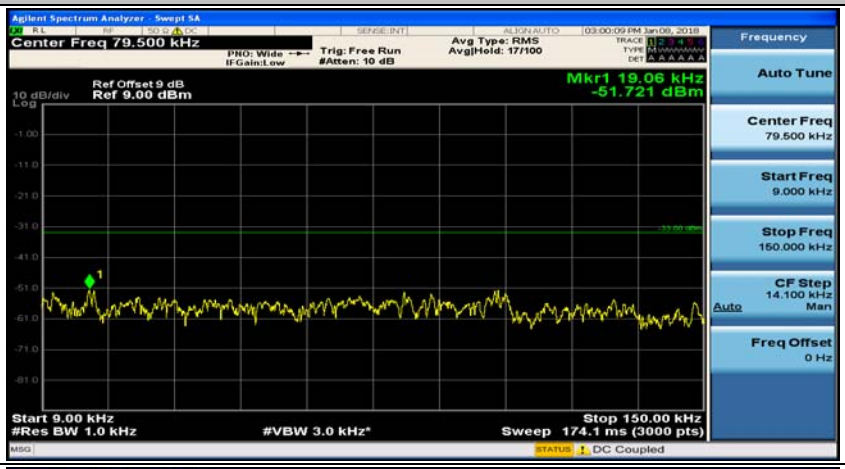
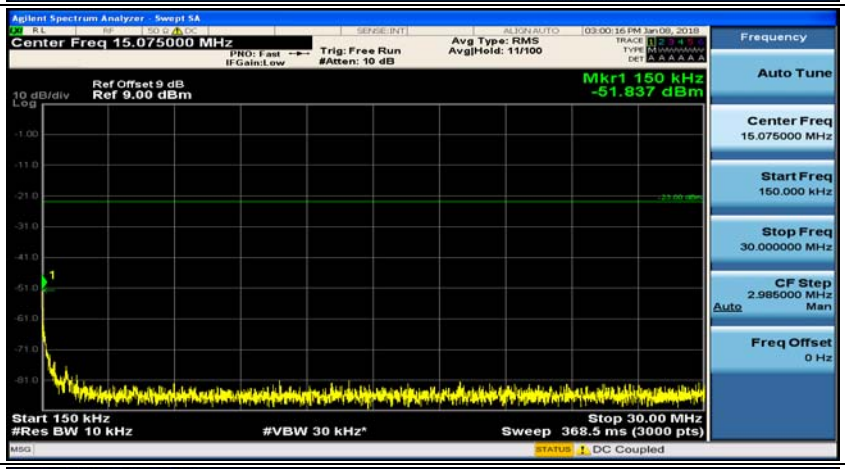
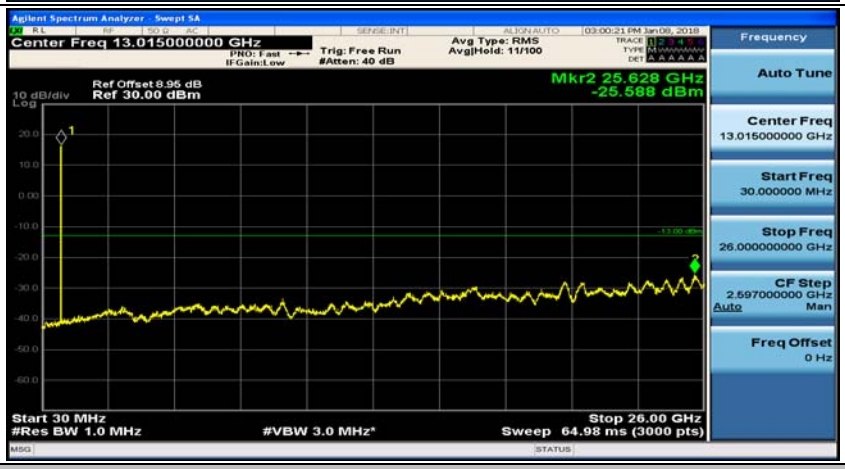
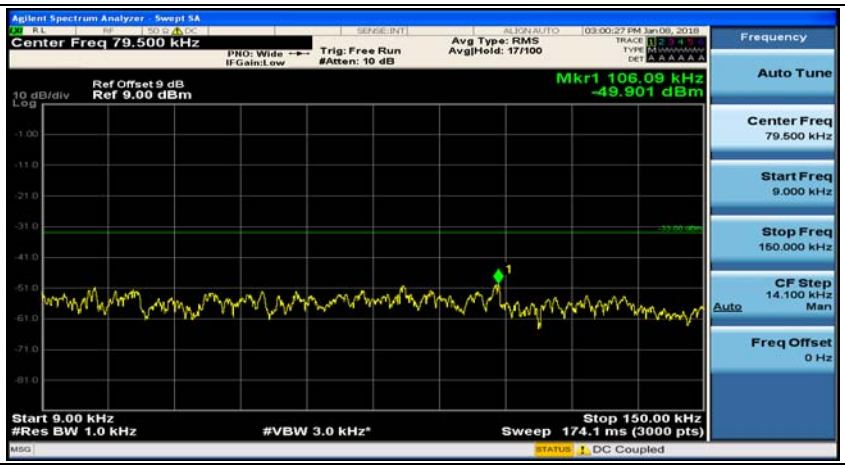
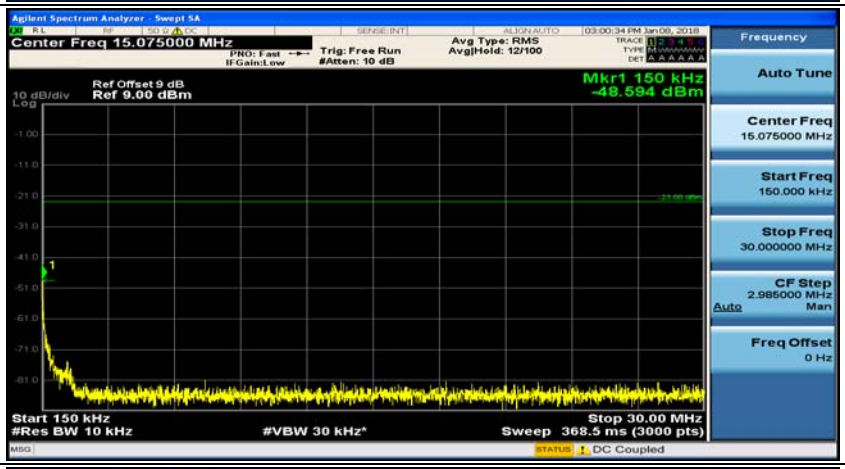
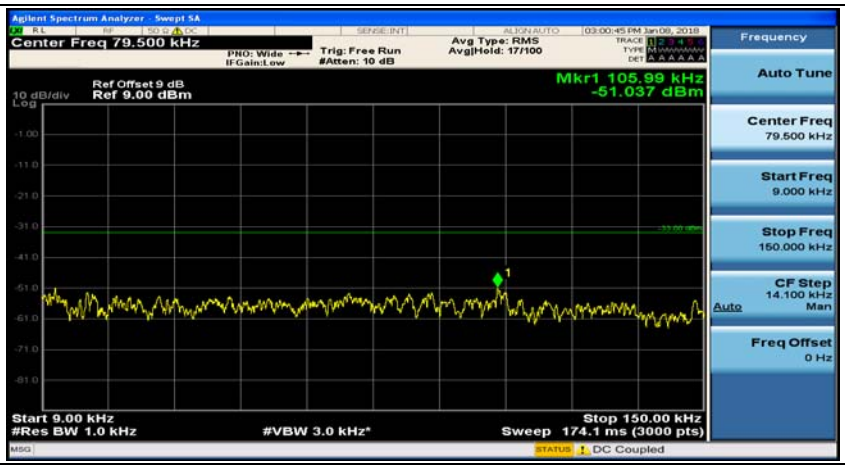
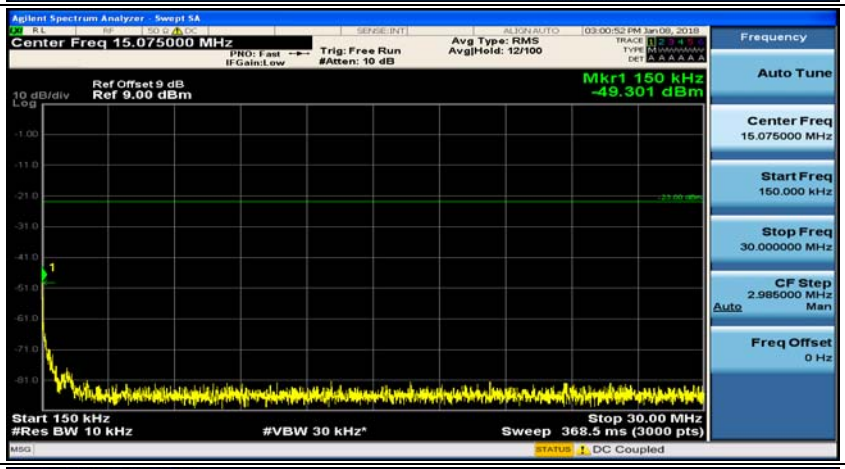
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

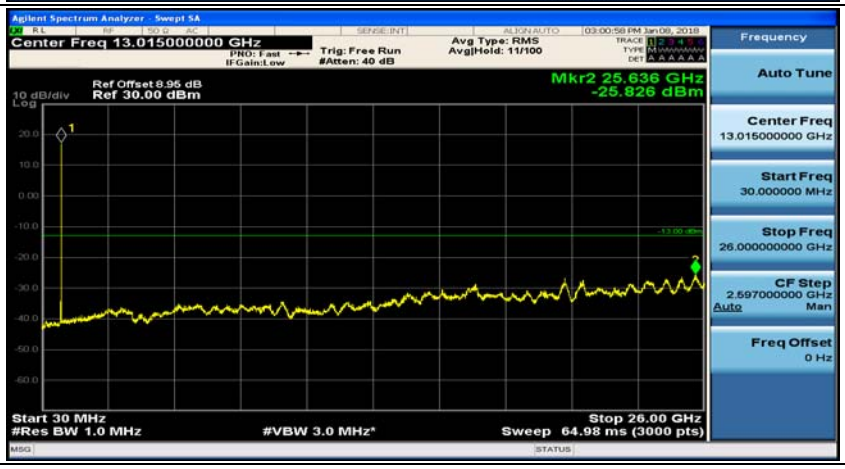




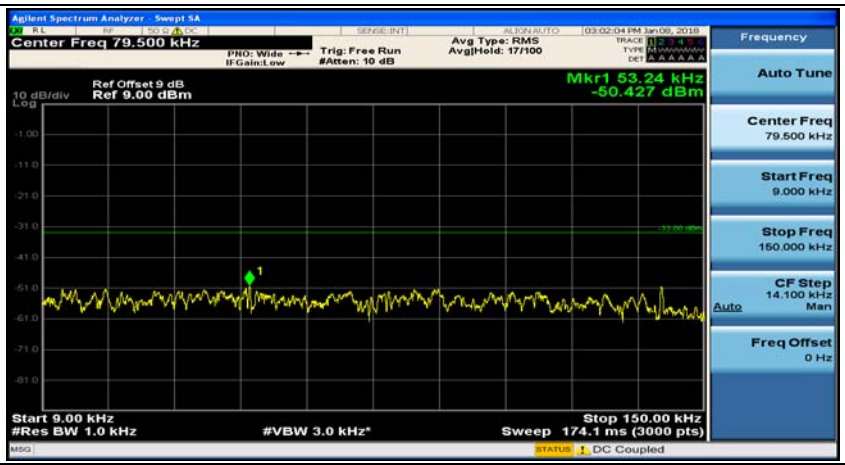
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24

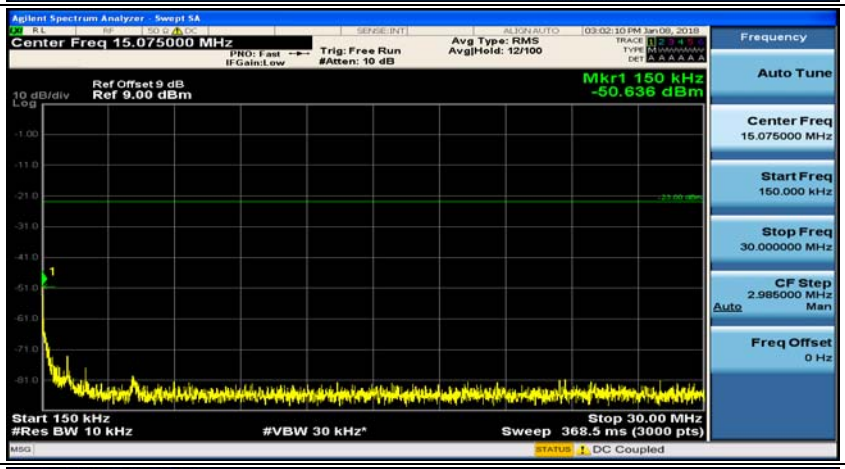


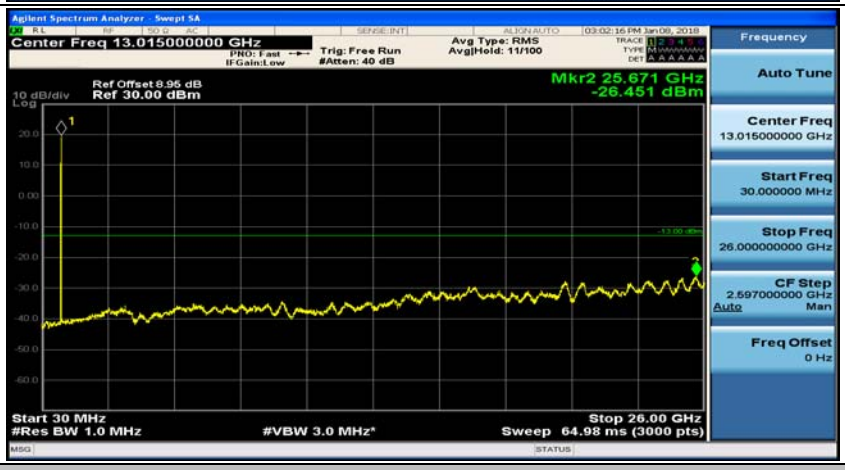




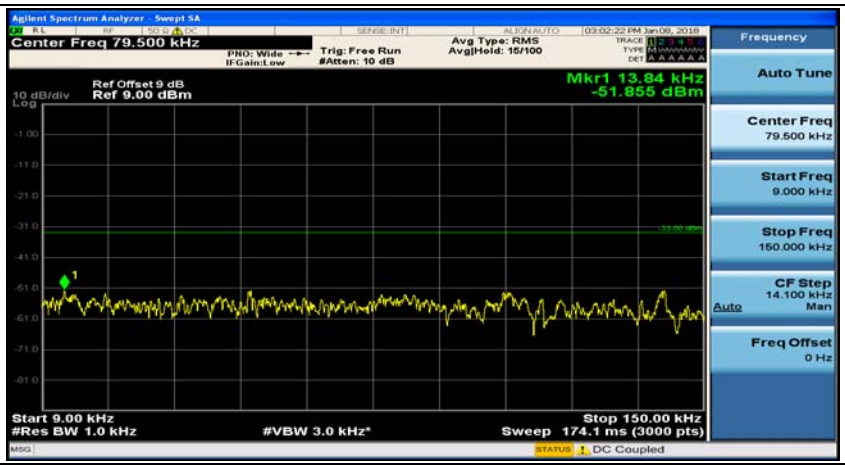
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0

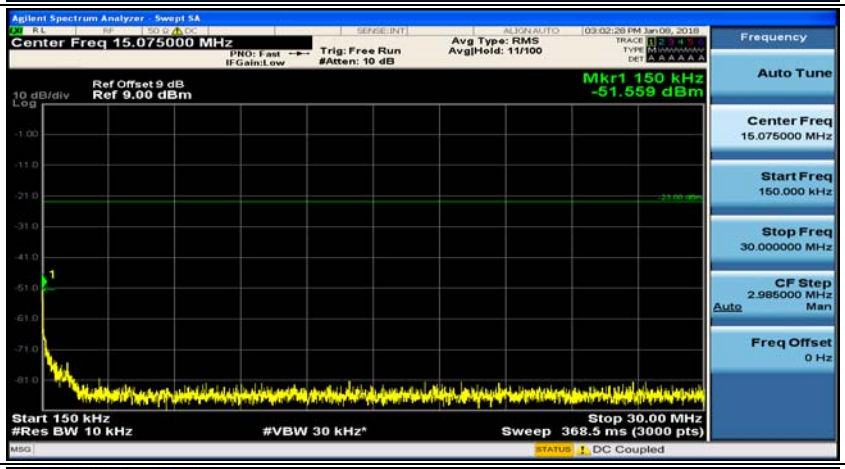


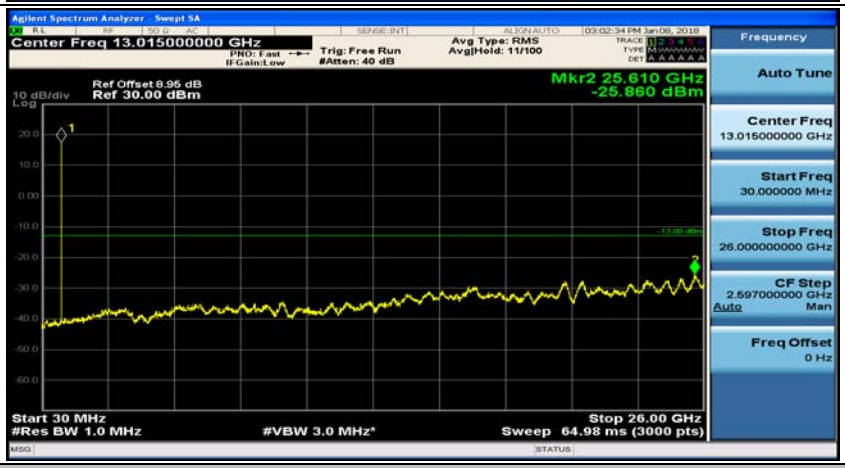




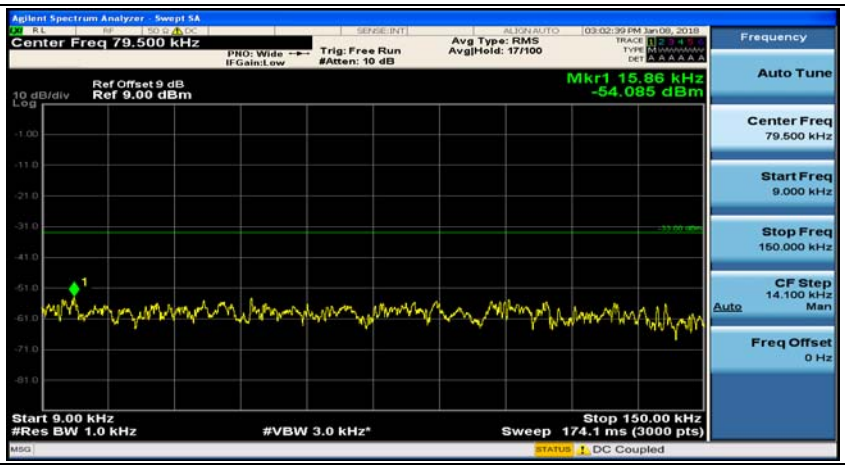
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12

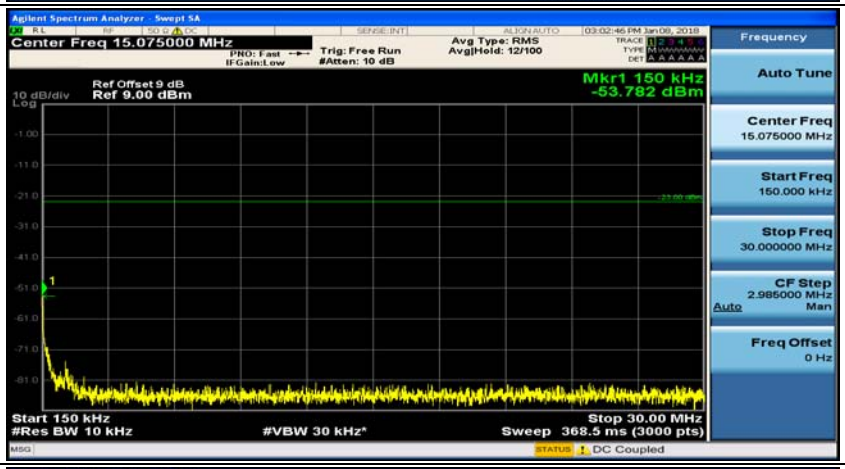


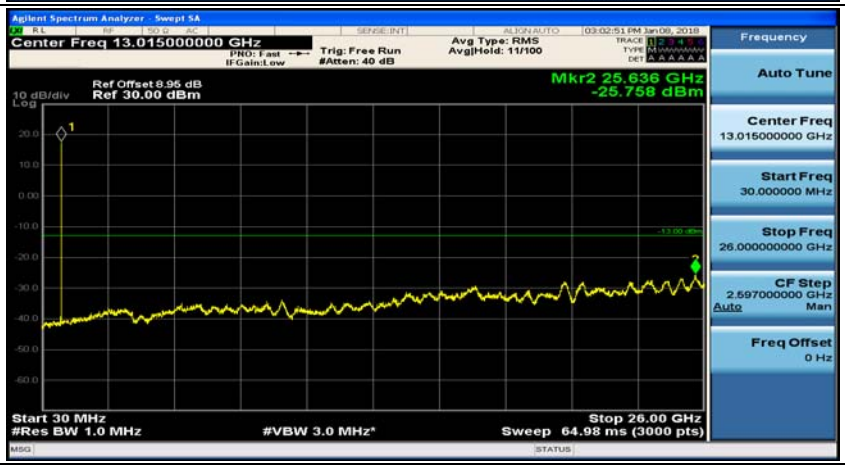


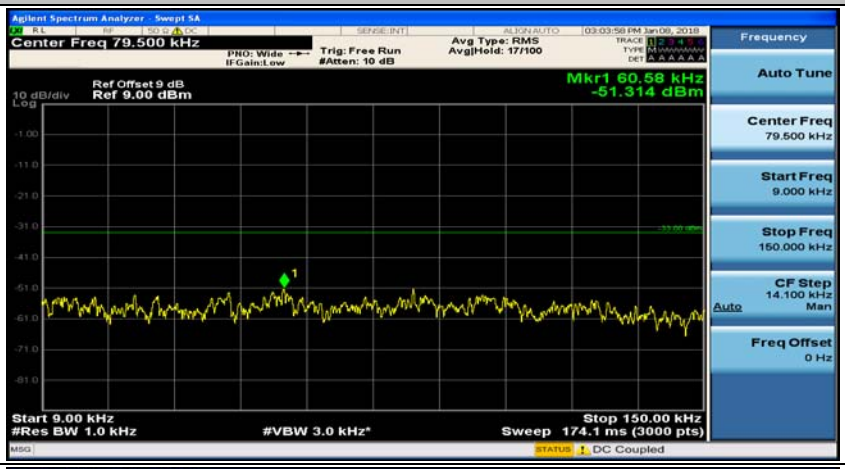
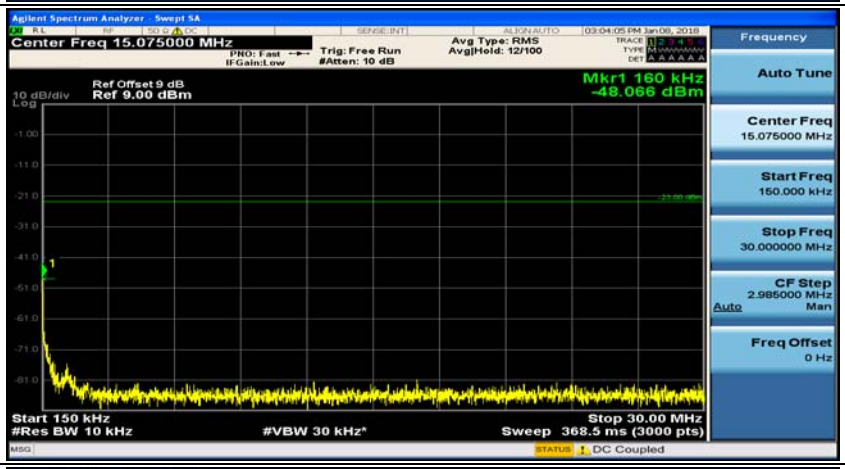
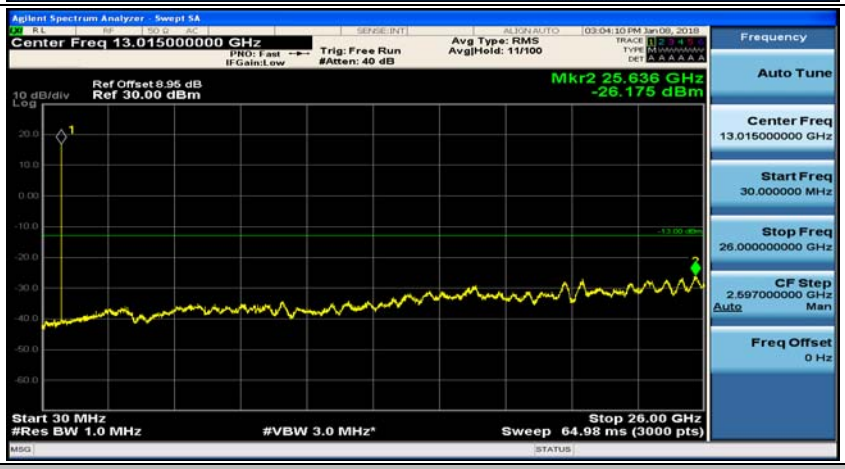


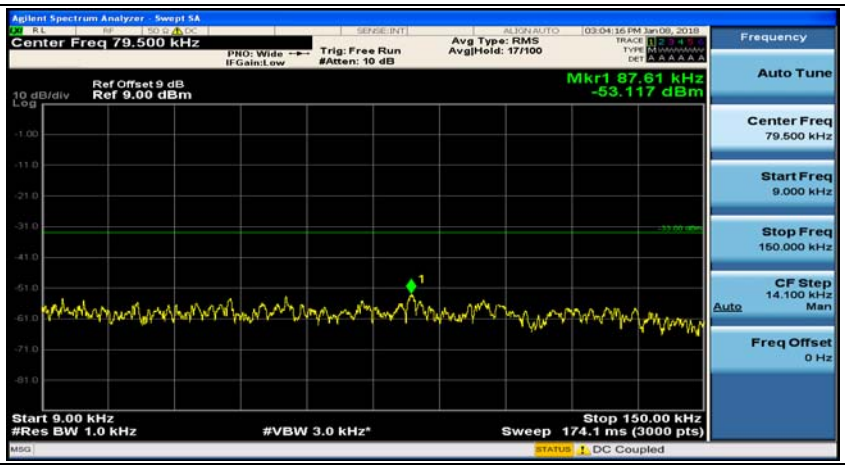
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24

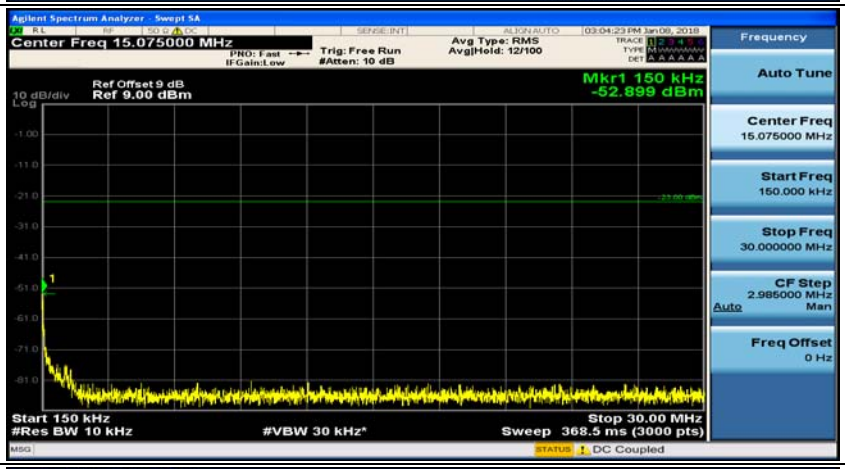

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
03:02:39 PM Jan 09, 2018
Frequency
Auto Tune
Mkr1 15.86 kHz
-54.085 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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

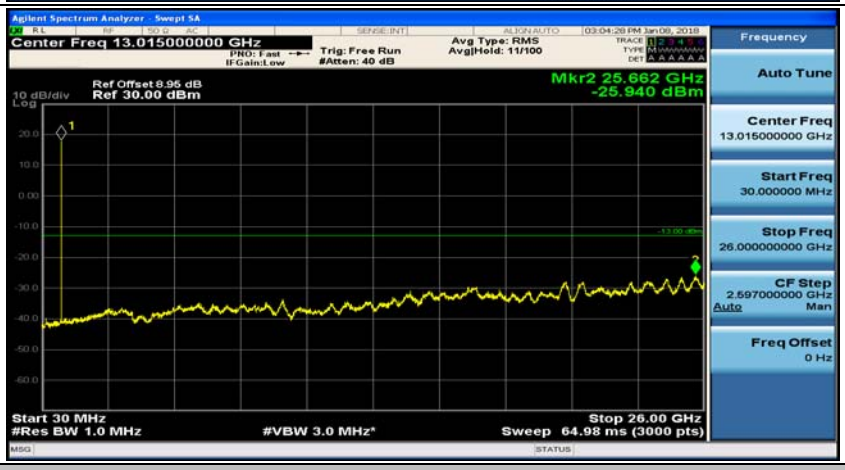

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
03:02:46 PM Jan 09, 2018
Frequency
Auto Tune
Mkr1 150 kHz
-53.782 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Center Freq
15.075000 MHz
Start Freq
150.000 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
03:02:51 PM Jan 09, 2018
Frequency
Auto Tune
Mkr2 25.636 GHz
-25.758 dBm
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.98 ms (3000 pts)

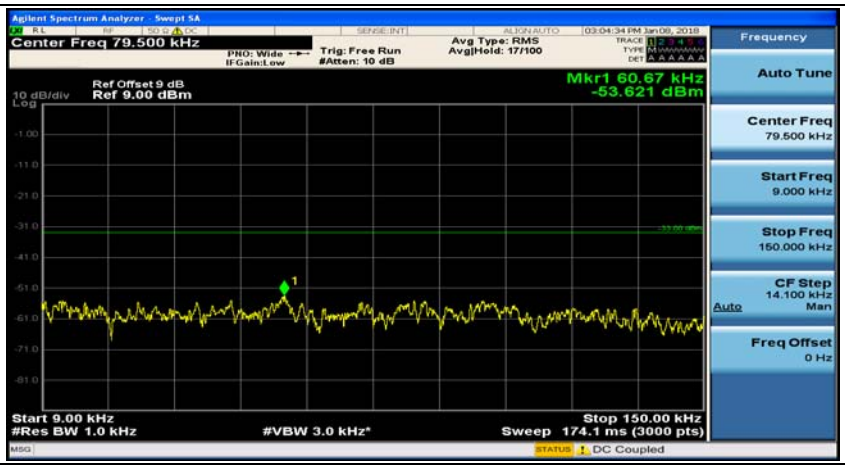
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12

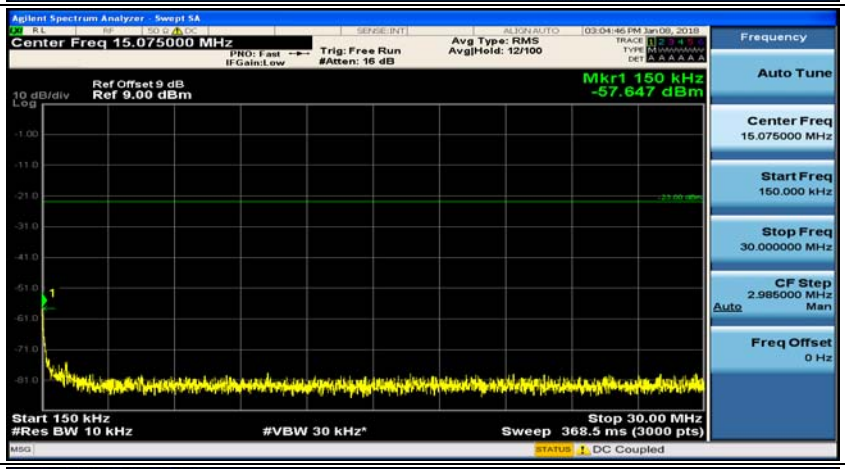


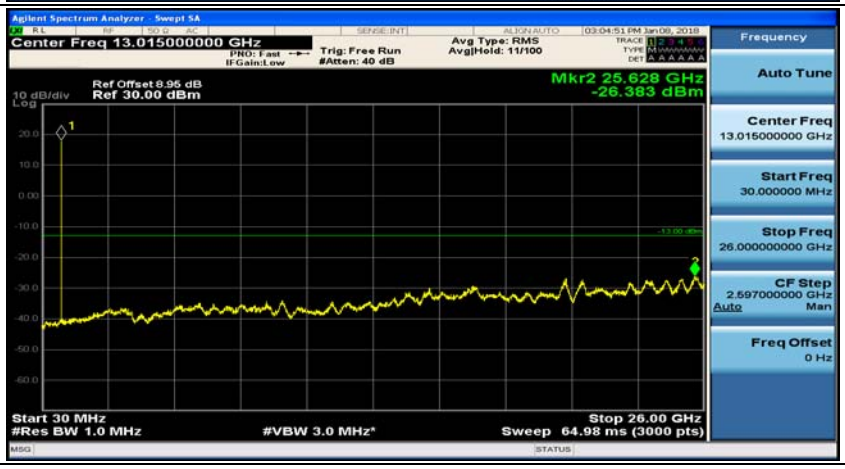




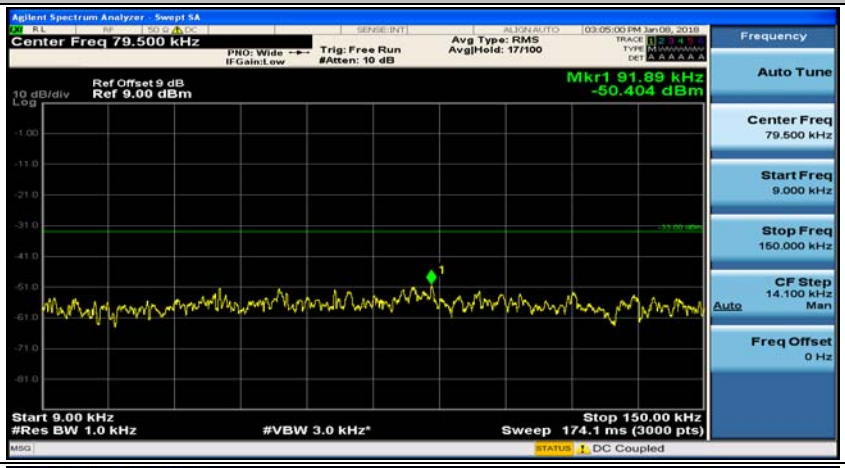
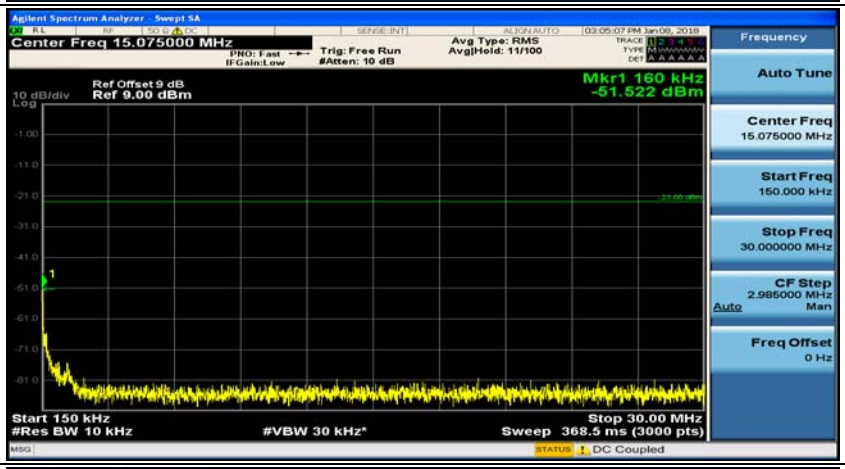
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24


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
03:04:34 PM Jan 09, 2018
Frequency
Mkr1 60.67 kHz
-53.621 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

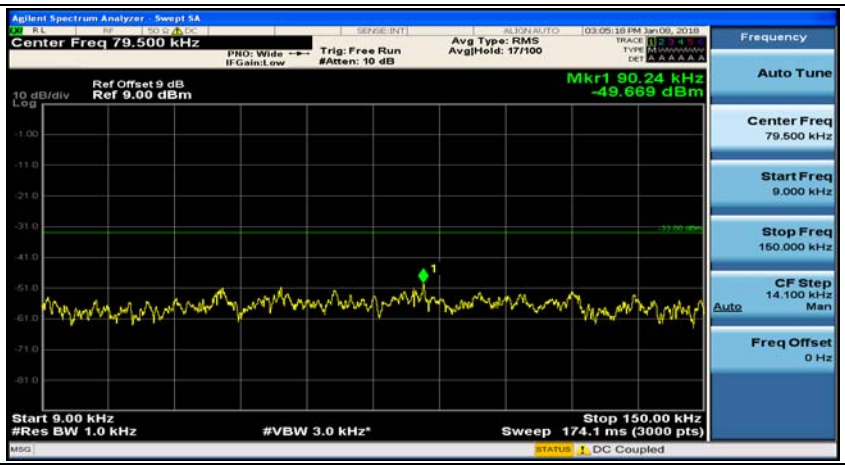

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 12/100
03:04:46 PM Jan 09, 2018
Frequency
Mkr1 150 kHz
-57.647 dBm
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 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

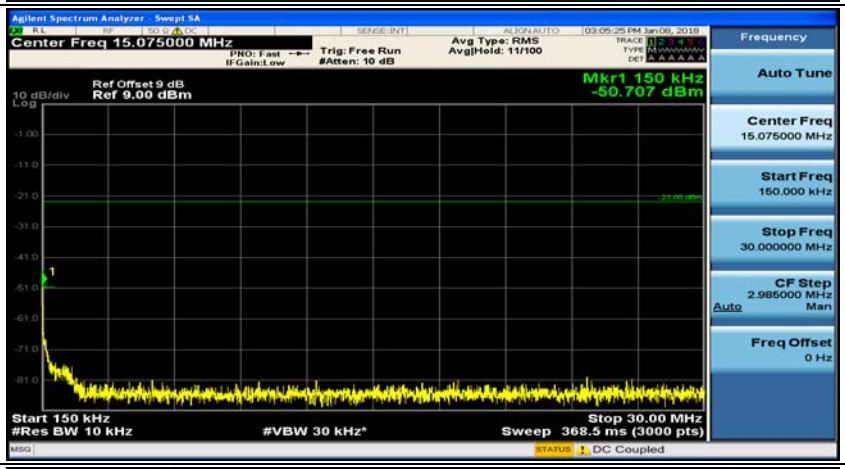

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
03:04:51 PM Jan 09, 2018
Frequency
Mkr2 25.628 GHz
-26.383 dBm
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.98 ms (3000 pts)

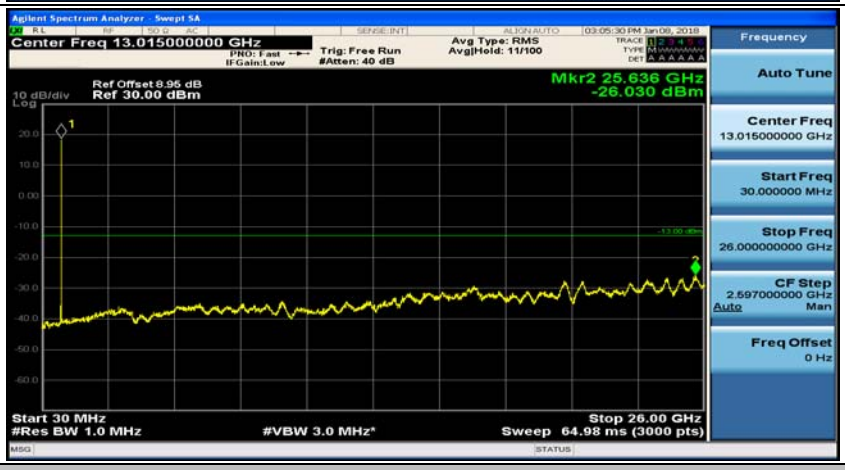
Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



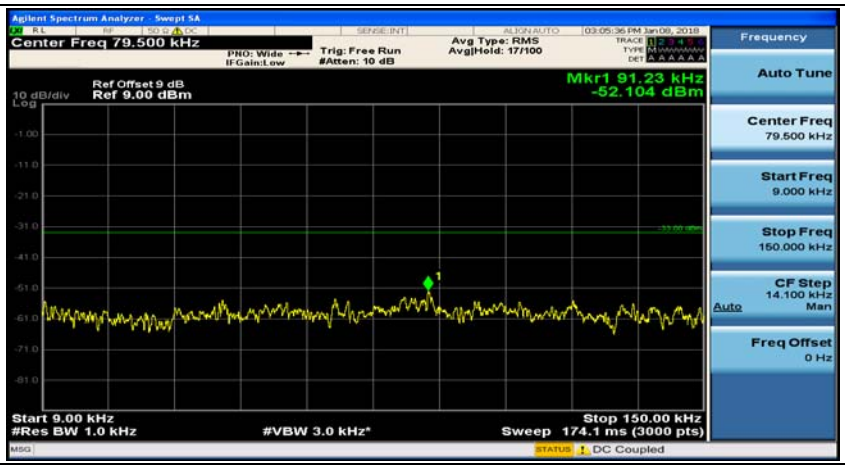
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

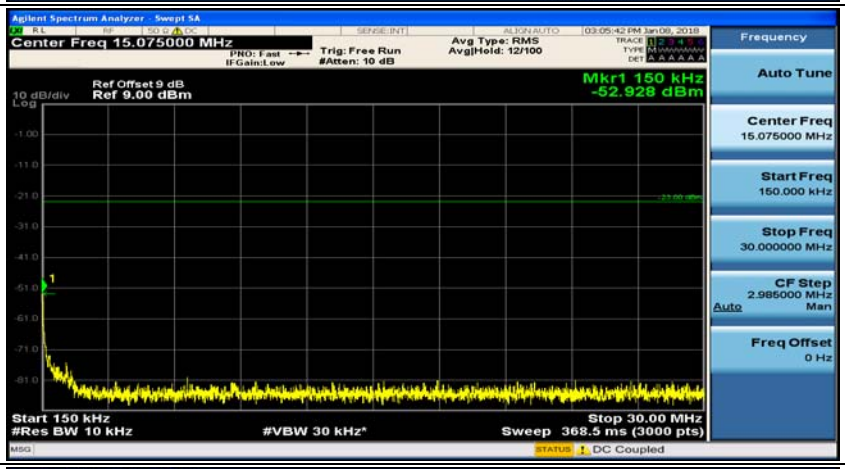


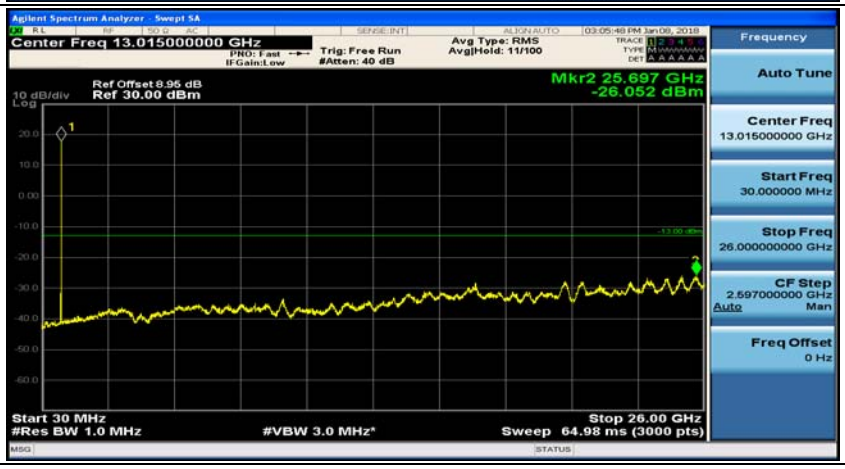


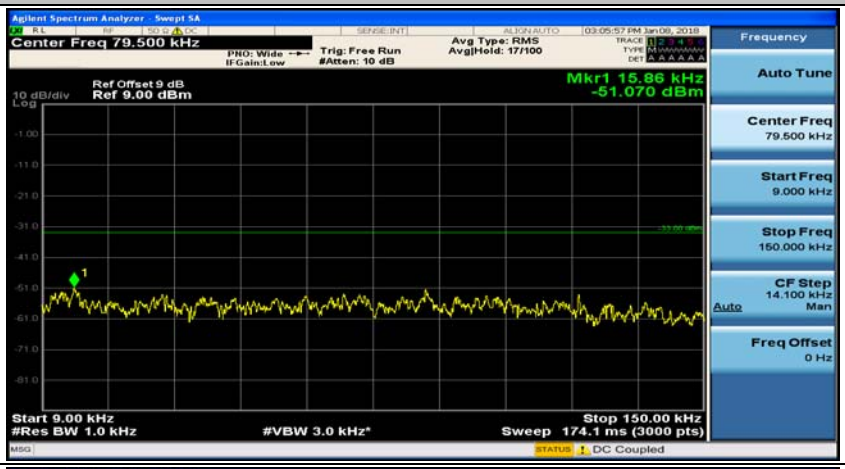
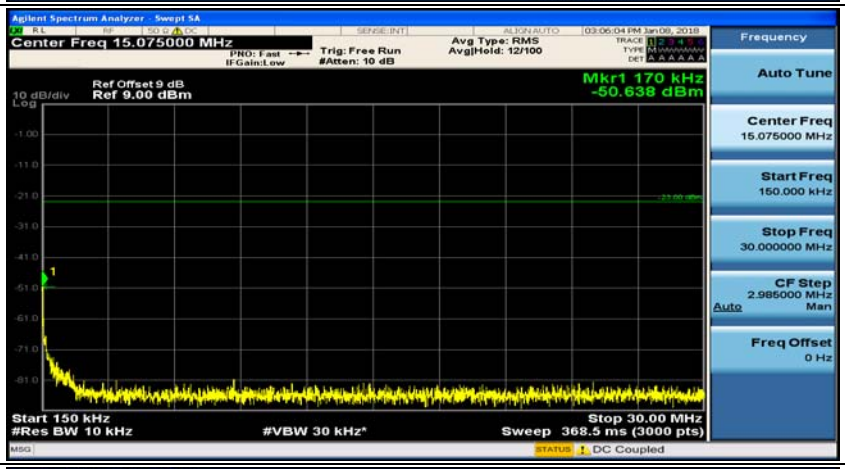
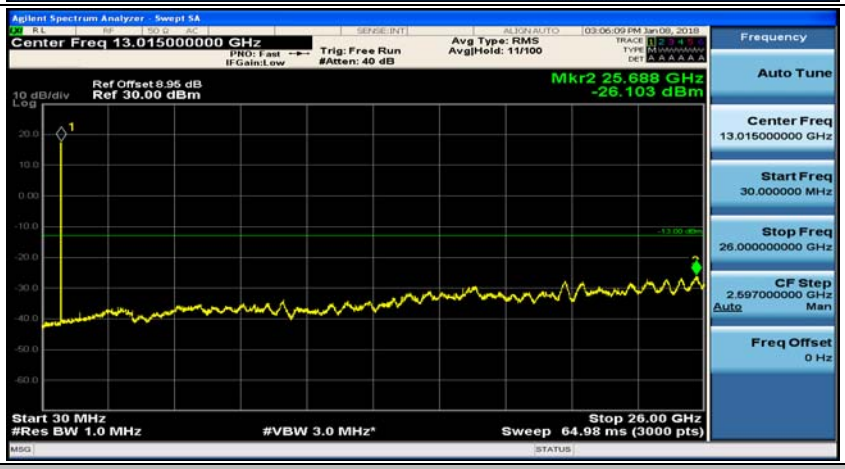


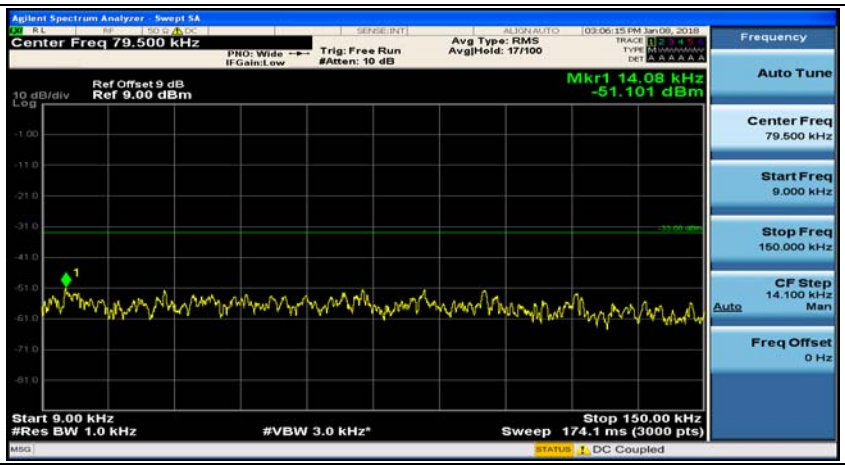
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

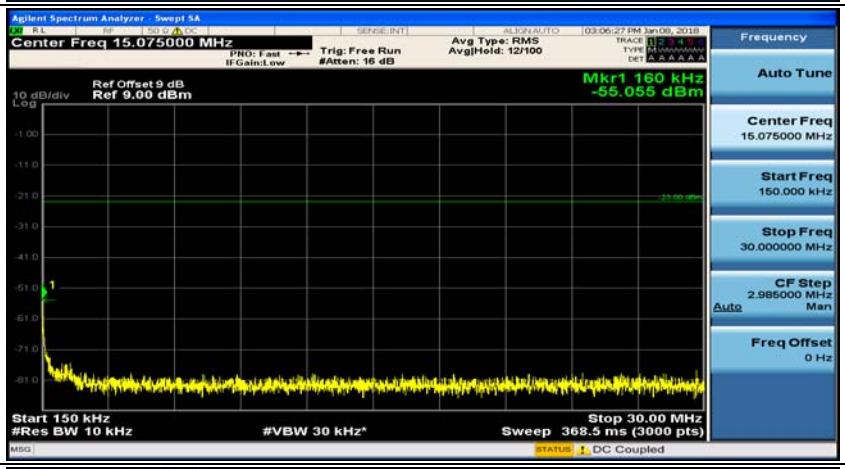

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
03:05:36 PM Jan 09, 2018
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 91.23 kHz
-52.104 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.1 ms (3000 pts)
DC Coupled

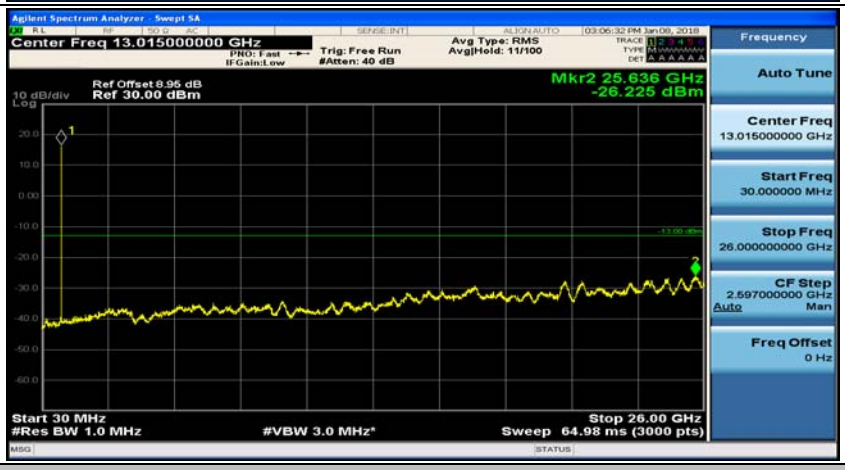

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 12/100
03:05:42 PM Jan 09, 2018
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-52.928 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 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
03:05:48 PM Jan 09, 2018
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.697 GHz
-26.052 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.98 ms (3000 pts)

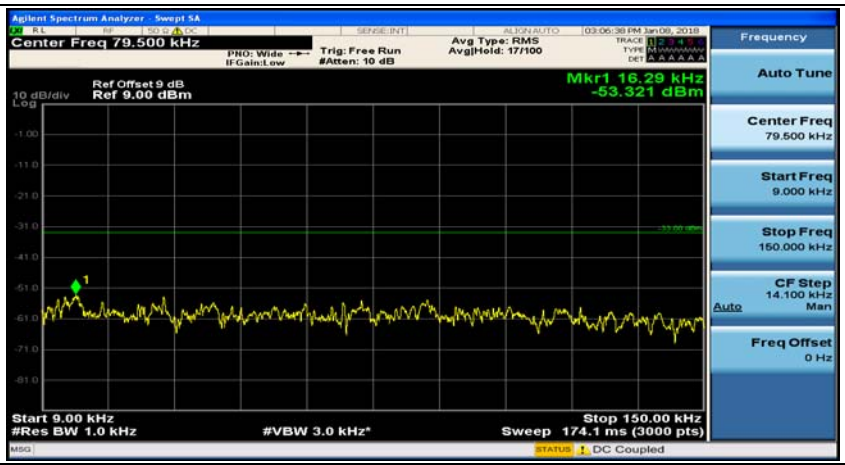
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24

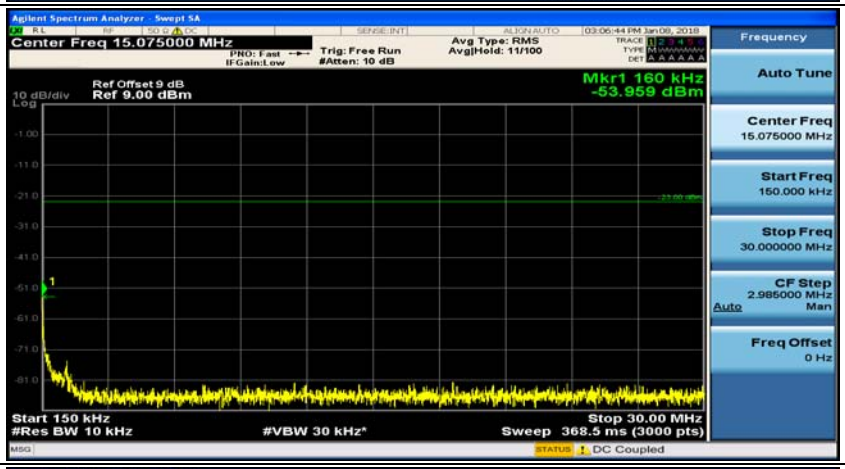


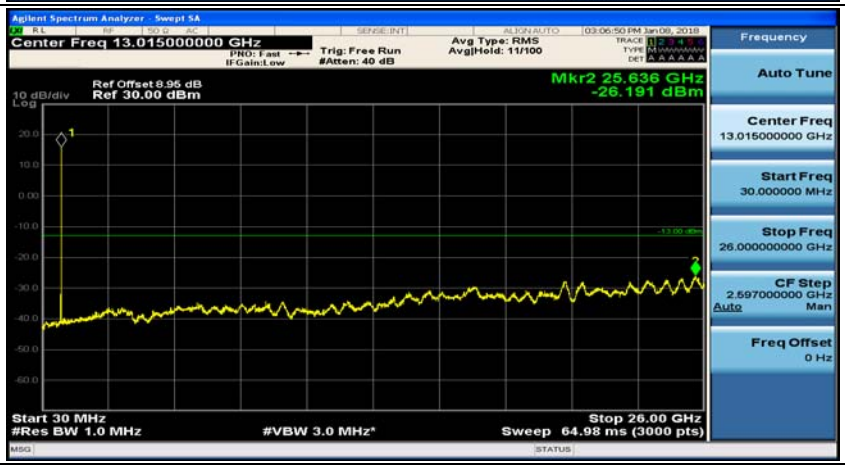




Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49


Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 17/100
03:06:38 PM Jan 09, 2018
Frequency
Auto Tune
Mkr1 16.29 kHz
-53.321 dBm
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop Freq
150.000 kHz
CF Step
14.100 kHz
Auto
Man
Freq Offset
0 Hz
Start 9.00 kHz
#Res BW 1.0 kHz
#VBW 3.0 kHz*
Stop 150.00 kHz
Sweep 174.1 ms (3000 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 11/100
03:06:44 PM Jan 09, 2018
Frequency
Auto Tune
Mkr1 160 kHz
-53.959 dBm
Ref Offset 9 dB
10 dB/div
Ref 9.00 dBm
Log
Center Freq
15.075000 MHz
Start Freq
150.000 kHz
Stop Freq
30.000000 MHz
CF Step
2.985000 MHz
Auto
Man
Freq Offset
0 Hz
Start 150 kHz
#Res BW 10 kHz
#VBW 30 kHz*
Stop 30.00 MHz
Sweep 368.5 ms (3000 pts)
DC Coupled


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 11/100
03:06:50 PM Jan 09, 2018
Frequency
Auto Tune
Mkr2 25.636 GHz
-26.191 dBm
Ref Offset 8.95 dB
10 dB/div
Ref 30.00 dBm
Log
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.98 ms (3000 pts)

Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	3.54	0.004541	± 2.5	PASS
		VN	TN	2.73	0.003502	± 2.5	PASS
		VH	TN	3.78	0.004849	± 2.5	PASS
	MCH	/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
	HCH	VL	TN	2.63	0.003352	± 2.5	PASS
		VN	TN	-1.96	-0.002498	± 2.5	PASS
		VH	TN	-1.53	-0.001950	± 2.5	PASS
16QAM	LCH	VL	TN	4.78	0.006132	± 2.5	PASS
		VN	TN	-0.09	-0.000115	± 2.5	PASS
		VH	TN	-0.99	-0.001270	± 2.5	PASS
	MCH	/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
	HCH	VL	TN	0.79	0.001007	± 2.5	PASS
		VN	TN	-1.68	-0.002141	± 2.5	PASS
		VH	TN	1.57	0.002001	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	0.54	0.000693	± 2.5	PASS
		VN	-20	-1.82	-0.002335	± 2.5	PASS
		VN	-10	0.8	0.001026	± 2.5	PASS
		VN	0	-0.43	-0.000552	± 2.5	PASS
		VN	10	1.75	0.002245	± 2.5	PASS
		VN	20	-0.55	-0.000706	± 2.5	PASS
		VN	30	-0.64	-0.000821	± 2.5	PASS
		VN	40	2.14	0.002745	± 2.5	PASS
		VN	50	-1.29	-0.001655	± 2.5	PASS
	MCH	/	/	/	/	/	/
		/	/	/	/	/	/

		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
	HCH	VN	-30	2.88	0.003671	± 2.5	PASS
		VN	-20	2.76	0.003518	± 2.5	PASS
		VN	-10	3.71	0.004729	± 2.5	PASS
		VN	0	-1.22	-0.001555	± 2.5	PASS
		VN	10	-0.02	-0.000025	± 2.5	PASS
		VN	20	0.26	0.000331	± 2.5	PASS
		VN	30	0.56	0.000714	± 2.5	PASS
		VN	40	4.9	0.006246	± 2.5	PASS
		VN	50	-0.12	-0.000153	± 2.5	PASS
16QAM	LCH	VN	-30	2.88	0.003671	± 2.5	PASS
		VN	-20	2.76	0.003518	± 2.5	PASS
		VN	-10	3.71	0.004729	± 2.5	PASS
		VN	0	-1.22	-0.001555	± 2.5	PASS
		VN	10	-0.02	-0.000025	± 2.5	PASS
		VN	20	0.26	0.000331	± 2.5	PASS
		VN	30	0.56	0.000714	± 2.5	PASS
		VN	40	4.9	0.006246	± 2.5	PASS
		VN	50	-0.12	-0.000153	± 2.5	PASS
	MCH	/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
	HCH	VN	-30	2.21	0.002817	± 2.5	PASS
		VN	-20	-1.34	-0.001708	± 2.5	PASS
		VN	-10	0.29	0.000370	± 2.5	PASS
		VN	0	-0.24	-0.000306	± 2.5	PASS
		VN	10	0.62	0.000790	± 2.5	PASS
		VN	20	2.09	0.002664	± 2.5	PASS
		VN	30	-0.59	-0.000752	± 2.5	PASS

		VN	40	3.98	0.005073	± 2.5	PASS
		VN	50	0.46	0.000586	± 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	/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
	MCH	VL	TN	0.8	0.001023	± 2.5	PASS
		VN	TN	2.28	0.002916	± 2.5	PASS
		VH	TN	3.38	0.004308	± 2.5	PASS
	HCH	/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
16QAM	LCH	/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
	MCH	VL	TN	-1.17	-0.001496	± 2.5	PASS
		VN	TN	1.01	0.001292	± 2.5	PASS
		VH	TN	4.51	0.005767	± 2.5	PASS
	HCH	/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
	MCH	VN	-30	1.68	0.002148	± 2.5	PASS
		VN	-20	1.43	0.001829	± 2.5	PASS
		VN	-10	1.67	0.002136	± 2.5	PASS
		VN	0	3.7	0.004731	± 2.5	PASS

		VN	10	3.19	0.004079	± 2.5	PASS
		VN	20	0.77	0.000985	± 2.5	PASS
		VN	30	0.19	0.000243	± 2.5	PASS
		VN	40	-1.58	-0.002020	± 2.5	PASS
		VN	50	2.49	0.003184	± 2.5	PASS
	HCH	/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
QPSK	LCH	/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
	MCH	VN	-30	3.43	0.004386	± 2.5	PASS
		VN	-20	3.74	0.004783	± 2.5	PASS
		VN	-10	2.15	0.002749	± 2.5	PASS
		VN	0	0.91	0.001164	± 2.5	PASS
		VN	10	0.75	0.000959	± 2.5	PASS
		VN	20	-1.39	-0.001777	± 2.5	PASS
		VN	30	1.27	0.001624	± 2.5	PASS
		VN	40	-0.57	-0.000729	± 2.5	PASS
		VN	50	4.89	0.006253	± 2.5	PASS
	HCH	/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/
		/	/	/	/	/	/