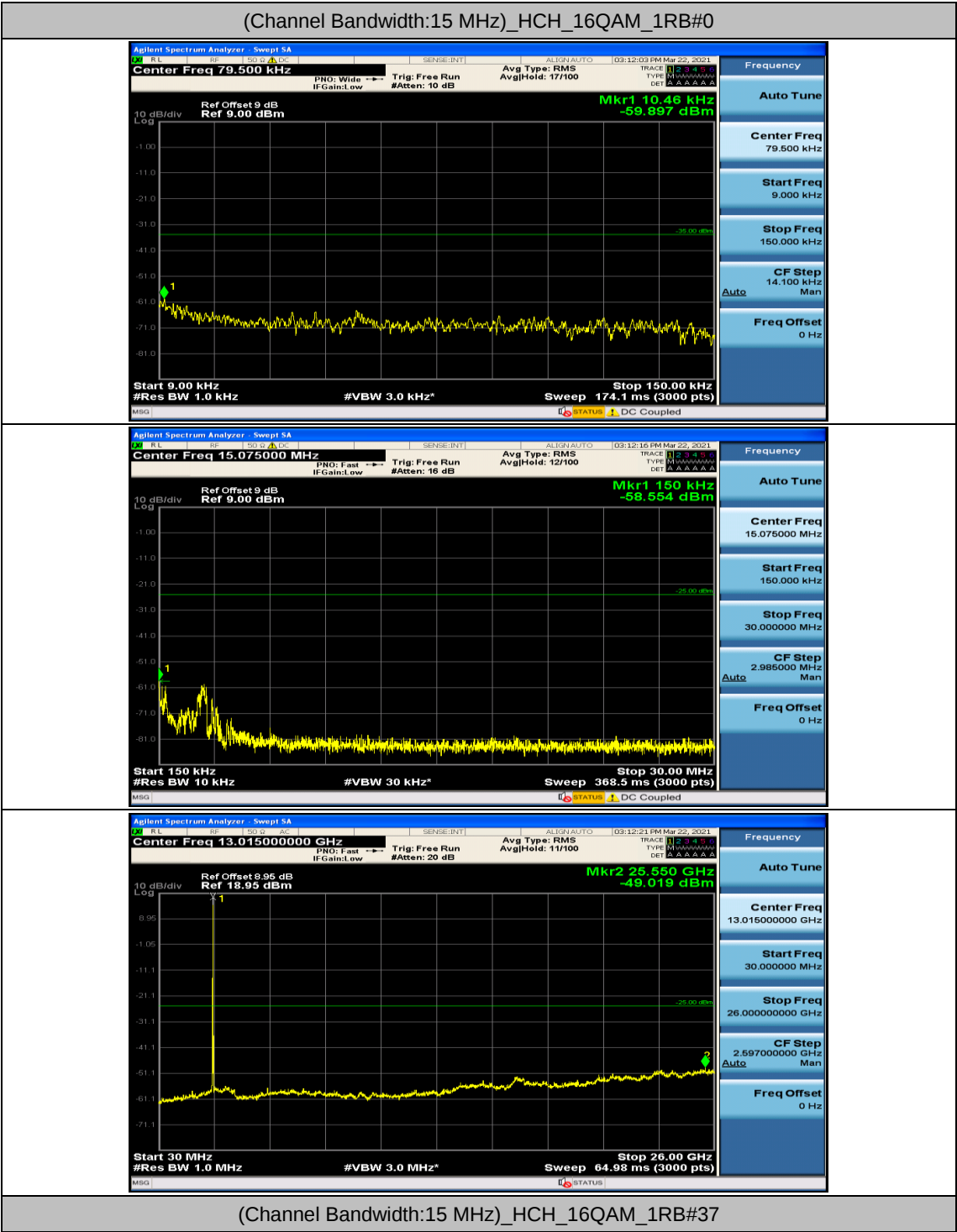
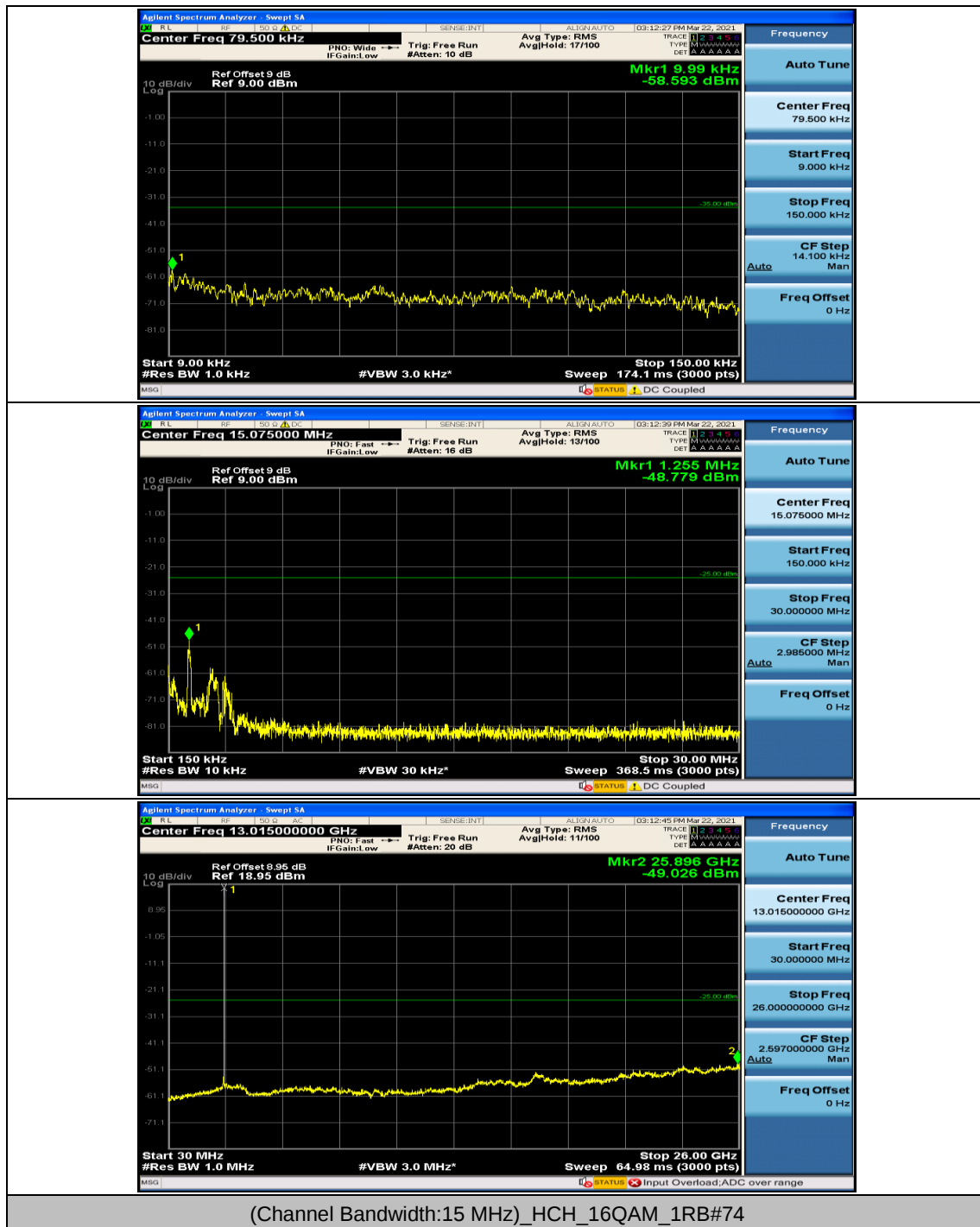
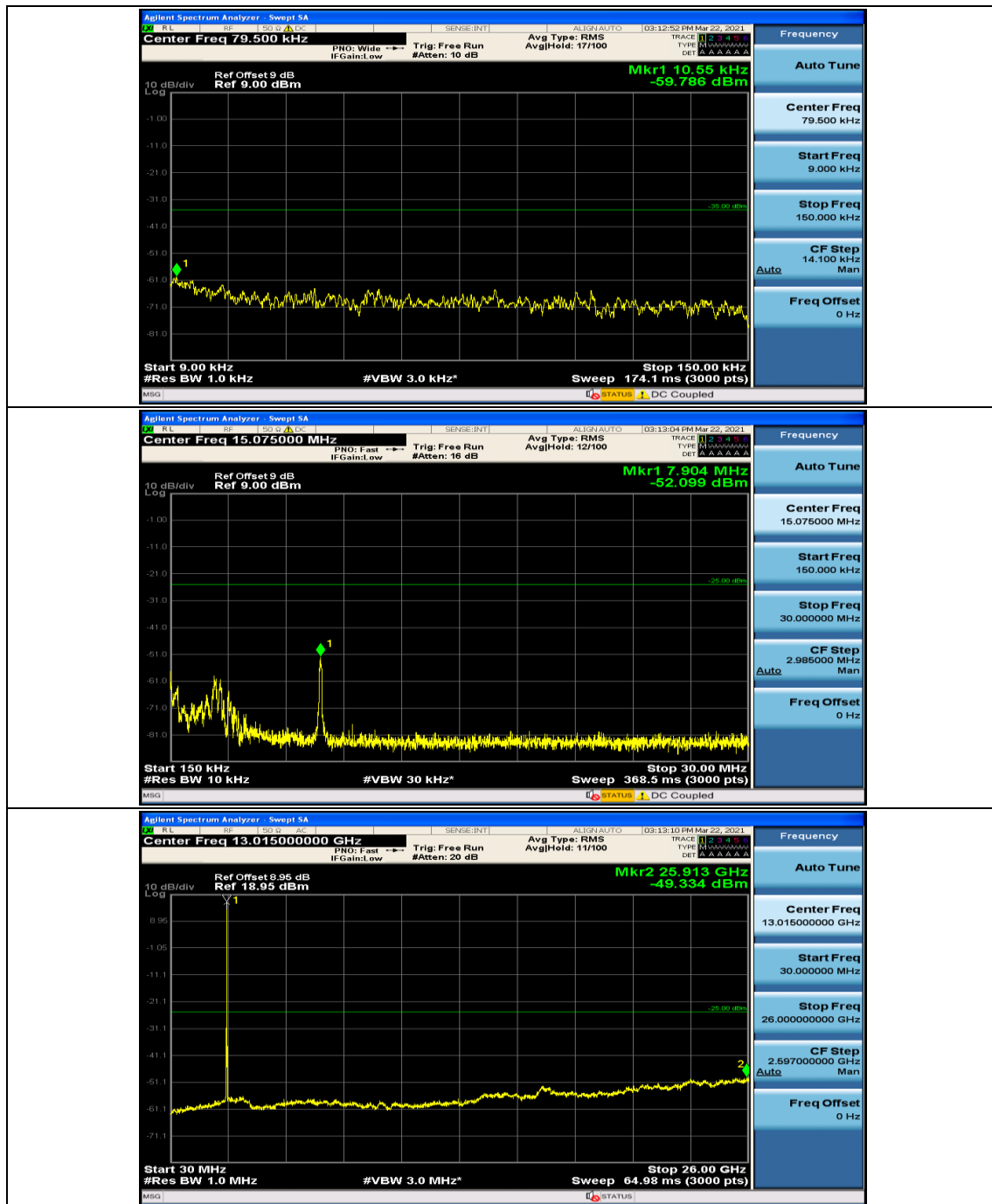
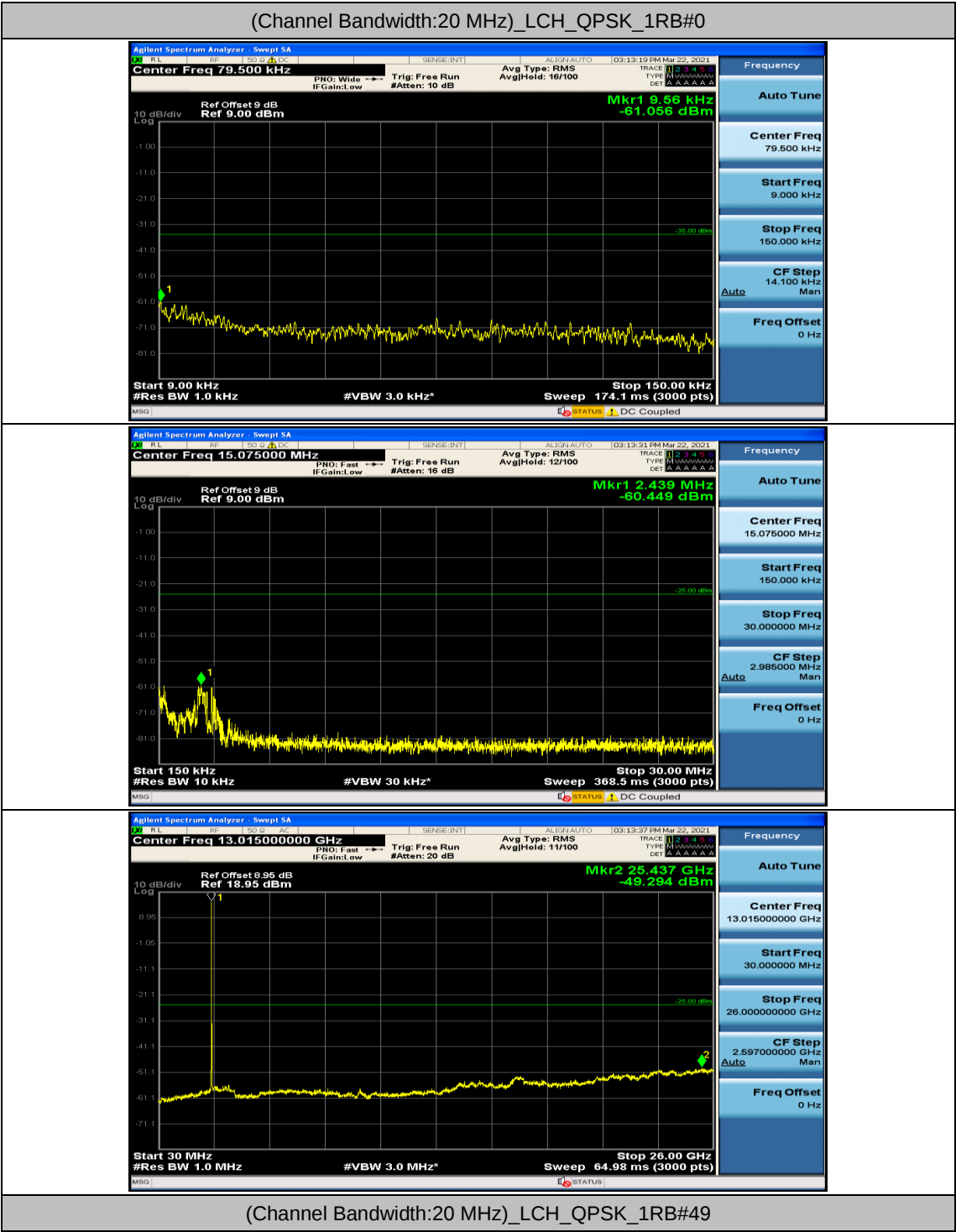


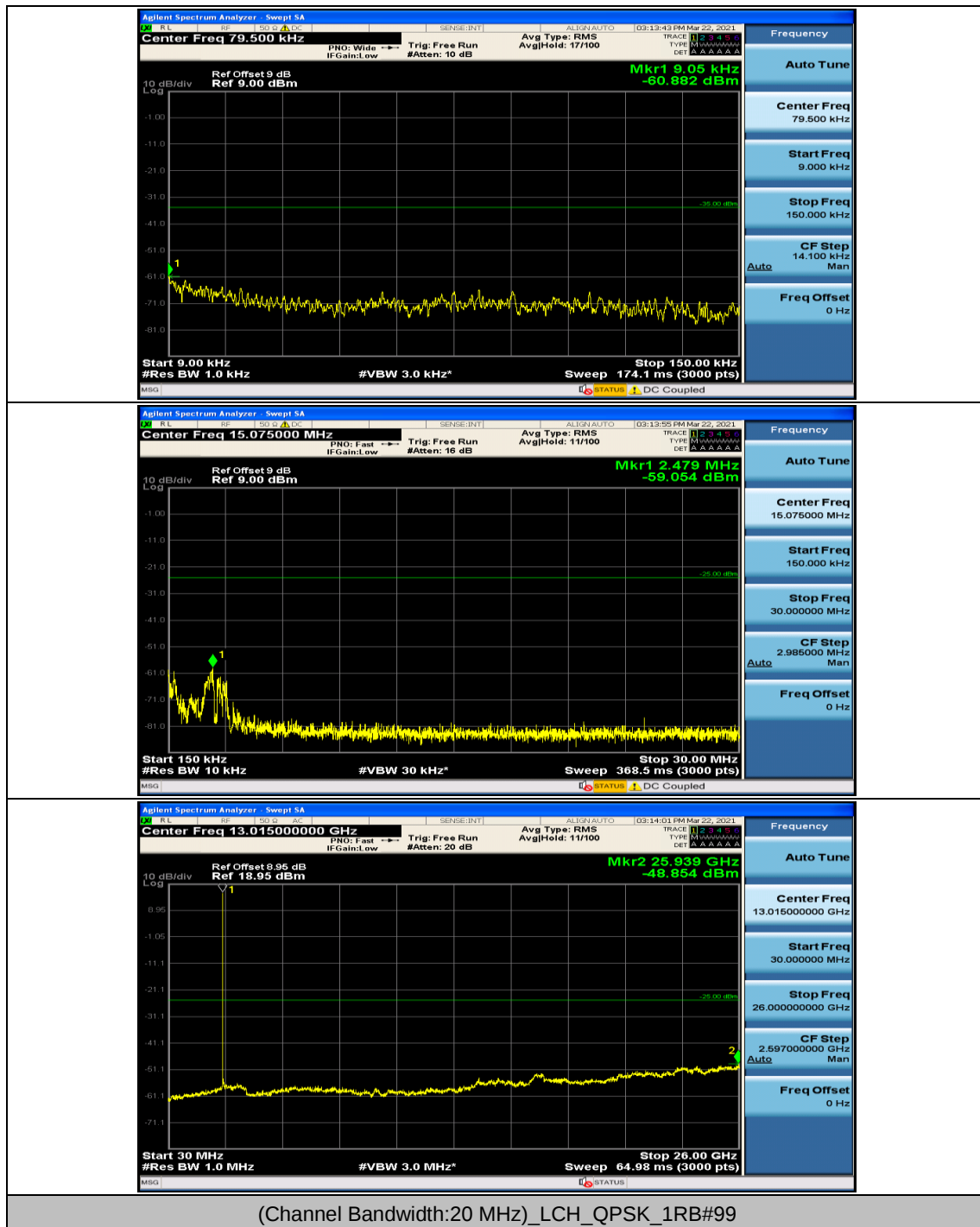


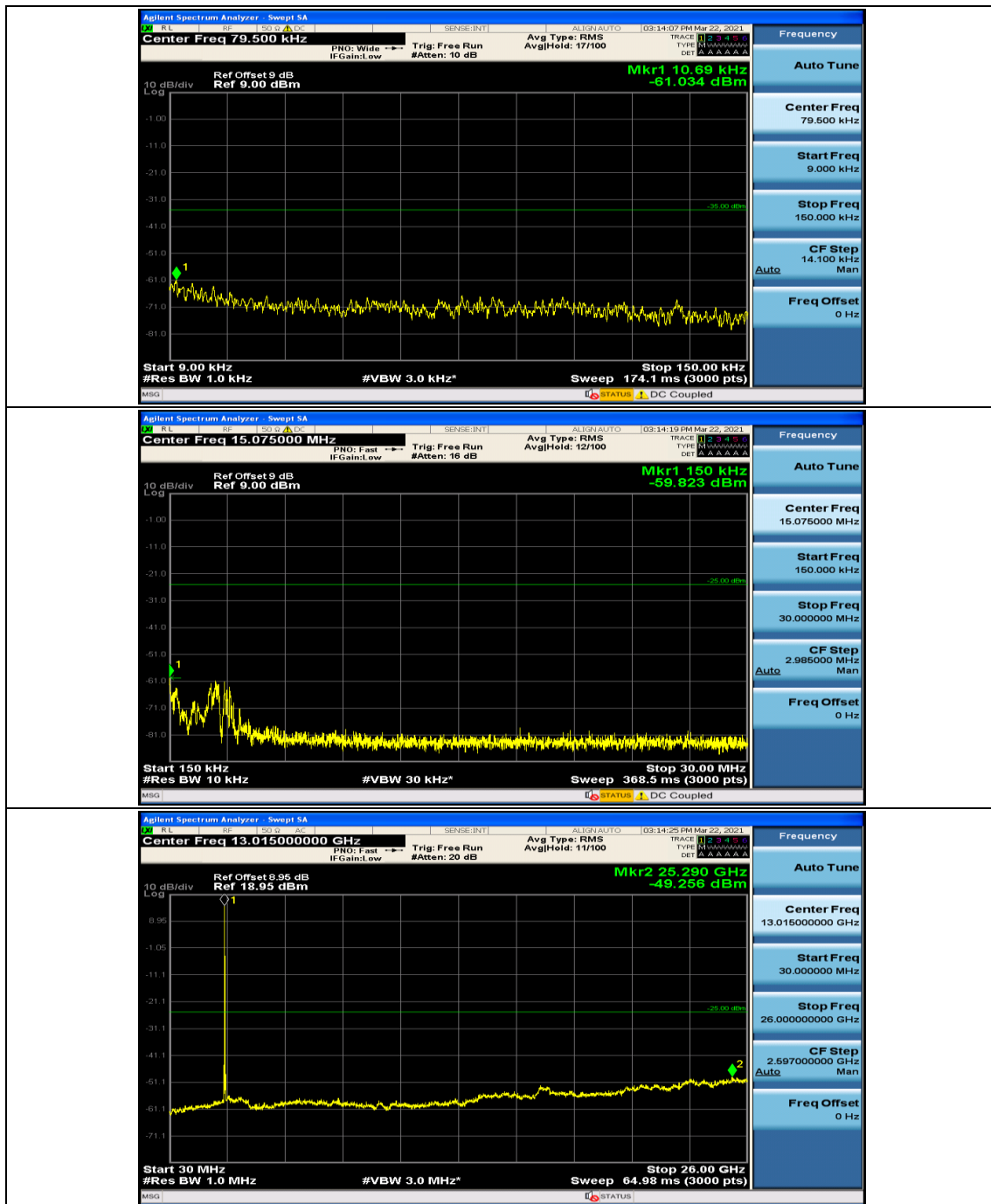


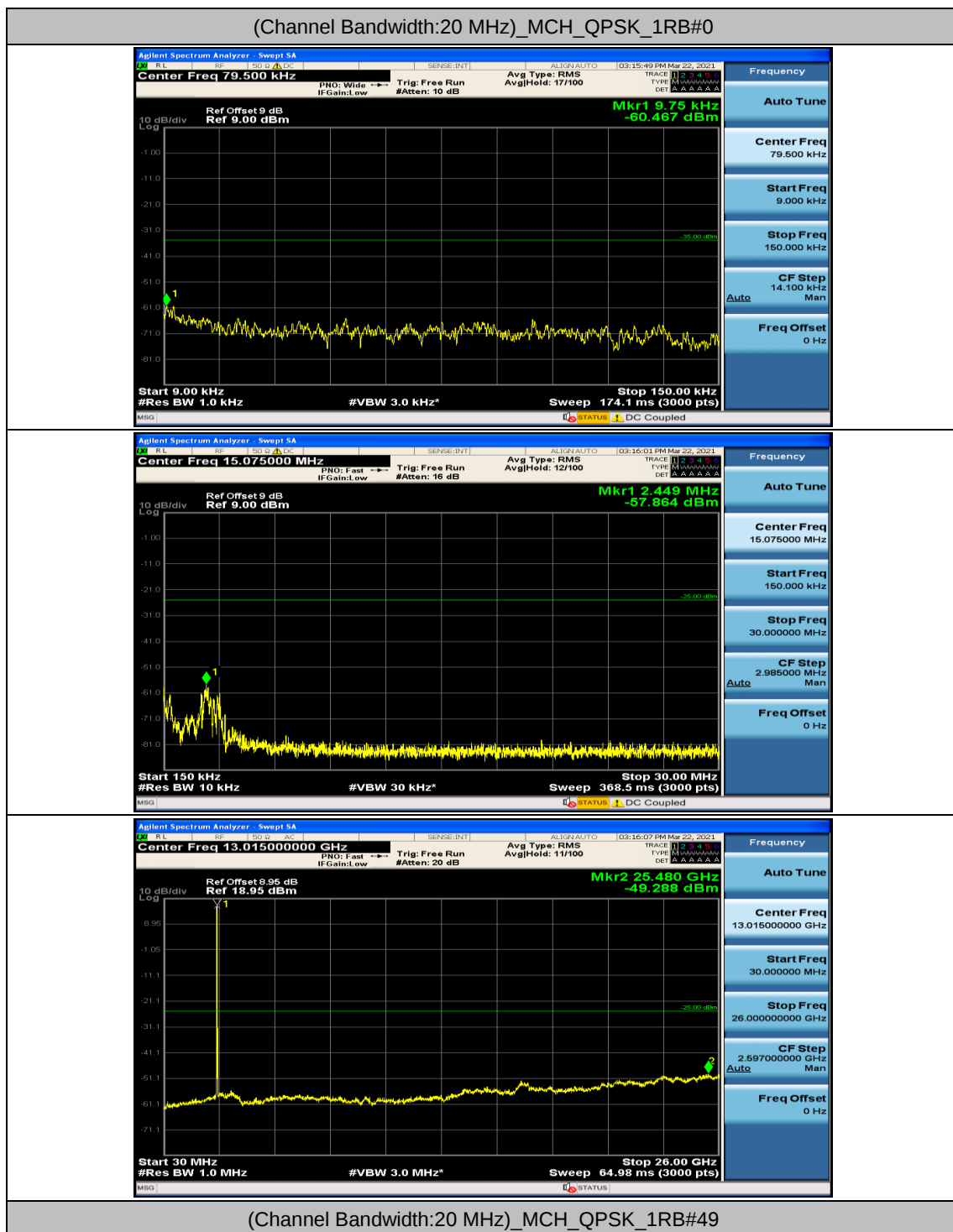


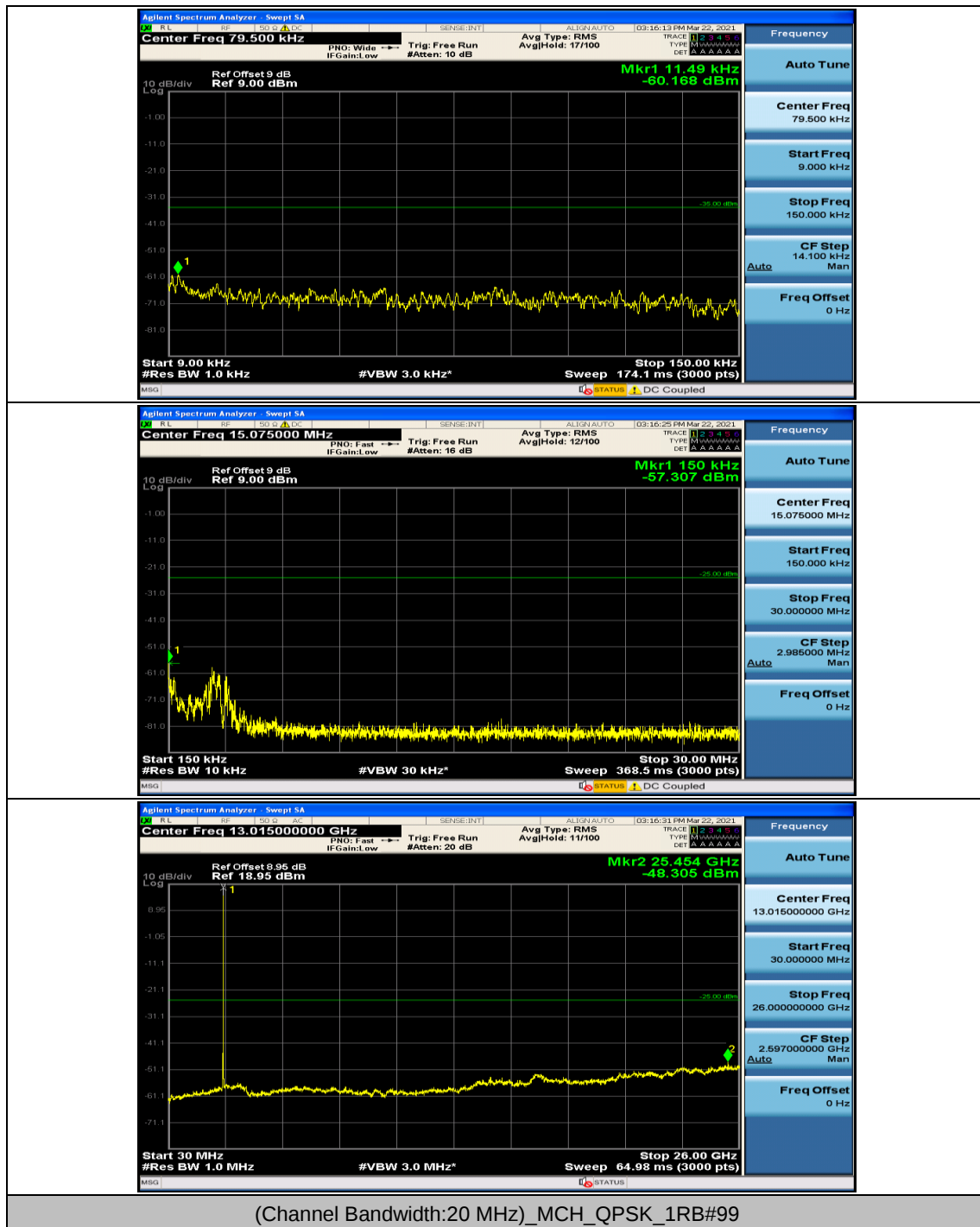
Channel Bandwidth: 20 MHz

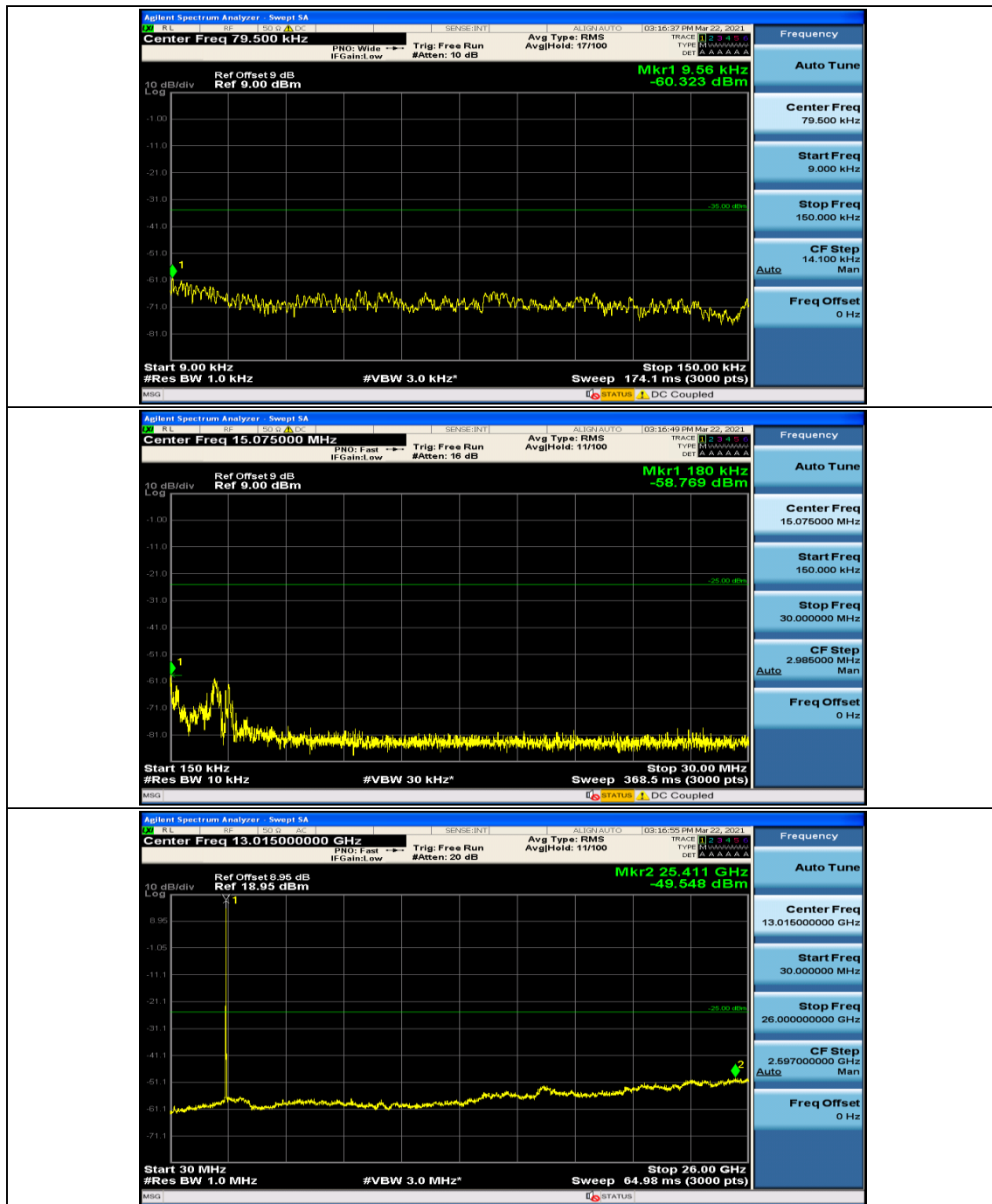


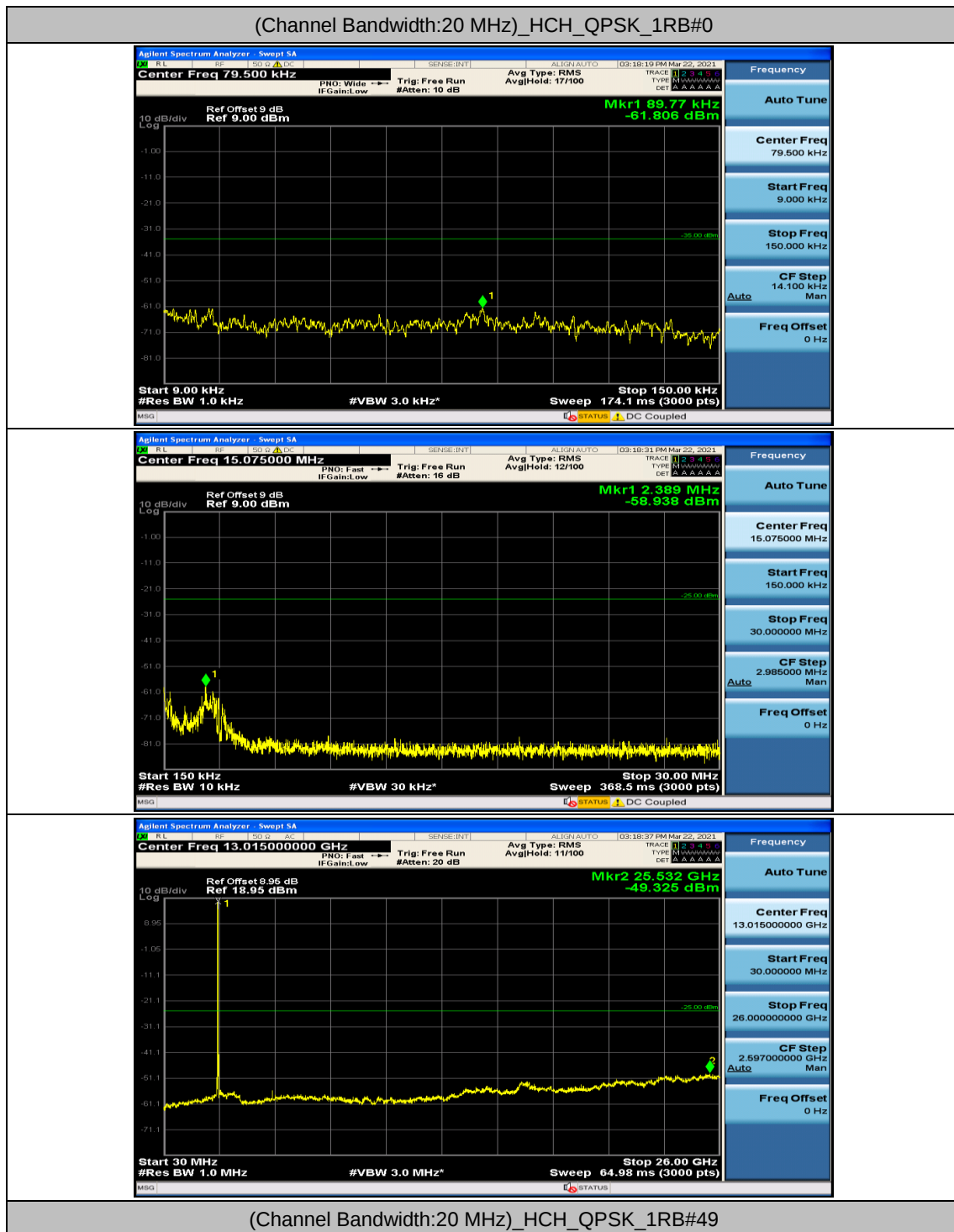


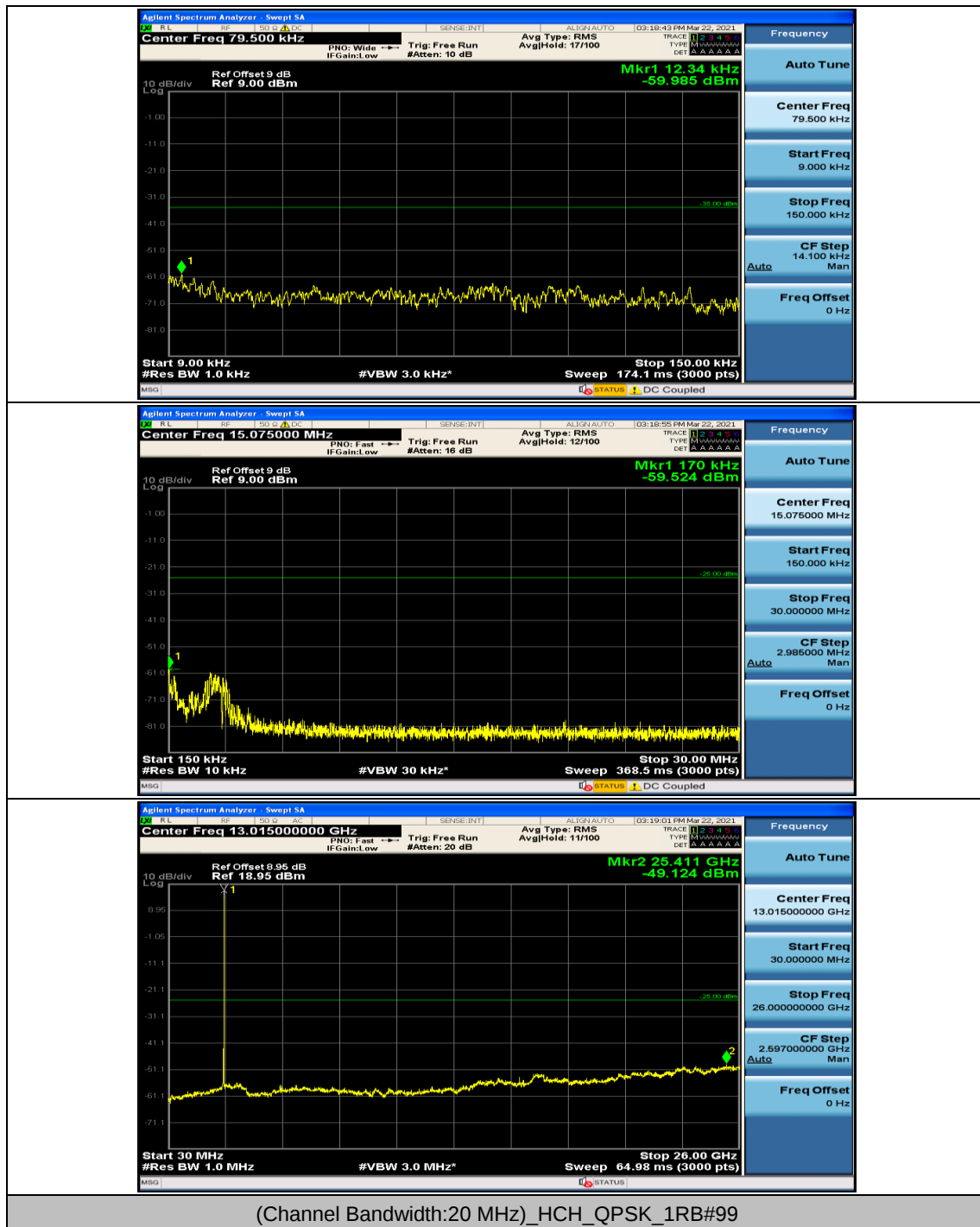


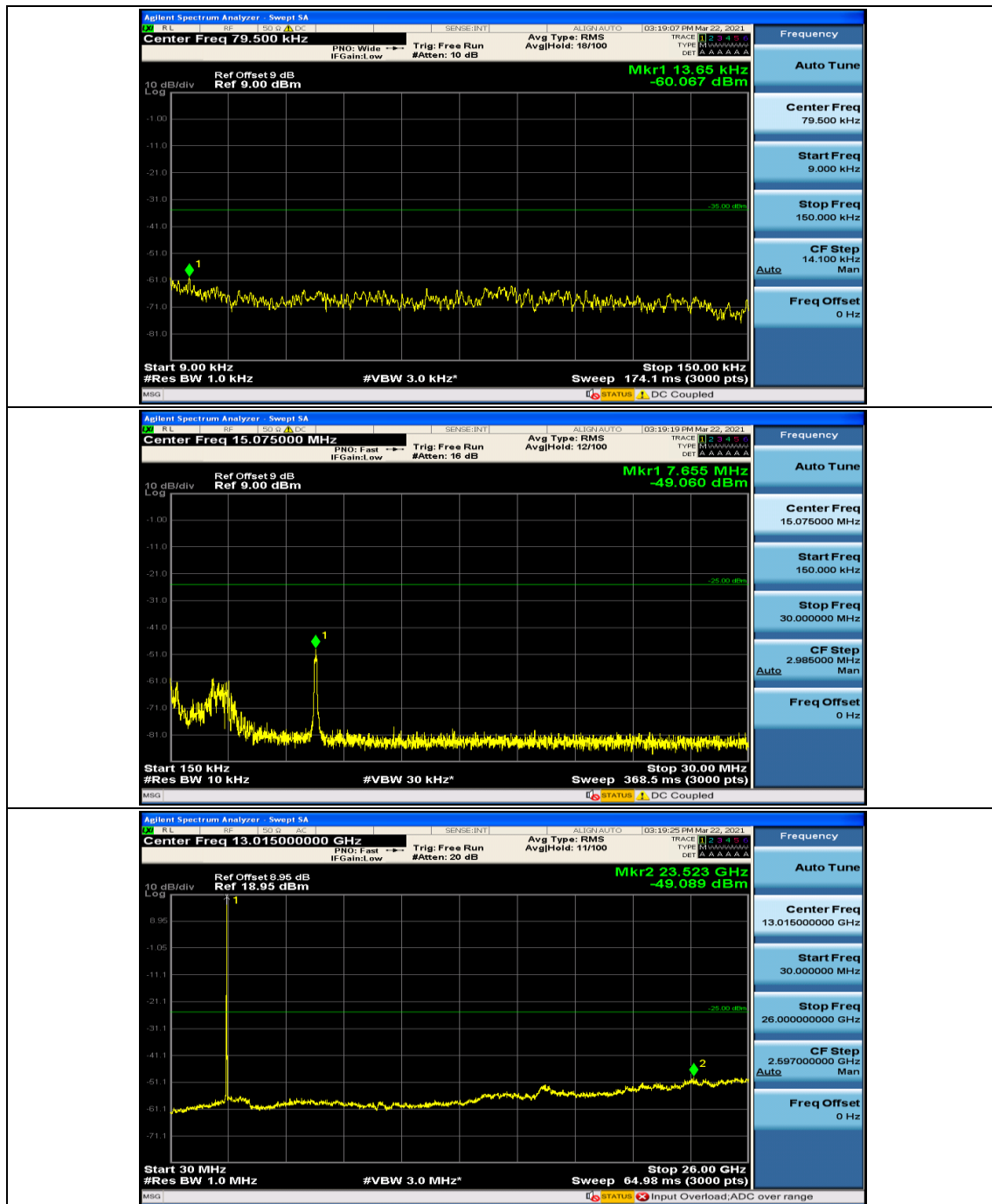


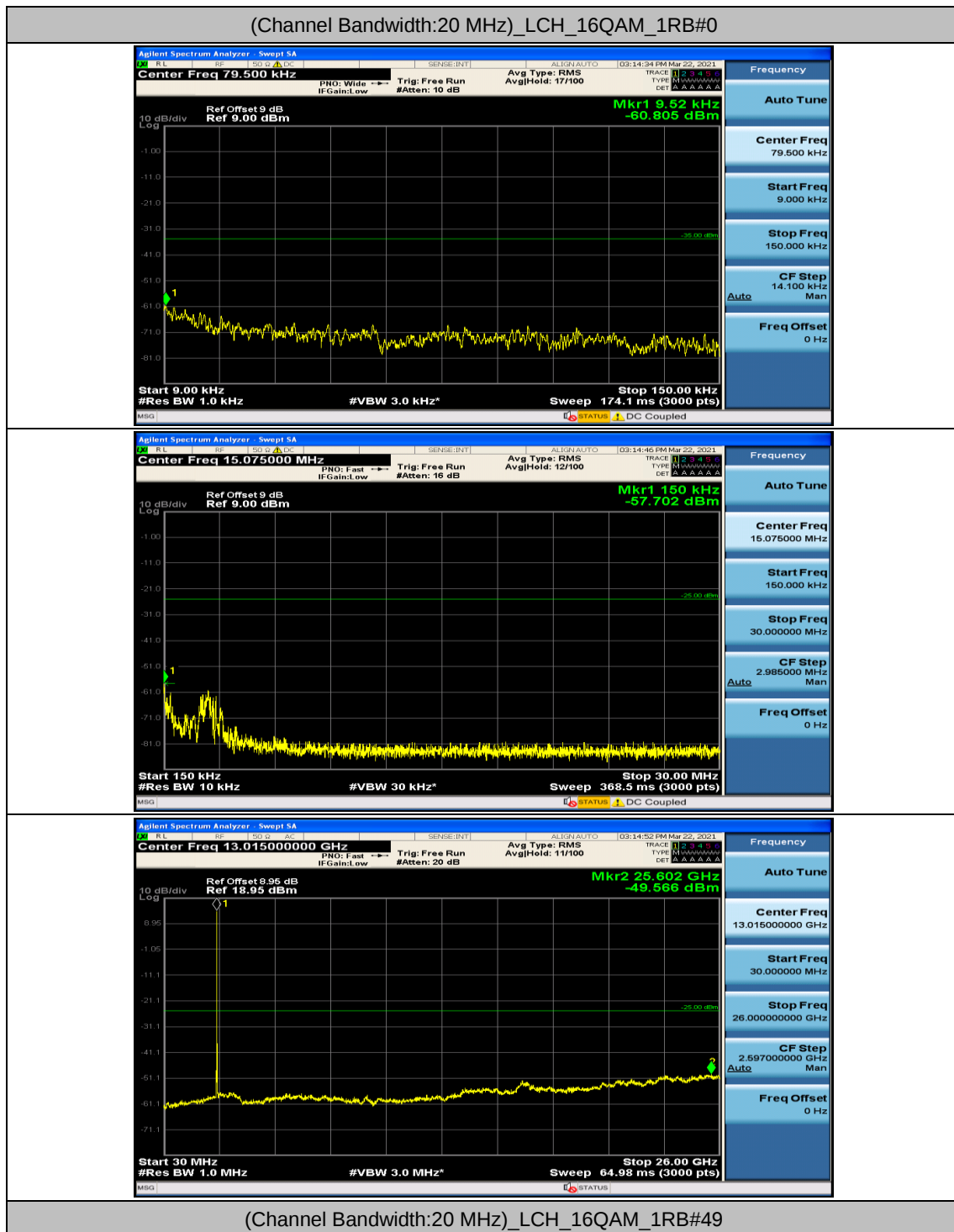


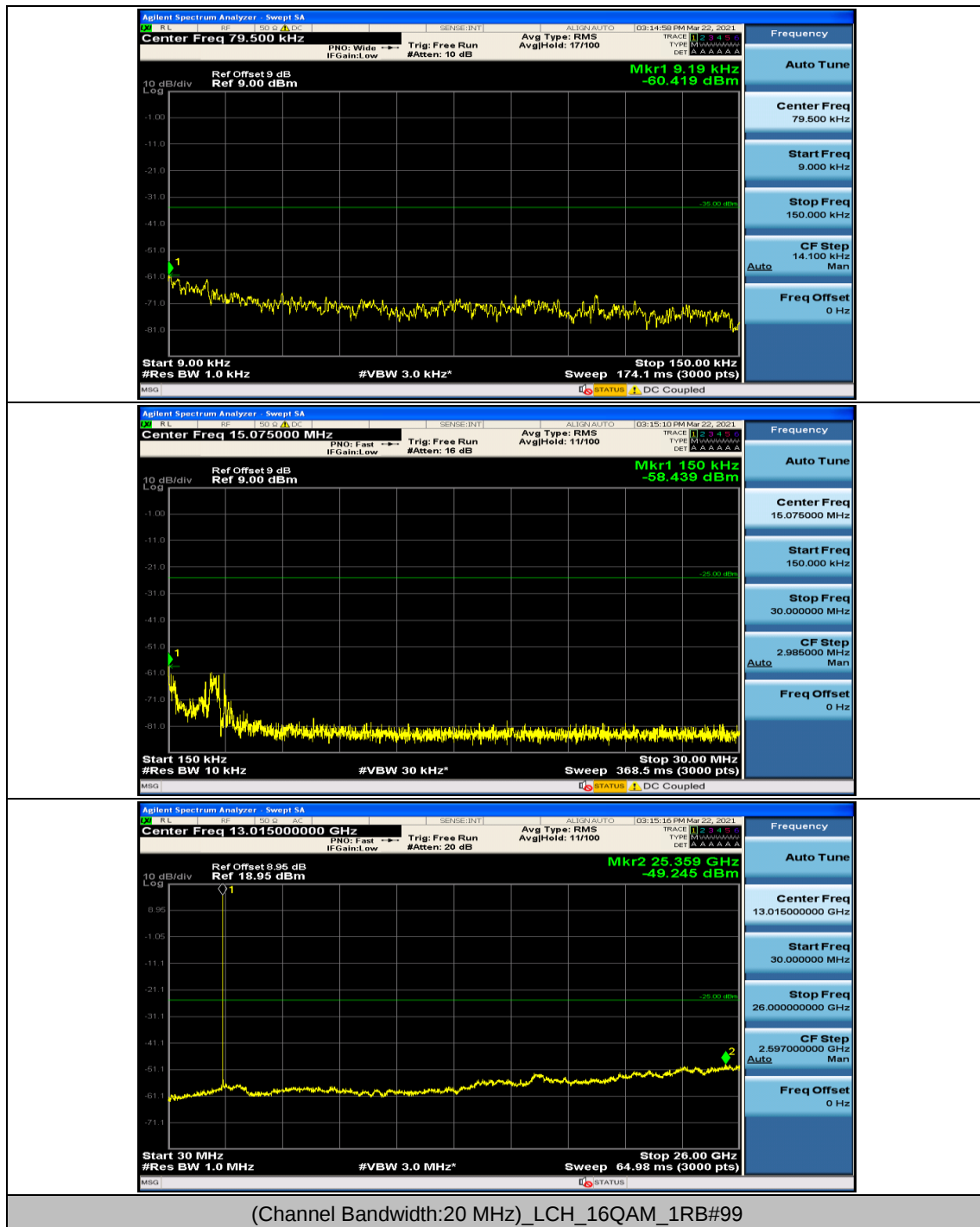


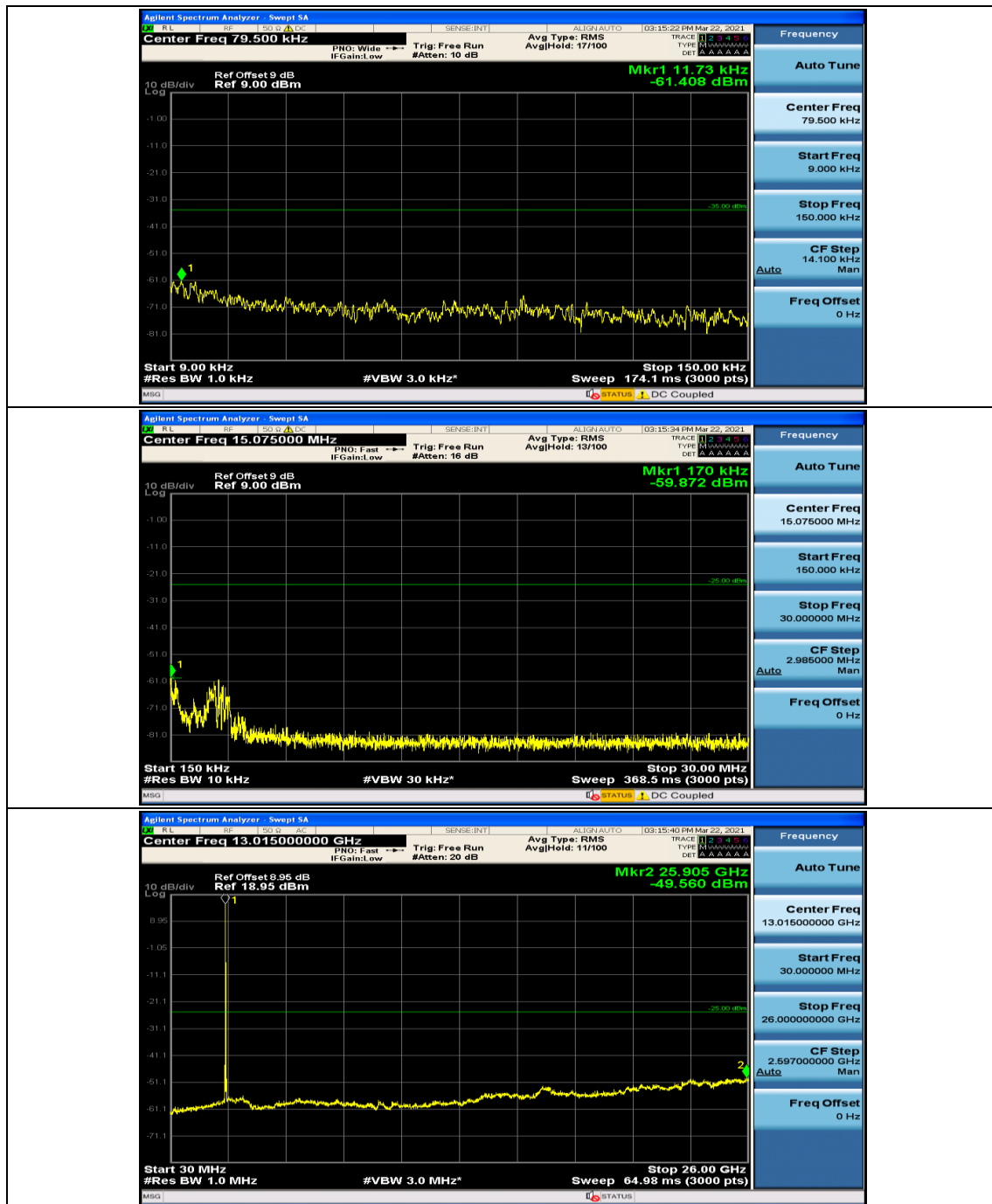


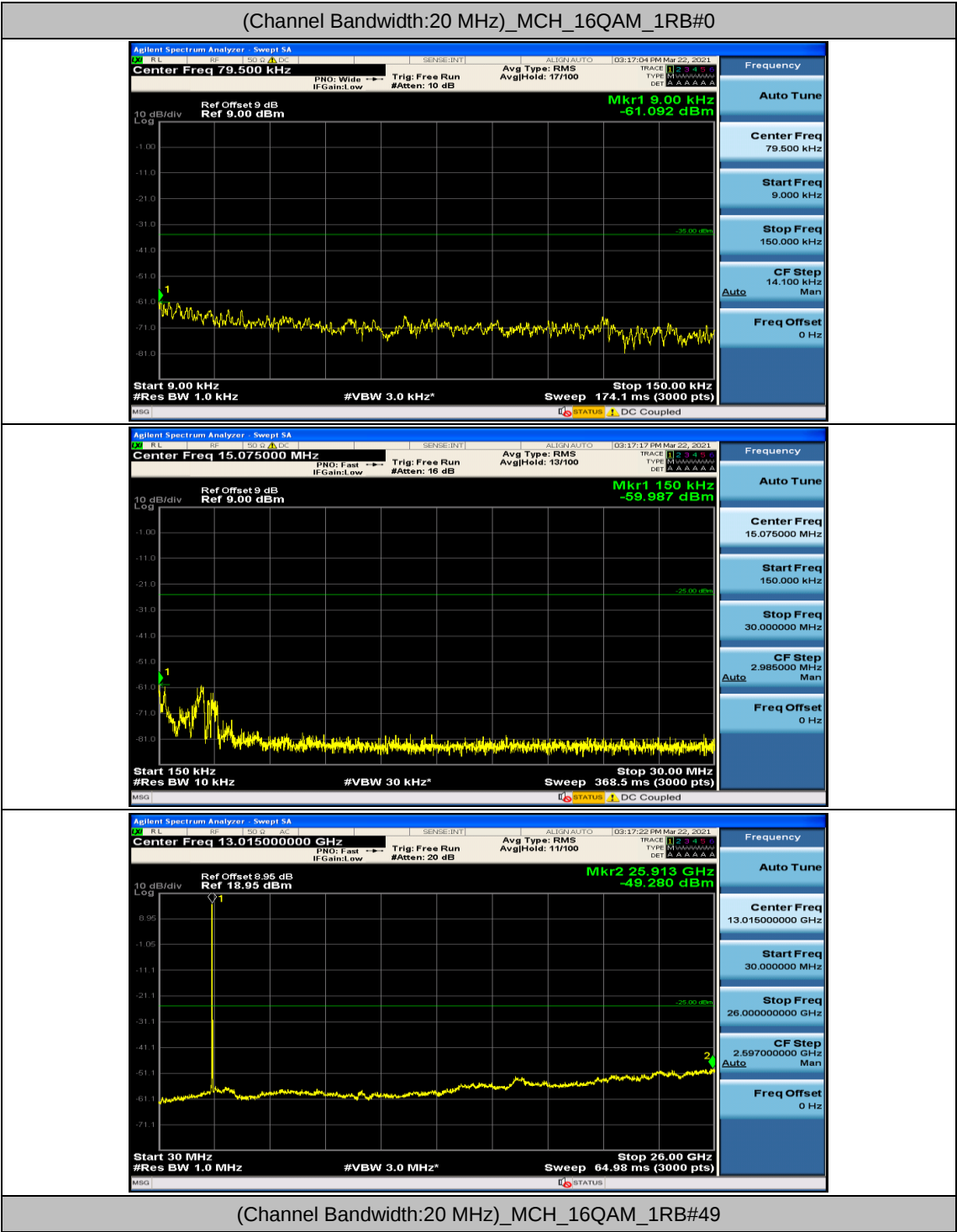


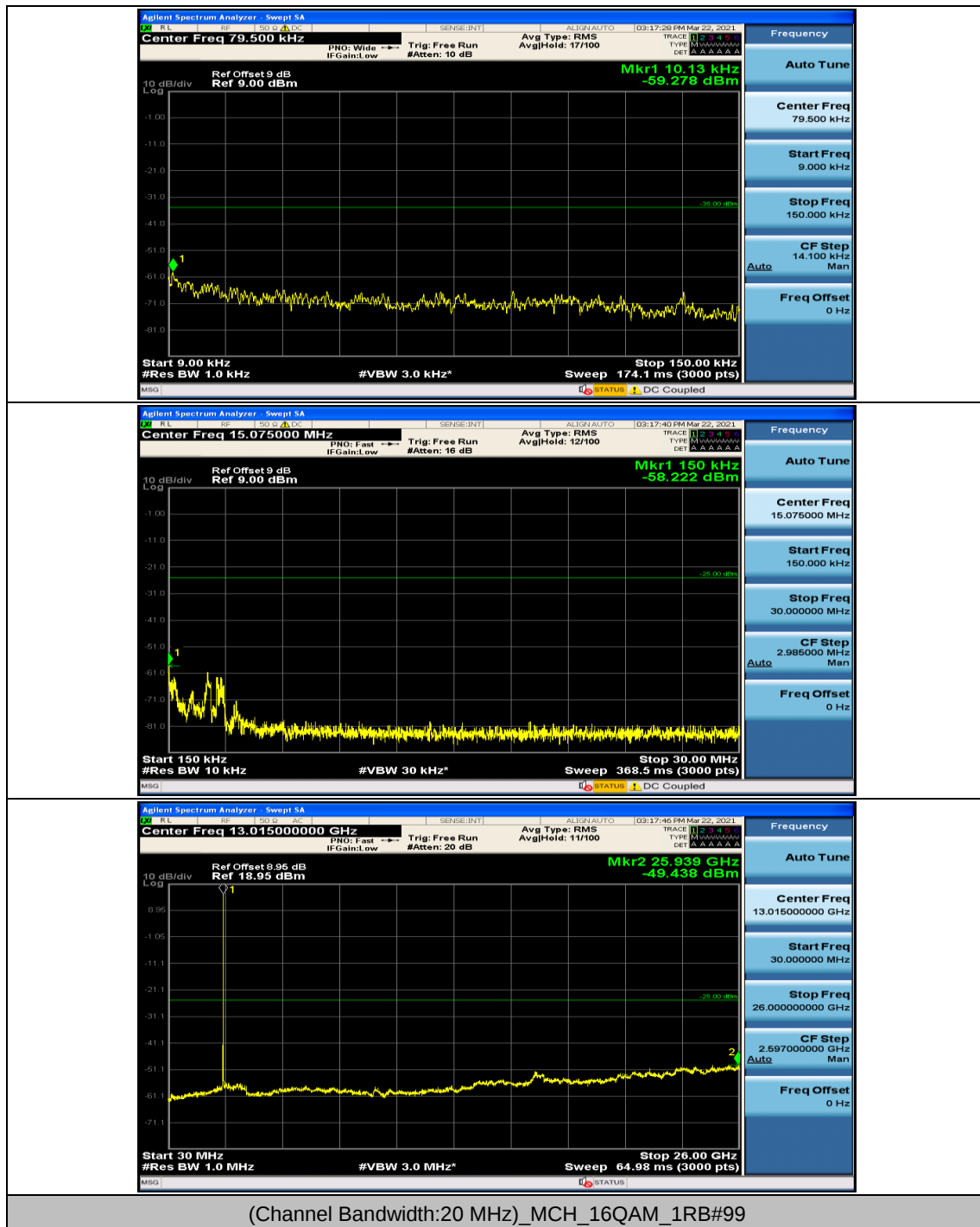


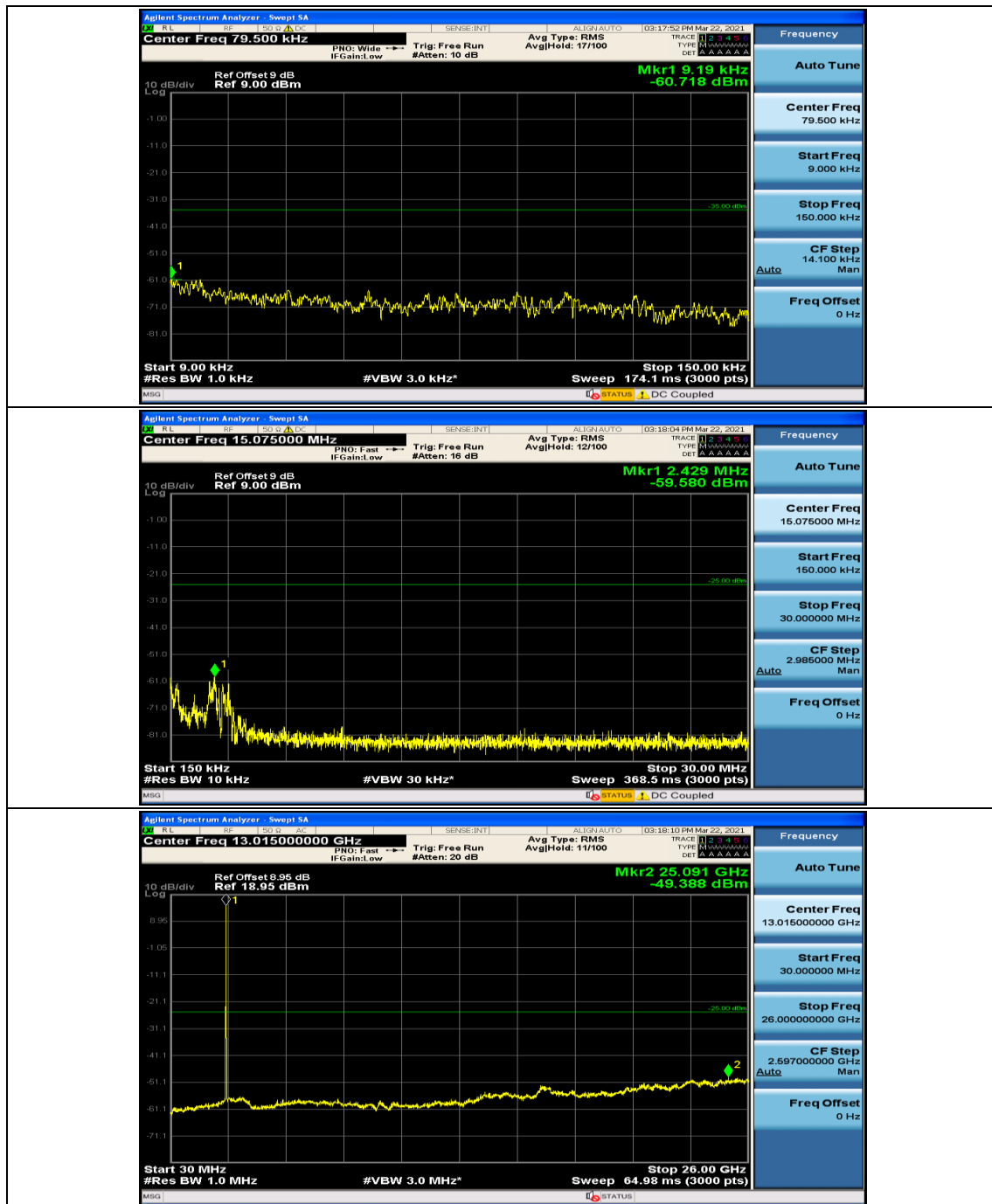


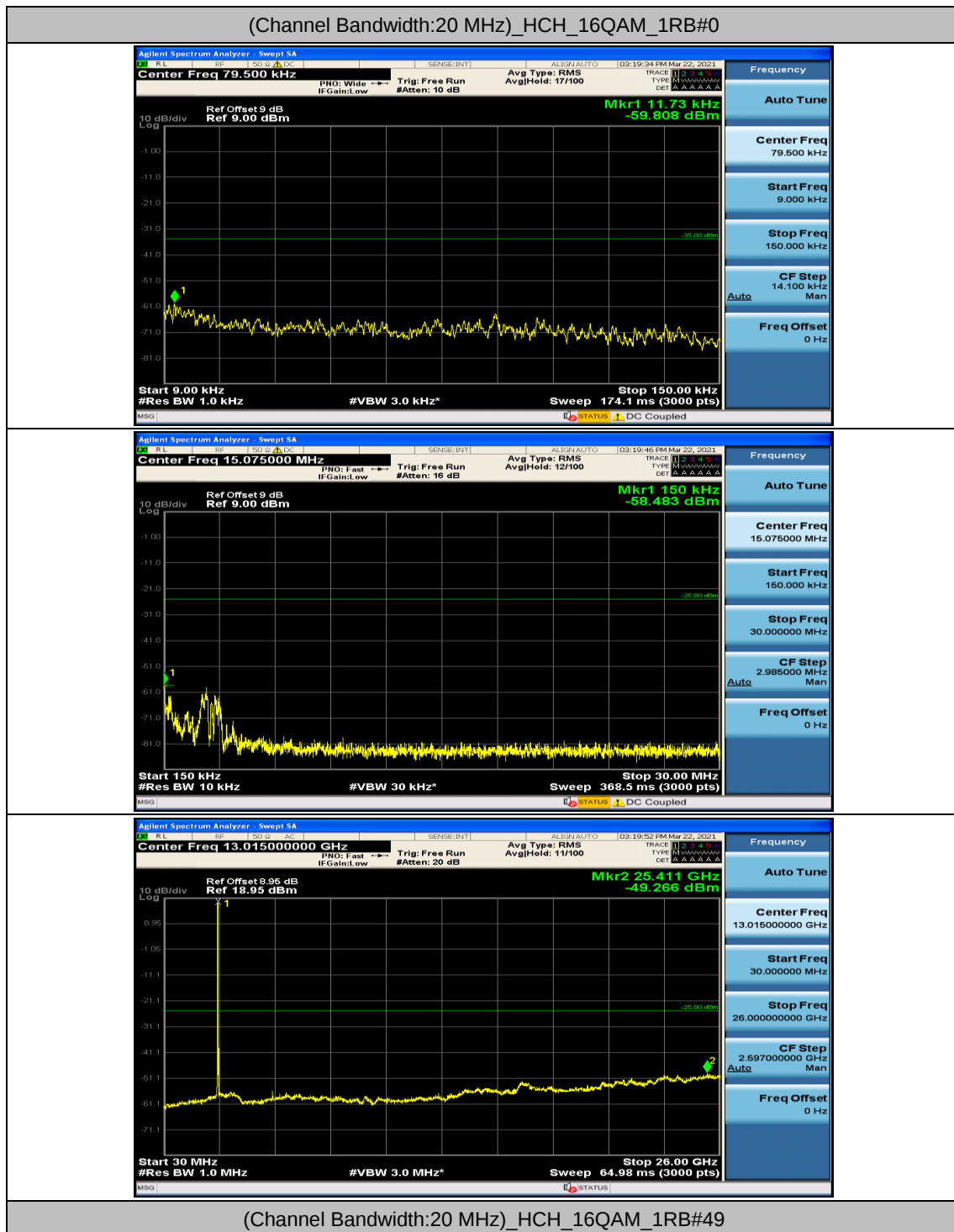


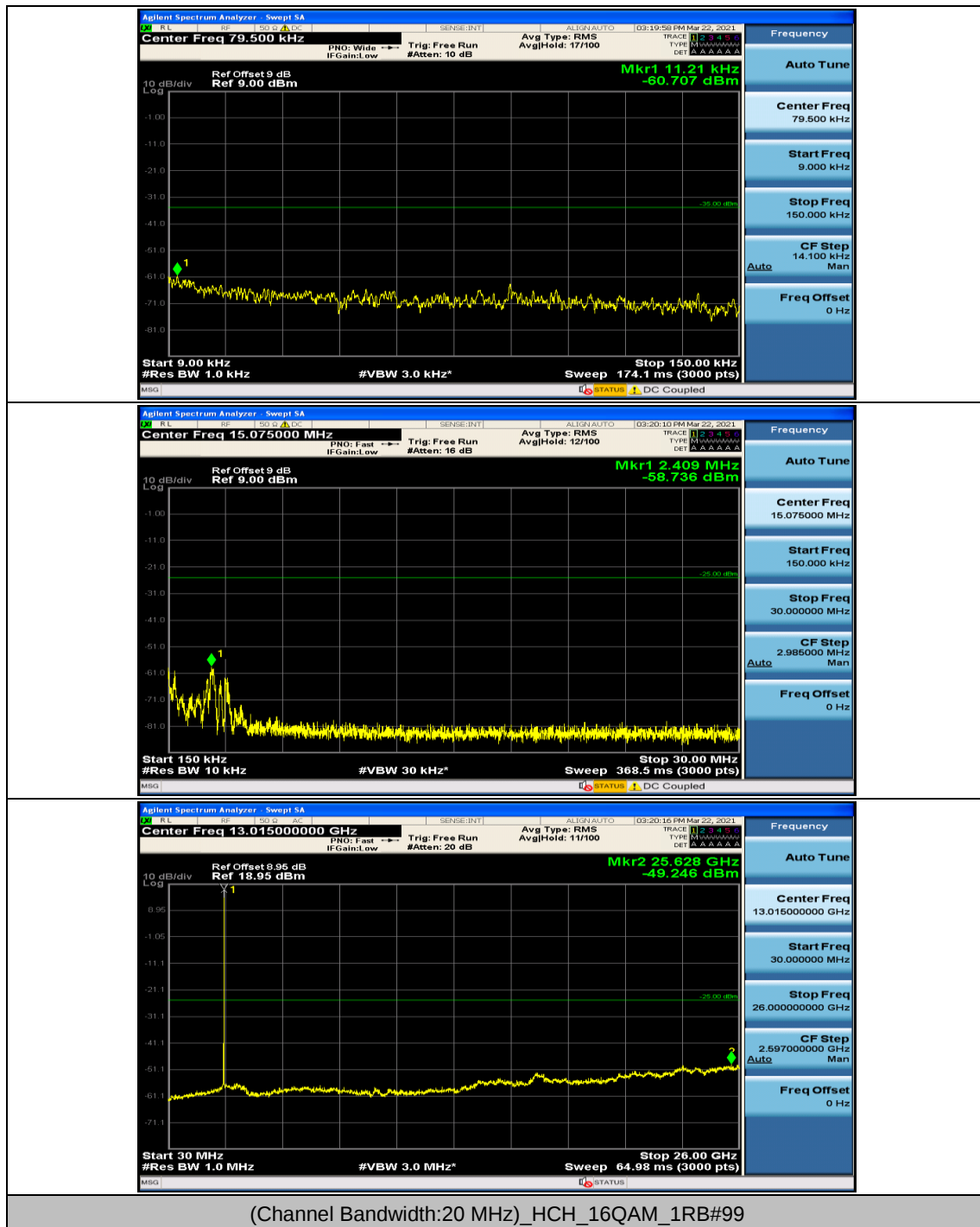


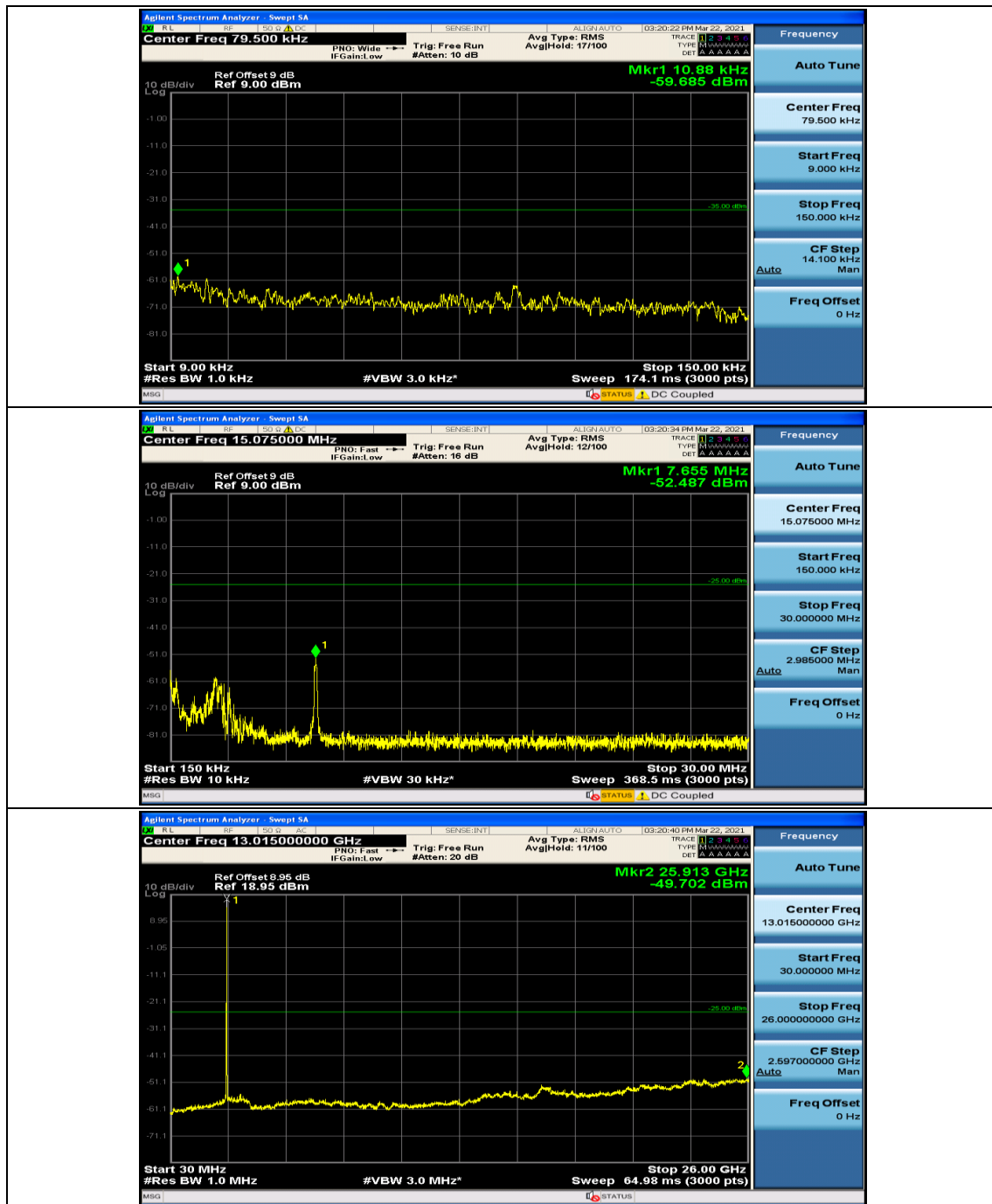












Appendix F: Frequency Stability

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	-0.2	-0.000080	± 2.5	PASS
		VN	TN	1.63	0.000651	± 2.5	PASS
		VH	TN	0.44	0.000176	± 2.5	PASS
	MCH	VL	TN	2.18	0.000860	± 2.5	PASS
		VN	TN	-0.9	-0.000355	± 2.5	PASS
		VH	TN	1.97	0.000777	± 2.5	PASS
	HCH	VL	TN	2.01	0.000783	± 2.5	PASS
		VN	TN	0.69	0.000269	± 2.5	PASS
		VH	TN	2.73	0.001063	± 2.5	PASS
16QAM	LCH	VL	TN	4.73	0.001890	± 2.5	PASS
		VN	TN	3.02	0.001207	± 2.5	PASS
		VH	TN	1.48	0.000591	± 2.5	PASS
	MCH	VL	TN	4.16	0.001641	± 2.5	PASS
		VN	TN	4.55	0.001795	± 2.5	PASS
		VH	TN	4.43	0.001748	± 2.5	PASS
	HCH	VL	TN	1.77	0.000689	± 2.5	PASS
		VN	TN	4.32	0.001683	± 2.5	PASS
		VH	TN	0.41	0.000160	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	3.2	0.001279	± 2.5	PASS
		VN	-20	1.82	0.000727	± 2.5	PASS
		VN	-10	4.32	0.001726	± 2.5	PASS
		VN	0	-0.97	-0.000388	± 2.5	PASS
		VN	10	4.53	0.001810	± 2.5	PASS
		VN	20	0.42	0.000168	± 2.5	PASS
		VN	30	4.44	0.001774	± 2.5	PASS
		VN	40	2.74	0.001095	± 2.5	PASS
		VN	50	0.45	0.000180	± 2.5	PASS

	MCH	VN	-30	3.73	0.001471	± 2.5	PASS
		VN	-20	-0.96	-0.000379	± 2.5	PASS
		VN	-10	-0.87	-0.000343	± 2.5	PASS
		VN	0	0.32	0.000126	± 2.5	PASS
		VN	10	-1.95	-0.000769	± 2.5	PASS
		VN	20	0	0.000000	± 2.5	PASS
		VN	30	3.6	0.001420	± 2.5	PASS
		VN	40	2.54	0.001002	± 2.5	PASS
		VN	50	0.14	0.000055	± 2.5	PASS
	HCH	VN	-30	-0.18	-0.000070	± 2.5	PASS
		VN	-20	-1.35	-0.000526	± 2.5	PASS
		VN	-10	-1.07	-0.000417	± 2.5	PASS
		VN	0	4.04	0.001574	± 2.5	PASS
		VN	10	3.16	0.001231	± 2.5	PASS
		VN	20	1.84	0.000717	± 2.5	PASS
		VN	30	-1.9	-0.000740	± 2.5	PASS
		VN	40	1.19	0.000463	± 2.5	PASS
		VN	50	4.11	0.001601	± 2.5	PASS
16QAM	LCH	VN	-30	2.22	0.000887	± 2.5	PASS
		VN	-20	4.12	0.001646	± 2.5	PASS
		VN	-10	-0.1	-0.000040	± 2.5	PASS
		VN	0	4.63	0.001850	± 2.5	PASS
		VN	10	2.46	0.000983	± 2.5	PASS
		VN	20	4.16	0.001662	± 2.5	PASS
		VN	30	2.59	0.001035	± 2.5	PASS
		VN	40	3.57	0.001427	± 2.5	PASS
		VN	50	3.71	0.001483	± 2.5	PASS
	MCH	VN	-30	-1.87	-0.000738	± 2.5	PASS
		VN	-20	-1.3	-0.000513	± 2.5	PASS
		VN	-10	4.15	0.001637	± 2.5	PASS
		VN	0	1.69	0.000667	± 2.5	PASS
		VN	10	1.84	0.000726	± 2.5	PASS
		VN	20	-0.69	-0.000272	± 2.5	PASS
		VN	30	0.31	0.000122	± 2.5	PASS
		VN	40	-0.87	-0.000343	± 2.5	PASS
		VN	50	4.97	0.001961	± 2.5	PASS
	HCH	VN	-30	2.5	0.000974	± 2.5	PASS
		VN	-20	-1.81	-0.000705	± 2.5	PASS
		VN	-10	0.6	0.000234	± 2.5	PASS
		VN	0	2.76	0.001075	± 2.5	PASS
		VN	10	1.08	0.000421	± 2.5	PASS

		VN	20	4.58	0.001784	± 2.5	PASS
		VN	30	1.29	0.000502	± 2.5	PASS
		VN	40	-1.39	-0.000541	± 2.5	PASS
		VN	50	-1.91	-0.000744	± 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	0.62	0.000248	± 2.5	PASS
		VN	TN	3.72	0.001485	± 2.5	PASS
		VH	TN	-1.34	-0.000535	± 2.5	PASS
	MCH	VL	TN	-1.38	-0.000544	± 2.5	PASS
		VN	TN	0.84	0.000331	± 2.5	PASS
		VH	TN	-0.49	-0.000193	± 2.5	PASS
	HCH	VL	TN	0.41	0.000160	± 2.5	PASS
		VN	TN	4.25	0.001657	± 2.5	PASS
		VH	TN	-1.42	-0.000554	± 2.5	PASS
16QAM	LCH	VL	TN	3.07	0.001226	± 2.5	PASS
		VN	TN	-1.36	-0.000543	± 2.5	PASS
		VH	TN	3.34	0.001333	± 2.5	PASS
	MCH	VL	TN	-1.62	-0.000639	± 2.5	PASS
		VN	TN	0.41	0.000162	± 2.5	PASS
		VH	TN	1.59	0.000627	± 2.5	PASS
	HCH	VL	TN	-0.34	-0.000133	± 2.5	PASS
		VN	TN	-2	-0.000780	± 2.5	PASS
		VH	TN	-1.48	-0.000577	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	2.43	0.000970	± 2.5	PASS
		VN	-20	3.98	0.001589	± 2.5	PASS
		VN	-10	0.39	0.000156	± 2.5	PASS
		VN	0	-0.43	-0.000172	± 2.5	PASS
		VN	10	-1.41	-0.000563	± 2.5	PASS
		VN	20	4.42	0.001764	± 2.5	PASS
		VN	30	0.07	0.000028	± 2.5	PASS
		VN	40	0.85	0.000339	± 2.5	PASS
		VN	50	-0.96	-0.000383	± 2.5	PASS
	MCH	VN	-30	1.65	0.000651	± 2.5	PASS

		VN	-20	0.75	0.000296	± 2.5	PASS
		VN	-10	-1.58	-0.000623	± 2.5	PASS
		VN	0	-0.82	-0.000323	± 2.5	PASS
		VN	10	4.88	0.001925	± 2.5	PASS
		VN	20	4.91	0.001937	± 2.5	PASS
		VN	30	0.39	0.000154	± 2.5	PASS
		VN	40	3.31	0.001306	± 2.5	PASS
		VN	50	4.28	0.001688	± 2.5	PASS
	HCH	VN	-30	4.35	0.001696	± 2.5	PASS
		VN	-20	3.59	0.001400	± 2.5	PASS
		VN	-10	1.54	0.000600	± 2.5	PASS
		VN	0	0.23	0.000090	± 2.5	PASS
		VN	10	3.2	0.001248	± 2.5	PASS
		VN	20	1.08	0.000421	± 2.5	PASS
		VN	30	4.68	0.001825	± 2.5	PASS
		VN	40	-0.42	-0.000164	± 2.5	PASS
		VN	50	3.16	0.001232	± 2.5	PASS
16QAM	LCH	VN	-30	0.73	0.000291	± 2.5	PASS
		VN	-20	2.49	0.000994	± 2.5	PASS
		VN	-10	0.26	0.000104	± 2.5	PASS
		VN	0	1.52	0.000607	± 2.5	PASS
		VN	10	1.79	0.000715	± 2.5	PASS
		VN	20	-1.79	-0.000715	± 2.5	PASS
		VN	30	1.12	0.000447	± 2.5	PASS
		VN	40	4.95	0.001976	± 2.5	PASS
		VN	50	2.21	0.000882	± 2.5	PASS
	MCH	VN	-30	3.48	0.001373	± 2.5	PASS
		VN	-20	3.37	0.001329	± 2.5	PASS
		VN	-10	3.91	0.001542	± 2.5	PASS
		VN	0	1.38	0.000544	± 2.5	PASS
		VN	10	0.69	0.000272	± 2.5	PASS
		VN	20	2.06	0.000813	± 2.5	PASS
		VN	30	0.05	0.000020	± 2.5	PASS
		VN	40	-1.61	-0.000635	± 2.5	PASS
		VN	50	0.61	0.000241	± 2.5	PASS
	HCH	VN	-30	2.07	0.000807	± 2.5	PASS
		VN	-20	2.48	0.000967	± 2.5	PASS
		VN	-10	3.41	0.001329	± 2.5	PASS
		VN	0	4.64	0.001809	± 2.5	PASS
		VN	10	3.25	0.001267	± 2.5	PASS
		VN	20	0.09	0.000035	± 2.5	PASS

		VN	30	0.89	0.000347	± 2.5	PASS
		VN	40	2.37	0.000924	± 2.5	PASS
		VN	50	4.63	0.001805	± 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	4.74	0.001890	± 2.5	PASS
		VN	TN	2.22	0.000885	± 2.5	PASS
		VH	TN	4.4	0.001755	± 2.5	PASS
	MCH	VL	TN	4.67	0.001842	± 2.5	PASS
		VN	TN	-1.42	-0.000560	± 2.5	PASS
		VH	TN	-1.58	-0.000623	± 2.5	PASS
	HCH	VL	TN	1.83	0.000714	± 2.5	PASS
		VN	TN	-0.73	-0.000285	± 2.5	PASS
		VH	TN	-0.76	-0.000297	± 2.5	PASS
16QAM	LCH	VL	TN	4.13	0.001647	± 2.5	PASS
		VN	TN	2.77	0.001105	± 2.5	PASS
		VH	TN	0.67	0.000267	± 2.5	PASS
	MCH	VL	TN	-1.13	-0.000446	± 2.5	PASS
		VN	TN	1.1	0.000434	± 2.5	PASS
		VH	TN	2.09	0.000824	± 2.5	PASS
	HCH	VL	TN	2.66	0.001038	± 2.5	PASS
		VN	TN	-0.14	-0.000055	± 2.5	PASS
		VH	TN	1.83	0.000714	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.43	-0.000570	± 2.5	PASS
		VN	-20	-0.55	-0.000219	± 2.5	PASS
		VN	-10	-1.8	-0.000718	± 2.5	PASS
		VN	0	-0.85	-0.000339	± 2.5	PASS
		VN	10	-1.72	-0.000686	± 2.5	PASS
		VN	20	-1.57	-0.000626	± 2.5	PASS
		VN	30	1.96	0.000782	± 2.5	PASS
		VN	40	2.85	0.001137	± 2.5	PASS
		VN	50	1.2	0.000479	± 2.5	PASS
	MCH	VN	-30	-1	-0.000394	± 2.5	PASS
		VN	-20	-1.82	-0.000718	± 2.5	PASS

		VN	-10	4.58	0.001807	± 2.5	PASS
		VN	0	0.54	0.000213	± 2.5	PASS
		VN	10	-1.61	-0.000635	± 2.5	PASS
		VN	20	-1.22	-0.000481	± 2.5	PASS
		VN	30	4.15	0.001637	± 2.5	PASS
		VN	40	3.76	0.001483	± 2.5	PASS
		VN	50	3.2	0.001262	± 2.5	PASS
	HCH	VN	-30	-0.41	-0.000160	± 2.5	PASS
		VN	-20	4.24	0.001655	± 2.5	PASS
		VN	-10	2	0.000780	± 2.5	PASS
		VN	0	0.84	0.000328	± 2.5	PASS
		VN	10	2.03	0.000792	± 2.5	PASS
		VN	20	2.1	0.000820	± 2.5	PASS
		VN	30	4.78	0.001865	± 2.5	PASS
		VN	40	2.62	0.001022	± 2.5	PASS
		VN	50	3.33	0.001300	± 2.5	PASS
16QAM	LCH	VN	-30	1.54	0.000614	± 2.5	PASS
		VN	-20	-0.34	-0.000136	± 2.5	PASS
		VN	-10	2.5	0.000997	± 2.5	PASS
		VN	0	-1.99	-0.000794	± 2.5	PASS
		VN	10	0.08	0.000032	± 2.5	PASS
		VN	20	2.18	0.000869	± 2.5	PASS
		VN	30	2.79	0.001113	± 2.5	PASS
		VN	40	-0.52	-0.000207	± 2.5	PASS
		VN	50	-1.92	-0.000766	± 2.5	PASS
	MCH	VN	-30	-0.91	-0.000359	± 2.5	PASS
		VN	-20	0.69	0.000272	± 2.5	PASS
		VN	-10	1	0.000394	± 2.5	PASS
		VN	0	0.69	0.000272	± 2.5	PASS
		VN	10	0.49	0.000193	± 2.5	PASS
		VN	20	0.5	0.000197	± 2.5	PASS
		VN	30	3.23	0.001274	± 2.5	PASS
		VN	40	3.9	0.001538	± 2.5	PASS
		VN	50	0.8	0.000316	± 2.5	PASS
	HCH	VN	-30	-0.4	-0.000156	± 2.5	PASS
		VN	-20	0.09	0.000035	± 2.5	PASS
		VN	-10	-0.78	-0.000304	± 2.5	PASS
		VN	0	1.56	0.000609	± 2.5	PASS
		VN	10	0.9	0.000351	± 2.5	PASS
		VN	20	3.51	0.001370	± 2.5	PASS
		VN	30	4.35	0.001698	± 2.5	PASS

		VN	40	0.23	0.000090	± 2.5	PASS
		VN	50	3.02	0.001179	± 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	1.86	0.000741	± 2.5	PASS
		VN	TN	3.09	0.001231	± 2.5	PASS
		VH	TN	4.32	0.001721	± 2.5	PASS
	MCH	VL	TN	0.14	0.000055	± 2.5	PASS
		VN	TN	-0.58	-0.000229	± 2.5	PASS
		VH	TN	1.86	0.000734	± 2.5	PASS
	HCH	VL	TN	-1.55	-0.000605	± 2.5	PASS
		VN	TN	3.97	0.001551	± 2.5	PASS
		VH	TN	2.57	0.001004	± 2.5	PASS
16QAM	LCH	VL	TN	-0.31	-0.000124	± 2.5	PASS
		VN	TN	1.86	0.000741	± 2.5	PASS
		VH	TN	4.37	0.001741	± 2.5	PASS
	MCH	VL	TN	3.53	0.001393	± 2.5	PASS
		VN	TN	0.01	0.000004	± 2.5	PASS
		VH	TN	0.58	0.000229	± 2.5	PASS
	HCH	VL	TN	2.05	0.000801	± 2.5	PASS
		VN	TN	1.76	0.000688	± 2.5	PASS
		VH	TN	4.85	0.001895	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.78	-0.000311	± 2.5	PASS
		VN	-20	3.12	0.001243	± 2.5	PASS
		VN	-10	1.63	0.000649	± 2.5	PASS
		VN	0	3.29	0.001311	± 2.5	PASS
		VN	10	-1.52	-0.000606	± 2.5	PASS
		VN	20	4.71	0.001876	± 2.5	PASS
		VN	30	2.73	0.001088	± 2.5	PASS
		VN	40	3.89	0.001550	± 2.5	PASS
		VN	50	-0.9	-0.000359	± 2.5	PASS
	MCH	VN	-30	-0.55	-0.000217	± 2.5	PASS
		VN	-20	2.46	0.000970	± 2.5	PASS
		VN	-10	3.64	0.001436	± 2.5	PASS

		VN	0	1.15	0.000454	± 2.5	PASS
		VN	10	-0.37	-0.000146	± 2.5	PASS
		VN	20	-0.53	-0.000209	± 2.5	PASS
		VN	30	-0.83	-0.000327	± 2.5	PASS
		VN	40	1.96	0.000773	± 2.5	PASS
		VN	50	4.47	0.001763	± 2.5	PASS
	HCH	VN	-30	-0.63	-0.000246	± 2.5	PASS
		VN	-20	3.68	0.001438	± 2.5	PASS
		VN	-10	0.32	0.000125	± 2.5	PASS
		VN	0	1.93	0.000754	± 2.5	PASS
		VN	10	3.39	0.001324	± 2.5	PASS
		VN	20	-0.98	-0.000383	± 2.5	PASS
		VN	30	3.16	0.001234	± 2.5	PASS
		VN	40	-0.2	-0.000078	± 2.5	PASS
		VN	50	-1.28	-0.000500	± 2.5	PASS
16QAM	LCH	VN	-30	3.99	0.001590	± 2.5	PASS
		VN	-20	4.65	0.001853	± 2.5	PASS
		VN	-10	2.68	0.001068	± 2.5	PASS
		VN	0	3.28	0.001307	± 2.5	PASS
		VN	10	0.24	0.000096	± 2.5	PASS
		VN	20	2.47	0.000984	± 2.5	PASS
		VN	30	2.95	0.001175	± 2.5	PASS
		VN	40	0.57	0.000227	± 2.5	PASS
		VN	50	4.18	0.001665	± 2.5	PASS
	MCH	VN	-30	0.81	0.000320	± 2.5	PASS
		VN	-20	-1.93	-0.000761	± 2.5	PASS
		VN	-10	2.97	0.001172	± 2.5	PASS
		VN	0	3.73	0.001471	± 2.5	PASS
		VN	10	0.73	0.000288	± 2.5	PASS
		VN	20	3.42	0.001349	± 2.5	PASS
		VN	30	-0.89	-0.000351	± 2.5	PASS
		VN	40	-0.95	-0.000375	± 2.5	PASS
		VN	50	3.28	0.001294	± 2.5	PASS
	HCH	VN	-30	2.83	0.001105	± 2.5	PASS
		VN	-20	1.3	0.000508	± 2.5	PASS
		VN	-10	1.62	0.000633	± 2.5	PASS
		VN	0	-1.62	-0.000633	± 2.5	PASS
		VN	10	1.08	0.000422	± 2.5	PASS
		VN	20	3.3	0.001289	± 2.5	PASS
		VN	30	0.73	0.000285	± 2.5	PASS
		VN	40	4.11	0.001605	± 2.5	PASS

		VN	50	3.55	0.001387	± 2.5	PASS
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