Appendix A: Test Data for E-UTRA Band X

Product Name: IOT Gateway

Trade Mark: N/A

Test Model: IOT-1110

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Ken He
Supervised by:	Li Huan

A.1 Conducted Output Power

Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict
		Size	Offset			
QPSK / 16QAM	LCH	1	0	24.26	23.71	PASS
		1	3	24.09	23.31	PASS
		1	5	23.92	23.13	PASS
		3	0	23.65	22.88	PASS
		3	2	23.57	22.80	PASS
		3	3	23.69	22.74	PASS
		6	0	23.25	22.12	PASS
	MCH	1	0	24.28	23.61	PASS
		1	3	24.12	23.53	PASS
		1	5	24.36	23.55	PASS
		3	0	24.21	23.25	PASS
		3	2	24.18	23.31	PASS
		3	3	24.21	23.17	PASS
		6	0	23.22	22.24	PASS
	HCH	1	0	24.43	23.67	PASS
		1	3	24.53	23.91	PASS
		1	5	24.61	23.65	PASS
		3	0	24.42	23.69	PASS
		3	2	24.47	23.67	PASS
		3	3	24.47	23.60	PASS
		6	0	23.52	22.50	PASS

Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	24.21	23.73	PASS
		1	7	24.22	23.56	PASS
		1	14	24.23	23.65	PASS
		8	0	23.25	22.19	PASS
		8	4	23.30	22.18	PASS
		8	7	23.24	21.94	PASS
		15	0	23.22	22.17	PASS
	MCH	1	0	24.11	23.34	PASS
		1	7	24.46	23.48	PASS
		1	14	24.26	23.24	PASS
		8	0	23.26	22.19	PASS
		8	4	23.27	22.23	PASS
		8	7	23.31	22.22	PASS
		15	0	23.16	22.09	PASS
	HCH	1	0	24.42	23.78	PASS
		1	7	24.49	23.61	PASS
		1	14	24.39	23.50	PASS
		8	0	23.53	22.45	PASS
		8	4	23.61	22.37	PASS
		8	7	23.66	22.63	PASS
		15	0	23.61	22.50	PASS

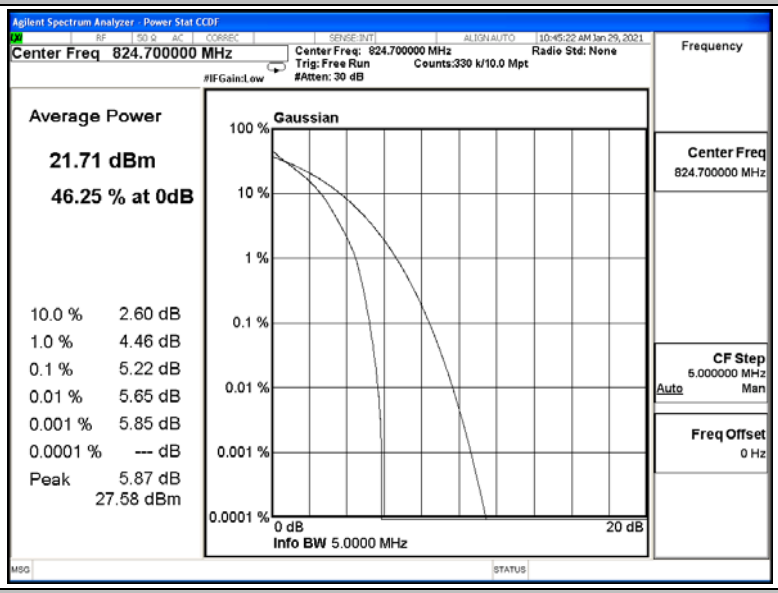
Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	23.98	22.96	PASS
		1	12	24.23	23.06	PASS
		1	24	24.46	23.00	PASS
		12	0	23.19	22.14	PASS
		12	6	23.37	22.33	PASS
		12	13	23.21	22.33	PASS
		25	0	23.34	22.41	PASS
	MCH	1	0	24.10	22.88	PASS
		1	12	24.63	23.27	PASS
		1	24	24.43	23.08	PASS
		12	0	23.18	22.28	PASS
		12	6	23.25	22.16	PASS
		12	13	23.15	22.17	PASS
		25	0	23.18	22.26	PASS
	HCH	1	0	24.27	23.09	PASS
		1	12	24.55	23.35	PASS
		1	24	23.98	22.99	PASS
		12	0	23.31	22.27	PASS
		12	6	23.55	22.39	PASS
		12	13	23.55	22.56	PASS
		25	0	23.52	22.70	PASS

Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	23.51	23.95	PASS
		1	24	24.72	24.13	PASS
		1	49	23.85	23.31	PASS
		25	0	23.43	22.36	PASS
		25	12	23.42	22.31	PASS
		25	25	23.32	22.18	PASS
		50	0	23.39	22.36	PASS
	MCH	1	0	23.78	23.19	PASS
		1	24	24.10	23.42	PASS
		1	49	23.56	23.16	PASS
		25	0	22.92	21.85	PASS
		25	12	22.92	21.81	PASS
		25	25	22.87	21.76	PASS
		50	0	22.82	21.81	PASS
	HCH	1	0	23.79	23.31	PASS
		1	24	24.04	24.01	PASS
		1	49	24.01	23.36	PASS
		25	0	23.06	21.92	PASS
		25	12	23.11	22.00	PASS
		25	25	23.46	22.35	PASS
		50	0	23.20	22.18	PASS

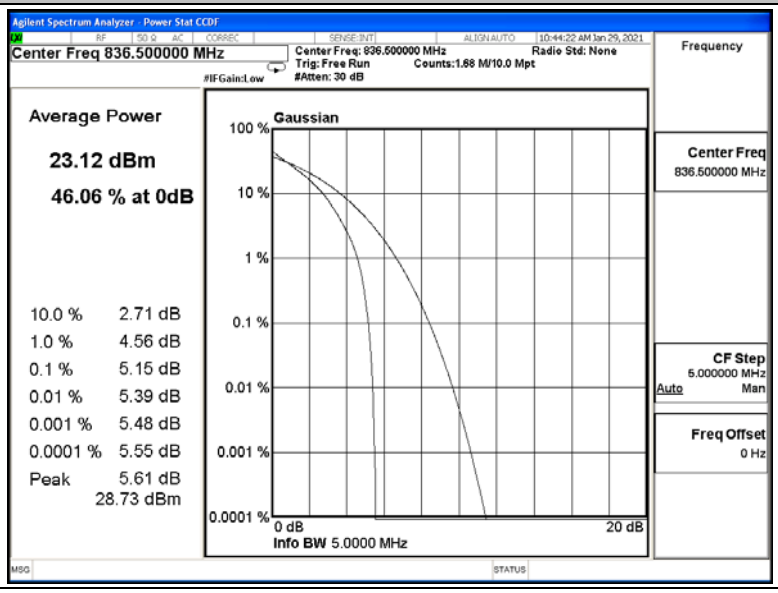
A.2 Peak-to-Average Ratio

Peak-to Average Ratio Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.22	<13	PASS
	MCH	5.15	<13	PASS
	HCH	5.32	<13	PASS
16QAM	LCH	5.97	<13	PASS
	MCH	5.15	<13	PASS
	HCH	5.15	<13	PASS
Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.94	<13	PASS
	MCH	5.15	<13	PASS
	HCH	5.97	<13	PASS
16QAM	LCH	5.19	<13	PASS
	MCH	5.15	<13	PASS
	HCH	5.15	<13	PASS
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.95	<13	PASS
	MCH	5.14	<13	PASS
	HCH	5.17	<13	PASS
16QAM	LCH	5.15	<13	PASS
	MCH	5.94	<13	PASS
	HCH	6.00	<13	PASS
Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.13	<13	PASS
	MCH	5.93	<13	PASS
	HCH	5.93	<13	PASS
16QAM	LCH	5.21	<13	PASS
	MCH	5.18	<13	PASS
	HCH	5.12	<13	PASS

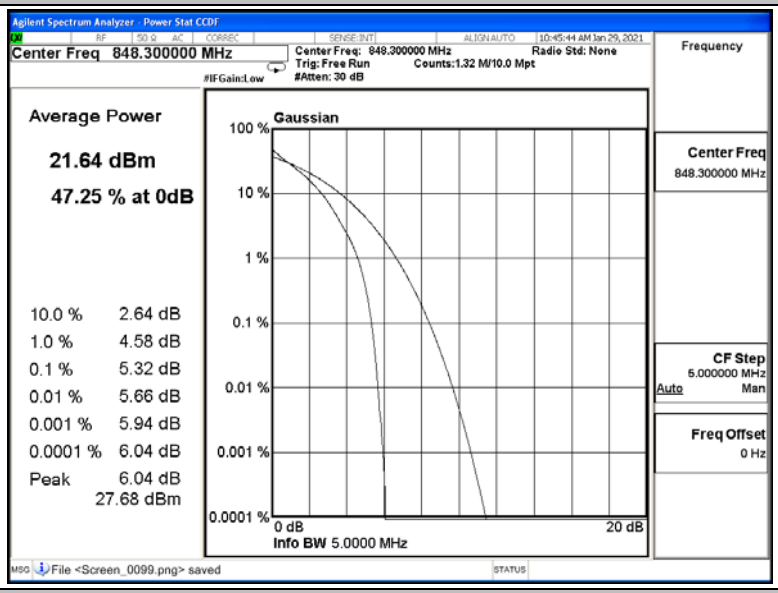
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



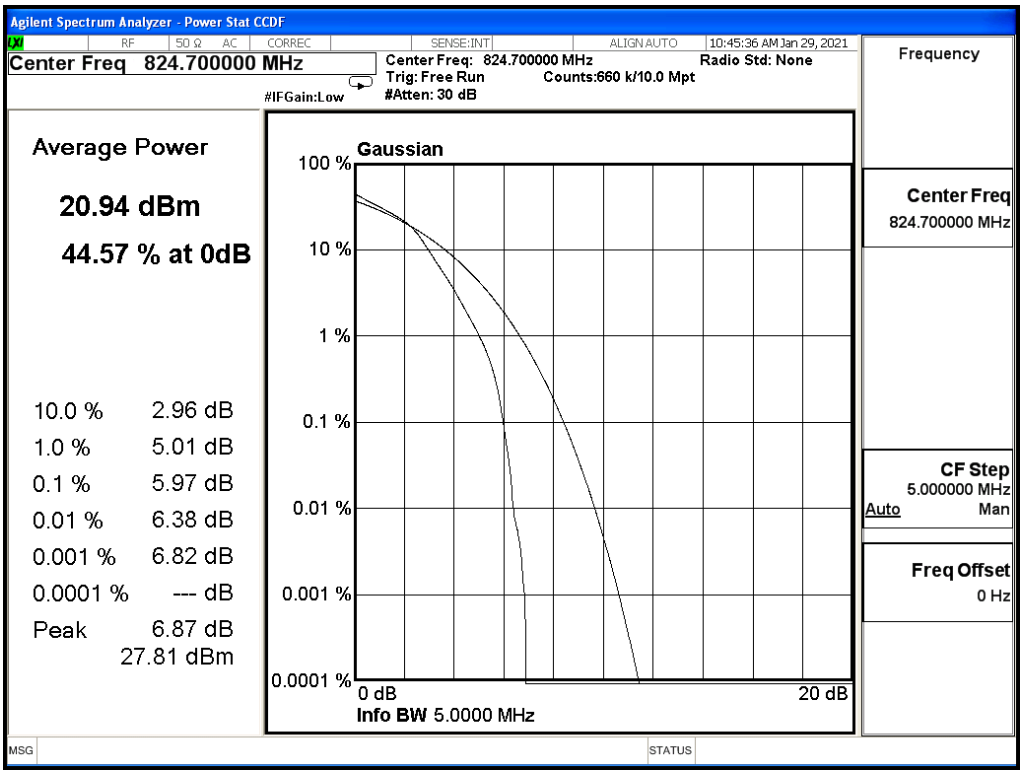
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



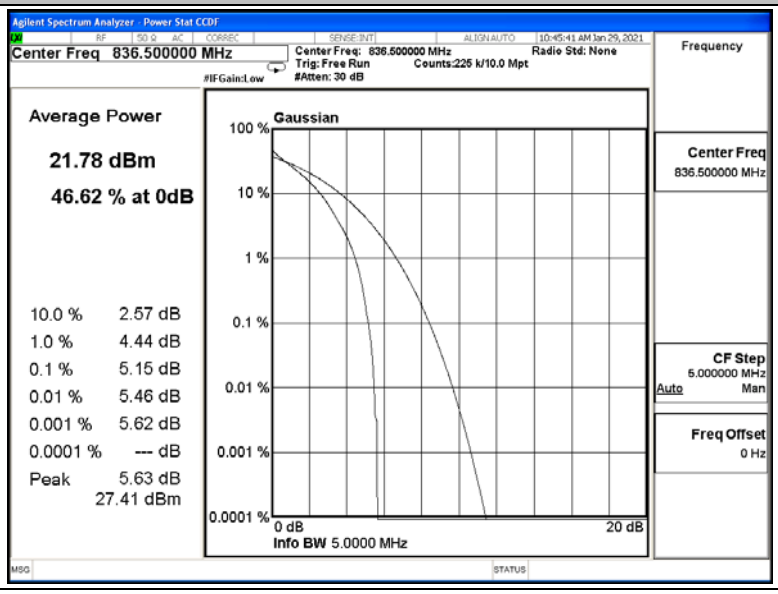
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



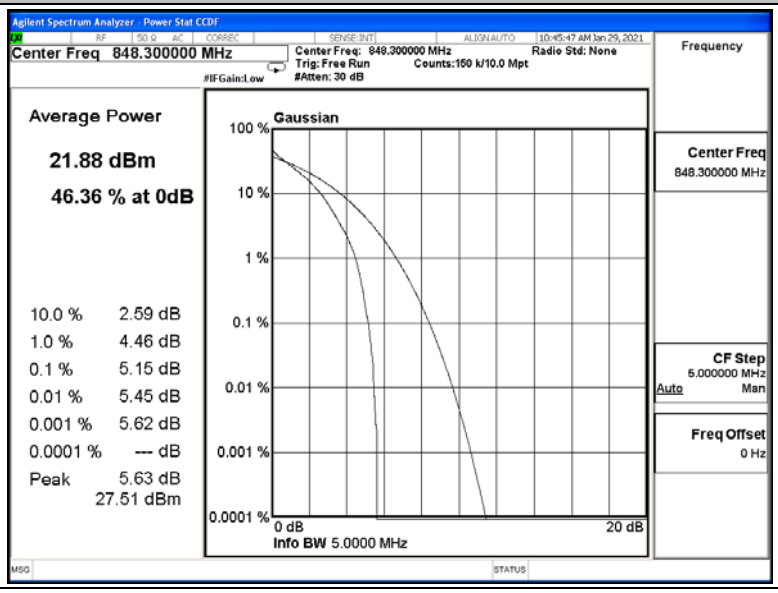
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



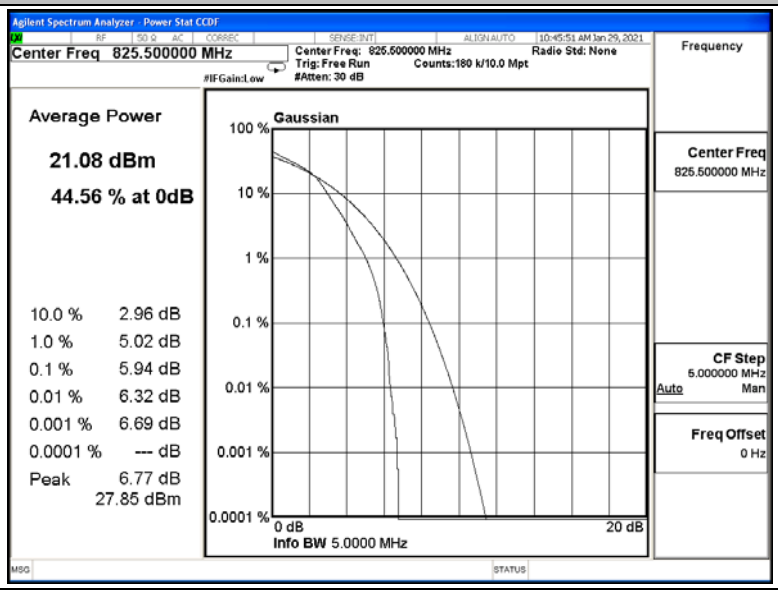
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



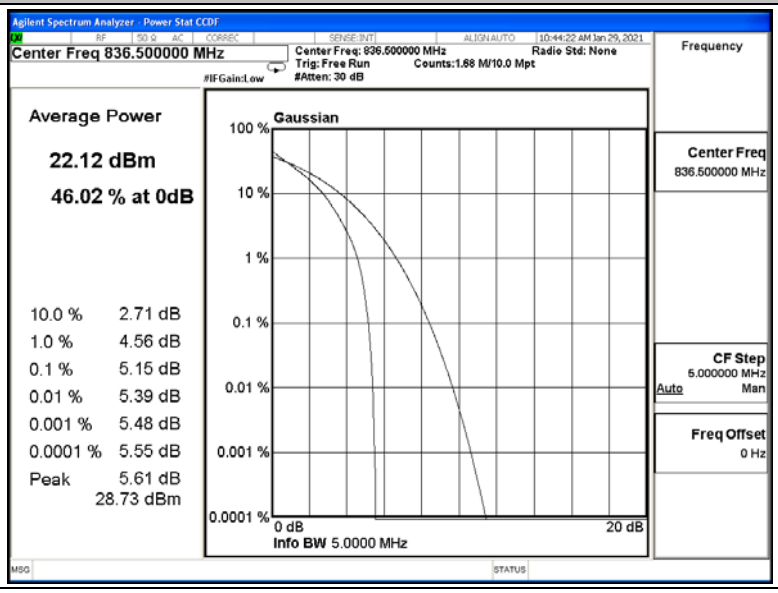
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



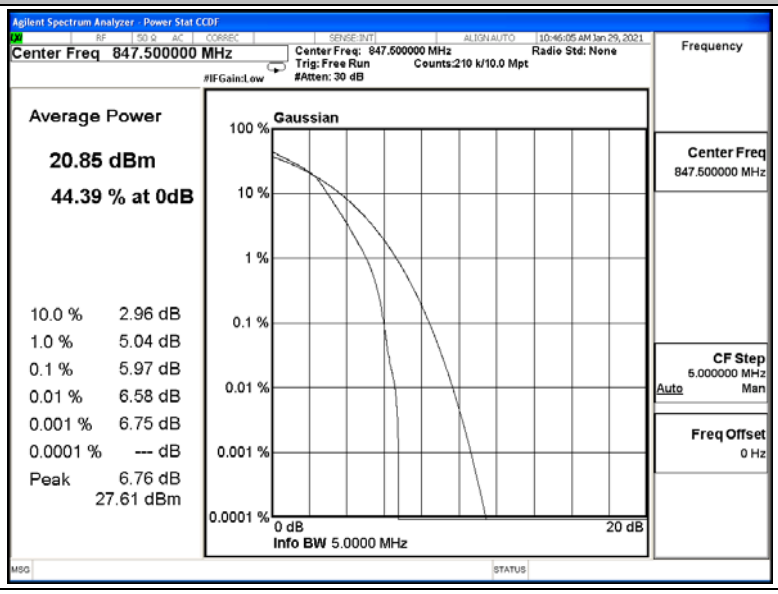
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



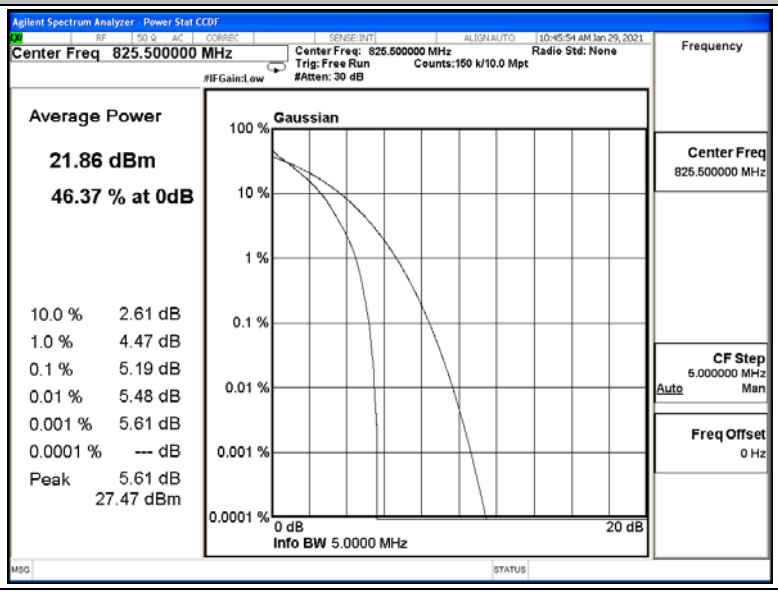
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



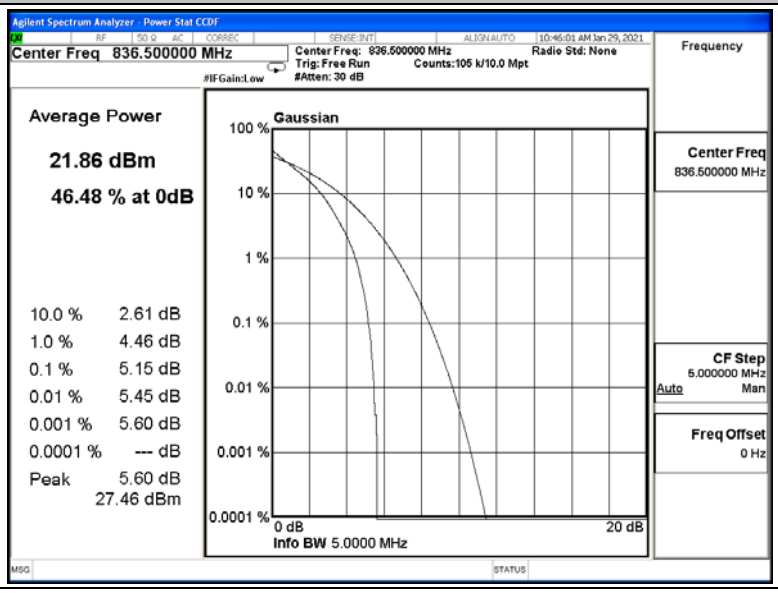
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



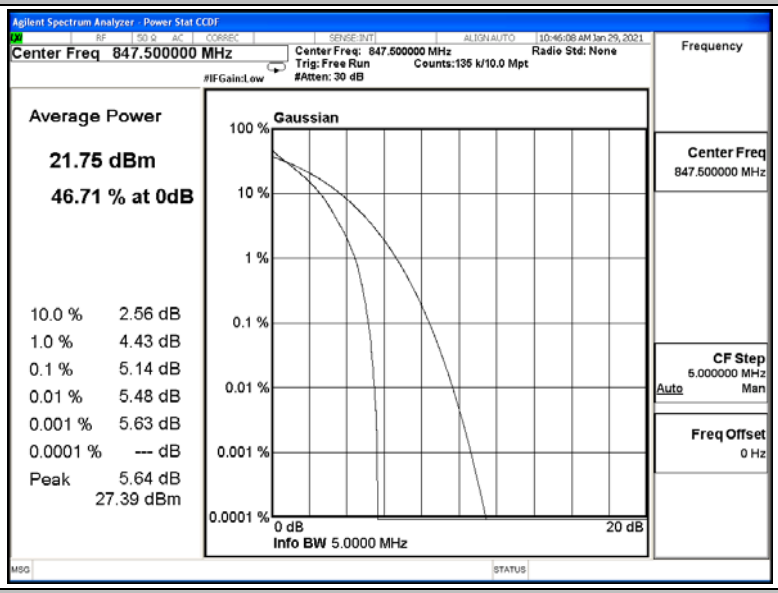
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



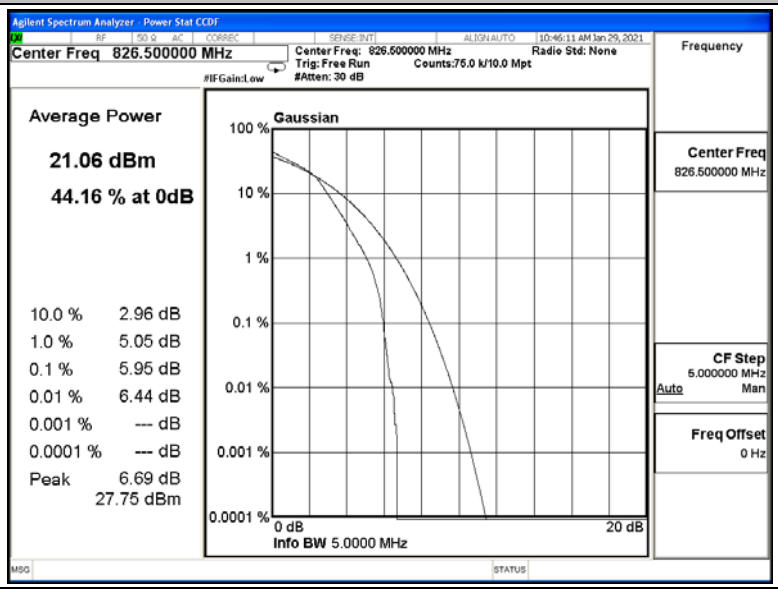
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



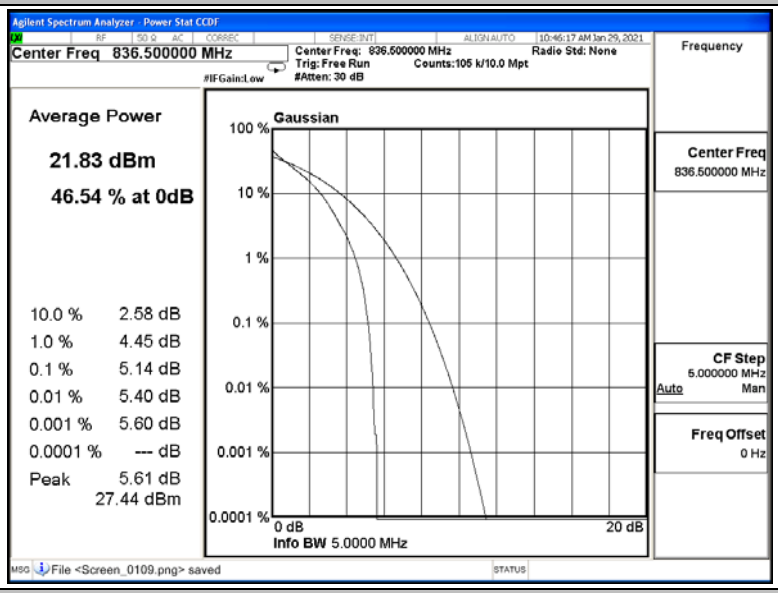
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



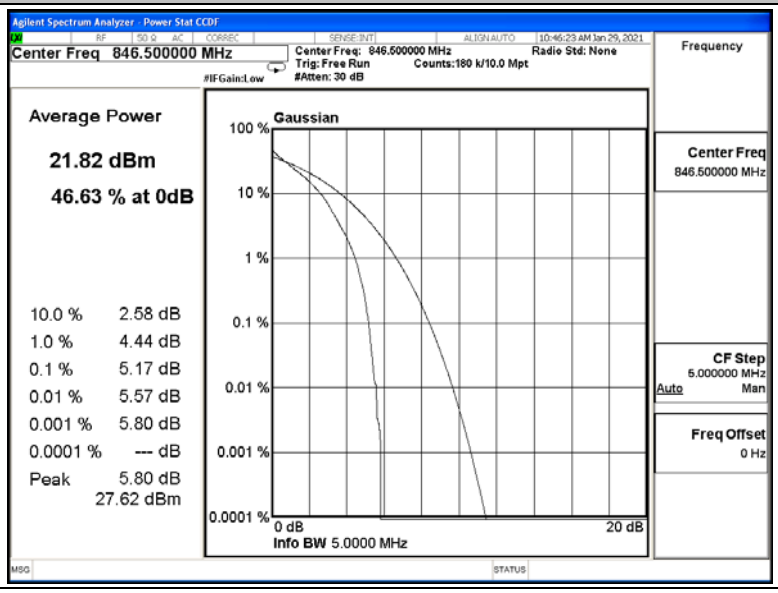
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



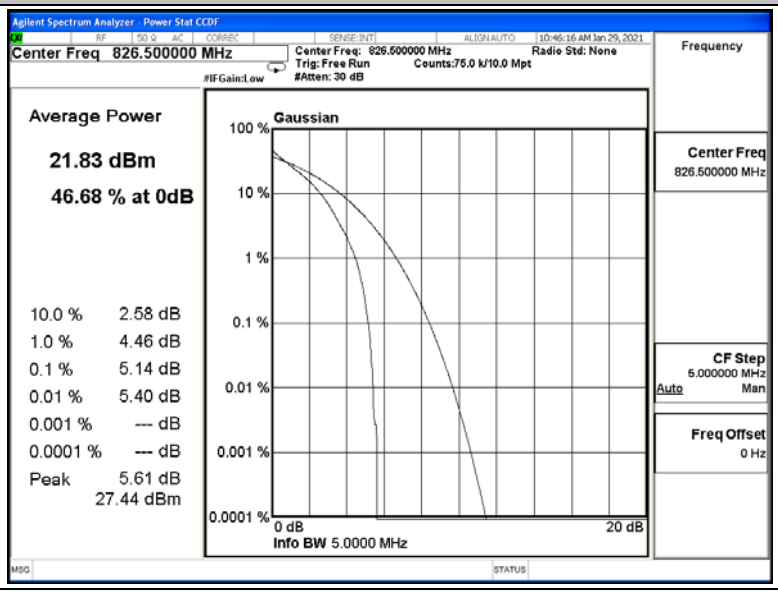
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



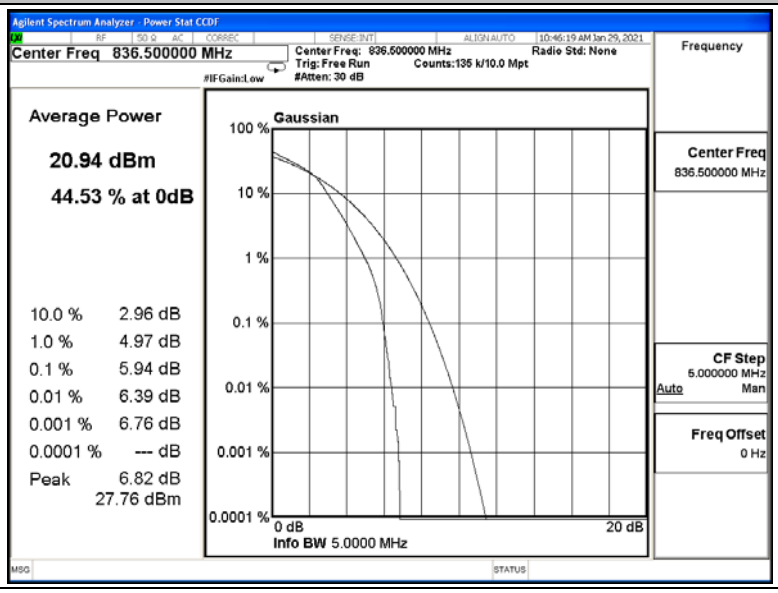
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



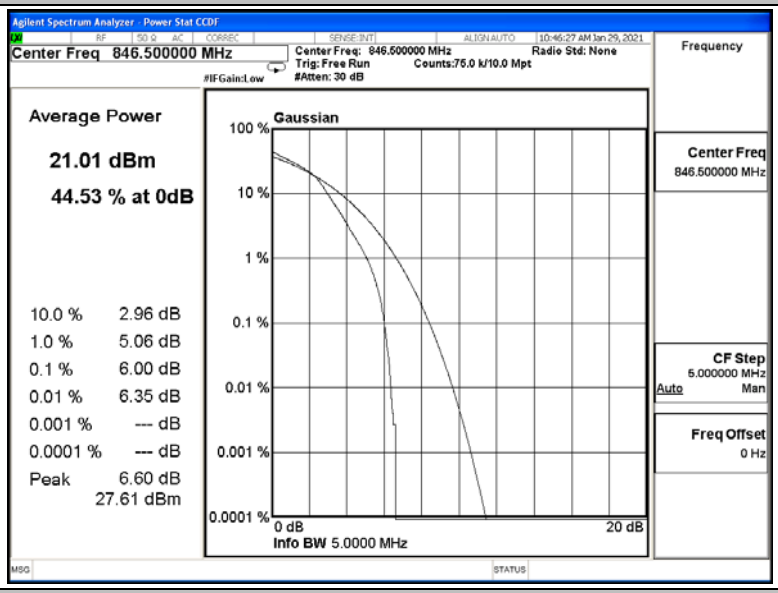
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



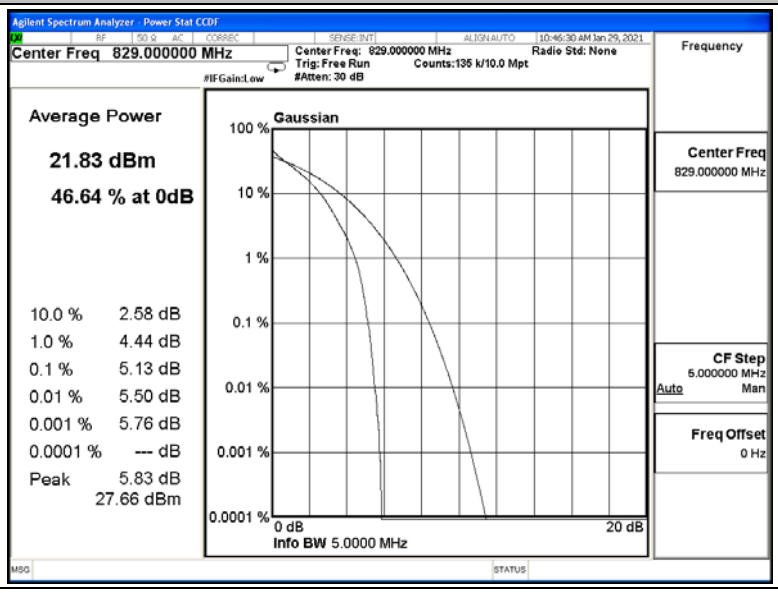
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



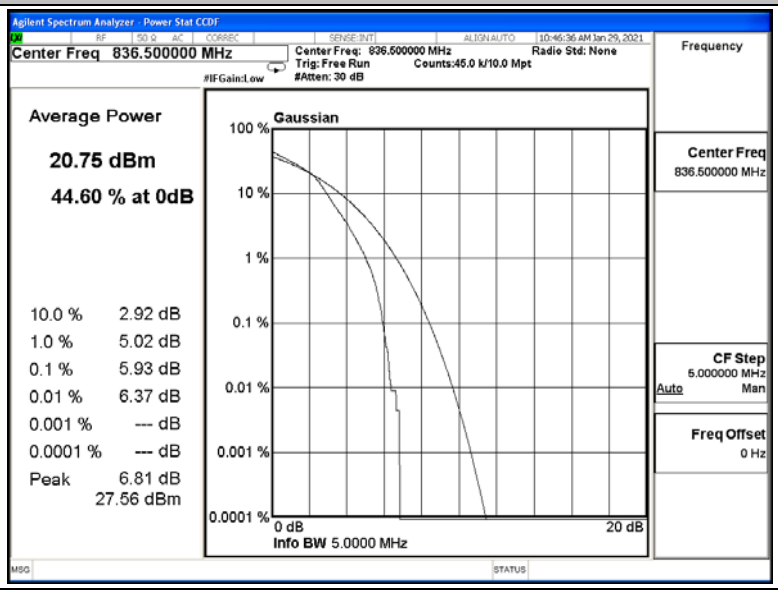
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



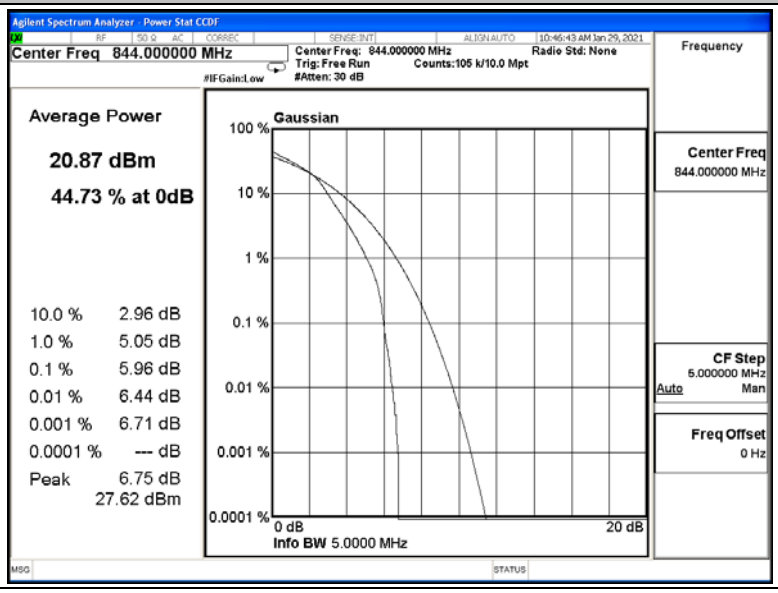
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



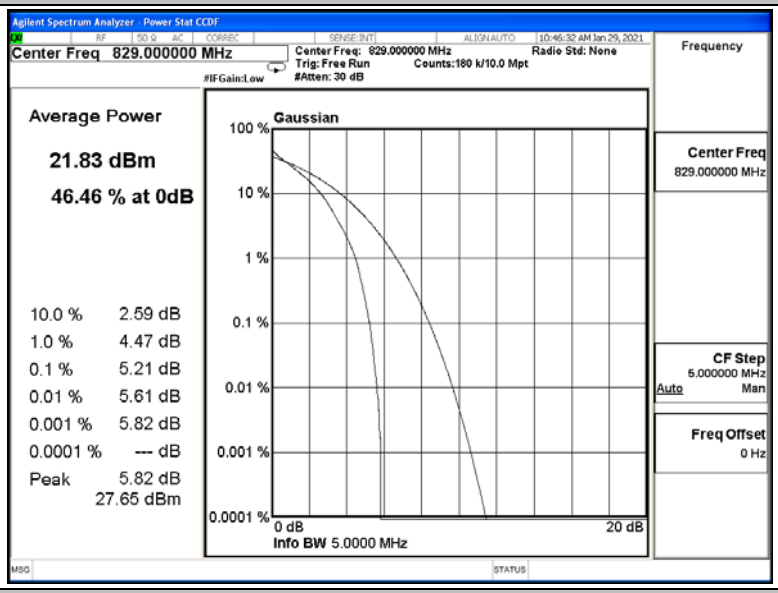
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



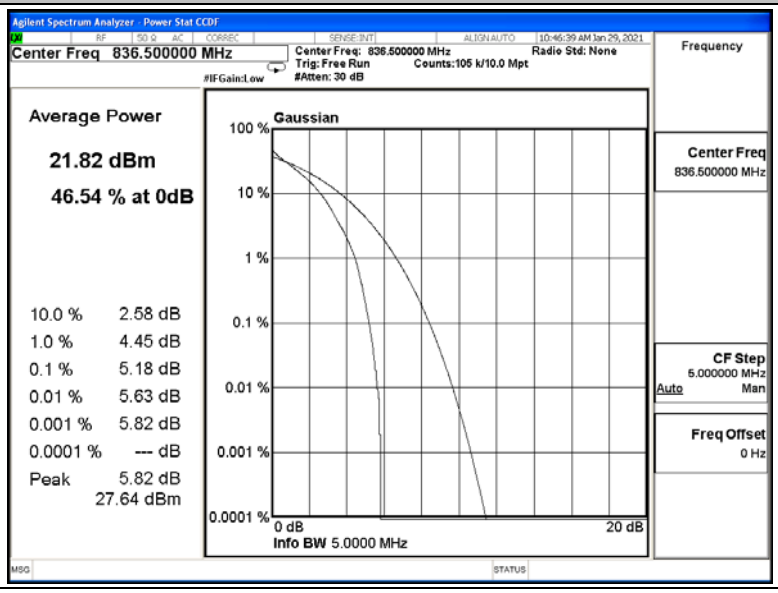
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



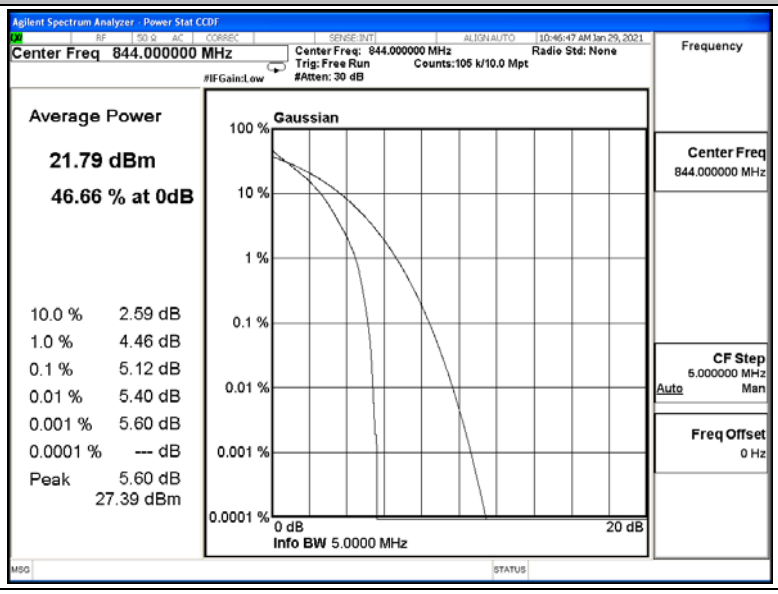
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



A.3 26dB Bandwidth and Occupied Bandwidth

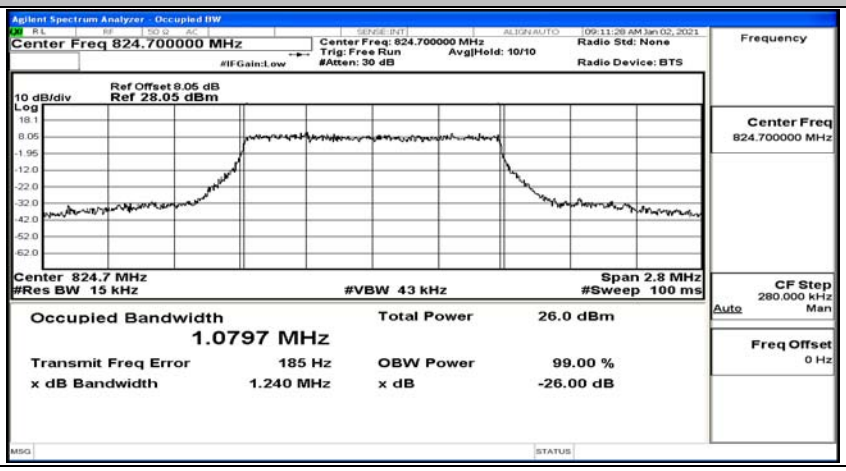
EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	1.0797	1.240	PASS
	MCH	1.0774	1.179	PASS
	HCH	1.0742	1.234	PASS
16QAM	LCH	1.0778	1.247	PASS
	MCH	1.0788	1.223	PASS
	HCH	1.0785	1.247	PASS

EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	2.6857	2.884	PASS
	MCH	2.6832	2.893	PASS
	HCH	2.6876	2.902	PASS
16QAM	LCH	2.6820	2.883	PASS
	MCH	2.6853	2.896	PASS
	HCH	2.6793	2.883	PASS

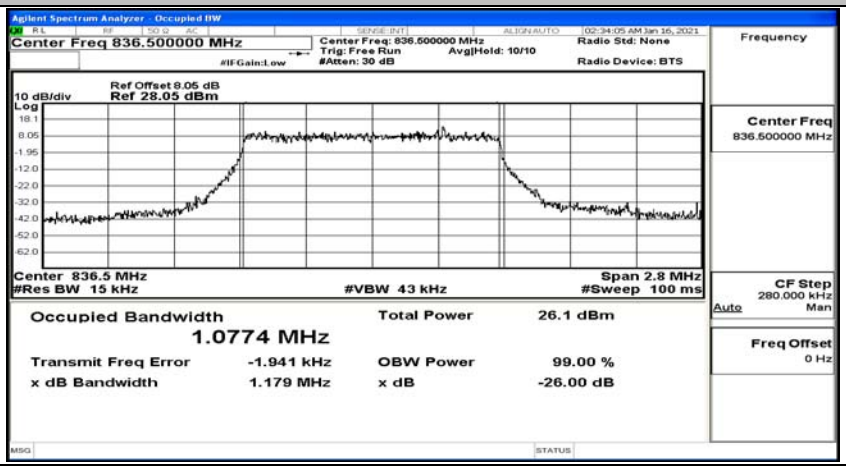
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.4691	4.858	PASS
	MCH	4.4708	4.820	PASS
	HCH	4.4665	4.776	PASS
16QAM	LCH	4.4790	4.806	PASS
	MCH	4.4795	4.791	PASS
	HCH	4.4677	4.772	PASS

EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	8.9215	9.474	PASS
	MCH	8.9243	9.480	PASS
	HCH	8.9191	9.450	PASS
16QAM	LCH	8.9312	9.427	PASS
	MCH	8.9317	9.491	PASS
	HCH	8.9233	9.451	PASS

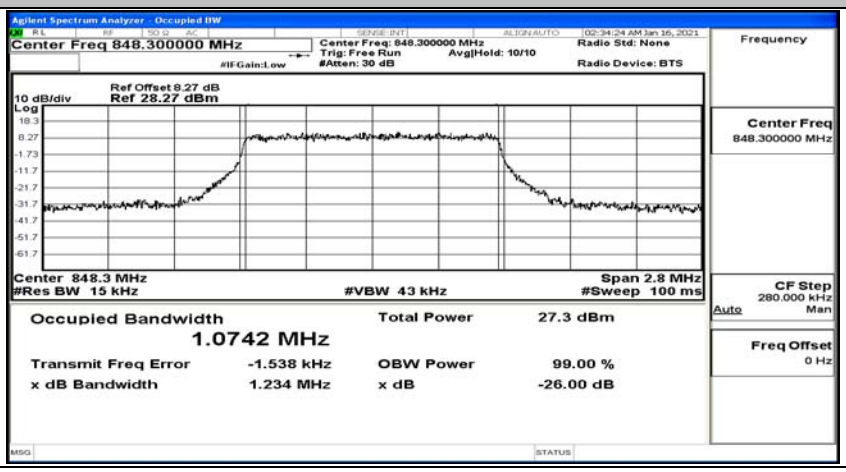
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



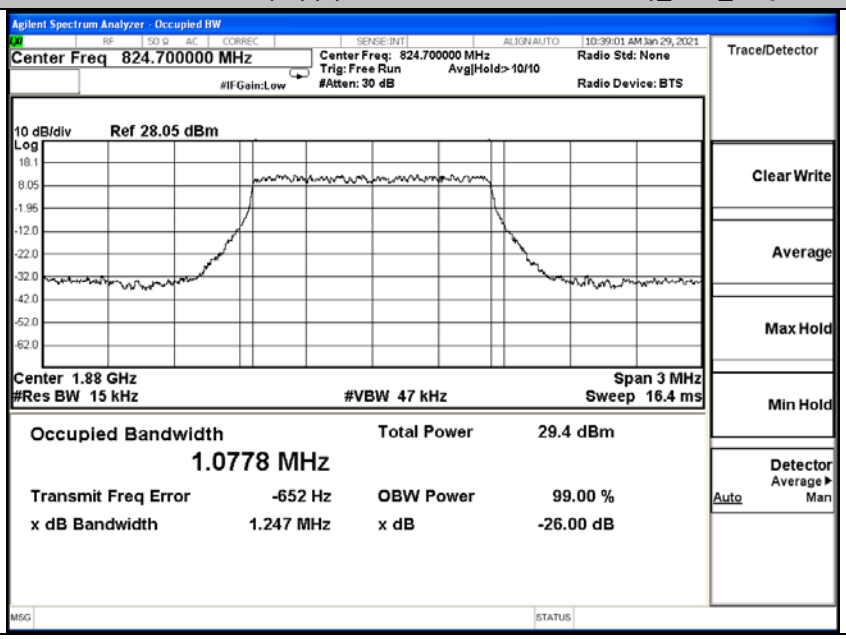
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



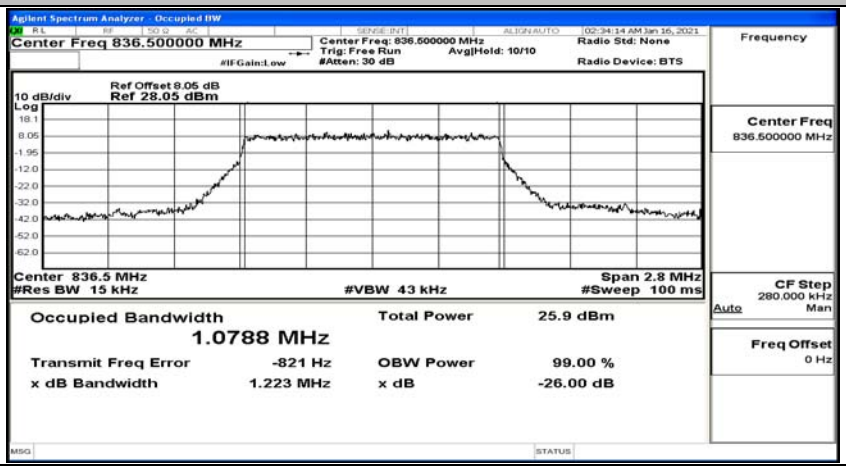
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



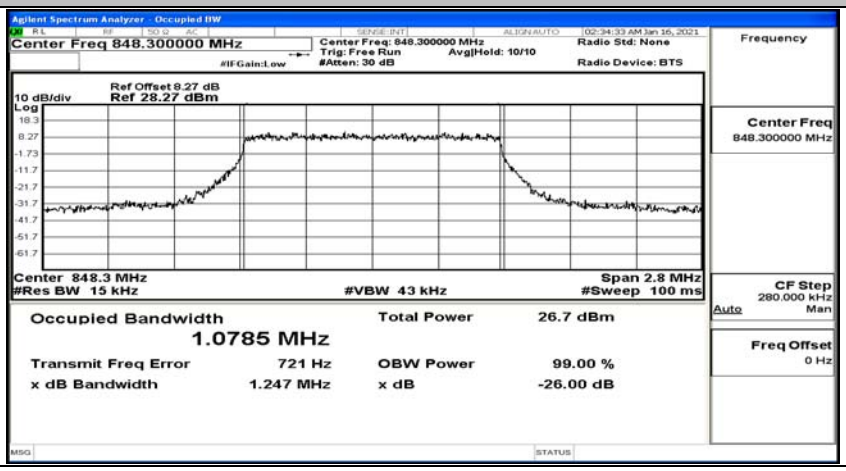
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



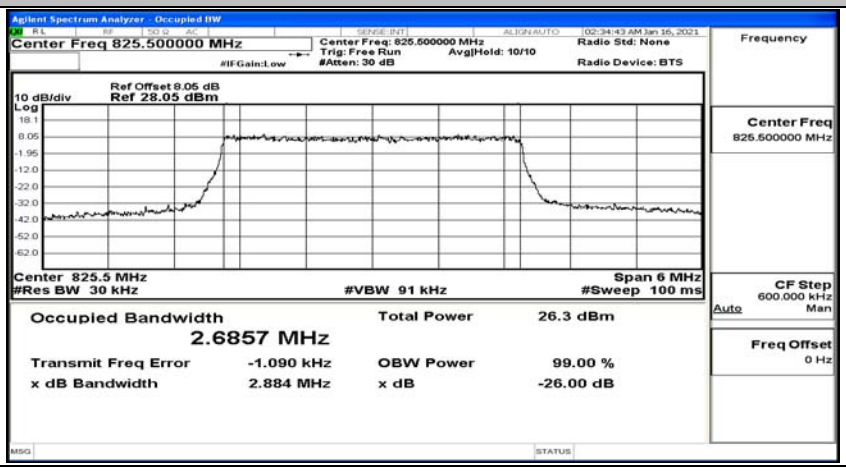
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



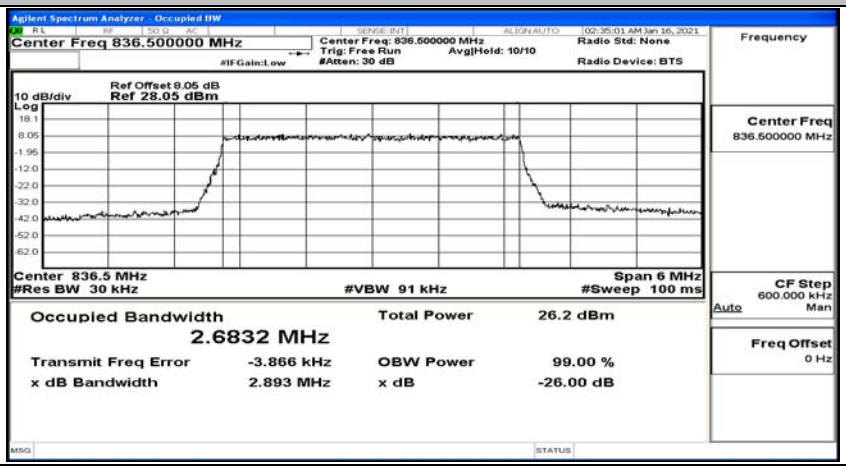
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



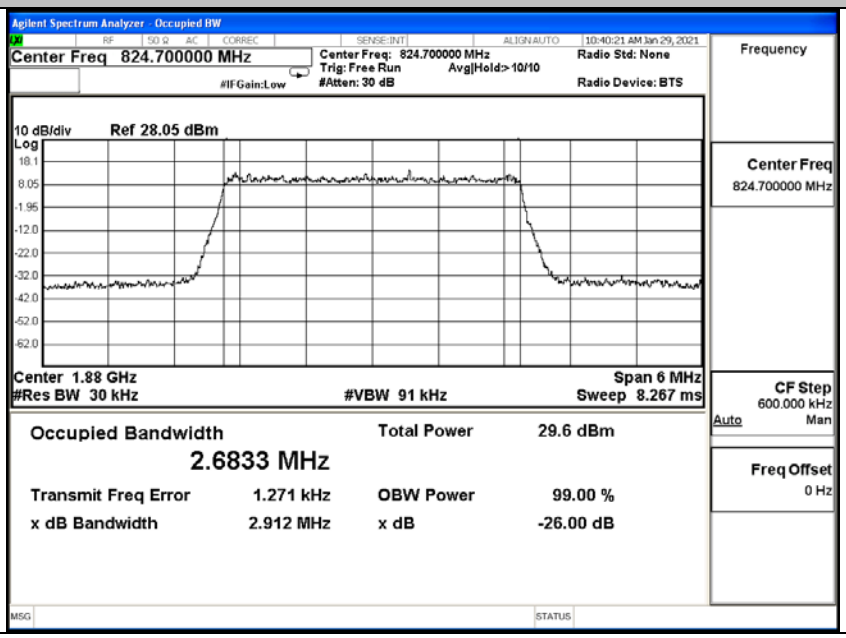
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



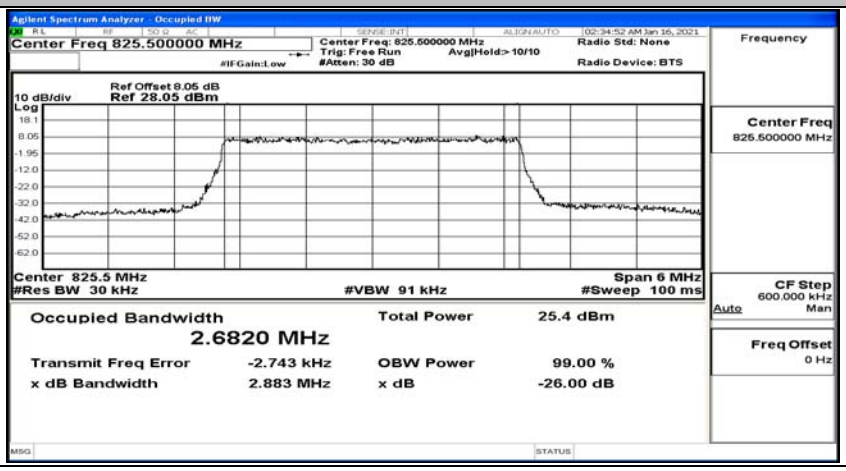
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



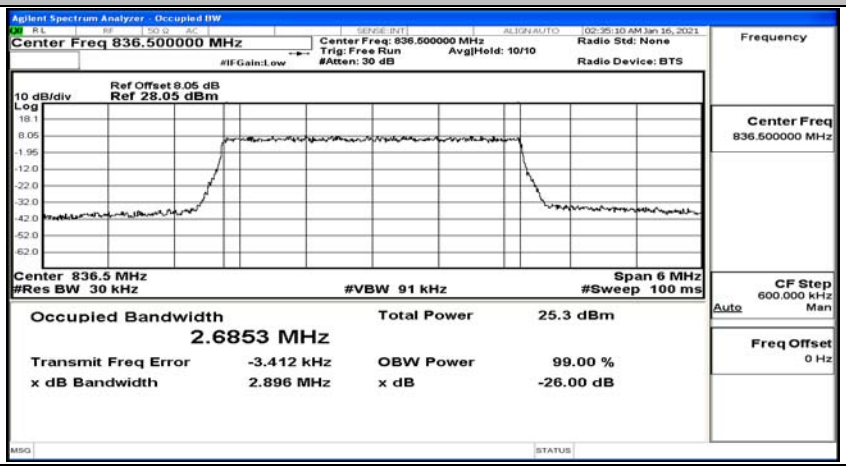
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



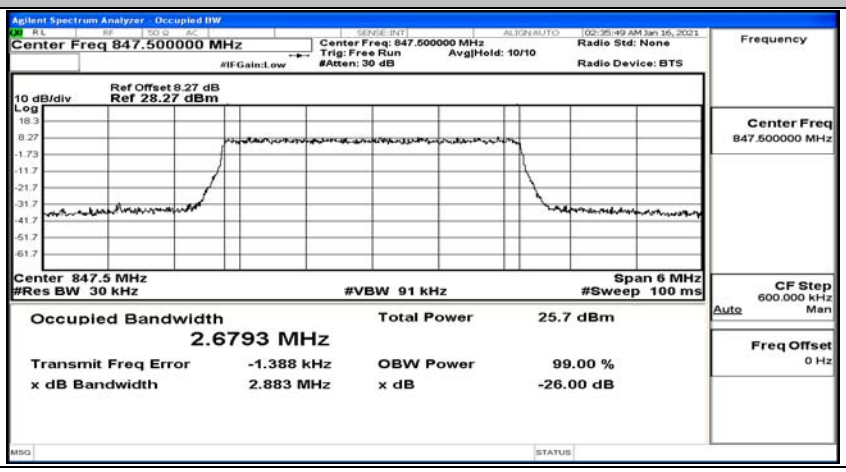
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



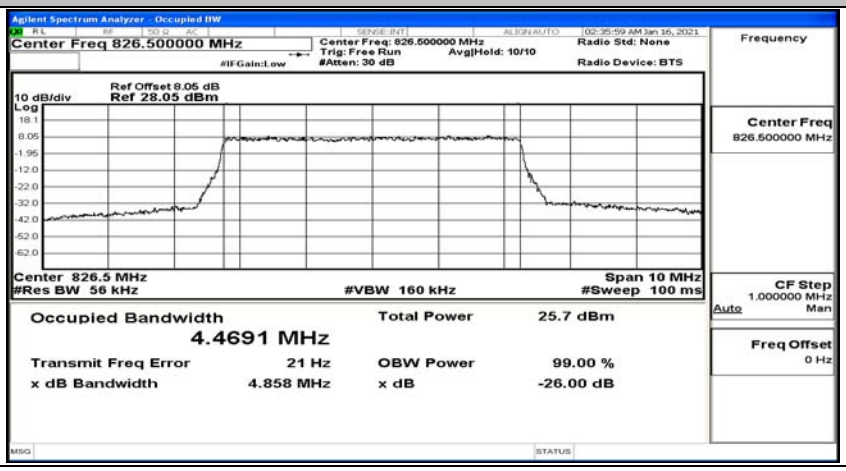
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



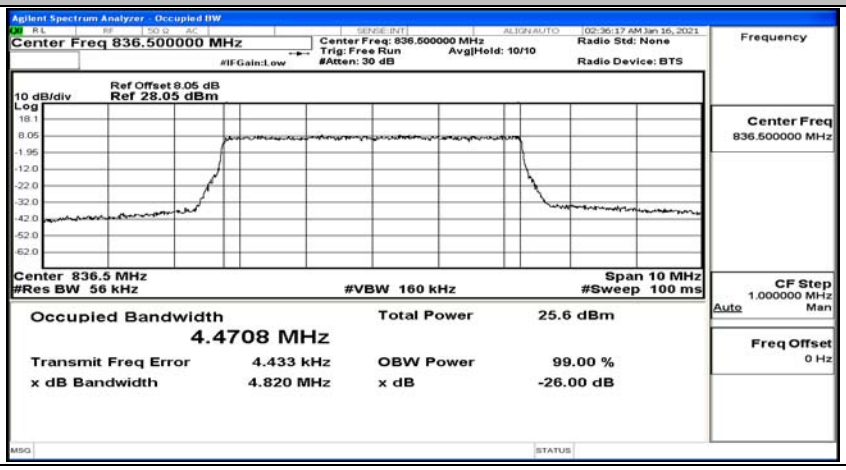
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



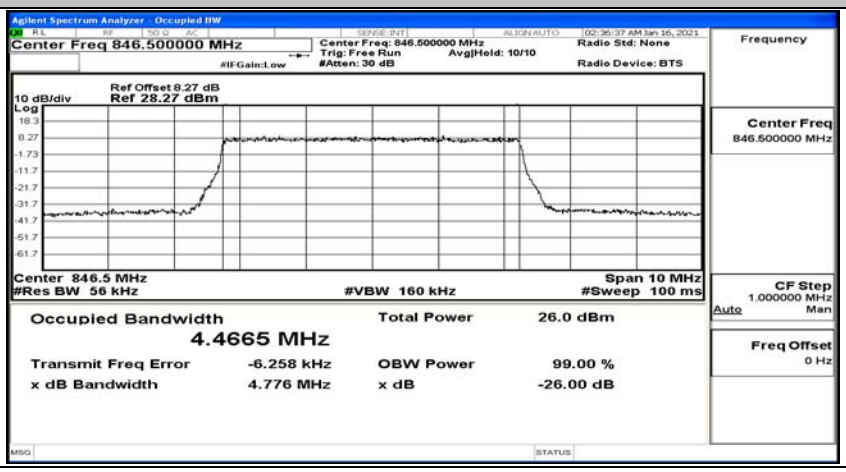
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



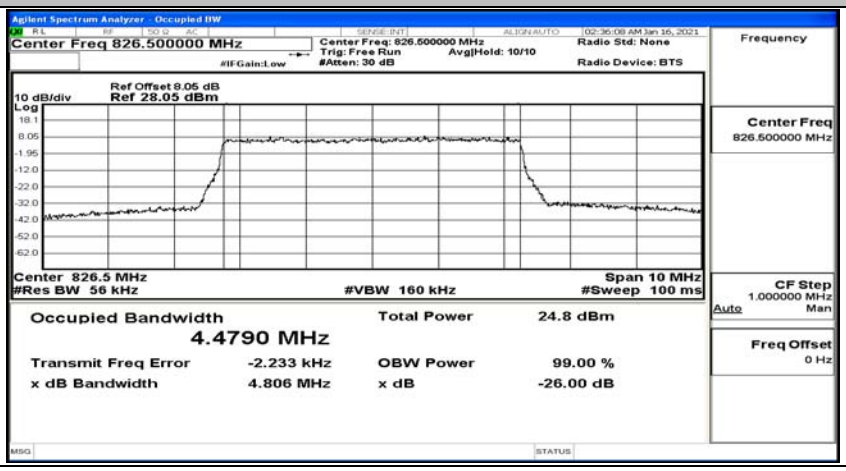
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



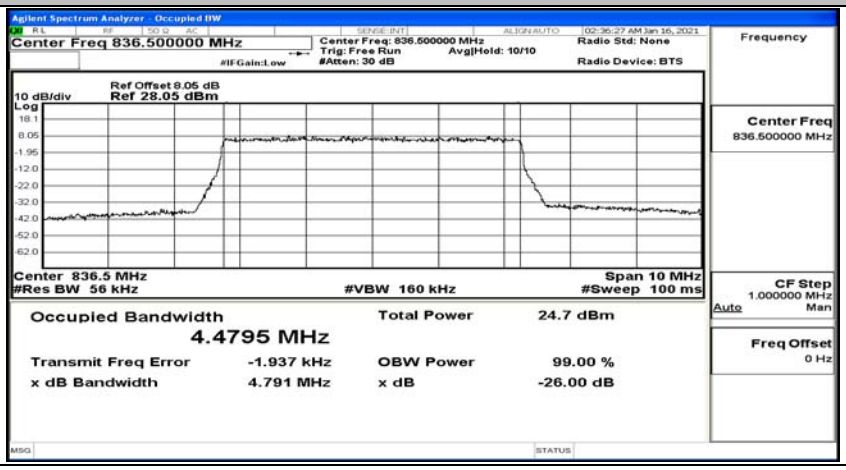
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



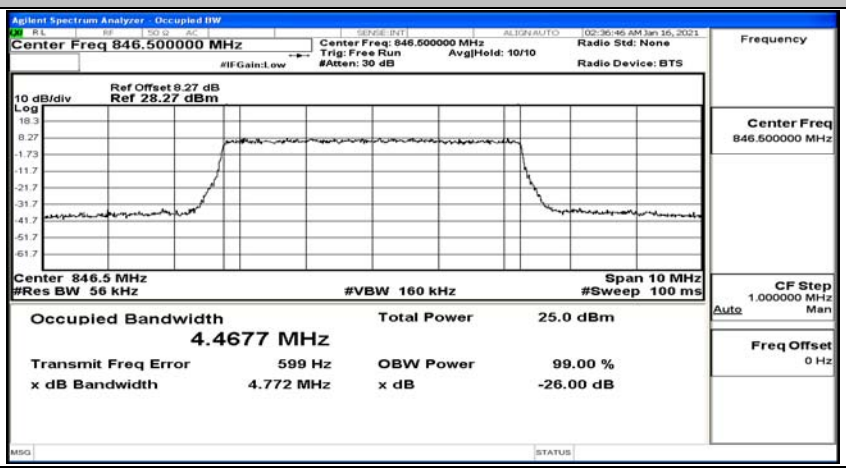
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



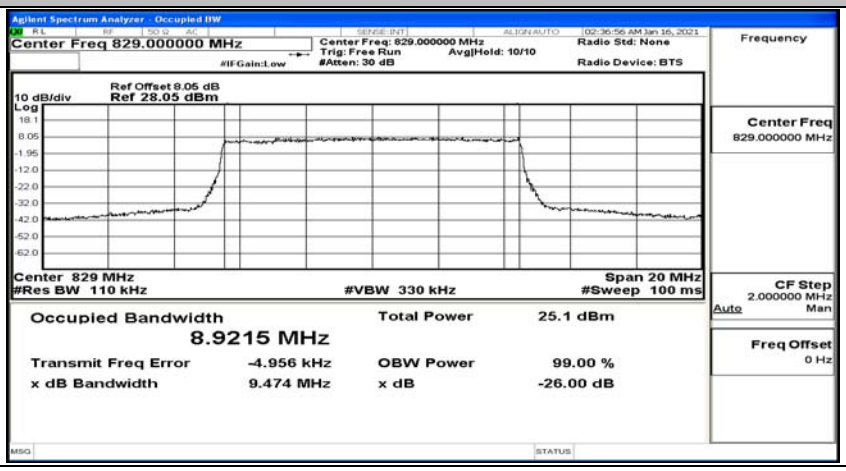
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



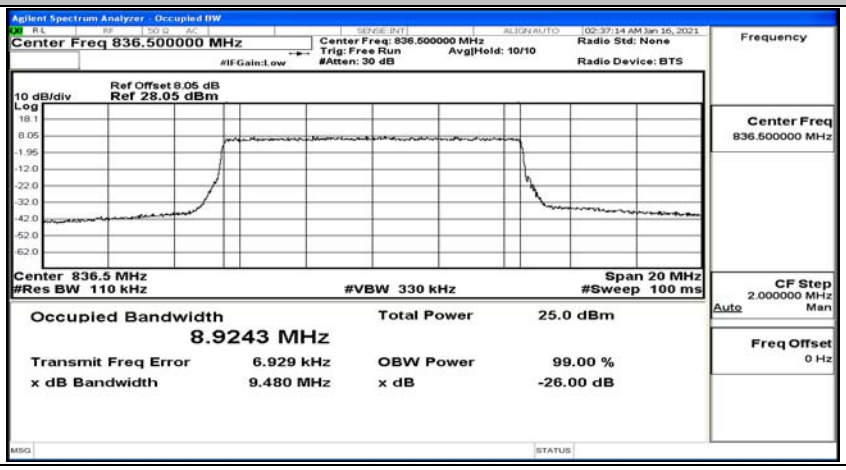
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



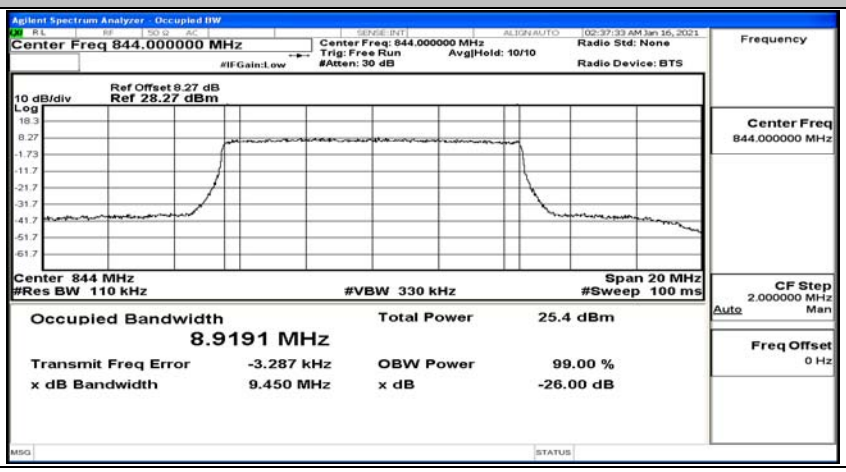
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



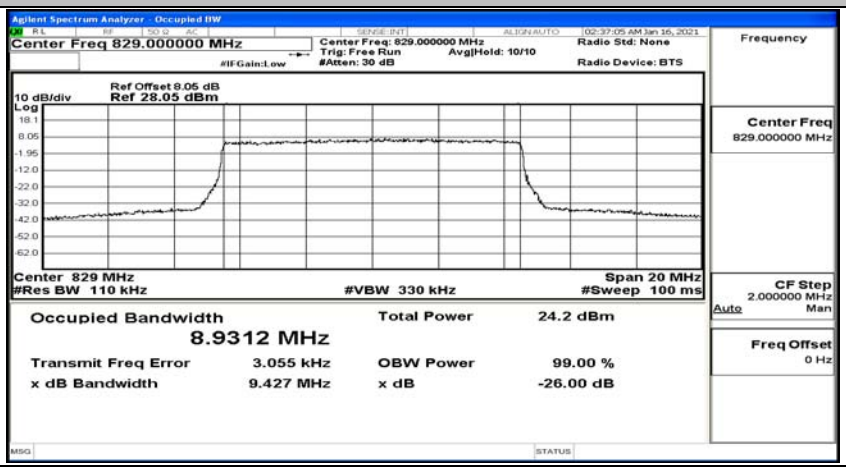
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



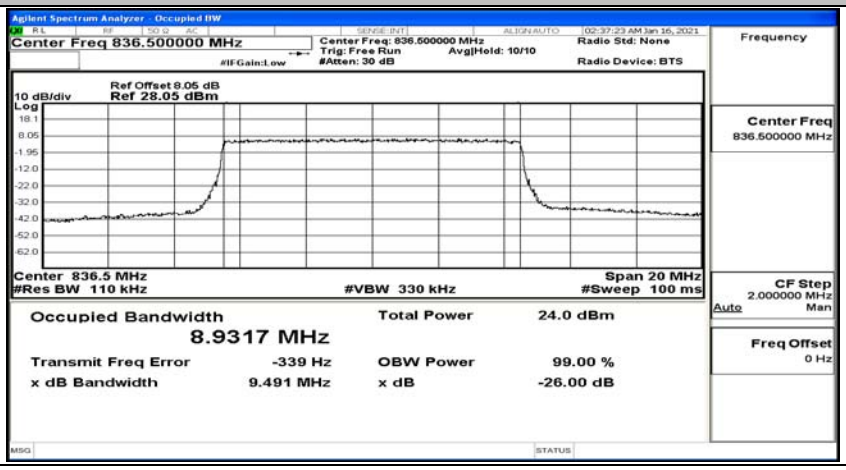
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



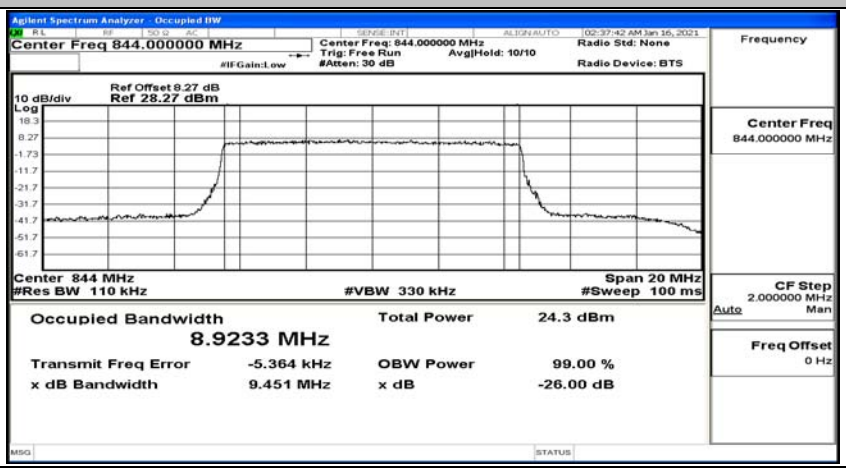
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM

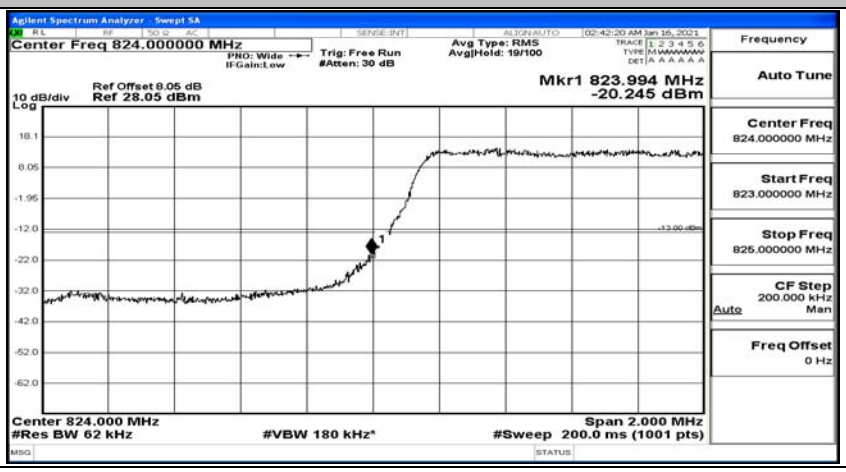


EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM

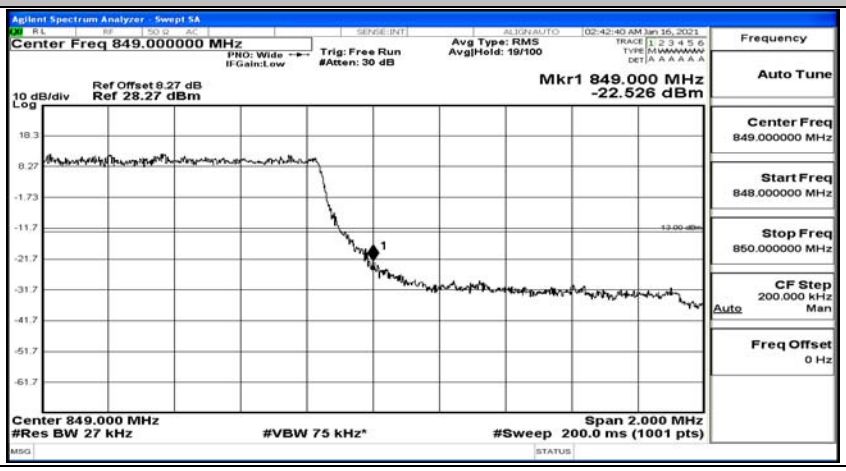


A.4 Band Edge

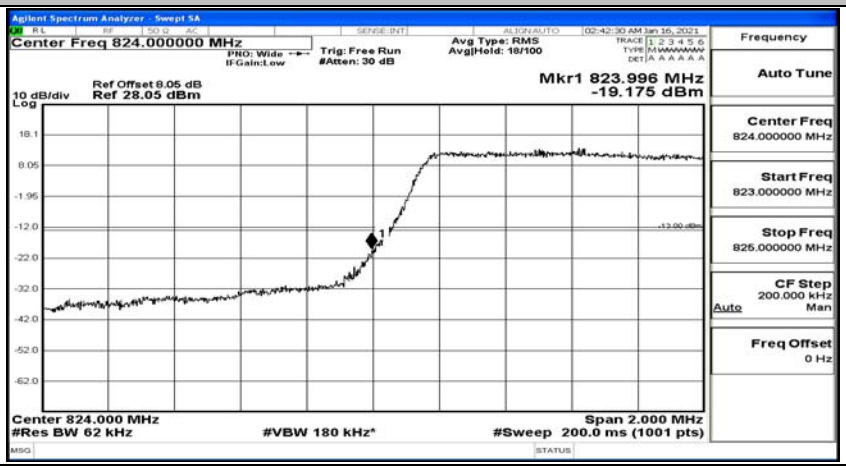
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



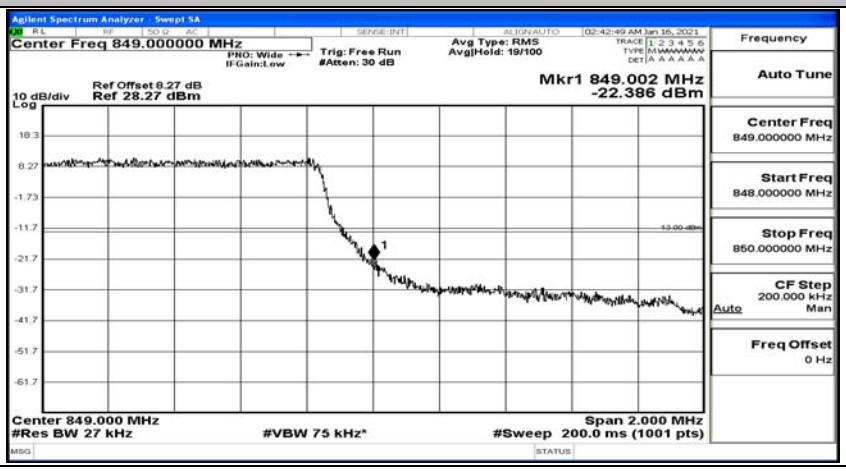
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



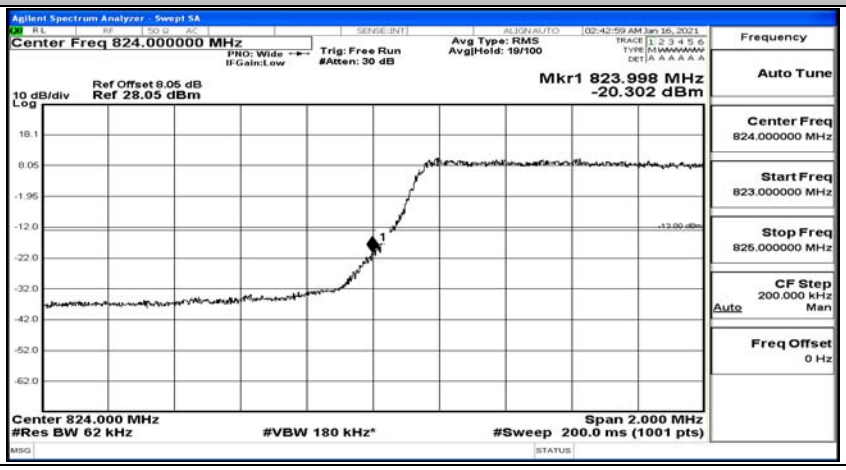
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



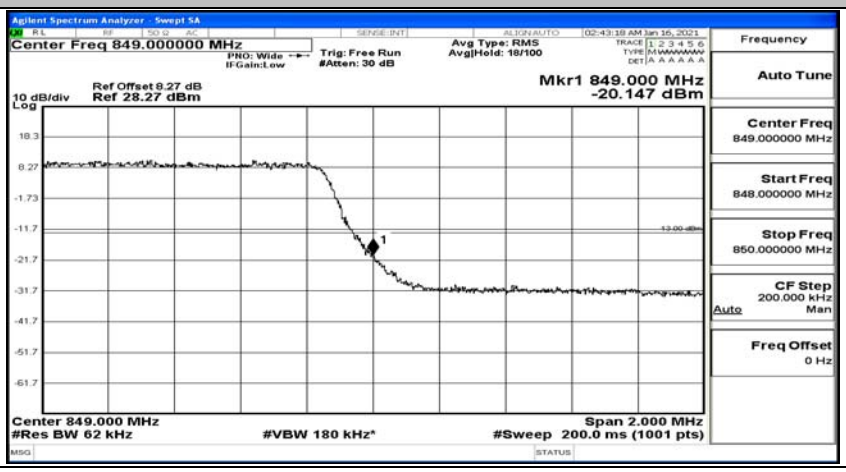
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



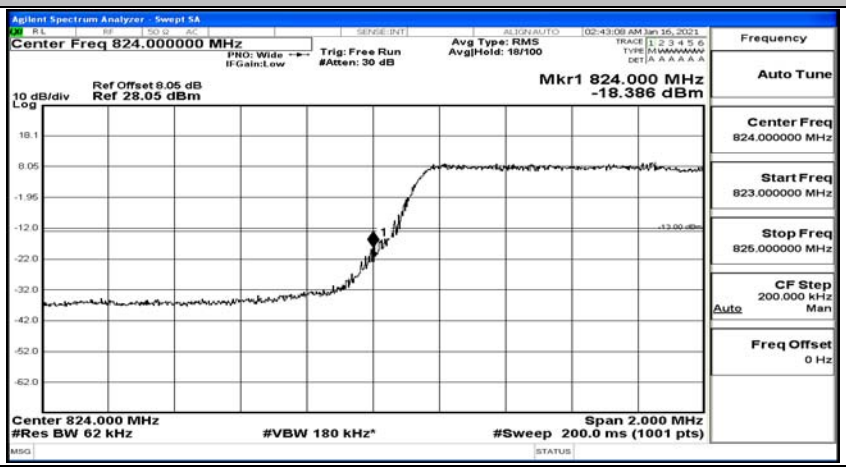
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



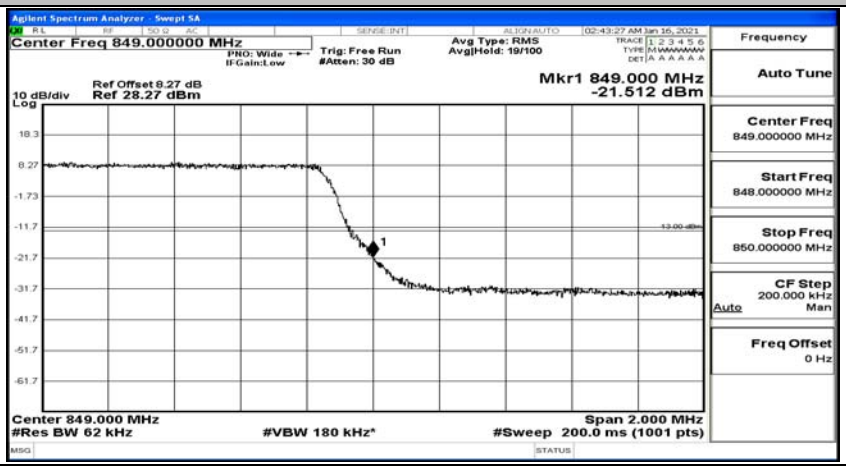
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



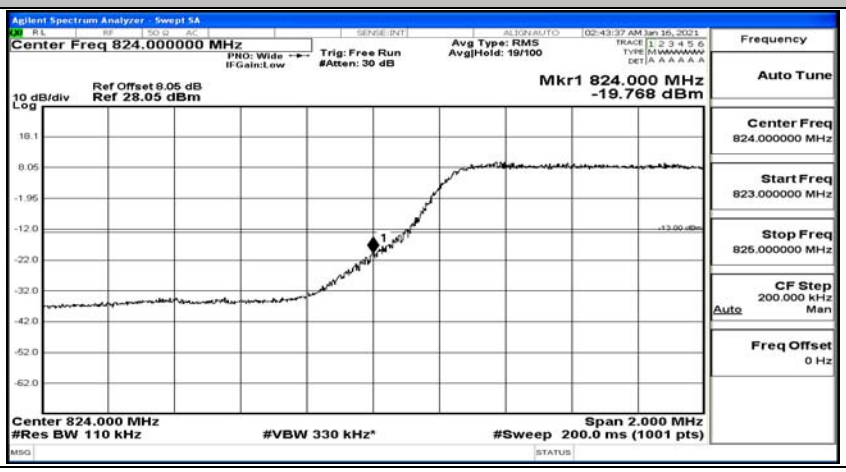
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



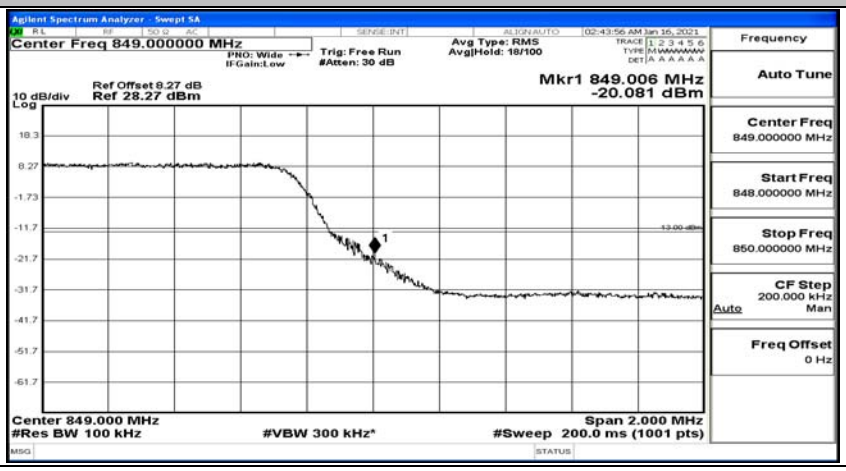
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



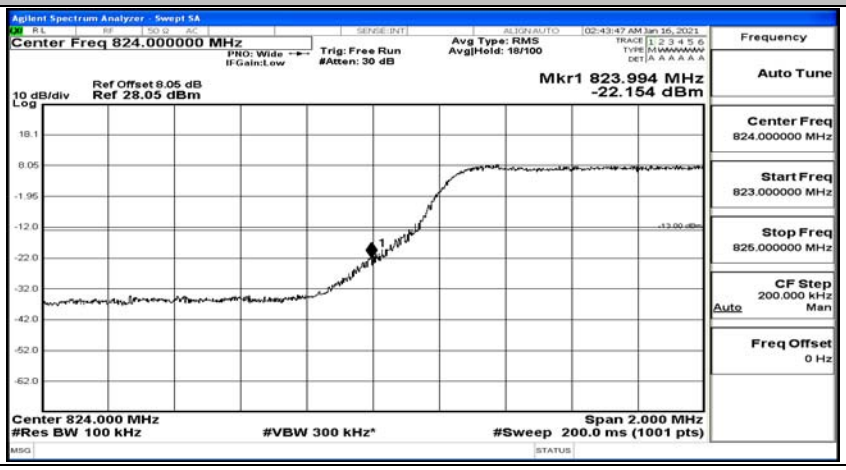
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



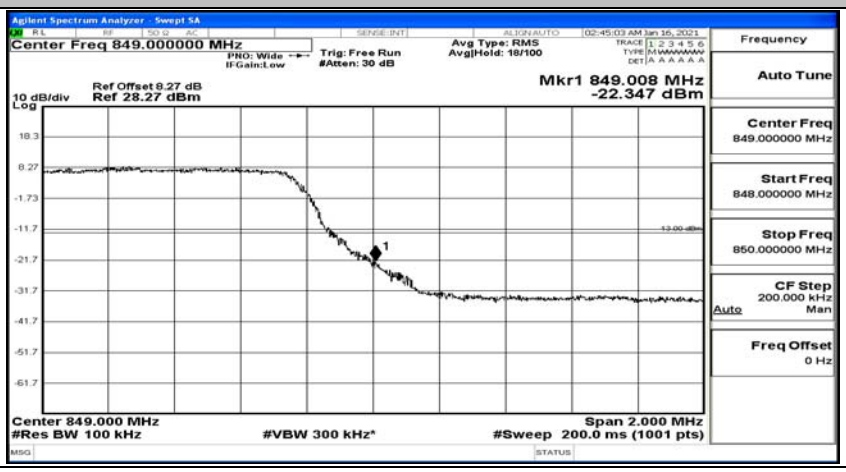
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



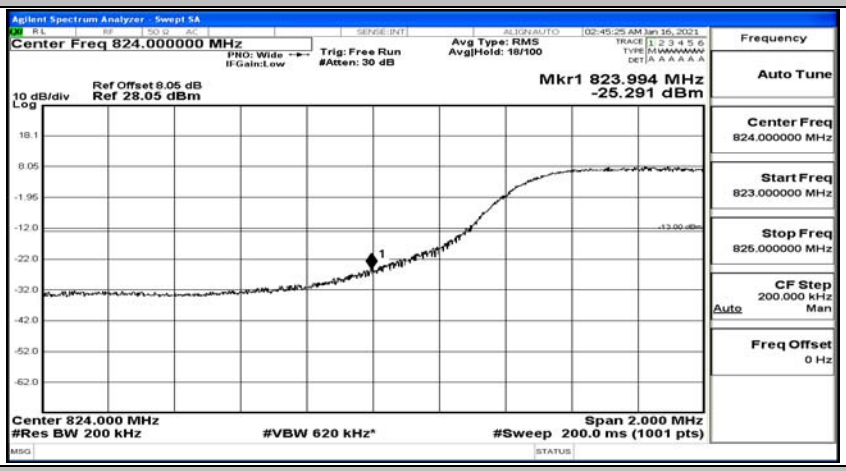
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



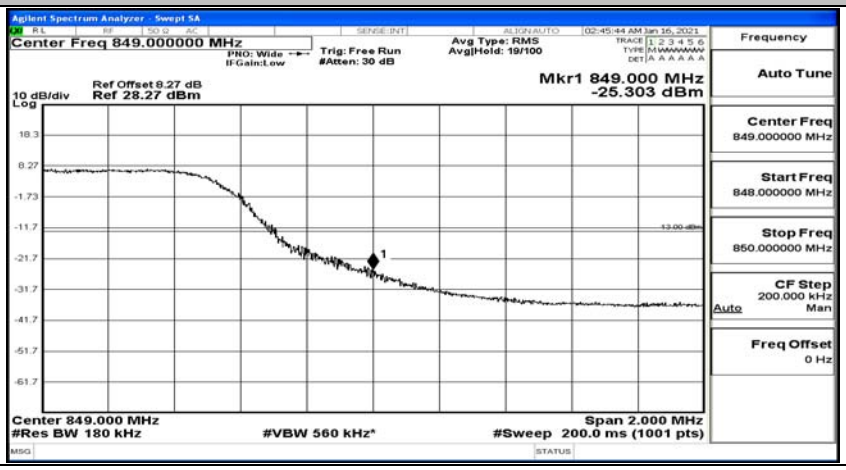
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



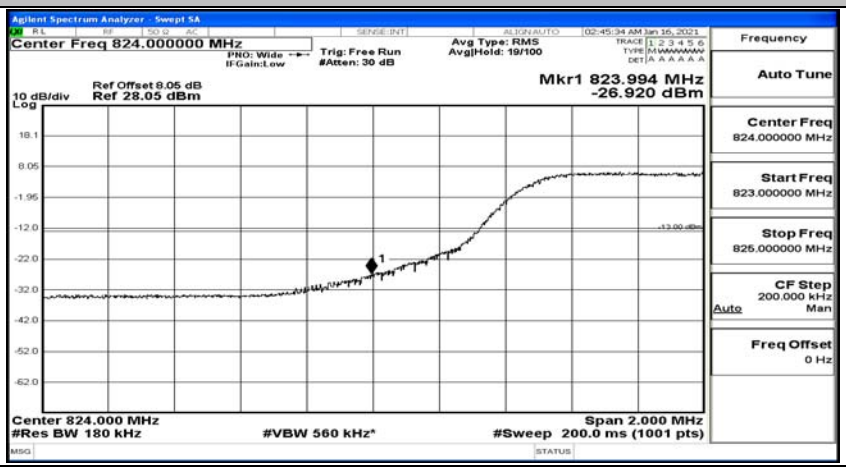
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



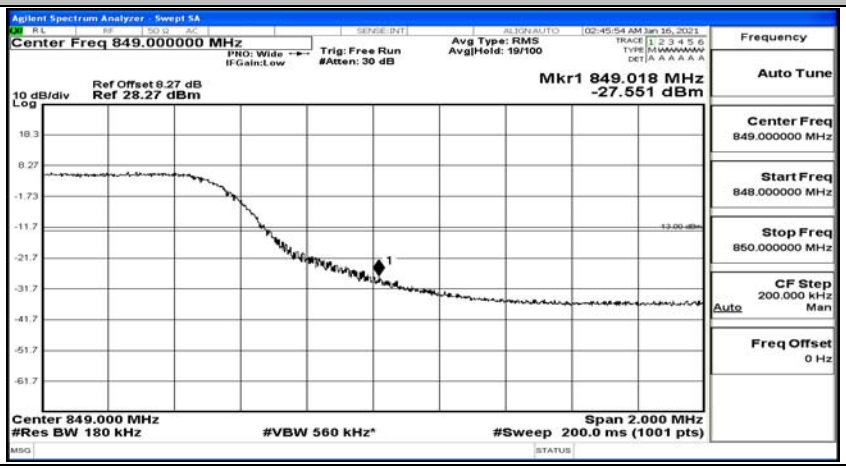
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM

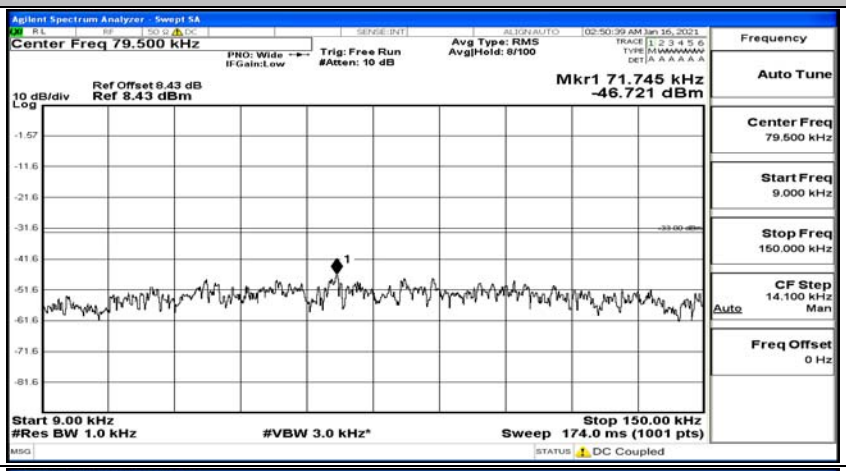


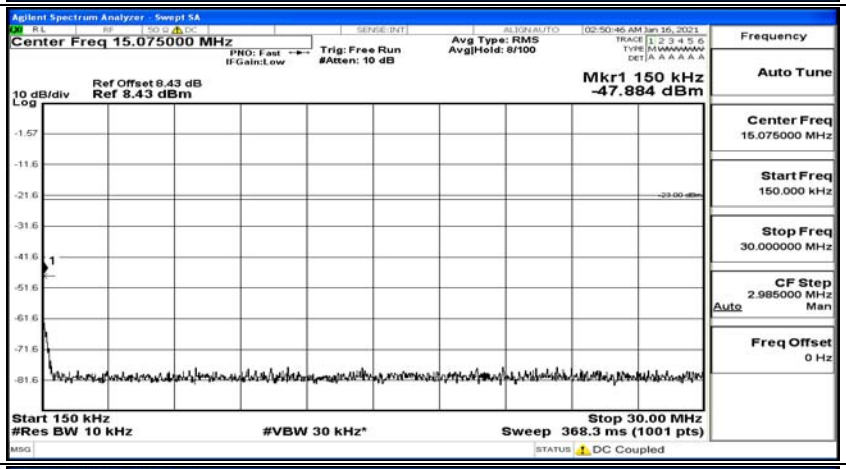
A.5 Conducted Spurious Emission

Test Graphs

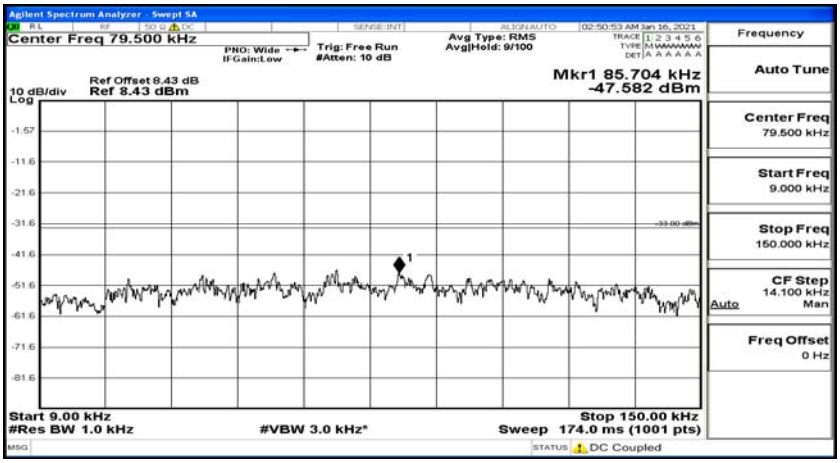
Channel Bandwidth: 1.4 MHz

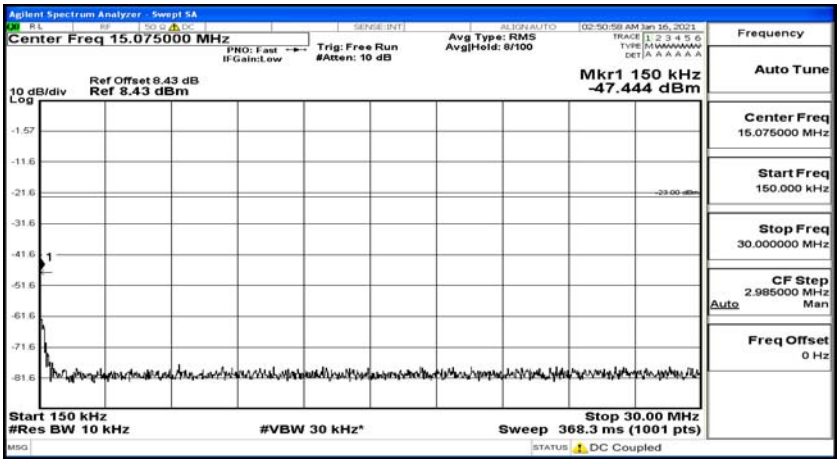
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#0



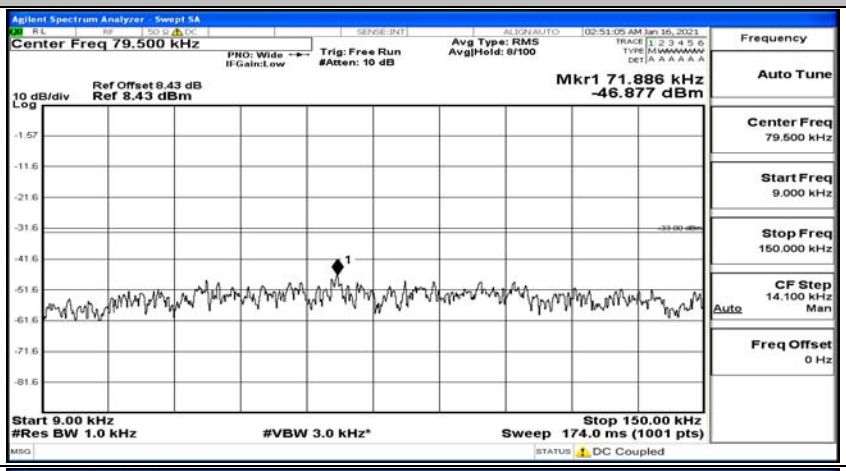


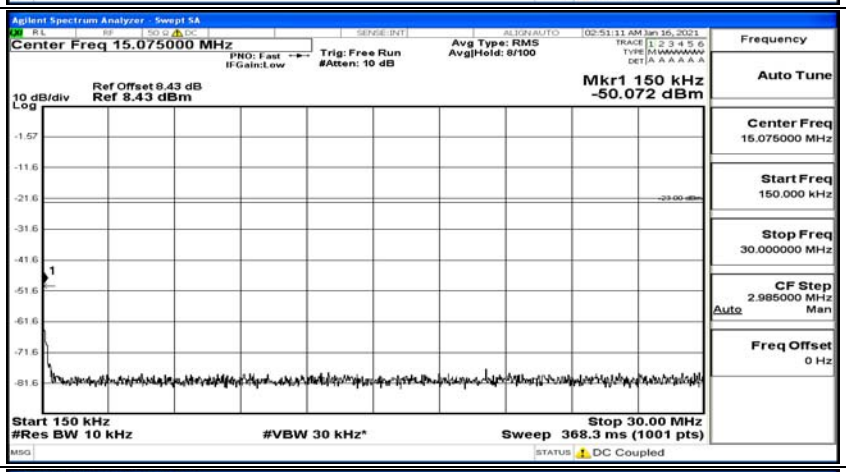
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#3

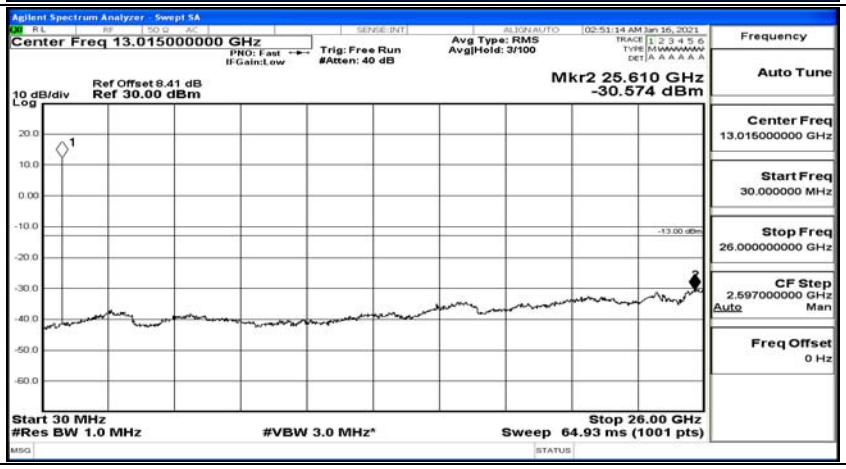




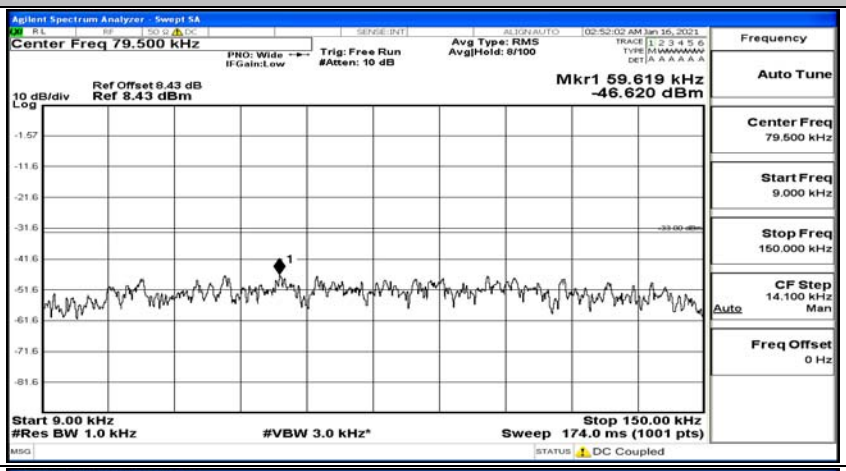
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#5

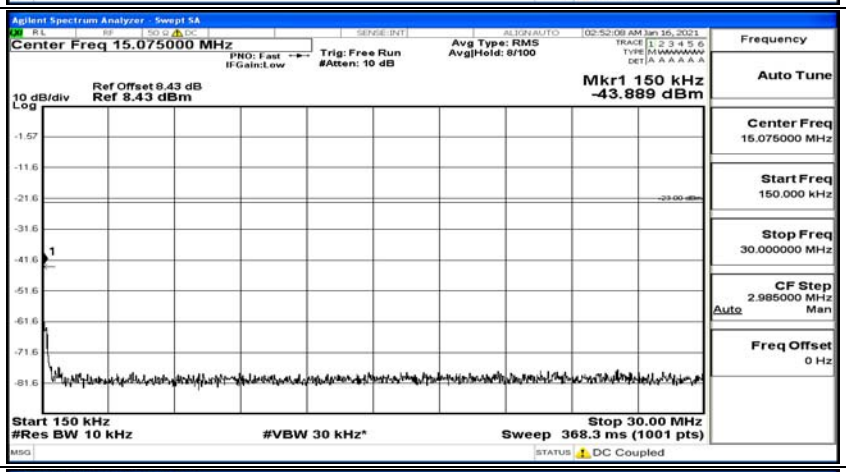


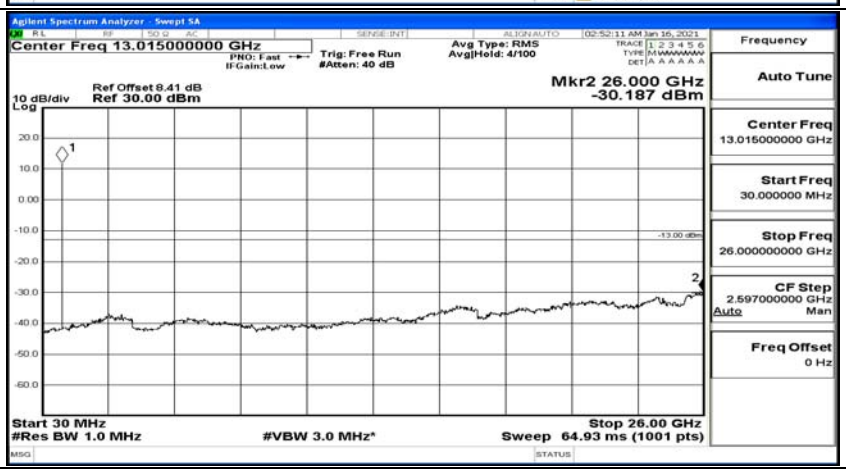




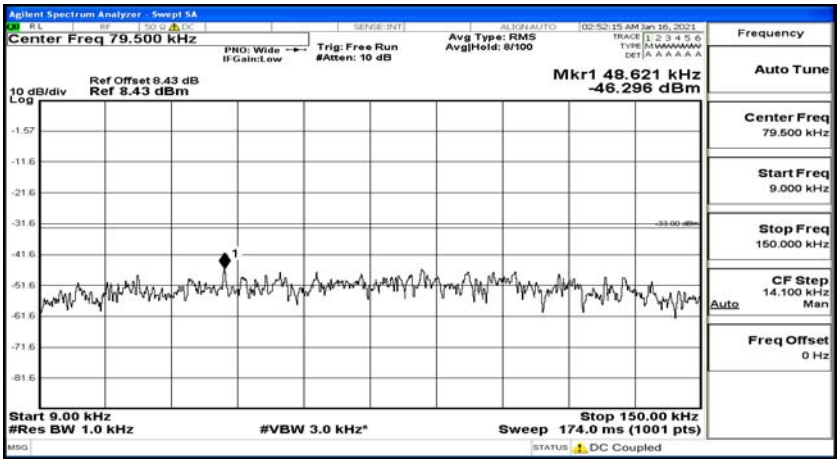
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#0

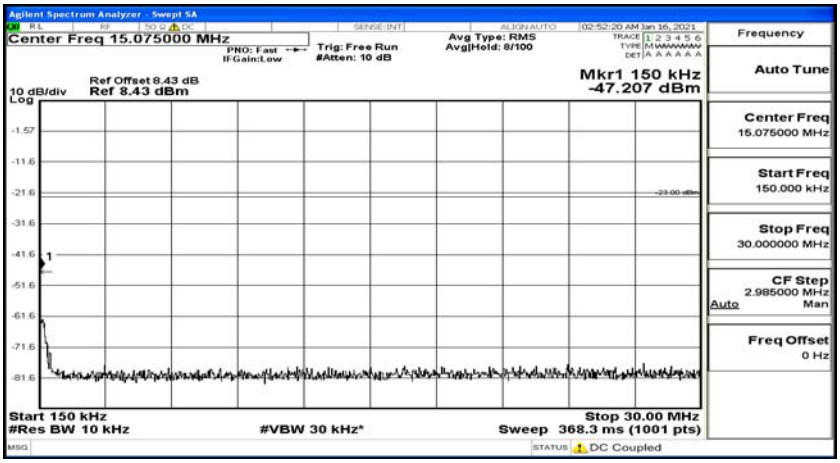




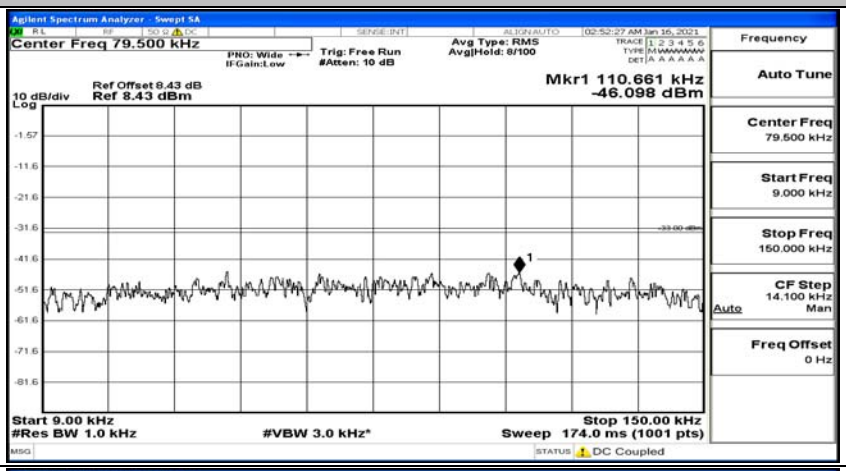


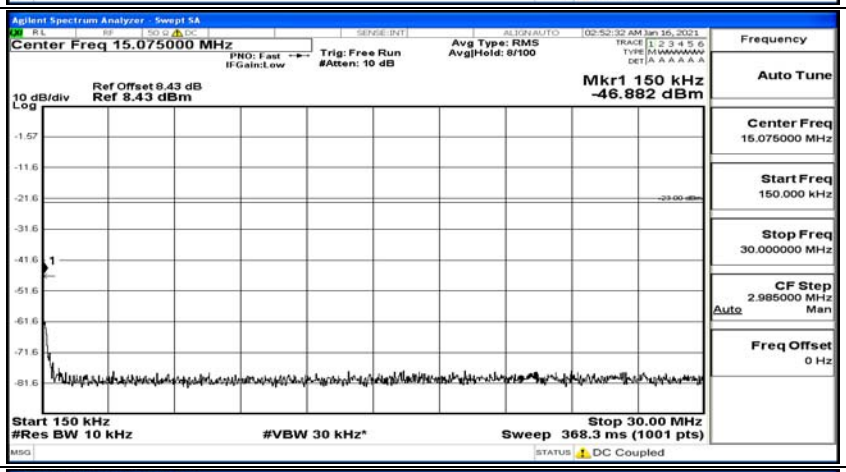
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#3



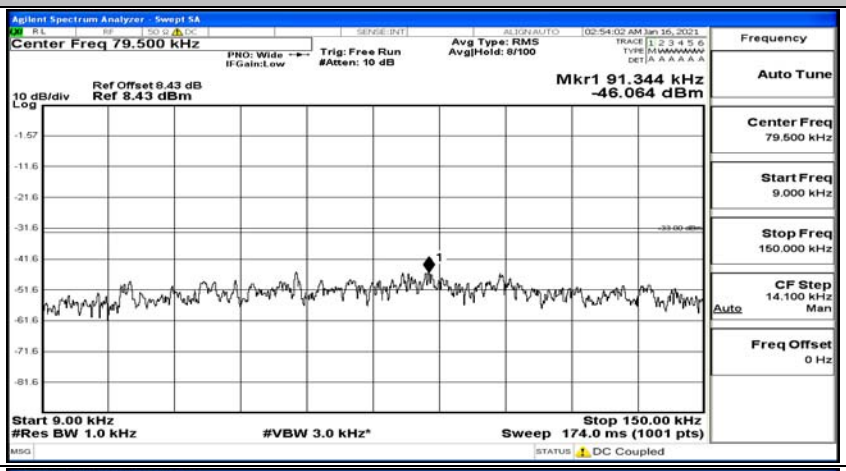


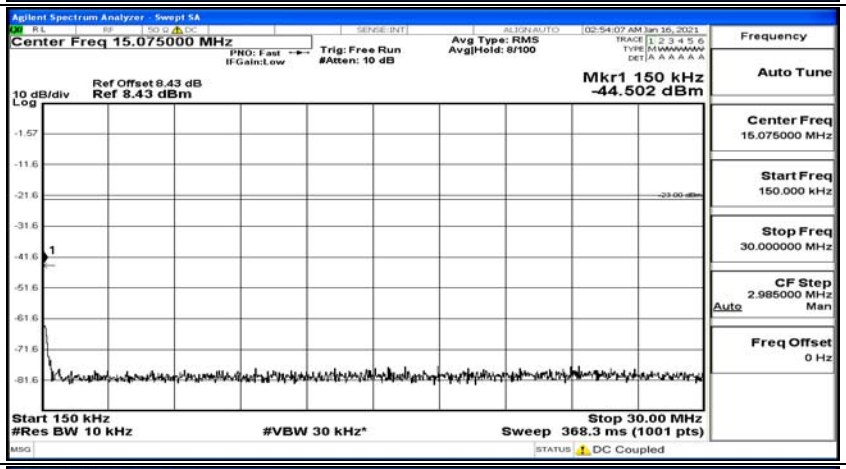
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#5

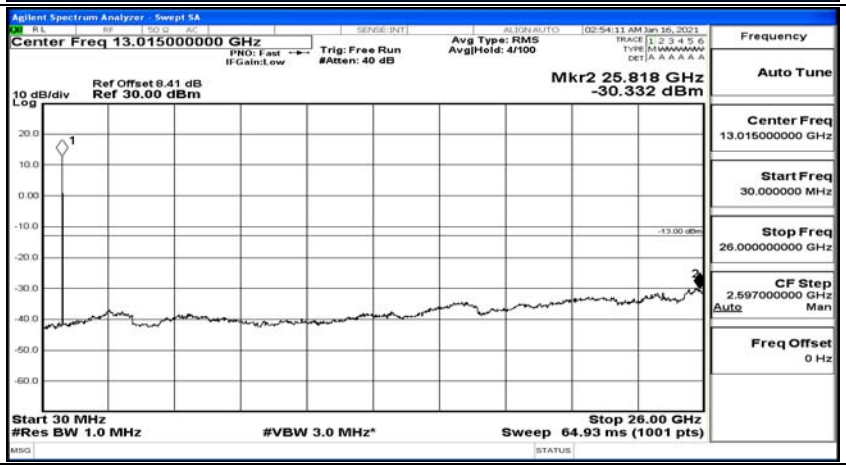




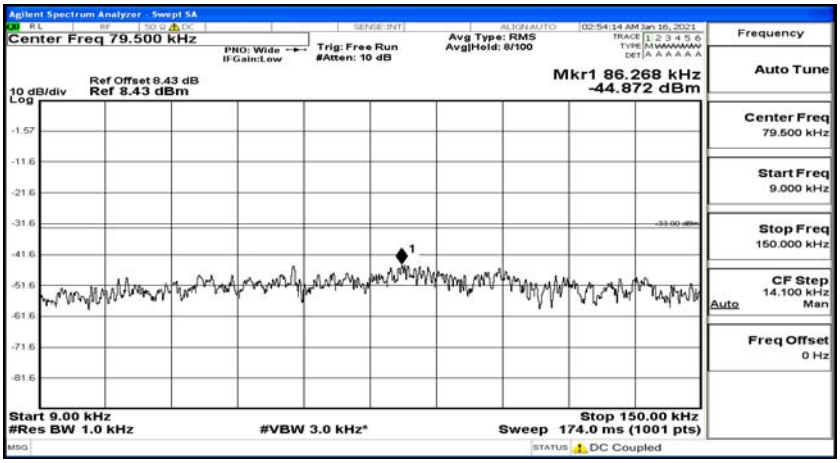
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#0

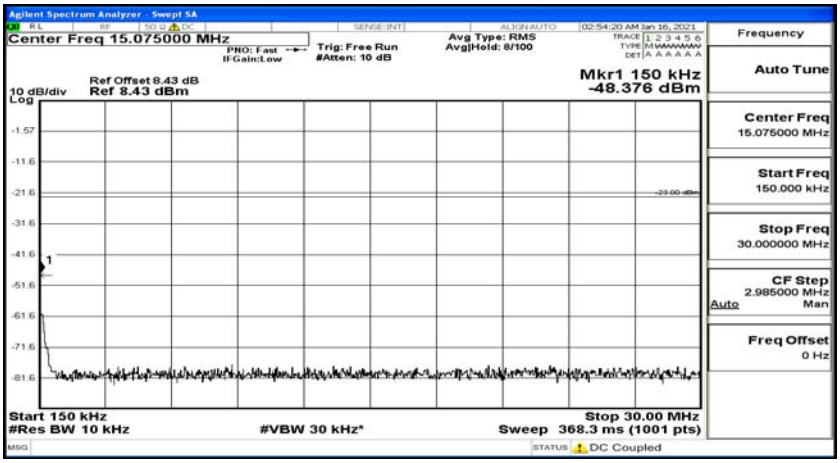


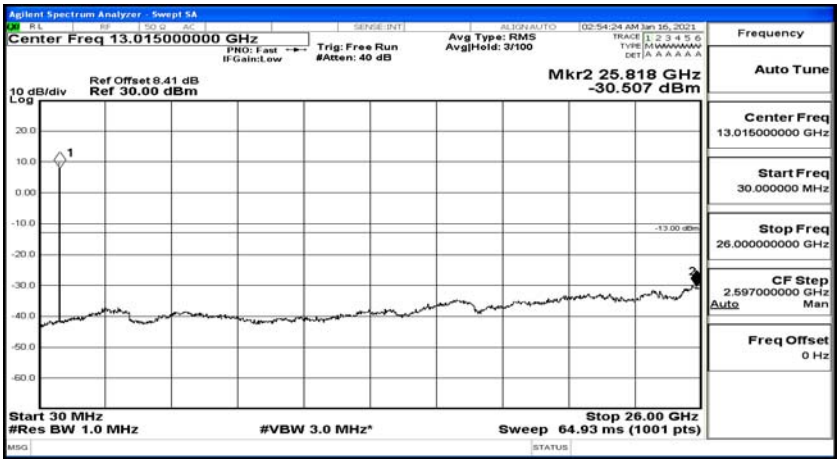




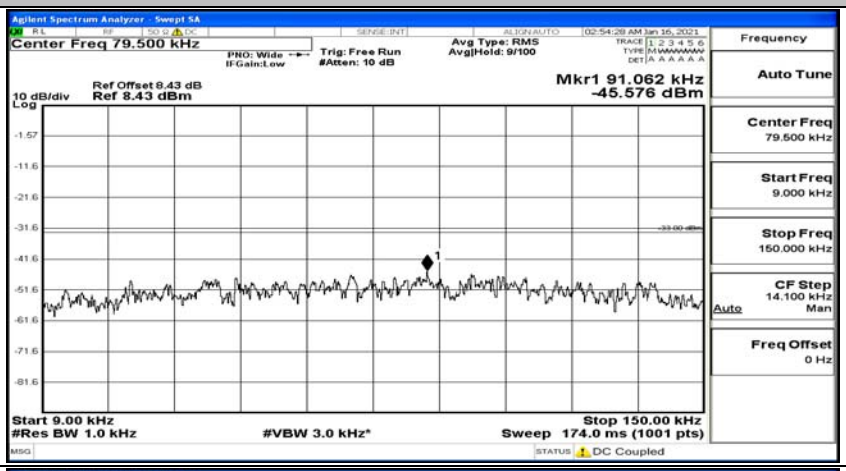
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#3

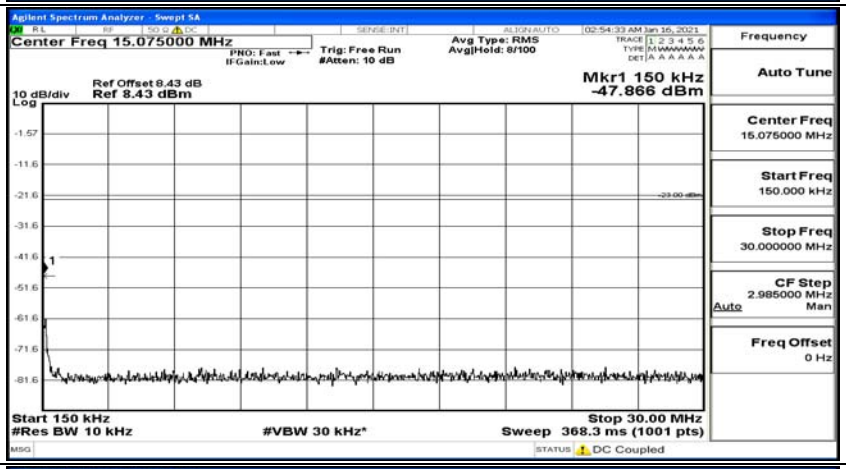




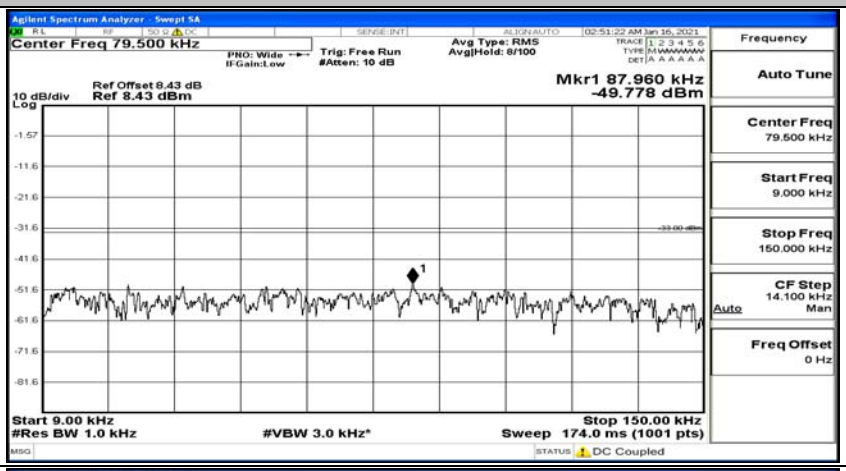


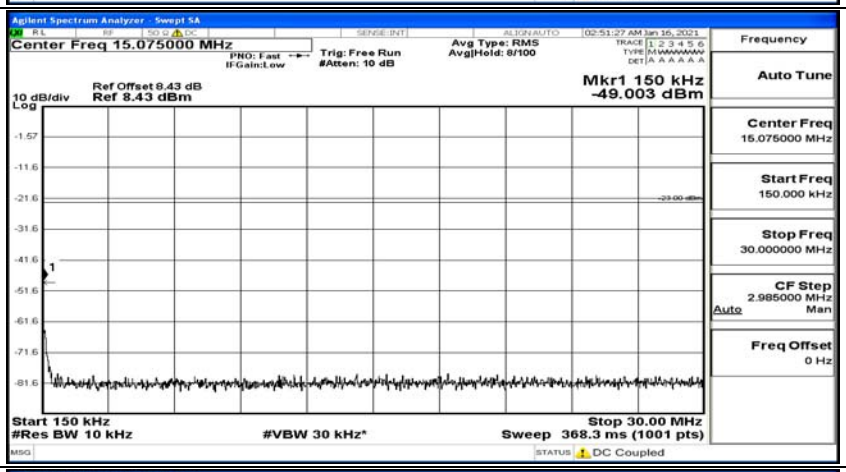
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#5



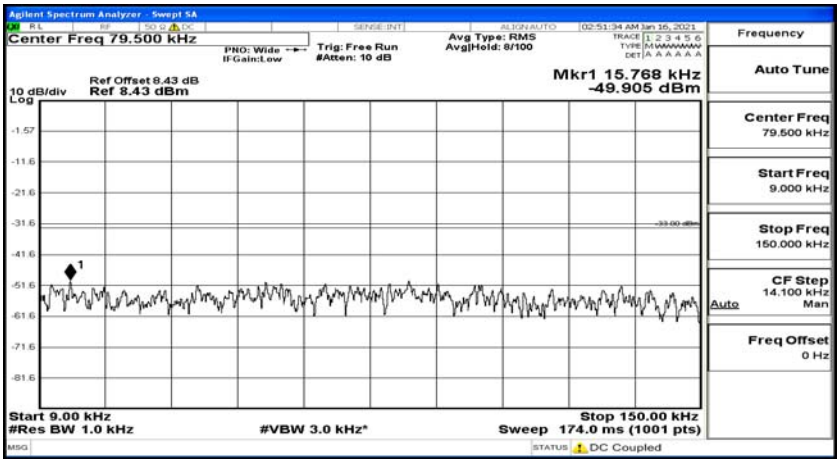


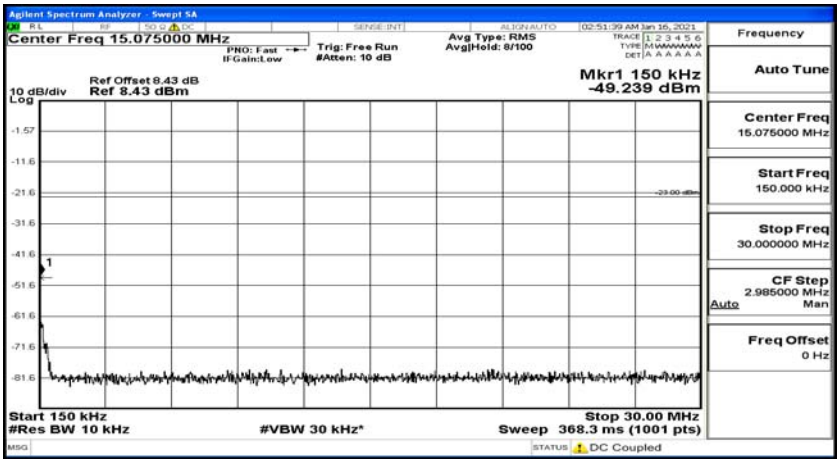
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#0



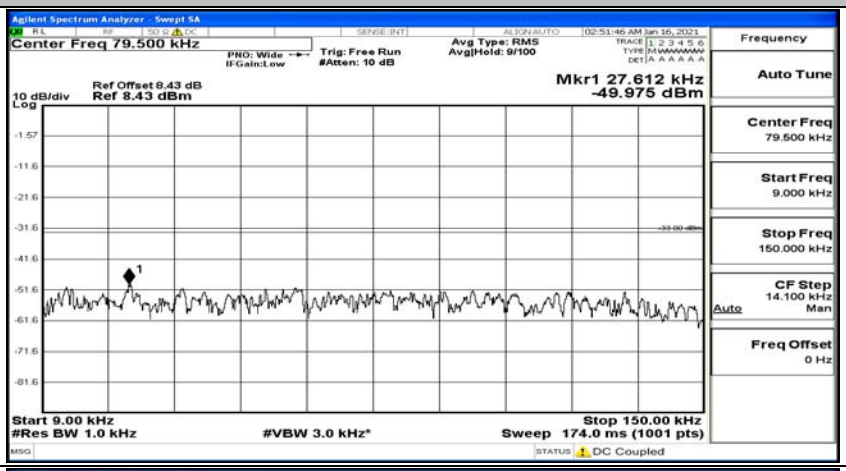


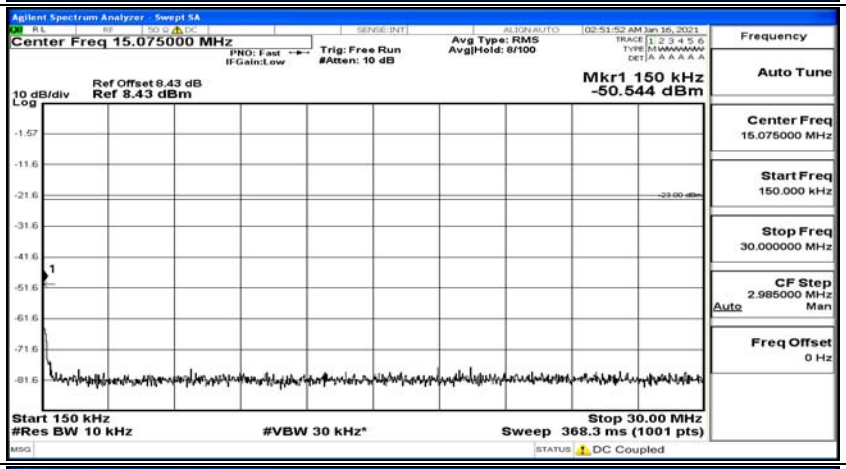
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#3

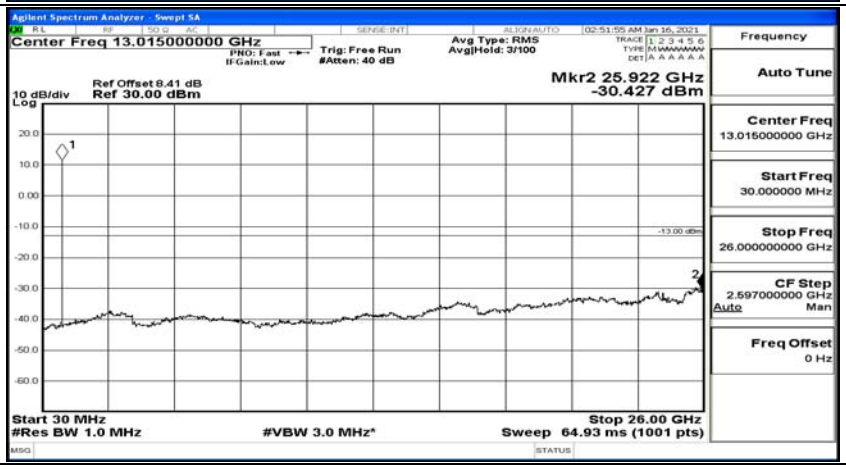




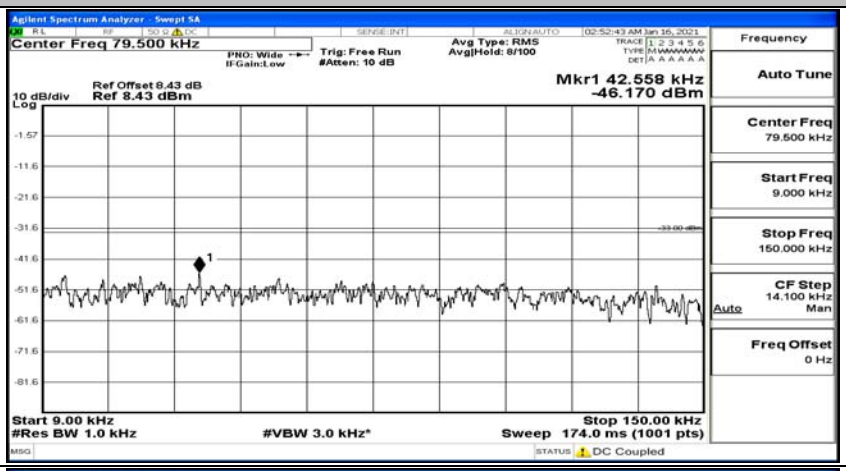
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#5

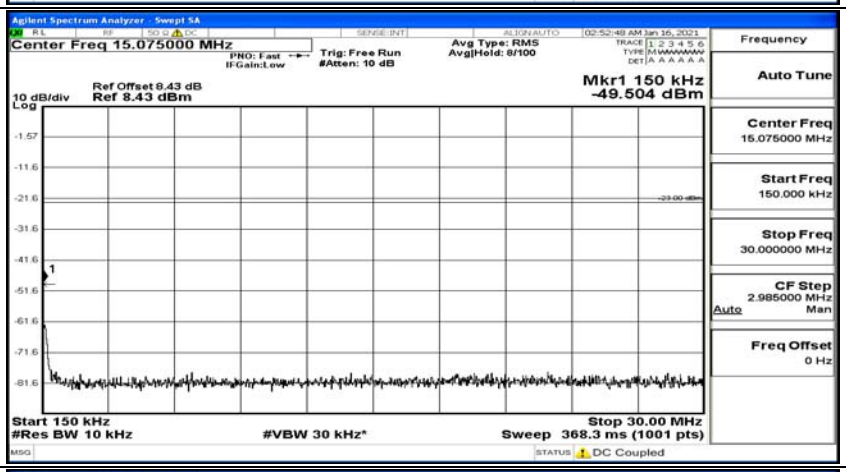


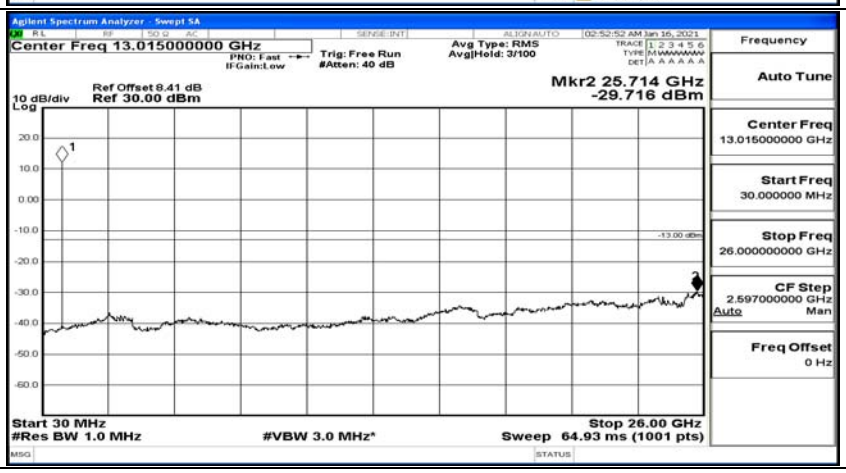




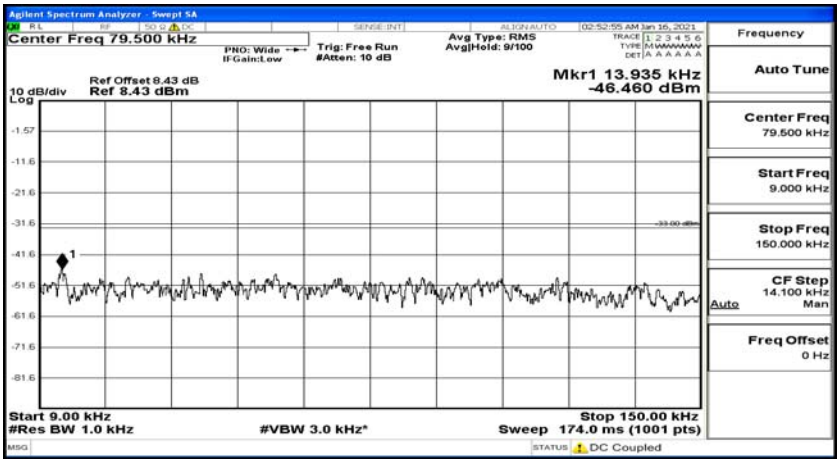
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#0

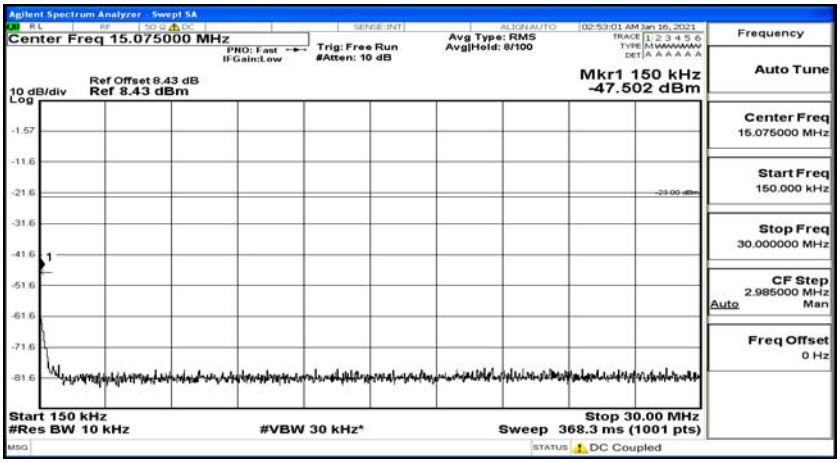




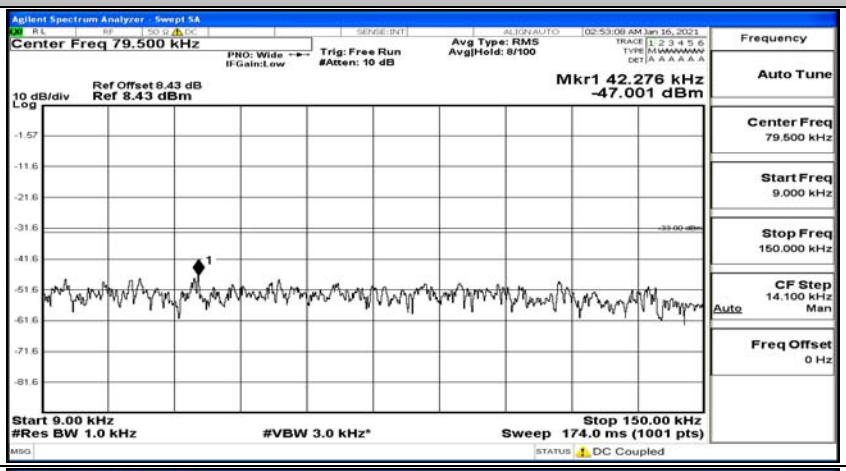


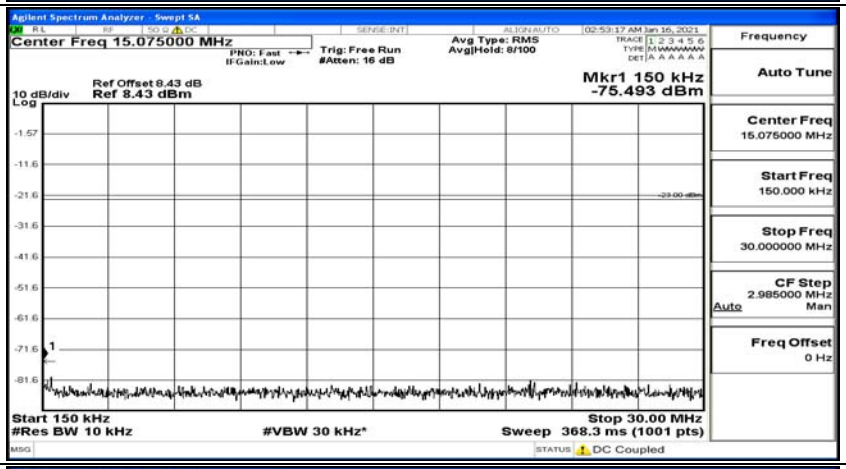
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#3

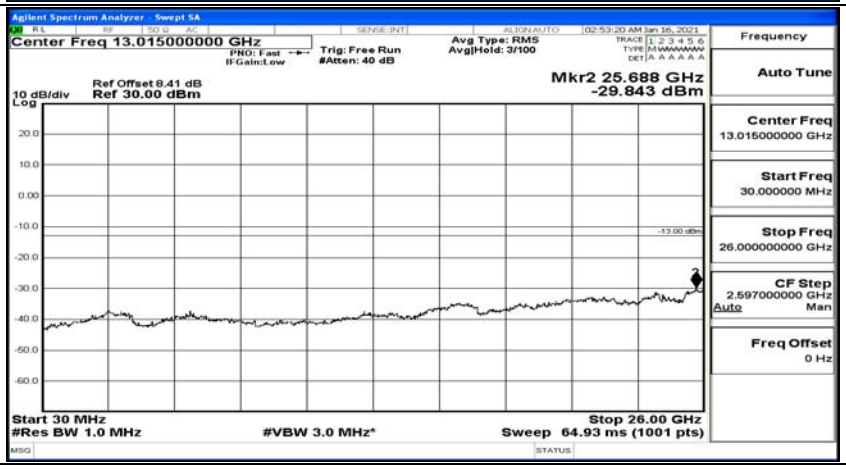




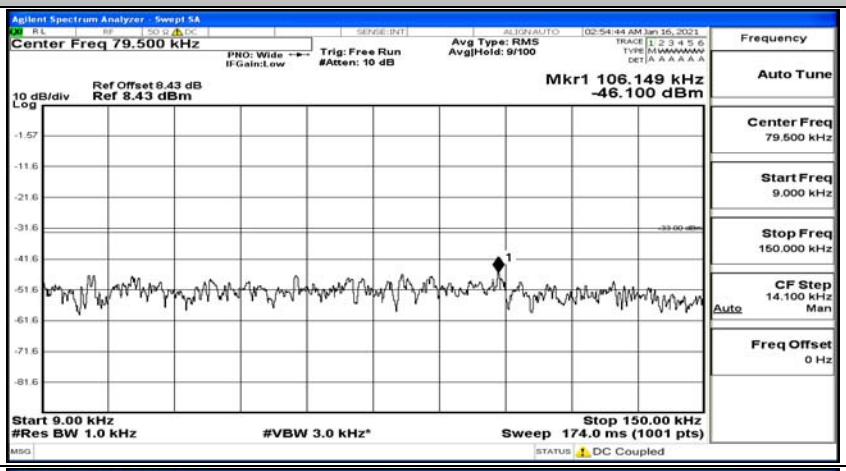
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#5

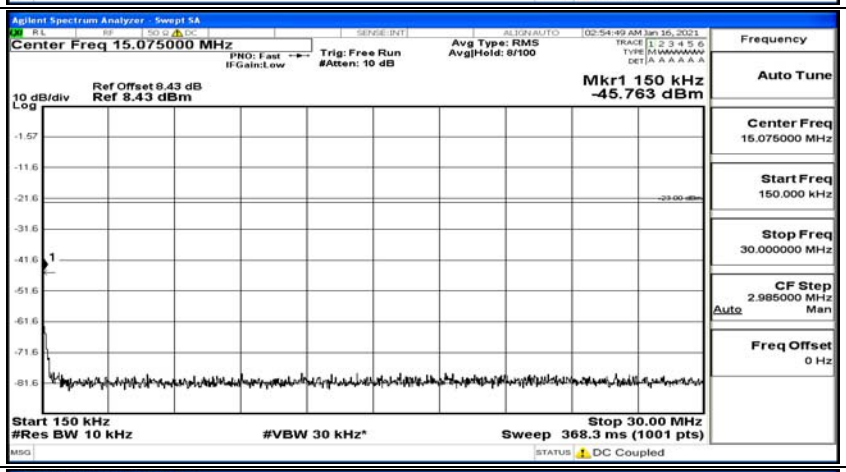




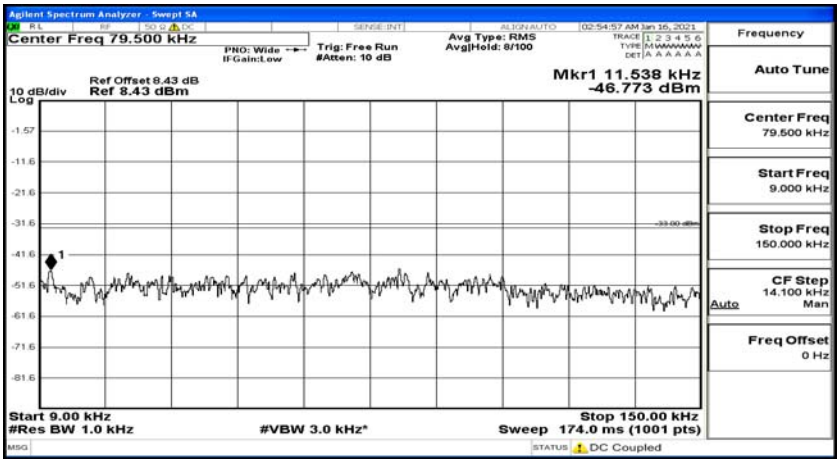


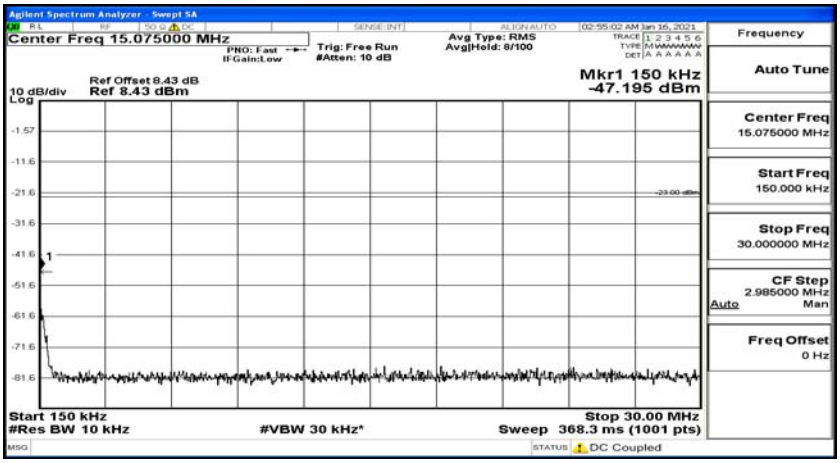
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#0



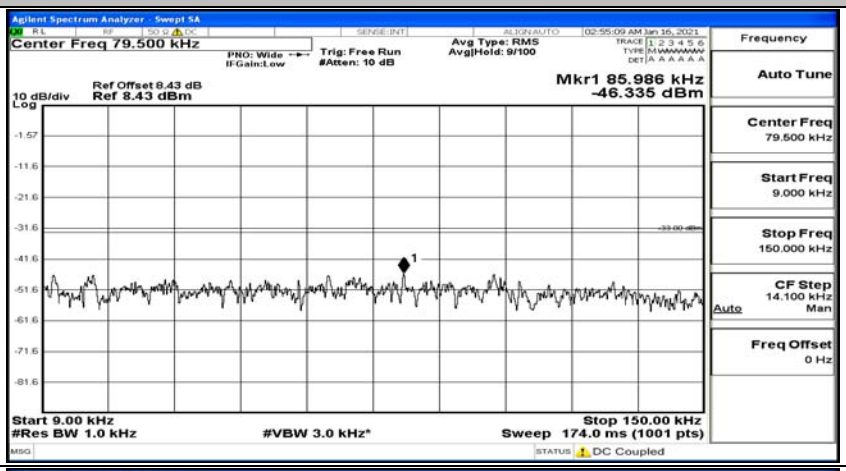


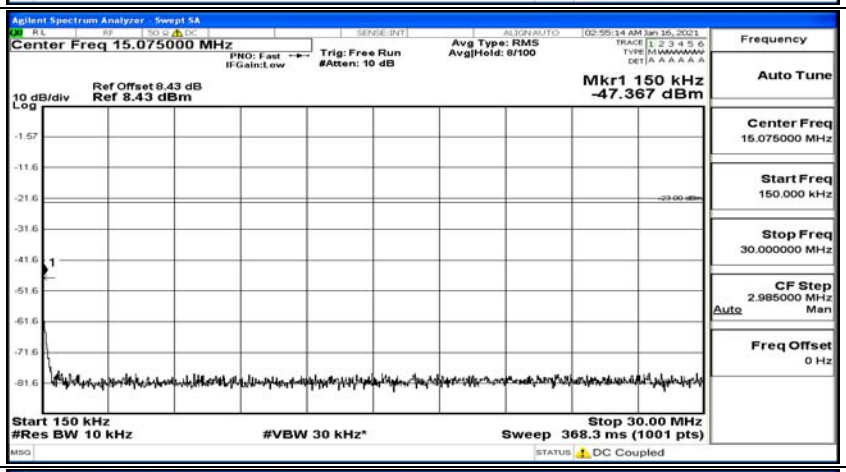
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#3

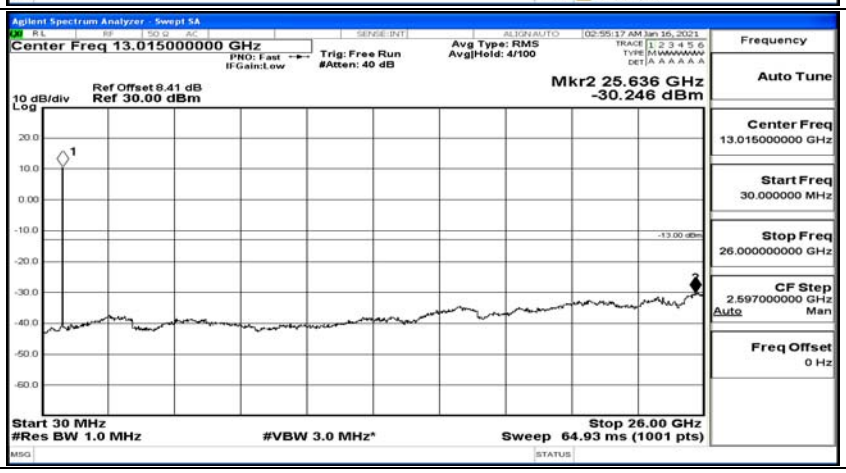




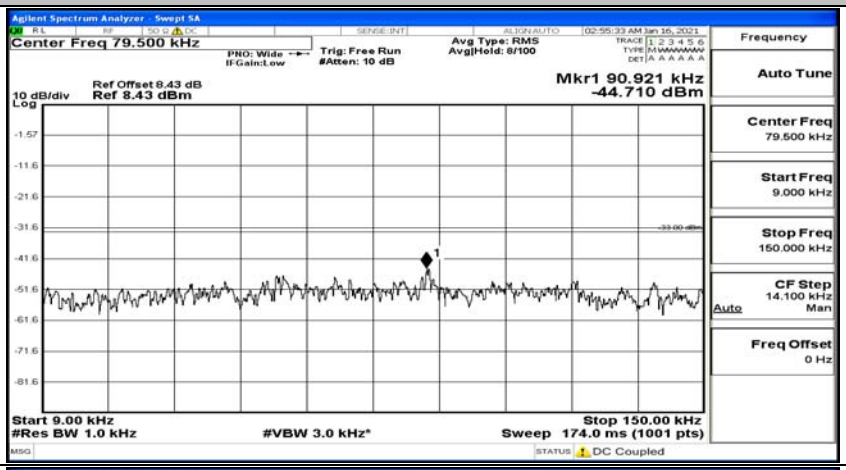
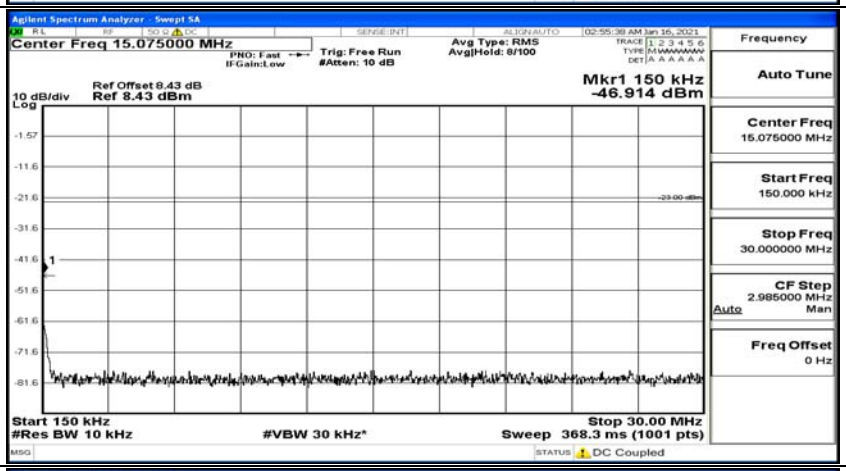
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#5



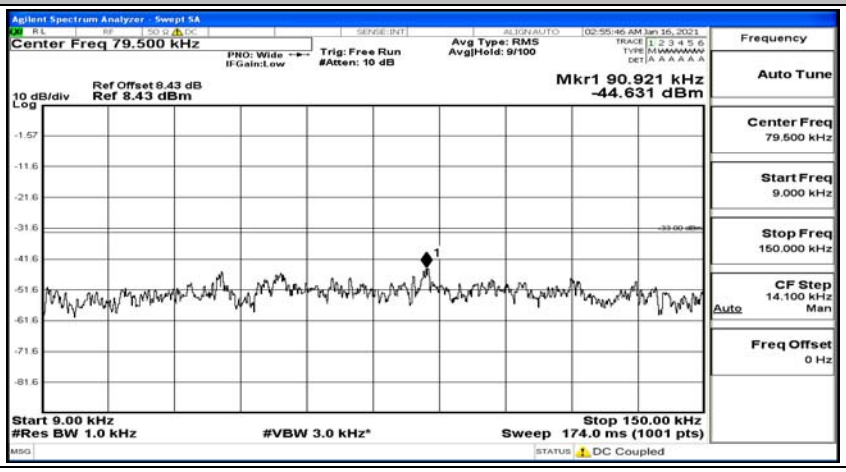


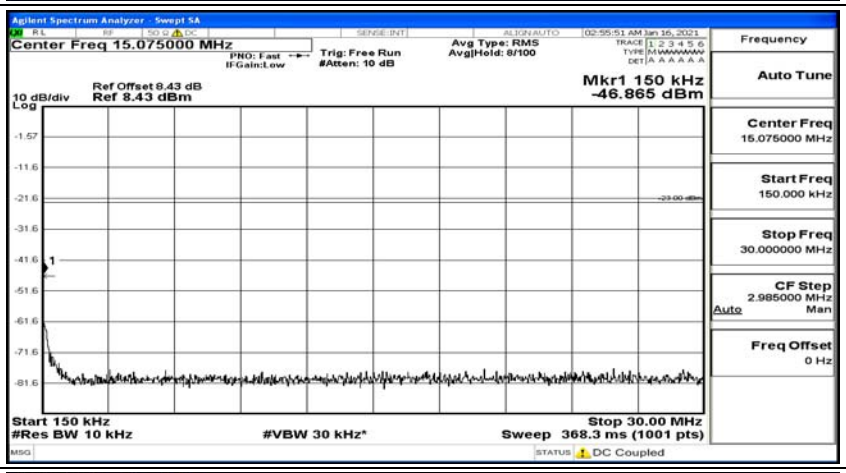


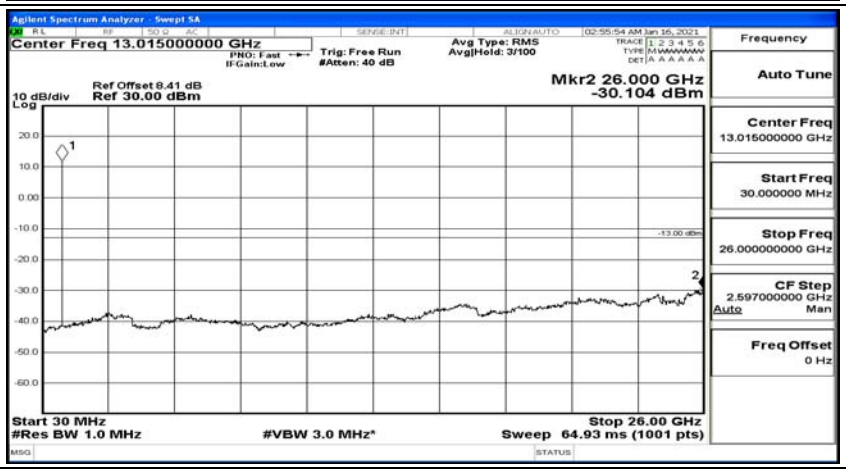
Channel Bandwidth: 3 MHz

(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#0



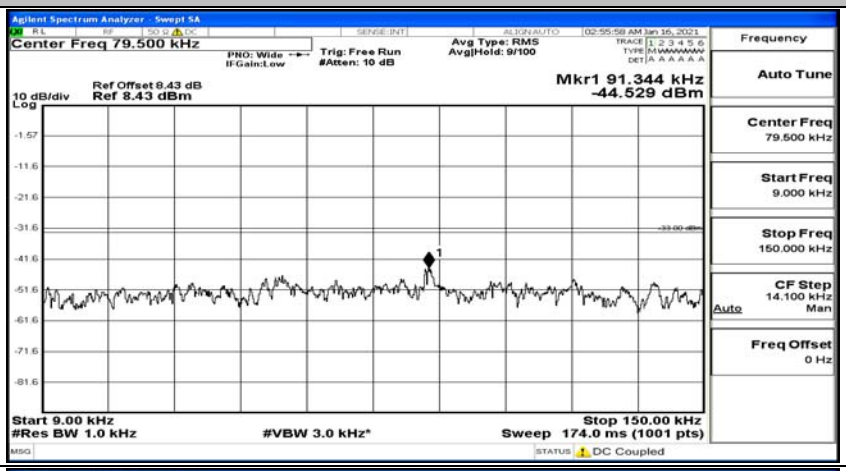
(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#7

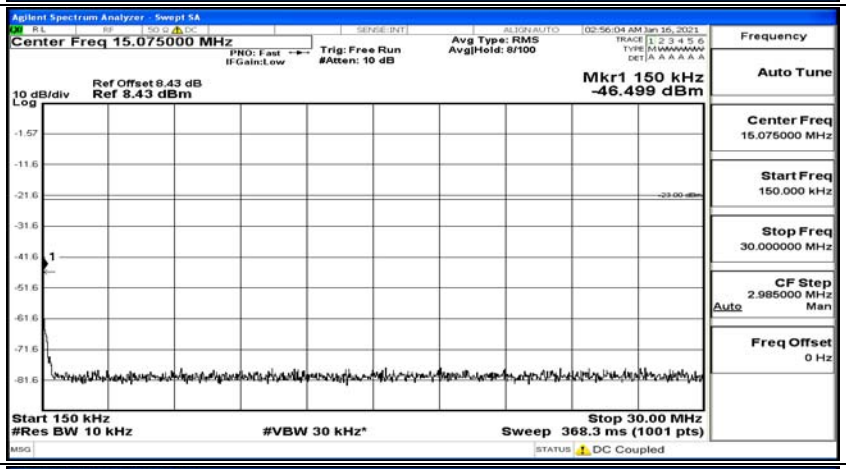
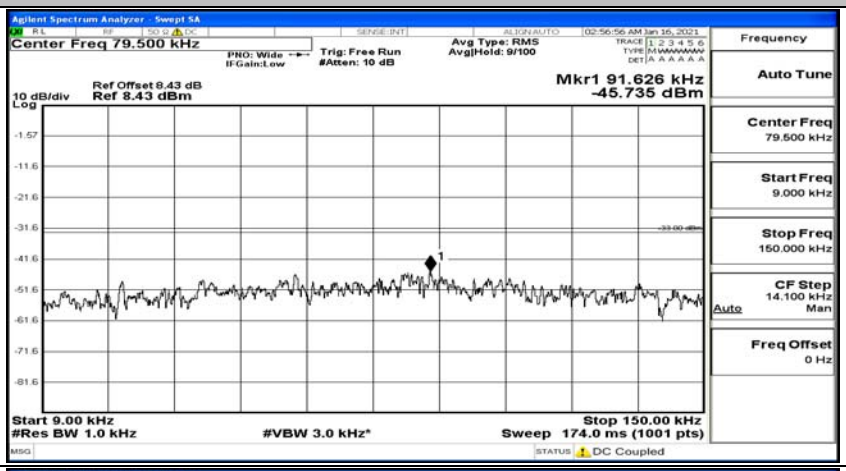
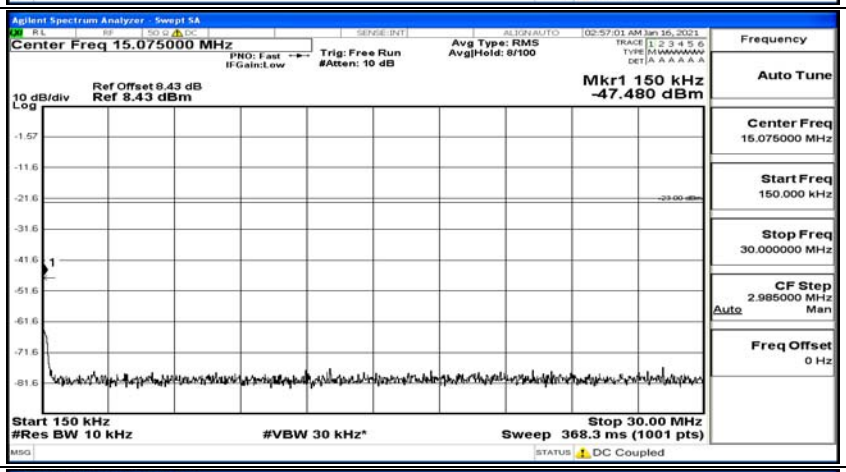






(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#14





(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#0