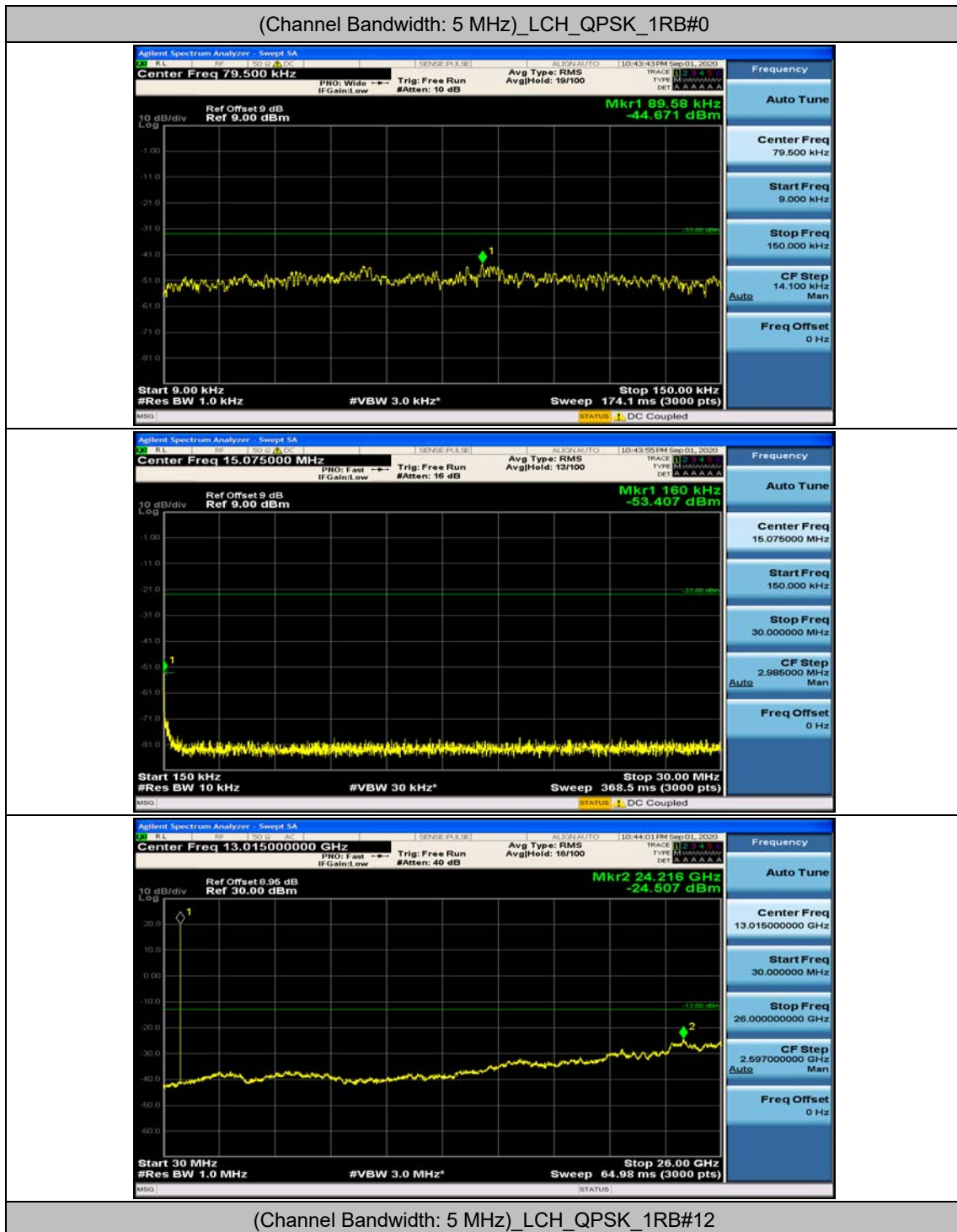
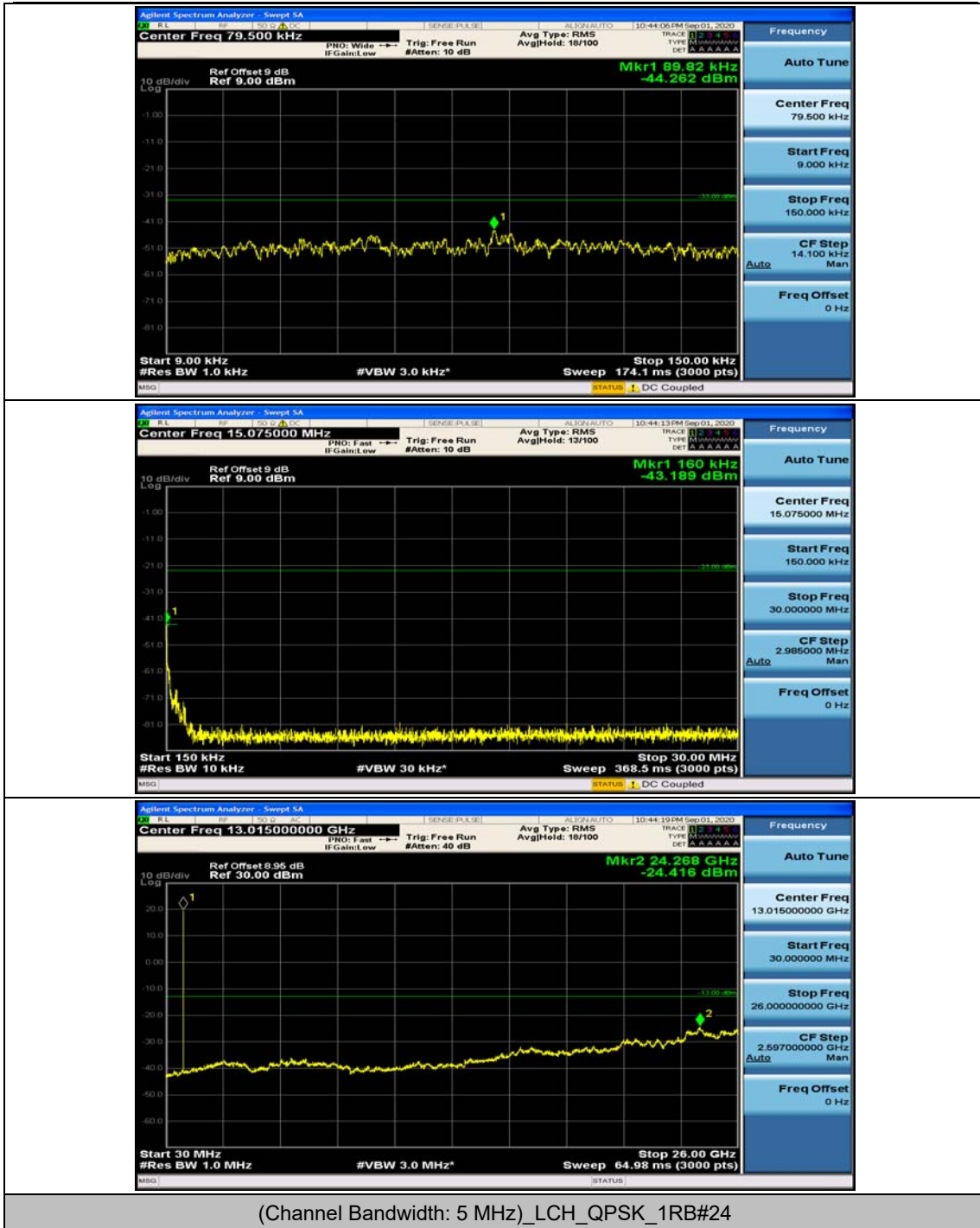
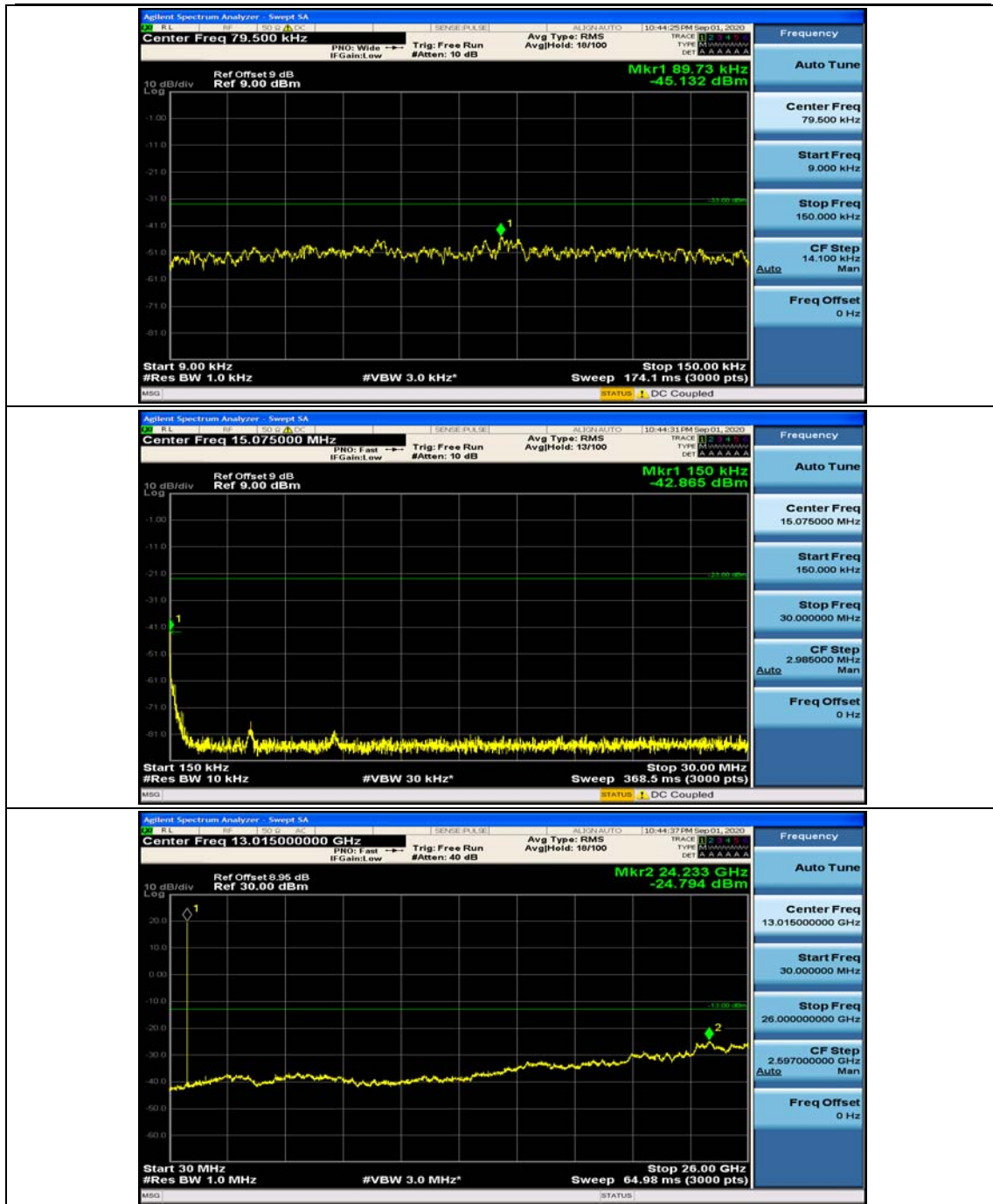


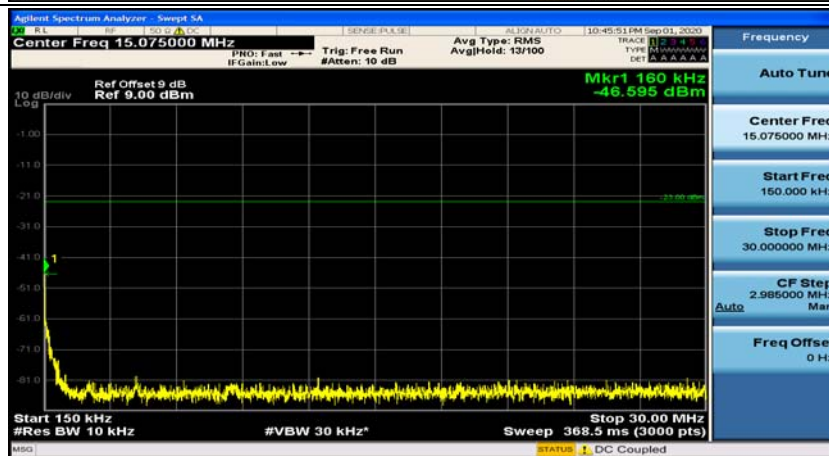
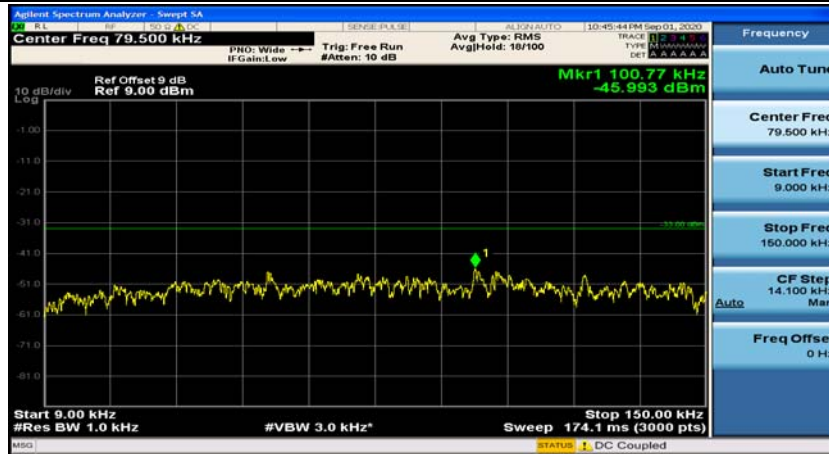
Channel Bandwidth: 5 MHz



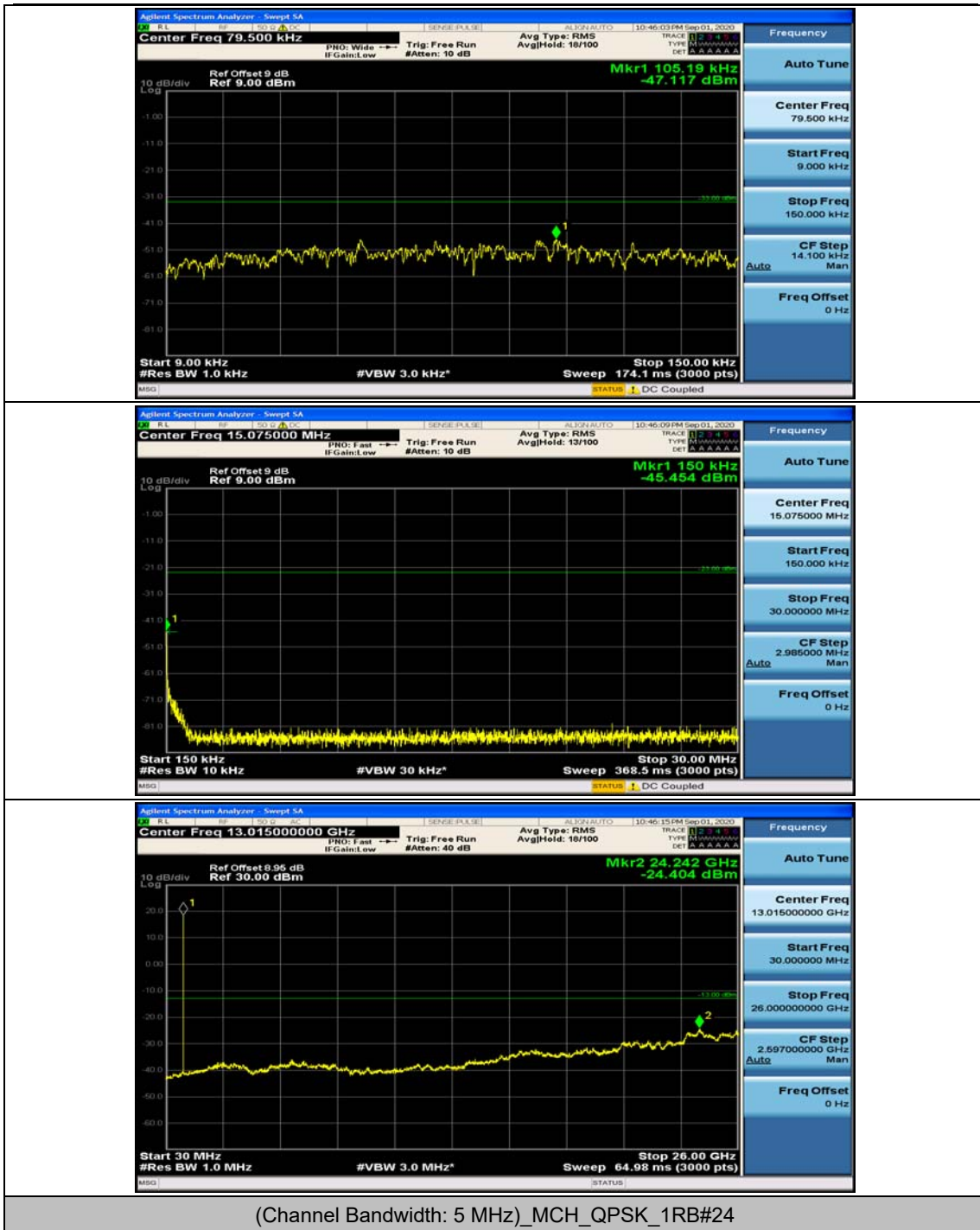


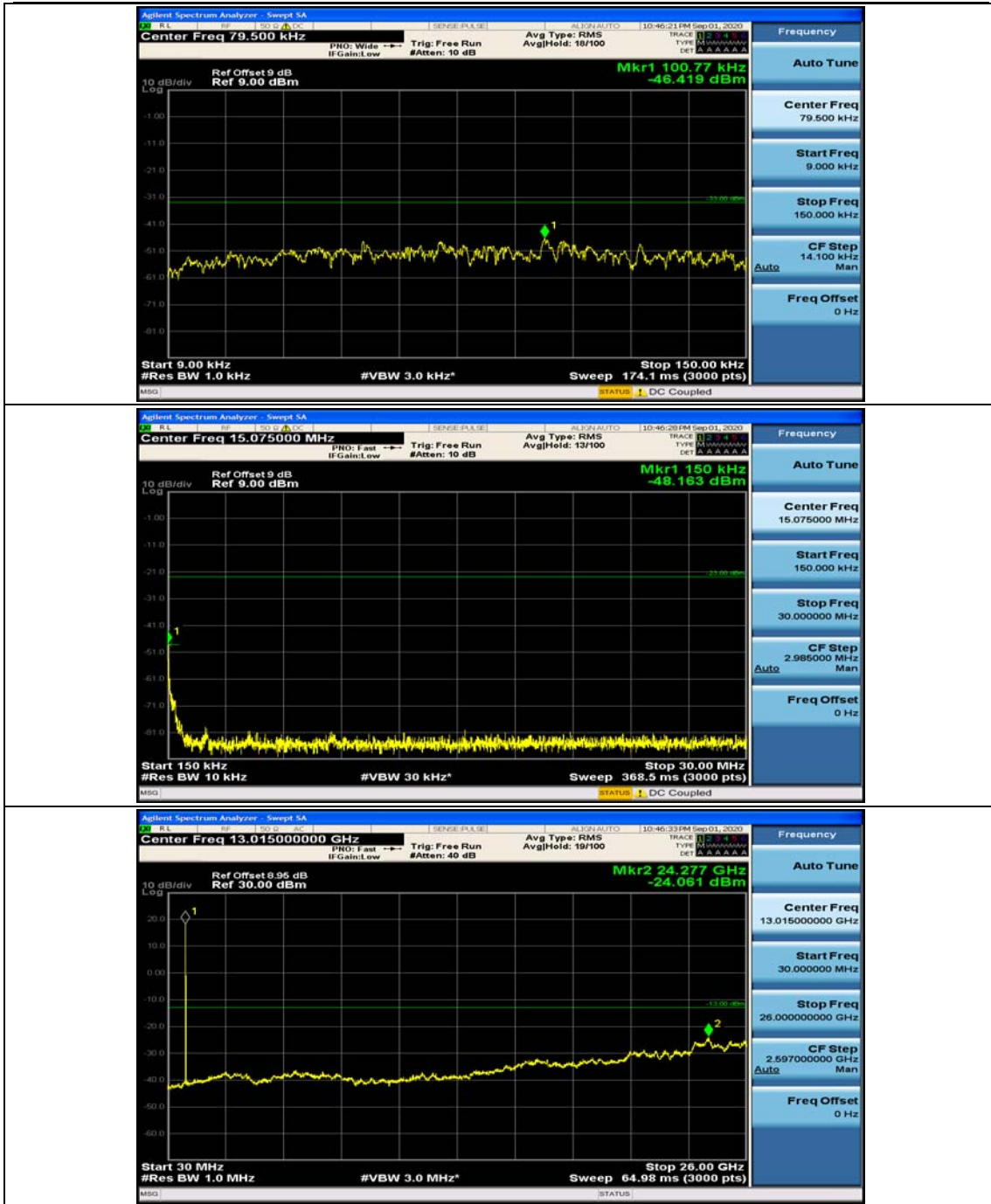


(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0

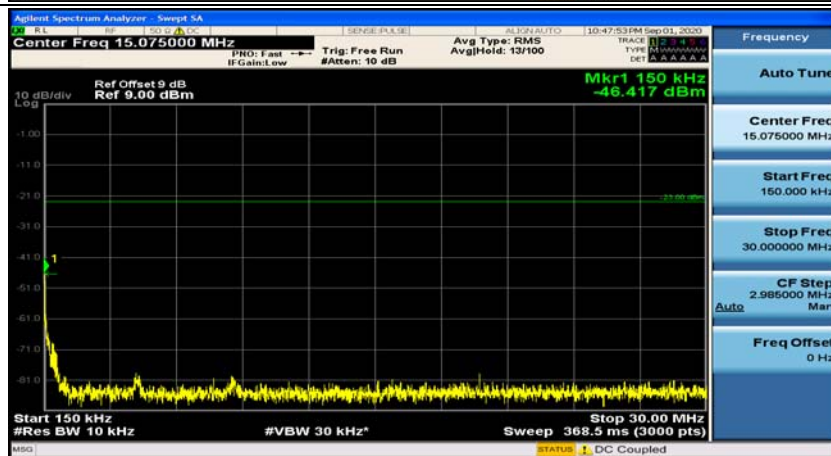


(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12

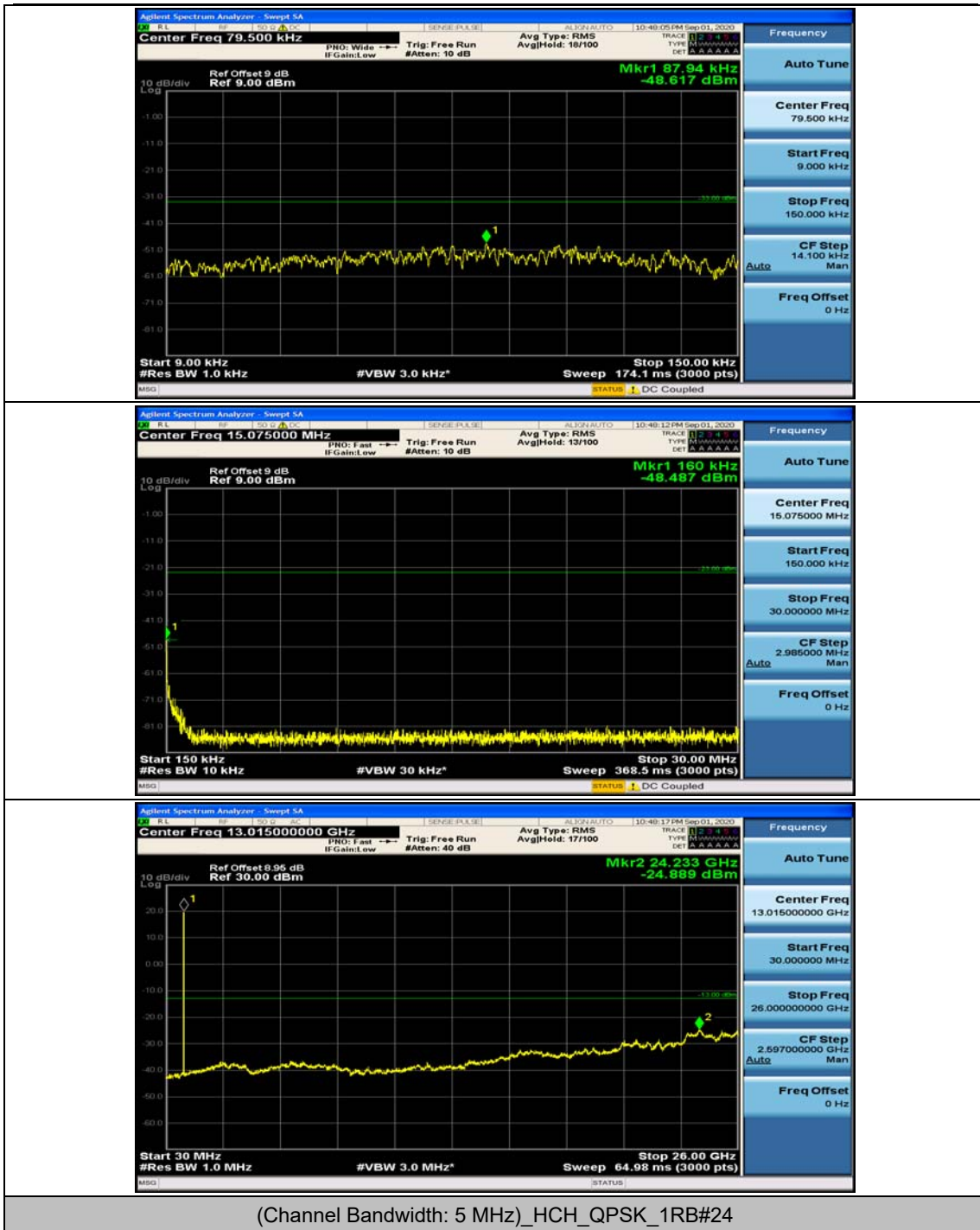


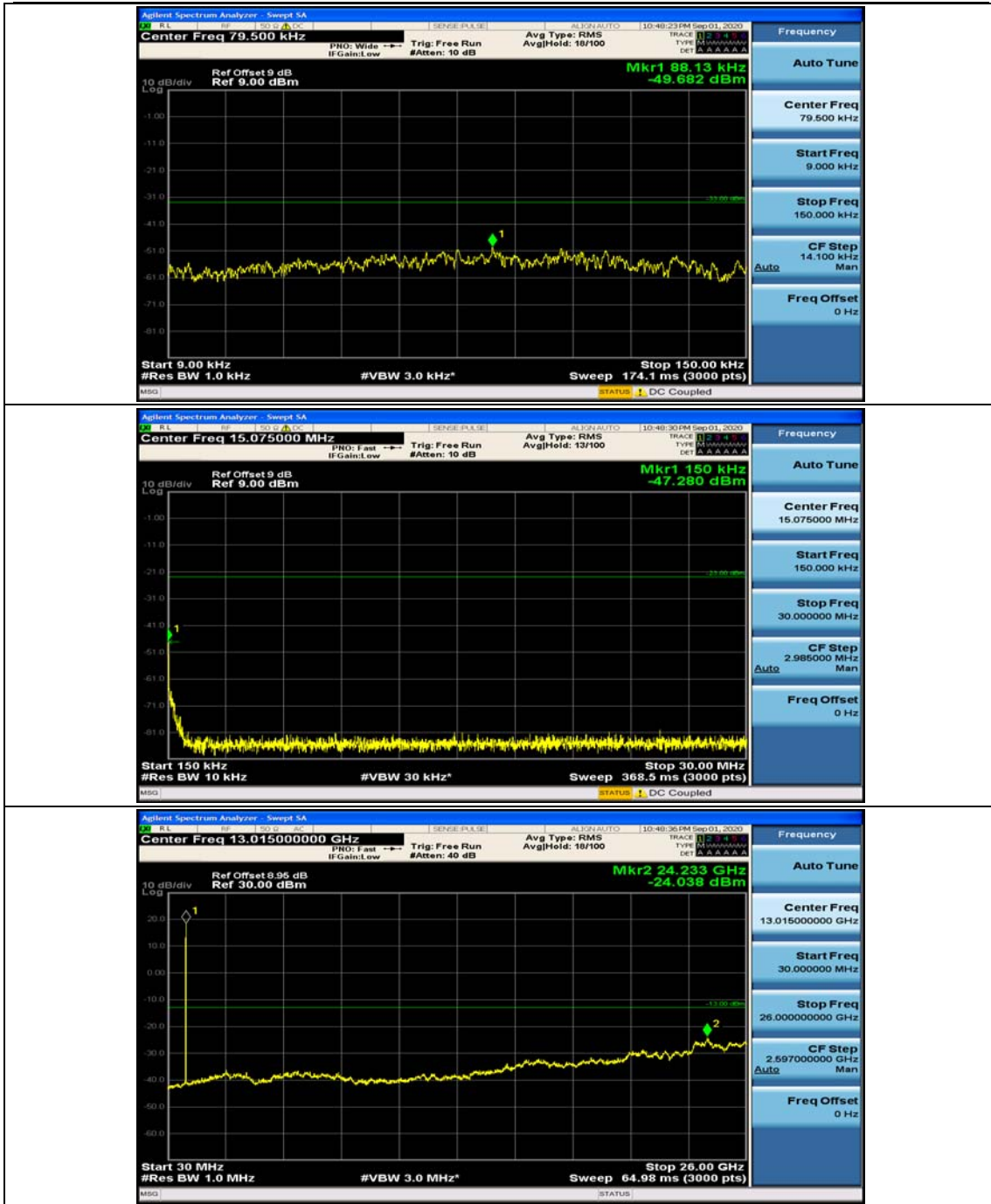


(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0

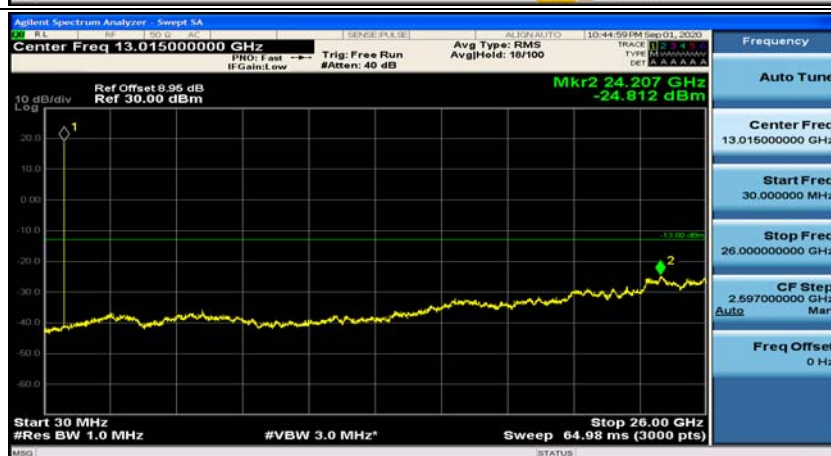
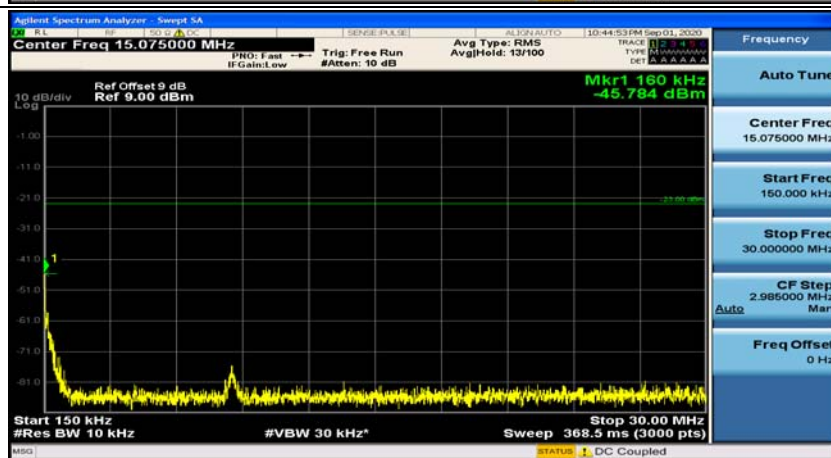
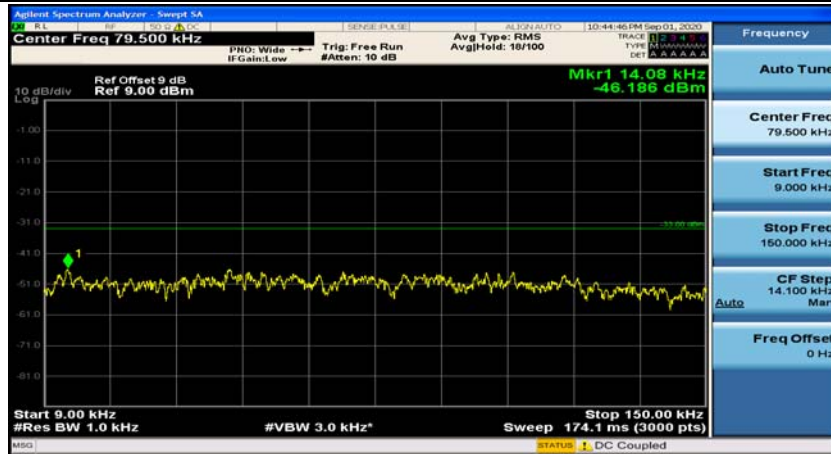


(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12

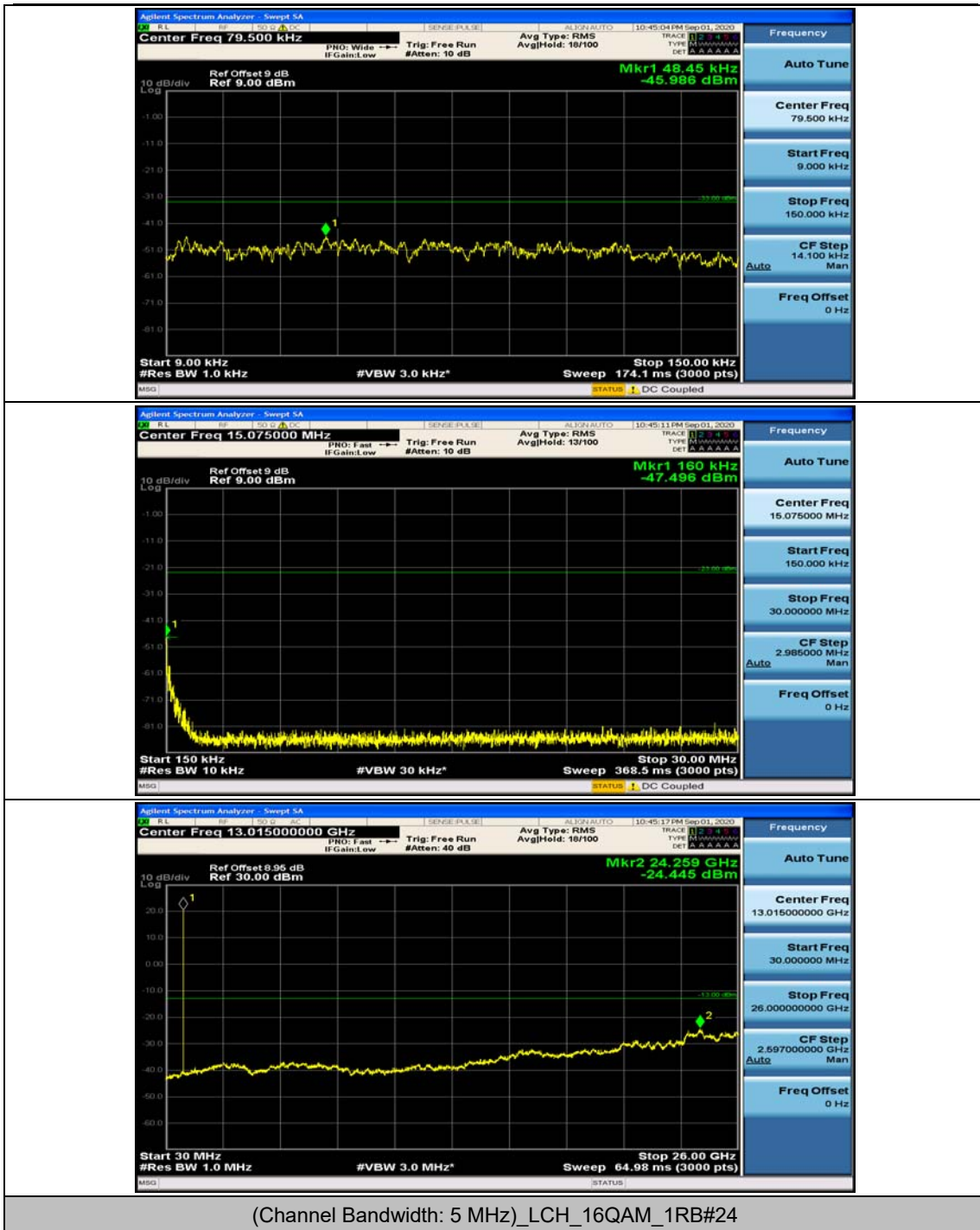


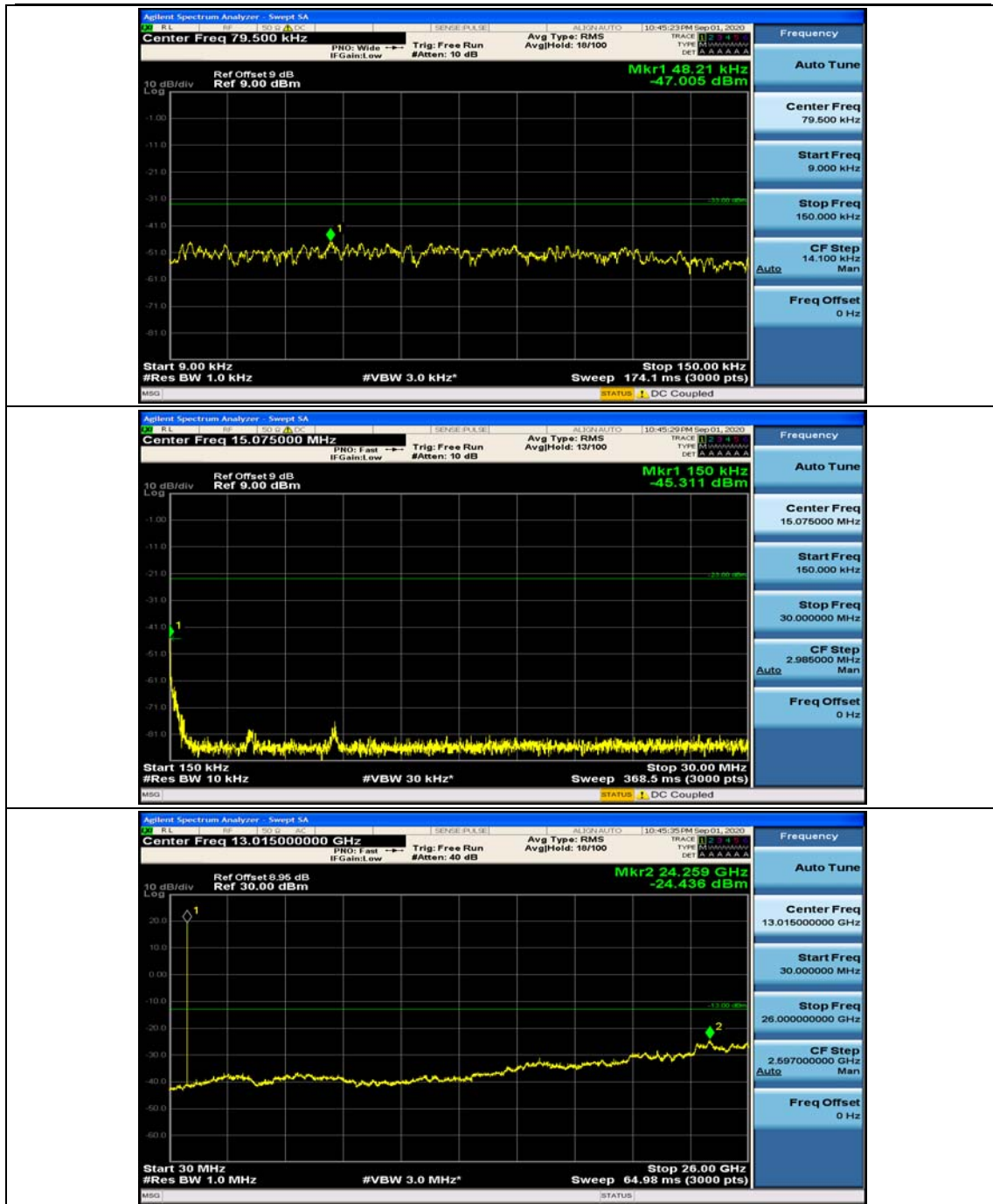


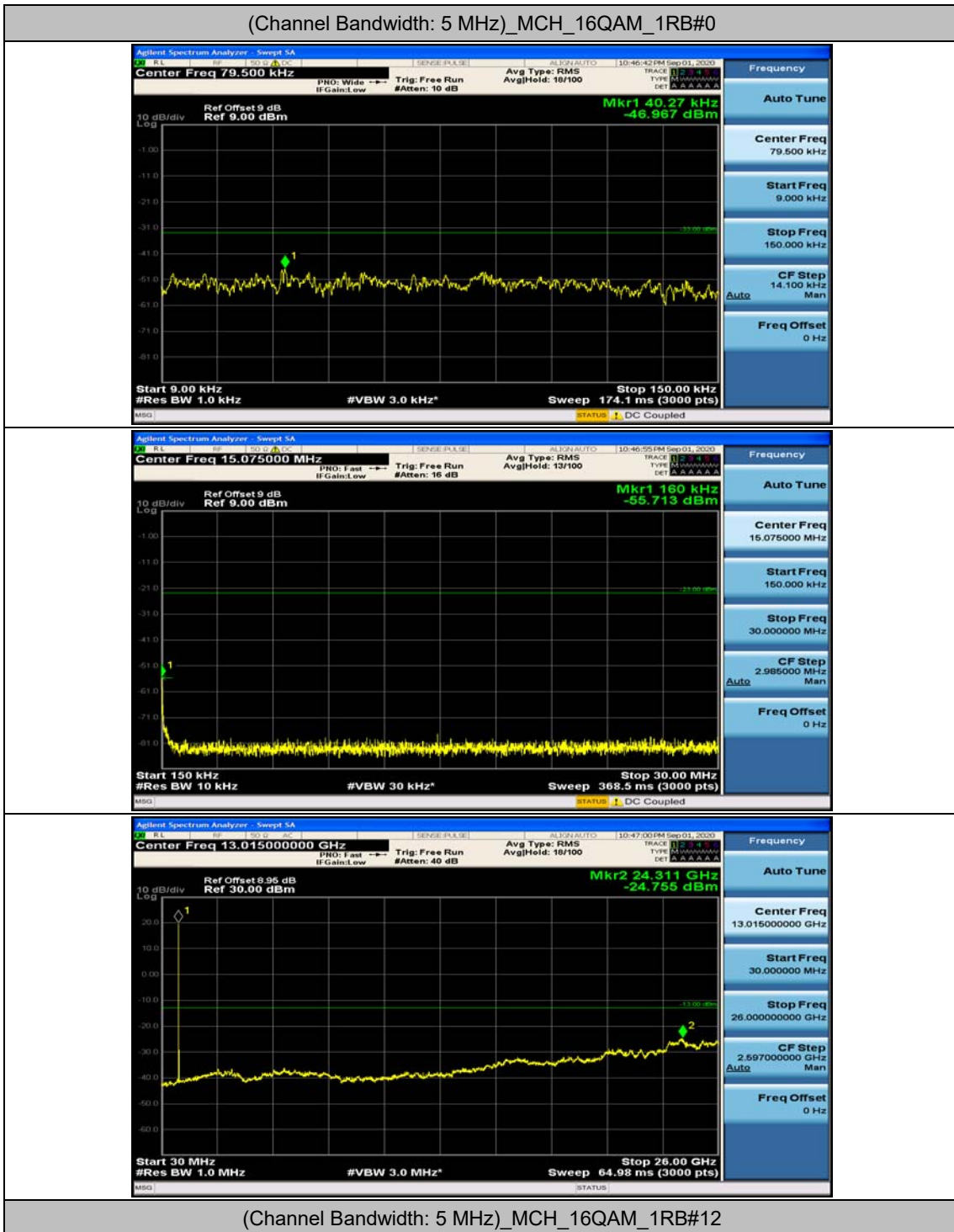
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0

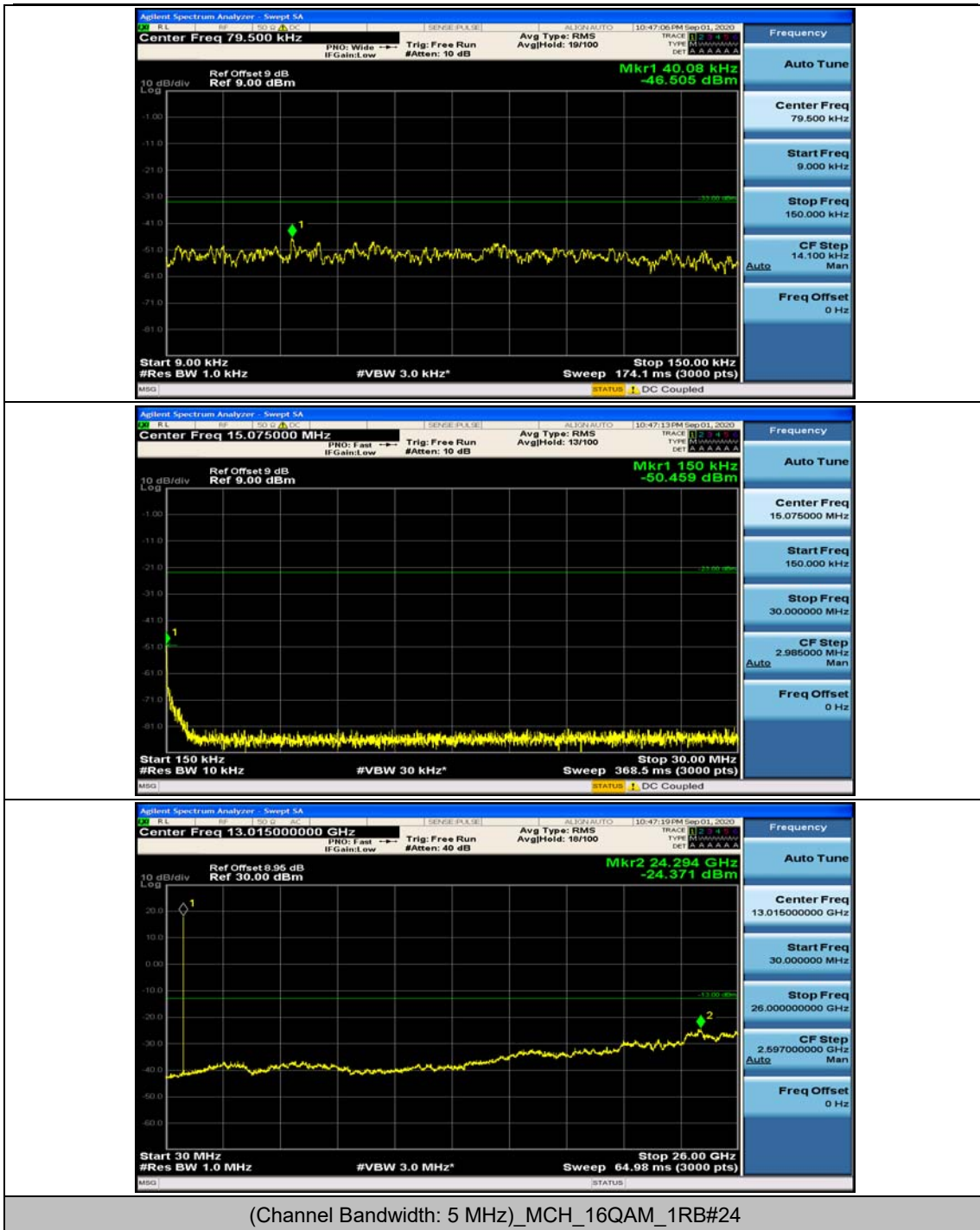


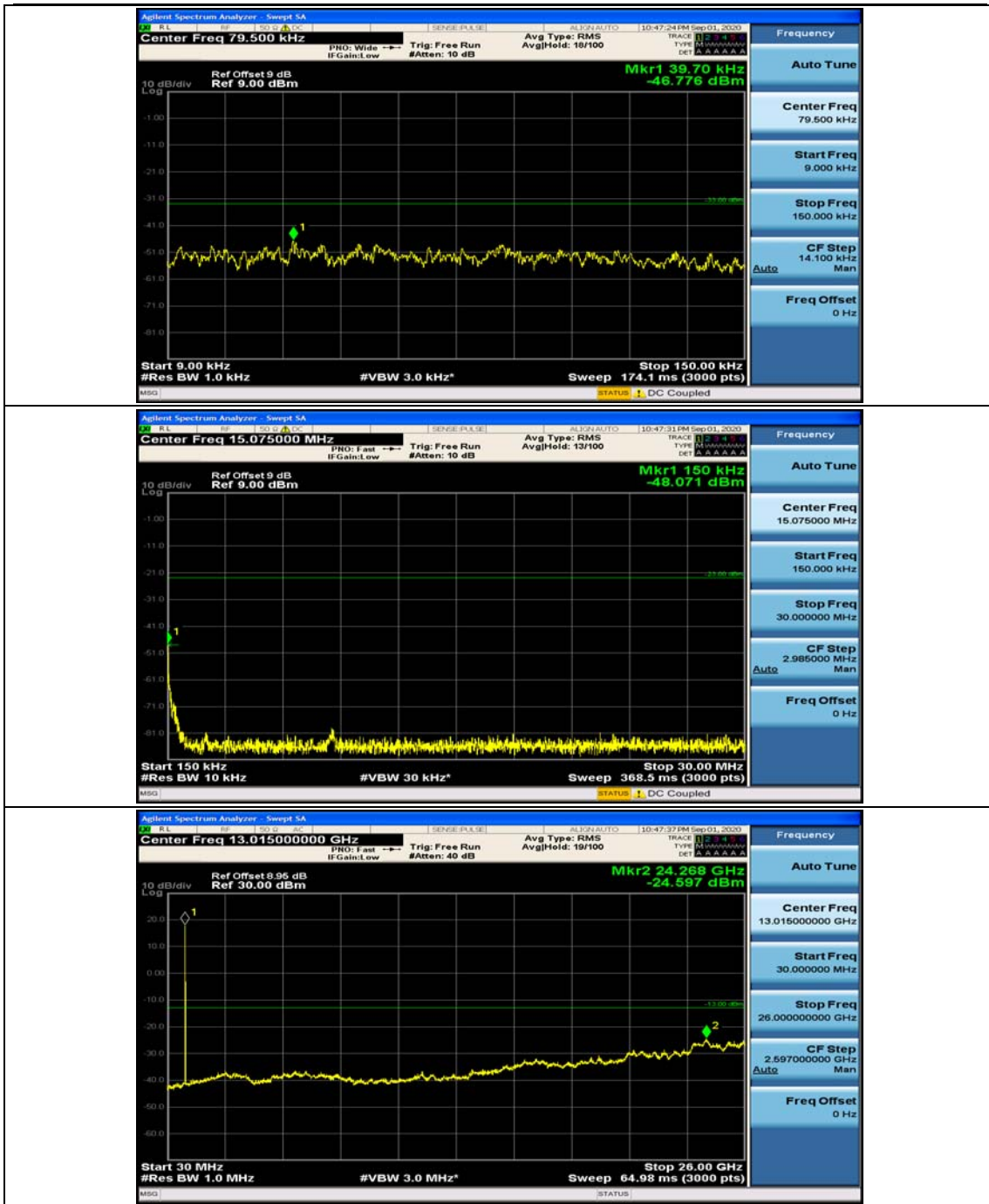
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

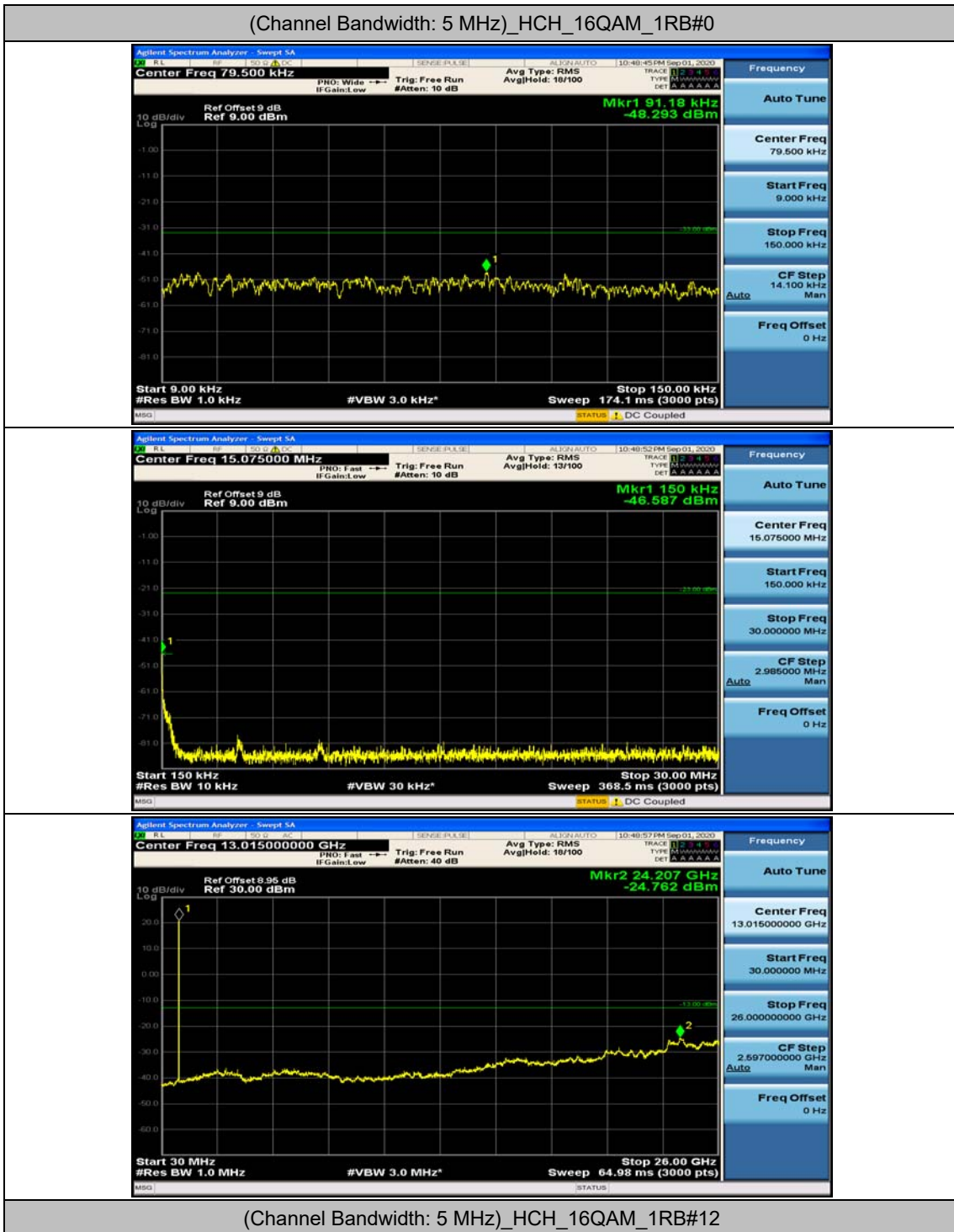


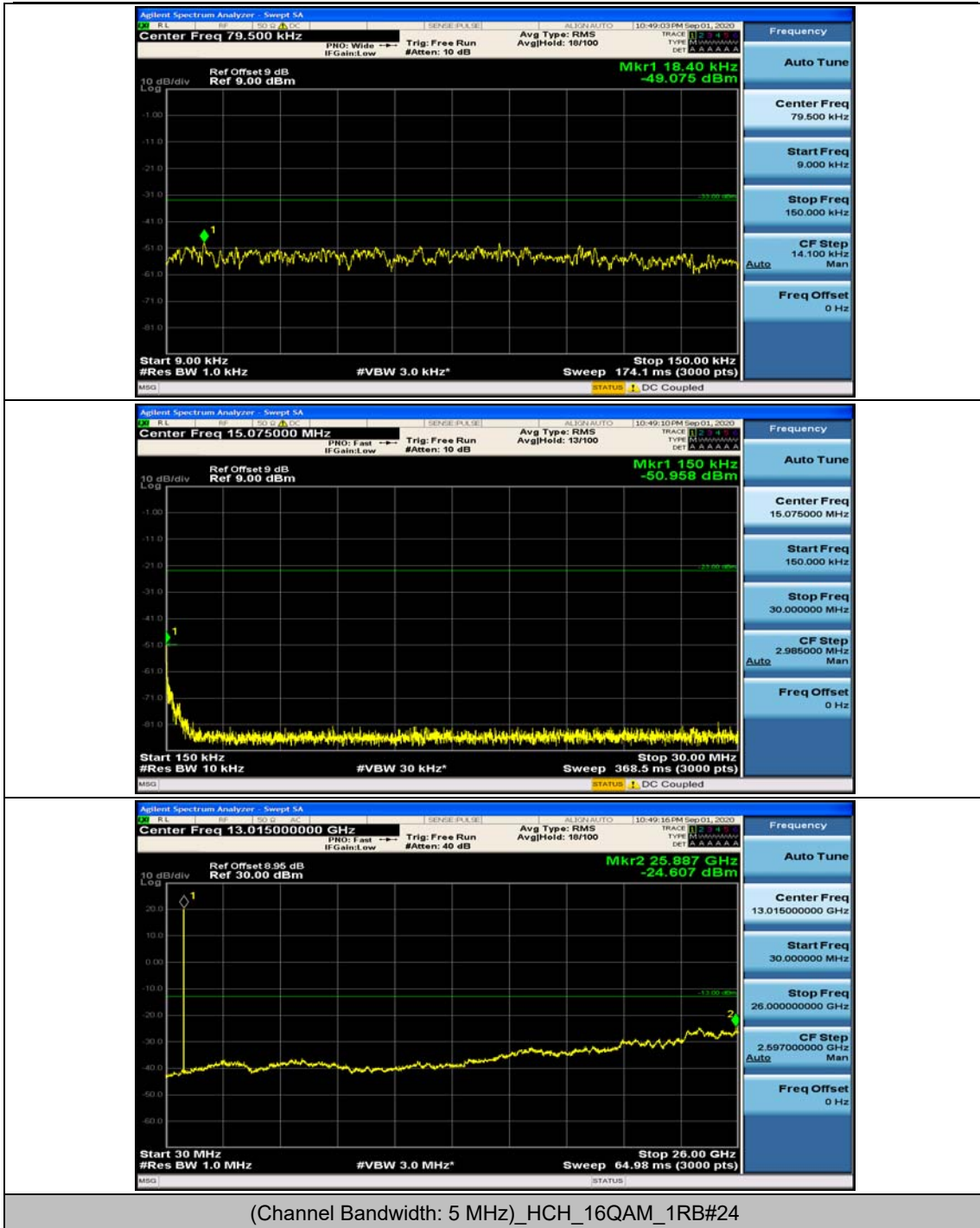


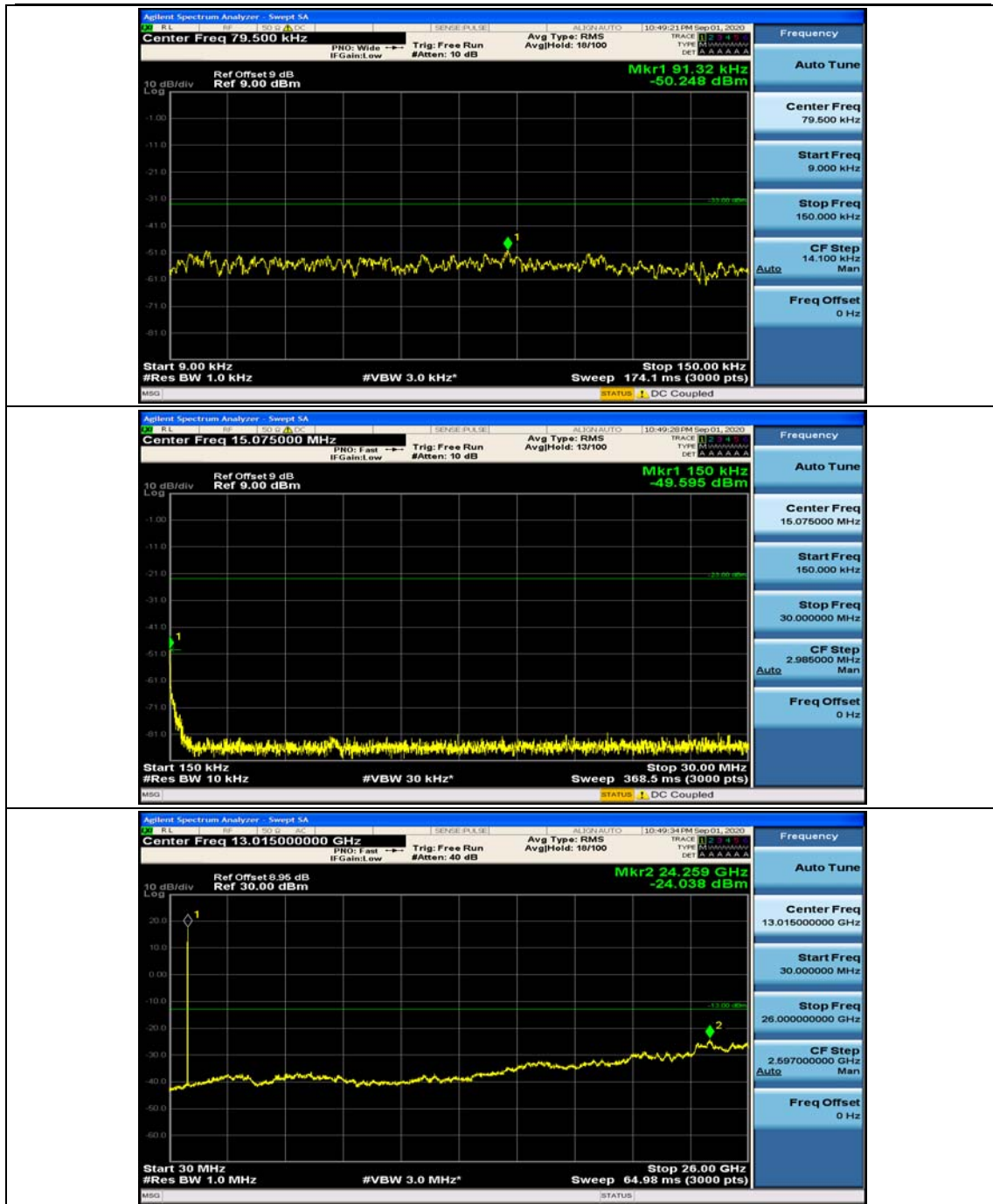




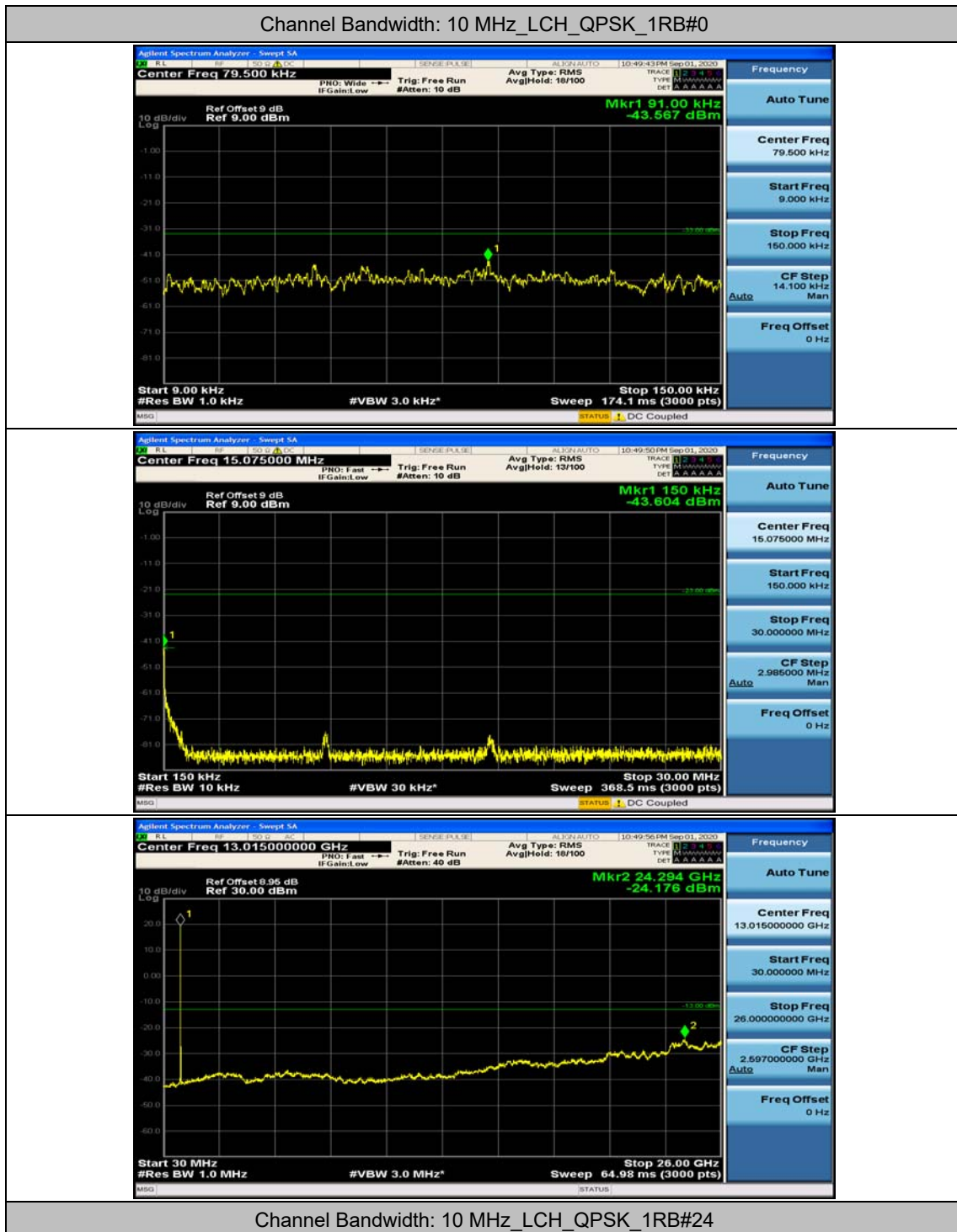


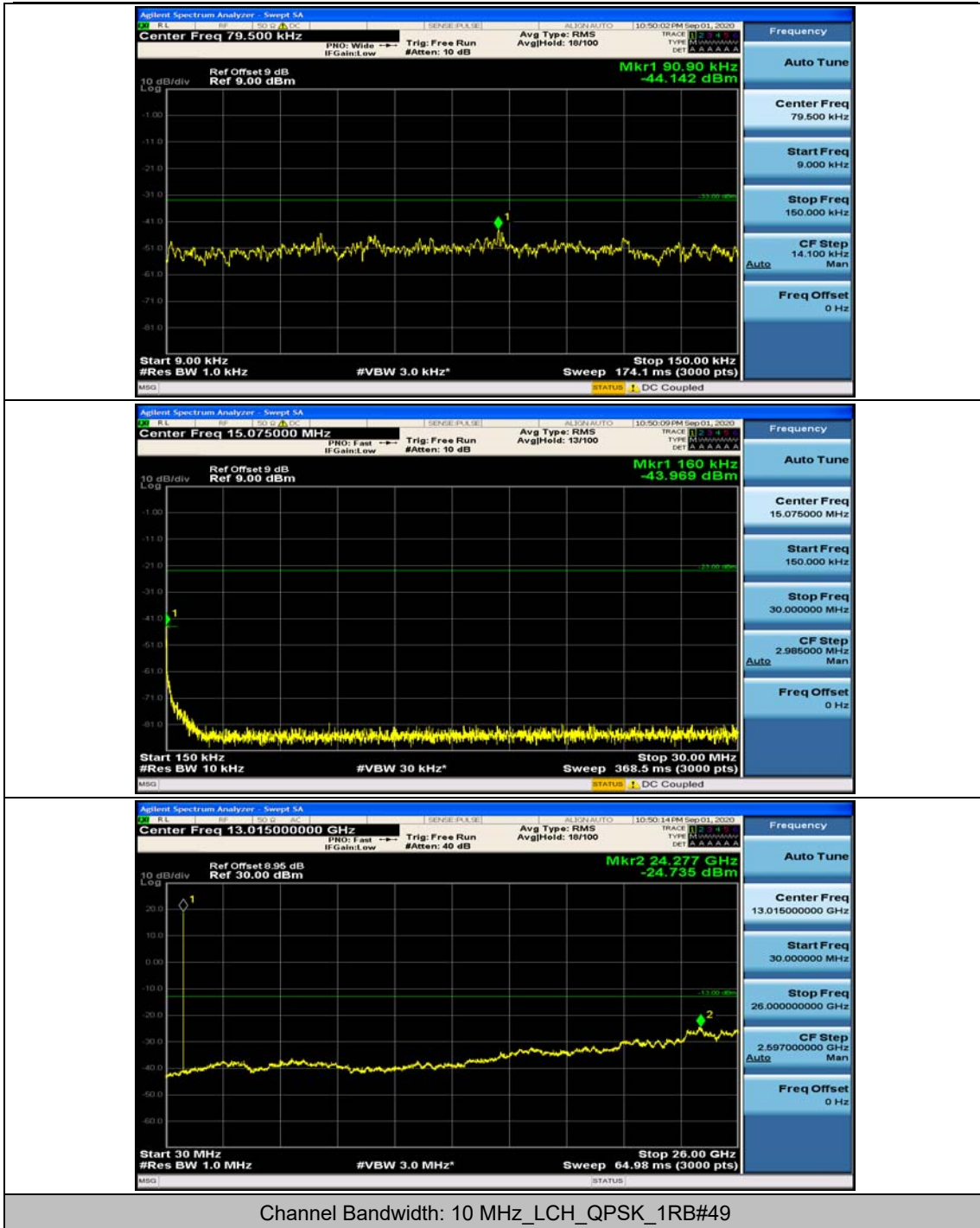


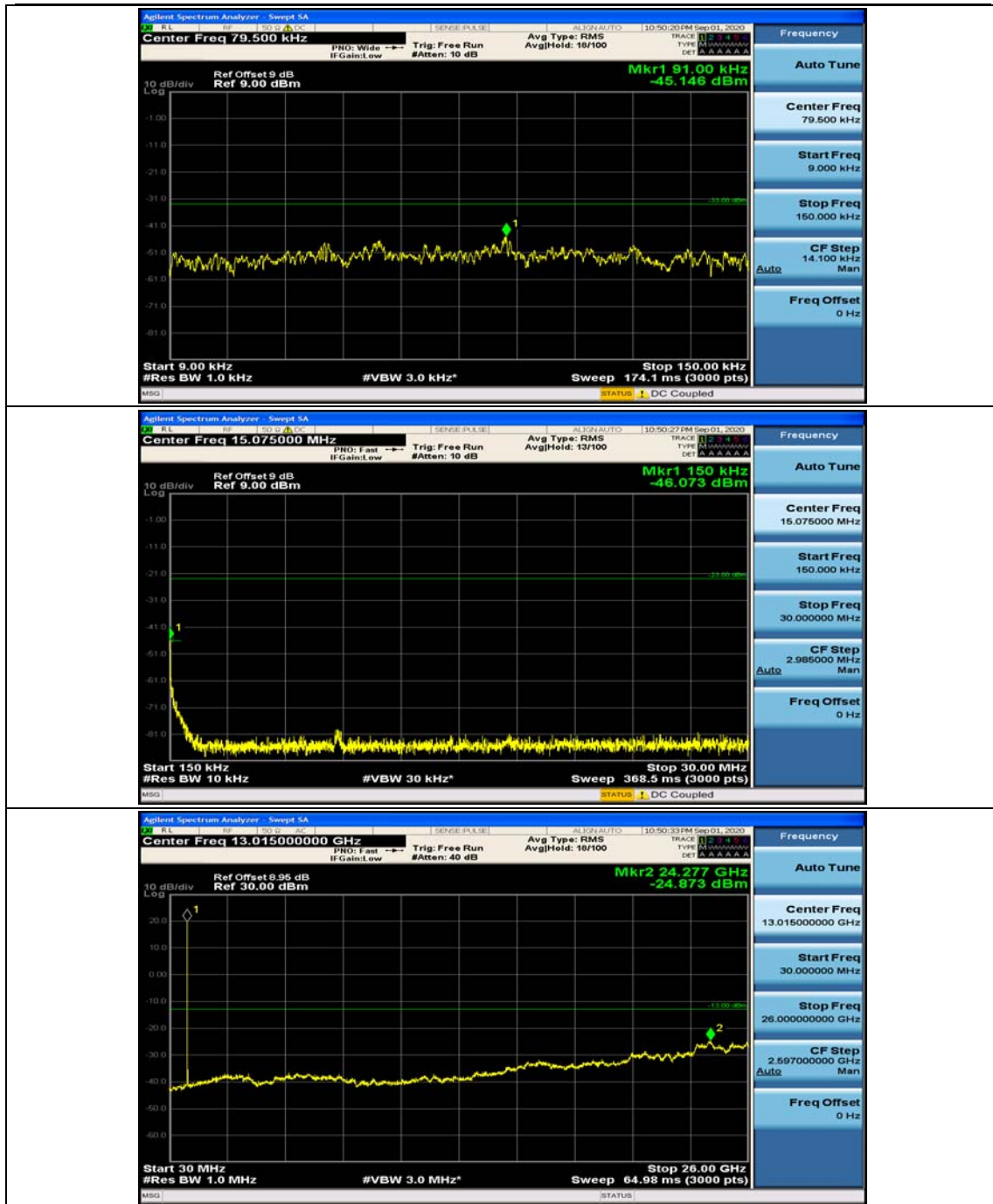


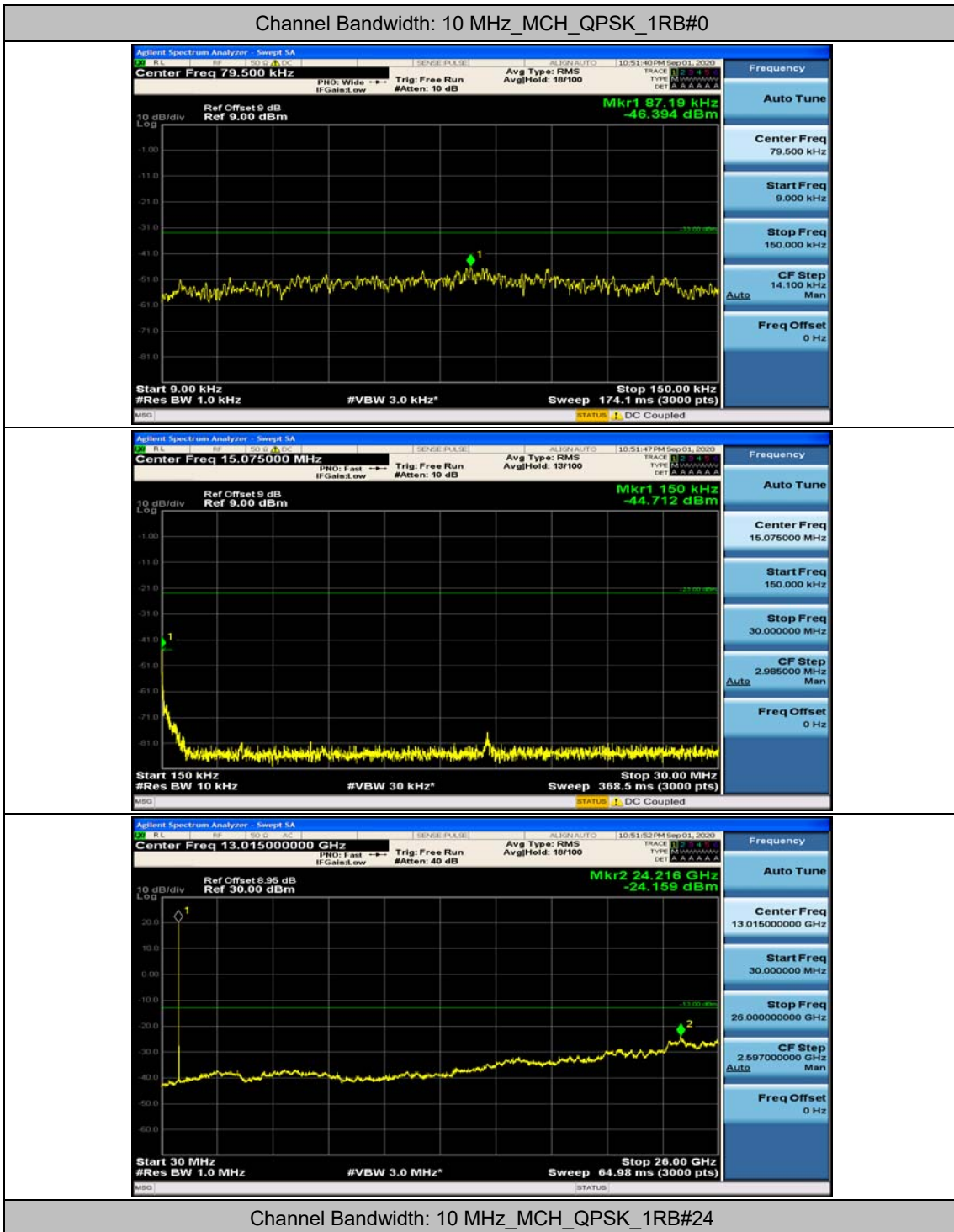


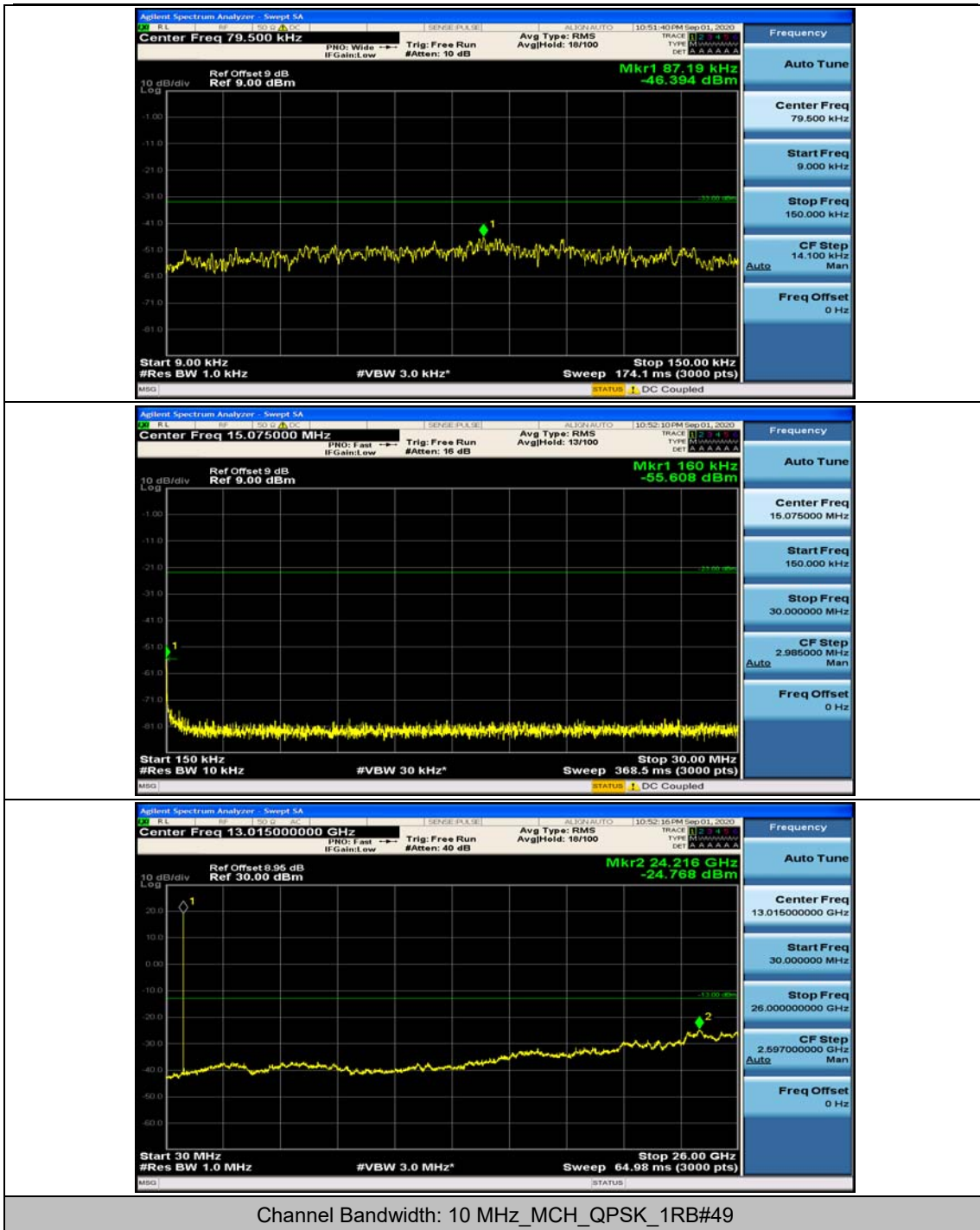
Channel Bandwidth: 10 MHz

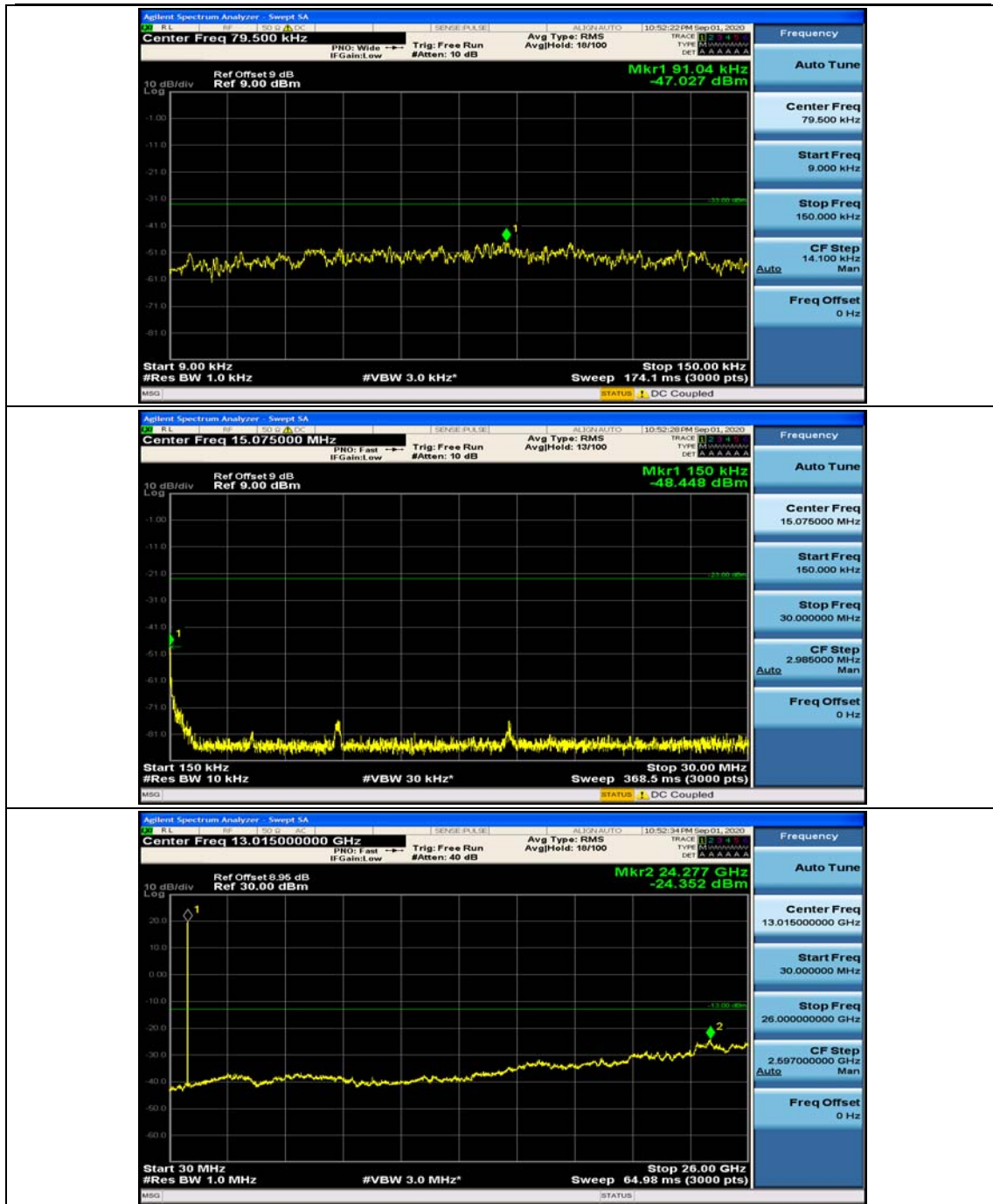


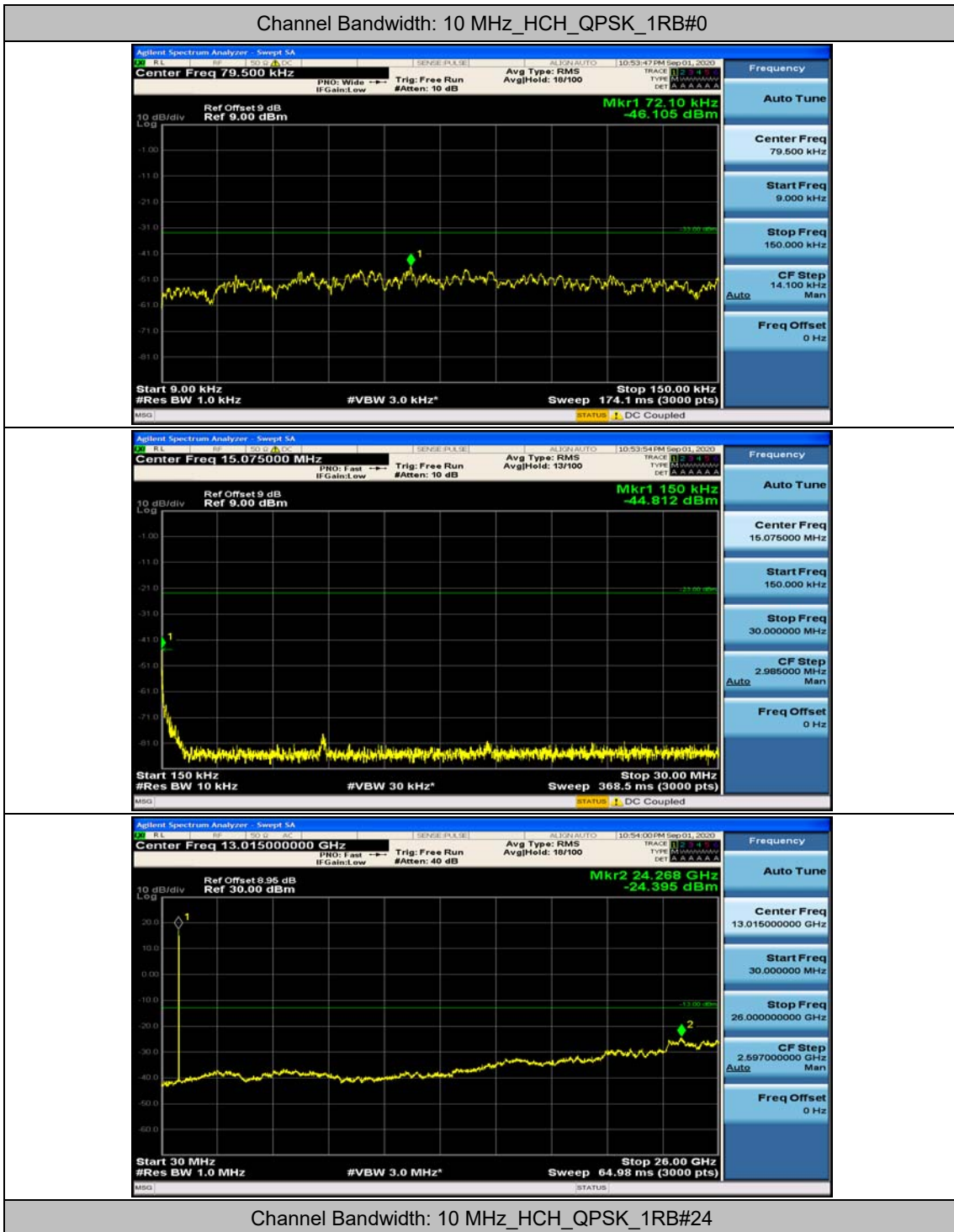


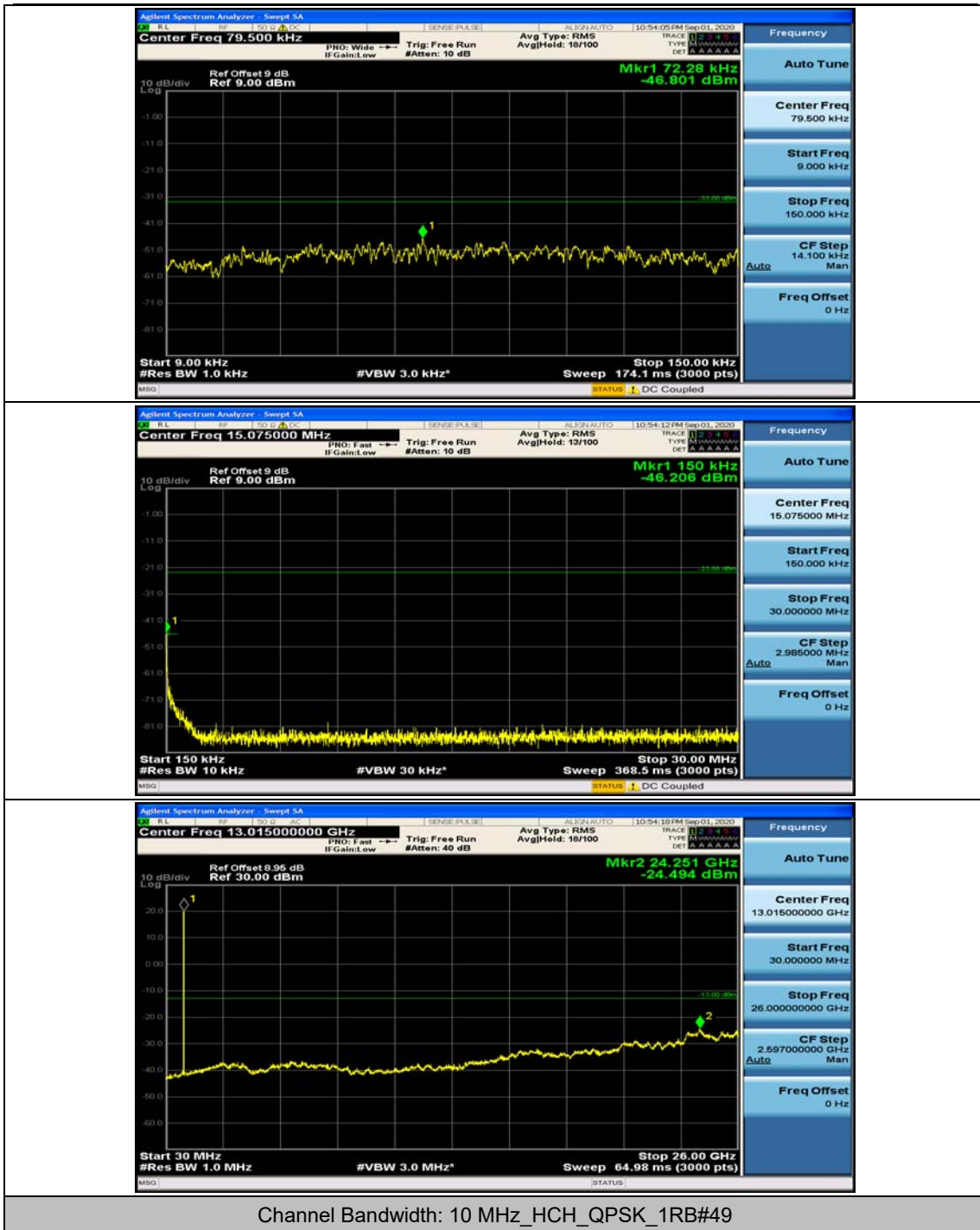


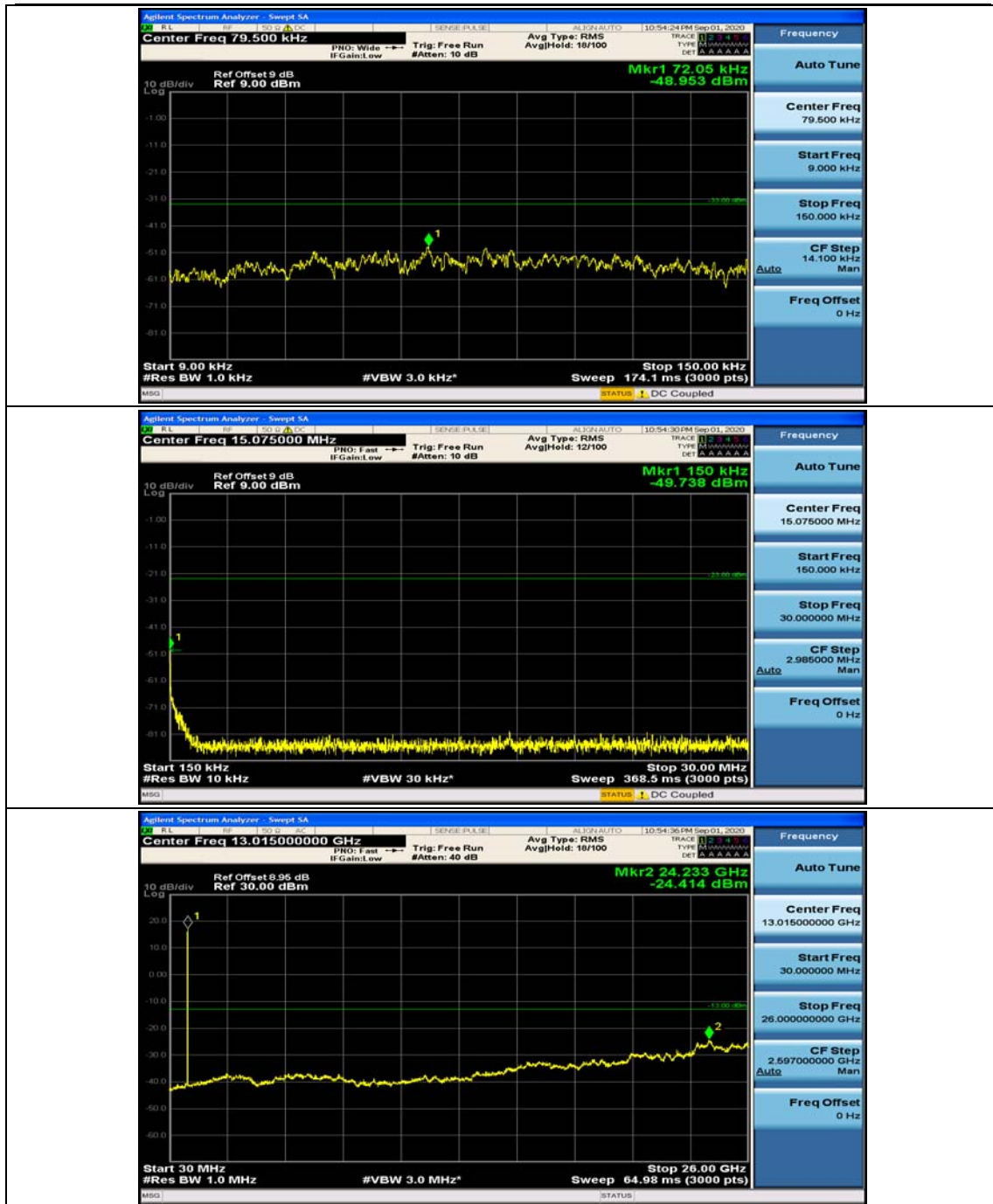


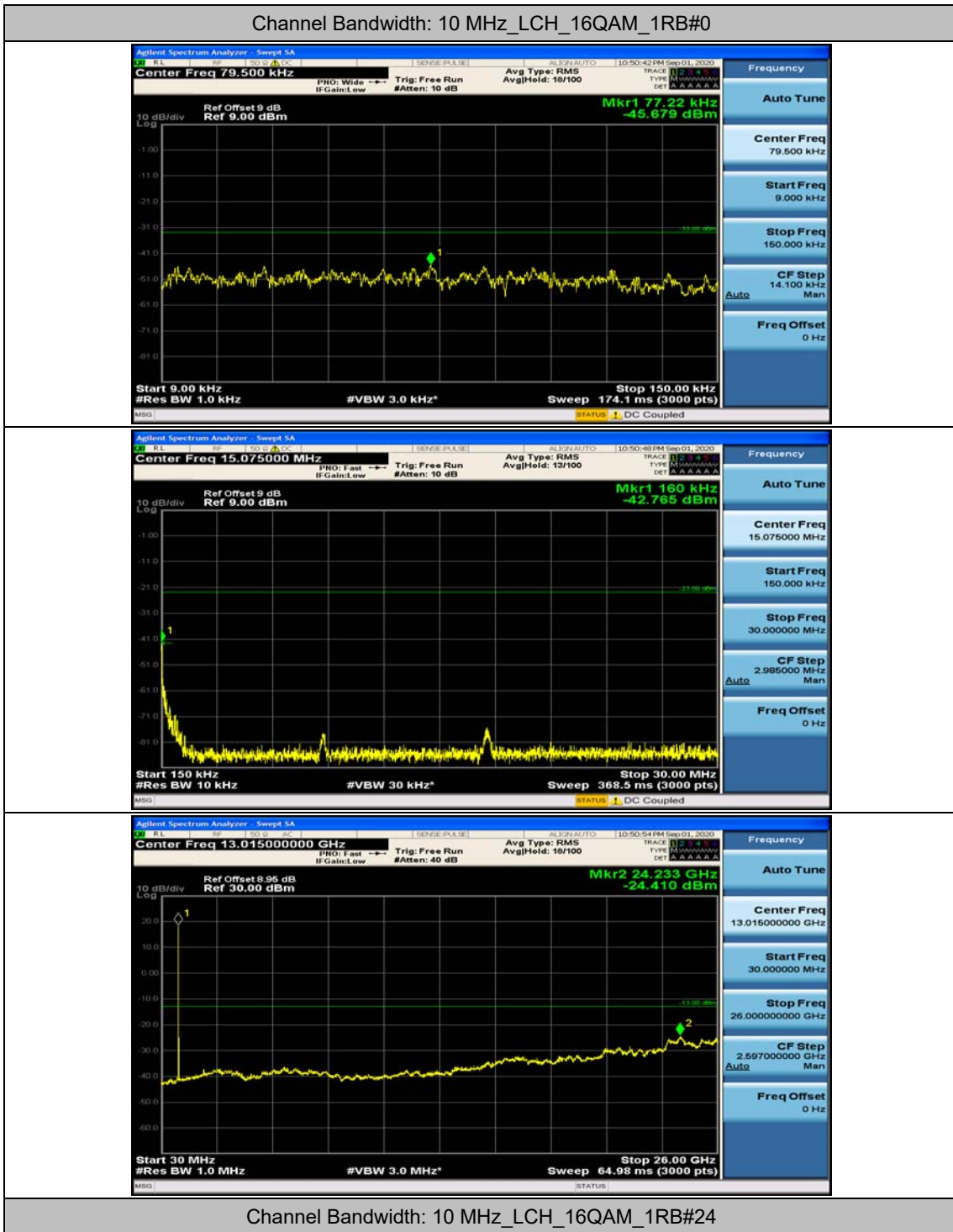


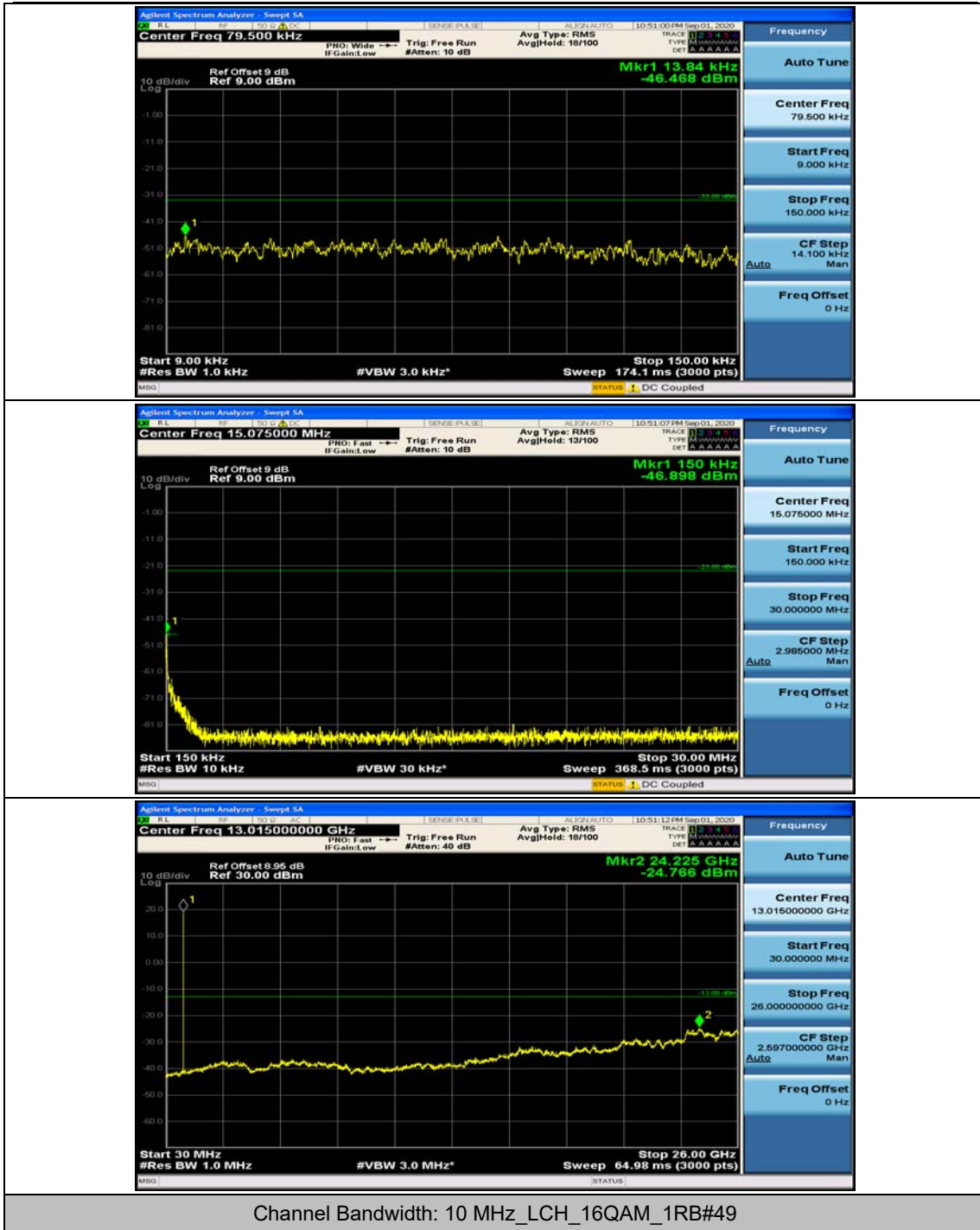


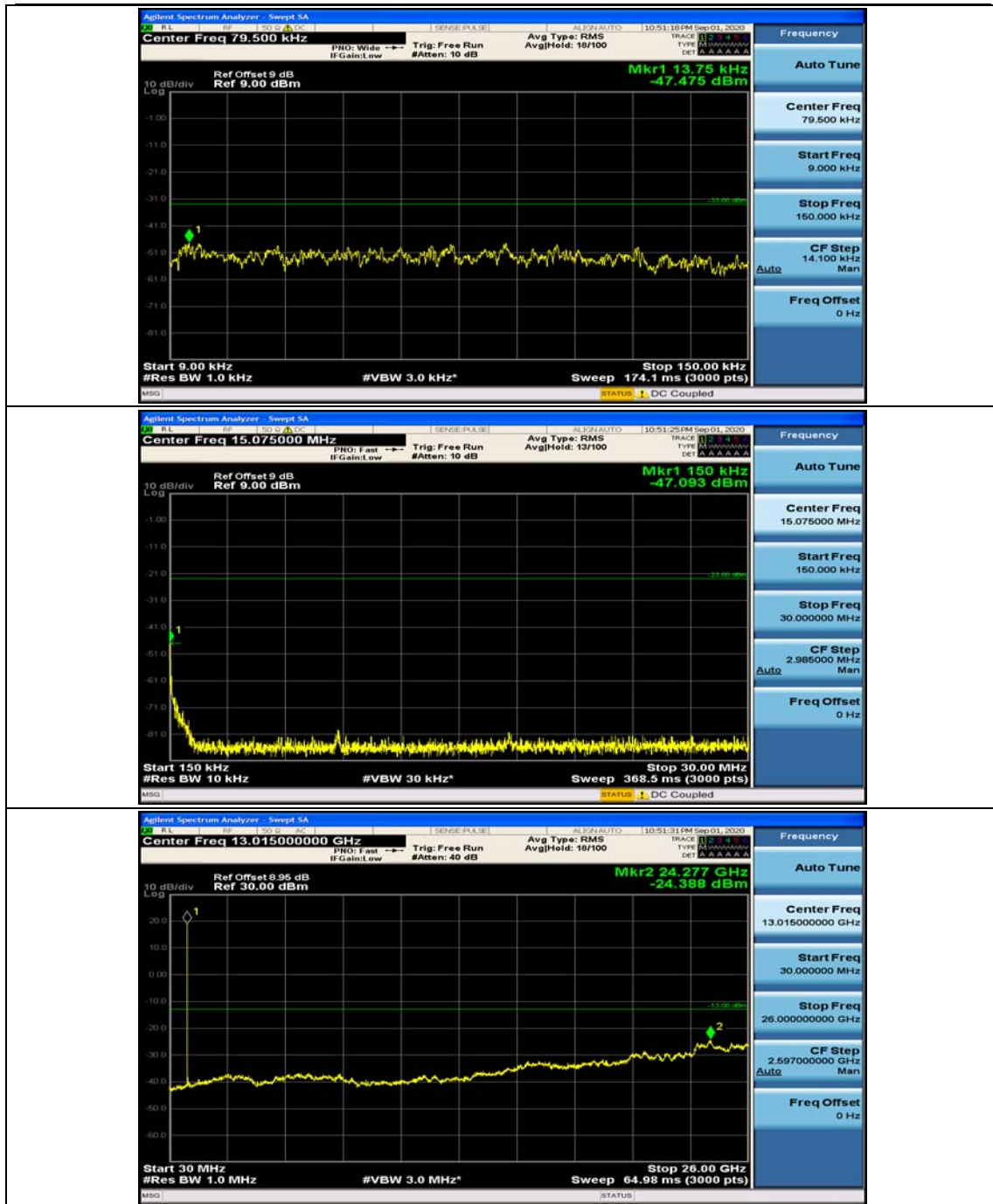


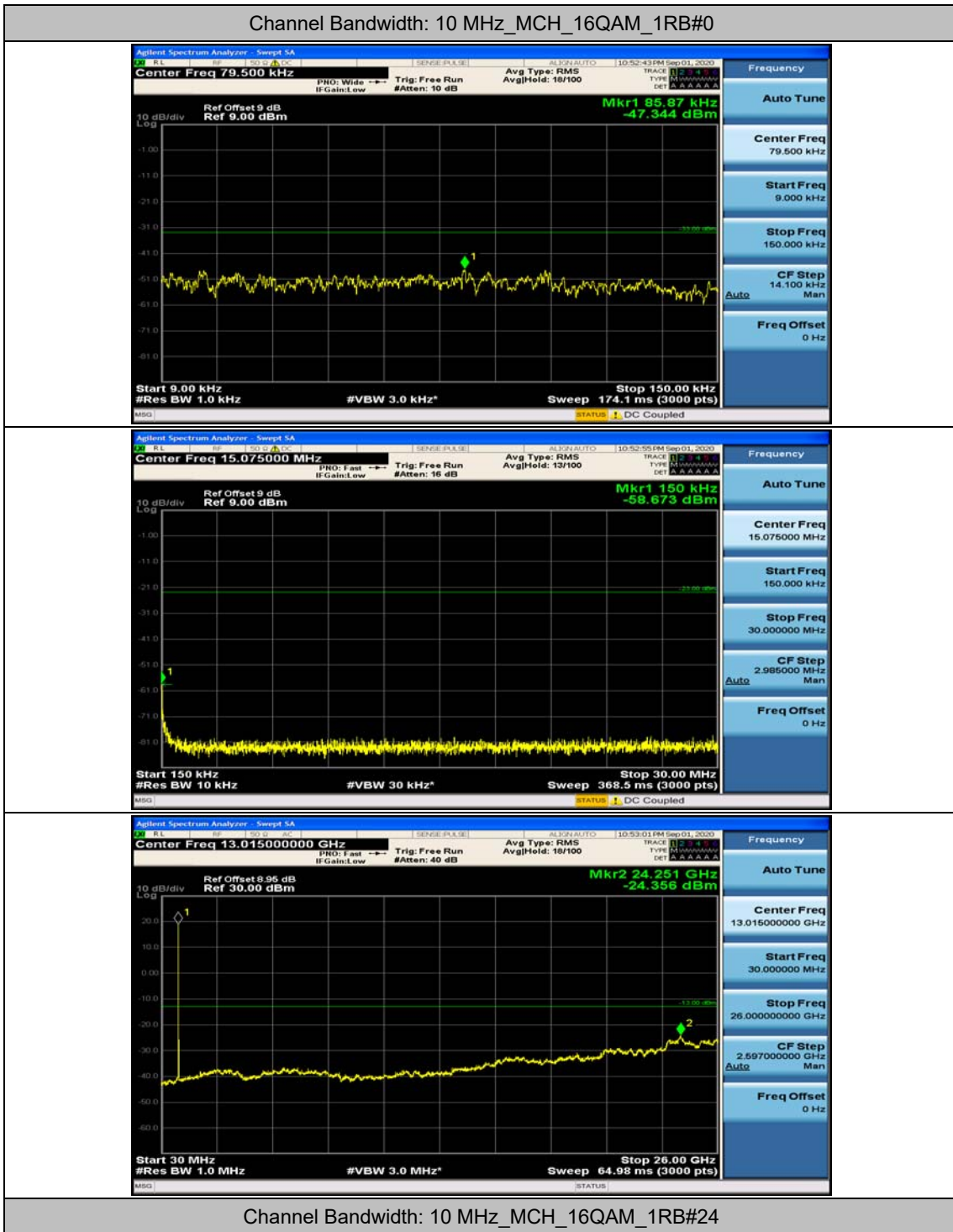


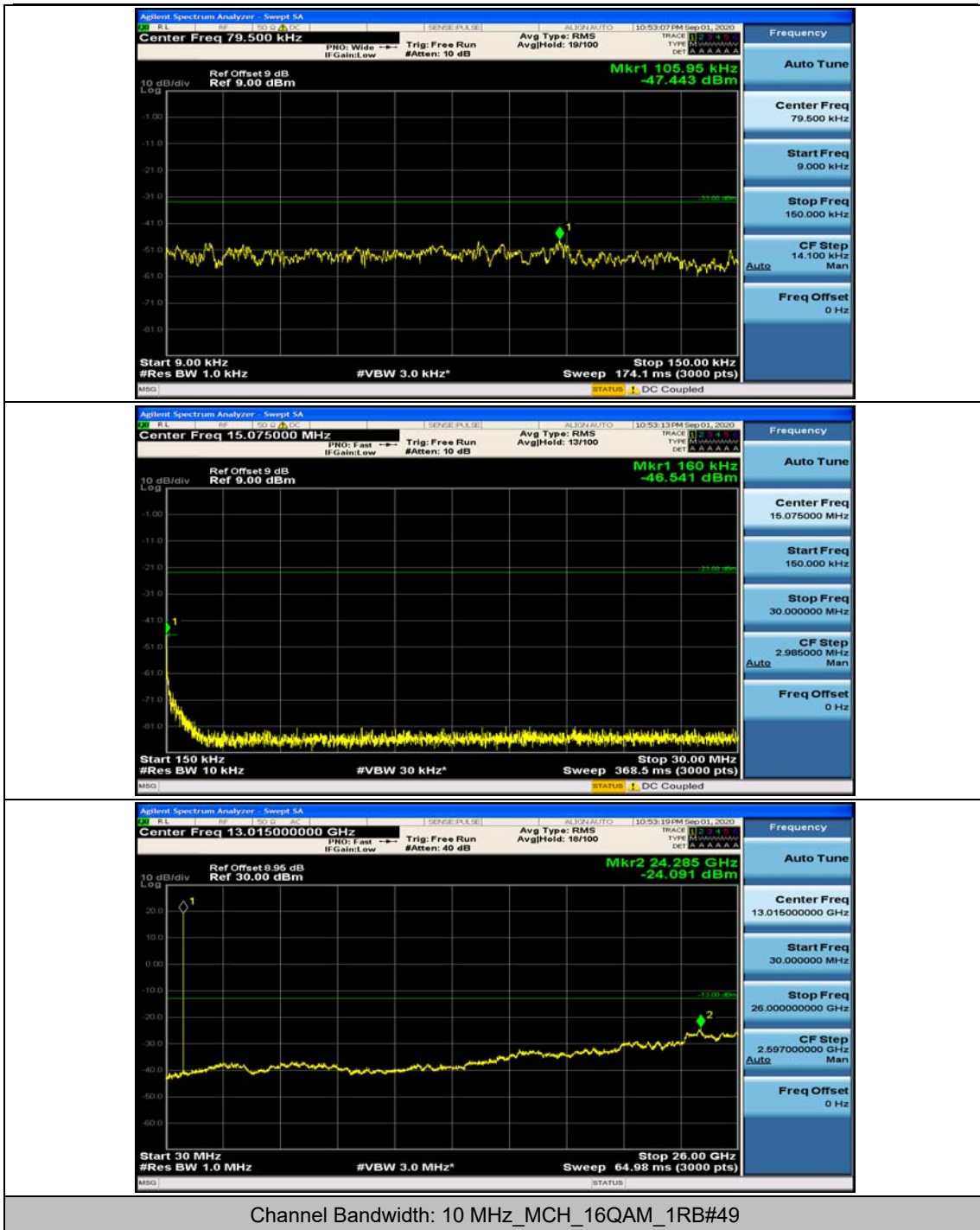


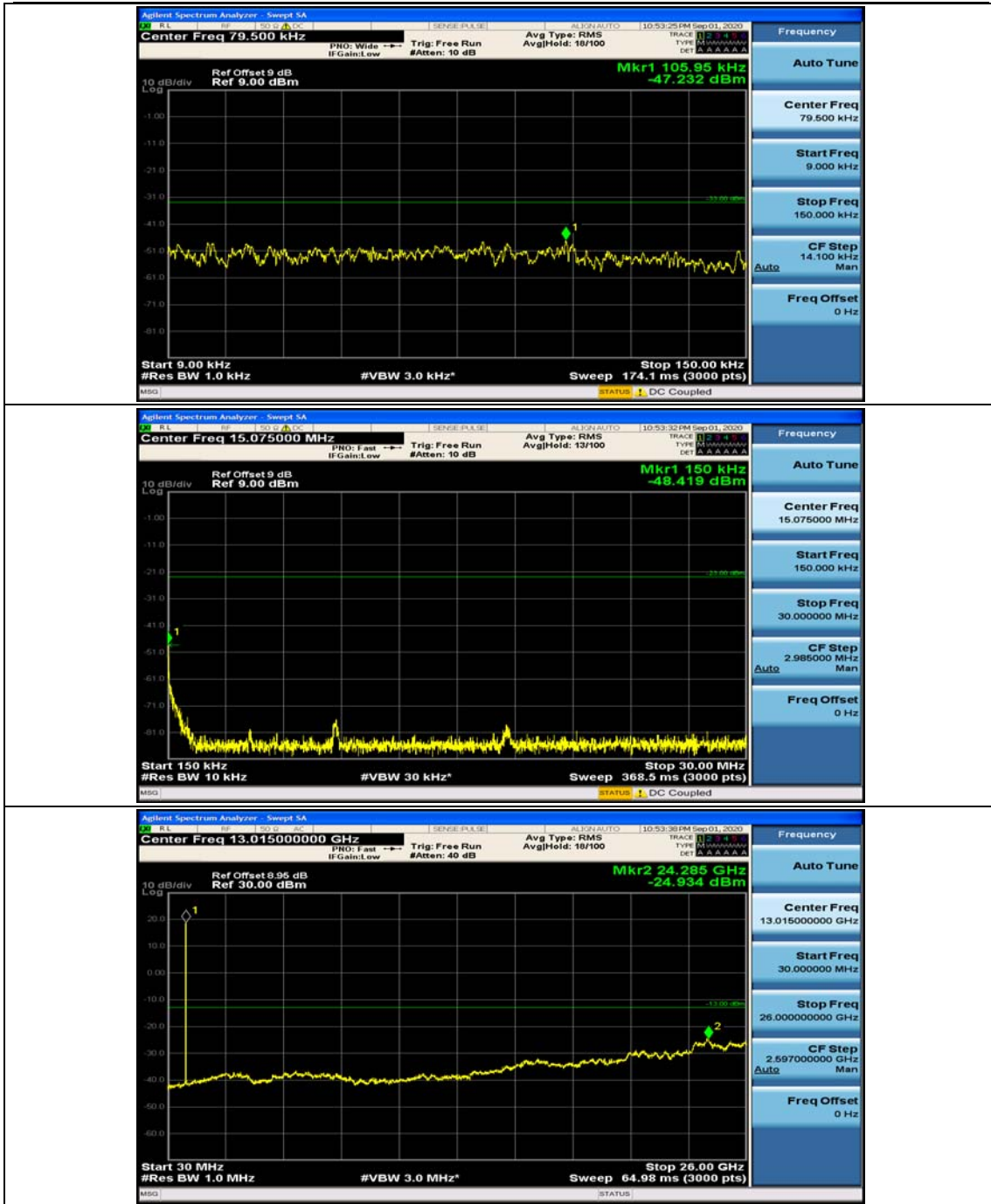


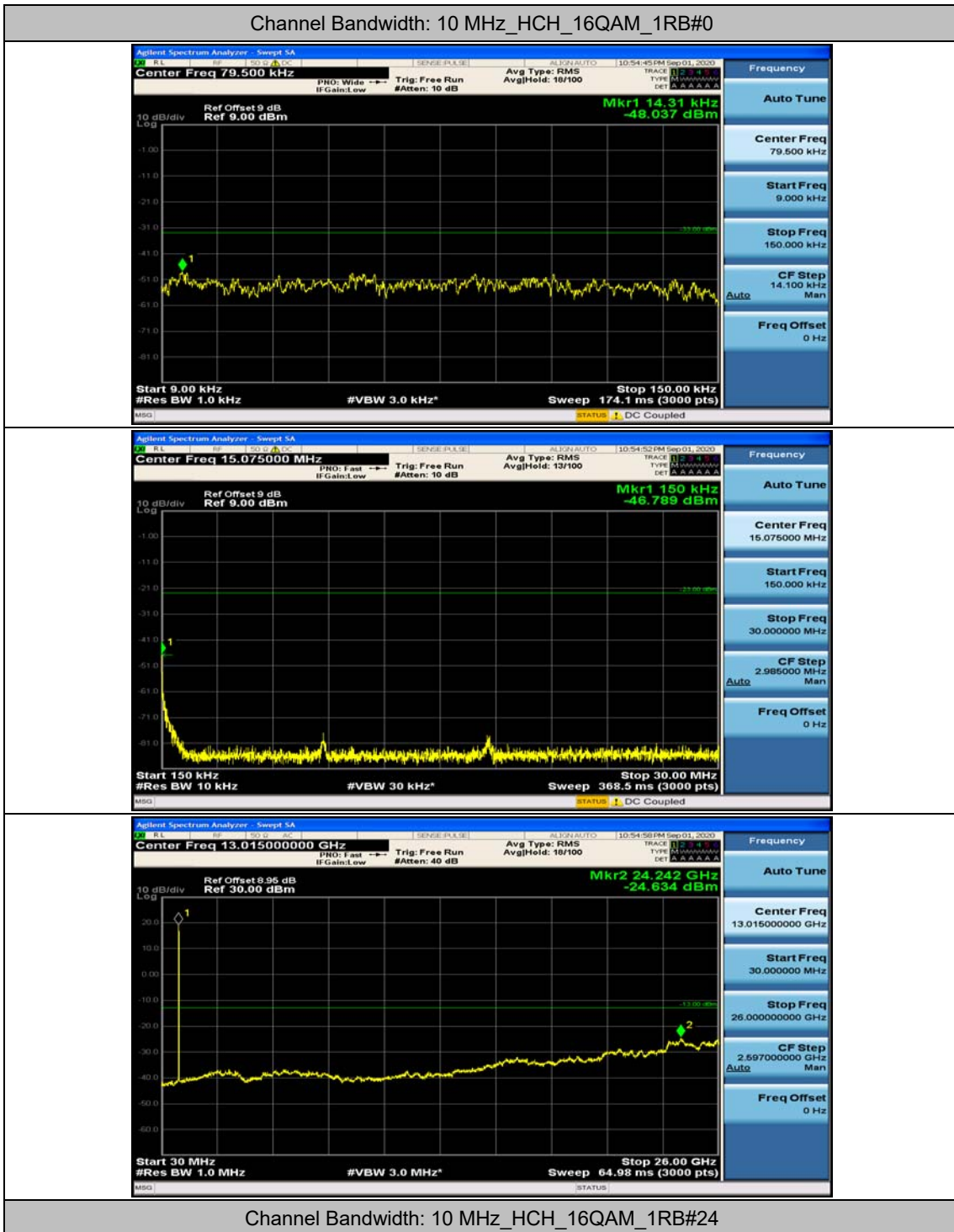


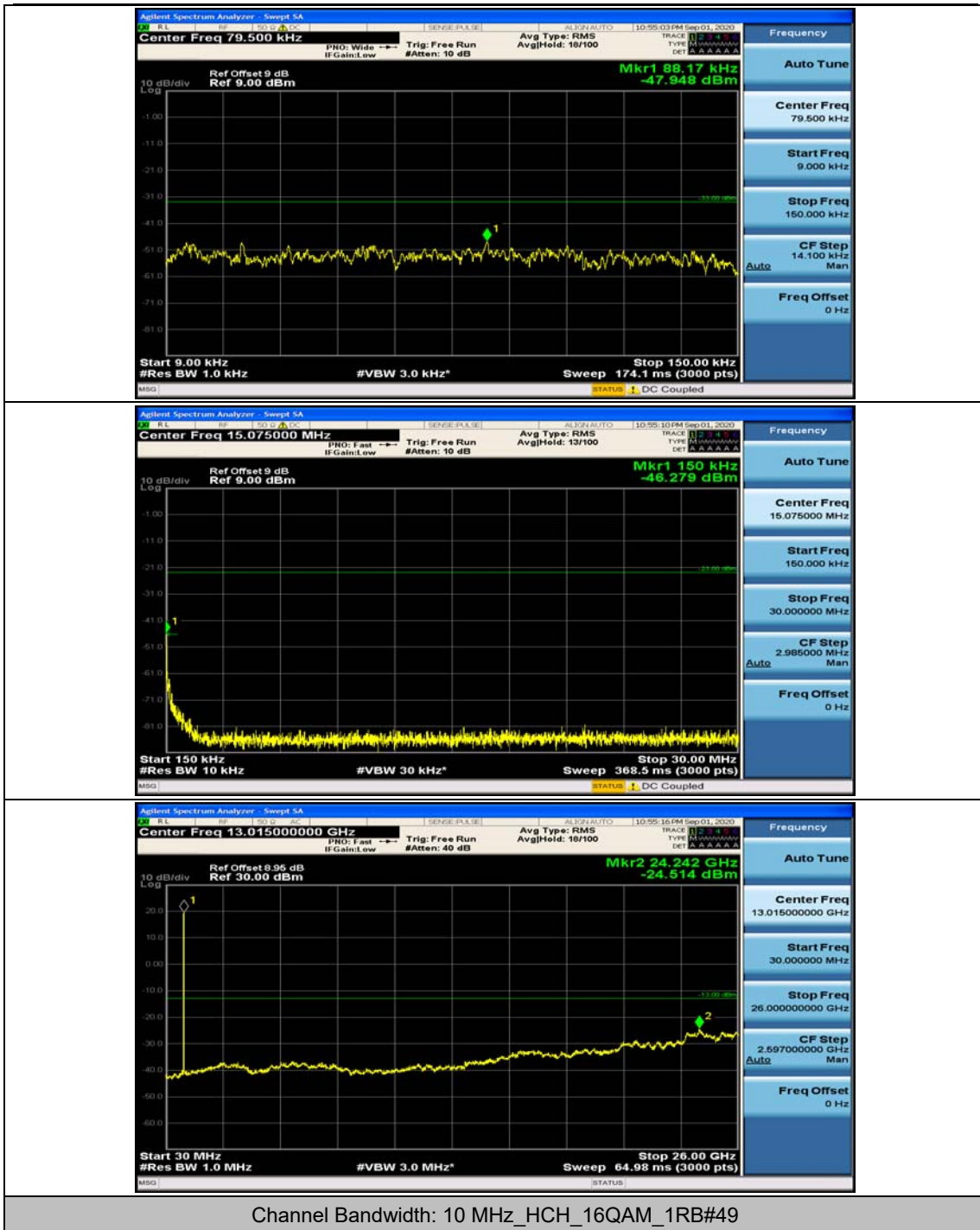


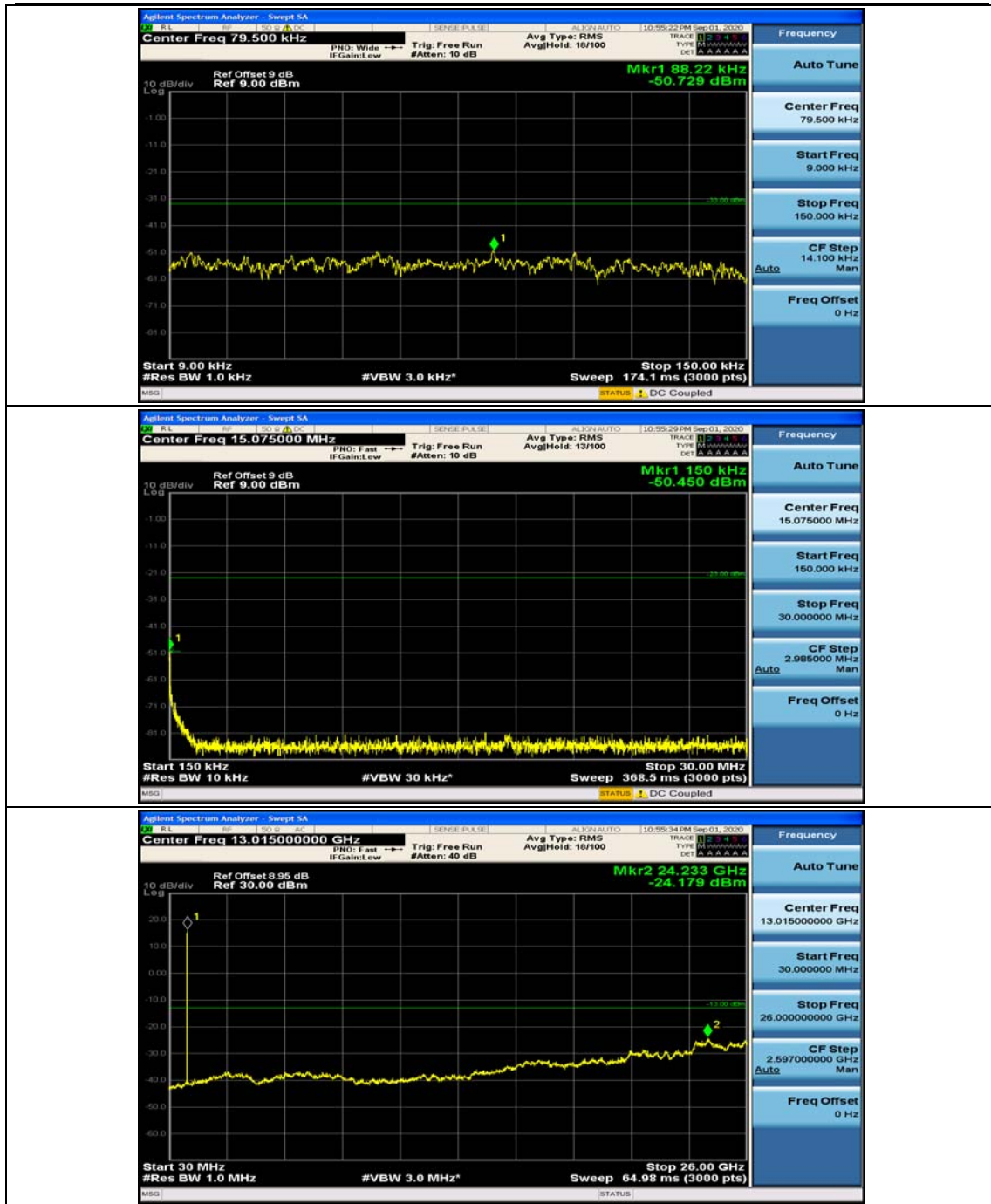












Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	2.77	0.003359	± 2.5	PASS
		VN	TN	-1.96	-0.002377	± 2.5	PASS
		VH	TN	2.09	0.002534	± 2.5	PASS
	MCH	VL	TN	4.61	0.005511	± 2.5	PASS
		VN	TN	-0.14	-0.000167	± 2.5	PASS
		VH	TN	2.6	0.003108	± 2.5	PASS
	HCH	VL	TN	3.53	0.004161	± 2.5	PASS
		VN	TN	-0.05	-0.000059	± 2.5	PASS
		VH	TN	4.05	0.004774	± 2.5	PASS
16QAM	LCH	VL	TN	-0.44	-0.000534	± 2.5	PASS
		VN	TN	0.24	0.000291	± 2.5	PASS
		VH	TN	4.06	0.004923	± 2.5	PASS
	MCH	VL	TN	-0.1	-0.000120	± 2.5	PASS
		VN	TN	1.87	0.002236	± 2.5	PASS
		VH	TN	-1.29	-0.001542	± 2.5	PASS
	HCH	VL	TN	4.16	0.004904	± 2.5	PASS
		VN	TN	0.89	0.001049	± 2.5	PASS
		VH	TN	-0.73	-0.000861	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.25	-0.000303	± 2.5	PASS
		VN	-20	-0.19	-0.000230	± 2.5	PASS
		VN	-10	3.78	0.004583	± 2.5	PASS
		VN	0	4.18	0.005069	± 2.5	PASS
		VN	10	-0.96	-0.001164	± 2.5	PASS
		VN	20	-1.31	-0.001588	± 2.5	PASS
		VN	30	-0.63	-0.000764	± 2.5	PASS
		VN	40	4.14	0.005020	± 2.5	PASS
		VN	50	-0.18	-0.000218	± 2.5	PASS

	MCH	VN	-30	0.08	0.000096	± 2.5	PASS
		VN	-20	0.24	0.000287	± 2.5	PASS
		VN	-10	3.79	0.004531	± 2.5	PASS
		VN	0	4.94	0.005906	± 2.5	PASS
		VN	10	2.19	0.002618	± 2.5	PASS
		VN	20	0.64	0.000765	± 2.5	PASS
		VN	30	-0.33	-0.000395	± 2.5	PASS
		VN	40	-0.45	-0.000538	± 2.5	PASS
		VN	50	-0.53	-0.000634	± 2.5	PASS
	HCH	VN	-30	1.05	0.001238	± 2.5	PASS
		VN	-20	-1.97	-0.002322	± 2.5	PASS
		VN	-10	-1.41	-0.001662	± 2.5	PASS
		VN	0	1.23	0.001450	± 2.5	PASS
		VN	10	-1.7	-0.002004	± 2.5	PASS
		VN	20	3.1	0.003654	± 2.5	PASS
		VN	30	3.7	0.004362	± 2.5	PASS
		VN	40	2.66	0.003136	± 2.5	PASS
		VN	50	0.71	0.000837	± 2.5	PASS
16QAM	LCH	VN	-30	-1.04	-0.001261	± 2.5	PASS
		VN	-20	4.36	0.005287	± 2.5	PASS
		VN	-10	0.9	0.001091	± 2.5	PASS
		VN	0	-0.9	-0.001091	± 2.5	PASS
		VN	10	-1.01	-0.001225	± 2.5	PASS
		VN	20	4.88	0.005917	± 2.5	PASS
		VN	30	0.09	0.000109	± 2.5	PASS
		VN	40	4.54	0.005505	± 2.5	PASS
		VN	50	-1.03	-0.001249	± 2.5	PASS
	MCH	VN	-30	3.12	0.003678	± 2.5	PASS
		VN	-20	0.75	0.000884	± 2.5	PASS
		VN	-10	4.59	0.005411	± 2.5	PASS
		VN	0	3.83	0.004515	± 2.5	PASS
		VN	10	-1.42	-0.001674	± 2.5	PASS
		VN	20	4.26	0.005022	± 2.5	PASS
		VN	30	0.48	0.000566	± 2.5	PASS
		VN	40	4.11	0.004845	± 2.5	PASS
		VN	50	3.54	0.004173	± 2.5	PASS
	HCH	VN	-30	-0.21	-0.000248	± 2.5	PASS
		VN	-20	-0.18	-0.000212	± 2.5	PASS
		VN	-10	-1.47	-0.001733	± 2.5	PASS
		VN	0	-1.9	-0.002240	± 2.5	PASS
		VN	10	4.75	0.005599	± 2.5	PASS

		VN	20	2.36	0.002782	± 2.5	PASS
		VN	30	1.91	0.002252	± 2.5	PASS
		VN	40	-1.13	-0.001332	± 2.5	PASS
		VN	50	0.86	0.001014	± 2.5	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz+							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	2.77	0.003356	± 2.5	PASS
		VN	TN	2.9	0.003513	± 2.5	PASS
		VH	TN	0.2	0.000242	± 2.5	PASS
	MCH	VL	TN	0.8	0.000956	± 2.5	PASS
		VN	TN	4.42	0.005284	± 2.5	PASS
		VH	TN	3.03	0.003622	± 2.5	PASS
	HCH	VL	TN	0.62	0.000732	± 2.5	PASS
		VN	TN	-0.14	-0.000165	± 2.5	PASS
		VH	TN	4.46	0.005263	± 2.5	PASS
16QAM	LCH	VL	TN	3.32	0.004022	± 2.5	PASS
		VN	TN	1.64	0.001987	± 2.5	PASS
		VH	TN	2	0.002423	± 2.5	PASS
	MCH	VL	TN	4.9	0.005858	± 2.5	PASS
		VN	TN	0.39	0.000466	± 2.5	PASS
		VH	TN	2.7	0.003228	± 2.5	PASS
	HCH	VL	TN	0.47	0.000555	± 2.5	PASS
		VN	TN	-1.93	-0.002277	± 2.5	PASS
		VH	TN	2.45	0.002891	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.77	0.002144	± 2.5	PASS
		VN	-20	3.63	0.004397	± 2.5	PASS
		VN	-10	4.3	0.005209	± 2.5	PASS
		VN	0	3.87	0.004688	± 2.5	PASS
		VN	10	3.42	0.004143	± 2.5	PASS
		VN	20	-0.72	-0.000872	± 2.5	PASS
		VN	30	3.95	0.004785	± 2.5	PASS
		VN	40	1.76	0.002132	± 2.5	PASS
		VN	50	3.82	0.004627	± 2.5	PASS
	MCH	VN	-30	4.37	0.005224	± 2.5	PASS

		VN	-20	2.86	0.003419	± 2.5	PASS
		VN	-10	3.25	0.003885	± 2.5	PASS
		VN	0	3.69	0.004411	± 2.5	PASS
		VN	10	4.59	0.005487	± 2.5	PASS
		VN	20	-1.06	-0.001267	± 2.5	PASS
		VN	30	4.19	0.005009	± 2.5	PASS
		VN	40	2.46	0.002941	± 2.5	PASS
		VN	50	4.11	0.004913	± 2.5	PASS
	HCH	VN	-30	2.9	0.003422	± 2.5	PASS
		VN	-20	-0.15	-0.000177	± 2.5	PASS
		VN	-10	-1.17	-0.001381	± 2.5	PASS
		VN	0	4.58	0.005404	± 2.5	PASS
		VN	10	2.22	0.002619	± 2.5	PASS
		VN	20	2.29	0.002702	± 2.5	PASS
		VN	30	-0.55	-0.000649	± 2.5	PASS
		VN	40	-0.12	-0.000142	± 2.5	PASS
		VN	50	0.04	0.000047	± 2.5	PASS
		QPSK	LCH	VN	-30	4.27	0.005105
VN	-20			3.14	0.003754	± 2.5	PASS
VN	-10			0.64	0.000765	± 2.5	PASS
VN	0			4.53	0.005415	± 2.5	PASS
VN	10			0.31	0.000371	± 2.5	PASS
VN	20			-0.86	-0.001028	± 2.5	PASS
VN	30			0.02	0.000024	± 2.5	PASS
VN	40			4.47	0.005344	± 2.5	PASS
VN	50			4.37	0.005224	± 2.5	PASS
MCH	VN		-30	-1.2	-0.001416	± 2.5	PASS
	VN		-20	3.98	0.004696	± 2.5	PASS
	VN		-10	-1.07	-0.001263	± 2.5	PASS
	VN		0	1.53	0.001805	± 2.5	PASS
	VN		10	0.11	0.000130	± 2.5	PASS
	VN		20	1.96	0.002313	± 2.5	PASS
	VN		30	3.47	0.004094	± 2.5	PASS
	VN		40	0.33	0.000389	± 2.5	PASS
	VN		50	-1.14	-0.001345	± 2.5	PASS
HCH	VN		-30	0.02	0.000024	± 2.5	PASS
	VN		-20	-1.74	-0.002053	± 2.5	PASS
	VN		-10	-0.56	-0.000661	± 2.5	PASS
	VN		0	-0.53	-0.000625	± 2.5	PASS
	VN		10	0.39	0.000460	± 2.5	PASS
	VN		20	2.57	0.003032	± 2.5	PASS

		VN	30	3.71	0.004378	± 2.5	PASS
		VN	40	1.38	0.001628	± 2.5	PASS
		VN	50	3.94	0.004649	± 2.5	PASS

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	2.77	0.003351	± 2.5	PASS
		VN	TN	4.16	0.005033	± 2.5	PASS
		VH	TN	1.26	0.001525	± 2.5	PASS
	MCH	VL	TN	3.84	0.004591	± 2.5	PASS
		VN	TN	-0.24	-0.000287	± 2.5	PASS
		VH	TN	1.38	0.001650	± 2.5	PASS
	HCH	VL	TN	-1.31	-0.001548	± 2.5	PASS
		VN	TN	-0.75	-0.000886	± 2.5	PASS
		VH	TN	-1.74	-0.002056	± 2.5	PASS
16QAM	LCH	VL	TN	0.84	0.001016	± 2.5	PASS
		VN	TN	0.99	0.001198	± 2.5	PASS
		VH	TN	1.33	0.001609	± 2.5	PASS
	MCH	VL	TN	-1.92	-0.002295	± 2.5	PASS
		VN	TN	2.6	0.003108	± 2.5	PASS
		VH	TN	0.2	0.000239	± 2.5	PASS
	HCH	VL	TN	0.79	0.000933	± 2.5	PASS
		VN	TN	3.32	0.003922	± 2.5	PASS
		VH	TN	0.29	0.000343	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.44	-0.000532	± 2.5	PASS
		VN	-20	4.9	0.005929	± 2.5	PASS
		VN	-10	1.01	0.001222	± 2.5	PASS
		VN	0	3.71	0.004489	± 2.5	PASS
		VN	10	0.11	0.000133	± 2.5	PASS
		VN	20	-1.66	-0.002008	± 2.5	PASS
		VN	30	1.97	0.002384	± 2.5	PASS
		VN	40	2.32	0.002807	± 2.5	PASS
		VN	50	4.37	0.005287	± 2.5	PASS
	MCH	VN	-30	0.96	0.001148	± 2.5	PASS
		VN	-20	4.4	0.005260	± 2.5	PASS

		VN	-10	2.6	0.003108	± 2.5	PASS		
		VN	0	2.87	0.003431	± 2.5	PASS		
		VN	10	2.84	0.003395	± 2.5	PASS		
		VN	20	1.83	0.002188	± 2.5	PASS		
		VN	30	-1.3	-0.001554	± 2.5	PASS		
		VN	40	0.12	0.000143	± 2.5	PASS		
		VN	50	-1.67	-0.001996	± 2.5	PASS		
	HCH	VN	-30	-1.84	-0.002174	± 2.5	PASS		
		VN	-20	1.78	0.002103	± 2.5	PASS		
		VN	-10	3.63	0.004288	± 2.5	PASS		
		VN	0	-0.53	-0.000626	± 2.5	PASS		
		VN	10	4.02	0.004749	± 2.5	PASS		
		VN	20	2.12	0.002504	± 2.5	PASS		
		VN	30	-1.53	-0.001807	± 2.5	PASS		
		VN	40	4.66	0.005505	± 2.5	PASS		
		VN	50	-0.9	-0.001063	± 2.5	PASS		
		16QAM	LCH	VN	-30	1.78	0.002128	± 2.5	PASS
				VN	-20	1.42	0.001698	± 2.5	PASS
VN	-10			2.74	0.003276	± 2.5	PASS		
VN	0			4.21	0.005033	± 2.5	PASS		
VN	10			-0.24	-0.000287	± 2.5	PASS		
VN	20			0.73	0.000873	± 2.5	PASS		
VN	30			3.21	0.003837	± 2.5	PASS		
VN	40			1.11	0.001327	± 2.5	PASS		
VN	50			0.98	0.001172	± 2.5	PASS		
MCH	VN		-30	2.69	0.003178	± 2.5	PASS		
	VN		-20	4.67	0.005517	± 2.5	PASS		
	VN		-10	4.96	0.005859	± 2.5	PASS		
	VN		0	1.3	0.001536	± 2.5	PASS		
	VN		10	2.72	0.003213	± 2.5	PASS		
	VN		20	0.38	0.000449	± 2.5	PASS		
	VN		30	2.21	0.002611	± 2.5	PASS		
	VN		40	4.25	0.005021	± 2.5	PASS		
	VN		50	0.06	0.000071	± 2.5	PASS		
HCH	VN		-30	4.88	0.005765	± 2.5	PASS		
	VN		-20	1.92	0.002268	± 2.5	PASS		
	VN		-10	0.59	0.000697	± 2.5	PASS		
	VN		0	3.25	0.003839	± 2.5	PASS		
	VN		10	-0.99	-0.001170	± 2.5	PASS		
	VN		20	1.9	0.002245	± 2.5	PASS		
	VN		30	4.64	0.005481	± 2.5	PASS		

		VN	40	4.96	0.005859	± 2.5	PASS
		VN	50	-1.36	-0.001607	± 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	2.77	0.003341	± 2.5	PASS
		VN	TN	0.58	0.000700	± 2.5	PASS
		VH	TN	3.93	0.004741	± 2.5	PASS
	MCH	VL	TN	4.69	0.005607	± 2.5	PASS
		VN	TN	3.6	0.004304	± 2.5	PASS
		VH	TN	4.85	0.005798	± 2.5	PASS
	HCH	VL	TN	2.56	0.003033	± 2.5	PASS
		VN	TN	0.64	0.000758	± 2.5	PASS
		VH	TN	3.83	0.004538	± 2.5	PASS
16QAM	LCH	VL	TN	-0.96	-0.001158	± 2.5	PASS
		VN	TN	1.31	0.001580	± 2.5	PASS
		VH	TN	-0.48	-0.000579	± 2.5	PASS
	MCH	VL	TN	4.7	0.005619	± 2.5	PASS
		VN	TN	-1.14	-0.001363	± 2.5	PASS
		VH	TN	-0.6	-0.000717	± 2.5	PASS
	HCH	VL	TN	0.82	0.000972	± 2.5	PASS
		VN	TN	-0.5	-0.000592	± 2.5	PASS
		VH	TN	1.71	0.002026	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	-0.03	-0.000036	± 2.5	PASS
		VN	-20	4.58	0.005525	± 2.5	PASS
		VN	-10	-1.21	-0.001460	± 2.5	PASS
		VN	0	4.57	0.005513	± 2.5	PASS
		VN	10	1.66	0.002002	± 2.5	PASS
		VN	20	-0.04	-0.000048	± 2.5	PASS
		VN	30	0.08	0.000097	± 2.5	PASS
		VN	40	-0.17	-0.000205	± 2.5	PASS
		VN	50	3.55	0.004282	± 2.5	PASS
	MCH	VN	-30	2.8	0.003347	± 2.5	PASS
		VN	-20	3.09	0.003694	± 2.5	PASS
		VN	-10	-1.77	-0.002116	± 2.5	PASS

		VN	0	2.15	0.002570	± 2.5	PASS		
		VN	10	-1.57	-0.001877	± 2.5	PASS		
		VN	20	-1.47	-0.001757	± 2.5	PASS		
		VN	30	3.34	0.003993	± 2.5	PASS		
		VN	40	0.98	0.001172	± 2.5	PASS		
		VN	50	-1.89	-0.002259	± 2.5	PASS		
	HCH	VN	-30	-0.31	-0.000367	± 2.5	PASS		
		VN	-20	-1.83	-0.002168	± 2.5	PASS		
		VN	-10	4.94	0.005853	± 2.5	PASS		
		VN	0	-1.35	-0.001600	± 2.5	PASS		
		VN	10	-1.31	-0.001552	± 2.5	PASS		
		VN	20	0.62	0.000735	± 2.5	PASS		
		VN	30	1.4	0.001659	± 2.5	PASS		
		VN	40	0.82	0.000972	± 2.5	PASS		
		VN	50	1.68	0.001991	± 2.5	PASS		
		QPSK	LCH	VN	-30	2.5	0.002989	± 2.5	PASS
				VN	-20	4.16	0.004973	± 2.5	PASS
				VN	-10	3.21	0.003837	± 2.5	PASS
				VN	0	-1.73	-0.002068	± 2.5	PASS
VN	10			3.93	0.004698	± 2.5	PASS		
VN	20			4.39	0.005248	± 2.5	PASS		
VN	30			1.25	0.001494	± 2.5	PASS		
VN	40			1.02	0.001219	± 2.5	PASS		
VN	50			4.75	0.005678	± 2.5	PASS		
MCH	VN			-30	0.14	0.000166	± 2.5	PASS	
	VN		-20	0.8	0.000948	± 2.5	PASS		
	VN		-10	4.94	0.005853	± 2.5	PASS		
	VN		0	-0.24	-0.000284	± 2.5	PASS		
	VN		10	1.59	0.001884	± 2.5	PASS		
	VN		20	0.44	0.000521	± 2.5	PASS		
	VN		30	-1.66	-0.001967	± 2.5	PASS		
	VN		40	3.29	0.003898	± 2.5	PASS		
	VN		50	3.88	0.004597	± 2.5	PASS		
	HCH		VN	-30	3.14	0.003720	± 2.5	PASS	
VN			-20	4.89	0.005794	± 2.5	PASS		
VN			-10	-1.38	-0.001635	± 2.5	PASS		
VN			0	4.01	0.004751	± 2.5	PASS		
VN			10	0.3	0.000355	± 2.5	PASS		
VN			20	1.68	0.001991	± 2.5	PASS		
VN			30	0.42	0.000498	± 2.5	PASS		
VN			40	-1.8	-0.002133	± 2.5	PASS		

		VN	50	3.43	0.004064	± 2.5	PASS
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