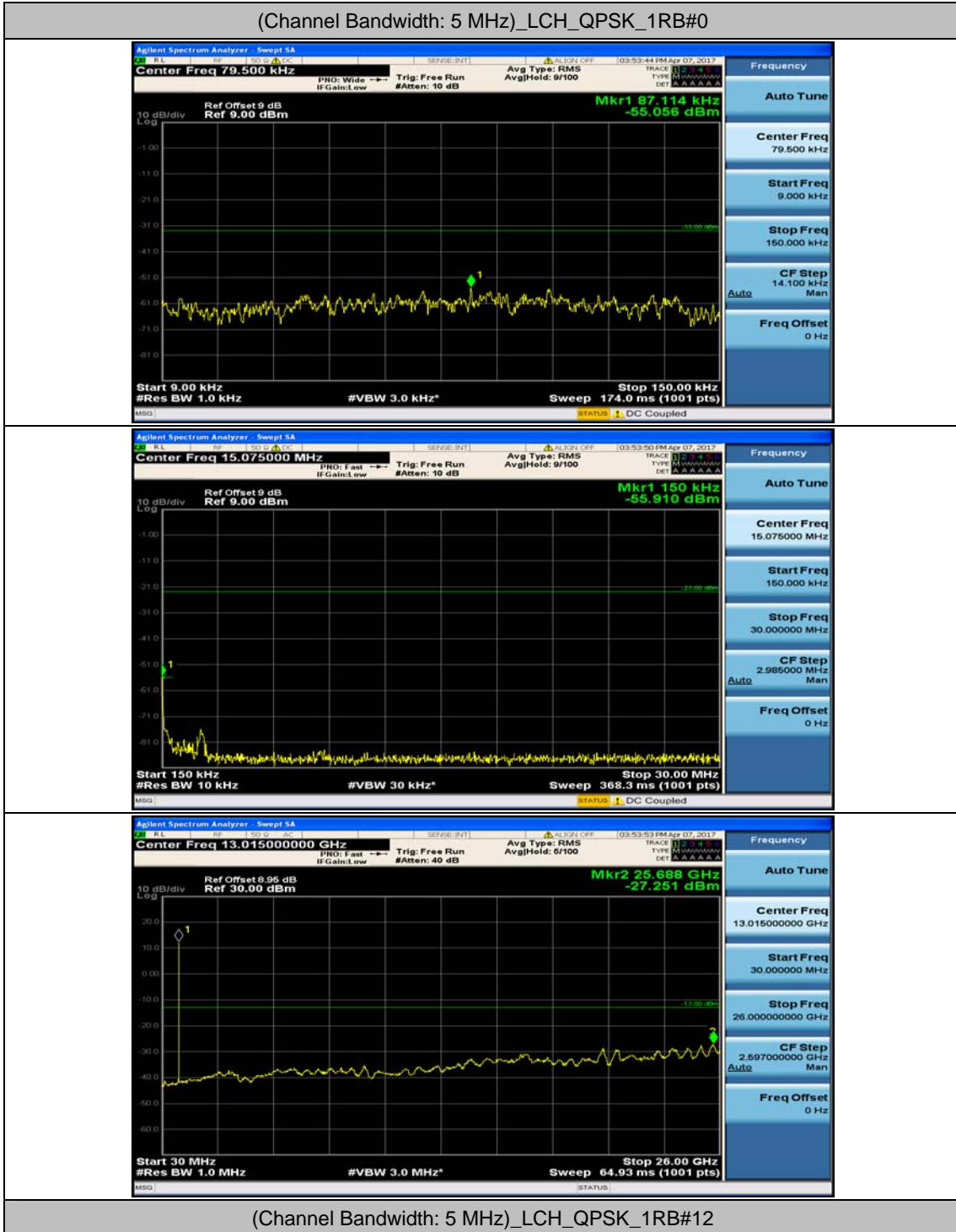
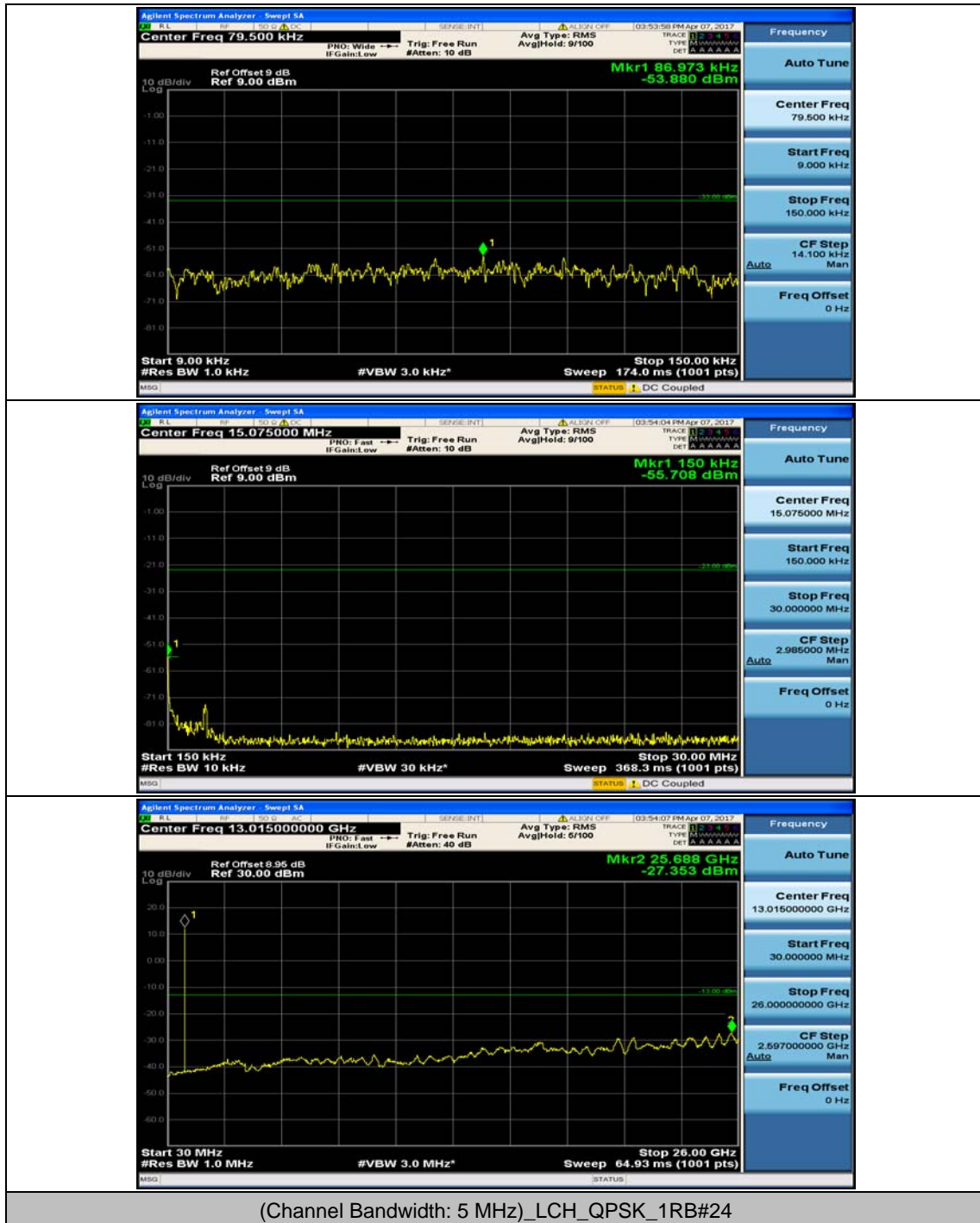
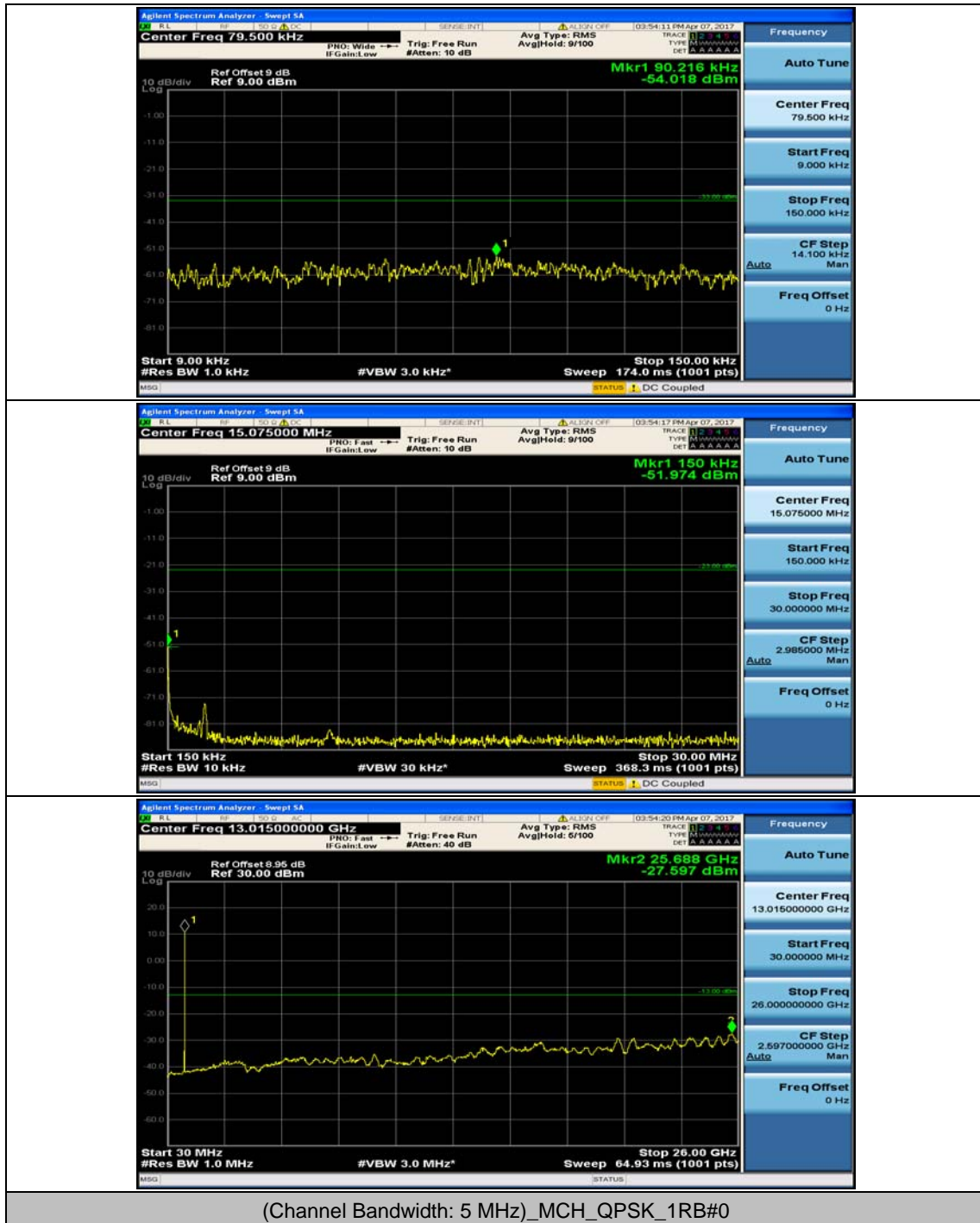
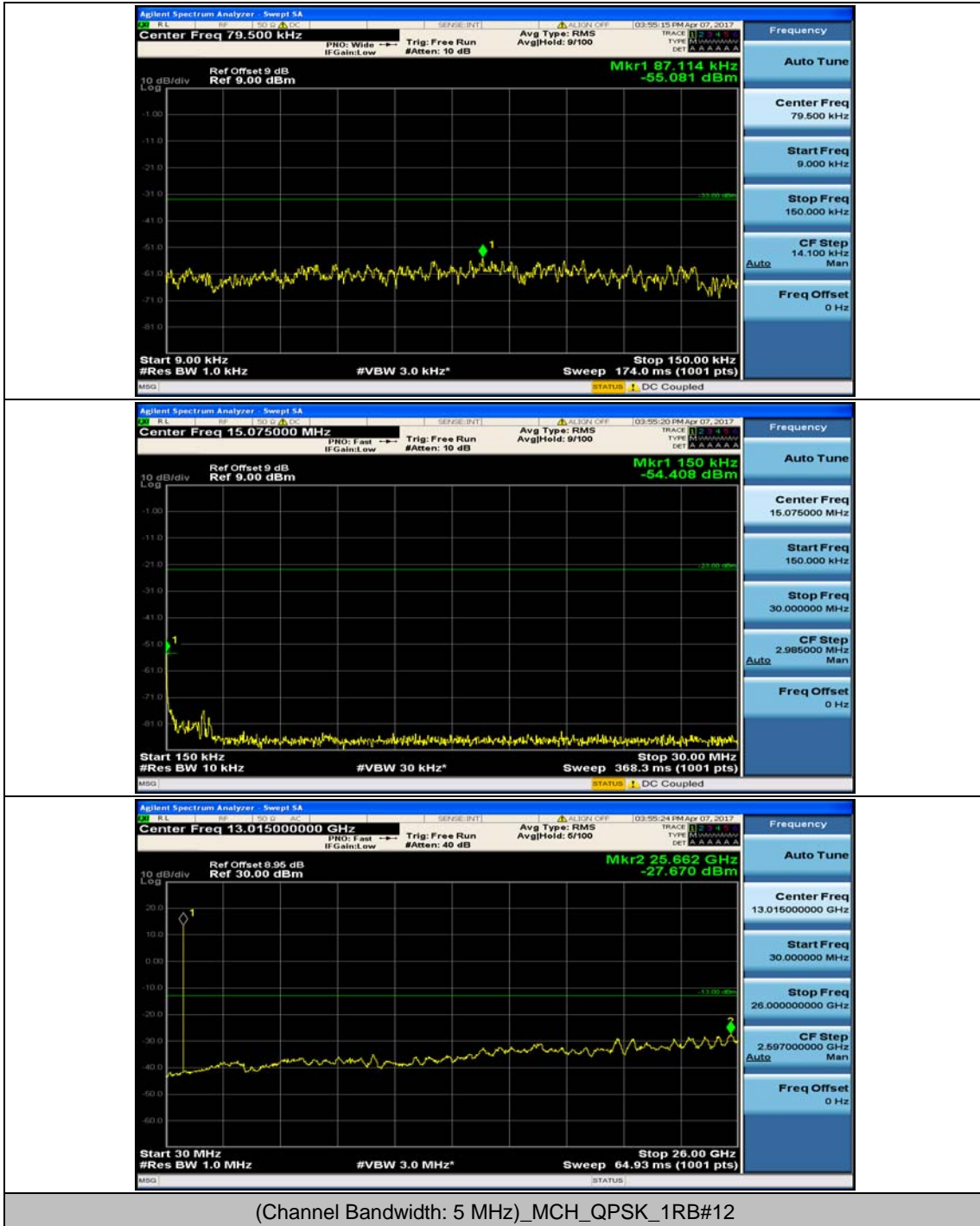


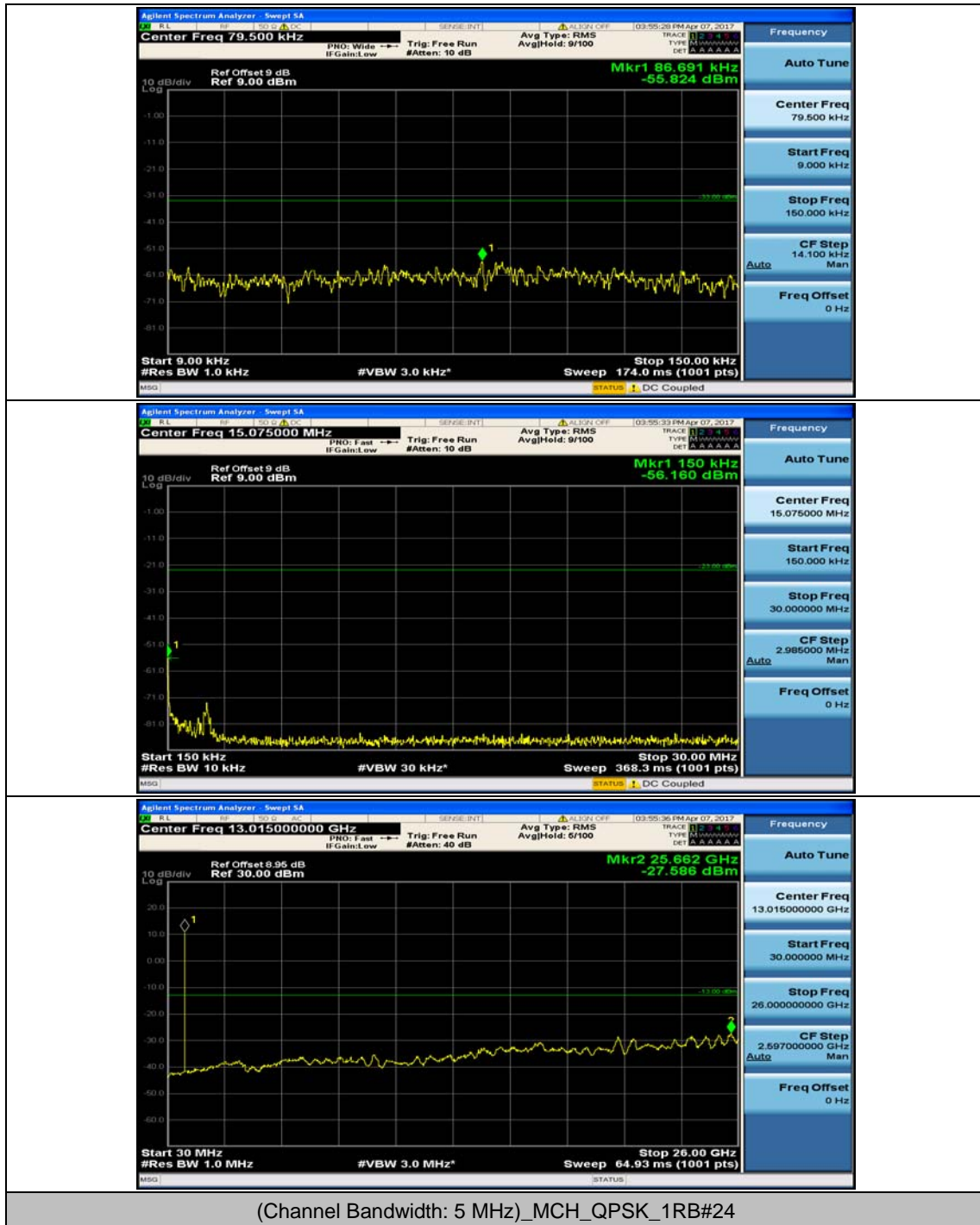
Channel Bandwidth: 5 MHz

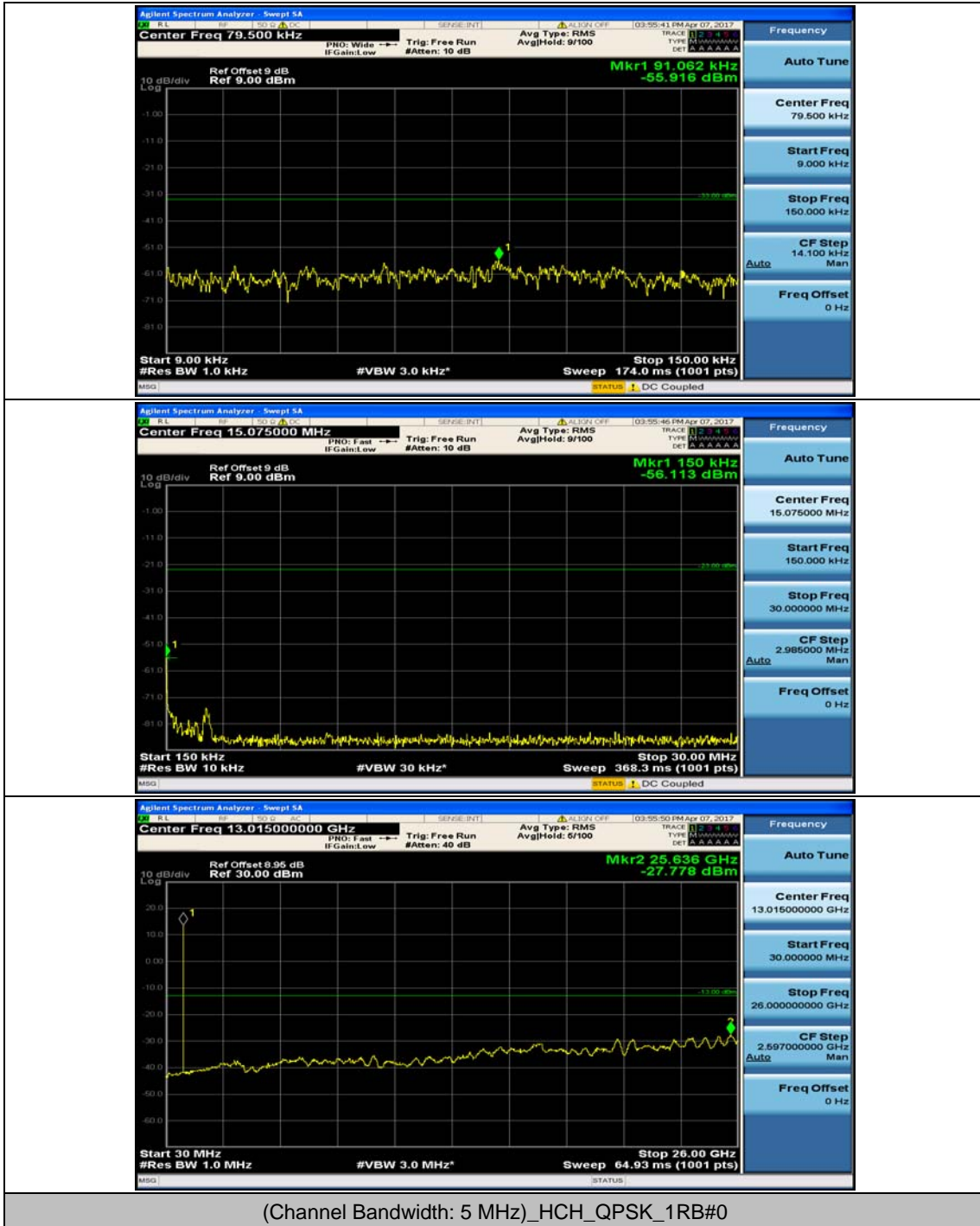


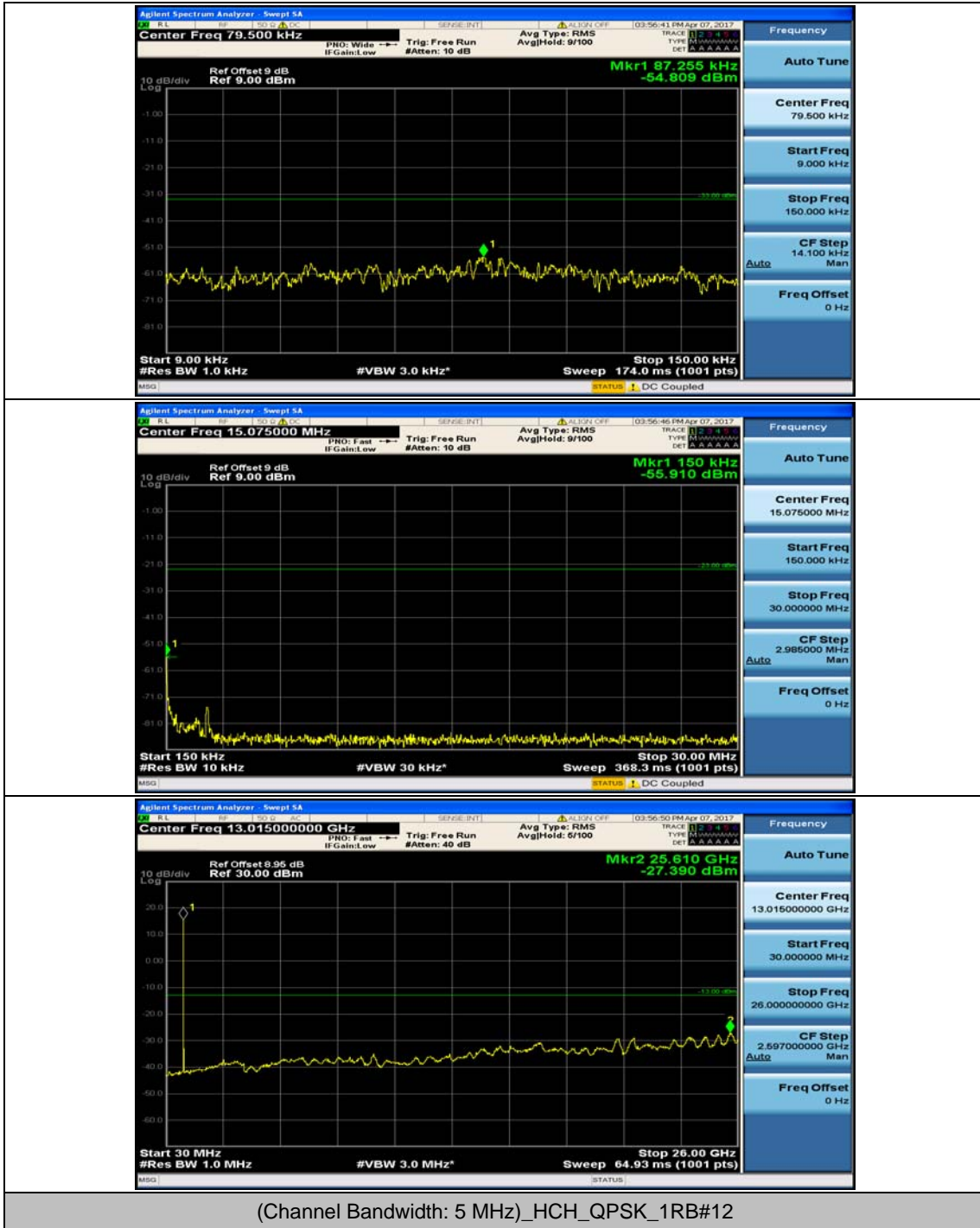


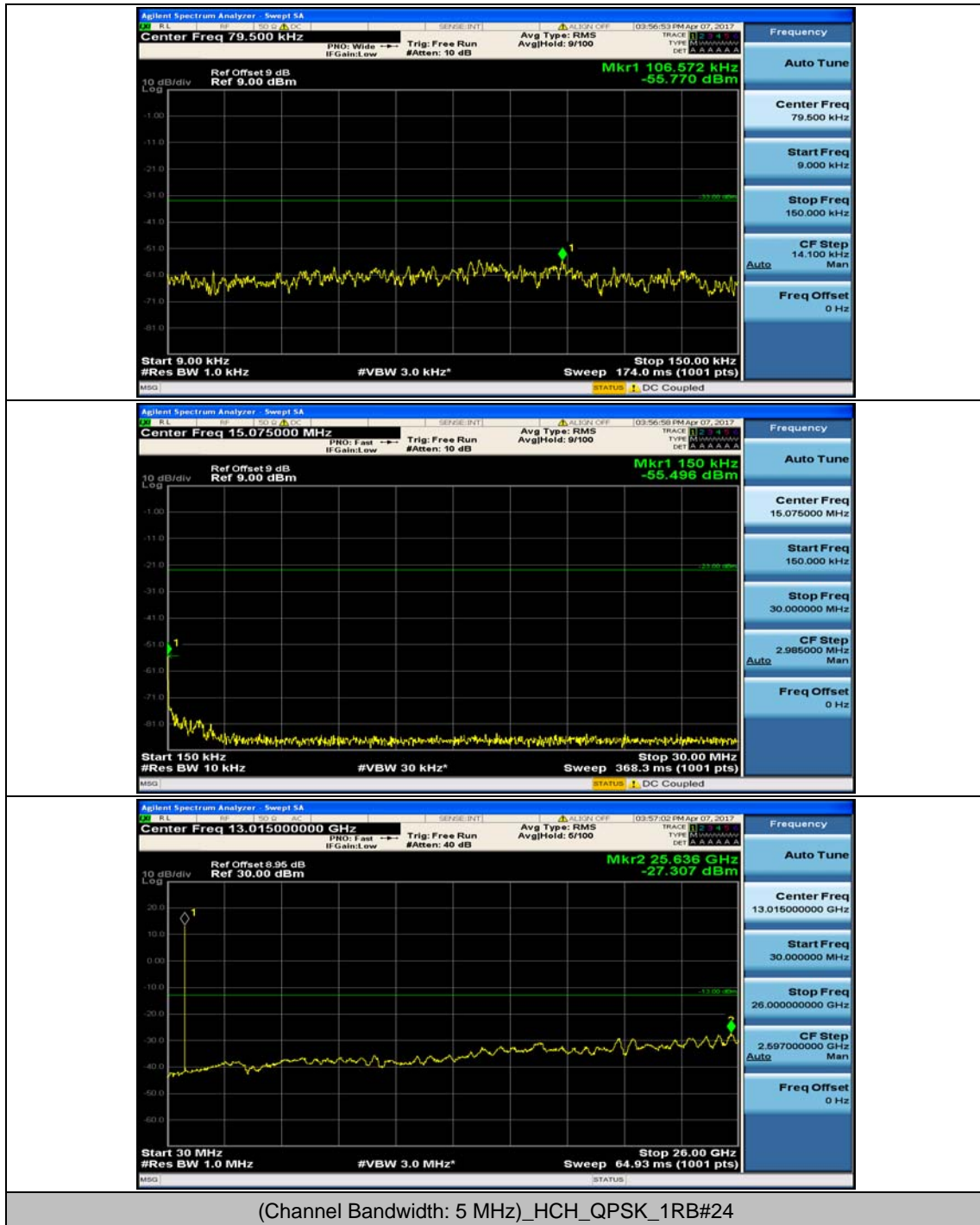


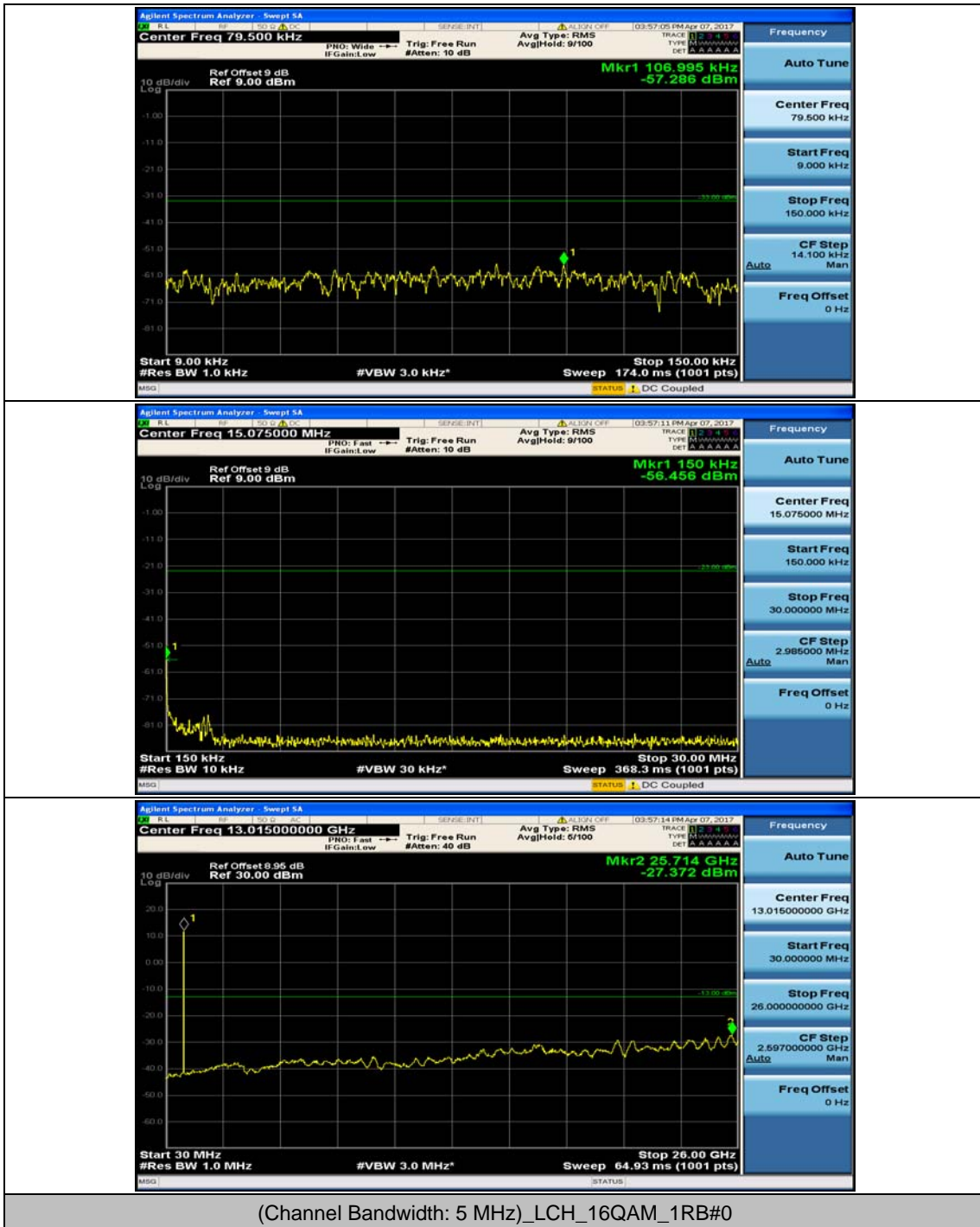


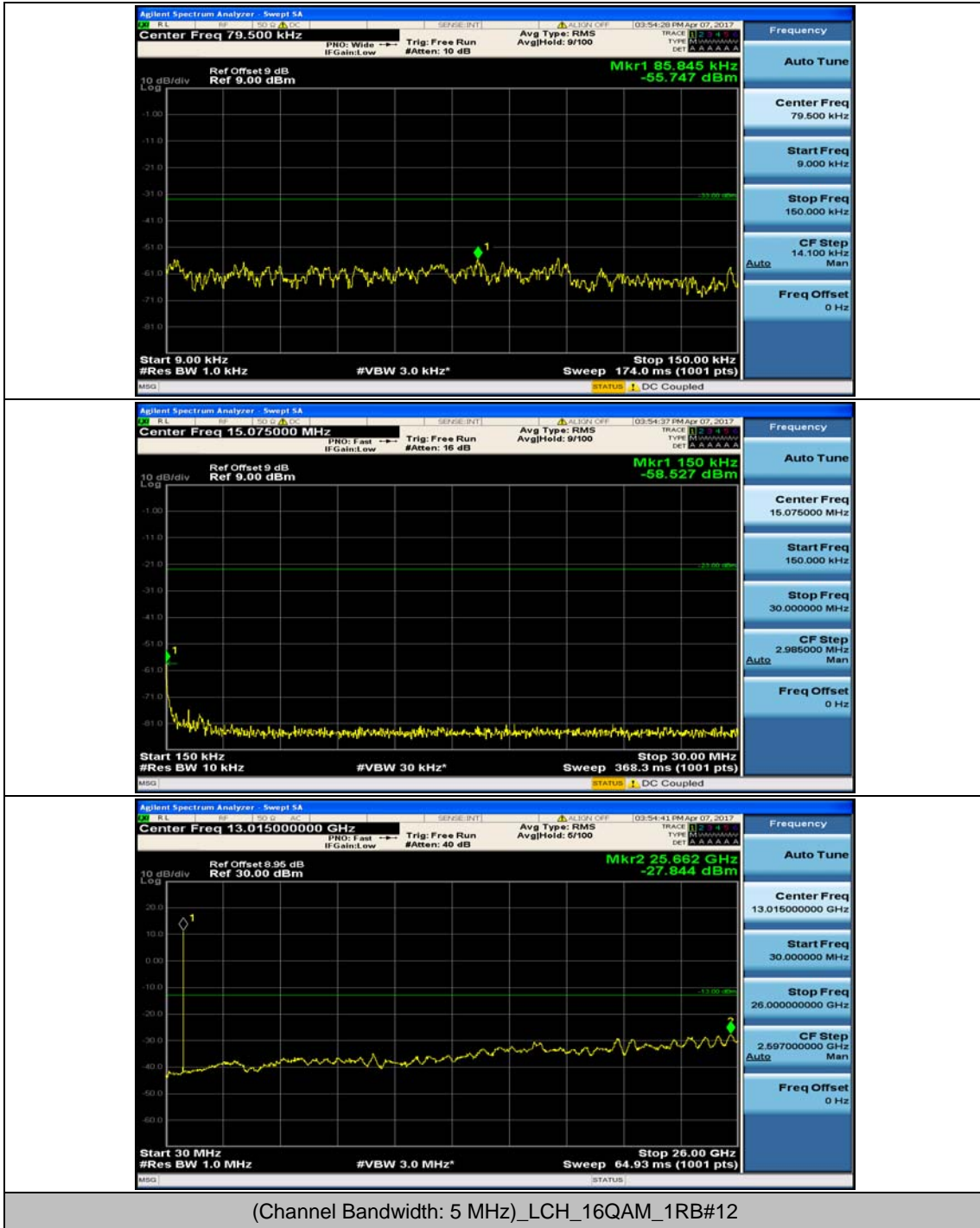


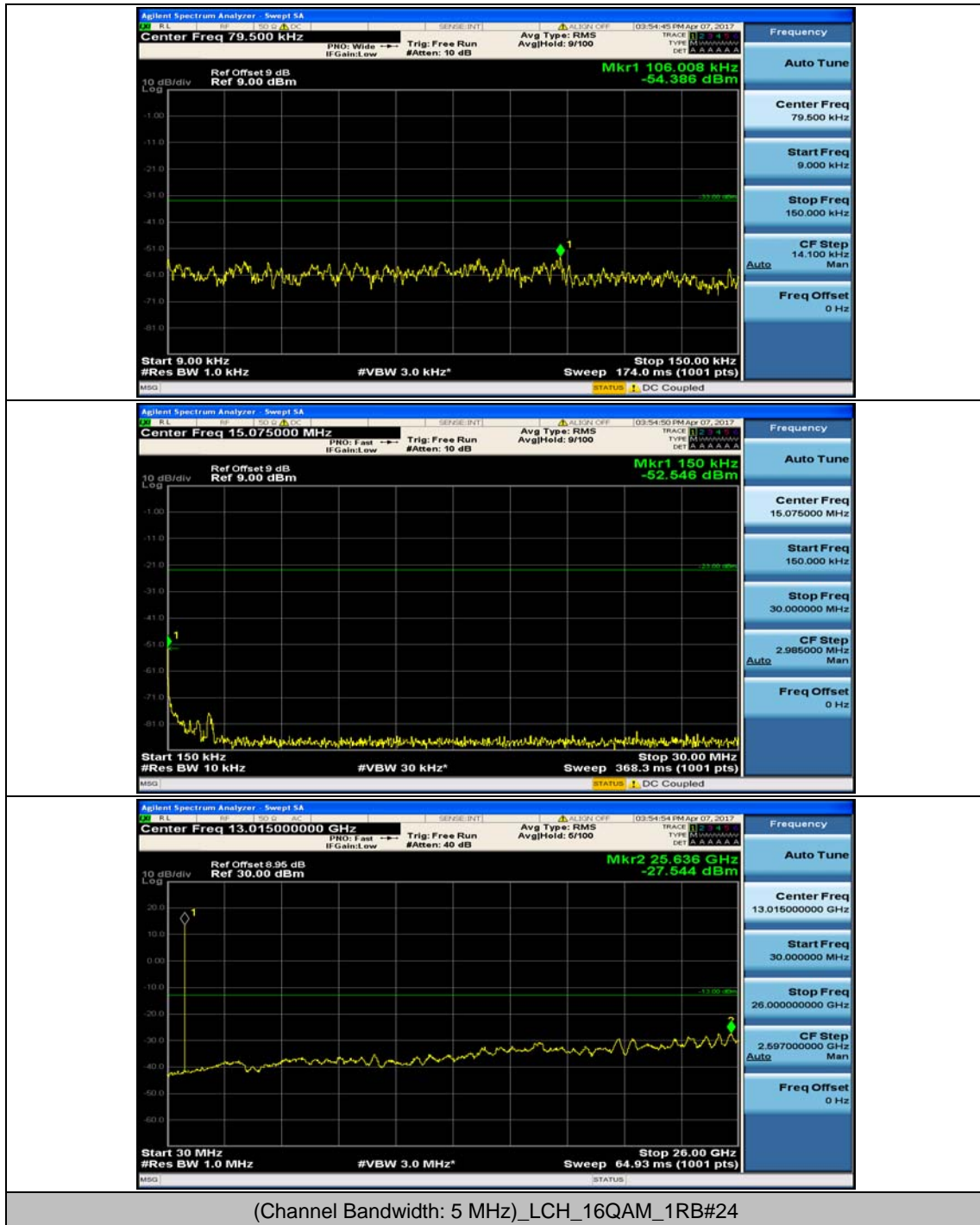


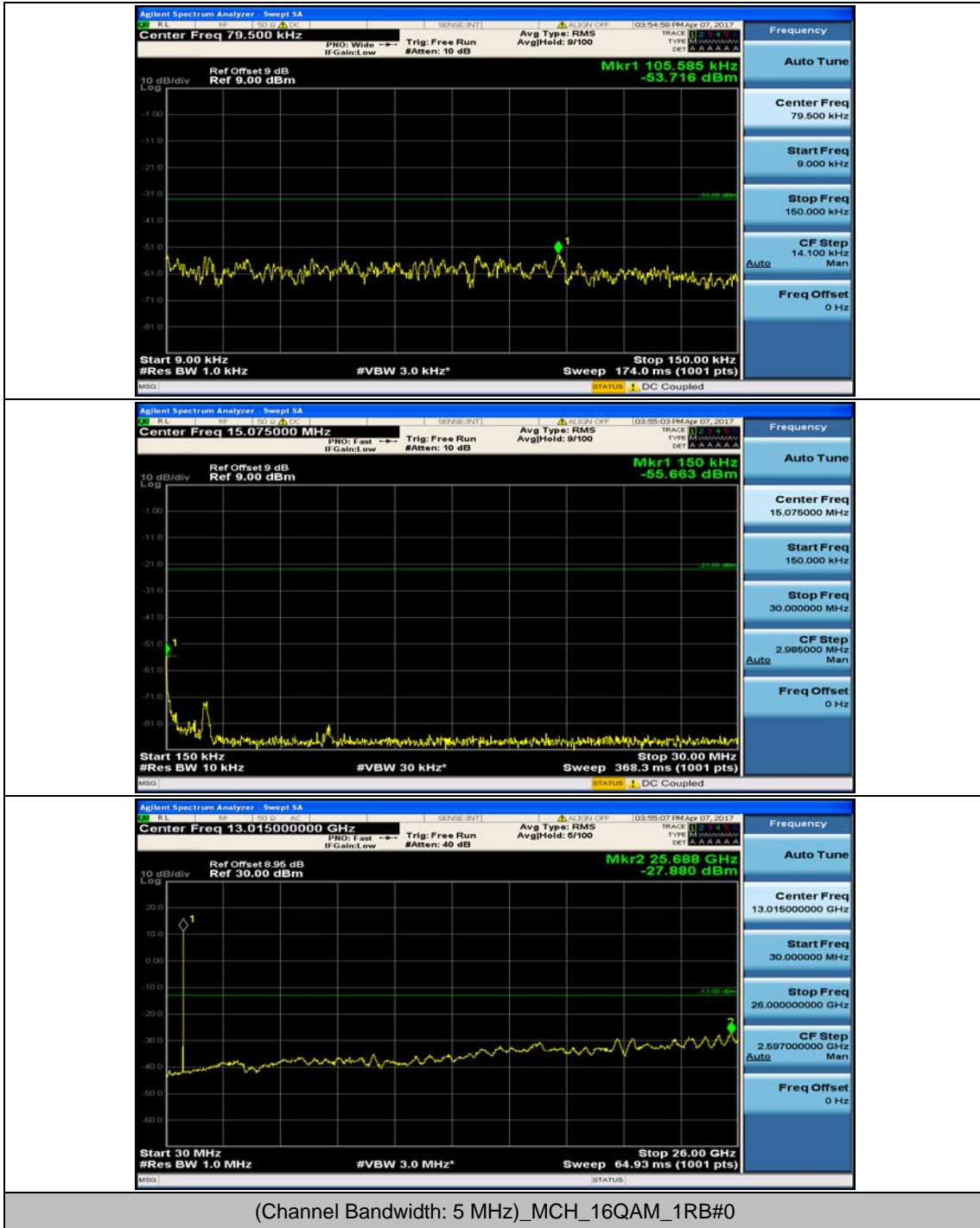


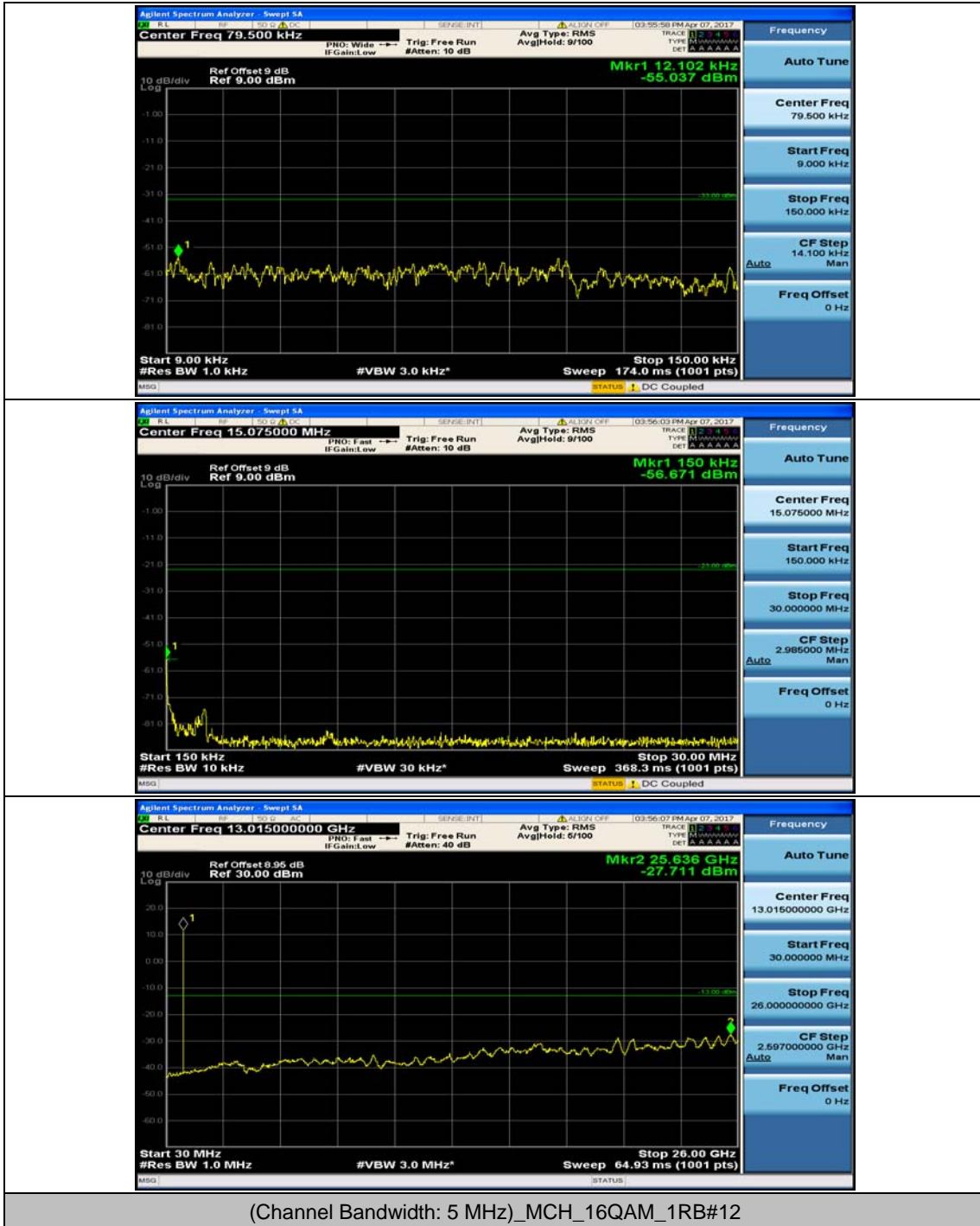


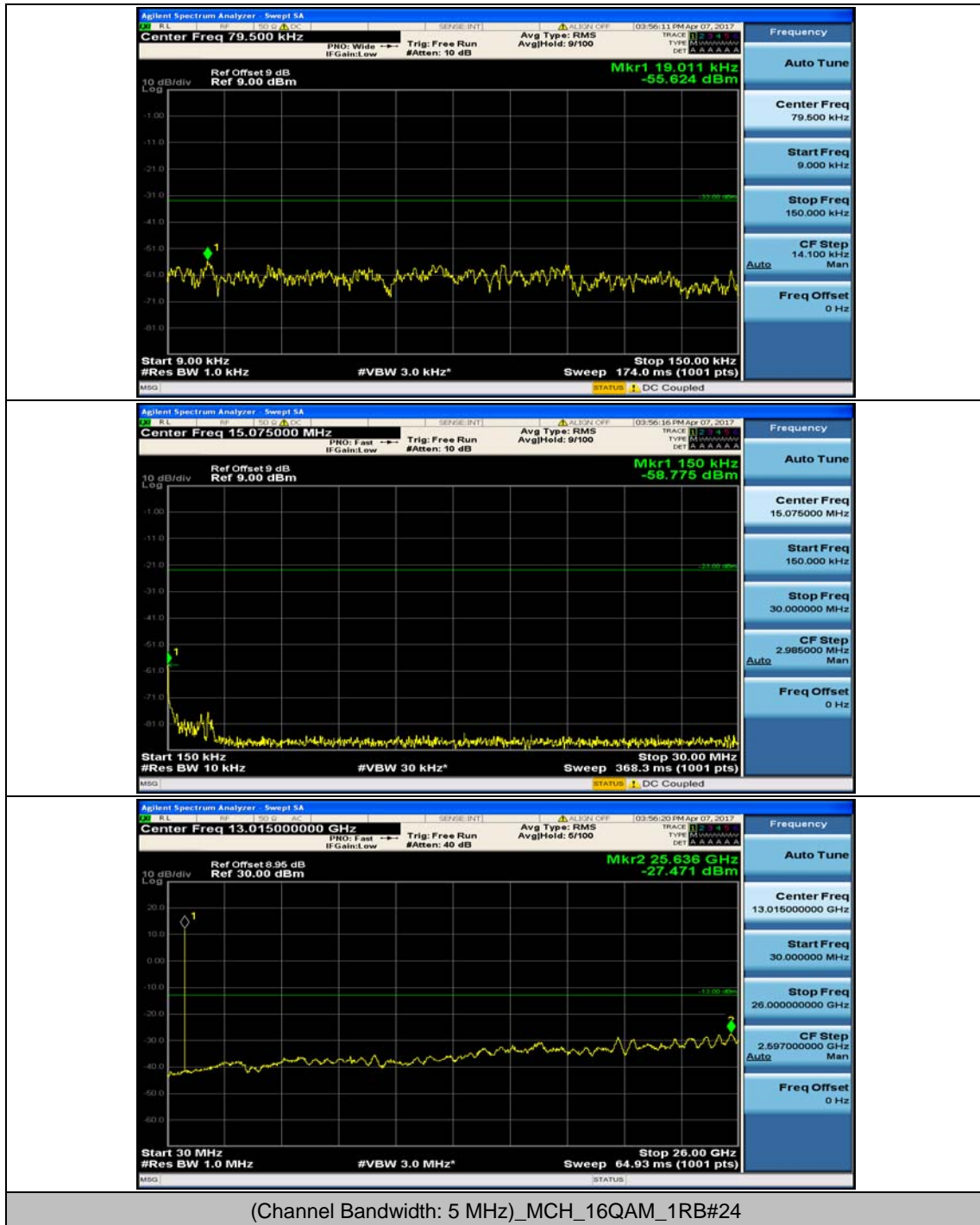


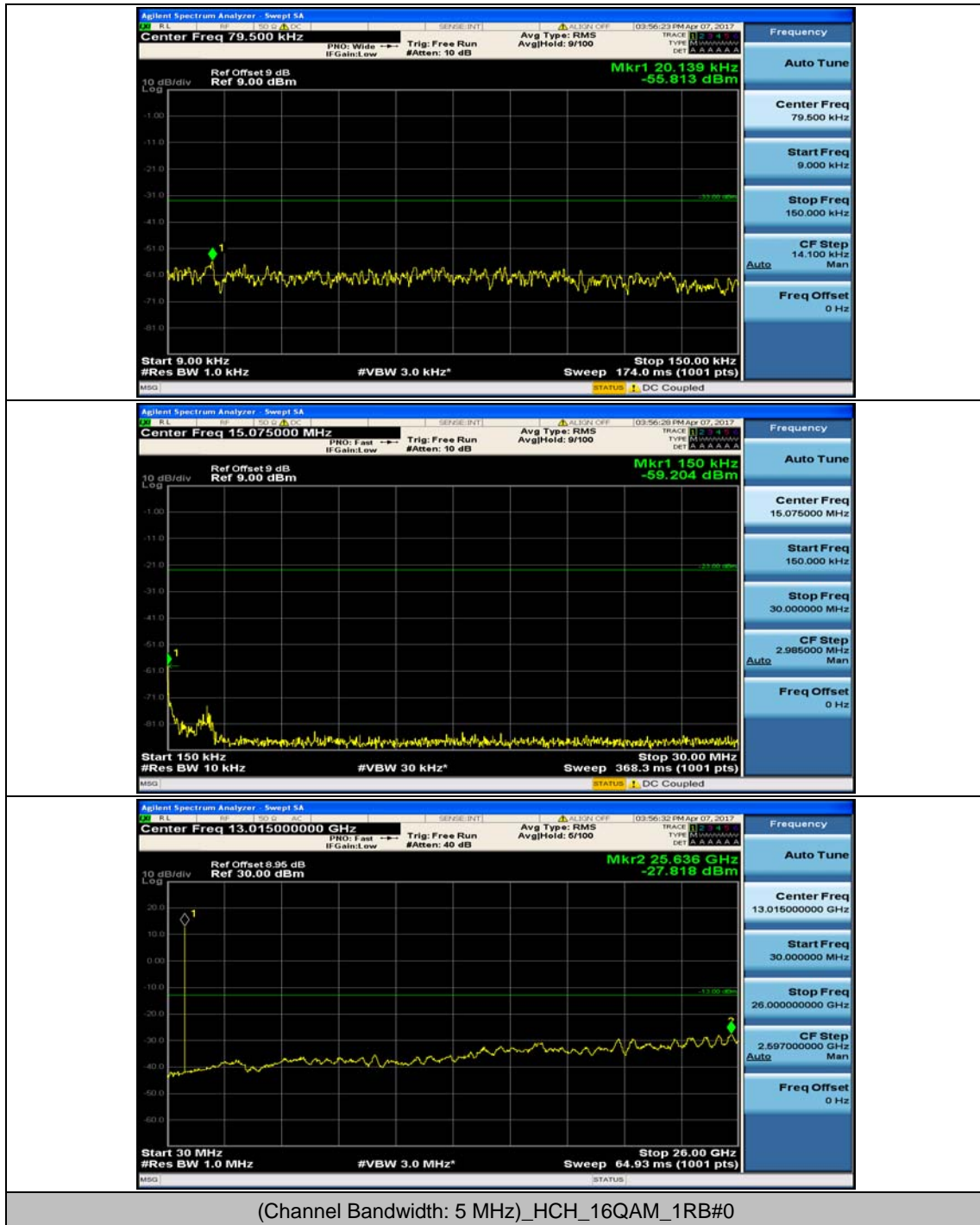


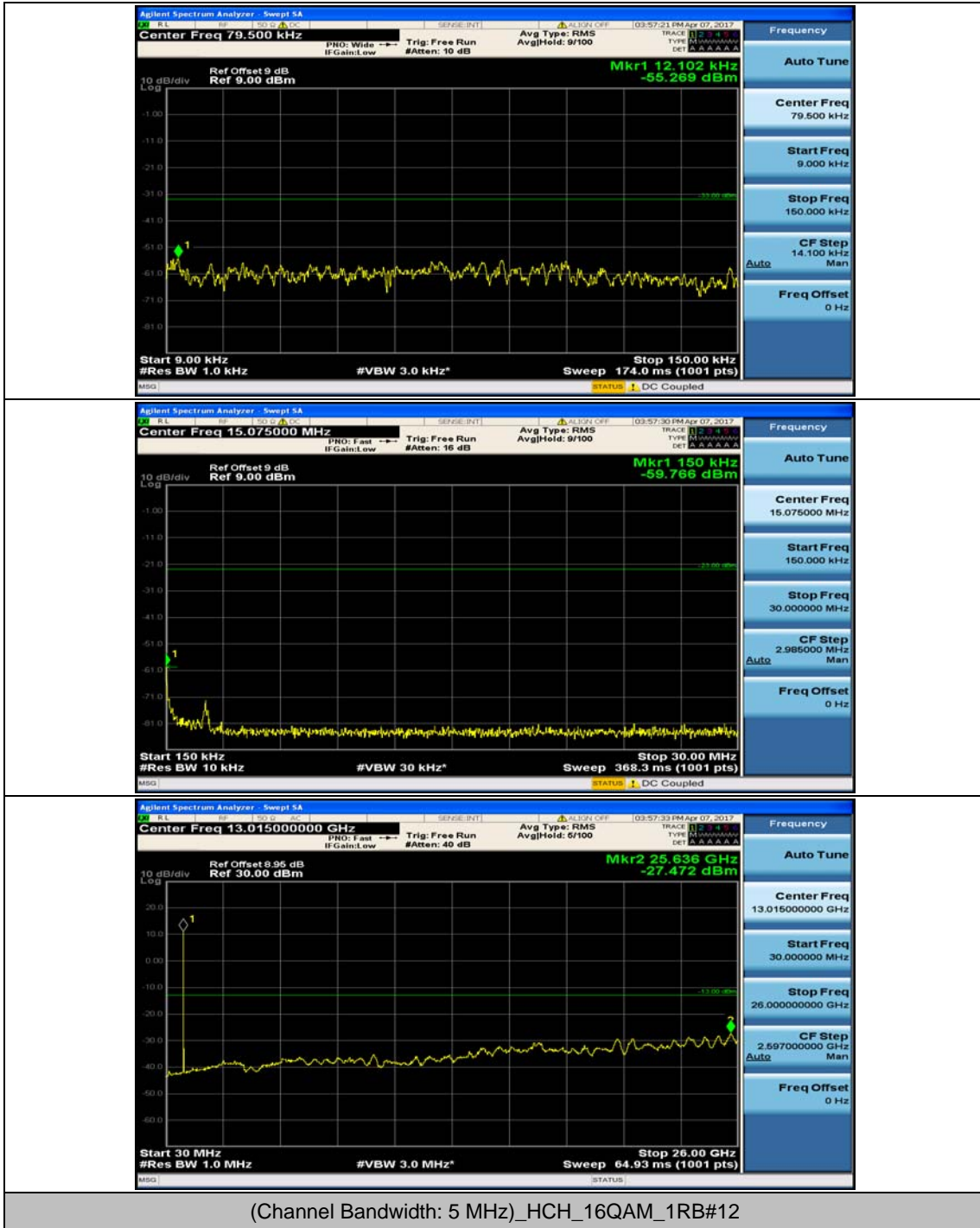


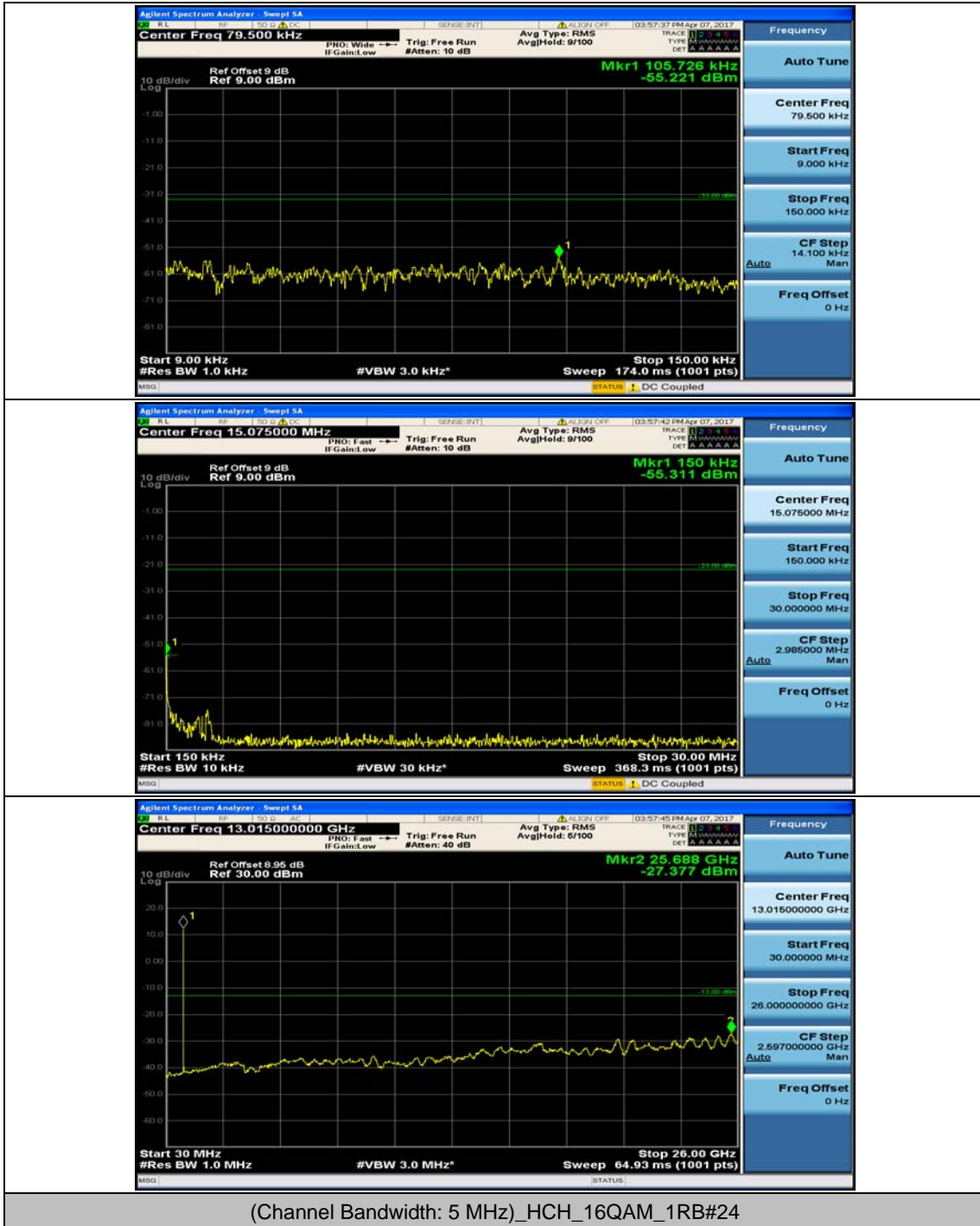


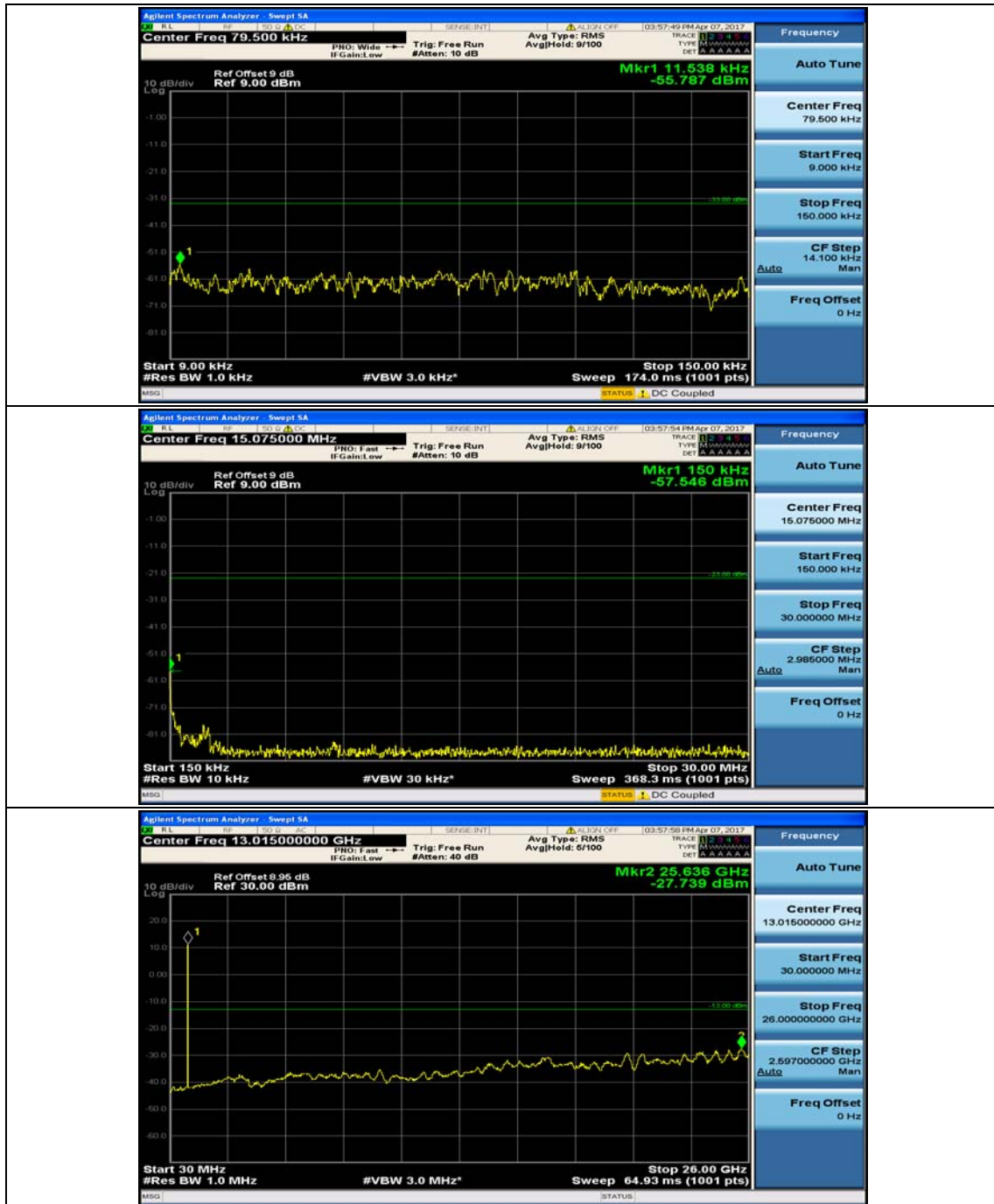




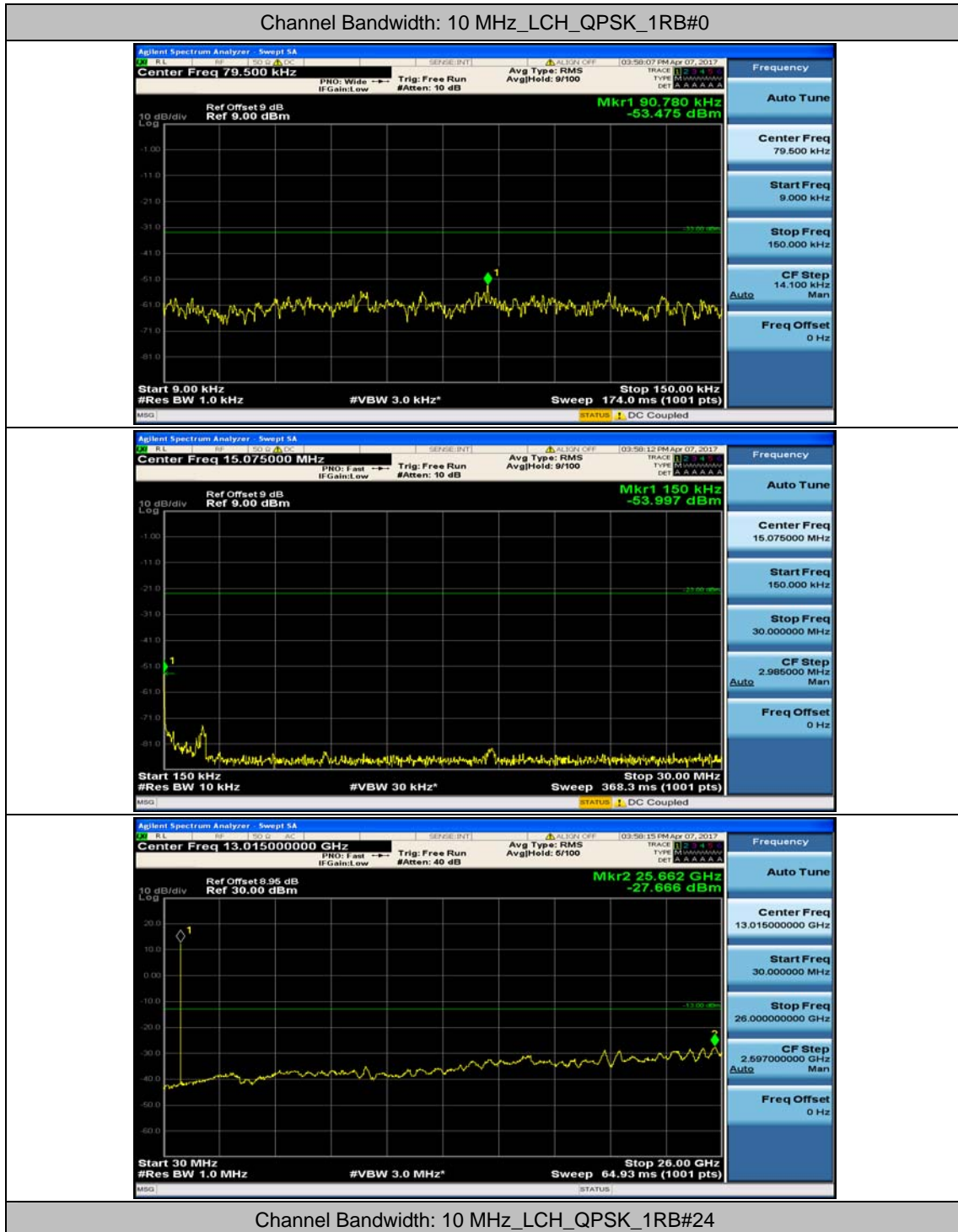


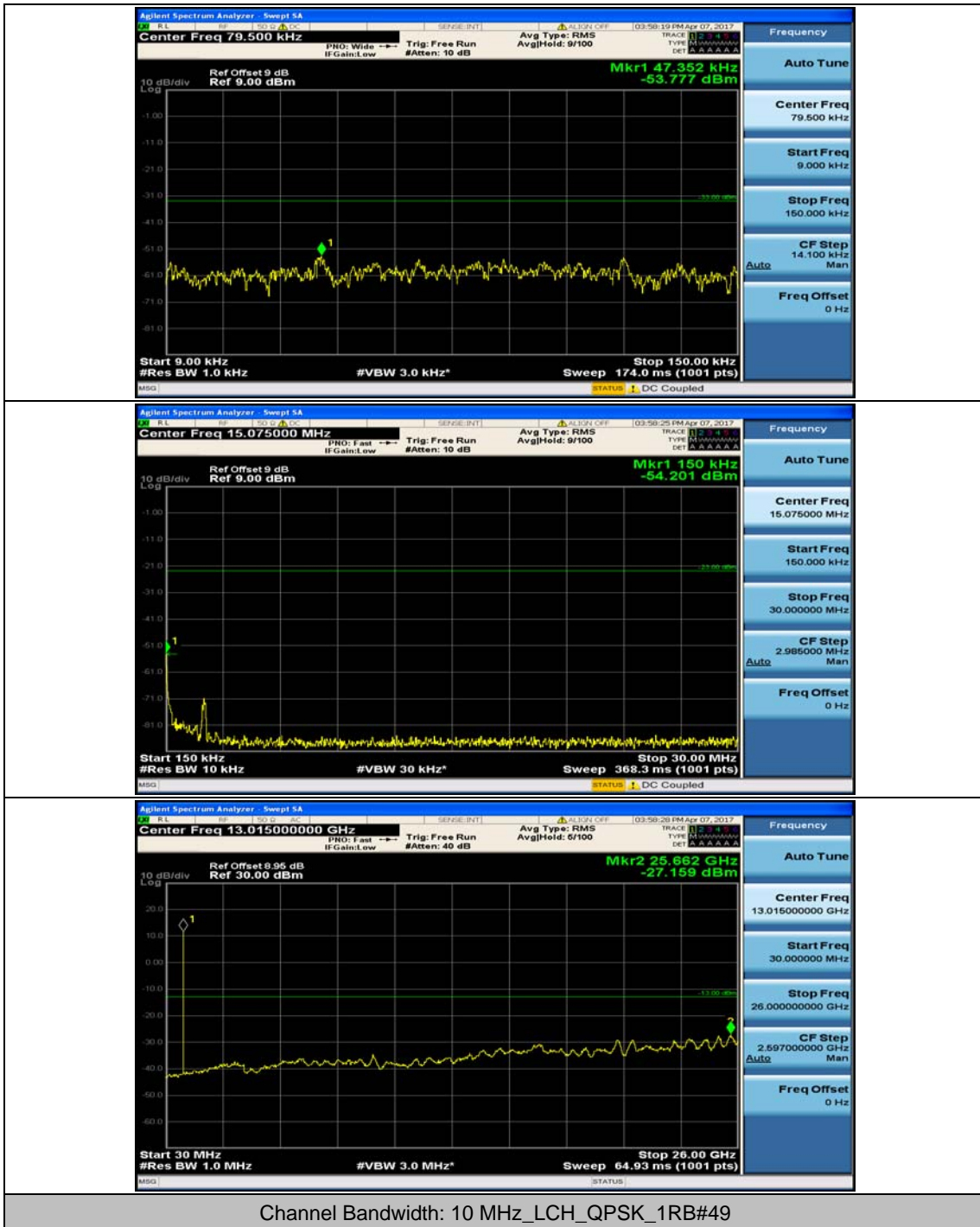


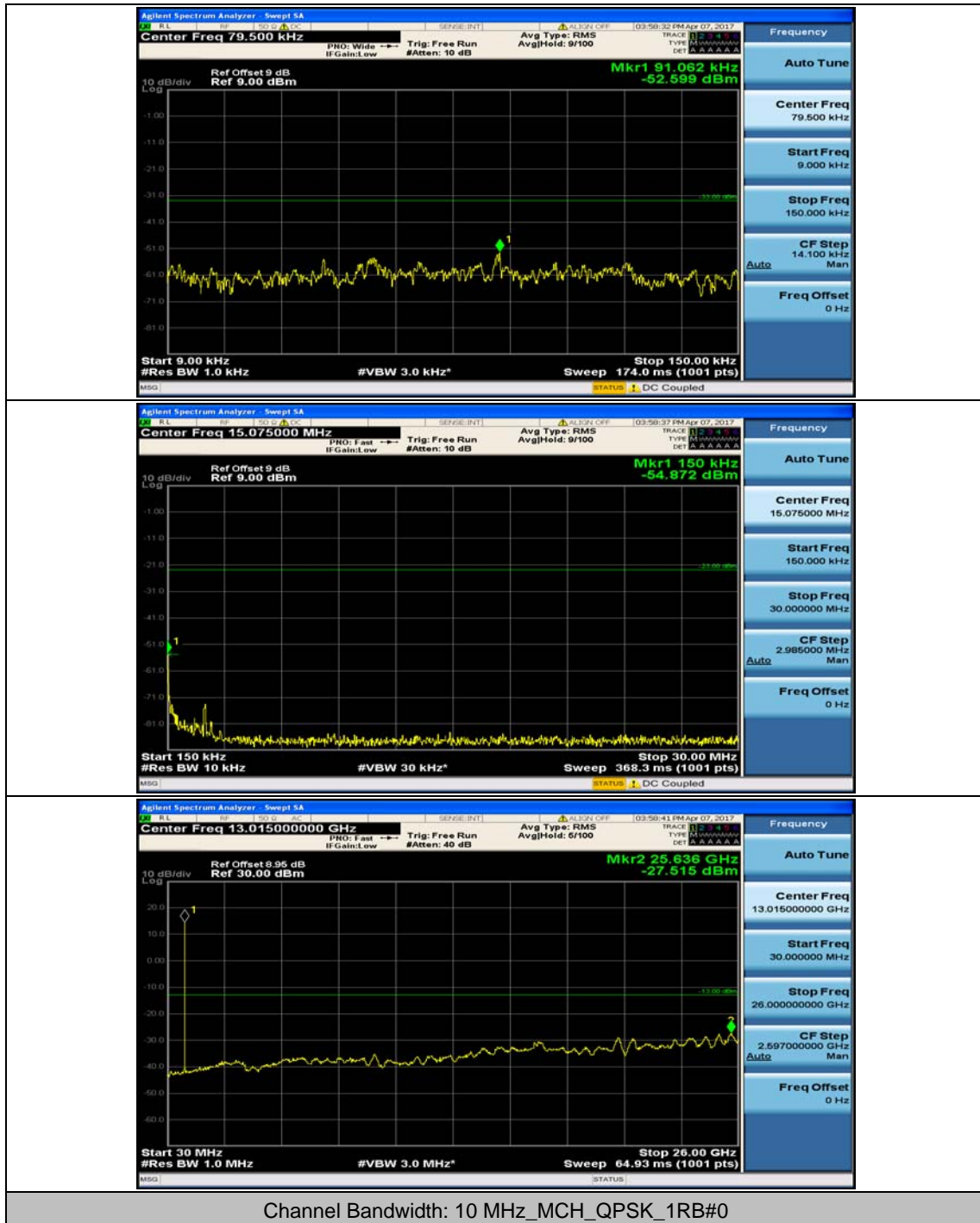


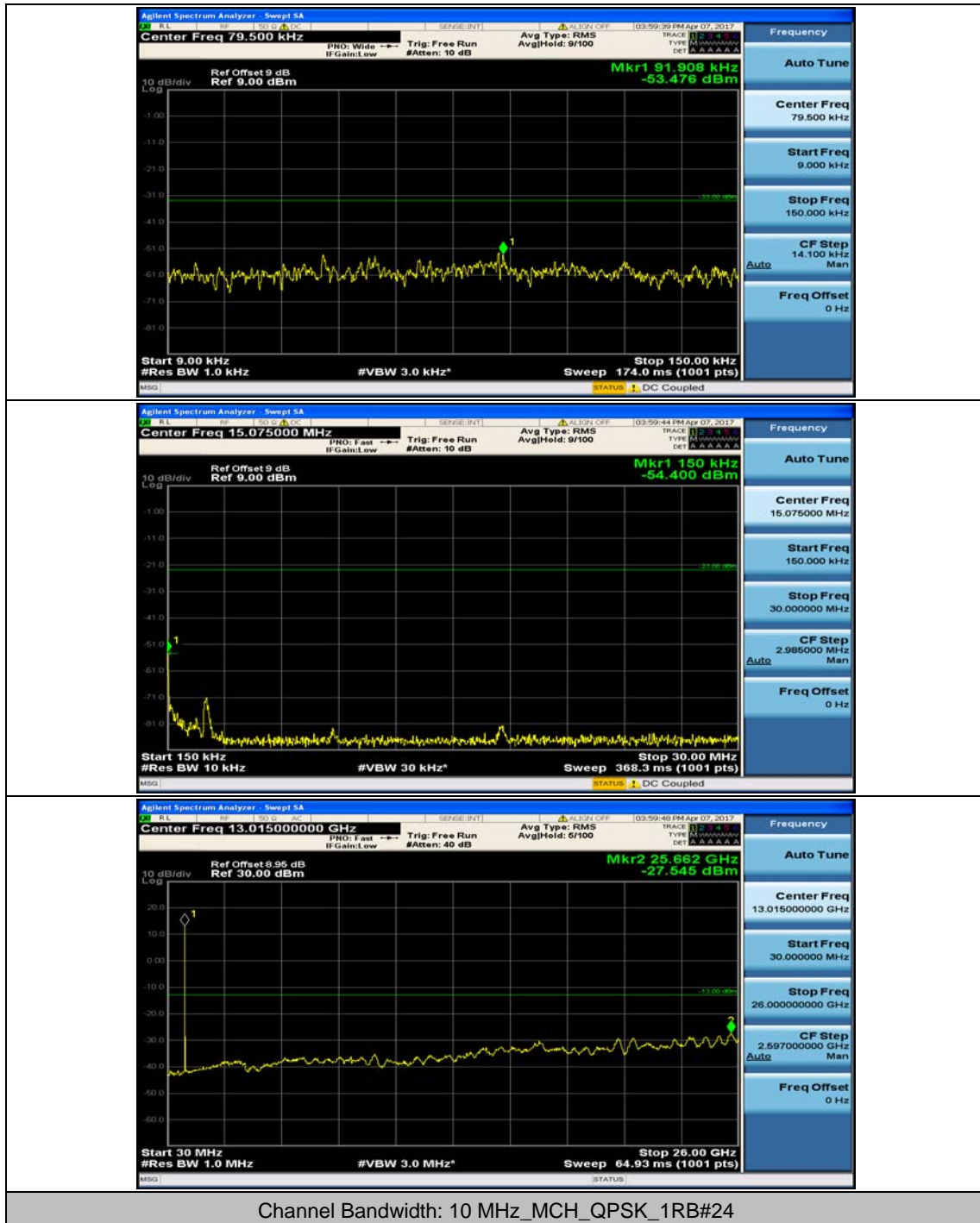


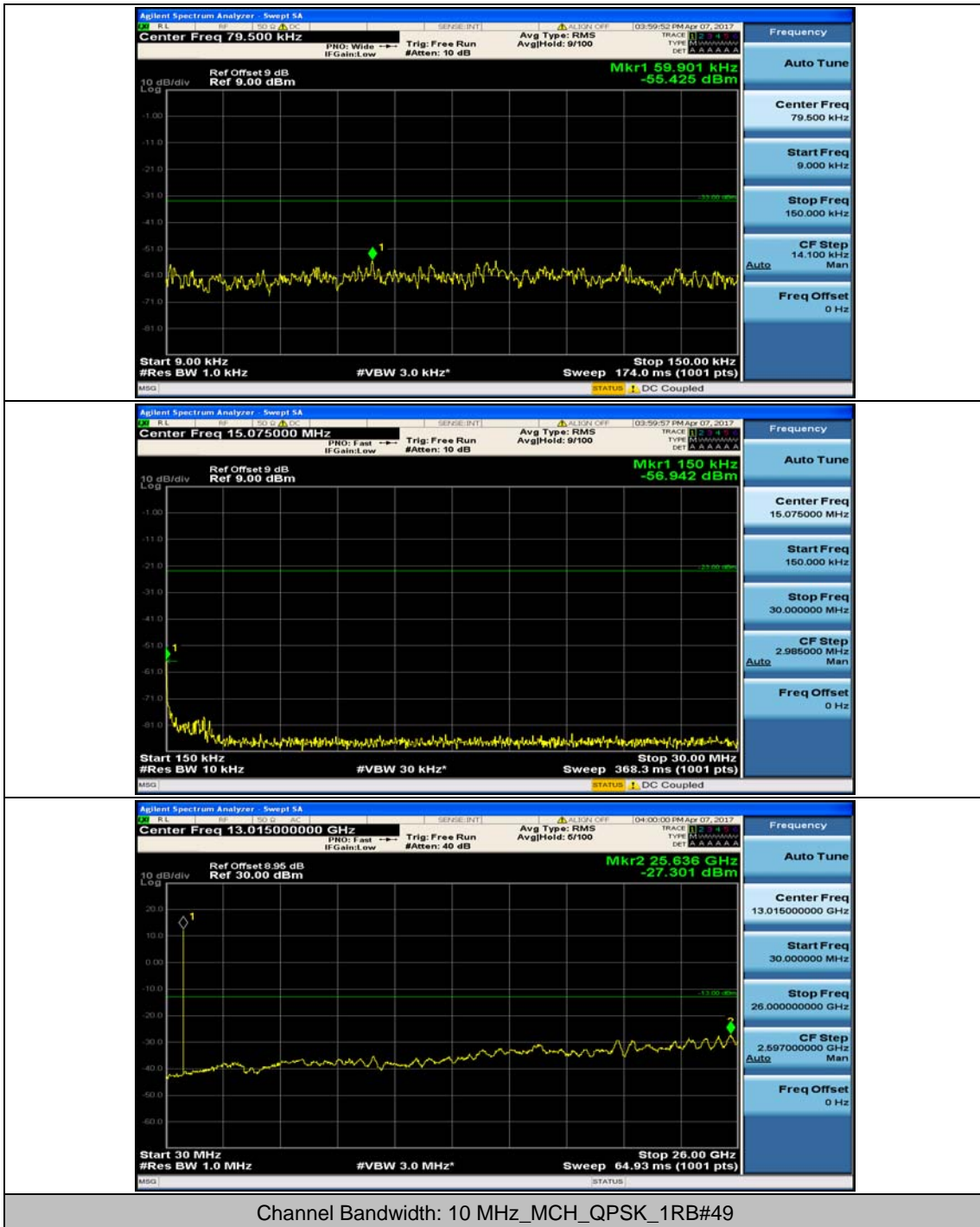
Channel Bandwidth: 10 MHz

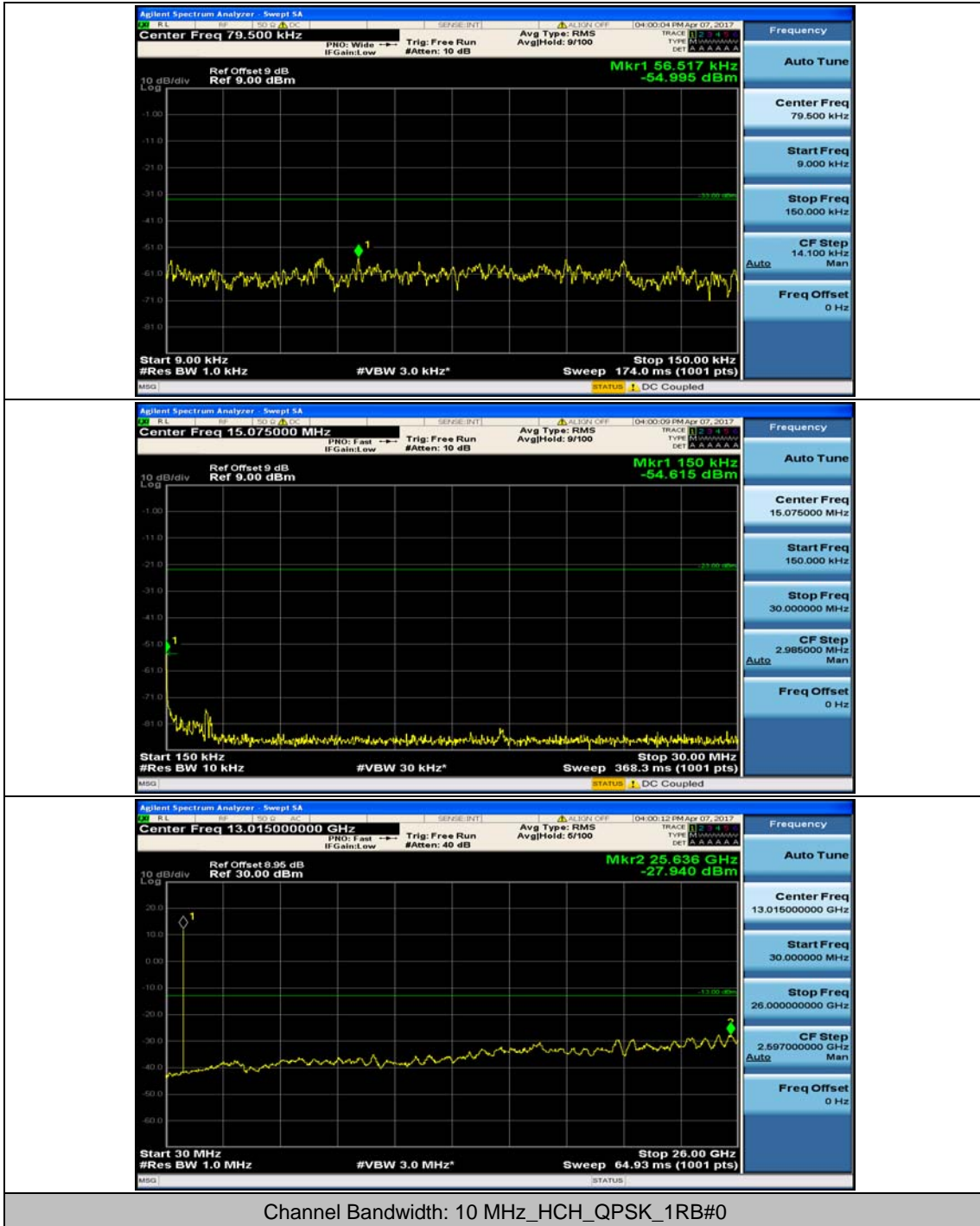


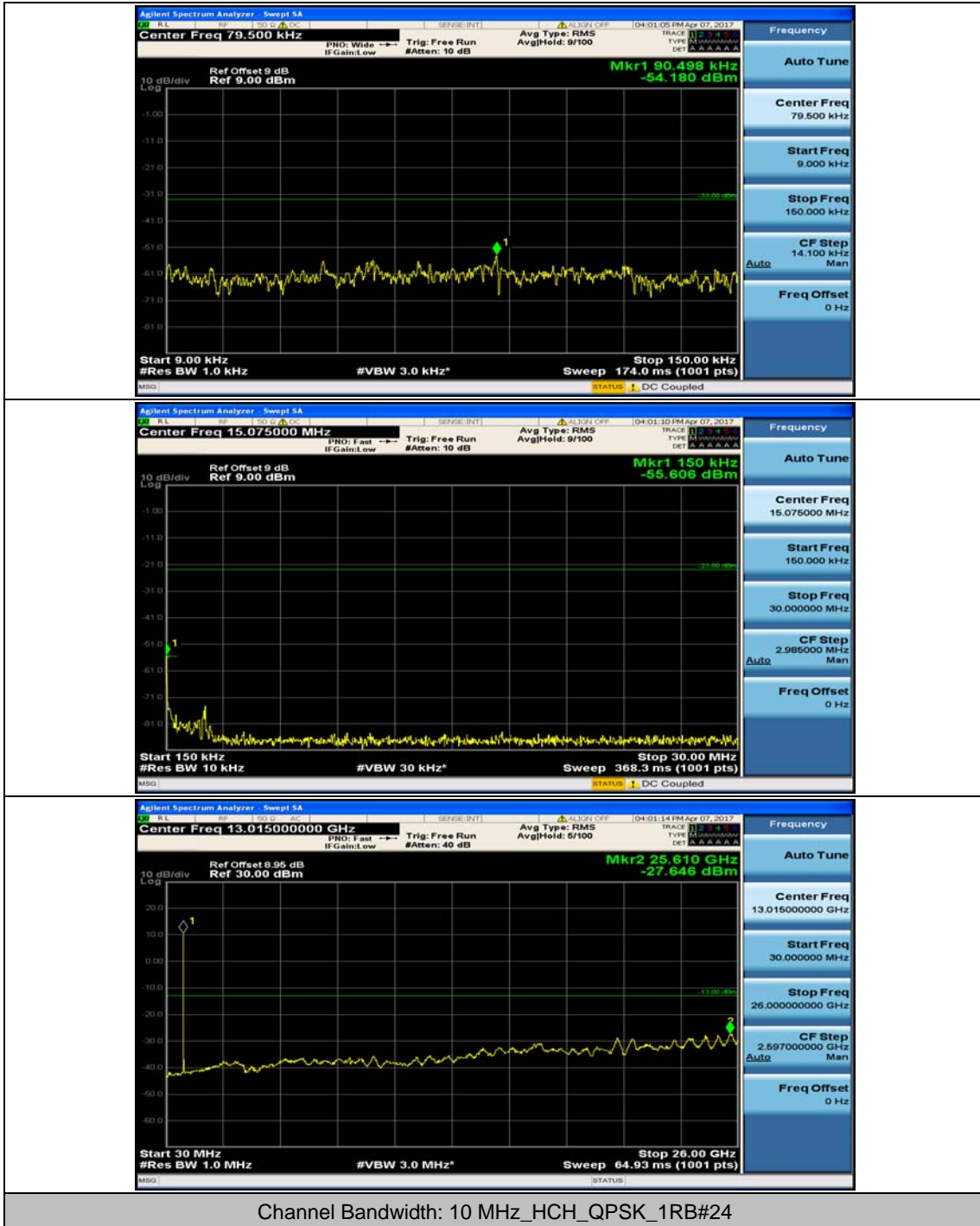


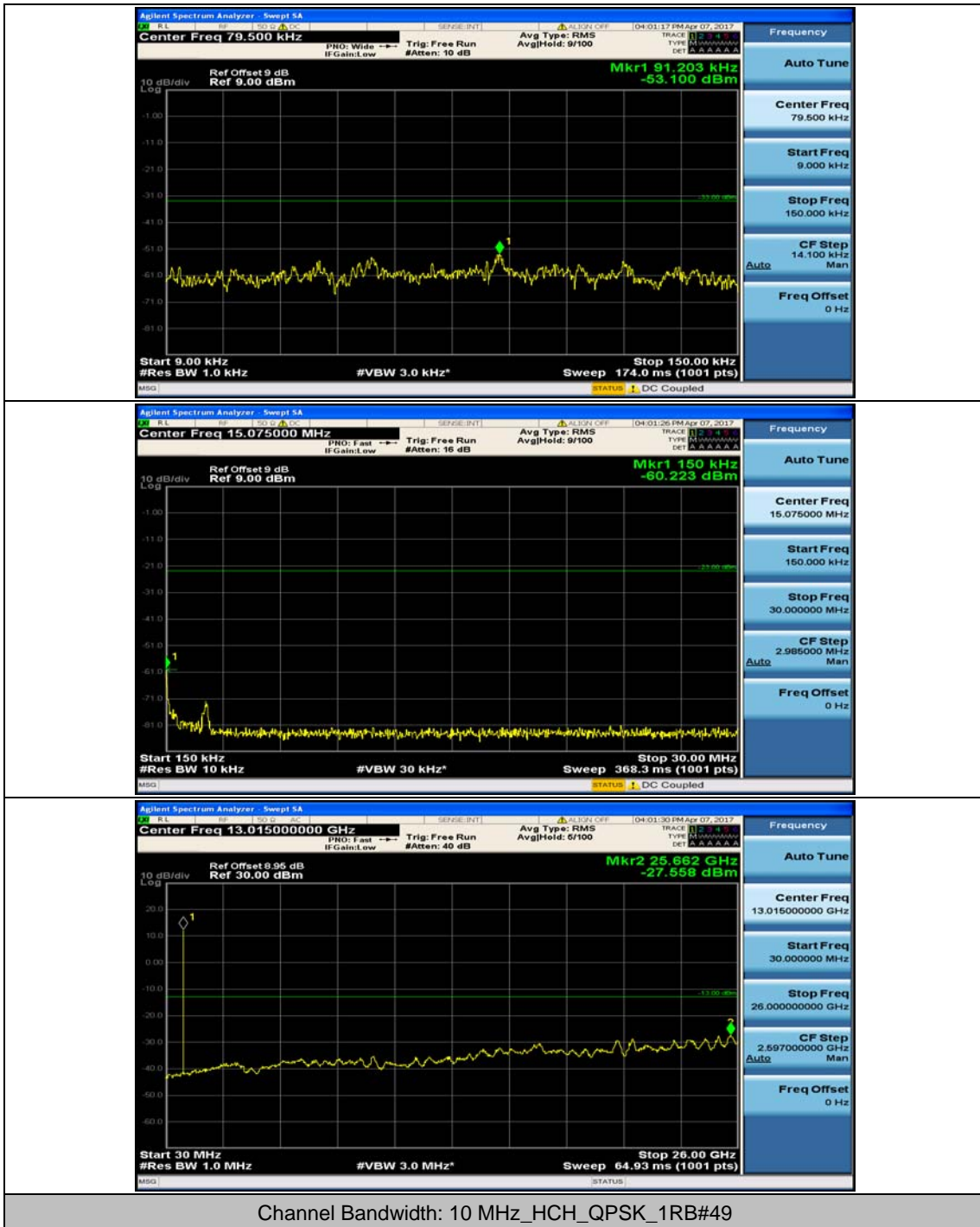


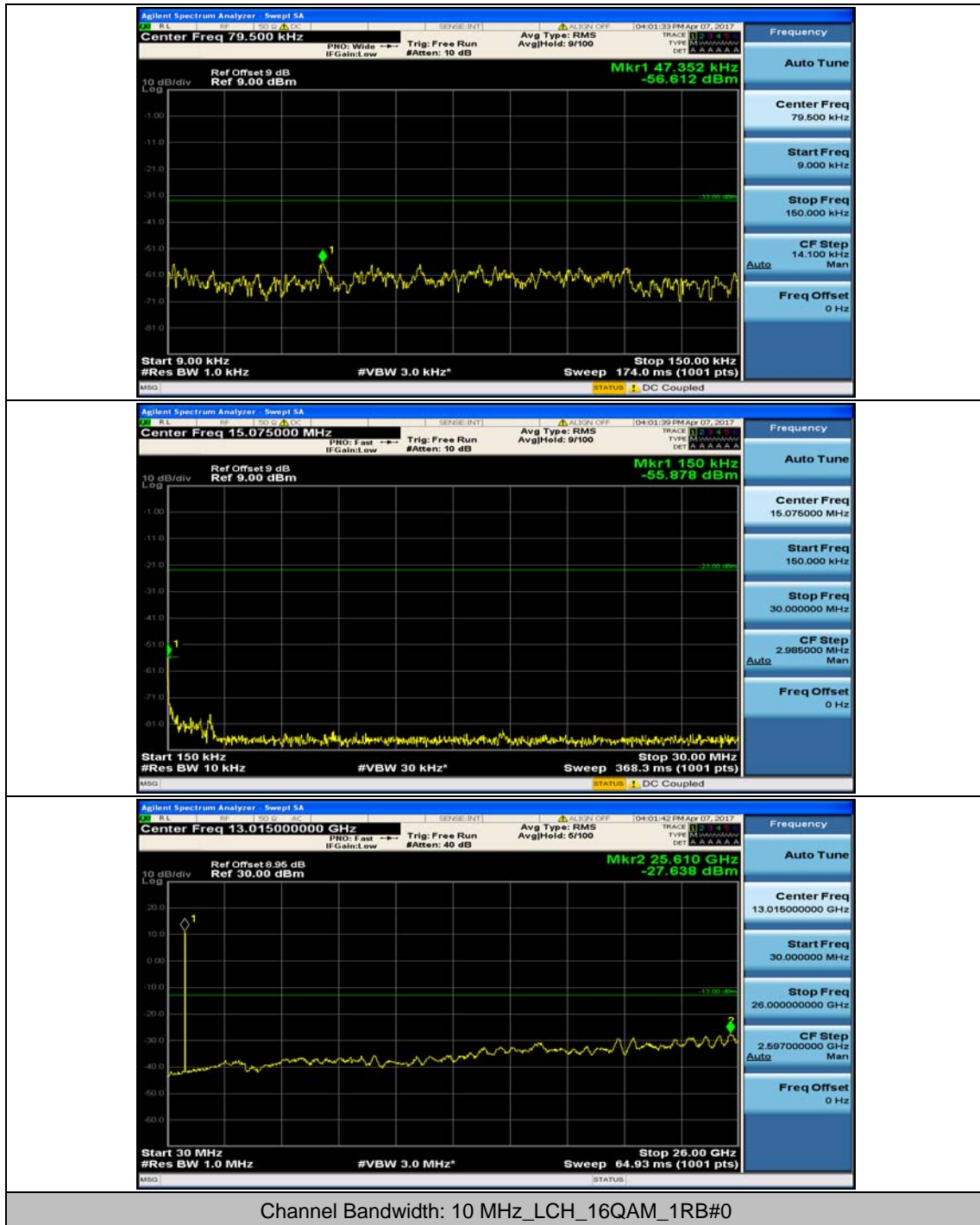


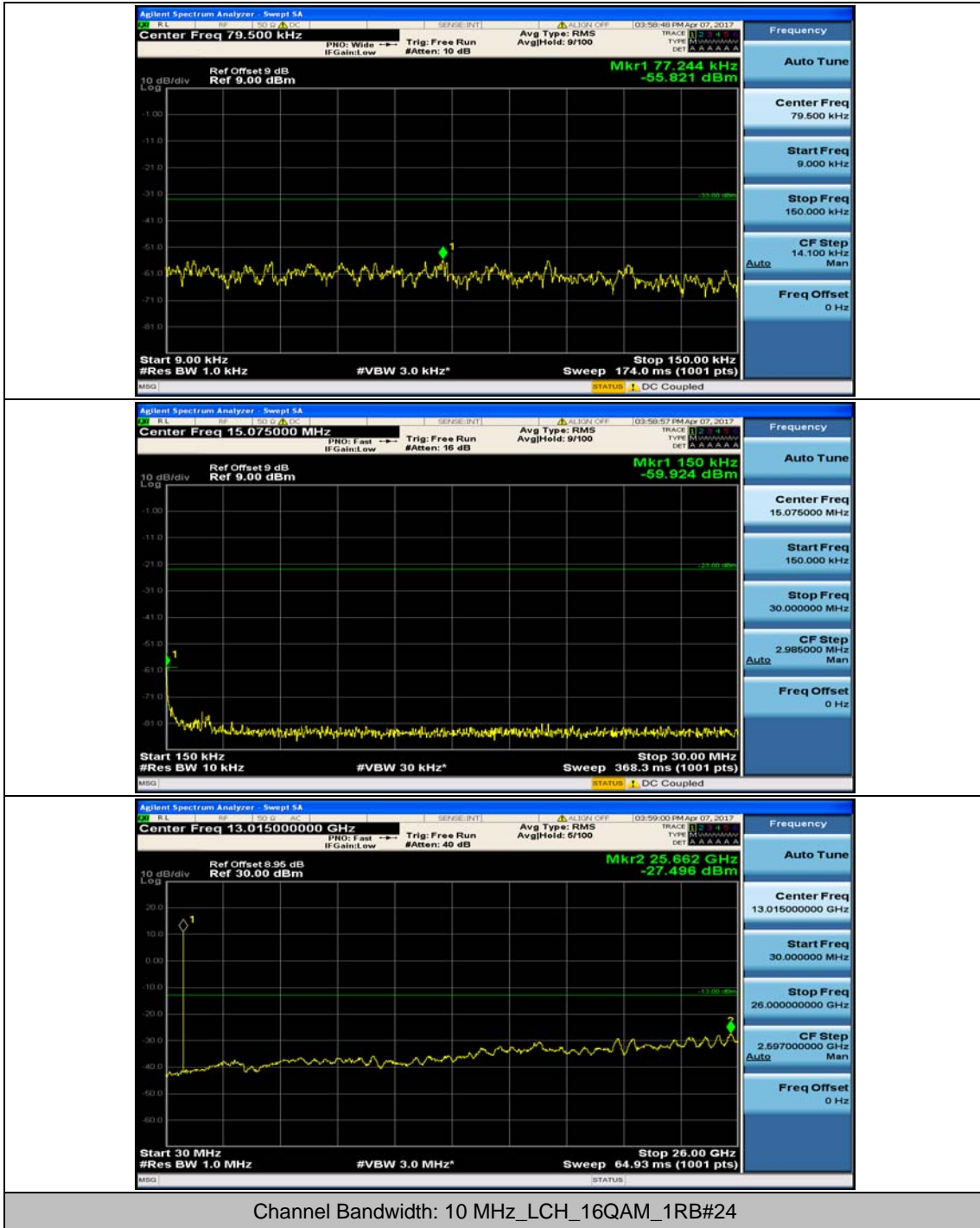


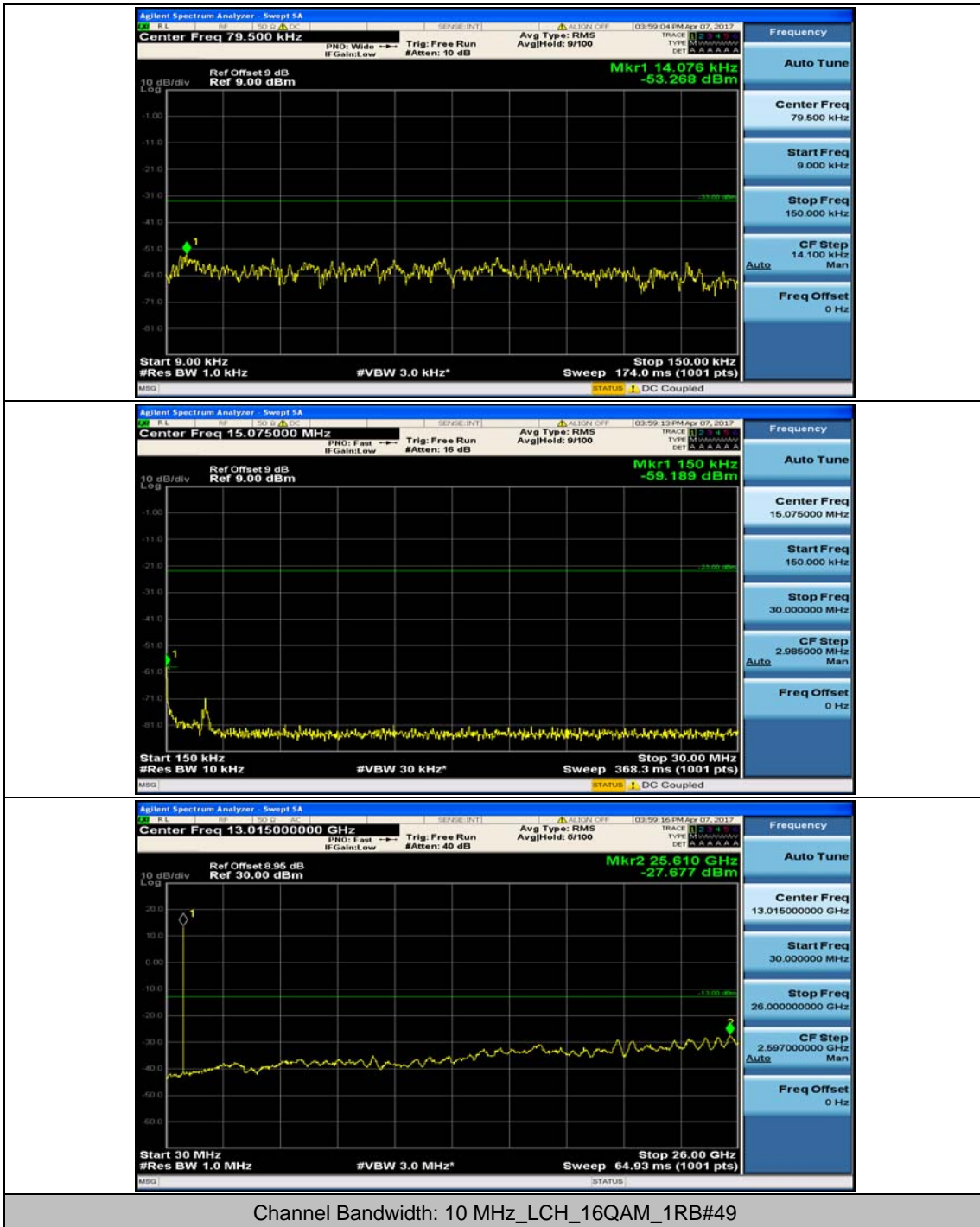


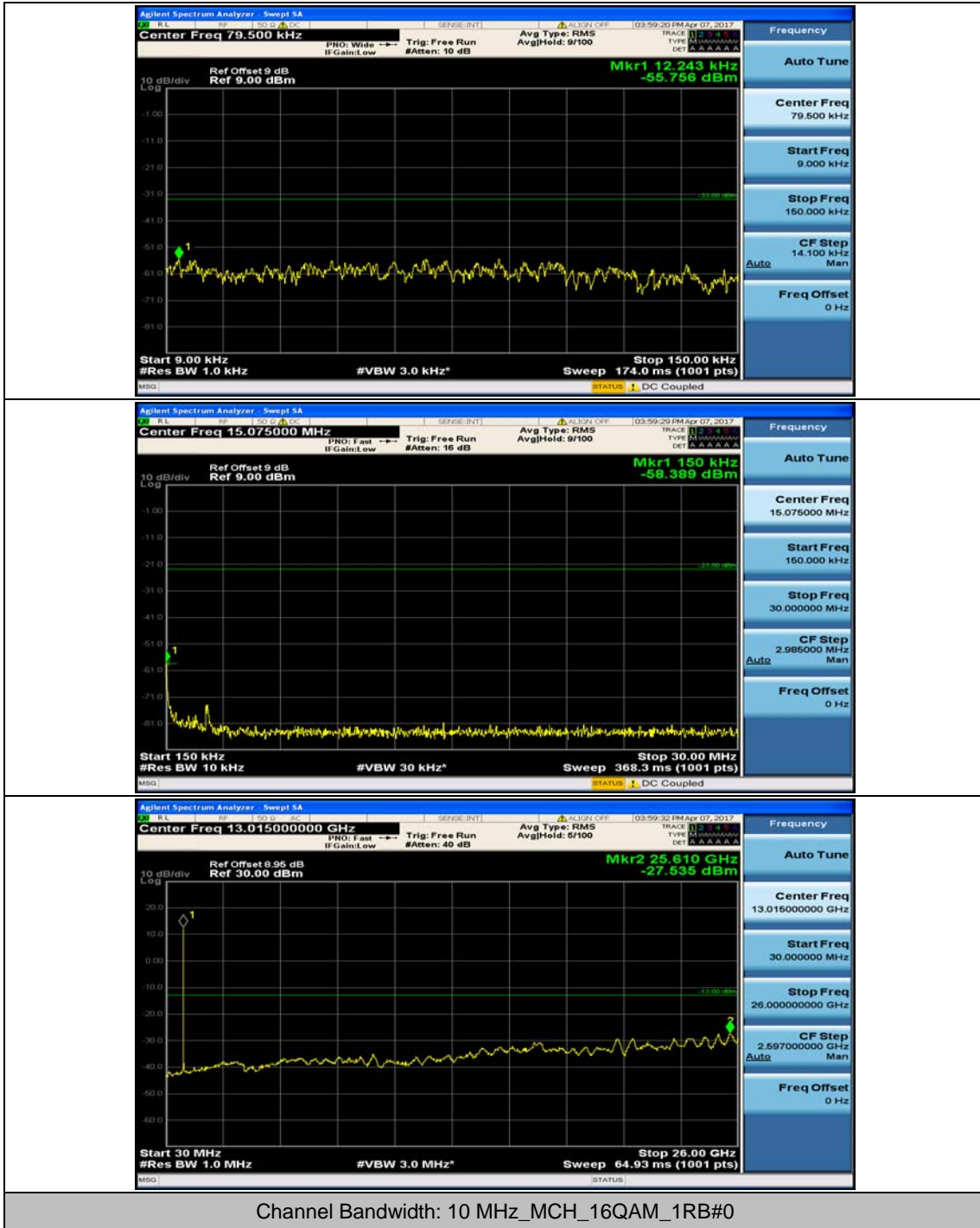


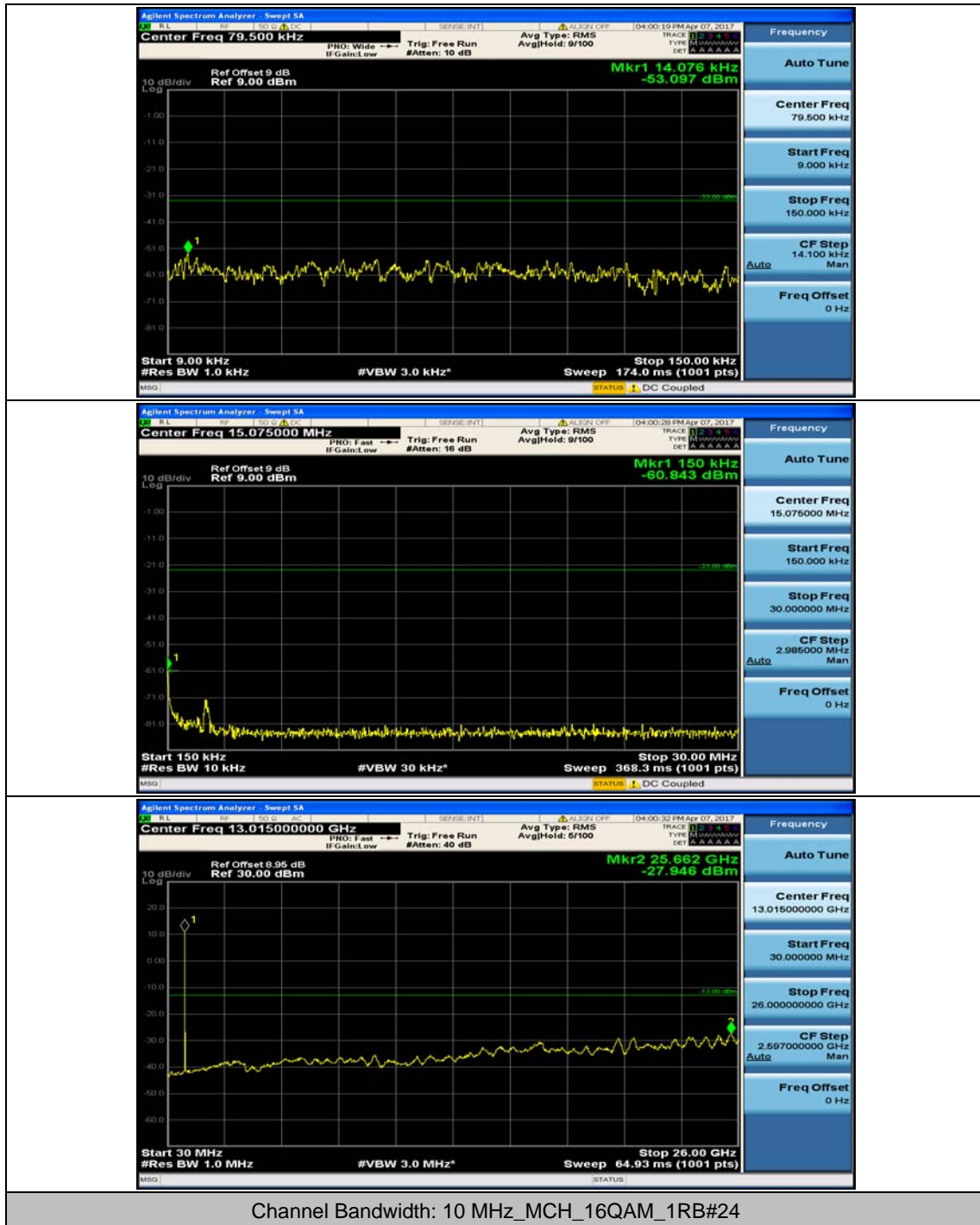


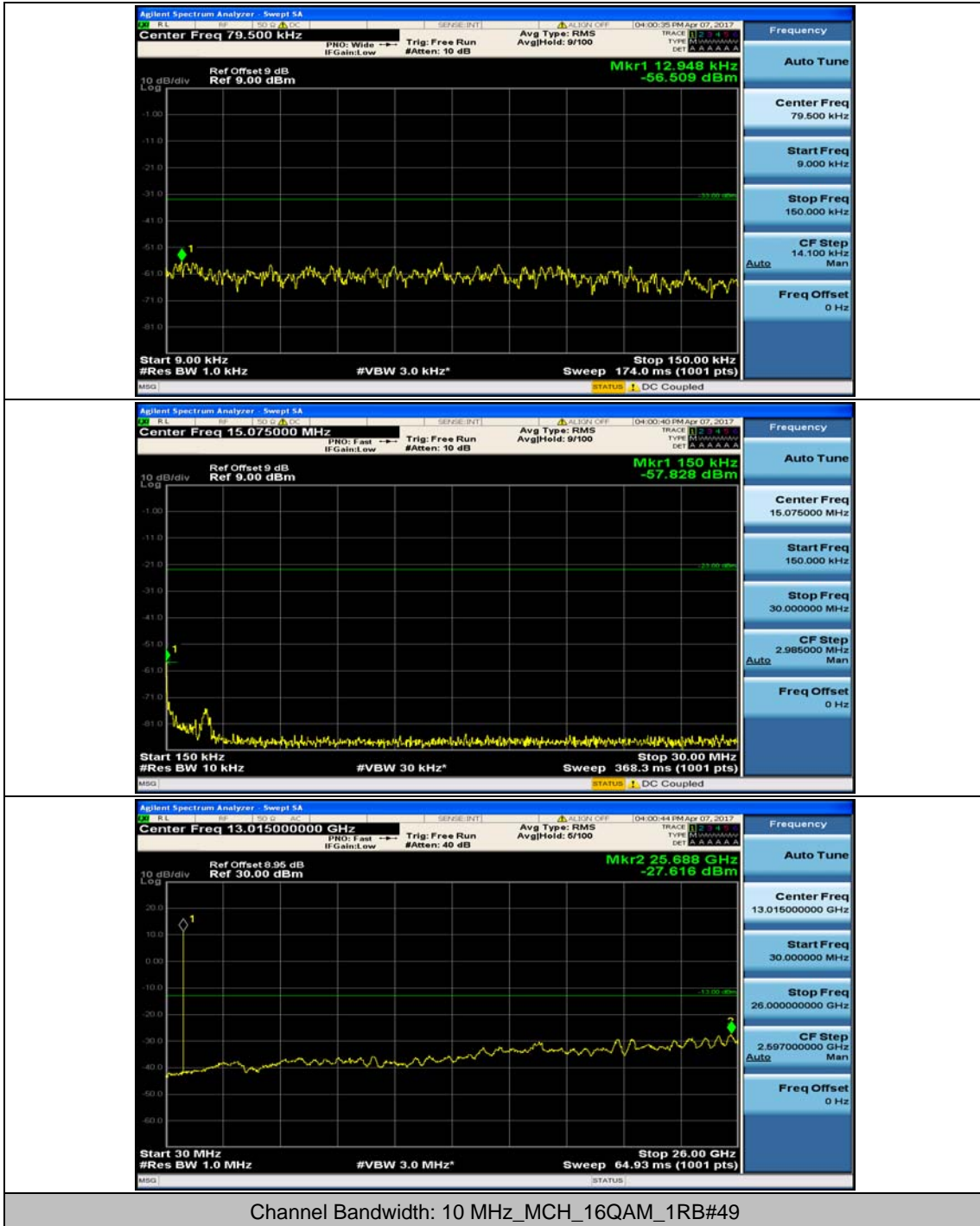


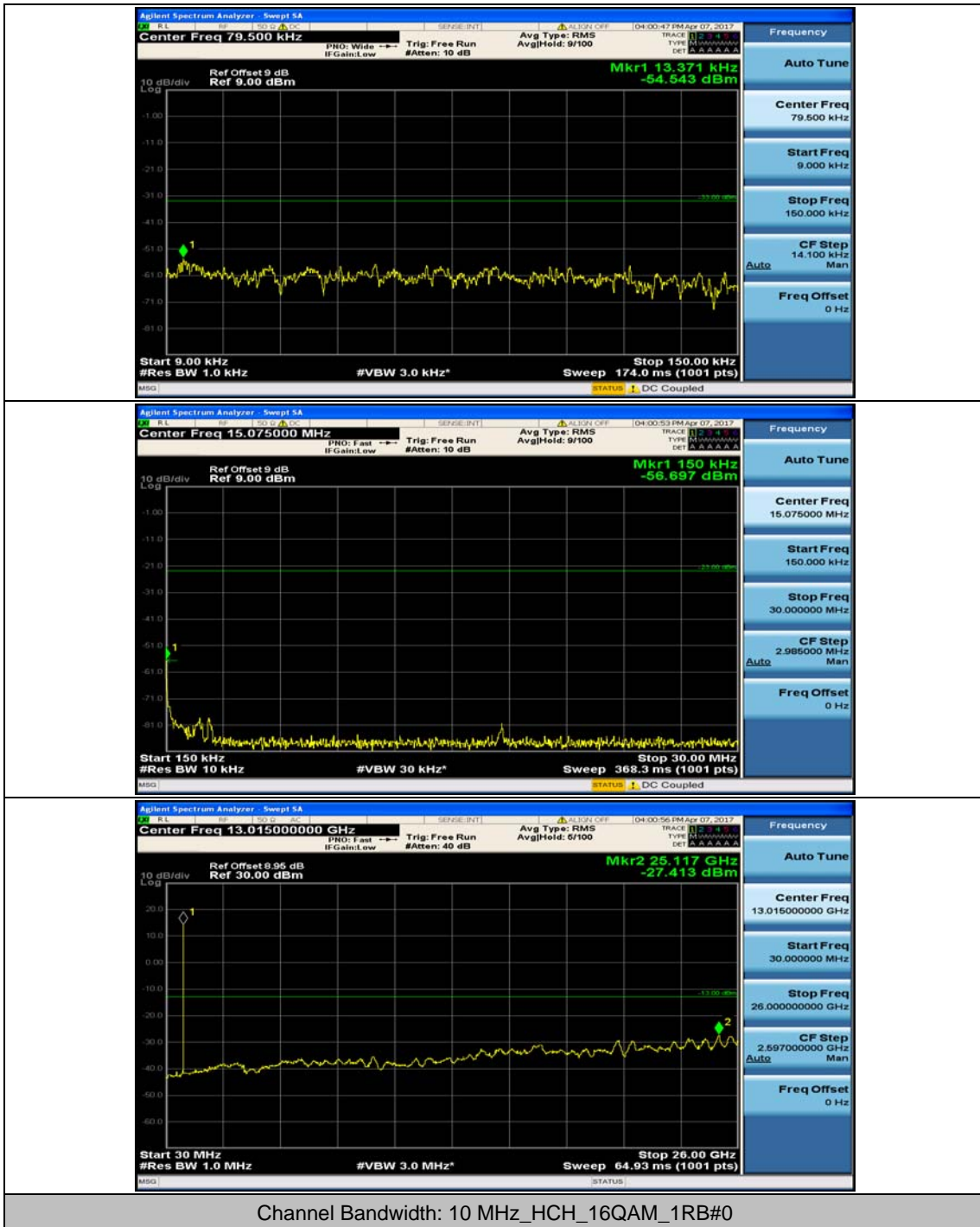


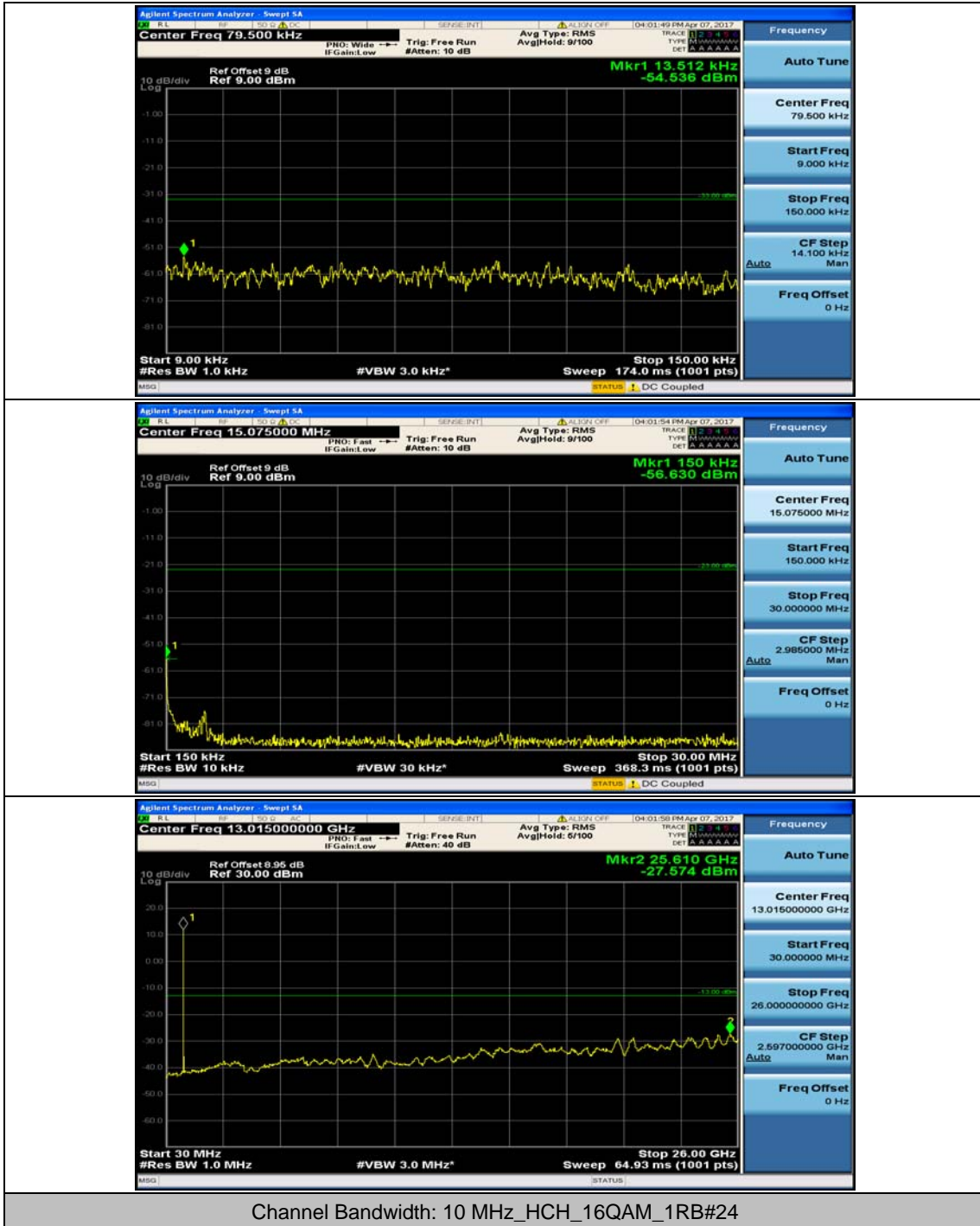


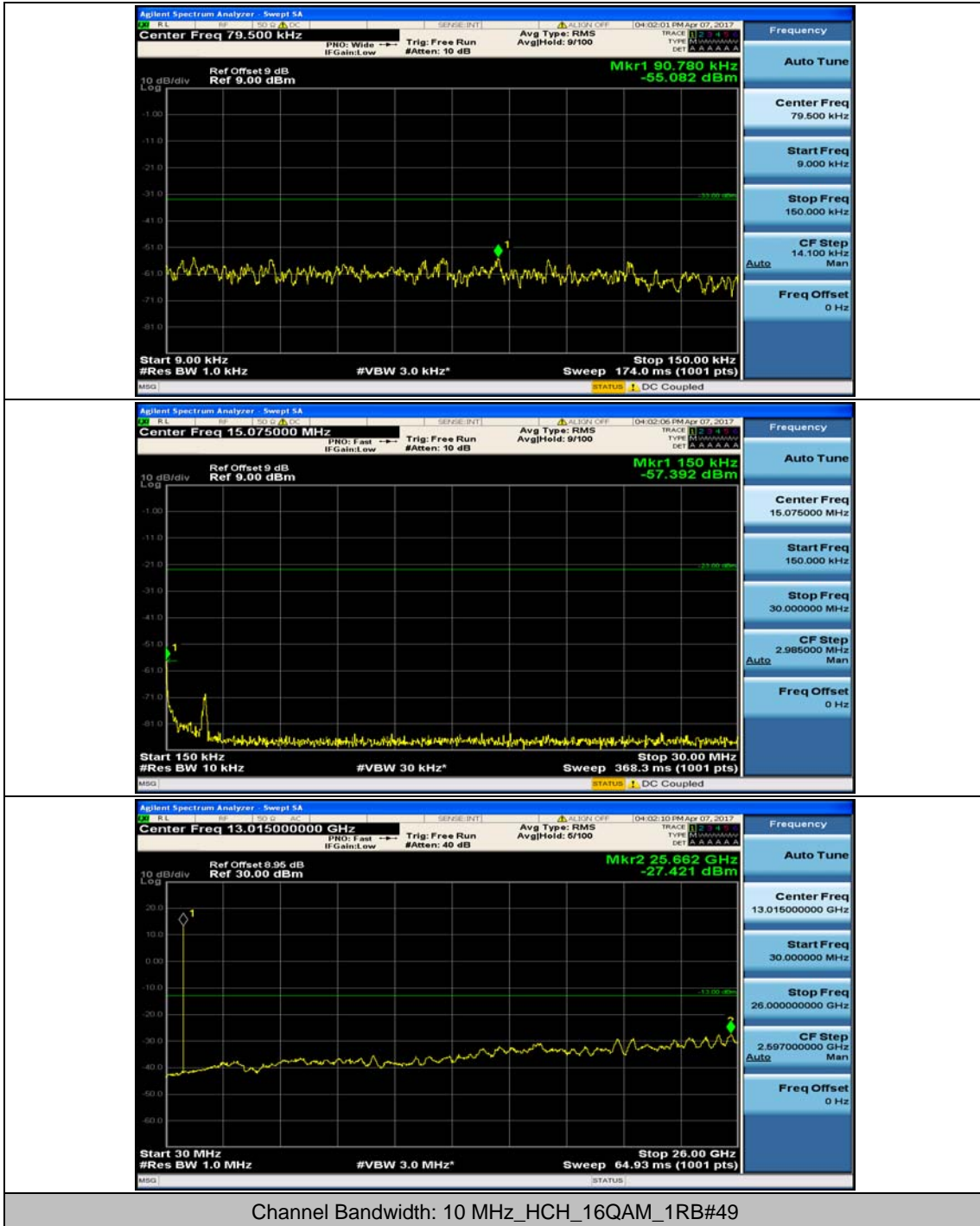


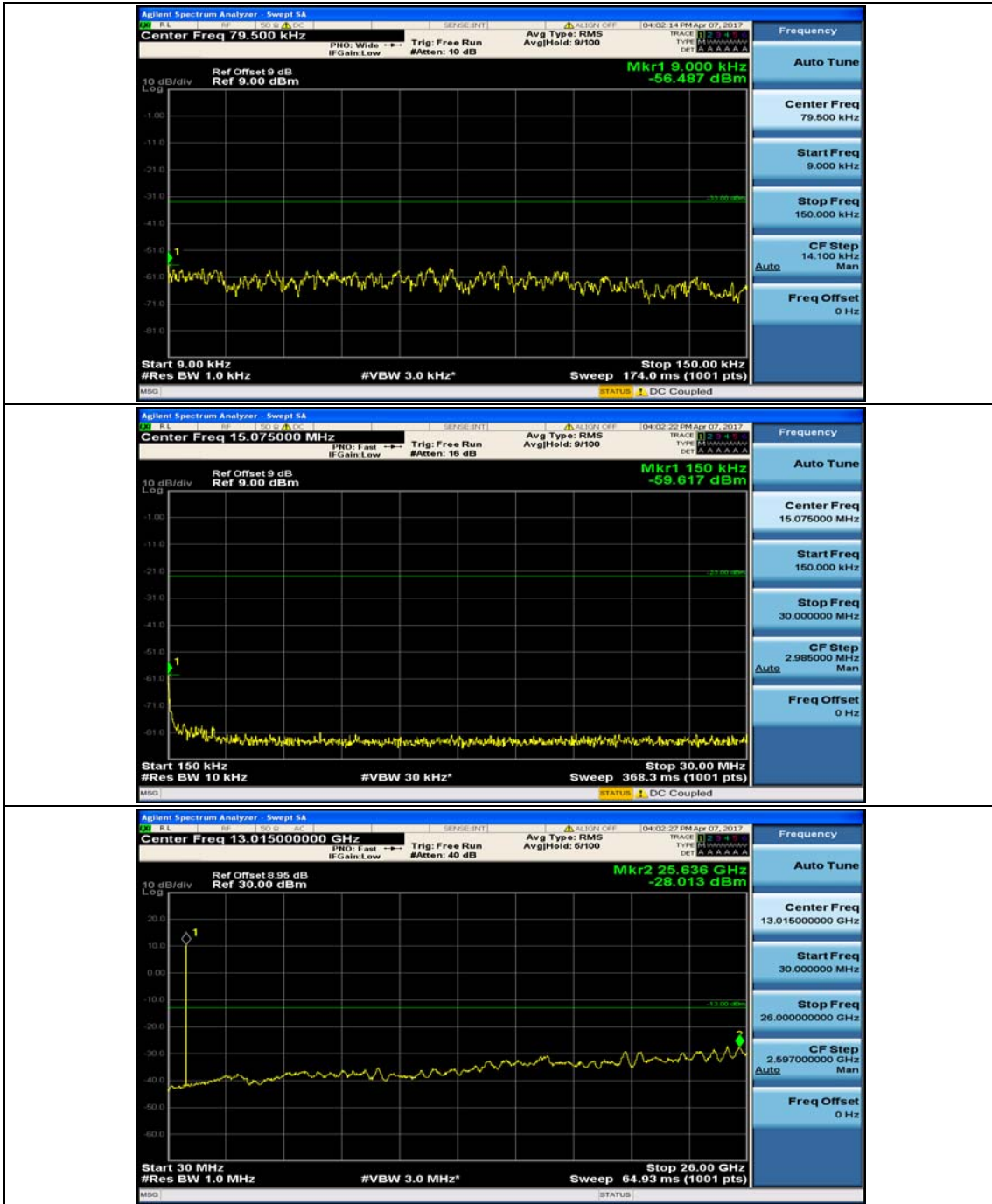












Appendix F: Frequency Stability

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	3.37	0.004086	± 2.5	PASS
		VN	TN	4.39	0.005323	± 2.5	PASS
		VH	TN	1.59	0.001928	± 2.5	PASS
	MCH	VL	TN	2.97	0.003551	± 2.5	PASS
		VN	TN	2.94	0.003515	± 2.5	PASS
		VH	TN	2.23	0.002666	± 2.5	PASS
	HCH	VL	TN	4.83	0.005694	± 2.5	PASS
		VN	TN	1.44	0.001698	± 2.5	PASS
		VH	TN	0.55	0.000648	± 2.5	PASS
16QAM	LCH	VL	TN	3.44	0.004171	± 2.5	PASS
		VN	TN	0.93	0.001128	± 2.5	PASS
		VH	TN	-1.57	-0.001904	± 2.5	PASS
	MCH	VL	TN	2.09	0.002499	± 2.5	PASS
		VN	TN	2.56	0.003060	± 2.5	PASS
		VH	TN	1.89	0.002259	± 2.5	PASS
	HCH	VL	TN	3.22	0.003796	± 2.5	PASS
		VN	TN	-0.59	-0.000696	± 2.5	PASS
		VH	TN	-0.77	-0.000908	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	0.75	0.000909	± 2.5	PASS
		VN	-20	-0.01	-0.000012	± 2.5	PASS
		VN	-10	2.44	0.002959	± 2.5	PASS
		VN	0	0.13	0.000158	± 2.5	PASS
		VN	10	-0.65	-0.000788	± 2.5	PASS
		VN	20	0.19	0.000230	± 2.5	PASS
		VN	30	2.14	0.002595	± 2.5	PASS
		VN	40	-1.41	-0.001710	± 2.5	PASS
	MCH	VN	-30	2.95	0.003527	± 2.5	PASS
		VN	-20	-0.14	-0.000167	± 2.5	PASS

		VN	-10	2.76	0.003299	± 2.5	PASS	
		VN	0	3.73	0.004459	± 2.5	PASS	
		VN	10	4.65	0.005559	± 2.5	PASS	
		VN	20	2.73	0.003264	± 2.5	PASS	
		VN	30	-0.71	-0.000849	± 2.5	PASS	
		VN	40	0.18	0.000215	± 2.5	PASS	
		VN	50	0.47	0.000562	± 2.5	PASS	
	HCH	VN	-30	-0.8	-0.000943	± 2.5	PASS	
		VN	-20	-1.61	-0.001898	± 2.5	PASS	
		VN	-10	-0.33	-0.000389	± 2.5	PASS	
		VN	0	-0.28	-0.000330	± 2.5	PASS	
		VN	10	-0.92	-0.001085	± 2.5	PASS	
		VN	20	3.53	0.004161	± 2.5	PASS	
		VN	30	3.08	0.003631	± 2.5	PASS	
	16QAM	LCH	VN	40	1.55	0.001827	± 2.5	PASS
			VN	50	-1.9	-0.002240	± 2.5	PASS
			VN	-30	-1.89	-0.002292	± 2.5	PASS
			VN	-20	1.21	0.001467	± 2.5	PASS
VN			-10	2.95	0.003577	± 2.5	PASS	
VN			0	-0.93	-0.001128	± 2.5	PASS	
VN			10	4.26	0.005166	± 2.5	PASS	
VN			20	-1.92	-0.002328	± 2.5	PASS	
VN			30	0.08	0.000097	± 2.5	PASS	
MCH		VN	40	2.29	0.002777	± 2.5	PASS	
		VN	50	1.67	0.002025	± 2.5	PASS	
		VN	-30	2.42	0.002853	± 2.5	PASS	
		VN	-20	3.5	0.004126	± 2.5	PASS	
		VN	-10	0.89	0.001049	± 2.5	PASS	
		VN	0	3.72	0.004385	± 2.5	PASS	
		VN	10	-0.71	-0.000837	± 2.5	PASS	
		VN	20	3.63	0.004279	± 2.5	PASS	
		VN	30	4.44	0.005234	± 2.5	PASS	
HCH	VN	40	3.2	0.003772	± 2.5	PASS		
	VN	50	0.96	0.001132	± 2.5	PASS		
	VN	-30	1.38	0.001627	± 2.5	PASS		
	VN	-20	3.71	0.004373	± 2.5	PASS		
	VN	-10	0.94	0.001108	± 2.5	PASS		
	VN	0	0.97	0.001143	± 2.5	PASS		
	VN	10	2.69	0.003171	± 2.5	PASS		
VN	20	3.75	0.004421	± 2.5	PASS			
VN	30	0.01	0.000012	± 2.5	PASS			

		VN	40	4.34	0.005116	± 2.5	PASS
		VN	50	4.38	0.005163	± 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	0.7	0.000848	± 2.5	PASS
		VN	TN	4.58	0.005548	± 2.5	PASS
		VH	TN	-1.3	-0.001575	± 2.5	PASS
	MCH	VL	TN	3.14	0.003754	± 2.5	PASS
		VN	TN	-0.9	-0.001076	± 2.5	PASS
		VH	TN	4.58	0.005475	± 2.5	PASS
	HCH	VL	TN	-0.08	-0.000094	± 2.5	PASS
		VN	TN	4.15	0.004897	± 2.5	PASS
		VH	TN	0.67	0.000791	± 2.5	PASS
16QAM	LCH	VL	TN	2.81	0.003404	± 2.5	PASS
		VN	TN	1.08	0.001308	± 2.5	PASS
		VH	TN	-0.98	-0.001187	± 2.5	PASS
	MCH	VL	TN	0.93	0.001112	± 2.5	PASS
		VN	TN	-1.83	-0.002188	± 2.5	PASS
		VH	TN	0.09	0.000108	± 2.5	PASS
	HCH	VL	TN	-0.02	-0.000024	± 2.5	PASS
		VN	TN	4.86	0.005735	± 2.5	PASS
		VH	TN	-0.31	-0.000366	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	4.45	0.005391	± 2.5	PASS
		VN	-20	3.98	0.004821	± 2.5	PASS
		VN	-10	2.67	0.003234	± 2.5	PASS
		VN	0	4.33	0.005245	± 2.5	PASS
		VN	10	1.05	0.001272	± 2.5	PASS
		VN	20	0.87	0.001054	± 2.5	PASS
		VN	30	0.78	0.000945	± 2.5	PASS
		VN	40	4.17	0.005051	± 2.5	PASS
		VN	50	-0.32	-0.000388	± 2.5	PASS
	MCH	VN	-30	0.72	0.000861	± 2.5	PASS
		VN	-20	0.85	0.001016	± 2.5	PASS
		VN	-10	-1.04	-0.001243	± 2.5	PASS

		VN	0	2.14	0.002558	± 2.5	PASS		
		VN	10	4.68	0.005595	± 2.5	PASS		
		VN	20	-0.21	-0.000251	± 2.5	PASS		
		VN	30	-0.01	-0.000012	± 2.5	PASS		
		VN	40	2.58	0.003084	± 2.5	PASS		
		VN	50	4.56	0.005451	± 2.5	PASS		
	HCH	VN	-30	-1.9	-0.002242	± 2.5	PASS		
		VN	-20	-0.5	-0.000590	± 2.5	PASS		
		VN	-10	-1.2	-0.001416	± 2.5	PASS		
		VN	0	-1.83	-0.002159	± 2.5	PASS		
		VN	10	3.38	0.003988	± 2.5	PASS		
		VN	20	1	0.001180	± 2.5	PASS		
		VN	30	-1.75	-0.002065	± 2.5	PASS		
		VN	40	0.9	0.001062	± 2.5	PASS		
		VN	50	-1.41	-0.001664	± 2.5	PASS		
		16QAM	LCH	VN	-30	3.17	0.003790	± 2.5	PASS
				VN	-20	3.86	0.004614	± 2.5	PASS
				VN	-10	2.11	0.002522	± 2.5	PASS
VN	0			-1.28	-0.001530	± 2.5	PASS		
VN	10			-0.54	-0.000646	± 2.5	PASS		
VN	20			2.66	0.003180	± 2.5	PASS		
VN	30			0.19	0.000227	± 2.5	PASS		
VN	40			3.72	0.004447	± 2.5	PASS		
VN	50			4.15	0.004961	± 2.5	PASS		
MCH	VN		-30	0.05	0.000059	± 2.5	PASS		
	VN		-20	-0.83	-0.000979	± 2.5	PASS		
	VN		-10	-0.14	-0.000165	± 2.5	PASS		
	VN		0	3.6	0.004248	± 2.5	PASS		
	VN		10	-1.27	-0.001499	± 2.5	PASS		
	VN		20	-0.14	-0.000165	± 2.5	PASS		
	VN		30	-1.36	-0.001605	± 2.5	PASS		
	VN		40	-0.45	-0.000531	± 2.5	PASS		
	VN		50	-0.87	-0.001027	± 2.5	PASS		
HCH	VN		-30	-1.67	-0.001971	± 2.5	PASS		
	VN		-20	-1.3	-0.001534	± 2.5	PASS		
	VN		-10	4.11	0.004850	± 2.5	PASS		
	VN		0	-1.62	-0.001912	± 2.5	PASS		
	VN		10	1.41	0.001664	± 2.5	PASS		
	VN		20	0.44	0.000519	± 2.5	PASS		
	VN		30	1.11	0.001310	± 2.5	PASS		
	VN		40	4.75	0.005605	± 2.5	PASS		

		VN	50	3.8	0.004484	± 2.5	PASS
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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	1.71	0.002069	± 2.5	PASS
		VN	TN	1.92	0.002323	± 2.5	PASS
		VH	TN	4.34	0.005251	± 2.5	PASS
	MCH	VL	TN	2.78	0.003323	± 2.5	PASS
		VN	TN	3.25	0.003885	± 2.5	PASS
		VH	TN	4.38	0.005236	± 2.5	PASS
	HCH	VL	TN	5	0.005907	± 2.5	PASS
		VN	TN	-1.69	-0.001996	± 2.5	PASS
		VH	TN	0.84	0.000992	± 2.5	PASS
16QAM	LCH	VL	TN	-0.23	-0.000278	± 2.5	PASS
		VN	TN	0.05	0.000060	± 2.5	PASS
		VH	TN	3.38	0.004090	± 2.5	PASS
	MCH	VL	TN	3.14	0.003754	± 2.5	PASS
		VN	TN	2.94	0.003515	± 2.5	PASS
		VH	TN	4.08	0.004877	± 2.5	PASS
	HCH	VL	TN	5	0.005907	± 2.5	PASS
		VN	TN	1.46	0.001725	± 2.5	PASS
		VH	TN	-0.59	-0.000697	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.46	-0.000557	± 2.5	PASS
		VN	-20	4.09	0.004949	± 2.5	PASS
		VN	-10	1.63	0.001972	± 2.5	PASS
		VN	0	1.18	0.001428	± 2.5	PASS
		VN	10	4.31	0.005215	± 2.5	PASS
		VN	20	3.08	0.003727	± 2.5	PASS
		VN	30	4.18	0.005057	± 2.5	PASS
		VN	40	3.55	0.004295	± 2.5	PASS
		VN	50	-1	-0.001210	± 2.5	PASS
	MCH	VN	-30	3.45	0.004124	± 2.5	PASS
		VN	-20	2.09	0.002499	± 2.5	PASS
		VN	-10	2.87	0.003431	± 2.5	PASS
		VN	0	-0.6	-0.000717	± 2.5	PASS

		VN	10	3.15	0.003766	± 2.5	PASS
		VN	20	3.22	0.003849	± 2.5	PASS
		VN	30	1.96	0.002343	± 2.5	PASS
		VN	40	4.5	0.005380	± 2.5	PASS
		VN	50	-0.07	-0.000084	± 2.5	PASS
	HCH	VN	-30	3.94	0.004654	± 2.5	PASS
		VN	-20	2.01	0.002374	± 2.5	PASS
		VN	-10	-0.36	-0.000425	± 2.5	PASS
		VN	0	0.1	0.000118	± 2.5	PASS
		VN	10	1.38	0.001630	± 2.5	PASS
		VN	20	1.9	0.002245	± 2.5	PASS
		VN	30	1.44	0.001701	± 2.5	PASS
		VN	40	3.61	0.004265	± 2.5	PASS
		VN	50	4.72	0.005576	± 2.5	PASS
		16QAM	LCH	VN	-30	4.63	0.005535
VN	-20			4.53	0.005415	± 2.5	PASS
VN	-10			-0.46	-0.000550	± 2.5	PASS
VN	0			2.29	0.002738	± 2.5	PASS
VN	10			3.41	0.004077	± 2.5	PASS
VN	20			4.78	0.005714	± 2.5	PASS
VN	30			1.26	0.001506	± 2.5	PASS
VN	40			2.94	0.003515	± 2.5	PASS
VN	50			4.94	0.005906	± 2.5	PASS
MCH	VN		-30	-0.86	-0.001016	± 2.5	PASS
	VN		-20	0.44	0.000520	± 2.5	PASS
	VN		-10	-2	-0.002363	± 2.5	PASS
	VN		0	-0.07	-0.000083	± 2.5	PASS
	VN		10	-1.08	-0.001276	± 2.5	PASS
	VN		20	3.49	0.004123	± 2.5	PASS
	VN		30	2.33	0.002753	± 2.5	PASS
	VN		40	3.75	0.004430	± 2.5	PASS
	VN		50	1.6	0.001890	± 2.5	PASS
HCH	VN		-30	4.27	0.005044	± 2.5	PASS
	VN		-20	0.35	0.000413	± 2.5	PASS
	VN		-10	2.25	0.002658	± 2.5	PASS
	VN		0	4.85	0.005729	± 2.5	PASS
	VN		10	2.55	0.003012	± 2.5	PASS
	VN		20	-0.95	-0.001122	± 2.5	PASS
	VN		30	4.94	0.005836	± 2.5	PASS
	VN		40	-1.75	-0.002067	± 2.5	PASS
	VN		50	3.19	0.003768	± 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	2.54	0.003064	± 2.5	PASS
		VN	TN	-0.39	-0.000470	± 2.5	PASS
		VH	TN	3.27	0.003945	± 2.5	PASS
	MCH	VL	TN	2	0.002391	± 2.5	PASS
		VN	TN	4.65	0.005559	± 2.5	PASS
		VH	TN	3.68	0.004399	± 2.5	PASS
	HCH	VL	TN	0.91	0.001078	± 2.5	PASS
		VN	TN	1.54	0.001825	± 2.5	PASS
		VH	TN	-1.31	-0.001552	± 2.5	PASS
16QAM	LCH	VL	TN	2.22	0.002678	± 2.5	PASS
		VN	TN	2.54	0.003064	± 2.5	PASS
		VH	TN	-1.04	-0.001255	± 2.5	PASS
	MCH	VL	TN	-0.58	-0.000693	± 2.5	PASS
		VN	TN	0.71	0.000849	± 2.5	PASS
		VH	TN	0.68	0.000813	± 2.5	PASS
	HCH	VL	TN	0.53	0.000628	± 2.5	PASS
		VN	TN	0.38	0.000450	± 2.5	PASS
		VH	TN	-0.02	-0.000024	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	2.15	0.002593	± 2.5	PASS
		VN	-20	-1.12	-0.001351	± 2.5	PASS
		VN	-10	1.34	0.001616	± 2.5	PASS
		VN	0	2.6	0.003136	± 2.5	PASS
		VN	10	-1.26	-0.001520	± 2.5	PASS
		VN	20	-0.02	-0.000024	± 2.5	PASS
		VN	30	-0.22	-0.000265	± 2.5	PASS
		VN	40	0.62	0.000748	± 2.5	PASS
		VN	50	0.64	0.000772	± 2.5	PASS
	MCH	VN	-30	0.07	0.000084	± 2.5	PASS
		VN	-20	1.82	0.002176	± 2.5	PASS
		VN	-10	3.8	0.004543	± 2.5	PASS
		VN	0	-1.83	-0.002188	± 2.5	PASS
		VN	10	2.56	0.003060	± 2.5	PASS
		VN	20	3.1	0.003706	± 2.5	PASS
VN	30	-1.87	-0.002236	± 2.5	PASS		

		VN	40	4.14	0.004949	± 2.5	PASS
		VN	50	3.27	0.003909	± 2.5	PASS
	HCH	VN	-30	-1.72	-0.002038	± 2.5	PASS
		VN	-20	0.95	0.001126	± 2.5	PASS
		VN	-10	-0.84	-0.000995	± 2.5	PASS
		VN	0	0.88	0.001043	± 2.5	PASS
		VN	10	-0.84	-0.000995	± 2.5	PASS
		VN	20	2.38	0.002820	± 2.5	PASS
		VN	30	4.5	0.005332	± 2.5	PASS
		VN	40	-1.06	-0.001256	± 2.5	PASS
		VN	50	1.7	0.002014	± 2.5	PASS
QPSK		LCH	VN	-30	1.82	0.002176	± 2.5
	VN		-20	1.44	0.001721	± 2.5	PASS
	VN		-10	1.7	0.002032	± 2.5	PASS
	VN		0	2.49	0.002977	± 2.5	PASS
	VN		10	4.72	0.005643	± 2.5	PASS
	VN		20	3.96	0.004734	± 2.5	PASS
	VN		30	0.44	0.000526	± 2.5	PASS
	VN		40	-0.92	-0.001100	± 2.5	PASS
	VN		50	1.27	0.001518	± 2.5	PASS
	MCH	VN	-30	0.66	0.000782	± 2.5	PASS
		VN	-20	0.79	0.000936	± 2.5	PASS
		VN	-10	3.72	0.004408	± 2.5	PASS
		VN	0	3.48	0.004123	± 2.5	PASS
		VN	10	0.69	0.000818	± 2.5	PASS
		VN	20	0.93	0.001102	± 2.5	PASS
		VN	30	2.03	0.002405	± 2.5	PASS
		VN	40	4.22	0.005000	± 2.5	PASS
		VN	50	0.74	0.000877	± 2.5	PASS
	HCH	VN	-30	2.72	0.003223	± 2.5	PASS
		VN	-20	1.37	0.001623	± 2.5	PASS
		VN	-10	3.19	0.003780	± 2.5	PASS
		VN	0	4.59	0.005438	± 2.5	PASS
		VN	10	1.35	0.001600	± 2.5	PASS
		VN	20	-1.16	-0.001374	± 2.5	PASS
		VN	30	-0.45	-0.000533	± 2.5	PASS
		VN	40	0.66	0.000782	± 2.5	PASS
		VN	50	1.42	0.001682	± 2.5	PASS