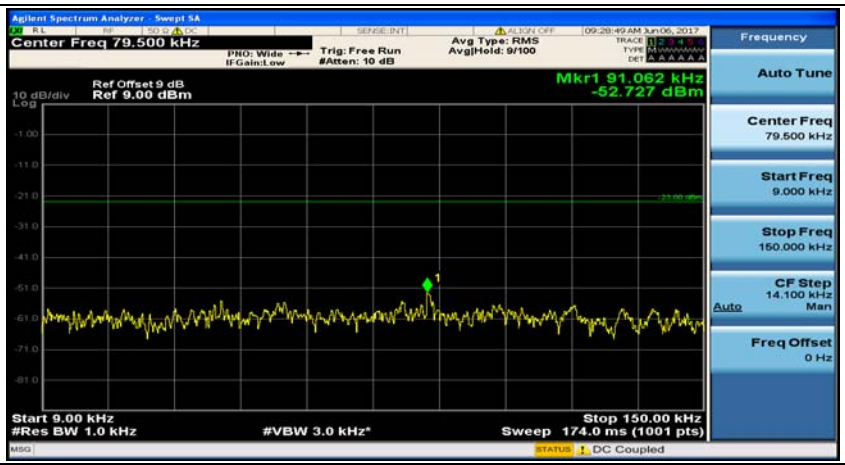
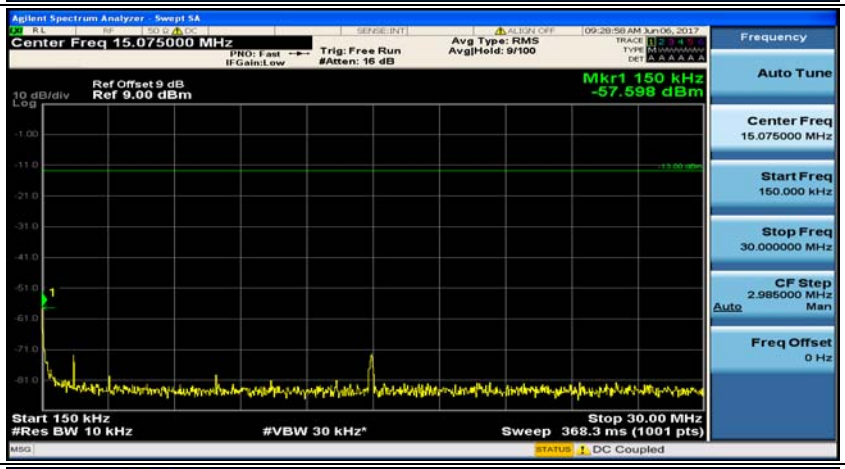
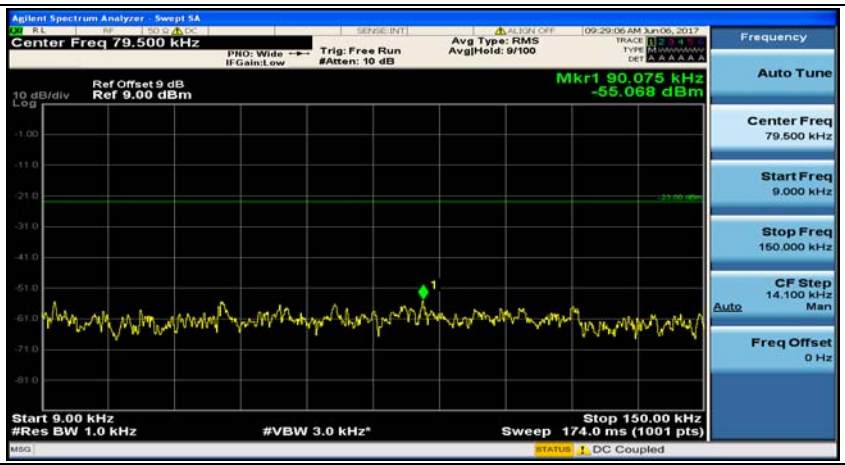
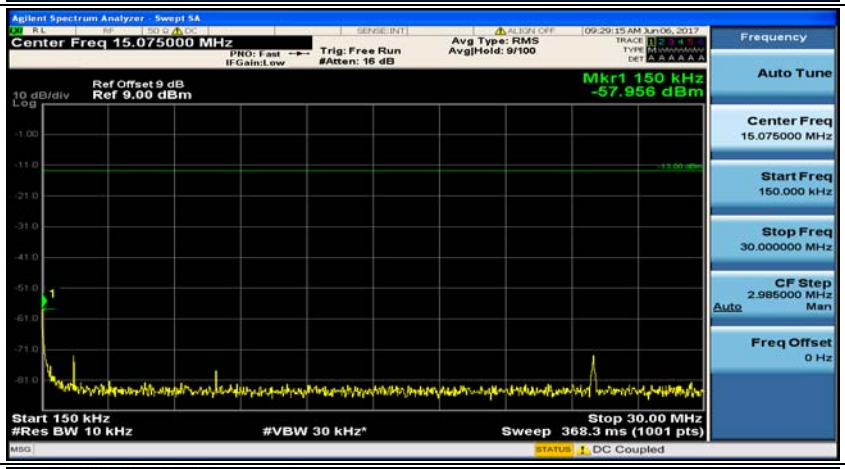
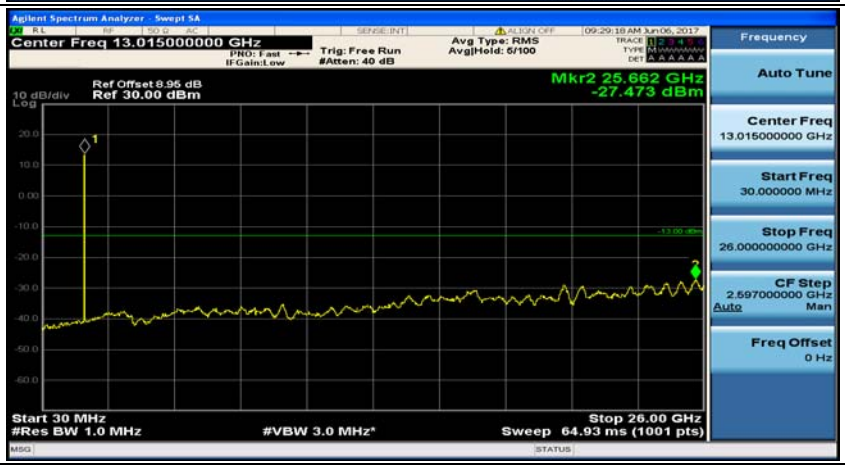




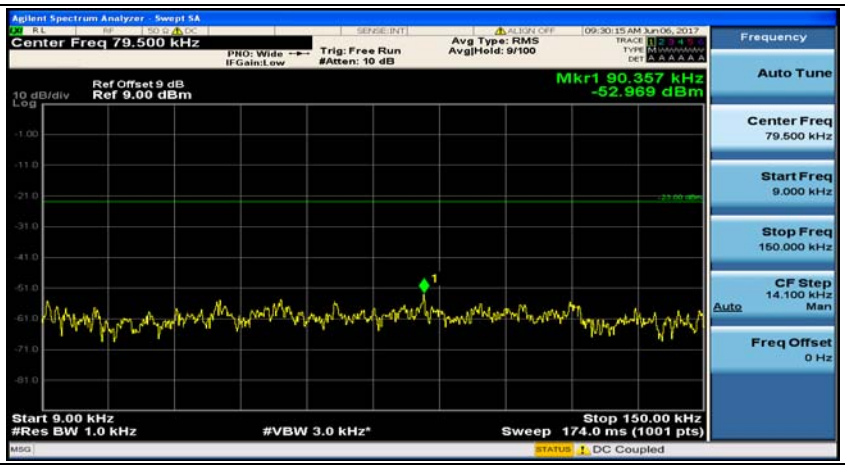
(Channel Bandwidth:15 MHz)_LCH_QPSK_1RB#74

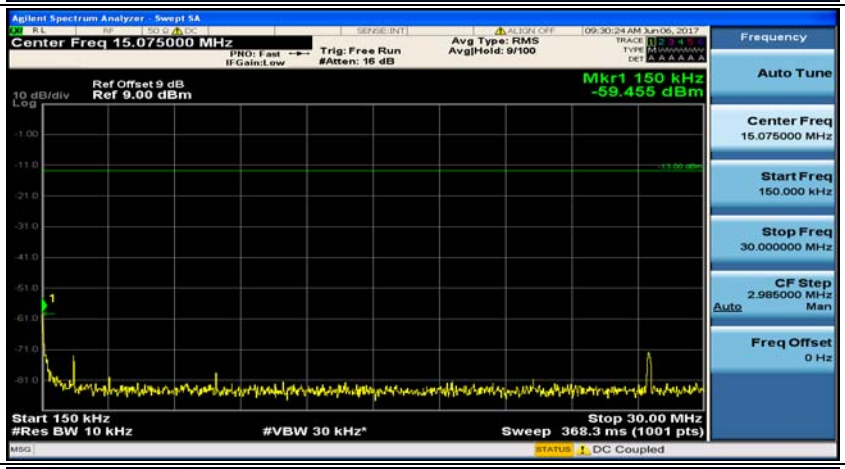


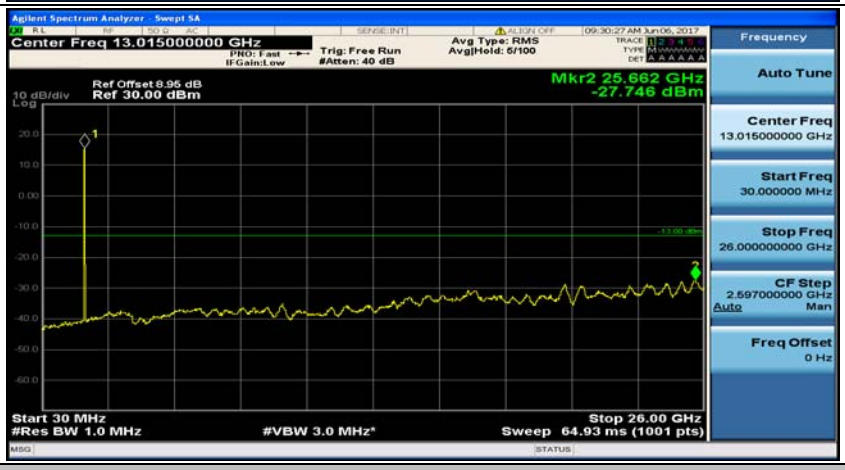




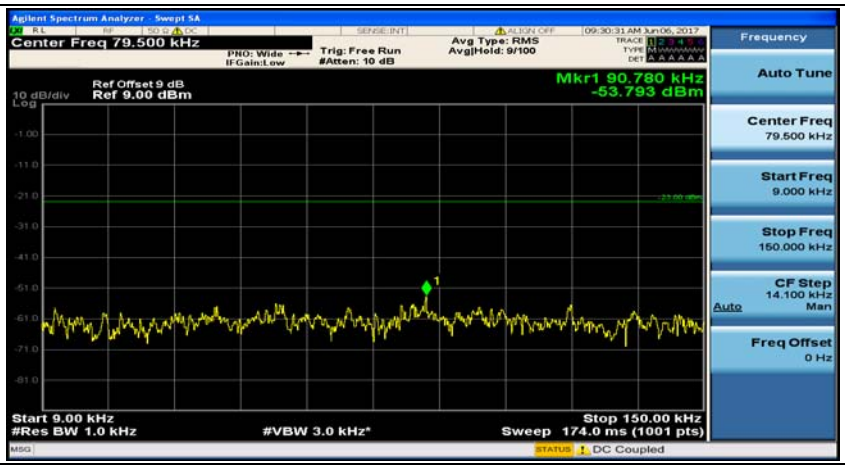
(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#0

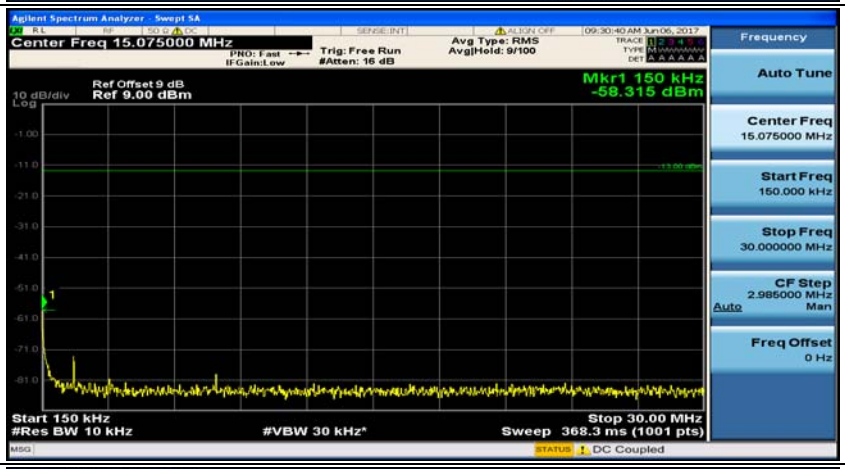


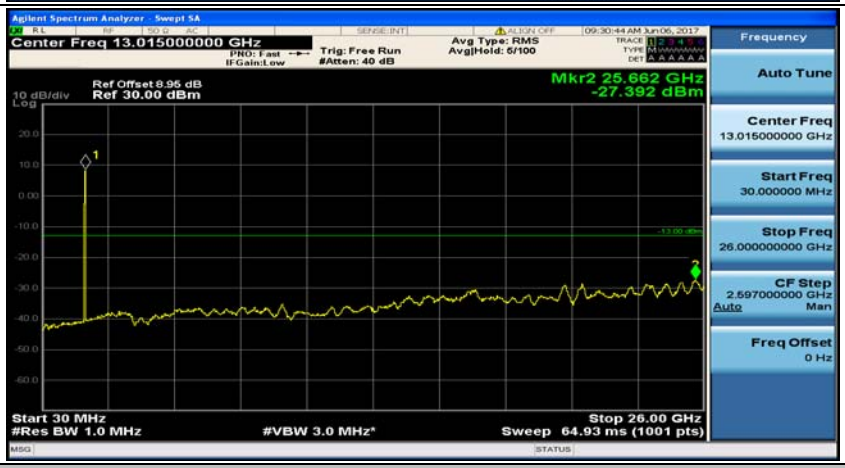




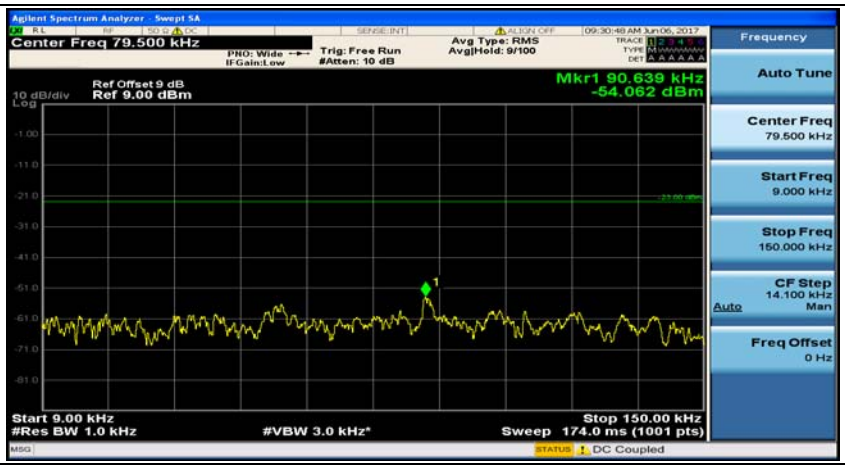
(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#37

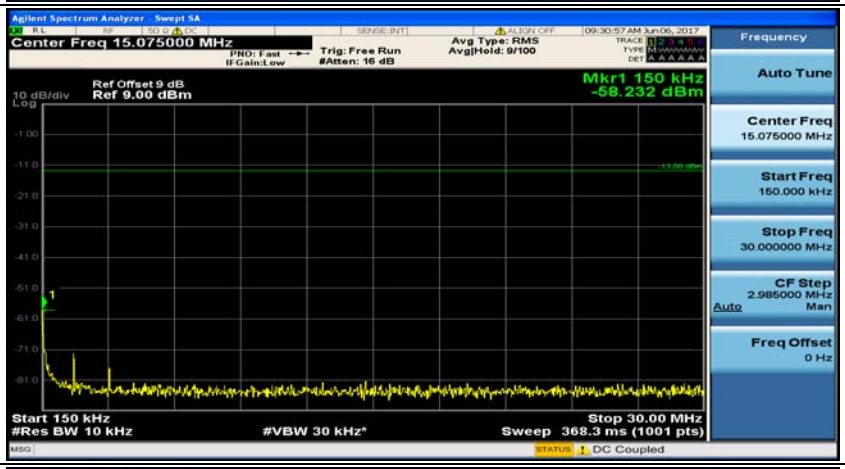


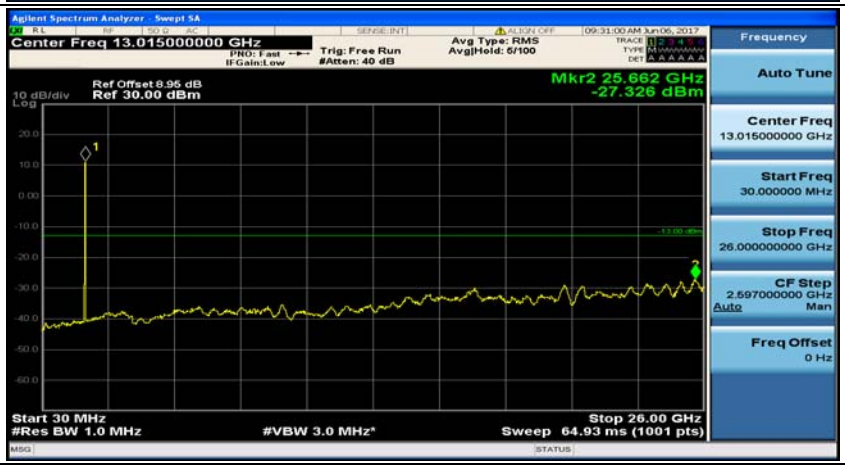




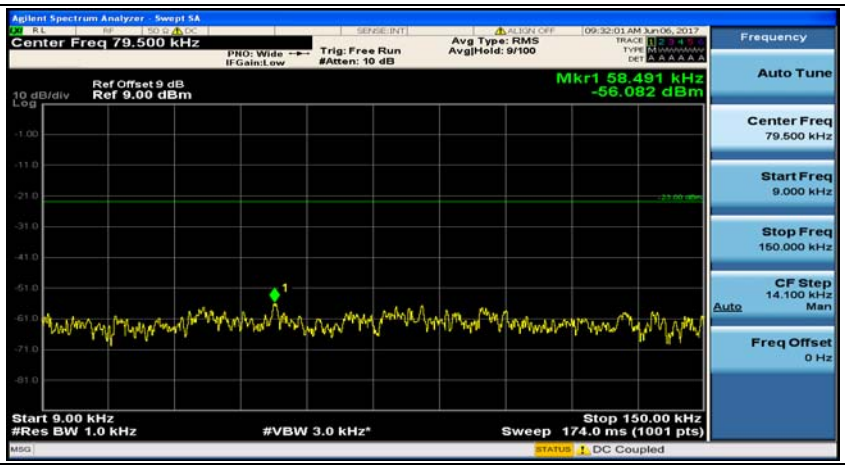
(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#74

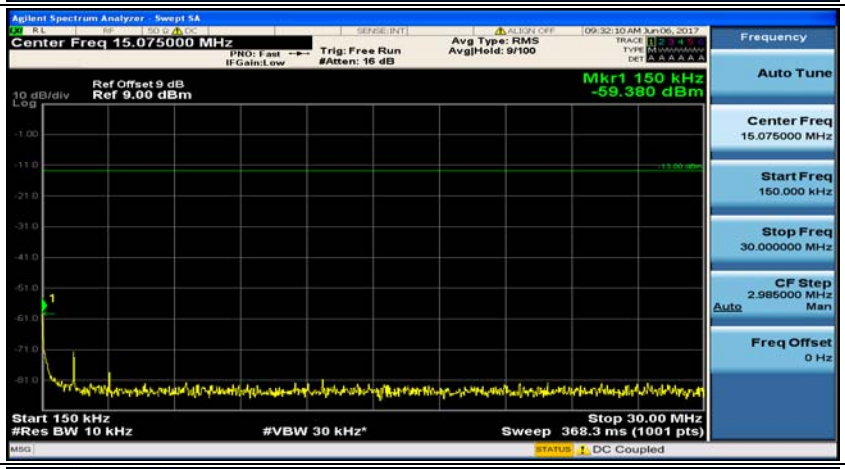


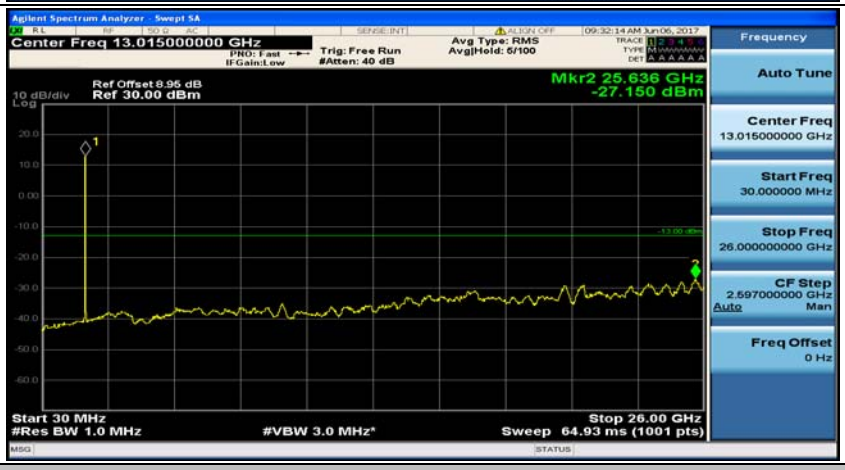




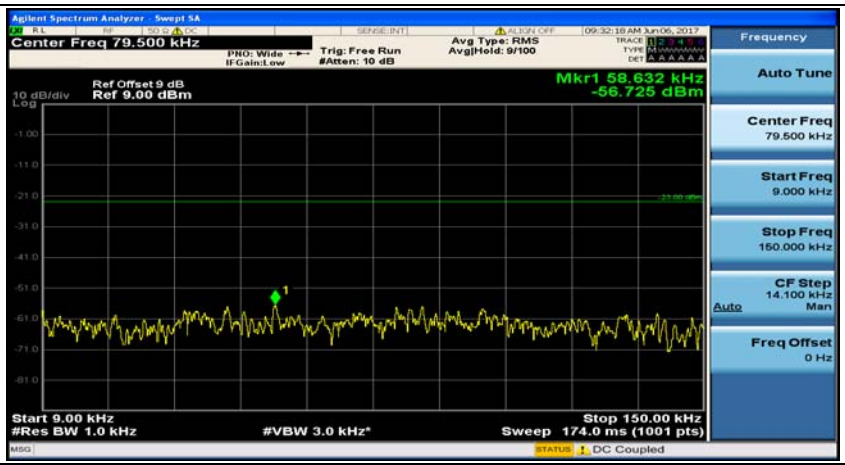
(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#0

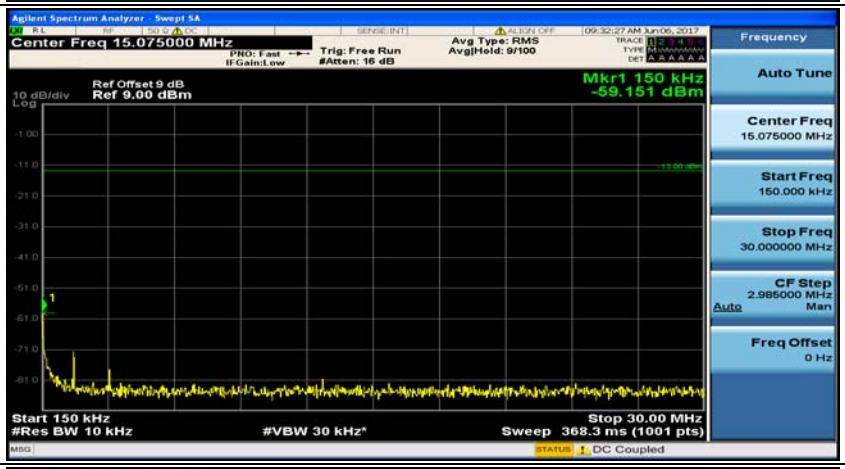




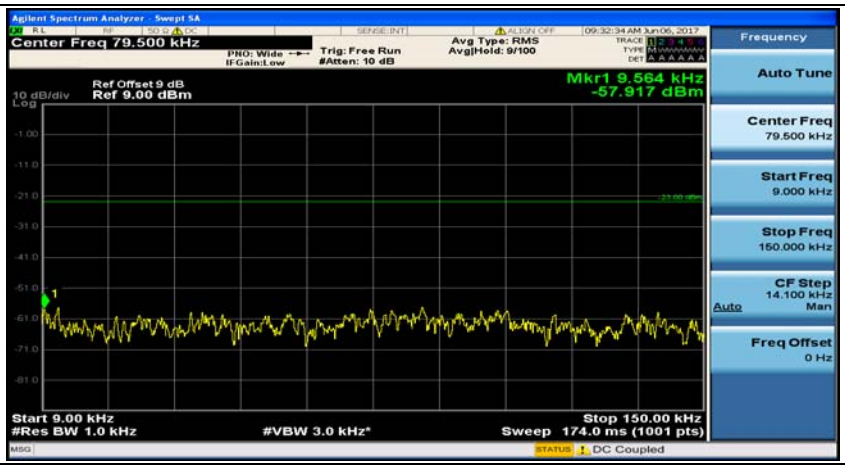


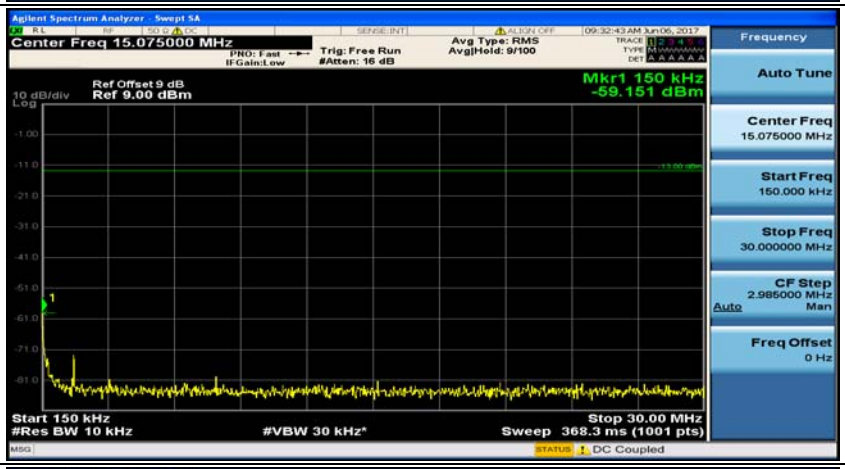
(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#37

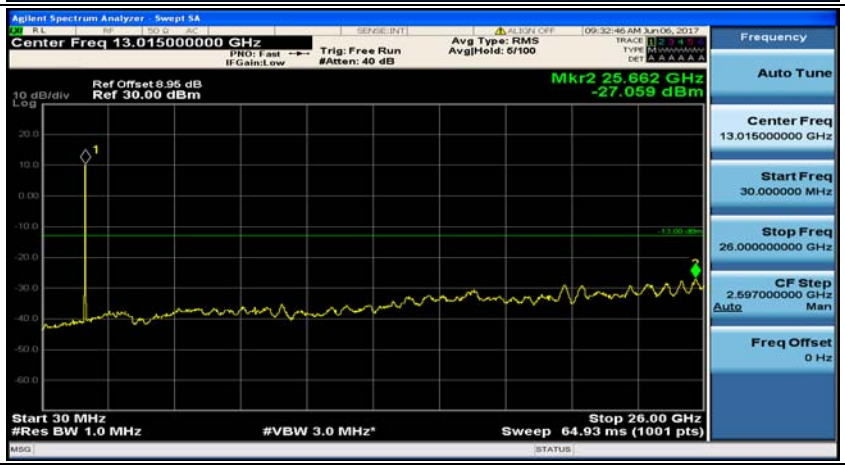




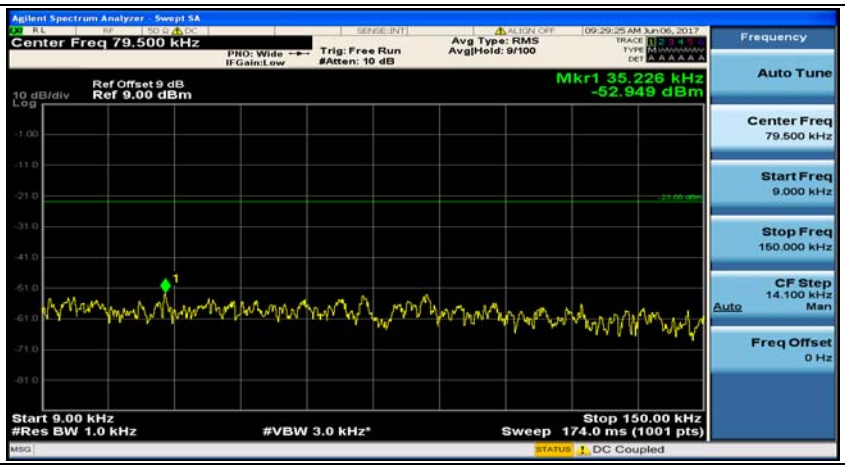
(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#74

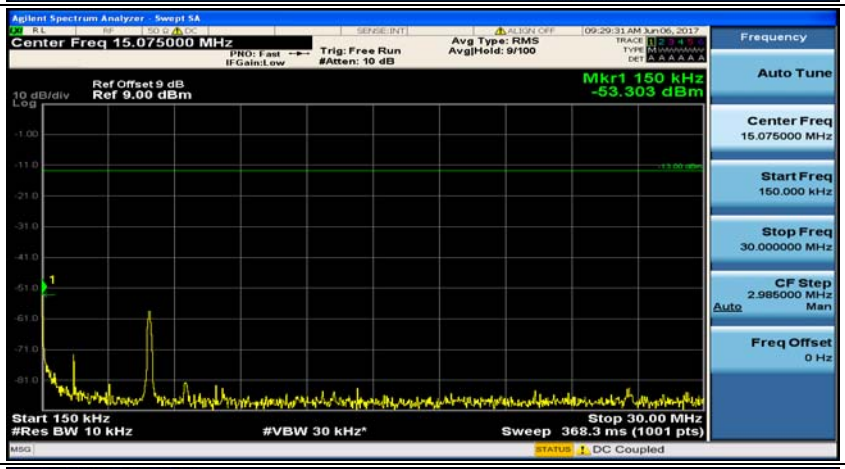


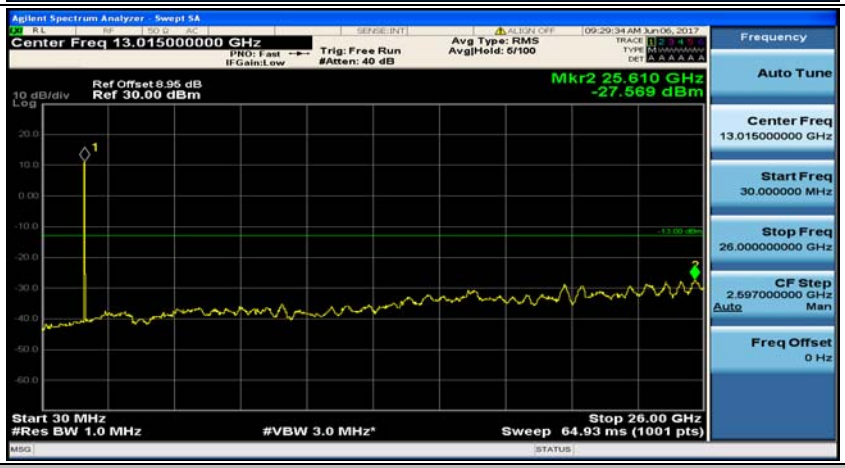




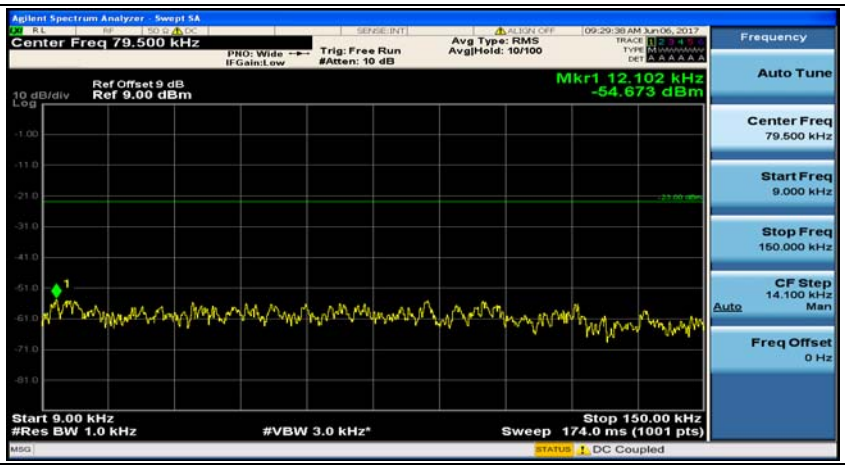
(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#0

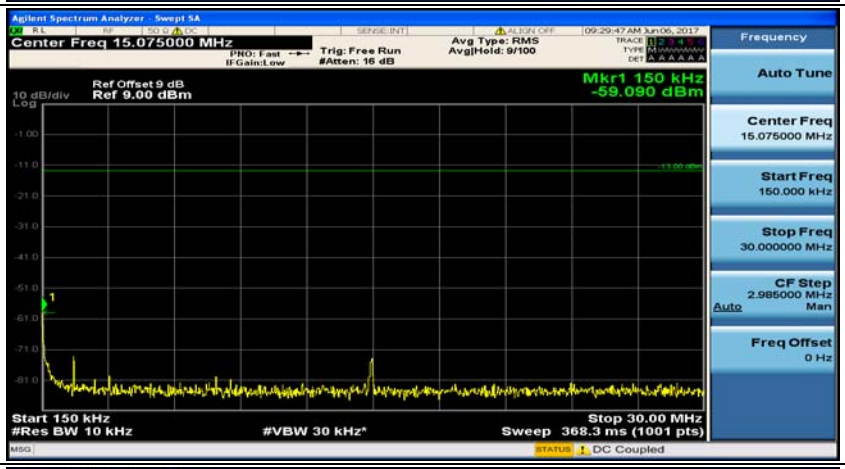


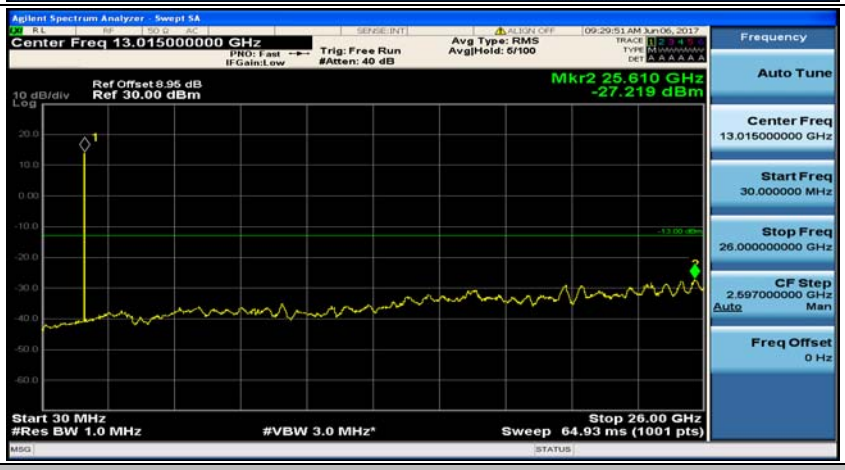




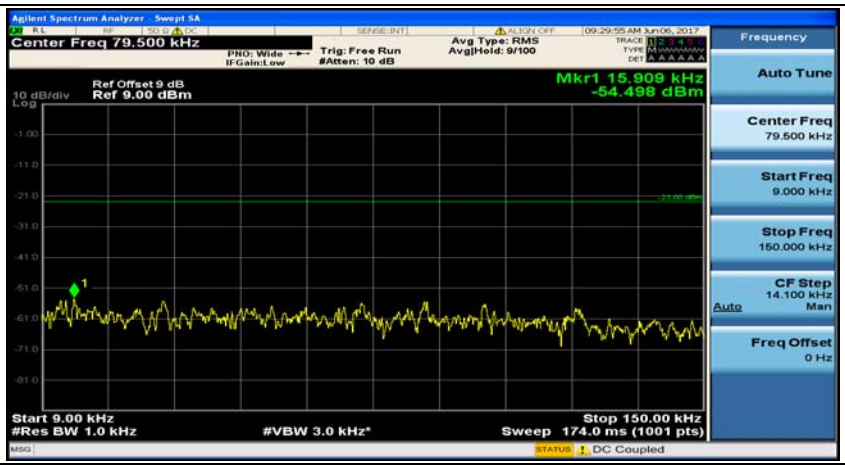
(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#37

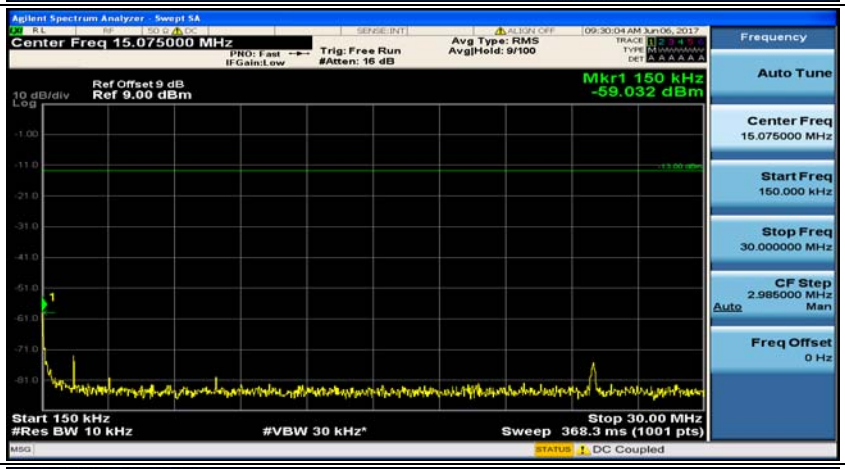


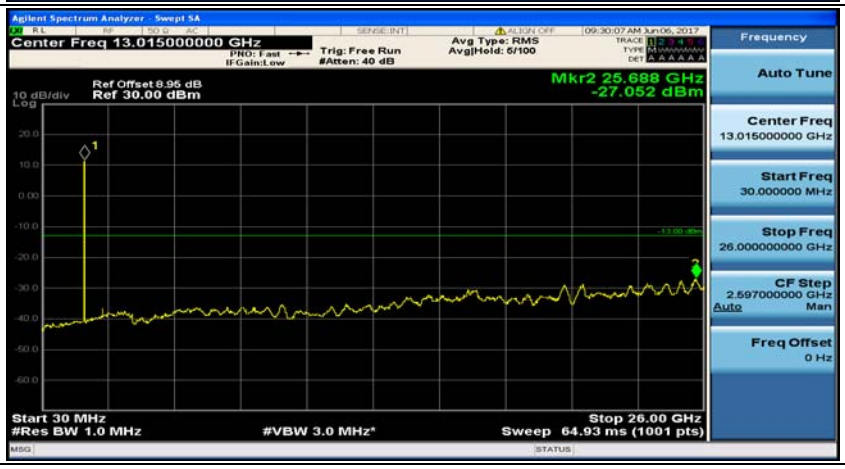




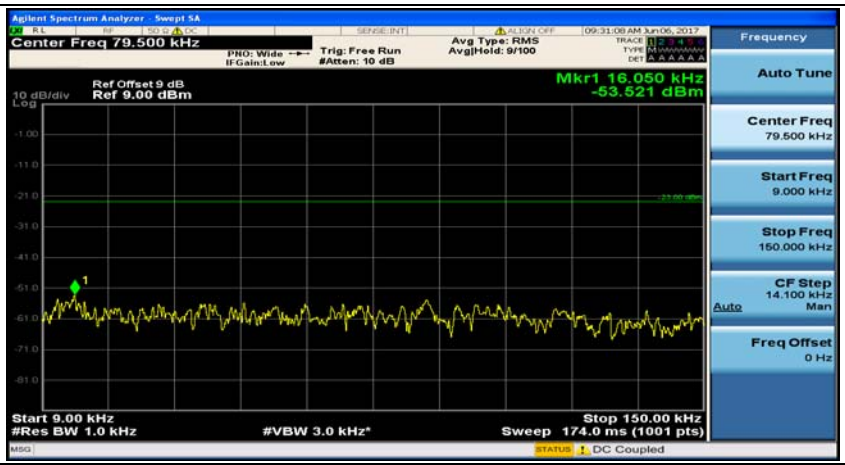
(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#74

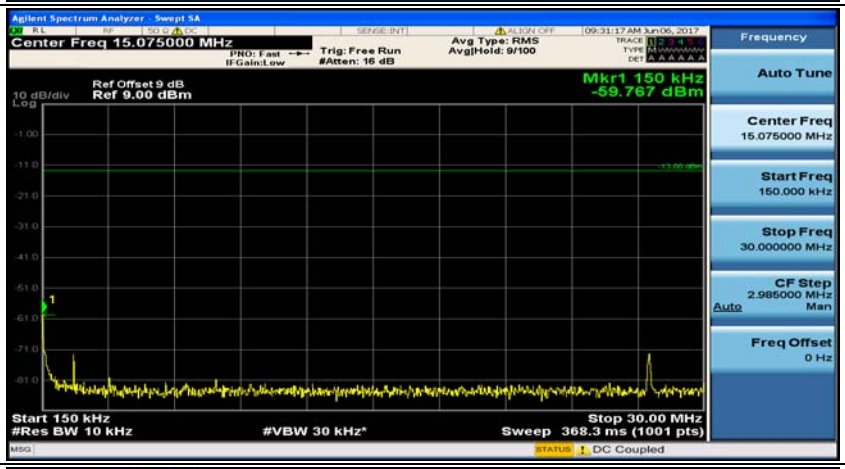


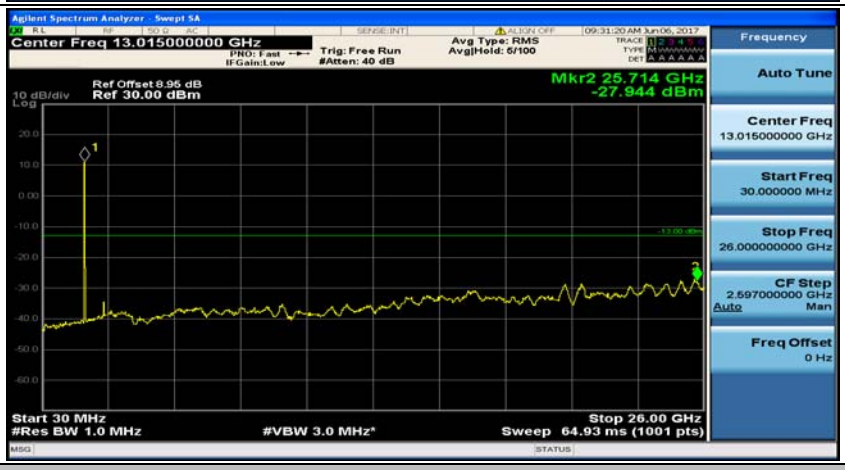




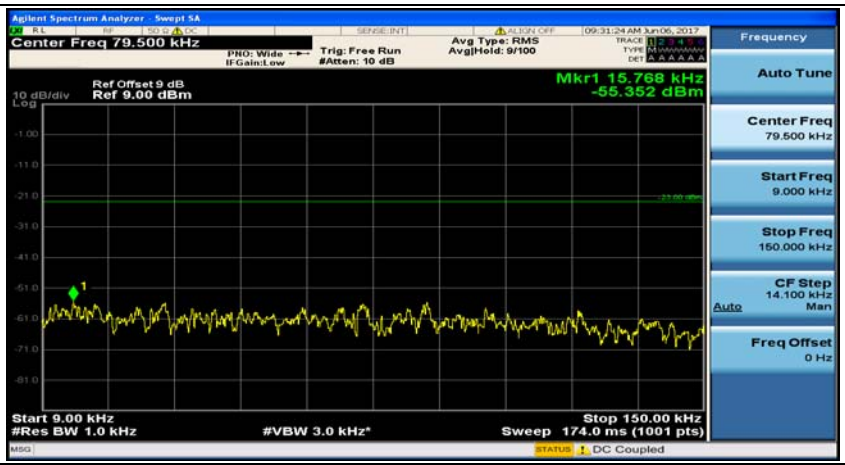
(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#0

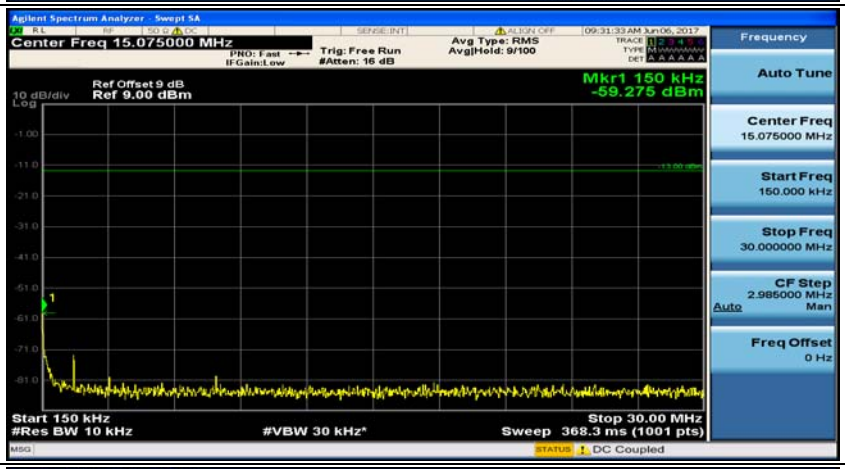


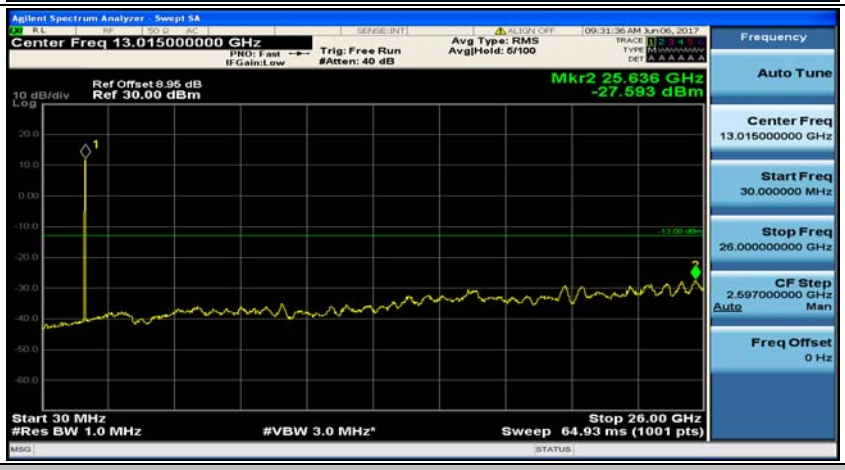




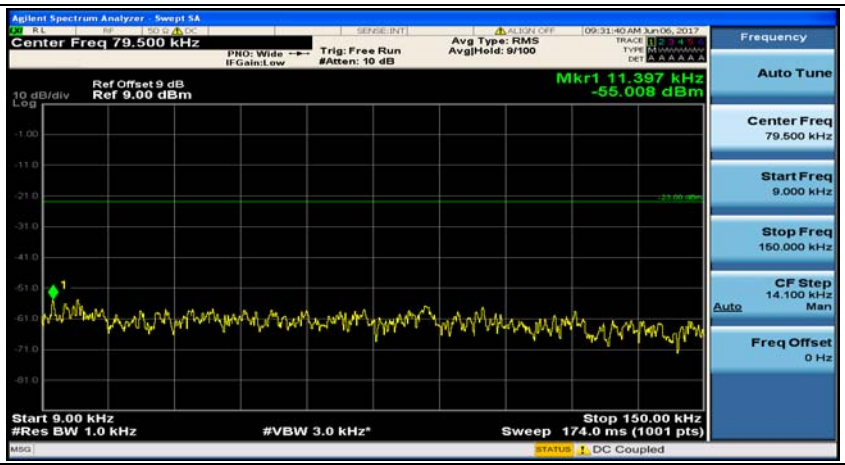
(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#37

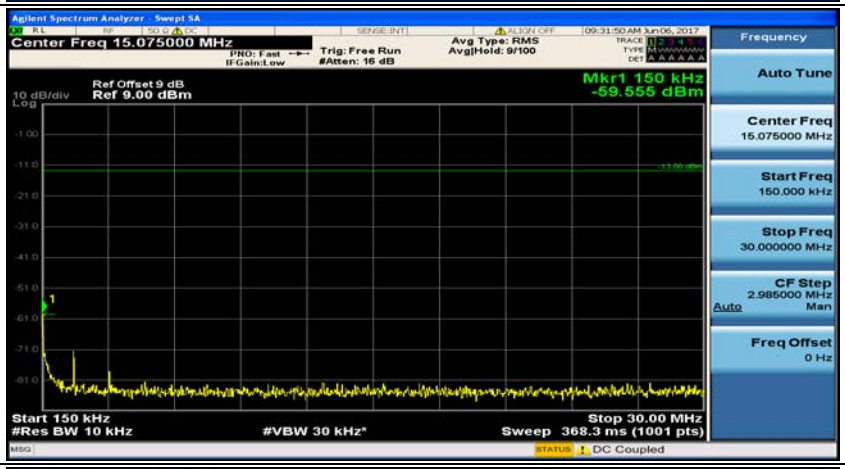


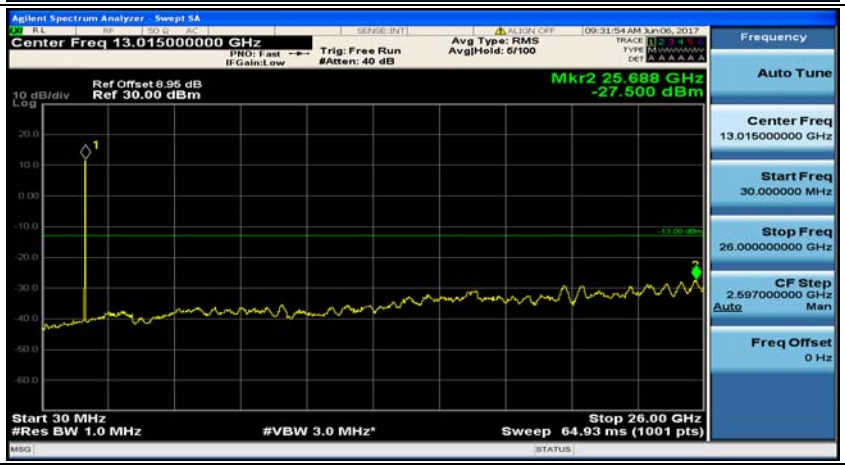




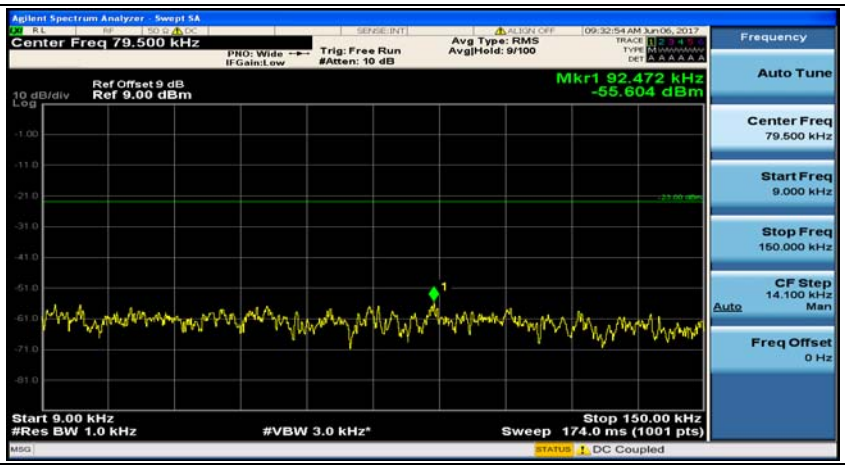
(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#74

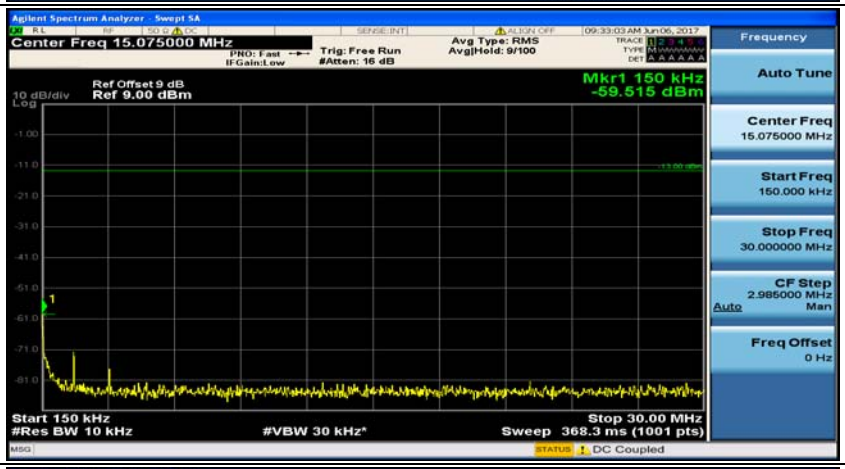


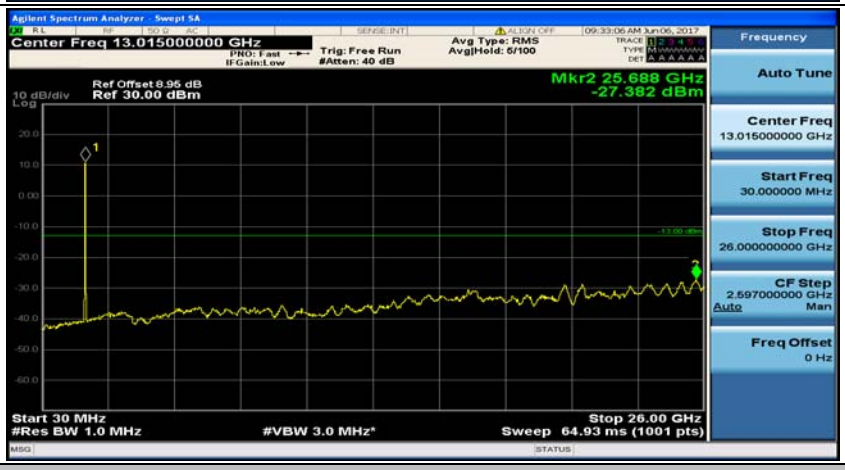




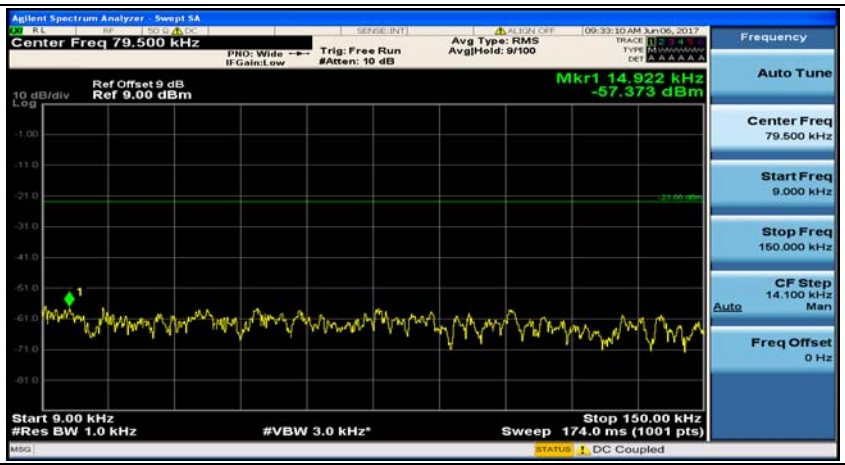
(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#0

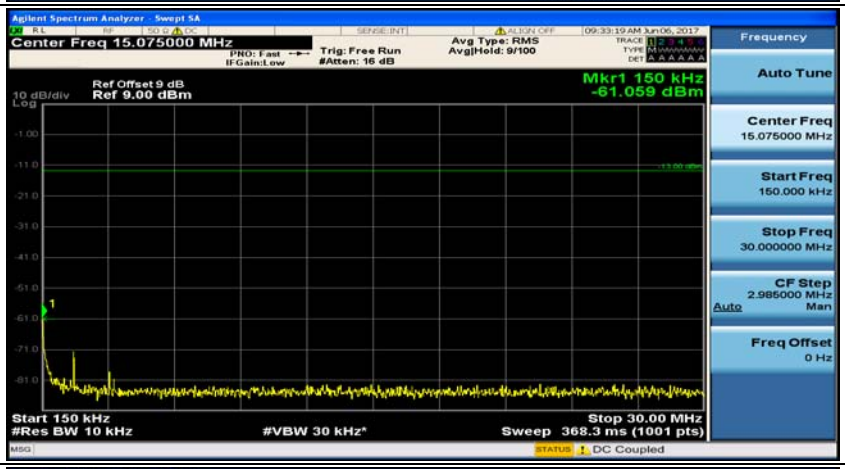


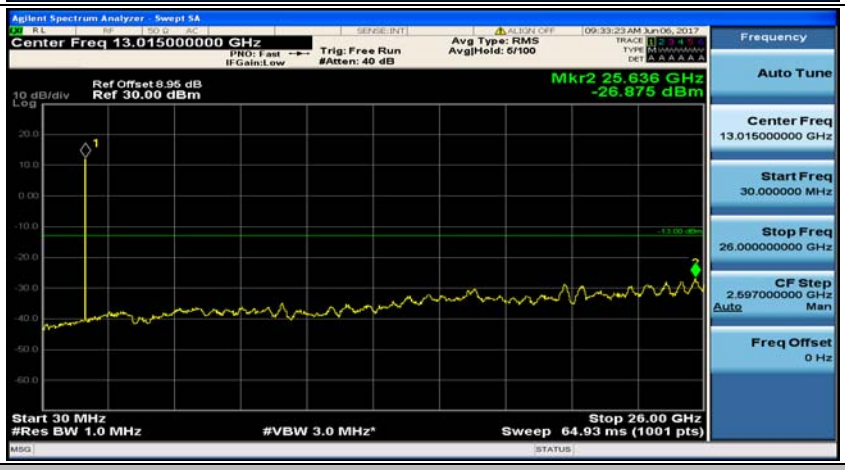




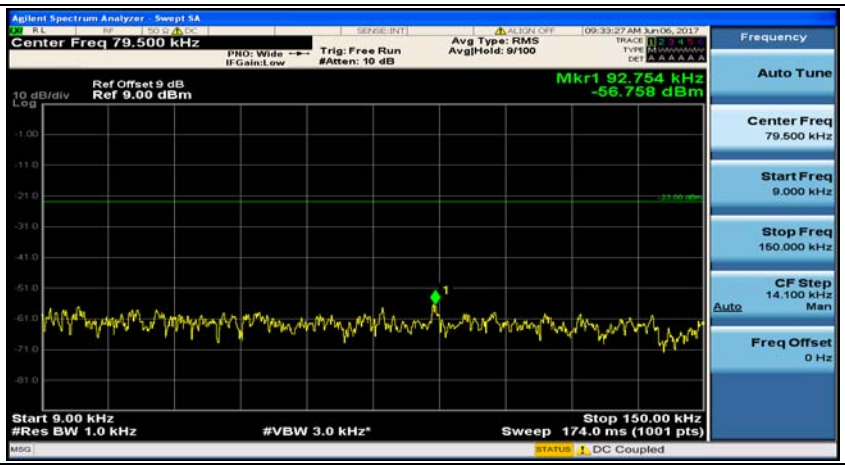
(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#37

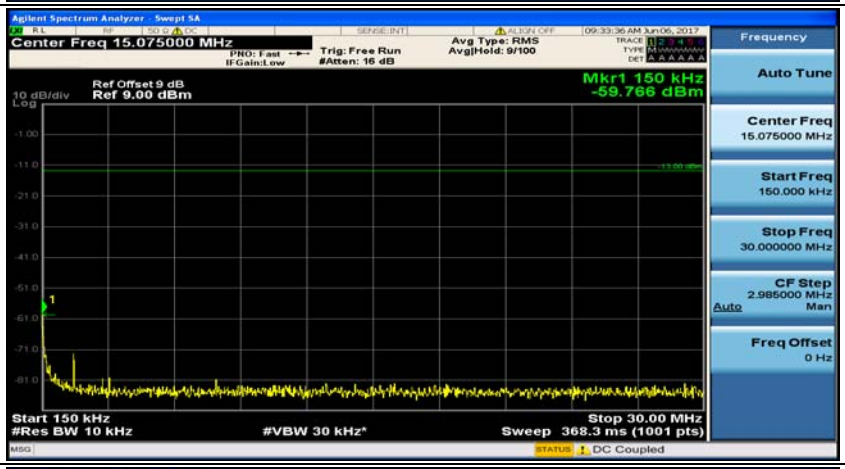


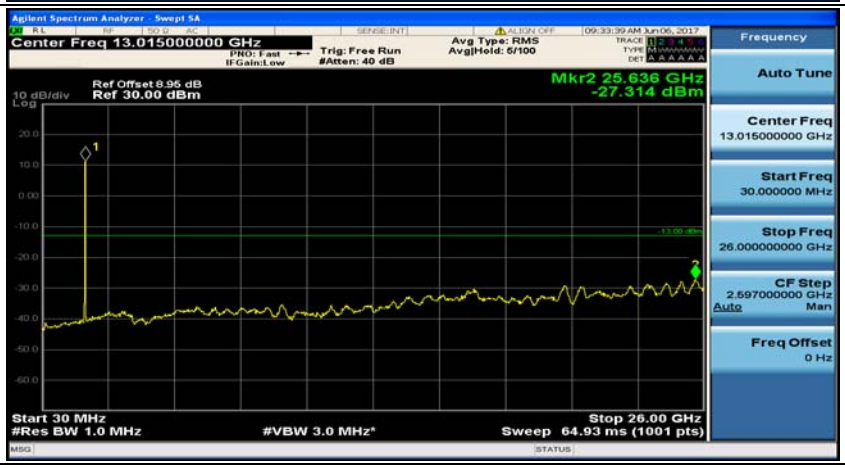




(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#74

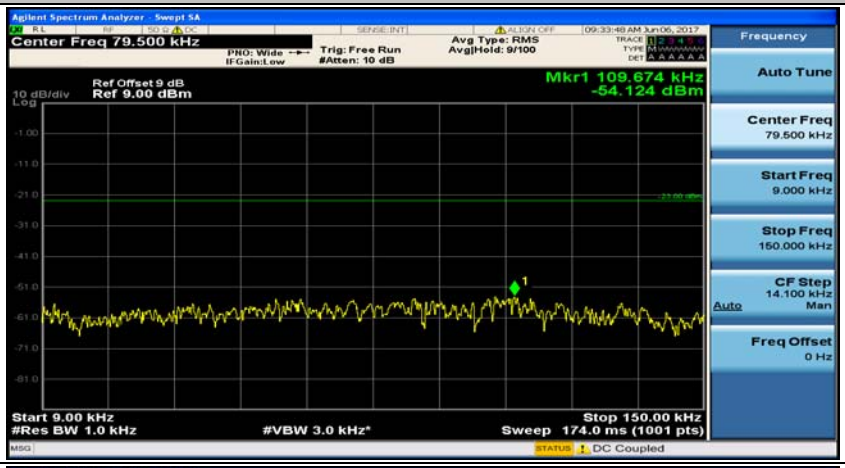

Agilent Spectrum Analyzer - Swept SA
Center Freq 79.500 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
Avg|Hold: 9/100
09:33:27 AM Jun 06, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 92.754 kHz
-56.758 dBm
Auto Tune
Center Freq
79.500 kHz
Start Freq
9.000 kHz
Stop 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 174.0 ms (1001 pts)
DC Coupled

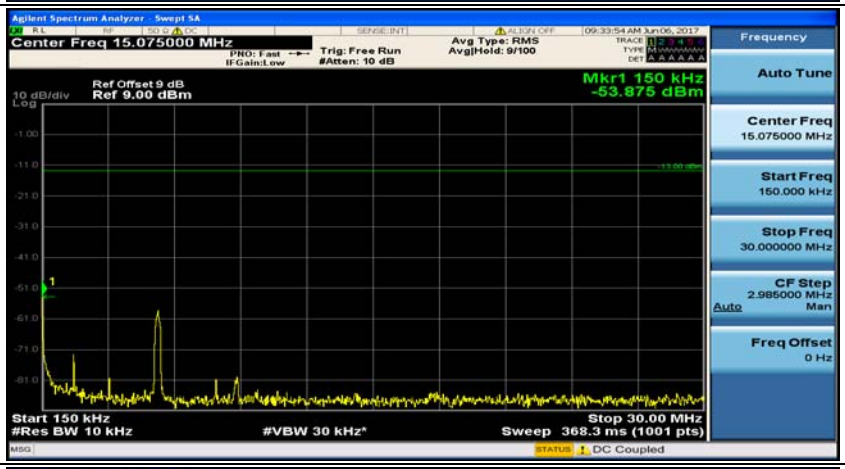

Agilent Spectrum Analyzer - Swept SA
Center Freq 15.075000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: RMS
Avg|Hold: 9/100
09:33:36 AM Jun 06, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-59.766 dBm
Auto Tune
Center Freq
15.075000 MHz
Start Freq
150.000 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 368.3 ms (1001 pts)
DC Coupled

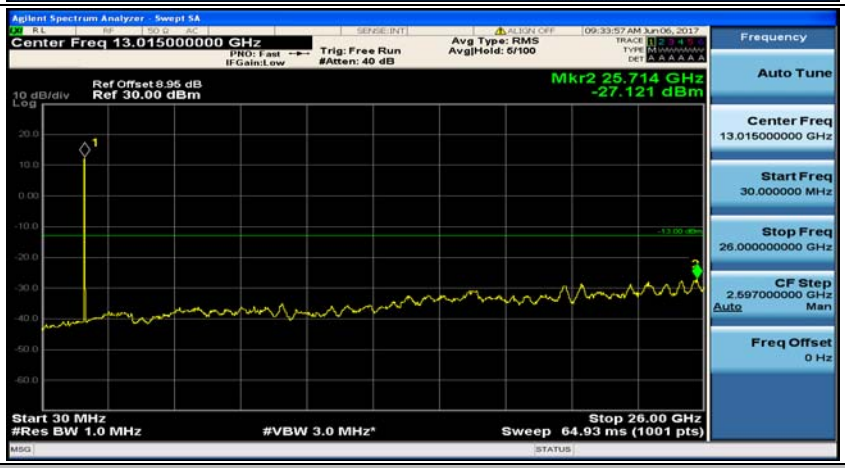

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
Avg Type: RMS
Avg|Hold: 5/100
09:33:39 AM Jun 06, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.636 GHz
-27.314 dBm
Auto Tune
Center Freq
13.015000000 GHz
Start 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 64.93 ms (1001 pts)

Channel Bandwidth: 20 MHz

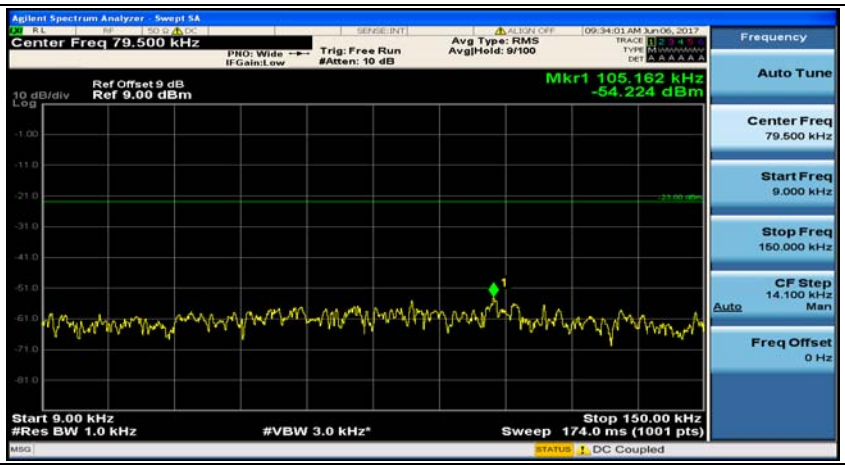
(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#0

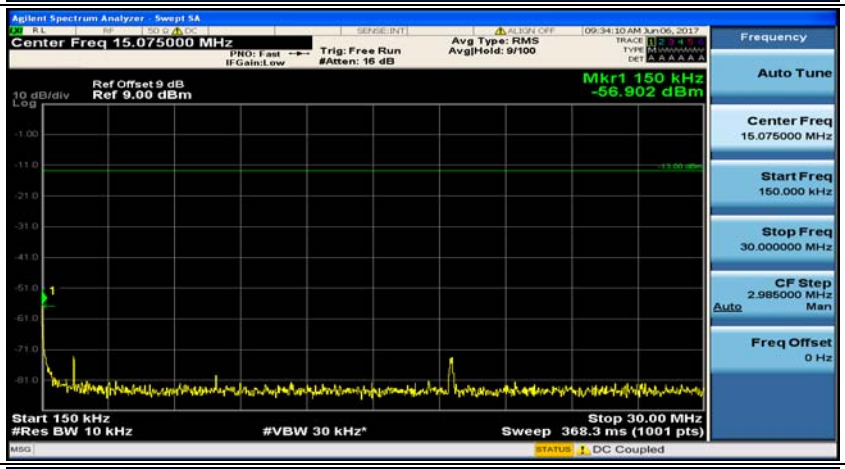


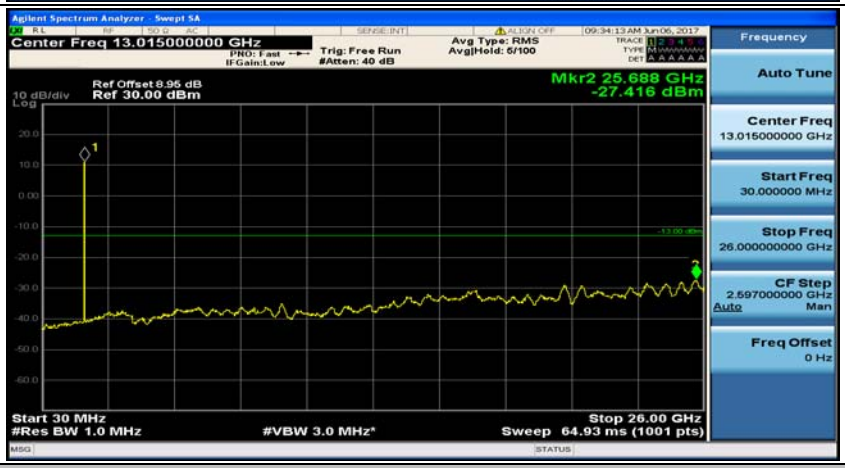




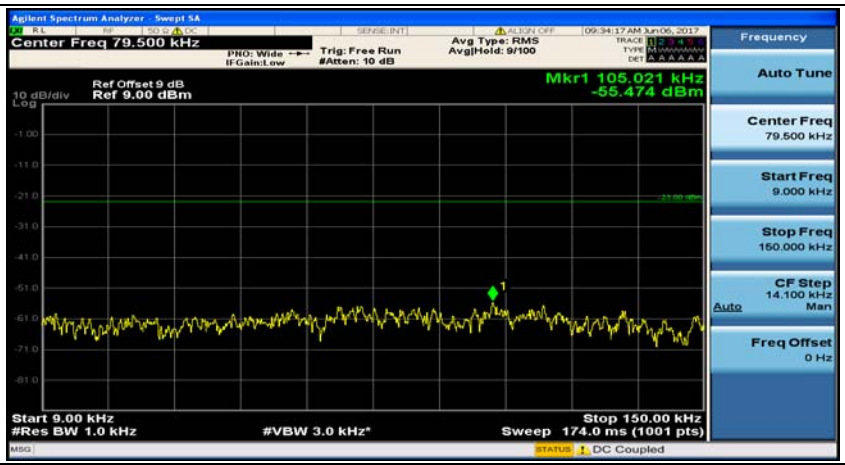
(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#49

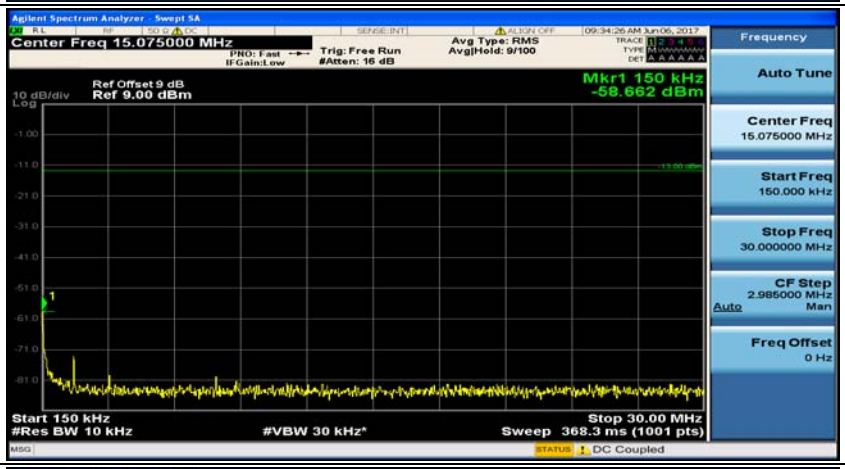


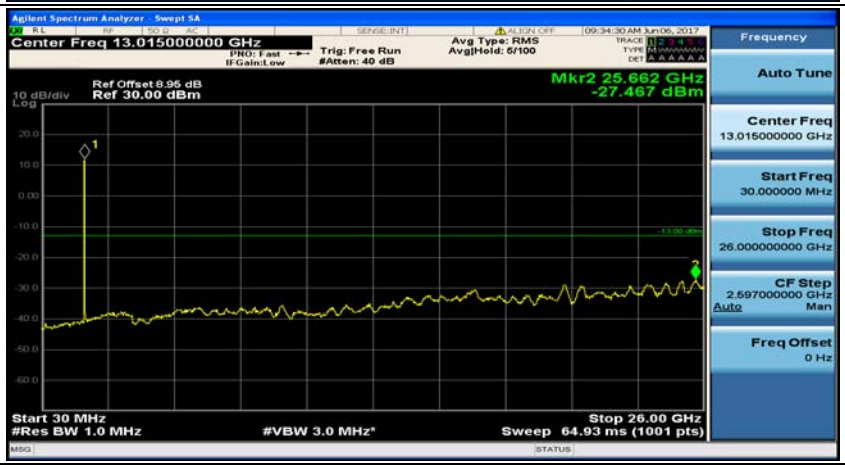




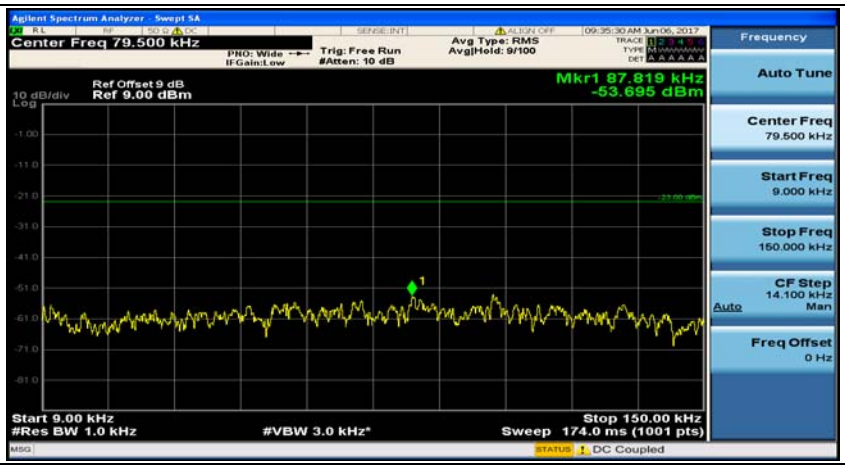
(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#99

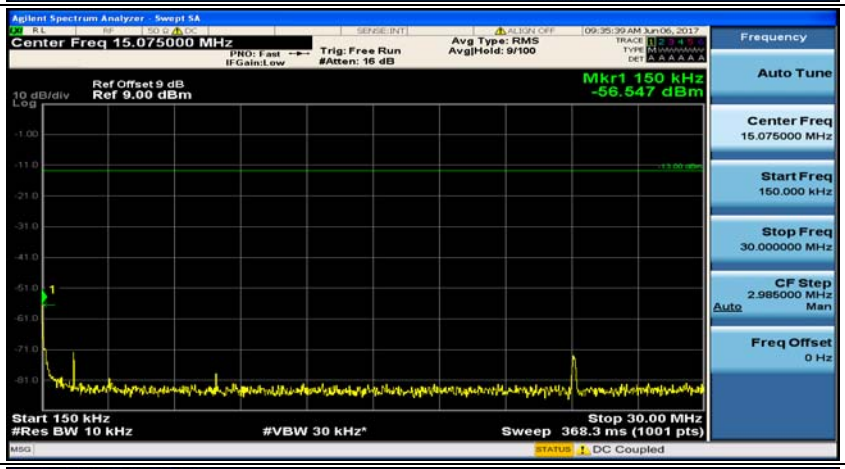


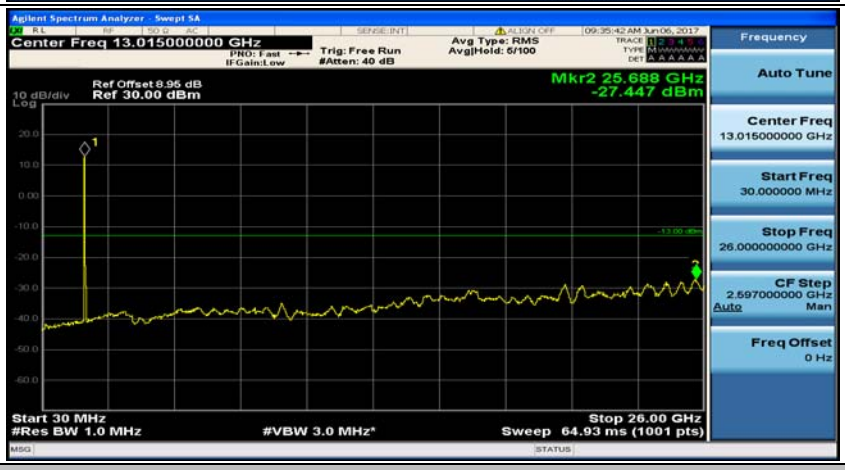




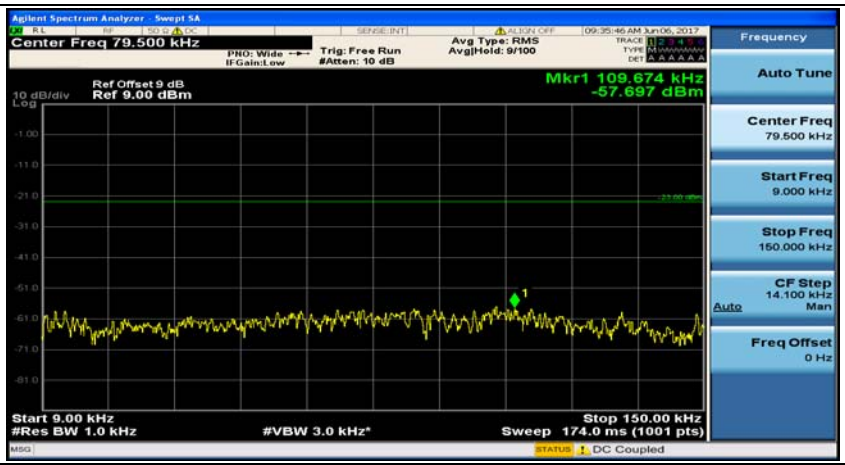
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0

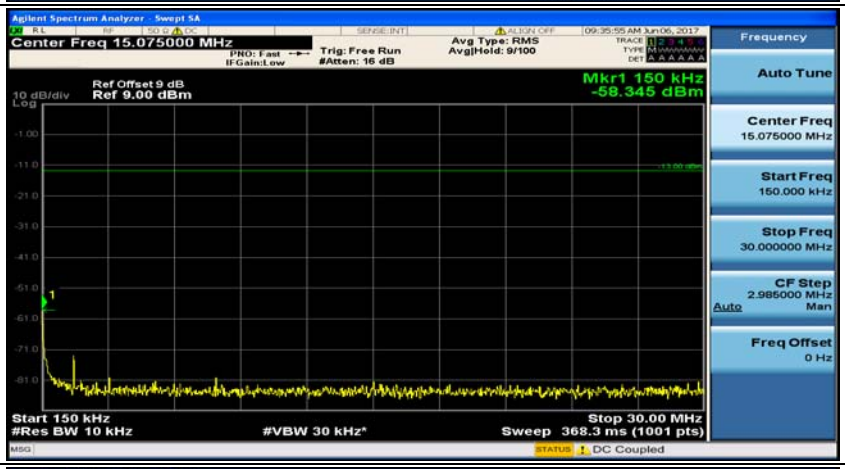


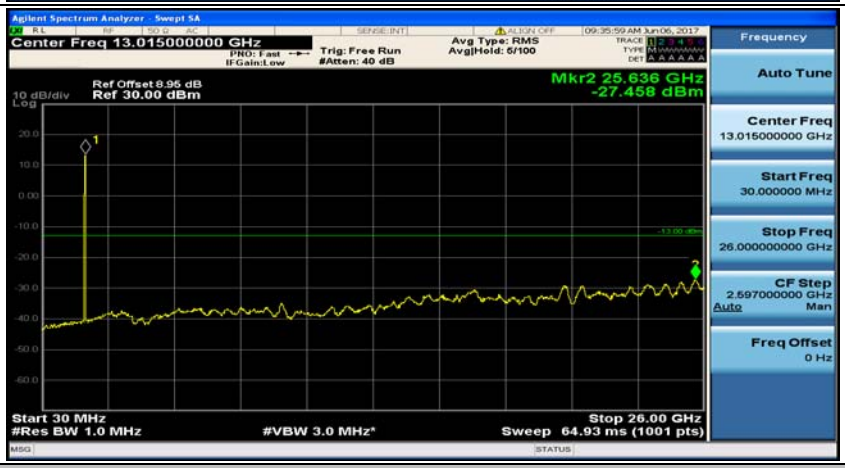




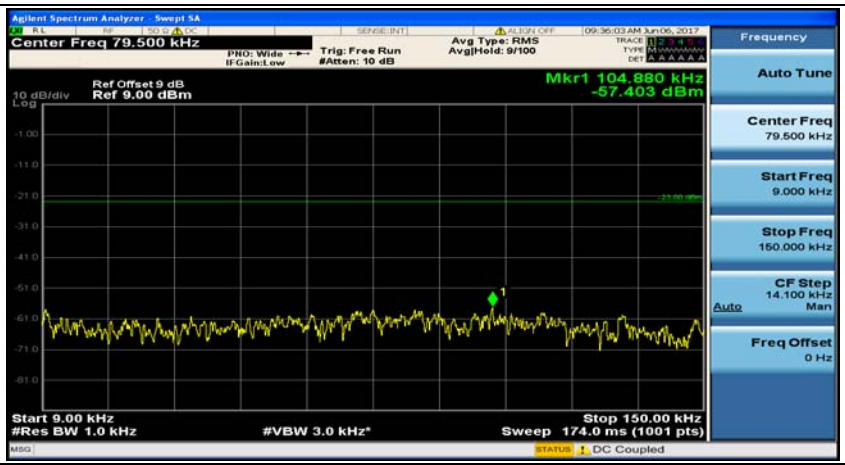
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

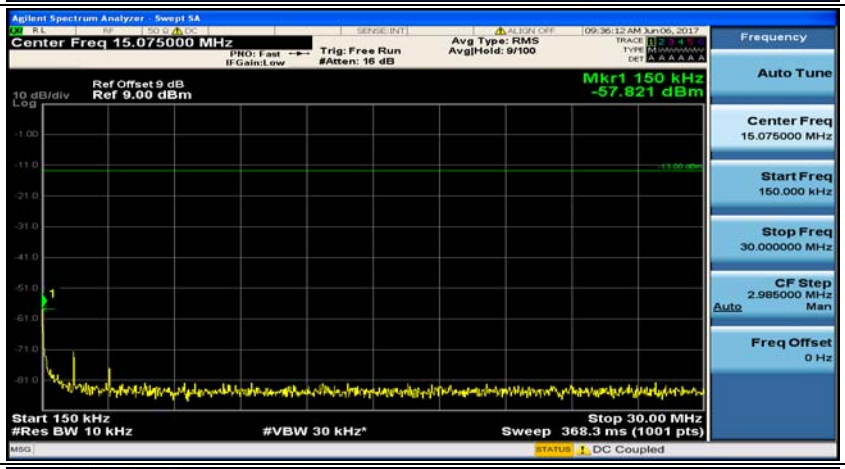


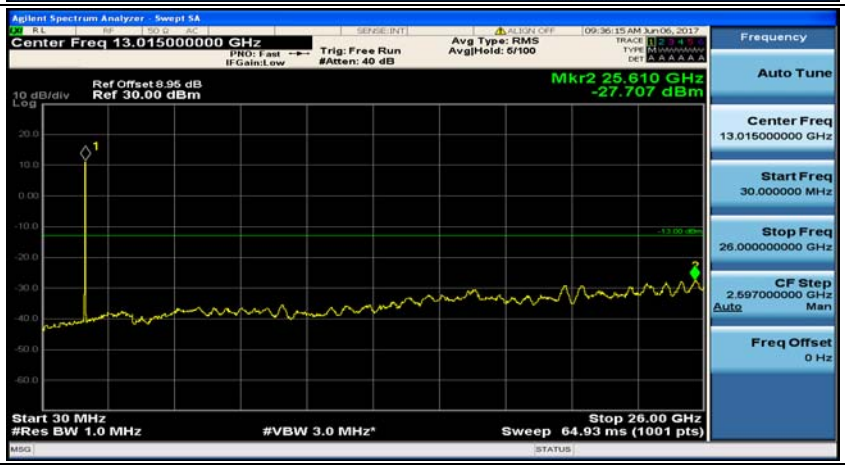




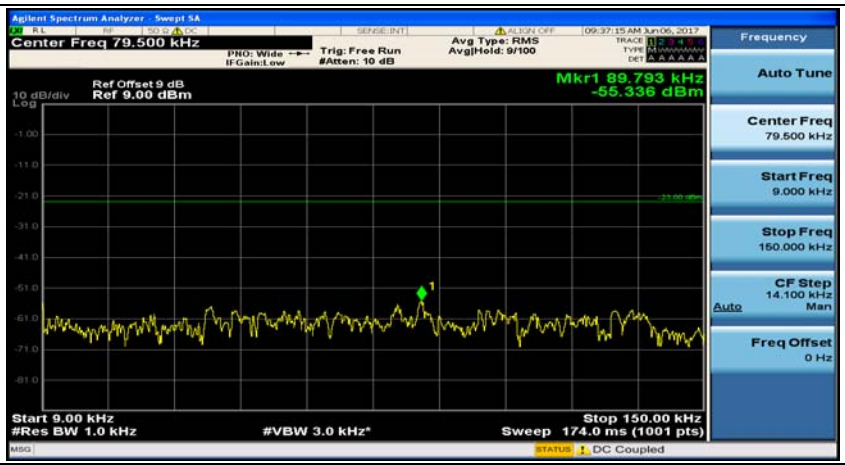
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#99

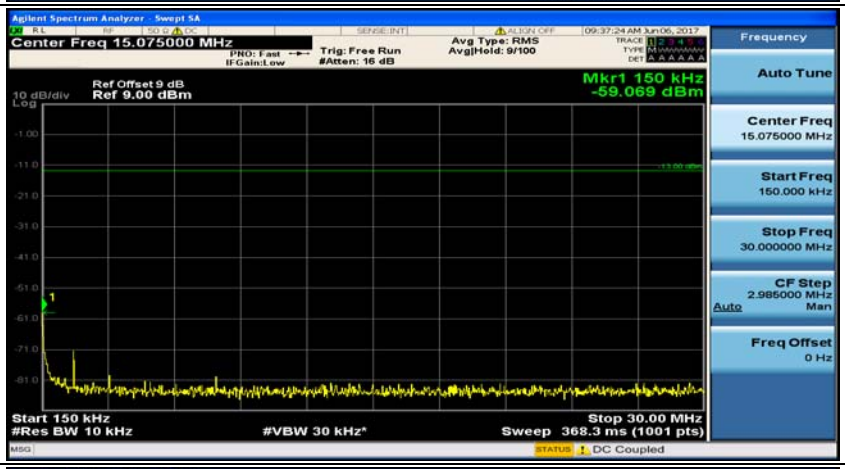


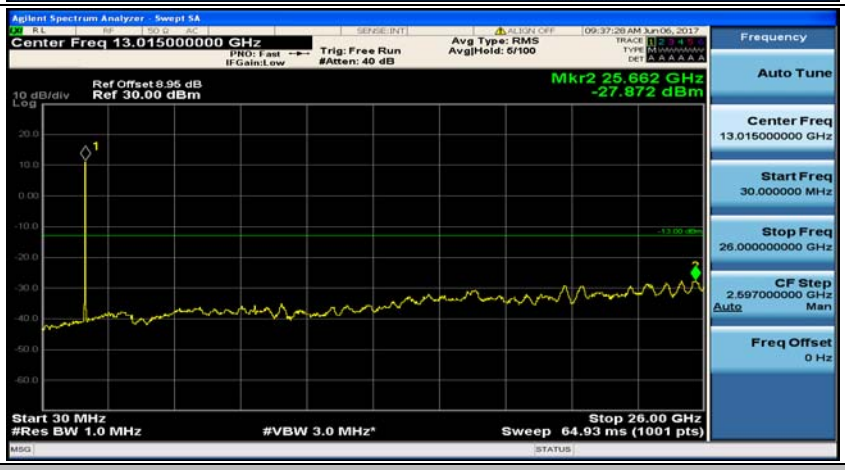




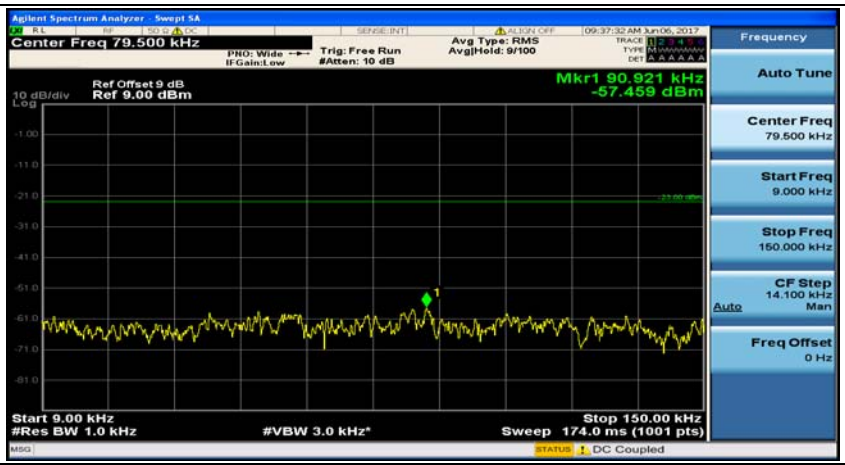
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0

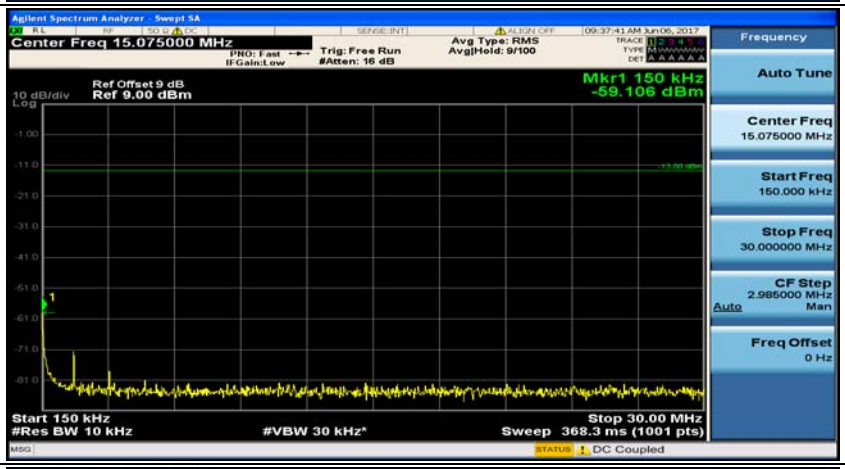


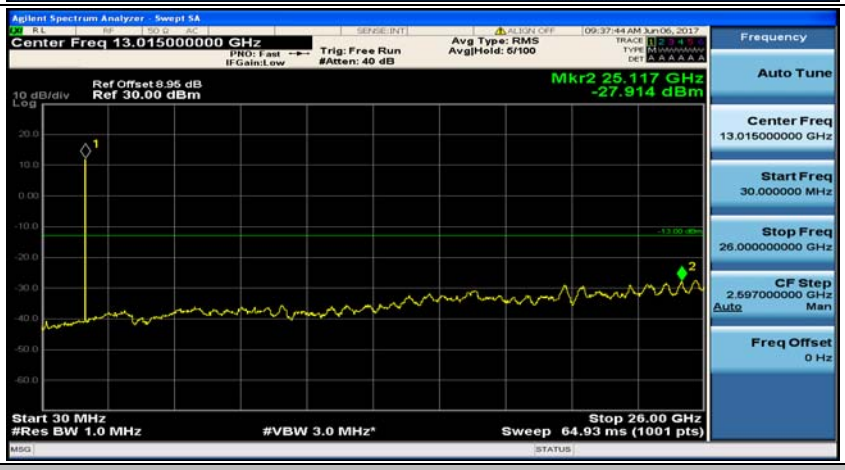




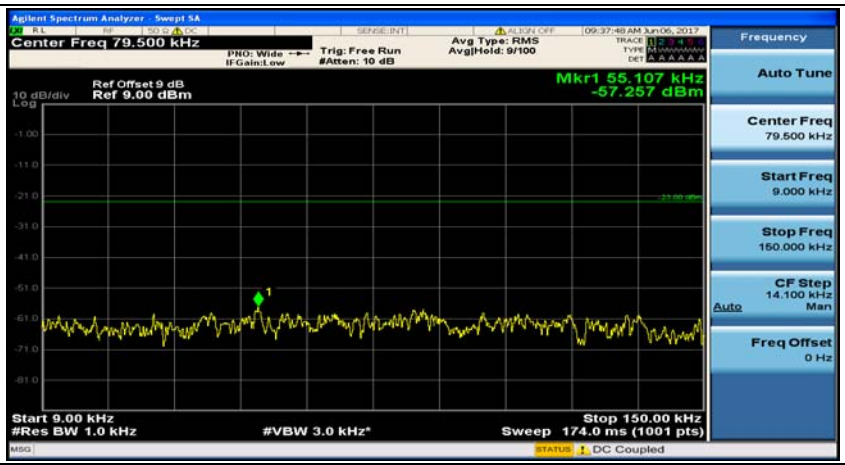
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

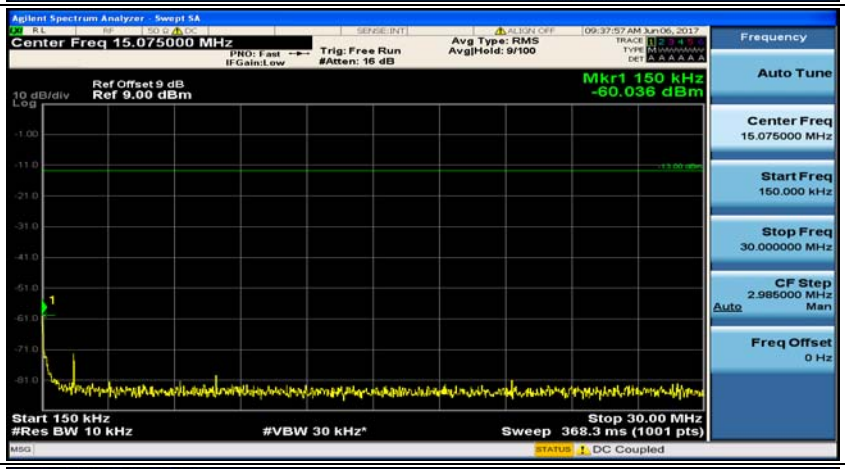


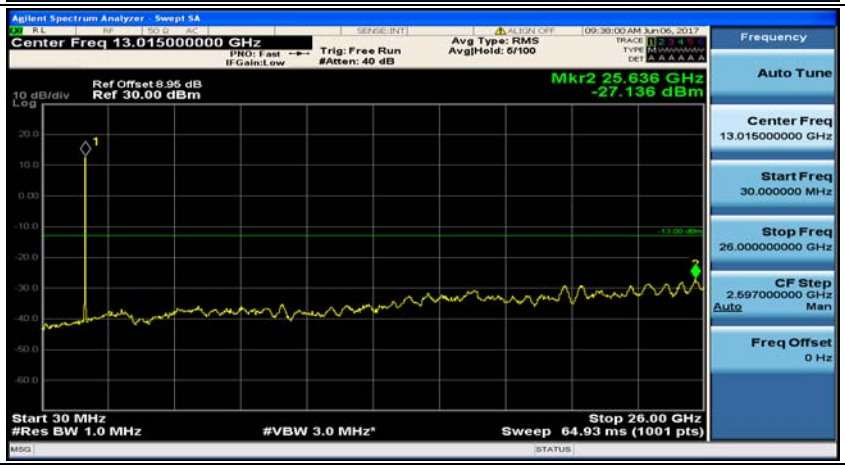




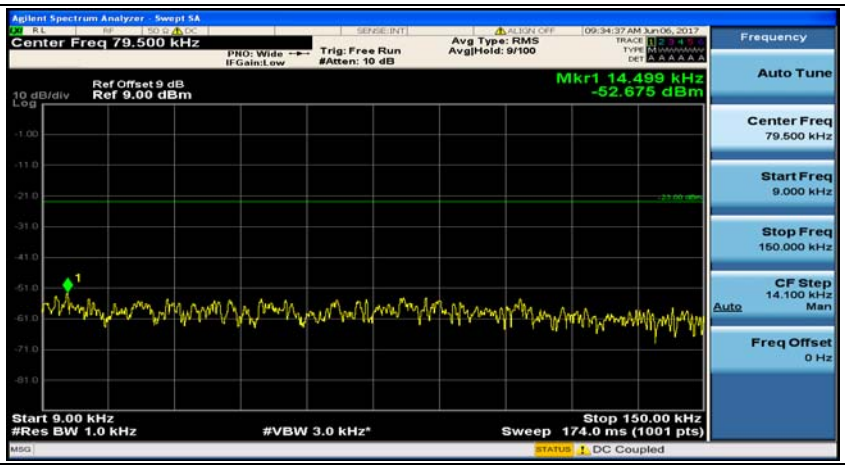
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#99

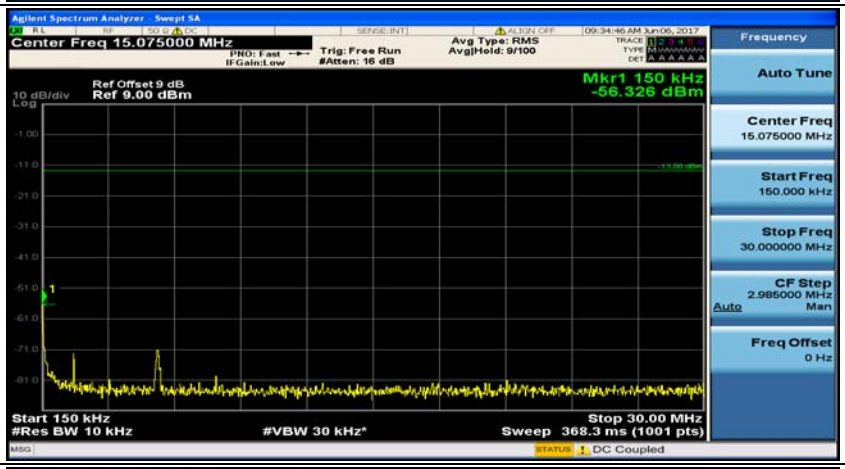


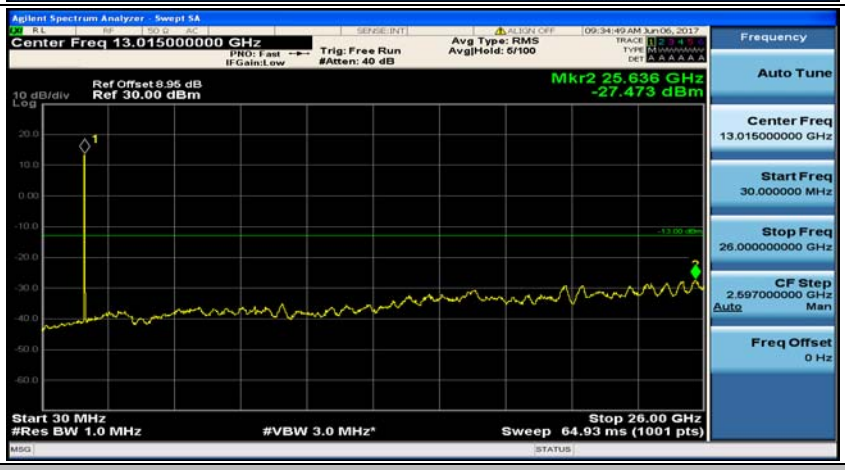




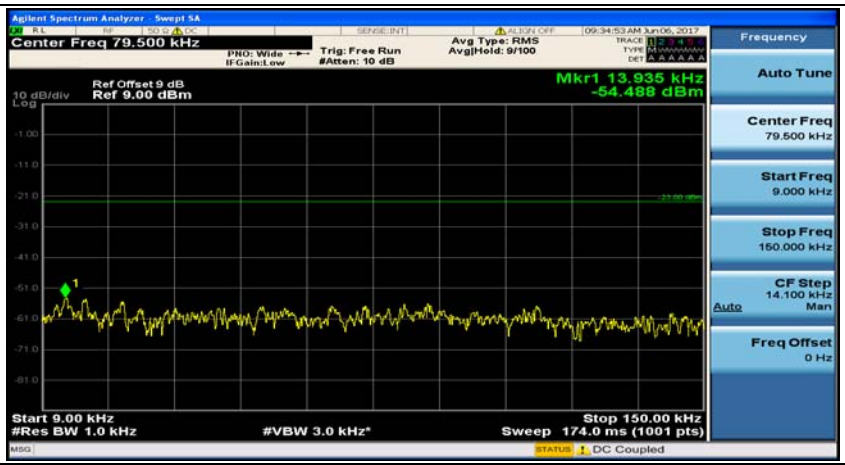
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0

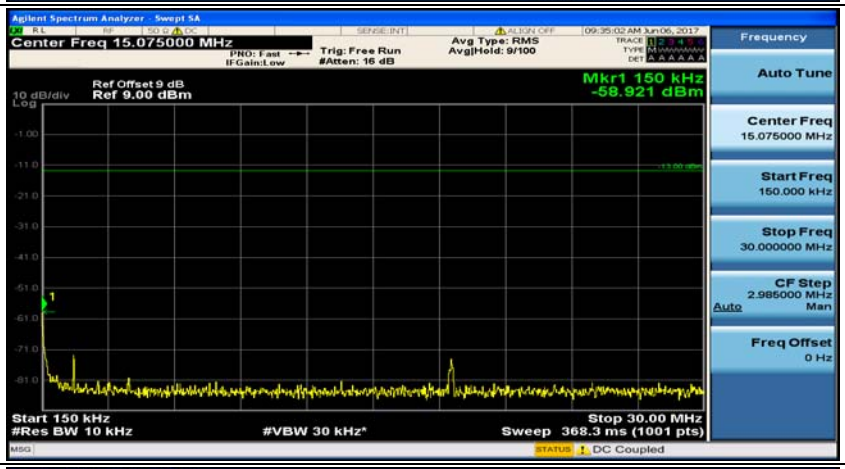


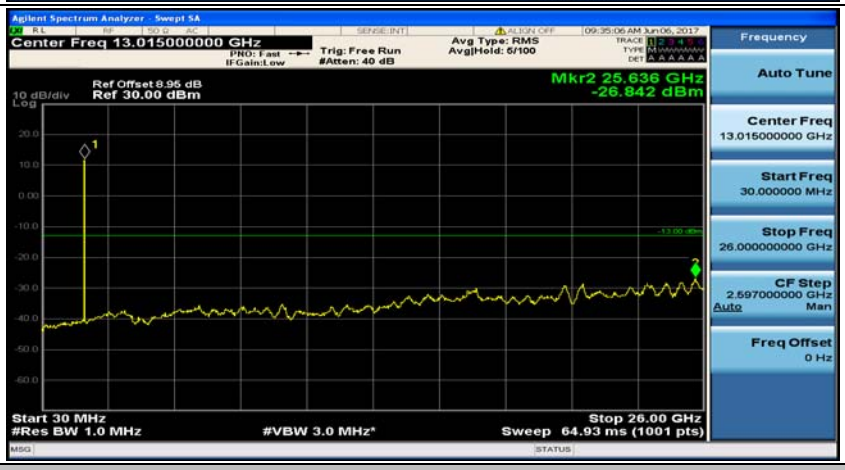




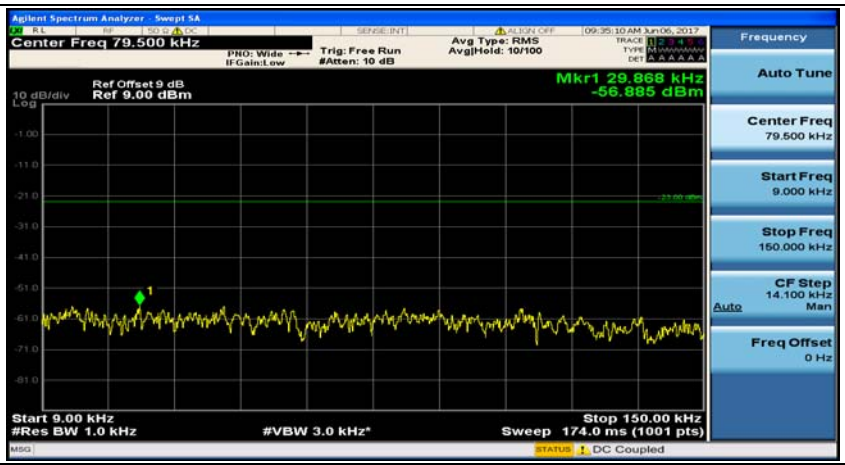
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

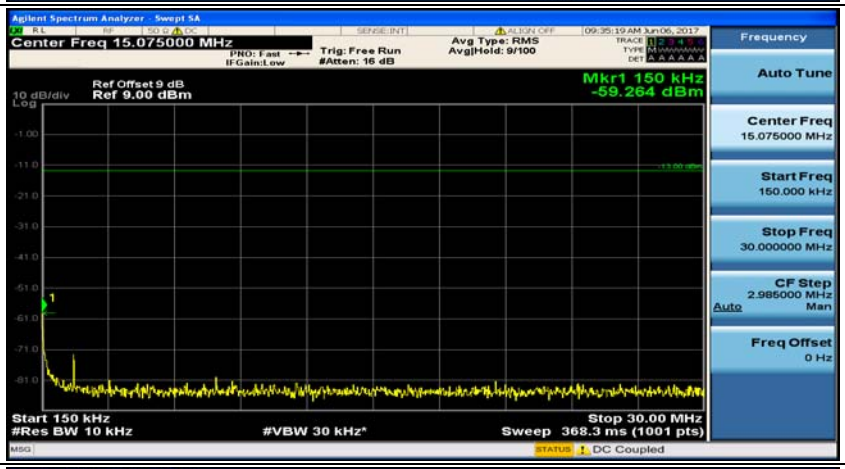


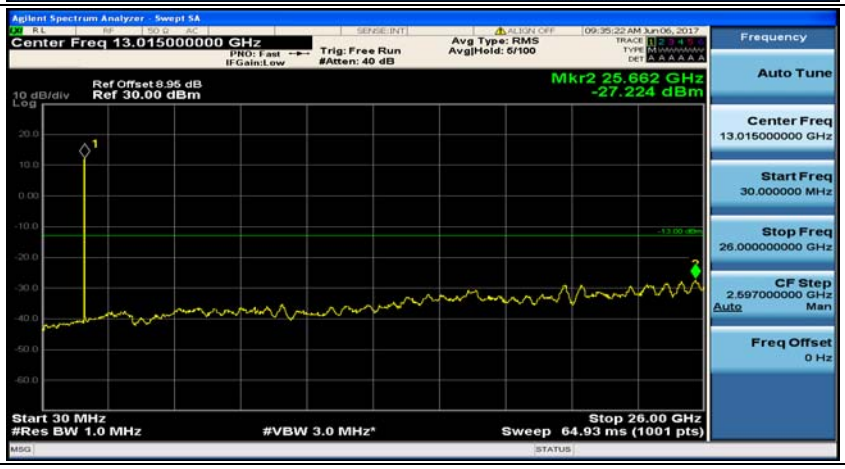




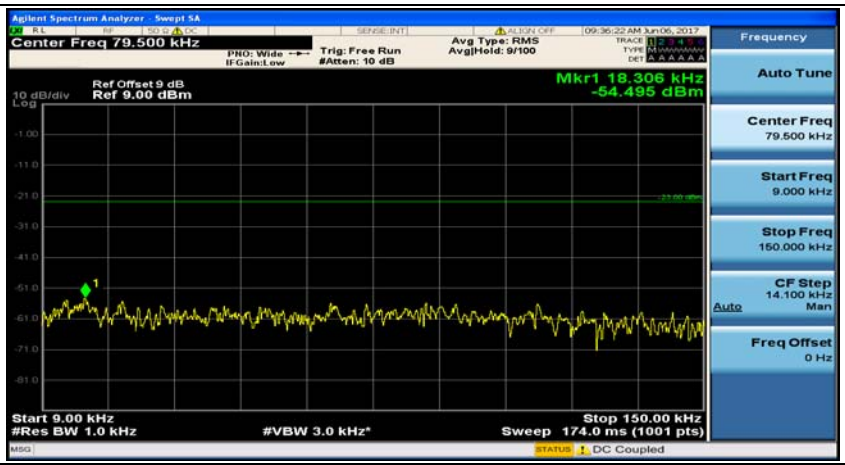
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#99

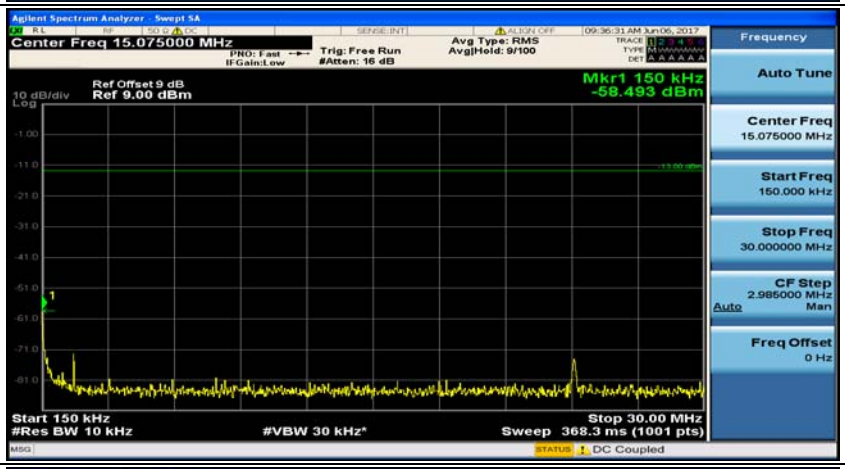


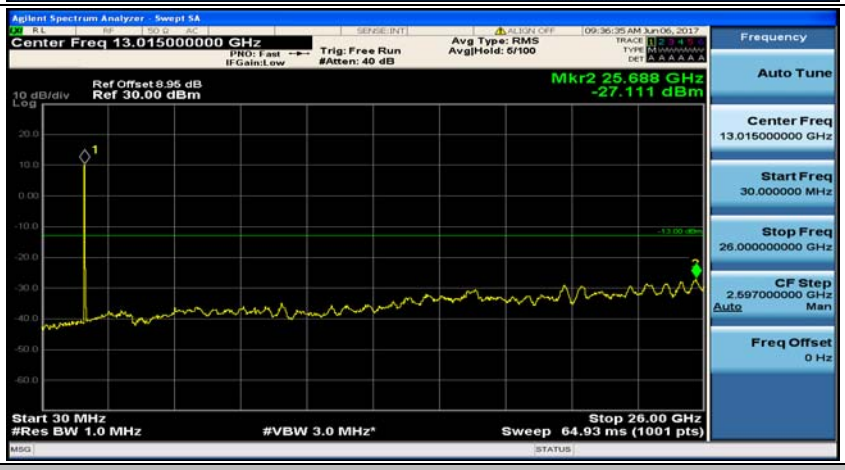




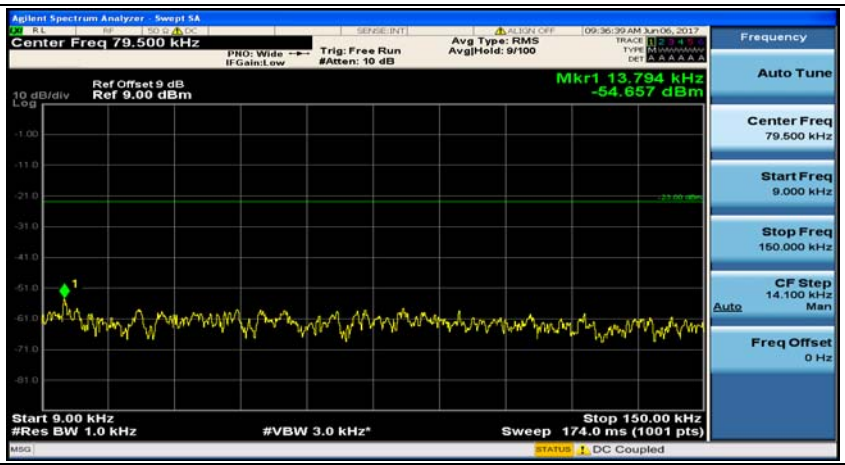
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0

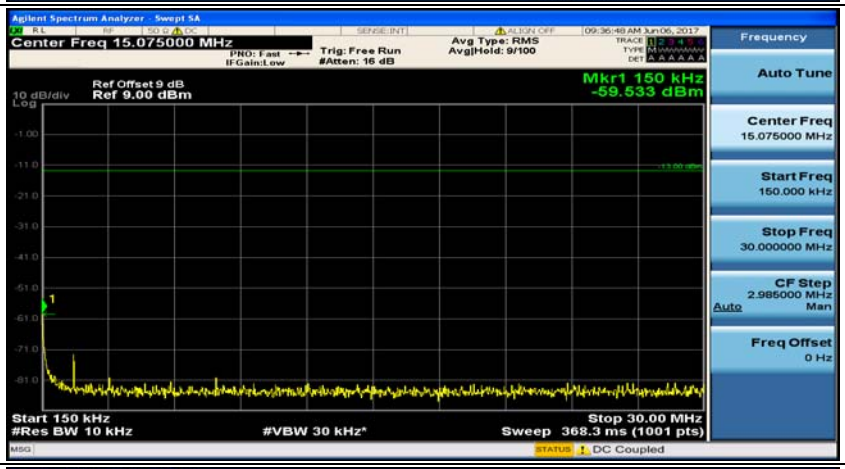


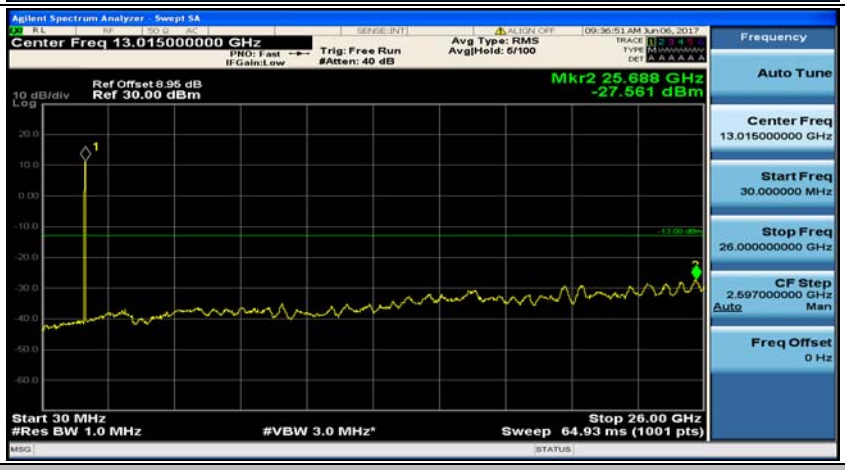




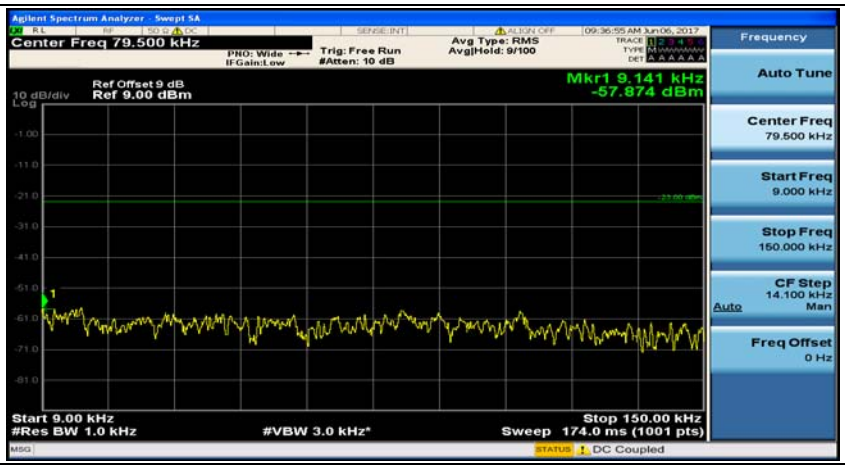
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49

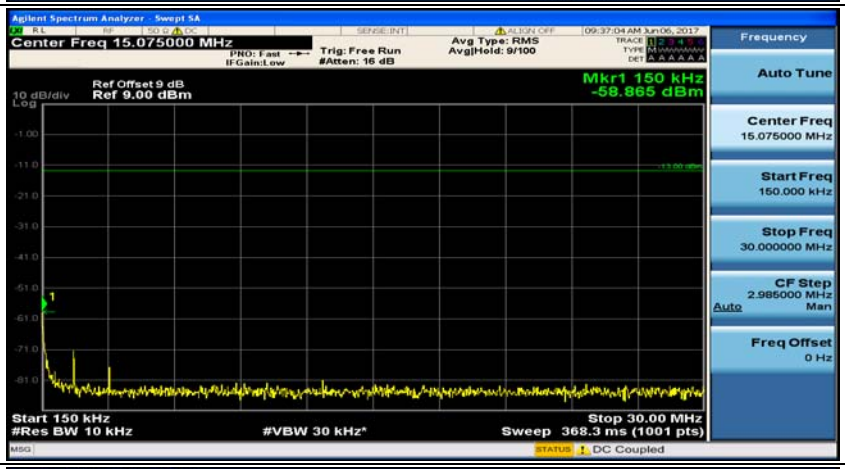


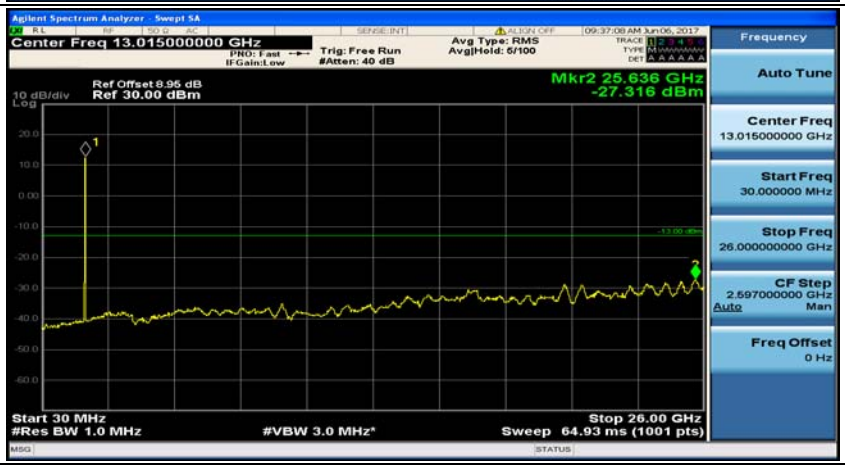




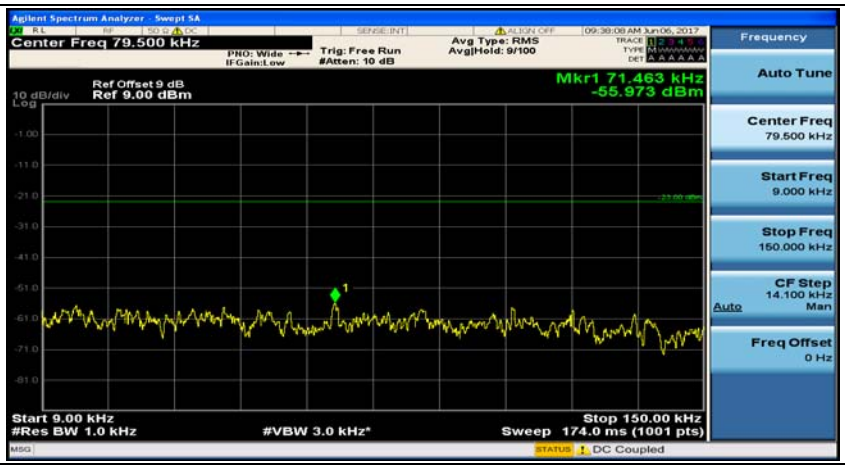
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#99

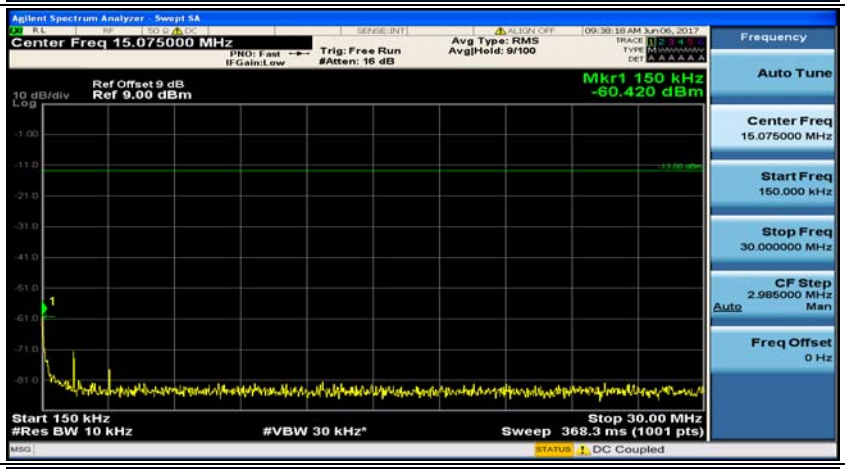


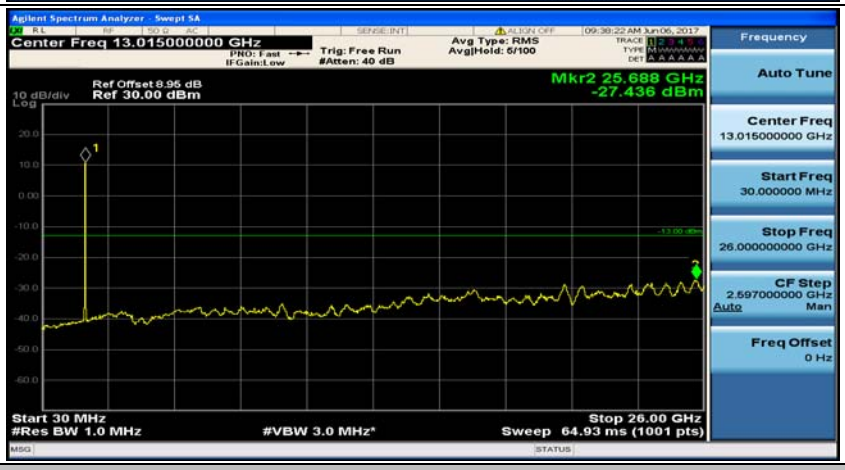




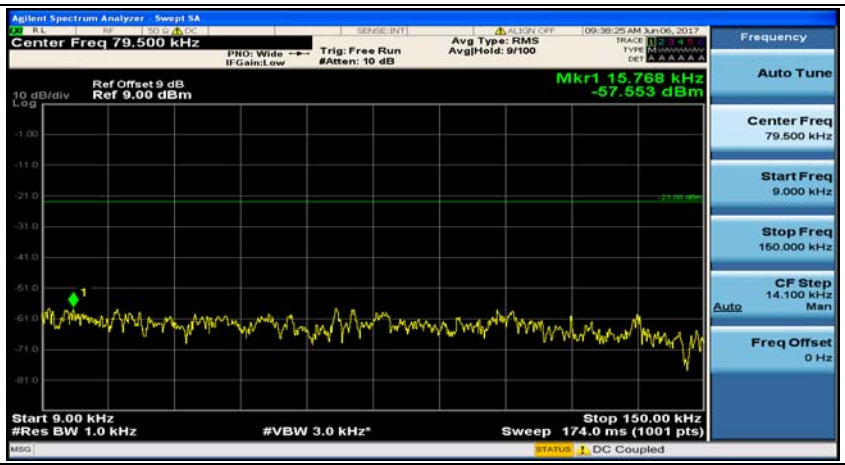
(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0

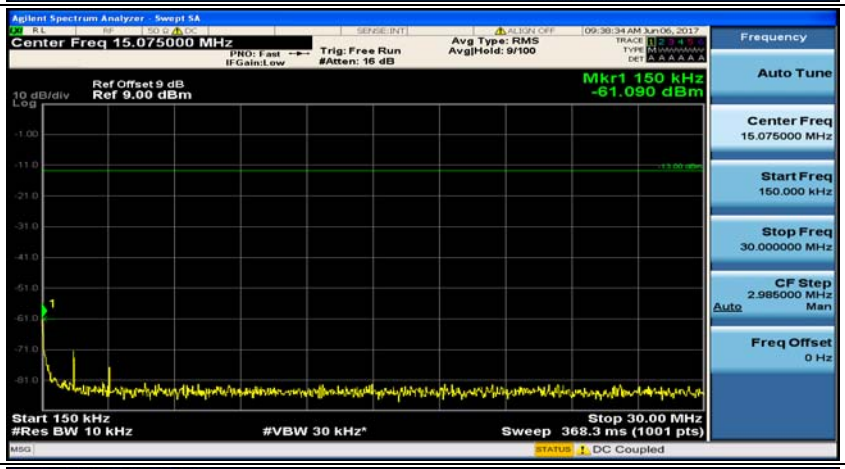


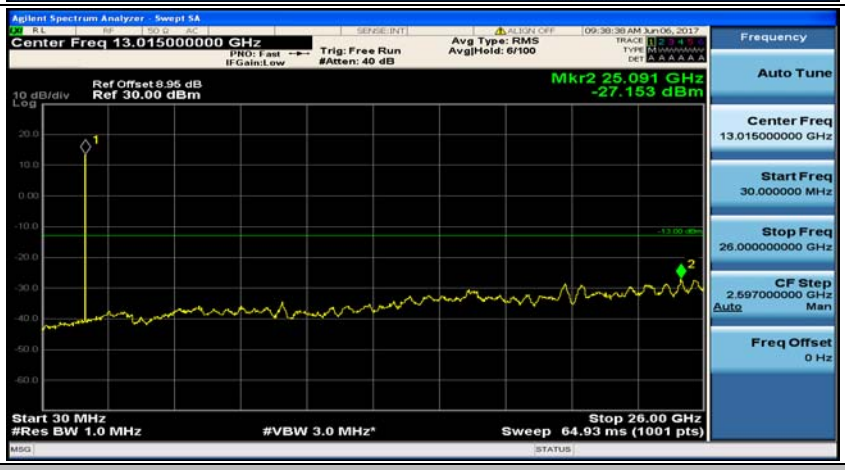




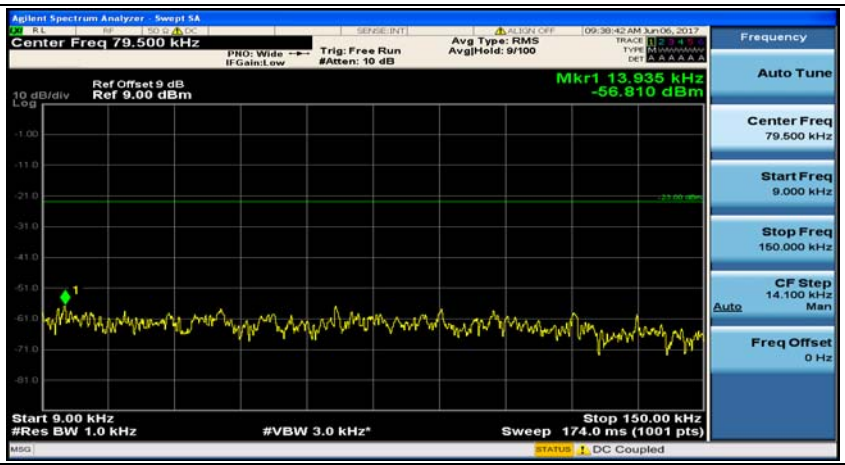
(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#49

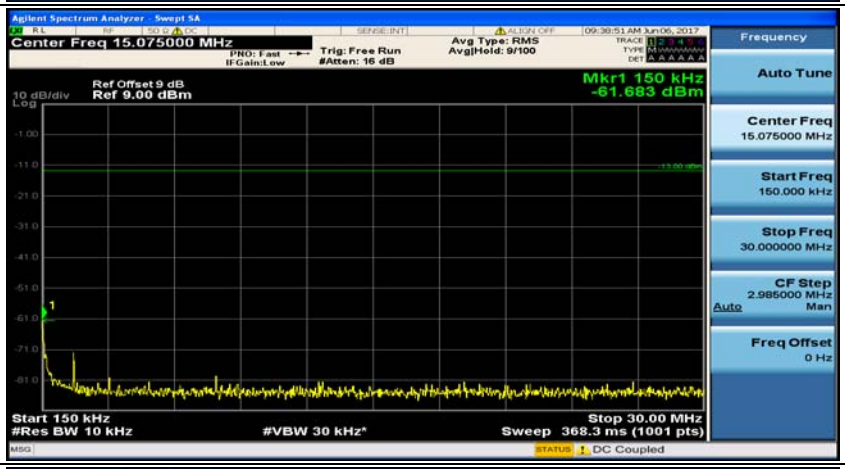


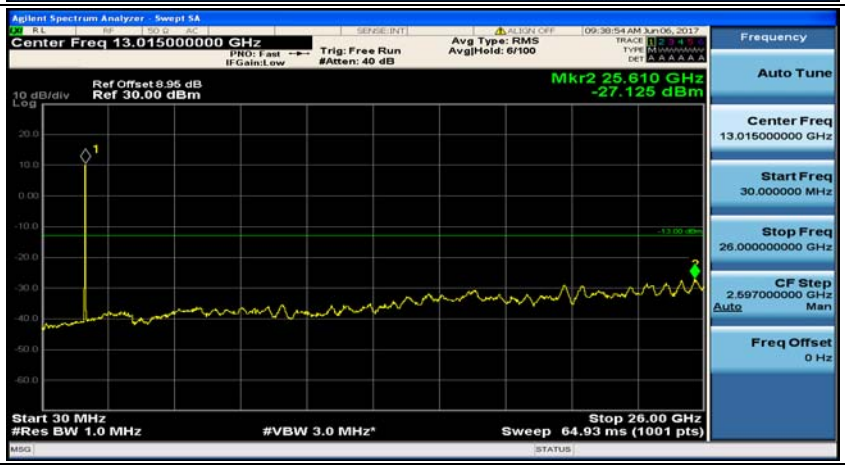




(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#99


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
09:38:42 AM Jun 06, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 13.935 kHz
-56.810 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 174.0 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: 9/100
09:38:51 AM Jun 06, 2017
Frequency
Ref Offset 9 dB
10 dB/div
Log
Ref 9.00 dBm
Mkr1 150 kHz
-61.683 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 368.3 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
09:38:54 AM Jun 06, 2017
Frequency
Ref Offset 8.95 dB
10 dB/div
Log
Ref 30.00 dBm
Mkr2 25.610 GHz
-27.125 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 64.93 ms (1001 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	1.52	0.000889	± 2.5	PASS
		VN	TN	2.55	0.001491	± 2.5	PASS
		VH	TN	0.56	0.000327	± 2.5	PASS
	MCH	VL	TN	0.18	0.000104	± 2.5	PASS
		VN	TN	-1.93	-0.001114	± 2.5	PASS
		VH	TN	0.3	0.000173	± 2.5	PASS
	HCH	VL	TN	1.39	0.000792	± 2.5	PASS
		VN	TN	1.04	0.000593	± 2.5	PASS
		VH	TN	3.15	0.001796	± 2.5	PASS
16QAM	LCH	VL	TN	3.46	0.002023	± 2.5	PASS
		VN	TN	-0.52	-0.000304	± 2.5	PASS
		VH	TN	-1.44	-0.000842	± 2.5	PASS
	MCH	VL	TN	1.69	0.000975	± 2.5	PASS
		VN	TN	-1.2	-0.000693	± 2.5	PASS
		VH	TN	3.42	0.001974	± 2.5	PASS
	HCH	VL	TN	0.29	0.000165	± 2.5	PASS
		VN	TN	0.05	0.000029	± 2.5	PASS
		VH	TN	2.34	0.001334	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.36	-0.000210	± 2.5	PASS
		VN	-20	1.86	0.001087	± 2.5	PASS
		VN	-10	2.07	0.001210	± 2.5	PASS
		VN	0	4.68	0.002736	± 2.5	PASS
		VN	10	-1.66	-0.000970	± 2.5	PASS
		VN	20	0.67	0.000392	± 2.5	PASS
		VN	30	0.49	0.000286	± 2.5	PASS
		VN	40	3.96	0.002315	± 2.5	PASS
		VN	50	3.37	0.001970	± 2.5	PASS
	MCH	VN	-30	0.9	0.000519	± 2.5	PASS
		VN	-20	-0.6	-0.000346	± 2.5	PASS

		VN	-10	3.46	0.001997	± 2.5	PASS
		VN	0	-1.01	-0.000583	± 2.5	PASS
		VN	10	1.52	0.000877	± 2.5	PASS
		VN	20	0.81	0.000468	± 2.5	PASS
		VN	30	-1.1	-0.000635	± 2.5	PASS
		VN	40	-0.77	-0.000444	± 2.5	PASS
		VN	50	1.18	0.000681	± 2.5	PASS
	HCH	VN	-30	1.24	0.000707	± 2.5	PASS
		VN	-20	0.66	0.000376	± 2.5	PASS
		VN	-10	2.33	0.001328	± 2.5	PASS
		VN	0	-1.43	-0.000815	± 2.5	PASS
		VN	10	2.55	0.001454	± 2.5	PASS
		VN	20	1.72	0.000980	± 2.5	PASS
		VN	30	4.52	0.002577	± 2.5	PASS
		VN	40	1.98	0.001129	± 2.5	PASS
		VN	50	4.37	0.002491	± 2.5	PASS
16QAM	LCH	VN	-30	-0.77	-0.000450	± 2.5	PASS
		VN	-20	-1.59	-0.000929	± 2.5	PASS
		VN	-10	-1.97	-0.001152	± 2.5	PASS
		VN	0	1.06	0.000620	± 2.5	PASS
		VN	10	-1.49	-0.000871	± 2.5	PASS
		VN	20	0.59	0.000345	± 2.5	PASS
		VN	30	3.81	0.002227	± 2.5	PASS
		VN	40	0.51	0.000298	± 2.5	PASS
		VN	50	-0.17	-0.000099	± 2.5	PASS
	MCH	VN	-30	1.81	0.001032	± 2.5	PASS
		VN	-20	4.63	0.002639	± 2.5	PASS
		VN	-10	0.92	0.000524	± 2.5	PASS
		VN	0	1.5	0.000855	± 2.5	PASS
		VN	10	0.44	0.000251	± 2.5	PASS
		VN	20	4.53	0.002582	± 2.5	PASS
		VN	30	3.62	0.002064	± 2.5	PASS
		VN	40	3.29	0.001875	± 2.5	PASS
		VN	50	0.35	0.000200	± 2.5	PASS
	HCH	VN	-30	0.13	0.000074	± 2.5	PASS
		VN	-20	1.61	0.000918	± 2.5	PASS
		VN	-10	1.17	0.000667	± 2.5	PASS
		VN	0	2.69	0.001533	± 2.5	PASS
		VN	10	-1.37	-0.000781	± 2.5	PASS
		VN	20	3.61	0.002058	± 2.5	PASS
		VN	30	0.56	0.000319	± 2.5	PASS

		VN	40	-1.19	-0.000678	± 2.5	PASS
		VN	50	0.95	0.000542	± 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	-1.38	-0.000806	± 2.5	PASS
		VN	TN	2.02	0.001180	± 2.5	PASS
		VH	TN	2.9	0.001694	± 2.5	PASS
	MCH	VL	TN	1.55	0.000895	± 2.5	PASS
		VN	TN	2.97	0.001714	± 2.5	PASS
		VH	TN	1.06	0.000612	± 2.5	PASS
	HCH	VL	TN	2.59	0.001477	± 2.5	PASS
		VN	TN	2.91	0.001660	± 2.5	PASS
		VH	TN	4.85	0.002766	± 2.5	PASS
16QAM	LCH	VL	TN	3.38	0.001975	± 2.5	PASS
		VN	TN	4.91	0.002869	± 2.5	PASS
		VH	TN	4.47	0.002612	± 2.5	PASS
	MCH	VL	TN	1.67	0.000964	± 2.5	PASS
		VN	TN	4.79	0.002765	± 2.5	PASS
		VH	TN	3.53	0.002038	± 2.5	PASS
	HCH	VL	TN	4.95	0.002823	± 2.5	PASS
		VN	TN	-0.37	-0.000211	± 2.5	PASS
		VH	TN	1.13	0.000644	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.96	-0.001145	± 2.5	PASS
		VN	-20	4.51	0.002635	± 2.5	PASS
		VN	-10	2.33	0.001361	± 2.5	PASS
		VN	0	2.92	0.001706	± 2.5	PASS
		VN	10	2.87	0.001677	± 2.5	PASS
		VN	20	0.16	0.000093	± 2.5	PASS
		VN	30	2.67	0.001560	± 2.5	PASS
		VN	40	3.34	0.001952	± 2.5	PASS
		VN	50	-0.82	-0.000479	± 2.5	PASS
	MCH	VN	-30	-0.68	-0.000392	± 2.5	PASS
		VN	-20	0.77	0.000444	± 2.5	PASS
		VN	-10	-1.57	-0.000906	± 2.5	PASS

		VN	0	3.03	0.001749	± 2.5	PASS
		VN	10	-1.54	-0.000889	± 2.5	PASS
		VN	20	4.86	0.002805	± 2.5	PASS
		VN	30	3.16	0.001824	± 2.5	PASS
		VN	40	2.53	0.001460	± 2.5	PASS
		VN	50	0.17	0.000098	± 2.5	PASS
	HCH	VN	-30	0.07	0.000040	± 2.5	PASS
		VN	-20	-1.01	-0.000576	± 2.5	PASS
		VN	-10	2.06	0.001175	± 2.5	PASS
		VN	0	0.2	0.000114	± 2.5	PASS
		VN	10	-1.01	-0.000576	± 2.5	PASS
		VN	20	-0.79	-0.000451	± 2.5	PASS
		VN	30	-0.18	-0.000103	± 2.5	PASS
		VN	40	4.93	0.002812	± 2.5	PASS
		VN	50	3.71	0.002116	± 2.5	PASS
16QAM	LCH	VN	-30	2.29	0.001322	± 2.5	PASS
		VN	-20	-0.75	-0.000433	± 2.5	PASS
		VN	-10	4	0.002309	± 2.5	PASS
		VN	0	4.53	0.002615	± 2.5	PASS
		VN	10	0.7	0.000404	± 2.5	PASS
		VN	20	4.45	0.002569	± 2.5	PASS
		VN	30	3.54	0.002043	± 2.5	PASS
		VN	40	3.1	0.001789	± 2.5	PASS
		VN	50	4.86	0.002805	± 2.5	PASS
	MCH	VN	-30	3.72	0.002121	± 2.5	PASS
		VN	-20	0.07	0.000040	± 2.5	PASS
		VN	-10	-0.53	-0.000302	± 2.5	PASS
		VN	0	1.06	0.000605	± 2.5	PASS
		VN	10	3.74	0.002133	± 2.5	PASS
		VN	20	-1.24	-0.000707	± 2.5	PASS
		VN	30	2.97	0.001694	± 2.5	PASS
		VN	40	-0.34	-0.000194	± 2.5	PASS
		VN	50	0.08	0.000046	± 2.5	PASS
	HCH	VN	-30	4.82	0.002749	± 2.5	PASS
		VN	-20	0.69	0.000393	± 2.5	PASS
		VN	-10	4.42	0.002521	± 2.5	PASS
		VN	0	-0.9	-0.000513	± 2.5	PASS
		VN	10	0.53	0.000302	± 2.5	PASS
		VN	20	1.92	0.001095	± 2.5	PASS
		VN	30	0.39	0.000222	± 2.5	PASS
		VN	40	1.82	0.001038	± 2.5	PASS

		VN	50	-0.18	-0.000103	± 2.5	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	-1.81	-0.001057	± 2.5	PASS
		VN	TN	1.71	0.000999	± 2.5	PASS
		VH	TN	3.09	0.001804	± 2.5	PASS
	MCH	VL	TN	4.62	0.002667	± 2.5	PASS
		VN	TN	-0.71	-0.000410	± 2.5	PASS
		VH	TN	-0.5	-0.000289	± 2.5	PASS
	HCH	VL	TN	2.03	0.001158	± 2.5	PASS
		VN	TN	0.24	0.000137	± 2.5	PASS
		VH	TN	3.14	0.001792	± 2.5	PASS
16QAM	LCH	VL	TN	1.4	0.000818	± 2.5	PASS
		VN	TN	0.44	0.000257	± 2.5	PASS
		VH	TN	-0.99	-0.000578	± 2.5	PASS
	MCH	VL	TN	2.72	0.001570	± 2.5	PASS
		VN	TN	-1.09	-0.000629	± 2.5	PASS
		VH	TN	-1.39	-0.000802	± 2.5	PASS
	HCH	VL	TN	-1.91	-0.001090	± 2.5	PASS
		VN	TN	-0.75	-0.000428	± 2.5	PASS
		VH	TN	-1.91	-0.001090	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.99	-0.000578	± 2.5	PASS
		VN	-20	0.38	0.000222	± 2.5	PASS
		VN	-10	-0.99	-0.000578	± 2.5	PASS
		VN	0	1.57	0.000917	± 2.5	PASS
		VN	10	0.18	0.000105	± 2.5	PASS
		VN	20	2.86	0.001670	± 2.5	PASS
		VN	30	3.7	0.002161	± 2.5	PASS
		VN	40	2.59	0.001512	± 2.5	PASS
		VN	50	0.7	0.000409	± 2.5	PASS
	MCH	VN	-30	1.41	0.000814	± 2.5	PASS
		VN	-20	1.05	0.000606	± 2.5	PASS
		VN	-10	1.39	0.000802	± 2.5	PASS
		VN	0	-0.03	-0.000017	± 2.5	PASS

		VN	10	-1.52	-0.000877	± 2.5	PASS
		VN	20	0.2	0.000115	± 2.5	PASS
		VN	30	3.38	0.001951	± 2.5	PASS
		VN	40	-1.13	-0.000652	± 2.5	PASS
		VN	50	3.35	0.001934	± 2.5	PASS
	HCH	VN	-30	4.73	0.002699	± 2.5	PASS
		VN	-20	4.12	0.002160	± 2.5	PASS
		VN	-10	-0.98	-0.000514	± 2.5	PASS
		VN	0	-0.46	-0.000241	± 2.5	PASS
		VN	10	1.73	0.000907	± 2.5	PASS
		VN	20	-0.63	-0.000330	± 2.5	PASS
		VN	30	0.65	0.000341	± 2.5	PASS
		VN	40	2.02	0.001059	± 2.5	PASS
		VN	50	-1.25	-0.000655	± 2.5	PASS
16QAM	LCH	VN	-30	1.84	0.001062	± 2.5	PASS
		VN	-20	4.91	0.002834	± 2.5	PASS
		VN	-10	3.91	0.002257	± 2.5	PASS
		VN	0	3.41	0.001968	± 2.5	PASS
		VN	10	0.82	0.000473	± 2.5	PASS
		VN	20	0.26	0.000150	± 2.5	PASS
		VN	30	2.68	0.001547	± 2.5	PASS
		VN	40	2.3	0.001328	± 2.5	PASS
		VN	50	0.47	0.000271	± 2.5	PASS
	MCH	VN	-30	0.56	0.000320	± 2.5	PASS
		VN	-20	2.5	0.001427	± 2.5	PASS
		VN	-10	2	0.001141	± 2.5	PASS
		VN	0	1.43	0.000816	± 2.5	PASS
		VN	10	2.3	0.001312	± 2.5	PASS
		VN	20	3.68	0.002100	± 2.5	PASS
		VN	30	4.58	0.002613	± 2.5	PASS
		VN	40	0.38	0.000217	± 2.5	PASS
		VN	50	-0.88	-0.000502	± 2.5	PASS
	HCH	VN	-30	-0.34	-0.000178	± 2.5	PASS
		VN	-20	1.63	0.000855	± 2.5	PASS
		VN	-10	0.49	0.000257	± 2.5	PASS
		VN	0	3.07	0.001609	± 2.5	PASS
		VN	10	1.94	0.001017	± 2.5	PASS
		VN	20	-1.39	-0.000729	± 2.5	PASS
		VN	30	4.53	0.002375	± 2.5	PASS
		VN	40	2.94	0.001541	± 2.5	PASS
		VN	50	3.16	0.001657	± 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	4.92	0.002869	± 2.5	PASS
		VN	TN	3.5	0.002041	± 2.5	PASS
		VH	TN	-0.52	-0.000303	± 2.5	PASS
	MCH	VL	TN	4.92	0.002840	± 2.5	PASS
		VN	TN	3.44	0.001986	± 2.5	PASS
		VH	TN	4.67	0.002696	± 2.5	PASS
	HCH	VL	TN	0.53	0.000303	± 2.5	PASS
		VN	TN	0.36	0.000206	± 2.5	PASS
		VH	TN	-0.84	-0.000480	± 2.5	PASS
16QAM	LCH	VL	TN	2.65	0.001545	± 2.5	PASS
		VN	TN	1.77	0.001032	± 2.5	PASS
		VH	TN	3.31	0.001930	± 2.5	PASS
	MCH	VL	TN	2.29	0.001322	± 2.5	PASS
		VN	TN	2.88	0.001662	± 2.5	PASS
		VH	TN	-0.09	-0.000052	± 2.5	PASS
	HCH	VL	TN	2.87	0.001640	± 2.5	PASS
		VN	TN	-0.54	-0.000309	± 2.5	PASS
		VH	TN	2.44	0.001394	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.19	0.001277	± 2.5	PASS
		VN	-20	-1.1	-0.000641	± 2.5	PASS
		VN	-10	1	0.000583	± 2.5	PASS
		VN	0	1.01	0.000589	± 2.5	PASS
		VN	10	4.06	0.002367	± 2.5	PASS
		VN	20	2.48	0.001446	± 2.5	PASS
		VN	30	3	0.001749	± 2.5	PASS
		VN	40	0.99	0.000577	± 2.5	PASS
		VN	50	0.01	0.000006	± 2.5	PASS
	MCH	VN	-30	2.13	0.001229	± 2.5	PASS
		VN	-20	1.2	0.000693	± 2.5	PASS
		VN	-10	-0.77	-0.000444	± 2.5	PASS
		VN	0	-0.74	-0.000427	± 2.5	PASS
		VN	10	1	0.000577	± 2.5	PASS
		VN	20	3.7	0.002136	± 2.5	PASS

		VN	30	-0.61	-0.000352	± 2.5	PASS
		VN	40	0.67	0.000387	± 2.5	PASS
		VN	50	3.15	0.001818	± 2.5	PASS
	HCH	VN	-30	-1.06	-0.000606	± 2.5	PASS
		VN	-20	-1.36	-0.000777	± 2.5	PASS
		VN	-10	4.73	0.002703	± 2.5	PASS
		VN	0	0.78	0.000446	± 2.5	PASS
		VN	10	4.23	0.002417	± 2.5	PASS
		VN	20	-1.26	-0.000720	± 2.5	PASS
		VN	30	1.2	0.000686	± 2.5	PASS
		VN	40	-0.87	-0.000497	± 2.5	PASS
		VN	50	-0.79	-0.000451	± 2.5	PASS
16QAM	LCH	VN	-30	2.49	0.001437	± 2.5	PASS
		VN	-20	3.41	0.001968	± 2.5	PASS
		VN	-10	1.44	0.000831	± 2.5	PASS
		VN	0	3.44	0.001986	± 2.5	PASS
		VN	10	2.6	0.001501	± 2.5	PASS
		VN	20	3.94	0.002274	± 2.5	PASS
		VN	30	2.7	0.001558	± 2.5	PASS
		VN	40	-0.27	-0.000156	± 2.5	PASS
		VN	50	0.77	0.000444	± 2.5	PASS
	MCH	VN	-30	-0.83	-0.000474	± 2.5	PASS
		VN	-20	-0.6	-0.000343	± 2.5	PASS
		VN	-10	4.28	0.002446	± 2.5	PASS
		VN	0	-1.37	-0.000783	± 2.5	PASS
		VN	10	3.47	0.001983	± 2.5	PASS
		VN	20	1.09	0.000623	± 2.5	PASS
		VN	30	4.5	0.002571	± 2.5	PASS
		VN	40	1.15	0.000657	± 2.5	PASS
		VN	50	-1.55	-0.000886	± 2.5	PASS
	HCH	VN	-30	3.01	0.001720	± 2.5	PASS
		VN	-20	0.47	0.000269	± 2.5	PASS
		VN	-10	2.45	0.001400	± 2.5	PASS
		VN	0	3.87	0.002211	± 2.5	PASS
		VN	10	0.6	0.000343	± 2.5	PASS
		VN	20	2.54	0.001451	± 2.5	PASS
		VN	30	1.79	0.001023	± 2.5	PASS
		VN	40	-0.57	-0.000326	± 2.5	PASS
		VN	50	-1.99	-0.001137	± 2.5	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	2.63	0.001531	± 2.5	PASS
		VN	TN	4.26	0.002480	± 2.5	PASS
		VH	TN	2.4	0.001397	± 2.5	PASS
	MCH	VL	TN	0.69	0.000398	± 2.5	PASS
		VN	TN	-0.18	-0.000104	± 2.5	PASS
		VH	TN	-1.05	-0.000606	± 2.5	PASS
	HCH	VL	TN	4.41	0.002524	± 2.5	PASS
		VN	TN	4.23	0.002421	± 2.5	PASS
		VH	TN	3.19	0.001825	± 2.5	PASS
16QAM	LCH	VL	TN	1.54	0.000897	± 2.5	PASS
		VN	TN	-1.24	-0.000722	± 2.5	PASS
		VH	TN	-0.53	-0.000309	± 2.5	PASS
	MCH	VL	TN	0.03	0.000017	± 2.5	PASS
		VN	TN	-0.56	-0.000323	± 2.5	PASS
		VH	TN	1.07	0.000618	± 2.5	PASS
	HCH	VL	TN	0.64	0.000366	± 2.5	PASS
		VN	TN	-0.64	-0.000366	± 2.5	PASS
		VH	TN	1.55	0.000887	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.76	-0.001025	± 2.5	PASS
		VN	-20	-1.86	-0.001083	± 2.5	PASS
		VN	-10	2.67	0.001555	± 2.5	PASS
		VN	0	4.13	0.002405	± 2.5	PASS
		VN	10	3.6	0.002096	± 2.5	PASS
		VN	20	4.52	0.002632	± 2.5	PASS
		VN	30	0.82	0.000477	± 2.5	PASS
		VN	40	3.02	0.001758	± 2.5	PASS
		VN	50	3.68	0.002143	± 2.5	PASS
	MCH	VN	-30	-0.23	-0.000133	± 2.5	PASS
		VN	-20	-1.92	-0.001108	± 2.5	PASS
		VN	-10	3.48	0.002009	± 2.5	PASS
		VN	0	0.08	0.000046	± 2.5	PASS
		VN	10	2.02	0.001166	± 2.5	PASS
		VN	20	-0.25	-0.000144	± 2.5	PASS

		VN	30	4.73	0.002730	± 2.5	PASS
		VN	40	1.87	0.001079	± 2.5	PASS
		VN	50	3.46	0.001997	± 2.5	PASS
	HCH	VN	-30	2.75	0.001574	± 2.5	PASS
		VN	-20	3.92	0.002243	± 2.5	PASS
		VN	-10	3.96	0.002266	± 2.5	PASS
		VN	0	2.72	0.001557	± 2.5	PASS
		VN	10	2.26	0.001293	± 2.5	PASS
		VN	20	0.81	0.000464	± 2.5	PASS
		VN	30	0.29	0.000166	± 2.5	PASS
		VN	40	4.46	0.002552	± 2.5	PASS
		VN	50	2.03	0.001162	± 2.5	PASS
16QAM	LCH	VN	-30	3.01	0.001737	± 2.5	PASS
		VN	-20	-0.6	-0.000346	± 2.5	PASS
		VN	-10	2.71	0.001564	± 2.5	PASS
		VN	0	1.58	0.000912	± 2.5	PASS
		VN	10	4.03	0.002326	± 2.5	PASS
		VN	20	3.19	0.001841	± 2.5	PASS
		VN	30	2.5	0.001443	± 2.5	PASS
		VN	40	1.92	0.001108	± 2.5	PASS
		VN	50	2.37	0.001368	± 2.5	PASS
	MCH	VN	-30	-1.96	-0.001122	± 2.5	PASS
		VN	-20	3.71	0.002123	± 2.5	PASS
		VN	-10	-1.66	-0.000950	± 2.5	PASS
		VN	0	-0.62	-0.000355	± 2.5	PASS
		VN	10	-1.03	-0.000589	± 2.5	PASS
		VN	20	2.78	0.001591	± 2.5	PASS
		VN	30	4.89	0.002798	± 2.5	PASS
		VN	40	-0.98	-0.000561	± 2.5	PASS
		VN	50	0.76	0.000435	± 2.5	PASS
	HCH	VN	-30	-0.66	-0.000378	± 2.5	PASS
		VN	-20	0.16	0.000092	± 2.5	PASS
		VN	-10	4.78	0.002735	± 2.5	PASS
		VN	0	4.28	0.002449	± 2.5	PASS
		VN	10	1.24	0.000710	± 2.5	PASS
		VN	20	2.51	0.001436	± 2.5	PASS
		VN	30	4.92	0.002815	± 2.5	PASS
		VN	40	1.03	0.000589	± 2.5	PASS
		VN	50	4.33	0.002478	± 2.5	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	3.72	0.002163	± 2.5	PASS
		VN	TN	1.8	0.001047	± 2.5	PASS
		VH	TN	0.88	0.000512	± 2.5	PASS
	MCH	VL	TN	-0.05	-0.000029	± 2.5	PASS
		VN	TN	1.86	0.001074	± 2.5	PASS
		VH	TN	3.68	0.002124	± 2.5	PASS
	HCH	VL	TN	-0.32	-0.000183	± 2.5	PASS
		VN	TN	1.78	0.001020	± 2.5	PASS
		VH	TN	1.04	0.000596	± 2.5	PASS
16QAM	LCH	VL	TN	-1.24	-0.000721	± 2.5	PASS
		VN	TN	0.97	0.000564	± 2.5	PASS
		VH	TN	2.71	0.001576	± 2.5	PASS
	MCH	VL	TN	-1.2	-0.000693	± 2.5	PASS
		VN	TN	4.32	0.002494	± 2.5	PASS
		VH	TN	1.48	0.000854	± 2.5	PASS
	HCH	VL	TN	4.37	0.002504	± 2.5	PASS
		VN	TN	-0.78	-0.000447	± 2.5	PASS
		VH	TN	-1.35	-0.000774	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.63	-0.000948	± 2.5	PASS
		VN	-20	0.72	0.000419	± 2.5	PASS
		VN	-10	-0.52	-0.000302	± 2.5	PASS
		VN	0	2.26	0.001314	± 2.5	PASS
		VN	10	-0.78	-0.000453	± 2.5	PASS
		VN	20	4.45	0.002587	± 2.5	PASS
		VN	30	2.16	0.001256	± 2.5	PASS
		VN	40	3.79	0.002203	± 2.5	PASS
		VN	50	-1.99	-0.001157	± 2.5	PASS
	MCH	VN	-30	1.22	0.000704	± 2.5	PASS
		VN	-20	2.26	0.001304	± 2.5	PASS
		VN	-10	3.49	0.002014	± 2.5	PASS
		VN	0	3.94	0.002274	± 2.5	PASS
		VN	10	-0.4	-0.000231	± 2.5	PASS
		VN	20	3.51	0.002026	± 2.5	PASS

		VN	30	3.54	0.002043	± 2.5	PASS
		VN	40	1.89	0.001091	± 2.5	PASS
		VN	50	0.92	0.000531	± 2.5	PASS
	HCH	VN	-30	3.69	0.002115	± 2.5	PASS
		VN	-20	-0.8	-0.000458	± 2.5	PASS
		VN	-10	0.04	0.000023	± 2.5	PASS
		VN	0	0.2	0.000115	± 2.5	PASS
		VN	10	-0.44	-0.000252	± 2.5	PASS
		VN	20	3.56	0.002040	± 2.5	PASS
		VN	30	1.7	0.000974	± 2.5	PASS
		VN	40	-1.01	-0.000579	± 2.5	PASS
		VN	50	3.94	0.002258	± 2.5	PASS
16QAM	LCH	VN	-30	3.72	0.002147	± 2.5	PASS
		VN	-20	-1.05	-0.000606	± 2.5	PASS
		VN	-10	0.77	0.000444	± 2.5	PASS
		VN	0	1.88	0.001085	± 2.5	PASS
		VN	10	2.26	0.001304	± 2.5	PASS
		VN	20	4.1	0.002367	± 2.5	PASS
		VN	30	1.68	0.000970	± 2.5	PASS
		VN	40	-1.42	-0.000820	± 2.5	PASS
		VN	50	-0.48	-0.000277	± 2.5	PASS
	MCH	VN	-30	1.32	0.000756	± 2.5	PASS
		VN	-20	2.47	0.001415	± 2.5	PASS
		VN	-10	0.34	0.000195	± 2.5	PASS
		VN	0	3.02	0.001731	± 2.5	PASS
		VN	10	3.38	0.001937	± 2.5	PASS
		VN	20	-0.75	-0.000430	± 2.5	PASS
		VN	30	-0.71	-0.000407	± 2.5	PASS
		VN	40	-1.3	-0.000745	± 2.5	PASS
		VN	50	-1.06	-0.000607	± 2.5	PASS
	HCH	VN	-30	-0.02	-0.000011	± 2.5	PASS
		VN	-20	3.57	0.002046	± 2.5	PASS
		VN	-10	-0.76	-0.000436	± 2.5	PASS
		VN	0	-1.91	-0.001095	± 2.5	PASS
		VN	10	4.16	0.002384	± 2.5	PASS
		VN	20	2.83	0.001622	± 2.5	PASS
		VN	30	2.71	0.001553	± 2.5	PASS
		VN	40	2.84	0.001628	± 2.5	PASS
		VN	50	1.18	0.000676	± 2.5	PASS