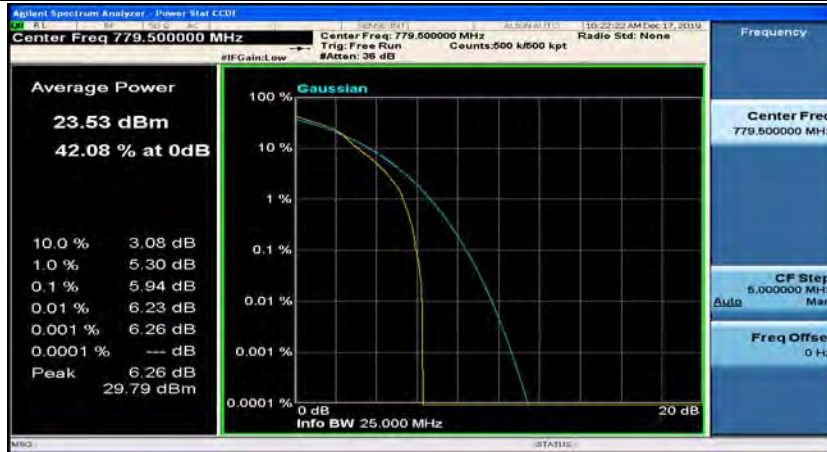




(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_1RB#0



(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_1RB#12



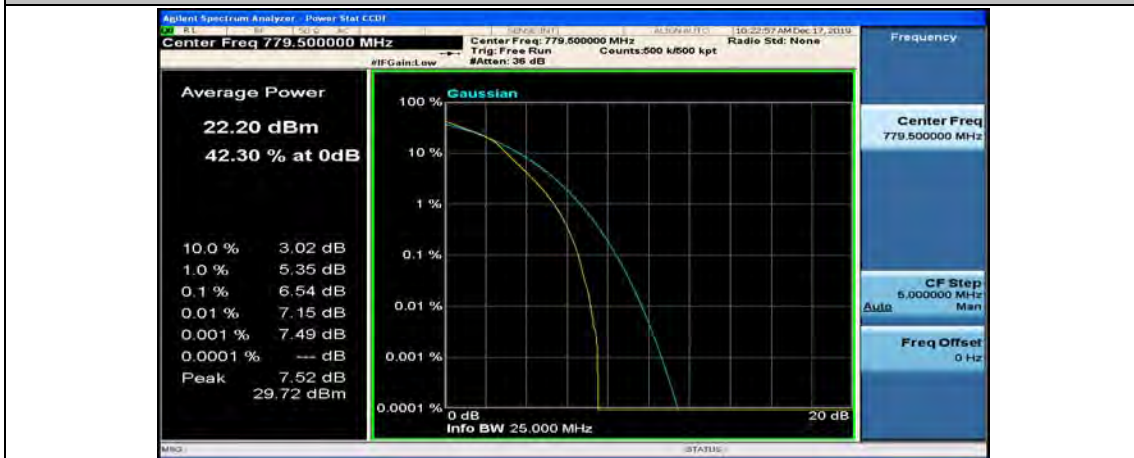
(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_1RB#24



(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_12RB#0



(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_12RB#6

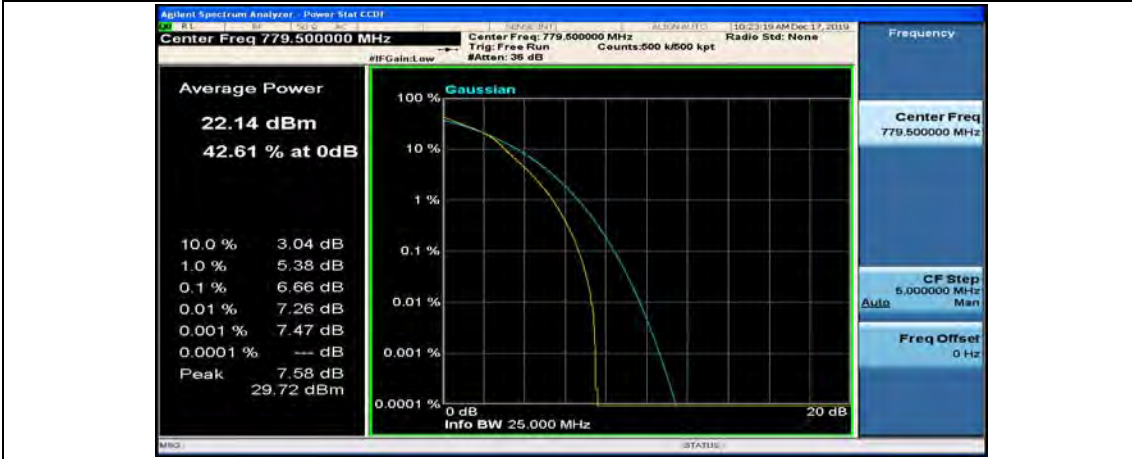


(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_12RB#13

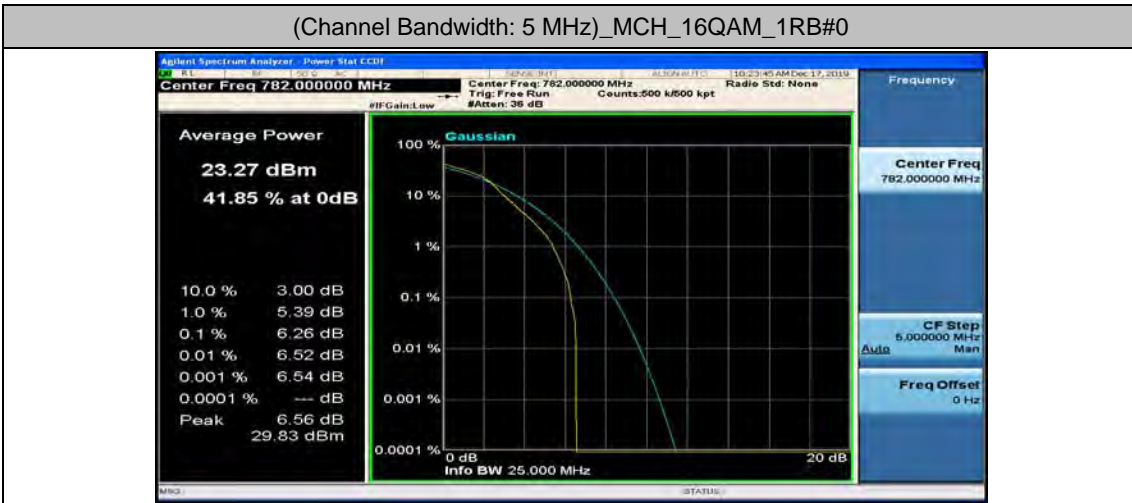


(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_25RB#0





(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_1RB#0



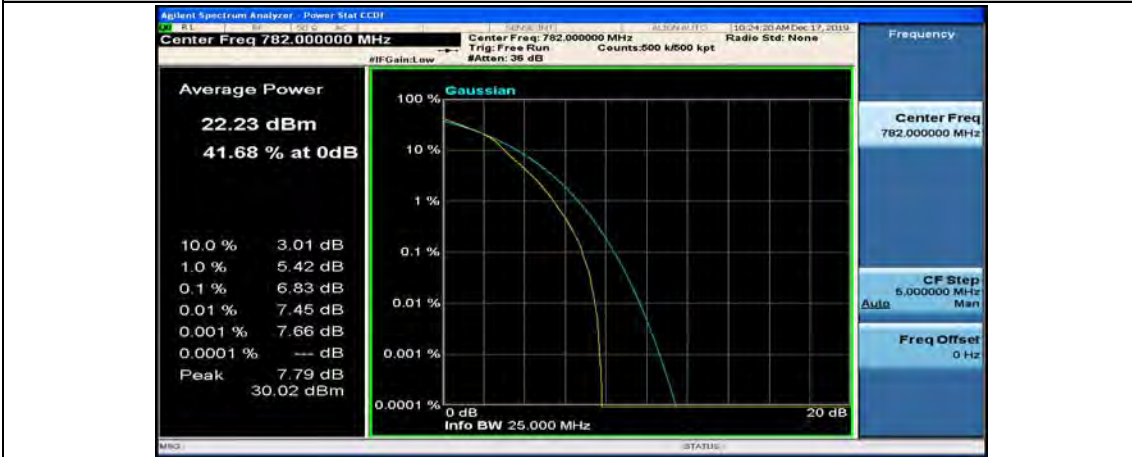
(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_1RB#12



(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_1RB#24



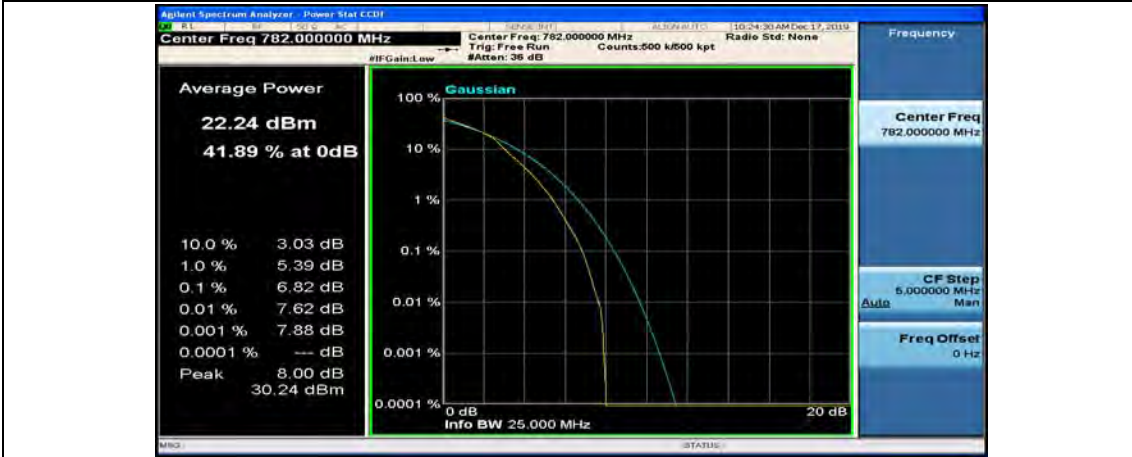
(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_12RB#0



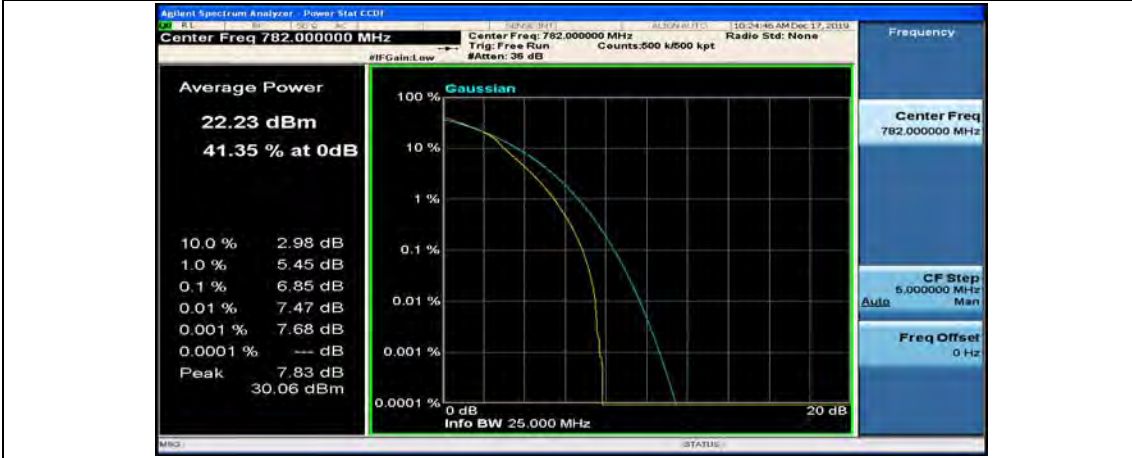
(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_12RB#6



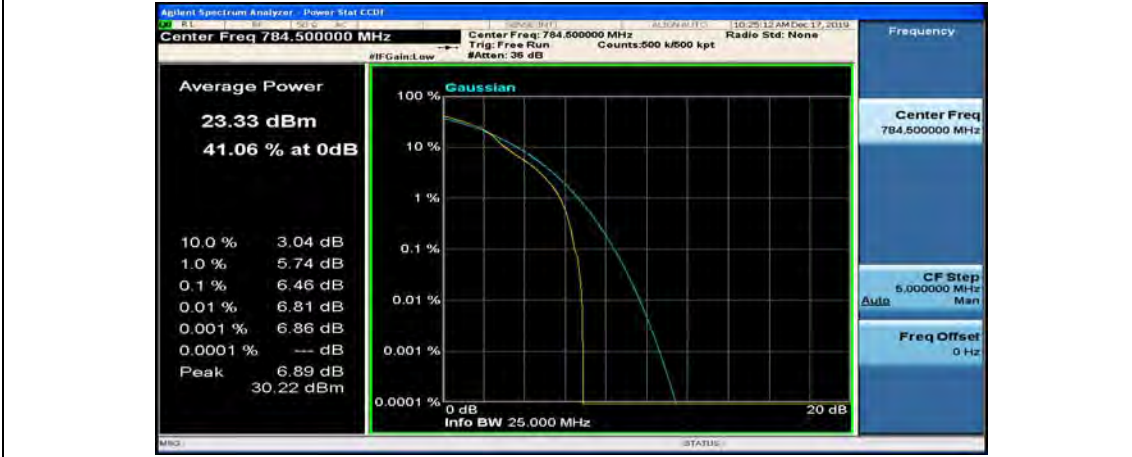
(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_12RB#13



(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_25RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_1RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_1RB#12





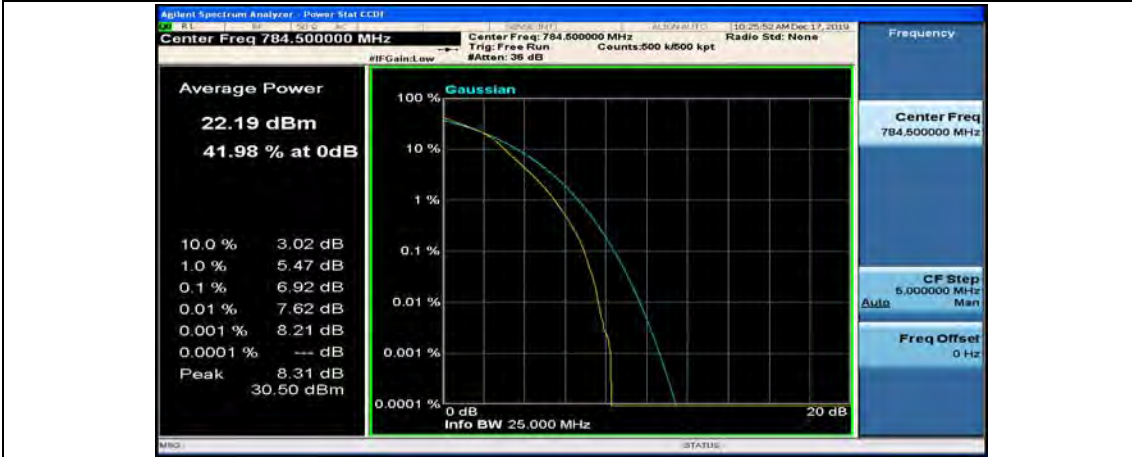
(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_1RB#24



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_12RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_12RB#6



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_12RB#13

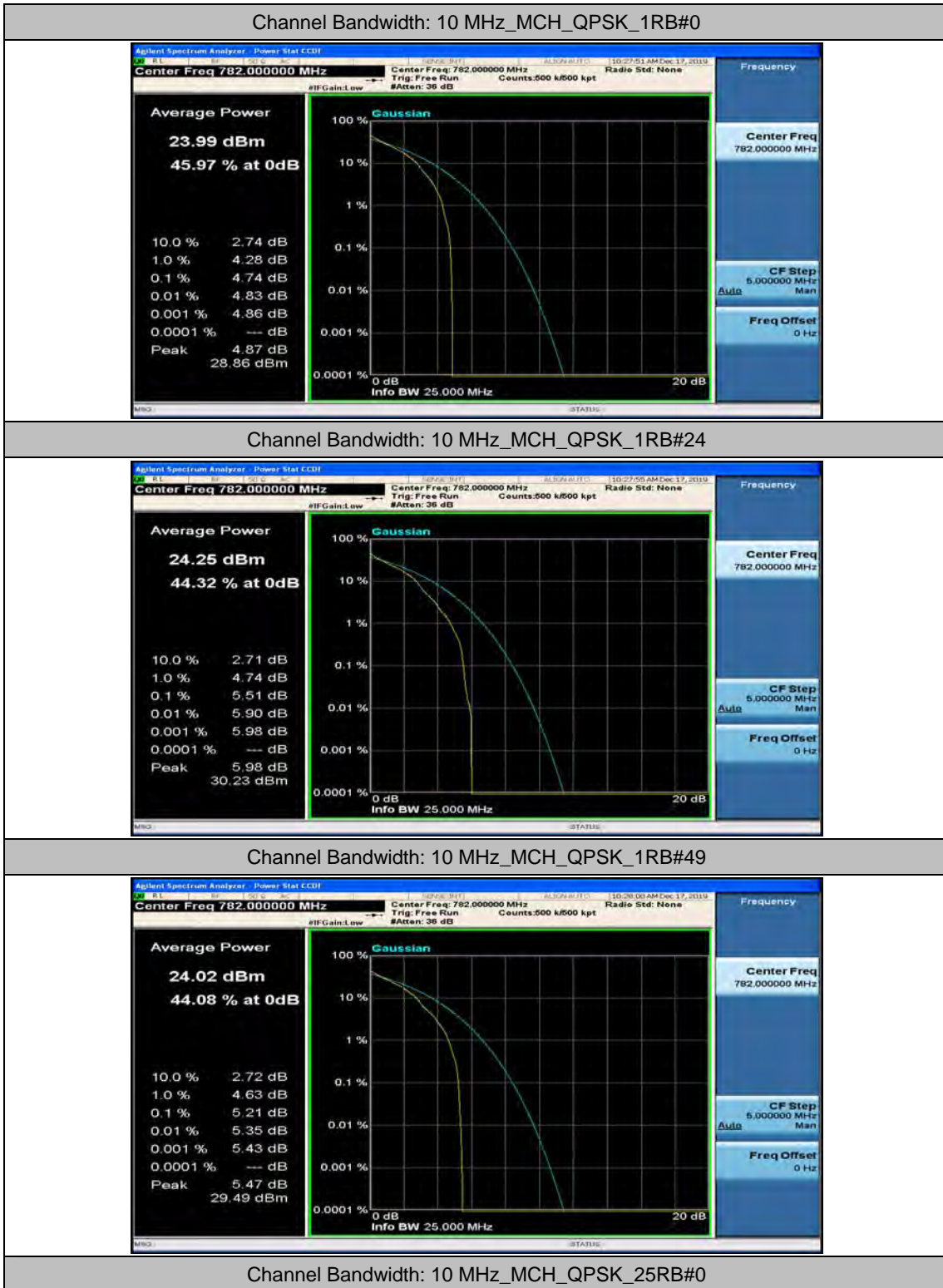


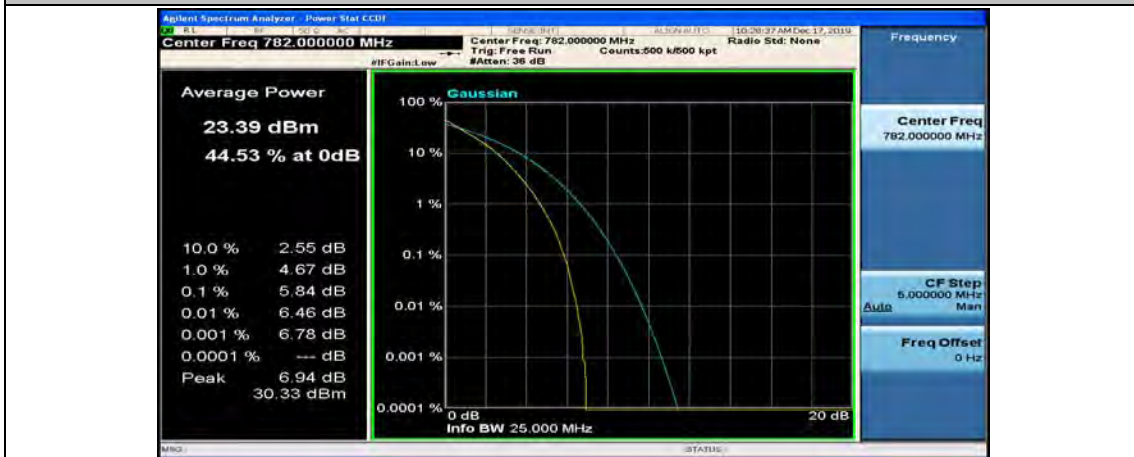
(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_25RB#0





### Channel Bandwidth: 10 MHz



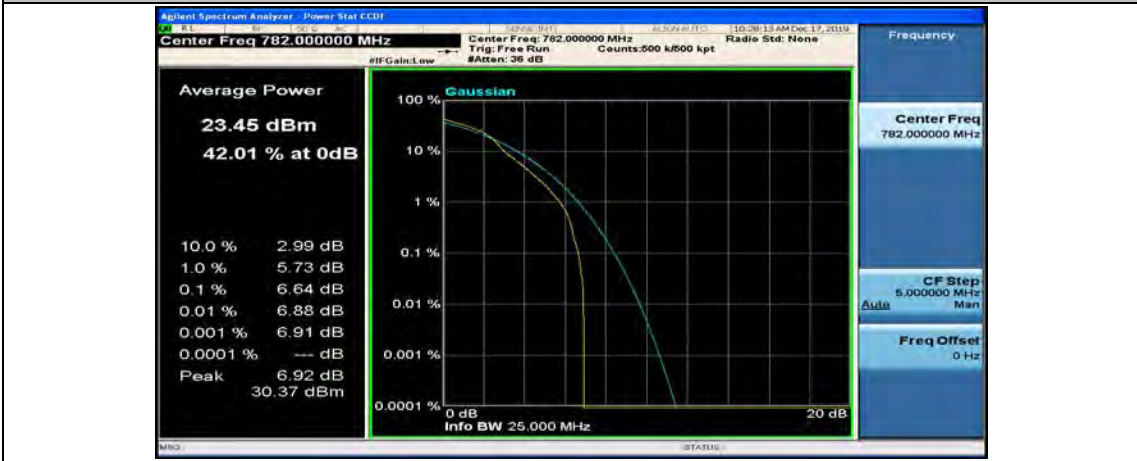




Channel Bandwidth: 10 MHz\_MCH\_16QAM\_1RB#0



Channel Bandwidth: 10 MHz\_MCH\_16QAM\_1RB#24



Channel Bandwidth: 10 MHz\_MCH\_16QAM\_1RB#49





Channel Bandwidth: 10 MHz\_MCH\_16QAM\_25RB#0



Channel Bandwidth: 10 MHz\_MCH\_16QAM\_25RB#12



Channel Bandwidth: 10 MHz\_MCH\_16QAM\_25RB#25





## Appendix C: 26dB Bandwidth and Occupied Bandwidth

### Test Result

#### Channel Bandwidth: 5 MHz

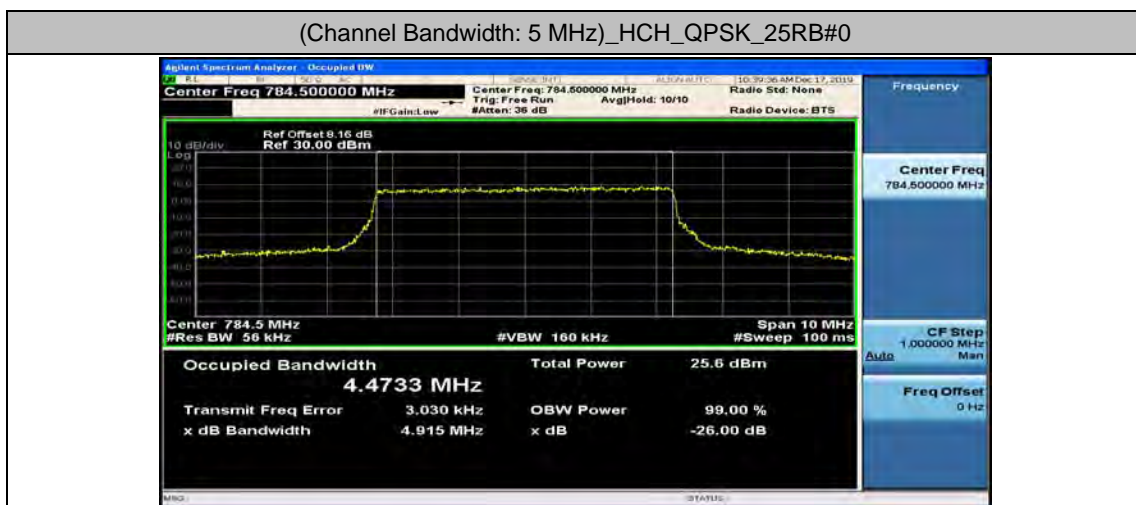
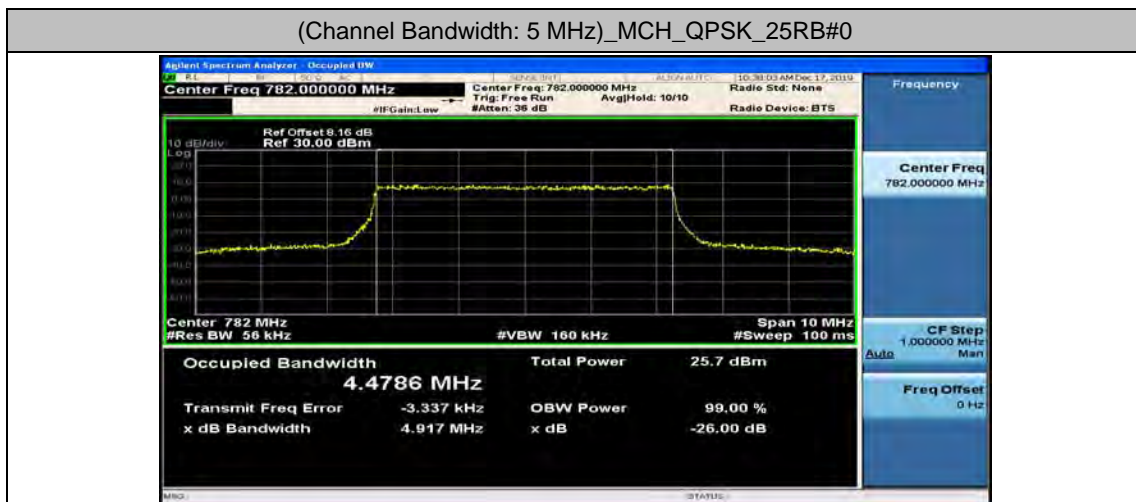
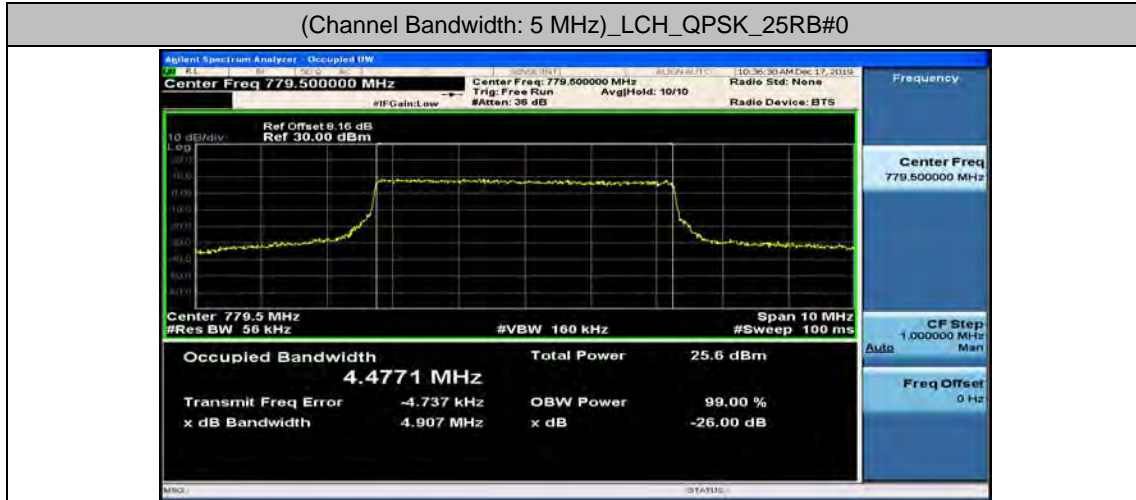
| Channel Bandwidth: 5 MHz |         |                  |        |                             |                         |         |
|--------------------------|---------|------------------|--------|-----------------------------|-------------------------|---------|
| Modulation               | Channel | RB Configuration |        | Occupied Bandwidth<br>(MHz) | 26dB Bandwidth<br>(MHz) | Verdict |
|                          |         | Size             | Offset |                             |                         |         |
| QPSK                     | LCH     | 25               | 0      | 4.4771                      | 4.907                   | PASS    |
|                          | MCH     | 25               | 0      | 4.4786                      | 4.917                   | PASS    |
|                          | HCH     | 25               | 0      | 4.4733                      | 4.915                   | PASS    |
| 16QAM                    | LCH     | 25               | 0      | 4.4793                      | 4.814                   | PASS    |
|                          | MCH     | 25               | 0      | 4.4810                      | 4.897                   | PASS    |
|                          | HCH     | 25               | 0      | 4.4753                      | 4.828                   | PASS    |

#### Channel Bandwidth: 10 MHz

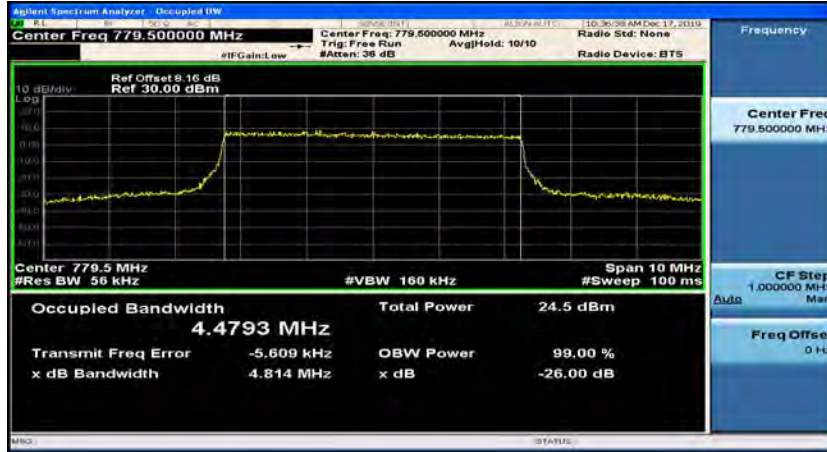
| Channel Bandwidth: 10 MHz |         |                  |        |                             |                         |         |
|---------------------------|---------|------------------|--------|-----------------------------|-------------------------|---------|
| Modulation                | Channel | RB Configuration |        | Occupied Bandwidth<br>(MHz) | 26dB Bandwidth<br>(MHz) | Verdict |
|                           |         | Size             | Offset |                             |                         |         |
| QPSK                      | MCH     | 50               | 0      | 8.9631                      | 9.590                   | PASS    |
| 16QAM                     | MCH     | 50               | 0      | 8.9705                      | 9.543                   | PASS    |

## Test Graphs

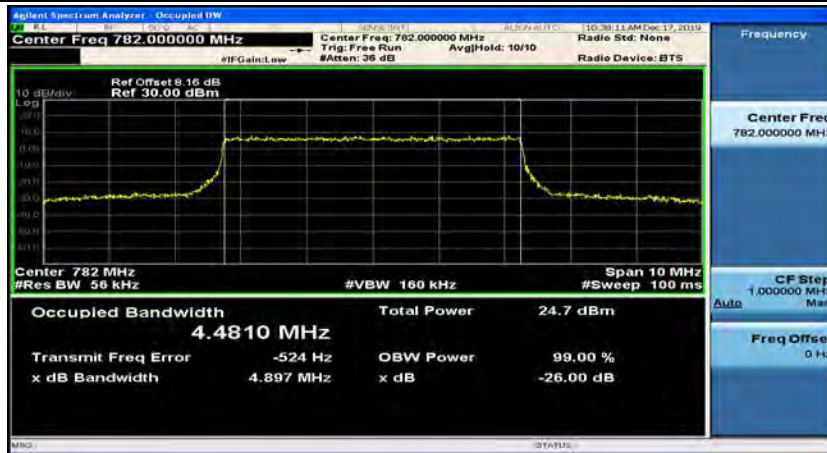
### Channel Bandwidth: 5 MHz



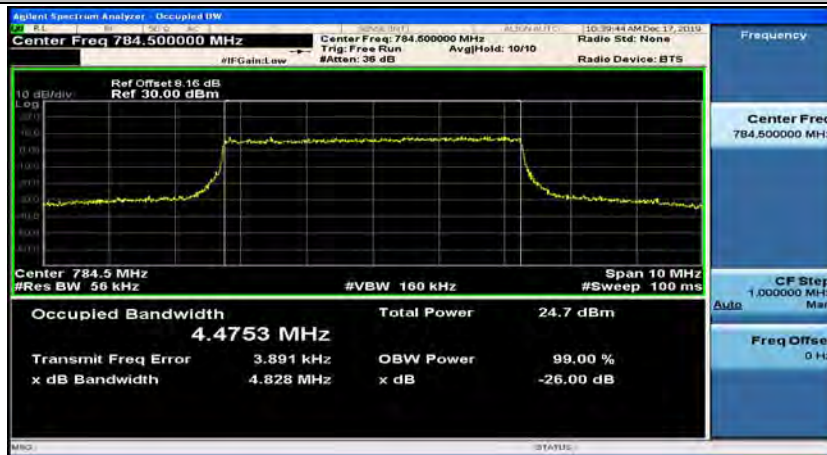
(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_25RB#0



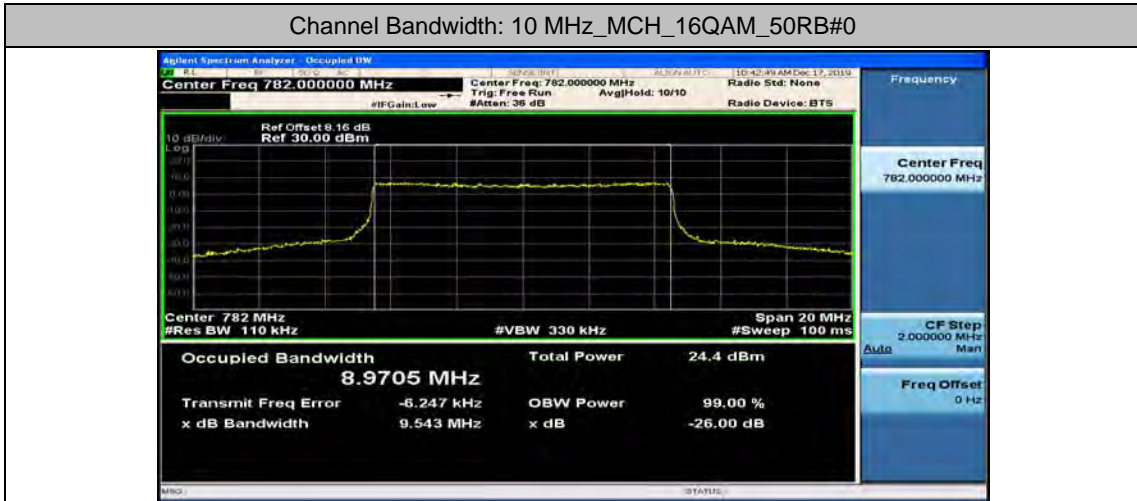
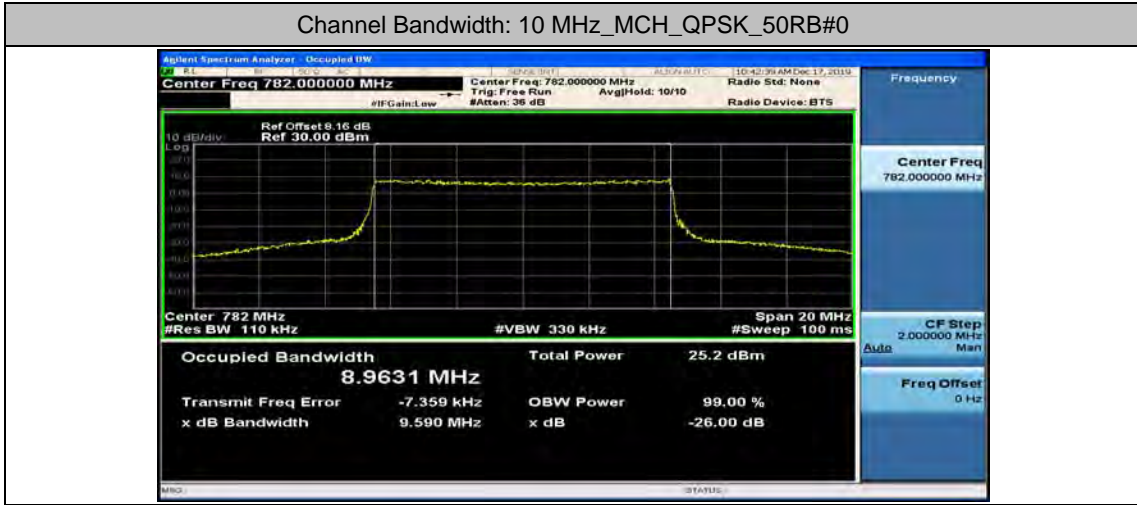
(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_25RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_25RB#0



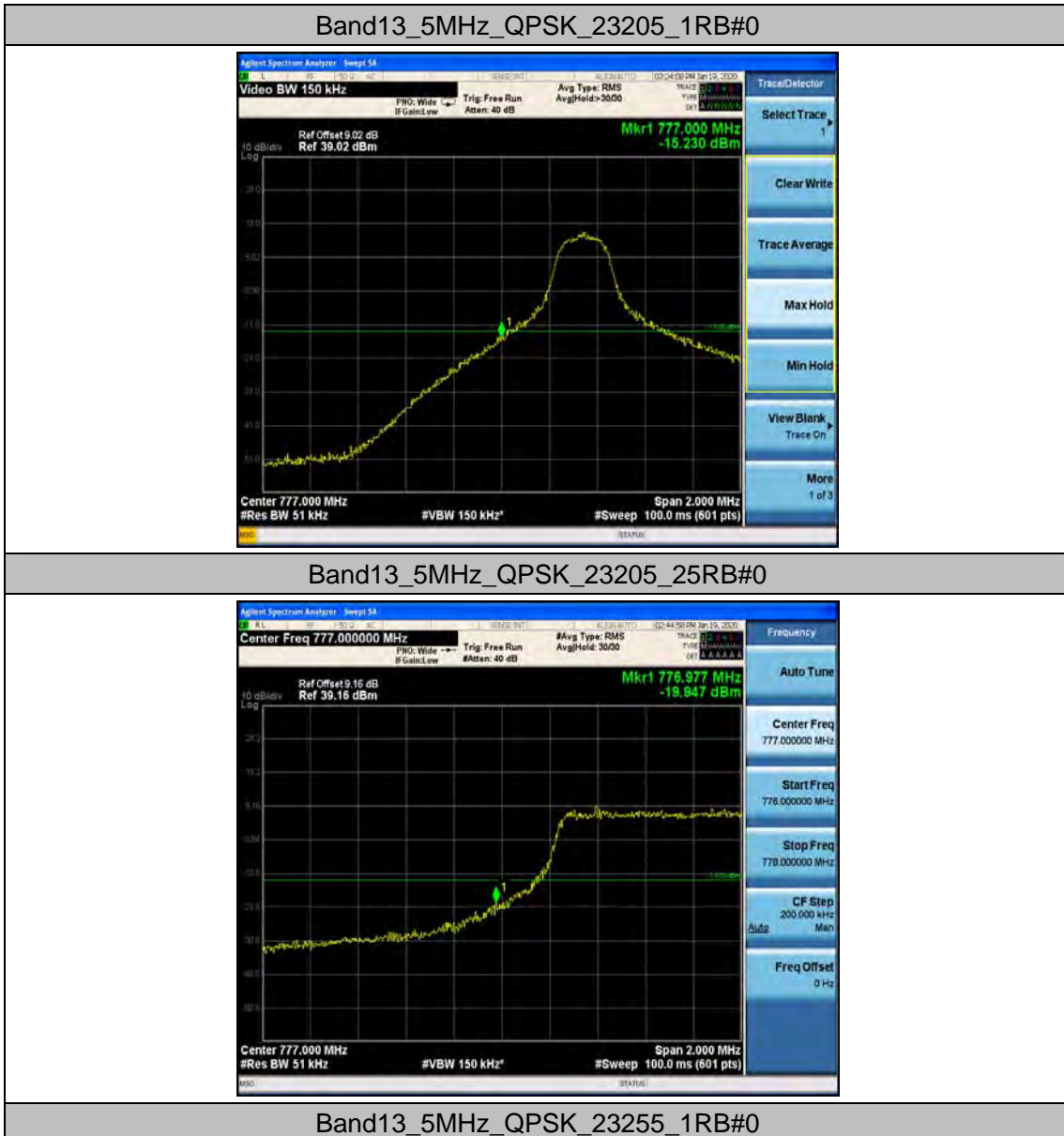
**Channel Bandwidth: 10 MHz**





## Appendix D: Band Edge

### Test Graphs







Band13\_5MHz\_QPSK\_23255\_25RB#0



Band13\_5MHz\_16QAM\_23205\_1RB#0



Band13\_5MHz\_16QAM\_23205\_25RB#0



Band13\_5MHz\_16QAM\_23255\_1RB#0



Band13\_5MHz\_16QAM\_23255\_25RB#0



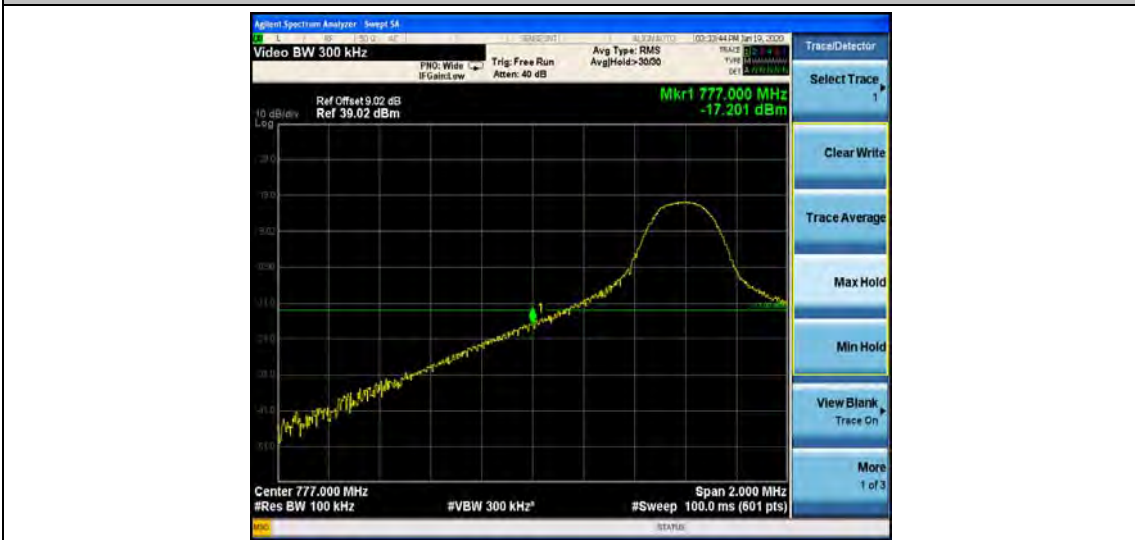
Band13\_10MHz\_QPSK\_23230\_1RB#0



Band13\_10MHz\_QPSK\_23230\_50RB#0



Band13\_10MHz\_QPSK\_23230\_1RB#0



Band13\_10MHz\_QPSK\_23230\_50RB#0



Band13\_10MHz\_16QAM\_23260\_1RB#0



Band13\_10MHz\_16QAM\_23260\_50RB#0



Band13\_10MHz\_16QAM\_23230\_1RB#0





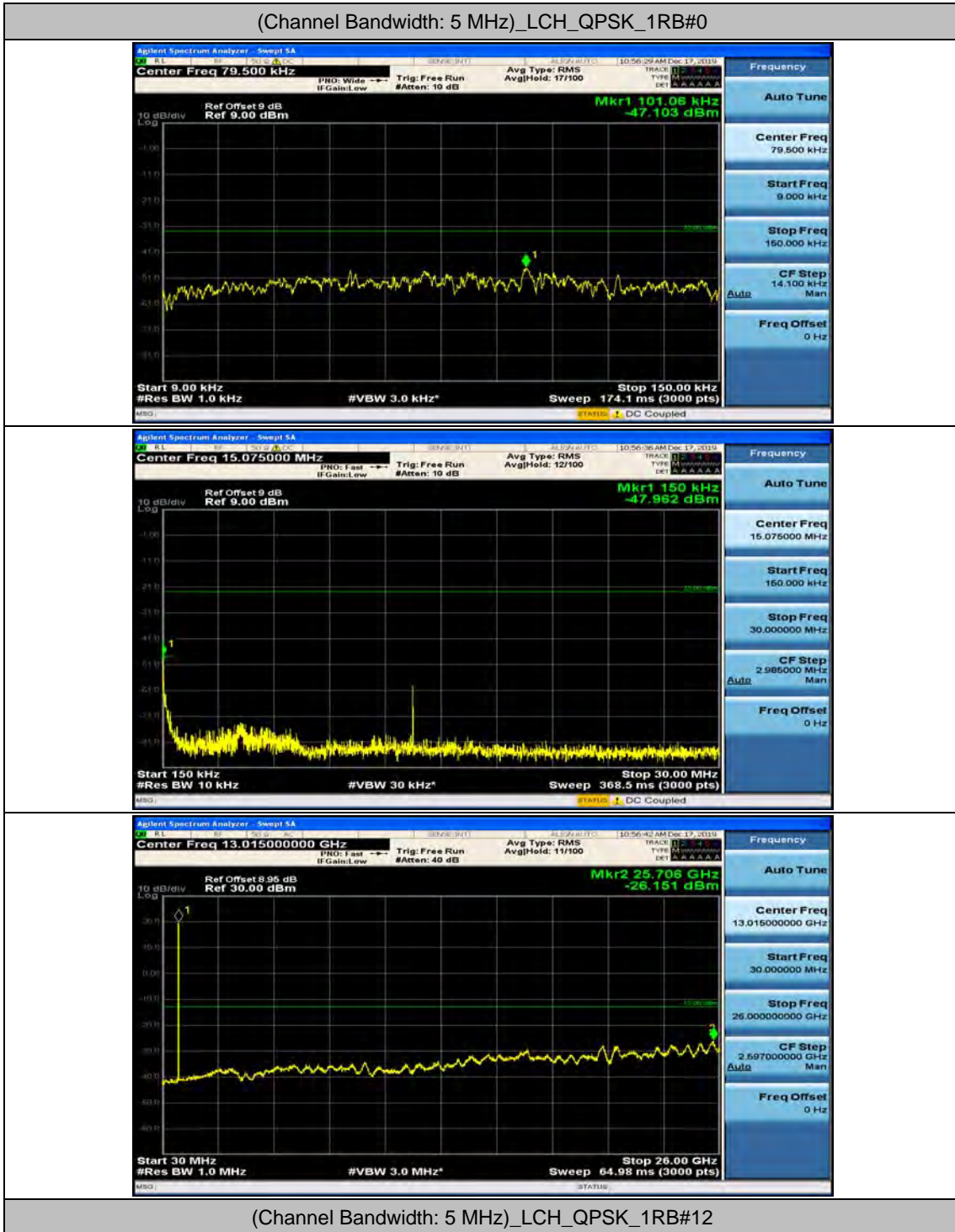
Band13\_10MHz\_16QAM\_23230\_50RB#0

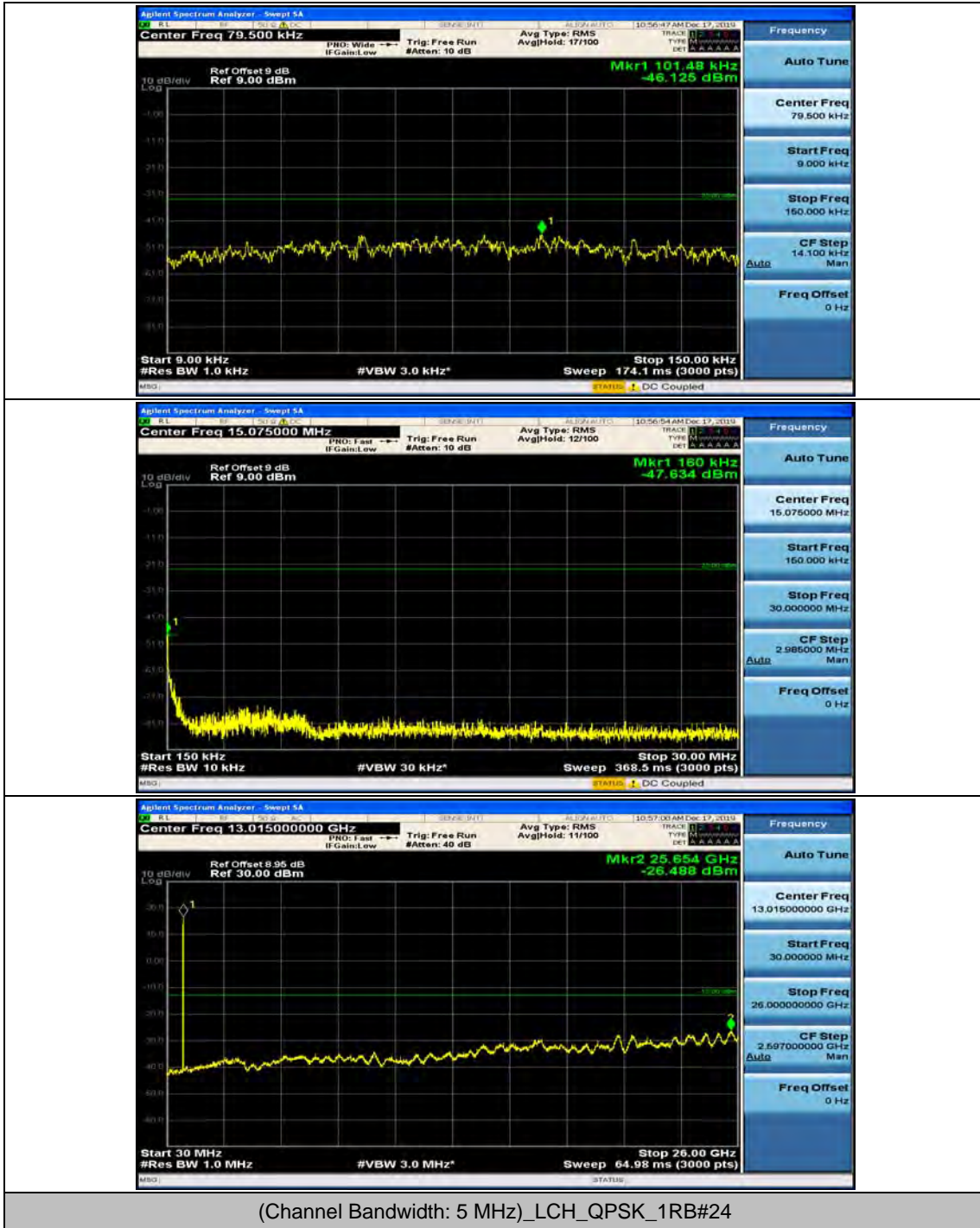


## Appendix E: Conducted Spurious Emission

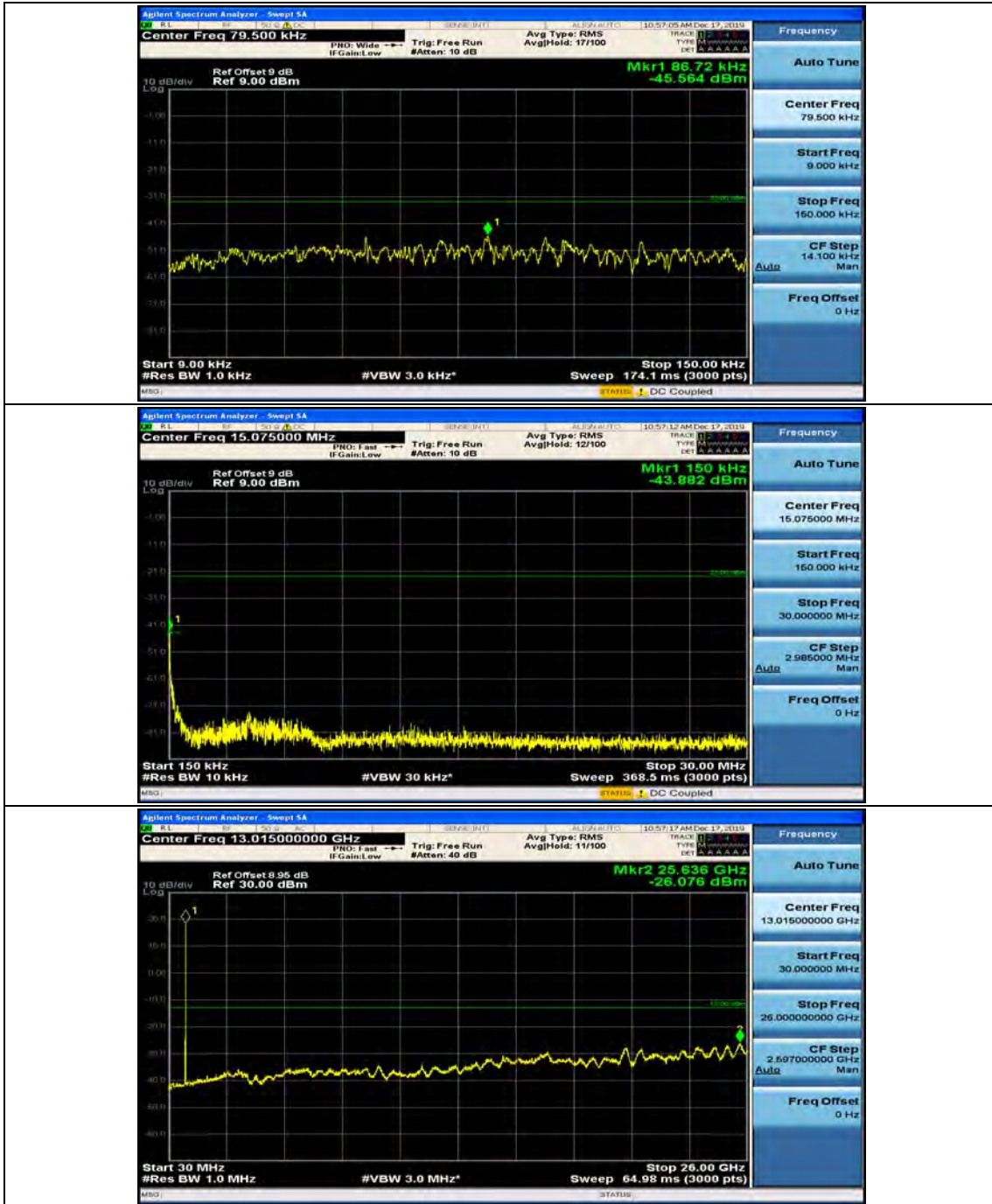
### Test Graphs

Channel Bandwidth: 5 MHz



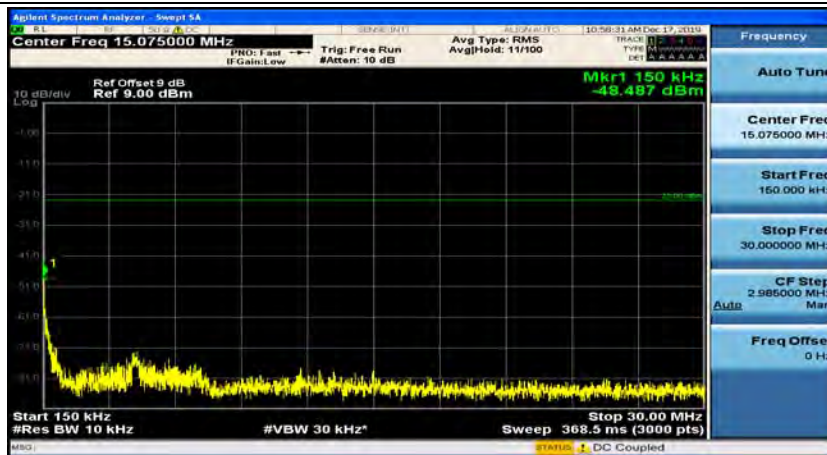
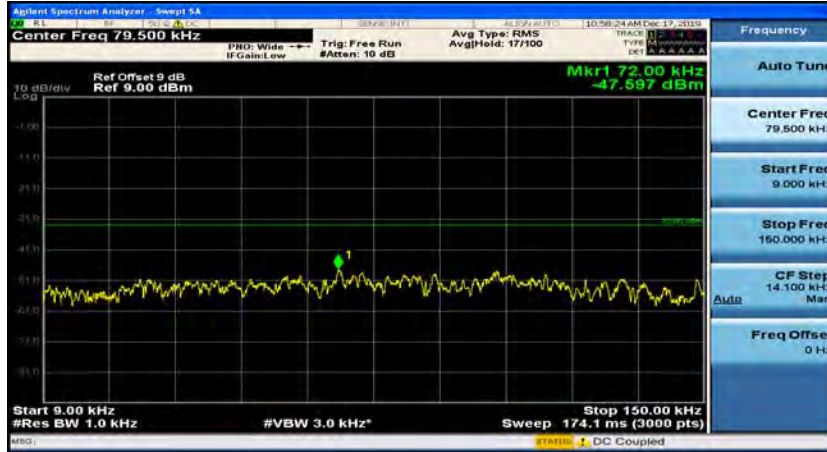




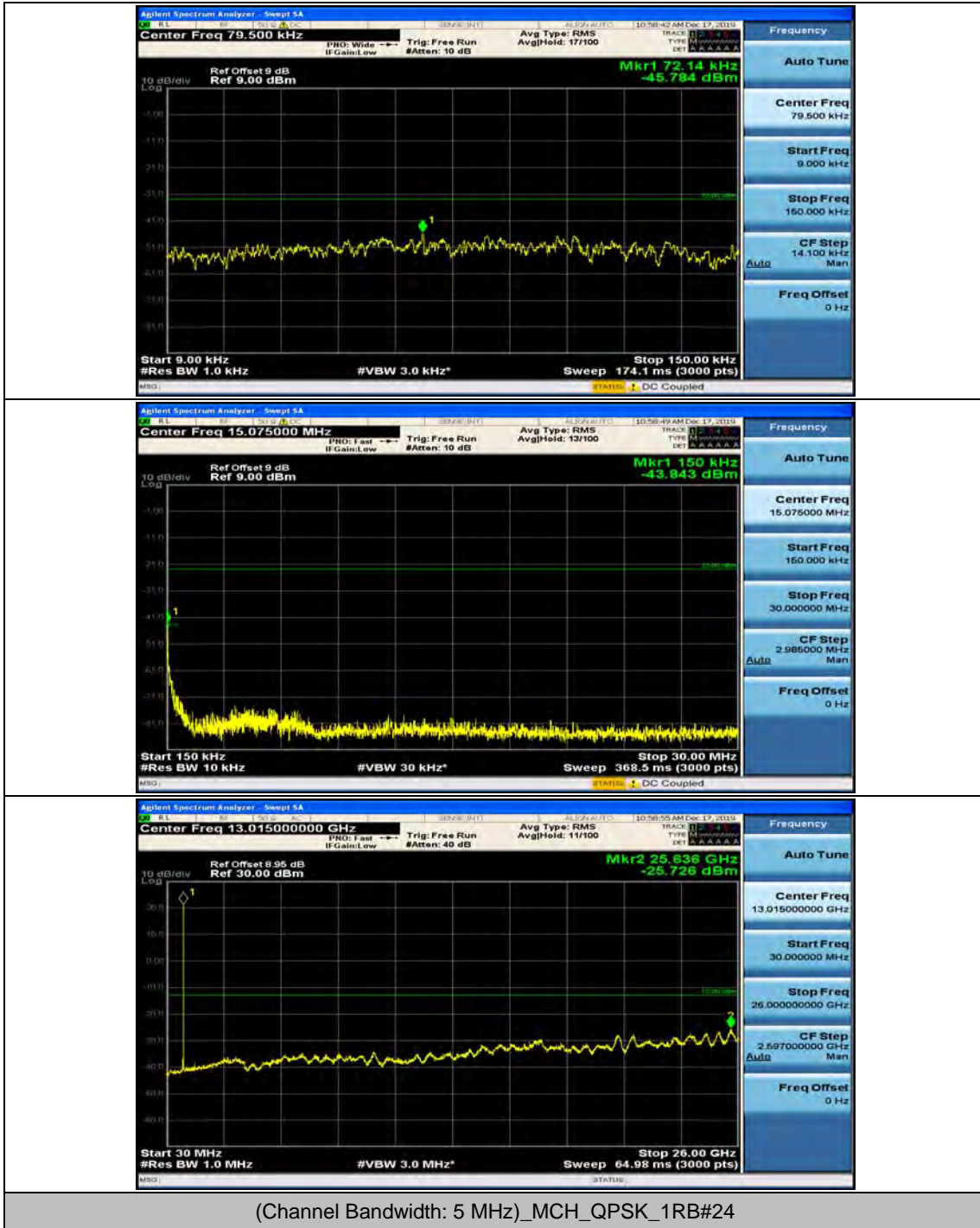


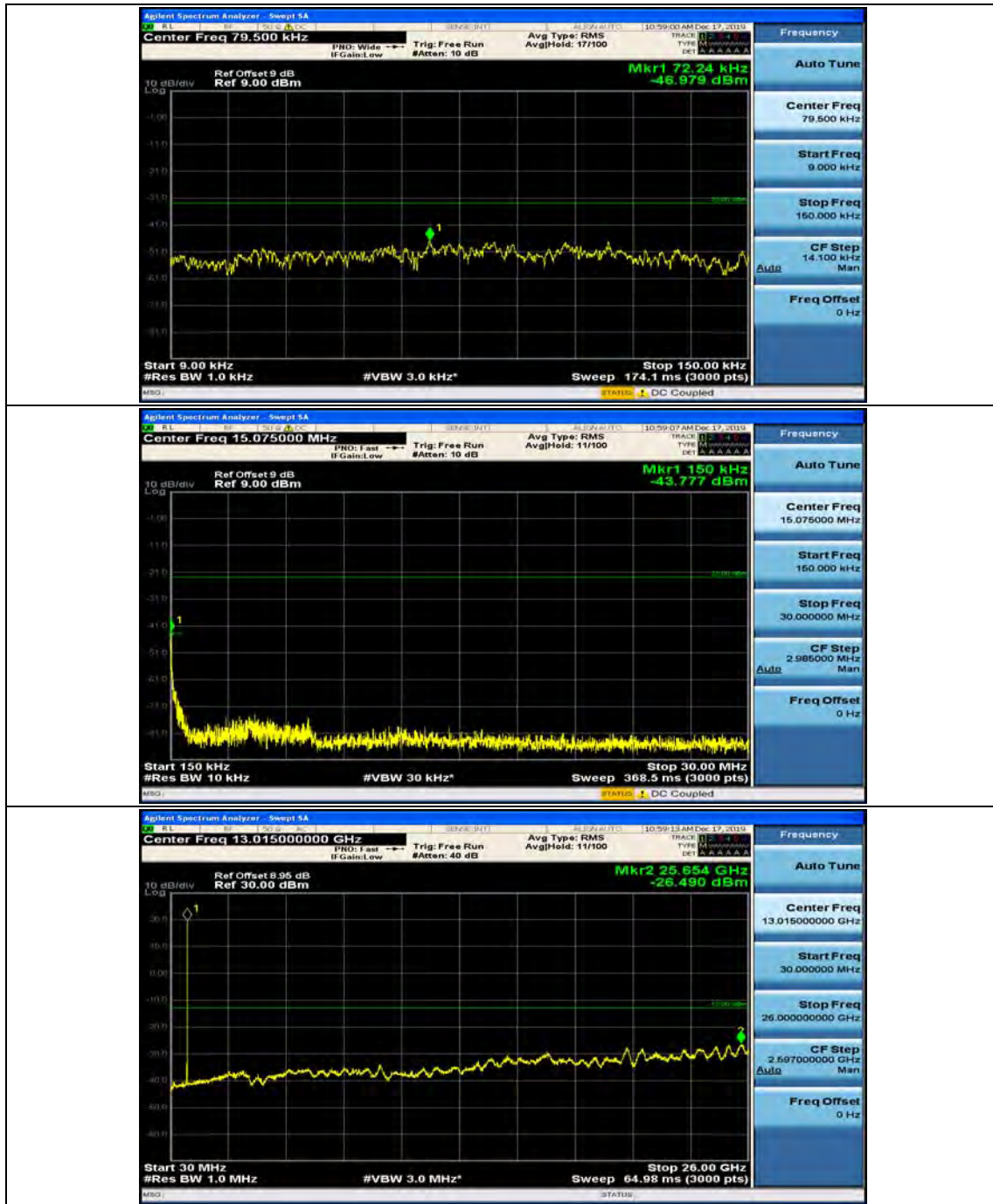


(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_1RB#0



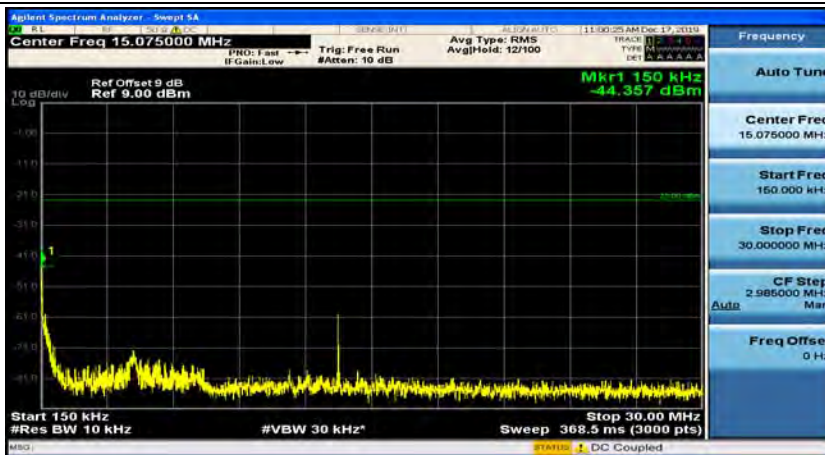
(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_1RB#12





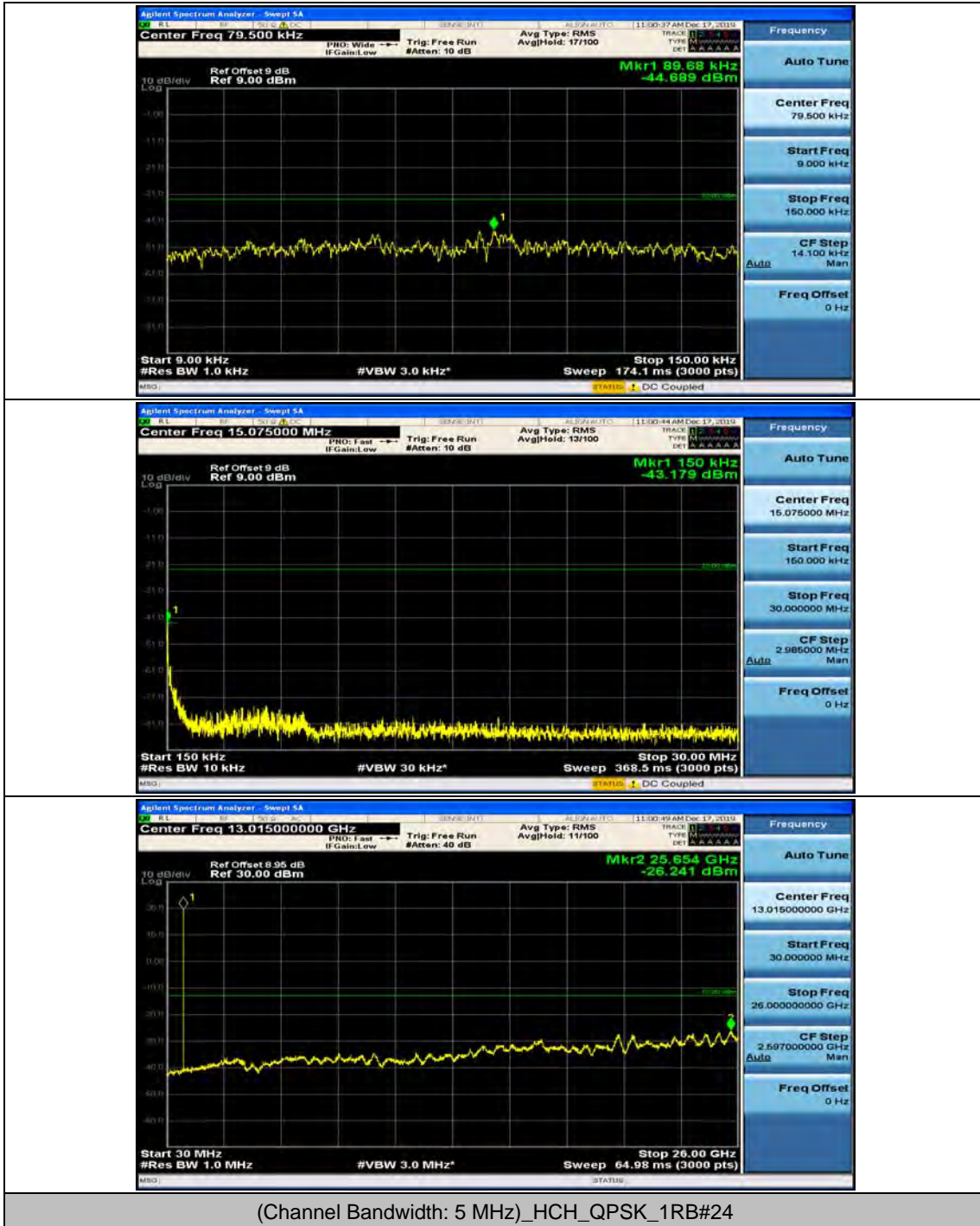


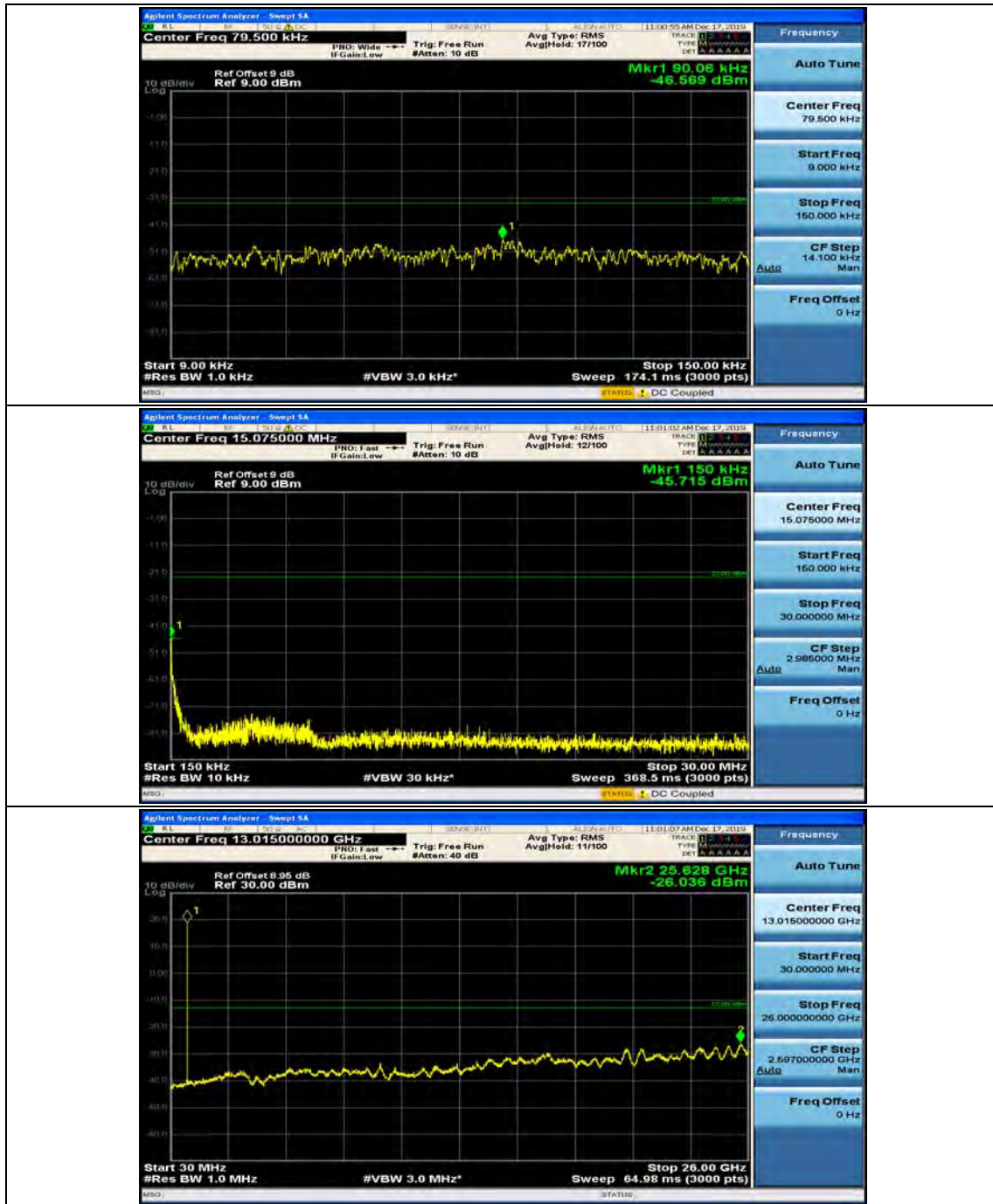
(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#0



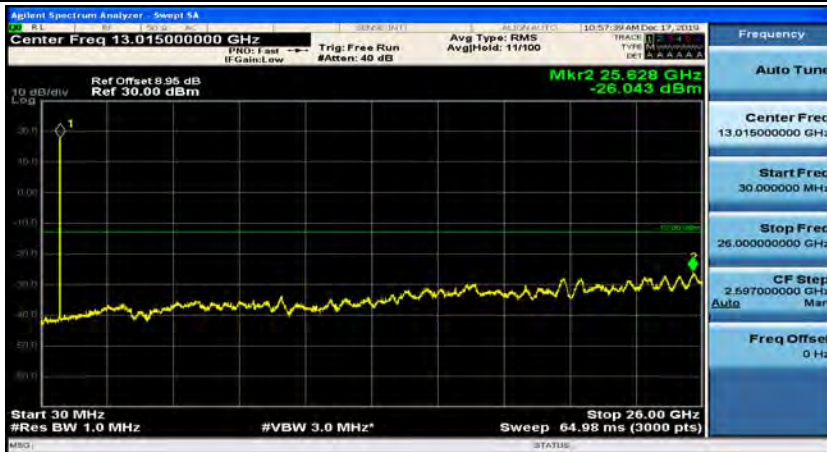
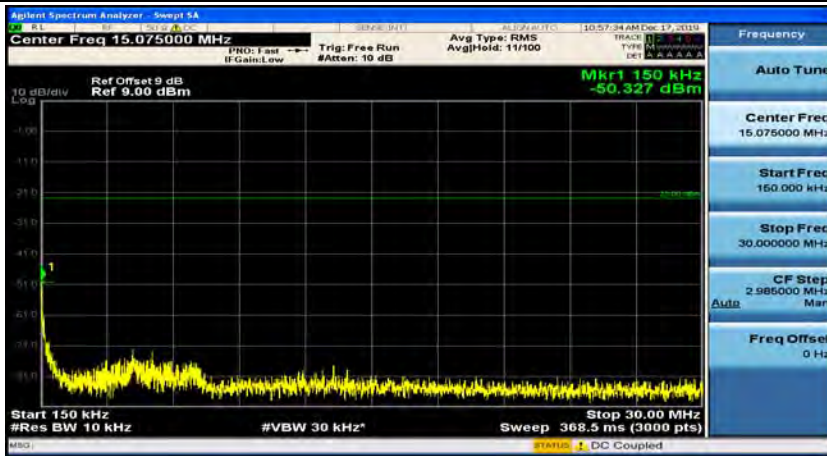
(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#12





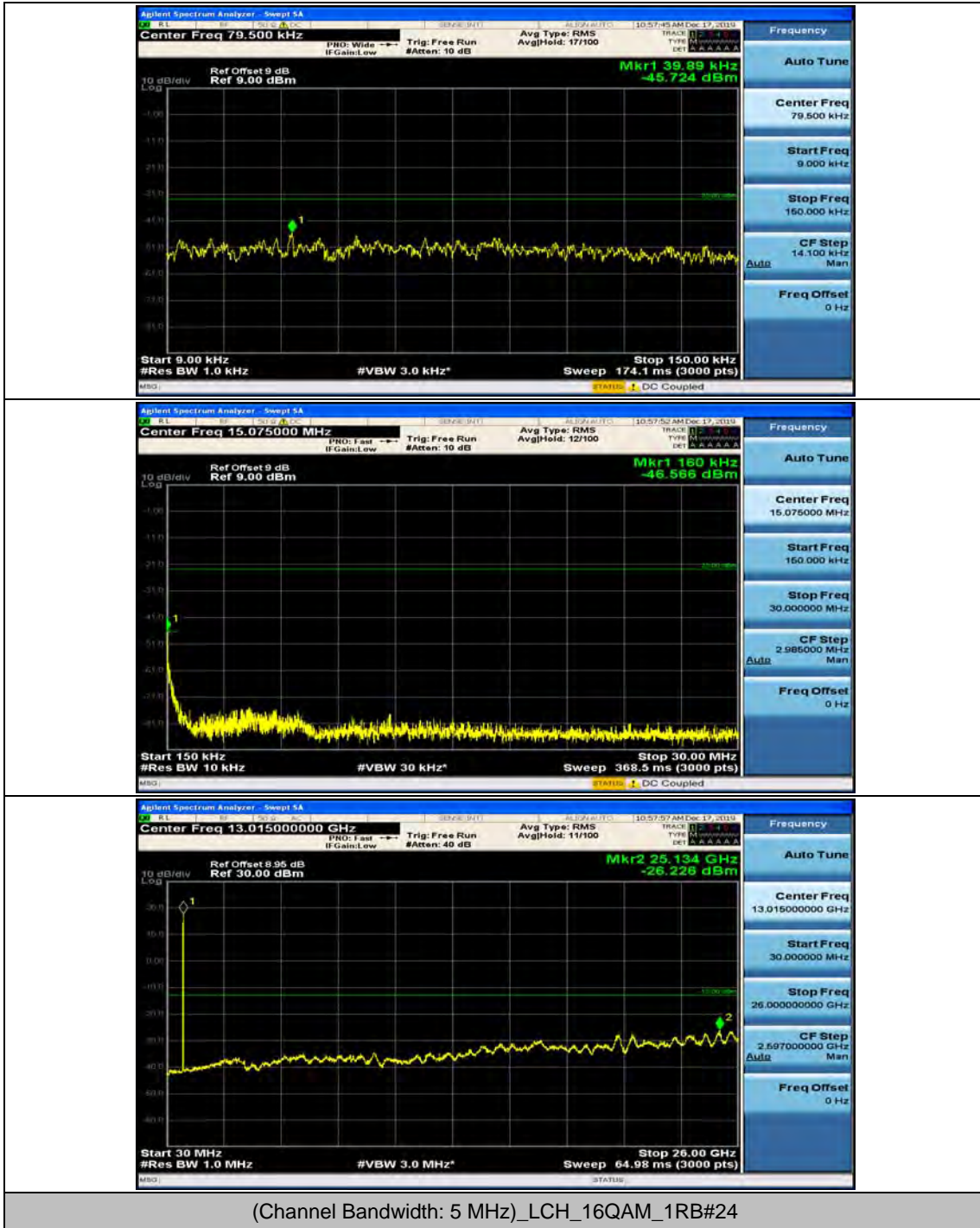


(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_1RB#0

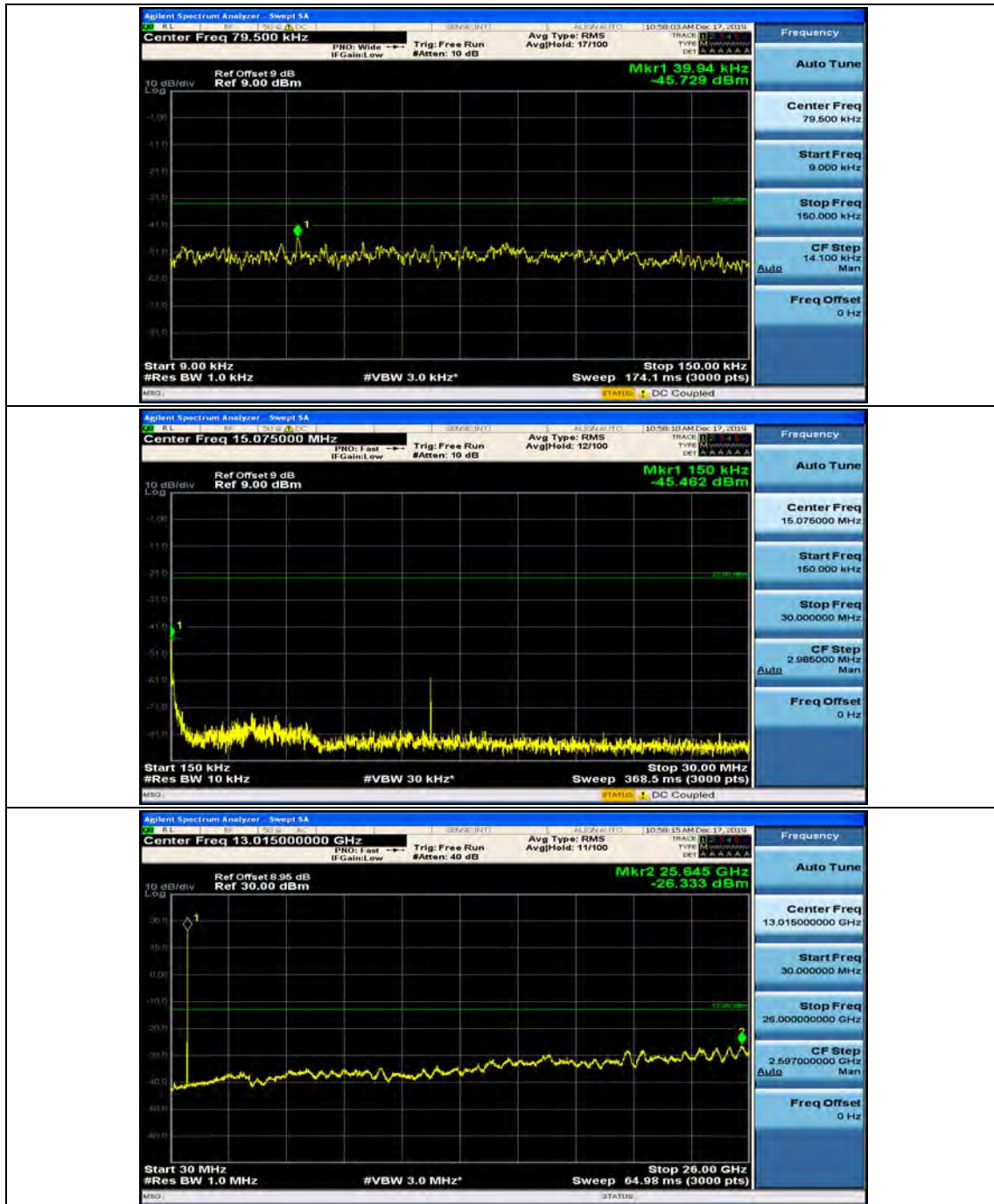


(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_1RB#12

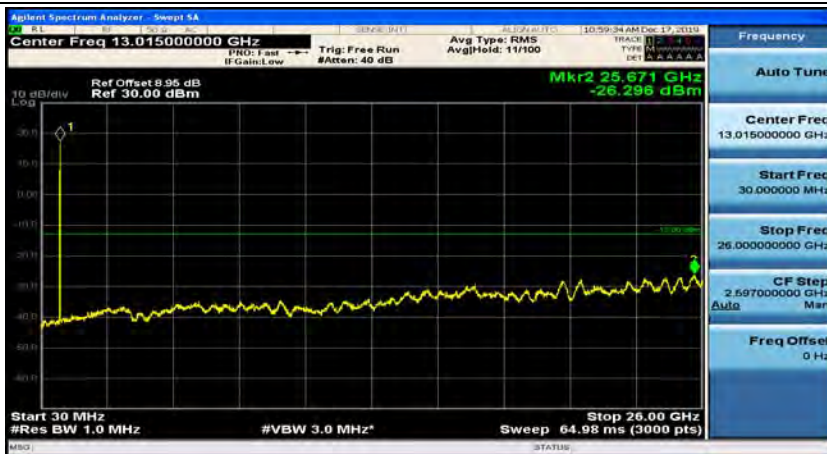
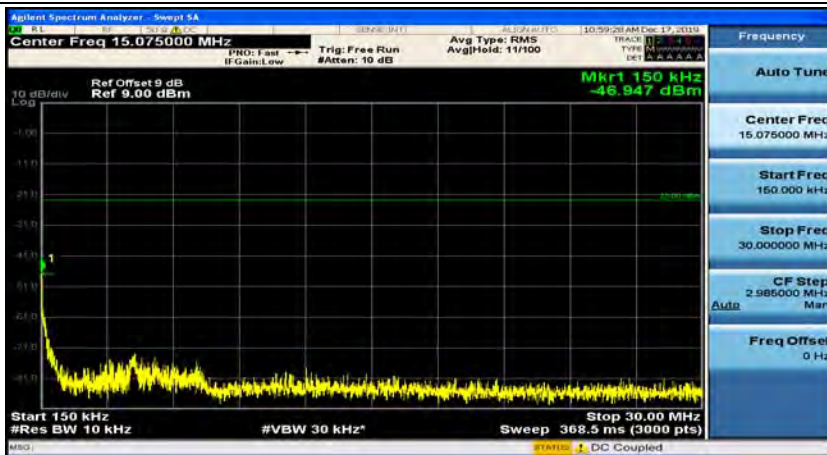




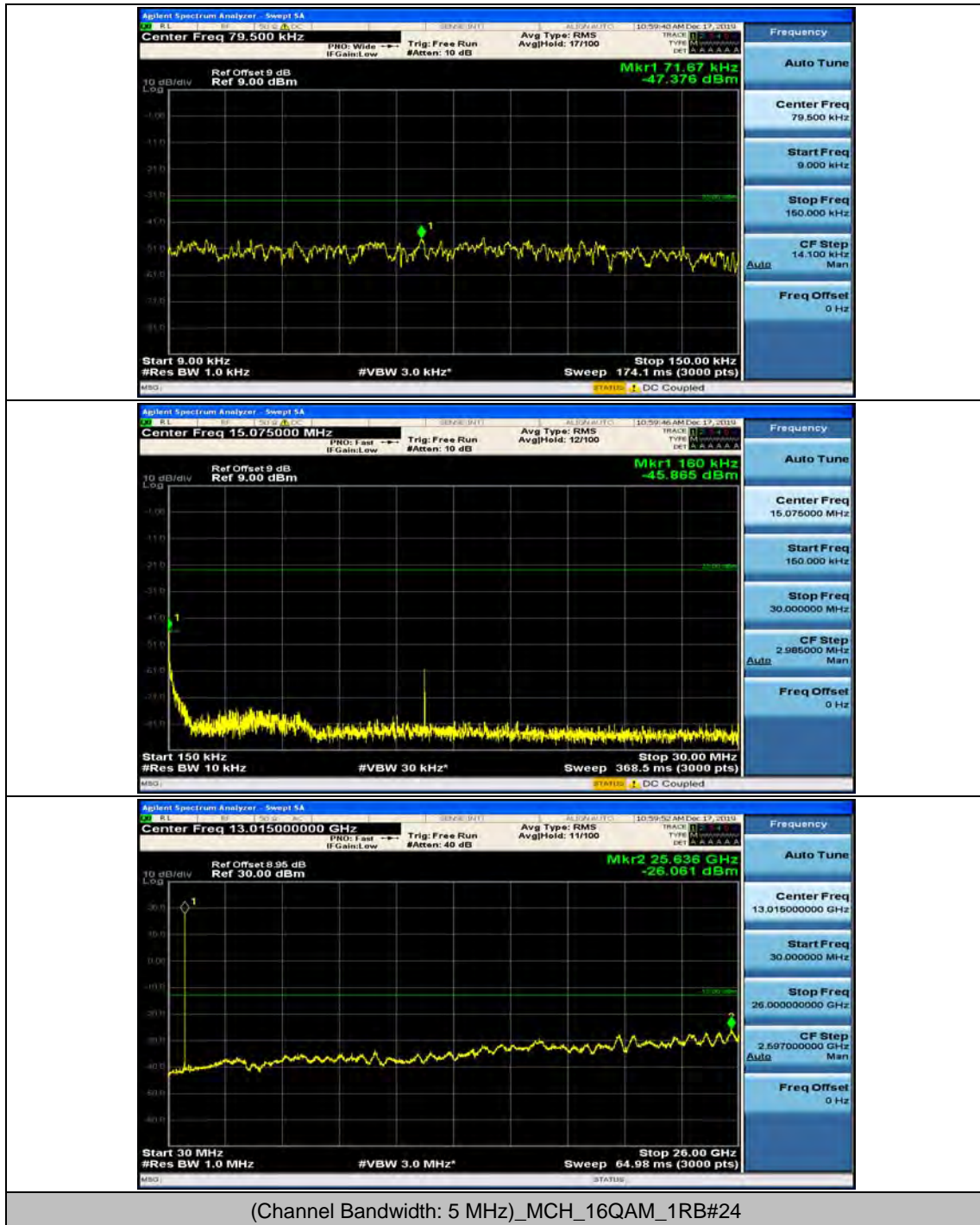




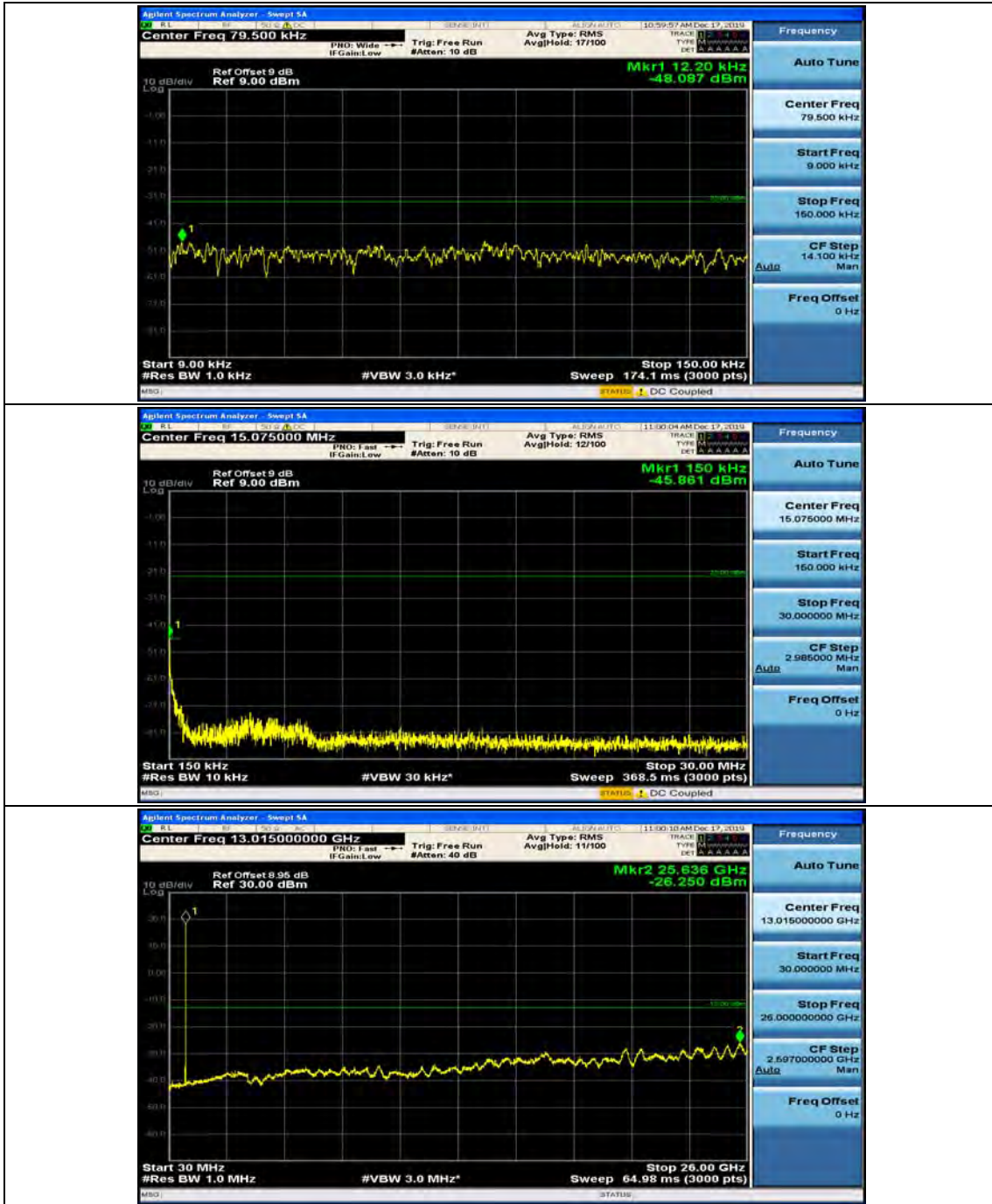
(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_1RB#0



(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_1RB#12

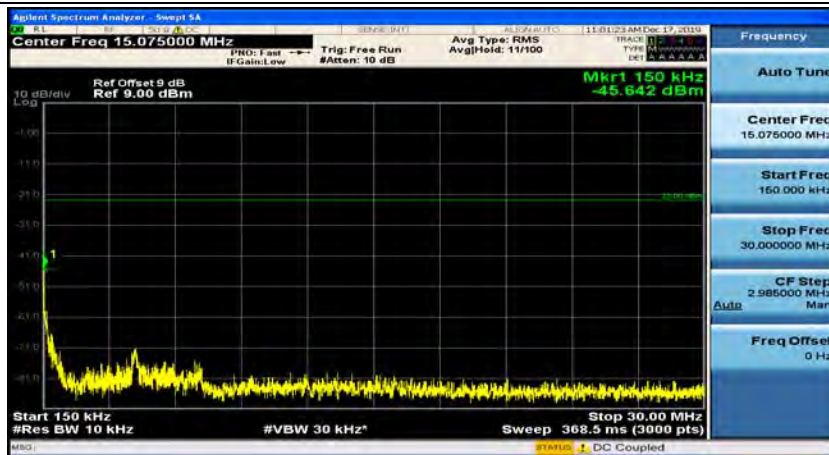




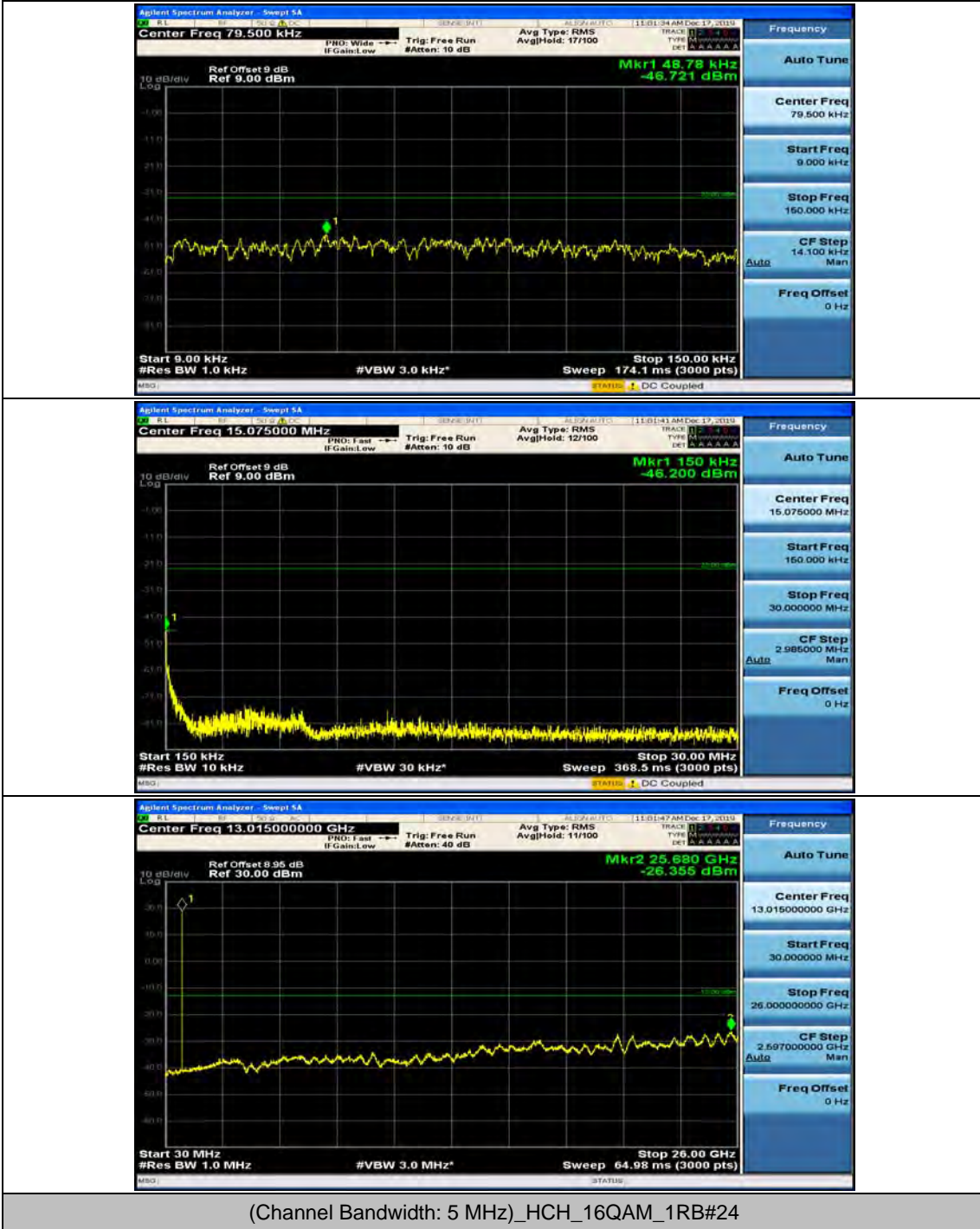


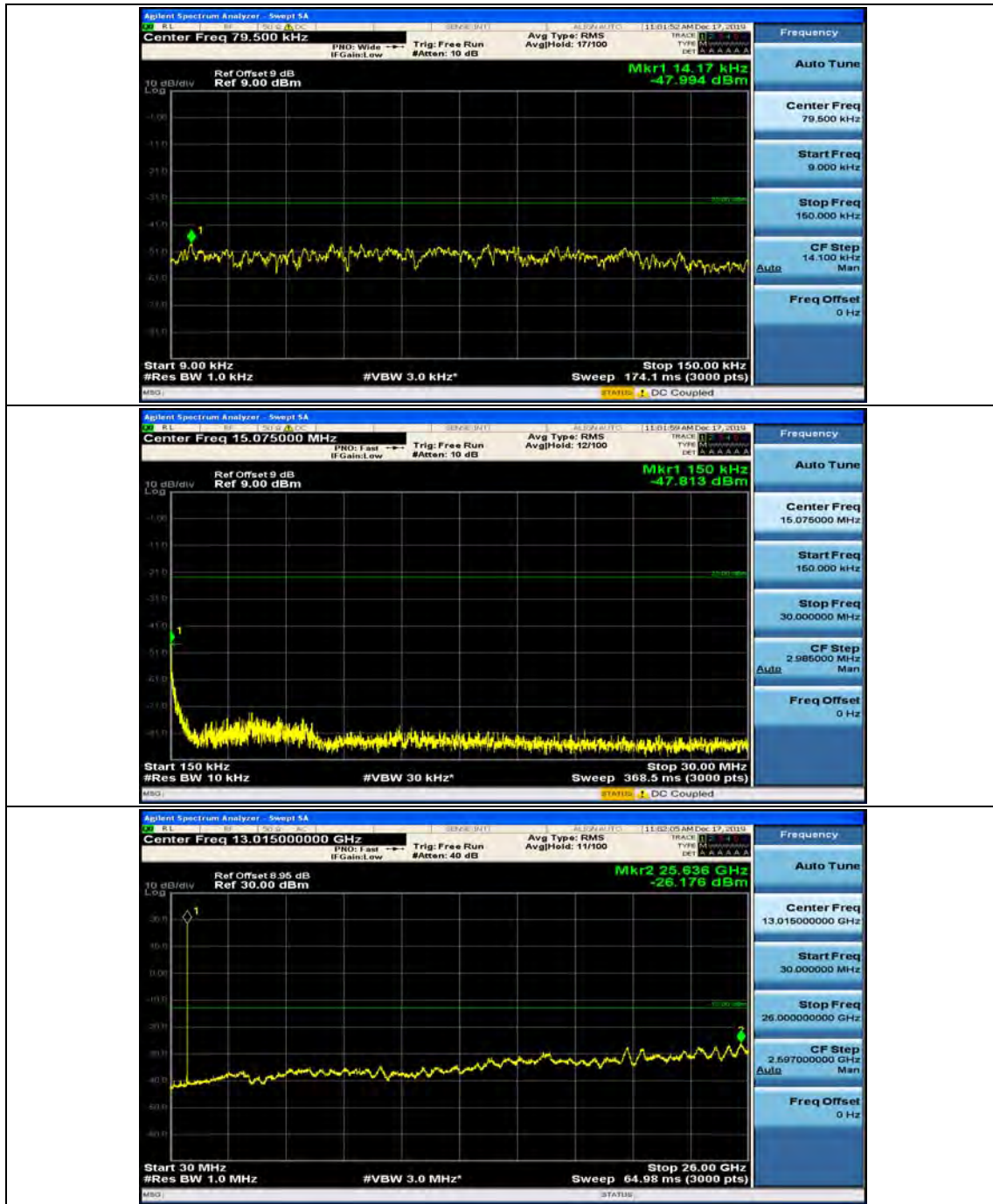


(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_1RB#0



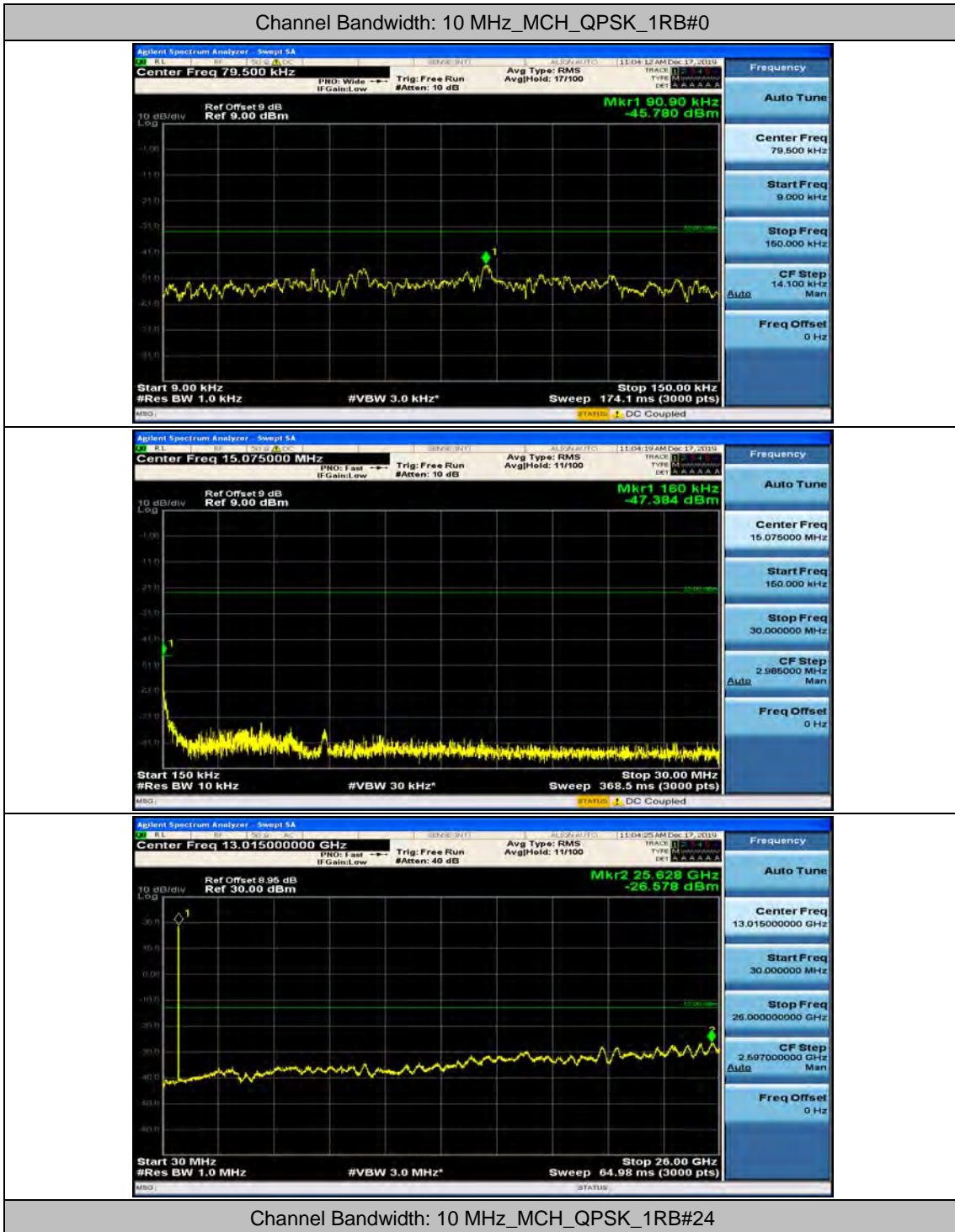
(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_1RB#12



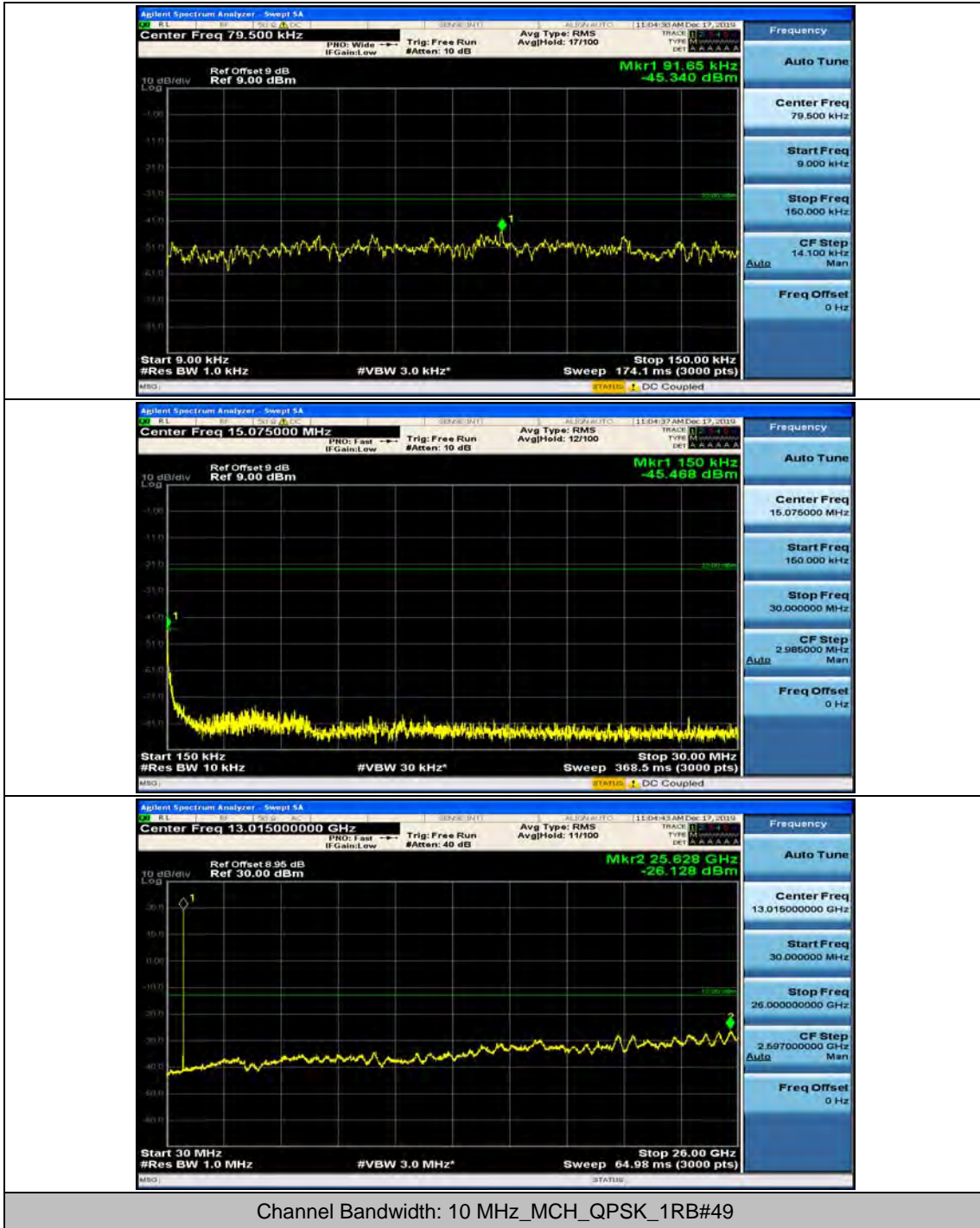


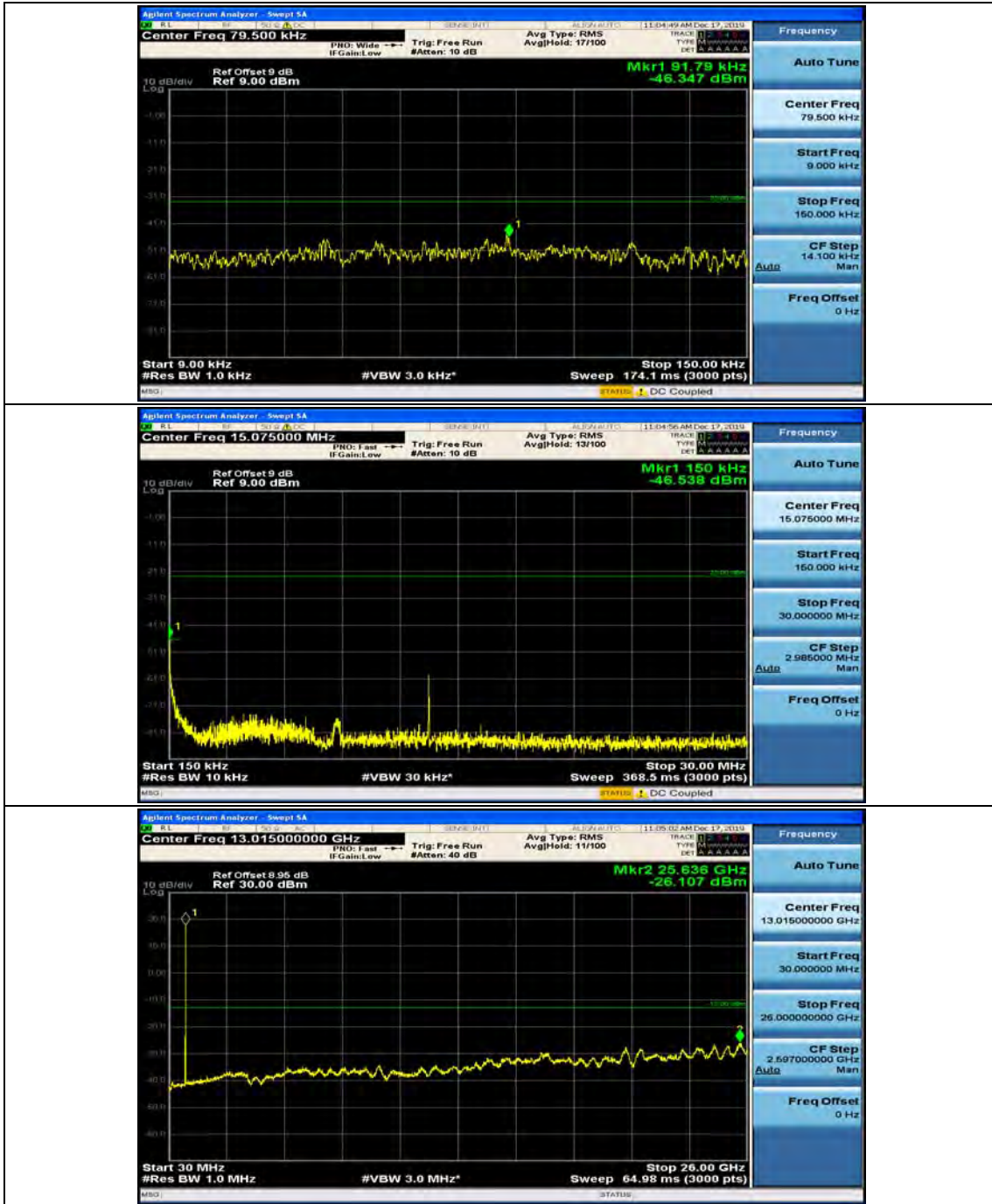


### Channel Bandwidth: 10 MHz

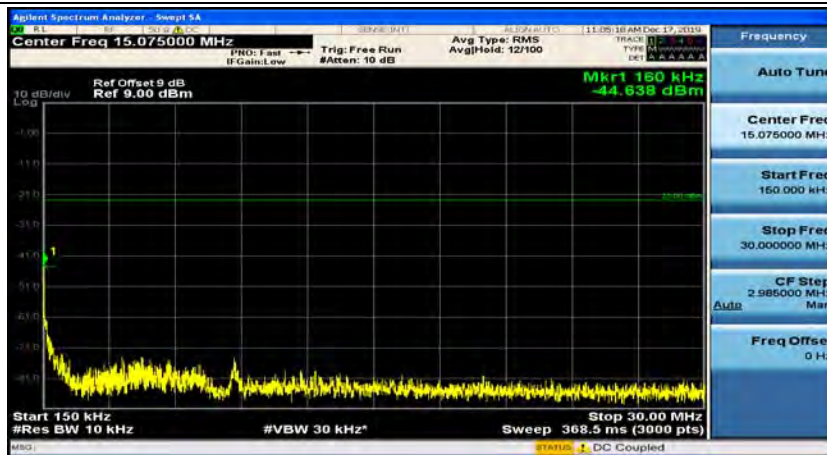






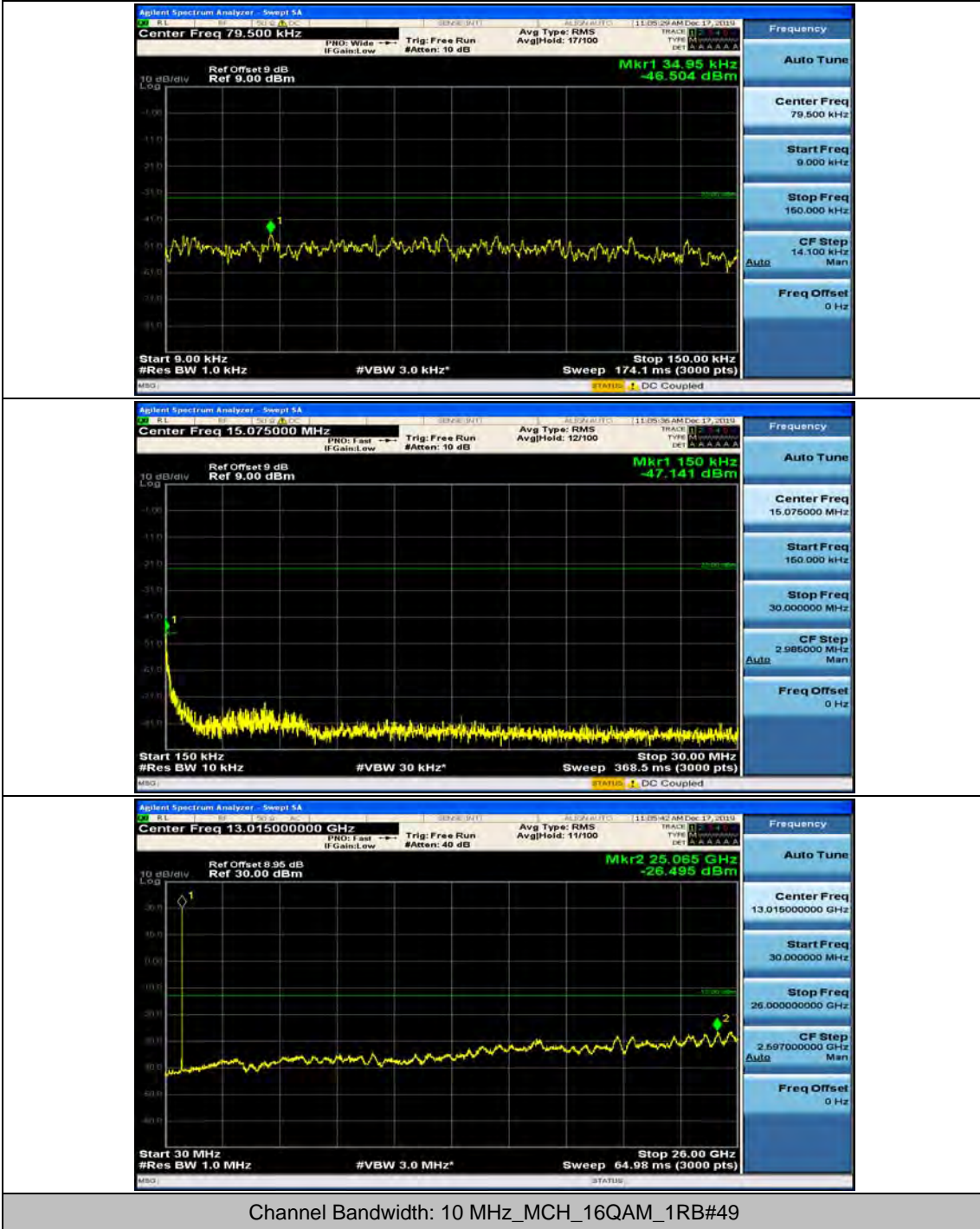


## Channel Bandwidth: 10 MHz\_MCH\_16QAM\_1RB#0

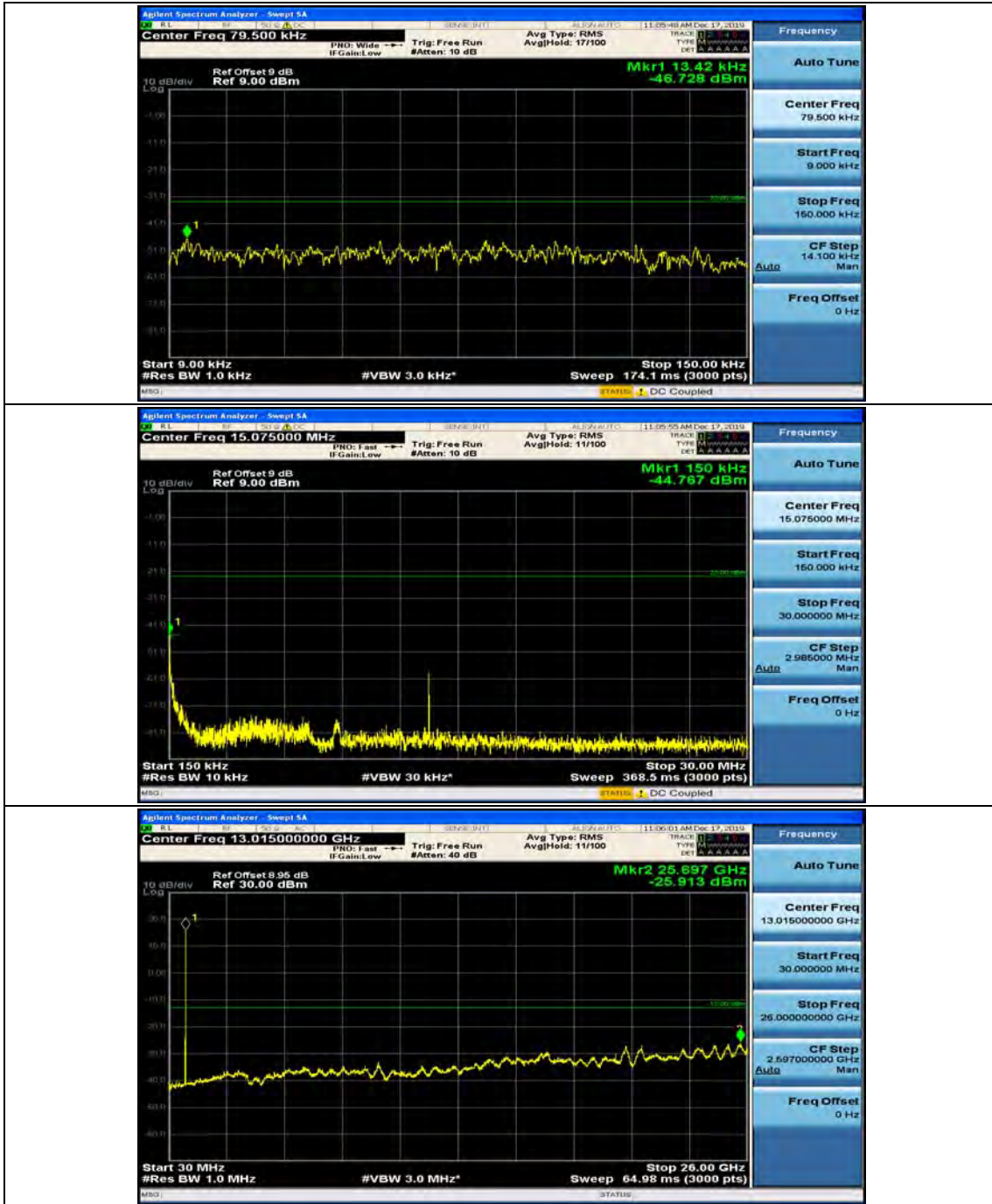


## Channel Bandwidth: 10 MHz\_MCH\_16QAM\_1RB#24









## Appendix F: Frequency Stability

### Test Result

#### Channel Bandwidth: 5 MHz

| Channel Bandwidth: 5 MHz |         |               |                  |                |                 |             |         |
|--------------------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Voltage                  |         |               |                  |                |                 |             |         |
| Modulation               | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                     | LCH     | VL            | TN               | -0.38          | -0.000487       | ± 2.5       | PASS    |
|                          |         | VN            | TN               | -1.32          | -0.001693       | ± 2.5       | PASS    |
|                          |         | VH            | TN               | 0.89           | 0.001142        | ± 2.5       | PASS    |
|                          | MCH     | VL            | TN               | -1.56          | -0.001995       | ± 2.5       | PASS    |
|                          |         | VN            | TN               | -0.75          | -0.000959       | ± 2.5       | PASS    |
|                          |         | VH            | TN               | 1.87           | 0.002391        | ± 2.5       | PASS    |
|                          | HCH     | VL            | TN               | 0.41           | 0.000523        | ± 2.5       | PASS    |
|                          |         | VN            | TN               | 3.91           | 0.004984        | ± 2.5       | PASS    |
|                          |         | VH            | TN               | -1.01          | -0.001287       | ± 2.5       | PASS    |
| 16QAM                    | LCH     | VL            | TN               | 1.21           | 0.001552        | ± 2.5       | PASS    |
|                          |         | VN            | TN               | 2.49           | 0.003194        | ± 2.5       | PASS    |
|                          |         | VH            | TN               | 1.37           | 0.001758        | ± 2.5       | PASS    |
|                          | MCH     | VL            | TN               | 1.71           | 0.002187        | ± 2.5       | PASS    |
|                          |         | VN            | TN               | -0.64          | -0.000818       | ± 2.5       | PASS    |
|                          |         | VH            | TN               | 0.57           | 0.000729        | ± 2.5       | PASS    |
|                          | HCH     | VL            | TN               | 3.62           | 0.004614        | ± 2.5       | PASS    |
|                          |         | VN            | TN               | 0.14           | 0.000178        | ± 2.5       | PASS    |
|                          |         | VH            | TN               | 4.41           | 0.005621        | ± 2.5       | PASS    |
| Temperature              |         |               |                  |                |                 |             |         |
| Modulation               | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                     | LCH     | VN            | -30              | 1.56           | 0.002001        | ± 2.5       | PASS    |
|                          |         | VN            | -20              | -0.28          | -0.000359       | ± 2.5       | PASS    |
|                          |         | VN            | -10              | 1.19           | 0.001527        | ± 2.5       | PASS    |
|                          |         | VN            | 0                | -0.39          | -0.000500       | ± 2.5       | PASS    |
|                          |         | VN            | 10               | 3.16           | 0.004054        | ± 2.5       | PASS    |
|                          |         | VN            | 20               | 0.82           | 0.001052        | ± 2.5       | PASS    |
|                          |         | VN            | 30               | 4.34           | 0.005568        | ± 2.5       | PASS    |
|                          |         | VN            | 40               | 3.6            | 0.004618        | ± 2.5       | PASS    |
|                          |         | VN            | 50               | 3.76           | 0.004824        | ± 2.5       | PASS    |
|                          | MCH     | VN            | -30              | -1.52          | -0.001944       | ± 2.5       | PASS    |
|                          |         | VN            | -20              | 3.24           | 0.004143        | ± 2.5       | PASS    |

|     |     |       |     |       |           |       |          |       |      |
|-----|-----|-------|-----|-------|-----------|-------|----------|-------|------|
|     |     | VN    | -10 | 3.19  | 0.004079  | ± 2.5 | PASS     |       |      |
|     |     | VN    | 0   | 1.91  | 0.002442  | ± 2.5 | PASS     |       |      |
|     |     | VN    | 10  | 2.33  | 0.002980  | ± 2.5 | PASS     |       |      |
|     |     | VN    | 20  | 4.54  | 0.005806  | ± 2.5 | PASS     |       |      |
|     |     | VN    | 30  | -1.42 | -0.001816 | ± 2.5 | PASS     |       |      |
|     |     | VN    | 40  | 2.59  | 0.003312  | ± 2.5 | PASS     |       |      |
|     |     | VN    | 50  | 4.36  | 0.005575  | ± 2.5 | PASS     |       |      |
|     | HCH | VN    | -30 | 3.49  | 0.004449  | ± 2.5 | PASS     |       |      |
|     |     | VN    | -20 | 0.15  | 0.000191  | ± 2.5 | PASS     |       |      |
|     |     | VN    | -10 | -1.79 | -0.002282 | ± 2.5 | PASS     |       |      |
|     |     | VN    | 0   | 0.32  | 0.000408  | ± 2.5 | PASS     |       |      |
|     |     | VN    | 10  | 2.33  | 0.002970  | ± 2.5 | PASS     |       |      |
|     |     | VN    | 20  | 3.56  | 0.004538  | ± 2.5 | PASS     |       |      |
|     |     | VN    | 30  | 3.67  | 0.004678  | ± 2.5 | PASS     |       |      |
|     |     | VN    | 40  | 0.52  | 0.000663  | ± 2.5 | PASS     |       |      |
|     |     | VN    | 50  | -0.85 | -0.001083 | ± 2.5 | PASS     |       |      |
|     |     | 16QAM | LCH | VN    | -30       | 2.46  | 0.003156 | ± 2.5 | PASS |
|     |     |       |     | VN    | -20       | 1.96  | 0.002514 | ± 2.5 | PASS |
| VN  | -10 |       |     | 4.21  | 0.005401  | ± 2.5 | PASS     |       |      |
| VN  | 0   |       |     | 1.42  | 0.001822  | ± 2.5 | PASS     |       |      |
| VN  | 10  |       |     | 0.82  | 0.001052  | ± 2.5 | PASS     |       |      |
| VN  | 20  |       |     | 2.95  | 0.003784  | ± 2.5 | PASS     |       |      |
| VN  | 30  |       |     | 2.92  | 0.003746  | ± 2.5 | PASS     |       |      |
| VN  | 40  |       |     | 1.76  | 0.002258  | ± 2.5 | PASS     |       |      |
| VN  | 50  |       |     | 2.81  | 0.003605  | ± 2.5 | PASS     |       |      |
| MCH | VN  |       | -30 | -1.12 | -0.001432 | ± 2.5 | PASS     |       |      |
|     | VN  |       | -20 | 4.99  | 0.006381  | ± 2.5 | PASS     |       |      |
|     | VN  |       | -10 | 2.17  | 0.002775  | ± 2.5 | PASS     |       |      |
|     | VN  |       | 0   | 1.03  | 0.001317  | ± 2.5 | PASS     |       |      |
|     | VN  |       | 10  | 3.69  | 0.004719  | ± 2.5 | PASS     |       |      |
|     | VN  |       | 20  | 2.57  | 0.003286  | ± 2.5 | PASS     |       |      |
|     | VN  |       | 30  | 4.13  | 0.005281  | ± 2.5 | PASS     |       |      |
|     | VN  |       | 40  | -0.85 | -0.001087 | ± 2.5 | PASS     |       |      |
|     | VN  |       | 50  | -1.54 | -0.001969 | ± 2.5 | PASS     |       |      |
| HCH | VN  |       | -30 | -1.95 | -0.002486 | ± 2.5 | PASS     |       |      |
|     | VN  |       | -20 | 4.08  | 0.005201  | ± 2.5 | PASS     |       |      |
|     | VN  |       | -10 | 0.09  | 0.000115  | ± 2.5 | PASS     |       |      |
|     | VN  |       | 0   | 4.26  | 0.005430  | ± 2.5 | PASS     |       |      |
|     | VN  |       | 10  | 1.89  | 0.002409  | ± 2.5 | PASS     |       |      |
|     | VN  |       | 20  | 0.85  | 0.001083  | ± 2.5 | PASS     |       |      |
|     | VN  |       | 30  | -1.73 | -0.002205 | ± 2.5 | PASS     |       |      |

|  |  |    |    |      |          |       |      |
|--|--|----|----|------|----------|-------|------|
|  |  | VN | 40 | 0.74 | 0.000943 | ± 2.5 | PASS |
|  |  | VN | 50 | 4.74 | 0.006042 | ± 2.5 | PASS |

**Channel Bandwidth: 10 MHz**

| Channel Bandwidth: 10 MHz |         |               |                  |                |                 |             |         |
|---------------------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Voltage                   |         |               |                  |                |                 |             |         |
| Modulation                | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                      | MCH     | VL            | TN               | -0.54          | -0.000691       | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 3.62           | 0.004629        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | -0.17          | -0.000217       | ± 2.5       | PASS    |
| 16QAM                     | MCH     | VL            | TN               | 1.8            | 0.002302        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 1.64           | 0.002097        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 1.02           | 0.001304        | ± 2.5       | PASS    |
| Temperature               |         |               |                  |                |                 |             |         |
| Modulation                | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                      | MCH     | VN            | -30              | 1.54           | 0.001969        | ± 2.5       | PASS    |
|                           |         | VN            | -20              | -0.78          | -0.000997       | ± 2.5       | PASS    |
|                           |         | VN            | -10              | 3.59           | 0.004591        | ± 2.5       | PASS    |
|                           |         | VN            | 0                | 4.6            | 0.005882        | ± 2.5       | PASS    |
|                           |         | VN            | 10               | 0.47           | 0.000601        | ± 2.5       | PASS    |
|                           |         | VN            | 20               | -0.3           | -0.000384       | ± 2.5       | PASS    |
|                           |         | VN            | 30               | -1.95          | -0.002494       | ± 2.5       | PASS    |
|                           |         | VN            | 40               | 0.78           | 0.000997        | ± 2.5       | PASS    |
|                           |         | VN            | 50               | 3.65           | 0.004668        | ± 2.5       | PASS    |
| 16QAM                     | MCH     | VN            | -30              | 2.55           | 0.003261        | ± 2.5       | PASS    |
|                           |         | VN            | -20              | -1.99          | -0.002545       | ± 2.5       | PASS    |
|                           |         | VN            | -10              | 4.64           | 0.005934        | ± 2.5       | PASS    |
|                           |         | VN            | 0                | 2.11           | 0.002698        | ± 2.5       | PASS    |
|                           |         | VN            | 10               | 0.64           | 0.000818        | ± 2.5       | PASS    |
|                           |         | VN            | 20               | 0.83           | 0.001061        | ± 2.5       | PASS    |
|                           |         | VN            | 30               | 1.57           | 0.002008        | ± 2.5       | PASS    |
|                           |         | VN            | 40               | 0.87           | 0.001113        | ± 2.5       | PASS    |
|                           |         | VN            | 50               | -0.72          | -0.000921       | ± 2.5       | PASS    |