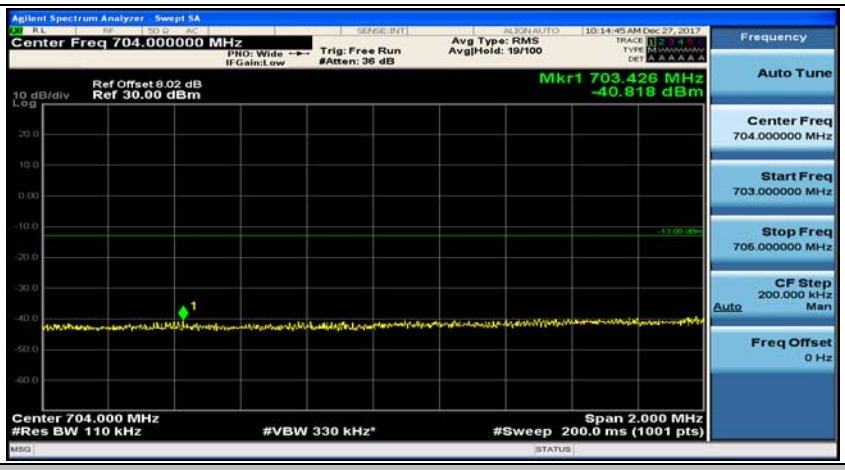
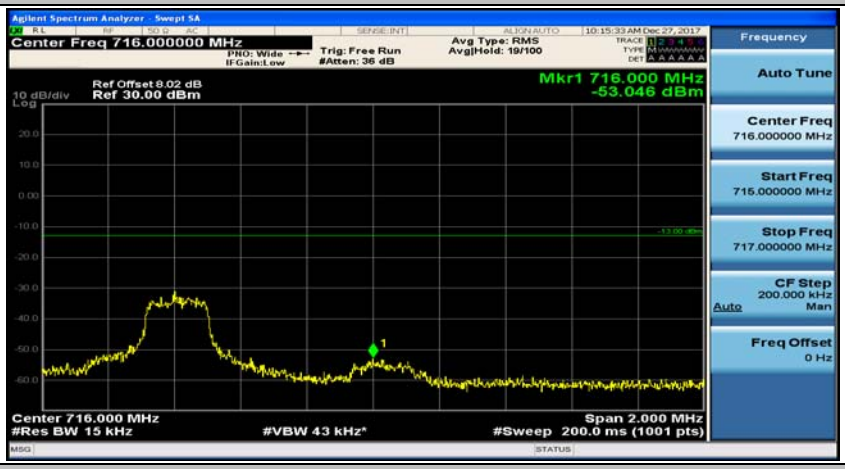
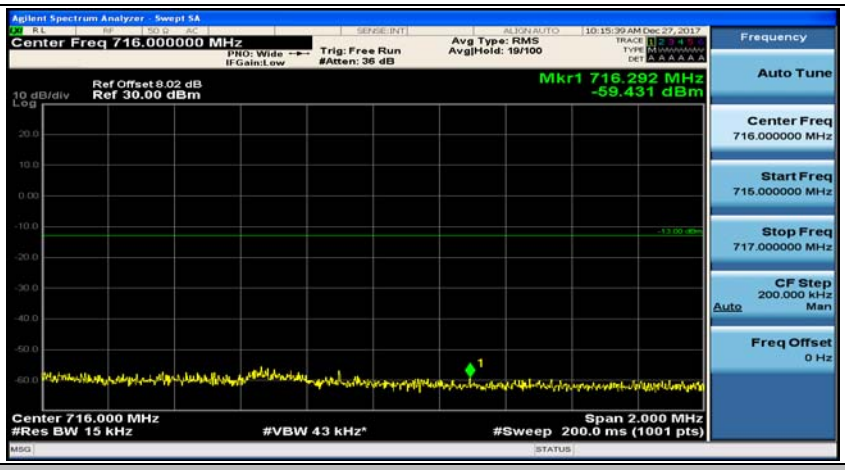


Channel Bandwidth: 10 MHz_LCH_QPSK_50RB#0

Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#0

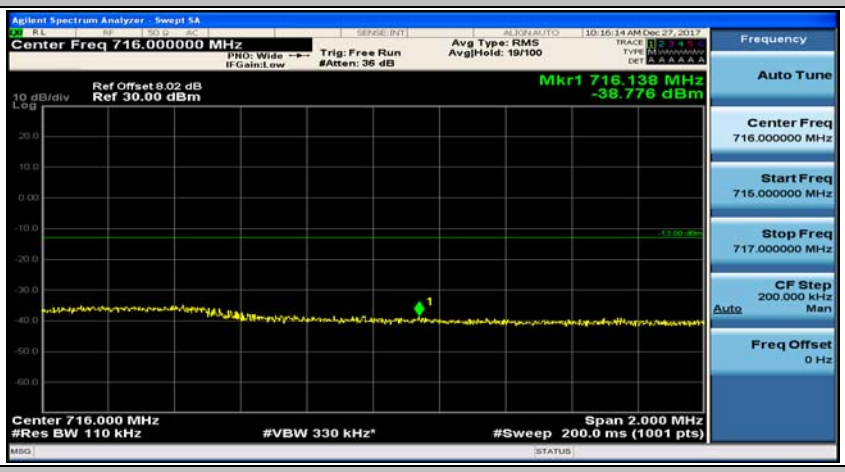


Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#24

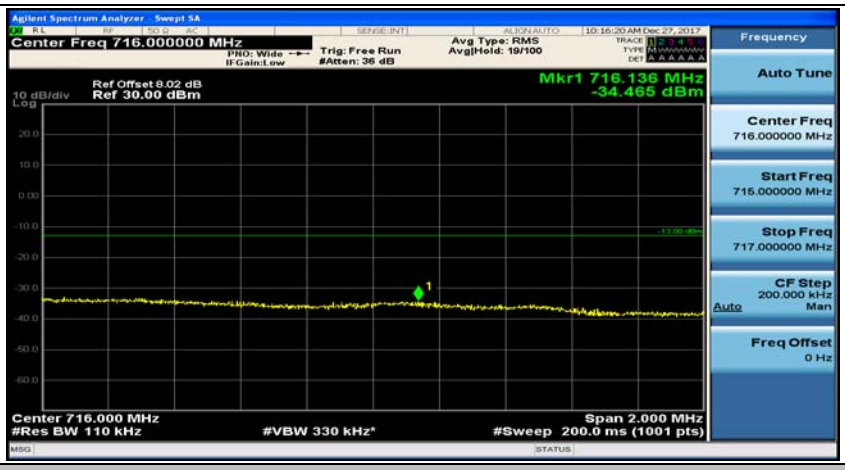


Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#49

Channel Bandwidth: 10 MHz_HCH_QPSK_25RB#0

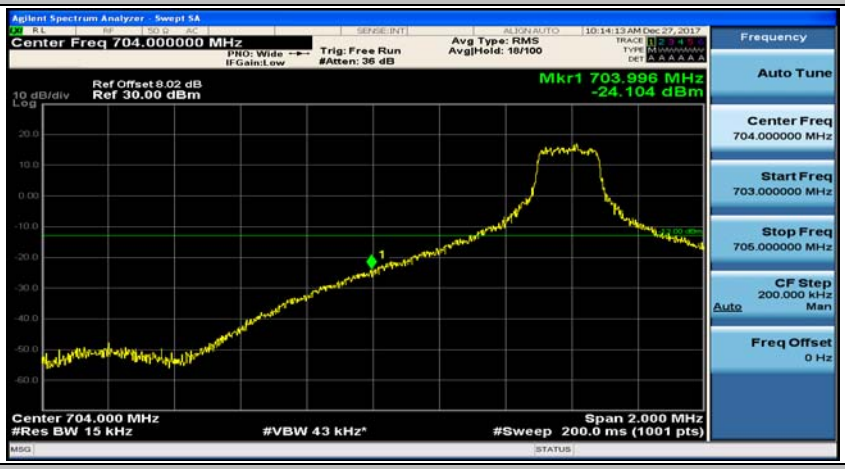
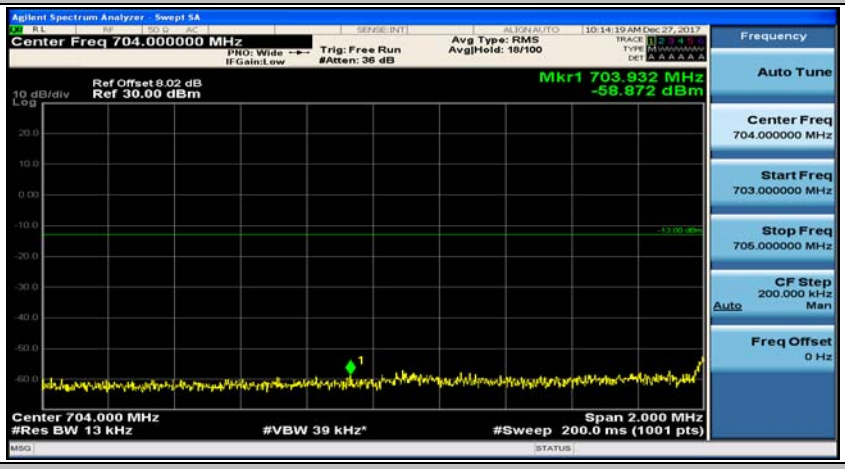
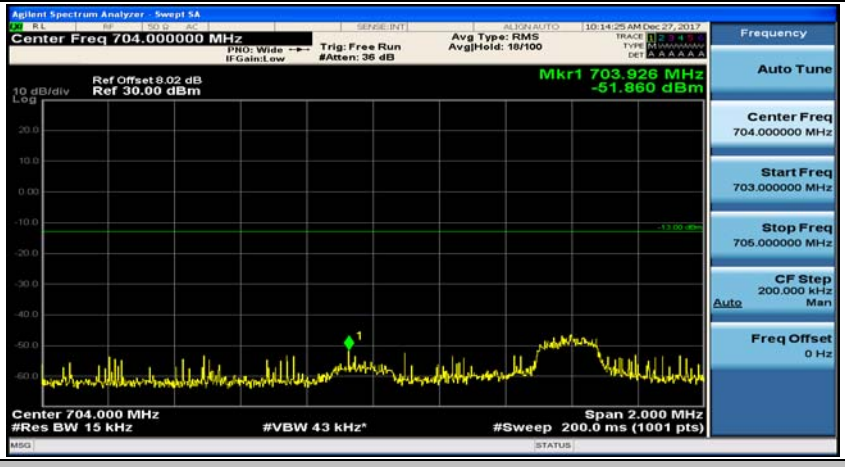


Channel Bandwidth: 10 MHz_HCH_QPSK_25RB#12

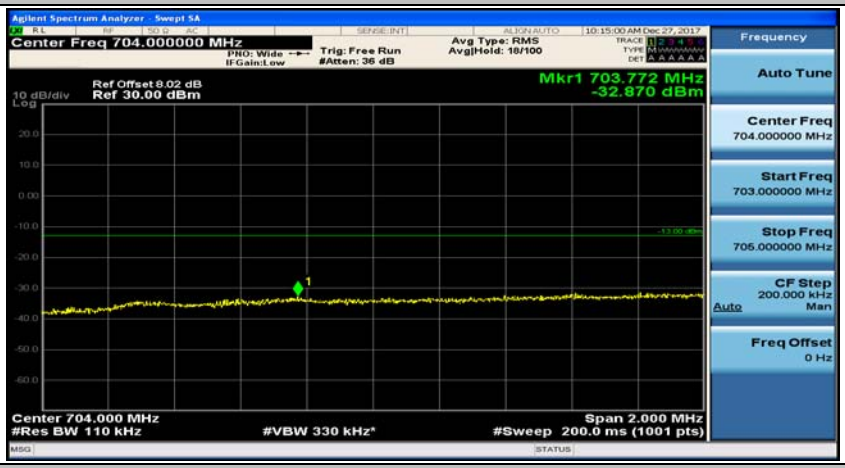


Channel Bandwidth: 10 MHz_HCH_QPSK_25RB#25

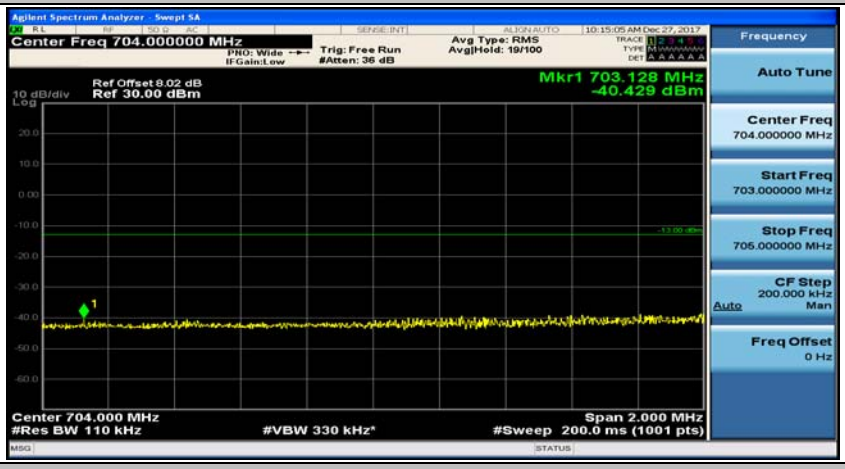
Channel Bandwidth: 10 MHz_HCH_QPSK_50RB#0

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



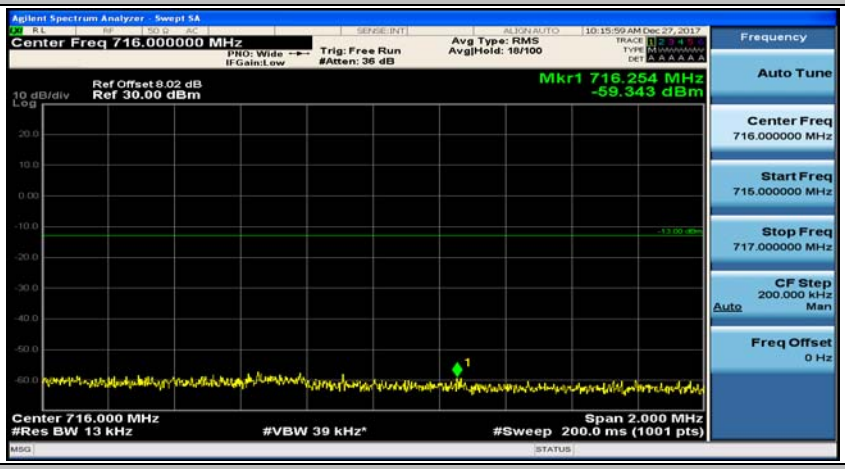
Channel Bandwidth: 10 MHz_LCH_16QAM_25RB#25



Channel Bandwidth: 10 MHz_LCH_16QAM_50RB#0

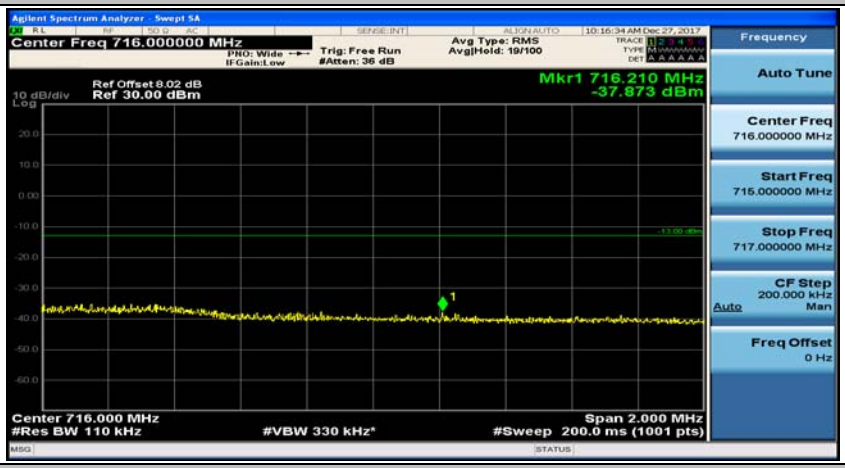
Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#0

Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#24

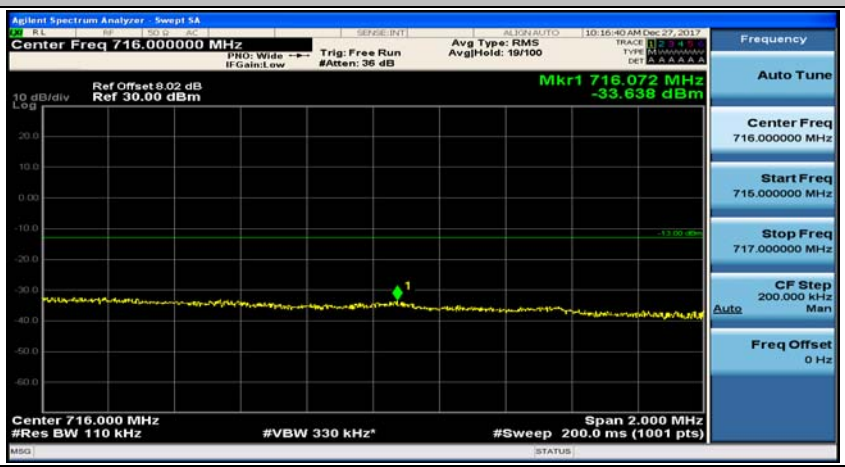


Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#49

Channel Bandwidth: 10 MHz_HCH_16QAM_25RB#0



Channel Bandwidth: 10 MHz_HCH_16QAM_25RB#12



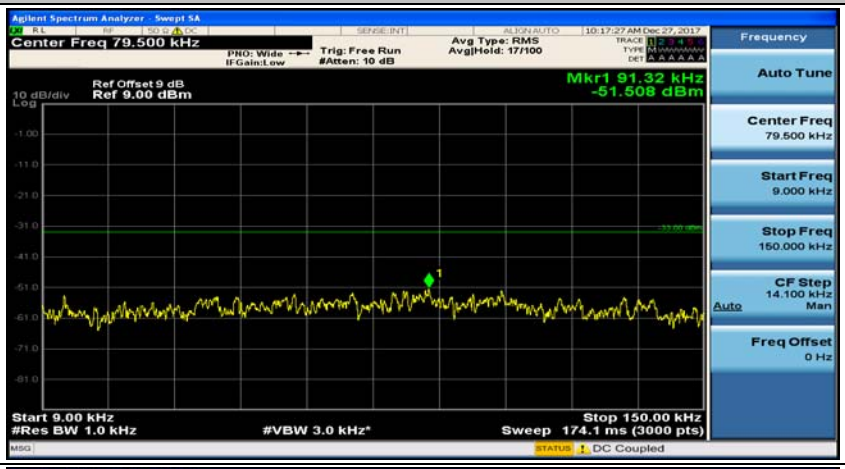
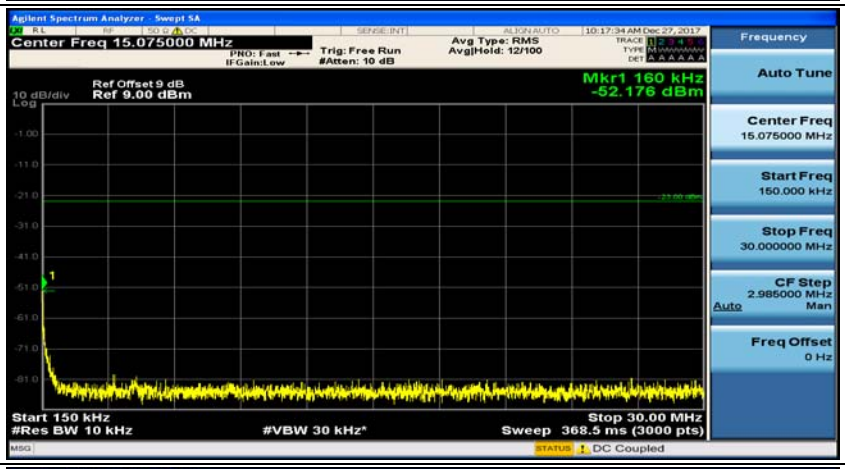
Channel Bandwidth: 10 MHz_HCH_16QAM_25RB#25

Channel Bandwidth: 10 MHz_HCH_16QAM_50RB#0

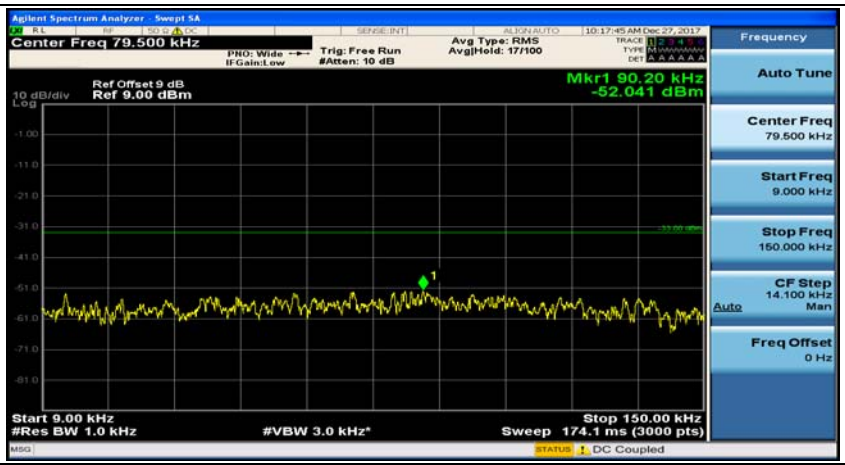
Appendix E: Conducted Spurious Emission

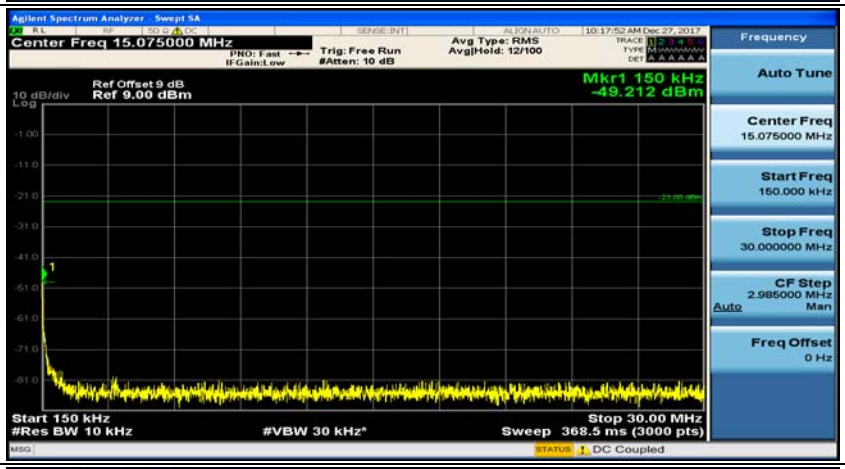
Test Graphs

Channel Bandwidth: 5 MHz

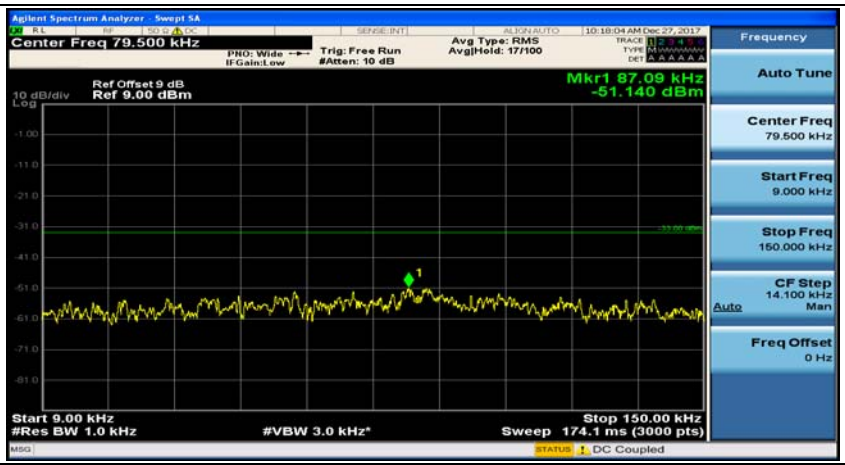
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



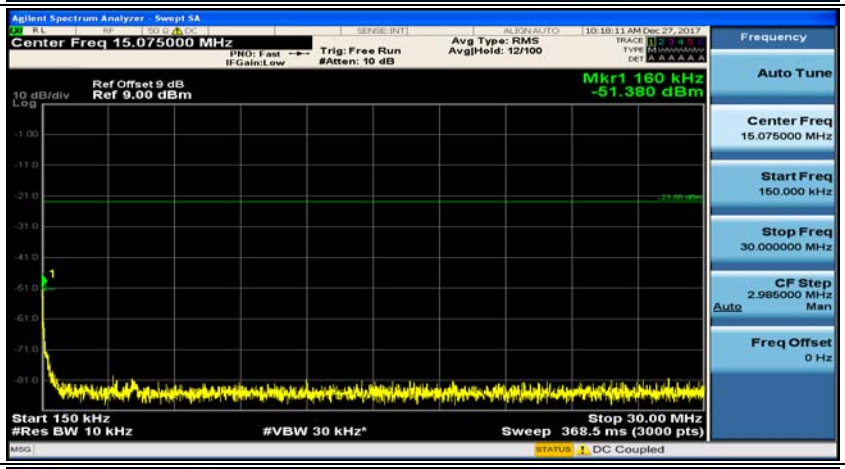
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12

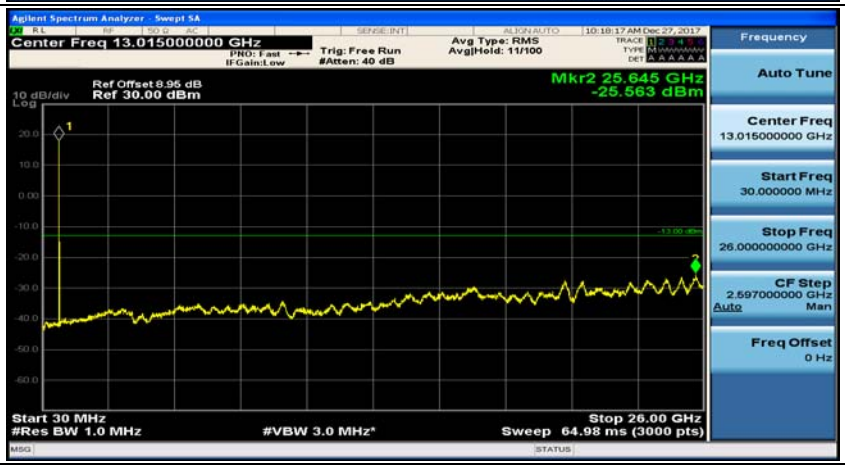


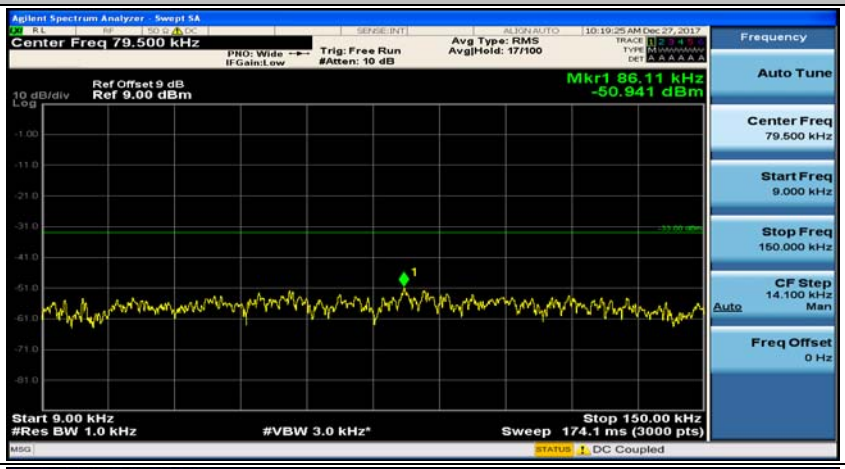
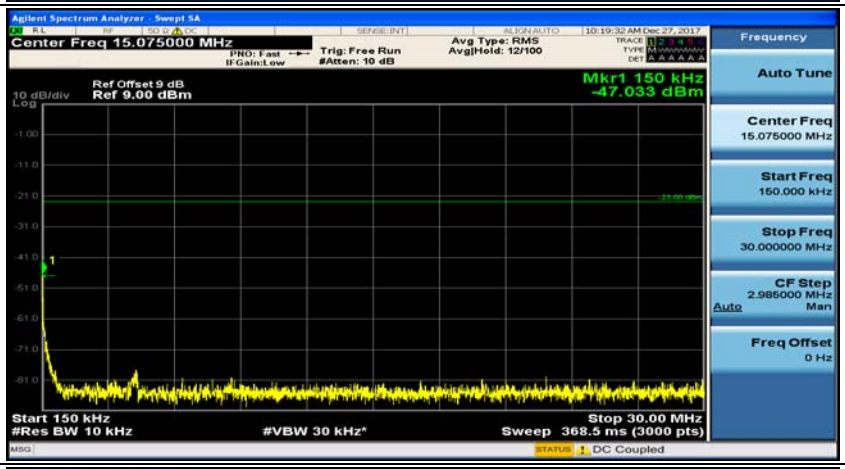
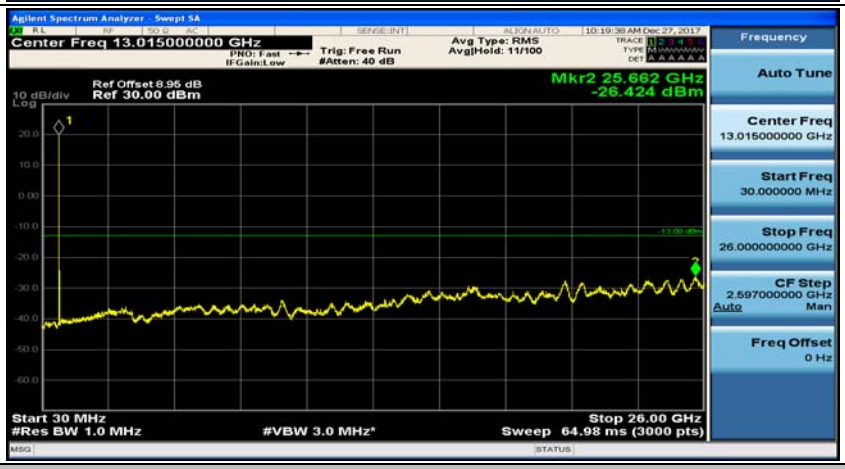


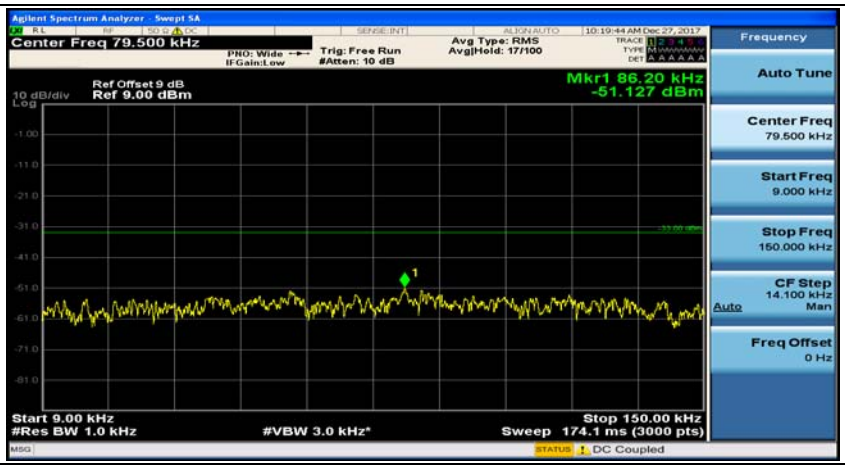
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24

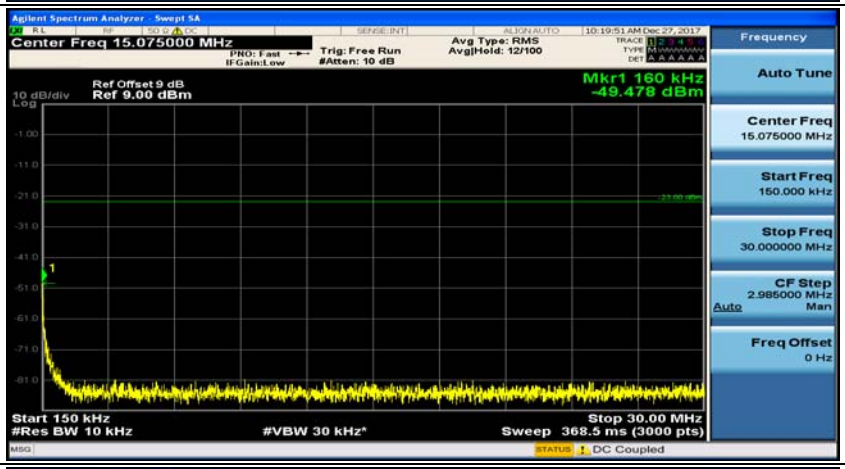

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:18:04 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 87.09 kHz
-51.140 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.1 ms (3000 pts)
DC Coupled

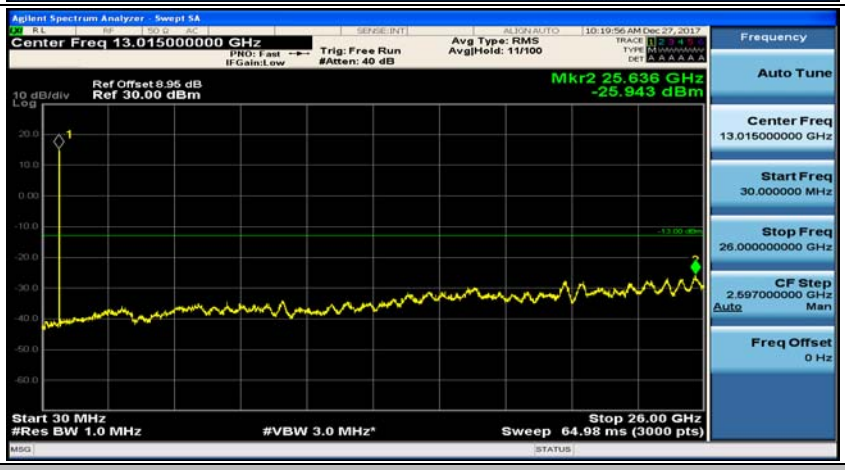

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
10:18:11 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 160 kHz
-51.380 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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 368.5 ms (3000 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: 11/100
10:18:17 AM Dec 27, 2017
Frequency
Auto Tune
Mkr2 25.645 GHz
-25.563 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 64.98 ms (3000 pts)

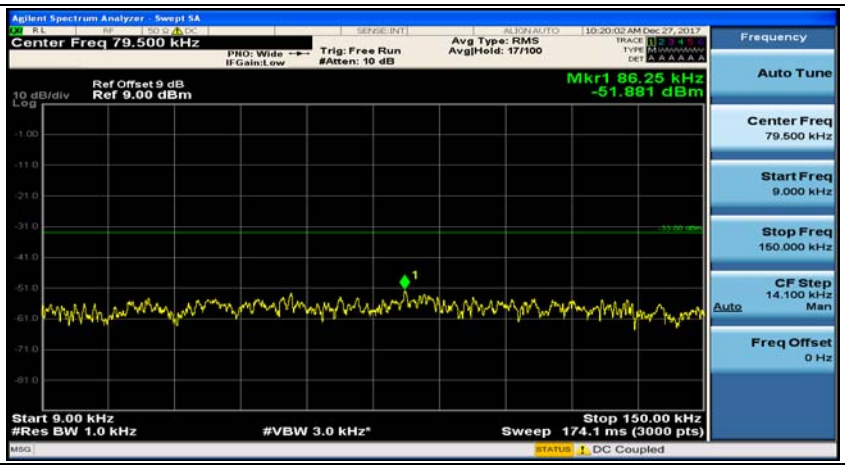
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12

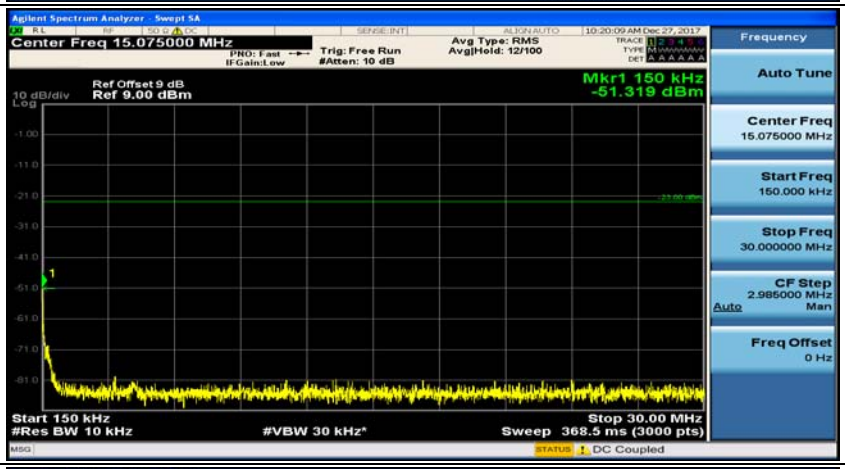


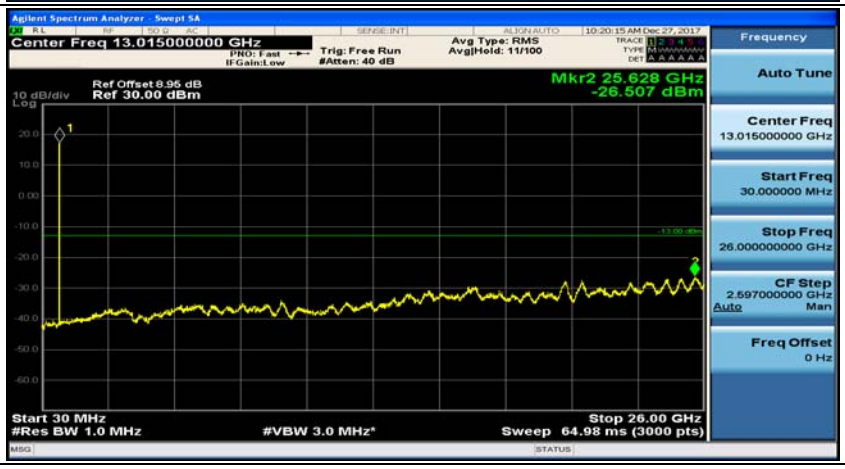




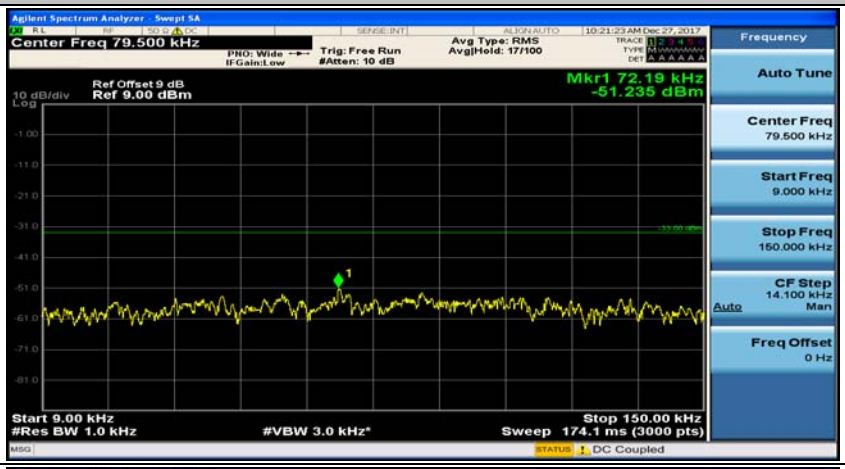
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

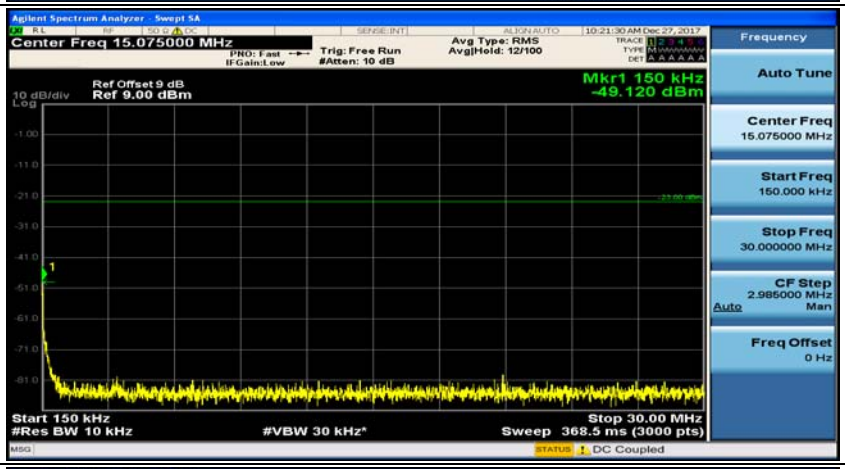

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:20:02 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 86.25 kHz
-51.881 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.1 ms (3000 pts)
DC Coupled

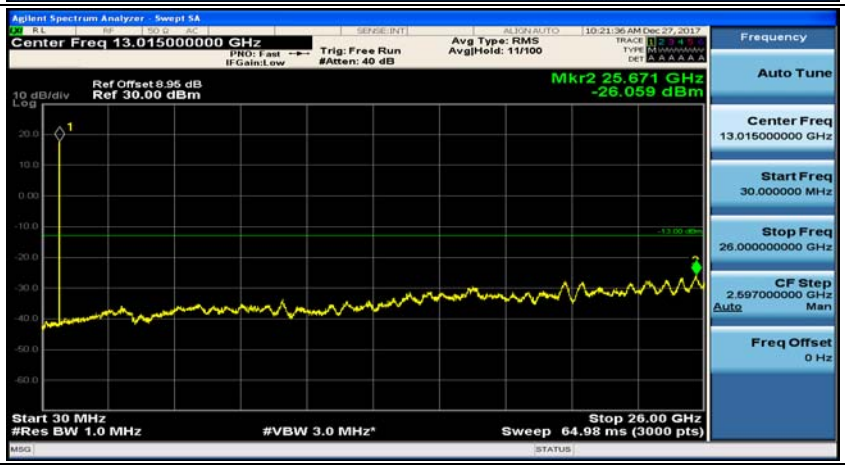

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
10:20:09 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 150 kHz
-51.319 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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 368.5 ms (3000 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: 11/100
10:20:15 AM Dec 27, 2017
Frequency
Auto Tune
Mkr2 25.628 GHz
-26.507 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 64.98 ms (3000 pts)

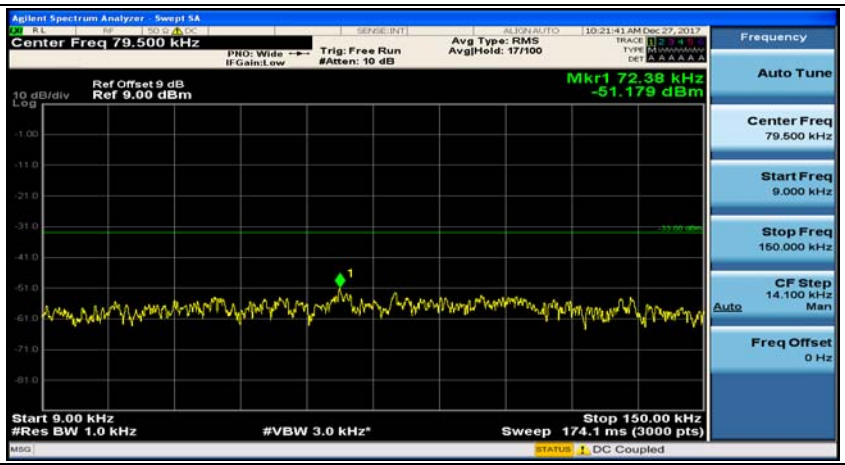
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0

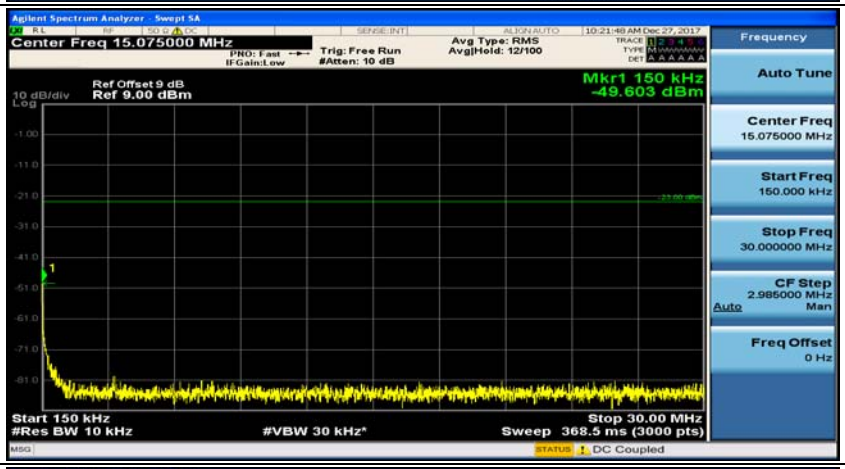


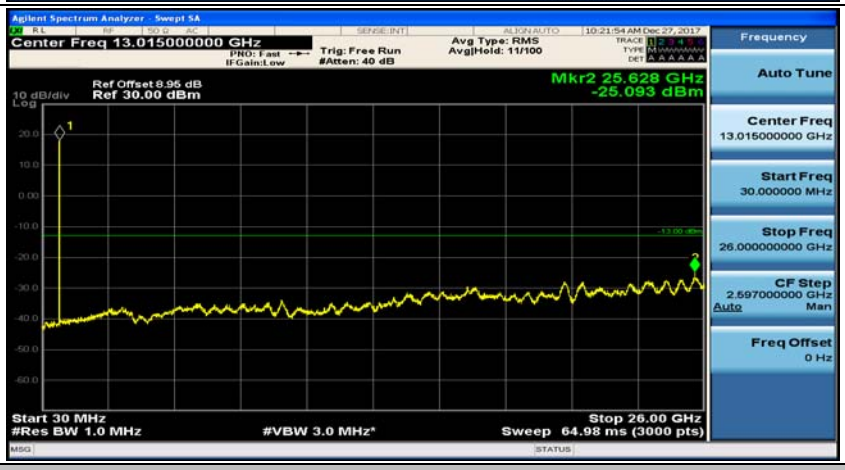




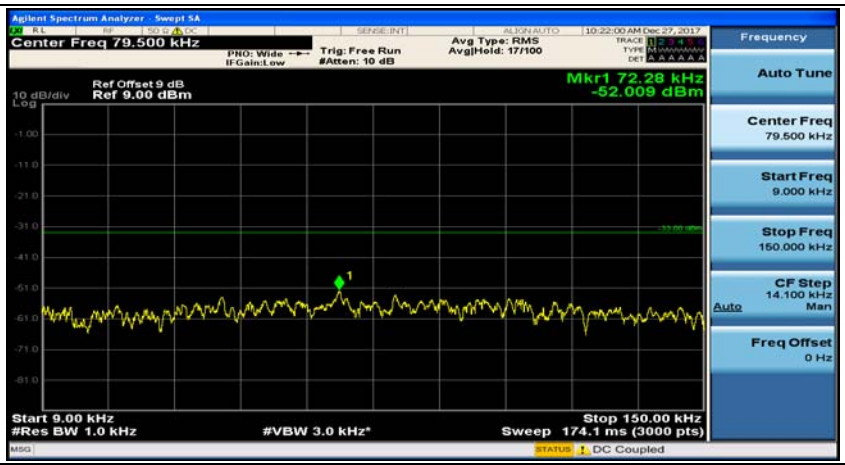
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12

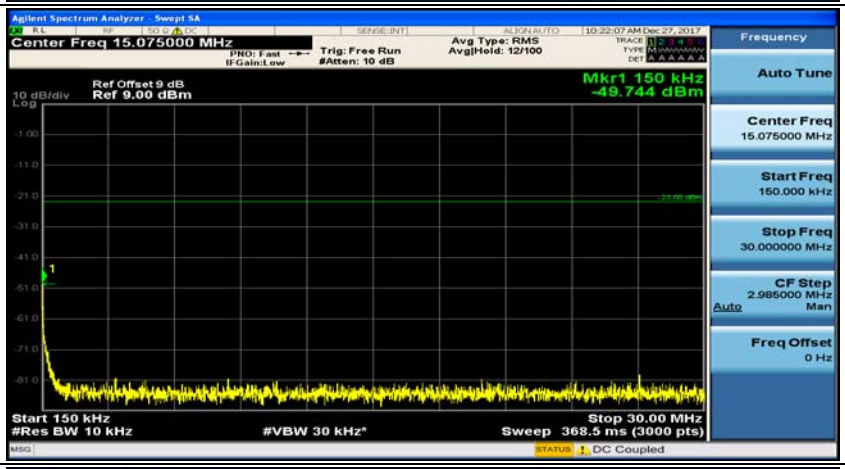


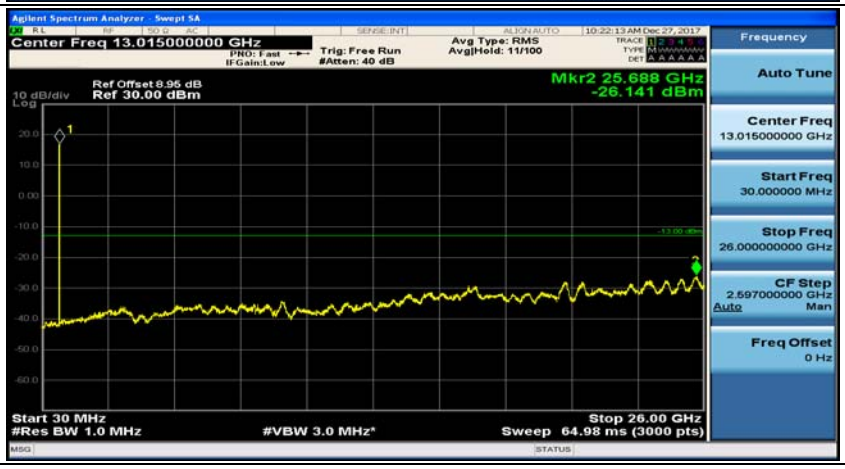


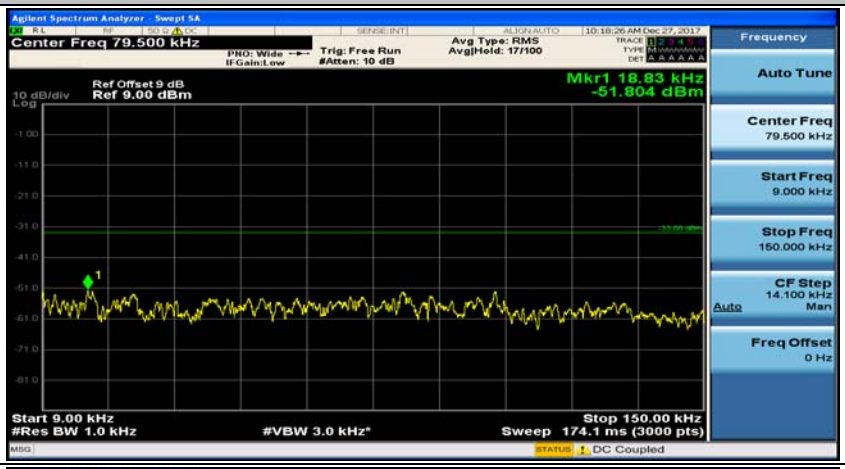
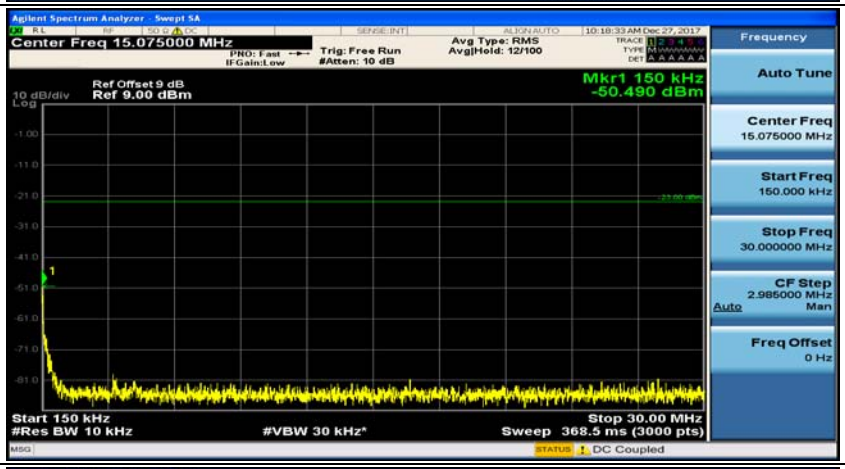
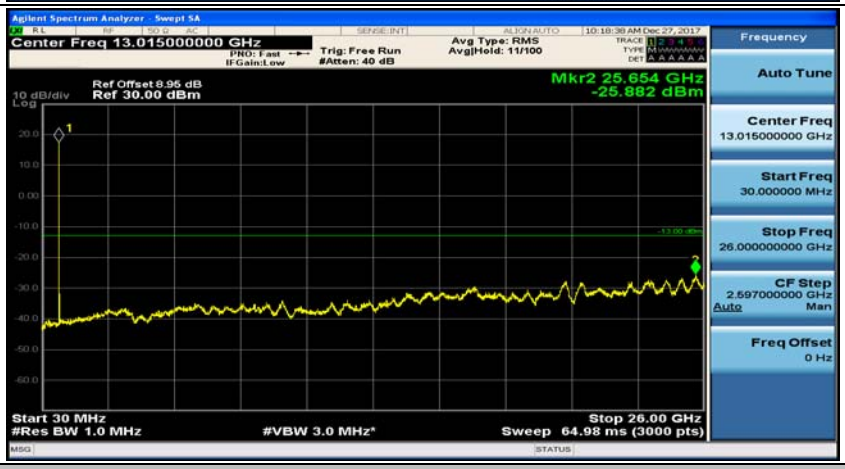


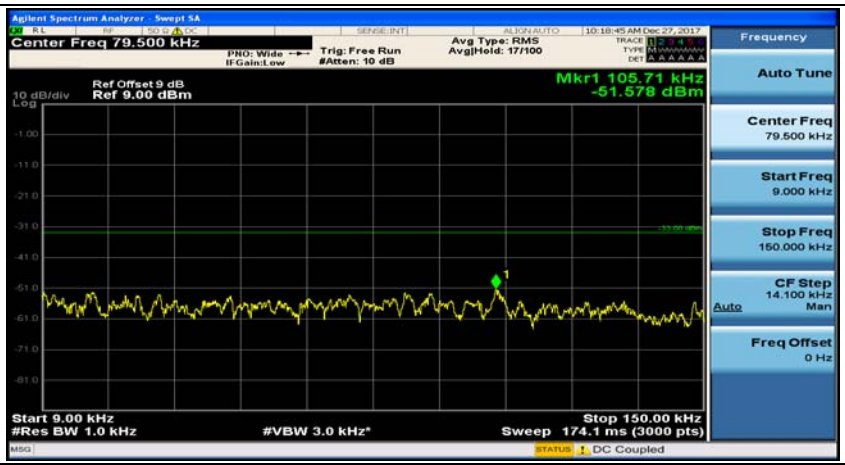
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

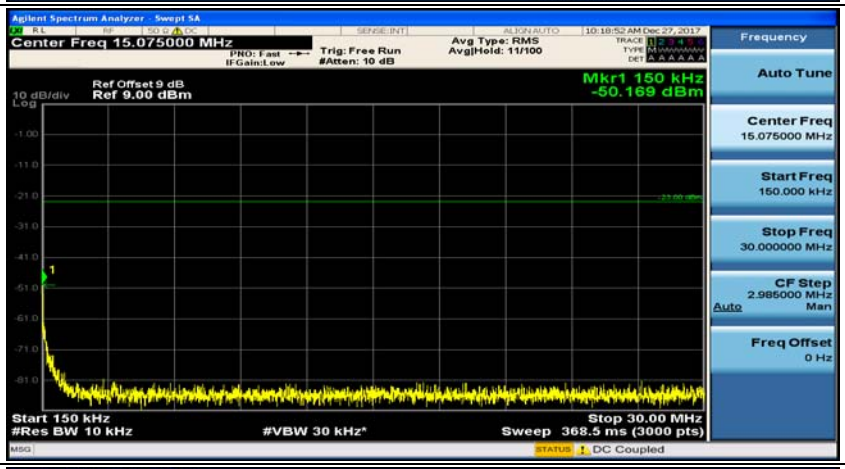

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:22:00 AM Dec 27, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 72.28 kHz
-52.009 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.1 ms (3000 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: 12/100
10:22:07 AM Dec 27, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-49.744 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 368.5 ms (3000 pts)
DC Coupled

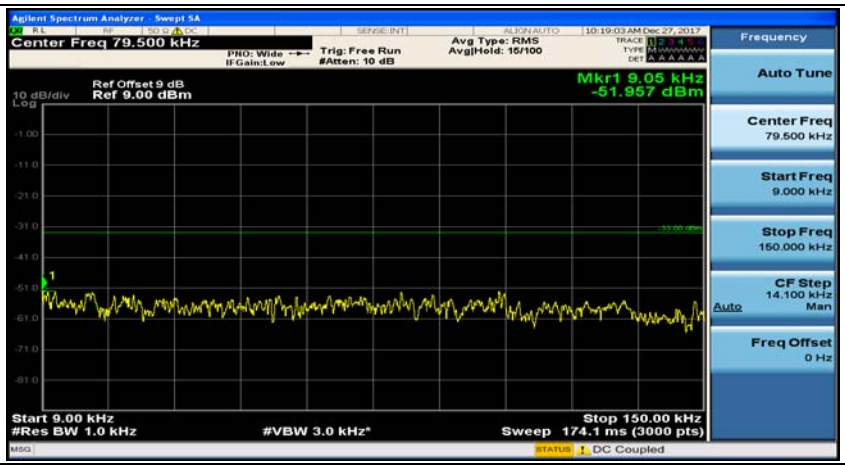

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
10:22:13 AM Dec 27, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.688 GHz
-26.141 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start 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 64.98 ms (3000 pts)

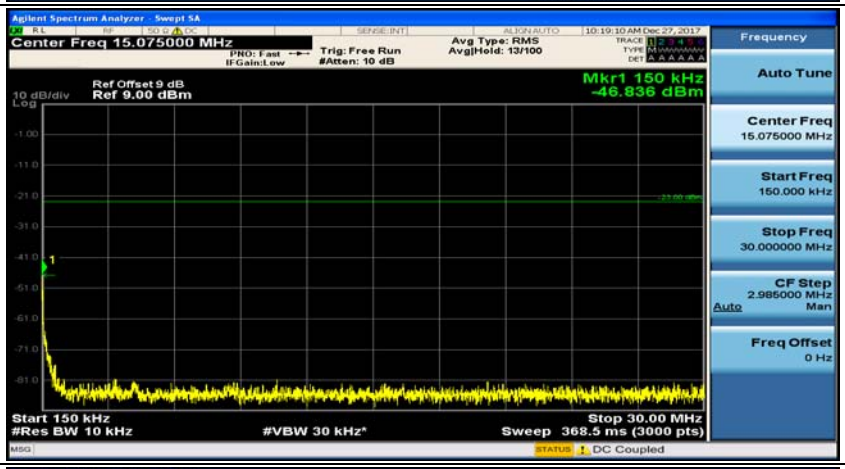
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

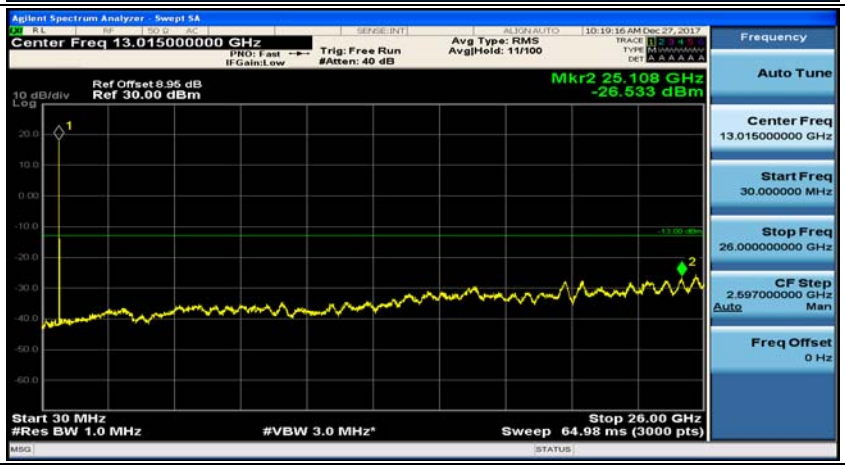


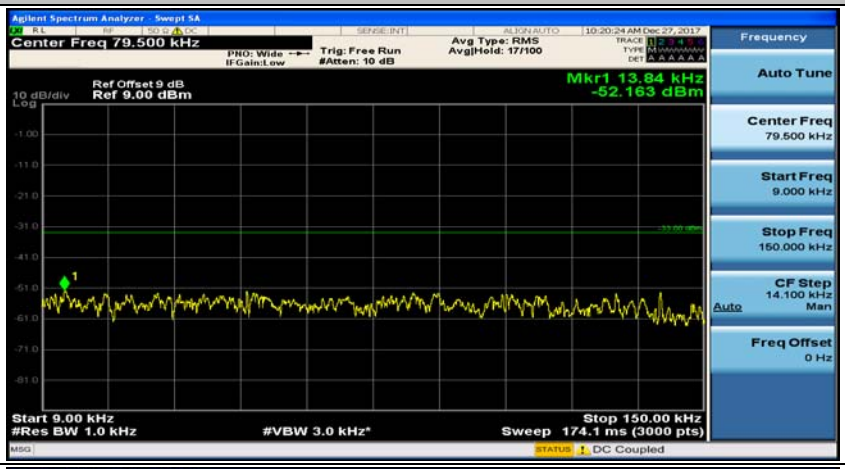
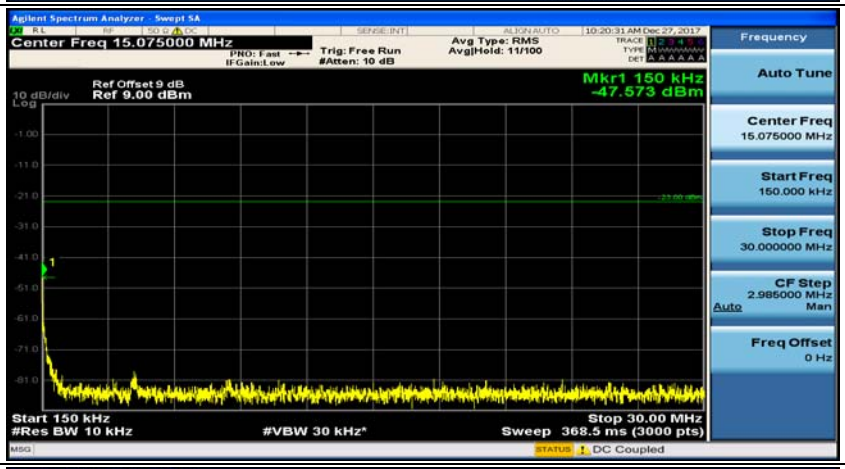
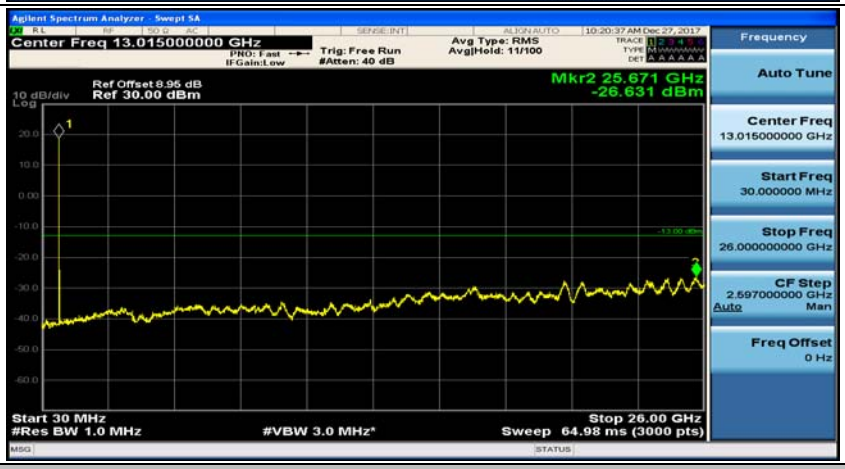


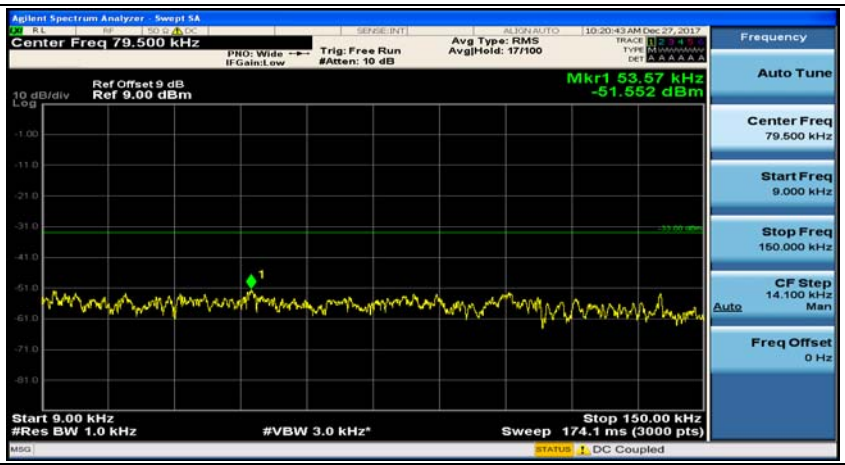
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24

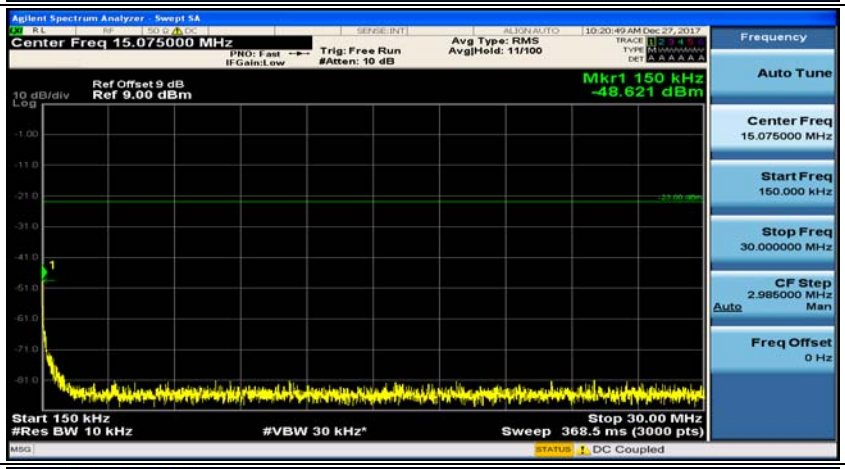

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 16/100
10:19:03 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 9.05 kHz
-51.957 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.1 ms (3000 pts)
DC Coupled

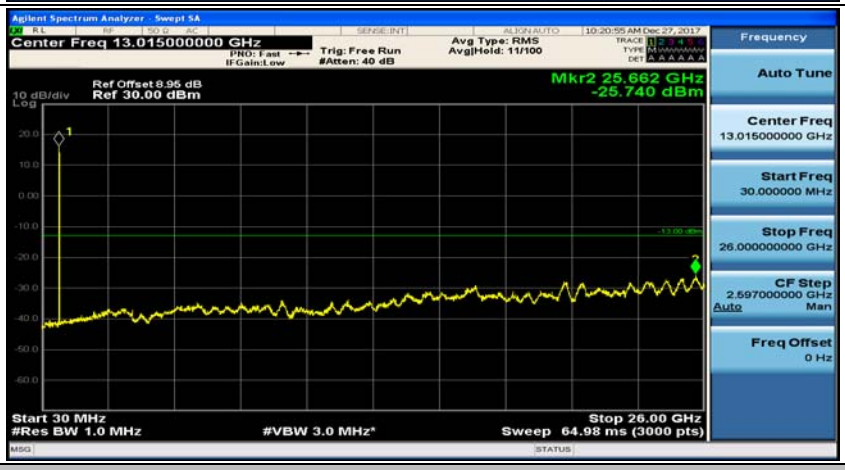

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 13/100
10:19:10 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 150 kHz
-46.836 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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 368.5 ms (3000 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: 11/100
10:19:16 AM Dec 27, 2017
Frequency
Auto Tune
Mkr2 25.108 GHz
-26.533 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 64.98 ms (3000 pts)

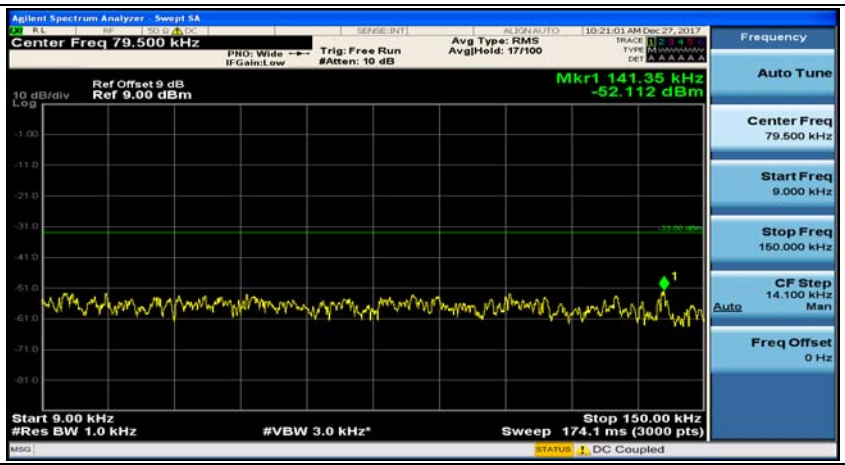
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12

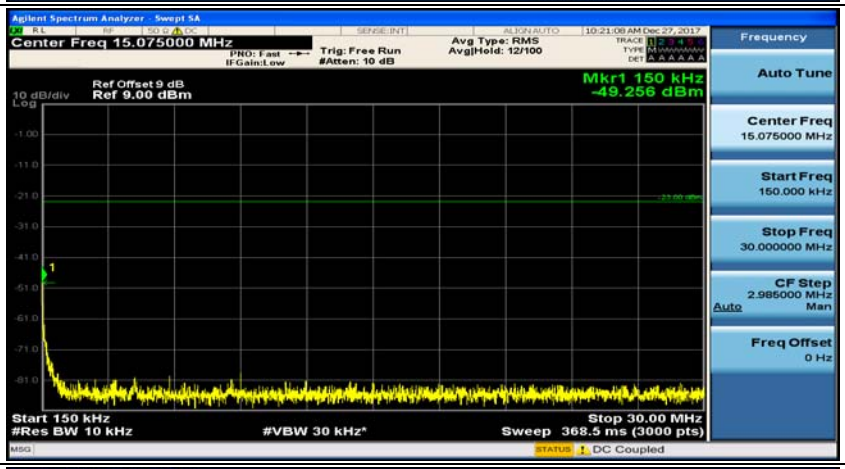


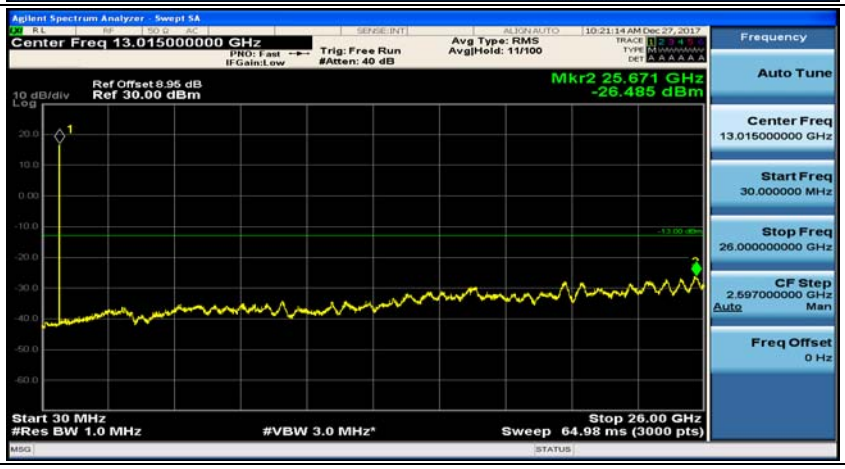


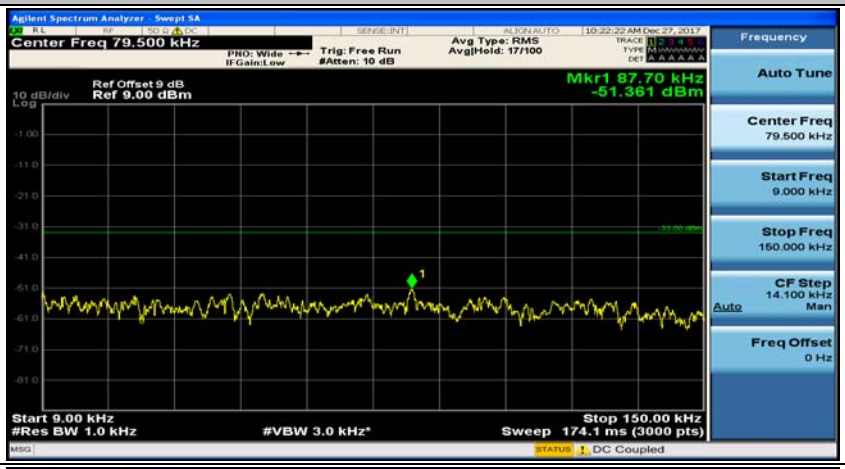
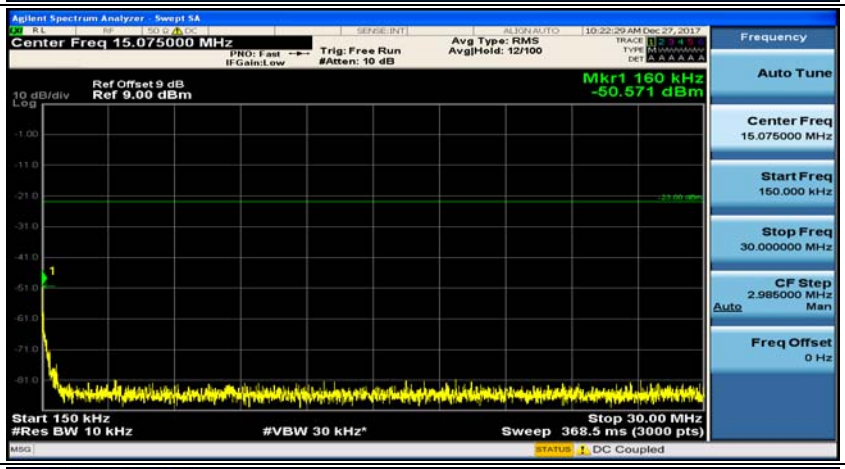
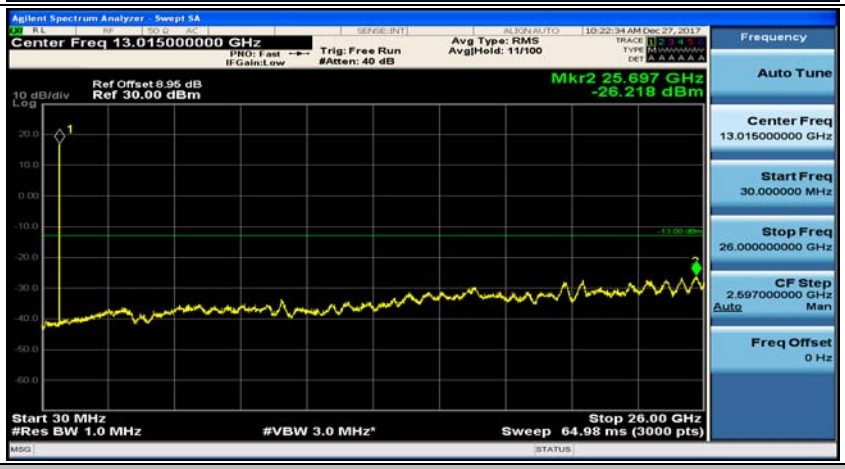


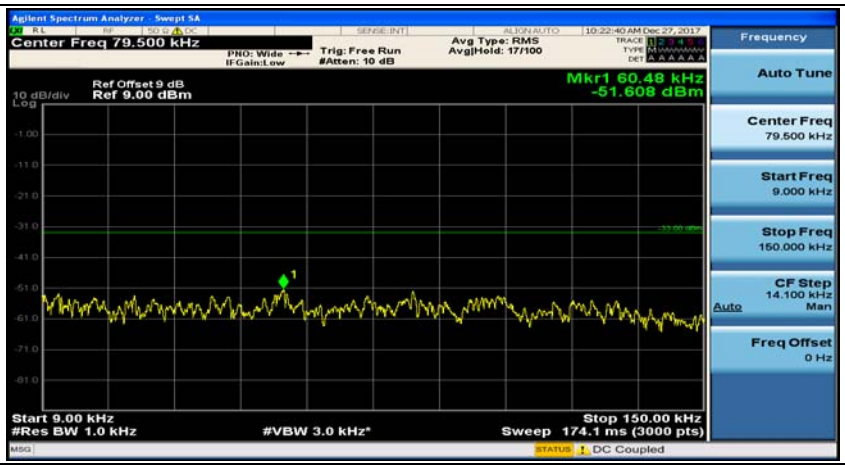
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24

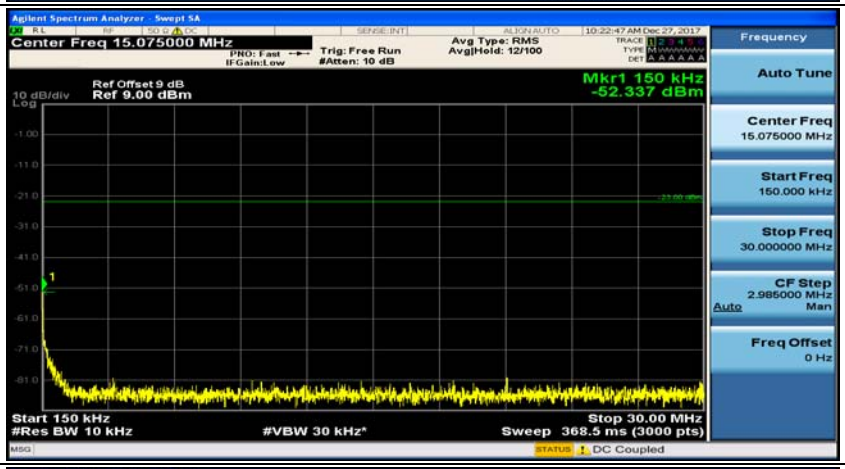

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:21:01 AM Dec 27, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 141.35 kHz
-52.112 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
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 174.1 ms (3000 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: 12/100
10:21:08 AM Dec 27, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-49.256 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 368.5 ms (3000 pts)
DC Coupled

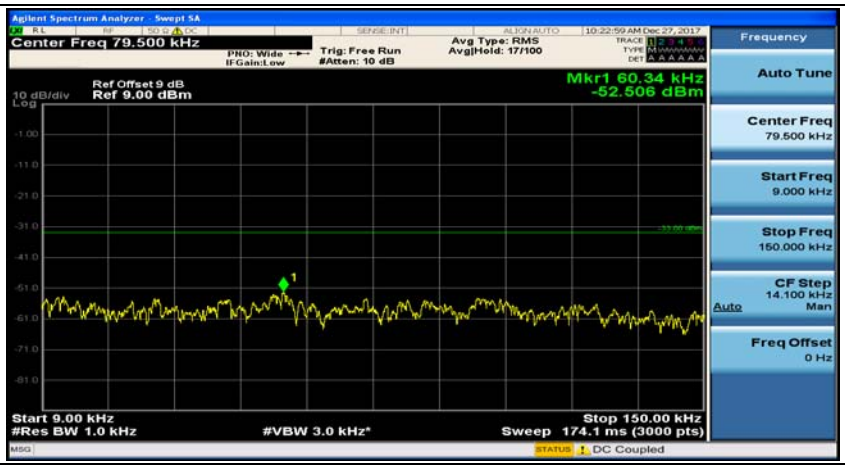

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
10:21:14 AM Dec 27, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.671 GHz
-26.485 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start 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 64.98 ms (3000 pts)

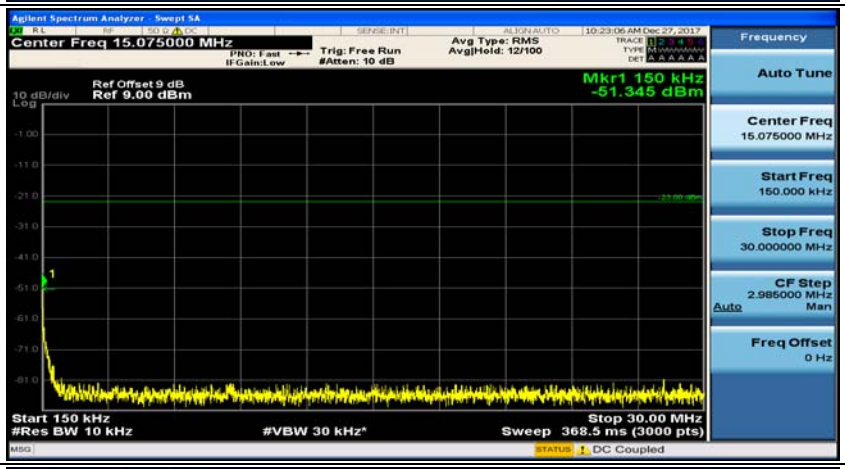
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12

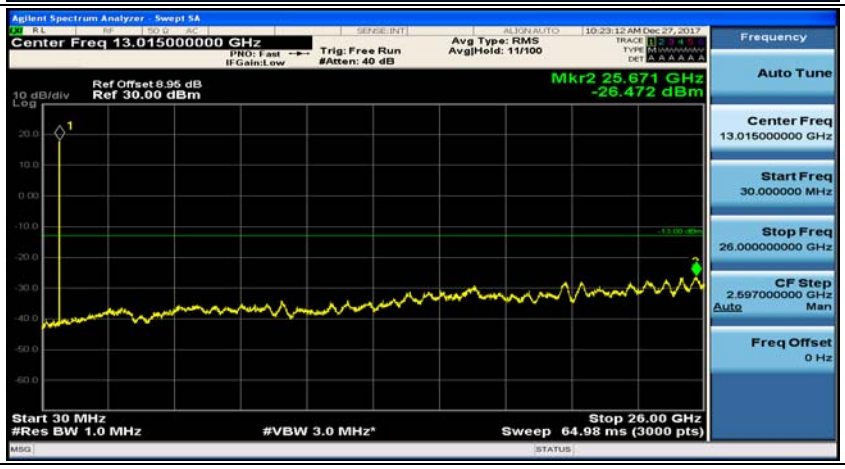




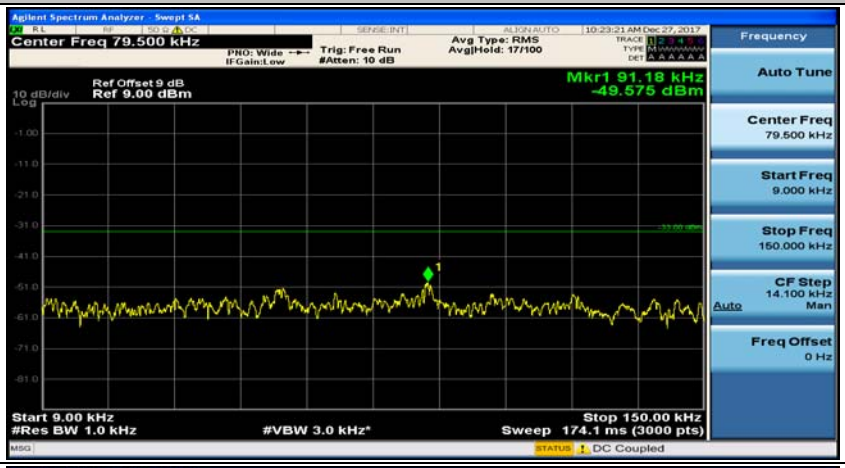
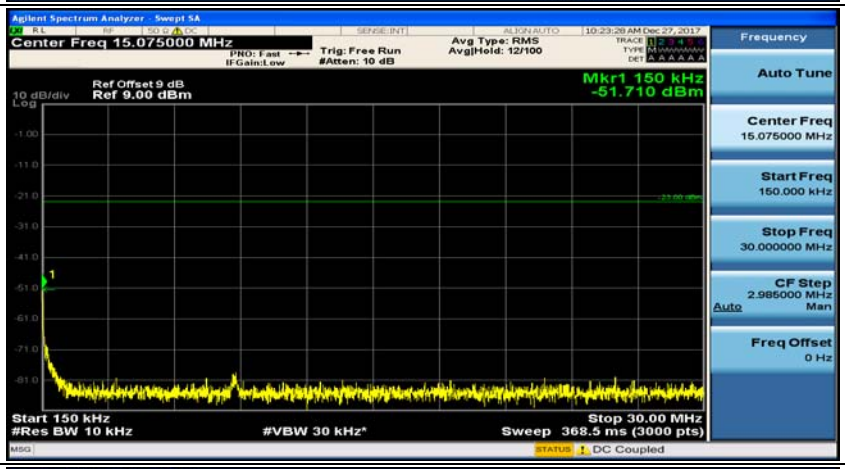
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24


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: 17/100
10:22:59 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 60.34 kHz
-52.506 dBm
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
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 174.1 ms (3000 pts)
DC Coupled

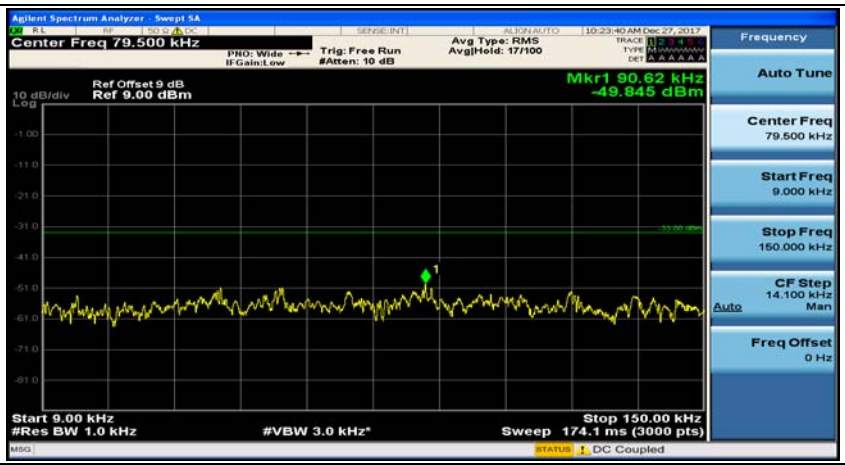

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
10:23:06 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 150 kHz
-51.345 dBm
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Center Freq
15.075000 MHz
Start Freq
150.000 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 368.5 ms (3000 pts)
DC Coupled

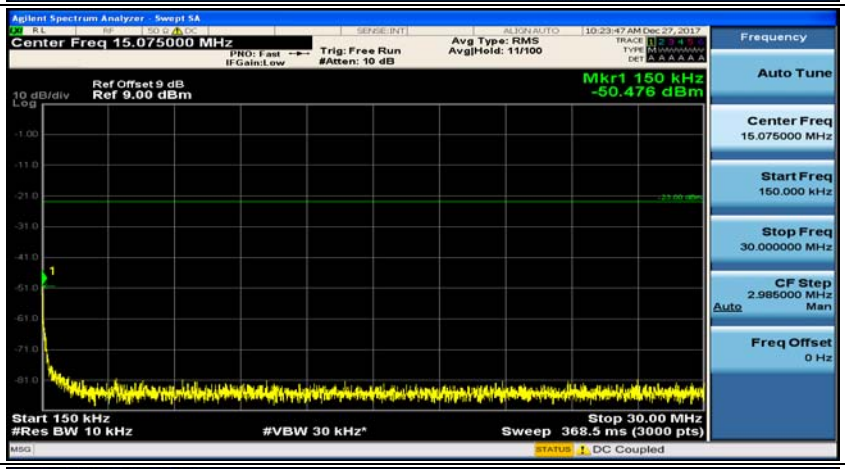

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
10:23:12 AM Dec 27, 2017
Frequency
Auto Tune
Mkr2 25.671 GHz
-26.472 dBm
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Log
Center Freq
13.015000000 GHz
Start 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 64.98 ms (3000 pts)

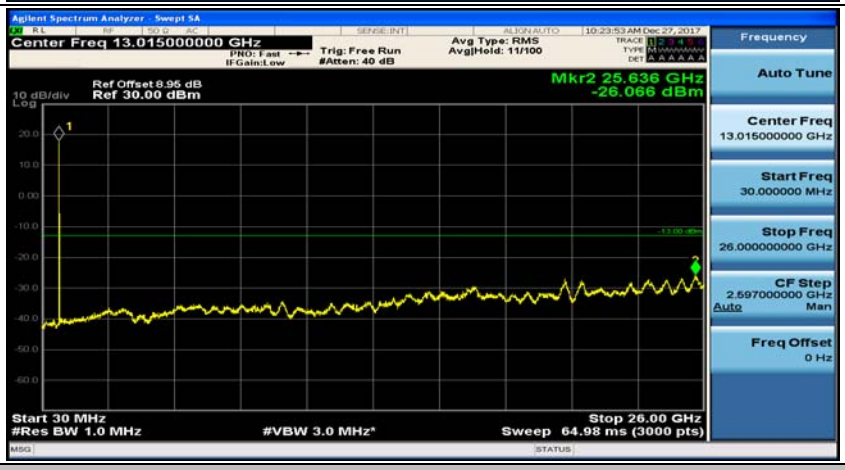
Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#0



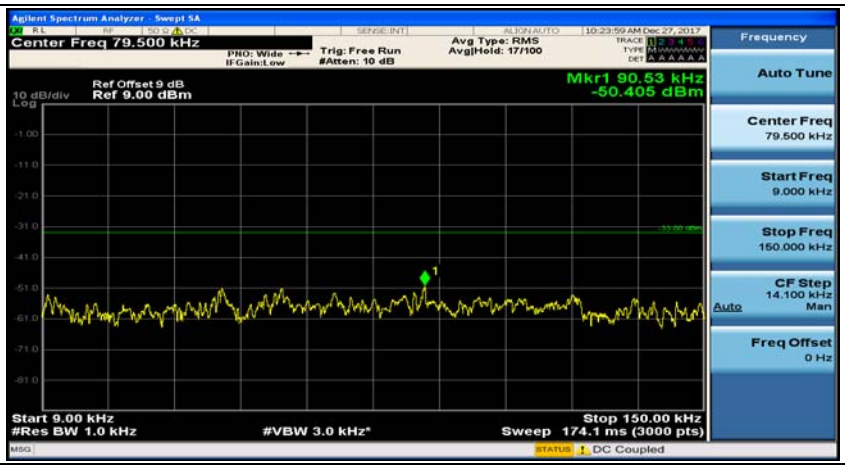
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#24

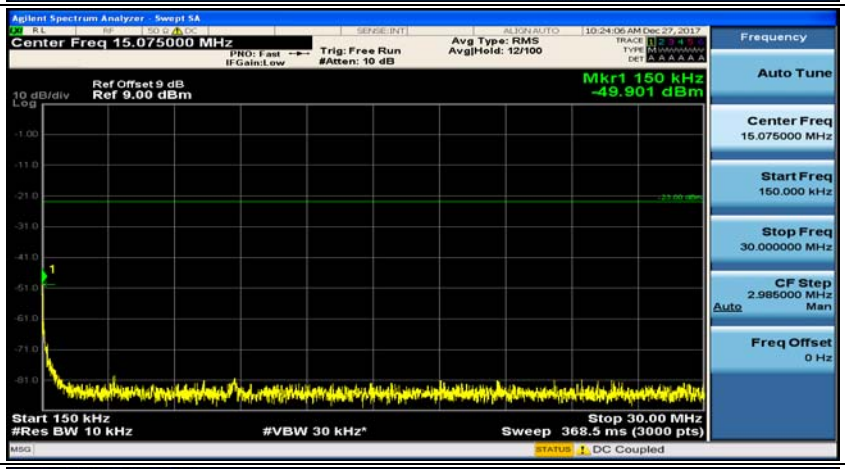


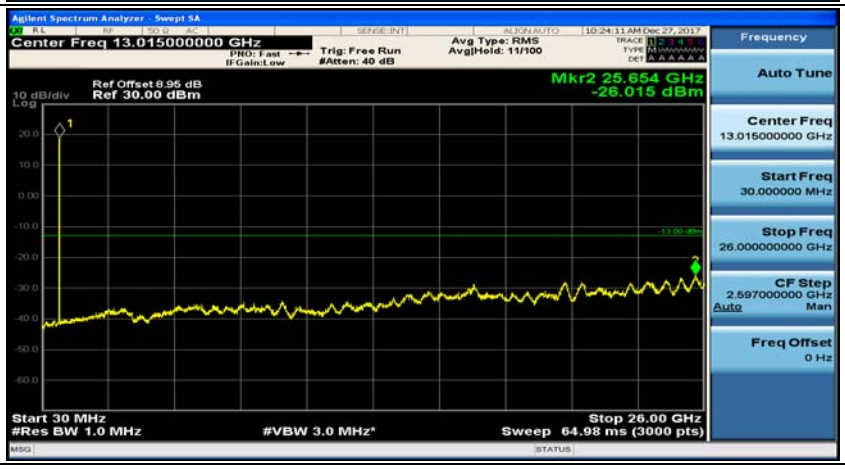


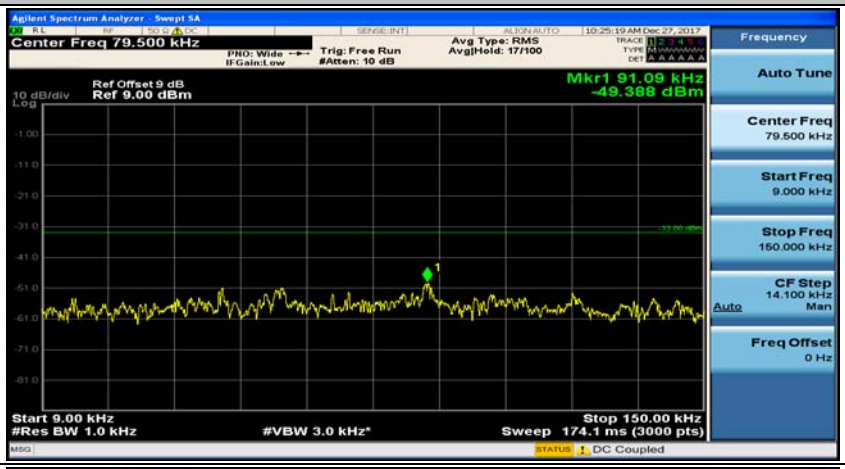
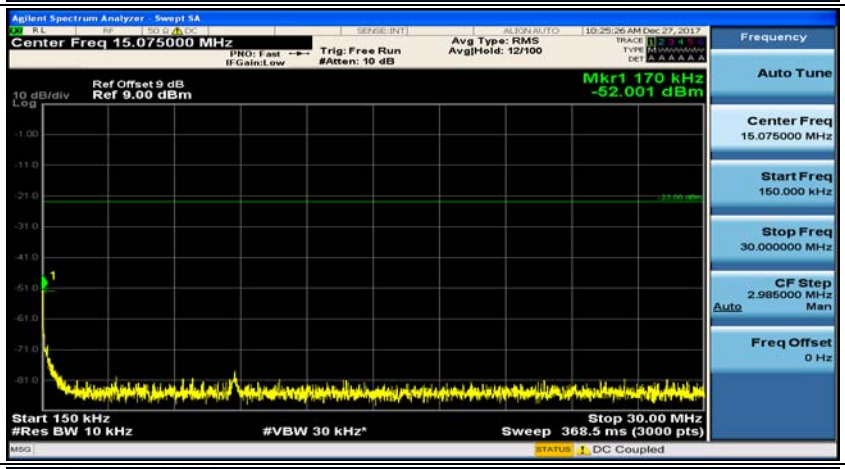
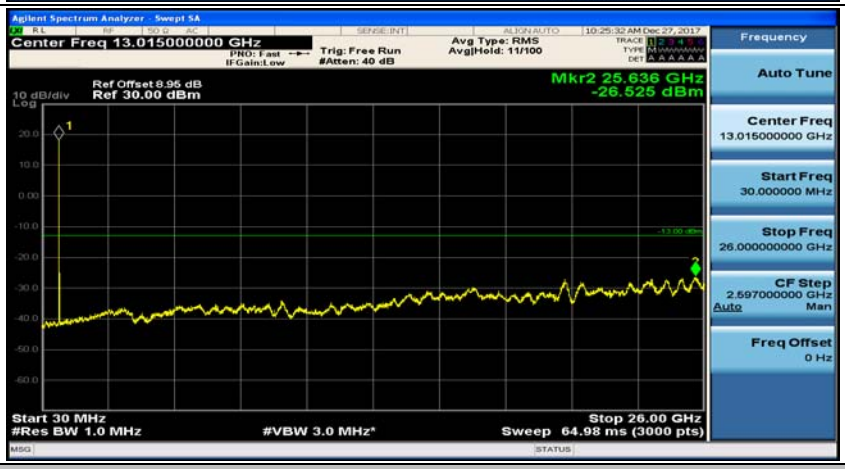


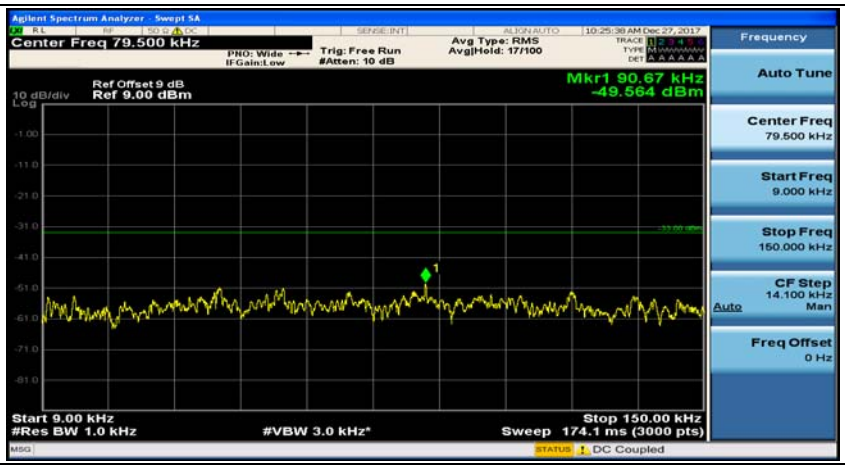
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#49

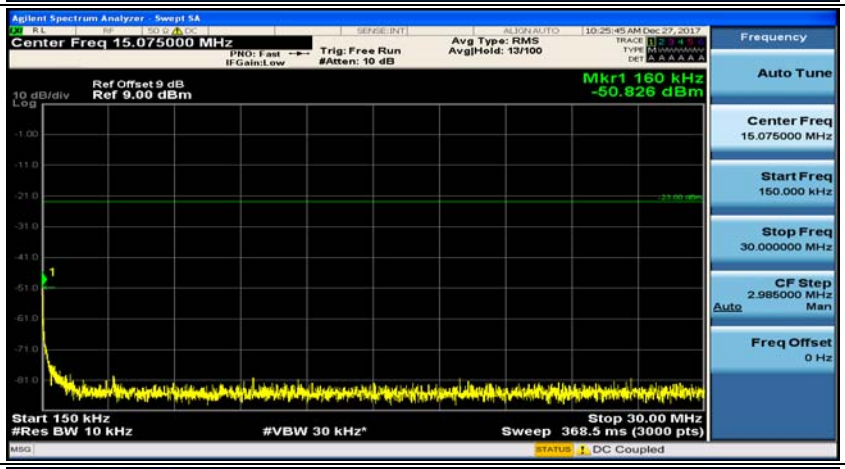

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:23:59 AM Dec 27, 2017
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 90.53 kHz
-50.405 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.1 ms (3000 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

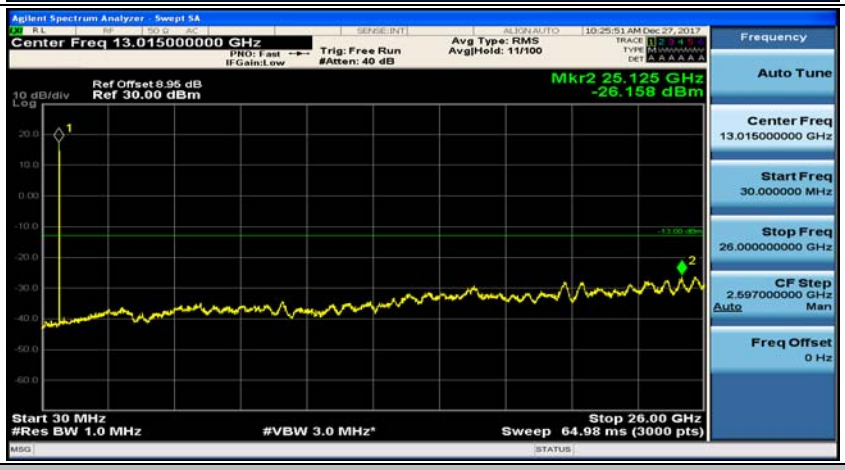

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
10:24:06 AM Dec 27, 2017
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-49.901 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.5 ms (3000 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: 11/100
10:24:11 AM Dec 27, 2017
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.654 GHz
-26.015 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.98 ms (3000 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

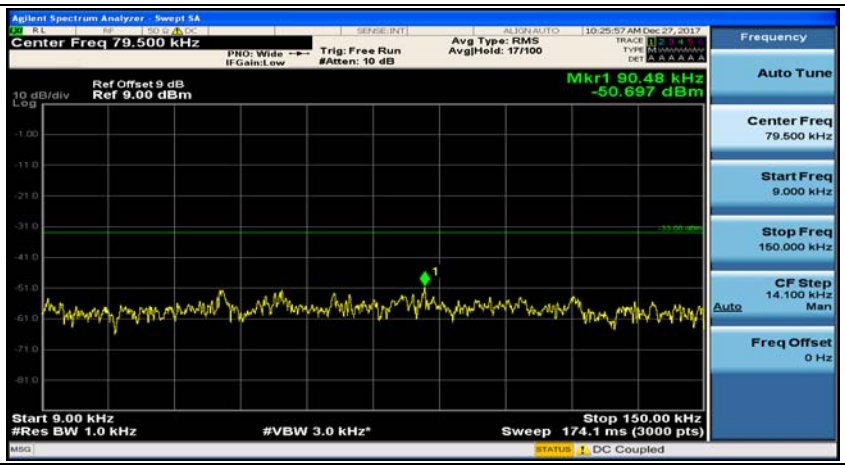
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

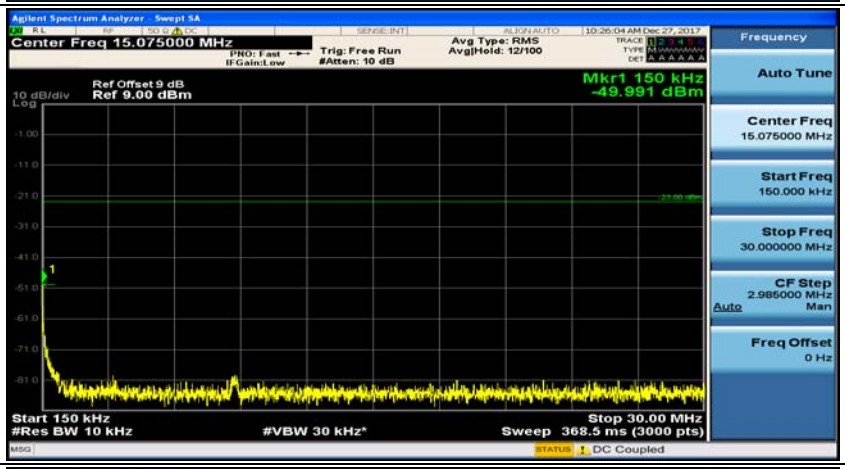


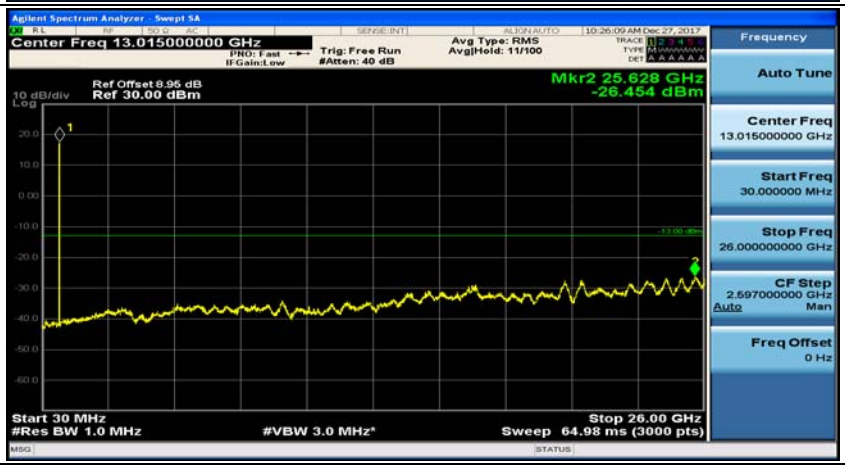


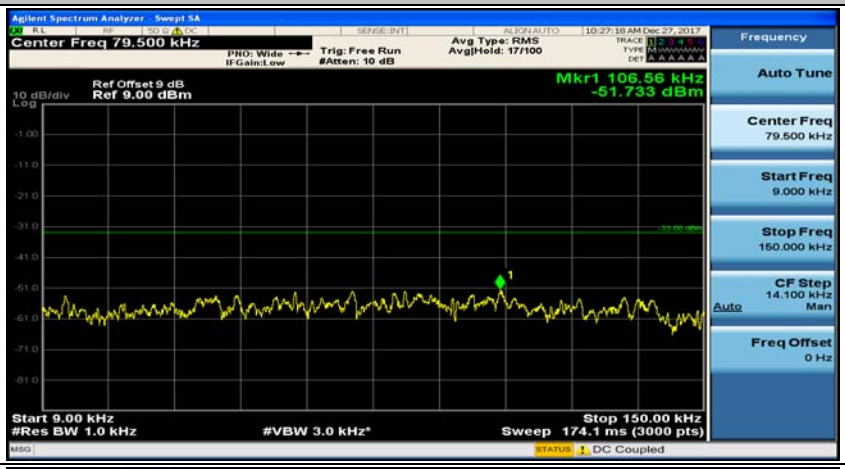
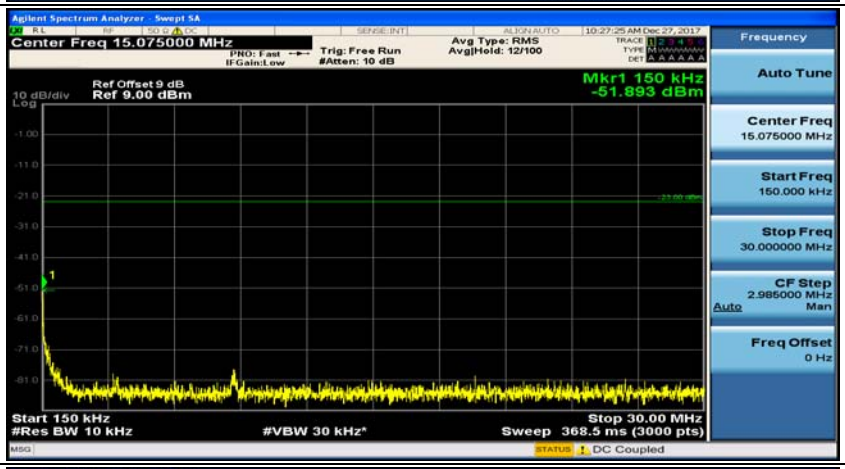
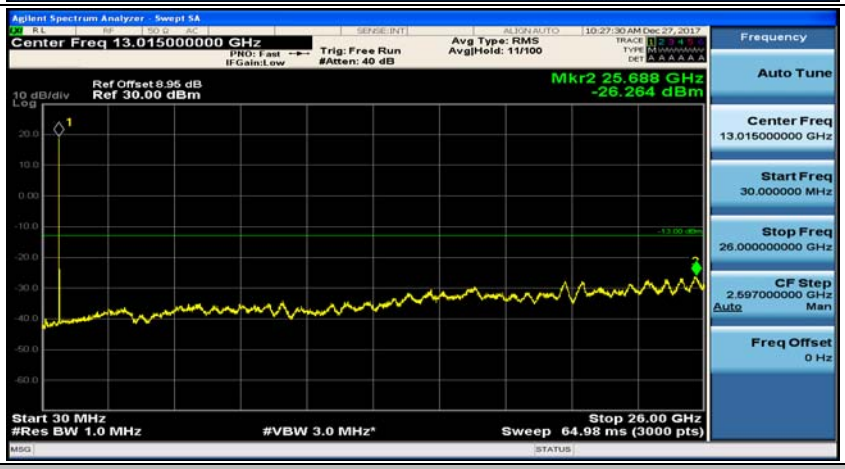


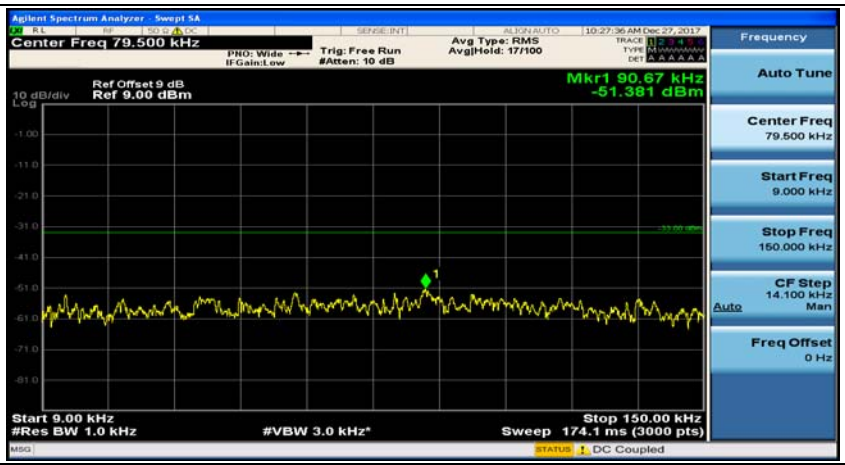
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

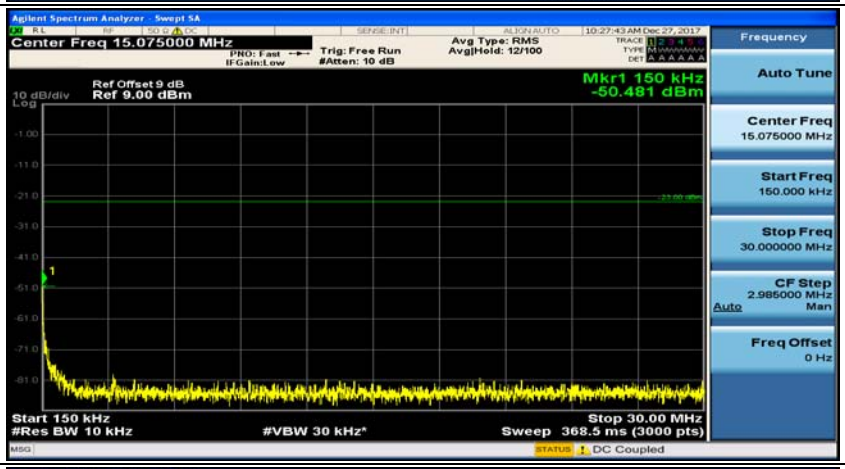

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:25:57 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 90.48 kHz
-50.697 dBm
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.1 ms (3000 pts)
DC Coupled

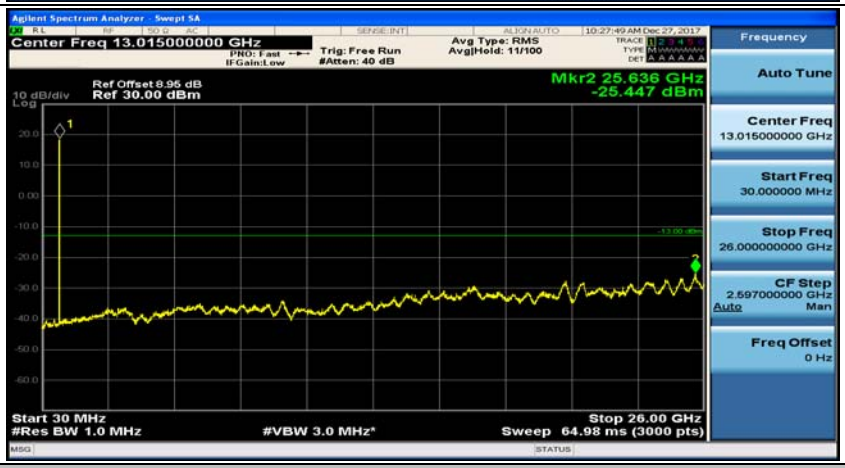

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
10:26:04 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 150 kHz
-49.991 dBm
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Center Freq
15.075000 MHz
Start Freq
150.000 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 368.5 ms (3000 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: 11/100
10:26:09 AM Dec 27, 2017
Frequency
Auto Tune
Mkr2 25.628 GHz
-26.454 dBm
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Log
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 64.98 ms (3000 pts)

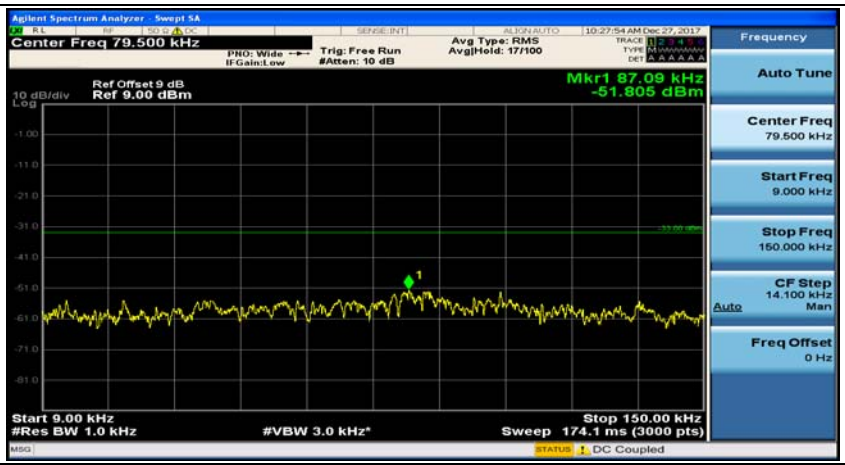
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#0



Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#24

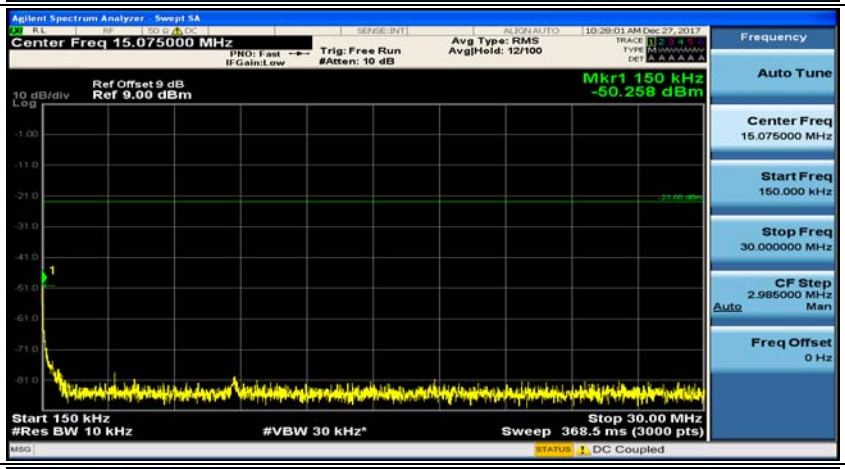


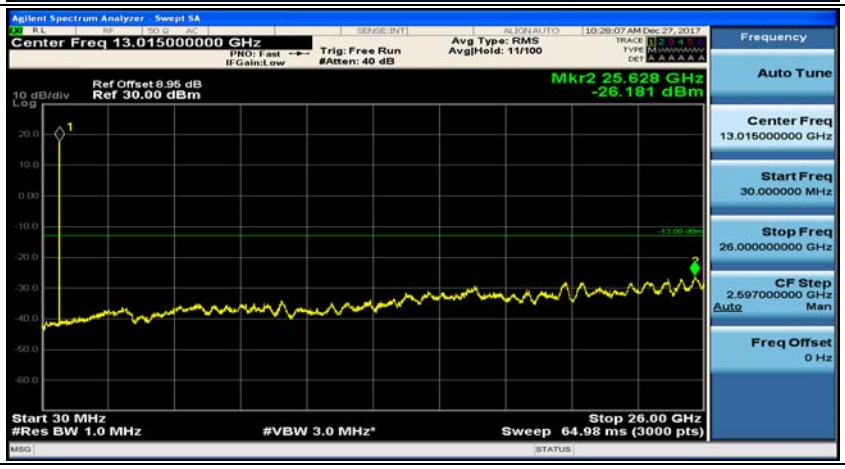


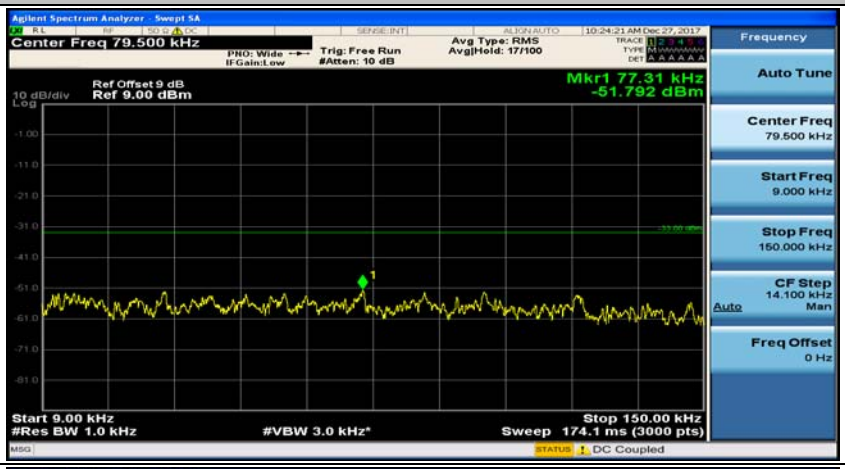
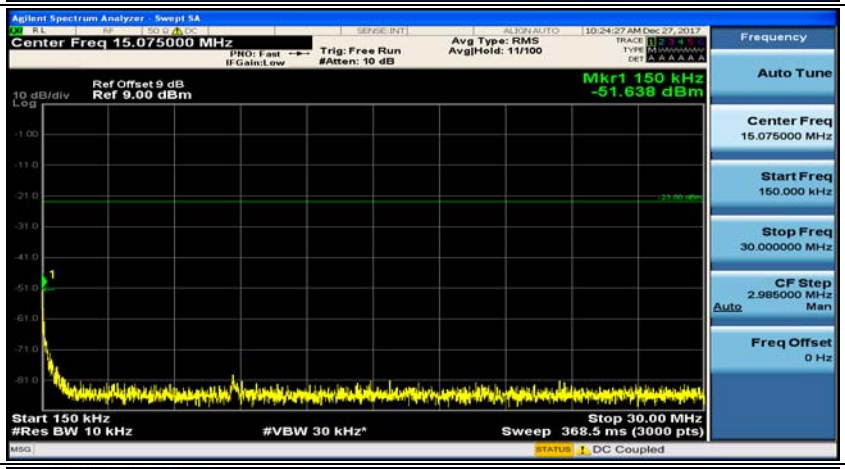
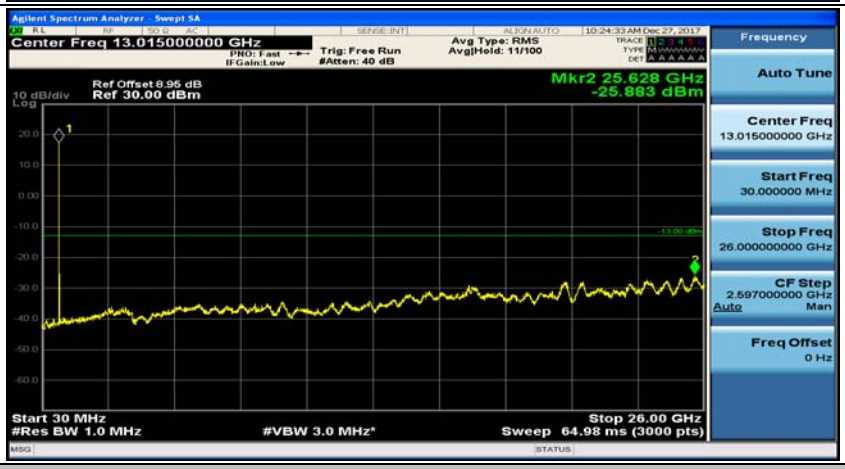


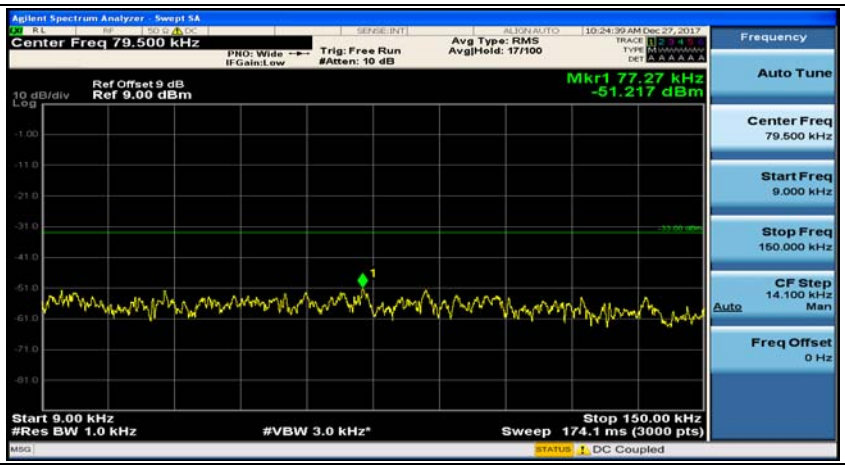
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#49

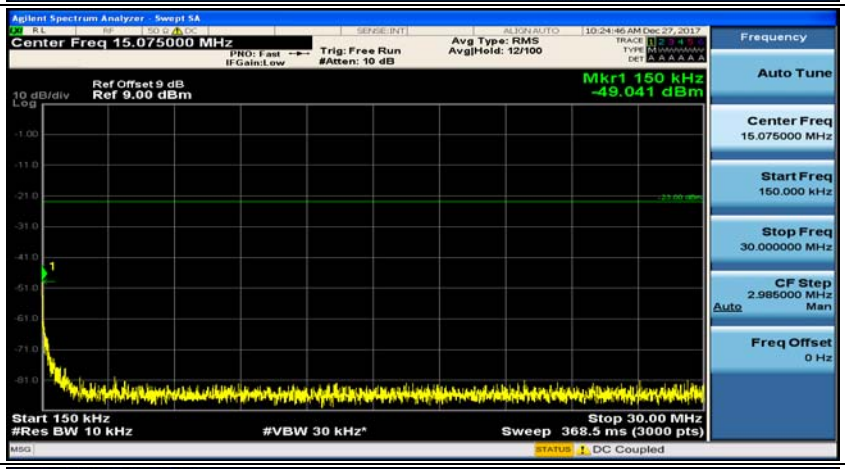

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:27:54 AM Dec 27, 2017
Frequency
Auto Tune
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 87.09 kHz
-51.805 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.1 ms (3000 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: 12/100
10:28:01 AM Dec 27, 2017
Frequency
Auto Tune
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 150 kHz
-50.258 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 368.5 ms (3000 pts)
DC Coupled

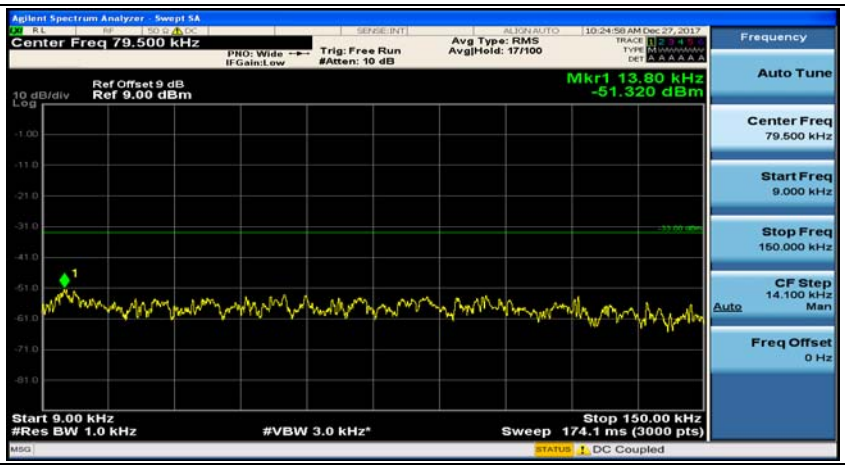

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
10:28:07 AM Dec 27, 2017
Frequency
Auto Tune
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Mkr2 25.628 GHz
-26.181 dBm
Center Freq
13.015000000 GHz
Start Freq
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 64.98 ms (3000 pts)

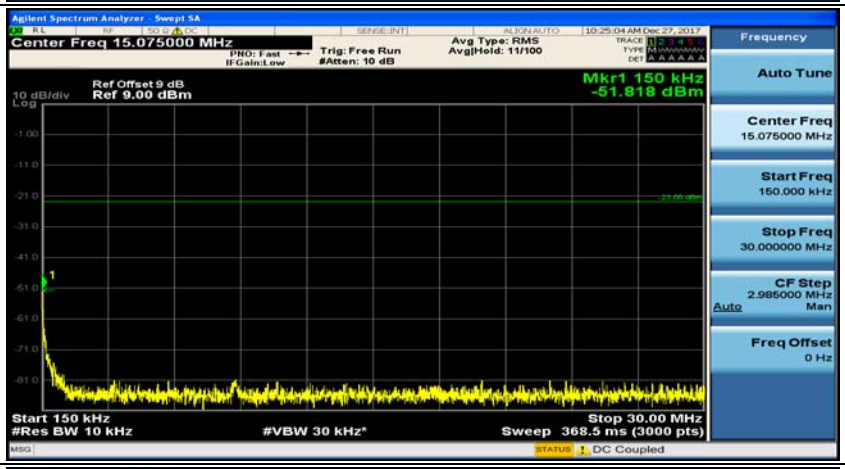
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#24

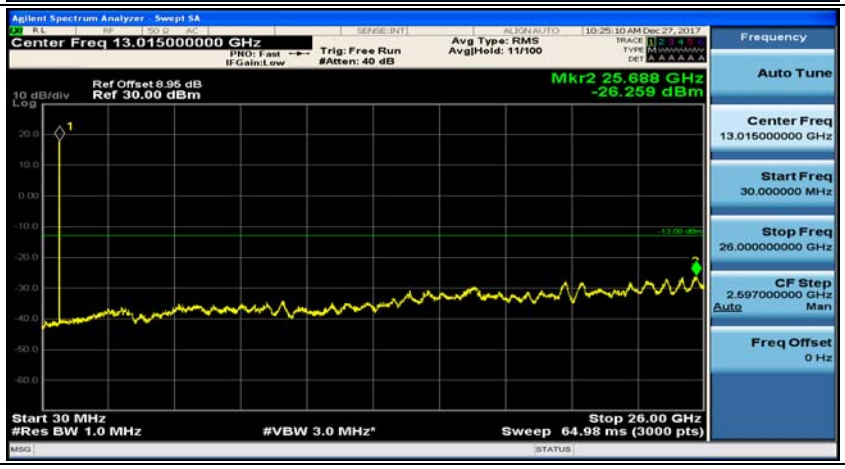


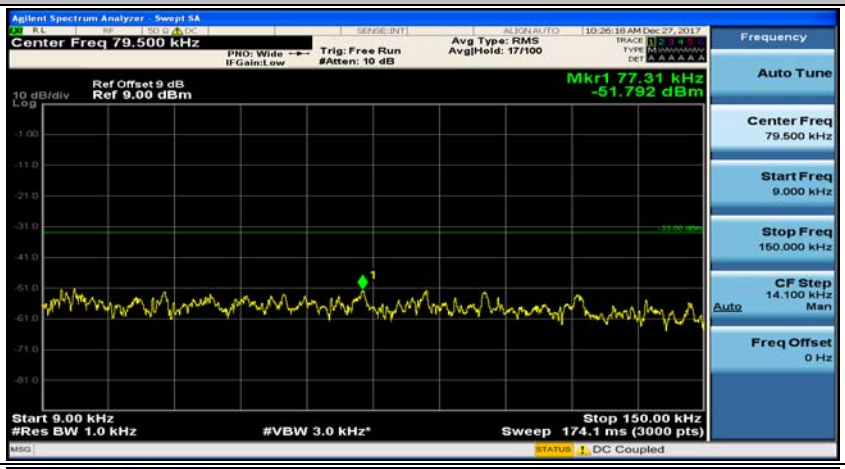
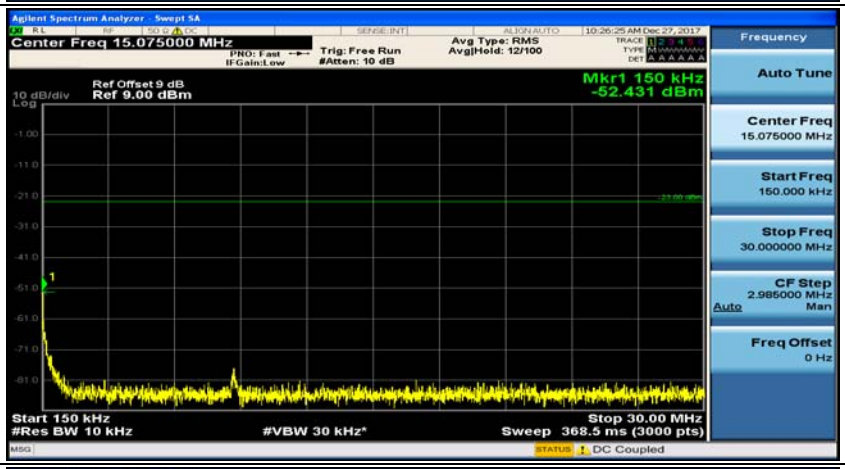
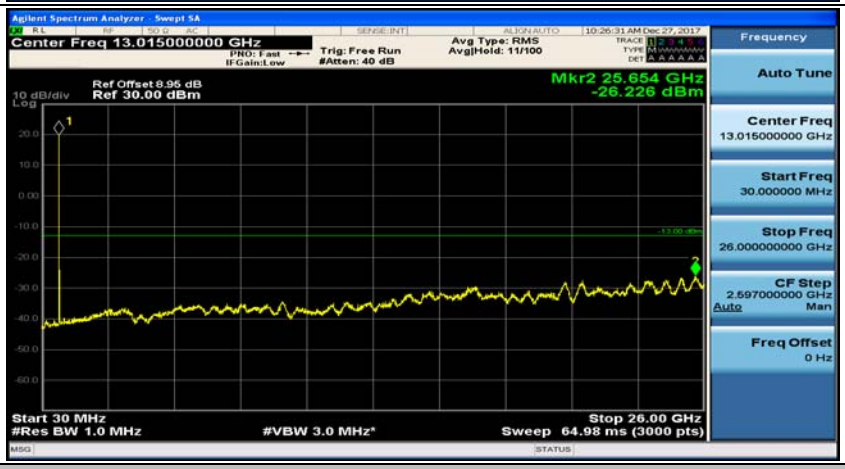


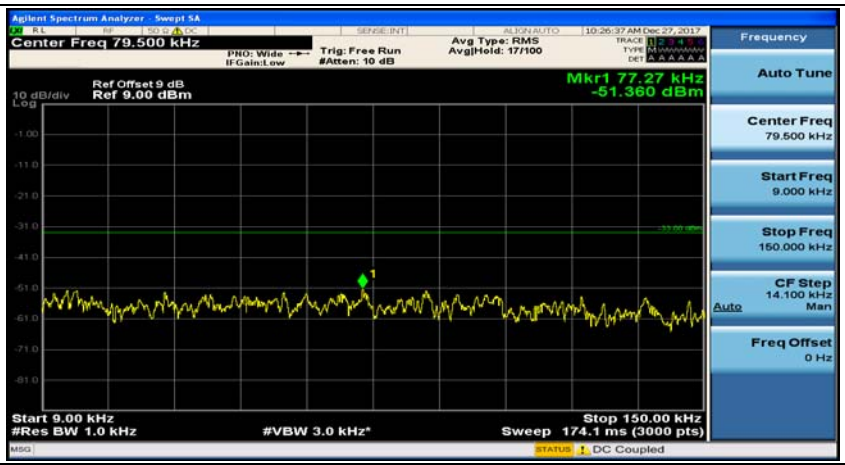
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#49

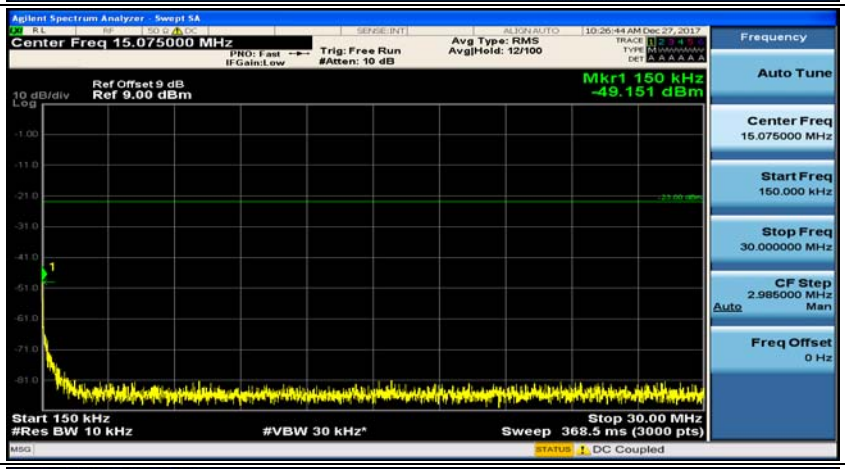

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:24:58 AM Dec 27, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 13.80 kHz
-51.320 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.1 ms (3000 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: 11/100
10:25:04 AM Dec 27, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-51.818 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 368.5 ms (3000 pts)
DC Coupled

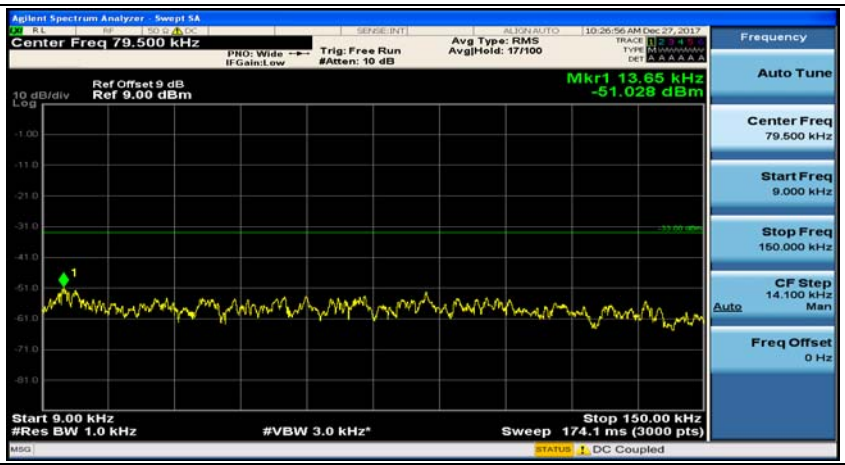

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
10:25:10 AM Dec 27, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.688 GHz
-26.259 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start 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 64.98 ms (3000 pts)

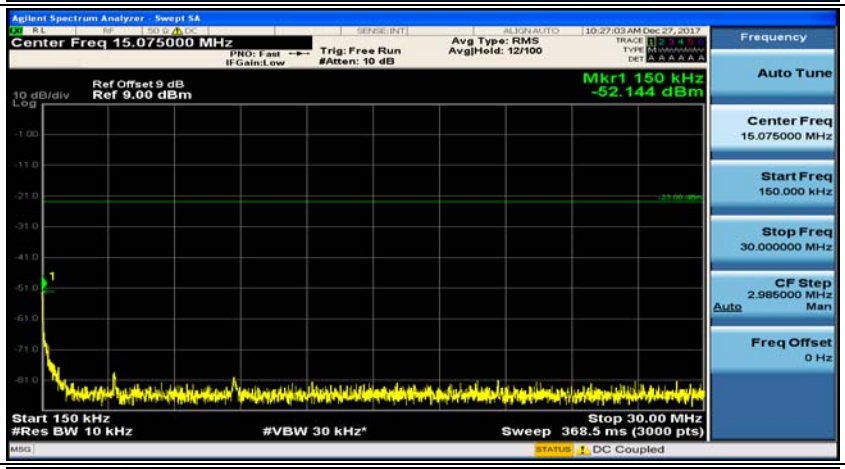
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24

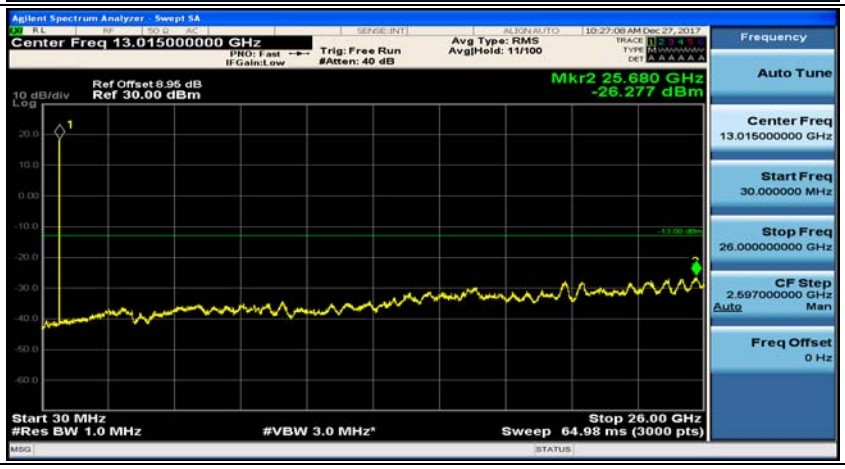


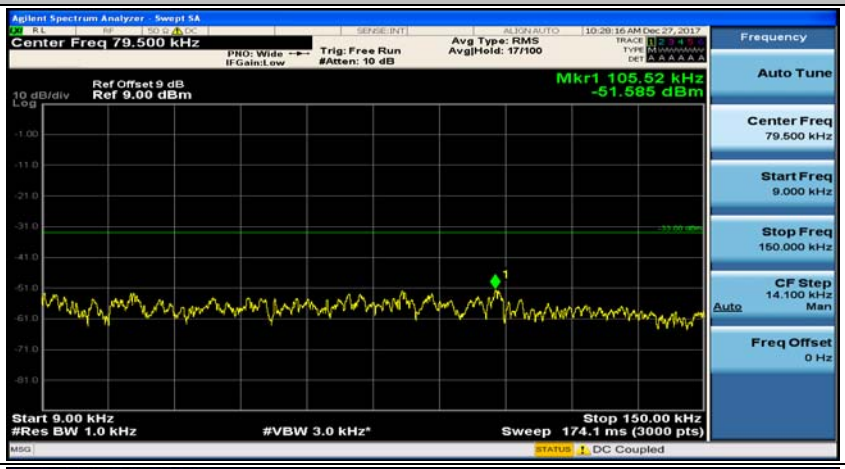
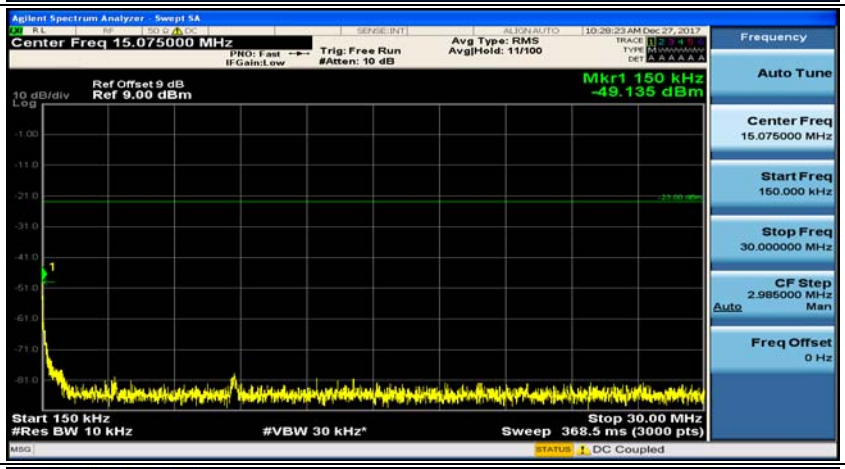
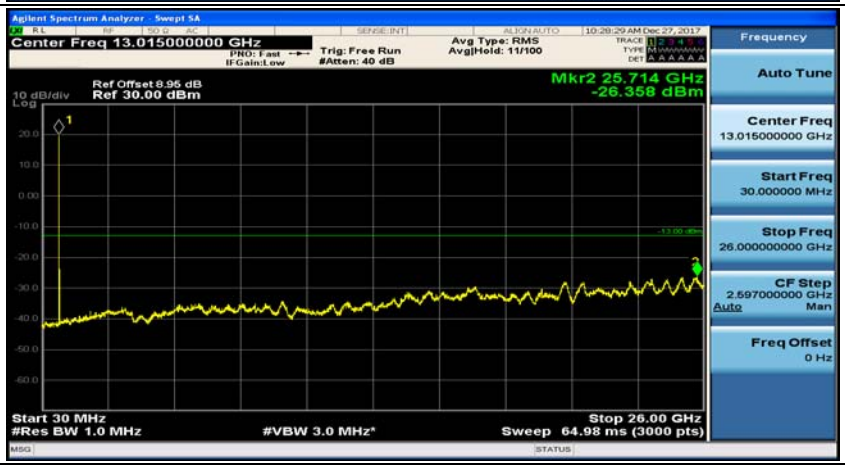


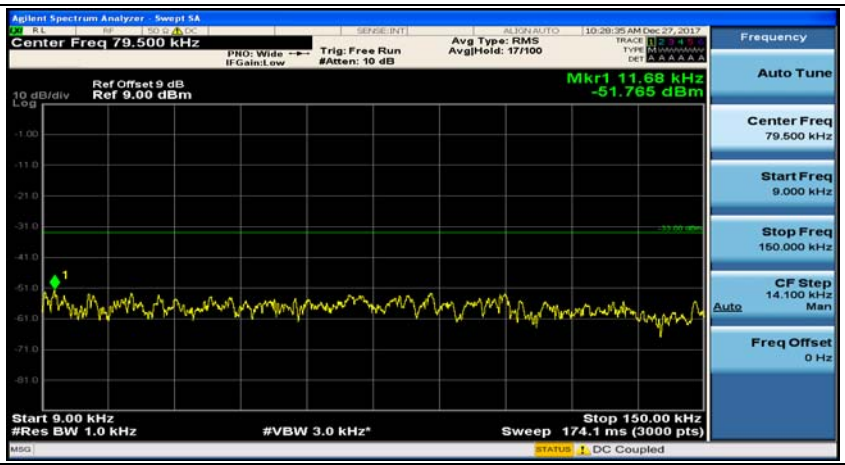
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49

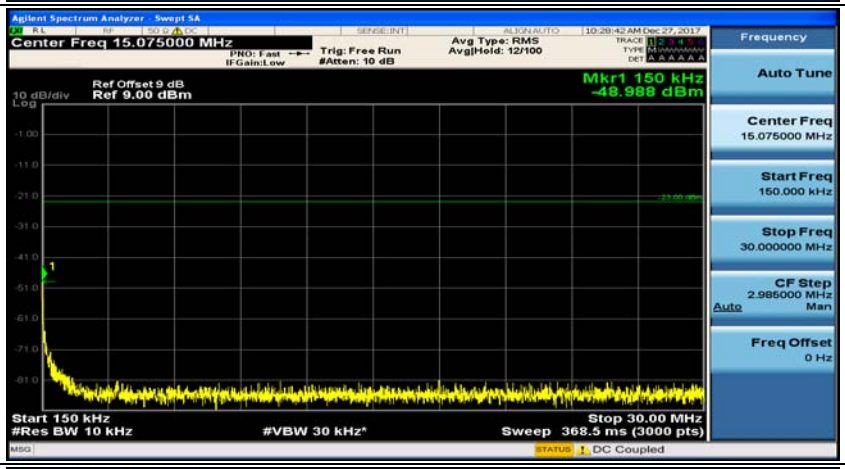

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:26:56 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 13.65 kHz
-51.028 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.1 ms (3000 pts)
DC Coupled

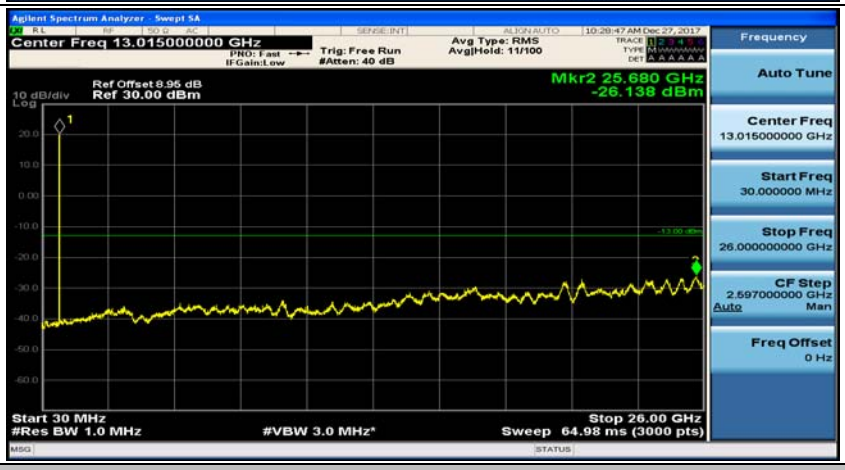

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
10:27:03 AM Dec 27, 2017
Frequency
Auto Tune
Mkr1 150 kHz
-52.144 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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 368.5 ms (3000 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: 11/100
10:27:08 AM Dec 27, 2017
Frequency
Auto Tune
Mkr2 25.680 GHz
-26.277 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 64.98 ms (3000 pts)

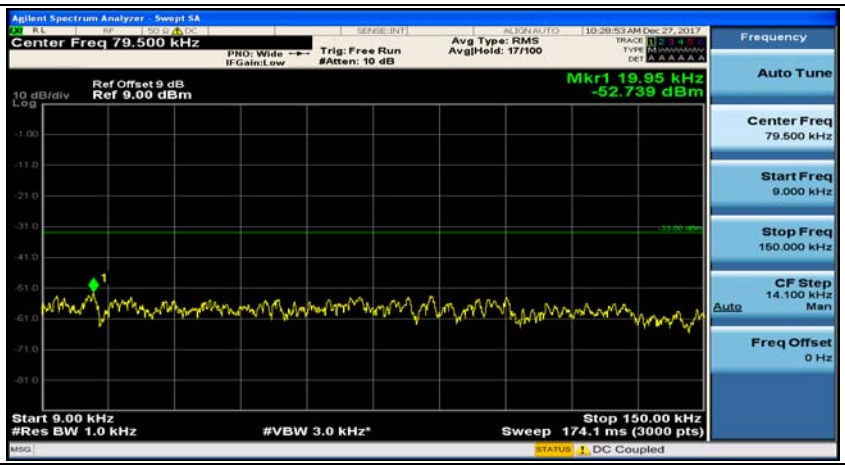
Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#24

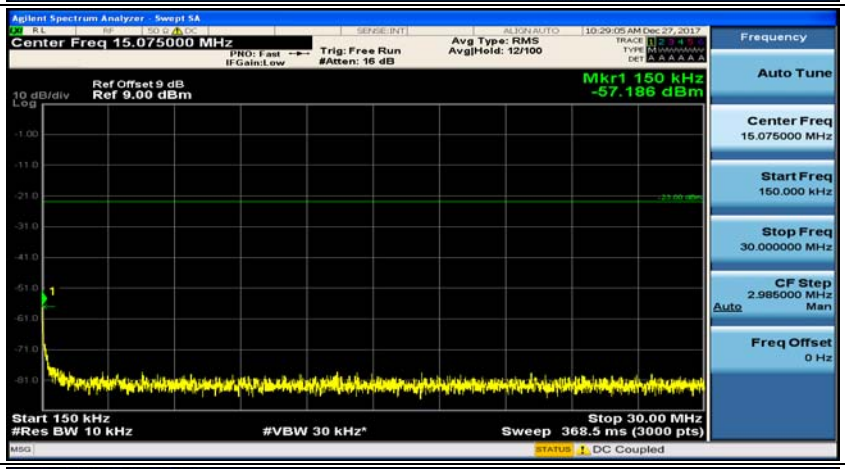


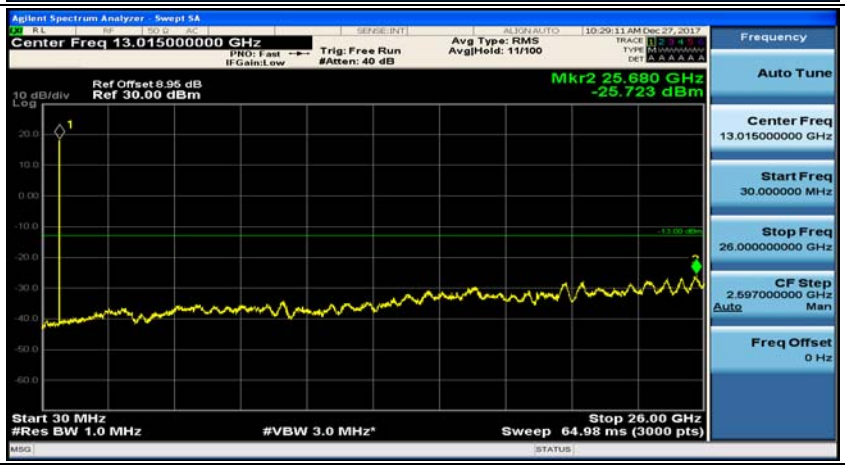




Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#49


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: 17/100
10:28:53 AM Dec 27, 2017
Frequency
Mkr1 19.95 kHz
-52.739 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 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 174.1 ms (3000 pts)
DC Coupled


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: 12/100
10:29:05 AM Dec 27, 2017
Frequency
Mkr1 150 kHz
-57.186 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 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 368.5 ms (3000 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: 11/100
10:29:11 AM Dec 27, 2017
Frequency
Mkr2 25.680 GHz
-25.723 dBm
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 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 64.98 ms (3000 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	3.09	0.004374	± 2.5	PASS
		VN	TN	1.71	0.002420	± 2.5	PASS
		VH	TN	3.62	0.005124	± 2.5	PASS
	MCH	VL	TN	-1.59	-0.002239	± 2.5	PASS
		VN	TN	2.67	0.003761	± 2.5	PASS
		VH	TN	1.06	0.001493	± 2.5	PASS
	HCH	VL	TN	0.25	0.000350	± 2.5	PASS
		VN	TN	-1.84	-0.002579	± 2.5	PASS
		VH	TN	4.75	0.006657	± 2.5	PASS
16QAM	LCH	VL	TN	-0.38	-0.000538	± 2.5	PASS
		VN	TN	4.13	0.005846	± 2.5	PASS
		VH	TN	1.06	0.001500	± 2.5	PASS
	MCH	VL	TN	-1.13	-0.001592	± 2.5	PASS
		VN	TN	3.31	0.004662	± 2.5	PASS
		VH	TN	3.69	0.005197	± 2.5	PASS
	HCH	VL	TN	-1.01	-0.001416	± 2.5	PASS
		VN	TN	3.98	0.005578	± 2.5	PASS
		VH	TN	-0.96	-0.001345	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	4.69	0.006638	± 2.5	PASS
		VN	-20	-0.95	-0.001345	± 2.5	PASS
		VN	-10	4.28	0.006058	± 2.5	PASS
		VN	0	0.84	0.001189	± 2.5	PASS
		VN	10	0.82	0.001161	± 2.5	PASS
		VN	20	-1.63	-0.002307	± 2.5	PASS
		VN	30	0.46	0.000651	± 2.5	PASS
		VN	40	1.89	0.002675	± 2.5	PASS
		VN	50	1.36	0.001925	± 2.5	PASS
	MCH	VN	-30	-0.35	-0.000493	± 2.5	PASS

		VN	-20	-0.93	-0.001310	± 2.5	PASS
		VN	-10	4.67	0.006577	± 2.5	PASS
		VN	0	-1.35	-0.001901	± 2.5	PASS
		VN	10	-0.44	-0.000620	± 2.5	PASS
		VN	20	0.14	0.000197	± 2.5	PASS
		VN	30	0.65	0.000915	± 2.5	PASS
		VN	40	-0.45	-0.000634	± 2.5	PASS
		VN	50	-0.54	-0.000761	± 2.5	PASS
	HCH	VN	-30	-1.19	-0.001668	± 2.5	PASS
		VN	-20	-1.08	-0.001514	± 2.5	PASS
		VN	-10	3.72	0.005214	± 2.5	PASS
		VN	0	1.91	0.002677	± 2.5	PASS
		VN	10	-1.33	-0.001864	± 2.5	PASS
		VN	20	4.12	0.005774	± 2.5	PASS
		VN	30	1.56	0.002186	± 2.5	PASS
		VN	40	0.86	0.001205	± 2.5	PASS
		VN	50	0.97	0.001359	± 2.5	PASS
16QAM	LCH	VN	-30	0.67	0.000948	± 2.5	PASS
		VN	-20	3.41	0.004827	± 2.5	PASS
		VN	-10	2.55	0.003609	± 2.5	PASS
		VN	0	1.24	0.001755	± 2.5	PASS
		VN	10	0.89	0.001260	± 2.5	PASS
		VN	20	3.7	0.005237	± 2.5	PASS
		VN	30	0.82	0.001161	± 2.5	PASS
		VN	40	4.85	0.006865	± 2.5	PASS
		VN	50	1.77	0.002505	± 2.5	PASS
	MCH	VN	-30	2.95	0.004135	± 2.5	PASS
		VN	-20	4.77	0.006685	± 2.5	PASS
		VN	-10	0.48	0.000673	± 2.5	PASS
		VN	0	-0.75	-0.001051	± 2.5	PASS
		VN	10	4.81	0.006741	± 2.5	PASS
		VN	20	4.71	0.006601	± 2.5	PASS
		VN	30	3.4	0.004765	± 2.5	PASS
		VN	40	3.2	0.004485	± 2.5	PASS
		VN	50	1.28	0.001794	± 2.5	PASS
	HCH	VN	-30	3.71	0.005200	± 2.5	PASS
		VN	-20	-1.38	-0.001934	± 2.5	PASS
		VN	-10	4.08	0.005718	± 2.5	PASS
		VN	0	2.28	0.003196	± 2.5	PASS
		VN	10	2.91	0.004078	± 2.5	PASS
		VN	20	2.66	0.003728	± 2.5	PASS

		VN	30	2.74	0.003840	± 2.5	PASS
		VN	40	-1.11	-0.001556	± 2.5	PASS
		VN	50	2.37	0.003322	± 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	0.18	0.000254	± 2.5	PASS
		VN	TN	2.17	0.003061	± 2.5	PASS
		VH	TN	-1.42	-0.002003	± 2.5	PASS
	MCH	VL	TN	3.95	0.005563	± 2.5	PASS
		VN	TN	-0.5	-0.000704	± 2.5	PASS
		VH	TN	-0.42	-0.000592	± 2.5	PASS
	HCH	VL	TN	3.86	0.005429	± 2.5	PASS
		VN	TN	2.69	0.003783	± 2.5	PASS
		VH	TN	0.45	0.000633	± 2.5	PASS
16QAM	LCH	VL	TN	-1.98	-0.002793	± 2.5	PASS
		VN	TN	4.81	0.006784	± 2.5	PASS
		VH	TN	2.72	0.003836	± 2.5	PASS
	MCH	VL	TN	3.98	0.005606	± 2.5	PASS
		VN	TN	-1.52	-0.002141	± 2.5	PASS
		VH	TN	-0.56	-0.000789	± 2.5	PASS
	HCH	VL	TN	-0.03	-0.000042	± 2.5	PASS
		VN	TN	3.45	0.004852	± 2.5	PASS
		VH	TN	0.63	0.000886	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	3	0.004231	± 2.5	PASS
		VN	-20	3.63	0.005120	± 2.5	PASS
		VN	-10	0.94	0.001326	± 2.5	PASS
		VN	0	4.25	0.005994	± 2.5	PASS
		VN	10	2.06	0.002906	± 2.5	PASS
		VN	20	0.89	0.001255	± 2.5	PASS
		VN	30	-1.45	-0.002045	± 2.5	PASS
		VN	40	0.96	0.001354	± 2.5	PASS
		VN	50	4.45	0.006276	± 2.5	PASS
	MCH	VN	-30	-0.19	-0.000268	± 2.5	PASS
		VN	-20	-0.24	-0.000338	± 2.5	PASS

		VN	-10	2.8	0.003944	± 2.5	PASS
		VN	0	2.46	0.003465	± 2.5	PASS
		VN	10	-0.29	-0.000408	± 2.5	PASS
		VN	20	3.82	0.005380	± 2.5	PASS
		VN	30	0.83	0.001169	± 2.5	PASS
		VN	40	0.34	0.000479	± 2.5	PASS
		VN	50	3.82	0.005380	± 2.5	PASS
	HCH	VN	-30	-1.58	-0.002222	± 2.5	PASS
		VN	-20	-0.72	-0.001013	± 2.5	PASS
		VN	-10	2.35	0.003305	± 2.5	PASS
		VN	0	3.37	0.004740	± 2.5	PASS
		VN	10	-1.87	-0.002630	± 2.5	PASS
		VN	20	1.97	0.002771	± 2.5	PASS
		VN	30	0.63	0.000886	± 2.5	PASS
		VN	40	-1.56	-0.002194	± 2.5	PASS
		VN	50	4.44	0.006245	± 2.5	PASS
QPSK	LCH	VN	-30	-1.85	-0.002606	± 2.5	PASS
		VN	-20	1.6	0.002254	± 2.5	PASS
		VN	-10	1.38	0.001944	± 2.5	PASS
		VN	0	4.67	0.006577	± 2.5	PASS
		VN	10	0.71	0.001000	± 2.5	PASS
		VN	20	2.31	0.003254	± 2.5	PASS
		VN	30	2.15	0.003028	± 2.5	PASS
		VN	40	-0.84	-0.001183	± 2.5	PASS
		VN	50	1.38	0.001944	± 2.5	PASS
	MCH	VN	-30	4.06	0.005710	± 2.5	PASS
		VN	-20	4.66	0.006554	± 2.5	PASS
		VN	-10	4.2	0.005907	± 2.5	PASS
		VN	0	0.52	0.000731	± 2.5	PASS
		VN	10	-1.81	-0.002546	± 2.5	PASS
		VN	20	2.83	0.003980	± 2.5	PASS
		VN	30	3.96	0.005570	± 2.5	PASS
		VN	40	2.4	0.003376	± 2.5	PASS
		VN	50	3.03	0.004262	± 2.5	PASS
	HCH	VN	-30	4.57	0.006428	± 2.5	PASS
		VN	-20	2.96	0.004163	± 2.5	PASS
		VN	-10	-0.55	-0.000774	± 2.5	PASS
		VN	0	2.38	0.003347	± 2.5	PASS
		VN	10	-0.24	-0.000338	± 2.5	PASS
		VN	20	2.34	0.003291	± 2.5	PASS
		VN	30	1.7	0.002391	± 2.5	PASS

		VN	40	3.47	0.004880	± 2.5	PASS
		VN	50	-1.73	-0.002433	± 2.5	PASS