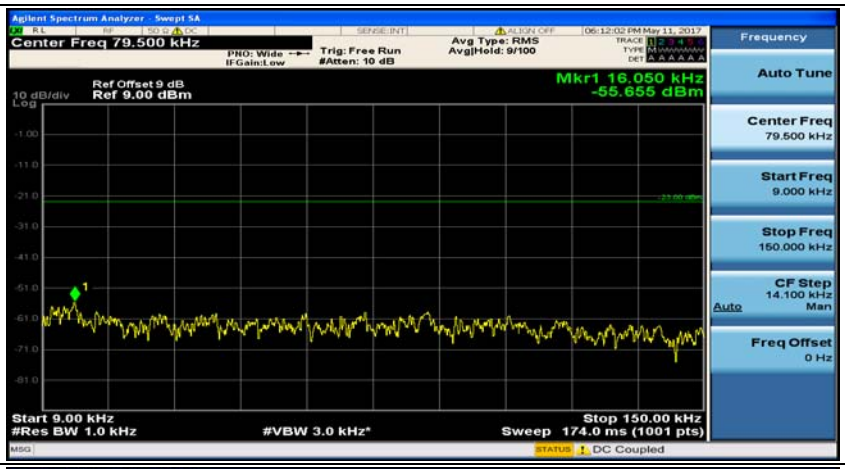
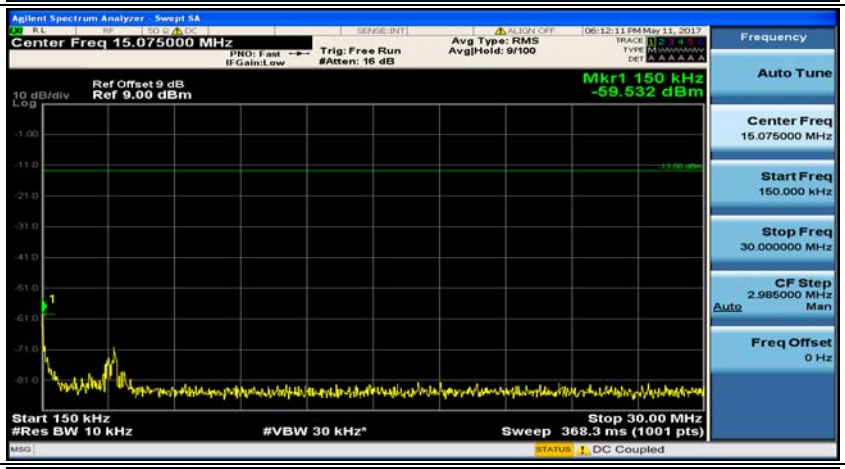
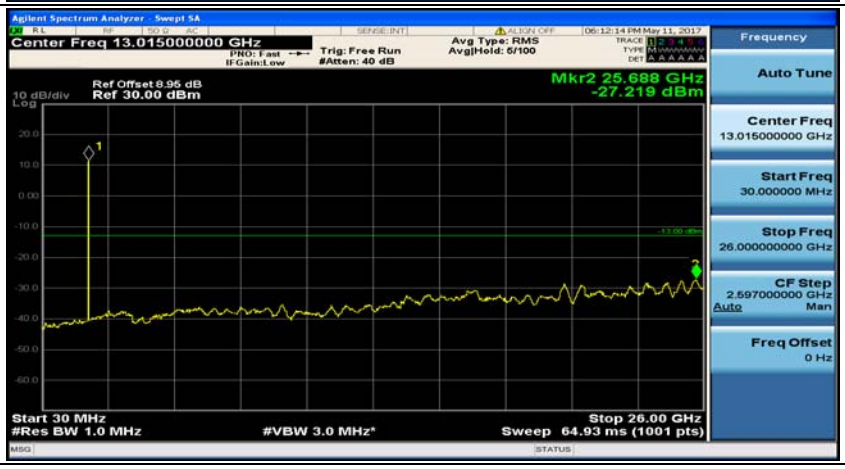
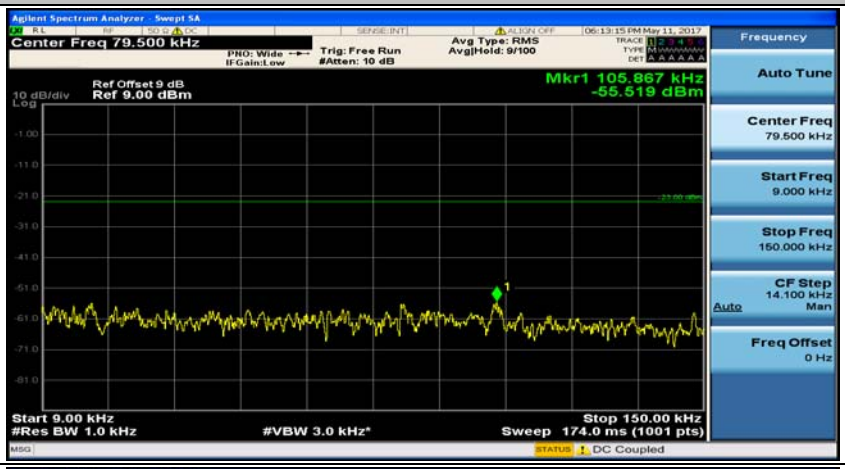
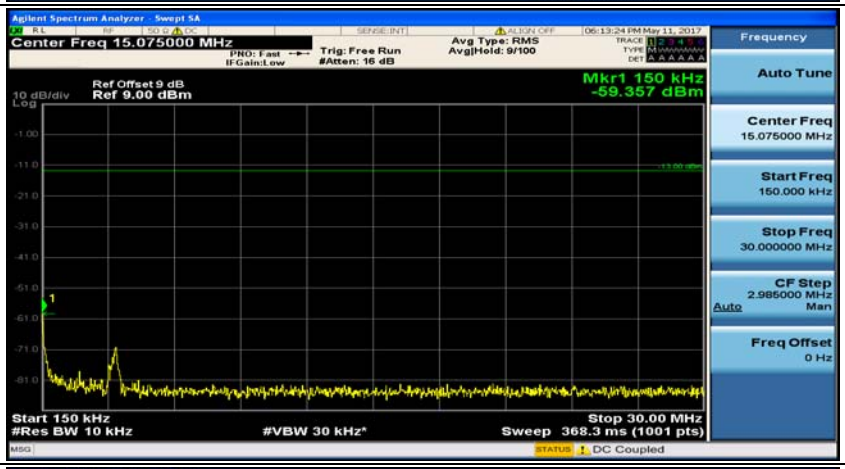
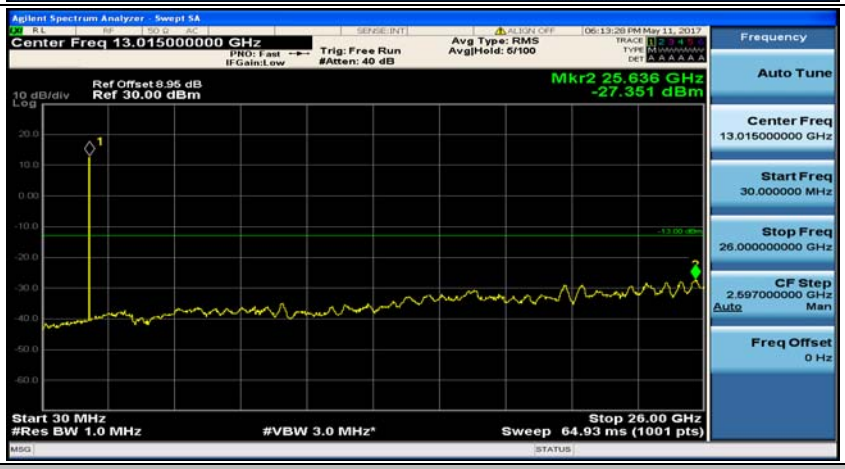
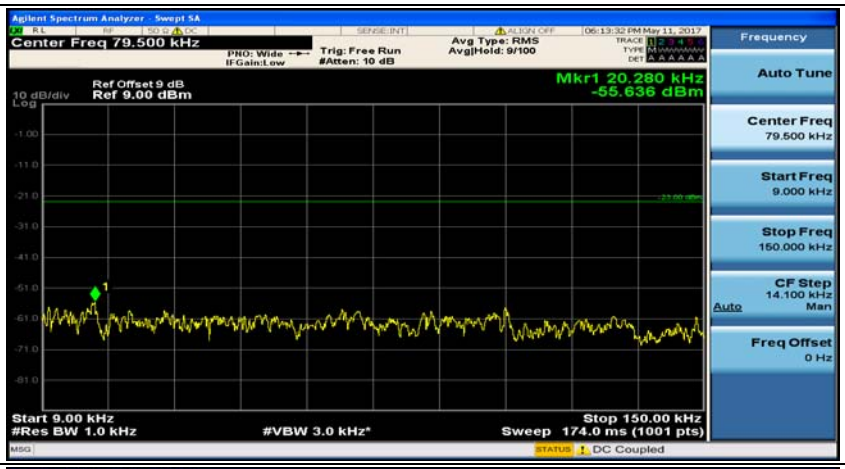
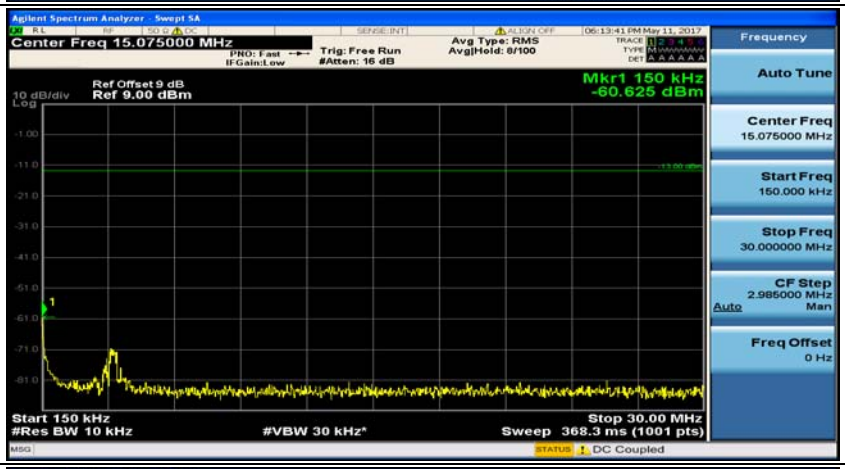

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
06:12:02 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Mkr1 16.050 kHz
-55.655 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

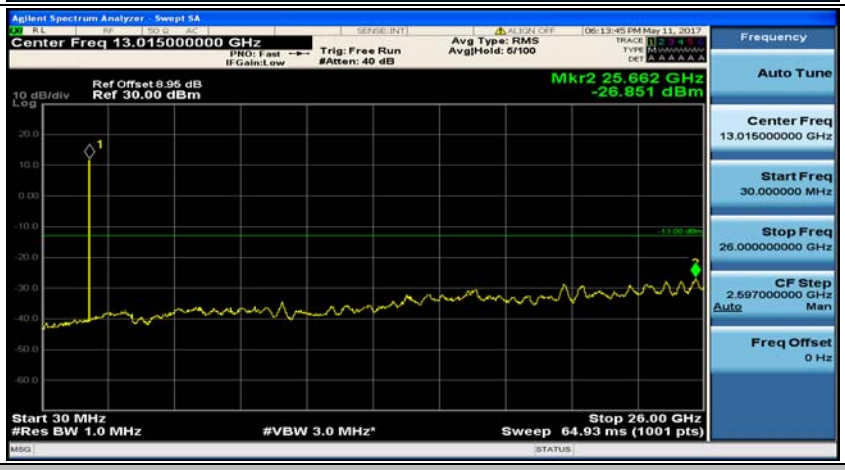

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
06:12:11 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Mkr1 150 kHz
-59.532 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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


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
06:12:14 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Log
Mkr2 25.688 GHz
-27.219 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

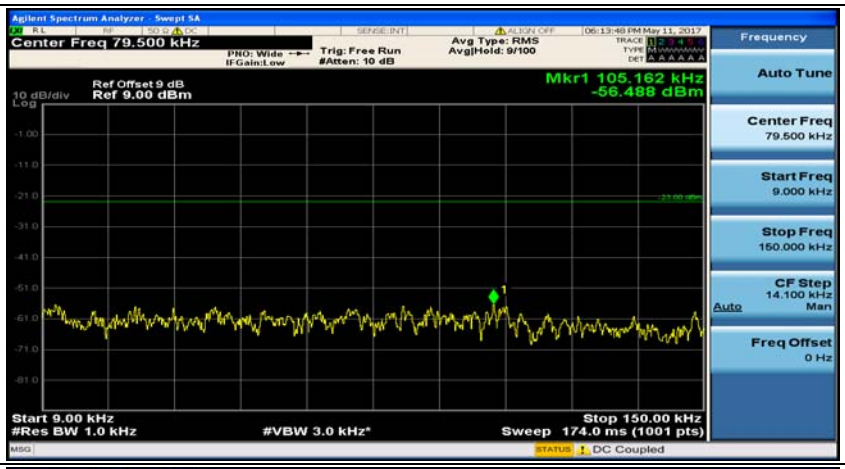
Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#24

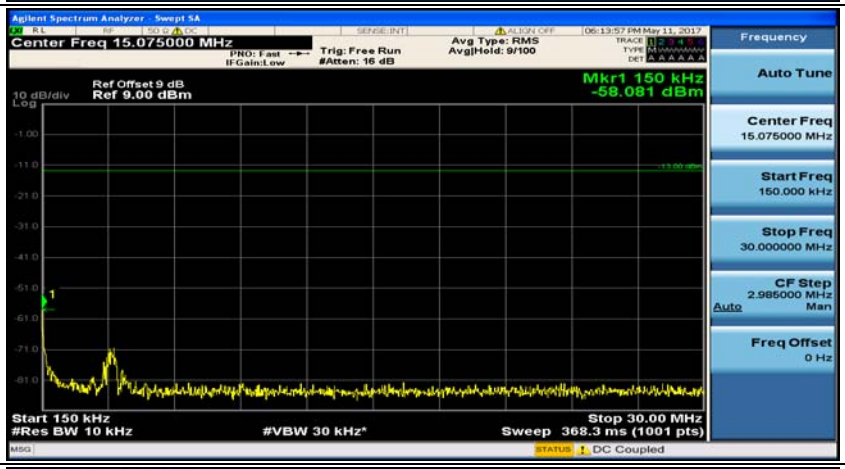


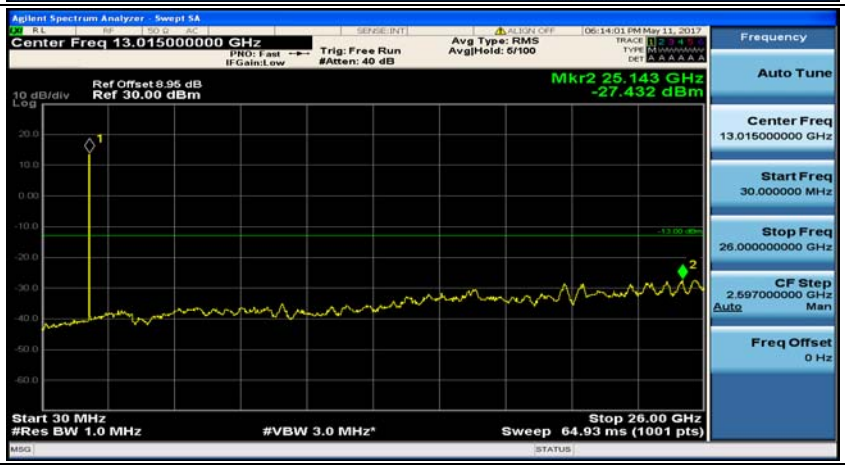




Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#49

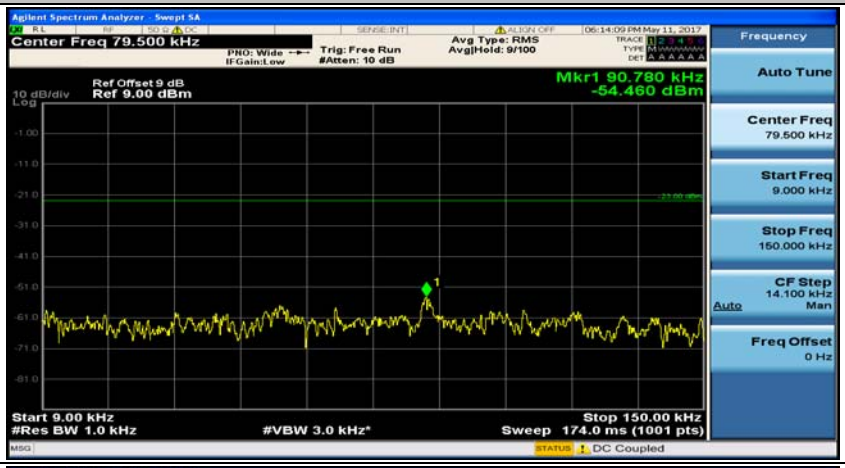

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
06:13:48 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 105.162 kHz
-56.488 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

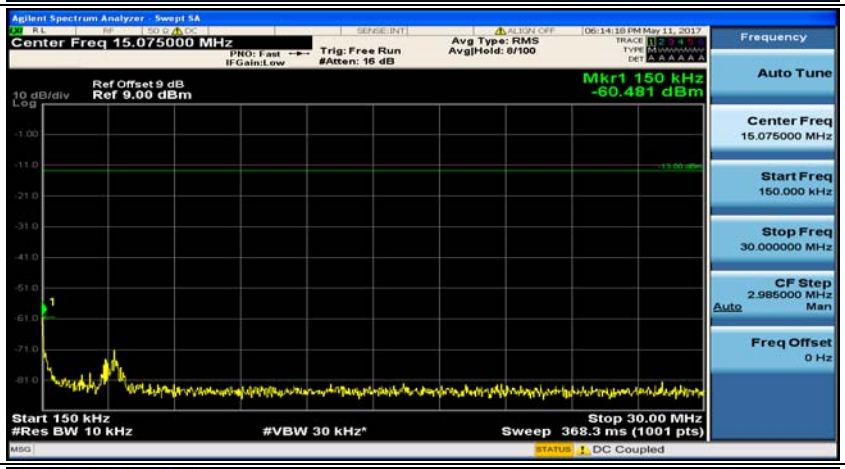

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
06:13:57 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 150 kHz
-58.081 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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

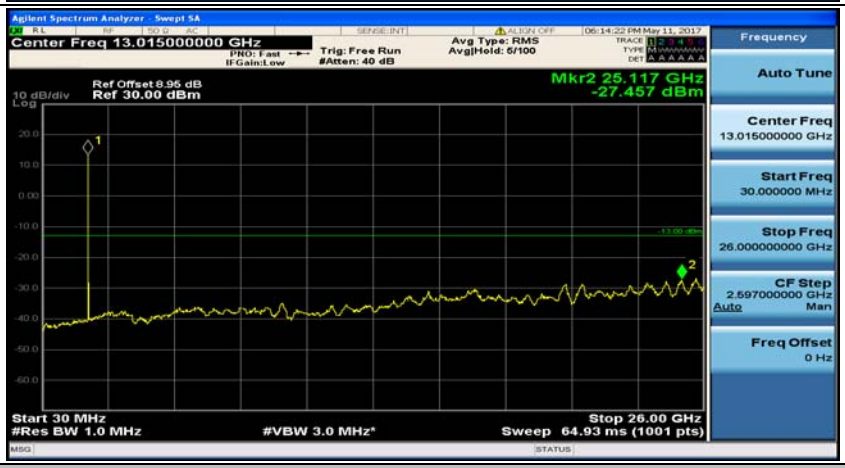

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
06:14:01 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Mkr2 25.143 GHz
-27.432 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

Channel Bandwidth: 15 MHz

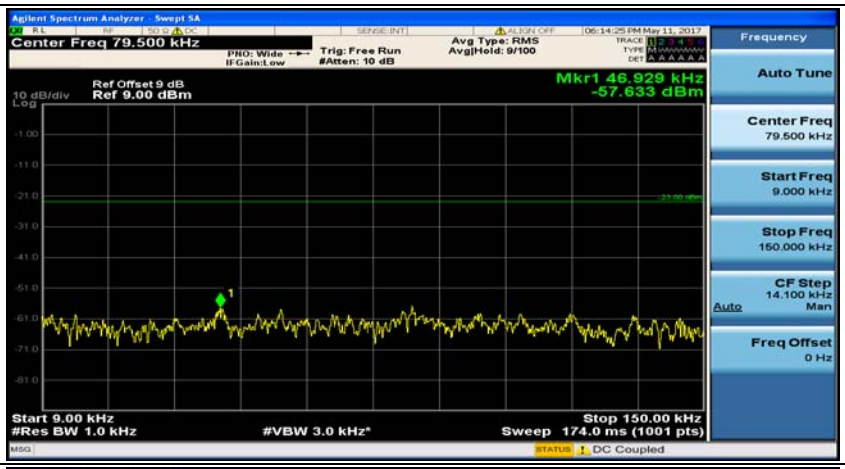
(Channel Bandwidth:15 MHz)_LCH_QPSK_1RB#0

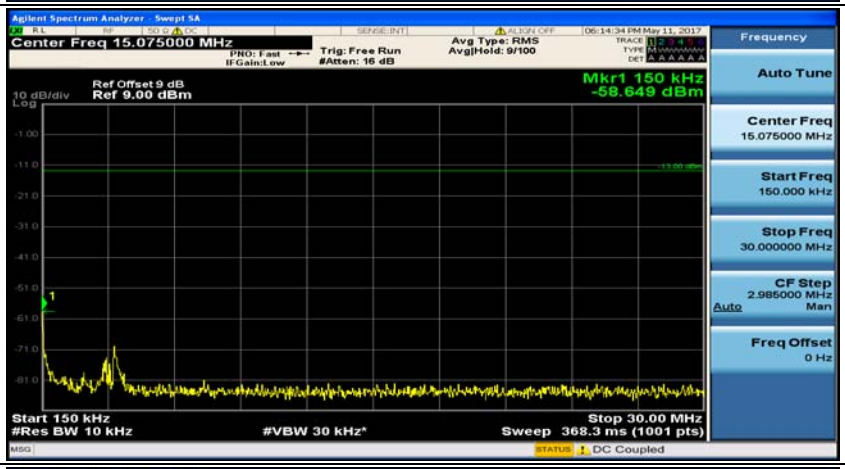


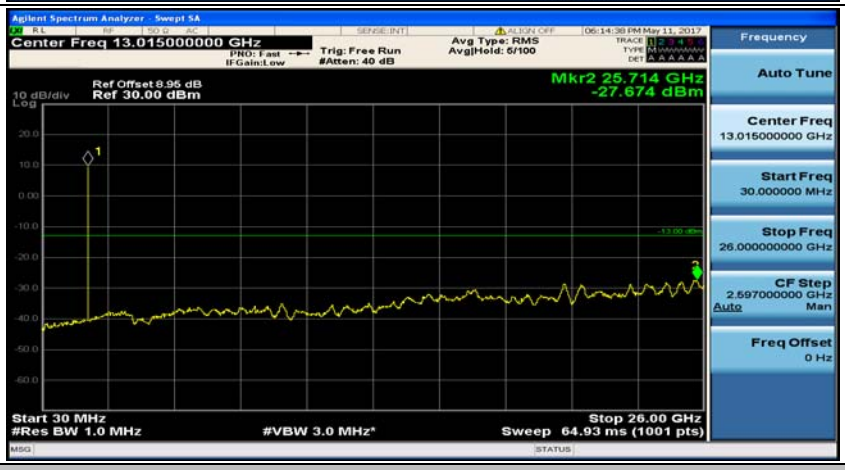




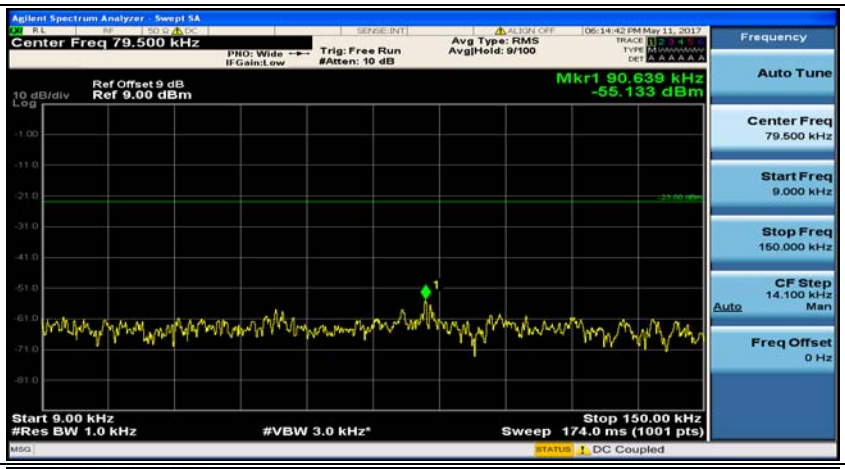
(Channel Bandwidth:15 MHz)_LCH_QPSK_1RB#37

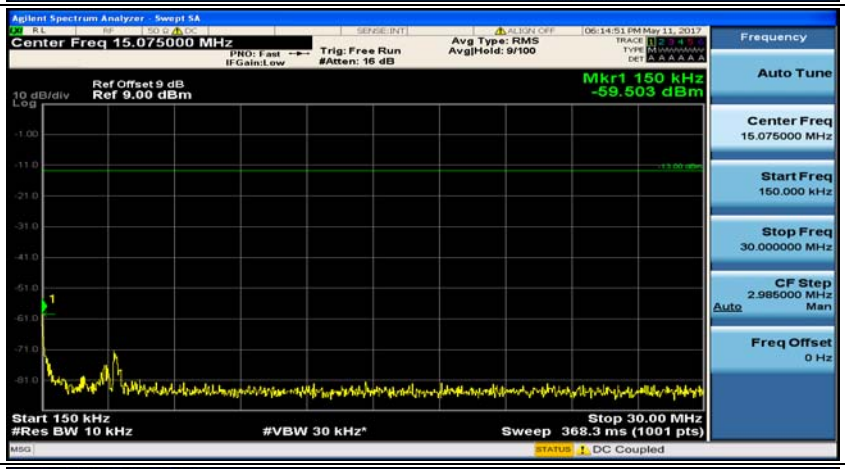


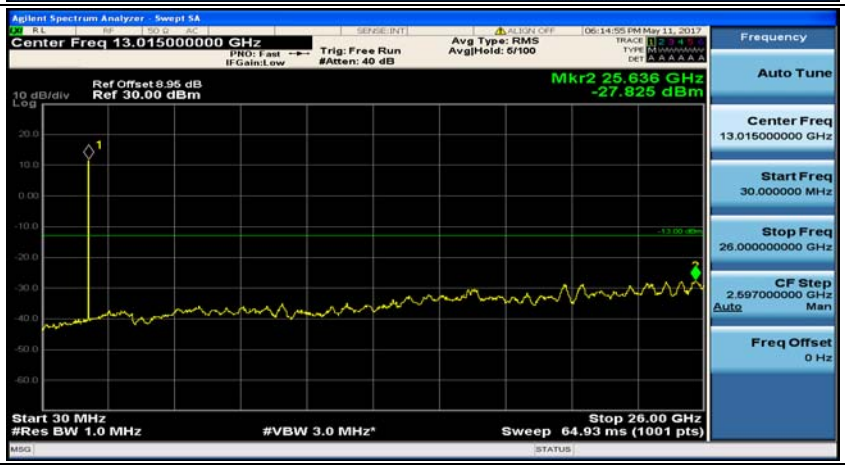




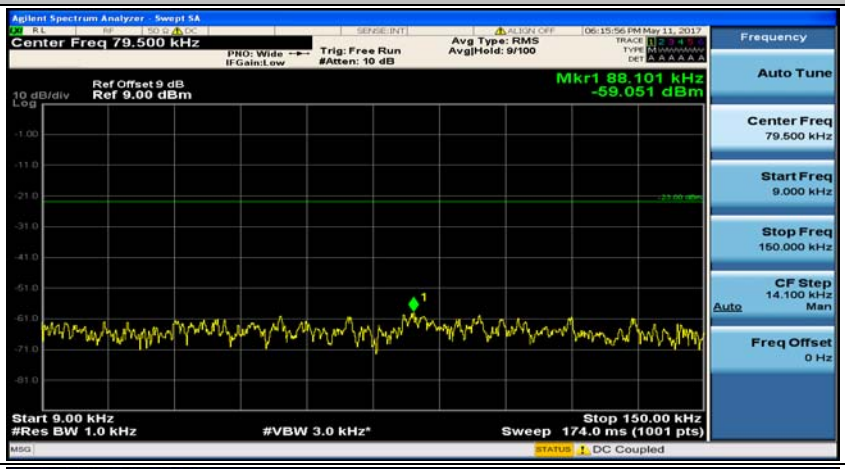
(Channel Bandwidth:15 MHz)_LCH_QPSK_1RB#74

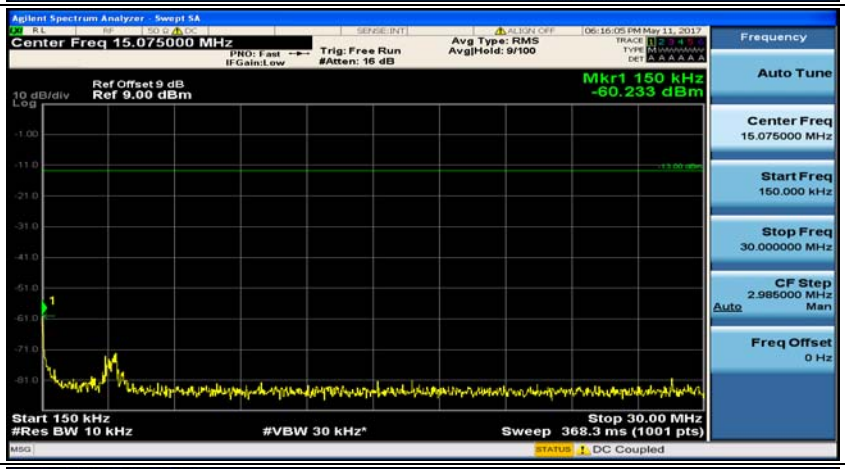

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 90.639 kHz
-55.133 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

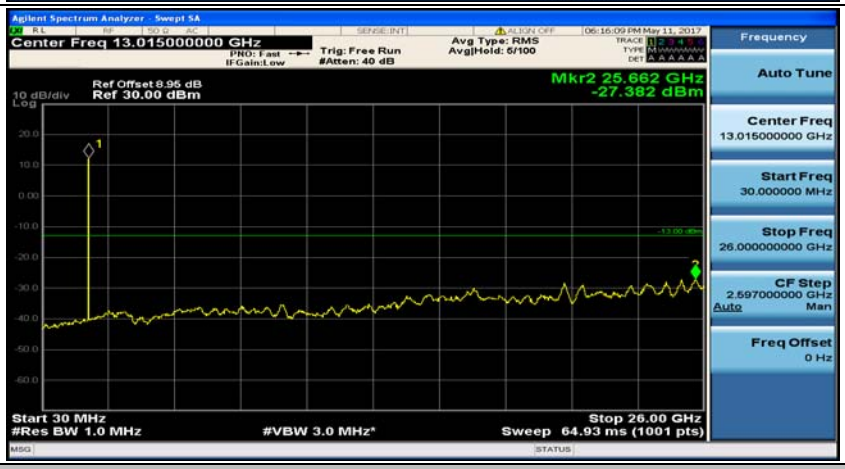

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 150 kHz
-59.503 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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


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
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Mkr2 25.636 GHz
-27.825 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

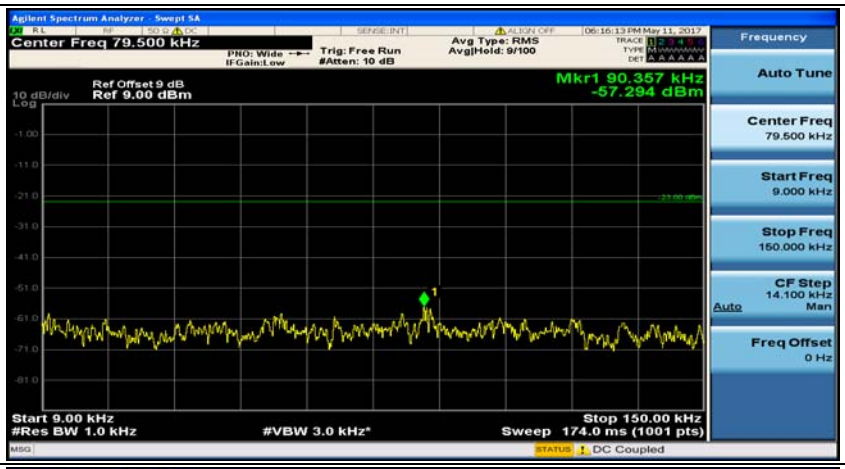
(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#0

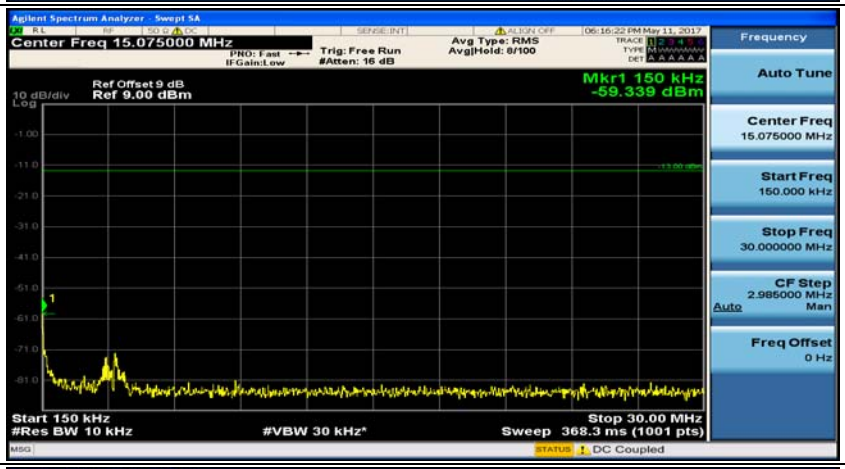


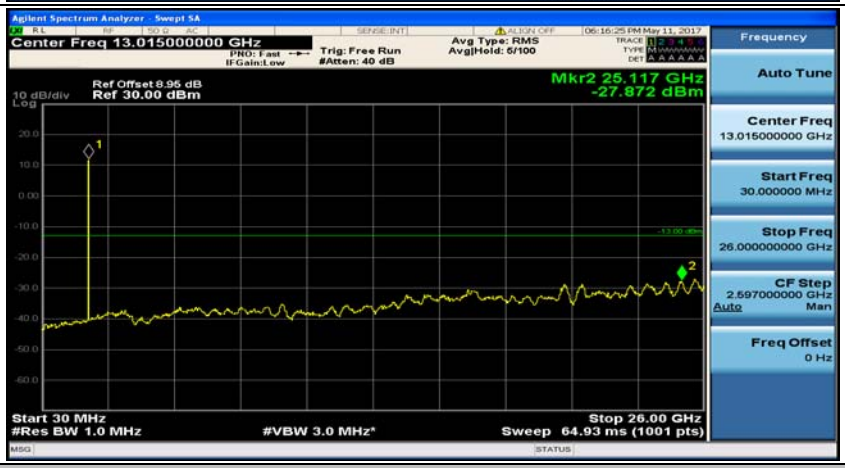




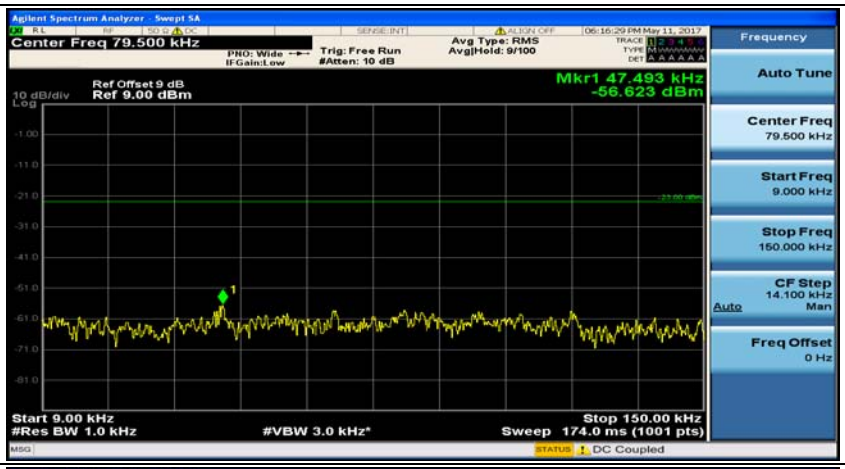
(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#37

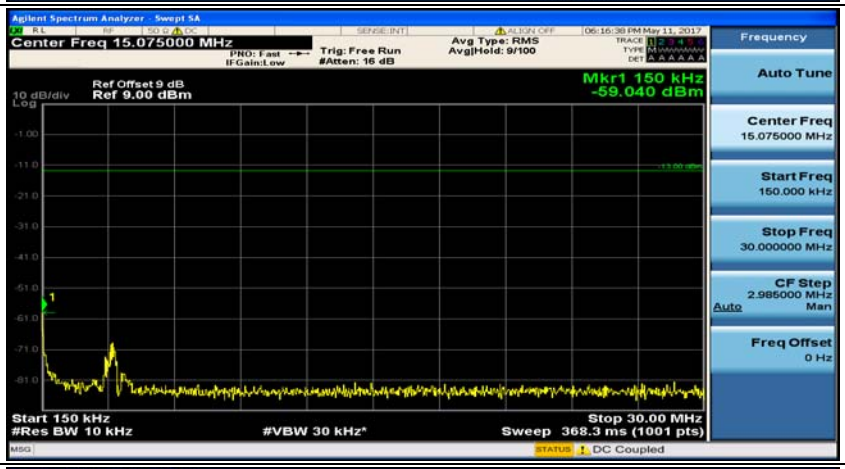


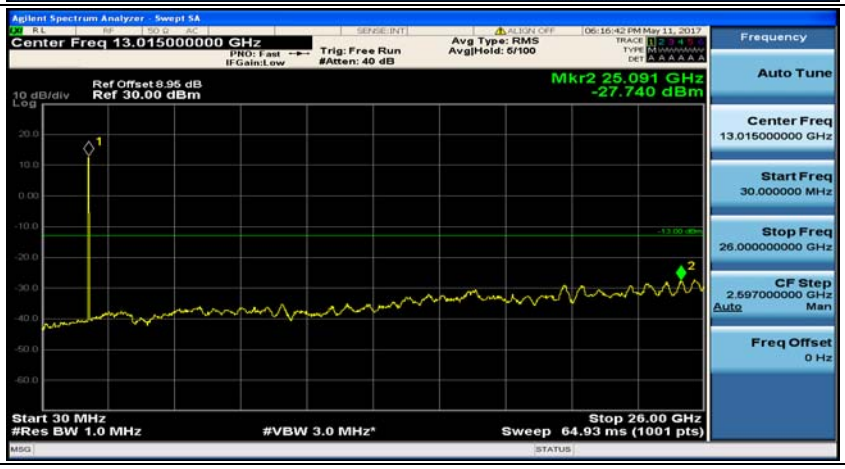




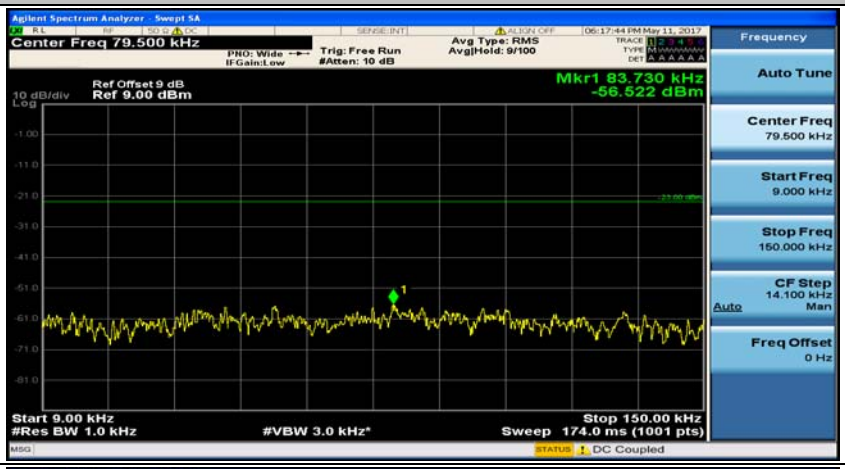
(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#74

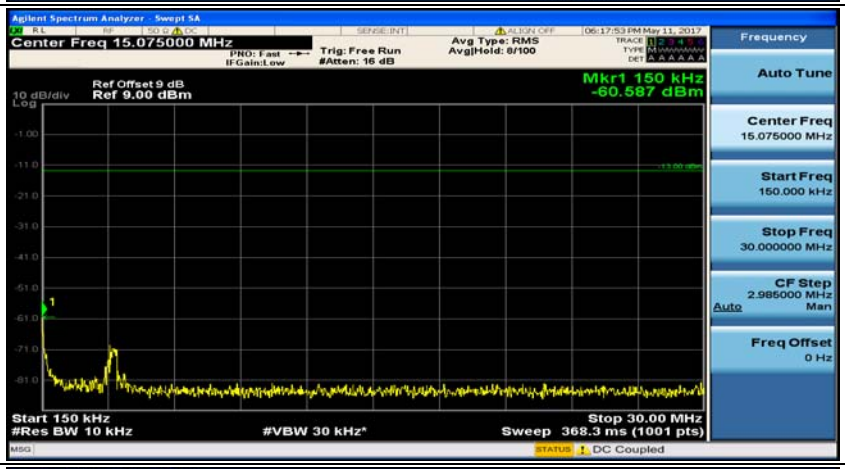

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
06:16:29 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 47.493 kHz
-56.623 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

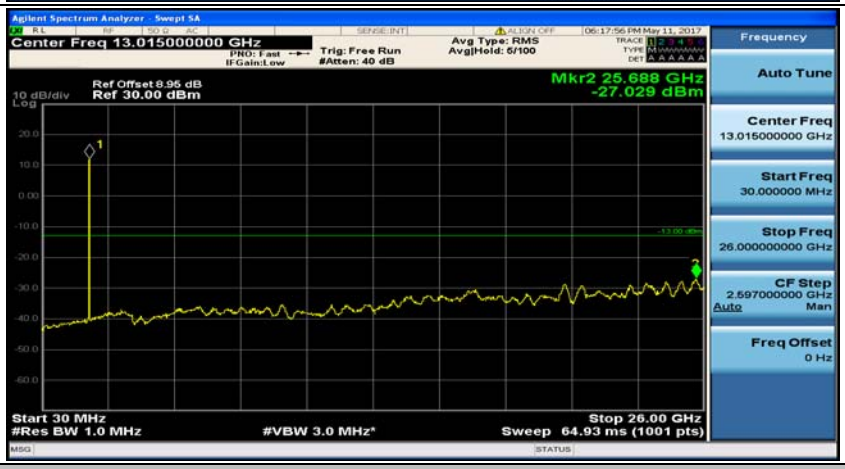

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
06:16:38 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 150 kHz
-59.040 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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


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
06:16:42 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Mkr2 25.091 GHz
-27.740 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

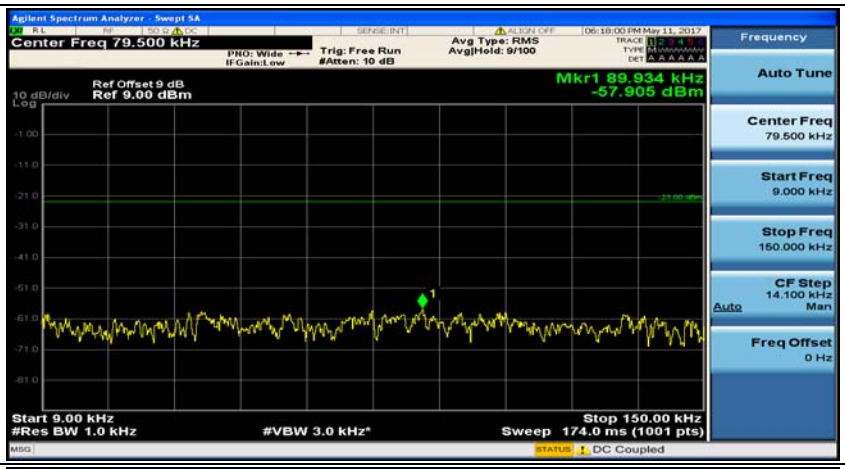
(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#0

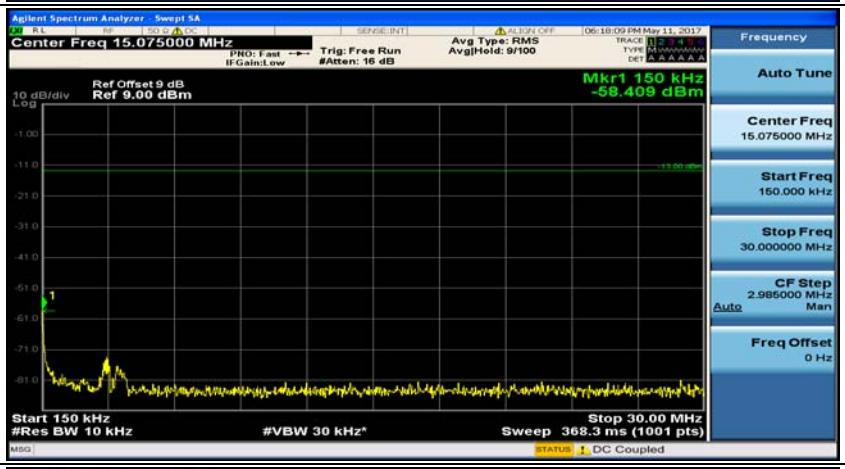


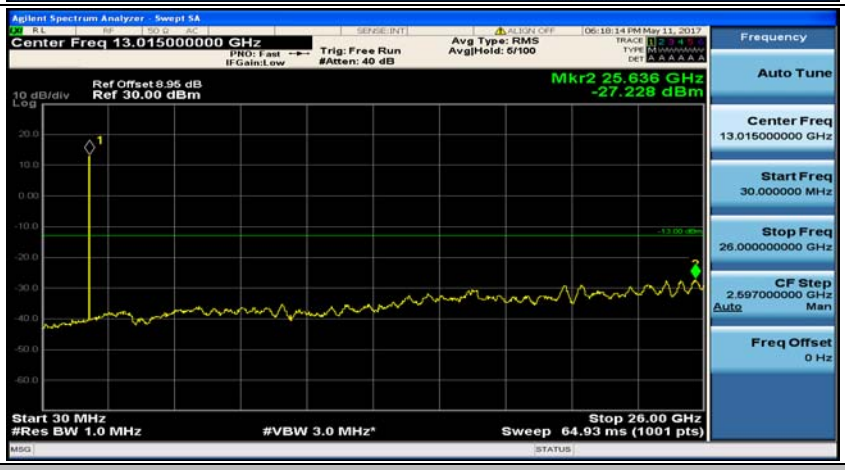




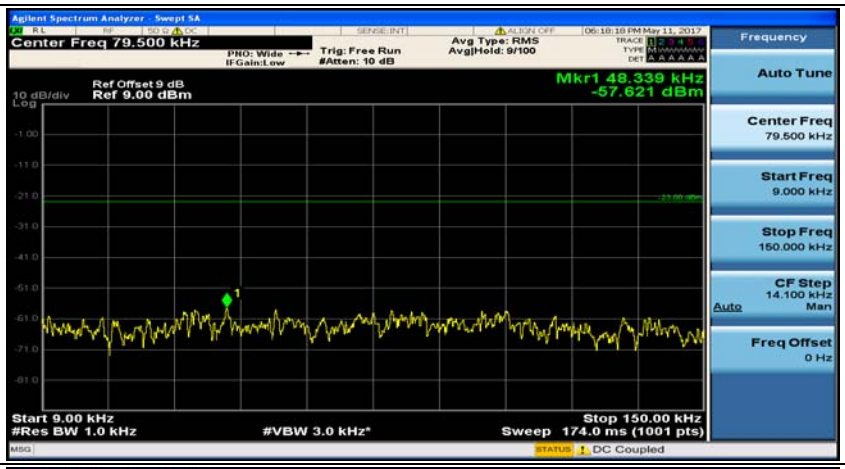
(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#37

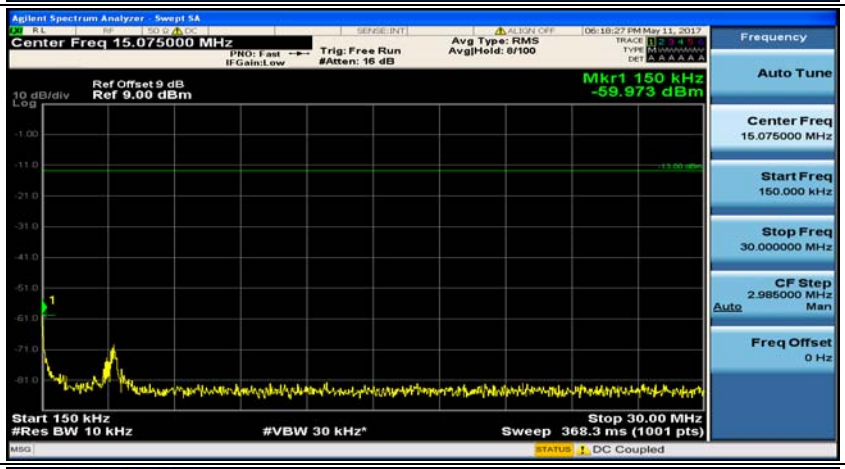


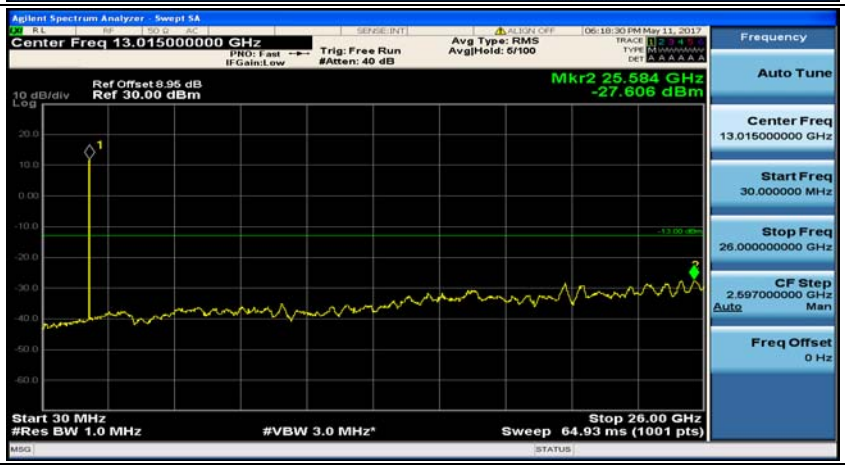




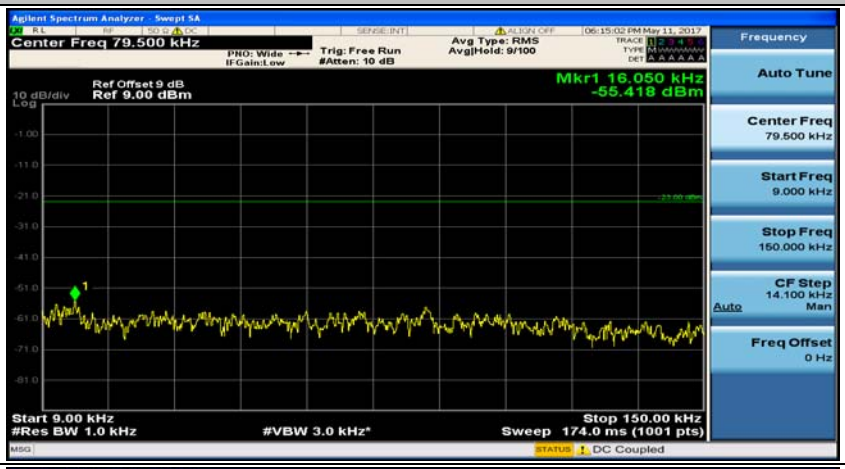
(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#74

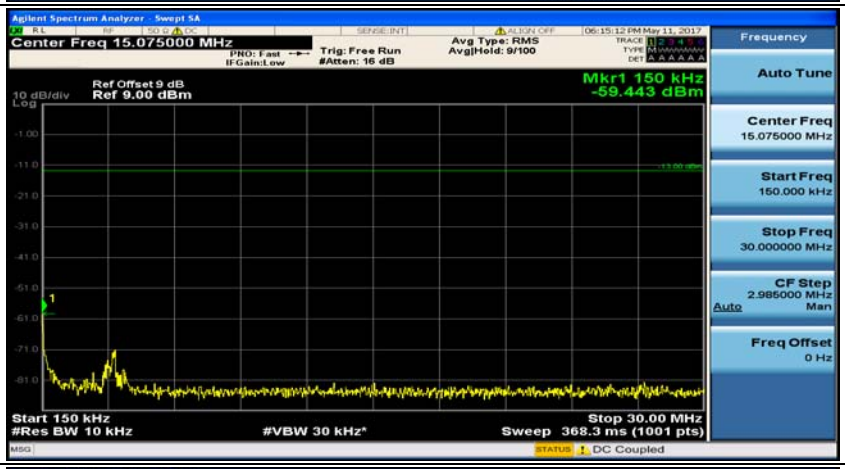

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
06:18:18 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Mkr1 48.339 kHz
-57.621 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

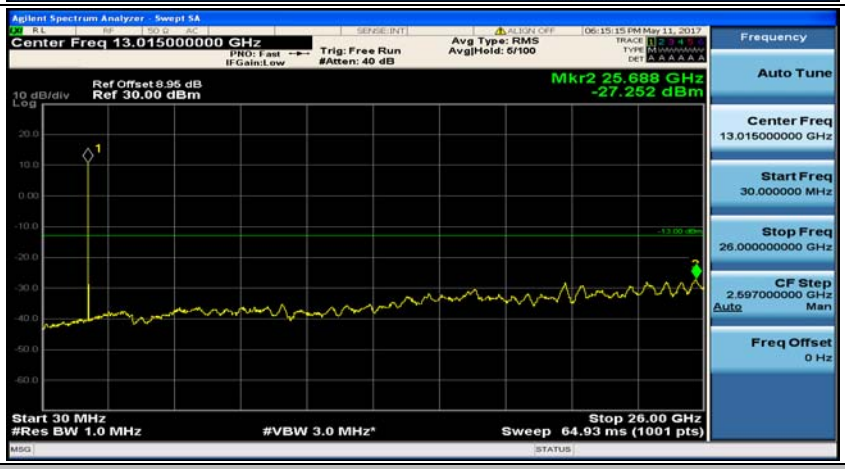

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 6/100
06:18:27 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Mkr1 150 kHz
-59.973 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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


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
06:18:30 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Log
Mkr2 25.584 GHz
-27.606 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

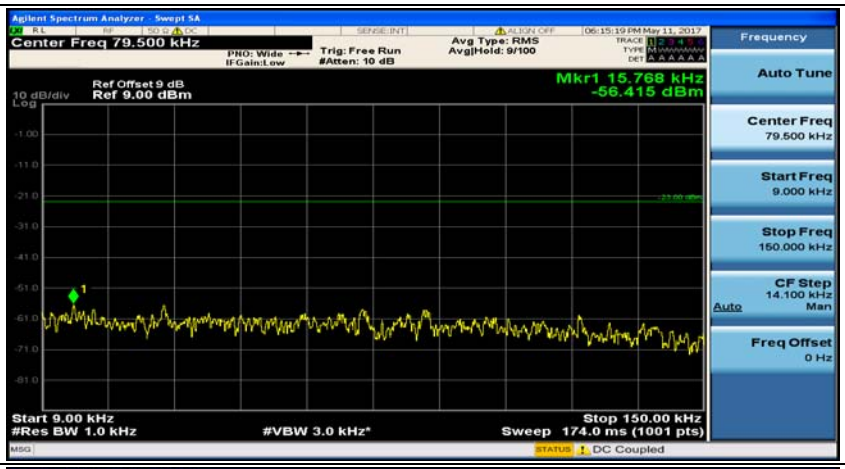
(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#0

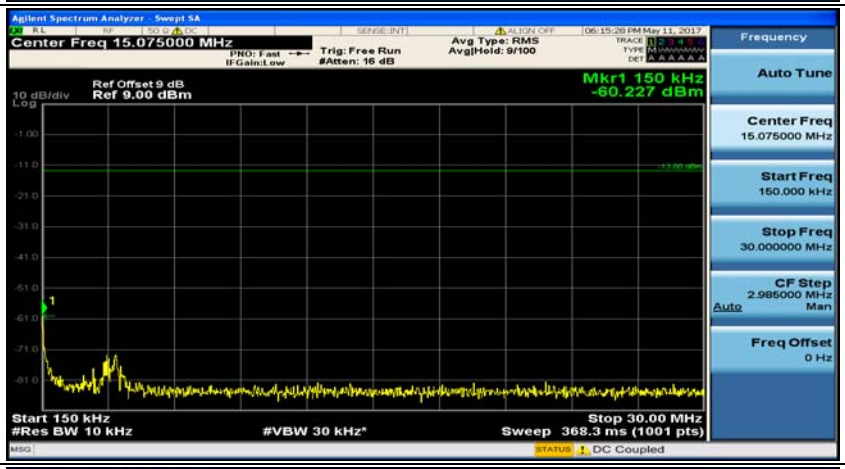


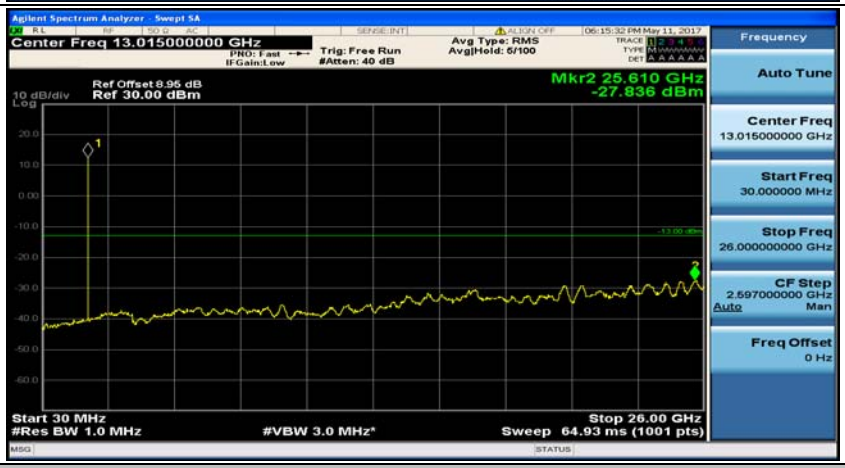




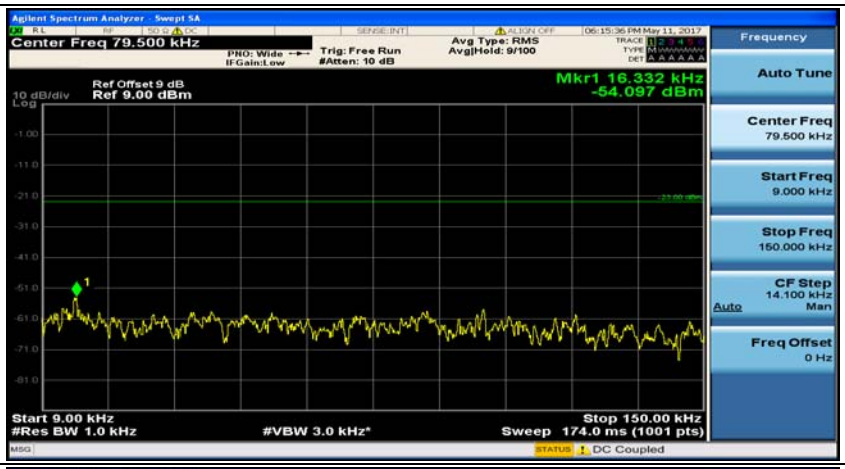
(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#37

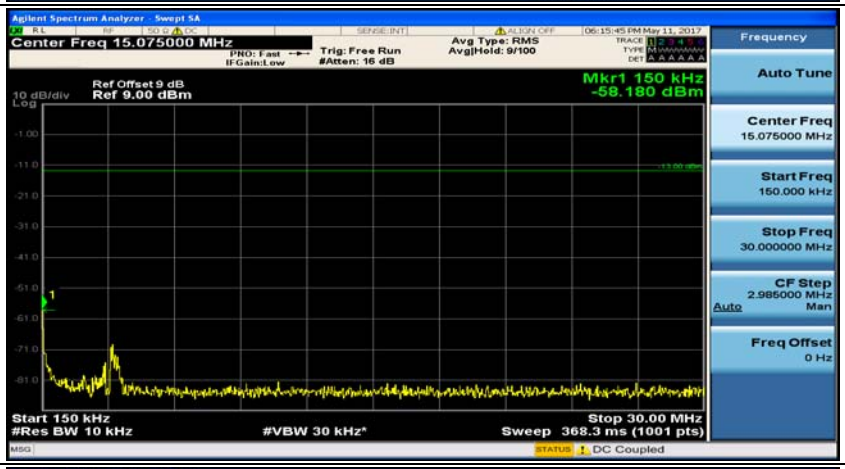


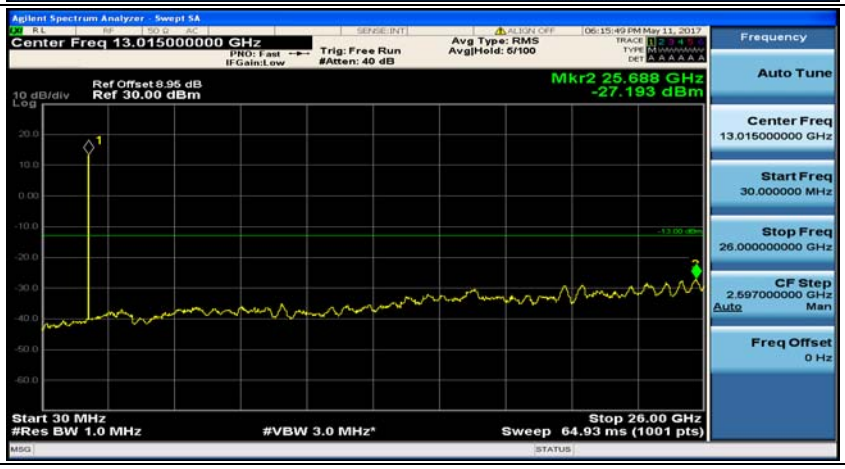




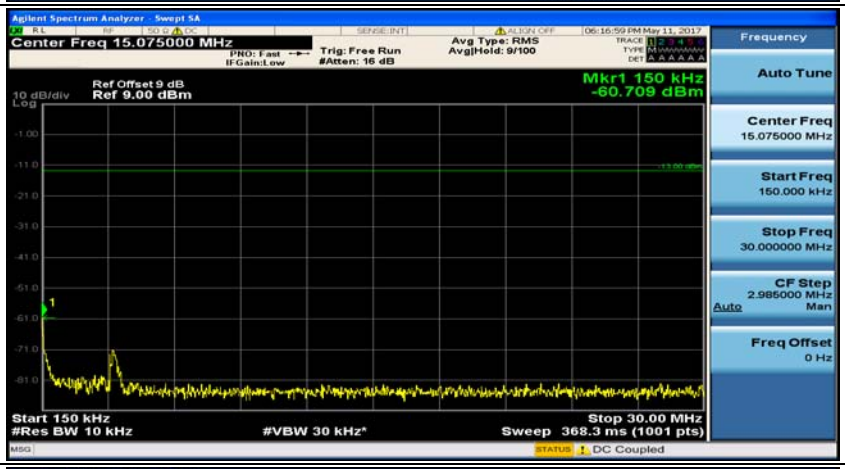
(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#74

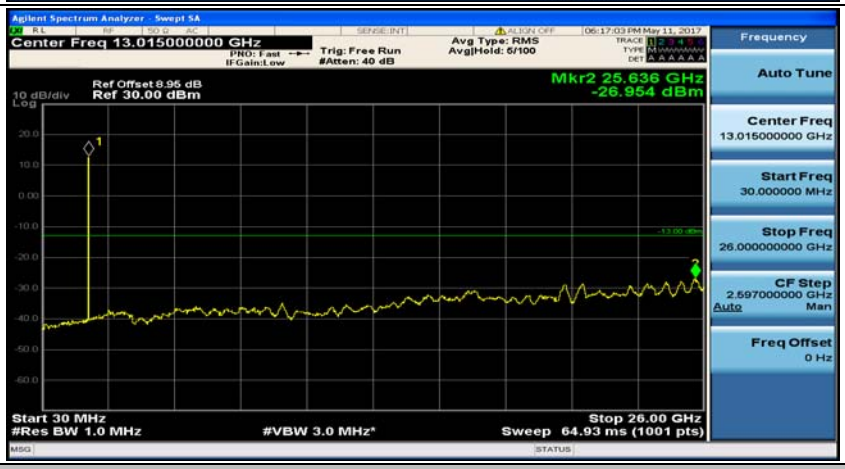

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
06:15:36 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 16.332 kHz
-54.097 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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


Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
06:15:45 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 150 kHz
-58.180 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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

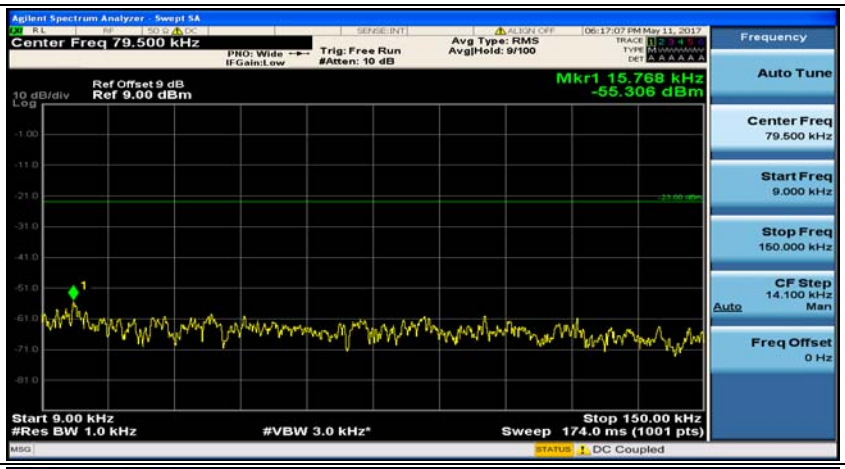

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
06:15:49 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Mkr2 25.688 GHz
-27.193 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

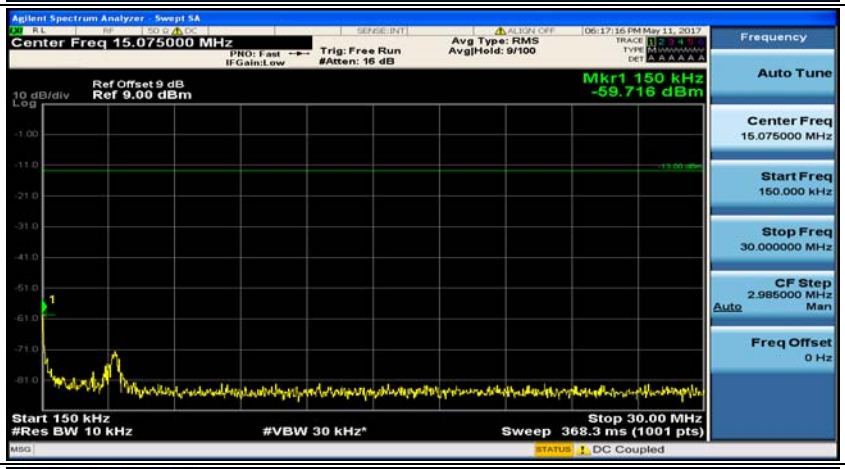
(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#0

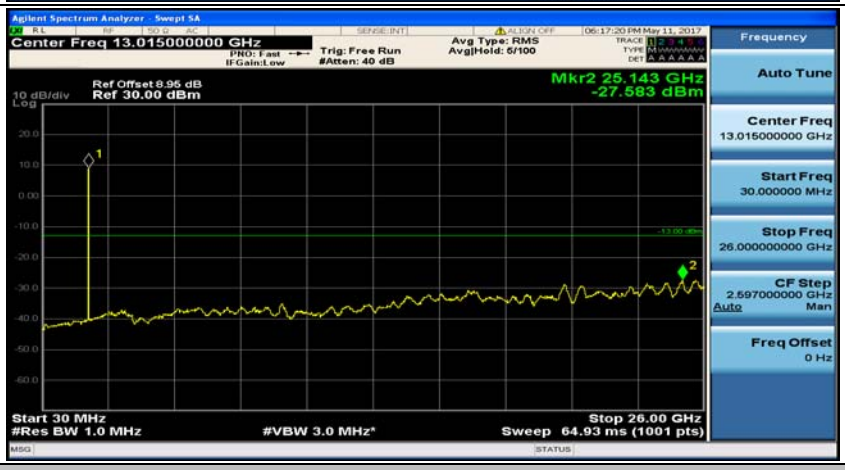




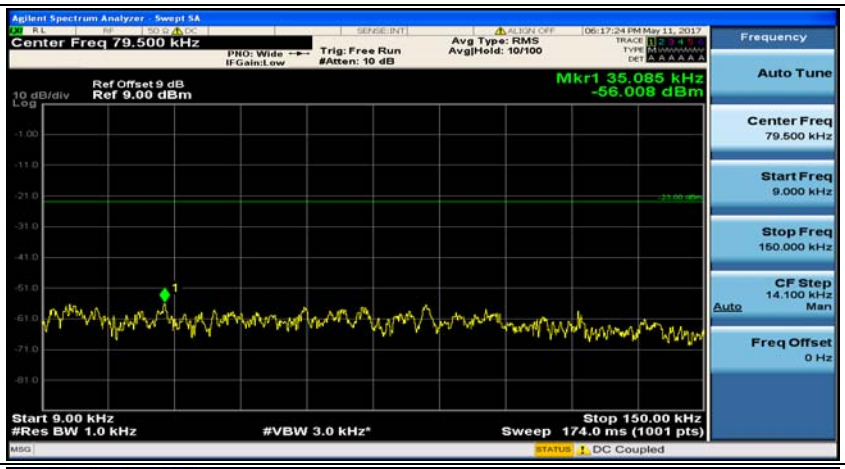
(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#37

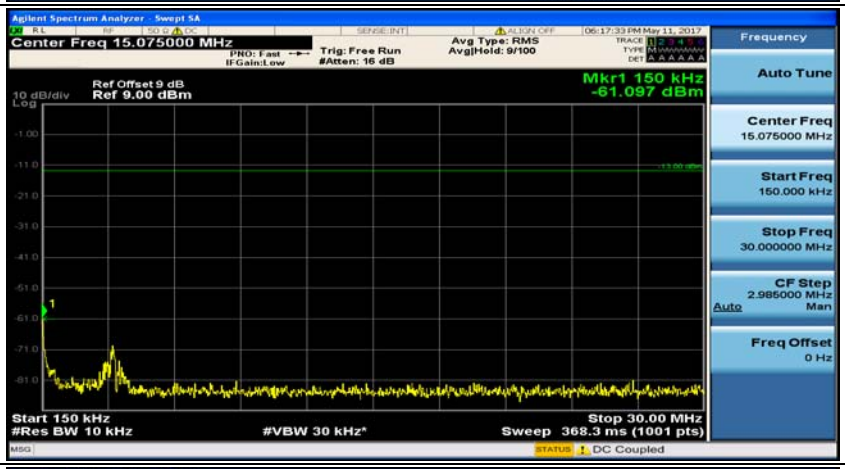


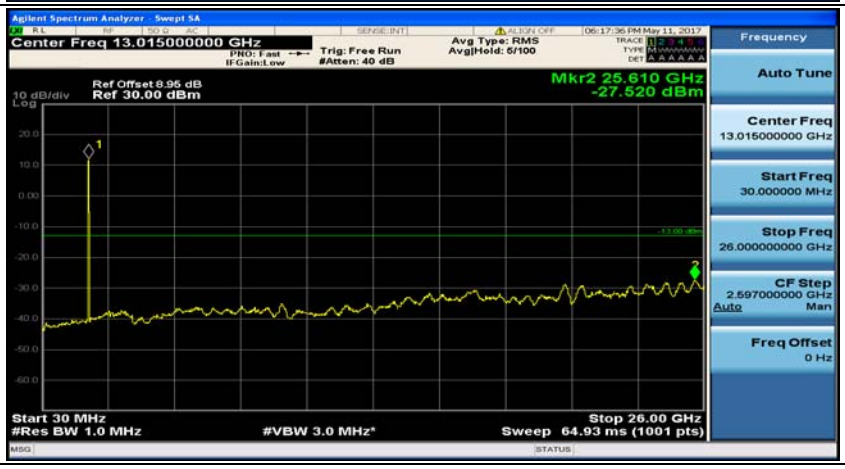




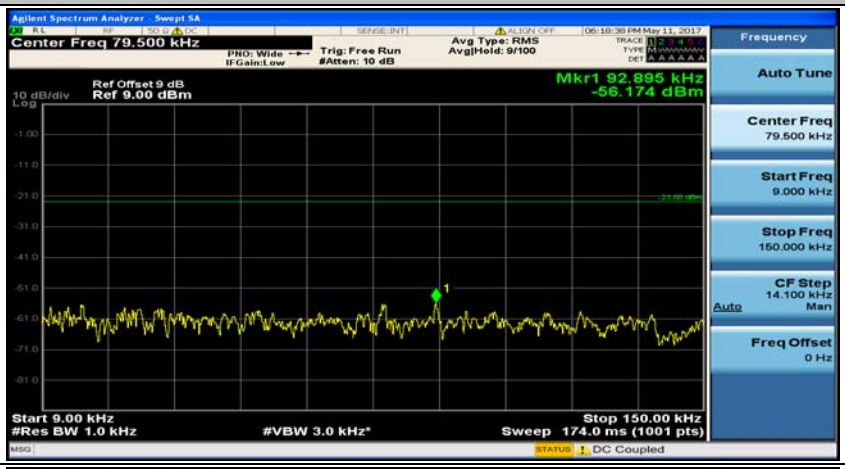
(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#74

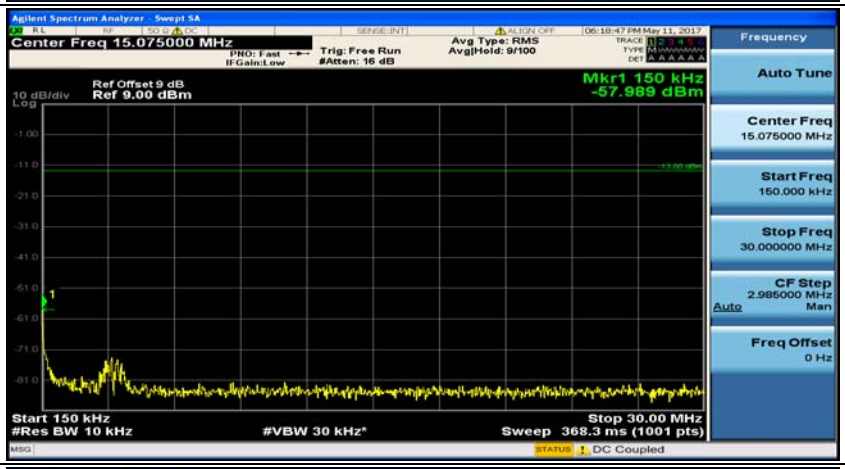

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 10/100
06:17:24 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Mkr1 35.085 kHz
-56.008 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

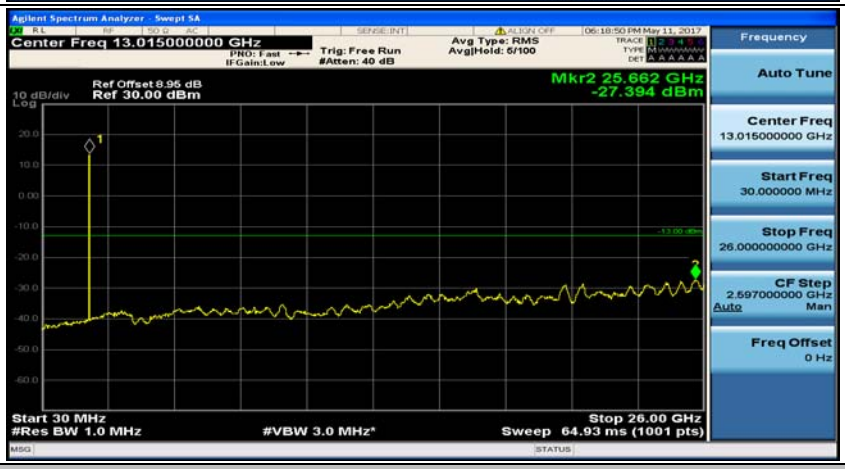

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
06:17:33 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Mkr1 150 kHz
-61.097 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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


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
06:17:36 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Log
Mkr2 25.610 GHz
-27.520 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

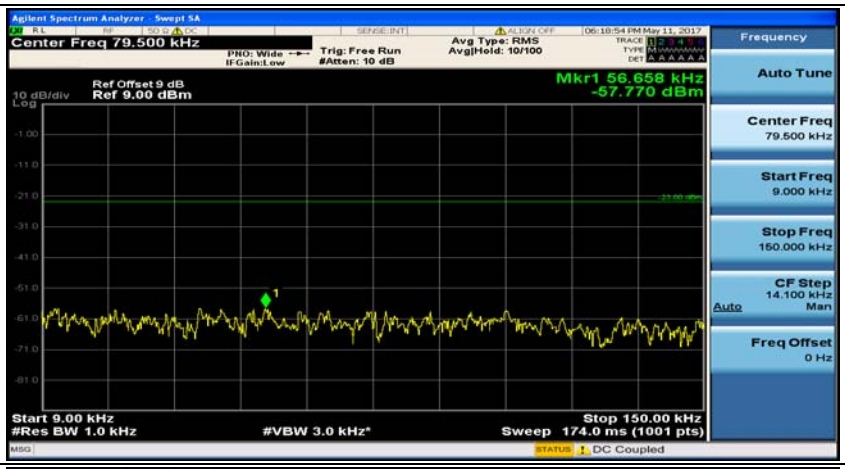
(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#0

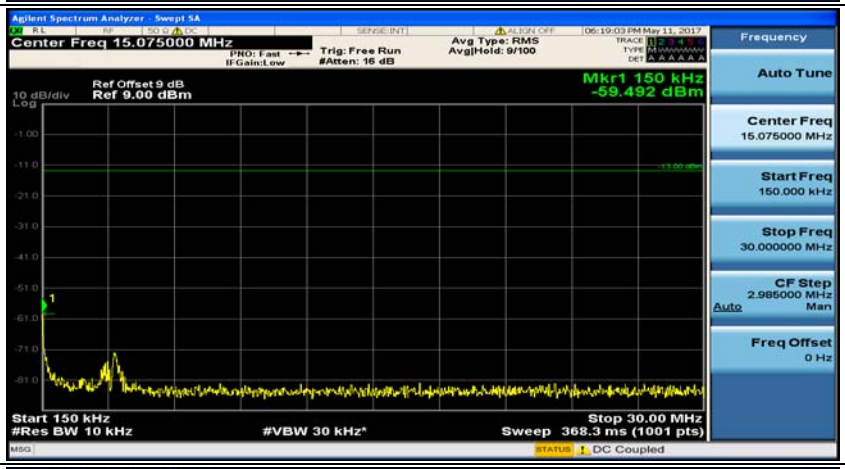


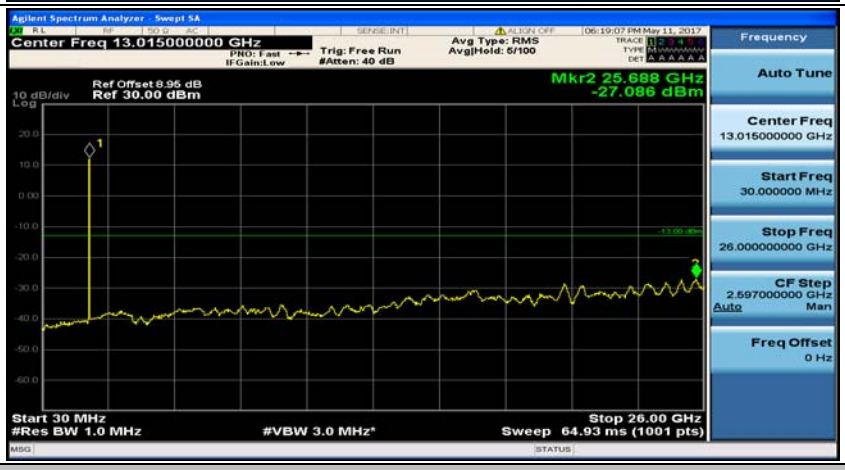




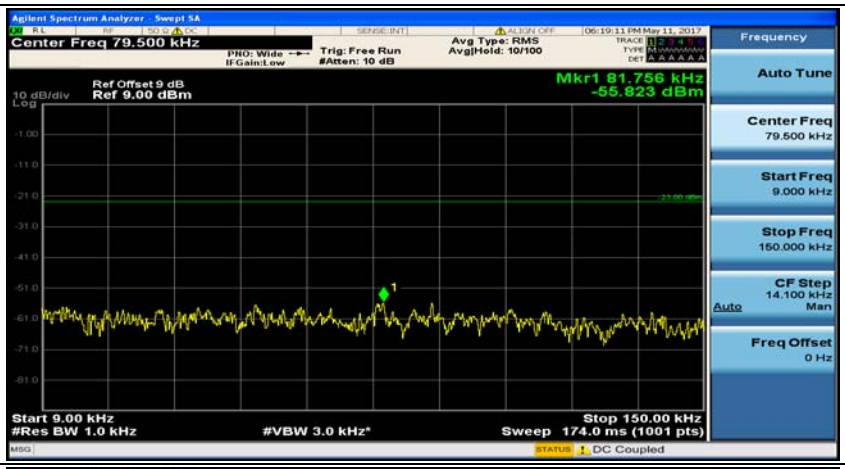
(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#37

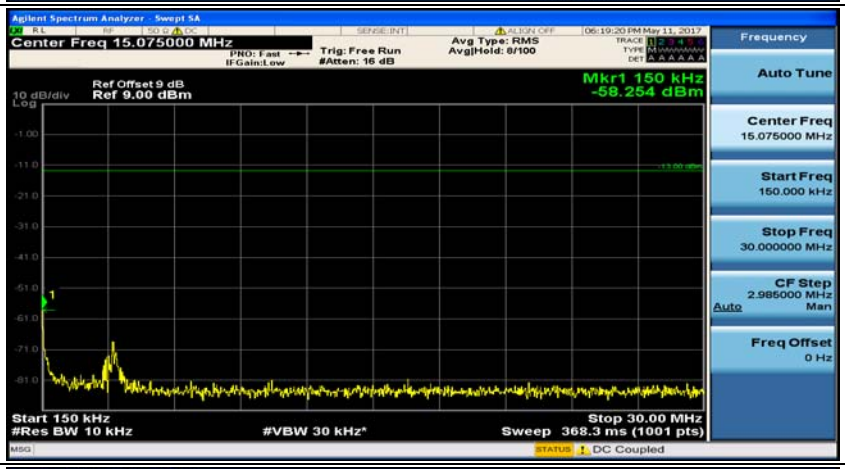


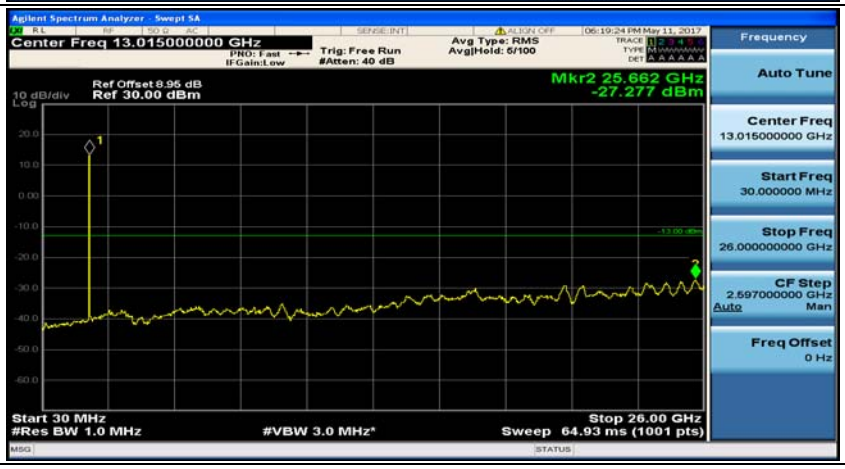




(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#74

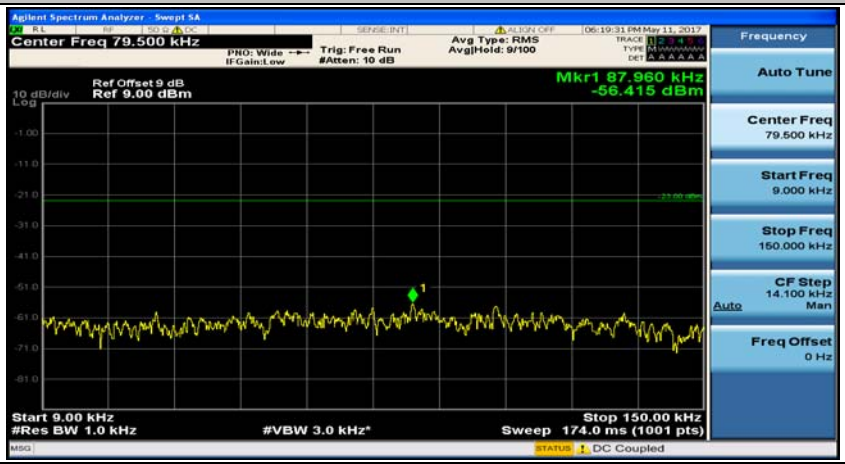

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 10/100
06:19:11 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 81.756 kHz
-55.823 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

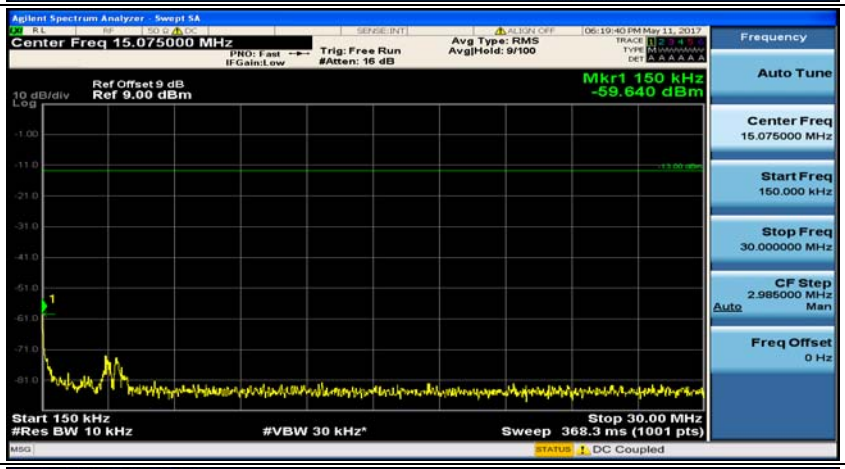

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 6/100
06:19:20 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 150 kHz
-58.254 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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

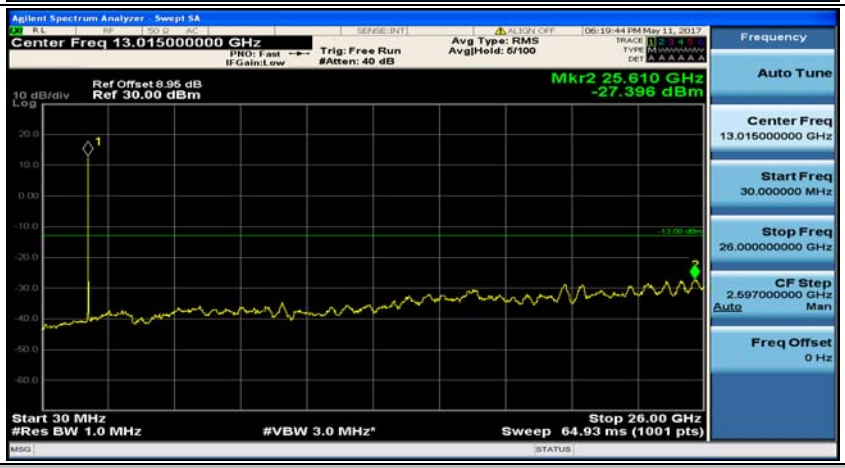

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
06:19:24 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Mkr2 25.662 GHz
-27.277 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

Channel Bandwidth: 20 MHz

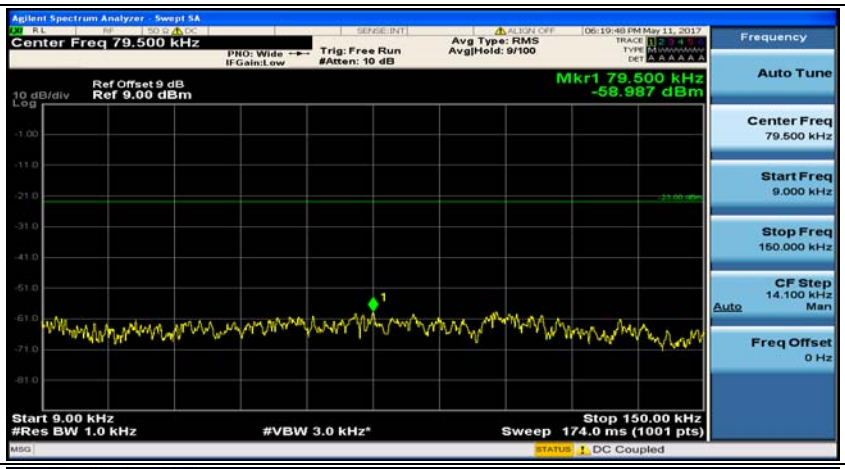
(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#0

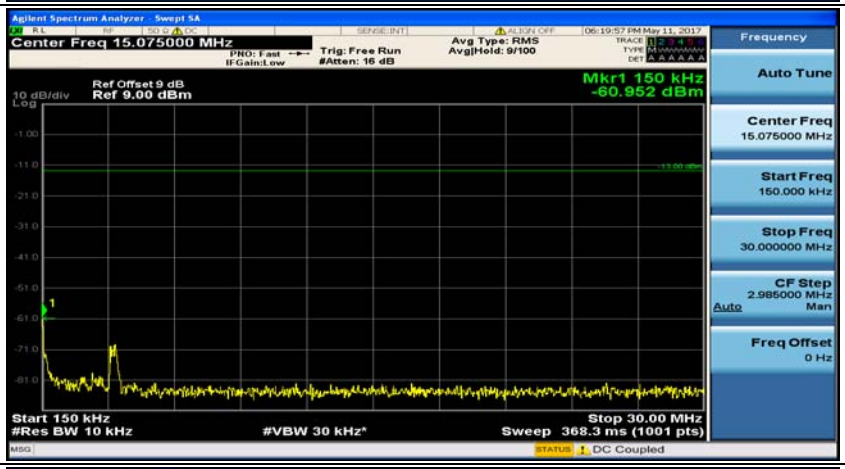


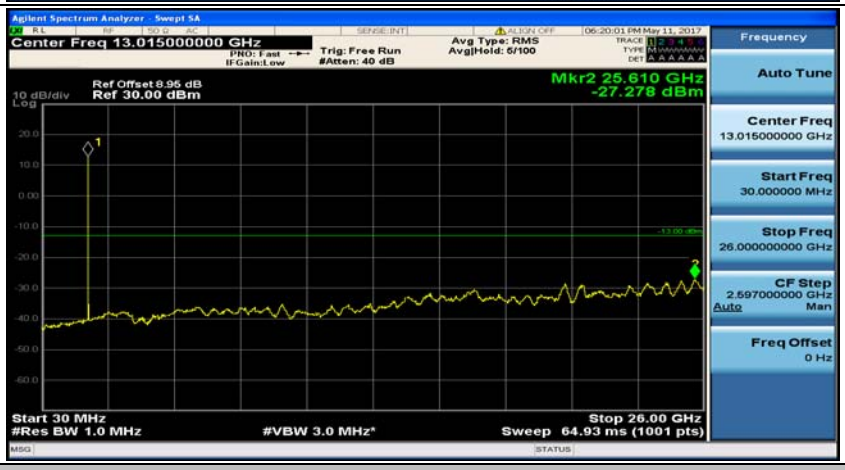




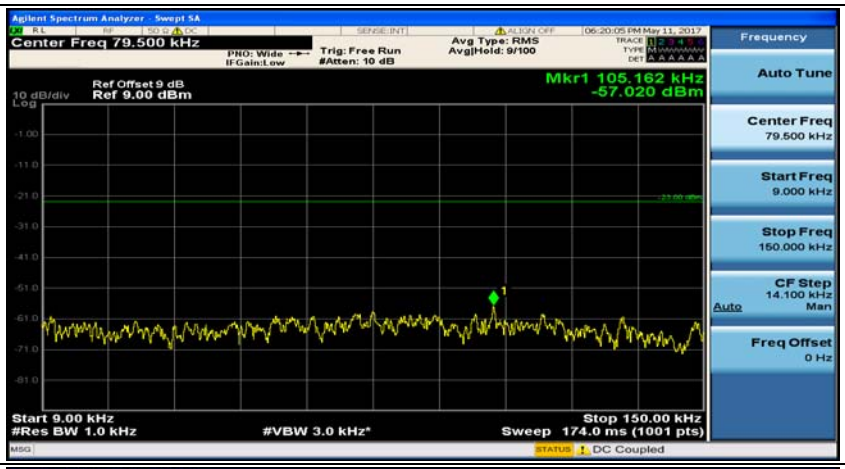
(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#49

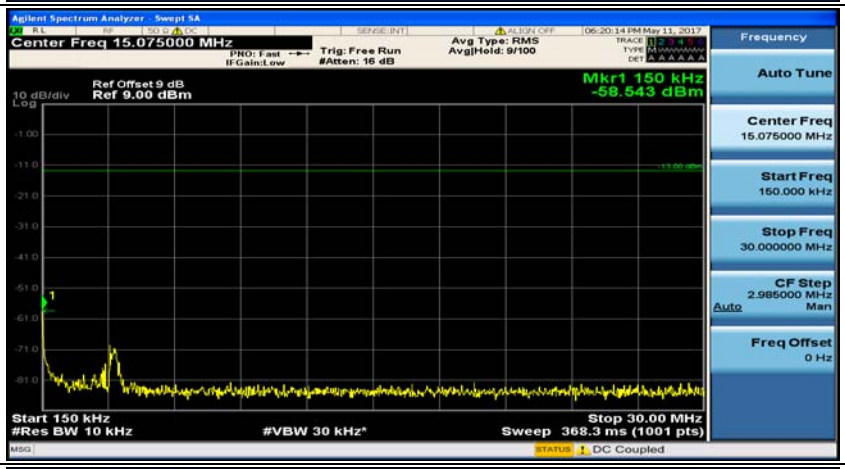


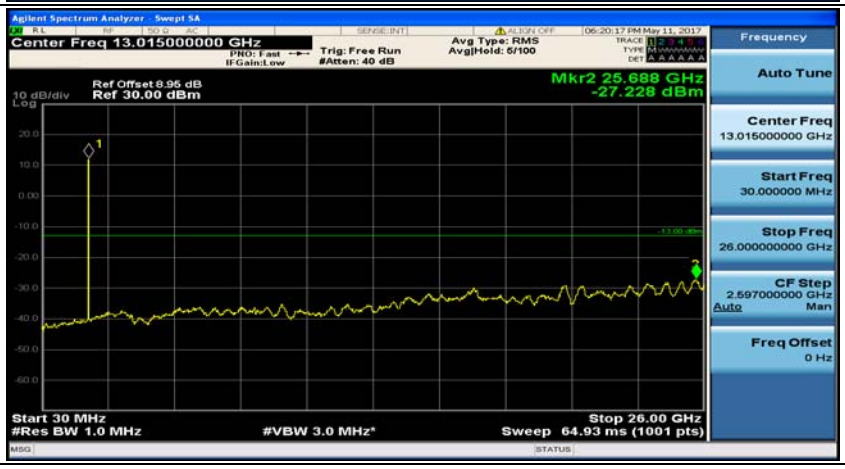


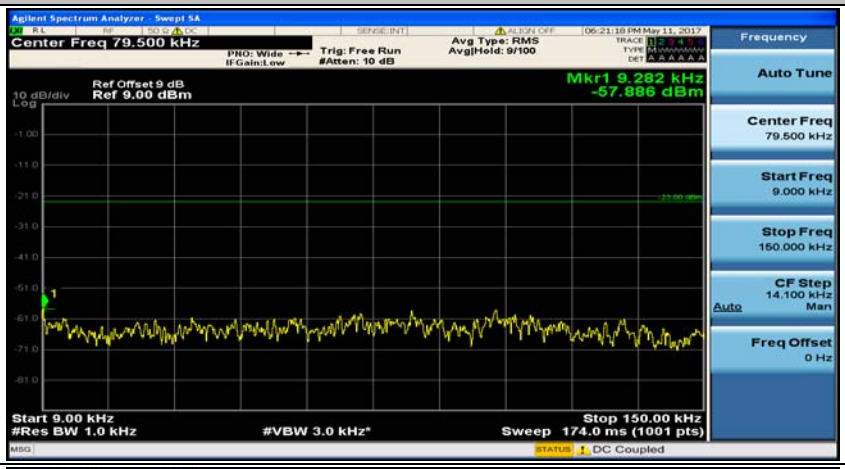
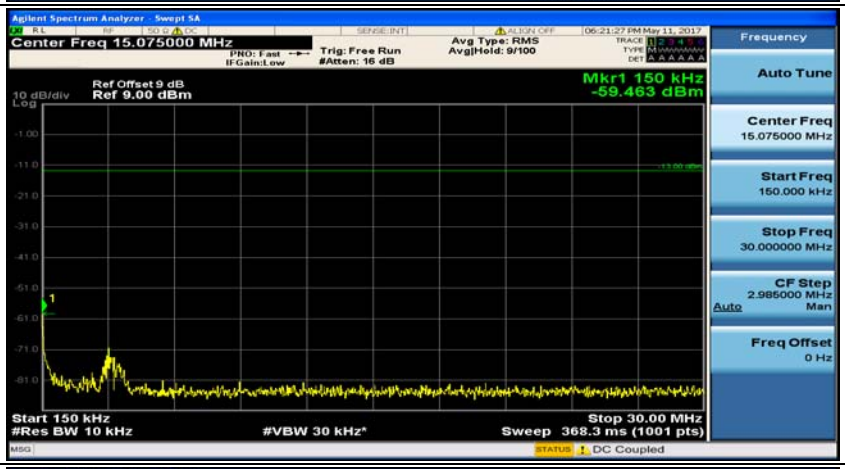
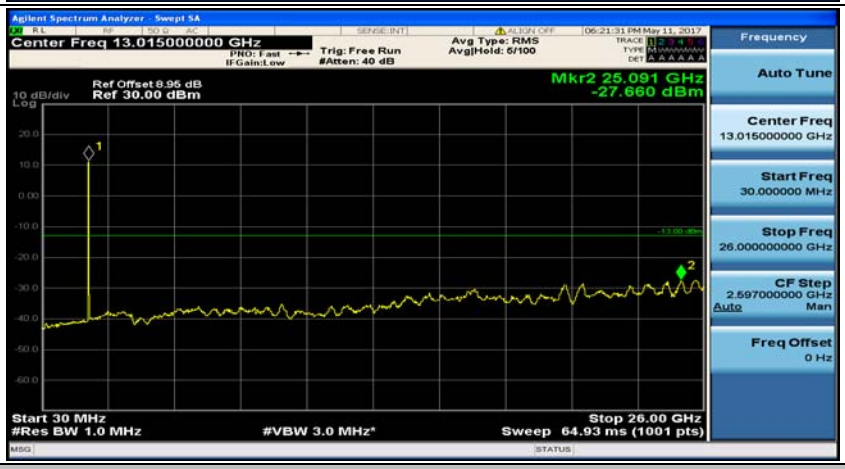


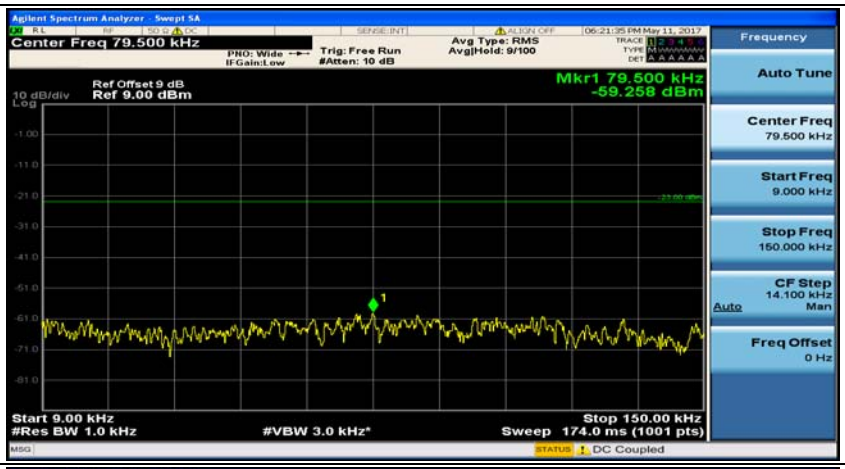
(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#99

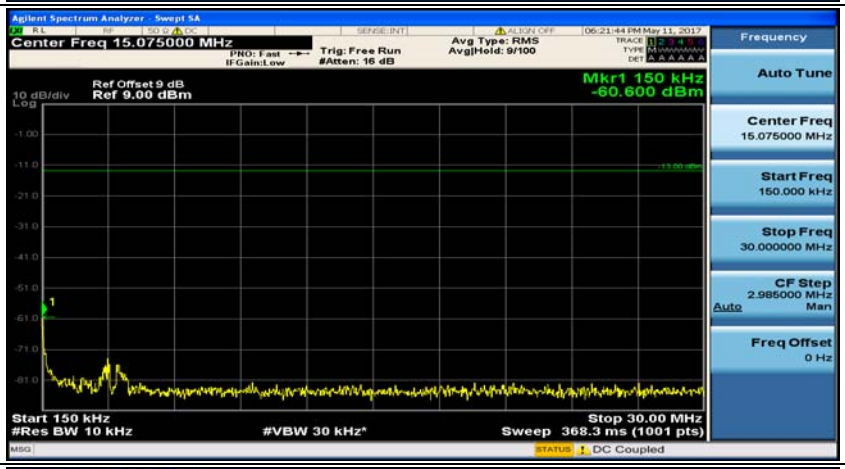

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
06:20:05 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 105.162 kHz
-57.020 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

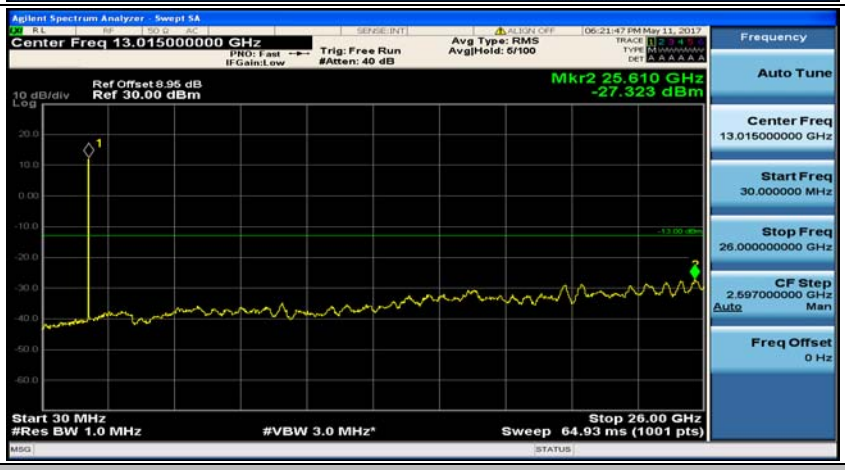

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
06:20:14 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 150 kHz
-58.543 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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


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
06:20:17 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Mkr2 25.688 GHz
-27.228 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

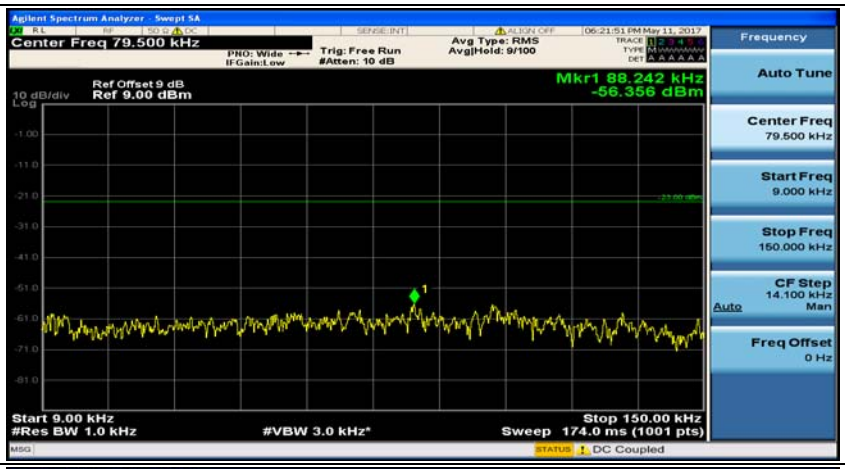
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0



(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

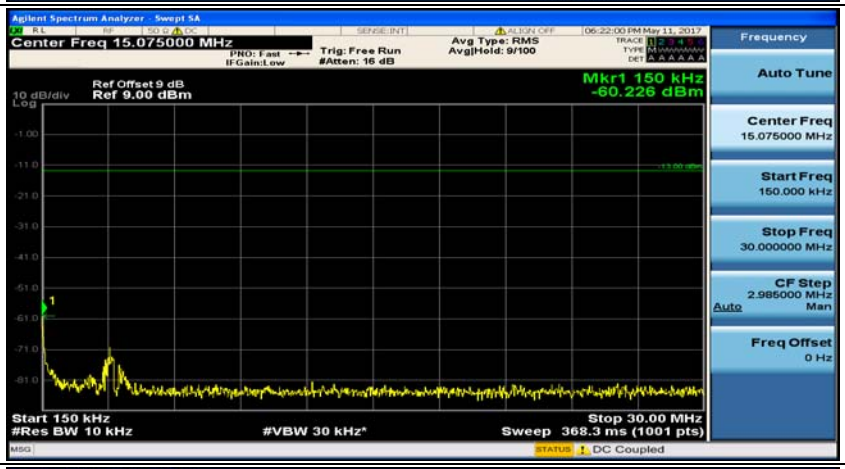


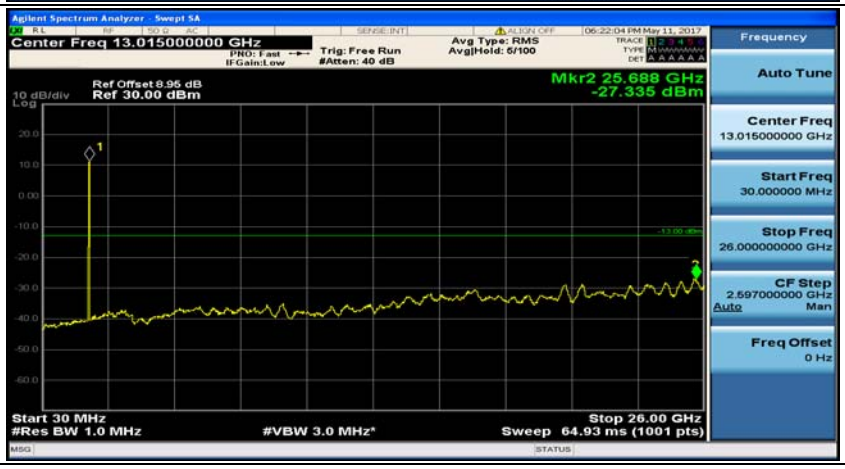




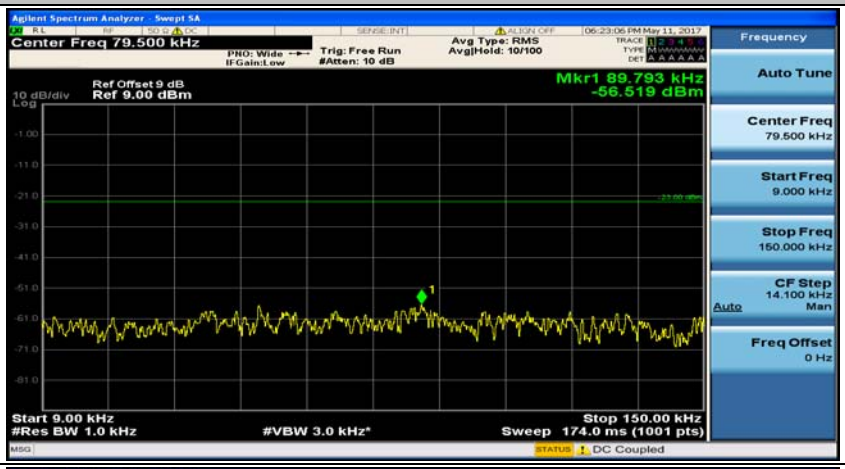
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#99

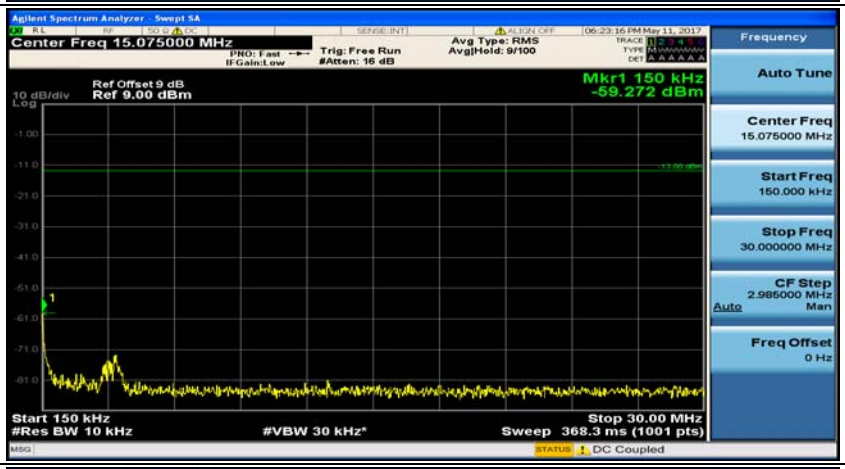

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
06:21:51 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Mkr1 88.242 kHz
-56.356 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

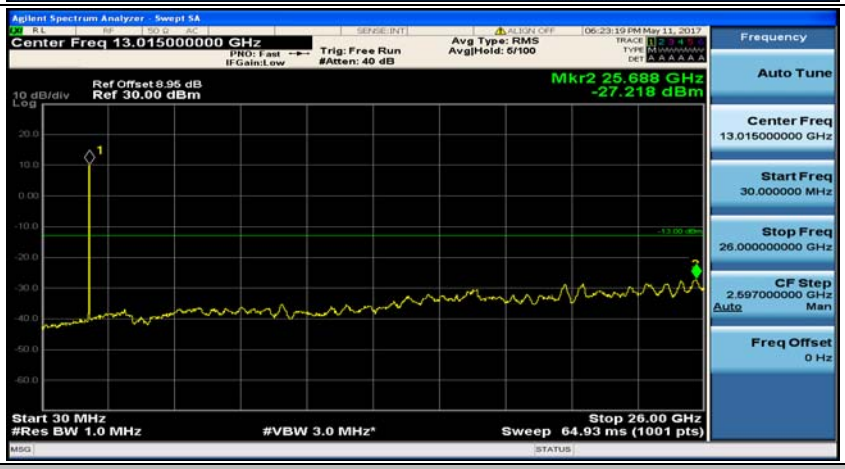

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
06:22:00 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Mkr1 150 kHz
-60.226 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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


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
06:22:04 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Log
Mkr2 25.688 GHz
-27.335 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

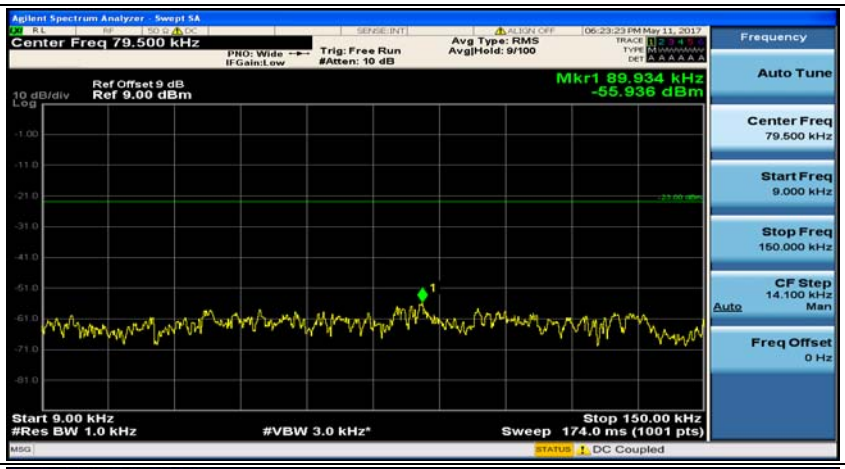
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0

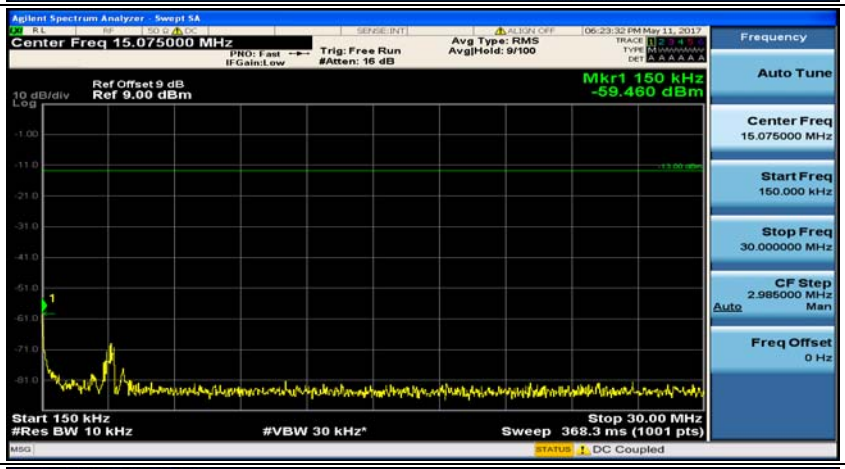


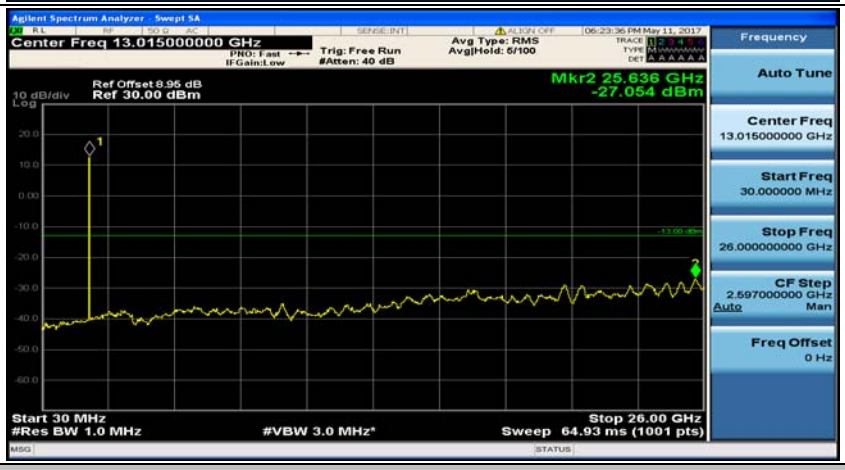




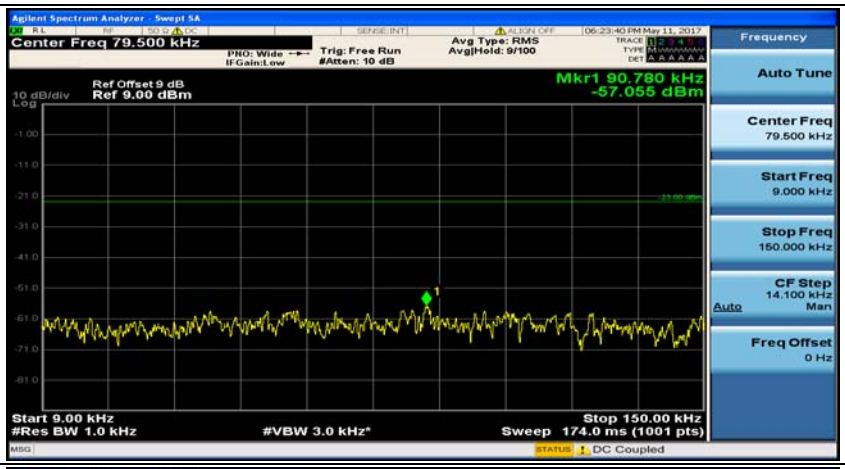
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

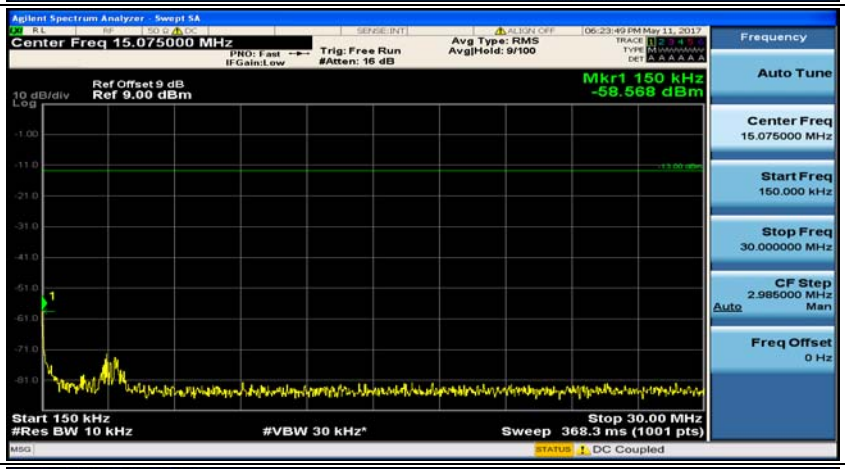


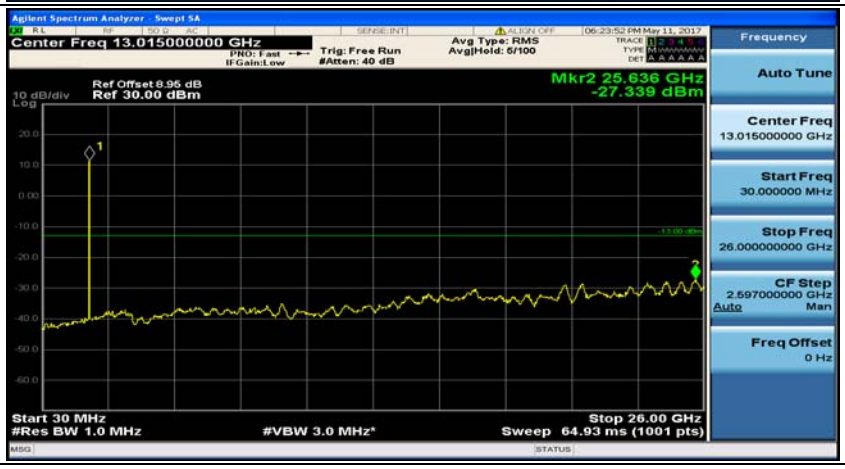




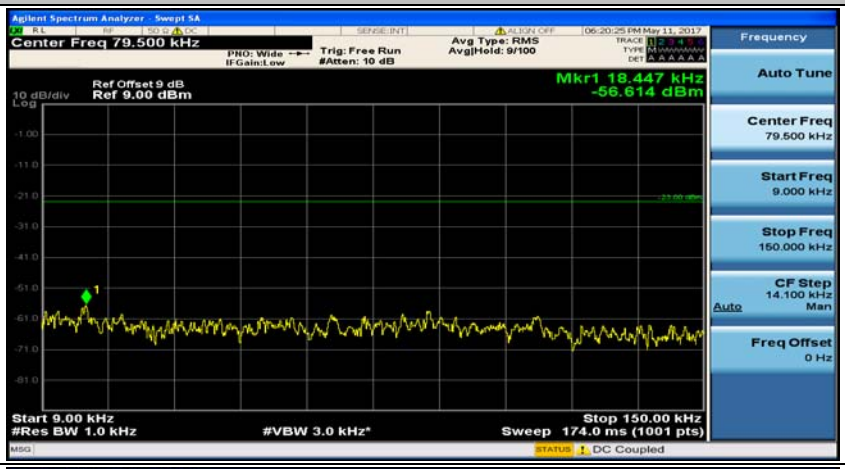
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#99

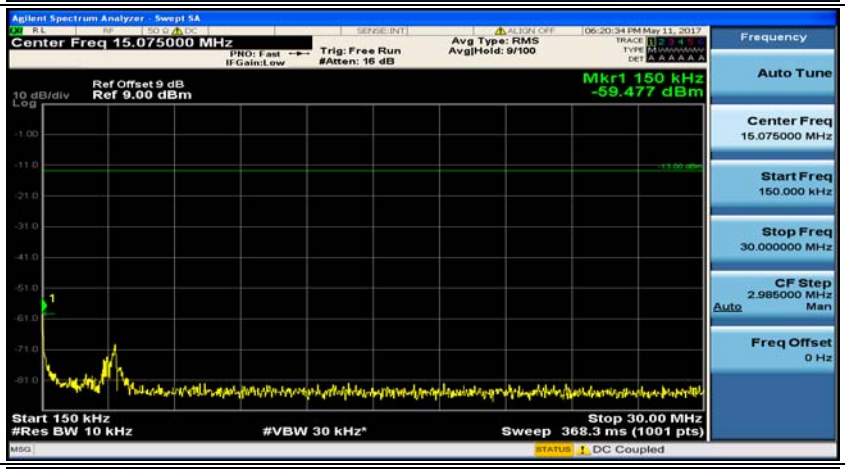

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
06:23:40 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 90.780 kHz
-57.055 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

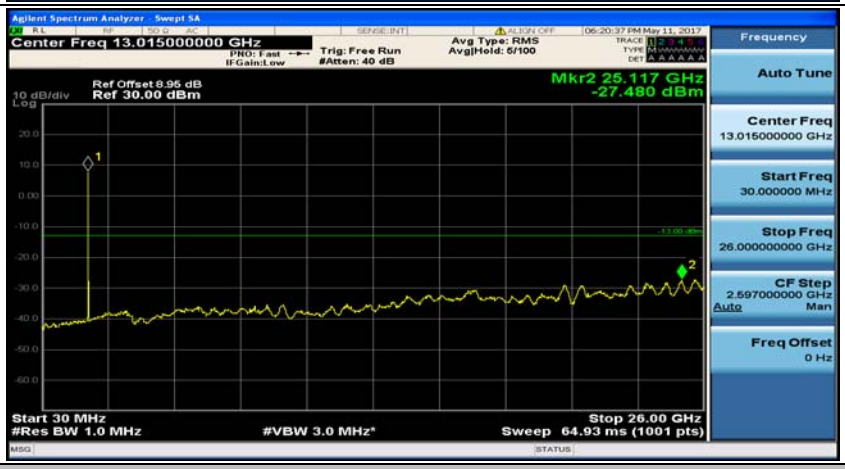

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
06:23:49 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 150 kHz
-58.568 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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


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
06:23:52 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Mkr2 25.636 GHz
-27.339 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

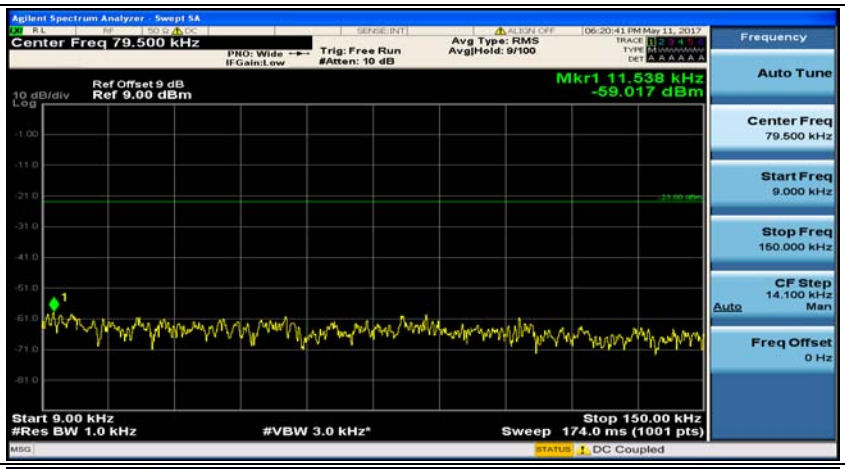
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0

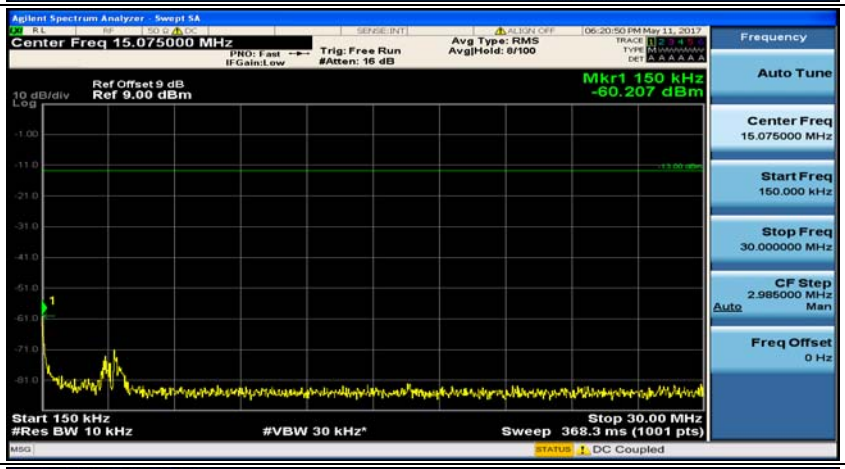


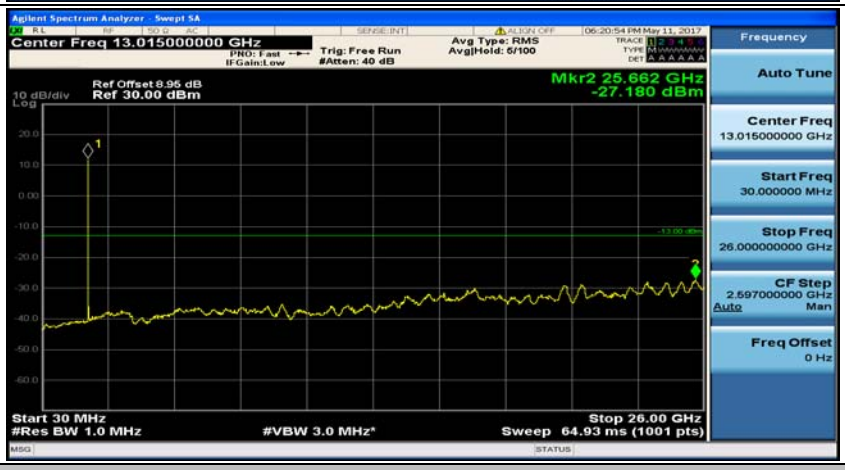




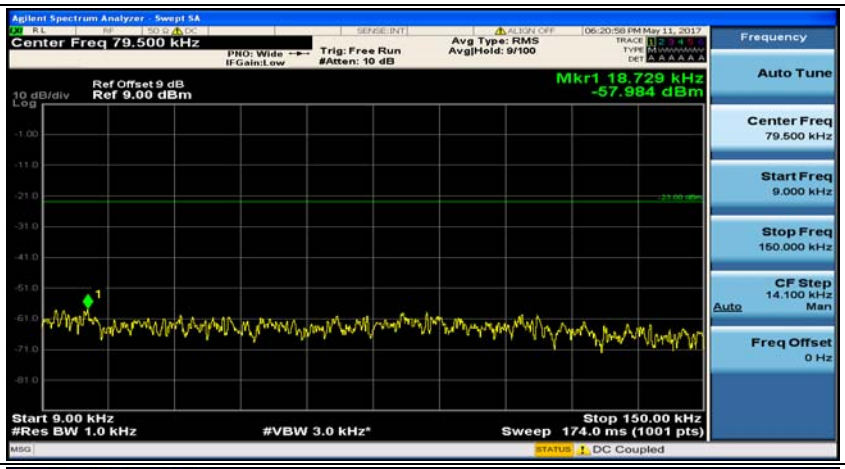
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

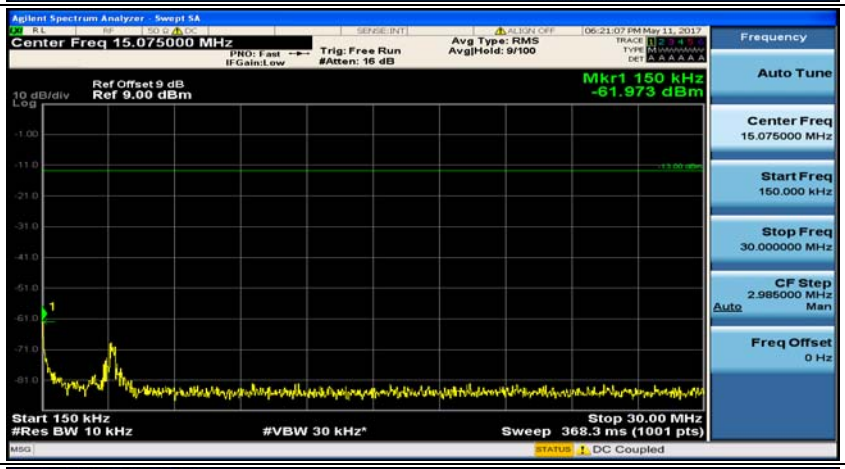


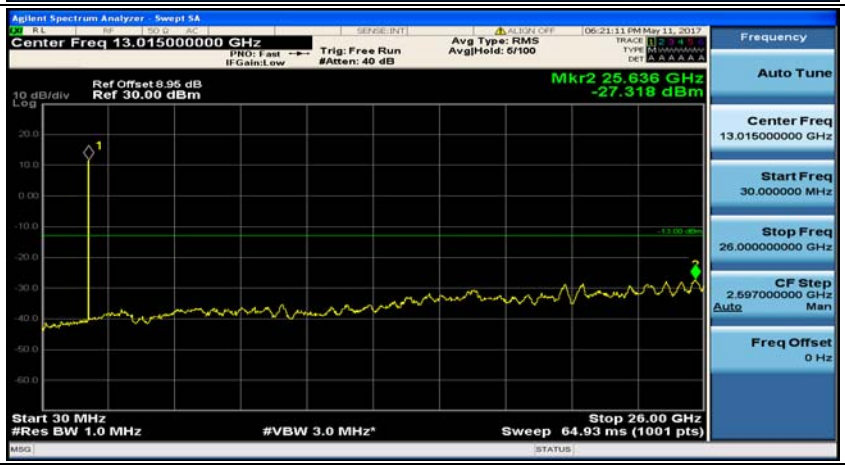




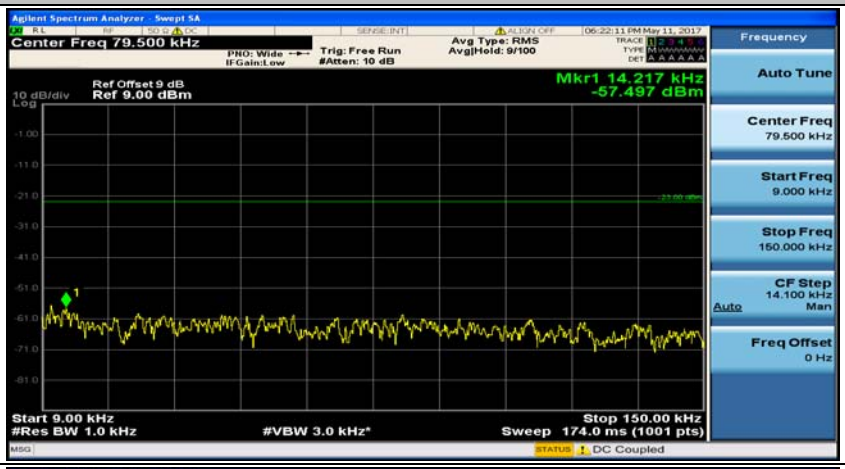
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#99

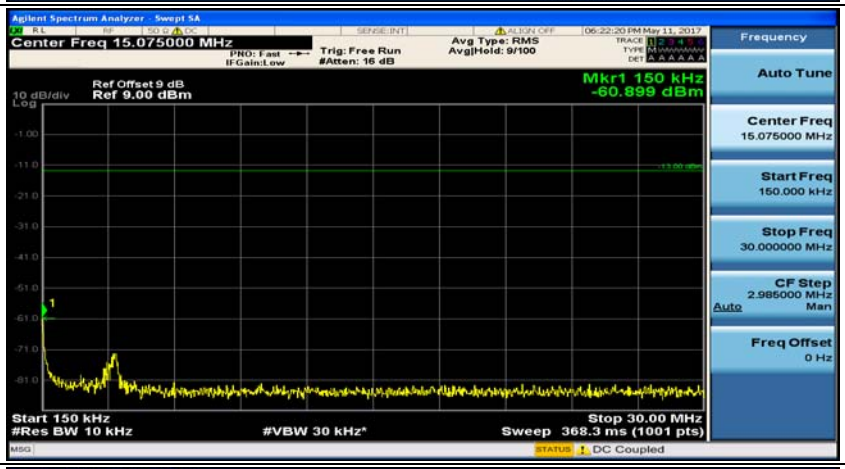

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
06:20:58 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 18.729 kHz
-57.984 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

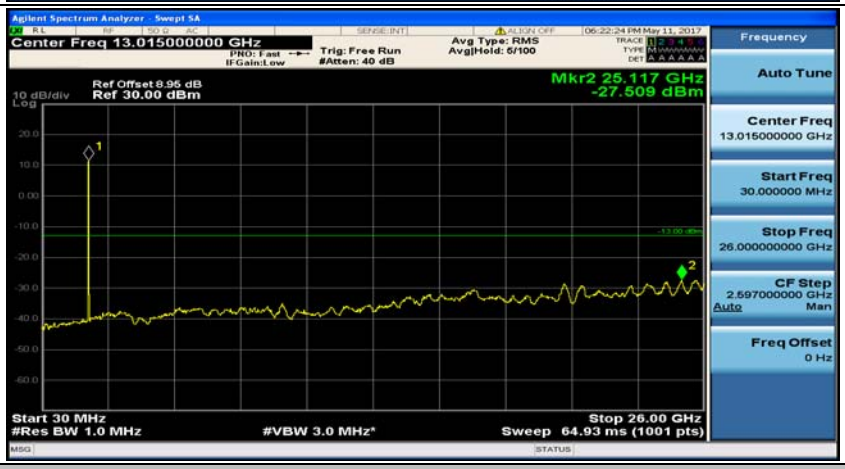

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
06:21:07 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 150 kHz
-61.973 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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


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
06:21:11 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Mkr2 25.636 GHz
-27.318 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

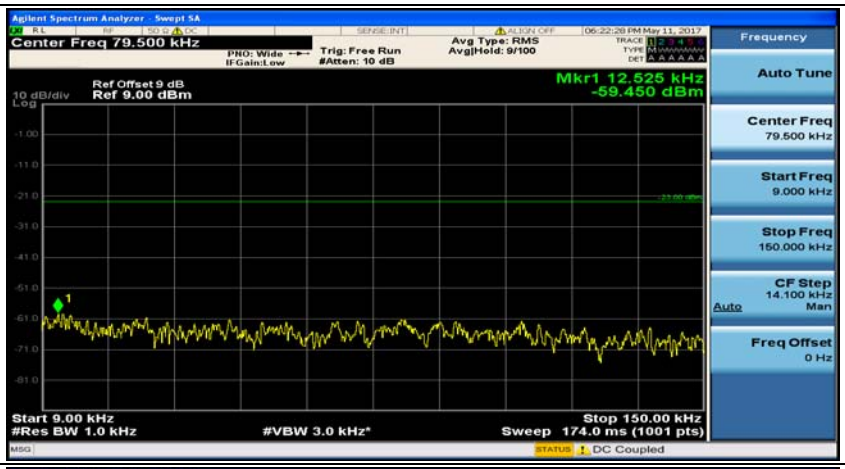
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0

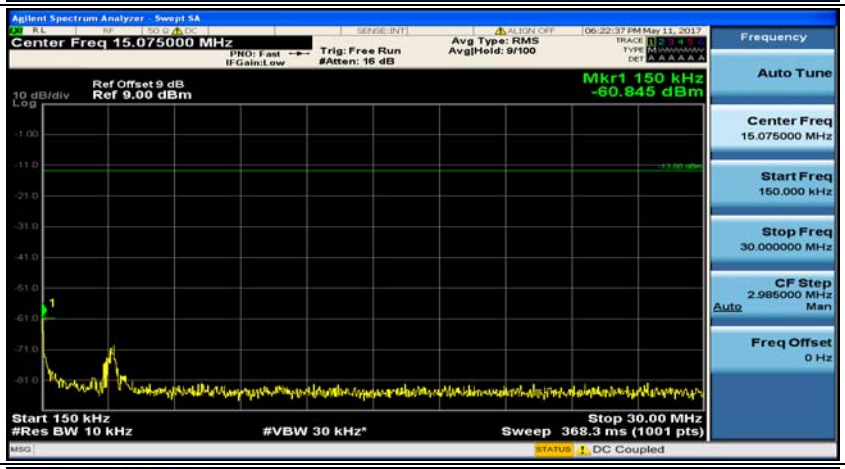


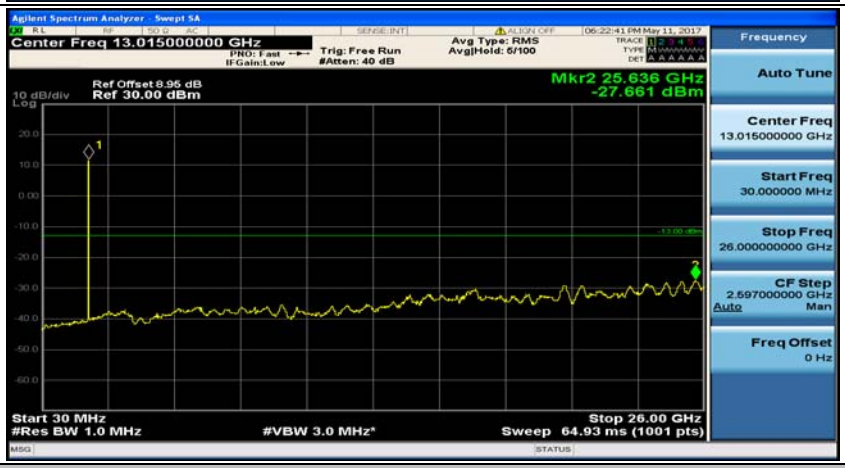




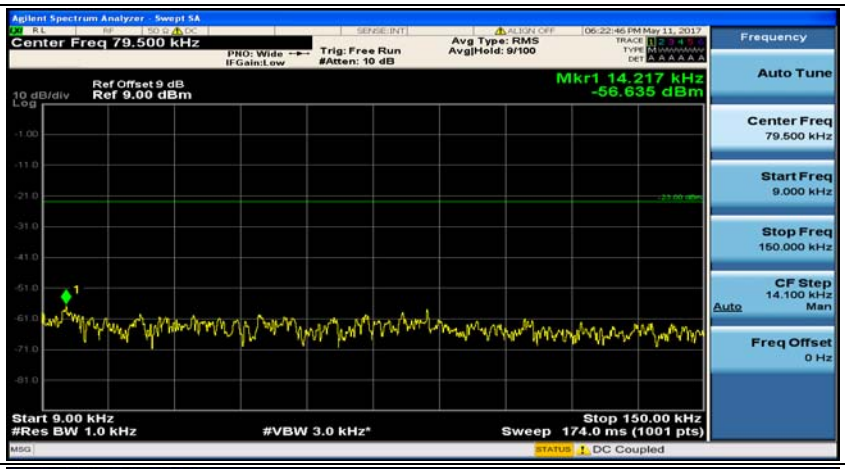
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49

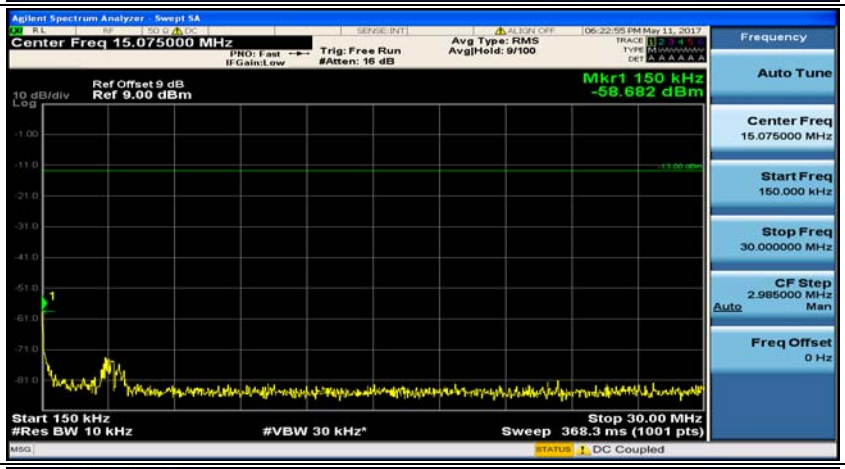


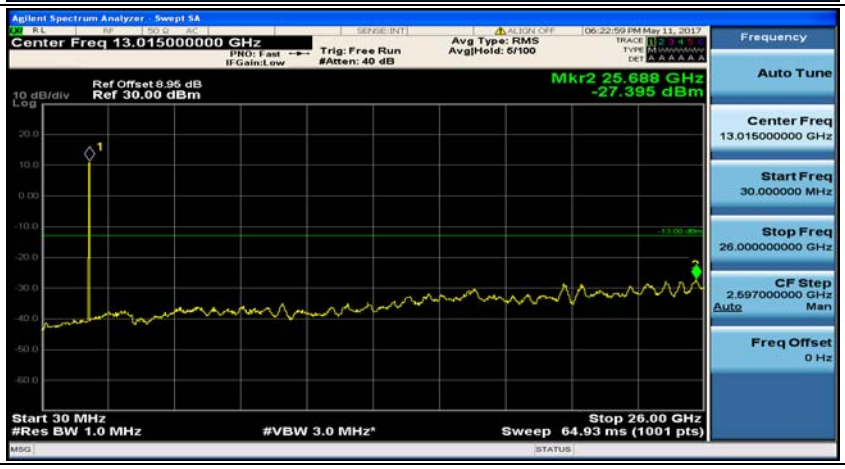




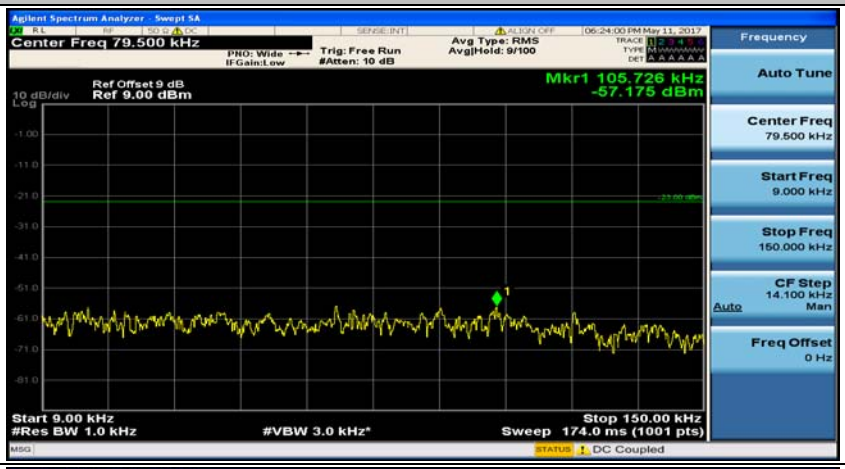
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#99

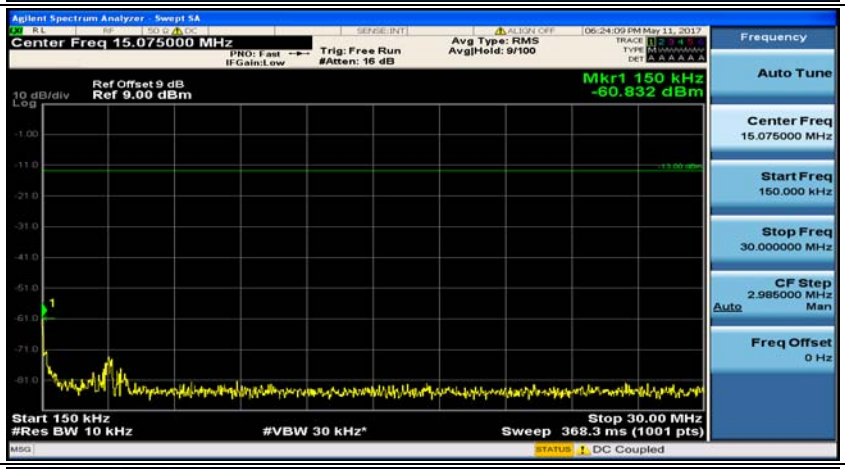

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
06:22:46 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Mkr1 14.217 kHz
-56.635 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
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

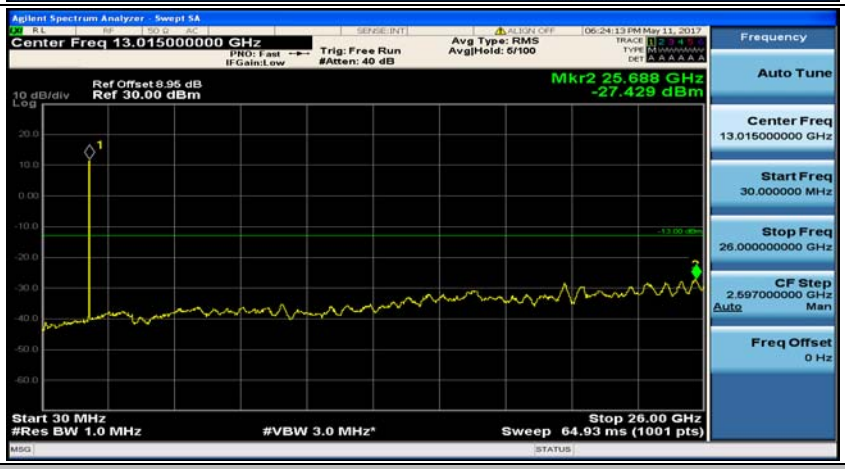

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
06:22:55 PM May 11, 2017
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Mkr1 150 kHz
-58.682 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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


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
06:22:59 PM May 11, 2017
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Log
Mkr2 25.688 GHz
-27.395 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

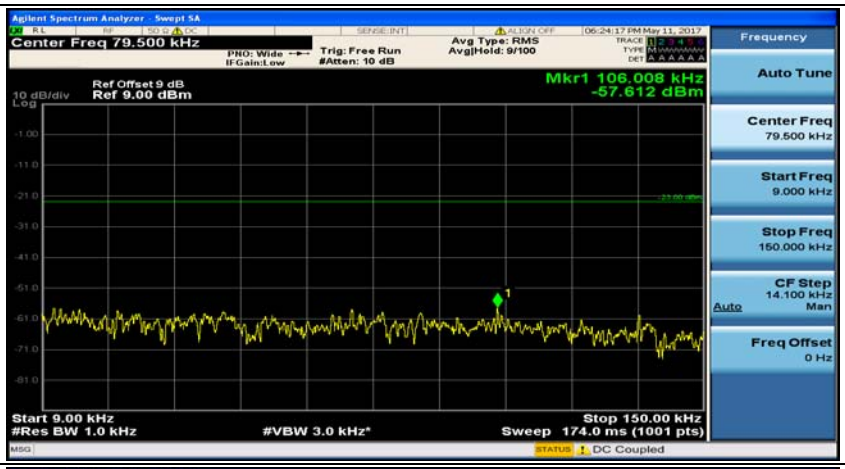
(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0

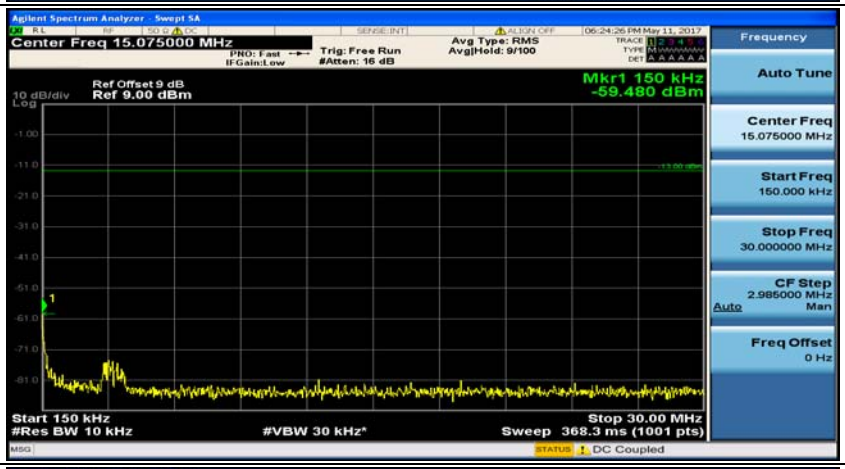


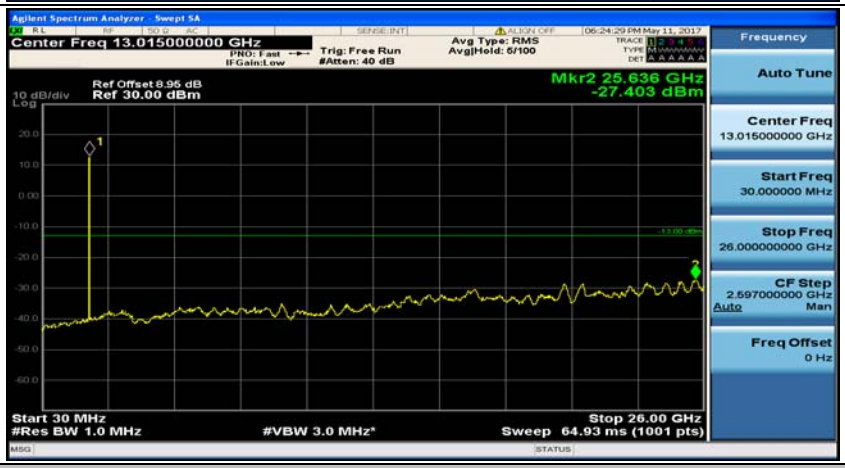




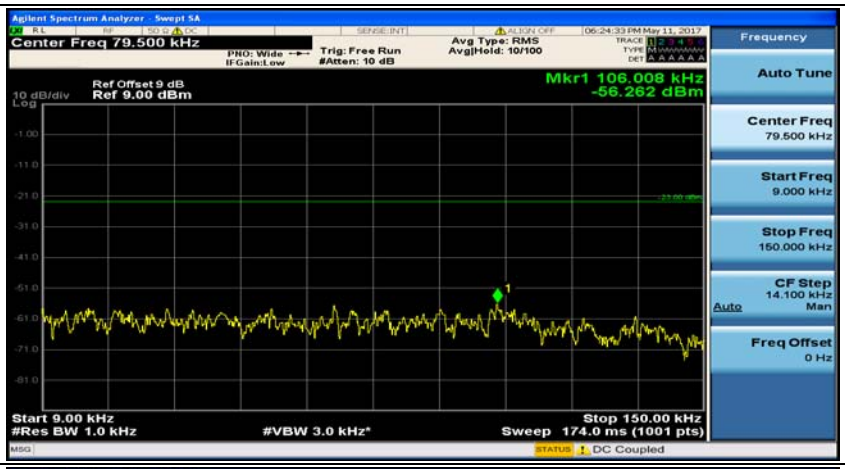
(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#49

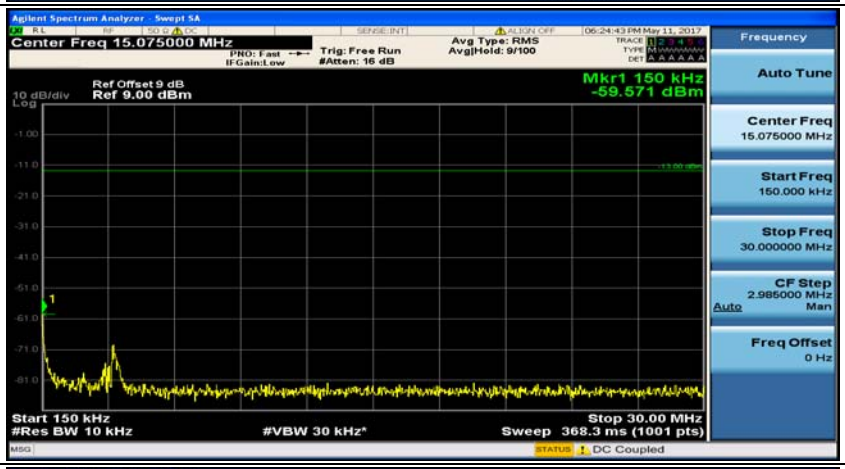


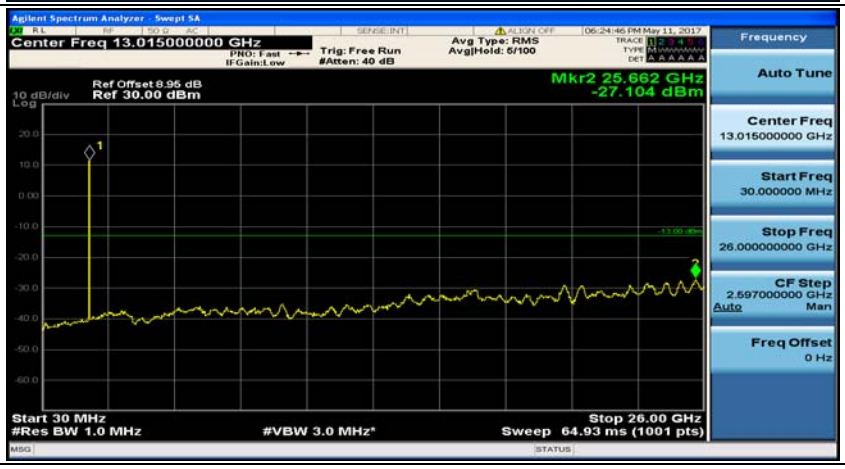




(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#99


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
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 106.008 kHz
-56.262 dBm
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
Frequency
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


Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 150 kHz
-59.571 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
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


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
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Mkr2 25.662 GHz
-27.104 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
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

Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	1.15	0.000621	± 2.5	PASS
		VN	TN	0.51	0.000276	± 2.5	PASS
		VH	TN	0.08	0.000043	± 2.5	PASS
	MCH	VL	TN	3.73	0.001984	± 2.5	PASS
		VN	TN	-1.91	-0.001016	± 2.5	PASS
		VH	TN	-0.71	-0.000378	± 2.5	PASS
	HCH	VL	TN	3.34	0.001749	± 2.5	PASS
		VN	TN	4.13	0.002163	± 2.5	PASS
		VH	TN	1.82	0.000953	± 2.5	PASS
16QAM	LCH	VL	TN	0.72	0.000389	± 2.5	PASS
		VN	TN	2.86	0.001545	± 2.5	PASS
		VH	TN	-1.24	-0.000670	± 2.5	PASS
	MCH	VL	TN	-1.25	-0.000665	± 2.5	PASS
		VN	TN	0.69	0.000367	± 2.5	PASS
		VH	TN	0.79	0.000420	± 2.5	PASS
	HCH	VL	TN	1.73	0.000906	± 2.5	PASS
		VN	TN	-0.46	-0.000241	± 2.5	PASS
		VH	TN	2.13	0.001116	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	0.53	0.000286	± 2.5	PASS
		VN	-20	1.55	0.000838	± 2.5	PASS
		VN	-10	-0.97	-0.000524	± 2.5	PASS
		VN	0	2.12	0.001146	± 2.5	PASS
		VN	10	4.86	0.002626	± 2.5	PASS
		VN	20	2.23	0.001205	± 2.5	PASS
		VN	30	3.4	0.001837	± 2.5	PASS
		VN	40	-0.8	-0.000432	± 2.5	PASS
		VN	50	0.7	0.000378	± 2.5	PASS
	MCH	VN	-30	4.54	0.002415	± 2.5	PASS

		VN	-20	-0.81	-0.000431	± 2.5	PASS
		VN	-10	0.71	0.000378	± 2.5	PASS
		VN	0	0.26	0.000138	± 2.5	PASS
		VN	10	-0.76	-0.000404	± 2.5	PASS
		VN	20	4.05	0.002154	± 2.5	PASS
		VN	30	-1.9	-0.001011	± 2.5	PASS
		VN	40	0.79	0.000420	± 2.5	PASS
		VN	50	1.06	0.000564	± 2.5	PASS
	HCH	VN	-30	4.71	0.002467	± 2.5	PASS
		VN	-20	-1.27	-0.000665	± 2.5	PASS
		VN	-10	-1.87	-0.000979	± 2.5	PASS
		VN	0	4.33	0.002268	± 2.5	PASS
		VN	10	3.34	0.001749	± 2.5	PASS
		VN	20	3.77	0.001975	± 2.5	PASS
		VN	30	-1.97	-0.001032	± 2.5	PASS
		VN	40	4.19	0.002195	± 2.5	PASS
		VN	50	1.88	0.000985	± 2.5	PASS
16QAM	LCH	VN	-30	0.2	0.000108	± 2.5	PASS
		VN	-20	4.01	0.002167	± 2.5	PASS
		VN	-10	-1.28	-0.000692	± 2.5	PASS
		VN	0	4.53	0.002448	± 2.5	PASS
		VN	10	1.3	0.000702	± 2.5	PASS
		VN	20	-0.42	-0.000227	± 2.5	PASS
		VN	30	1.32	0.000713	± 2.5	PASS
		VN	40	-1.03	-0.000557	± 2.5	PASS
		VN	50	1.21	0.000654	± 2.5	PASS
	MCH	VN	-30	3.25	0.001729	± 2.5	PASS
		VN	-20	1.77	0.000941	± 2.5	PASS
		VN	-10	0.75	0.000399	± 2.5	PASS
		VN	0	0.09	0.000048	± 2.5	PASS
		VN	10	2.5	0.001330	± 2.5	PASS
		VN	20	2.36	0.001255	± 2.5	PASS
		VN	30	-0.23	-0.000122	± 2.5	PASS
		VN	40	2	0.001064	± 2.5	PASS
		VN	50	-1.73	-0.000920	± 2.5	PASS
	HCH	VN	-30	0.89	0.000466	± 2.5	PASS
		VN	-20	1.15	0.000602	± 2.5	PASS
		VN	-10	0.25	0.000131	± 2.5	PASS
		VN	0	0.37	0.000194	± 2.5	PASS
		VN	10	0.53	0.000278	± 2.5	PASS
		VN	20	-0.55	-0.000288	± 2.5	PASS

		VN	30	2.82	0.001477	± 2.5	PASS
		VN	40	0.45	0.000236	± 2.5	PASS
		VN	50	3.88	0.002032	± 2.5	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz+							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	0.94	0.000508	± 2.5	PASS
		VN	TN	3.91	0.002112	± 2.5	PASS
		VH	TN	-1.68	-0.000907	± 2.5	PASS
	MCH	VL	TN	-0.77	-0.000410	± 2.5	PASS
		VN	TN	2.95	0.001569	± 2.5	PASS
		VH	TN	-1.09	-0.000580	± 2.5	PASS
	HCH	VL	TN	3.91	0.002049	± 2.5	PASS
		VN	TN	0.82	0.000430	± 2.5	PASS
		VH	TN	2.88	0.001509	± 2.5	PASS
16QAM	LCH	VL	TN	-1.91	-0.001032	± 2.5	PASS
		VN	TN	3.48	0.001880	± 2.5	PASS
		VH	TN	1.95	0.001053	± 2.5	PASS
	MCH	VL	TN	0.71	0.000378	± 2.5	PASS
		VN	TN	0.25	0.000133	± 2.5	PASS
		VH	TN	-0.08	-0.000043	± 2.5	PASS
	HCH	VL	TN	4.7	0.002463	± 2.5	PASS
		VN	TN	-0.8	-0.000419	± 2.5	PASS
		VH	TN	0.8	0.000419	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.61	-0.000329	± 2.5	PASS
		VN	-20	1.17	0.000632	± 2.5	PASS
		VN	-10	0.73	0.000394	± 2.5	PASS
		VN	0	-0.97	-0.000524	± 2.5	PASS
		VN	10	1.74	0.000940	± 2.5	PASS
		VN	20	3.95	0.002133	± 2.5	PASS
		VN	30	2.89	0.001561	± 2.5	PASS
		VN	40	-1.63	-0.000880	± 2.5	PASS
		VN	50	4.09	0.002209	± 2.5	PASS
	MCH	VN	-30	4.66	0.002479	± 2.5	PASS
		VN	-20	4.44	0.002362	± 2.5	PASS

		VN	-10	0.88	0.000468	± 2.5	PASS
		VN	0	2.38	0.001266	± 2.5	PASS
		VN	10	1.7	0.000904	± 2.5	PASS
		VN	20	-1.79	-0.000952	± 2.5	PASS
		VN	30	-1.42	-0.000755	± 2.5	PASS
		VN	40	2.07	0.001101	± 2.5	PASS
		VN	50	-1.37	-0.000729	± 2.5	PASS
	HCH	VN	-30	-0.95	-0.000498	± 2.5	PASS
		VN	-20	4.05	0.002122	± 2.5	PASS
		VN	-10	1.44	0.000755	± 2.5	PASS
		VN	0	-0.66	-0.000346	± 2.5	PASS
		VN	10	2.43	0.001273	± 2.5	PASS
		VN	20	0.48	0.000252	± 2.5	PASS
		VN	30	4.18	0.002190	± 2.5	PASS
		VN	40	1.47	0.000770	± 2.5	PASS
		VN	50	4.62	0.002421	± 2.5	PASS
16QAM	LCH	VN	-30	2.38	0.001285	± 2.5	PASS
		VN	-20	3.97	0.002144	± 2.5	PASS
		VN	-10	-0.62	-0.000335	± 2.5	PASS
		VN	0	-0.84	-0.000454	± 2.5	PASS
		VN	10	2.97	0.001604	± 2.5	PASS
		VN	20	0.09	0.000049	± 2.5	PASS
		VN	30	1.77	0.000956	± 2.5	PASS
		VN	40	-0.13	-0.000070	± 2.5	PASS
		VN	50	-1	-0.000540	± 2.5	PASS
	MCH	VN	-30	-1.91	-0.001016	± 2.5	PASS
		VN	-20	4.19	0.002229	± 2.5	PASS
		VN	-10	3.09	0.001644	± 2.5	PASS
		VN	0	2.62	0.001394	± 2.5	PASS
		VN	10	4.02	0.002138	± 2.5	PASS
		VN	20	-0.26	-0.000138	± 2.5	PASS
		VN	30	-0.33	-0.000176	± 2.5	PASS
		VN	40	-1.3	-0.000691	± 2.5	PASS
		VN	50	2.04	0.001085	± 2.5	PASS
	HCH	VN	-30	-0.07	-0.000037	± 2.5	PASS
		VN	-20	3.72	0.001949	± 2.5	PASS
		VN	-10	1.29	0.000676	± 2.5	PASS
		VN	0	3.71	0.001944	± 2.5	PASS
		VN	10	-1.53	-0.000802	± 2.5	PASS
		VN	20	4.52	0.002368	± 2.5	PASS
		VN	30	1.61	0.000844	± 2.5	PASS

		VN	40	4.87	0.002552	± 2.5	PASS
		VN	50	0.46	0.000241	± 2.5	PASS

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	-1.73	-0.000934	± 2.5	PASS
		VN	TN	2.74	0.001479	± 2.5	PASS
		VH	TN	2.18	0.001177	± 2.5	PASS
	MCH	VL	TN	2.09	0.001112	± 2.5	PASS
		VN	TN	3.82	0.002032	± 2.5	PASS
		VH	TN	2.52	0.001340	± 2.5	PASS
	HCH	VL	TN	0.65	0.000341	± 2.5	PASS
		VN	TN	0.02	0.000010	± 2.5	PASS
		VH	TN	1.47	0.000771	± 2.5	PASS
16QAM	LCH	VL	TN	4.16	0.002246	± 2.5	PASS
		VN	TN	2.4	0.001296	± 2.5	PASS
		VH	TN	3.55	0.001916	± 2.5	PASS
	MCH	VL	TN	2.2	0.001170	± 2.5	PASS
		VN	TN	-0.73	-0.000388	± 2.5	PASS
		VH	TN	1.52	0.000809	± 2.5	PASS
	HCH	VL	TN	0.39	0.000204	± 2.5	PASS
		VN	TN	1.25	0.000655	± 2.5	PASS
		VH	TN	2.06	0.001080	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.3	0.001242	± 2.5	PASS
		VN	-20	-1.18	-0.000637	± 2.5	PASS
		VN	-10	2.51	0.001355	± 2.5	PASS
		VN	0	4.64	0.002505	± 2.5	PASS
		VN	10	0.69	0.000372	± 2.5	PASS
		VN	20	-0.24	-0.000130	± 2.5	PASS
		VN	30	-1.42	-0.000767	± 2.5	PASS
		VN	40	-1.86	-0.001004	± 2.5	PASS
		VN	50	0.96	0.000518	± 2.5	PASS
	MCH	VN	-30	4.95	0.002633	± 2.5	PASS
		VN	-20	2.23	0.001186	± 2.5	PASS
		VN	-10	-0.71	-0.000378	± 2.5	PASS

		VN	0	0.29	0.000154	± 2.5	PASS
		VN	10	0.4	0.000213	± 2.5	PASS
		VN	20	1.78	0.000947	± 2.5	PASS
		VN	30	2.63	0.001399	± 2.5	PASS
		VN	40	-0.69	-0.000367	± 2.5	PASS
		VN	50	1.16	0.000617	± 2.5	PASS
	HCH	VN	-30	1.47	0.000771	± 2.5	PASS
		VN	-20	-0.87	-0.000456	± 2.5	PASS
		VN	-10	0.69	0.000362	± 2.5	PASS
		VN	0	4.71	0.002469	± 2.5	PASS
		VN	10	-0.62	-0.000325	± 2.5	PASS
		VN	20	-1.01	-0.000529	± 2.5	PASS
		VN	30	-0.36	-0.000189	± 2.5	PASS
		VN	40	-1.13	-0.000592	± 2.5	PASS
		VN	50	-0.5	-0.000262	± 2.5	PASS
16QAM	LCH	VN	-30	-0.25	-0.000135	± 2.5	PASS
		VN	-20	4.87	0.002629	± 2.5	PASS
		VN	-10	1.13	0.000610	± 2.5	PASS
		VN	0	1.39	0.000750	± 2.5	PASS
		VN	10	-0.65	-0.000351	± 2.5	PASS
		VN	20	3.36	0.001814	± 2.5	PASS
		VN	30	-1.49	-0.000804	± 2.5	PASS
		VN	40	2.97	0.001603	± 2.5	PASS
		VN	50	1.43	0.000772	± 2.5	PASS
	MCH	VN	-30	-0.49	-0.000261	± 2.5	PASS
		VN	-20	1.42	0.000755	± 2.5	PASS
		VN	-10	2.14	0.001138	± 2.5	PASS
		VN	0	-0.33	-0.000176	± 2.5	PASS
		VN	10	-1.78	-0.000947	± 2.5	PASS
		VN	20	2.21	0.001176	± 2.5	PASS
		VN	30	0.51	0.000271	± 2.5	PASS
		VN	40	4.41	0.002346	± 2.5	PASS
		VN	50	0.71	0.000378	± 2.5	PASS
	HCH	VN	-30	0.78	0.000409	± 2.5	PASS
		VN	-20	-0.27	-0.000142	± 2.5	PASS
		VN	-10	4.04	0.002118	± 2.5	PASS
		VN	0	4.98	0.002611	± 2.5	PASS
		VN	10	1.81	0.000949	± 2.5	PASS
		VN	20	-0.21	-0.000110	± 2.5	PASS
		VN	30	-0.67	-0.000351	± 2.5	PASS
		VN	40	1.19	0.000624	± 2.5	PASS

		VN	50	1.18	0.000619	± 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	0.9	0.000485	± 2.5	PASS
		VN	TN	-1.23	-0.000663	± 2.5	PASS
		VH	TN	1.51	0.000814	± 2.5	PASS
	MCH	VL	TN	4.96	0.002638	± 2.5	PASS
		VN	TN	2.32	0.001234	± 2.5	PASS
		VH	TN	0.27	0.000144	± 2.5	PASS
	HCH	VL	TN	2.74	0.001438	± 2.5	PASS
		VN	TN	-0.58	-0.000304	± 2.5	PASS
		VH	TN	-0.74	-0.000388	± 2.5	PASS
16QAM	LCH	VL	TN	-0.17	-0.000092	± 2.5	PASS
		VN	TN	0.73	0.000394	± 2.5	PASS
		VH	TN	-0.22	-0.000119	± 2.5	PASS
	MCH	VL	TN	3.6	0.001915	± 2.5	PASS
		VN	TN	4.13	0.002197	± 2.5	PASS
		VH	TN	0.08	0.000043	± 2.5	PASS
	HCH	VL	TN	-0.74	-0.000388	± 2.5	PASS
		VN	TN	4.41	0.002315	± 2.5	PASS
		VH	TN	-0.27	-0.000142	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	-1.37	-0.000739	± 2.5	PASS
		VN	-20	1.54	0.000830	± 2.5	PASS
		VN	-10	4.82	0.002598	± 2.5	PASS
		VN	0	-0.85	-0.000458	± 2.5	PASS
		VN	10	4.83	0.002604	± 2.5	PASS
		VN	20	0.7	0.000377	± 2.5	PASS
		VN	30	1.51	0.000814	± 2.5	PASS
		VN	40	-1.77	-0.000954	± 2.5	PASS
		VN	50	0.9	0.000485	± 2.5	PASS
	MCH	VN	-30	-1.57	-0.000835	± 2.5	PASS
		VN	-20	3.03	0.001612	± 2.5	PASS
		VN	-10	3.53	0.001878	± 2.5	PASS
		VN	0	1.52	0.000809	± 2.5	PASS

		VN	10	3.62	0.001926	± 2.5	PASS
		VN	20	4.69	0.002495	± 2.5	PASS
		VN	30	1.71	0.000910	± 2.5	PASS
		VN	40	-0.52	-0.000277	± 2.5	PASS
		VN	50	3.21	0.001707	± 2.5	PASS
	HCH	VN	-30	0.4	0.000210	± 2.5	PASS
		VN	-20	2.94	0.001543	± 2.5	PASS
		VN	-10	-1.1	-0.000577	± 2.5	PASS
		VN	0	3.05	0.001601	± 2.5	PASS
		VN	10	4.18	0.002194	± 2.5	PASS
		VN	20	0.02	0.000010	± 2.5	PASS
		VN	30	1.75	0.000919	± 2.5	PASS
		VN	40	3.38	0.001774	± 2.5	PASS
		VN	50	0.79	0.000415	± 2.5	PASS
QPSK	LCH	VN	-30	-0.68	-0.000367	± 2.5	PASS
		VN	-20	4.69	0.002528	± 2.5	PASS
		VN	-10	2.98	0.001606	± 2.5	PASS
		VN	0	-1.59	-0.000857	± 2.5	PASS
		VN	10	4.47	0.002410	± 2.5	PASS
		VN	20	-1.02	-0.000550	± 2.5	PASS
		VN	30	4.3	0.002318	± 2.5	PASS
		VN	40	-1.51	-0.000814	± 2.5	PASS
		VN	50	3.3	0.001779	± 2.5	PASS
	MCH	VN	-30	-0.99	-0.000527	± 2.5	PASS
		VN	-20	2.02	0.001074	± 2.5	PASS
		VN	-10	2.01	0.001069	± 2.5	PASS
		VN	0	4.41	0.002346	± 2.5	PASS
		VN	10	3.9	0.002074	± 2.5	PASS
		VN	20	-0.01	-0.000005	± 2.5	PASS
		VN	30	4.46	0.002372	± 2.5	PASS
		VN	40	1.79	0.000952	± 2.5	PASS
		VN	50	3.31	0.001761	± 2.5	PASS
	HCH	VN	-30	-0.93	-0.000488	± 2.5	PASS
		VN	-20	4.65	0.002441	± 2.5	PASS
		VN	-10	1.68	0.000882	± 2.5	PASS
		VN	0	-0.38	-0.000199	± 2.5	PASS
		VN	10	-0.27	-0.000142	± 2.5	PASS
		VN	20	1.09	0.000572	± 2.5	PASS
		VN	30	3.96	0.002079	± 2.5	PASS
		VN	40	-0.8	-0.000420	± 2.5	PASS
		VN	50	1.14	0.000598	± 2.5	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	2.79	0.001502	± 2.5	PASS
		VN	TN	4.65	0.002503	± 2.5	PASS
		VH	TN	-0.79	-0.000425	± 2.5	PASS
	MCH	VL	TN	-0.61	-0.000324	± 2.5	PASS
		VN	TN	3.98	0.002117	± 2.5	PASS
		VH	TN	1.2	0.000638	± 2.5	PASS
	HCH	VL	TN	-0.06	-0.000032	± 2.5	PASS
		VN	TN	-0.87	-0.000457	± 2.5	PASS
		VH	TN	-1.43	-0.000752	± 2.5	PASS
16QAM	LCH	VL	TN	2.63	0.001416	± 2.5	PASS
		VN	TN	2.95	0.001588	± 2.5	PASS
		VH	TN	1.1	0.000592	± 2.5	PASS
	MCH	VL	TN	2.07	0.001101	± 2.5	PASS
		VN	TN	0.1	0.000053	± 2.5	PASS
		VH	TN	-1.94	-0.001032	± 2.5	PASS
	HCH	VL	TN	4.71	0.002476	± 2.5	PASS
		VN	TN	4.62	0.002428	± 2.5	PASS
		VH	TN	1.3	0.000683	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.51	-0.000813	± 2.5	PASS
		VN	-20	1.61	0.000867	± 2.5	PASS
		VN	-10	1.94	0.001044	± 2.5	PASS
		VN	0	-0.08	-0.000043	± 2.5	PASS
		VN	10	2.79	0.001502	± 2.5	PASS
		VN	20	1.41	0.000759	± 2.5	PASS
		VN	30	0.05	0.000027	± 2.5	PASS
		VN	40	3.42	0.001841	± 2.5	PASS
		VN	50	2.28	0.001227	± 2.5	PASS
	MCH	VN	-30	4.14	0.002202	± 2.5	PASS
		VN	-20	3.97	0.002112	± 2.5	PASS
		VN	-10	-1.33	-0.000707	± 2.5	PASS
		VN	0	2.7	0.001436	± 2.5	PASS
		VN	10	0.23	0.000122	± 2.5	PASS
		VN	20	-1.93	-0.001027	± 2.5	PASS

		VN	30	2.78	0.001479	± 2.5	PASS
		VN	40	2.37	0.001261	± 2.5	PASS
		VN	50	2.84	0.001511	± 2.5	PASS
	HCH	VN	-30	3.24	0.001703	± 2.5	PASS
		VN	-20	2.11	0.001109	± 2.5	PASS
		VN	-10	-0.87	-0.000457	± 2.5	PASS
		VN	0	-0.5	-0.000263	± 2.5	PASS
		VN	10	2.58	0.001356	± 2.5	PASS
		VN	20	-1.14	-0.000599	± 2.5	PASS
		VN	30	4.28	0.002250	± 2.5	PASS
		VN	40	4.45	0.002339	± 2.5	PASS
		VN	50	0.86	0.000452	± 2.5	PASS
16QAM	LCH	VN	-30	2.26	0.001217	± 2.5	PASS
		VN	-20	3.79	0.002040	± 2.5	PASS
		VN	-10	1.74	0.000937	± 2.5	PASS
		VN	0	-0.37	-0.000199	± 2.5	PASS
		VN	10	-1.15	-0.000619	± 2.5	PASS
		VN	20	3.92	0.002110	± 2.5	PASS
		VN	30	-1.02	-0.000549	± 2.5	PASS
		VN	40	0.75	0.000404	± 2.5	PASS
		VN	50	-0.62	-0.000334	± 2.5	PASS
	MCH	VN	-30	-1.84	-0.000979	± 2.5	PASS
		VN	-20	-0.48	-0.000255	± 2.5	PASS
		VN	-10	1.5	0.000798	± 2.5	PASS
		VN	0	2.78	0.001479	± 2.5	PASS
		VN	10	-1.5	-0.000798	± 2.5	PASS
		VN	20	1.93	0.001027	± 2.5	PASS
		VN	30	4.96	0.002638	± 2.5	PASS
		VN	40	-1.39	-0.000739	± 2.5	PASS
		VN	50	-1.28	-0.000681	± 2.5	PASS
	HCH	VN	-30	1.98	0.001041	± 2.5	PASS
		VN	-20	2.29	0.001204	± 2.5	PASS
		VN	-10	1.49	0.000783	± 2.5	PASS
		VN	0	2.99	0.001572	± 2.5	PASS
		VN	10	2.64	0.001388	± 2.5	PASS
		VN	20	4.55	0.002392	± 2.5	PASS
		VN	30	4.71	0.002476	± 2.5	PASS
		VN	40	3.12	0.001640	± 2.5	PASS
		VN	50	-1.6	-0.000841	± 2.5	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	1.08	0.000581	± 2.5	PASS
		VN	TN	4.81	0.002586	± 2.5	PASS
		VH	TN	0.78	0.000419	± 2.5	PASS
	MCH	VL	TN	4.14	0.002202	± 2.5	PASS
		VN	TN	2.34	0.001245	± 2.5	PASS
		VH	TN	3.42	0.001819	± 2.5	PASS
	HCH	VL	TN	4.36	0.002295	± 2.5	PASS
		VN	TN	1.65	0.000868	± 2.5	PASS
		VH	TN	2.9	0.001526	± 2.5	PASS
16QAM	LCH	VL	TN	-0.82	-0.000441	± 2.5	PASS
		VN	TN	2.46	0.001323	± 2.5	PASS
		VH	TN	0.16	0.000086	± 2.5	PASS
	MCH	VL	TN	3.44	0.001830	± 2.5	PASS
		VN	TN	3.33	0.001771	± 2.5	PASS
		VH	TN	0.68	0.000362	± 2.5	PASS
	HCH	VL	TN	4.92	0.002589	± 2.5	PASS
		VN	TN	2.19	0.001153	± 2.5	PASS
		VH	TN	3.1	0.001632	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.42	0.000763	± 2.5	PASS
		VN	-20	1.11	0.000597	± 2.5	PASS
		VN	-10	1.54	0.000828	± 2.5	PASS
		VN	0	1.76	0.000946	± 2.5	PASS
		VN	10	2.61	0.001403	± 2.5	PASS
		VN	20	3.17	0.001704	± 2.5	PASS
		VN	30	0.47	0.000253	± 2.5	PASS
		VN	40	2.73	0.001468	± 2.5	PASS
		VN	50	3.57	0.001919	± 2.5	PASS
	MCH	VN	-30	-1.76	-0.000936	± 2.5	PASS
		VN	-20	0.98	0.000521	± 2.5	PASS
		VN	-10	0.83	0.000441	± 2.5	PASS
		VN	0	4.19	0.002229	± 2.5	PASS
		VN	10	2.66	0.001415	± 2.5	PASS
		VN	20	3.92	0.002085	± 2.5	PASS

		VN	30	-1.19	-0.000633	± 2.5	PASS
		VN	40	-1.68	-0.000894	± 2.5	PASS
		VN	50	4.56	0.002426	± 2.5	PASS
	HCH	VN	-30	-1.4	-0.000737	± 2.5	PASS
		VN	-20	1.44	0.000758	± 2.5	PASS
		VN	-10	-0.84	-0.000442	± 2.5	PASS
		VN	0	-0.19	-0.000100	± 2.5	PASS
		VN	10	2.45	0.001289	± 2.5	PASS
		VN	20	1.11	0.000584	± 2.5	PASS
		VN	30	4.51	0.002374	± 2.5	PASS
		VN	40	1.47	0.000774	± 2.5	PASS
		VN	50	0.45	0.000237	± 2.5	PASS
16QAM	LCH	VN	-30	3.77	0.002027	± 2.5	PASS
		VN	-20	-1.37	-0.000737	± 2.5	PASS
		VN	-10	3.3	0.001774	± 2.5	PASS
		VN	0	2.08	0.001118	± 2.5	PASS
		VN	10	-0.77	-0.000414	± 2.5	PASS
		VN	20	2.04	0.001097	± 2.5	PASS
		VN	30	-1.47	-0.000790	± 2.5	PASS
		VN	40	-0.89	-0.000478	± 2.5	PASS
		VN	50	3.1	0.001667	± 2.5	PASS
	MCH	VN	-30	1.63	0.000867	± 2.5	PASS
		VN	-20	3.07	0.001633	± 2.5	PASS
		VN	-10	3.35	0.001782	± 2.5	PASS
		VN	0	-0.81	-0.000431	± 2.5	PASS
		VN	10	0.86	0.000457	± 2.5	PASS
		VN	20	4.88	0.002596	± 2.5	PASS
		VN	30	-1.41	-0.000750	± 2.5	PASS
		VN	40	1.73	0.000920	± 2.5	PASS
		VN	50	-0.88	-0.000468	± 2.5	PASS
	HCH	VN	-30	4.86	0.002558	± 2.5	PASS
		VN	-20	2.03	0.001068	± 2.5	PASS
		VN	-10	4.37	0.002300	± 2.5	PASS
		VN	0	3.69	0.001942	± 2.5	PASS
		VN	10	2.77	0.001458	± 2.5	PASS
		VN	20	0.68	0.000358	± 2.5	PASS
		VN	30	2.17	0.001142	± 2.5	PASS
		VN	40	-1.28	-0.000674	± 2.5	PASS
		VN	50	0.24	0.000126	± 2.5	PASS