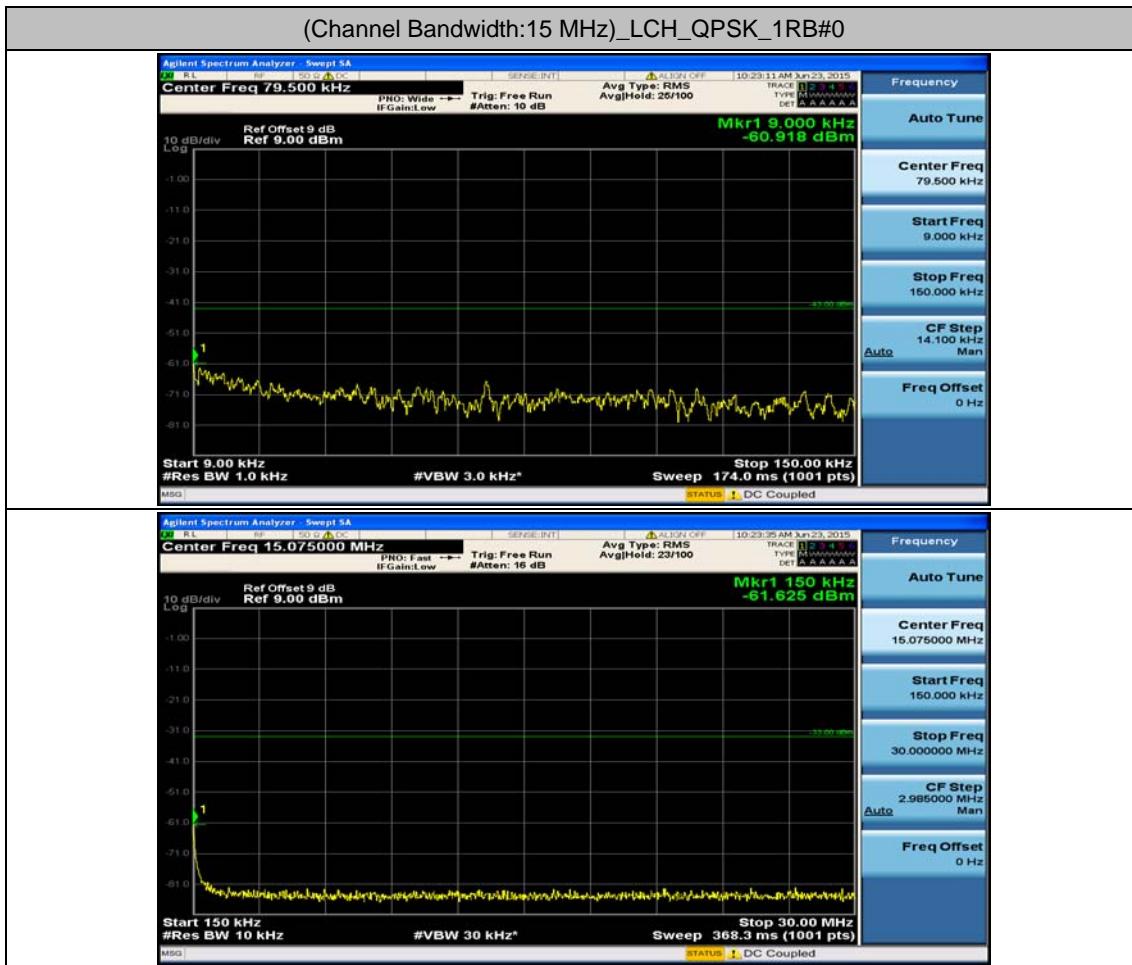
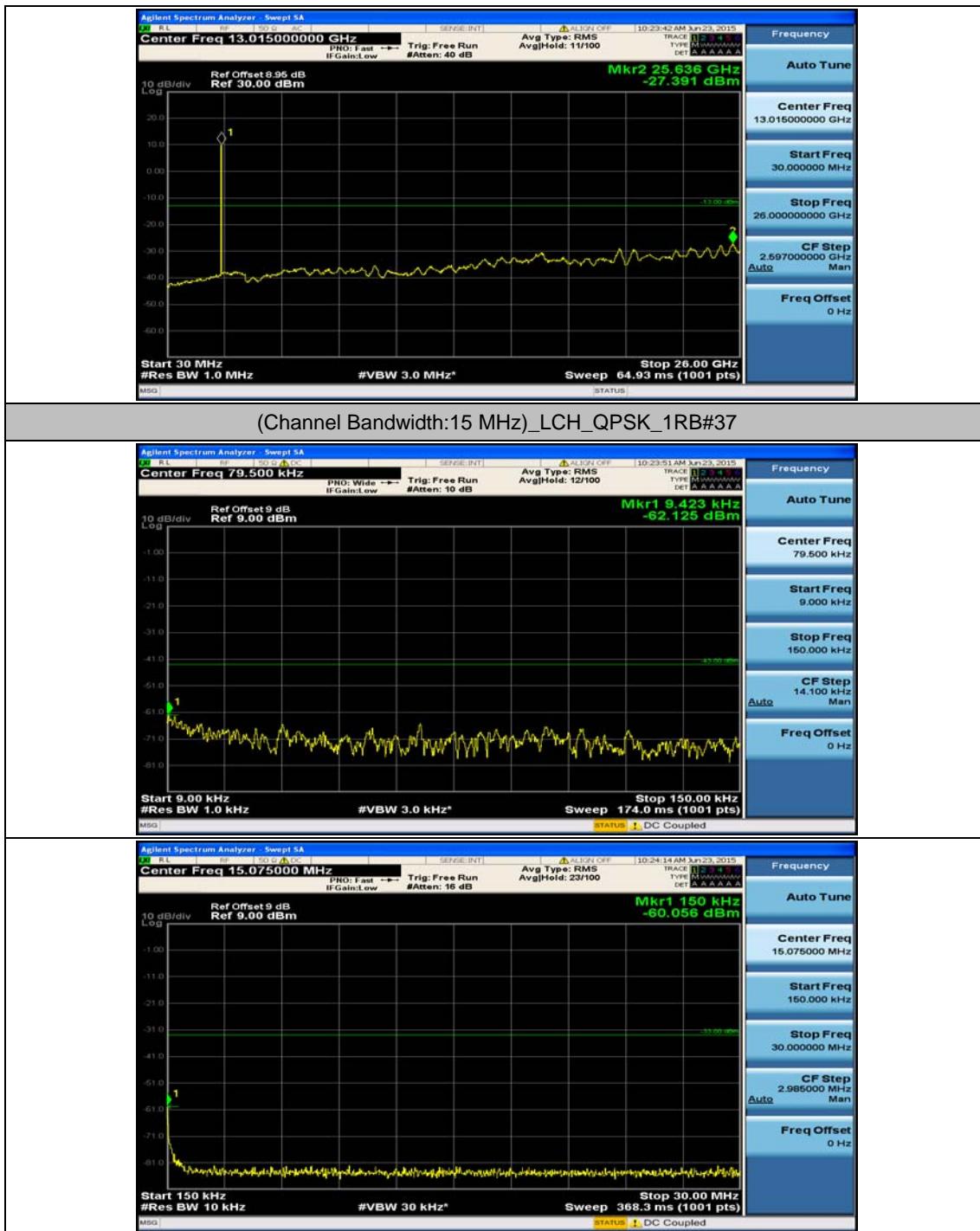
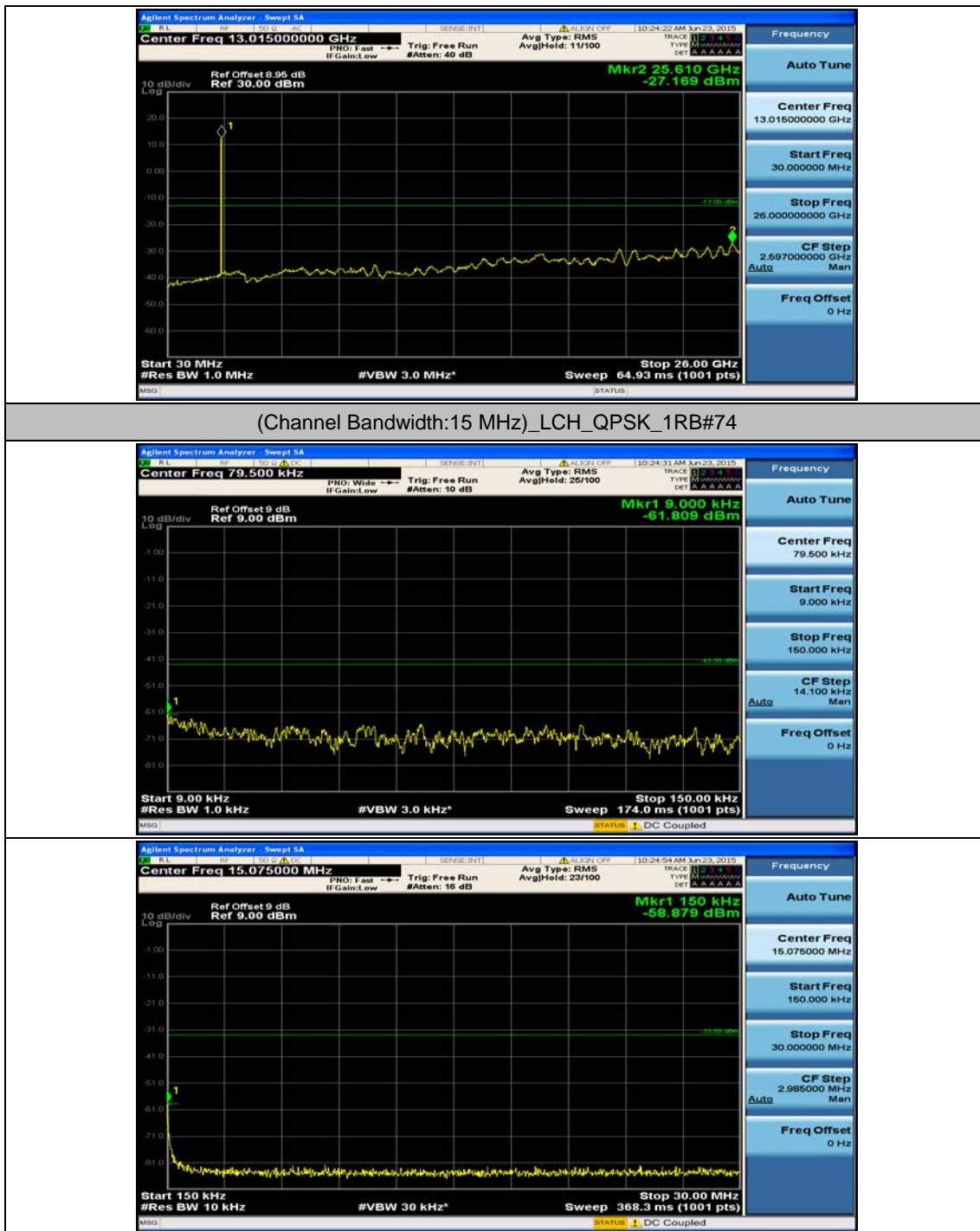


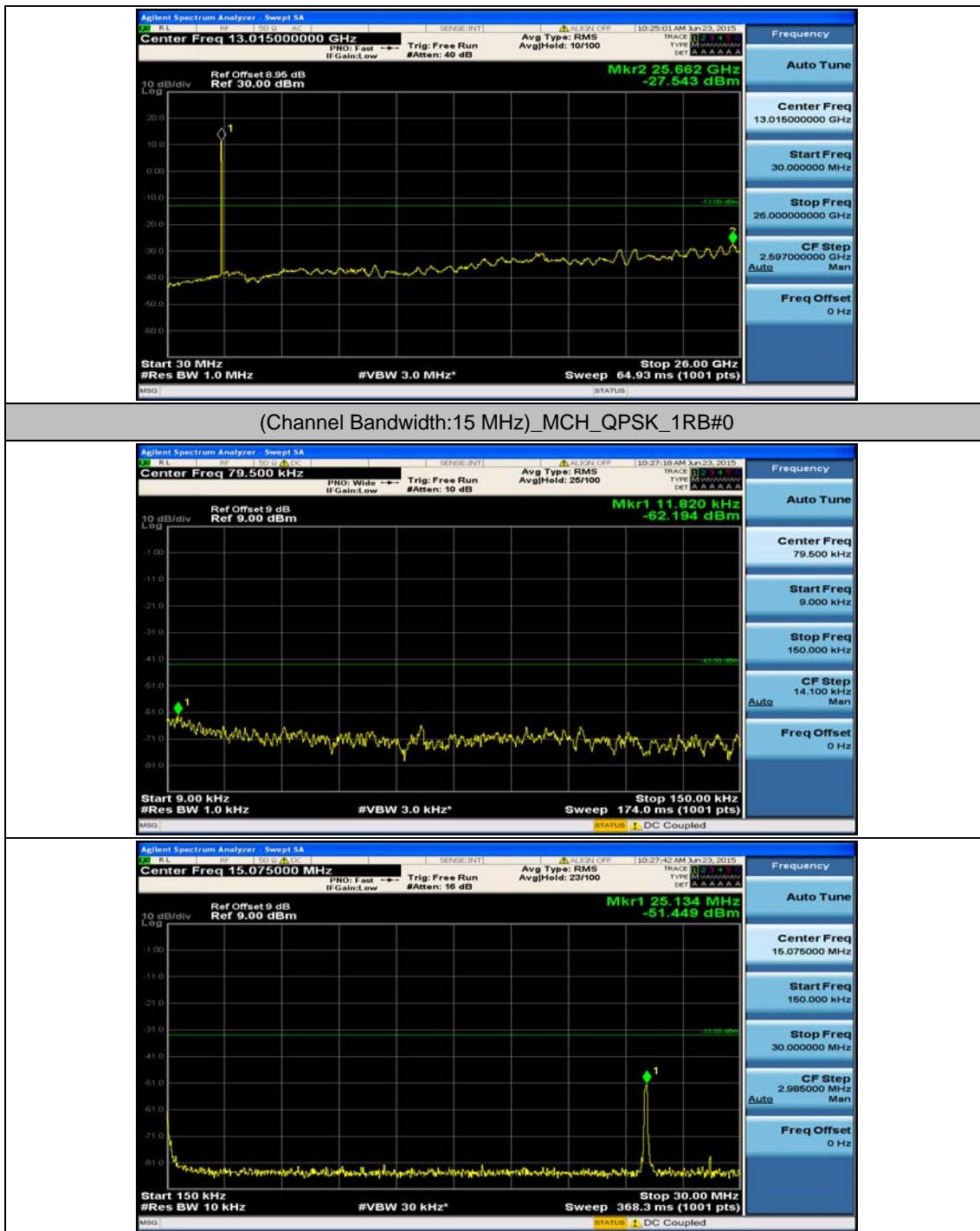


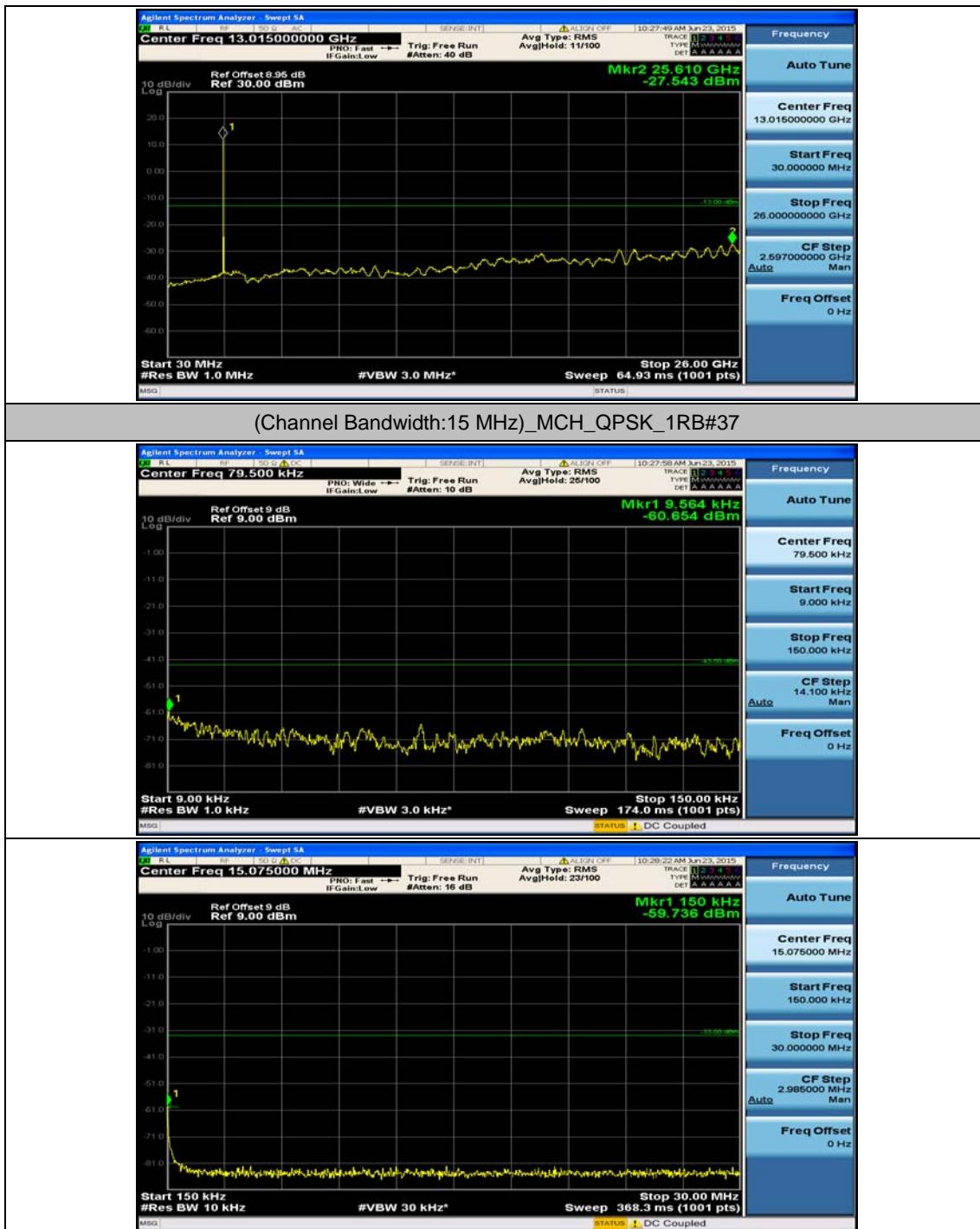
Channel Bandwidth: 15 MHz

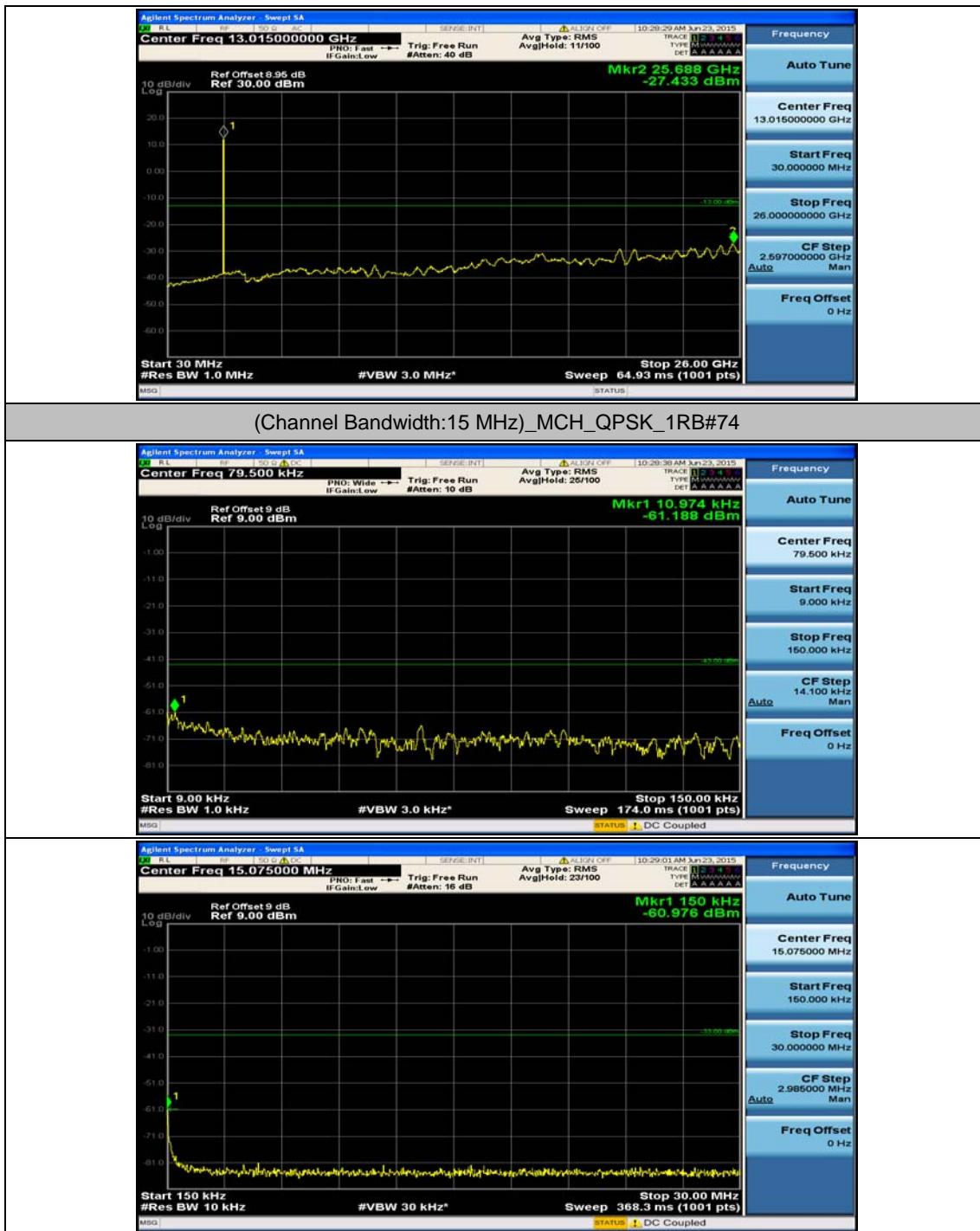


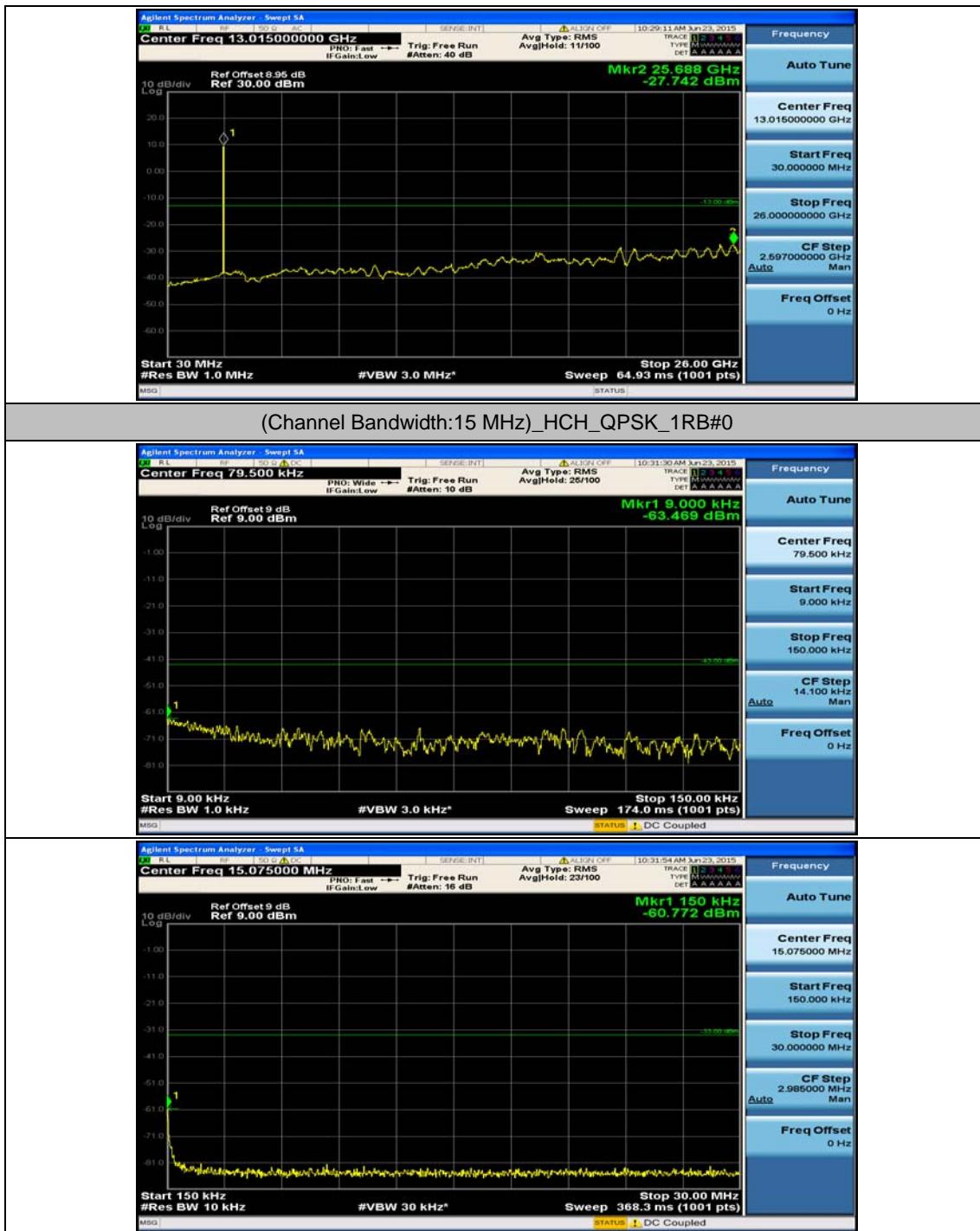


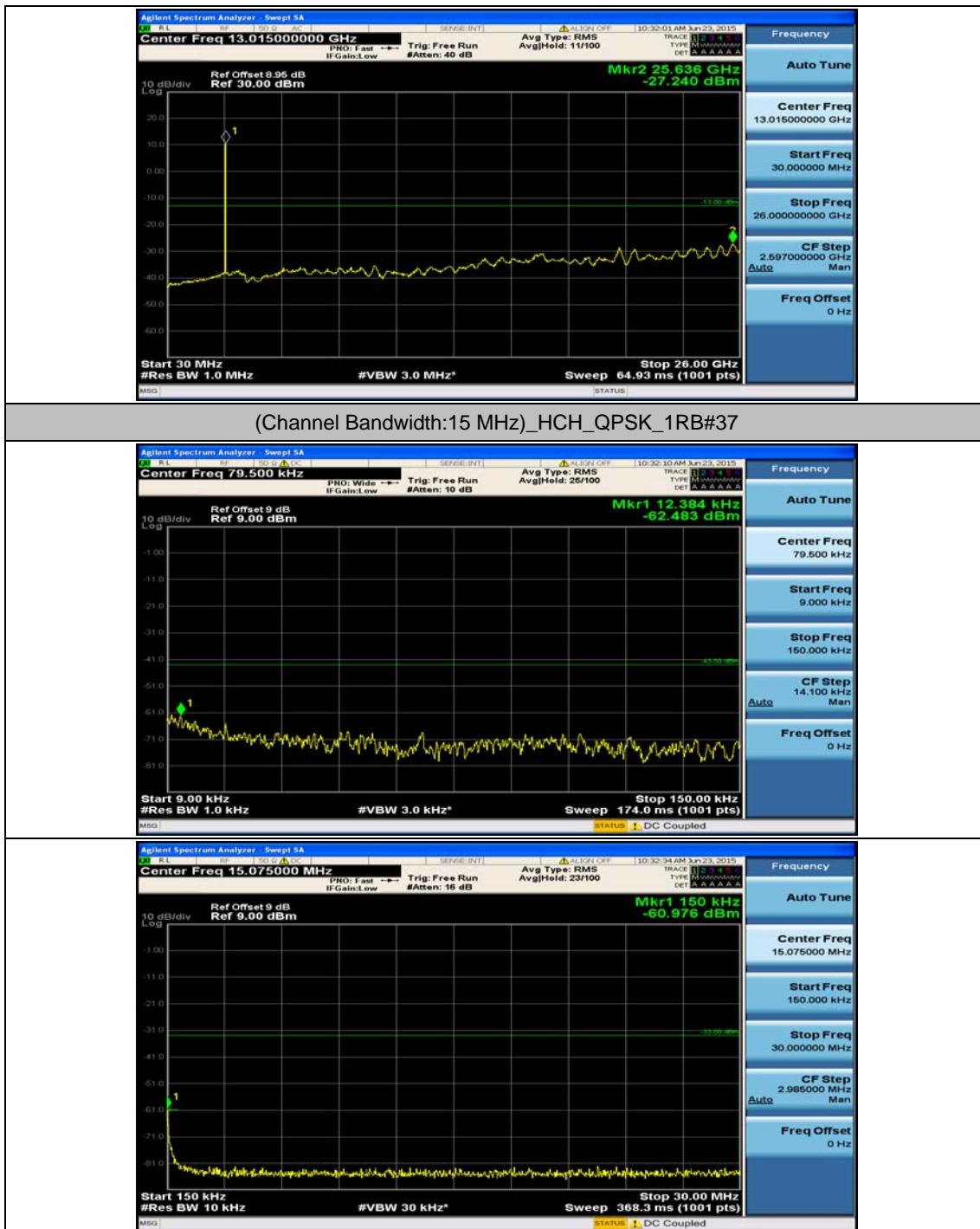


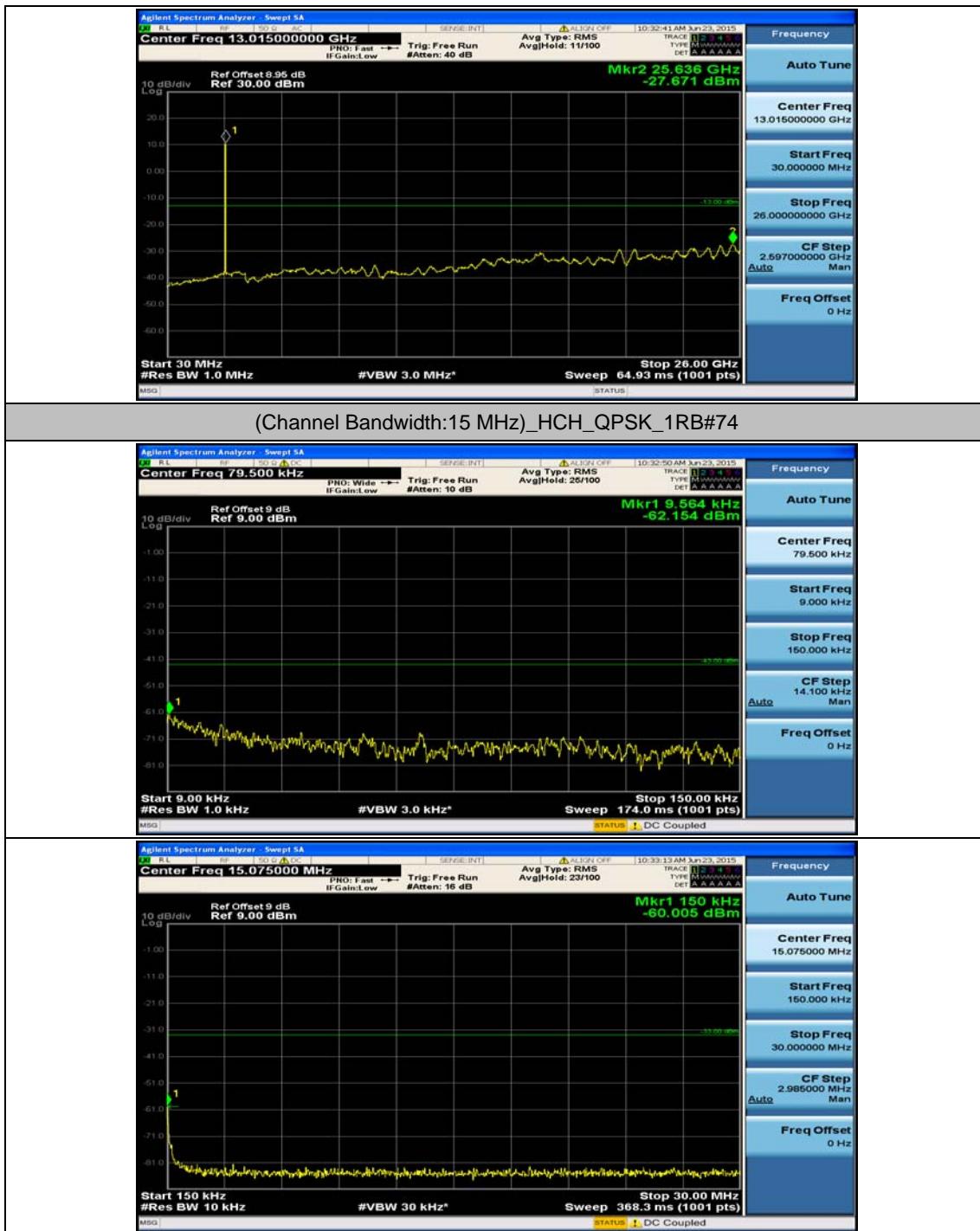


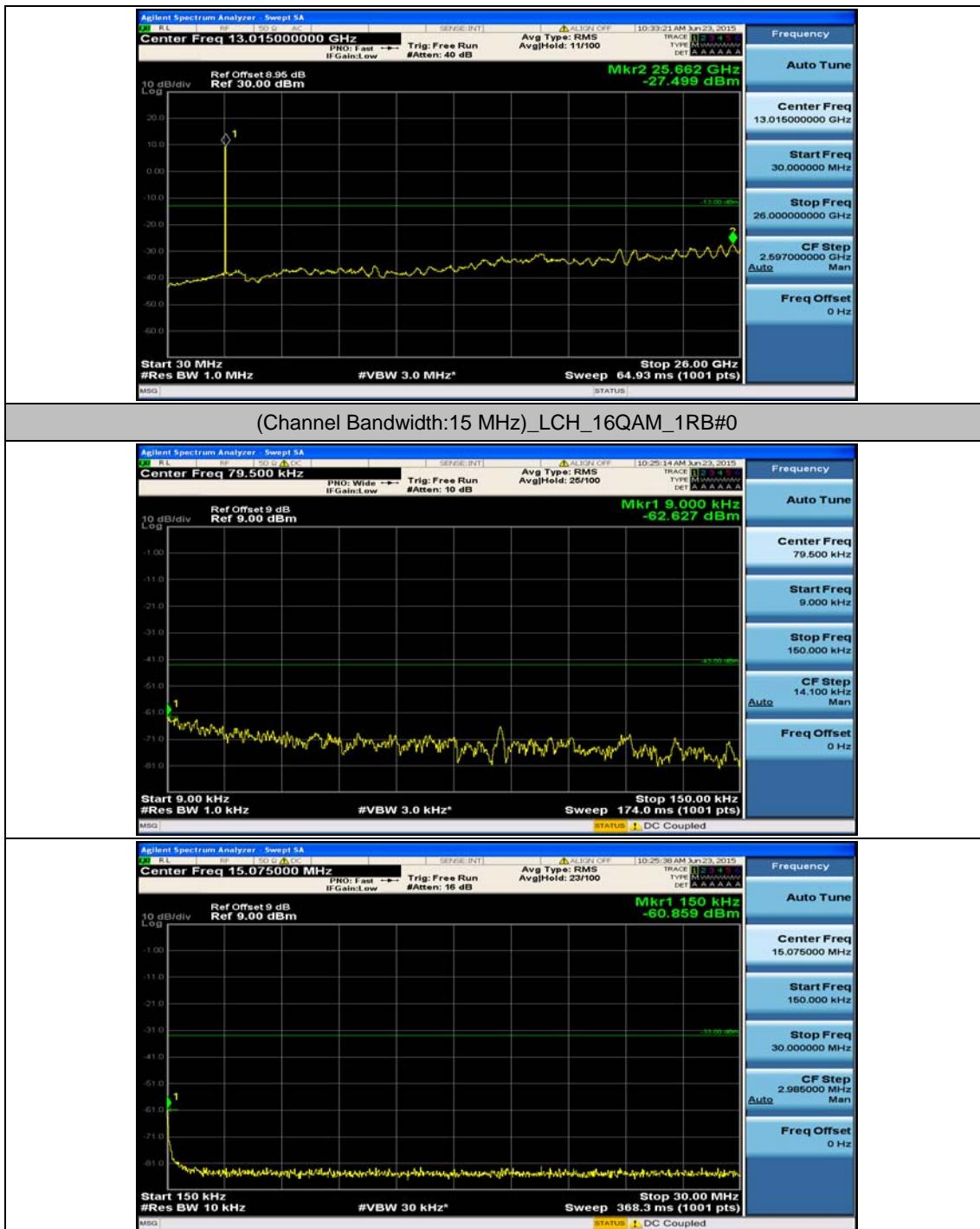


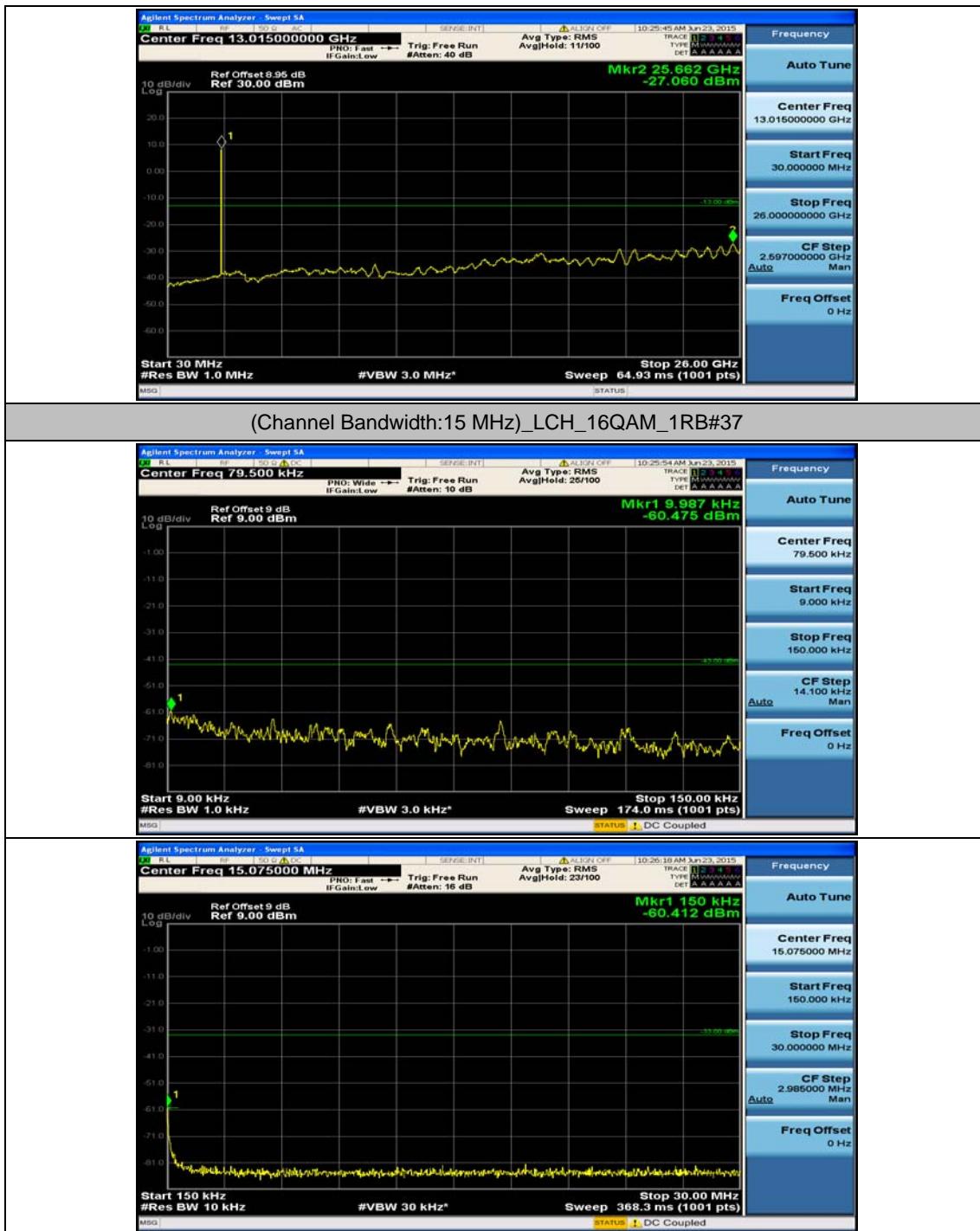


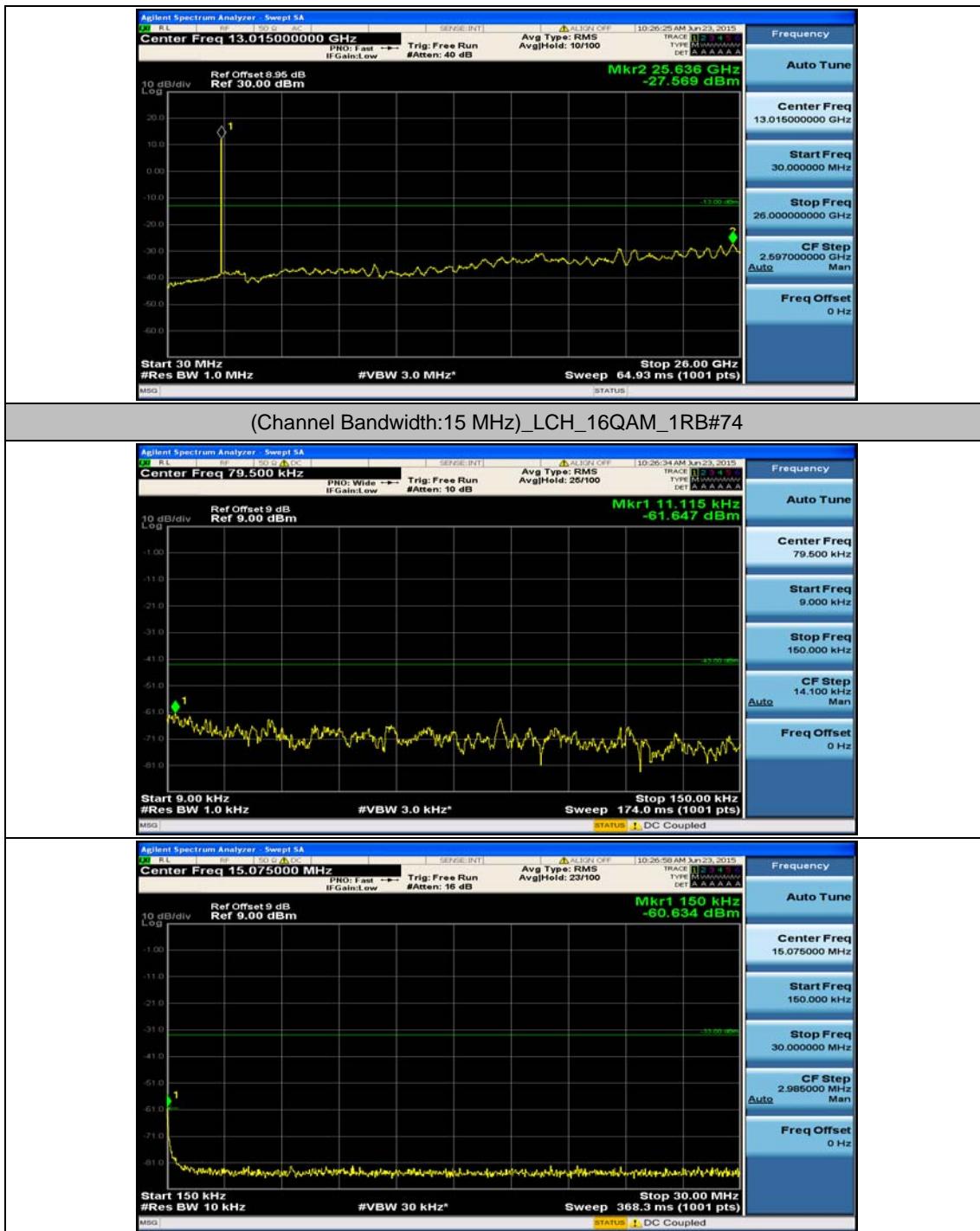


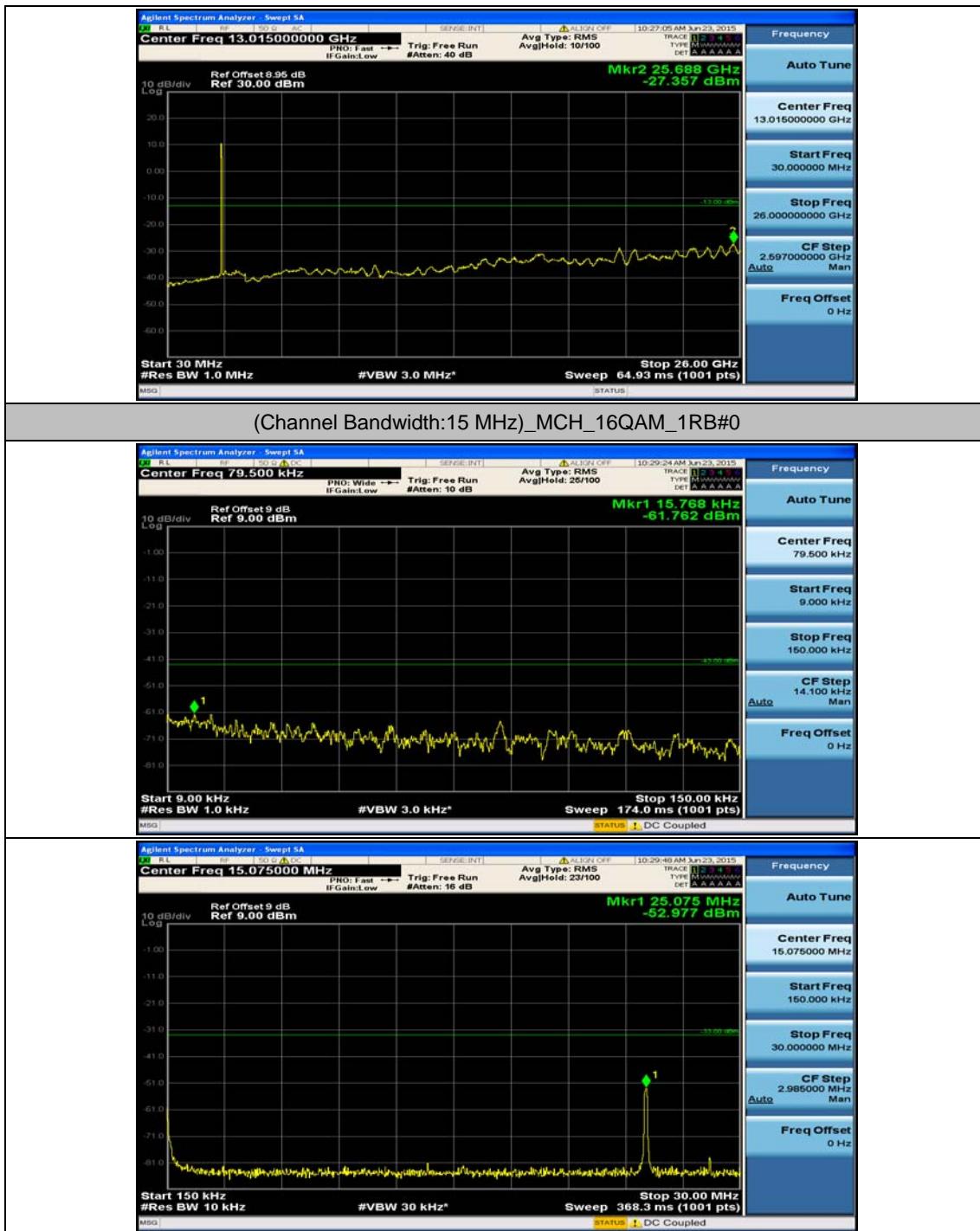


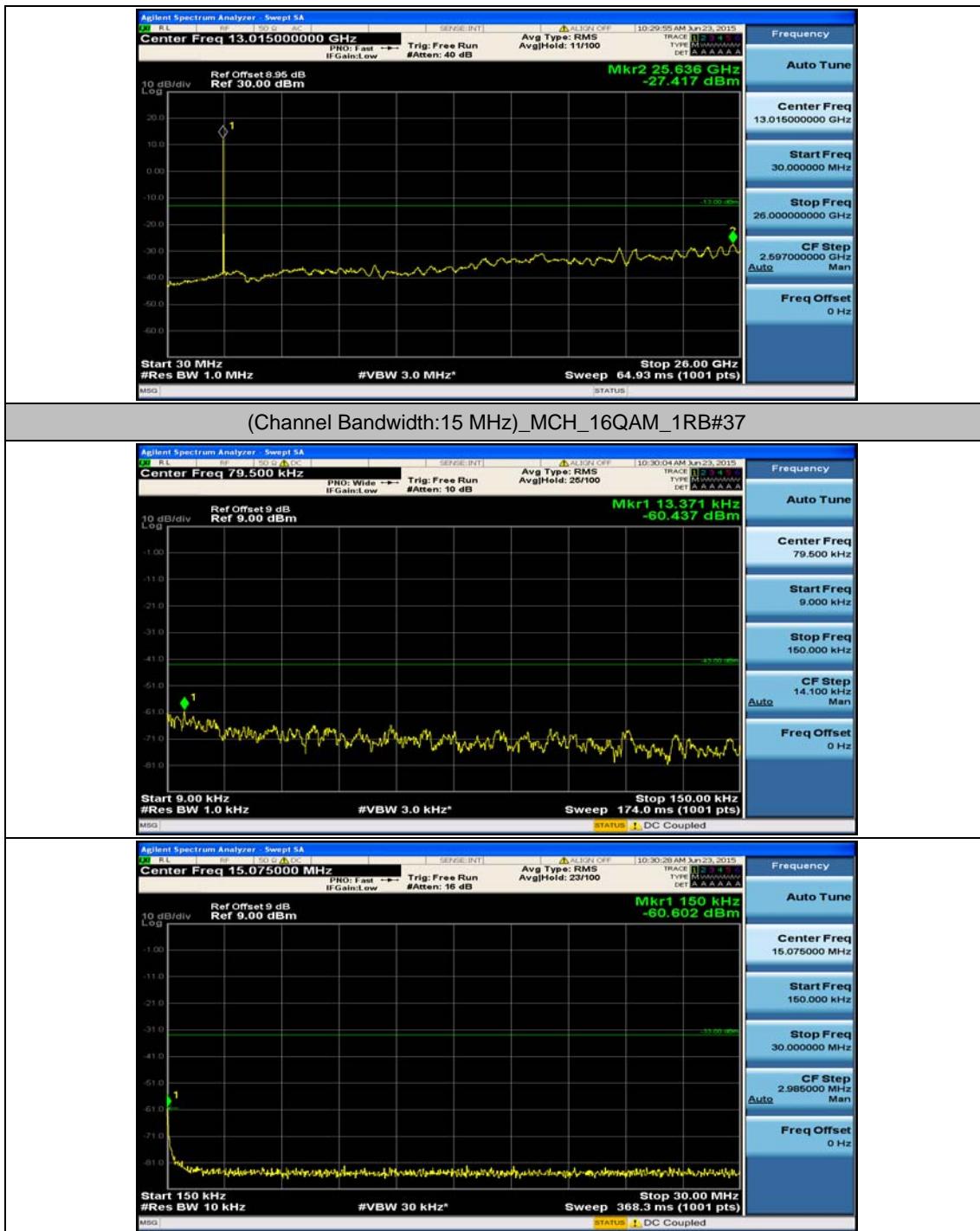


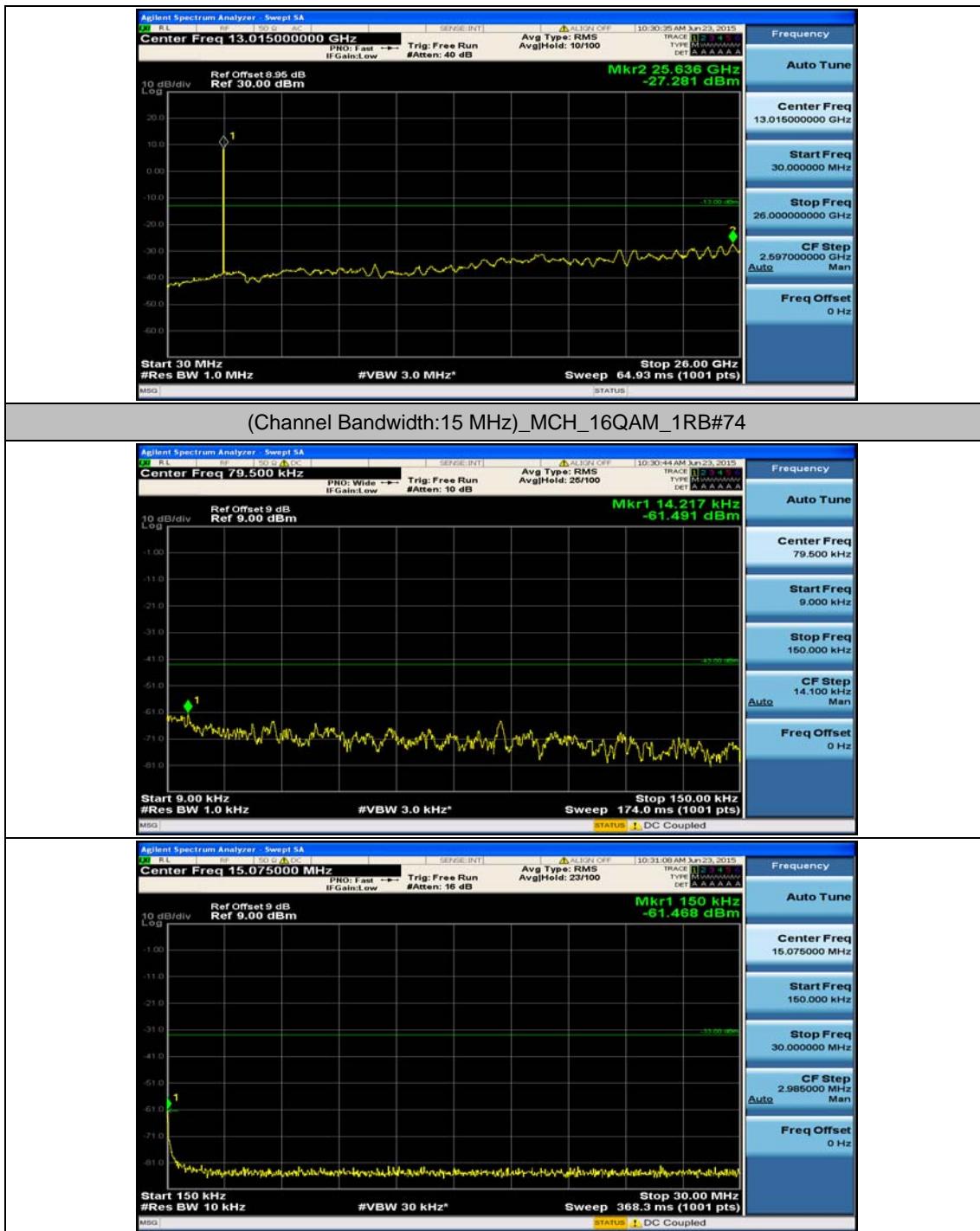


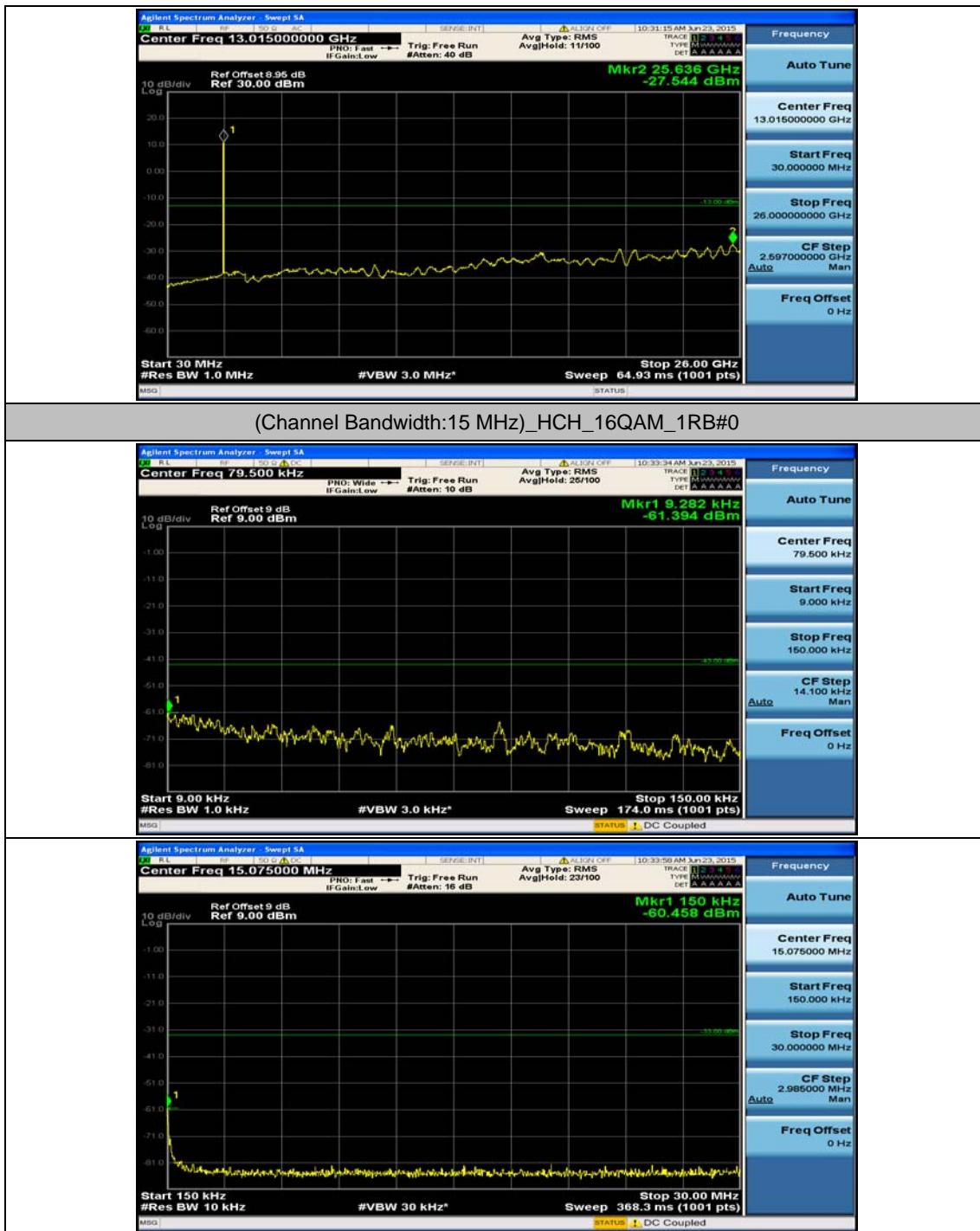


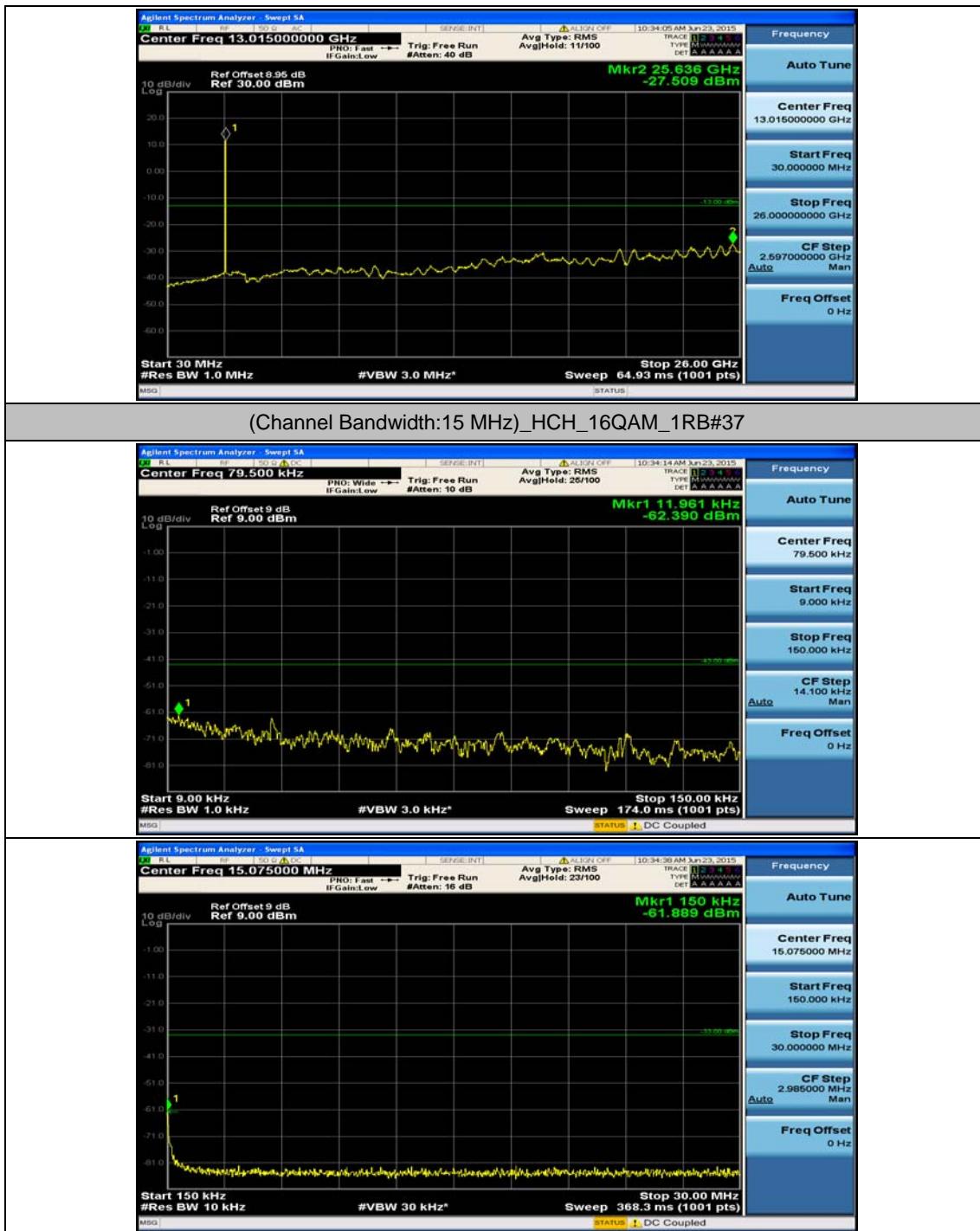


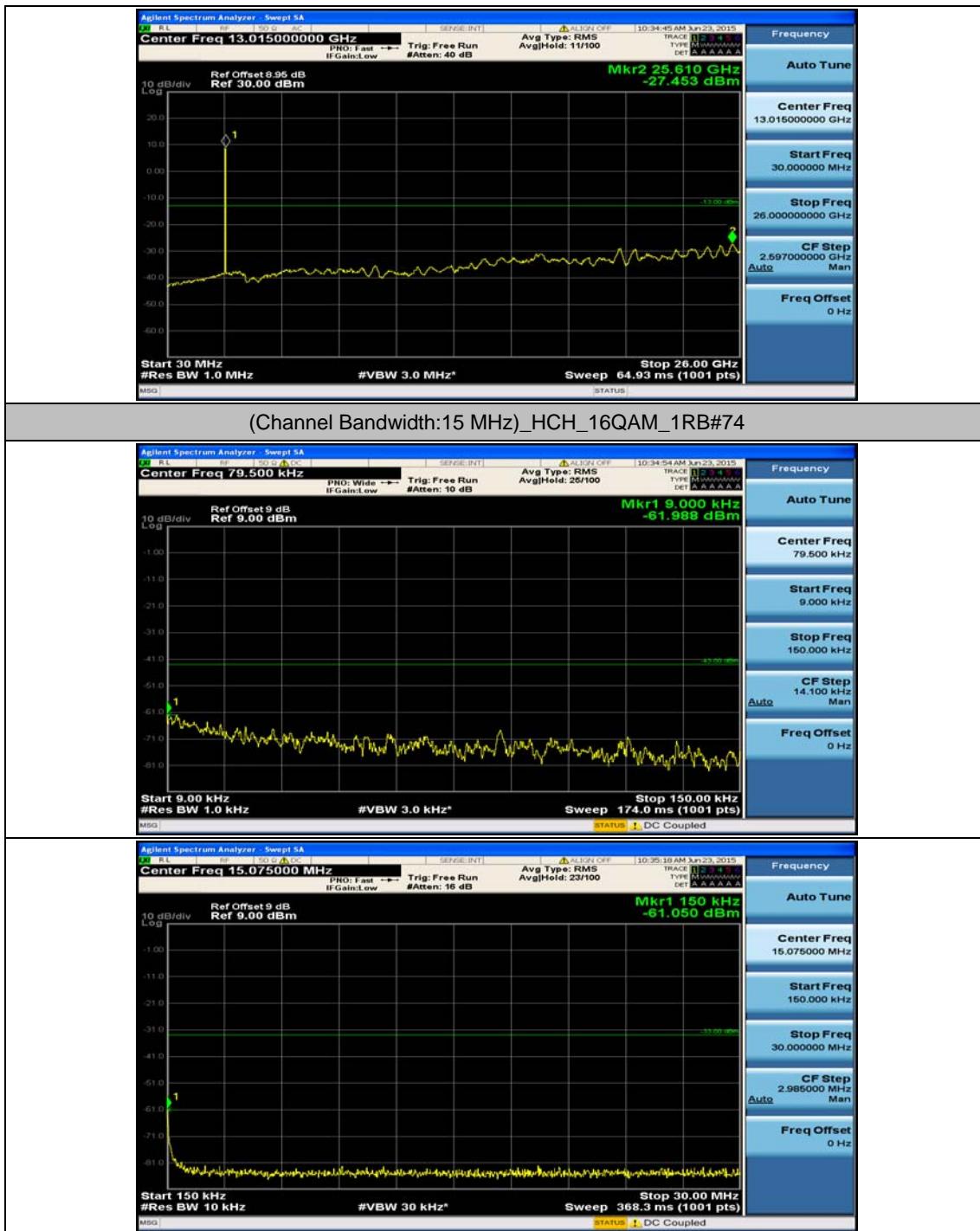






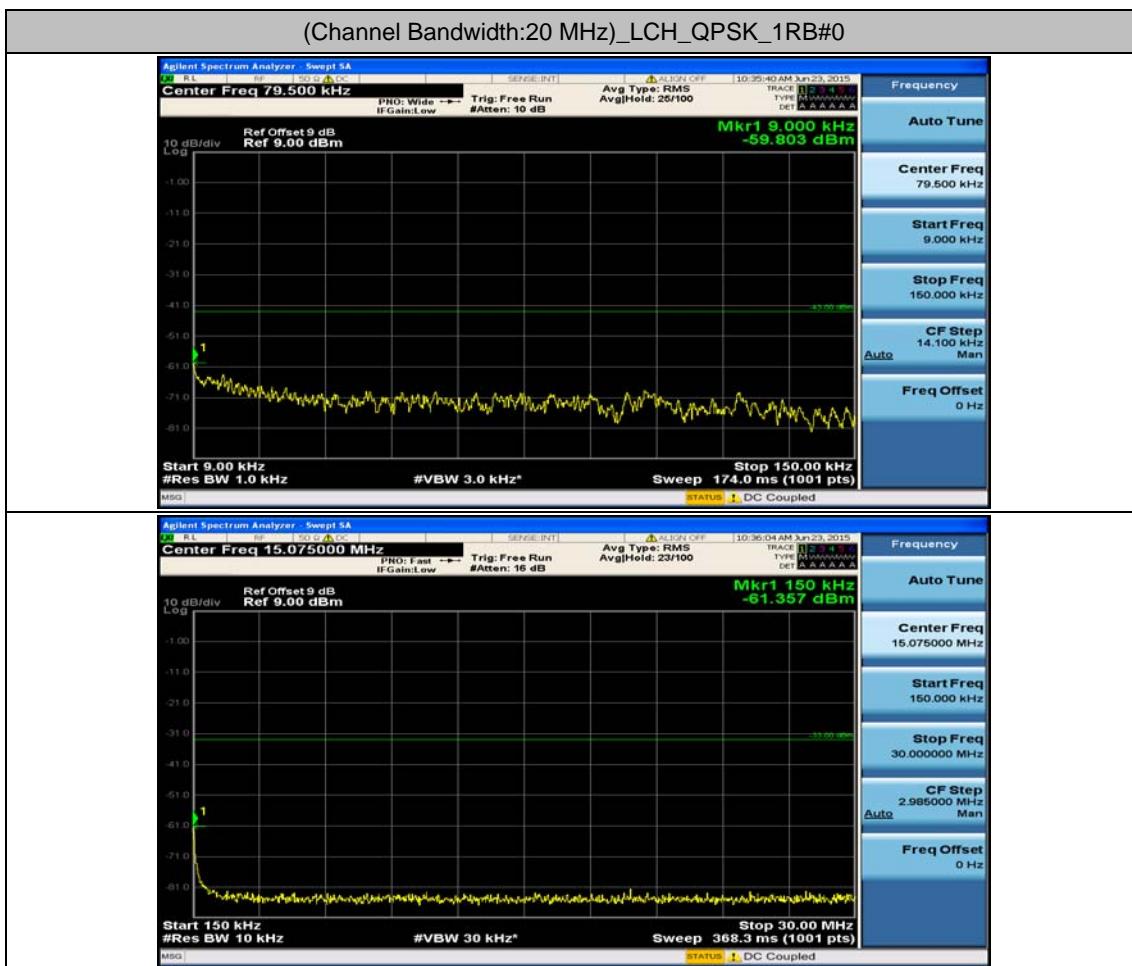


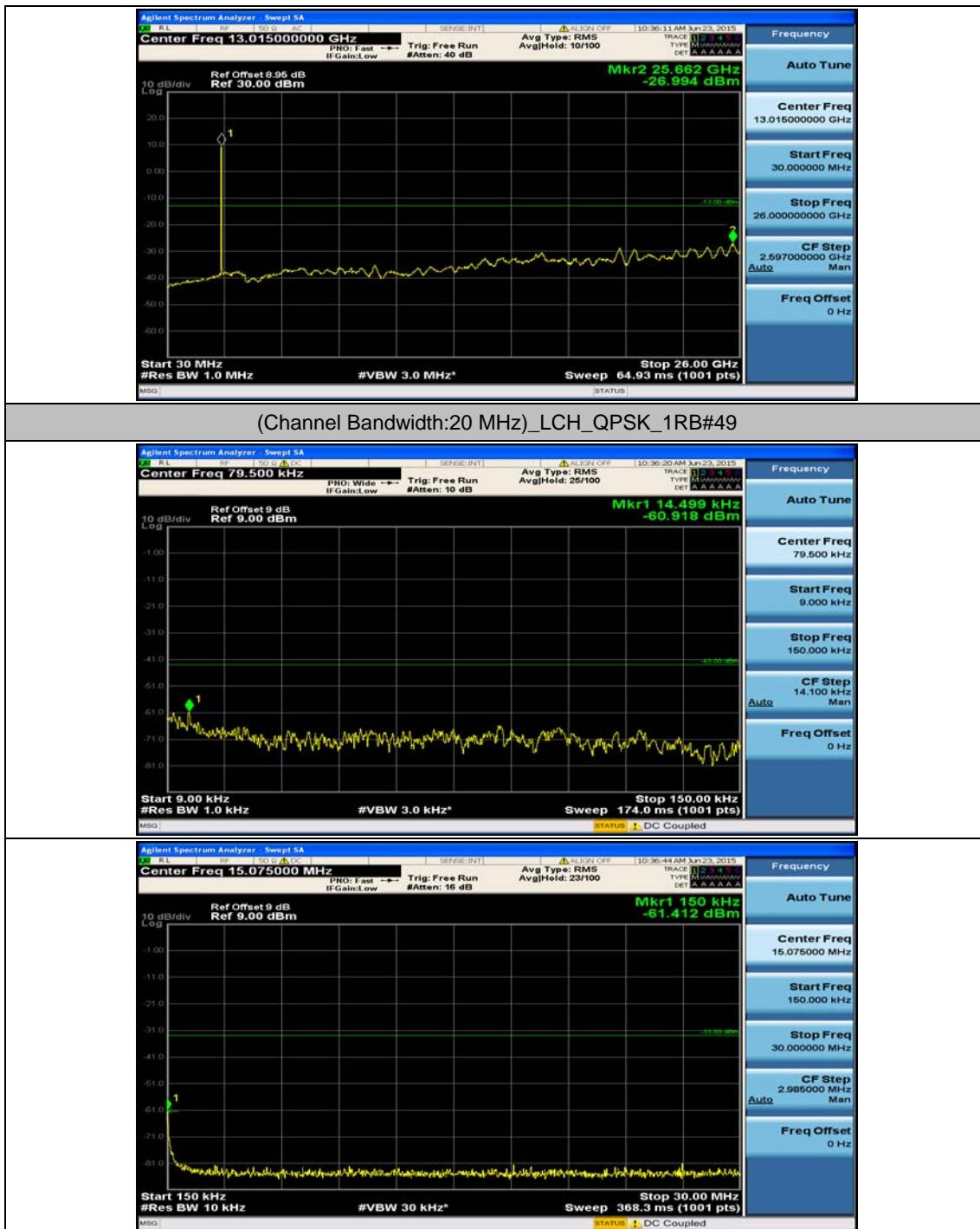


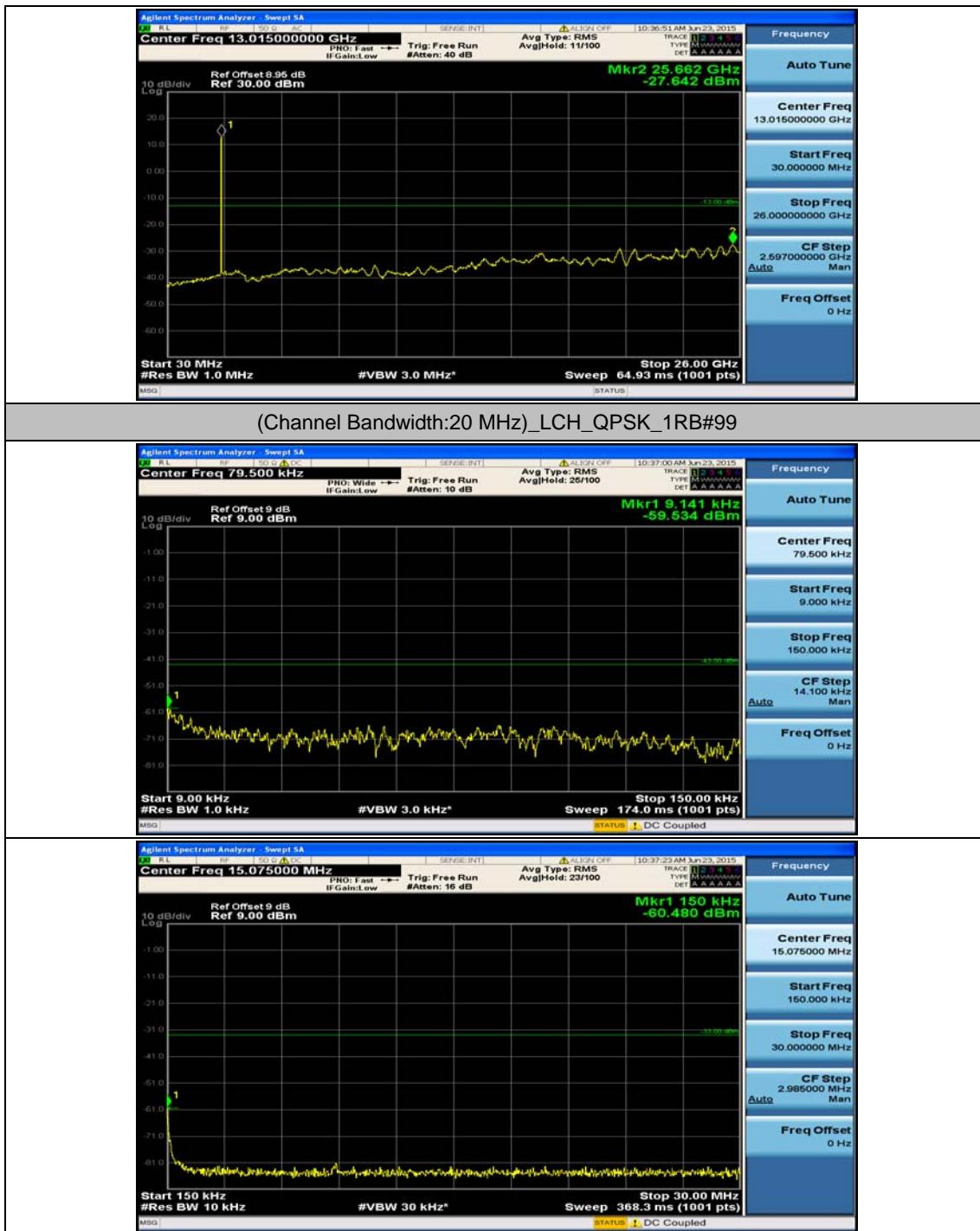


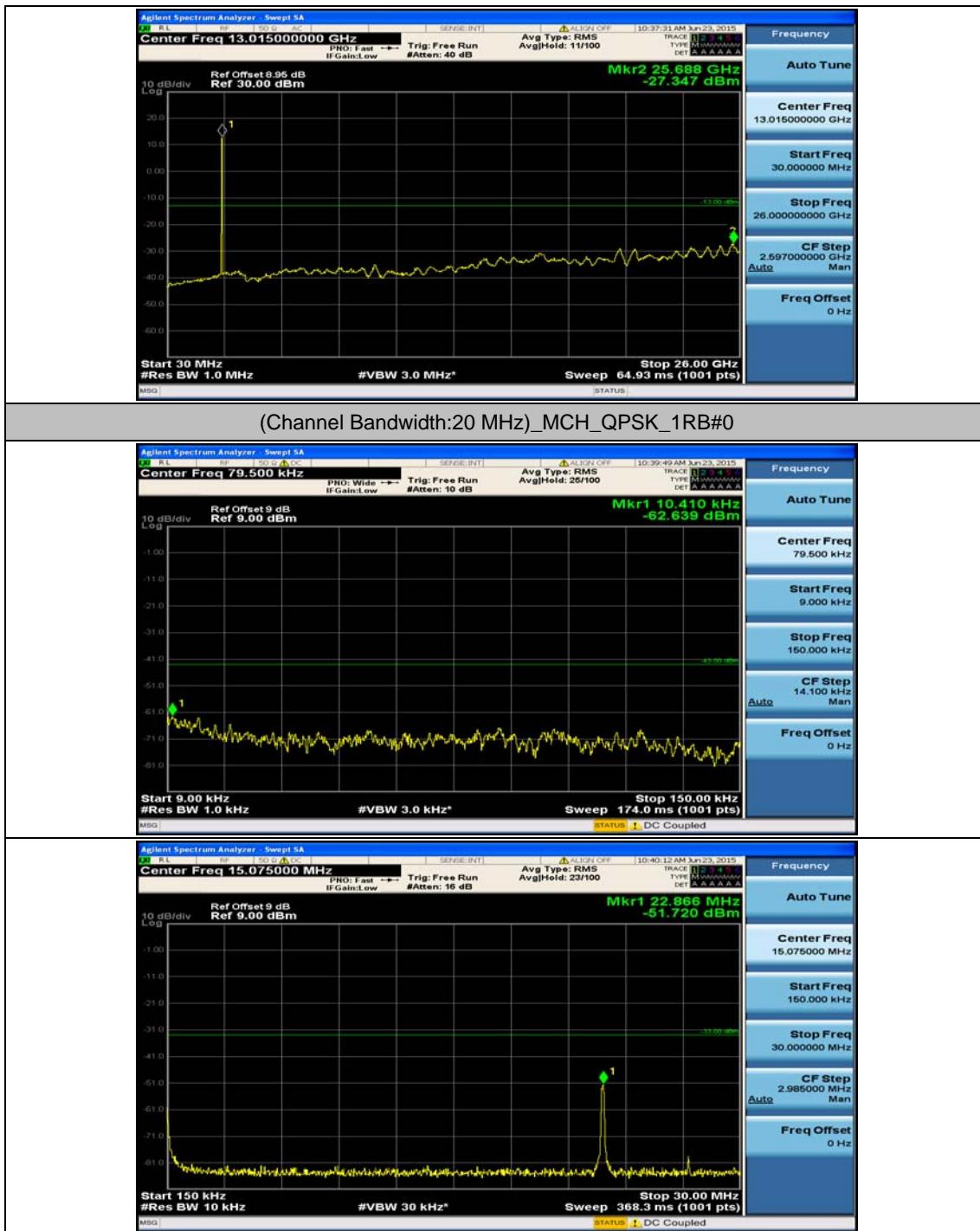


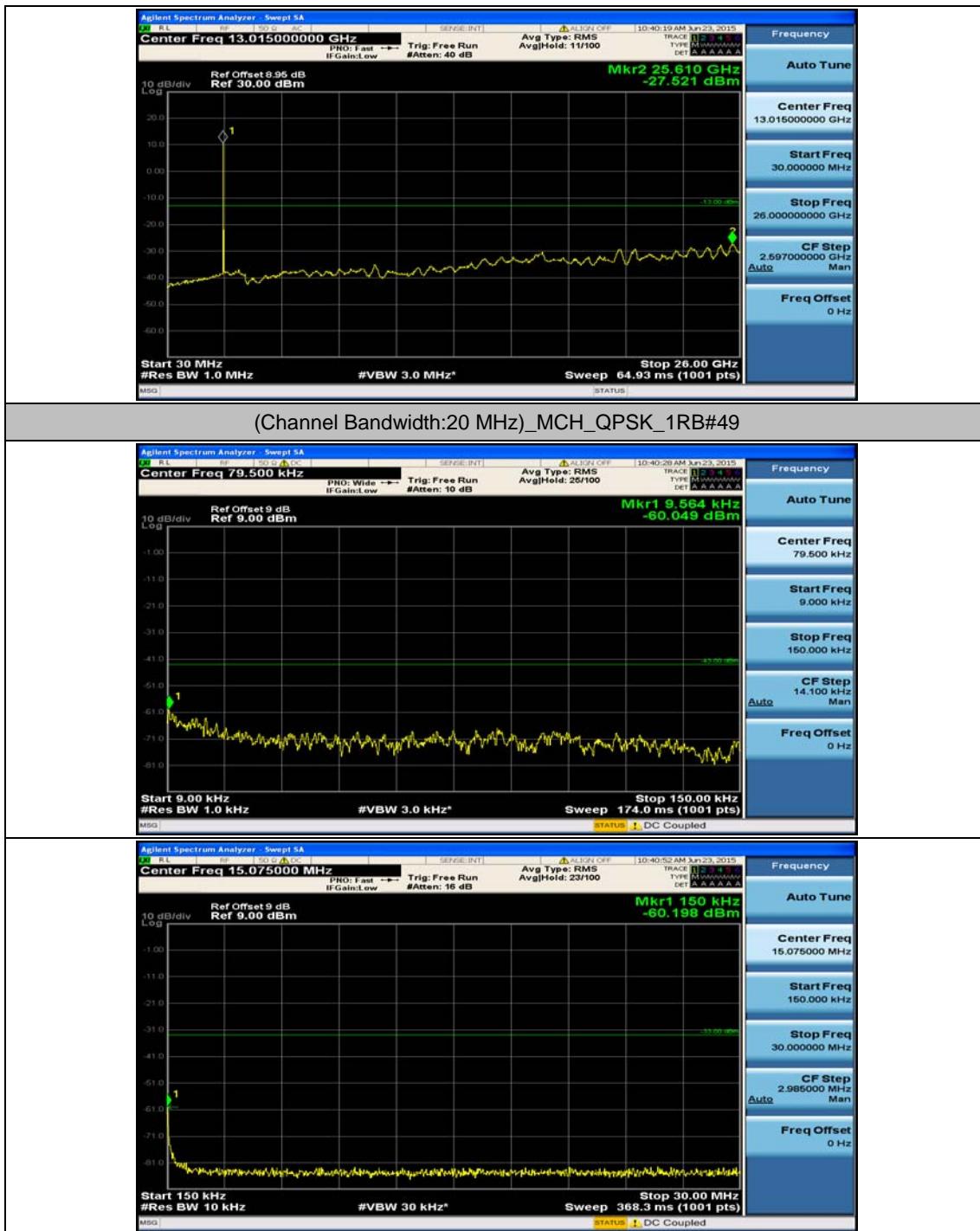
Channel Bandwidth: 20 MHz

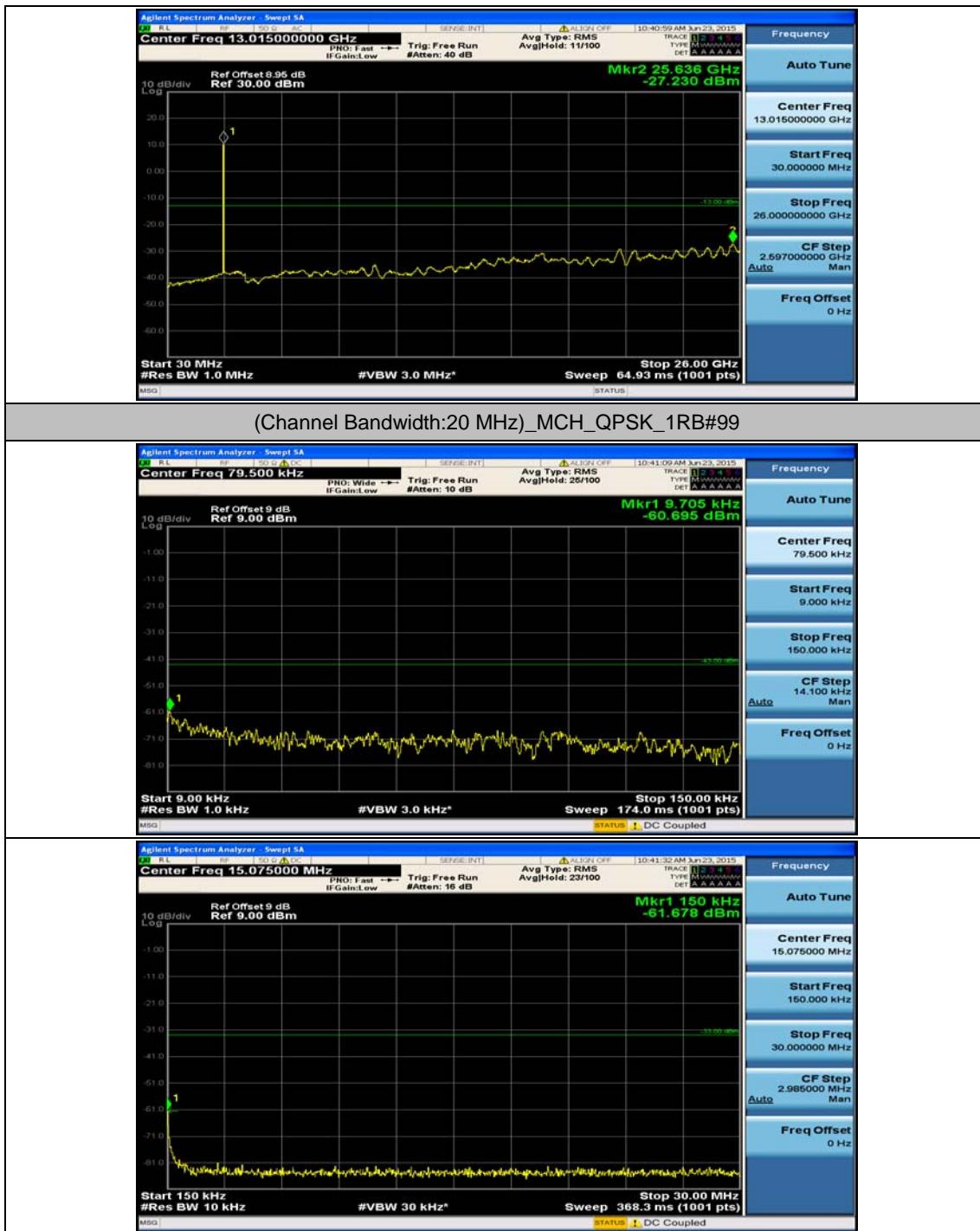


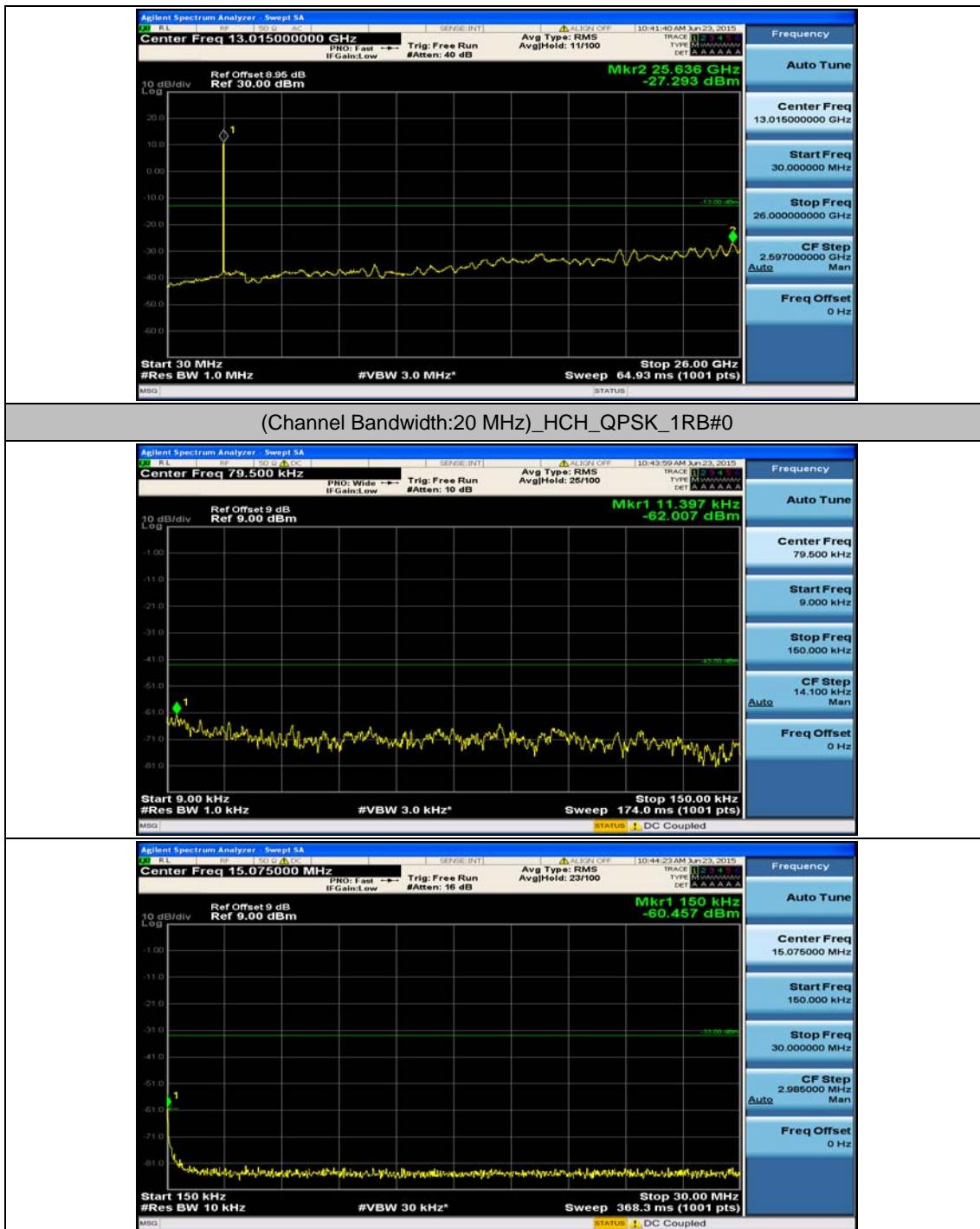


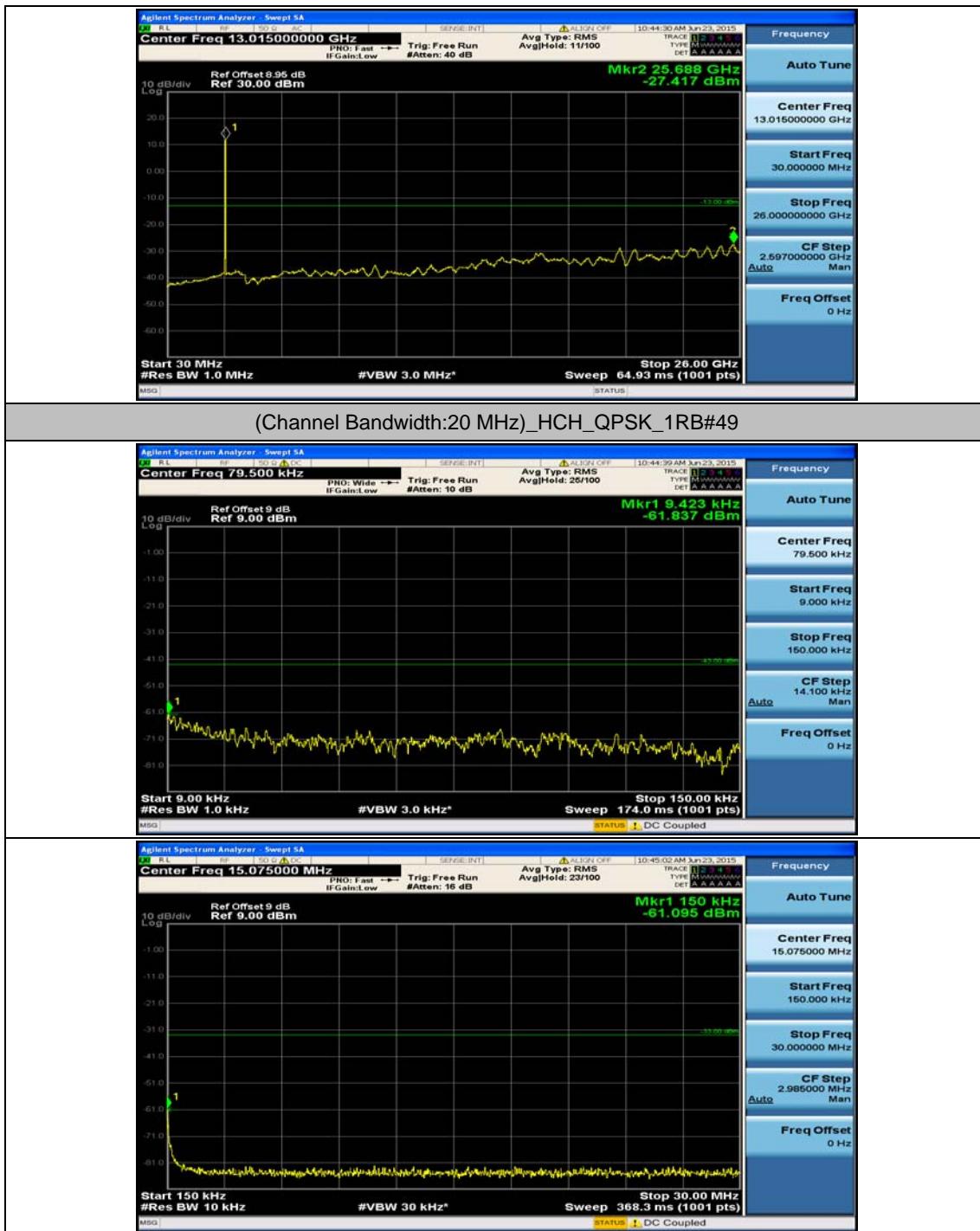


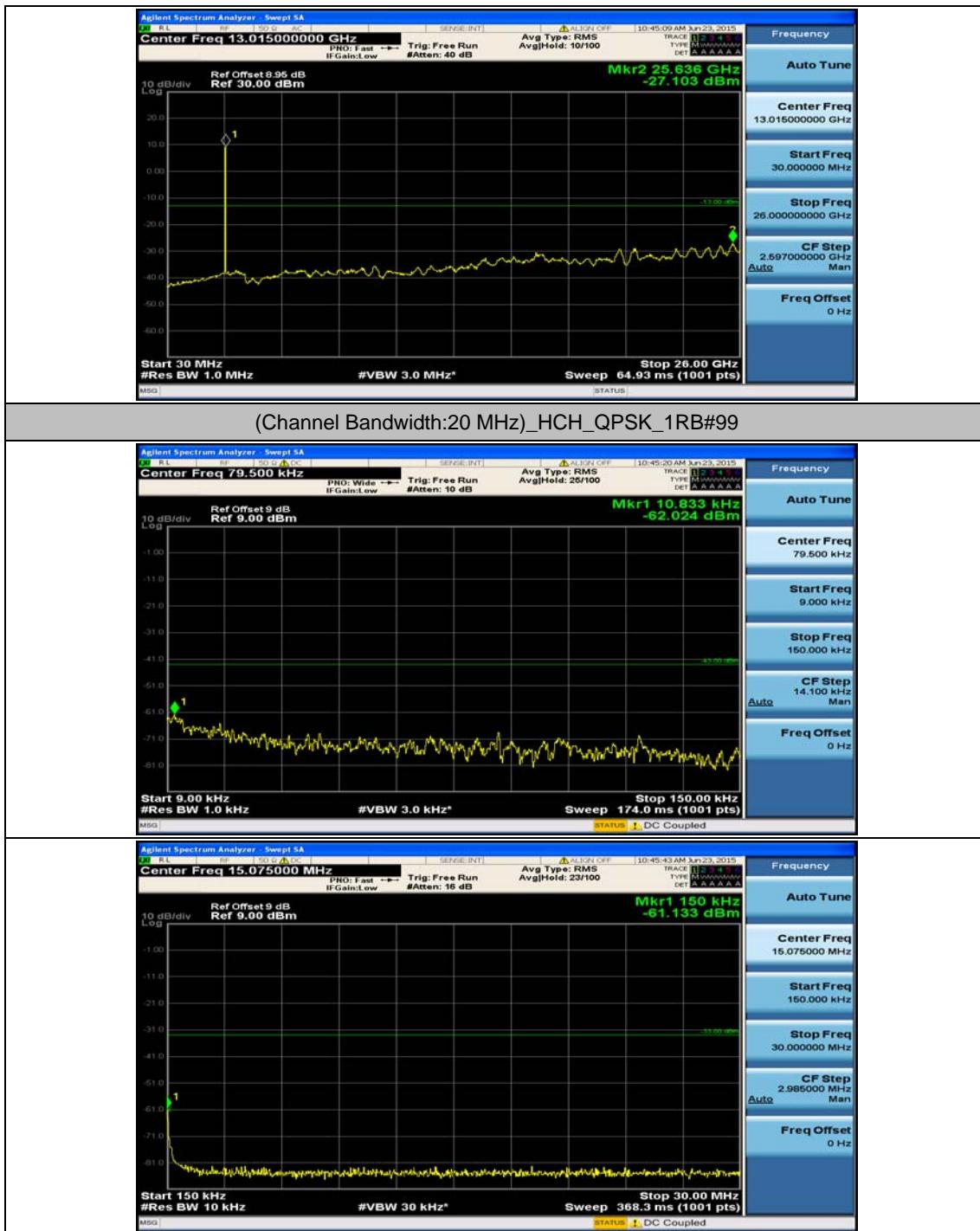


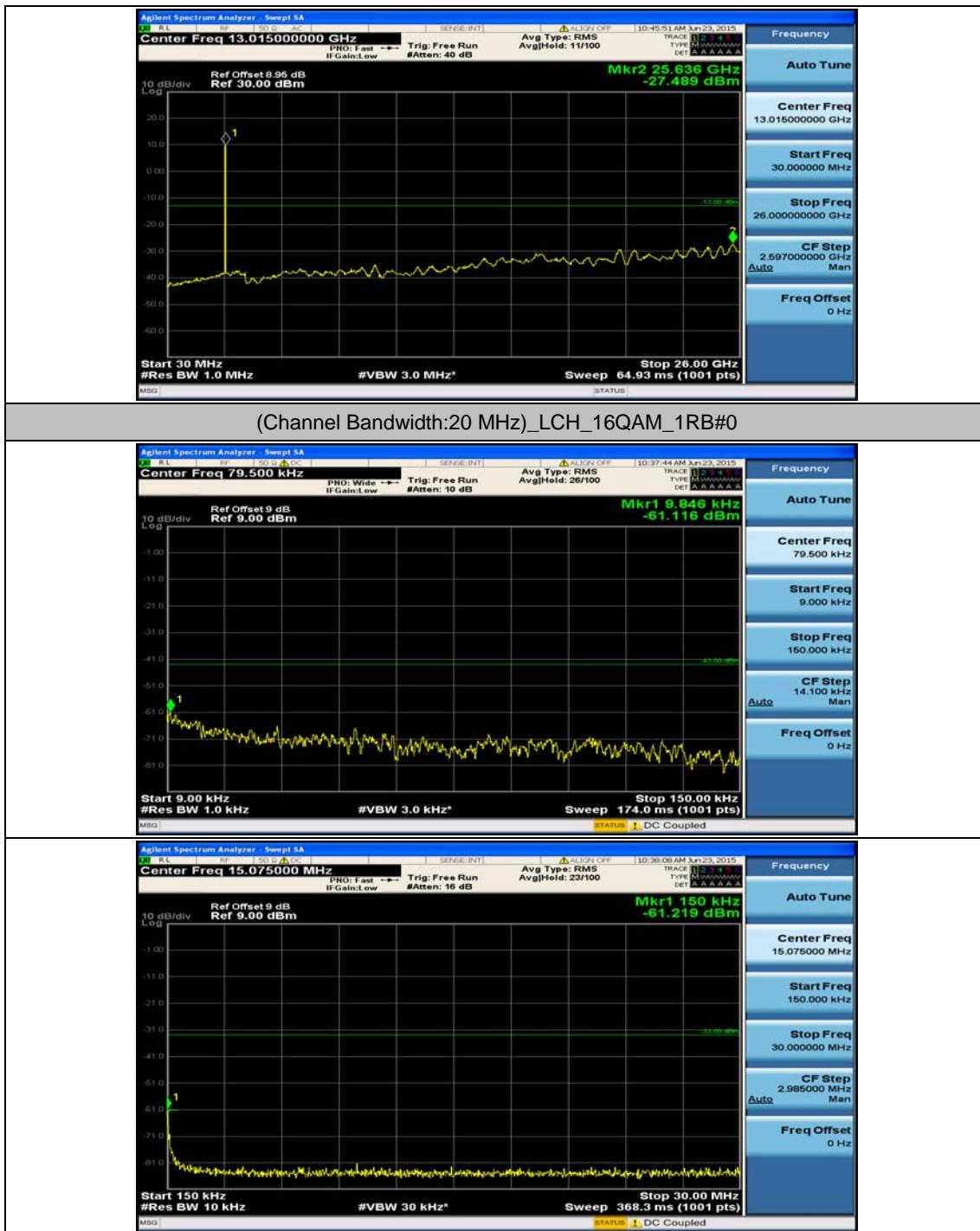


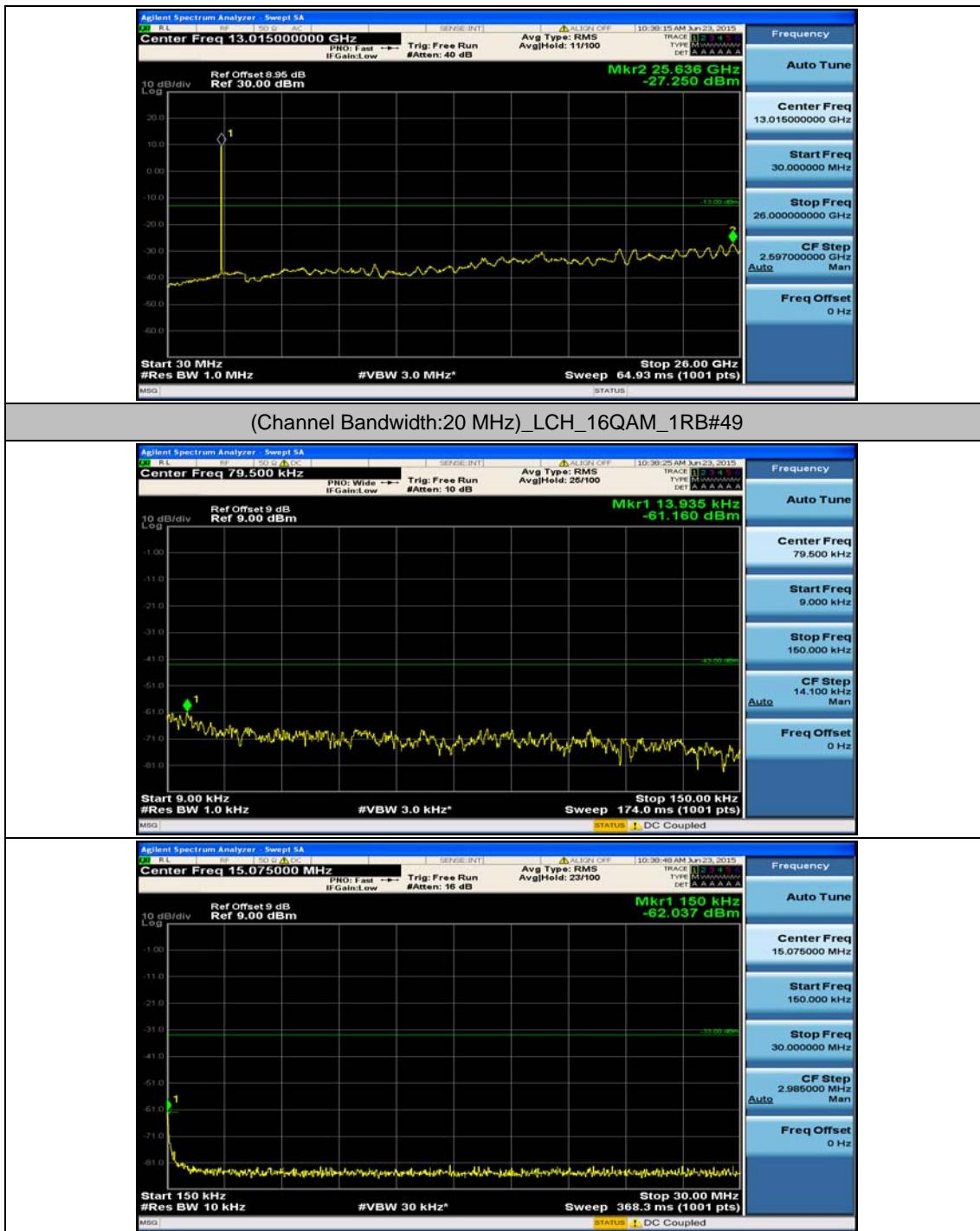


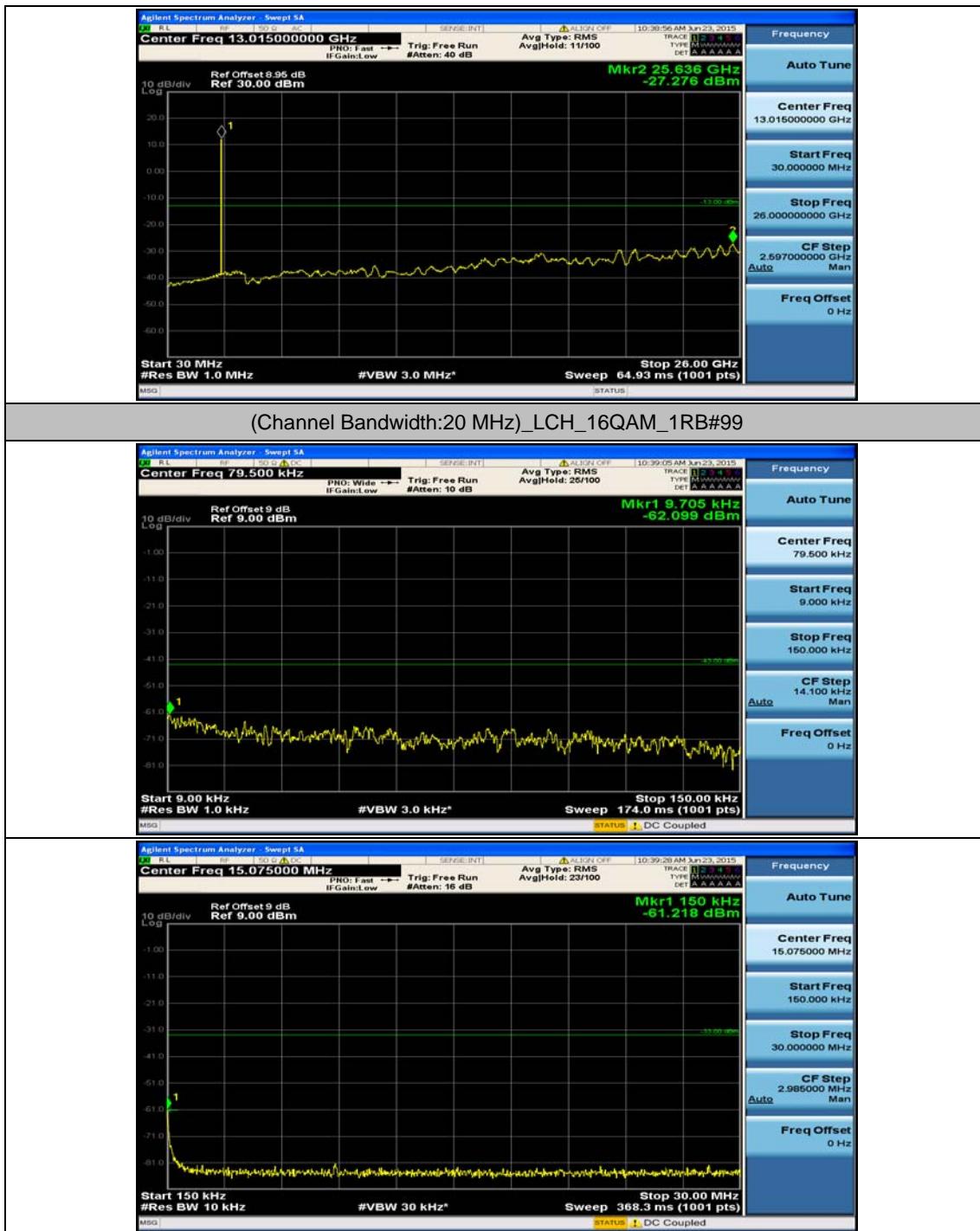


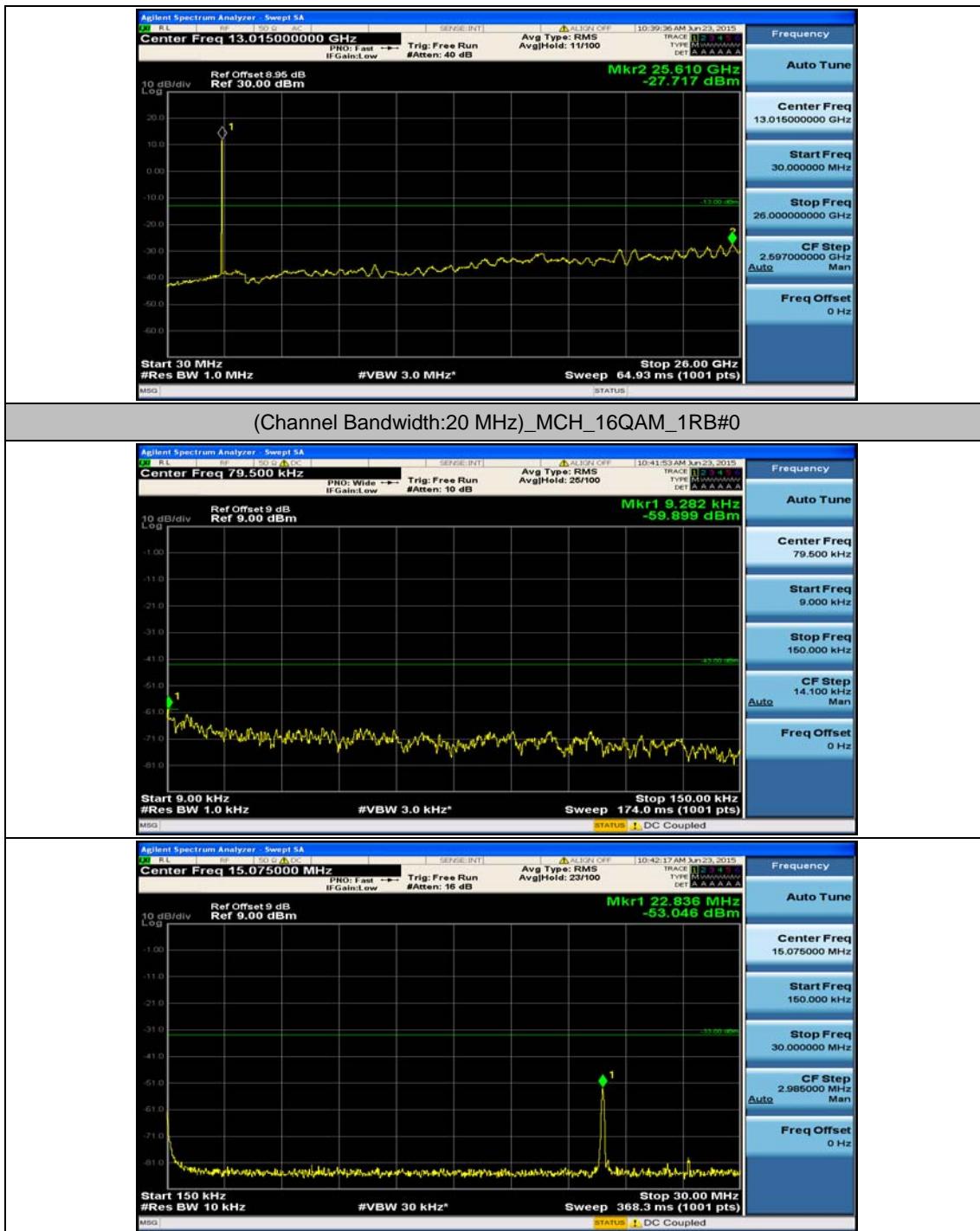


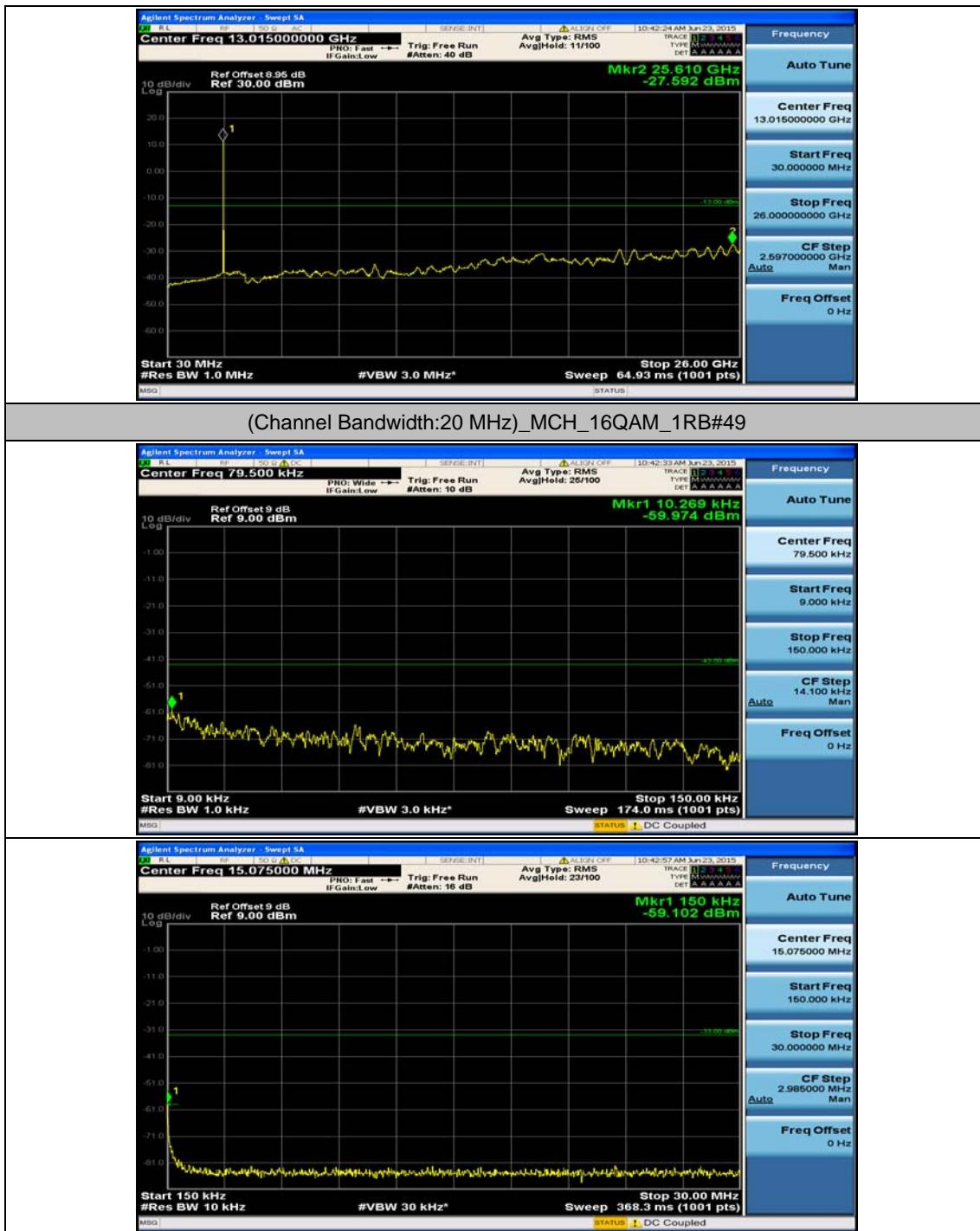


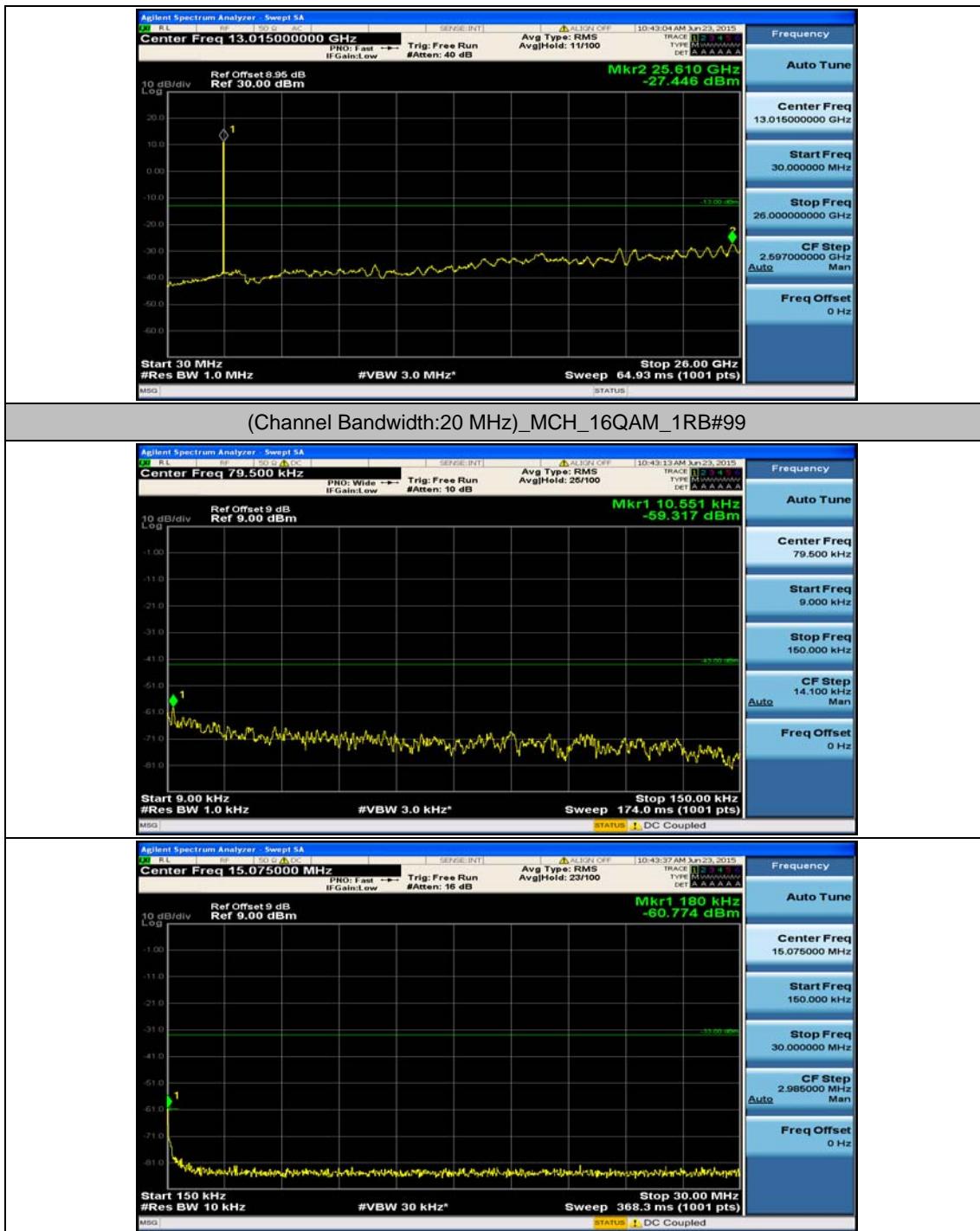


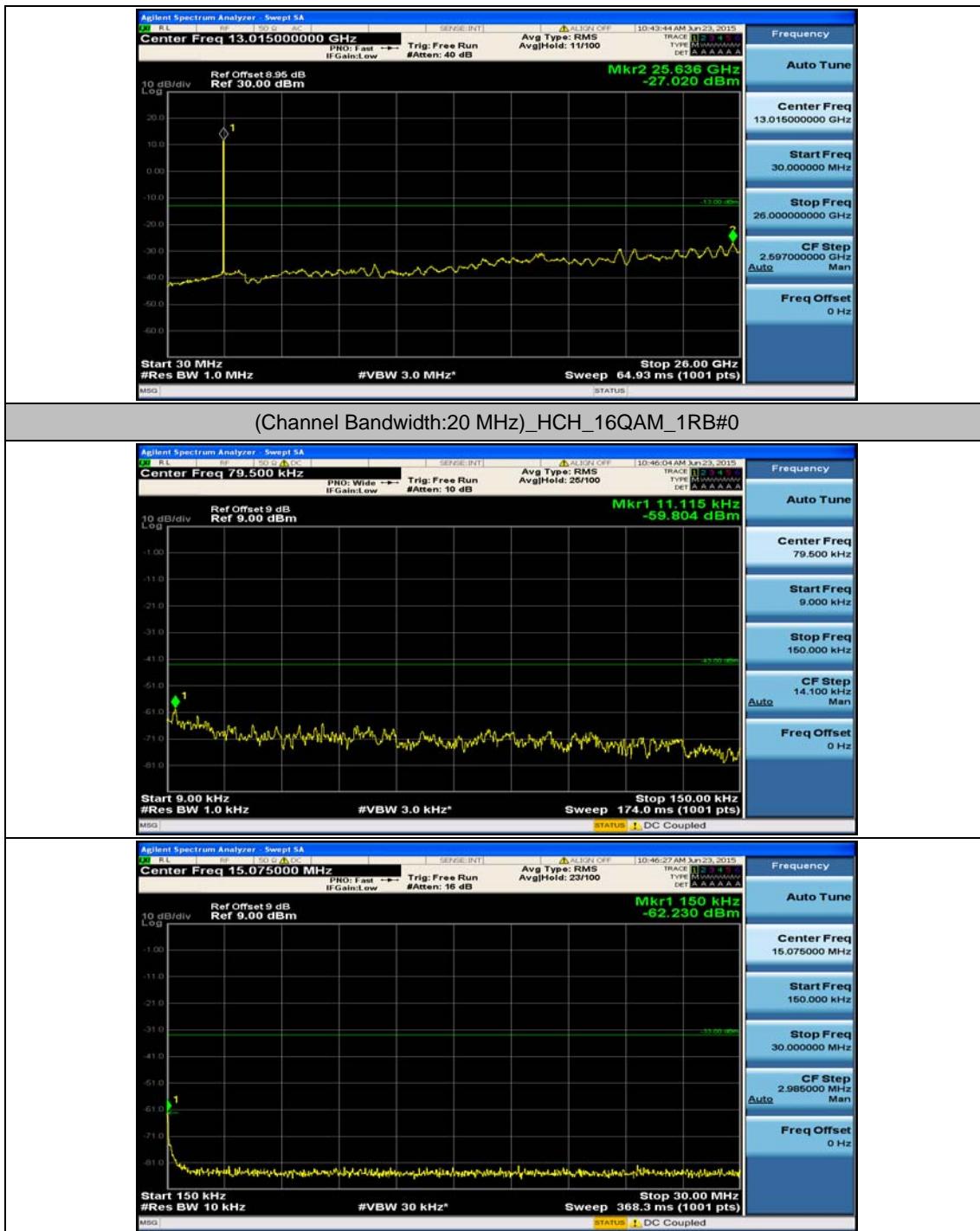


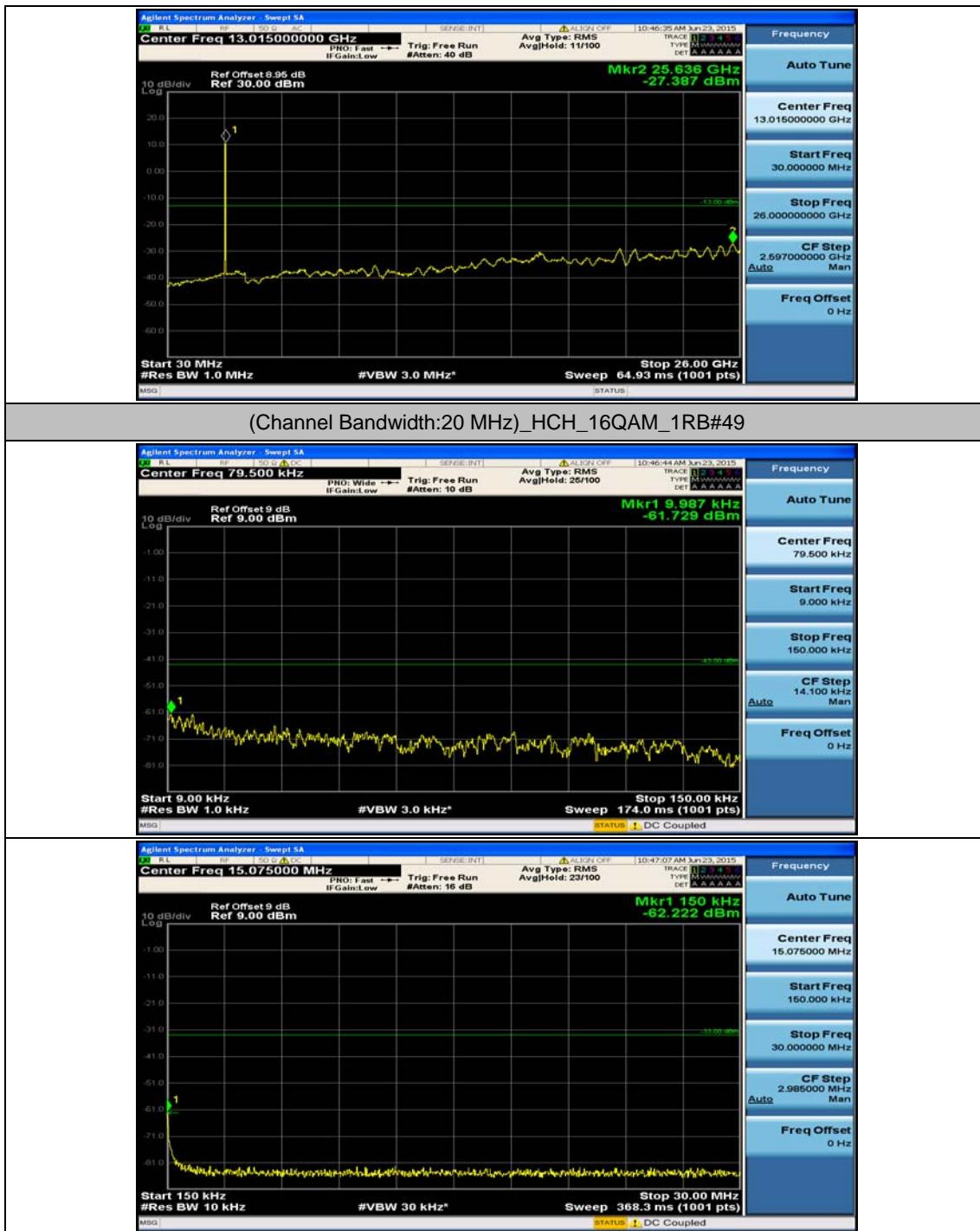


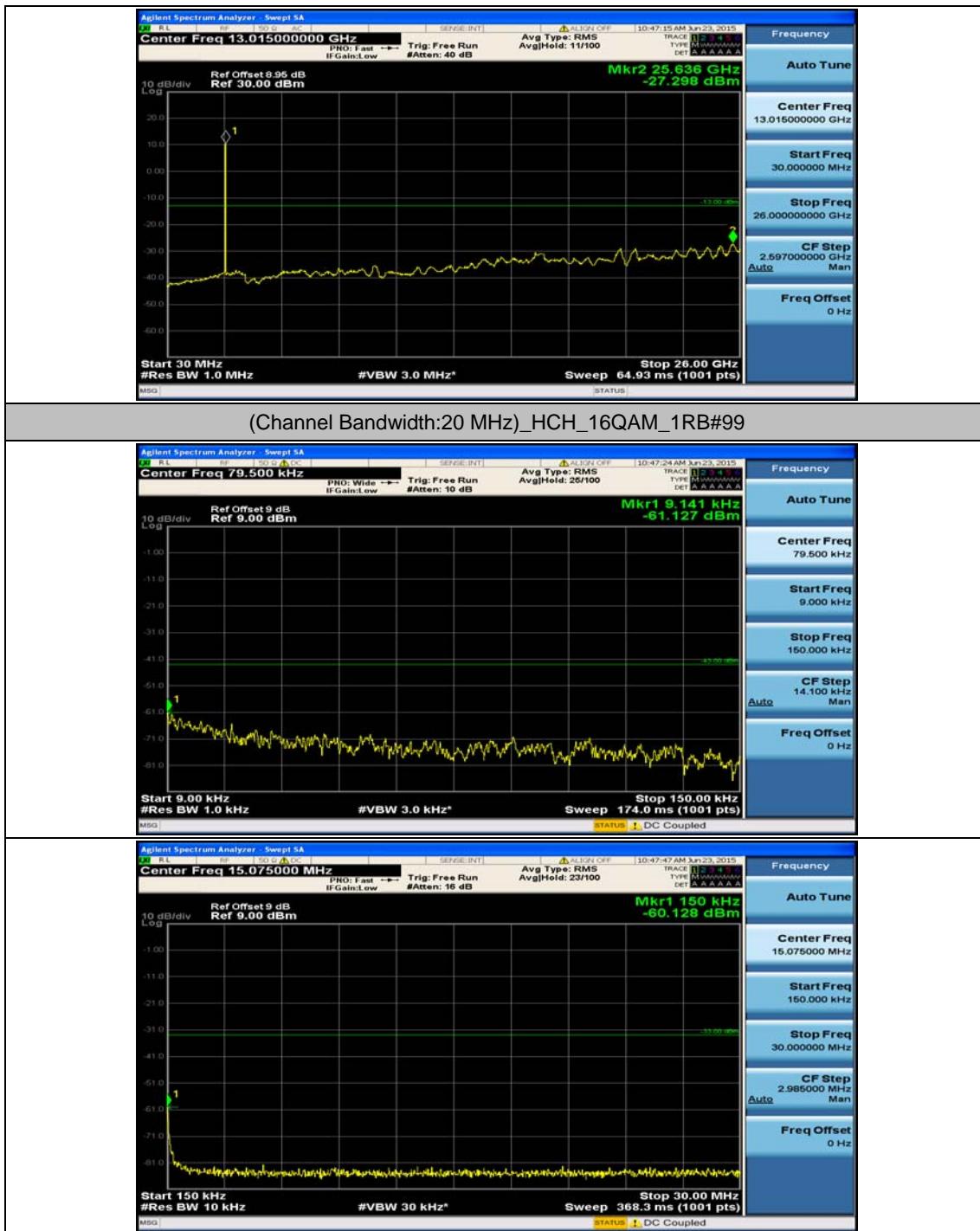














Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	-1.62	-0.000647	± 2.5	PASS
		VN	TN	-0.97	-0.000389	± 2.5	PASS
		VH	TN	0.74	0.000298	± 2.5	PASS
	MCH	VL	TN	0.01	0.000006	± 2.5	PASS
		VN	TN	0.51	0.000199	± 2.5	PASS
		VH	TN	2.56	0.000988	± 2.5	PASS
	HCH	VL	TN	2.88	0.001070	± 2.5	PASS
		VN	TN	2.50	0.000931	± 2.5	PASS
		VH	TN	2.50	0.000931	± 2.5	PASS
16QAM	LCH	VL	TN	1.33	0.000532	± 2.5	PASS
		VN	TN	2.17	0.000870	± 2.5	PASS
		VH	TN	3.48	0.001391	± 2.5	PASS
	MCH	VL	TN	2.76	0.001065	± 2.5	PASS
		VN	TN	-1.02	-0.000392	± 2.5	PASS
		VH	TN	-2.20	-0.000850	± 2.5	PASS
	HCH	VL	TN	3.78	0.001405	± 2.5	PASS
		VN	TN	-1.27	-0.000474	± 2.5	PASS
		VH	TN	0.14	0.000053	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.67	-0.000670	± 2.5	PASS
		VN	-20	-1.30	-0.000521	± 2.5	PASS
		VN	-10	-2.50	-0.001002	± 2.5	PASS
		VN	0	-0.73	-0.000292	± 2.5	PASS
		VN	10	-1.03	-0.000412	± 2.5	PASS
		VN	20	0.21	0.000086	± 2.5	PASS
		VN	30	-2.52	-0.001008	± 2.5	PASS
		VN	40	0.29	0.000115	± 2.5	PASS
		VN	50	3.12	0.001248	± 2.5	PASS
	MCH	VN	-30	3.19	0.001230	± 2.5	PASS
		VN	-20	-0.34	-0.000132	± 2.5	PASS
		VN	-10	-0.62	-0.000237	± 2.5	PASS
		VN	0	-0.04	-0.000017	± 2.5	PASS
		VN	10	-2.73	-0.001054	± 2.5	PASS
		VN	20	4.32	0.001666	± 2.5	PASS

	HCH	VN	30	3.81	0.001467	± 2.5	PASS
		VN	40	-1.43	-0.000552	± 2.5	PASS
		VN	50	1.60	0.000618	± 2.5	PASS
		VN	-30	-3.28	-0.001219	± 2.5	PASS
		VN	-20	1.04	0.000389	± 2.5	PASS
		VN	-10	-1.37	-0.000511	± 2.5	PASS
		VN	0	0.64	0.000240	± 2.5	PASS
		VN	10	1.46	0.000543	± 2.5	PASS
		VN	20	4.15	0.001544	± 2.5	PASS
		VN	30	0.69	0.000255	± 2.5	PASS
16QAM	LCH	VN	40	-0.77	-0.000287	± 2.5	PASS
		VN	50	1.19	0.000442	± 2.5	PASS
		VN	-30	-1.67	-0.000670	± 2.5	PASS
		VN	-20	0.56	0.000223	± 2.5	PASS
		VN	-10	-3.02	-0.001208	± 2.5	PASS
		VN	0	-1.75	-0.000699	± 2.5	PASS
		VN	10	2.57	0.001031	± 2.5	PASS
		VN	20	-0.86	-0.000344	± 2.5	PASS
		VN	30	1.43	0.000573	± 2.5	PASS
	MCH	VN	40	-2.35	-0.000939	± 2.5	PASS
		VN	50	-1.40	-0.000561	± 2.5	PASS
		VN	-30	-2.22	-0.000855	± 2.5	PASS
		VN	-20	4.68	0.001804	± 2.5	PASS
		VN	-10	1.27	0.000491	± 2.5	PASS
		VN	0	0.39	0.000149	± 2.5	PASS
		VN	10	0.06	0.000022	± 2.5	PASS
		VN	20	2.68	0.001032	± 2.5	PASS
		VN	30	2.80	0.001081	± 2.5	PASS
	HCH	VN	40	-2.26	-0.000872	± 2.5	PASS
		VN	50	1.44	0.000557	± 2.5	PASS
		VN	-30	0.01	0.000005	± 2.5	PASS
		VN	-20	-2.85	-0.001059	± 2.5	PASS
		VN	-10	2.36	0.000878	± 2.5	PASS
		VN	0	-0.56	-0.000208	± 2.5	PASS
		VN	10	1.90	0.000708	± 2.5	PASS
		VN	20	-1.77	-0.000660	± 2.5	PASS
		VN	30	-2.43	-0.000905	± 2.5	PASS
		VN	40	-3.85	-0.001432	± 2.5	PASS
		VN	50	2.98	0.001107	± 2.5	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	8.85	0.003541	± 2.5	PASS
		VN	TN	5.58	0.002231	± 2.5	PASS
		VH	TN	4.38	0.001750	± 2.5	PASS

	MCH	VL	TN	-4.02	-0.001550	± 2.5	PASS
		VN	TN	-0.51	-0.000199	± 2.5	PASS
		VH	TN	0.36	0.000138	± 2.5	PASS
	HCH	VL	TN	11.36	0.004230	± 2.5	PASS
		VN	TN	-2.59	-0.000964	± 2.5	PASS
		VH	TN	-0.17	-0.000064	± 2.5	PASS
	LCH	VL	TN	4.62	0.001847	± 2.5	PASS
		VN	TN	11.77	0.004707	± 2.5	PASS
		VH	TN	9.73	0.003889	± 2.5	PASS
	MCH	VL	TN	-2.99	-0.001153	± 2.5	PASS
		VN	TN	2.50	0.000965	± 2.5	PASS
		VH	TN	0.86	0.000331	± 2.5	PASS
	HCH	VL	TN	4.36	0.001625	± 2.5	PASS
		VN	TN	-0.24	-0.000091	± 2.5	PASS
		VH	TN	3.52	0.001311	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	11.24	0.004496	± 2.5	PASS
		VN	-20	10.60	0.004238	± 2.5	PASS
		VN	-10	10.54	0.004215	± 2.5	PASS
		VN	0	10.40	0.004158	± 2.5	PASS
		VN	10	7.00	0.002797	± 2.5	PASS
		VN	20	2.68	0.001070	± 2.5	PASS
		VN	30	9.60	0.003838	± 2.5	PASS
		VN	40	12.23	0.004890	± 2.5	PASS
		VN	50	6.17	0.002465	± 2.5	PASS
	MCH	VN	-30	6.14	0.002367	± 2.5	PASS
		VN	-20	-2.03	-0.000783	± 2.5	PASS
		VN	-10	-2.76	-0.001065	± 2.5	PASS
		VN	0	-1.43	-0.000552	± 2.5	PASS
		VN	10	-0.06	-0.000022	± 2.5	PASS
		VN	20	0.80	0.000309	± 2.5	PASS
		VN	30	8.34	0.003216	± 2.5	PASS
		VN	40	8.60	0.003316	± 2.5	PASS
		VN	50	-0.37	-0.000143	± 2.5	PASS
	HCH	VN	-30	2.07	0.000773	± 2.5	PASS
		VN	-20	0.51	0.000192	± 2.5	PASS
		VN	-10	-1.00	-0.000373	± 2.5	PASS
		VN	0	1.50	0.000559	± 2.5	PASS
		VN	10	4.75	0.001769	± 2.5	PASS
		VN	20	10.07	0.003751	± 2.5	PASS
		VN	30	-0.86	-0.000320	± 2.5	PASS
		VN	40	8.88	0.003309	± 2.5	PASS
		VN	50	-1.09	-0.000405	± 2.5	PASS
QPSK	LCH	VN	-30	8.17	0.003266	± 2.5	PASS
		VN	-20	9.63	0.003849	± 2.5	PASS
		VN	-10	5.66	0.002265	± 2.5	PASS
		VN	0	6.64	0.002654	± 2.5	PASS
		VN	10	10.36	0.004141	± 2.5	PASS

	VN	20	1.12	0.000446	± 2.5	PASS
		30	1.65	0.000658	± 2.5	PASS
		40	7.18	0.002871	± 2.5	PASS
		50	5.97	0.002385	± 2.5	PASS
	MCH	-30	-1.12	-0.000430	± 2.5	PASS
		-20	3.92	0.001512	± 2.5	PASS
		-10	3.88	0.001495	± 2.5	PASS
		0	3.42	0.001319	± 2.5	PASS
		10	2.86	0.001103	± 2.5	PASS
		20	2.98	0.001147	± 2.5	PASS
		30	3.48	0.001341	± 2.5	PASS
		40	2.60	0.001004	± 2.5	PASS
		50	4.09	0.001578	± 2.5	PASS
	HCH	-30	1.97	0.000735	± 2.5	PASS
		-20	5.85	0.002179	± 2.5	PASS
		-10	-0.70	-0.000261	± 2.5	PASS
		0	7.85	0.002925	± 2.5	PASS
		10	4.22	0.001572	± 2.5	PASS
		20	3.66	0.001364	± 2.5	PASS
		30	6.54	0.002435	± 2.5	PASS
		40	0.10	0.000037	± 2.5	PASS
		50	3.18	0.001183	± 2.5	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	4.73	0.001891	± 2.5	PASS
		VN	TN	5.09	0.002034	± 2.5	PASS
		VH	TN	2.43	0.000971	± 2.5	PASS
	MCH	VL	TN	1.95	0.000750	± 2.5	PASS
		VN	TN	0.03	0.000011	± 2.5	PASS
		VH	TN	1.92	0.000739	± 2.5	PASS
	HCH	VL	TN	4.29	0.001600	± 2.5	PASS
		VN	TN	6.32	0.002357	± 2.5	PASS
		VH	TN	4.82	0.001797	± 2.5	PASS
16QAM	LCH	VL	TN	3.63	0.001451	± 2.5	PASS
		VN	TN	3.76	0.001503	± 2.5	PASS
		VH	TN	2.66	0.001063	± 2.5	PASS
	MCH	VL	TN	0.79	0.000303	± 2.5	PASS
		VN	TN	2.79	0.001076	± 2.5	PASS
		VH	TN	2.03	0.000783	± 2.5	PASS
	HCH	VL	TN	4.52	0.001685	± 2.5	PASS
		VN	TN	4.53	0.001690	± 2.5	PASS
		VH	TN	6.81	0.002538	± 2.5	PASS
Temperature							

Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.17	0.000869	± 2.5	PASS
		VN	-20	3.16	0.001263	± 2.5	PASS
		VN	-10	2.53	0.001011	± 2.5	PASS
		VN	0	2.50	0.001000	± 2.5	PASS
		VN	10	1.82	0.000726	± 2.5	PASS
		VN	20	0.46	0.000183	± 2.5	PASS
		VN	30	3.42	0.001366	± 2.5	PASS
		VN	40	2.53	0.001011	± 2.5	PASS
		VN	50	3.50	0.001400	± 2.5	PASS
	MCH	VN	-30	4.22	0.001627	± 2.5	PASS
		VN	-20	0.77	0.000298	± 2.5	PASS
		VN	-10	3.03	0.001170	± 2.5	PASS
		VN	0	1.77	0.000684	± 2.5	PASS
		VN	10	0.54	0.000210	± 2.5	PASS
		VN	20	1.14	0.000441	± 2.5	PASS
		VN	30	2.83	0.001092	± 2.5	PASS
		VN	40	-0.79	-0.000303	± 2.5	PASS
		VN	50	1.56	0.000601	± 2.5	PASS
	HCH	VN	-30	5.31	0.001978	± 2.5	PASS
		VN	-20	9.63	0.003589	± 2.5	PASS
		VN	-10	5.61	0.002090	± 2.5	PASS
		VN	0	8.71	0.003248	± 2.5	PASS
		VN	10	4.42	0.001648	± 2.5	PASS
		VN	20	9.98	0.003722	± 2.5	PASS
		VN	30	4.18	0.001557	± 2.5	PASS
		VN	40	5.32	0.001984	± 2.5	PASS
		VN	50	7.41	0.002762	± 2.5	PASS
QPSK	LCH	VN	-30	0.23	0.000091	± 2.5	PASS
		VN	-20	4.69	0.001874	± 2.5	PASS
		VN	-10	3.93	0.001571	± 2.5	PASS
		VN	0	6.55	0.002617	± 2.5	PASS
		VN	10	4.08	0.001629	± 2.5	PASS
		VN	20	2.00	0.000800	± 2.5	PASS
		VN	30	5.25	0.002097	± 2.5	PASS
		VN	40	1.54	0.000617	± 2.5	PASS
		VN	50	8.25	0.003297	± 2.5	PASS
	MCH	VN	-30	-1.10	-0.000425	± 2.5	PASS
		VN	-20	1.62	0.000623	± 2.5	PASS
		VN	-10	2.37	0.000916	± 2.5	PASS
		VN	0	-1.22	-0.000469	± 2.5	PASS
		VN	10	4.69	0.001810	± 2.5	PASS
		VN	20	5.39	0.002080	± 2.5	PASS
		VN	30	1.76	0.000679	± 2.5	PASS
		VN	40	1.93	0.000745	± 2.5	PASS
		VN	50	0.54	0.000210	± 2.5	PASS
	HCH	VN	-30	7.30	0.002720	± 2.5	PASS
		VN	-20	3.86	0.001440	± 2.5	PASS
		VN	-10	5.68	0.002117	± 2.5	PASS

		VN	0	3.36	0.001253	± 2.5	PASS
		VN	10	6.35	0.002368	± 2.5	PASS
		VN	20	6.67	0.002485	± 2.5	PASS
		VN	30	7.48	0.002789	± 2.5	PASS
		VN	40	3.15	0.001173	± 2.5	PASS
		VN	50	8.83	0.003290	± 2.5	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	0.84	0.000337	± 2.5	PASS
		VN	TN	-0.17	-0.000069	± 2.5	PASS
		VH	TN	-0.69	-0.000274	± 2.5	PASS
	MCH	VL	TN	1.47	0.000568	± 2.5	PASS
		VN	TN	0.13	0.000050	± 2.5	PASS
		VH	TN	3.40	0.001313	± 2.5	PASS
	HCH	VL	TN	-1.06	-0.000395	± 2.5	PASS
		VN	TN	2.99	0.001116	± 2.5	PASS
		VH	TN	-2.09	-0.000779	± 2.5	PASS
16QAM	LCH	VL	TN	1.82	0.000725	± 2.5	PASS
		VN	TN	-2.02	-0.000805	± 2.5	PASS
		VH	TN	-0.16	-0.000063	± 2.5	PASS
	MCH	VL	TN	-1.03	-0.000397	± 2.5	PASS
		VN	TN	4.38	0.001688	± 2.5	PASS
		VH	TN	1.34	0.000519	± 2.5	PASS
	HCH	VL	TN	1.96	0.000731	± 2.5	PASS
		VN	TN	3.43	0.001281	± 2.5	PASS
		VH	TN	2.80	0.001046	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.97	-0.000388	± 2.5	PASS
		VN	-20	0.30	0.000120	± 2.5	PASS
		VN	-10	-1.52	-0.000605	± 2.5	PASS
		VN	0	-0.56	-0.000223	± 2.5	PASS
		VN	10	0.13	0.000051	± 2.5	PASS
		VN	20	1.44	0.000577	± 2.5	PASS
		VN	30	-1.86	-0.000742	± 2.5	PASS
		VN	40	1.60	0.000639	± 2.5	PASS
		VN	50	-1.49	-0.000594	± 2.5	PASS
	MCH	VN	-30	1.02	0.000392	± 2.5	PASS
		VN	-20	3.12	0.001203	± 2.5	PASS
		VN	-10	-1.30	-0.000502	± 2.5	PASS
		VN	0	-2.45	-0.000943	± 2.5	PASS
		VN	10	1.67	0.000645	± 2.5	PASS
		VN	20	0.14	0.000055	± 2.5	PASS

	HCH	VN	30	4.08	0.001572	± 2.5	PASS
		VN	40	0.06	0.000022	± 2.5	PASS
		VN	50	0.06	0.000022	± 2.5	PASS
		VN	-30	-2.19	-0.000817	± 2.5	PASS
		VN	-20	0.30	0.000112	± 2.5	PASS
		VN	-10	2.43	0.000907	± 2.5	PASS
		VN	0	2.32	0.000865	± 2.5	PASS
		VN	10	0.13	0.000048	± 2.5	PASS
		VN	20	-0.11	-0.000043	± 2.5	PASS
		VN	30	-0.09	-0.000032	± 2.5	PASS
QPSK	LCH	VN	40	-1.50	-0.000560	± 2.5	PASS
		VN	50	-2.09	-0.000779	± 2.5	PASS
		VN	-30	2.46	0.000982	± 2.5	PASS
		VN	-20	3.29	0.001313	± 2.5	PASS
		VN	-10	-0.94	-0.000377	± 2.5	PASS
		VN	0	-1.92	-0.000765	± 2.5	PASS
		VN	10	-1.89	-0.000754	± 2.5	PASS
		VN	20	-1.14	-0.000457	± 2.5	PASS
		VN	30	1.14	0.000457	± 2.5	PASS
	MCH	VN	40	-0.41	-0.000166	± 2.5	PASS
		VN	50	-0.83	-0.000331	± 2.5	PASS
		VN	-30	-1.82	-0.000701	± 2.5	PASS
		VN	-20	-1.00	-0.000386	± 2.5	PASS
		VN	-10	1.54	0.000596	± 2.5	PASS
		VN	0	-0.40	-0.000154	± 2.5	PASS
		VN	10	2.33	0.000899	± 2.5	PASS
		VN	20	0.96	0.000370	± 2.5	PASS
		VN	30	3.30	0.001274	± 2.5	PASS
	HCH	VN	40	2.05	0.000789	± 2.5	PASS
		VN	50	3.66	0.001412	± 2.5	PASS
		VN	-30	3.91	0.001457	± 2.5	PASS
		VN	-20	-1.47	-0.000550	± 2.5	PASS
		VN	-10	-3.48	-0.001297	± 2.5	PASS
		VN	0	-1.43	-0.000534	± 2.5	PASS
		VN	10	0.76	0.000283	± 2.5	PASS
		VN	20	-3.53	-0.001318	± 2.5	PASS
		VN	30	0.56	0.000208	± 2.5	PASS
		VN	40	0.66	0.000246	± 2.5	PASS
		VN	50	-3.06	-0.001142	± 2.5	PASS