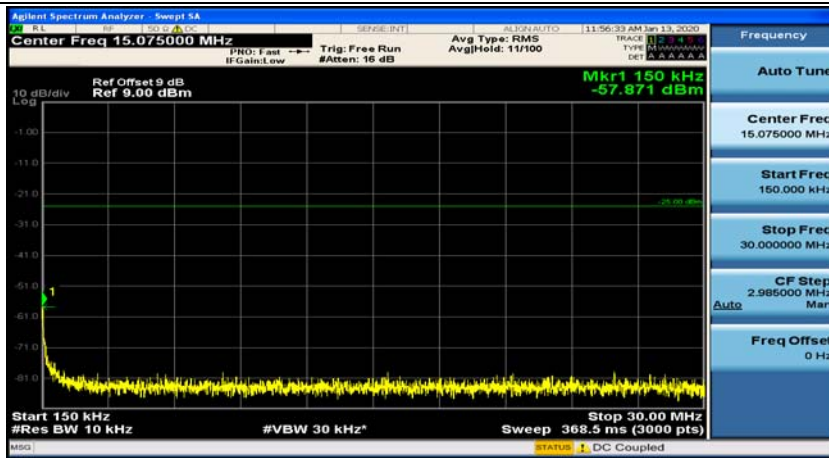
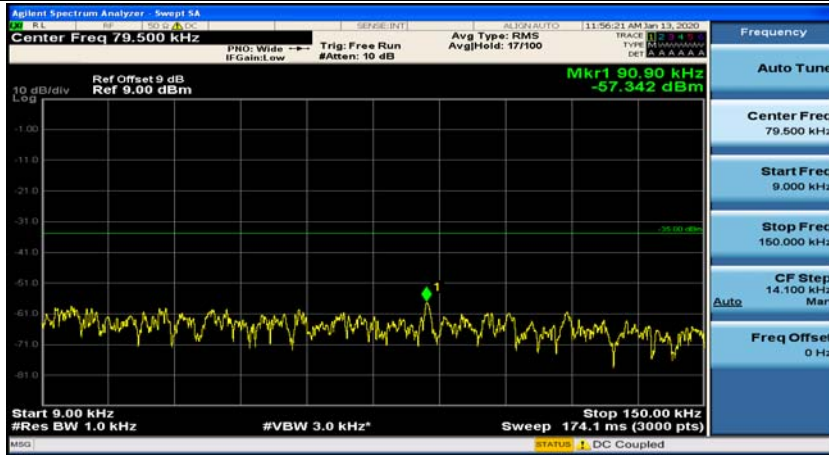
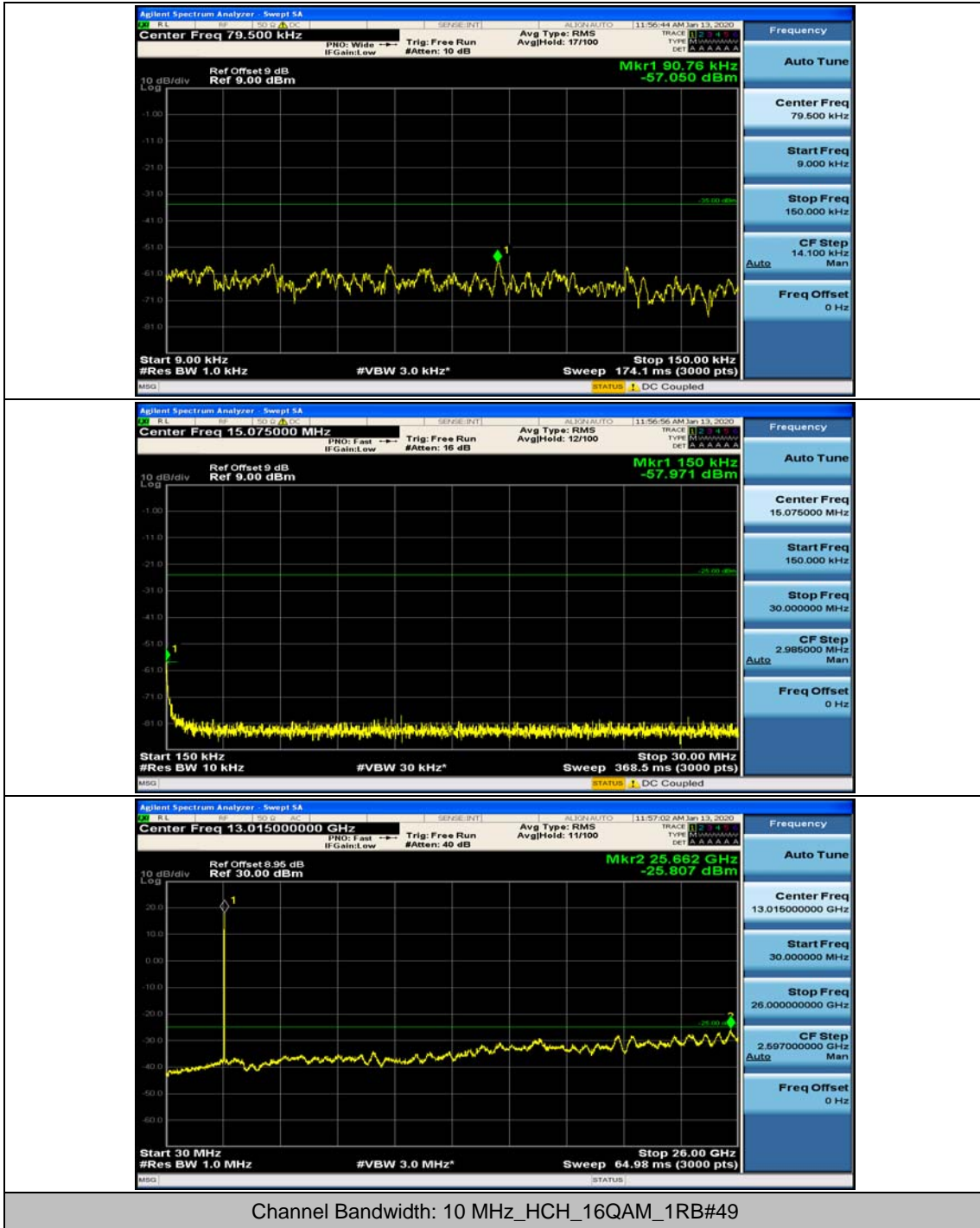


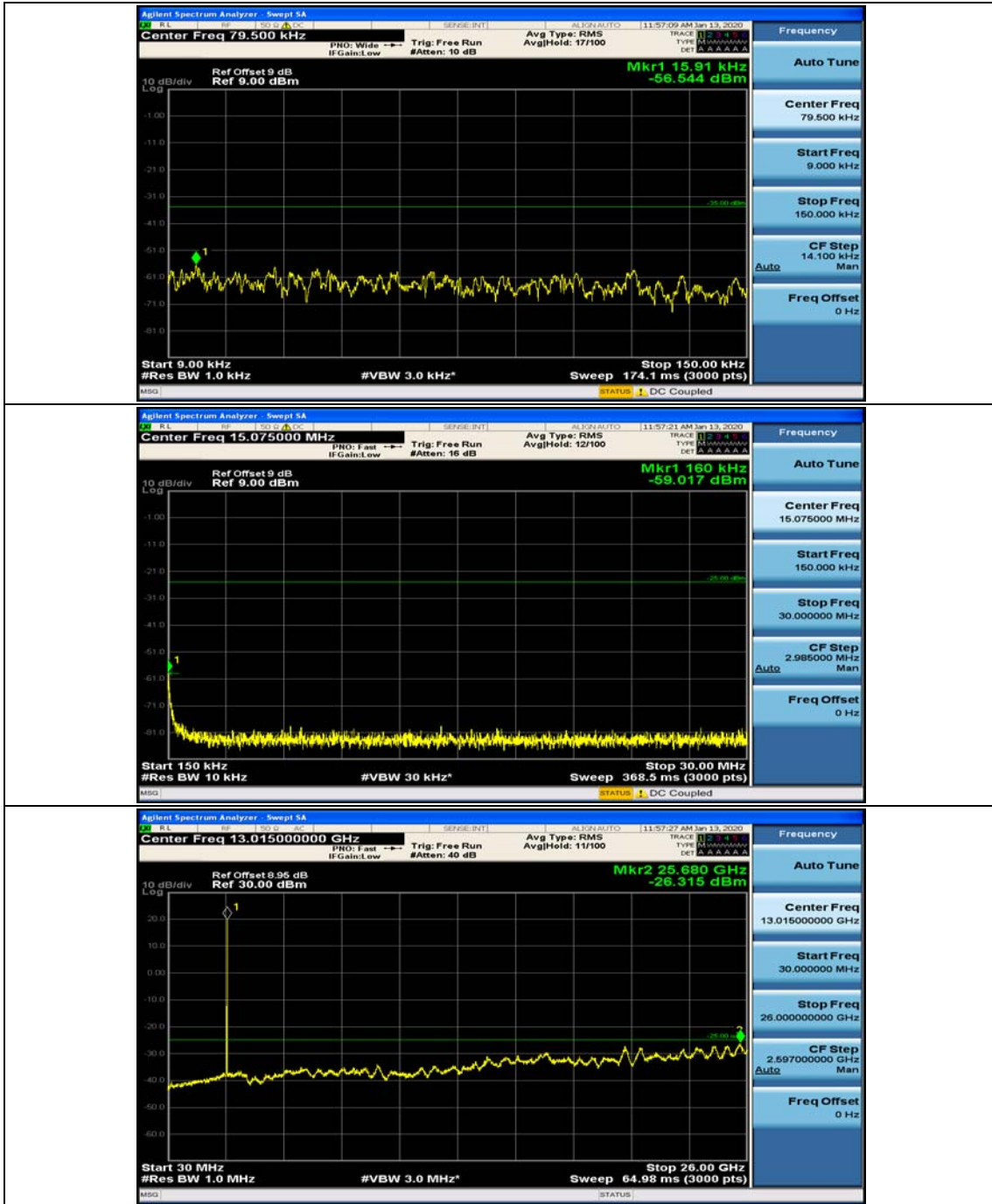


Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#0

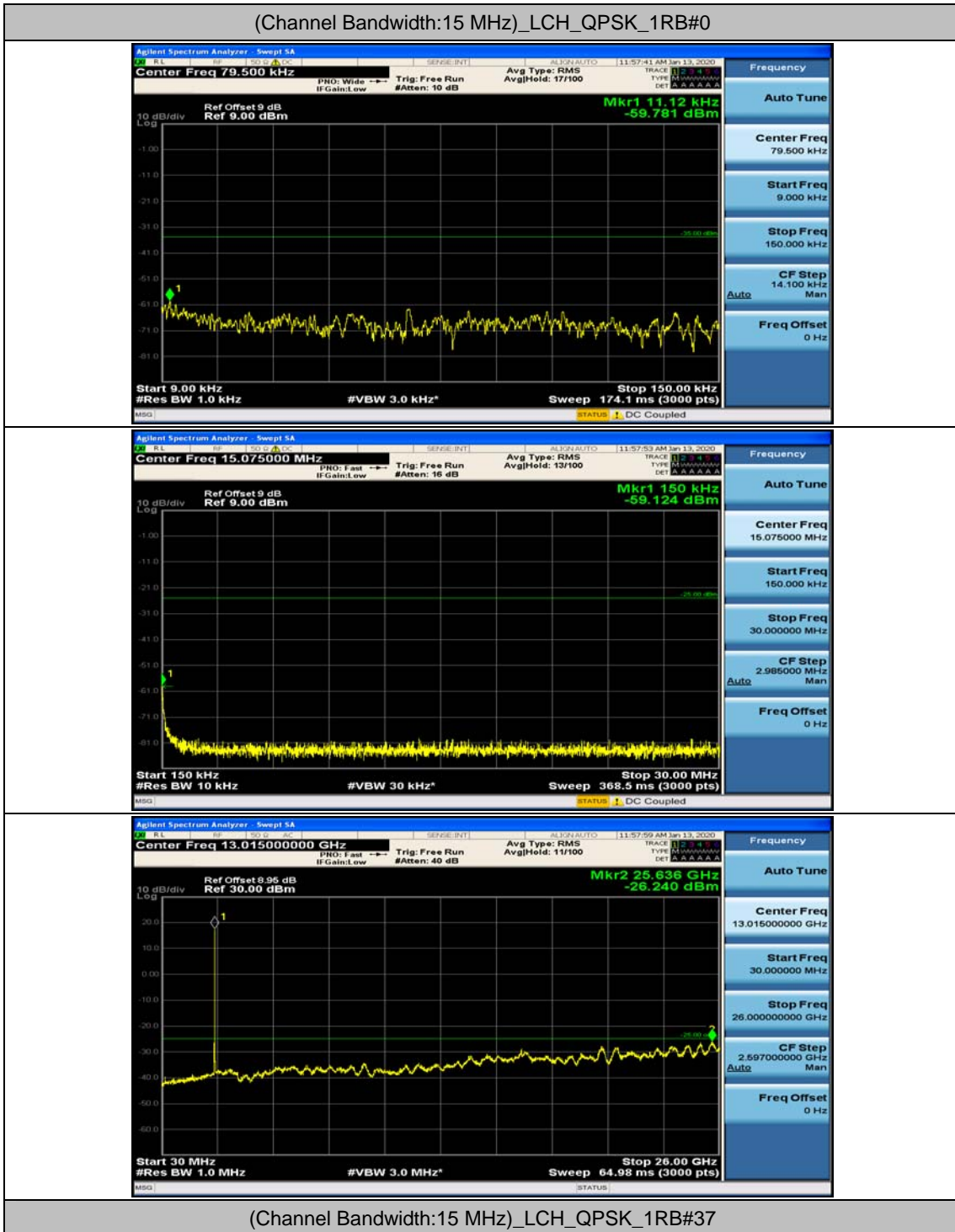


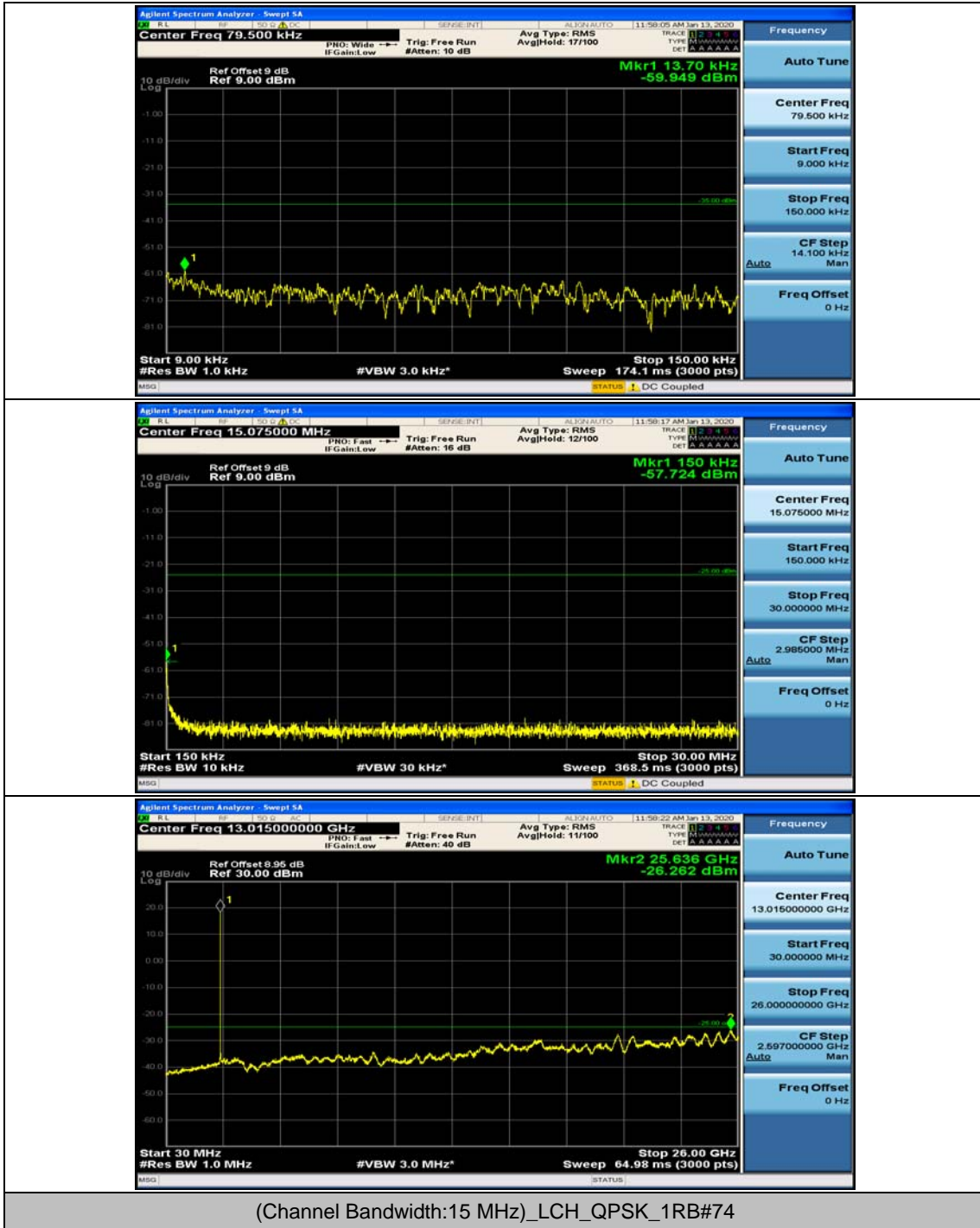
Channel Bandwidth: 10 MHz_HCH_16QAM_1RB#24

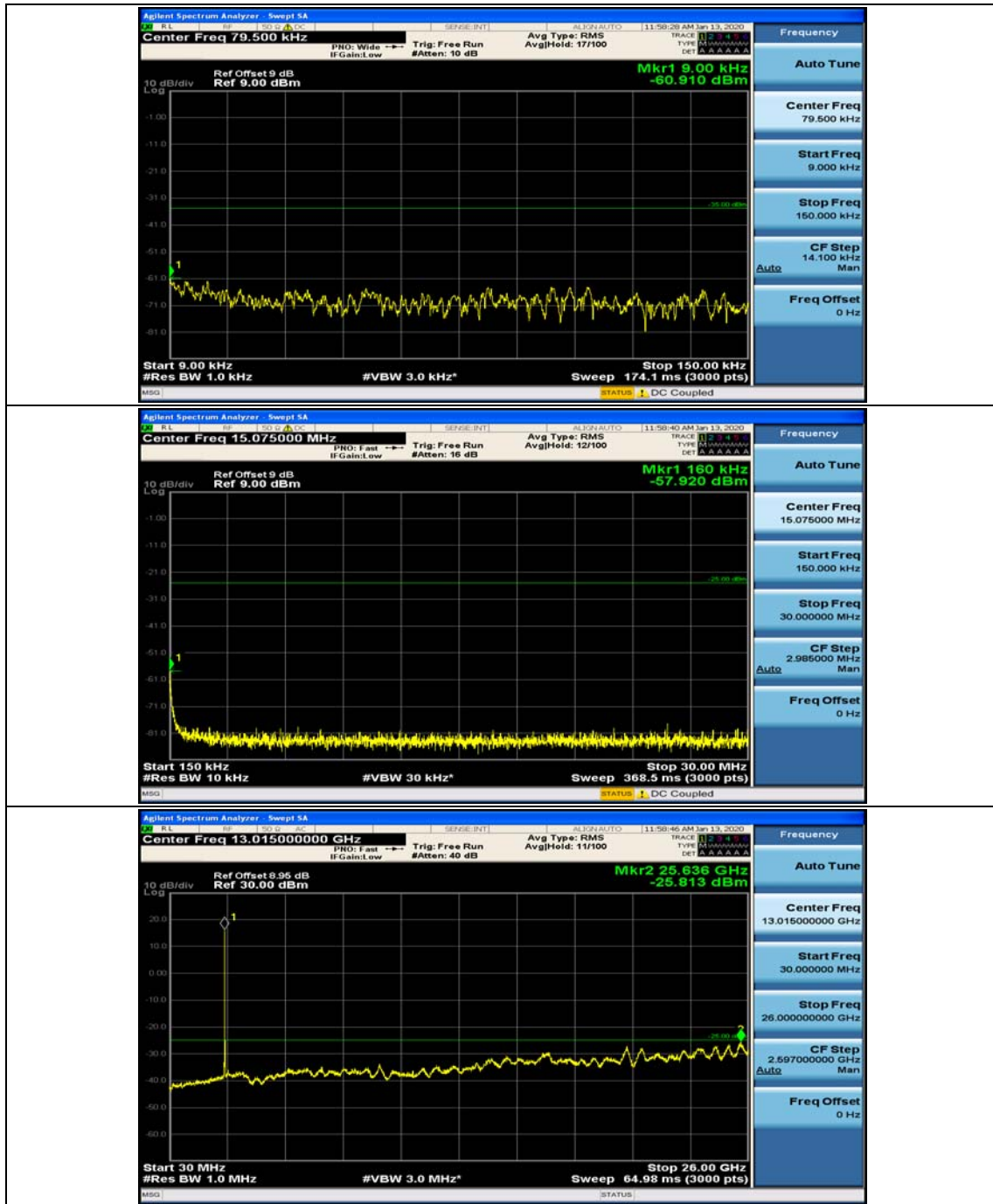




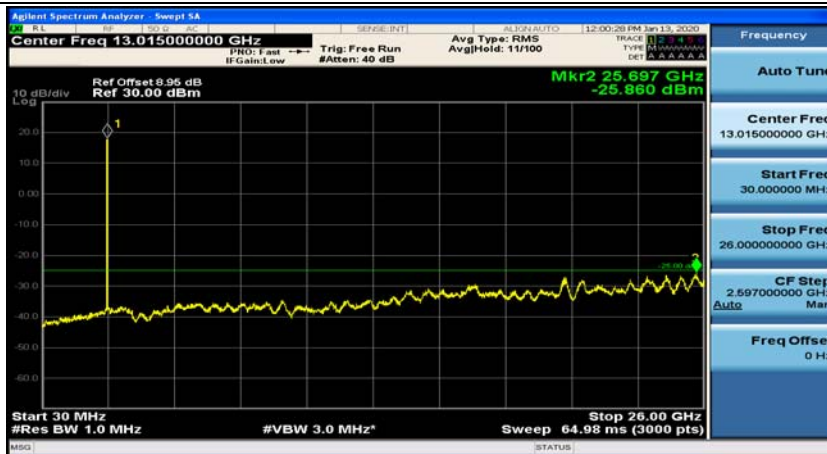
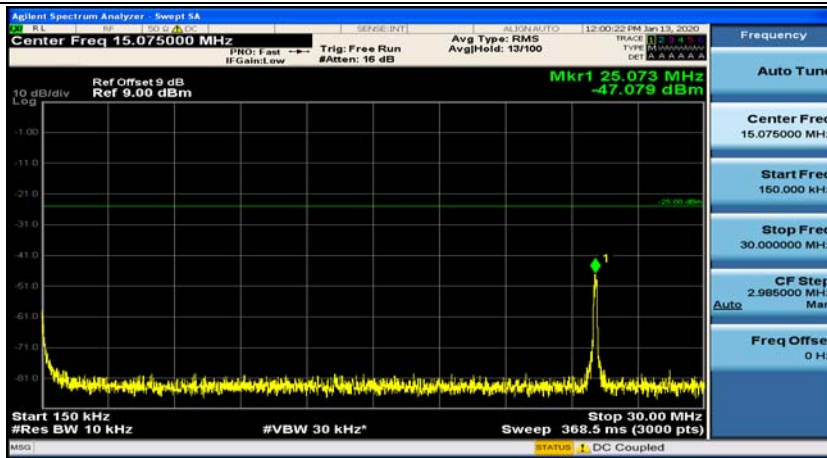
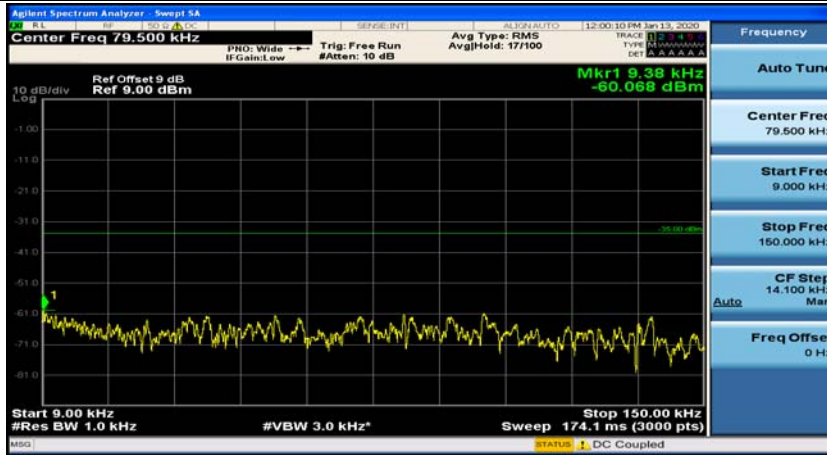
Channel Bandwidth: 15 MHz



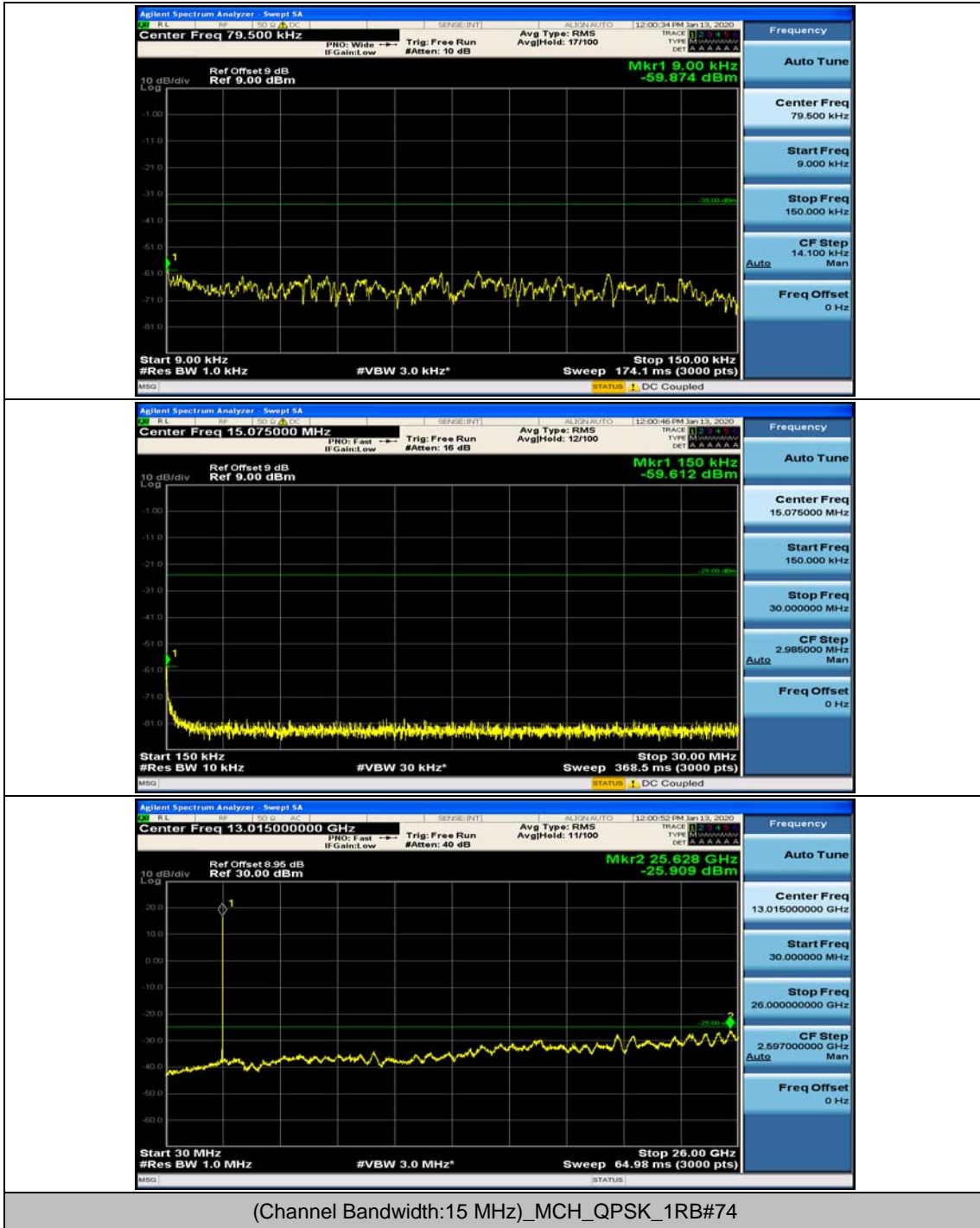


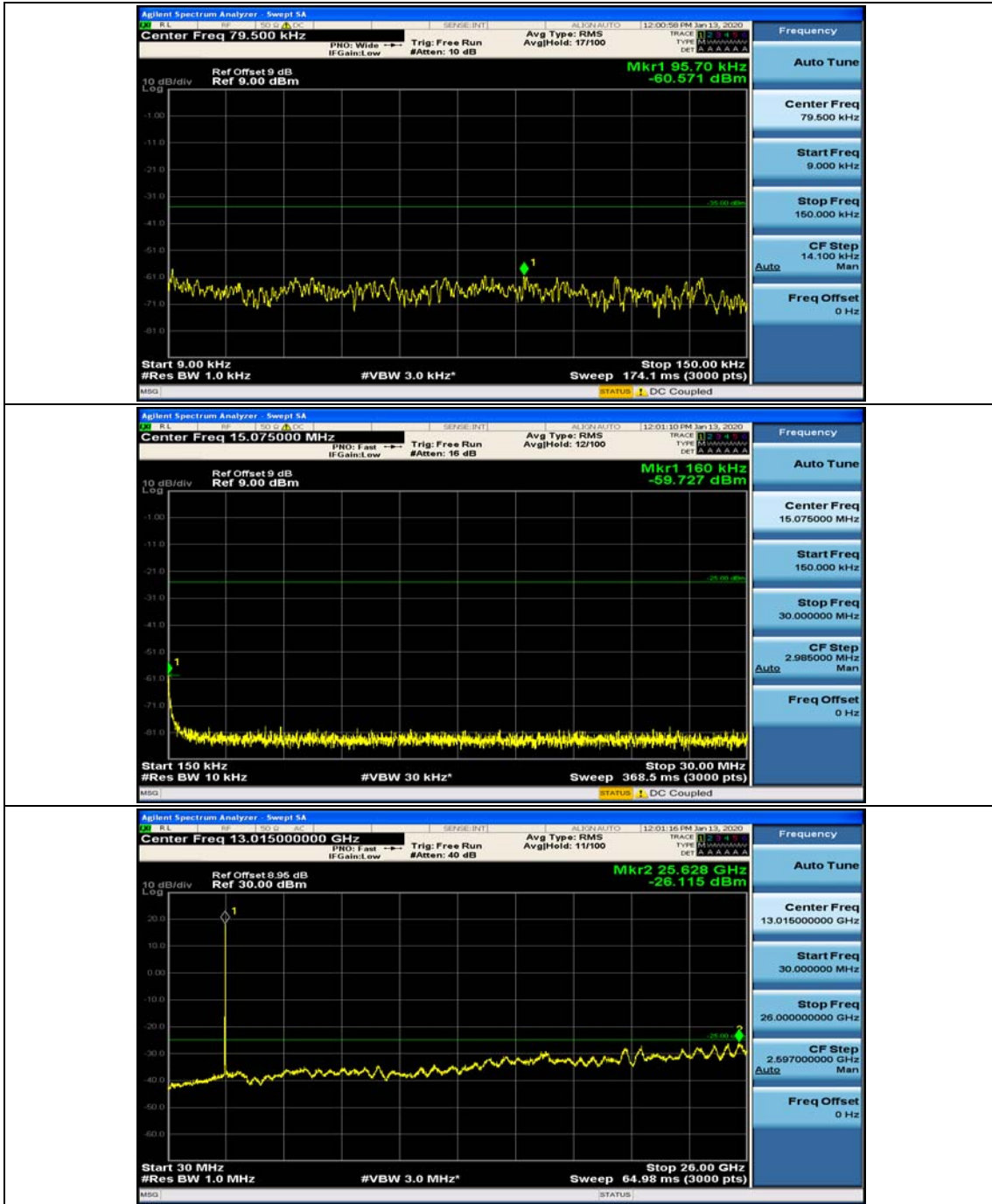


(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#0



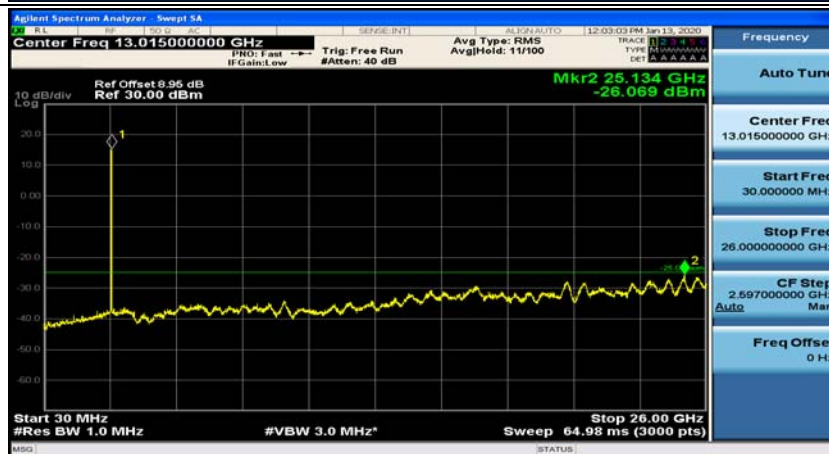
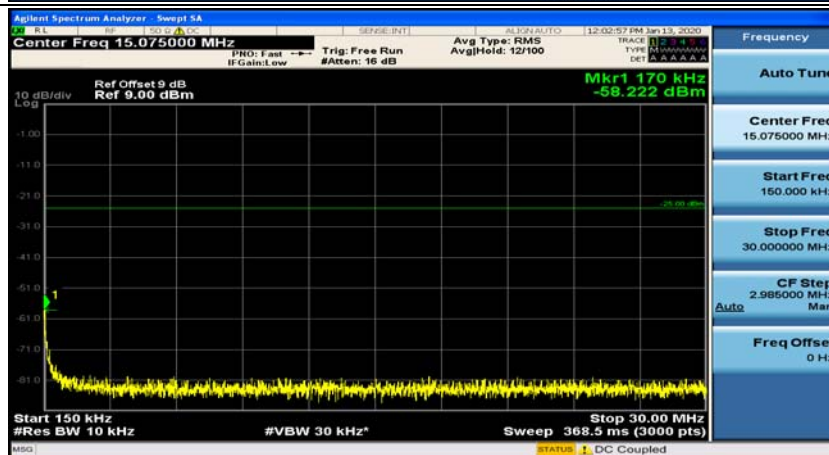
(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#37



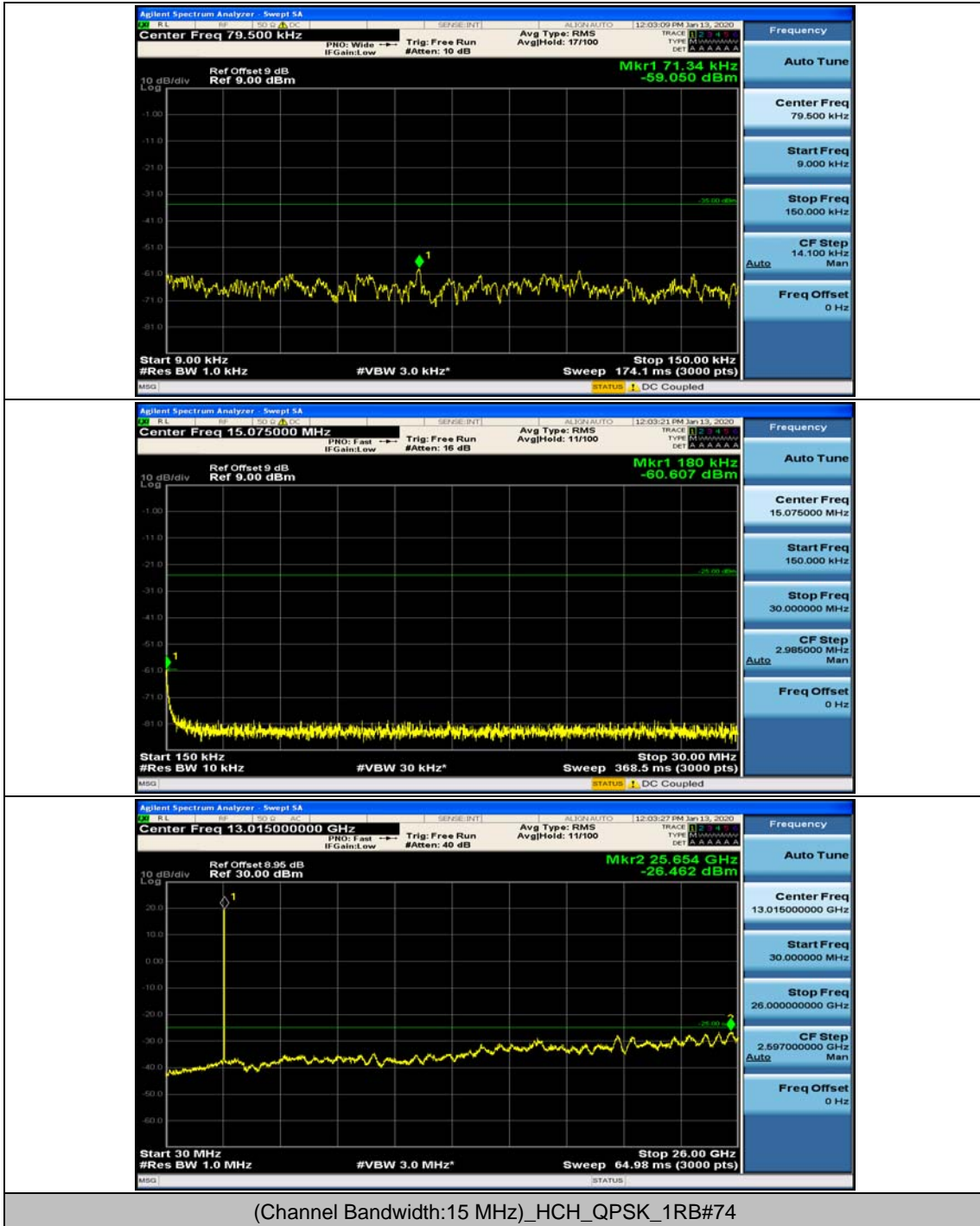


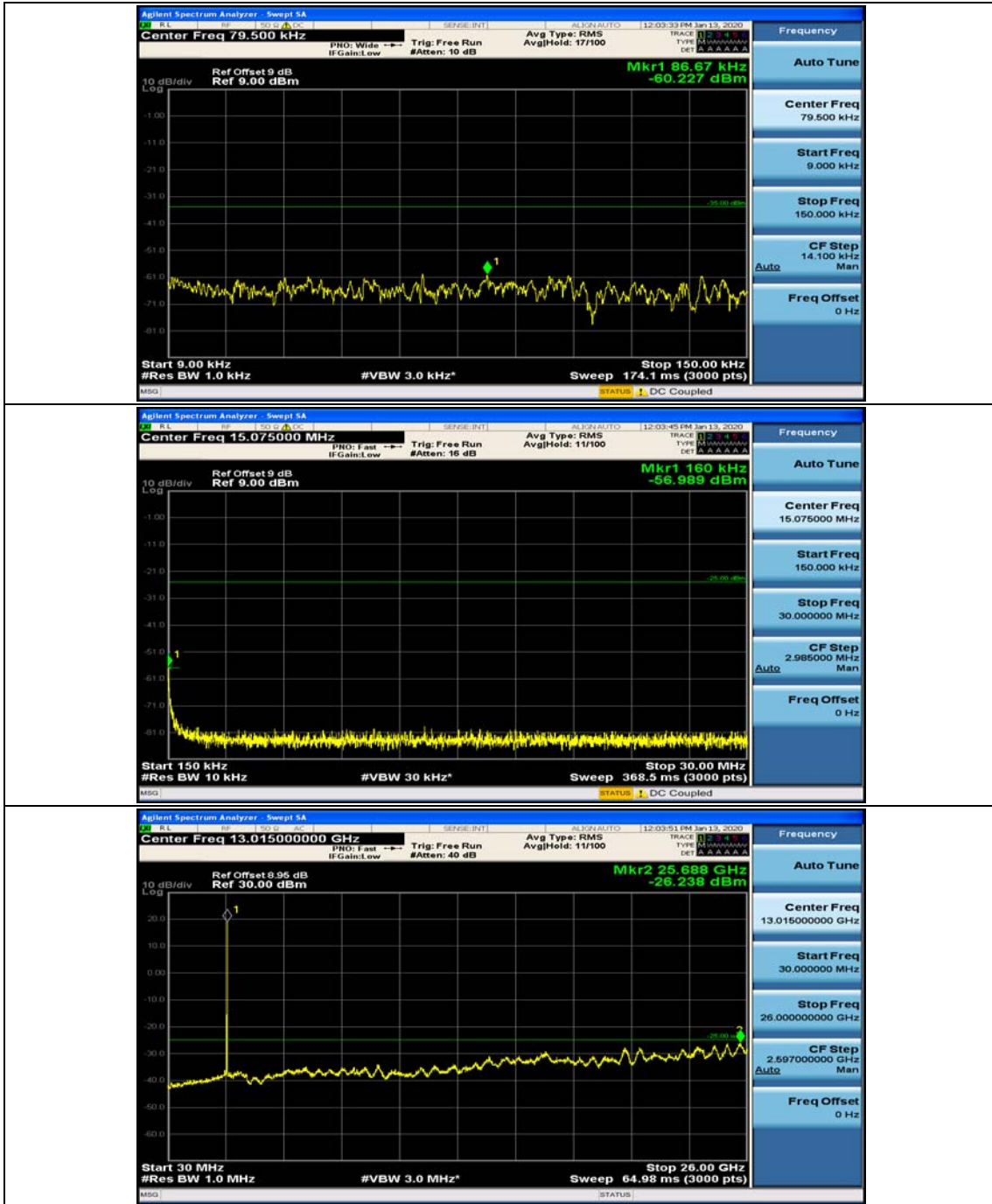


(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#0



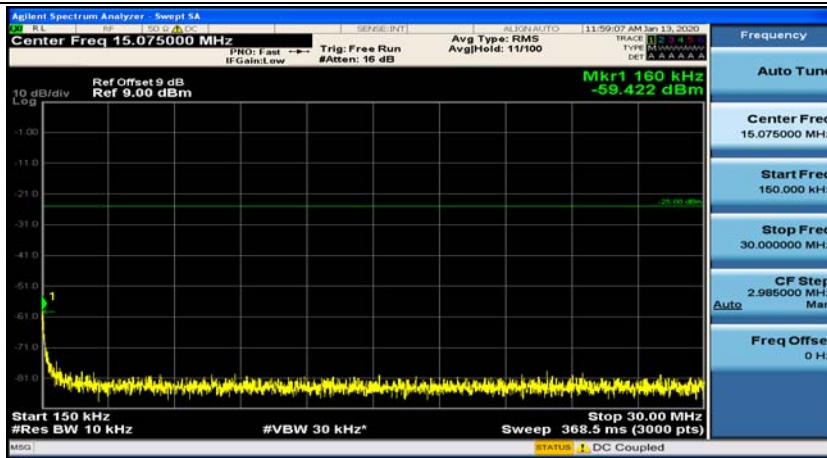
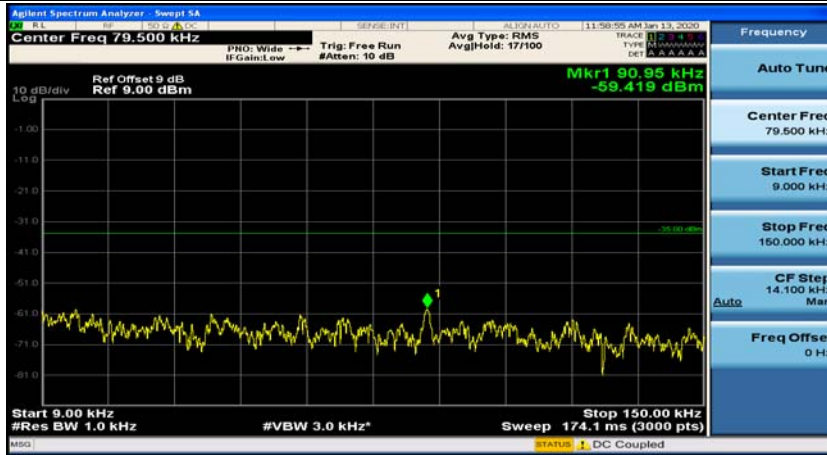
(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#37



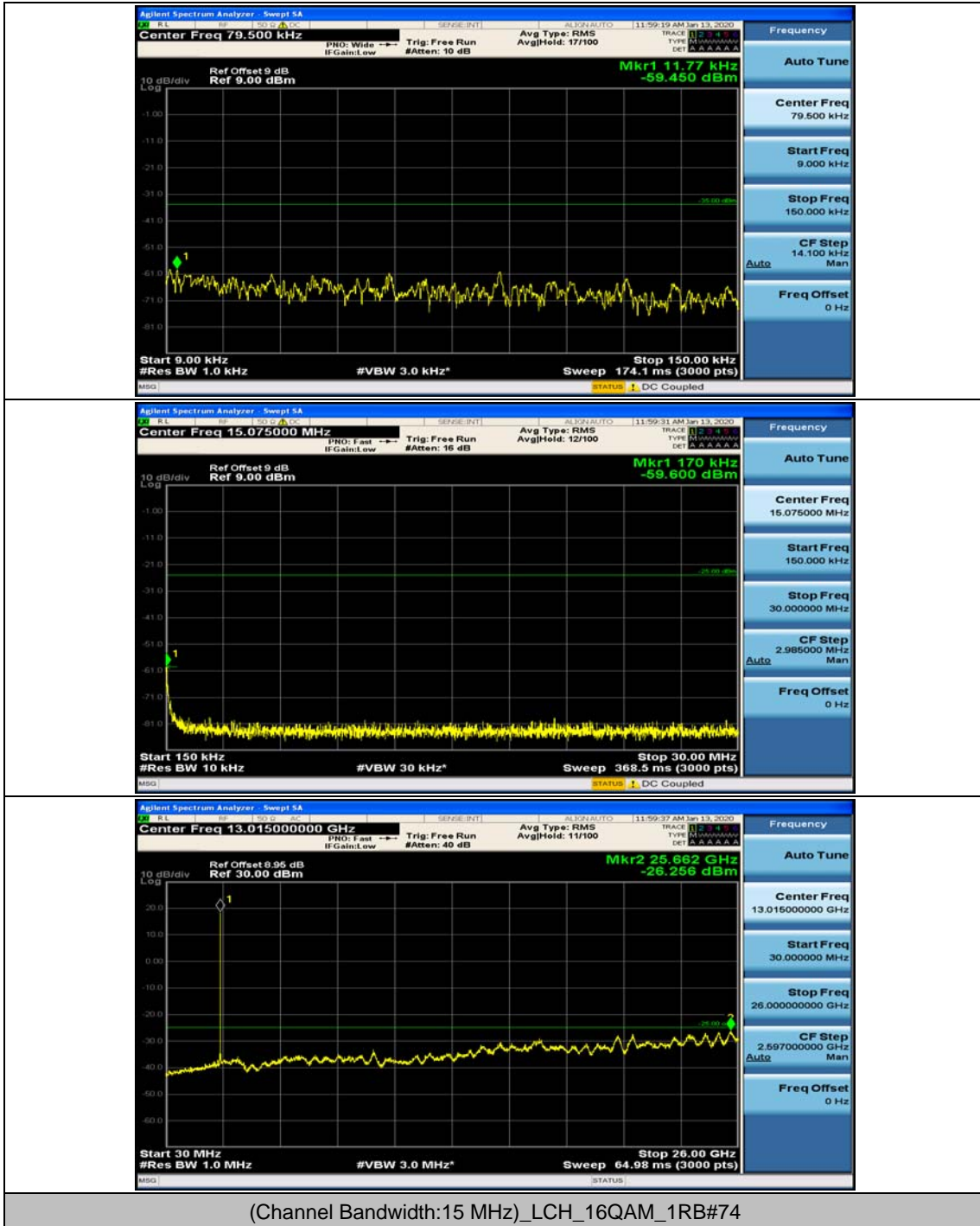


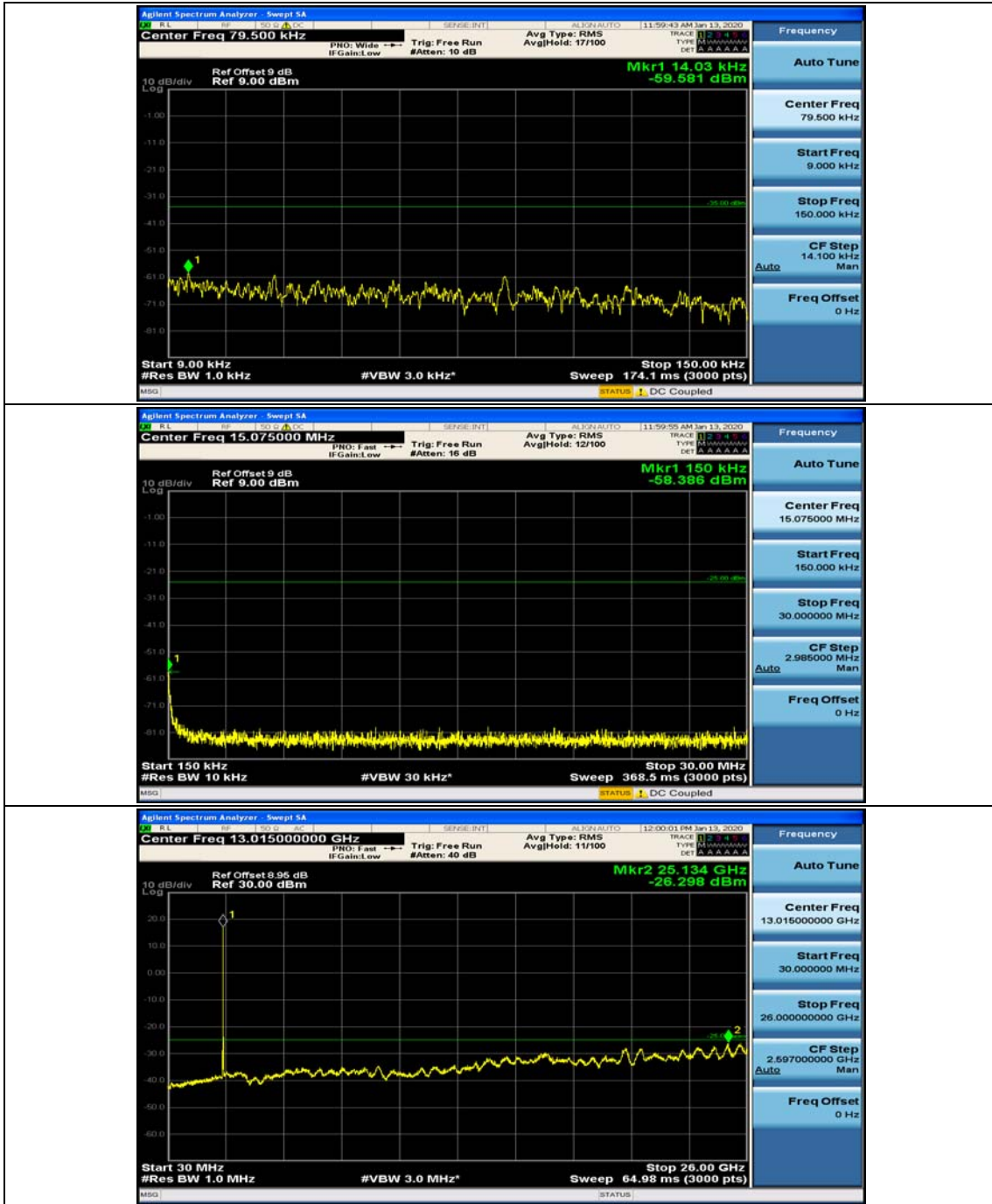


(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#0



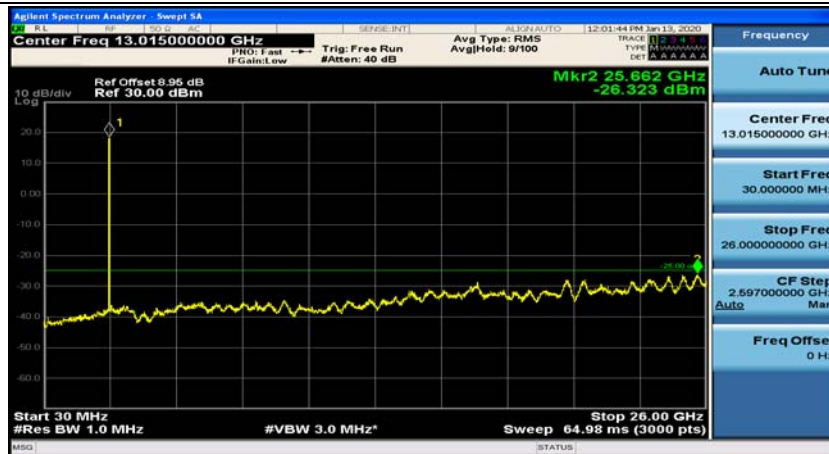
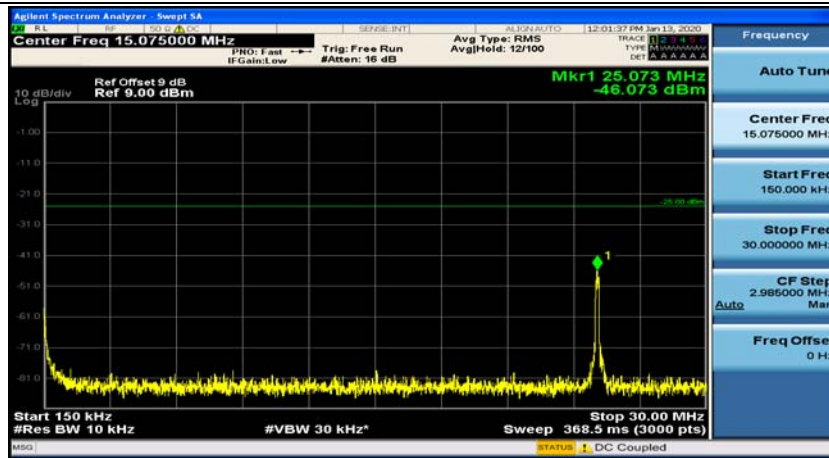
(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#37



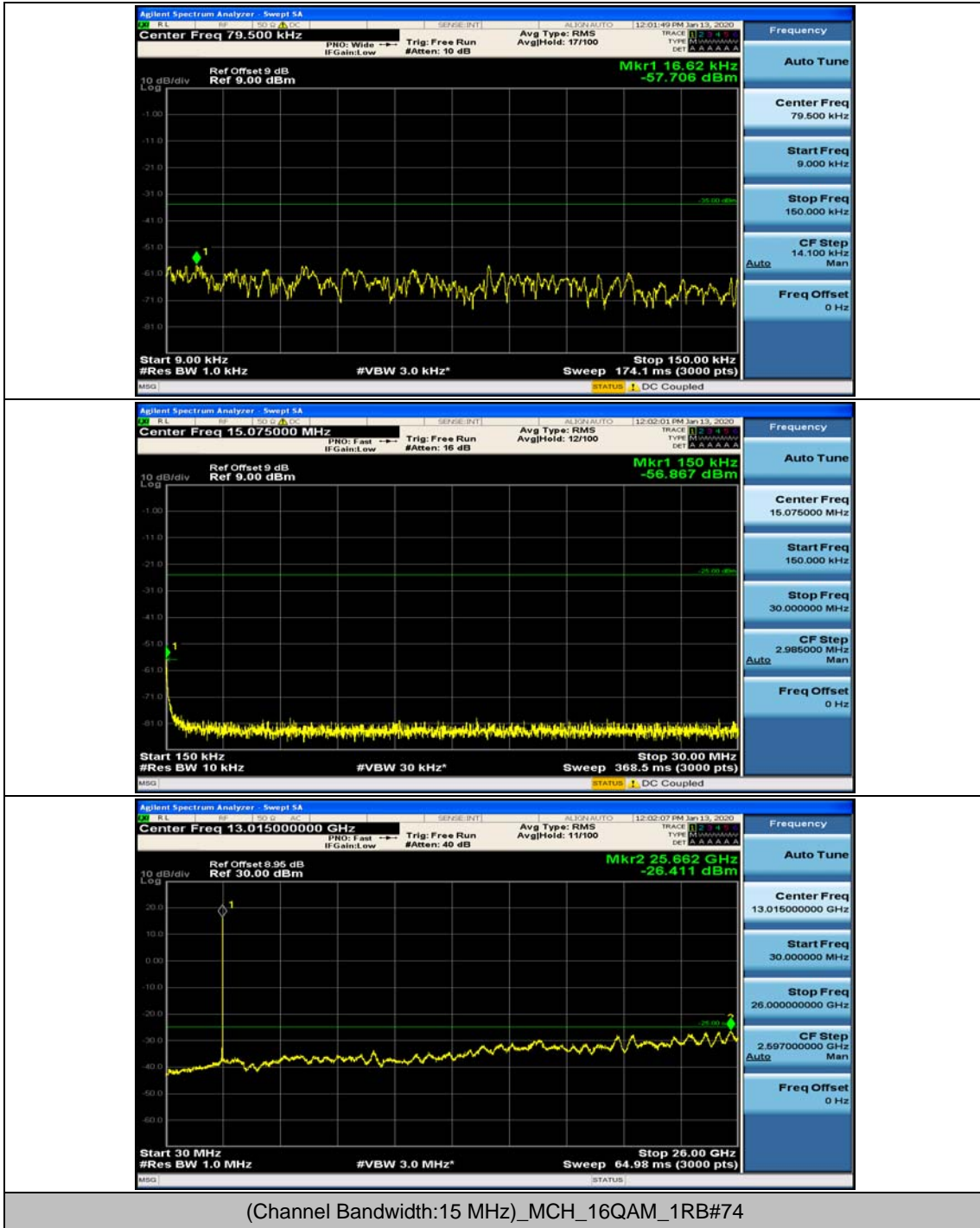


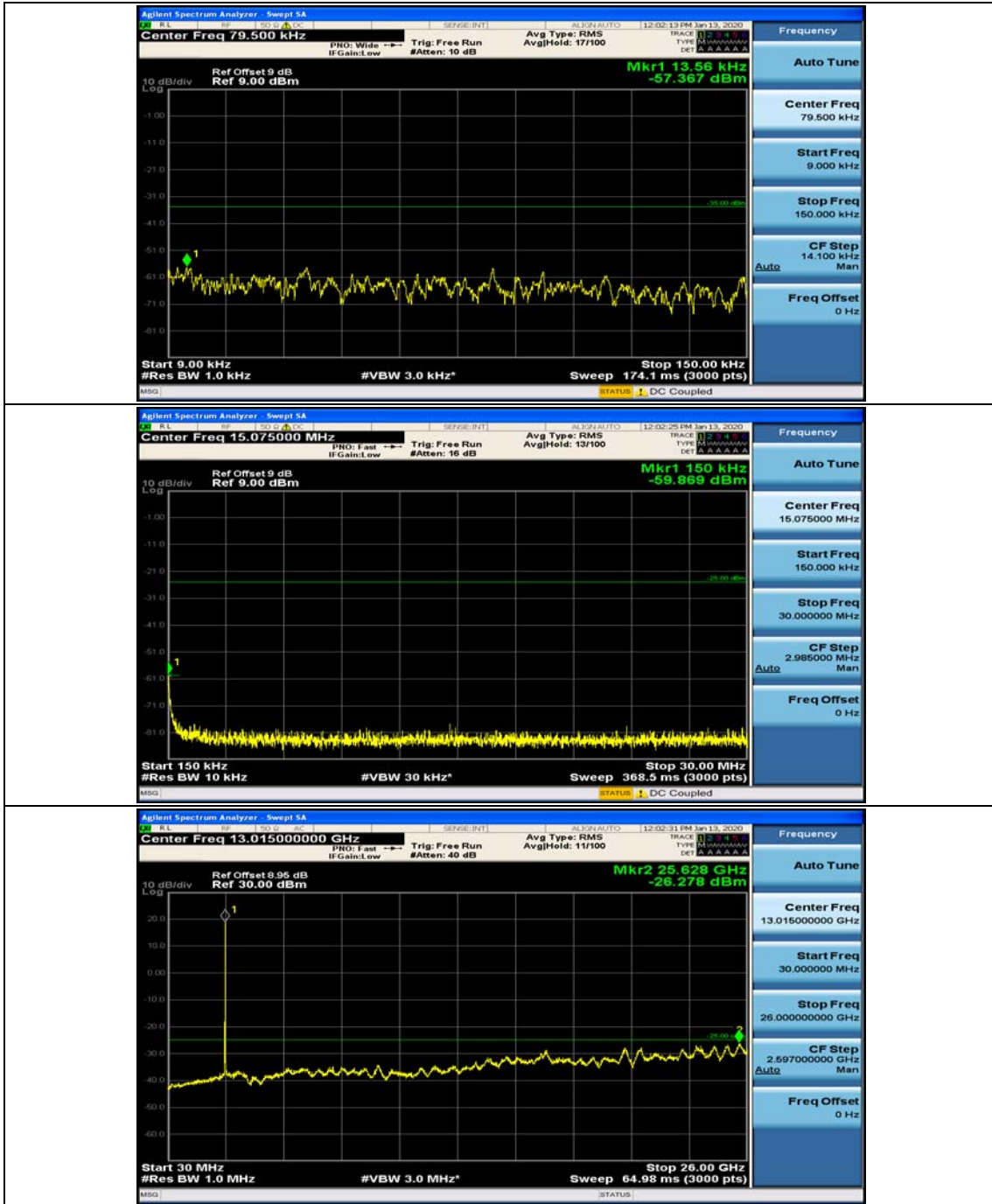


(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#0

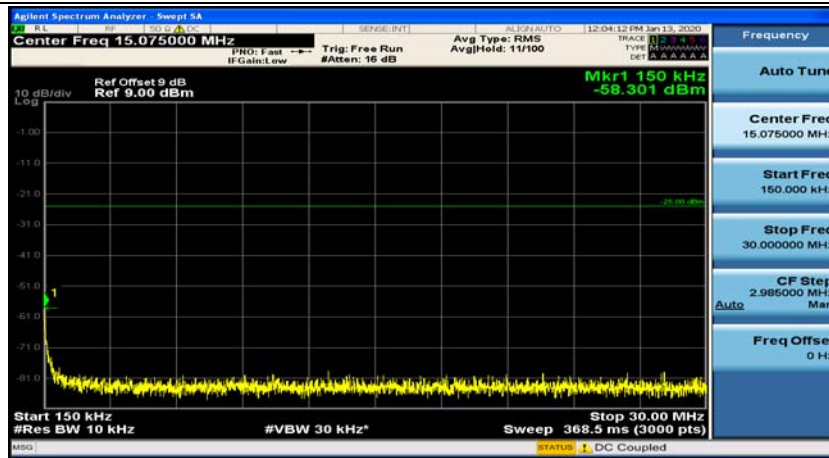
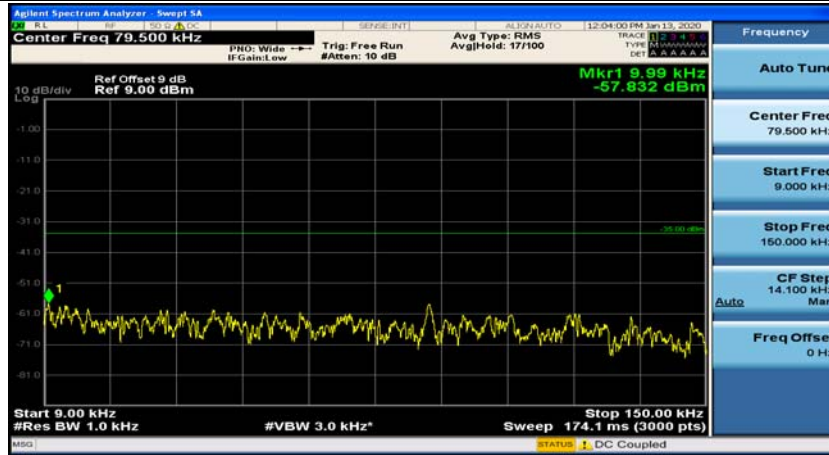


(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#37

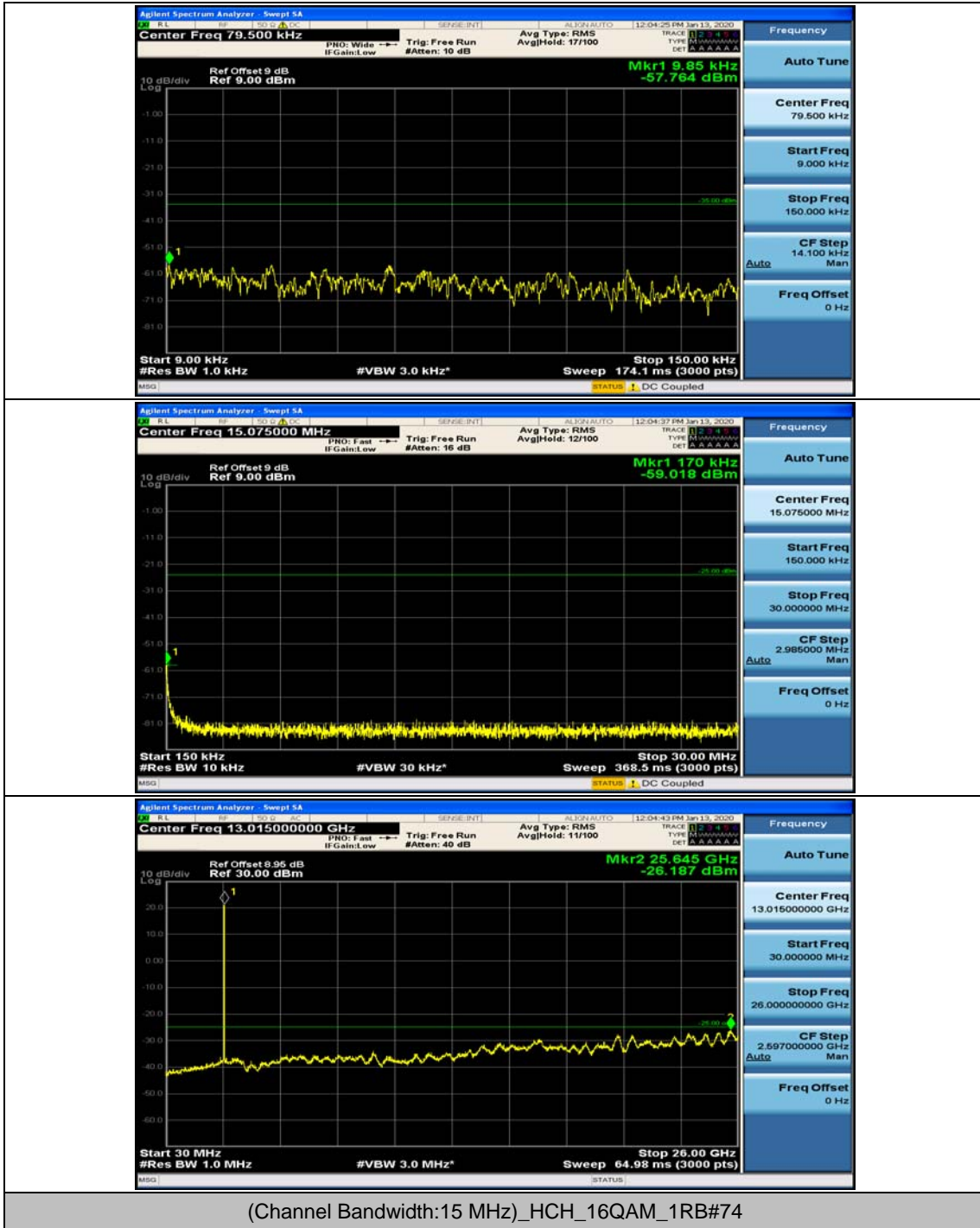


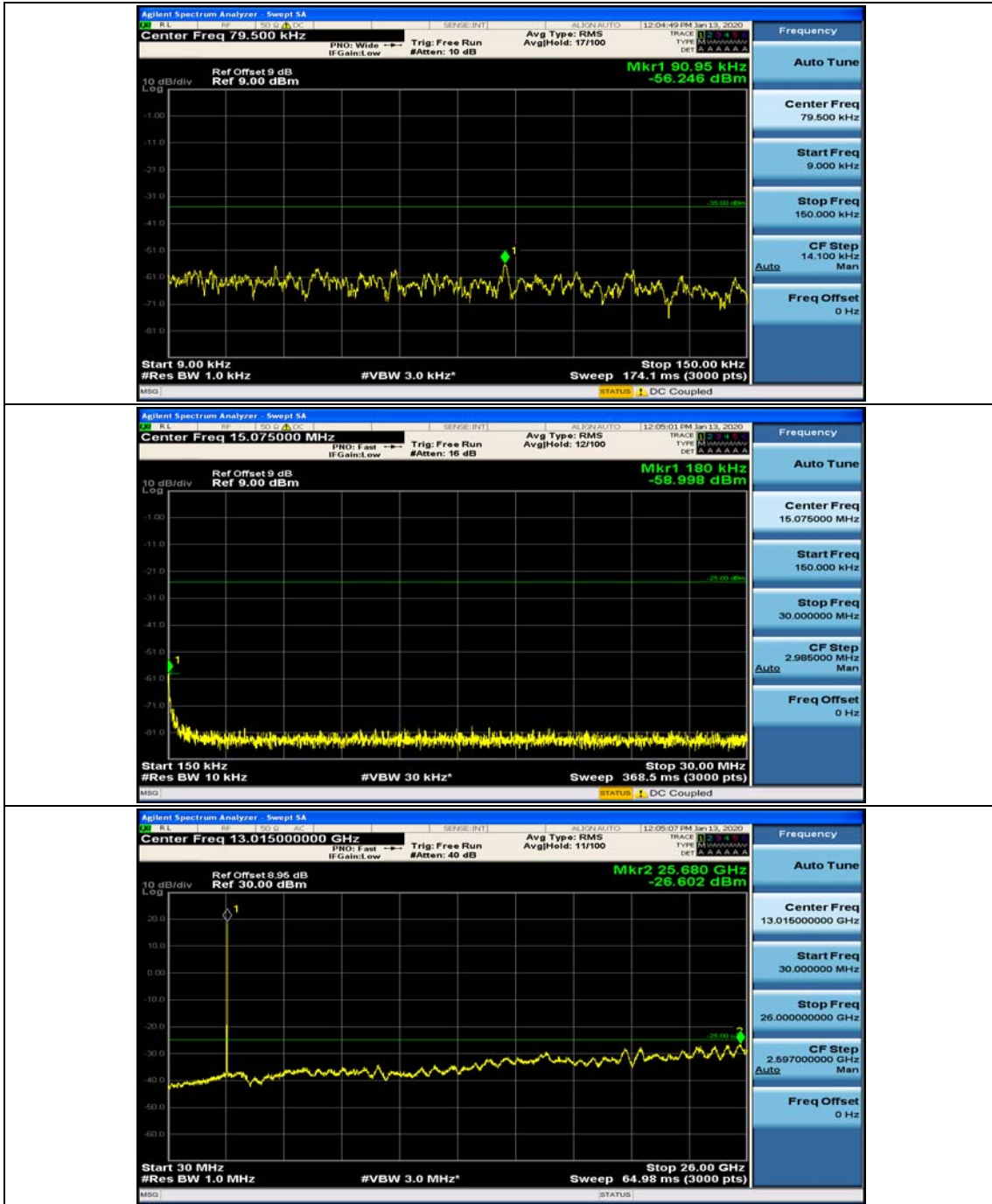


(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#0

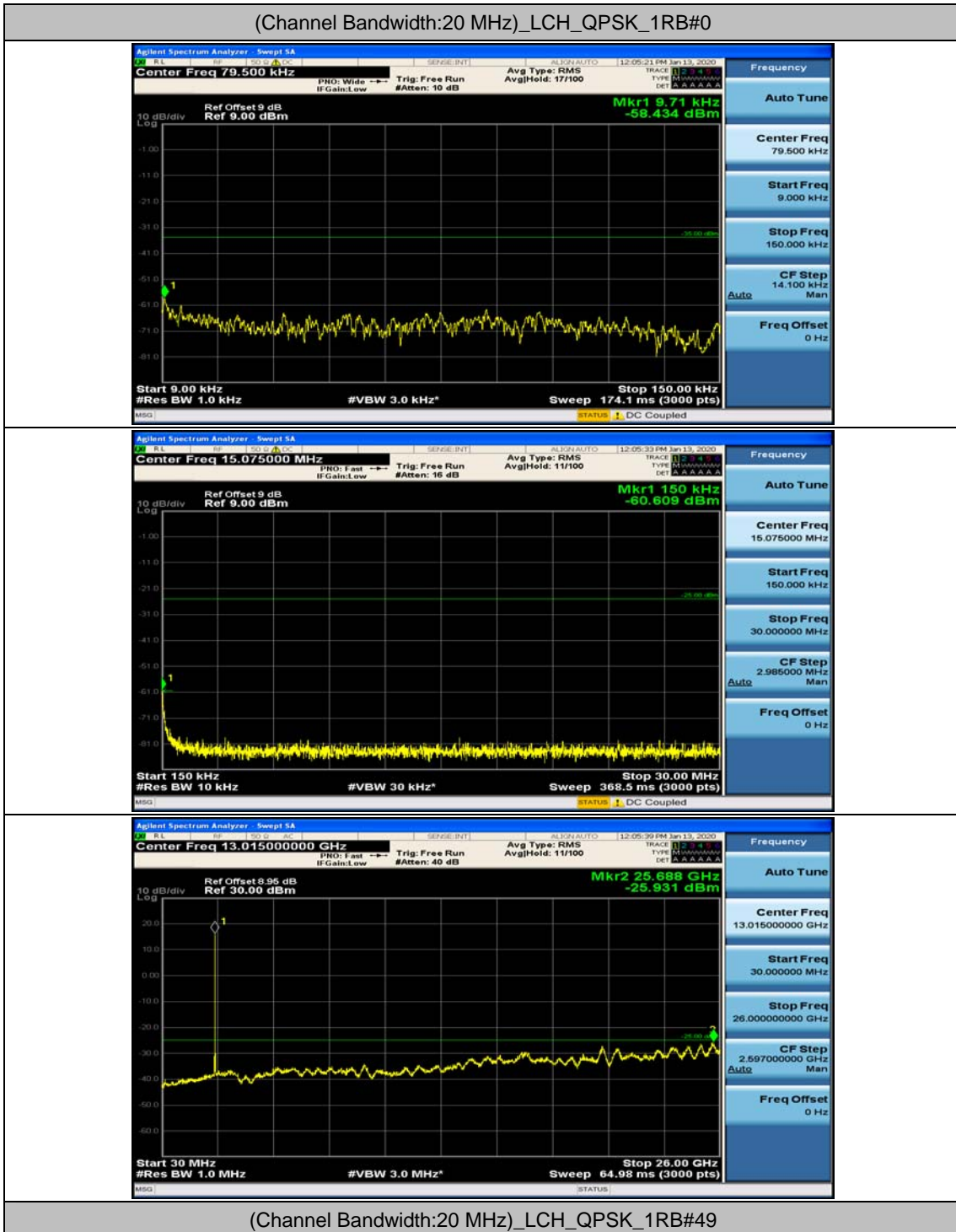


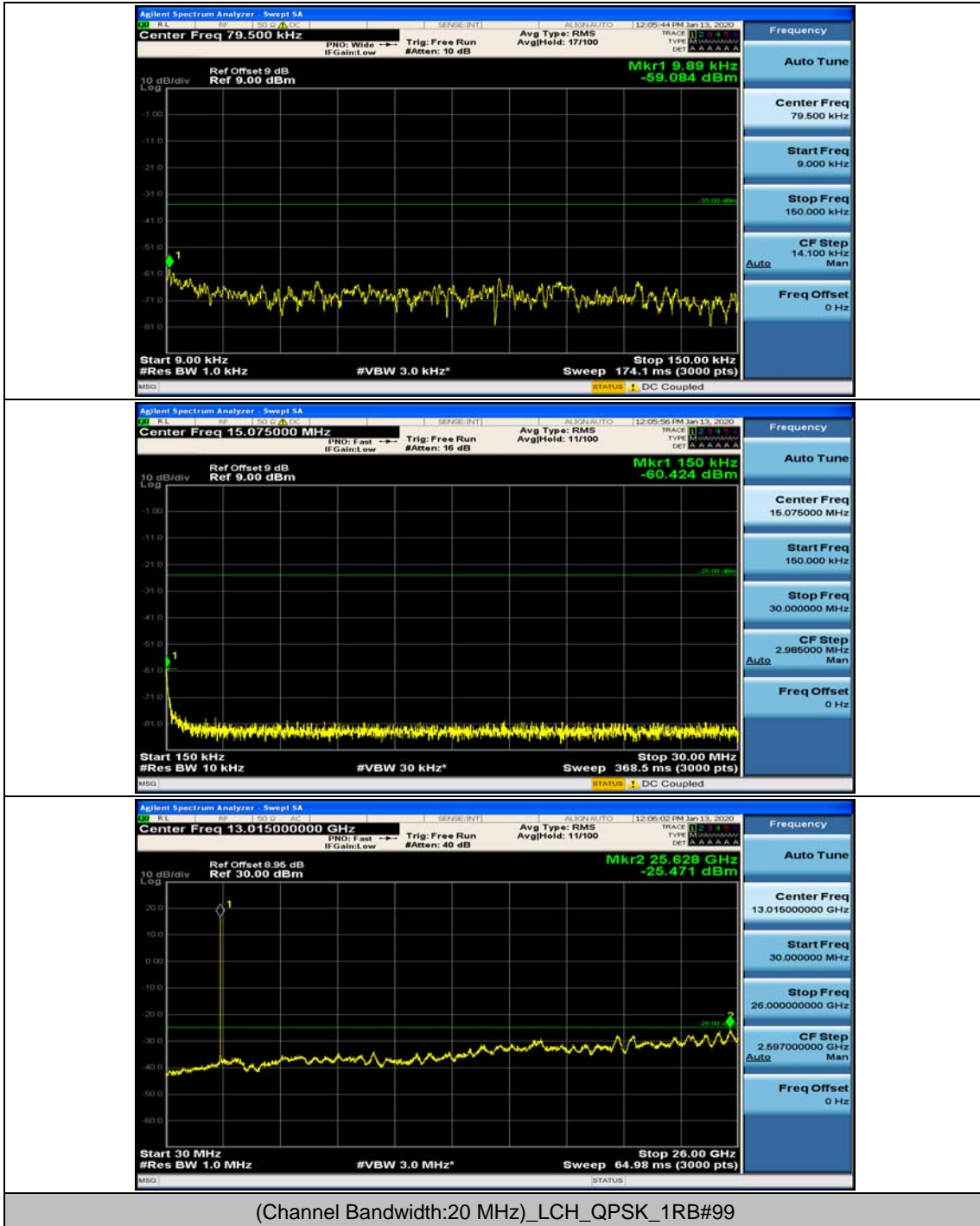
(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#37

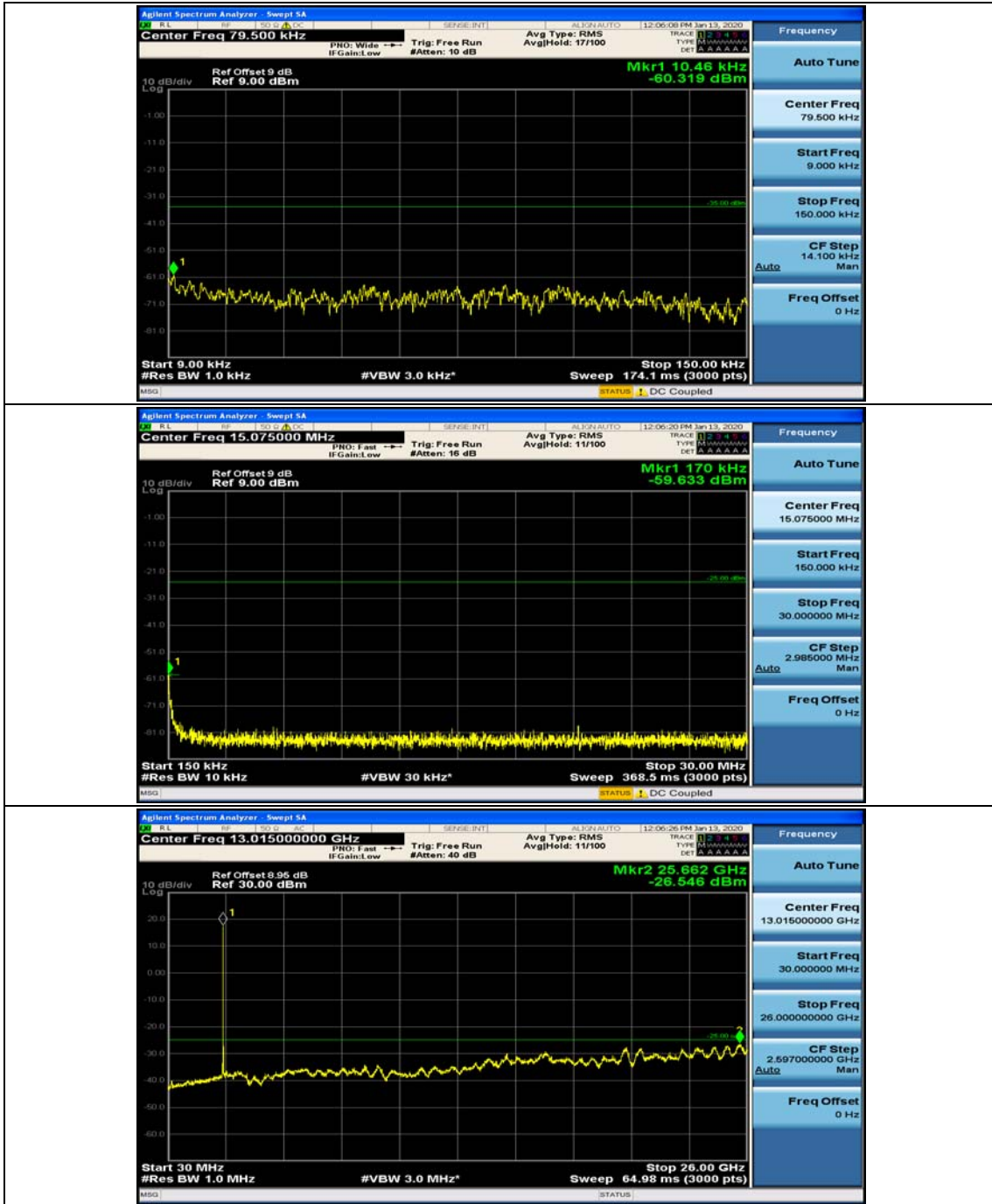




Channel Bandwidth: 20 MHz

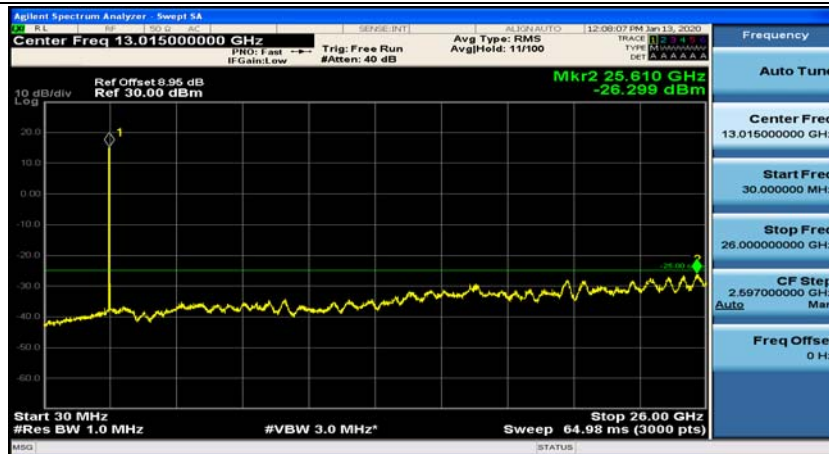
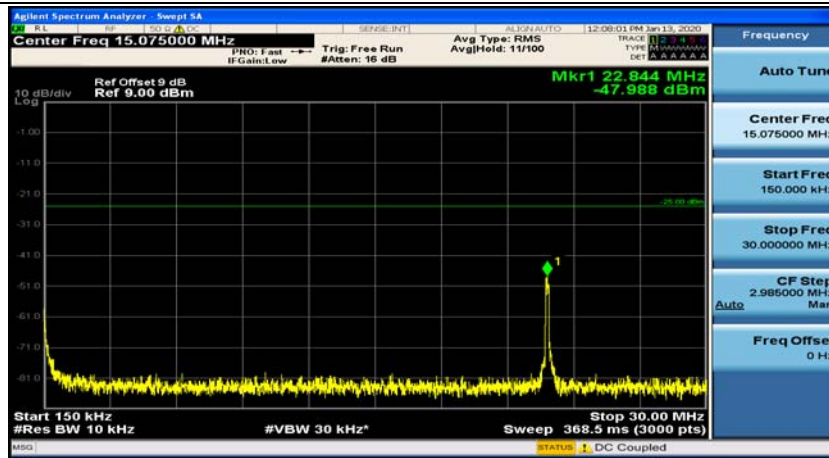




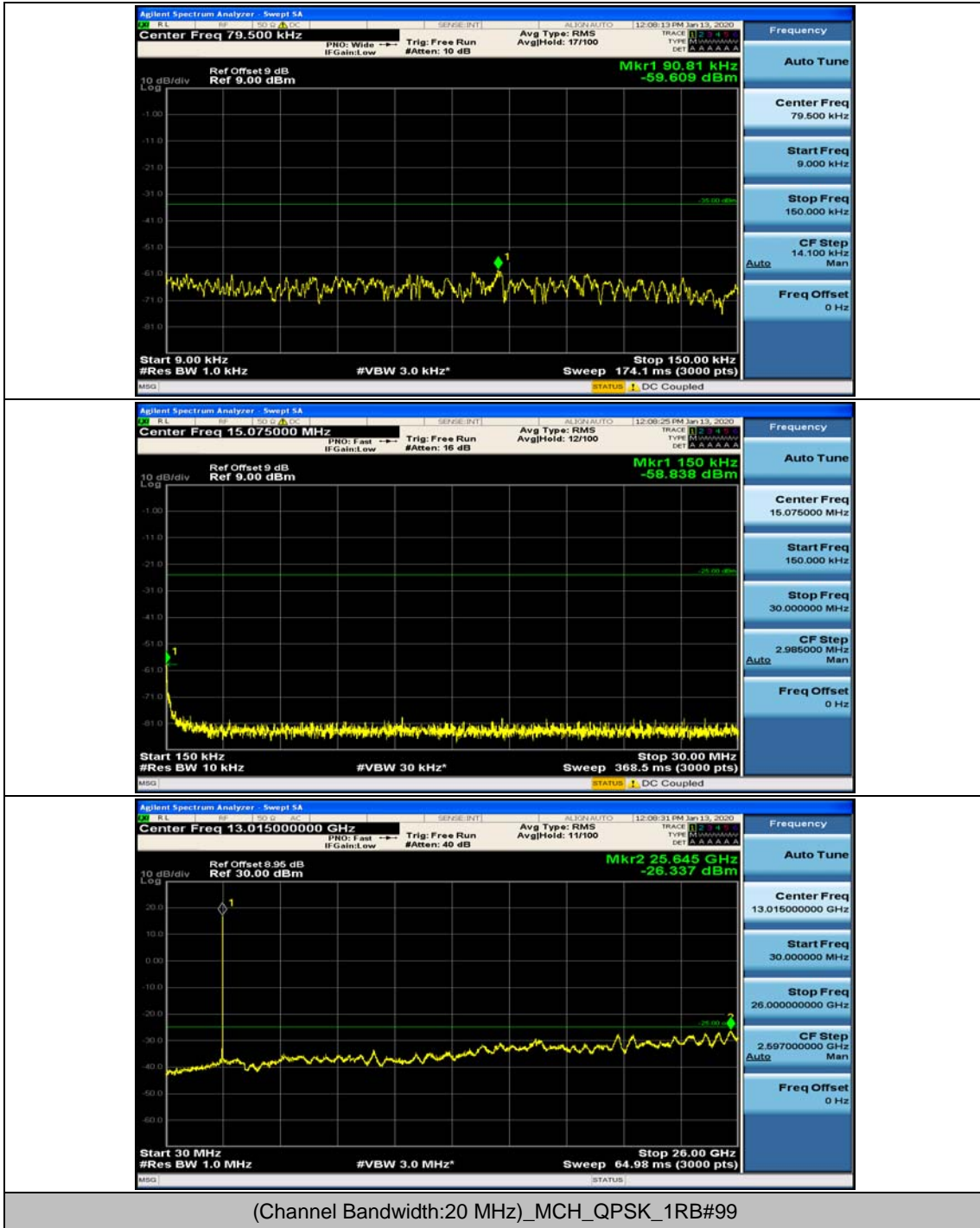


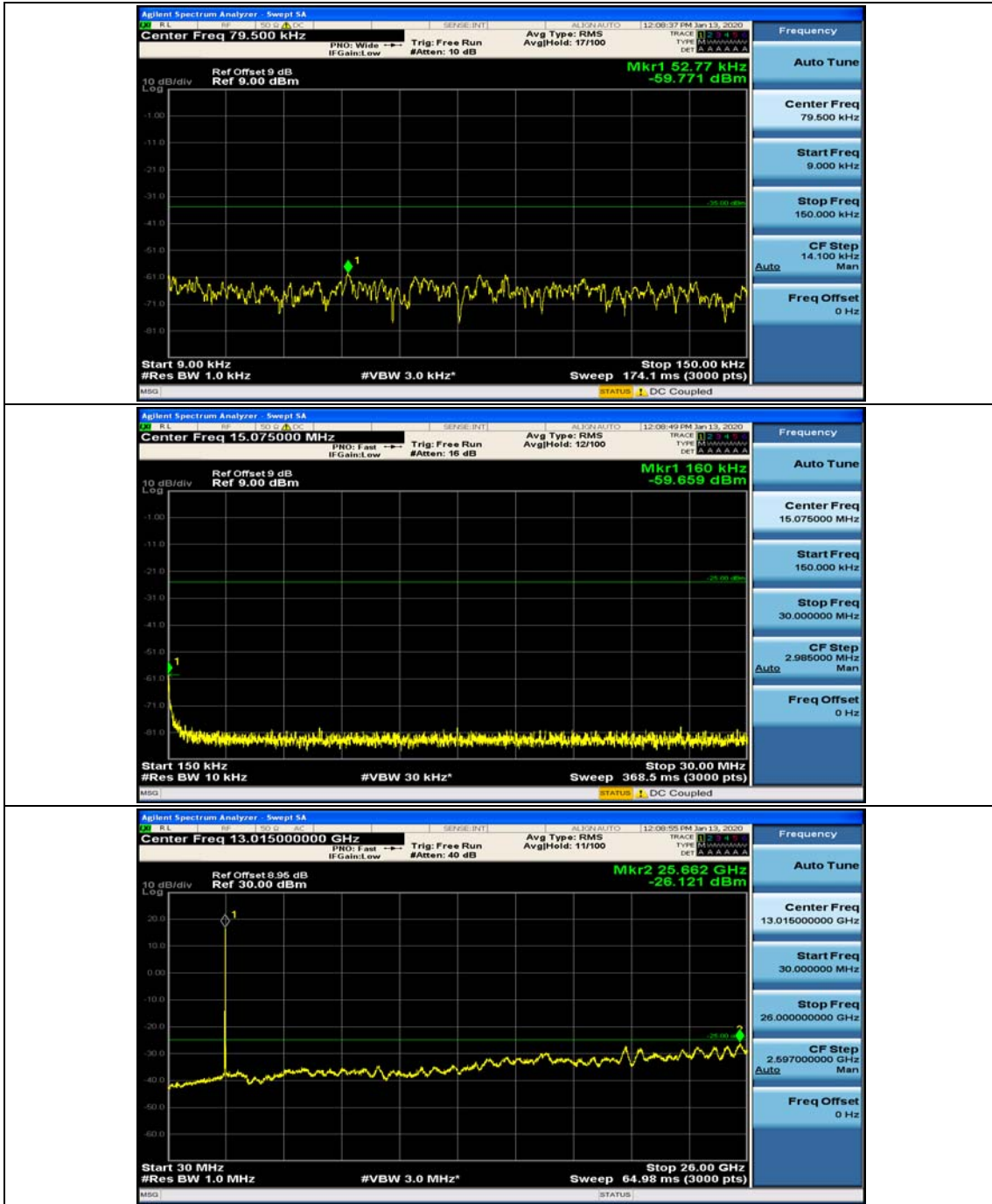


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0



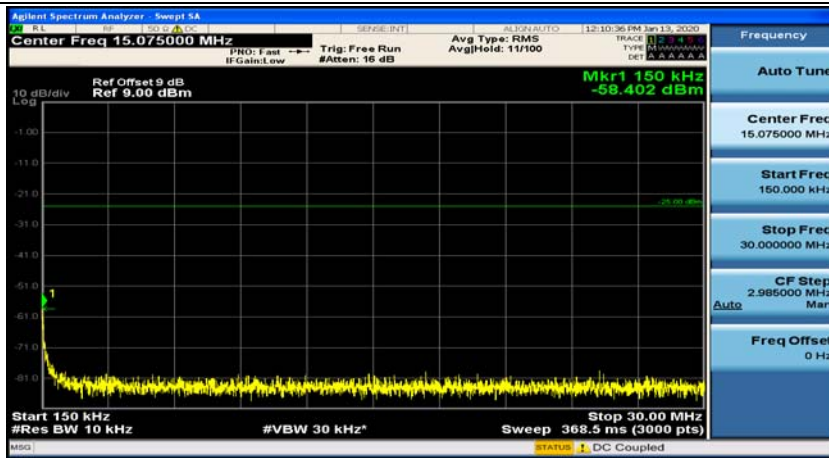
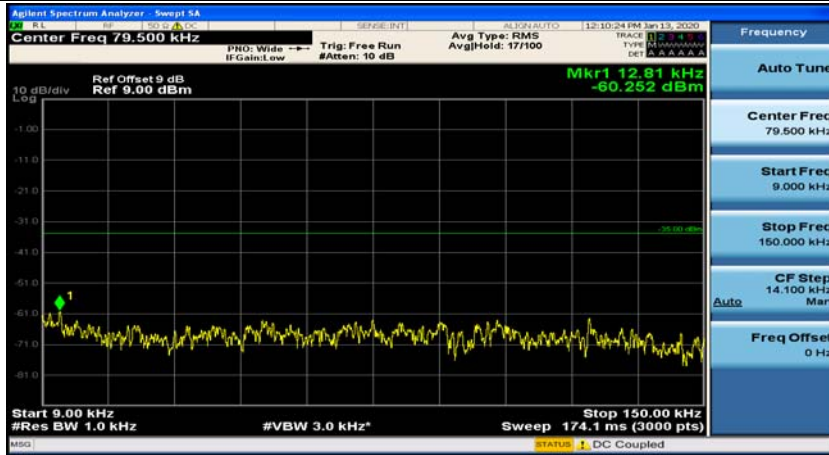
(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49



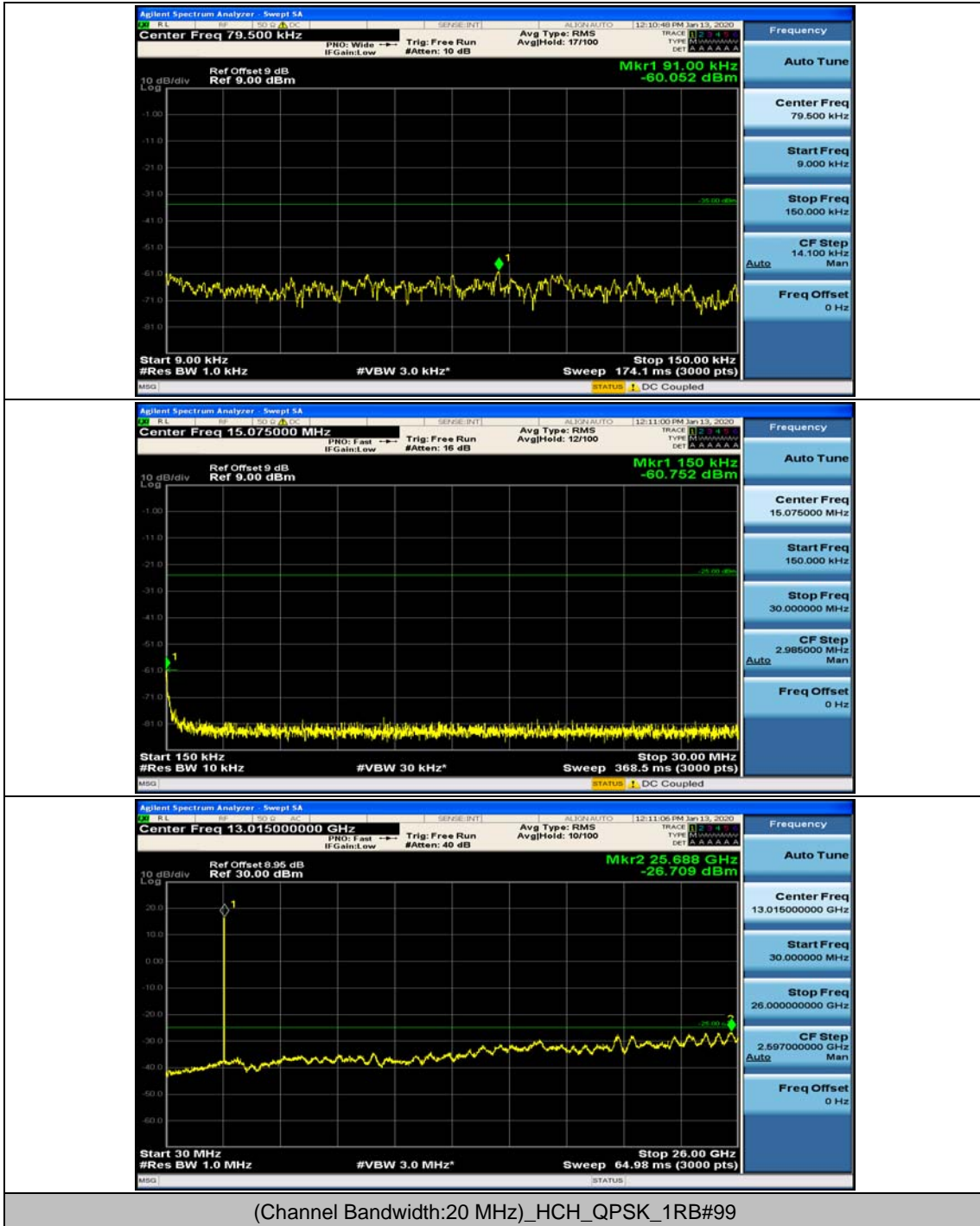


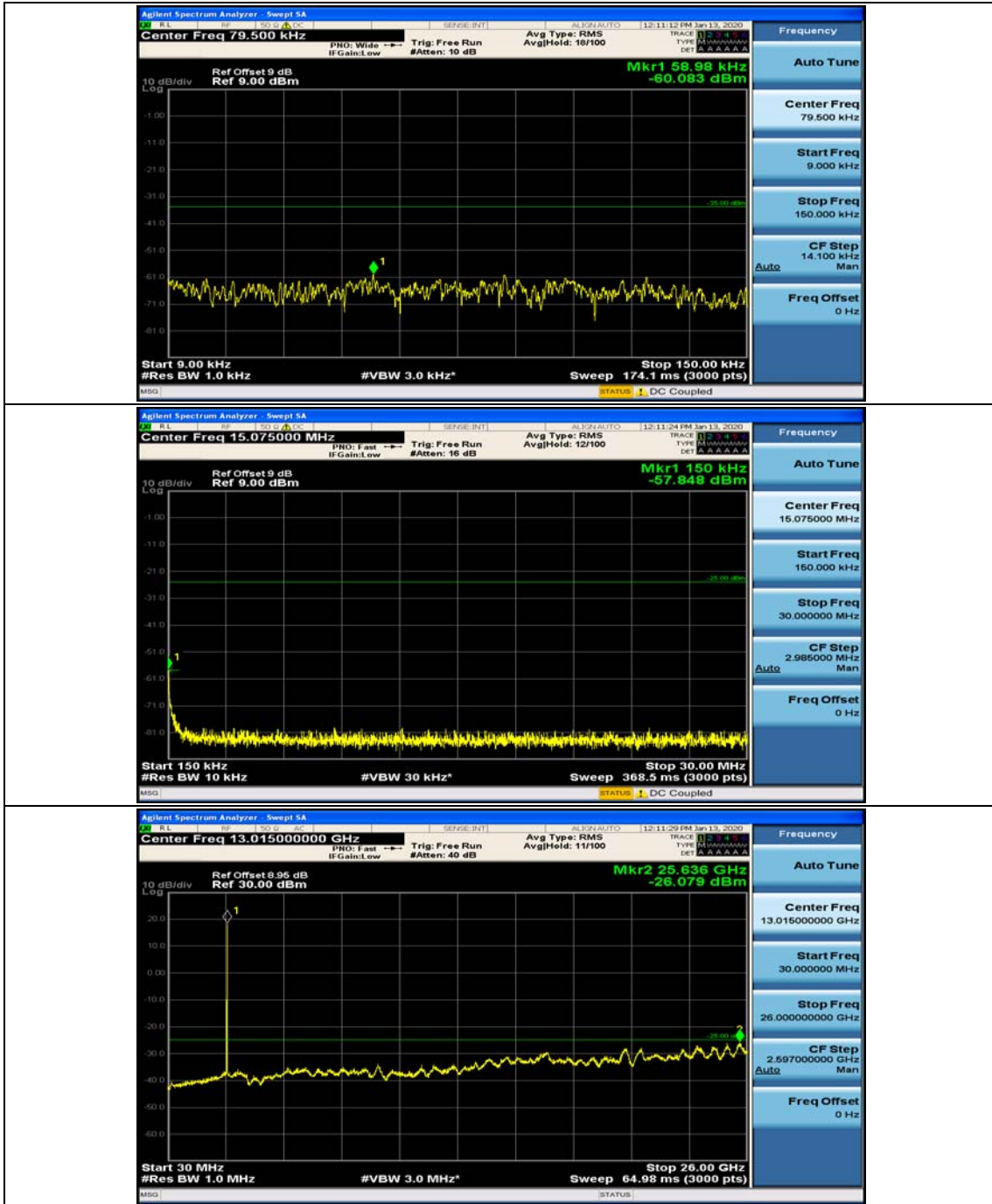


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0



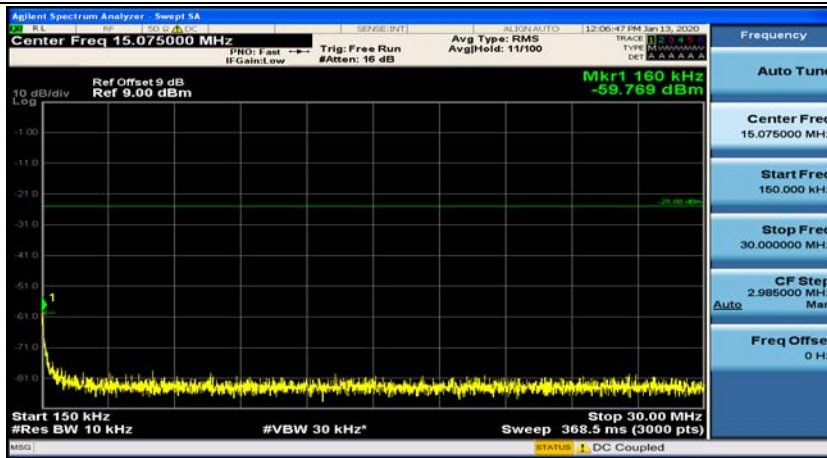
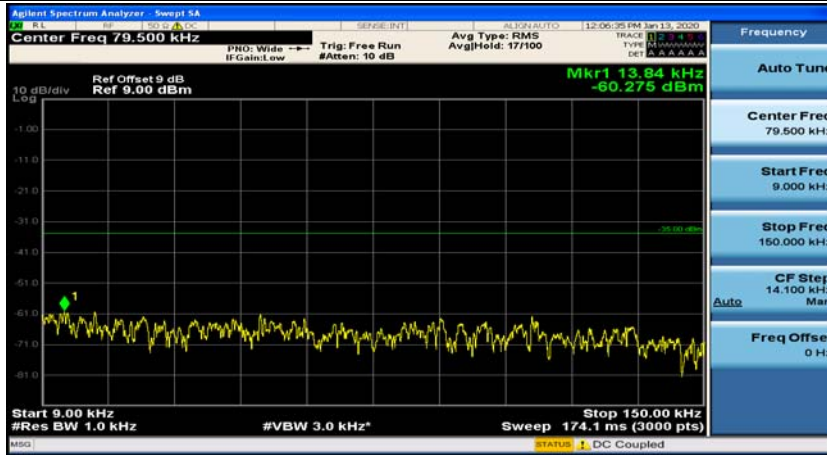
(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49



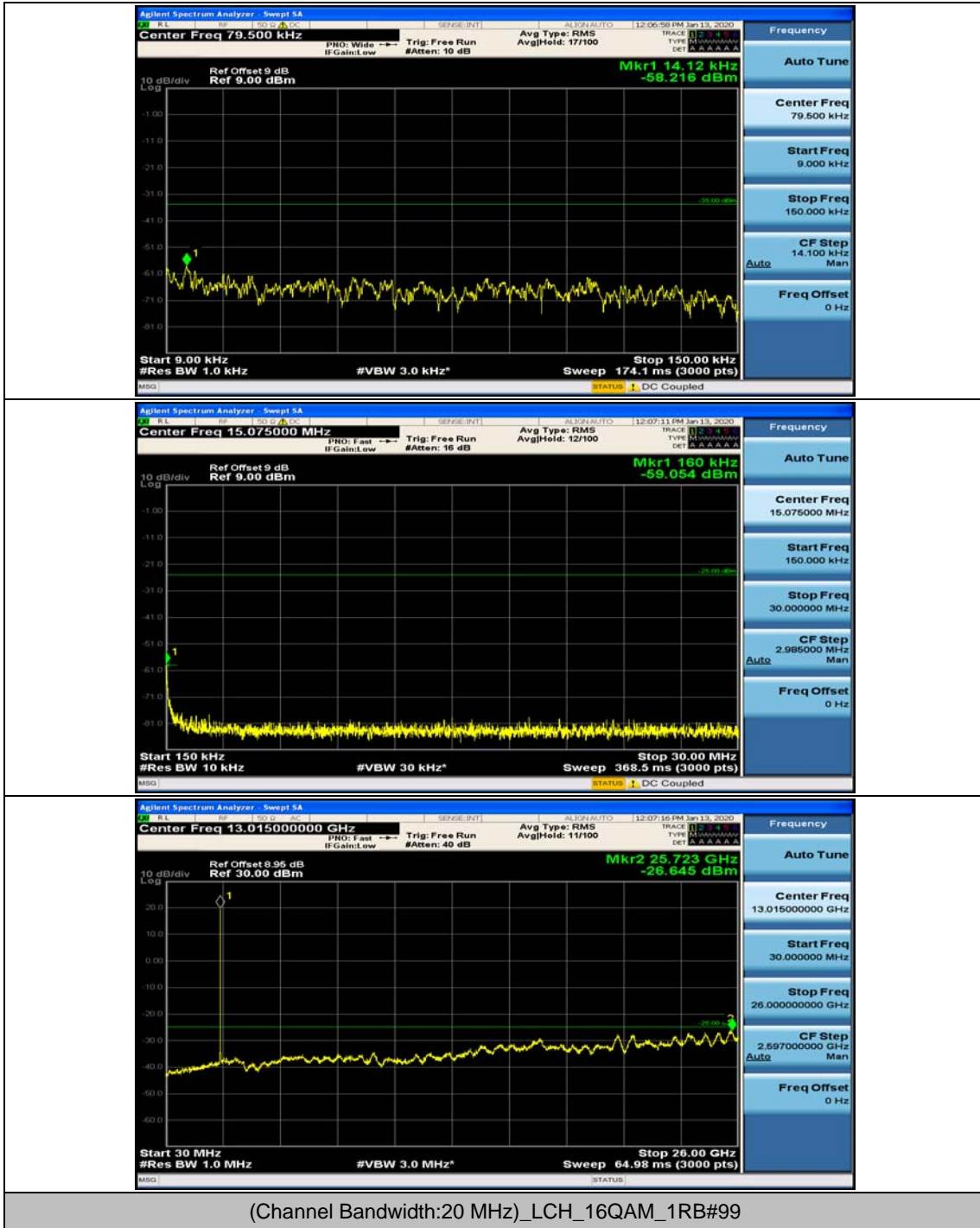


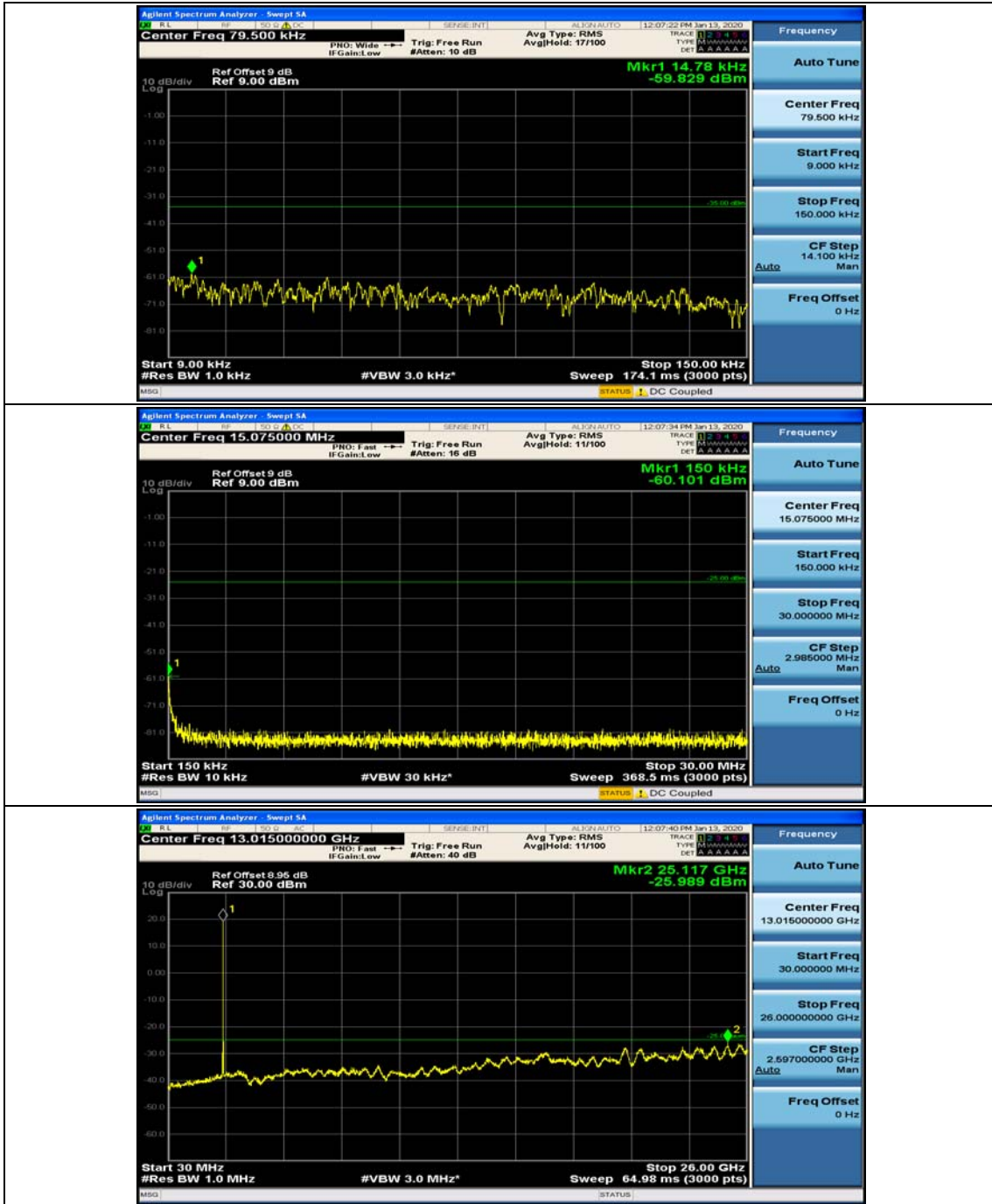


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0



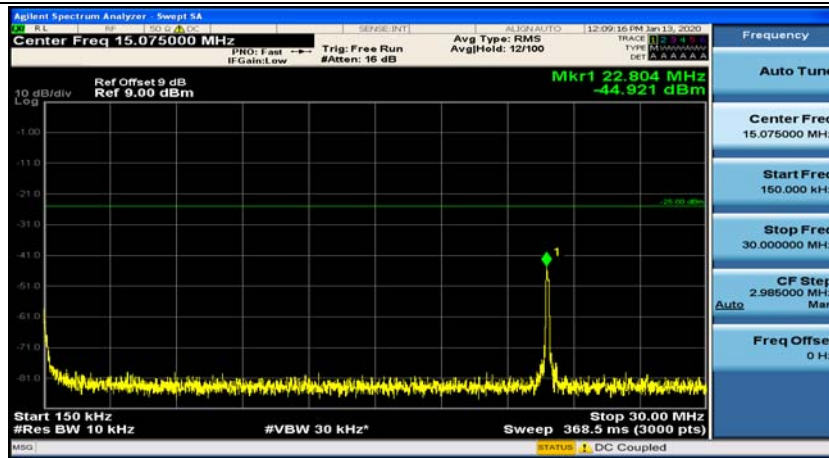
(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49



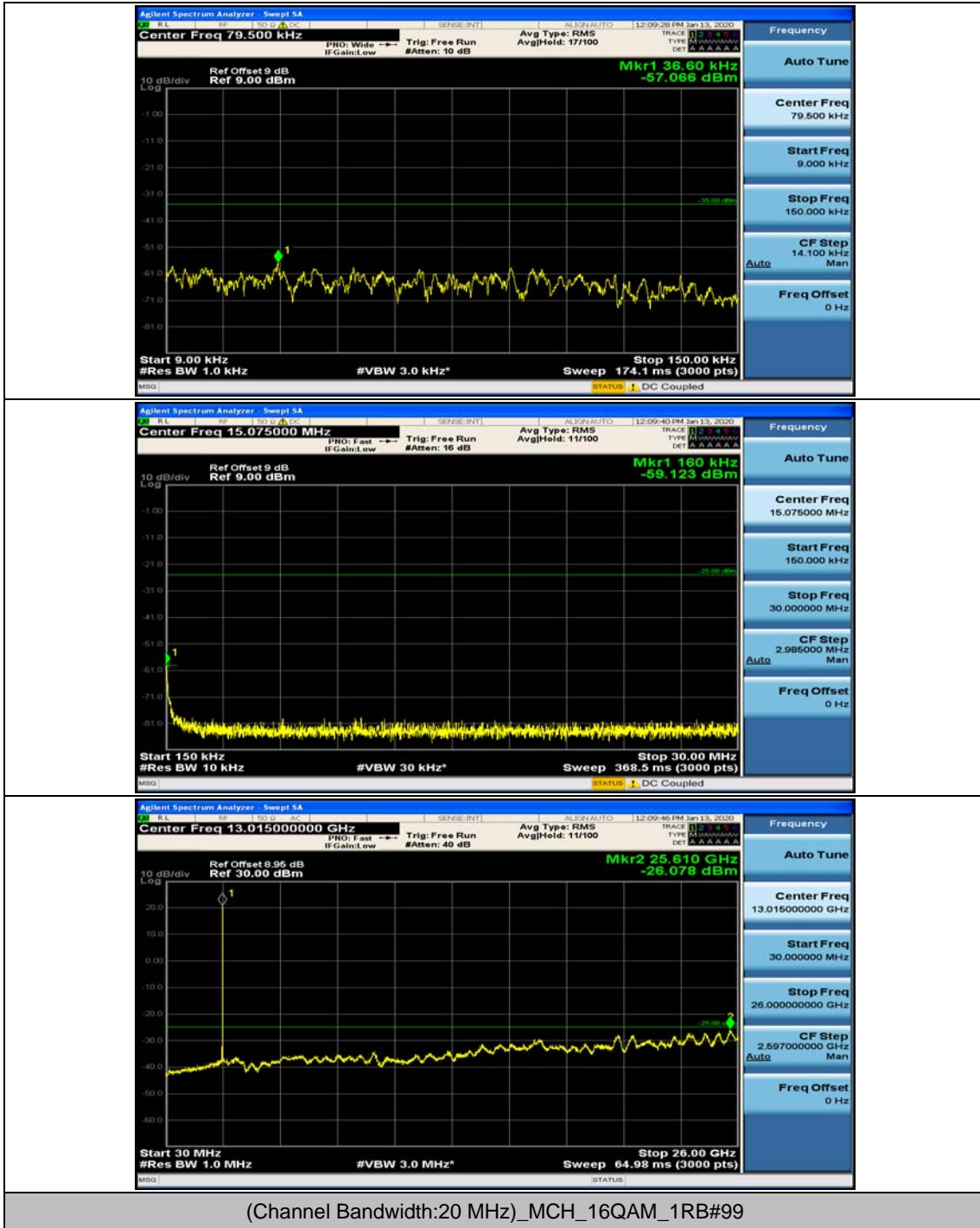


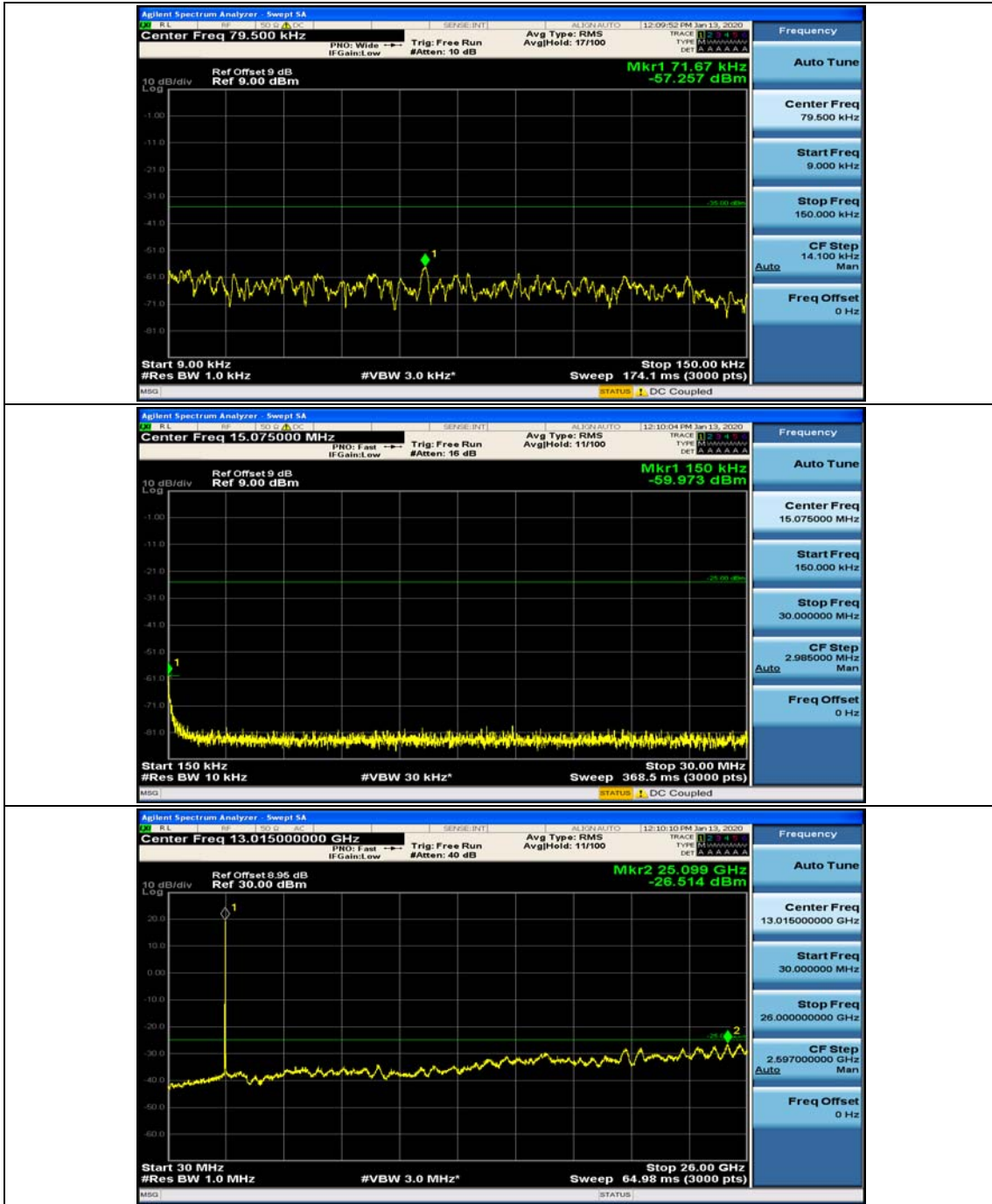


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0



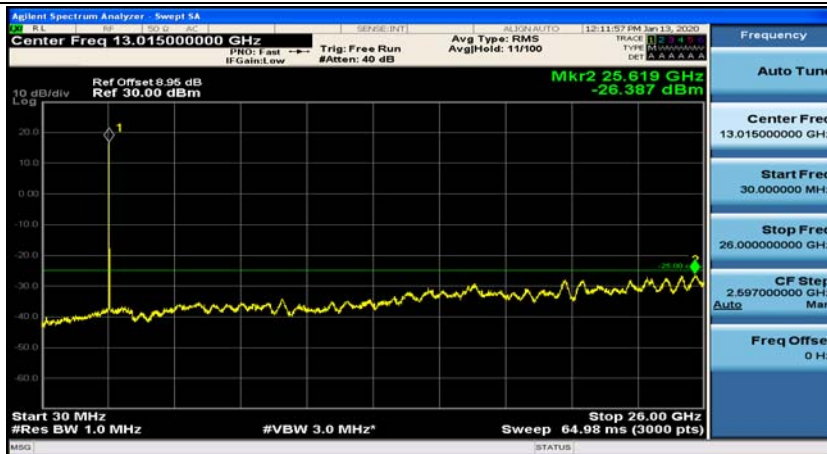
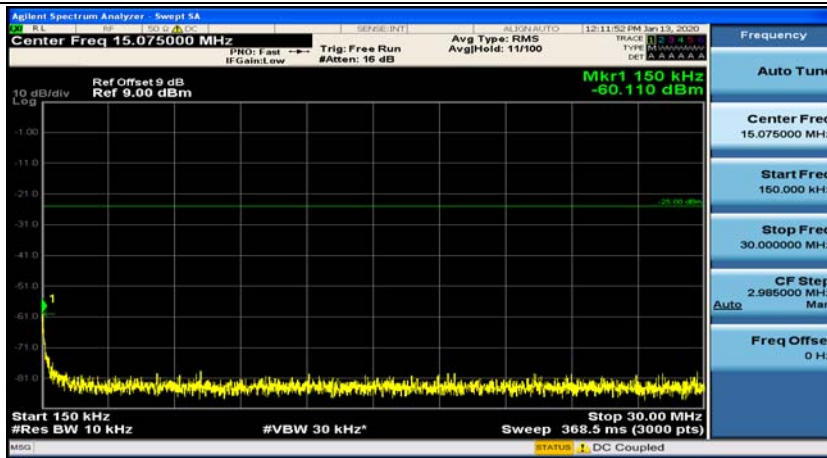
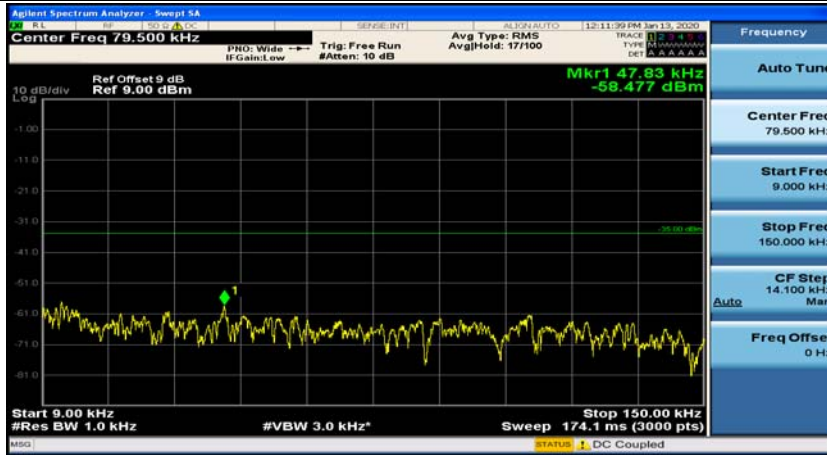
(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49



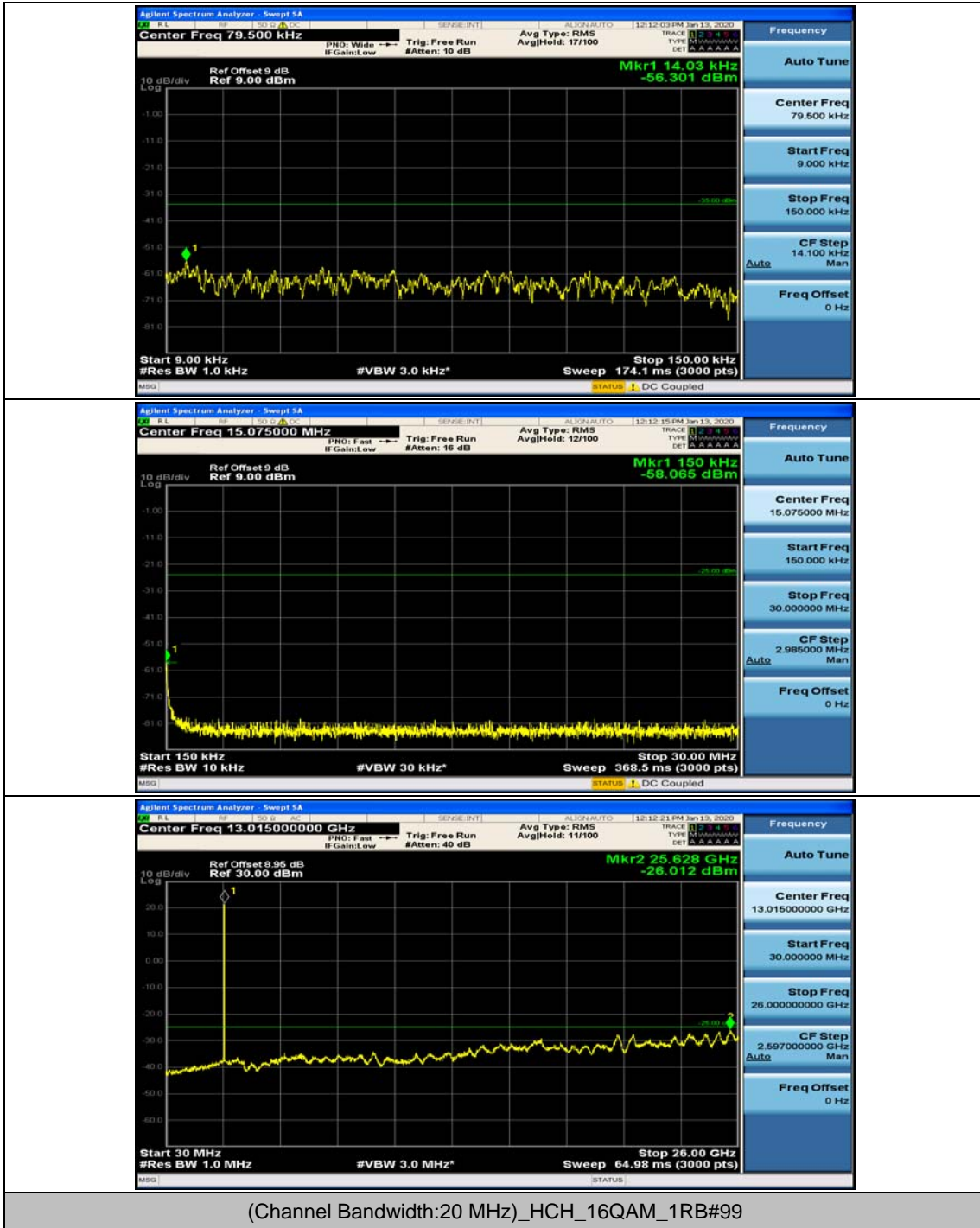


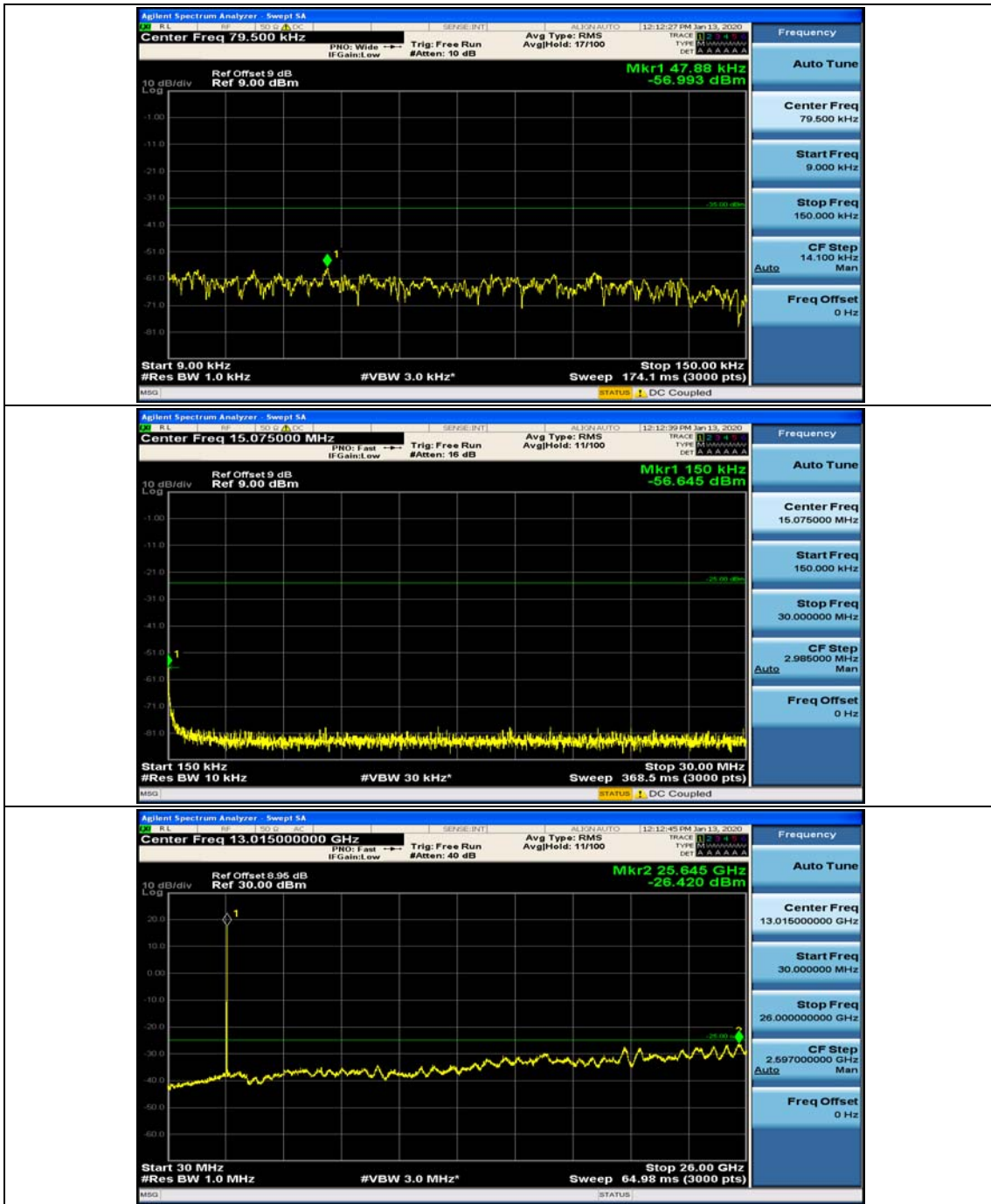


(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth:20 MHz)_HCH_16QAM_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	2.89	0.001157	± 2.5	PASS
		VN	TN	4.17	0.001669	± 2.5	PASS
		VH	TN	1.63	0.000652	± 2.5	PASS
	MCH	VL	TN	0.7	0.000270	± 2.5	PASS
		VN	TN	-0.62	-0.000239	± 2.5	PASS
		VH	TN	3.55	0.001369	± 2.5	PASS
	HCH	VL	TN	-0.28	-0.000104	± 2.5	PASS
		VN	TN	3.29	0.001224	± 2.5	PASS
		VH	TN	0.12	0.000045	± 2.5	PASS
16QAM	LCH	VL	TN	4.66	0.001865	± 2.5	PASS
		VN	TN	-1.96	-0.000784	± 2.5	PASS
		VH	TN	2.21	0.000885	± 2.5	PASS
	MCH	VL	TN	4.67	0.001801	± 2.5	PASS
		VN	TN	3.25	0.001253	± 2.5	PASS
		VH	TN	2.29	0.000883	± 2.5	PASS
	HCH	VL	TN	4.17	0.001552	± 2.5	PASS
		VN	TN	2.27	0.000845	± 2.5	PASS
		VH	TN	-1.31	-0.000487	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	4.98	0.001993	± 2.5	PASS
		VN	-20	4.41	0.001765	± 2.5	PASS
		VN	-10	-0.16	-0.000064	± 2.5	PASS
		VN	0	0.82	0.000328	± 2.5	PASS
		VN	10	1.33	0.000532	± 2.5	PASS
		VN	20	4.08	0.001633	± 2.5	PASS
		VN	30	-0.79	-0.000316	± 2.5	PASS
		VN	40	4.35	0.001741	± 2.5	PASS
		VN	50	2.95	0.001181	± 2.5	PASS
	MCH	VN	-30	-1.41	-0.000544	± 2.5	PASS



	VN	-20	2.76	0.001064	± 2.5	PASS	
		VN	-10	4.82	0.001859	± 2.5	PASS
		VN	0	0.05	0.000019	± 2.5	PASS
		VN	10	-0.68	-0.000262	± 2.5	PASS
		VN	20	4.05	0.001562	± 2.5	PASS
		VN	30	0.15	0.000058	± 2.5	PASS
		VN	40	1.48	0.000571	± 2.5	PASS
		VN	50	0.46	0.000177	± 2.5	PASS
	HCH	VN	-30	3.83	0.001425	± 2.5	PASS
		VN	-20	-1.45	-0.000540	± 2.5	PASS
		VN	-10	-0.77	-0.000287	± 2.5	PASS
		VN	0	4.38	0.001630	± 2.5	PASS
		VN	10	2.23	0.000830	± 2.5	PASS
		VN	20	1.78	0.000662	± 2.5	PASS
		VN	30	-0.55	-0.000205	± 2.5	PASS
		VN	40	-1.64	-0.000610	± 2.5	PASS
		VN	50	4.06	0.001511	± 2.5	PASS
		16QAM	LCH	VN	-30	2.16	0.000865
VN	-20			0.29	0.000116	± 2.5	PASS
VN	-10			1.53	0.000612	± 2.5	PASS
VN	0			-0.53	-0.000212	± 2.5	PASS
VN	10			-0.99	-0.000396	± 2.5	PASS
VN	20			-1.76	-0.000704	± 2.5	PASS
VN	30			0.54	0.000216	± 2.5	PASS
VN	40			4.85	0.001941	± 2.5	PASS
VN	50			3.96	0.001585	± 2.5	PASS
MCH	VN		-30	-1.88	-0.000725	± 2.5	PASS
	VN		-20	0.64	0.000247	± 2.5	PASS
	VN		-10	2.24	0.000864	± 2.5	PASS
	VN		0	0.85	0.000328	± 2.5	PASS
	VN		10	1.01	0.000390	± 2.5	PASS
	VN		20	2.9	0.001118	± 2.5	PASS
	VN		30	-0.83	-0.000320	± 2.5	PASS
	VN		40	-0.75	-0.000289	± 2.5	PASS
	VN		50	-1.66	-0.000640	± 2.5	PASS
HCH	VN		-30	2.5	0.000930	± 2.5	PASS
	VN		-20	4.78	0.001779	± 2.5	PASS
	VN		-10	-0.77	-0.000287	± 2.5	PASS
	VN		0	2.74	0.001020	± 2.5	PASS
	VN		10	-0.75	-0.000279	± 2.5	PASS
	VN		20	4.53	0.001686	± 2.5	PASS



		VN	30	3.12	0.001161	± 2.5	PASS
		VN	40	0.12	0.000045	± 2.5	PASS
		VN	50	-11.63	-0.004327	± 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	0.99	0.000396	± 2.5	PASS
		VN	TN	3.33	0.001331	± 2.5	PASS
		VH	TN	-0.46	-0.000184	± 2.5	PASS
	MCH	VL	TN	3.12	0.001203	± 2.5	PASS
		VN	TN	-1.36	-0.000524	± 2.5	PASS
		VH	TN	4.6	0.001774	± 2.5	PASS
	HCH	VL	TN	3.55	0.001322	± 2.5	PASS
		VN	TN	-0.97	-0.000361	± 2.5	PASS
		VH	TN	1.83	0.000682	± 2.5	PASS
16QAM	LCH	VL	TN	4.64	0.001855	± 2.5	PASS
		VN	TN	1.77	0.000708	± 2.5	PASS
		VH	TN	4.86	0.001943	± 2.5	PASS
	MCH	VL	TN	4.42	0.001705	± 2.5	PASS
		VN	TN	2.85	0.001099	± 2.5	PASS
		VH	TN	1.09	0.000420	± 2.5	PASS
	HCH	VL	TN	0.41	0.000153	± 2.5	PASS
		VN	TN	-0.59	-0.000220	± 2.5	PASS
		VH	TN	1.12	0.000417	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	0.01	0.000004	± 2.5	PASS
		VN	-20	-1.54	-0.000616	± 2.5	PASS
		VN	-10	0.79	0.000316	± 2.5	PASS
		VN	0	-1.19	-0.000476	± 2.5	PASS
		VN	10	2.23	0.000892	± 2.5	PASS
		VN	20	-1.16	-0.000464	± 2.5	PASS
		VN	30	-0.06	-0.000024	± 2.5	PASS
		VN	40	4.31	0.001723	± 2.5	PASS
		VN	50	4.56	0.001823	± 2.5	PASS
	MCH	VN	-30	-0.92	-0.000355	± 2.5	PASS
		VN	-20	3.78	0.001458	± 2.5	PASS



		VN	-10	1.81	0.000698	± 2.5	PASS		
		VN	0	-1.1	-0.000424	± 2.5	PASS		
		VN	10	0.59	0.000228	± 2.5	PASS		
		VN	20	0.9	0.000347	± 2.5	PASS		
		VN	30	0.74	0.000285	± 2.5	PASS		
		VN	40	0.15	0.000058	± 2.5	PASS		
		VN	50	2.52	0.000972	± 2.5	PASS		
	HCH	VN	-30	-1.65	-0.000615	± 2.5	PASS		
		VN	-20	2.32	0.000864	± 2.5	PASS		
		VN	-10	-0.06	-0.000022	± 2.5	PASS		
		VN	0	4.98	0.001855	± 2.5	PASS		
		VN	10	0.48	0.000179	± 2.5	PASS		
		VN	20	-1.35	-0.000503	± 2.5	PASS		
		VN	30	-0.31	-0.000115	± 2.5	PASS		
		VN	40	3.35	0.001248	± 2.5	PASS		
		VN	50	4.39	0.001635	± 2.5	PASS		
		QPSK	LCH	VN	-30	1.76	0.000704	± 2.5	PASS
				VN	-20	1.06	0.000424	± 2.5	PASS
VN	-10			-0.92	-0.000368	± 2.5	PASS		
VN	0			-0.81	-0.000324	± 2.5	PASS		
VN	10			-0.71	-0.000284	± 2.5	PASS		
VN	20			4.02	0.001607	± 2.5	PASS		
VN	30			-1.53	-0.000612	± 2.5	PASS		
VN	40			4.57	0.001827	± 2.5	PASS		
VN	50			0.66	0.000264	± 2.5	PASS		
MCH	VN		-30	3.71	0.001431	± 2.5	PASS		
	VN		-20	2.91	0.001122	± 2.5	PASS		
	VN		-10	4.81	0.001855	± 2.5	PASS		
	VN		0	-1.92	-0.000740	± 2.5	PASS		
	VN		10	3.7	0.001427	± 2.5	PASS		
	VN		20	0.31	0.000120	± 2.5	PASS		
	VN		30	3.91	0.001508	± 2.5	PASS		
	VN		40	0.61	0.000235	± 2.5	PASS		
	VN		50	-0.95	-0.000366	± 2.5	PASS		
HCH	VN		-30	4.58	0.001706	± 2.5	PASS		
	VN		-20	1.3	0.000484	± 2.5	PASS		
	VN		-10	0.34	0.000127	± 2.5	PASS		
	VN		0	2.88	0.001073	± 2.5	PASS		
	VN		10	2.36	0.000879	± 2.5	PASS		
	VN		20	0.79	0.000294	± 2.5	PASS		
	VN		30	-1.91	-0.000711	± 2.5	PASS		



		VN	40	2.24	0.000834	± 2.5	PASS
		VN	50	-11.63	-0.004331	± 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	4.05	0.001618	± 2.5	PASS
		VN	TN	4.45	0.001778	± 2.5	PASS
		VH	TN	4.39	0.001754	± 2.5	PASS
	MCH	VL	TN	3.91	0.001508	± 2.5	PASS
		VN	TN	0.86	0.000332	± 2.5	PASS
		VH	TN	1	0.000386	± 2.5	PASS
	HCH	VL	TN	-0.36	-0.000134	± 2.5	PASS
		VN	TN	-1.11	-0.000414	± 2.5	PASS
		VH	TN	-0.94	-0.000350	± 2.5	PASS
16QAM	LCH	VL	TN	-1.99	-0.000795	± 2.5	PASS
		VN	TN	0.75	0.000300	± 2.5	PASS
		VH	TN	-1.63	-0.000651	± 2.5	PASS
	MCH	VL	TN	-1.02	-0.000393	± 2.5	PASS
		VN	TN	-0.05	-0.000019	± 2.5	PASS
		VH	TN	-0.26	-0.000100	± 2.5	PASS
	HCH	VL	TN	4.81	0.001793	± 2.5	PASS
		VN	TN	4.9	0.001827	± 2.5	PASS
		VH	TN	0.41	0.000153	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.07	-0.000427	± 2.5	PASS
		VN	-20	2.22	0.000887	± 2.5	PASS
		VN	-10	-1.02	-0.000407	± 2.5	PASS
		VN	0	-1.18	-0.000471	± 2.5	PASS
		VN	10	-0.92	-0.000367	± 2.5	PASS
		VN	20	3.21	0.001282	± 2.5	PASS
		VN	30	2.1	0.000839	± 2.5	PASS
		VN	40	4	0.001598	± 2.5	PASS
		VN	50	2.69	0.001074	± 2.5	PASS
	MCH	VN	-30	-0.81	-0.000312	± 2.5	PASS
		VN	-20	4.92	0.001897	± 2.5	PASS
		VN	-10	-0.11	-0.000042	± 2.5	PASS



		VN	0	4.97	0.001917	± 2.5	PASS		
		VN	10	4.2	0.001620	± 2.5	PASS		
		VN	20	4.97	0.001917	± 2.5	PASS		
		VN	30	-1.51	-0.000582	± 2.5	PASS		
		VN	40	-1.36	-0.000524	± 2.5	PASS		
		VN	50	3.68	0.001419	± 2.5	PASS		
	HCH	VN	-30	-1.32	-0.000492	± 2.5	PASS		
		VN	-20	4.84	0.001804	± 2.5	PASS		
		VN	-10	2.49	0.000928	± 2.5	PASS		
		VN	0	1.01	0.000377	± 2.5	PASS		
		VN	10	-0.25	-0.000093	± 2.5	PASS		
		VN	20	4.31	0.001607	± 2.5	PASS		
		VN	30	4	0.001491	± 2.5	PASS		
		VN	40	-0.02	-0.000007	± 2.5	PASS		
		VN	50	4.55	0.001696	± 2.5	PASS		
		16QAM	LCH	VN	-30	4.82	0.001925	± 2.5	PASS
				VN	-20	-1.81	-0.000723	± 2.5	PASS
				VN	-10	0.99	0.000395	± 2.5	PASS
VN	0			2.41	0.000963	± 2.5	PASS		
VN	10			1.06	0.000423	± 2.5	PASS		
VN	20			1.35	0.000539	± 2.5	PASS		
VN	30			-1.22	-0.000487	± 2.5	PASS		
VN	40			2.73	0.001090	± 2.5	PASS		
VN	50			1.53	0.000611	± 2.5	PASS		
MCH	VN		-30	1.64	0.000632	± 2.5	PASS		
	VN		-20	4.02	0.001550	± 2.5	PASS		
	VN		-10	2.89	0.001115	± 2.5	PASS		
	VN		0	3.28	0.001265	± 2.5	PASS		
	VN		10	3.76	0.001450	± 2.5	PASS		
	VN		20	-0.81	-0.000312	± 2.5	PASS		
	VN		30	3.29	0.001269	± 2.5	PASS		
	VN		40	2.97	0.001145	± 2.5	PASS		
	VN		50	3.95	0.001523	± 2.5	PASS		
HCH	VN		-30	4	0.001491	± 2.5	PASS		
	VN		-20	0.16	0.000060	± 2.5	PASS		
	VN		-10	-0.14	-0.000052	± 2.5	PASS		
	VN		0	1.24	0.000462	± 2.5	PASS		
	VN		10	2.62	0.000977	± 2.5	PASS		
	VN		20	-0.18	-0.000067	± 2.5	PASS		
	VN		30	3.31	0.001234	± 2.5	PASS		
	VN		40	-1.48	-0.000552	± 2.5	PASS		



		VN	50	-11.63	-0.004336	± 2.5	PASS
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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	2.14	0.000854	± 2.5	PASS
		VN	TN	2.65	0.001057	± 2.5	PASS
		VH	TN	3.21	0.001281	± 2.5	PASS
	MCH	VL	TN	-1.24	-0.000478	± 2.5	PASS
		VN	TN	-1.71	-0.000659	± 2.5	PASS
		VH	TN	-0.53	-0.000204	± 2.5	PASS
	HCH	VL	TN	-1.79	-0.000668	± 2.5	PASS
		VN	TN	0.78	0.000291	± 2.5	PASS
		VH	TN	0.86	0.000321	± 2.5	PASS
16QAM	LCH	VL	TN	3.46	0.001381	± 2.5	PASS
		VN	TN	0.24	0.000096	± 2.5	PASS
		VH	TN	3.98	0.001588	± 2.5	PASS
	MCH	VL	TN	2.04	0.000787	± 2.5	PASS
		VN	TN	4.18	0.001612	± 2.5	PASS
		VH	TN	4.67	0.001801	± 2.5	PASS
	HCH	VL	TN	-1.4	-0.000522	± 2.5	PASS
		VN	TN	2.18	0.000813	± 2.5	PASS
		VH	TN	0.5	0.000187	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.49	-0.000196	± 2.5	PASS
		VN	-20	-1.72	-0.000686	± 2.5	PASS
		VN	-10	0.25	0.000100	± 2.5	PASS
		VN	0	0.4	0.000160	± 2.5	PASS
		VN	10	-0.86	-0.000343	± 2.5	PASS
		VN	20	1.29	0.000515	± 2.5	PASS
		VN	30	-1.24	-0.000495	± 2.5	PASS
		VN	40	-1.94	-0.000774	± 2.5	PASS
		VN	50	3.09	0.001233	± 2.5	PASS
	MCH	VN	-30	4.85	0.001870	± 2.5	PASS
		VN	-20	2.56	0.000987	± 2.5	PASS
		VN	-10	2.01	0.000775	± 2.5	PASS
		VN	0	-0.77	-0.000297	± 2.5	PASS



		VN	10	4.02	0.001550	± 2.5	PASS
		VN	20	1.55	0.000598	± 2.5	PASS
		VN	30	-0.51	-0.000197	± 2.5	PASS
		VN	40	2.36	0.000910	± 2.5	PASS
		VN	50	3.88	0.001496	± 2.5	PASS
	HCH	VN	-30	-0.73	-0.000272	± 2.5	PASS
		VN	-20	4	0.001493	± 2.5	PASS
		VN	-10	1.49	0.000556	± 2.5	PASS
		VN	0	0.08	0.000030	± 2.5	PASS
		VN	10	-1.78	-0.000664	± 2.5	PASS
		VN	20	3.62	0.001351	± 2.5	PASS
		VN	30	-1.43	-0.000534	± 2.5	PASS
		VN	40	-1.34	-0.000500	± 2.5	PASS
		VN	50	3.4	0.001269	± 2.5	PASS
		16QAM	LCH	VN	-30	1.76	0.000702
VN	-20			3.66	0.001460	± 2.5	PASS
VN	-10			2.49	0.000994	± 2.5	PASS
VN	0			-0.99	-0.000395	± 2.5	PASS
VN	10			1.38	0.000551	± 2.5	PASS
VN	20			0.27	0.000108	± 2.5	PASS
VN	30			0.76	0.000303	± 2.5	PASS
VN	40			-0.32	-0.000128	± 2.5	PASS
VN	50			2.82	0.001125	± 2.5	PASS
MCH	VN		-30	-0.32	-0.000123	± 2.5	PASS
	VN		-20	4.26	0.001643	± 2.5	PASS
	VN		-10	-0.67	-0.000258	± 2.5	PASS
	VN		0	-0.89	-0.000343	± 2.5	PASS
	VN		10	-0.59	-0.000228	± 2.5	PASS
	VN		20	1.34	0.000517	± 2.5	PASS
	VN		30	-0.35	-0.000135	± 2.5	PASS
	VN		40	1.87	0.000721	± 2.5	PASS
	VN		50	-1	-0.000386	± 2.5	PASS
HCH	VN		-30	-0.89	-0.000332	± 2.5	PASS
	VN		-20	1.57	0.000586	± 2.5	PASS
	VN		-10	4.74	0.001769	± 2.5	PASS
	VN		0	0.43	0.000160	± 2.5	PASS
	VN		10	4.77	0.001780	± 2.5	PASS
	VN		20	-0.12	-0.000045	± 2.5	PASS
	VN		30	2.99	0.001116	± 2.5	PASS
	VN		40	3.89	0.001451	± 2.5	PASS
	VN		50	-11.63	-0.004340	± 2.5	PASS