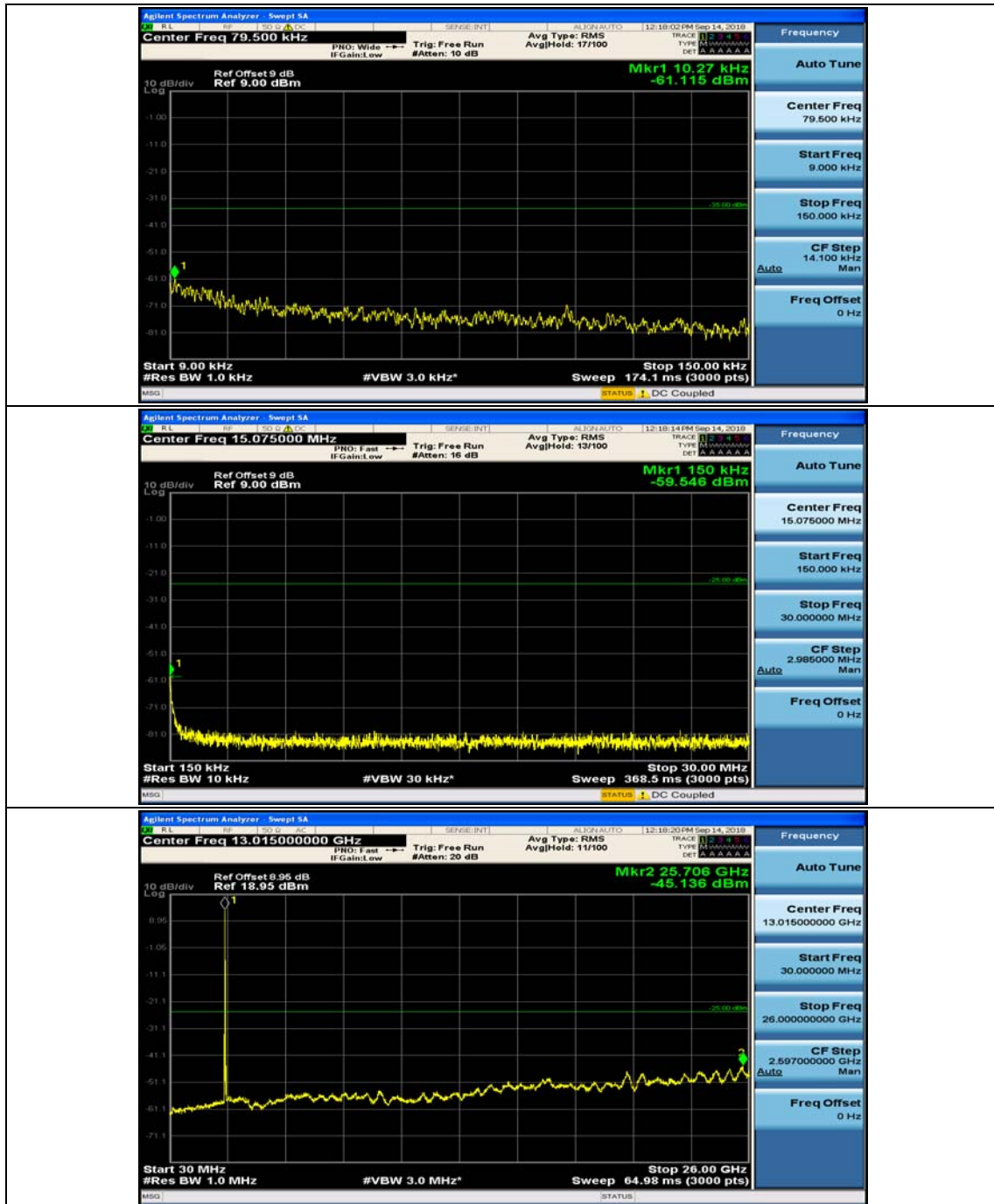
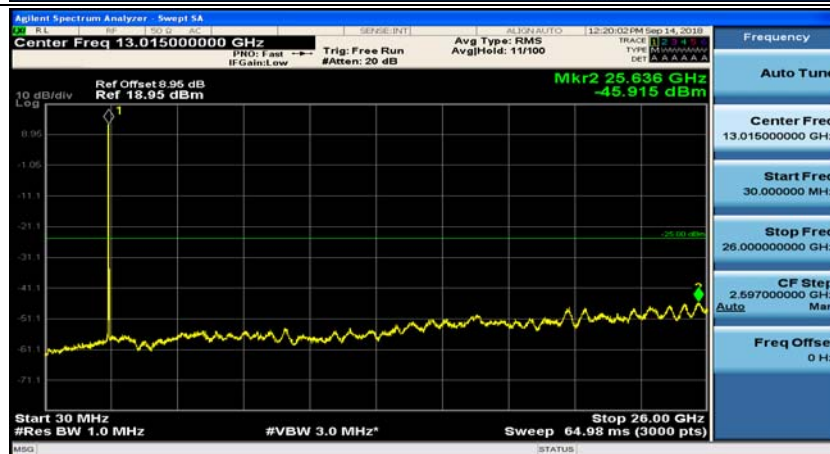
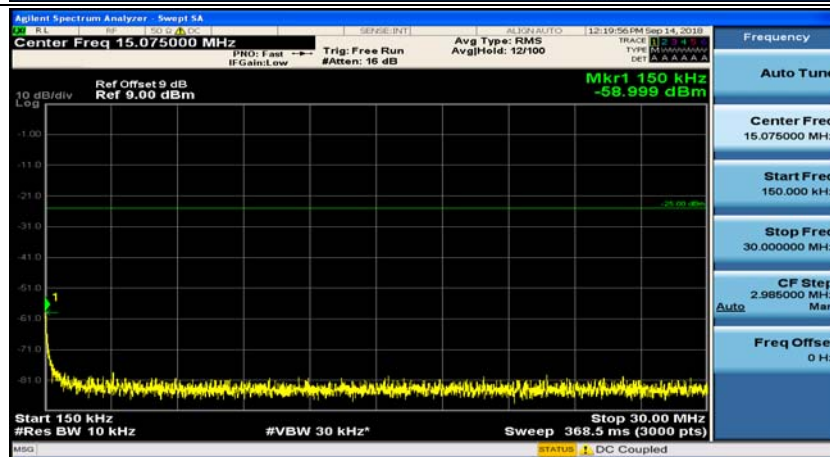
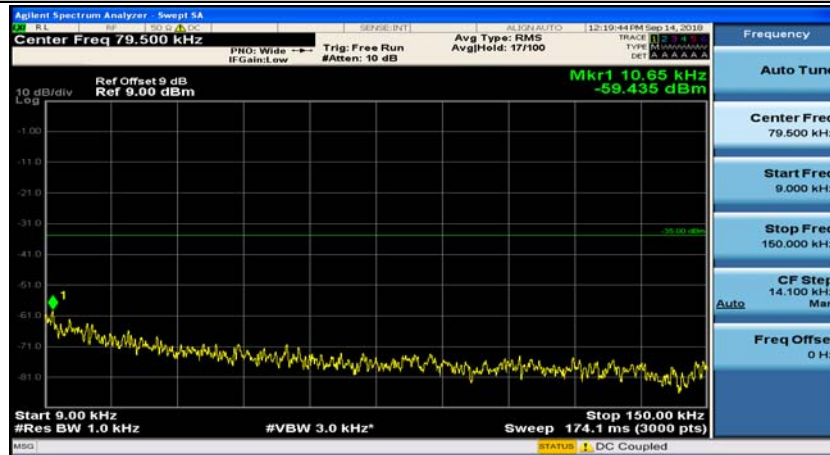
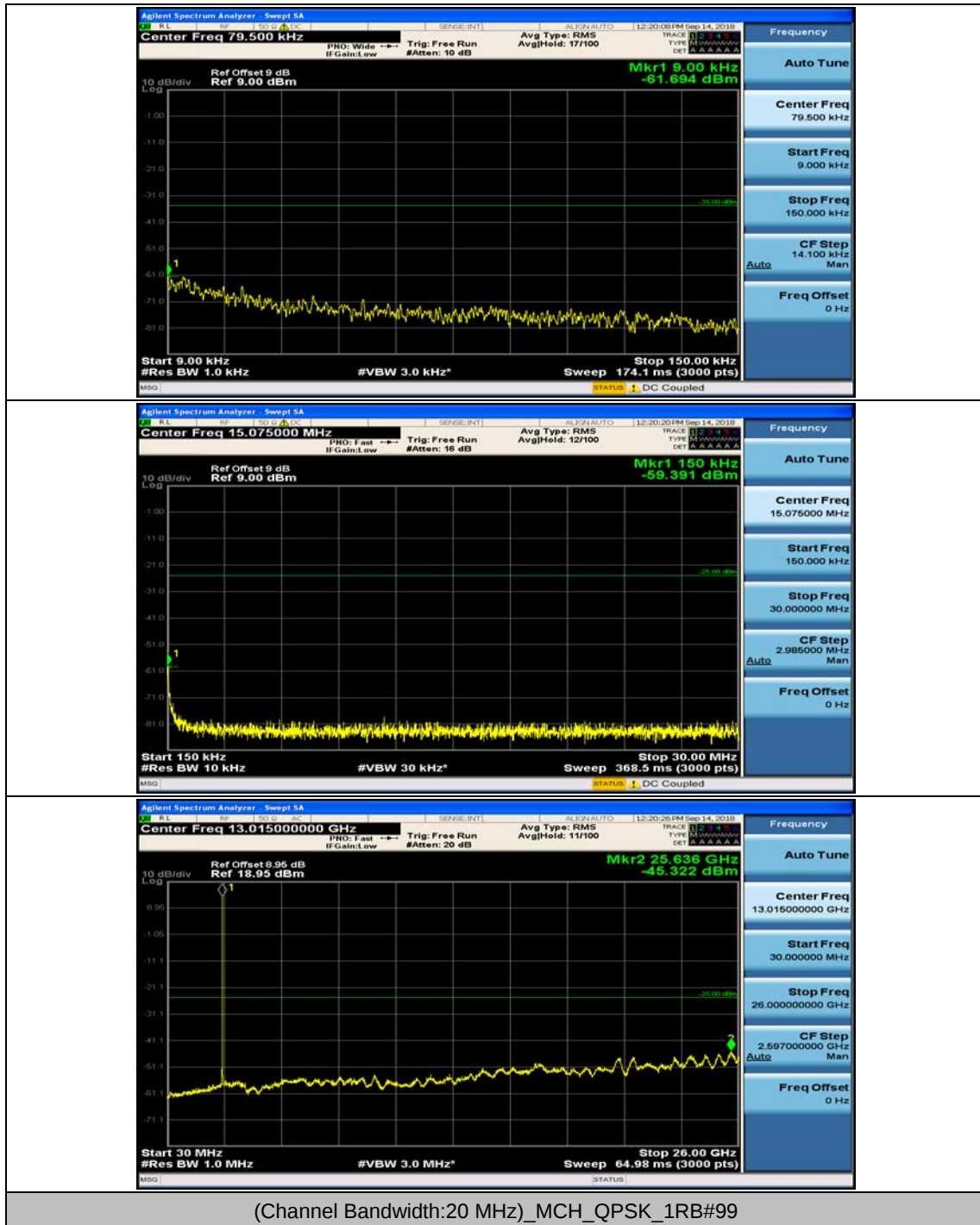


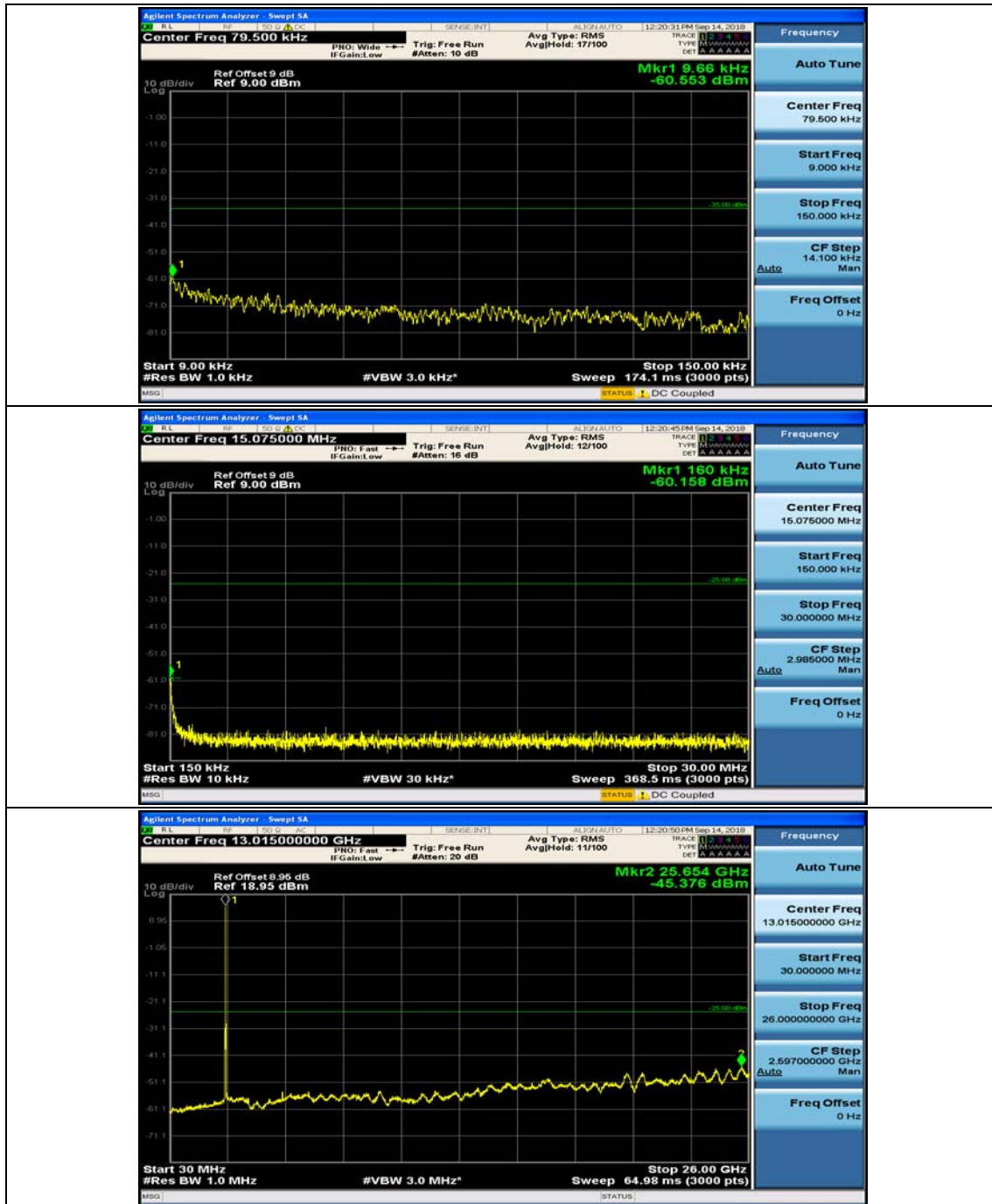


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0

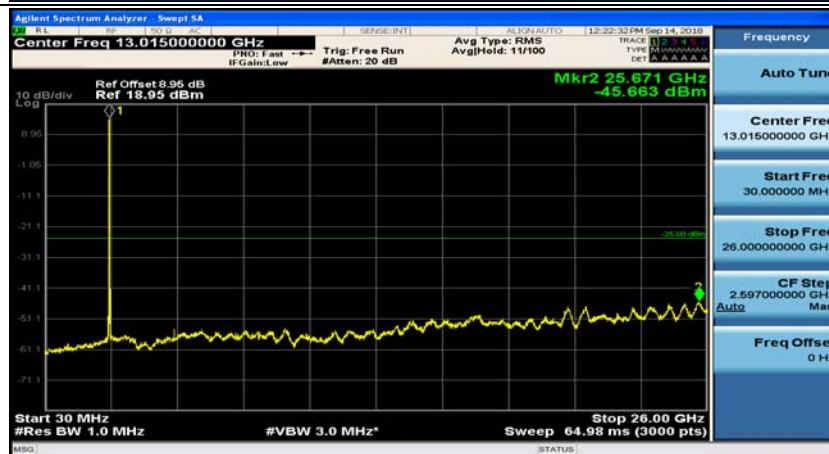
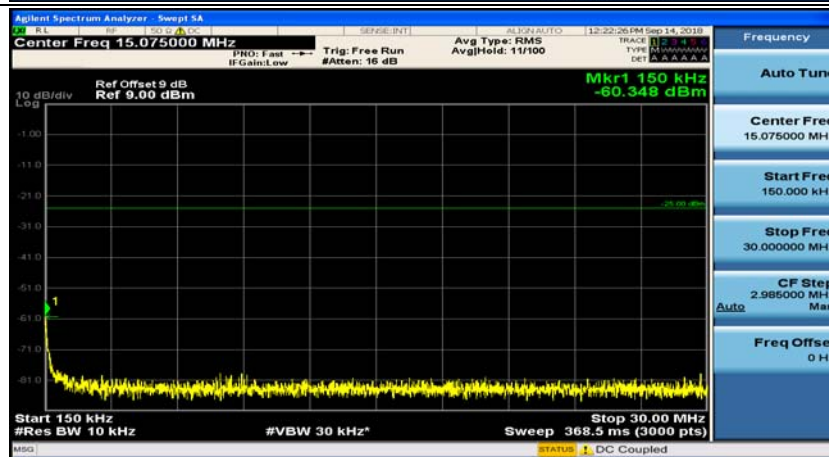
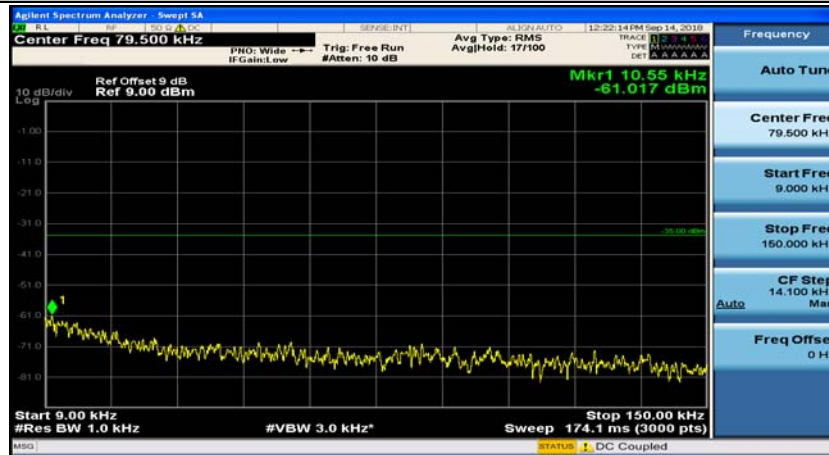


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

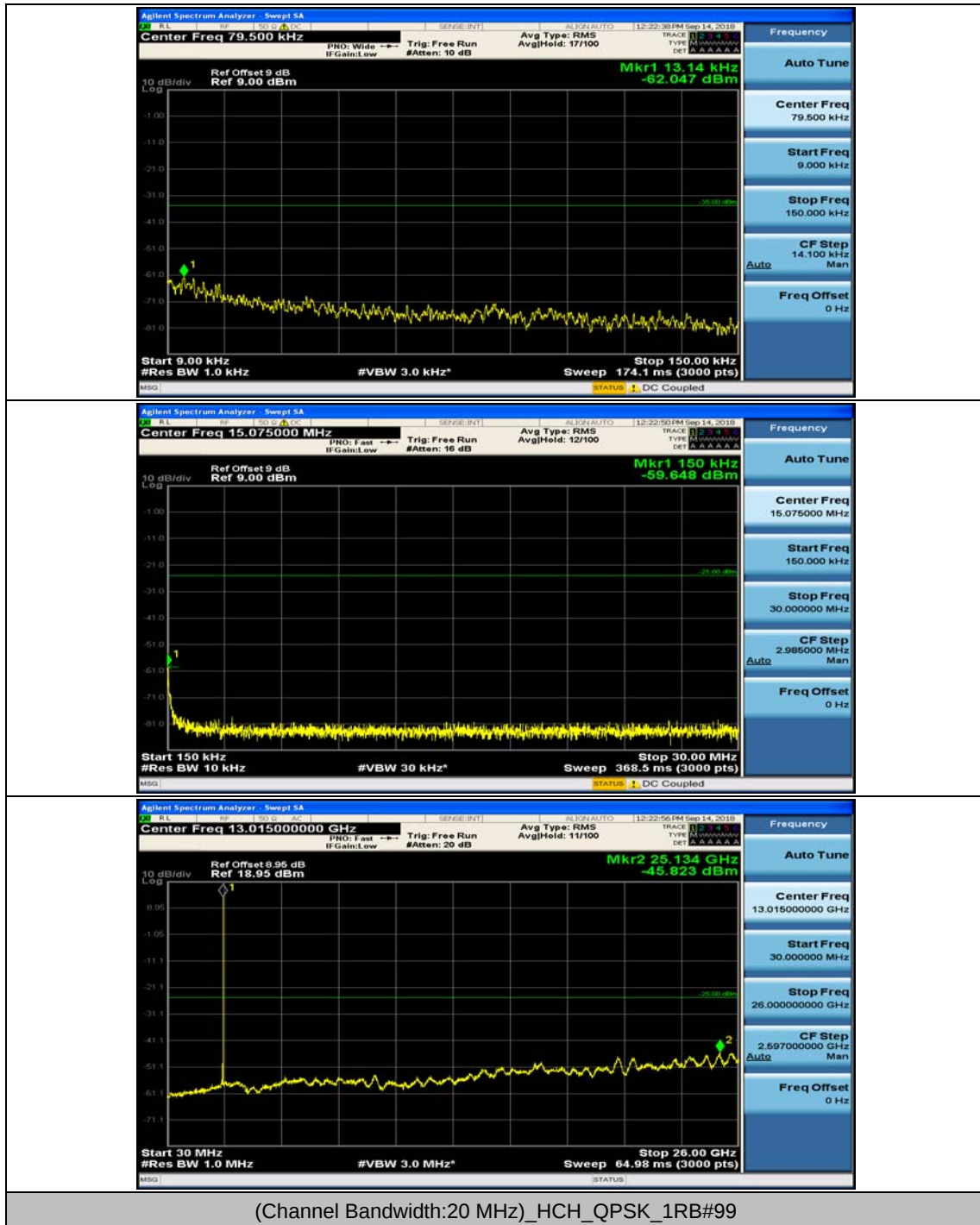


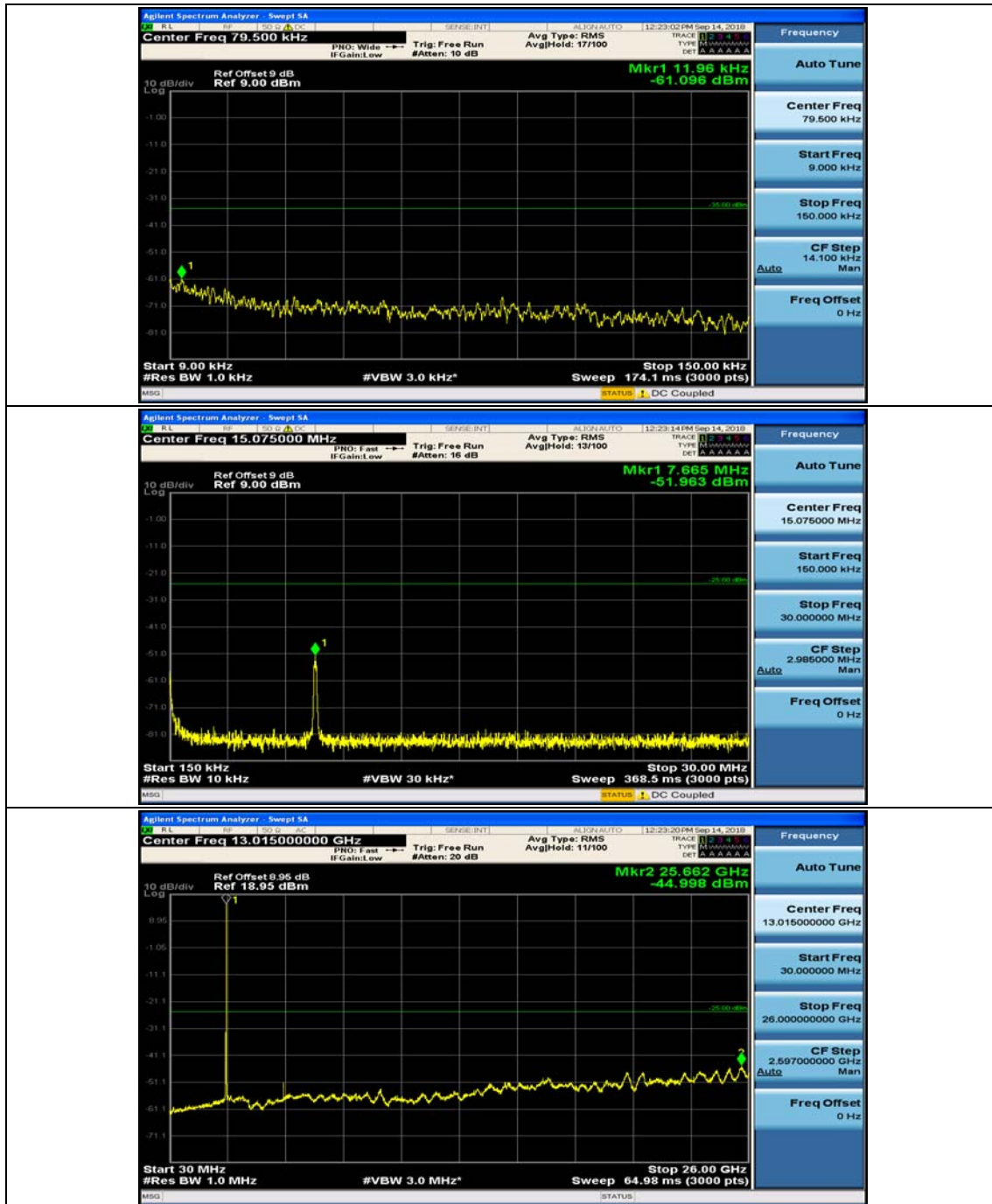


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0

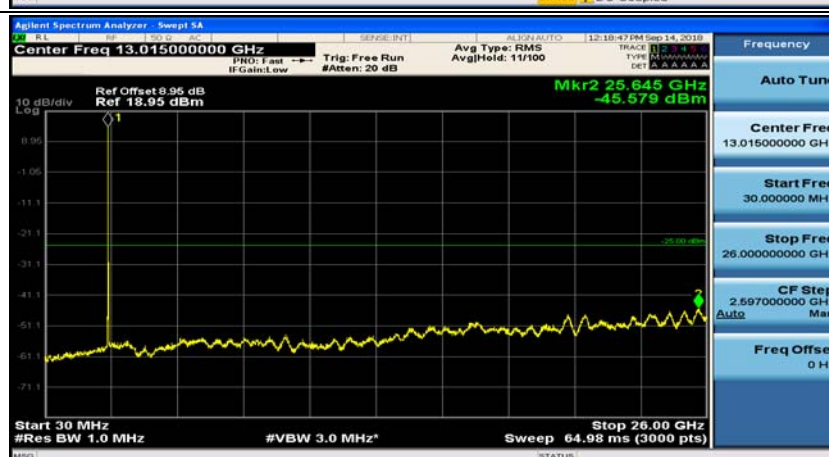
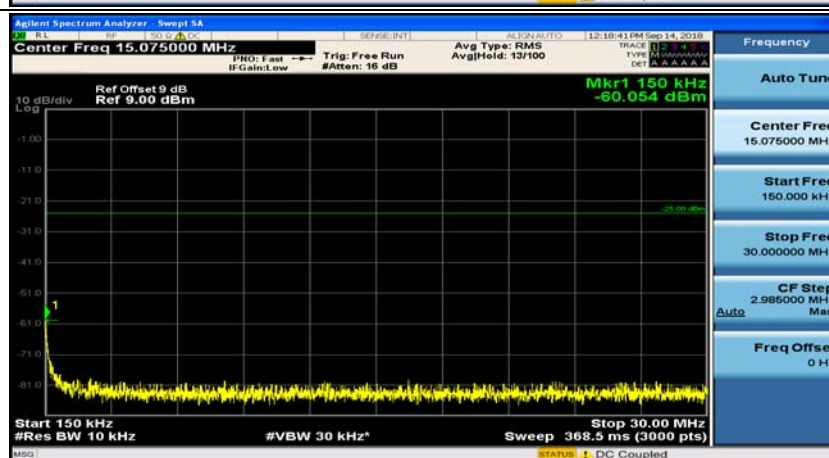
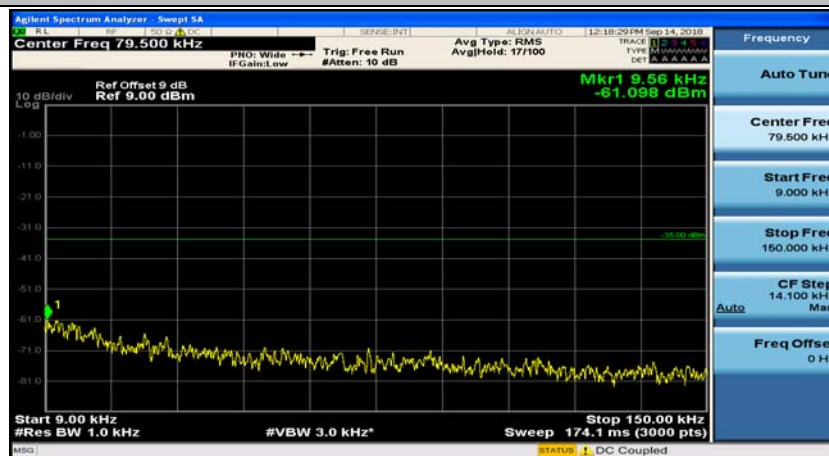


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

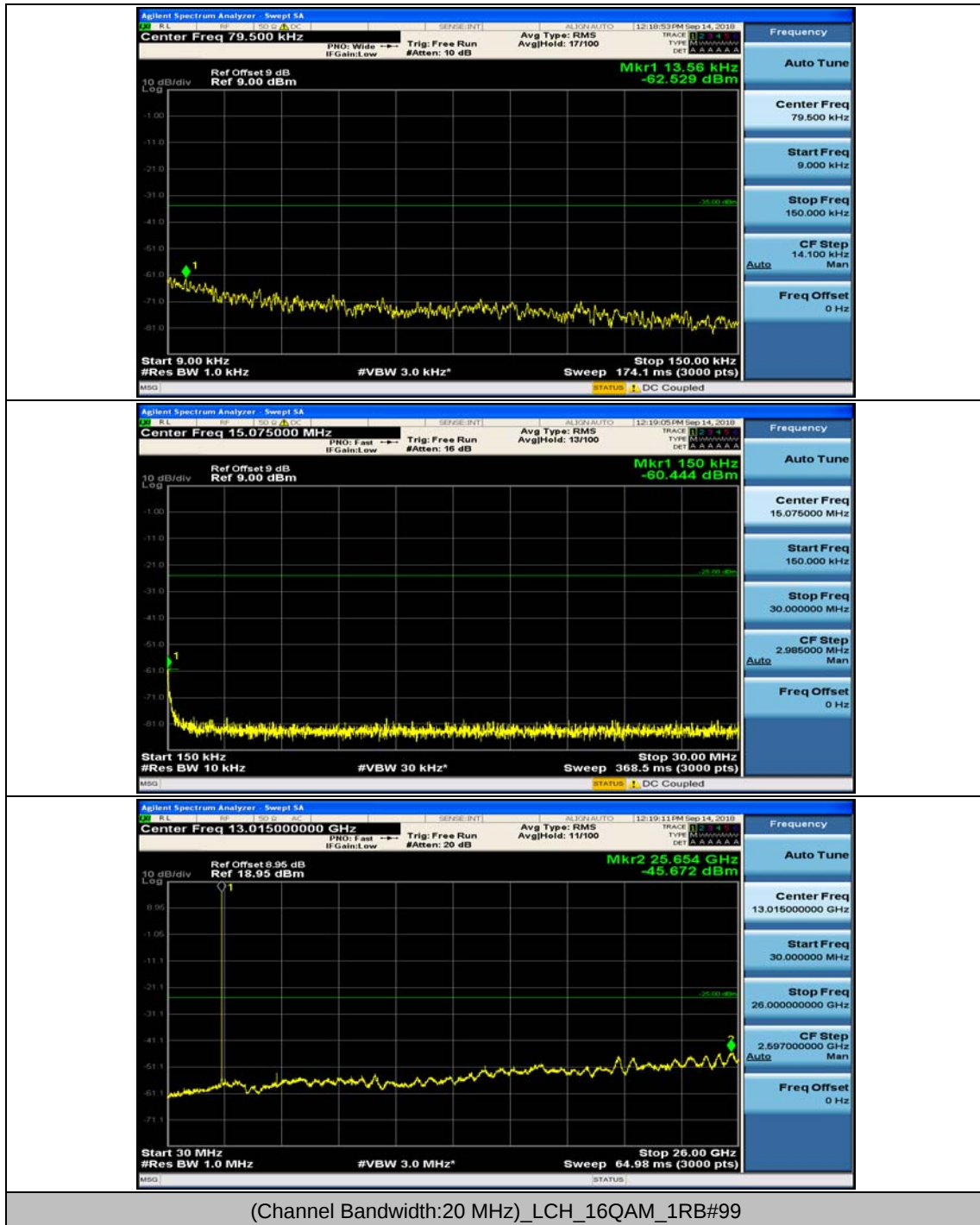


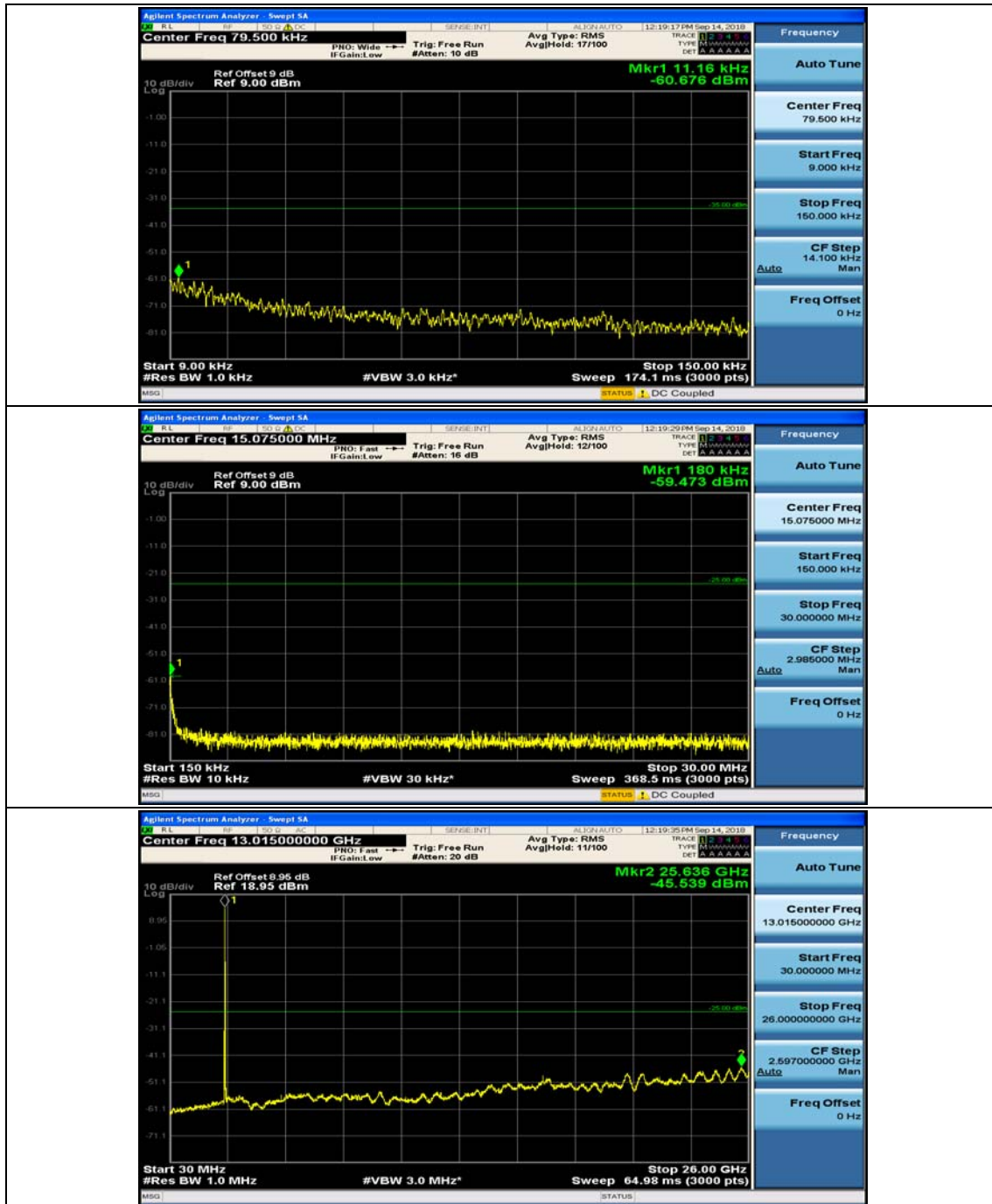


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0

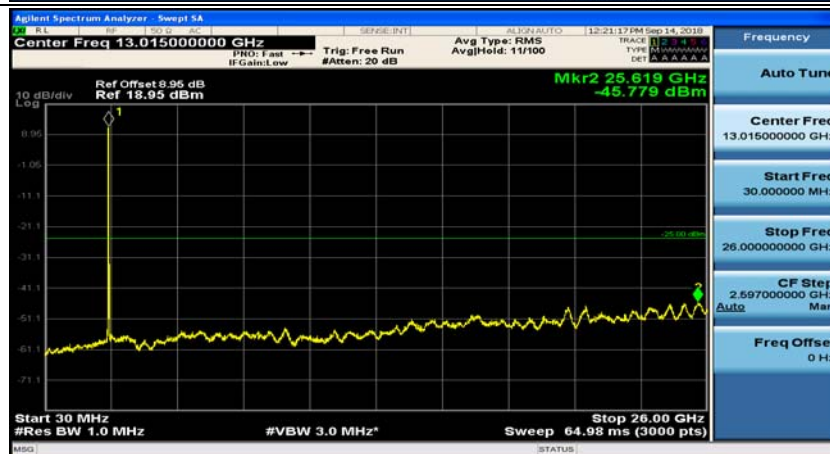
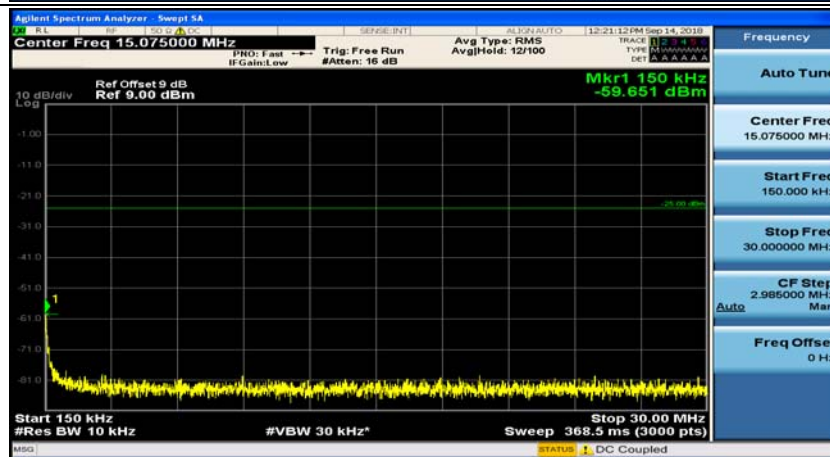
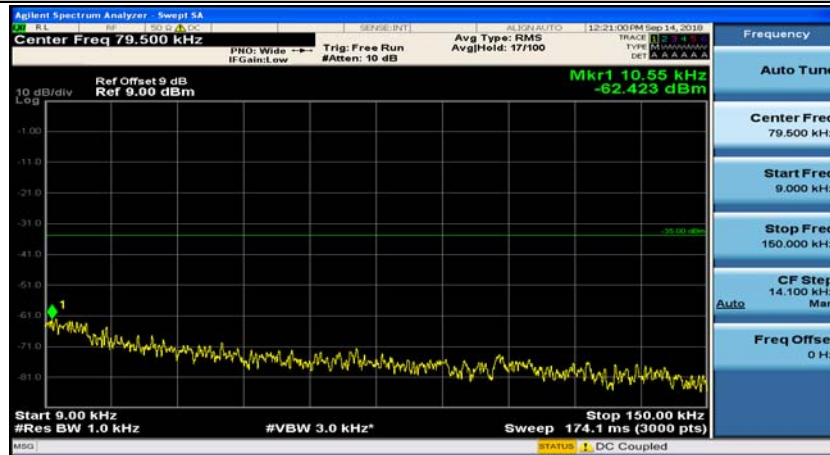


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

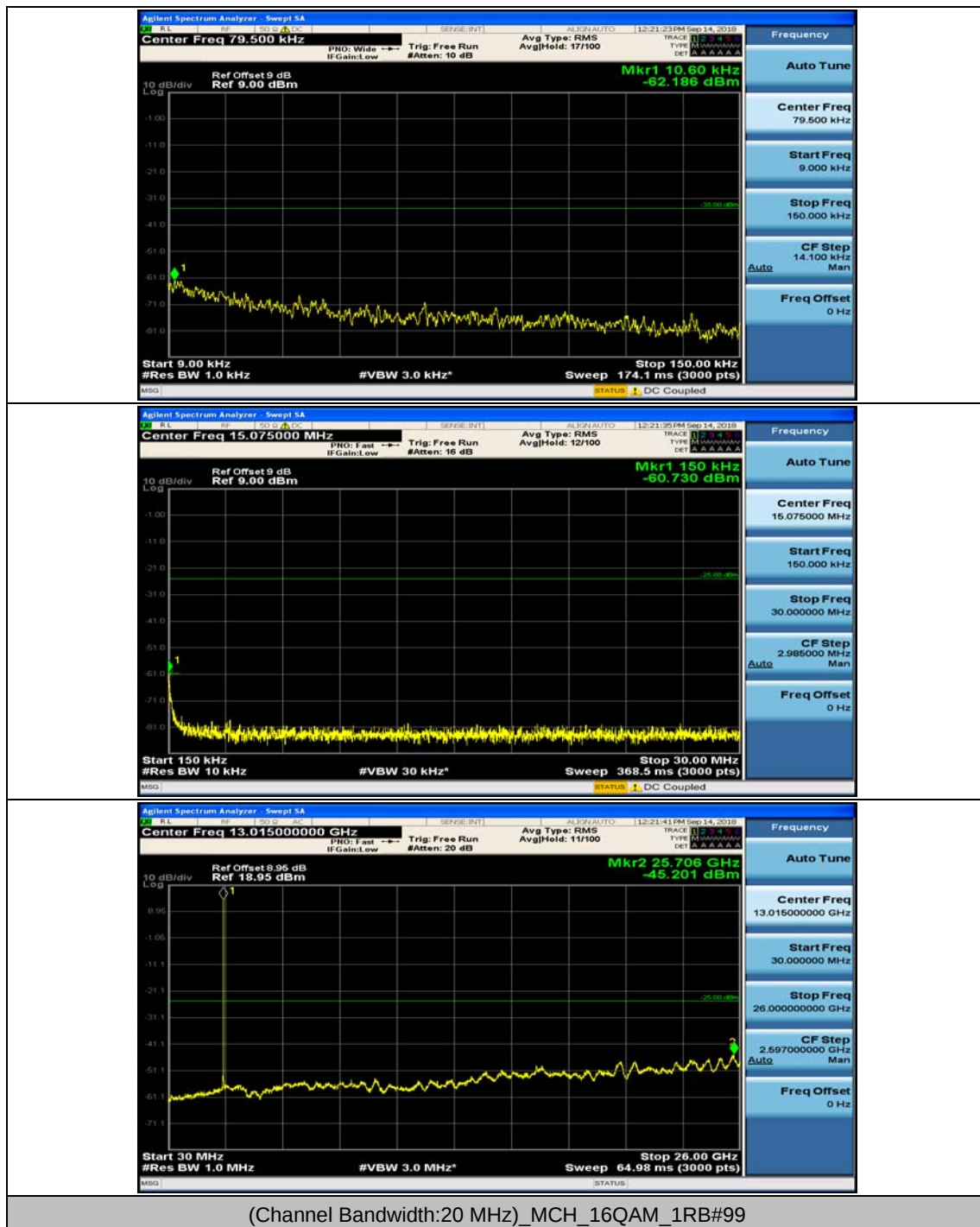


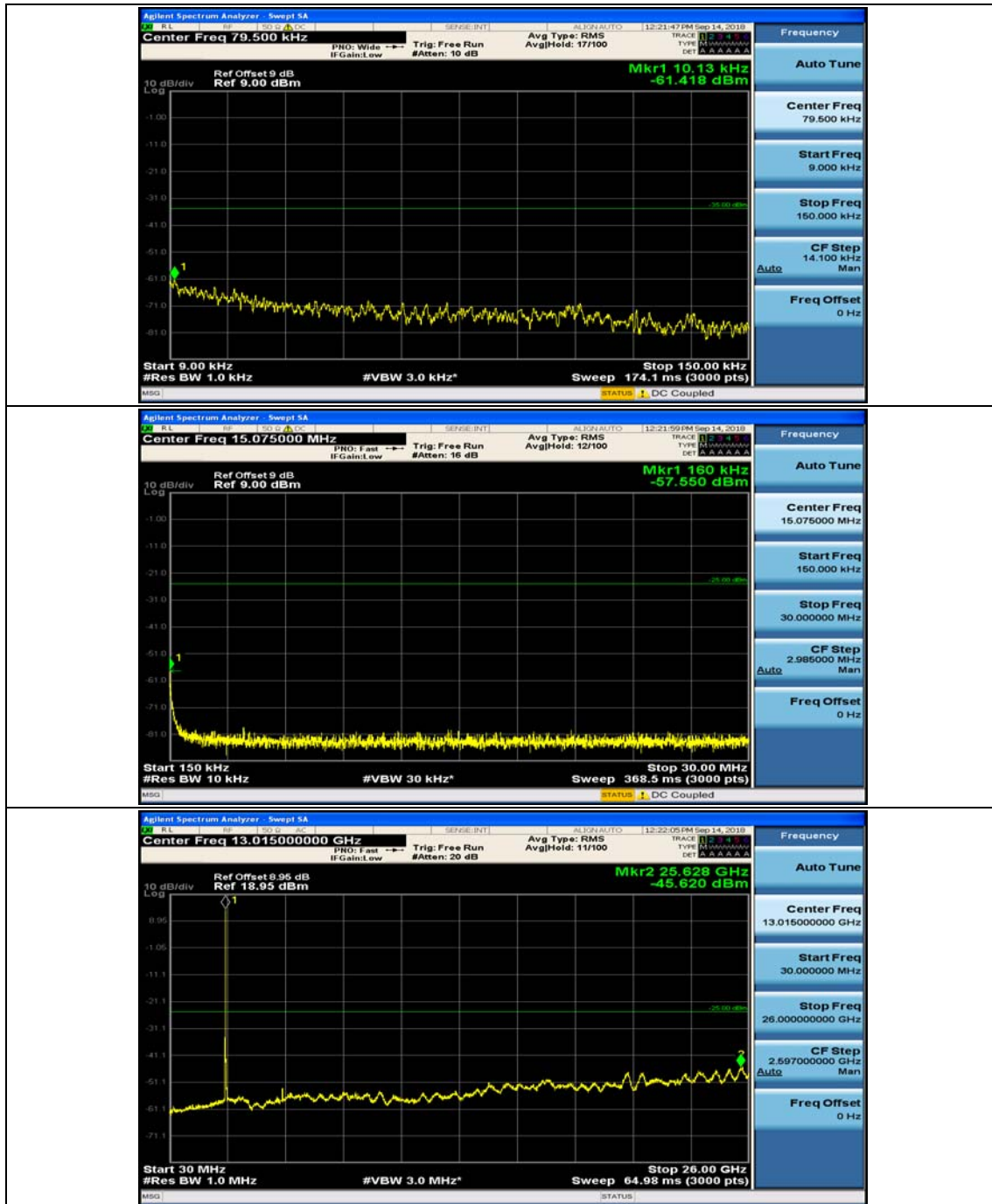


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0

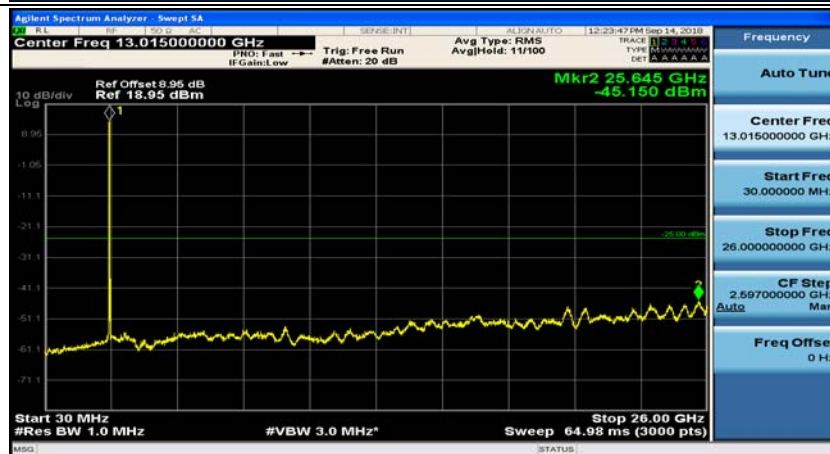
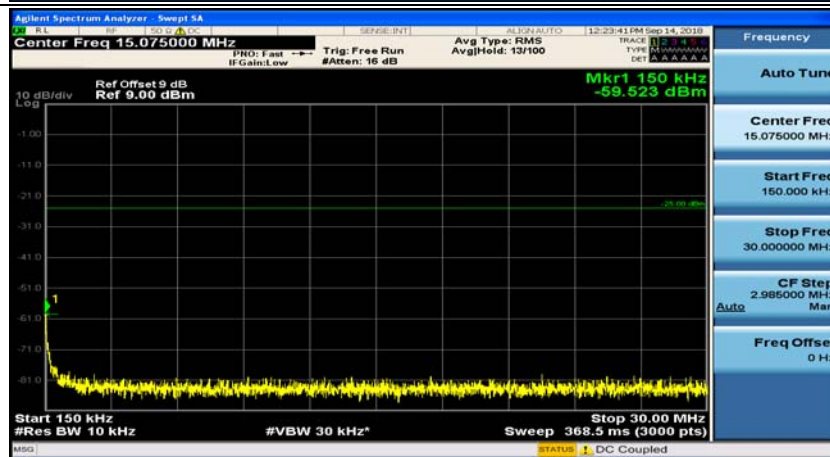
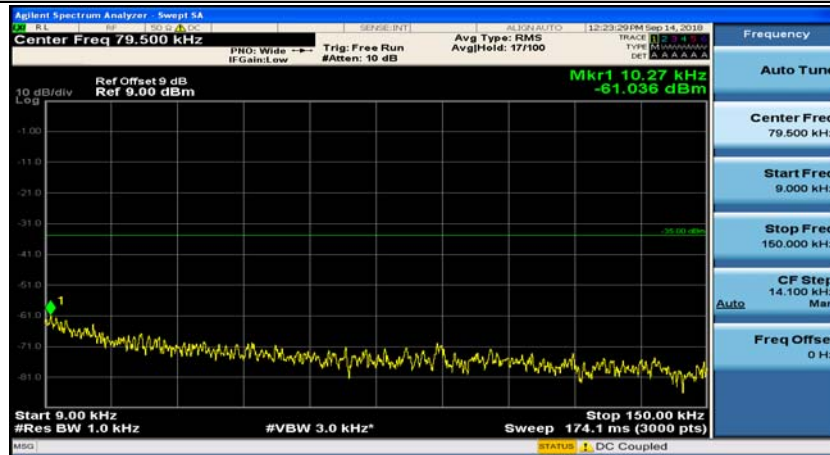


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49

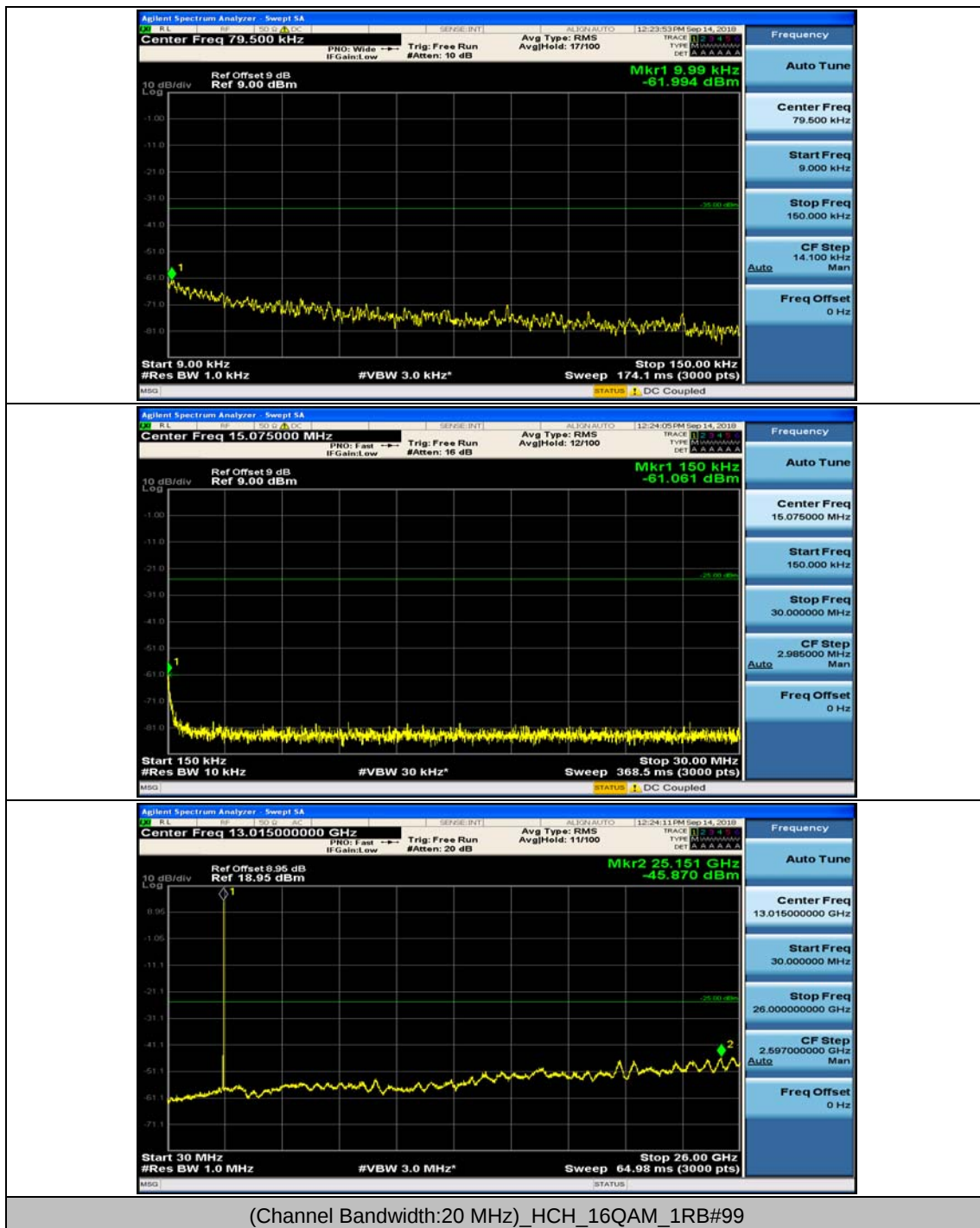


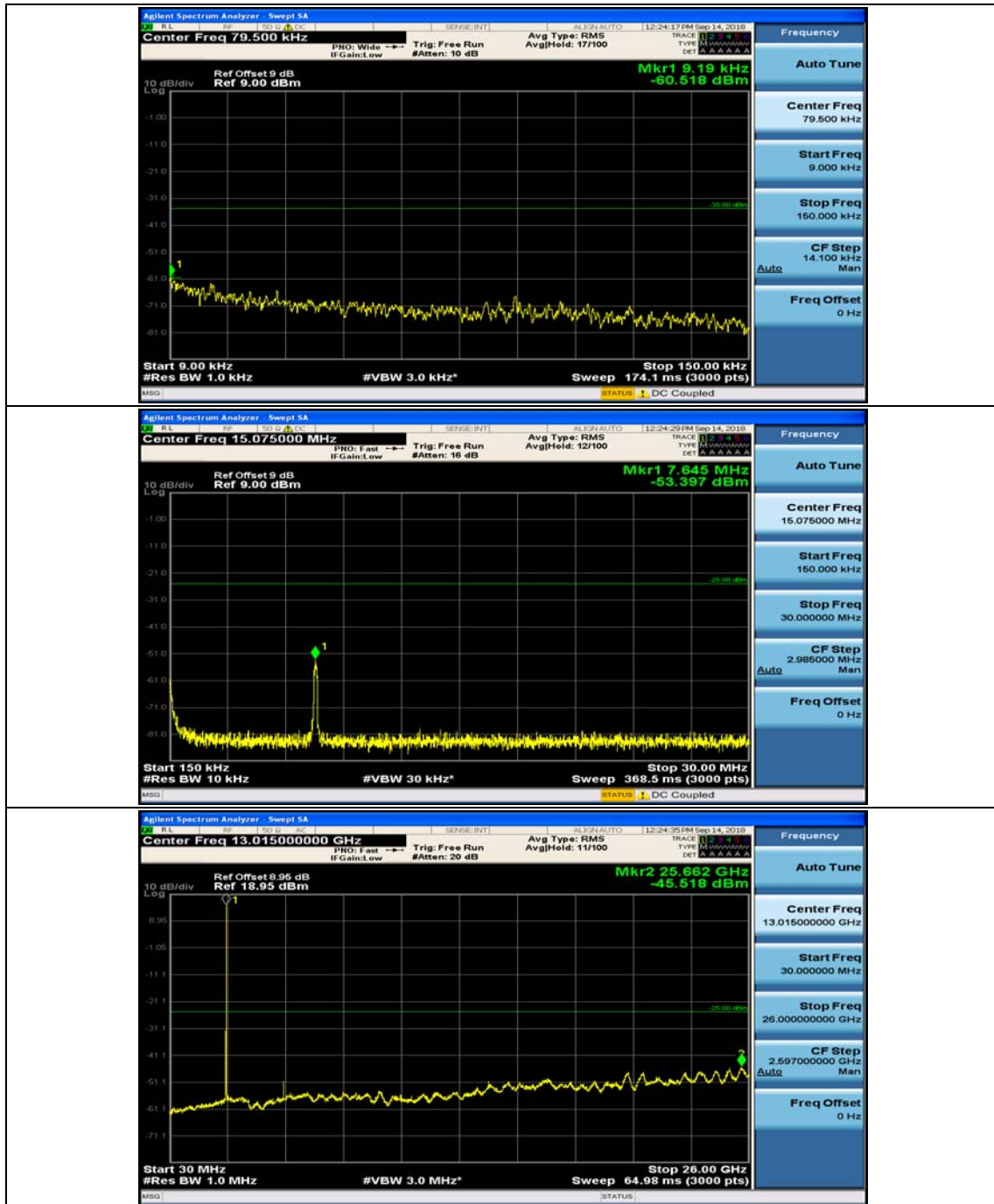


(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0



(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	1.31	0.000523	± 2.5	PASS
		VN	TN	0.01	0.000004	± 2.5	PASS
		VH	TN	2.1	0.000839	± 2.5	PASS
	MCH	VL	TN	2.6	0.001026	± 2.5	PASS
		VN	TN	0.56	0.000221	± 2.5	PASS
		VH	TN	0.18	0.000071	± 2.5	PASS
	HCH	VL	TN	0.64	0.000249	± 2.5	PASS
		VN	TN	0.69	0.000269	± 2.5	PASS
		VH	TN	-0.71	-0.000277	± 2.5	PASS
16QAM	LCH	VL	TN	0.92	0.000368	± 2.5	PASS
		VN	TN	-1.29	-0.000515	± 2.5	PASS
		VH	TN	3.48	0.001391	± 2.5	PASS
	MCH	VL	TN	-1.21	-0.000477	± 2.5	PASS
		VN	TN	2.52	0.000994	± 2.5	PASS
		VH	TN	-1.33	-0.000525	± 2.5	PASS
	HCH	VL	TN	-1.36	-0.000530	± 2.5	PASS
		VN	TN	3.26	0.001270	± 2.5	PASS
		VH	TN	1.67	0.000650	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.8	-0.000320	± 2.5	PASS
		VN	-20	1.87	0.000747	± 2.5	PASS
		VN	-10	4.13	0.001650	± 2.5	PASS
		VN	0	-0.86	-0.000344	± 2.5	PASS
		VN	10	0.44	0.000176	± 2.5	PASS
		VN	20	3.76	0.001502	± 2.5	PASS
		VN	30	1.13	0.000452	± 2.5	PASS
		VN	40	-1.7	-0.000679	± 2.5	PASS
		VN	50	4.77	0.001906	± 2.5	PASS
	MCH	VN	-30	1.93	0.000761	± 2.5	PASS
		VN	-20	0.52	0.000205	± 2.5	PASS

		VN	-10	3.63	0.001432	± 2.5	PASS
		VN	0	-0.02	-0.000008	± 2.5	PASS
		VN	10	-0.95	-0.000375	± 2.5	PASS
		VN	20	1.47	0.000580	± 2.5	PASS
		VN	30	0.8	0.000316	± 2.5	PASS
		VN	40	-0.95	-0.000375	± 2.5	PASS
		VN	50	2.08	0.000821	± 2.5	PASS
	HCH	VN	-30	-0.07	-0.000027	± 2.5	PASS
		VN	-20	-1.58	-0.000615	± 2.5	PASS
		VN	-10	-0.01	-0.000004	± 2.5	PASS
		VN	0	-1.44	-0.000561	± 2.5	PASS
		VN	10	1.47	0.000573	± 2.5	PASS
		VN	20	-1.85	-0.000721	± 2.5	PASS
		VN	30	2.31	0.000900	± 2.5	PASS
		VN	40	2.77	0.001079	± 2.5	PASS
		VN	50	2.11	0.000822	± 2.5	PASS
16QAM	LCH	VN	-30	3.19	0.001275	± 2.5	PASS
		VN	-20	-0.54	-0.000216	± 2.5	PASS
		VN	-10	4.86	0.001942	± 2.5	PASS
		VN	0	3.8	0.001518	± 2.5	PASS
		VN	10	-1.82	-0.000727	± 2.5	PASS
		VN	20	-0.03	-0.000012	± 2.5	PASS
		VN	30	-1.95	-0.000779	± 2.5	PASS
		VN	40	3.95	0.001578	± 2.5	PASS
		VN	50	1.71	0.000683	± 2.5	PASS
	MCH	VN	-30	-1.33	-0.000525	± 2.5	PASS
		VN	-20	-0.37	-0.000146	± 2.5	PASS
		VN	-10	1.5	0.000592	± 2.5	PASS
		VN	0	-1.69	-0.000667	± 2.5	PASS
		VN	10	-1.33	-0.000525	± 2.5	PASS
		VN	20	3.22	0.001270	± 2.5	PASS
		VN	30	4.47	0.001763	± 2.5	PASS
		VN	40	3.62	0.001428	± 2.5	PASS
		VN	50	2.44	0.000963	± 2.5	PASS
	HCH	VN	-30	1.03	0.000401	± 2.5	PASS
		VN	-20	1.67	0.000650	± 2.5	PASS
		VN	-10	3.27	0.001274	± 2.5	PASS
		VN	0	3.78	0.001472	± 2.5	PASS
		VN	10	-0.65	-0.000253	± 2.5	PASS
		VN	20	3.26	0.001270	± 2.5	PASS
		VN	30	1.16	0.000452	± 2.5	PASS

		VN	40	0.12	0.000047	± 2.5	PASS
		VN	50	4.29	0.001671	± 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	-0.58	-0.000232	± 2.5	PASS
		VN	TN	0.54	0.000216	± 2.5	PASS
		VH	TN	3.97	0.001585	± 2.5	PASS
	MCH	VL	TN	4.72	0.001862	± 2.5	PASS
		VN	TN	-0.06	-0.000024	± 2.5	PASS
		VH	TN	2.28	0.000899	± 2.5	PASS
	HCH	VL	TN	-0.23	-0.000090	± 2.5	PASS
		VN	TN	4.36	0.001700	± 2.5	PASS
		VH	TN	0.06	0.000023	± 2.5	PASS
16QAM	LCH	VL	TN	4.26	0.001701	± 2.5	PASS
		VN	TN	-1.09	-0.000435	± 2.5	PASS
		VH	TN	4.53	0.001808	± 2.5	PASS
	MCH	VL	TN	1.67	0.000659	± 2.5	PASS
		VN	TN	1.11	0.000438	± 2.5	PASS
		VH	TN	-0.85	-0.000335	± 2.5	PASS
	HCH	VL	TN	1.46	0.000569	± 2.5	PASS
		VN	TN	4.11	0.001602	± 2.5	PASS
		VH	TN	-0.22	-0.000086	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	2.52	0.001006	± 2.5	PASS
		VN	-20	2.96	0.001182	± 2.5	PASS
		VN	-10	4.8	0.001916	± 2.5	PASS
		VN	0	3.81	0.001521	± 2.5	PASS
		VN	10	-1.15	-0.000459	± 2.5	PASS
		VN	20	-0.54	-0.000216	± 2.5	PASS
		VN	30	2.99	0.001194	± 2.5	PASS
		VN	40	3.53	0.001409	± 2.5	PASS
		VN	50	-1.6	-0.000639	± 2.5	PASS
	MCH	VN	-30	1.55	0.000611	± 2.5	PASS
		VN	-20	-0.13	-0.000051	± 2.5	PASS
		VN	-10	4.48	0.001767	± 2.5	PASS

		VN	0	3.88	0.001531	± 2.5	PASS
		VN	10	3.26	0.001286	± 2.5	PASS
		VN	20	3.53	0.001393	± 2.5	PASS
		VN	30	0.98	0.000387	± 2.5	PASS
		VN	40	1.18	0.000465	± 2.5	PASS
		VN	50	3.57	0.001408	± 2.5	PASS
	HCH	VN	-30	2.59	0.001010	± 2.5	PASS
		VN	-20	4.67	0.001821	± 2.5	PASS
		VN	-10	0.15	0.000058	± 2.5	PASS
		VN	0	-0.32	-0.000125	± 2.5	PASS
		VN	10	0.34	0.000133	± 2.5	PASS
		VN	20	4.1	0.001598	± 2.5	PASS
		VN	30	-1.58	-0.000616	± 2.5	PASS
		VN	40	2.43	0.000947	± 2.5	PASS
		VN	50	3.18	0.001240	± 2.5	PASS
QPSK	LCH	VN	-30	2.63	0.001050	± 2.5	PASS
		VN	-20	-1.49	-0.000595	± 2.5	PASS
		VN	-10	2.3	0.000918	± 2.5	PASS
		VN	0	1.91	0.000762	± 2.5	PASS
		VN	10	4.37	0.001745	± 2.5	PASS
		VN	20	-0.48	-0.000192	± 2.5	PASS
		VN	30	3.3	0.001317	± 2.5	PASS
		VN	40	1.5	0.000599	± 2.5	PASS
		VN	50	4.74	0.001892	± 2.5	PASS
	MCH	VN	-30	3.79	0.001495	± 2.5	PASS
		VN	-20	4.24	0.001673	± 2.5	PASS
		VN	-10	-1.34	-0.000529	± 2.5	PASS
		VN	0	0.27	0.000107	± 2.5	PASS
		VN	10	-1.86	-0.000734	± 2.5	PASS
		VN	20	3.62	0.001428	± 2.5	PASS
		VN	30	2.71	0.001069	± 2.5	PASS
		VN	40	1.59	0.000627	± 2.5	PASS
		VN	50	2.89	0.001140	± 2.5	PASS
	HCH	VN	-30	-1.54	-0.000600	± 2.5	PASS
		VN	-20	3.52	0.001372	± 2.5	PASS
		VN	-10	0.64	0.000250	± 2.5	PASS
		VN	0	4.29	0.001673	± 2.5	PASS
		VN	10	1.88	0.000733	± 2.5	PASS
		VN	20	-0.37	-0.000144	± 2.5	PASS
		VN	30	1.75	0.000682	± 2.5	PASS
		VN	40	1.39	0.000542	± 2.5	PASS

		VN	50	4.2	0.001637	± 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	4.37	0.001743	± 2.5	PASS
		VN	TN	0.65	0.000259	± 2.5	PASS
		VH	TN	-0.21	-0.000084	± 2.5	PASS
	MCH	VL	TN	2.1	0.000828	± 2.5	PASS
		VN	TN	0.94	0.000371	± 2.5	PASS
		VH	TN	-0.68	-0.000268	± 2.5	PASS
	HCH	VL	TN	0.63	0.000246	± 2.5	PASS
		VN	TN	-0.8	-0.000312	± 2.5	PASS
		VH	TN	1.81	0.000706	± 2.5	PASS
16QAM	LCH	VL	TN	0.97	0.000387	± 2.5	PASS
		VN	TN	3.95	0.001575	± 2.5	PASS
		VH	TN	-0.96	-0.000383	± 2.5	PASS
	MCH	VL	TN	2.87	0.001132	± 2.5	PASS
		VN	TN	-1.79	-0.000706	± 2.5	PASS
		VH	TN	1.66	0.000655	± 2.5	PASS
	HCH	VL	TN	2.08	0.000812	± 2.5	PASS
		VN	TN	1.71	0.000667	± 2.5	PASS
		VH	TN	0.42	0.000164	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	4.26	0.001699	± 2.5	PASS
		VN	-20	4.85	0.001934	± 2.5	PASS
		VN	-10	0.11	0.000044	± 2.5	PASS
		VN	0	2.02	0.000806	± 2.5	PASS
		VN	10	0.4	0.000160	± 2.5	PASS
		VN	20	0.33	0.000132	± 2.5	PASS
		VN	30	2.57	0.001025	± 2.5	PASS
		VN	40	2.13	0.000849	± 2.5	PASS
		VN	50	0.77	0.000307	± 2.5	PASS
	MCH	VN	-30	1.83	0.000722	± 2.5	PASS
		VN	-20	4.33	0.001708	± 2.5	PASS
		VN	-10	-2	-0.000789	± 2.5	PASS
		VN	0	3.27	0.001290	± 2.5	PASS

		VN	10	3.08	0.001215	± 2.5	PASS
		VN	20	-1.09	-0.000430	± 2.5	PASS
		VN	30	4.48	0.001767	± 2.5	PASS
		VN	40	-1.53	-0.000604	± 2.5	PASS
		VN	50	0.17	0.000067	± 2.5	PASS
	HCH	VN	-30	1.74	0.000679	± 2.5	PASS
		VN	-20	-0.42	-0.000164	± 2.5	PASS
		VN	-10	4.09	0.001596	± 2.5	PASS
		VN	0	1.38	0.000539	± 2.5	PASS
		VN	10	2.34	0.000913	± 2.5	PASS
		VN	20	3.25	0.001268	± 2.5	PASS
		VN	30	1.57	0.000613	± 2.5	PASS
		VN	40	0.44	0.000172	± 2.5	PASS
		VN	50	4.95	0.001932	± 2.5	PASS
		VN	-30	1.43	0.000570	± 2.5	PASS
QPSK	LCH	VN	-20	0.52	0.000207	± 2.5	PASS
		VN	-10	-1.71	-0.000682	± 2.5	PASS
		VN	0	4.37	0.001743	± 2.5	PASS
		VN	10	3.75	0.001496	± 2.5	PASS
		VN	20	1.92	0.000766	± 2.5	PASS
		VN	30	-0.61	-0.000243	± 2.5	PASS
		VN	40	3.02	0.001204	± 2.5	PASS
		VN	50	4.09	0.001631	± 2.5	PASS
	MCH	VN	-30	4.23	0.001669	± 2.5	PASS
		VN	-20	0.35	0.000138	± 2.5	PASS
		VN	-10	-1.49	-0.000588	± 2.5	PASS
		VN	0	-0.77	-0.000304	± 2.5	PASS
		VN	10	4.06	0.001602	± 2.5	PASS
		VN	20	3.65	0.001440	± 2.5	PASS
		VN	30	-0.01	-0.000004	± 2.5	PASS
		VN	40	0.68	0.000268	± 2.5	PASS
		VN	50	4.09	0.001613	± 2.5	PASS
	HCH	VN	-30	-1.5	-0.000585	± 2.5	PASS
		VN	-20	2.61	0.001019	± 2.5	PASS
		VN	-10	3.56	0.001389	± 2.5	PASS
		VN	0	4.96	0.001936	± 2.5	PASS
		VN	10	2.63	0.001026	± 2.5	PASS
		VN	20	2.9	0.001132	± 2.5	PASS
		VN	30	2.49	0.000972	± 2.5	PASS
		VN	40	3.06	0.001194	± 2.5	PASS
		VN	50	3.62	0.001413	± 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	0.56	0.000223	± 2.5	PASS
		VN	TN	0.79	0.000315	± 2.5	PASS
		VH	TN	4.16	0.001657	± 2.5	PASS
	MCH	VL	TN	-0.14	-0.000055	± 2.5	PASS
		VN	TN	0.5	0.000197	± 2.5	PASS
		VH	TN	-1.7	-0.000671	± 2.5	PASS
	HCH	VL	TN	-0.05	-0.000020	± 2.5	PASS
		VN	TN	1.55	0.000605	± 2.5	PASS
		VH	TN	4.19	0.001637	± 2.5	PASS
16QAM	LCH	VL	TN	1.92	0.000765	± 2.5	PASS
		VN	TN	-0.18	-0.000072	± 2.5	PASS
		VH	TN	3.3	0.001315	± 2.5	PASS
	MCH	VL	TN	2.37	0.000935	± 2.5	PASS
		VN	TN	2.68	0.001057	± 2.5	PASS
		VH	TN	0.79	0.000312	± 2.5	PASS
	HCH	VL	TN	4.72	0.001844	± 2.5	PASS
		VN	TN	-1.91	-0.000746	± 2.5	PASS
		VH	TN	-0.95	-0.000371	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.15	0.000857	± 2.5	PASS
		VN	-20	-0.07	-0.000028	± 2.5	PASS
		VN	-10	3.62	0.001442	± 2.5	PASS
		VN	0	3.05	0.001215	± 2.5	PASS
		VN	10	2.61	0.001040	± 2.5	PASS
		VN	20	1.15	0.000458	± 2.5	PASS
		VN	30	0.93	0.000371	± 2.5	PASS
		VN	40	0.55	0.000219	± 2.5	PASS
		VN	50	0.35	0.000139	± 2.5	PASS
	MCH	VN	-30	1.22	0.000481	± 2.5	PASS
		VN	-20	-1.22	-0.000481	± 2.5	PASS
		VN	-10	3.9	0.001538	± 2.5	PASS
		VN	0	2.06	0.000813	± 2.5	PASS
		VN	10	0.55	0.000217	± 2.5	PASS
		VN	20	0.08	0.000032	± 2.5	PASS

		VN	30	-1.82	-0.000718	± 2.5	PASS
		VN	40	2.67	0.001053	± 2.5	PASS
		VN	50	-1.45	-0.000572	± 2.5	PASS
	HCH	VN	-30	-1.54	-0.000602	± 2.5	PASS
		VN	-20	-1.72	-0.000672	± 2.5	PASS
		VN	-10	4.52	0.001766	± 2.5	PASS
		VN	0	2.1	0.000820	± 2.5	PASS
		VN	10	-0.75	-0.000293	± 2.5	PASS
		VN	20	0.96	0.000375	± 2.5	PASS
		VN	30	-0.69	-0.000270	± 2.5	PASS
		VN	40	2.32	0.000906	± 2.5	PASS
		VN	50	-1.24	-0.000484	± 2.5	PASS
QPSK	LCH	VN	-30	-1.45	-0.000578	± 2.5	PASS
		VN	-20	1.33	0.000530	± 2.5	PASS
		VN	-10	4.64	0.001849	± 2.5	PASS
		VN	0	4.67	0.001861	± 2.5	PASS
		VN	10	1.1	0.000438	± 2.5	PASS
		VN	20	3.75	0.001494	± 2.5	PASS
		VN	30	2.06	0.000821	± 2.5	PASS
		VN	40	4.8	0.001912	± 2.5	PASS
		VN	50	4.99	0.001988	± 2.5	PASS
	MCH	VN	-30	0.47	0.000185	± 2.5	PASS
		VN	-20	0.76	0.000300	± 2.5	PASS
		VN	-10	0.75	0.000296	± 2.5	PASS
		VN	0	1.23	0.000485	± 2.5	PASS
		VN	10	-1.76	-0.000694	± 2.5	PASS
		VN	20	2.2	0.000868	± 2.5	PASS
		VN	30	4.01	0.001582	± 2.5	PASS
		VN	40	-0.63	-0.000249	± 2.5	PASS
		VN	50	0.4	0.000158	± 2.5	PASS
	HCH	VN	-30	1.87	0.000730	± 2.5	PASS
		VN	-20	3.27	0.001277	± 2.5	PASS
		VN	-10	1.51	0.000590	± 2.5	PASS
		VN	0	-0.53	-0.000207	± 2.5	PASS
		VN	10	3.56	0.001391	± 2.5	PASS
		VN	20	3.64	0.001422	± 2.5	PASS
		VN	30	3.06	0.001195	± 2.5	PASS
		VN	40	1.21	0.000473	± 2.5	PASS
		VN	50	1.7	0.000664	± 2.5	PASS