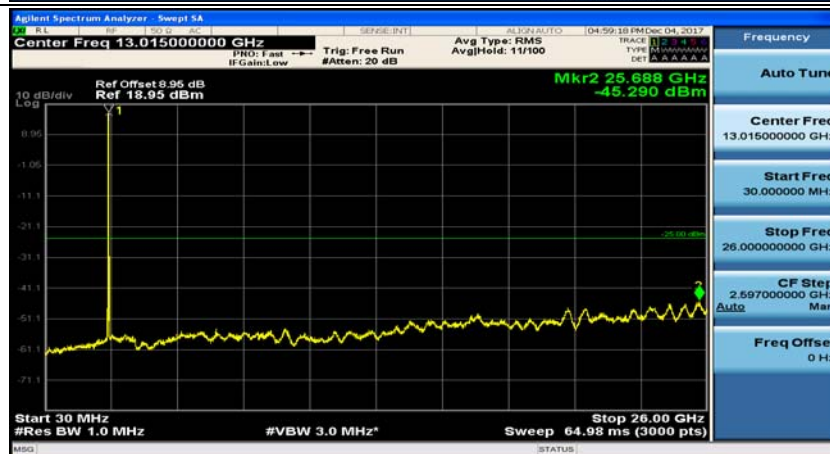
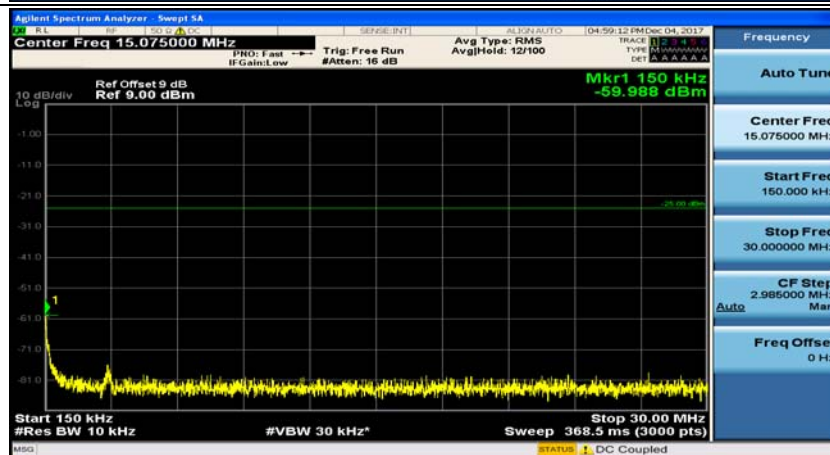
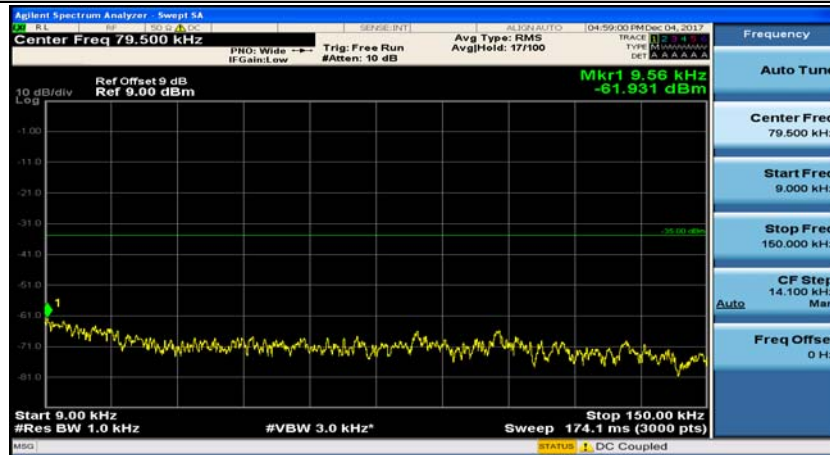
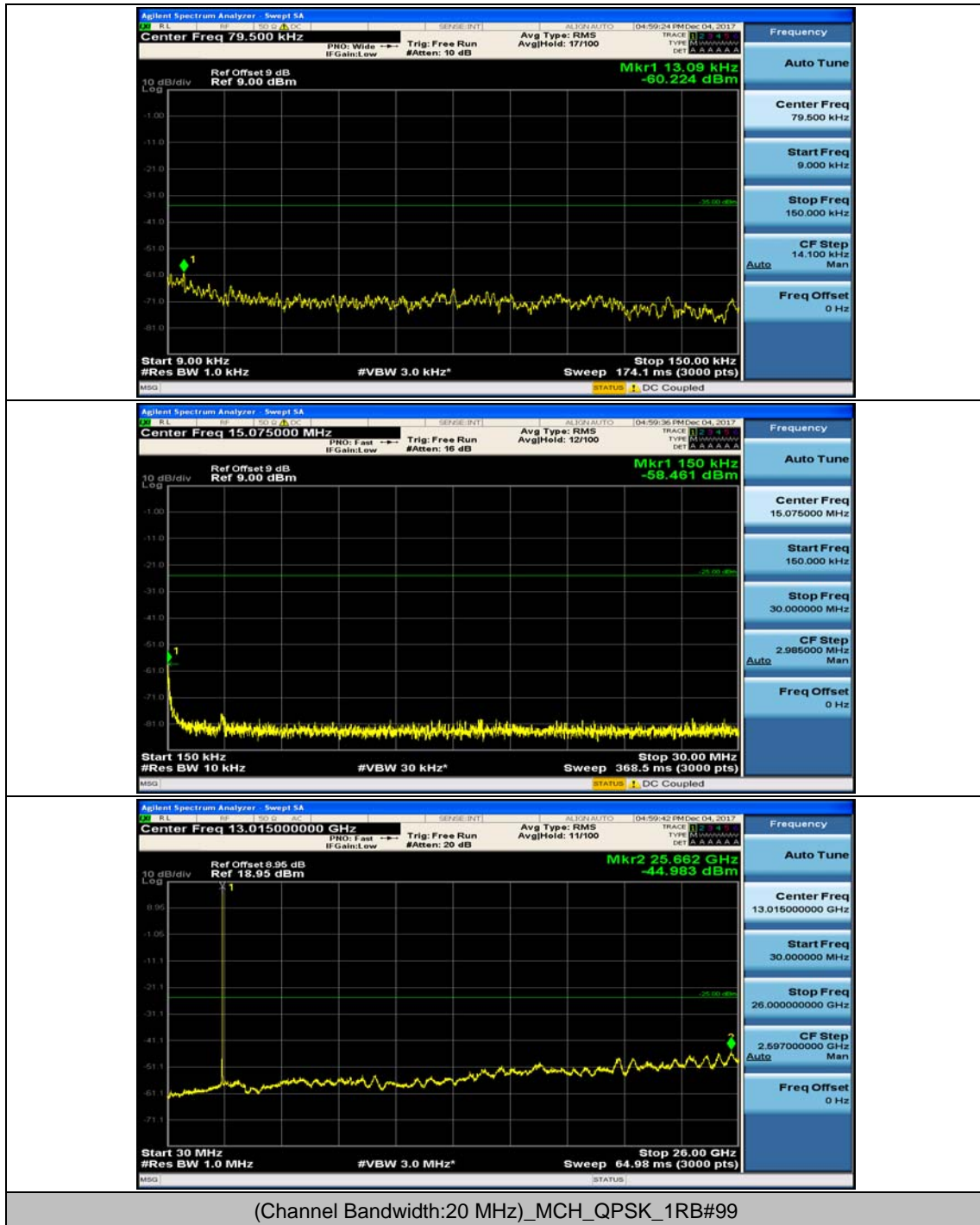
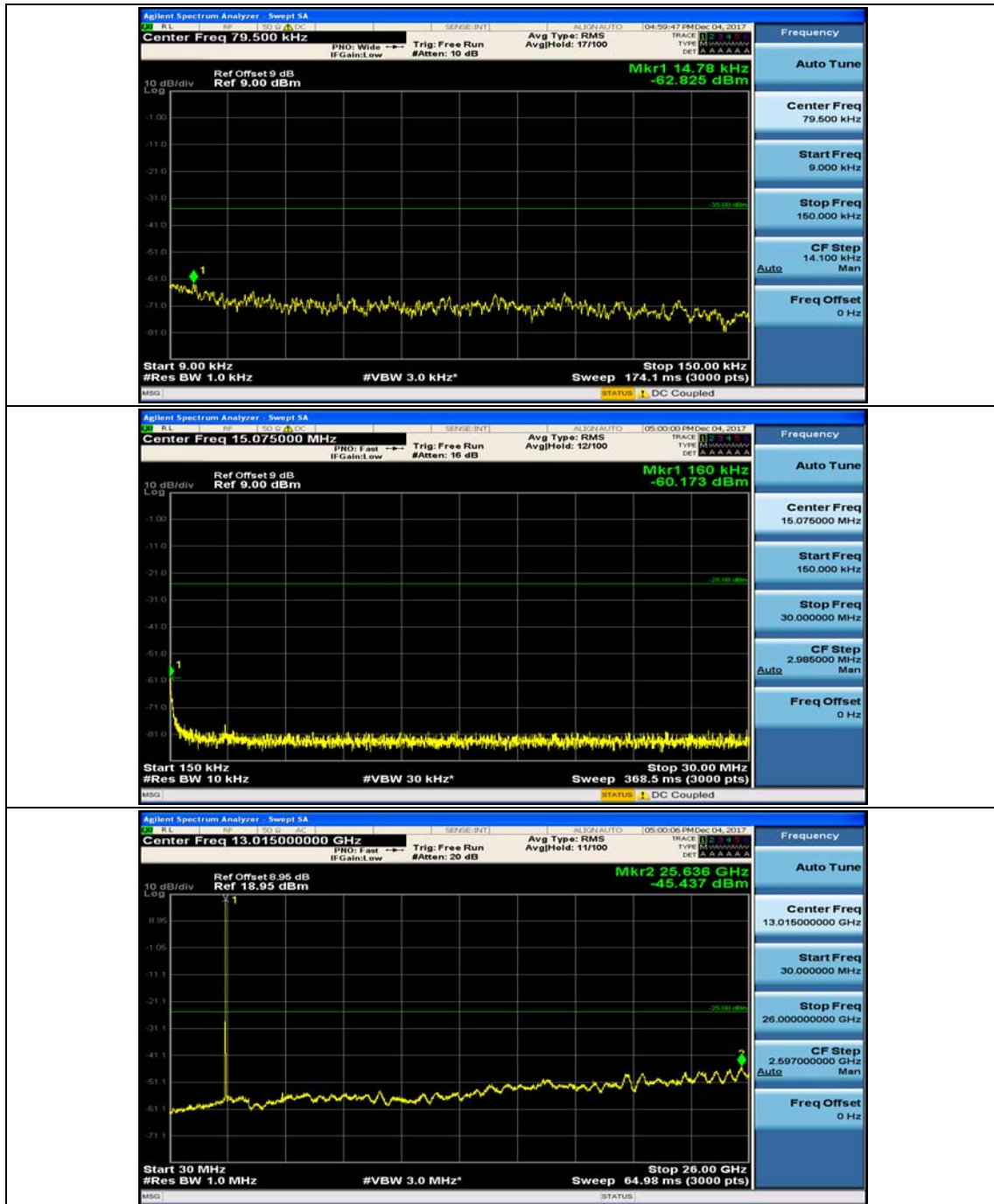


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0

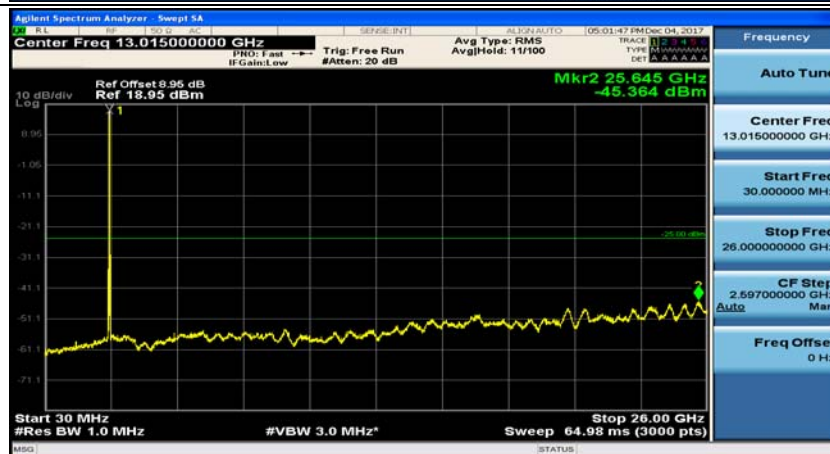
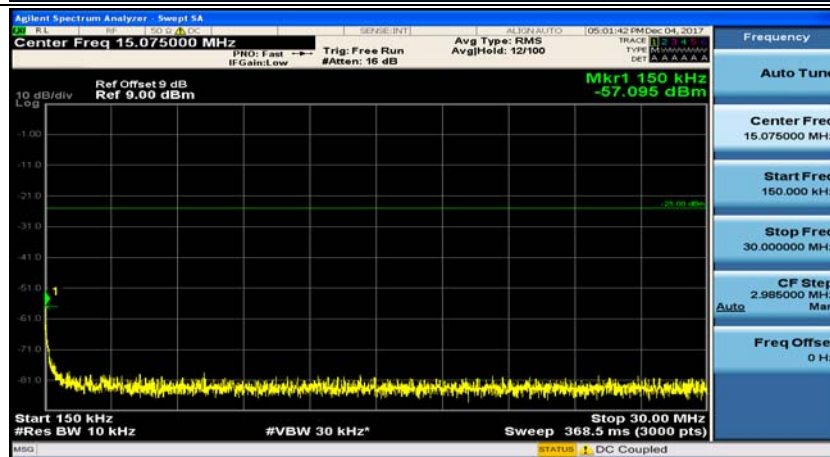
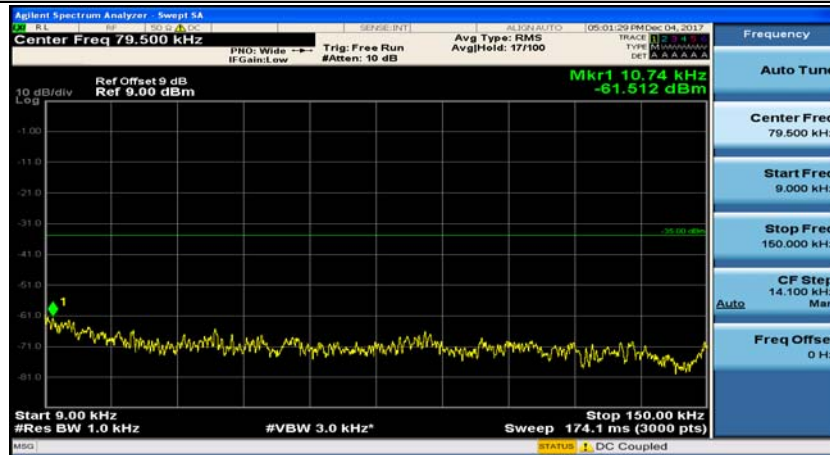


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

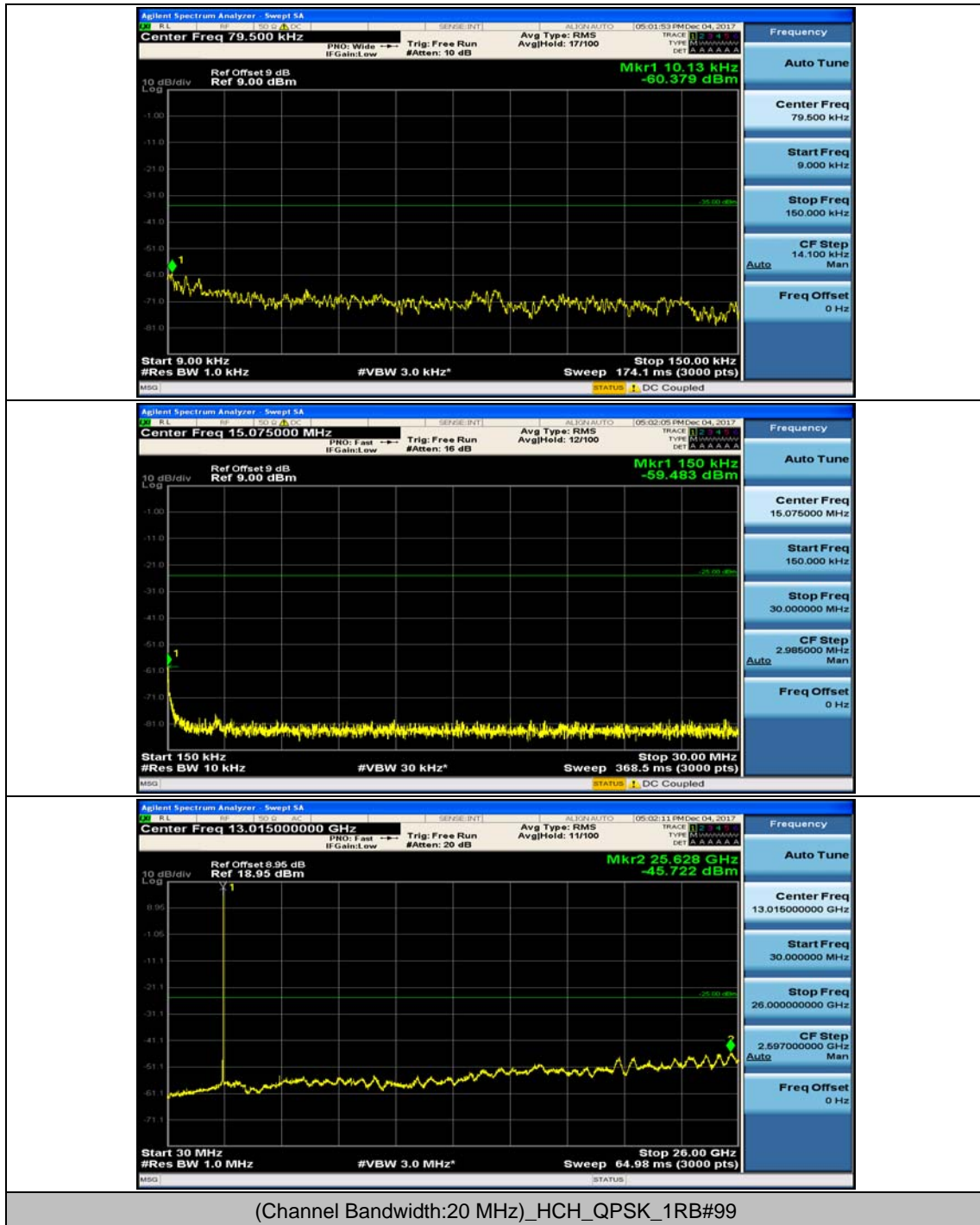


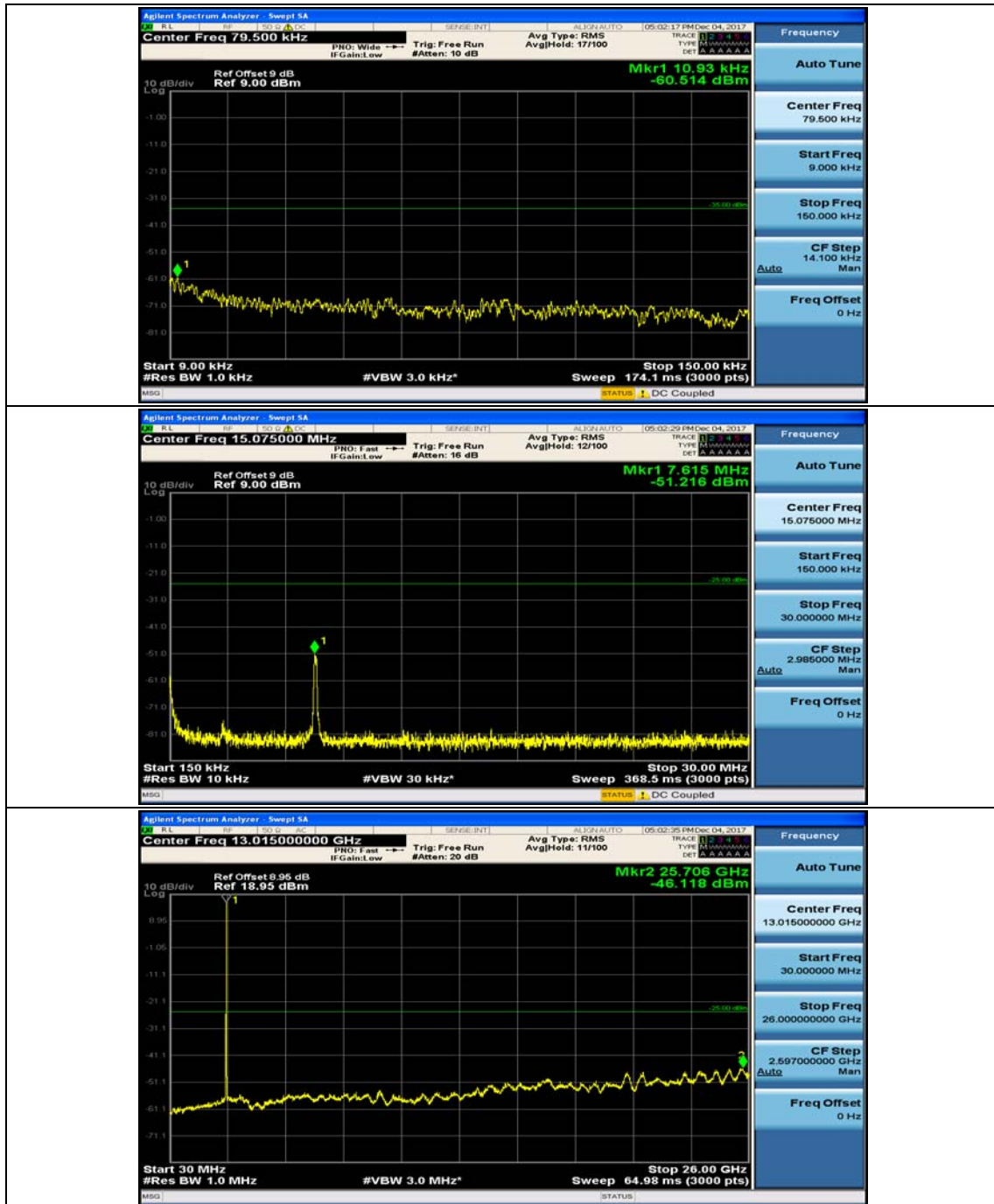


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0

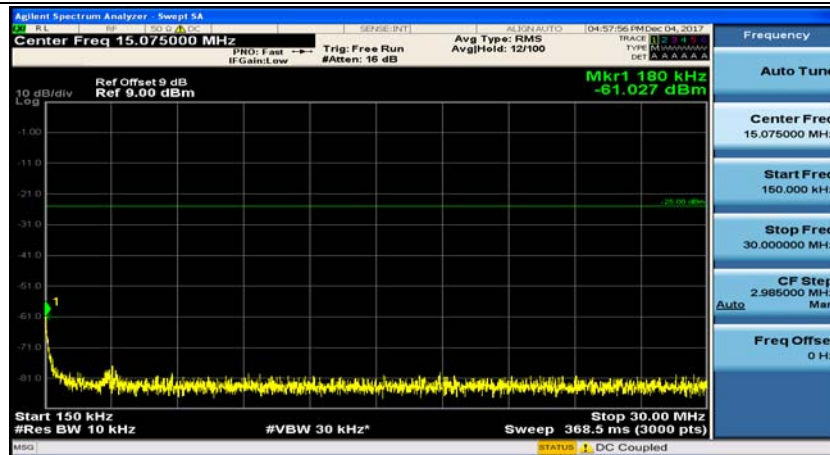
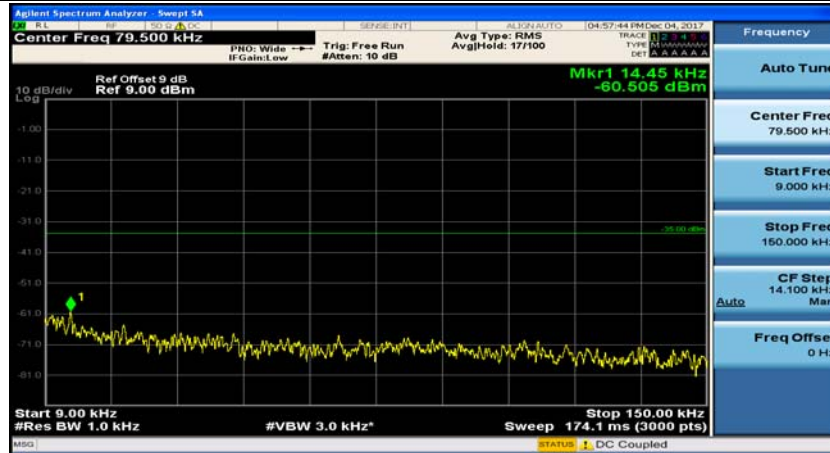


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

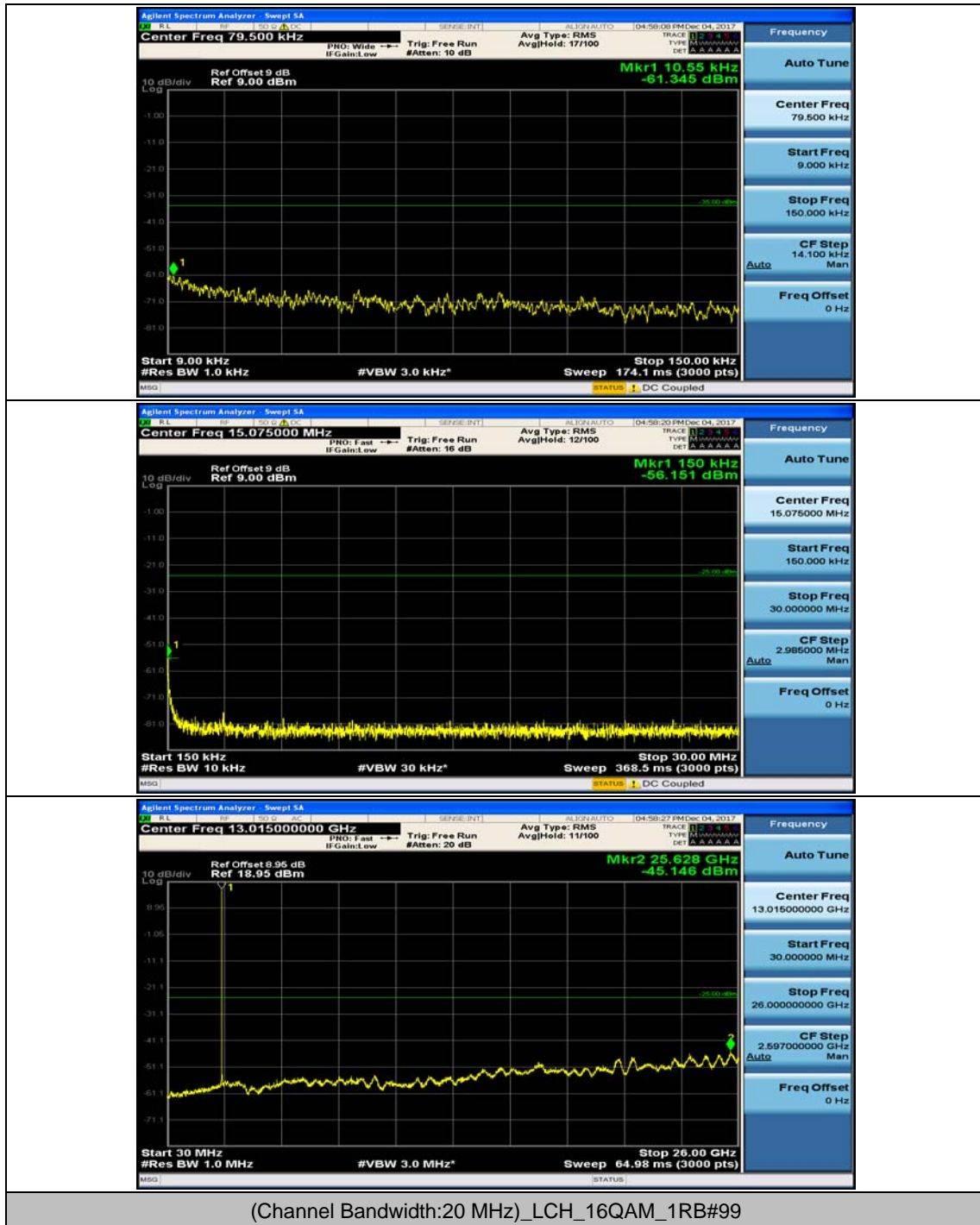


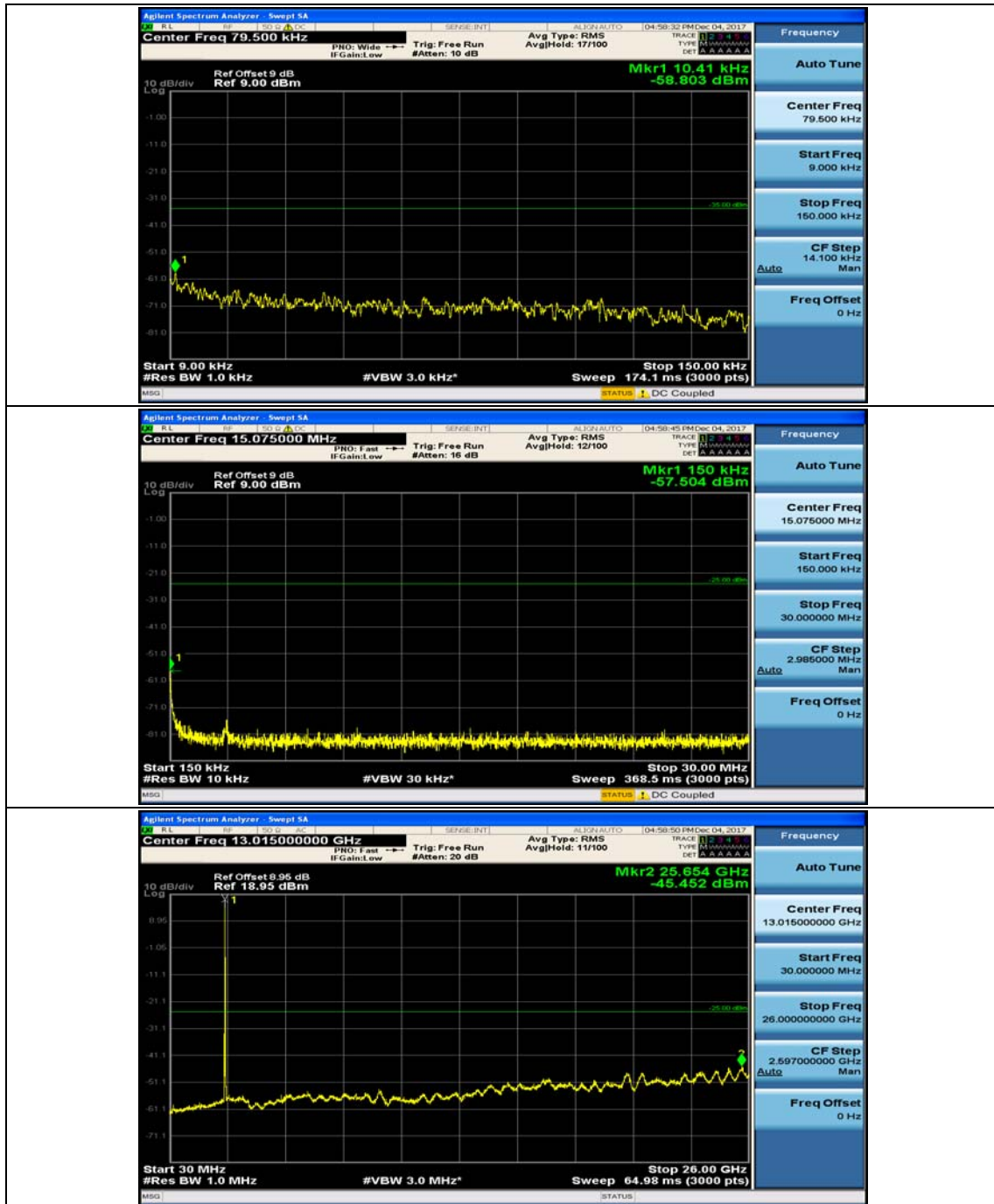


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0

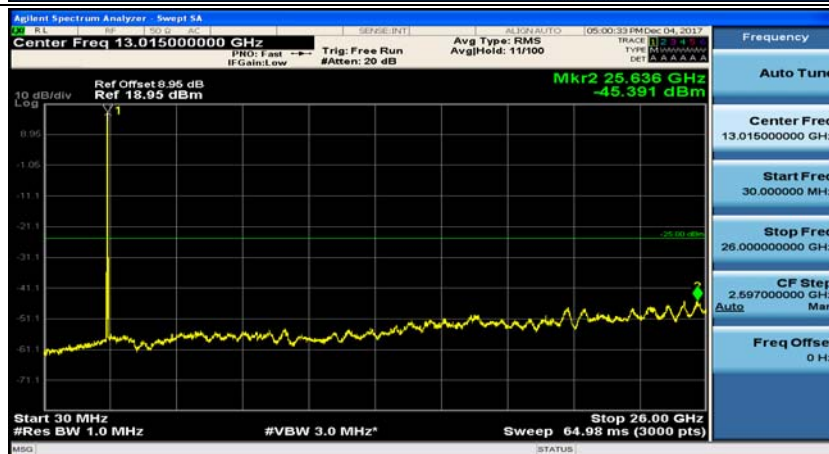
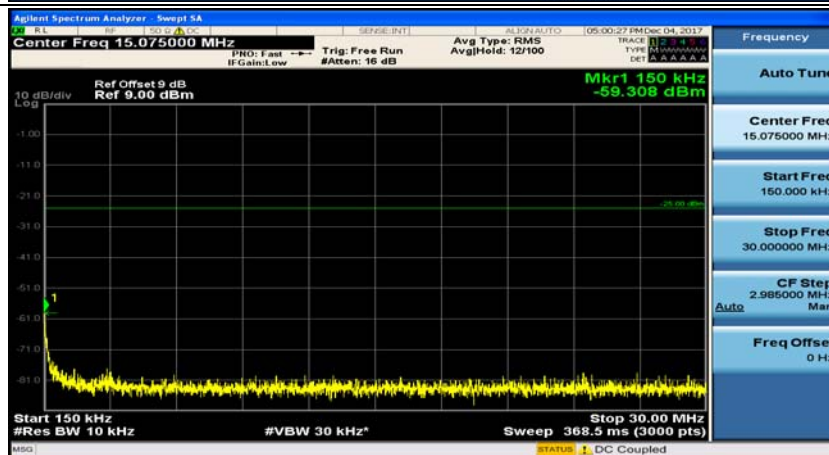
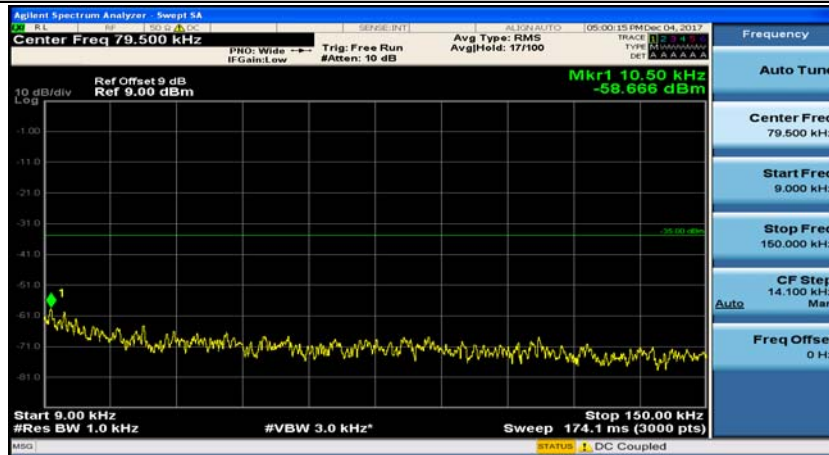


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

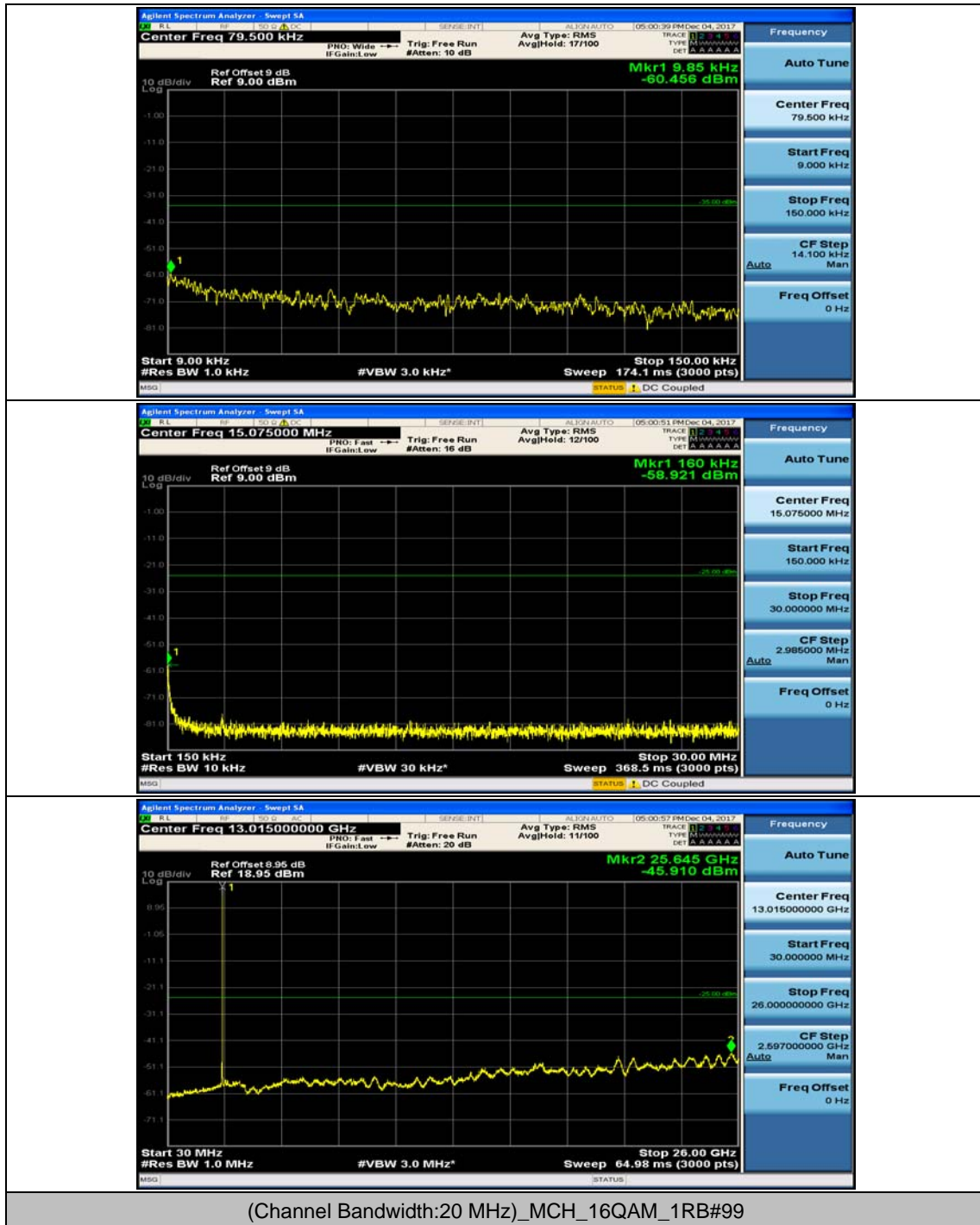


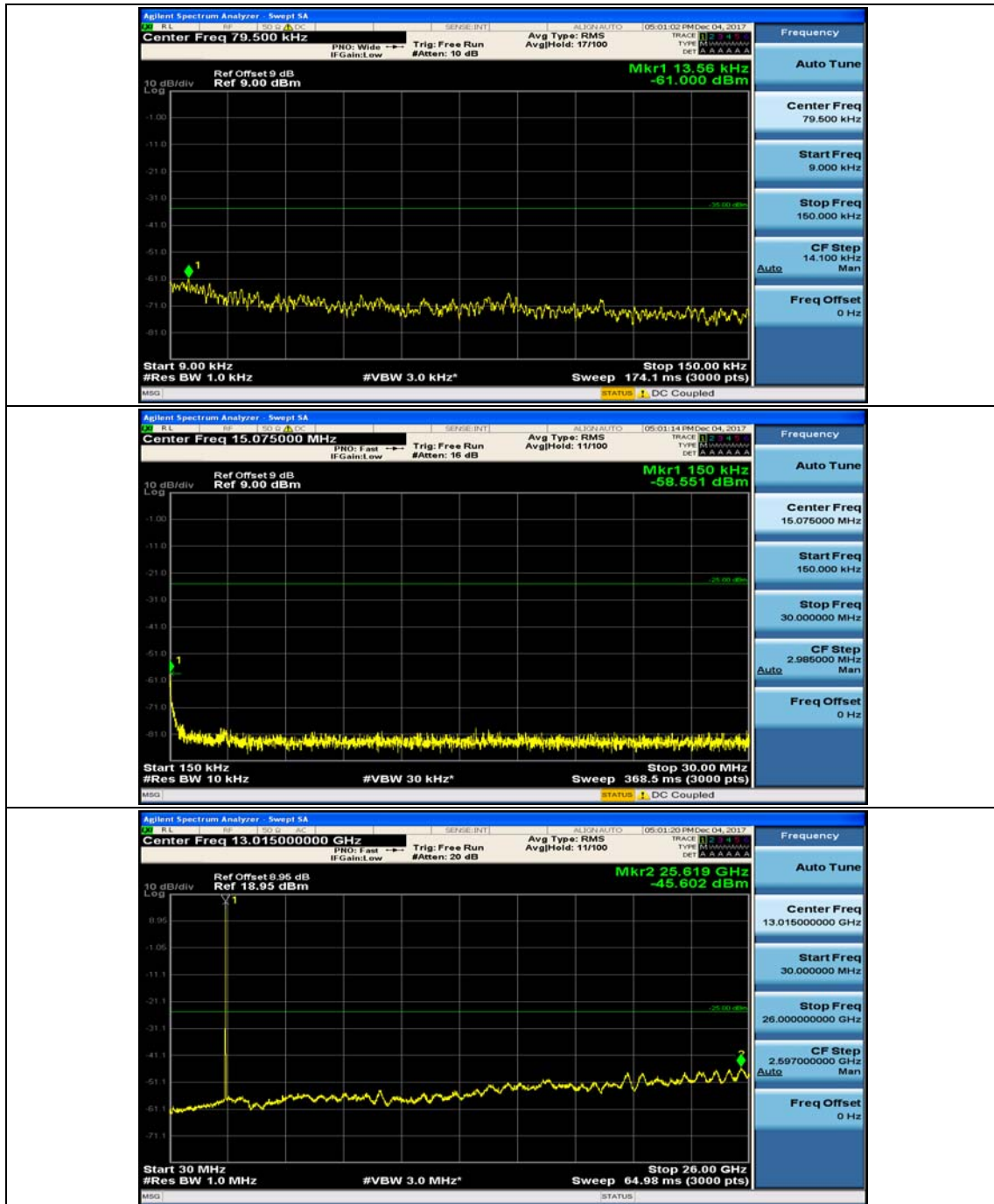


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0

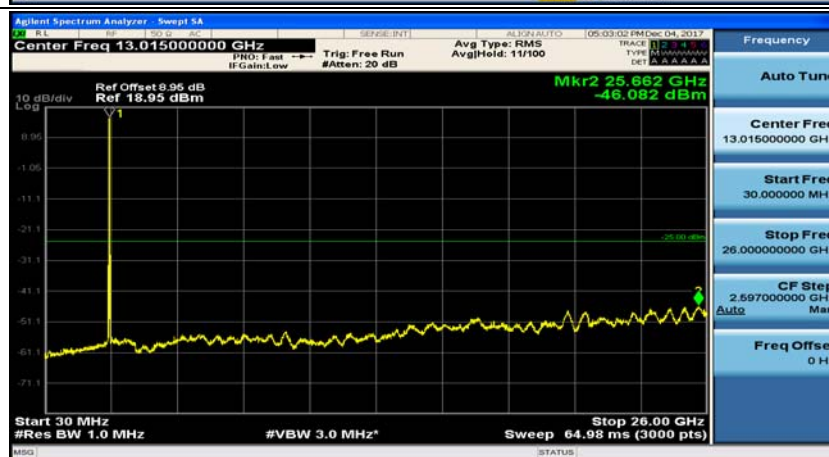
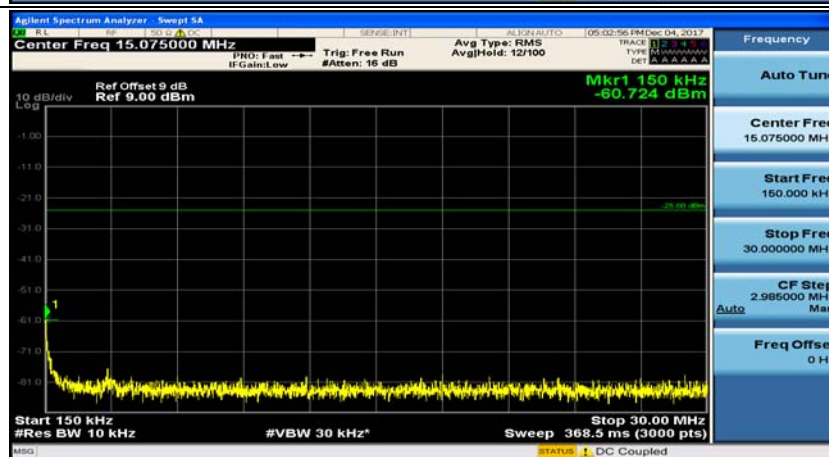
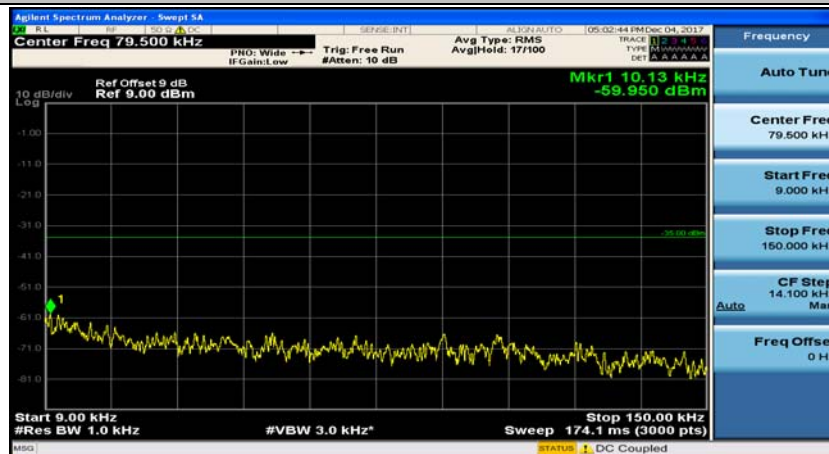


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49

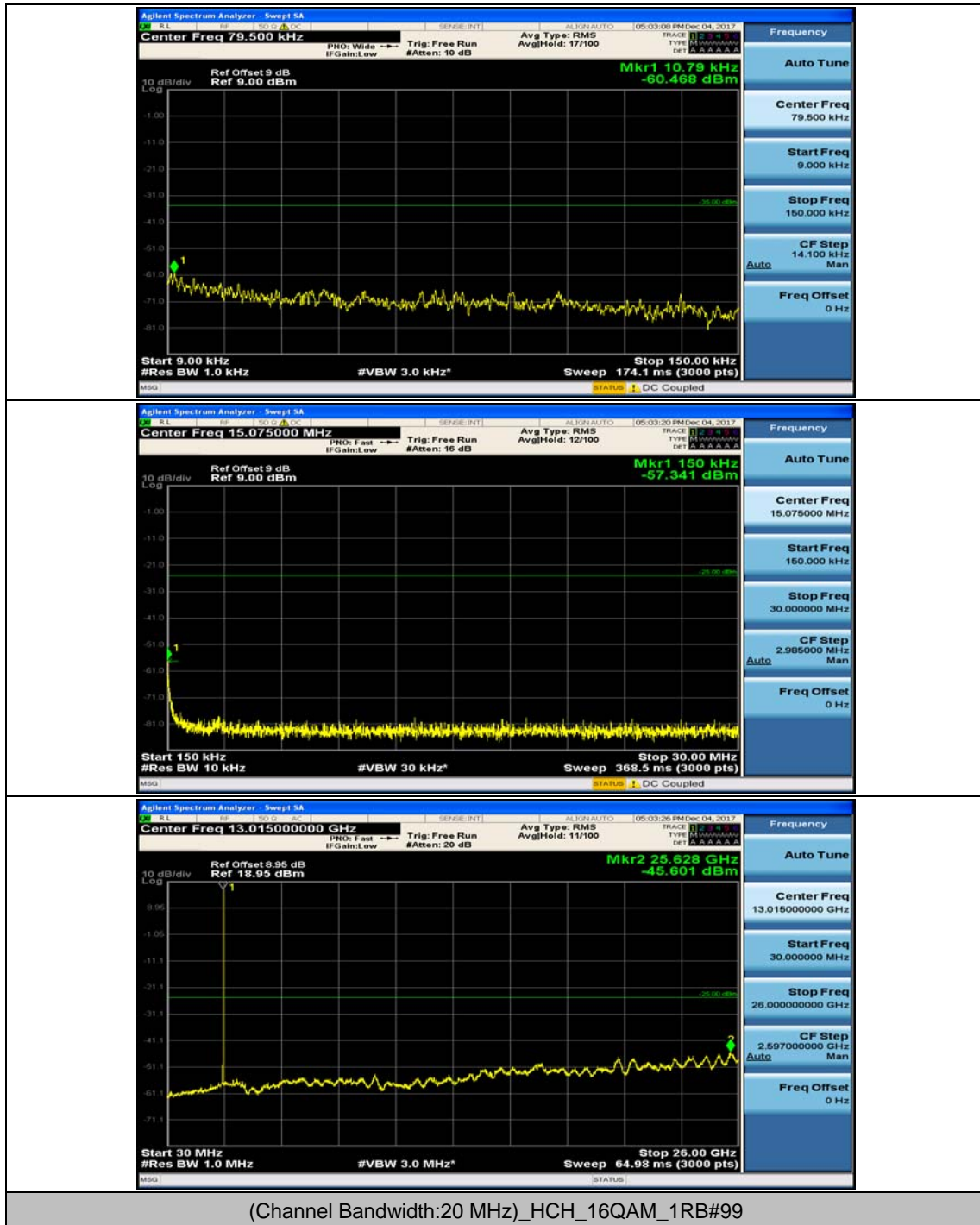


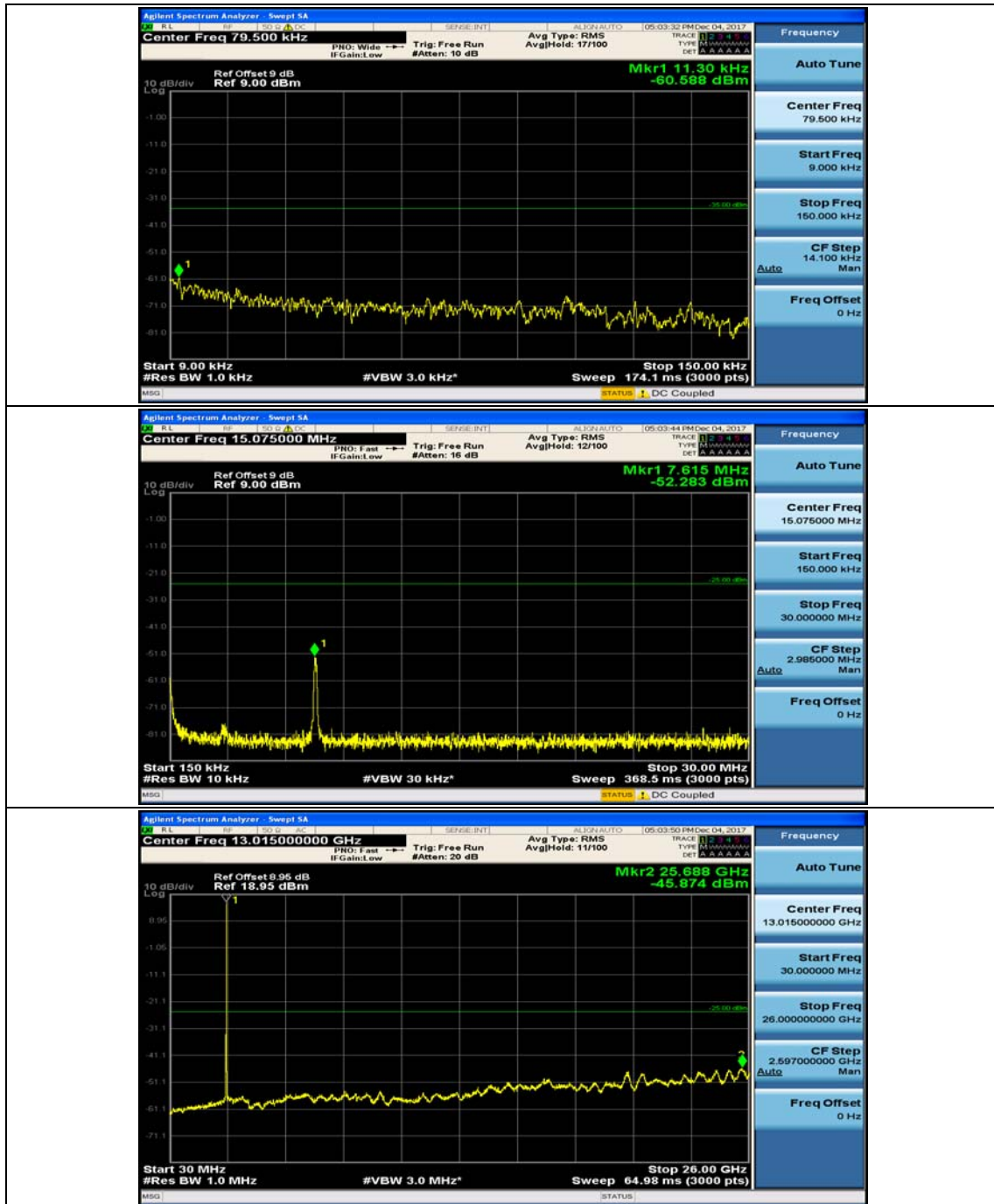


(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0



(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	3.92	0.001566	± 2.5	PASS
		VN	TN	0.85	0.000340	± 2.5	PASS
		VH	TN	1.05	0.000420	± 2.5	PASS
	MCH	VL	TN	-1.53	-0.000604	± 2.5	PASS
		VN	TN	3.76	0.001483	± 2.5	PASS
		VH	TN	4.45	0.001755	± 2.5	PASS
	HCH	VL	TN	1.9	0.000740	± 2.5	PASS
		VN	TN	0.5	0.000195	± 2.5	PASS
		VH	TN	1.23	0.000479	± 2.5	PASS
16QAM	LCH	VL	TN	-0.88	-0.000352	± 2.5	PASS
		VN	TN	0.13	0.000052	± 2.5	PASS
		VH	TN	1.13	0.000452	± 2.5	PASS
	MCH	VL	TN	0.95	0.000375	± 2.5	PASS
		VN	TN	1.47	0.000580	± 2.5	PASS
		VH	TN	0.26	0.000103	± 2.5	PASS
	HCH	VL	TN	0.01	0.000004	± 2.5	PASS
		VN	TN	0.95	0.000370	± 2.5	PASS
		VH	TN	3.19	0.001242	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.61	-0.000244	± 2.5	PASS
		VN	-20	2.91	0.001163	± 2.5	PASS
		VN	-10	0.97	0.000388	± 2.5	PASS
		VN	0	0.69	0.000276	± 2.5	PASS
		VN	10	2.35	0.000939	± 2.5	PASS
		VN	20	-1.31	-0.000523	± 2.5	PASS
		VN	30	4.31	0.001722	± 2.5	PASS
		VN	40	0.22	0.000088	± 2.5	PASS
		VN	50	0.09	0.000036	± 2.5	PASS
	MCH	VN	-30	1.61	0.000635	± 2.5	PASS

		VN	-20	0.8	0.000316	± 2.5	PASS
		VN	-10	-0.73	-0.000288	± 2.5	PASS
		VN	0	-1.48	-0.000584	± 2.5	PASS
		VN	10	4.91	0.001937	± 2.5	PASS
		VN	20	-1.45	-0.000572	± 2.5	PASS
		VN	30	2.08	0.000821	± 2.5	PASS
		VN	40	-0.65	-0.000256	± 2.5	PASS
		VN	50	-1.51	-0.000596	± 2.5	PASS
	HCH	VN	-30	-1.75	-0.000682	± 2.5	PASS
		VN	-20	1.62	0.000631	± 2.5	PASS
		VN	-10	2.94	0.001145	± 2.5	PASS
		VN	0	1.8	0.000701	± 2.5	PASS
		VN	10	1.59	0.000619	± 2.5	PASS
		VN	20	3.38	0.001316	± 2.5	PASS
		VN	30	3.56	0.001387	± 2.5	PASS
		VN	40	3.69	0.001437	± 2.5	PASS
		VN	50	0.15	0.000058	± 2.5	PASS
16QAM	LCH	VN	-30	4.89	0.001954	± 2.5	PASS
		VN	-20	3.86	0.001542	± 2.5	PASS
		VN	-10	1.47	0.000587	± 2.5	PASS
		VN	0	1.03	0.000412	± 2.5	PASS
		VN	10	4.26	0.001702	± 2.5	PASS
		VN	20	2.44	0.000975	± 2.5	PASS
		VN	30	-2	-0.000799	± 2.5	PASS
		VN	40	3.74	0.001495	± 2.5	PASS
		VN	50	4.1	0.001638	± 2.5	PASS
	MCH	VN	-30	2.7	0.001065	± 2.5	PASS
		VN	-20	0.17	0.000067	± 2.5	PASS
		VN	-10	-0.73	-0.000288	± 2.5	PASS
		VN	0	1.8	0.000710	± 2.5	PASS
		VN	10	2.39	0.000943	± 2.5	PASS
		VN	20	3.32	0.001310	± 2.5	PASS
		VN	30	1.73	0.000682	± 2.5	PASS
		VN	40	2.08	0.000821	± 2.5	PASS
		VN	50	3.34	0.001318	± 2.5	PASS
	HCH	VN	-30	0.2	0.000078	± 2.5	PASS
		VN	-20	-1.25	-0.000487	± 2.5	PASS
		VN	-10	4.09	0.001593	± 2.5	PASS
		VN	0	-1.87	-0.000728	± 2.5	PASS
		VN	10	4.53	0.001764	± 2.5	PASS
		VN	20	3.2	0.001246	± 2.5	PASS

		VN	30	0.78	0.000304	± 2.5	PASS
		VN	40	-0.67	-0.000261	± 2.5	PASS
		VN	50	2.63	0.001024	± 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	-0.000691	-0.000691	± 2.5	PASS
		VN	TN	0.000228	0.000228	± 2.5	PASS
		VH	TN	0.000403	0.000403	± 2.5	PASS
	MCH	VL	TN	0.000864	0.000864	± 2.5	PASS
		VN	TN	0.000536	0.000536	± 2.5	PASS
		VH	TN	0.001606	0.001606	± 2.5	PASS
	HCH	VL	TN	-0.000421	-0.000421	± 2.5	PASS
		VN	TN	-0.000710	-0.000710	± 2.5	PASS
		VH	TN	0.001579	0.001579	± 2.5	PASS
16QAM	LCH	VL	TN	0.001772	0.001772	± 2.5	PASS
		VN	TN	0.000128	0.000128	± 2.5	PASS
		VH	TN	-0.000395	-0.000395	± 2.5	PASS
	MCH	VL	TN	0.000580	0.000580	± 2.5	PASS
		VN	TN	0.000521	0.000521	± 2.5	PASS
		VH	TN	0.001243	0.001243	± 2.5	PASS
	HCH	VL	TN	-0.000347	-0.000347	± 2.5	PASS
		VN	TN	0.000105	0.000105	± 2.5	PASS
		VH	TN	0.001002	0.001002	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	-0.92	-0.000367	± 2.5	PASS
		VN	-20	0.7	0.000279	± 2.5	PASS
		VN	-10	0.65	0.000259	± 2.5	PASS
		VN	0	3.74	0.001493	± 2.5	PASS
		VN	10	3.77	0.001505	± 2.5	PASS
		VN	20	2.17	0.000866	± 2.5	PASS
		VN	30	1.12	0.000447	± 2.5	PASS
		VN	40	3.02	0.001206	± 2.5	PASS
		VN	50	0.66	0.000263	± 2.5	PASS
	MCH	VN	-30	4.56	0.001799	± 2.5	PASS
		VN	-20	1.77	0.000698	± 2.5	PASS

		VN	-10	4.35	0.001716	± 2.5	PASS
		VN	0	-1.72	-0.000679	± 2.5	PASS
		VN	10	0.62	0.000245	± 2.5	PASS
		VN	20	2.45	0.000966	± 2.5	PASS
		VN	30	3.01	0.001187	± 2.5	PASS
		VN	40	3.57	0.001408	± 2.5	PASS
		VN	50	3.43	0.001353	± 2.5	PASS
	HCH	VN	-30	0.87	0.000339	± 2.5	PASS
		VN	-20	-0.68	-0.000265	± 2.5	PASS
		VN	-10	3.52	0.001372	± 2.5	PASS
		VN	0	1.85	0.000721	± 2.5	PASS
		VN	10	0.97	0.000378	± 2.5	PASS
		VN	20	0.21	0.000082	± 2.5	PASS
		VN	30	2.99	0.001166	± 2.5	PASS
		VN	40	3.12	0.001216	± 2.5	PASS
		VN	50	-0.73	-0.000285	± 2.5	PASS
QPSK	LCH	VN	-30	2.85	0.001138	± 2.5	PASS
		VN	-20	-1.86	-0.000743	± 2.5	PASS
		VN	-10	0.97	0.000387	± 2.5	PASS
		VN	0	4.08	0.001629	± 2.5	PASS
		VN	10	0.94	0.000375	± 2.5	PASS
		VN	20	-0.69	-0.000275	± 2.5	PASS
		VN	30	2.37	0.000946	± 2.5	PASS
		VN	40	3.01	0.001202	± 2.5	PASS
		VN	50	3.15	0.001257	± 2.5	PASS
	MCH	VN	-30	2.22	0.000876	± 2.5	PASS
		VN	-20	-1.89	-0.000746	± 2.5	PASS
		VN	-10	0.32	0.000126	± 2.5	PASS
		VN	0	2.01	0.000793	± 2.5	PASS
		VN	10	2.49	0.000982	± 2.5	PASS
		VN	20	3.02	0.001191	± 2.5	PASS
		VN	30	1.63	0.000643	± 2.5	PASS
		VN	40	-1.18	-0.000465	± 2.5	PASS
		VN	50	2.39	0.000943	± 2.5	PASS
	HCH	VN	-30	4.5	0.001754	± 2.5	PASS
		VN	-20	0.63	0.000246	± 2.5	PASS
		VN	-10	-0.63	-0.000246	± 2.5	PASS
		VN	0	4.5	0.001754	± 2.5	PASS
		VN	10	2.27	0.000885	± 2.5	PASS
		VN	20	1.36	0.000530	± 2.5	PASS
		VN	30	-1.4	-0.000546	± 2.5	PASS

		VN	40	2.03	0.000791	± 2.5	PASS
		VN	50	4.9	0.001910	± 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	3.97	0.001583	± 2.5	PASS
		VN	TN	4.65	0.001854	± 2.5	PASS
		VH	TN	2.36	0.000941	± 2.5	PASS
	MCH	VL	TN	2.05	0.000809	± 2.5	PASS
		VN	TN	-0.09	-0.000036	± 2.5	PASS
		VH	TN	2.25	0.000888	± 2.5	PASS
	HCH	VL	TN	4.18	0.001631	± 2.5	PASS
		VN	TN	-0.82	-0.000320	± 2.5	PASS
		VH	TN	-0.19	-0.000074	± 2.5	PASS
16QAM	LCH	VL	TN	1.63	0.000650	± 2.5	PASS
		VN	TN	4.24	0.001691	± 2.5	PASS
		VH	TN	0.66	0.000263	± 2.5	PASS
	MCH	VL	TN	1.95	0.000769	± 2.5	PASS
		VN	TN	-0.81	-0.000320	± 2.5	PASS
		VH	TN	0.63	0.000249	± 2.5	PASS
	HCH	VL	TN	3.42	0.001335	± 2.5	PASS
		VN	TN	4.85	0.001893	± 2.5	PASS
		VH	TN	2.1	0.000820	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	0.06	0.000024	± 2.5	PASS
		VN	-20	0.84	0.000335	± 2.5	PASS
		VN	-10	-1.13	-0.000451	± 2.5	PASS
		VN	0	-1.39	-0.000554	± 2.5	PASS
		VN	10	2.62	0.001045	± 2.5	PASS
		VN	20	4.03	0.001607	± 2.5	PASS
		VN	30	3.52	0.001404	± 2.5	PASS
		VN	40	-0.61	-0.000243	± 2.5	PASS
		VN	50	1.72	0.000686	± 2.5	PASS
	MCH	VN	-30	0.85	0.000335	± 2.5	PASS
		VN	-20	0.24	0.000095	± 2.5	PASS
		VN	-10	-0.2	-0.000079	± 2.5	PASS

		VN	0	3.64	0.001436	± 2.5	PASS
		VN	10	4.04	0.001594	± 2.5	PASS
		VN	20	3.25	0.001282	± 2.5	PASS
		VN	30	0.44	0.000174	± 2.5	PASS
		VN	40	3.24	0.001278	± 2.5	PASS
		VN	50	4.98	0.001964	± 2.5	PASS
	HCH	VN	-30	-1.51	-0.000589	± 2.5	PASS
		VN	-20	4.35	0.001698	± 2.5	PASS
		VN	-10	4.02	0.001569	± 2.5	PASS
		VN	0	-1.7	-0.000663	± 2.5	PASS
		VN	10	3.71	0.001448	± 2.5	PASS
		VN	20	1.31	0.000511	± 2.5	PASS
		VN	30	4.73	0.001846	± 2.5	PASS
		VN	40	4.71	0.001838	± 2.5	PASS
		VN	50	3.07	0.001198	± 2.5	PASS
16QAM	LCH	VN	-30	-1.48	-0.000590	± 2.5	PASS
		VN	-20	2.89	0.001153	± 2.5	PASS
		VN	-10	2.5	0.000997	± 2.5	PASS
		VN	0	-0.57	-0.000227	± 2.5	PASS
		VN	10	-1	-0.000399	± 2.5	PASS
		VN	20	2.16	0.000861	± 2.5	PASS
		VN	30	2.49	0.000993	± 2.5	PASS
		VN	40	0.37	0.000148	± 2.5	PASS
		VN	50	4.98	0.001986	± 2.5	PASS
	MCH	VN	-30	1.02	0.000402	± 2.5	PASS
		VN	-20	-1.65	-0.000651	± 2.5	PASS
		VN	-10	2.18	0.000860	± 2.5	PASS
		VN	0	1.98	0.000781	± 2.5	PASS
		VN	10	-0.43	-0.000170	± 2.5	PASS
		VN	20	-1.31	-0.000517	± 2.5	PASS
		VN	30	-1.91	-0.000753	± 2.5	PASS
		VN	40	0.62	0.000245	± 2.5	PASS
		VN	50	4.24	0.001673	± 2.5	PASS
	HCH	VN	-30	3.56	0.001389	± 2.5	PASS
		VN	-20	1.76	0.000687	± 2.5	PASS
		VN	-10	2	0.000780	± 2.5	PASS
		VN	0	2.6	0.001015	± 2.5	PASS
		VN	10	0.99	0.000386	± 2.5	PASS
		VN	20	2.65	0.001034	± 2.5	PASS
		VN	30	0.22	0.000086	± 2.5	PASS
		VN	40	-1.07	-0.000418	± 2.5	PASS

		VN	50	4.65	0.001815	± 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	2.61	0.001040	± 2.5	PASS
		VN	TN	-0.75	-0.000299	± 2.5	PASS
		VH	TN	4.44	0.001769	± 2.5	PASS
	MCH	VL	TN	2.17	0.000856	± 2.5	PASS
		VN	TN	2.29	0.000903	± 2.5	PASS
		VH	TN	1.49	0.000588	± 2.5	PASS
	HCH	VL	TN	2.97	0.001160	± 2.5	PASS
		VN	TN	0.82	0.000320	± 2.5	PASS
		VH	TN	4.27	0.001668	± 2.5	PASS
16QAM	LCH	VL	TN	4.72	0.001880	± 2.5	PASS
		VN	TN	4.31	0.001717	± 2.5	PASS
		VH	TN	4.89	0.001948	± 2.5	PASS
	MCH	VL	TN	-0.39	-0.000154	± 2.5	PASS
		VN	TN	2.1	0.000828	± 2.5	PASS
		VH	TN	3.76	0.001483	± 2.5	PASS
	HCH	VL	TN	0.2	0.000078	± 2.5	PASS
		VN	TN	-0.52	-0.000203	± 2.5	PASS
		VH	TN	1.64	0.000641	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	3.18	0.001267	± 2.5	PASS
		VN	-20	4.01	0.001598	± 2.5	PASS
		VN	-10	0.54	0.000215	± 2.5	PASS
		VN	0	-0.1	-0.000040	± 2.5	PASS
		VN	10	1.35	0.000538	± 2.5	PASS
		VN	20	3.37	0.001343	± 2.5	PASS
		VN	30	0.46	0.000183	± 2.5	PASS
		VN	40	3.64	0.001450	± 2.5	PASS
		VN	50	4.99	0.001988	± 2.5	PASS
	MCH	VN	-30	4.21	0.001661	± 2.5	PASS
		VN	-20	0.1	0.000039	± 2.5	PASS
		VN	-10	-0.47	-0.000185	± 2.5	PASS
		VN	0	3.81	0.001503	± 2.5	PASS

		VN	10	2.29	0.000903	± 2.5	PASS
		VN	20	0	0.000000	± 2.5	PASS
		VN	30	-0.44	-0.000174	± 2.5	PASS
		VN	40	2.74	0.001081	± 2.5	PASS
		VN	50	2.75	0.001085	± 2.5	PASS
	HCH	VN	-30	-0.95	-0.000371	± 2.5	PASS
		VN	-20	1	0.000391	± 2.5	PASS
		VN	-10	-1.86	-0.000727	± 2.5	PASS
		VN	0	1.76	0.000688	± 2.5	PASS
		VN	10	2.75	0.001074	± 2.5	PASS
		VN	20	0.55	0.000215	± 2.5	PASS
		VN	30	-1.51	-0.000590	± 2.5	PASS
		VN	40	0.73	0.000285	± 2.5	PASS
		VN	50	4.28	0.001672	± 2.5	PASS
		VN	-30	-0.81	-0.000323	± 2.5	PASS
16QAM	LCH	VN	-20	-0.55	-0.000219	± 2.5	PASS
		VN	-10	4.66	0.001857	± 2.5	PASS
		VN	0	-0.19	-0.000076	± 2.5	PASS
		VN	10	2.21	0.000880	± 2.5	PASS
		VN	20	3.84	0.001530	± 2.5	PASS
		VN	30	0	0.000000	± 2.5	PASS
		VN	40	0.79	0.000315	± 2.5	PASS
		VN	50	3.27	0.001303	± 2.5	PASS
	MCH	VN	-30	2.84	0.001120	± 2.5	PASS
		VN	-20	-0.23	-0.000091	± 2.5	PASS
		VN	-10	-0.06	-0.000024	± 2.5	PASS
		VN	0	1.18	0.000465	± 2.5	PASS
		VN	10	1.25	0.000493	± 2.5	PASS
		VN	20	-0.66	-0.000260	± 2.5	PASS
		VN	30	-1.53	-0.000604	± 2.5	PASS
		VN	40	4.8	0.001893	± 2.5	PASS
		VN	50	3.1	0.001223	± 2.5	PASS
	HCH	VN	-30	-1.53	-0.000598	± 2.5	PASS
		VN	-20	0.72	0.000281	± 2.5	PASS
		VN	-10	2.69	0.001051	± 2.5	PASS
		VN	0	-1.54	-0.000602	± 2.5	PASS
		VN	10	4.8	0.001875	± 2.5	PASS
		VN	20	0.47	0.000184	± 2.5	PASS
		VN	30	-0.4	-0.000156	± 2.5	PASS
		VN	40	3.42	0.001336	± 2.5	PASS
		VN	50	4.52	0.001766	± 2.5	PASS