# Appendix H: Test Data for E-UTRA Band 12

**Product Name: 4G Smart Phone**
**Trade Mark: Smooth**
**Test Model: Smooth 6.26**

**Environmental Conditions**

| | |
|---|---|
| Temperature: | 24.6° C |
| Relative Humidity: | 54.1% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Diamond Lu |
| Supervised by: | Li Huan |

## H.1 Conducted Output Power

| Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz) | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Average Power [dBm] QPSK | Average Power [dBm] 16QAM | Verdict |
| | | Size | Offset | | | |
| QPSK / 16QAM | LCH | 1 | 0 | 23.44 | 22.83 | PASS |
| | | 1 | 3 | 23.48 | 22.96 | PASS |
| | | 1 | 5 | 23.39 | 22.86 | PASS |
| | | 3 | 0 | 23.46 | 22.30 | PASS |
| | | 3 | 2 | 23.49 | 22.20 | PASS |
| | | 3 | 3 | 23.45 | 22.22 | PASS |
| | | 6 | 0 | 22.26 | 21.25 | PASS |
| | MCH | 1 | 0 | 24.34 | 23.41 | PASS |
| | | 1 | 3 | 24.54 | 23.59 | PASS |
| | | 1 | 5 | 24.48 | 23.43 | PASS |
| | | 3 | 0 | 24.44 | 23.51 | PASS |
| | | 3 | 2 | 24.75 | 23.68 | PASS |
| | | 3 | 3 | 24.63 | 23.60 | PASS |
| | | 6 | 0 | 23.88 | 23.14 | PASS |
| | HCH | 1 | 0 | 23.67 | 23.20 | PASS |
| | | 1 | 3 | 23.78 | 23.13 | PASS |
| | | 1 | 5 | 23.76 | 22.98 | PASS |
| | | 3 | 0 | 23.70 | 22.78 | PASS |
| | | 3 | 2 | 23.83 | 22.87 | PASS |
| | | 3 | 3 | 23.81 | 22.79 | PASS |
| | | 6 | 0 | 23.06 | 22.17 | PASS |

| Conducted Output Power Test Result (Channel Bandwidth: 3 MHz) | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Average Power [dBm] | Average Power [dBm] | Verdict |
| | | Size | Offset | QPSK | 16QAM | |
| QPSK / 16QAM | LCH | 1 | 0 | 23.28 | 22.76 | PASS |
| | | 1 | 7 | 23.42 | 22.95 | PASS |
| | | 1 | 14 | 24.03 | 23.52 | PASS |
| | | 8 | 0 | 22.44 | 21.56 | PASS |
| | | 8 | 4 | 22.71 | 21.75 | PASS |
| | | 8 | 7 | 22.84 | 21.68 | PASS |
| | | 15 | 0 | 22.72 | 21.81 | PASS |
| | MCH | 1 | 0 | 24.54 | 24.21 | PASS |
| | | 1 | 7 | 24.91 | 23.91 | PASS |
| | | 1 | 14 | 24.72 | 23.98 | PASS |
| | | 8 | 0 | 23.84 | 22.74 | PASS |
| | | 8 | 4 | 23.91 | 22.97 | PASS |
| | | 8 | 7 | 23.80 | 22.64 | PASS |
| | | 15 | 0 | 23.81 | 22.89 | PASS |
| | HCH | 1 | 0 | 24.43 | 23.32 | PASS |
| | | 1 | 7 | 24.24 | 23.32 | PASS |
| | | 1 | 14 | 24.08 | 23.22 | PASS |
| | | 8 | 0 | 23.37 | 22.25 | PASS |
| | | 8 | 4 | 23.21 | 22.20 | PASS |
| | | 8 | 7 | 23.09 | 22.06 | PASS |
| | | 15 | 0 | 23.13 | 22.30 | PASS |

| Conducted Output Power Test Result (Channel Bandwidth: 5 MHz) | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Average Power [dBm] | Average Power [dBm] | Verdict |
| | | Size | Offset | QPSK | 16QAM | |
| QPSK / 16QAM | LCH | 1 | 0 | 23.32 | 22.23 | PASS |
| | | 1 | 12 | 24.20 | 22.84 | PASS |
| | | 1 | 24 | 24.40 | 23.01 | PASS |
| | | 12 | 0 | 22.67 | 21.74 | PASS |
| | | 12 | 6 | 22.84 | 21.88 | PASS |
| | | 12 | 13 | 23.24 | 22.23 | PASS |
| | | 25 | 0 | 22.94 | 22.05 | PASS |
| | MCH | 1 | 0 | 24.66 | 23.57 | PASS |
| | | 1 | 12 | 24.95 | 23.37 | PASS |
| | | 1 | 24 | 24.69 | 23.66 | PASS |
| | | 12 | 0 | 23.79 | 22.86 | PASS |
| | | 12 | 6 | 23.78 | 22.87 | PASS |
| | | 12 | 13 | 23.75 | 22.93 | PASS |
| | | 25 | 0 | 23.76 | 23.02 | PASS |
| | HCH | 1 | 0 | 24.71 | 23.24 | PASS |
| | | 1 | 12 | 24.42 | 23.04 | PASS |
| | | 1 | 24 | 24.01 | 22.43 | PASS |
| | | 12 | 0 | 23.48 | 22.55 | PASS |
| | | 12 | 6 | 23.33 | 22.24 | PASS |
| | | 12 | 13 | 23.08 | 21.96 | PASS |
| | | 25 | 0 | 23.27 | 22.40 | PASS |

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| Conducted Output Power Test Result (Channel Bandwidth: 10 MHz) | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Channel | RB Configuration | | Average Power [dBm] | Average Power [dBm] | Verdict |
| | | Size | Offset | QPSK | 16QAM | |
| QPSK / 16QAM | LCH | 1 | 0 | 23.32 | 22.65 | PASS |
| | | 1 | 24 | 24.42 | 24.36 | PASS |
| | | 1 | 49 | 24.76 | 24.27 | PASS |
| | | 25 | 0 | 22.90 | 21.93 | PASS |
| | | 25 | 12 | 23.48 | 22.53 | PASS |
| | | 25 | 25 | 23.80 | 22.77 | PASS |
| | | 50 | 0 | 23.27 | 22.36 | PASS |
| | MCH | 1 | 0 | 24.00 | 23.44 | PASS |
| | | 1 | 24 | 24.74 | 24.19 | PASS |
| | | 1 | 49 | 24.27 | 23.63 | PASS |
| | | 25 | 0 | 23.67 | 22.55 | PASS |
| | | 25 | 12 | 23.76 | 22.70 | PASS |
| | | 25 | 25 | 23.88 | 22.66 | PASS |
| | | 50 | 0 | 23.64 | 22.74 | PASS |
| | HCH | 1 | 0 | 24.54 | 23.32 | PASS |
| | | 1 | 24 | 24.45 | 23.17 | PASS |
| | | 1 | 49 | 23.71 | 22.71 | PASS |
| | | 25 | 0 | 23.89 | 22.97 | PASS |
| | | 25 | 12 | 23.64 | 22.77 | PASS |
| | | 25 | 25 | 23.48 | 22.57 | PASS |
| | | 50 | 0 | 23.60 | 22.81 | PASS |

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## H.2 Peak-to-Average Ratio

| Peak-to Average Ratio Test Result (Channel Bandwidth: 1.4 MHz) | | | | |
|---|---|---|---|---|
| Modulation | Channel | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| QPSK | LCH | 3.53 | <13 | PASS |
| | MCH | 4.4 | <13 | PASS |
| | HCH | 4.17 | <13 | PASS |
| 16QAM | LCH | 4.45 | <13 | PASS |
| | MCH | 5.16 | <13 | PASS |
| | HCH | 4.97 | <13 | PASS |

| Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz) | | | | |
|---|---|---|---|---|
| Modulation | Channel | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| QPSK | LCH | 4.02 | <13 | PASS |
| | MCH | 4.57 | <13 | PASS |
| | HCH | 4.08 | <13 | PASS |
| 16QAM | LCH | 4.79 | <13 | PASS |
| | MCH | 5.34 | <13 | PASS |
| | HCH | 4.84 | <13 | PASS |

| Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz) | | | | |
|---|---|---|---|---|
| Modulation | Channel | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| QPSK | LCH | 4.18 | <13 | PASS |
| | MCH | 4.43 | <13 | PASS |
| | HCH | 3.95 | <13 | PASS |
| 16QAM | LCH | 4.83 | <13 | PASS |
| | MCH | 5.27 | <13 | PASS |
| | HCH | 4.61 | <13 | PASS |

| Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz) | | | | |
|---|---|---|---|---|
| Modulation | Channel | Peak-to-Average Ratio [dB] | Limit [dB] | Verdict |
| QPSK | LCH | 4.52 | <13 | PASS |
| | MCH | 4.42 | <13 | PASS |
| | HCH | 4.2 | <13 | PASS |
| 16QAM | LCH | 5.37 | <13 | PASS |
| | MCH | 5.24 | <13 | PASS |
| | HCH | 5.03 | <13 | PASS |

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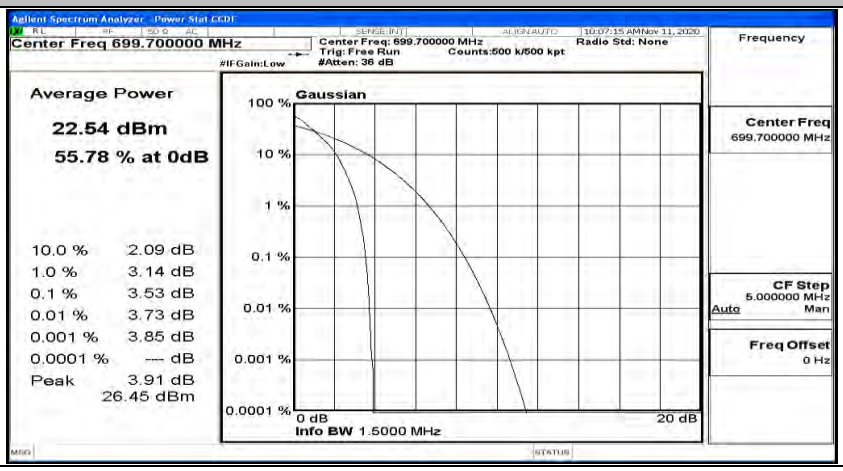
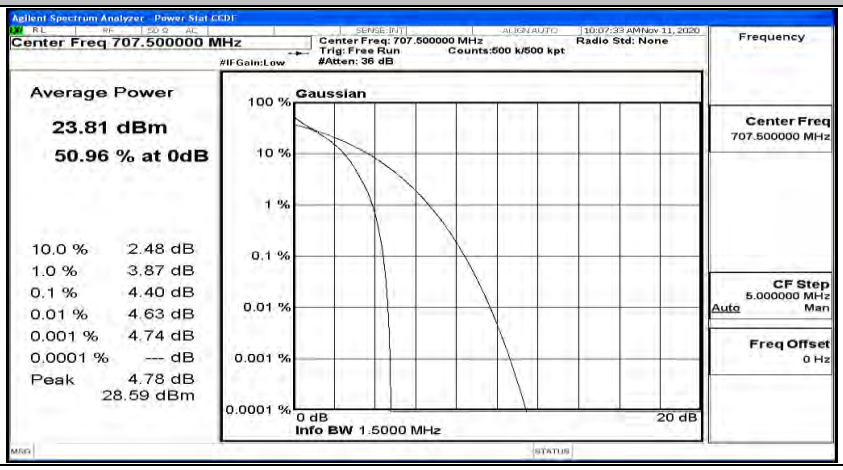
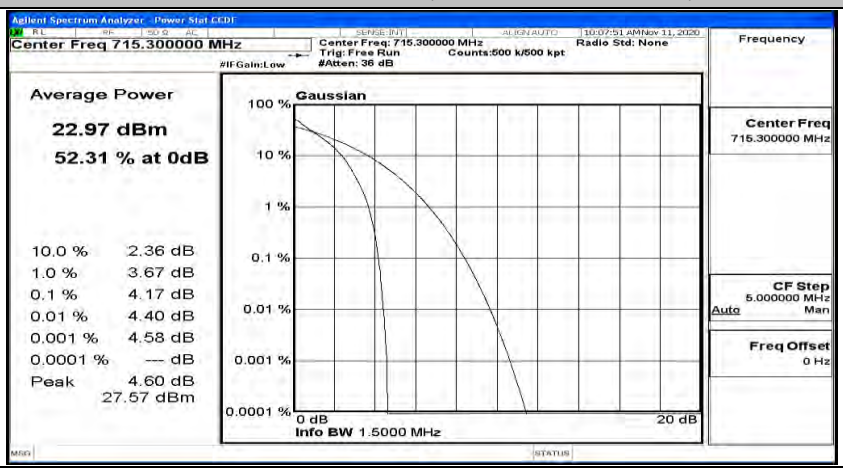
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



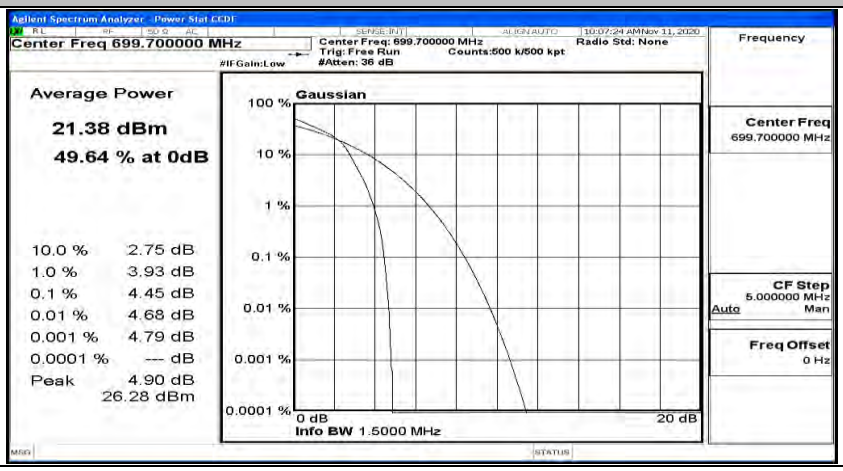

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



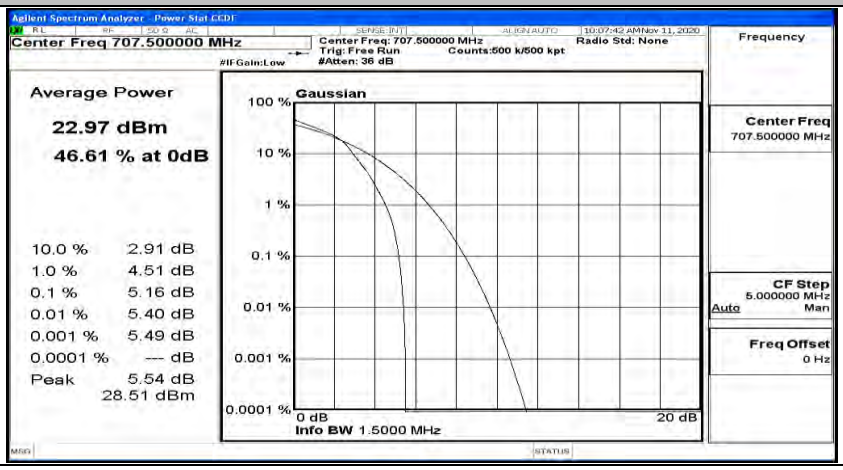

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



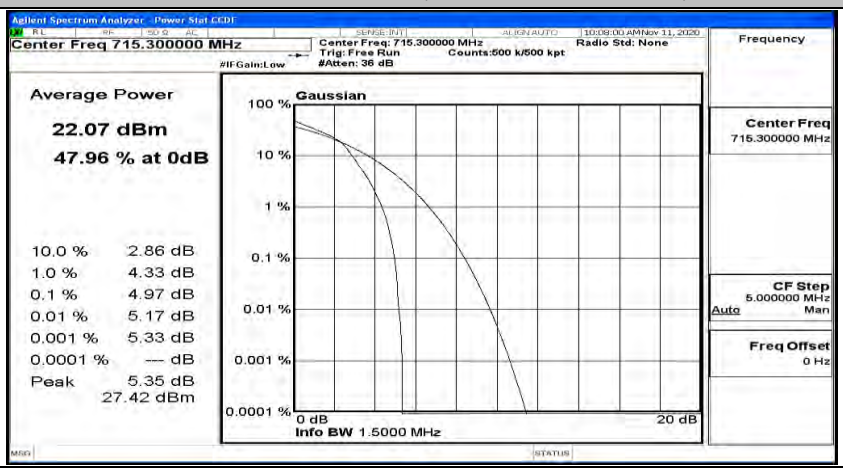
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



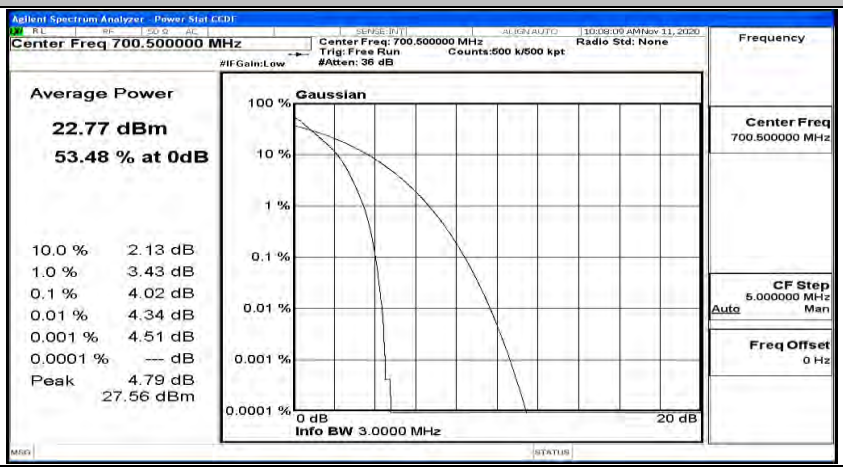

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



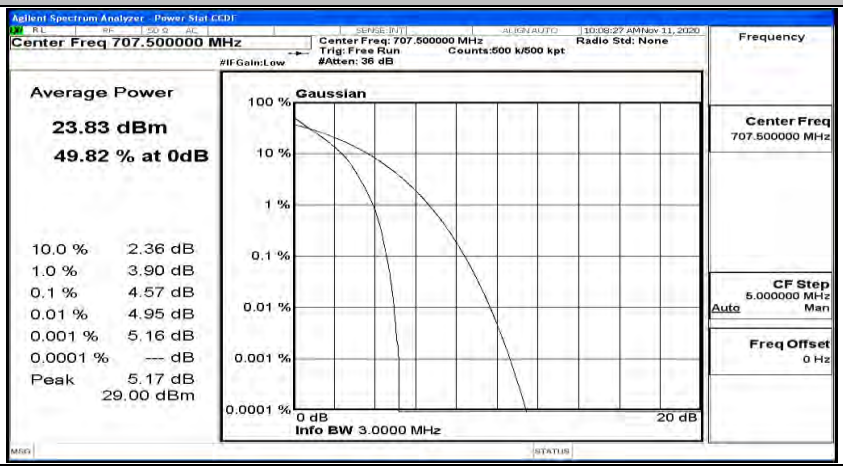

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



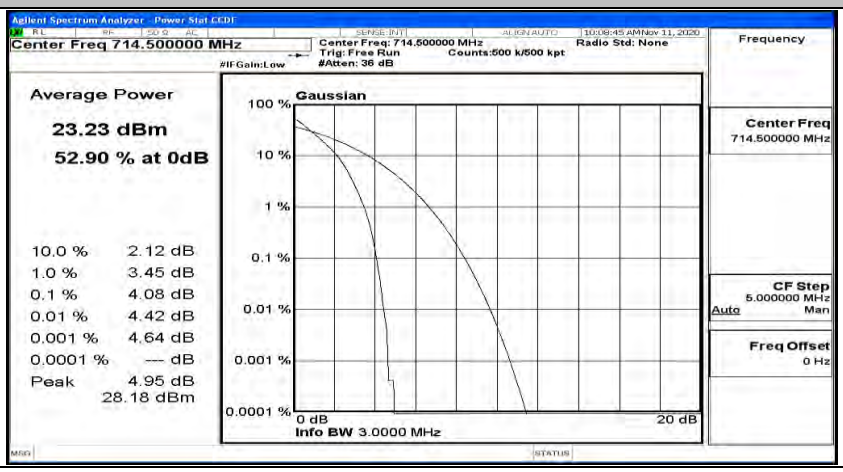
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



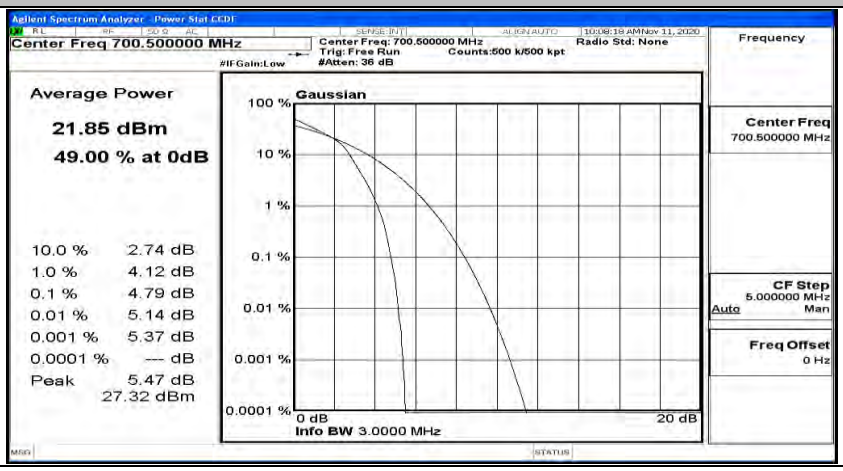

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



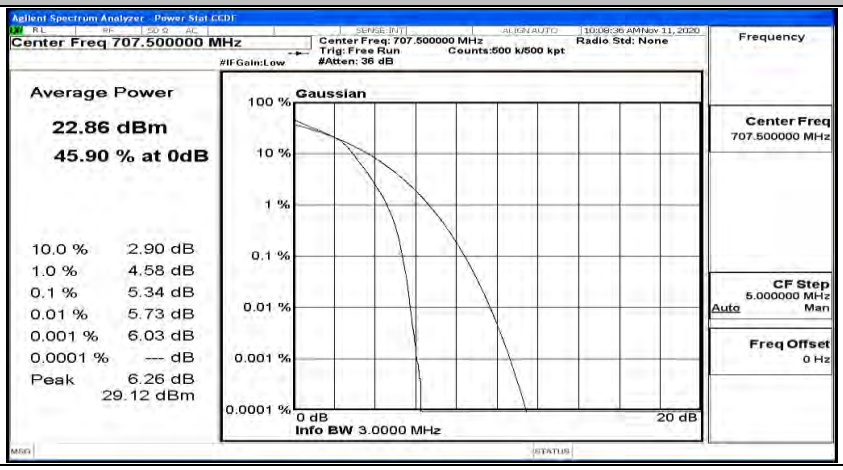

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



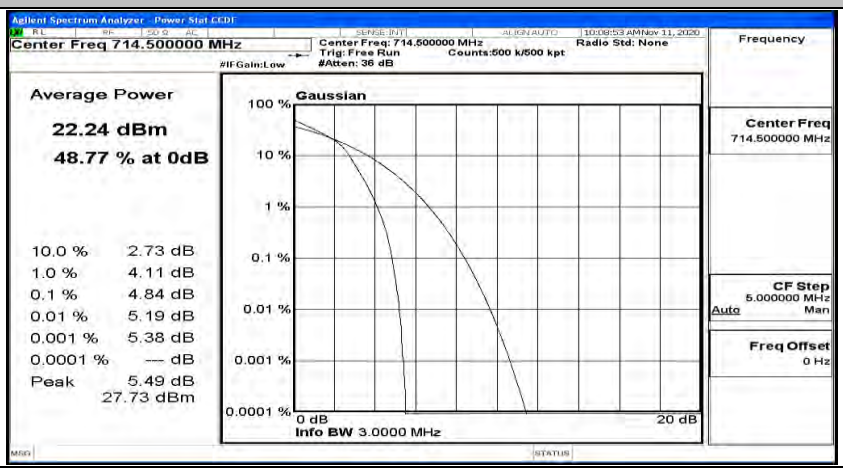
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



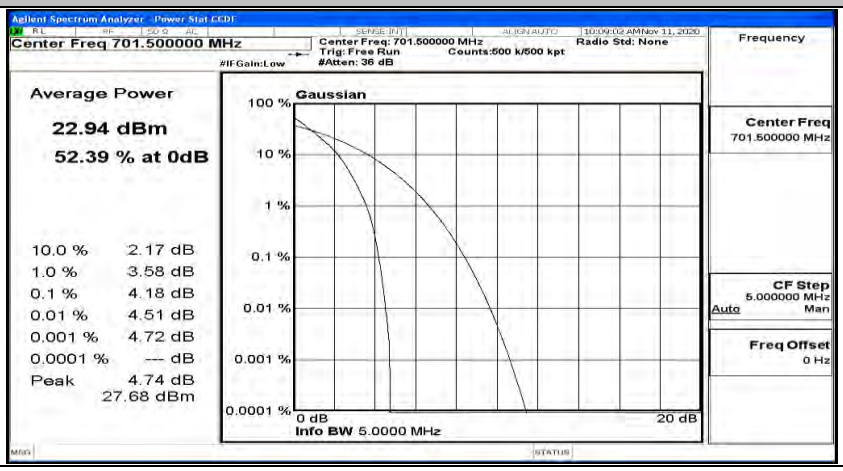

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



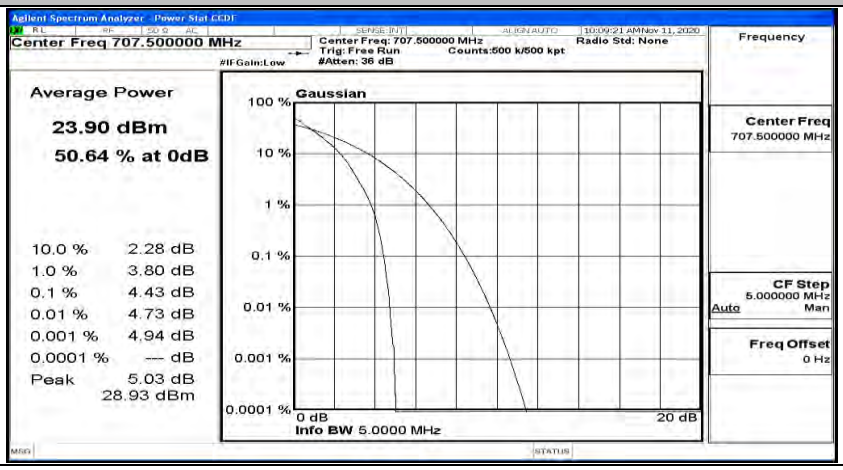

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



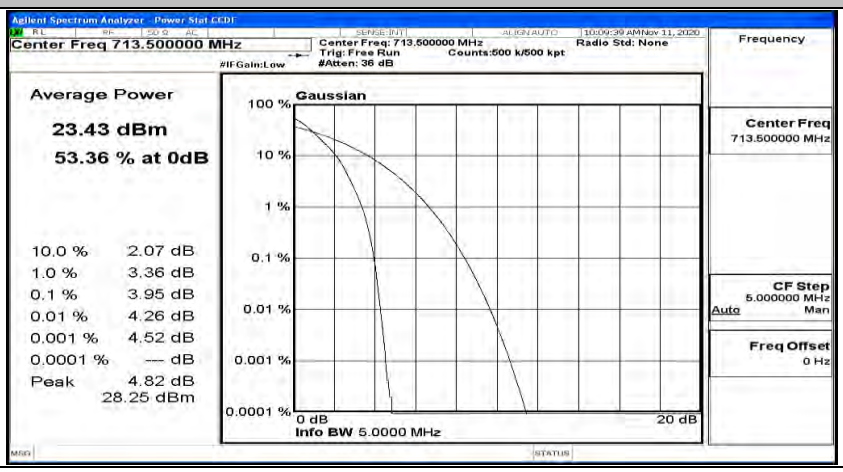
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



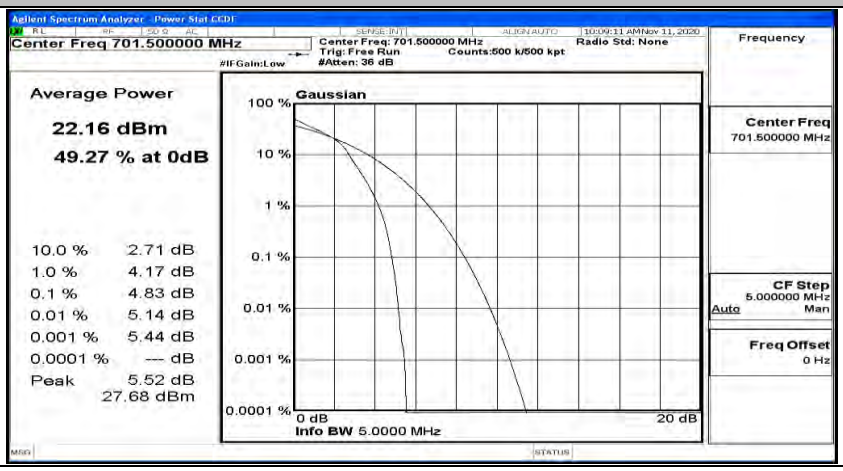

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



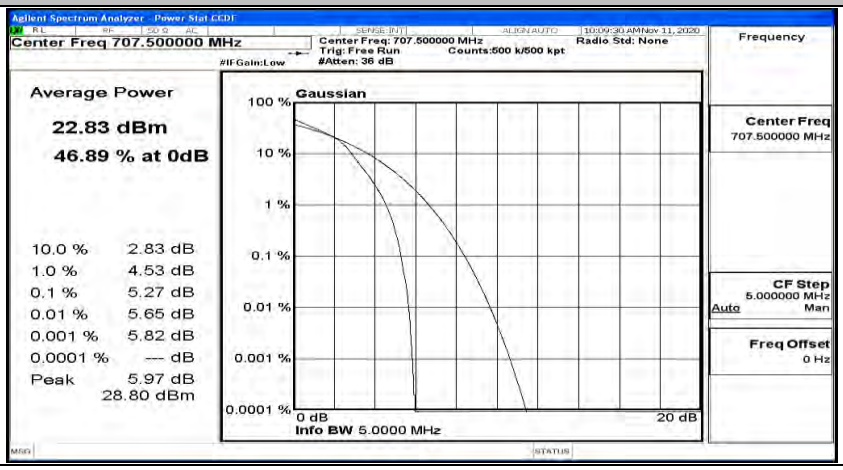

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



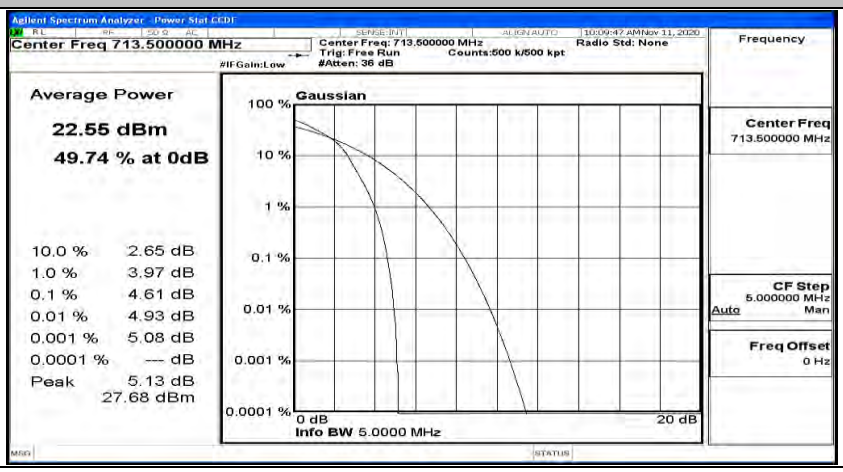
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



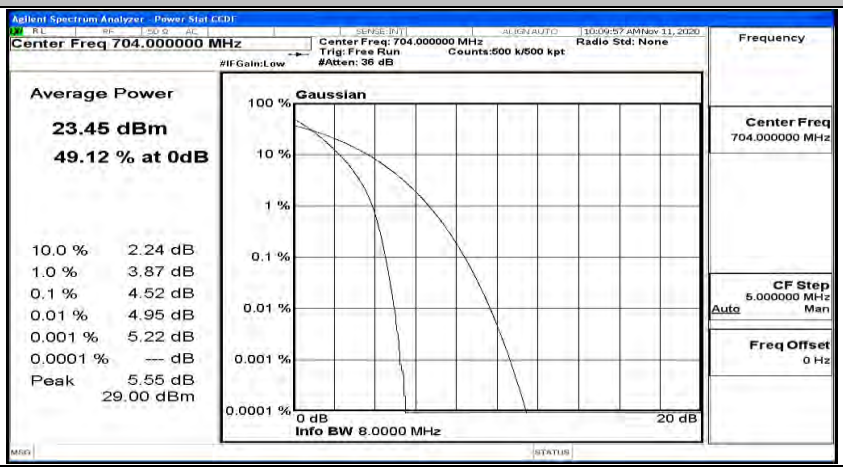

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



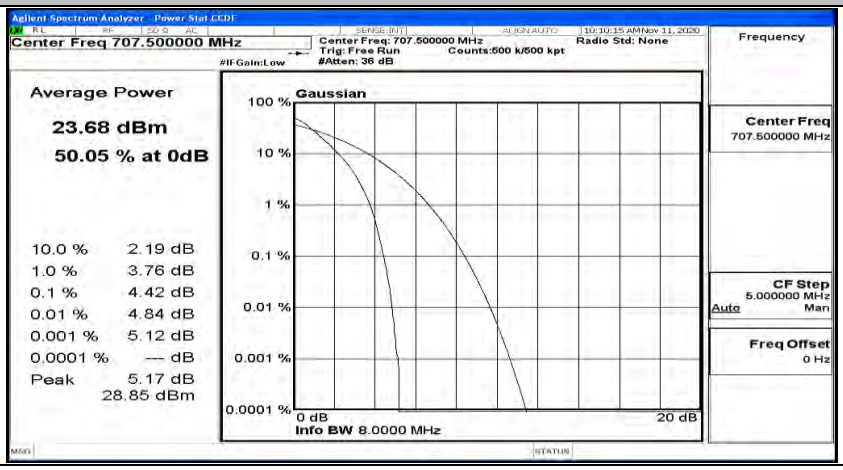

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



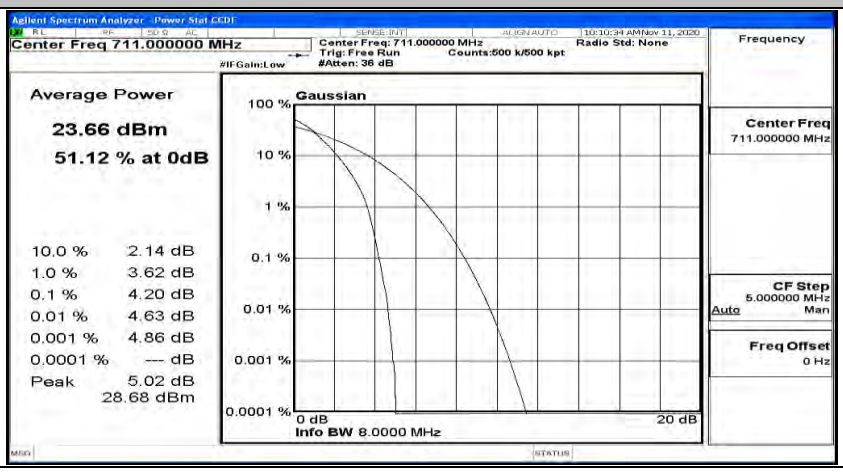
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



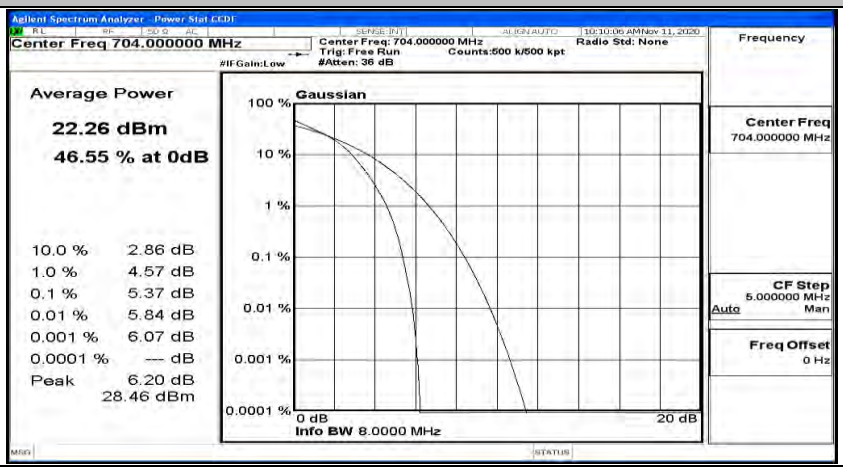

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



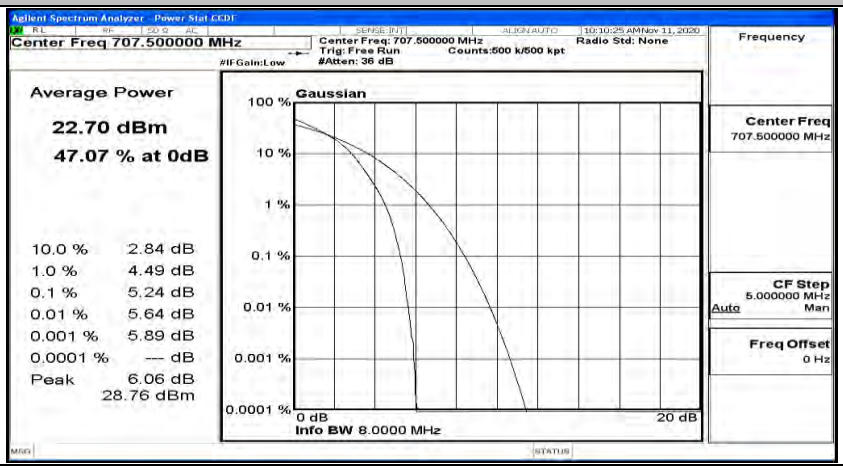

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



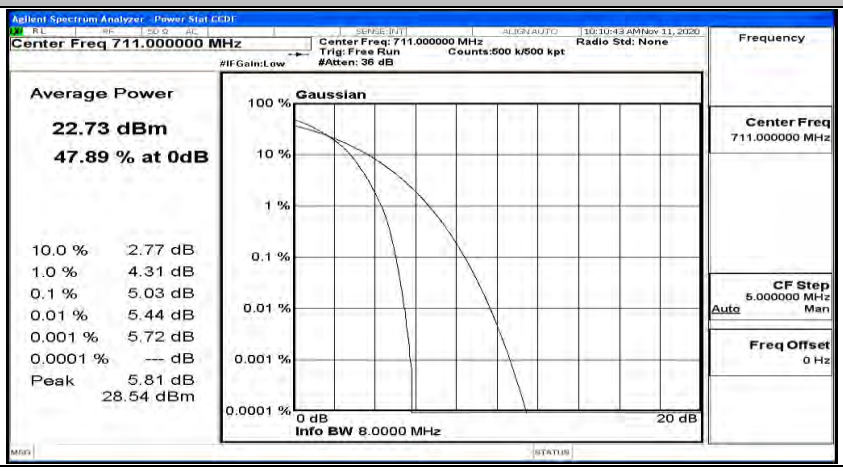
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM




Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



## H.3 26dB Bandwidth and Occupied Bandwidth

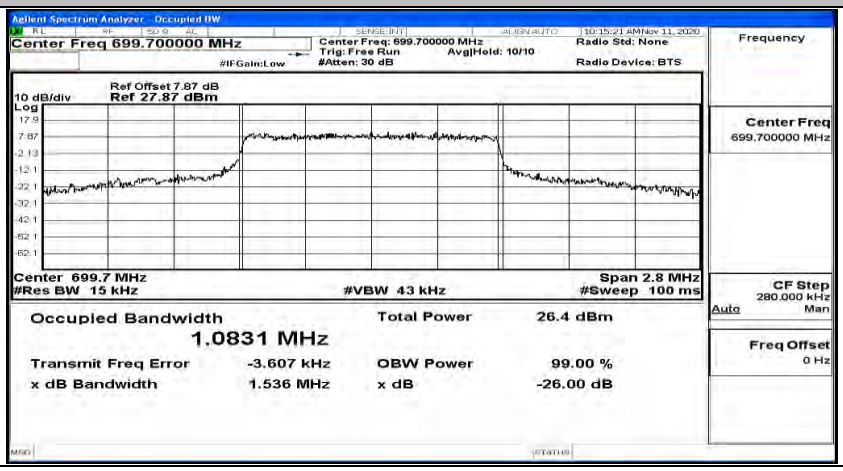
| EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz) | | | | |
|---|---|---|---|---|
| Modulation | Channel | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
| QPSK | LCH | 1.0831 | 1.536 | PASS |
| | MCH | 1.0787 | 1.226 | PASS |
| | HCH | 1.0786 | 1.242 | PASS |
| 16QAM | LCH | 1.0827 | 1.391 | PASS |
| | MCH | 1.0789 | 1.221 | PASS |
| | HCH | 1.0827 | 1.252 | PASS |

| EBW & OBW Test Result (Channel Bandwidth: 3 MHz) | | | | |
|---|---|---|---|---|
| Modulation | Channel | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
| QPSK | LCH | 2.6891 | 3.058 | PASS |
| | MCH | 2.6833 | 2.907 | PASS |
| | HCH | 2.6884 | 2.989 | PASS |
| 16QAM | LCH | 2.6916 | 2.941 | PASS |
| | MCH | 2.6893 | 2.907 | PASS |
| | HCH | 2.6867 | 2.913 | PASS |

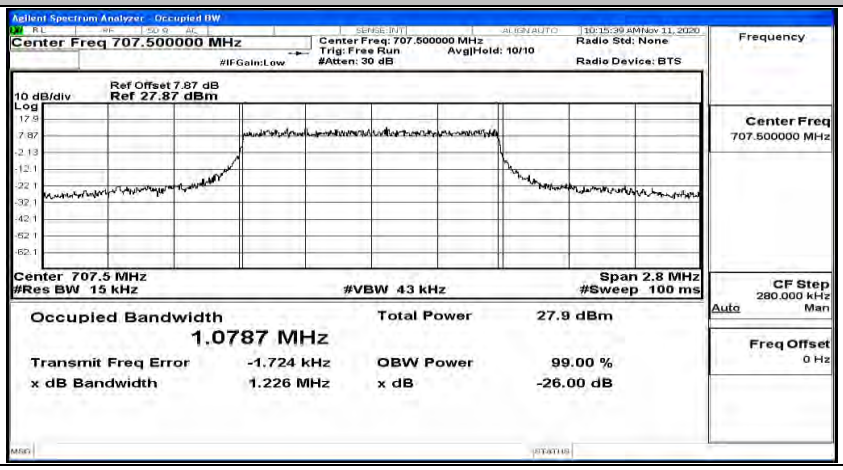
| EBW & OBW Test Result (Channel Bandwidth: 5 MHz) | | | | |
|---|---|---|---|---|
| Modulation | Channel | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
| QPSK | LCH | 4.4873 | 4.893 | PASS |
| | MCH | 4.4658 | 4.834 | PASS |
| | HCH | 4.4896 | 5.065 | PASS |
| 16QAM | LCH | 4.4877 | 4.885 | PASS |
| | MCH | 4.4748 | 4.767 | PASS |
| | HCH | 4.4826 | 4.939 | PASS |

| EBW & OBW Test Result (Channel Bandwidth: 10 MHz) | | | | |
|---|---|---|---|---|
| Modulation | Channel | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
| QPSK | LCH | 8.9347 | 9.594 | PASS |
| | MCH | 8.9095 | 9.451 | PASS |
| | HCH | 8.9095 | 9.481 | PASS |
| 16QAM | LCH | 8.9364 | 9.526 | PASS |
| | MCH | 8.9125 | 9.409 | PASS |
| | HCH | 8.8950 | 9.539 | PASS |

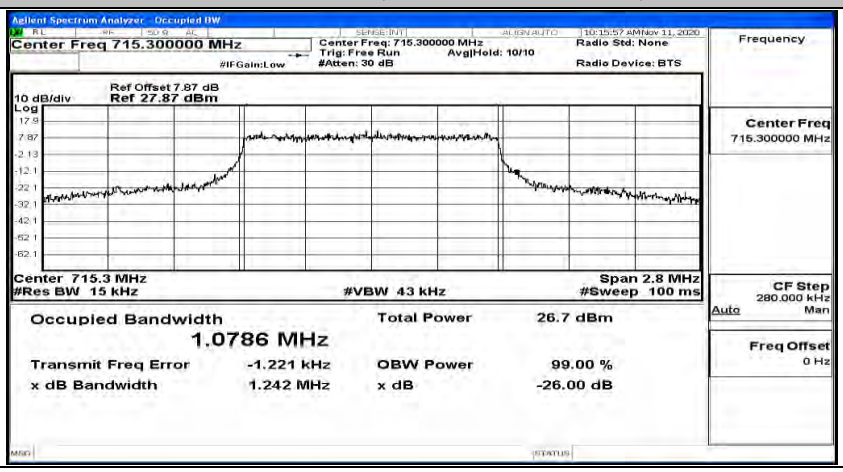
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



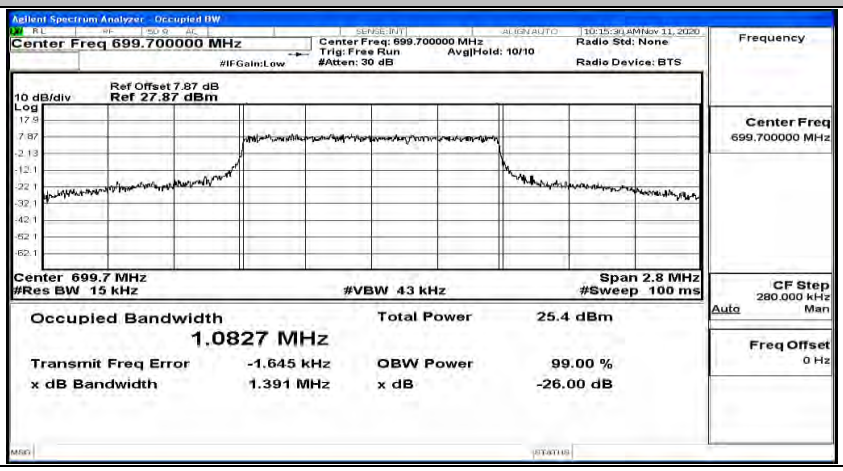

EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



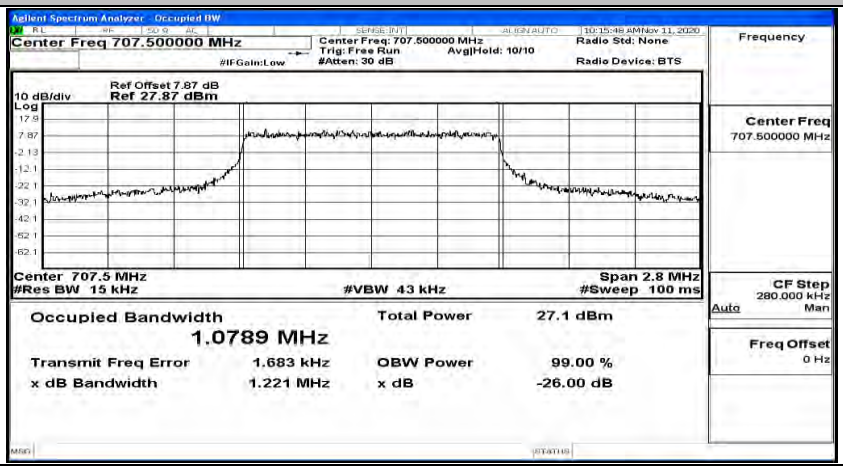

EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



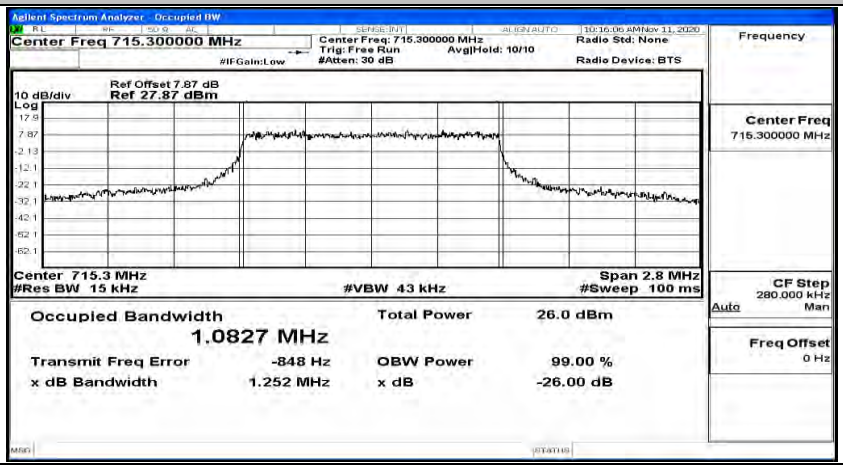
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



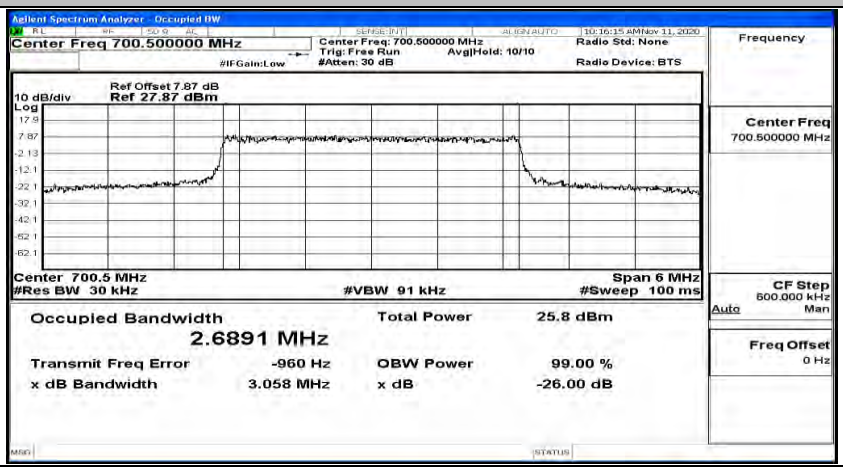

EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



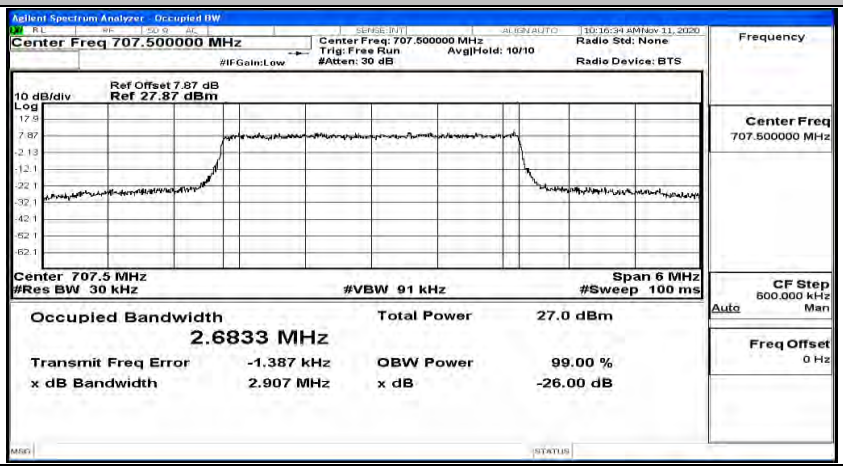

EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



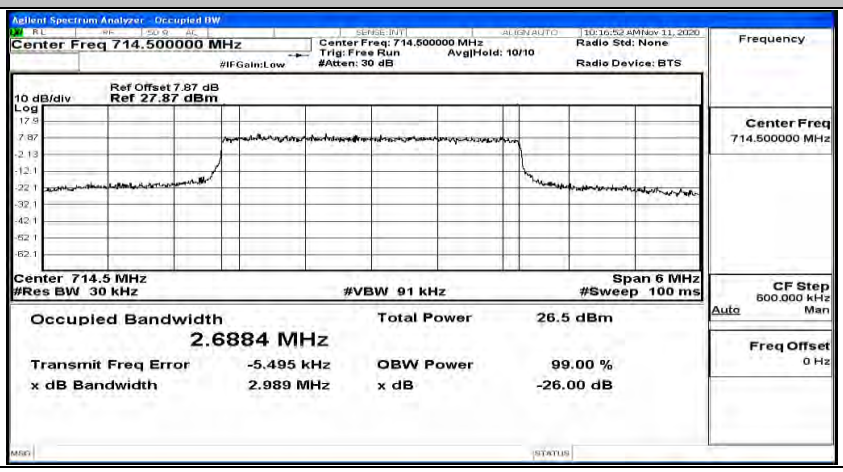
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



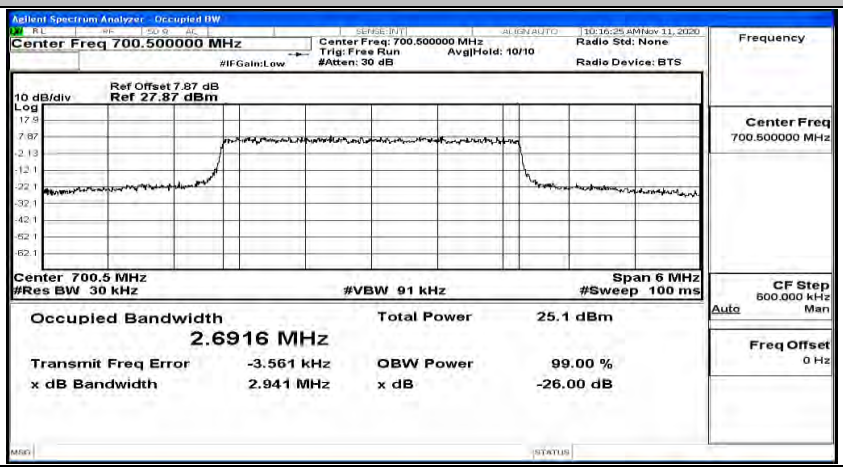

EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



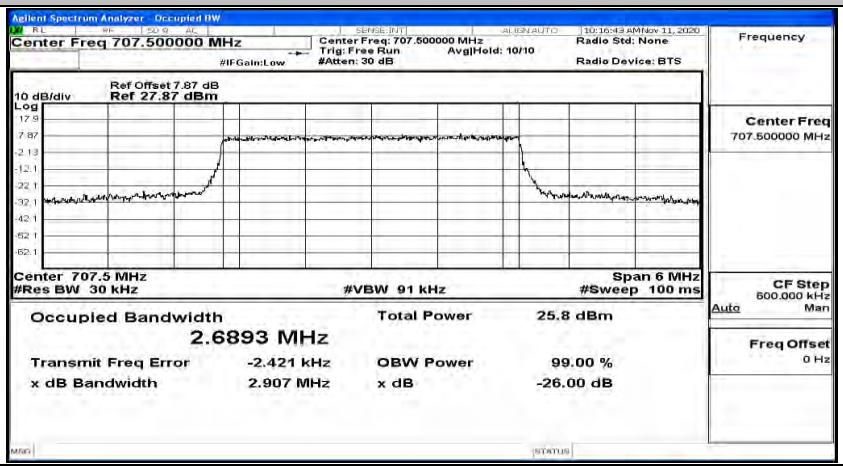

EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



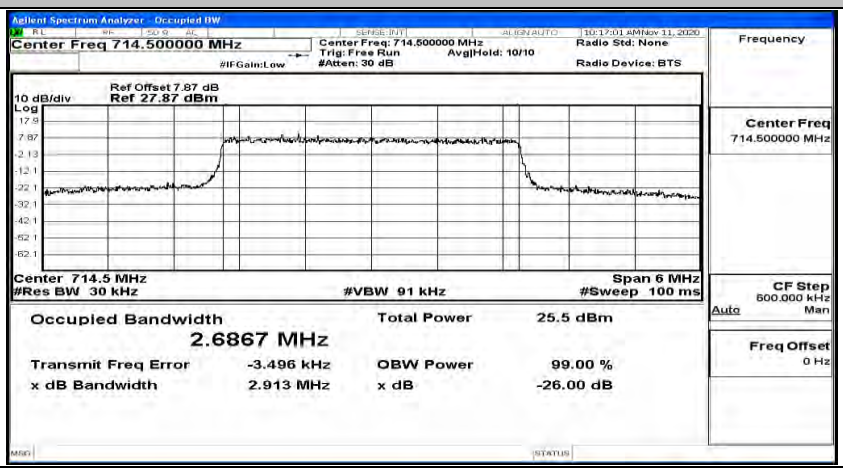
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



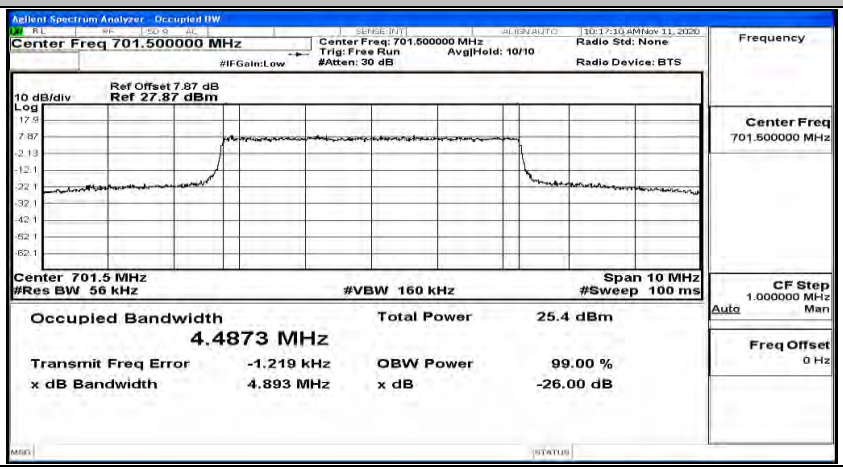

EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



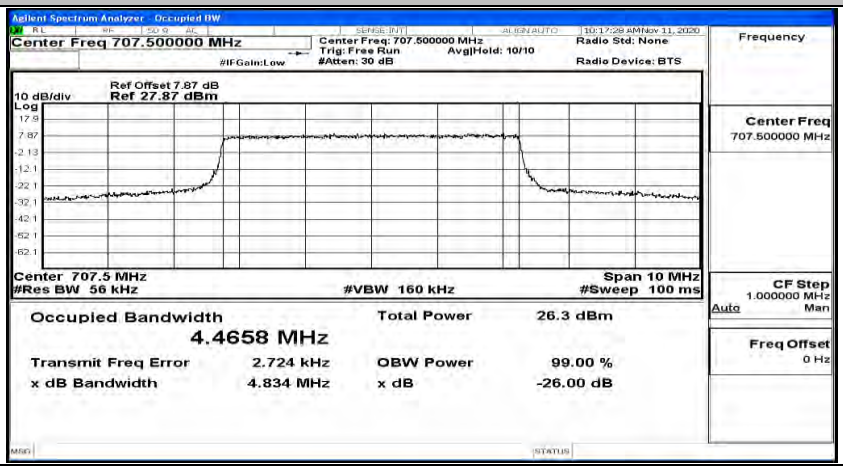

EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



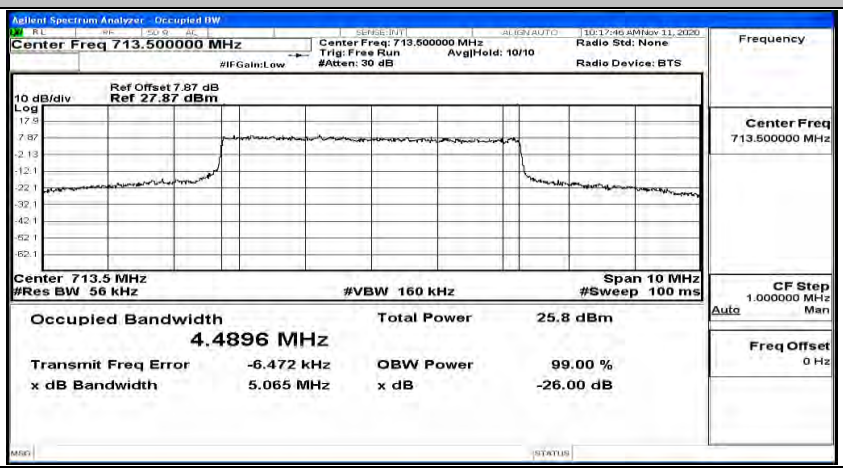
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



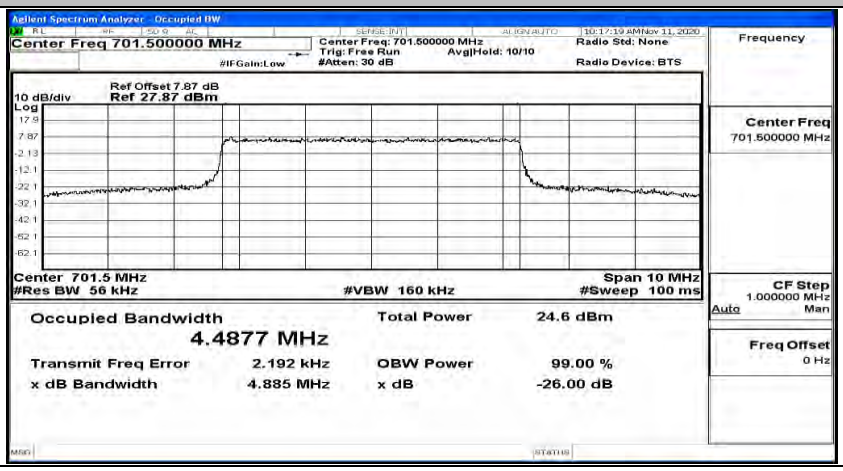

EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



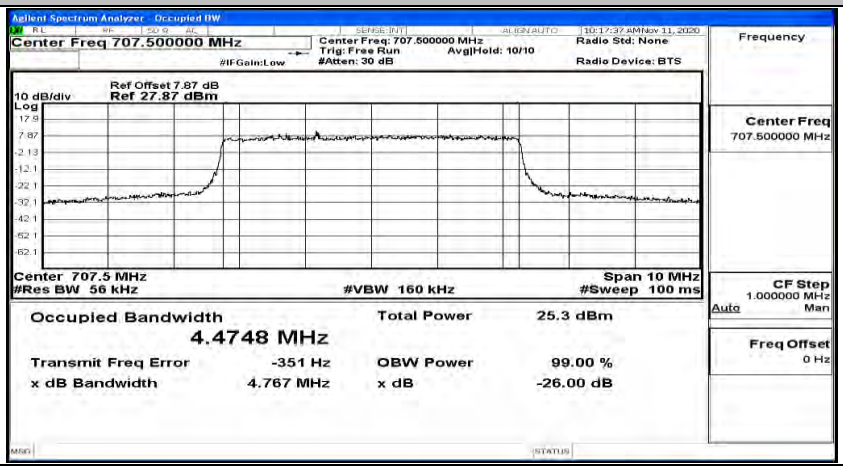

EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



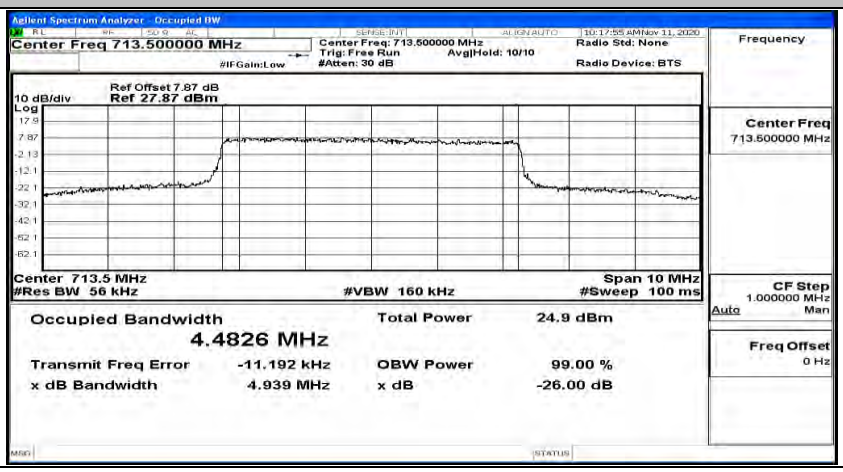
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



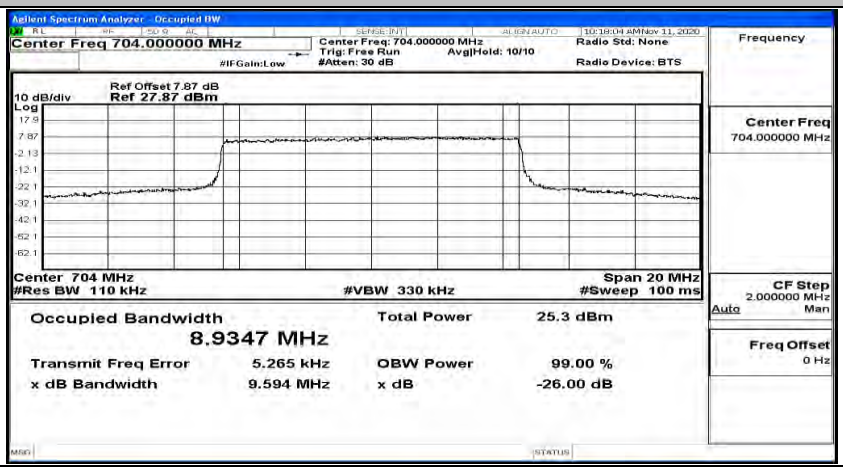

EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



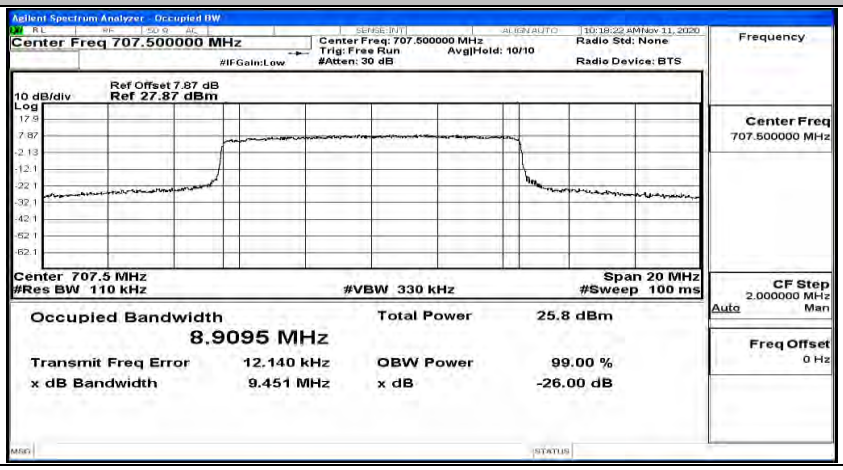

EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



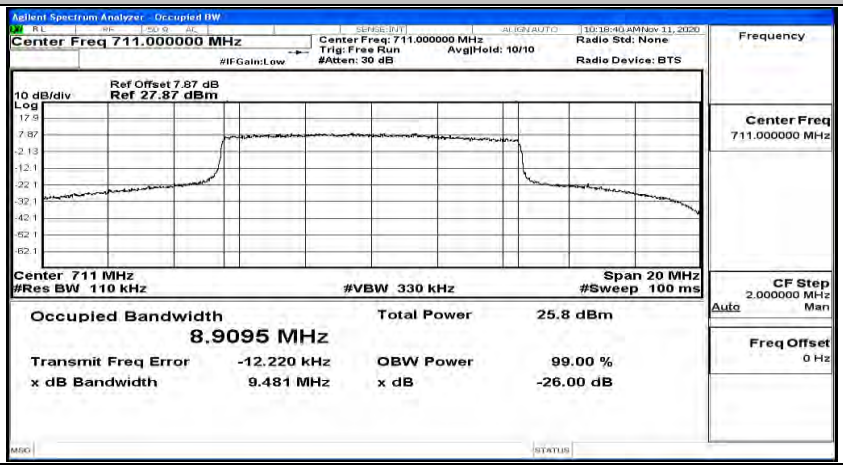
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



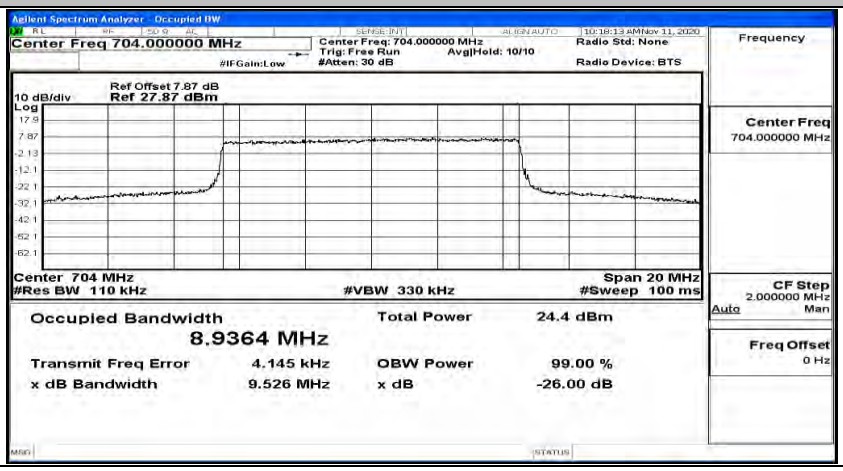

EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



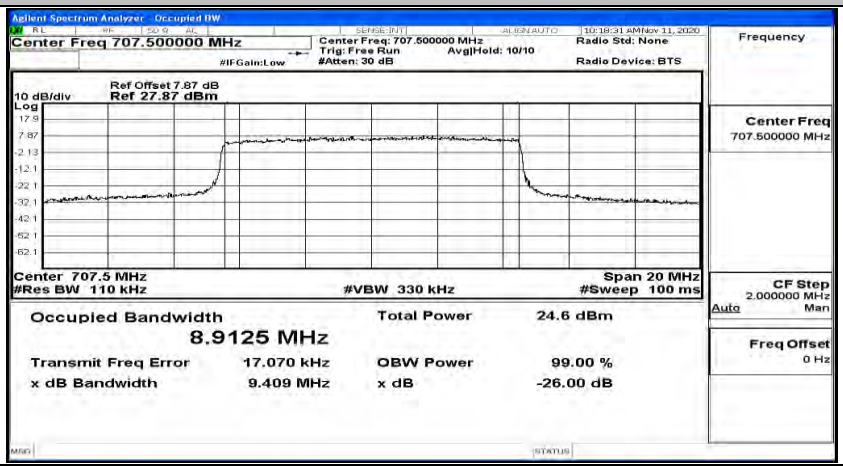

EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



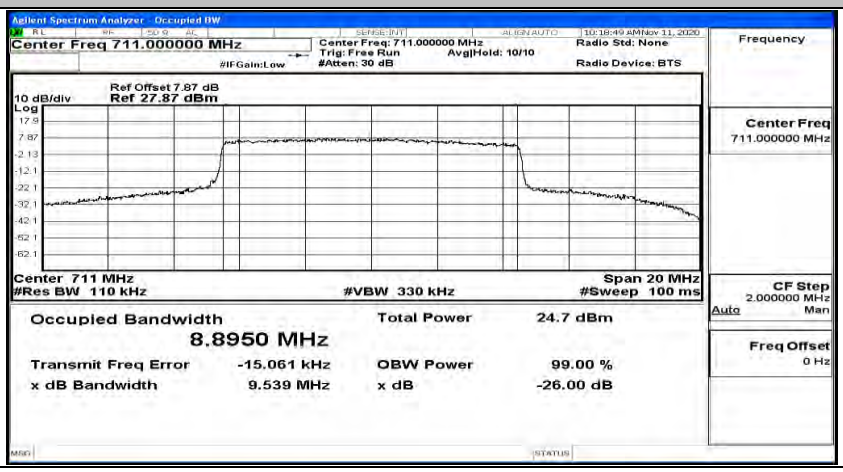
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM




EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM

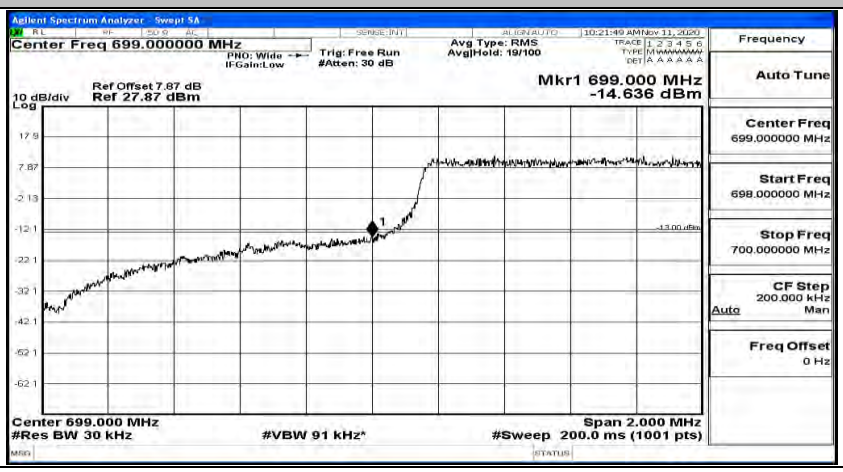



EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM

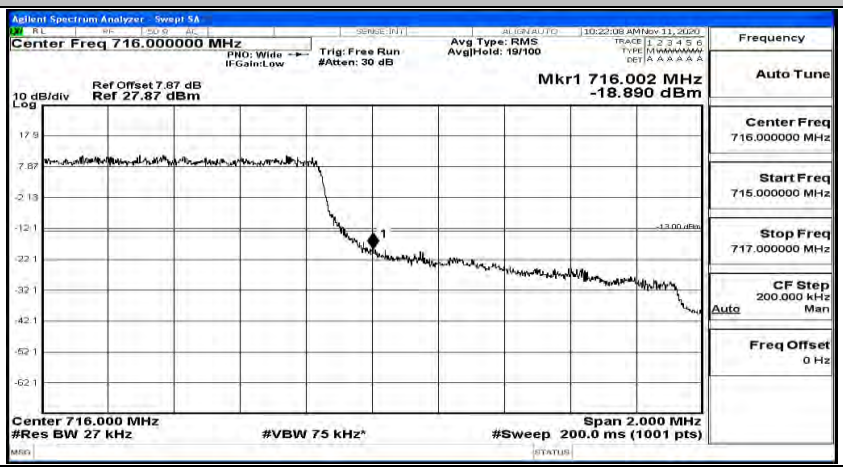


## H.4 Band Edge

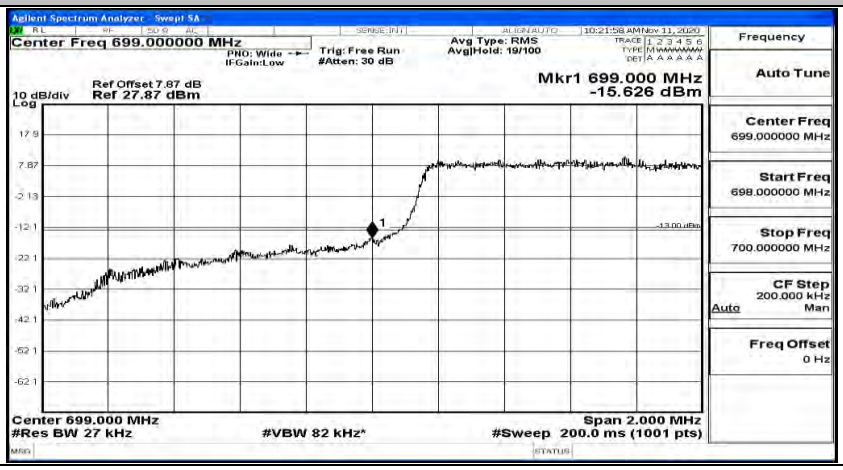
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



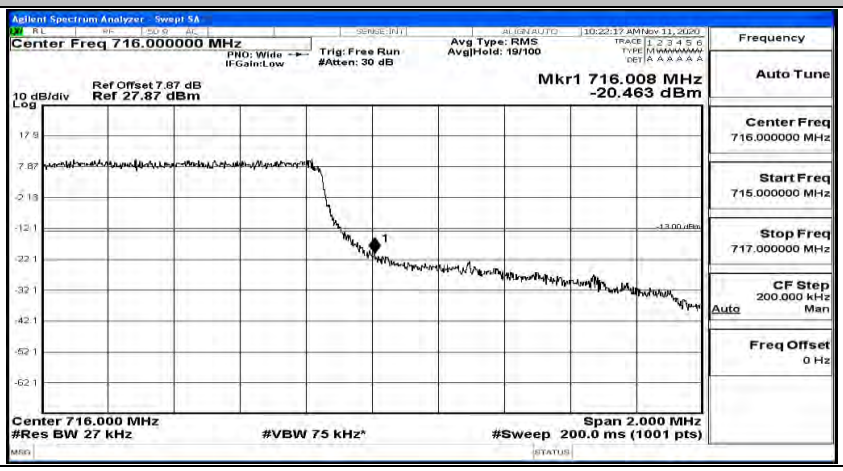

Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



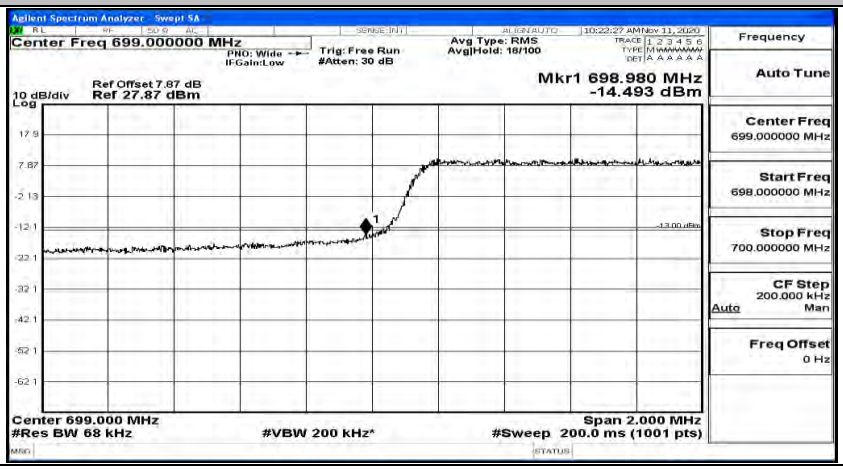

Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



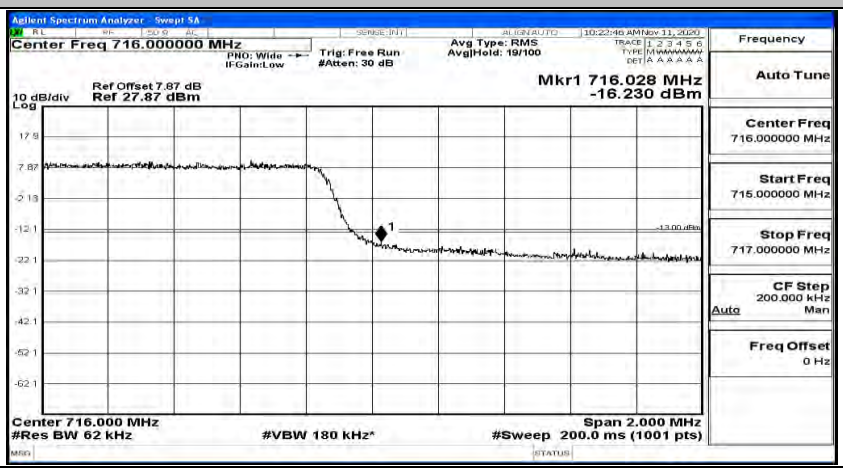
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



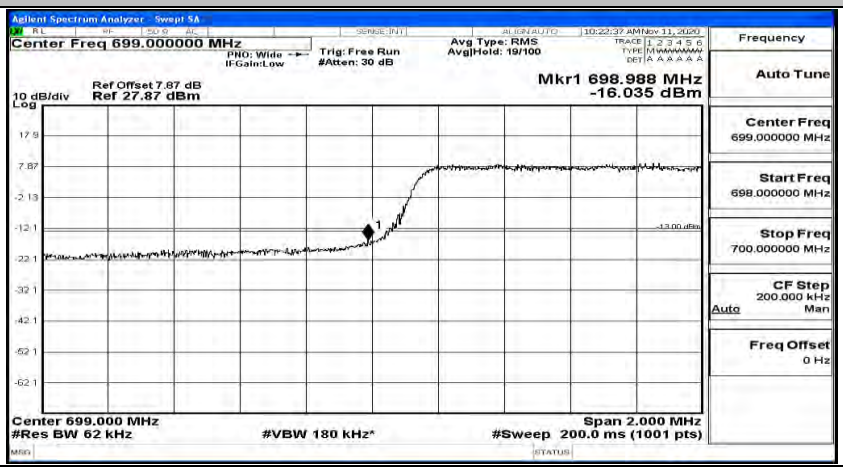

Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



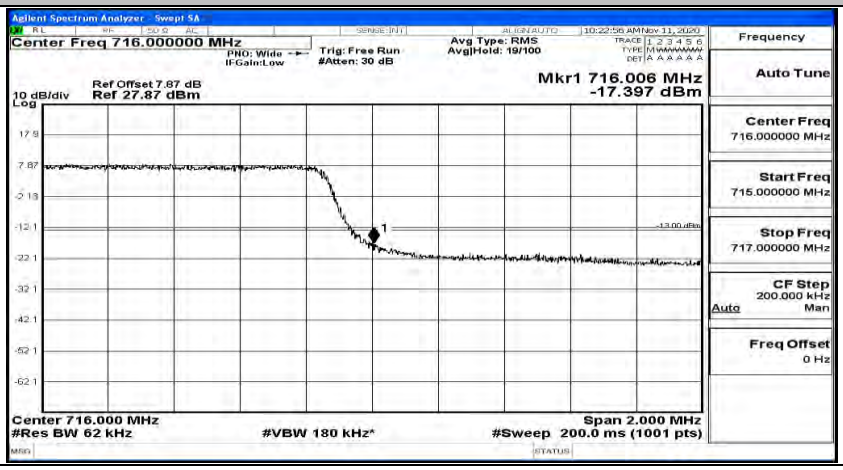

Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



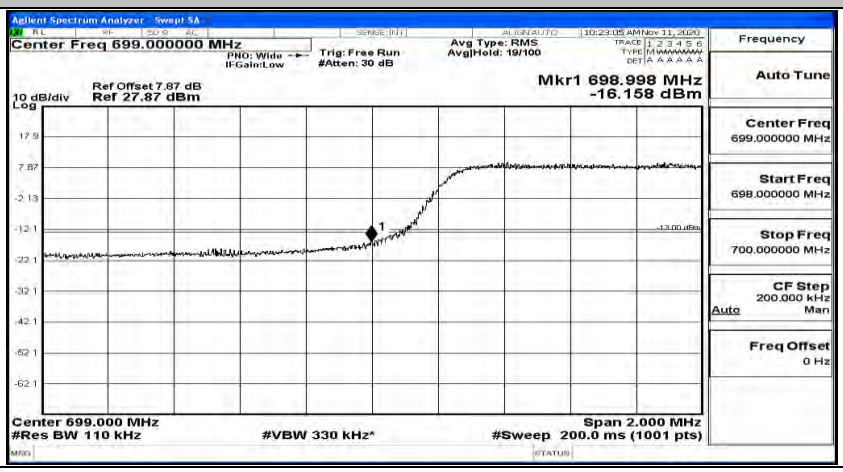
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



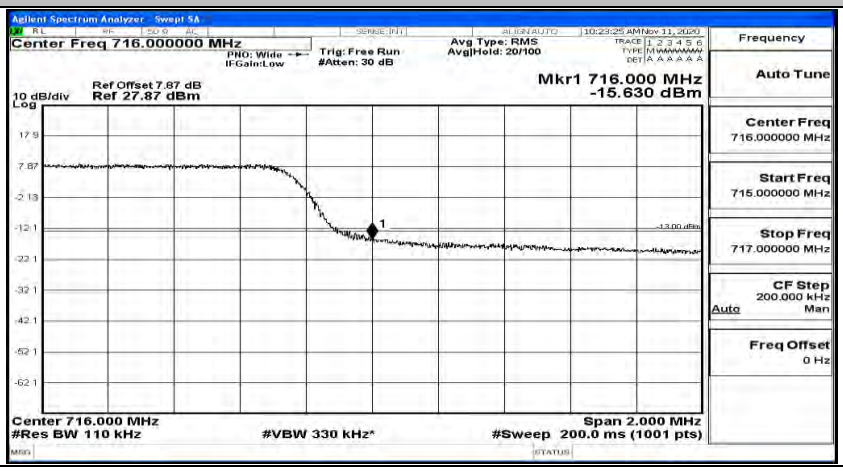

Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



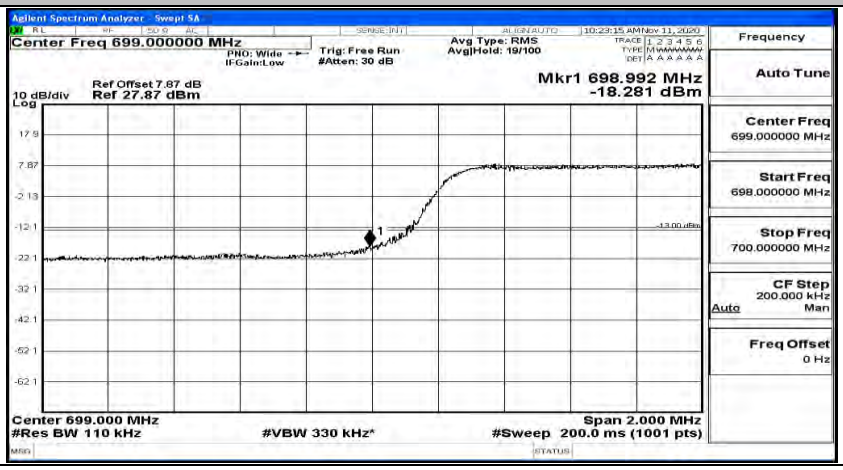

Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



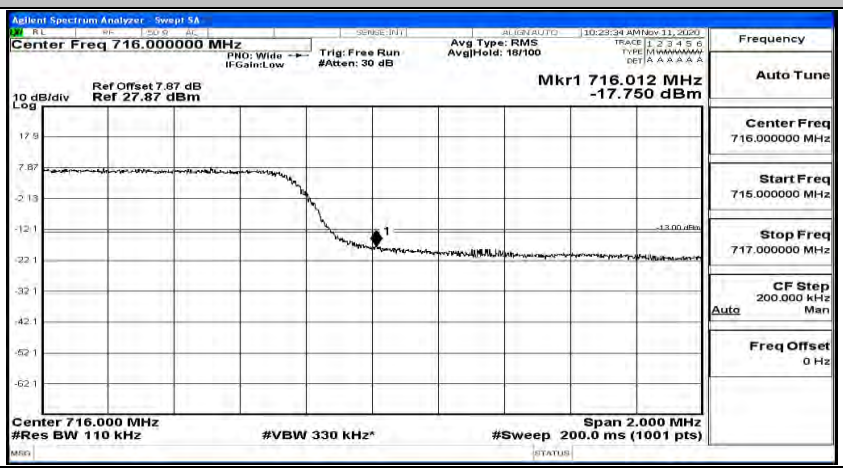
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



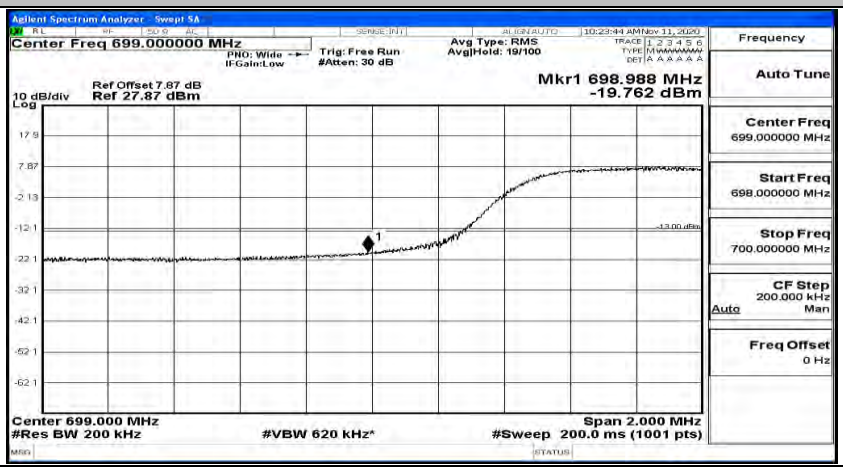

Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



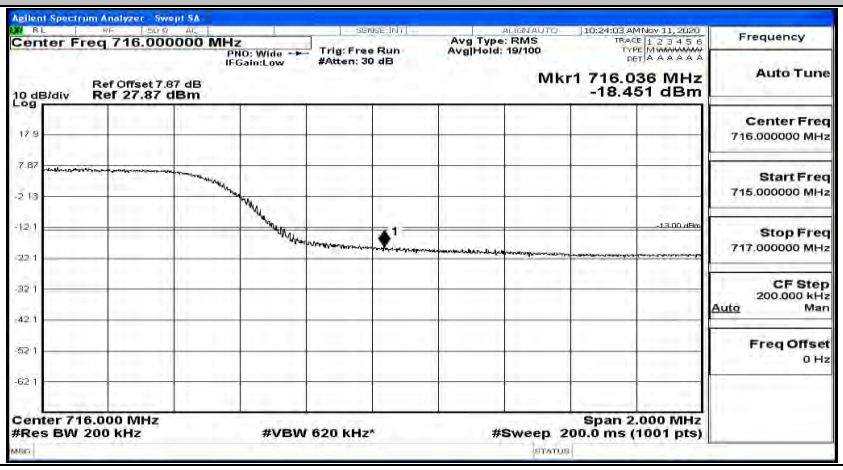

Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



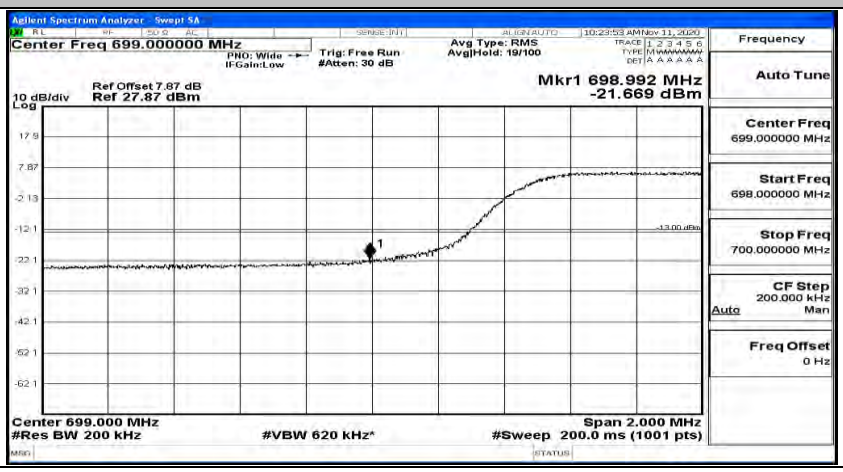
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



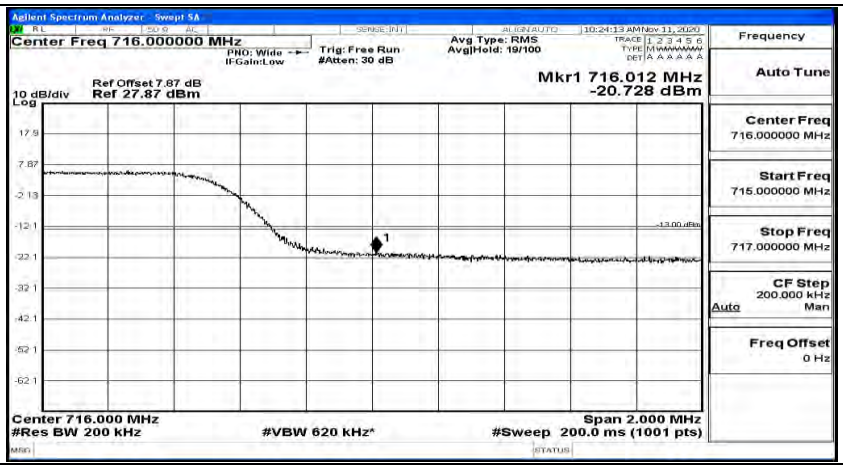

Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK




Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM




Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM

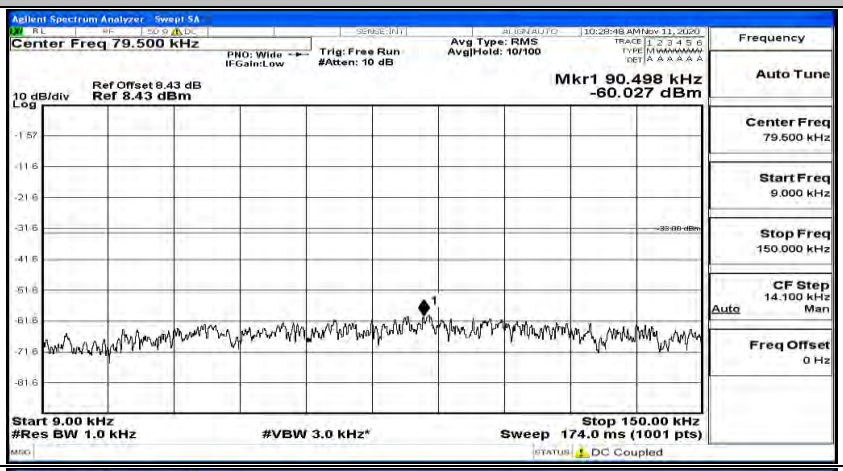

Agilent Spectrum Analyzer - Swept SA
Center Freq 716.000000 MHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 19/100
10:24:13 AM Nov 11, 2020
Mkr1 716.012 MHz
-20.728 dBm
Ref Offset 7.87 dB
10 dB/div Ref 27.87 dBm
Log
17.9
7.87
-2.13
-12.1
-22.1
-32.1
-42.1
-52.1
-62.1
-13.00 dBm
Center 716.000 MHz
#Res BW 200 kHz
#VBW 620 kHz*
Span 2.000 MHz
#Sweep 200.0 ms (1001 pts)
Frequency
Auto Tune
Center Freq
716.000000 MHz
Start Freq
715.000000 MHz
Stop Freq
717.000000 MHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

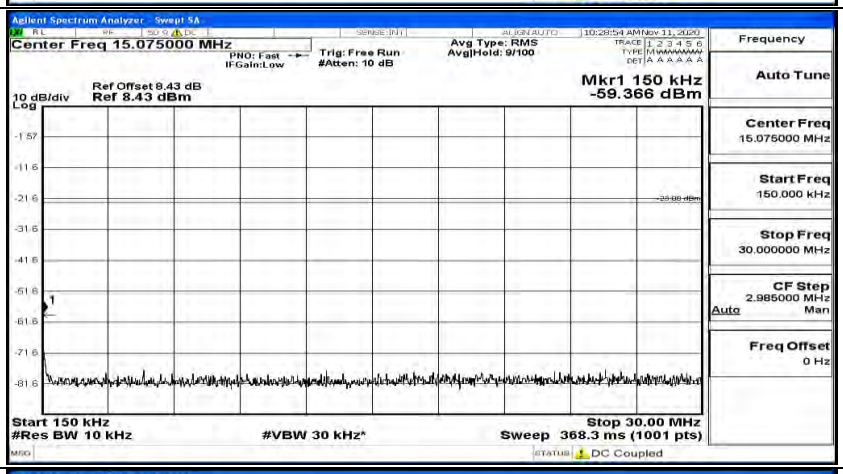
# H.5 Conducted Spurious Emission

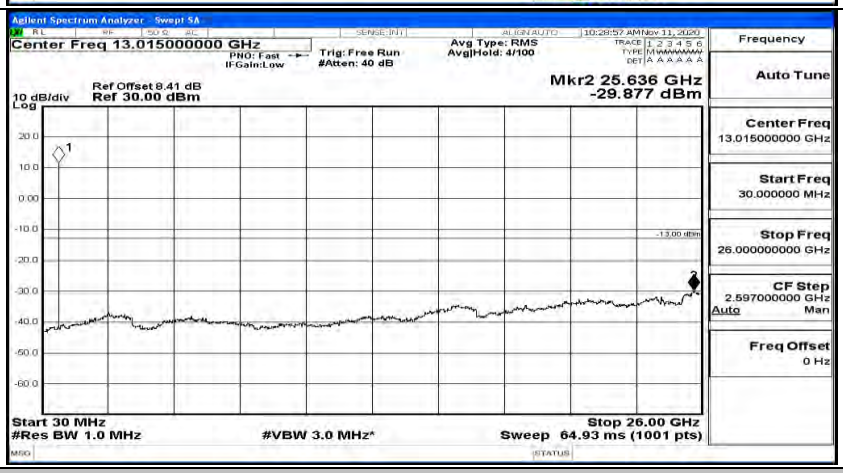
## Test Graphs

## Channel Bandwidth: 1.4 MHz

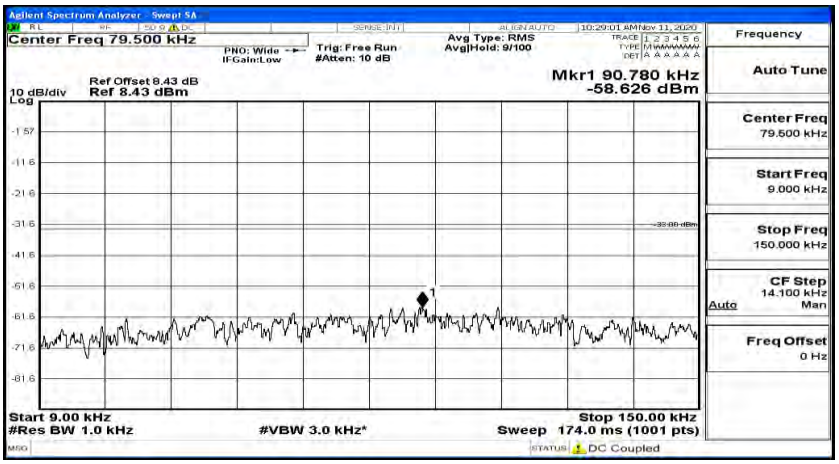
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#0

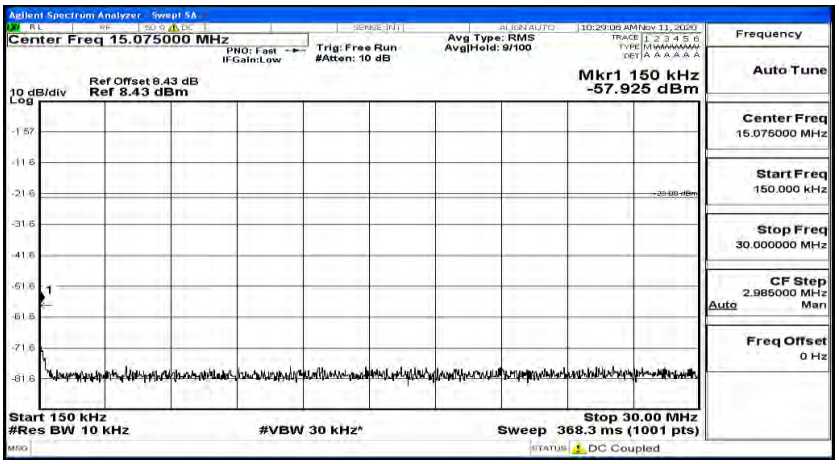


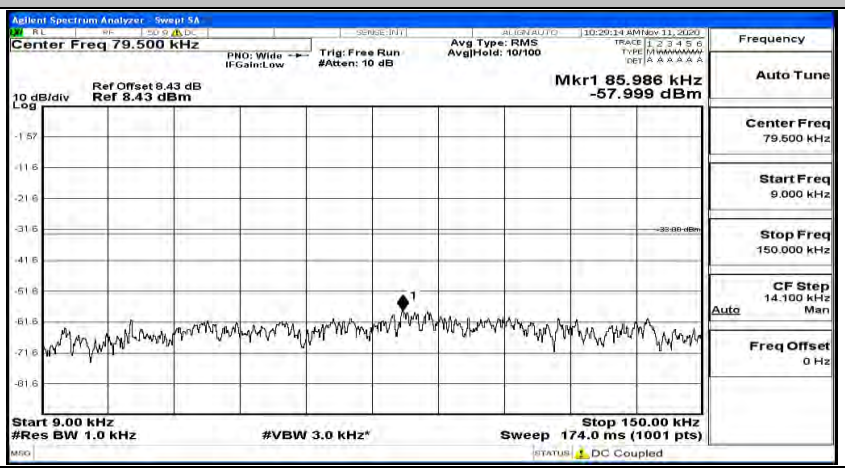



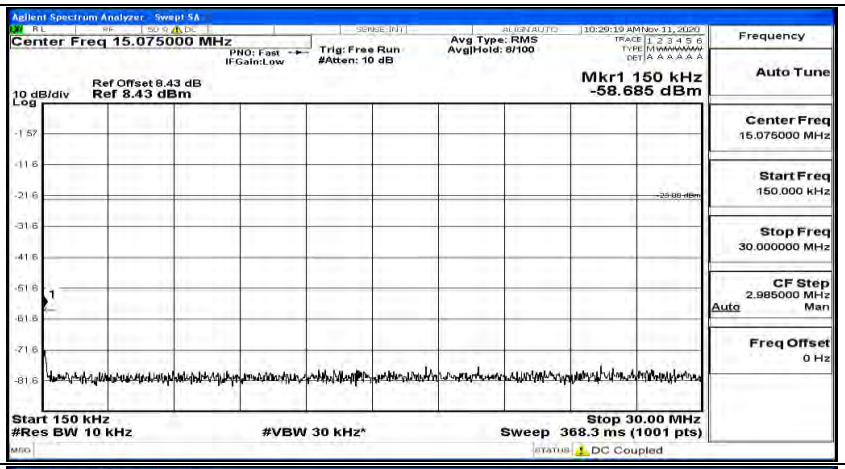

(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#3



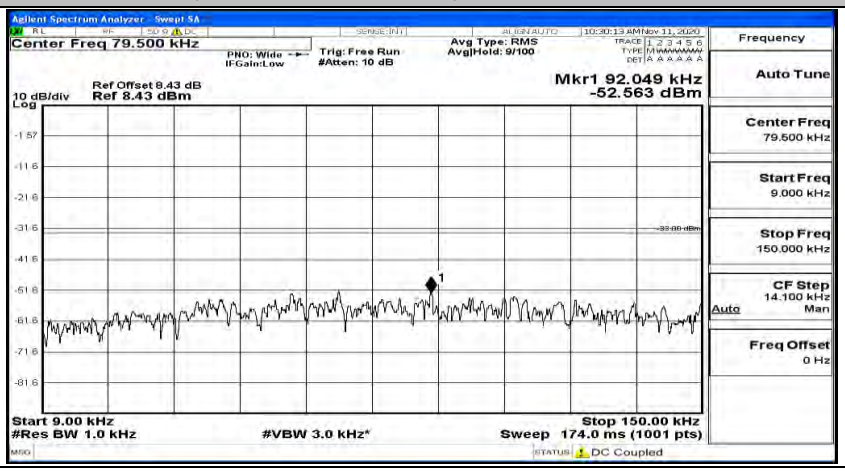



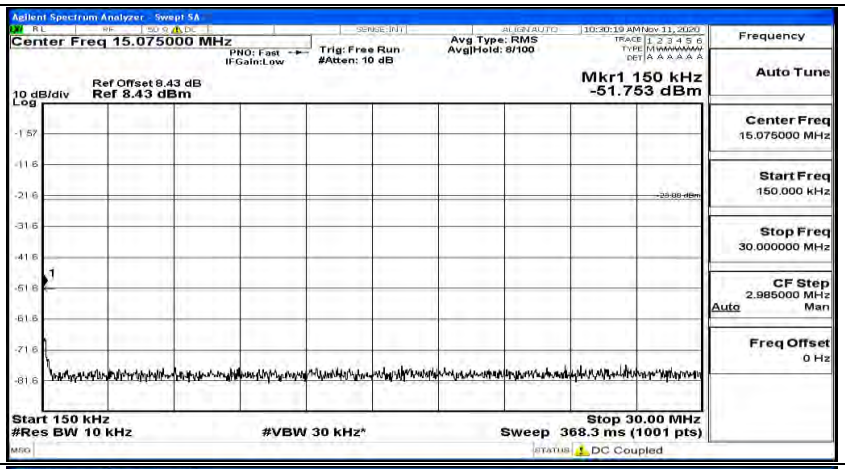
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#5

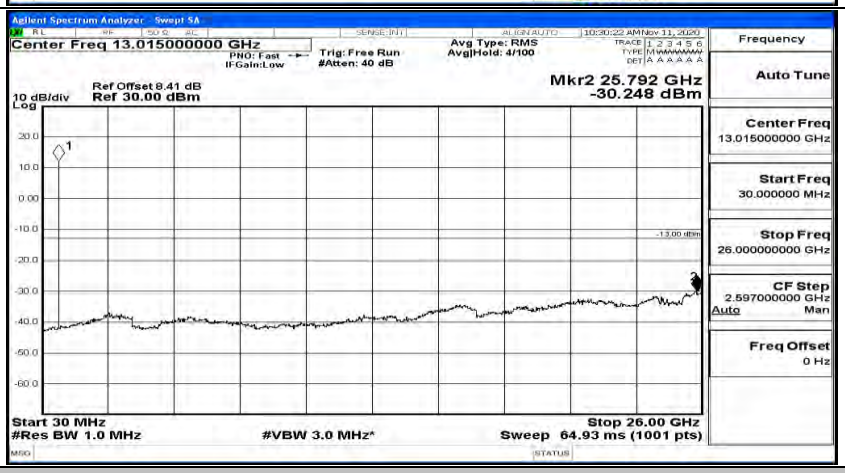




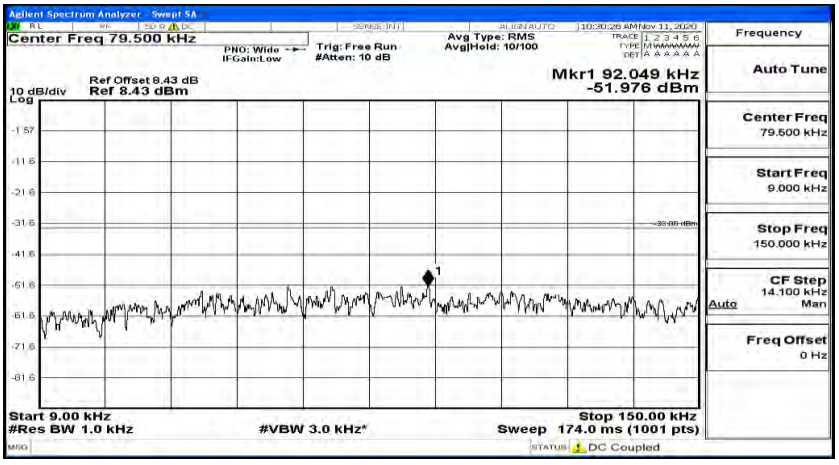
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#0

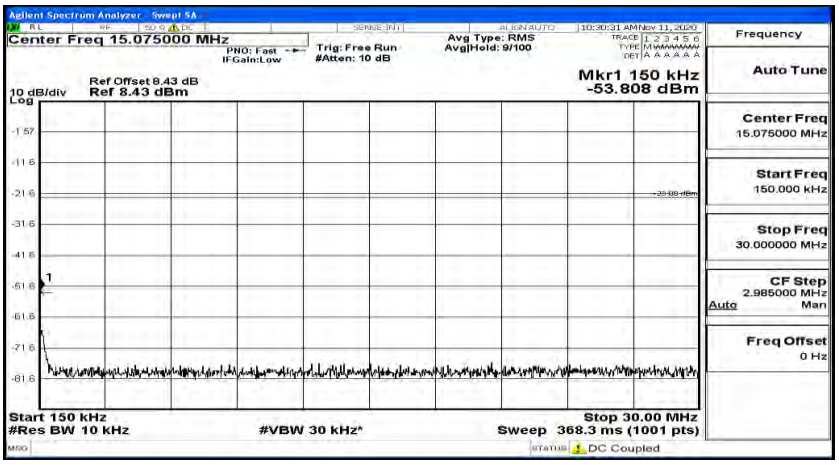




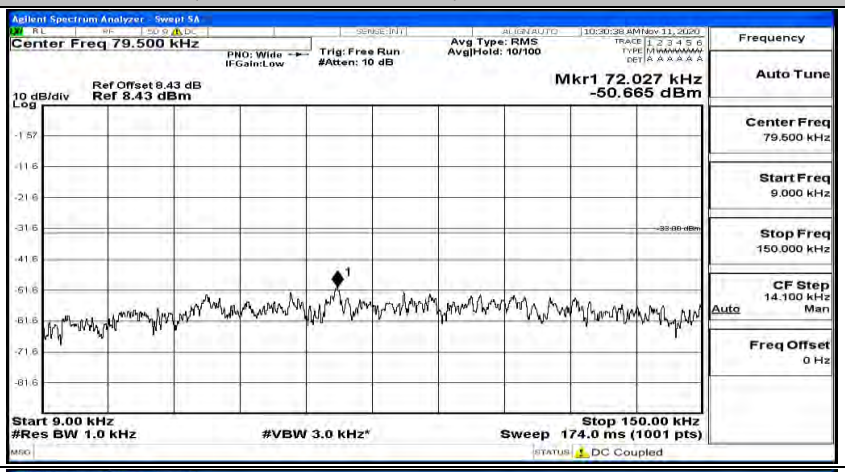



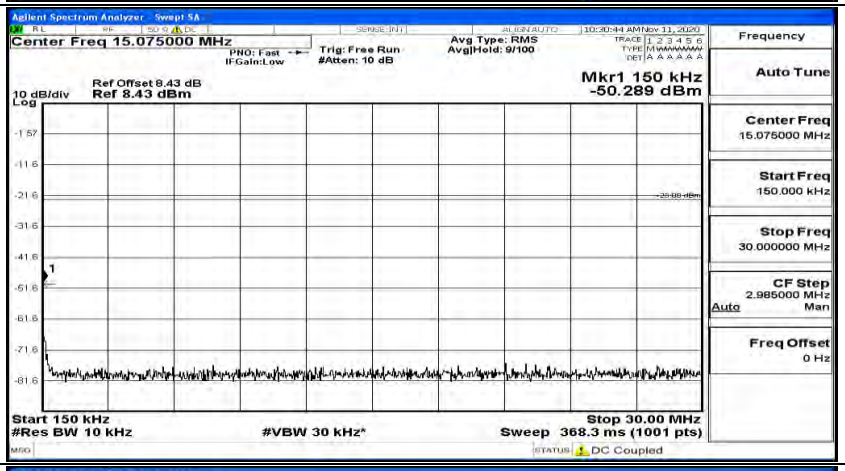

(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#3



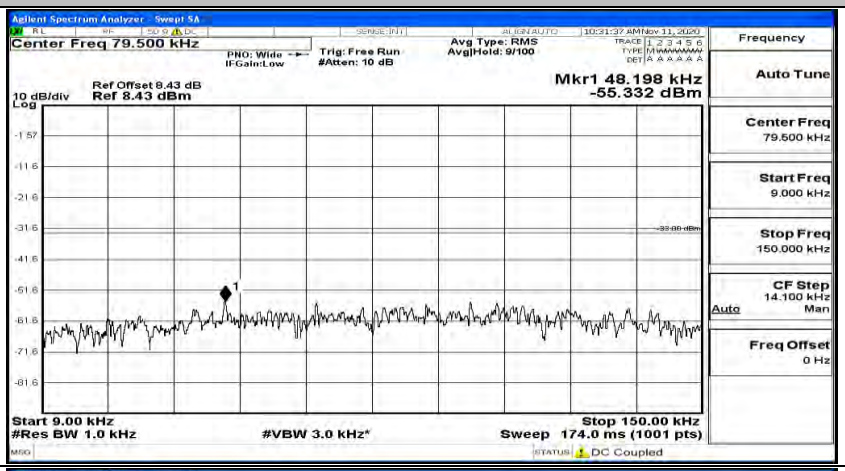



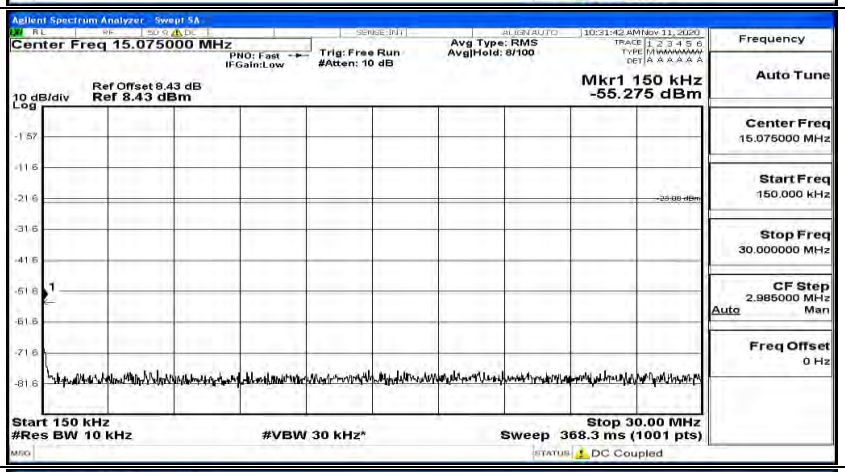
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#5

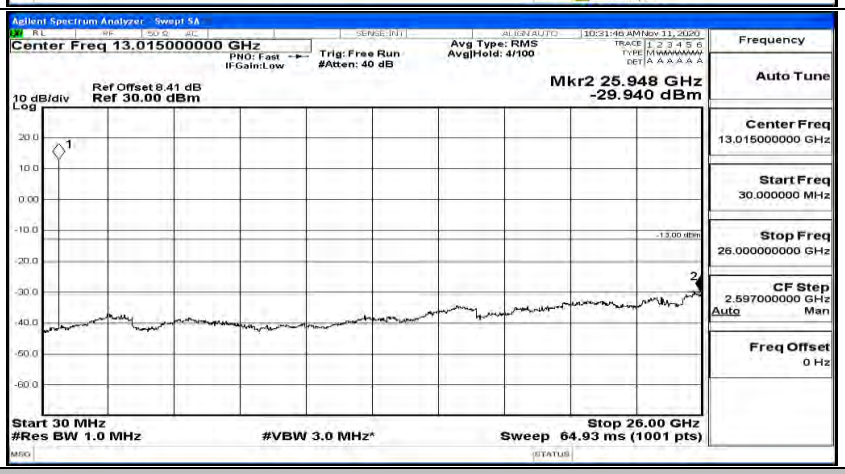


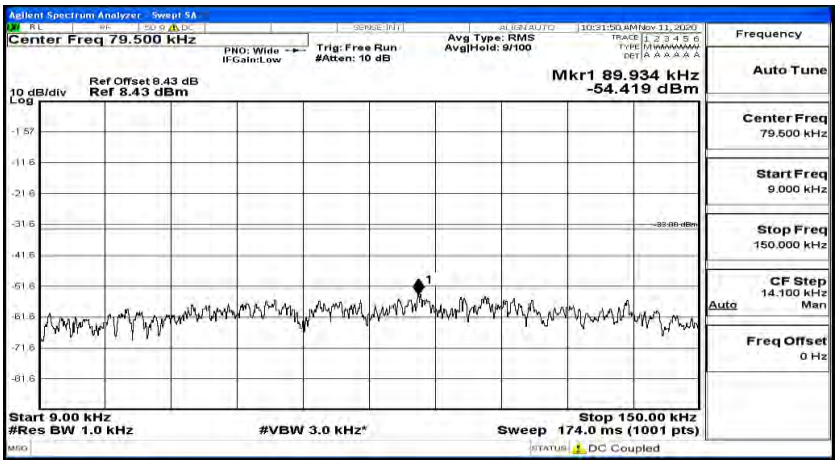
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#0

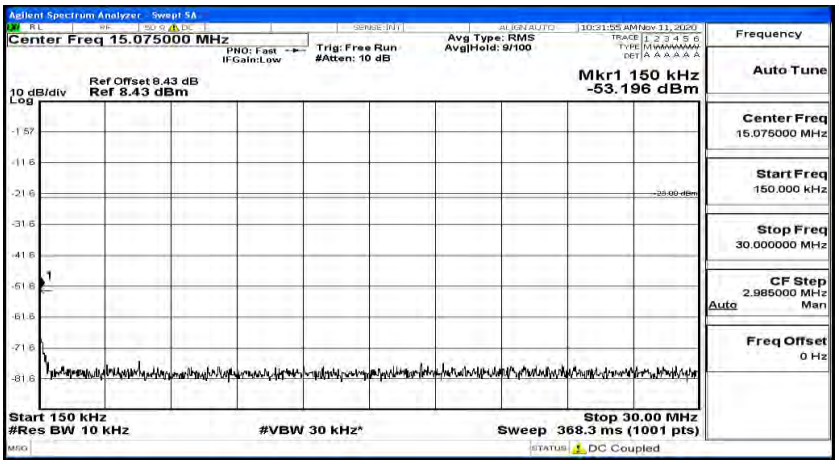


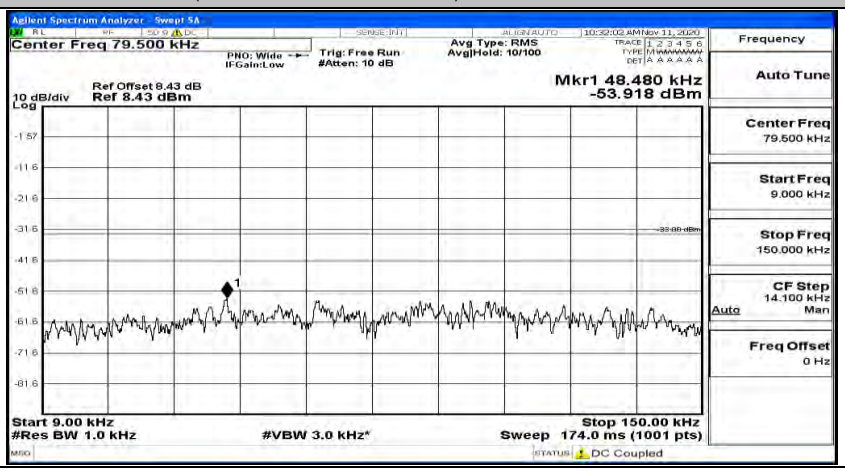



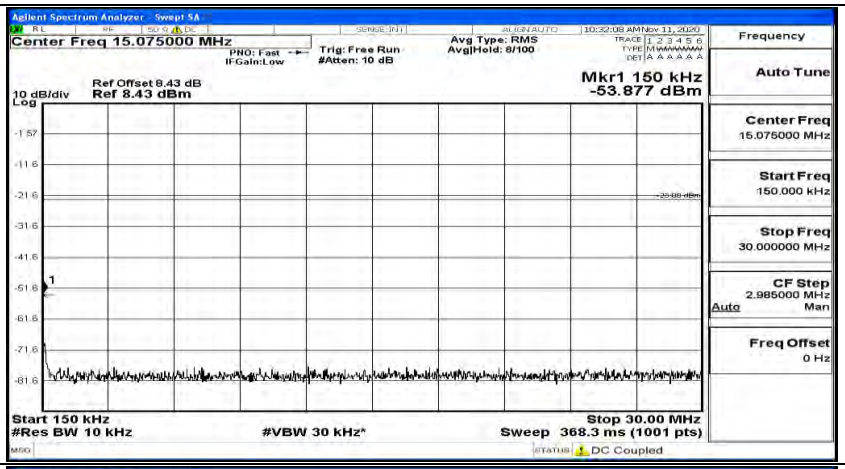

(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#3

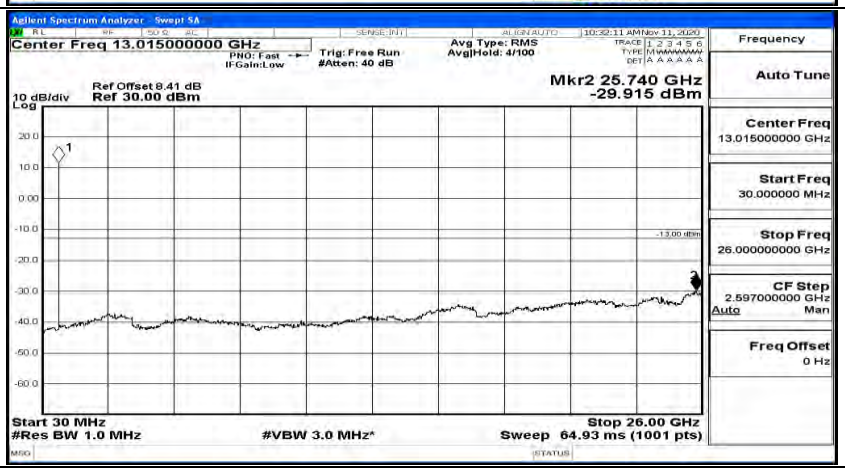


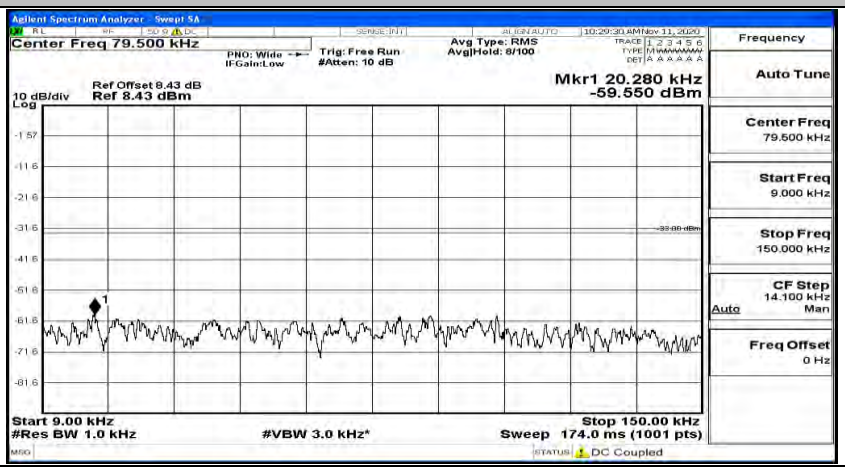
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#5

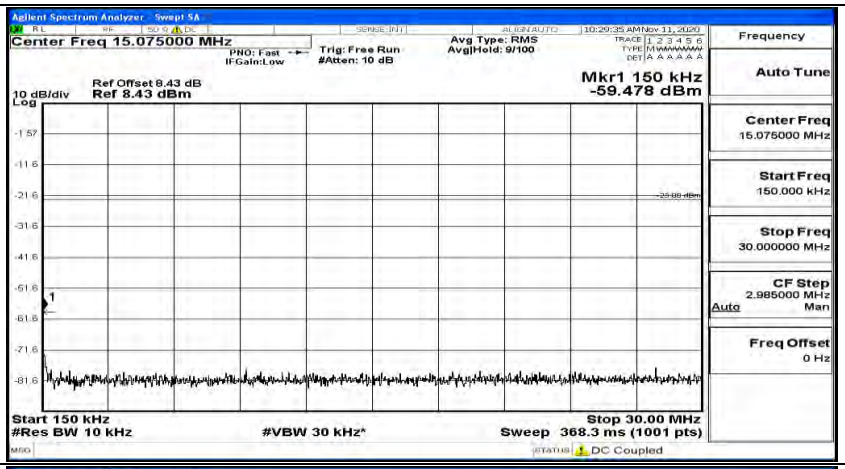


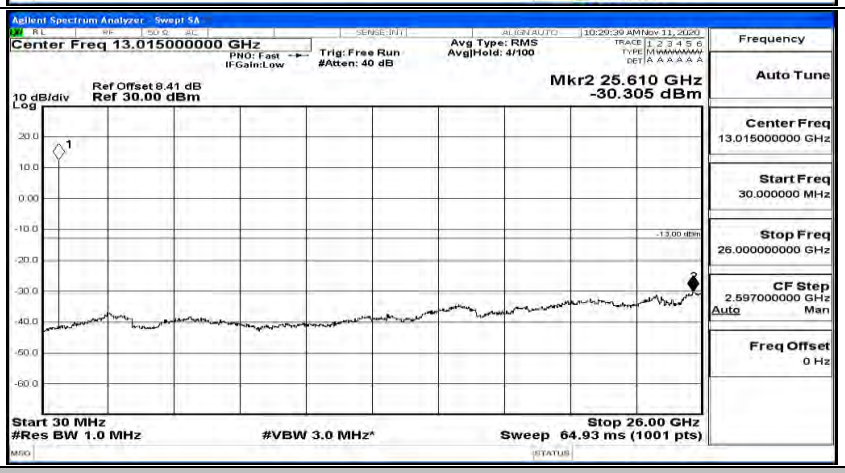


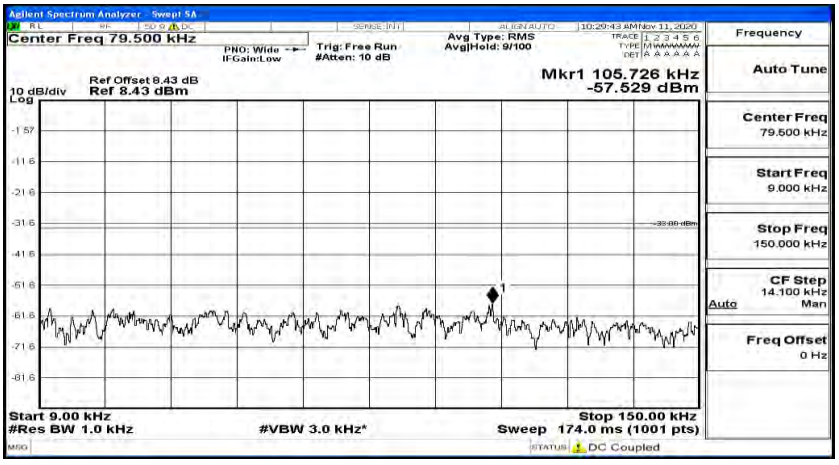

(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#0

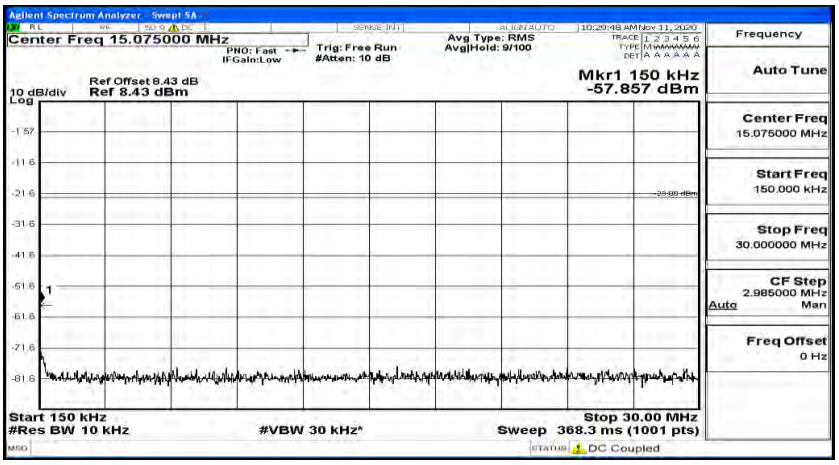




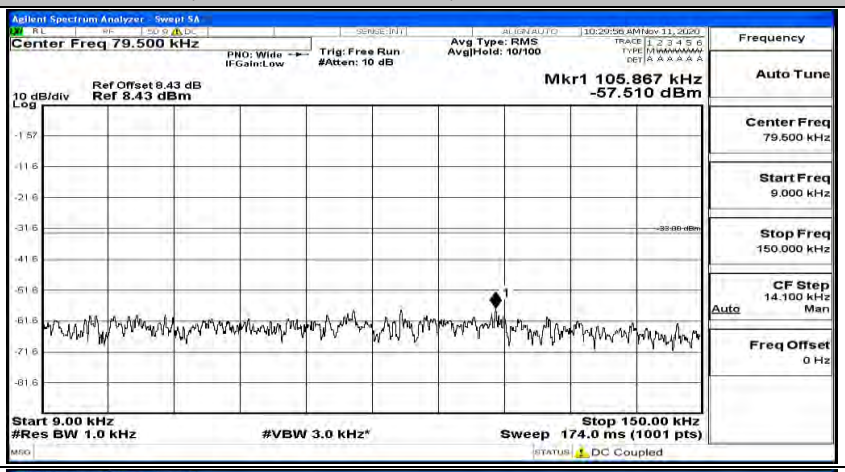



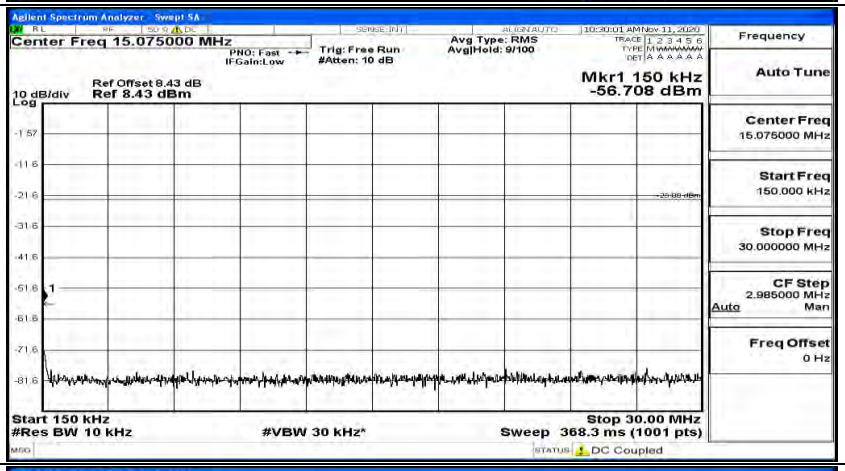

(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#3

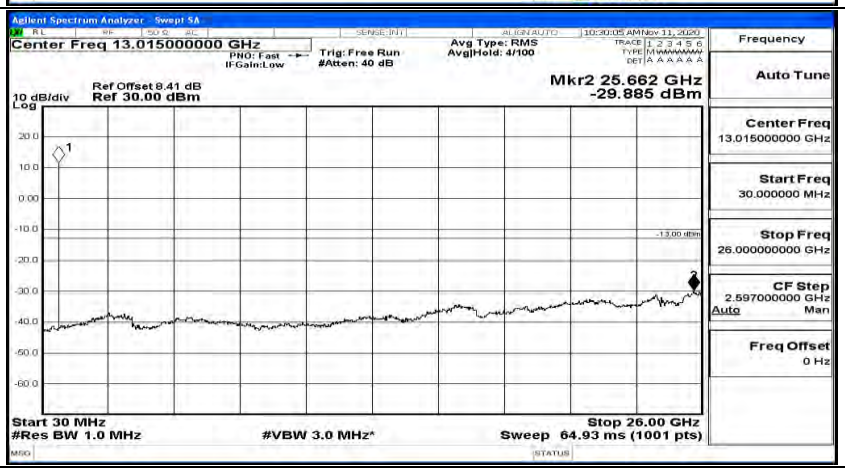


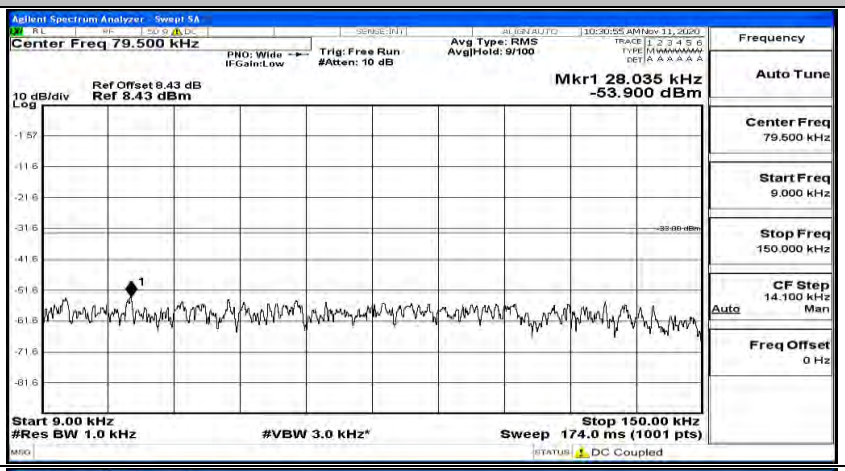
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#5

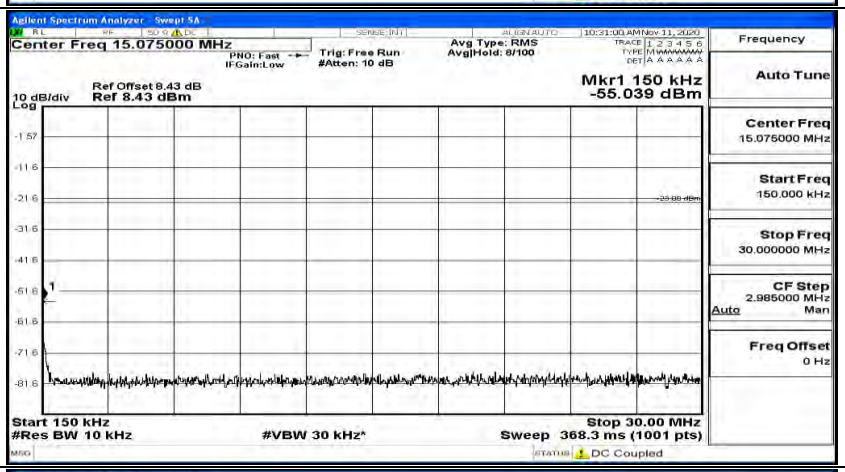


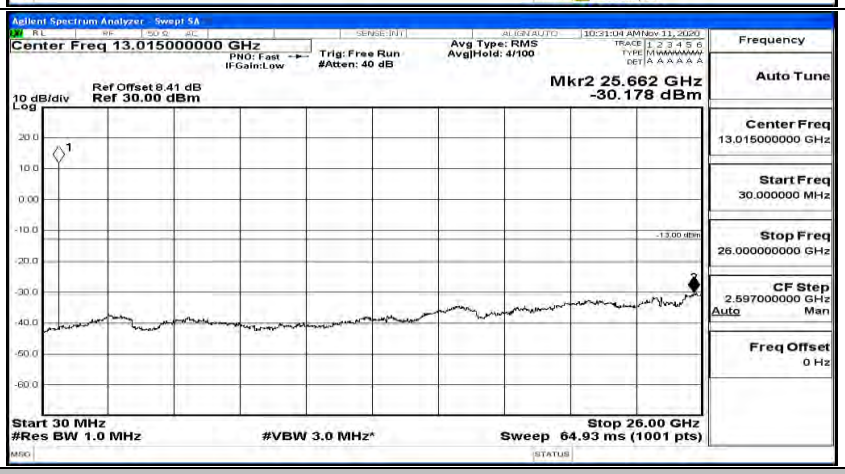



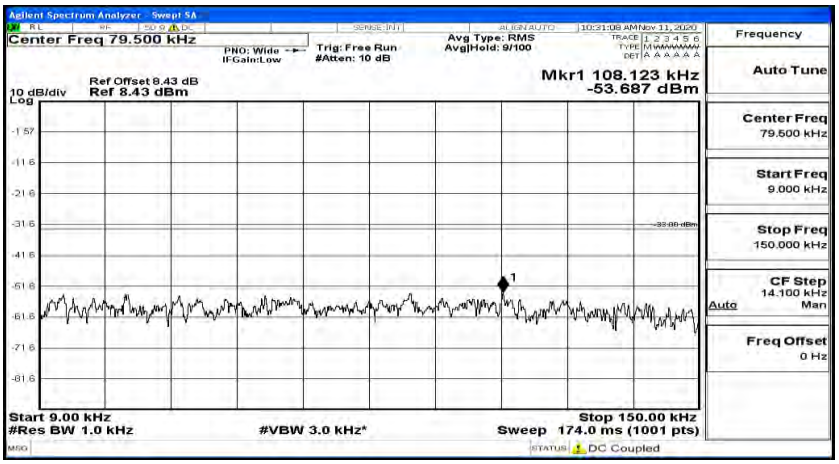
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#0

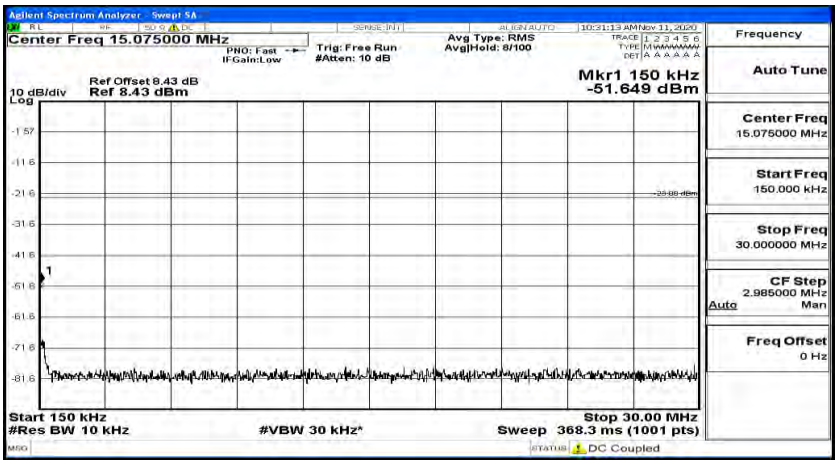


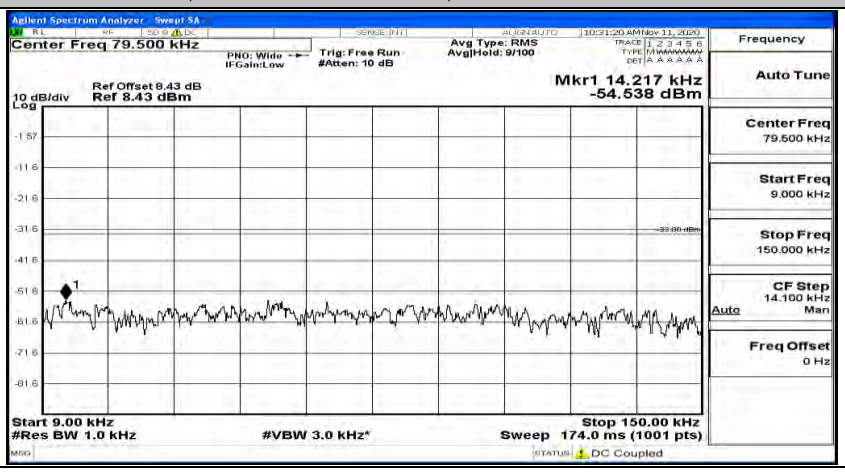



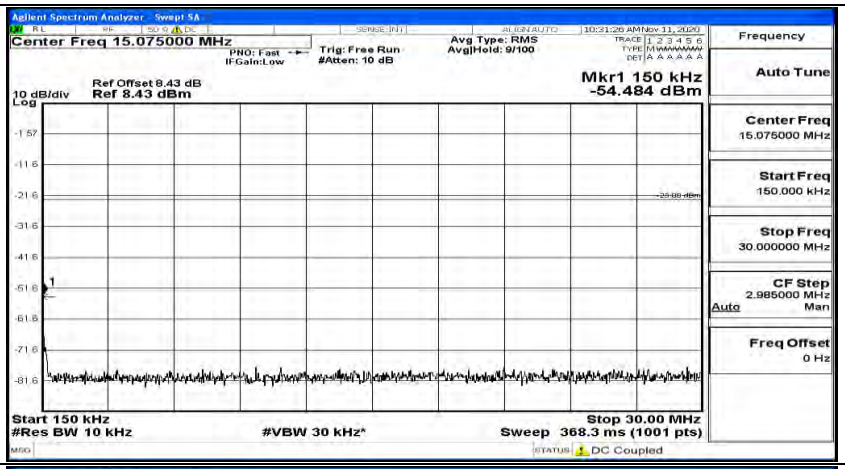

(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#3



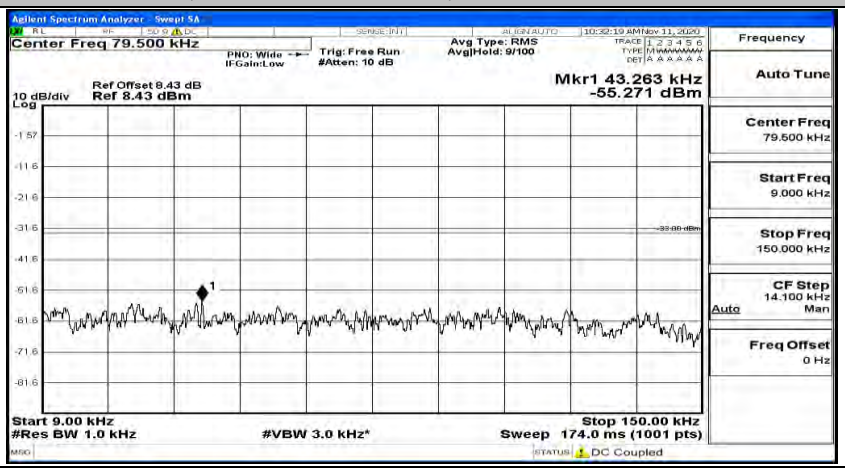



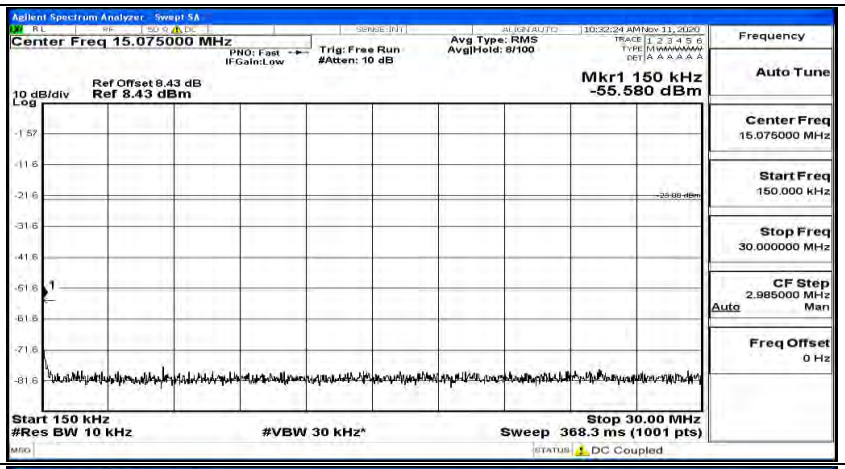
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#5

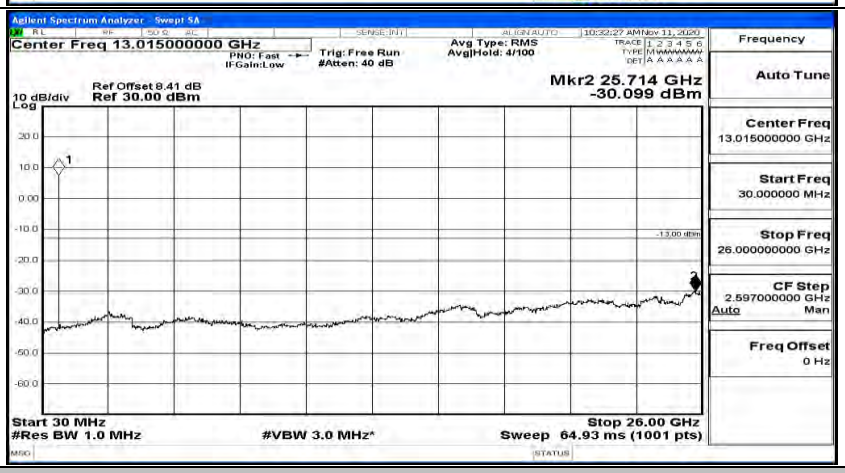




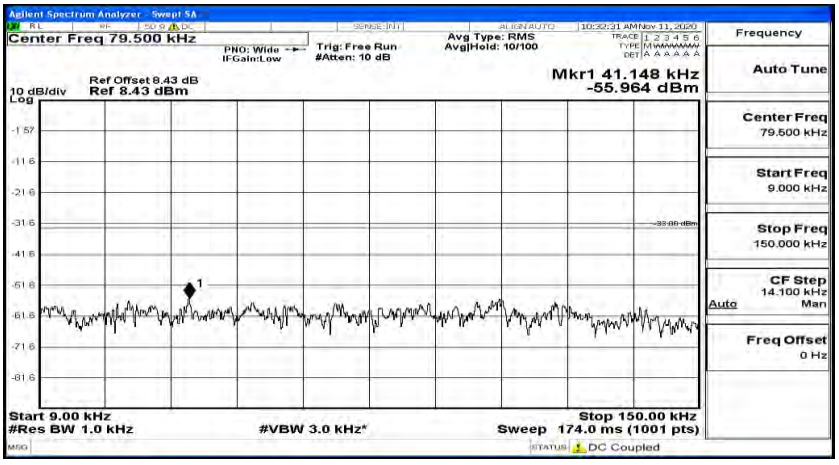
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#0

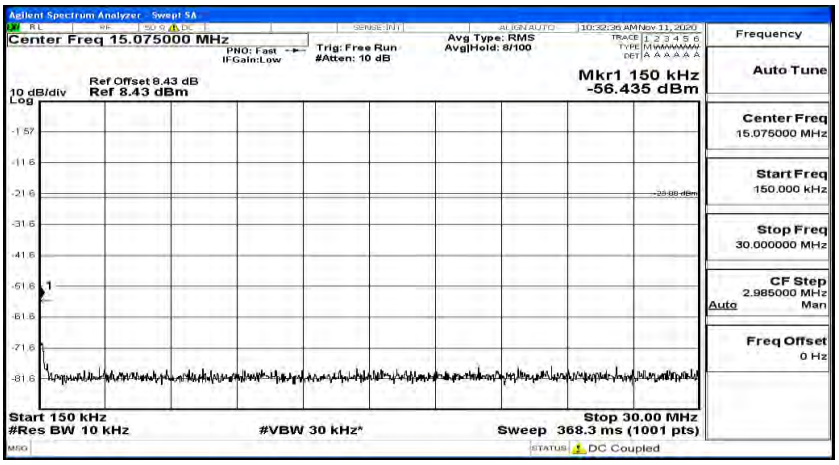


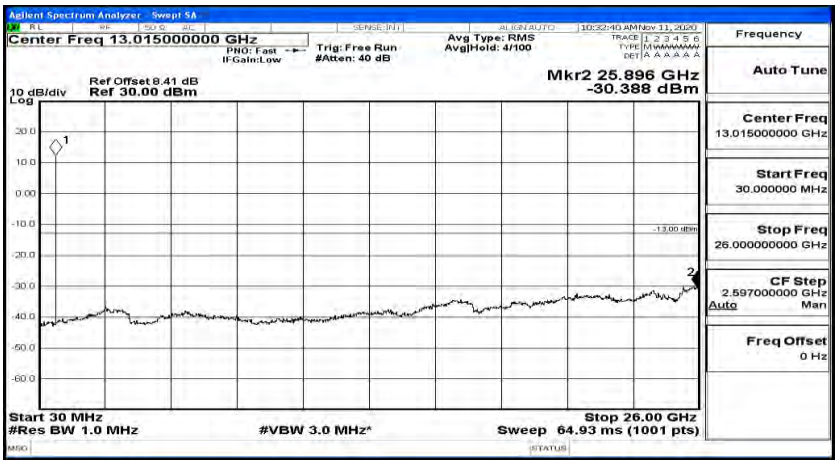


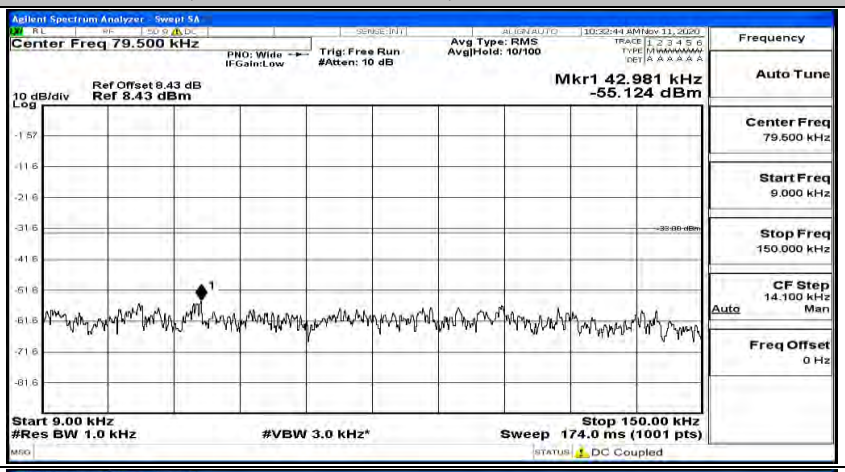

(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#3

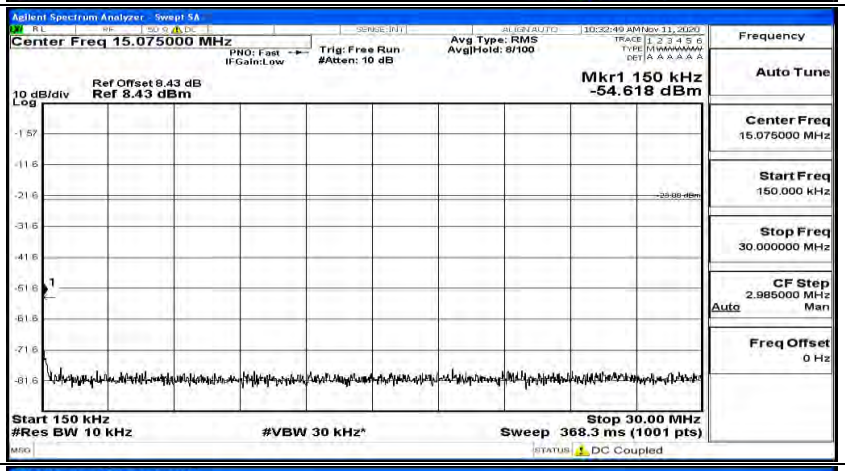


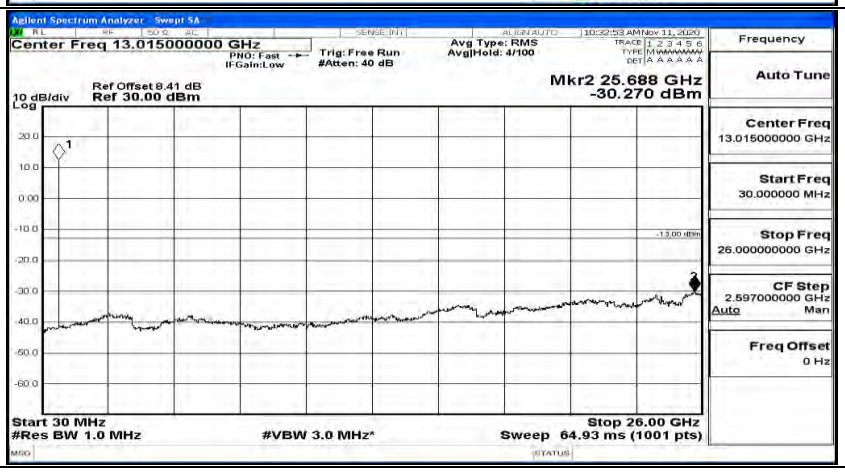






(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#5

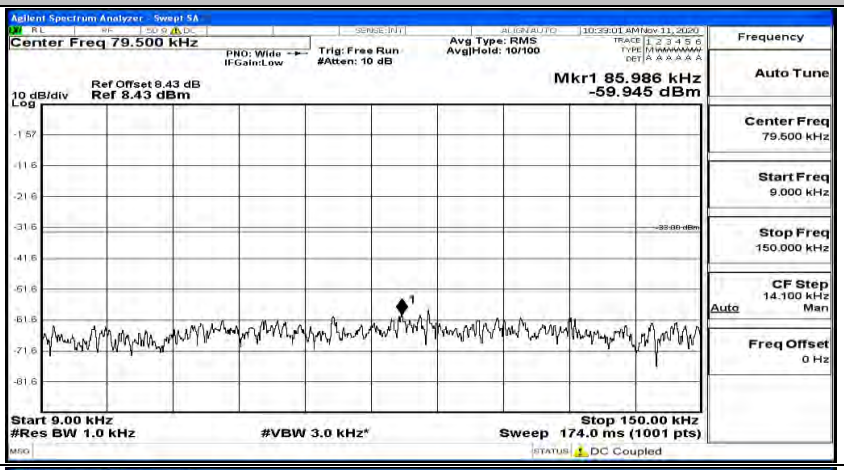


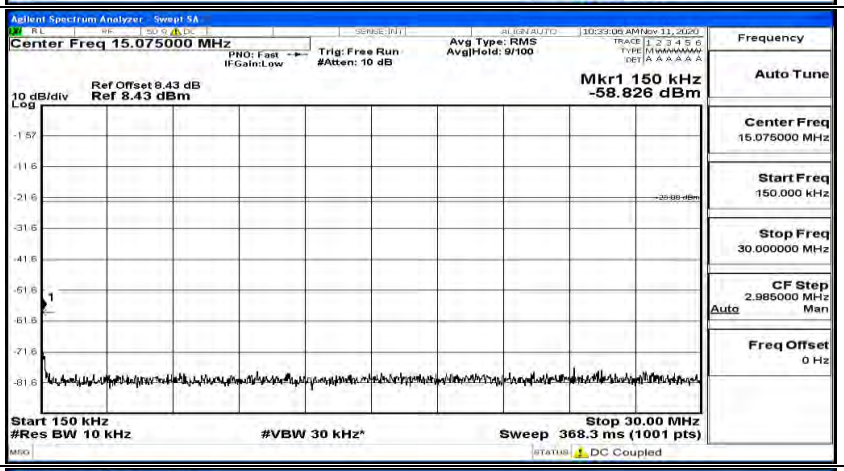



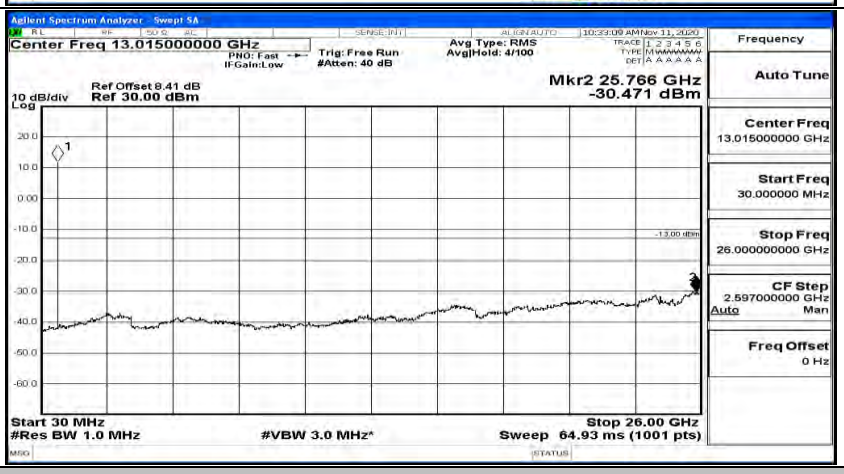



## Channel Bandwidth: 3 MHz

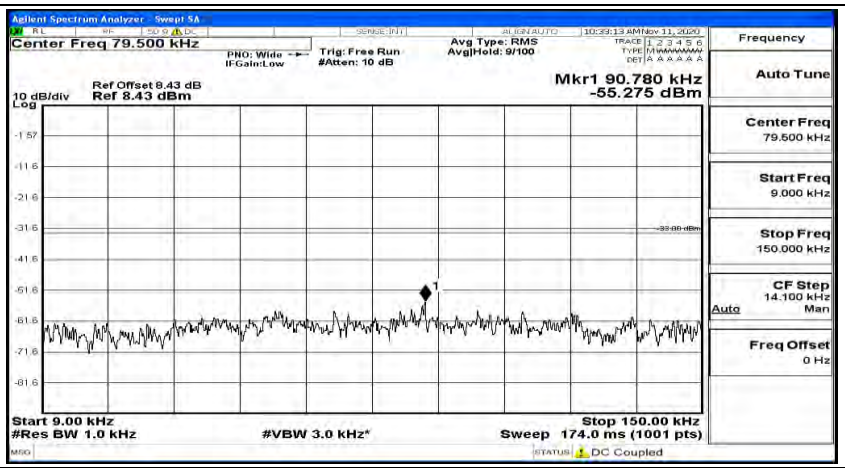
(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#0

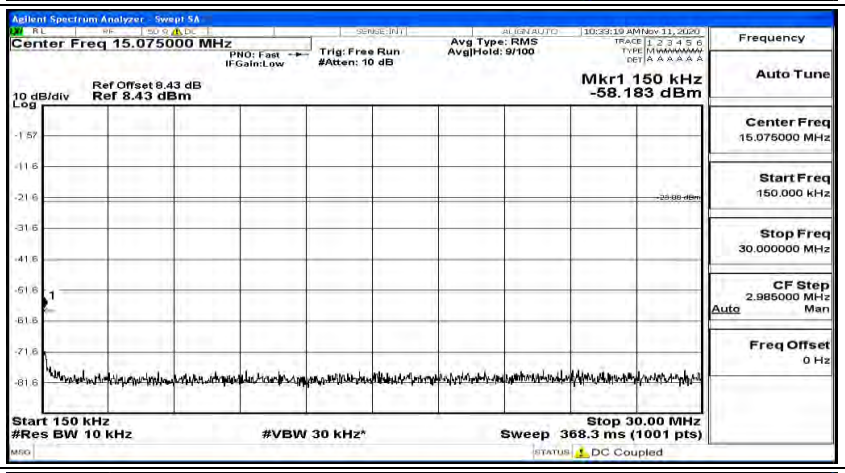


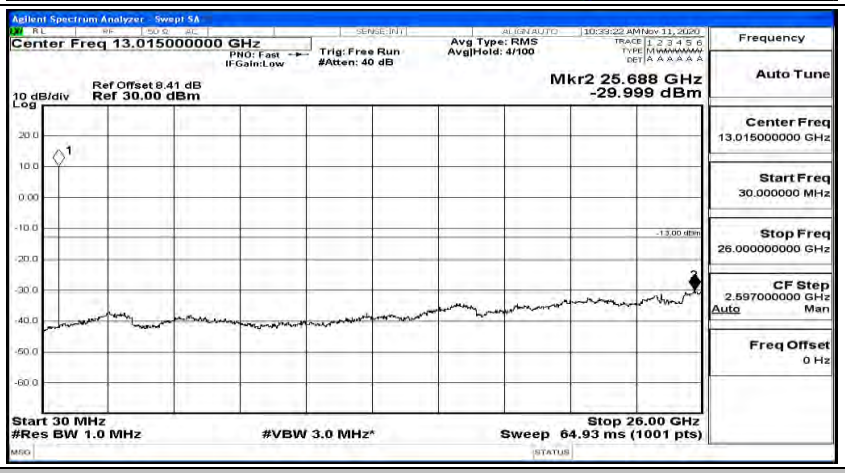



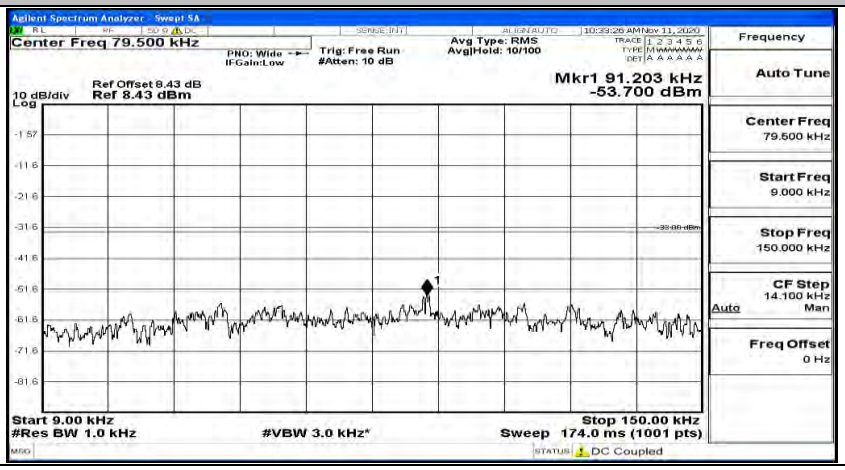

(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#7

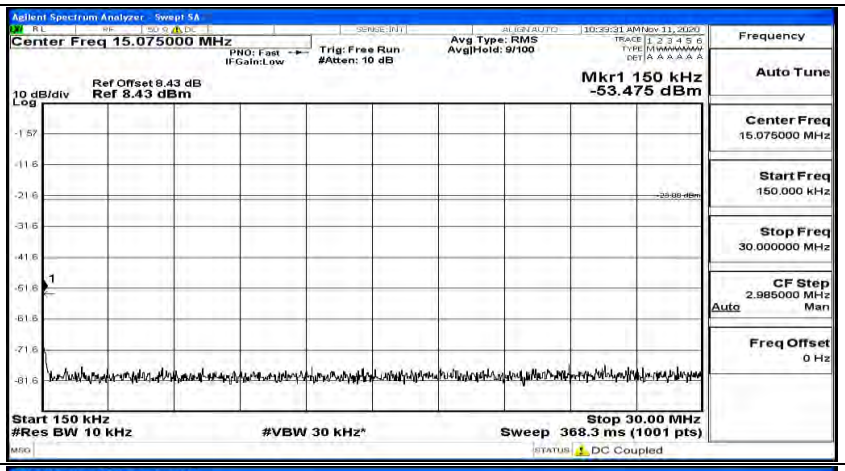


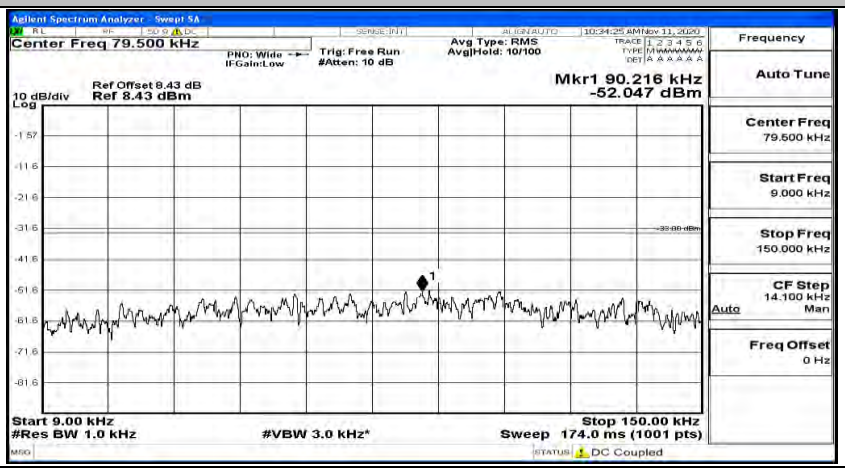



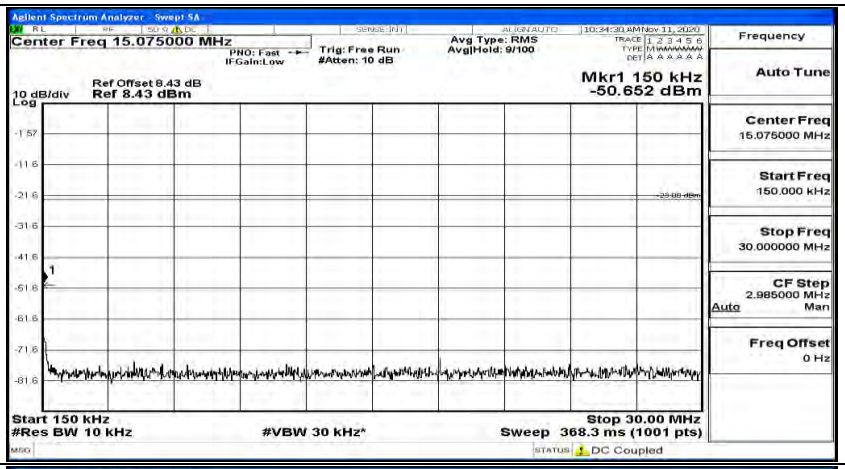

(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#14



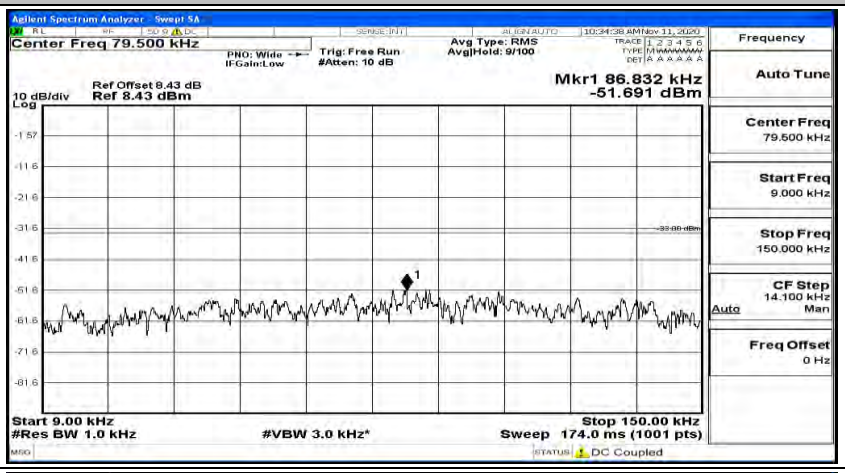


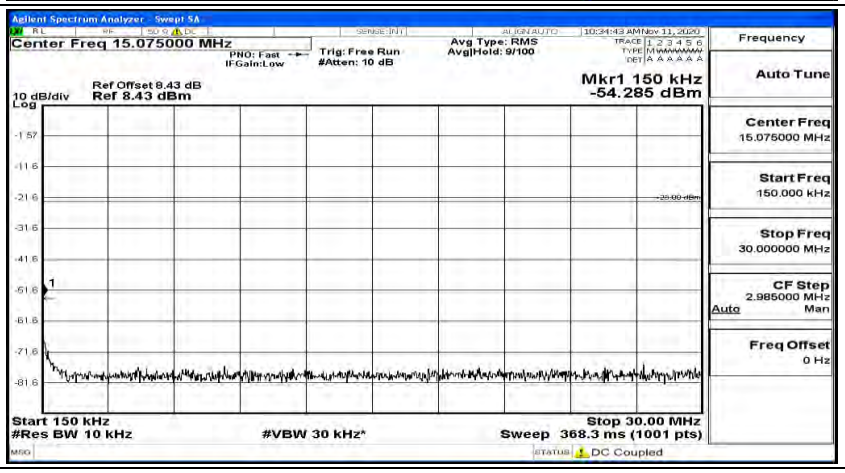
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#0

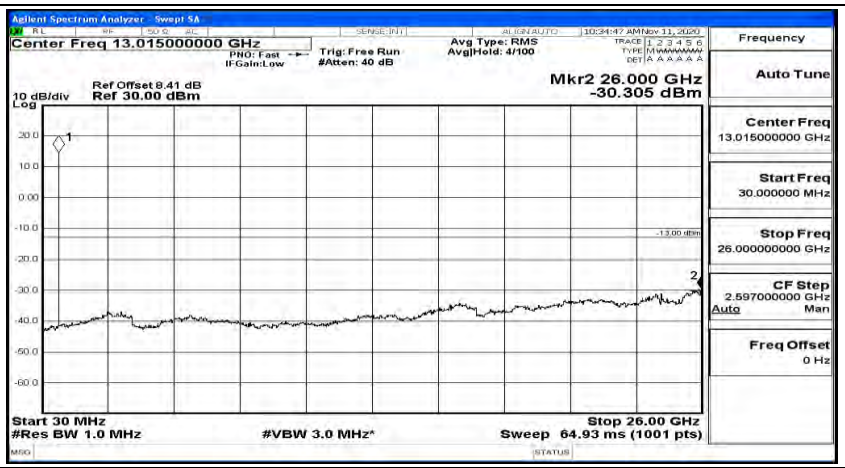




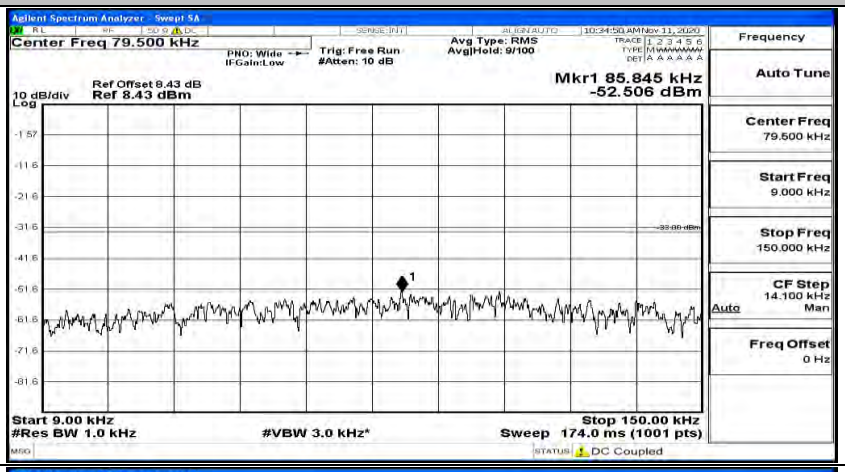
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#7

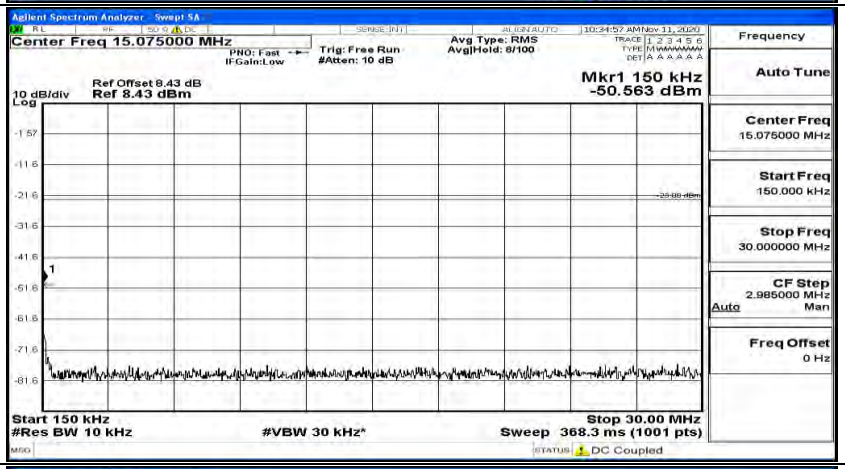


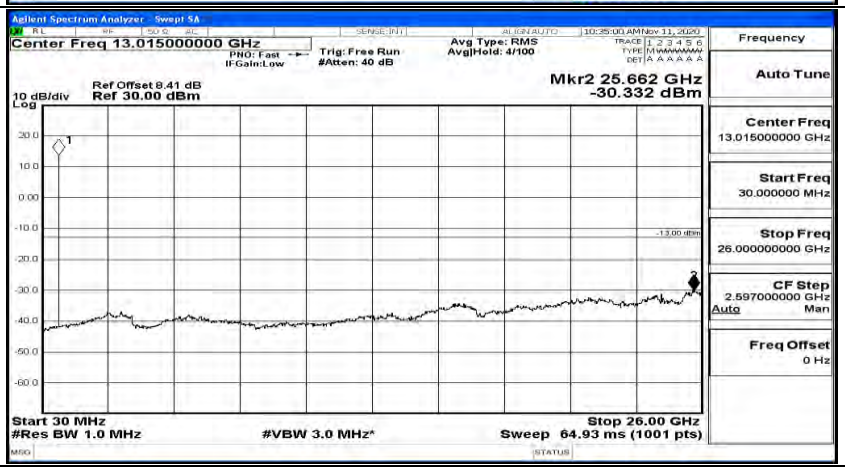






(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#14



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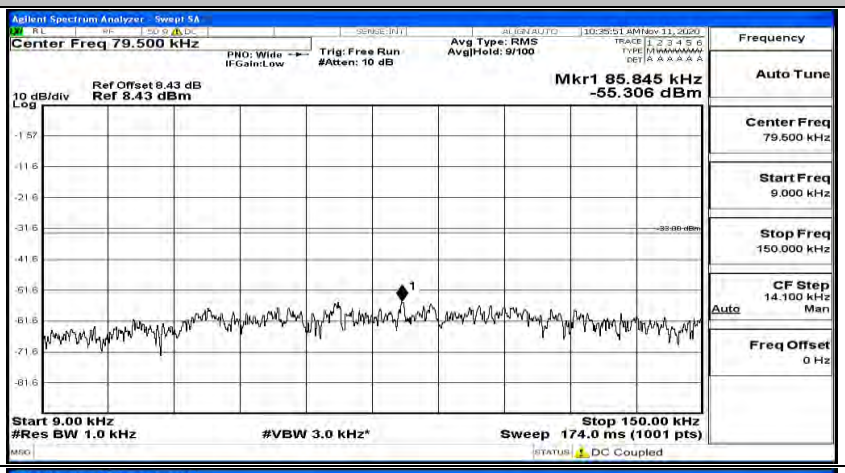


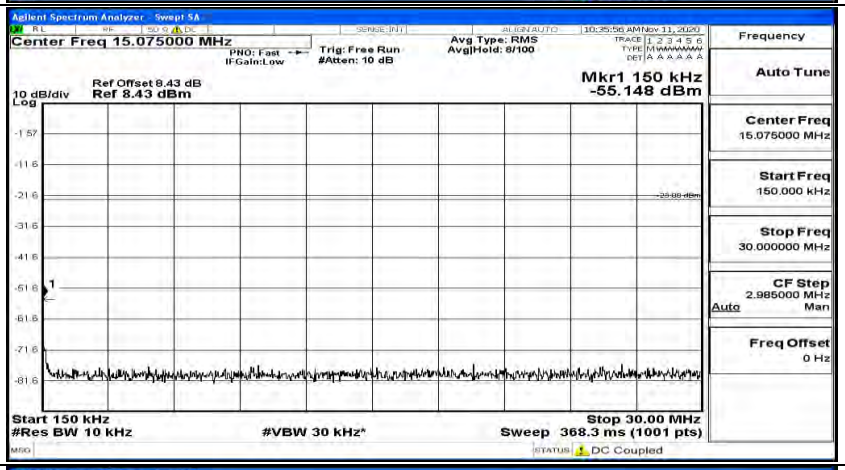


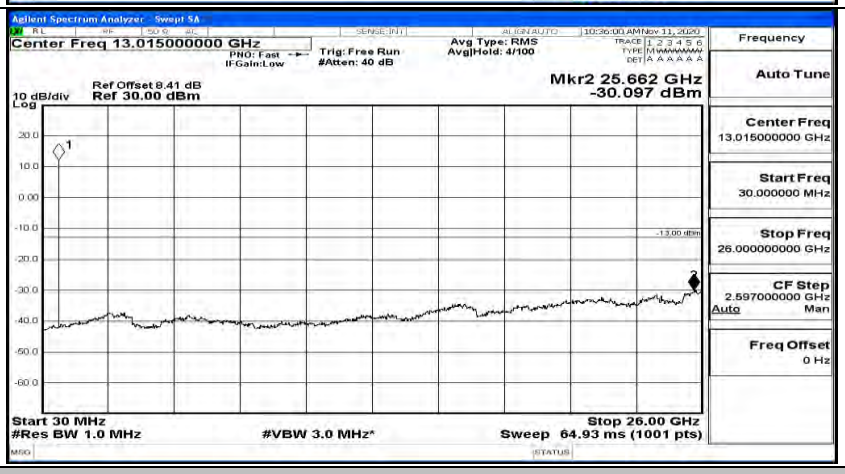


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