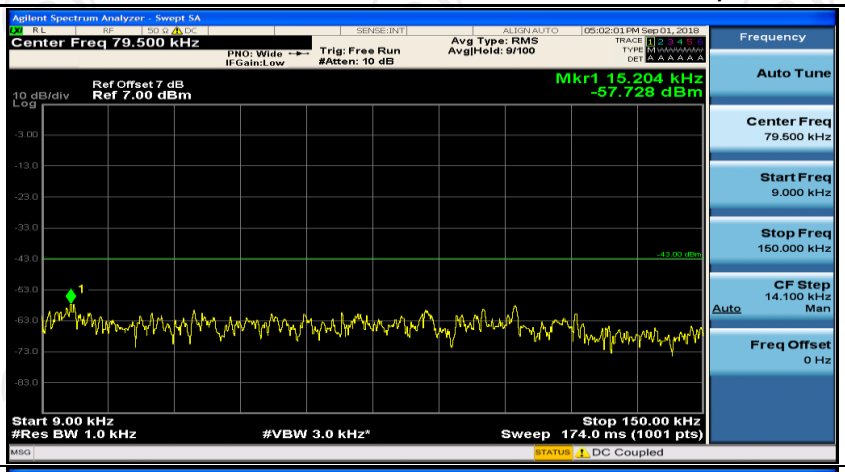
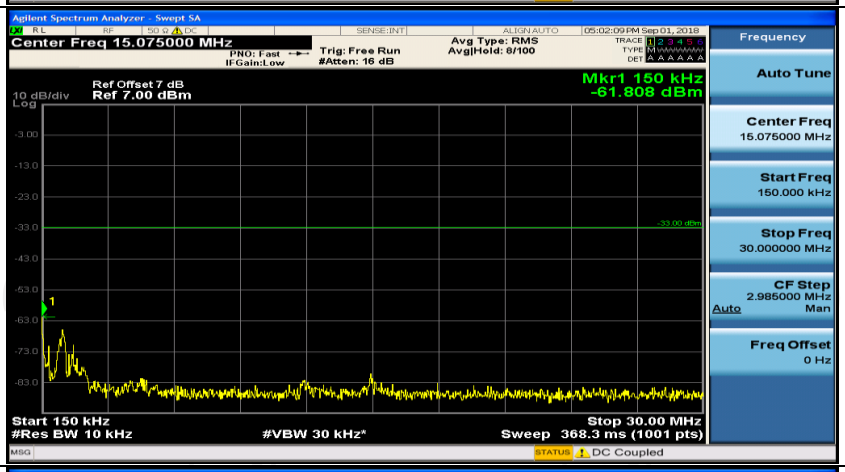
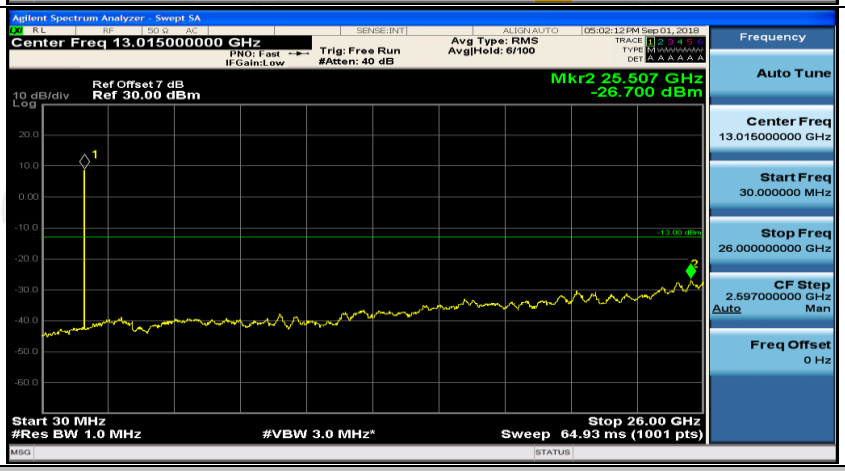
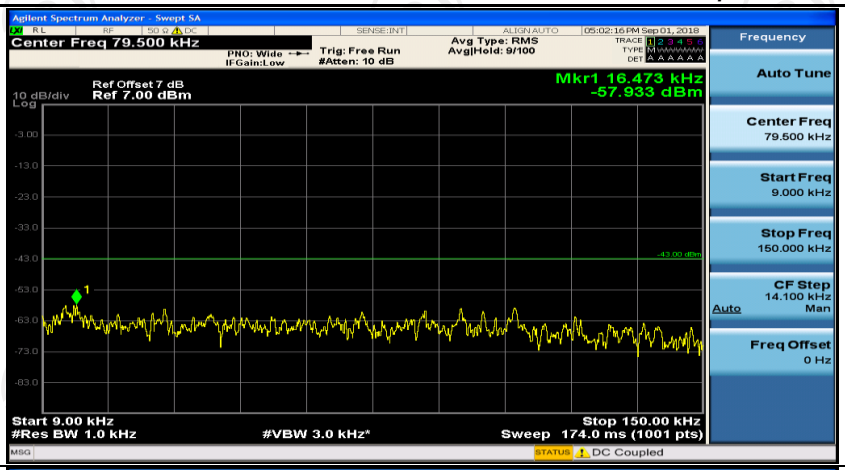
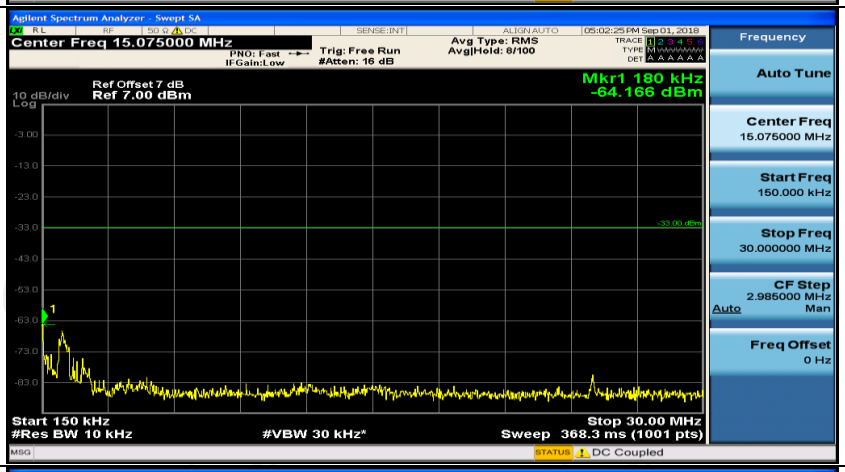


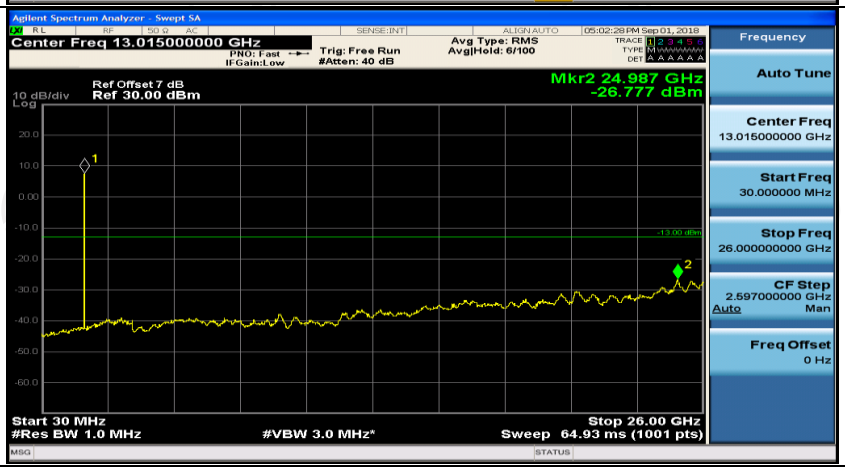


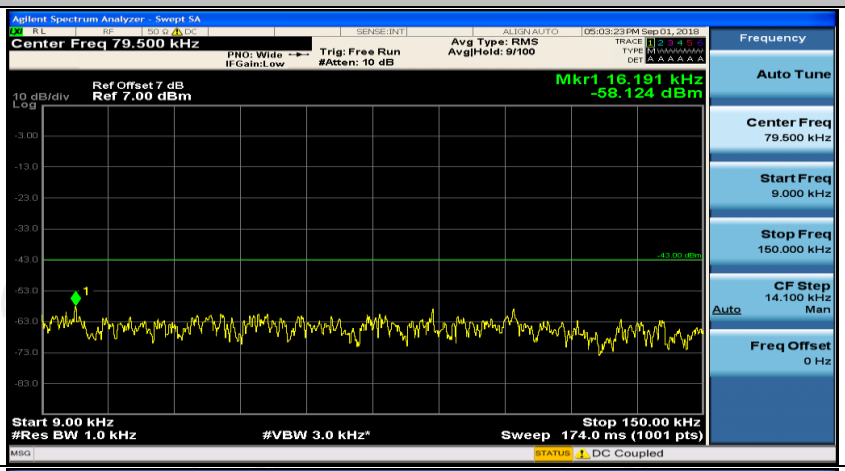
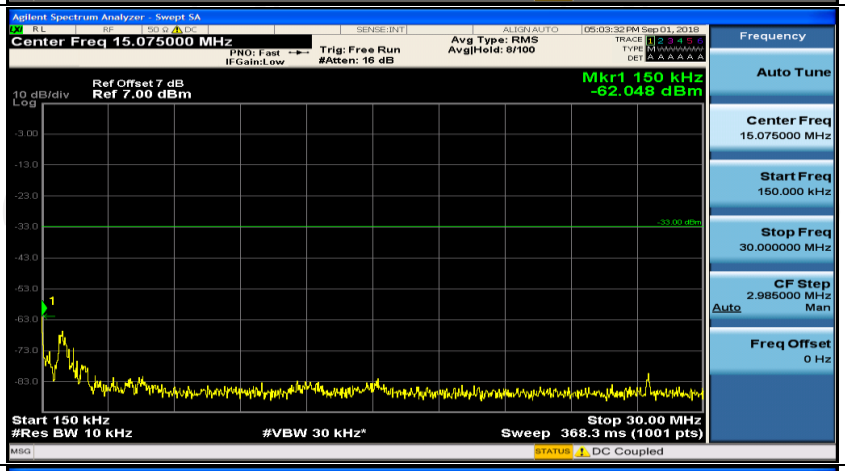
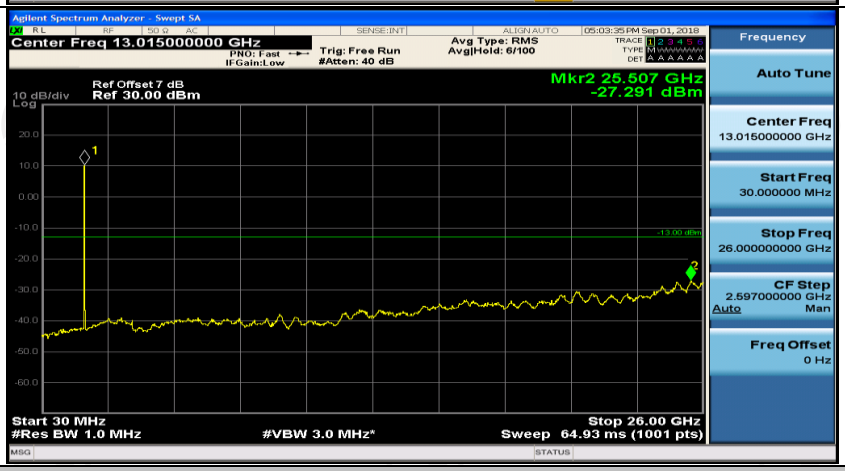


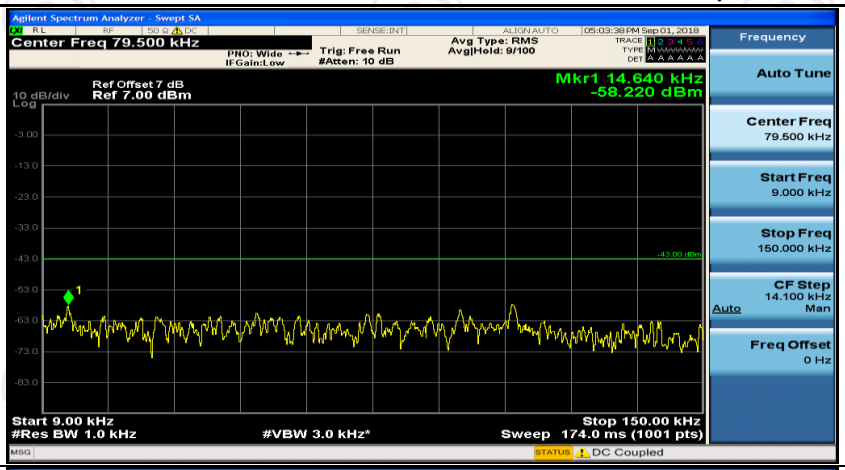
(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#74

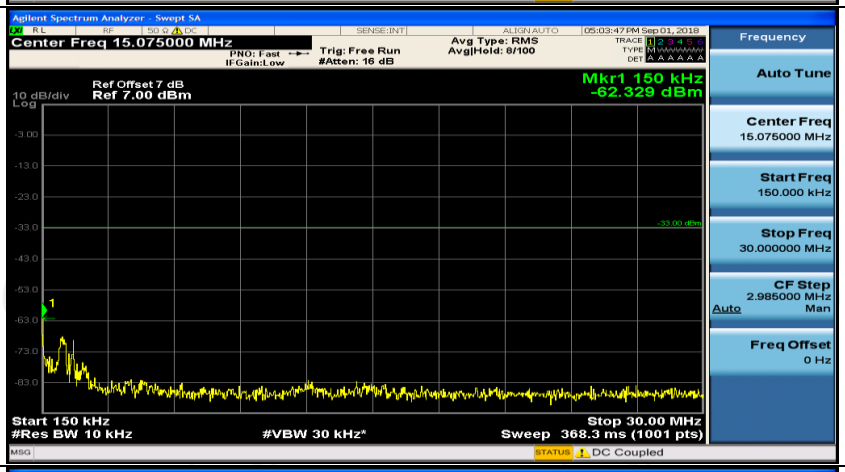

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
05:02:16 PM Sep 01, 2018
Mkr1 16.473 kHz
-57.933 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
-43.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz

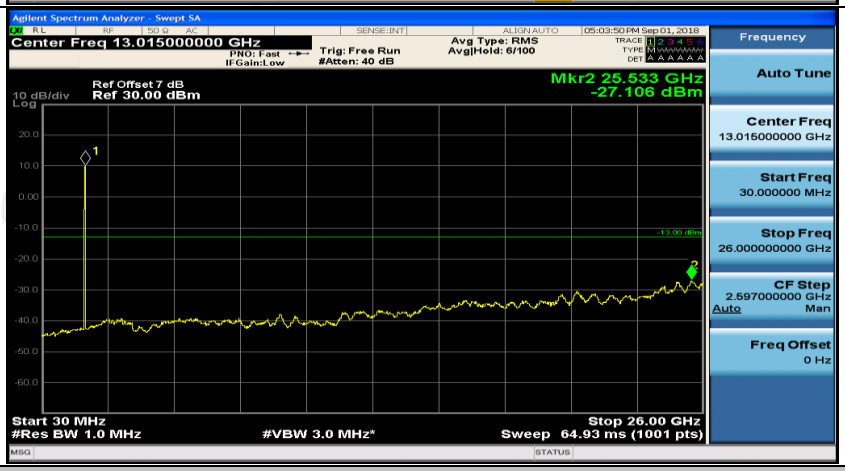

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 8/100
05:02:25 PM Sep 01, 2018
Mkr1 180 kHz
-64.166 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
-33.00 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
05:02:28 PM Sep 01, 2018
Mkr2 24.987 GHz
-26.777 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
-13.00 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz

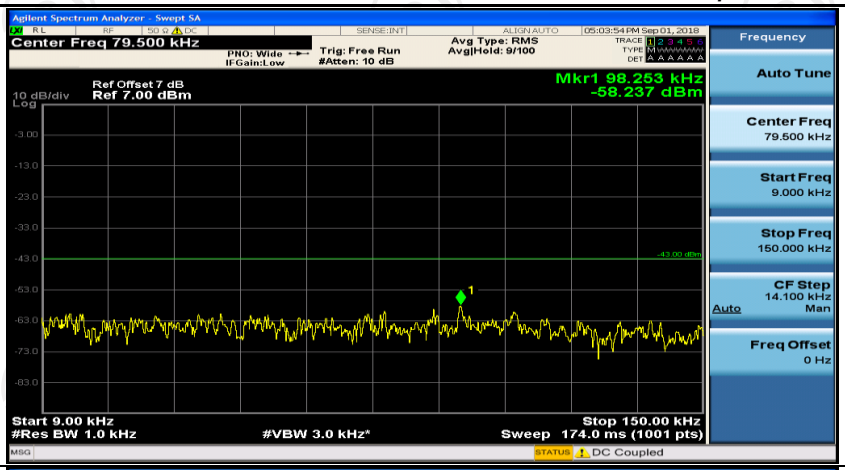
(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#0



(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#37

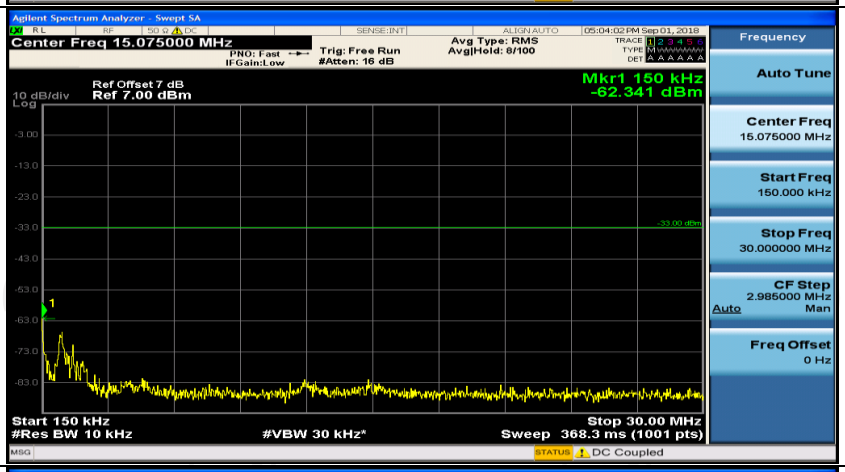


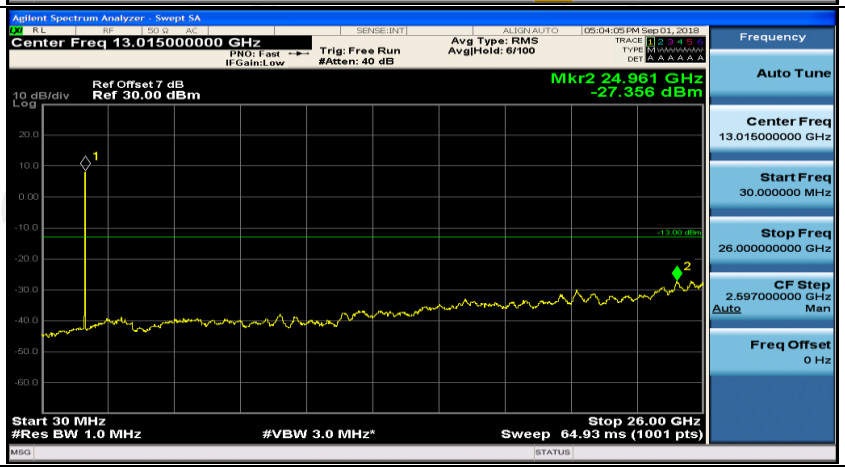


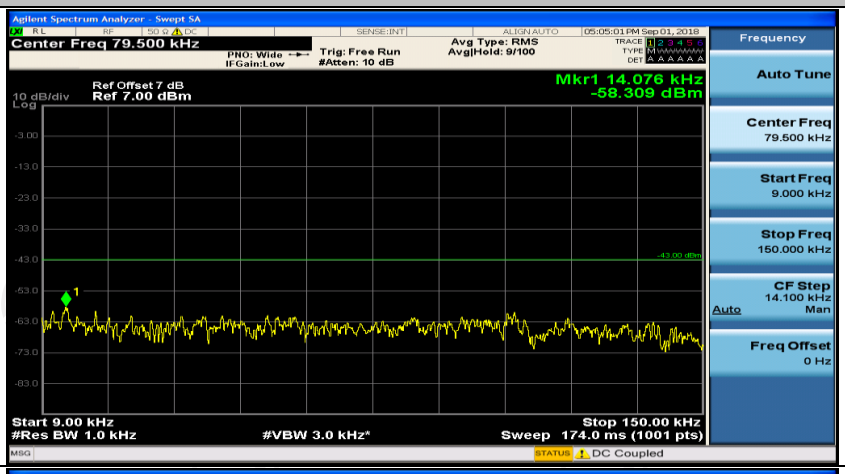
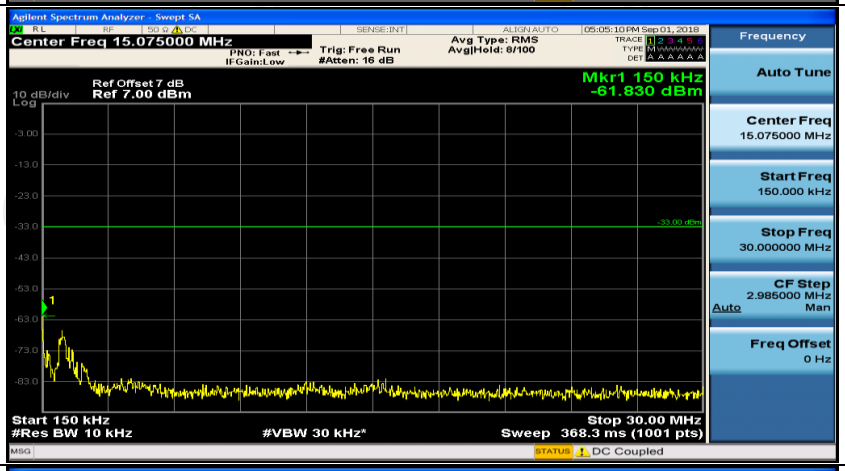
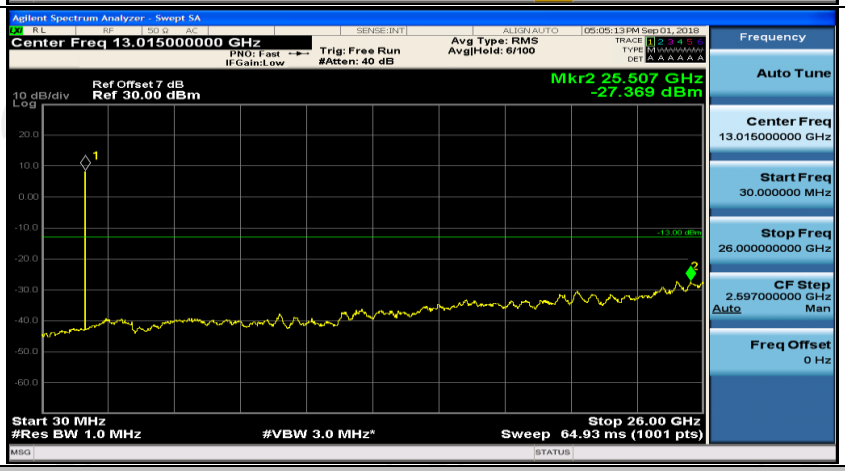


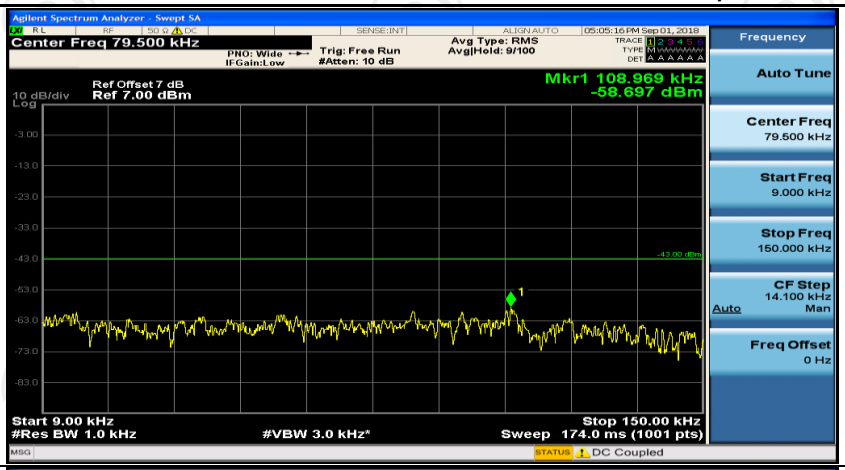
(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#74

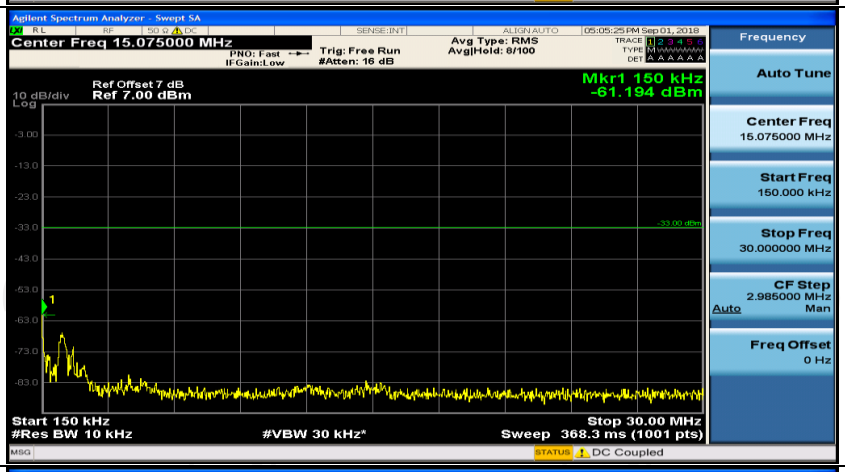

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
05:03:54 PM Sep 01, 2018
Mkr1 98.253 kHz
-58.237 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
-43.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz

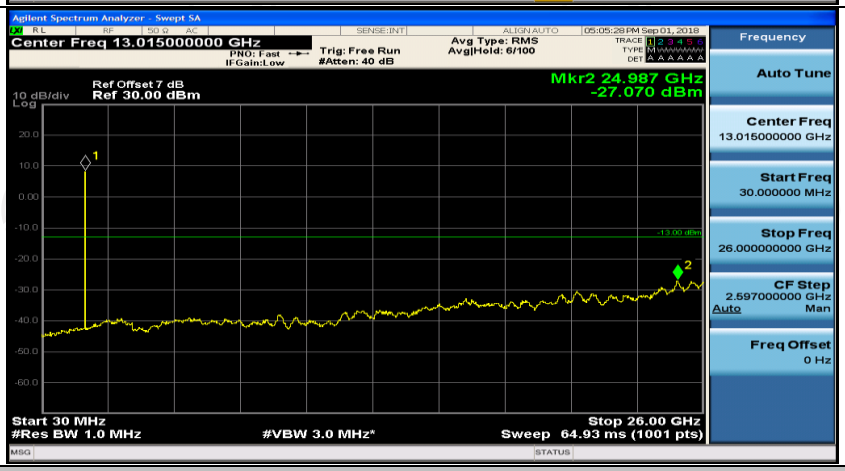

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 8/100
05:04:02 PM Sep 01, 2018
Mkr1 150 kHz
-62.341 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
-33.00 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
05:04:05 PM Sep 01, 2018
Mkr2 24.961 GHz
-27.356 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
-13.00 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz

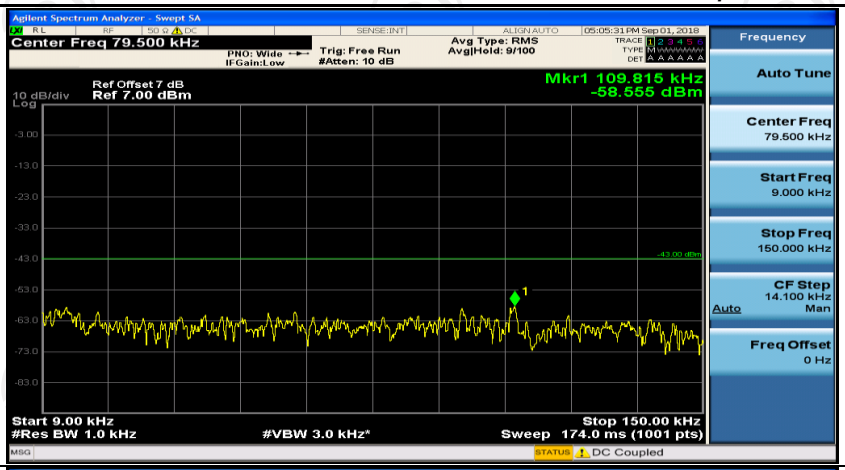
(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#37

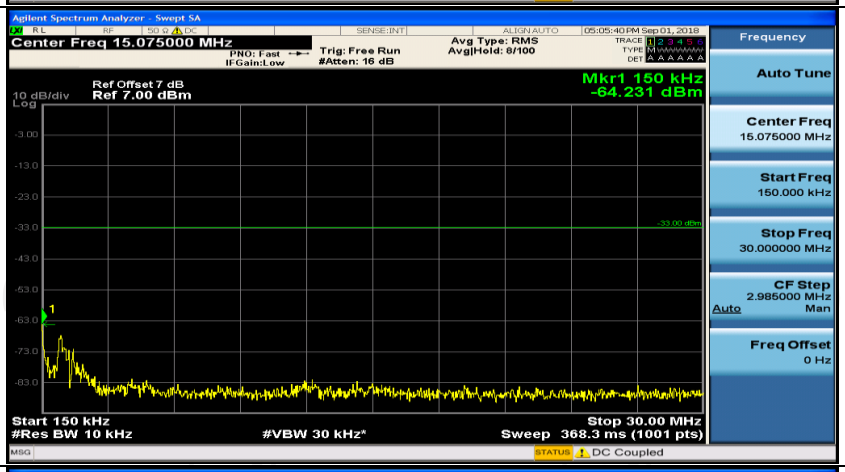


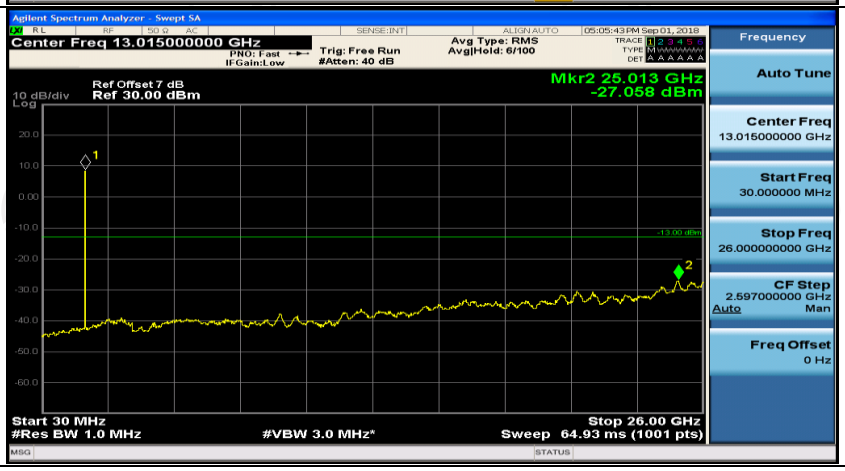




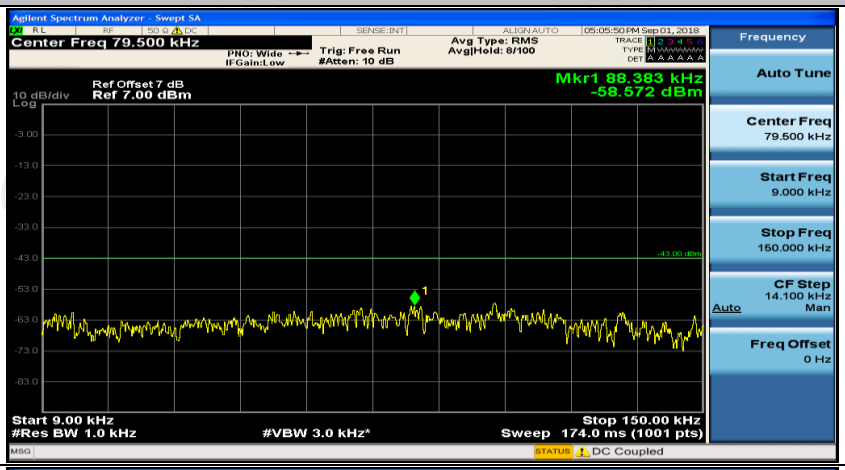
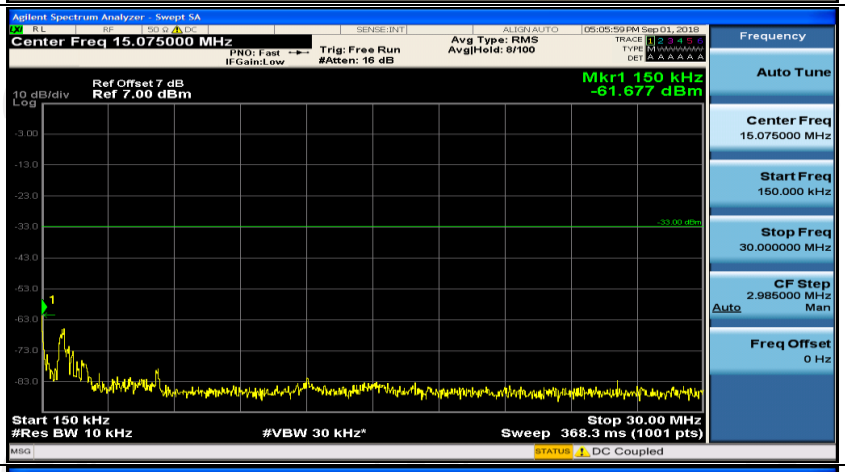
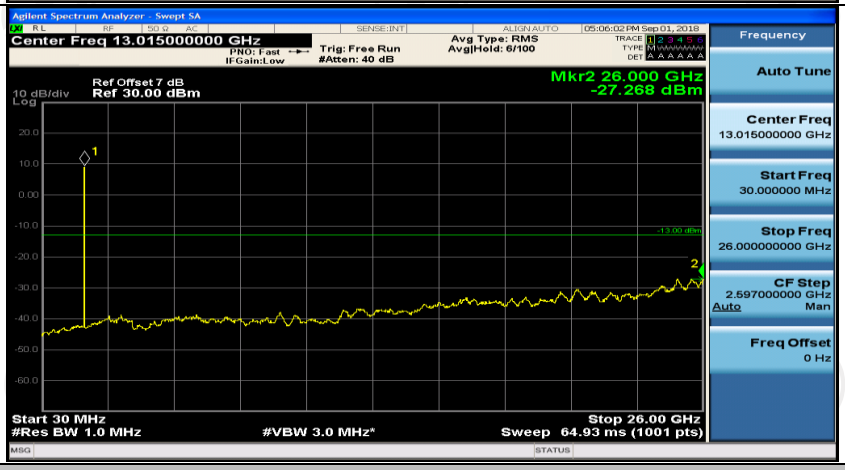
(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#74

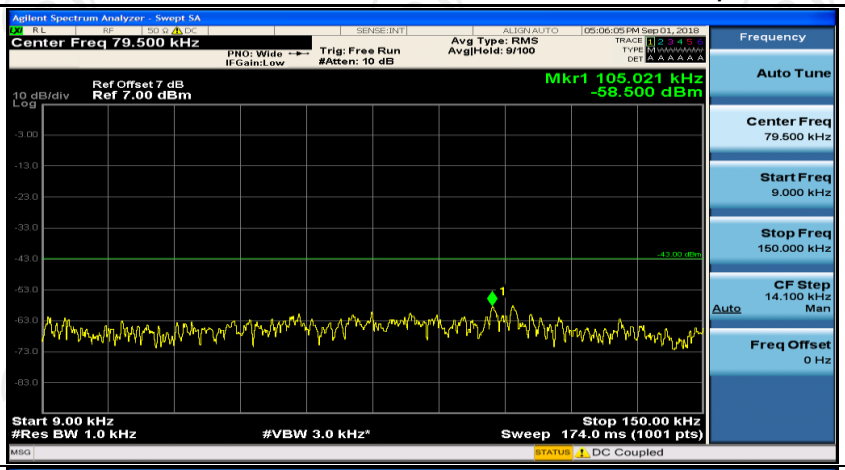

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
05:05:31 PM Sep 01, 2018
Frequency
Auto Tune
Mkr1 109.815 kHz
-58.555 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
-43.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

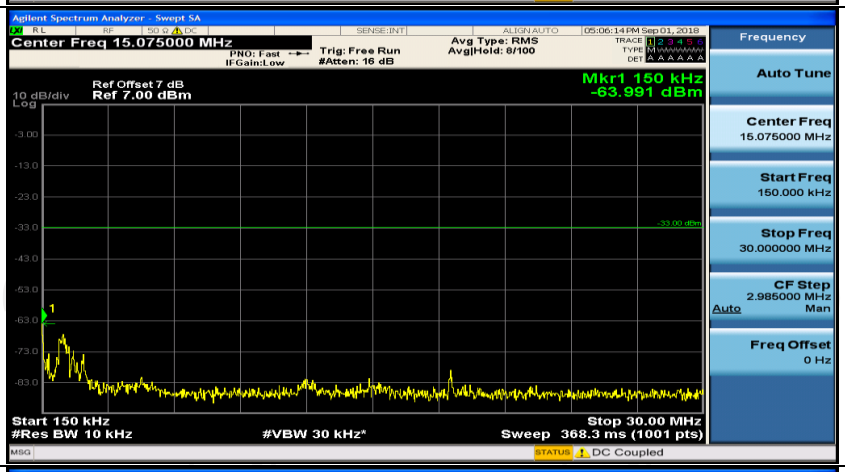

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 8/100
05:05:40 PM Sep 01, 2018
Frequency
Auto Tune
Mkr1 150 kHz
-64.231 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
-33.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled

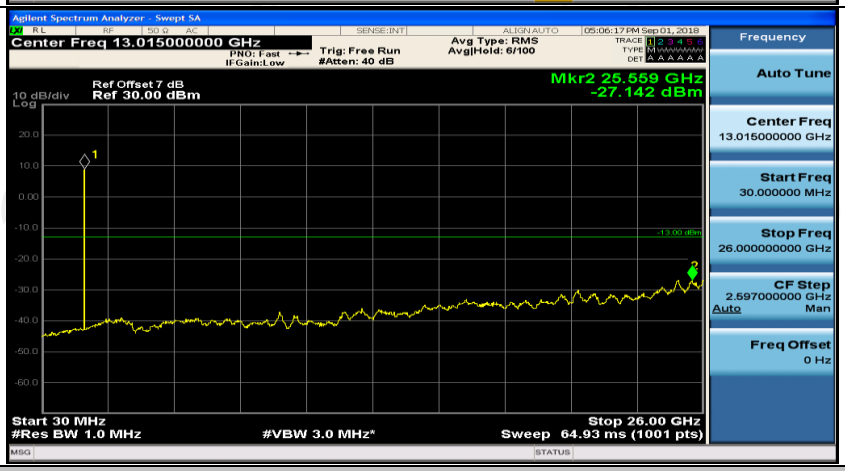

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
05:05:43 PM Sep 01, 2018
Frequency
Auto Tune
Mkr2 25.013 GHz
-27.058 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
-13.00 dBm
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

Channel Bandwidth: 20 MHz

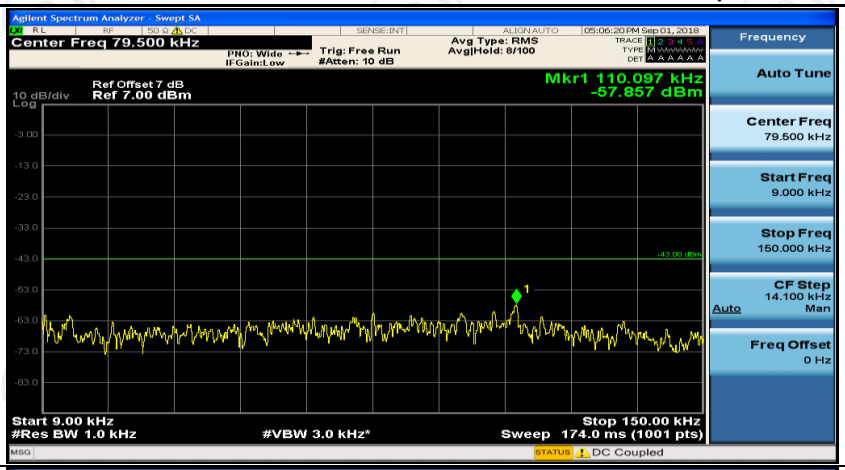
(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#0



(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#49

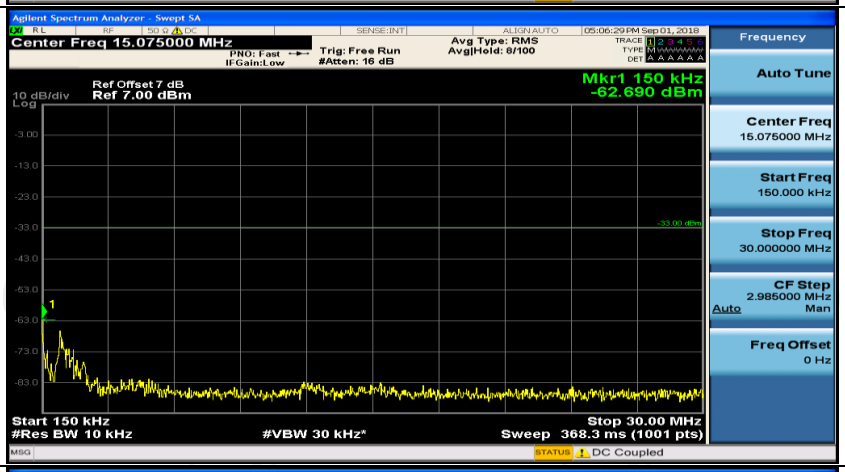


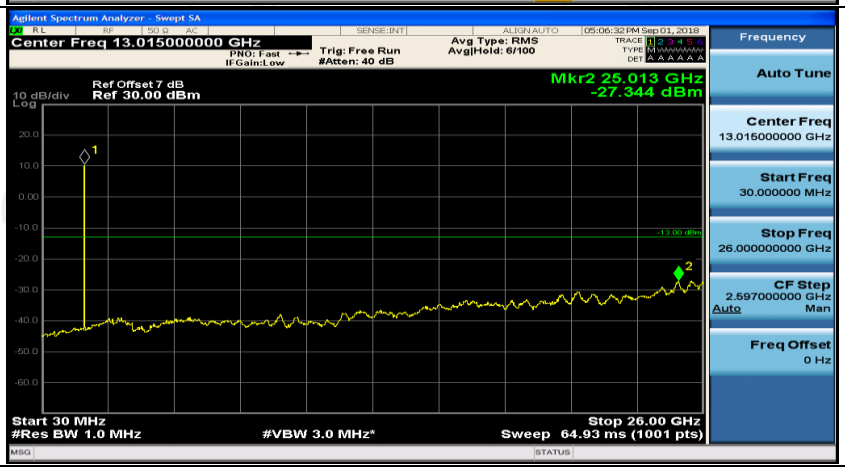




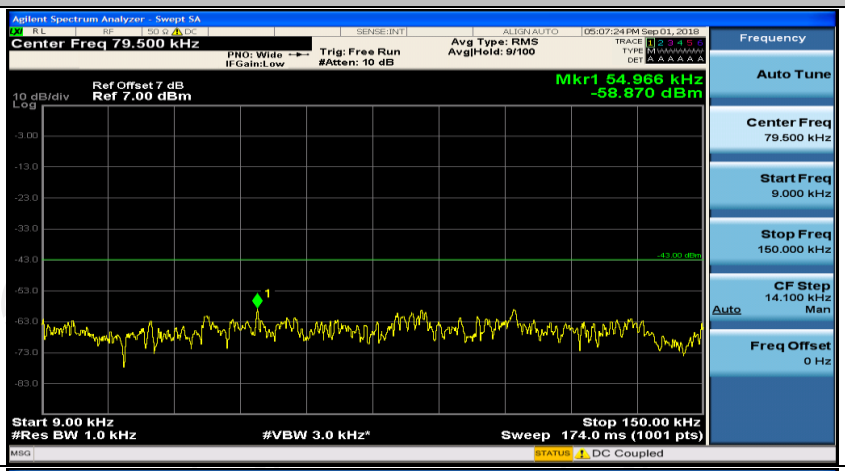
(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#99

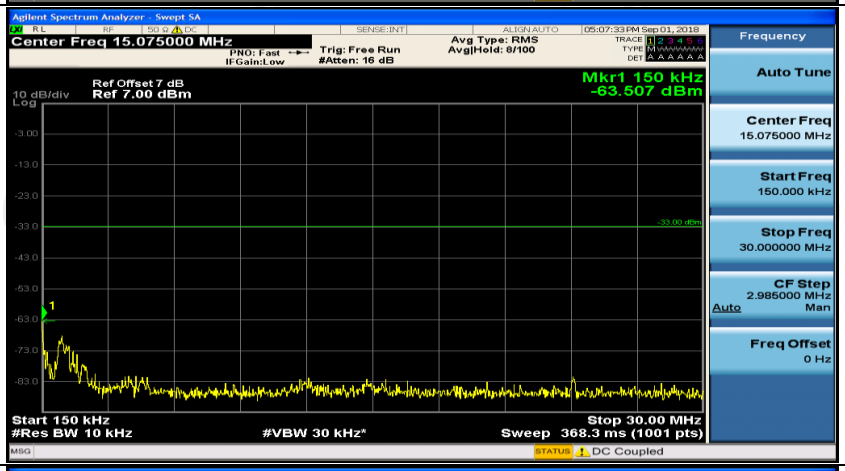

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 8/100
05:06:20 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 110.097 kHz
-57.857 dBm
-43.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz

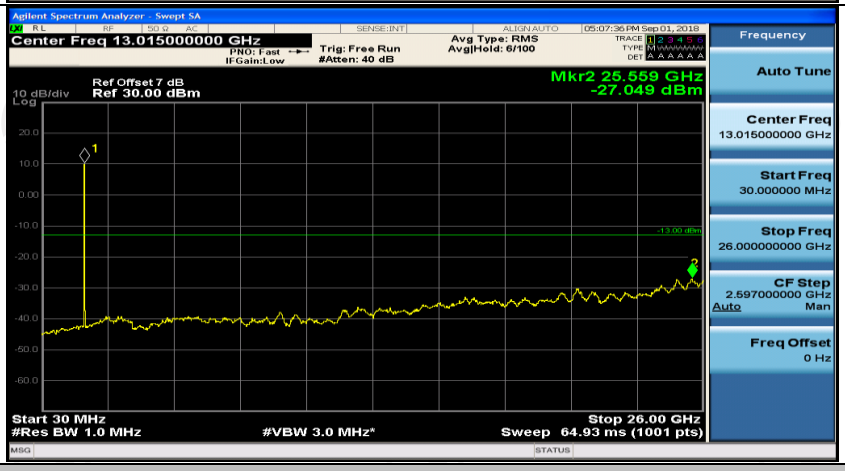

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 8/100
05:06:29 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-62.690 dBm
-33.00 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
05:06:32 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.013 GHz
-27.344 dBm
-13.00 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz

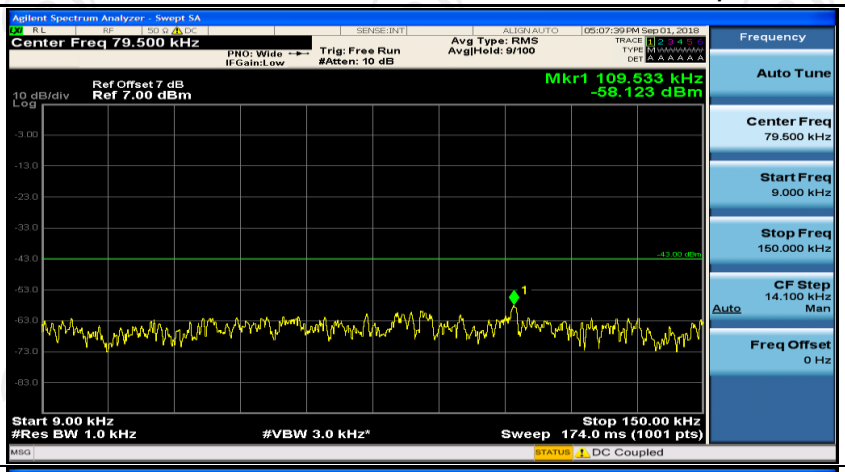
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0

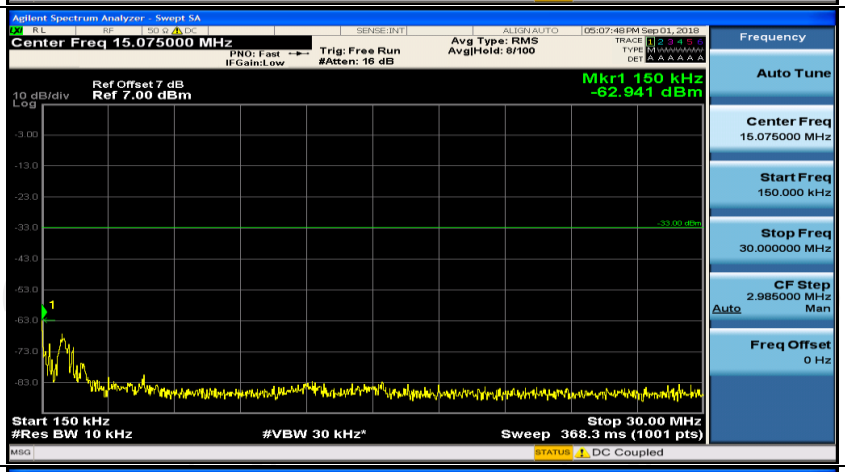


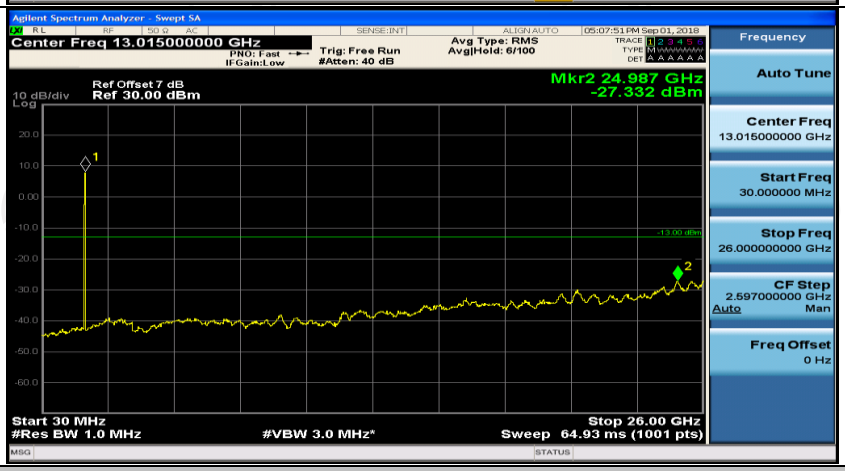




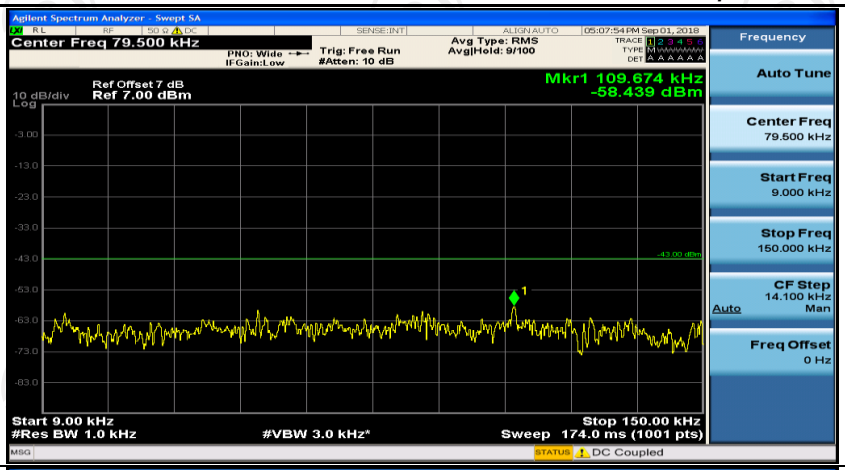
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

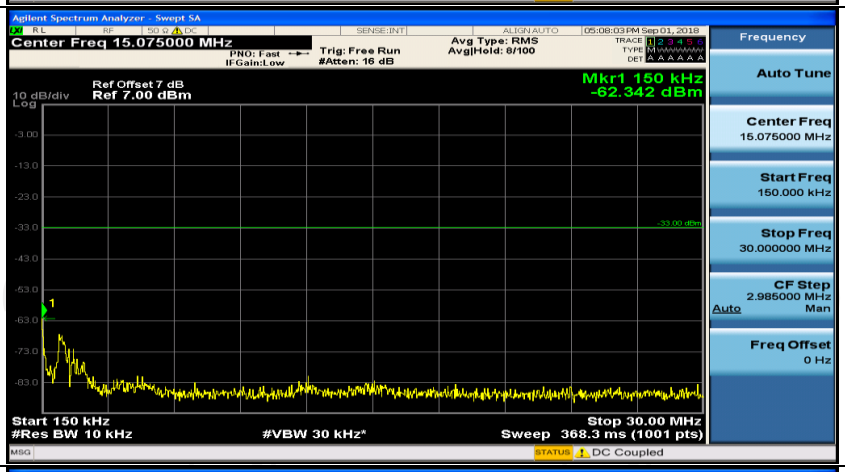


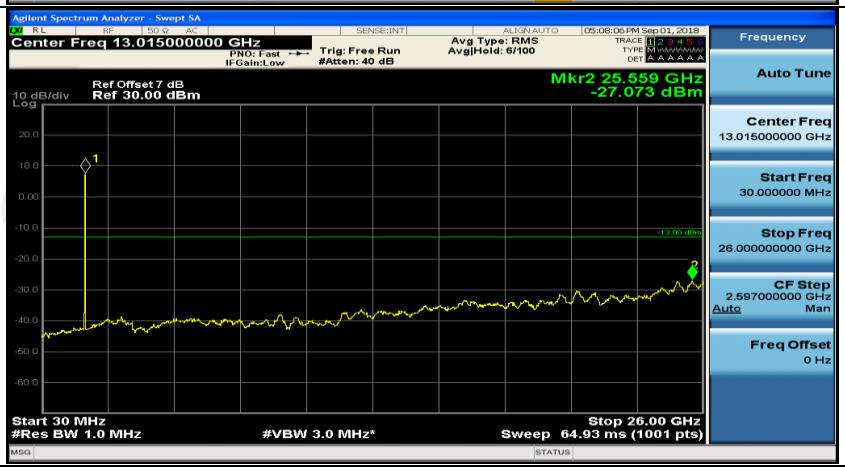


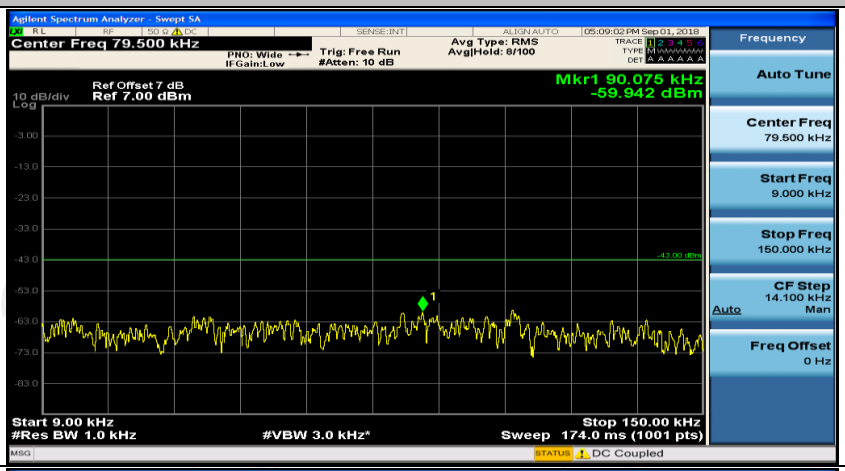
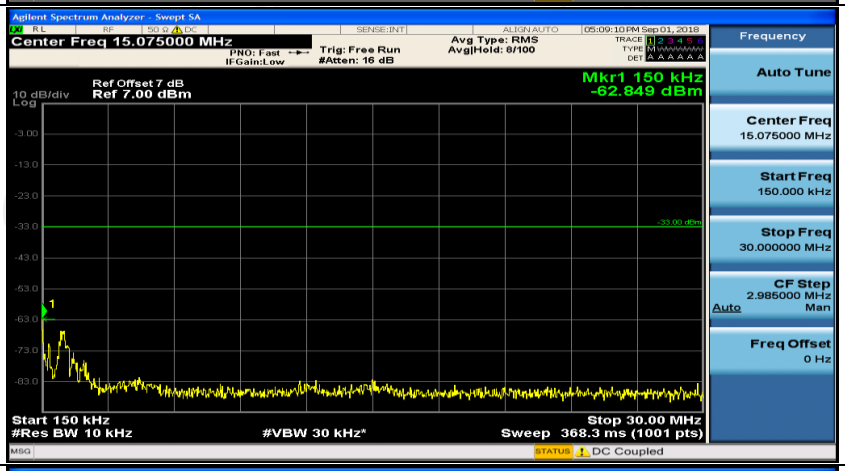
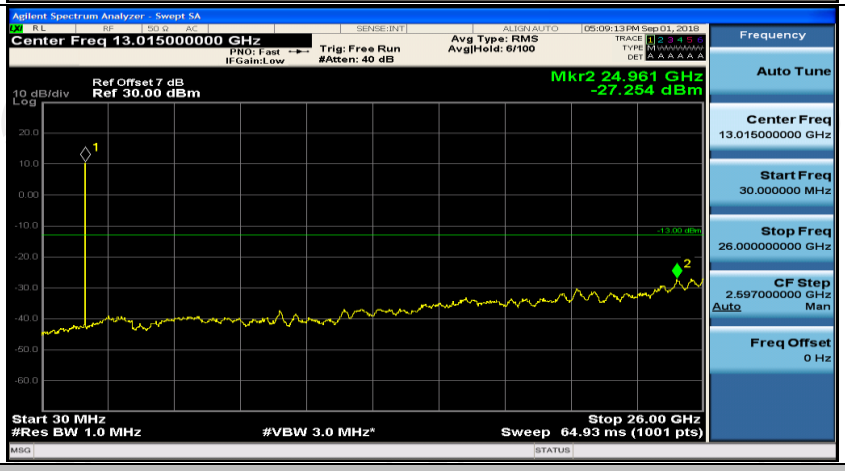


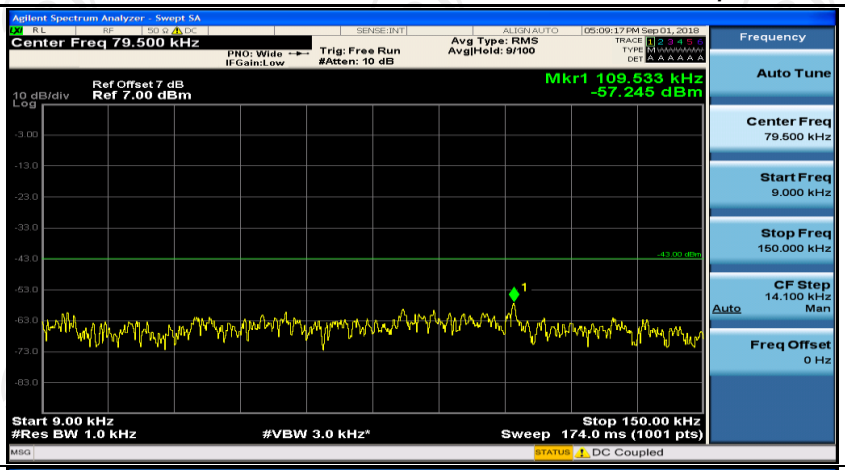
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#99

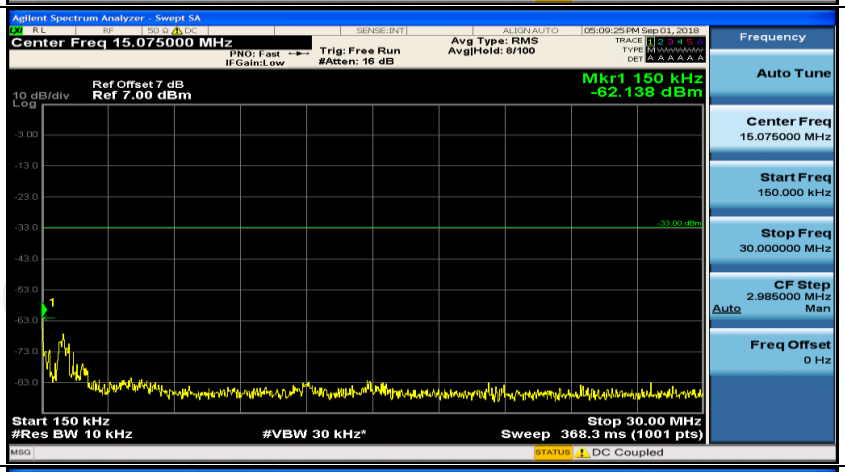

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
05:07:54 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 109.674 kHz
-58.439 dBm
-43.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz

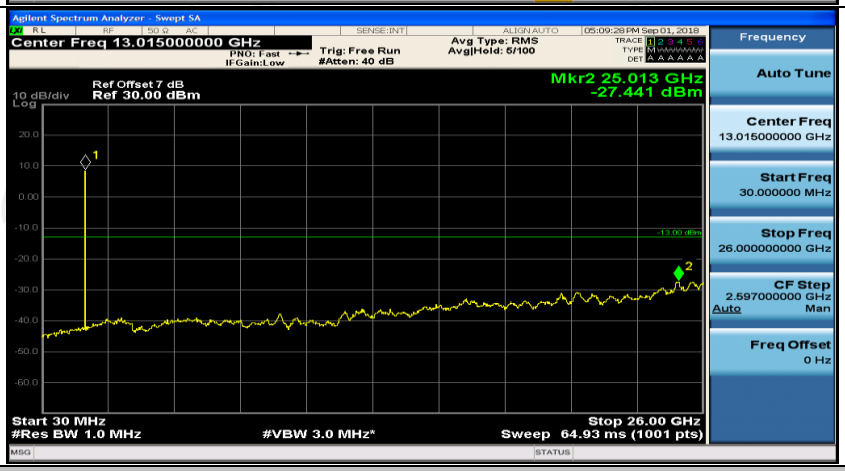

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 8/100
05:08:03 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-62.342 dBm
-33.00 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
05:08:06 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.559 GHz
-27.073 dBm
-13.00 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz

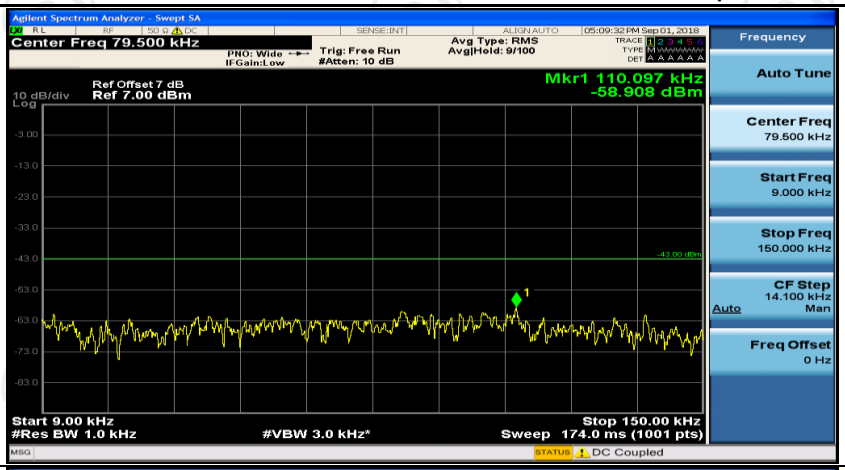
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0



(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

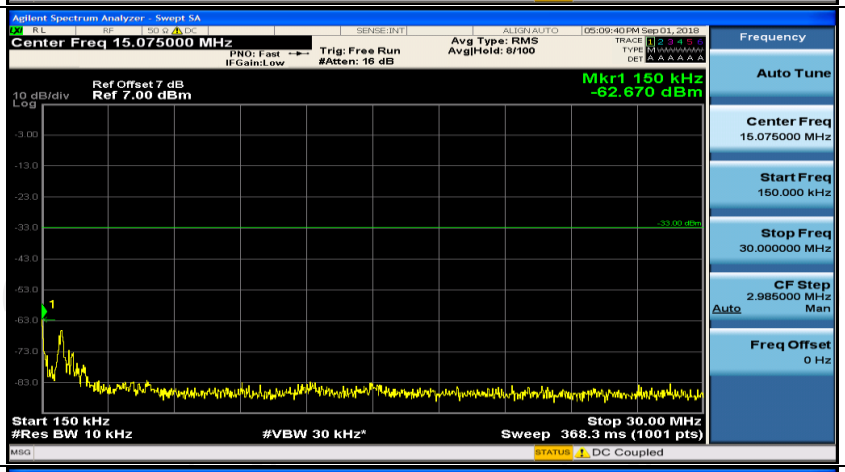


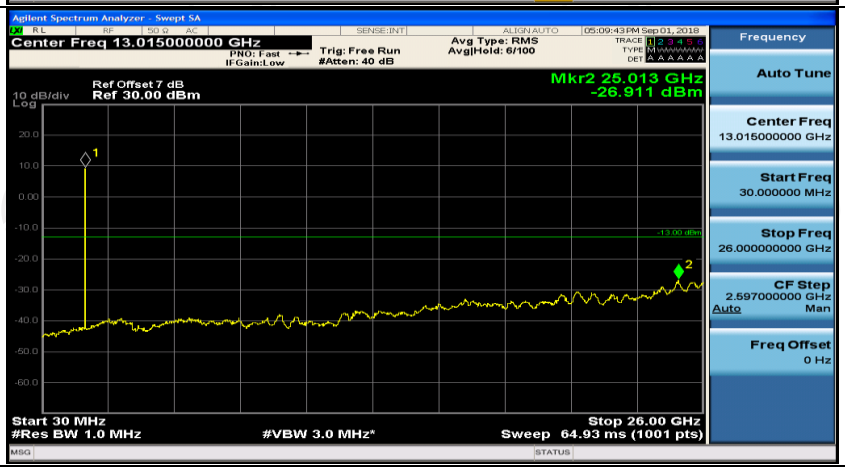


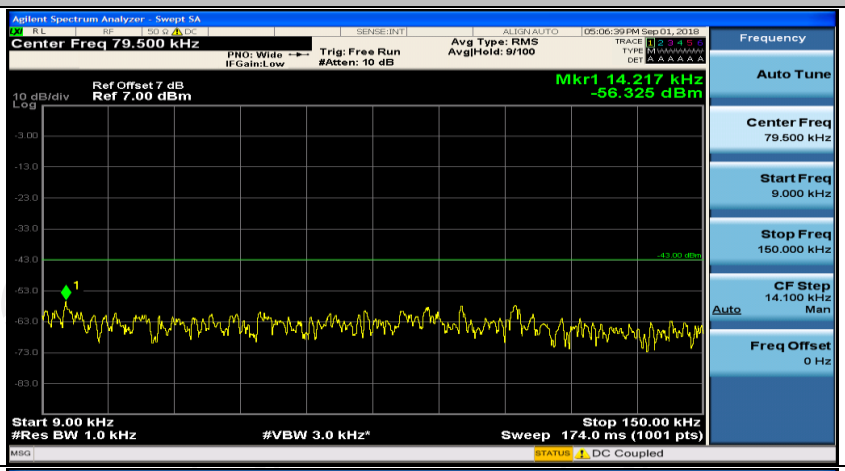
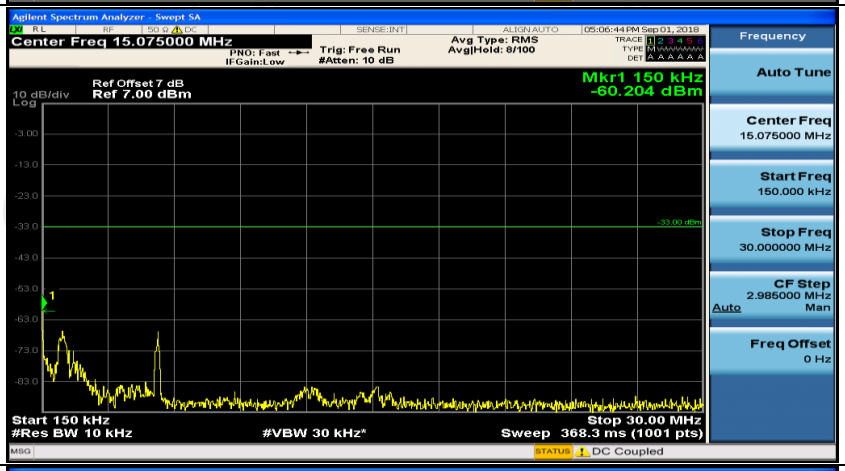
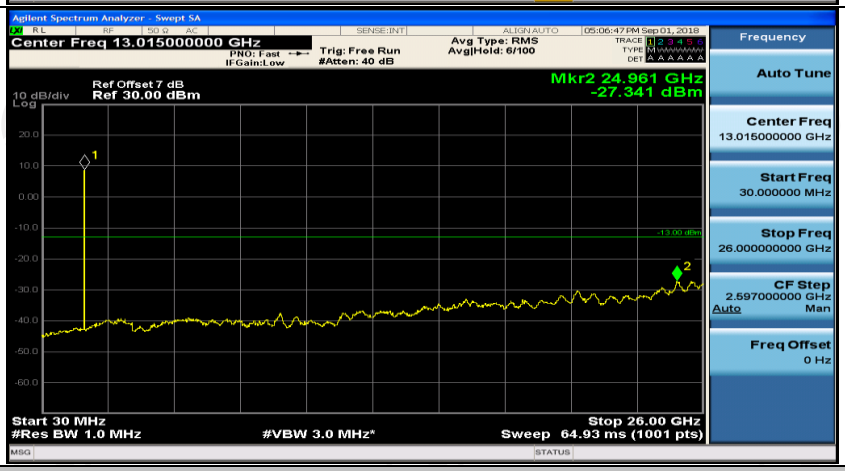


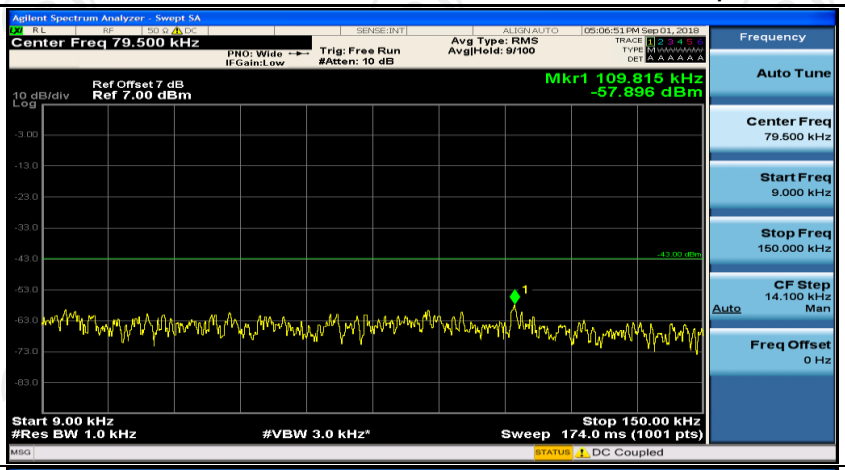
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#99

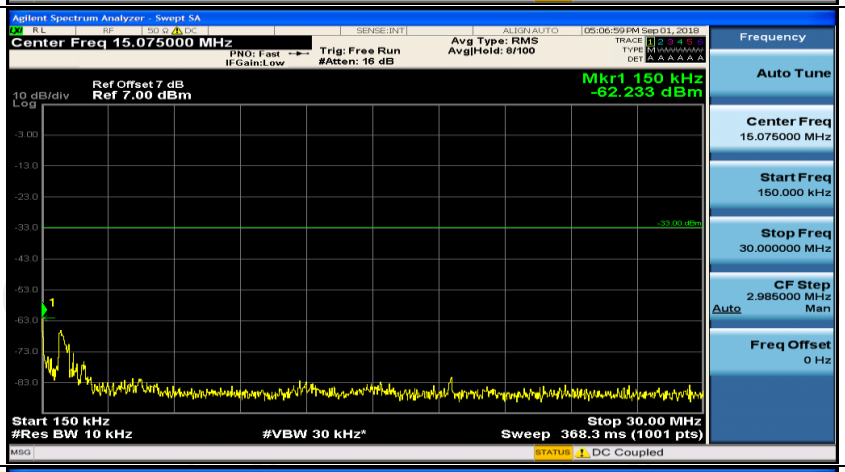

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
05:09:32 PM Sep 01, 2018
Frequency
Auto Tune
Mkr1 110.097 kHz
-58.908 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
-43.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled

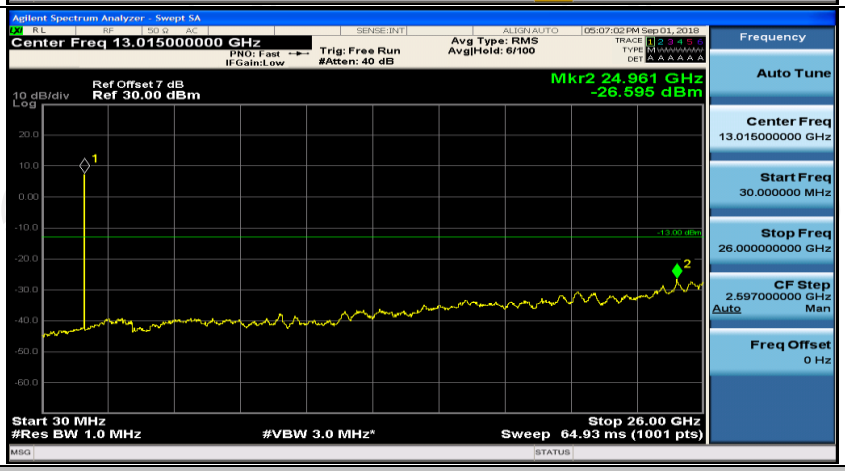

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 8/100
05:09:40 PM Sep 01, 2018
Frequency
Auto Tune
Mkr1 150 kHz
-62.670 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
-33.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
05:09:43 PM Sep 01, 2018
Frequency
Auto Tune
Mkr2 25.013 GHz
-26.911 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
-13.00 dBm
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)

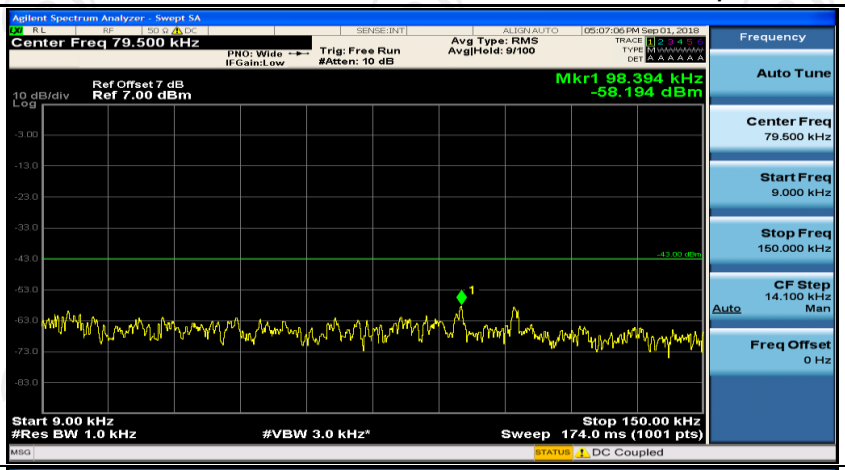
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0



(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

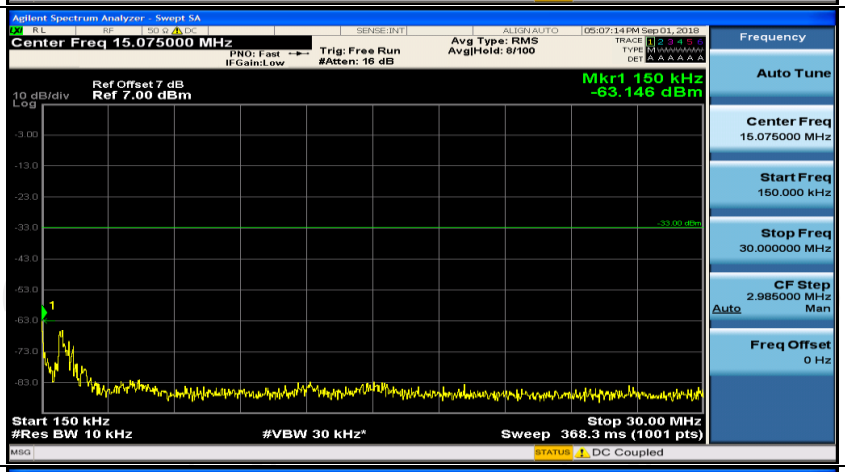


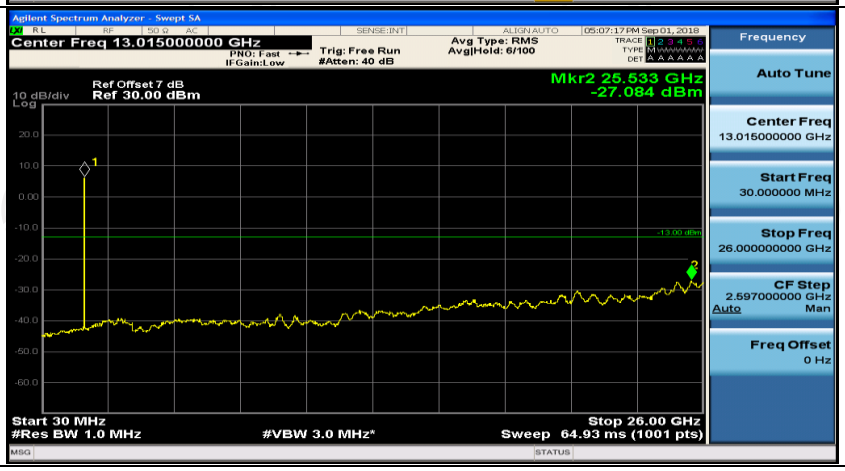


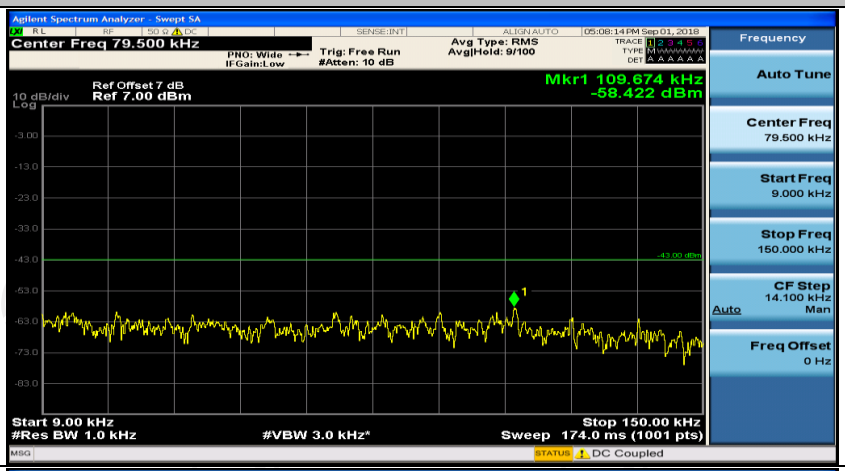
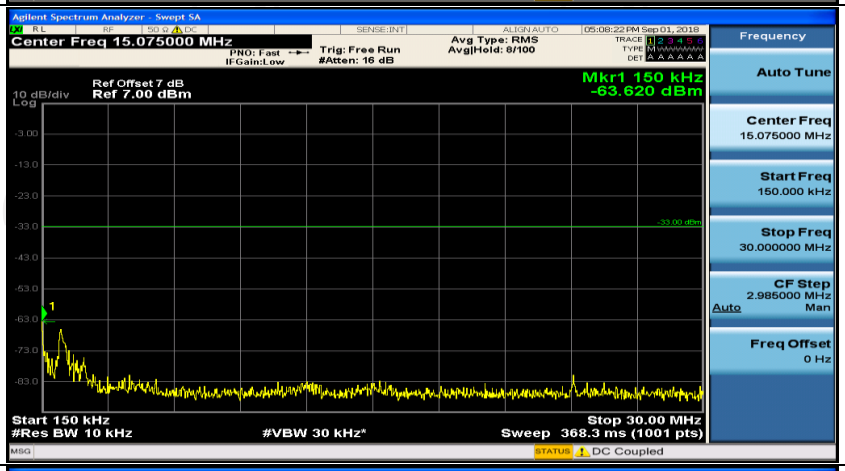
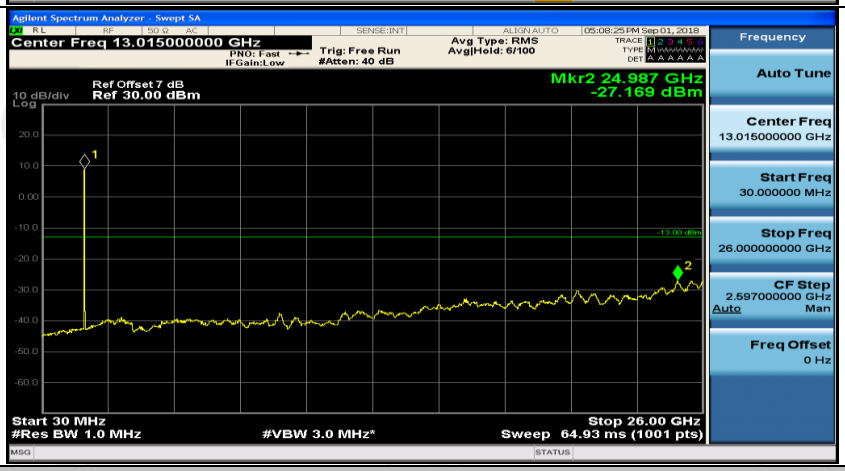


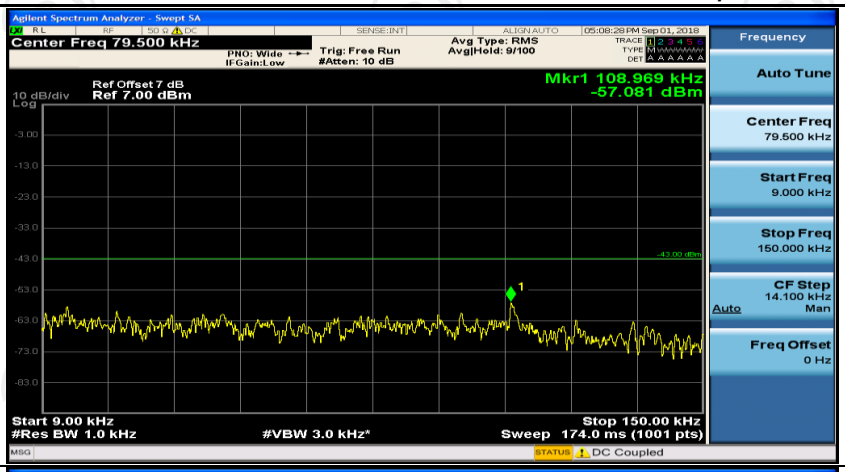
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#99

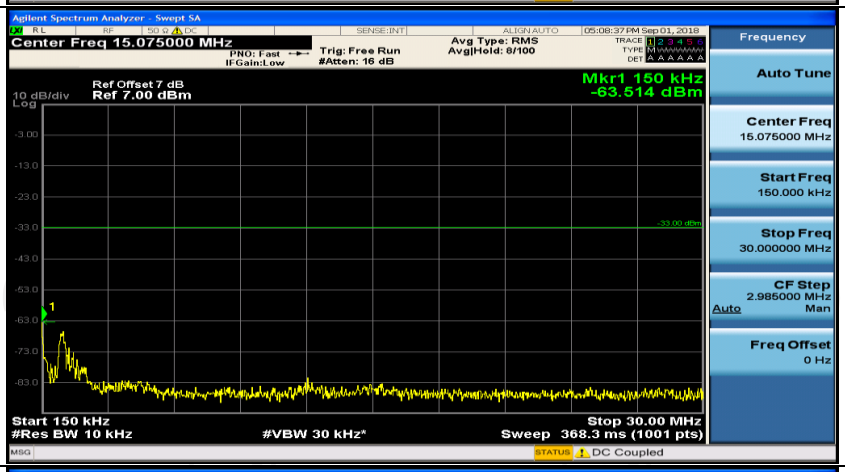

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
05:07:06 PM Sep 01, 2018
Mkr1 98.394 kHz
-58.194 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
-43.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz

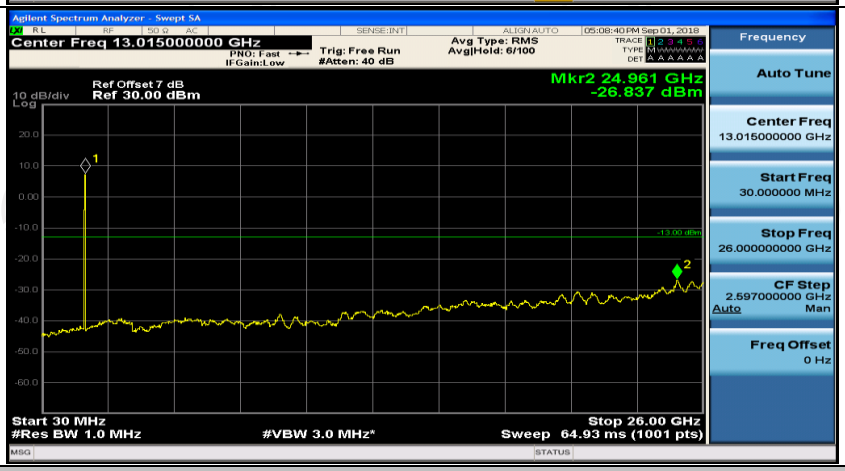

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 8/100
05:07:14 PM Sep 01, 2018
Mkr1 150 kHz
-63.146 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
-33.00 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
05:07:17 PM Sep 01, 2018
Mkr2 25.533 GHz
-27.084 dBm
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
-13.00 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz

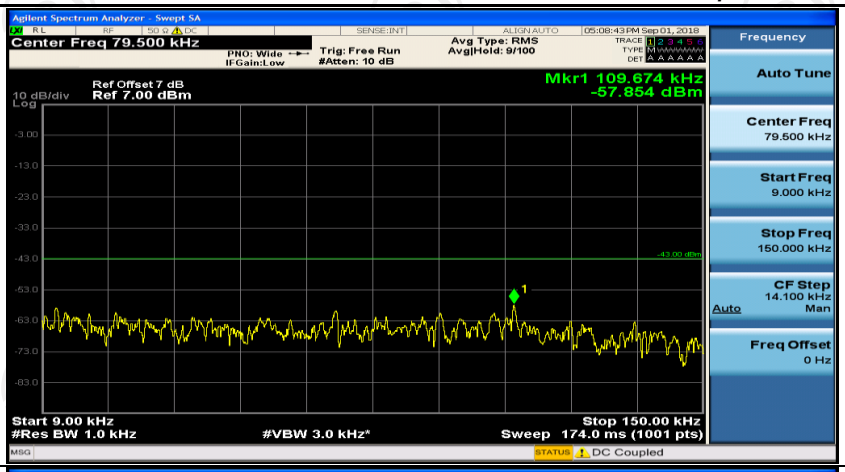
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0



(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49

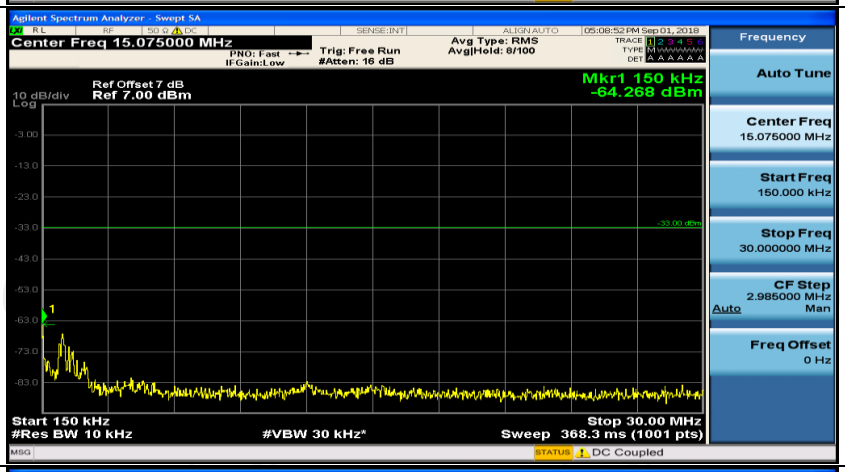


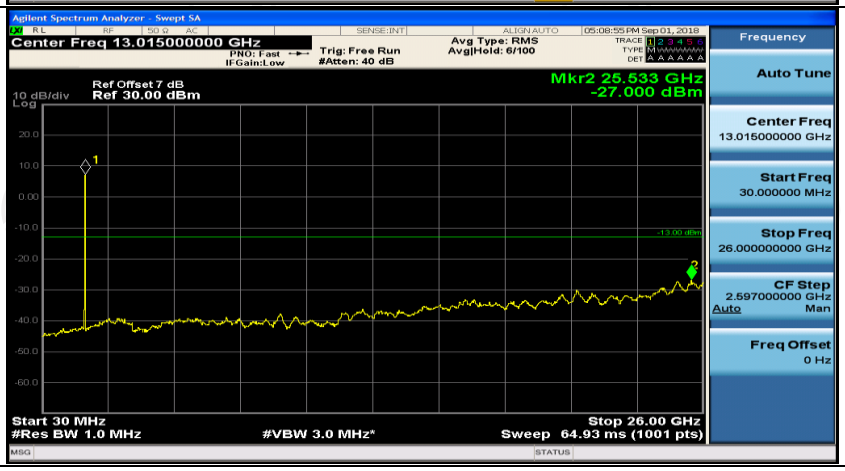


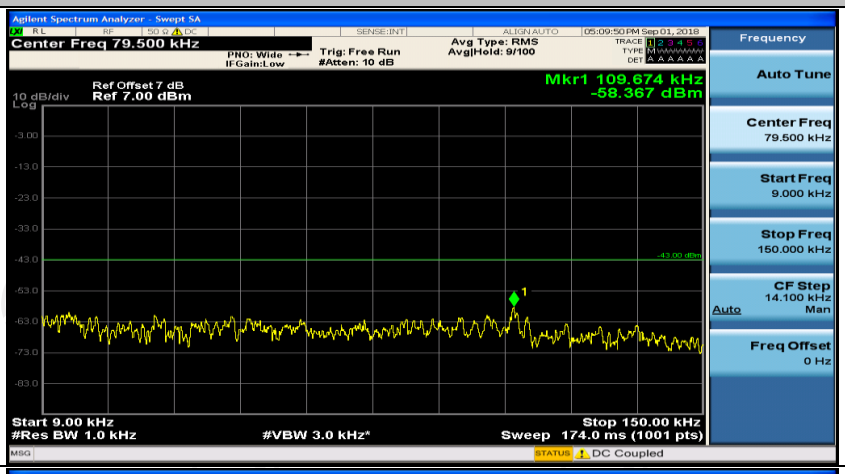
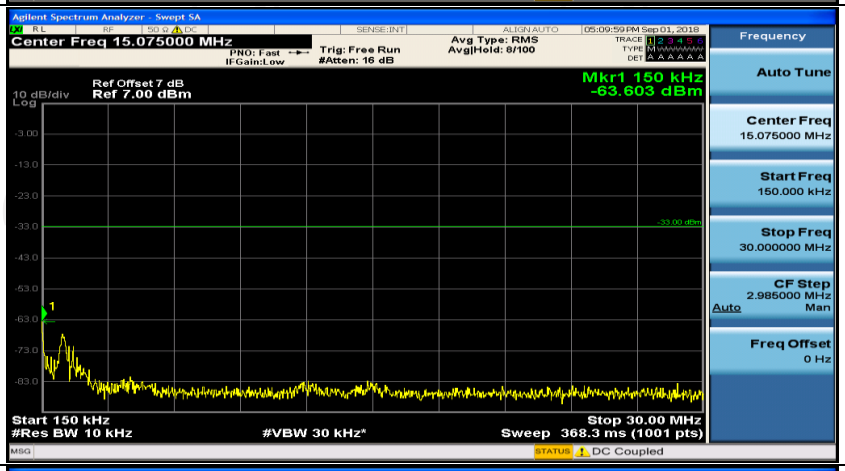
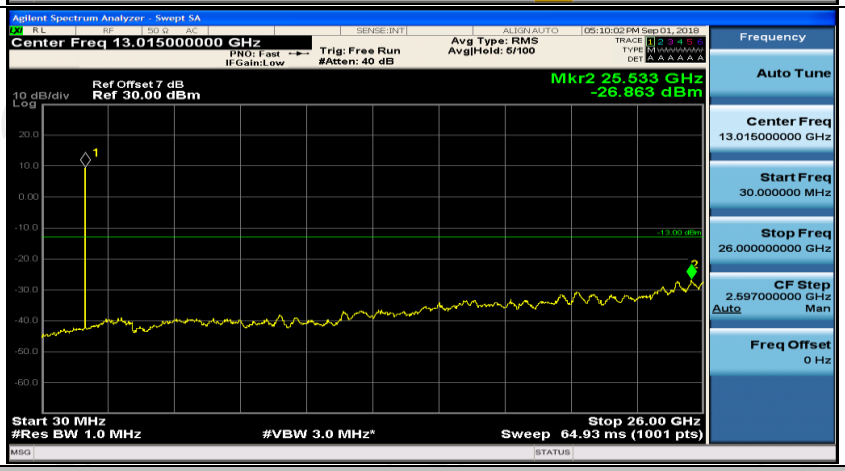


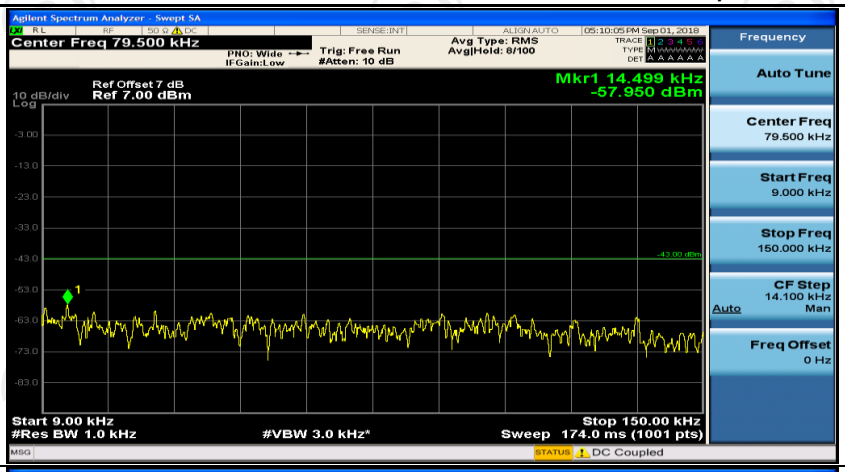
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#99

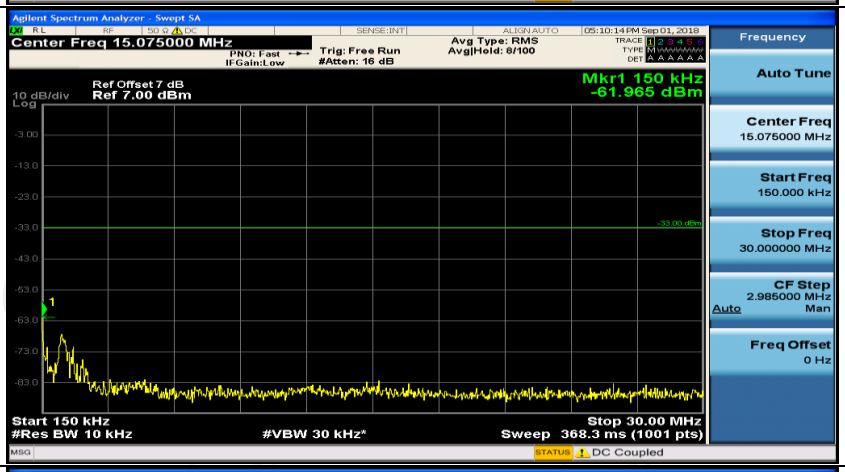

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
05:08:43 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 109.674 kHz
-57.854 dBm
-43.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz

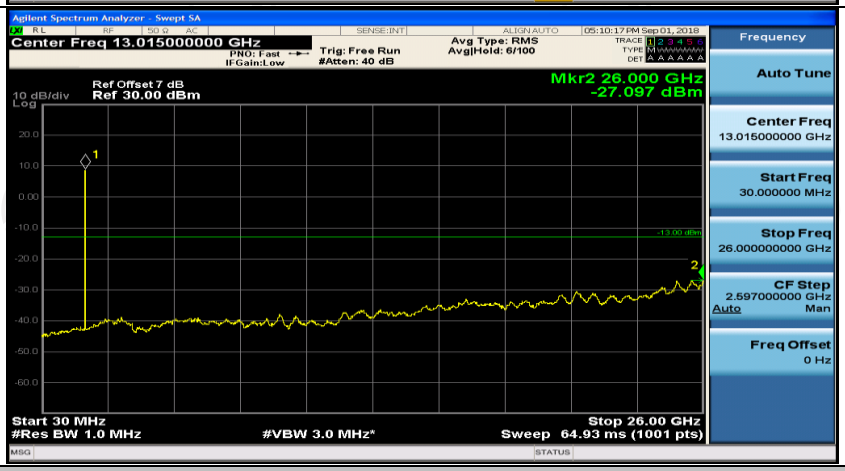

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 8/100
05:08:52 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-64.268 dBm
-33.00 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
05:08:55 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.533 GHz
-27.000 dBm
-13.00 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz

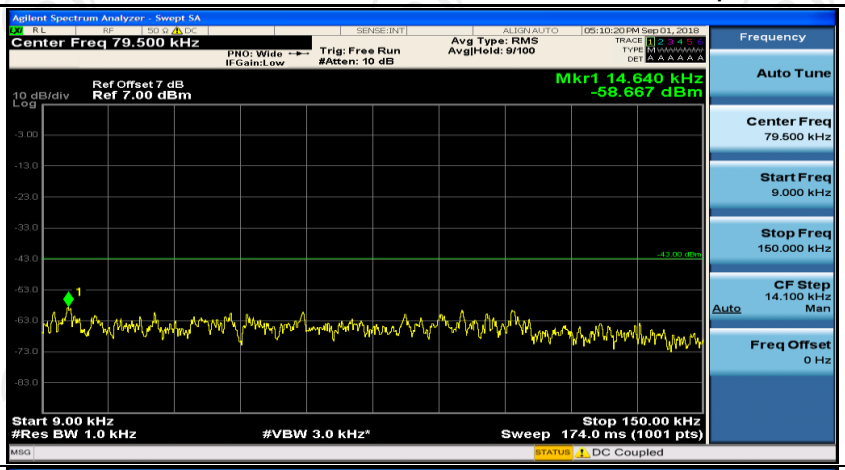
(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#49

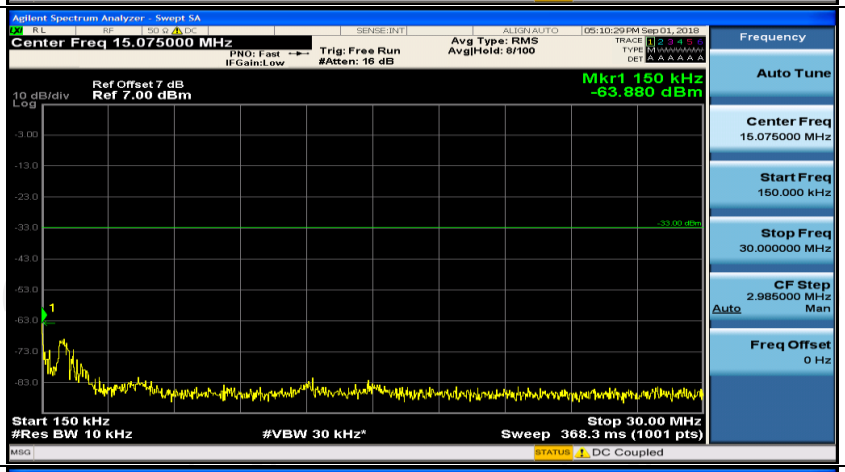


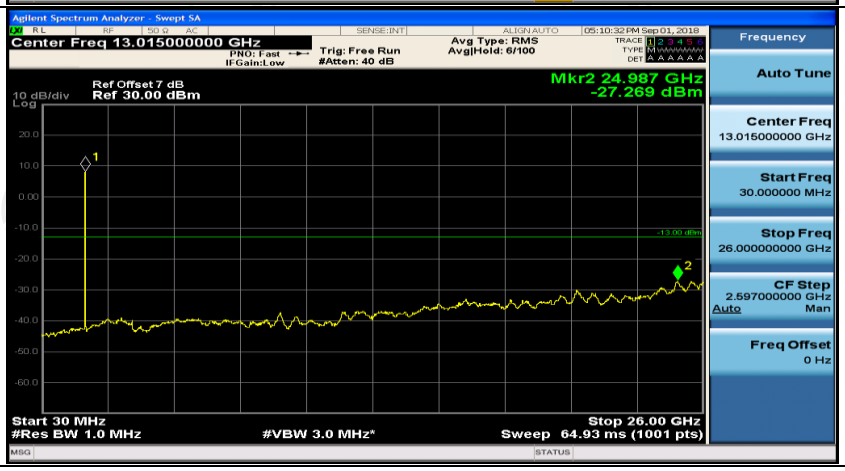




(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#99


Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
05:10:20 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 14.640 kHz
-58.667 dBm
-43.00 dBm
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 8/100
05:10:29 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 7.00 dBm
Mkr1 150 kHz
-63.880 dBm
-33.00 dBm
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.3 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 6/100
05:10:32 PM Sep 01, 2018
Ref Offset 7 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 24.987 GHz
-27.269 dBm
-13.00 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.93 ms (1001 pts)
Frequency
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz

Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz						
Voltage						
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	10.5	25	0.001831	± 2.5	PASS
		24	25	0.001450	± 2.5	PASS
		32	25	0.001073	± 2.5	PASS
	MCH	10.5	25	0.001610	± 2.5	PASS
		24	25	0.001250	± 2.5	PASS
		32	25	0.001284	± 2.5	PASS
	HCH	10.5	25	-0.000432	± 2.5	PASS
		24	25	-0.001354	± 2.5	PASS
		32	25	-0.001071	± 2.5	PASS
16QAM	LCH	10.5	25	0.000351	± 2.5	PASS
		24	25	0.000286	± 2.5	PASS
		32	25	0.001052	± 2.5	PASS
	MCH	10.5	25	0.000008	± 2.5	PASS
		24	25	0.000064	± 2.5	PASS
		32	25	0.000050	± 2.5	PASS
	HCH	10.5	25	-0.001769	± 2.5	PASS
		24	25	-0.000725	± 2.5	PASS
		32	25	-0.000947	± 2.5	PASS
Temperature						
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	24	-30	0.001350	± 2.5	PASS
		24	-20	0.002034	± 2.5	PASS
		24	-10	0.001652	± 2.5	PASS
		24	0	0.002135	± 2.5	PASS
		24	10	0.001193	± 2.5	PASS
		24	20	0.002743	± 2.5	PASS
		24	30	0.003069	± 2.5	PASS
		24	40	0.002458	± 2.5	PASS
		24	50	0.002601	± 2.5	PASS
	MCH	24	-30	0.001040	± 2.5	PASS
		24	-20	0.001235	± 2.5	PASS
		24	-10	0.001119	± 2.5	PASS
		24	0	0.000844	± 2.5	PASS
		24	10	0.000425	± 2.5	PASS
		24	20	0.000974	± 2.5	PASS
		24	30	0.001561	± 2.5	PASS

		24	40	0.001189	± 2.5	PASS
		24	50	0.002039	± 2.5	PASS
	HCH	24	-30	-0.000351	± 2.5	PASS
		24	-20	-0.000543	± 2.5	PASS
		24	-10	-0.000748	± 2.5	PASS
		24	0	-0.000974	± 2.5	PASS
		24	10	-0.000739	± 2.5	PASS
		24	20	-0.000326	± 2.5	PASS
		24	30	-0.000750	± 2.5	PASS
		24	40	-0.001036	± 2.5	PASS
		24	50	-0.000514	± 2.5	PASS
16QAM	LCH	24	-30	0.000512	± 2.5	PASS
		24	-20	0.000421	± 2.5	PASS
		24	-10	0.000702	± 2.5	PASS
		24	0	0.000150	± 2.5	PASS
		24	10	0.000325	± 2.5	PASS
		24	20	0.000928	± 2.5	PASS
		24	30	0.000544	± 2.5	PASS
		24	40	0.000711	± 2.5	PASS
		24	50	0.000911	± 2.5	PASS
	MCH	24	-30	0.000640	± 2.5	PASS
		24	-20	0.000528	± 2.5	PASS
		24	-10	0.000293	± 2.5	PASS
		24	0	0.000078	± 2.5	PASS
		24	10	0.000572	± 2.5	PASS
		24	20	0.000256	± 2.5	PASS
		24	30	0.000264	± 2.5	PASS
		24	40	-0.000281	± 2.5	PASS
		24	50	0.000347	± 2.5	PASS
	HCH	24	-30	-0.000457	± 2.5	PASS
		24	-20	-0.000824	± 2.5	PASS
		24	-10	-0.000408	± 2.5	PASS
		24	0	-0.000930	± 2.5	PASS
		24	10	-0.000265	± 2.5	PASS
		24	20	-0.002275	± 2.5	PASS
		24	30	-0.001900	± 2.5	PASS
		24	40	-0.001794	± 2.5	PASS
		24	50	-0.001345	± 2.5	PASS

Note: All bandwidth and modulation are tested, only the worst result is reported.

Appendix G :Field Strength of Spurious Radiation Measurement

Test Result

Bandwidth:	1.4M		Test channel:	Lowest
Modulation:	QPSK		Temperature :	23~24°C
RB #:	1RB #0		Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.			
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3421.4	Vertical	-37.73	-13.00	PASS
5132.1	V	-49.56		
-	V	-		
3421.4	Horizontal	-35.90		
5132.1	H	-46.14		
-	H	-		
Bandwidth:	1.4M		Test channel:	Middle
Modulation:	QPSK		Temperature :	23~24°C
RB #:	1RB #0		Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.			
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3465	Vertical	-36.64	-13.00	PASS
5197.5	V	-48.26		
-	V	-		
3465	Horizontal	-35.22		
5197.5	H	-46.84		
-	H	-		
Bandwidth:	1.4M		Test channel:	Highest
Modulation:	QPSK		Temperature :	23~24°C
RB #:	1RB #0		Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.			
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3508.6	Vertical	-35.64	-13.00	PASS
5262.9	V	-47.86		
-	V	-		
3508.6	Horizontal	-34.38		
5262.9	H	-45.64		
-	H	-		

Bandwidth:	1.4M		Test channel:	Lowest
Modulation:	16QAM		Temperature :	23~24°C
RB #:	1RB #0		Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.			
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3421.4	Vertical	-37.22	-13.00	PASS
5132.1	V	-48.75		
-	V	-		
3421.4	Horizontal	-38.23		
5132.1	H	-49.61		
-	H	-		
Bandwidth:	1.4M		Test channel:	Middle
Modulation:	16QAM		Temperature :	23~24°C
RB #:	1RB #0		Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.			
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3465	Vertical	-37.14	-13.00	PASS
5197.5	V	-48.34		
-	V	-		
3465	Horizontal	-36.86		
5197.5	H	-47.40		
-	H	-		
Bandwidth:	1.4M		Test channel:	Highest
Modulation:	16QAM		Temperature :	23~24°C
RB #:	1RB #0		Relative Humidity:	46~48%
Note:	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.			
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3508.6	Vertical	-38.61	-13.00	PASS
5262.9	V	-47.36		
-	V	-		
3508.6	Horizontal	-36.65		
5262.9	H	-48.87		
-	H	-		

Note: All bandwidth and modulation are tested, only the worst result is reported.