

## Appendix F: Test Data for E-UTRA Band 5

**Product Name: Smart Phone**

**Trade Mark: XTRATECH**

**Test Model: Brio X31**

### Environmental Conditions

Temperature:	23.4 ° C
Relative Humidity:	52.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Tom.Liu

### F.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	23.14	22.29	PASS
		1	3	23.21	22.41	PASS
		1	5	23.04	22.18	PASS
		3	0	23.12	22.22	PASS
		3	2	23.18	22.18	PASS
		3	3	23.08	22.14	PASS
		6	0	22.17	21.13	PASS
	MCH	1	0	21.65	20.95	PASS
		1	3	21.72	21.06	PASS
		1	5	21.56	20.89	PASS
		3	0	21.69	20.61	PASS
		3	2	21.64	20.65	PASS
		3	3	21.64	20.59	PASS
		6	0	20.65	19.61	PASS
	HCH	1	0	22.33	21.54	PASS
		1	3	22.55	21.82	PASS
		1	5	22.45	21.67	PASS
		3	0	22.43	21.40	PASS
		3	2	22.51	21.46	PASS
		3	3	22.48	21.48	PASS
		6	0	21.49	20.55	PASS

Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict
		Size	Offset			
QPSK / 16QAM	LCH	1	0	23.17	22.41	PASS
		1	7	23.25	22.52	PASS
		1	14	22.87	22.09	PASS
		8	0	22.12	21.17	PASS
		8	4	22.09	21.16	PASS
		8	7	21.97	21.04	PASS
		15	0	22.01	20.97	PASS
	MCH	1	0	21.66	21.00	PASS
		1	7	21.77	21.13	PASS
		1	14	21.54	20.78	PASS
		8	0	20.66	19.71	PASS
		8	4	20.68	19.75	PASS
		8	7	20.59	19.64	PASS
		15	0	20.63	19.56	PASS
	HCH	1	0	22.15	21.46	PASS
		1	7	22.57	21.85	PASS
		1	14	22.47	21.85	PASS
		8	0	21.26	20.23	PASS
		8	4	21.39	20.36	PASS
		8	7	21.39	20.35	PASS
		15	0	21.29	20.28	PASS

Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict
		Size	Offset			
QPSK / 16QAM	LCH	1	0	23.07	22.38	PASS
		1	12	23.15	22.39	PASS
		1	24	22.49	21.75	PASS
		12	0	22.02	21.09	PASS
		12	6	21.97	21.07	PASS
		12	13	21.75	20.88	PASS
		25	0	21.86	20.89	PASS
	MCH	1	0	21.73	21.05	PASS
		1	12	21.89	21.18	PASS
		1	24	21.45	20.76	PASS
		12	0	20.71	19.81	PASS
		12	6	20.70	19.78	PASS
		12	13	20.62	19.73	PASS
		25	0	20.68	19.80	PASS
	HCH	1	0	21.97	21.62	PASS
		1	12	22.66	22.19	PASS
		1	24	22.40	22.20	PASS
		12	0	21.56	20.63	PASS
		12	6	21.77	20.82	PASS
		12	13	21.80	20.86	PASS
		25	0	21.69	20.69	PASS

Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict
		Size	Offset			
QPSK / 16QAM	LCH	1	0	23.63	22.47	PASS
		1	24	23.14	22.21	PASS
		1	49	22.24	21.55	PASS
		25	0	22.31	21.26	PASS
		25	12	21.96	21.06	PASS
		25	25	21.60	20.69	PASS
		50	0	21.98	20.98	PASS
	MCH	1	0	22.51	21.66	PASS
		1	24	22.29	21.54	PASS
		1	49	22.02	21.23	PASS
		25	0	21.36	20.38	PASS
		25	12	21.19	20.16	PASS
		25	25	21.15	20.23	PASS
		50	0	21.26	20.25	PASS
	HCH	1	0	22.20	21.43	PASS
		1	24	22.56	21.78	PASS
		1	49	22.93	22.30	PASS
		25	0	21.32	20.32	PASS
		25	12	21.50	20.47	PASS
		25	25	21.61	20.59	PASS
		50	0	21.42	20.46	PASS

## F.2 Peak-to-Average Ratio

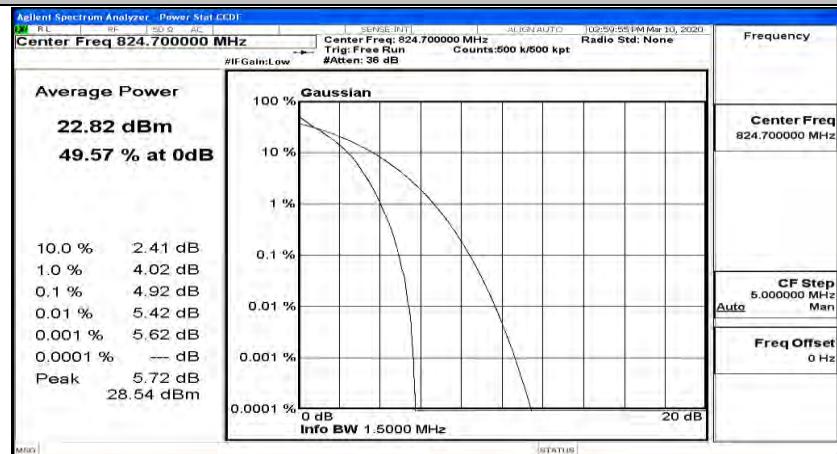
Peak-to Average Ratio Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	4.92	<13	PASS
	MCH	5.15	<13	PASS
	HCH	5.07	<13	PASS
16QAM	LCH	5.75	<13	PASS
	MCH	6.03	<13	PASS
	HCH	5.92	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5	<13	PASS
	MCH	5.32	<13	PASS
	HCH	5.24	<13	PASS
16QAM	LCH	5.91	<13	PASS
	MCH	6.19	<13	PASS
	HCH	5.9	<13	PASS

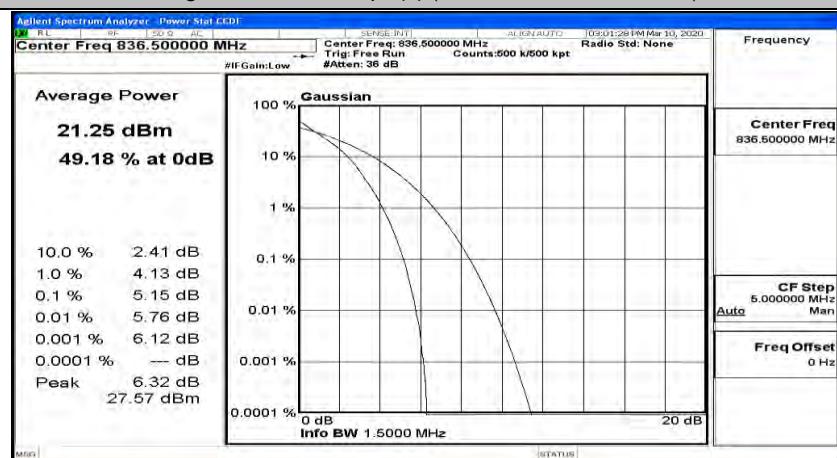
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	4.93	<13	PASS
	MCH	5.29	<13	PASS
	HCH	5.08	<13	PASS
16QAM	LCH	5.66	<13	PASS
	MCH	6.08	<13	PASS
	HCH	5.84	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.06	<13	PASS
	MCH	5.31	<13	PASS
	HCH	5.19	<13	PASS
16QAM	LCH	5.76	<13	PASS
	MCH	6	<13	PASS
	HCH	5.88	<13	PASS

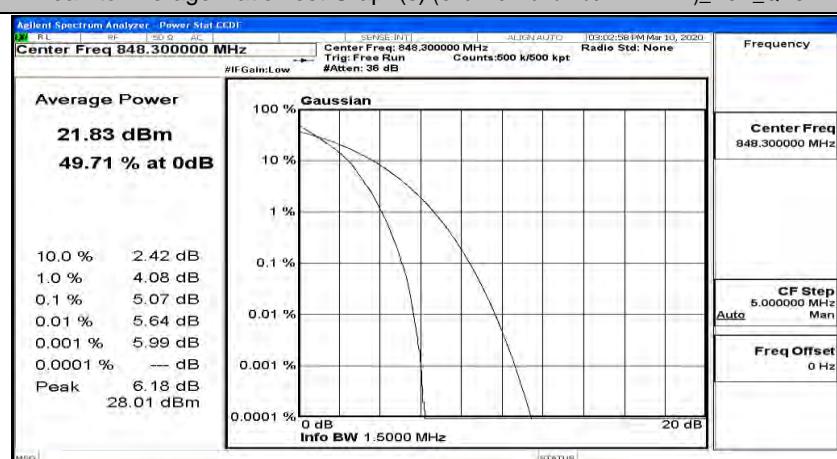
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_LCH\_QPSK



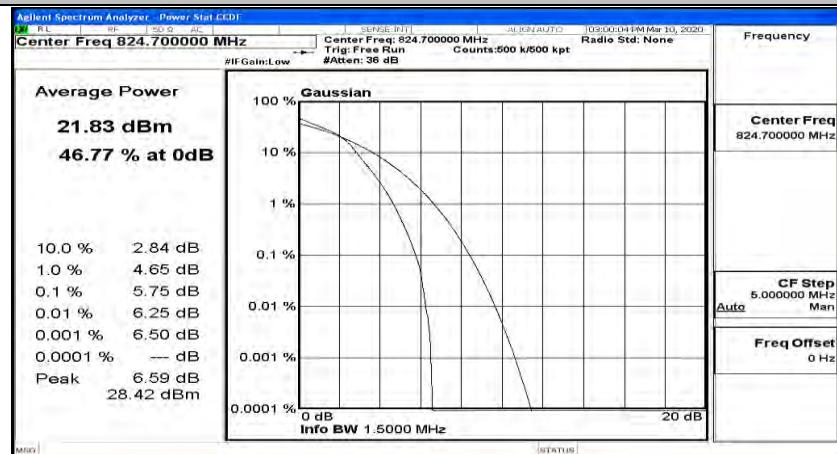
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_MCH\_QPSK



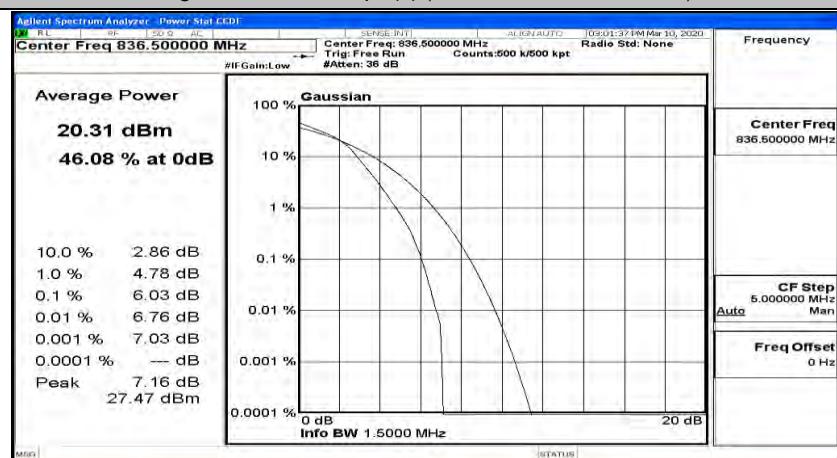
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_HCH\_QPSK



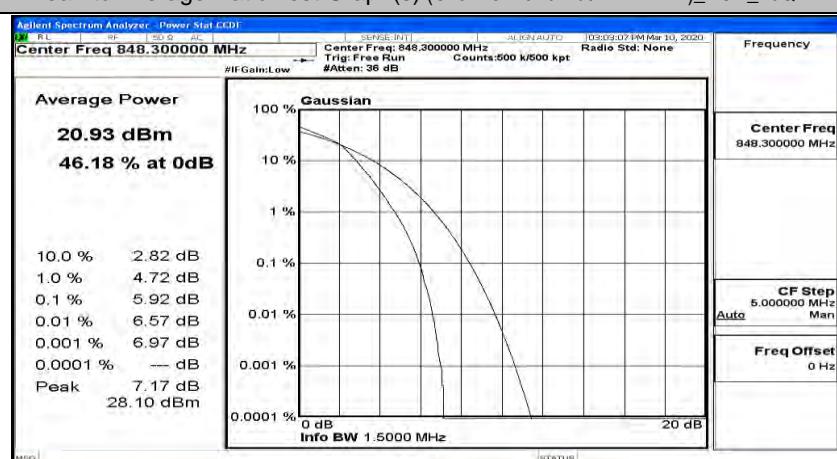
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_LCH\_16QAM



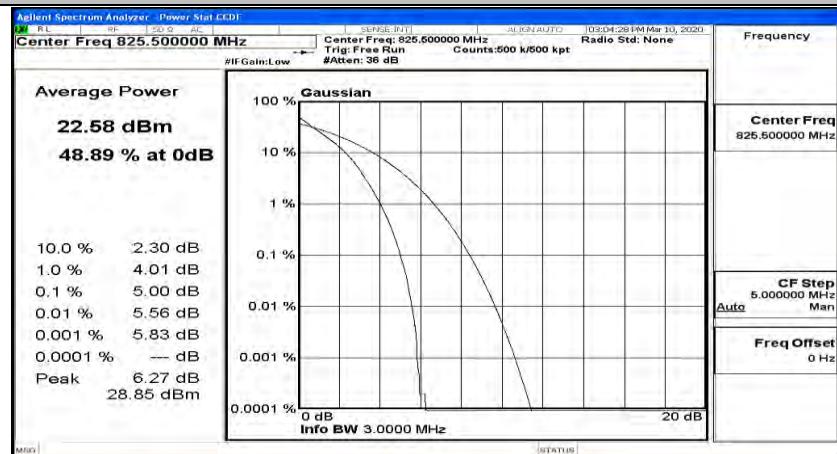
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_MCH\_16QAM



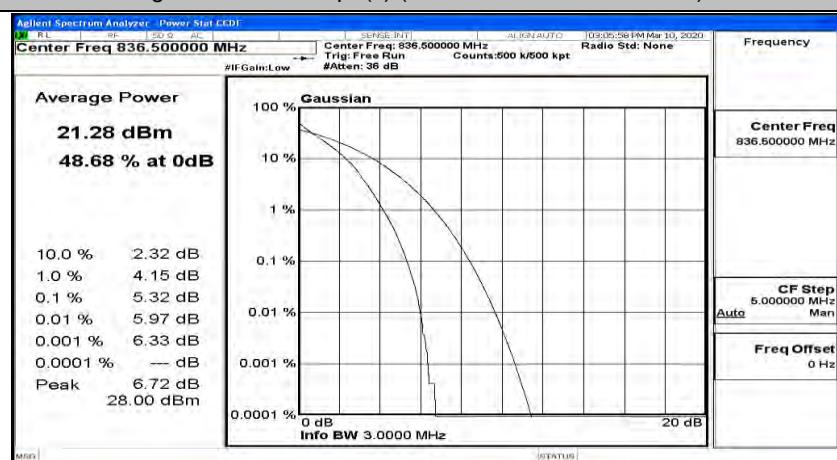
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_HCH\_16QAM



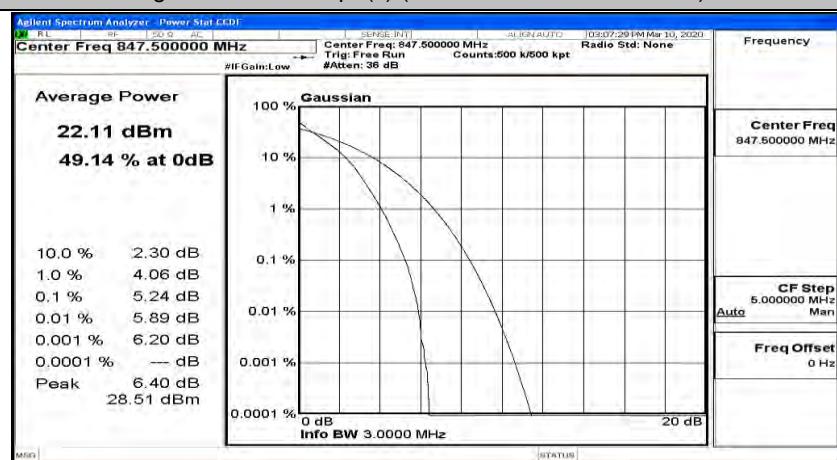
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_LCH\_QPSK



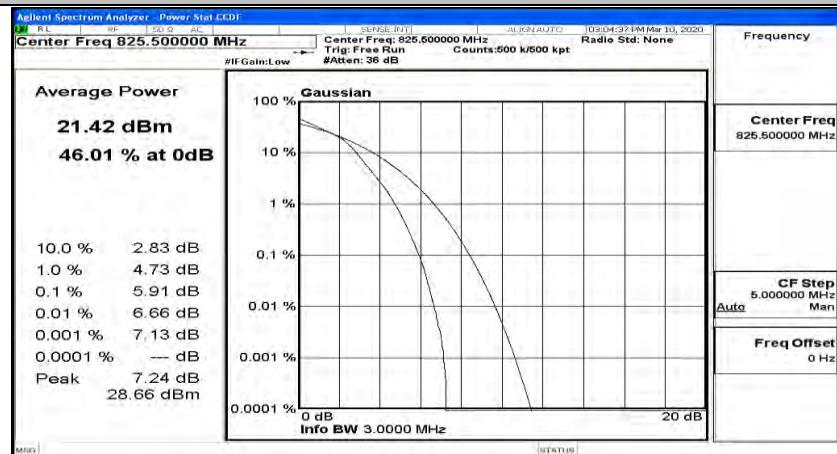
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_MCH\_QPSK



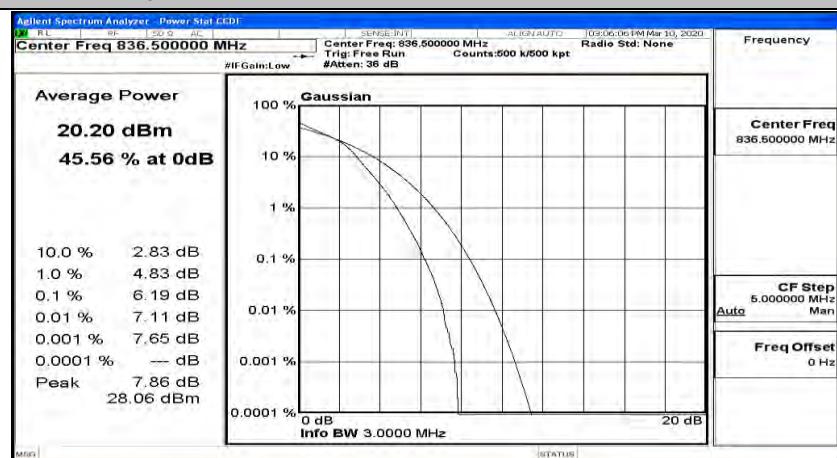
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_HCH\_QPSK



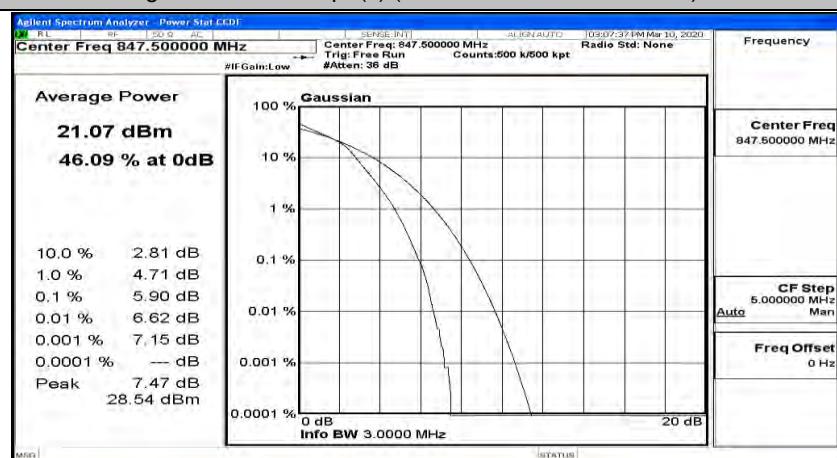
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_LCH\_16QAM



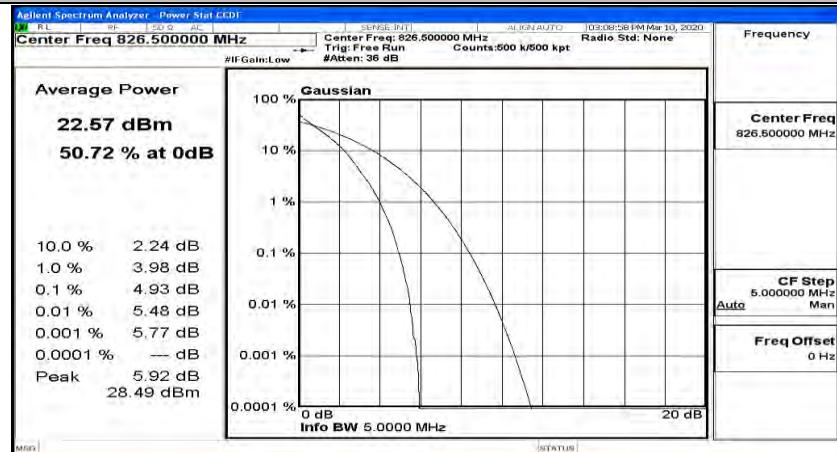
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_MCH\_16QAM



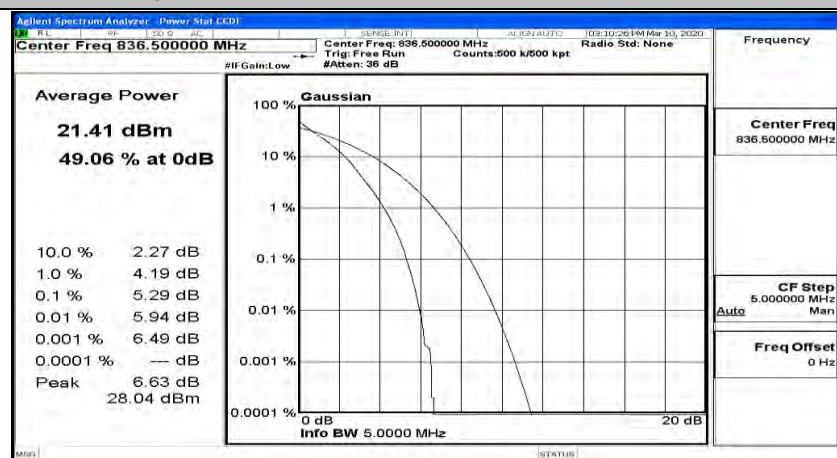
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_HCH\_16QAM



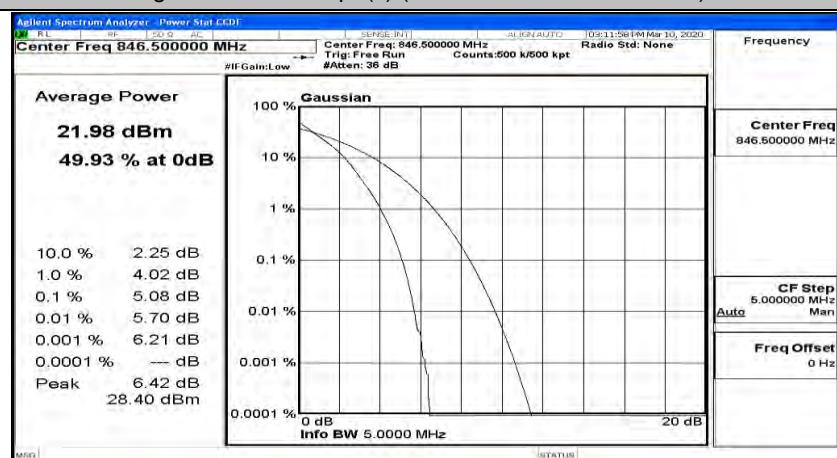
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_LCH\_QPSK



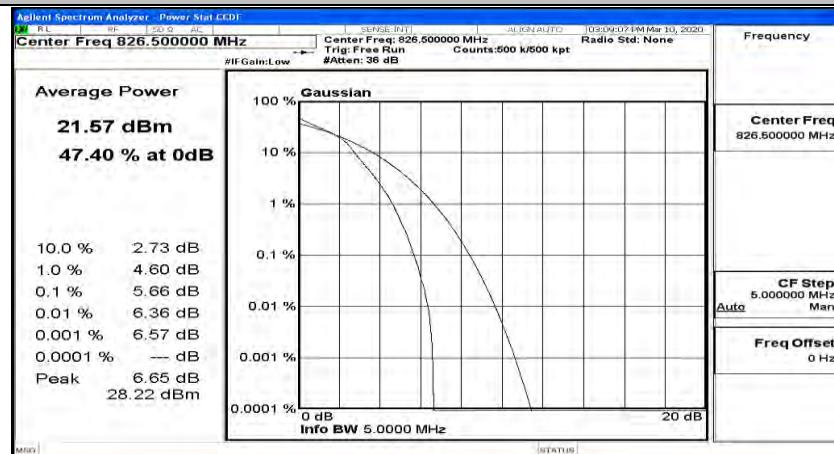
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_MCH\_QPSK



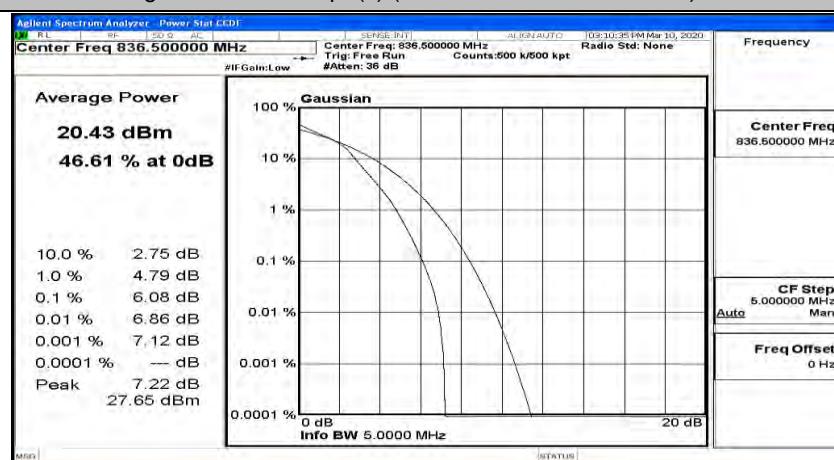
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_HCH\_QPSK



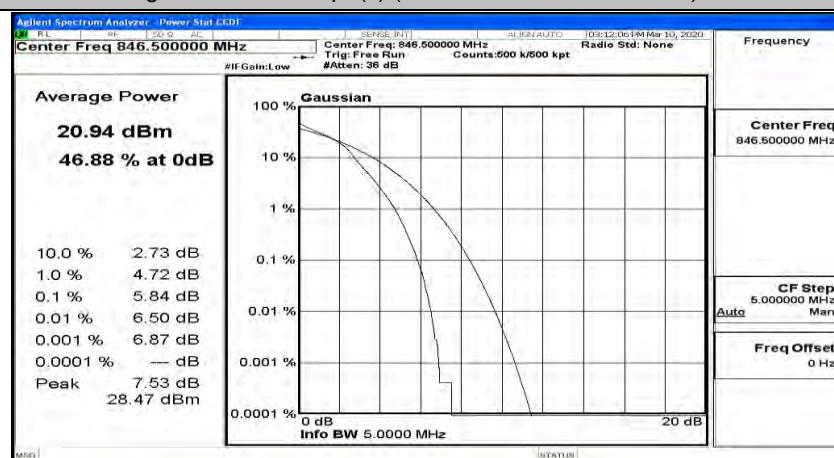
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_LCH\_16QAM



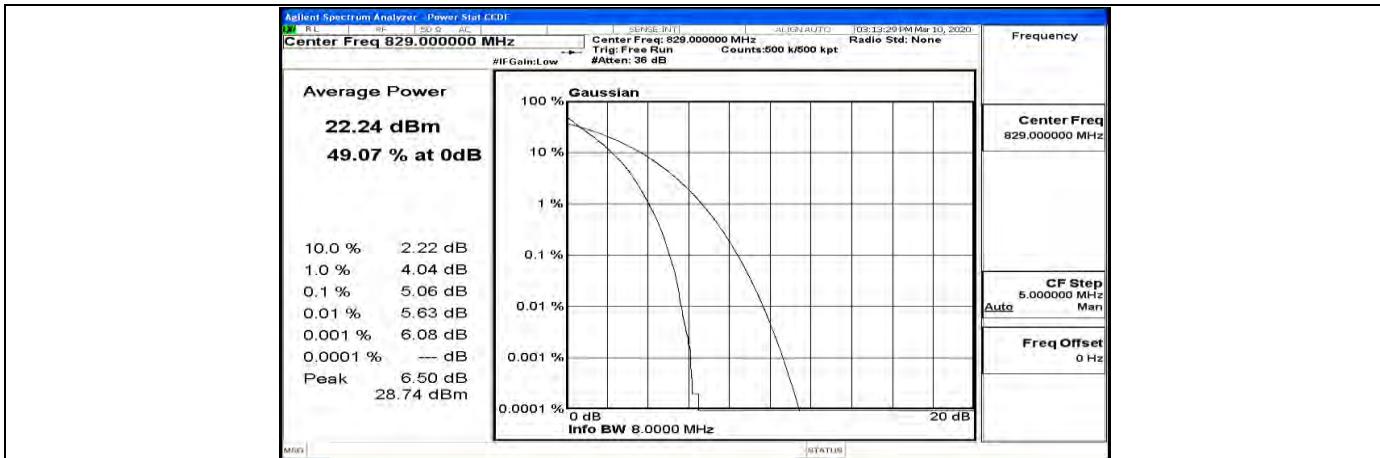
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_MCH\_16QAM



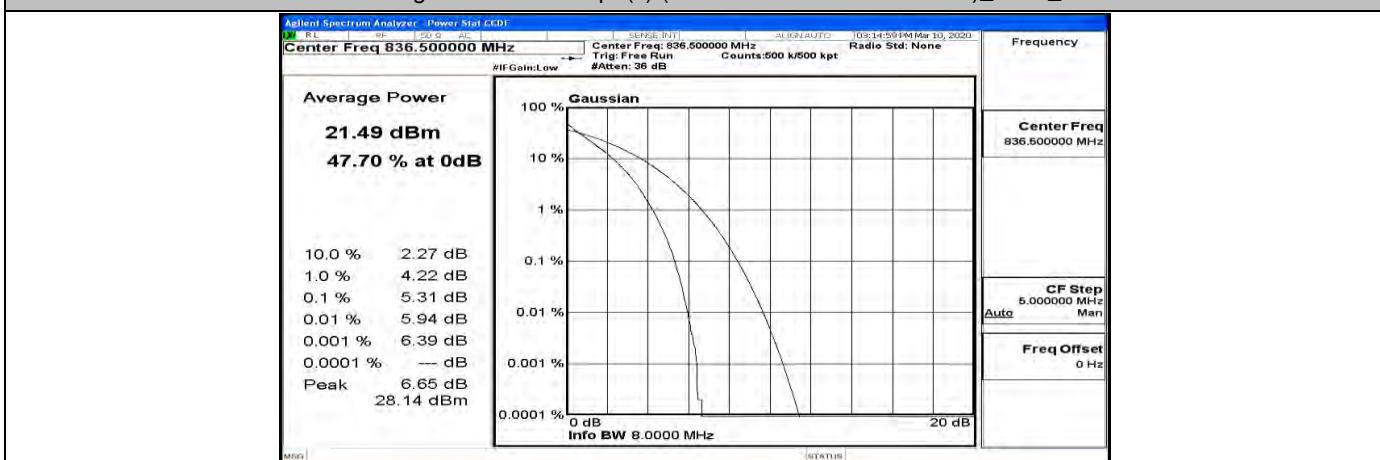
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_HCH\_16QAM



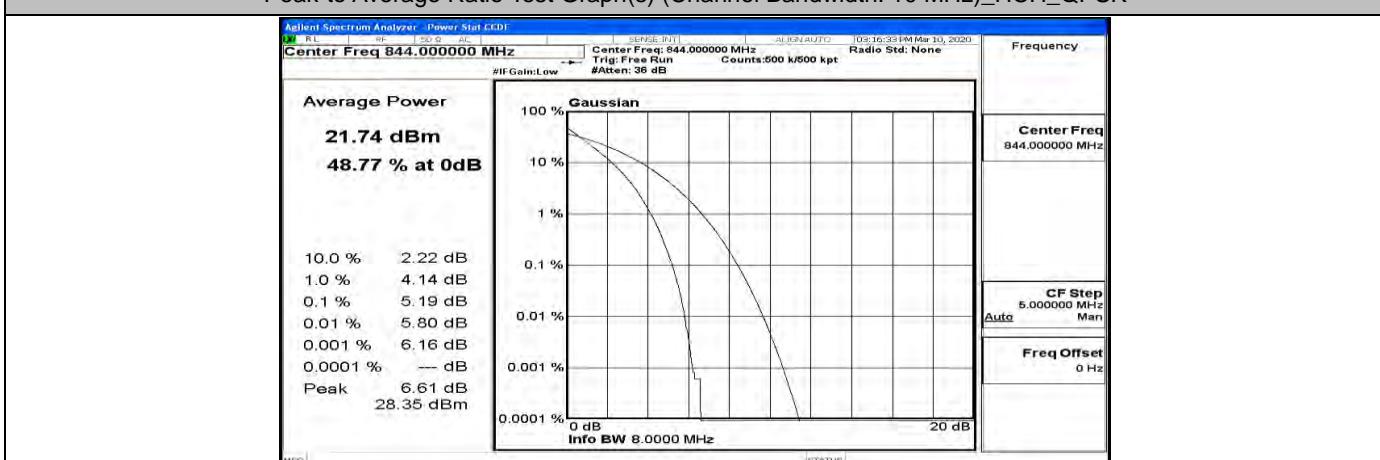
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_QPSK



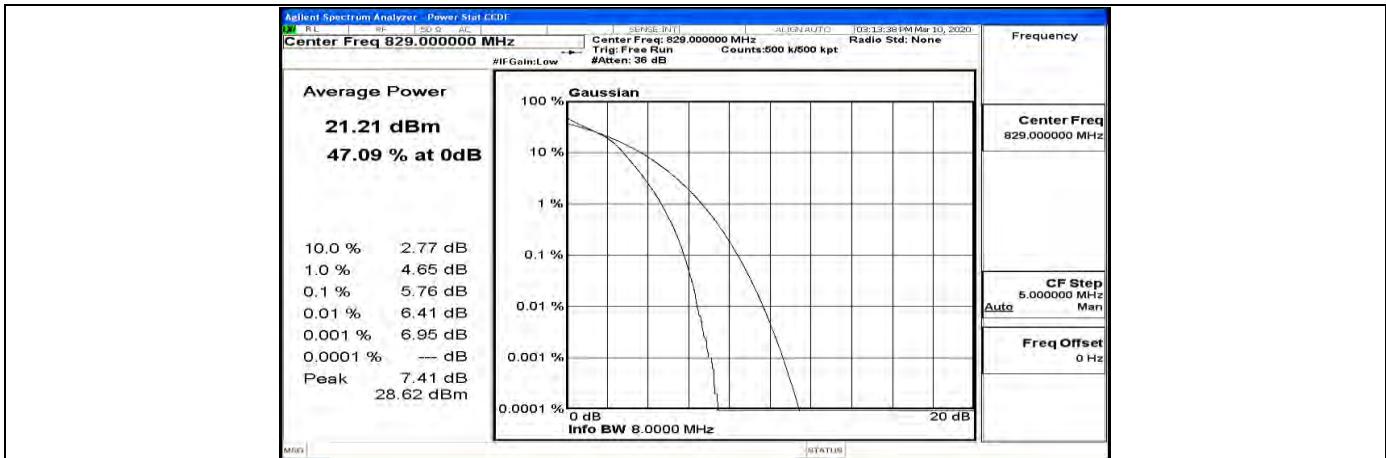
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)\_MCH\_QPSK



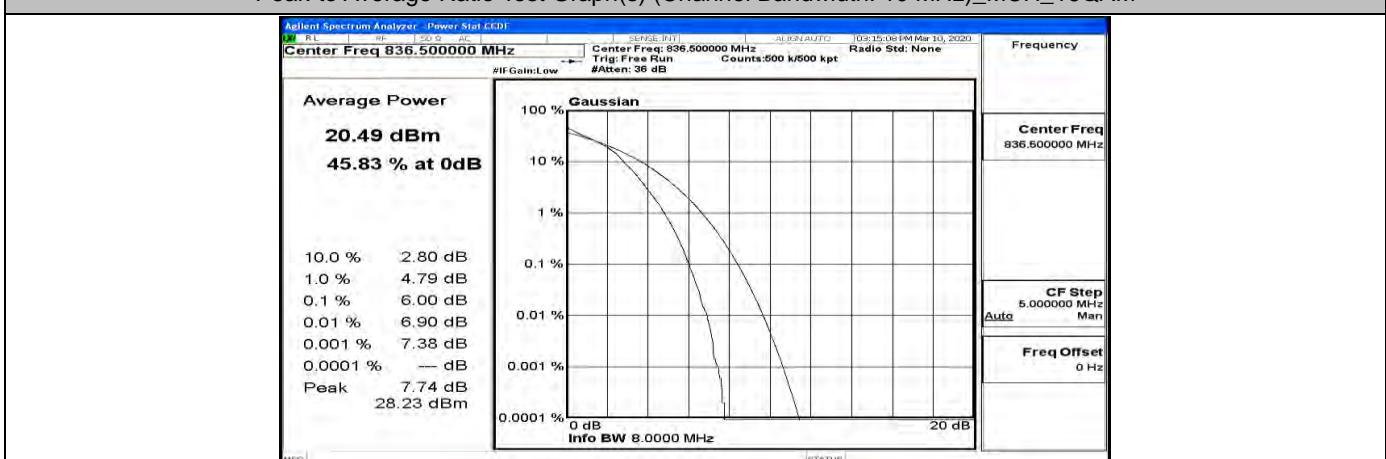
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz) HCH QPSK



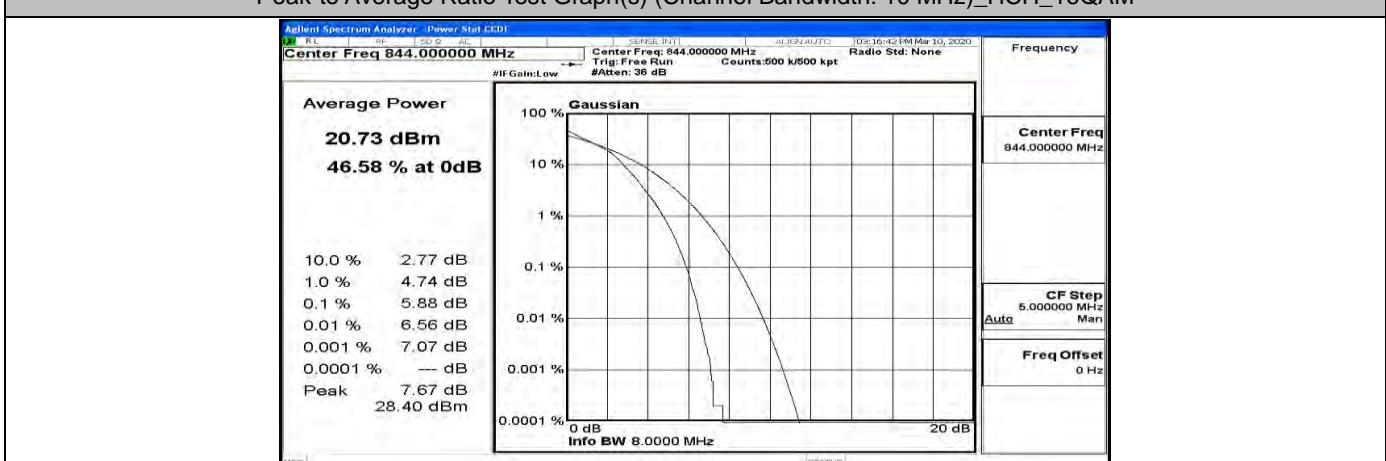
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz) LCH 16QAM



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



**F.3 26dB Bandwidth and Occupied Bandwidth**

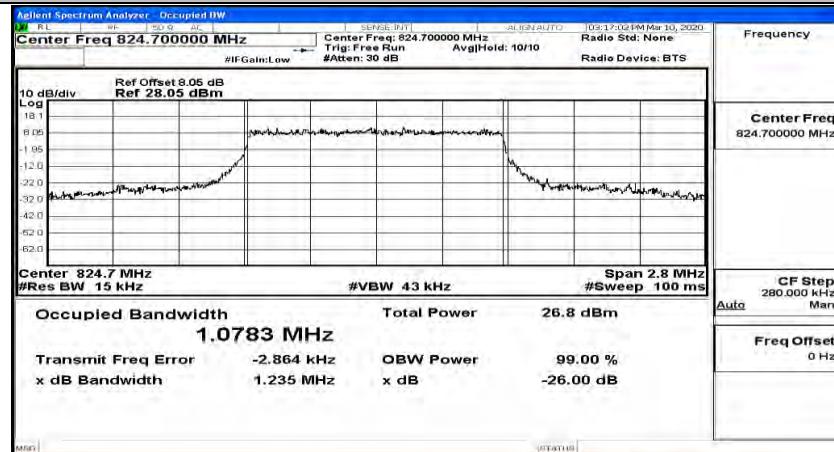
EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	1.0783	1.235	PASS
	MCH	1.0723	1.235	PASS
	HCH	1.0773	1.222	PASS
16QAM	LCH	1.0792	1.238	PASS
	MCH	1.0799	1.217	PASS
	HCH	1.0766	1.224	PASS

EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	2.6797	2.819	PASS
	MCH	2.6799	2.831	PASS
	HCH	2.6814	2.837	PASS
16QAM	LCH	2.6832	2.827	PASS
	MCH	2.6803	2.833	PASS
	HCH	2.6850	2.836	PASS

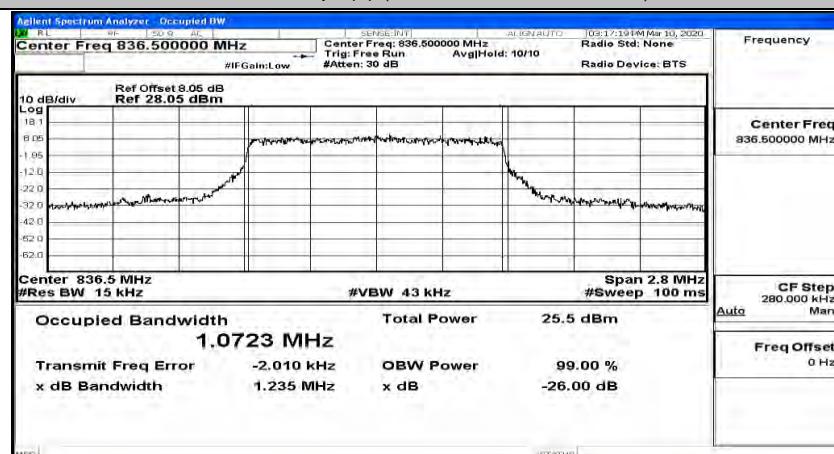
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.4786	4.751	PASS
	MCH	4.4806	4.735	PASS
	HCH	4.4748	4.723	PASS
16QAM	LCH	4.4759	4.743	PASS
	MCH	4.4649	4.780	PASS
	HCH	4.4715	4.732	PASS

EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	8.9525	9.363	PASS
	MCH	8.9492	9.465	PASS
	HCH	8.9284	9.383	PASS
16QAM	LCH	8.9381	9.364	PASS
	MCH	8.9436	9.374	PASS
	HCH	8.9347	9.340	PASS

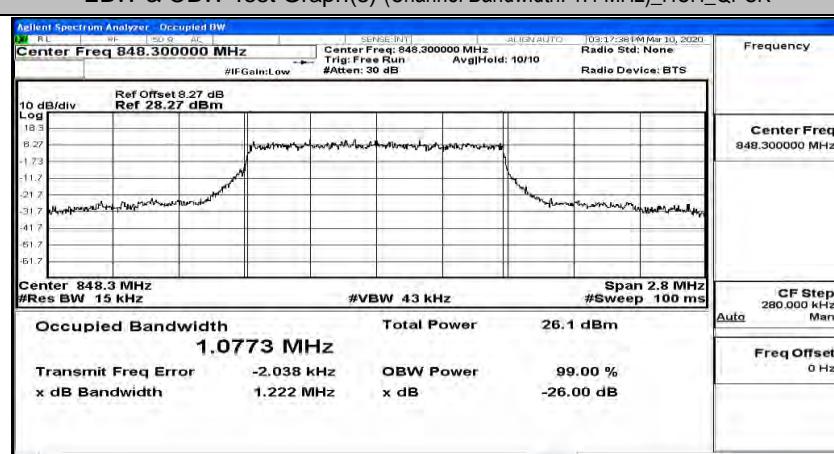
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_LCH\_QPSK



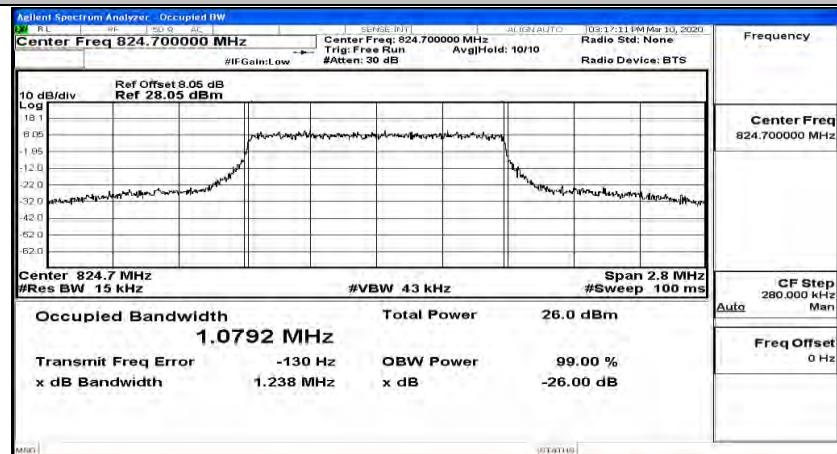
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_MCH\_QPSK



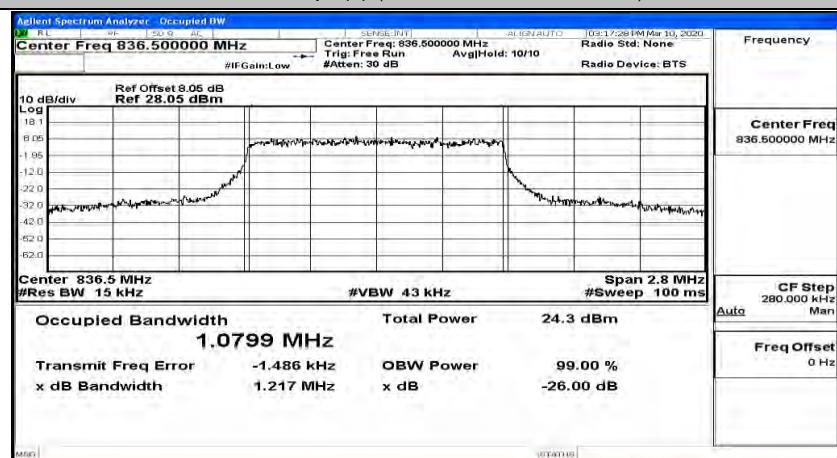
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_HCH\_QPSK



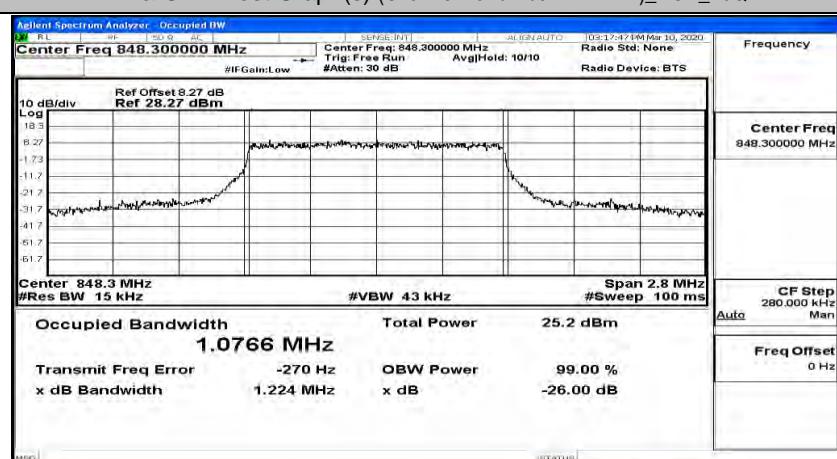
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_LCH\_16QAM



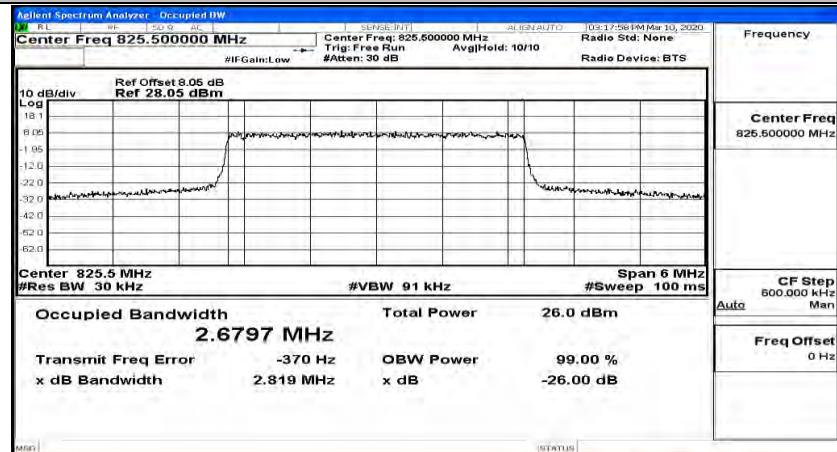
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_MCH\_16QAM



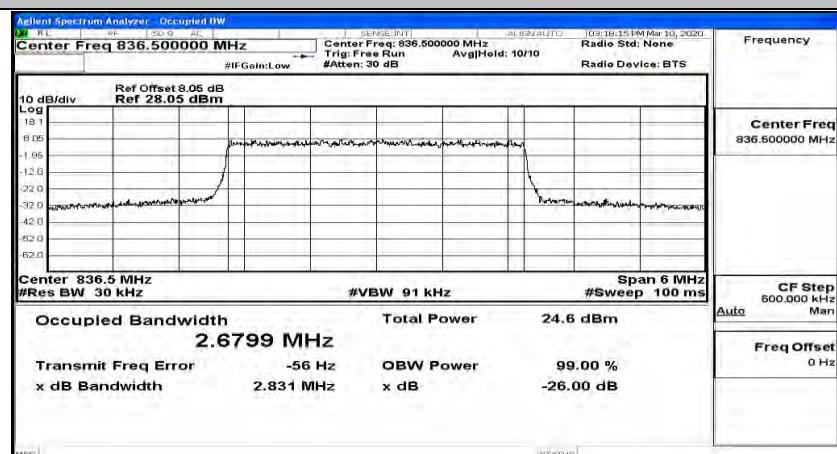
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_HCH\_16QAM



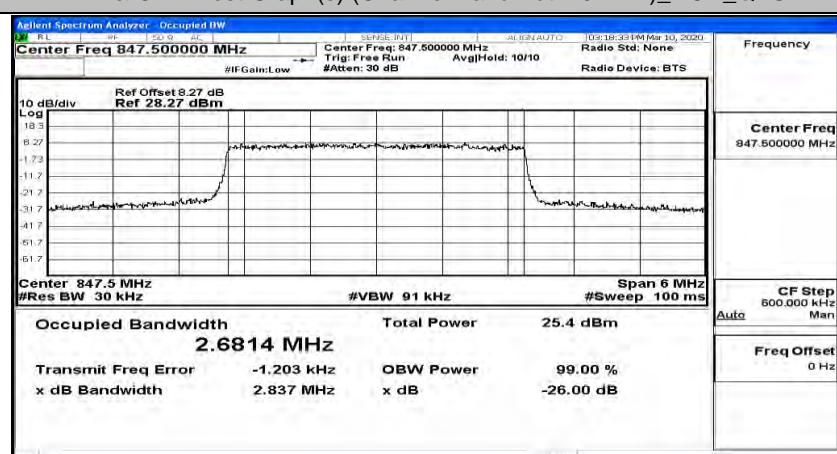
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_LCH\_QPSK



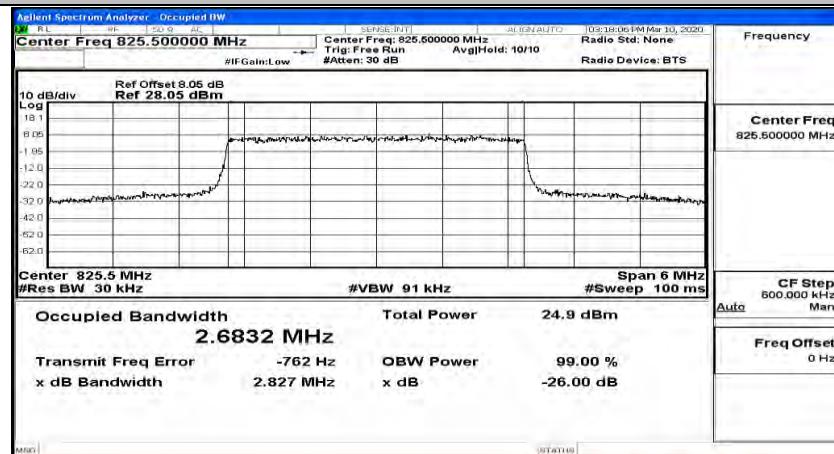
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_MCH\_QPSK



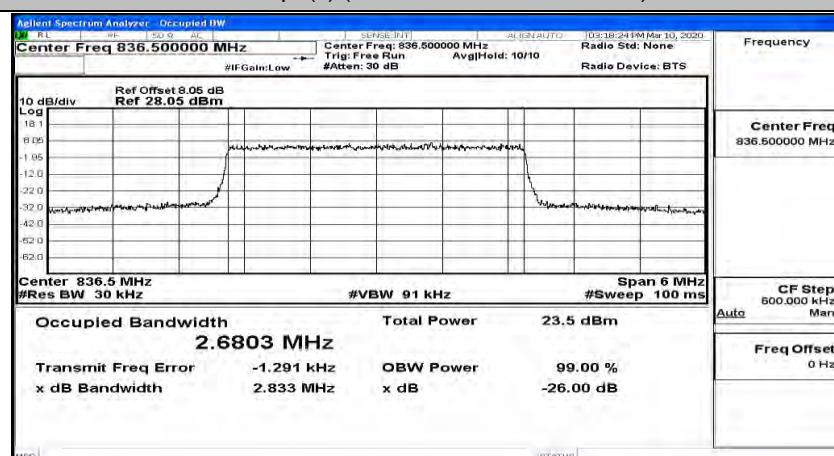
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_HCH\_QPSK



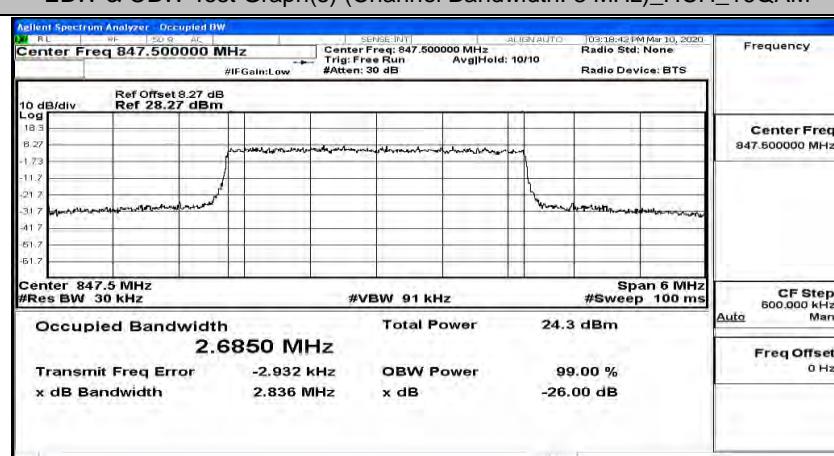
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_LCH\_16QAM

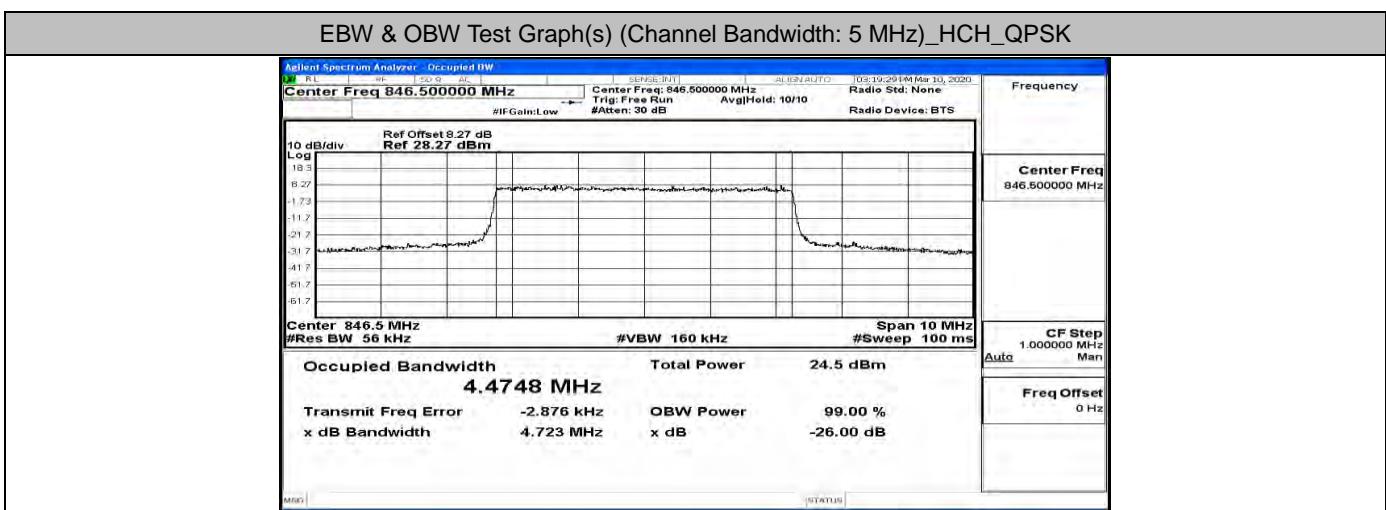
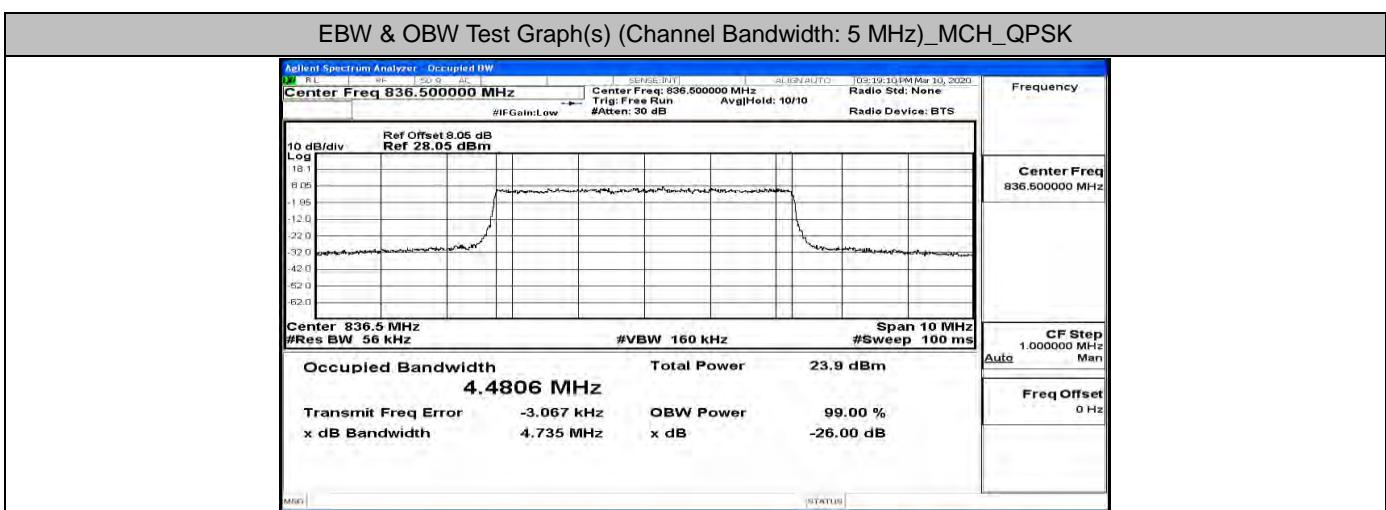
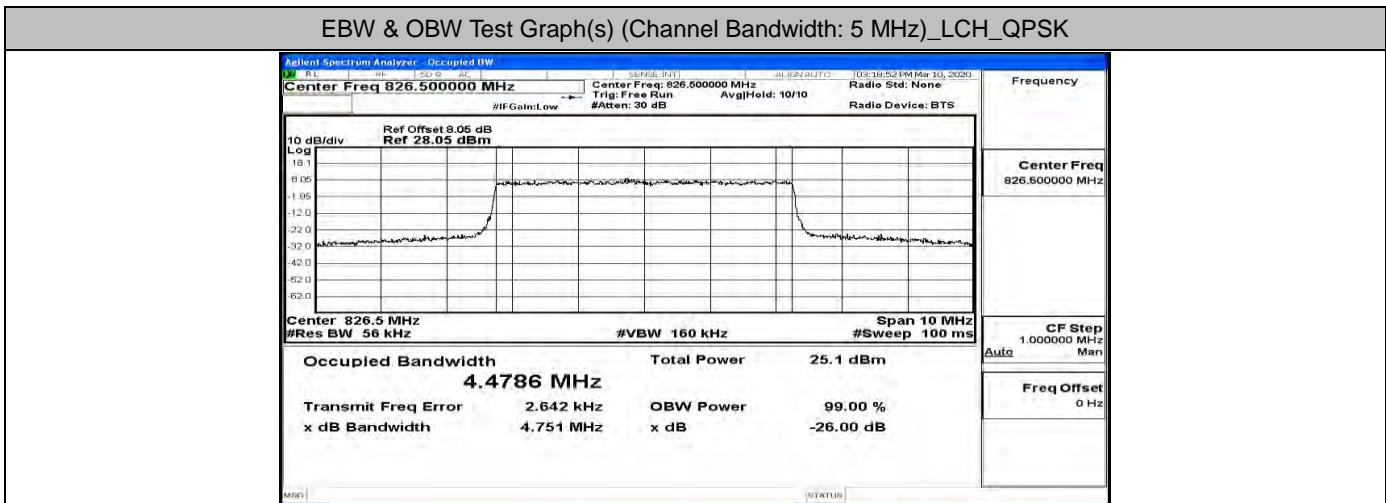


## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_MCH\_16QAM

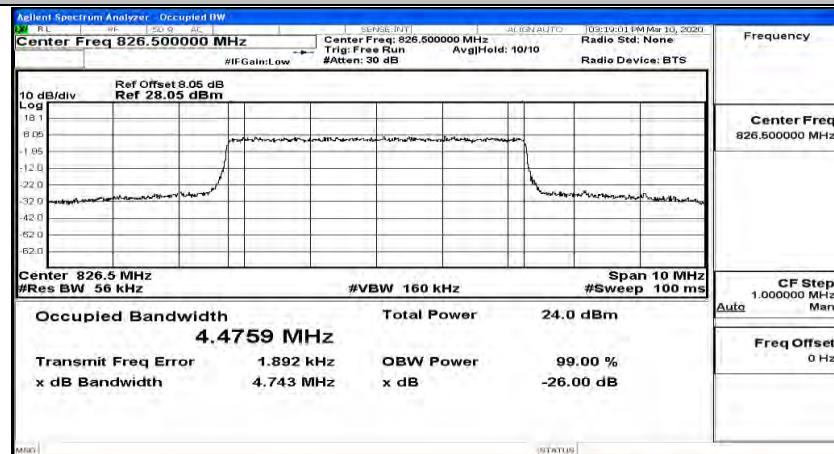


## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_HCH\_16QAM

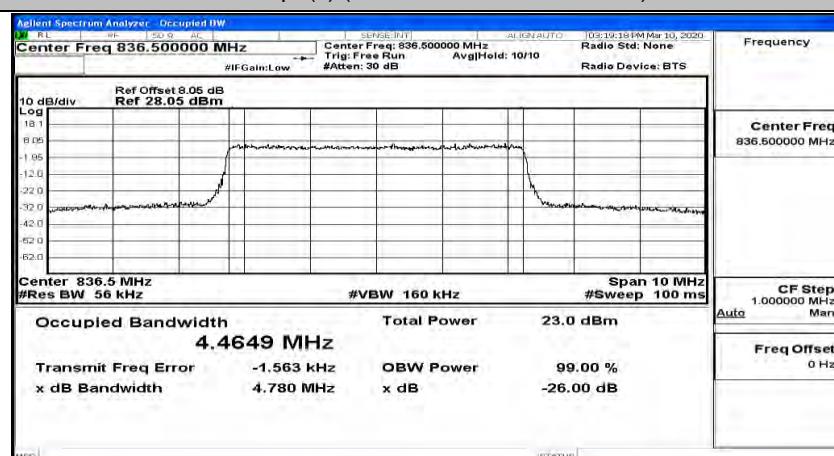




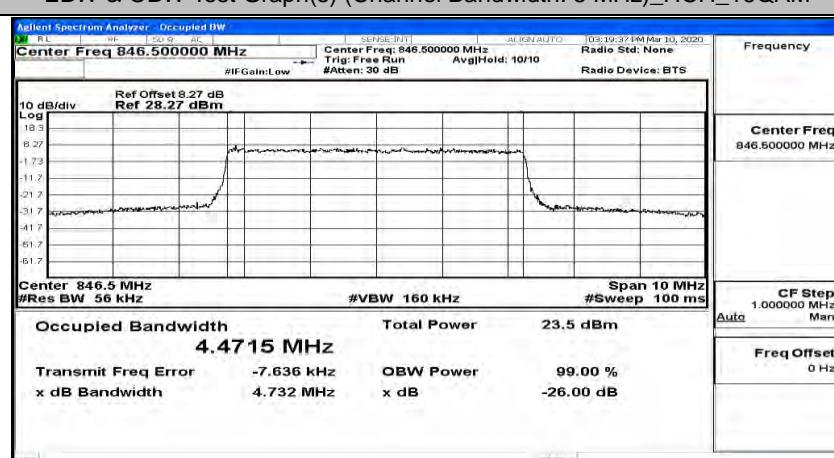
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 5 MHz)\_LCH\_16QAM



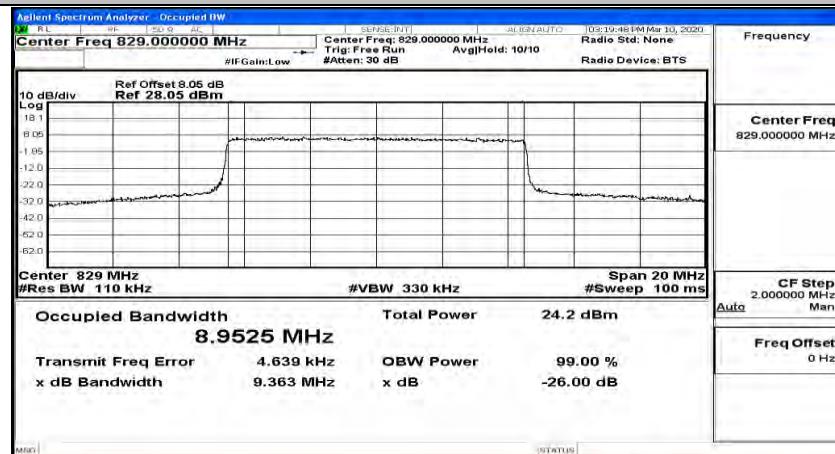
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 5 MHz)\_MCH\_16QAM



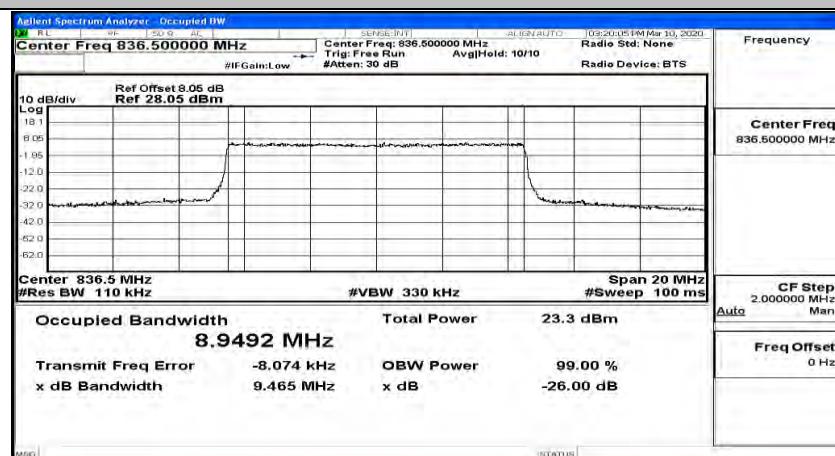
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 5 MHz)\_HCH\_16QAM



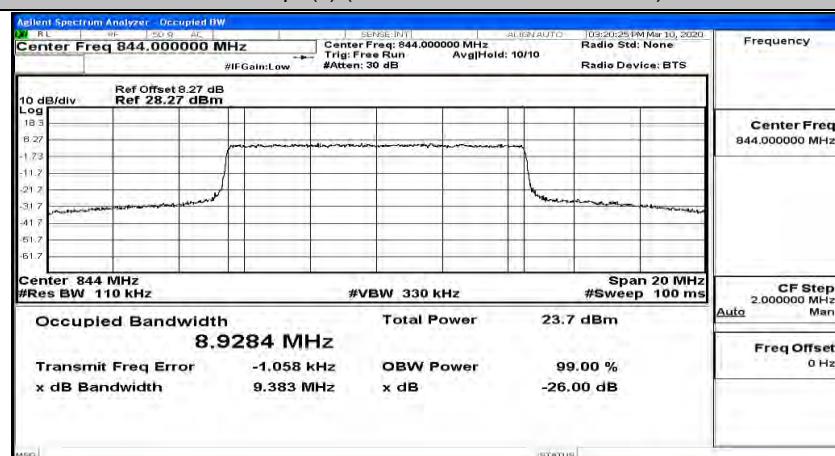
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_QPSK



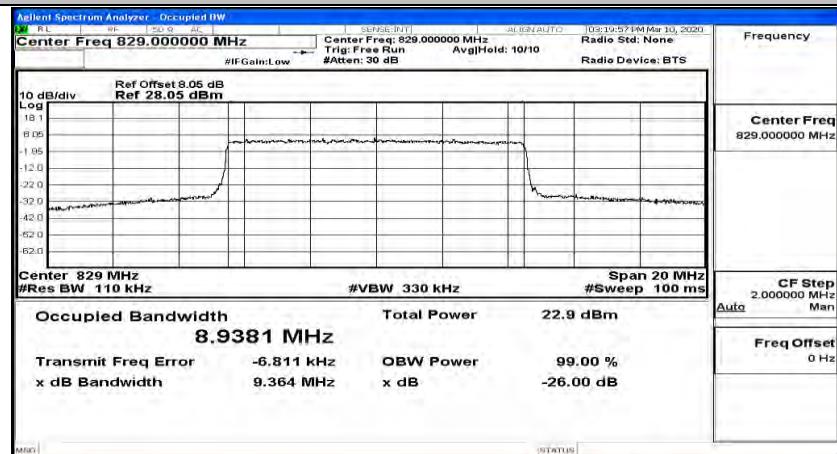
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 10 MHz)\_MCH\_QPSK



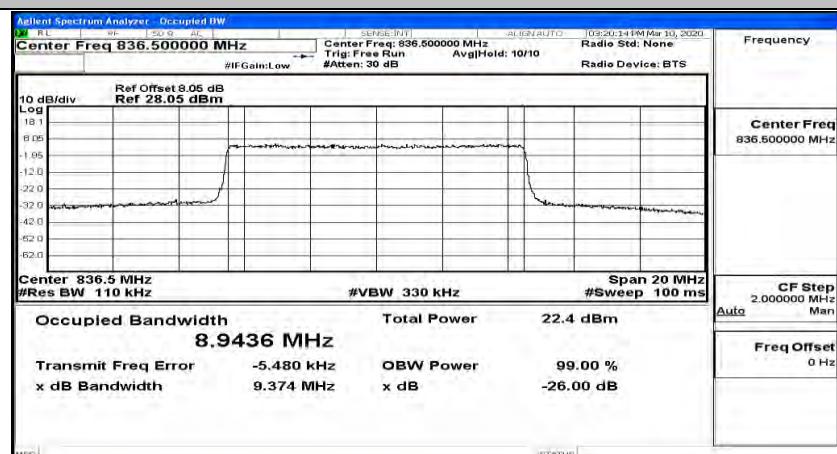
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 10 MHz)\_HCH\_QPSK



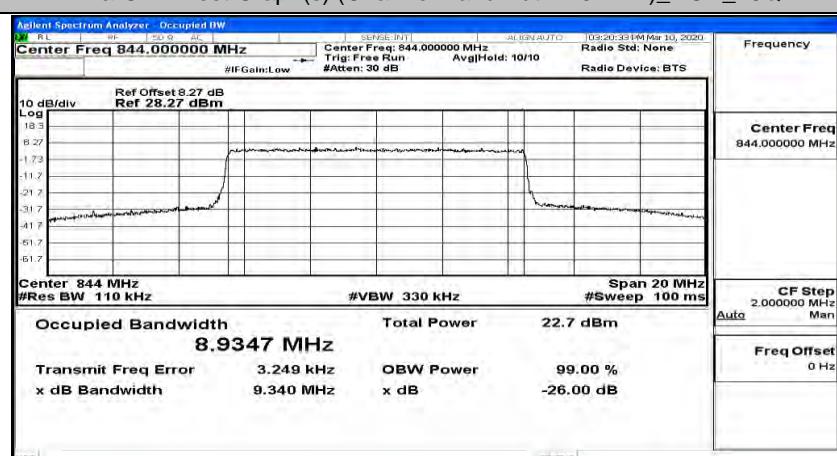
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_16QAM



## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 10 MHz)\_MCH\_16QAM

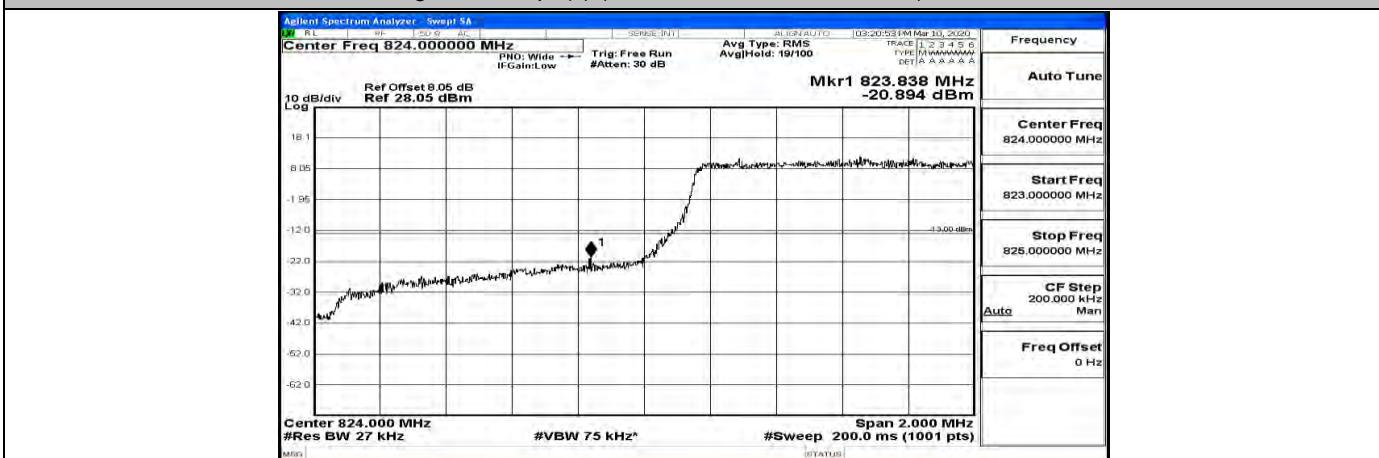


## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 10 MHz)\_HCH\_16QAM

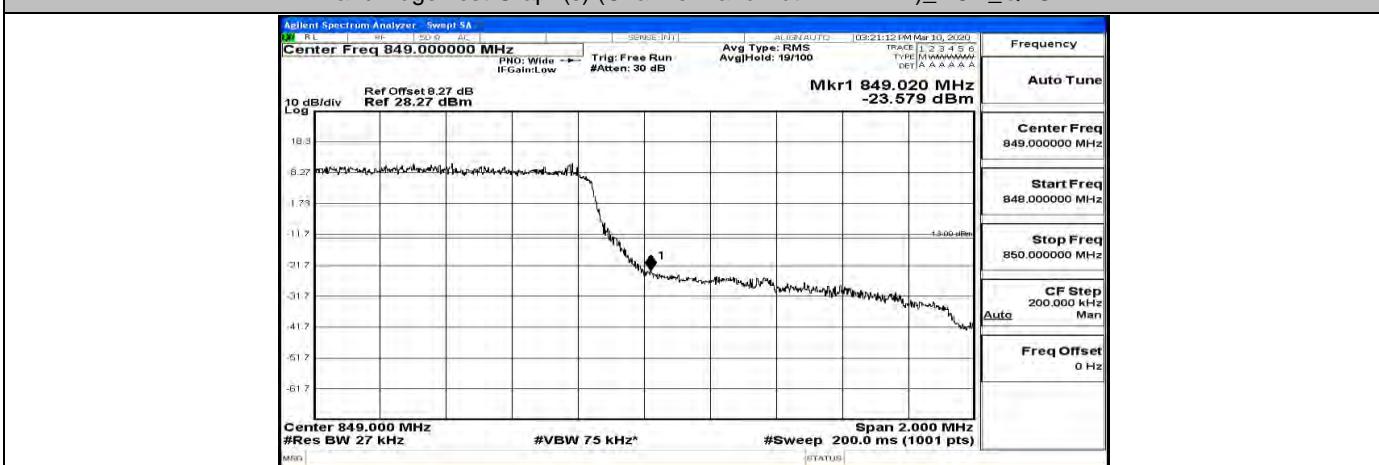


## F.4 Band Edge

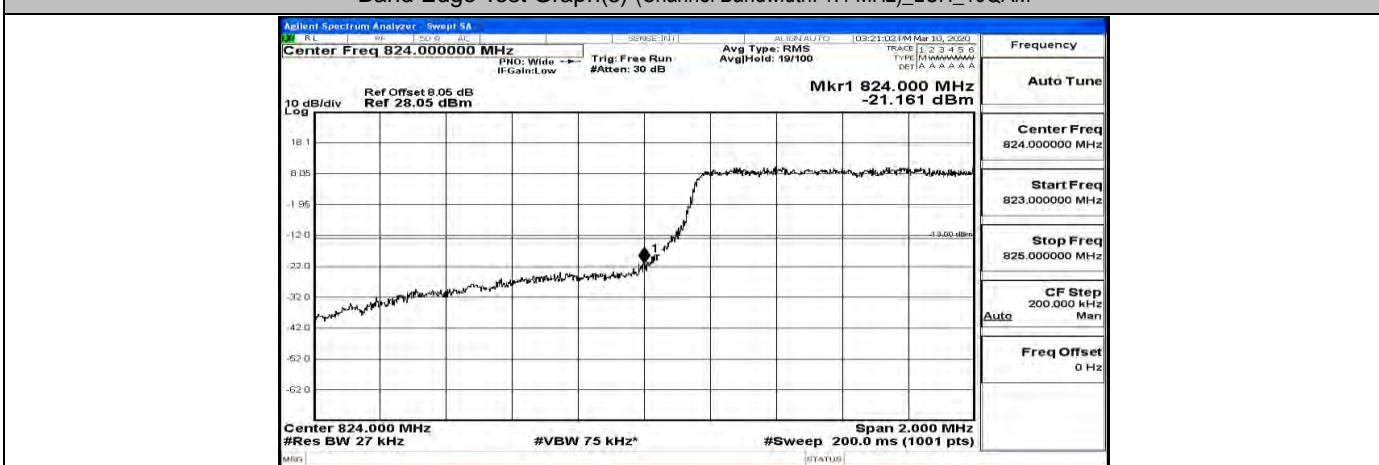
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_LCH\_QPSK

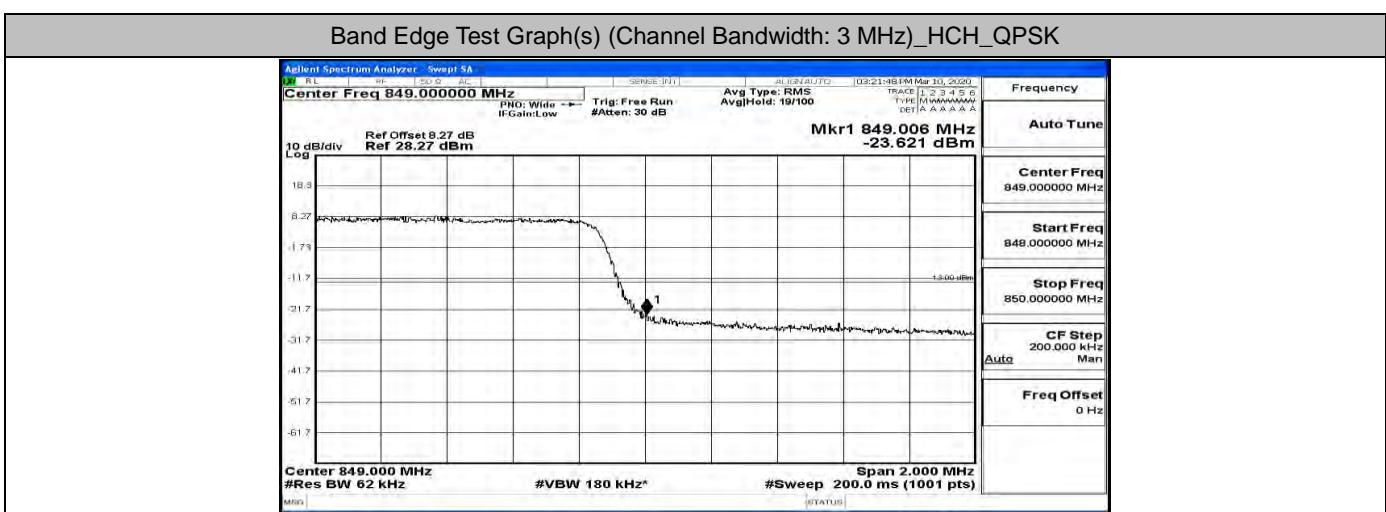
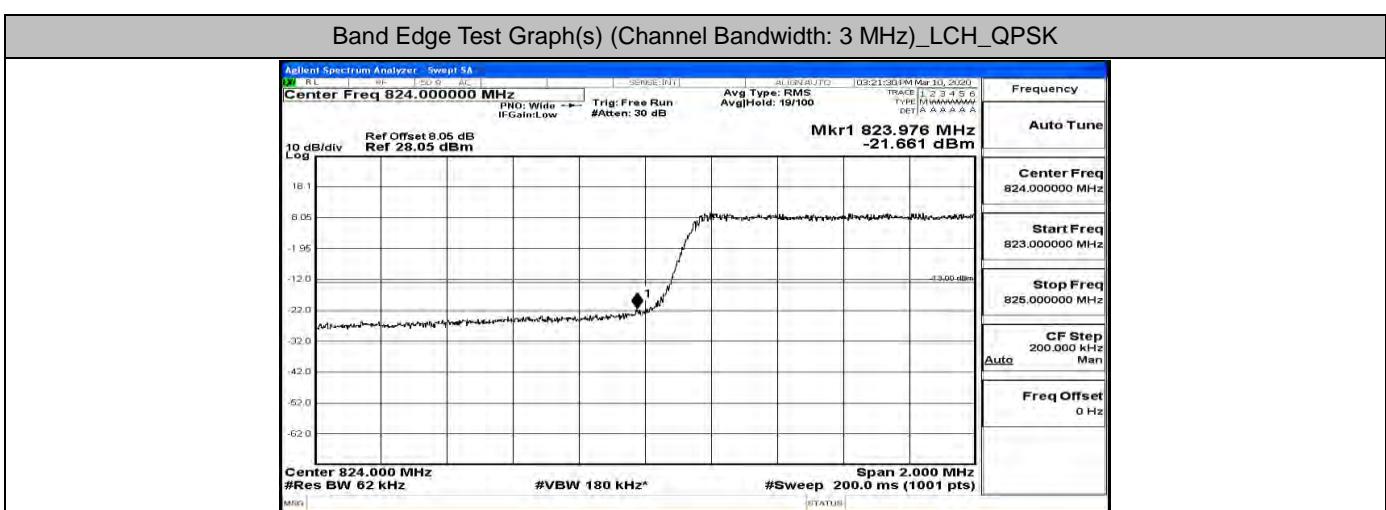
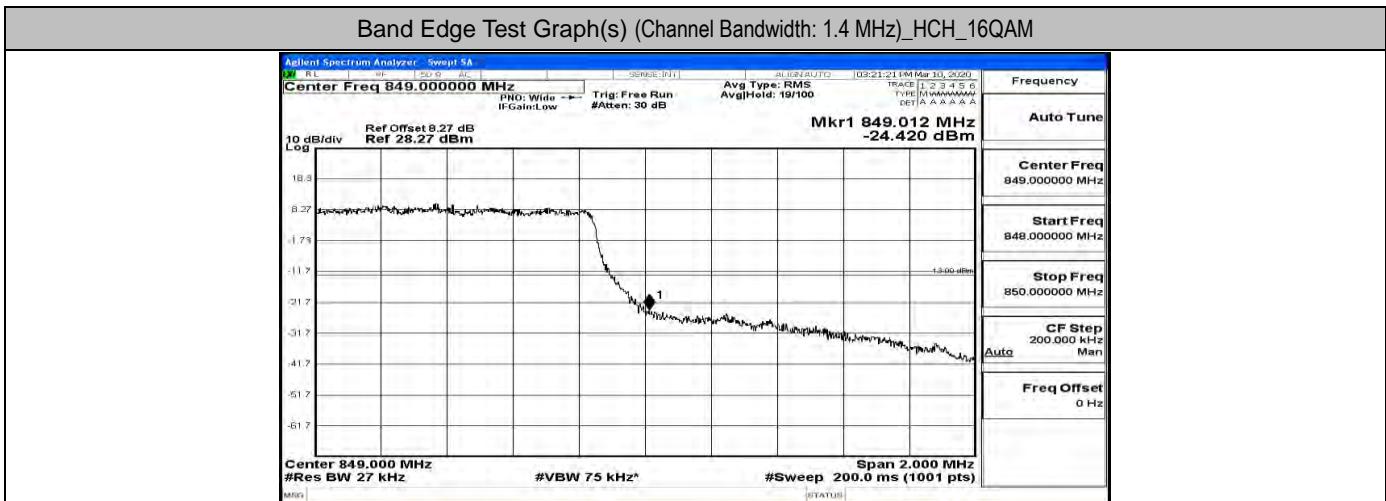


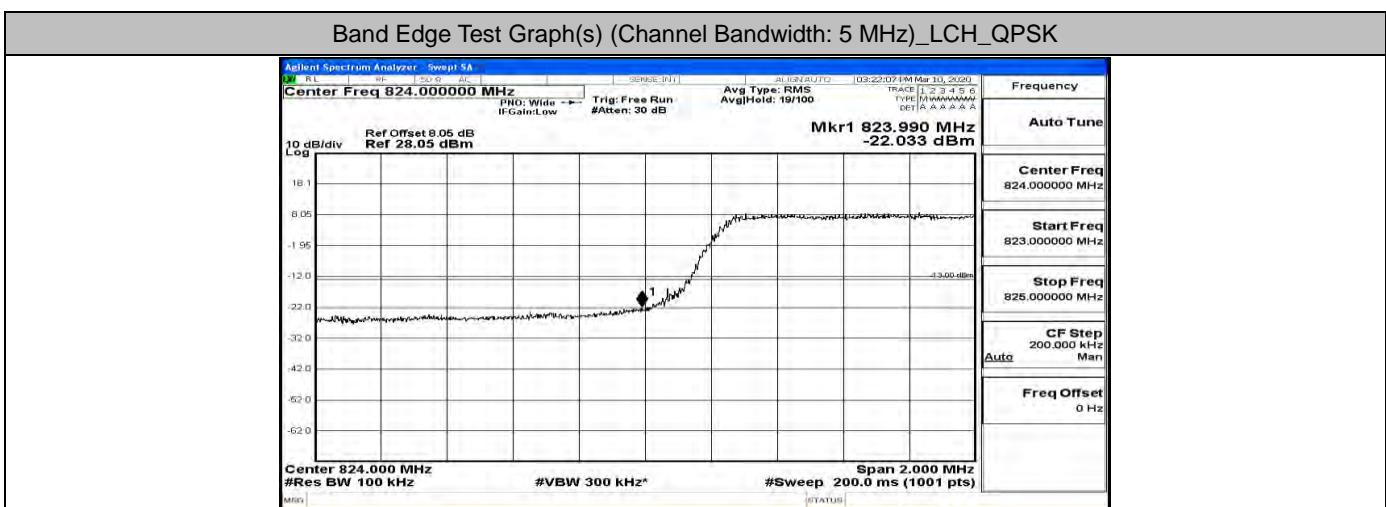
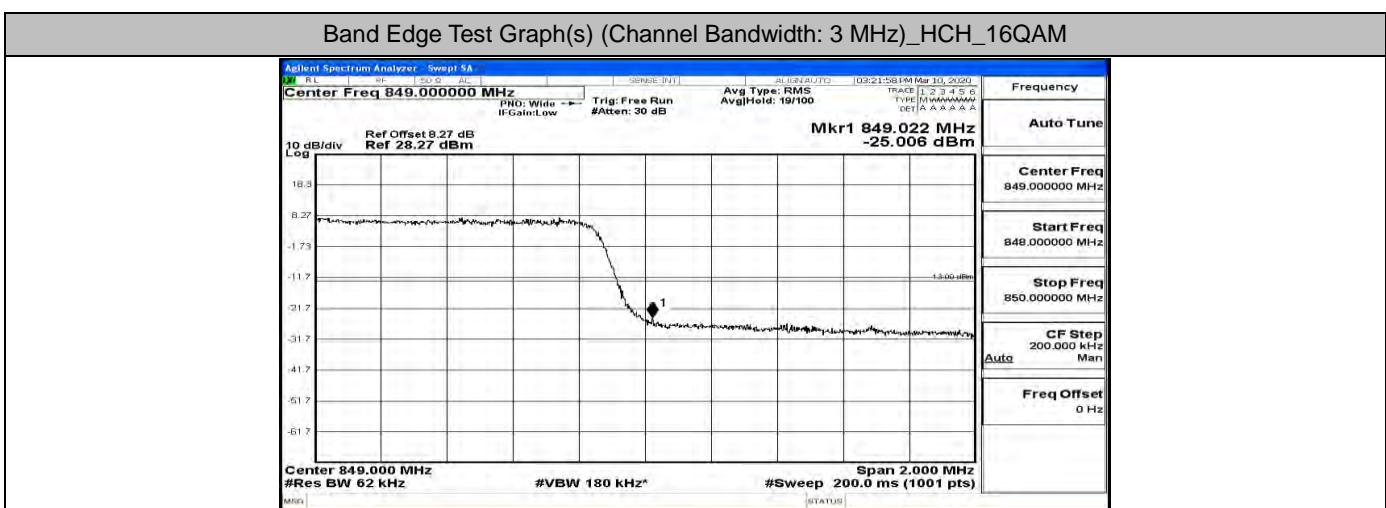
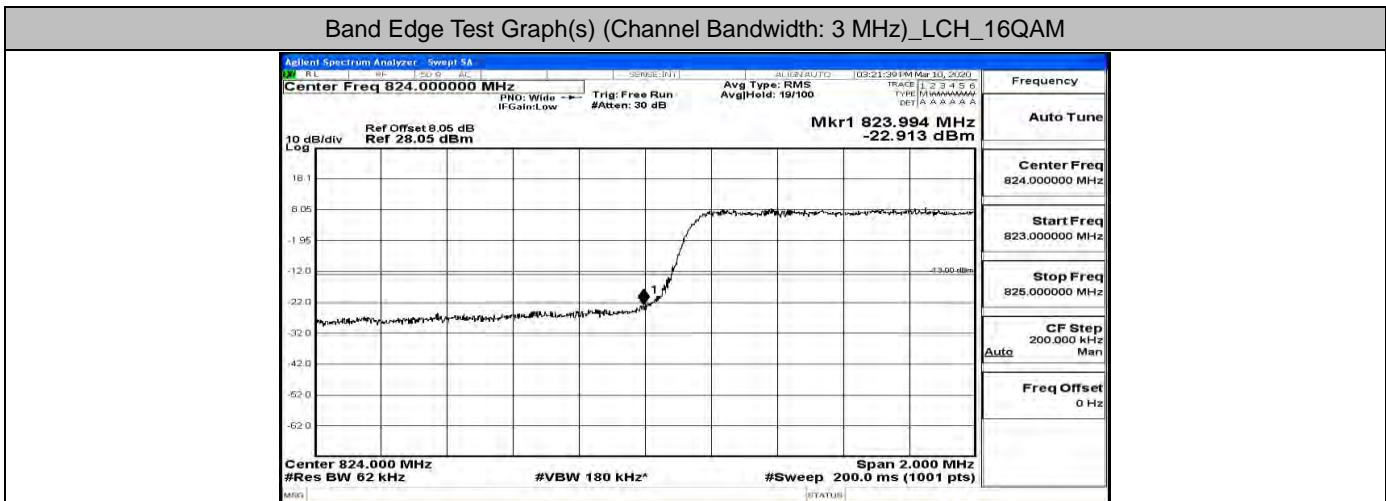
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_HCH\_QPSK



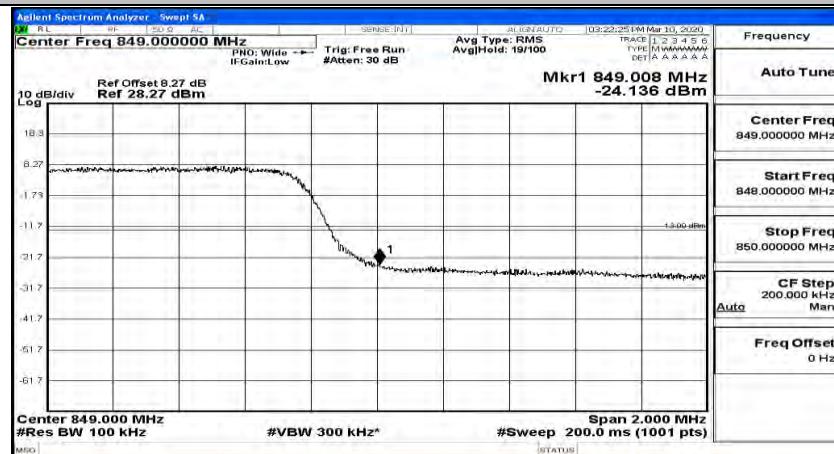
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_LCH\_16QAM



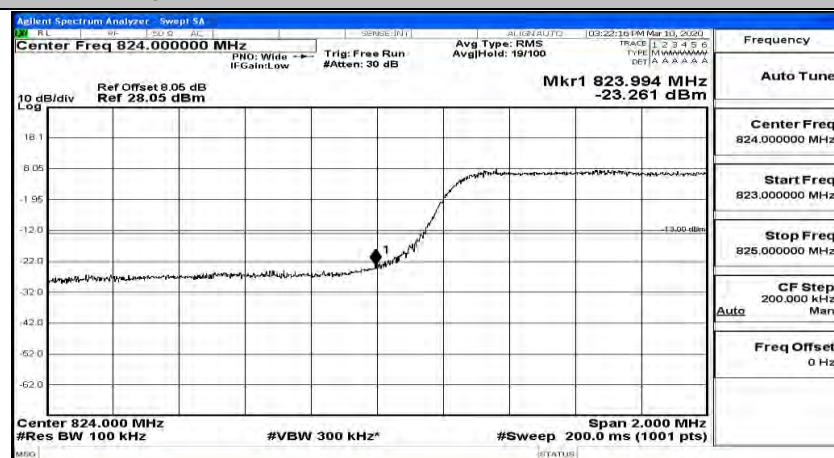




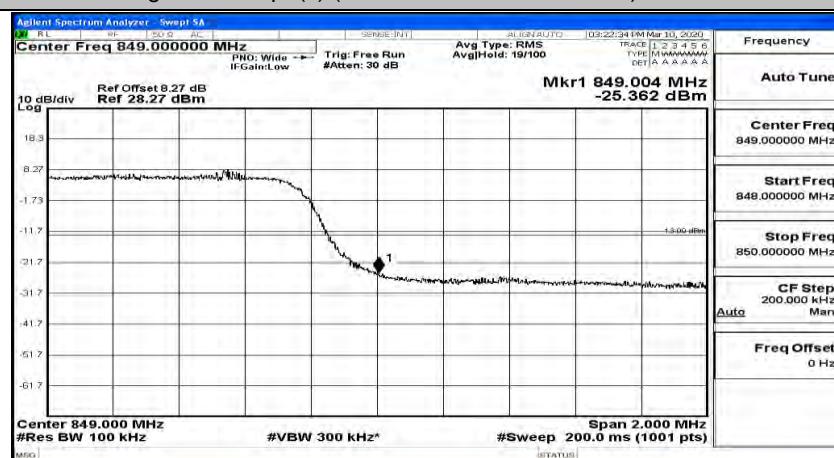
## Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)\_HCH\_QPSK



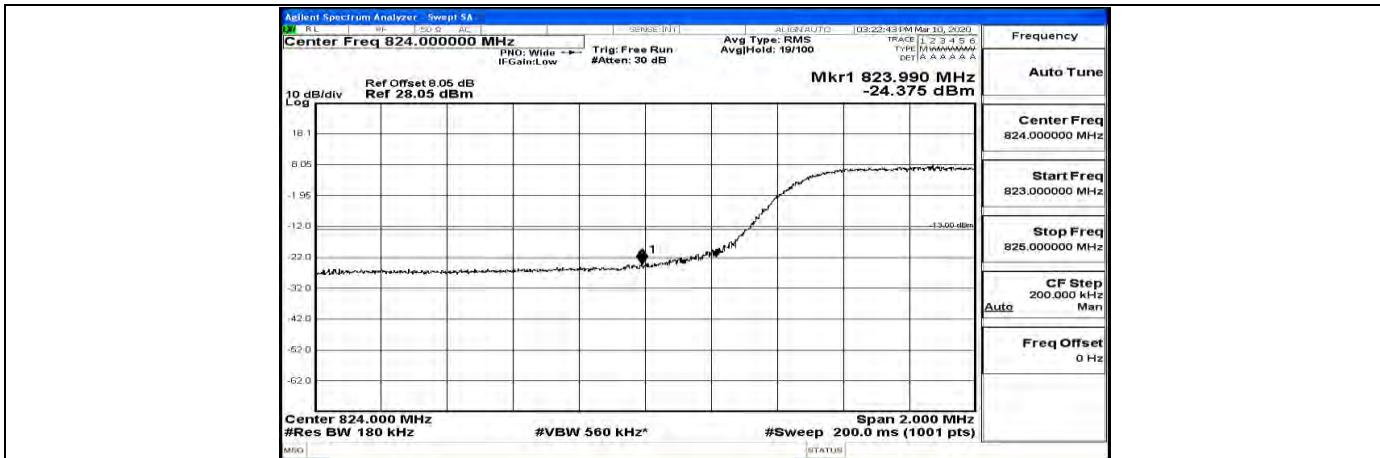
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)\_LCH\_16QAM



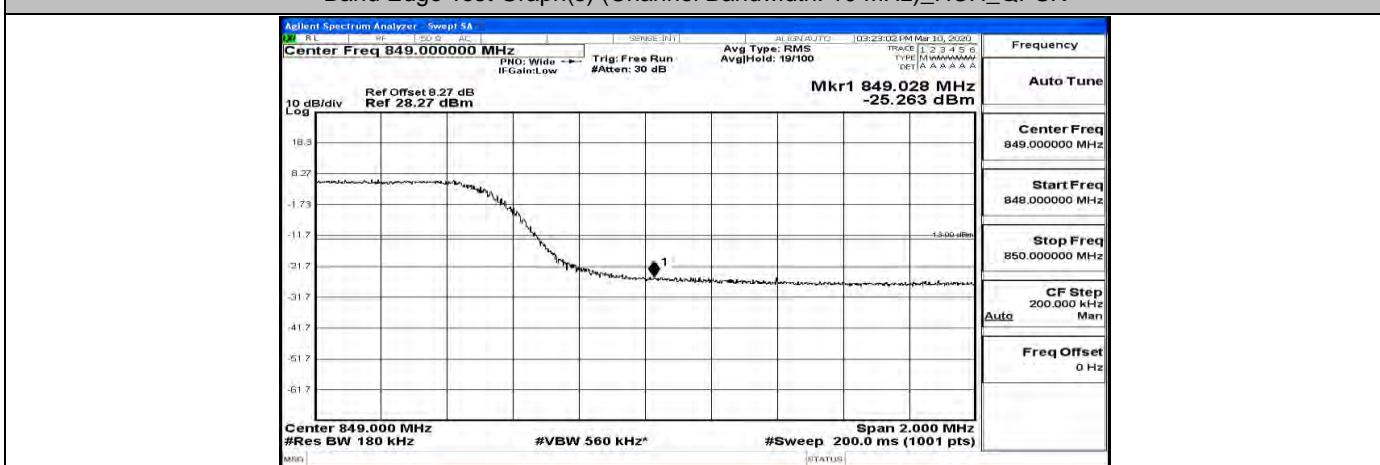
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)\_HCH\_16QAM



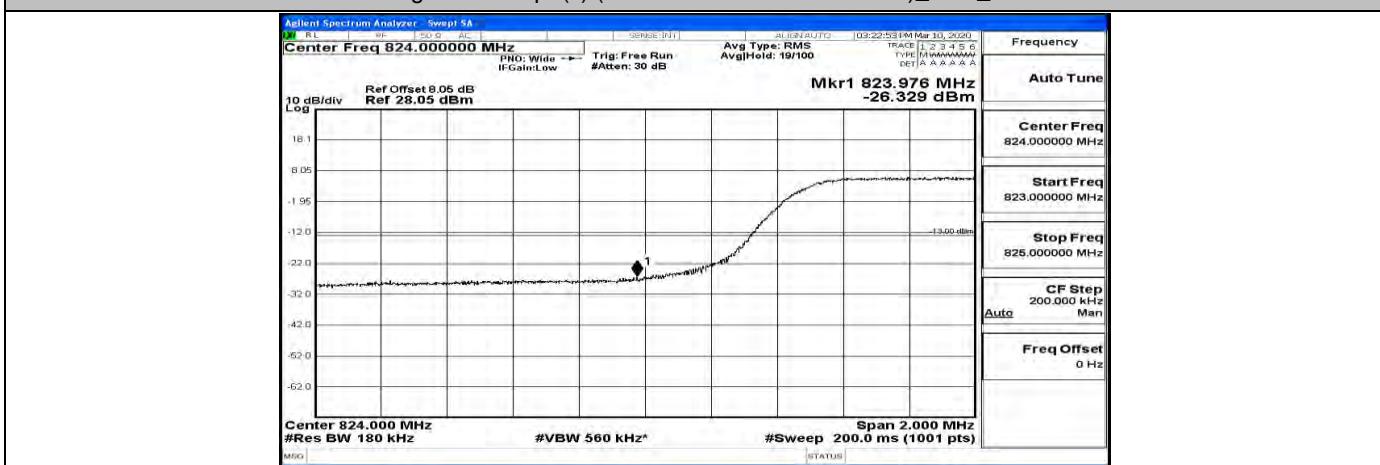
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_QPSK



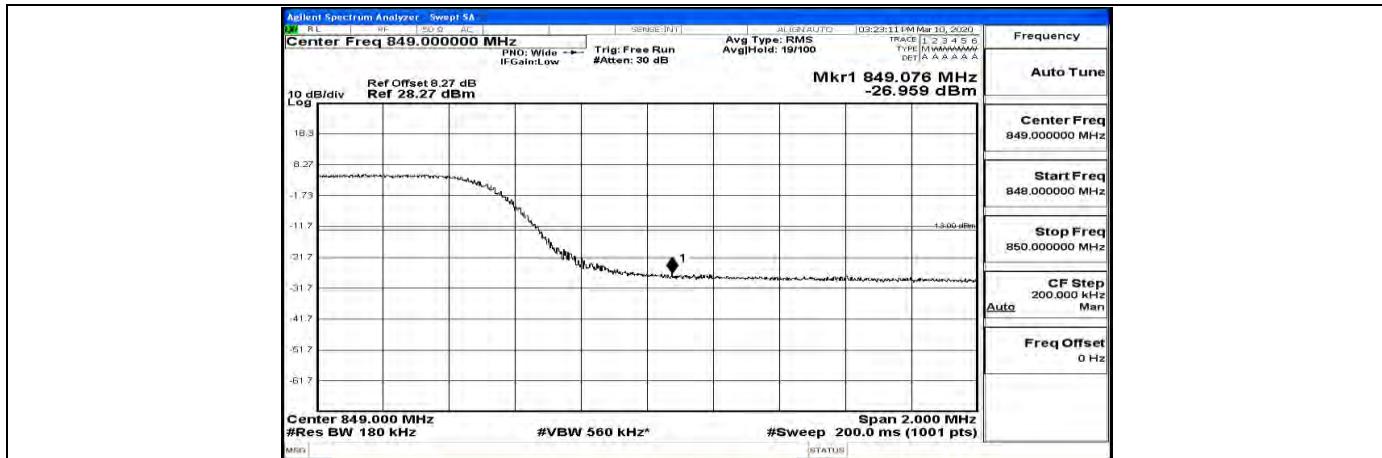
## Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)\_HCH\_QPSK



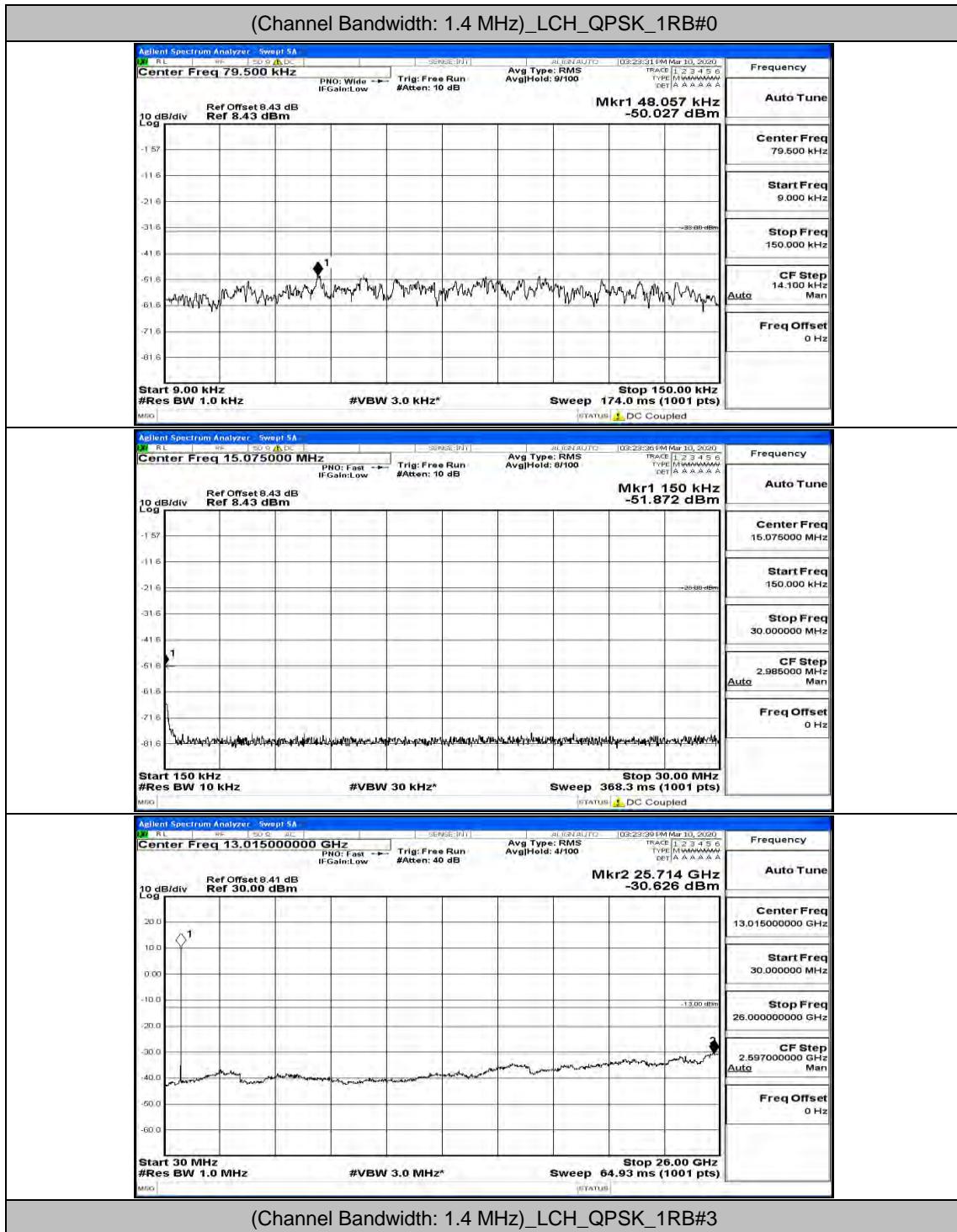
## Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_16QAM

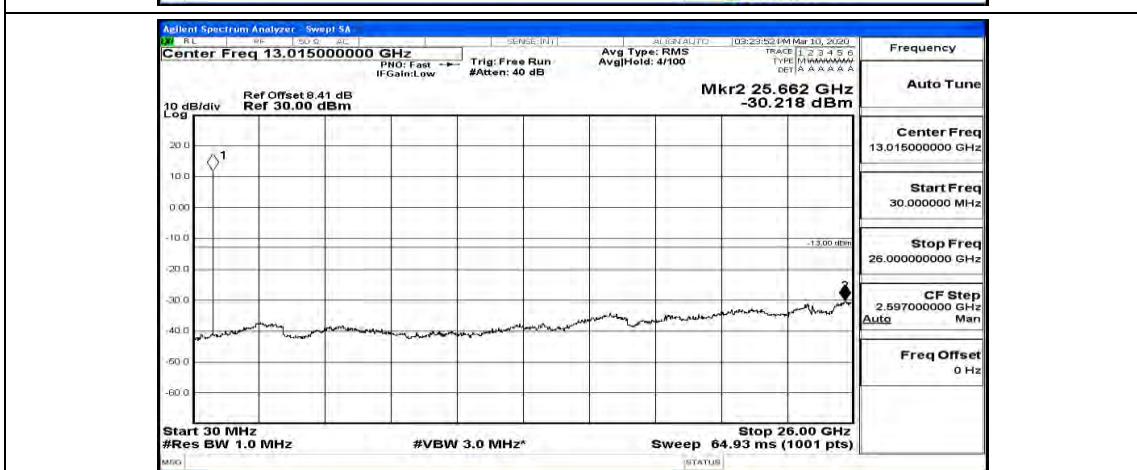
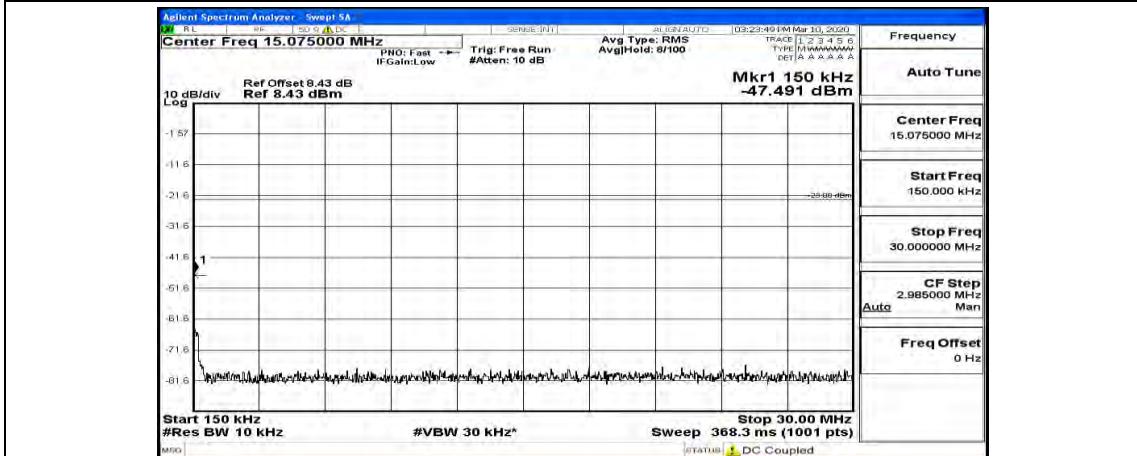
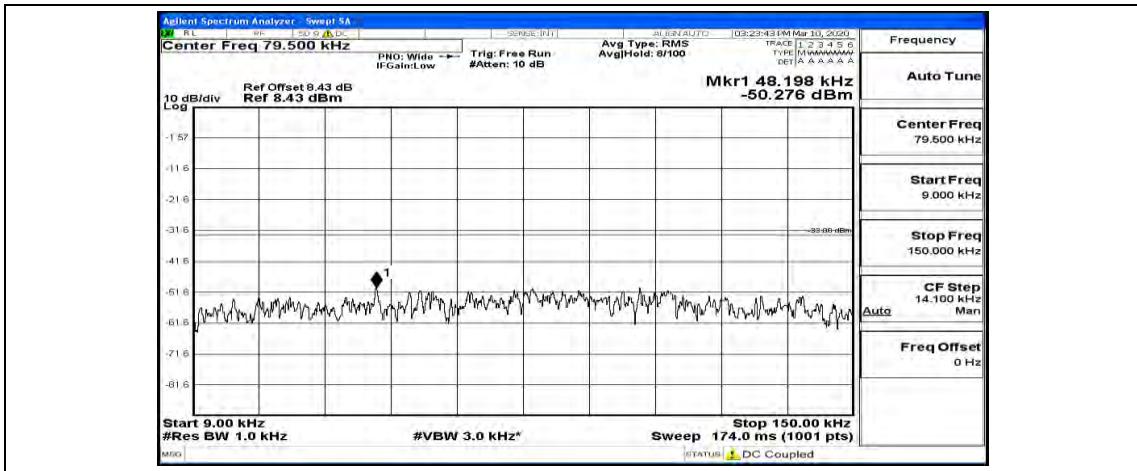


## Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)\_HCH\_16QAM

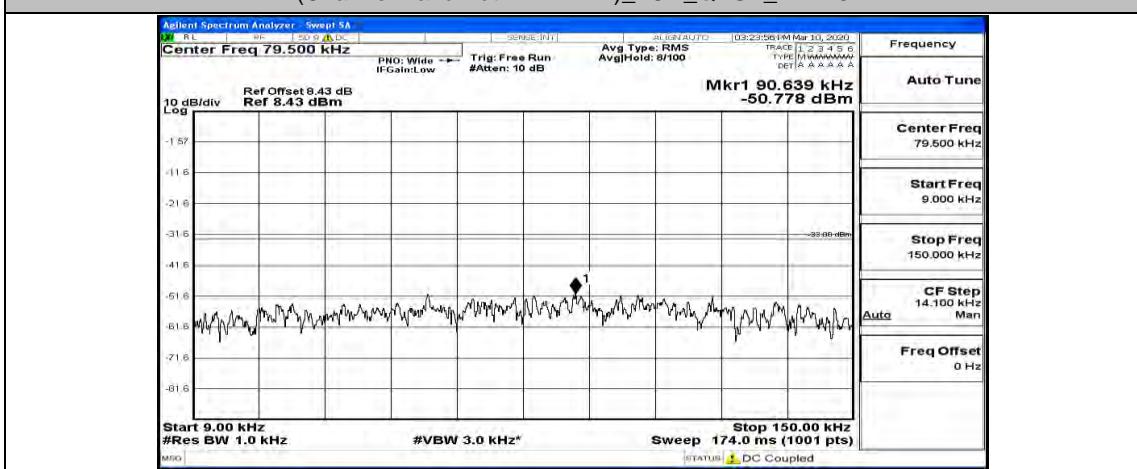


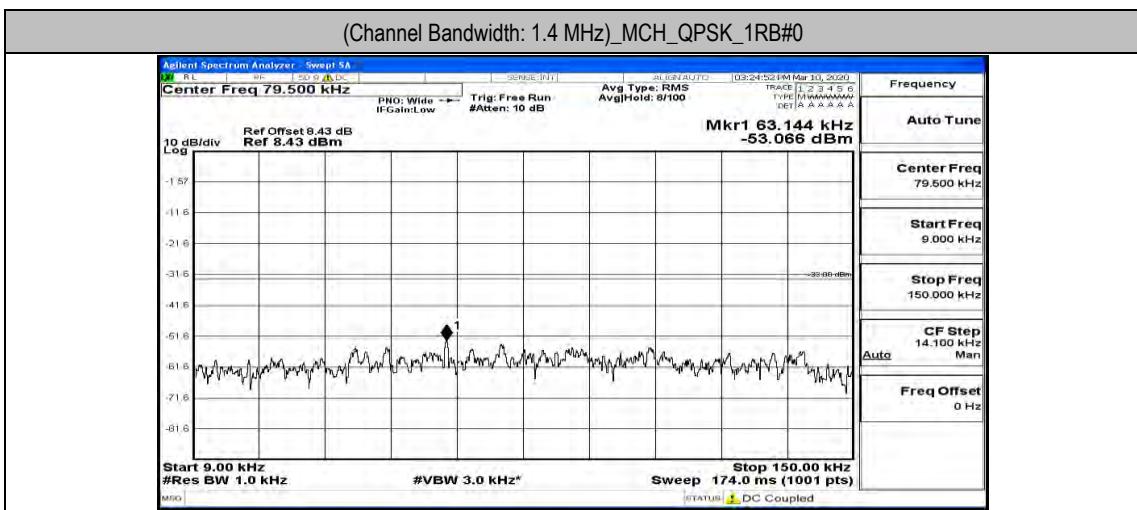
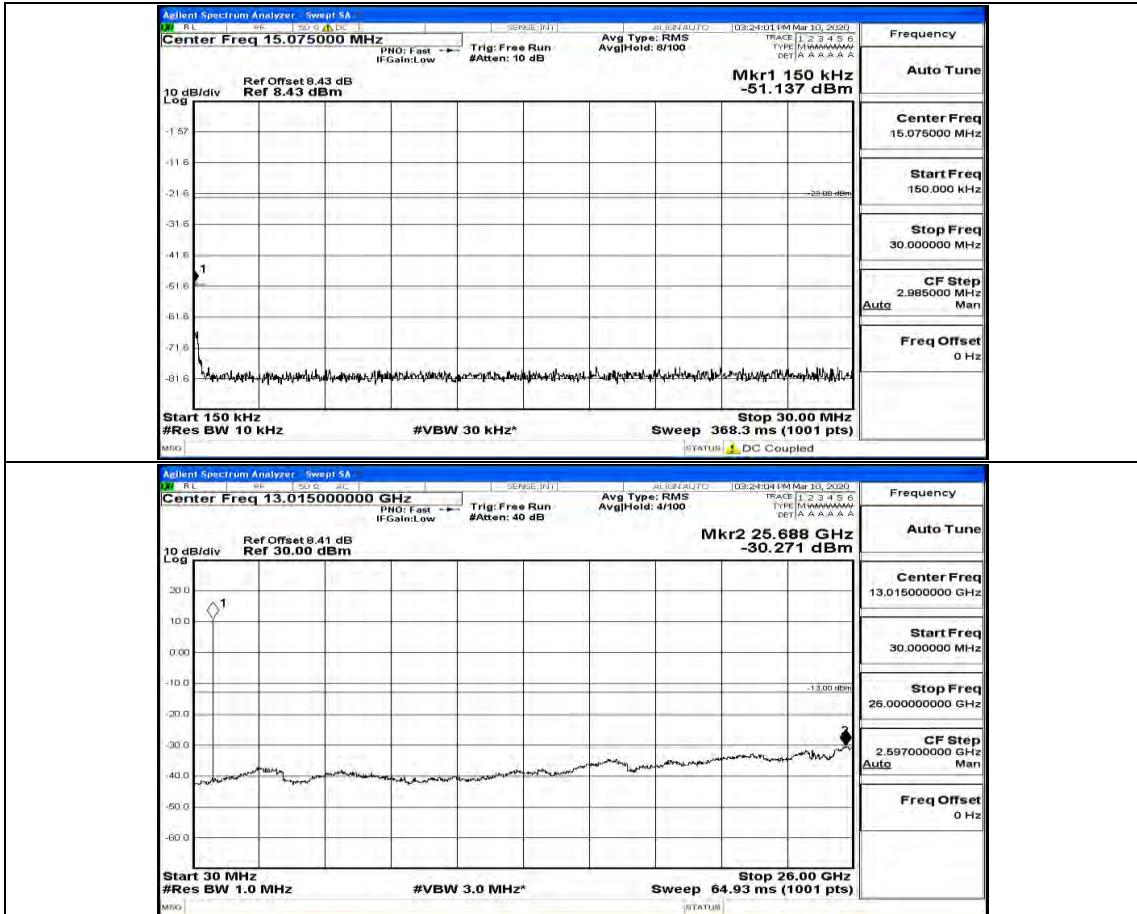
## F.5 Conducted Spurious Emission Channel Bandwidth: 1.4 MHz

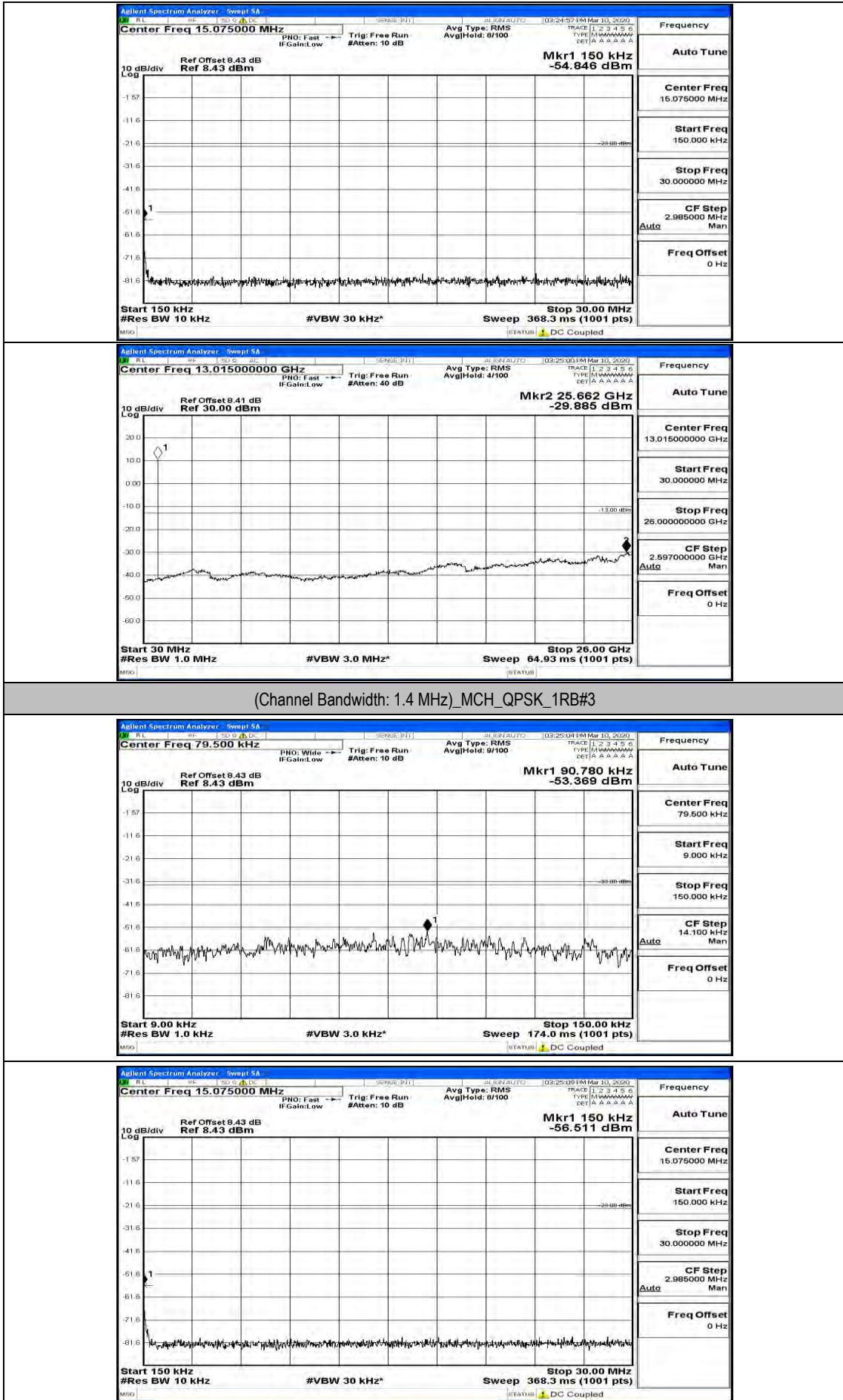


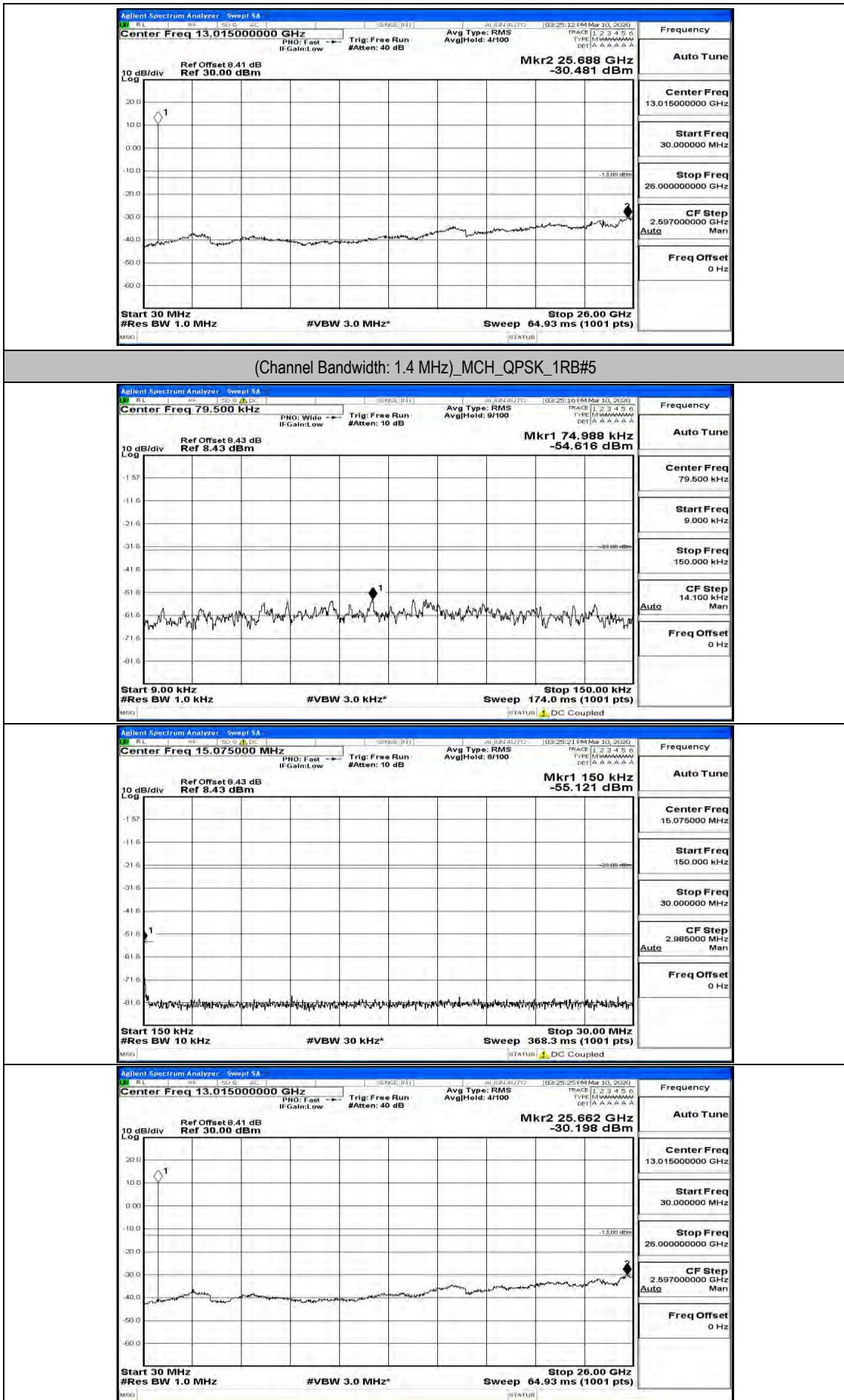


(Channel Bandwidth: 1.4 MHz) LCH QPSK 1RB#5

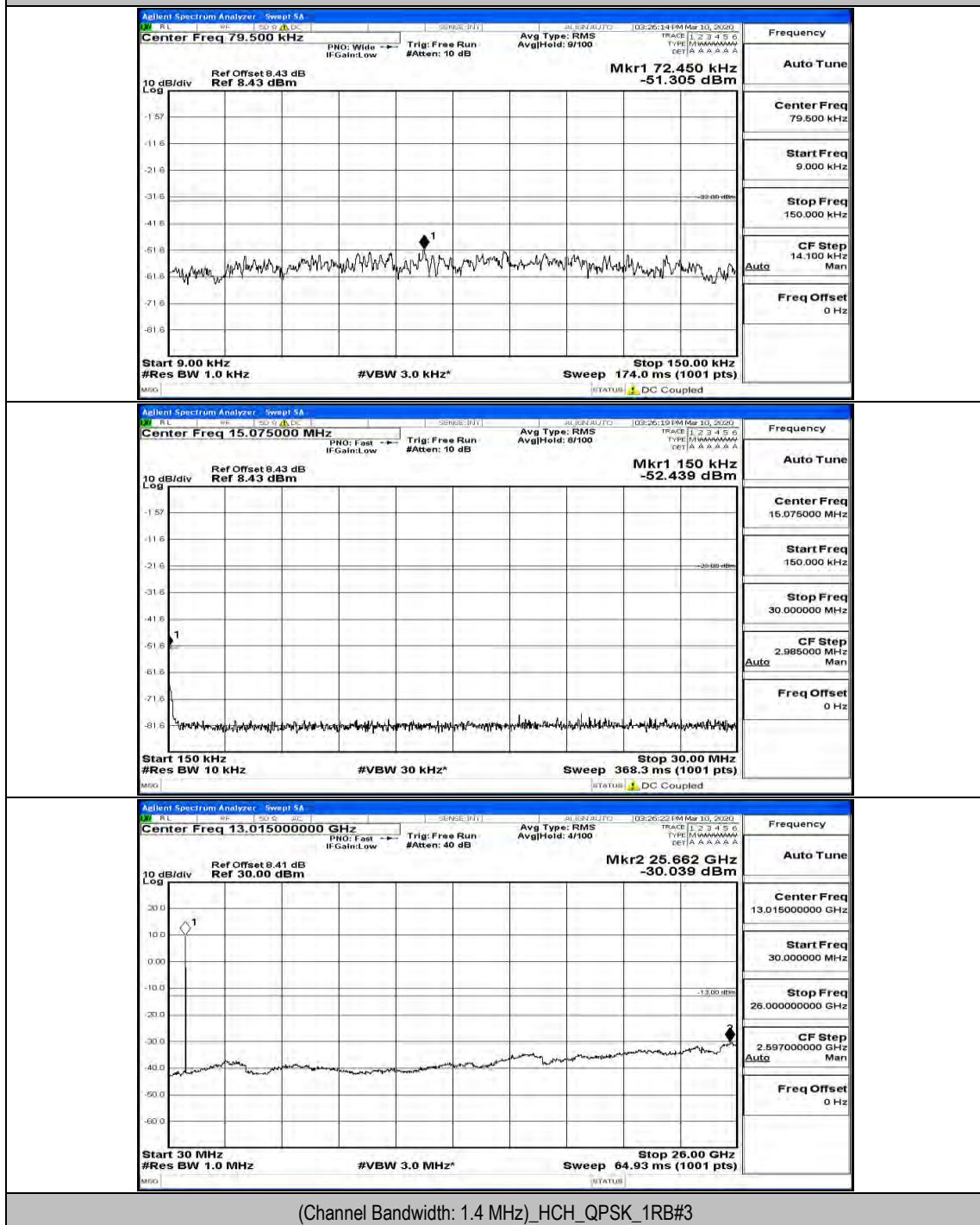




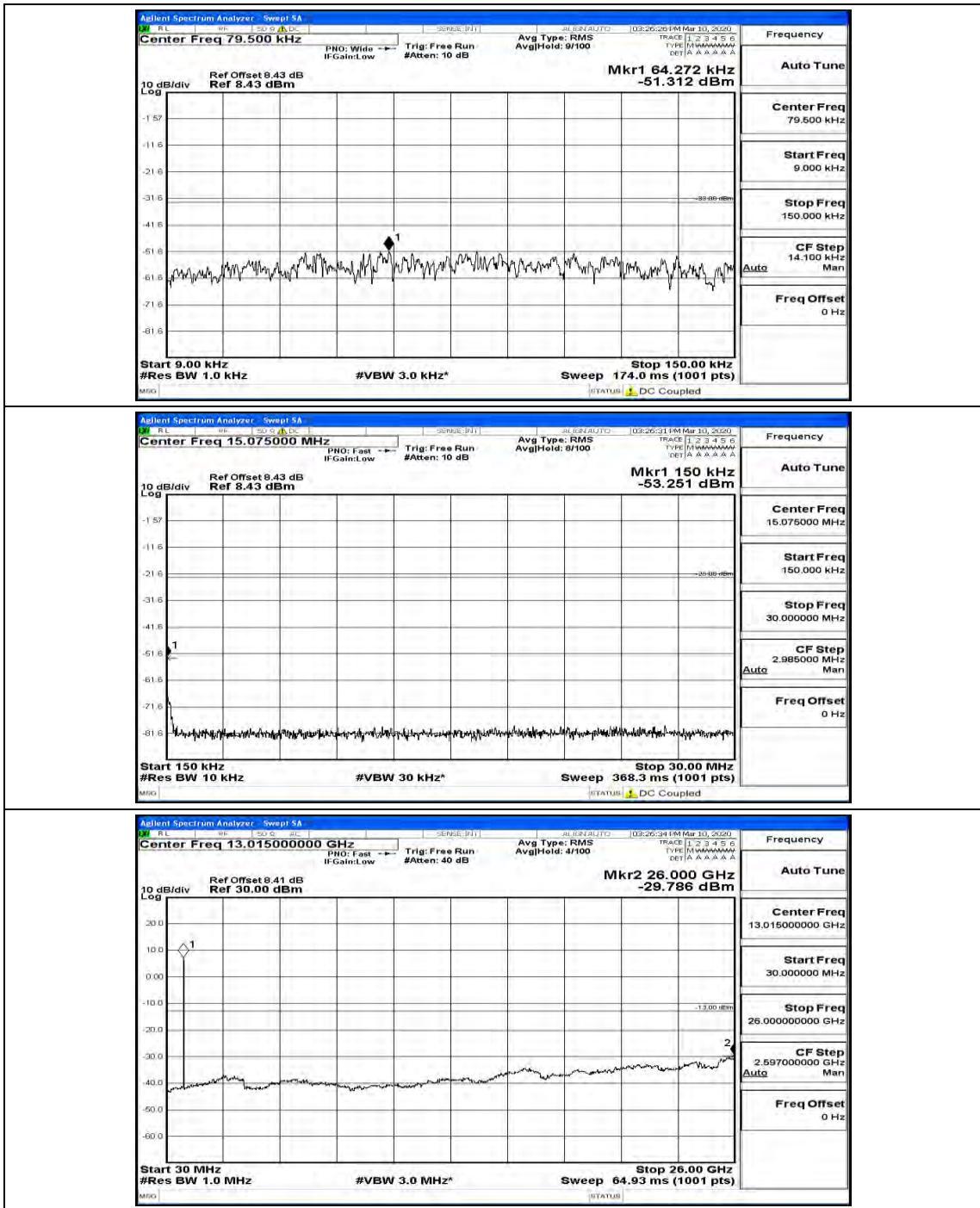




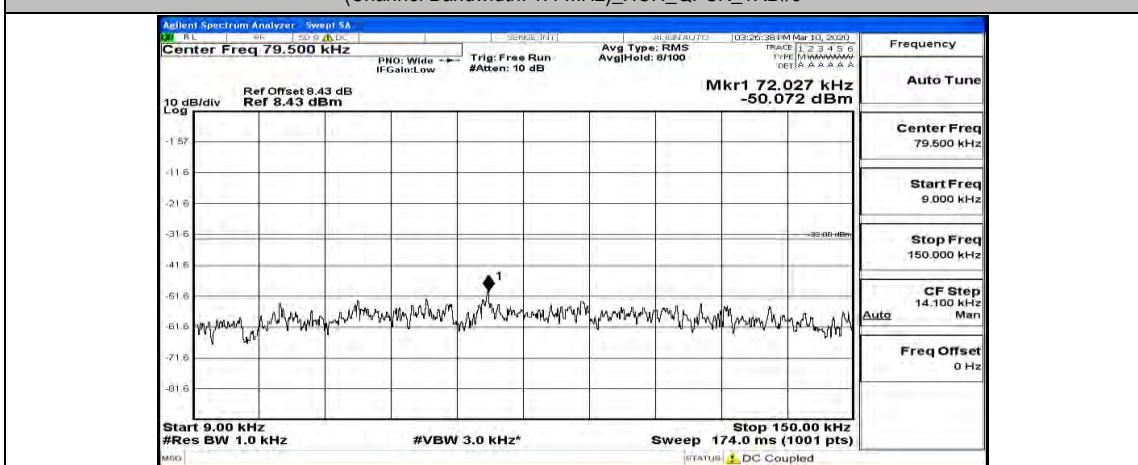
(Channel Bandwidth: 1.4 MHz)\_HCH\_QPSK\_1RB#0

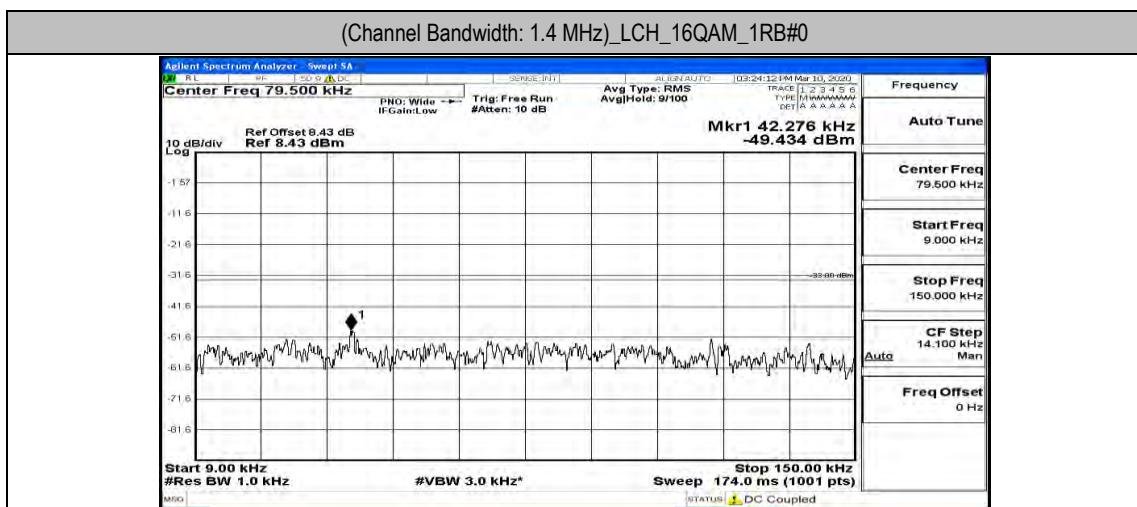
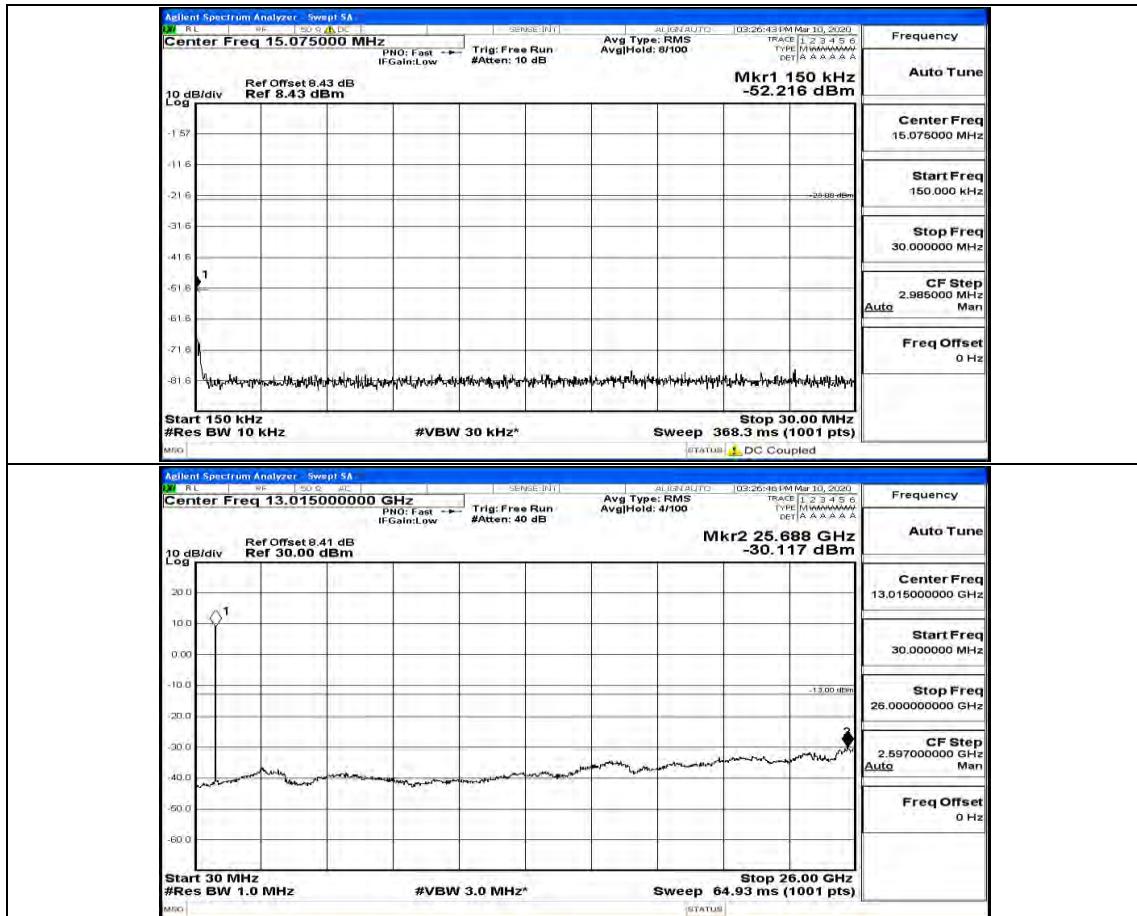


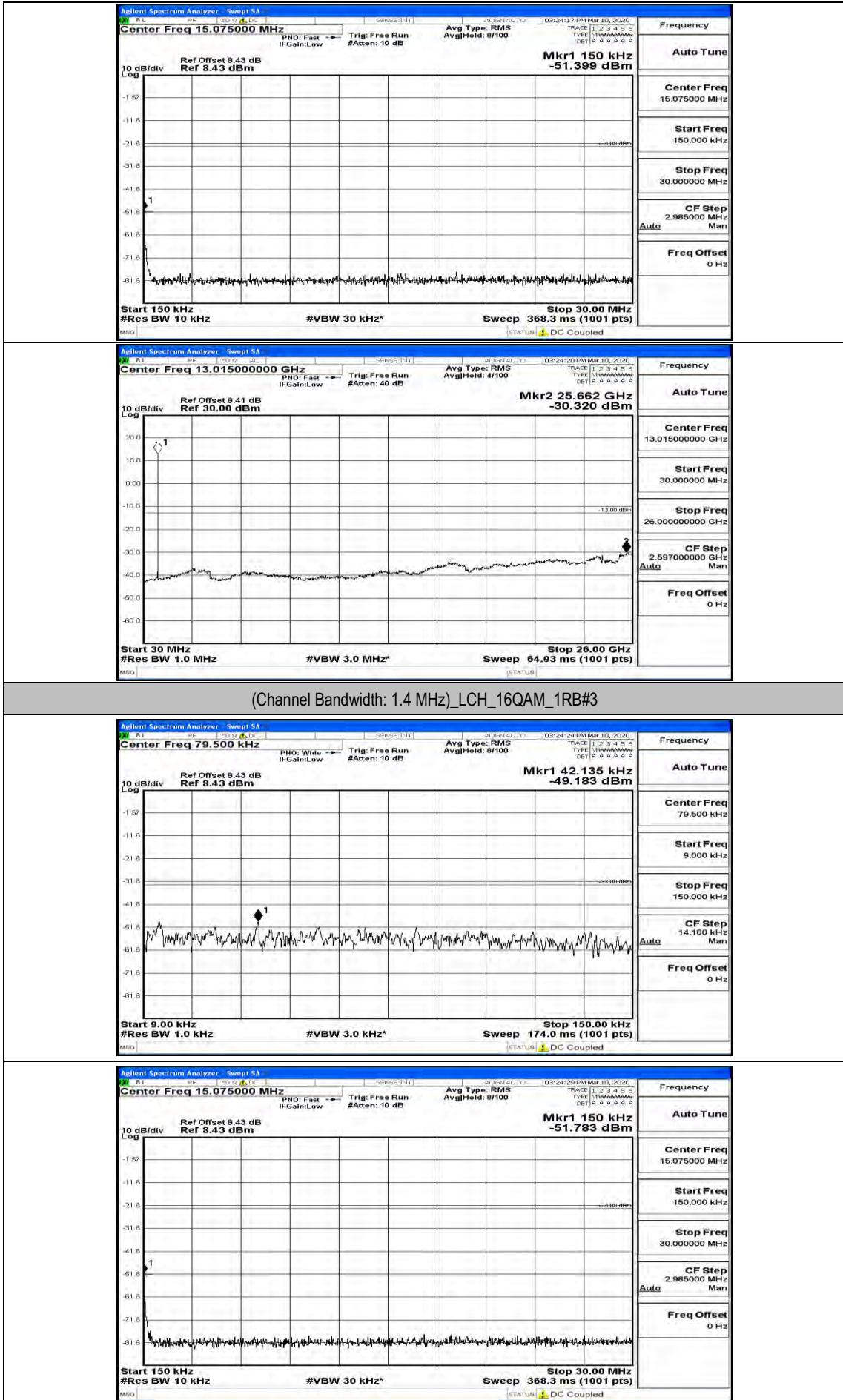
(Channel Bandwidth: 1.4 MHz)\_HCH\_QPSK\_1RB#3

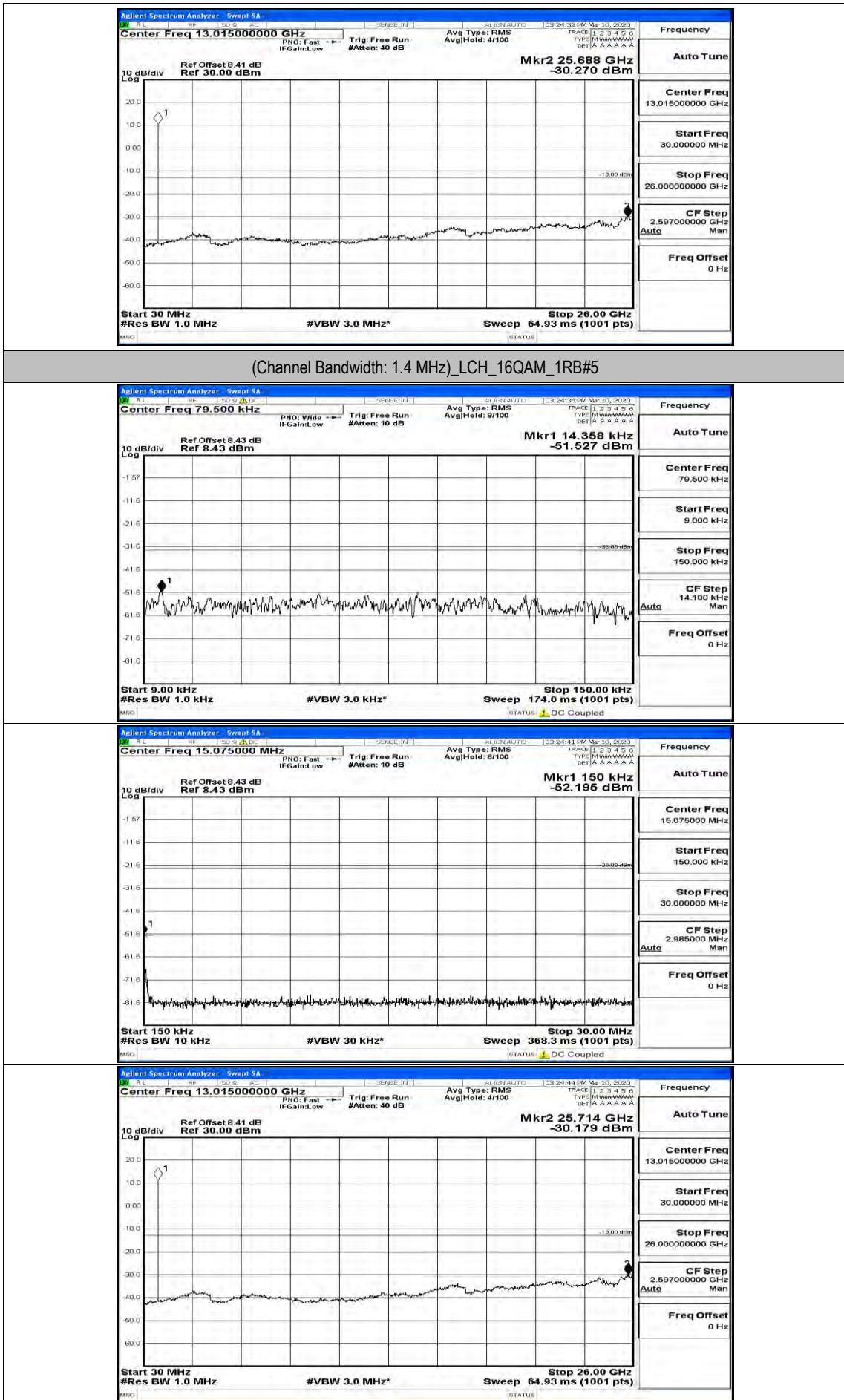


(Channel Bandwidth: 1.4 MHz) HCH QPSK 1RB#5

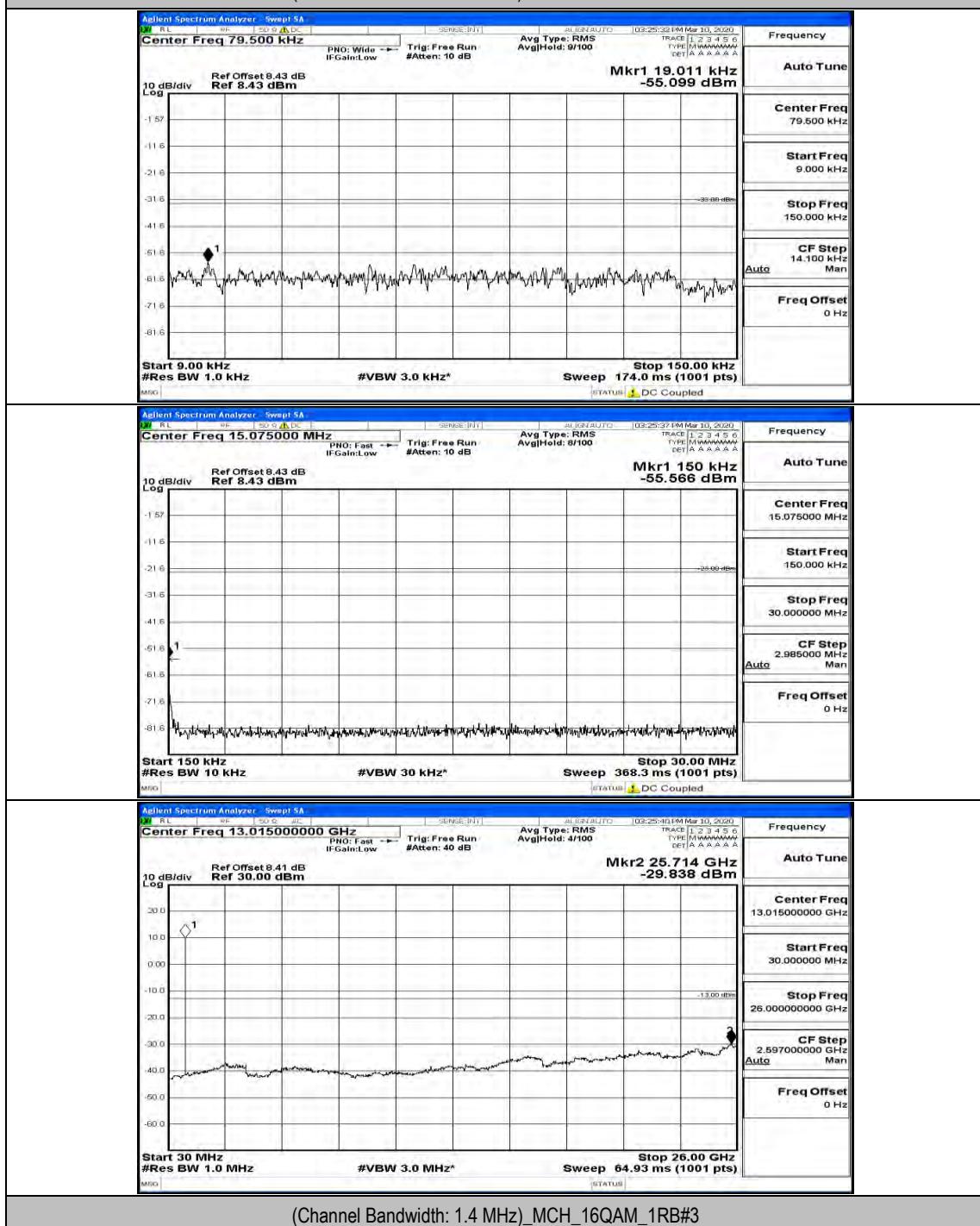


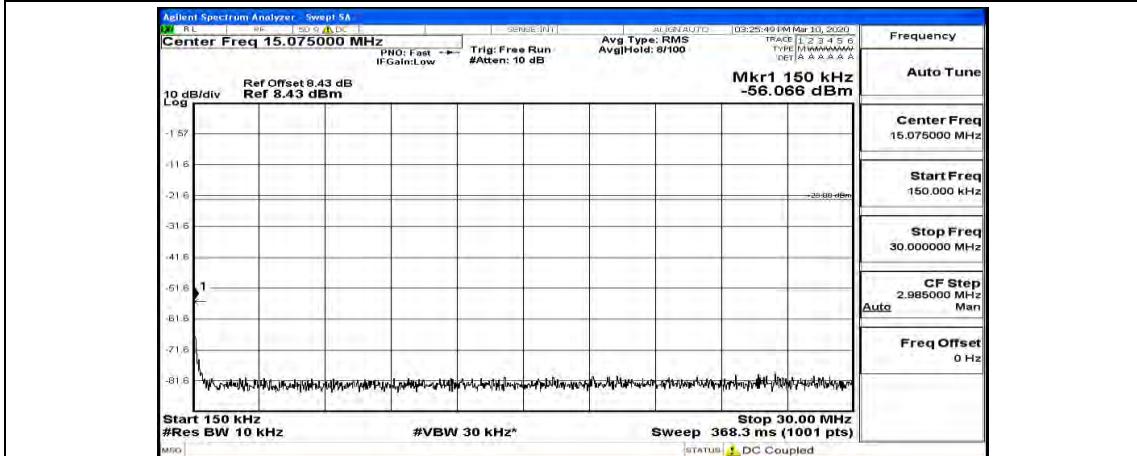
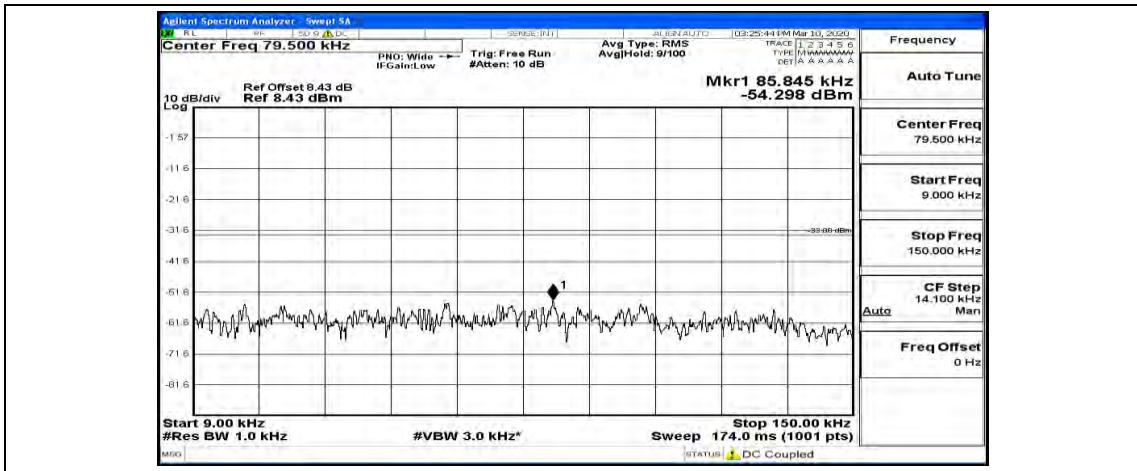




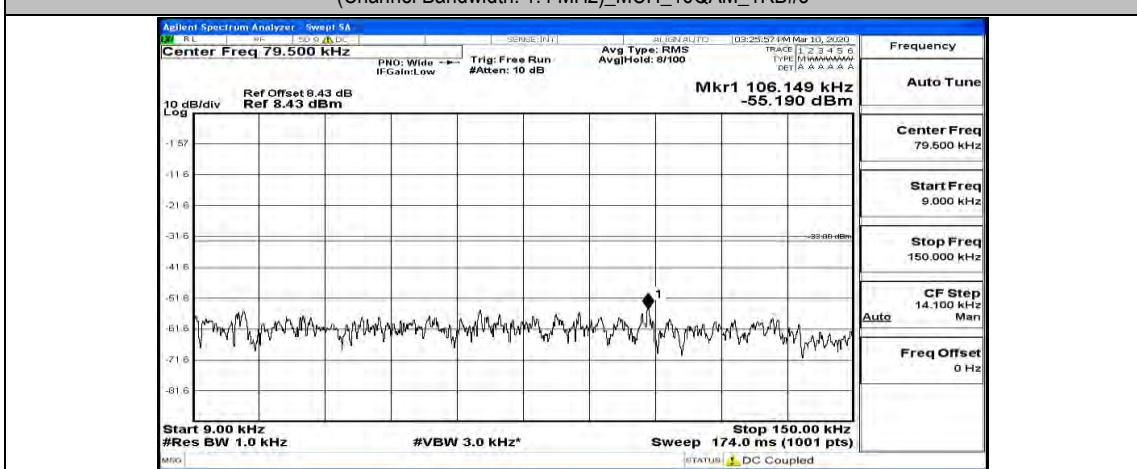


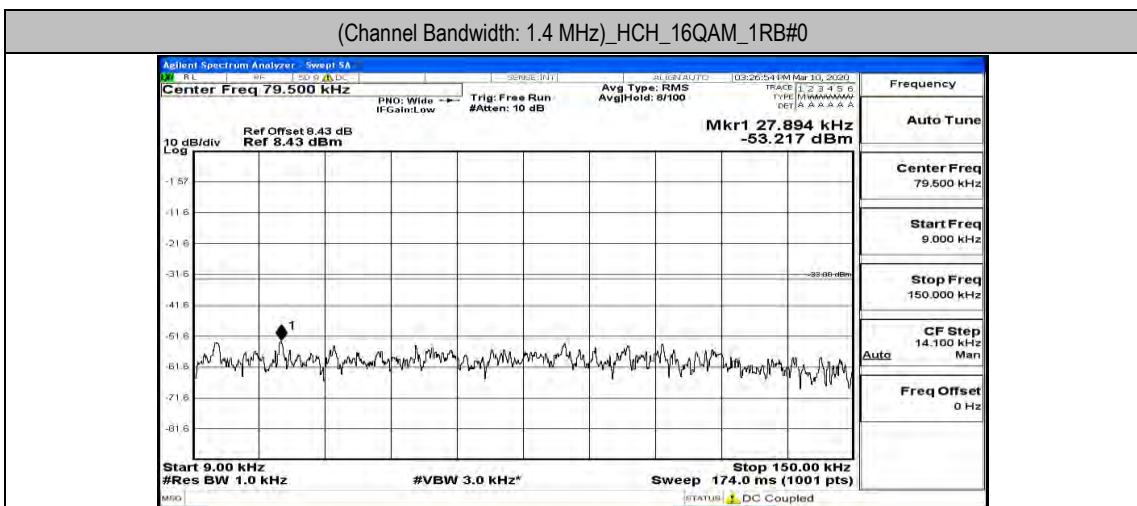
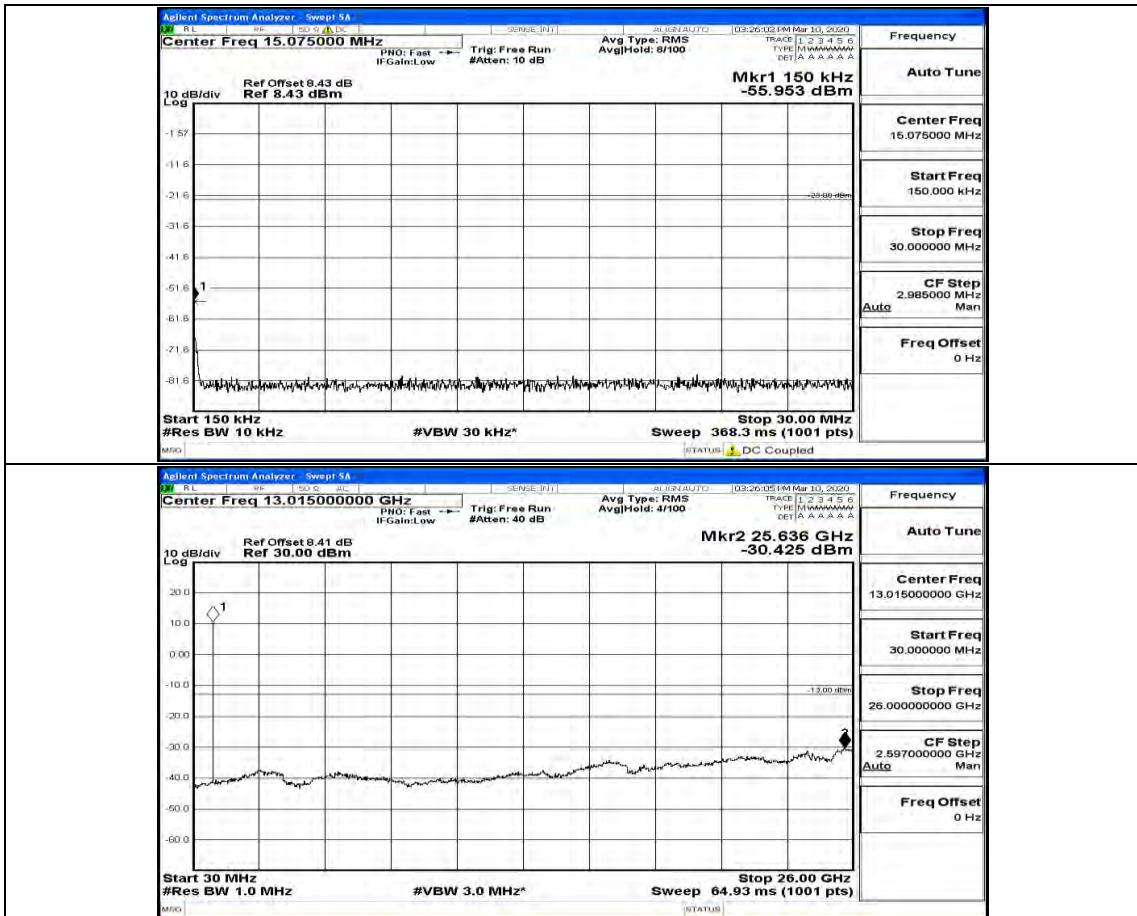
(Channel Bandwidth: 1.4 MHz)\_MCH\_16QAM\_1RB#0

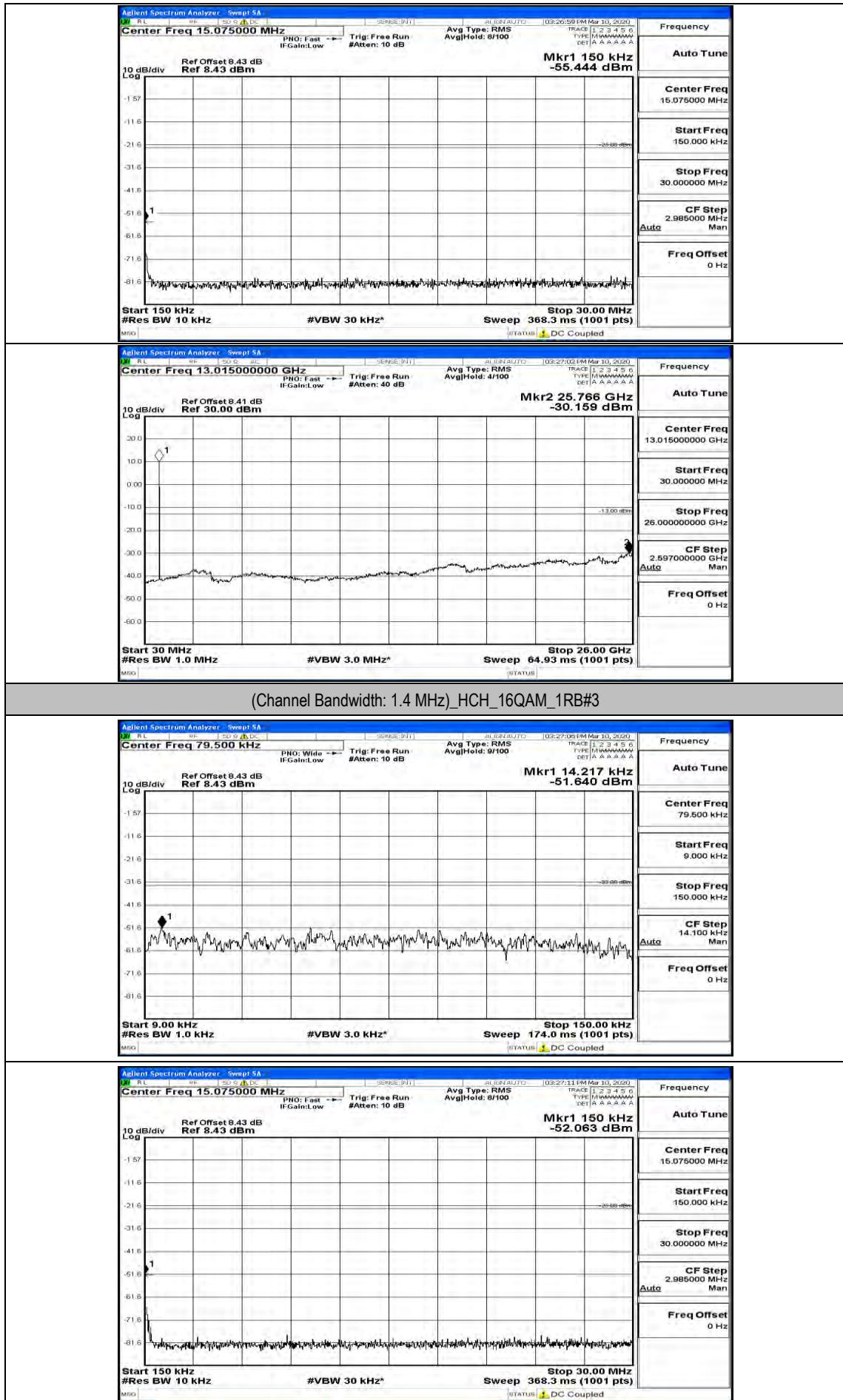


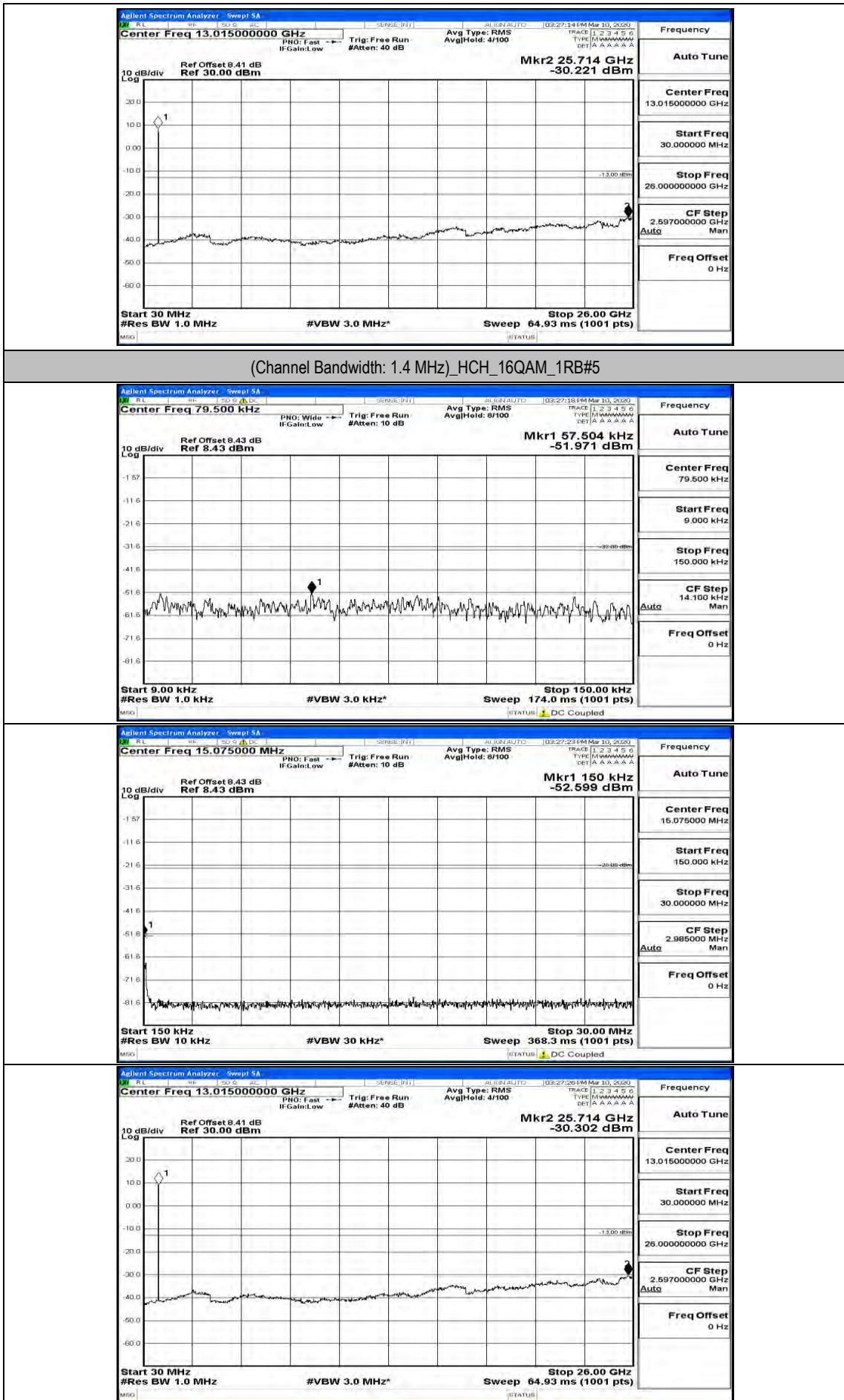


(Channel Bandwidth: 1.4 MHz) MCH 16QAM 1RB#5



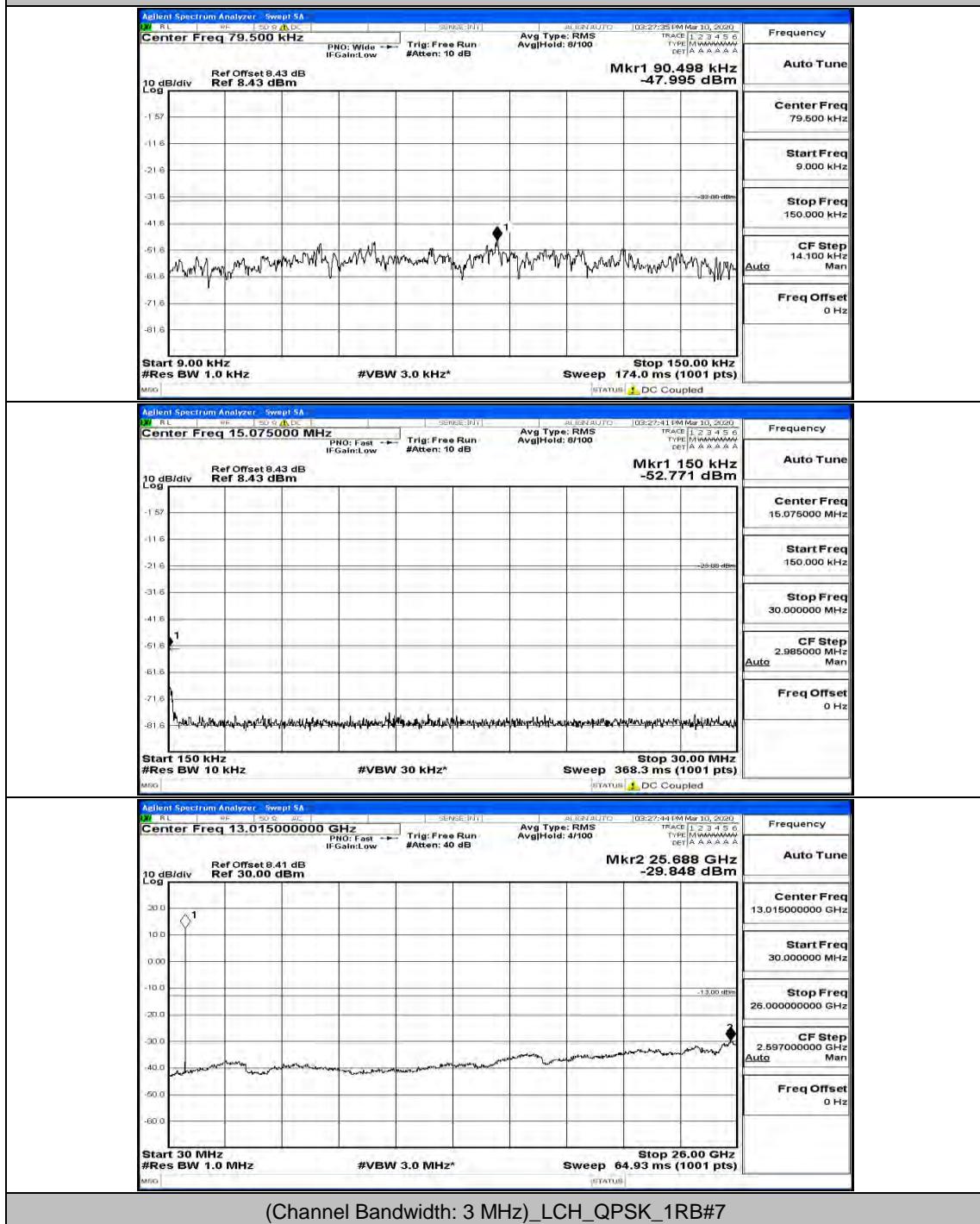




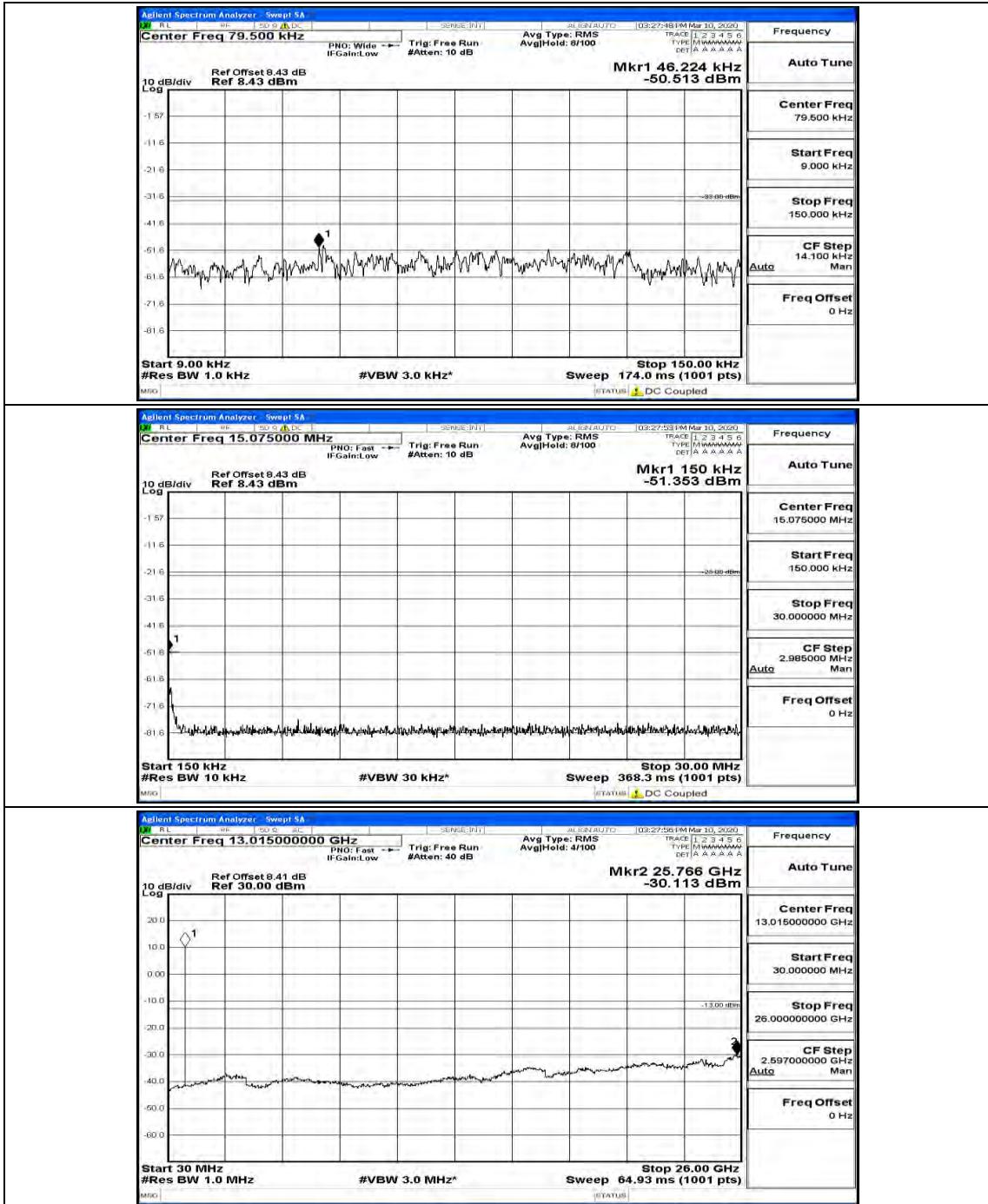


## Channel Bandwidth: 3 MHz

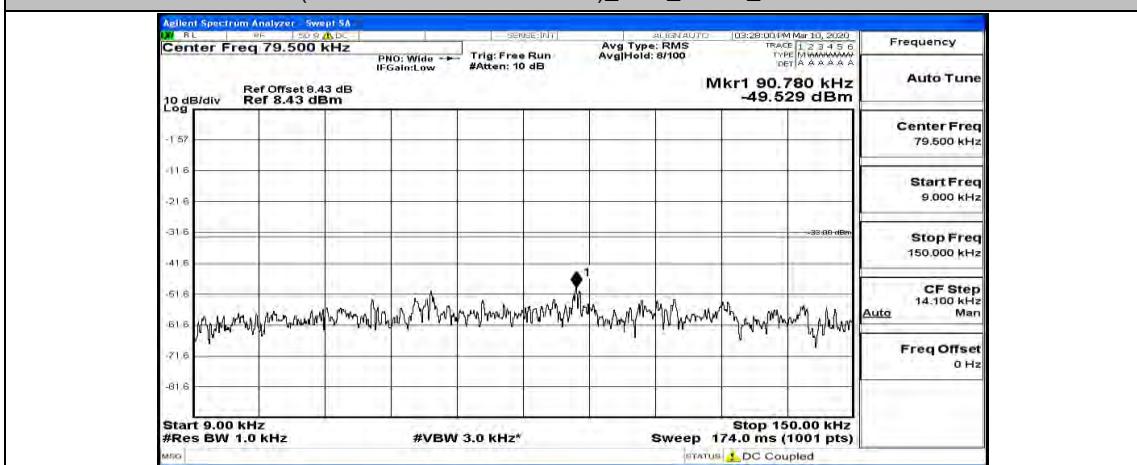
(Channel Bandwidth: 3 MHz)\_LCH\_QPSK\_1RB#0

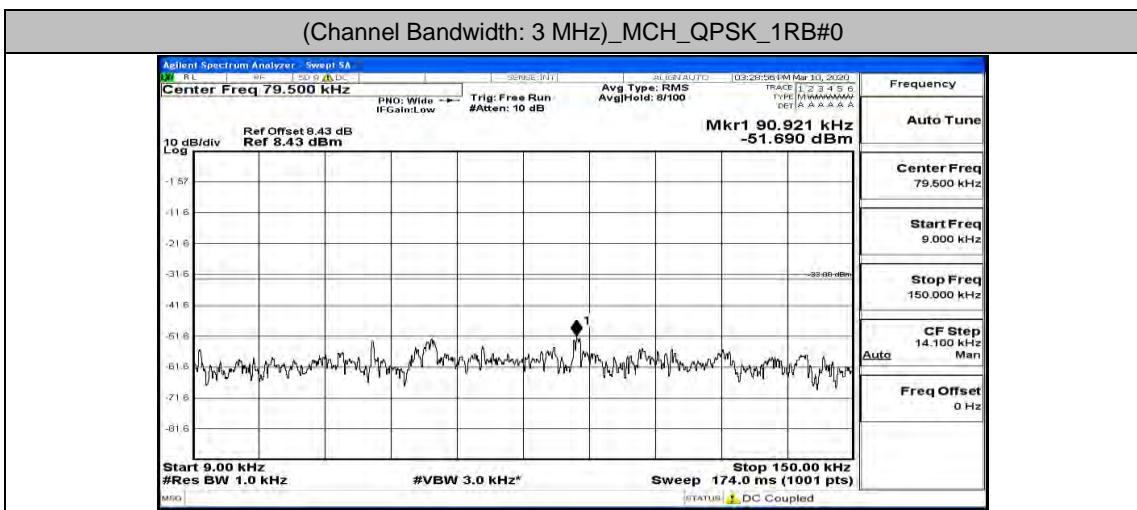
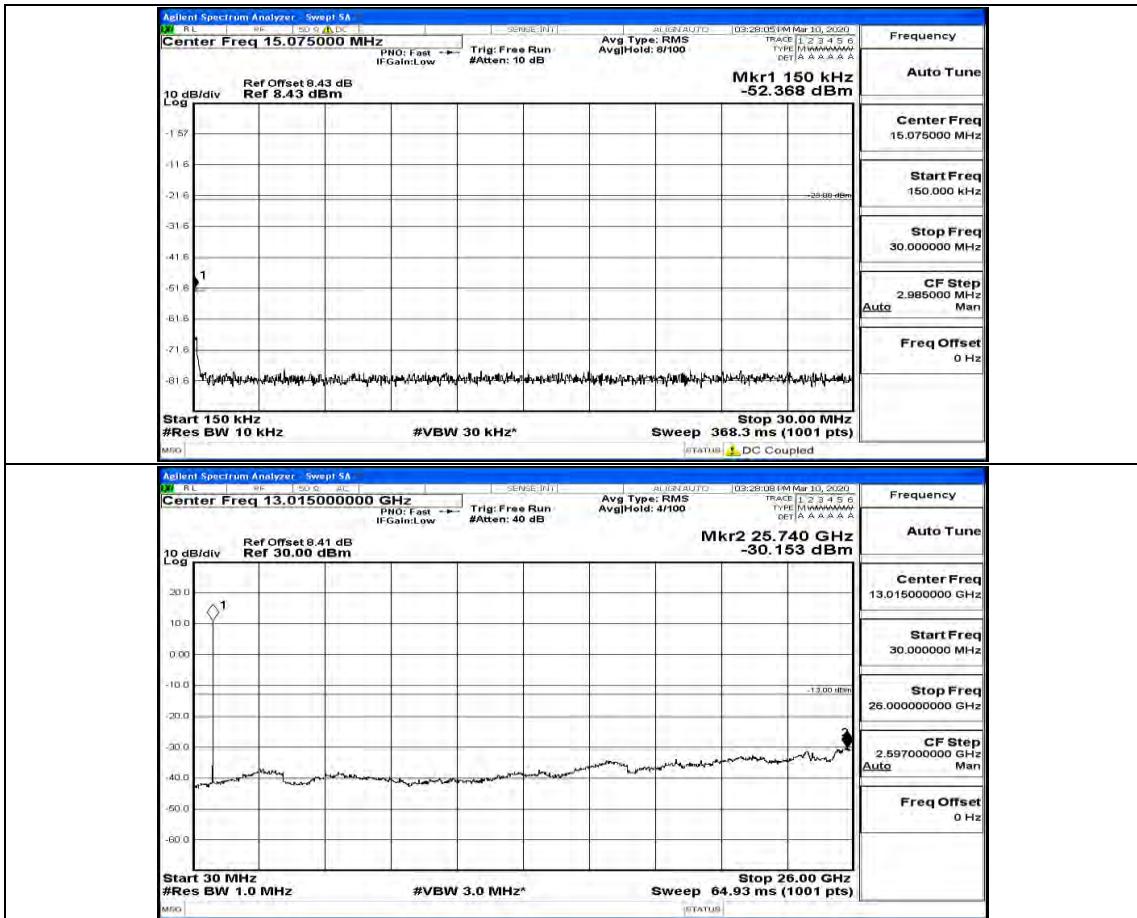


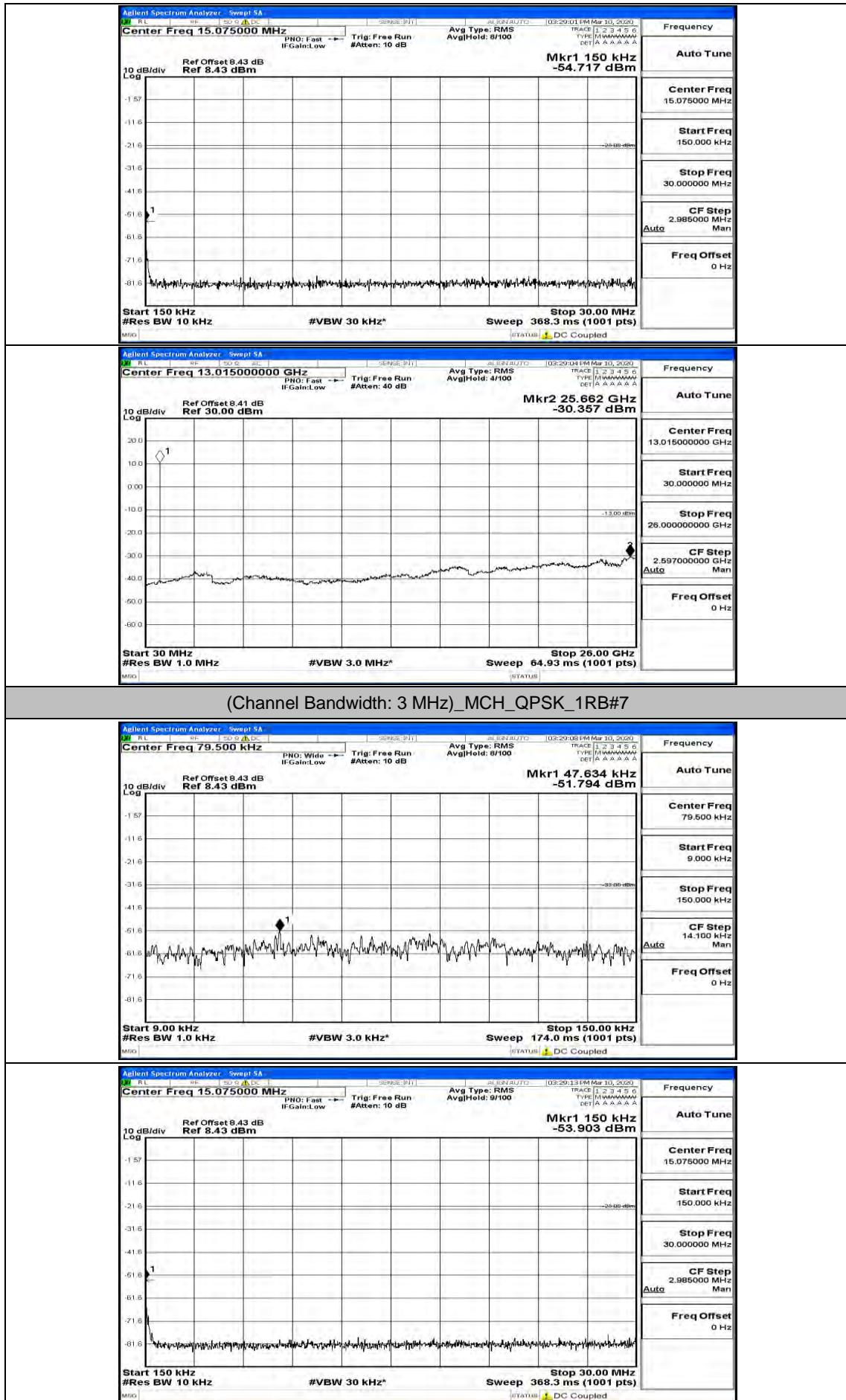
(Channel Bandwidth: 3 MHz)\_LCH\_QPSK\_1RB#7

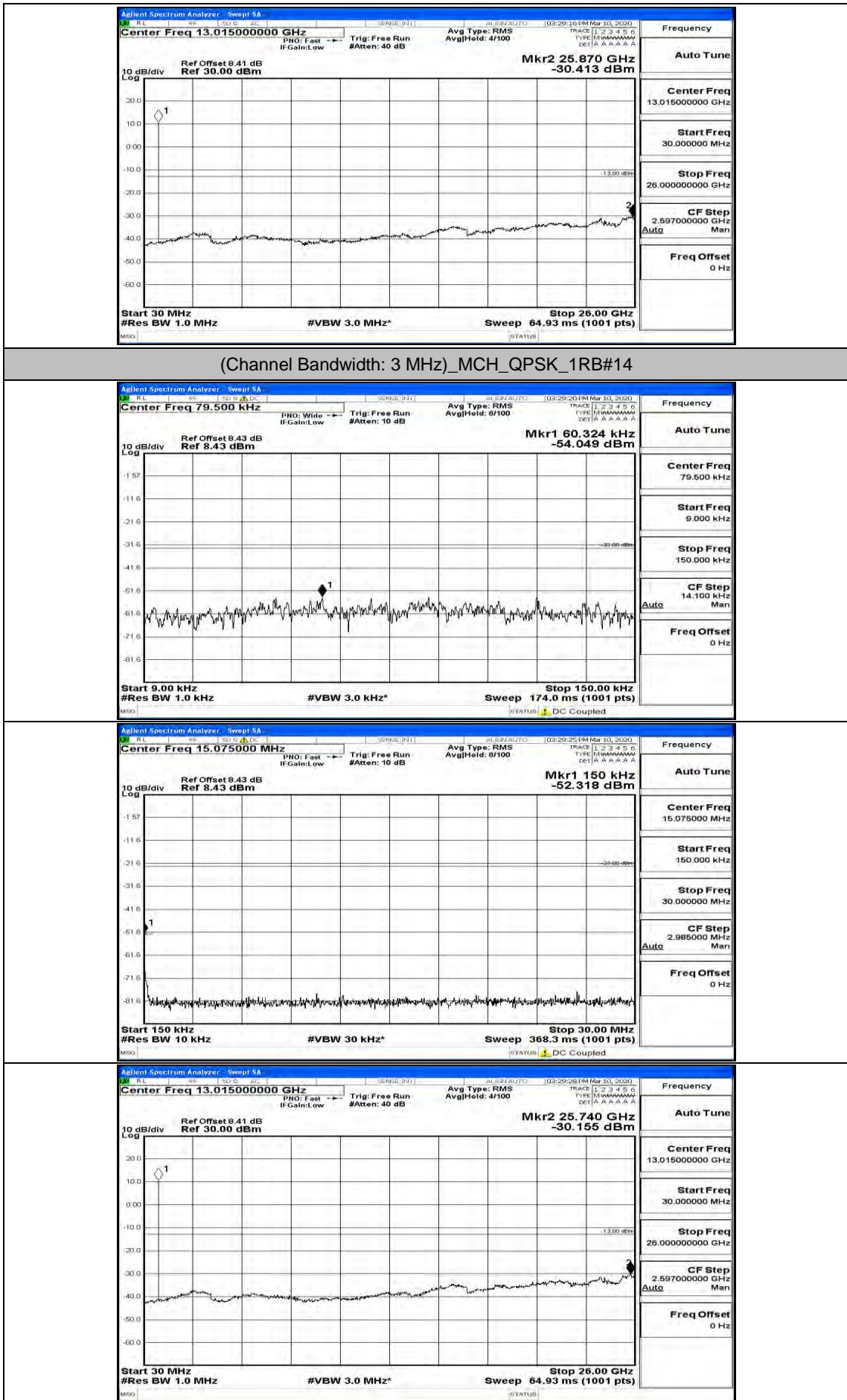


(Channel Bandwidth: 3 MHz) LCH QPSK 1RB#14

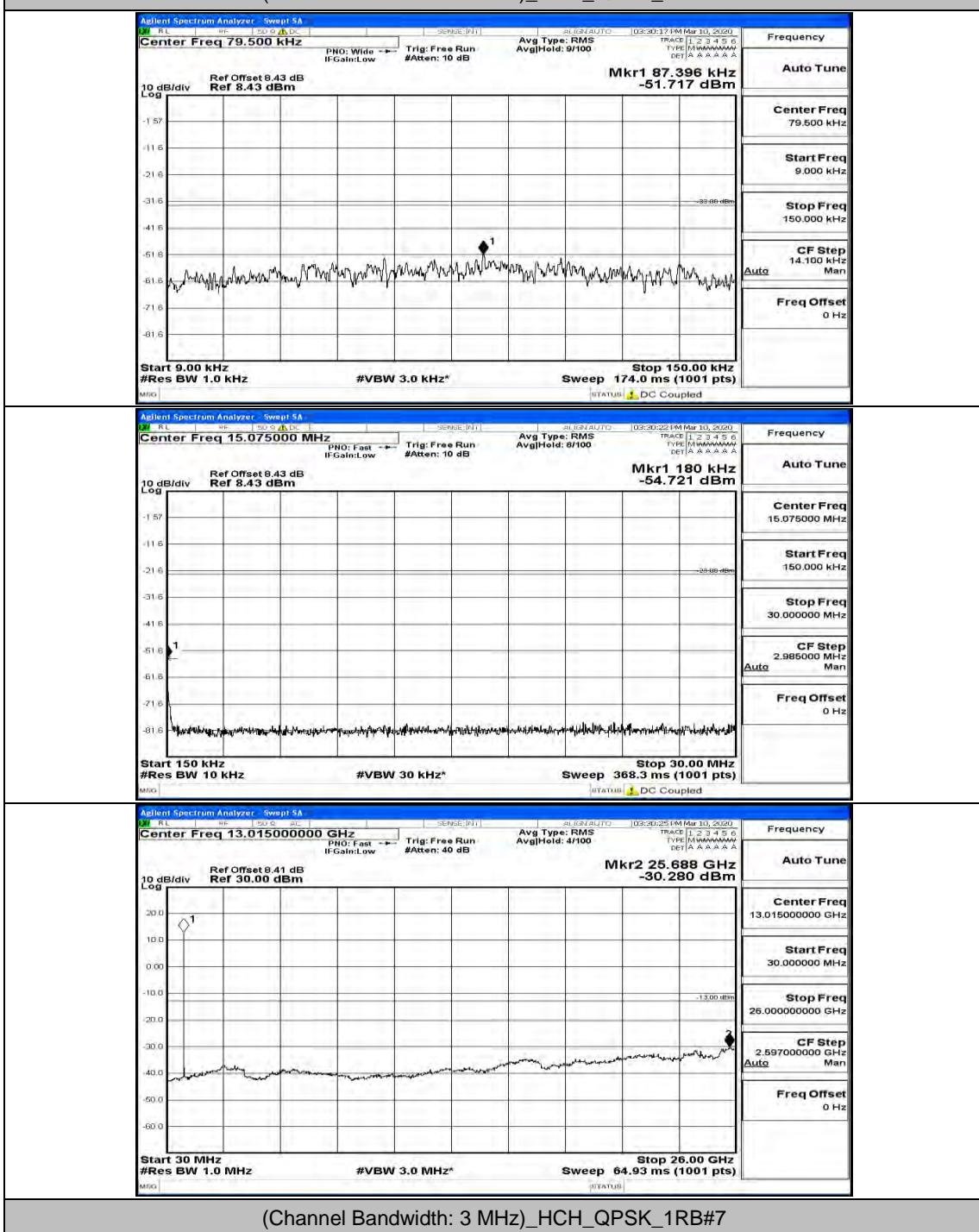








(Channel Bandwidth: 3 MHz)\_HCH\_QPSK\_1RB#0



(Channel Bandwidth: 3 MHz)\_HCH\_QPSK\_1RB#7

