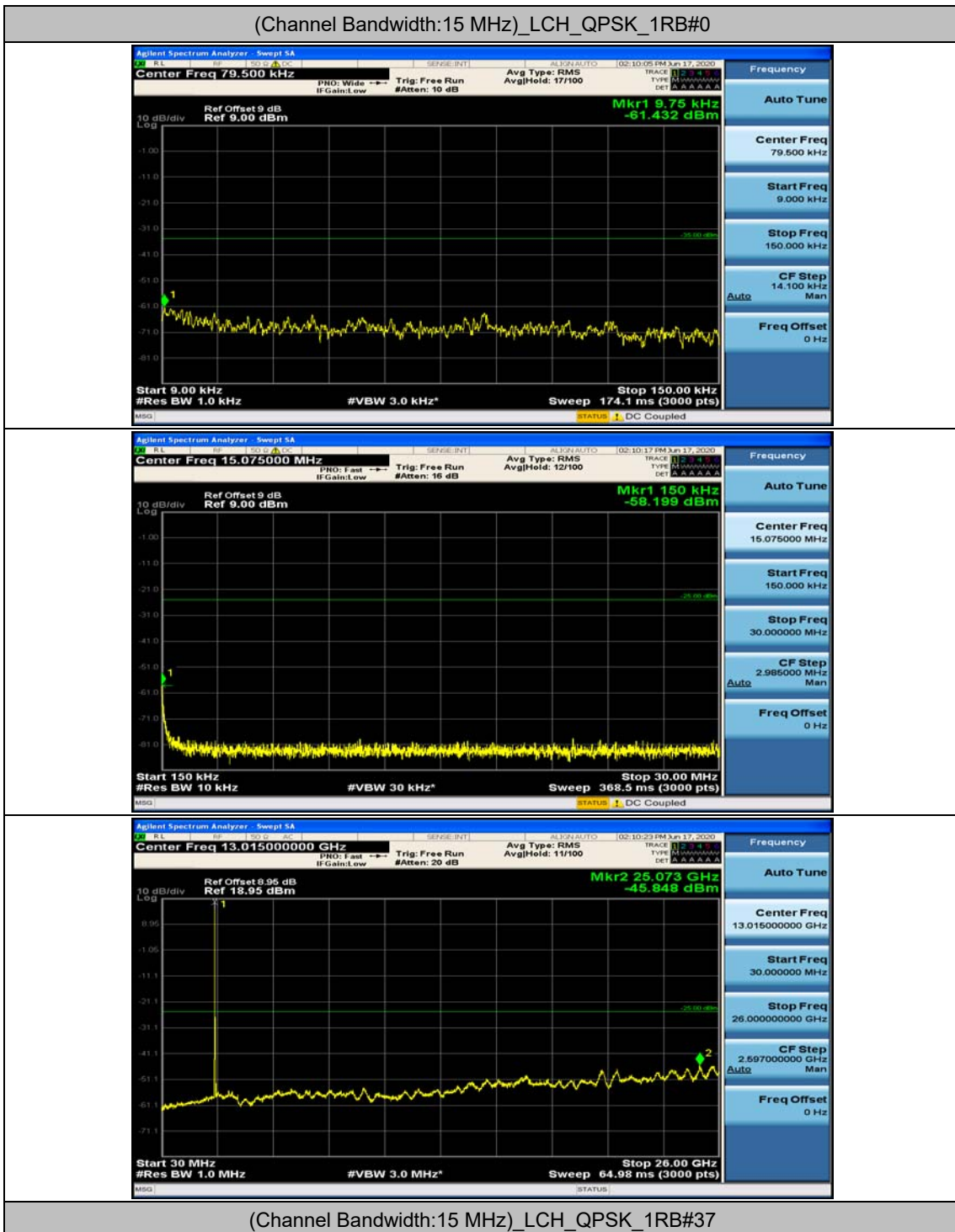
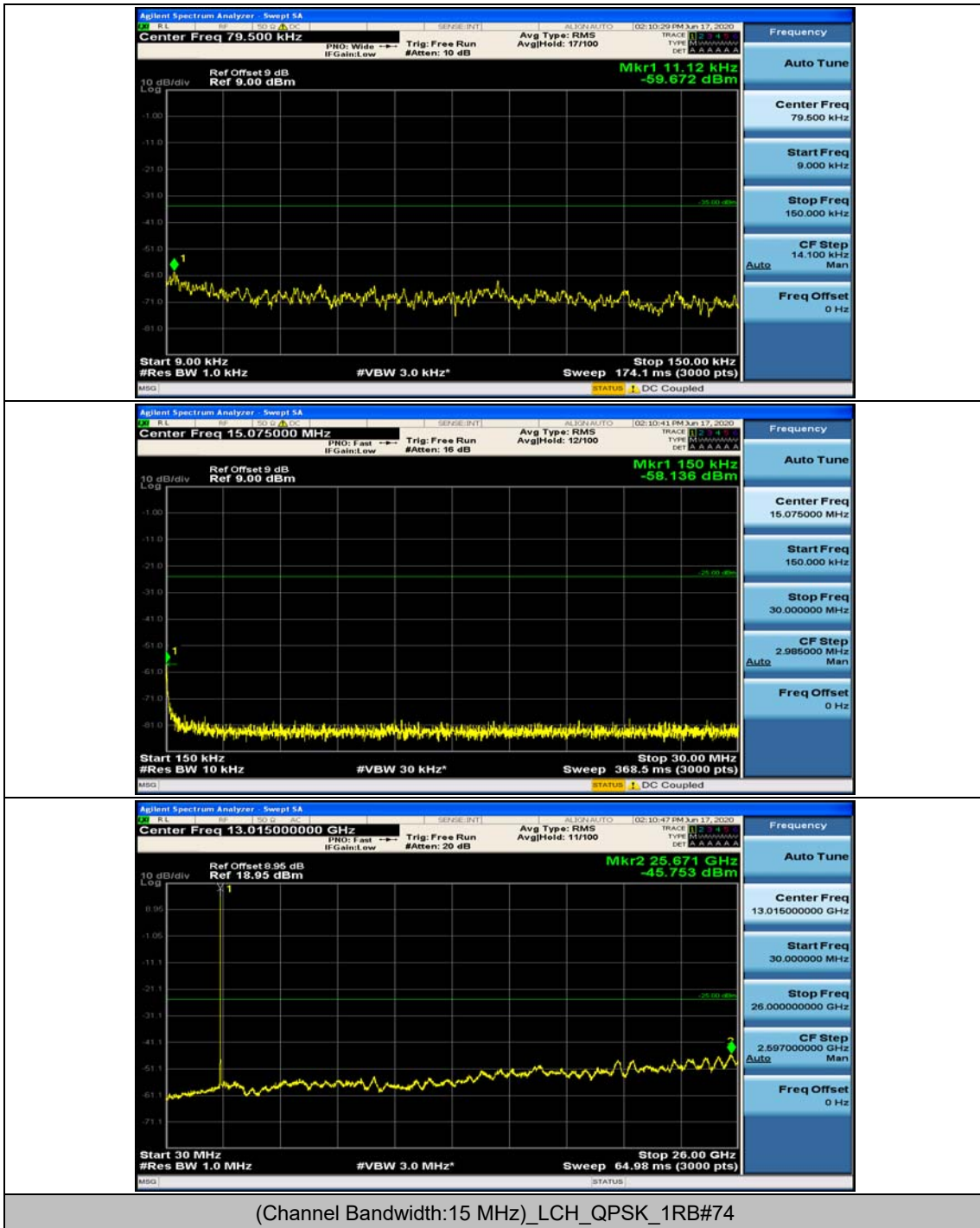
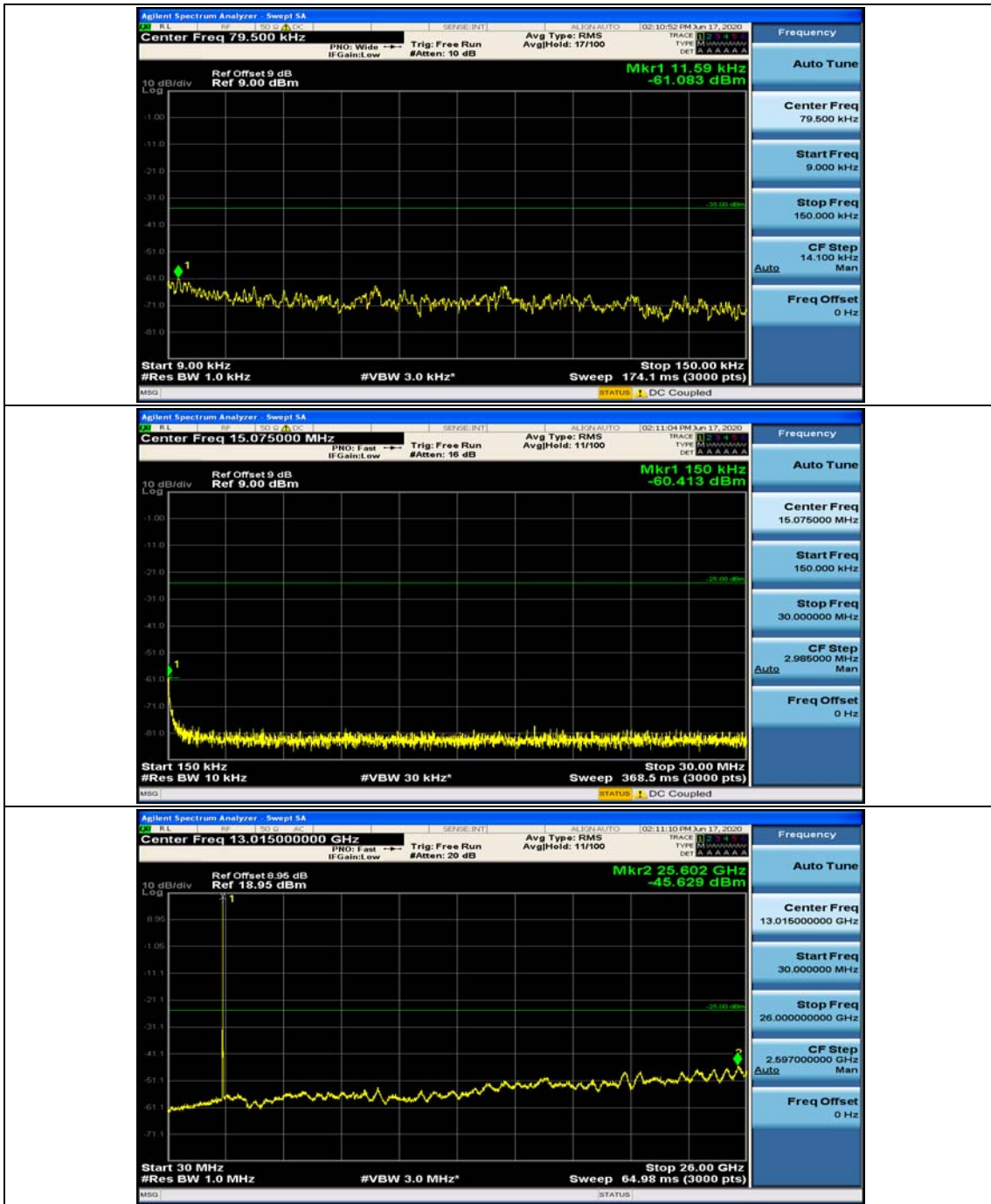


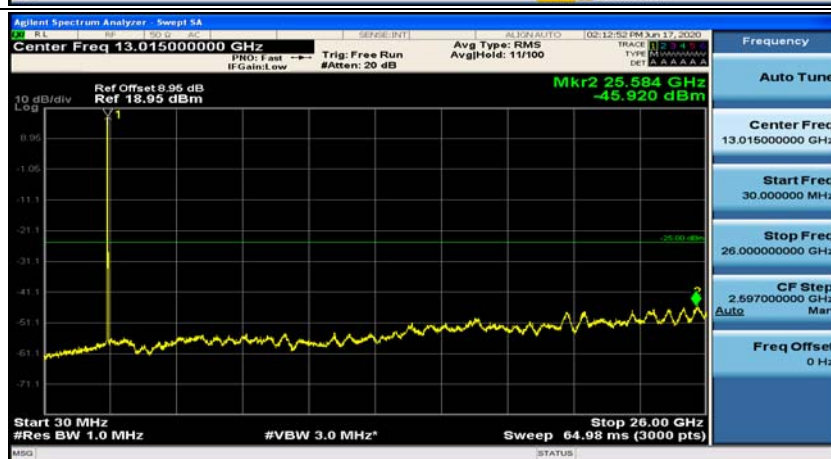
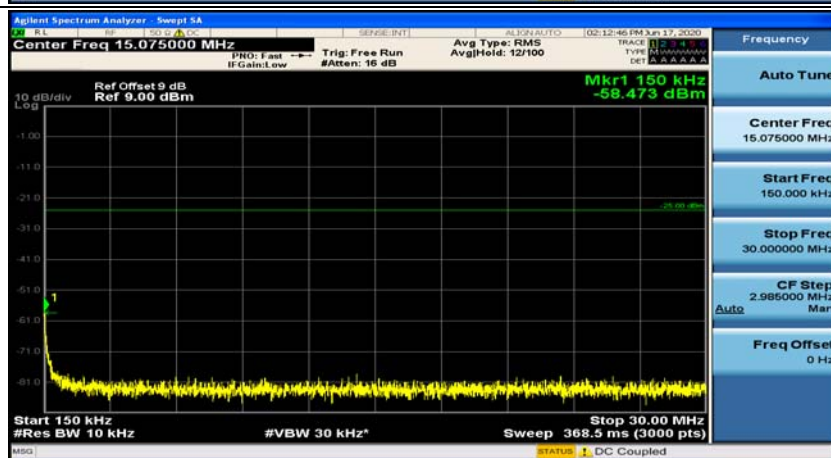
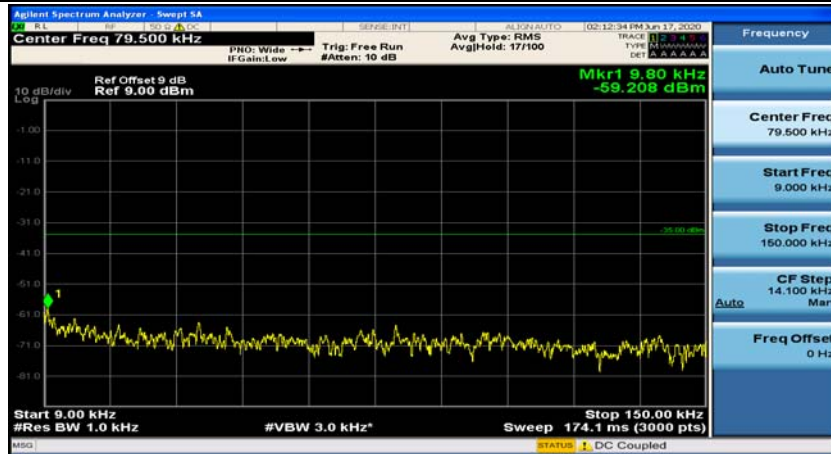
Channel Bandwidth: 15 MHz



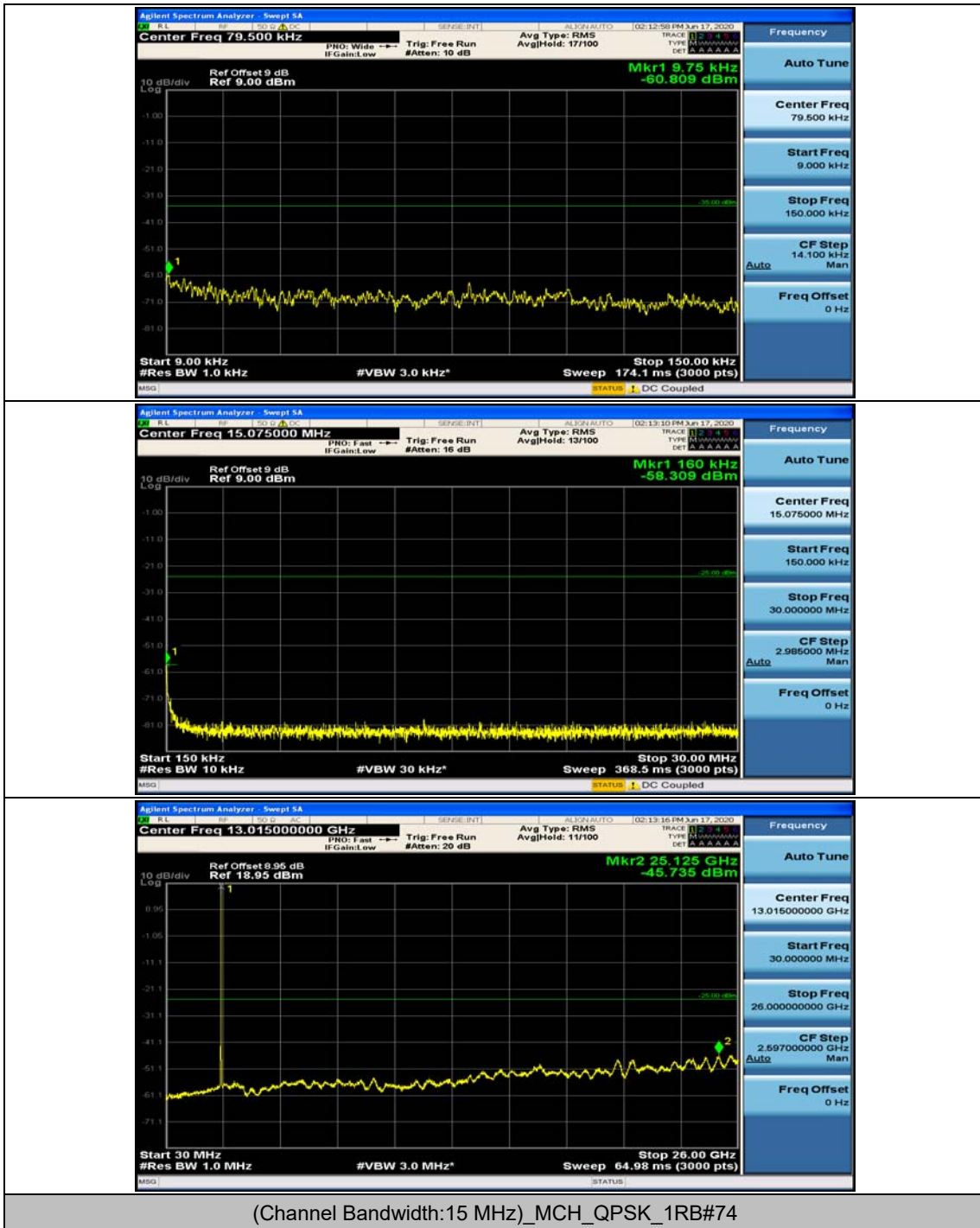


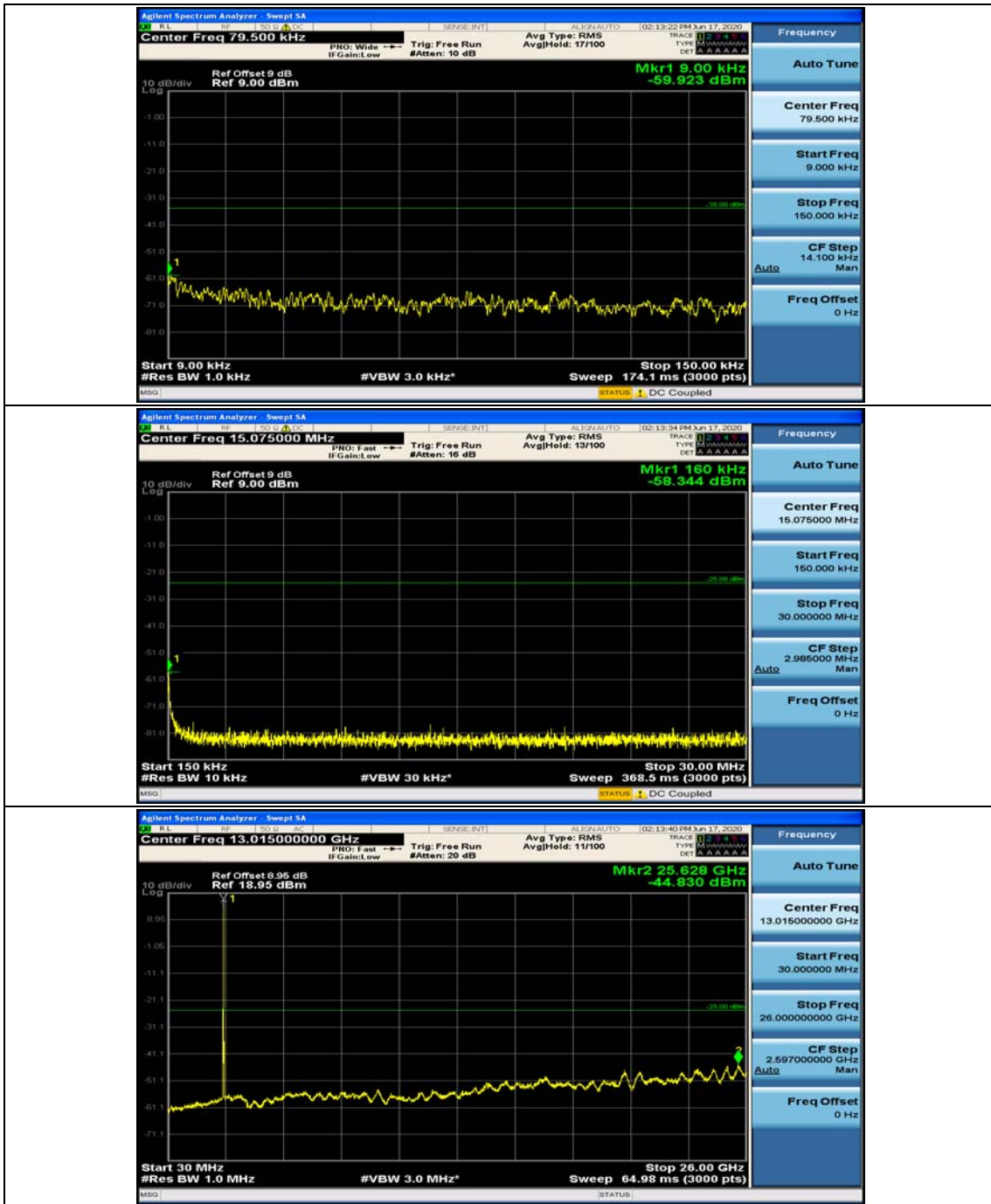


(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#0

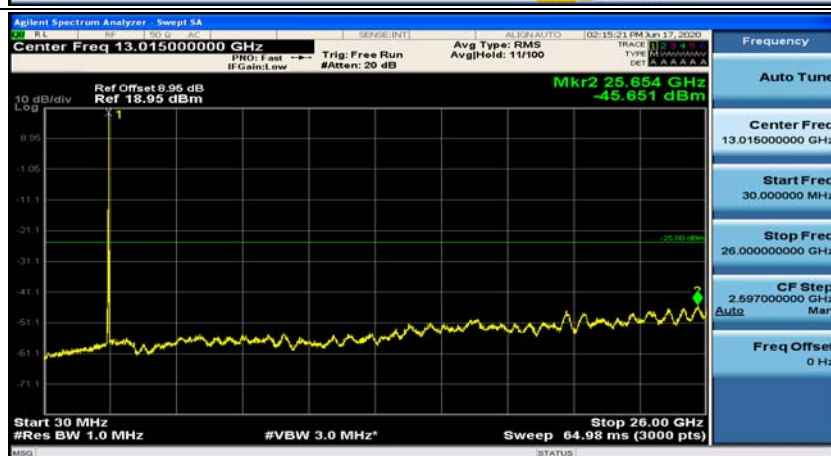
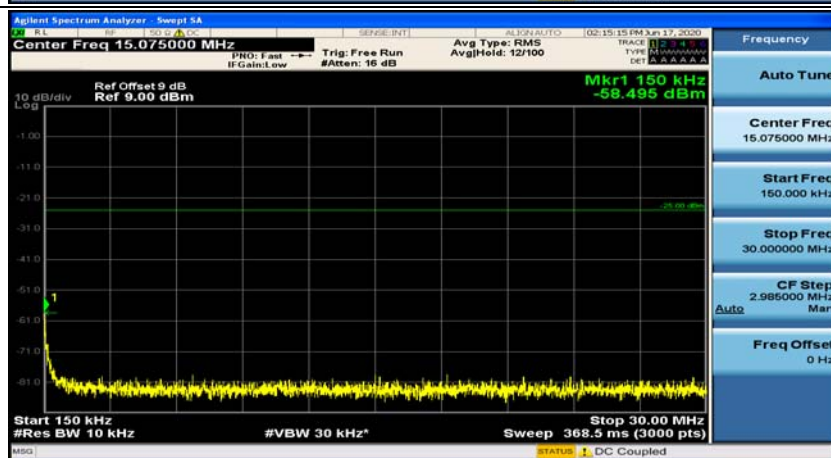
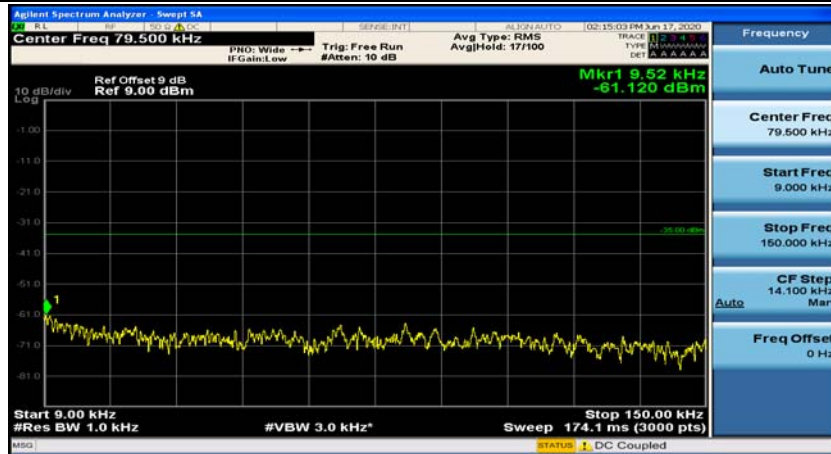


(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#37

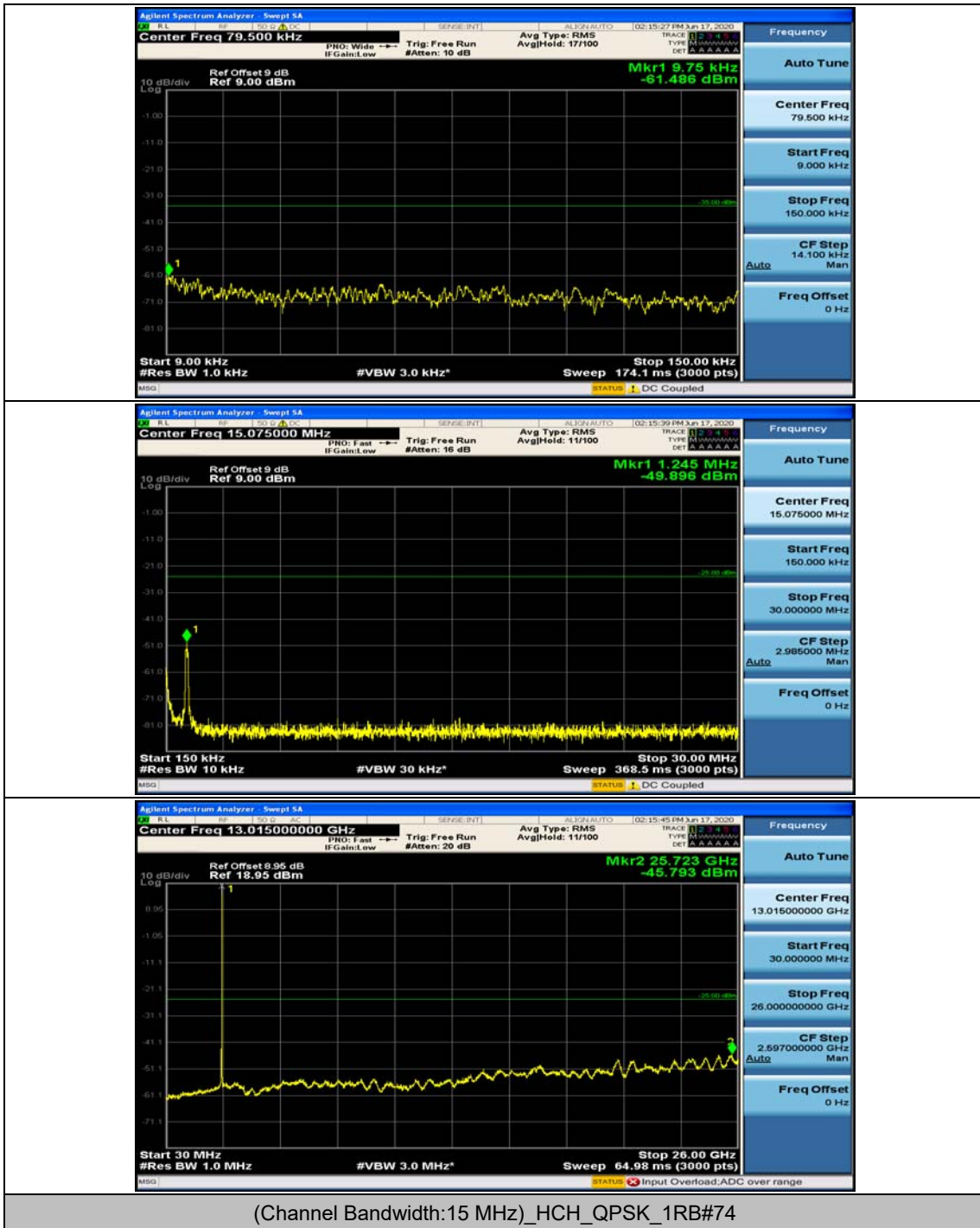


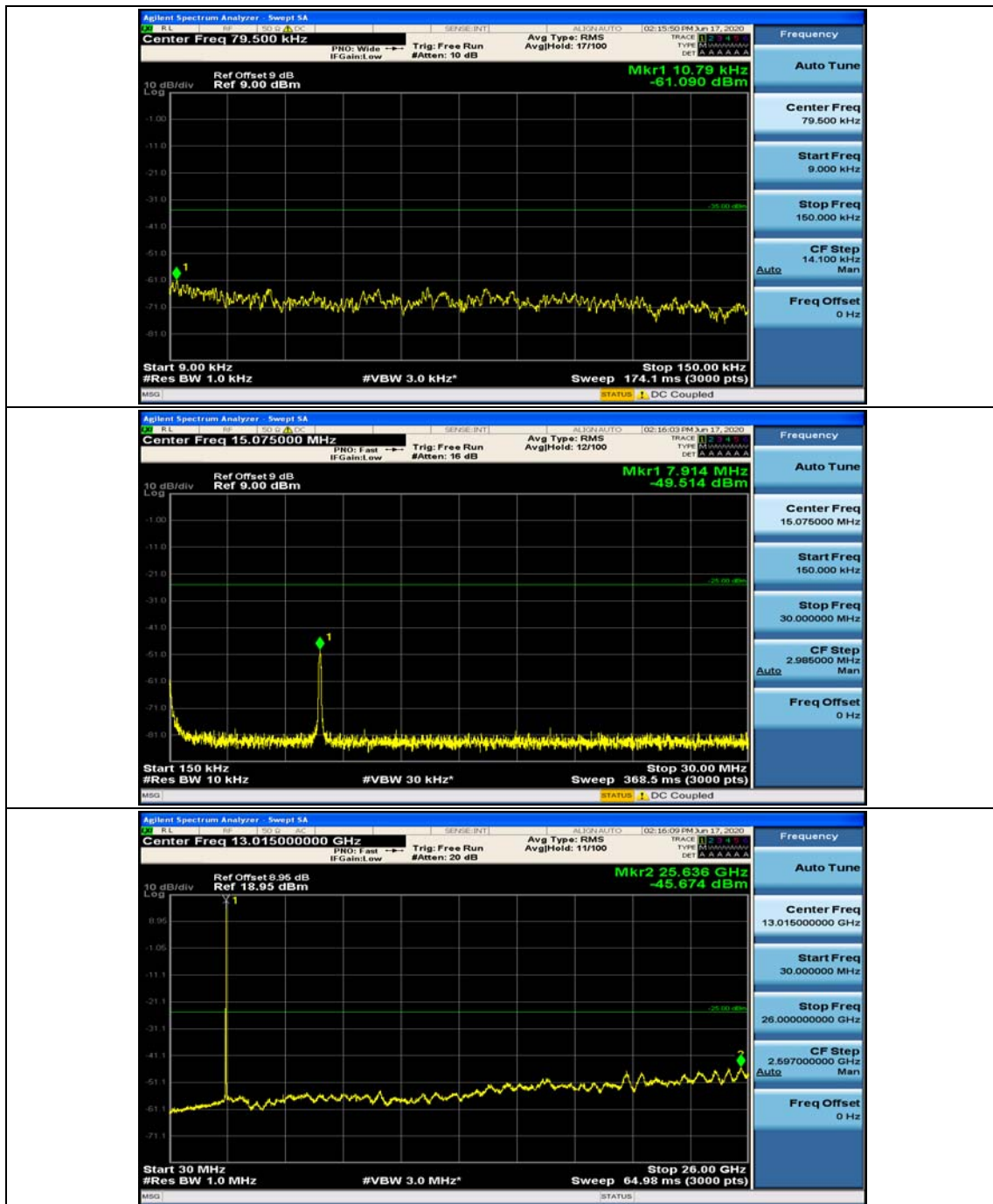


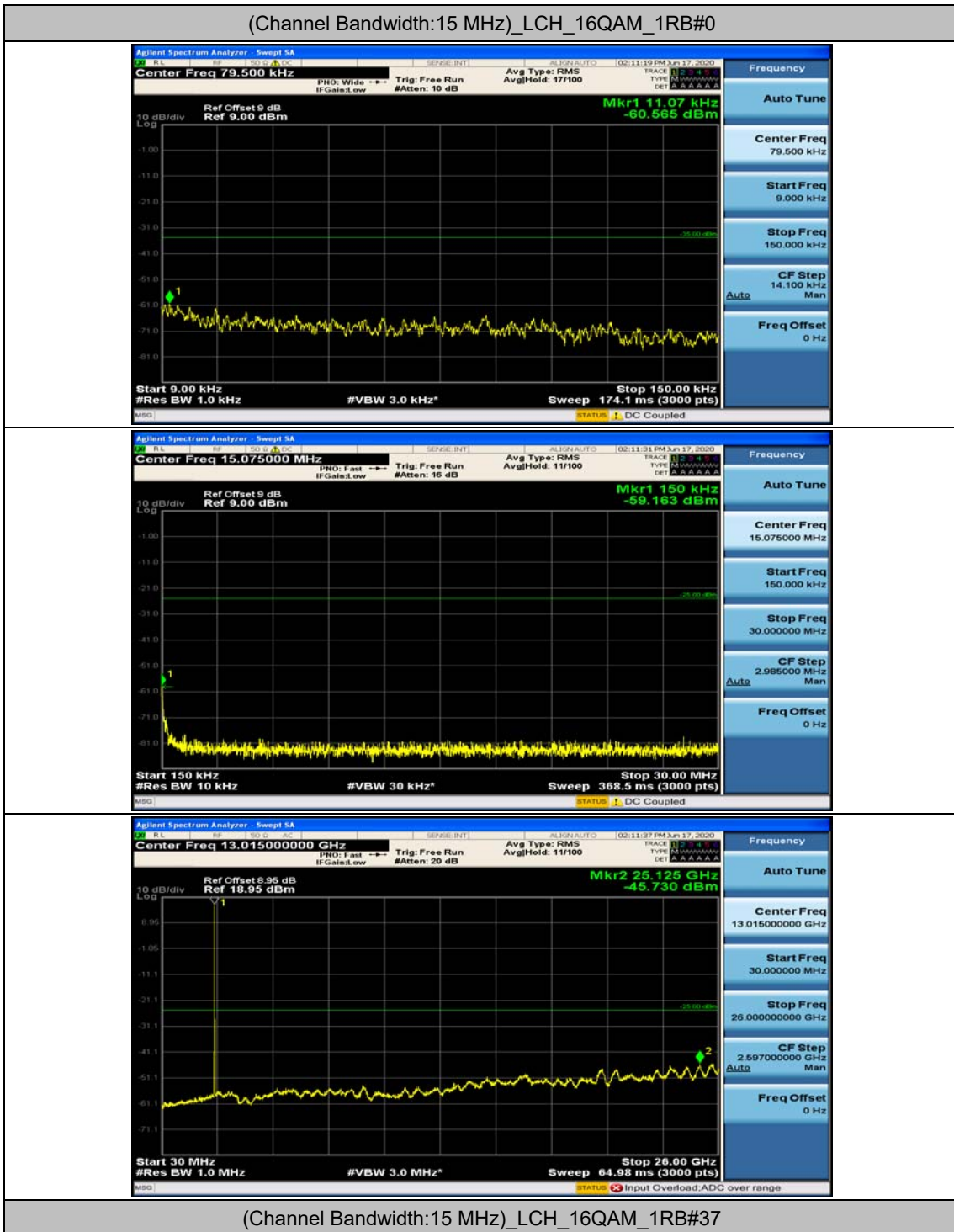
(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#0

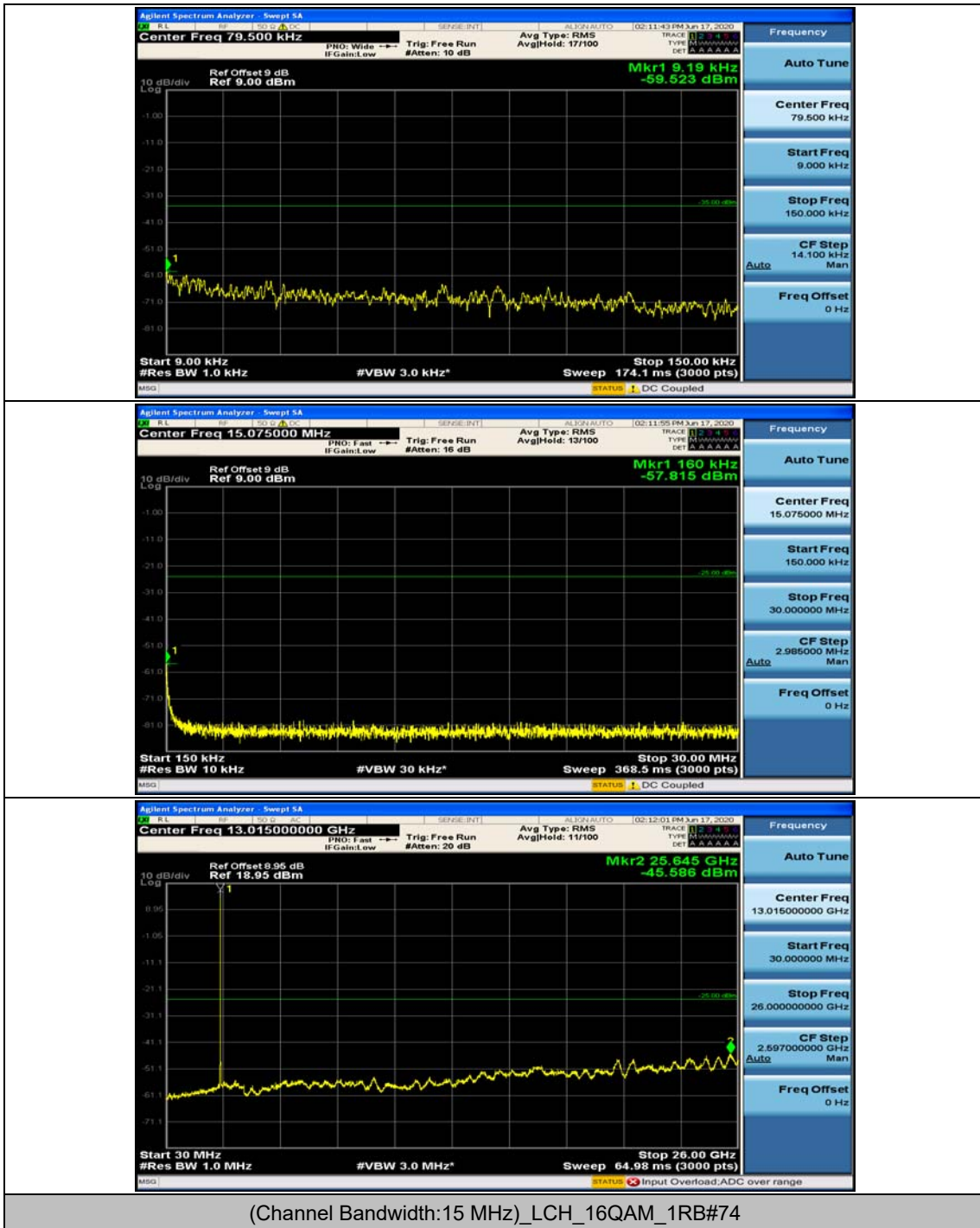


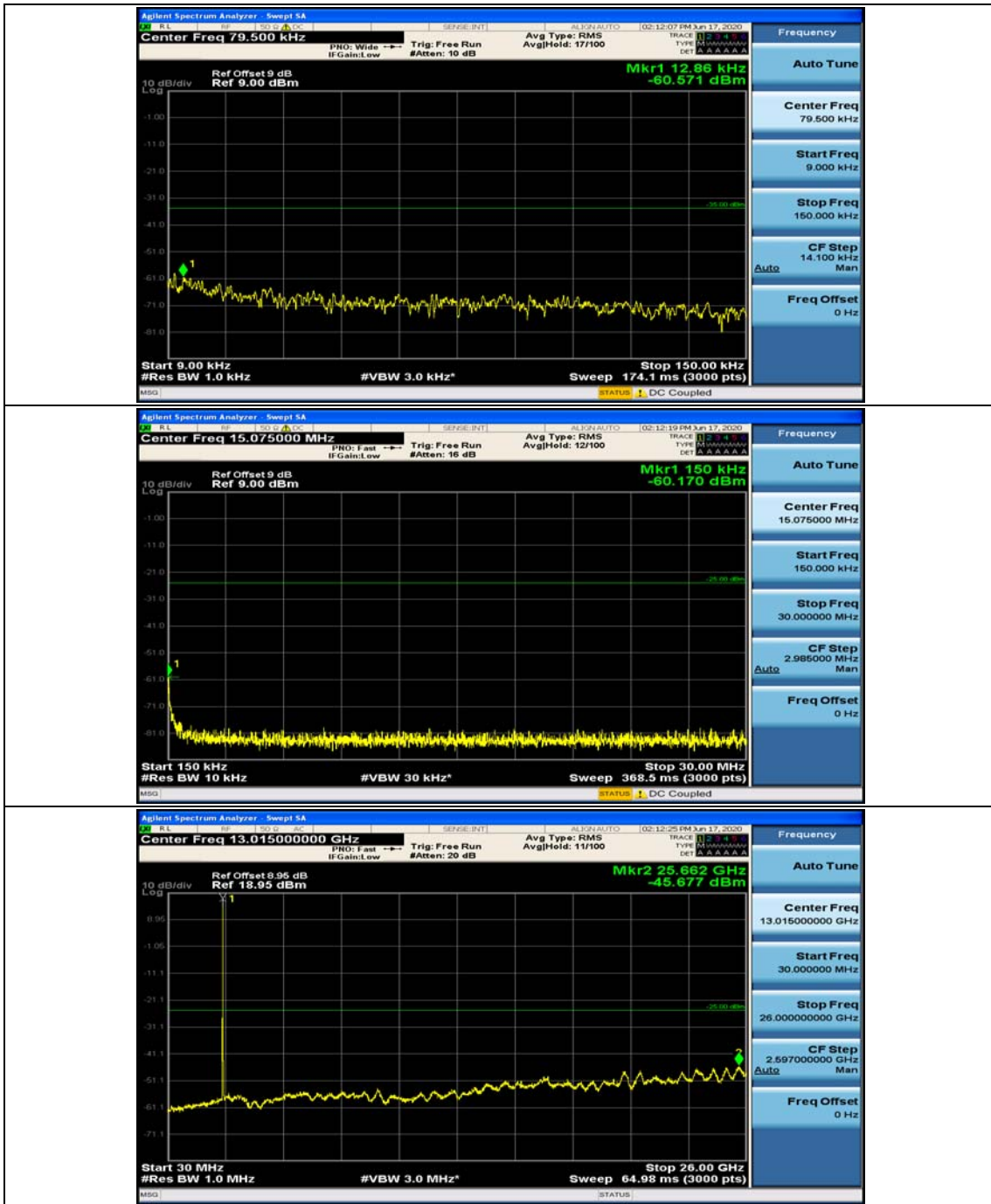
(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#37



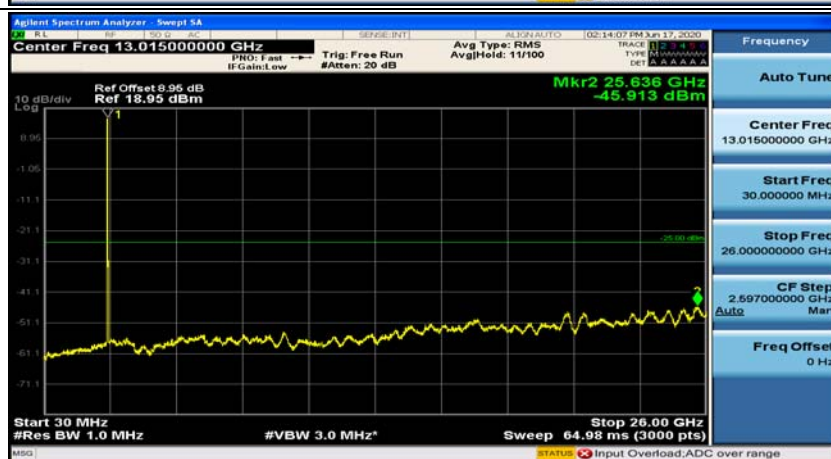
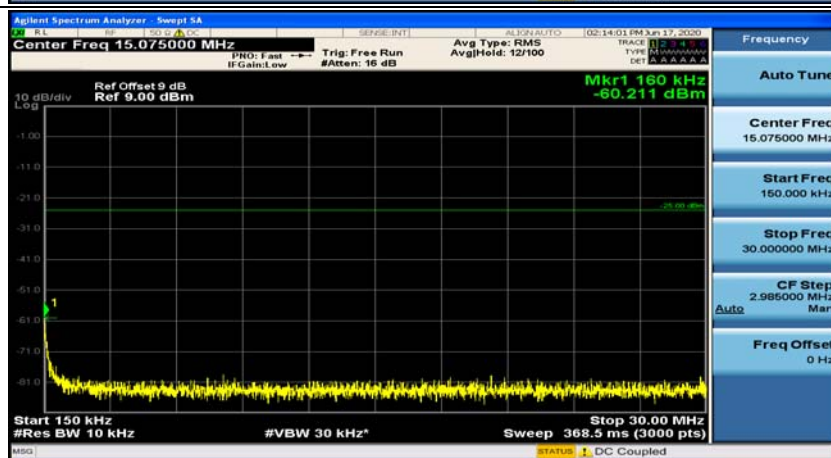
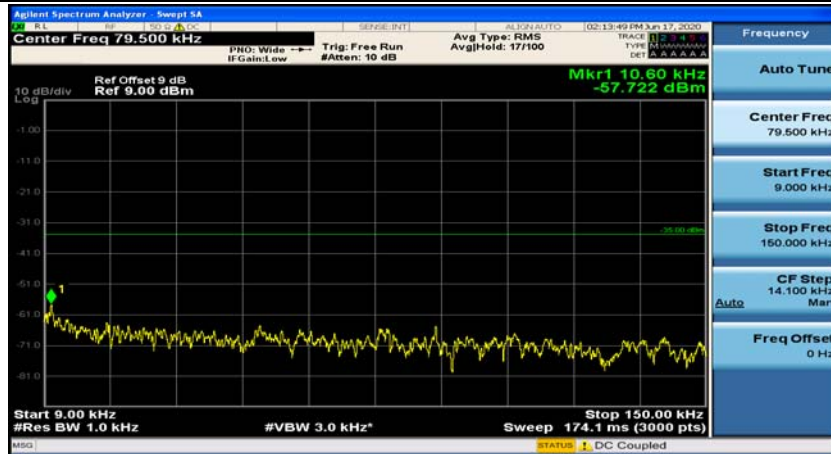




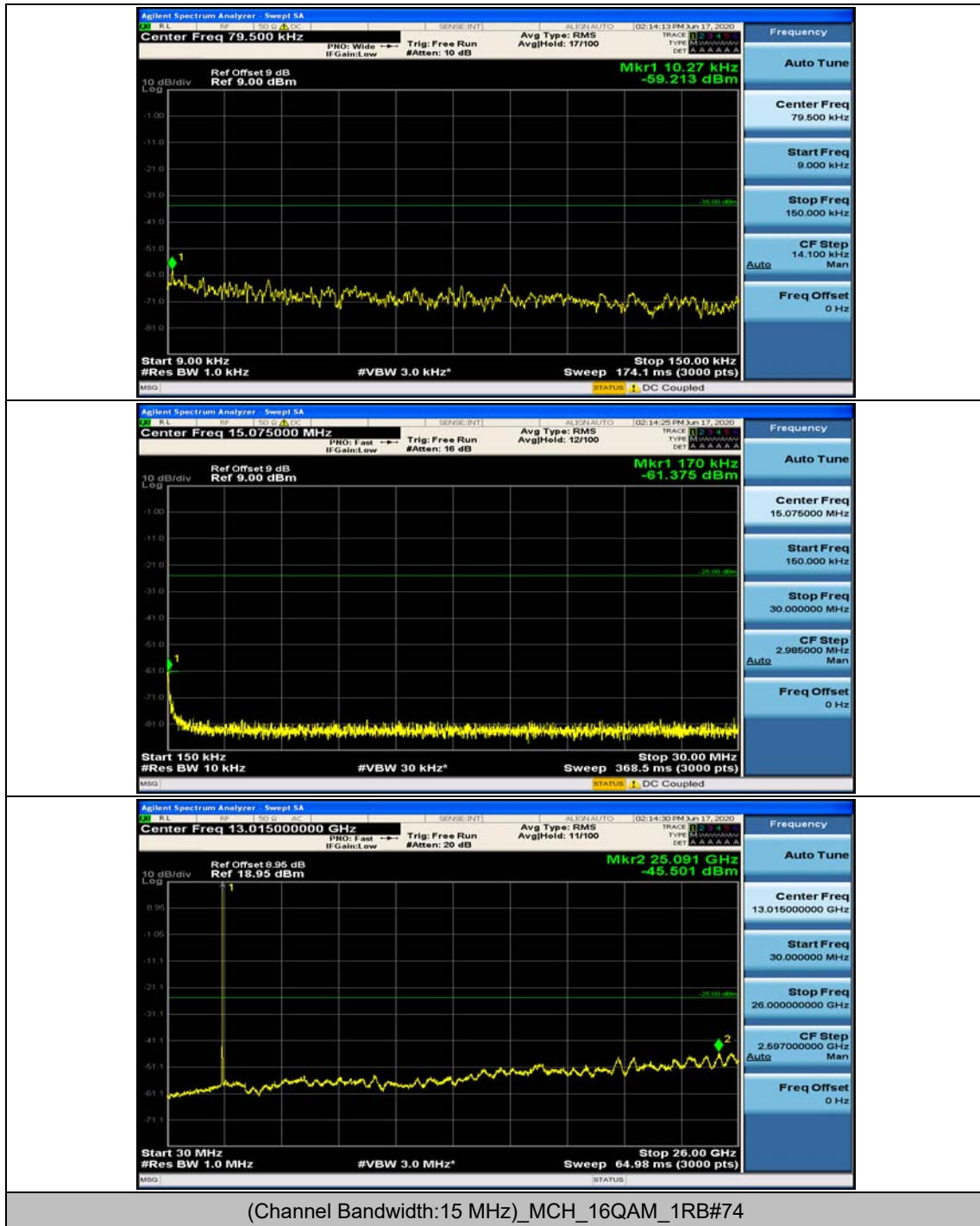


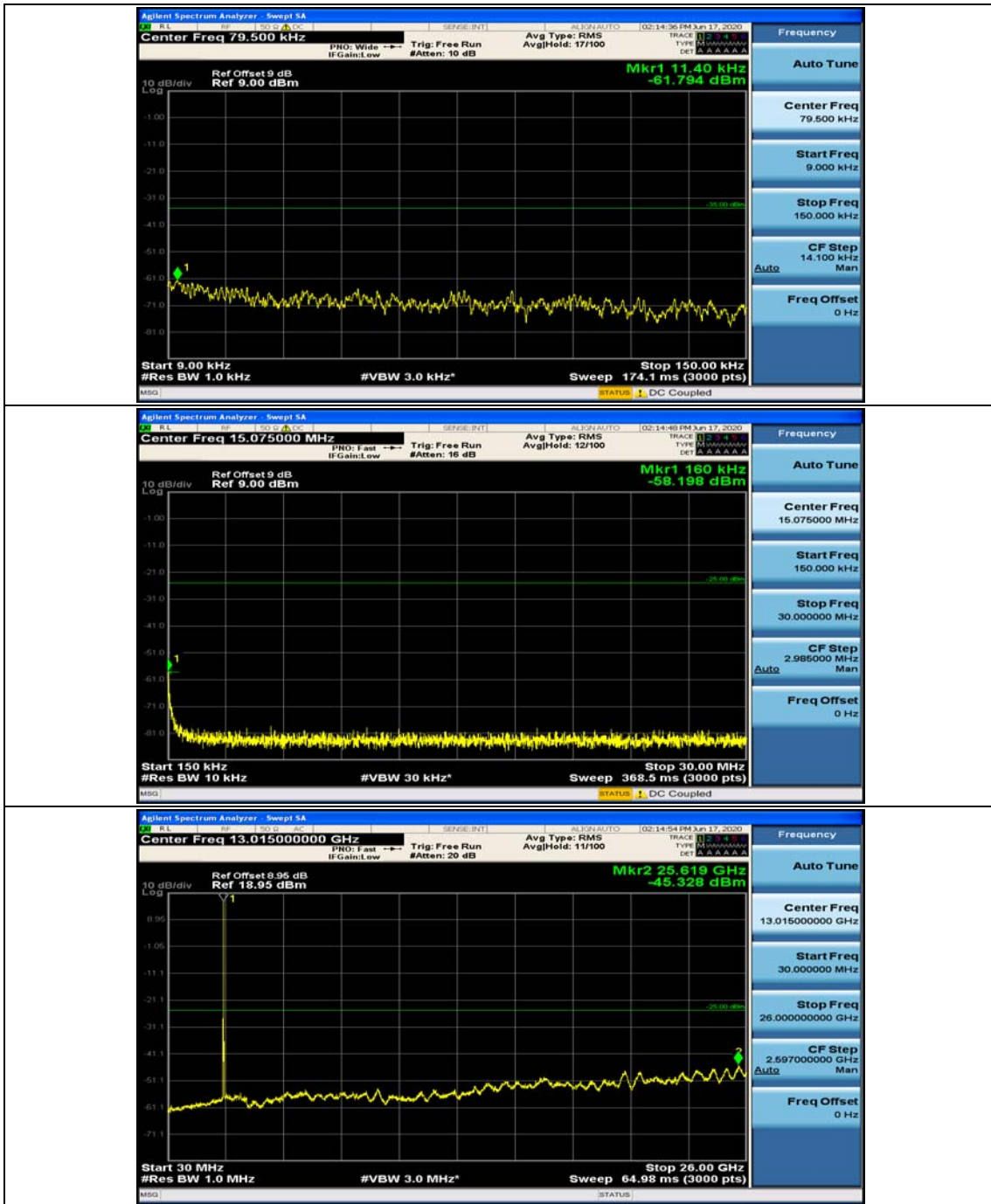


(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#0

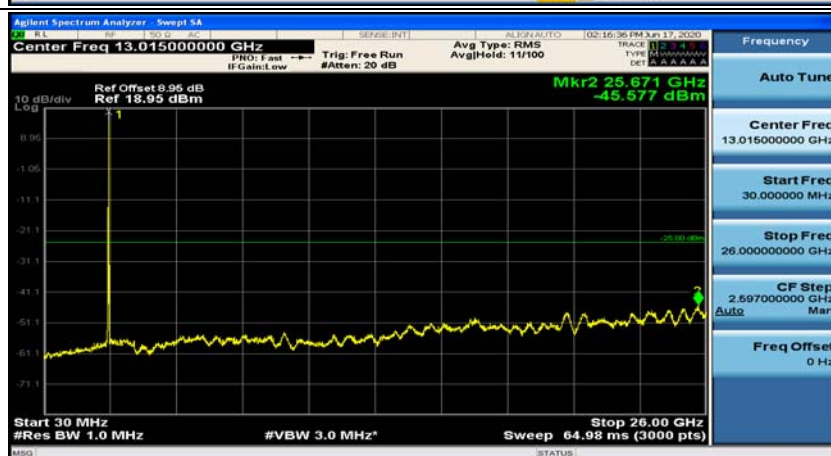
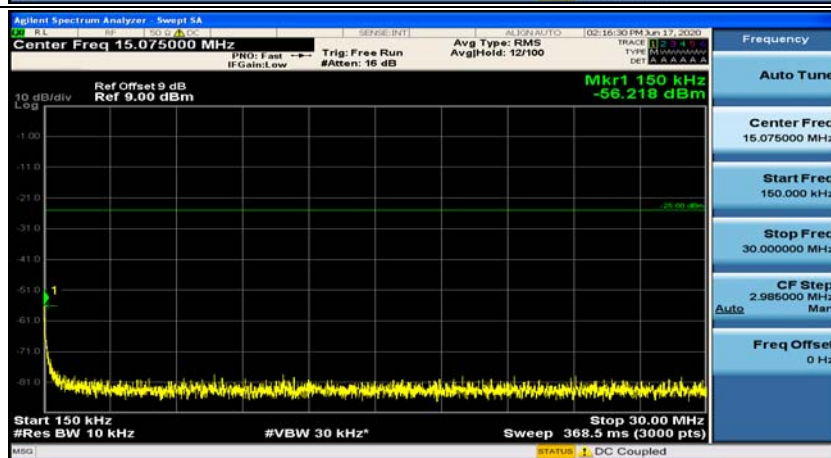
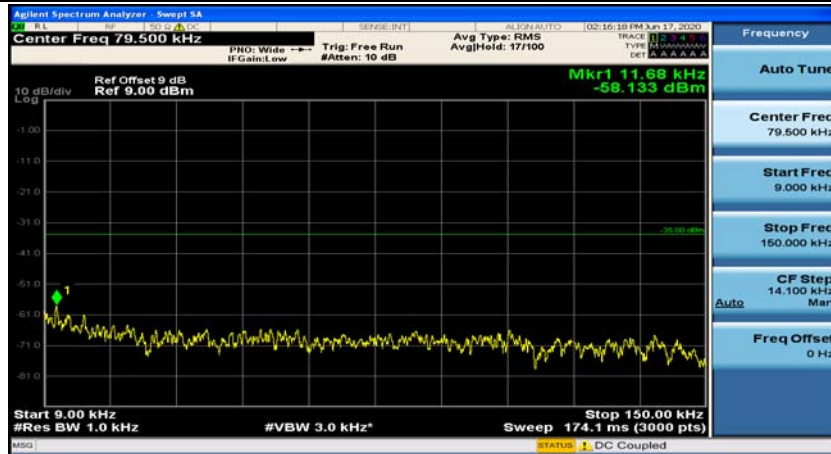


(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#37

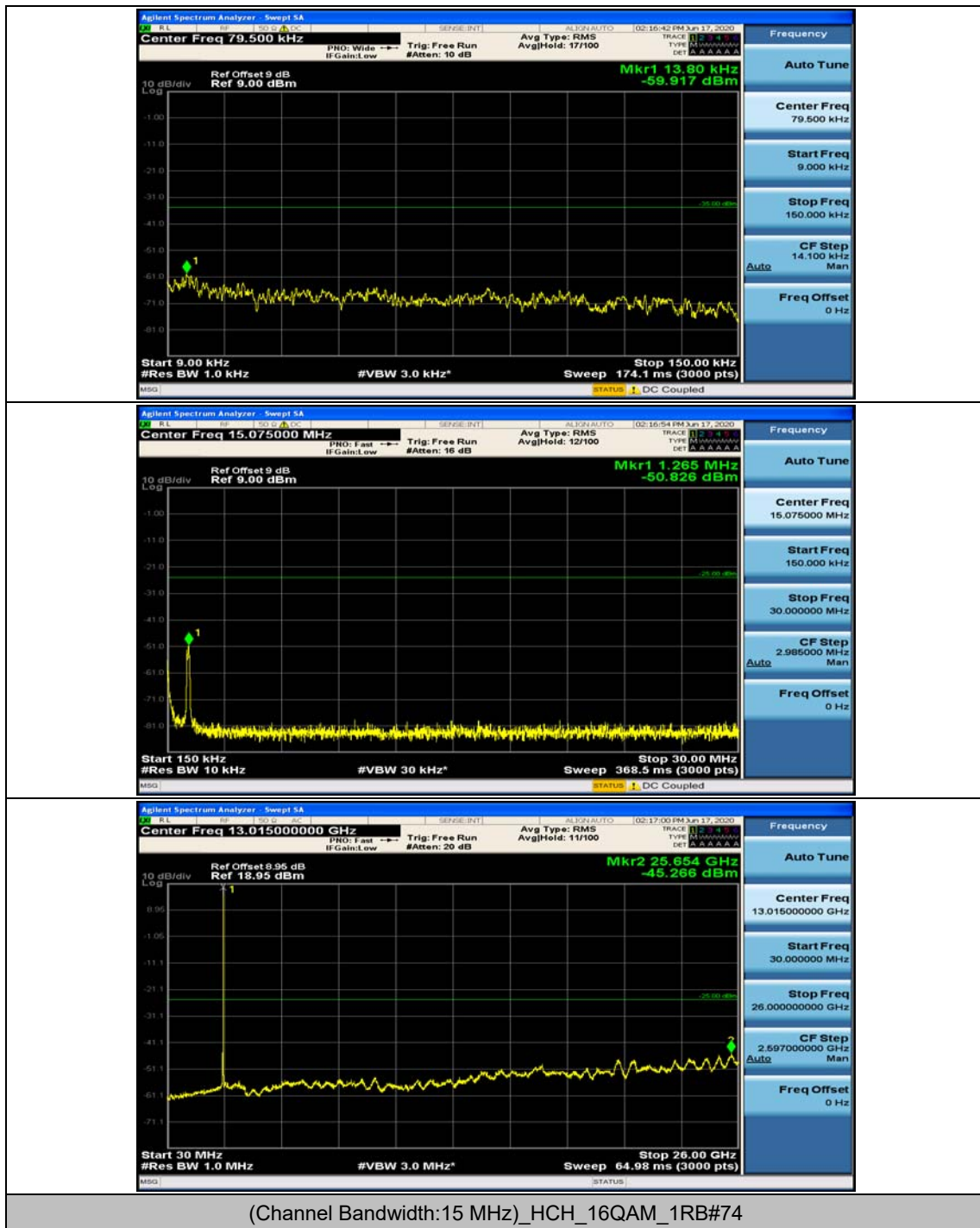


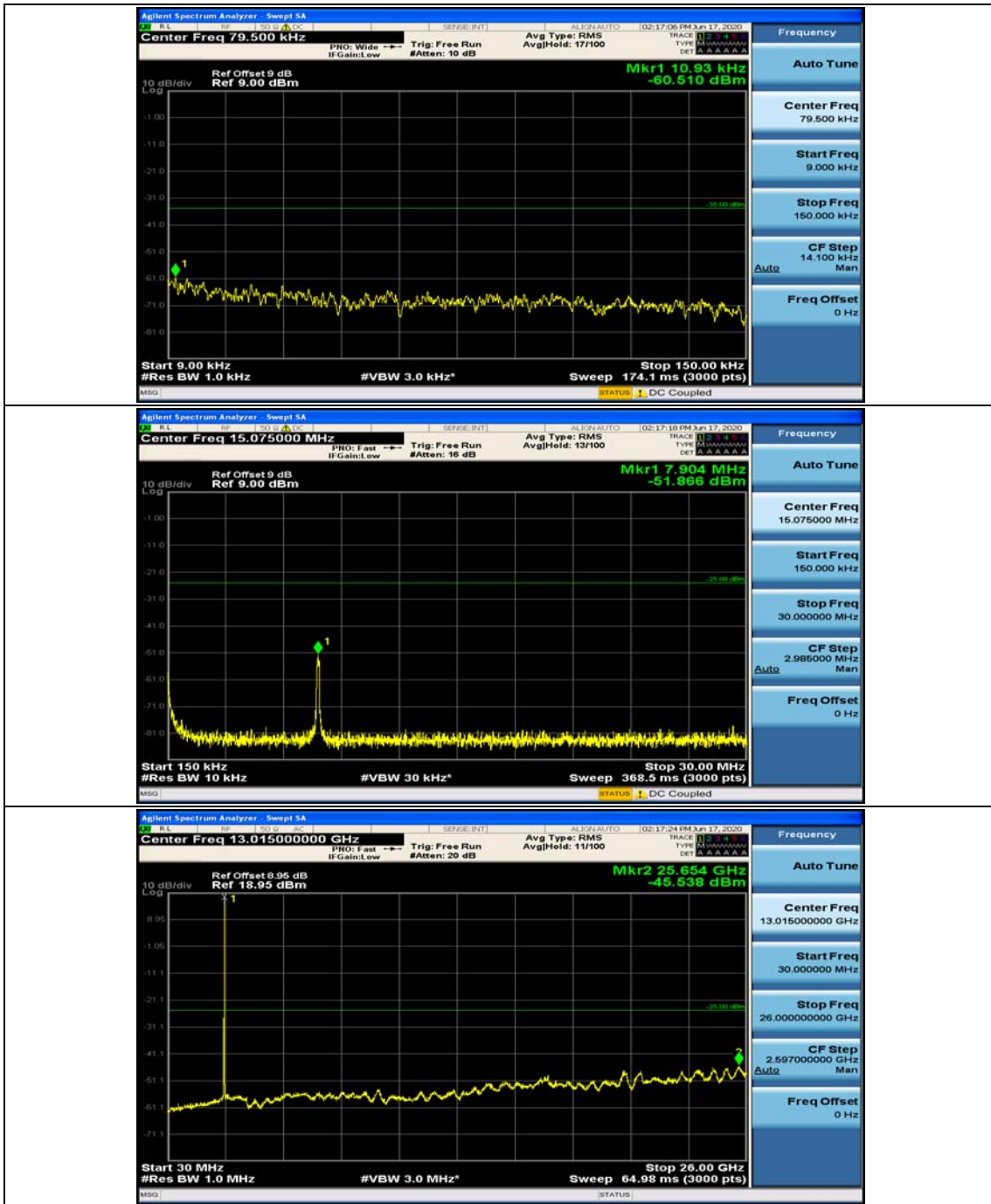


(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#0

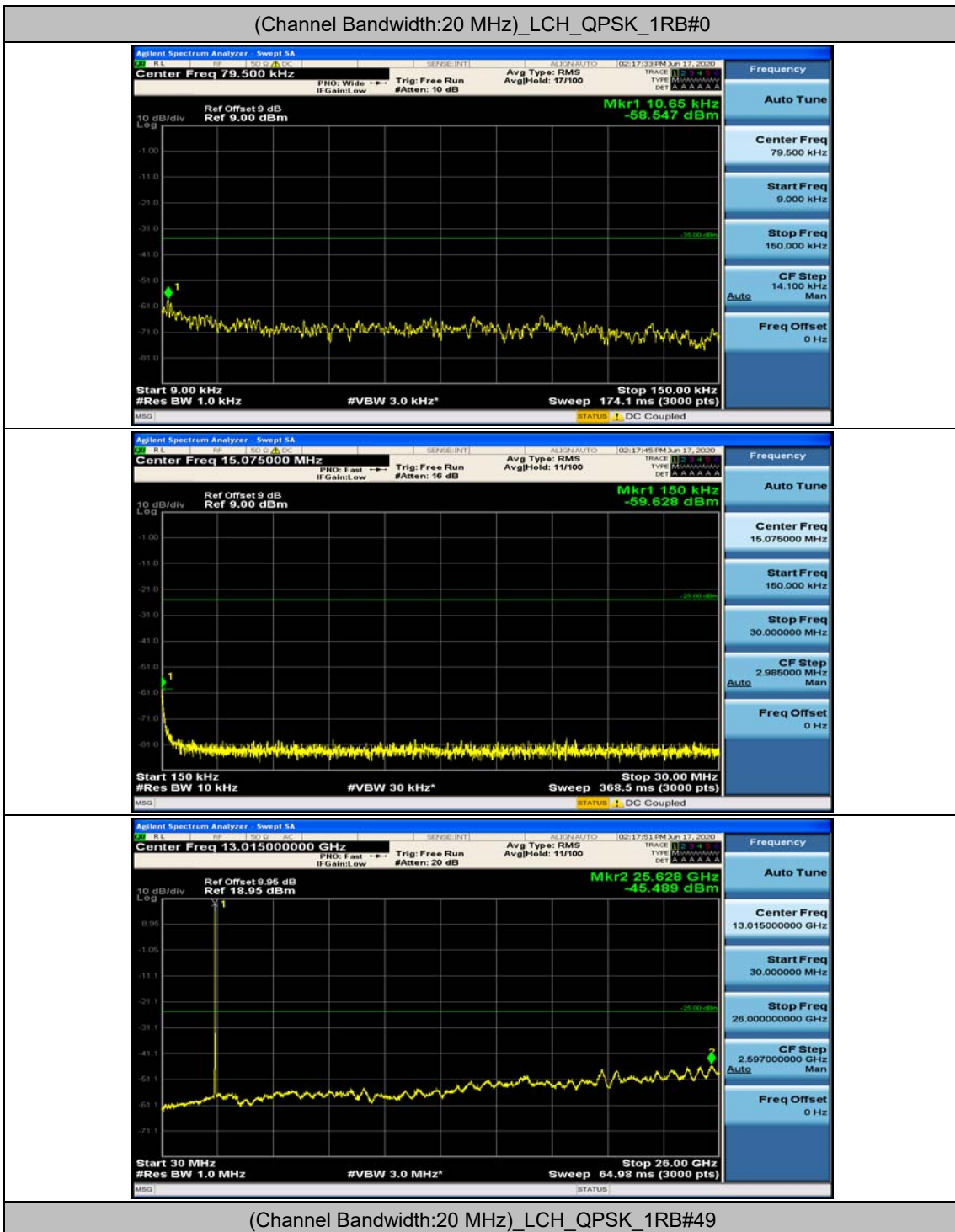


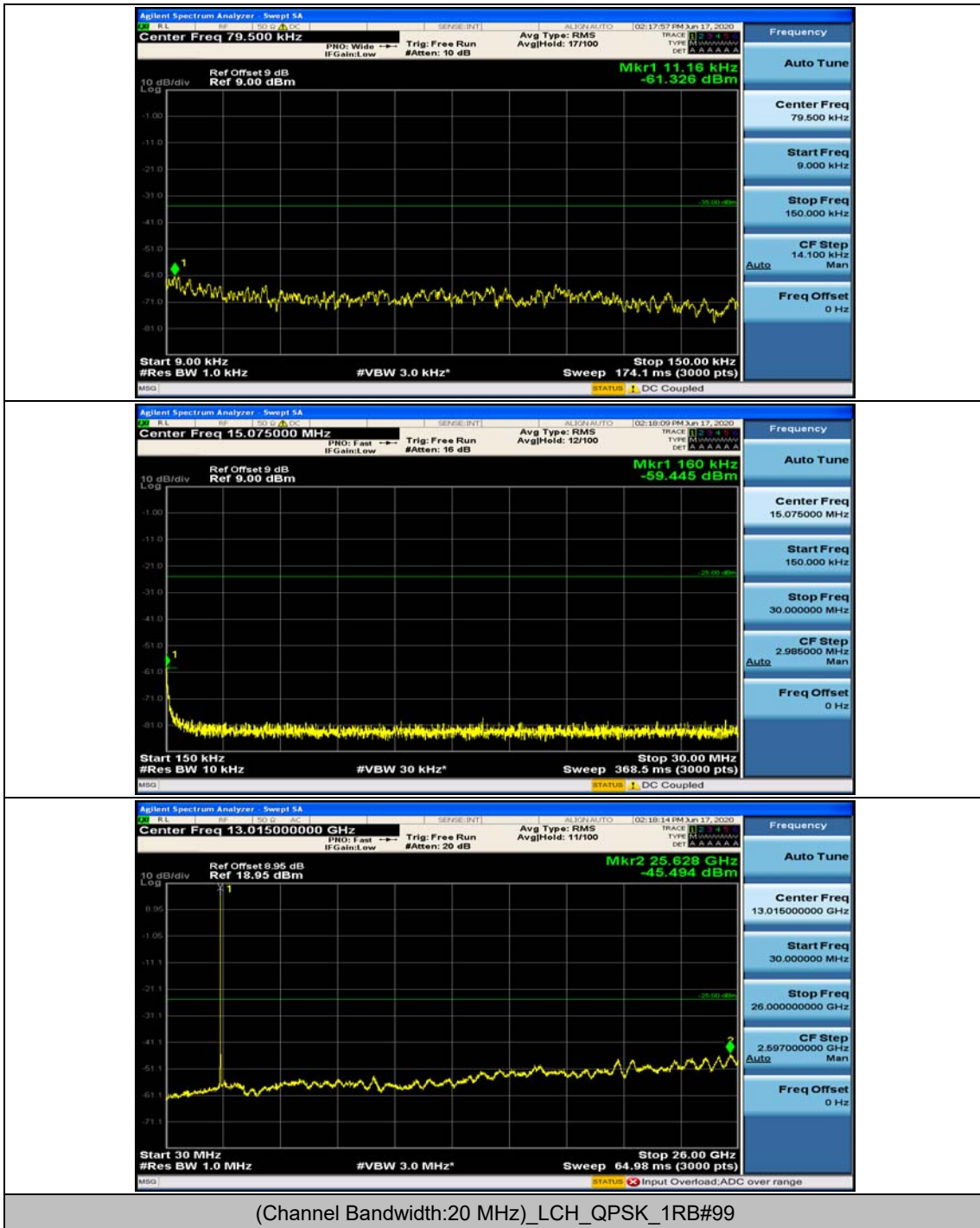
(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#37

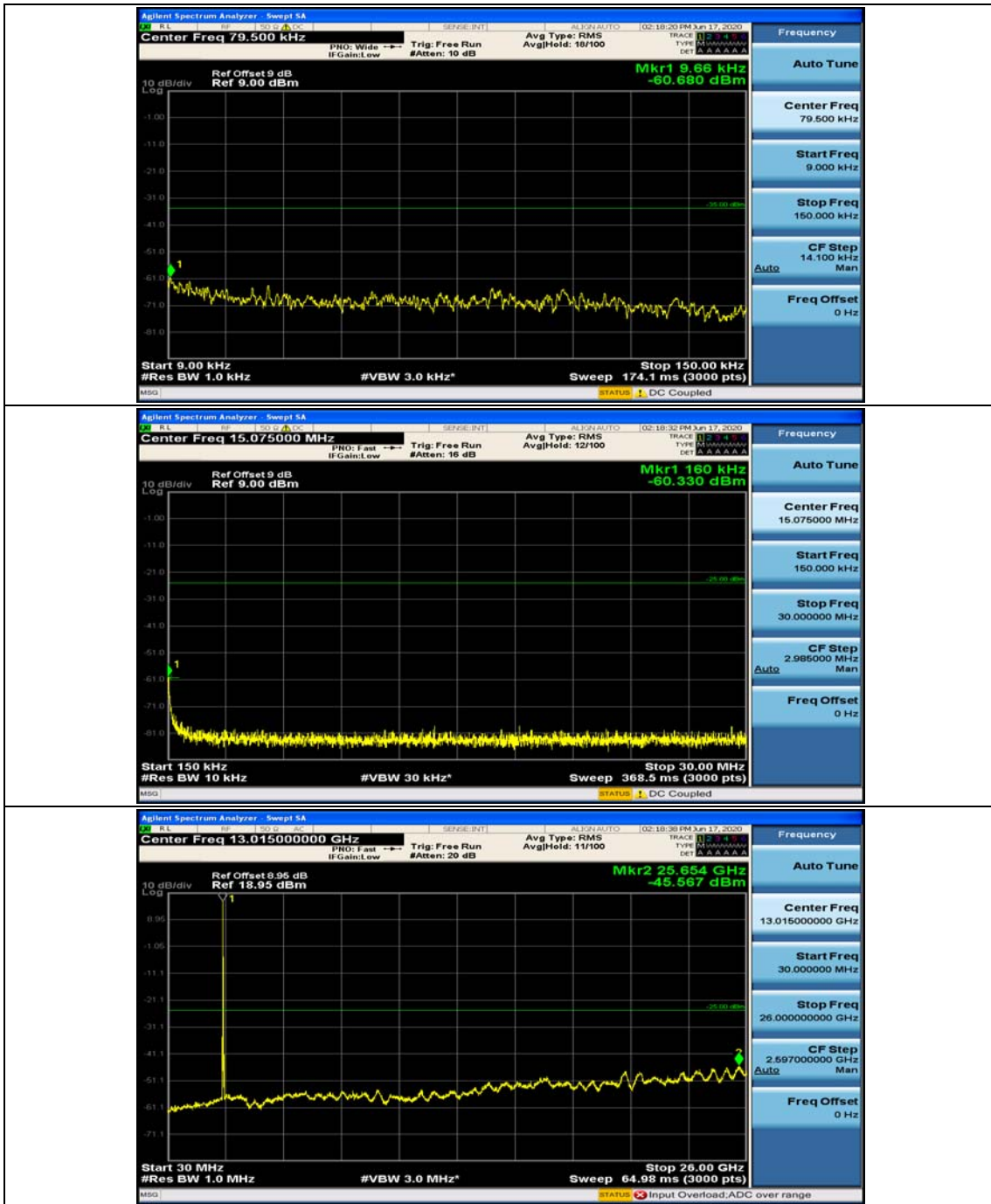


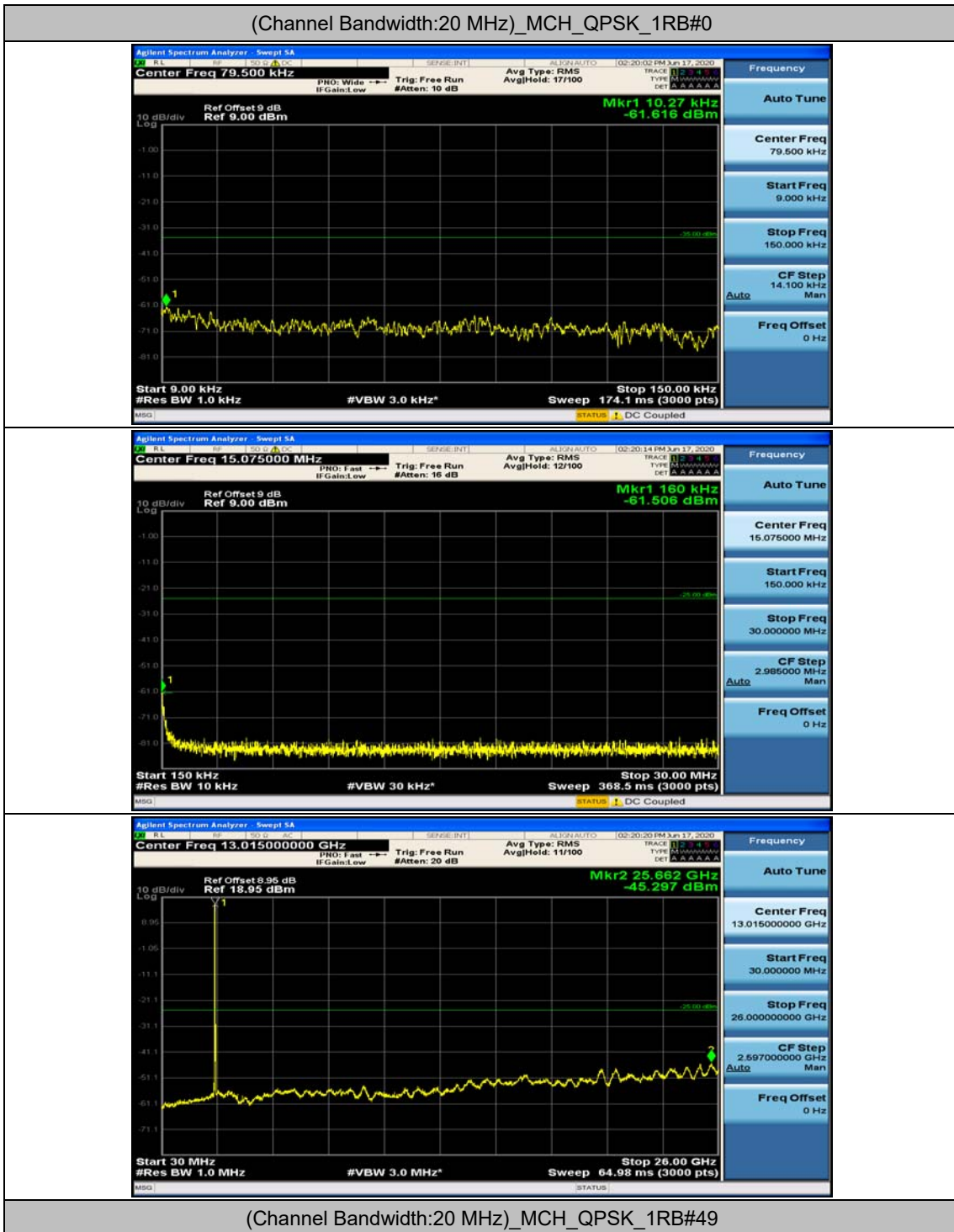


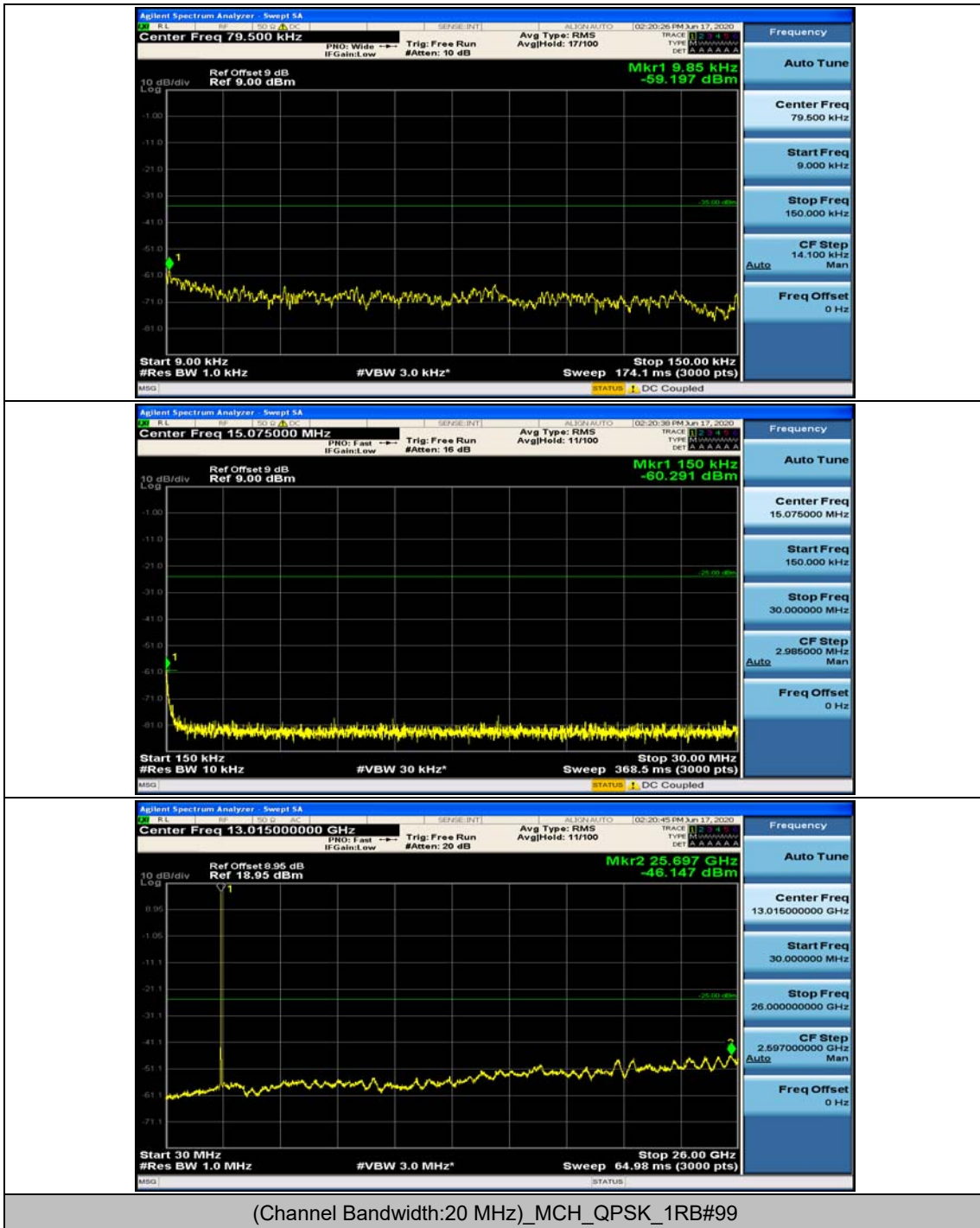
Channel Bandwidth: 20 MHz

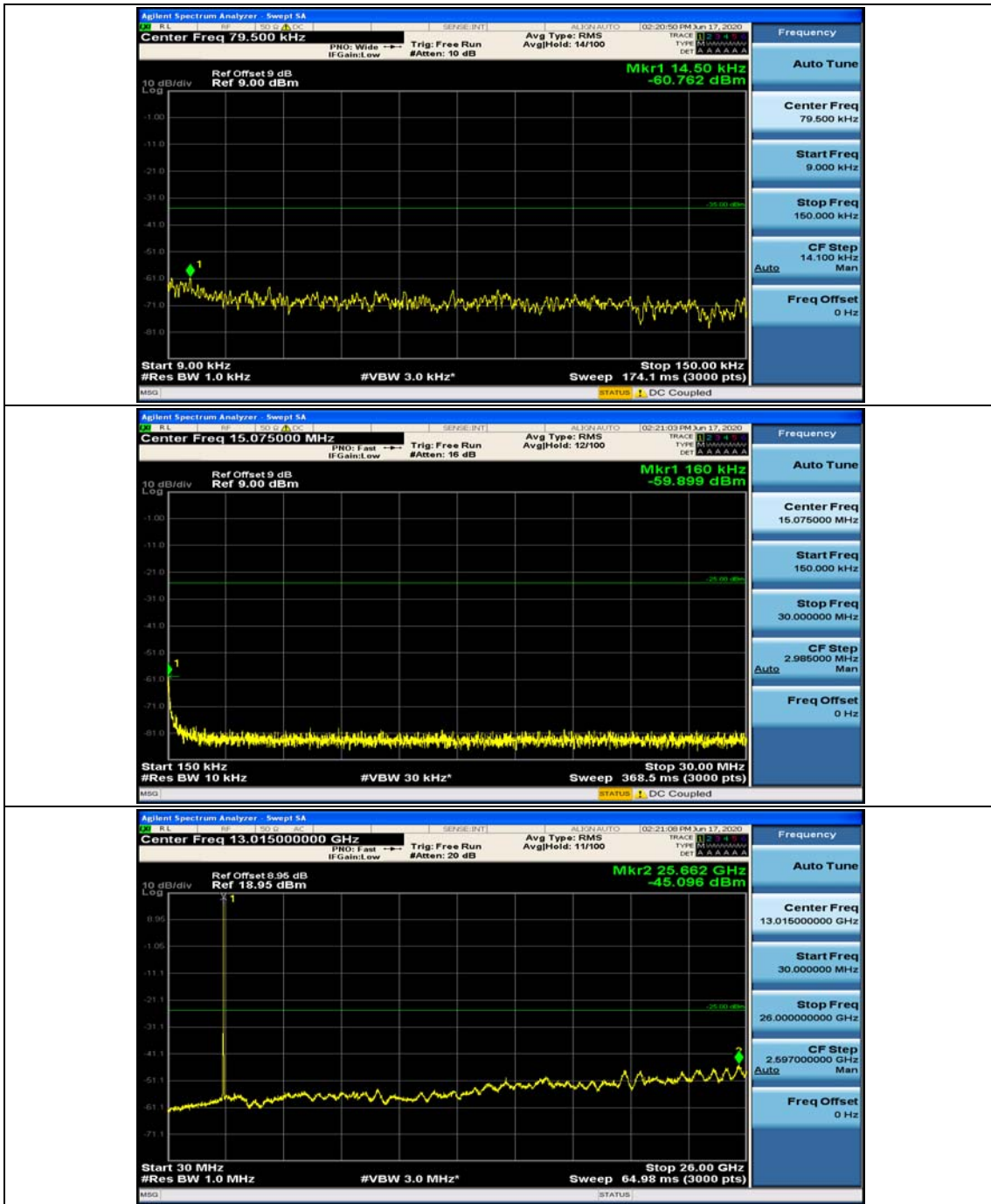




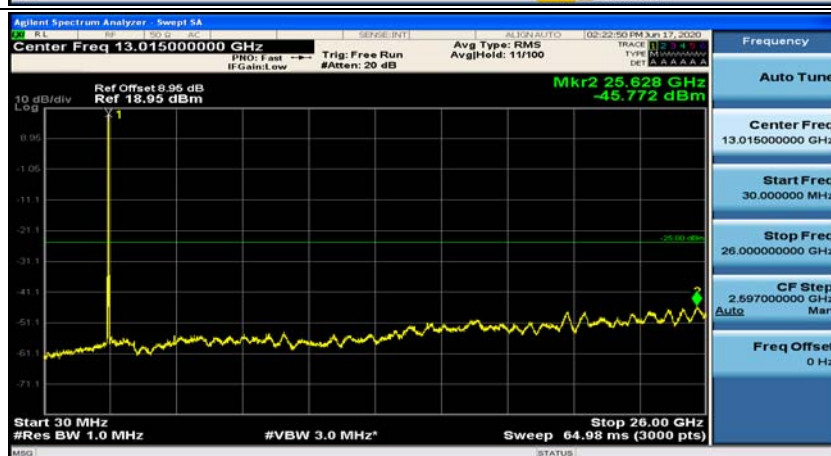
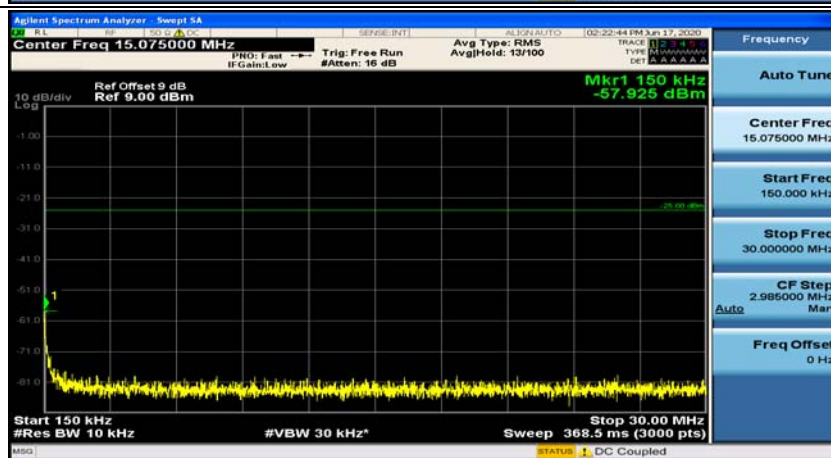
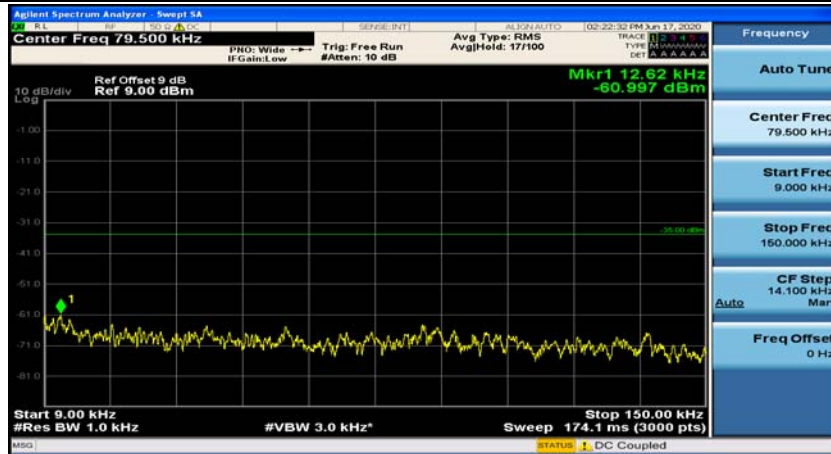




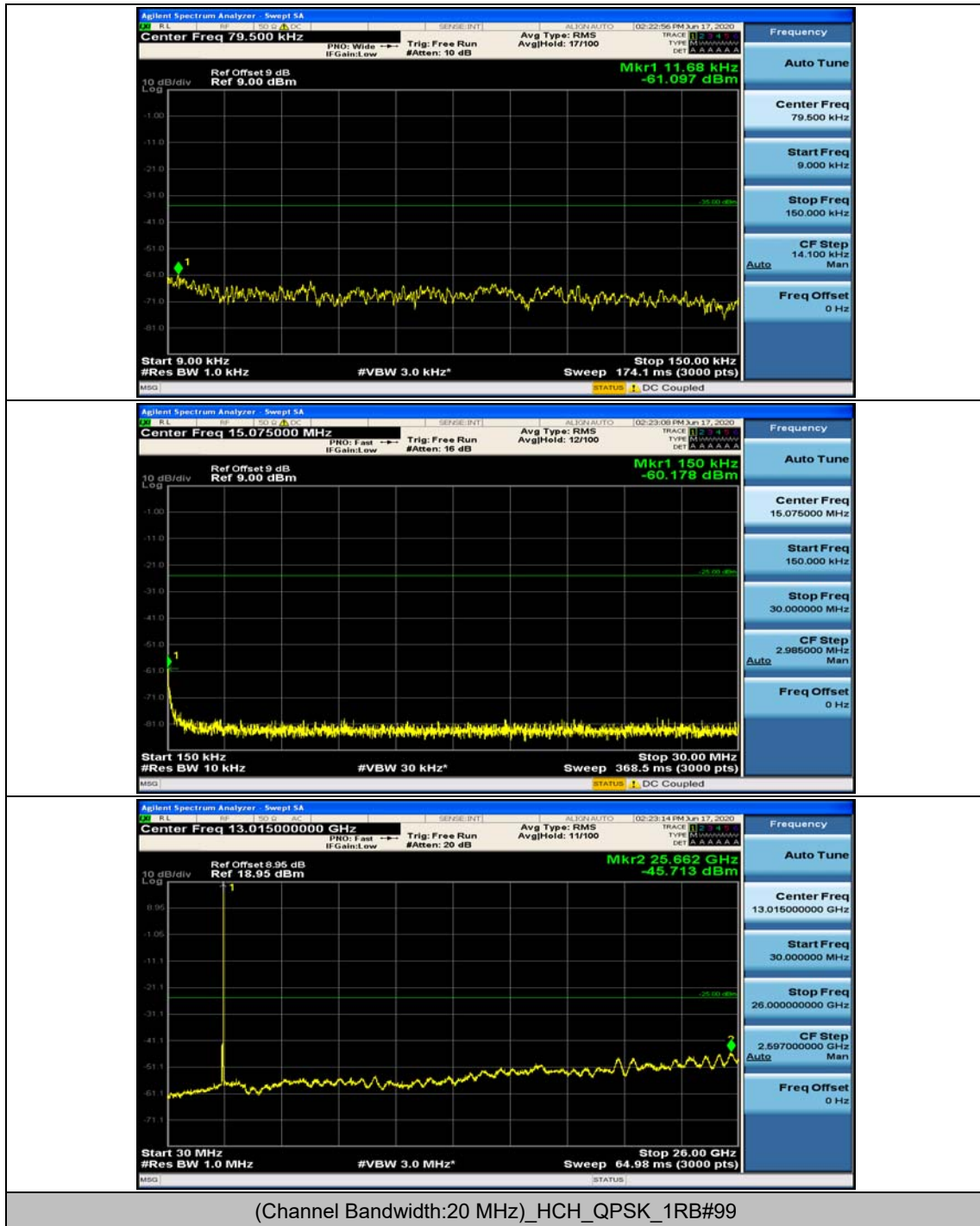


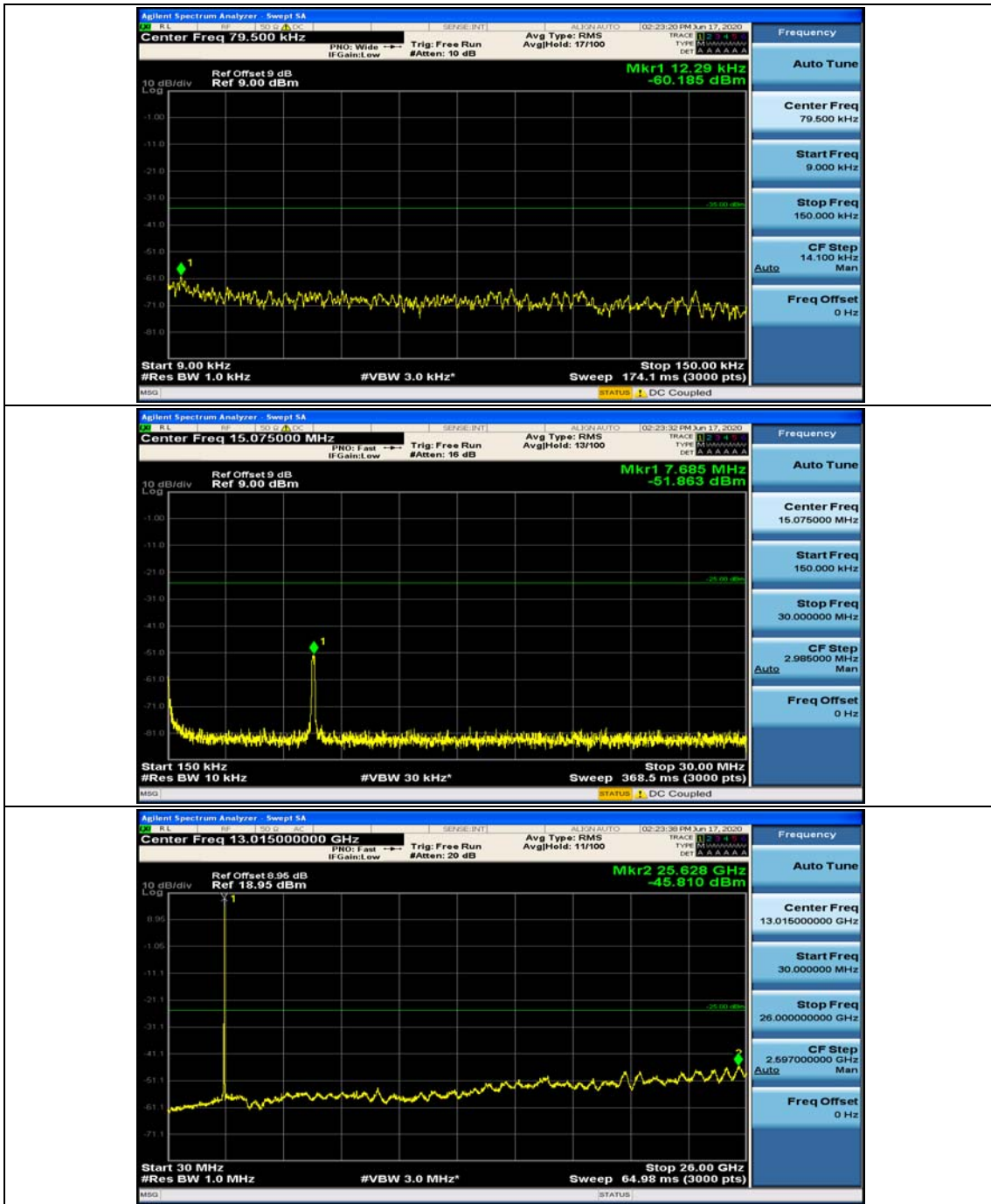


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0

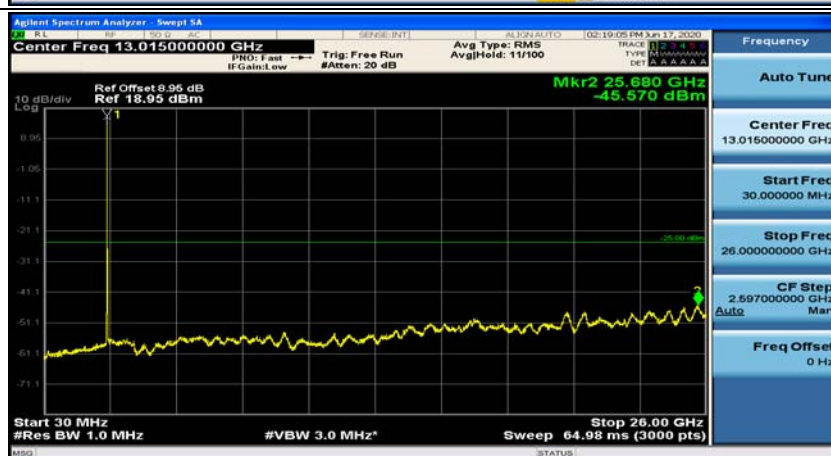
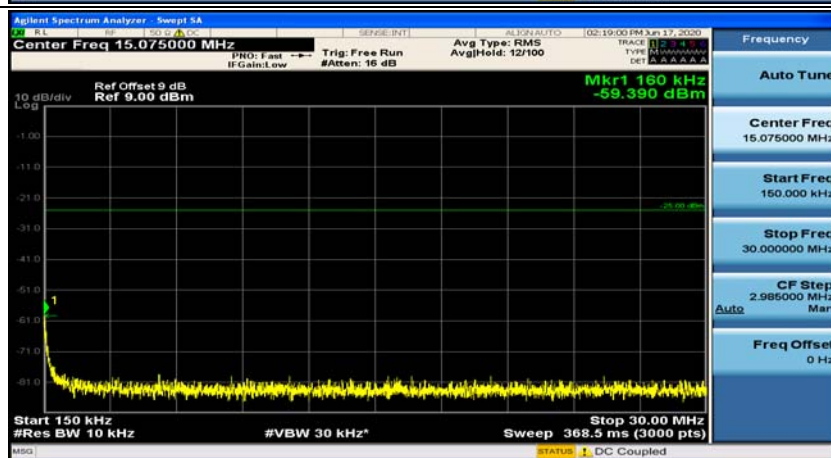
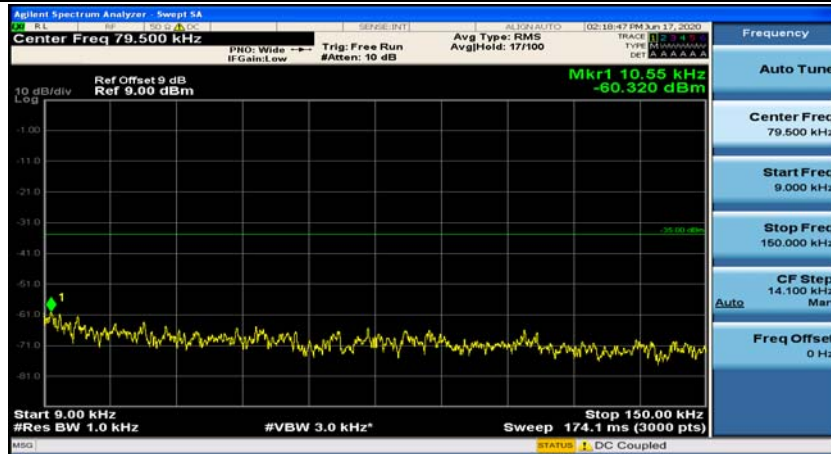


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

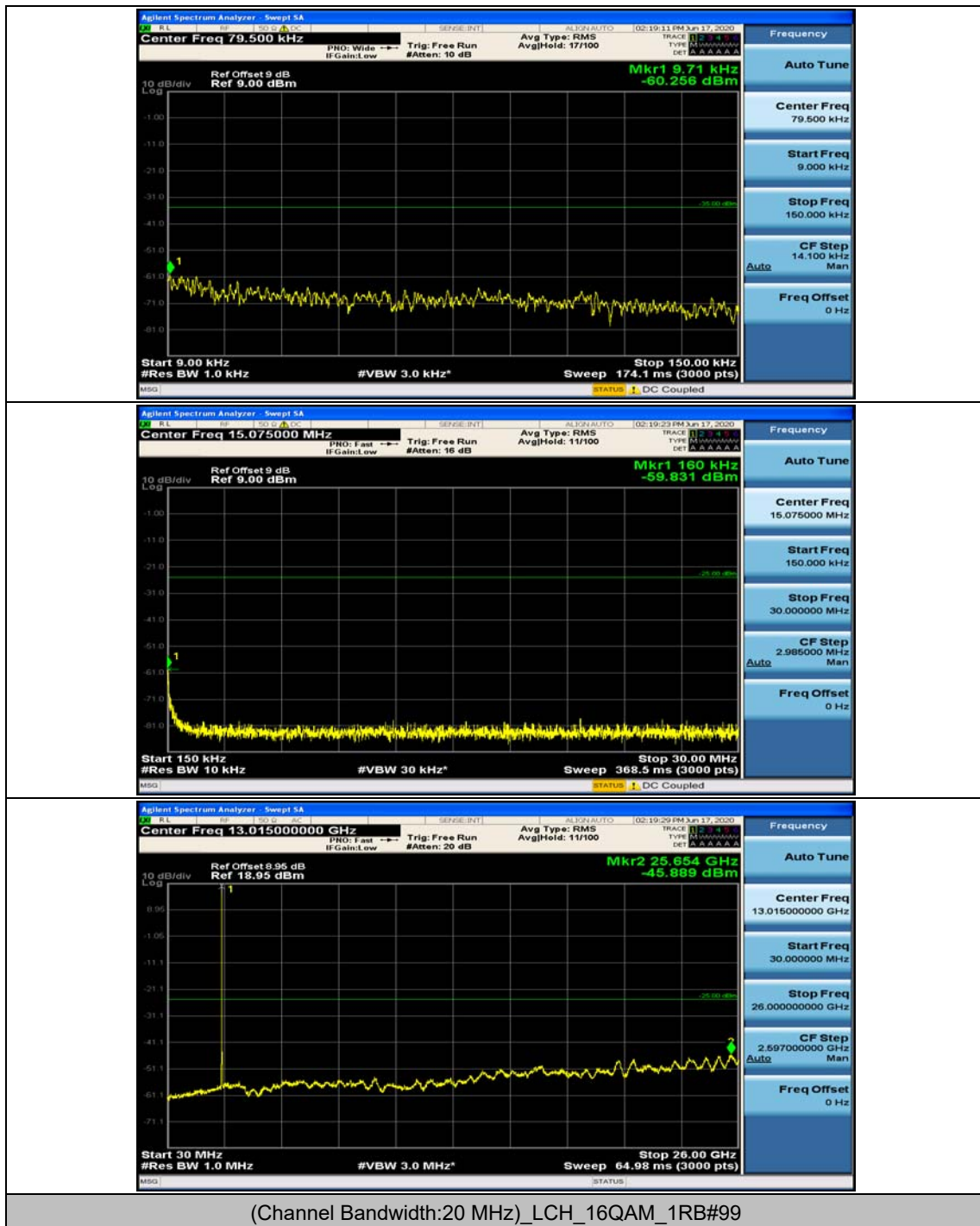


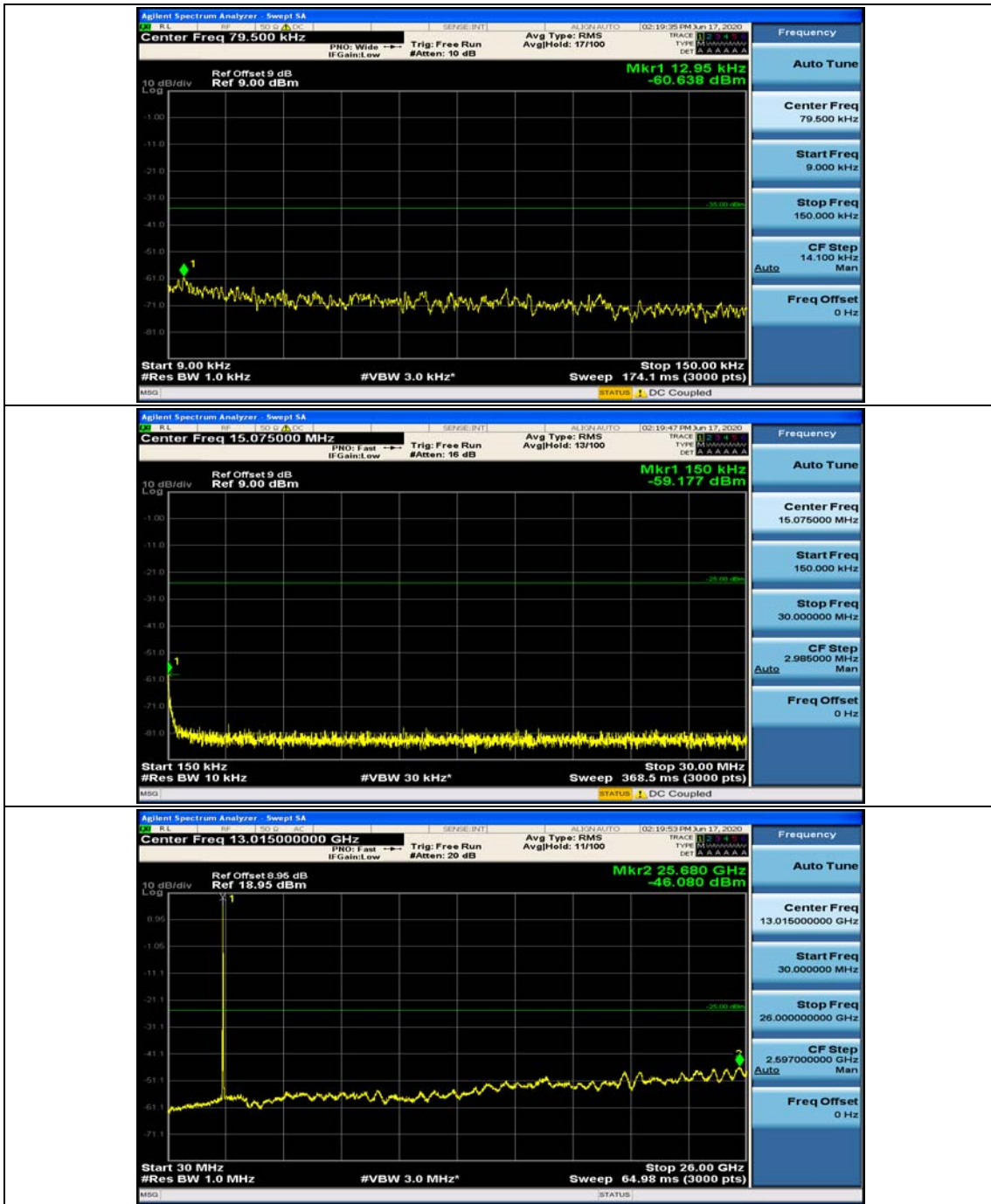


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0

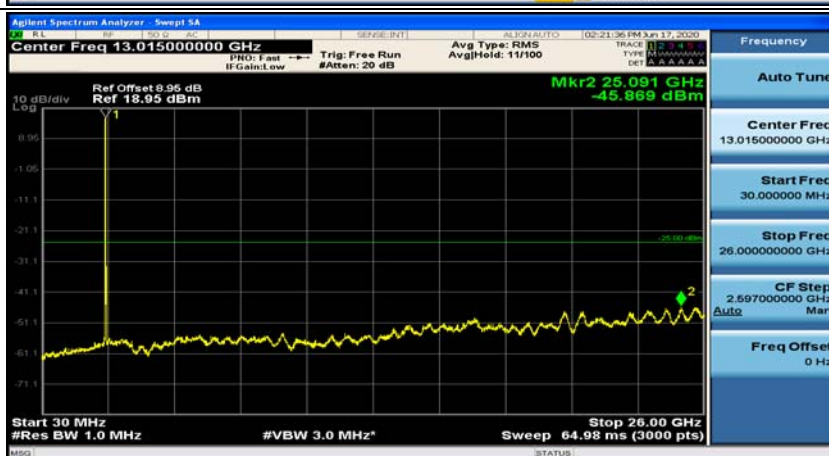
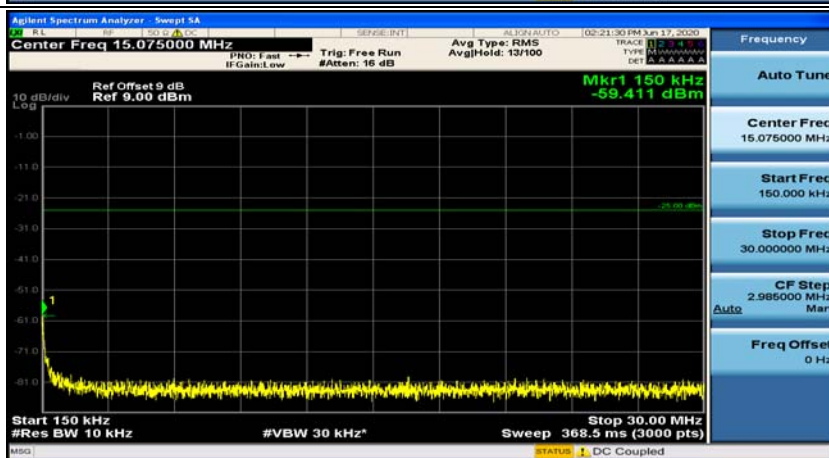
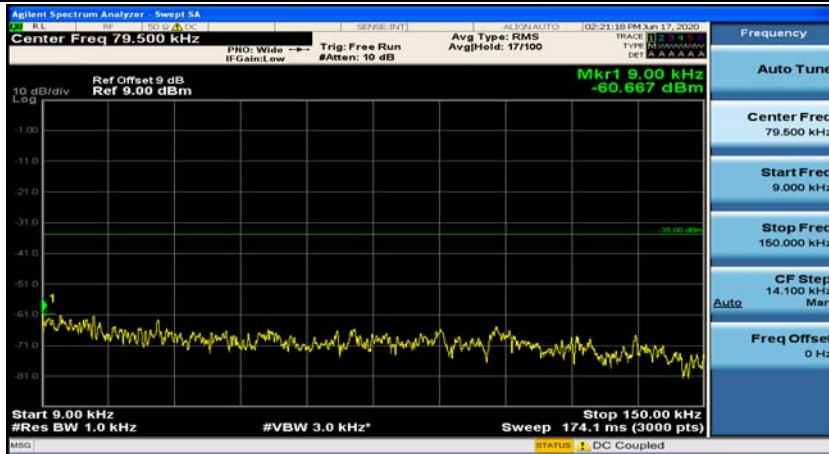


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

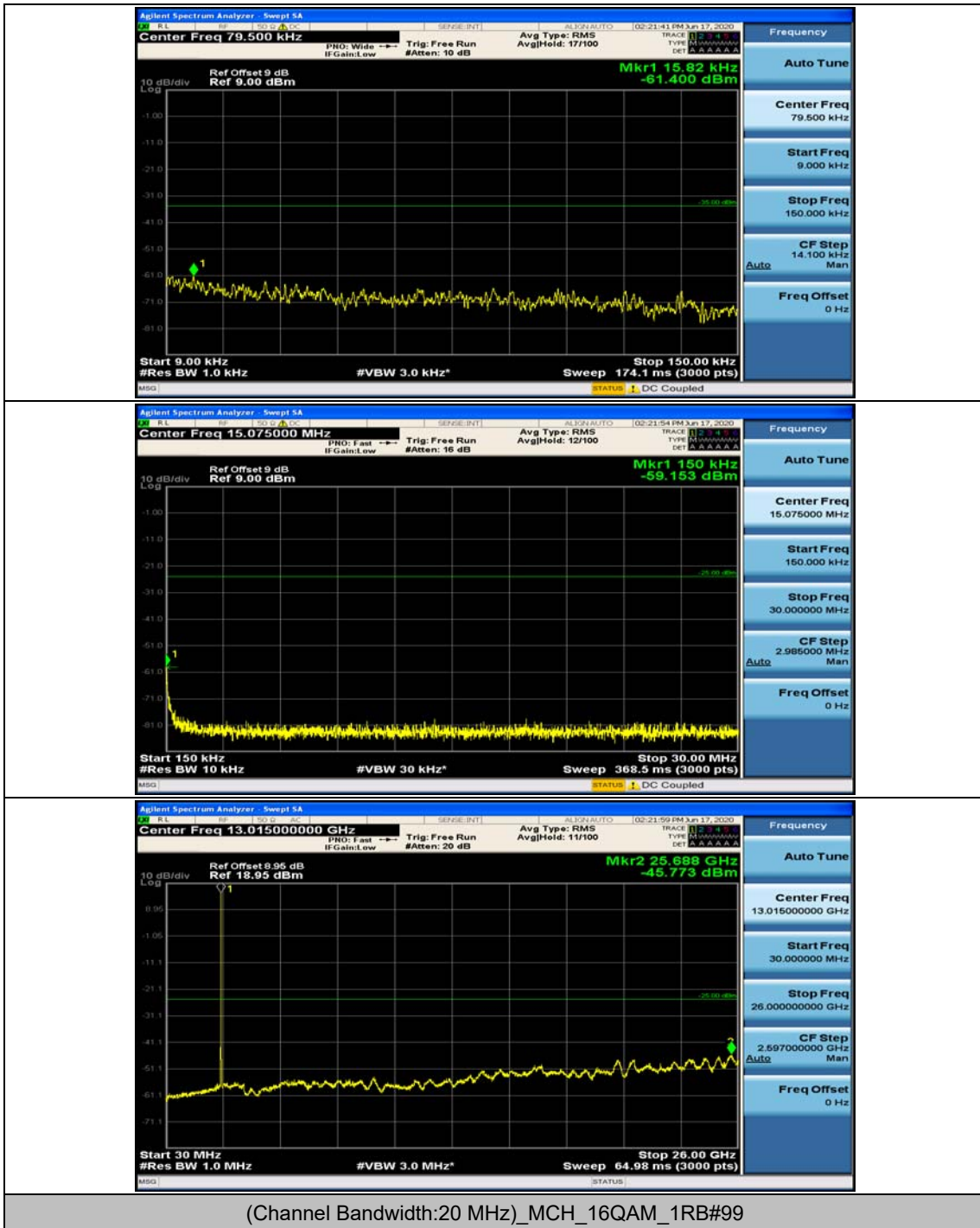


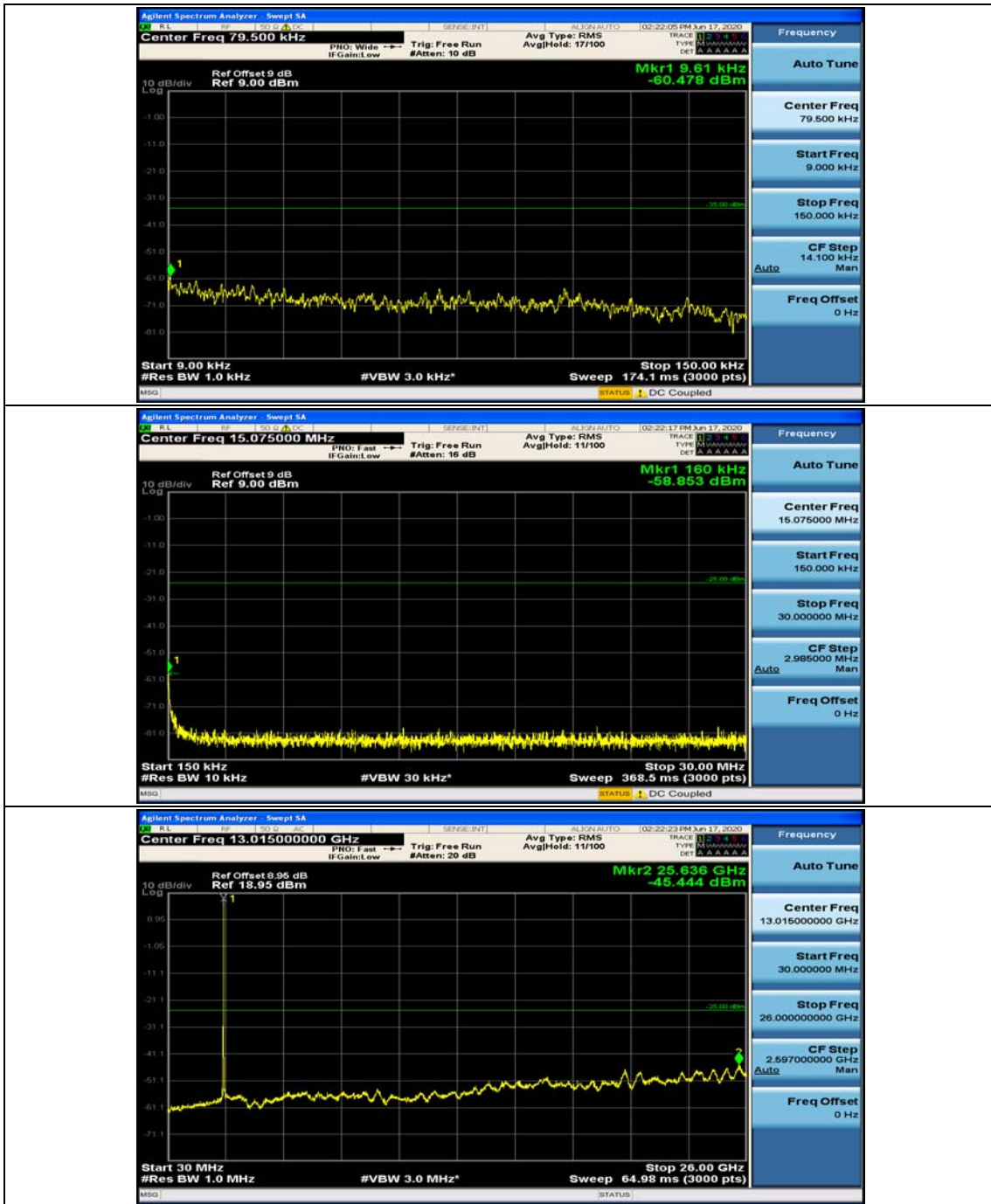


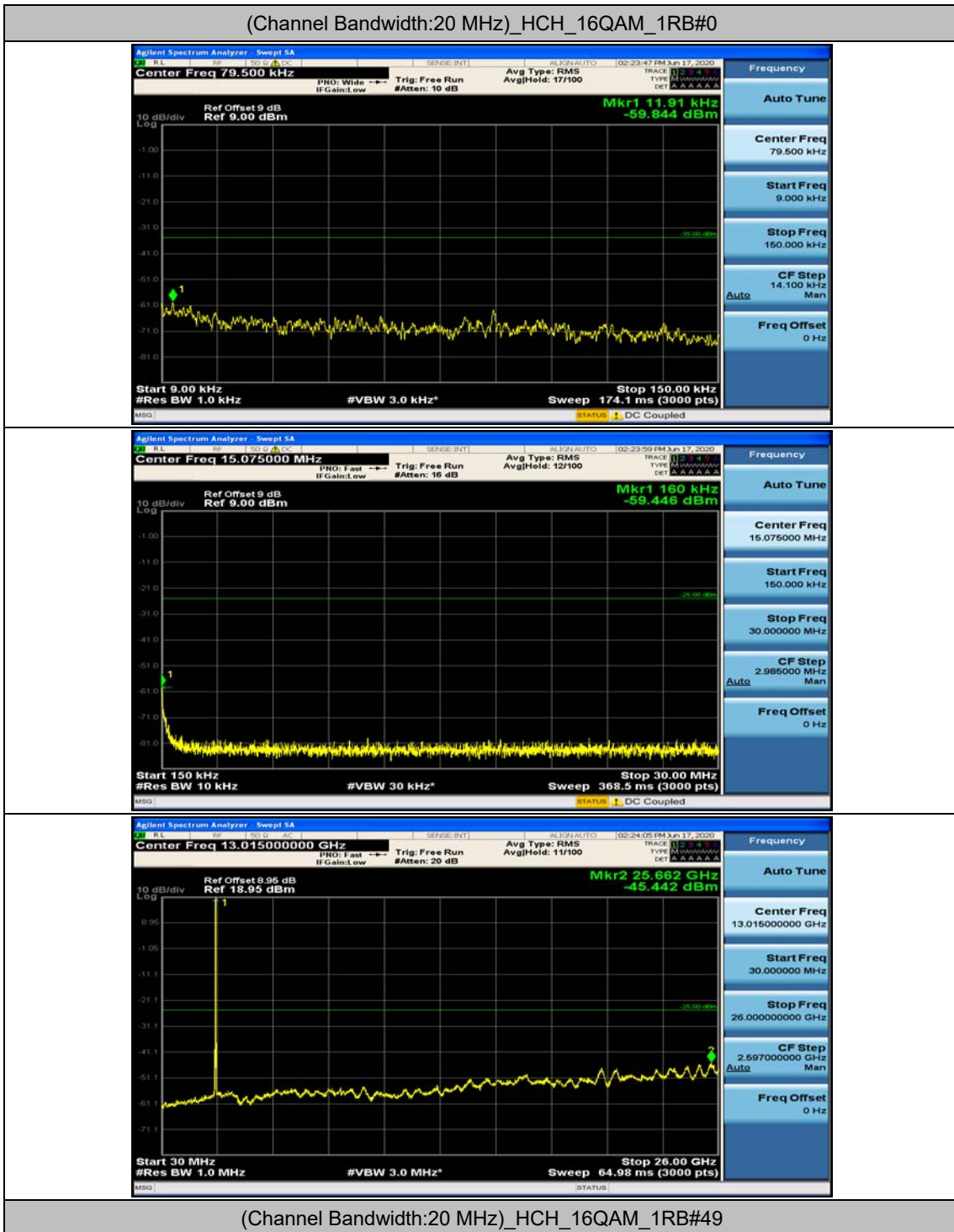
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0

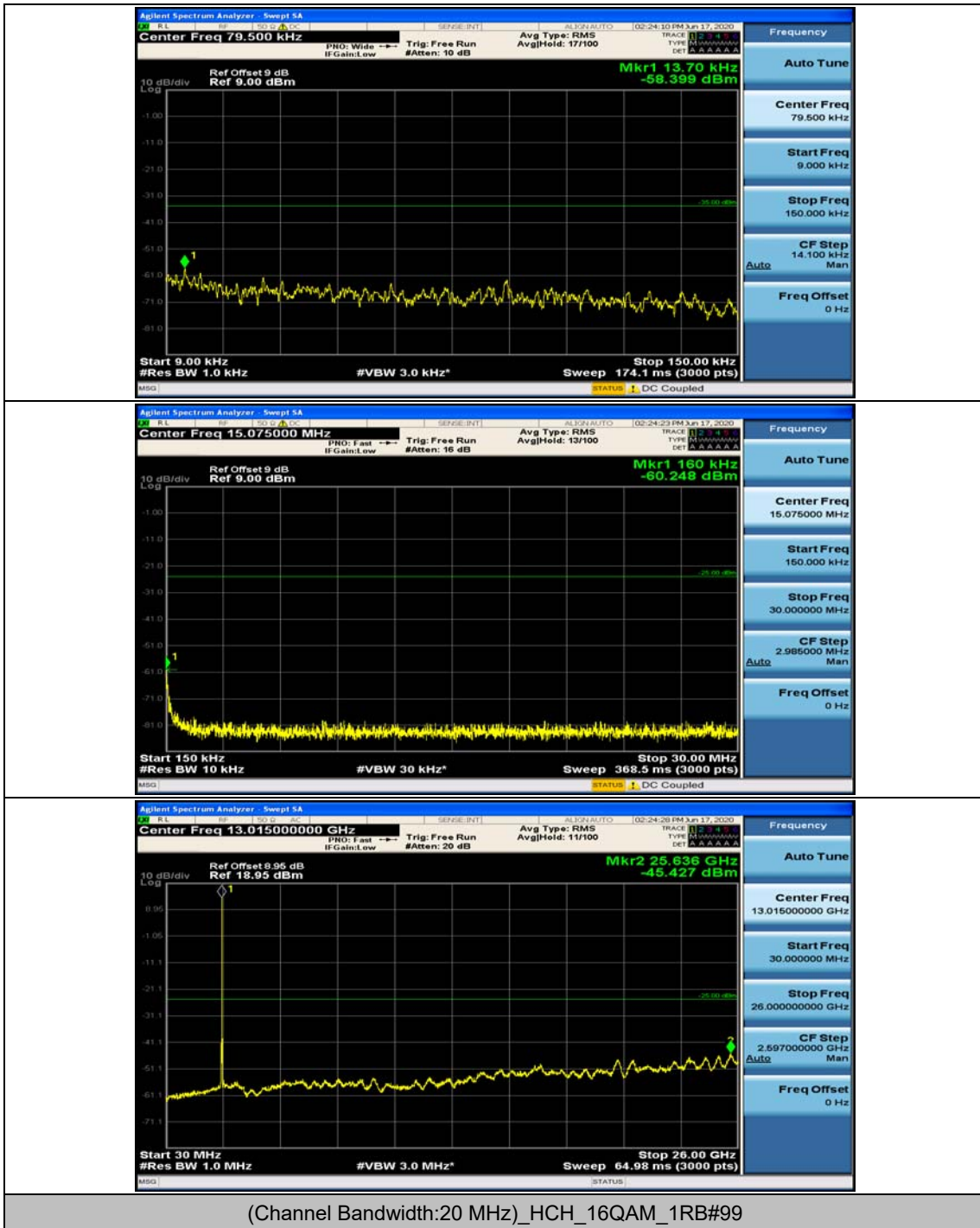


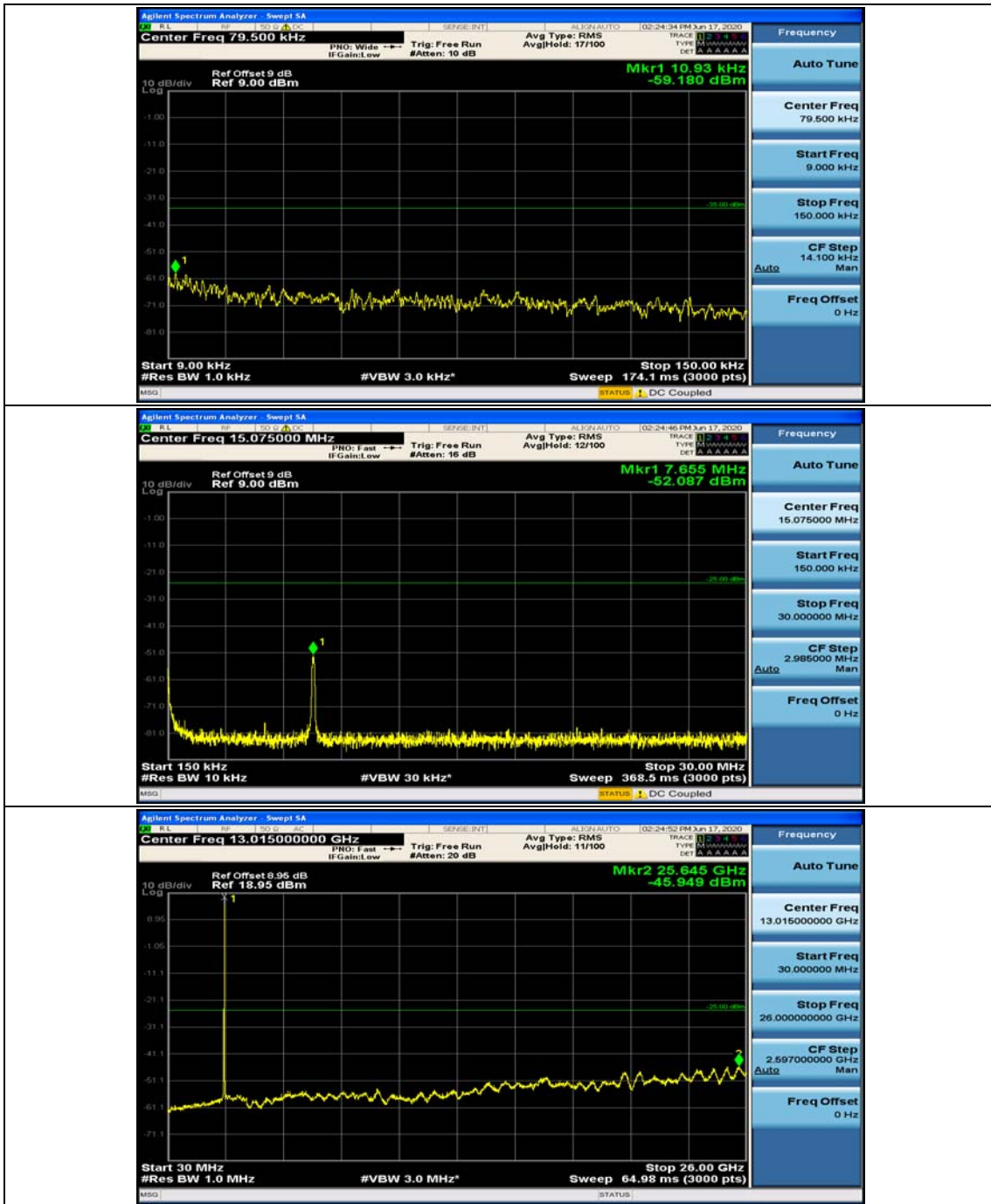
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49











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	-0.16	-0.000064	± 2.5	PASS
		VN	TN	4.53	0.001810	± 2.5	PASS
		VH	TN	2.24	0.000895	± 2.5	PASS
	MCH	VL	TN	2.67	0.001053	± 2.5	PASS
		VN	TN	3.86	0.001523	± 2.5	PASS
		VH	TN	1.96	0.000773	± 2.5	PASS
	HCH	VL	TN	0.69	0.000269	± 2.5	PASS
		VN	TN	-0.58	-0.000226	± 2.5	PASS
		VH	TN	0.61	0.000238	± 2.5	PASS
16QAM	LCH	VL	TN	-1.34	-0.000535	± 2.5	PASS
		VN	TN	-0.2	-0.000080	± 2.5	PASS
		VH	TN	1.71	0.000683	± 2.5	PASS
	MCH	VL	TN	4.12	0.001625	± 2.5	PASS
		VN	TN	2.01	0.000793	± 2.5	PASS
		VH	TN	2.83	0.001116	± 2.5	PASS
	HCH	VL	TN	-0.98	-0.000382	± 2.5	PASS
		VN	TN	0.5	0.000195	± 2.5	PASS
		VH	TN	1.87	0.000728	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.81	0.000723	± 2.5	PASS
		VN	-20	0.06	0.000024	± 2.5	PASS
		VN	-10	2.15	0.000859	± 2.5	PASS
		VN	0	1.08	0.000432	± 2.5	PASS
		VN	10	2.42	0.000967	± 2.5	PASS
		VN	20	3.65	0.001459	± 2.5	PASS
		VN	30	-0.43	-0.000172	± 2.5	PASS
		VN	40	0.2	0.000080	± 2.5	PASS
		VN	50	3.34	0.001335	± 2.5	PASS
	MCH	VN	-30	0.58	0.000229	± 2.5	PASS
		VN	-20	1.72	0.000679	± 2.5	PASS

		VN	-10	0.9	0.000355	± 2.5	PASS		
		VN	0	-0.66	-0.000260	± 2.5	PASS		
		VN	10	-0.8	-0.000316	± 2.5	PASS		
		VN	20	3.18	0.001254	± 2.5	PASS		
		VN	30	2.59	0.001022	± 2.5	PASS		
		VN	40	3.31	0.001306	± 2.5	PASS		
		VN	50	4.39	0.001732	± 2.5	PASS		
	HCH	VN	-30	4.09	0.001593	± 2.5	PASS		
		VN	-20	3.54	0.001379	± 2.5	PASS		
		VN	-10	-0.61	-0.000238	± 2.5	PASS		
		VN	0	0.27	0.000105	± 2.5	PASS		
		VN	10	1.21	0.000471	± 2.5	PASS		
		VN	20	-1.66	-0.000647	± 2.5	PASS		
		VN	30	-1.01	-0.000393	± 2.5	PASS		
		VN	40	3.57	0.001390	± 2.5	PASS		
		VN	50	-1.48	-0.000576	± 2.5	PASS		
		16QAM	LCH	VN	-30	2.67	0.001067	± 2.5	PASS
				VN	-20	-0.17	-0.000068	± 2.5	PASS
VN	-10			3.78	0.001510	± 2.5	PASS		
VN	0			4.14	0.001654	± 2.5	PASS		
VN	10			0.1	0.000040	± 2.5	PASS		
VN	20			2.89	0.001155	± 2.5	PASS		
VN	30			-0.78	-0.000312	± 2.5	PASS		
VN	40			-0.01	-0.000004	± 2.5	PASS		
VN	50			2.85	0.001139	± 2.5	PASS		
MCH	VN		-30	4.94	0.001949	± 2.5	PASS		
	VN		-20	-1.74	-0.000686	± 2.5	PASS		
	VN		-10	0.99	0.000391	± 2.5	PASS		
	VN		0	-1.77	-0.000698	± 2.5	PASS		
	VN		10	3.41	0.001345	± 2.5	PASS		
	VN		20	0.66	0.000260	± 2.5	PASS		
	VN		30	3.14	0.001239	± 2.5	PASS		
	VN		40	0.58	0.000229	± 2.5	PASS		
	VN		50	1.82	0.000718	± 2.5	PASS		
HCH	VN		-30	2.65	0.001032	± 2.5	PASS		
	VN		-20	-0.32	-0.000125	± 2.5	PASS		
	VN		-10	3.08	0.001200	± 2.5	PASS		
	VN		0	2.58	0.001005	± 2.5	PASS		
	VN		10	0.82	0.000319	± 2.5	PASS		
	VN		20	-0.52	-0.000203	± 2.5	PASS		
	VN		30	0.37	0.000144	± 2.5	PASS		

		VN	40	-1.16	-0.000452	± 2.5	PASS
		VN	50	-1.73	-0.000674	± 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	-1.8	-0.000719	± 2.5	PASS
		VN	TN	-1.69	-0.000675	± 2.5	PASS
		VH	TN	-1.02	-0.000407	± 2.5	PASS
	MCH	VL	TN	2.12	0.000836	± 2.5	PASS
		VN	TN	0.09	0.000036	± 2.5	PASS
		VH	TN	-0.81	-0.000320	± 2.5	PASS
	HCH	VL	TN	-0.3	-0.000117	± 2.5	PASS
		VN	TN	-1.36	-0.000530	± 2.5	PASS
		VH	TN	4.73	0.001844	± 2.5	PASS
16QAM	LCH	VL	TN	0.62	0.000248	± 2.5	PASS
		VN	TN	0.17	0.000068	± 2.5	PASS
		VH	TN	-0.49	-0.000196	± 2.5	PASS
	MCH	VL	TN	1.83	0.000722	± 2.5	PASS
		VN	TN	0.17	0.000067	± 2.5	PASS
		VH	TN	-1.7	-0.000671	± 2.5	PASS
	HCH	VL	TN	0.22	0.000086	± 2.5	PASS
		VN	TN	-0.41	-0.000160	± 2.5	PASS
		VH	TN	4.57	0.001782	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	4.23	0.001689	± 2.5	PASS
		VN	-20	0.37	0.000148	± 2.5	PASS
		VN	-10	1.66	0.000663	± 2.5	PASS
		VN	0	-0.86	-0.000343	± 2.5	PASS
		VN	10	3	0.001198	± 2.5	PASS
		VN	20	4.72	0.001884	± 2.5	PASS
		VN	30	4.31	0.001721	± 2.5	PASS
		VN	40	-1.11	-0.000443	± 2.5	PASS
		VN	50	0.31	0.000124	± 2.5	PASS
	MCH	VN	-30	-1.13	-0.000446	± 2.5	PASS
		VN	-20	2.03	0.000801	± 2.5	PASS
		VN	-10	3.64	0.001436	± 2.5	PASS

		VN	0	-0.25	-0.000099	± 2.5	PASS		
		VN	10	3.39	0.001337	± 2.5	PASS		
		VN	20	2.84	0.001120	± 2.5	PASS		
		VN	30	-0.07	-0.000028	± 2.5	PASS		
		VN	40	1.76	0.000694	± 2.5	PASS		
		VN	50	4.03	0.001590	± 2.5	PASS		
	HCH	VN	-30	3.16	0.001232	± 2.5	PASS		
		VN	-20	4.45	0.001735	± 2.5	PASS		
		VN	-10	0.49	0.000191	± 2.5	PASS		
		VN	0	3.44	0.001341	± 2.5	PASS		
		VN	10	3.34	0.001302	± 2.5	PASS		
		VN	20	3.86	0.001505	± 2.5	PASS		
		VN	30	1.2	0.000468	± 2.5	PASS		
		VN	40	2.05	0.000799	± 2.5	PASS		
		VN	50	-1.08	-0.000421	± 2.5	PASS		
		16QAM	LCH	VN	-30	2.74	0.001094	± 2.5	PASS
				VN	-20	-1.38	-0.000551	± 2.5	PASS
				VN	-10	-1.92	-0.000766	± 2.5	PASS
				VN	0	0.2	0.000080	± 2.5	PASS
VN	10			4.26	0.001701	± 2.5	PASS		
VN	20			2.78	0.001110	± 2.5	PASS		
VN	30			-0.38	-0.000152	± 2.5	PASS		
VN	40			-1.47	-0.000587	± 2.5	PASS		
VN	50			3.4	0.001357	± 2.5	PASS		
MCH	VN		-30	1.48	0.000584	± 2.5	PASS		
	VN		-20	4.01	0.001582	± 2.5	PASS		
	VN		-10	2.18	0.000860	± 2.5	PASS		
	VN		0	1.28	0.000505	± 2.5	PASS		
	VN		10	0.7	0.000276	± 2.5	PASS		
	VN		20	3.89	0.001535	± 2.5	PASS		
	VN		30	4.74	0.001870	± 2.5	PASS		
	VN		40	4.98	0.001964	± 2.5	PASS		
	VN		50	2.27	0.000895	± 2.5	PASS		
HCH	VN		-30	2.39	0.000932	± 2.5	PASS		
	VN	-20	0.93	0.000363	± 2.5	PASS			
	VN	-10	3.46	0.001349	± 2.5	PASS			
	VN	0	2.84	0.001107	± 2.5	PASS			
	VN	10	0.59	0.000230	± 2.5	PASS			
	VN	20	3.99	0.001556	± 2.5	PASS			
	VN	30	3	0.001170	± 2.5	PASS			
	VN	40	-0.41	-0.000160	± 2.5	PASS			

		VN	50	0.59	0.000230	± 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	-1.19	-0.000475	± 2.5	PASS
		VN	TN	-0.3	-0.000120	± 2.5	PASS
		VH	TN	-0.76	-0.000303	± 2.5	PASS
	MCH	VL	TN	5	0.001972	± 2.5	PASS
		VN	TN	-1.58	-0.000623	± 2.5	PASS
		VH	TN	-1.28	-0.000505	± 2.5	PASS
	HCH	VL	TN	4.13	0.001612	± 2.5	PASS
		VN	TN	0.95	0.000371	± 2.5	PASS
		VH	TN	4.16	0.001623	± 2.5	PASS
16QAM	LCH	VL	TN	0.33	0.000132	± 2.5	PASS
		VN	TN	-1.51	-0.000602	± 2.5	PASS
		VH	TN	-1.13	-0.000451	± 2.5	PASS
	MCH	VL	TN	3.35	0.001321	± 2.5	PASS
		VN	TN	2.93	0.001156	± 2.5	PASS
		VH	TN	-1.69	-0.000667	± 2.5	PASS
	HCH	VL	TN	2.73	0.001065	± 2.5	PASS
		VN	TN	2.69	0.001050	± 2.5	PASS
		VH	TN	1.06	0.000414	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.5	-0.000598	± 2.5	PASS
		VN	-20	-0.52	-0.000207	± 2.5	PASS
		VN	-10	-0.26	-0.000104	± 2.5	PASS
		VN	0	-0.42	-0.000167	± 2.5	PASS
		VN	10	4.6	0.001834	± 2.5	PASS
		VN	20	-1.7	-0.000678	± 2.5	PASS
		VN	30	-1.55	-0.000618	± 2.5	PASS
		VN	40	1.42	0.000566	± 2.5	PASS
		VN	50	-1.02	-0.000407	± 2.5	PASS
	MCH	VN	-30	4.1	0.001617	± 2.5	PASS
		VN	-20	4.58	0.001807	± 2.5	PASS
		VN	-10	4.2	0.001657	± 2.5	PASS
		VN	0	4.55	0.001795	± 2.5	PASS

		VN	10	2.83	0.001116	± 2.5	PASS
		VN	20	0.41	0.000162	± 2.5	PASS
		VN	30	1.89	0.000746	± 2.5	PASS
		VN	40	1.78	0.000702	± 2.5	PASS
		VN	50	-1.12	-0.000442	± 2.5	PASS
	HCH	VN	-30	-1.45	-0.000566	± 2.5	PASS
		VN	-20	0.12	0.000047	± 2.5	PASS
		VN	-10	4.84	0.001889	± 2.5	PASS
		VN	0	3.38	0.001319	± 2.5	PASS
		VN	10	4.52	0.001764	± 2.5	PASS
		VN	20	-0.19	-0.000074	± 2.5	PASS
		VN	30	1.27	0.000496	± 2.5	PASS
		VN	40	4.72	0.001842	± 2.5	PASS
		VN	50	-0.23	-0.000090	± 2.5	PASS
		16QAM	LCH	VN	-30	4.82	0.001922
VN	-20			3.01	0.001200	± 2.5	PASS
VN	-10			4.58	0.001827	± 2.5	PASS
VN	0			3.45	0.001376	± 2.5	PASS
VN	10			2.5	0.000997	± 2.5	PASS
VN	20			0.74	0.000295	± 2.5	PASS
VN	30			4.97	0.001982	± 2.5	PASS
VN	40			0.92	0.000367	± 2.5	PASS
VN	50			1.05	0.000419	± 2.5	PASS
MCH	VN		-30	1.13	0.000446	± 2.5	PASS
	VN		-20	3.6	0.001420	± 2.5	PASS
	VN		-10	4.61	0.001819	± 2.5	PASS
	VN		0	0.28	0.000110	± 2.5	PASS
	VN		10	2.7	0.001065	± 2.5	PASS
	VN		20	2.6	0.001026	± 2.5	PASS
	VN		30	4.72	0.001862	± 2.5	PASS
	VN		40	4.25	0.001677	± 2.5	PASS
	VN		50	-0.03	-0.000012	± 2.5	PASS
HCH	VN		-30	4.78	0.001865	± 2.5	PASS
	VN		-20	4.18	0.001631	± 2.5	PASS
	VN		-10	1.67	0.000652	± 2.5	PASS
	VN		0	-1.7	-0.000663	± 2.5	PASS
	VN		10	-0.99	-0.000386	± 2.5	PASS
	VN		20	2.63	0.001026	± 2.5	PASS
	VN		30	1.23	0.000480	± 2.5	PASS
	VN		40	1.97	0.000769	± 2.5	PASS
	VN		50	1.86	0.000726	± 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	-1.94	-0.000773	± 2.5	PASS
		VN	TN	0.45	0.000179	± 2.5	PASS
		VH	TN	-0.22	-0.000088	± 2.5	PASS
	MCH	VL	TN	2.2	0.000868	± 2.5	PASS
		VN	TN	1.43	0.000564	± 2.5	PASS
		VH	TN	1.16	0.000458	± 2.5	PASS
	HCH	VL	TN	-1.42	-0.000555	± 2.5	PASS
		VN	TN	1.33	0.000520	± 2.5	PASS
		VH	TN	-1.48	-0.000578	± 2.5	PASS
16QAM	LCH	VL	TN	2.79	0.001112	± 2.5	PASS
		VN	TN	-0.18	-0.000072	± 2.5	PASS
		VH	TN	3.7	0.001474	± 2.5	PASS
	MCH	VL	TN	-1.31	-0.000517	± 2.5	PASS
		VN	TN	4.65	0.001834	± 2.5	PASS
		VH	TN	-1.37	-0.000540	± 2.5	PASS
	HCH	VL	TN	-0.38	-0.000148	± 2.5	PASS
		VN	TN	1.95	0.000762	± 2.5	PASS
		VH	TN	2.65	0.001035	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	4.06	0.001618	± 2.5	PASS
		VN	-20	-1.8	-0.000717	± 2.5	PASS
		VN	-10	0.11	0.000044	± 2.5	PASS
		VN	0	2.07	0.000825	± 2.5	PASS
		VN	10	2.71	0.001080	± 2.5	PASS
		VN	20	-1.33	-0.000530	± 2.5	PASS
		VN	30	4.66	0.001857	± 2.5	PASS
		VN	40	-0.43	-0.000171	± 2.5	PASS
		VN	50	3.35	0.001335	± 2.5	PASS
	MCH	VN	-30	1.79	0.000706	± 2.5	PASS
		VN	-20	0.78	0.000308	± 2.5	PASS
		VN	-10	0.35	0.000138	± 2.5	PASS
		VN	0	1.31	0.000517	± 2.5	PASS
		VN	10	1.17	0.000462	± 2.5	PASS
		VN	20	-1.26	-0.000497	± 2.5	PASS

		VN	30	3.02	0.001191	± 2.5	PASS
		VN	40	3.93	0.001550	± 2.5	PASS
		VN	50	3.64	0.001436	± 2.5	PASS
	HCH	VN	-30	2.35	0.000918	± 2.5	PASS
		VN	-20	-0.16	-0.000063	± 2.5	PASS
		VN	-10	1.99	0.000777	± 2.5	PASS
		VN	0	2.01	0.000785	± 2.5	PASS
		VN	10	1.46	0.000570	± 2.5	PASS
		VN	20	4.16	0.001625	± 2.5	PASS
		VN	30	2.61	0.001020	± 2.5	PASS
		VN	40	1.36	0.000531	± 2.5	PASS
		VN	50	2.95	0.001152	± 2.5	PASS
		16QAM	LCH	VN	-30	-0.54	-0.000215
VN	-20			4.61	0.001837	± 2.5	PASS
VN	-10			-1.69	-0.000673	± 2.5	PASS
VN	0			-1.78	-0.000709	± 2.5	PASS
VN	10			2.72	0.001084	± 2.5	PASS
VN	20			-0.6	-0.000239	± 2.5	PASS
VN	30			-1.78	-0.000709	± 2.5	PASS
VN	40			1.18	0.000470	± 2.5	PASS
VN	50			-0.39	-0.000155	± 2.5	PASS
MCH	VN		-30	-0.13	-0.000051	± 2.5	PASS
	VN		-20	-0.16	-0.000063	± 2.5	PASS
	VN		-10	-1.51	-0.000596	± 2.5	PASS
	VN		0	0.5	0.000197	± 2.5	PASS
	VN		10	-1.17	-0.000462	± 2.5	PASS
	VN		20	-1.15	-0.000454	± 2.5	PASS
	VN		30	1.41	0.000556	± 2.5	PASS
	VN		40	2.15	0.000848	± 2.5	PASS
	VN		50	0.89	0.000351	± 2.5	PASS
HCH	VN		-30	4	0.001563	± 2.5	PASS
	VN		-20	-1.11	-0.000434	± 2.5	PASS
	VN		-10	-0.79	-0.000309	± 2.5	PASS
	VN		0	3.17	0.001238	± 2.5	PASS
	VN		10	2.31	0.000902	± 2.5	PASS
	VN		20	-0.62	-0.000242	± 2.5	PASS
	VN		30	-0.89	-0.000348	± 2.5	PASS
	VN		40	4.69	0.001832	± 2.5	PASS
	VN		50	3.01	0.001176	± 2.5	PASS