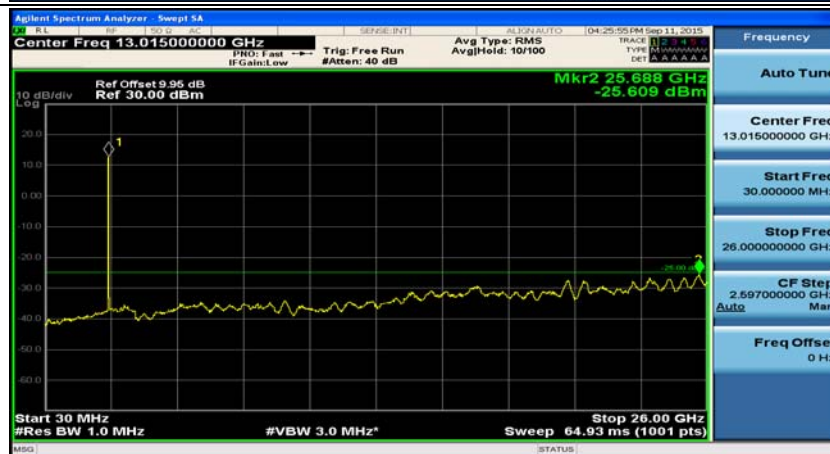
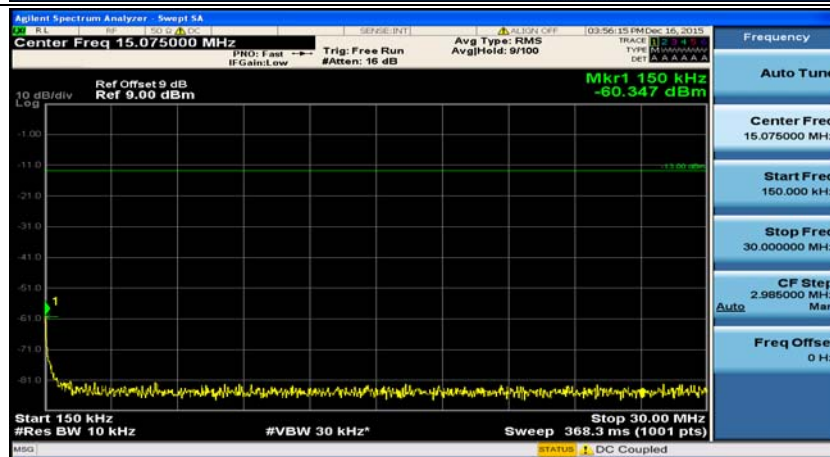
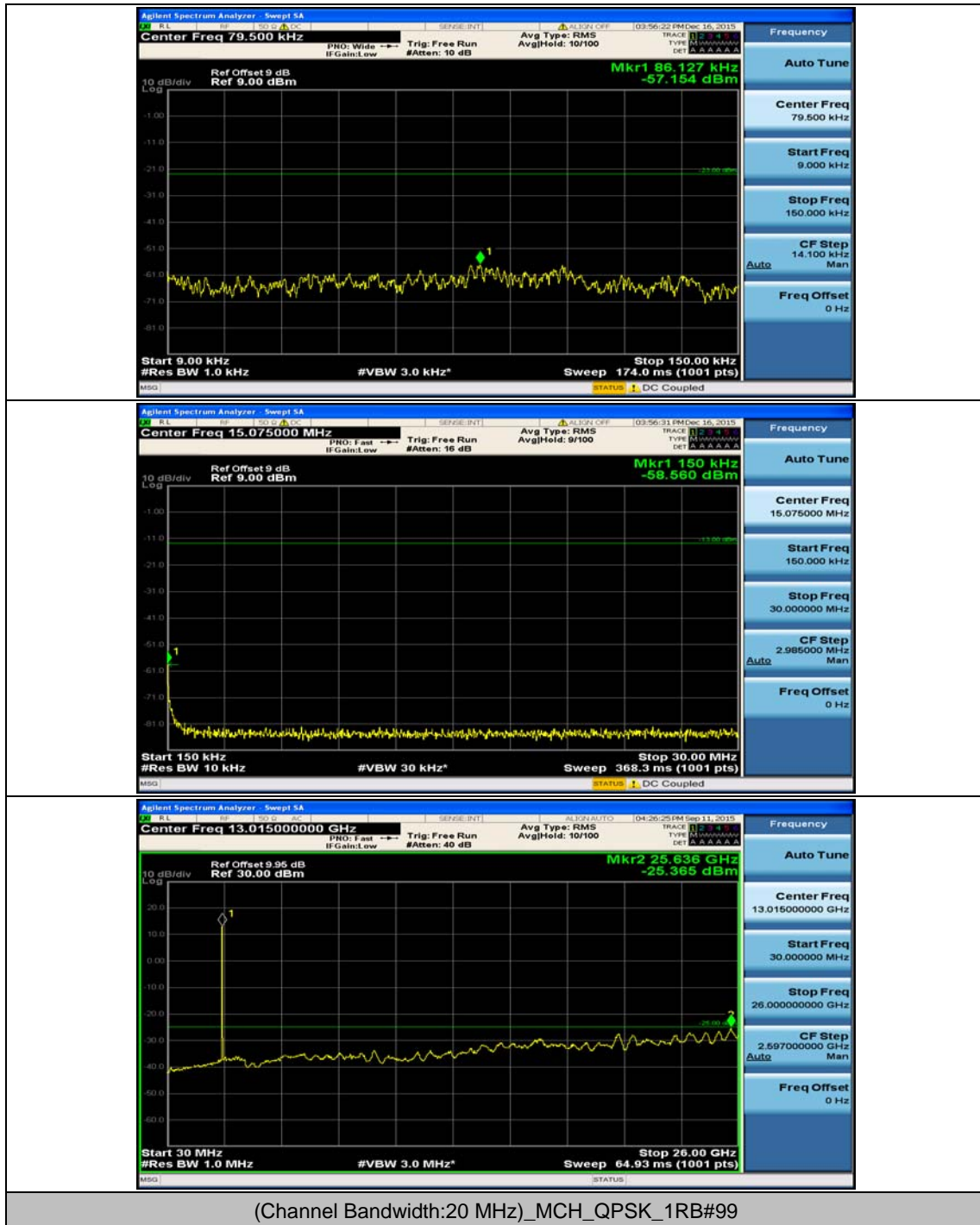
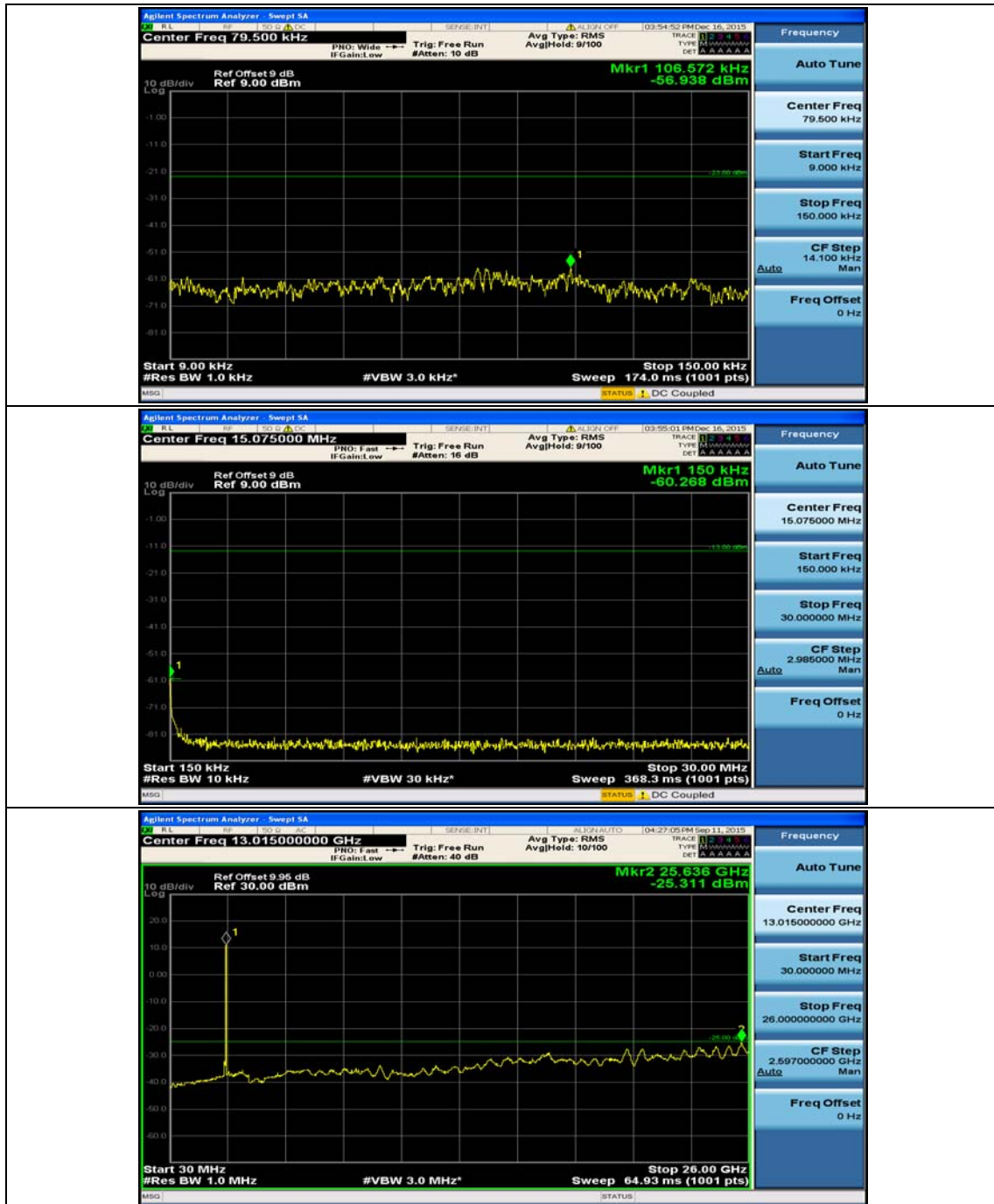


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#0

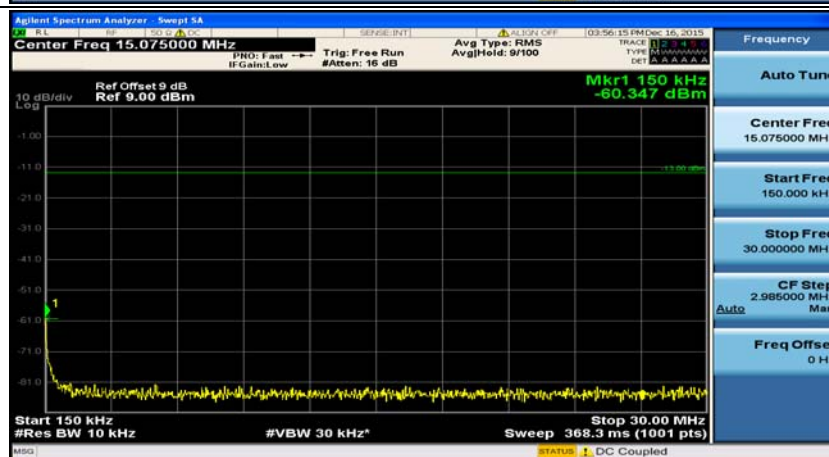
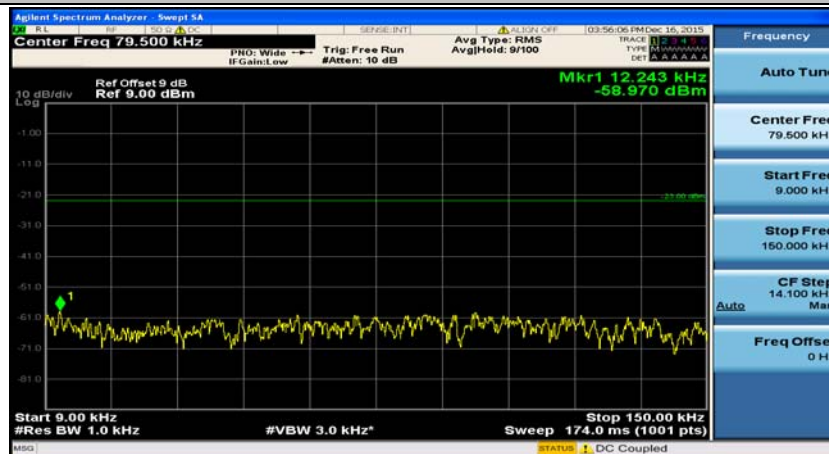


(Channel Bandwidth:20 MHz)_MCH_QPSK_1RB#49

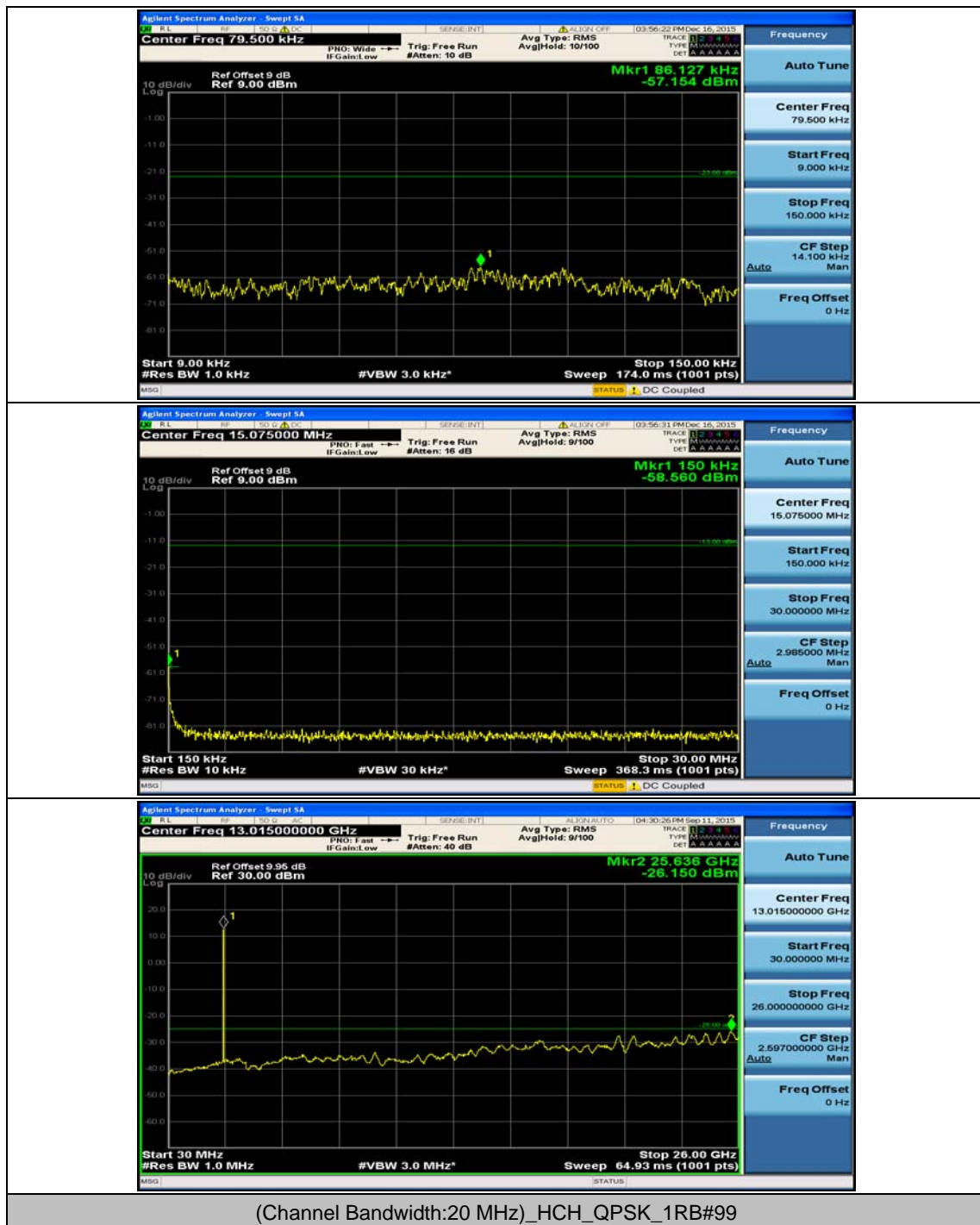


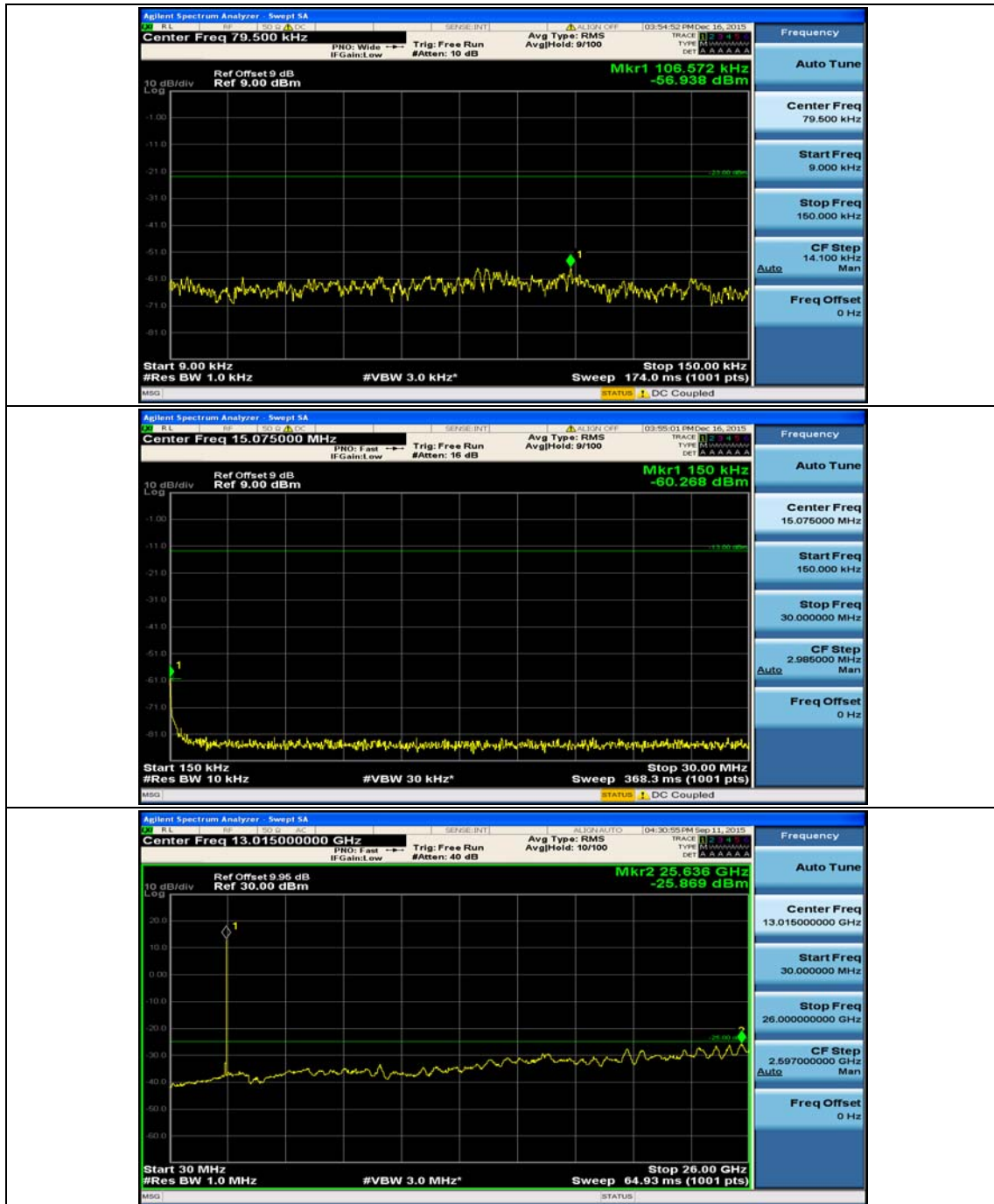


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#0

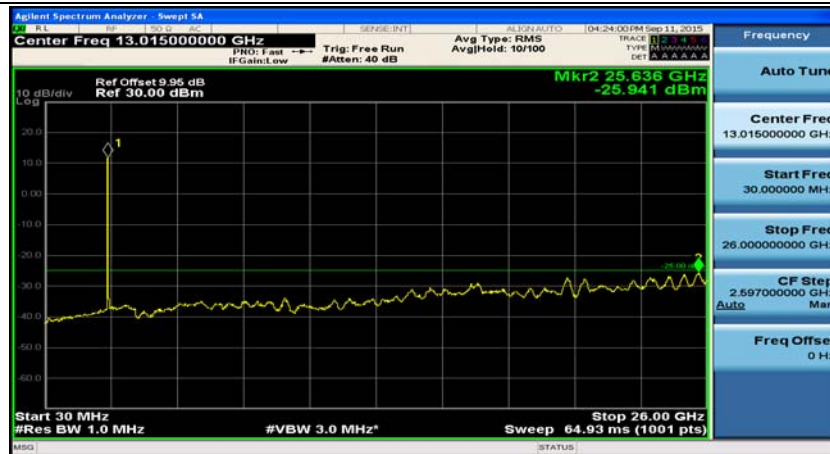
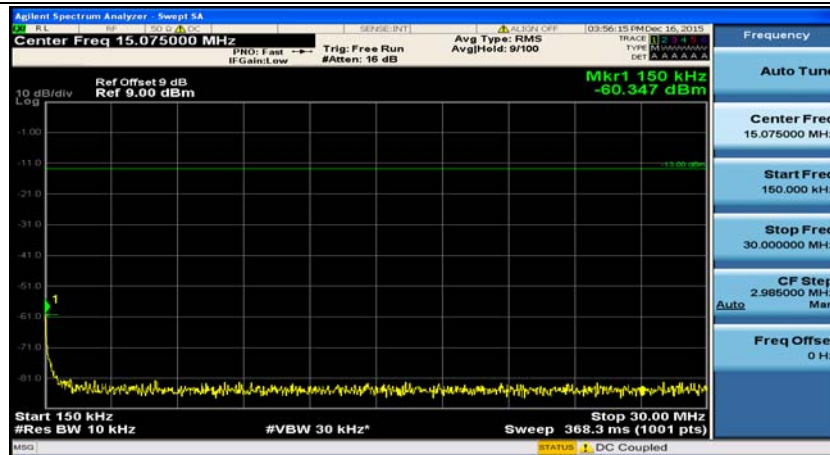
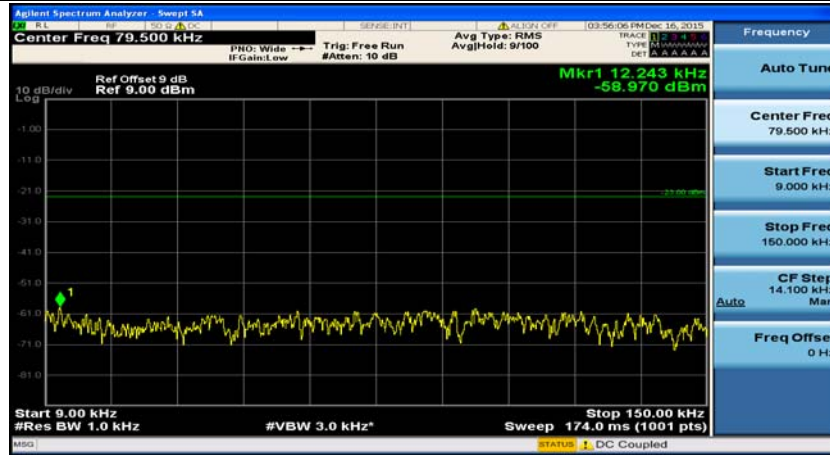


(Channel Bandwidth:20 MHz)_HCH_QPSK_1RB#49

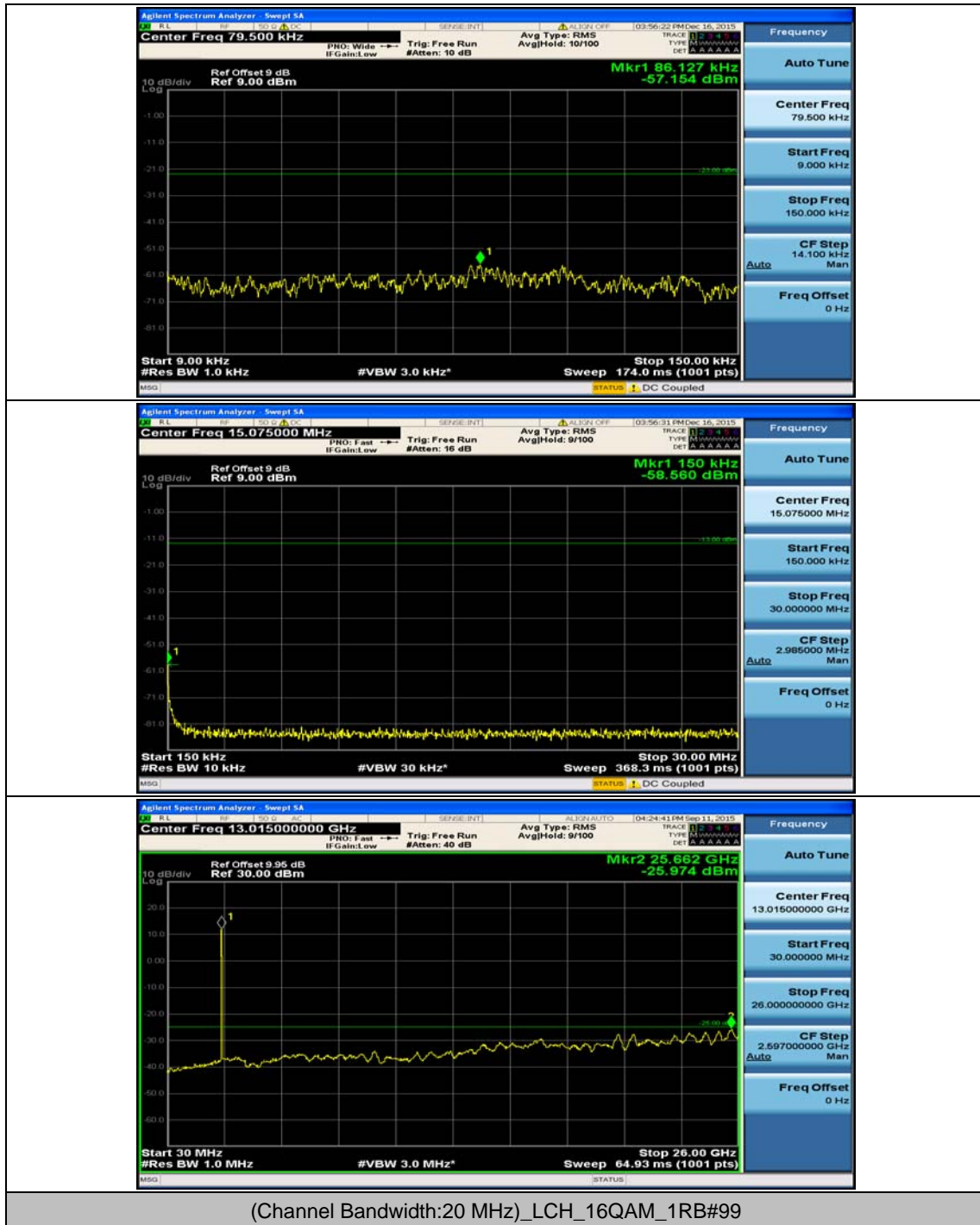


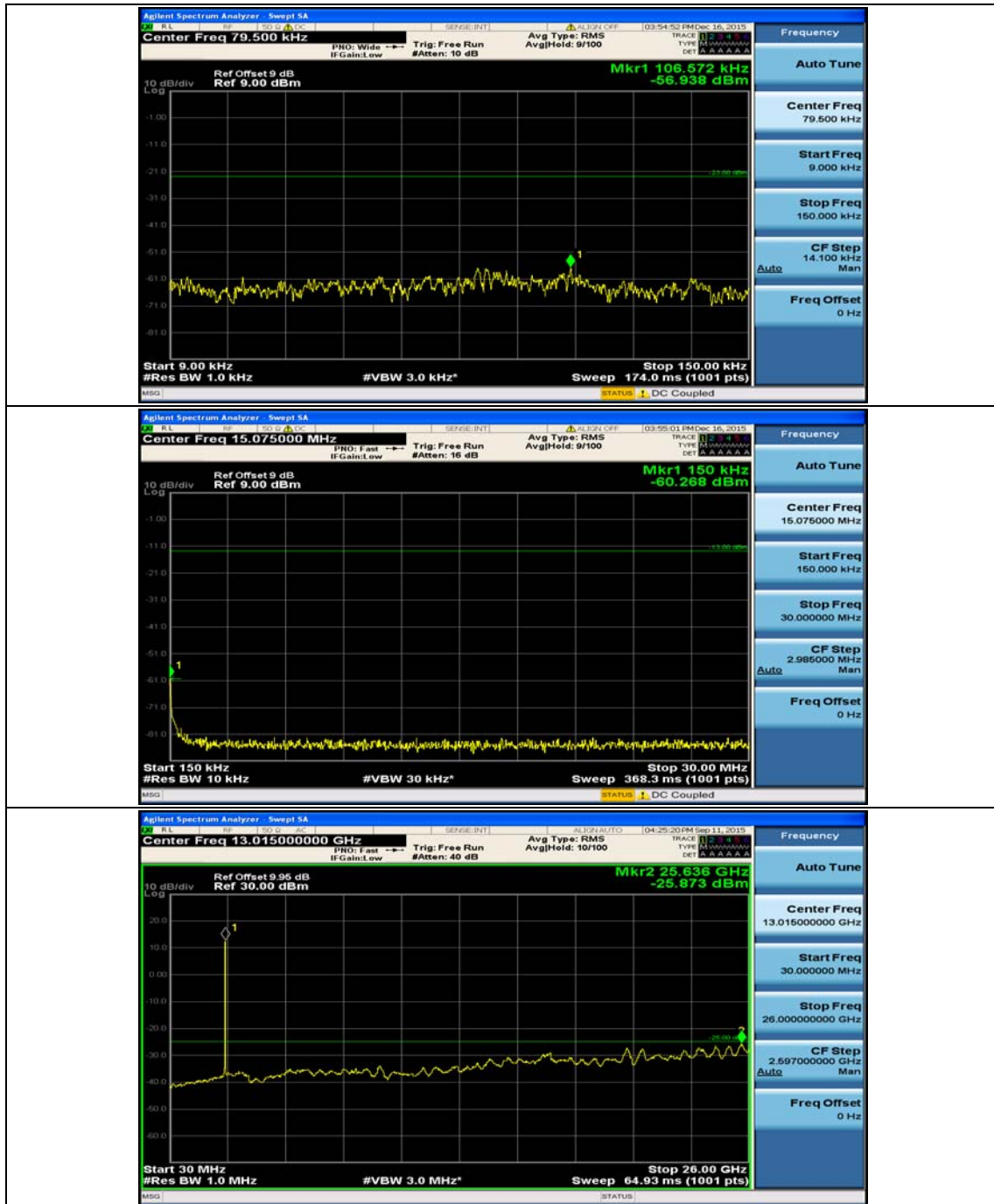


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#0

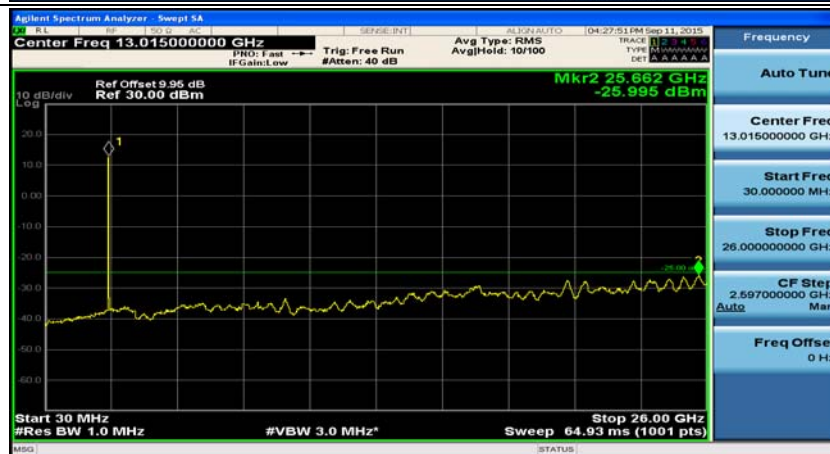
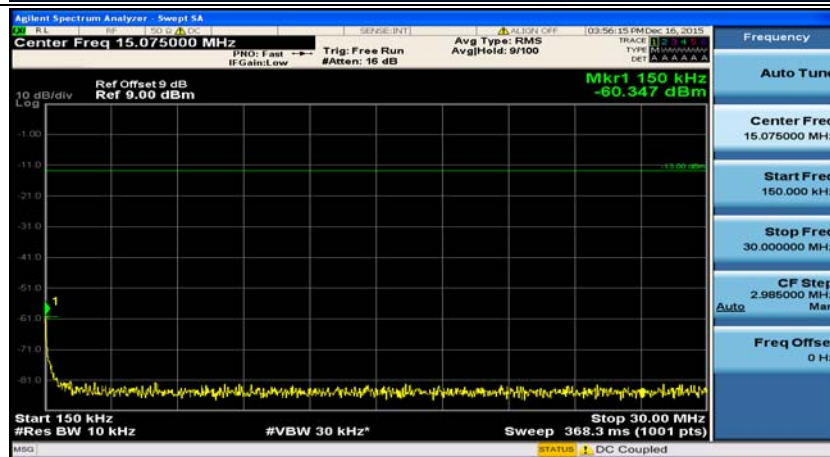
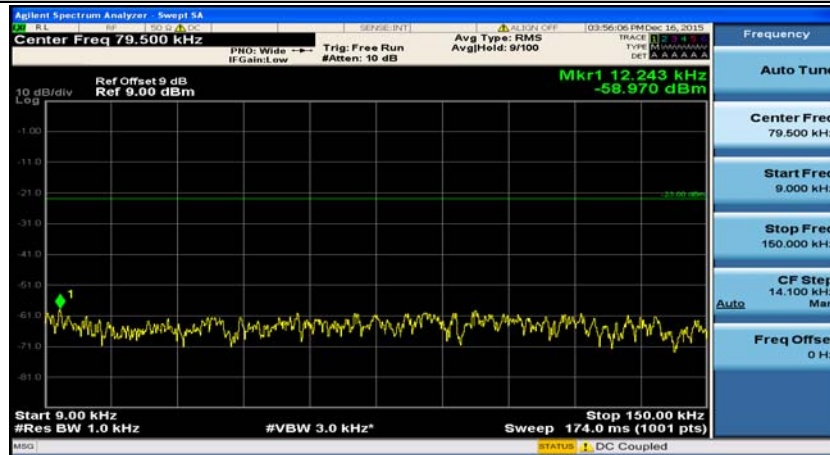


(Channel Bandwidth:20 MHz)_LCH_16QAM_1RB#49

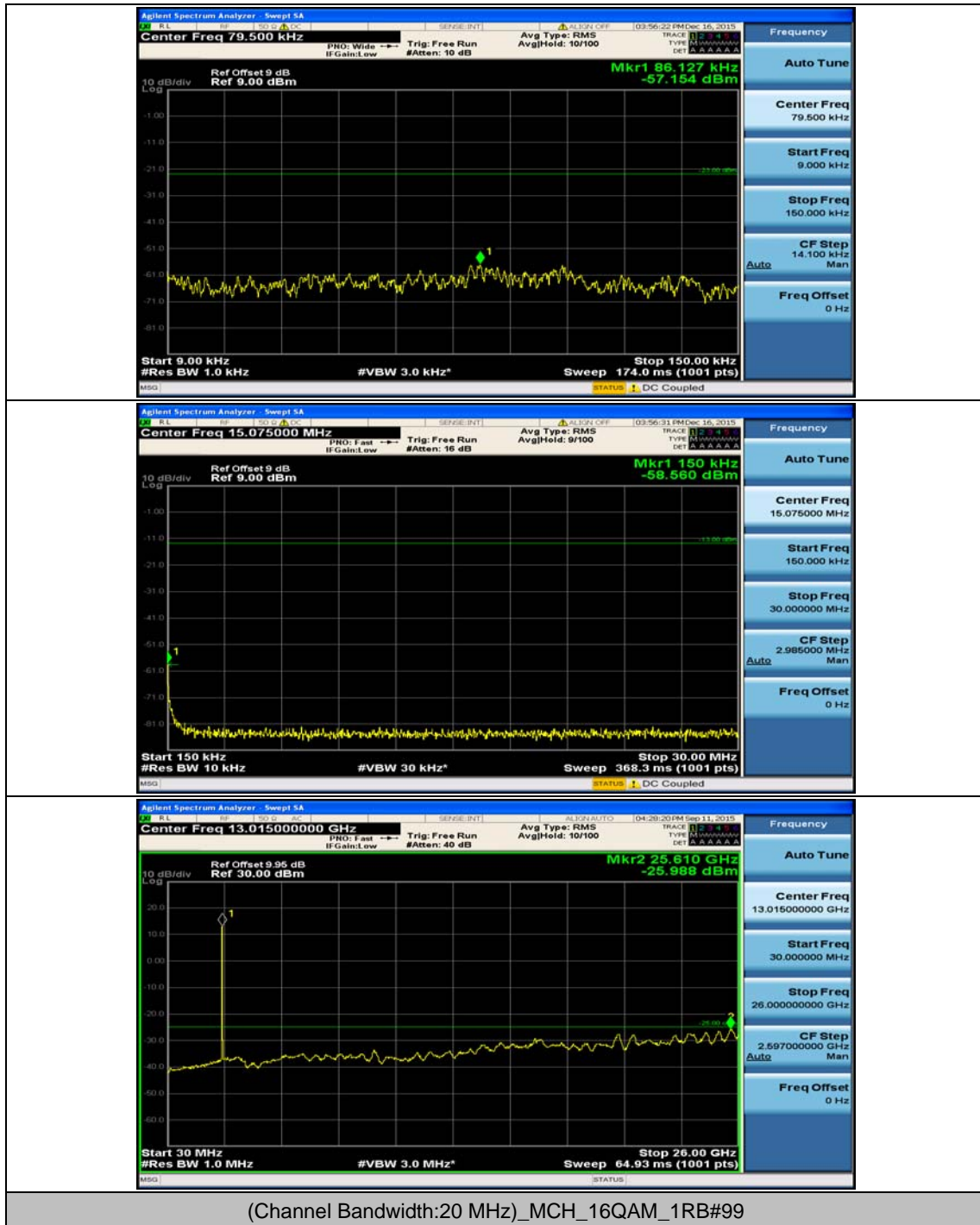


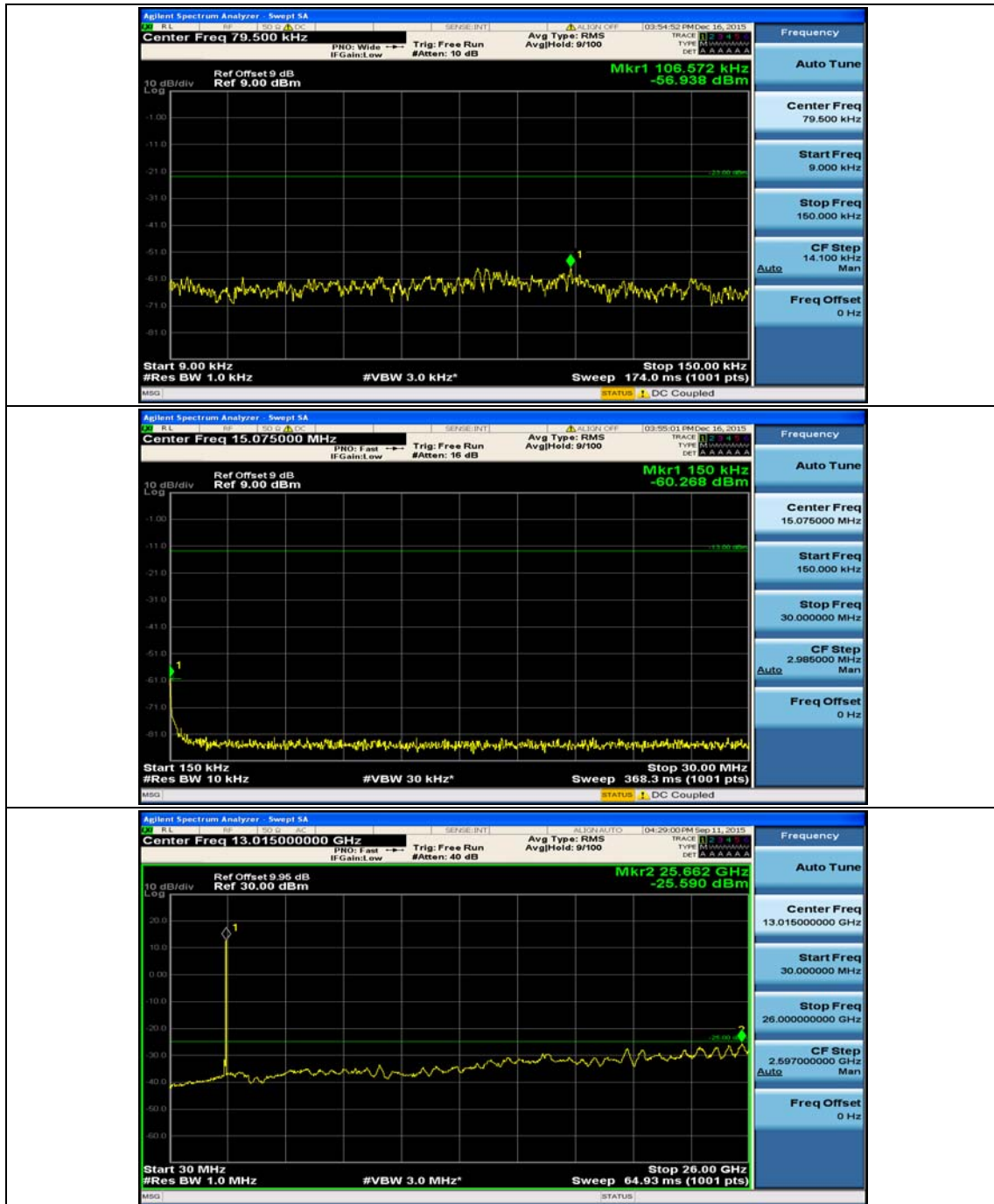


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#0

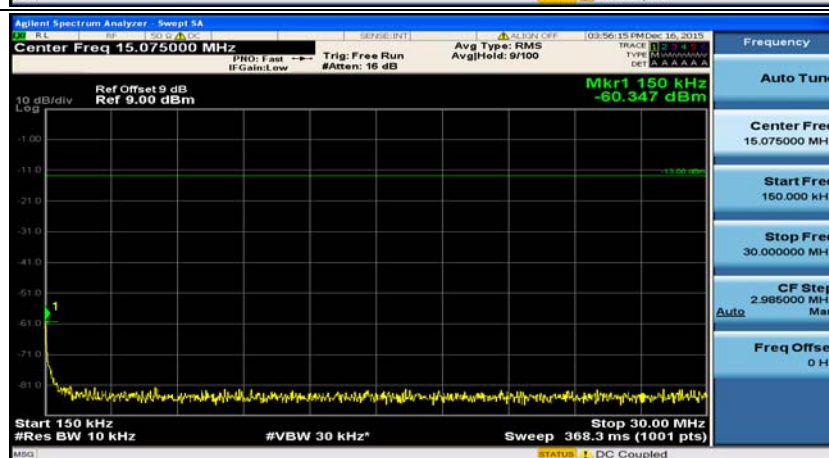
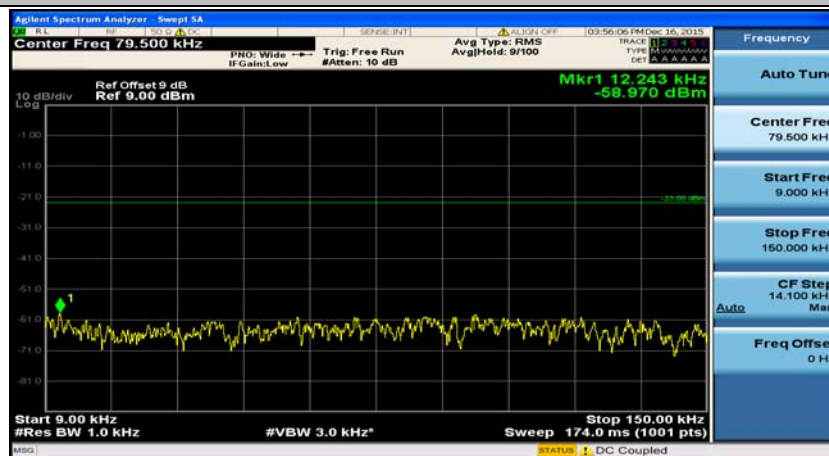


(Channel Bandwidth:20 MHz)_MCH_16QAM_1RB#49

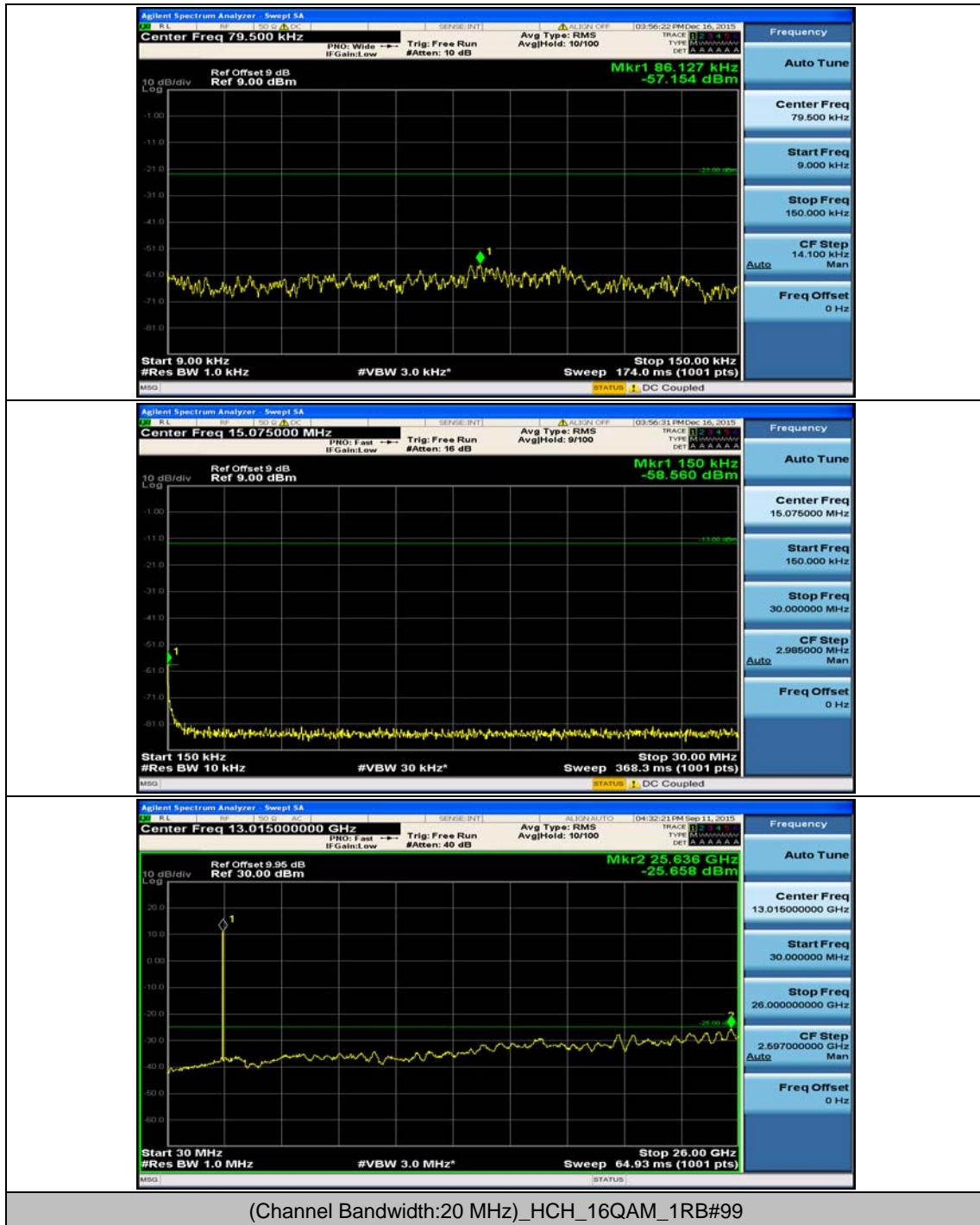


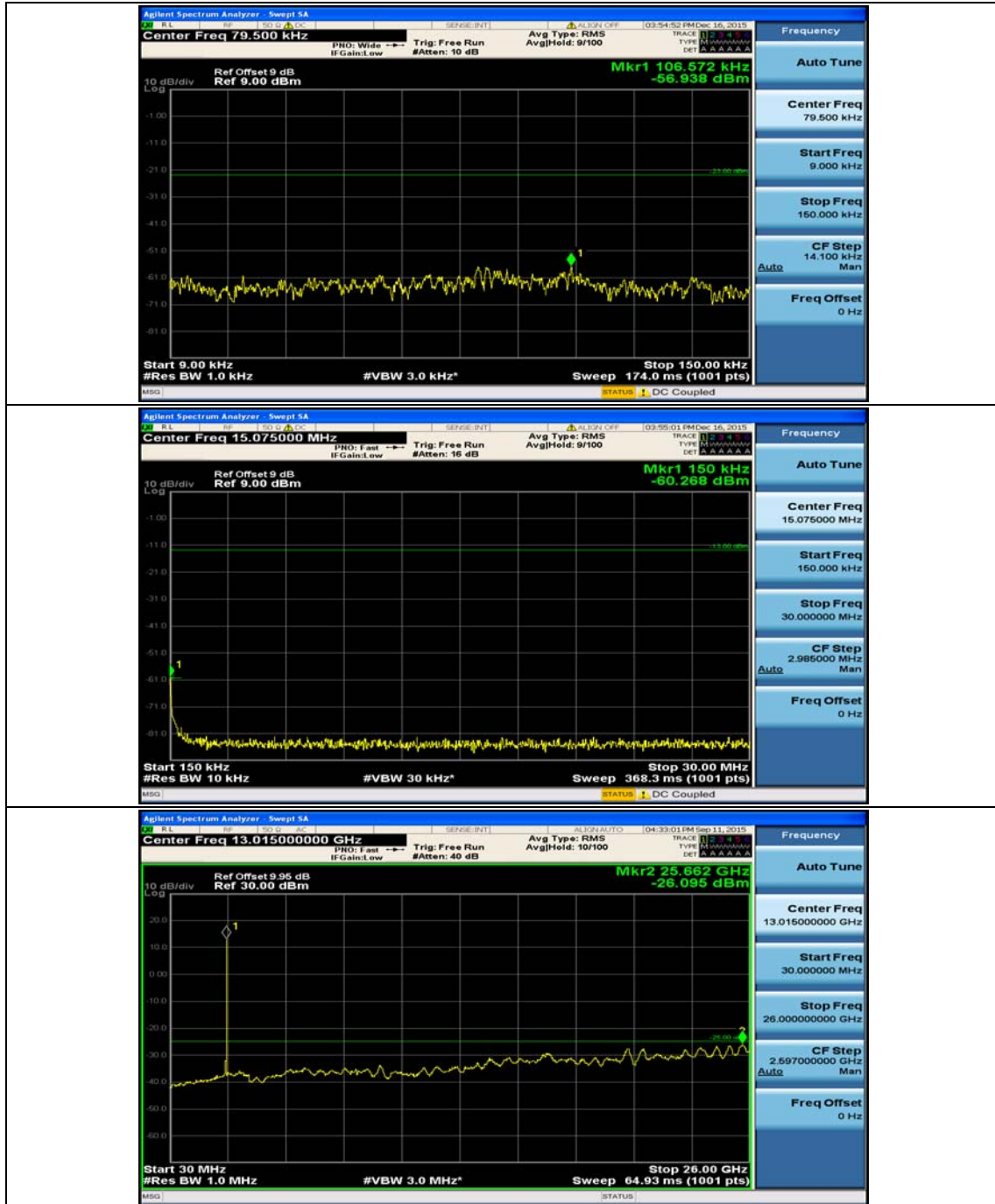


(Channel Bandwidth:20 MHz)_HCH_16QAM_1RB#0



(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	5.94	0.000760	± 2.5	PASS
		VN	TN	2.83	0.000096	± 2.5	PASS
		VH	TN	2.95	0.000760	± 2.5	PASS
	MCH	VL	TN	1.07	0.000096	± 2.5	PASS
		VN	TN	1.75	0.000760	± 2.5	PASS
		VH	TN	3.15	0.000096	± 2.5	PASS
	HCH	VL	TN	0.84	0.000760	± 2.5	PASS
		VN	TN	3.53	0.000096	± 2.5	PASS
		VH	TN	3.40	0.000760	± 2.5	PASS
16QAM	LCH	VL	TN	-0.96	-0.000383	± 2.5	PASS
		VN	TN	-1.20	-0.000480	± 2.5	PASS
		VH	TN	1.90	0.000760	± 2.5	PASS
	MCH	VL	TN	0.24	0.000760	± 2.5	PASS
		VN	TN	1.26	0.000096	± 2.5	PASS
		VH	TN	2.26	0.000760	± 2.5	PASS
	HCH	VL	TN	5.52	0.000096	± 2.5	PASS
		VN	TN	5.31	0.002067	± 2.5	PASS
		VH	TN	0.89	0.000345	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	4.33	0.001732	± 2.5	PASS
		VN	-20	2.99	0.001195	± 2.5	PASS
		VN	-10	0.77	0.000309	± 2.5	PASS
		VN	0	2.92	0.001166	± 2.5	PASS
		VN	10	-1.24	-0.000497	± 2.5	PASS
		VN	20	-1.66	-0.000663	± 2.5	PASS
		VN	30	4.12	0.001646	± 2.5	PASS
		VN	40	1.59	0.000635	± 2.5	PASS
		VN	50	3.06	0.001223	± 2.5	PASS
	MCH	VN	-30	3.22	0.001270	± 2.5	PASS
		VN	-20	5.21	0.001646	± 2.5	PASS
		VN	-10	3.93	0.000635	± 2.5	PASS
		VN	0	-0.56	0.001223	± 2.5	PASS

		VN	10	0.30	0.000119	± 2.5	PASS
		VN	20	4.23	0.001670	± 2.5	PASS
		VN	30	2.12	0.000607	± 2.5	PASS
		VN	40	2.63	0.000769	± 2.5	PASS
		VN	50	-2.45	0.000875	± 2.5	PASS
	HCH	VN	-30	2.13	0.000485	± 2.5	PASS
		VN	-20	0.90	-0.000006	± 2.5	PASS
		VN	-10	1.09	-0.000497	± 2.5	PASS
		VN	0	1.66	-0.000086	± 2.5	PASS
		VN	10	1.56	0.001040	± 2.5	PASS
		VN	20	1.97	-0.000583	± 2.5	PASS
		VN	30	2.25	0.000875	± 2.5	PASS
		VN	40	1.24	0.000485	± 2.5	PASS
		VN	50	-0.01	-0.000006	± 2.5	PASS
16QAM	LCH	VN	-30	-1.24	0.002663	± 2.5	PASS
		VN	-20	-0.21	0.000345	± 2.5	PASS
		VN	-10	2.60	0.000479	± 2.5	PASS
		VN	0	-1.46	0.001170	± 2.5	PASS
		VN	10	-0.33	-0.002262	± 2.5	PASS
		VN	20	-1.22	-0.000486	± 2.5	PASS
		VN	30	0.79	0.000314	± 2.5	PASS
		VN	40	1.47	0.000589	± 2.5	PASS
		VN	50	3.02	0.001206	± 2.5	PASS
	MCH	VN	-30	2.15	0.000846	± 2.5	PASS
		VN	-20	4.85	0.001913	± 2.5	PASS
		VN	-10	-0.26	-0.000102	± 2.5	PASS
		VN	0	0.11	0.000045	± 2.5	PASS
		VN	10	0.53	0.000209	± 2.5	PASS
		VN	20	1.97	0.000779	± 2.5	PASS
		VN	30	2.05	0.000807	± 2.5	PASS
		VN	40	2.39	0.000942	± 2.5	PASS
		VN	50	1.13	0.000446	± 2.5	PASS
	HCH	VN	-30	3.89	0.001515	± 2.5	PASS
		VN	-20	-1.70	-0.000663	± 2.5	PASS
		VN	-10	6.84	0.002663	± 2.5	PASS
		VN	0	0.89	0.000345	± 2.5	PASS
		VN	10	1.23	0.000479	± 2.5	PASS
		VN	20	3.00	0.001170	± 2.5	PASS
		VN	30	-5.81	-0.002262	± 2.5	PASS
		VN	40	2.23	0.000869	± 2.5	PASS
		VN	50	4.71	0.001833	± 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	1.39	0.000554	± 2.5	PASS

		VN	TN	2.42	0.000965	± 2.5	PASS
		VH	TN	1.39	0.000554	± 2.5	PASS
	MCH	VL	TN	3.29	0.001298	± 2.5	PASS
		VN	TN	1.46	0.000576	± 2.5	PASS
		VH	TN	1.83	0.000722	± 2.5	PASS
	HCH	VL	TN	2.78	0.001082	± 2.5	PASS
		VN	TN	3.46	0.001350	± 2.5	PASS
		VH	TN	3.76	0.001467	± 2.5	PASS
16QAM	LCH	VL	TN	2.73	0.001091	± 2.5	PASS
		VN	TN	3.15	0.001256	± 2.5	PASS
		VH	TN	3.30	0.001319	± 2.5	PASS
	MCH	VL	TN	0.33	0.000130	± 2.5	PASS
		VN	TN	1.20	0.000474	± 2.5	PASS
		VH	TN	2.13	0.000841	± 2.5	PASS
	HCH	VL	TN	4.29	0.001673	± 2.5	PASS
		VN	TN	3.99	0.001556	± 2.5	PASS
VH		TN	2.30	0.000898	± 2.5	PASS	
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	1.19	0.000474	± 2.5	PASS
		VN	-20	1.32	0.000525	± 2.5	PASS
		VN	-10	2.79	0.001114	± 2.5	PASS
		VN	0	1.33	0.000531	± 2.5	PASS
		VN	10	2.35	0.000937	± 2.5	PASS
		VN	20	3.03	0.001211	± 2.5	PASS
		VN	30	1.53	0.000611	± 2.5	PASS
		VN	40	1.62	0.000645	± 2.5	PASS
		VN	50	1.65	0.000657	± 2.5	PASS
	MCH	VN	-30	3.85	0.001518	± 2.5	PASS
		VN	-20	1.82	0.000717	± 2.5	PASS
		VN	-10	0.20	0.000079	± 2.5	PASS
		VN	0	1.62	0.000638	± 2.5	PASS
		VN	10	1.97	0.000779	± 2.5	PASS
		VN	20	1.09	0.000429	± 2.5	PASS
		VN	30	2.25	0.000886	± 2.5	PASS
		VN	40	1.10	0.000435	± 2.5	PASS
		VN	50	1.72	0.000677	± 2.5	PASS
	HCH	VN	-30	1.79	0.000697	± 2.5	PASS
		VN	-20	4.01	0.001562	± 2.5	PASS
		VN	-10	1.10	0.000429	± 2.5	PASS
		VN	0	2.29	0.000892	± 2.5	PASS
		VN	10	2.69	0.001048	± 2.5	PASS
		VN	20	3.65	0.001422	± 2.5	PASS
		VN	30	0.62	0.001211	± 2.5	PASS
		VN	40	1.07	0.000611	± 2.5	PASS
		VN	50	1.76	0.000645	± 2.5	PASS
QPSK	LCH	VN	-30	2.86	0.000657	± 2.5	PASS
		VN	-20	2.68	0.001518	± 2.5	PASS
		VN	-10	2.57	0.001028	± 2.5	PASS

		VN	0	3.08	0.001228	± 2.5	PASS
		VN	10	-0.07	-0.000029	± 2.5	PASS
		VN	20	0.92	0.000365	± 2.5	PASS
		VN	30	2.47	0.000988	± 2.5	PASS
		VN	40	0.64	0.000257	± 2.5	PASS
		VN	50	3.18	0.001268	± 2.5	PASS
	MCH	VN	-30	1.20	0.000474	± 2.5	PASS
		VN	-20	2.49	0.000982	± 2.5	PASS
		VN	-10	1.04	0.000412	± 2.5	PASS
		VN	0	4.29	0.001693	± 2.5	PASS
		VN	10	3.55	0.001399	± 2.5	PASS
		VN	20	0.93	0.000367	± 2.5	PASS
		VN	30	0.90	0.000356	± 2.5	PASS
		VN	40	2.86	0.001129	± 2.5	PASS
		VN	50	1.39	0.000547	± 2.5	PASS
	HCH	VN	-30	2.29	0.000892	± 2.5	PASS
		VN	-20	3.71	0.001444	± 2.5	PASS
		VN	-10	1.59	0.000619	± 2.5	PASS
		VN	0	3.39	0.001322	± 2.5	PASS
		VN	10	1.70	0.000664	± 2.5	PASS
		VN	20	1.89	0.000736	± 2.5	PASS
		VN	30	2.88	0.001121	± 2.5	PASS
		VN	40	3.96	0.001545	± 2.5	PASS
		VN	50	2.60	0.001015	± 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	2.05	0.000816	± 2.5	PASS
		VN	TN	2.52	0.002031	± 2.5	PASS
		VH	TN	1.30	0.000475	± 2.5	PASS
	MCH	VL	TN	3.12	0.000357	± 2.5	PASS
		VN	TN	2.57	0.000876	± 2.5	PASS
		VH	TN	5.15	0.001067	± 2.5	PASS
	HCH	VL	TN	1.22	0.000475	± 2.5	PASS
		VN	TN	0.92	0.000357	± 2.5	PASS
		VH	TN	2.25	0.000876	± 2.5	PASS
16QAM	LCH	VL	TN	2.68	0.001067	± 2.5	PASS
		VN	TN	3.66	0.001460	± 2.5	PASS
		VH	TN	1.04	0.000416	± 2.5	PASS
	MCH	VL	TN	2.37	0.000937	± 2.5	PASS
		VN	TN	2.93	0.002031	± 2.5	PASS
		VH	TN	2.15	0.000475	± 2.5	PASS
	HCH	VL	TN	1.32	0.000357	± 2.5	PASS
		VN	TN	4.22	0.000876	± 2.5	PASS
		VH	TN	2.86	0.001067	± 2.5	PASS

Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	1.95	0.000776	± 2.5	PASS
		VN	-20	2.10	0.000839	± 2.5	PASS
		VN	-10	1.79	0.000713	± 2.5	PASS
		VN	0	1.10	0.000439	± 2.5	PASS
		VN	10	2.73	0.001090	± 2.5	PASS
		VN	20	0.94	0.000377	± 2.5	PASS
		VN	30	2.66	0.001061	± 2.5	PASS
		VN	40	0.44	0.000660	± 2.5	PASS
		VN	50	1.63	0.000893	± 2.5	PASS
	MCH	VN	-30	1.62	0.000893	± 2.5	PASS
		VN	-20	1.42	0.000804	± 2.5	PASS
		VN	-10	0.89	0.000971	± 2.5	PASS
		VN	0	2.47	0.000223	± 2.5	PASS
		VN	10	1.77	0.000742	± 2.5	PASS
		VN	20	3.39	0.000843	± 2.5	PASS
		VN	30	3.05	0.000687	± 2.5	PASS
		VN	40	1.59	0.000385	± 2.5	PASS
		VN	50	1.67	0.000660	± 2.5	PASS
	HCH	VN	-30	2.29	0.000893	± 2.5	PASS
		VN	-20	2.29	0.000893	± 2.5	PASS
		VN	-10	2.06	0.000804	± 2.5	PASS
		VN	0	2.49	0.000971	± 2.5	PASS
		VN	10	0.57	0.000223	± 2.5	PASS
		VN	20	1.90	0.000742	± 2.5	PASS
		VN	30	2.16	0.000843	± 2.5	PASS
		VN	40	1.76	0.000687	± 2.5	PASS
		VN	50	0.99	0.000385	± 2.5	PASS
QPSK	LCH	VN	-30	1.89	0.000753	± 2.5	PASS
		VN	-20	1.73	0.000690	± 2.5	PASS
		VN	-10	1.62	0.000645	± 2.5	PASS
		VN	0	2.66	0.001061	± 2.5	PASS
		VN	10	4.13	0.001649	± 2.5	PASS
		VN	20	2.40	0.000958	± 2.5	PASS
		VN	30	1.82	0.000725	± 2.5	PASS
		VN	40	1.34	0.000536	± 2.5	PASS
		VN	50	2.13	0.000850	± 2.5	PASS
	MCH	VN	-30	1.67	0.000660	± 2.5	PASS
		VN	-20	0.70	0.000660	± 2.5	PASS
		VN	-10	3.96	0.000893	± 2.5	PASS
		VN	0	1.32	0.000893	± 2.5	PASS
		VN	10	3.18	0.000804	± 2.5	PASS
		VN	20	2.68	0.000971	± 2.5	PASS
		VN	30	1.76	0.000223	± 2.5	PASS
		VN	40	1.97	0.000742	± 2.5	PASS
		VN	50	1.20	0.000843	± 2.5	PASS
	HCH	VN	-30	1.14	0.000687	± 2.5	PASS
		VN	-20	2.35	0.000385	± 2.5	PASS

		VN	-10	1.62	0.000631	± 2.5	PASS
		VN	0	2.17	0.000849	± 2.5	PASS
		VN	10	1.99	0.000776	± 2.5	PASS
		VN	20	0.53	0.000207	± 2.5	PASS
		VN	30	1.79	0.000698	± 2.5	PASS
		VN	40	2.85	0.001111	± 2.5	PASS
		VN	50	2.22	0.000865	± 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	1.97	0.000786	± 2.5	PASS
		VN	TN	2.25	0.000895	± 2.5	PASS
		VH	TN	-2.12	-0.000162	± 2.5	PASS
	MCH	VL	TN	3.48	-0.000542	± 2.5	PASS
		VN	TN	3.00	-0.000827	± 2.5	PASS
		VH	TN	2.75	0.001374	± 2.5	PASS
	HCH	VL	TN	-0.41	0.000986	± 2.5	PASS
		VN	TN	-1.39	-0.000542	± 2.5	PASS
		VH	TN	-2.12	-0.000827	± 2.5	PASS
16QAM	LCH	VL	TN	3.45	0.001374	± 2.5	PASS
		VN	TN	2.47	0.000986	± 2.5	PASS
		VH	TN	1.57	0.000627	± 2.5	PASS
	MCH	VL	TN	2.13	0.000841	± 2.5	PASS
		VN	TN	-1.07	-0.000423	± 2.5	PASS
		VH	TN	0.21	0.000085	± 2.5	PASS
	HCH	VL	TN	-1.53	-0.000598	± 2.5	PASS
		VN	TN	-3.19	-0.001246	± 2.5	PASS
		VH	TN	-1.22	-0.000475	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	0.79	0.000313	± 2.5	PASS
		VN	-20	1.43	0.000570	± 2.5	PASS
		VN	-10	1.67	0.000667	± 2.5	PASS
		VN	0	1.76	0.000701	± 2.5	PASS
		VN	10	2.10	0.000838	± 2.5	PASS
		VN	20	2.80	0.001117	± 2.5	PASS
		VN	30	2.59	0.001032	± 2.5	PASS
		VN	40	0.67	0.000268	± 2.5	PASS
		VN	50	2.46	0.000980	± 2.5	PASS
	MCH	VN	-30	2.30	0.000909	± 2.5	PASS
		VN	-20	2.65	0.001044	± 2.5	PASS
		VN	-10	2.25	-0.000162	± 2.5	PASS
		VN	0	0.97	-0.000542	± 2.5	PASS
		VN	10	0.56	-0.000827	± 2.5	PASS

		VN	20	1.26	0.001374	± 2.5	PASS
		VN	30	2.27	0.000986	± 2.5	PASS
		VN	40	1.95	0.000767	± 2.5	PASS
		VN	50	1.23	0.000485	± 2.5	PASS
	HCH	VN	-30	-3.00	-0.001173	± 2.5	PASS
		VN	-20	-1.37	-0.000536	± 2.5	PASS
		VN	-10	-1.20	-0.000469	± 2.5	PASS
		VN	0	-0.86	-0.000335	± 2.5	PASS
		VN	10	-0.46	-0.000179	± 2.5	PASS
		VN	20	-0.51	-0.000201	± 2.5	PASS
		VN	30	-0.14	-0.000056	± 2.5	PASS
		VN	40	-0.92	-0.000358	± 2.5	PASS
		VN	50	-2.92	-0.001140	± 2.5	PASS
QPSK	LCH	VN	-30	2.33	0.000929	± 2.5	PASS
		VN	-20	3.25	0.001294	± 2.5	PASS
		VN	-10	3.39	0.001351	± 2.5	PASS
		VN	0	2.02	0.000804	± 2.5	PASS
		VN	10	1.16	0.000462	± 2.5	PASS
		VN	20	1.42	0.001196	± 2.5	PASS
		VN	30	2.65	0.001016	± 2.5	PASS
		VN	40	1.43	0.000435	± 2.5	PASS
		VN	50	1.09	0.001281	± 2.5	PASS
	MCH	VN	-30	1.79	0.001050	± 2.5	PASS
		VN	-20	0.82	0.000316	± 2.5	PASS
		VN	-10	3.03	0.001196	± 2.5	PASS
		VN	0	2.57	0.000168	± 2.5	PASS
		VN	10	1.10	-0.000212	± 2.5	PASS
		VN	20	3.25	-0.000743	± 2.5	PASS
		VN	30	2.66	-0.000056	± 2.5	PASS
		VN	40	0.80	-0.000257	± 2.5	PASS
		VN	50	3.75	0.001478	± 2.5	PASS
	HCH	VN	-30	0.43	0.000168	± 2.5	PASS
		VN	-20	-0.54	-0.000212	± 2.5	PASS
		VN	-10	-1.90	0.001050	± 2.5	PASS
		VN	0	-0.14	0.000316	± 2.5	PASS
		VN	10	-0.66	0.001196	± 2.5	PASS
		VN	20	-1.04	-0.000056	± 2.5	PASS
		VN	30	-1.39	-0.000257	± 2.5	PASS
		VN	40	-1.13	-0.000441	± 2.5	PASS
		VN	50	-0.80	-0.000313	± 2.5	PASS