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Band26_1.4MHz_QPSK_26783_1RB#0

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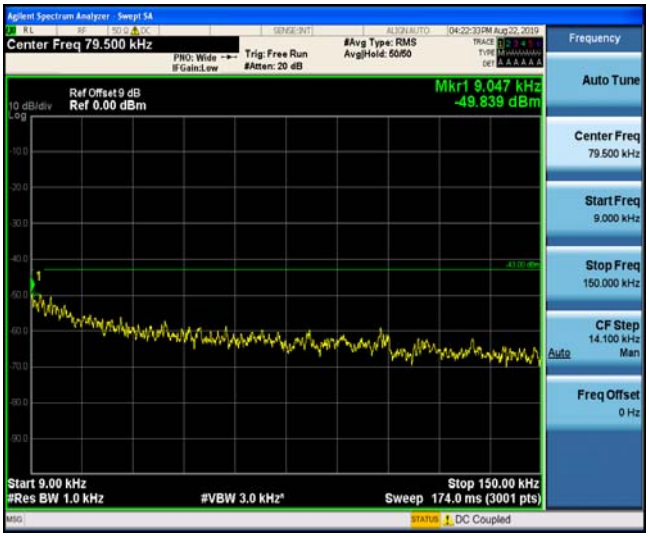

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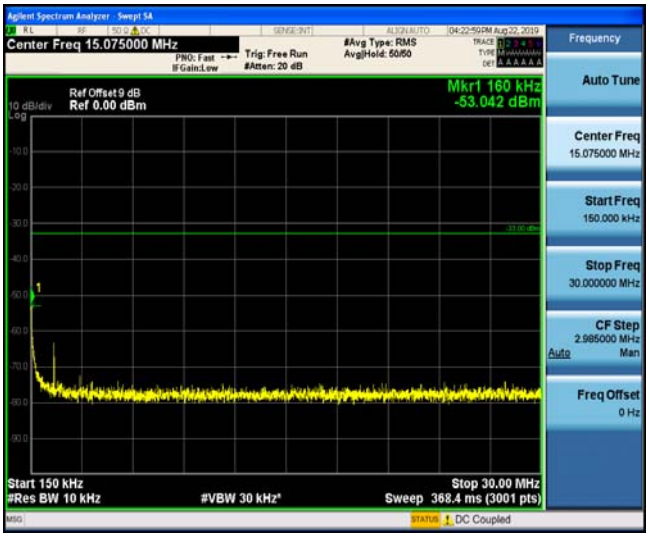

Band26_1.4MHz_16QAM_26697_1RB#0

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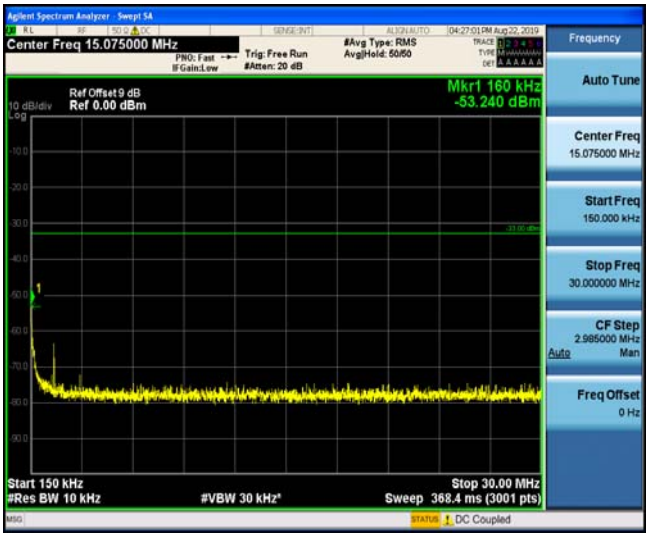

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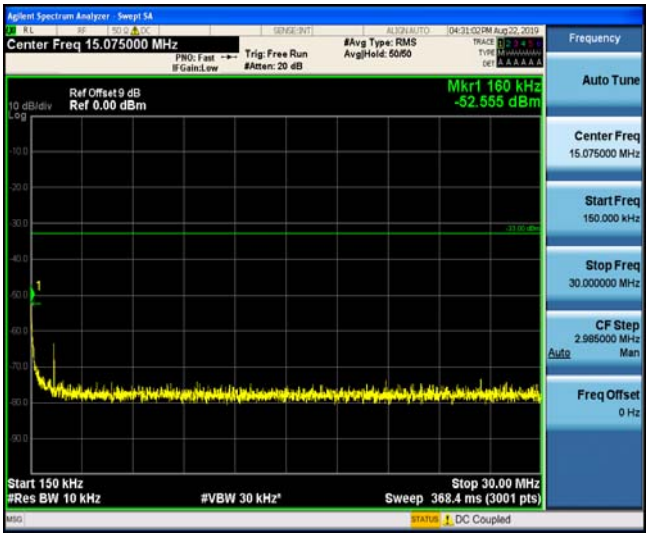
Band26_1.4MHz_16QAM_26783_1RB#0



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Band26_1.4MHz_16QAM_26783_1RB#0

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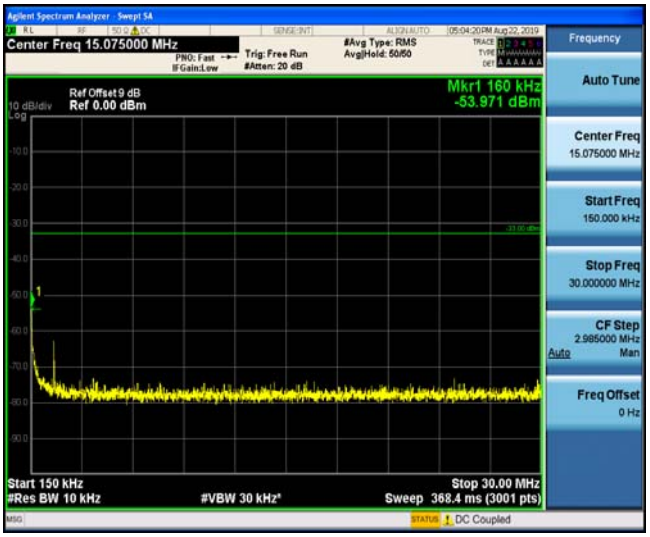
Band26_3MHz_QPSK_26705_1RB#0



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Band26_3MHz_QPSK_26705_1RB#0

Band26_3MHz_QPSK_26705_1RB#0

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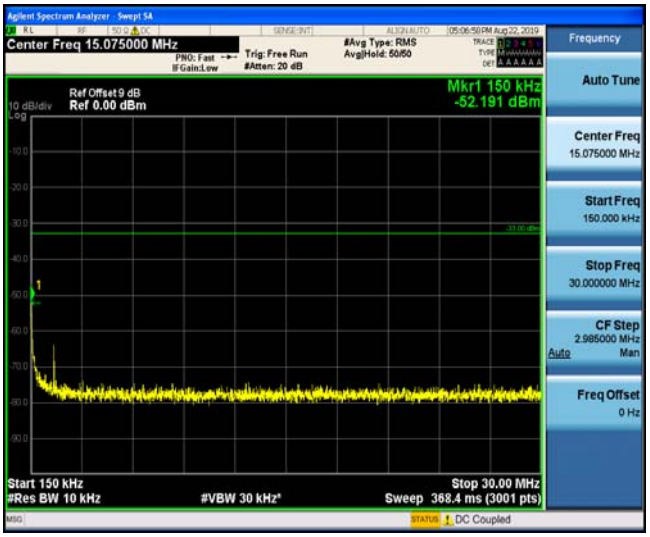
Band26_3MHz_QPSK_26740_1RB#0



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Band26_3MHz_QPSK_26740_1RB#0

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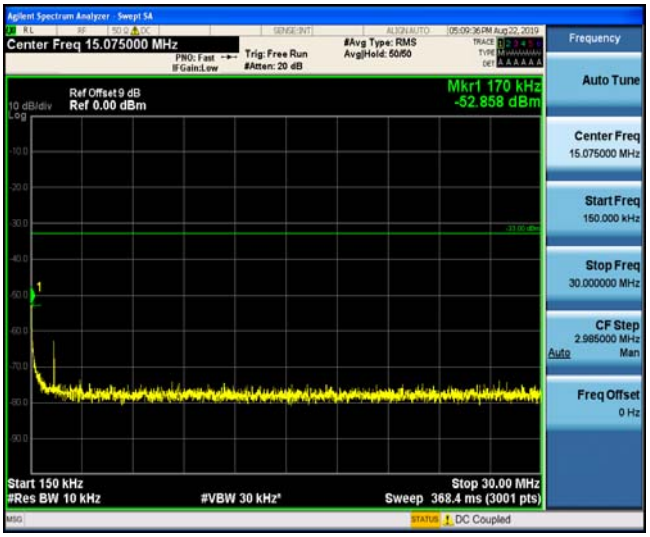
Band26_3MHz_QPSK_26775_1RB#0



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Band26_3MHz_QPSK_26775_1RB#0

Band26_3MHz_QPSK_26775_1RB#0

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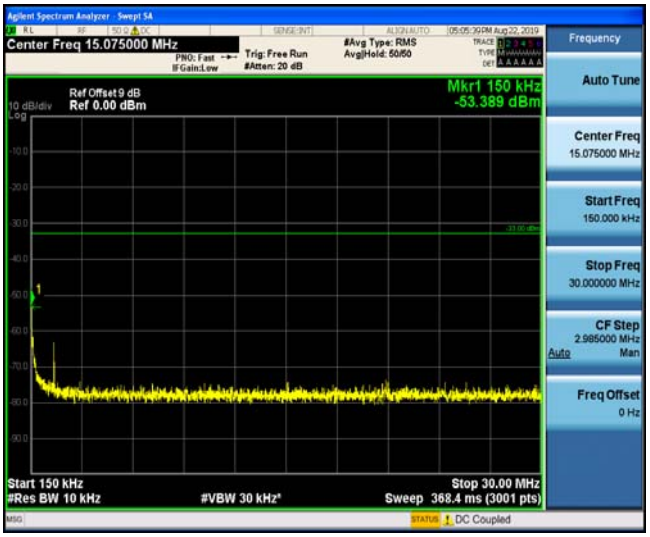
Band26_3MHz_16QAM_26705_1RB#0



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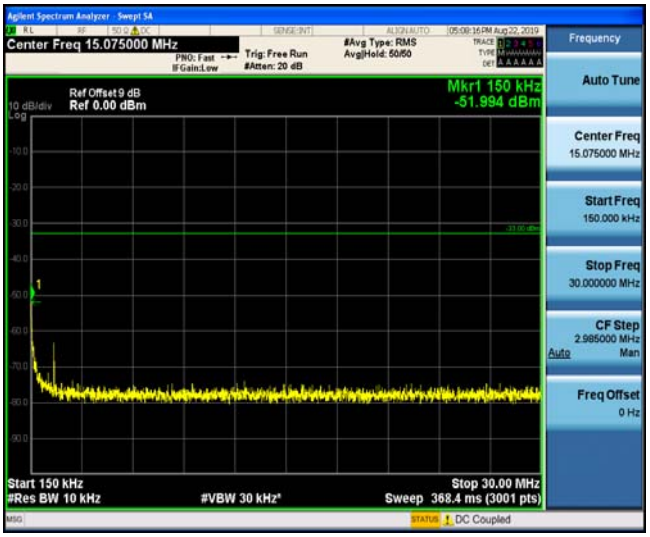
Band26_3MHz_16QAM_26705_1RB#0

Band26_3MHz_16QAM_26705_1RB#0

Band26_3MHz_16QAM_26740_1RB#0

Band26_3MHz_16QAM_26740_1RB#0



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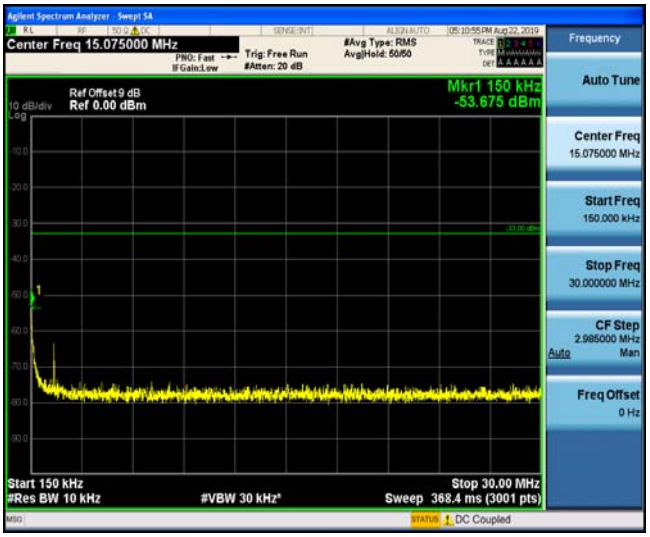
Band26_3MHz_16QAM_26740_1RB#0

Band26_3MHz_16QAM_26740_1RB#0

Band26_3MHz_16QAM_26775_1RB#0

Band26_3MHz_16QAM_26775_1RB#0



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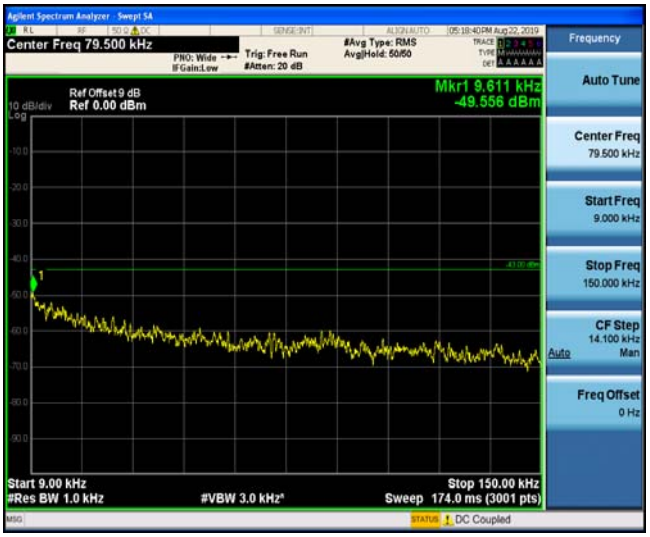
Band26_3MHz_16QAM_26775_1RB#0

Band26_3MHz_16QAM_26775_1RB#0

Band26_3MHz_16QAM_26775_1RB#0

Band26_5MHz_QPSK_26715_1RB#0



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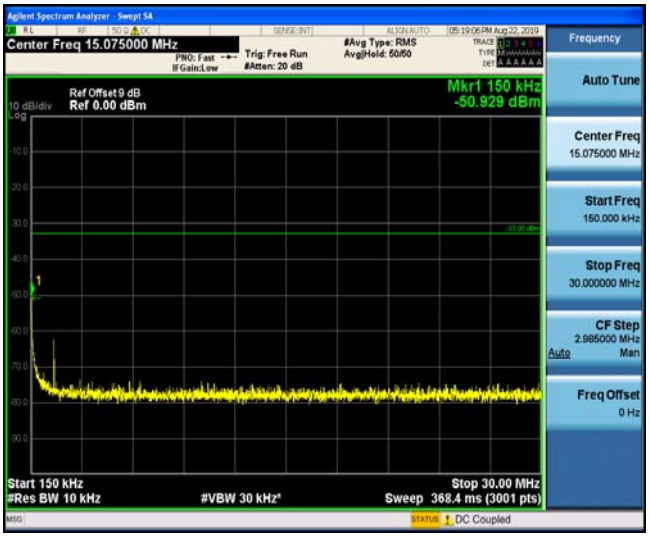

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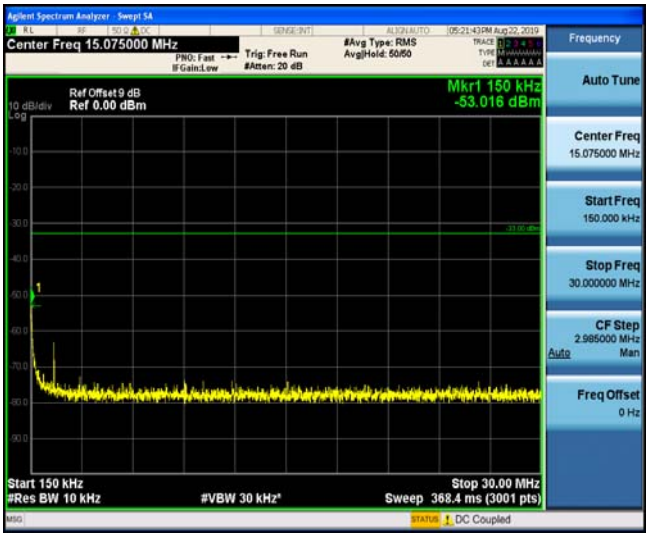

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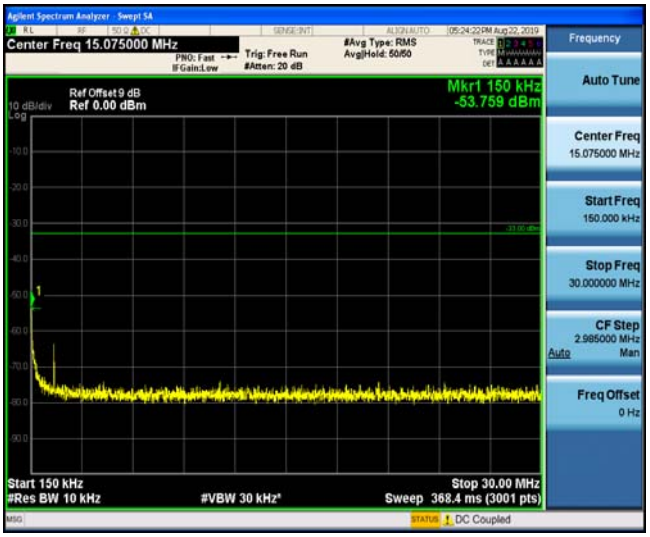
Band26_5MHz_QPSK_26765_1RB#0

Band26_5MHz_QPSK_26765_1RB#0



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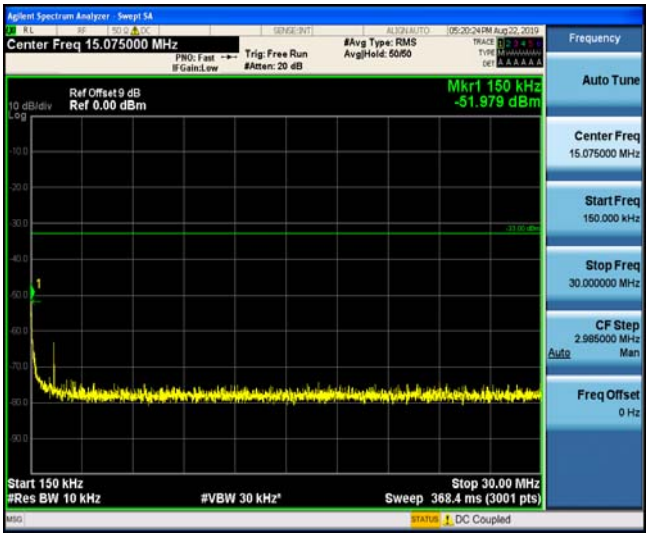

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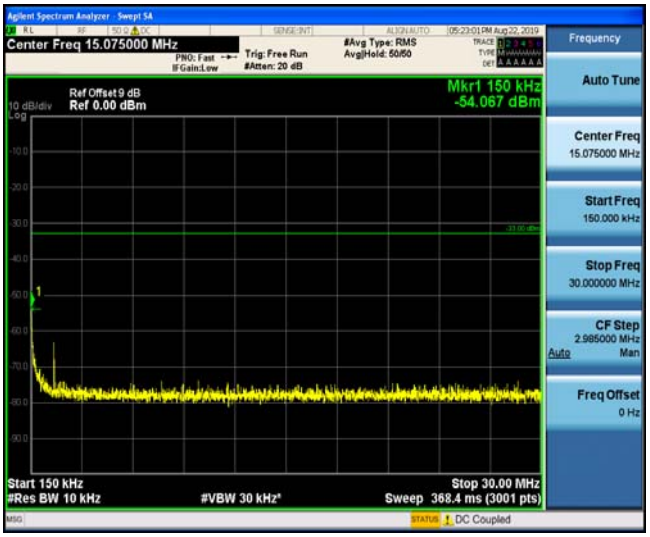

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Band26_5MHz_16QAM_26740_1RB#0

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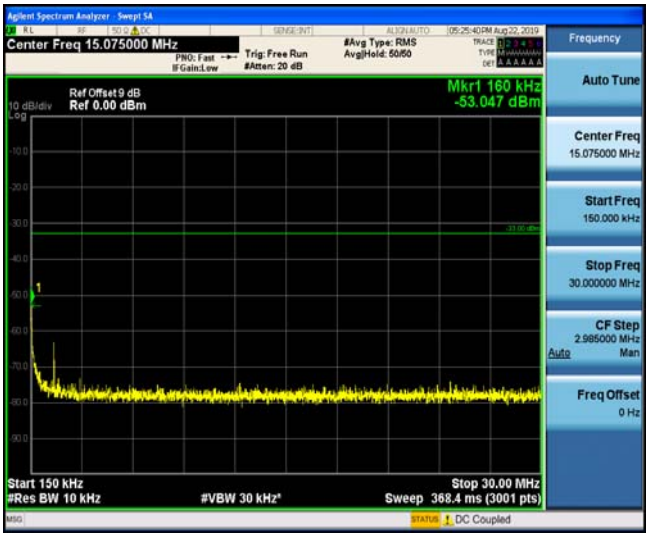

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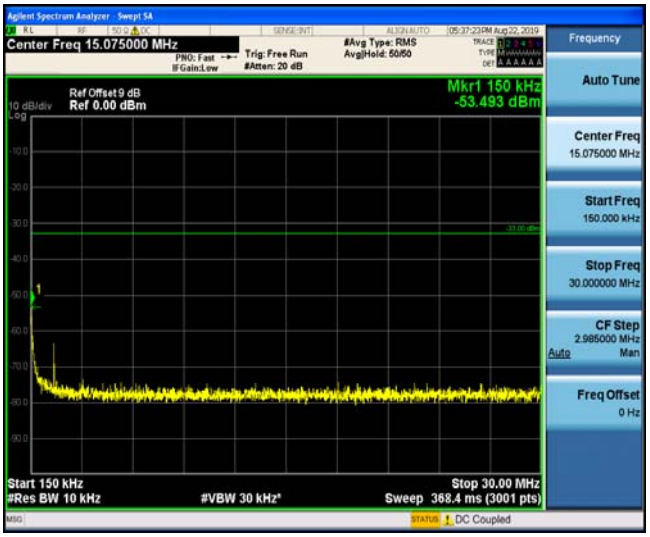
Band26_5MHz_16QAM_26765_1RB#0

Band26_5MHz_16QAM_26765_1RB#0

Band26_10MHz_QPSK_26740_1RB#0

Band26_10MHz_QPSK_26740_1RB#0



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Band26_10MHz_QPSK_26740_1RB#0

Band26_10MHz_QPSK_26740_1RB#0

Band26_10MHz_QPSK_26740_1RB#0

Band26_10MHz_16QAM_26740_1RB#0

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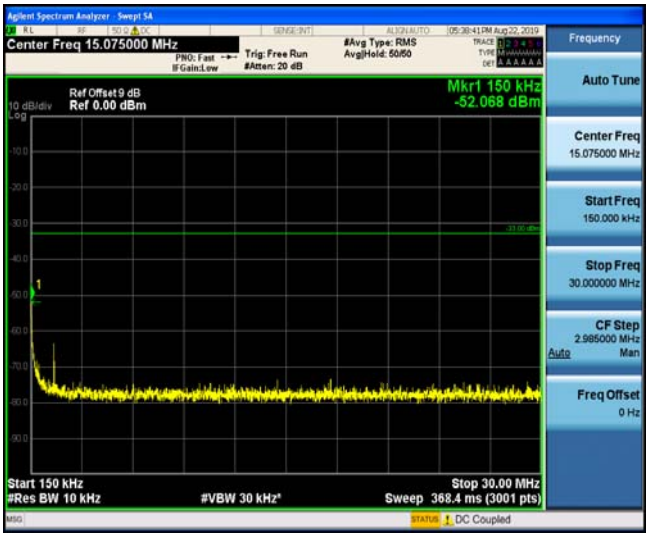

Band26_10MHz_16QAM_26740_1RB#0

Band26_10MHz_16QAM_26740_1RB#0

Band26_10MHz_16QAM_26740_1RB#0

Band26_10MHz_16QAM_26740_1RB#0

Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	-0.83	-0.001019	± 2.5	PASS
		VN	TN	2.17	0.002664	± 2.5	PASS
		VH	TN	0.01	0.000012	± 2.5	PASS
	MCH	VL	TN	-1.61	-0.001966	± 2.5	PASS
		VN	TN	0.62	0.000757	± 2.5	PASS
		VH	TN	-0.09	-0.000110	± 2.5	PASS
	HCH	VL	TN	2.4	0.002915	± 2.5	PASS
		VN	TN	4.03	0.004895	± 2.5	PASS
		VH	TN	2.16	0.002624	± 2.5	PASS
16QAM	LCH	VL	TN	2.8	0.003437	± 2.5	PASS
		VN	TN	1.11	0.001362	± 2.5	PASS
		VH	TN	2.72	0.003339	± 2.5	PASS
	MCH	VL	TN	4.35	0.005311	± 2.5	PASS
		VN	TN	-1.55	-0.001893	± 2.5	PASS
		VH	TN	-0.63	-0.000769	± 2.5	PASS
	HCH	VL	TN	4.41	0.005356	± 2.5	PASS
		VN	TN	-1.71	-0.002077	± 2.5	PASS
		VH	TN	-0.01	-0.000012	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	3.05	0.003744	± 2.5	PASS
		VN	-20	1.5	0.001841	± 2.5	PASS
		VN	-10	0.07	0.000086	± 2.5	PASS
		VN	0	1.11	0.001362	± 2.5	PASS
		VN	10	1.31	0.001608	± 2.5	PASS
		VN	20	3.07	0.003768	± 2.5	PASS
		VN	30	4.5	0.005524	± 2.5	PASS
		VN	40	1.69	0.002074	± 2.5	PASS
		VN	50	1.54	0.001890	± 2.5	PASS
	MCH	VN	-30	-1.04	-0.001270	± 2.5	PASS
		VN	-20	4.4	0.005372	± 2.5	PASS

		VN	-10	-1.26	-0.001538	± 2.5	PASS
		VN	0	2.75	0.003358	± 2.5	PASS
		VN	10	-1.65	-0.002015	± 2.5	PASS
		VN	20	1.34	0.001636	± 2.5	PASS
		VN	30	3.85	0.004701	± 2.5	PASS
		VN	40	-0.82	-0.001001	± 2.5	PASS
		VN	50	2.5	0.003053	± 2.5	PASS
	HCH	VN	-30	0.65	0.000790	± 2.5	PASS
		VN	-20	1.04	0.001263	± 2.5	PASS
		VN	-10	3.46	0.004203	± 2.5	PASS
		VN	0	4.21	0.005114	± 2.5	PASS
		VN	10	1.46	0.001773	± 2.5	PASS
		VN	20	2.65	0.003219	± 2.5	PASS
		VN	30	3.31	0.004020	± 2.5	PASS
		VN	40	0.61	0.000741	± 2.5	PASS
		VN	50	-0.29	-0.000352	± 2.5	PASS
16QAM	LCH	VN	-30	2.66	0.003265	± 2.5	PASS
		VN	-20	2.5	0.003069	± 2.5	PASS
		VN	-10	1.31	0.001608	± 2.5	PASS
		VN	0	-0.37	-0.000454	± 2.5	PASS
		VN	10	-0.28	-0.000344	± 2.5	PASS
		VN	20	-0.95	-0.001166	± 2.5	PASS
		VN	30	-0.22	-0.000270	± 2.5	PASS
		VN	40	4.1	0.005033	± 2.5	PASS
		VN	50	1.83	0.002246	± 2.5	PASS
	MCH	VN	-30	4.36	0.005324	± 2.5	PASS
		VN	-20	0.25	0.000305	± 2.5	PASS
		VN	-10	2.8	0.003419	± 2.5	PASS
		VN	0	0.71	0.000867	± 2.5	PASS
		VN	10	-0.24	-0.000293	± 2.5	PASS
		VN	20	-1.67	-0.002039	± 2.5	PASS
		VN	30	1.53	0.001868	± 2.5	PASS
		VN	40	-0.62	-0.000757	± 2.5	PASS
		VN	50	3.71	0.004530	± 2.5	PASS
	HCH	VN	-30	-0.56	-0.000680	± 2.5	PASS
		VN	-20	1.31	0.001591	± 2.5	PASS
		VN	-10	1.07	0.001300	± 2.5	PASS
		VN	0	-0.31	-0.000377	± 2.5	PASS
		VN	10	2.08	0.002526	± 2.5	PASS
		VN	20	0.91	0.001105	± 2.5	PASS
		VN	30	-1.26	-0.001530	± 2.5	PASS

		VN	40	1.93	0.002344	± 2.5	PASS
		VN	50	3.97	0.004822	± 2.5	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz+							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	2.45	0.003004	± 2.5	PASS
		VN	TN	-0.61	-0.000748	± 2.5	PASS
		VH	TN	-1.77	-0.002170	± 2.5	PASS
	MCH	VL	TN	0.86	0.001050	± 2.5	PASS
		VN	TN	4.07	0.004969	± 2.5	PASS
		VH	TN	-0.94	-0.001148	± 2.5	PASS
	HCH	VL	TN	3.35	0.004073	± 2.5	PASS
		VN	TN	0.68	0.000827	± 2.5	PASS
		VH	TN	0.33	0.000401	± 2.5	PASS
16QAM	LCH	VL	TN	2.94	0.003605	± 2.5	PASS
		VN	TN	-1.18	-0.001447	± 2.5	PASS
		VH	TN	3.22	0.003948	± 2.5	PASS
	MCH	VL	TN	-1.69	-0.002063	± 2.5	PASS
		VN	TN	3.1	0.003785	± 2.5	PASS
		VH	TN	0.35	0.000427	± 2.5	PASS
	HCH	VL	TN	-0.38	-0.000462	± 2.5	PASS
		VN	TN	1.74	0.002116	± 2.5	PASS
		VH	TN	4.74	0.005763	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	3.51	0.004304	± 2.5	PASS
		VN	-20	0.14	0.000172	± 2.5	PASS
		VN	-10	1.83	0.002244	± 2.5	PASS
		VN	0	1.79	0.002195	± 2.5	PASS
		VN	10	0.84	0.001030	± 2.5	PASS
		VN	20	2.46	0.003017	± 2.5	PASS
		VN	30	-0.22	-0.000270	± 2.5	PASS
		VN	40	-0.75	-0.000920	± 2.5	PASS
		VN	50	3.04	0.003728	± 2.5	PASS
	MCH	VN	-30	-1.48	-0.001807	± 2.5	PASS
		VN	-20	2.52	0.003077	± 2.5	PASS
		VN	-10	-0.33	-0.000403	± 2.5	PASS

		VN	0	4.1	0.005006	± 2.5	PASS
		VN	10	3.19	0.003895	± 2.5	PASS
		VN	20	-0.77	-0.000940	± 2.5	PASS
		VN	30	-1.57	-0.001917	± 2.5	PASS
		VN	40	3.65	0.004457	± 2.5	PASS
		VN	50	4.07	0.004969	± 2.5	PASS
	HCH	VN	-30	-0.45	-0.000547	± 2.5	PASS
		VN	-20	-0.1	-0.000122	± 2.5	PASS
		VN	-10	1.06	0.001289	± 2.5	PASS
		VN	0	0.12	0.000146	± 2.5	PASS
		VN	10	-0.67	-0.000815	± 2.5	PASS
		VN	20	3.89	0.004729	± 2.5	PASS
		VN	30	2.96	0.003599	± 2.5	PASS
		VN	40	-0.77	-0.000936	± 2.5	PASS
		VN	50	0.95	0.001155	± 2.5	PASS
QPSK	LCH	VN	-30	1.54	0.001888	± 2.5	PASS
		VN	-20	1.44	0.001766	± 2.5	PASS
		VN	-10	-1.61	-0.001974	± 2.5	PASS
		VN	0	-1.8	-0.002207	± 2.5	PASS
		VN	10	3.2	0.003924	± 2.5	PASS
		VN	20	3.03	0.003716	± 2.5	PASS
		VN	30	3.67	0.004500	± 2.5	PASS
		VN	40	-0.15	-0.000184	± 2.5	PASS
		VN	50	0.77	0.000944	± 2.5	PASS
	MCH	VN	-30	-1.75	-0.002137	± 2.5	PASS
		VN	-20	0.35	0.000427	± 2.5	PASS
		VN	-10	-1.49	-0.001819	± 2.5	PASS
		VN	0	-1.29	-0.001575	± 2.5	PASS
		VN	10	1.22	0.001490	± 2.5	PASS
		VN	20	0.2	0.000244	± 2.5	PASS
		VN	30	2.23	0.002723	± 2.5	PASS
		VN	40	4.64	0.005665	± 2.5	PASS
		VN	50	0.85	0.001038	± 2.5	PASS
	HCH	VN	-30	0.99	0.001204	± 2.5	PASS
		VN	-20	0.41	0.000498	± 2.5	PASS
		VN	-10	-1.42	-0.001726	± 2.5	PASS
		VN	0	2.86	0.003477	± 2.5	PASS
		VN	10	3.17	0.003854	± 2.5	PASS
		VN	20	4.06	0.004936	± 2.5	PASS
		VN	30	-1.35	-0.001641	± 2.5	PASS
		VN	40	2.58	0.003137	± 2.5	PASS

		VN	50	-0.07	-0.000085	± 2.5	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VL	TN	4.78	0.005854	± 2.5	PASS
		VN	TN	2.61	0.003197	± 2.5	PASS
		VH	TN	-1.19	-0.001457	± 2.5	PASS
	MCH	VL	TN	3.37	0.004115	± 2.5	PASS
		VN	TN	-1.44	-0.001758	± 2.5	PASS
		VH	TN	3.17	0.003871	± 2.5	PASS
	HCH	VL	TN	0.06	0.000073	± 2.5	PASS
		VN	TN	-0.27	-0.000329	± 2.5	PASS
		VH	TN	-0.31	-0.000377	± 2.5	PASS
16QAM	LCH	VL	TN	2	0.002449	± 2.5	PASS
		VN	TN	1.25	0.001531	± 2.5	PASS
		VH	TN	0.95	0.001164	± 2.5	PASS
	MCH	VL	TN	0.54	0.000659	± 2.5	PASS
		VN	TN	0.3	0.000366	± 2.5	PASS
		VH	TN	-0.73	-0.000891	± 2.5	PASS
	HCH	VL	TN	-0.31	-0.000377	± 2.5	PASS
		VN	TN	0.35	0.000426	± 2.5	PASS
		VH	TN	0.2	0.000243	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-1.24	-0.001519	± 2.5	PASS
		VN	-20	3.08	0.003772	± 2.5	PASS
		VN	-10	3.78	0.004630	± 2.5	PASS
		VN	0	-0.95	-0.001164	± 2.5	PASS
		VN	10	2.8	0.003429	± 2.5	PASS
		VN	20	0.51	0.000625	± 2.5	PASS
		VN	30	0	0.000000	± 2.5	PASS
		VN	40	2.7	0.003307	± 2.5	PASS
		VN	50	3.95	0.004838	± 2.5	PASS
	MCH	VN	-30	4.56	0.005568	± 2.5	PASS
		VN	-20	3.23	0.003944	± 2.5	PASS
		VN	-10	0.71	0.000867	± 2.5	PASS
		VN	0	0.53	0.000647	± 2.5	PASS

		VN	10	-1.78	-0.002173	± 2.5	PASS
		VN	20	-0.19	-0.000232	± 2.5	PASS
		VN	30	-0.81	-0.000989	± 2.5	PASS
		VN	40	-1.51	-0.001844	± 2.5	PASS
		VN	50	2.34	0.002857	± 2.5	PASS
	HCH	VN	-30	3.95	0.004808	± 2.5	PASS
		VN	-20	-0.68	-0.000828	± 2.5	PASS
		VN	-10	1.74	0.002118	± 2.5	PASS
		VN	0	1.72	0.002094	± 2.5	PASS
		VN	10	-0.93	-0.001132	± 2.5	PASS
		VN	20	2.86	0.003481	± 2.5	PASS
		VN	30	4.83	0.005879	± 2.5	PASS
		VN	40	0.44	0.000536	± 2.5	PASS
		VN	50	1.89	0.002301	± 2.5	PASS
16QAM	LCH	VN	-30	2.29	0.002805	± 2.5	PASS
		VN	-20	0.37	0.000453	± 2.5	PASS
		VN	-10	3.37	0.004127	± 2.5	PASS
		VN	0	-1.72	-0.002107	± 2.5	PASS
		VN	10	1.28	0.001568	± 2.5	PASS
		VN	20	0.59	0.000723	± 2.5	PASS
		VN	30	-1.63	-0.001996	± 2.5	PASS
		VN	40	3.06	0.003748	± 2.5	PASS
		VN	50	3.45	0.004225	± 2.5	PASS
	MCH	VN	-30	2.27	0.002772	± 2.5	PASS
		VN	-20	3.57	0.004359	± 2.5	PASS
		VN	-10	2.72	0.003321	± 2.5	PASS
		VN	0	0.9	0.001099	± 2.5	PASS
		VN	10	0.06	0.000073	± 2.5	PASS
		VN	20	2.61	0.003187	± 2.5	PASS
		VN	30	4.31	0.005263	± 2.5	PASS
		VN	40	-1.8	-0.002198	± 2.5	PASS
		VN	50	-1.42	-0.001734	± 2.5	PASS
	HCH	VN	-30	2.61	0.003177	± 2.5	PASS
		VN	-20	0.87	0.001059	± 2.5	PASS
		VN	-10	-1.6	-0.001948	± 2.5	PASS
		VN	0	-0.09	-0.000110	± 2.5	PASS
		VN	10	-1.5	-0.001826	± 2.5	PASS
		VN	20	3.47	0.004224	± 2.5	PASS
		VN	30	-1.8	-0.002191	± 2.5	PASS
		VN	40	-0.52	-0.000633	± 2.5	PASS
		VN	50	4	0.004869	± 2.5	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	MCH	VL	TN	-0.52	-0.000635	± 2.5	PASS
		VN	TN	1.31	0.001600	± 2.5	PASS
		VH	TN	0.47	0.000574	± 2.5	PASS
16QAM	MCH	VL	TN	2.81	0.003431	± 2.5	PASS
		VN	TN	4.99	0.006093	± 2.5	PASS
		VH	TN	2.35	0.002869	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
16QAM	MCH	VN	-30	4.43	0.005409	± 2.5	PASS
		VN	-20	2	0.002442	± 2.5	PASS
		VN	-10	1.95	0.002381	± 2.5	PASS
		VN	0	3.6	0.004396	± 2.5	PASS
		VN	10	-0.75	-0.000916	± 2.5	PASS
		VN	20	2.37	0.002894	± 2.5	PASS
		VN	30	1.06	0.001294	± 2.5	PASS
		VN	40	-1.07	-0.001306	± 2.5	PASS
		VN	50	3.46	0.004225	± 2.5	PASS
QPSK	LCH	VN	-30	-0.96	-0.001172	± 2.5	PASS
		VN	-20	0.68	0.000830	± 2.5	PASS
		VN	-10	3.2	0.003907	± 2.5	PASS
		VN	0	4.79	0.005849	± 2.5	PASS
		VN	10	3.38	0.004127	± 2.5	PASS
		VN	20	4.54	0.005543	± 2.5	PASS
		VN	30	1.54	0.001880	± 2.5	PASS
		VN	40	2.19	0.002674	± 2.5	PASS
		VN	50	0.79	0.000965	± 2.5	PASS