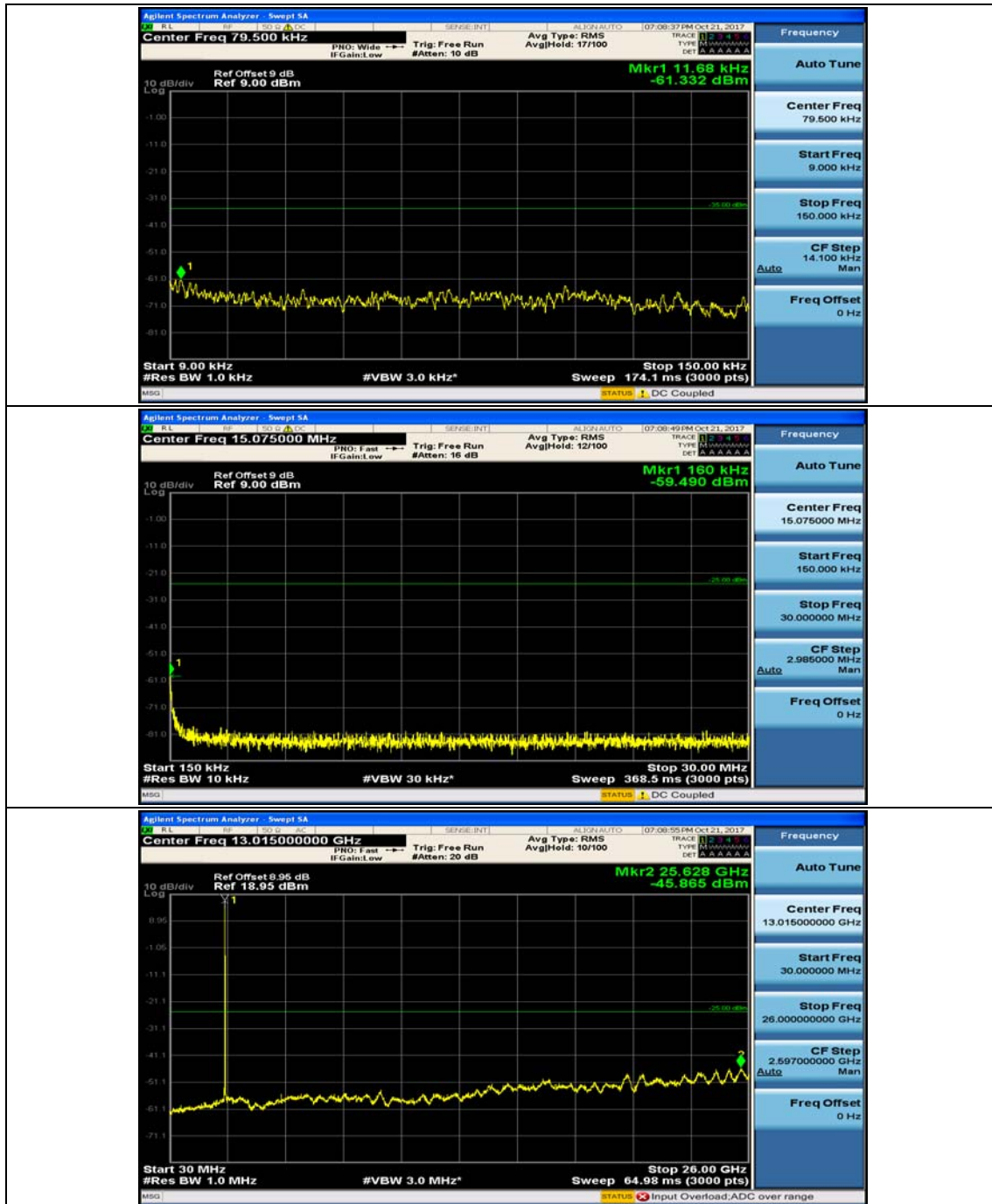
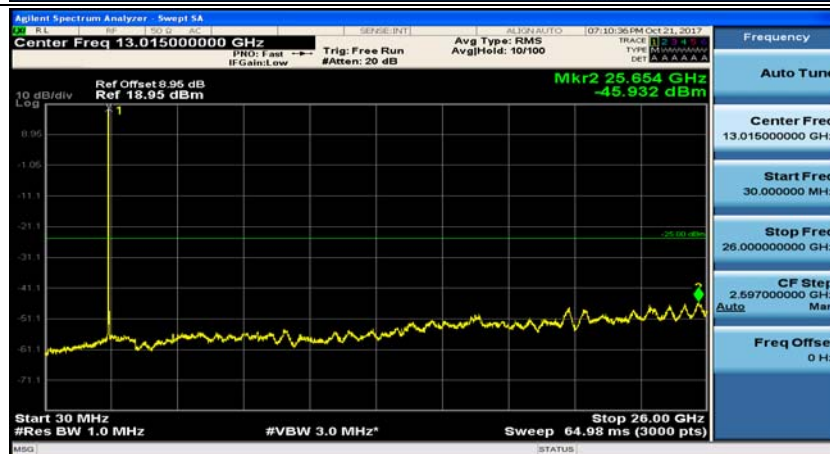
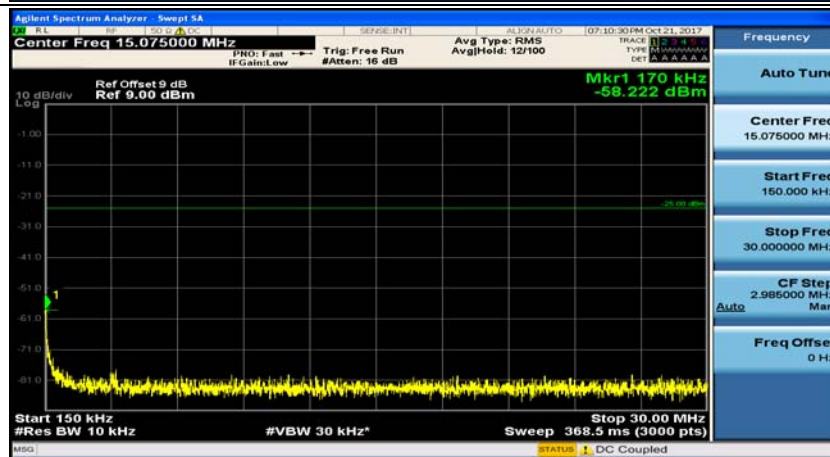
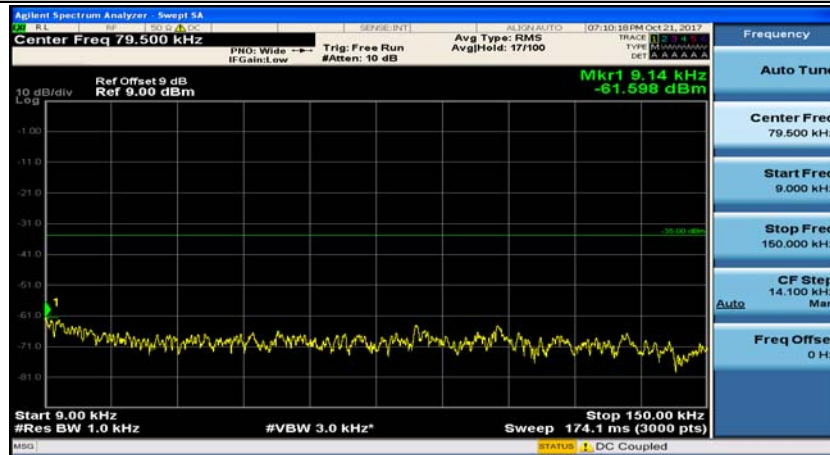
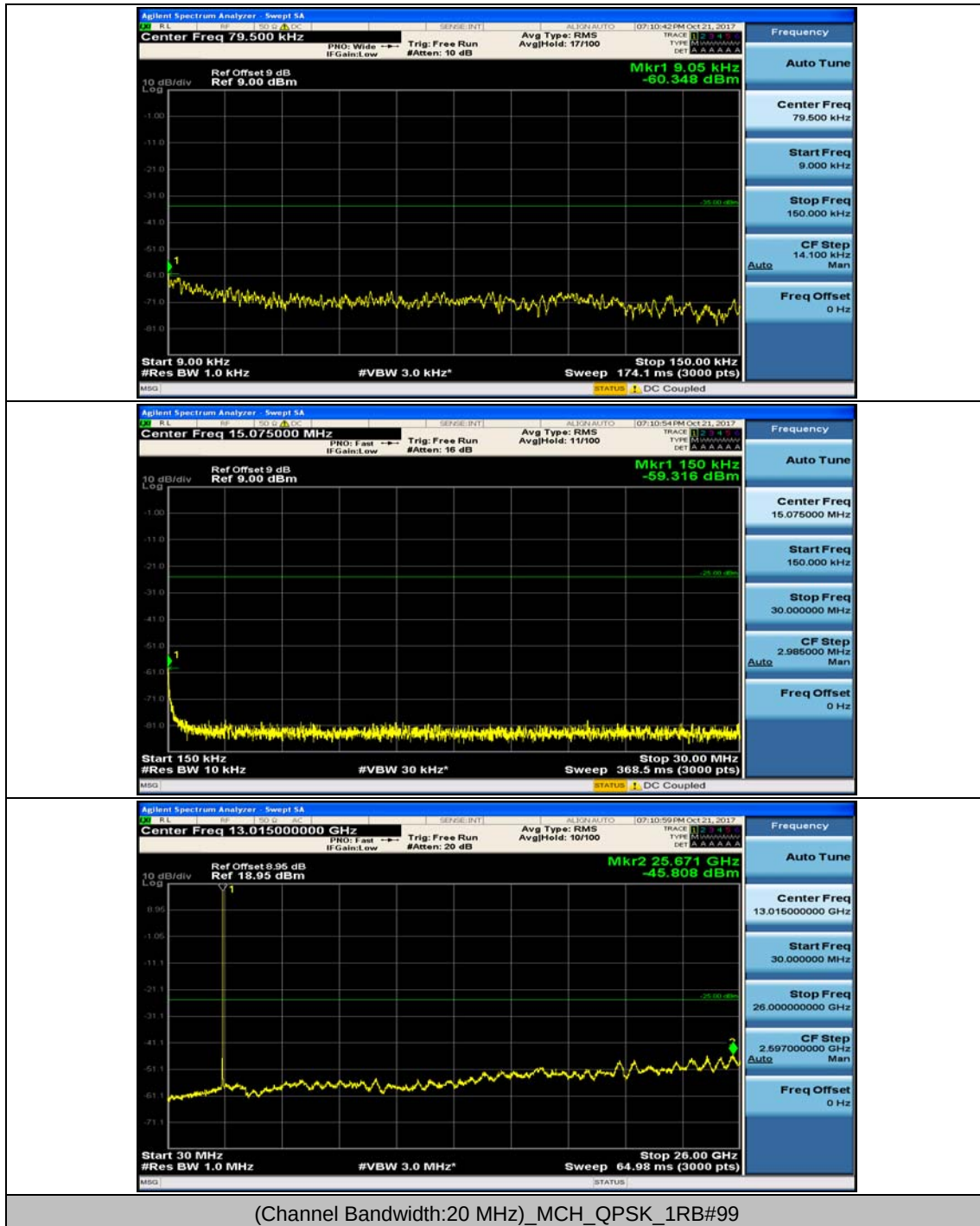


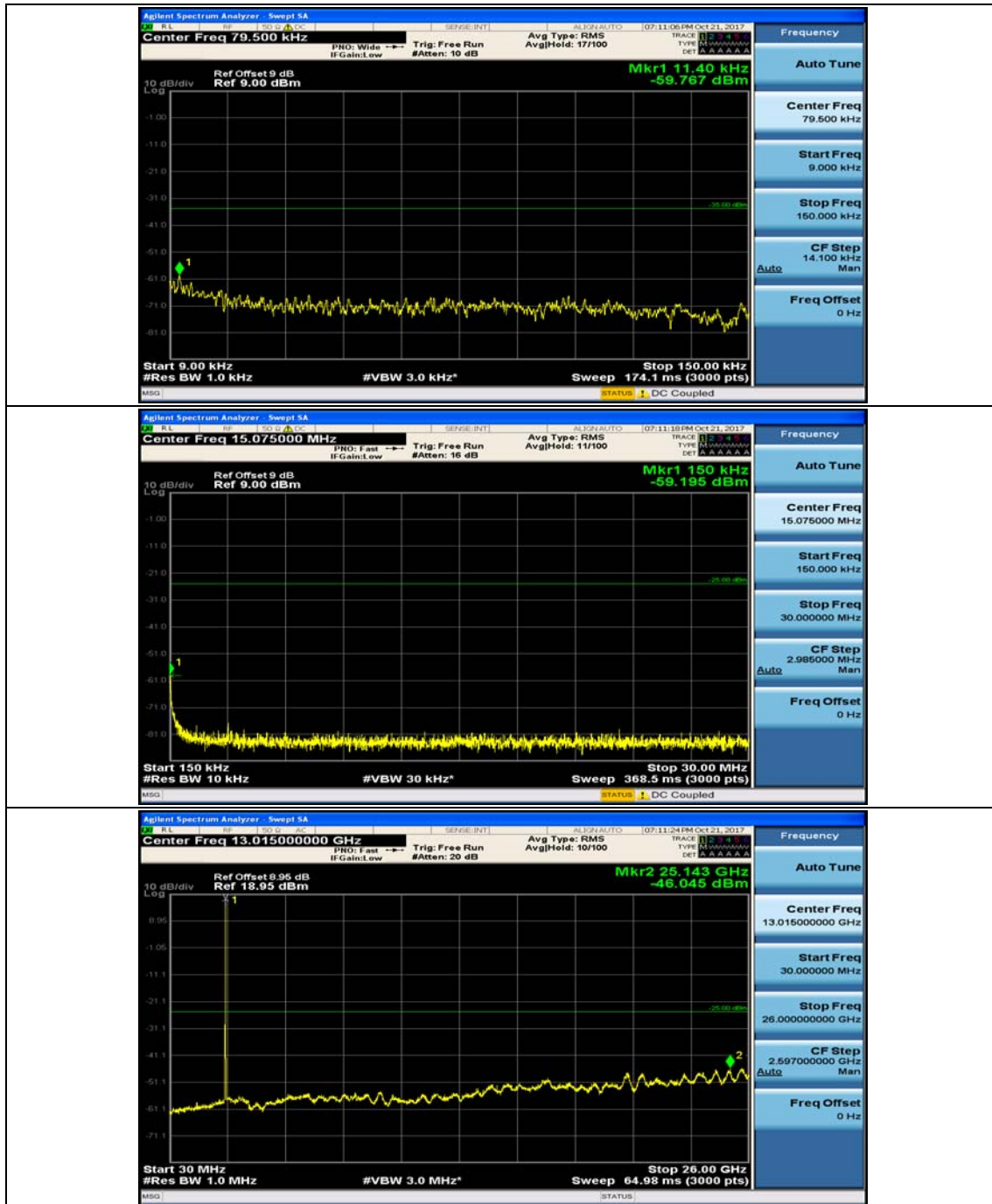


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0

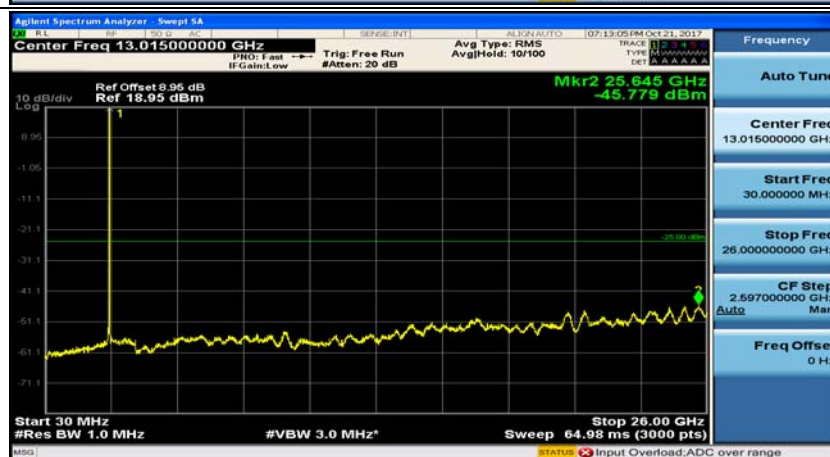
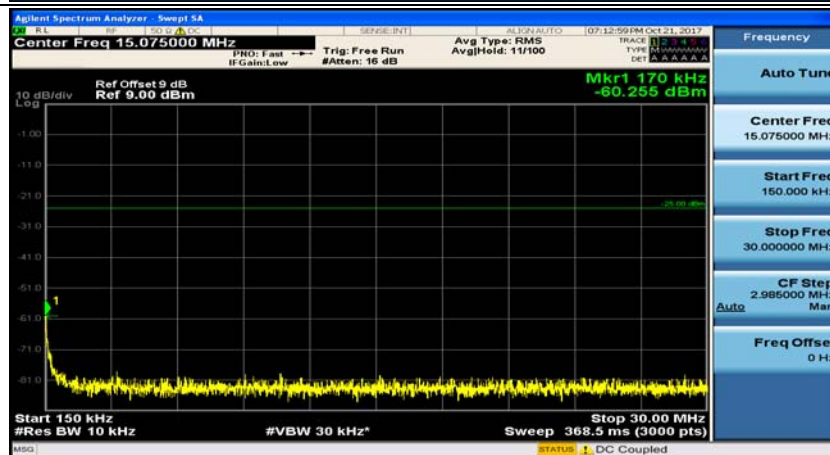
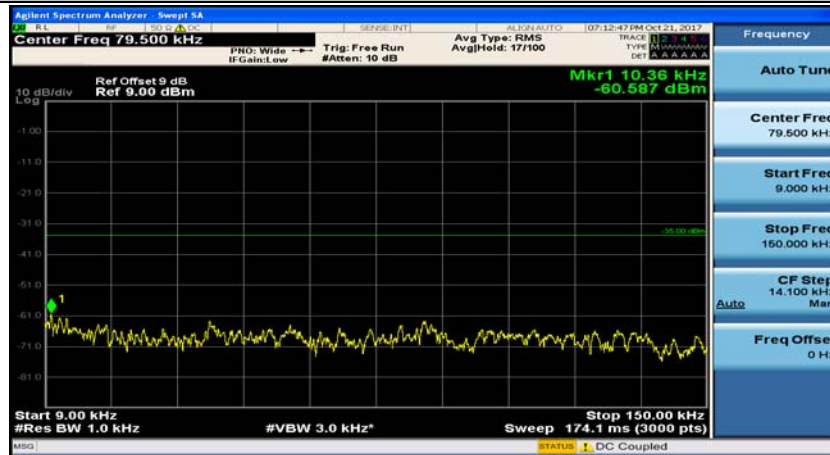


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

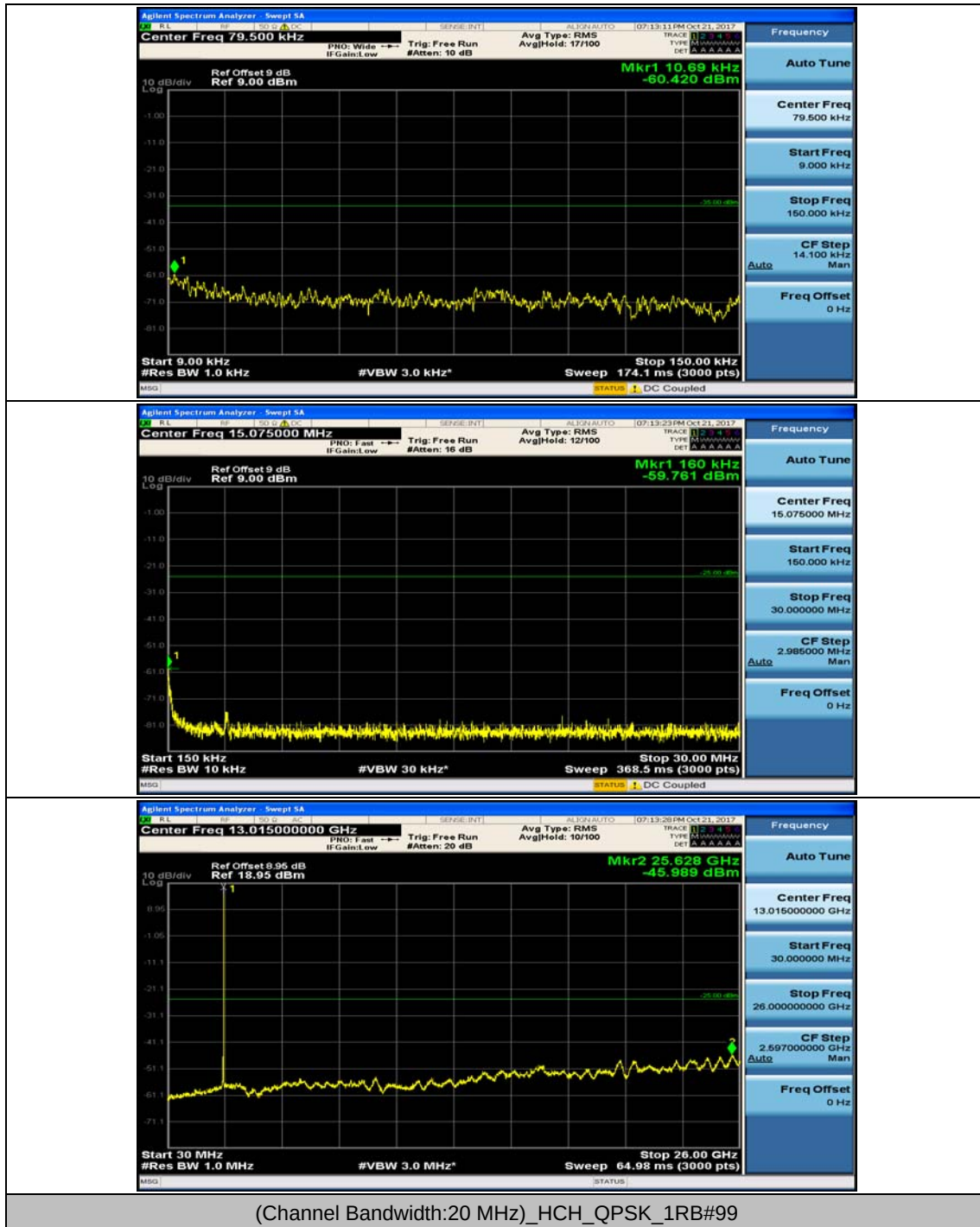


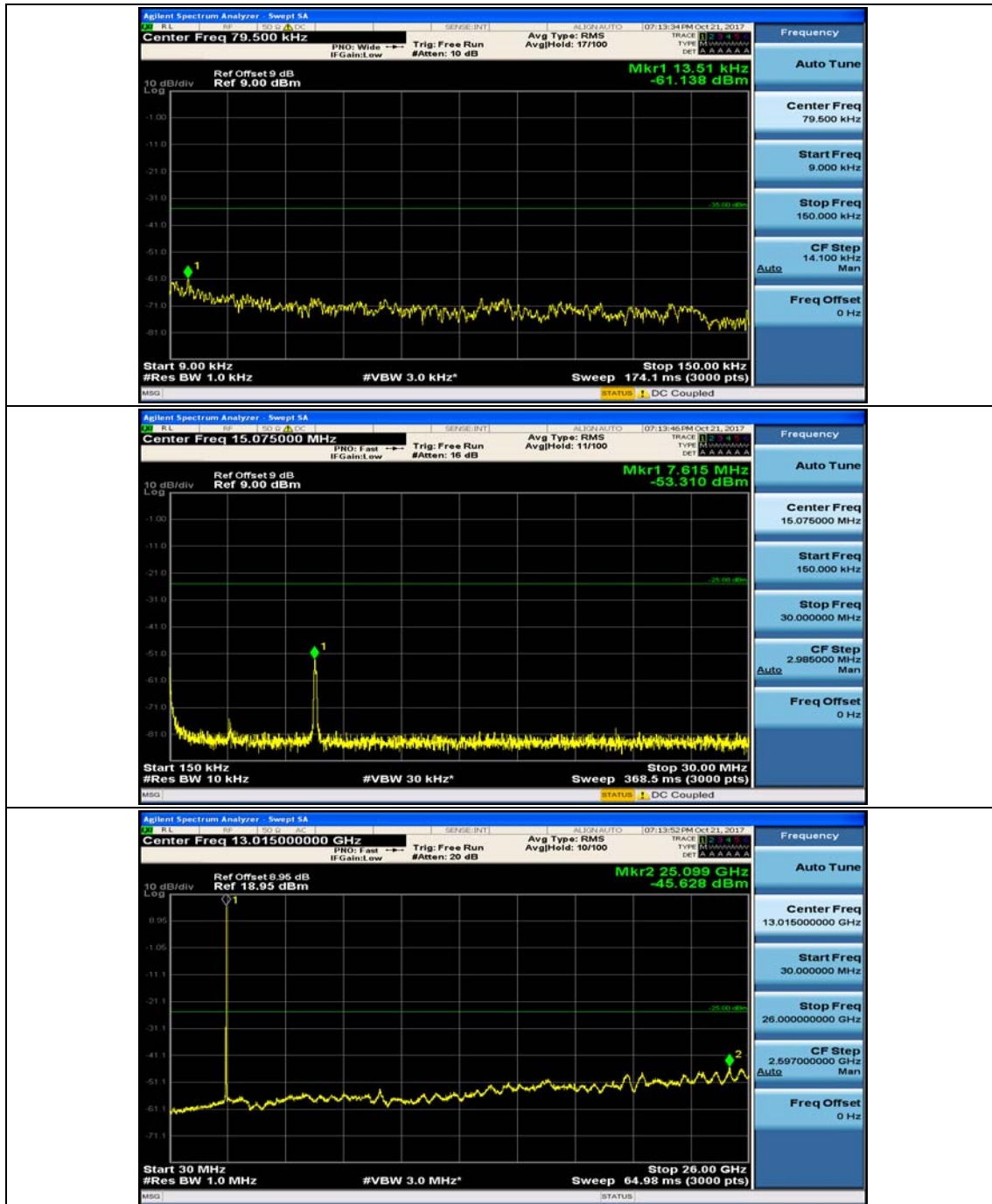


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0

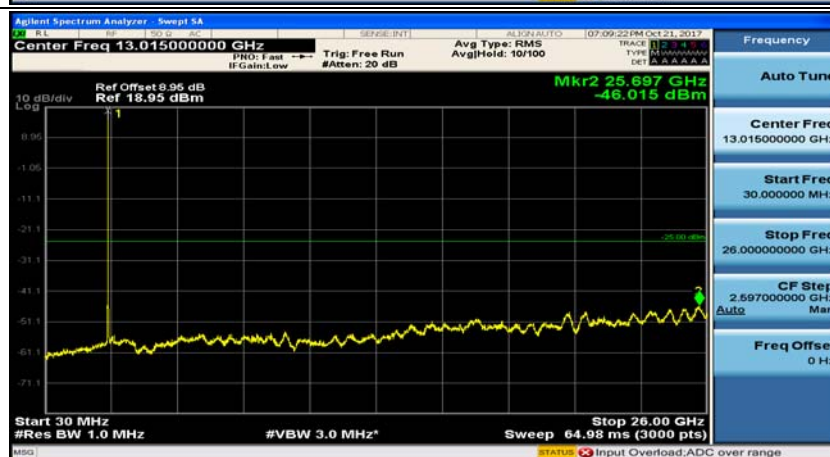
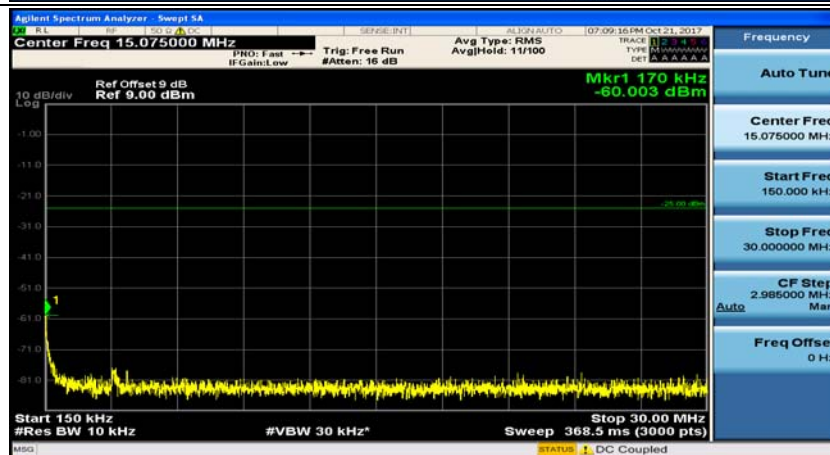


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

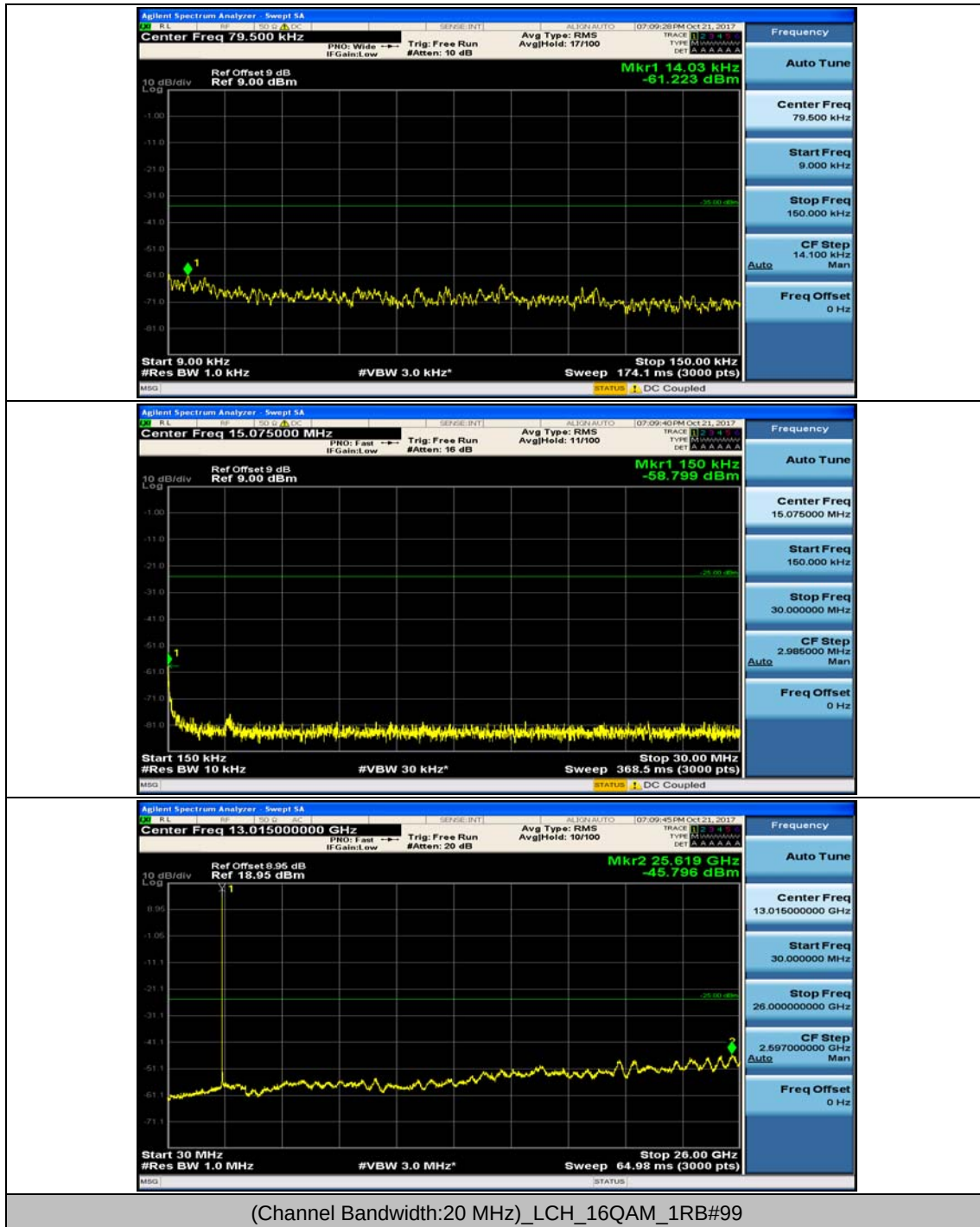


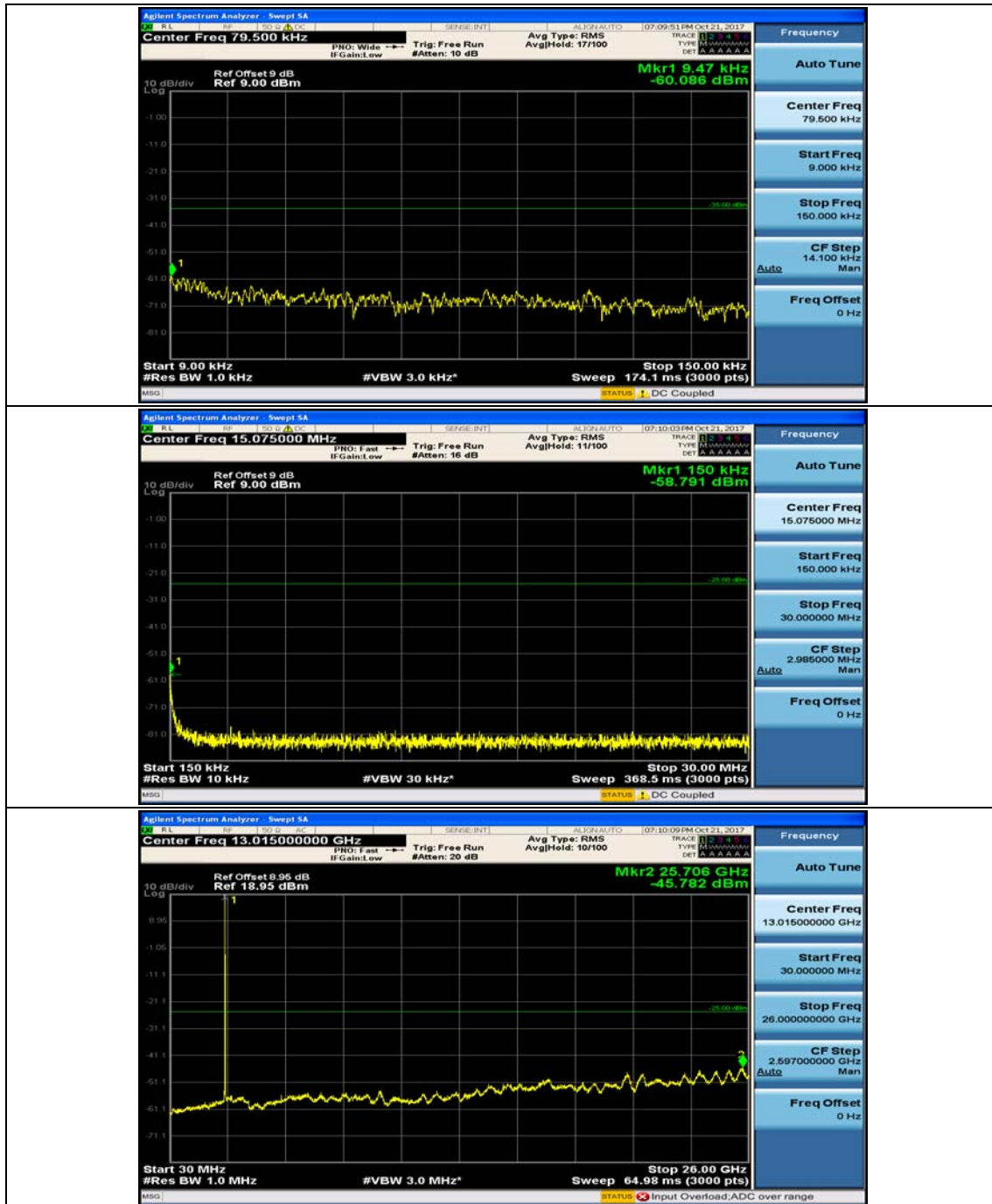


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0

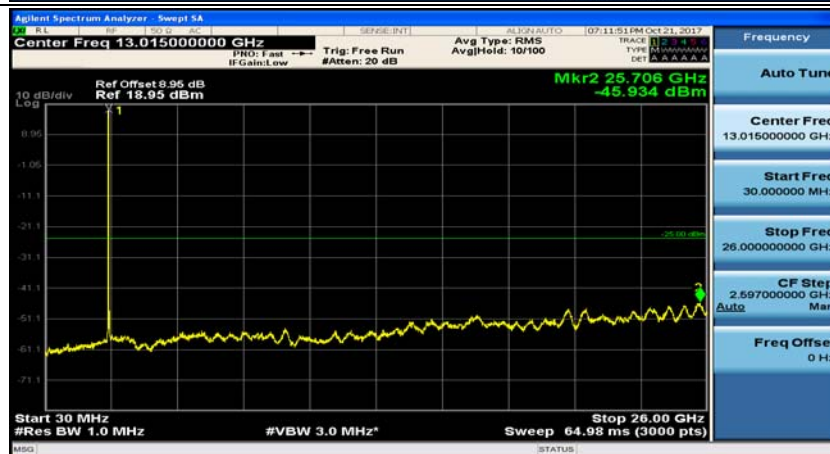
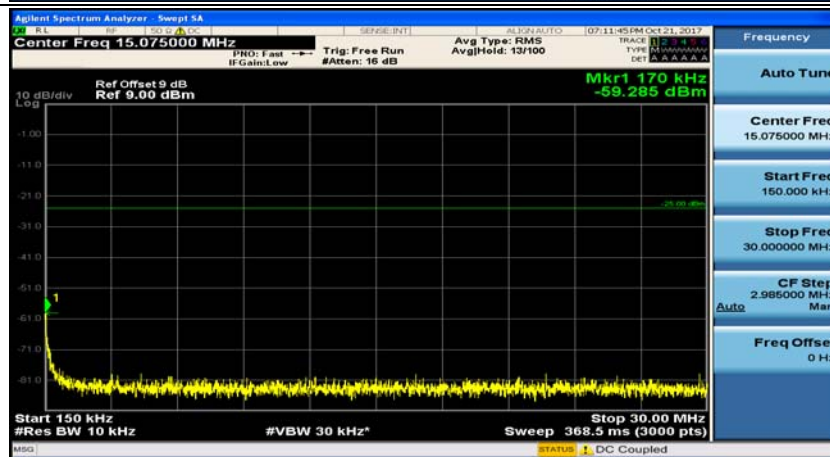


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

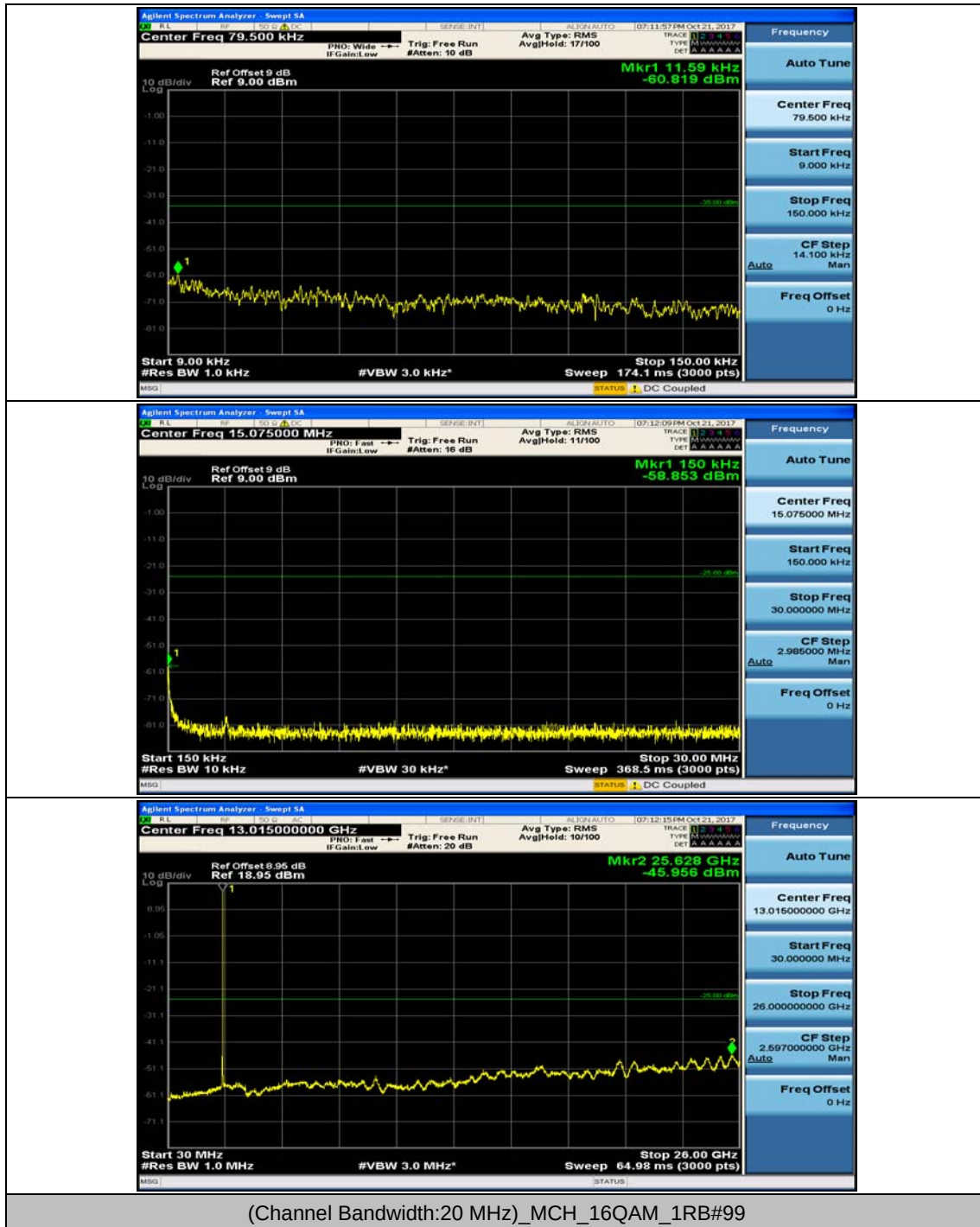


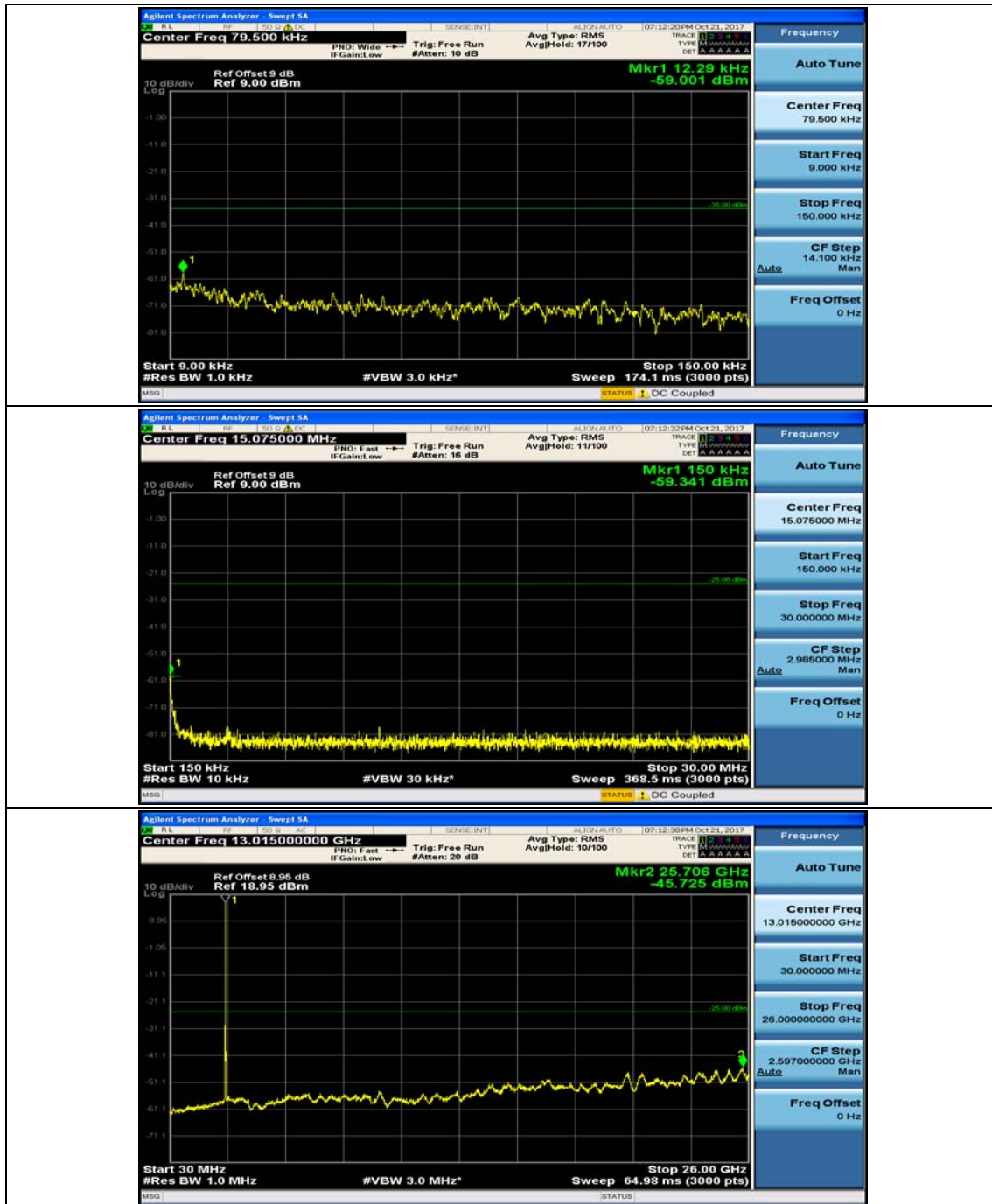


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0

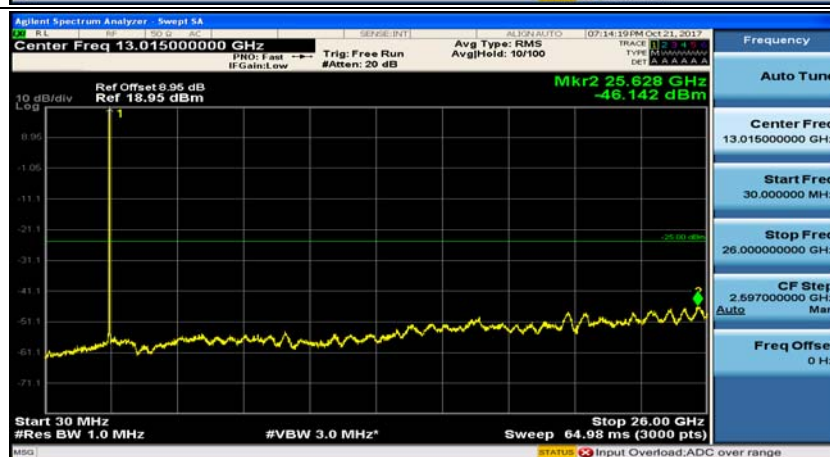
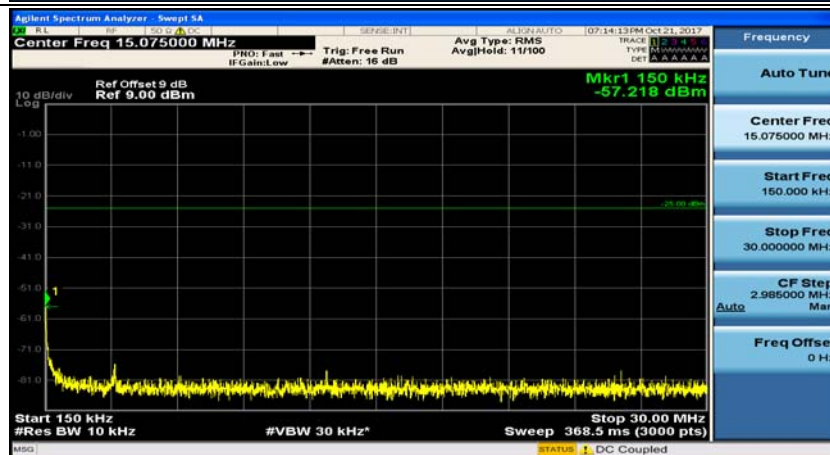
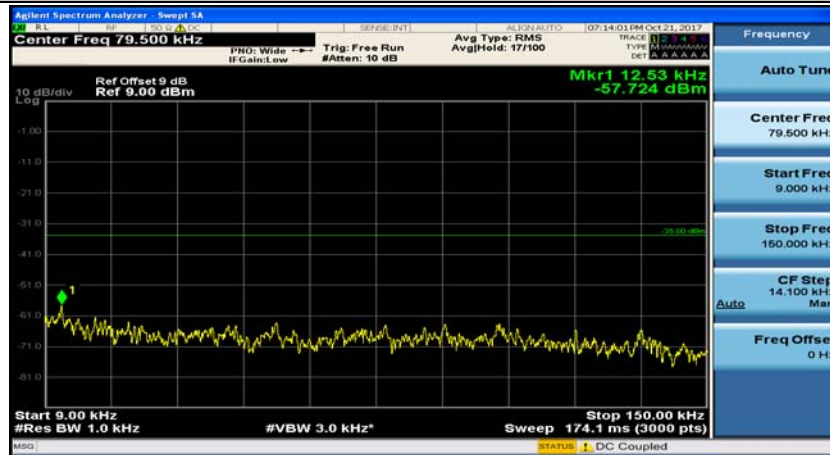


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49

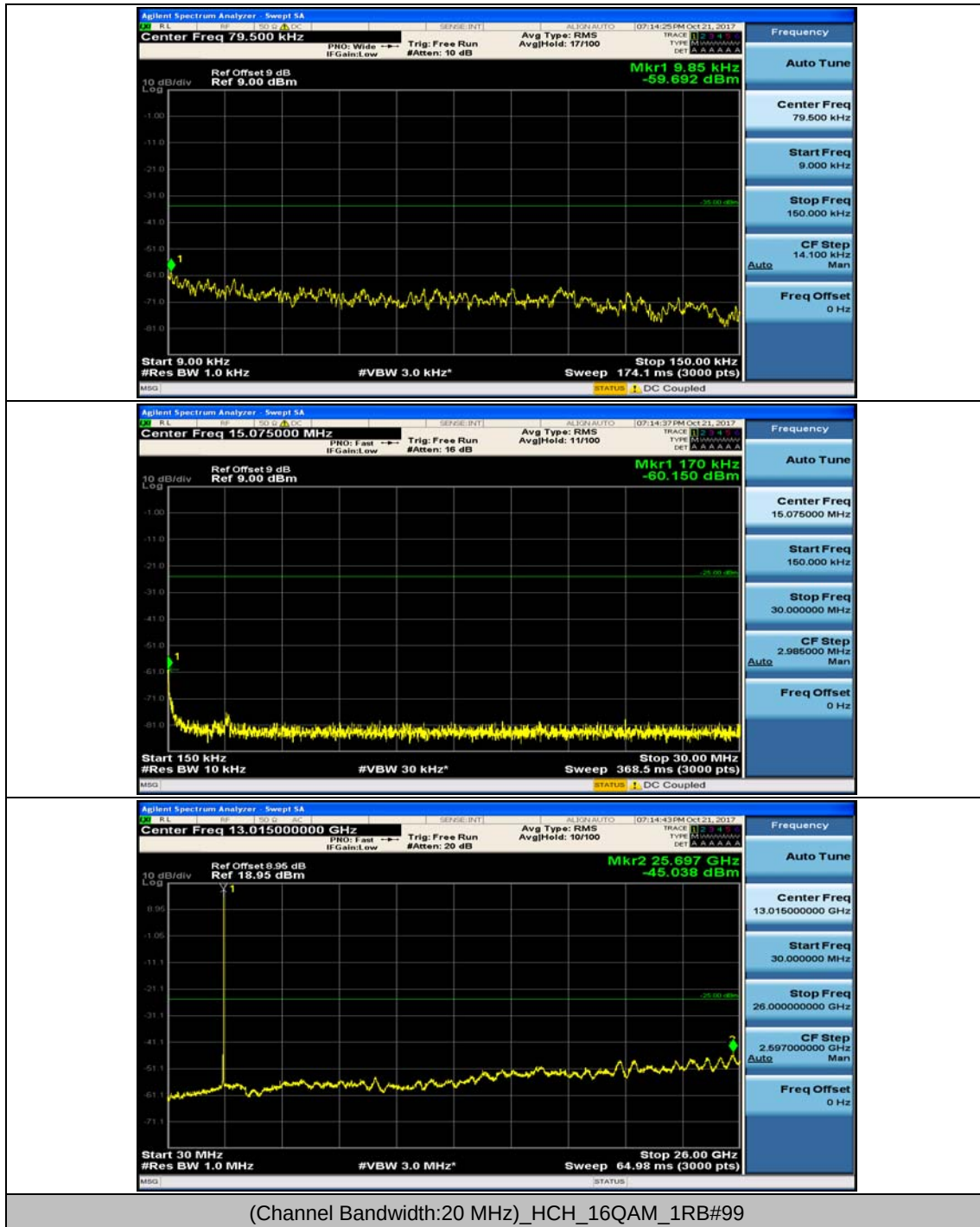


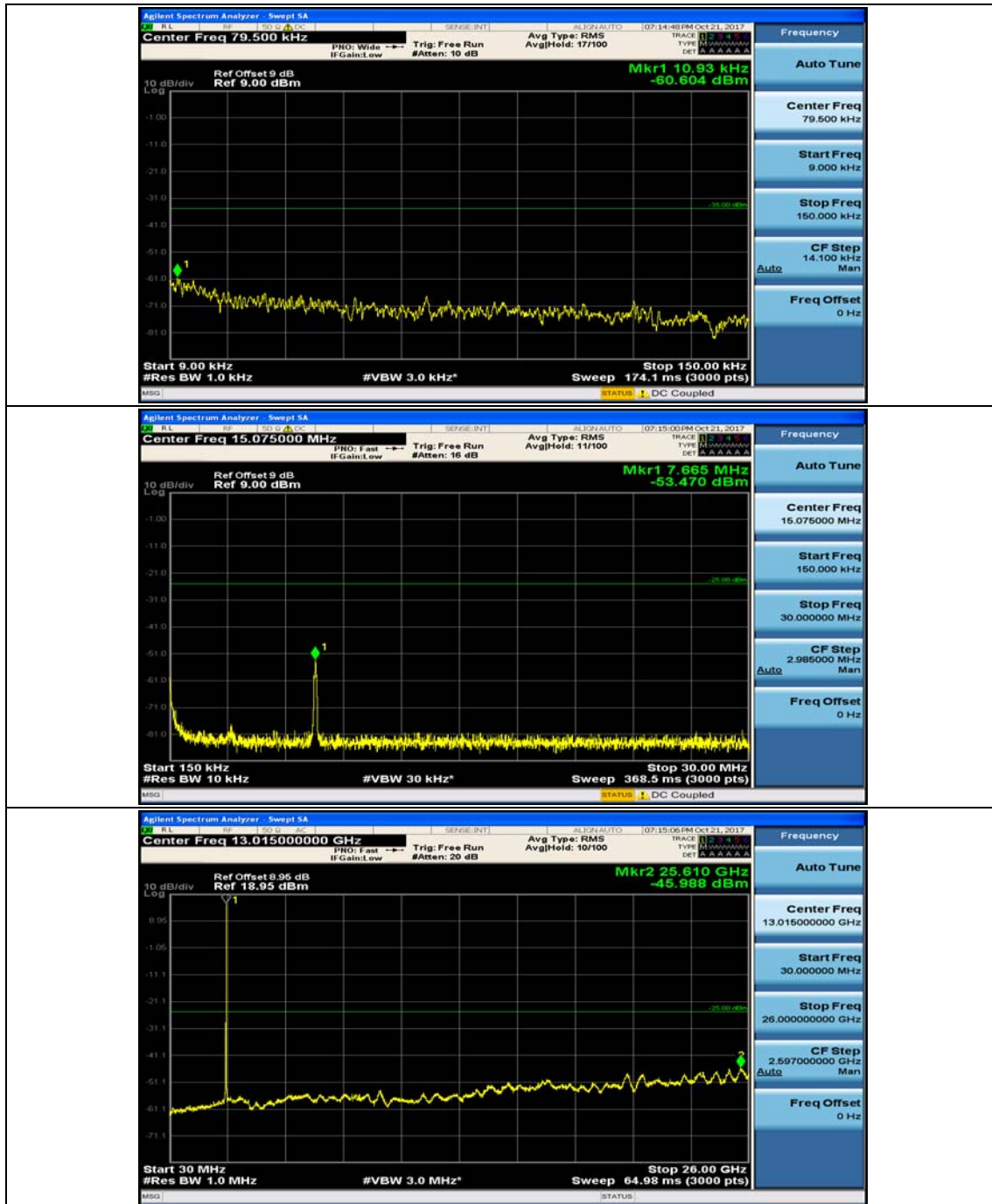


(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0



(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	-0.82	-0.000327	± 2.5	PASS
		VN	TN	-1.44	-0.000574	± 2.5	PASS
		VH	TN	-0.77	-0.000307	± 2.5	PASS
	MCH	VL	TN	3.33	0.001314	± 2.5	PASS
		VN	TN	3.68	0.001452	± 2.5	PASS
		VH	TN	4.83	0.001905	± 2.5	PASS
	HCH	VL	TN	3.74	0.001461	± 2.5	PASS
		VN	TN	2.95	0.001152	± 2.5	PASS
		VH	TN	1.68	0.000656	± 2.5	PASS
16QAM	LCH	VL	TN	-0.73	-0.000291	± 2.5	PASS
		VN	TN	-0.35	-0.000139	± 2.5	PASS
		VH	TN	2.52	0.001004	± 2.5	PASS
	MCH	VL	TN	1.9	0.000750	± 2.5	PASS
		VN	TN	-1.48	-0.000584	± 2.5	PASS
		VH	TN	3.71	0.001464	± 2.5	PASS
	HCH	VL	TN	-0.36	-0.000141	± 2.5	PASS
		VN	TN	-1.55	-0.000605	± 2.5	PASS
		VH	TN	2.68	0.001047	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.73	-0.000291	± 2.5	PASS
		VN	-20	1.7	0.000677	± 2.5	PASS
		VN	-10	4.02	0.001602	± 2.5	PASS
		VN	0	-0.45	-0.000179	± 2.5	PASS
		VN	10	4.33	0.001725	± 2.5	PASS
		VN	20	4.71	0.001876	± 2.5	PASS

		VN	30	-1.68	-0.000669	± 2.5	PASS
		VN	40	-1.81	-0.000721	± 2.5	PASS
		VN	50	-1.16	-0.000462	± 2.5	PASS
	MCH	VN	-30	4.27	0.001684	± 2.5	PASS
		VN	-20	4.09	0.001613	± 2.5	PASS
		VN	-10	2.48	0.000978	± 2.5	PASS
		VN	0	4.93	0.001945	± 2.5	PASS
		VN	10	3.57	0.001408	± 2.5	PASS
		VN	20	-0.21	-0.000083	± 2.5	PASS
		VN	30	0.56	0.000221	± 2.5	PASS
		VN	40	-0.22	-0.000087	± 2.5	PASS
		VN	50	0.15	0.000059	± 2.5	PASS
		VN	-30	0.03	0.000012	± 2.5	PASS
	HCH	VN	-20	2.68	0.001047	± 2.5	PASS
		VN	-10	0.12	0.000047	± 2.5	PASS
		VN	0	0.07	0.000027	± 2.5	PASS
		VN	10	-0.84	-0.000328	± 2.5	PASS
		VN	20	4.01	0.001566	± 2.5	PASS
		VN	30	3.57	0.001395	± 2.5	PASS
		VN	40	-1.82	-0.000711	± 2.5	PASS
		VN	50	4.88	0.001906	± 2.5	PASS
16QAM	LCH	VN	-30	-1.26	-0.000502	± 2.5	PASS
		VN	-20	3.52	0.001402	± 2.5	PASS
		VN	-10	1.15	0.000458	± 2.5	PASS
		VN	0	-1.93	-0.000769	± 2.5	PASS
		VN	10	1.02	0.000406	± 2.5	PASS
		VN	20	-1.83	-0.000729	± 2.5	PASS
		VN	30	-1.98	-0.000789	± 2.5	PASS
		VN	40	1.38	0.000550	± 2.5	PASS
		VN	50	-1.77	-0.000705	± 2.5	PASS
	MCH	VN	-30	2.3	0.000907	± 2.5	PASS
		VN	-20	1.37	0.000540	± 2.5	PASS
		VN	-10	1.89	0.000746	± 2.5	PASS
		VN	0	-0.78	-0.000308	± 2.5	PASS
		VN	10	0.41	0.000162	± 2.5	PASS
		VN	20	2.52	0.000994	± 2.5	PASS
		VN	30	3.03	0.001195	± 2.5	PASS
		VN	40	2.48	0.000978	± 2.5	PASS
		VN	50	1.13	0.000446	± 2.5	PASS
	HCH	VN	-30	0.44	0.000172	± 2.5	PASS
		VN	-20	0.08	0.000031	± 2.5	PASS

		VN	-10	4.31	0.001684	± 2.5	PASS
		VN	0	4.85	0.001895	± 2.5	PASS
		VN	10	0.48	0.000188	± 2.5	PASS
		VN	20	3.59	0.001402	± 2.5	PASS
		VN	30	4.96	0.001938	± 2.5	PASS
		VN	40	1.11	0.000434	± 2.5	PASS
		VN	50	4.34	0.001695	± 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	2.5	0.000996	± 2.5	PASS
		VN	TN	1.13	0.000450	± 2.5	PASS
		VH	TN	-1.84	-0.000733	± 2.5	PASS
	MCH	VL	TN	4.16	0.001641	± 2.5	PASS
		VN	TN	3.2	0.001262	± 2.5	PASS
		VH	TN	3.04	0.001199	± 2.5	PASS
	HCH	VL	TN	4.08	0.001594	± 2.5	PASS
		VN	TN	-1.54	-0.000602	± 2.5	PASS
		VH	TN	-1.41	-0.000551	± 2.5	PASS
16QAM	LCH	VL	TN	-0.36	-0.000143	± 2.5	PASS
		VN	TN	4.33	0.001725	± 2.5	PASS
		VH	TN	-0.28	-0.000112	± 2.5	PASS
	MCH	VL	TN	2.57	0.001014	± 2.5	PASS
		VN	TN	3.73	0.001471	± 2.5	PASS
		VH	TN	1.57	0.000619	± 2.5	PASS
	HCH	VL	TN	-1.69	-0.000660	± 2.5	PASS
		VN	TN	-1.06	-0.000414	± 2.5	PASS
		VH	TN	4.12	0.001609	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	2.73	0.001088	± 2.5	PASS
		VN	-20	-1.35	-0.000538	± 2.5	PASS
		VN	-10	-1.36	-0.000542	± 2.5	PASS
		VN	0	1.73	0.000689	± 2.5	PASS
		VN	10	-1.62	-0.000645	± 2.5	PASS
		VN	20	2.8	0.001116	± 2.5	PASS
		VN	30	3.29	0.001311	± 2.5	PASS

		VN	40	-1.26	-0.000502	± 2.5	PASS
		VN	50	0.43	0.000171	± 2.5	PASS
	MCH	VN	-30	2.51	0.000990	± 2.5	PASS
		VN	-20	-0.38	-0.000150	± 2.5	PASS
		VN	-10	-1.89	-0.000746	± 2.5	PASS
		VN	0	1.41	0.000556	± 2.5	PASS
		VN	10	2.22	0.000876	± 2.5	PASS
		VN	20	-1.82	-0.000718	± 2.5	PASS
		VN	30	0.67	0.000264	± 2.5	PASS
		VN	40	0.89	0.000351	± 2.5	PASS
		VN	50	3.42	0.001349	± 2.5	PASS
		VN	-30	3.45	0.001348	± 2.5	PASS
	HCH	VN	-20	3.27	0.001277	± 2.5	PASS
		VN	-10	-1.63	-0.000637	± 2.5	PASS
		VN	0	1.8	0.000703	± 2.5	PASS
		VN	10	-1.02	-0.000398	± 2.5	PASS
		VN	20	4.09	0.001598	± 2.5	PASS
		VN	30	-0.93	-0.000363	± 2.5	PASS
		VN	40	-1.51	-0.000590	± 2.5	PASS
		VN	50	-1.29	-0.000504	± 2.5	PASS
QPSK	LCH	VN	-30	3.34	0.001331	± 2.5	PASS
		VN	-20	-1.6	-0.000637	± 2.5	PASS
		VN	-10	0.15	0.000060	± 2.5	PASS
		VN	0	-1.91	-0.000761	± 2.5	PASS
		VN	10	-1.34	-0.000534	± 2.5	PASS
		VN	20	2.51	0.001000	± 2.5	PASS
		VN	30	-0.72	-0.000287	± 2.5	PASS
		VN	40	3.94	0.001570	± 2.5	PASS
		VN	50	1.07	0.000426	± 2.5	PASS
	MCH	VN	-30	-0.98	-0.000387	± 2.5	PASS
		VN	-20	4.73	0.001866	± 2.5	PASS
		VN	-10	0.54	0.000213	± 2.5	PASS
		VN	0	4.51	0.001779	± 2.5	PASS
		VN	10	4.34	0.001712	± 2.5	PASS
		VN	20	-0.87	-0.000343	± 2.5	PASS
		VN	30	1.3	0.000513	± 2.5	PASS
		VN	40	1.09	0.000430	± 2.5	PASS
		VN	50	1.89	0.000746	± 2.5	PASS
	HCH	VN	-30	4.01	0.001566	± 2.5	PASS
		VN	-20	-0.5	-0.000195	± 2.5	PASS
		VN	-10	0.83	0.000324	± 2.5	PASS

		VN	0	2.15	0.000840	± 2.5	PASS
		VN	10	2.38	0.000930	± 2.5	PASS
		VN	20	3.49	0.001363	± 2.5	PASS
		VN	30	0.84	0.000328	± 2.5	PASS
		VN	40	3.69	0.001441	± 2.5	PASS
		VN	50	0.94	0.000367	± 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	2.84	0.001131	± 2.5	PASS
		VN	TN	4.69	0.001869	± 2.5	PASS
		VH	TN	3.62	0.001442	± 2.5	PASS
	MCH	VL	TN	1.37	0.000540	± 2.5	PASS
		VN	TN	-0.02	-0.000008	± 2.5	PASS
		VH	TN	-1.54	-0.000607	± 2.5	PASS
	HCH	VL	TN	4.95	0.001934	± 2.5	PASS
		VN	TN	4.92	0.001922	± 2.5	PASS
		VH	TN	-0.65	-0.000254	± 2.5	PASS
16QAM	LCH	VL	TN	1.14	0.000454	± 2.5	PASS
		VN	TN	0.73	0.000291	± 2.5	PASS
		VH	TN	2.05	0.000817	± 2.5	PASS
	MCH	VL	TN	-0.19	-0.000075	± 2.5	PASS
		VN	TN	4.99	0.001968	± 2.5	PASS
		VH	TN	2.23	0.000880	± 2.5	PASS
	HCH	VL	TN	4.4	0.001719	± 2.5	PASS
		VN	TN	0.38	0.000148	± 2.5	PASS
		VH	TN	1.44	0.000563	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.19	-0.000076	± 2.5	PASS
		VN	-20	-0.42	-0.000167	± 2.5	PASS
		VN	-10	4.51	0.001797	± 2.5	PASS
		VN	0	4.67	0.001861	± 2.5	PASS
		VN	10	3.99	0.001590	± 2.5	PASS
		VN	20	-1.36	-0.000542	± 2.5	PASS
		VN	30	4.76	0.001896	± 2.5	PASS
		VN	40	0.95	0.000378	± 2.5	PASS

	MCH	VN	50	4.05	0.001614	± 2.5	PASS
		VN	-30	1.27	0.000501	± 2.5	PASS
		VN	-20	0	0.000000	± 2.5	PASS
		VN	-10	3.04	0.001199	± 2.5	PASS
		VN	0	0.42	0.000166	± 2.5	PASS
		VN	10	1.96	0.000773	± 2.5	PASS
		VN	20	4.8	0.001893	± 2.5	PASS
		VN	30	1.35	0.000533	± 2.5	PASS
		VN	40	0.55	0.000217	± 2.5	PASS
		VN	50	4.16	0.001641	± 2.5	PASS
	HCH	VN	-30	0.07	0.000027	± 2.5	PASS
		VN	-20	4.12	0.001609	± 2.5	PASS
		VN	-10	3.51	0.001371	± 2.5	PASS
		VN	0	0.76	0.000297	± 2.5	PASS
		VN	10	0.45	0.000176	± 2.5	PASS
		VN	20	3.63	0.001418	± 2.5	PASS
		VN	30	-0.48	-0.000188	± 2.5	PASS
		VN	40	-0.22	-0.000086	± 2.5	PASS
		VN	50	4.84	0.001891	± 2.5	PASS
QPSK	LCH	VN	-30	4.86	0.001936	± 2.5	PASS
		VN	-20	3.37	0.001343	± 2.5	PASS
		VN	-10	2.35	0.000936	± 2.5	PASS
		VN	0	3.2	0.001275	± 2.5	PASS
		VN	10	-1.02	-0.000406	± 2.5	PASS
		VN	20	0.17	0.000068	± 2.5	PASS
		VN	30	4.24	0.001689	± 2.5	PASS
		VN	40	2.07	0.000825	± 2.5	PASS
		VN	50	-1.32	-0.000526	± 2.5	PASS
	MCH	VN	-30	4.94	0.001949	± 2.5	PASS
		VN	-20	-0.76	-0.000300	± 2.5	PASS
		VN	-10	3.44	0.001357	± 2.5	PASS
		VN	0	1.34	0.000529	± 2.5	PASS
		VN	10	1.95	0.000769	± 2.5	PASS
		VN	20	0.69	0.000272	± 2.5	PASS
		VN	30	2.82	0.001112	± 2.5	PASS
		VN	40	1.87	0.000738	± 2.5	PASS
		VN	50	3.06	0.001207	± 2.5	PASS
	HCH	VN	-30	4.02	0.001570	± 2.5	PASS
		VN	-20	1.84	0.000719	± 2.5	PASS
		VN	-10	0.55	0.000215	± 2.5	PASS
		VN	0	-1.95	-0.000762	± 2.5	PASS

		VN	10	2.66	0.001039	± 2.5	PASS
		VN	20	2.6	0.001016	± 2.5	PASS
		VN	30	0.51	0.000199	± 2.5	PASS
		VN	40	0.77	0.000301	± 2.5	PASS
		VN	50	1.55	0.000605	± 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	-0.95	-0.000378	± 2.5	PASS
		VN	TN	2.03	0.000809	± 2.5	PASS
		VH	TN	-1.42	-0.000566	± 2.5	PASS
	MCH	VL	TN	3.69	0.001456	± 2.5	PASS
		VN	TN	0	0.000000	± 2.5	PASS
		VH	TN	1.31	0.000517	± 2.5	PASS
	HCH	VL	TN	4.51	0.001762	± 2.5	PASS
		VN	TN	-1.84	-0.000719	± 2.5	PASS
		VH	TN	-1.92	-0.000750	± 2.5	PASS
16QAM	LCH	VL	TN	-1.04	-0.000414	± 2.5	PASS
		VN	TN	1.06	0.000422	± 2.5	PASS
		VH	TN	1.48	0.000590	± 2.5	PASS
	MCH	VL	TN	2.49	0.000982	± 2.5	PASS
		VN	TN	-0.14	-0.000055	± 2.5	PASS
		VH	TN	4.32	0.001704	± 2.5	PASS
	HCH	VL	TN	2.06	0.000805	± 2.5	PASS
		VN	TN	-1.07	-0.000418	± 2.5	PASS
		VH	TN	2.09	0.000816	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.62	0.000645	± 2.5	PASS
		VN	-20	1.95	0.000777	± 2.5	PASS
		VN	-10	-0.81	-0.000323	± 2.5	PASS
		VN	0	1.62	0.000645	± 2.5	PASS
		VN	10	4.33	0.001725	± 2.5	PASS
		VN	20	2.79	0.001112	± 2.5	PASS
		VN	30	1.48	0.000590	± 2.5	PASS
		VN	40	3.28	0.001307	± 2.5	PASS
		VN	50	-0.38	-0.000151	± 2.5	PASS

	MCH	VN	-30	0.89	0.000351	± 2.5	PASS
		VN	-20	-0.18	-0.000071	± 2.5	PASS
		VN	-10	4.5	0.001775	± 2.5	PASS
		VN	0	1.77	0.000698	± 2.5	PASS
		VN	10	4.49	0.001771	± 2.5	PASS
		VN	20	-0.96	-0.000379	± 2.5	PASS
		VN	30	3.71	0.001464	± 2.5	PASS
		VN	40	-1.45	-0.000572	± 2.5	PASS
		VN	50	-1.63	-0.000643	± 2.5	PASS
	HCH	VN	-30	-0.24	-0.000094	± 2.5	PASS
		VN	-20	4.44	0.001734	± 2.5	PASS
		VN	-10	1.81	0.000707	± 2.5	PASS
		VN	0	-1.69	-0.000660	± 2.5	PASS
		VN	10	-1.19	-0.000465	± 2.5	PASS
		VN	20	-1.55	-0.000605	± 2.5	PASS
		VN	30	4.04	0.001578	± 2.5	PASS
		VN	40	3.61	0.001410	± 2.5	PASS
		VN	50	5	0.001953	± 2.5	PASS
QPSK	LCH	VN	-30	3.1	0.001235	± 2.5	PASS
		VN	-20	-1.3	-0.000518	± 2.5	PASS
		VN	-10	3	0.001195	± 2.5	PASS
		VN	0	-1.65	-0.000657	± 2.5	PASS
		VN	10	0.64	0.000255	± 2.5	PASS
		VN	20	1.1	0.000438	± 2.5	PASS
		VN	30	-0.46	-0.000183	± 2.5	PASS
		VN	40	2.52	0.001004	± 2.5	PASS
		VN	50	1.94	0.000773	± 2.5	PASS
	MCH	VN	-30	1.94	0.000765	± 2.5	PASS
		VN	-20	-1.44	-0.000568	± 2.5	PASS
		VN	-10	0.25	0.000099	± 2.5	PASS
		VN	0	1.66	0.000655	± 2.5	PASS
		VN	10	0.43	0.000170	± 2.5	PASS
		VN	20	2.19	0.000864	± 2.5	PASS
		VN	30	0.41	0.000162	± 2.5	PASS
		VN	40	3.21	0.001266	± 2.5	PASS
		VN	50	0.12	0.000047	± 2.5	PASS
	HCH	VN	-30	0.49	0.000191	± 2.5	PASS
		VN	-20	1.8	0.000703	± 2.5	PASS
		VN	-10	-0.13	-0.000051	± 2.5	PASS
		VN	0	1.17	0.000457	± 2.5	PASS
		VN	10	2.68	0.001047	± 2.5	PASS

		VN	20	4.32	0.001688	± 2.5	PASS
		VN	30	1.98	0.000773	± 2.5	PASS
		VN	40	1.54	0.000602	± 2.5	PASS
		VN	50	3.96	0.001547	± 2.5	PASS