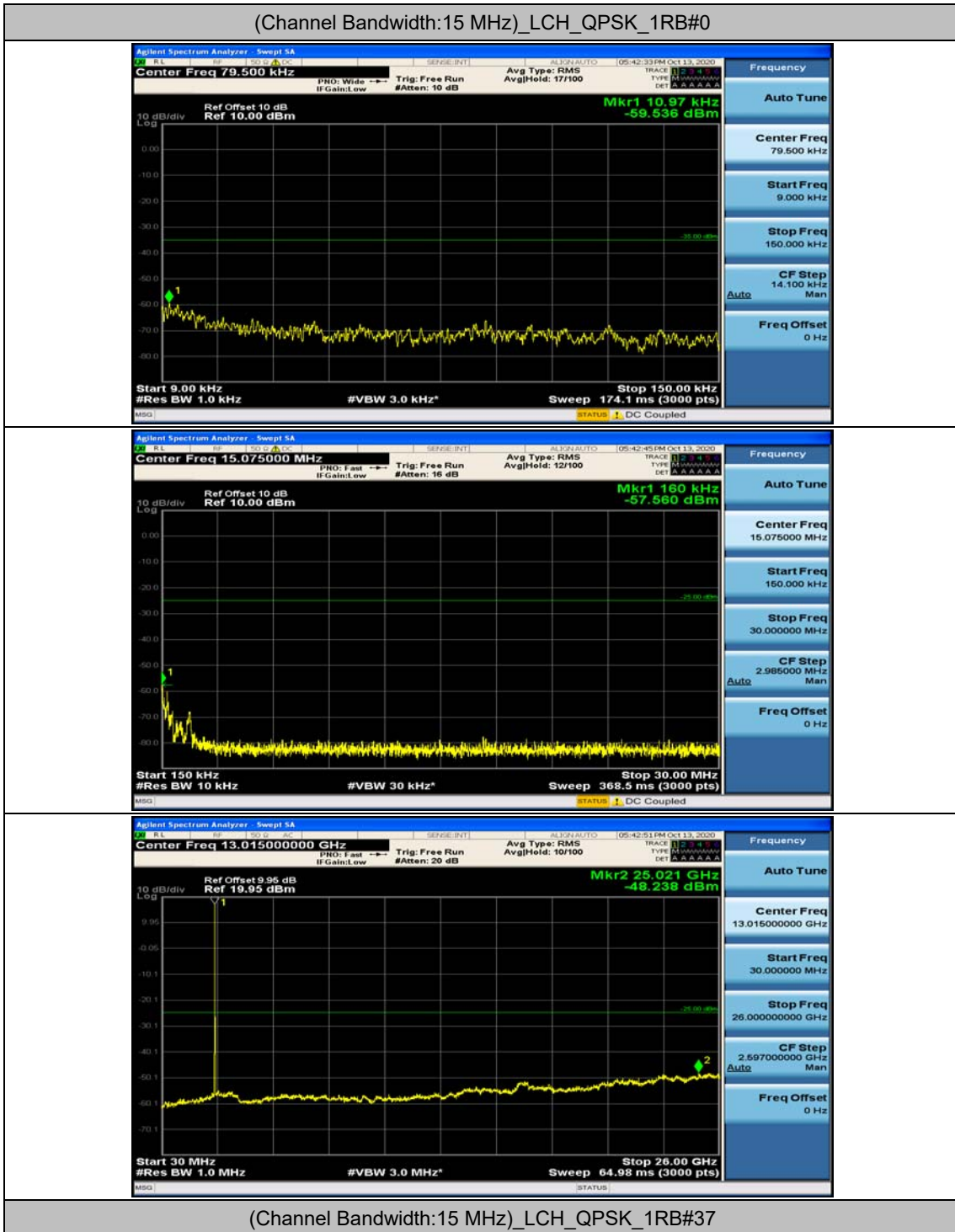
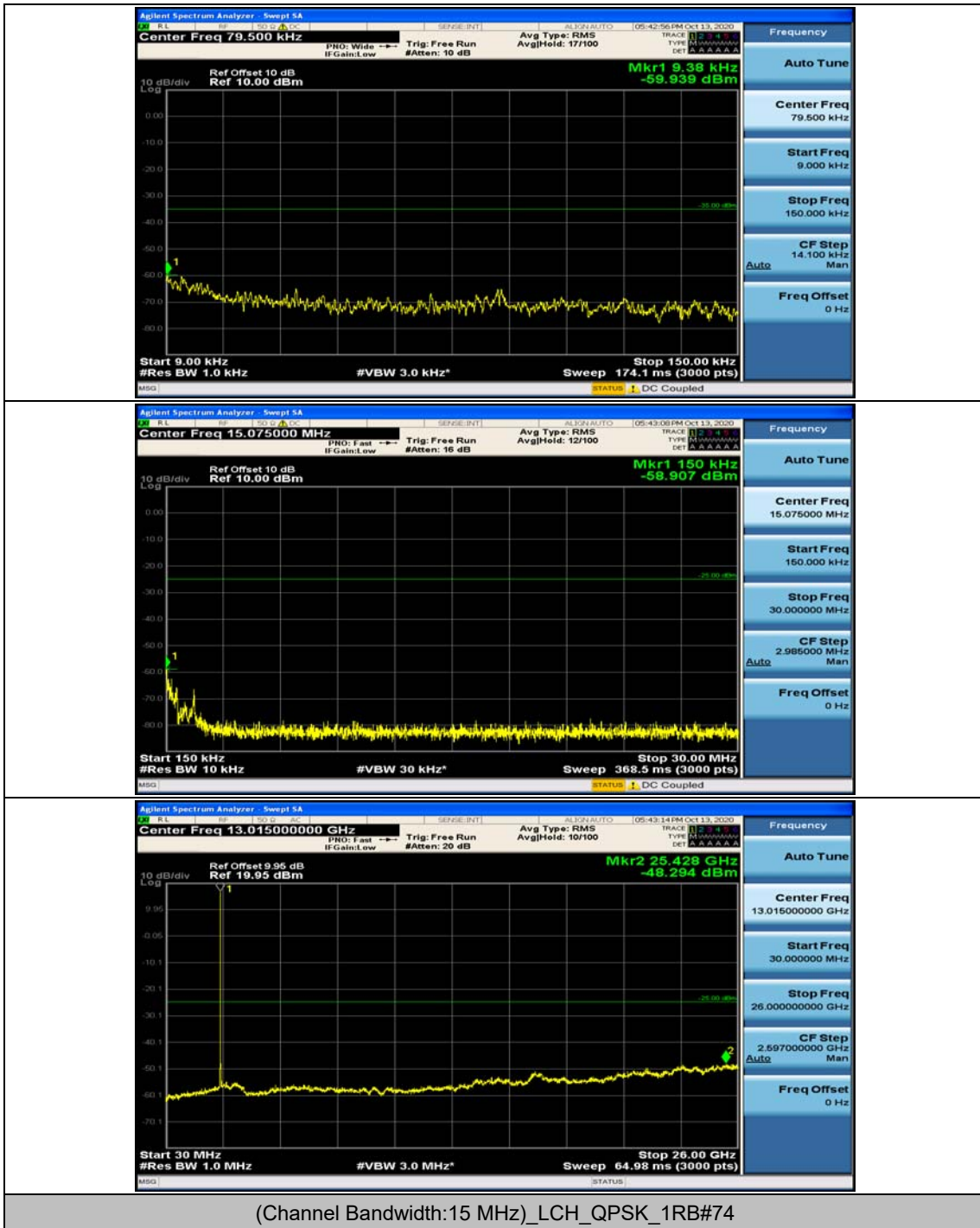
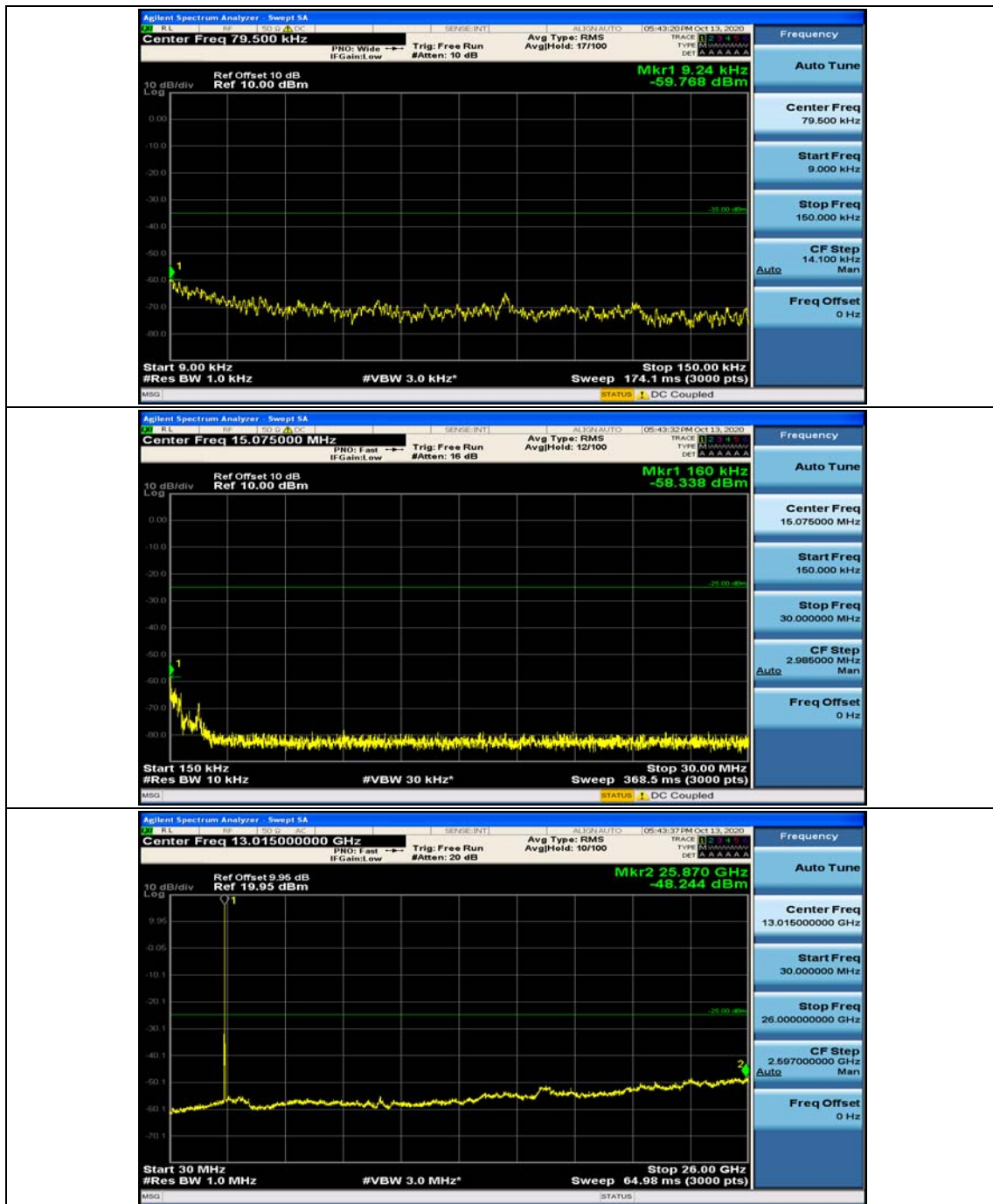


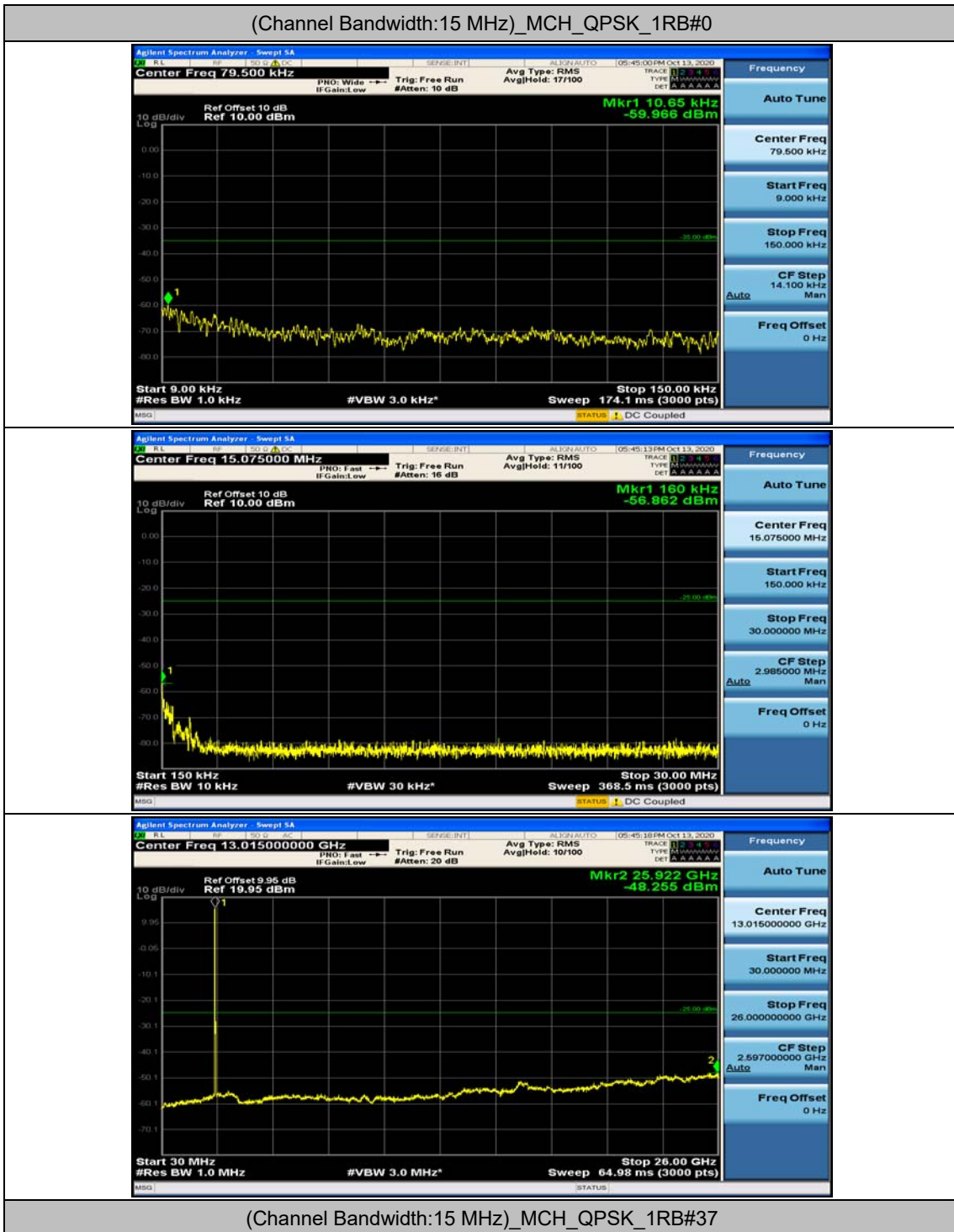
### Channel Bandwidth: 15 MHz

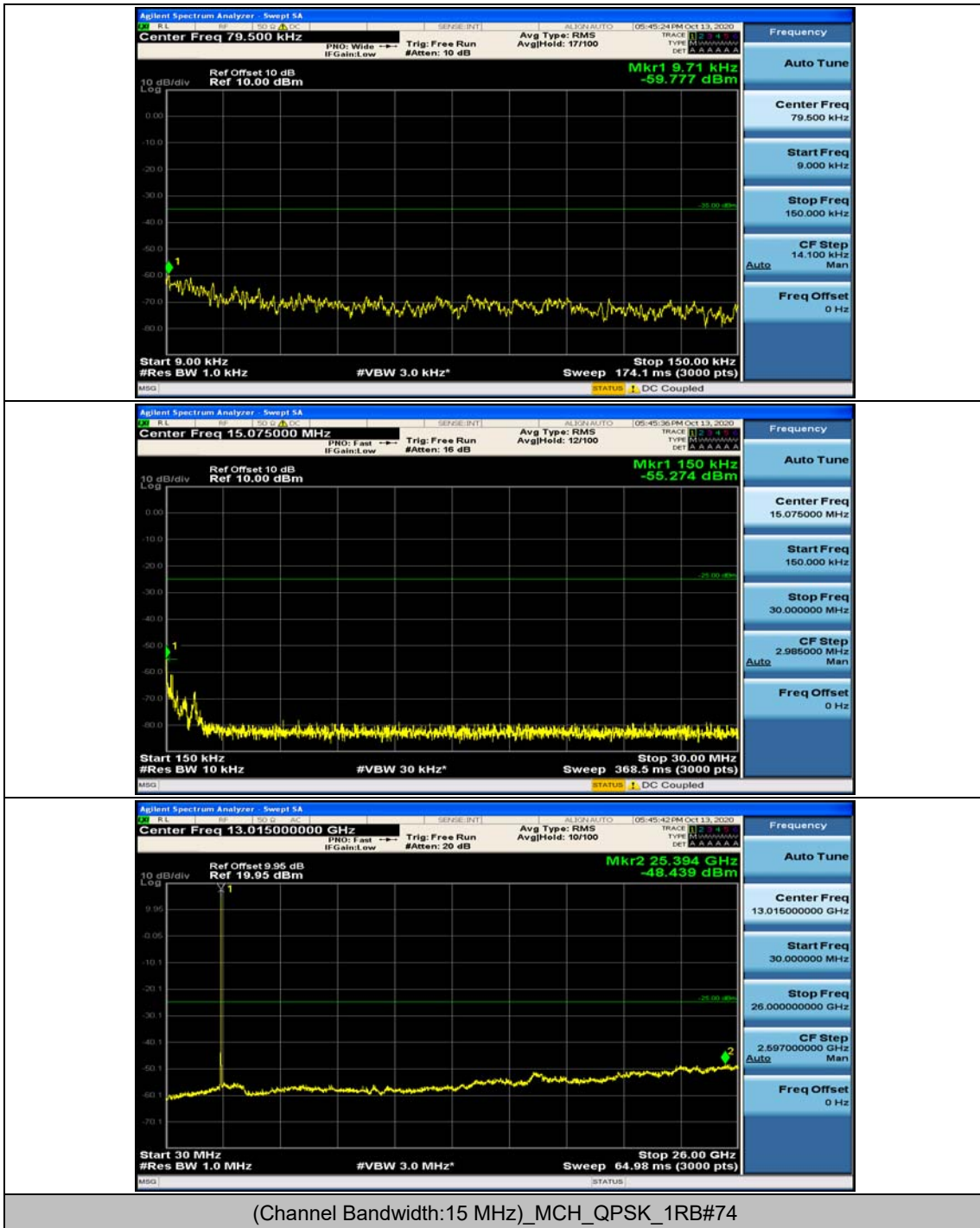


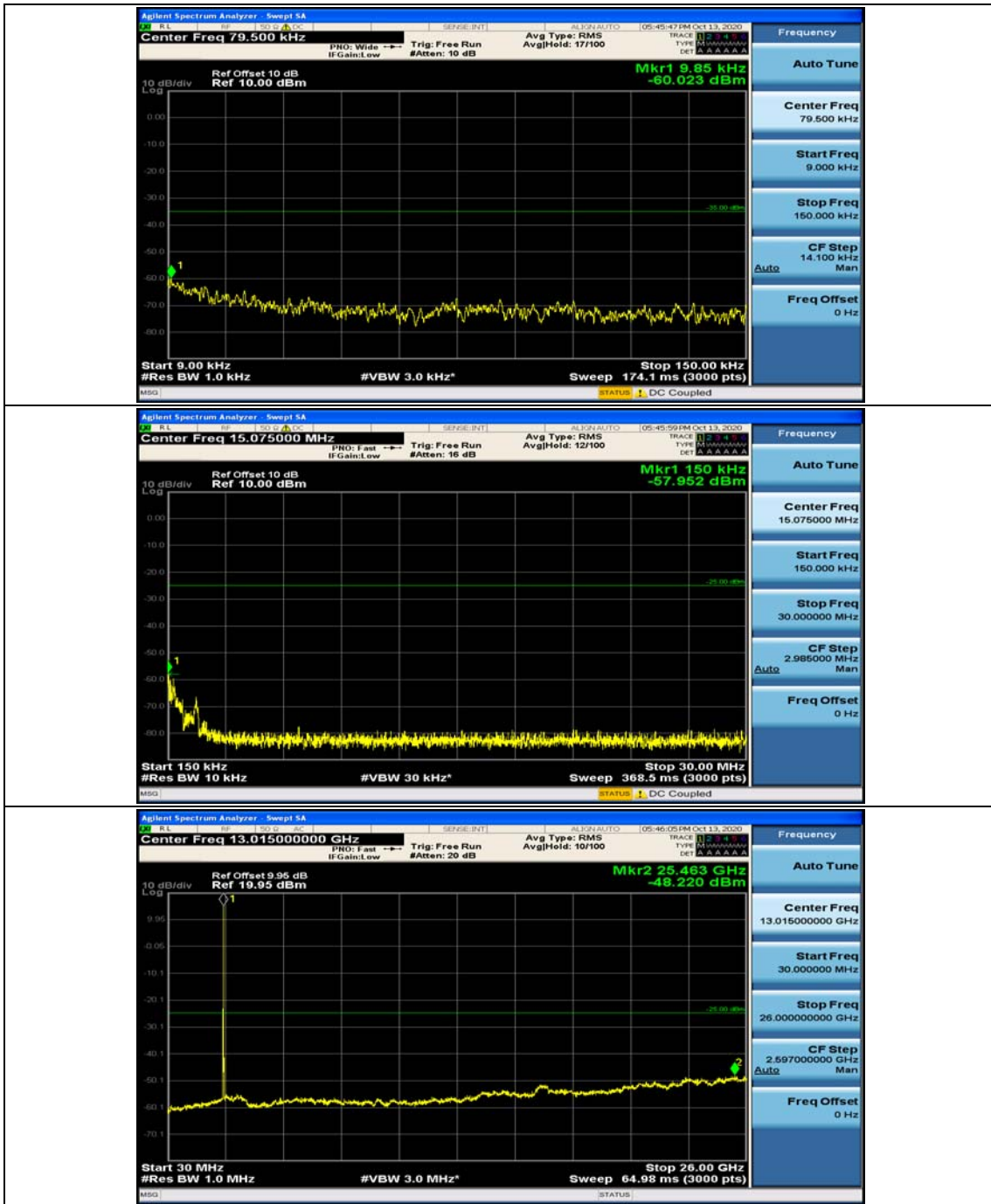


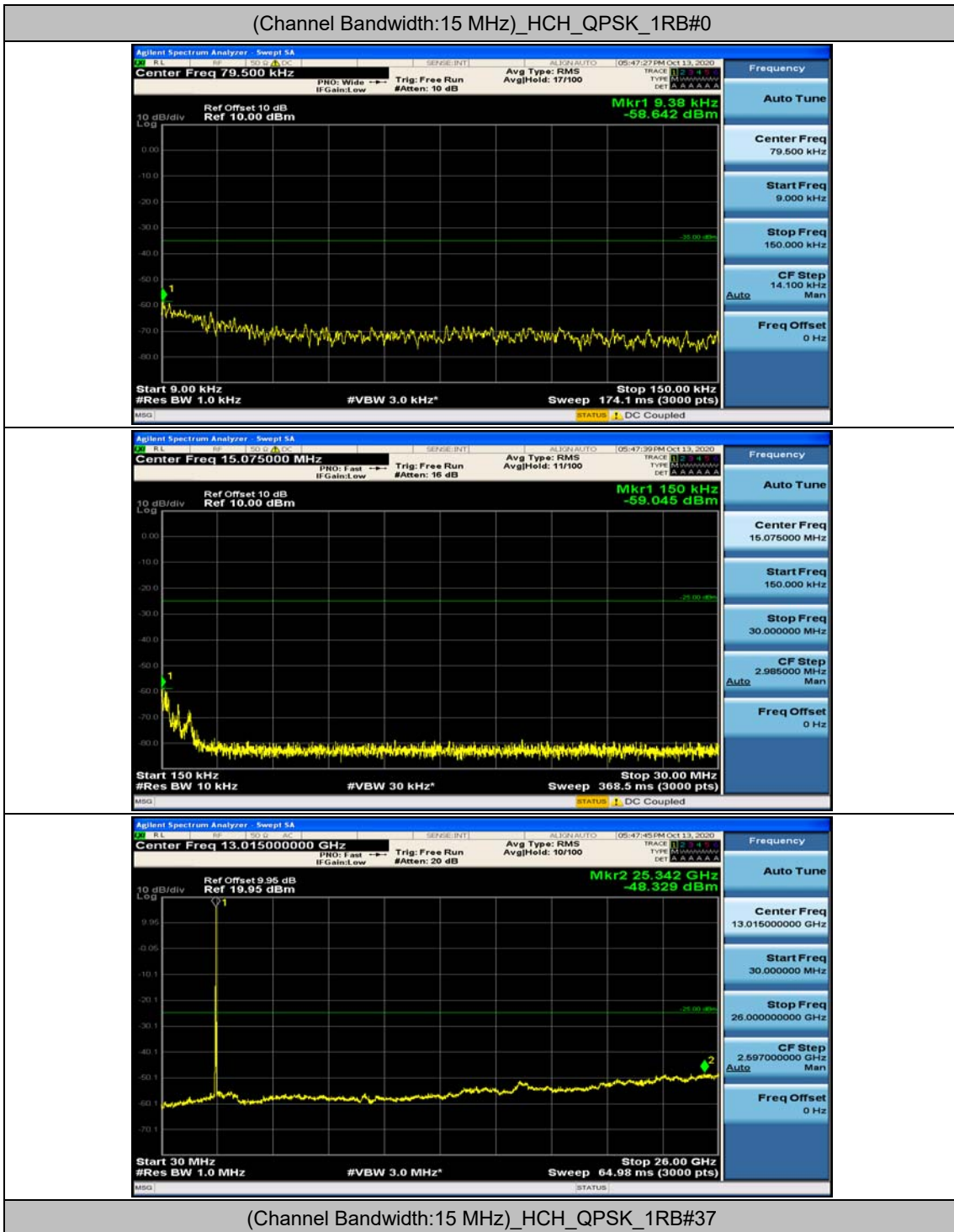




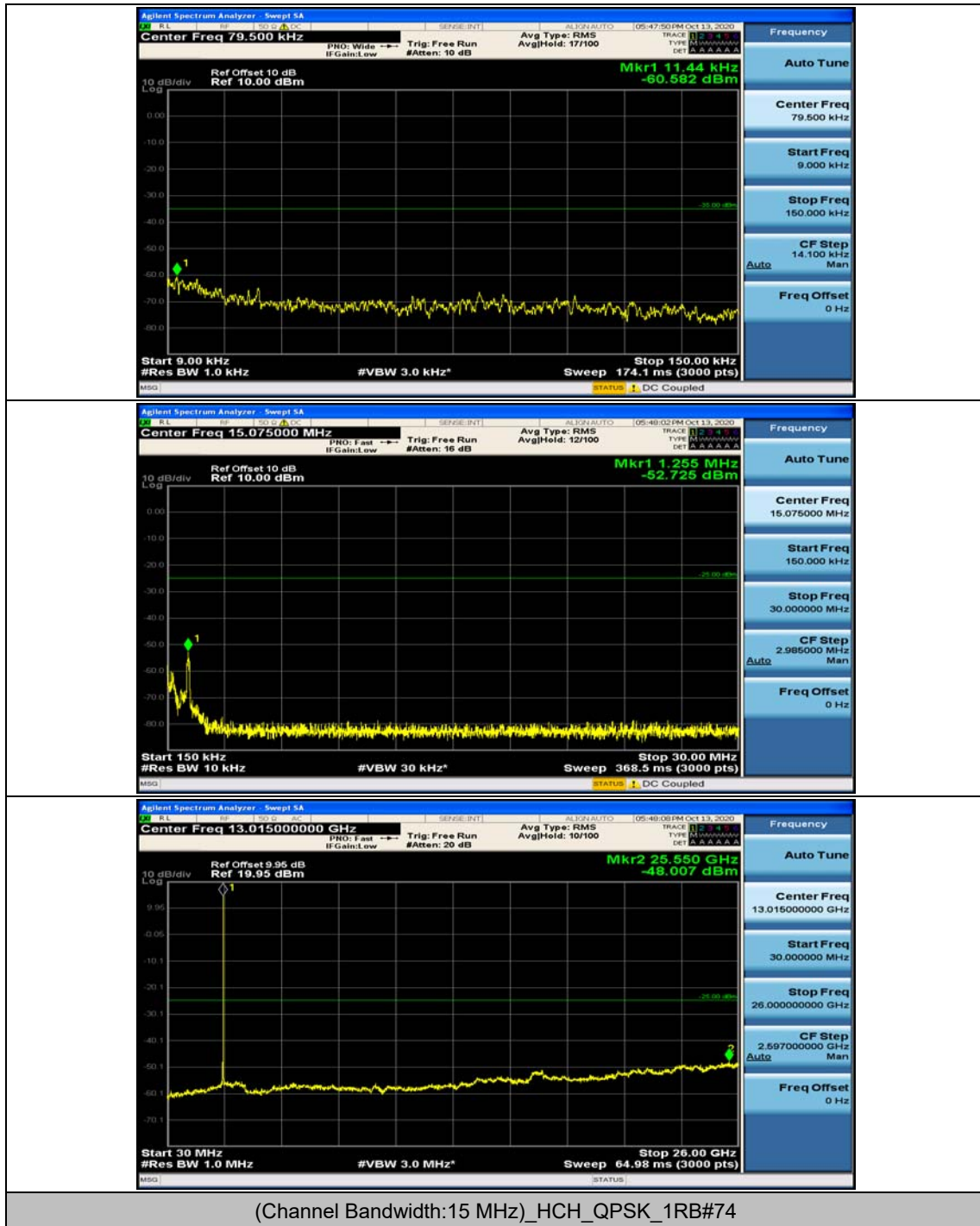


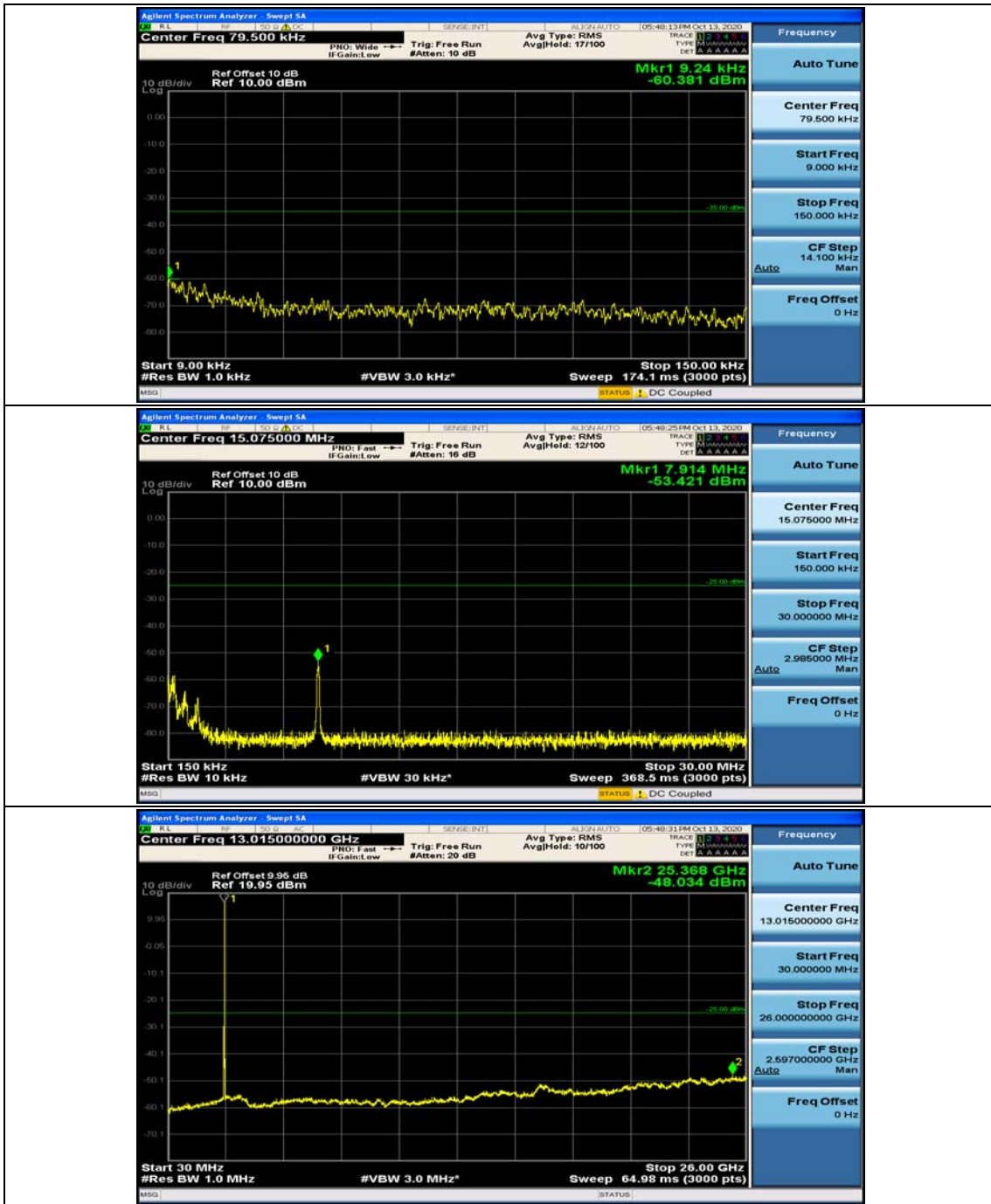


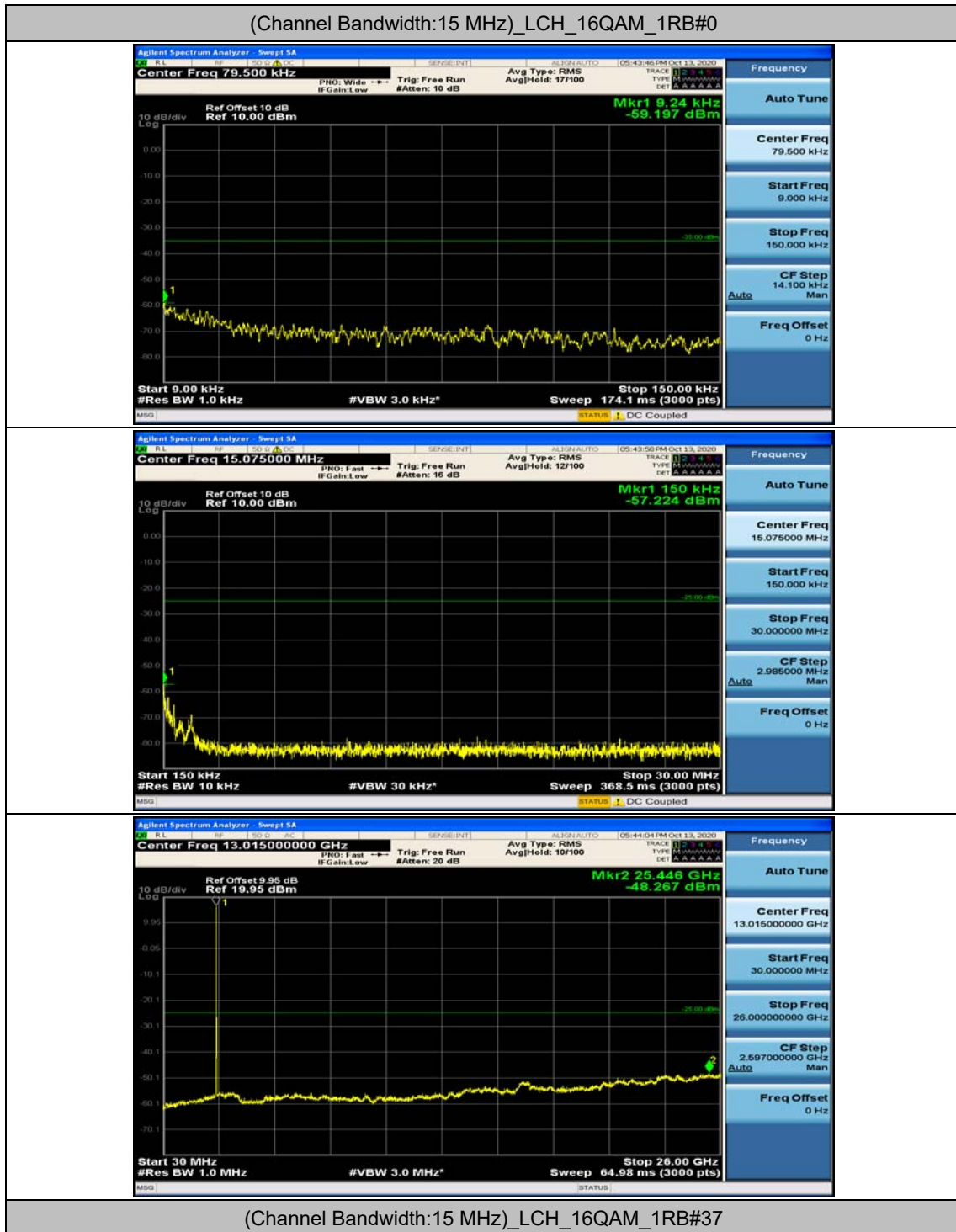


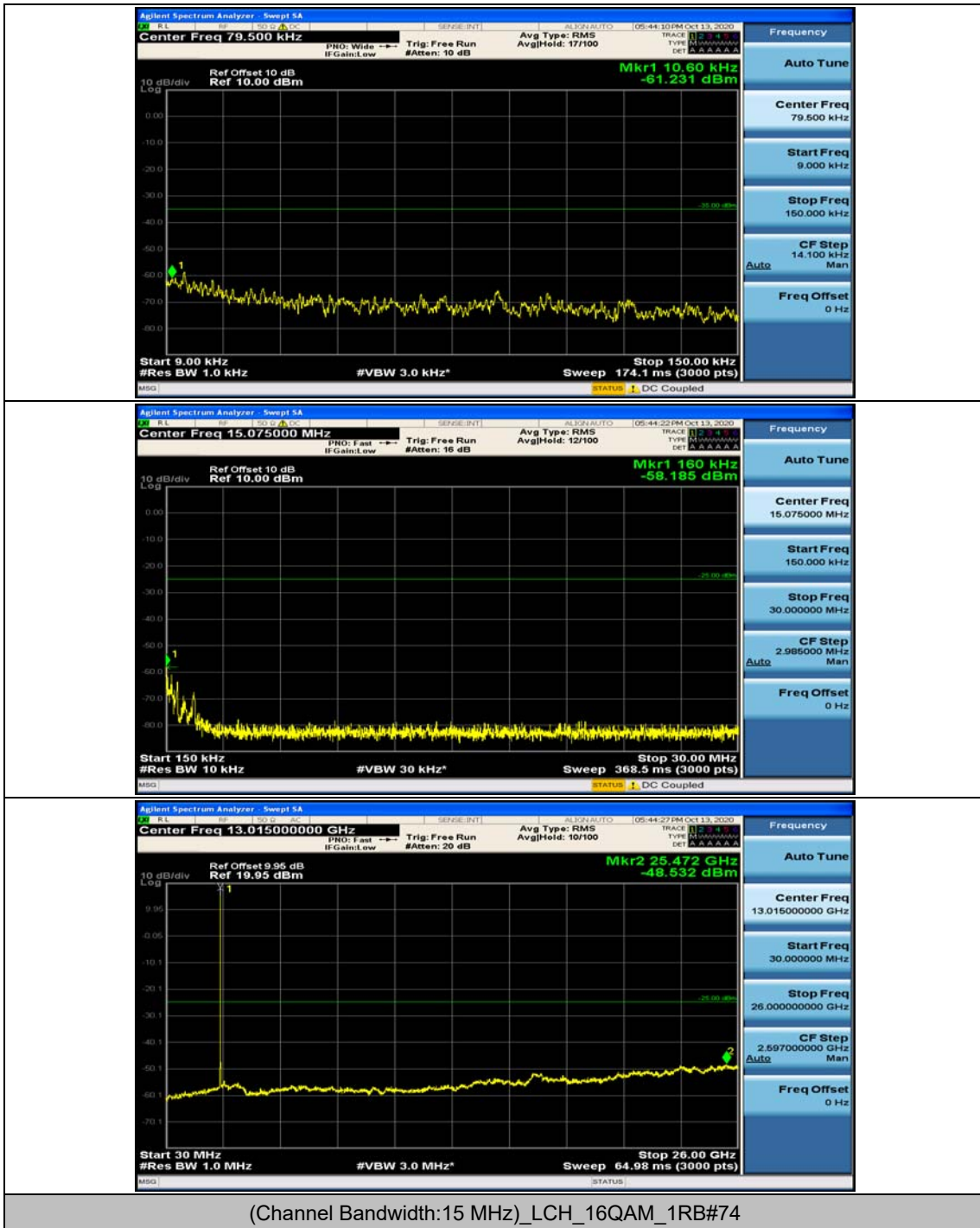


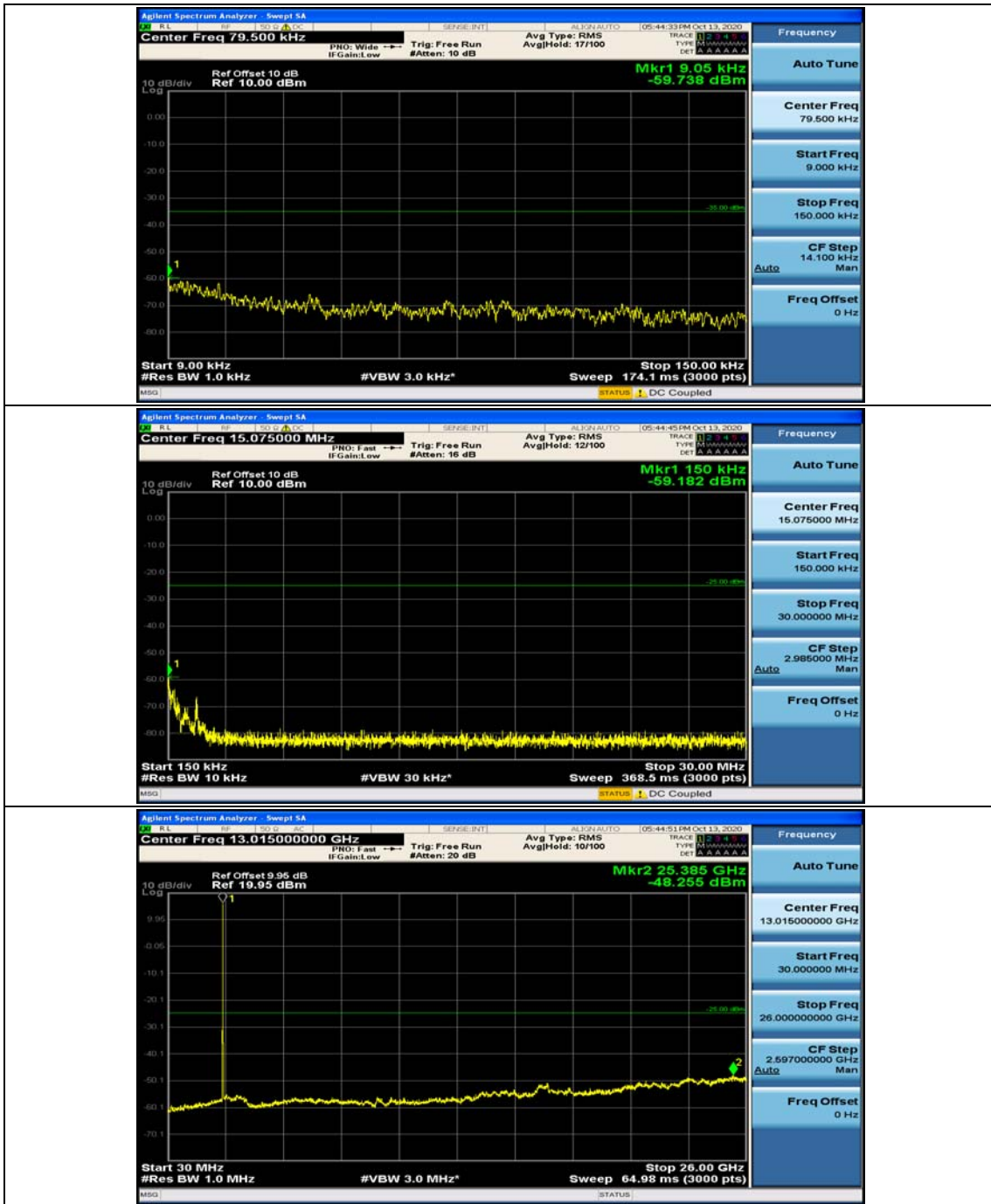




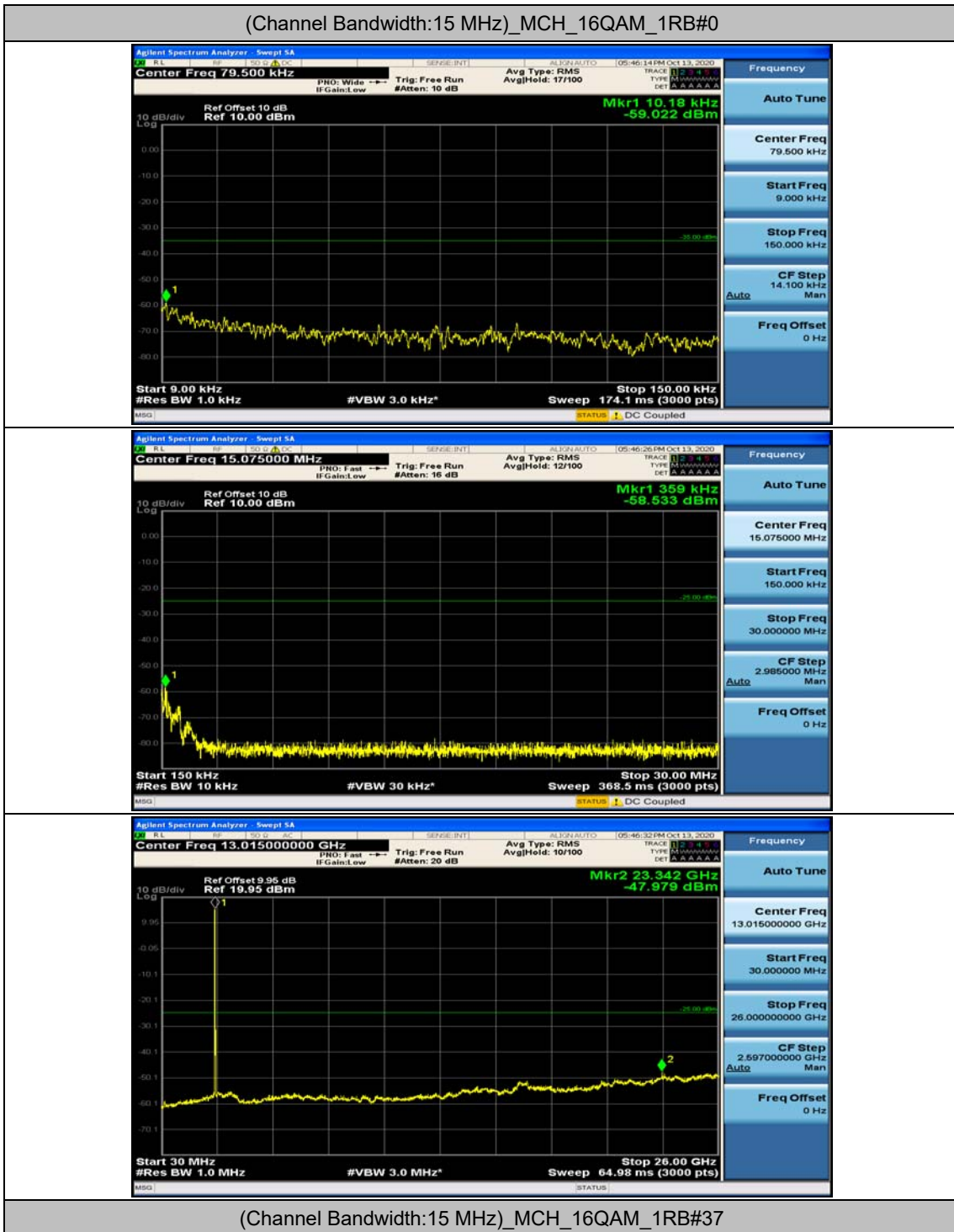


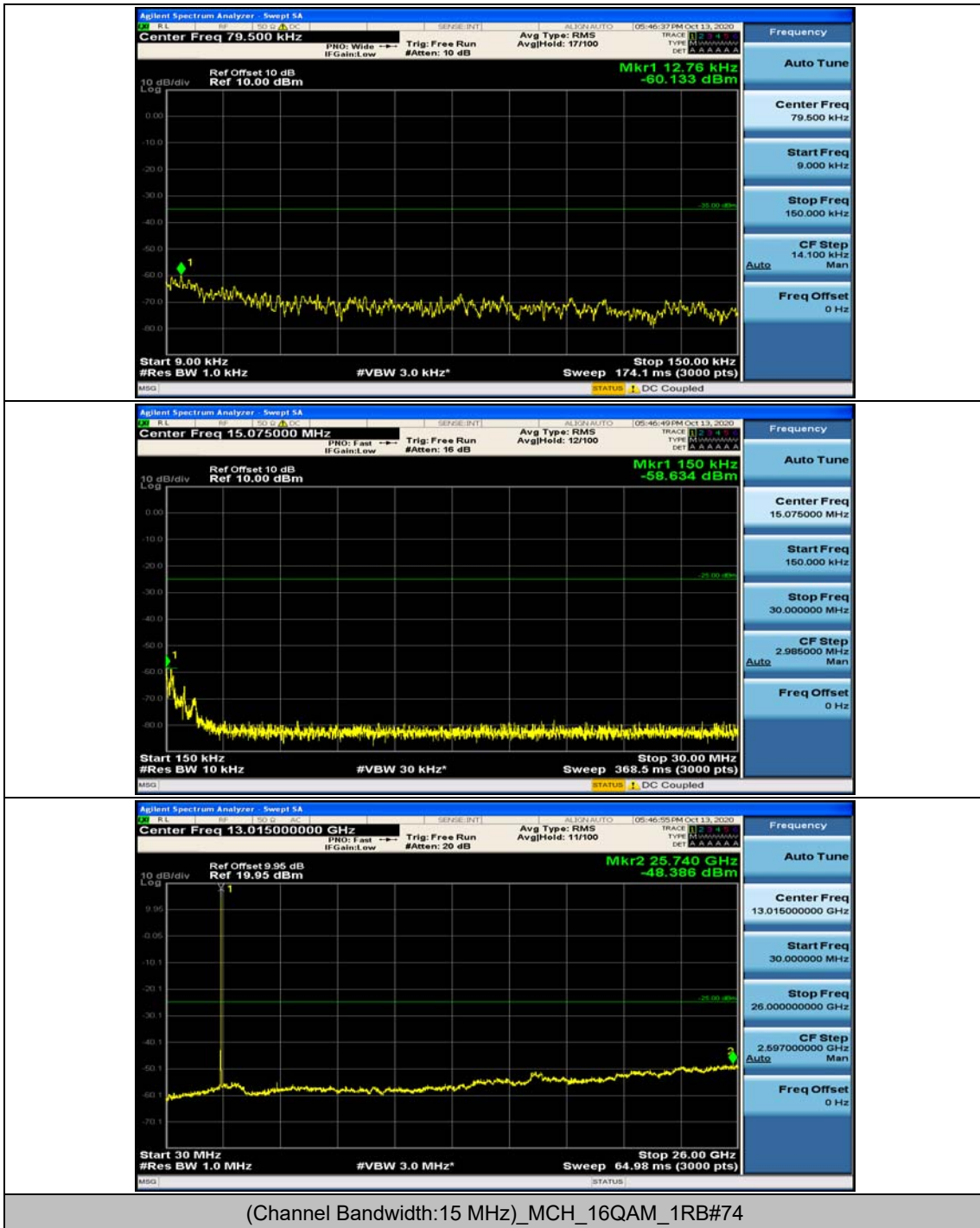


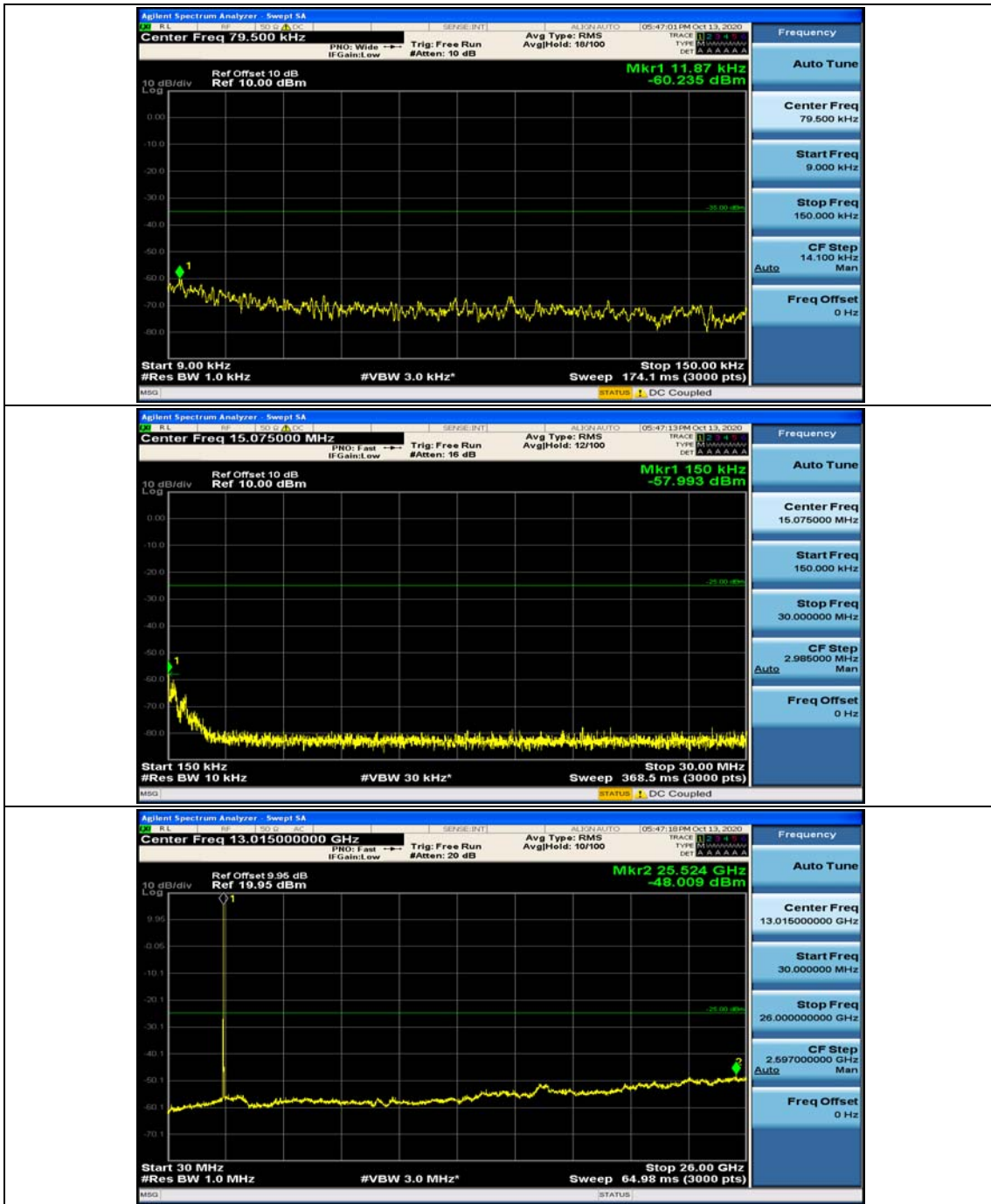


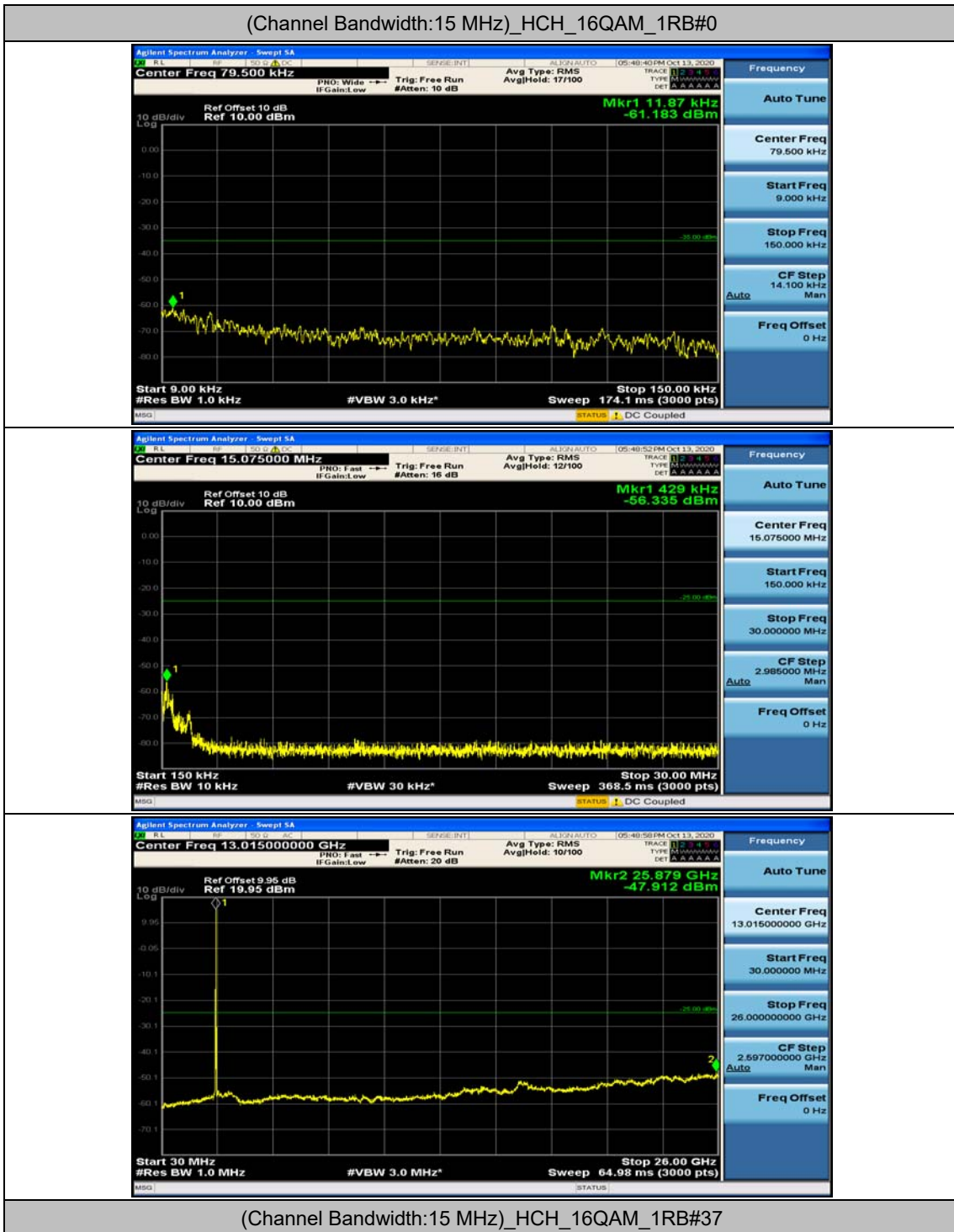


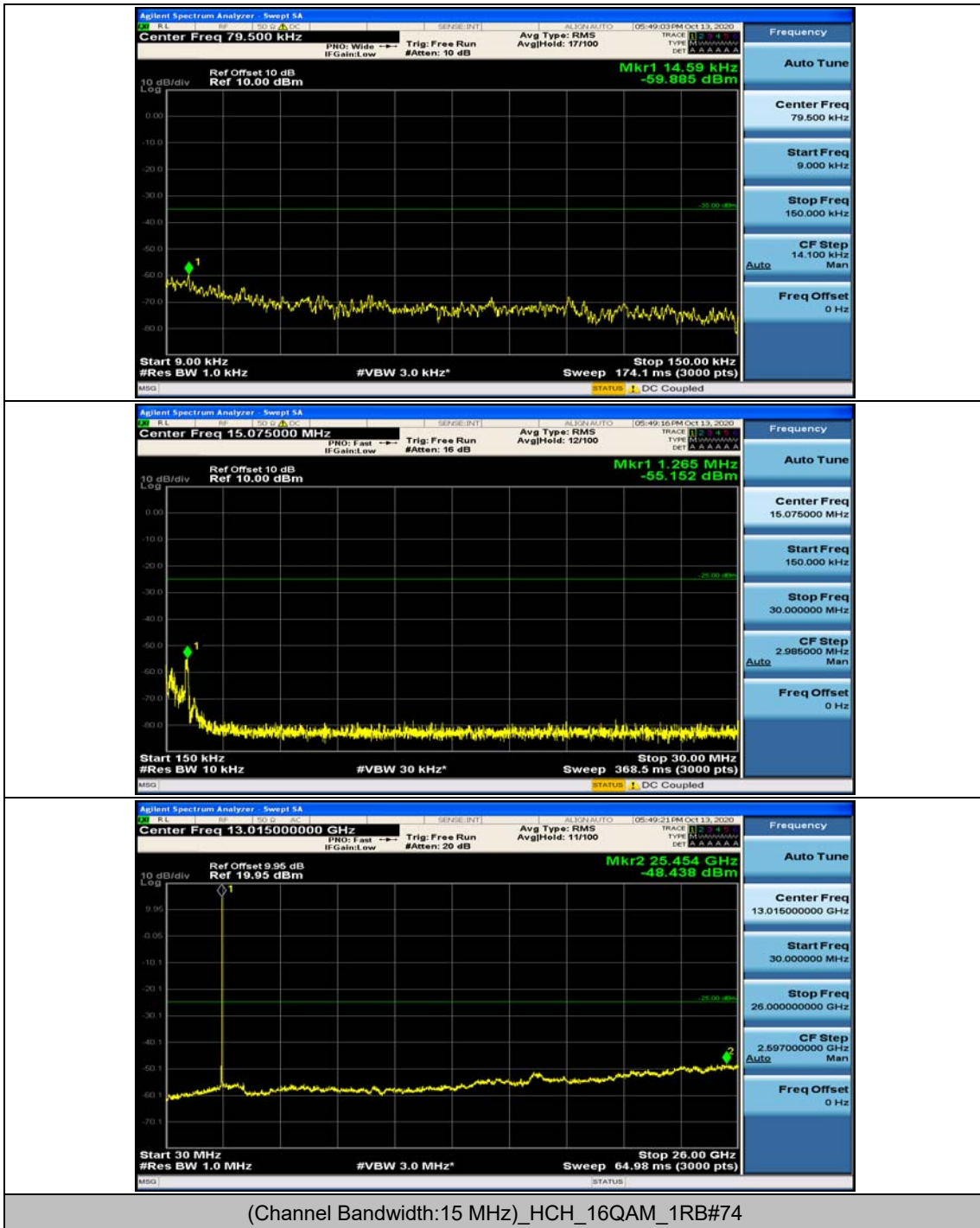




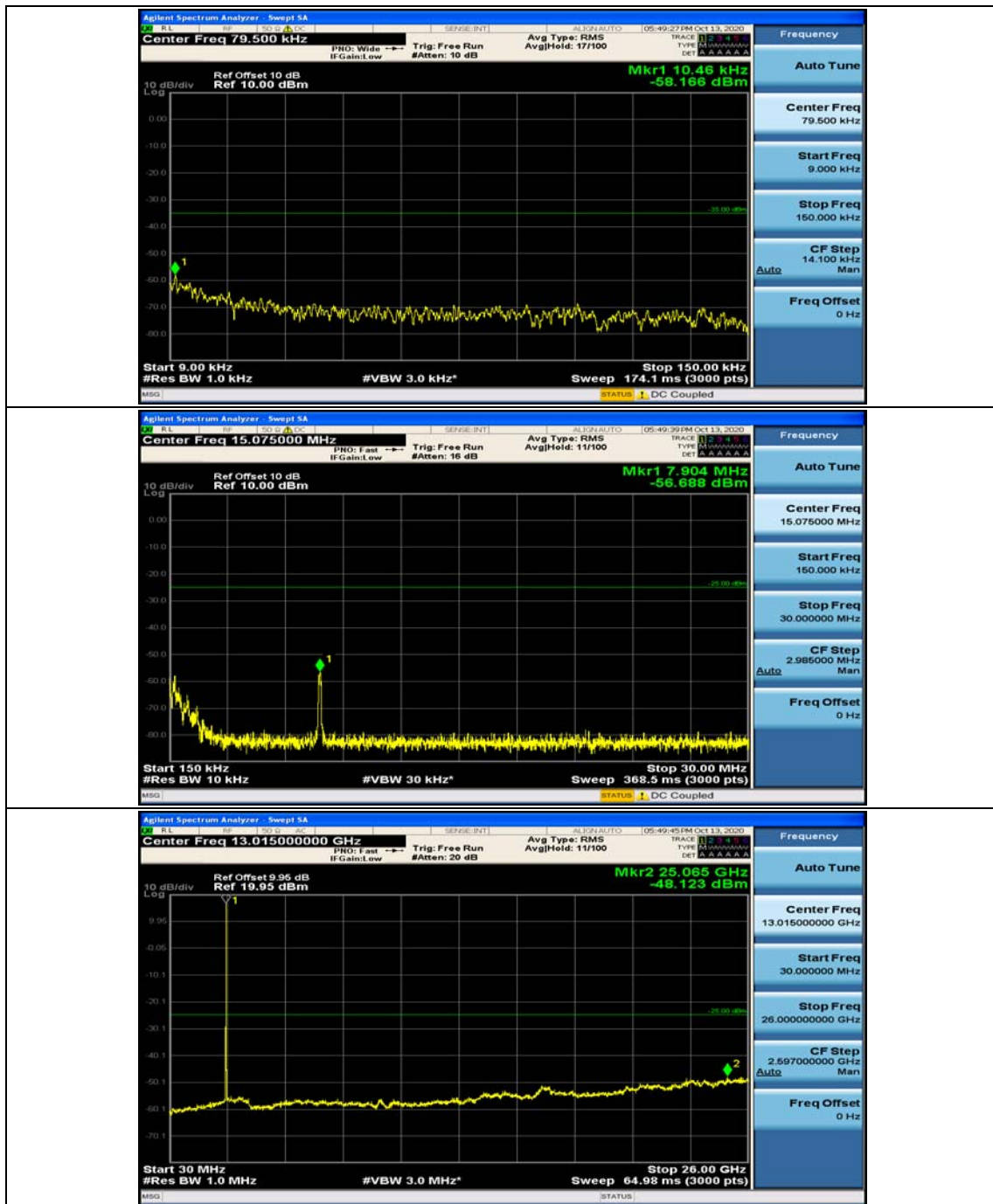




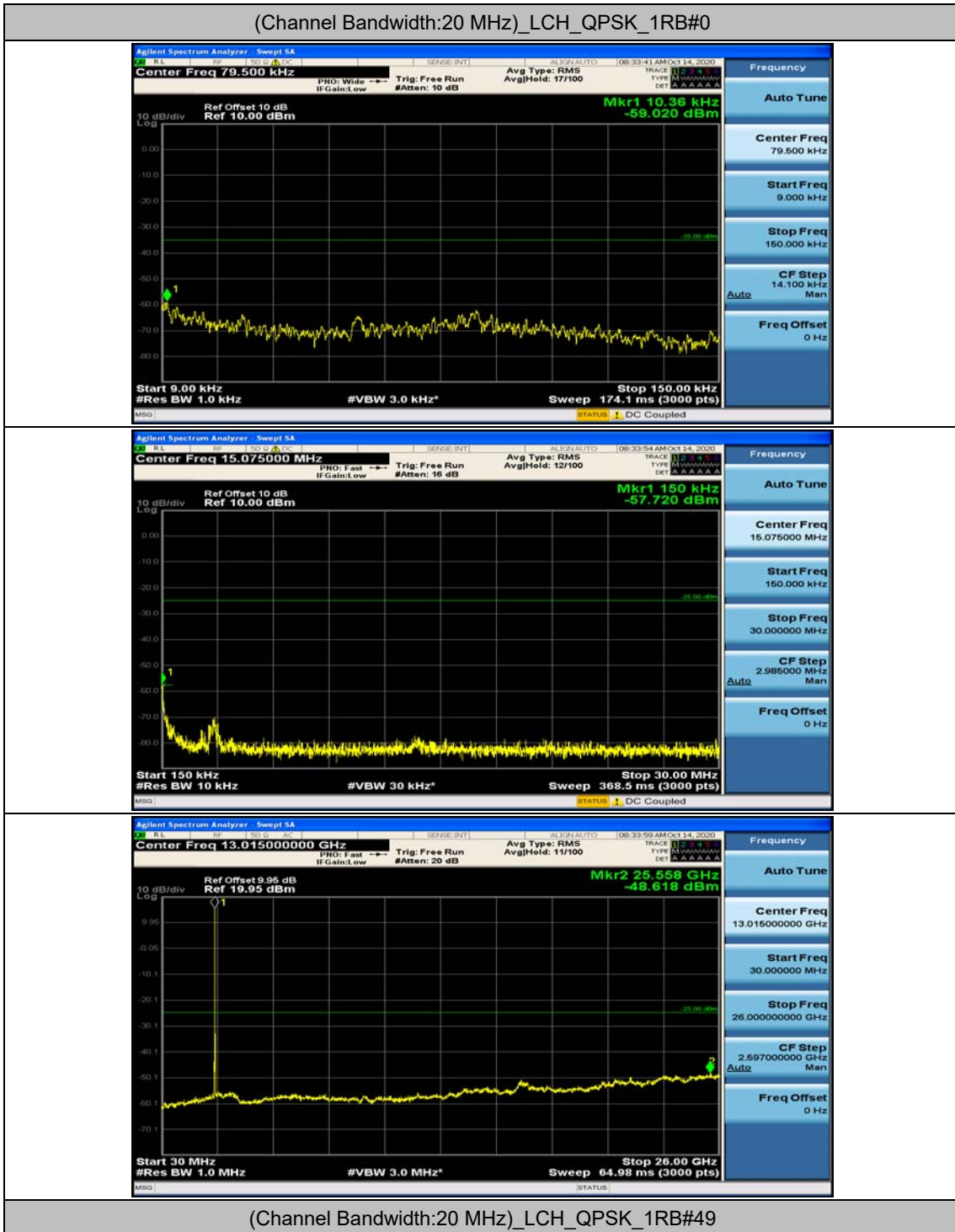


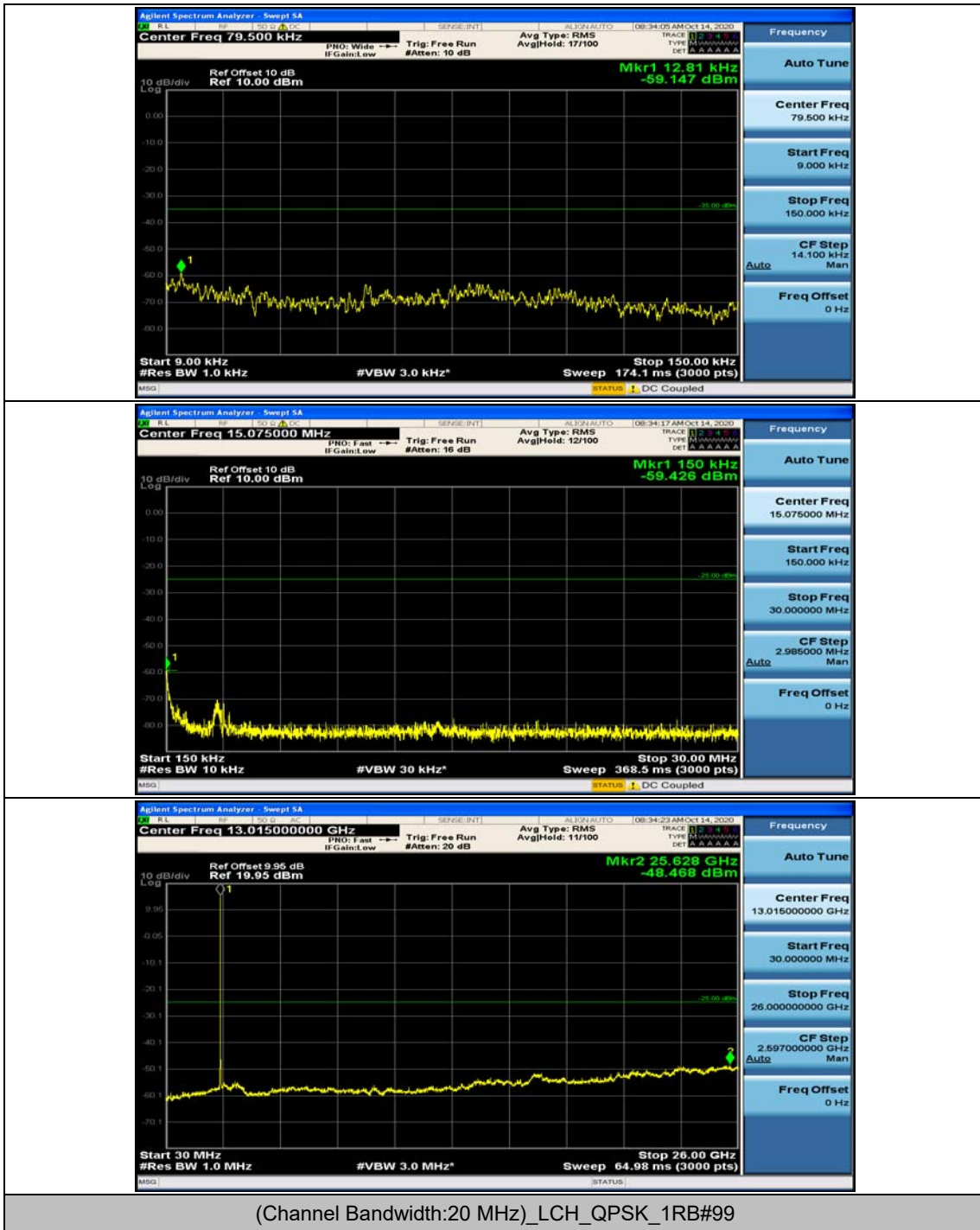


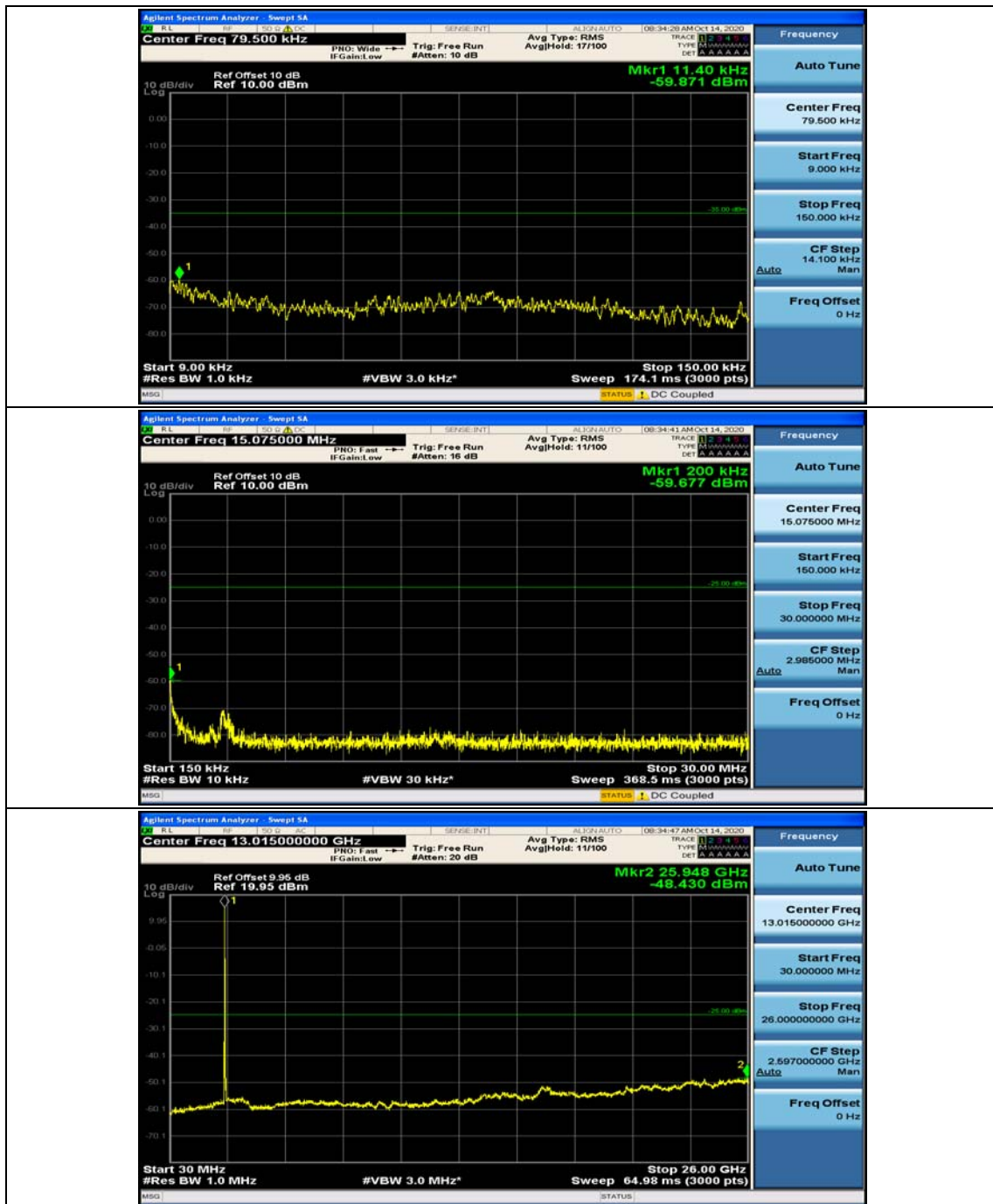


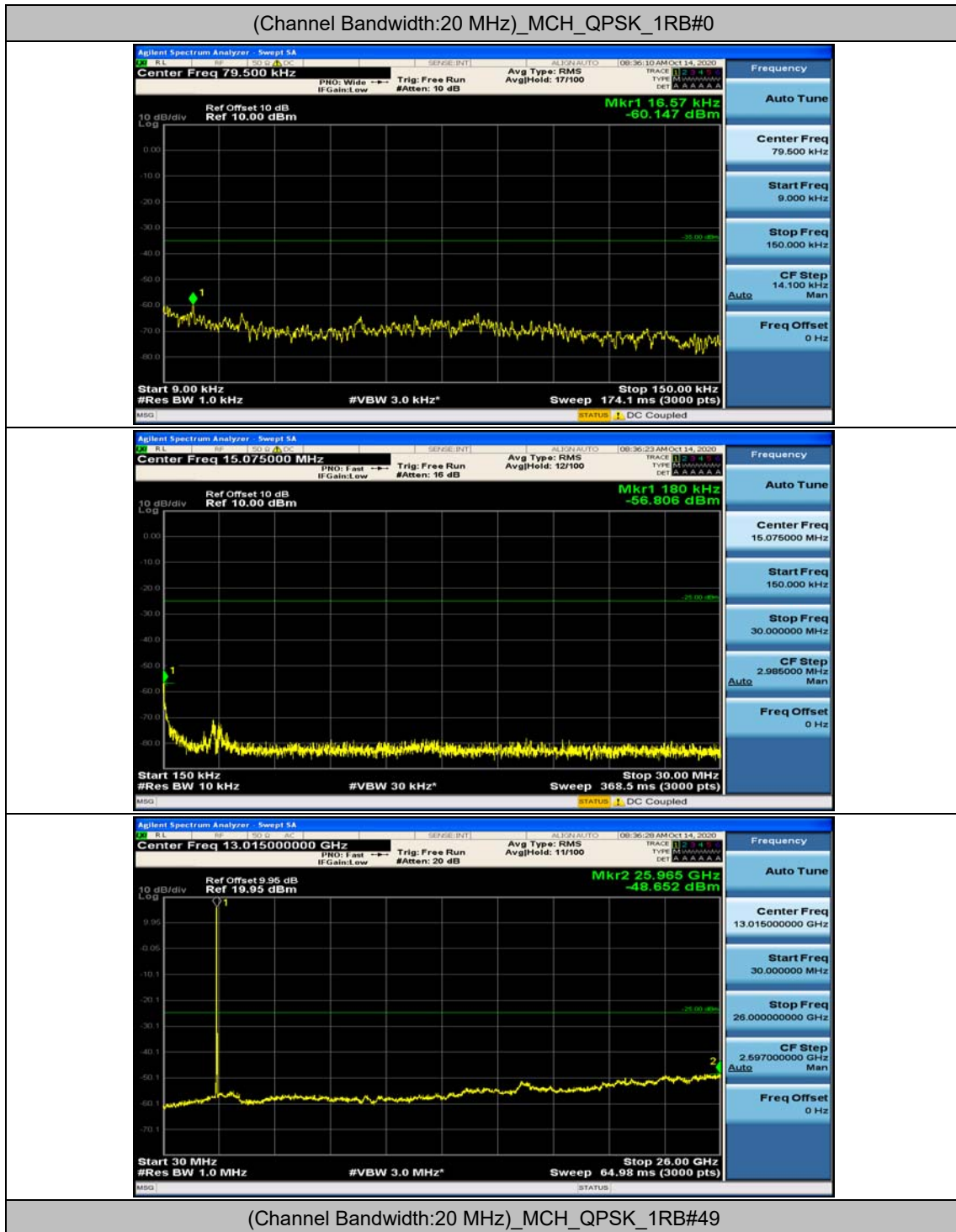


**Channel Bandwidth: 20 MHz**

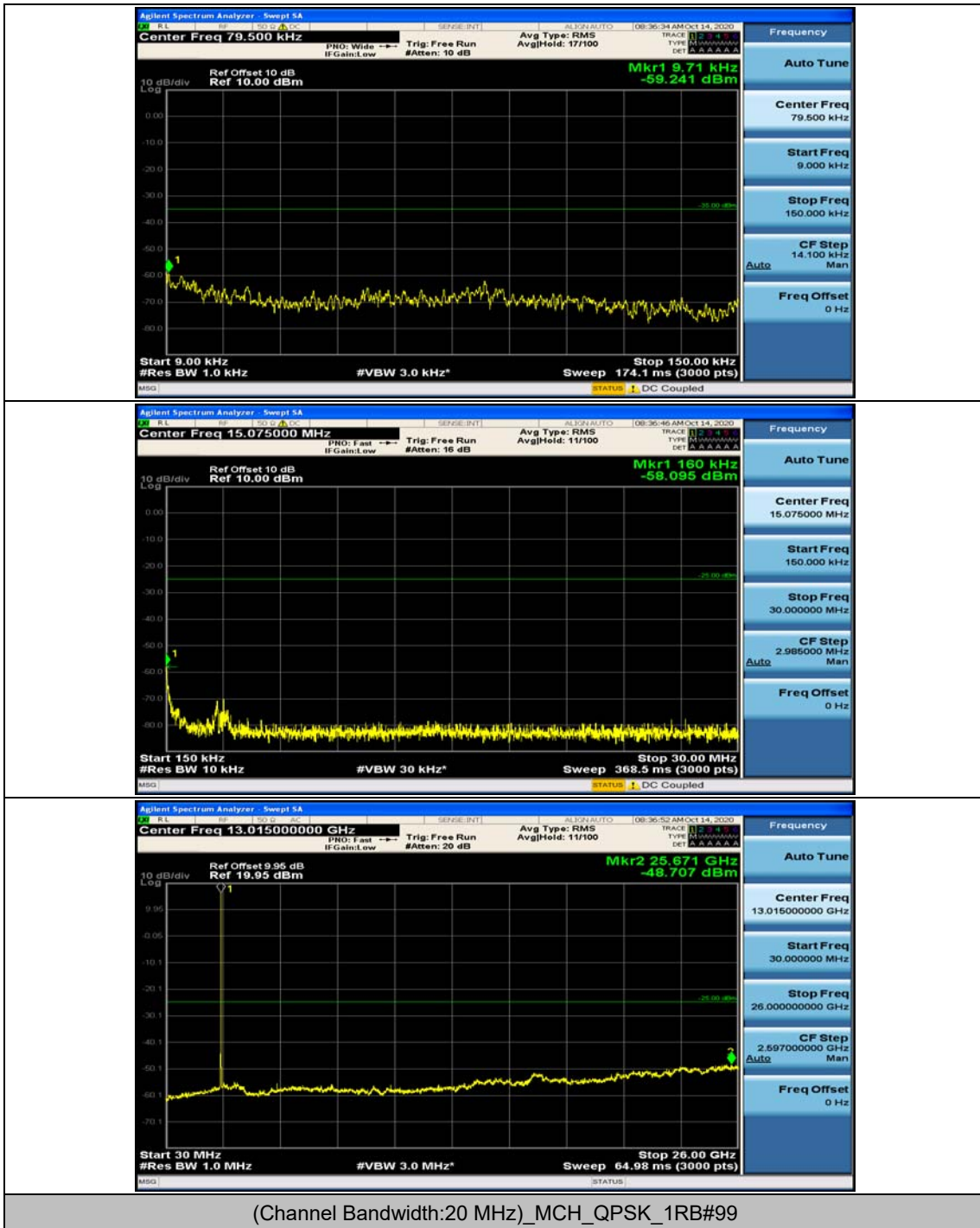


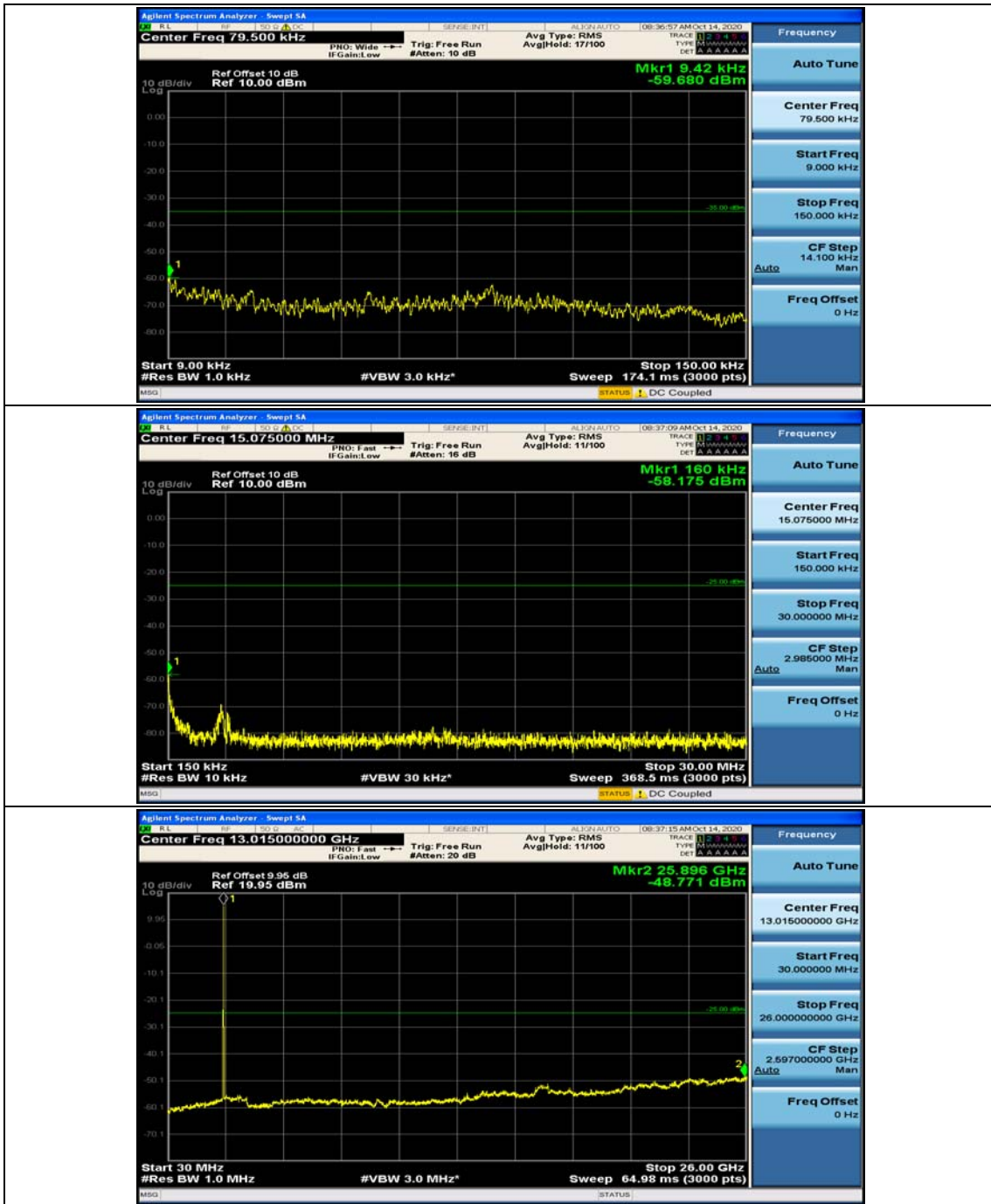




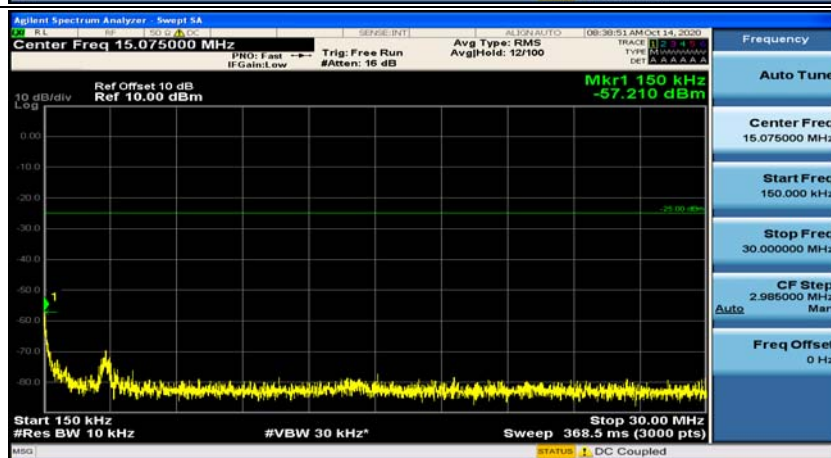
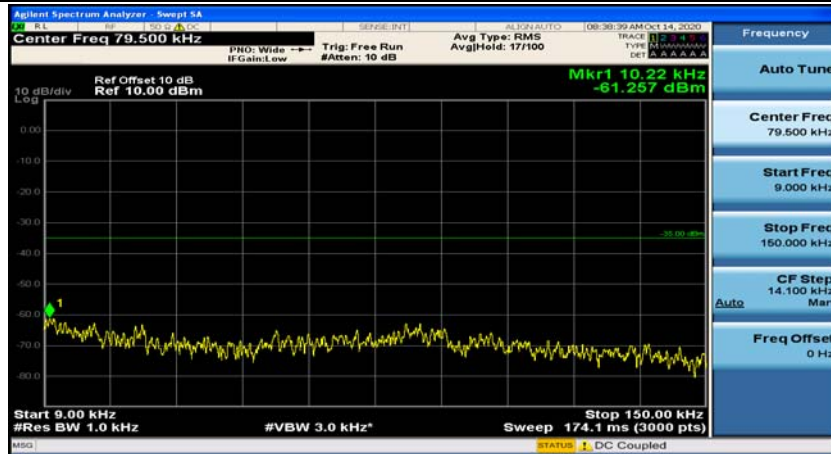




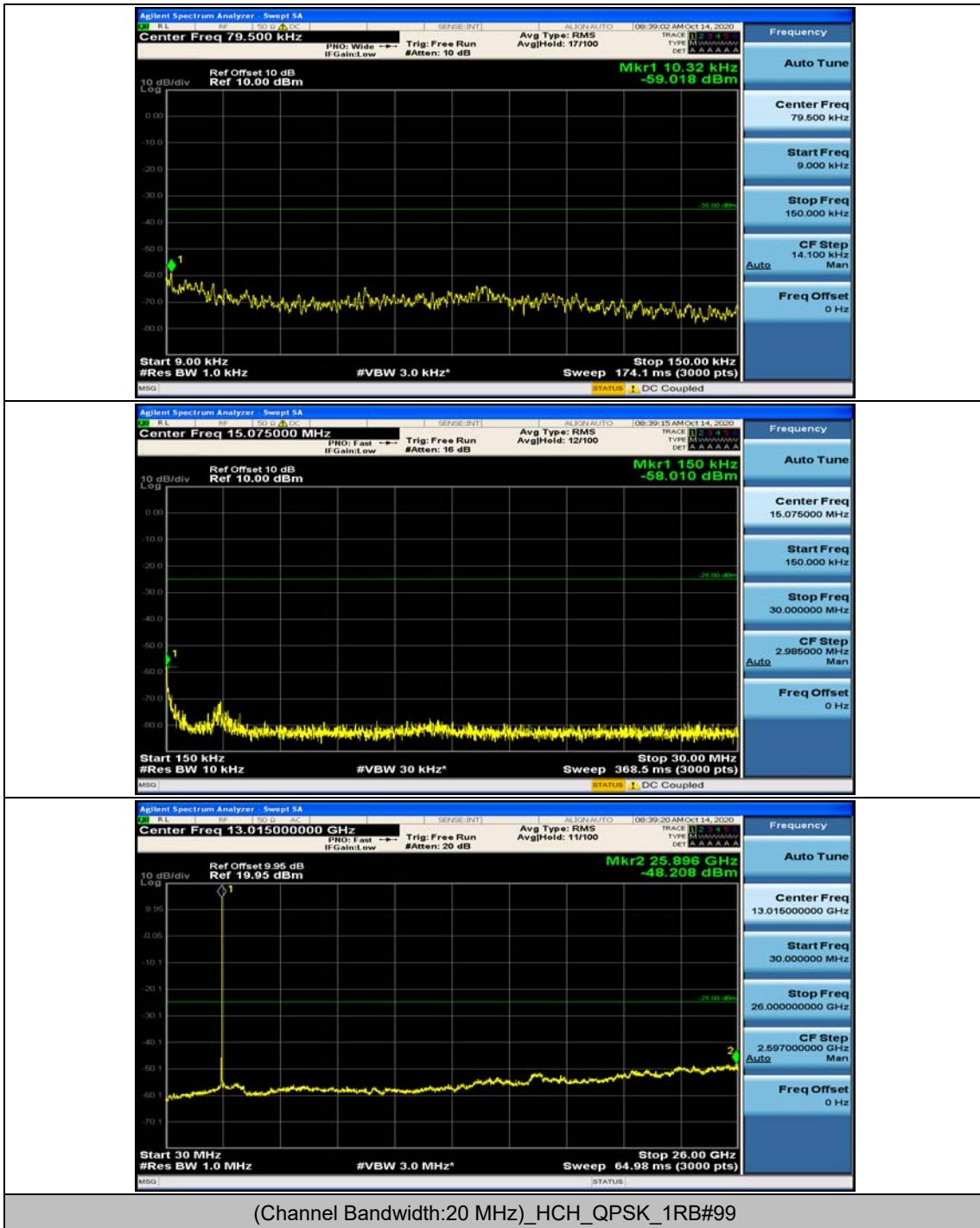


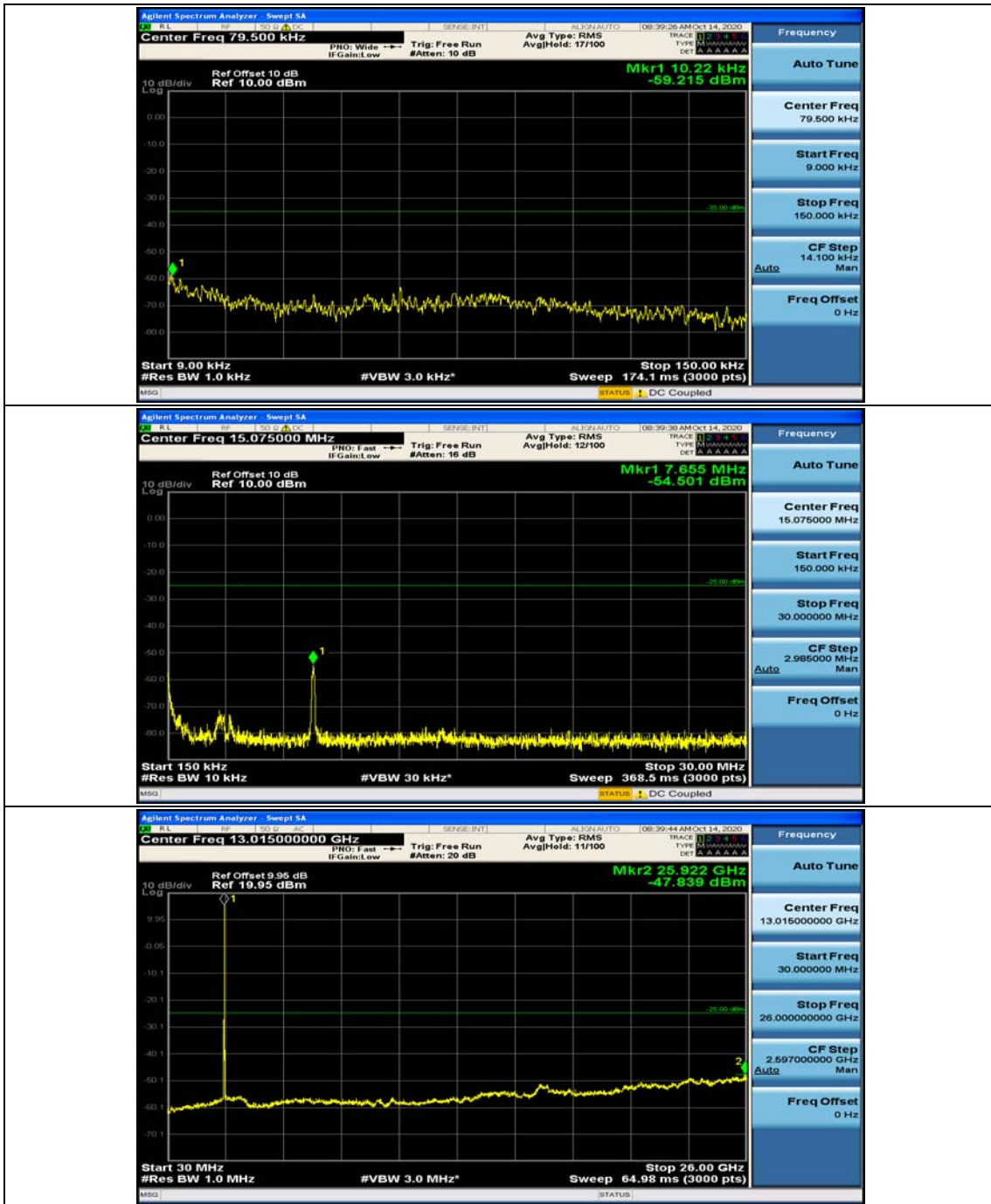


(Channel Bandwidth:20 MHz)\_HCH\_QPSK\_1RB#0

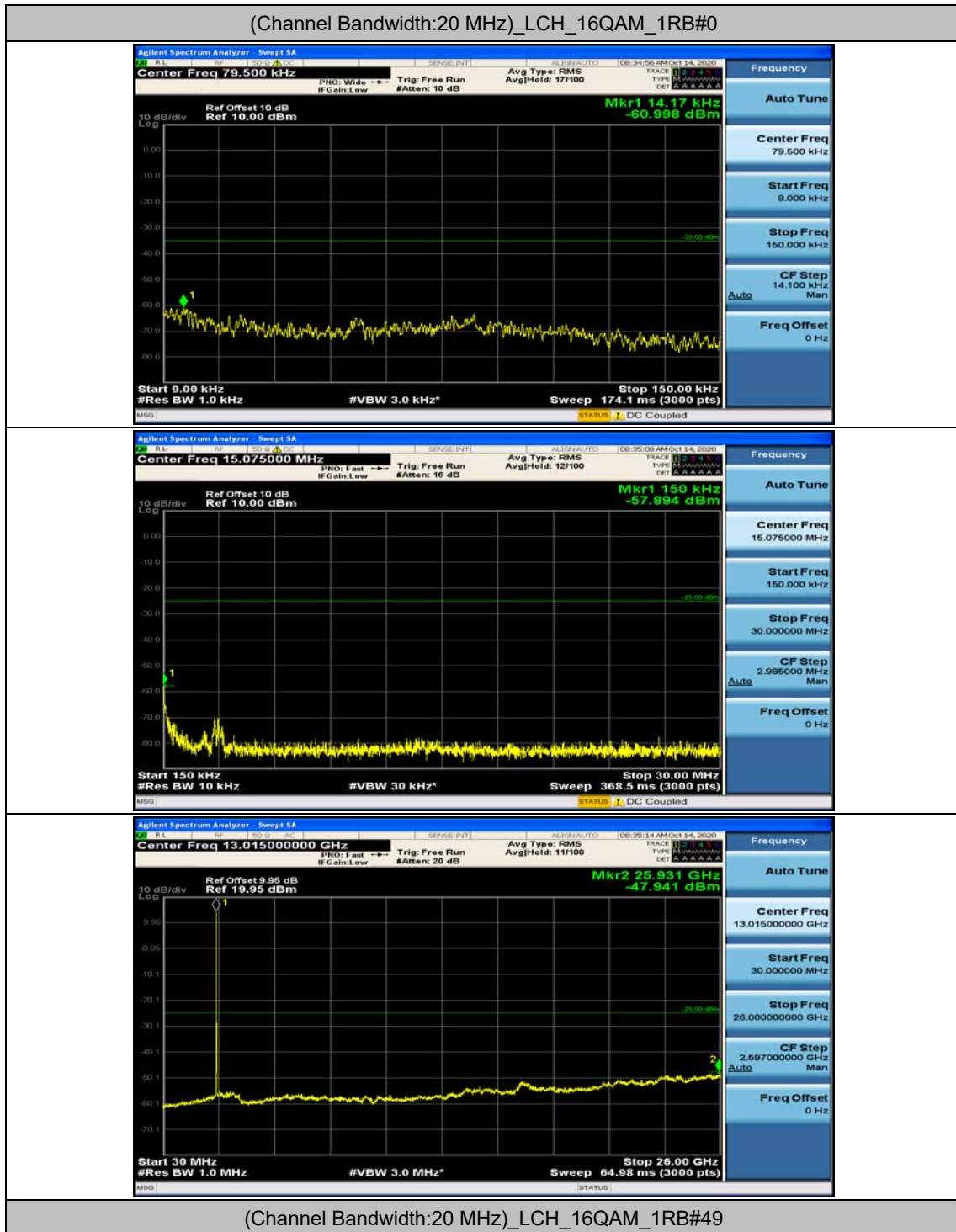


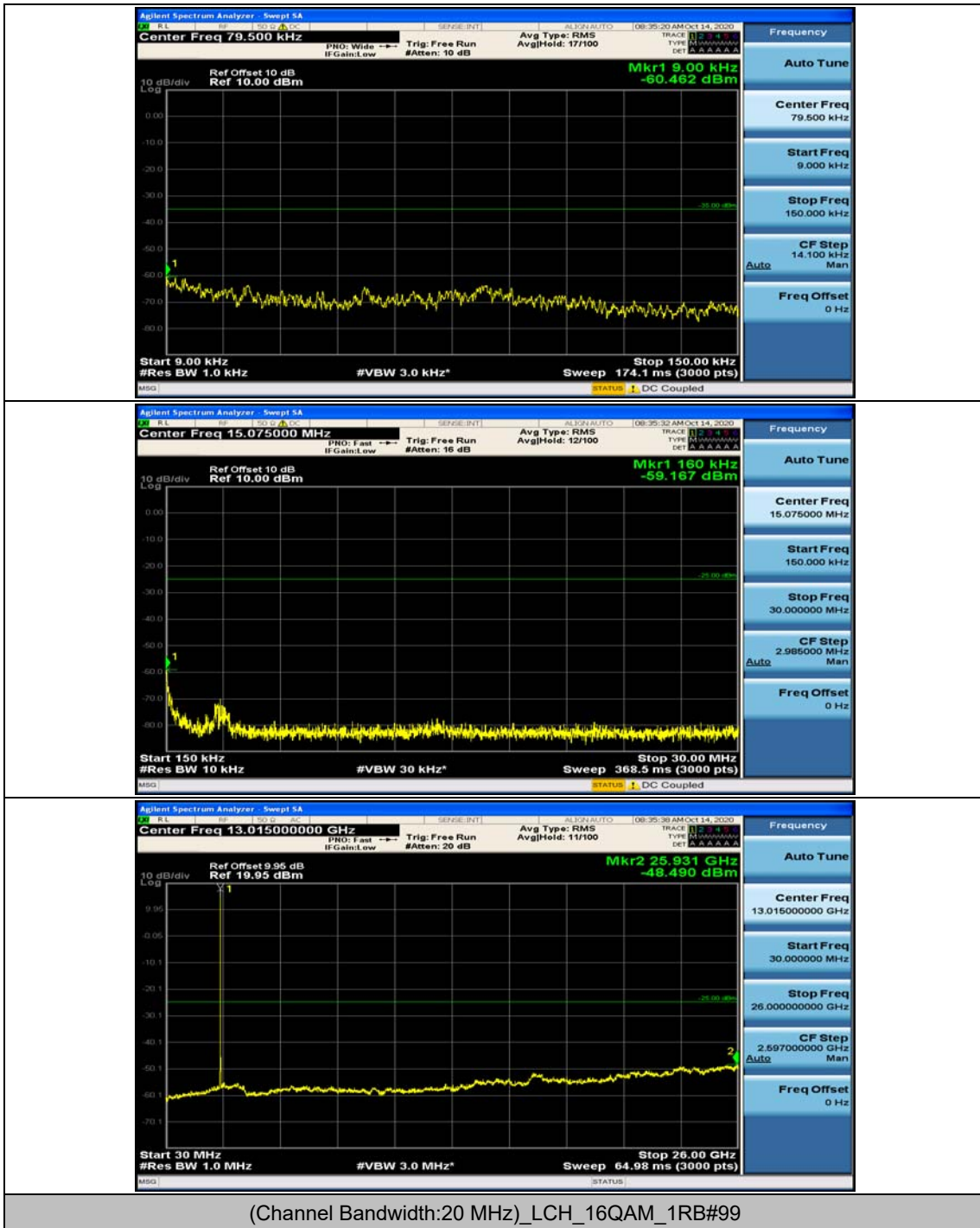
(Channel Bandwidth:20 MHz)\_HCH\_QPSK\_1RB#49

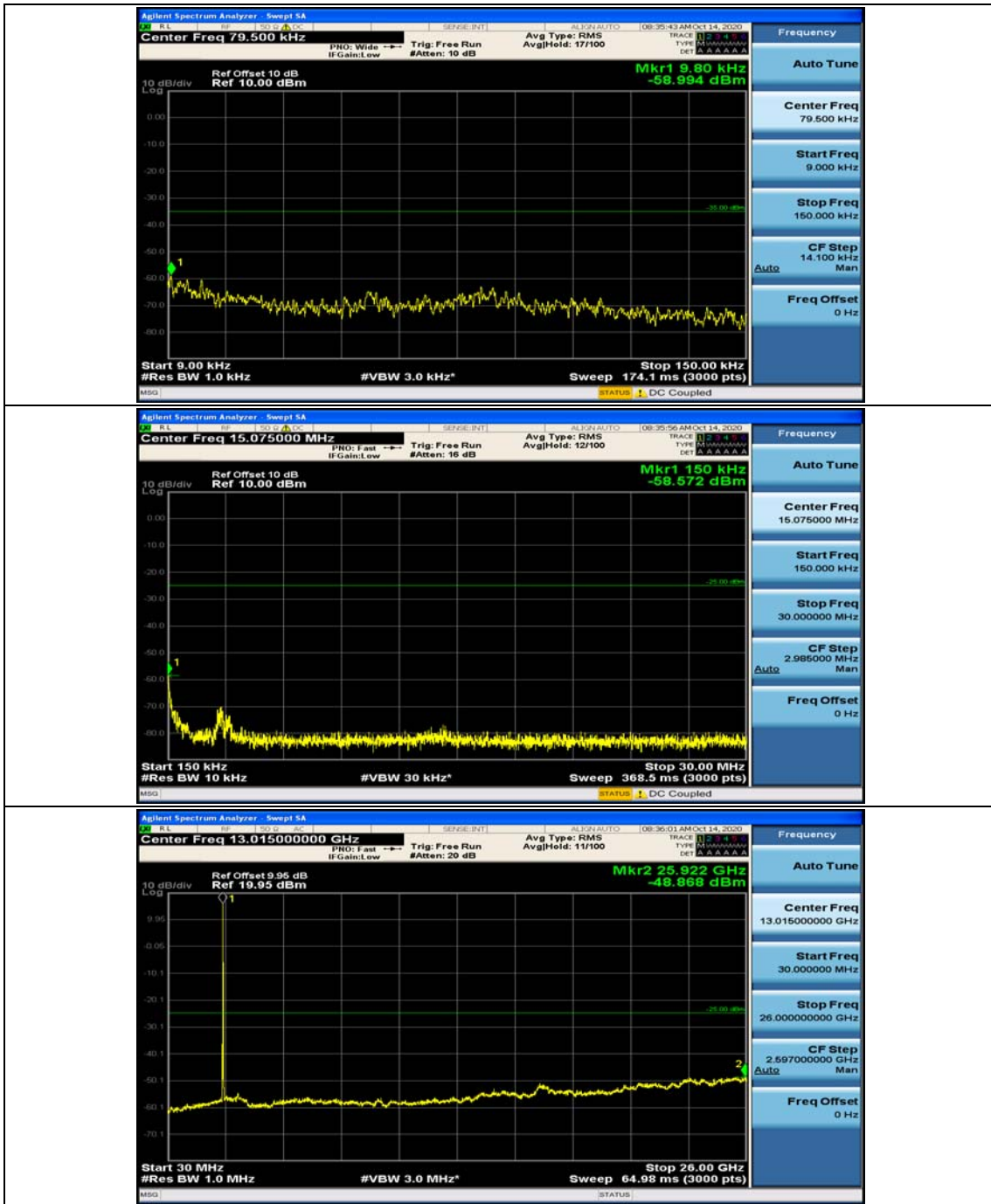


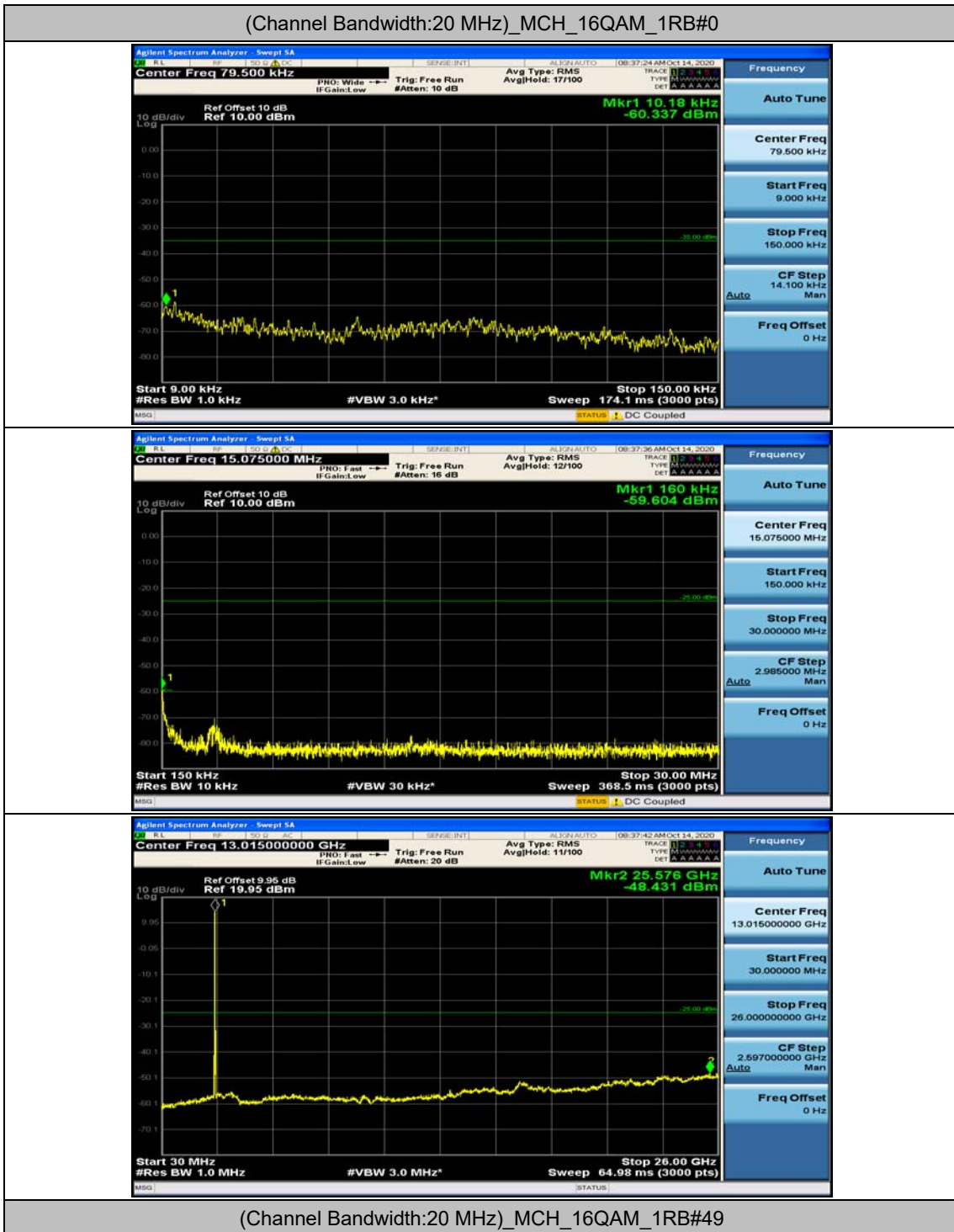


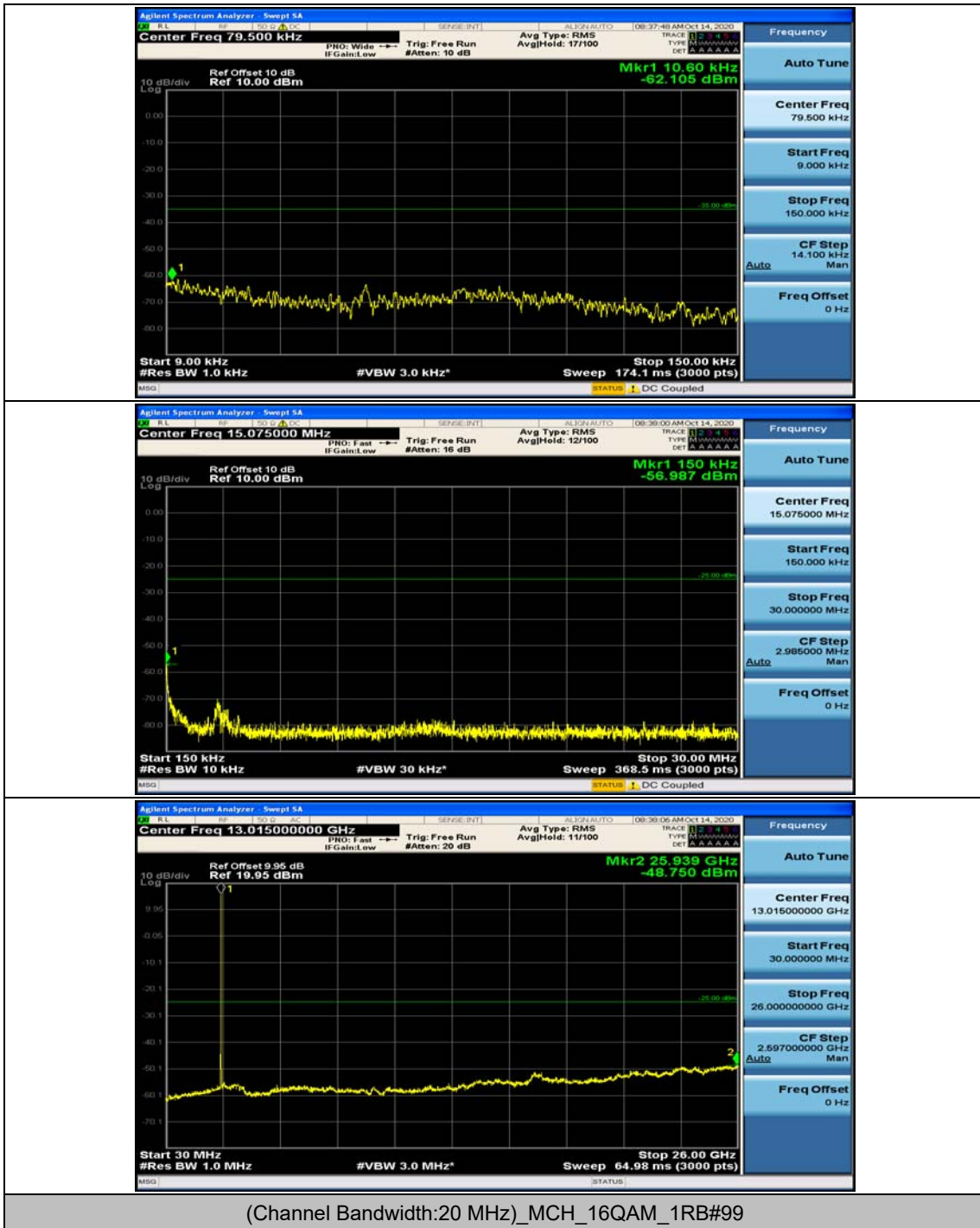




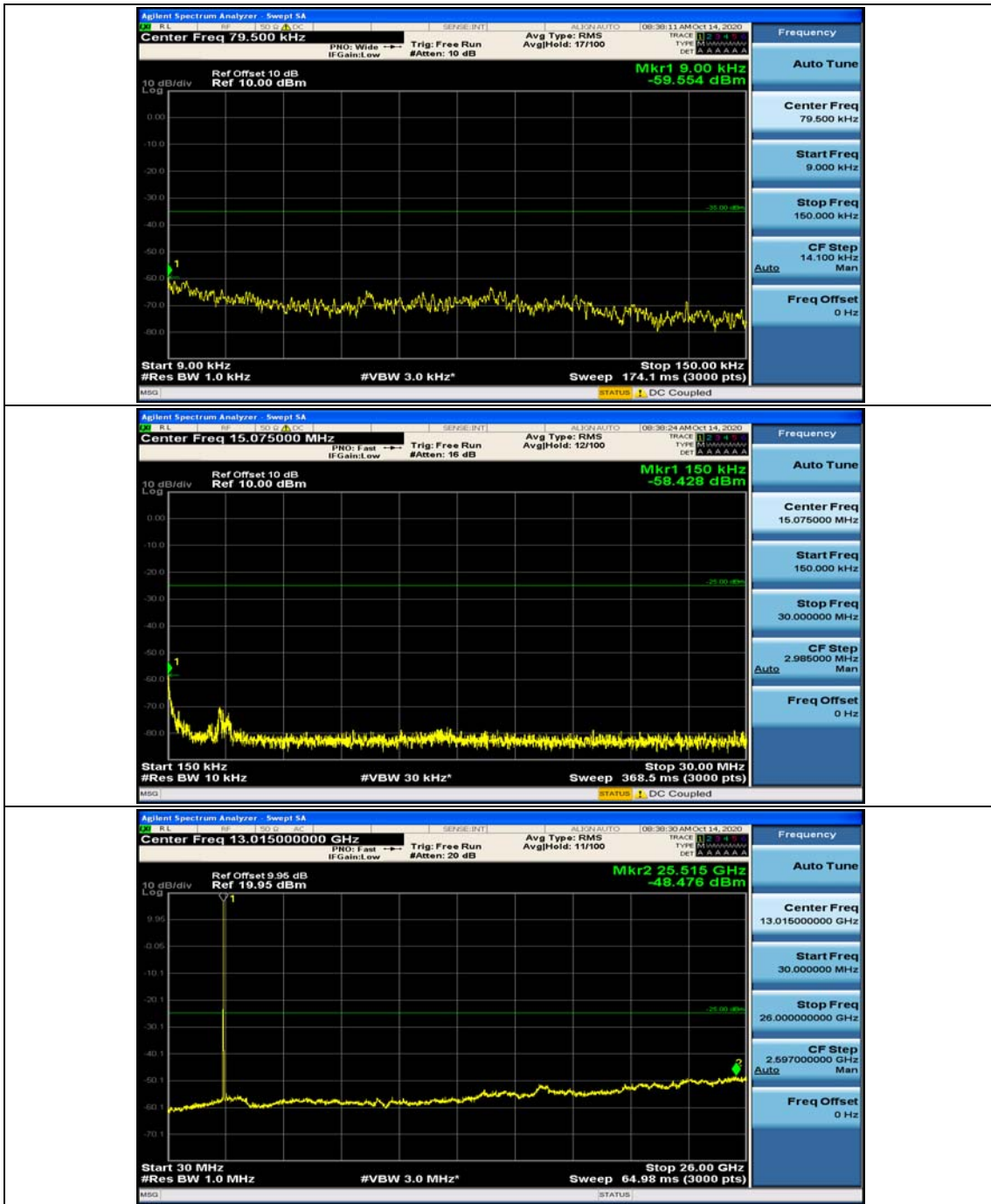


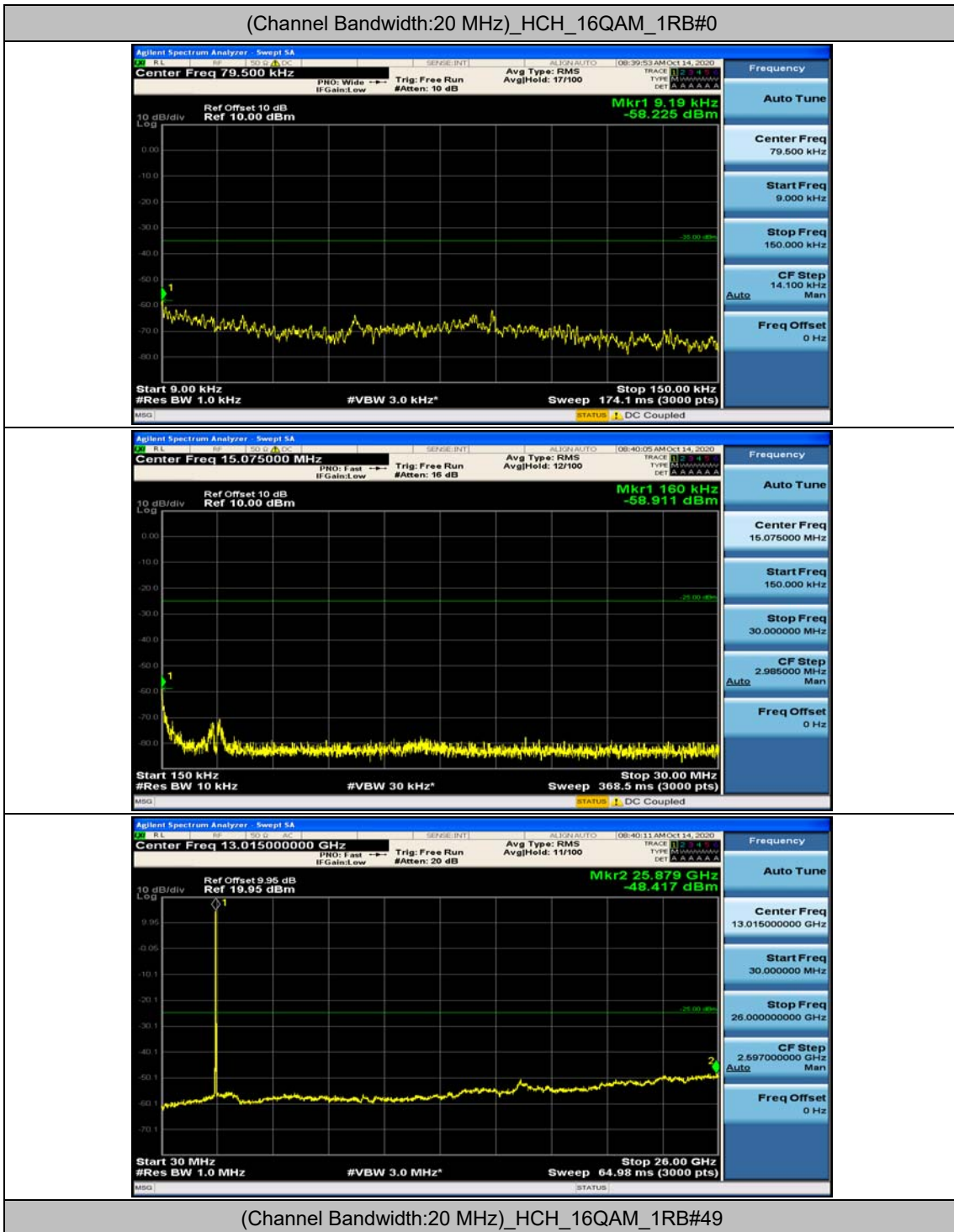


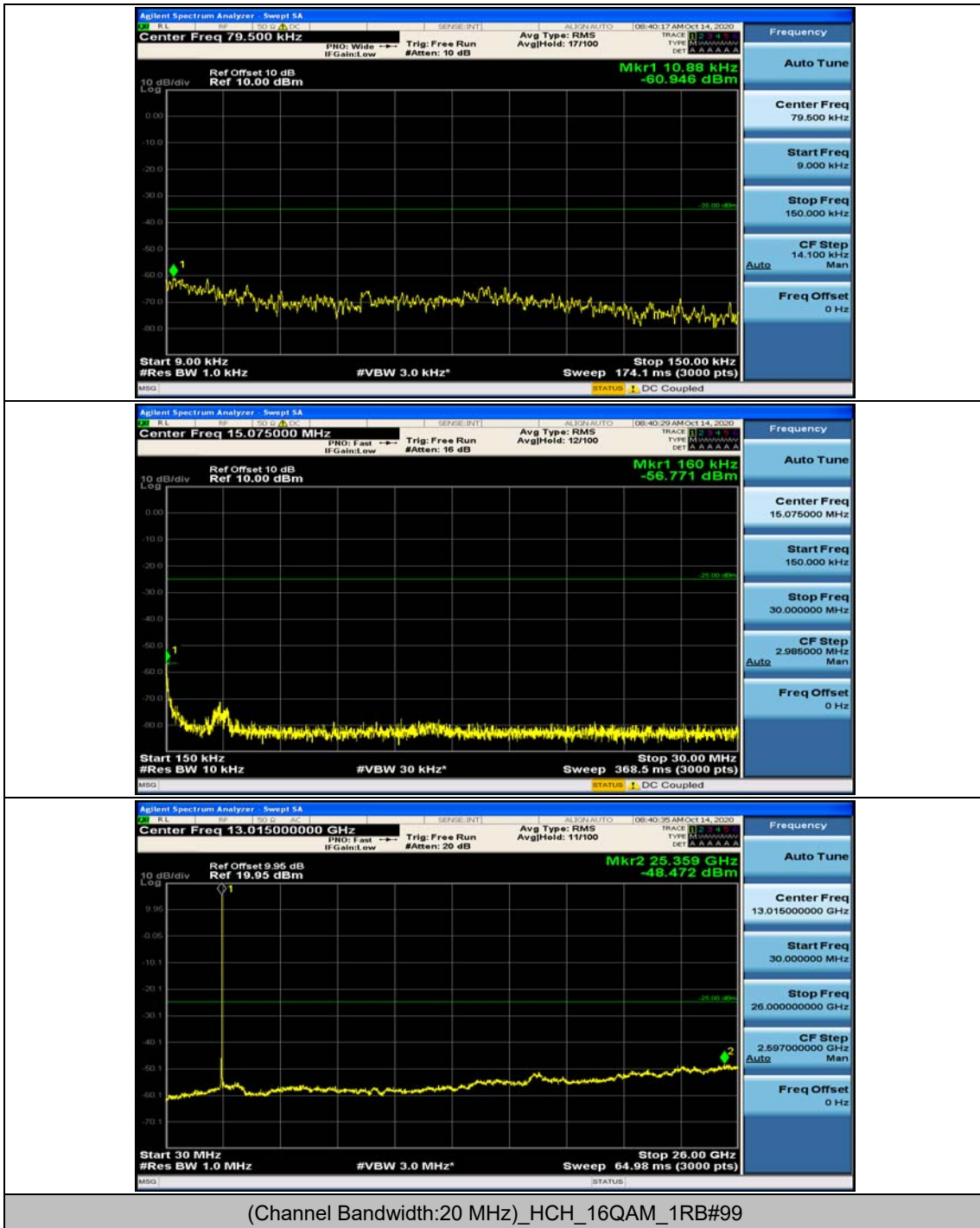


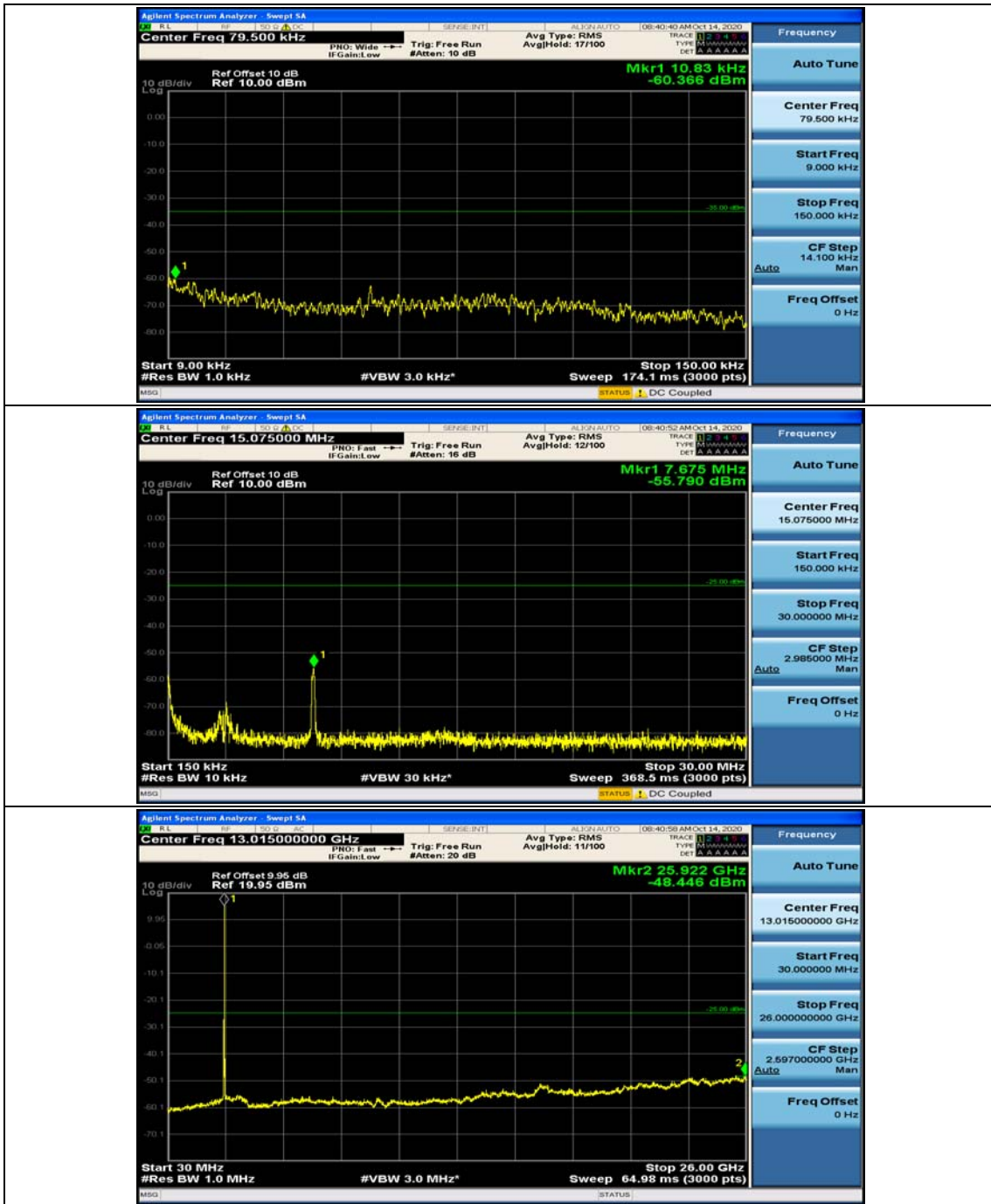












## Appendix F: Frequency Stability

### 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	4.88	0.001950	± 2.5	PASS
		VN	TN	4.8	0.001918	± 2.5	PASS
		VH	TN	-1.04	-0.000416	± 2.5	PASS
	MCH	VL	TN	1.72	0.000679	± 2.5	PASS
		VN	TN	1.82	0.000718	± 2.5	PASS
		VH	TN	4.79	0.001890	± 2.5	PASS
	HCH	VL	TN	-1.13	-0.000440	± 2.5	PASS
		VN	TN	-0.93	-0.000362	± 2.5	PASS
		VH	TN	4.28	0.001667	± 2.5	PASS
16QAM	LCH	VL	TN	3.1	0.001239	± 2.5	PASS
		VN	TN	-1.36	-0.000543	± 2.5	PASS
		VH	TN	2.97	0.001187	± 2.5	PASS
	MCH	VL	TN	-1.05	-0.000414	± 2.5	PASS
		VN	TN	0.47	0.000185	± 2.5	PASS
		VH	TN	-1.89	-0.000746	± 2.5	PASS
	HCH	VL	TN	3.66	0.001426	± 2.5	PASS
		VN	TN	0.68	0.000265	± 2.5	PASS
		VH	TN	0.91	0.000354	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	0.38	0.000152	± 2.5	PASS
		VN	-20	3.27	0.001307	± 2.5	PASS
		VN	-10	3.06	0.001223	± 2.5	PASS
		VN	0	0.67	0.000268	± 2.5	PASS
		VN	10	4.45	0.001778	± 2.5	PASS
		VN	20	-1.17	-0.000468	± 2.5	PASS
		VN	30	2.65	0.001059	± 2.5	PASS
		VN	40	3.86	0.001542	± 2.5	PASS
		VN	50	0.65	0.000260	± 2.5	PASS
	MCH	VN	-30	3.13	0.001235	± 2.5	PASS
		VN	-20	2.75	0.001085	± 2.5	PASS



		VN	-10	-0.85	-0.000335	± 2.5	PASS	
		VN	0	3.09	0.001219	± 2.5	PASS	
		VN	10	1.58	0.000623	± 2.5	PASS	
		VN	20	-0.49	-0.000193	± 2.5	PASS	
		VN	30	3.8	0.001499	± 2.5	PASS	
		VN	40	-0.5	-0.000197	± 2.5	PASS	
		VN	50	1.99	0.000785	± 2.5	PASS	
	HCH	VN	-30	-0.36	-0.000140	± 2.5	PASS	
		VN	-20	-1.67	-0.000650	± 2.5	PASS	
		VN	-10	3.85	0.001500	± 2.5	PASS	
		VN	0	3.81	0.001484	± 2.5	PASS	
		VN	10	2.38	0.000927	± 2.5	PASS	
		VN	20	2.31	0.000900	± 2.5	PASS	
		VN	30	0.85	0.000331	± 2.5	PASS	
	16QAM	LCH	VN	40	-1.02	-0.000397	± 2.5	PASS
			VN	50	-0.35	-0.000136	± 2.5	PASS
			VN	-30	0.63	0.000252	± 2.5	PASS
			VN	-20	2.68	0.001071	± 2.5	PASS
			VN	-10	1.88	0.000751	± 2.5	PASS
VN			0	-1.92	-0.000767	± 2.5	PASS	
VN			10	-1.58	-0.000631	± 2.5	PASS	
VN			20	-1.93	-0.000771	± 2.5	PASS	
VN			30	1.59	0.000635	± 2.5	PASS	
MCH		VN	40	-1.77	-0.000707	± 2.5	PASS	
		VN	50	1.02	0.000408	± 2.5	PASS	
		VN	-30	2.97	0.001172	± 2.5	PASS	
		VN	-20	3.91	0.001542	± 2.5	PASS	
		VN	-10	3.49	0.001377	± 2.5	PASS	
		VN	0	1.73	0.000682	± 2.5	PASS	
		VN	10	3.02	0.001191	± 2.5	PASS	
		VN	20	4.73	0.001866	± 2.5	PASS	
		VN	30	3.82	0.001507	± 2.5	PASS	
HCH		VN	40	2.75	0.001085	± 2.5	PASS	
	VN	50	1.47	0.000580	± 2.5	PASS		
	VN	-30	-1.91	-0.000744	± 2.5	PASS		
	VN	-20	-0.67	-0.000261	± 2.5	PASS		
	VN	-10	-0.94	-0.000366	± 2.5	PASS		
	VN	0	4.92	0.001916	± 2.5	PASS		
	VN	10	3.73	0.001453	± 2.5	PASS		
VN	20	0.67	0.000261	± 2.5	PASS			
VN	30	0.91	0.000354	± 2.5	PASS			

		VN	40	2.05	0.000798	± 2.5	PASS
		VN	50	3.06	0.001192	± 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	-1.27	-0.000507	± 2.5	PASS
		VN	TN	4.27	0.001705	± 2.5	PASS
		VH	TN	-1.32	-0.000527	± 2.5	PASS
	MCH	VL	TN	-1.6	-0.000631	± 2.5	PASS
		VN	TN	0.57	0.000225	± 2.5	PASS
		VH	TN	-1.42	-0.000560	± 2.5	PASS
	HCH	VL	TN	1.5	0.000585	± 2.5	PASS
		VN	TN	-2	-0.000780	± 2.5	PASS
		VH	TN	1.43	0.000558	± 2.5	PASS
16QAM	LCH	VL	TN	-1.14	-0.000455	± 2.5	PASS
		VN	TN	0.91	0.000363	± 2.5	PASS
		VH	TN	-0.31	-0.000124	± 2.5	PASS
	MCH	VL	TN	4.8	0.001893	± 2.5	PASS
		VN	TN	3.36	0.001325	± 2.5	PASS
		VH	TN	1.59	0.000627	± 2.5	PASS
	HCH	VL	TN	-0.25	-0.000097	± 2.5	PASS
		VN	TN	-0.39	-0.000152	± 2.5	PASS
		VH	TN	4.84	0.001887	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.3	0.000519	± 2.5	PASS
		VN	-20	0.85	0.000339	± 2.5	PASS
		VN	-10	3.5	0.001397	± 2.5	PASS
		VN	0	-1.36	-0.000543	± 2.5	PASS
		VN	10	3.81	0.001521	± 2.5	PASS
		VN	20	3.99	0.001593	± 2.5	PASS
		VN	30	4.68	0.001868	± 2.5	PASS
		VN	40	-1.38	-0.000551	± 2.5	PASS
		VN	50	3.21	0.001281	± 2.5	PASS
	MCH	VN	-30	4.85	0.001913	± 2.5	PASS
		VN	-20	0.11	0.000043	± 2.5	PASS
		VN	-10	3.12	0.001231	± 2.5	PASS

		VN	0	0.38	0.000150	± 2.5	PASS		
		VN	10	-0.47	-0.000185	± 2.5	PASS		
		VN	20	-1.85	-0.000730	± 2.5	PASS		
		VN	30	1.96	0.000773	± 2.5	PASS		
		VN	40	-1.13	-0.000446	± 2.5	PASS		
		VN	50	3.6	0.001420	± 2.5	PASS		
	HCH	VN	-30	0.86	0.000335	± 2.5	PASS		
		VN	-20	4.89	0.001906	± 2.5	PASS		
		VN	-10	3.31	0.001290	± 2.5	PASS		
		VN	0	-0.75	-0.000292	± 2.5	PASS		
		VN	10	-0.24	-0.000094	± 2.5	PASS		
		VN	20	3.3	0.001287	± 2.5	PASS		
		VN	30	-0.72	-0.000281	± 2.5	PASS		
		VN	40	2.92	0.001138	± 2.5	PASS		
		VN	50	0.7	0.000273	± 2.5	PASS		
		16QAM	LCH	VN	-30	1.58	0.000631	± 2.5	PASS
				VN	-20	2.87	0.001146	± 2.5	PASS
				VN	-10	1.4	0.000559	± 2.5	PASS
				VN	0	3.58	0.001429	± 2.5	PASS
VN	10			2.88	0.001150	± 2.5	PASS		
VN	20			0.9	0.000359	± 2.5	PASS		
VN	30			3.61	0.001441	± 2.5	PASS		
VN	40			0.85	0.000339	± 2.5	PASS		
VN	50			3.75	0.001497	± 2.5	PASS		
MCH	VN		-30	1.15	0.000454	± 2.5	PASS		
	VN		-20	1.51	0.000596	± 2.5	PASS		
	VN		-10	-0.75	-0.000296	± 2.5	PASS		
	VN		0	2.52	0.000994	± 2.5	PASS		
	VN		10	4.32	0.001704	± 2.5	PASS		
	VN		20	-1.8	-0.000710	± 2.5	PASS		
	VN		30	2.92	0.001152	± 2.5	PASS		
	VN		40	0.87	0.000343	± 2.5	PASS		
	VN		50	-1.45	-0.000572	± 2.5	PASS		
HCH	VN		-30	1.59	0.000620	± 2.5	PASS		
	VN	-20	2.85	0.001111	± 2.5	PASS			
	VN	-10	4.01	0.001563	± 2.5	PASS			
	VN	0	-1.53	-0.000596	± 2.5	PASS			
	VN	10	-0.1	-0.000039	± 2.5	PASS			
	VN	20	-0.08	-0.000031	± 2.5	PASS			
	VN	30	2.33	0.000908	± 2.5	PASS			
	VN	40	1.98	0.000772	± 2.5	PASS			

		VN	50	3.31	0.001290	± 2.5	PASS
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**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	0.26	0.000104	± 2.5	PASS
		VN	TN	0.31	0.000124	± 2.5	PASS
		VH	TN	3.35	0.001336	± 2.5	PASS
	MCH	VL	TN	0.86	0.000339	± 2.5	PASS
		VN	TN	1.08	0.000426	± 2.5	PASS
		VH	TN	2.82	0.001112	± 2.5	PASS
	HCH	VL	TN	-1.9	-0.000741	± 2.5	PASS
		VN	TN	4.04	0.001577	± 2.5	PASS
		VH	TN	3.66	0.001428	± 2.5	PASS
16QAM	LCH	VL	TN	4.34	0.001731	± 2.5	PASS
		VN	TN	-0.8	-0.000319	± 2.5	PASS
		VH	TN	1.42	0.000566	± 2.5	PASS
	MCH	VL	TN	4.87	0.001921	± 2.5	PASS
		VN	TN	0.48	0.000189	± 2.5	PASS
		VH	TN	1.48	0.000584	± 2.5	PASS
	HCH	VL	TN	-1.49	-0.000581	± 2.5	PASS
		VN	TN	2.85	0.001112	± 2.5	PASS
		VH	TN	0.04	0.000016	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.54	-0.000614	± 2.5	PASS
		VN	-20	-1.25	-0.000499	± 2.5	PASS
		VN	-10	3.27	0.001304	± 2.5	PASS
		VN	0	2.55	0.001017	± 2.5	PASS
		VN	10	-0.45	-0.000179	± 2.5	PASS
		VN	20	4.58	0.001827	± 2.5	PASS
		VN	30	4.23	0.001687	± 2.5	PASS
		VN	40	1.75	0.000698	± 2.5	PASS
		VN	50	3.84	0.001531	± 2.5	PASS
	MCH	VN	-30	1.91	0.000753	± 2.5	PASS
		VN	-20	-1.44	-0.000568	± 2.5	PASS
		VN	-10	3.8	0.001499	± 2.5	PASS
		VN	0	2.62	0.001034	± 2.5	PASS

		VN	10	0.33	0.000130	± 2.5	PASS		
		VN	20	-0.73	-0.000288	± 2.5	PASS		
		VN	30	2.47	0.000974	± 2.5	PASS		
		VN	40	0.15	0.000059	± 2.5	PASS		
		VN	50	-1.3	-0.000513	± 2.5	PASS		
	HCH	VN	-30	-0.8	-0.000312	± 2.5	PASS		
		VN	-20	1.2	0.000468	± 2.5	PASS		
		VN	-10	0.26	0.000101	± 2.5	PASS		
		VN	0	0.34	0.000133	± 2.5	PASS		
		VN	10	-1.11	-0.000433	± 2.5	PASS		
		VN	20	2.01	0.000784	± 2.5	PASS		
		VN	30	-1.42	-0.000554	± 2.5	PASS		
		VN	40	4.03	0.001573	± 2.5	PASS		
		VN	50	-0.78	-0.000304	± 2.5	PASS		
		16QAM	LCH	VN	-30	-1.47	-0.000586	± 2.5	PASS
				VN	-20	4.21	0.001679	± 2.5	PASS
VN	-10			0.48	0.000191	± 2.5	PASS		
VN	0			4.34	0.001731	± 2.5	PASS		
VN	10			3.07	0.001224	± 2.5	PASS		
VN	20			0.98	0.000391	± 2.5	PASS		
VN	30			-1.59	-0.000634	± 2.5	PASS		
VN	40			-1.08	-0.000431	± 2.5	PASS		
VN	50			4.51	0.001799	± 2.5	PASS		
MCH	VN		-30	-0.52	-0.000205	± 2.5	PASS		
	VN		-20	-0.76	-0.000300	± 2.5	PASS		
	VN		-10	-0.86	-0.000339	± 2.5	PASS		
	VN		0	1.07	0.000422	± 2.5	PASS		
	VN		10	3.79	0.001495	± 2.5	PASS		
	VN		20	2.91	0.001148	± 2.5	PASS		
	VN		30	-1.08	-0.000426	± 2.5	PASS		
	VN	40	4.43	0.001748	± 2.5	PASS			
	VN	50	1.78	0.000702	± 2.5	PASS			
HCH	VN	-30	4.6	0.001795	± 2.5	PASS			
	VN	-20	-1.45	-0.000566	± 2.5	PASS			
	VN	-10	4.38	0.001709	± 2.5	PASS			
	VN	0	0.83	0.000324	± 2.5	PASS			
	VN	10	3.8	0.001483	± 2.5	PASS			
	VN	20	2.83	0.001104	± 2.5	PASS			
	VN	30	2.25	0.000878	± 2.5	PASS			
	VN	40	4.65	0.001815	± 2.5	PASS			
	VN	50	1.37	0.000535	± 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	0.37	0.000147	± 2.5	PASS
		VN	TN	1.88	0.000749	± 2.5	PASS
		VH	TN	-1.98	-0.000789	± 2.5	PASS
	MCH	VL	TN	3.67	0.001448	± 2.5	PASS
		VN	TN	-0.31	-0.000122	± 2.5	PASS
		VH	TN	3.74	0.001475	± 2.5	PASS
	HCH	VL	TN	-0.69	-0.000270	± 2.5	PASS
		VN	TN	-1.73	-0.000676	± 2.5	PASS
		VH	TN	3.6	0.001406	± 2.5	PASS
16QAM	LCH	VL	TN	1.18	0.000470	± 2.5	PASS
		VN	TN	2.51	0.001000	± 2.5	PASS
		VH	TN	-1.99	-0.000793	± 2.5	PASS
	MCH	VL	TN	4.57	0.001803	± 2.5	PASS
		VN	TN	0.13	0.000051	± 2.5	PASS
		VH	TN	4.18	0.001649	± 2.5	PASS
	HCH	VL	TN	0.37	0.000145	± 2.5	PASS
		VN	TN	-1.95	-0.000762	± 2.5	PASS
		VH	TN	1.51	0.000590	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.28	0.000510	± 2.5	PASS
		VN	-20	1.64	0.000653	± 2.5	PASS
		VN	-10	2.6	0.001036	± 2.5	PASS
		VN	0	-1.51	-0.000602	± 2.5	PASS
		VN	10	-0.94	-0.000375	± 2.5	PASS
		VN	20	3.83	0.001526	± 2.5	PASS
		VN	30	2.43	0.000968	± 2.5	PASS
		VN	40	0.33	0.000131	± 2.5	PASS
		VN	50	0.18	0.000072	± 2.5	PASS
	MCH	VN	-30	0.74	0.000292	± 2.5	PASS
		VN	-20	0.81	0.000320	± 2.5	PASS
		VN	-10	-0.61	-0.000241	± 2.5	PASS
		VN	0	1.54	0.000607	± 2.5	PASS
		VN	10	2.83	0.001116	± 2.5	PASS

		VN	20	0.77	0.000304	± 2.5	PASS
		VN	30	0.99	0.000391	± 2.5	PASS
		VN	40	1.73	0.000682	± 2.5	PASS
		VN	50	0.55	0.000217	± 2.5	PASS
	HCH	VN	-30	0.22	0.000086	± 2.5	PASS
		VN	-20	2	0.000781	± 2.5	PASS
		VN	-10	3.42	0.001336	± 2.5	PASS
		VN	0	1.36	0.000531	± 2.5	PASS
		VN	10	4.13	0.001613	± 2.5	PASS
		VN	20	0.54	0.000211	± 2.5	PASS
		VN	30	-1.18	-0.000461	± 2.5	PASS
		VN	40	0.46	0.000180	± 2.5	PASS
		VN	50	-1.27	-0.000496	± 2.5	PASS
16QAM	LCH	VN	-30	2.48	0.000988	± 2.5	PASS
		VN	-20	1.69	0.000673	± 2.5	PASS
		VN	-10	2.8	0.001116	± 2.5	PASS
		VN	0	-0.59	-0.000235	± 2.5	PASS
		VN	10	2.57	0.001024	± 2.5	PASS
		VN	20	3.95	0.001574	± 2.5	PASS
		VN	30	1.08	0.000430	± 2.5	PASS
		VN	40	4.28	0.001705	± 2.5	PASS
		VN	50	1.15	0.000458	± 2.5	PASS
	MCH	VN	-30	-0.07	-0.000028	± 2.5	PASS
		VN	-20	0.68	0.000268	± 2.5	PASS
		VN	-10	-0.74	-0.000292	± 2.5	PASS
		VN	0	-0.56	-0.000221	± 2.5	PASS
		VN	10	-1.02	-0.000402	± 2.5	PASS
		VN	20	2.45	0.000966	± 2.5	PASS
		VN	30	4.65	0.001834	± 2.5	PASS
		VN	40	2.09	0.000824	± 2.5	PASS
		VN	50	0.01	0.000004	± 2.5	PASS
	HCH	VN	-30	-0.68	-0.000266	± 2.5	PASS
		VN	-20	1.22	0.000477	± 2.5	PASS
		VN	-10	-0.09	-0.000035	± 2.5	PASS
		VN	0	4.62	0.001805	± 2.5	PASS
		VN	10	0.21	0.000082	± 2.5	PASS
		VN	20	3.74	0.001461	± 2.5	PASS
		VN	30	2.08	0.000813	± 2.5	PASS
		VN	40	-0.79	-0.000309	± 2.5	PASS
		VN	50	-1.2	-0.000469	± 2.5	PASS