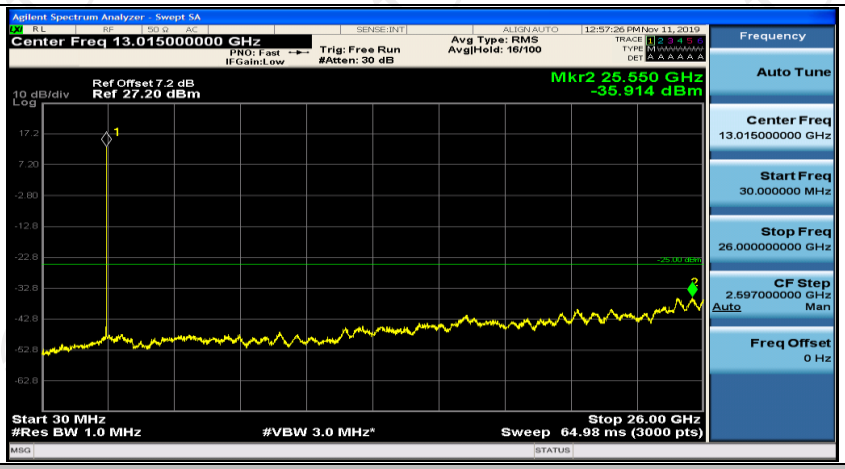
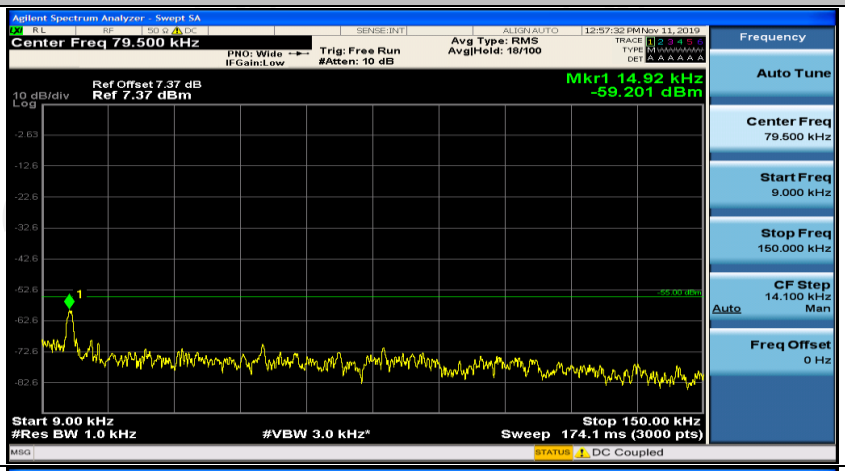
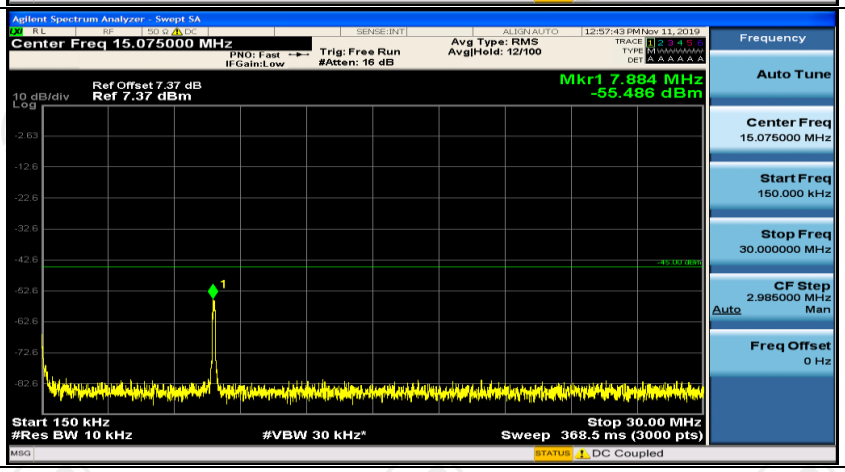
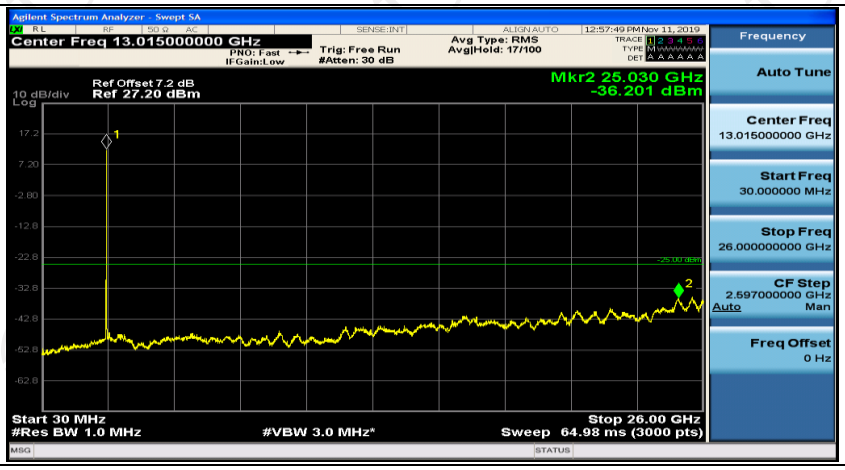


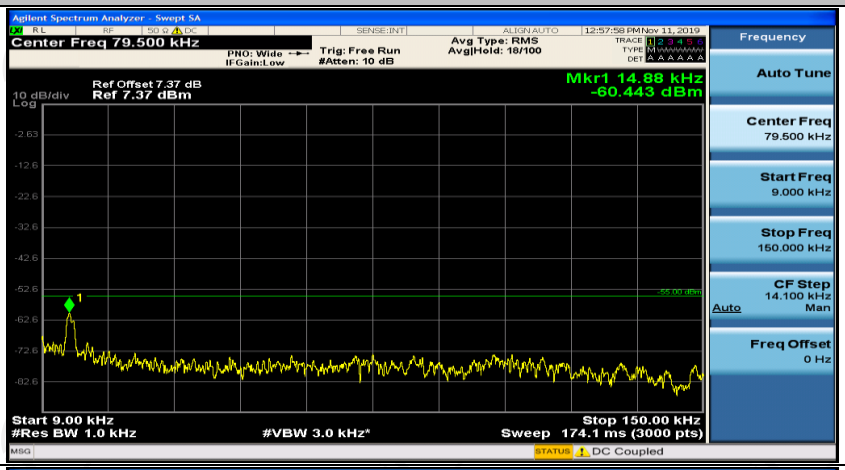
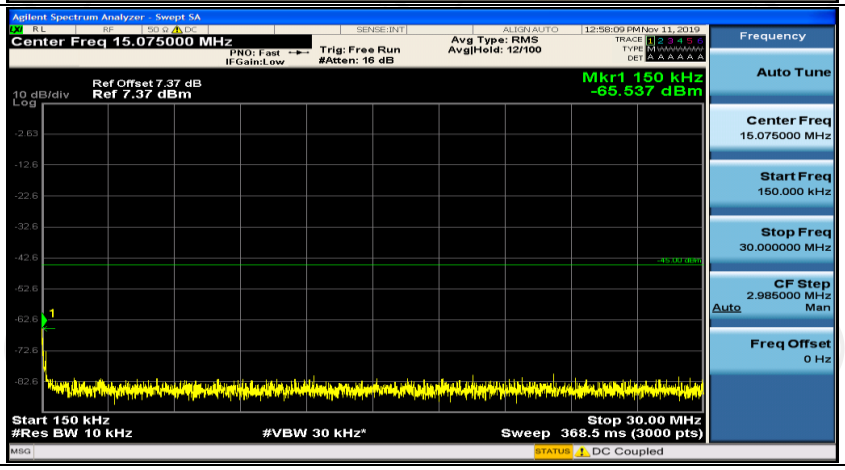
(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#74

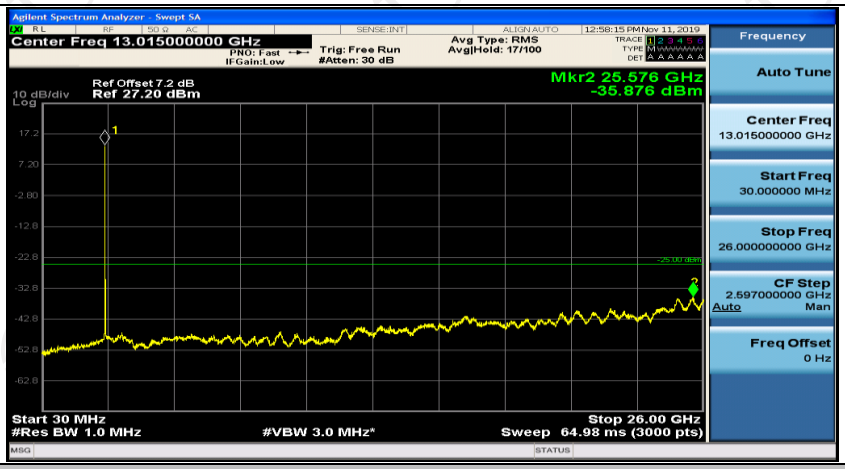




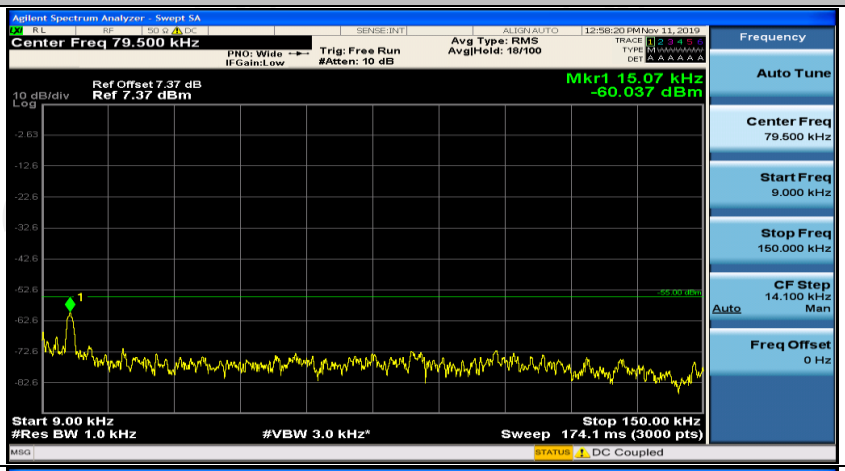


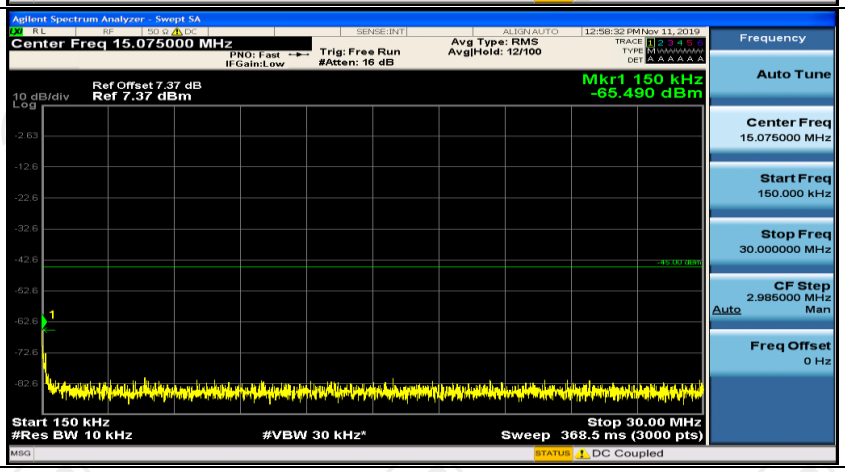
Channel Bandwidth: 20 MHz

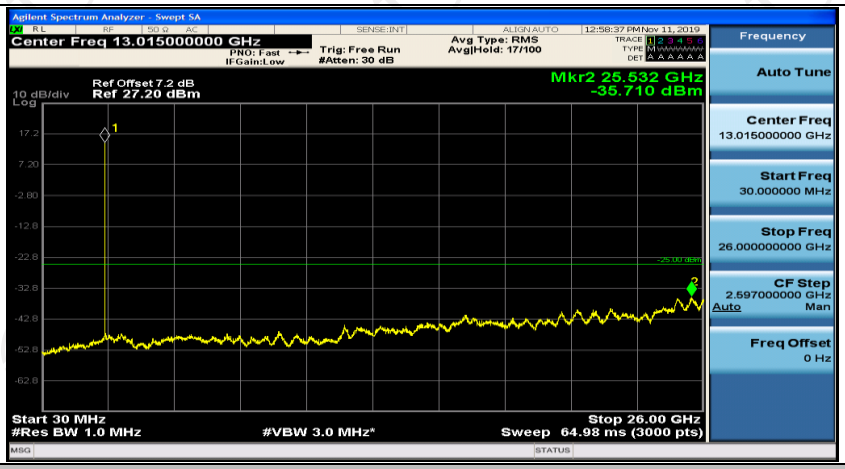
(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#0





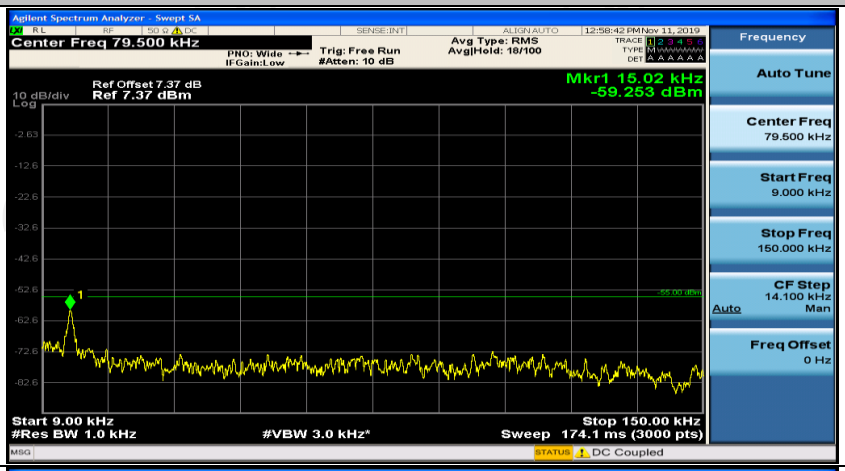
(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#49

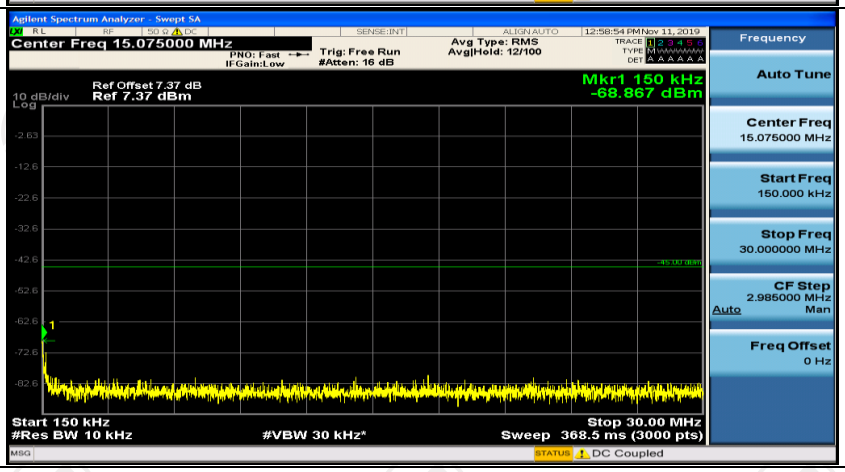


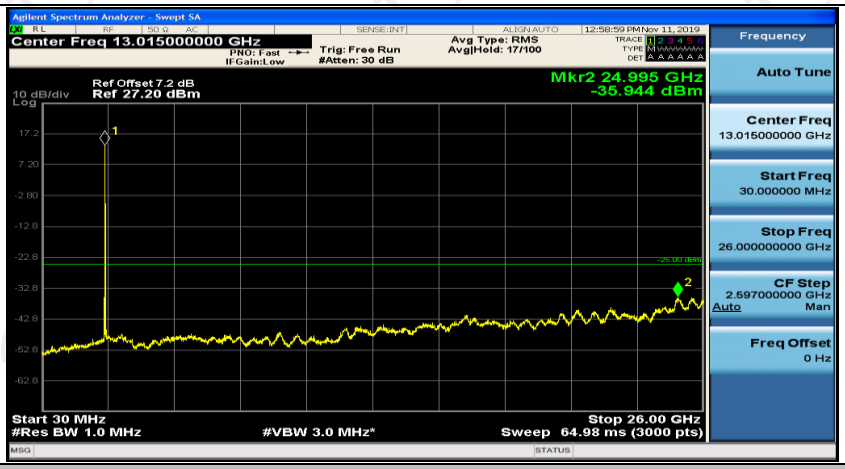




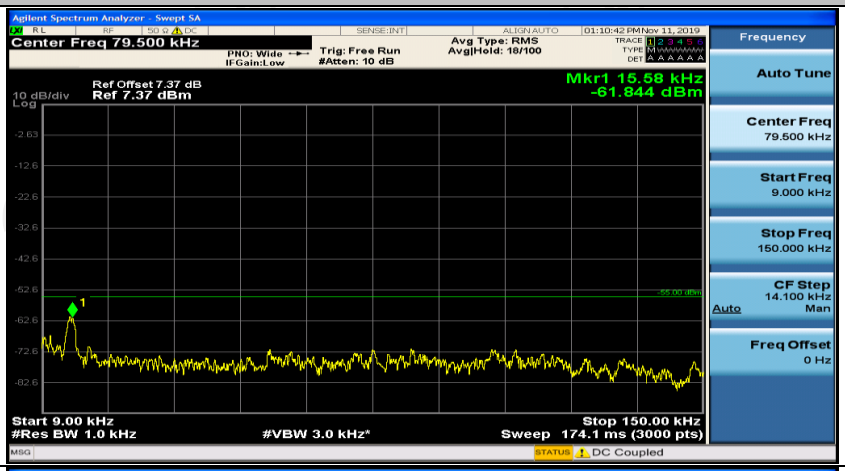
(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#99

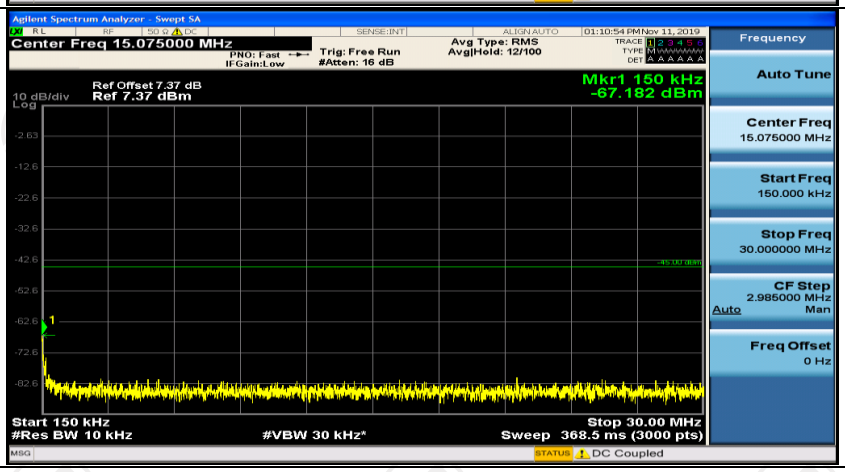


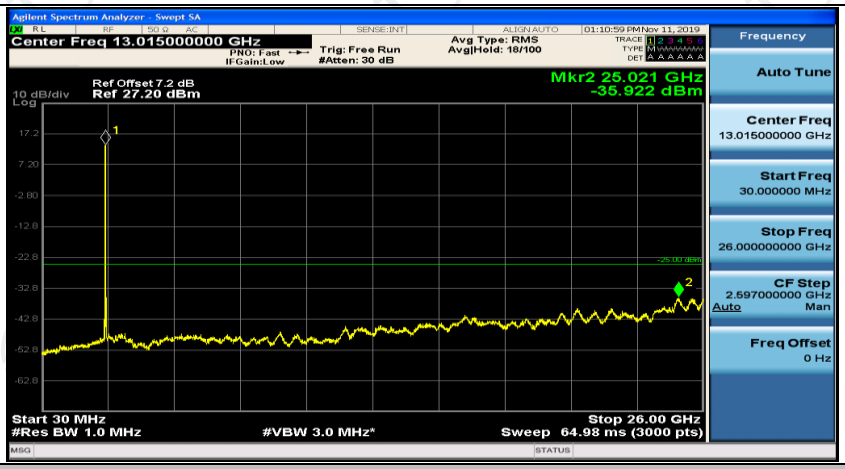




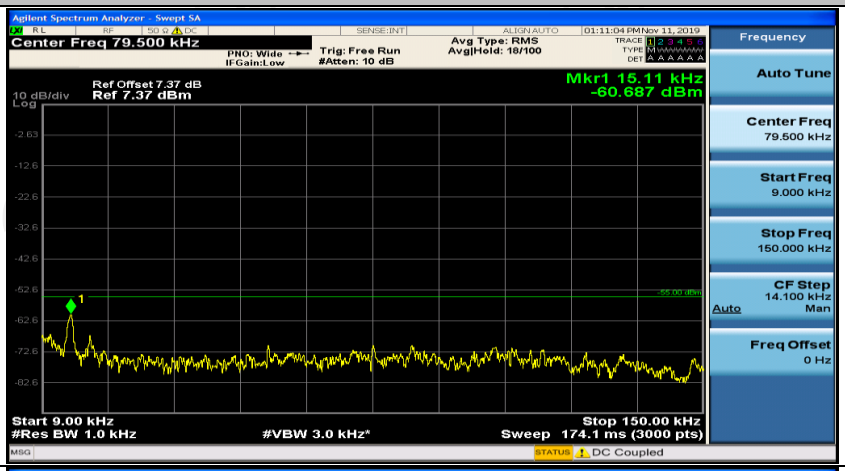
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0

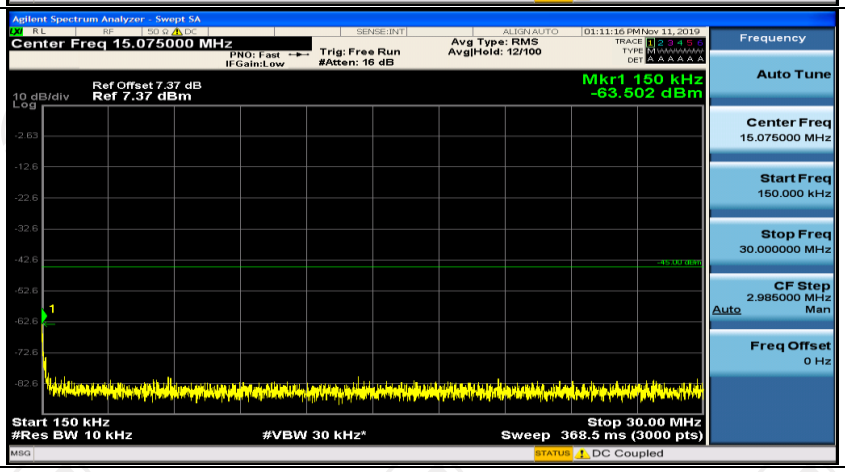


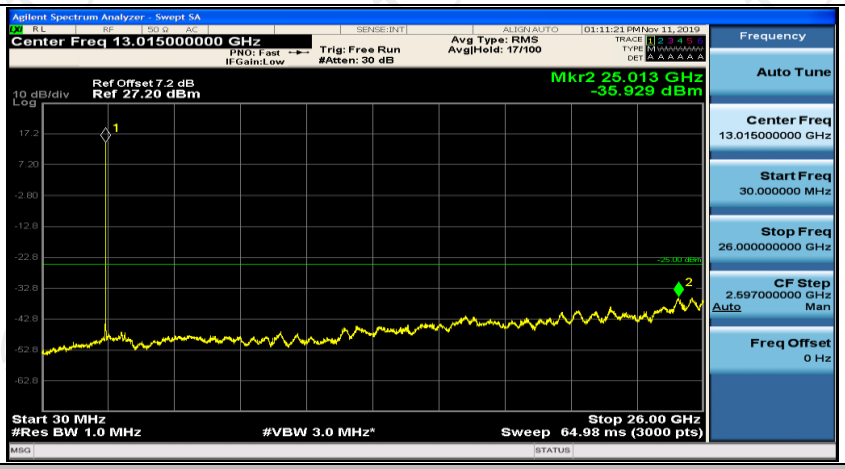




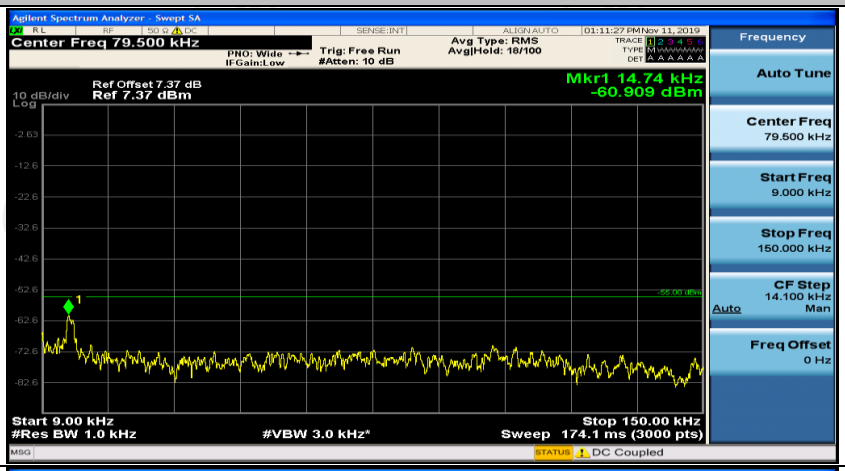
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

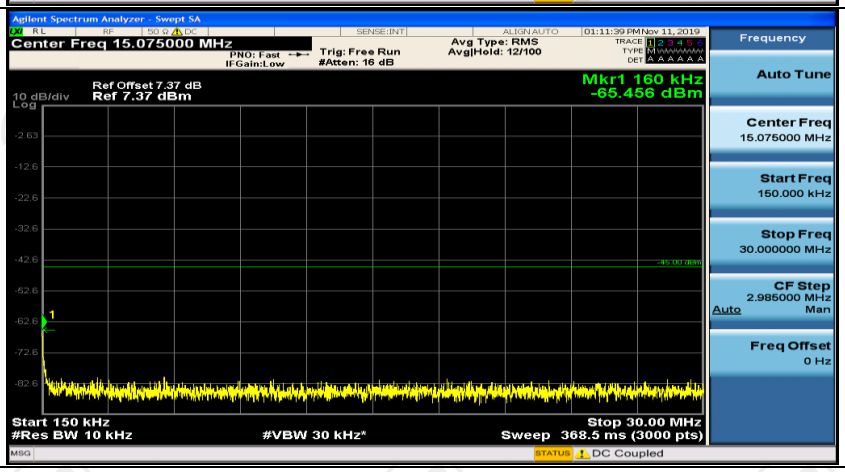


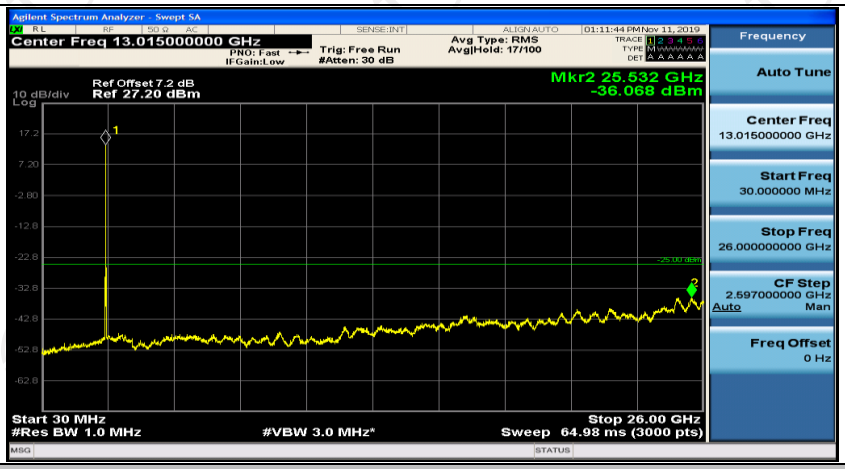




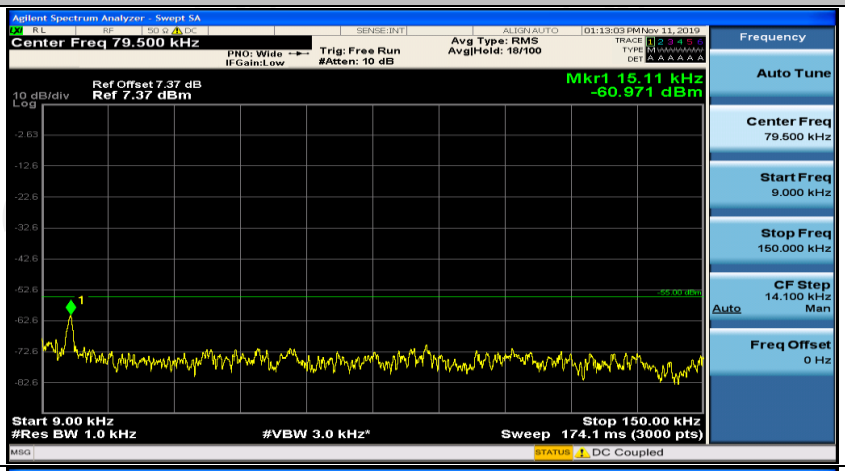
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#99

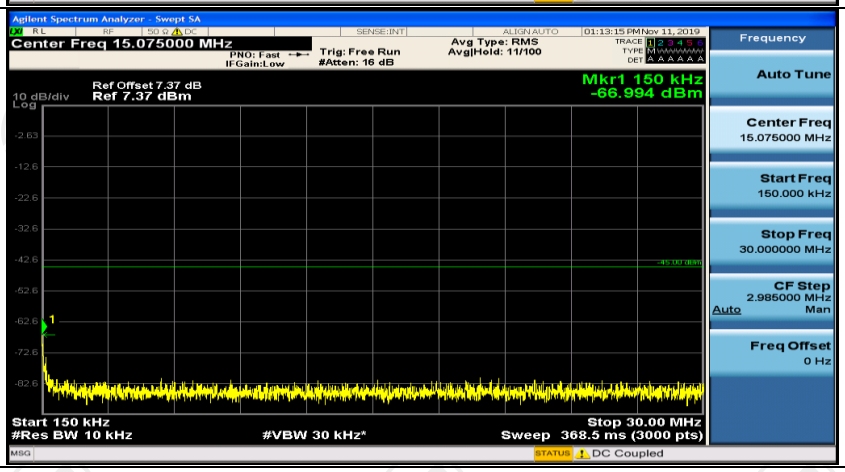


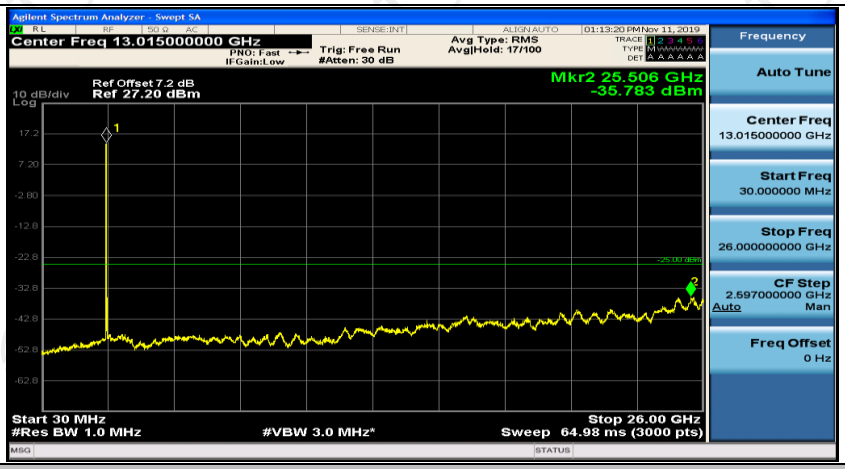




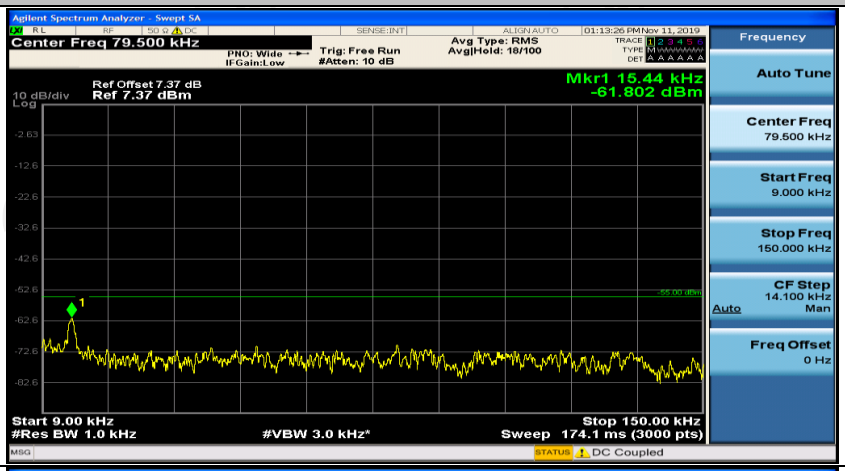
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0

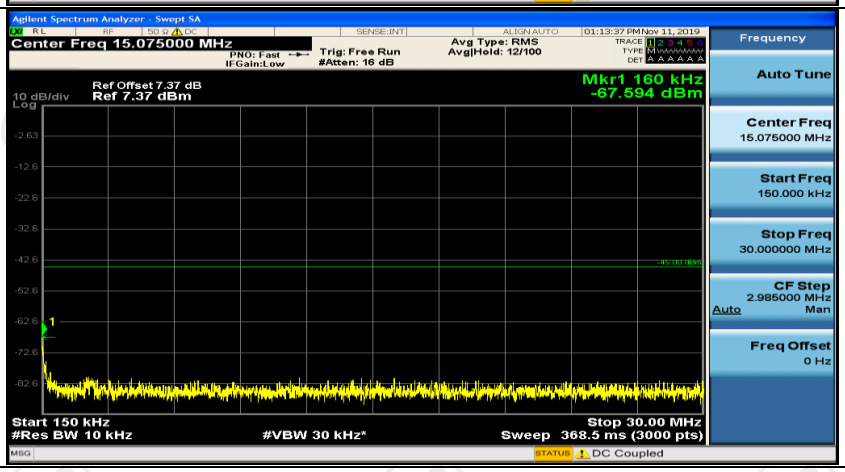


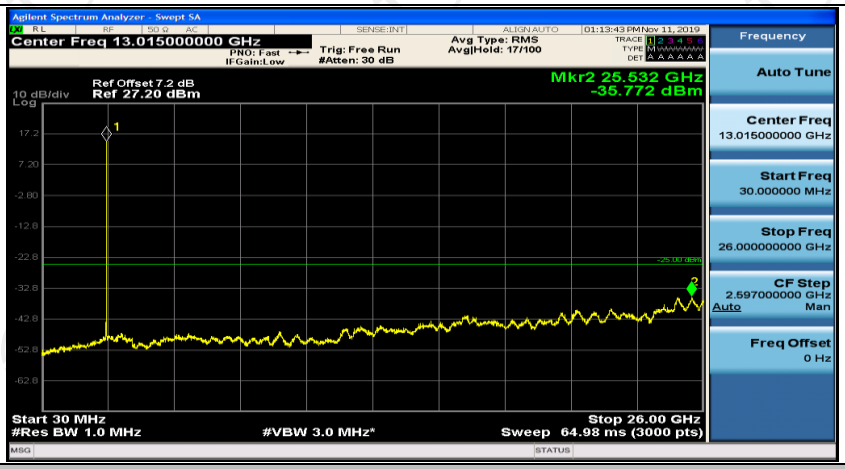




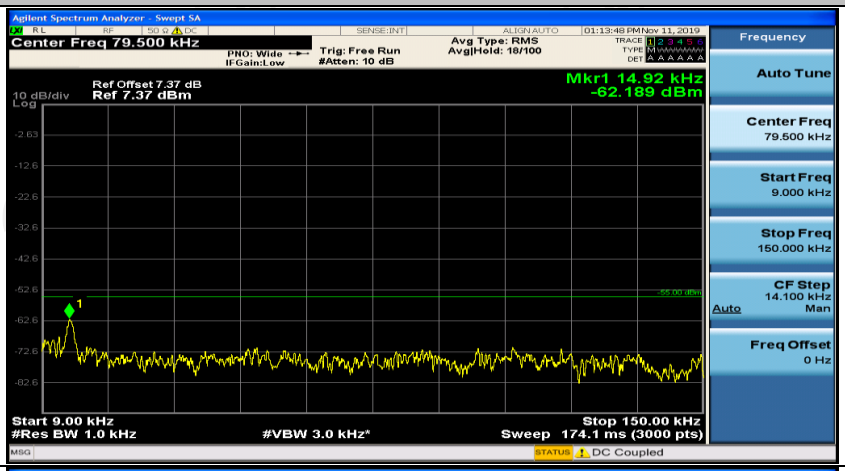
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

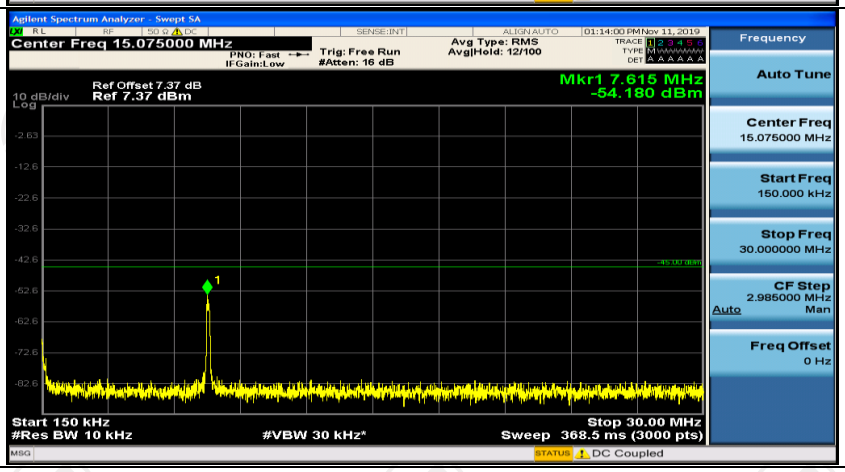


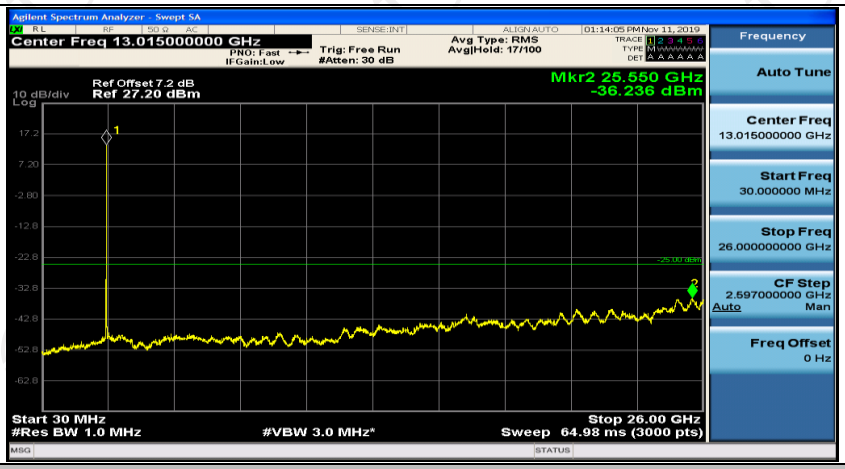




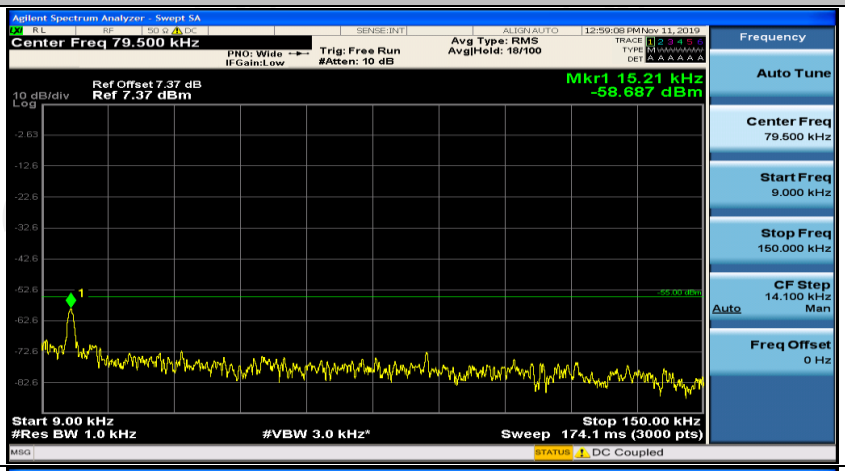
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#99

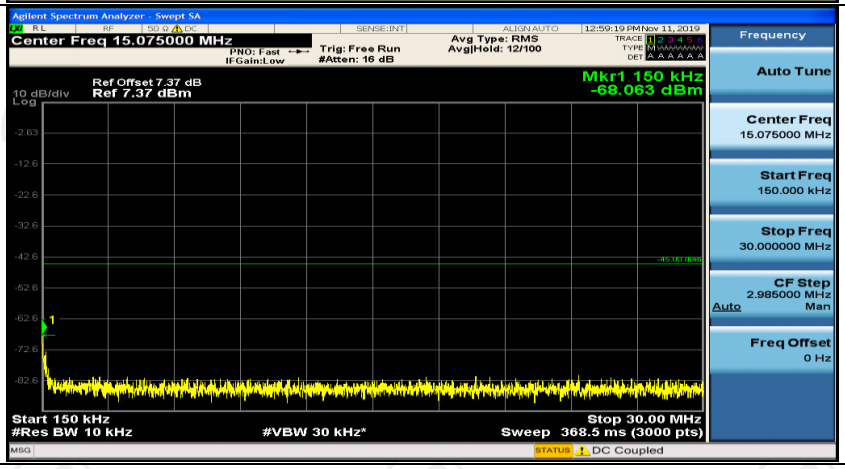


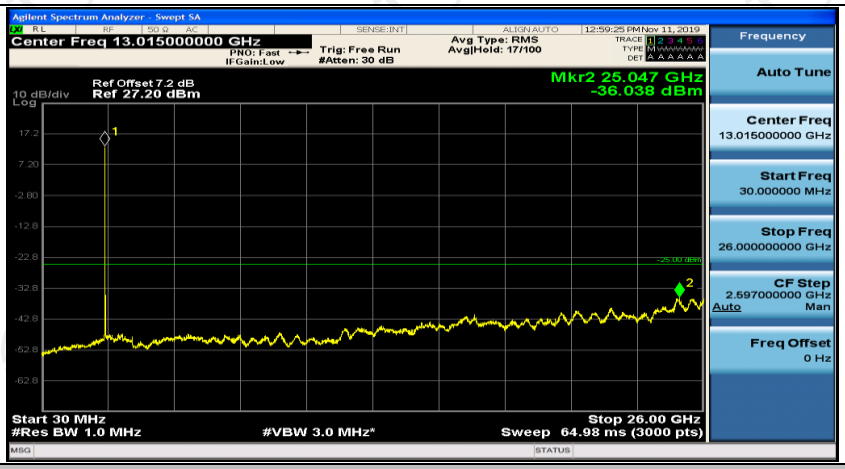




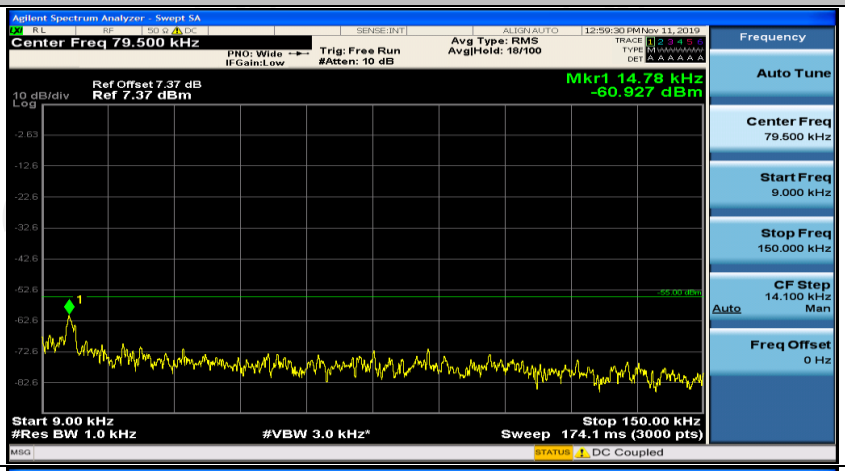
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0

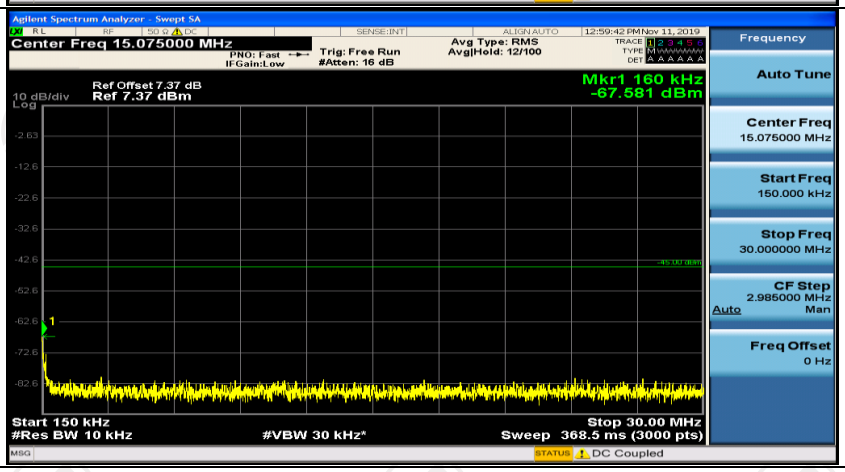


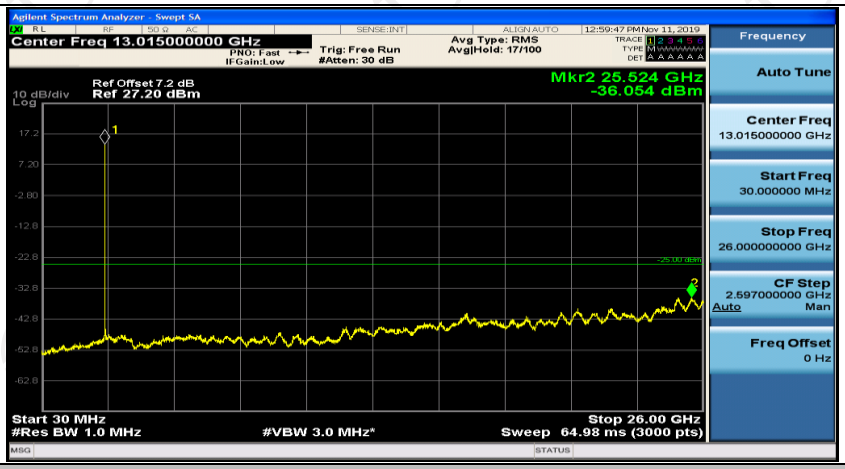




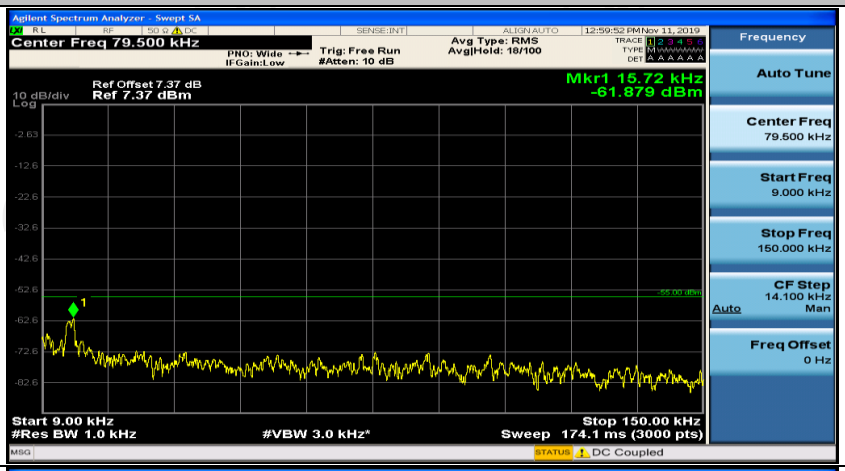
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

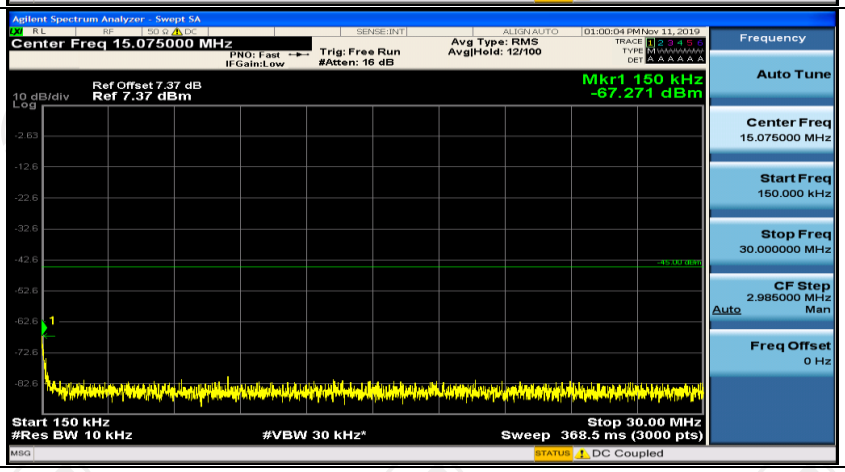


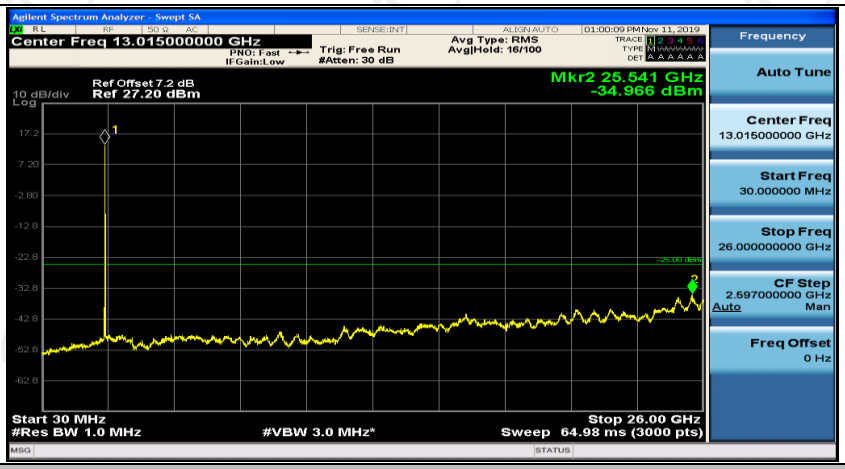




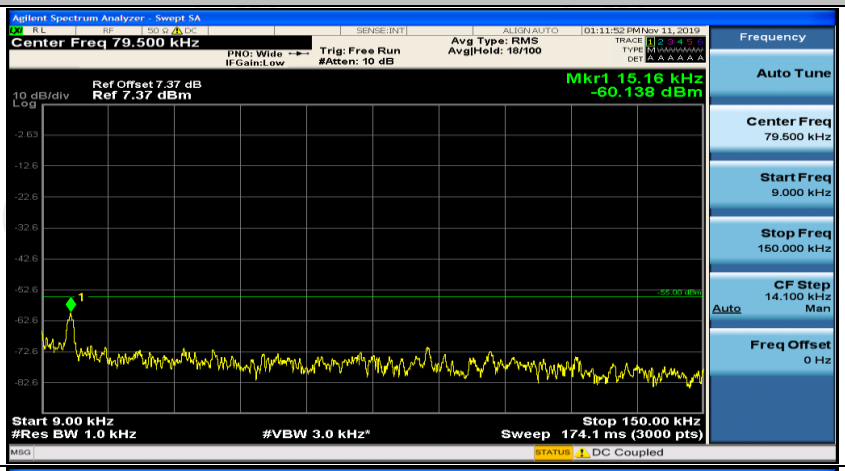
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#99

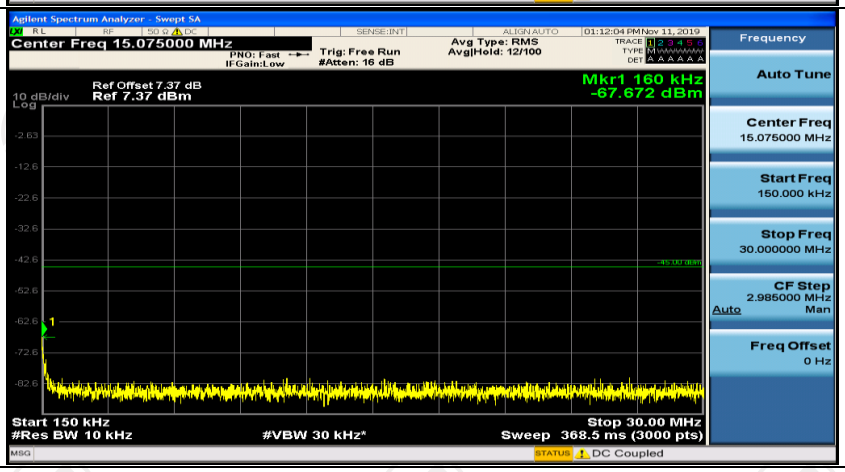


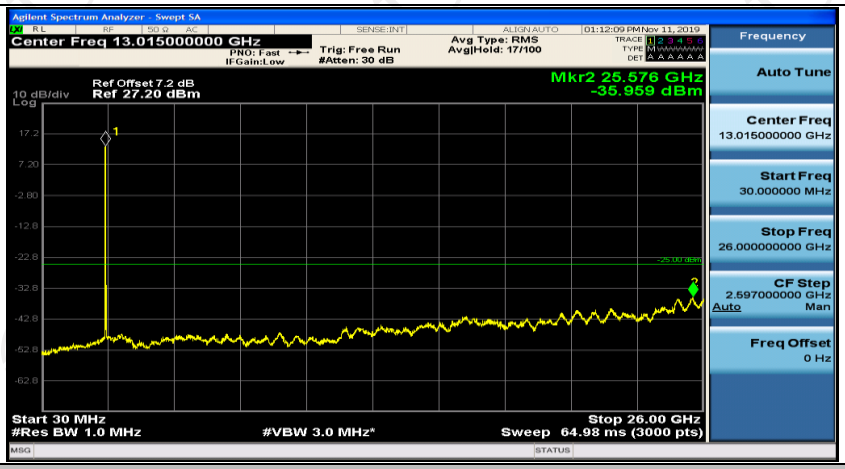




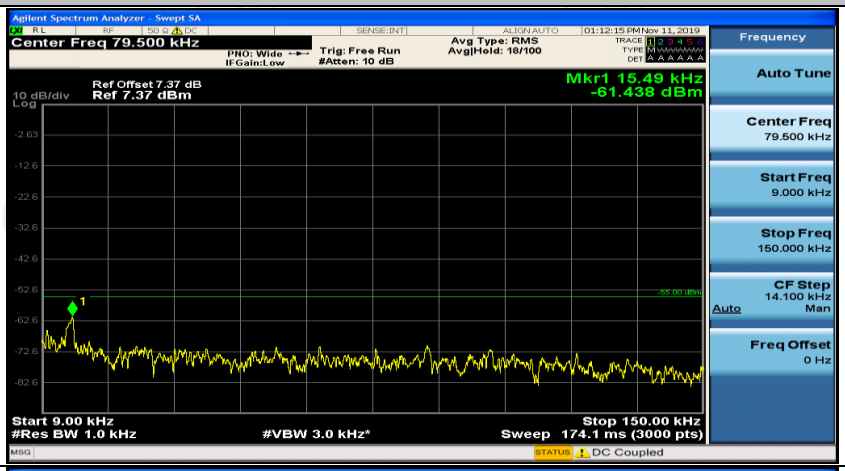
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0

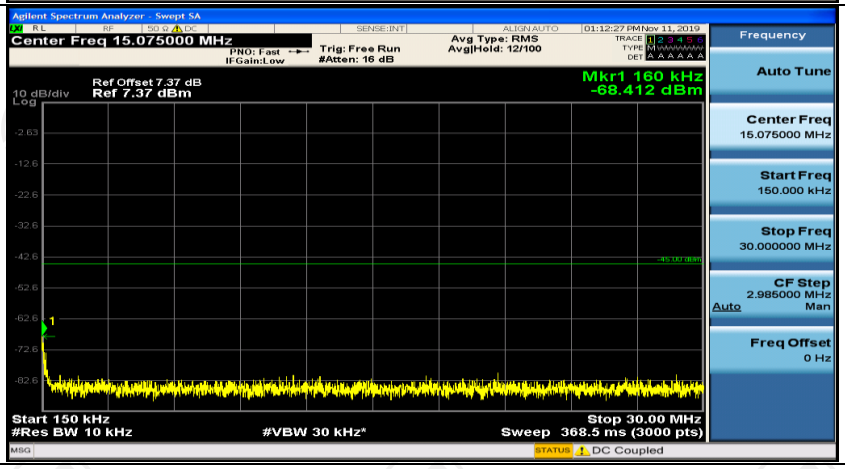


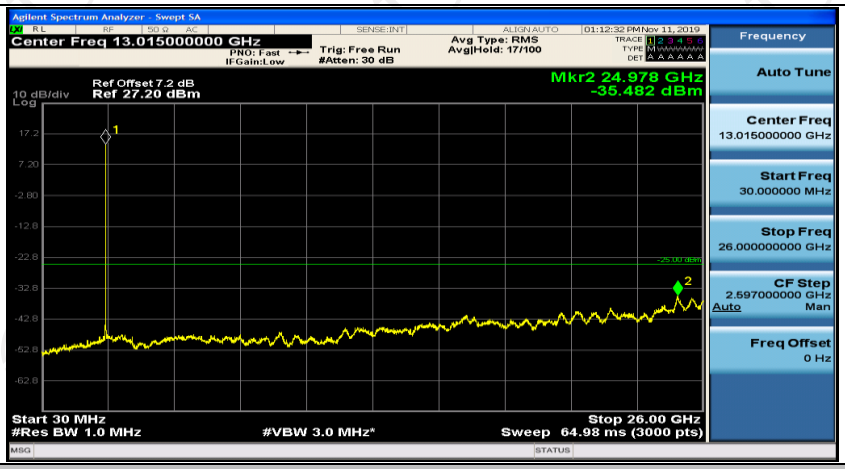




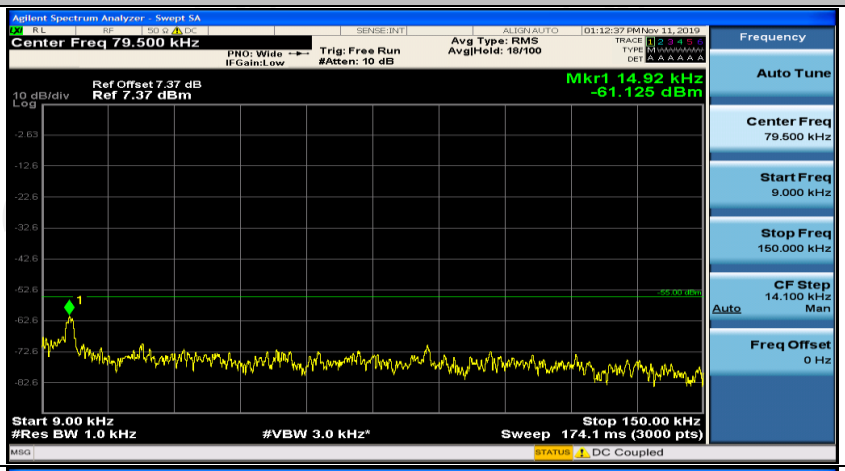
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49

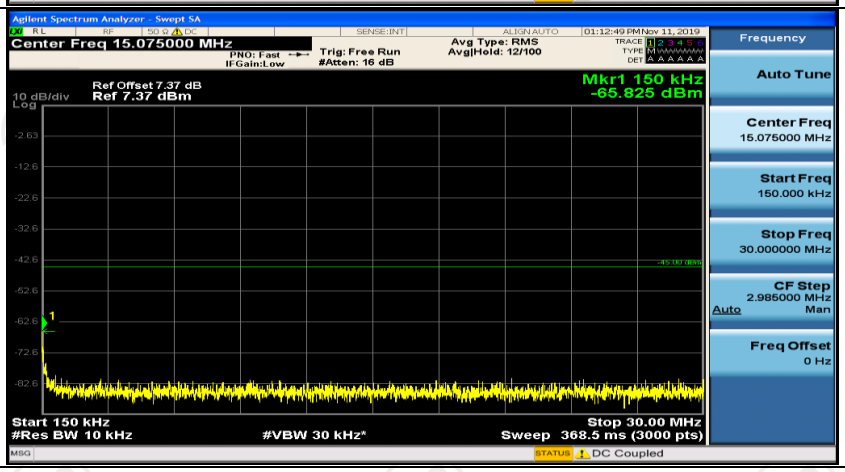


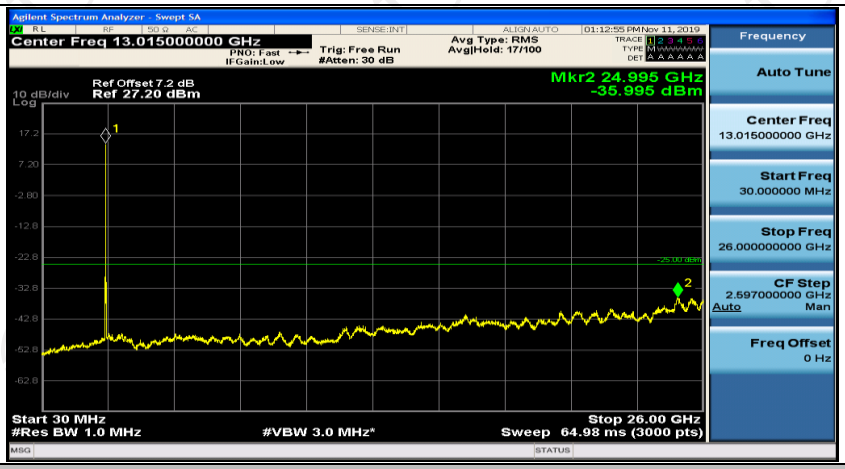




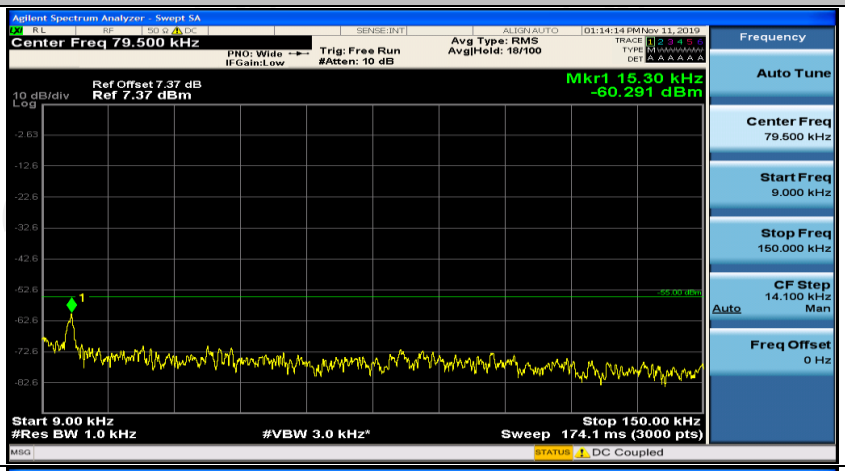
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#99

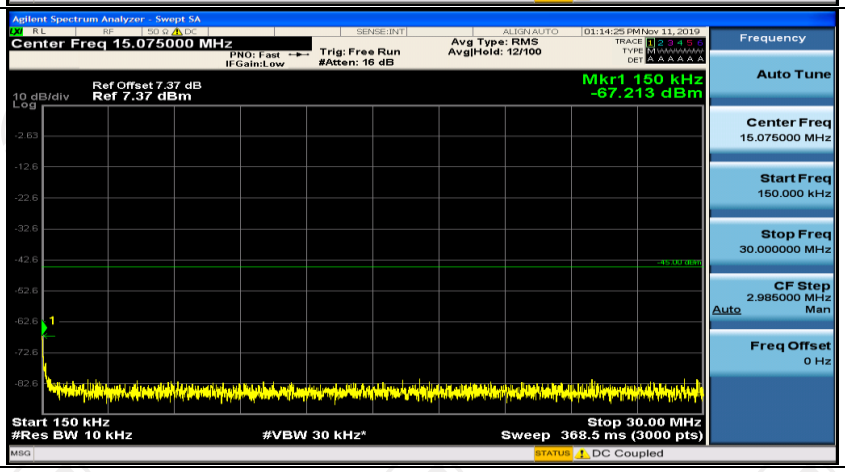


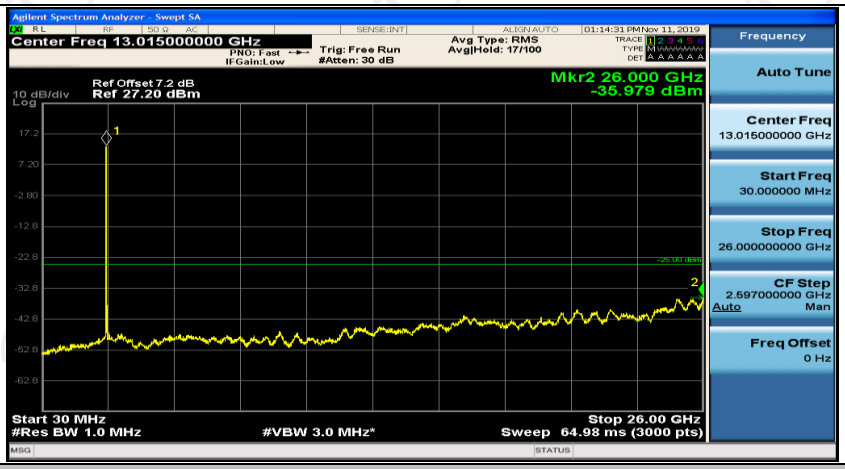




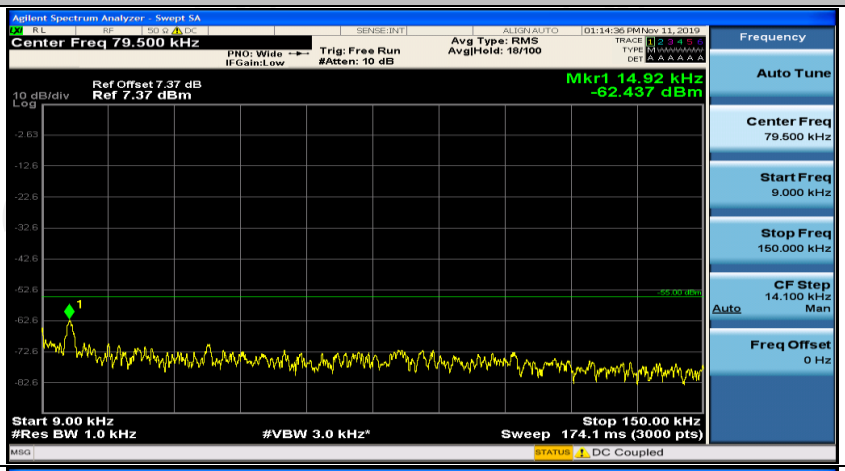
(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0

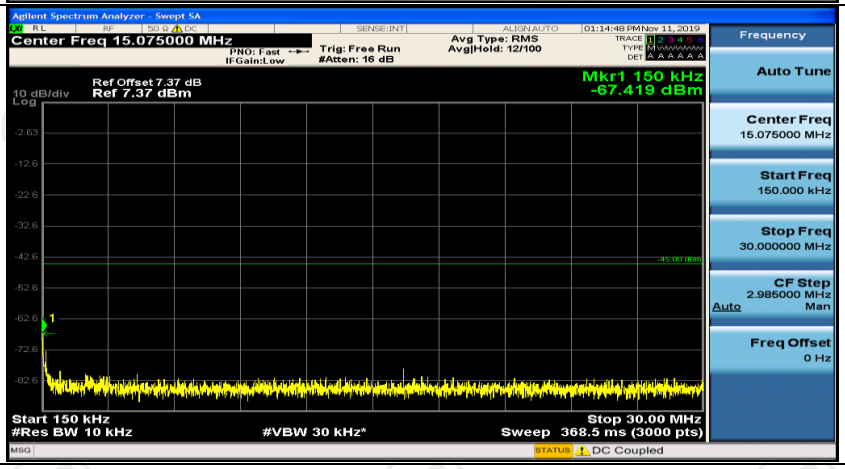


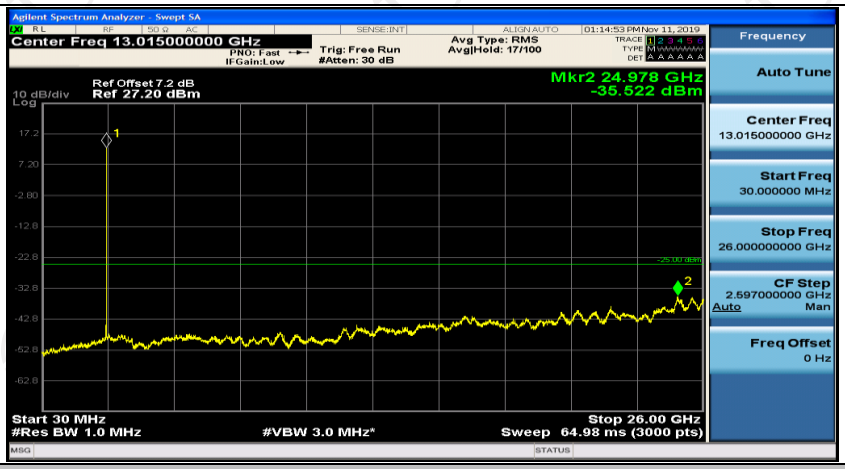




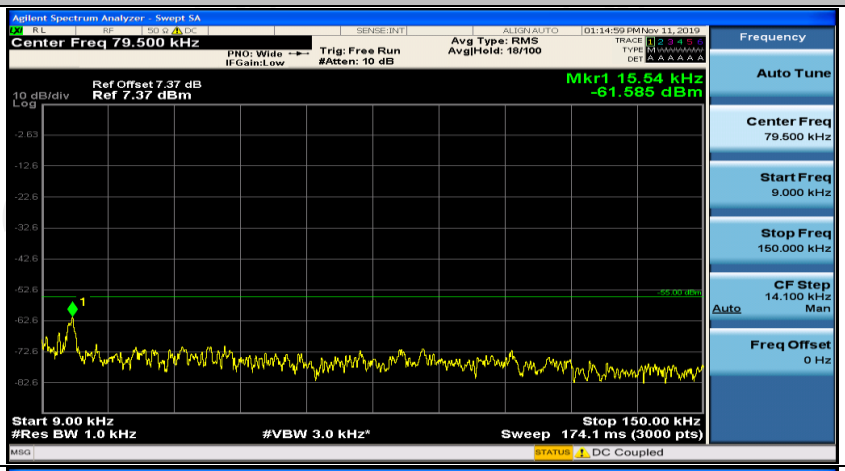
(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#49

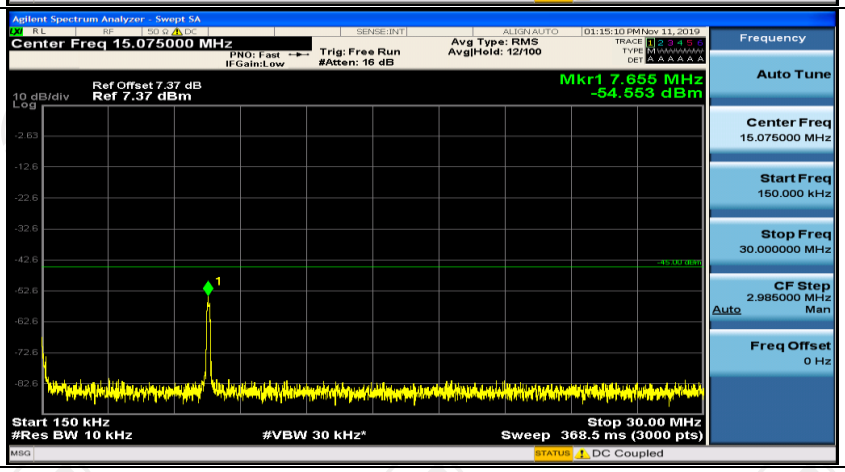


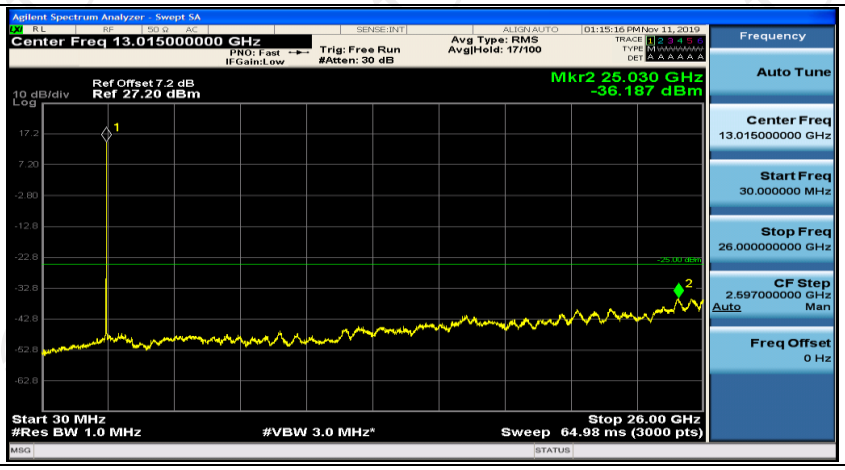




(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#99






Agilent Spectrum Analyzer - Swept SA
Center Freq 13.015000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 17/100
01:15:16 PM Nov 11, 2019
Ref Offset 7.2 dB
10 dB/div
Log
Ref 27.20 dBm
Mkr2 25.030 GHz
-36.187 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 26.00 GHz
Sweep 64.98 ms (3000 pts)
Frequency
Auto Tune
Center Freq
13.015000000 GHz
Start Freq
30.000000 MHz
Stop Freq
26.000000000 GHz
CF Step
2.597000000 GHz
Auto
Man
Freq Offset
0 Hz

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	3.5	25	0.15	0.000095	± 2.5	PASS
		3.85	25	0.29	0.000114	± 2.5	PASS
		4.4	25	-0.05	-0.000101	± 2.5	PASS
	MCH	3.5	25	-3.81	-0.001463	± 2.5	PASS
		3.85	25	-4.05	-0.001597	± 2.5	PASS
		4.4	25	-3.72	-0.001395	± 2.5	PASS
	HCH	3.5	25	-3.50	-0.001288	± 2.5	PASS
		3.85	25	-2.68	-0.001042	± 2.5	PASS
		4.4	25	-2.53	-0.000983	± 2.5	PASS
16QAM	LCH	3.5	25	-2.41	-0.000864	± 2.5	PASS
		3.85	25	0.01	0.000006	± 2.5	PASS
		4.4	25	0.17	0.000121	± 2.5	PASS
	MCH	3.5	25	0.24	0.000139	± 2.5	PASS
		3.85	25	-3.68	-0.001450	± 2.5	PASS
		4.4	25	-3.46	-0.001324	± 2.5	PASS
	HCH	3.5	25	-3.37	-0.001281	± 2.5	PASS
		3.85	25	-4.46	-0.001738	± 2.5	PASS
		4.4	25	-4.29	-0.001677	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	3.85	-30	-3.28	-0.001785	± 2.5	PASS
		3.85	-20	-3.15	-0.001613	± 2.5	PASS
		3.85	-10	-2.92	-0.001401	± 2.5	PASS
		3.85	0	-2.79	-0.001273	± 2.5	PASS
		3.85	10	-2.67	-0.001129	± 2.5	PASS
		3.85	20	-2.52	-0.001006	± 2.5	PASS
		3.85	30	1.47	0.000589	± 2.5	PASS
		3.85	40	-1.37	-0.000549	± 2.5	PASS
		3.85	50	-3.65	-0.001458	± 2.5	PASS
	MCH	3.85	-30	-3.41	-0.001370	± 2.5	PASS

		3.85	-20	-3.28	-0.001244	± 2.5	PASS
		3.85	-10	-3.13	-0.001130	± 2.5	PASS
		3.85	0	-3.04	-0.001022	± 2.5	PASS
		3.85	10	-2.86	-0.000967	± 2.5	PASS
		3.85	20	-6.67	-0.002630	± 2.5	PASS
		3.85	30	-3.49	-0.001377	± 2.5	PASS
		3.85	40	-4.66	-0.001840	± 2.5	PASS
		3.85	50	-4.86	-0.001919	± 2.5	PASS
	HCH	3.85	-30	-4.71	-0.001843	± 2.5	PASS
		3.85	-20	-4.53	-0.001722	± 2.5	PASS
		3.85	-10	-4.31	-0.001609	± 2.5	PASS
		3.85	0	-4.14	-0.001503	± 2.5	PASS
		3.85	10	-4.02	-0.001416	± 2.5	PASS
		3.85	20	-1.34	-0.000524	± 2.5	PASS
		3.85	30	-3.73	-0.001454	± 2.5	PASS
		3.85	40	-0.03	-0.000011	± 2.5	PASS
		3.85	50	-2.70	-0.001053	± 2.5	PASS
16QAM	LCH	3.85	-30	-2.55	-0.000990	± 2.5	PASS
		3.85	-20	-2.32	-0.000891	± 2.5	PASS
		3.85	-10	-2.11	-0.000776	± 2.5	PASS
		3.85	0	-2.04	-0.000702	± 2.5	PASS
		3.85	10	-2.95	-0.001254	± 2.5	PASS
		3.85	20	-2.76	-0.001103	± 2.5	PASS
		3.85	30	-11.07	-0.004424	± 2.5	PASS
		3.85	40	-4.32	-0.001726	± 2.5	PASS
		3.85	50	-5.01	-0.002001	± 2.5	PASS
	MCH	3.85	-30	-4.86	-0.001918	± 2.5	PASS
		3.85	-20	-4.73	-0.001724	± 2.5	PASS
		3.85	-10	-4.50	-0.001640	± 2.5	PASS
		3.85	0	-4.31	-0.001483	± 2.5	PASS
		3.85	10	-4.08	-0.001298	± 2.5	PASS
		3.85	20	-0.44	-0.000175	± 2.5	PASS
		3.85	30	1.57	0.000621	± 2.5	PASS
		3.85	40	-5.04	-0.001986	± 2.5	PASS
		3.85	50	-4.96	-0.001958	± 2.5	PASS
	HCH	3.85	-30	-4.84	-0.001760	± 2.5	PASS
		3.85	-20	-4.61	-0.001635	± 2.5	PASS
		3.85	-10	-4.37	-0.001470	± 2.5	PASS
		3.85	0	-4.18	-0.001352	± 2.5	PASS
		3.85	10	-4.02	-0.001238	± 2.5	PASS
		3.85	20	0.34	0.000134	± 2.5	PASS
		3.85	30	-5.34	-0.002078	± 2.5	PASS
		3.85	40	-2.02	-0.000786	± 2.5	PASS
		3.85	50	-1.04	-0.000407	± 2.5	PASS

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