



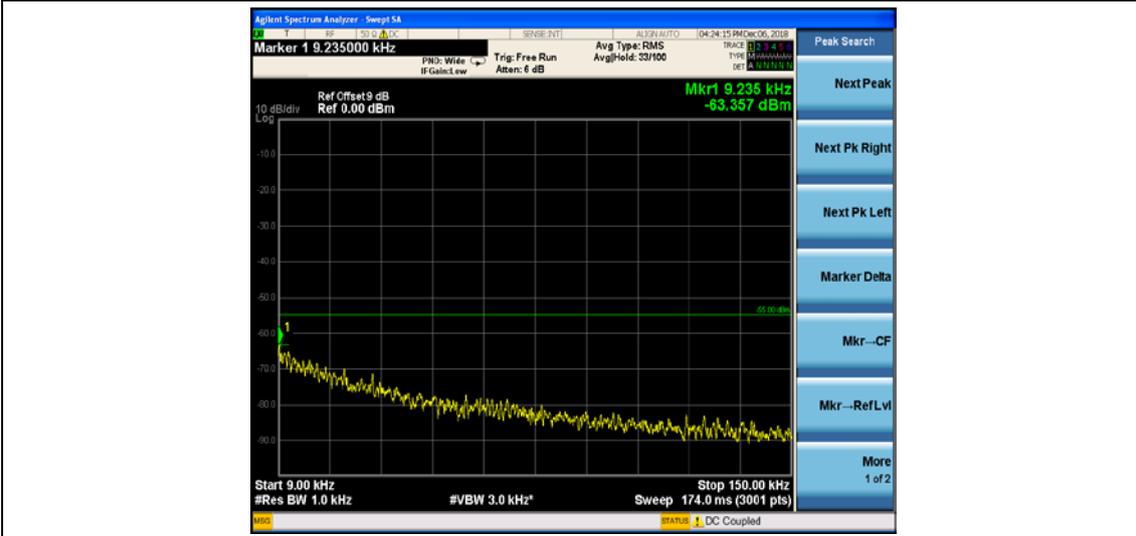
Band7_20MHz_QPSK_21100_1RB#0



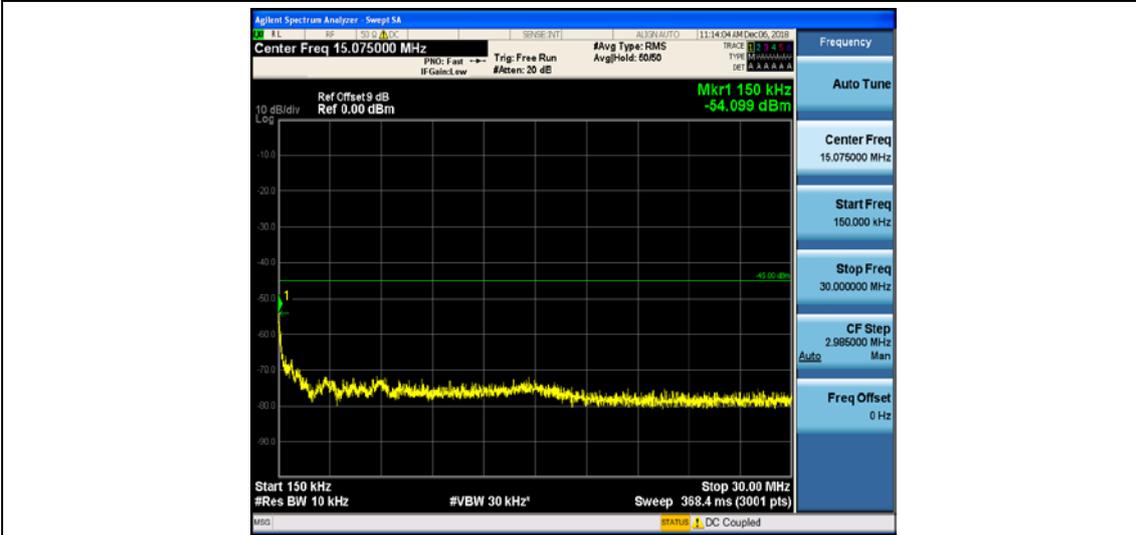
Band7_20MHz_QPSK_21100_1RB#0



Band7_20MHz_QPSK_21350_1RB#0



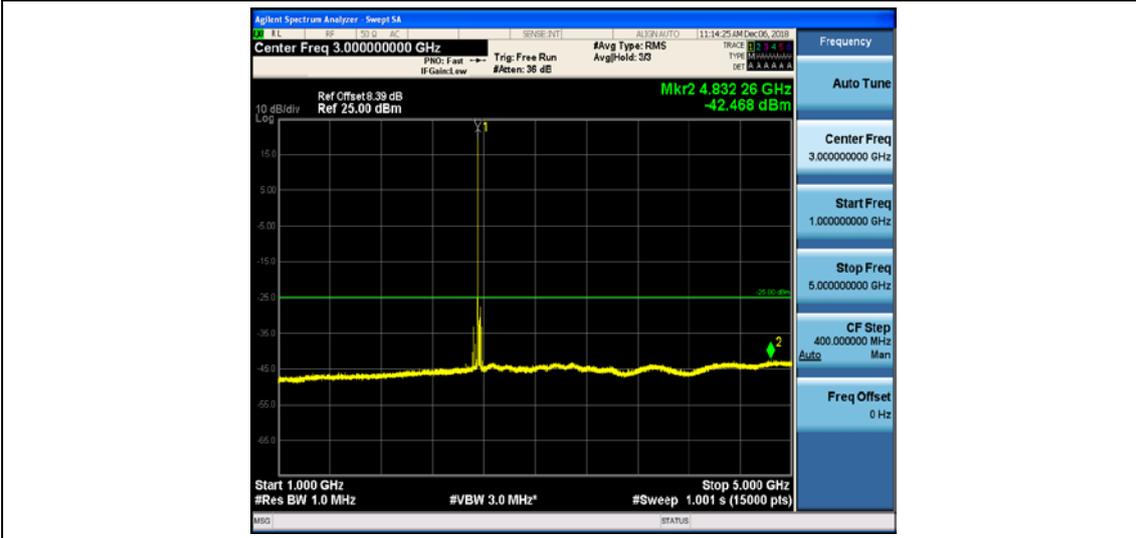
Band7_20MHz_QPSK_21350_1RB#0



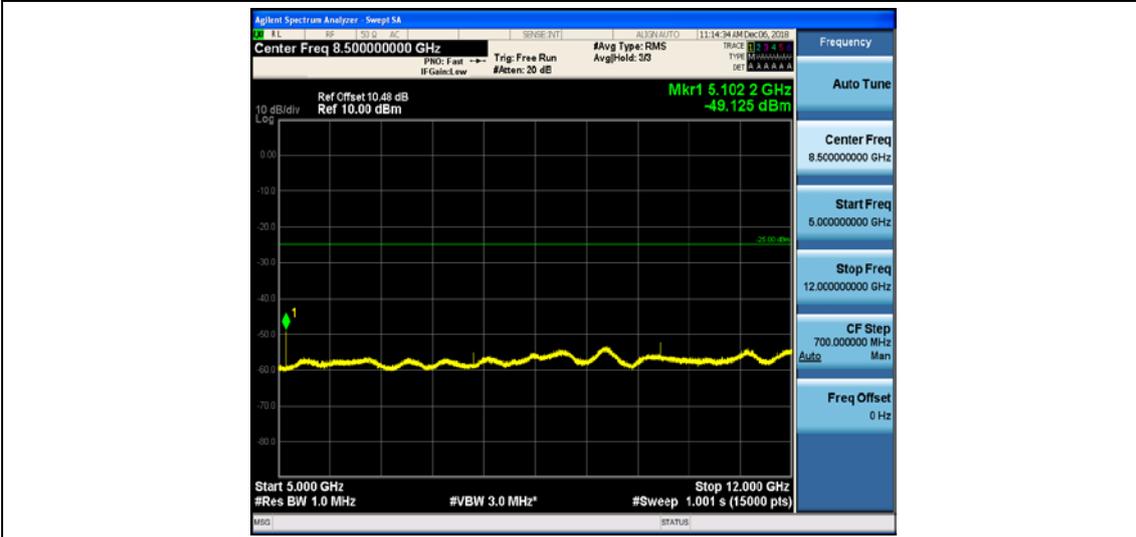
Band7_20MHz_QPSK_21350_1RB#0



Band7_20MHz_QPSK_21350_1RB#0



Band7_20MHz_QPSK_21350_1RB#0



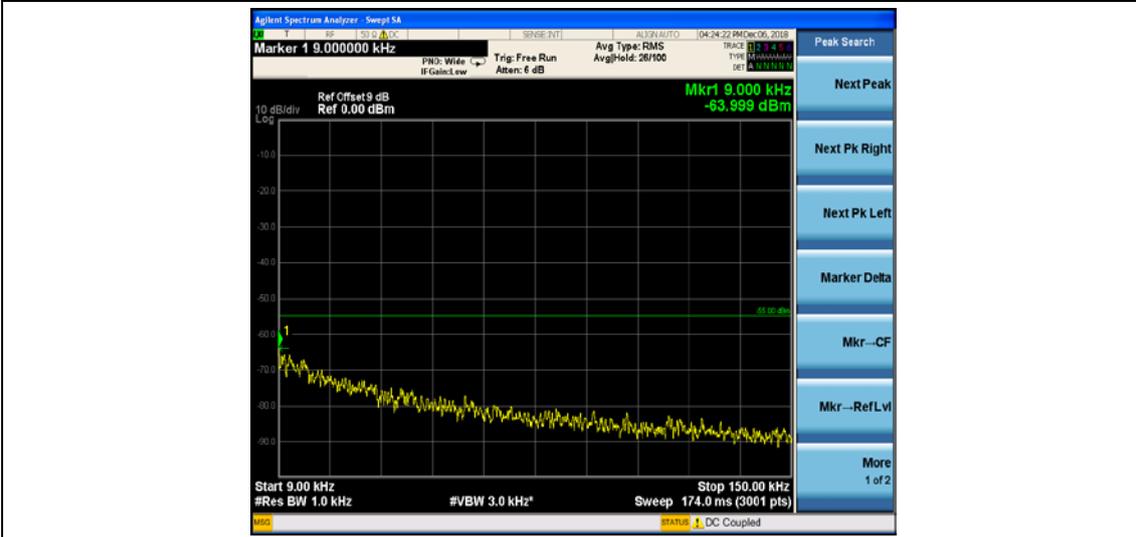
Band7_20MHz_QPSK_21350_1RB#0



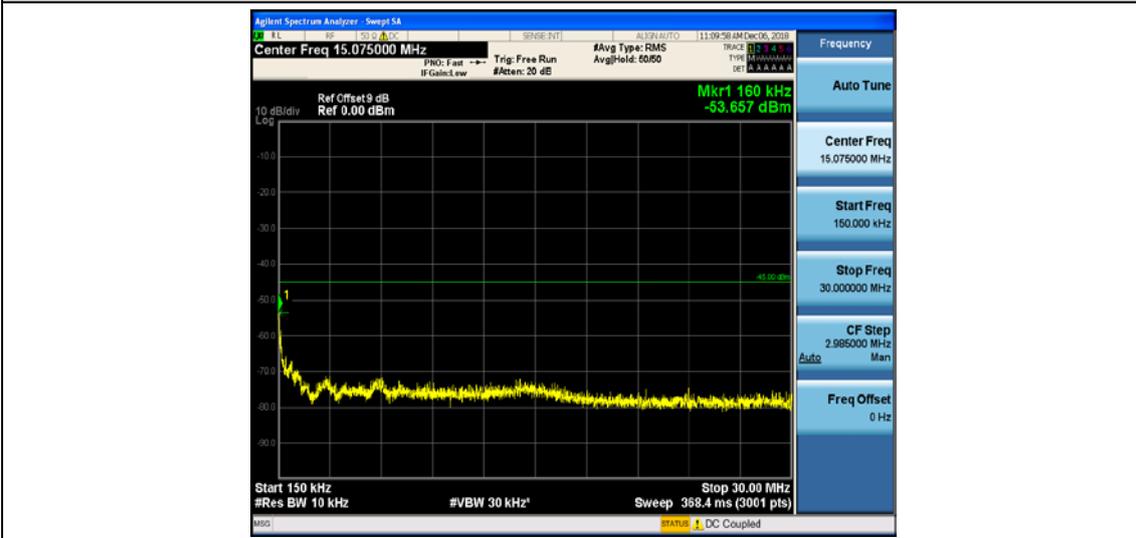
Band7_20MHz_QPSK_21350_1RB#0



Band7_20MHz_16QAM_20850_1RB#0



Band7_20MHz_16QAM_20850_1RB#0



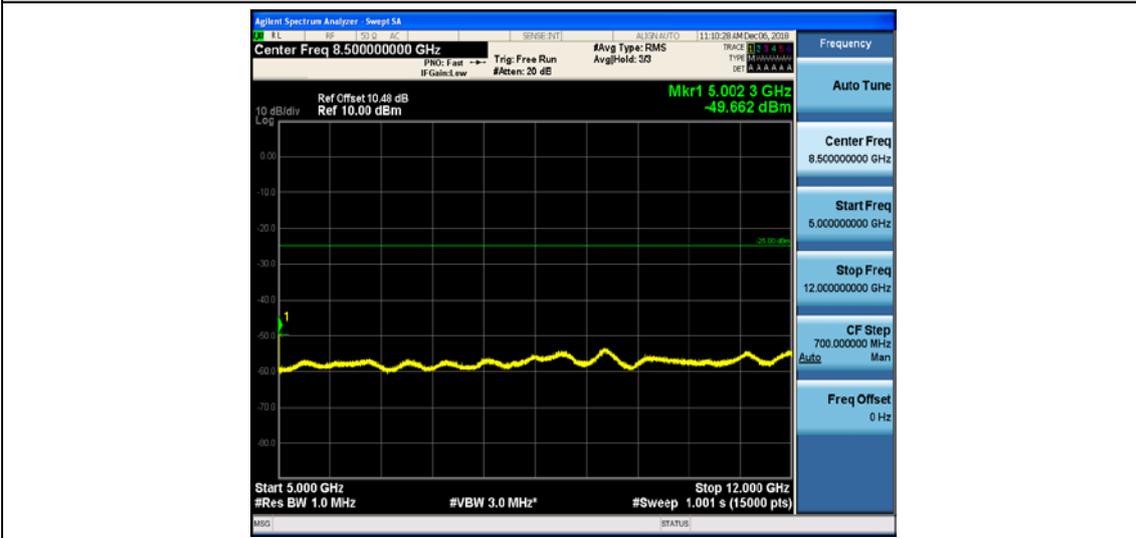
Band7_20MHz_16QAM_20850_1RB#0



Band7_20MHz_16QAM_20850_1RB#0



Band7_20MHz_16QAM_20850_1RB#0



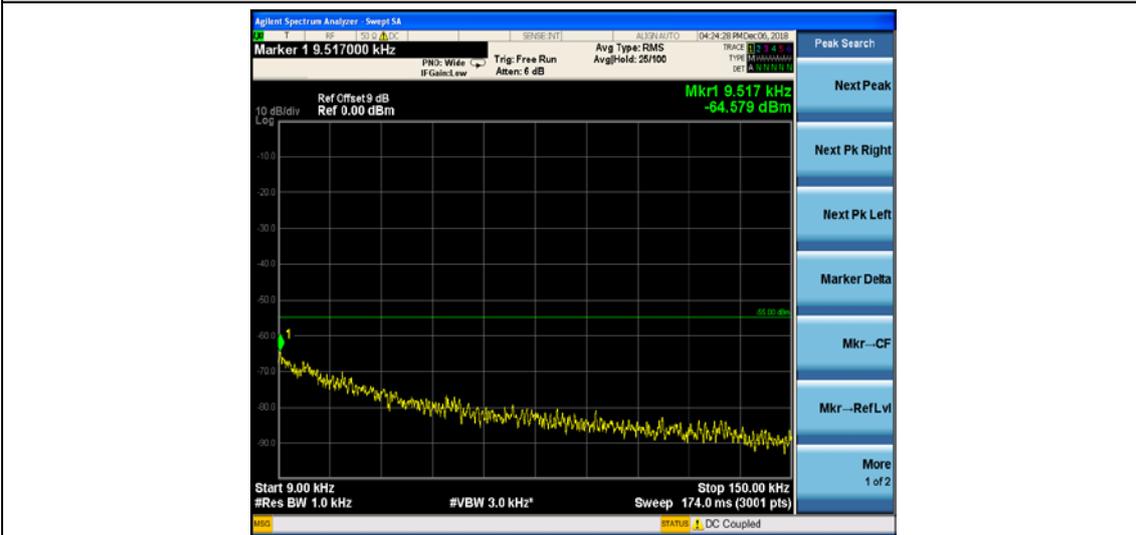
Band7_20MHz_16QAM_20850_1RB#0



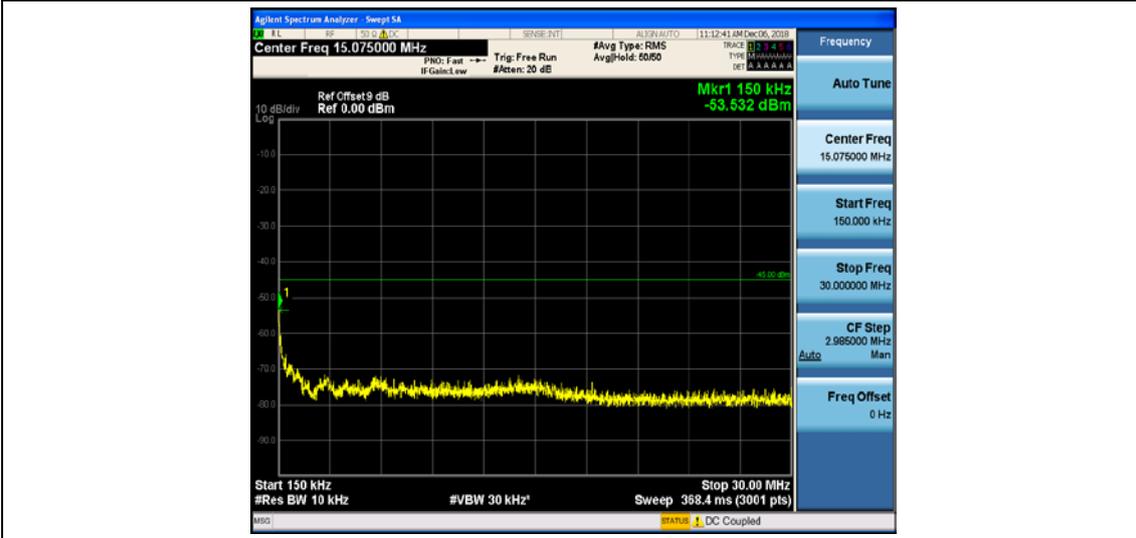
Band7_20MHz_16QAM_20850_1RB#0



Band7_20MHz_16QAM_21100_1RB#0



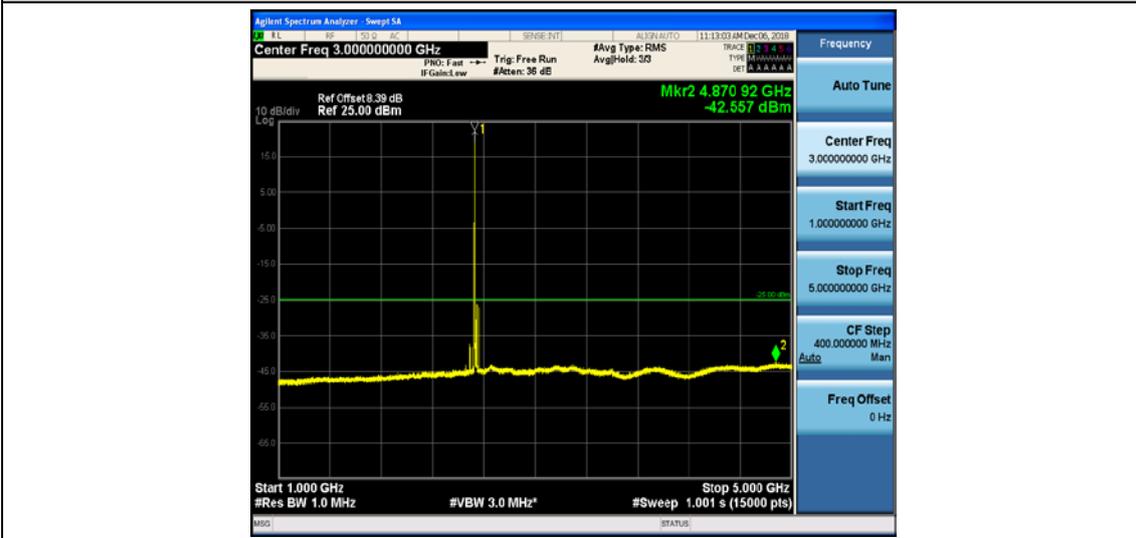
Band7_20MHz_16QAM_21100_1RB#0



Band7_20MHz_16QAM_21100_1RB#0



Band7_20MHz_16QAM_21100_1RB#0



Band7_20MHz_16QAM_21100_1RB#0



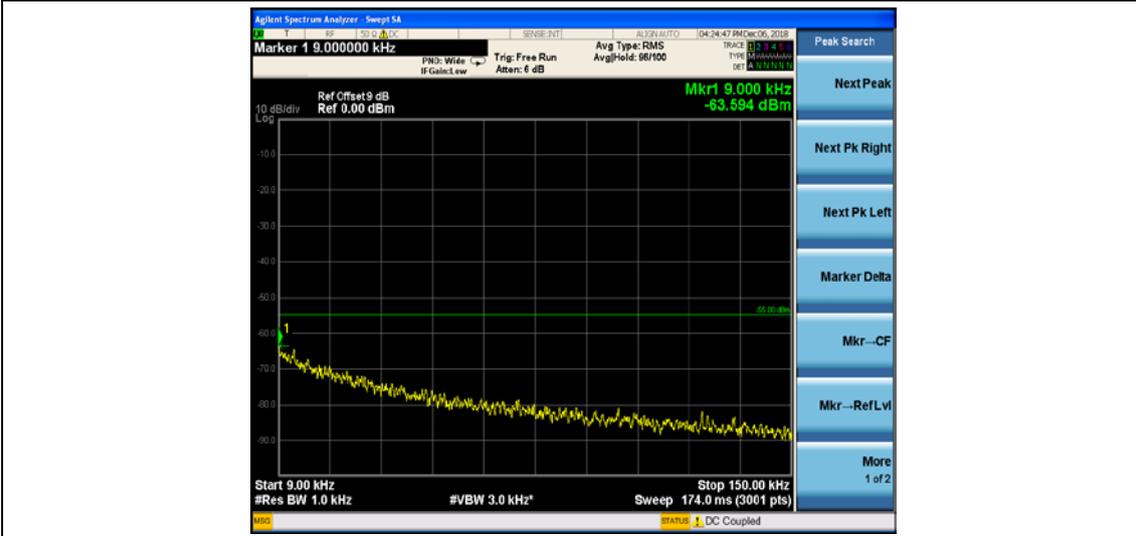
Band7_20MHz_16QAM_21100_1RB#0



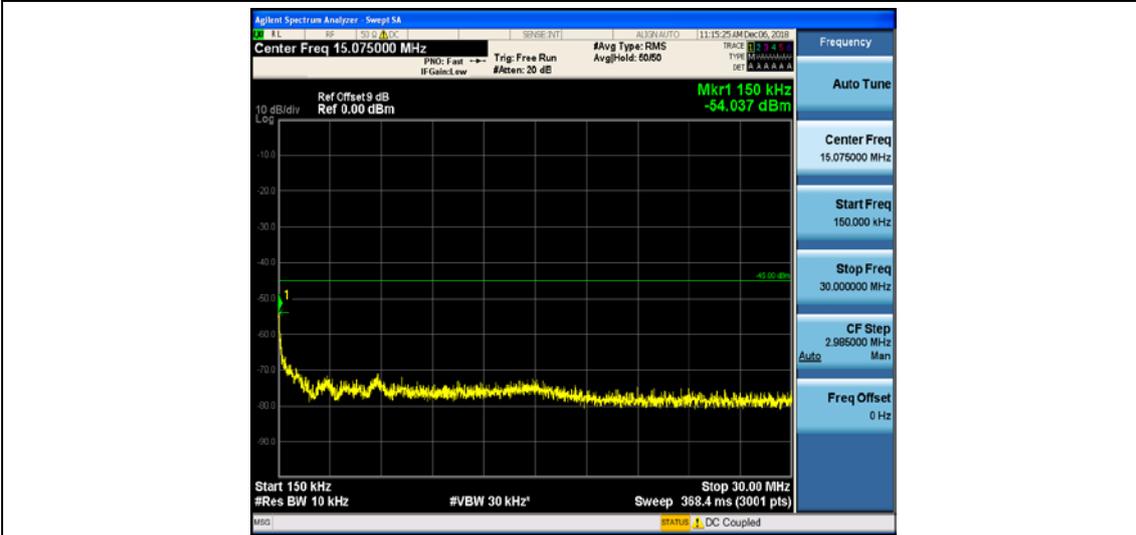
Band7_20MHz_16QAM_21100_1RB#0



Band7_20MHz_16QAM_21350_1RB#0



Band7_20MHz_16QAM_21350_1RB#0



Band7_20MHz_16QAM_21350_1RB#0



Band7_20MHz_16QAM_21350_1RB#0



Band7_20MHz_16QAM_21350_1RB#0



Band7_20MHz_16QAM_21350_1RB#0



Band7_20MHz_16QAM_21350_1RB#0



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	-1.1	-0.000440	± 2.5	PASS
		VN	TN	1.77	0.000707	± 2.5	PASS
		VH	TN	4.17	0.001666	± 2.5	PASS
	MCH	VL	TN	2.64	0.001041	± 2.5	PASS
		VN	TN	1.59	0.000627	± 2.5	PASS
		VH	TN	4.25	0.001677	± 2.5	PASS
	HCH	VL	TN	2.4	0.000935	± 2.5	PASS
		VN	TN	1.2	0.000467	± 2.5	PASS
		VH	TN	-1.9	-0.000740	± 2.5	PASS
16QAM	LCH	VL	TN	4.36	0.001742	± 2.5	PASS
		VN	TN	-1.47	-0.000587	± 2.5	PASS
		VH	TN	0.84	0.000336	± 2.5	PASS
	MCH	VL	TN	0.43	0.000170	± 2.5	PASS
		VN	TN	3.7	0.001460	± 2.5	PASS
		VH	TN	4.76	0.001878	± 2.5	PASS
	HCH	VL	TN	0.41	0.000160	± 2.5	PASS
		VN	TN	-1.87	-0.000728	± 2.5	PASS
		VH	TN	-0.55	-0.000214	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	4.82	0.001926	± 2.5	PASS
		VN	-20	-1.91	-0.000763	± 2.5	PASS
		VN	-10	4.55	0.001818	± 2.5	PASS
		VN	0	0.59	0.000236	± 2.5	PASS
		VN	10	0.77	0.000308	± 2.5	PASS
		VN	20	2.86	0.001143	± 2.5	PASS
		VN	30	0.29	0.000116	± 2.5	PASS
		VN	40	2.52	0.001007	± 2.5	PASS
	MCH	VN	-30	4.39	0.001732	± 2.5	PASS
		VN	-20	0.11	0.000043	± 2.5	PASS

		VN	-10	-1.24	-0.000489	± 2.5	PASS		
		VN	0	2.88	0.001136	± 2.5	PASS		
		VN	10	3.07	0.001211	± 2.5	PASS		
		VN	20	1.69	0.000667	± 2.5	PASS		
		VN	30	-0.12	-0.000047	± 2.5	PASS		
		VN	40	-0.52	-0.000205	± 2.5	PASS		
		VN	50	3.69	0.001456	± 2.5	PASS		
	HCH	VN	-30	2.34	0.000911	± 2.5	PASS		
		VN	-20	3.79	0.001476	± 2.5	PASS		
		VN	-10	-0.65	-0.000253	± 2.5	PASS		
		VN	0	2.61	0.001017	± 2.5	PASS		
		VN	10	4.24	0.001651	± 2.5	PASS		
		VN	20	-0.57	-0.000222	± 2.5	PASS		
		VN	30	4.58	0.001784	± 2.5	PASS		
		VN	40	0.13	0.000051	± 2.5	PASS		
		VN	50	2.24	0.000872	± 2.5	PASS		
		16QAM	LCH	VN	-30	3.61	0.001443	± 2.5	PASS
				VN	-20	3.28	0.001311	± 2.5	PASS
VN	-10			2.77	0.001107	± 2.5	PASS		
VN	0			0.31	0.000124	± 2.5	PASS		
VN	10			2.66	0.001063	± 2.5	PASS		
VN	20			-0.07	-0.000028	± 2.5	PASS		
VN	30			0.48	0.000192	± 2.5	PASS		
VN	40			-0.82	-0.000328	± 2.5	PASS		
VN	50			-0.41	-0.000164	± 2.5	PASS		
MCH	VN		-30	2.98	0.001176	± 2.5	PASS		
	VN		-20	0.78	0.000308	± 2.5	PASS		
	VN		-10	0.7	0.000276	± 2.5	PASS		
	VN		0	3.35	0.001321	± 2.5	PASS		
	VN		10	-1.01	-0.000398	± 2.5	PASS		
	VN		20	4.95	0.001953	± 2.5	PASS		
	VN		30	-1.13	-0.000446	± 2.5	PASS		
	VN		40	2.36	0.000931	± 2.5	PASS		
	VN		50	4.98	0.001964	± 2.5	PASS		
HCH	VN		-30	-1.18	-0.000460	± 2.5	PASS		
	VN		-20	1.31	0.000510	± 2.5	PASS		
	VN		-10	4.08	0.001589	± 2.5	PASS		
	VN		0	4.58	0.001784	± 2.5	PASS		
	VN		10	2.27	0.000884	± 2.5	PASS		
	VN		20	3.37	0.001313	± 2.5	PASS		
	VN		30	-0.18	-0.000070	± 2.5	PASS		

		VN	40	-0.99	-0.000386	± 2.5	PASS
		VN	50	2.41	0.000939	± 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	-1.25	-0.000499	± 2.5	PASS
		VN	TN	4.13	0.001649	± 2.5	PASS
		VH	TN	4.09	0.001633	± 2.5	PASS
	MCH	VL	TN	-1.58	-0.000623	± 2.5	PASS
		VN	TN	2.17	0.000856	± 2.5	PASS
		VH	TN	2.06	0.000813	± 2.5	PASS
	HCH	VL	TN	4.87	0.001899	± 2.5	PASS
		VN	TN	0.5	0.000195	± 2.5	PASS
		VH	TN	2.38	0.000928	± 2.5	PASS
16QAM	LCH	VL	TN	-0.71	-0.000283	± 2.5	PASS
		VN	TN	-0.58	-0.000232	± 2.5	PASS
		VH	TN	4.1	0.001637	± 2.5	PASS
	MCH	VL	TN	2.61	0.001030	± 2.5	PASS
		VN	TN	4.93	0.001945	± 2.5	PASS
		VH	TN	-0.71	-0.000280	± 2.5	PASS
	HCH	VL	TN	1.37	0.000534	± 2.5	PASS
		VN	TN	3.89	0.001517	± 2.5	PASS
		VH	TN	2.15	0.000838	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	LCH	VN	-30	2.00	0.000798	± 2.5	PASS
		VN	-20	1.95	0.000778	± 2.5	PASS
		VN	-10	3.85	0.001537	± 2.5	PASS
		VN	0	-1.25	-0.000499	± 2.5	PASS
		VN	10	3.91	0.001561	± 2.5	PASS
		VN	20	2.55	0.001018	± 2.5	PASS
		VN	30	1.38	0.000551	± 2.5	PASS
		VN	40	4.93	0.001968	± 2.5	PASS
		VN	50	1.96	0.000782	± 2.5	PASS
	MCH	VN	-30	-0.56	-0.000221	± 2.5	PASS
		VN	-20	2.68	0.001057	± 2.5	PASS
		VN	-10	4.10	0.001617	± 2.5	PASS

		VN	0	-1.82	-0.000718	± 2.5	PASS		
		VN	10	2.28	0.000899	± 2.5	PASS		
		VN	20	2.26	0.000892	± 2.5	PASS		
		VN	30	0.30	0.000118	± 2.5	PASS		
		VN	40	-1.77	-0.000698	± 2.5	PASS		
		VN	50	2.01	0.000793	± 2.5	PASS		
	HCH	VN	-30	-0.95	-0.000370	± 2.5	PASS		
		VN	-20	4.03	0.001571	± 2.5	PASS		
		VN	-10	-0.89	-0.000347	± 2.5	PASS		
		VN	0	0.39	0.000152	± 2.5	PASS		
		VN	10	3.88	0.001513	± 2.5	PASS		
		VN	20	4.21	0.001641	± 2.5	PASS		
		VN	30	0.77	0.000300	± 2.5	PASS		
		VN	40	2.27	0.000885	± 2.5	PASS		
		VN	50	2.27	0.000885	± 2.5	PASS		
		QPSK	LCH	VN	-30	0.30	0.000120	± 2.5	PASS
				VN	-20	-1.77	-0.000707	± 2.5	PASS
				VN	-10	1.53	0.000611	± 2.5	PASS
VN	0			0.86	0.000343	± 2.5	PASS		
VN	10			3.18	0.001269	± 2.5	PASS		
VN	20			3.27	0.001305	± 2.5	PASS		
VN	30			2.77	0.001106	± 2.5	PASS		
VN	40			-0.43	-0.000172	± 2.5	PASS		
VN	50			4.48	0.001788	± 2.5	PASS		
MCH	VN		-30	0.48	0.000189	± 2.5	PASS		
	VN		-20	-1.44	-0.000568	± 2.5	PASS		
	VN		-10	2.96	0.001168	± 2.5	PASS		
	VN		0	1.39	0.000548	± 2.5	PASS		
	VN		10	4.72	0.001862	± 2.5	PASS		
	VN		20	4.62	0.001822	± 2.5	PASS		
	VN		30	-1.60	-0.000631	± 2.5	PASS		
	VN		40	-0.28	-0.000110	± 2.5	PASS		
	VN		50	2.33	0.000919	± 2.5	PASS		
HCH	VN		-30	0.43	0.000168	± 2.5	PASS		
	VN		-20	4.74	0.001848	± 2.5	PASS		
	VN		-10	1.86	0.000725	± 2.5	PASS		
	VN		0	0.11	0.000043	± 2.5	PASS		
	VN		10	3.84	0.001497	± 2.5	PASS		
	VN		20	0.12	0.000047	± 2.5	PASS		
	VN		30	1.24	0.000483	± 2.5	PASS		
	VN		40	0.30	0.000117	± 2.5	PASS		

		VN	50	1.65	0.000643	± 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	-1.44	-0.000574	± 2.5	PASS
		VN	TN	-0.97	-0.000387	± 2.5	PASS
		VH	TN	2.38	0.000949	± 2.5	PASS
	MCH	VL	TN	-0.36	-0.000142	± 2.5	PASS
		VN	TN	1.54	0.000607	± 2.5	PASS
		VH	TN	2.05	0.000809	± 2.5	PASS
	HCH	VL	TN	3.23	0.001260	± 2.5	PASS
		VN	TN	-0.56	-0.000219	± 2.5	PASS
		VH	TN	1.06	0.000414	± 2.5	PASS
16QAM	LCH	VL	TN	-0.01	-0.000004	± 2.5	PASS
		VN	TN	4.82	0.001922	± 2.5	PASS
		VH	TN	4.02	0.001603	± 2.5	PASS
	MCH	VL	TN	-0.39	-0.000154	± 2.5	PASS
		VN	TN	-1.83	-0.000722	± 2.5	PASS
		VH	TN	-0.07	-0.000028	± 2.5	PASS
	HCH	VL	TN	2.48	0.000968	± 2.5	PASS
		VN	TN	4.57	0.001783	± 2.5	PASS
		VH	TN	0.55	0.000215	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	4.99	0.001990	± 2.5	PASS
		VN	-20	3.75	0.001496	± 2.5	PASS
		VN	-10	1.92	0.000766	± 2.5	PASS
		VN	0	3.96	0.001579	± 2.5	PASS
		VN	10	2.73	0.001089	± 2.5	PASS
		VN	20	-1.17	-0.000467	± 2.5	PASS
		VN	30	1.54	0.000614	± 2.5	PASS
		VN	40	4.03	0.001607	± 2.5	PASS
		VN	50	3.06	0.001220	± 2.5	PASS
	MCH	VN	-30	2.93	0.001156	± 2.5	PASS
		VN	-20	3.91	0.001542	± 2.5	PASS
		VN	-10	3.63	0.001432	± 2.5	PASS
		VN	0	4.87	0.001921	± 2.5	PASS

		VN	10	2.95	0.001164	± 2.5	PASS
		VN	20	0.45	0.000178	± 2.5	PASS
		VN	30	1.44	0.000568	± 2.5	PASS
		VN	40	1.68	0.000663	± 2.5	PASS
		VN	50	4.50	0.001775	± 2.5	PASS
	HCH	VN	-30	2.78	0.001085	± 2.5	PASS
		VN	-20	-0.65	-0.000254	± 2.5	PASS
		VN	-10	0.50	0.000195	± 2.5	PASS
		VN	0	2.06	0.000804	± 2.5	PASS
		VN	10	-1.83	-0.000714	± 2.5	PASS
		VN	20	-1.46	-0.000570	± 2.5	PASS
		VN	30	4.28	0.001670	± 2.5	PASS
		VN	40	-2.00	-0.000780	± 2.5	PASS
		VN	50	3.45	0.001346	± 2.5	PASS
		QPSK	LCH	VN	-30	1.58	0.000630
VN	-20			4.78	0.001906	± 2.5	PASS
VN	-10			2.41	0.000961	± 2.5	PASS
VN	0			4.65	0.001854	± 2.5	PASS
VN	10			1.61	0.000642	± 2.5	PASS
VN	20			4.61	0.001838	± 2.5	PASS
VN	30			1.81	0.000722	± 2.5	PASS
VN	40			1.49	0.000594	± 2.5	PASS
VN	50			0.13	0.000052	± 2.5	PASS
MCH	VN		-30	2.91	0.001148	± 2.5	PASS
	VN		-20	4.20	0.001657	± 2.5	PASS
	VN		-10	2.28	0.000899	± 2.5	PASS
	VN		0	-1.79	-0.000706	± 2.5	PASS
	VN		10	2.11	0.000832	± 2.5	PASS
	VN		20	2.81	0.001108	± 2.5	PASS
	VN		30	-0.15	-0.000059	± 2.5	PASS
	VN		40	1.62	0.000639	± 2.5	PASS
	VN		50	1.06	0.000418	± 2.5	PASS
HCH	VN		-30	-0.85	-0.000332	± 2.5	PASS
	VN		-20	4.48	0.001748	± 2.5	PASS
	VN		-10	-1.94	-0.000757	± 2.5	PASS
	VN		0	-1.23	-0.000480	± 2.5	PASS
	VN		10	2.51	0.000980	± 2.5	PASS
	VN		20	3.28	0.001280	± 2.5	PASS
	VN		30	-0.08	-0.000031	± 2.5	PASS
	VN		40	2.89	0.001128	± 2.5	PASS
	VN		50	-1.83	-0.000714	± 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	3.51	0.001398	± 2.5	PASS
		VN	TN	3.76	0.001498	± 2.5	PASS
		VH	TN	1.34	0.000534	± 2.5	PASS
	MCH	VL	TN	4.76	0.001878	± 2.5	PASS
		VN	TN	1.1	0.000434	± 2.5	PASS
		VH	TN	3.82	0.001507	± 2.5	PASS
	HCH	VL	TN	2.22	0.000867	± 2.5	PASS
		VN	TN	3.64	0.001422	± 2.5	PASS
		VH	TN	-1.27	-0.000496	± 2.5	PASS
16QAM	LCH	VL	TN	3.94	0.001570	± 2.5	PASS
		VN	TN	0.05	0.000020	± 2.5	PASS
		VH	TN	1.45	0.000578	± 2.5	PASS
	MCH	VL	TN	0.58	0.000229	± 2.5	PASS
		VN	TN	4.2	0.001657	± 2.5	PASS
		VH	TN	4.84	0.001909	± 2.5	PASS
	HCH	VL	TN	1.37	0.000535	± 2.5	PASS
		VN	TN	-0.88	-0.000344	± 2.5	PASS
		VH	TN	-0.23	-0.000090	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-0.35	-0.000139	± 2.5	PASS
		VN	-20	3.19	0.001271	± 2.5	PASS
		VN	-10	-1.80	-0.000717	± 2.5	PASS
		VN	0	4.81	0.001916	± 2.5	PASS
		VN	10	-1.55	-0.000618	± 2.5	PASS
		VN	20	-1.18	-0.000470	± 2.5	PASS
		VN	30	4.33	0.001725	± 2.5	PASS
		VN	40	3.60	0.001434	± 2.5	PASS
		VN	50	-1.36	-0.000542	± 2.5	PASS
	MCH	VN	-30	0.78	0.000308	± 2.5	PASS
		VN	-20	-1.10	-0.000434	± 2.5	PASS
		VN	-10	4.66	0.001838	± 2.5	PASS
		VN	0	3.59	0.001416	± 2.5	PASS
		VN	10	2.35	0.000927	± 2.5	PASS
		VN	20	0.72	0.000284	± 2.5	PASS

		VN	30	-1.34	-0.000529	± 2.5	PASS
		VN	40	-0.99	-0.000391	± 2.5	PASS
		VN	50	3.99	0.001574	± 2.5	PASS
	HCH	VN	-30	-0.20	-0.000078	± 2.5	PASS
		VN	-20	1.24	0.000484	± 2.5	PASS
		VN	-10	-1.61	-0.000629	± 2.5	PASS
		VN	0	3.85	0.001504	± 2.5	PASS
		VN	10	3.89	0.001520	± 2.5	PASS
		VN	20	4.74	0.001852	± 2.5	PASS
		VN	30	4.85	0.001895	± 2.5	PASS
		VN	40	2.49	0.000973	± 2.5	PASS
		VN	50	-0.78	-0.000305	± 2.5	PASS
QPSK	LCH	VN	-30	-1.33	-0.000530	± 2.5	PASS
		VN	-20	1.22	0.000486	± 2.5	PASS
		VN	-10	-1.17	-0.000466	± 2.5	PASS
		VN	0	0.18	0.000072	± 2.5	PASS
		VN	10	3.18	0.001267	± 2.5	PASS
		VN	20	3.63	0.001446	± 2.5	PASS
		VN	30	-1.29	-0.000514	± 2.5	PASS
		VN	40	2.44	0.000972	± 2.5	PASS
		VN	50	-1.22	-0.000486	± 2.5	PASS
	MCH	VN	-30	4.64	0.001830	± 2.5	PASS
		VN	-20	2.23	0.000880	± 2.5	PASS
		VN	-10	1.67	0.000659	± 2.5	PASS
		VN	0	-0.06	-0.000024	± 2.5	PASS
		VN	10	1.39	0.000548	± 2.5	PASS
		VN	20	-1.64	-0.000647	± 2.5	PASS
		VN	30	4.23	0.001669	± 2.5	PASS
		VN	40	2.05	0.000809	± 2.5	PASS
		VN	50	0.52	0.000205	± 2.5	PASS
	HCH	VN	-30	4.03	0.001574	± 2.5	PASS
		VN	-20	-1.78	-0.000695	± 2.5	PASS
		VN	-10	-1.34	-0.000523	± 2.5	PASS
		VN	0	3.25	0.001270	± 2.5	PASS
		VN	10	1.18	0.000461	± 2.5	PASS
		VN	20	4.05	0.001582	± 2.5	PASS
VN		30	-1.48	-0.000578	± 2.5	PASS	
VN		40	-1.94	-0.000758	± 2.5	PASS	
VN	50	0.46	0.000180	± 2.5	PASS		