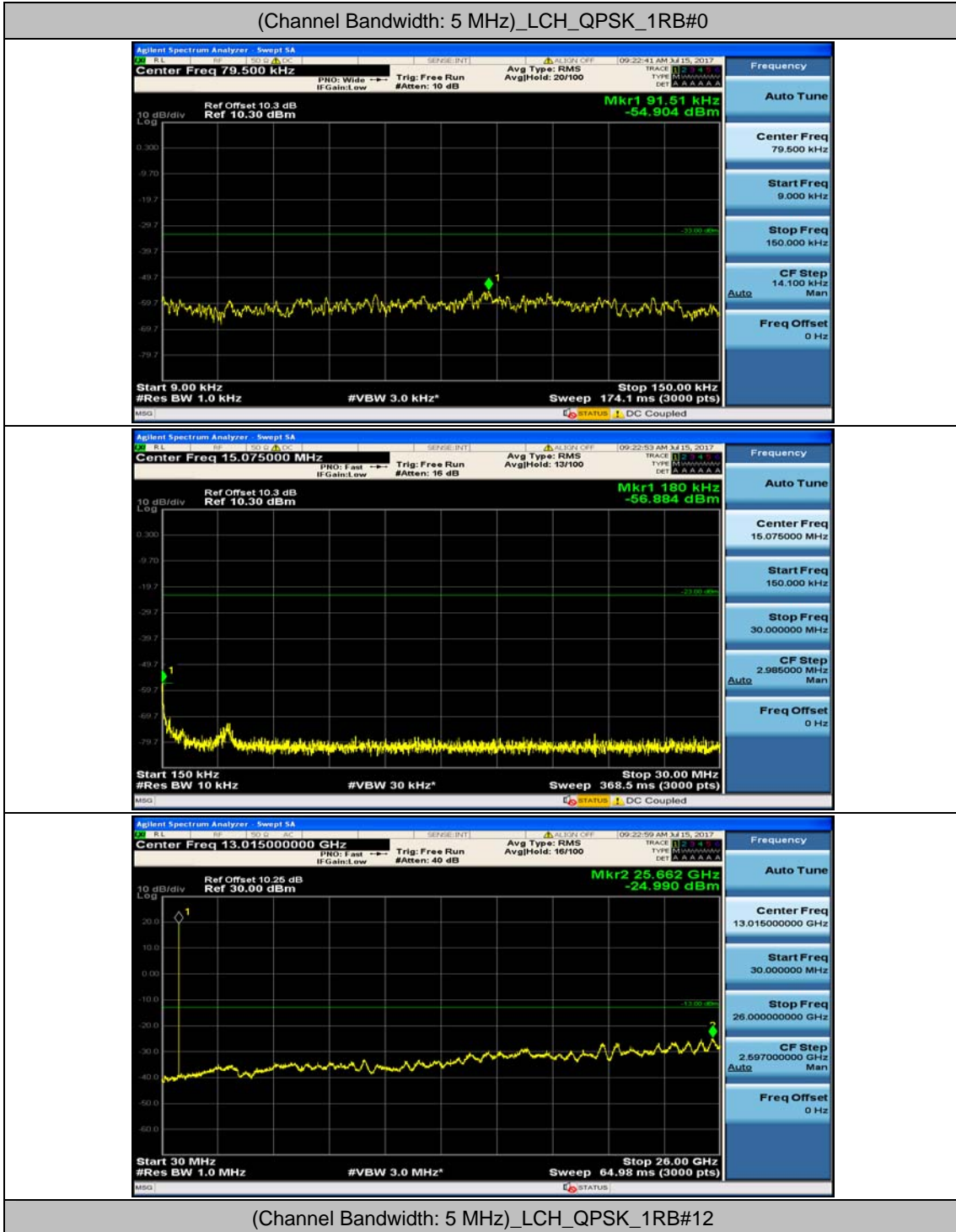
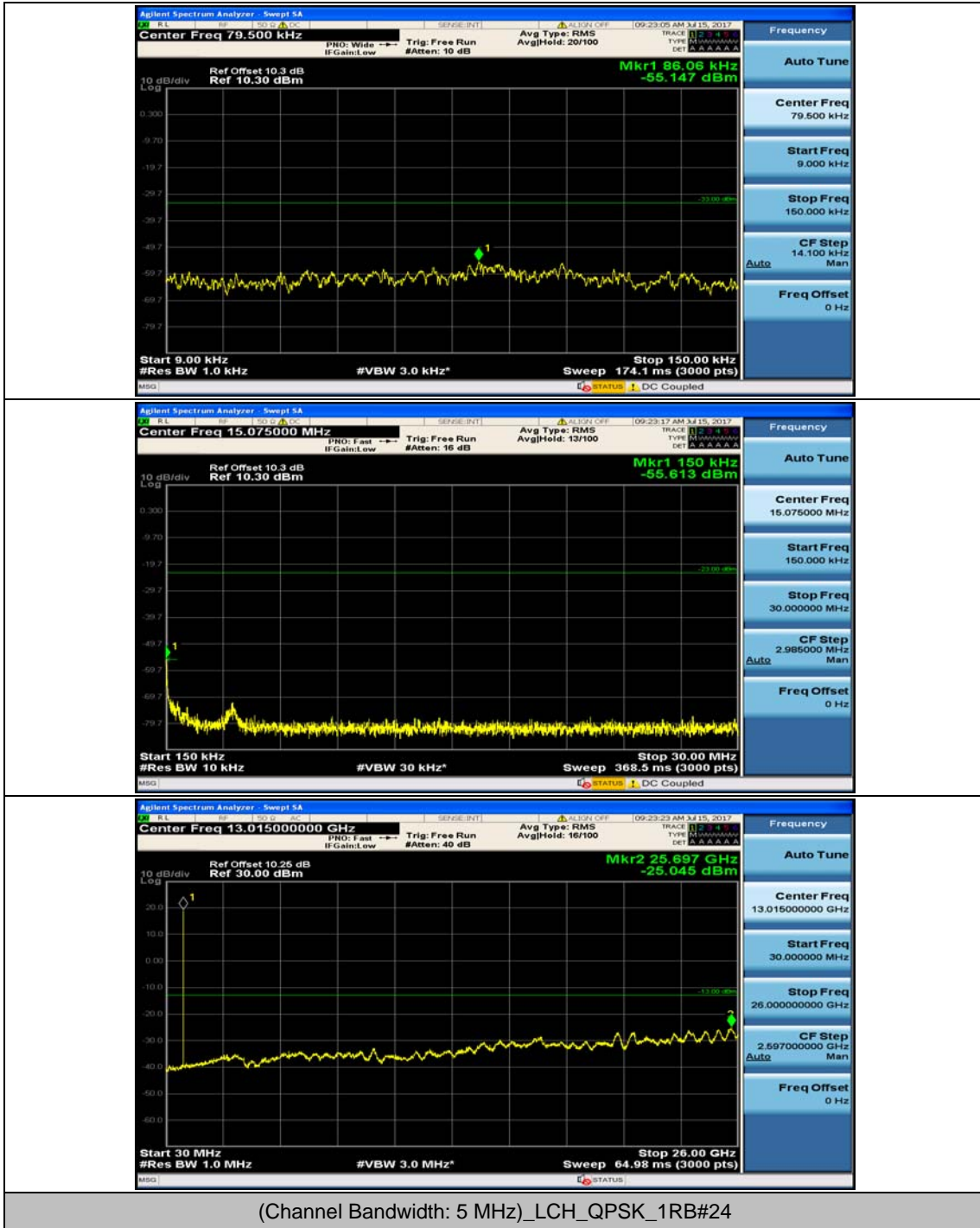
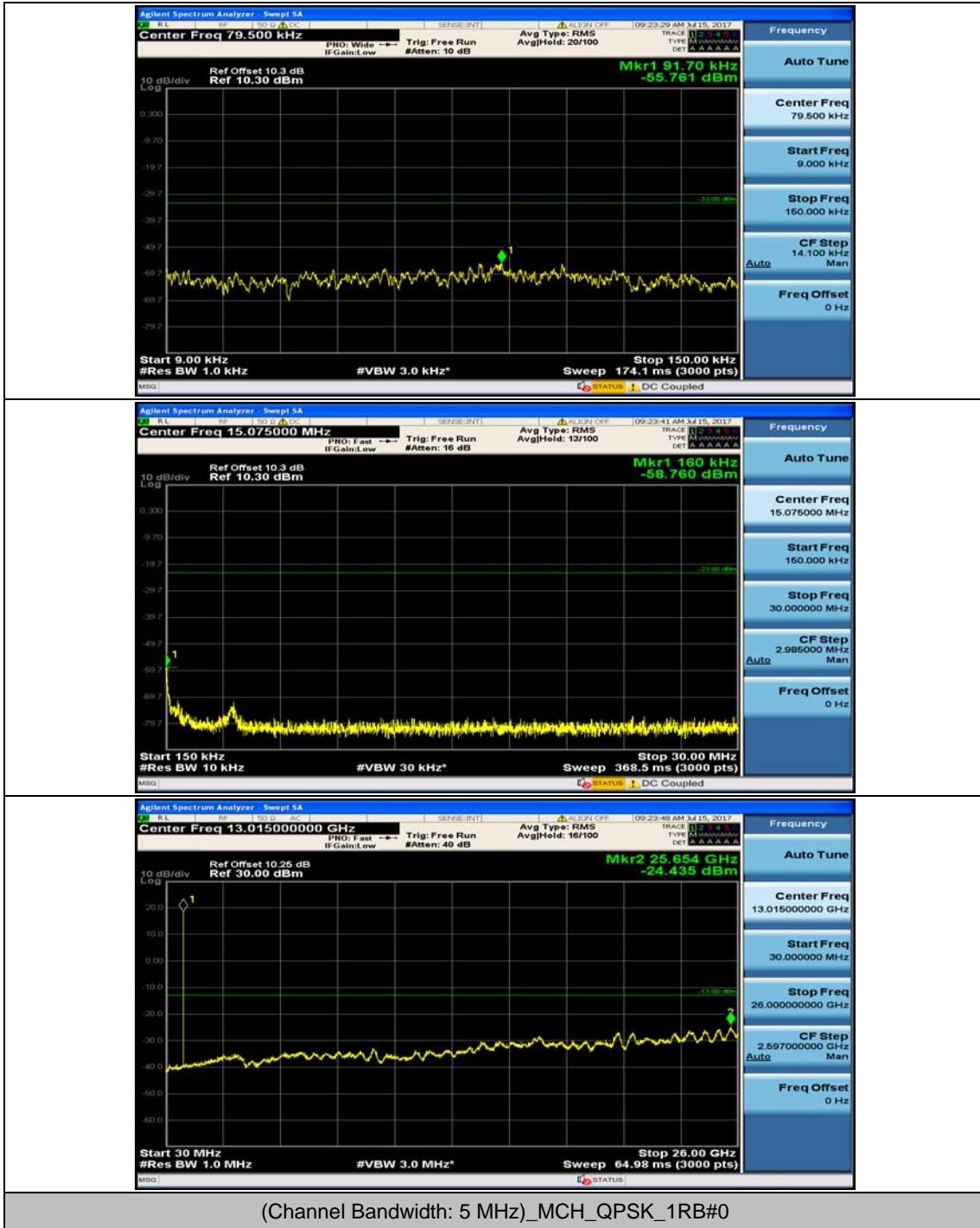
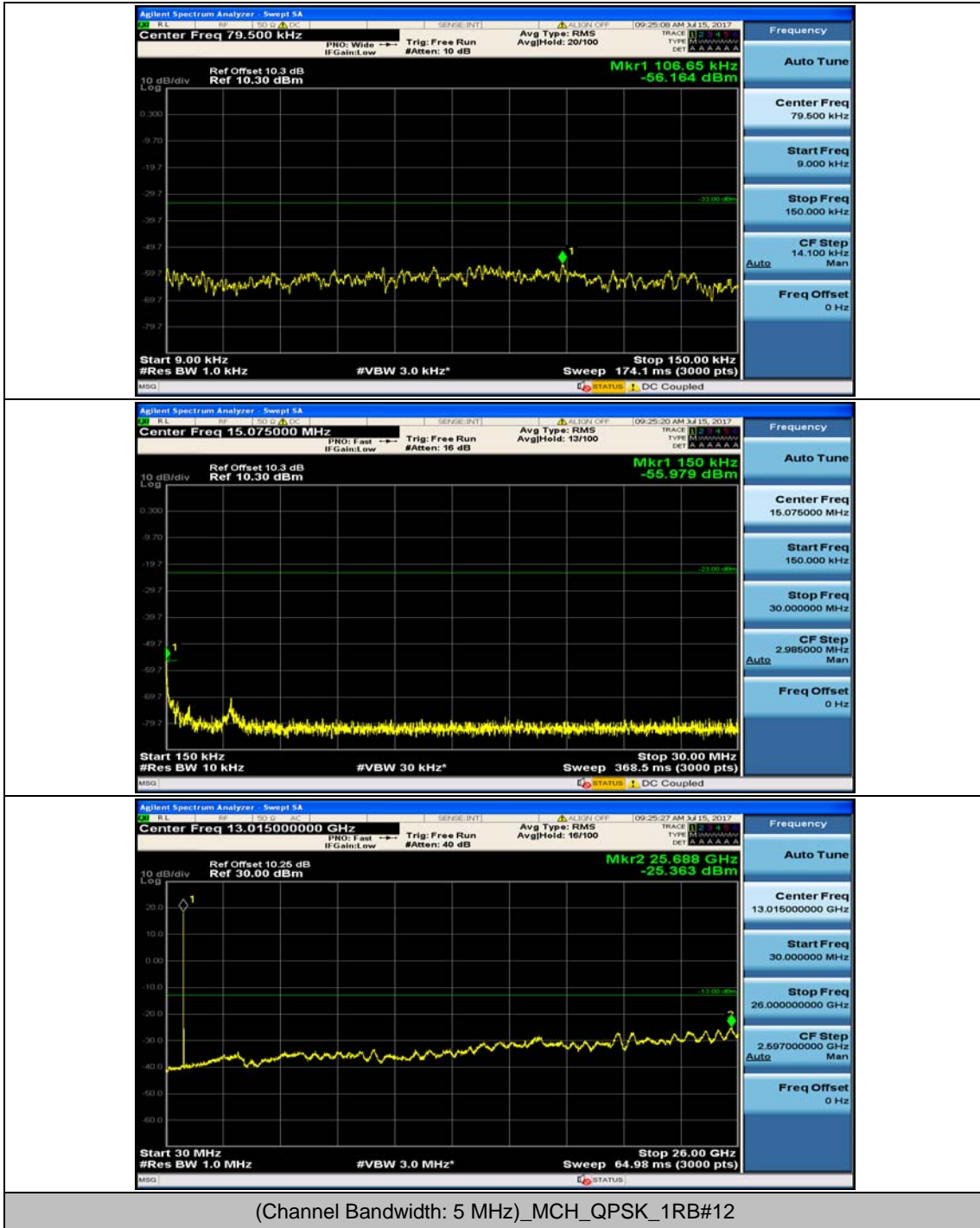


### Channel Bandwidth: 5 MHz

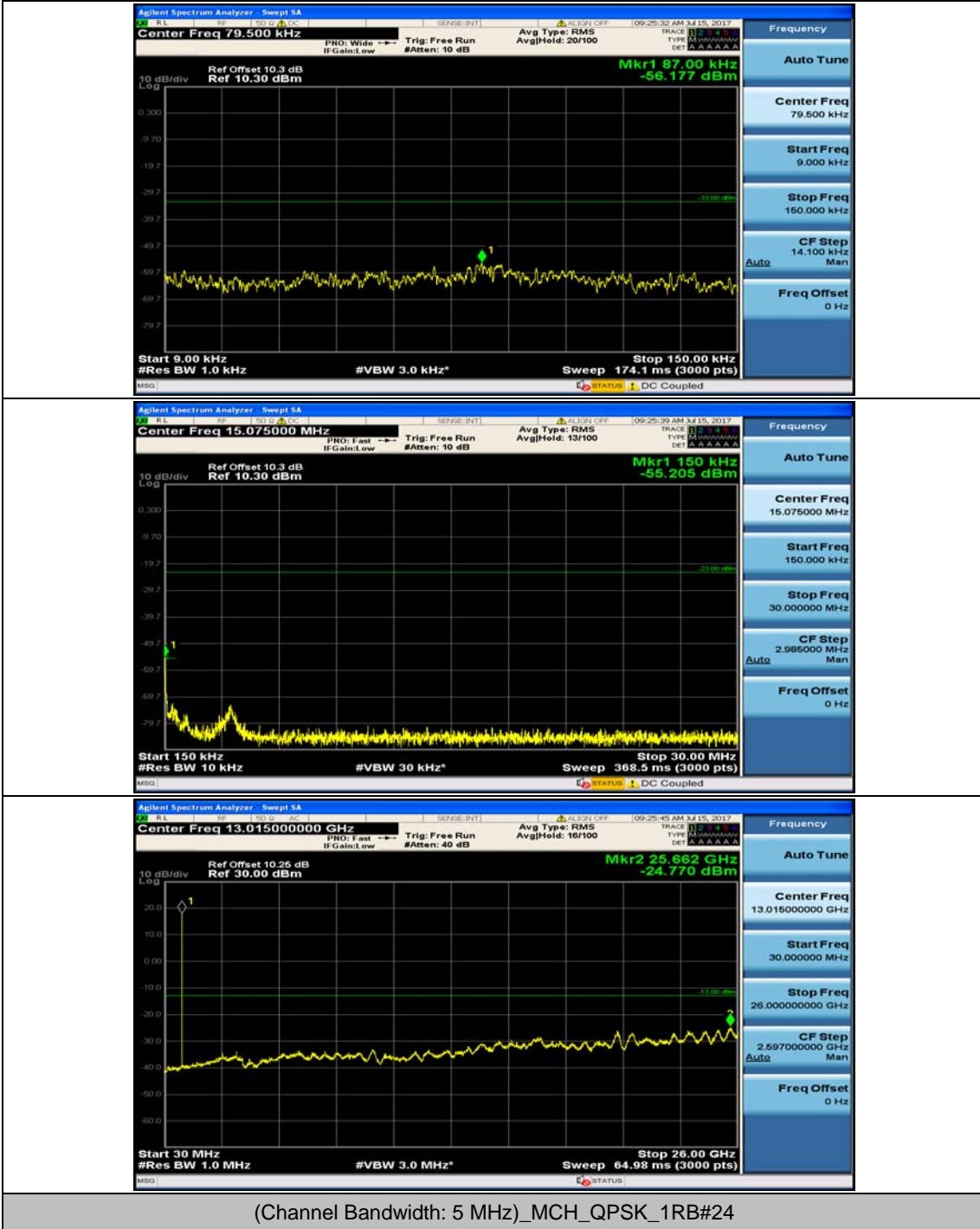


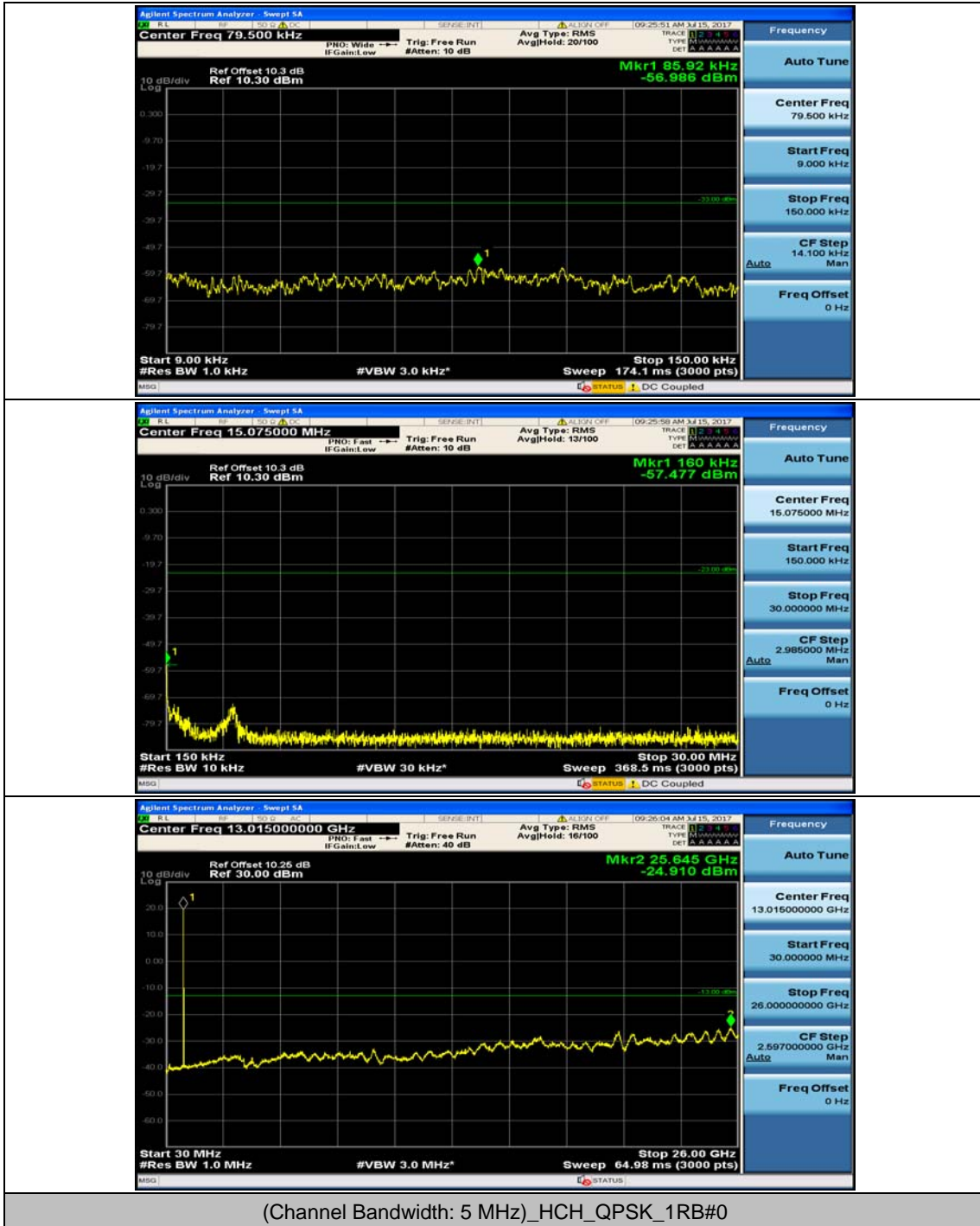


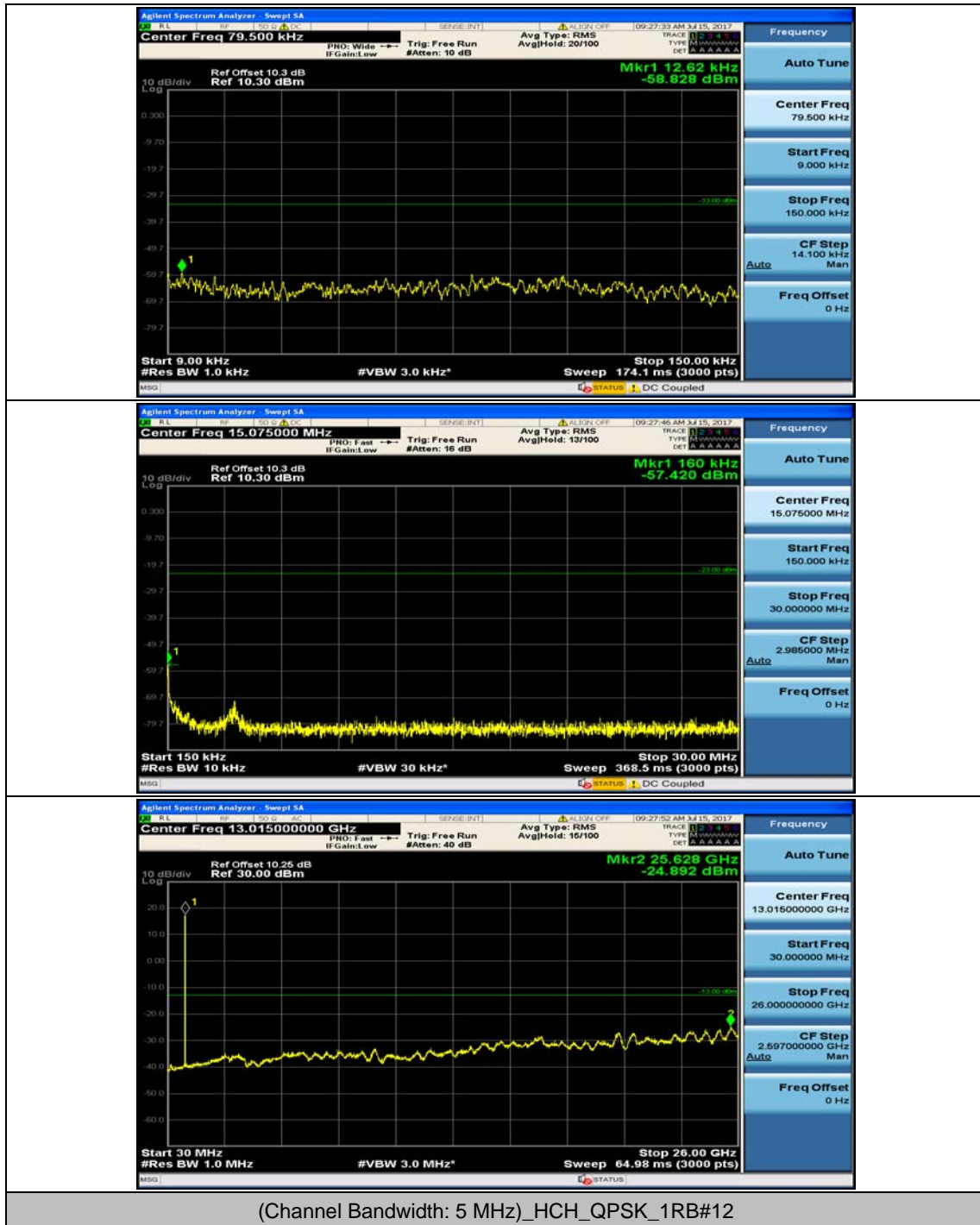


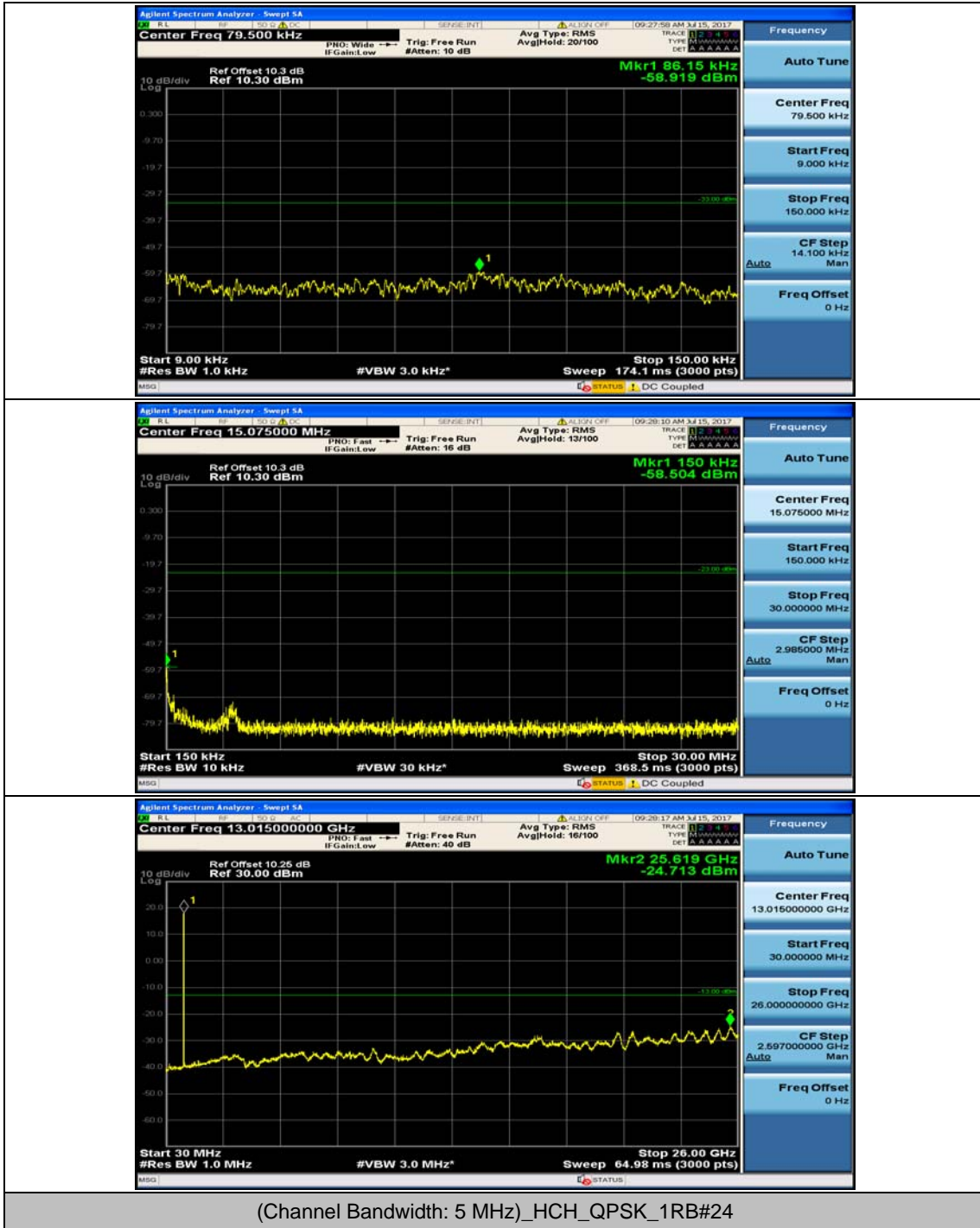


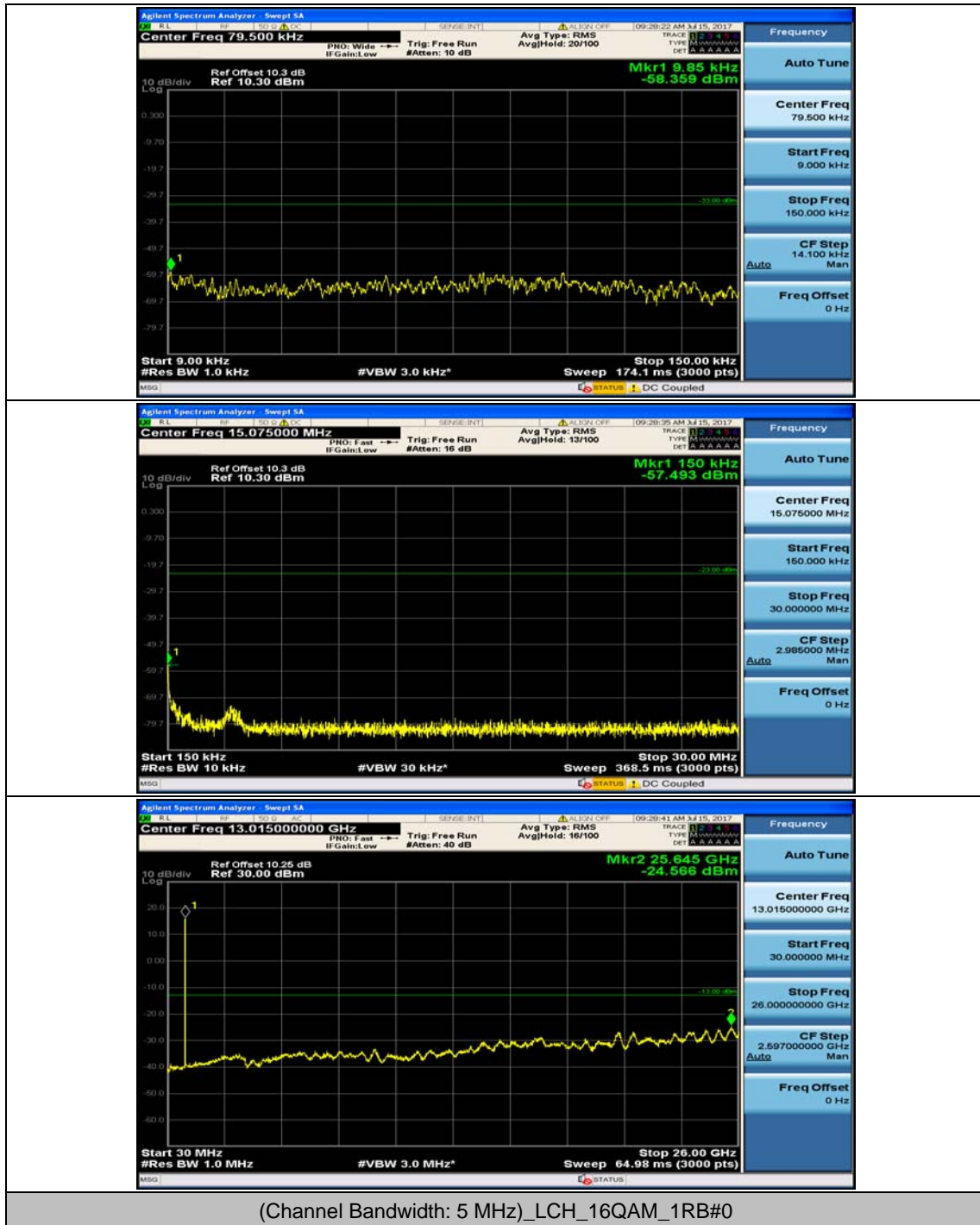


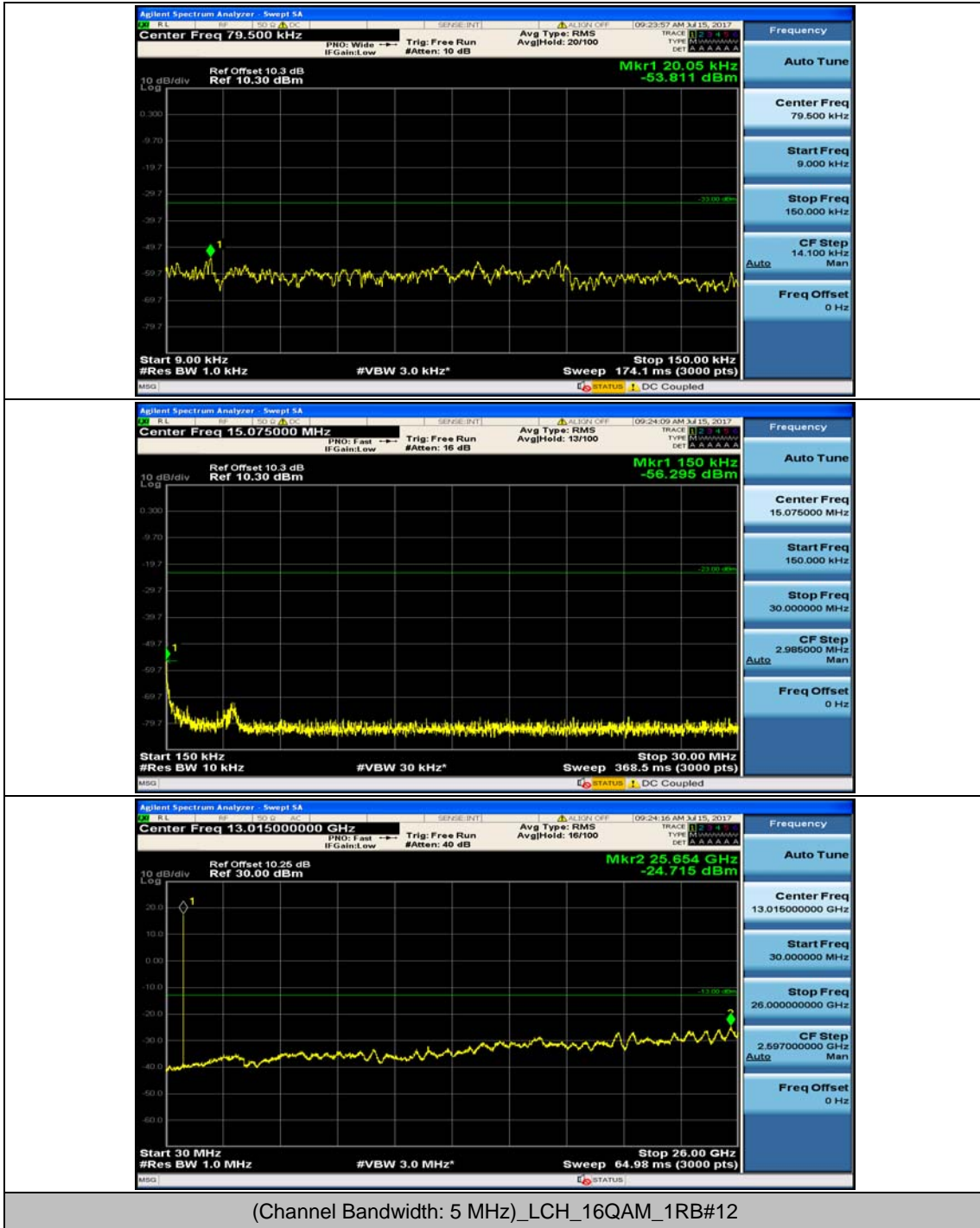


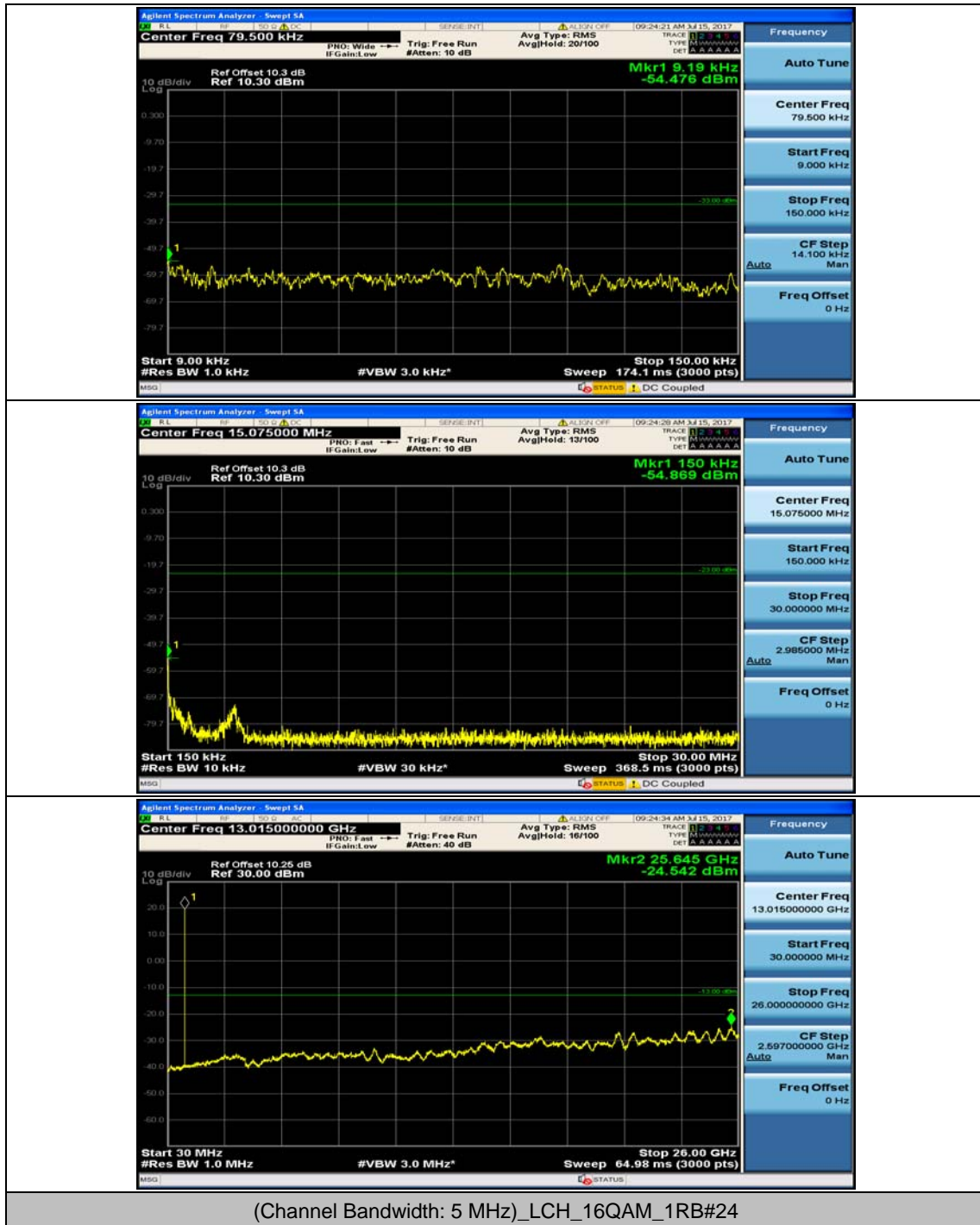


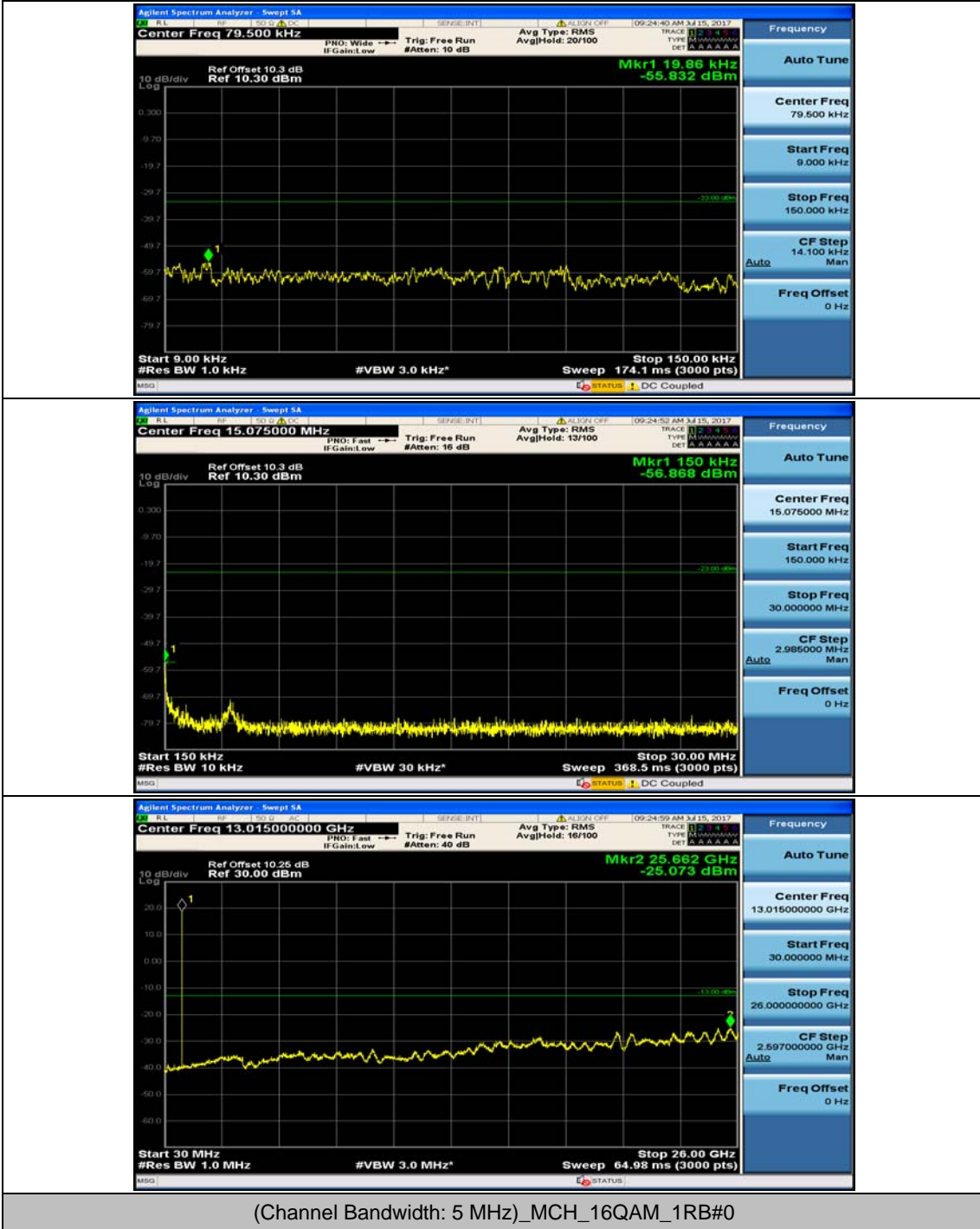




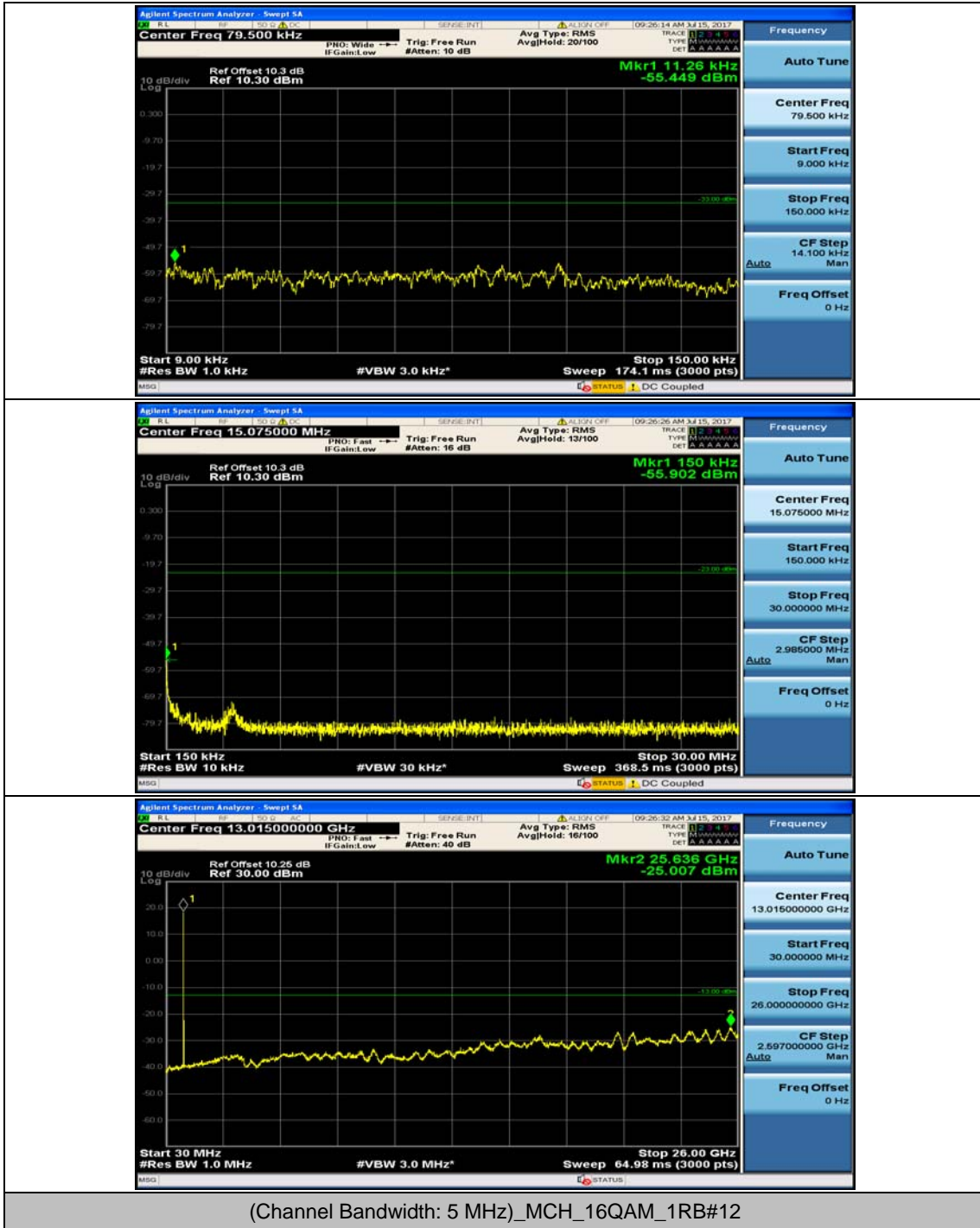


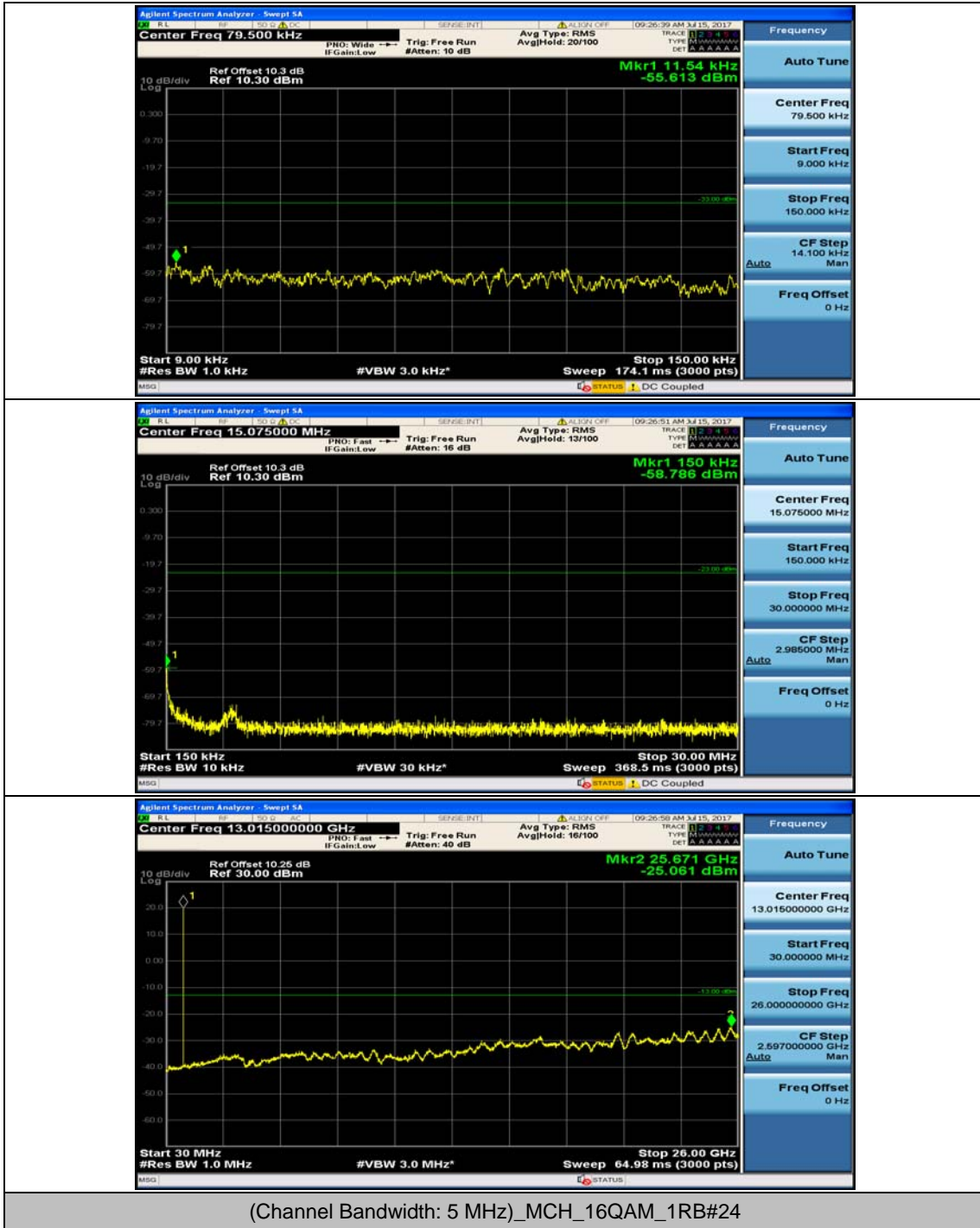


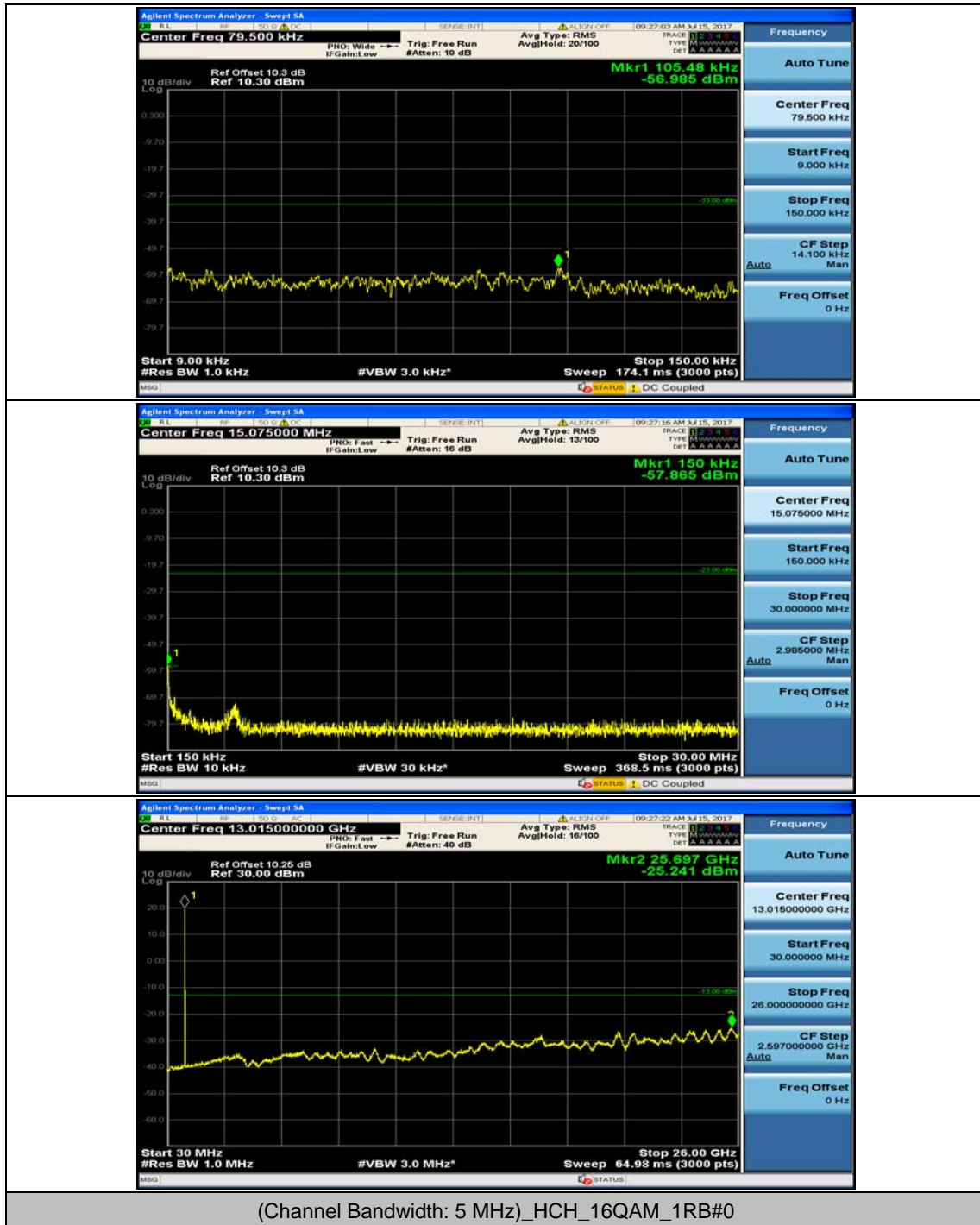


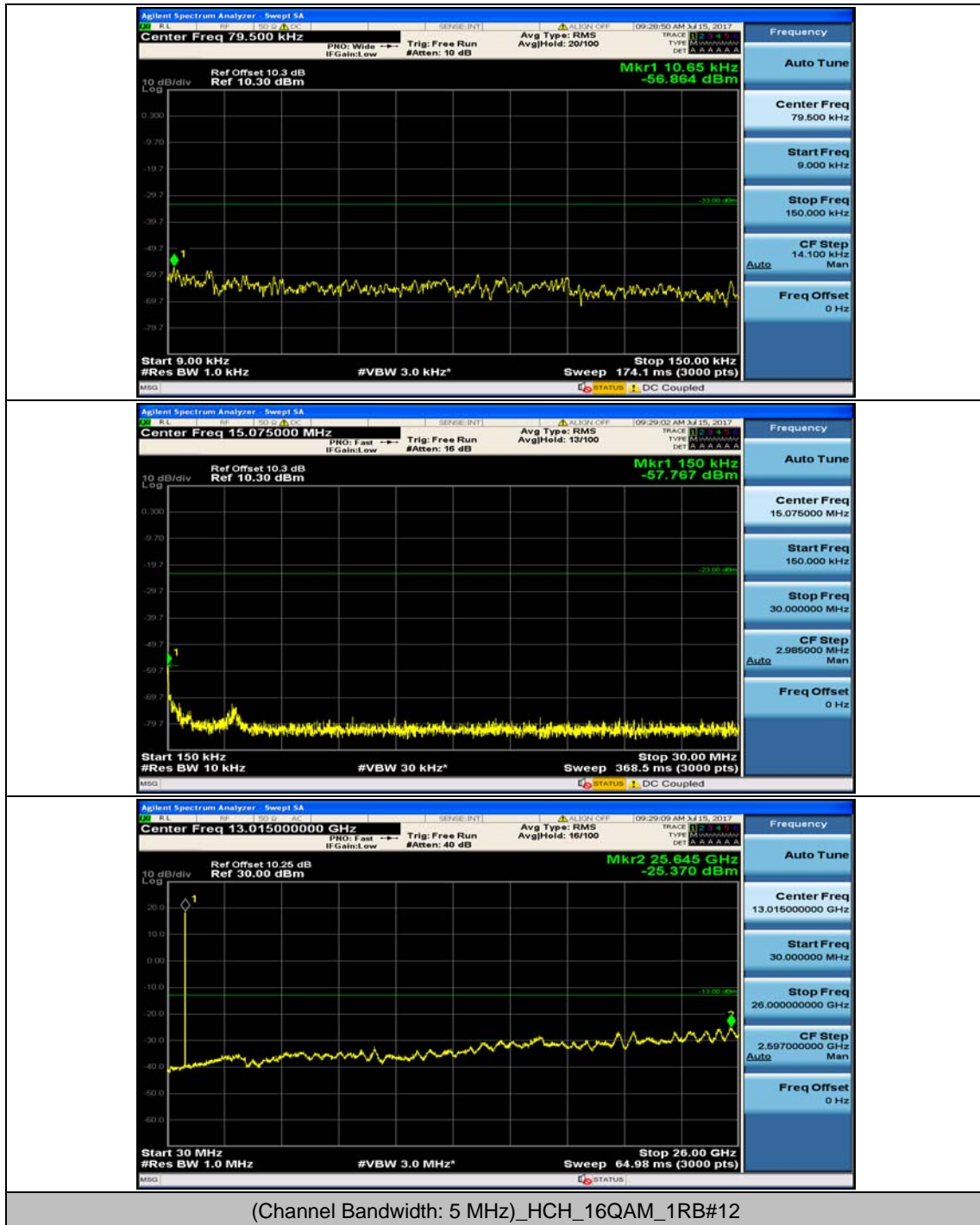


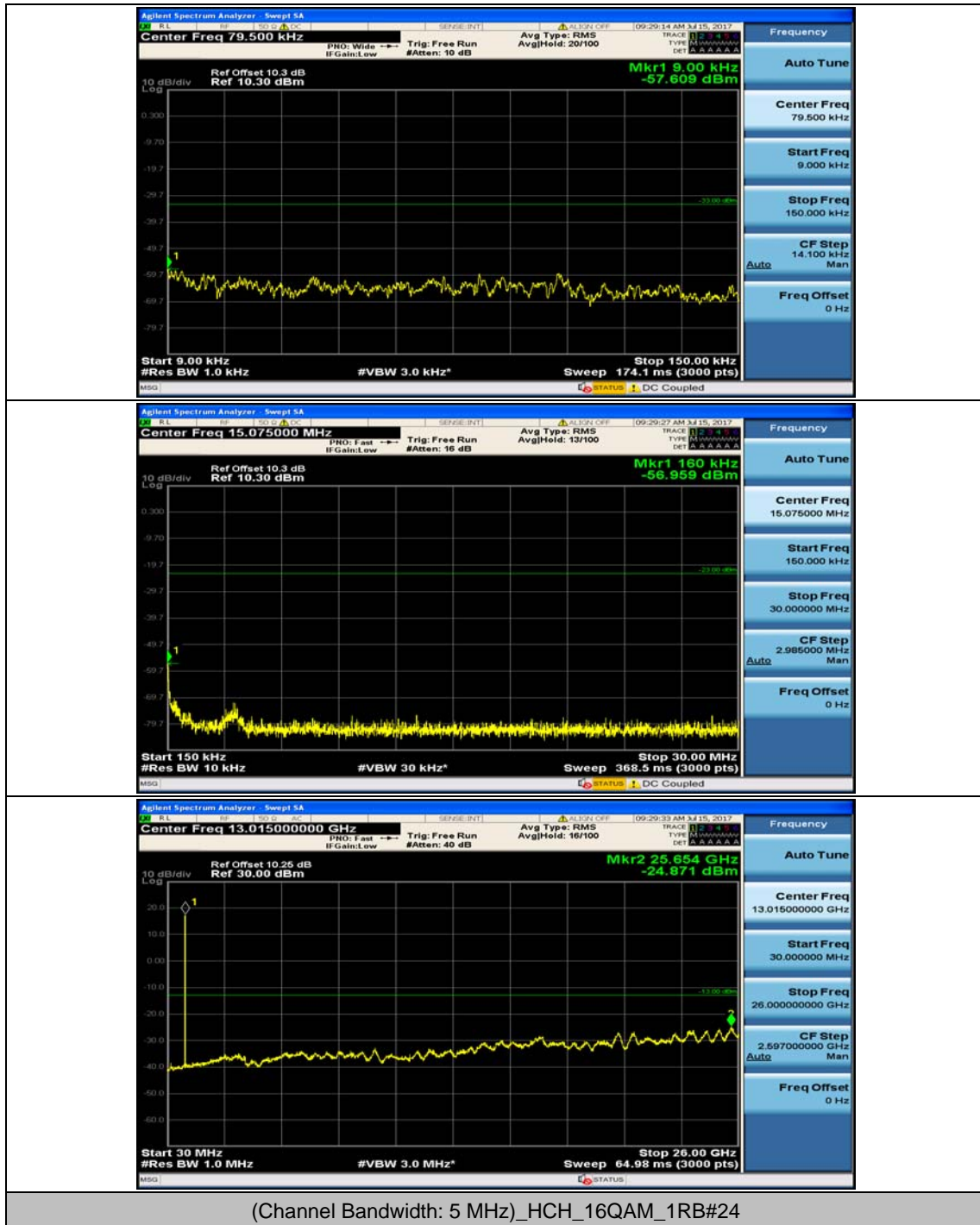


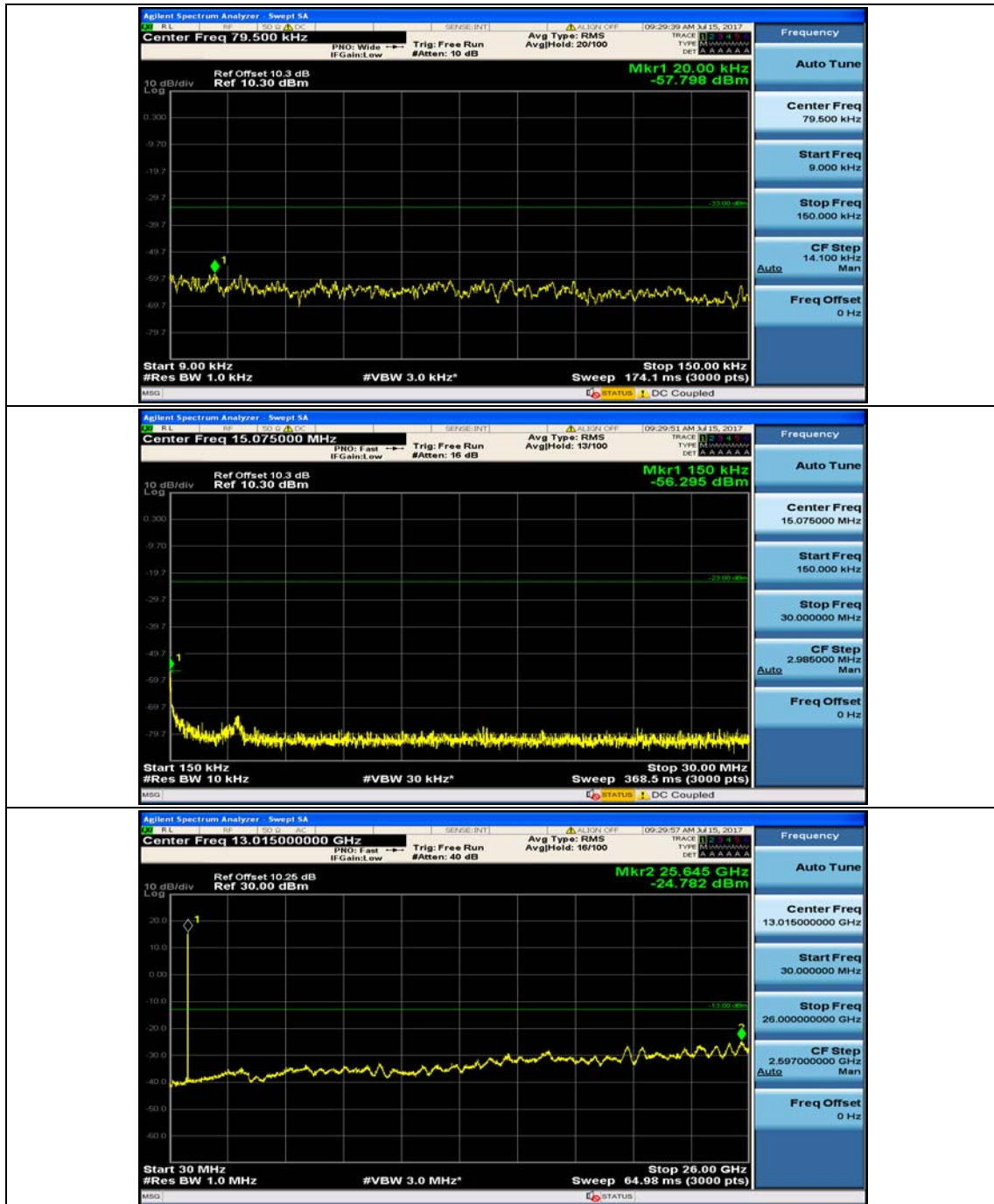




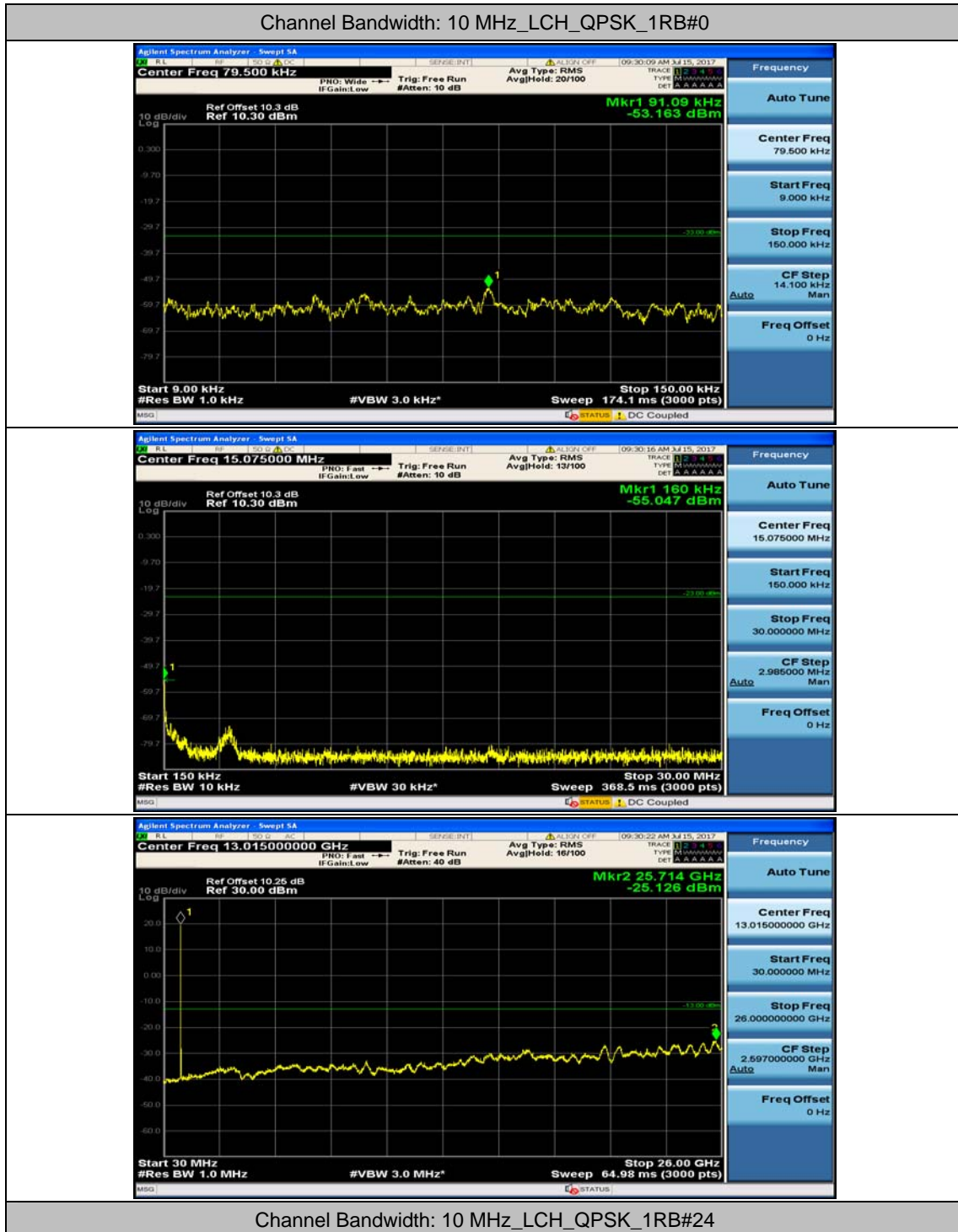


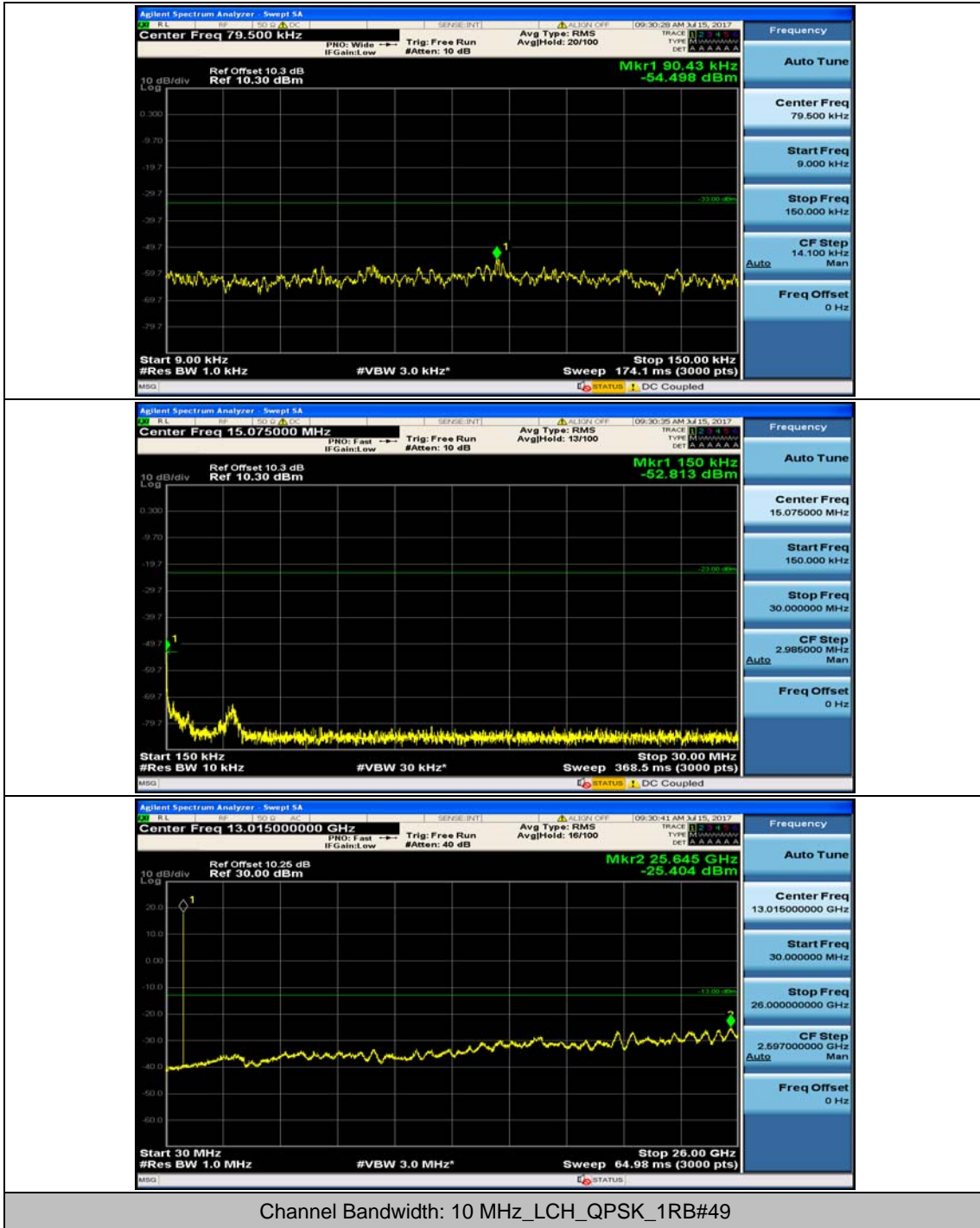




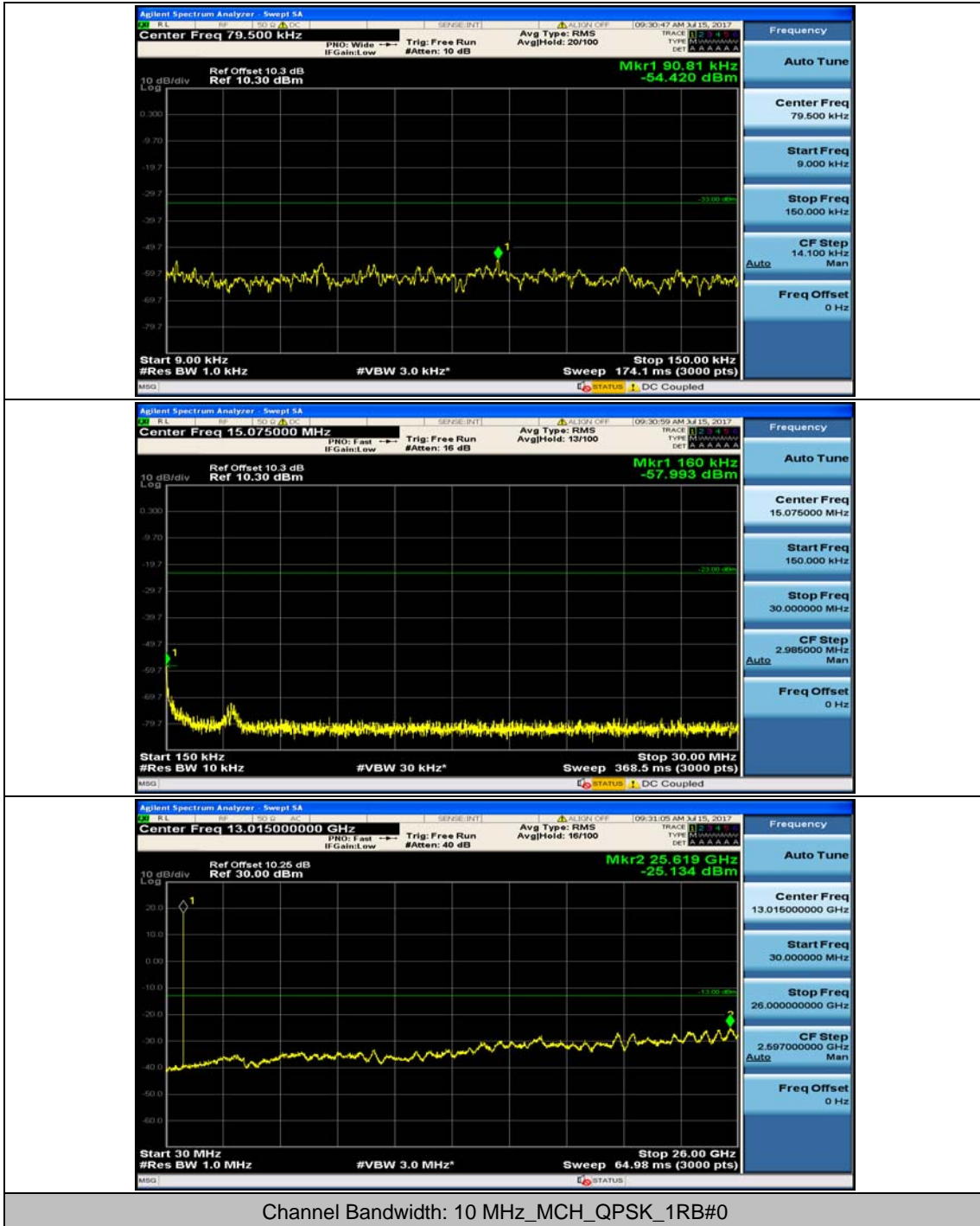


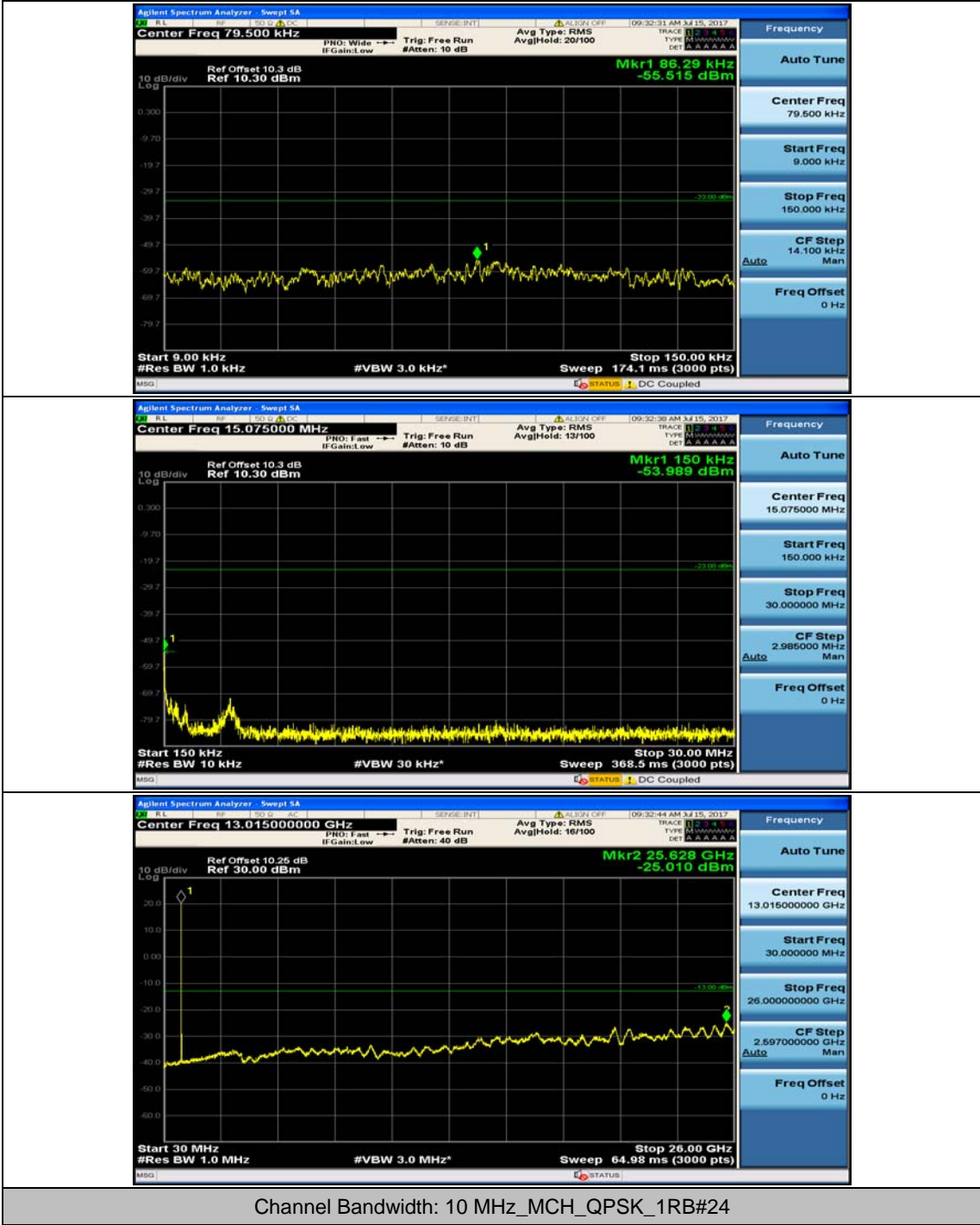
### Channel Bandwidth: 10 MHz

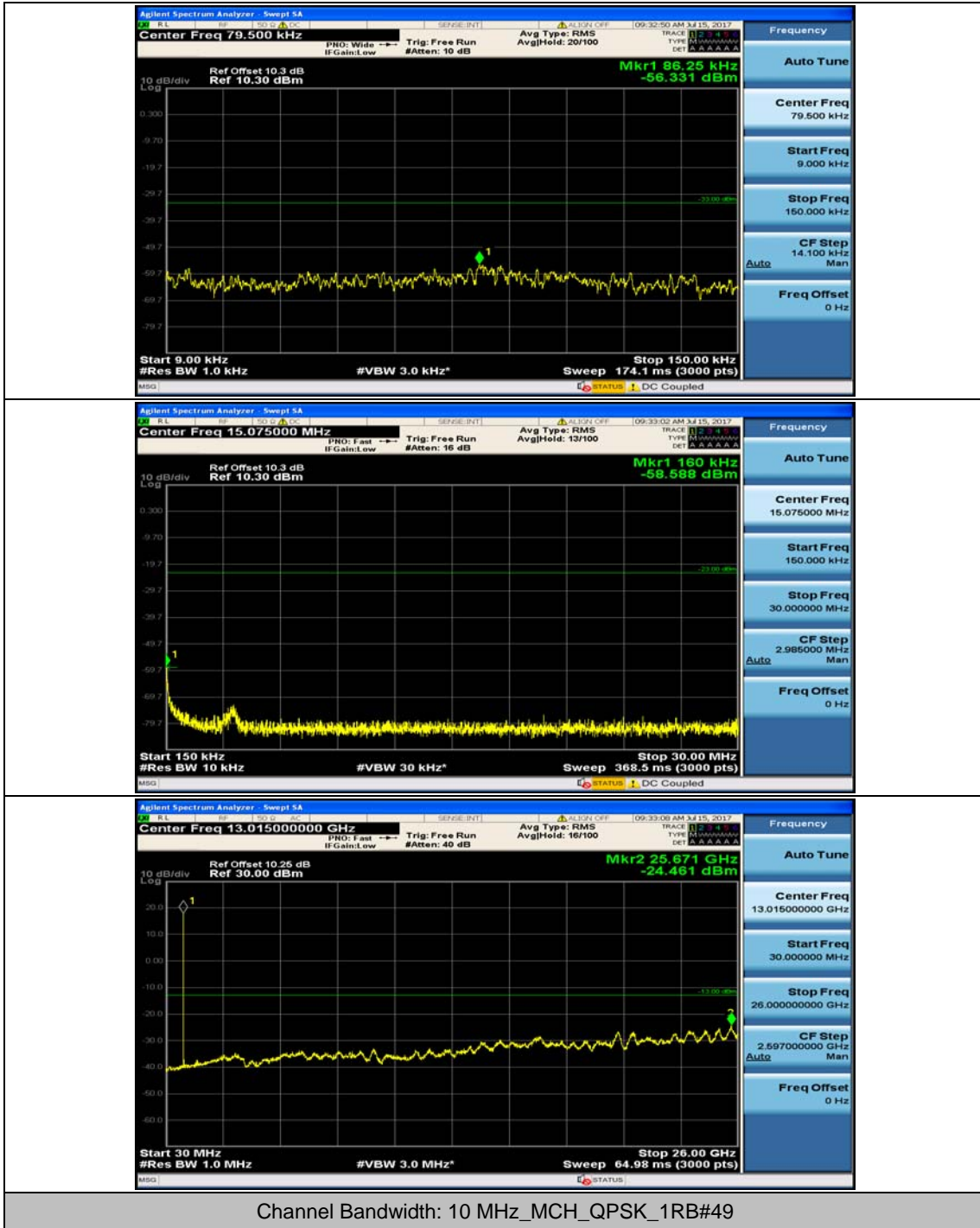


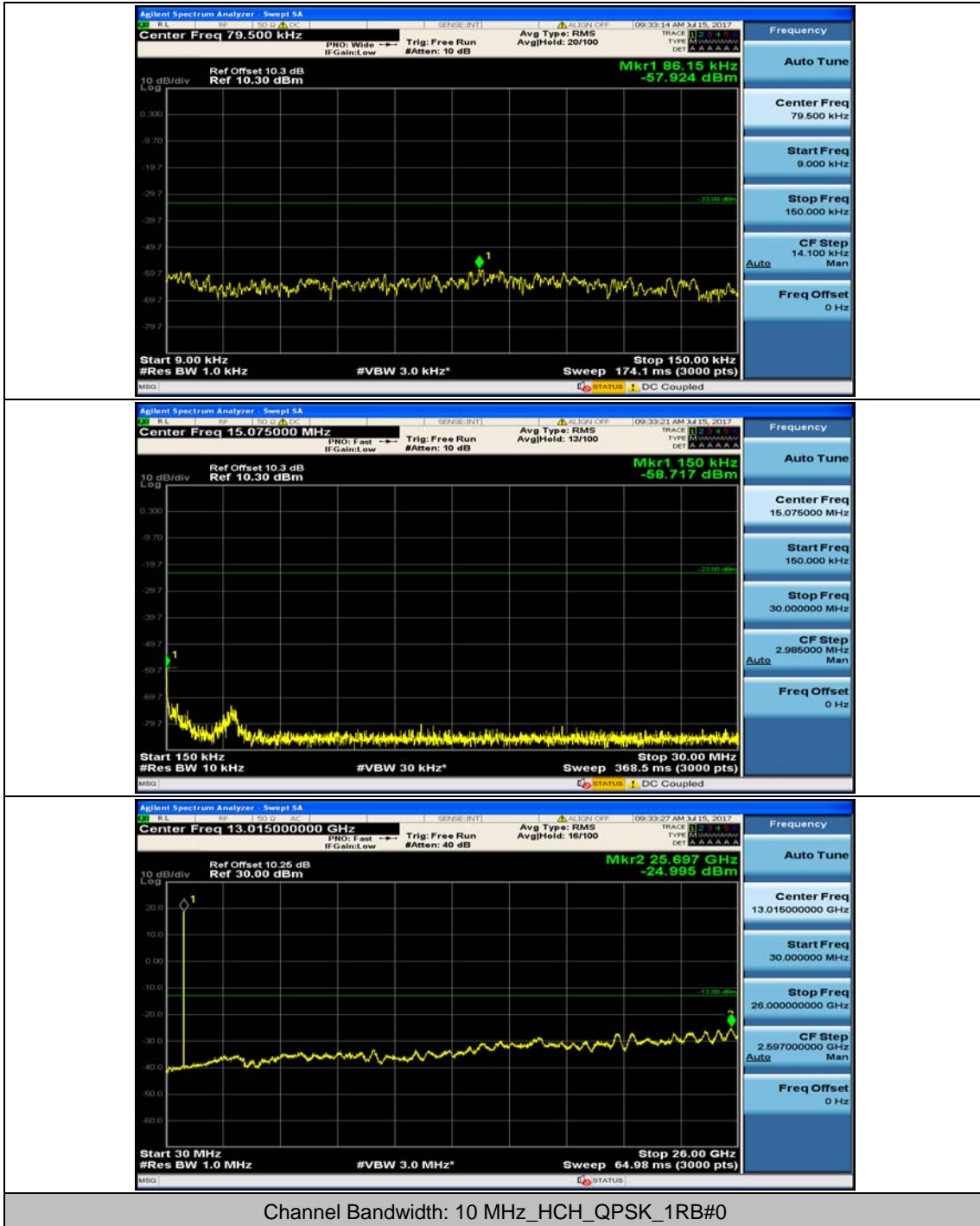


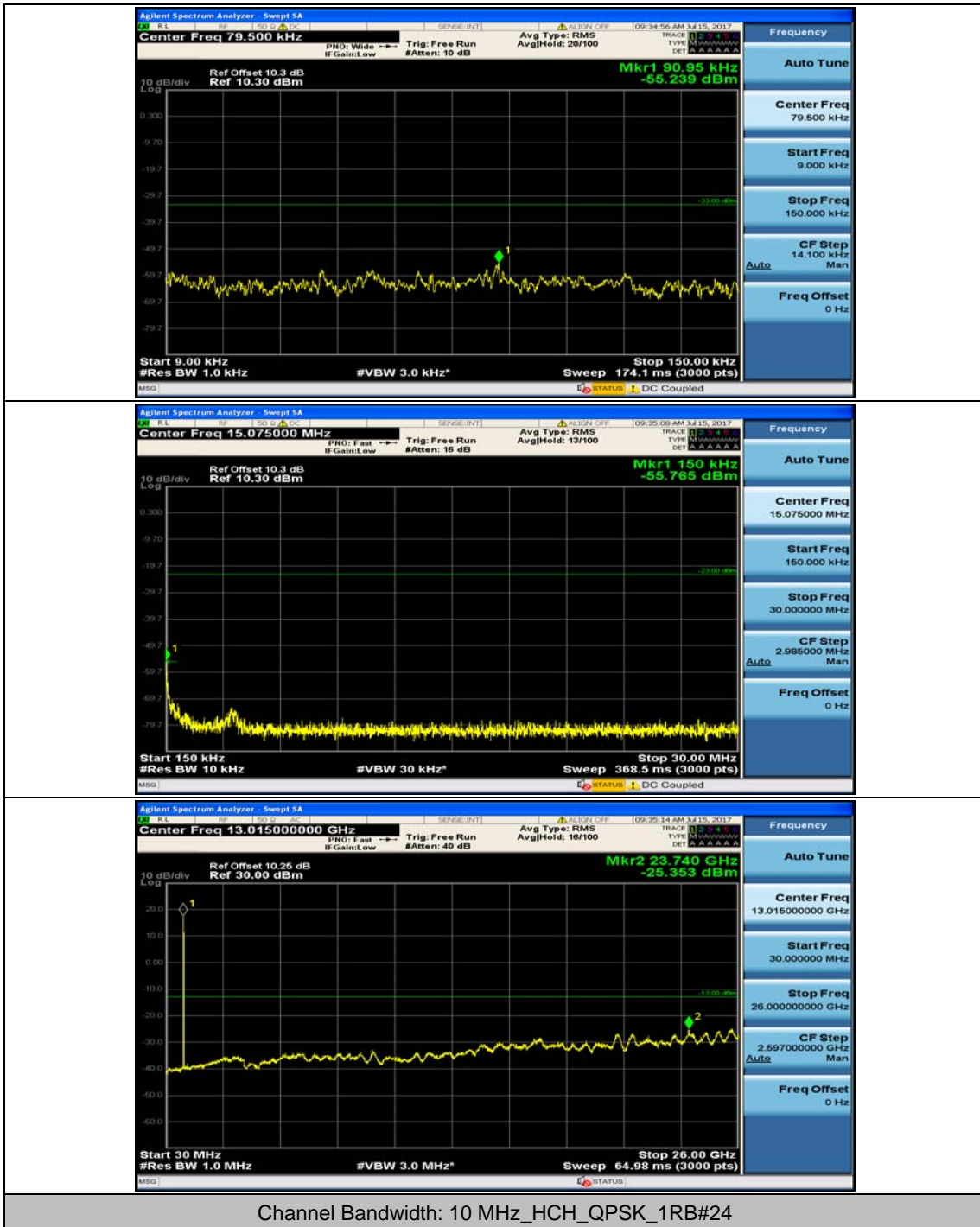


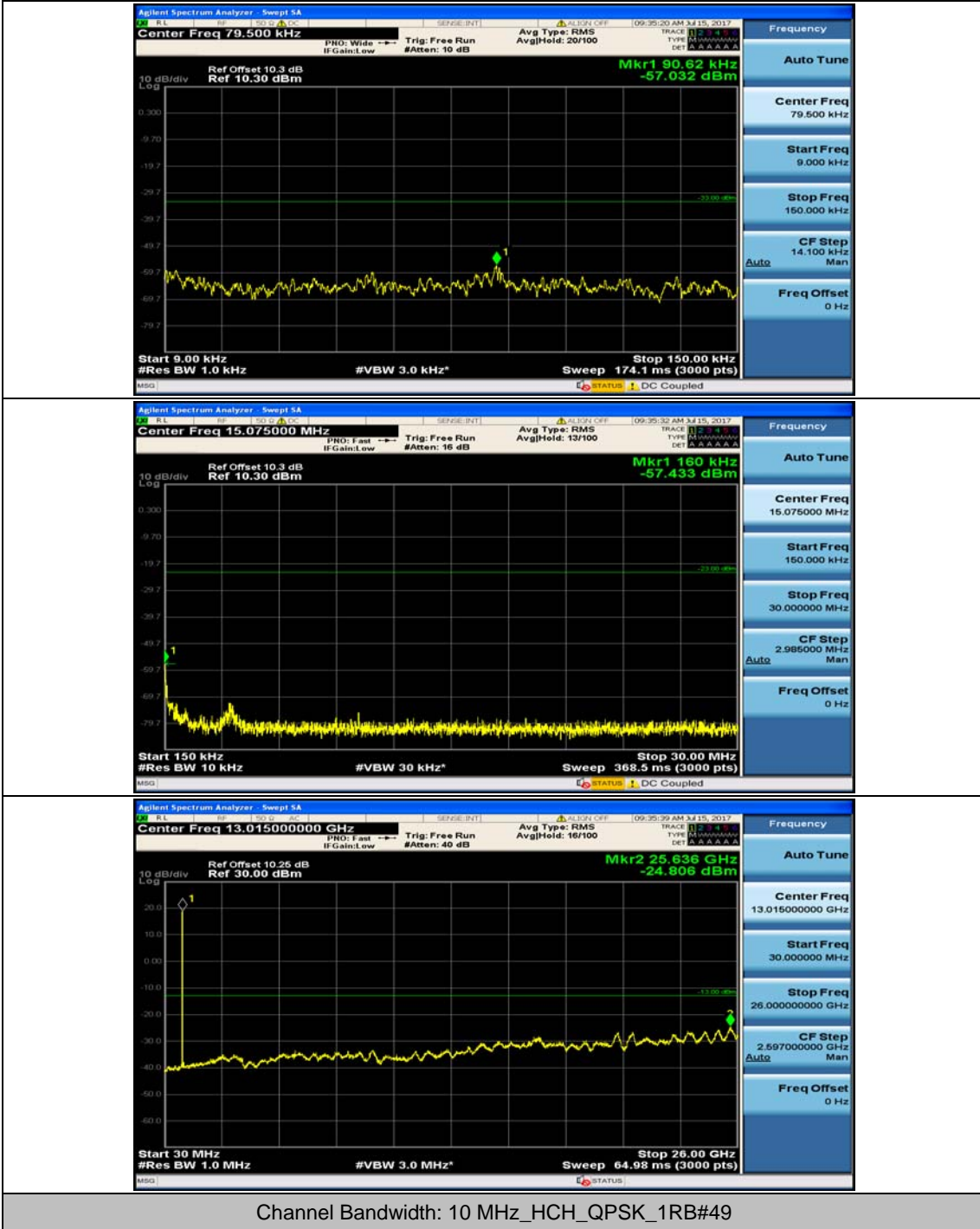


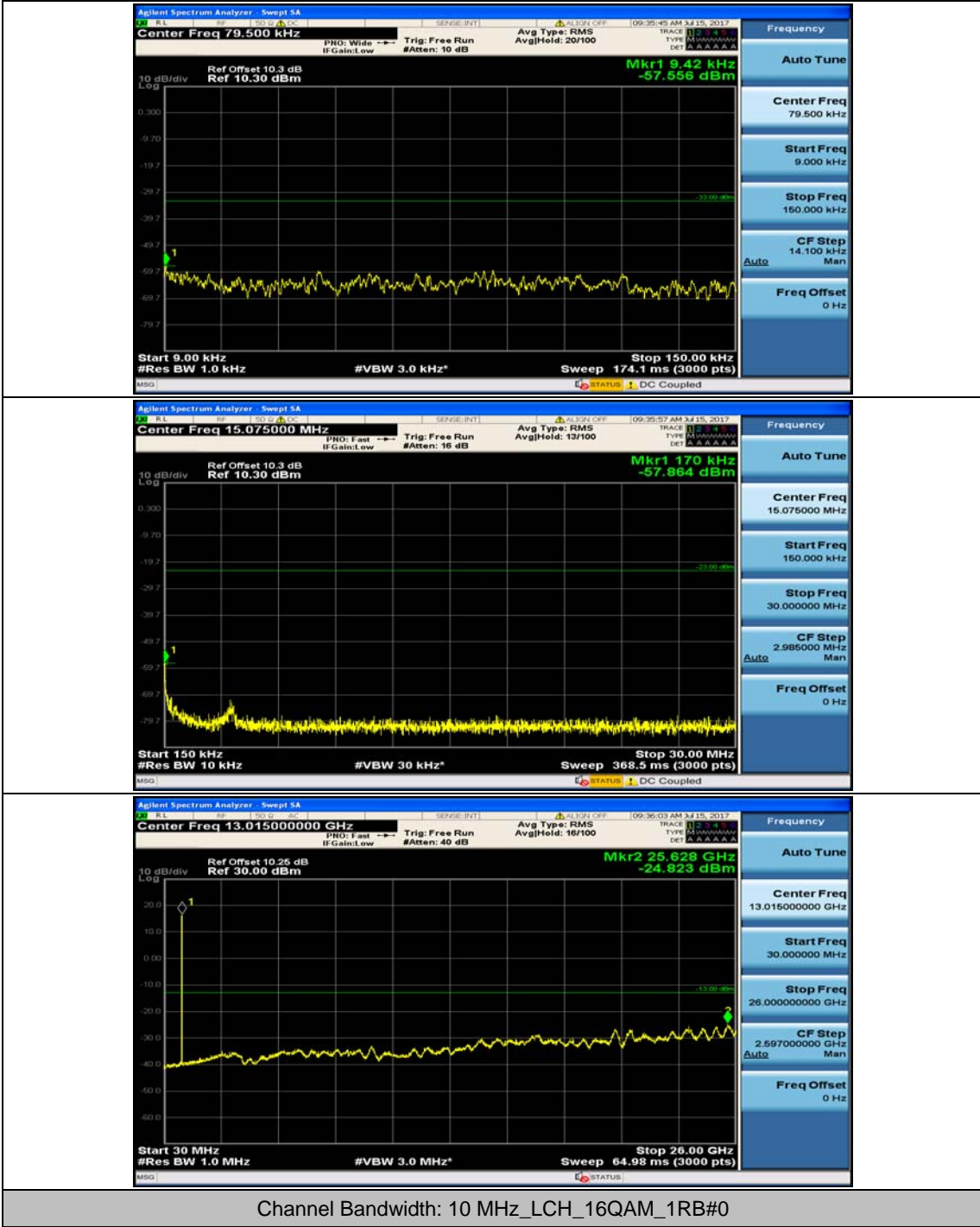


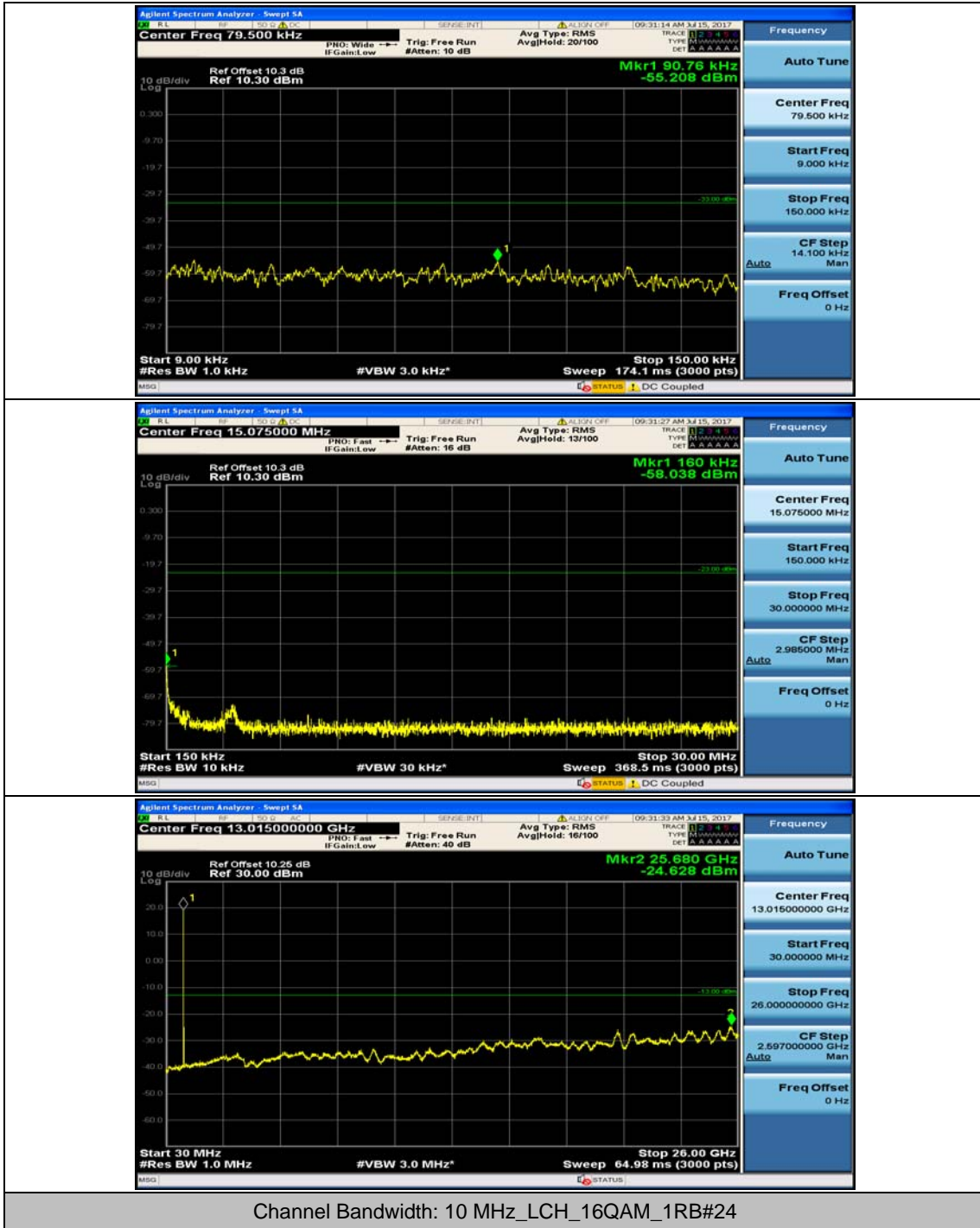




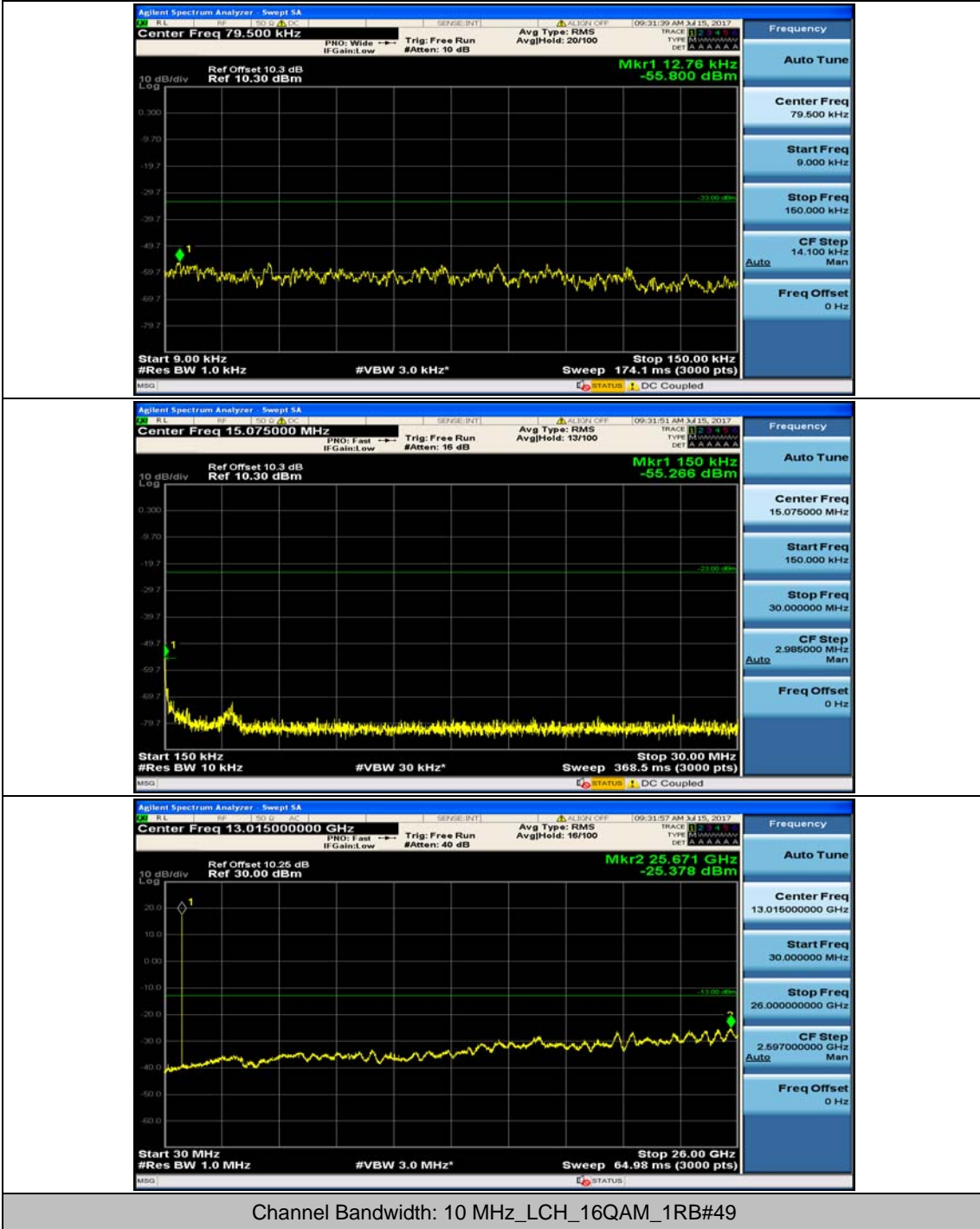


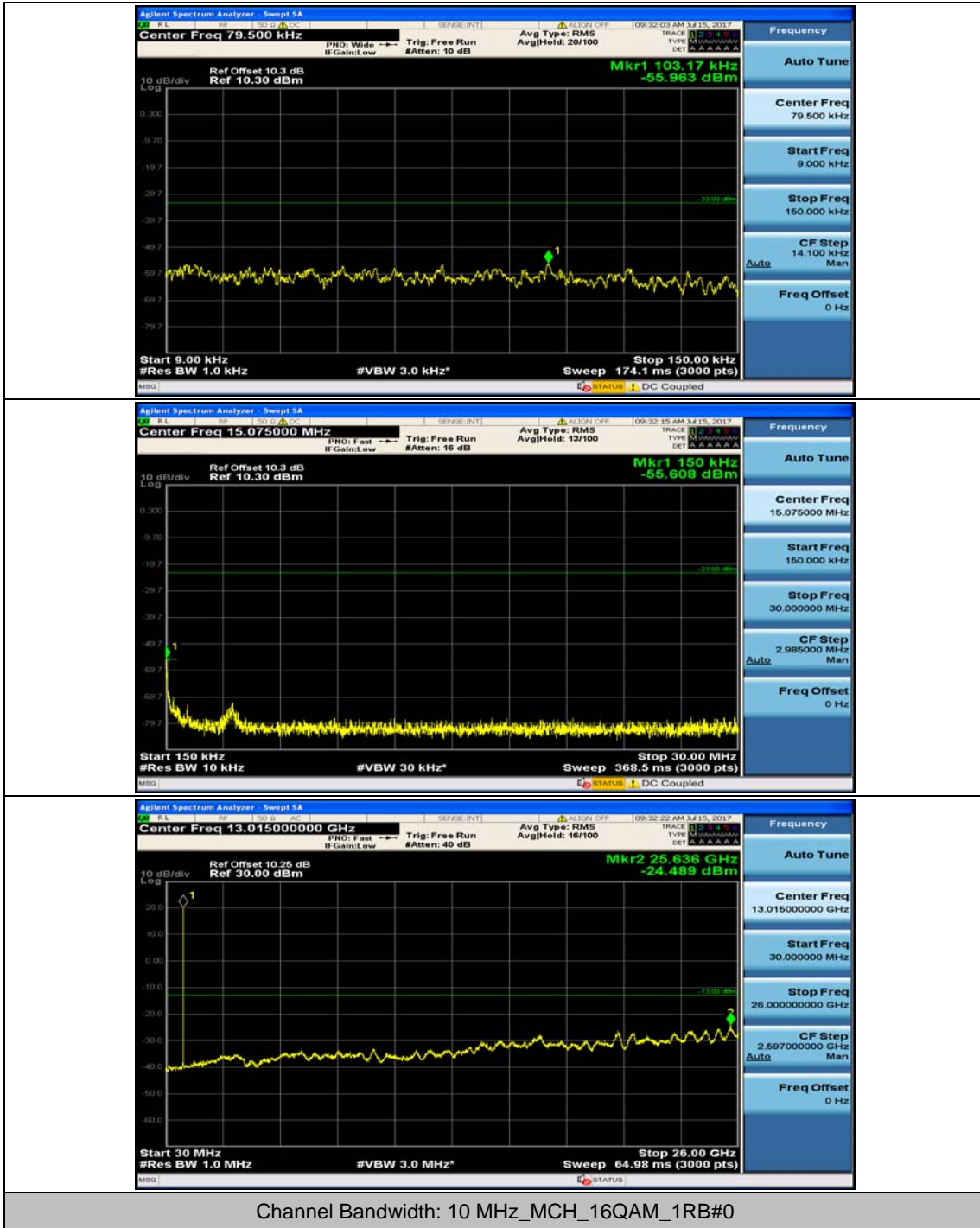


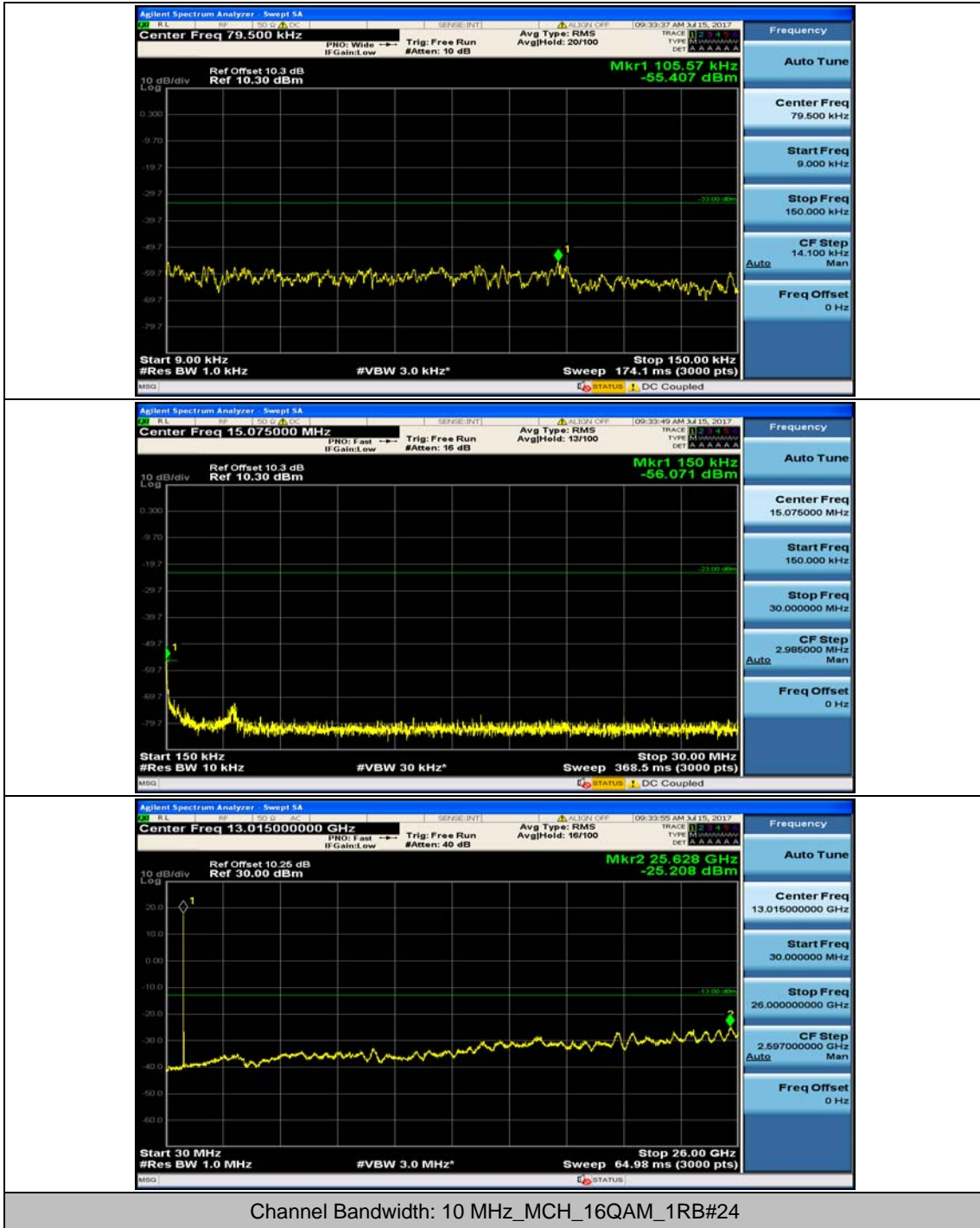


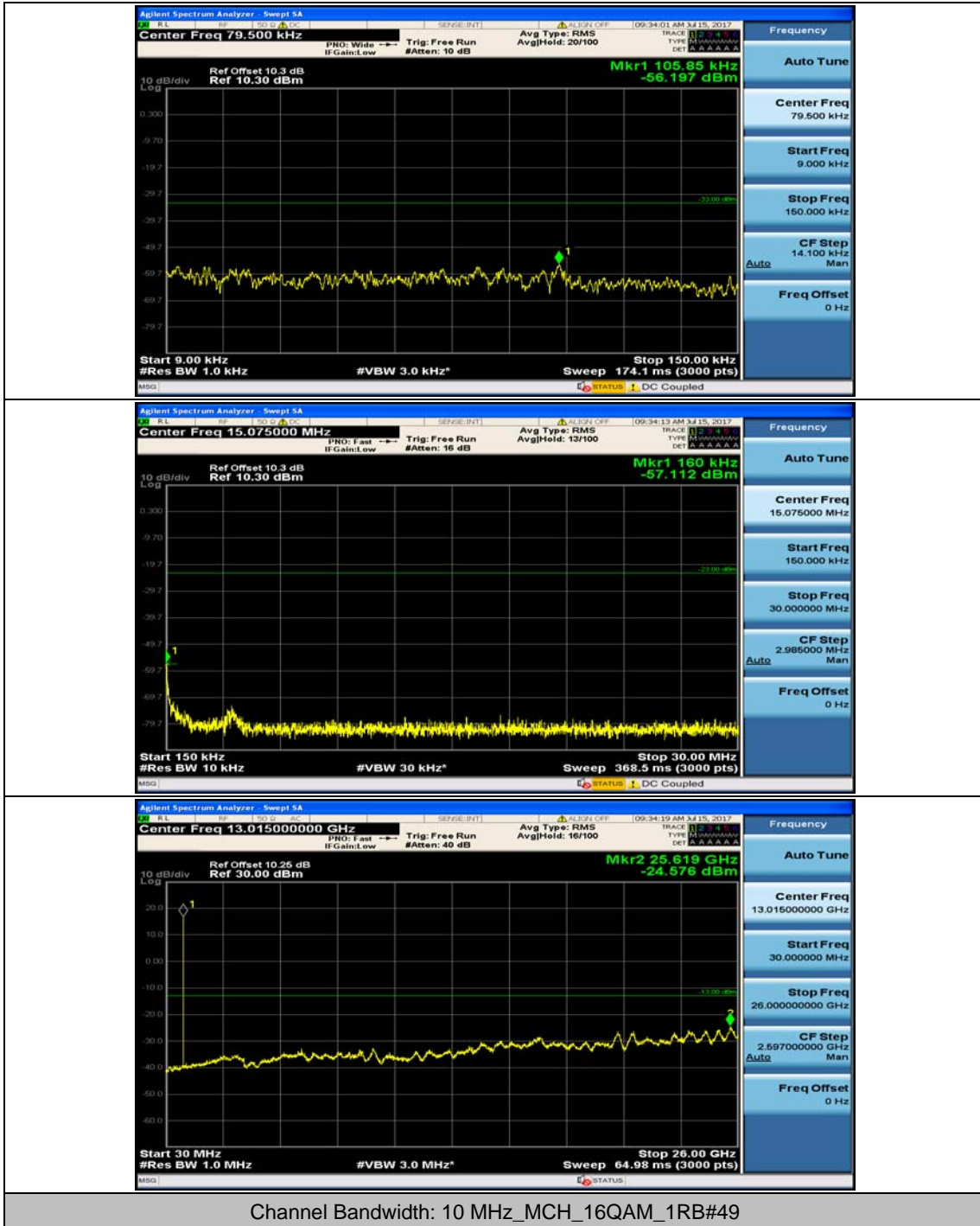


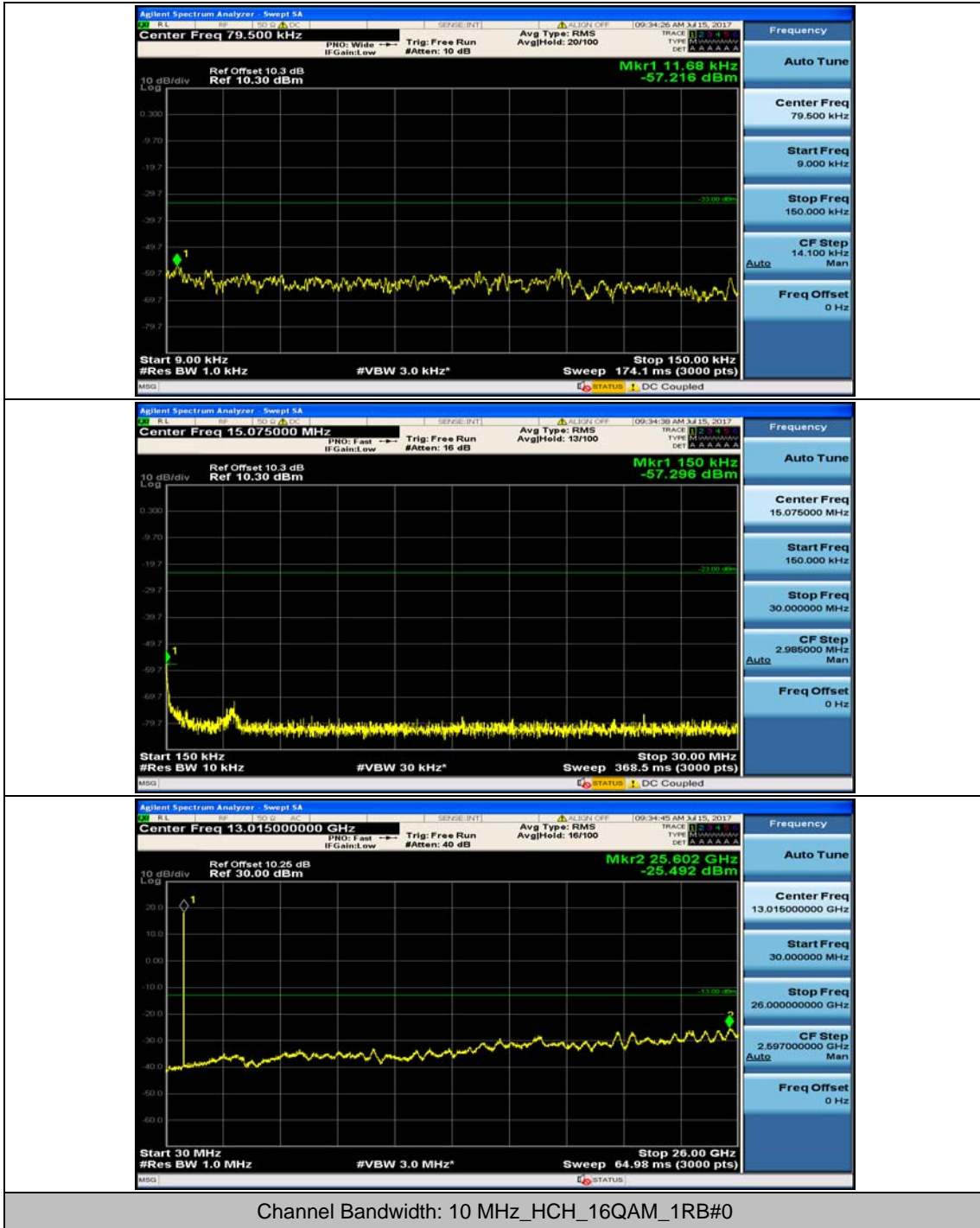


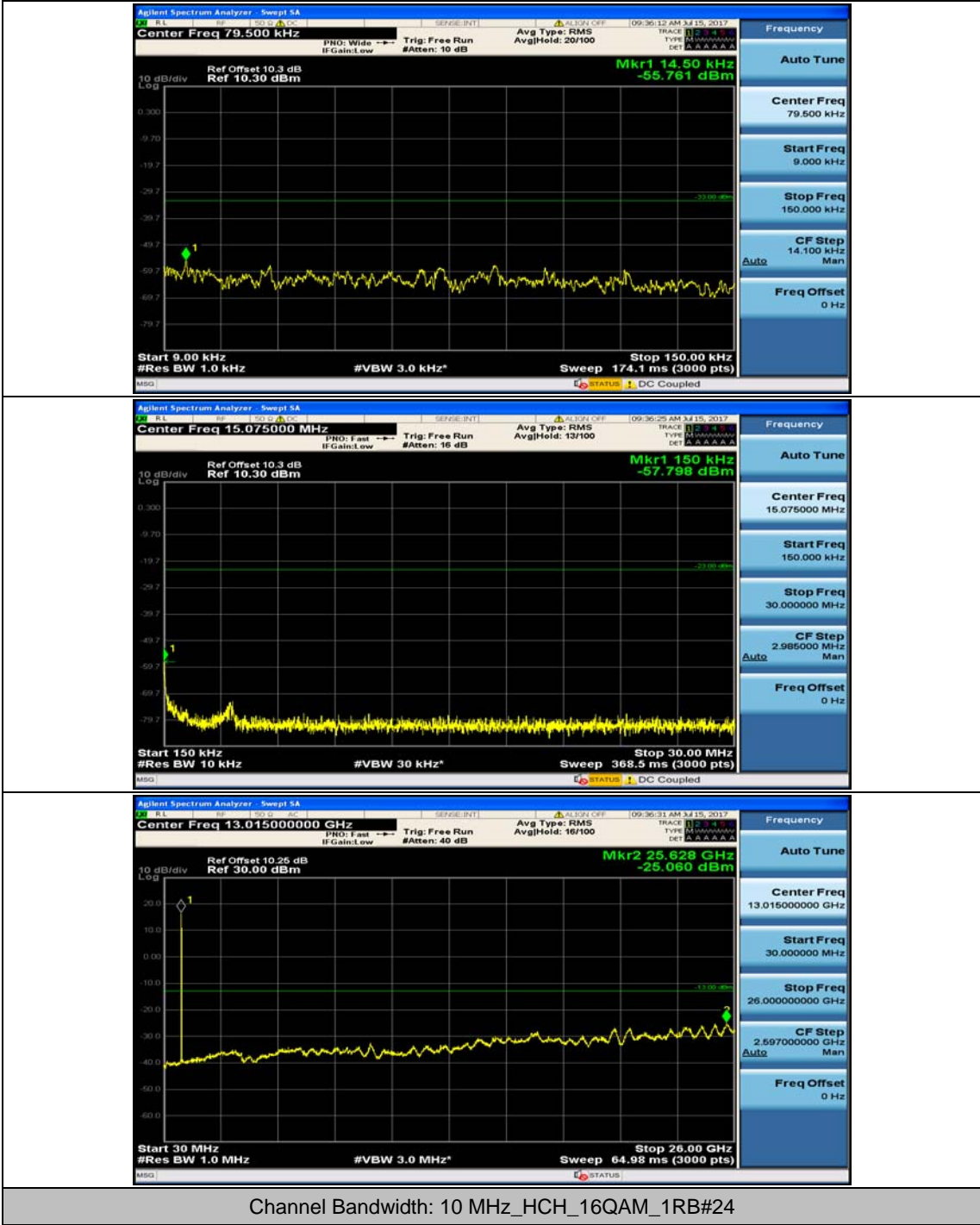


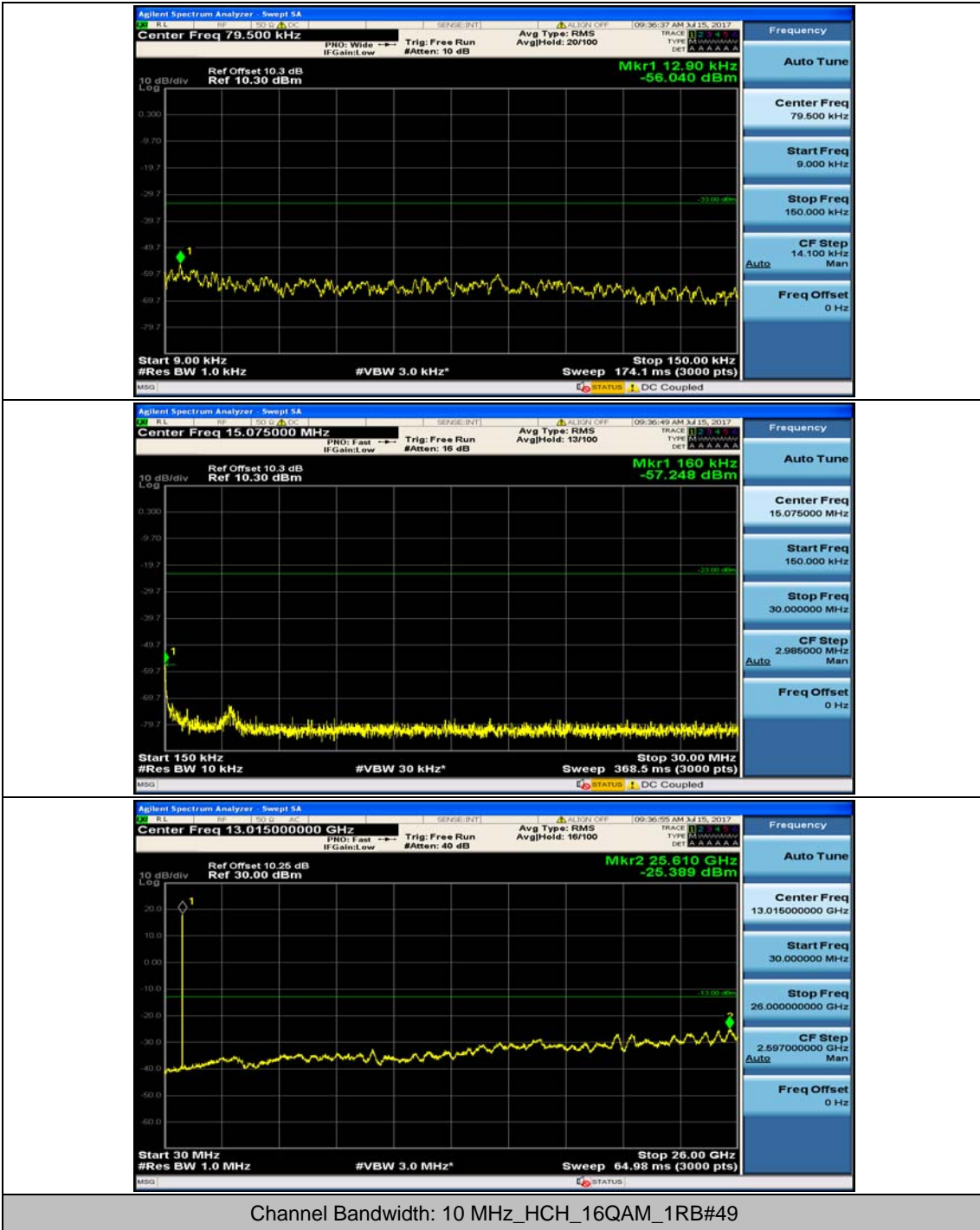


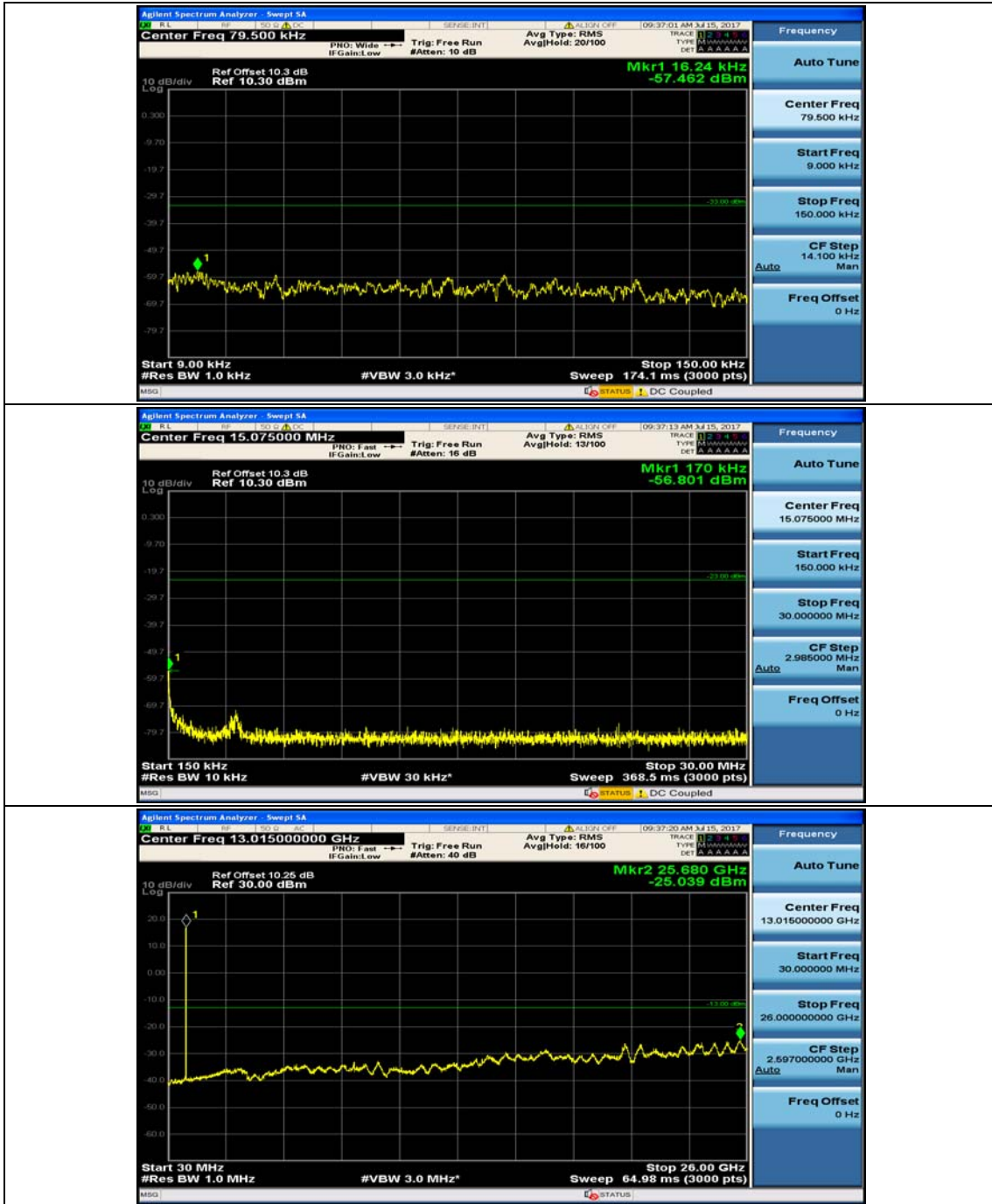














## Appendix F: Frequency Stability

### 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	-1.48	-0.001795	± 2.5	PASS
		VN	TN	-0.18	-0.000218	± 2.5	PASS
		VH	TN	-1.09	-0.001322	± 2.5	PASS
	MCH	VL	TN	3.2	0.003825	± 2.5	PASS
		VN	TN	-0.08	-0.000096	± 2.5	PASS
		VH	TN	4.38	0.005236	± 2.5	PASS
	HCH	VL	TN	-1.64	-0.001933	± 2.5	PASS
		VN	TN	2.11	0.002487	± 2.5	PASS
		VH	TN	0.35	0.000413	± 2.5	PASS
16QAM	LCH	VL	TN	-1.29	-0.001564	± 2.5	PASS
		VN	TN	4.91	0.005954	± 2.5	PASS
		VH	TN	2.39	0.002898	± 2.5	PASS
	MCH	VL	TN	4.62	0.005523	± 2.5	PASS
		VN	TN	-0.11	-0.000132	± 2.5	PASS
		VH	TN	-1.33	-0.001590	± 2.5	PASS
	HCH	VL	TN	0.01	0.000012	± 2.5	PASS
		VN	TN	1.77	0.002087	± 2.5	PASS
		VH	TN	-1.06	-0.001250	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.12	0.001358	± 2.5	PASS
		VN	-20	0.96	0.001164	± 2.5	PASS
		VN	-10	2.92	0.003541	± 2.5	PASS
		VN	0	0.44	0.000534	± 2.5	PASS
		VN	10	-0.75	-0.000909	± 2.5	PASS
		VN	20	3.48	0.004220	± 2.5	PASS
		VN	30	1.31	0.001588	± 2.5	PASS
		VN	40	3.05	0.003698	± 2.5	PASS
	MCH	VN	-30	-1.24	-0.001482	± 2.5	PASS
		VN	-20	1.11	0.001327	± 2.5	PASS

		VN	-10	2.25	0.002690	± 2.5	PASS		
		VN	0	-1.33	-0.001590	± 2.5	PASS		
		VN	10	4.07	0.004866	± 2.5	PASS		
		VN	20	2.12	0.002534	± 2.5	PASS		
		VN	30	-0.53	-0.000634	± 2.5	PASS		
		VN	40	-0.5	-0.000598	± 2.5	PASS		
		VN	50	3.26	0.003897	± 2.5	PASS		
	HCH	VN	-30	3.27	0.003855	± 2.5	PASS		
		VN	-20	3.34	0.003937	± 2.5	PASS		
		VN	-10	1.65	0.001945	± 2.5	PASS		
		VN	0	0.85	0.001002	± 2.5	PASS		
		VN	10	-0.4	-0.000472	± 2.5	PASS		
		VN	20	1.23	0.001450	± 2.5	PASS		
		VN	30	2.21	0.002605	± 2.5	PASS		
		VN	40	4.82	0.005682	± 2.5	PASS		
		VN	50	-0.09	-0.000106	± 2.5	PASS		
		16QAM	LCH	VN	-30	1.84	0.002231	± 2.5	PASS
				VN	-20	-0.64	-0.000776	± 2.5	PASS
VN	-10			4.9	0.005942	± 2.5	PASS		
VN	0			3.05	0.003698	± 2.5	PASS		
VN	10			-1.03	-0.001249	± 2.5	PASS		
VN	20			-1.72	-0.002086	± 2.5	PASS		
VN	30			0.75	0.000909	± 2.5	PASS		
VN	40			2.37	0.002874	± 2.5	PASS		
VN	50			4.9	0.005942	± 2.5	PASS		
MCH	VN		-30	1.85	0.002181	± 2.5	PASS		
	VN		-20	2.42	0.002853	± 2.5	PASS		
	VN		-10	0.56	0.000660	± 2.5	PASS		
	VN		0	-1.31	-0.001544	± 2.5	PASS		
	VN		10	0.12	0.000141	± 2.5	PASS		
	VN		20	0.49	0.000578	± 2.5	PASS		
	VN		30	3.46	0.004079	± 2.5	PASS		
	VN		40	-0.93	-0.001096	± 2.5	PASS		
	VN		50	0.28	0.000330	± 2.5	PASS		
HCH	VN		-30	-0.55	-0.000648	± 2.5	PASS		
	VN		-20	1.91	0.002252	± 2.5	PASS		
	VN		-10	3.62	0.004267	± 2.5	PASS		
	VN		0	-0.17	-0.000200	± 2.5	PASS		
	VN		10	2.73	0.003218	± 2.5	PASS		
	VN		20	1.41	0.001662	± 2.5	PASS		
	VN		30	4.55	0.005364	± 2.5	PASS		

		VN	40	3.46	0.004079	± 2.5	PASS
		VN	50	3.41	0.004020	± 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	2.79	0.003380	± 2.5	PASS
		VN	TN	2.92	0.003537	± 2.5	PASS
		VH	TN	1.16	0.001405	± 2.5	PASS
	MCH	VL	TN	2.36	0.002821	± 2.5	PASS
		VN	TN	0.2	0.000239	± 2.5	PASS
		VH	TN	3.42	0.004088	± 2.5	PASS
	HCH	VL	TN	4.08	0.004814	± 2.5	PASS
		VN	TN	1.71	0.002018	± 2.5	PASS
		VH	TN	-1.51	-0.001782	± 2.5	PASS
16QAM	LCH	VL	TN	1.56	0.001890	± 2.5	PASS
		VN	TN	-0.36	-0.000436	± 2.5	PASS
		VH	TN	1.39	0.001684	± 2.5	PASS
	MCH	VL	TN	3.05	0.003646	± 2.5	PASS
		VN	TN	2.79	0.003335	± 2.5	PASS
		VH	TN	-1.55	-0.001853	± 2.5	PASS
	HCH	VL	TN	-1.25	-0.001475	± 2.5	PASS
		VN	TN	-0.32	-0.000378	± 2.5	PASS
		VH	TN	-0.66	-0.000779	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.41	0.001708	± 2.5	PASS
		VN	-20	4.39	0.005318	± 2.5	PASS
		VN	-10	1.43	0.001732	± 2.5	PASS
		VN	0	-0.48	-0.000581	± 2.5	PASS
		VN	10	0.48	0.000581	± 2.5	PASS
		VN	20	1.44	0.001744	± 2.5	PASS
		VN	30	3.49	0.004228	± 2.5	PASS
		VN	40	-1.52	-0.001841	± 2.5	PASS
		VN	50	-1.88	-0.002277	± 2.5	PASS
	MCH	VN	-30	-1.86	-0.002224	± 2.5	PASS
		VN	-20	1.87	0.002236	± 2.5	PASS
		VN	-10	3.06	0.003658	± 2.5	PASS

	VN	0	-1.1	-0.001315	± 2.5	PASS			
		10	3.12	0.003730	± 2.5	PASS			
		20	2.74	0.003276	± 2.5	PASS			
		30	0.08	0.000096	± 2.5	PASS			
		40	-0.69	-0.000825	± 2.5	PASS			
		50	-1.68	-0.002008	± 2.5	PASS			
	HCH	VN	-30	2.02	0.002383	± 2.5	PASS		
		VN	-20	-0.19	-0.000224	± 2.5	PASS		
		VN	-10	4.44	0.005239	± 2.5	PASS		
		VN	0	0.8	0.000944	± 2.5	PASS		
		VN	10	2.98	0.003516	± 2.5	PASS		
		VN	20	4.26	0.005027	± 2.5	PASS		
		VN	30	1.56	0.001841	± 2.5	PASS		
		VN	40	3.27	0.003858	± 2.5	PASS		
		VN	50	2.56	0.003021	± 2.5	PASS		
		16QAM	LCH	VN	-30	0.62	0.000741	± 2.5	PASS
				VN	-20	3.2	0.003825	± 2.5	PASS
				VN	-10	4.8	0.005738	± 2.5	PASS
VN	0			-0.07	-0.000084	± 2.5	PASS		
VN	10			1.46	0.001745	± 2.5	PASS		
VN	20			3.05	0.003646	± 2.5	PASS		
VN	30			3.25	0.003885	± 2.5	PASS		
VN	40			3.35	0.004005	± 2.5	PASS		
VN	50			4.13	0.004937	± 2.5	PASS		
MCH	VN		-30	4.37	0.005156	± 2.5	PASS		
	VN		-20	0.6	0.000708	± 2.5	PASS		
	VN		-10	1.17	0.001381	± 2.5	PASS		
	VN		0	4.39	0.005180	± 2.5	PASS		
	VN		10	4.8	0.005664	± 2.5	PASS		
	VN		20	0.77	0.000909	± 2.5	PASS		
	VN		30	0.78	0.000920	± 2.5	PASS		
	VN		40	-0.77	-0.000909	± 2.5	PASS		
	VN		50	3.23	0.003811	± 2.5	PASS		
HCH	VN		-30	-1.5	-0.001770	± 2.5	PASS		
	VN		-20	-0.03	-0.000035	± 2.5	PASS		
	VN		-10	3.49	0.004118	± 2.5	PASS		
	VN		0	4.02	0.004743	± 2.5	PASS		
	VN		10	3.82	0.004507	± 2.5	PASS		
	VN		20	-0.09	-0.000106	± 2.5	PASS		
	VN		30	4.01	0.004732	± 2.5	PASS		
	VN		40	2.44	0.002879	± 2.5	PASS		

		VN	50	2.42	0.002855	± 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	1.3	0.001573	± 2.5	PASS
		VN	TN	1.73	0.002093	± 2.5	PASS
		VH	TN	4.63	0.005602	± 2.5	PASS
	MCH	VL	TN	1.28	0.001530	± 2.5	PASS
		VN	TN	-0.48	-0.000574	± 2.5	PASS
		VH	TN	3.18	0.003802	± 2.5	PASS
	HCH	VL	TN	-1.72	-0.002032	± 2.5	PASS
		VN	TN	2.92	0.003449	± 2.5	PASS
		VH	TN	3.04	0.003591	± 2.5	PASS
16QAM	LCH	VL	TN	3.21	0.003884	± 2.5	PASS
		VN	TN	4.63	0.005602	± 2.5	PASS
		VH	TN	-0.4	-0.000484	± 2.5	PASS
	MCH	VL	TN	3.5	0.004184	± 2.5	PASS
		VN	TN	1.66	0.001984	± 2.5	PASS
		VH	TN	-0.88	-0.001052	± 2.5	PASS
	HCH	VL	TN	-1.22	-0.001441	± 2.5	PASS
		VN	TN	4.18	0.004938	± 2.5	PASS
		VH	TN	0.8	0.000945	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.2	0.001452	± 2.5	PASS
		VN	-20	0.66	0.000799	± 2.5	PASS
		VN	-10	0.02	0.000024	± 2.5	PASS
		VN	0	2.73	0.003303	± 2.5	PASS
		VN	10	4.53	0.005481	± 2.5	PASS
		VN	20	-1.14	-0.001379	± 2.5	PASS
		VN	30	0.47	0.000569	± 2.5	PASS
		VN	40	4.76	0.005759	± 2.5	PASS
		VN	50	-1.15	-0.001391	± 2.5	PASS
	MCH	VN	-30	0.68	0.000813	± 2.5	PASS
		VN	-20	2.91	0.003479	± 2.5	PASS
		VN	-10	2.83	0.003383	± 2.5	PASS
		VN	0	-1.36	-0.001626	± 2.5	PASS

		VN	10	0.32	0.000383	± 2.5	PASS
		VN	20	4.2	0.005021	± 2.5	PASS
		VN	30	-1.6	-0.001913	± 2.5	PASS
		VN	40	-1.76	-0.002104	± 2.5	PASS
		VN	50	1.48	0.001769	± 2.5	PASS
	HCH	VN	-30	0.96	0.001134	± 2.5	PASS
		VN	-20	1.42	0.001677	± 2.5	PASS
		VN	-10	1.64	0.001937	± 2.5	PASS
		VN	0	-0.11	-0.000130	± 2.5	PASS
		VN	10	-1.68	-0.001985	± 2.5	PASS
		VN	20	3.67	0.004335	± 2.5	PASS
		VN	30	1.75	0.002067	± 2.5	PASS
		VN	40	4.65	0.005493	± 2.5	PASS
		VN	50	-0.79	-0.000933	± 2.5	PASS
		16QAM	LCH	VN	-30	-0.52	-0.000622
VN	-20			1.75	0.002092	± 2.5	PASS
VN	-10			1.66	0.001984	± 2.5	PASS
VN	0			4.38	0.005236	± 2.5	PASS
VN	10			-1.09	-0.001303	± 2.5	PASS
VN	20			0.07	0.000084	± 2.5	PASS
VN	30			3.42	0.004088	± 2.5	PASS
VN	40			1.86	0.002224	± 2.5	PASS
VN	50			0.01	0.000012	± 2.5	PASS
MCH	VN		-30	-0.42	-0.000496	± 2.5	PASS
	VN		-20	2.68	0.003166	± 2.5	PASS
	VN		-10	0.74	0.000874	± 2.5	PASS
	VN		0	2.61	0.003083	± 2.5	PASS
	VN		10	-0.01	-0.000012	± 2.5	PASS
	VN		20	1.6	0.001890	± 2.5	PASS
	VN		30	0.98	0.001158	± 2.5	PASS
	VN		40	-1.42	-0.001677	± 2.5	PASS
	VN		50	-0.84	-0.000992	± 2.5	PASS
HCH	VN		-30	-0.3	-0.000354	± 2.5	PASS
	VN		-20	1.01	0.001193	± 2.5	PASS
	VN		-10	4.37	0.005162	± 2.5	PASS
	VN		0	-1.95	-0.002304	± 2.5	PASS
	VN		10	3.01	0.003556	± 2.5	PASS
	VN		20	4.42	0.005222	± 2.5	PASS
	VN		30	-1.78	-0.002103	± 2.5	PASS
	VN		40	1.45	0.001713	± 2.5	PASS
	VN		50	4.09	0.004832	± 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	4.94	0.005959	± 2.5	PASS
		VN	TN	1.57	0.001894	± 2.5	PASS
		VH	TN	3.49	0.004210	± 2.5	PASS
	MCH	VL	TN	2.81	0.003359	± 2.5	PASS
		VN	TN	1.97	0.002355	± 2.5	PASS
		VH	TN	3.99	0.004770	± 2.5	PASS
	HCH	VL	TN	4.98	0.005900	± 2.5	PASS
		VN	TN	1.69	0.002002	± 2.5	PASS
		VH	TN	-1.34	-0.001588	± 2.5	PASS
16QAM	LCH	VL	TN	4.2	0.005066	± 2.5	PASS
		VN	TN	1.6	0.001930	± 2.5	PASS
		VH	TN	0.81	0.000977	± 2.5	PASS
	MCH	VL	TN	-1.82	-0.002176	± 2.5	PASS
		VN	TN	1.65	0.001973	± 2.5	PASS
		VH	TN	3.74	0.004471	± 2.5	PASS
	HCH	VL	TN	-0.13	-0.000154	± 2.5	PASS
		VN	TN	-1.5	-0.001777	± 2.5	PASS
		VH	TN	3.98	0.004716	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.52	-0.000627	± 2.5	PASS
		VN	-20	2.69	0.003245	± 2.5	PASS
		VN	-10	-0.35	-0.000422	± 2.5	PASS
		VN	0	-1.56	-0.001882	± 2.5	PASS
		VN	10	0.92	0.001110	± 2.5	PASS
		VN	20	-0.1	-0.000121	± 2.5	PASS
		VN	30	-0.8	-0.000965	± 2.5	PASS
		VN	40	2.44	0.002943	± 2.5	PASS
		VN	50	-0.89	-0.001074	± 2.5	PASS
	MCH	VN	-30	3.12	0.003730	± 2.5	PASS
		VN	-20	1.52	0.001817	± 2.5	PASS
		VN	-10	-0.2	-0.000239	± 2.5	PASS
		VN	0	3.07	0.003670	± 2.5	PASS
		VN	10	-1.72	-0.002056	± 2.5	PASS
		VN	20	-1.28	-0.001530	± 2.5	PASS
VN	30	0.82	0.000980	± 2.5	PASS		

		VN	40	1.3	0.001554	± 2.5	PASS
		VN	50	0.39	0.000466	± 2.5	PASS
	HCH	VN	-30	1.53	0.001813	± 2.5	PASS
		VN	-20	-1.59	-0.001884	± 2.5	PASS
		VN	-10	-0.48	-0.000569	± 2.5	PASS
		VN	0	2.57	0.003045	± 2.5	PASS
		VN	10	-1.22	-0.001445	± 2.5	PASS
		VN	20	-1.11	-0.001315	± 2.5	PASS
		VN	30	4.77	0.005652	± 2.5	PASS
		VN	40	-0.91	-0.001078	± 2.5	PASS
		VN	50	-0.07	-0.000083	± 2.5	PASS
16QAM	LCH	VN	-30	3.6	0.004304	± 2.5	PASS
		VN	-20	1.85	0.002212	± 2.5	PASS
		VN	-10	0.79	0.000944	± 2.5	PASS
		VN	0	4.57	0.005463	± 2.5	PASS
		VN	10	1.79	0.002140	± 2.5	PASS
		VN	20	0.85	0.001016	± 2.5	PASS
		VN	30	-1.13	-0.001351	± 2.5	PASS
		VN	40	1.42	0.001698	± 2.5	PASS
	MCH	VN	50	1.49	0.001781	± 2.5	PASS
		VN	-30	-1.62	-0.001919	± 2.5	PASS
		VN	-20	1.54	0.001825	± 2.5	PASS
		VN	-10	2.64	0.003128	± 2.5	PASS
		VN	0	2.12	0.002512	± 2.5	PASS
		VN	10	-0.48	-0.000569	± 2.5	PASS
		VN	20	3.25	0.003851	± 2.5	PASS
		VN	30	-1.88	-0.002227	± 2.5	PASS
	HCH	VN	40	-0.02	-0.000024	± 2.5	PASS
		VN	50	2.04	0.002417	± 2.5	PASS
		VN	-30	1.98	0.002346	± 2.5	PASS
		VN	-20	4.06	0.004810	± 2.5	PASS
		VN	-10	1.17	0.001386	± 2.5	PASS
		VN	0	2.22	0.002630	± 2.5	PASS
		VN	10	3.28	0.003886	± 2.5	PASS
		VN	20	1.75	0.002073	± 2.5	PASS
		VN	30	1.09	0.001291	± 2.5	PASS
		VN	40	3.3	0.003910	± 2.5	PASS
		VN	50	4.98	0.005900	± 2.5	PASS