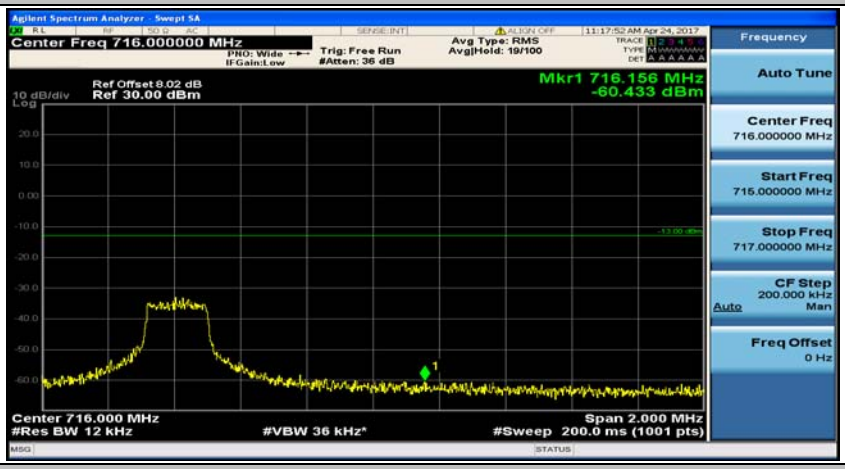
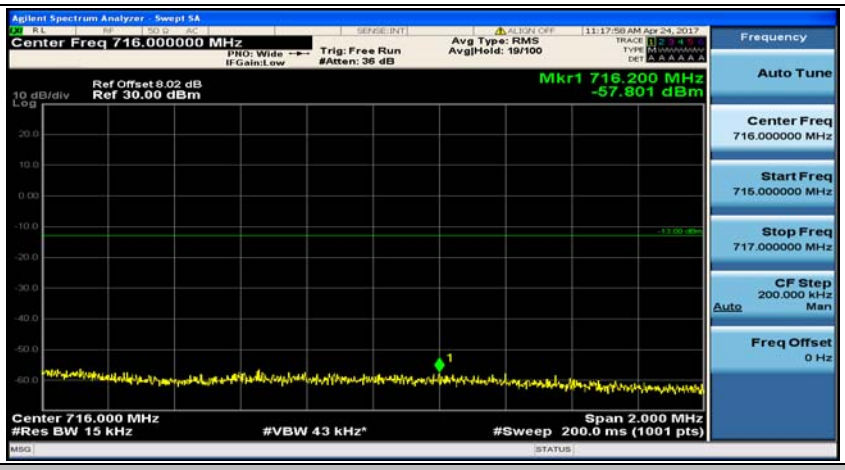
Channel Bandwidth: 10 MHz_LCH_QPSK_50RB#0

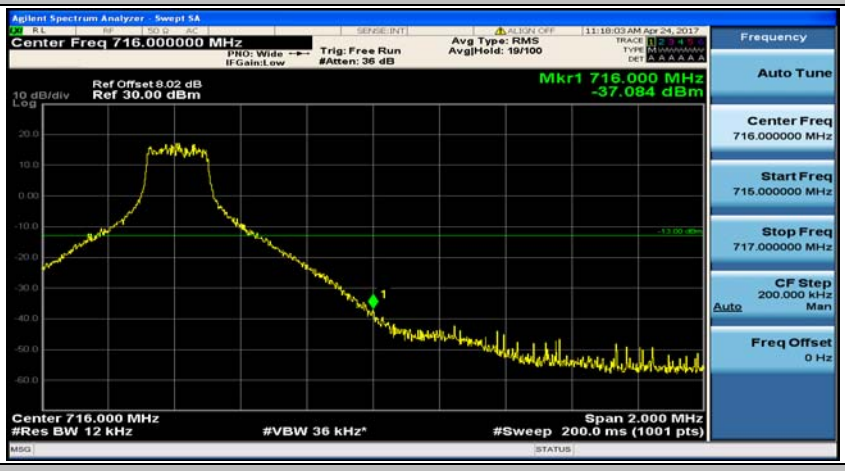
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#0



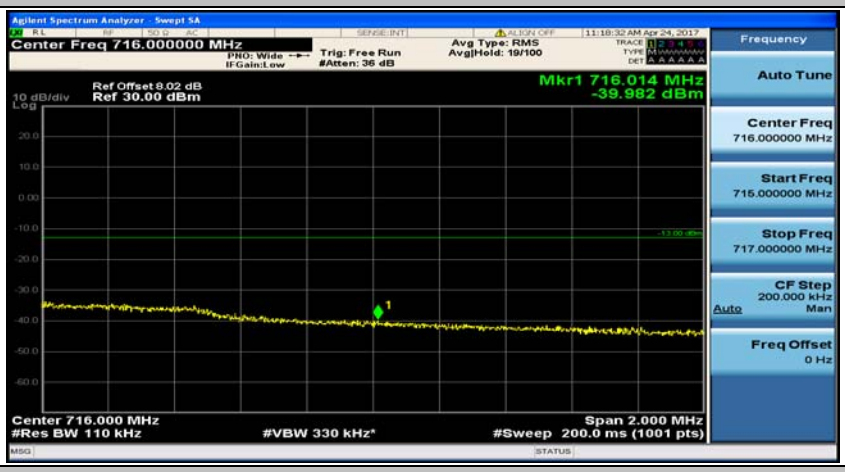
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#24



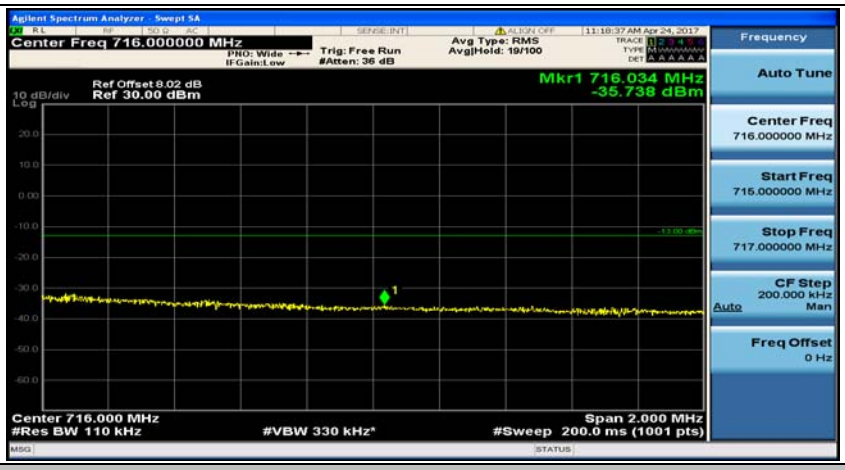
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#49



Channel Bandwidth: 10 MHz_HCH_QPSK_25RB#0



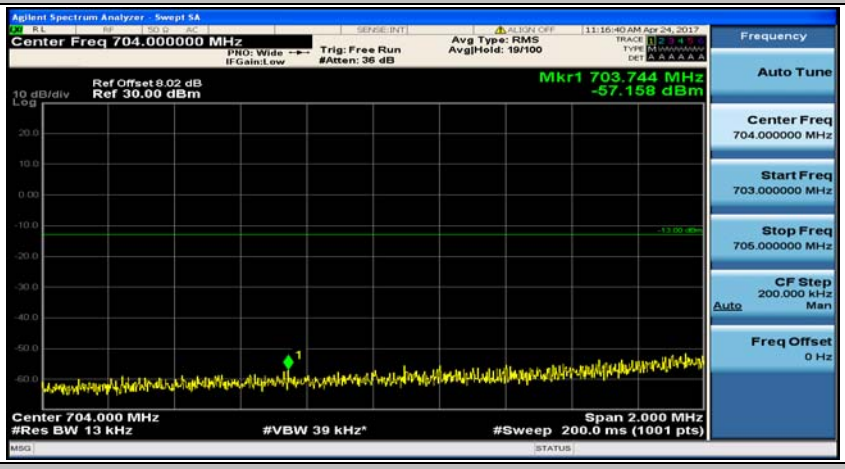
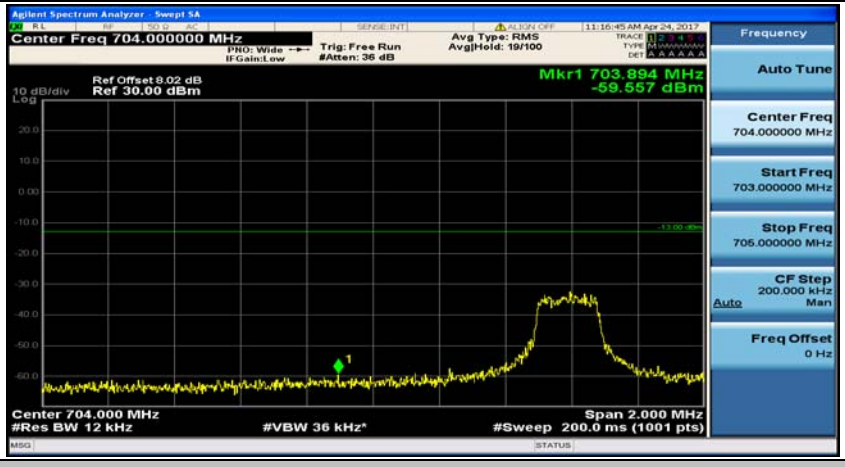
Channel Bandwidth: 10 MHz_HCH_QPSK_25RB#12



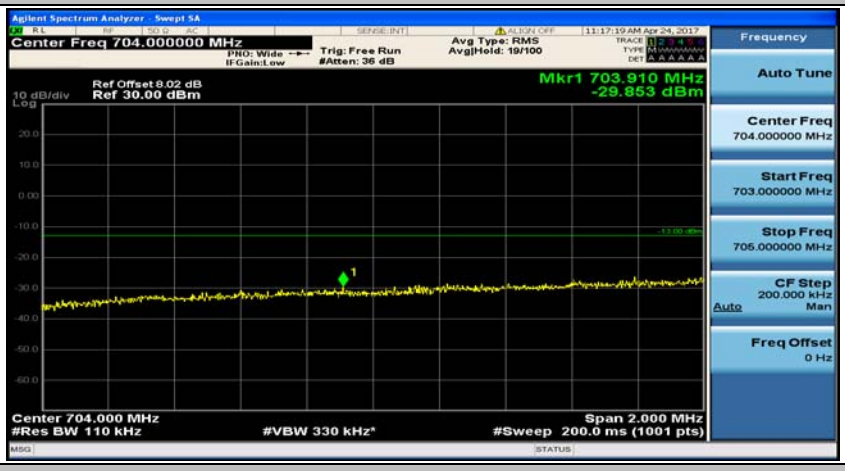
Channel Bandwidth: 10 MHz_HCH_QPSK_25RB#25

Channel Bandwidth: 10 MHz_HCH_QPSK_50RB#0

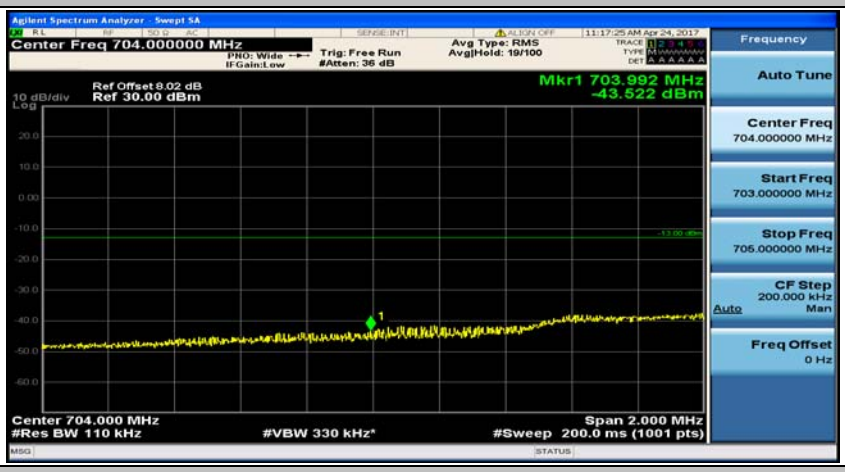
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#0

Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#24

Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#49

Channel Bandwidth: 10 MHz_LCH_16QAM_25RB#0

Channel Bandwidth: 10 MHz_LCH_16QAM_25RB#12

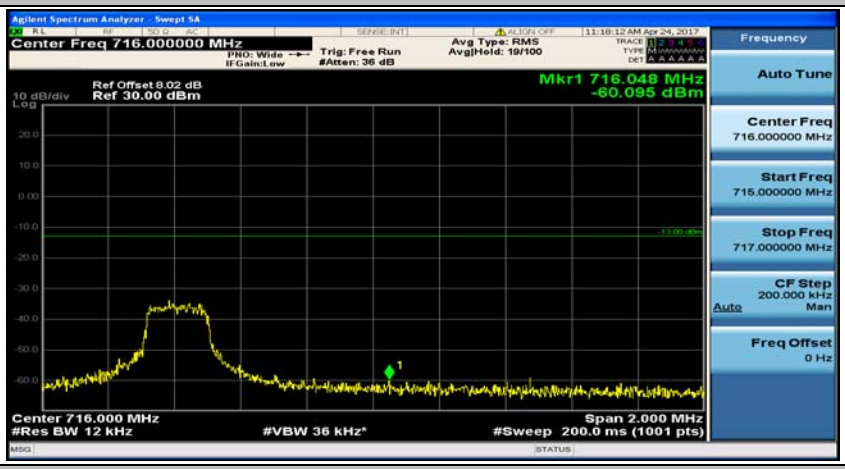


Channel Bandwidth: 10 MHz_LCH_16QAM_25RB#25

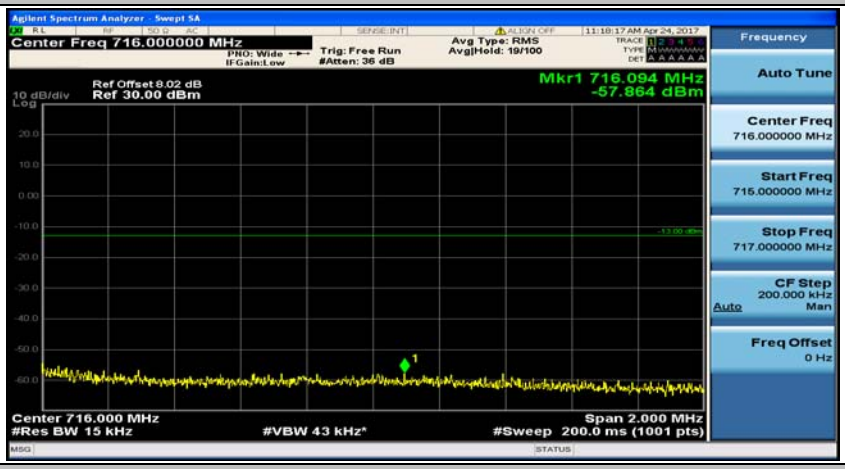


Channel Bandwidth: 10 MHz_LCH_16QAM_50RB#0

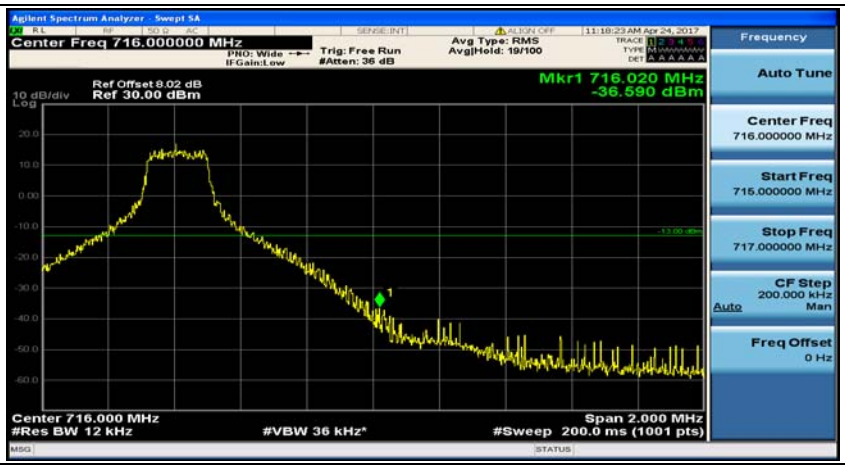
Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#24

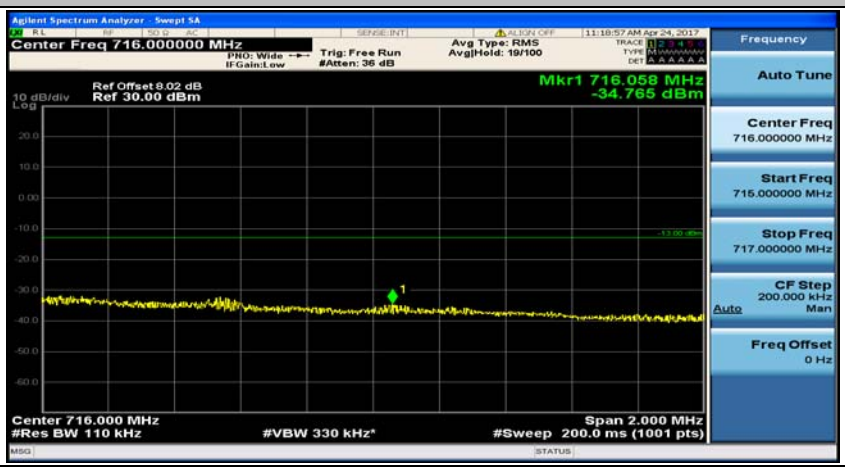


Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#49



Channel Bandwidth: 10 MHz_HCH_16QAM_25RB#0

Channel Bandwidth: 10 MHz_HCH_16QAM_25RB#12



Channel Bandwidth: 10 MHz_HCH_16QAM_25RB#25

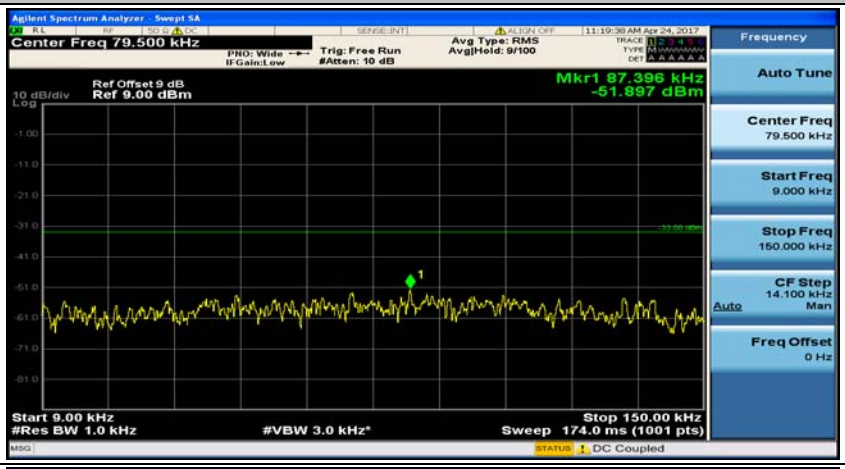
Channel Bandwidth: 10 MHz_HCH_16QAM_50RB#0

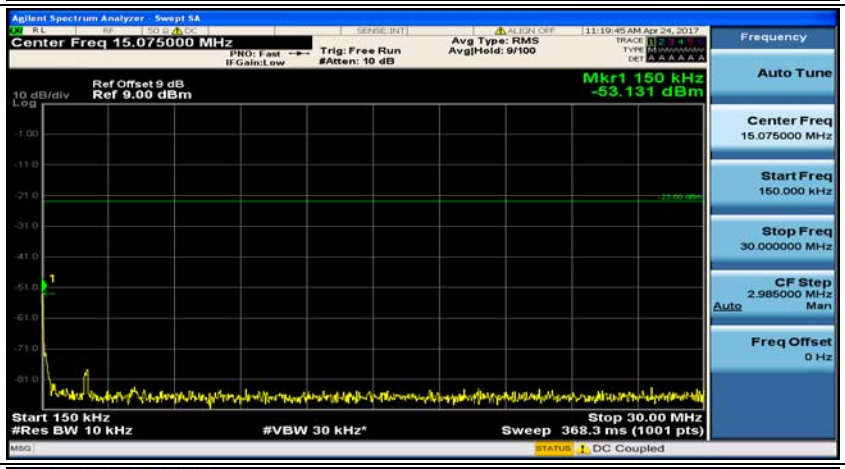
Appendix E: Conducted Spurious Emission

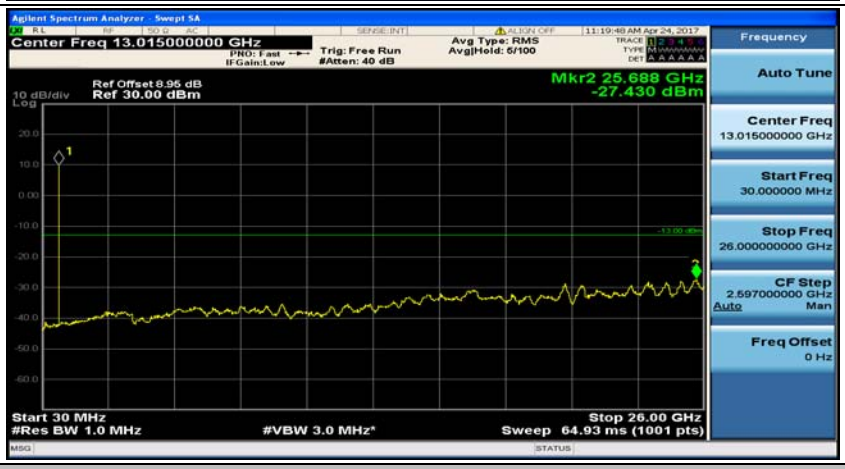
Test Graphs

Channel Bandwidth: 5 MHz

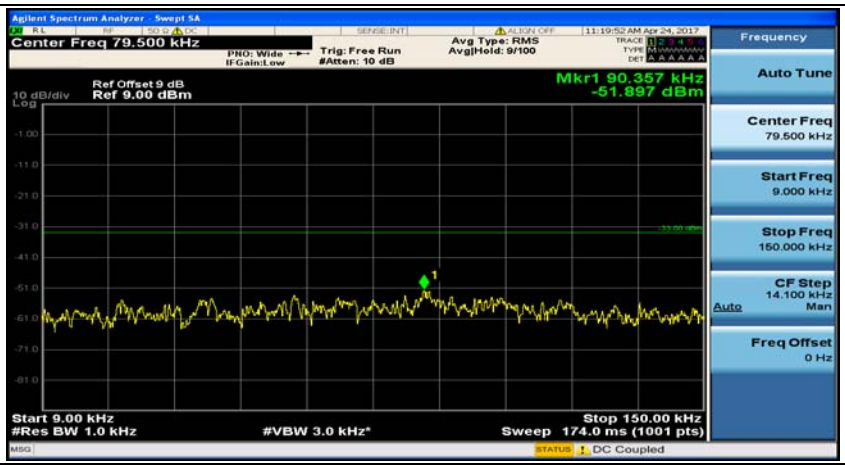
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0

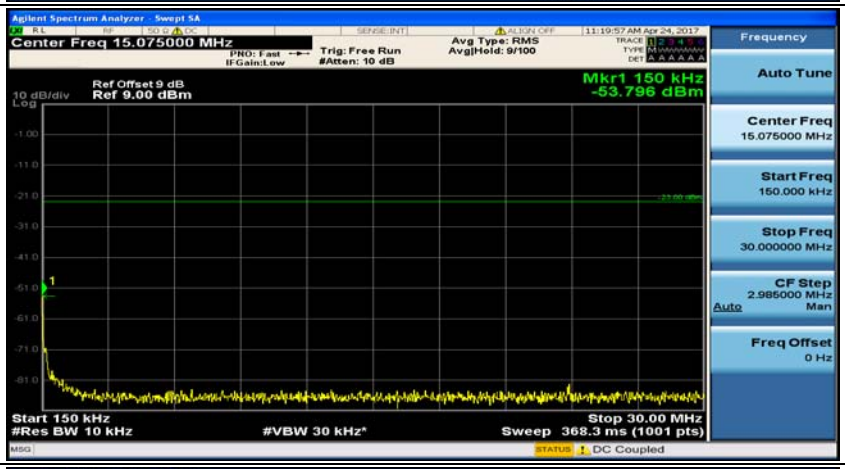


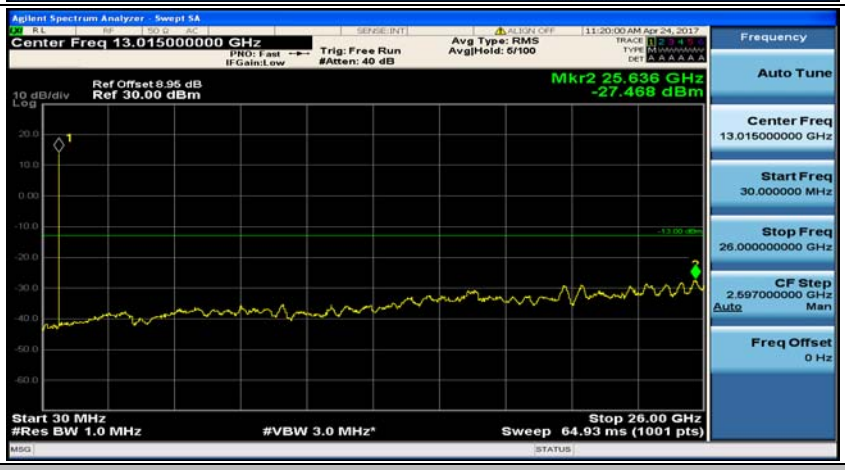




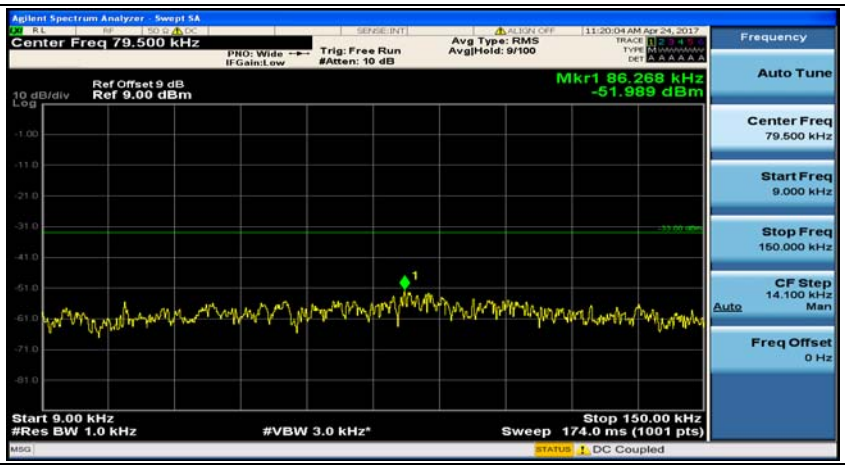
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12

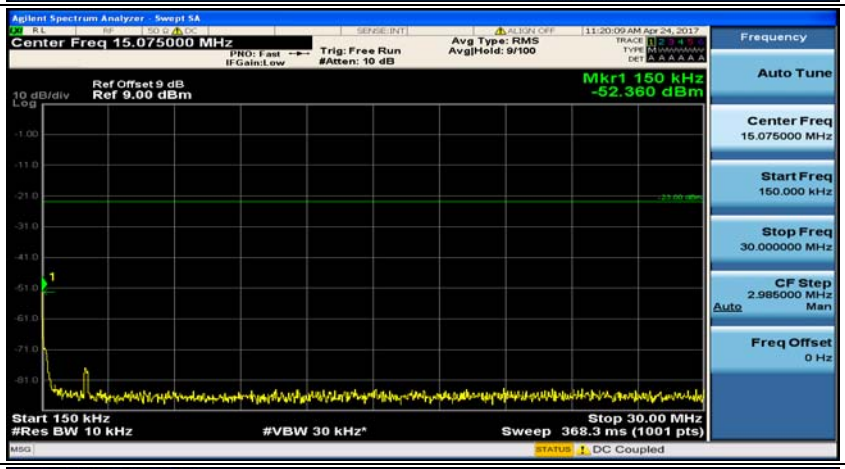


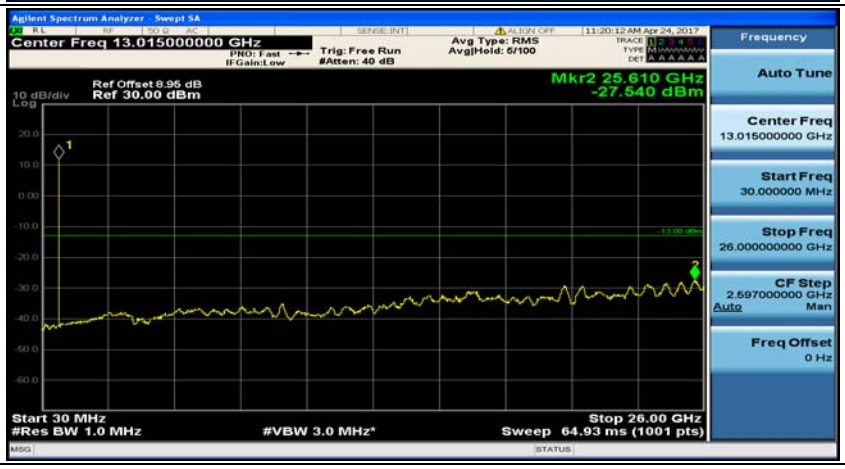


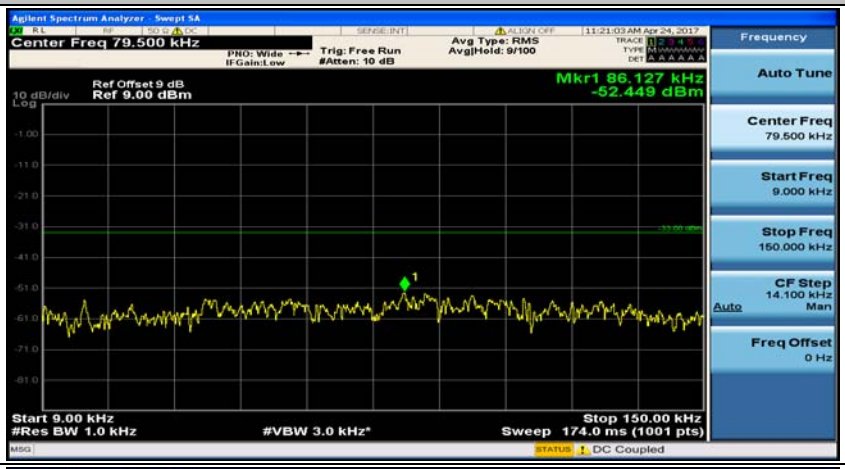
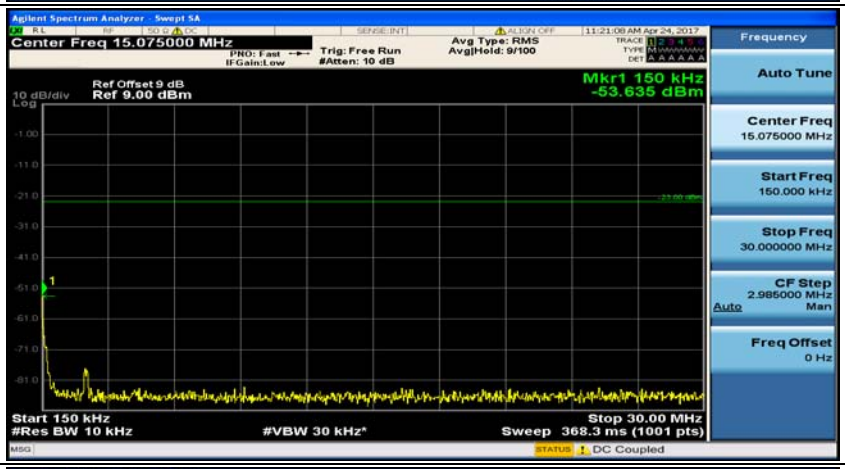
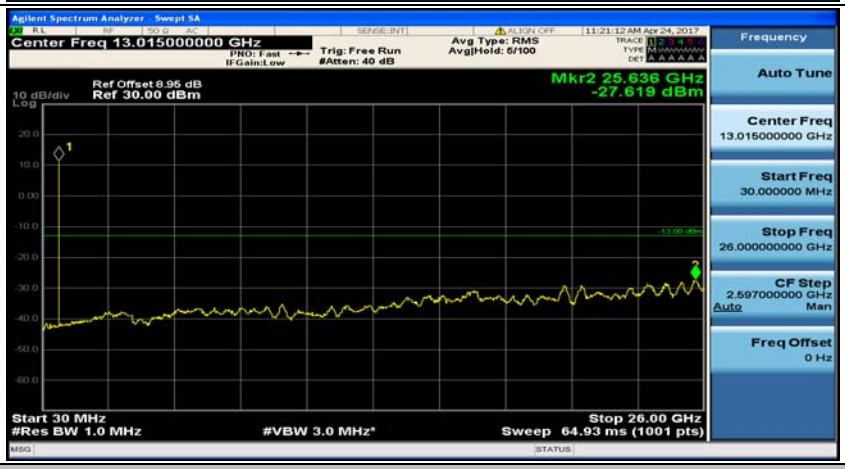


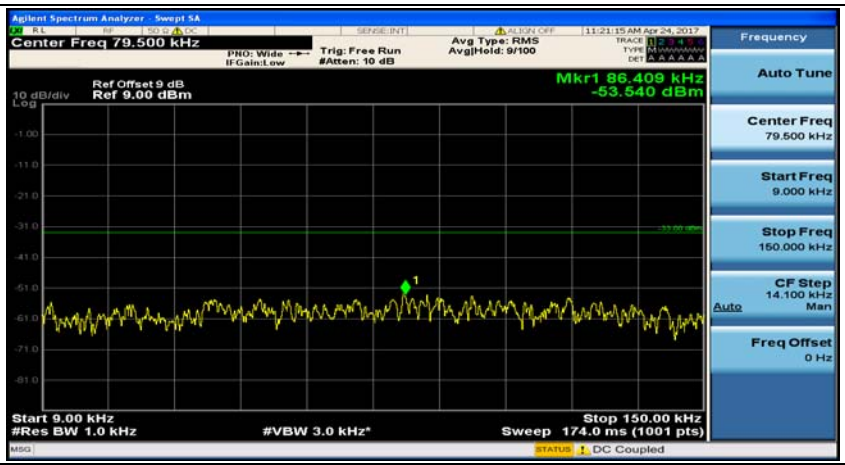
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24

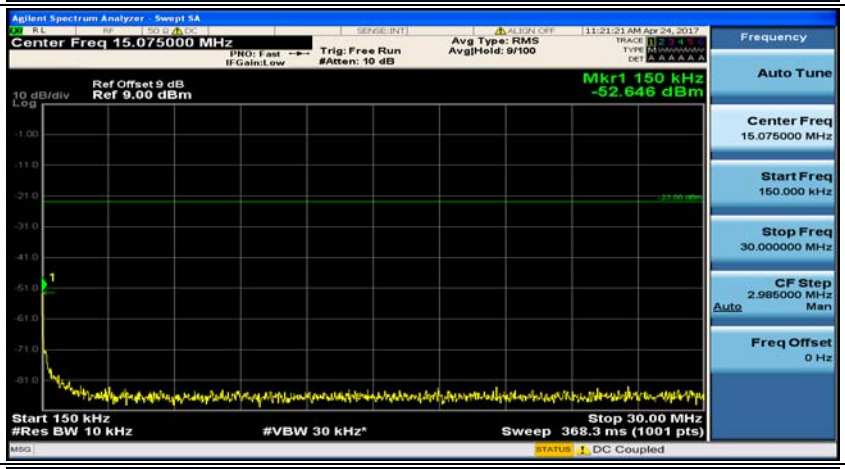

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:20:04 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 86.268 kHz
-51.989 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

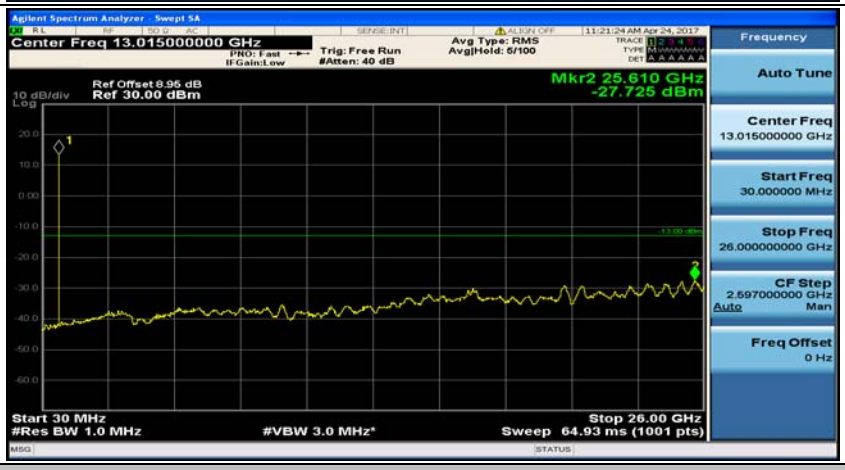

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:20:09 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-52.360 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
11:20:12 AM Apr 24, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.610 GHz
-27.540 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

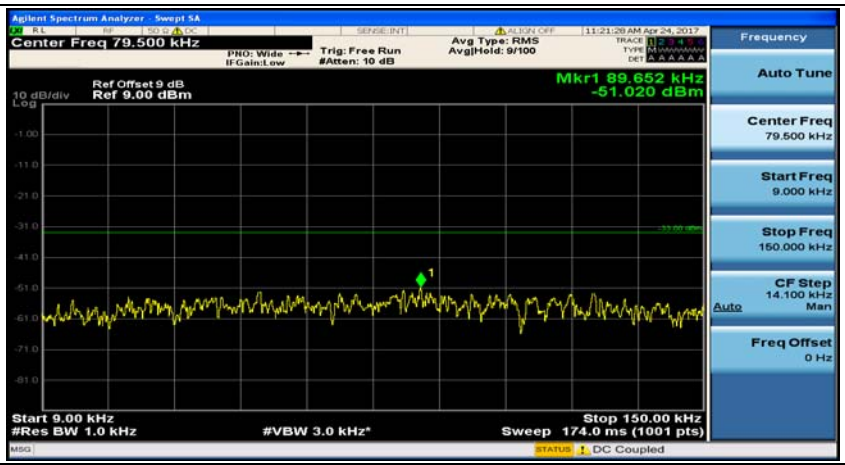
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12

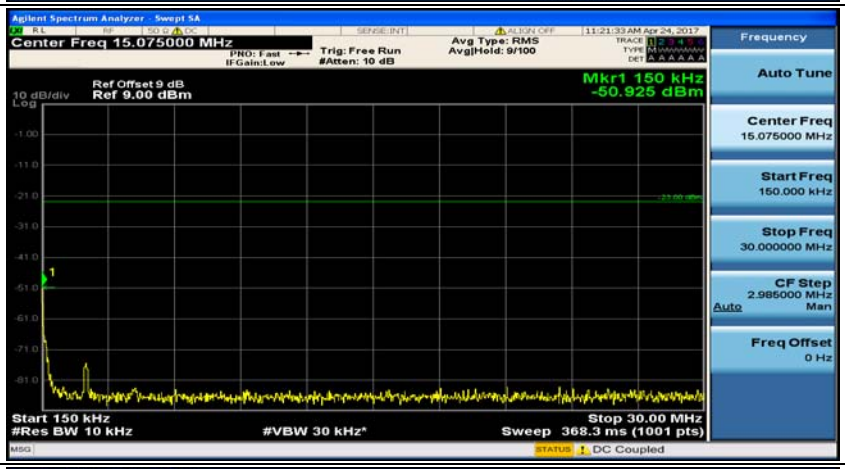


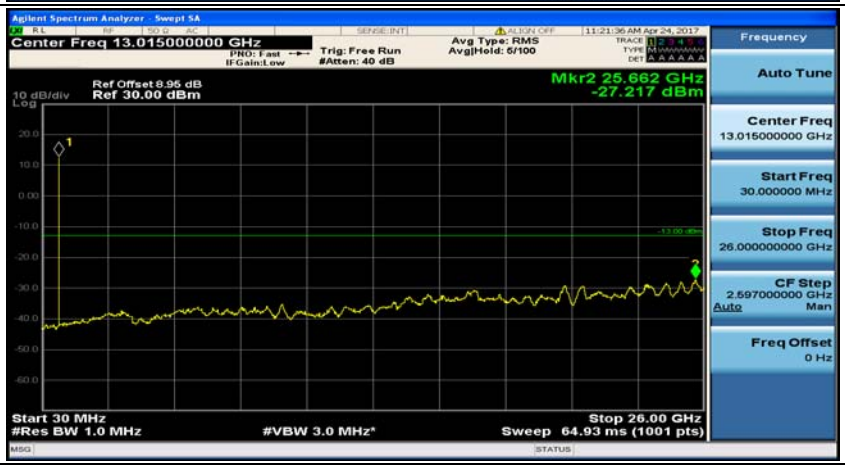


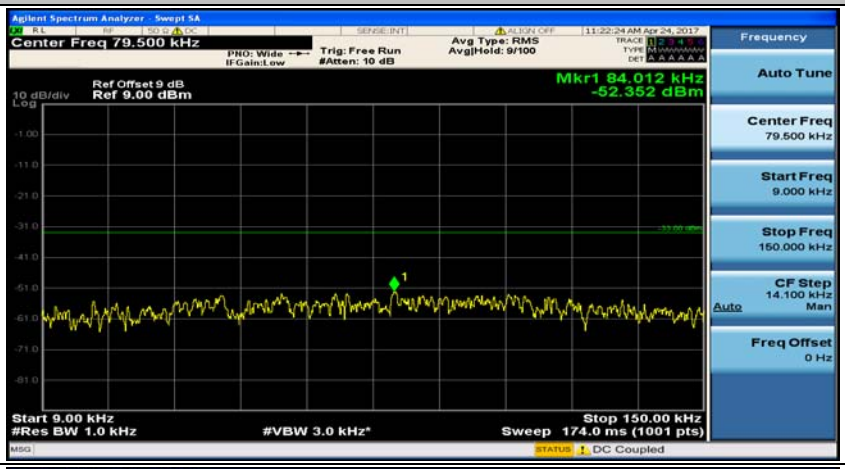
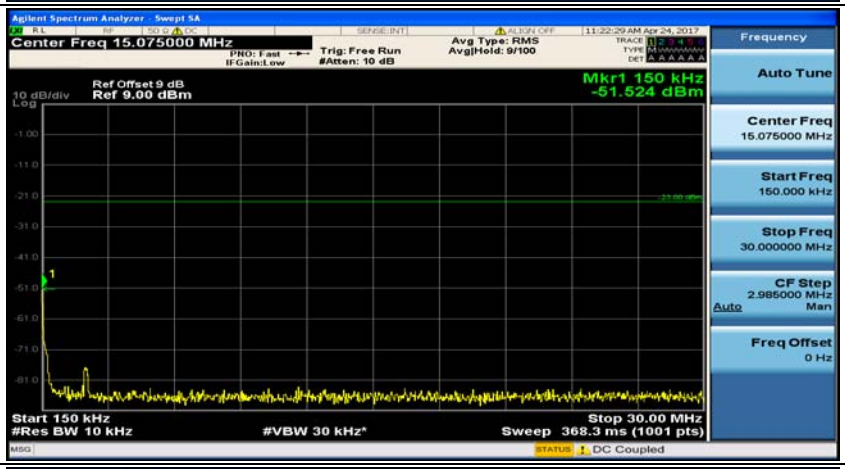
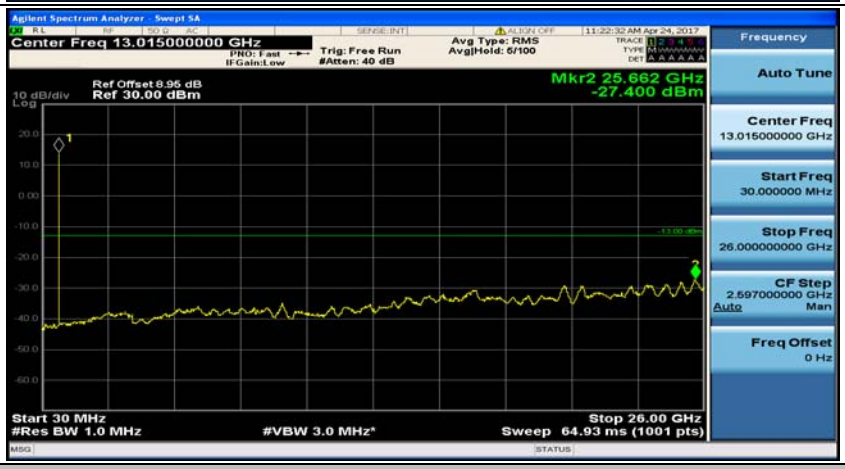


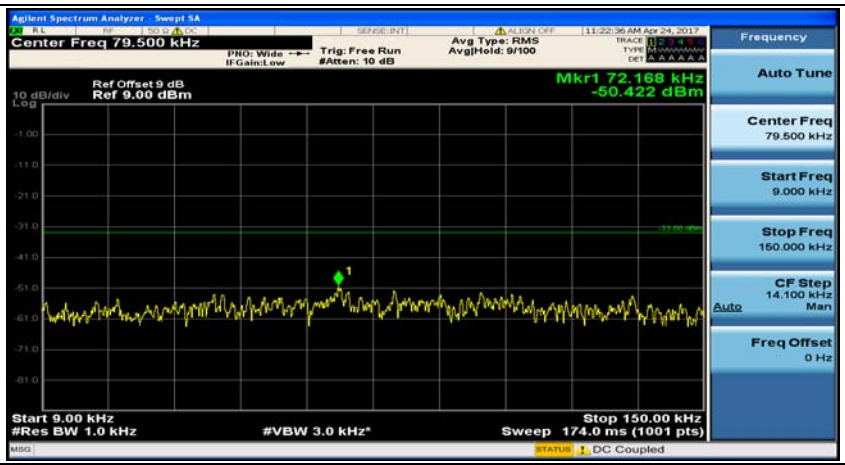
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

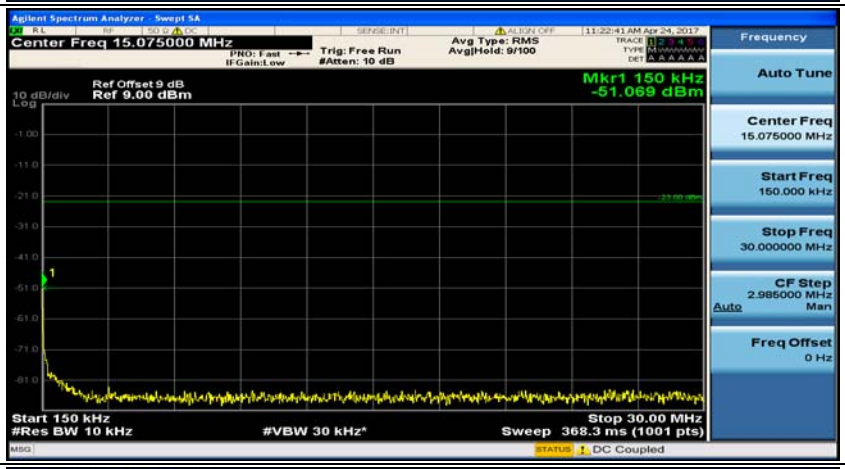

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:21:20 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 89.652 kHz
-51.020 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

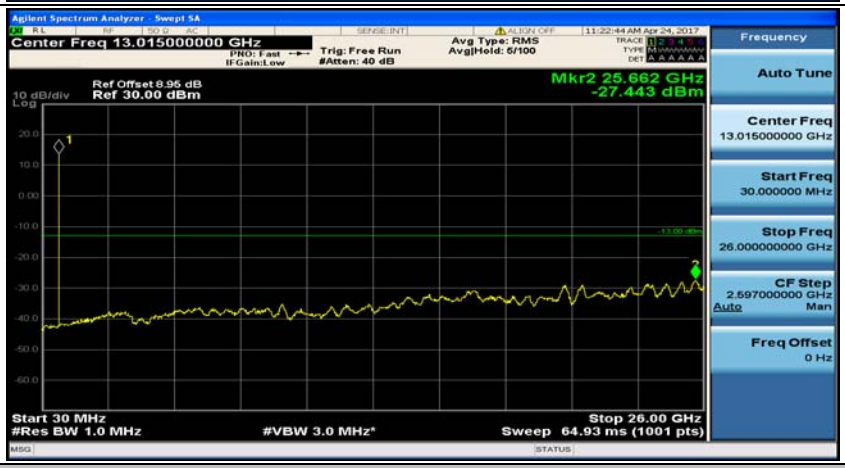

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:21:33 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-50.925 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
11:21:36 AM Apr 24, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.662 GHz
-27.217 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

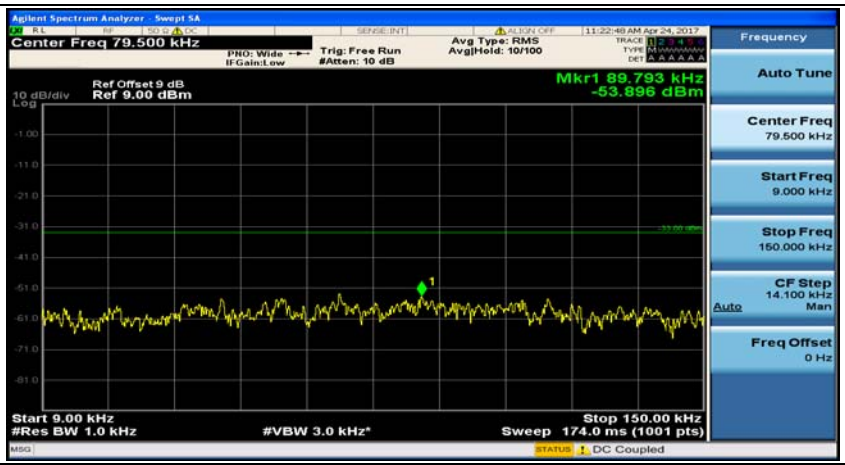
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12

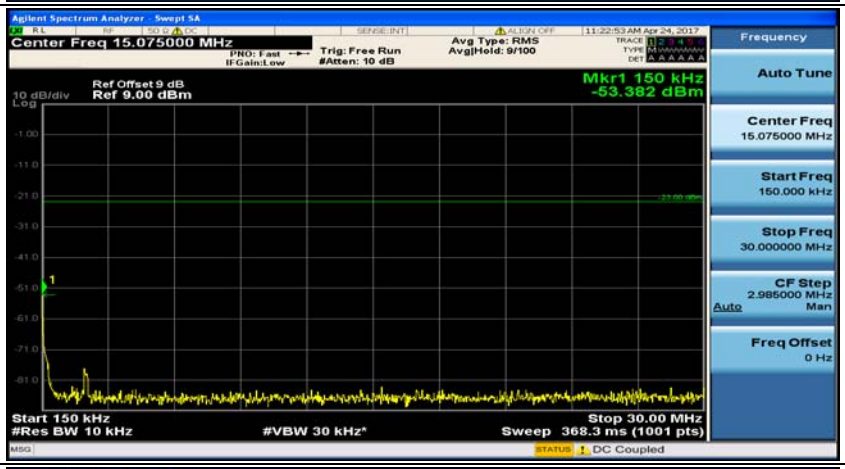


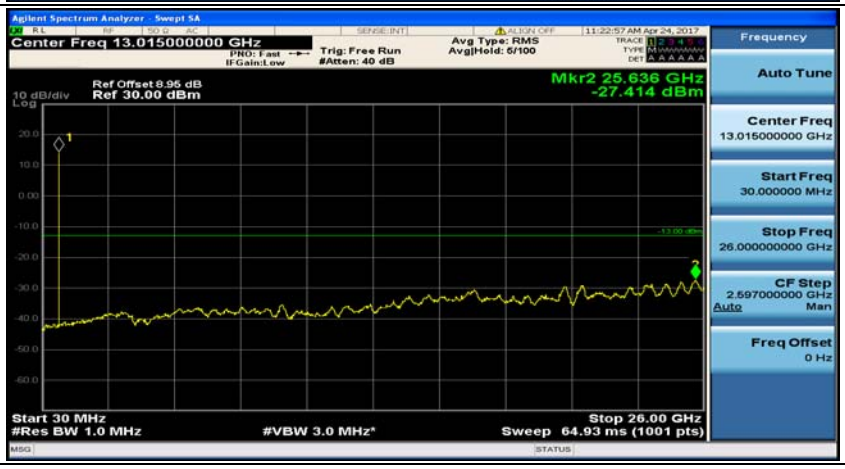


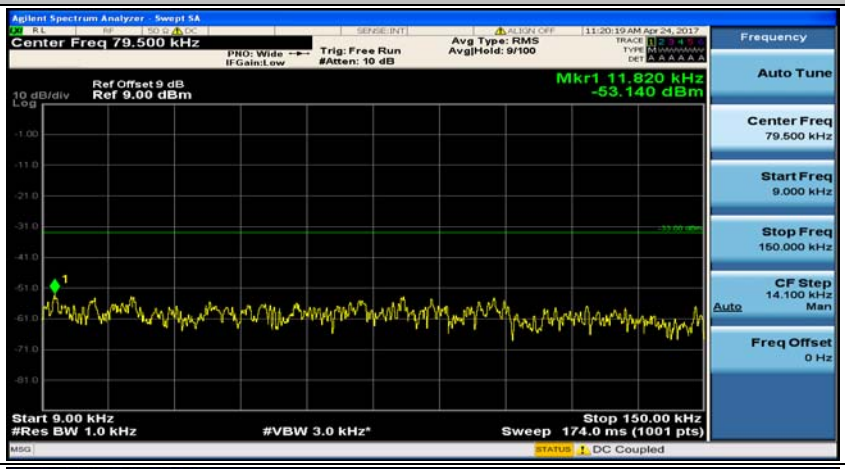
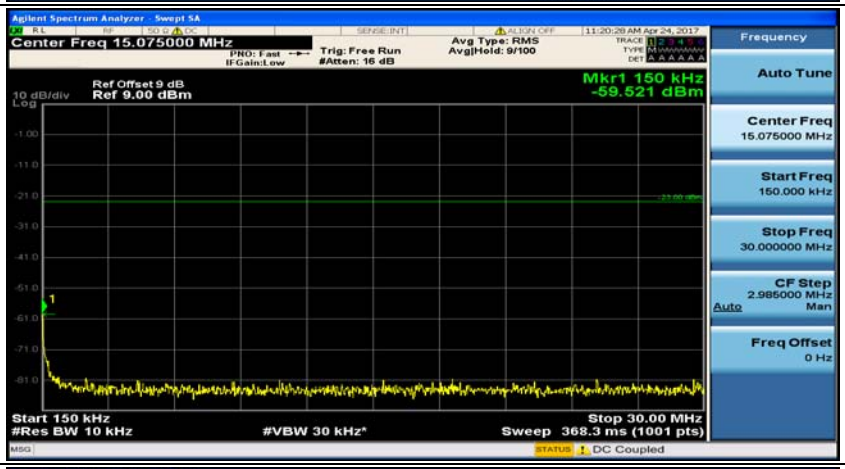
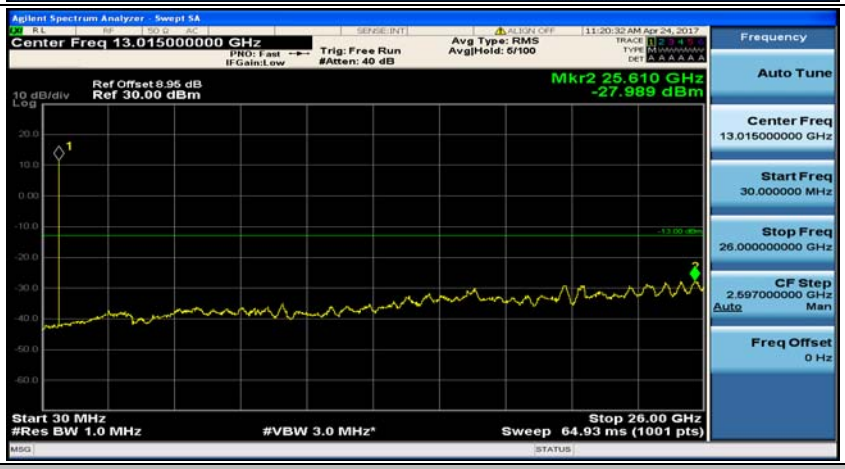


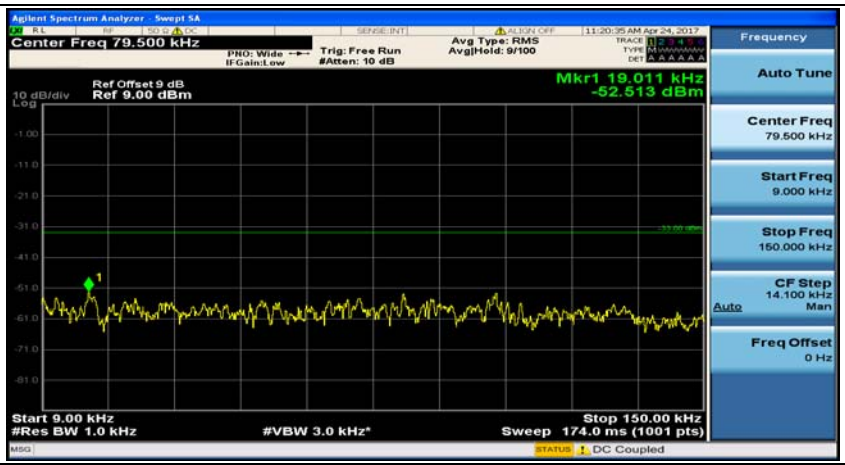
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

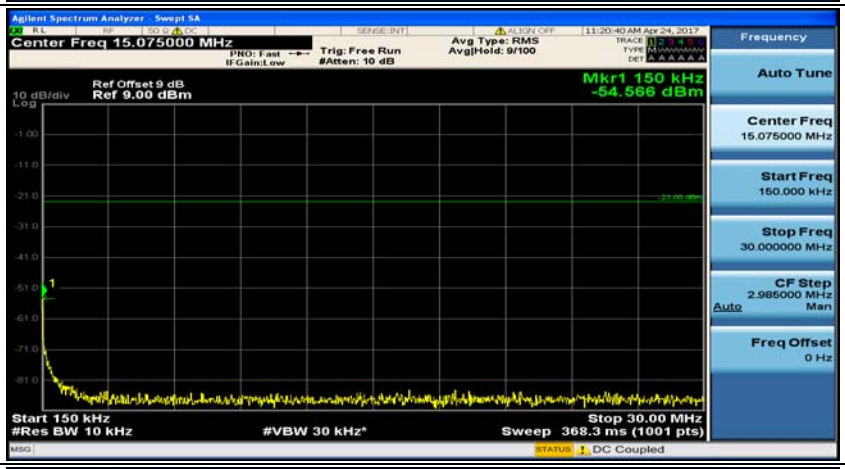

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 10/100
11:22:48 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 89.793 kHz
-53.896 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

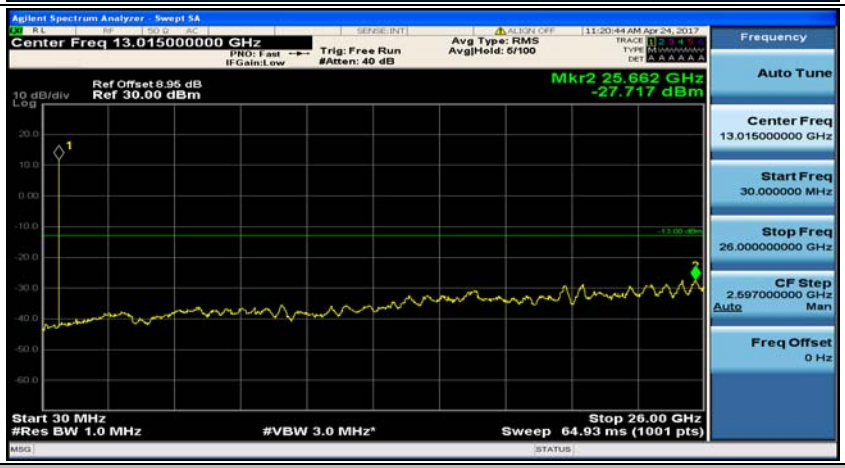

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:22:53 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-53.382 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
11:22:57 AM Apr 24, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.636 GHz
-27.414 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

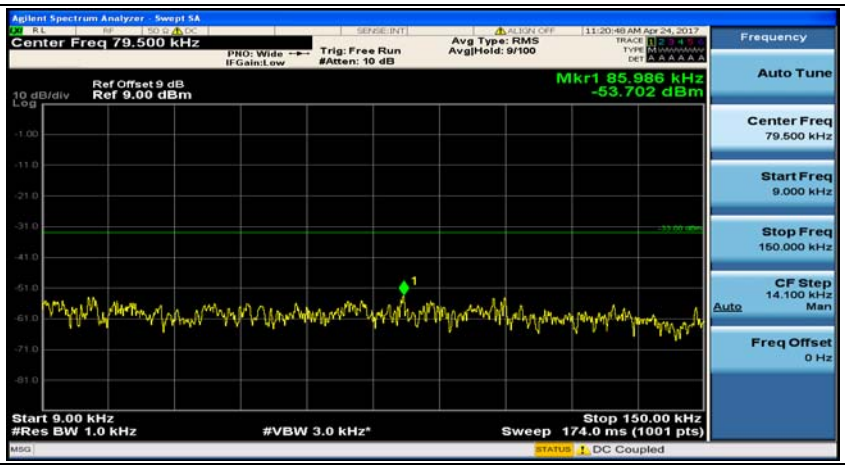
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

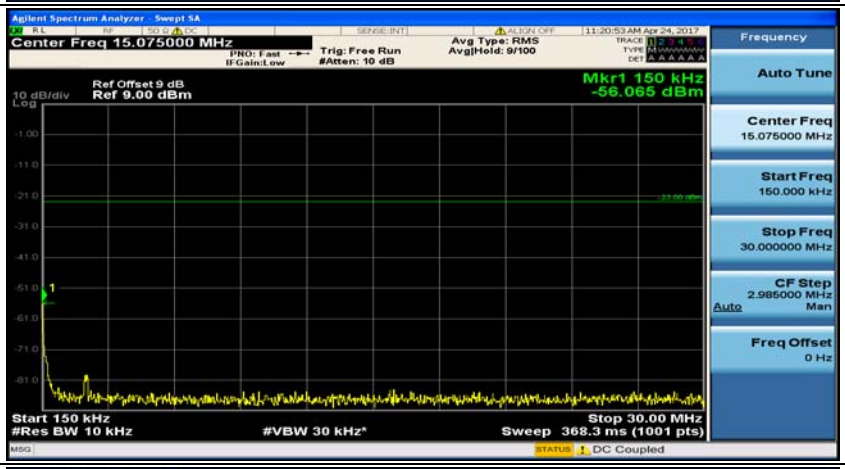


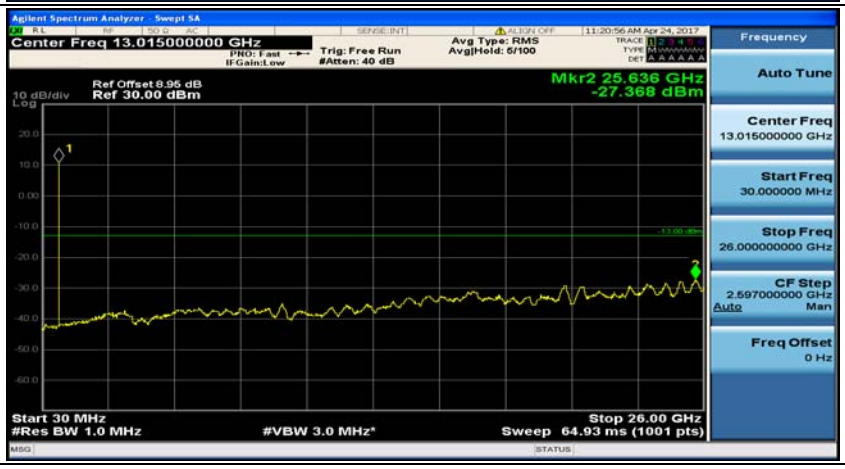


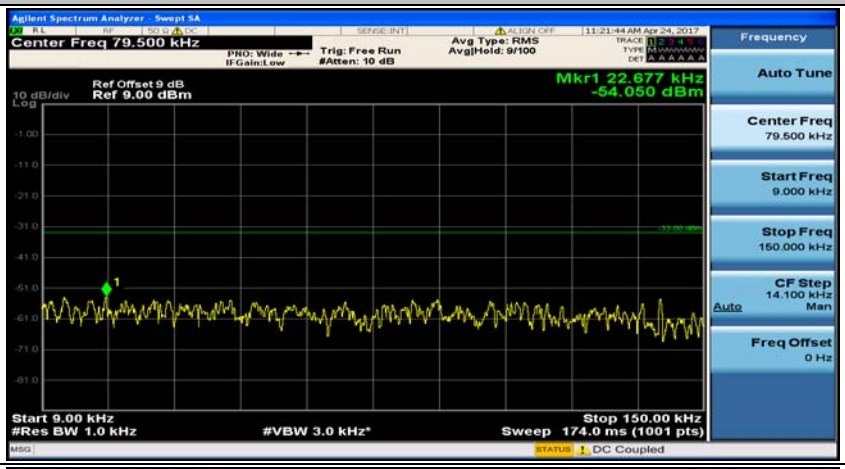
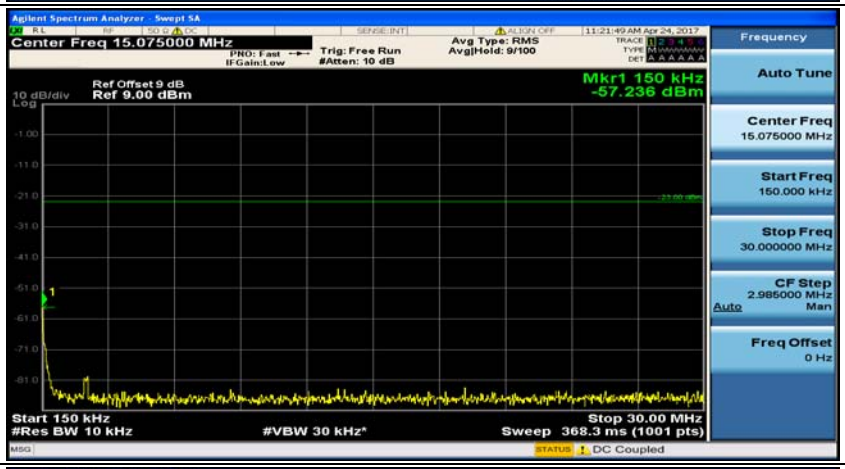
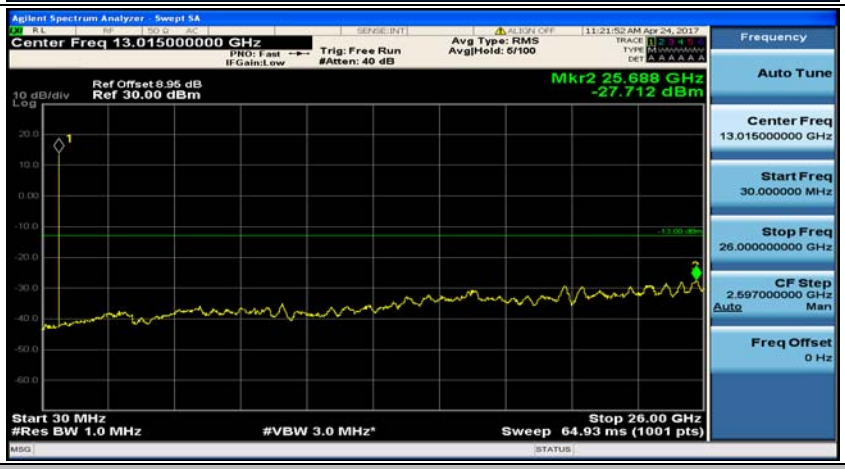


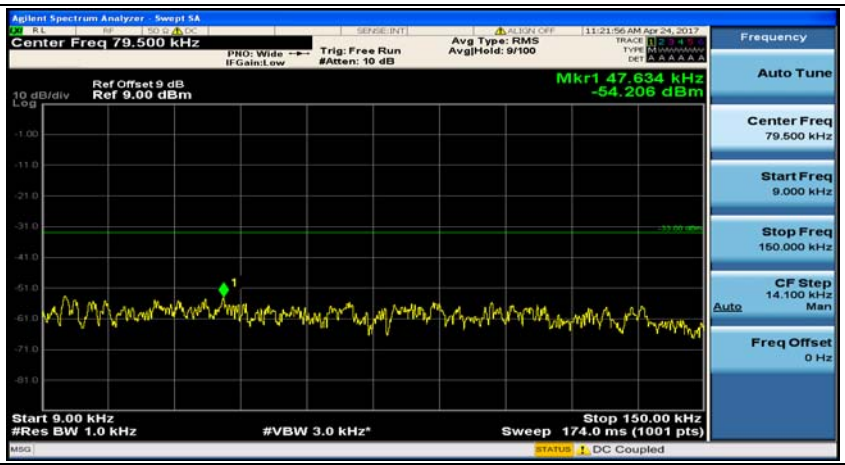
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24

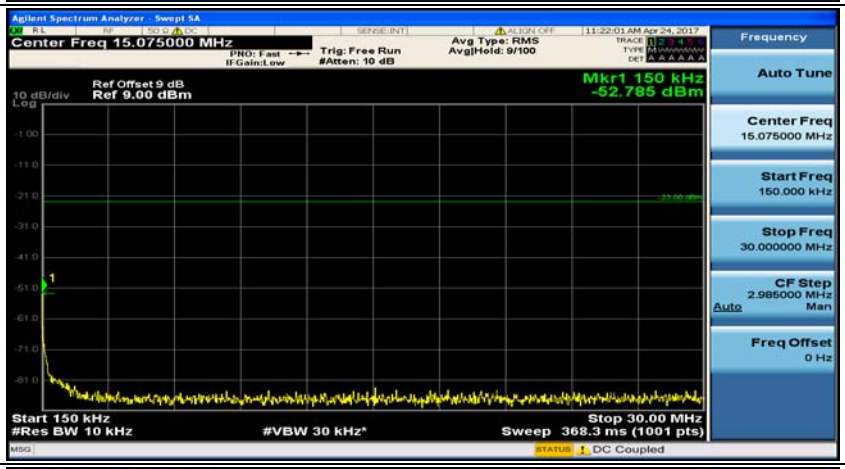

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:20:48 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 85.986 kHz
-53.702 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

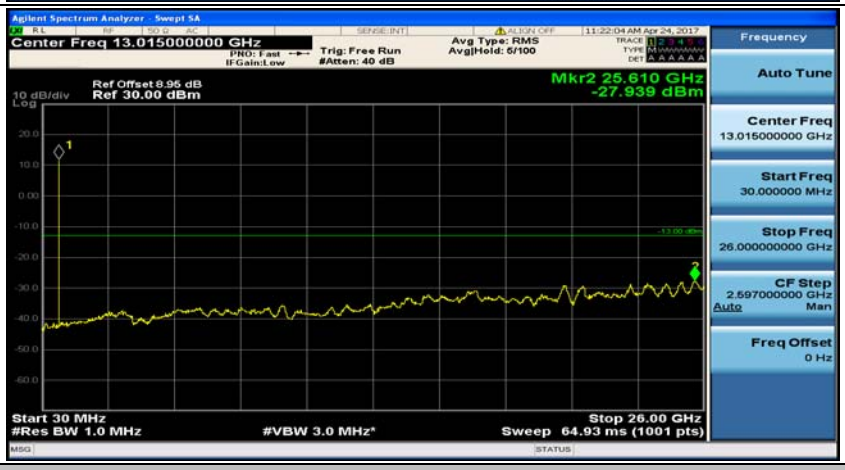

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:20:53 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-56.065 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
11:20:56 AM Apr 24, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.636 GHz
-27.368 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

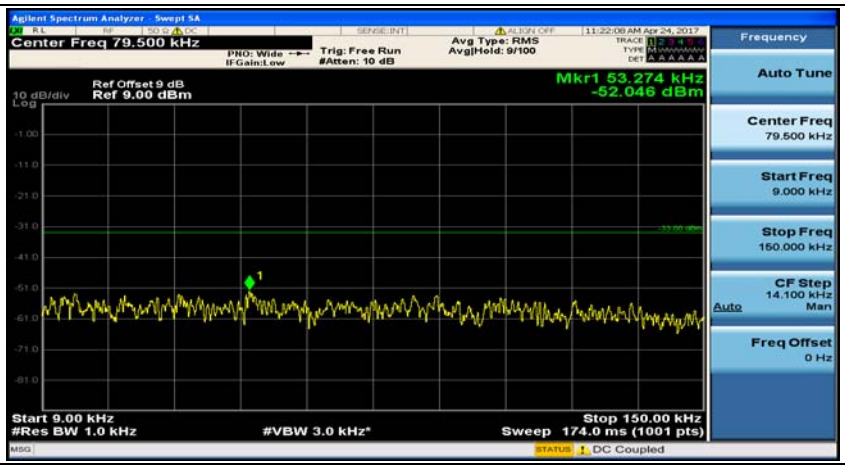
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12

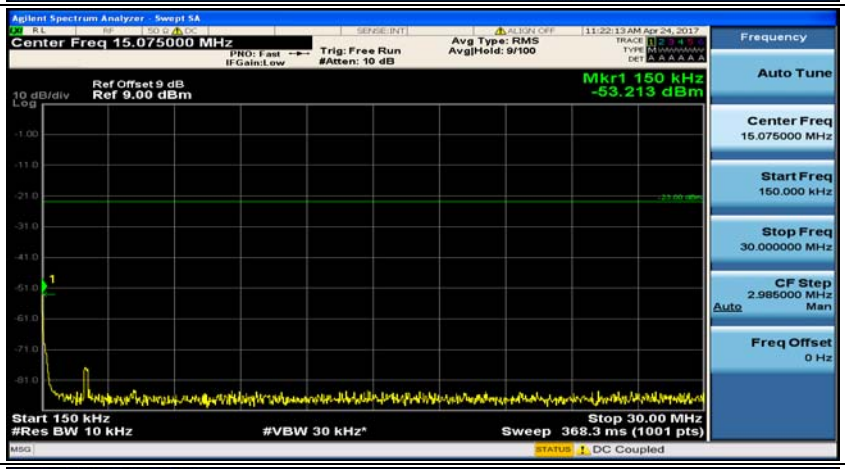


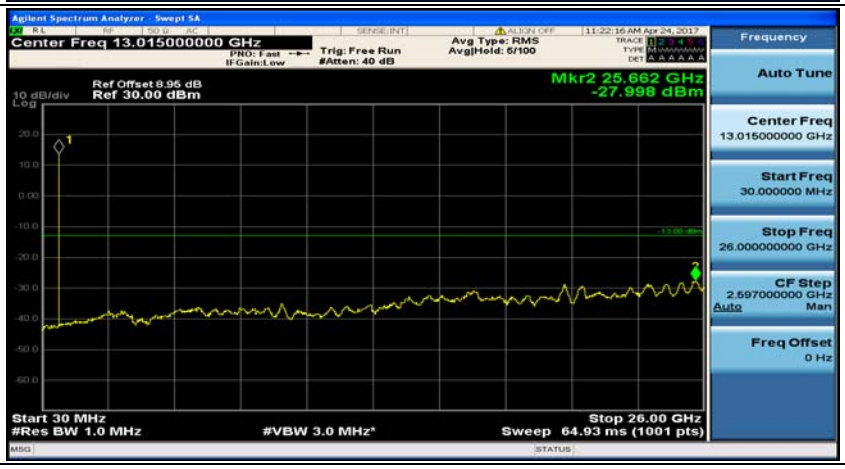


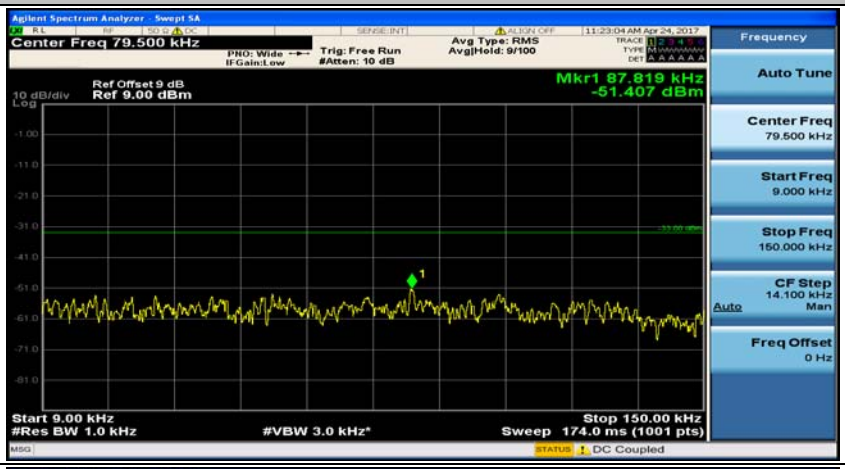
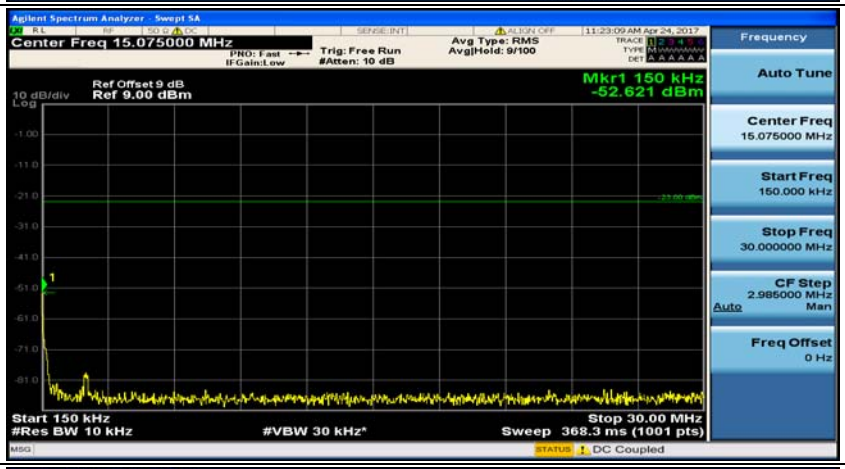
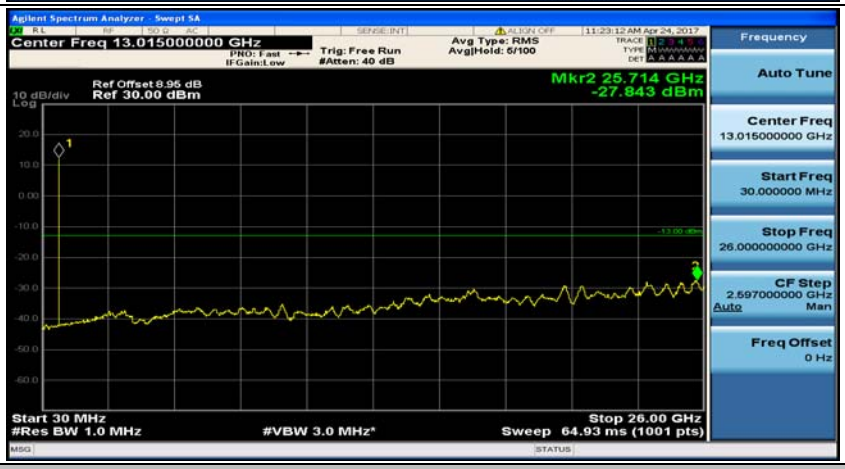


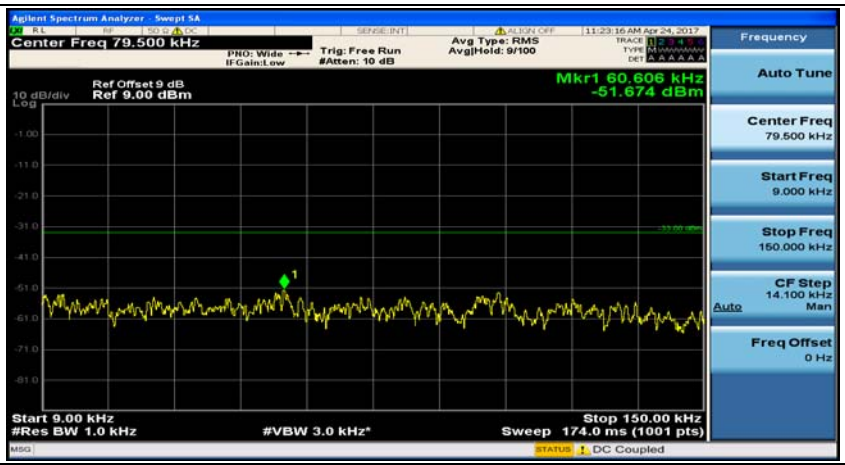
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24

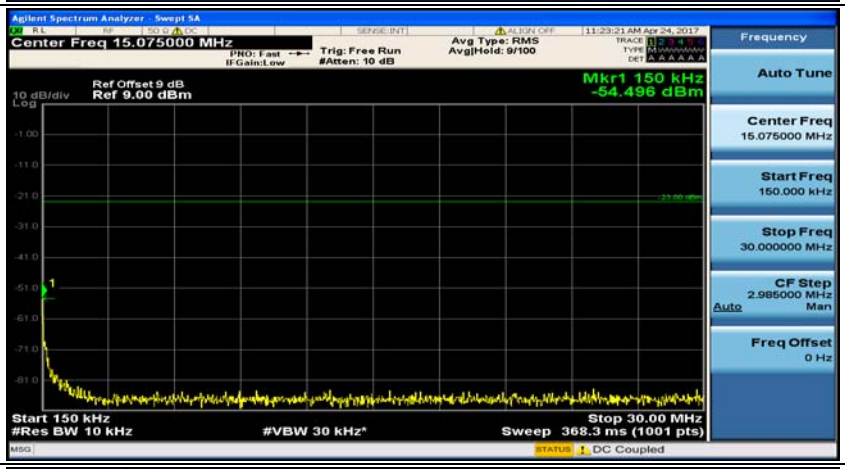

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:22:08 AM Apr 24, 2017
Frequency
Auto Tune
Mkr1 53.274 kHz
-52.046 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

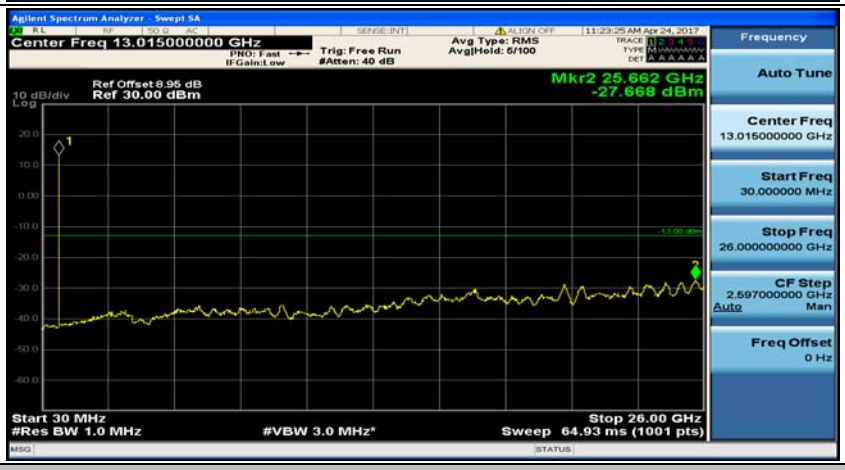

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:22:13 AM Apr 24, 2017
Frequency
Auto Tune
Mkr1 150 kHz
-53.213 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
11:22:16 AM Apr 24, 2017
Frequency
Auto Tune
Mkr2 25.662 GHz
-27.998 dBm
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

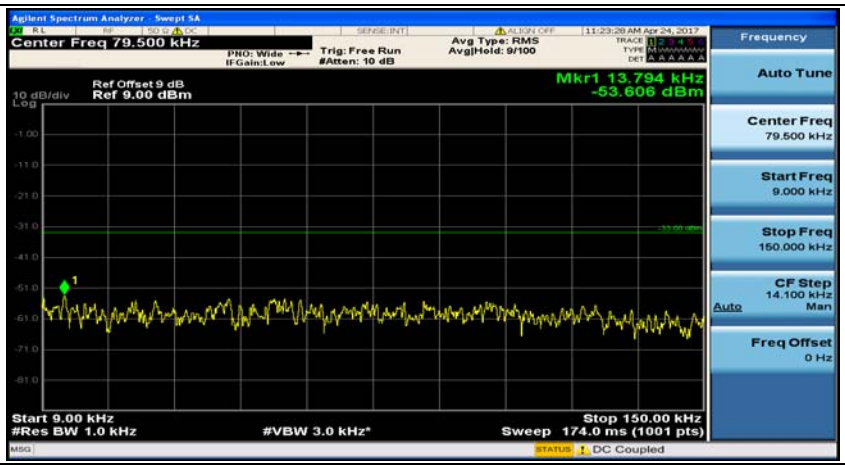
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12

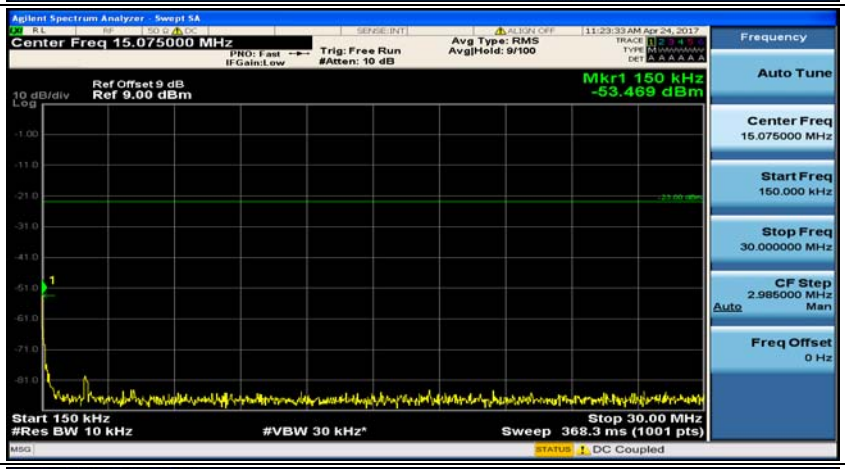


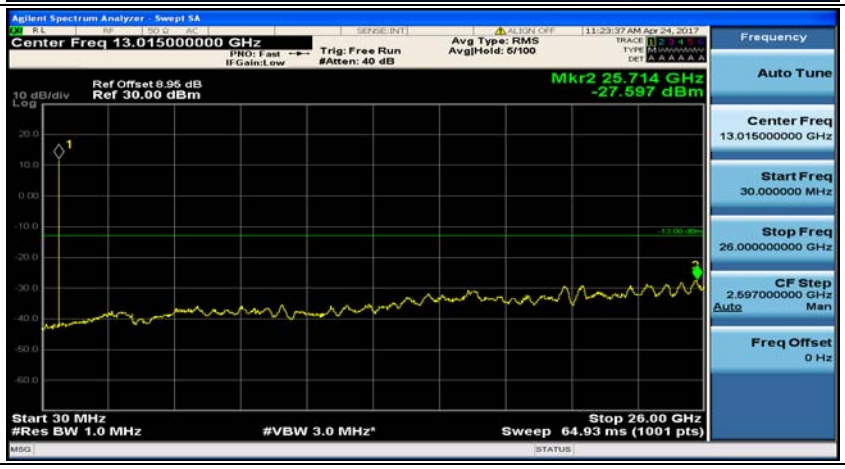




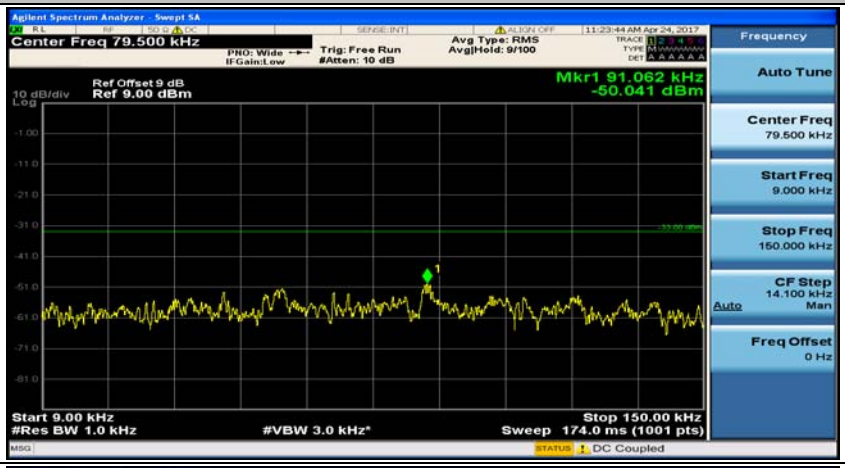
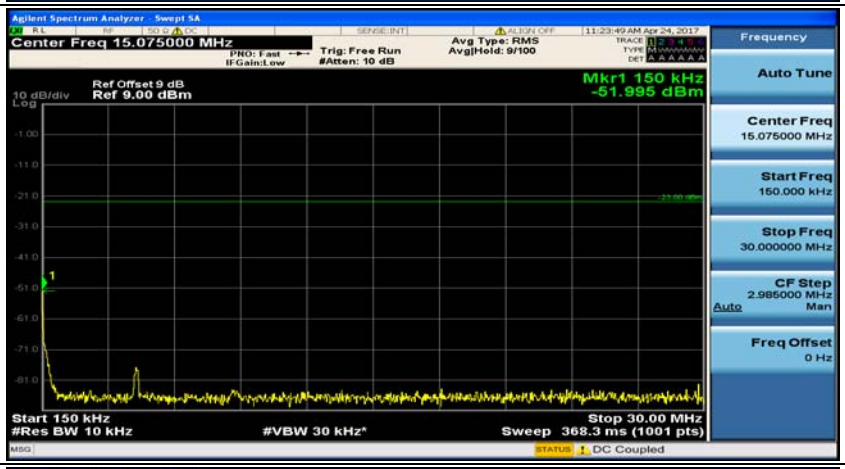
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24


Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:23:28 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 13.794 kHz
-53.606 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

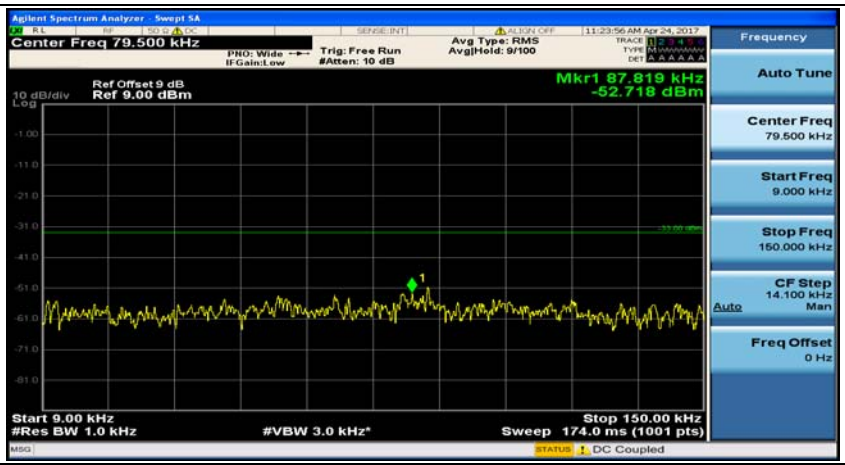

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:23:33 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-53.469 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled

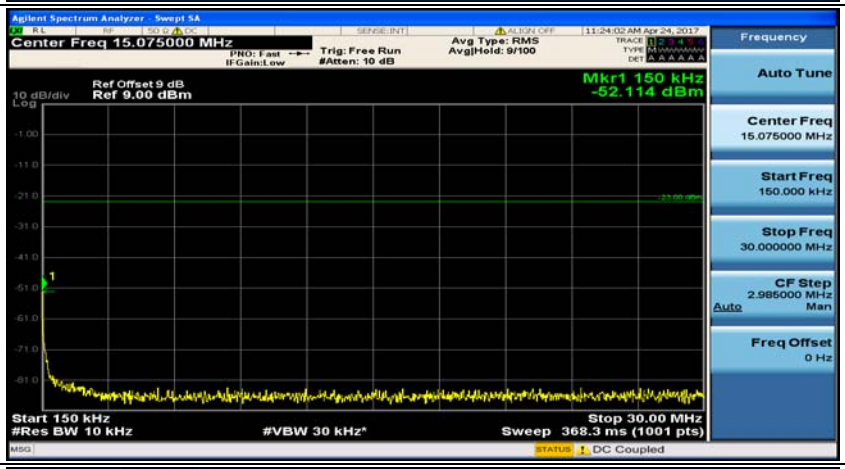

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
11:23:37 AM Apr 24, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.714 GHz
-27.597 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

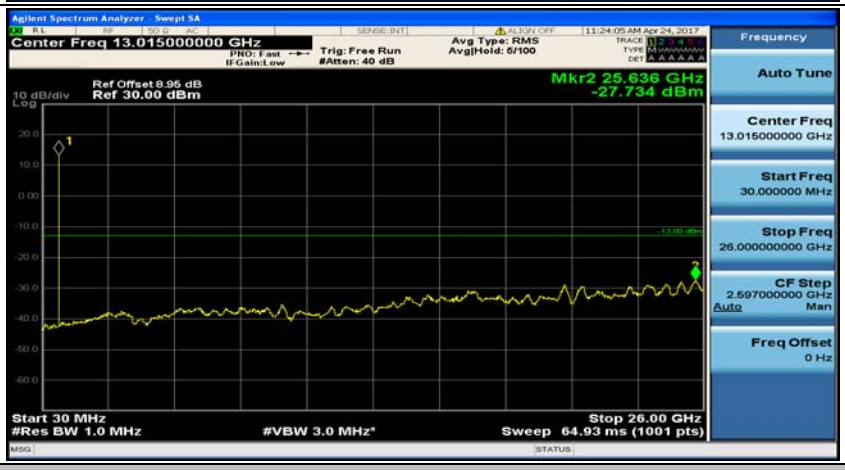
Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#0



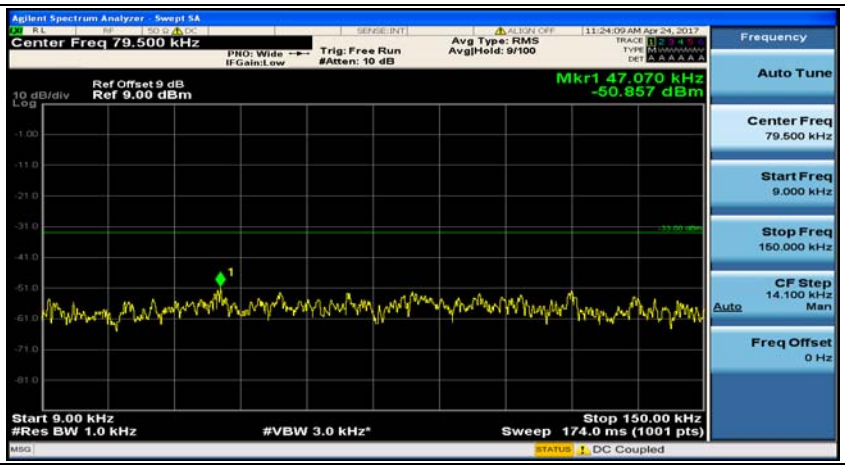
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#24

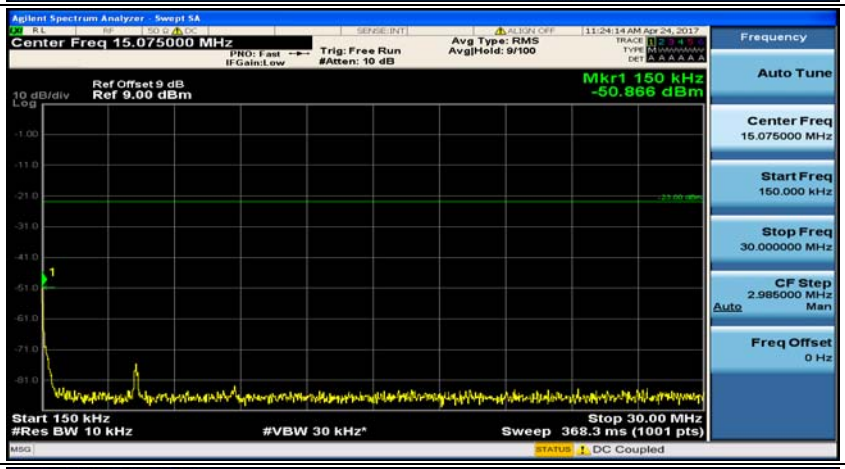


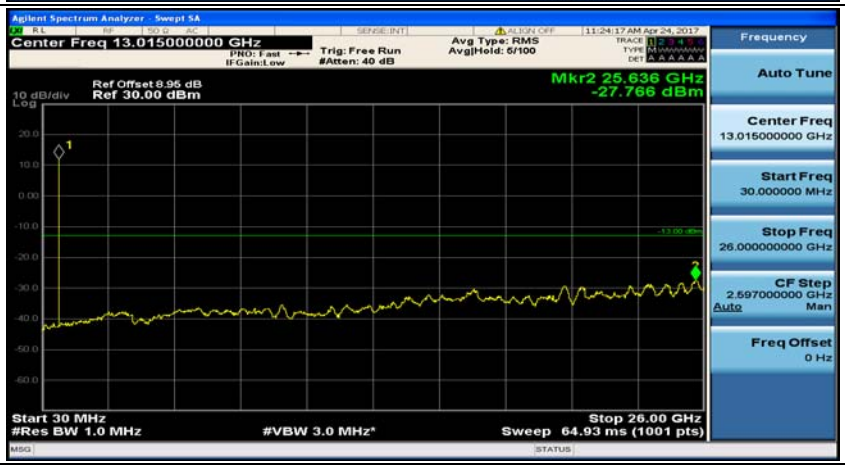


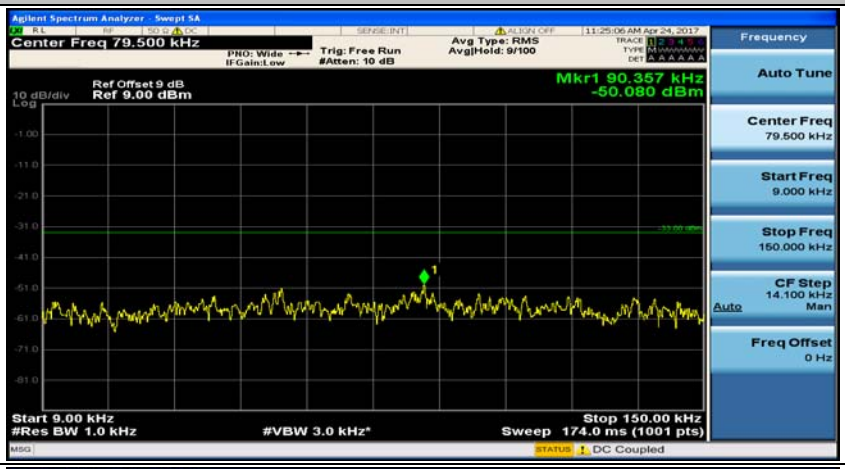
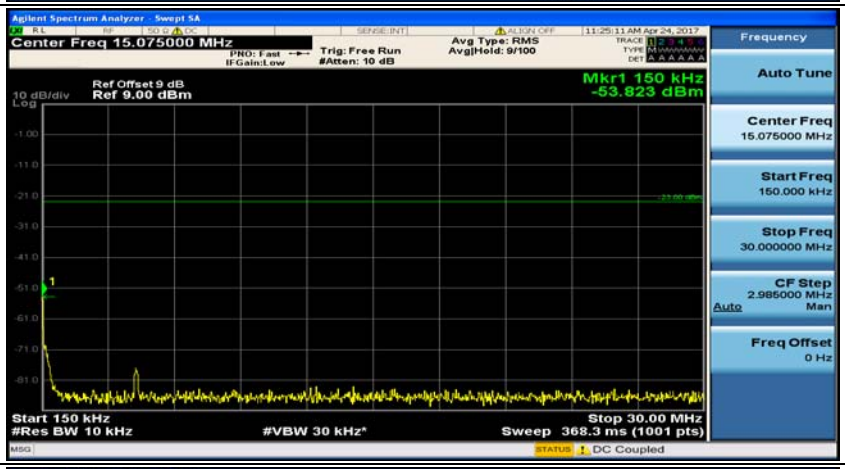
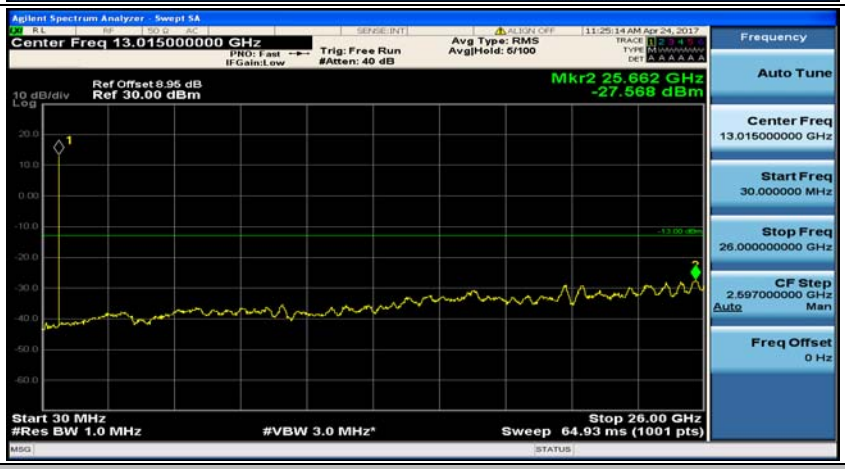


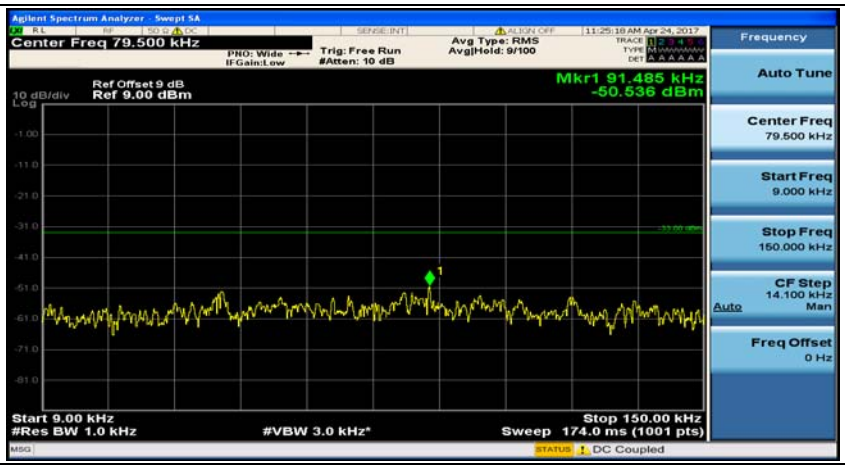
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#49

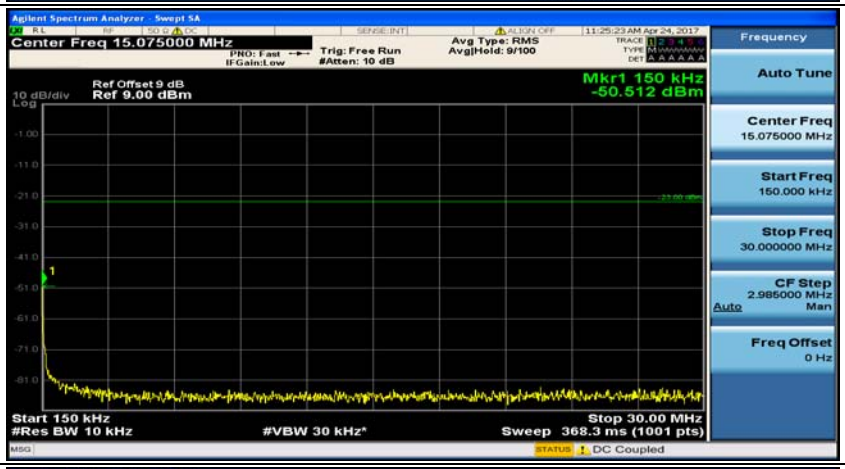

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:24:09 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 47.070 kHz
-50.857 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

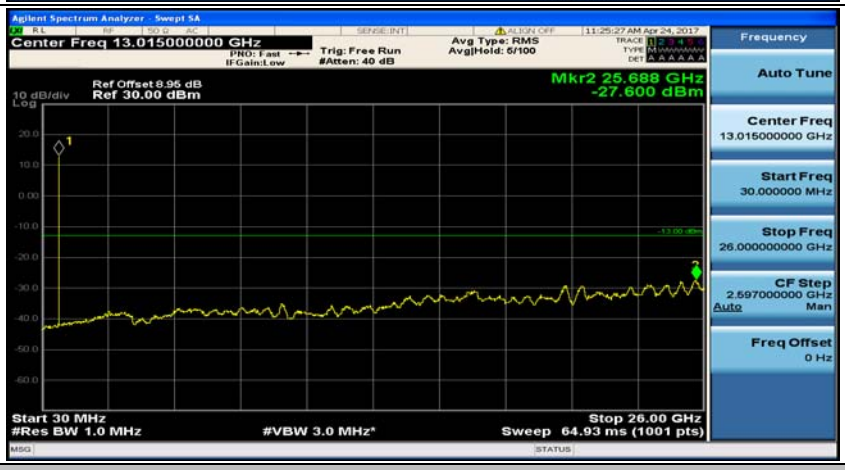

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:24:14 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-50.866 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
11:24:17 AM Apr 24, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.636 GHz
-27.766 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

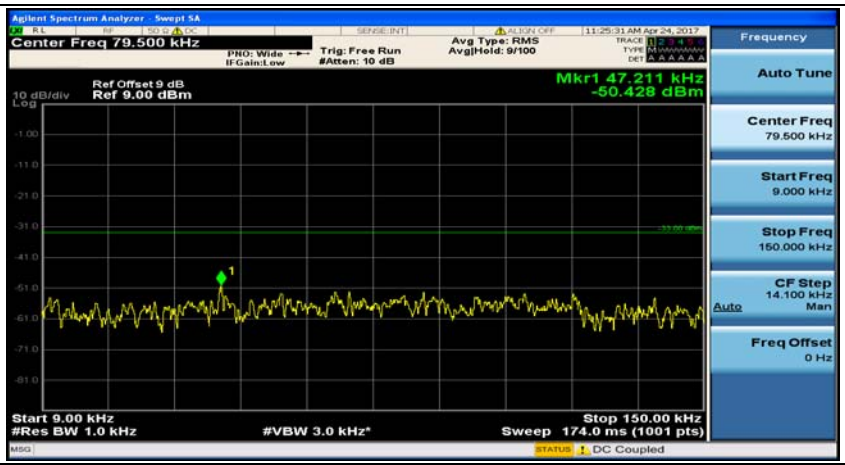
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

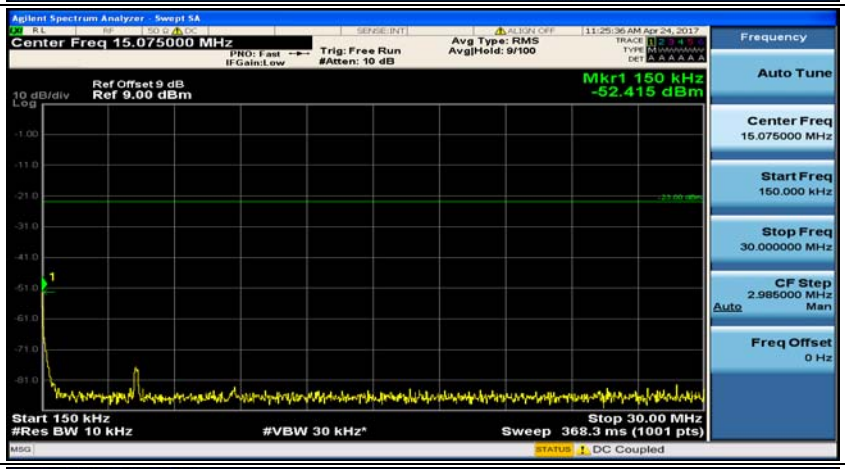


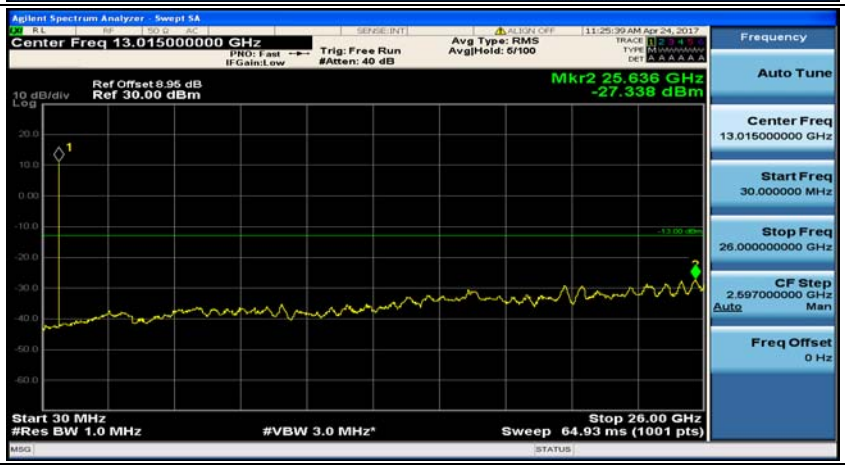


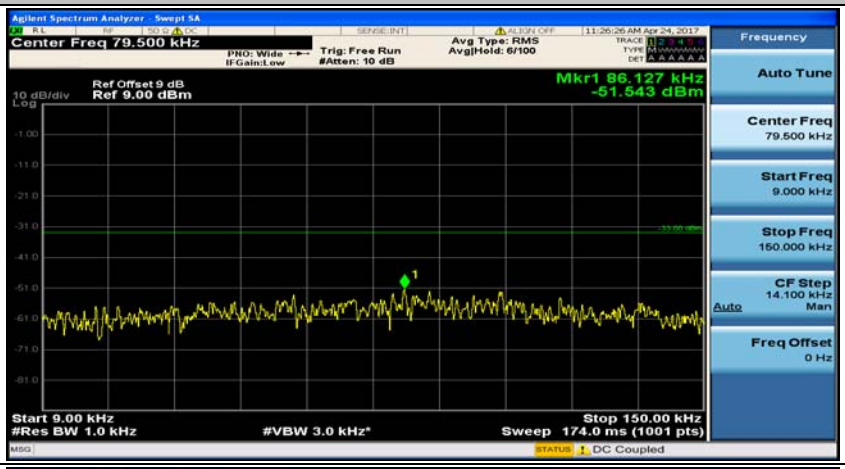
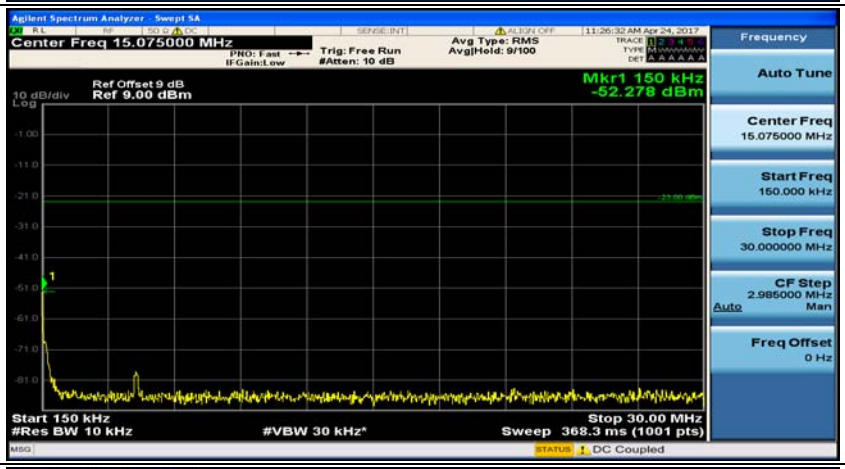
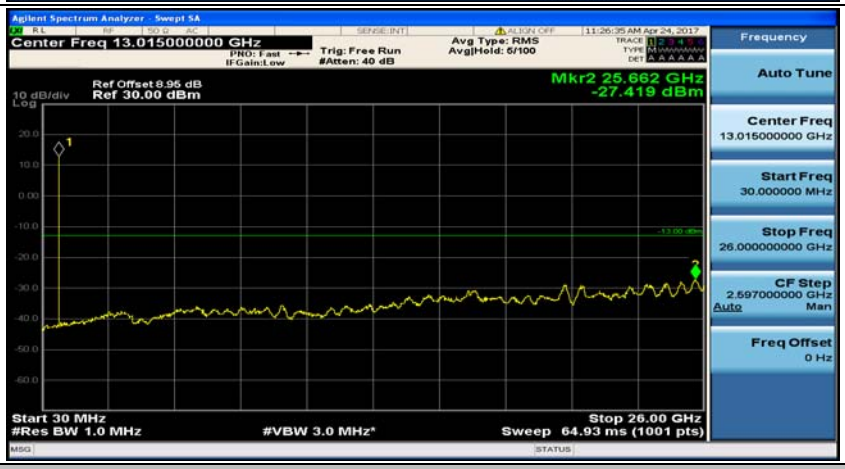


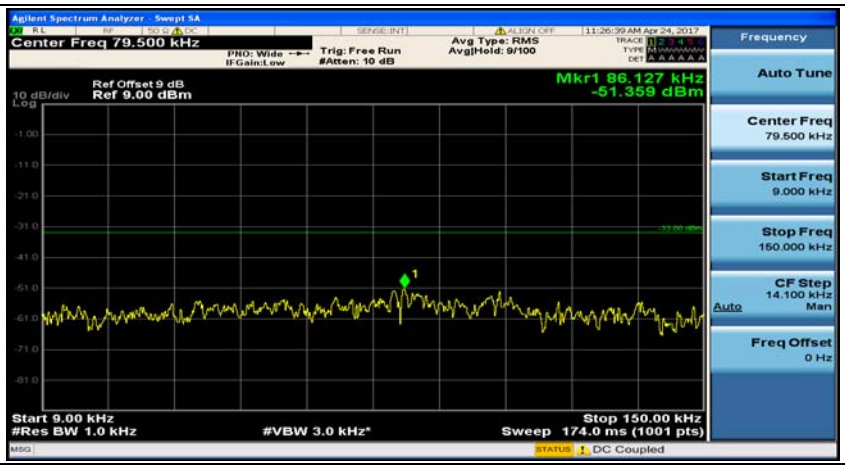
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

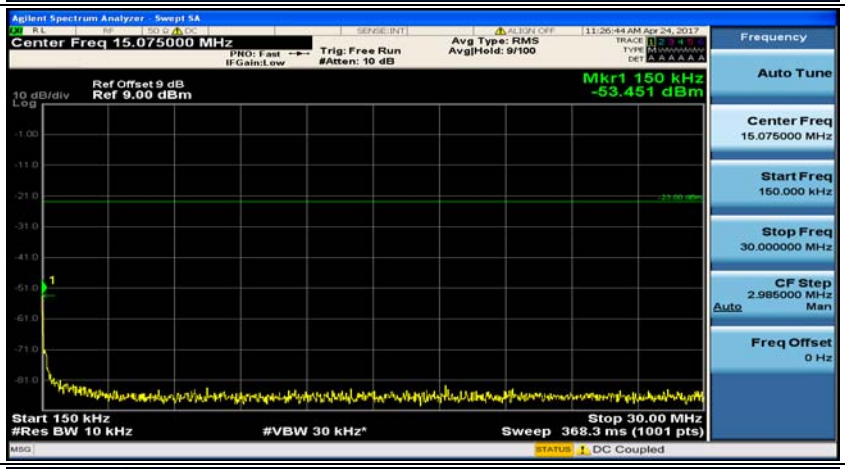

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:25:31 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 47.211 kHz
-50.428 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

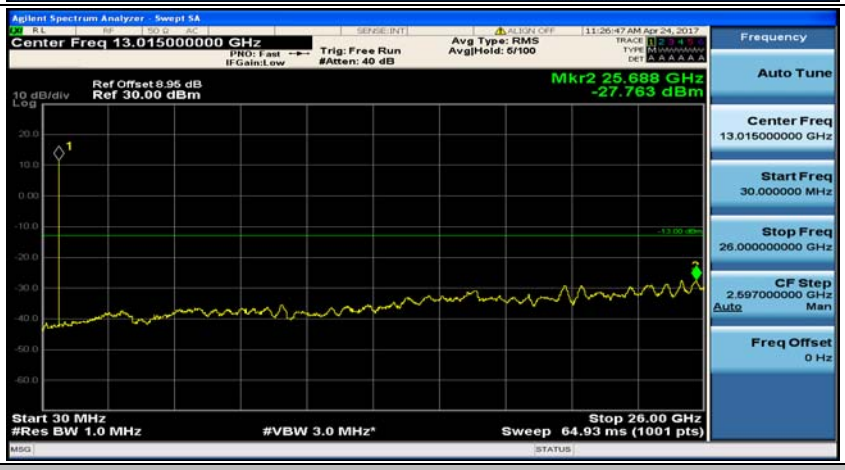

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:25:36 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-52.415 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
11:25:39 AM Apr 24, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.636 GHz
-27.338 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

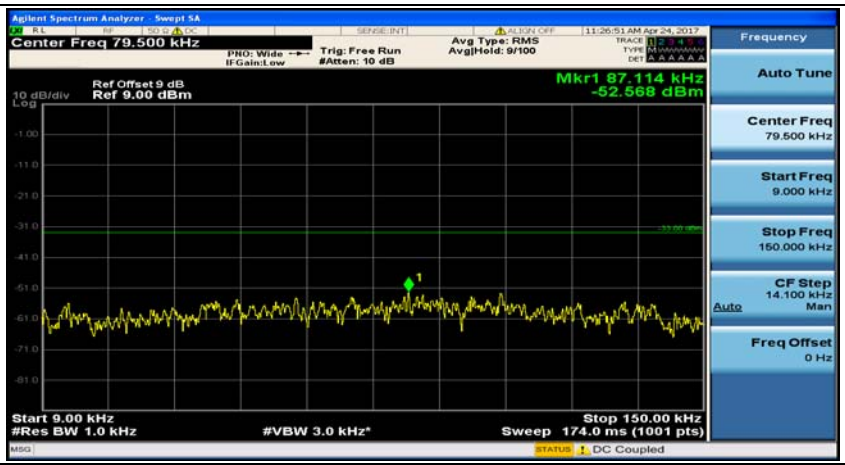
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#0



Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#24

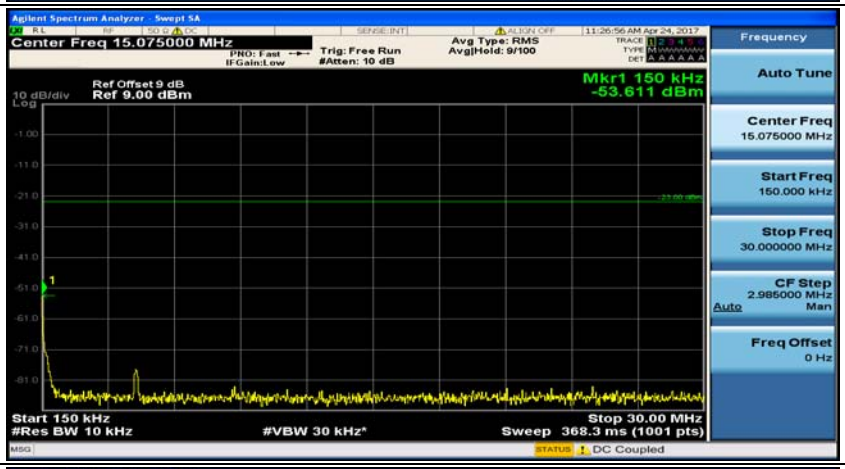


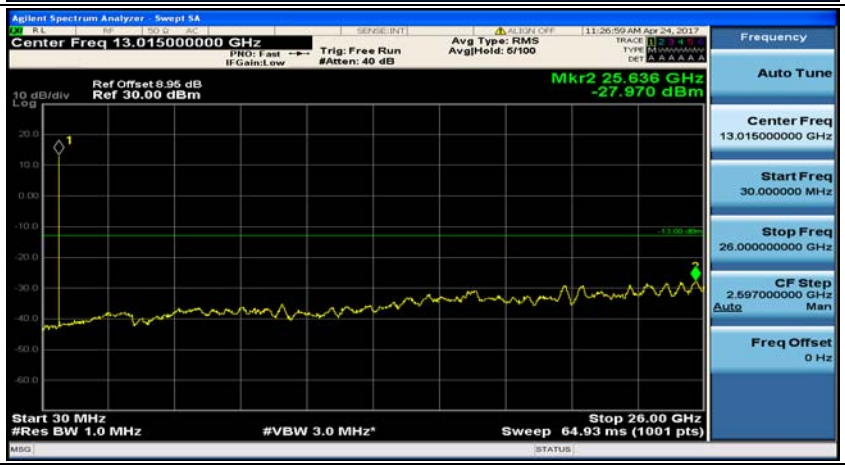


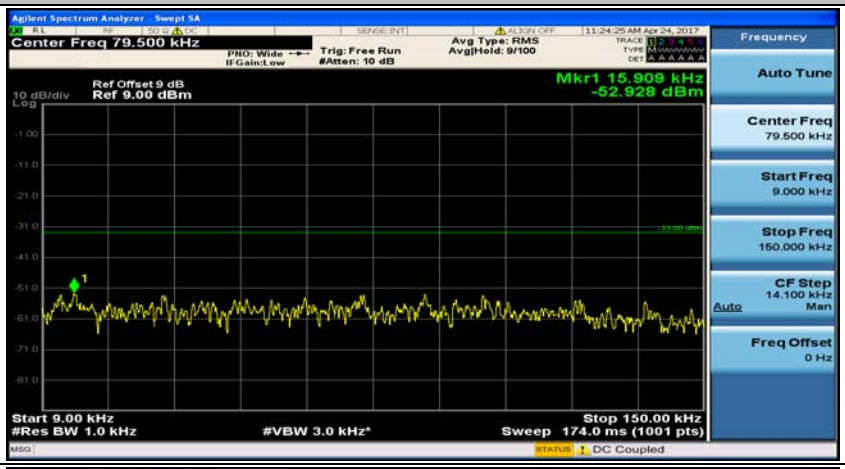
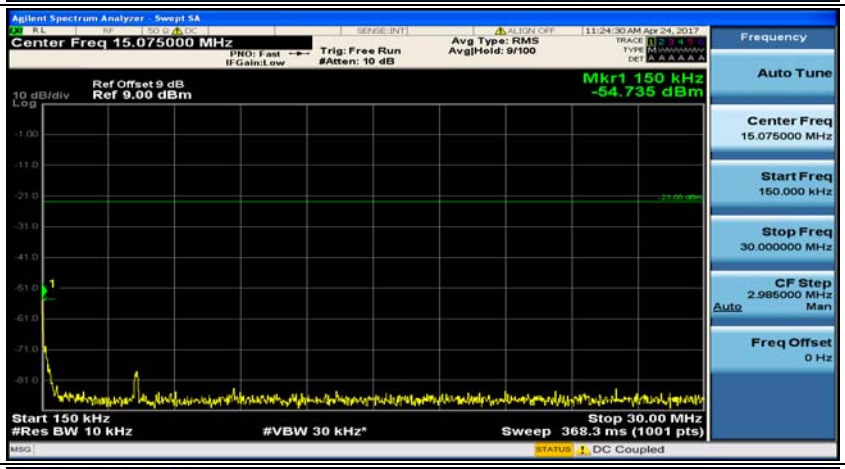
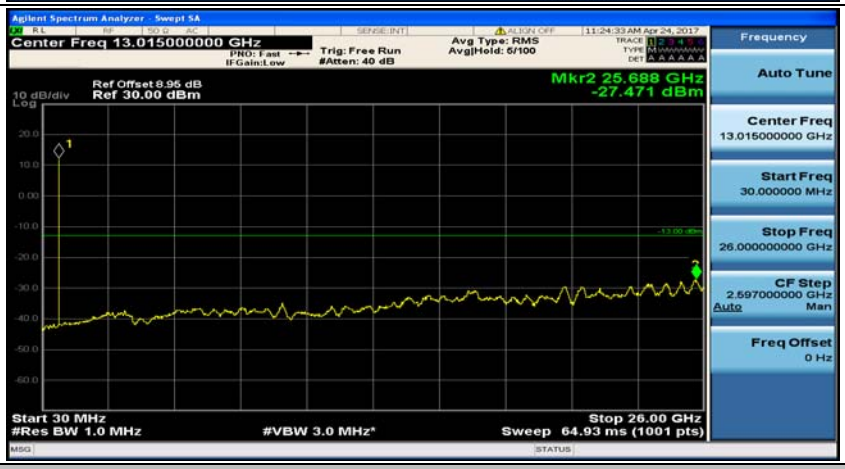


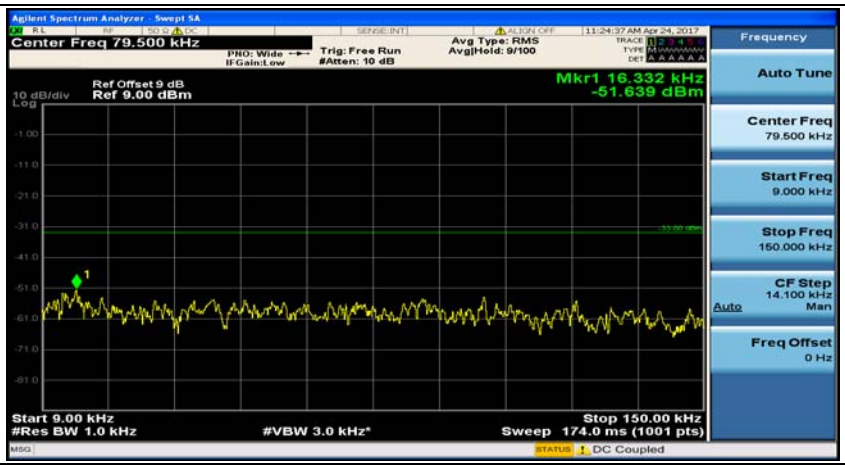
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#49

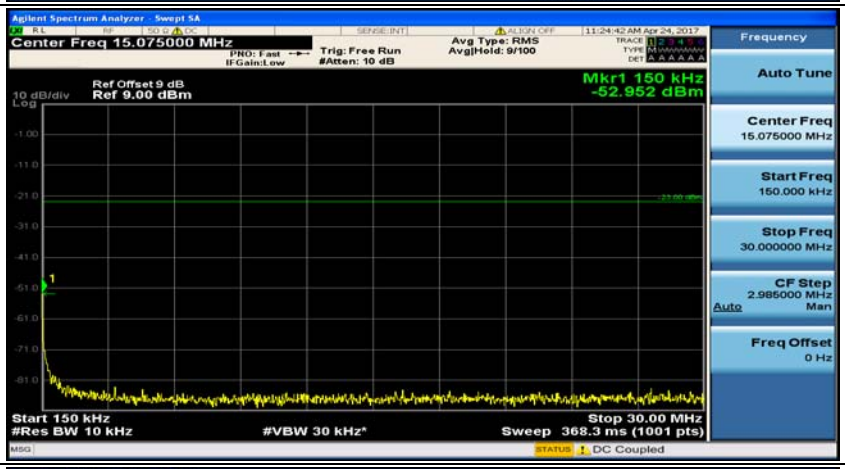

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:26:51 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 87.114 kHz
-52.568 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

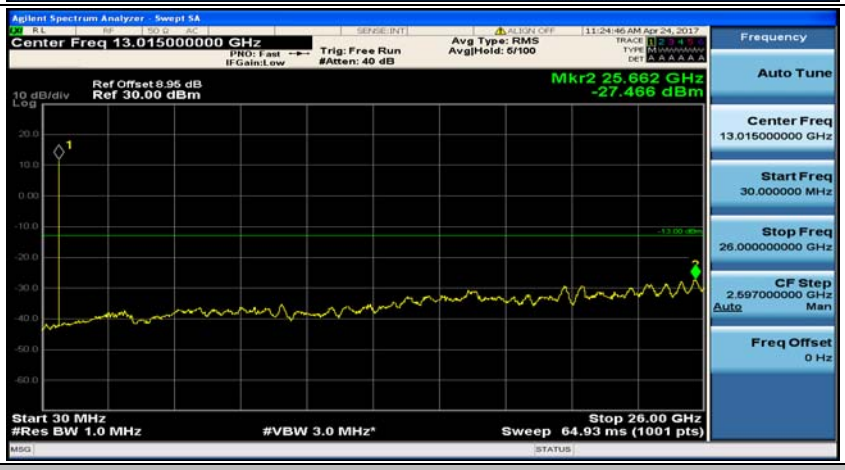

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:26:56 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-53.611 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
11:26:59 AM Apr 24, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.636 GHz
-27.970 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

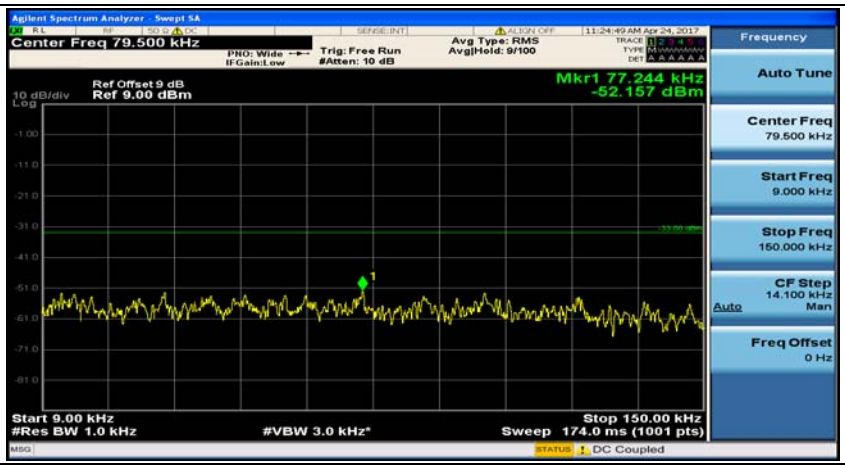
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#24

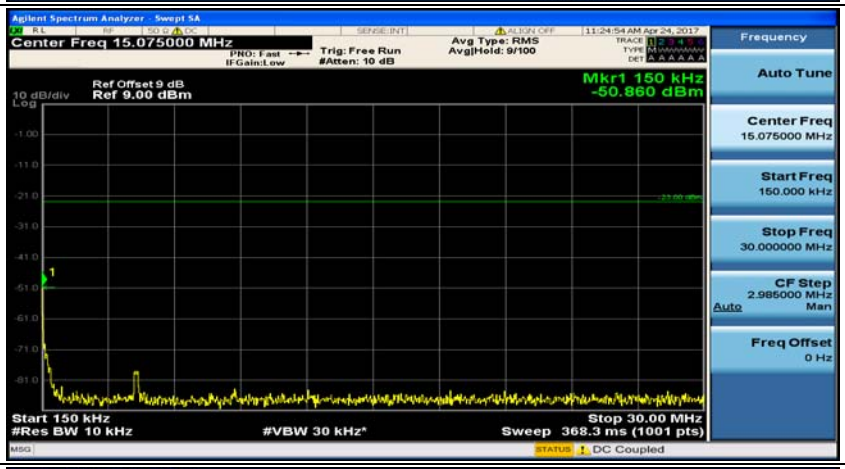


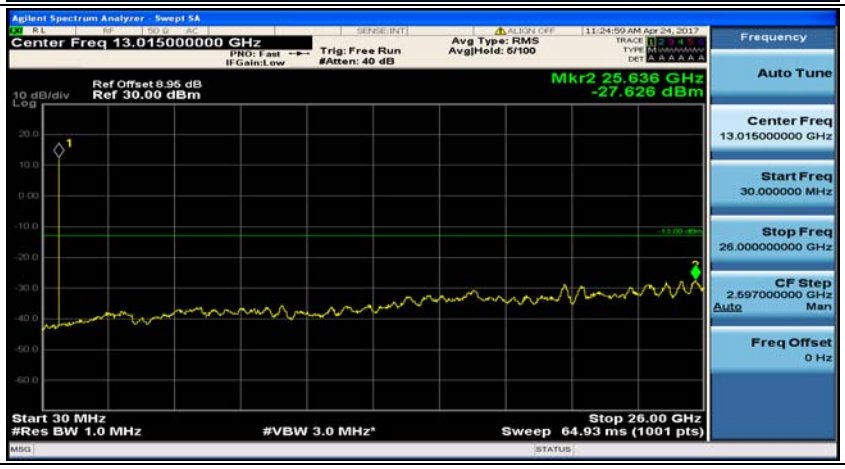


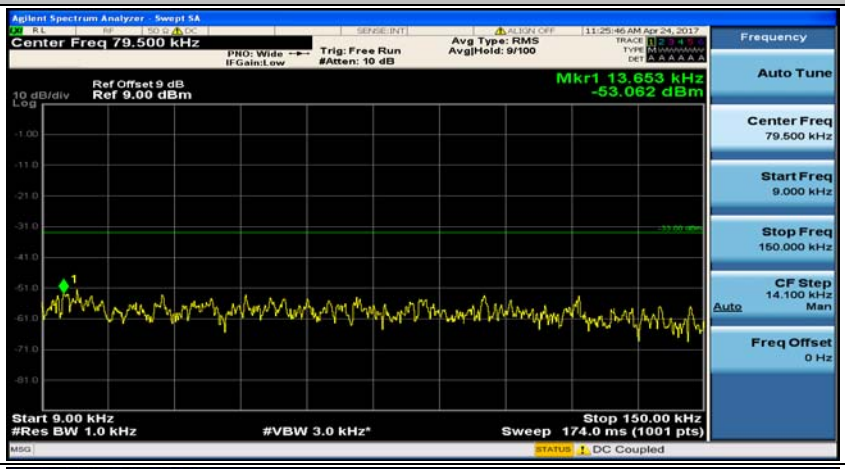
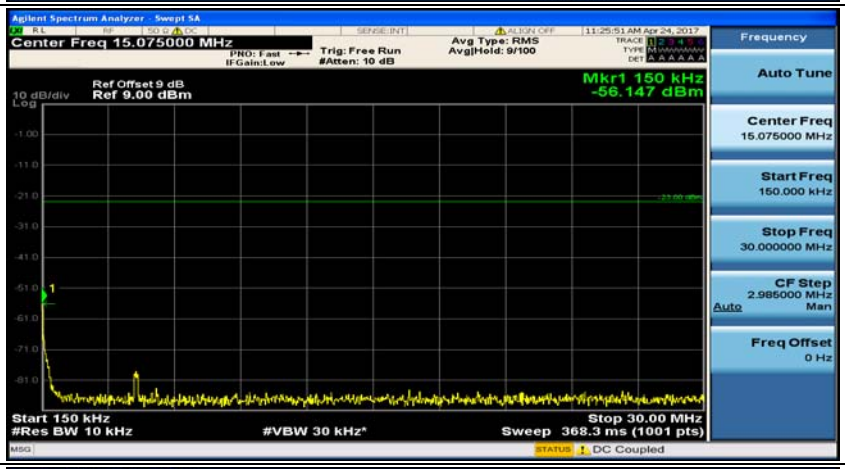
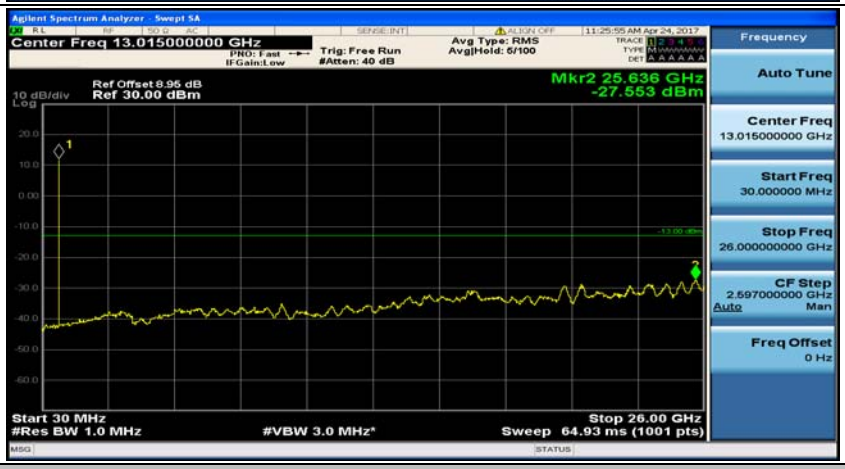


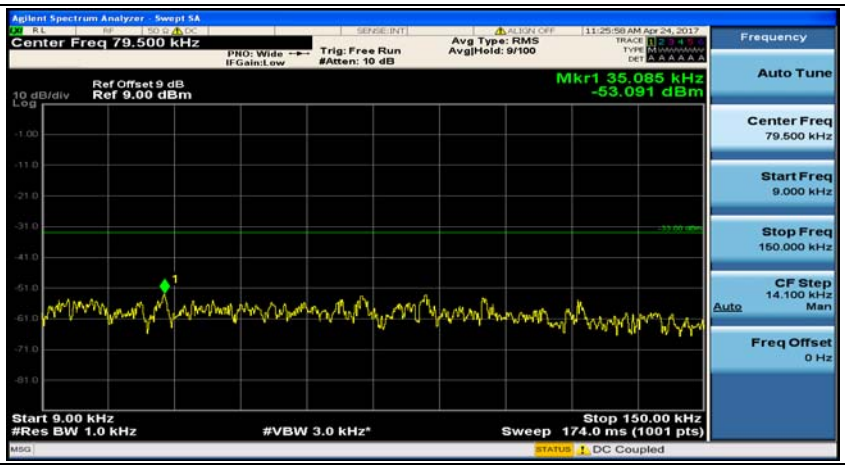
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#49

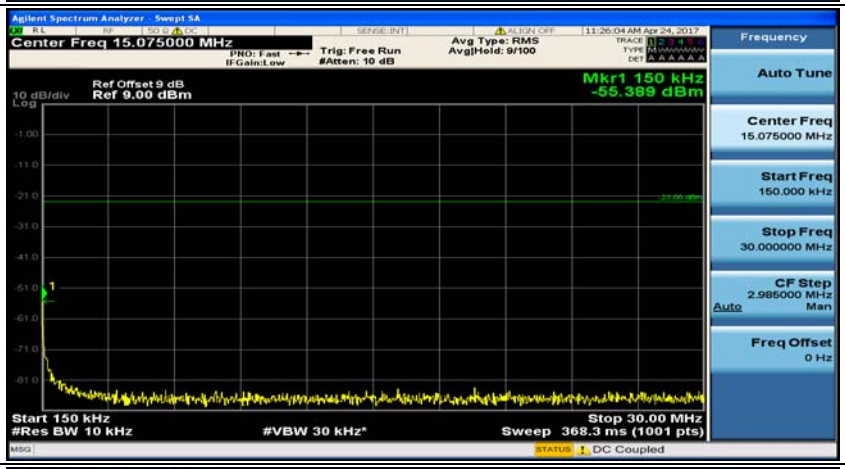

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:24:49 AM Apr 24, 2017
Frequency
Auto Tune
Mkr1 77.244 kHz
-52.157 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

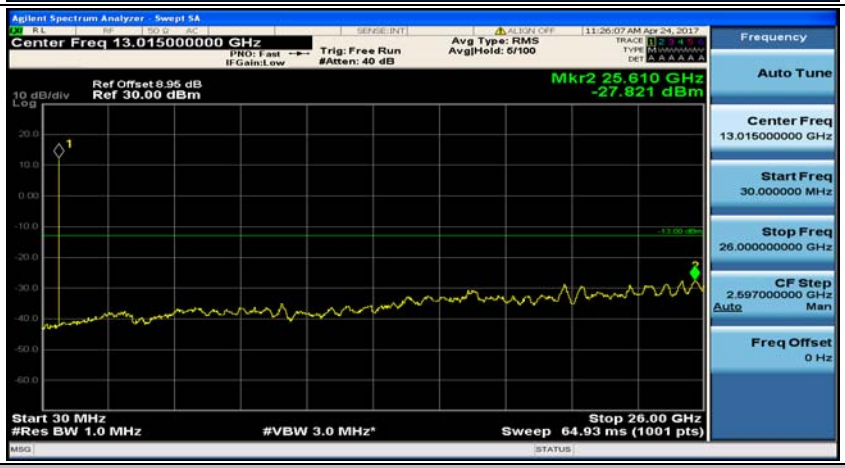

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:24:54 AM Apr 24, 2017
Frequency
Auto Tune
Mkr1 150 kHz
-50.860 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
11:24:59 AM Apr 24, 2017
Frequency
Auto Tune
Mkr2 25.636 GHz
-27.626 dBm
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

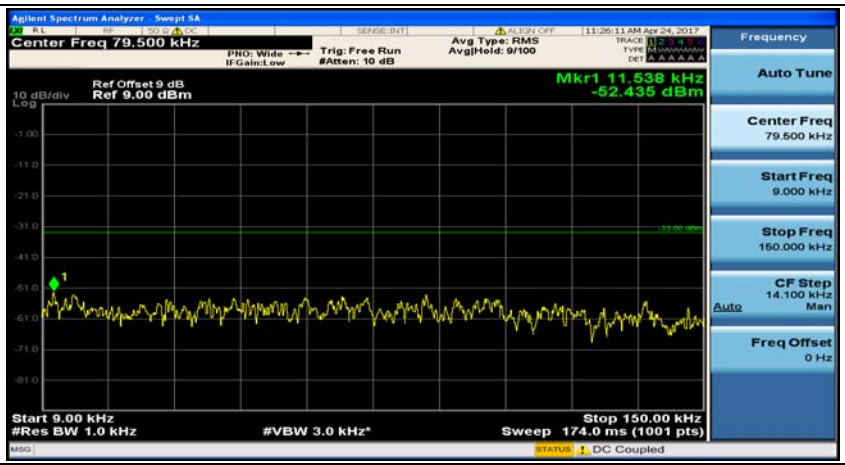
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24

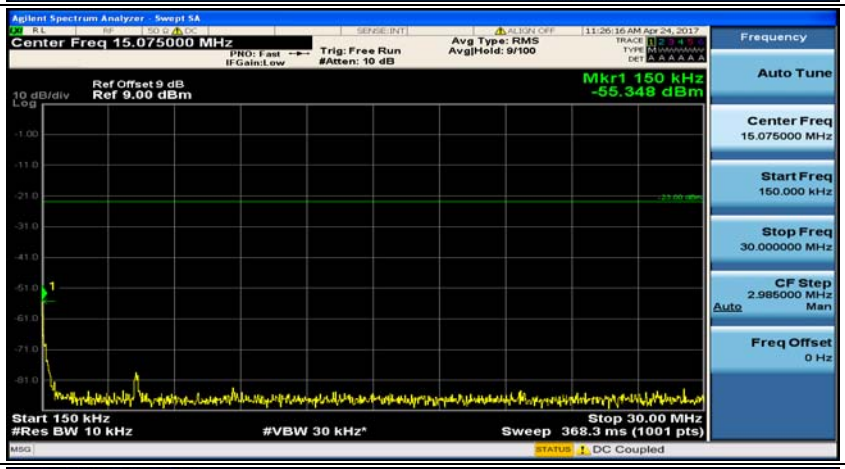


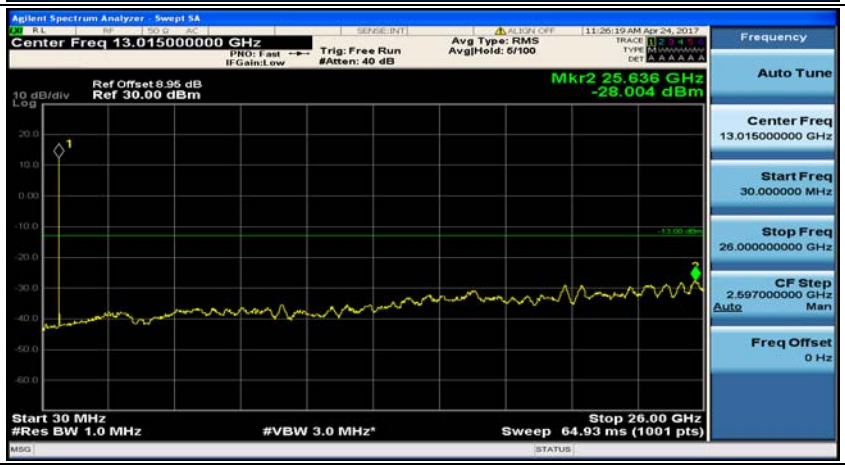


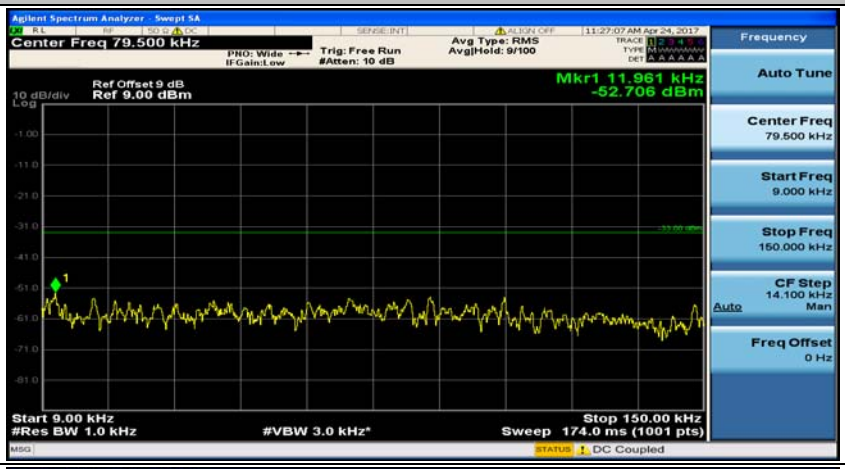
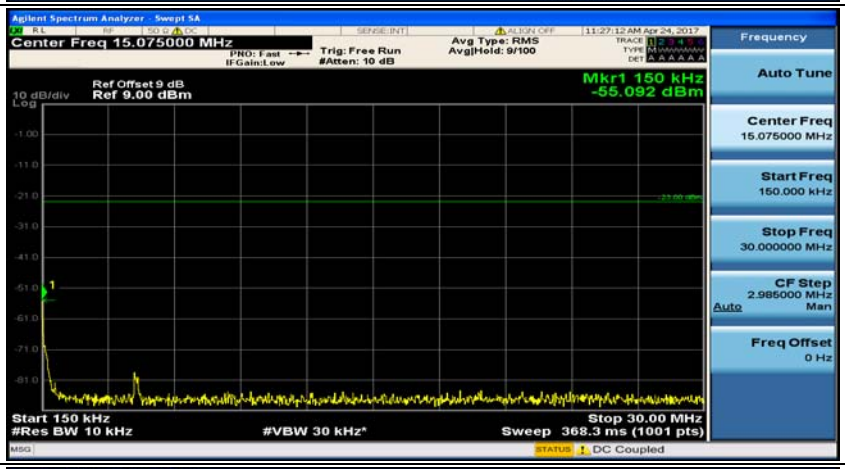
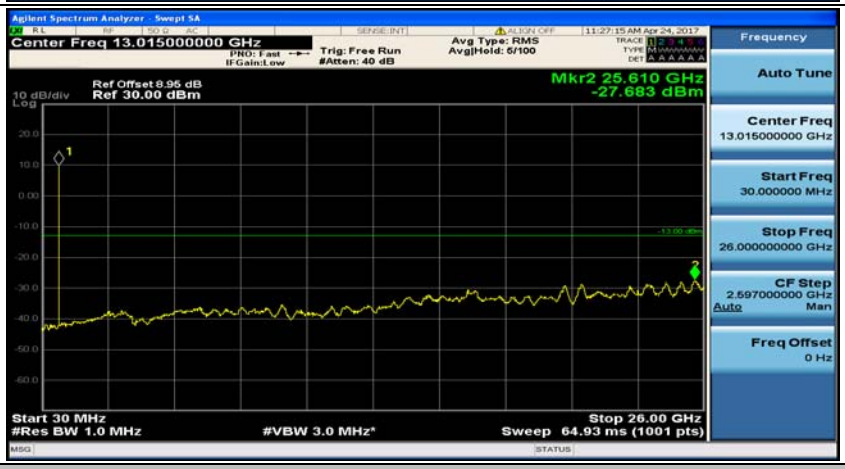


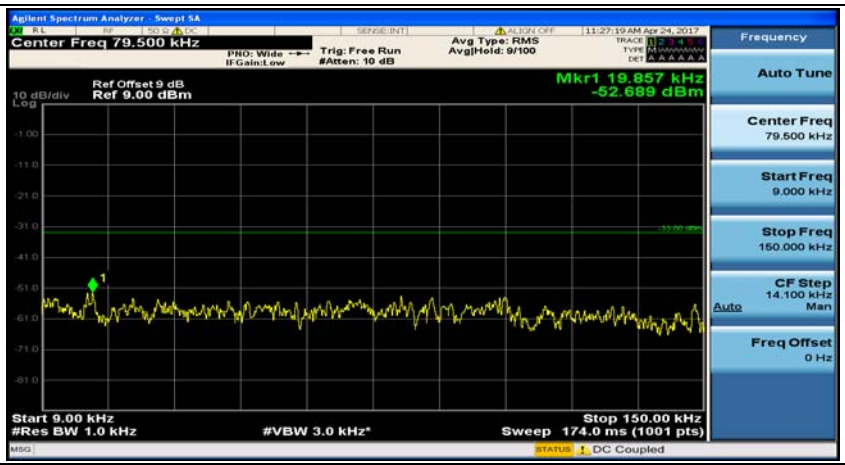
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49

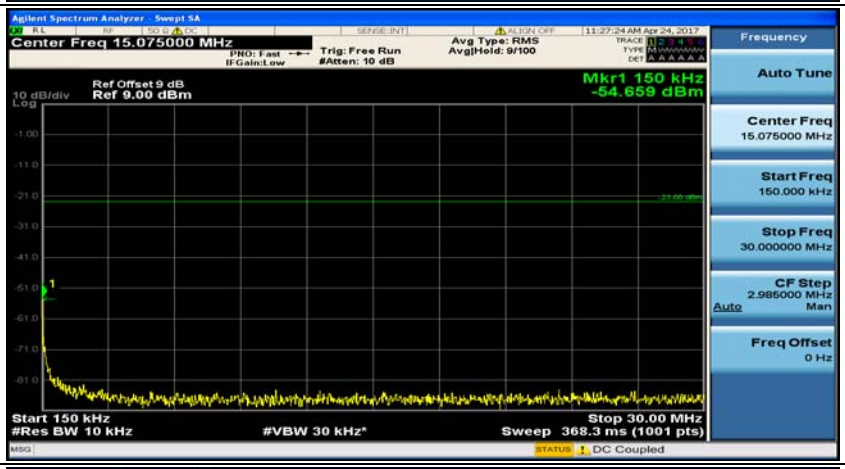

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:26:11 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 11.538 kHz
-52.435 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

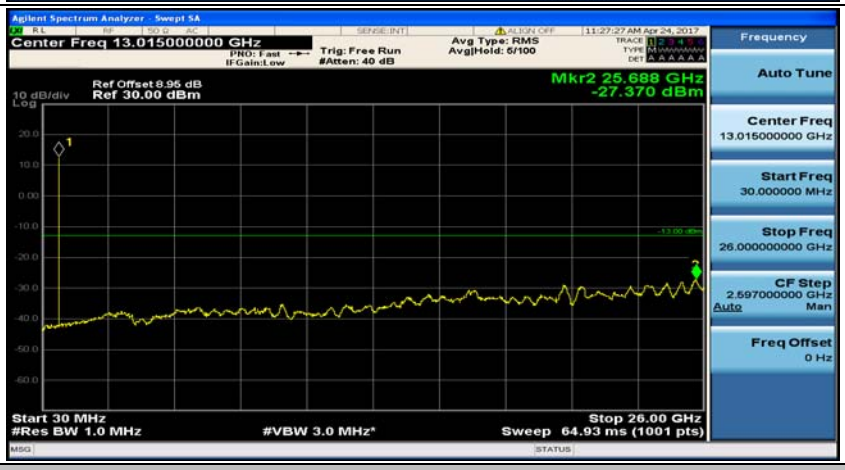

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:26:16 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-55.348 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
11:26:19 AM Apr 24, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.636 GHz
-28.004 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

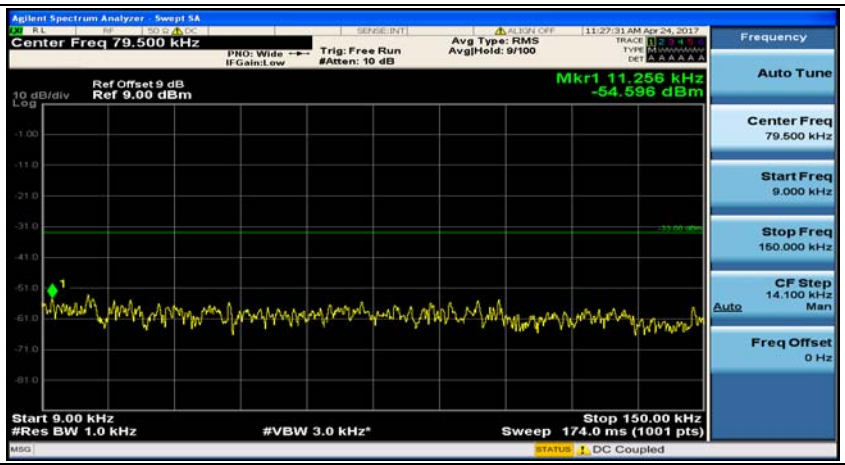
Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#24

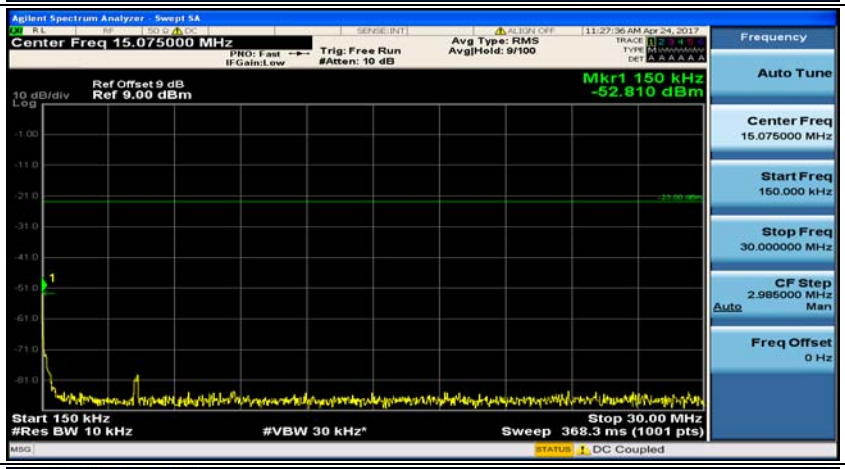


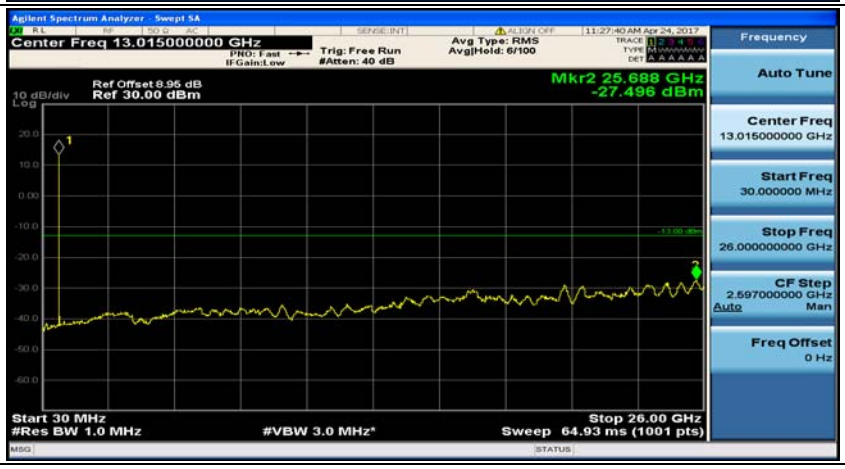




Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#49


Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:27:31 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 11.256 kHz
-54.596 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
11:27:36 AM Apr 24, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-52.810 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
11:27:40 AM Apr 24, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.688 GHz
-27.496 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	-0.44	-0.000623	± 2.5	PASS
		VN	TN	3.44	0.004869	± 2.5	PASS
		VH	TN	1.14	0.001614	± 2.5	PASS
	MCH	VL	TN	-1.56	-0.002197	± 2.5	PASS
		VN	TN	1.98	0.002789	± 2.5	PASS
		VH	TN	4.51	0.006352	± 2.5	PASS
	HCH	VL	TN	0.51	0.000715	± 2.5	PASS
		VN	TN	4.71	0.006601	± 2.5	PASS
		VH	TN	-0.49	-0.000687	± 2.5	PASS
16QAM	LCH	VL	TN	2.45	0.003468	± 2.5	PASS
		VN	TN	-0.56	-0.000793	± 2.5	PASS
		VH	TN	-1.33	-0.001883	± 2.5	PASS
	MCH	VL	TN	4.44	0.006254	± 2.5	PASS
		VN	TN	-1.43	-0.002014	± 2.5	PASS
		VH	TN	-1.47	-0.002070	± 2.5	PASS
	HCH	VL	TN	0.26	0.000364	± 2.5	PASS
		VN	TN	4.79	0.006713	± 2.5	PASS
		VH	TN	2.29	0.003210	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.18	0.003086	± 2.5	PASS
		VN	-20	-0.25	-0.000354	± 2.5	PASS
		VN	-10	2.04	0.002887	± 2.5	PASS
		VN	0	-1.51	-0.002137	± 2.5	PASS
		VN	10	1.45	0.002052	± 2.5	PASS
		VN	20	1.18	0.001670	± 2.5	PASS
		VN	30	1.68	0.002378	± 2.5	PASS
		VN	40	0.9	0.001274	± 2.5	PASS
		VN	50	0.46	0.000651	± 2.5	PASS
	MCH	VN	-30	0.04	0.000056	± 2.5	PASS

		VN	-20	2.97	0.004183	± 2.5	PASS
		VN	-10	2.92	0.004113	± 2.5	PASS
		VN	0	4.88	0.006873	± 2.5	PASS
		VN	10	2.93	0.004127	± 2.5	PASS
		VN	20	-0.23	-0.000324	± 2.5	PASS
		VN	30	3.42	0.004817	± 2.5	PASS
		VN	40	0.27	0.000380	± 2.5	PASS
		VN	50	2.77	0.003901	± 2.5	PASS
	HCH	VN	-30	4.35	0.006097	± 2.5	PASS
		VN	-20	2.55	0.003574	± 2.5	PASS
		VN	-10	-0.11	-0.000154	± 2.5	PASS
		VN	0	1.79	0.002509	± 2.5	PASS
		VN	10	-1.82	-0.002551	± 2.5	PASS
		VN	20	2.42	0.003392	± 2.5	PASS
		VN	30	3.2	0.004485	± 2.5	PASS
		VN	40	1.23	0.001724	± 2.5	PASS
		VN	50	0.85	0.001191	± 2.5	PASS
16QAM	LCH	VN	-30	3.24	0.004586	± 2.5	PASS
		VN	-20	0.33	0.000467	± 2.5	PASS
		VN	-10	-1.33	-0.001883	± 2.5	PASS
		VN	0	2.63	0.003723	± 2.5	PASS
		VN	10	2.62	0.003708	± 2.5	PASS
		VN	20	0.38	0.000538	± 2.5	PASS
		VN	30	-0.86	-0.001217	± 2.5	PASS
		VN	40	2.97	0.004204	± 2.5	PASS
		VN	50	1.09	0.001543	± 2.5	PASS
	MCH	VN	-30	1.99	0.002789	± 2.5	PASS
		VN	-20	-0.26	-0.000364	± 2.5	PASS
		VN	-10	3.27	0.004583	± 2.5	PASS
		VN	0	-0.19	-0.000266	± 2.5	PASS
		VN	10	1.65	0.002313	± 2.5	PASS
		VN	20	2.06	0.002887	± 2.5	PASS
		VN	30	-1.13	-0.001584	± 2.5	PASS
		VN	40	0.59	0.000827	± 2.5	PASS
		VN	50	2.38	0.003336	± 2.5	PASS
	HCH	VN	-30	0.06	0.000084	± 2.5	PASS
		VN	-20	0.18	0.000252	± 2.5	PASS
		VN	-10	3.04	0.004261	± 2.5	PASS
		VN	0	-1.73	-0.002425	± 2.5	PASS
		VN	10	1.1	0.001542	± 2.5	PASS
		VN	20	4.17	0.005844	± 2.5	PASS

		VN	30	1.77	0.002481	± 2.5	PASS
		VN	40	0.44	0.000617	± 2.5	PASS
		VN	50	-0.95	-0.001331	± 2.5	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	-0.61	-0.000860	± 2.5	PASS
		VN	TN	1.1	0.001551	± 2.5	PASS
		VH	TN	4.96	0.006996	± 2.5	PASS
	MCH	VL	TN	-1.8	-0.002535	± 2.5	PASS
		VN	TN	-0.73	-0.001028	± 2.5	PASS
		VH	TN	0.53	0.000746	± 2.5	PASS
	HCH	VL	TN	2.74	0.003854	± 2.5	PASS
		VN	TN	2.99	0.004205	± 2.5	PASS
		VH	TN	-0.61	-0.000858	± 2.5	PASS
16QAM	LCH	VL	TN	-0.46	-0.000649	± 2.5	PASS
		VN	TN	4.22	0.005952	± 2.5	PASS
		VH	TN	3.47	0.004894	± 2.5	PASS
	MCH	VL	TN	2.8	0.003944	± 2.5	PASS
		VN	TN	0.85	0.001197	± 2.5	PASS
		VH	TN	-0.9	-0.001268	± 2.5	PASS
	HCH	VL	TN	-0.74	-0.001041	± 2.5	PASS
		VN	TN	3.24	0.004557	± 2.5	PASS
		VH	TN	4.33	0.006090	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.25	0.003173	± 2.5	PASS
		VN	-20	3.81	0.005374	± 2.5	PASS
		VN	-10	0.59	0.000832	± 2.5	PASS
		VN	0	2.04	0.002877	± 2.5	PASS
		VN	10	3.96	0.005585	± 2.5	PASS
		VN	20	-1.25	-0.001763	± 2.5	PASS
		VN	30	-1.08	-0.001523	± 2.5	PASS
		VN	40	-1.02	-0.001439	± 2.5	PASS
		VN	50	2.3	0.003244	± 2.5	PASS
	MCH	VN	-30	2.94	0.004141	± 2.5	PASS
		VN	-20	0.77	0.001085	± 2.5	PASS

		VN	-10	1.12	0.001577	± 2.5	PASS
		VN	0	0.89	0.001254	± 2.5	PASS
		VN	10	-0.86	-0.001211	± 2.5	PASS
		VN	20	3.23	0.004549	± 2.5	PASS
		VN	30	-0.15	-0.000211	± 2.5	PASS
		VN	40	3	0.004225	± 2.5	PASS
		VN	50	4.68	0.006592	± 2.5	PASS
	HCH	VN	-30	2.22	0.003122	± 2.5	PASS
		VN	-20	-0.7	-0.000985	± 2.5	PASS
		VN	-10	3.19	0.004487	± 2.5	PASS
		VN	0	2.15	0.003024	± 2.5	PASS
		VN	10	-1.53	-0.002152	± 2.5	PASS
		VN	20	3.29	0.004627	± 2.5	PASS
		VN	30	1.96	0.002757	± 2.5	PASS
		VN	40	-1.32	-0.001857	± 2.5	PASS
		VN	50	-0.38	-0.000534	± 2.5	PASS
16QAM	LCH	VN	-30	4.29	0.006042	± 2.5	PASS
		VN	-20	-0.52	-0.000732	± 2.5	PASS
		VN	-10	-0.52	-0.000732	± 2.5	PASS
		VN	0	3.09	0.004352	± 2.5	PASS
		VN	10	-0.02	-0.000028	± 2.5	PASS
		VN	20	2.94	0.004141	± 2.5	PASS
		VN	30	1.47	0.002070	± 2.5	PASS
		VN	40	2.16	0.003042	± 2.5	PASS
		VN	50	4.54	0.006394	± 2.5	PASS
	MCH	VN	-30	4.69	0.006596	± 2.5	PASS
		VN	-20	-0.26	-0.000366	± 2.5	PASS
		VN	-10	-0.56	-0.000788	± 2.5	PASS
		VN	0	2.17	0.003052	± 2.5	PASS
		VN	10	-0.6	-0.000844	± 2.5	PASS
		VN	20	-0.58	-0.000816	± 2.5	PASS
		VN	30	-0.04	-0.000056	± 2.5	PASS
		VN	40	3.41	0.004796	± 2.5	PASS
		VN	50	-0.45	-0.000633	± 2.5	PASS
	HCH	VN	-30	1.86	0.002616	± 2.5	PASS
		VN	-20	2.69	0.003783	± 2.5	PASS
		VN	-10	2.23	0.003136	± 2.5	PASS
		VN	0	3.35	0.004712	± 2.5	PASS
		VN	10	1.52	0.002138	± 2.5	PASS
		VN	20	0.38	0.000534	± 2.5	PASS
		VN	30	3.79	0.005331	± 2.5	PASS

		VN	40	1.9	0.002672	± 2.5	PASS
		VN	50	0.68	0.000956	± 2.5	PASS