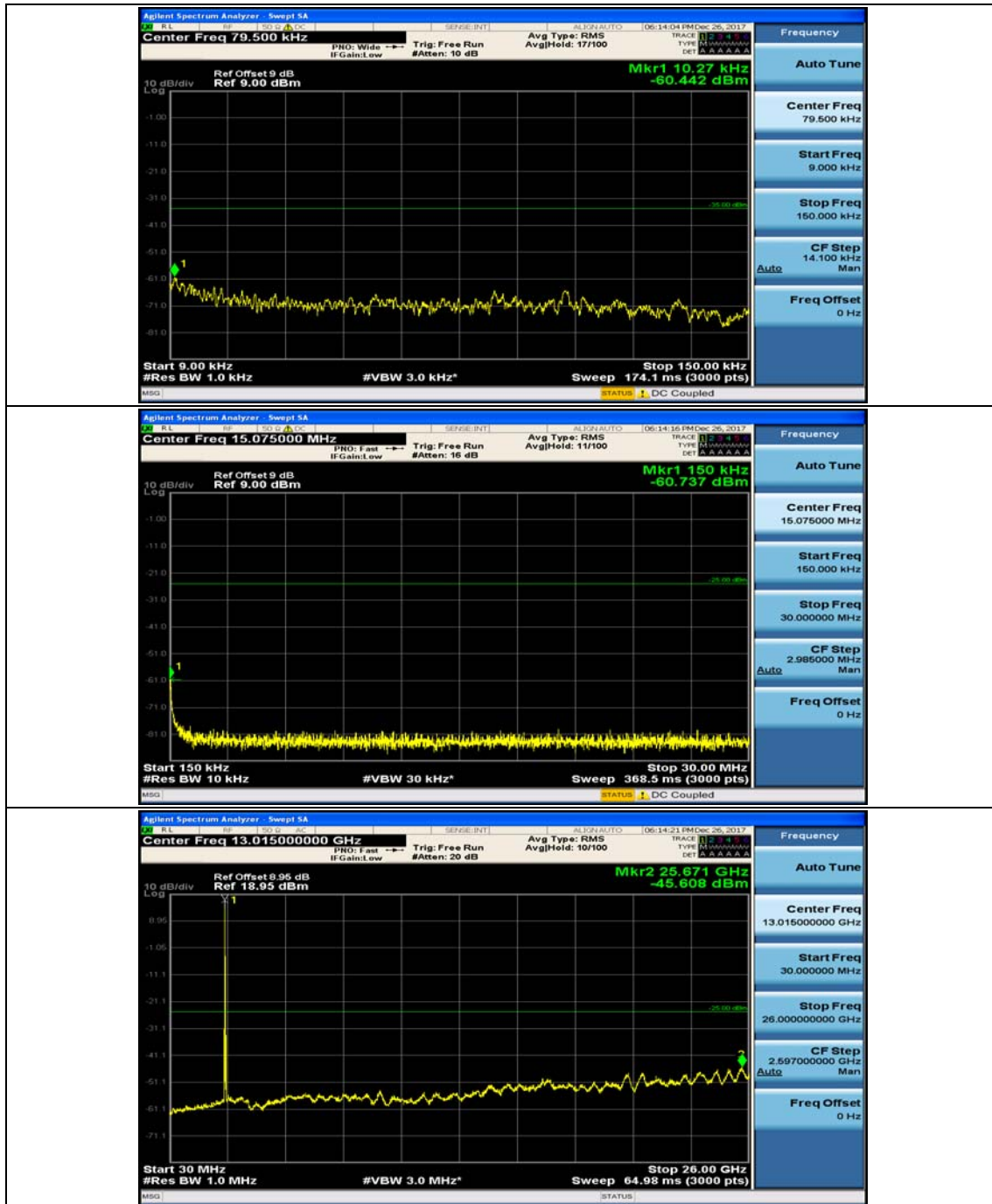
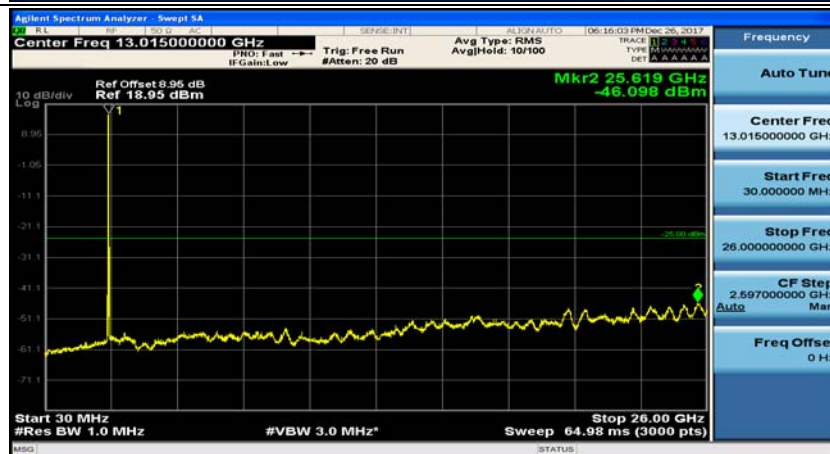
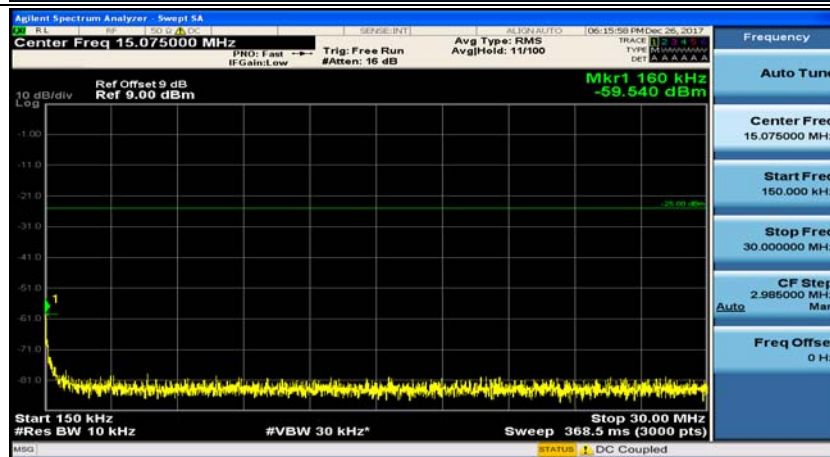
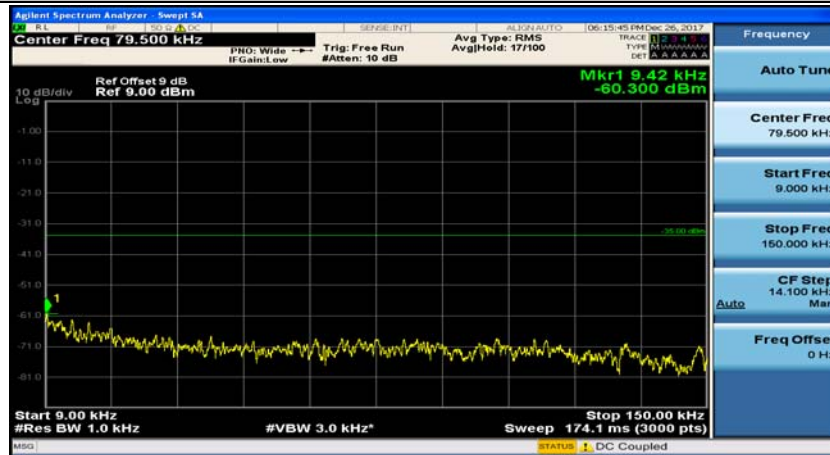
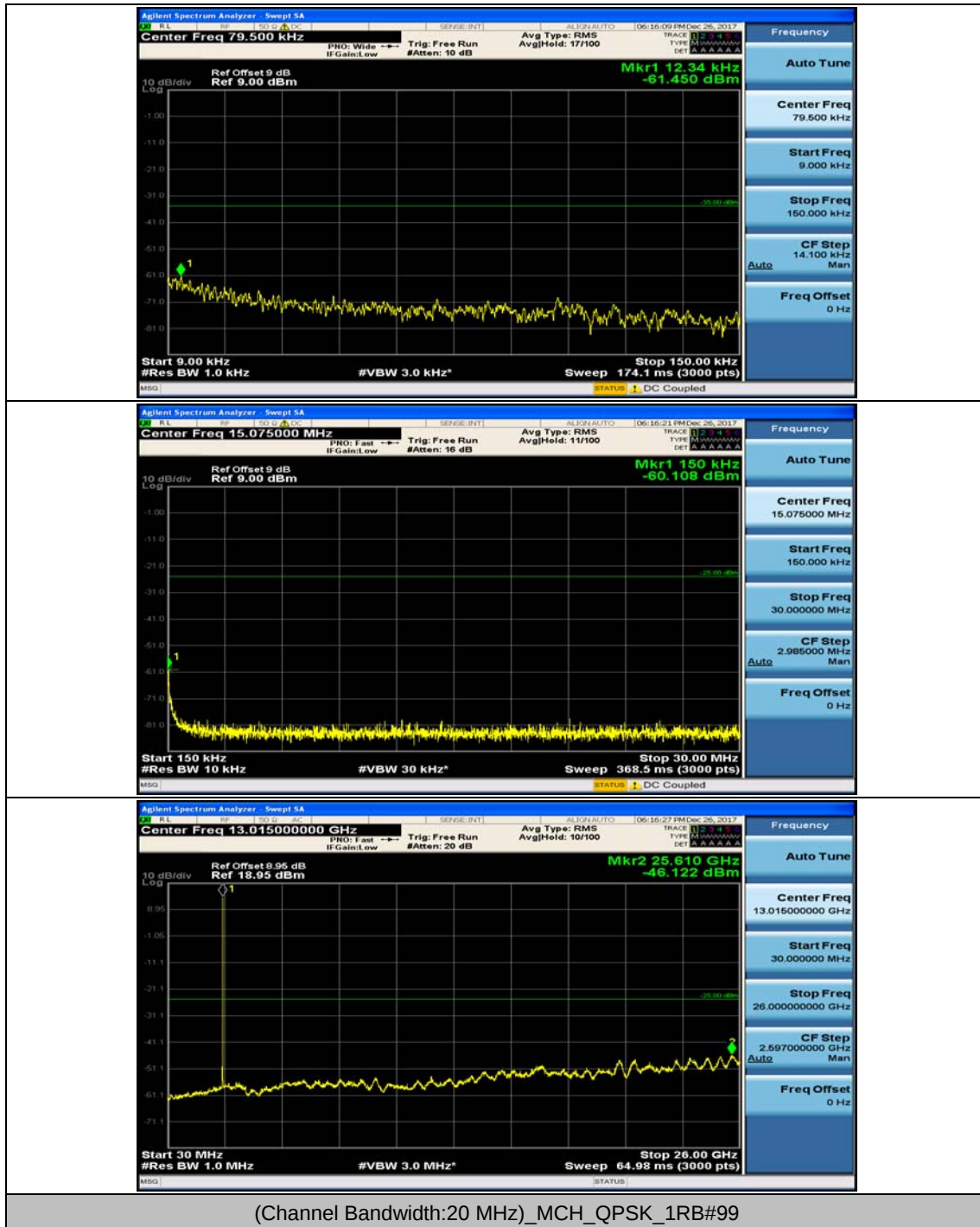


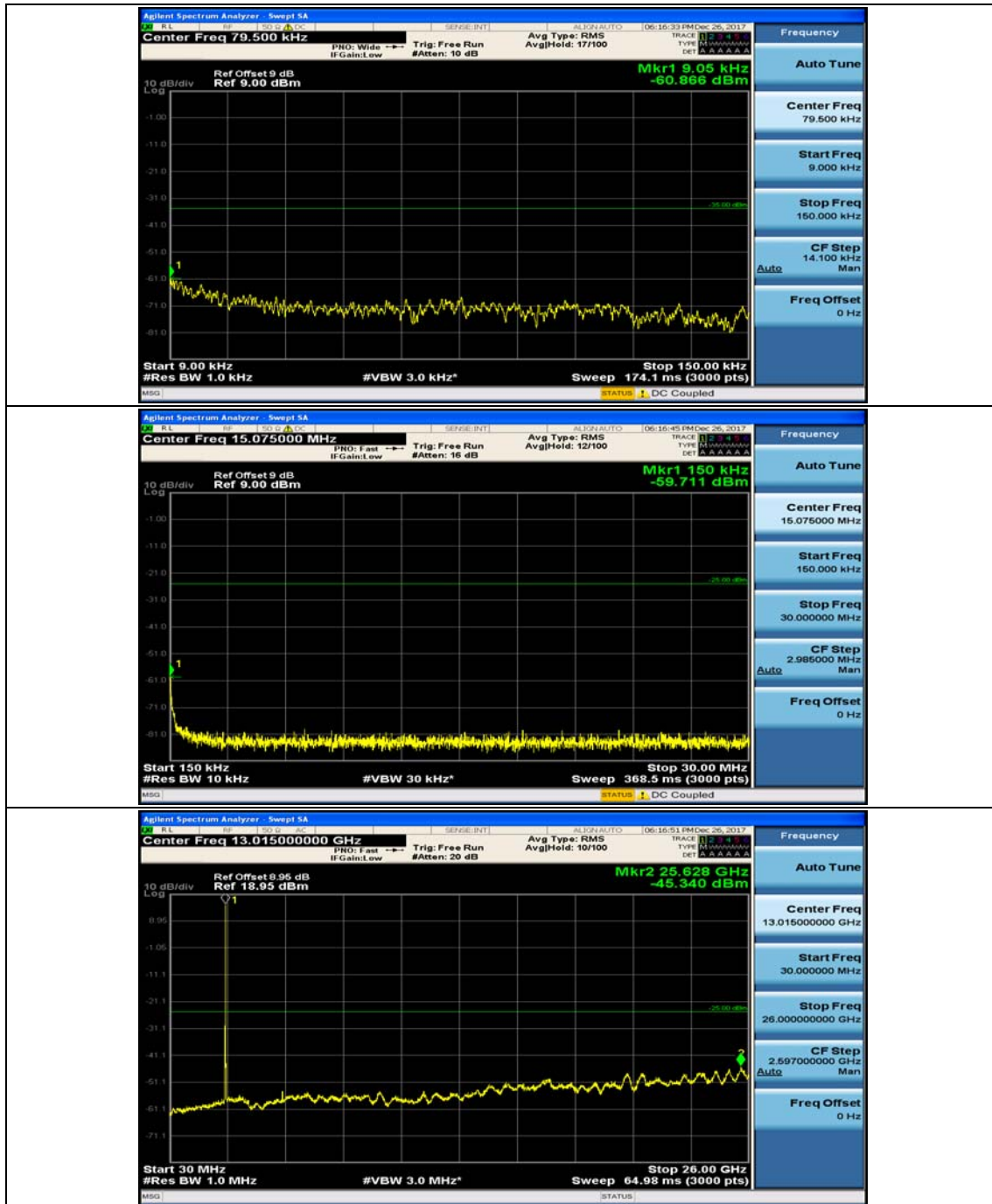


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0

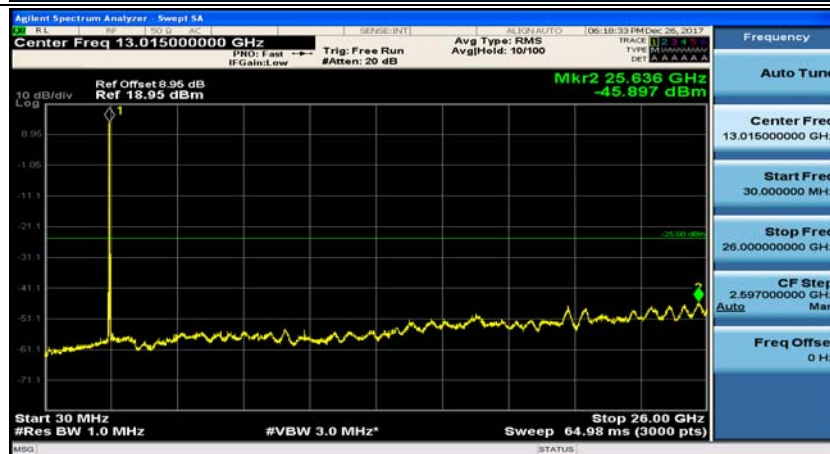
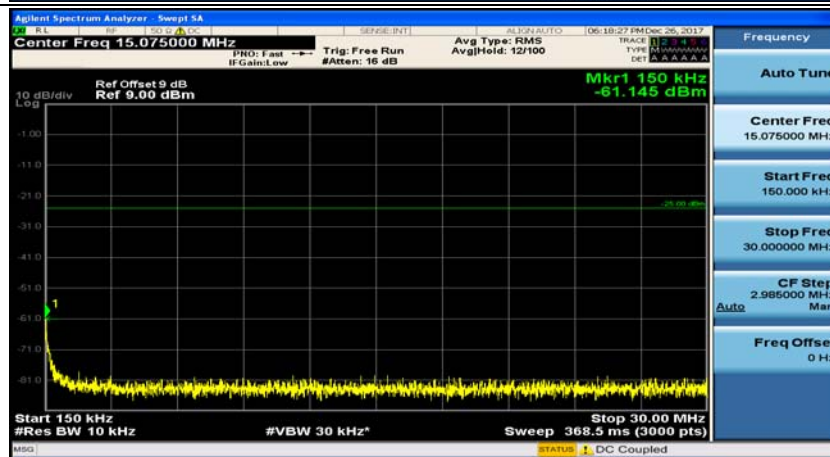
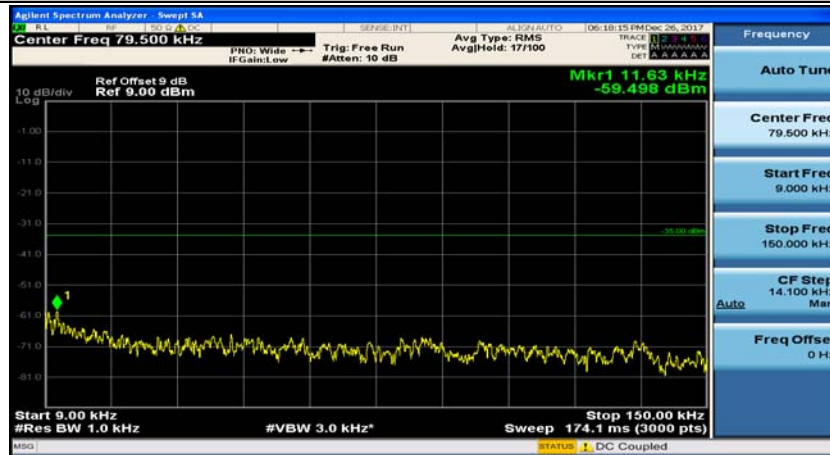


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

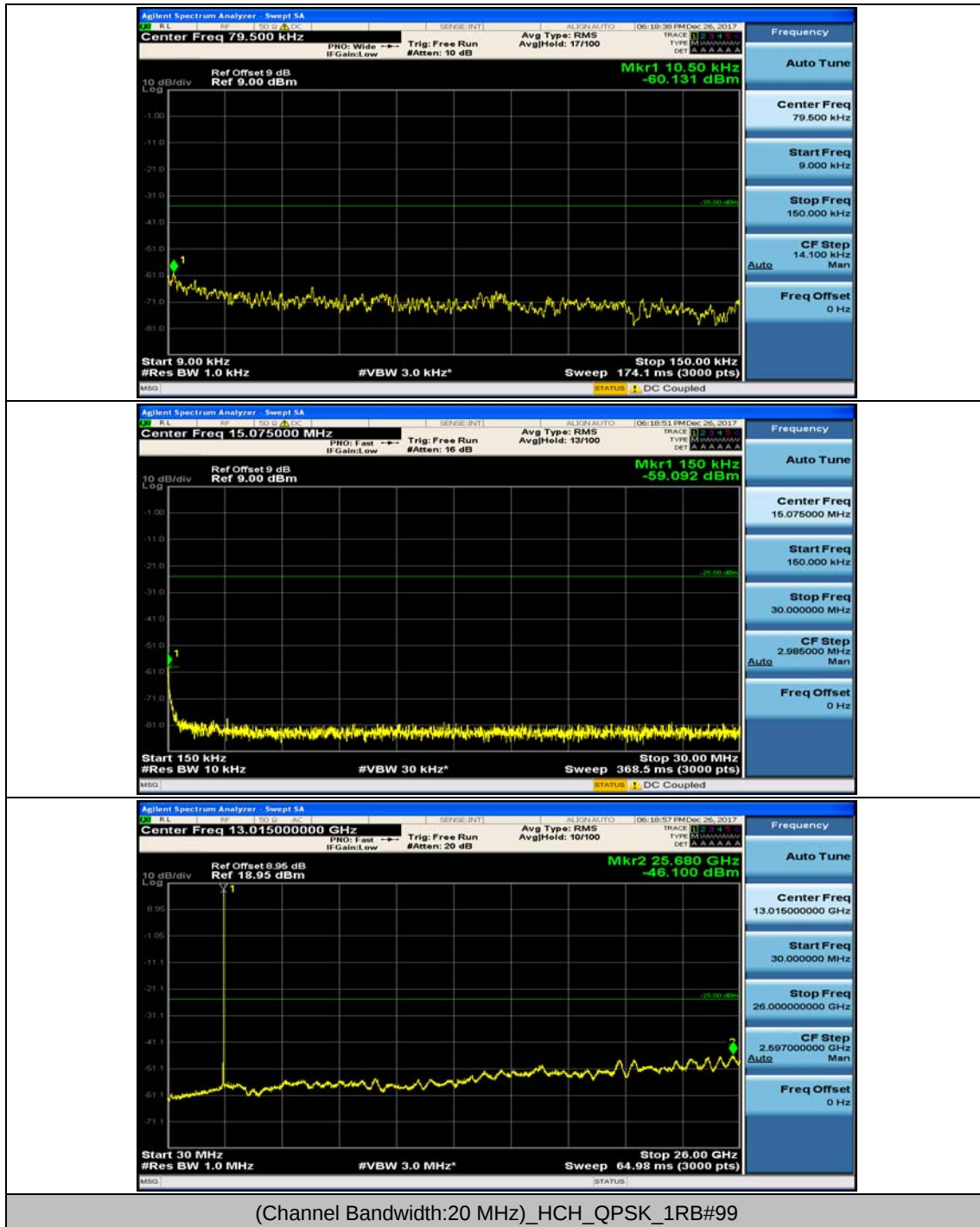


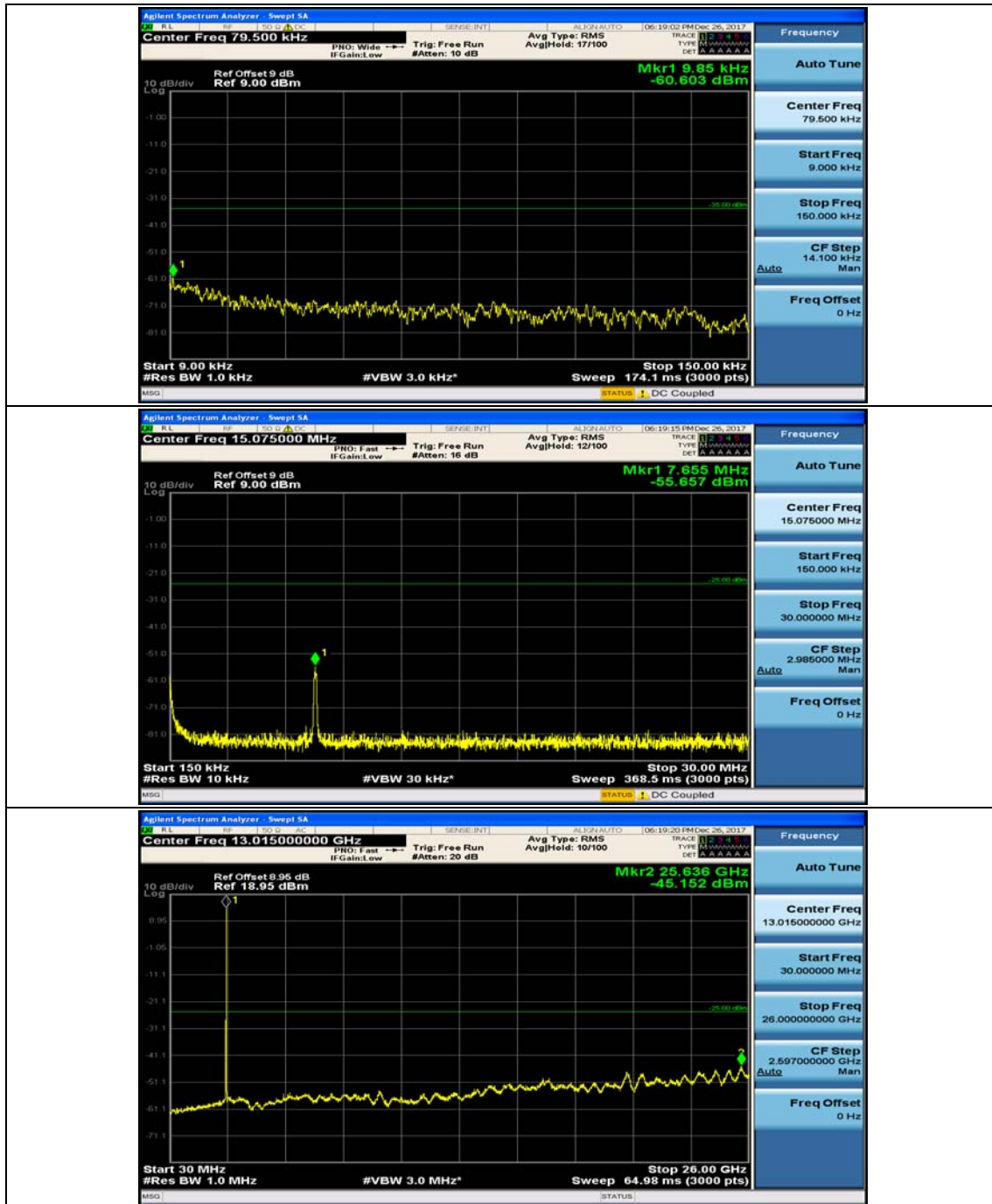


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0

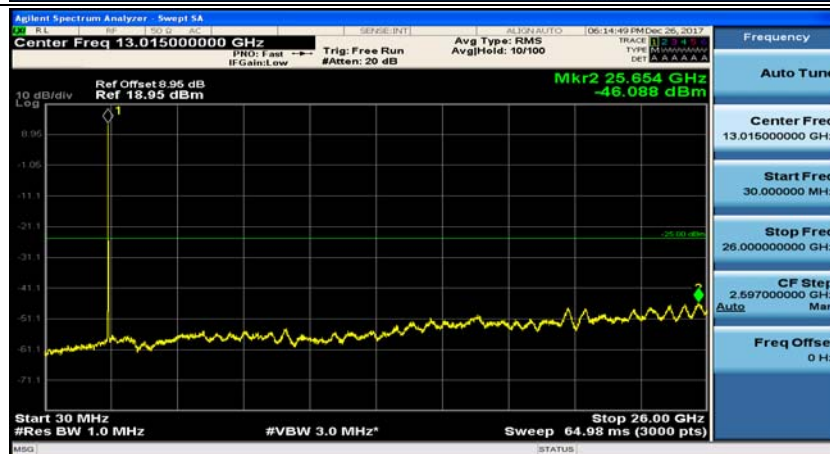
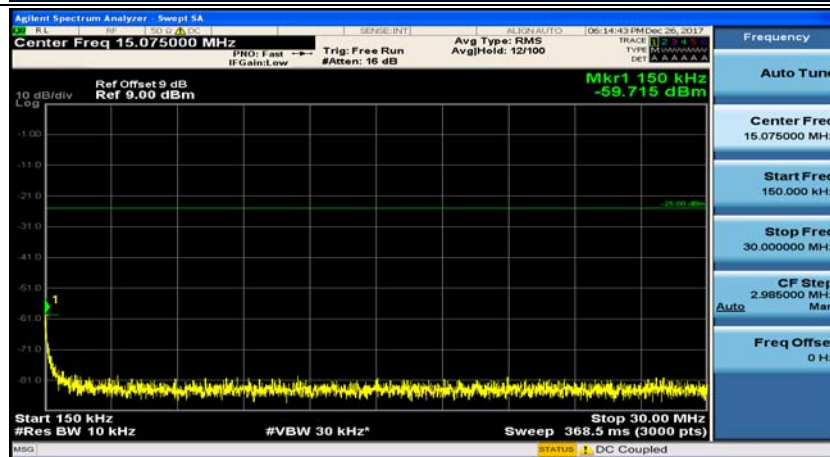
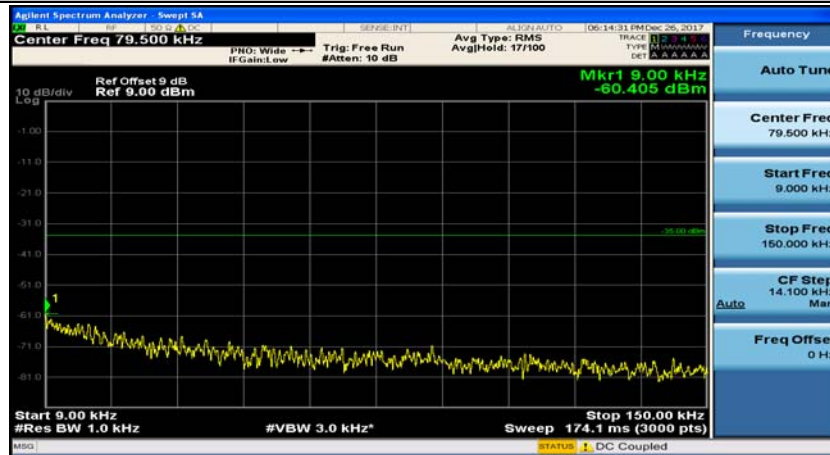


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

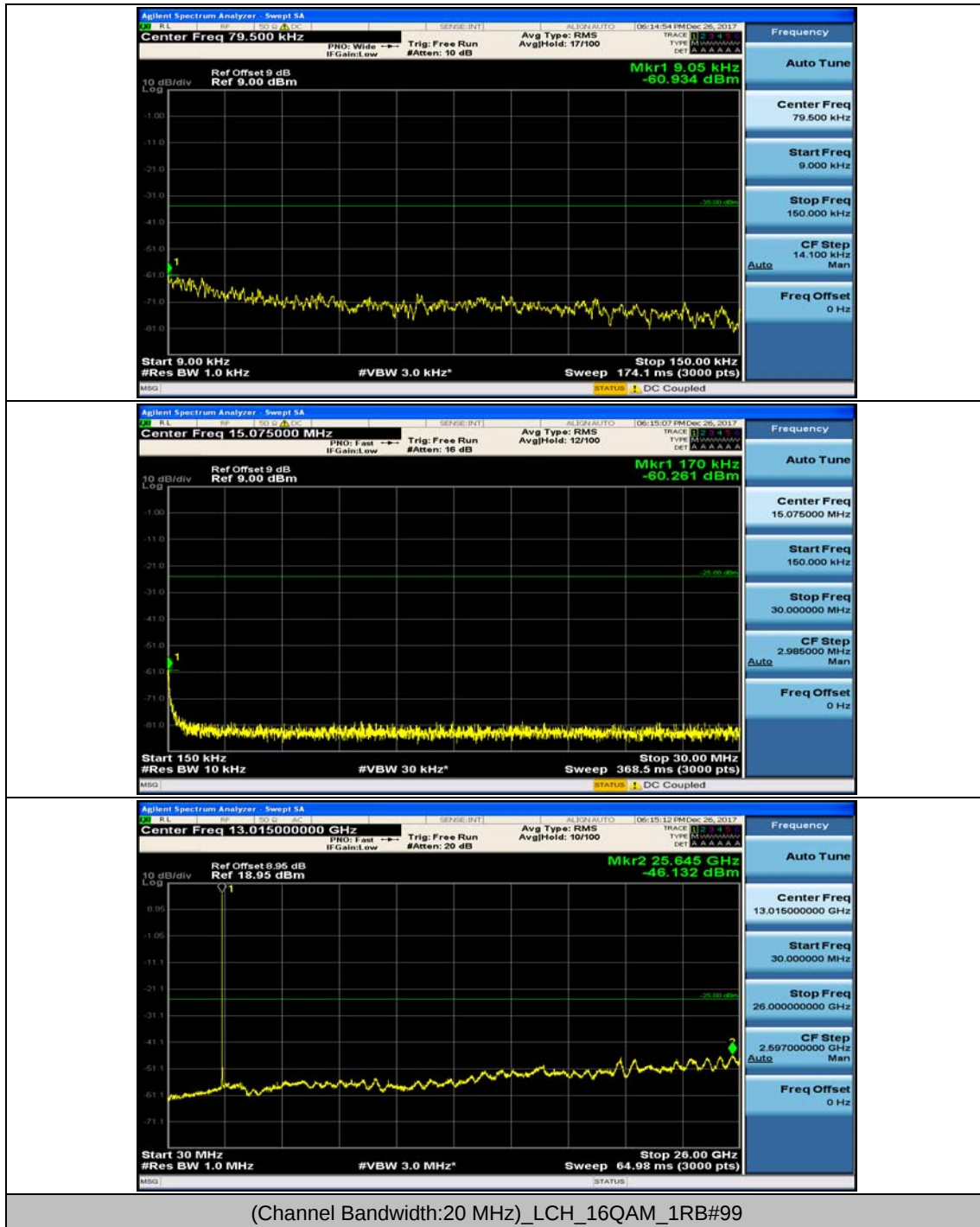


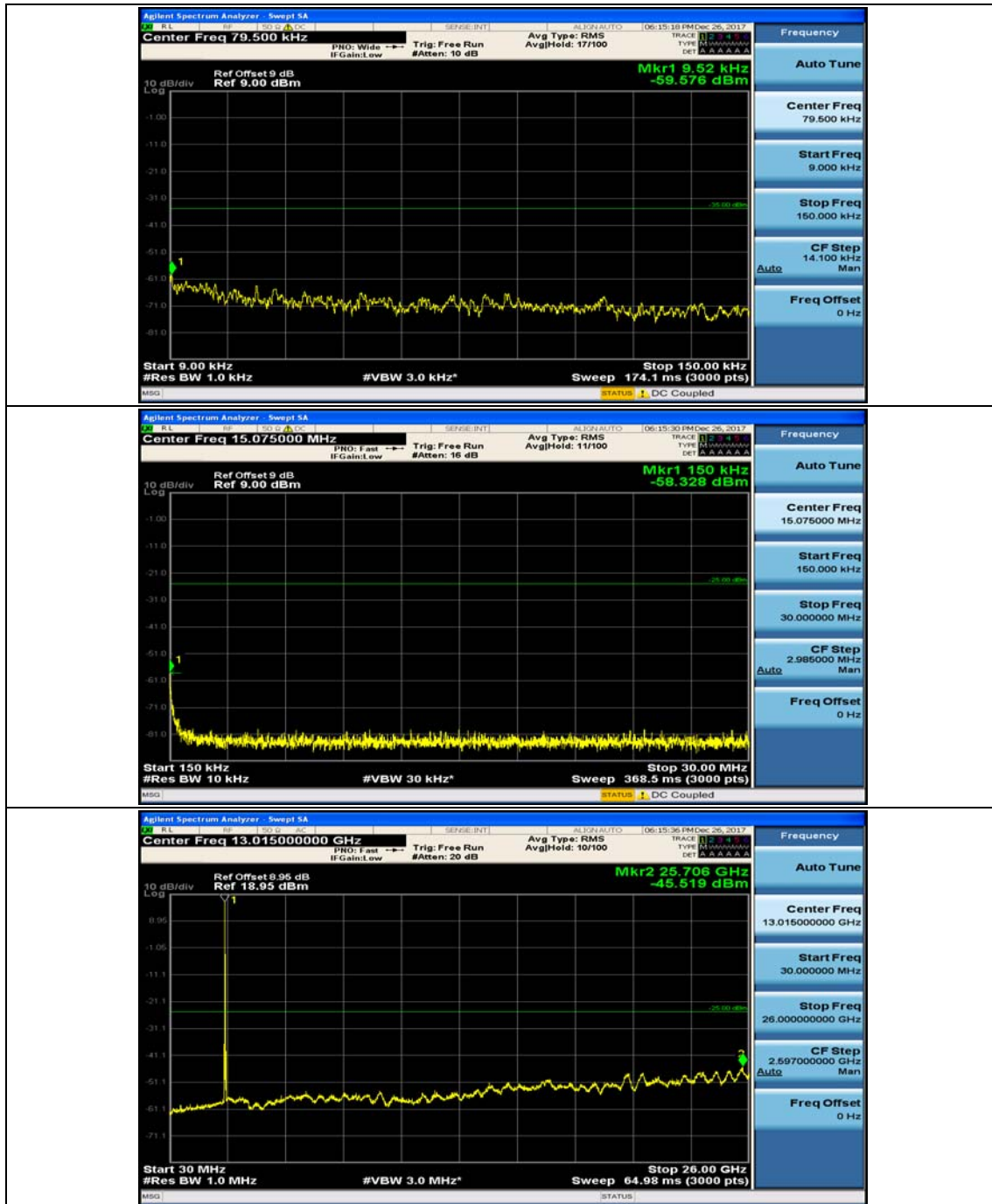


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0

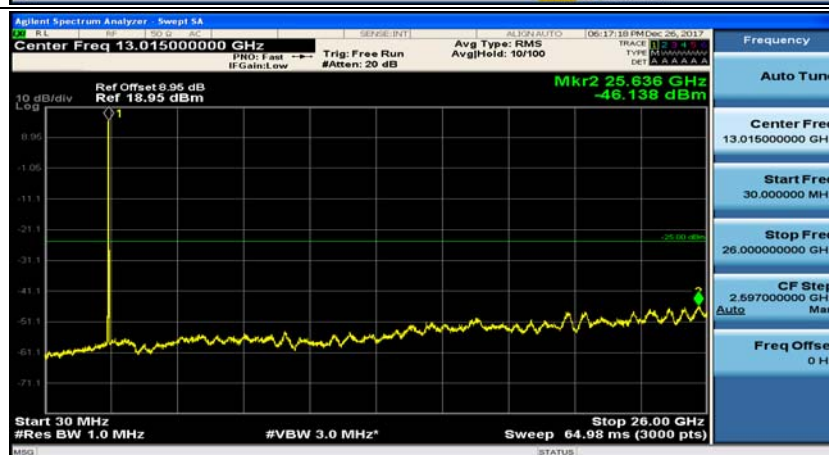
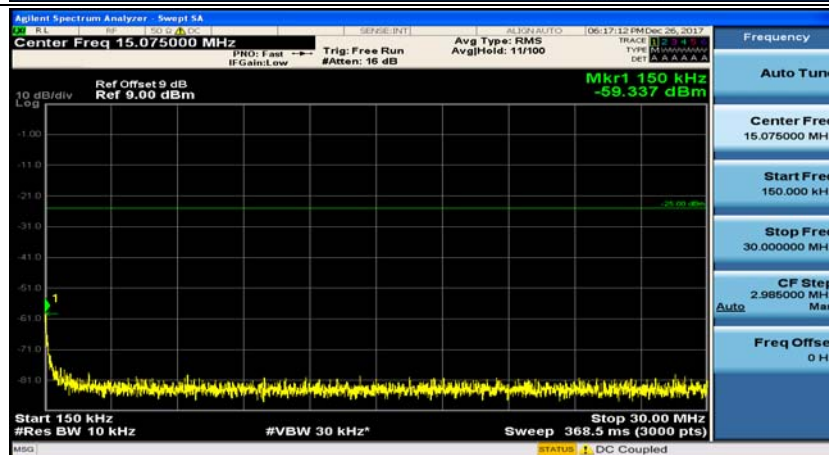
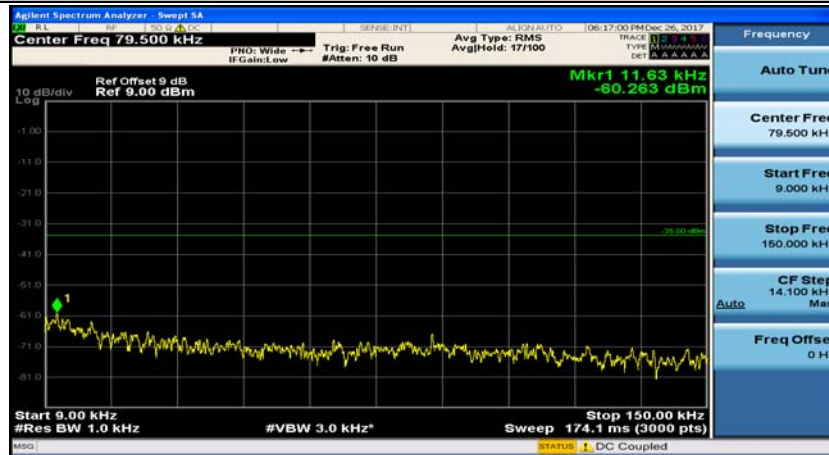


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

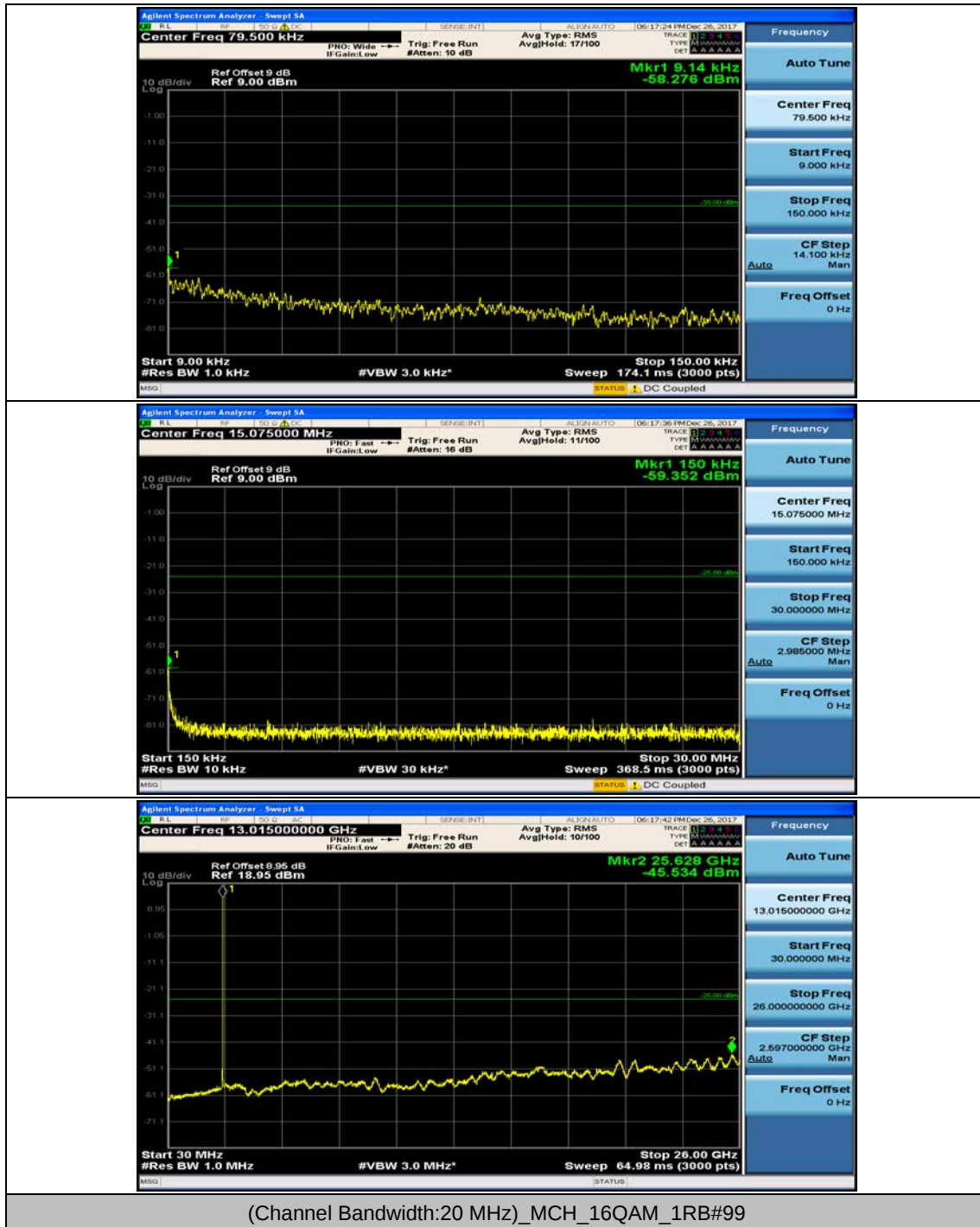


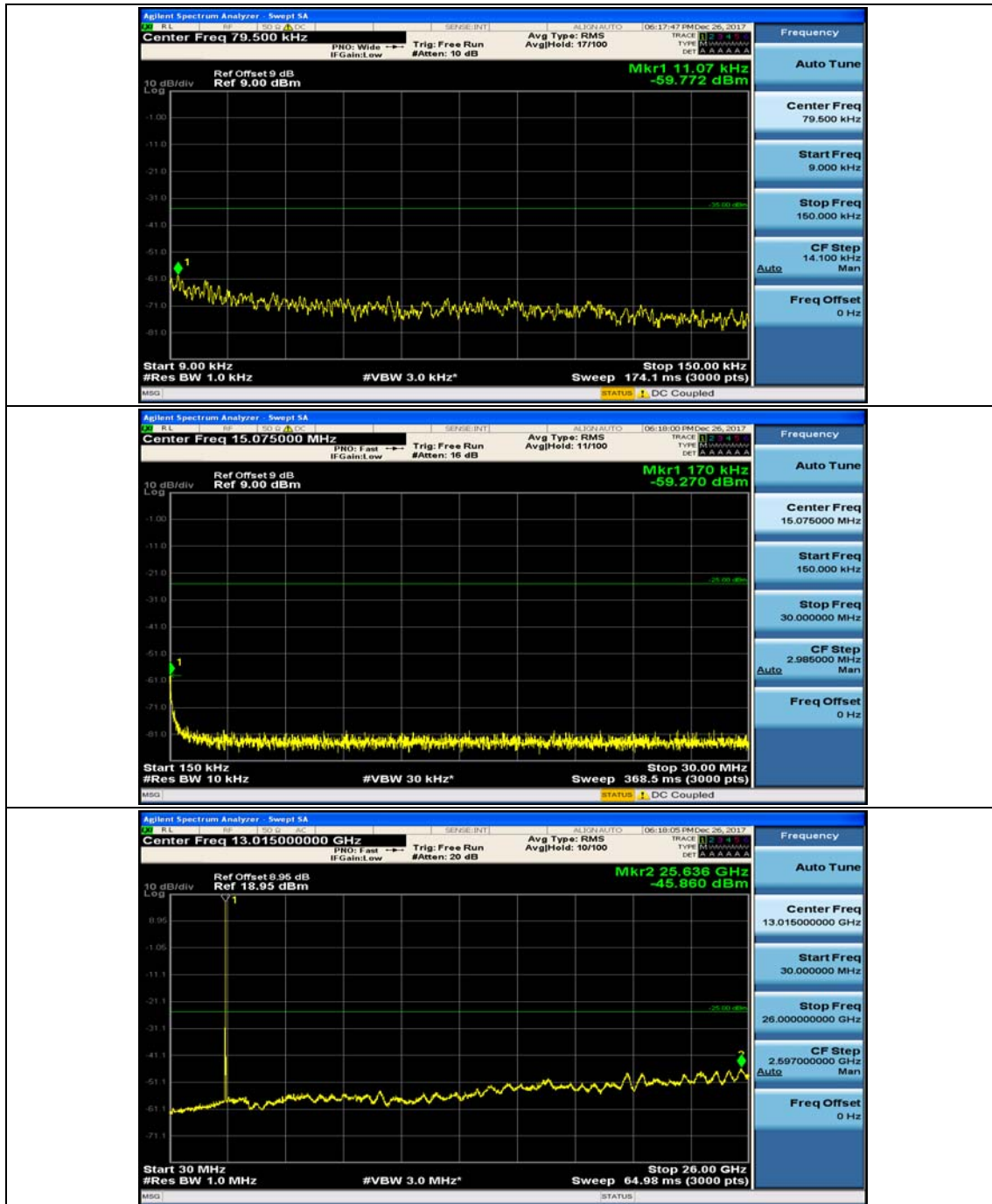


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0

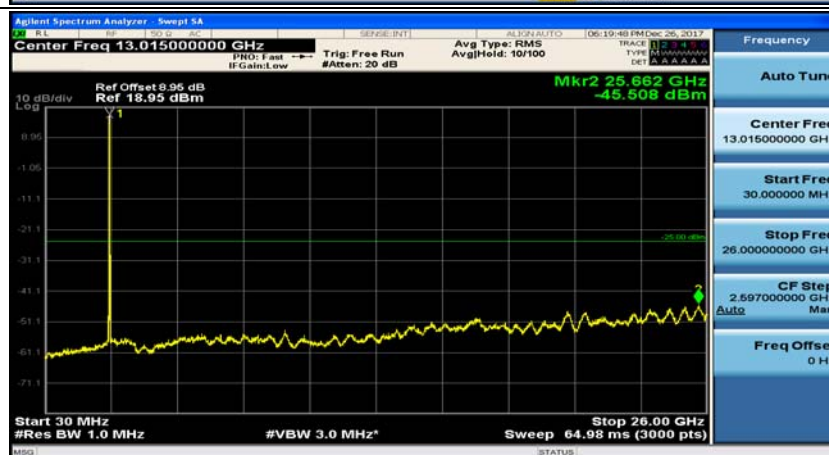
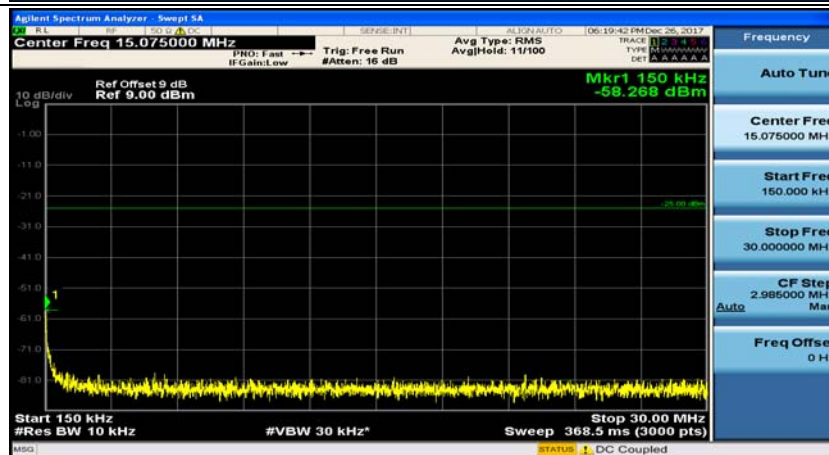
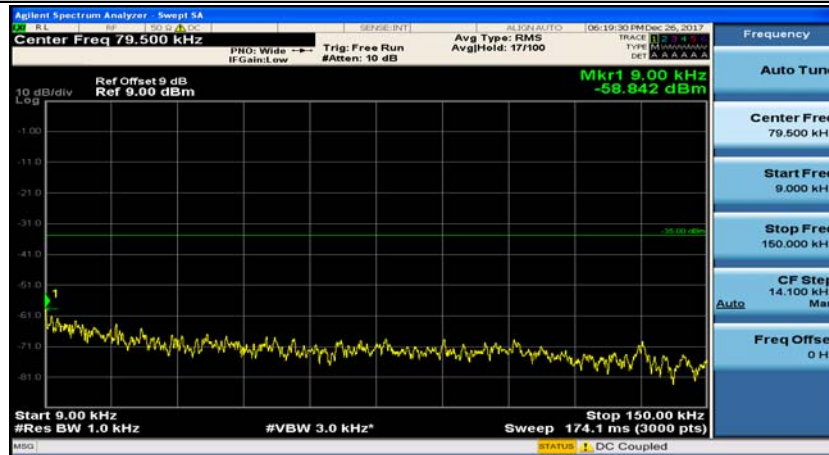


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49

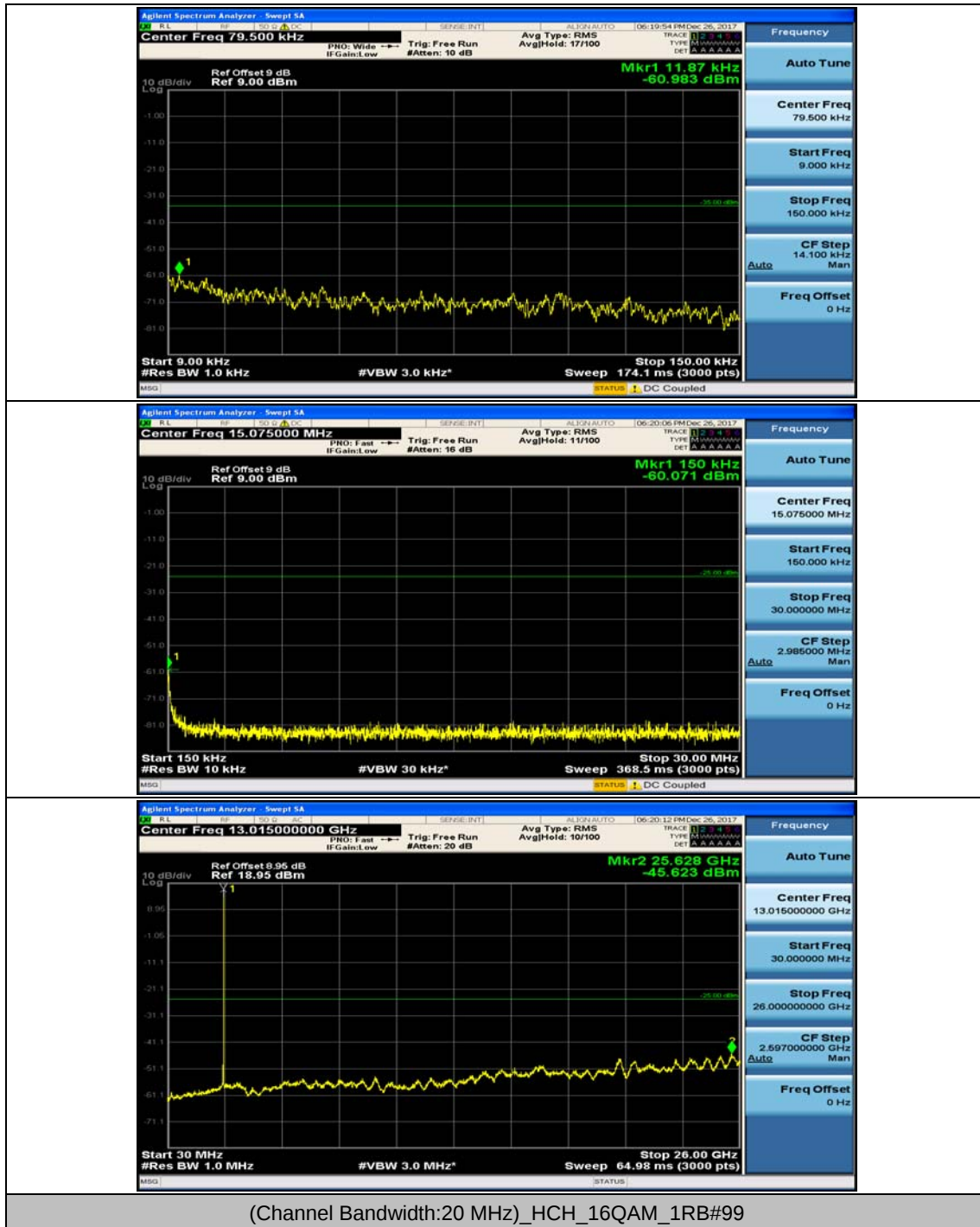


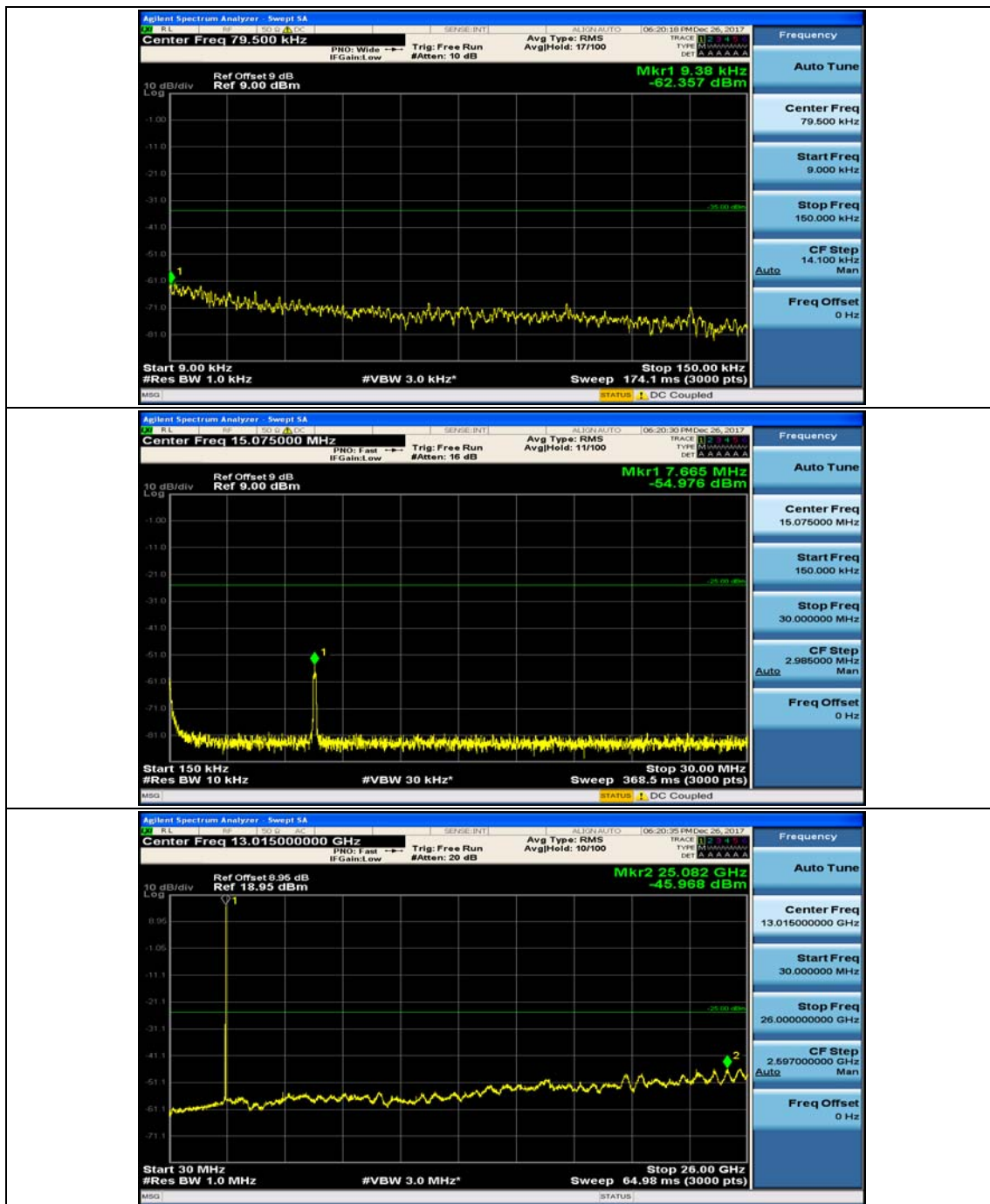


(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0



(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	-0.35	-0.000140	± 2.5	PASS
		VN	TN	-0.29	-0.000116	± 2.5	PASS
		VH	TN	2.3	0.000919	± 2.5	PASS
	MCH	VL	TN	-1.04	-0.000410	± 2.5	PASS
		VN	TN	-0.93	-0.000367	± 2.5	PASS
		VH	TN	2.59	0.001022	± 2.5	PASS
	HCH	VL	TN	4.27	0.001663	± 2.5	PASS
		VN	TN	-0.32	-0.000125	± 2.5	PASS
		VH	TN	4.18	0.001628	± 2.5	PASS
16QAM	LCH	VL	TN	4.7	0.001878	± 2.5	PASS
		VN	TN	0.3	0.000120	± 2.5	PASS
		VH	TN	0.44	0.000176	± 2.5	PASS
	MCH	VL	TN	-0.76	-0.000300	± 2.5	PASS
		VN	TN	0.41	0.000162	± 2.5	PASS
		VH	TN	2.71	0.001069	± 2.5	PASS
	HCH	VL	TN	1.06	0.000413	± 2.5	PASS
		VN	TN	-1.6	-0.000623	± 2.5	PASS
		VH	TN	-1.02	-0.000397	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	4.3	0.001718	± 2.5	PASS
		VN	-20	4.71	0.001882	± 2.5	PASS
		VN	-10	0.72	0.000288	± 2.5	PASS
		VN	0	4.63	0.001850	± 2.5	PASS
		VN	10	1.44	0.000575	± 2.5	PASS
		VN	20	3.07	0.001227	± 2.5	PASS
		VN	30	0.99	0.000396	± 2.5	PASS
		VN	40	-0.1	-0.000040	± 2.5	PASS
		VN	50	3.37	0.001347	± 2.5	PASS
	MCH	VN	-30	-0.95	-0.000375	± 2.5	PASS

		VN	-20	1.82	0.000718	± 2.5	PASS
		VN	-10	0.27	0.000107	± 2.5	PASS
		VN	0	-1.42	-0.000560	± 2.5	PASS
		VN	10	-0.31	-0.000122	± 2.5	PASS
		VN	20	1.55	0.000611	± 2.5	PASS
		VN	30	1.27	0.000501	± 2.5	PASS
		VN	40	3.45	0.001361	± 2.5	PASS
		VN	50	2.56	0.001010	± 2.5	PASS
	HCH	VN	-30	-1.78	-0.000693	± 2.5	PASS
		VN	-20	4.71	0.001834	± 2.5	PASS
		VN	-10	4.09	0.001593	± 2.5	PASS
		VN	0	-0.35	-0.000136	± 2.5	PASS
		VN	10	2.79	0.001087	± 2.5	PASS
		VN	20	4.65	0.001811	± 2.5	PASS
		VN	30	4.59	0.001788	± 2.5	PASS
		VN	40	4.77	0.001858	± 2.5	PASS
		VN	50	-1.89	-0.000736	± 2.5	PASS
16QAM	LCH	VN	-30	3.8	0.001518	± 2.5	PASS
		VN	-20	0.15	0.000060	± 2.5	PASS
		VN	-10	0.5	0.000200	± 2.5	PASS
		VN	0	2.39	0.000955	± 2.5	PASS
		VN	10	3.75	0.001499	± 2.5	PASS
		VN	20	-0.4	-0.000160	± 2.5	PASS
		VN	30	0.92	0.000368	± 2.5	PASS
		VN	40	1.11	0.000444	± 2.5	PASS
		VN	50	0.91	0.000364	± 2.5	PASS
	MCH	VN	-30	3.93	0.001550	± 2.5	PASS
		VN	-20	0.89	0.000351	± 2.5	PASS
		VN	-10	4.65	0.001834	± 2.5	PASS
		VN	0	3.38	0.001333	± 2.5	PASS
		VN	10	3.31	0.001306	± 2.5	PASS
		VN	20	4.72	0.001862	± 2.5	PASS
		VN	30	1.2	0.000473	± 2.5	PASS
		VN	40	0.87	0.000343	± 2.5	PASS
		VN	50	3.76	0.001483	± 2.5	PASS
	HCH	VN	-30	-0.84	-0.000327	± 2.5	PASS
		VN	-20	4.04	0.001574	± 2.5	PASS
		VN	-10	2.6	0.001013	± 2.5	PASS
		VN	0	3.31	0.001289	± 2.5	PASS
		VN	10	3.64	0.001418	± 2.5	PASS
		VN	20	4.44	0.001729	± 2.5	PASS

		VN	30	2.47	0.000962	± 2.5	PASS
		VN	40	3.14	0.001223	± 2.5	PASS
		VN	50	2.3	0.000896	± 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	1.99	0.000794	± 2.5	PASS
		VN	TN	3.38	0.001349	± 2.5	PASS
		VH	TN	-0.56	-0.000224	± 2.5	PASS
	MCH	VL	TN	0.73	0.000288	± 2.5	PASS
		VN	TN	0.59	0.000233	± 2.5	PASS
		VH	TN	3.32	0.001310	± 2.5	PASS
	HCH	VL	TN	1.74	0.000678	± 2.5	PASS
		VN	TN	-0.71	-0.000277	± 2.5	PASS
		VH	TN	3.54	0.001380	± 2.5	PASS
16QAM	LCH	VL	TN	4.83	0.001928	± 2.5	PASS
		VN	TN	2.16	0.000862	± 2.5	PASS
		VH	TN	-0.51	-0.000204	± 2.5	PASS
	MCH	VL	TN	-0.35	-0.000138	± 2.5	PASS
		VN	TN	4	0.001578	± 2.5	PASS
		VH	TN	3.77	0.001487	± 2.5	PASS
	HCH	VL	TN	3.49	0.001361	± 2.5	PASS
		VN	TN	1.05	0.000409	± 2.5	PASS
		VH	TN	-0.62	-0.000242	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	2.31	0.000922	± 2.5	PASS
		VN	-20	3.63	0.001449	± 2.5	PASS
		VN	-10	4.69	0.001872	± 2.5	PASS
		VN	0	1.45	0.000579	± 2.5	PASS
		VN	10	2.78	0.001110	± 2.5	PASS
		VN	20	3.69	0.001473	± 2.5	PASS
		VN	30	4.92	0.001964	± 2.5	PASS
		VN	40	-1.26	-0.000503	± 2.5	PASS
		VN	50	4.98	0.001988	± 2.5	PASS
	MCH	VN	-30	2.3	0.000907	± 2.5	PASS
		VN	-20	4.64	0.001830	± 2.5	PASS

		VN	-10	-0.81	-0.000320	± 2.5	PASS
		VN	0	1.2	0.000473	± 2.5	PASS
		VN	10	2.73	0.001077	± 2.5	PASS
		VN	20	-0.72	-0.000284	± 2.5	PASS
		VN	30	-0.32	-0.000126	± 2.5	PASS
		VN	40	0.09	0.000036	± 2.5	PASS
		VN	50	4.09	0.001613	± 2.5	PASS
	HCH	VN	-30	-0.33	-0.000129	± 2.5	PASS
		VN	-20	4.85	0.001891	± 2.5	PASS
		VN	-10	2.47	0.000963	± 2.5	PASS
		VN	0	4.17	0.001626	± 2.5	PASS
		VN	10	-1.26	-0.000491	± 2.5	PASS
		VN	20	-0.74	-0.000288	± 2.5	PASS
		VN	30	2.33	0.000908	± 2.5	PASS
		VN	40	3.93	0.001532	± 2.5	PASS
		VN	50	1.03	0.000402	± 2.5	PASS
QPSK	LCH	VN	-30	4.54	0.001812	± 2.5	PASS
		VN	-20	4.84	0.001932	± 2.5	PASS
		VN	-10	0.47	0.000188	± 2.5	PASS
		VN	0	-0.3	-0.000120	± 2.5	PASS
		VN	10	1.22	0.000487	± 2.5	PASS
		VN	20	3.78	0.001509	± 2.5	PASS
		VN	30	-1.99	-0.000794	± 2.5	PASS
		VN	40	3.82	0.001525	± 2.5	PASS
		VN	50	-0.94	-0.000375	± 2.5	PASS
	MCH	VN	-30	2.75	0.001085	± 2.5	PASS
		VN	-20	1.38	0.000544	± 2.5	PASS
		VN	-10	4.73	0.001866	± 2.5	PASS
		VN	0	-0.21	-0.000083	± 2.5	PASS
		VN	10	-1.43	-0.000564	± 2.5	PASS
		VN	20	2.27	0.000895	± 2.5	PASS
		VN	30	2.36	0.000931	± 2.5	PASS
		VN	40	2.51	0.000990	± 2.5	PASS
		VN	50	2.81	0.001108	± 2.5	PASS
	HCH	VN	-30	2.63	0.001025	± 2.5	PASS
		VN	-20	3.74	0.001458	± 2.5	PASS
		VN	-10	4.19	0.001634	± 2.5	PASS
		VN	0	1.55	0.000604	± 2.5	PASS
		VN	10	-1.92	-0.000749	± 2.5	PASS
		VN	20	-1.44	-0.000561	± 2.5	PASS
		VN	30	-1	-0.000390	± 2.5	PASS

		VN	40	4.33	0.001688	± 2.5	PASS
		VN	50	2.45	0.000955	± 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	1.79	0.000714	± 2.5	PASS
		VN	TN	0	0.000000	± 2.5	PASS
		VH	TN	4.68	0.001866	± 2.5	PASS
	MCH	VL	TN	-0.29	-0.000114	± 2.5	PASS
		VN	TN	4.32	0.001704	± 2.5	PASS
		VH	TN	4.18	0.001649	± 2.5	PASS
	HCH	VL	TN	-1.87	-0.000730	± 2.5	PASS
		VN	TN	4.96	0.001936	± 2.5	PASS
		VH	TN	-0.19	-0.000074	± 2.5	PASS
16QAM	LCH	VL	TN	3.98	0.001587	± 2.5	PASS
		VN	TN	-1.73	-0.000690	± 2.5	PASS
		VH	TN	3.62	0.001444	± 2.5	PASS
	MCH	VL	TN	3.26	0.001286	± 2.5	PASS
		VN	TN	0.26	0.000103	± 2.5	PASS
		VH	TN	4.06	0.001602	± 2.5	PASS
	HCH	VL	TN	1.23	0.000480	± 2.5	PASS
		VN	TN	4.06	0.001584	± 2.5	PASS
		VH	TN	-1.96	-0.000765	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.52	0.001005	± 2.5	PASS
		VN	-20	2.42	0.000965	± 2.5	PASS
		VN	-10	-1.03	-0.000411	± 2.5	PASS
		VN	0	1.43	0.000570	± 2.5	PASS
		VN	10	2.98	0.001188	± 2.5	PASS
		VN	20	-1.57	-0.000626	± 2.5	PASS
		VN	30	-1.77	-0.000706	± 2.5	PASS
		VN	40	-0.91	-0.000363	± 2.5	PASS
		VN	50	4.49	0.001791	± 2.5	PASS
	MCH	VN	-30	3.54	0.001396	± 2.5	PASS
		VN	-20	3.83	0.001511	± 2.5	PASS
		VN	-10	1.35	0.000533	± 2.5	PASS
		VN	0	2.44	0.000963	± 2.5	PASS

		VN	10	3.26	0.001286	± 2.5	PASS
		VN	20	4.4	0.001736	± 2.5	PASS
		VN	30	0.3	0.000118	± 2.5	PASS
		VN	40	-1.6	-0.000631	± 2.5	PASS
		VN	50	2.03	0.000801	± 2.5	PASS
	HCH	VN	-30	3.67	0.001432	± 2.5	PASS
		VN	-20	4.61	0.001799	± 2.5	PASS
		VN	-10	1.05	0.000410	± 2.5	PASS
		VN	0	-1.09	-0.000425	± 2.5	PASS
		VN	10	1.61	0.000628	± 2.5	PASS
		VN	20	-0.58	-0.000226	± 2.5	PASS
		VN	30	-1.79	-0.000699	± 2.5	PASS
		VN	40	-0.05	-0.000020	± 2.5	PASS
		VN	50	-0.24	-0.000094	± 2.5	PASS
		VN	-30	-0.31	-0.000124	± 2.5	PASS
QPSK	LCH	VN	-20	2.86	0.001141	± 2.5	PASS
		VN	-10	-1.37	-0.000546	± 2.5	PASS
		VN	0	0.44	0.000175	± 2.5	PASS
		VN	10	0.57	0.000227	± 2.5	PASS
		VN	20	2.23	0.000889	± 2.5	PASS
		VN	30	0.25	0.000100	± 2.5	PASS
		VN	40	1.22	0.000487	± 2.5	PASS
		VN	50	1.4	0.000558	± 2.5	PASS
	MCH	VN	-30	0.01	0.000004	± 2.5	PASS
		VN	-20	1.21	0.000477	± 2.5	PASS
		VN	-10	0.35	0.000138	± 2.5	PASS
		VN	0	0.64	0.000252	± 2.5	PASS
		VN	10	-0.59	-0.000233	± 2.5	PASS
		VN	20	1.77	0.000698	± 2.5	PASS
		VN	30	4.08	0.001609	± 2.5	PASS
		VN	40	-1.37	-0.000540	± 2.5	PASS
		VN	50	0.24	0.000095	± 2.5	PASS
	HCH	VN	-30	-1.52	-0.000593	± 2.5	PASS
		VN	-20	2.38	0.000929	± 2.5	PASS
		VN	-10	0.56	0.000219	± 2.5	PASS
		VN	0	1.67	0.000652	± 2.5	PASS
		VN	10	2.22	0.000866	± 2.5	PASS
		VN	20	-1.63	-0.000636	± 2.5	PASS
		VN	30	1.64	0.000640	± 2.5	PASS
		VN	40	1.49	0.000581	± 2.5	PASS
		VN	50	4.71	0.001838	± 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	-1.59	-0.000633	± 2.5	PASS
		VN	TN	-1.99	-0.000793	± 2.5	PASS
		VH	TN	3.74	0.001490	± 2.5	PASS
	MCH	VL	TN	0.84	0.000331	± 2.5	PASS
		VN	TN	-0.38	-0.000150	± 2.5	PASS
		VH	TN	3.41	0.001345	± 2.5	PASS
	HCH	VL	TN	-0.91	-0.000355	± 2.5	PASS
		VN	TN	-0.41	-0.000160	± 2.5	PASS
		VH	TN	2	0.000781	± 2.5	PASS
16QAM	LCH	VL	TN	3.38	0.001347	± 2.5	PASS
		VN	TN	1.83	0.000729	± 2.5	PASS
		VH	TN	0.7	0.000279	± 2.5	PASS
	MCH	VL	TN	-1.92	-0.000757	± 2.5	PASS
		VN	TN	1.33	0.000525	± 2.5	PASS
		VH	TN	1.03	0.000406	± 2.5	PASS
	HCH	VL	TN	3.48	0.001359	± 2.5	PASS
		VN	TN	-0.31	-0.000121	± 2.5	PASS
		VH	TN	2.4	0.000938	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.86	0.001139	± 2.5	PASS
		VN	-20	3	0.001195	± 2.5	PASS
		VN	-10	-1.33	-0.000530	± 2.5	PASS
		VN	0	1.16	0.000462	± 2.5	PASS
		VN	10	1.93	0.000769	± 2.5	PASS
		VN	20	2.6	0.001036	± 2.5	PASS
		VN	30	-1.51	-0.000602	± 2.5	PASS
		VN	40	0.14	0.000056	± 2.5	PASS
		VN	50	4.86	0.001936	± 2.5	PASS
	MCH	VN	-30	1.66	0.000655	± 2.5	PASS
		VN	-20	1.64	0.000647	± 2.5	PASS
		VN	-10	3.31	0.001306	± 2.5	PASS
		VN	0	0.31	0.000122	± 2.5	PASS
		VN	10	3.77	0.001487	± 2.5	PASS
		VN	20	-0.24	-0.000095	± 2.5	PASS
VN		30	0.24	0.000095	± 2.5	PASS	

		VN	40	1.99	0.000785	± 2.5	PASS
		VN	50	-0.64	-0.000252	± 2.5	PASS
	HCH	VN	-30	0.17	0.000066	± 2.5	PASS
		VN	-20	1.82	0.000711	± 2.5	PASS
		VN	-10	-1.72	-0.000672	± 2.5	PASS
		VN	0	-0.38	-0.000148	± 2.5	PASS
		VN	10	2.7	0.001055	± 2.5	PASS
		VN	20	2.36	0.000922	± 2.5	PASS
		VN	30	2.8	0.001094	± 2.5	PASS
		VN	40	-1.06	-0.000414	± 2.5	PASS
		VN	50	-0.24	-0.000094	± 2.5	PASS
QPSK	LCH	VN	-30	0.57	0.000227	± 2.5	PASS
		VN	-20	4.24	0.001689	± 2.5	PASS
		VN	-10	1.94	0.000773	± 2.5	PASS
		VN	0	2.97	0.001183	± 2.5	PASS
		VN	10	2.98	0.001187	± 2.5	PASS
		VN	20	2.52	0.001004	± 2.5	PASS
		VN	30	-0.45	-0.000179	± 2.5	PASS
		VN	40	-1.44	-0.000574	± 2.5	PASS
		VN	50	-0.72	-0.000287	± 2.5	PASS
	MCH	VN	-30	-0.18	-0.000071	± 2.5	PASS
		VN	-20	3.71	0.001464	± 2.5	PASS
		VN	-10	-0.97	-0.000383	± 2.5	PASS
		VN	0	3.07	0.001211	± 2.5	PASS
		VN	10	3.84	0.001515	± 2.5	PASS
		VN	20	-1.79	-0.000706	± 2.5	PASS
		VN	30	-1.66	-0.000655	± 2.5	PASS
		VN	40	-1.36	-0.000536	± 2.5	PASS
		VN	50	2.57	0.001014	± 2.5	PASS
	HCH	VN	-30	2.74	0.001070	± 2.5	PASS
		VN	-20	-1.97	-0.000770	± 2.5	PASS
		VN	-10	2.68	0.001047	± 2.5	PASS
		VN	0	-1.98	-0.000773	± 2.5	PASS
		VN	10	1.01	0.000395	± 2.5	PASS
		VN	20	1.01	0.000395	± 2.5	PASS
		VN	30	1.03	0.000402	± 2.5	PASS
		VN	40	-1.19	-0.000465	± 2.5	PASS
		VN	50	1.5	0.000586	± 2.5	PASS