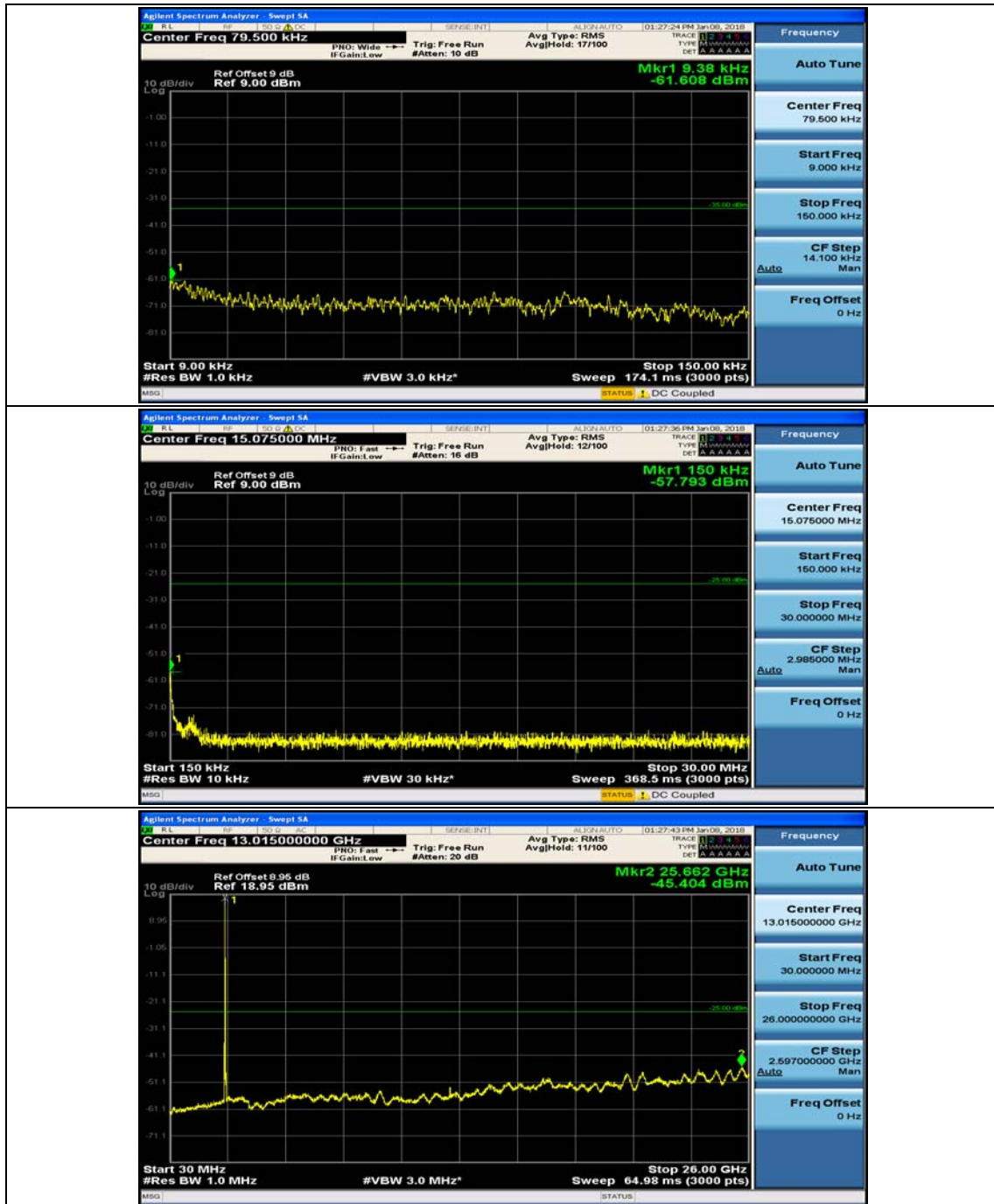
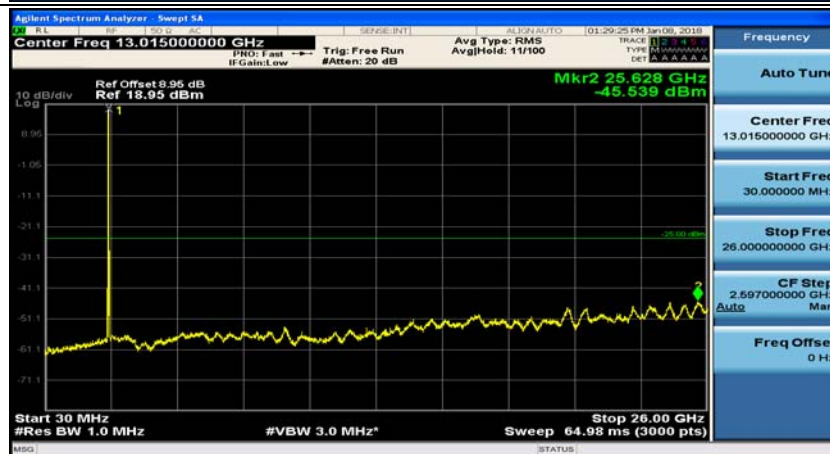
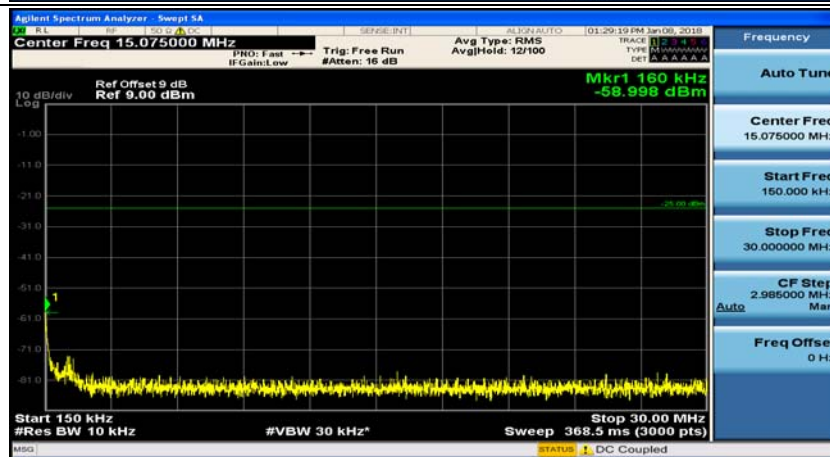
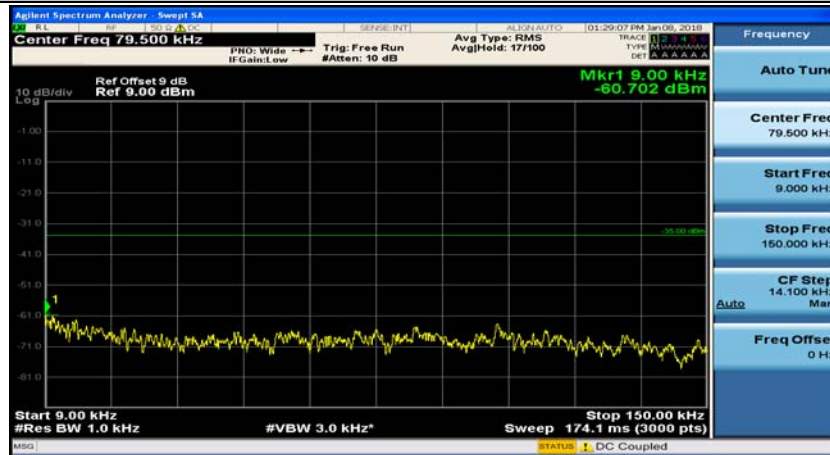
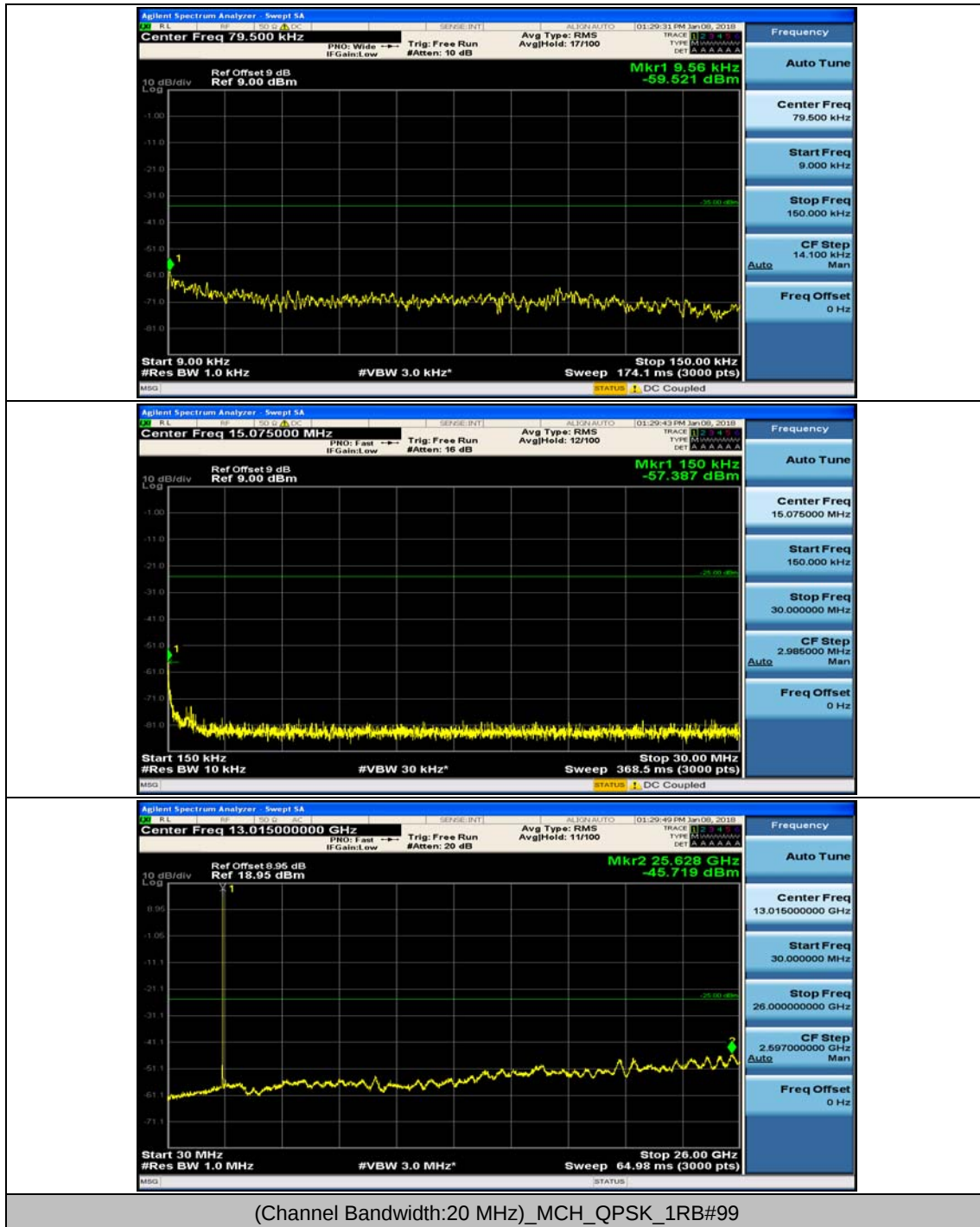


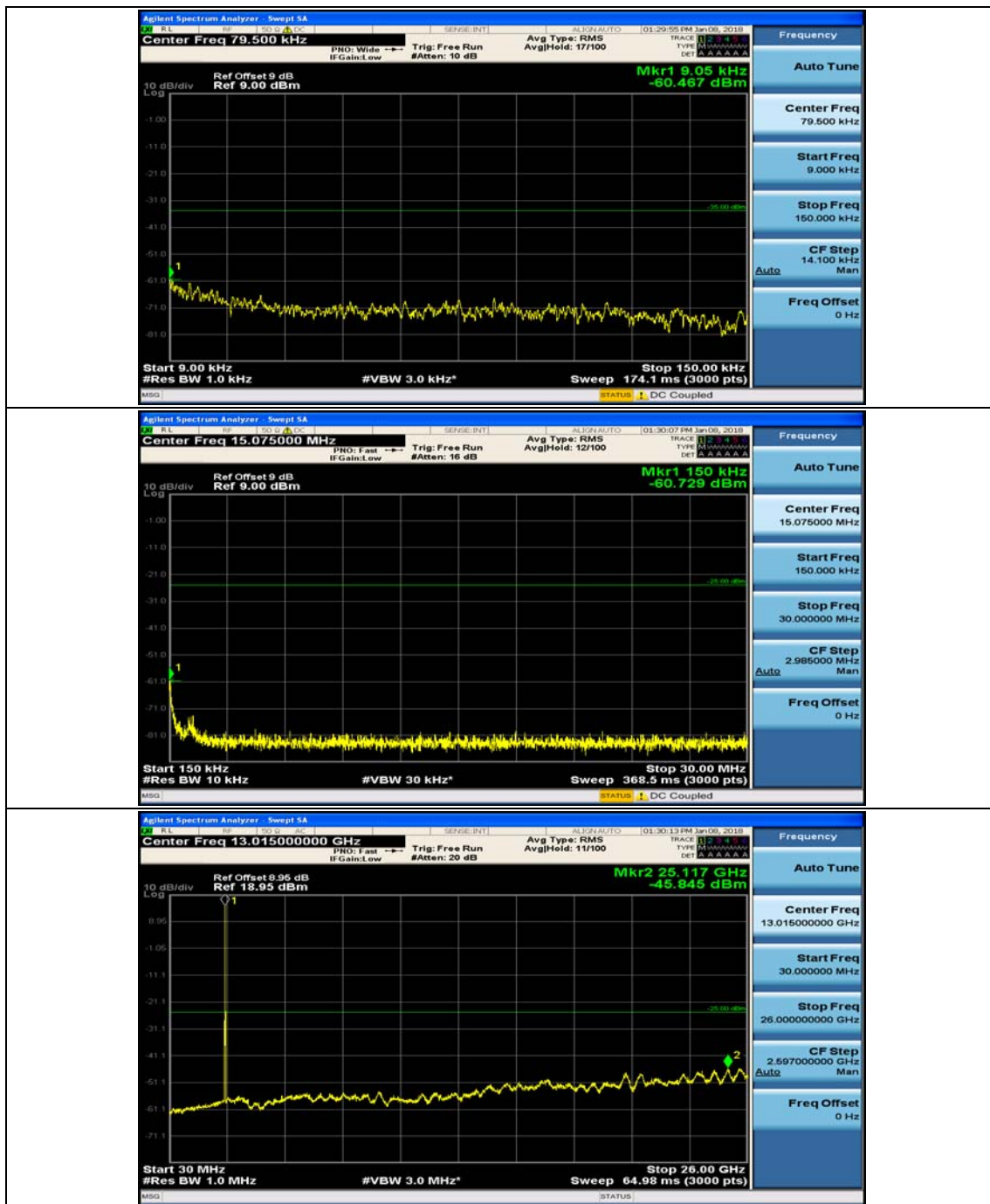


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0

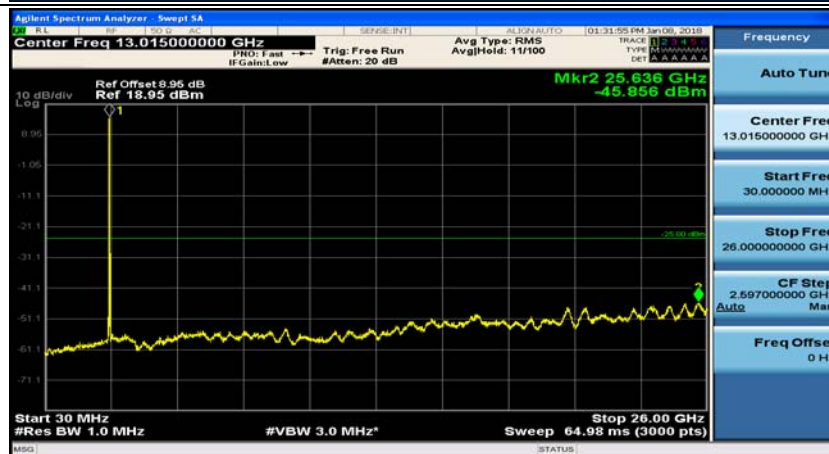
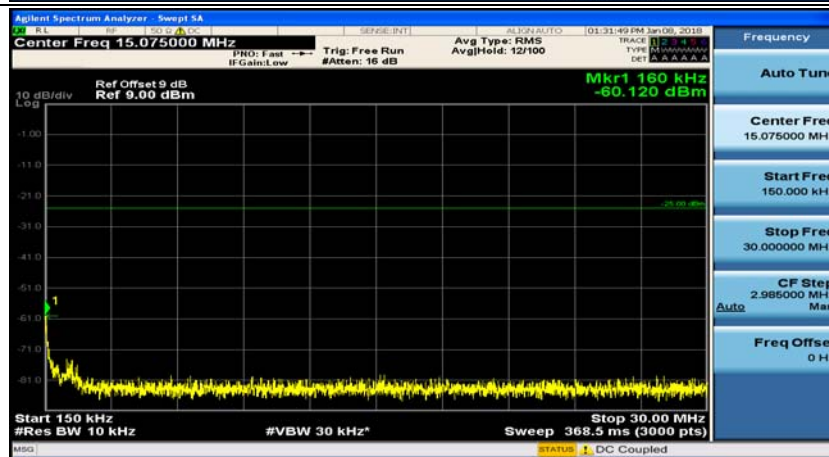
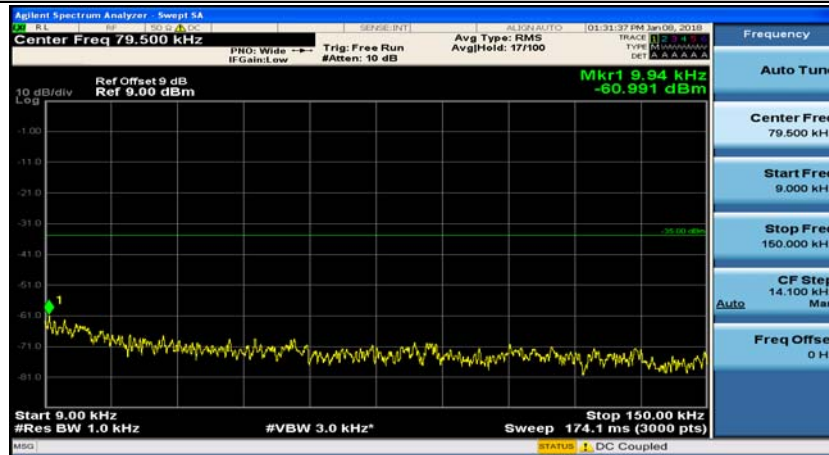


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

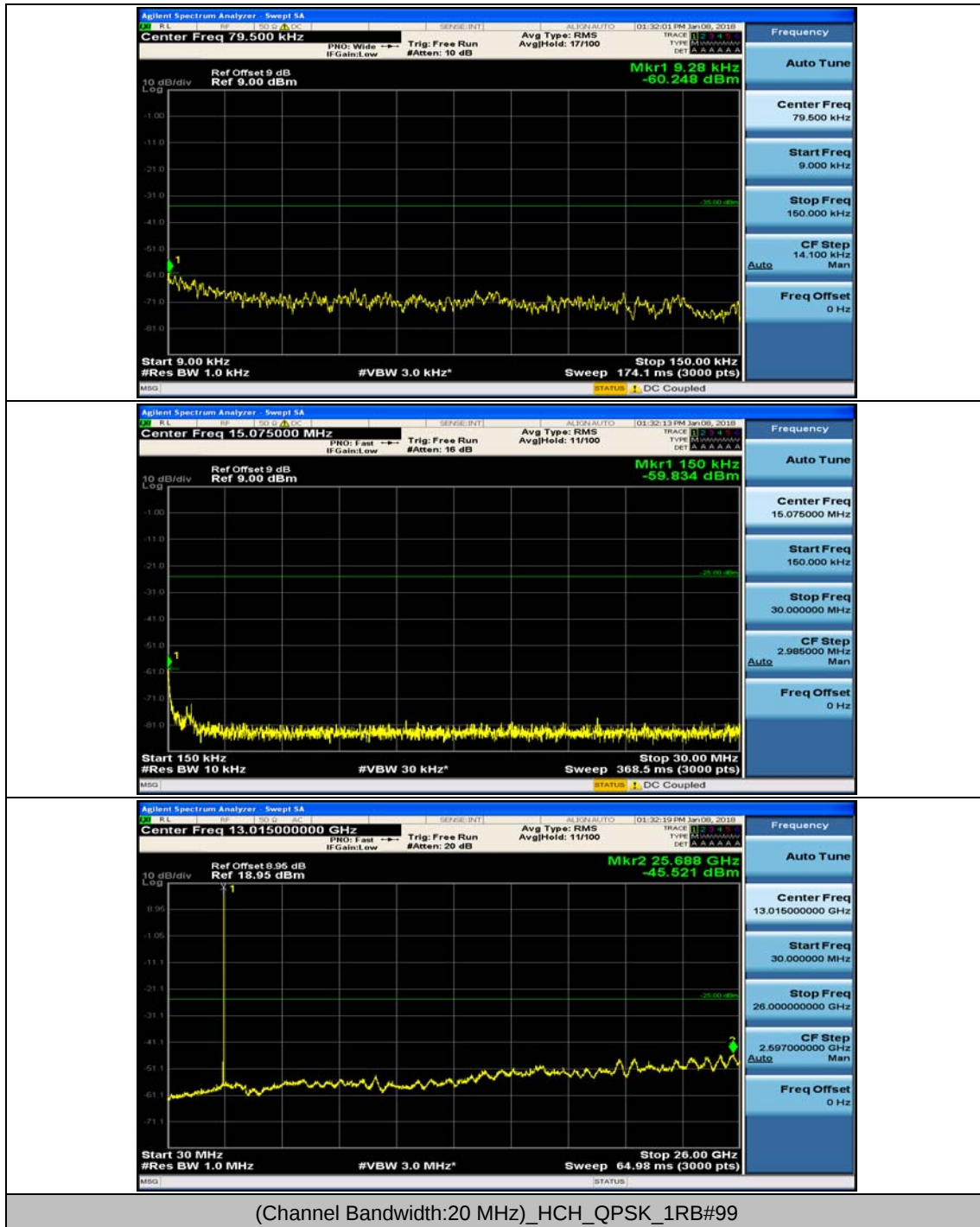


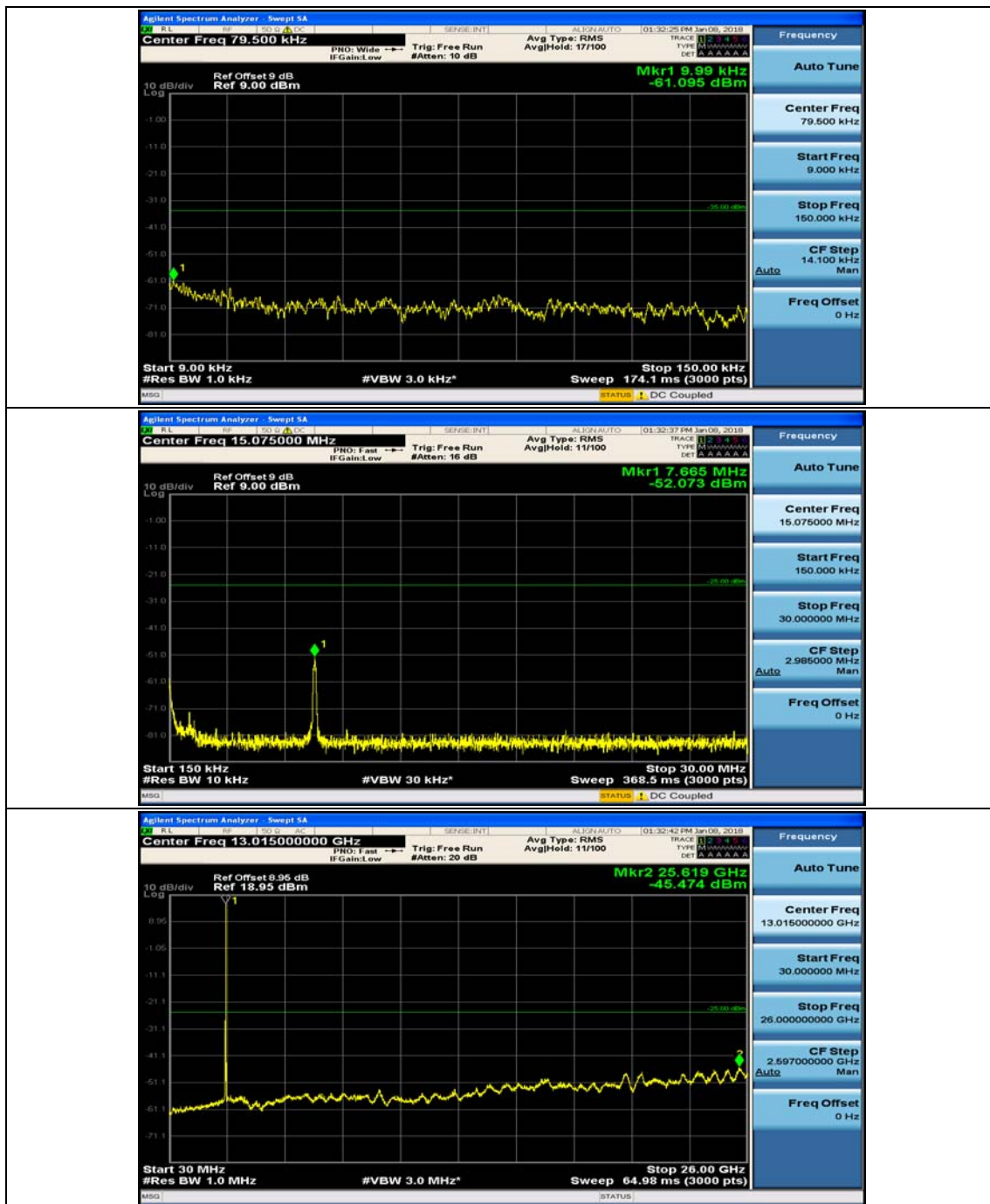


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0

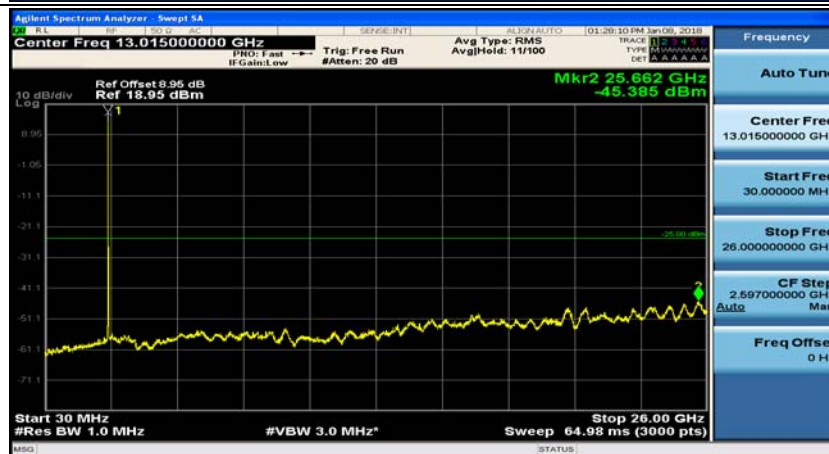
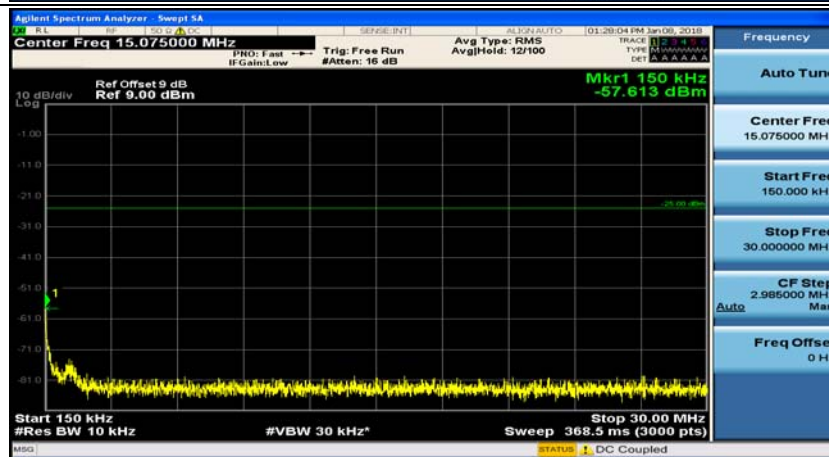
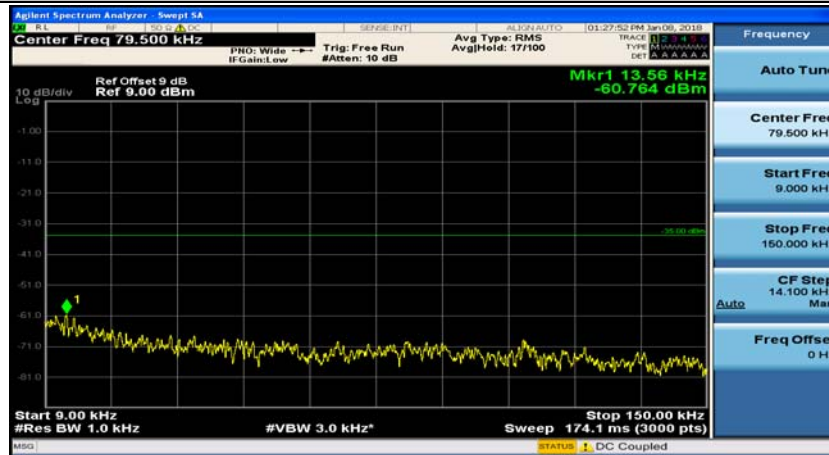


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

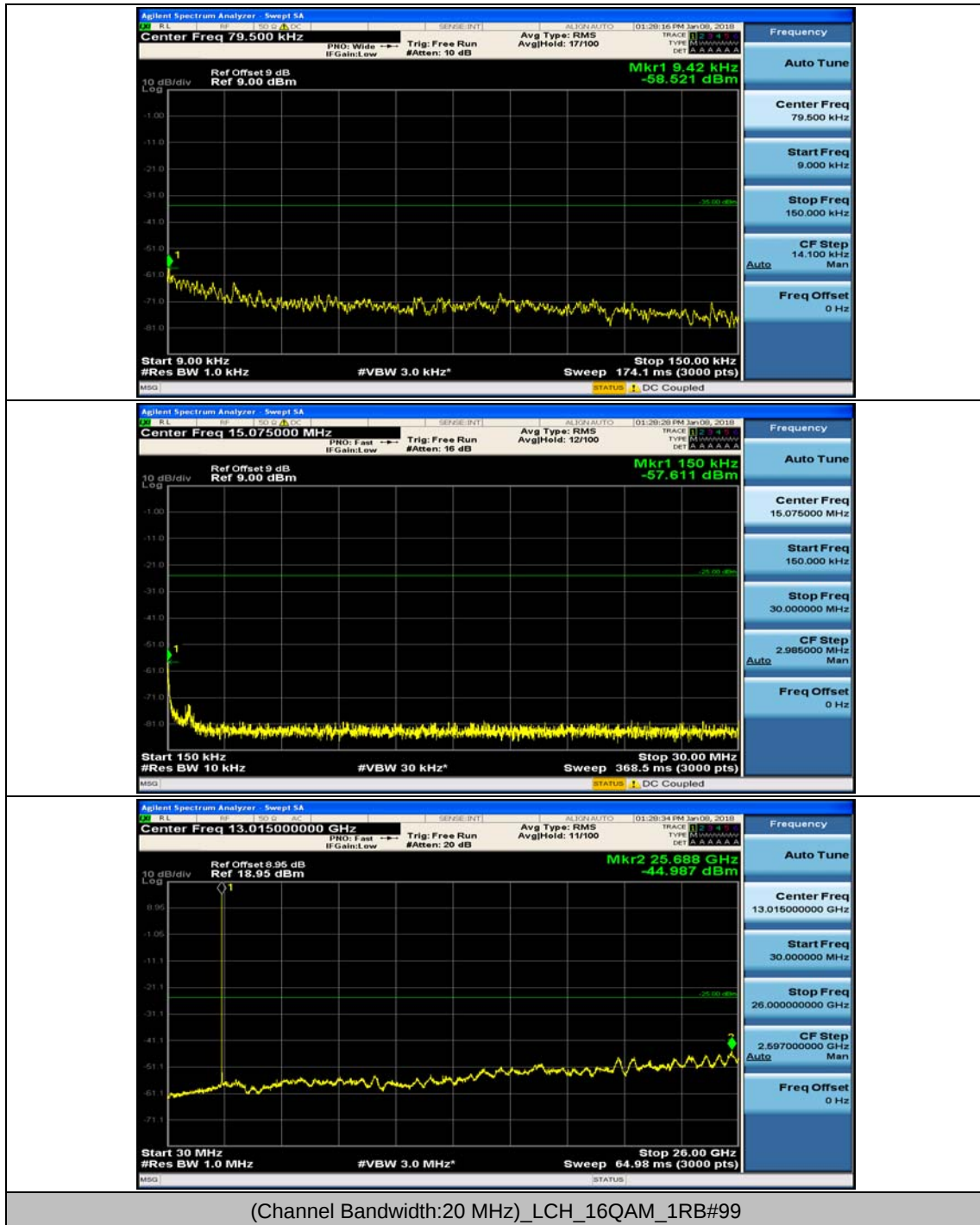


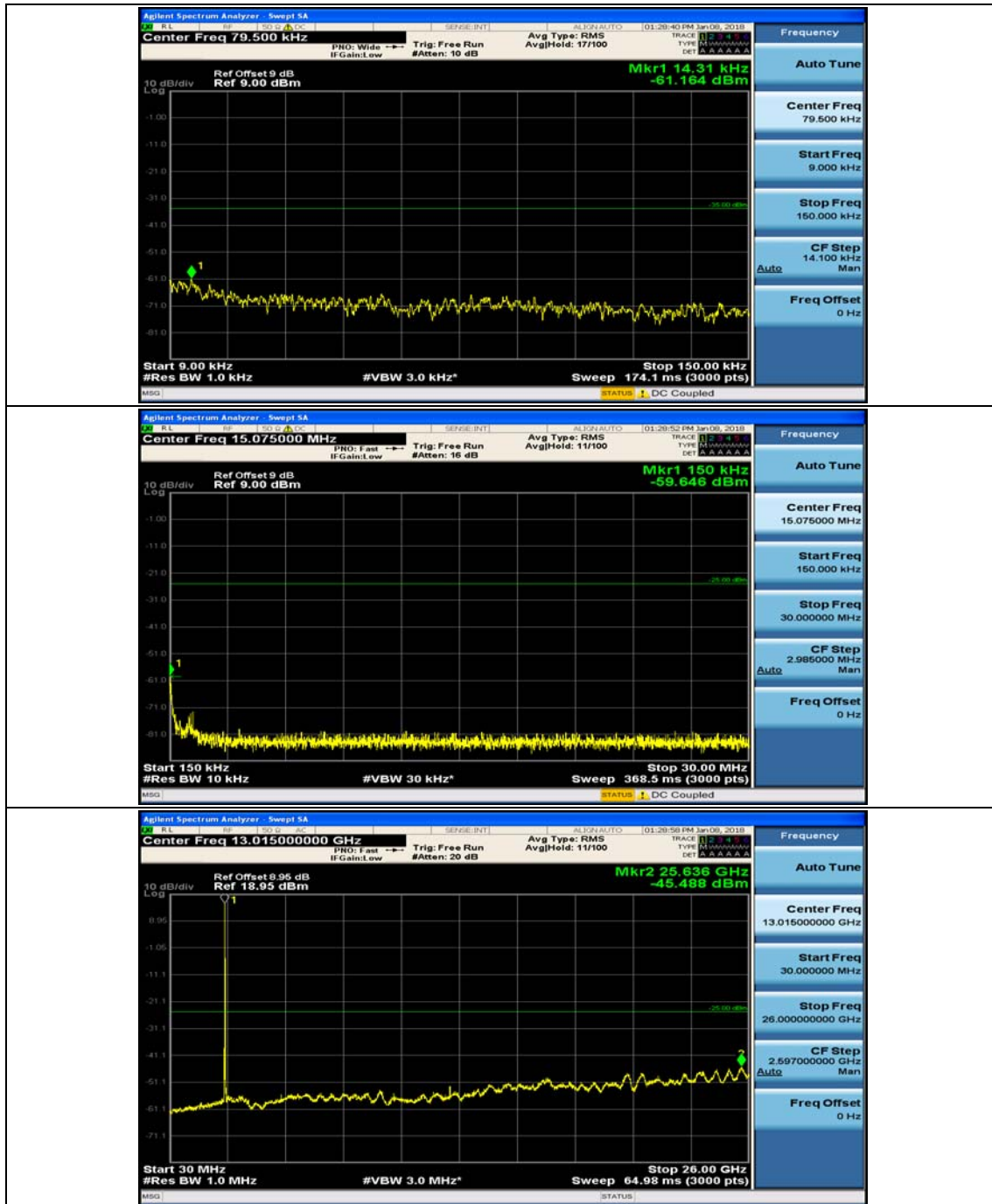


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0

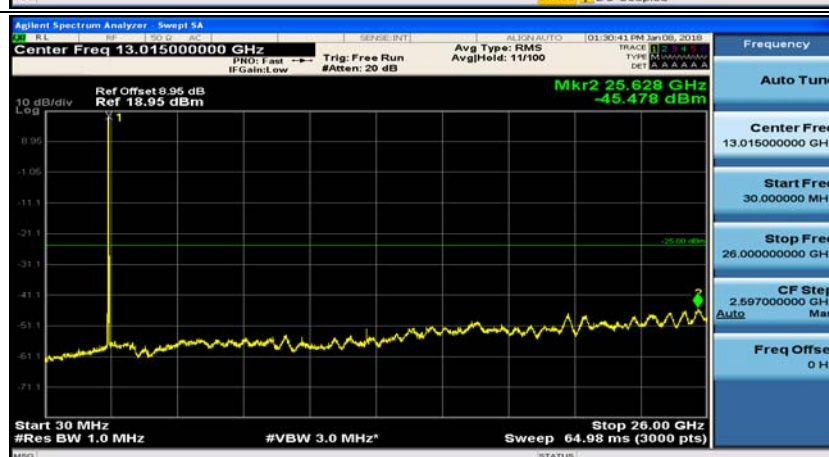
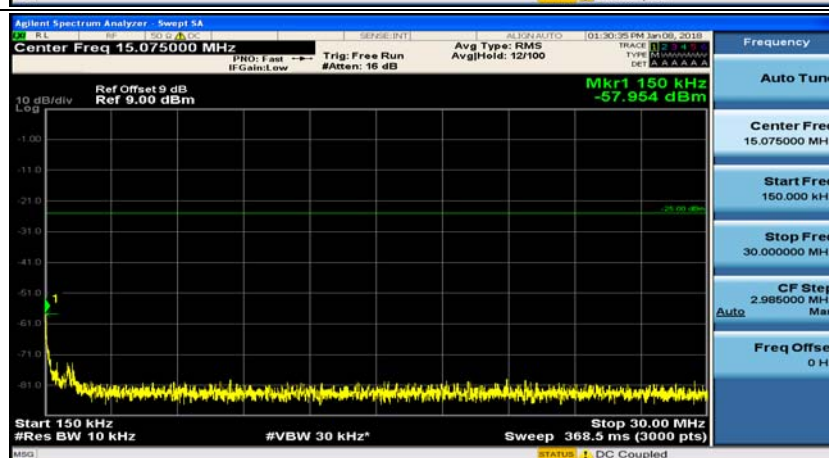
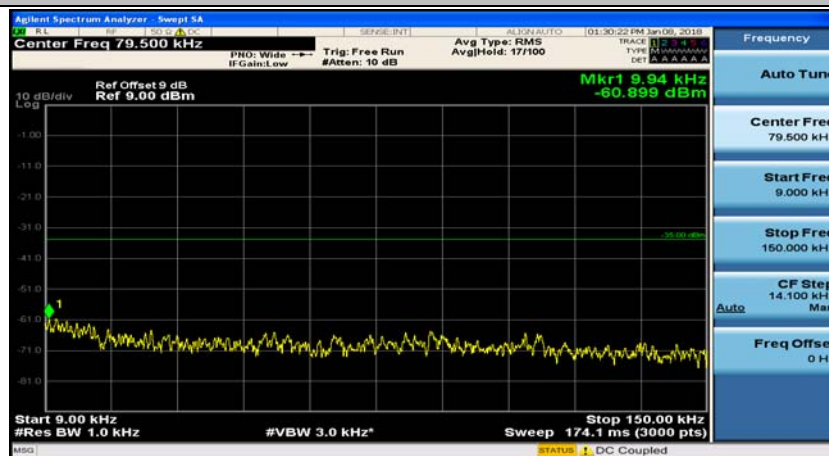


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

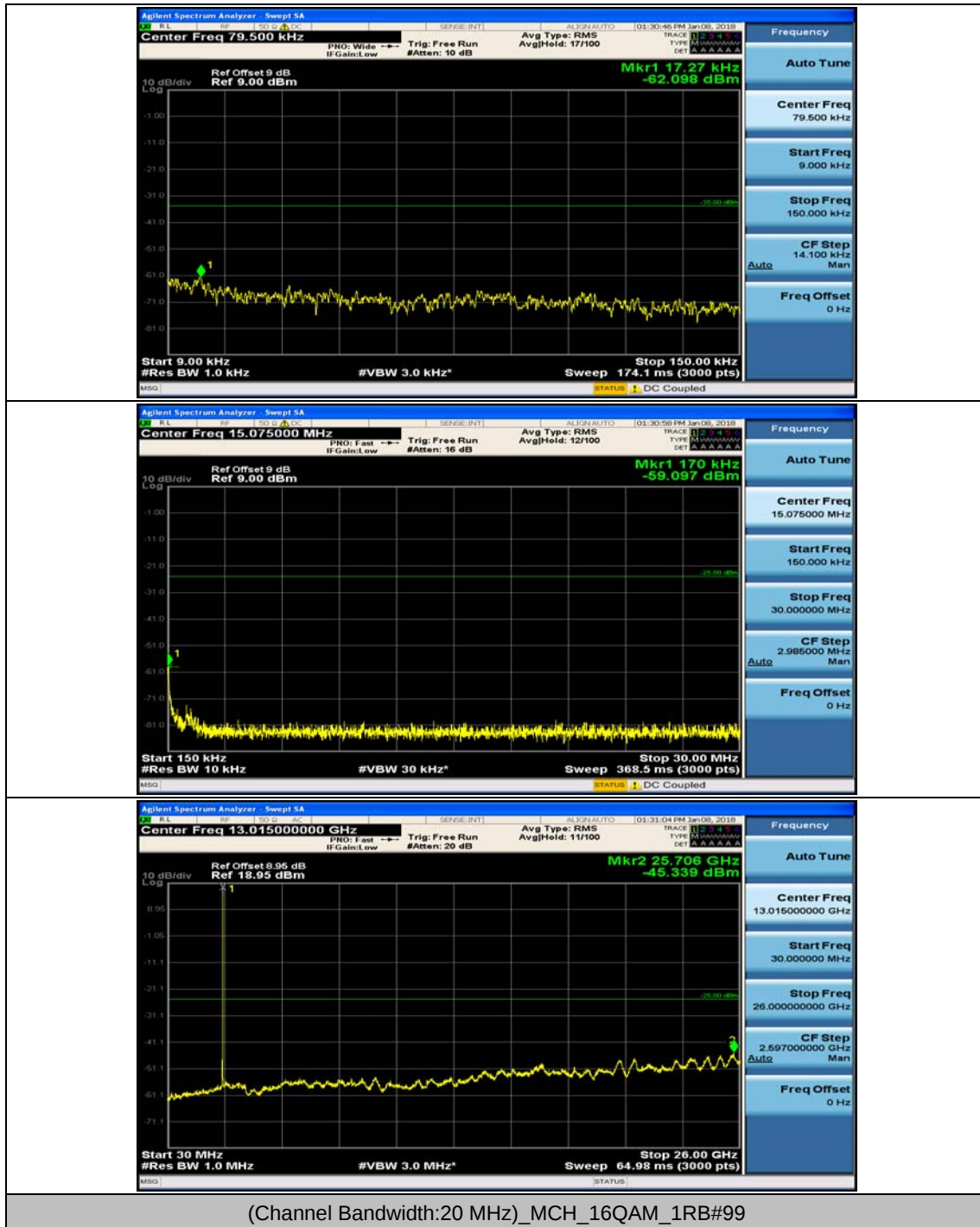


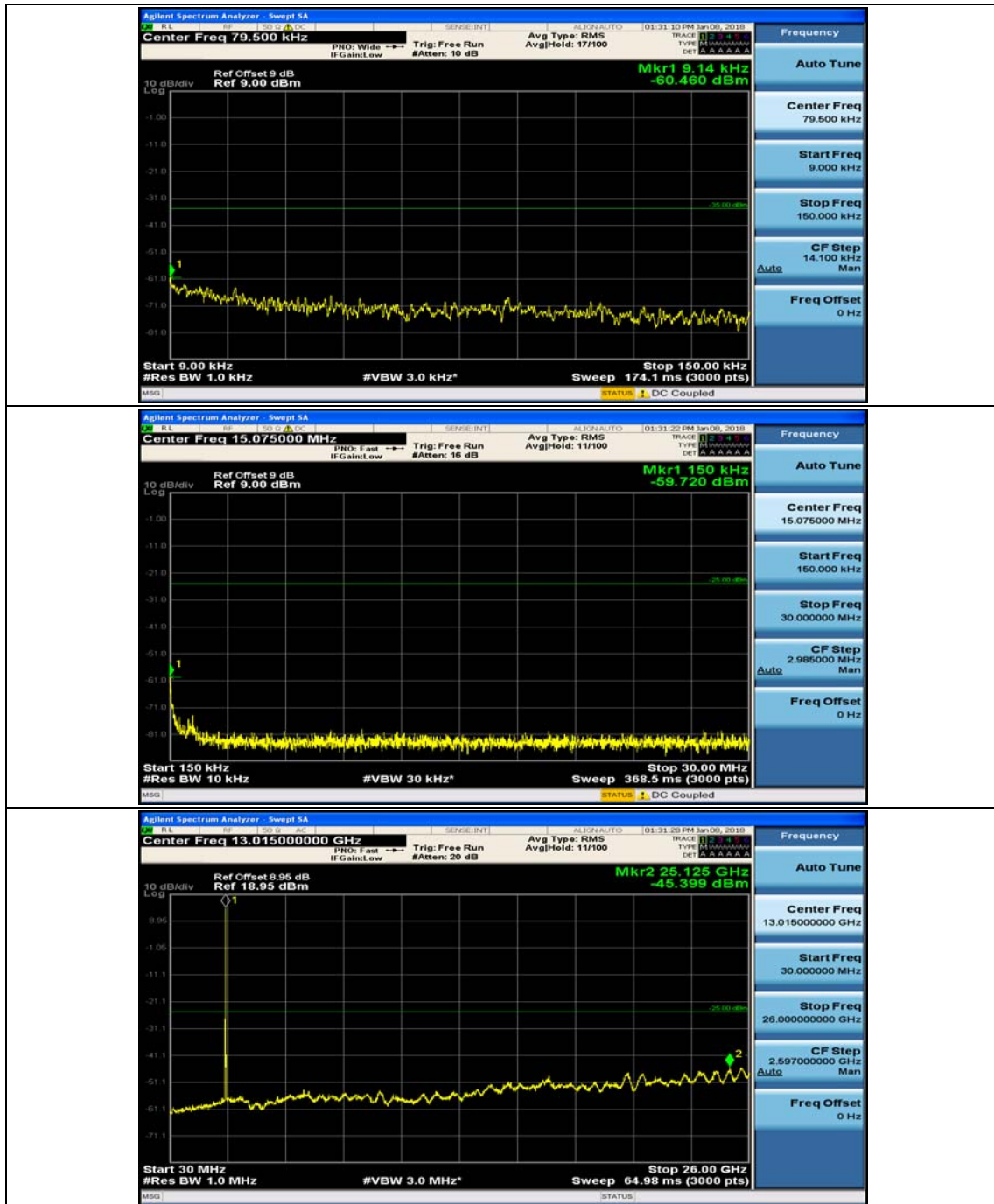


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0

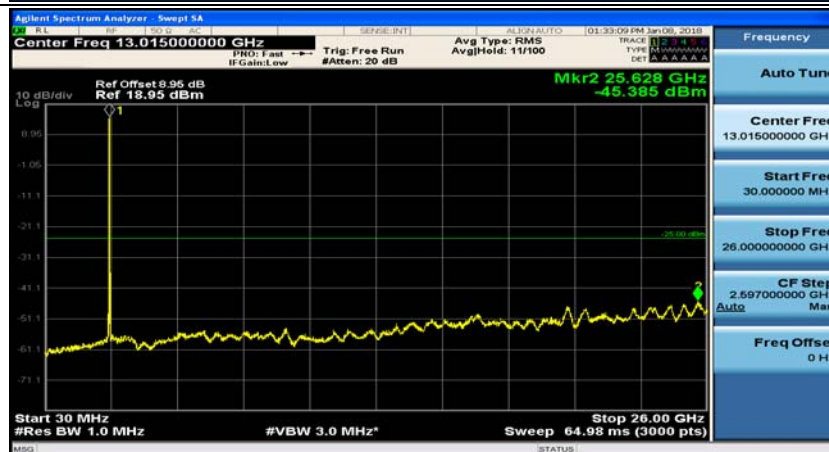
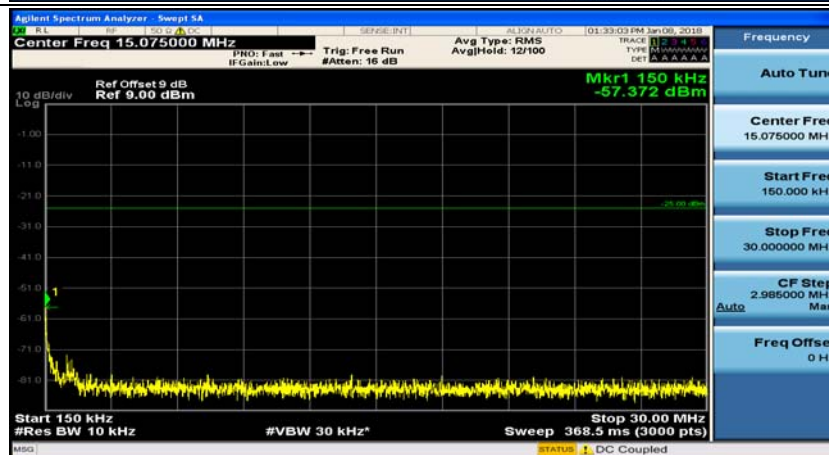
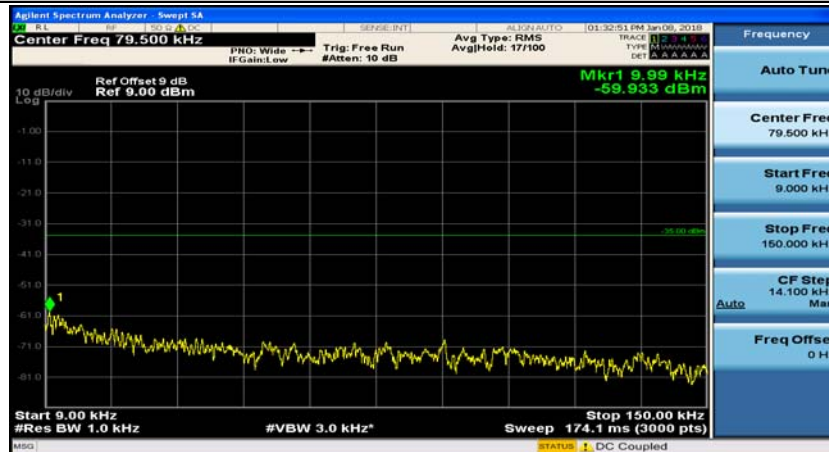


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49

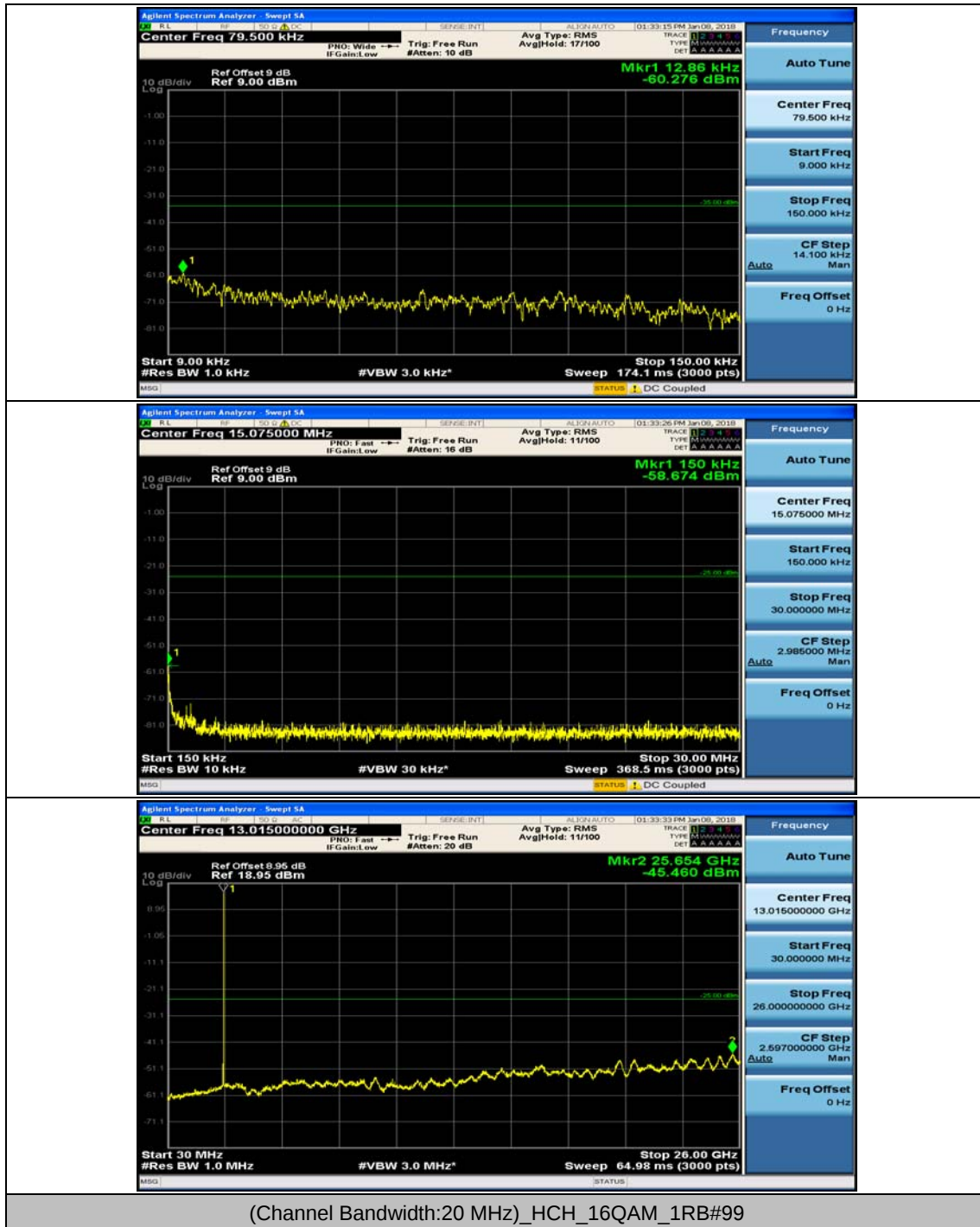


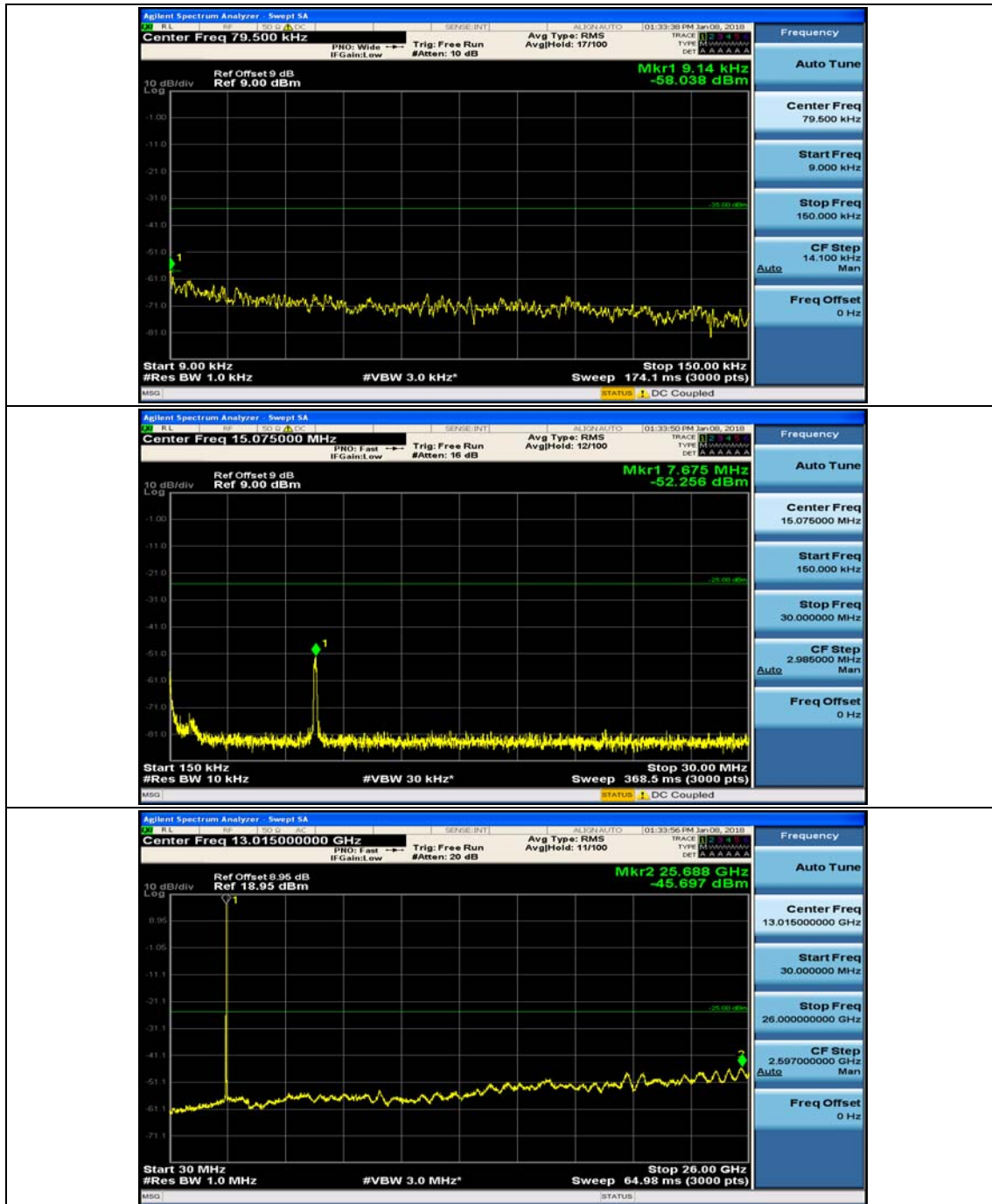


(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#49





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	2.55	0.001019	± 2.5	PASS
		VN	TN	2.37	0.000947	± 2.5	PASS
		VH	TN	-2	-0.000799	± 2.5	PASS
	MCH	VL	TN	0.41	0.000162	± 2.5	PASS
		VN	TN	0.49	0.000193	± 2.5	PASS
		VH	TN	0.14	0.000055	± 2.5	PASS
	HCH	VL	TN	3.03	0.001180	± 2.5	PASS
		VN	TN	4.21	0.001640	± 2.5	PASS
		VH	TN	-0.42	-0.000164	± 2.5	PASS
16QAM	LCH	VL	TN	-1.41	-0.000563	± 2.5	PASS
		VN	TN	1.34	0.000535	± 2.5	PASS
		VH	TN	3	0.001199	± 2.5	PASS
	MCH	VL	TN	-0.74	-0.000292	± 2.5	PASS
		VN	TN	-0.08	-0.000032	± 2.5	PASS
		VH	TN	-1.41	-0.000556	± 2.5	PASS
	HCH	VL	TN	4.35	0.001694	± 2.5	PASS
		VN	TN	3	0.001168	± 2.5	PASS
		VH	TN	1.01	0.000393	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.24	0.000895	± 2.5	PASS
		VN	-20	4.42	0.001766	± 2.5	PASS
		VN	-10	1.09	0.000436	± 2.5	PASS
		VN	0	-0.1	-0.000040	± 2.5	PASS
		VN	10	4.67	0.001866	± 2.5	PASS
		VN	20	2.94	0.001175	± 2.5	PASS
		VN	30	3.43	0.001371	± 2.5	PASS
		VN	40	4.86	0.001942	± 2.5	PASS
	MCH	VN	50	2.79	0.001115	± 2.5	PASS
		VN	-30	3.66	0.001444	± 2.5	PASS
		VN	-20	2.45	0.000966	± 2.5	PASS

		VN	-10	2.51	0.000990	± 2.5	PASS
		VN	0	0.26	0.000103	± 2.5	PASS
		VN	10	-0.99	-0.000391	± 2.5	PASS
		VN	20	0.69	0.000272	± 2.5	PASS
		VN	30	1.67	0.000659	± 2.5	PASS
		VN	40	-0.15	-0.000059	± 2.5	PASS
		VN	50	2.74	0.001081	± 2.5	PASS
	HCH	VN	-30	-1.31	-0.000510	± 2.5	PASS
		VN	-20	0.65	0.000253	± 2.5	PASS
		VN	-10	-1.79	-0.000697	± 2.5	PASS
		VN	0	2.75	0.001071	± 2.5	PASS
		VN	10	0.34	0.000132	± 2.5	PASS
		VN	20	-0.27	-0.000105	± 2.5	PASS
		VN	30	1.04	0.000405	± 2.5	PASS
		VN	40	-1.01	-0.000393	± 2.5	PASS
		VN	50	4.99	0.001944	± 2.5	PASS
16QAM	LCH	VN	-30	0.18	0.000072	± 2.5	PASS
		VN	-20	3.91	0.001562	± 2.5	PASS
		VN	-10	-1.27	-0.000507	± 2.5	PASS
		VN	0	4.39	0.001754	± 2.5	PASS
		VN	10	-0.58	-0.000232	± 2.5	PASS
		VN	20	4.1	0.001638	± 2.5	PASS
		VN	30	2.6	0.001039	± 2.5	PASS
		VN	40	-0.97	-0.000388	± 2.5	PASS
		VN	50	4.53	0.001810	± 2.5	PASS
	MCH	VN	-30	-1.06	-0.000418	± 2.5	PASS
		VN	-20	1.29	0.000509	± 2.5	PASS
		VN	-10	-0.81	-0.000320	± 2.5	PASS
		VN	0	-0.02	-0.000008	± 2.5	PASS
		VN	10	4.43	0.001748	± 2.5	PASS
		VN	20	-0.16	-0.000063	± 2.5	PASS
		VN	30	2.22	0.000876	± 2.5	PASS
		VN	40	0.44	0.000174	± 2.5	PASS
		VN	50	0.49	0.000193	± 2.5	PASS
	HCH	VN	-30	-0.5	-0.000195	± 2.5	PASS
		VN	-20	-1.51	-0.000588	± 2.5	PASS
		VN	-10	2.14	0.000833	± 2.5	PASS
		VN	0	2.14	0.000833	± 2.5	PASS
		VN	10	4.52	0.001760	± 2.5	PASS
		VN	20	0.67	0.000261	± 2.5	PASS
		VN	30	-1.68	-0.000654	± 2.5	PASS

		VN	40	4.03	0.001570	± 2.5	PASS
		VN	50	2.86	0.001114	± 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	2.86	0.001142	± 2.5	PASS
		VN	TN	1.88	0.000750	± 2.5	PASS
		VH	TN	-1.94	-0.000774	± 2.5	PASS
	MCH	VL	TN	4.29	0.001692	± 2.5	PASS
		VN	TN	4.02	0.001586	± 2.5	PASS
		VH	TN	1.94	0.000765	± 2.5	PASS
	HCH	VL	TN	3.38	0.001318	± 2.5	PASS
		VN	TN	-0.85	-0.000331	± 2.5	PASS
		VH	TN	-1.7	-0.000663	± 2.5	PASS
16QAM	LCH	VL	TN	3.48	0.001389	± 2.5	PASS
		VN	TN	3.44	0.001373	± 2.5	PASS
		VH	TN	0.56	0.000224	± 2.5	PASS
	MCH	VL	TN	-0.31	-0.000122	± 2.5	PASS
		VN	TN	4.91	0.001937	± 2.5	PASS
		VH	TN	2.08	0.000821	± 2.5	PASS
	HCH	VL	TN	0.01	0.000004	± 2.5	PASS
		VN	TN	3.08	0.001201	± 2.5	PASS
		VH	TN	0.28	0.000109	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	0.21	0.000084	± 2.5	PASS
		VN	-20	4.16	0.001661	± 2.5	PASS
		VN	-10	2.28	0.000910	± 2.5	PASS
		VN	0	3.65	0.001457	± 2.5	PASS
		VN	10	4.91	0.001960	± 2.5	PASS
		VN	20	1.32	0.000527	± 2.5	PASS
		VN	30	-0.27	-0.000108	± 2.5	PASS
		VN	40	1.56	0.000623	± 2.5	PASS
		VN	50	-0.66	-0.000263	± 2.5	PASS
	MCH	VN	-30	2.41	0.000951	± 2.5	PASS
		VN	-20	2.47	0.000974	± 2.5	PASS
		VN	-10	3.58	0.001412	± 2.5	PASS

		VN	0	-1.86	-0.000734	± 2.5	PASS
		VN	10	4.28	0.001688	± 2.5	PASS
		VN	20	0.42	0.000166	± 2.5	PASS
		VN	30	1.19	0.000469	± 2.5	PASS
		VN	40	1.29	0.000509	± 2.5	PASS
		VN	50	2.45	0.000966	± 2.5	PASS
	HCH	VN	-30	3.21	0.001251	± 2.5	PASS
		VN	-20	3.52	0.001372	± 2.5	PASS
		VN	-10	4.84	0.001887	± 2.5	PASS
		VN	0	2.5	0.000975	± 2.5	PASS
		VN	10	1.19	0.000464	± 2.5	PASS
		VN	20	-1.7	-0.000663	± 2.5	PASS
		VN	30	3.55	0.001384	± 2.5	PASS
		VN	40	2.66	0.001037	± 2.5	PASS
		VN	50	0.37	0.000144	± 2.5	PASS
QPSK	LCH	VN	-30	1.6	0.000639	± 2.5	PASS
		VN	-20	3.58	0.001429	± 2.5	PASS
		VN	-10	0.43	0.000172	± 2.5	PASS
		VN	0	0.73	0.000291	± 2.5	PASS
		VN	10	0	0.000000	± 2.5	PASS
		VN	20	0.21	0.000084	± 2.5	PASS
		VN	30	-0.5	-0.000200	± 2.5	PASS
		VN	40	2.49	0.000994	± 2.5	PASS
		VN	50	-0.15	-0.000060	± 2.5	PASS
	MCH	VN	-30	3.14	0.001239	± 2.5	PASS
		VN	-20	0.39	0.000154	± 2.5	PASS
		VN	-10	0.29	0.000114	± 2.5	PASS
		VN	0	-1.37	-0.000540	± 2.5	PASS
		VN	10	0.47	0.000185	± 2.5	PASS
		VN	20	4.71	0.001858	± 2.5	PASS
		VN	30	3.19	0.001258	± 2.5	PASS
		VN	40	2.31	0.000911	± 2.5	PASS
		VN	50	2.61	0.001030	± 2.5	PASS
	HCH	VN	-30	4.86	0.001895	± 2.5	PASS
		VN	-20	2.97	0.001158	± 2.5	PASS
		VN	-10	3.61	0.001407	± 2.5	PASS
		VN	0	3.73	0.001454	± 2.5	PASS
		VN	10	-0.38	-0.000148	± 2.5	PASS
		VN	20	3.04	0.001185	± 2.5	PASS
		VN	30	-1.06	-0.000413	± 2.5	PASS
		VN	40	4.56	0.001778	± 2.5	PASS

		VN	50	4.88	0.001903	± 2.5	PASS
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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	1.85	0.000738	± 2.5	PASS
		VN	TN	-0.29	-0.000116	± 2.5	PASS
		VH	TN	-0.29	-0.000116	± 2.5	PASS
	MCH	VL	TN	0.48	0.000189	± 2.5	PASS
		VN	TN	2.17	0.000856	± 2.5	PASS
		VH	TN	1.39	0.000548	± 2.5	PASS
	HCH	VL	TN	3.2	0.001249	± 2.5	PASS
		VN	TN	-0.53	-0.000207	± 2.5	PASS
		VH	TN	-1.59	-0.000620	± 2.5	PASS
16QAM	LCH	VL	TN	2.92	0.001165	± 2.5	PASS
		VN	TN	-0.16	-0.000064	± 2.5	PASS
		VH	TN	2.28	0.000909	± 2.5	PASS
	MCH	VL	TN	3.93	0.001550	± 2.5	PASS
		VN	TN	-1.96	-0.000773	± 2.5	PASS
		VH	TN	-0.2	-0.000079	± 2.5	PASS
	HCH	VL	TN	3.63	0.001417	± 2.5	PASS
		VN	TN	2.52	0.000983	± 2.5	PASS
		VH	TN	-1.67	-0.000652	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.29	0.000913	± 2.5	PASS
		VN	-20	-1.87	-0.000746	± 2.5	PASS
		VN	-10	3.66	0.001460	± 2.5	PASS
		VN	0	1.69	0.000674	± 2.5	PASS
		VN	10	-1.17	-0.000467	± 2.5	PASS
		VN	20	-1.52	-0.000606	± 2.5	PASS
		VN	30	0.43	0.000171	± 2.5	PASS
		VN	40	2.09	0.000833	± 2.5	PASS
		VN	50	2.4	0.000957	± 2.5	PASS
	MCH	VN	-30	4.8	0.001893	± 2.5	PASS
		VN	-20	4.4	0.001736	± 2.5	PASS
		VN	-10	1.31	0.000517	± 2.5	PASS
		VN	0	2.64	0.001041	± 2.5	PASS

		VN	10	-1.48	-0.000584	± 2.5	PASS
		VN	20	-0.2	-0.000079	± 2.5	PASS
		VN	30	1.27	0.000501	± 2.5	PASS
		VN	40	-1.89	-0.000746	± 2.5	PASS
		VN	50	4.37	0.001724	± 2.5	PASS
	HCH	VN	-30	-0.13	-0.000051	± 2.5	PASS
		VN	-20	4.18	0.001631	± 2.5	PASS
		VN	-10	3.29	0.001284	± 2.5	PASS
		VN	0	3.56	0.001389	± 2.5	PASS
		VN	10	-1.72	-0.000671	± 2.5	PASS
		VN	20	4.49	0.001752	± 2.5	PASS
		VN	30	-1.39	-0.000542	± 2.5	PASS
		VN	40	1.93	0.000753	± 2.5	PASS
		VN	50	0.91	0.000355	± 2.5	PASS
		VN	-30	4.27	0.001703	± 2.5	PASS
QPSK	LCH	VN	-20	0.25	0.000100	± 2.5	PASS
		VN	-10	-0.62	-0.000247	± 2.5	PASS
		VN	0	3.99	0.001591	± 2.5	PASS
		VN	10	3.04	0.001212	± 2.5	PASS
		VN	20	4.96	0.001978	± 2.5	PASS
		VN	30	3.61	0.001440	± 2.5	PASS
		VN	40	3.15	0.001256	± 2.5	PASS
		VN	50	0.31	0.000124	± 2.5	PASS
	MCH	VN	-30	1.79	0.000706	± 2.5	PASS
		VN	-20	1.61	0.000635	± 2.5	PASS
		VN	-10	2.28	0.000899	± 2.5	PASS
		VN	0	2.23	0.000880	± 2.5	PASS
		VN	10	4.44	0.001751	± 2.5	PASS
		VN	20	-0.36	-0.000142	± 2.5	PASS
		VN	30	2.56	0.001010	± 2.5	PASS
		VN	40	-1.28	-0.000505	± 2.5	PASS
		VN	50	2.52	0.000994	± 2.5	PASS
	HCH	VN	-30	-1.39	-0.000542	± 2.5	PASS
		VN	-20	-1.7	-0.000663	± 2.5	PASS
		VN	-10	2.06	0.000804	± 2.5	PASS
		VN	0	2.04	0.000796	± 2.5	PASS
		VN	10	3.84	0.001499	± 2.5	PASS
		VN	20	2.94	0.001147	± 2.5	PASS
		VN	30	4.65	0.001815	± 2.5	PASS
		VN	40	4.38	0.001709	± 2.5	PASS
		VN	50	1.66	0.000648	± 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	0.54	0.000215	± 2.5	PASS
		VN	TN	1.62	0.000645	± 2.5	PASS
		VH	TN	3.44	0.001371	± 2.5	PASS
	MCH	VL	TN	-1.19	-0.000469	± 2.5	PASS
		VN	TN	2.82	0.001112	± 2.5	PASS
		VH	TN	1.74	0.000686	± 2.5	PASS
	HCH	VL	TN	-1.39	-0.000543	± 2.5	PASS
		VN	TN	-0.14	-0.000055	± 2.5	PASS
		VH	TN	0.23	0.000090	± 2.5	PASS
16QAM	LCH	VL	TN	-0.67	-0.000267	± 2.5	PASS
		VN	TN	3.49	0.001390	± 2.5	PASS
		VH	TN	-0.56	-0.000223	± 2.5	PASS
	MCH	VL	TN	0.44	0.000174	± 2.5	PASS
		VN	TN	3.37	0.001329	± 2.5	PASS
		VH	TN	-0.48	-0.000189	± 2.5	PASS
	HCH	VL	TN	4.53	0.001770	± 2.5	PASS
		VN	TN	4.23	0.001652	± 2.5	PASS
		VH	TN	-1.61	-0.000629	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.94	0.000773	± 2.5	PASS
		VN	-20	2.25	0.000896	± 2.5	PASS
		VN	-10	-1.19	-0.000474	± 2.5	PASS
		VN	0	-1.86	-0.000741	± 2.5	PASS
		VN	10	3.62	0.001442	± 2.5	PASS
		VN	20	1.17	0.000466	± 2.5	PASS
		VN	30	-1.69	-0.000673	± 2.5	PASS
		VN	40	0.54	0.000215	± 2.5	PASS
		VN	50	-0.59	-0.000235	± 2.5	PASS
	MCH	VN	-30	-1.83	-0.000722	± 2.5	PASS
		VN	-20	0.92	0.000363	± 2.5	PASS
		VN	-10	1.93	0.000761	± 2.5	PASS
		VN	0	4.27	0.001684	± 2.5	PASS
		VN	10	0.01	0.000004	± 2.5	PASS
		VN	20	0.62	0.000245	± 2.5	PASS
VN	30	-1.15	-0.000454	± 2.5	PASS		

		VN	40	3.33	0.001314	± 2.5	PASS
		VN	50	3.71	0.001464	± 2.5	PASS
	HCH	VN	-30	0.23	0.000090	± 2.5	PASS
		VN	-20	3.14	0.001227	± 2.5	PASS
		VN	-10	0.53	0.000207	± 2.5	PASS
		VN	0	-0.45	-0.000176	± 2.5	PASS
		VN	10	4.8	0.001875	± 2.5	PASS
		VN	20	0.04	0.000016	± 2.5	PASS
		VN	30	-1.62	-0.000633	± 2.5	PASS
		VN	40	4.36	0.001703	± 2.5	PASS
		VN	50	-0.37	-0.000145	± 2.5	PASS
QPSK	LCH	VN	-30	3.83	0.001526	± 2.5	PASS
		VN	-20	-0.54	-0.000215	± 2.5	PASS
		VN	-10	3.73	0.001486	± 2.5	PASS
		VN	0	2.35	0.000936	± 2.5	PASS
		VN	10	-1.44	-0.000574	± 2.5	PASS
		VN	20	4.69	0.001869	± 2.5	PASS
		VN	30	2.31	0.000920	± 2.5	PASS
		VN	40	1.06	0.000422	± 2.5	PASS
		VN	50	3.3	0.001315	± 2.5	PASS
	MCH	VN	-30	1.18	0.000465	± 2.5	PASS
		VN	-20	0.96	0.000379	± 2.5	PASS
		VN	-10	-1.72	-0.000679	± 2.5	PASS
		VN	0	-1.17	-0.000462	± 2.5	PASS
		VN	10	2.04	0.000805	± 2.5	PASS
		VN	20	-0.48	-0.000189	± 2.5	PASS
		VN	30	-1.05	-0.000414	± 2.5	PASS
		VN	40	4.54	0.001791	± 2.5	PASS
		VN	50	0.09	0.000036	± 2.5	PASS
	HCH	VN	-30	1.06	0.000414	± 2.5	PASS
		VN	-20	-0.43	-0.000168	± 2.5	PASS
		VN	-10	0.64	0.000250	± 2.5	PASS
		VN	0	1.45	0.000566	± 2.5	PASS
		VN	10	-0.48	-0.000188	± 2.5	PASS
		VN	20	-1.34	-0.000523	± 2.5	PASS
		VN	30	1.8	0.000703	± 2.5	PASS
		VN	40	0.32	0.000125	± 2.5	PASS
		VN	50	-1.86	-0.000727	± 2.5	PASS