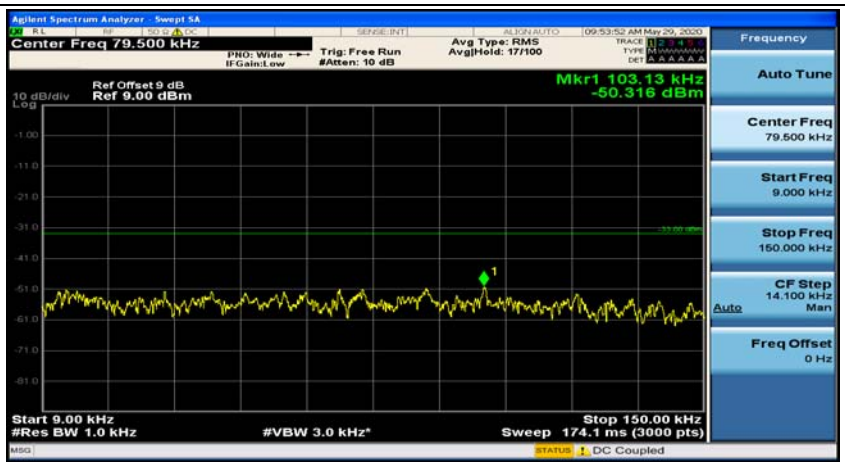
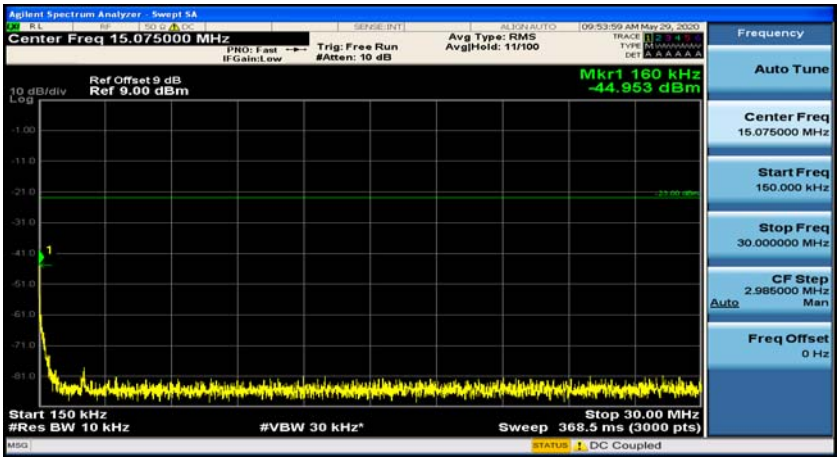
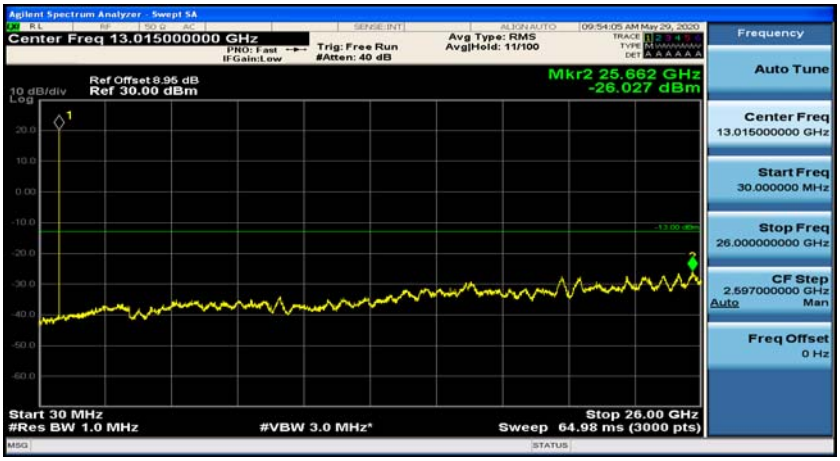
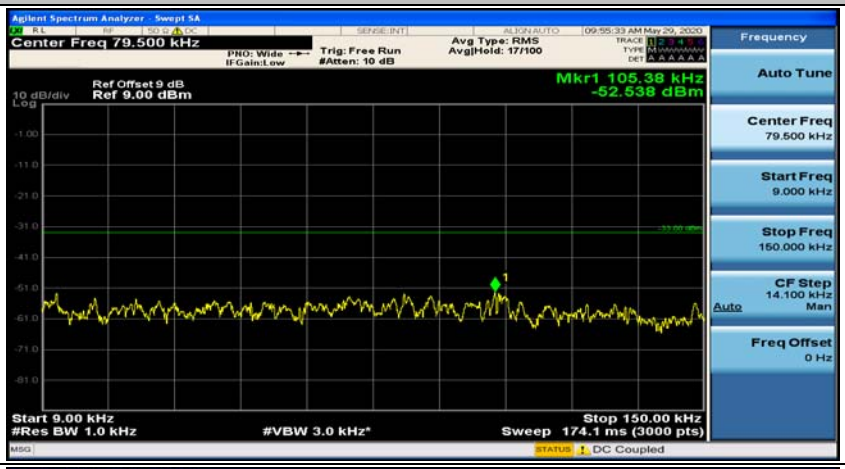
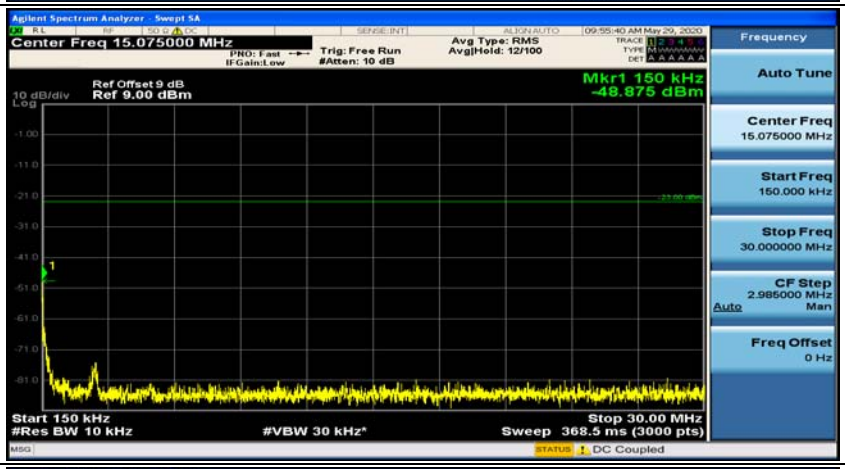
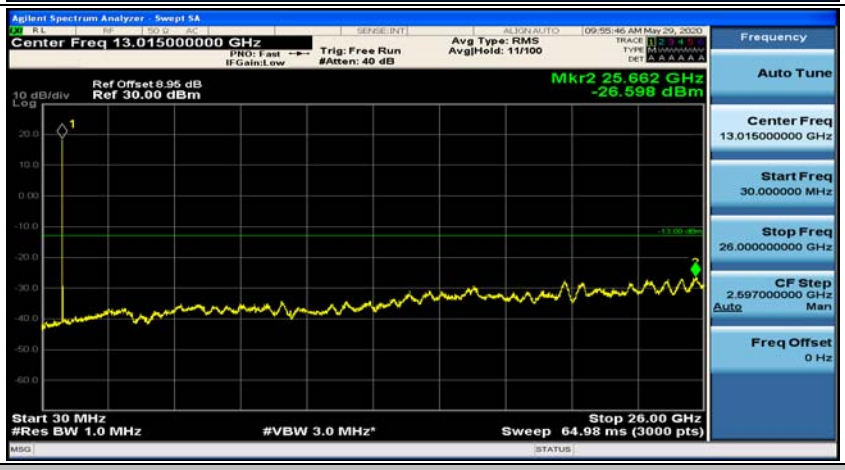
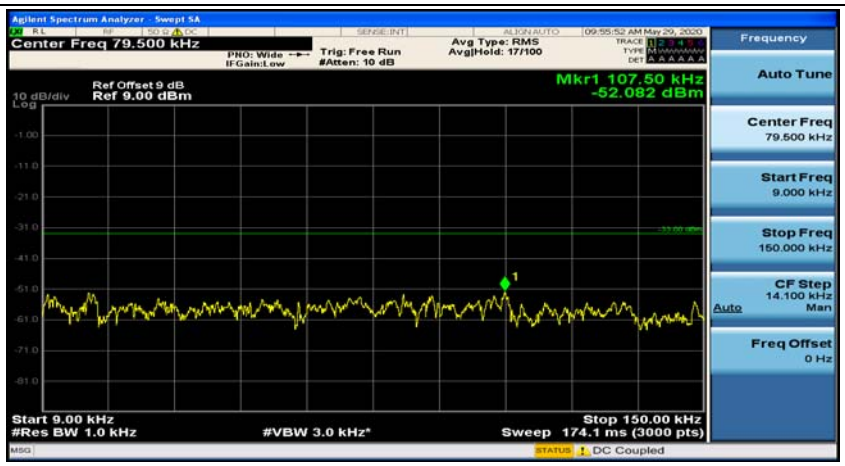
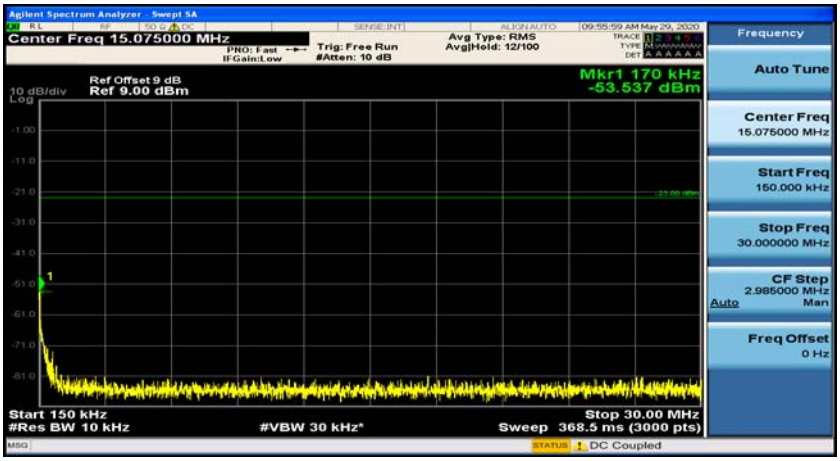

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
09:53:52 AM May 29, 2020
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 103.13 kHz
-50.316 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.1 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

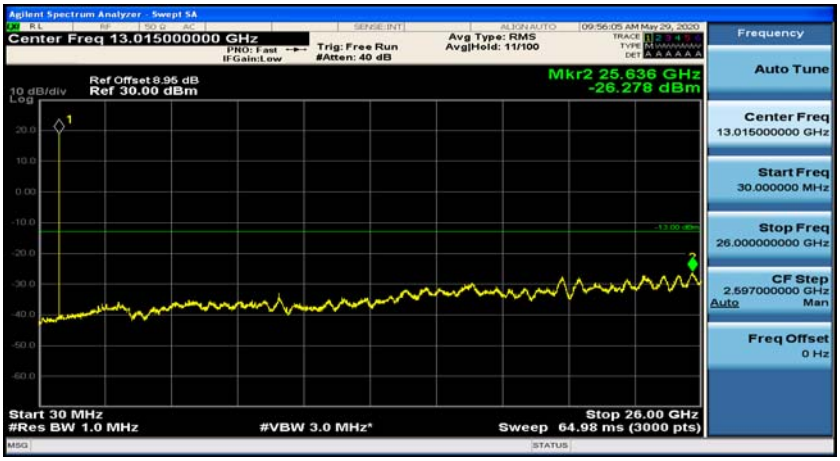

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 11/100
09:53:59 AM May 29, 2020
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Mkr1 160 kHz
-44.953 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.5 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

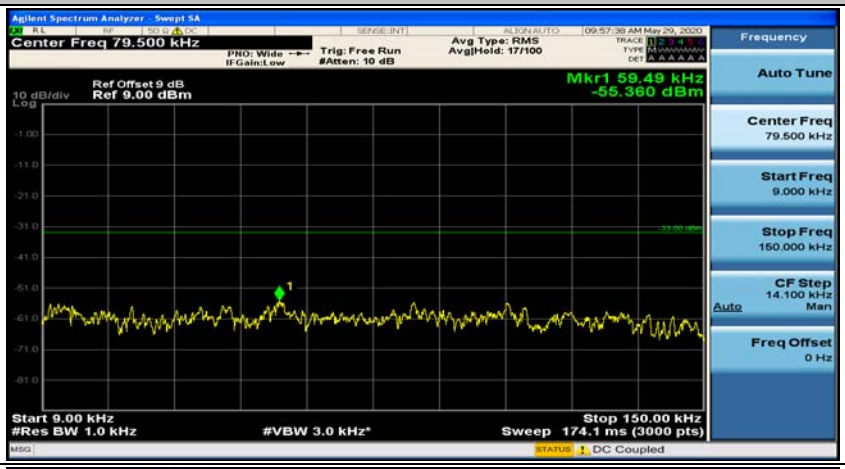
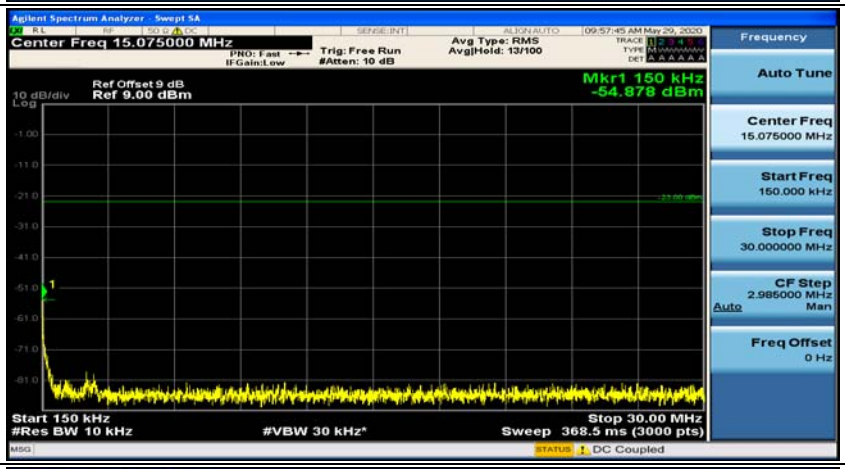

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
09:54:05 AM May 29, 2020
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Mkr2 25.662 GHz
-26.027 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
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: 3 MHz)_MCH_16QAM_1RB#0



(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#7

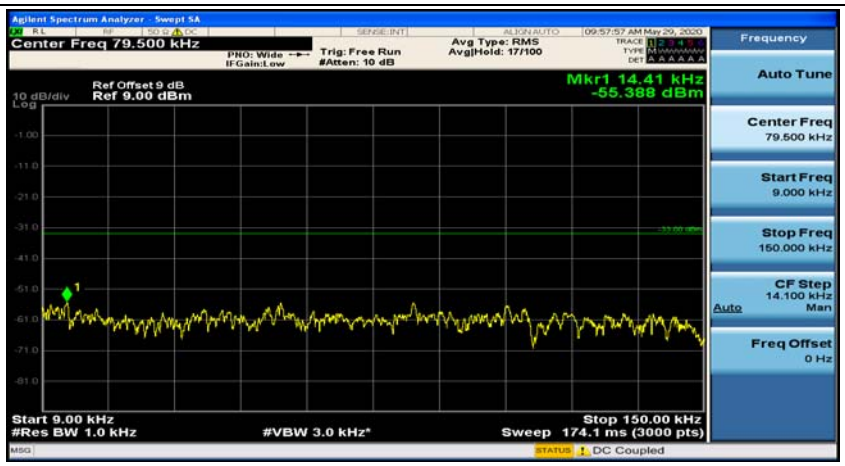

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
09:55:52 AM May 29, 2020
Frequency
Auto Tune
Mkr1 107.50 kHz
-52.082 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
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

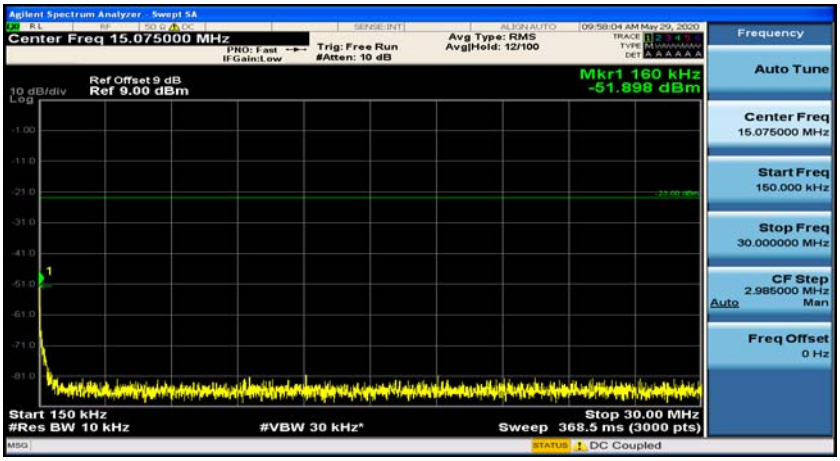

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
09:55:59 AM May 29, 2020
Frequency
Auto Tune
Mkr1 170 kHz
-53.537 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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

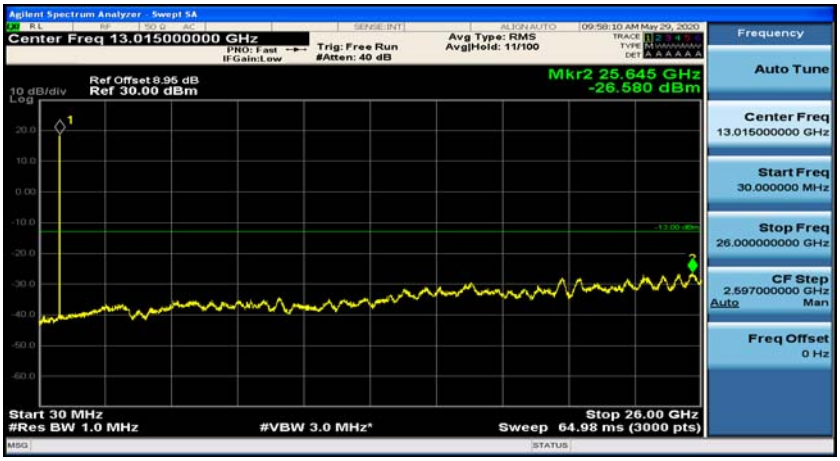

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
09:56:05 AM May 29, 2020
Frequency
Auto Tune
Mkr2 25.636 GHz
-26.278 dBm
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Center Freq
13.015000000 GHz
Start 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: 3 MHz)_HCH_16QAM_1RB#0



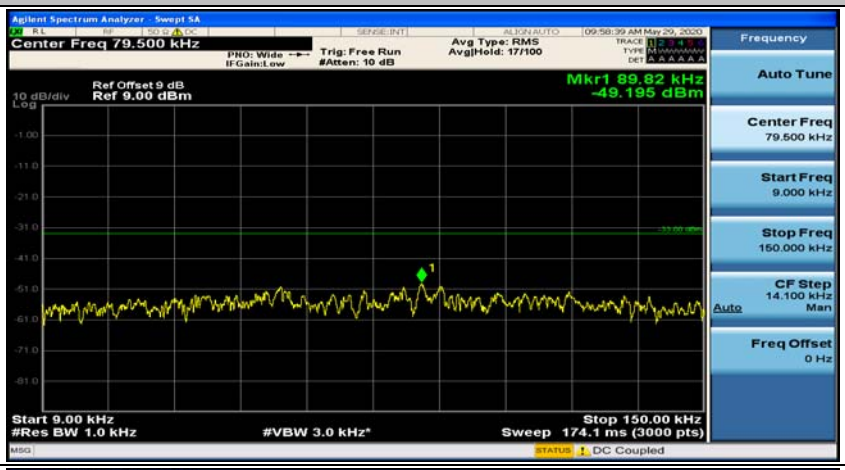
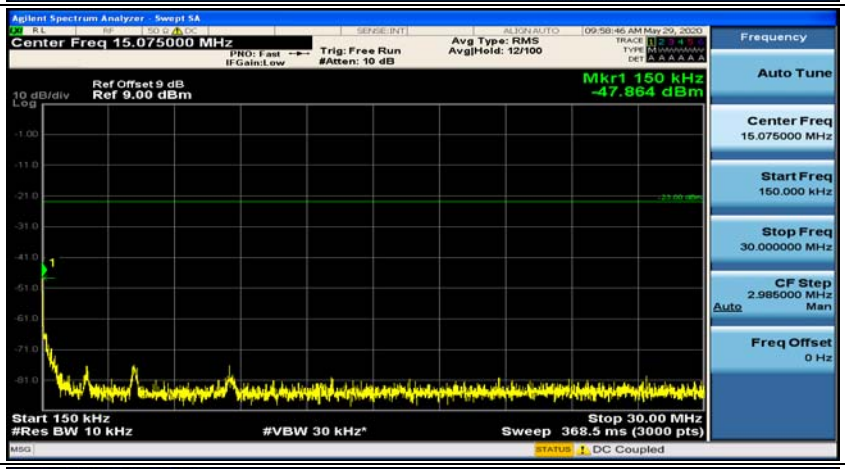
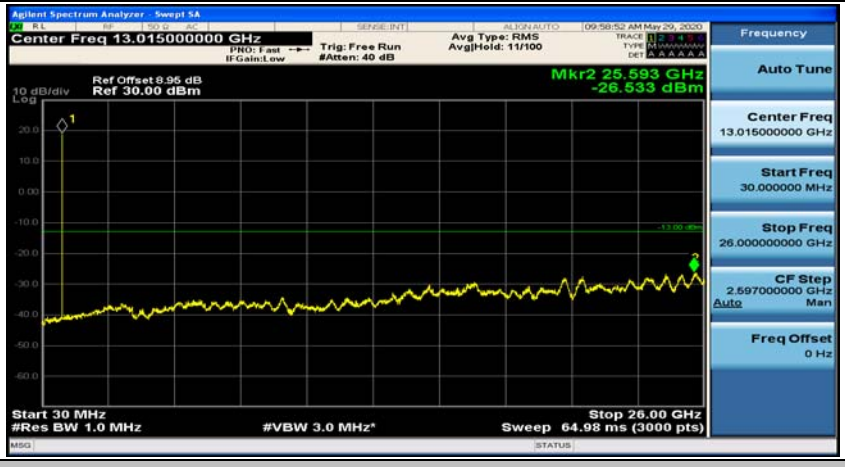
(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#7

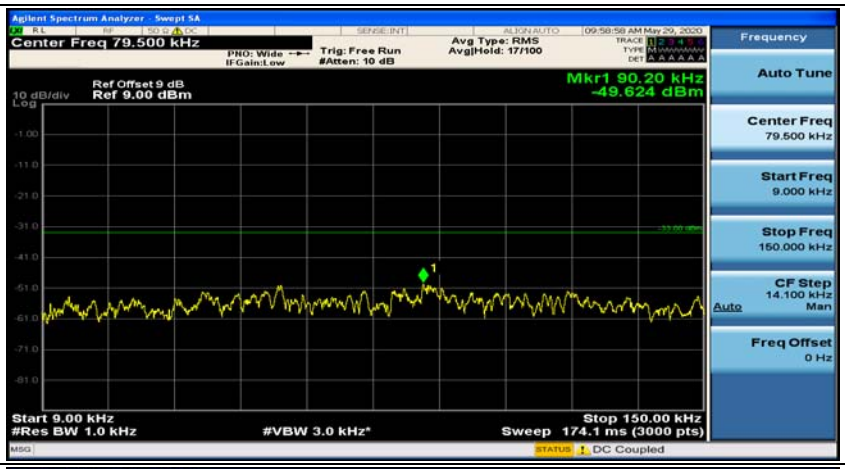

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
09:57:57 AM May 29, 2020
Frequency
Auto Tune
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 14.41 kHz
-55.388 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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

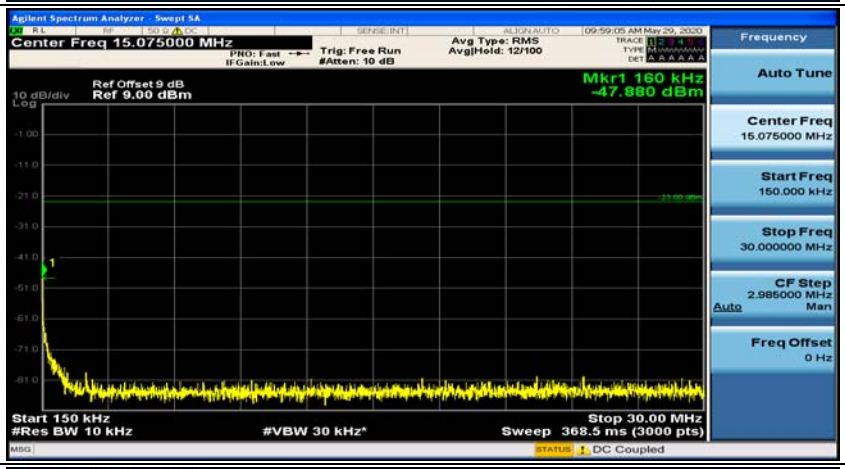

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
09:58:04 AM May 29, 2020
Frequency
Auto Tune
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 160 kHz
-51.898 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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

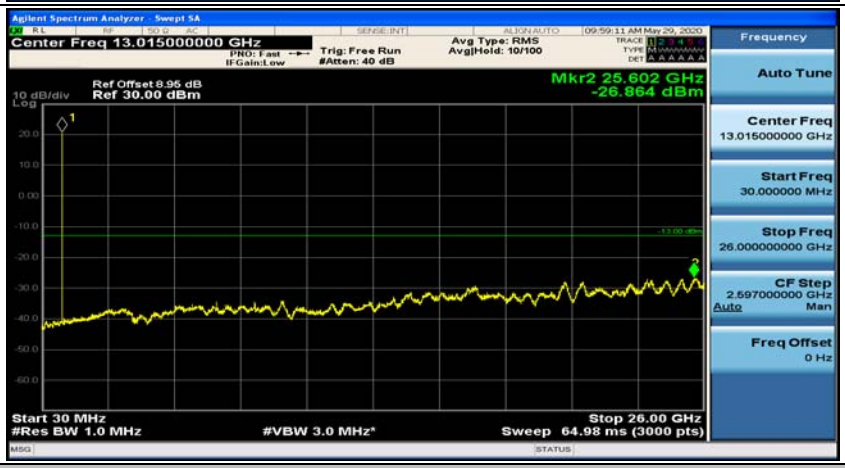

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
09:58:10 AM May 29, 2020
Frequency
Auto Tune
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.645 GHz
-26.580 dBm
Center Freq
13.015000000 GHz
Start 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

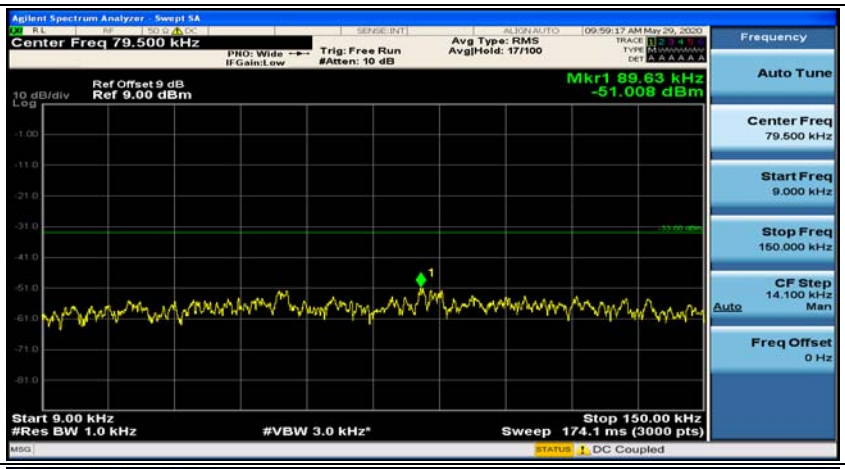
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12

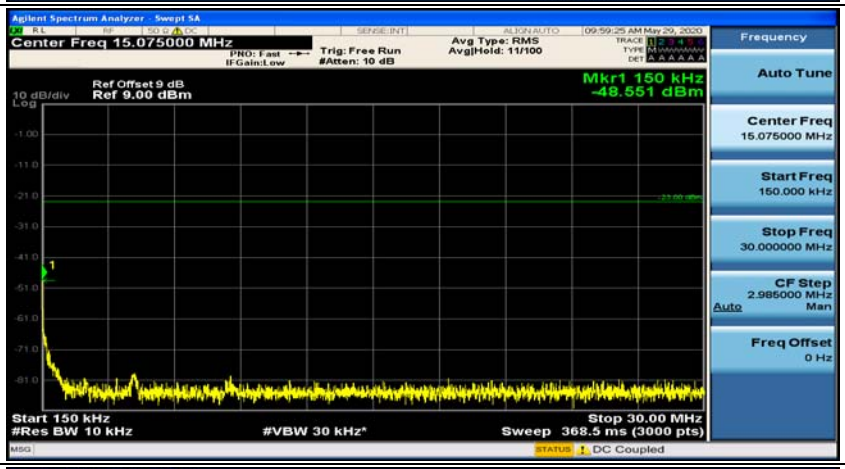




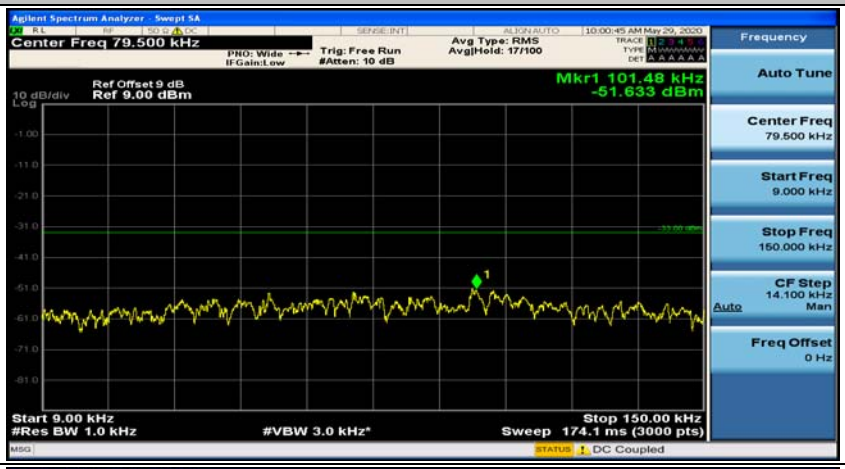
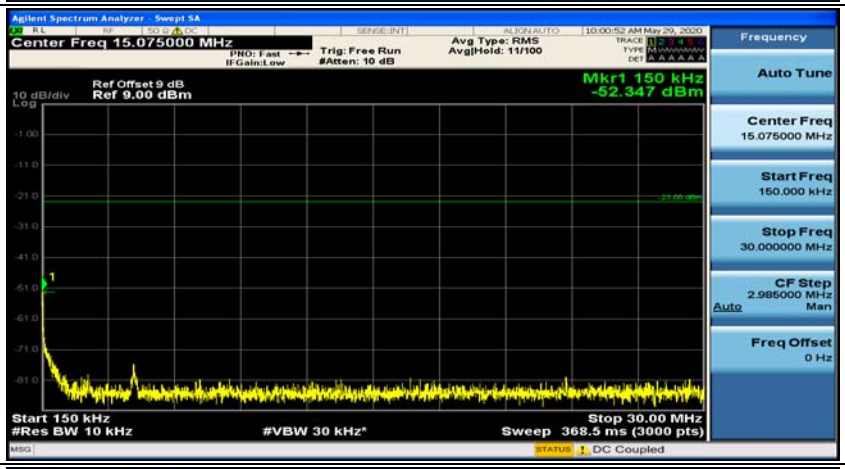


(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24

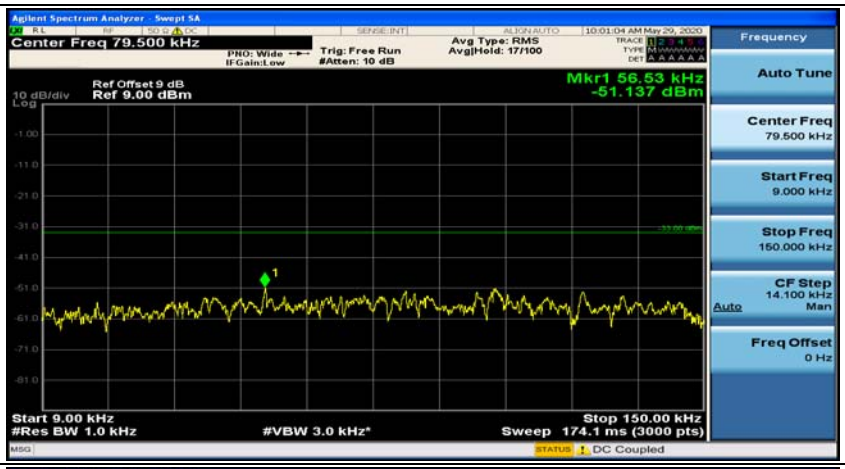

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
09:59:17 AM May 29, 2020
Mkr1 89.63 kHz
-51.008 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 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

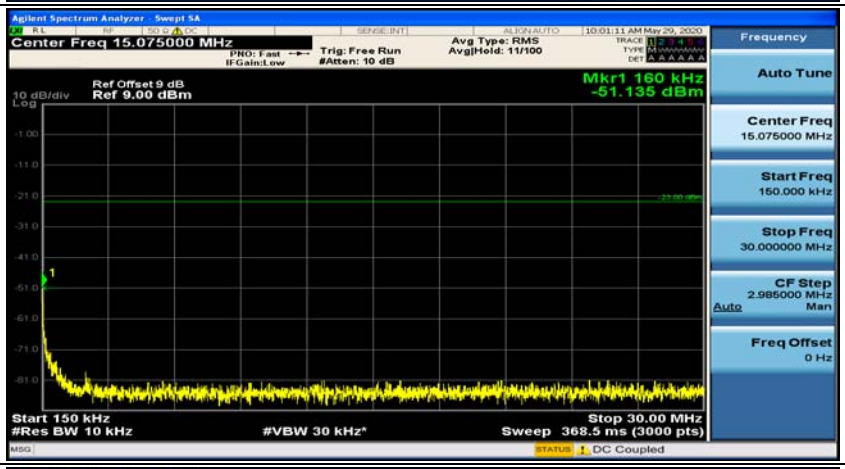

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 11/100
09:59:25 AM May 29, 2020
Mkr1 150 kHz
-48.551 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.5 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
09:59:30 AM May 29, 2020
Mkr2 25.688 GHz
-26.405 dBm
Ref Offset 8.96 dB
10 dB/div
Log
Ref 30.00 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

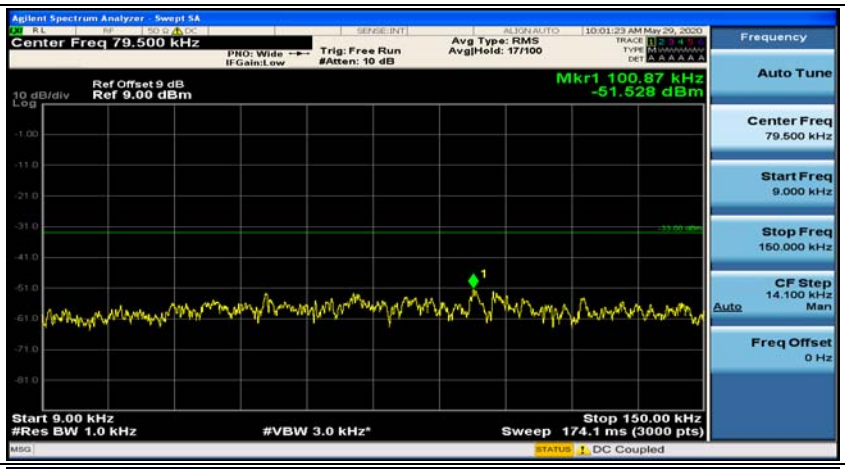
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



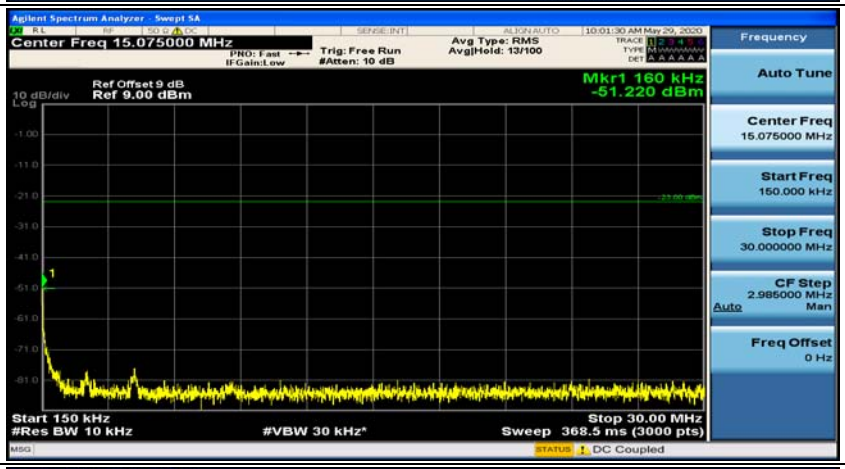
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12

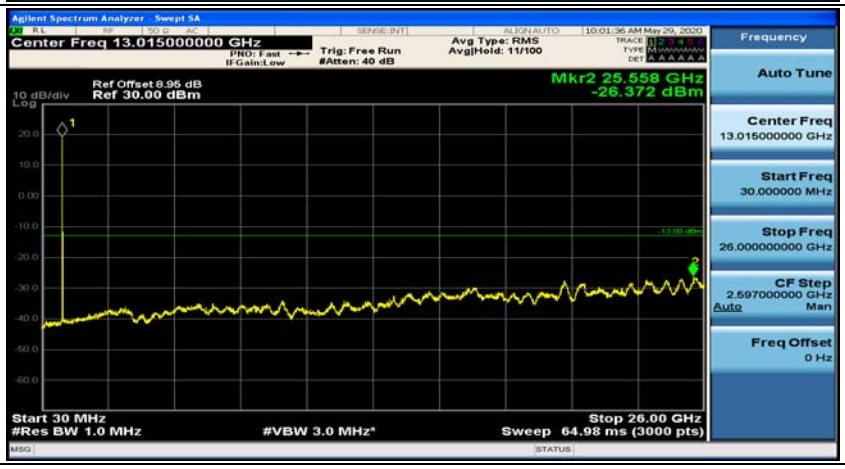


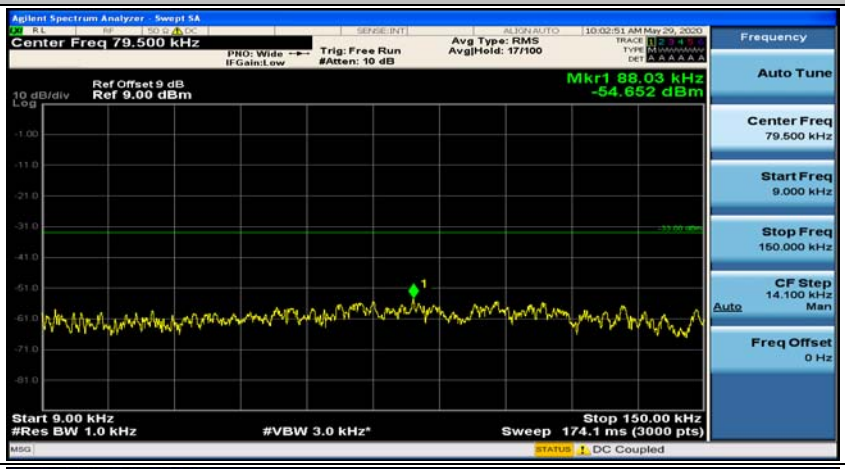
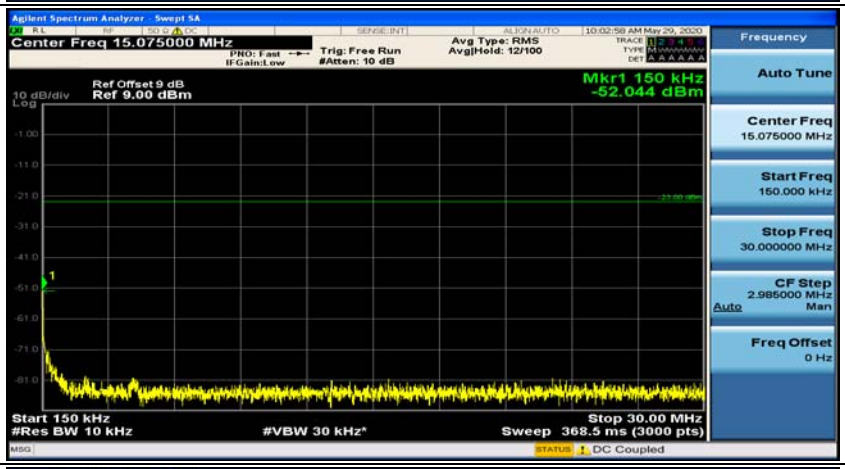
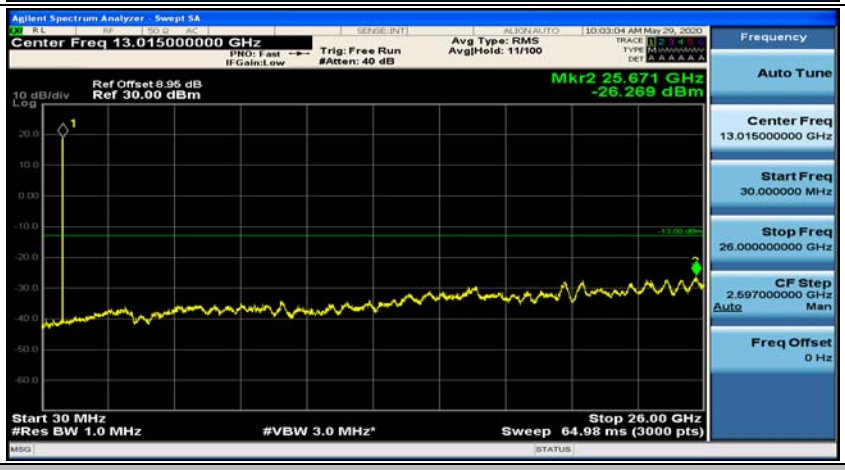


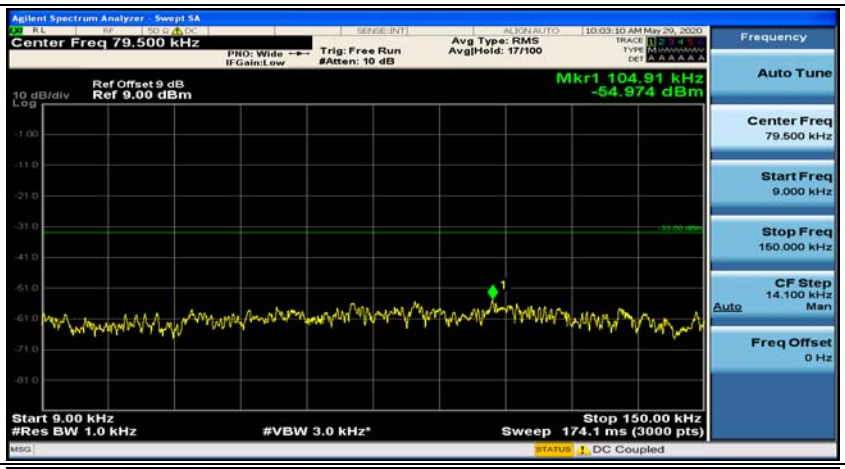
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

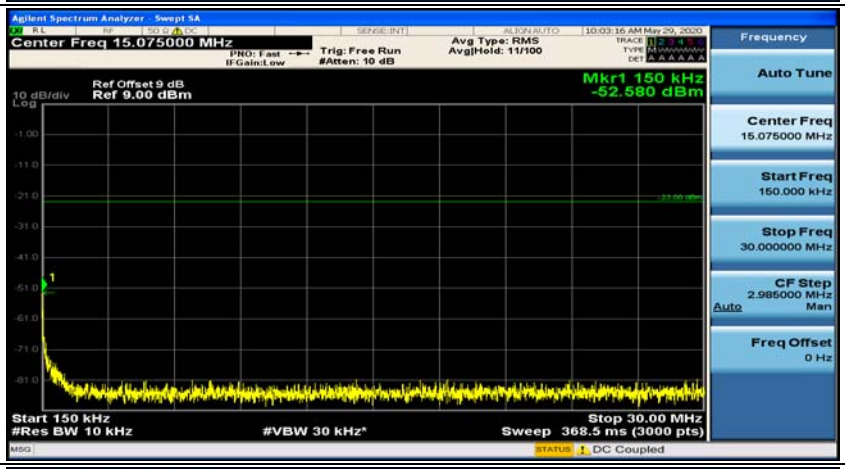

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:01:23 AM May 29, 2020
Frequency
Auto Tune
Mkr1 100.87 kHz
-51.528 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
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

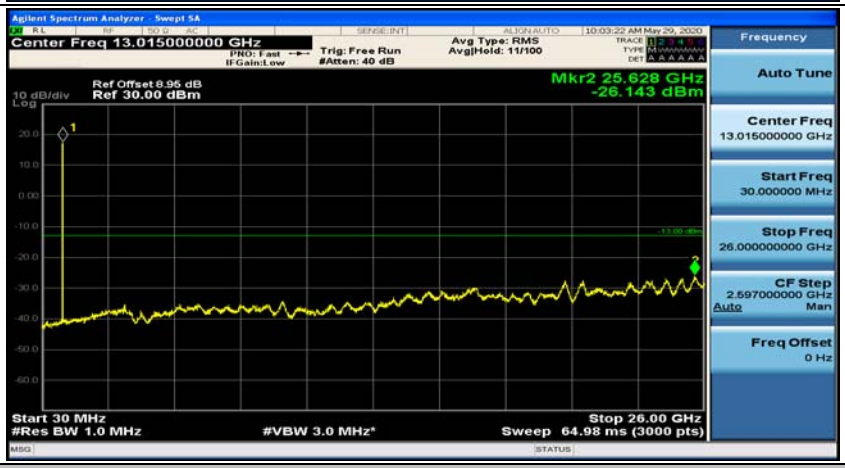

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 13/100
10:01:30 AM May 29, 2020
Frequency
Auto Tune
Mkr1 160 kHz
-51.220 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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
10:01:36 AM May 29, 2020
Frequency
Auto Tune
Mkr2 25.558 GHz
-26.372 dBm
Ref Offset 8.96 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)

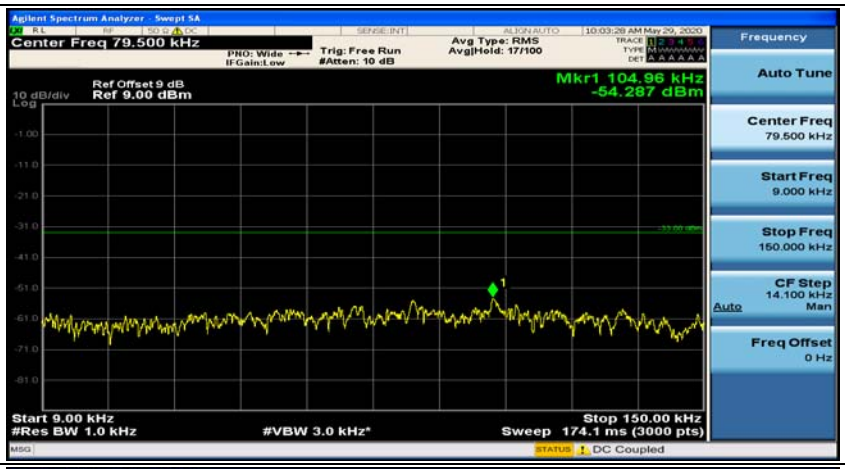
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12

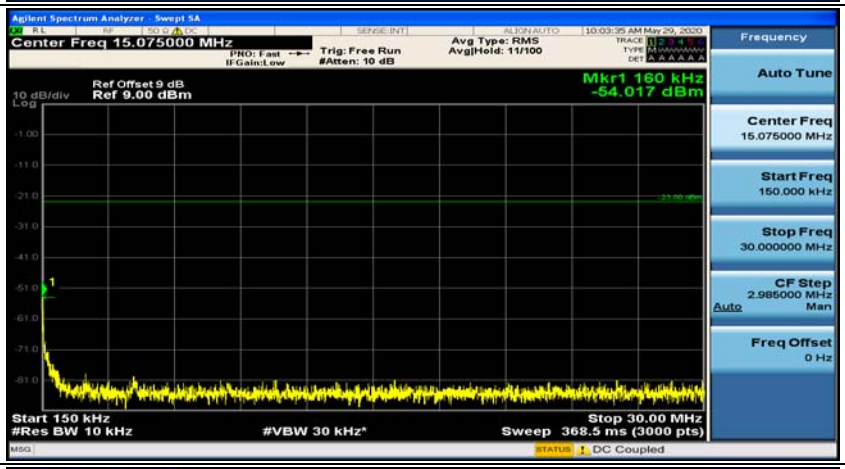


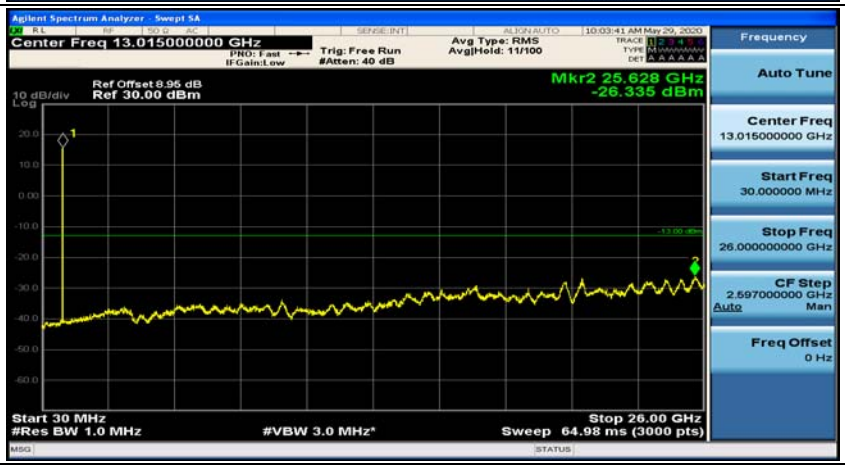


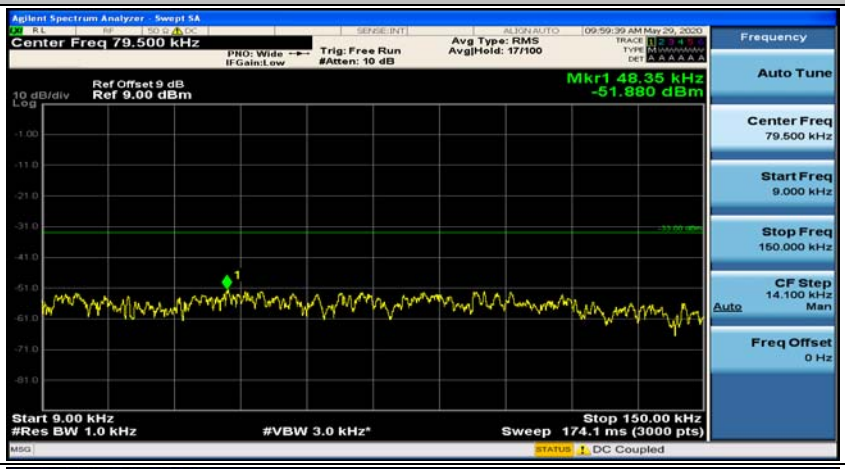
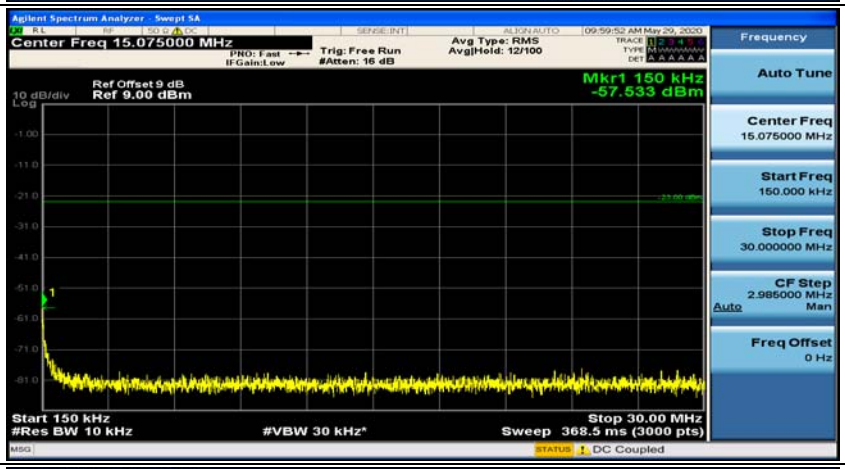
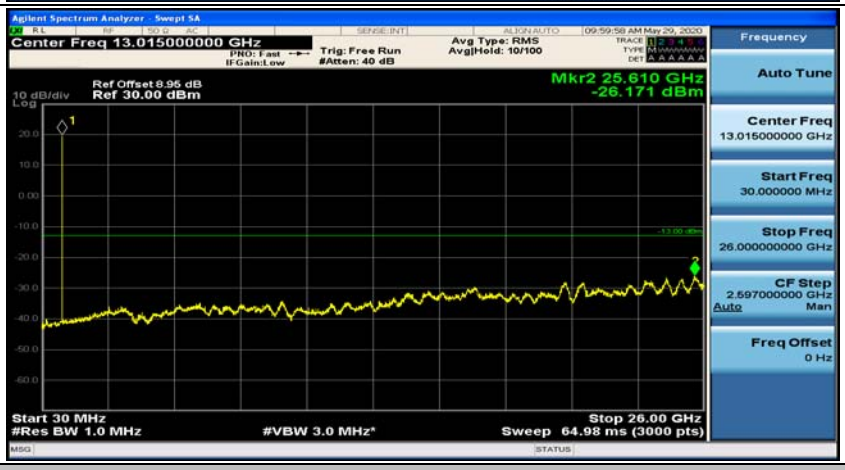


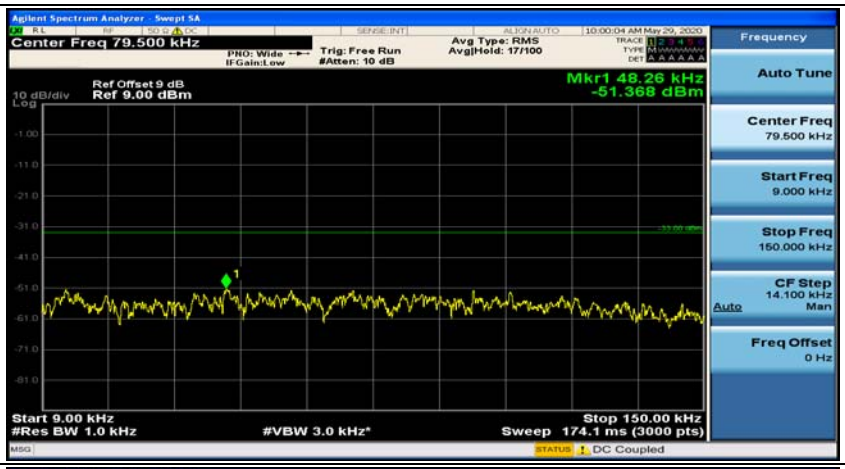
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

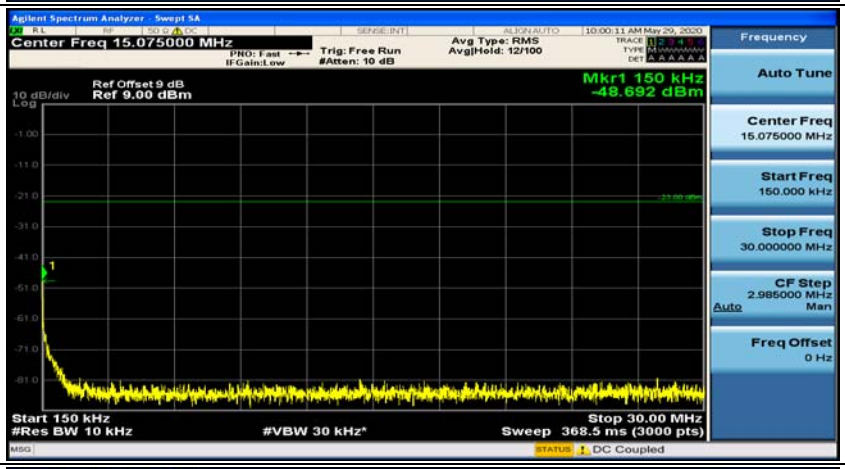

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:03:28 AM May 29, 2020
Frequency
Auto Tune
Mkr1 104.96 kHz
-54.287 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
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

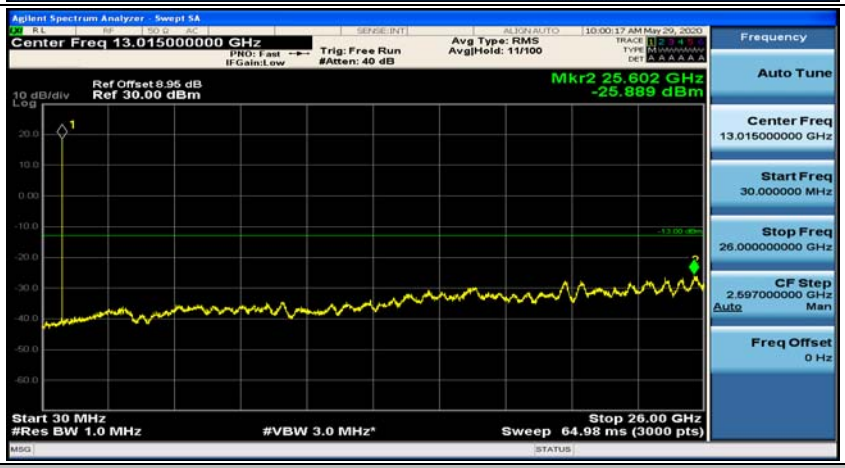

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 11/100
10:03:35 AM May 29, 2020
Frequency
Auto Tune
Mkr1 160 kHz
-54.017 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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
10:03:41 AM May 29, 2020
Frequency
Auto Tune
Mkr2 25.628 GHz
-26.335 dBm
Ref Offset 8.96 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)

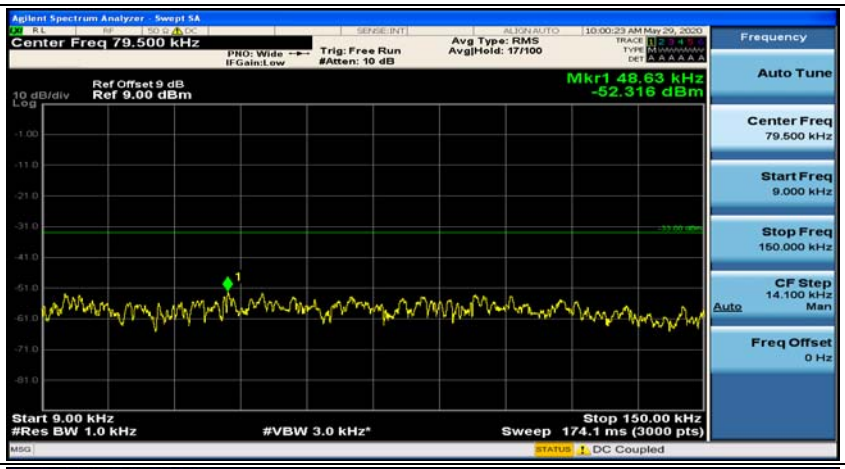
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

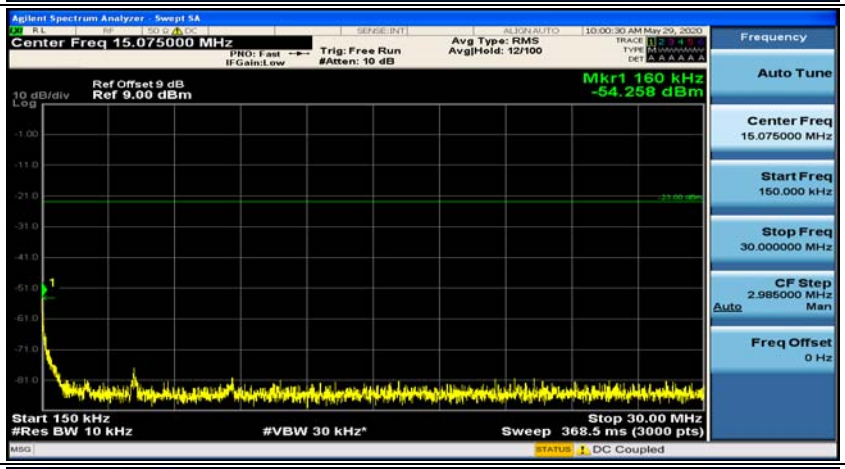


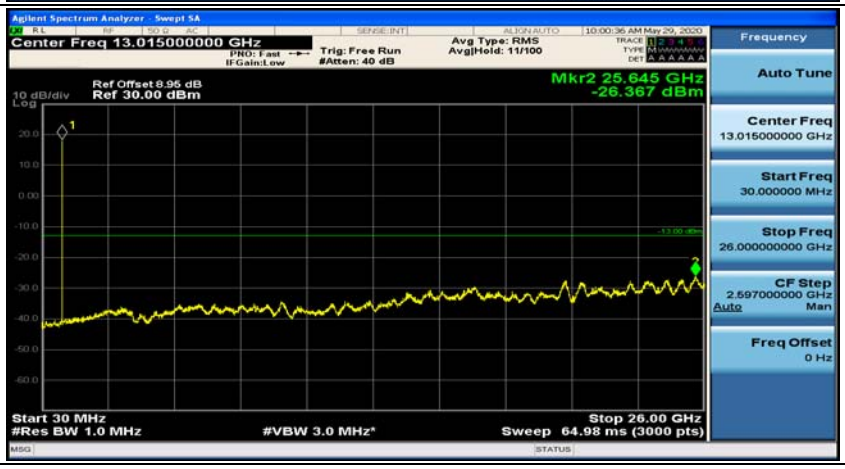


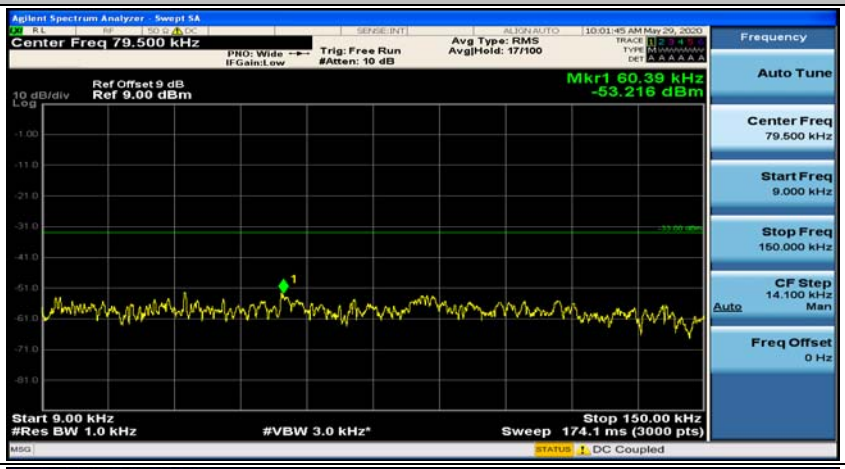
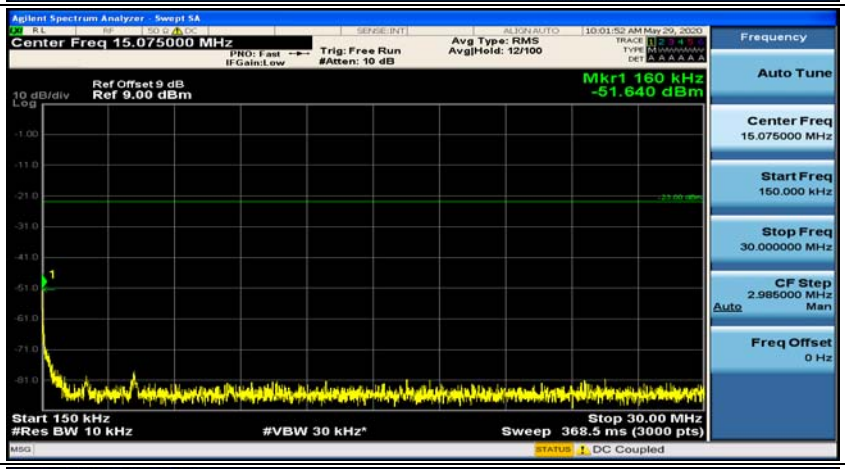


(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24

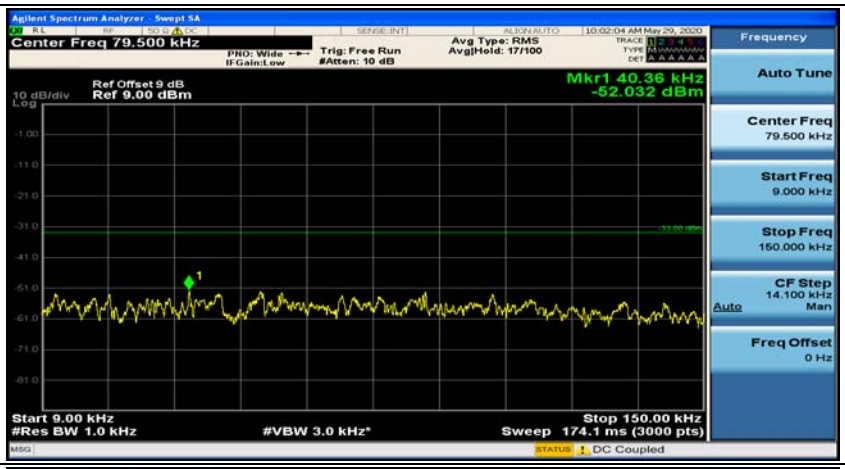

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:00:23 AM May 29, 2020
Frequency
Auto Tune
Mkr1 48.63 kHz
-52.316 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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

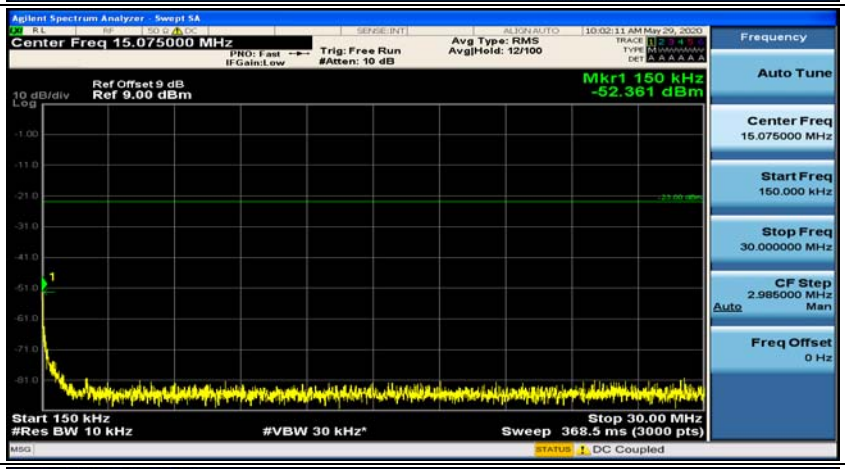

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
10:00:30 AM May 29, 2020
Frequency
Auto Tune
Mkr1 160 kHz
-54.258 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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
10:00:36 AM May 29, 2020
Frequency
Auto Tune
Mkr2 25.645 GHz
-26.367 dBm
Ref Offset 8.96 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)

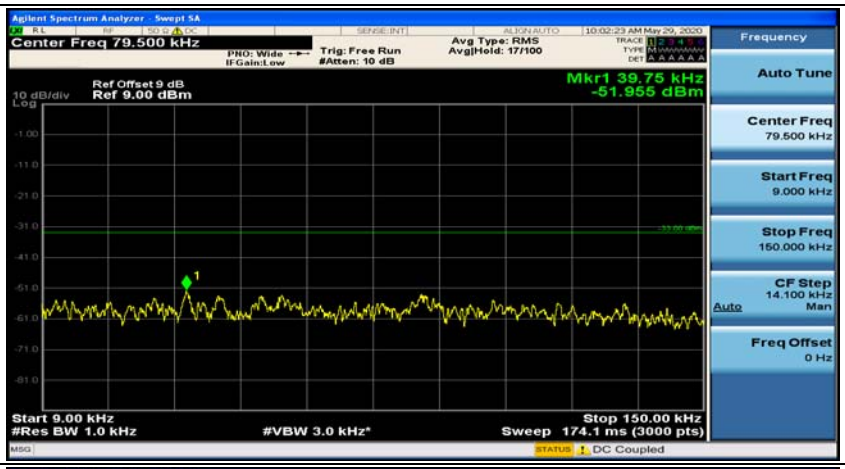
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0



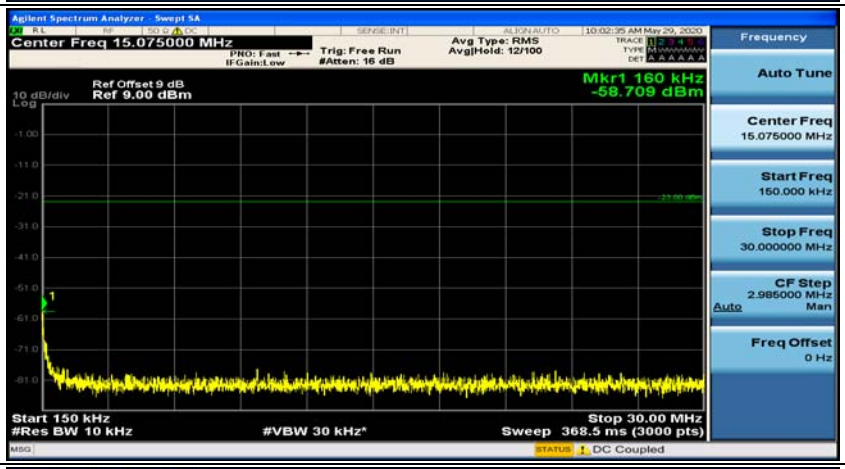
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12

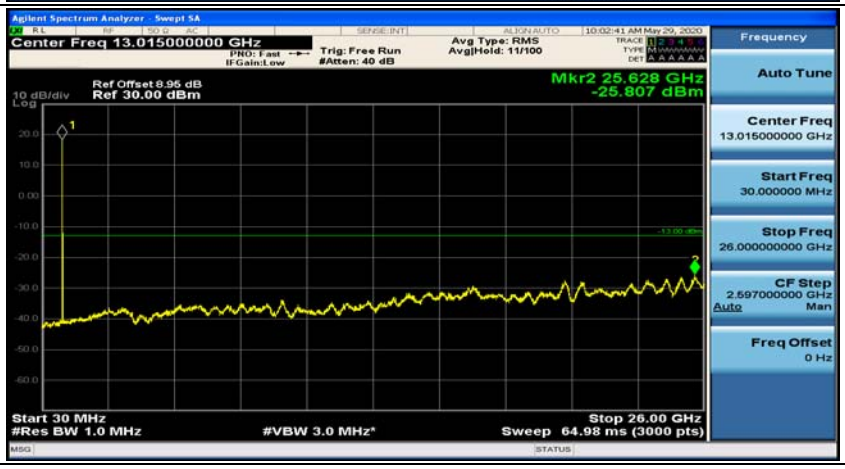


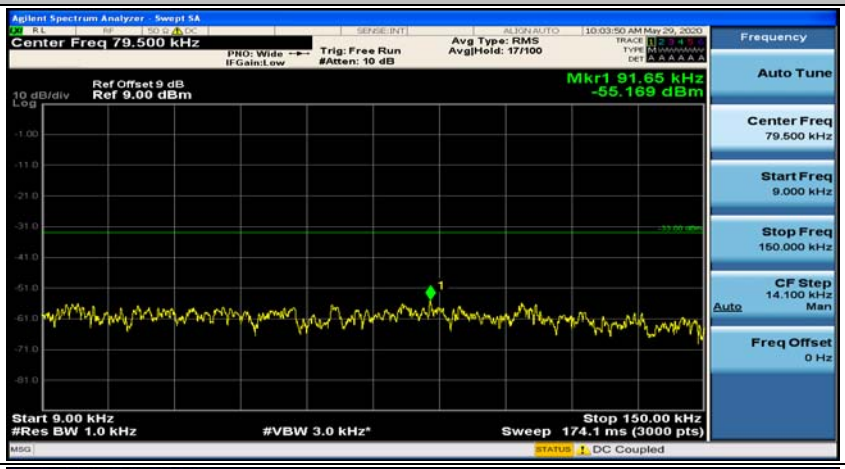
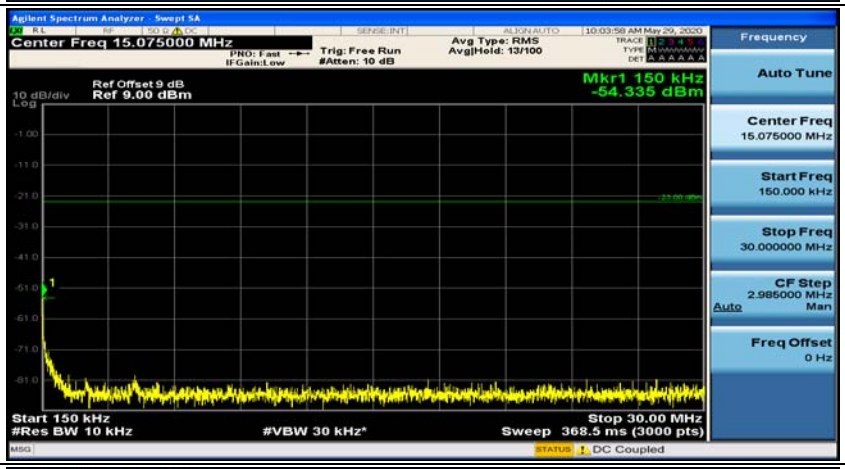


(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24

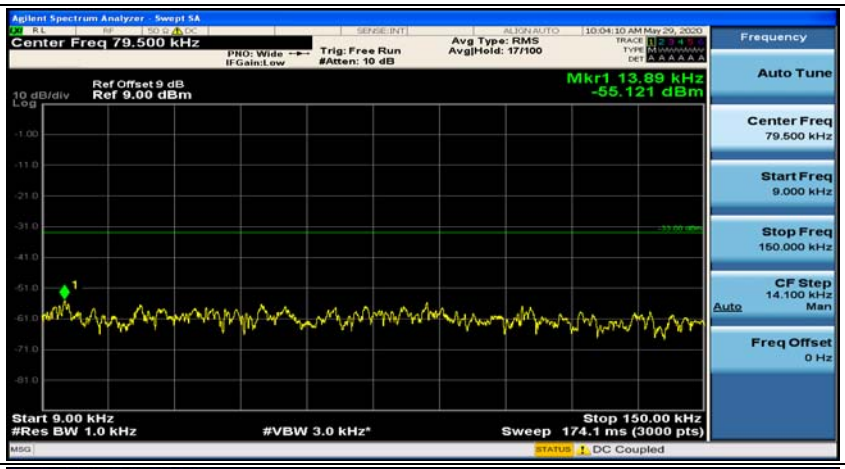

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:02:23 AM May 29, 2020
Frequency
Mkr1 39.75 kHz
-51.955 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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

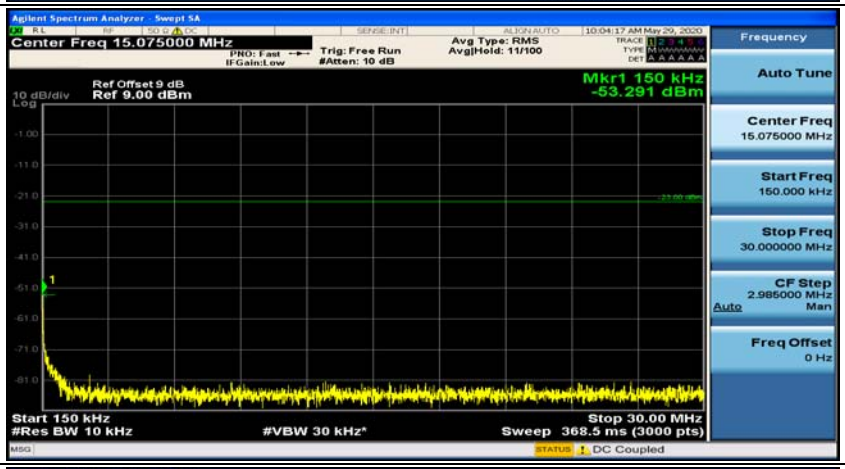

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 12/100
10:02:35 AM May 29, 2020
Frequency
Mkr1 160 kHz
-58.709 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 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
10:02:41 AM May 29, 2020
Frequency
Mkr2 25.628 GHz
-25.807 dBm
Ref Offset 8.96 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)

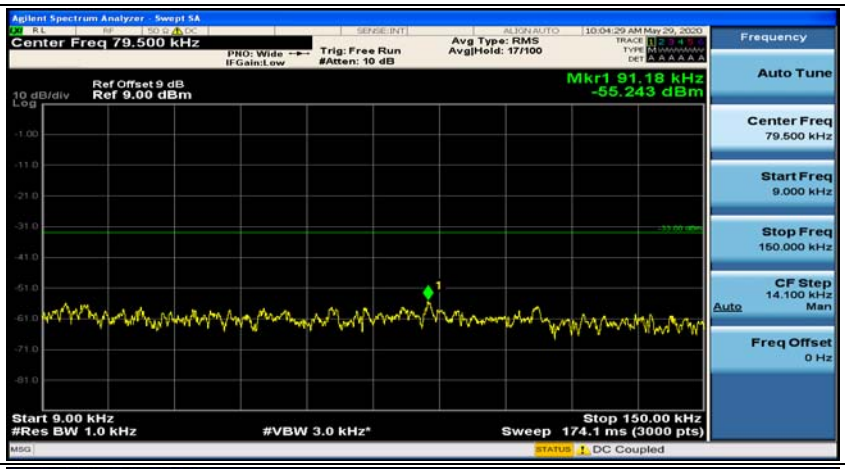
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



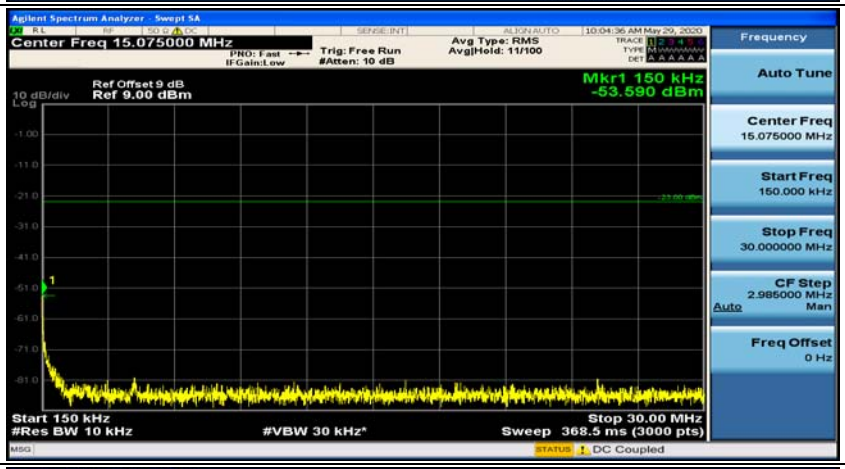
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12





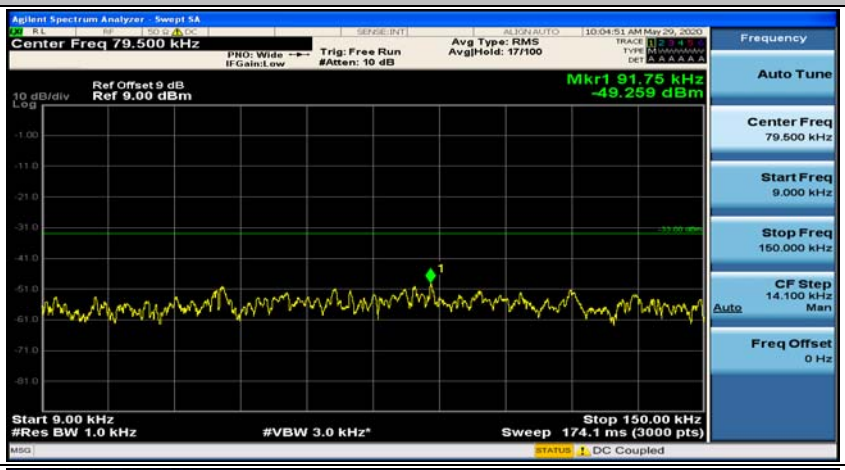
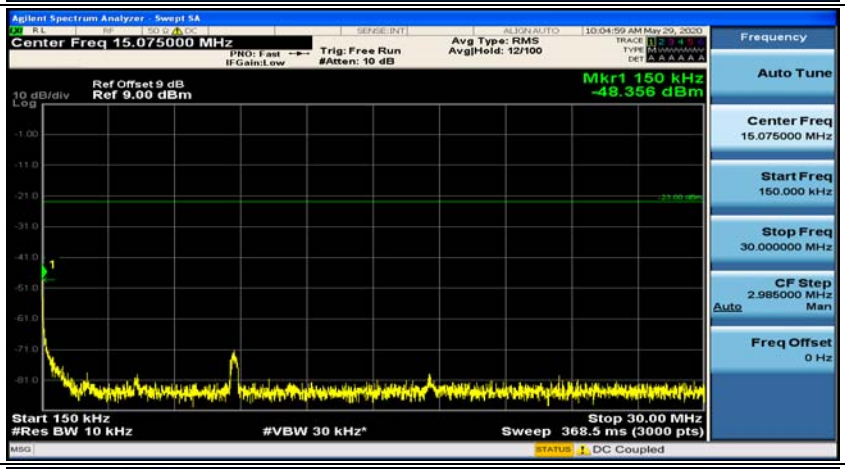
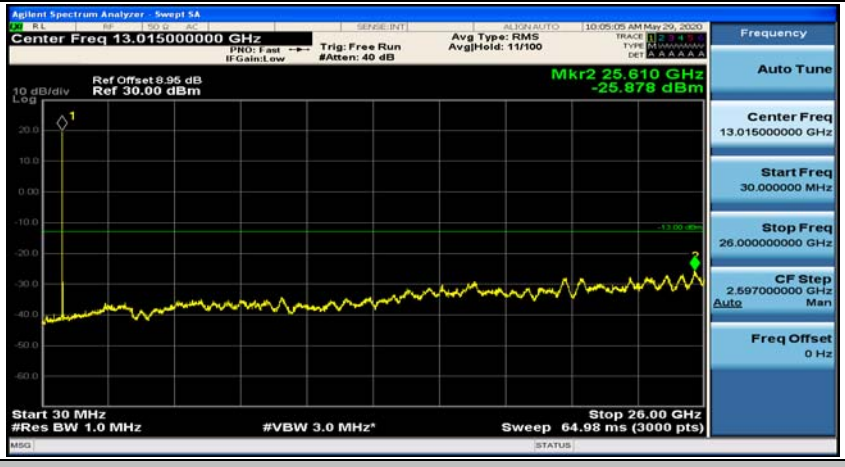
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24

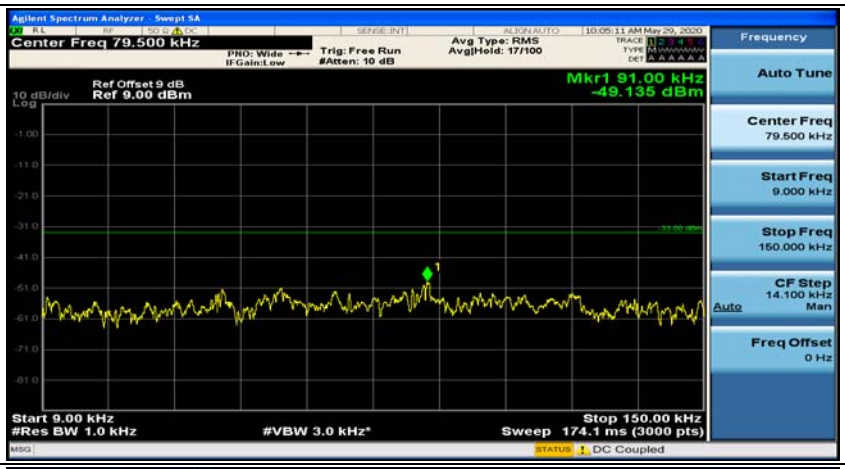

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:04:29 AM May 29, 2020
Frequency
Auto Tune
Mkr1 91.18 kHz
-55.243 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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

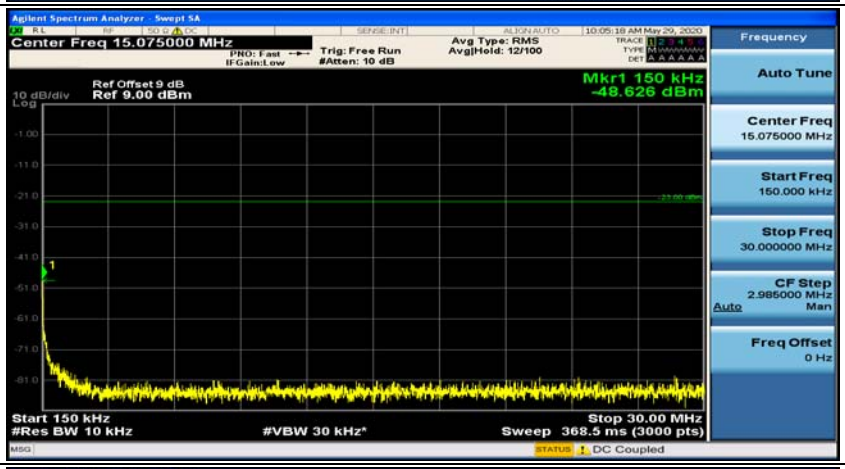

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 11/100
10:04:36 AM May 29, 2020
Frequency
Auto Tune
Mkr1 150 kHz
-53.590 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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

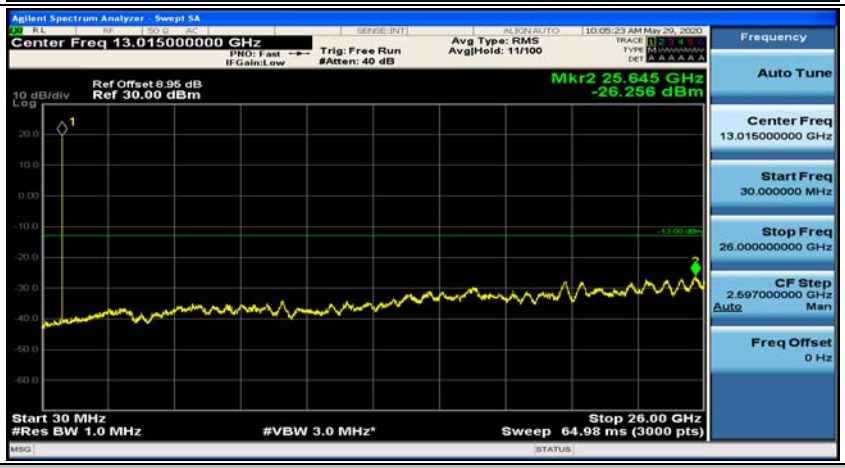

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
10:04:42 AM May 29, 2020
Frequency
Auto Tune
Mkr2 25.697 GHz
-26.397 dBm
Ref Offset 8.96 dB
10 dB/div
Log
Ref 30.00 dBm
Center Freq
13.015000000 GHz
Start 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

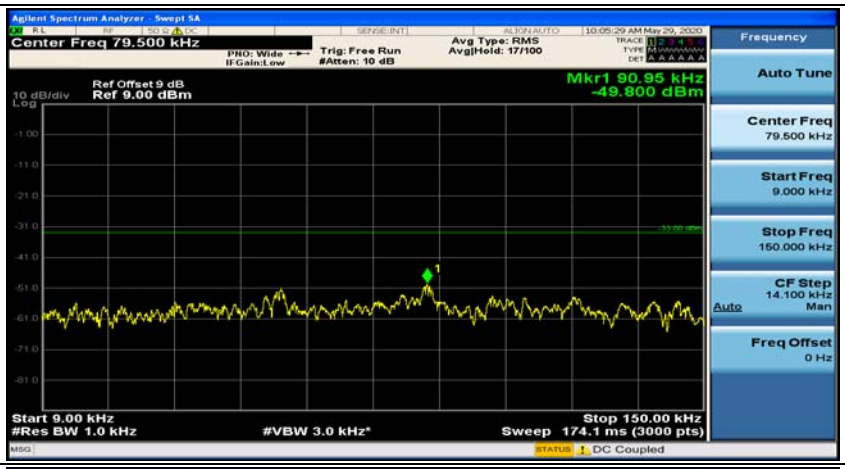
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#0



Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#24

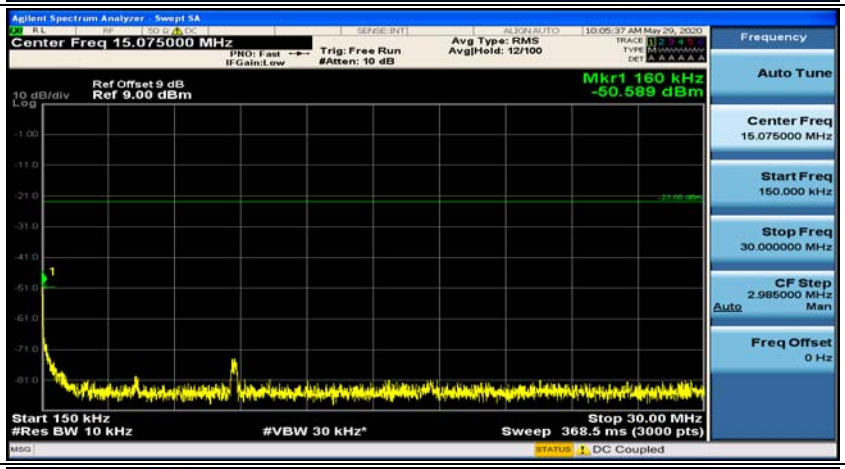


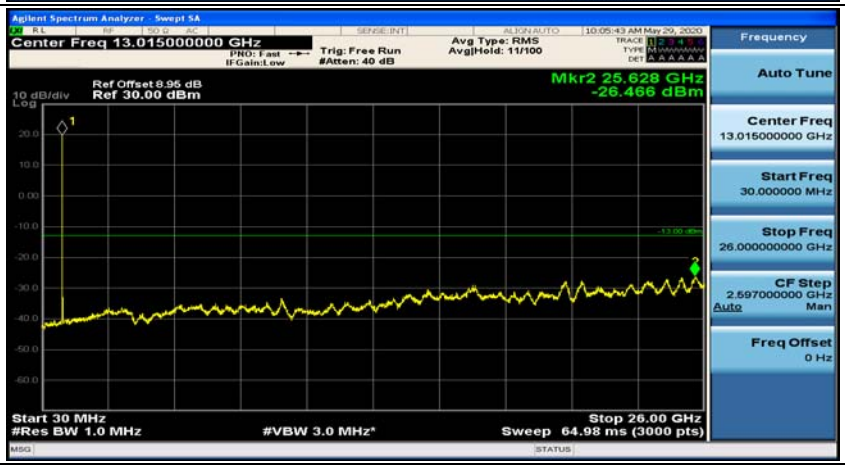


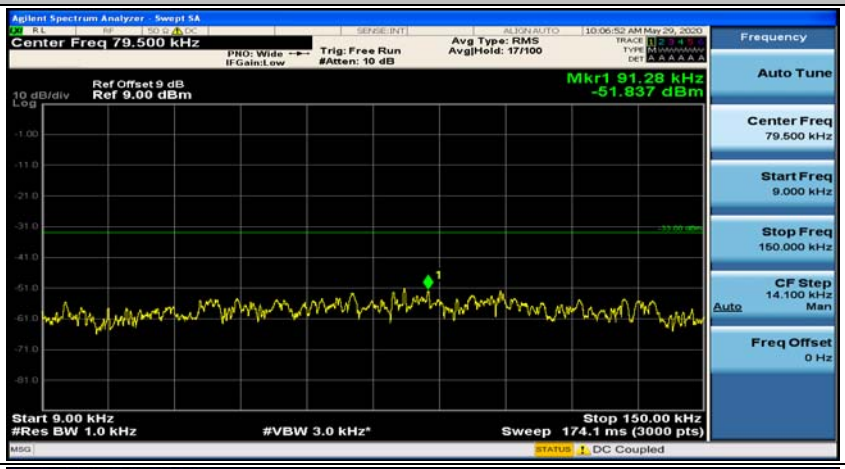
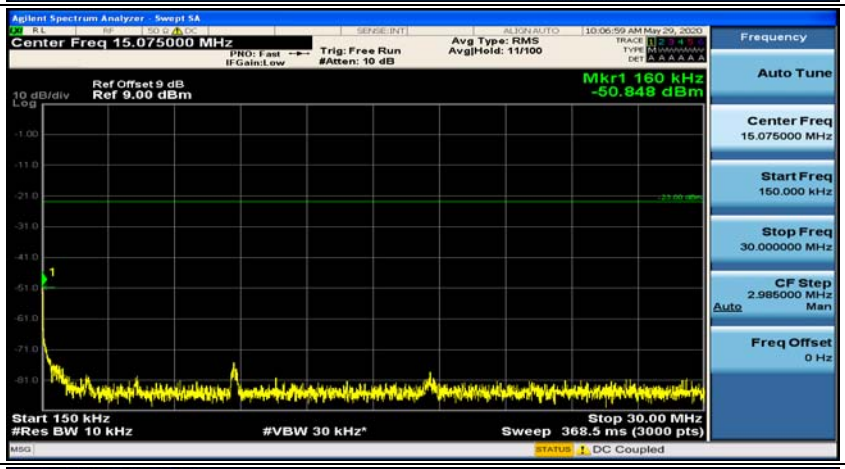


Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#49

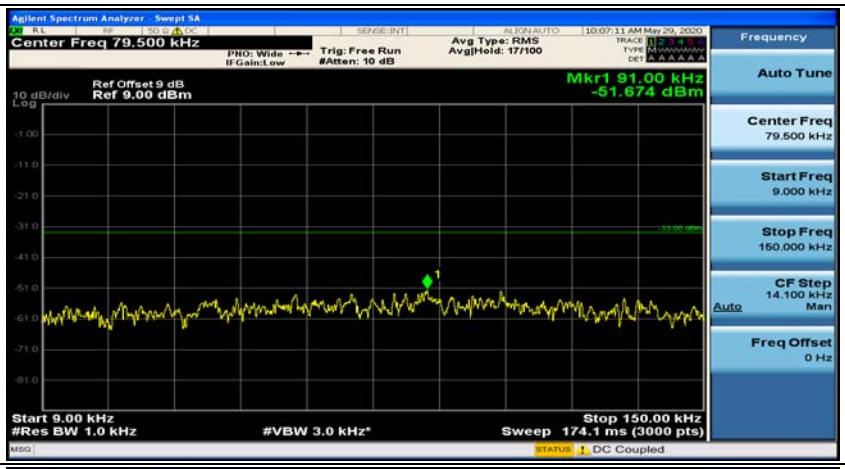

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:05:29 AM May 29, 2020
Mkr1 90.95 kHz
-49.800 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 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

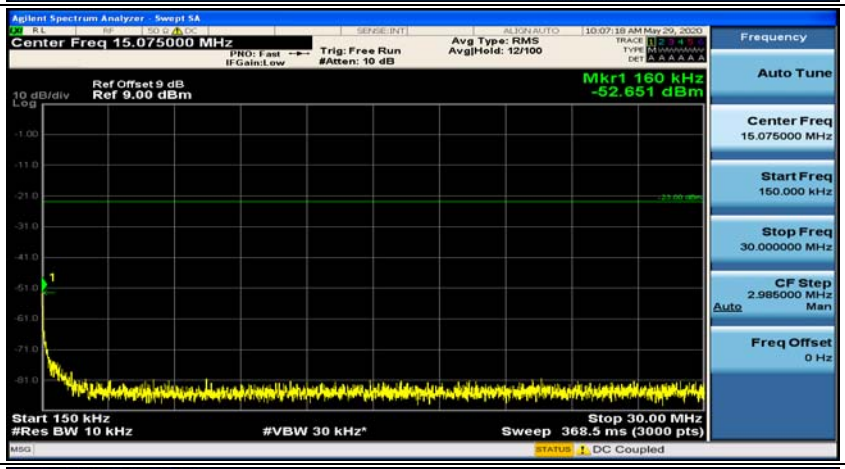

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
10:05:37 AM May 29, 2020
Mkr1 160 kHz
-50.589 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.5 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

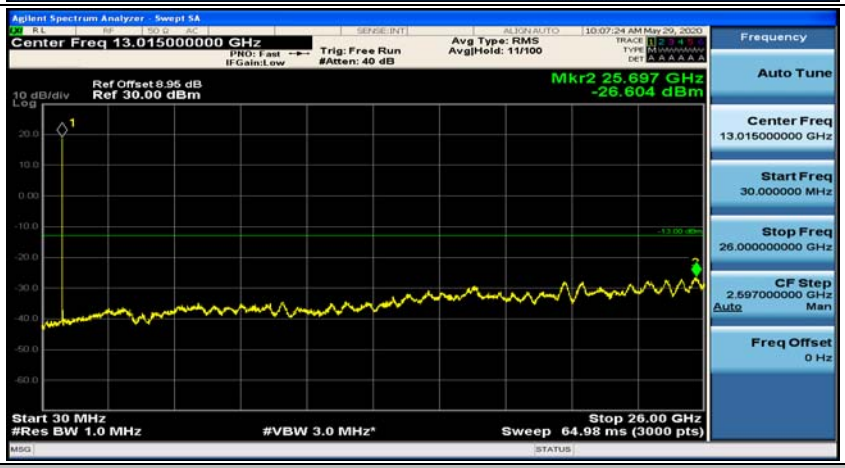

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
10:05:43 AM May 29, 2020
Mkr2 25.628 GHz
-26.466 dBm
Ref Offset 8.96 dB
10 dB/div
Log
Ref 30.00 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 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



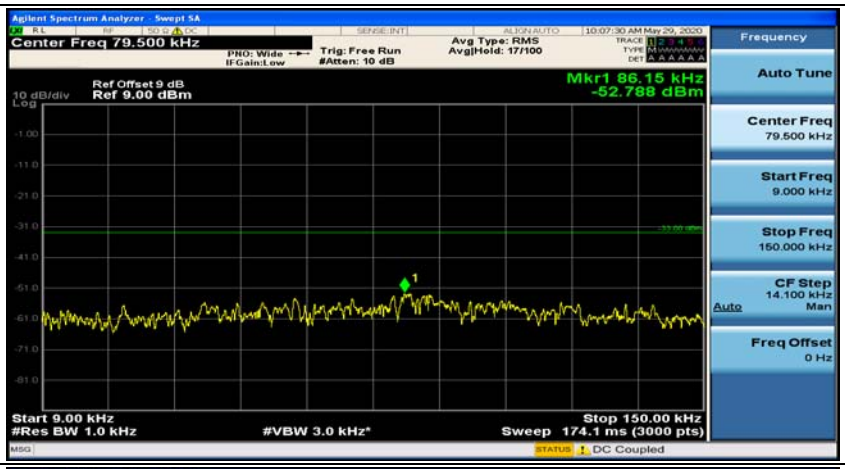
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

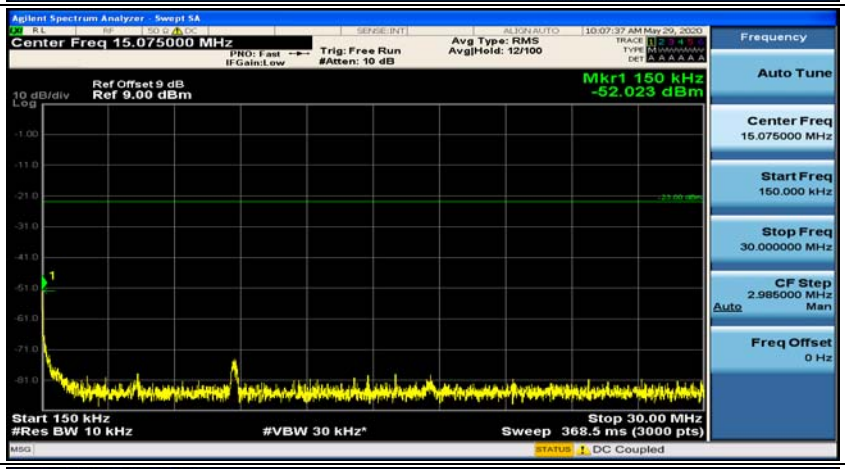


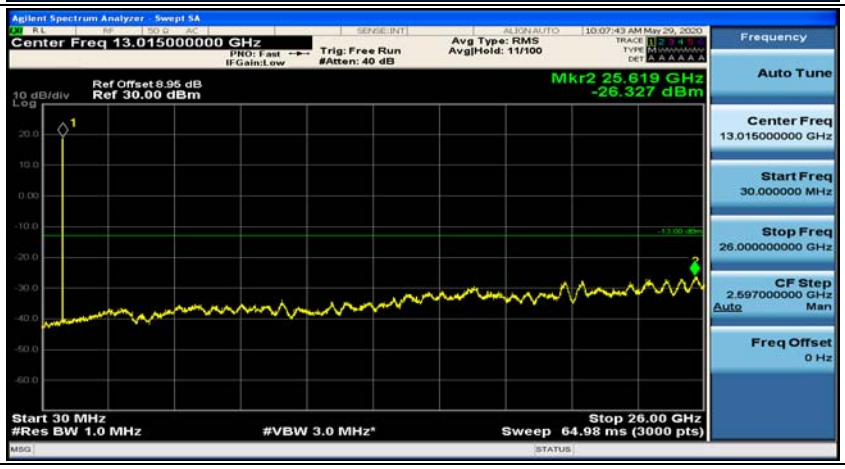


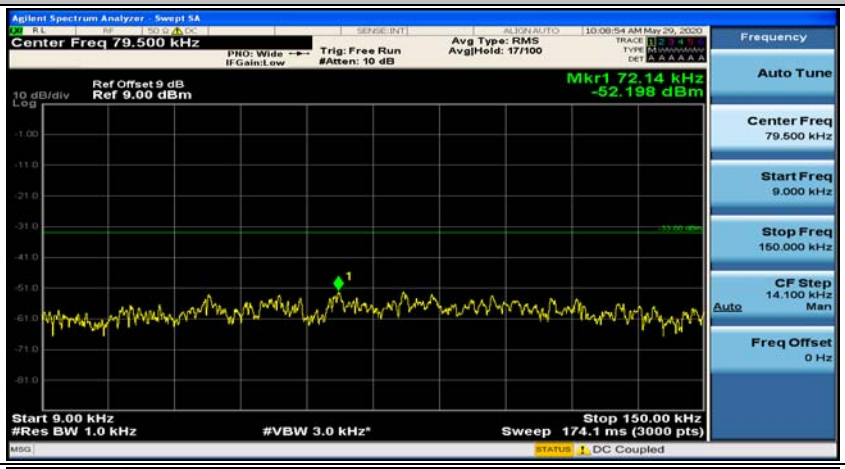
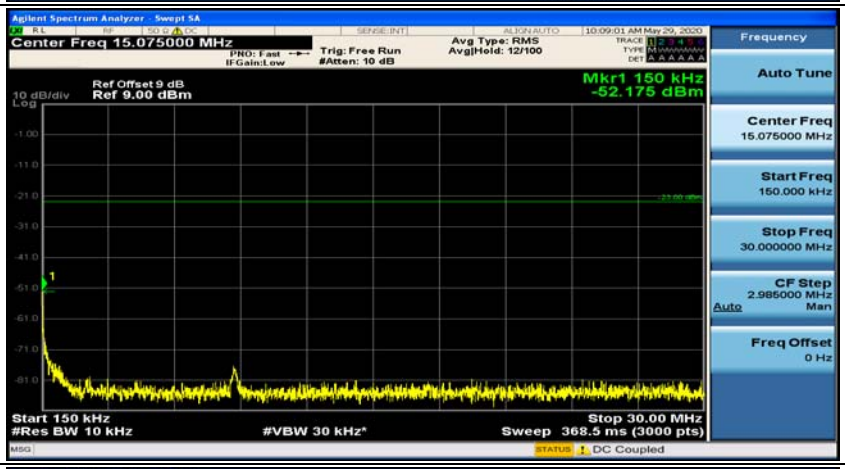


Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

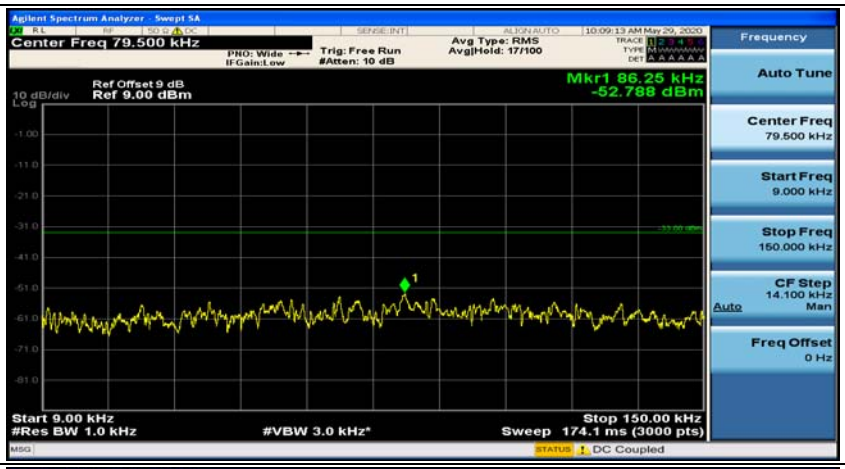

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:07:30 AM May 29, 2020
Mkr1 86.15 kHz
-52.788 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 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

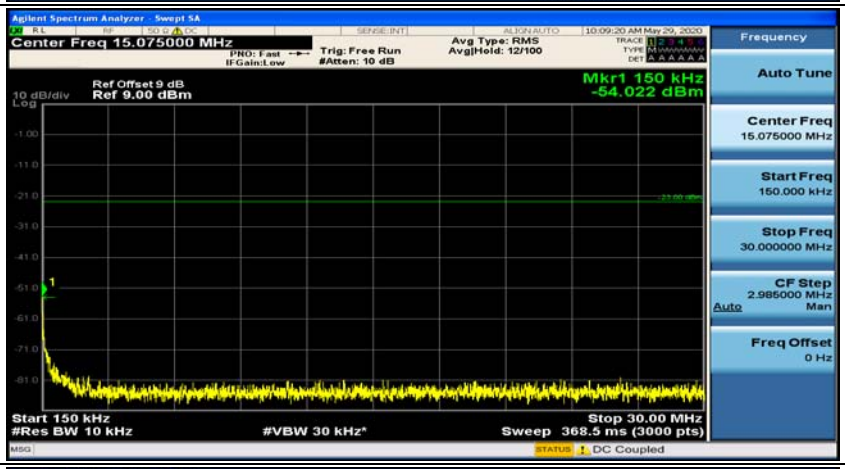

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
10:07:37 AM May 29, 2020
Mkr1 150 kHz
-52.023 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.5 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

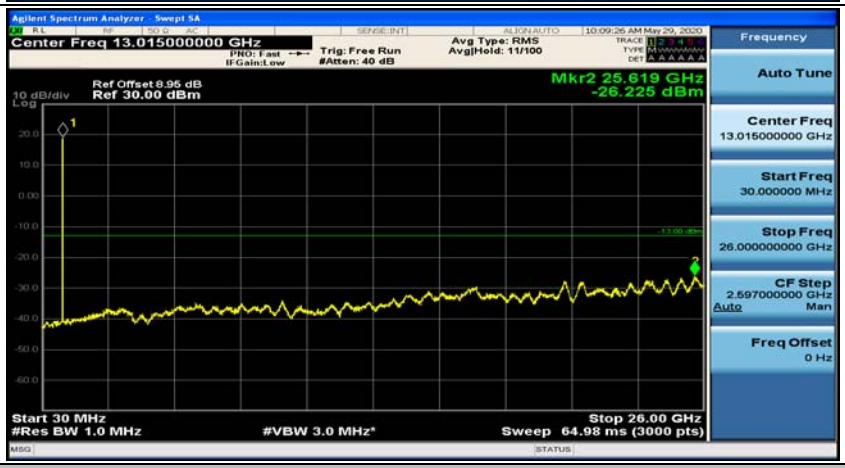

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
10:07:43 AM May 29, 2020
Mkr2 25.619 GHz
-26.327 dBm
Ref Offset 8.96 dB
10 dB/div
Log
Ref 30.00 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 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_HCH_QPSK_1RB#0



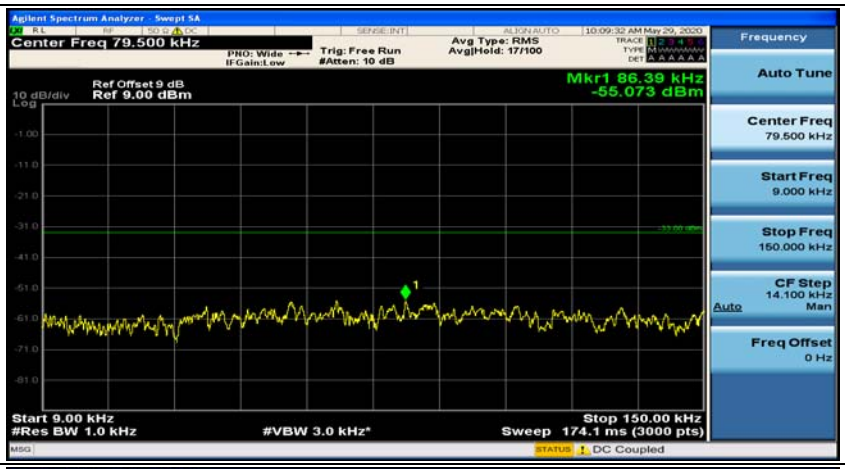
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#24

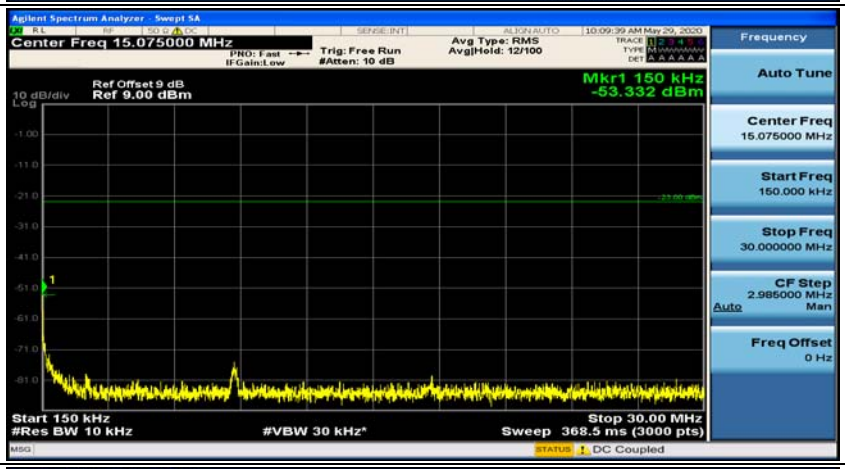


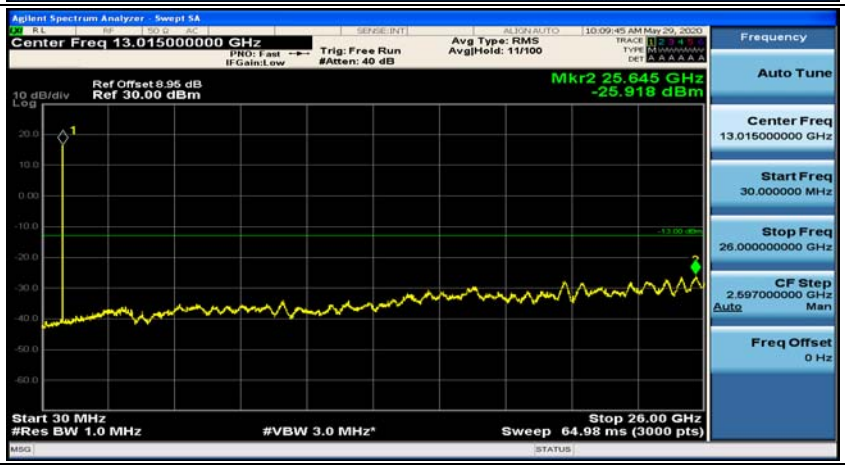


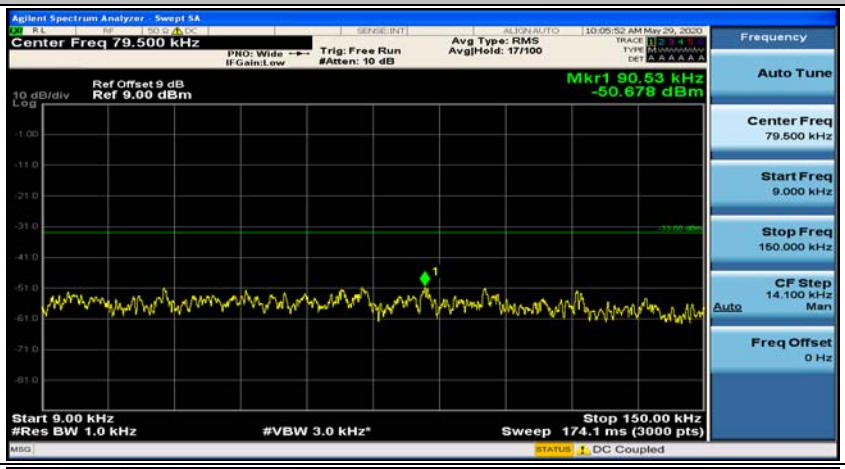
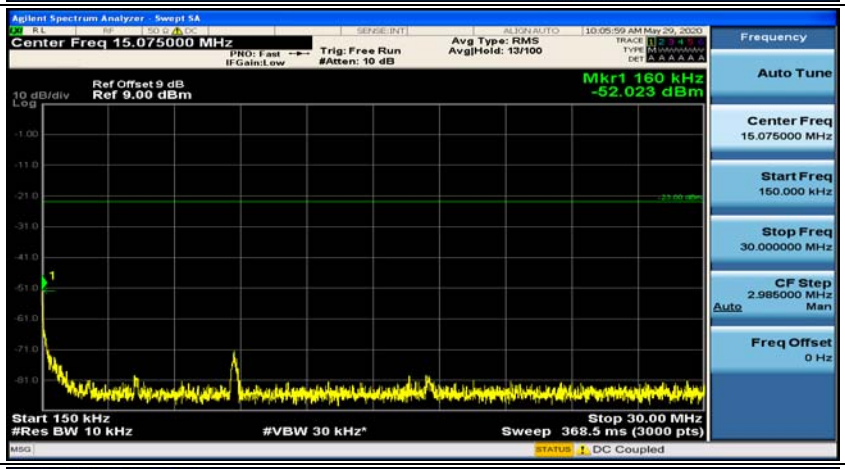
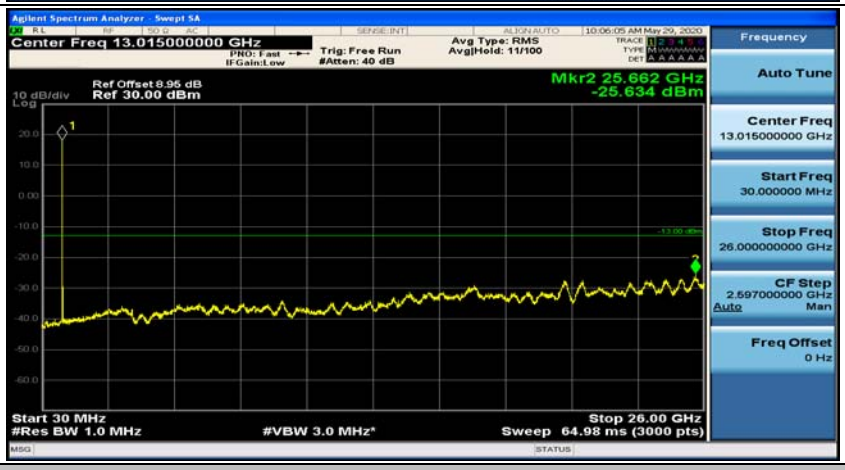


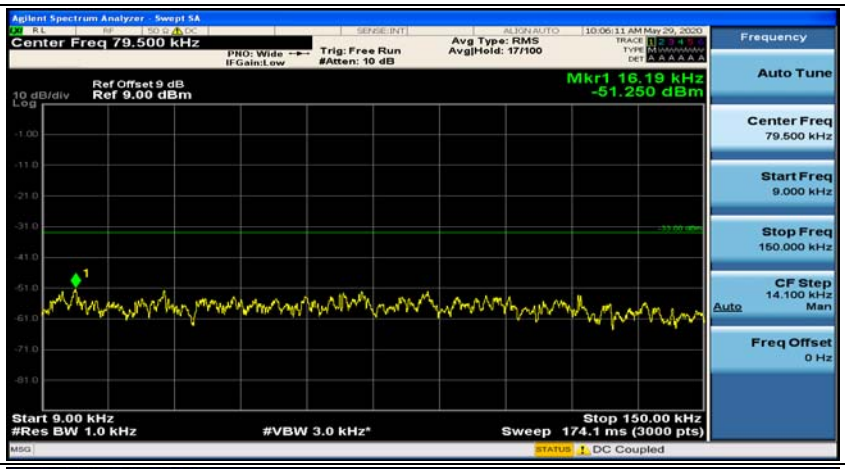
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#49

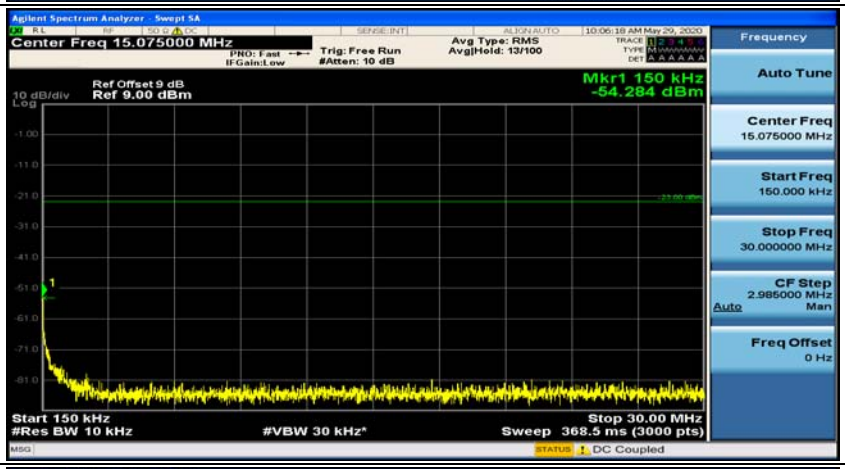

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:09:32 AM May 29, 2020
Frequency
Auto Tune
Mkr1 86.39 kHz
-55.073 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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

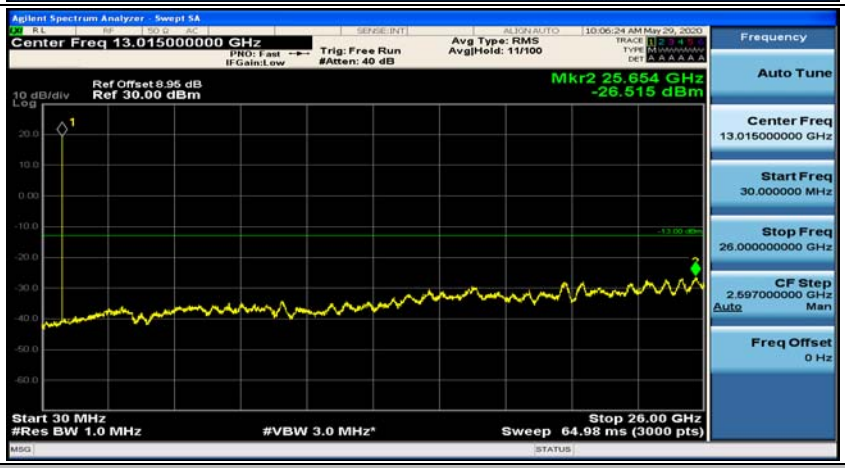

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
10:09:39 AM May 29, 2020
Frequency
Auto Tune
Mkr1 150 kHz
-53.332 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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
10:09:45 AM May 29, 2020
Frequency
Auto Tune
Mkr2 25.645 GHz
-25.918 dBm
Ref Offset 8.96 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)

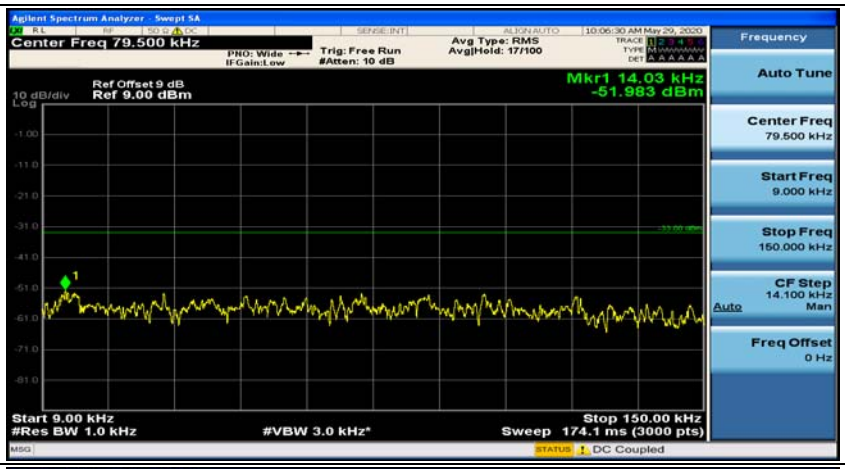
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#24

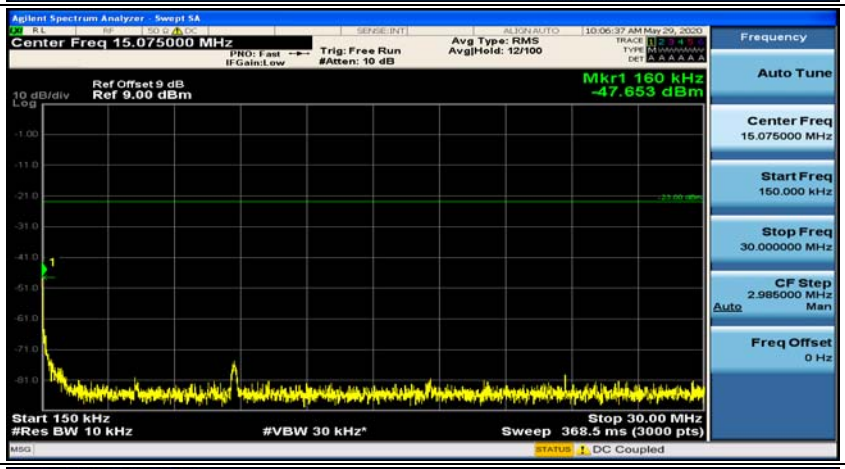


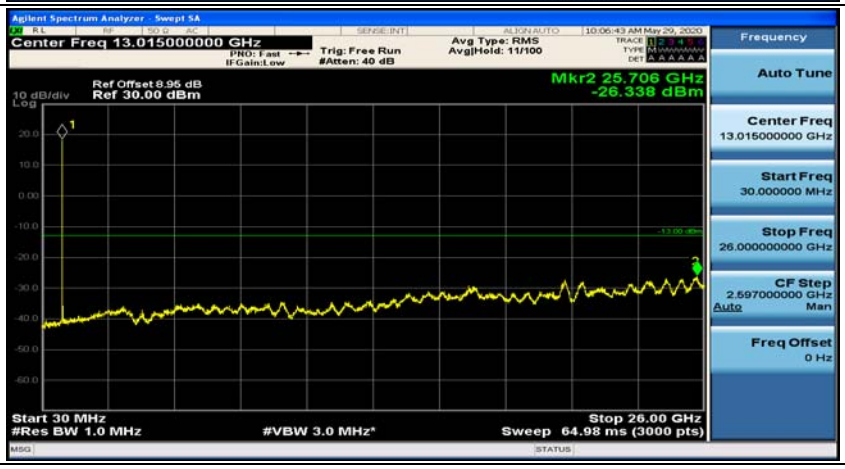


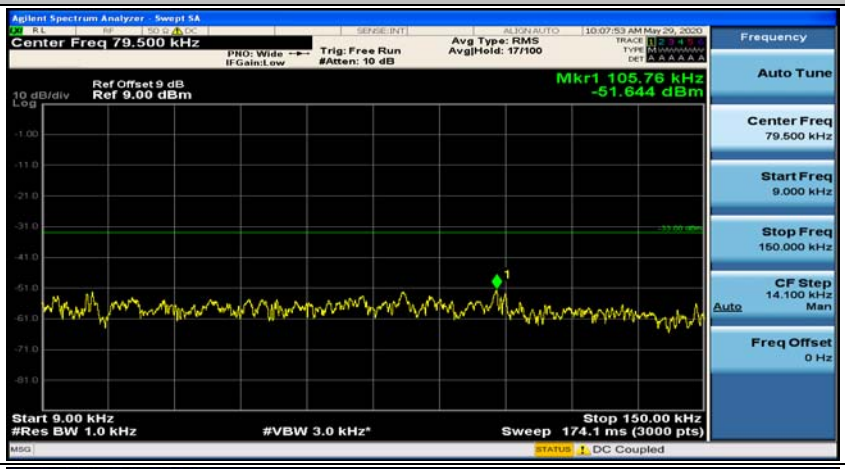
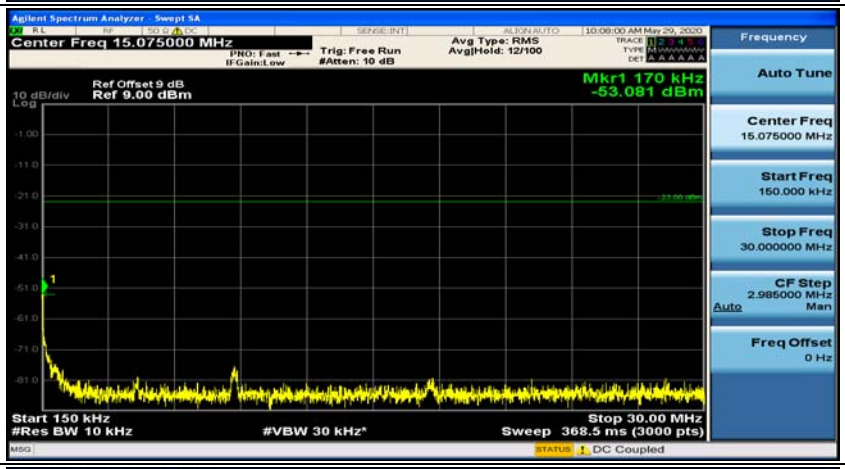
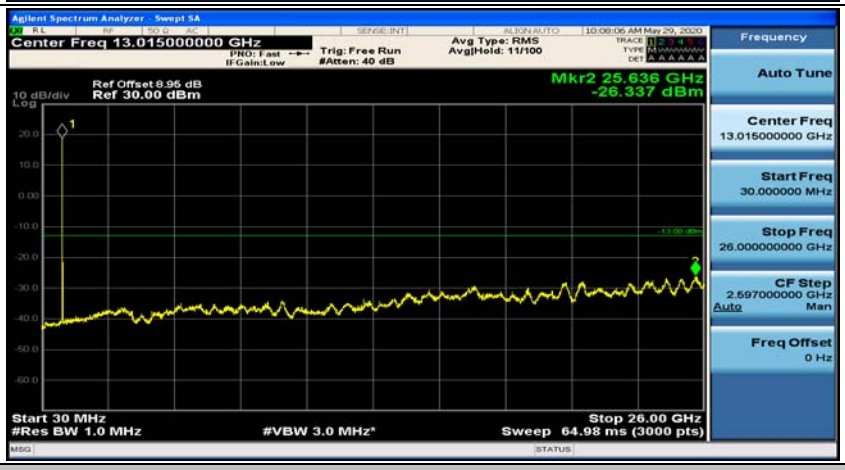


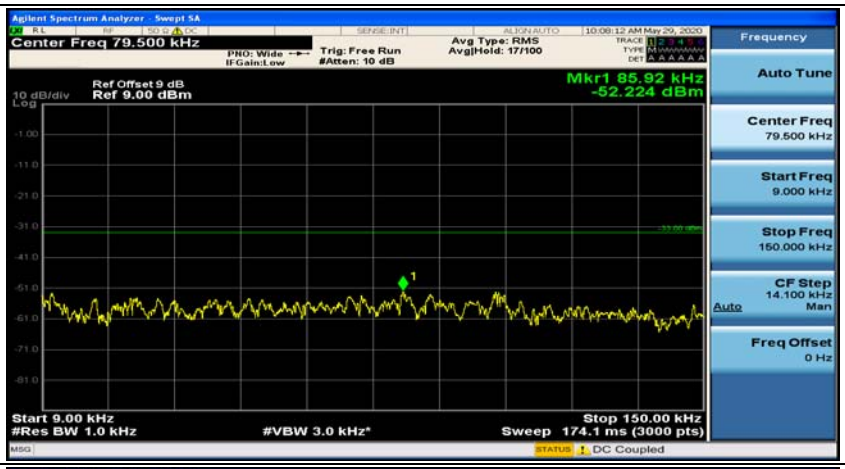
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#49

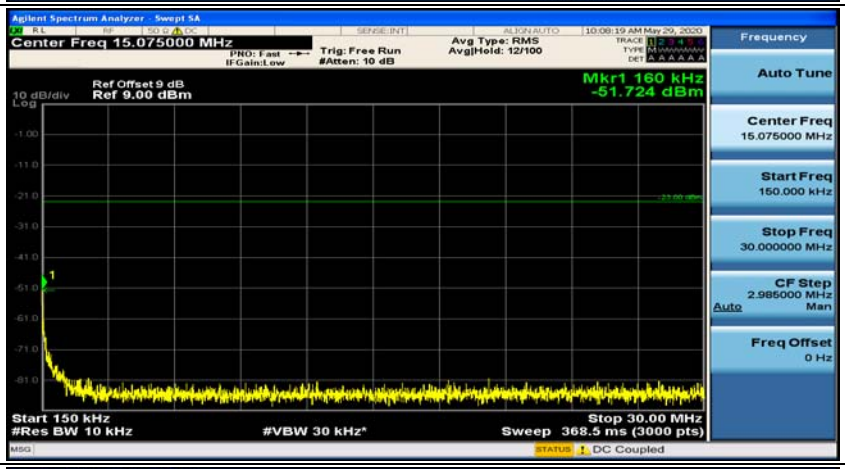

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:06:30 AM May 29, 2020
Mkr1 14.03 kHz
-51.983 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 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
10:06:37 AM May 29, 2020
Mkr1 160 kHz
-47.653 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 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

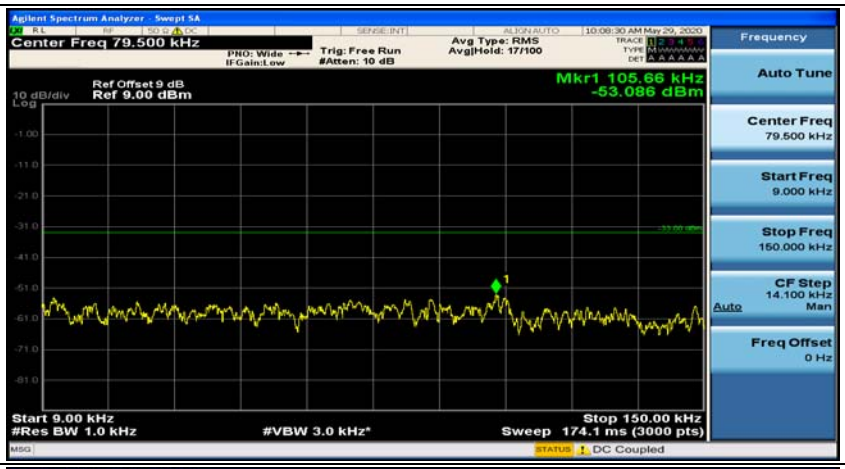

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
10:06:43 AM May 29, 2020
Mkr2 25.706 GHz
-26.338 dBm
Ref Offset 8.96 dB
10 dB/div
Log
Ref 30.00 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 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

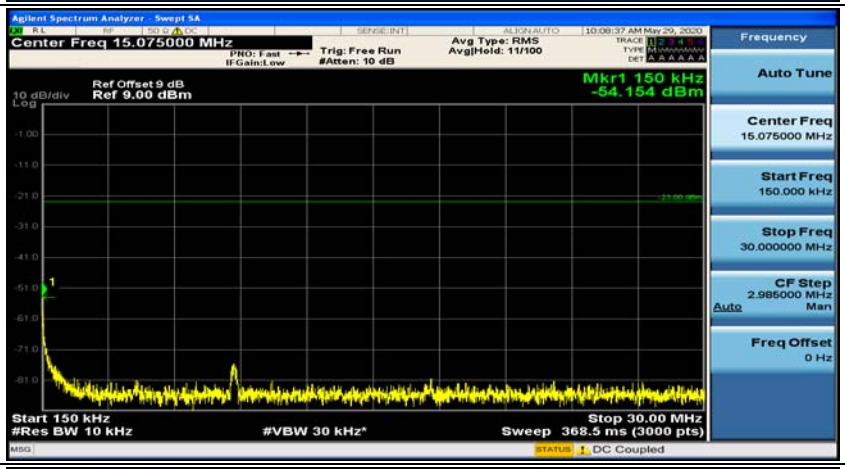
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24

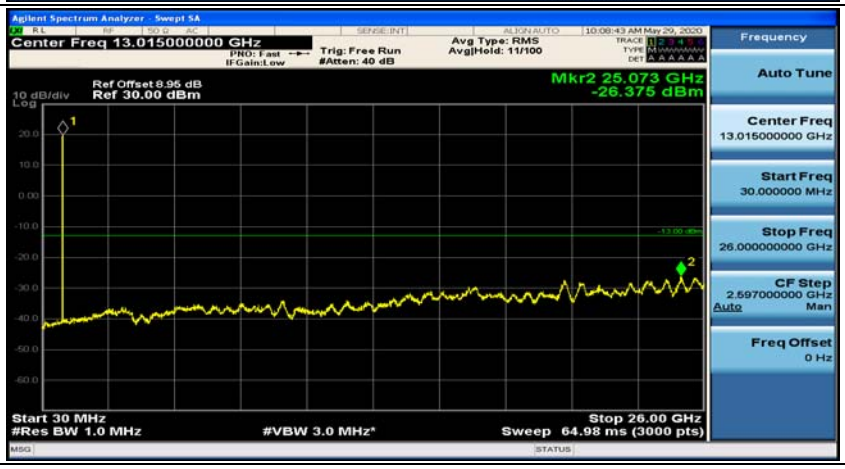


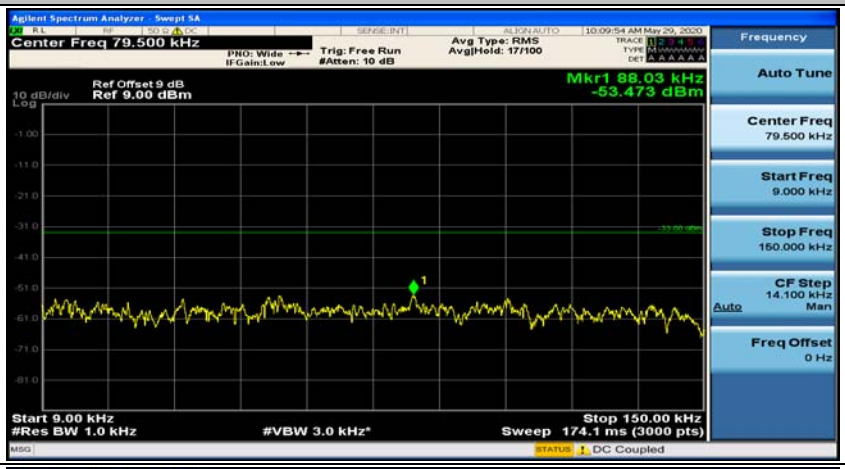
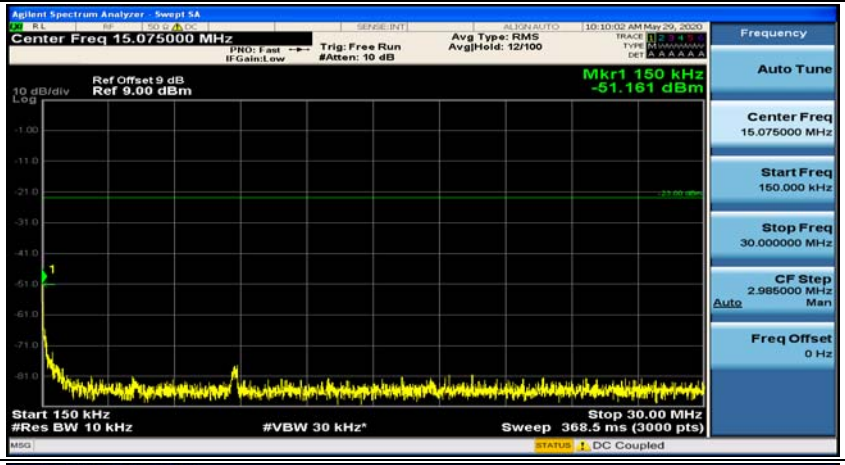
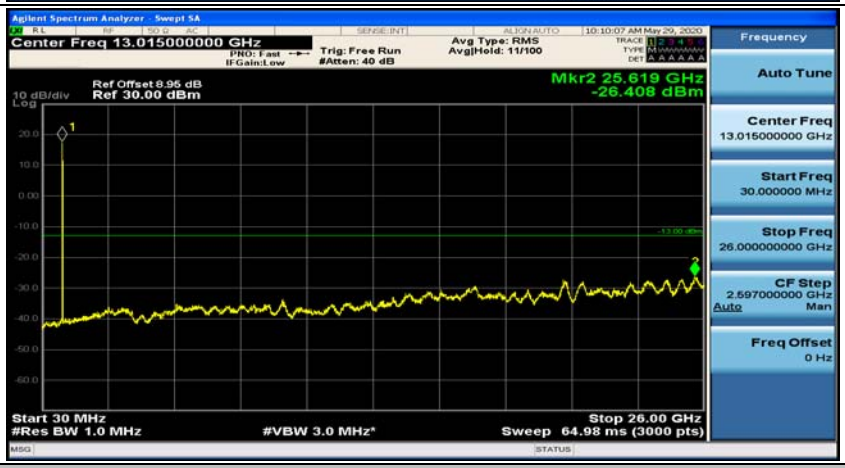


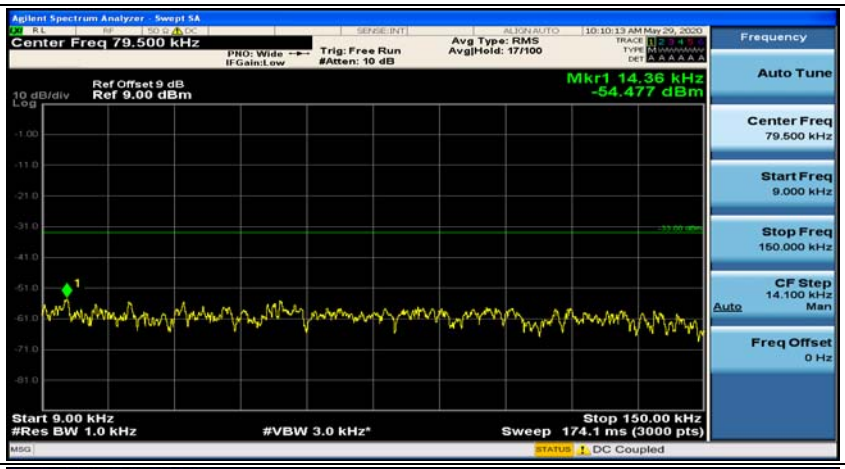
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49

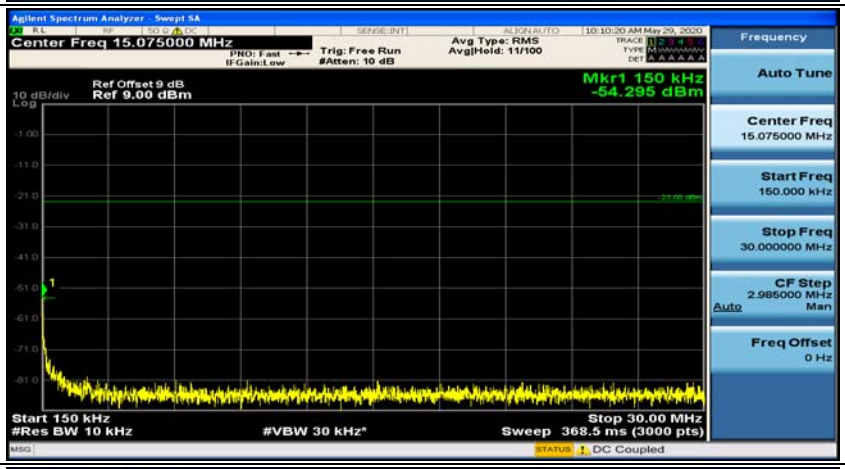

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
10:08:30 AM May 29, 2020
Mkr1 105.66 kHz
-53.086 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 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

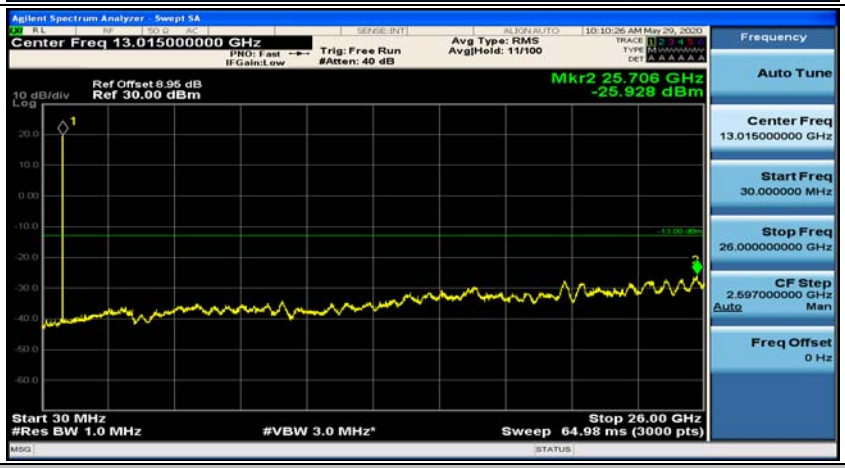

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 11/100
10:08:37 AM May 29, 2020
Mkr1 150 kHz
-54.154 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.5 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
10:08:43 AM May 29, 2020
Mkr2 25.073 GHz
-26.375 dBm
Ref Offset 8.96 dB
10 dB/div
Log
Ref 30.00 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

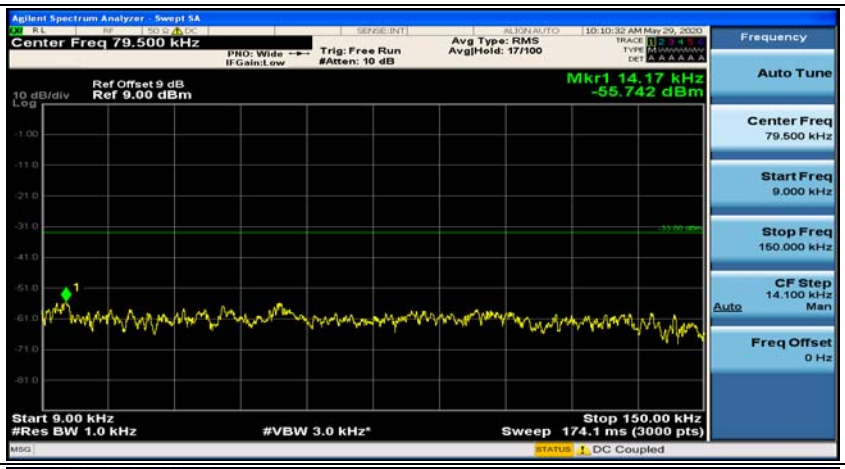
Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#24

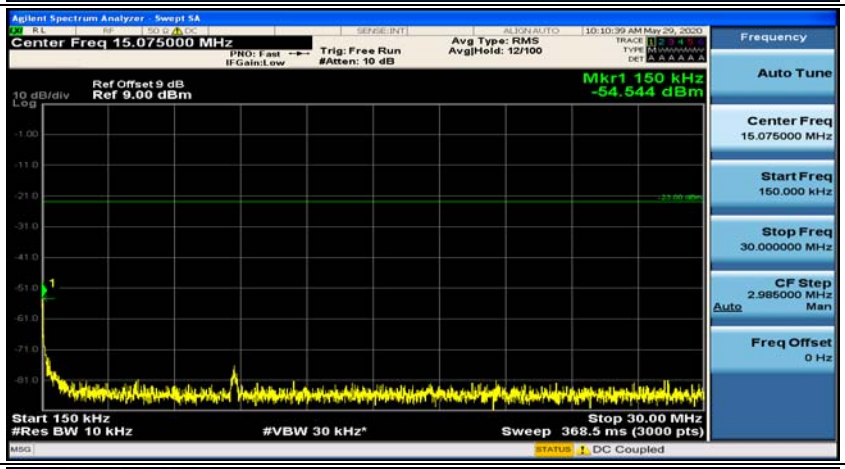


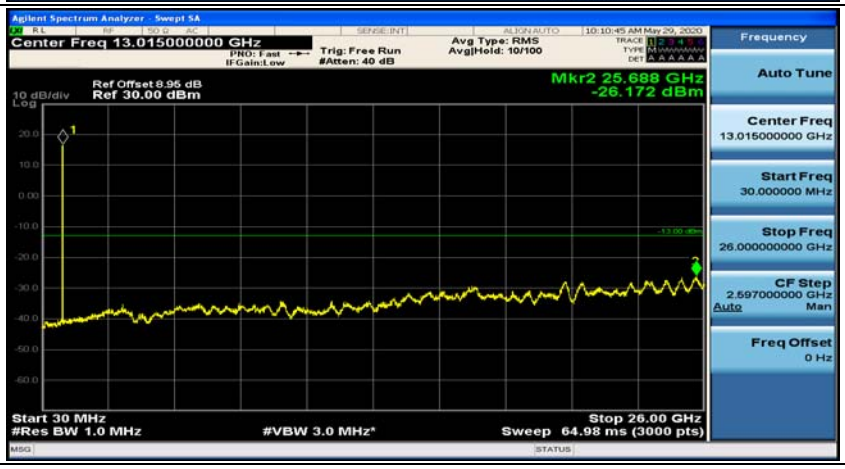




Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#49


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
10:10:32 AM May 29, 2020
Frequency
Auto Tune
Mkr1 14.17 kHz
-55.742 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
10:10:39 AM May 29, 2020
Frequency
Auto Tune
Mkr1 150 kHz
-54.544 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: 10/100
10:10:45 AM May 29, 2020
Frequency
Auto Tune
Mkr2 25.688 GHz
-26.172 dBm
Ref Offset 8.96 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)

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	2.77	0.003359	± 2.5	PASS
		VN	TN	0.72	0.000873	± 2.5	PASS
		VH	TN	-0.73	-0.000885	± 2.5	PASS
	MCH	VL	TN	-1.35	-0.001614	± 2.5	PASS
		VN	TN	1.82	0.002176	± 2.5	PASS
		VH	TN	-0.18	-0.000215	± 2.5	PASS
	HCH	VL	TN	-0.52	-0.000613	± 2.5	PASS
		VN	TN	1.05	0.001238	± 2.5	PASS
		VH	TN	-1.88	-0.002216	± 2.5	PASS
16QAM	LCH	VL	TN	-1.93	-0.002340	± 2.5	PASS
		VN	TN	2.51	0.003044	± 2.5	PASS
		VH	TN	3.73	0.004523	± 2.5	PASS
	MCH	VL	TN	4.34	0.005188	± 2.5	PASS
		VN	TN	2.84	0.003395	± 2.5	PASS
		VH	TN	1.48	0.001769	± 2.5	PASS
	HCH	VL	TN	0.14	0.000165	± 2.5	PASS
		VN	TN	0.02	0.000024	± 2.5	PASS
		VH	TN	-1.75	-0.002063	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	3.81	0.004620	± 2.5	PASS
		VN	-20	1.34	0.001625	± 2.5	PASS
		VN	-10	-1.32	-0.001601	± 2.5	PASS
		VN	0	4.95	0.006002	± 2.5	PASS
		VN	10	2.32	0.002813	± 2.5	PASS
		VN	20	-0.55	-0.000667	± 2.5	PASS
		VN	30	4.12	0.004996	± 2.5	PASS
		VN	40	4.62	0.005602	± 2.5	PASS
		VN	50	-1.91	-0.002316	± 2.5	PASS
	MCH	VN	-30	-0.53	-0.000634	± 2.5	PASS

		VN	-20	2.62	0.003132	± 2.5	PASS
		VN	-10	-1.87	-0.002236	± 2.5	PASS
		VN	0	-0.88	-0.001052	± 2.5	PASS
		VN	10	-0.84	-0.001004	± 2.5	PASS
		VN	20	-1.1	-0.001315	± 2.5	PASS
		VN	30	-0.45	-0.000538	± 2.5	PASS
		VN	40	2.9	0.003467	± 2.5	PASS
		VN	50	4.73	0.005655	± 2.5	PASS
	HCH	VN	-30	-0.54	-0.000637	± 2.5	PASS
		VN	-20	-1.73	-0.002039	± 2.5	PASS
		VN	-10	0.54	0.000637	± 2.5	PASS
		VN	0	2.72	0.003206	± 2.5	PASS
		VN	10	-0.49	-0.000578	± 2.5	PASS
		VN	20	-0.61	-0.000719	± 2.5	PASS
		VN	30	1.09	0.001285	± 2.5	PASS
		VN	40	1.01	0.001191	± 2.5	PASS
		VN	50	-0.45	-0.000530	± 2.5	PASS
16QAM	LCH	VN	-30	1.31	0.001588	± 2.5	PASS
		VN	-20	1.44	0.001746	± 2.5	PASS
		VN	-10	0.12	0.000146	± 2.5	PASS
		VN	0	0.75	0.000909	± 2.5	PASS
		VN	10	0.65	0.000788	± 2.5	PASS
		VN	20	-1.89	-0.002292	± 2.5	PASS
		VN	30	0.64	0.000776	± 2.5	PASS
		VN	40	3.43	0.004159	± 2.5	PASS
		VN	50	3.36	0.004074	± 2.5	PASS
	MCH	VN	-30	4.81	0.005670	± 2.5	PASS
		VN	-20	2.4	0.002829	± 2.5	PASS
		VN	-10	1.28	0.001509	± 2.5	PASS
		VN	0	-0.35	-0.000413	± 2.5	PASS
		VN	10	-1.78	-0.002098	± 2.5	PASS
		VN	20	-0.52	-0.000613	± 2.5	PASS
		VN	30	-0.37	-0.000436	± 2.5	PASS
		VN	40	4.41	0.005199	± 2.5	PASS
		VN	50	-1.85	-0.002181	± 2.5	PASS
	HCH	VN	-30	2.14	0.002523	± 2.5	PASS
		VN	-20	-1.52	-0.001792	± 2.5	PASS
		VN	-10	1.26	0.001485	± 2.5	PASS
		VN	0	0.06	0.000071	± 2.5	PASS
		VN	10	-1.25	-0.001474	± 2.5	PASS
		VN	20	2.29	0.002700	± 2.5	PASS

		VN	30	1.23	0.001450	± 2.5	PASS
		VN	40	3.52	0.004149	± 2.5	PASS
		VN	50	3.16	0.003725	± 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	2.77	0.003356	± 2.5	PASS
		VN	TN	-0.09	-0.000109	± 2.5	PASS
		VH	TN	-1.02	-0.001236	± 2.5	PASS
	MCH	VL	TN	-0.7	-0.000837	± 2.5	PASS
		VN	TN	-0.72	-0.000861	± 2.5	PASS
		VH	TN	3	0.003586	± 2.5	PASS
	HCH	VL	TN	-1.3	-0.001534	± 2.5	PASS
		VN	TN	2.63	0.003103	± 2.5	PASS
		VH	TN	-0.29	-0.000342	± 2.5	PASS
16QAM	LCH	VL	TN	2.83	0.003428	± 2.5	PASS
		VN	TN	3.64	0.004409	± 2.5	PASS
		VH	TN	-0.32	-0.000388	± 2.5	PASS
	MCH	VL	TN	1.8	0.002152	± 2.5	PASS
		VN	TN	2.46	0.002941	± 2.5	PASS
		VH	TN	0.66	0.000789	± 2.5	PASS
	HCH	VL	TN	-1.01	-0.001192	± 2.5	PASS
		VN	TN	-0.88	-0.001038	± 2.5	PASS
		VH	TN	-1.75	-0.002065	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.03	-0.001248	± 2.5	PASS
		VN	-20	4.1	0.004967	± 2.5	PASS
		VN	-10	-0.5	-0.000606	± 2.5	PASS
		VN	0	1.06	0.001284	± 2.5	PASS
		VN	10	3.58	0.004337	± 2.5	PASS
		VN	20	3.24	0.003925	± 2.5	PASS
		VN	30	-0.26	-0.000315	± 2.5	PASS
		VN	40	4.1	0.004967	± 2.5	PASS
		VN	50	3.44	0.004167	± 2.5	PASS
	MCH	VN	-30	-1.48	-0.001769	± 2.5	PASS

		VN	-20	4.04	0.004830	± 2.5	PASS
		VN	-10	2.32	0.002773	± 2.5	PASS
		VN	0	5	0.005977	± 2.5	PASS
		VN	10	4.38	0.005236	± 2.5	PASS
		VN	20	2.58	0.003084	± 2.5	PASS
		VN	30	0.37	0.000442	± 2.5	PASS
		VN	40	0.05	0.000060	± 2.5	PASS
		VN	50	3.48	0.004160	± 2.5	PASS
	HCH	VN	-30	2.62	0.003091	± 2.5	PASS
		VN	-20	1.43	0.001687	± 2.5	PASS
		VN	-10	2.23	0.002631	± 2.5	PASS
		VN	0	2.91	0.003434	± 2.5	PASS
		VN	10	4.55	0.005369	± 2.5	PASS
		VN	20	3.64	0.004295	± 2.5	PASS
		VN	30	3.31	0.003906	± 2.5	PASS
		VN	40	1.53	0.001805	± 2.5	PASS
		VN	50	4.77	0.005628	± 2.5	PASS
16QAM	LCH	VN	-30	1.27	0.001518	± 2.5	PASS
		VN	-20	3.58	0.004280	± 2.5	PASS
		VN	-10	-1.84	-0.002200	± 2.5	PASS
		VN	0	-2	-0.002391	± 2.5	PASS
		VN	10	-0.04	-0.000048	± 2.5	PASS
		VN	20	2.96	0.003539	± 2.5	PASS
		VN	30	0.71	0.000849	± 2.5	PASS
		VN	40	2.24	0.002678	± 2.5	PASS
		VN	50	2.76	0.003299	± 2.5	PASS
	MCH	VN	-30	4.49	0.005298	± 2.5	PASS
		VN	-20	-1.9	-0.002242	± 2.5	PASS
		VN	-10	1.47	0.001735	± 2.5	PASS
		VN	0	3.13	0.003693	± 2.5	PASS
		VN	10	0.25	0.000295	± 2.5	PASS
		VN	20	4.61	0.005440	± 2.5	PASS
		VN	30	-0.66	-0.000779	± 2.5	PASS
		VN	40	3.34	0.003941	± 2.5	PASS
		VN	50	-1.94	-0.002289	± 2.5	PASS
	HCH	VN	-30	-1.36	-0.001605	± 2.5	PASS
		VN	-20	4.57	0.005392	± 2.5	PASS
		VN	-10	4.45	0.005251	± 2.5	PASS
		VN	0	4.58	0.005404	± 2.5	PASS
		VN	10	3.22	0.003799	± 2.5	PASS
		VN	20	2.67	0.003150	± 2.5	PASS

		VN	30	0.26	0.000307	± 2.5	PASS
		VN	40	0.73	0.000861	± 2.5	PASS
		VN	50	1.89	0.002230	± 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	2.77	0.003351	± 2.5	PASS
		VN	TN	-1.32	-0.001597	± 2.5	PASS
		VH	TN	0.03	0.000036	± 2.5	PASS
	MCH	VL	TN	0.77	0.000921	± 2.5	PASS
		VN	TN	0.62	0.000741	± 2.5	PASS
		VH	TN	1.82	0.002176	± 2.5	PASS
	HCH	VL	TN	4.36	0.005151	± 2.5	PASS
		VN	TN	1.54	0.001819	± 2.5	PASS
		VH	TN	1.53	0.001807	± 2.5	PASS
16QAM	LCH	VL	TN	2.03	0.002456	± 2.5	PASS
		VN	TN	0.09	0.000109	± 2.5	PASS
		VH	TN	4.66	0.005638	± 2.5	PASS
	MCH	VL	TN	-0.2	-0.000239	± 2.5	PASS
		VN	TN	3.81	0.004555	± 2.5	PASS
		VH	TN	0.58	0.000693	± 2.5	PASS
	HCH	VL	TN	3.45	0.004076	± 2.5	PASS
		VN	TN	0.95	0.001122	± 2.5	PASS
		VH	TN	-1.26	-0.001488	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	4.34	0.005251	± 2.5	PASS
		VN	-20	4.05	0.004900	± 2.5	PASS
		VN	-10	3.19	0.003860	± 2.5	PASS
		VN	0	2.84	0.003436	± 2.5	PASS
		VN	10	-0.84	-0.001016	± 2.5	PASS
		VN	20	-1.36	-0.001645	± 2.5	PASS
		VN	30	-0.36	-0.000436	± 2.5	PASS
		VN	40	0.85	0.001028	± 2.5	PASS
		VN	50	0.13	0.000157	± 2.5	PASS
	MCH	VN	-30	2.09	0.002499	± 2.5	PASS

		VN	-20	2.33	0.002785	± 2.5	PASS
		VN	-10	-0.99	-0.001184	± 2.5	PASS
		VN	0	-0.48	-0.000574	± 2.5	PASS
		VN	10	-1.57	-0.001877	± 2.5	PASS
		VN	20	1.63	0.001949	± 2.5	PASS
		VN	30	-1.85	-0.002212	± 2.5	PASS
		VN	40	2.63	0.003144	± 2.5	PASS
		VN	50	0.08	0.000096	± 2.5	PASS
	HCH	VN	-30	2.01	0.002374	± 2.5	PASS
		VN	-20	-0.47	-0.000555	± 2.5	PASS
		VN	-10	4.26	0.005032	± 2.5	PASS
		VN	0	1.34	0.001583	± 2.5	PASS
		VN	10	-1.66	-0.001961	± 2.5	PASS
		VN	20	3.68	0.004347	± 2.5	PASS
		VN	30	0.69	0.000815	± 2.5	PASS
		VN	40	2.63	0.003107	± 2.5	PASS
		VN	50	4.03	0.004761	± 2.5	PASS
16QAM	LCH	VN	-30	1.85	0.002212	± 2.5	PASS
		VN	-20	3.9	0.004662	± 2.5	PASS
		VN	-10	1.06	0.001267	± 2.5	PASS
		VN	0	2.45	0.002929	± 2.5	PASS
		VN	10	-0.72	-0.000861	± 2.5	PASS
		VN	20	3.42	0.004088	± 2.5	PASS
		VN	30	0.72	0.000861	± 2.5	PASS
		VN	40	1.48	0.001769	± 2.5	PASS
		VN	50	-1.02	-0.001219	± 2.5	PASS
	MCH	VN	-30	3.23	0.003816	± 2.5	PASS
		VN	-20	-0.7	-0.000827	± 2.5	PASS
		VN	-10	3.59	0.004241	± 2.5	PASS
		VN	0	3.93	0.004643	± 2.5	PASS
		VN	10	3.77	0.004454	± 2.5	PASS
		VN	20	2.76	0.003260	± 2.5	PASS
		VN	30	3.16	0.003733	± 2.5	PASS
		VN	40	1.92	0.002268	± 2.5	PASS
		VN	50	2.55	0.003012	± 2.5	PASS
	HCH	VN	-30	-1.81	-0.002138	± 2.5	PASS
		VN	-20	0.67	0.000791	± 2.5	PASS
		VN	-10	4.15	0.004903	± 2.5	PASS
		VN	0	0.53	0.000626	± 2.5	PASS
		VN	10	2.62	0.003095	± 2.5	PASS
		VN	20	1.33	0.001571	± 2.5	PASS

		VN	30	0.24	0.000284	± 2.5	PASS
		VN	40	-0.17	-0.000201	± 2.5	PASS
		VN	50	-1.29	-0.001524	± 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	2.77	0.003341	± 2.5	PASS
		VN	TN	4.15	0.005006	± 2.5	PASS
		VH	TN	-1.8	-0.002171	± 2.5	PASS
	MCH	VL	TN	2	0.002391	± 2.5	PASS
		VN	TN	0.56	0.000669	± 2.5	PASS
		VH	TN	1.36	0.001626	± 2.5	PASS
	HCH	VL	TN	2.68	0.003175	± 2.5	PASS
		VN	TN	3.18	0.003768	± 2.5	PASS
		VH	TN	-0.99	-0.001173	± 2.5	PASS
16QAM	LCH	VL	TN	3.14	0.003788	± 2.5	PASS
		VN	TN	0.65	0.000784	± 2.5	PASS
		VH	TN	-0.62	-0.000748	± 2.5	PASS
	MCH	VL	TN	4.38	0.005236	± 2.5	PASS
		VN	TN	2.07	0.002475	± 2.5	PASS
		VH	TN	-1.71	-0.002044	± 2.5	PASS
	HCH	VL	TN	2.25	0.002666	± 2.5	PASS
		VN	TN	1.42	0.001682	± 2.5	PASS
		VH	TN	-0.39	-0.000462	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	0.51	0.000615	± 2.5	PASS
		VN	-20	3.84	0.004632	± 2.5	PASS
		VN	-10	-1.68	-0.002027	± 2.5	PASS
		VN	0	-0.15	-0.000181	± 2.5	PASS
		VN	10	2.29	0.002762	± 2.5	PASS
		VN	20	-0.09	-0.000109	± 2.5	PASS
		VN	30	4.47	0.005392	± 2.5	PASS
		VN	40	-1.41	-0.001701	± 2.5	PASS
		VN	50	4.9	0.005911	± 2.5	PASS
	MCH	VN	-30	2.22	0.002654	± 2.5	PASS

		VN	-20	4.28	0.005117	± 2.5	PASS
		VN	-10	-0.71	-0.000849	± 2.5	PASS
		VN	0	2.13	0.002546	± 2.5	PASS
		VN	10	0.39	0.000466	± 2.5	PASS
		VN	20	0.92	0.001100	± 2.5	PASS
		VN	30	-0.1	-0.000120	± 2.5	PASS
		VN	40	1.99	0.002379	± 2.5	PASS
		VN	50	2.6	0.003108	± 2.5	PASS
	HCH	VN	-30	1.04	0.001232	± 2.5	PASS
		VN	-20	1.56	0.001848	± 2.5	PASS
		VN	-10	0.76	0.000900	± 2.5	PASS
		VN	0	0.06	0.000071	± 2.5	PASS
		VN	10	-1.37	-0.001623	± 2.5	PASS
		VN	20	1.85	0.002192	± 2.5	PASS
		VN	30	1.23	0.001457	± 2.5	PASS
		VN	40	4.24	0.005024	± 2.5	PASS
		VN	50	-0.7	-0.000829	± 2.5	PASS
16QAM	LCH	VN	-30	-0.99	-0.001184	± 2.5	PASS
		VN	-20	0.18	0.000215	± 2.5	PASS
		VN	-10	1.88	0.002247	± 2.5	PASS
		VN	0	4.53	0.005415	± 2.5	PASS
		VN	10	-0.87	-0.001040	± 2.5	PASS
		VN	20	4.74	0.005666	± 2.5	PASS
		VN	30	3.41	0.004077	± 2.5	PASS
		VN	40	3.24	0.003873	± 2.5	PASS
		VN	50	0.33	0.000395	± 2.5	PASS
	MCH	VN	-30	4.72	0.005592	± 2.5	PASS
		VN	-20	-1.85	-0.002192	± 2.5	PASS
		VN	-10	0.29	0.000344	± 2.5	PASS
		VN	0	4.48	0.005308	± 2.5	PASS
		VN	10	1.4	0.001659	± 2.5	PASS
		VN	20	1.57	0.001860	± 2.5	PASS
		VN	30	0.33	0.000391	± 2.5	PASS
		VN	40	1.37	0.001623	± 2.5	PASS
		VN	50	2.42	0.002867	± 2.5	PASS
	HCH	VN	-30	-0.57	-0.000675	± 2.5	PASS
		VN	-20	-0.92	-0.001090	± 2.5	PASS
		VN	-10	-0.47	-0.000557	± 2.5	PASS
		VN	0	4.44	0.005261	± 2.5	PASS
		VN	10	3.49	0.004135	± 2.5	PASS
		VN	20	-1.19	-0.001410	± 2.5	PASS

		VN	30	1.41	0.001671	± 2.5	PASS
		VN	40	2.9	0.003436	± 2.5	PASS
		VN	50	4.43	0.005249	± 2.5	PASS