

## Appendix E: Test Data for E-UTRA Band 12

**Product Name: 4G Car DVR**

**Trade Mark: AddSecure**

**Test Model: AddSecure FFC LTE NA**

### Environmental Conditions

Temperature:	22.3° C
Relative Humidity:	53.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

### E.1 Conducted Output Power

Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	22.89	22.57	PASS
		1	3	23.08	22.60	PASS
		1	5	23.02	22.45	PASS
		3	0	23.25	22.18	PASS
		3	2	23.22	22.14	PASS
		3	3	23.11	22.11	PASS
		6	0	22.09	21.80	PASS
	MCH	1	0	22.84	21.46	PASS
		1	3	22.90	21.91	PASS
		1	5	22.83	21.55	PASS
		3	0	22.97	21.60	PASS
		3	2	23.09	21.88	PASS
		3	3	22.85	21.74	PASS
		6	0	21.91	21.16	PASS
	HCH	1	0	22.52	21.68	PASS
		1	3	22.89	21.91	PASS
		1	5	22.77	21.78	PASS
		3	0	22.29	21.63	PASS
		3	2	22.60	21.83	PASS
		3	3	22.56	21.73	PASS
		6	0	21.51	20.36	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	23.15	22.51	PASS
		1	7	23.16	22.63	PASS
		1	14	23.25	22.88	PASS
		8	0	22.30	21.18	PASS
		8	4	22.21	21.13	PASS
		8	7	22.22	21.32	PASS
		15	0	22.32	21.38	PASS
	MCH	1	0	22.98	22.48	PASS
		1	7	23.01	22.55	PASS
		1	14	22.86	22.34	PASS
		8	0	21.99	20.66	PASS
		8	4	22.13	20.96	PASS
		8	7	22.03	20.97	PASS
		15	0	22.06	21.12	PASS
	HCH	1	0	22.89	21.57	PASS
		1	7	22.86	21.82	PASS
		1	14	22.81	21.50	PASS
		8	0	21.80	20.71	PASS
		8	4	21.56	20.49	PASS
		8	7	21.65	20.61	PASS
		15	0	21.64	20.60	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	23.18	21.93	PASS
		1	12	23.40	22.20	PASS
		1	24	23.36	21.99	PASS
		12	0	22.36	21.48	PASS
		12	6	22.20	21.11	PASS
		12	13	22.42	21.39	PASS
		25	0	22.26	21.42	PASS
	MCH	1	0	22.93	22.18	PASS
		1	12	23.35	22.16	PASS
		1	24	22.88	21.81	PASS
		12	0	22.07	21.21	PASS
		12	6	22.28	20.97	PASS
		12	13	22.15	20.94	PASS
		25	0	22.14	21.11	PASS
	HCH	1	0	22.85	21.54	PASS
		1	12	23.17	21.38	PASS
		1	24	22.78	21.31	PASS
		12	0	21.74	20.70	PASS
		12	6	21.67	20.56	PASS
		12	13	21.69	20.54	PASS
		25	0	21.69	20.83	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	23.12	22.58	PASS
		1	24	23.27	23.01	PASS
		1	49	23.14	22.67	PASS
		25	0	22.30	21.25	PASS
		25	12	22.32	21.28	PASS
		25	25	22.41	21.14	PASS
		50	0	22.18	21.28	PASS
	MCH	1	0	23.22	22.61	PASS
		1	24	23.20	22.70	PASS
		1	49	22.50	21.94	PASS
		25	0	22.29	21.37	PASS
		25	12	22.10	21.10	PASS
		25	25	22.04	21.13	PASS
		50	0	22.02	21.02	PASS
	HCH	1	0	22.88	21.74	PASS
		1	24	22.55	21.40	PASS
		1	49	22.59	21.30	PASS
		25	0	22.09	21.11	PASS
		25	12	21.93	20.77	PASS
		25	25	21.81	20.91	PASS
		50	0	21.85	20.90	PASS

**E.2 Peak-to-Average Ratio**

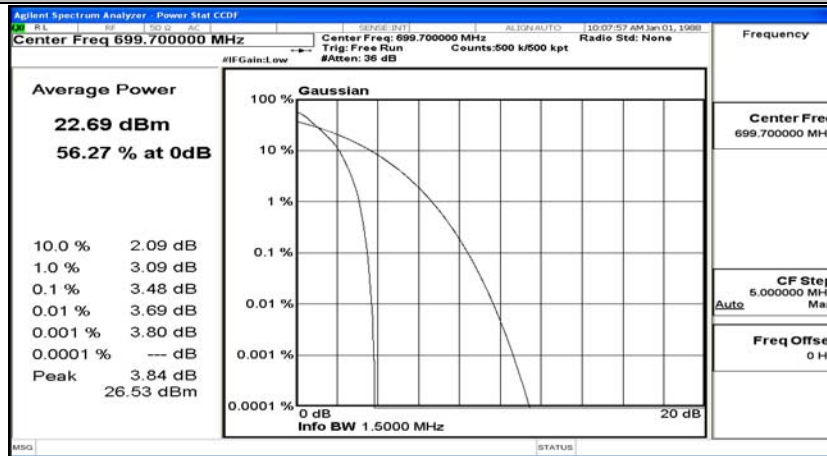
Peak-to Average Ratio Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	3.48	<13	PASS
	MCH	4.72	<13	PASS
	HCH	4.32	<13	PASS
16QAM	LCH	4.24	<13	PASS
	MCH	5.66	<13	PASS
	HCH	5.14	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	3.79	<13	PASS
	MCH	4.91	<13	PASS
	HCH	4.29	<13	PASS
16QAM	LCH	4.6	<13	PASS
	MCH	5.62	<13	PASS
	HCH	4.92	<13	PASS

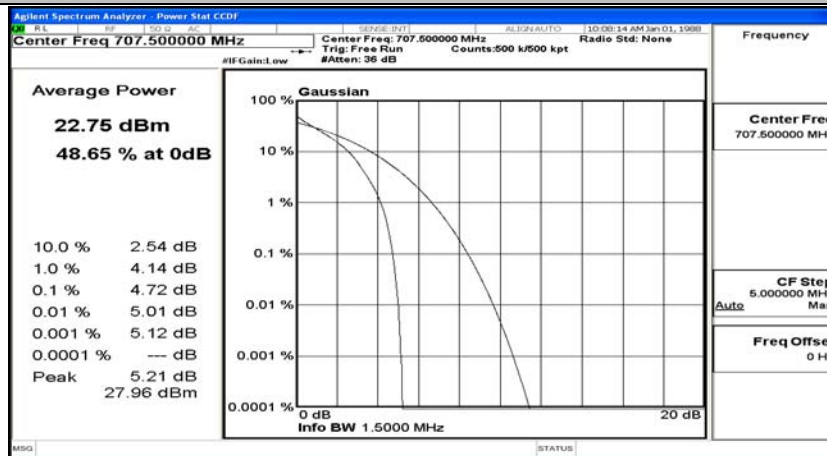
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	3.9	<13	PASS
	MCH	4.66	<13	PASS
	HCH	3.98	<13	PASS
16QAM	LCH	4.53	<13	PASS
	MCH	5.47	<13	PASS
	HCH	4.61	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	4.64	<13	PASS
	MCH	4.44	<13	PASS
	HCH	4.31	<13	PASS
16QAM	LCH	5.4	<13	PASS
	MCH	5.29	<13	PASS
	HCH	5.22	<13	PASS

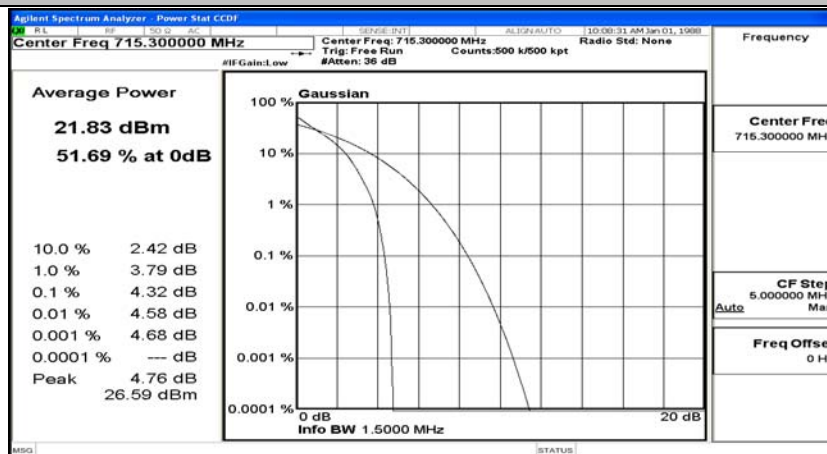
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_LCH\_QPSK



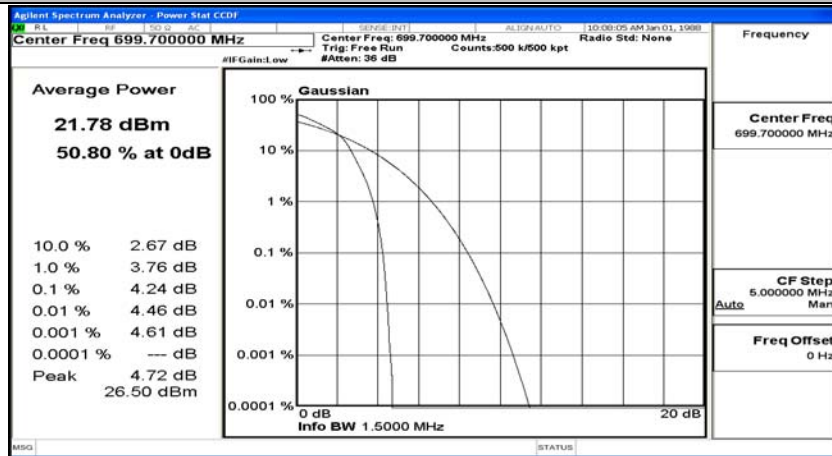
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_MCH\_QPSK



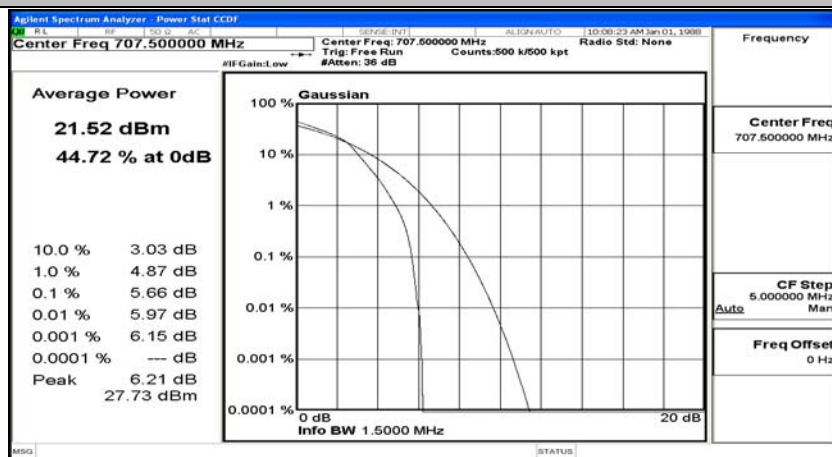
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_HCH\_QPSK



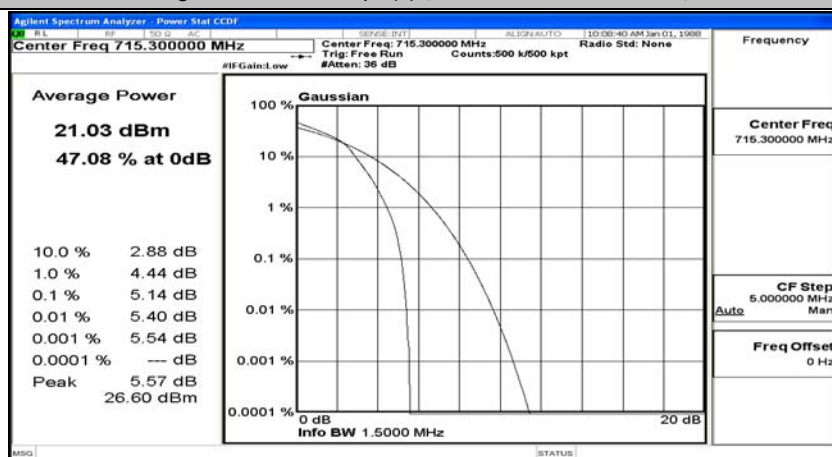
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_LCH\_16QAM



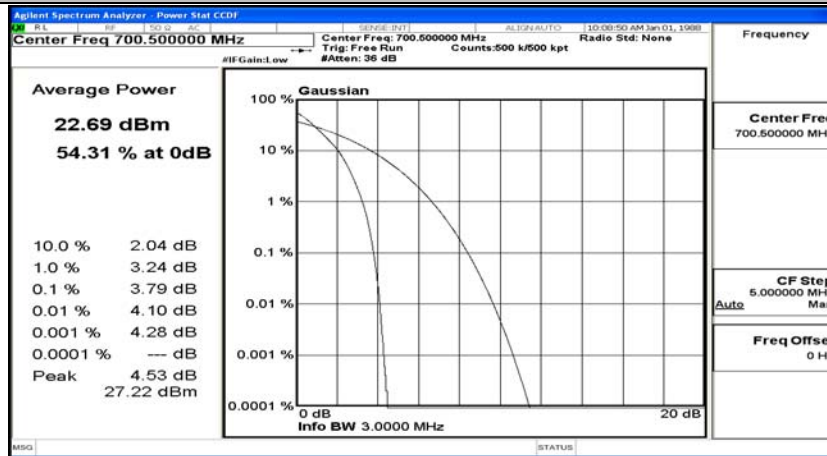
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_MCH\_16QAM



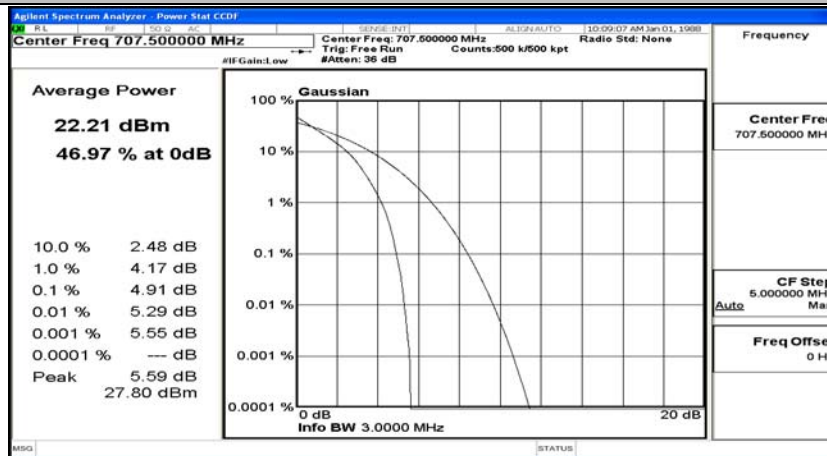
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_HCH\_16QAM



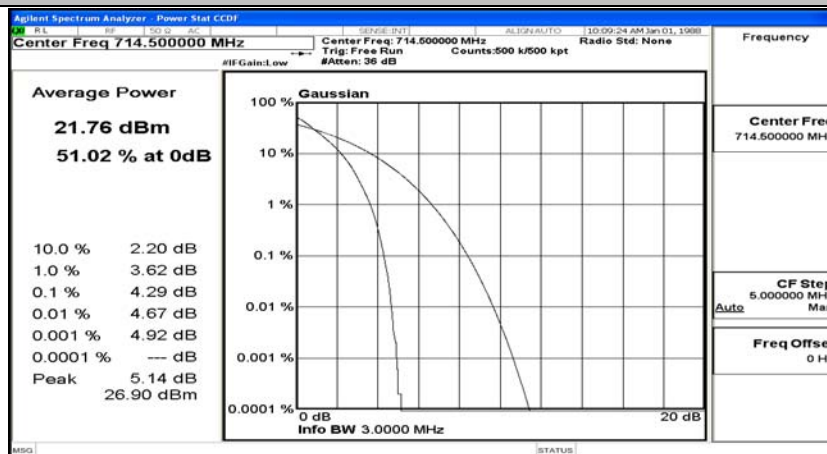
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_LCH\_QPSK



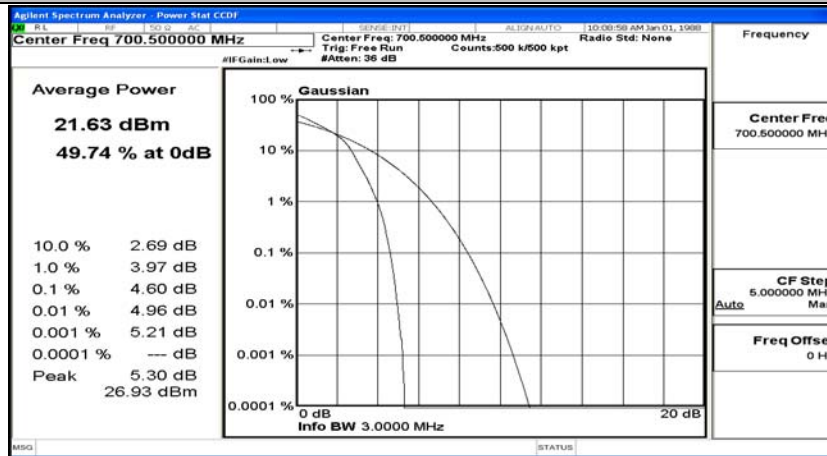
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_MCH\_QPSK



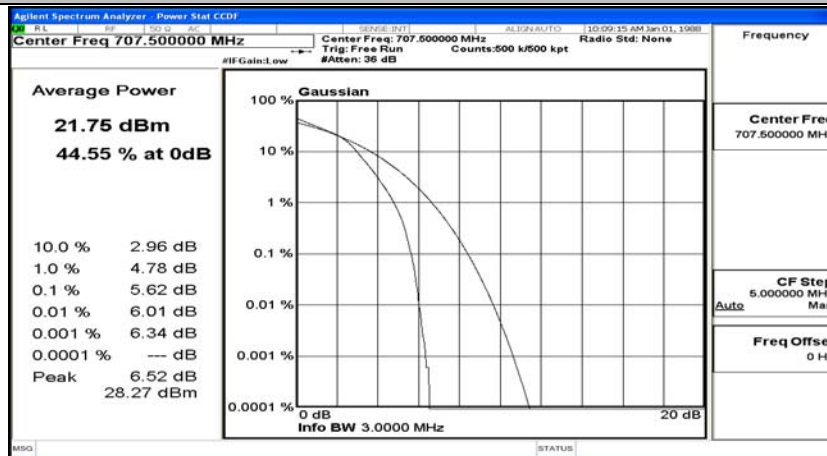
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_HCH\_QPSK



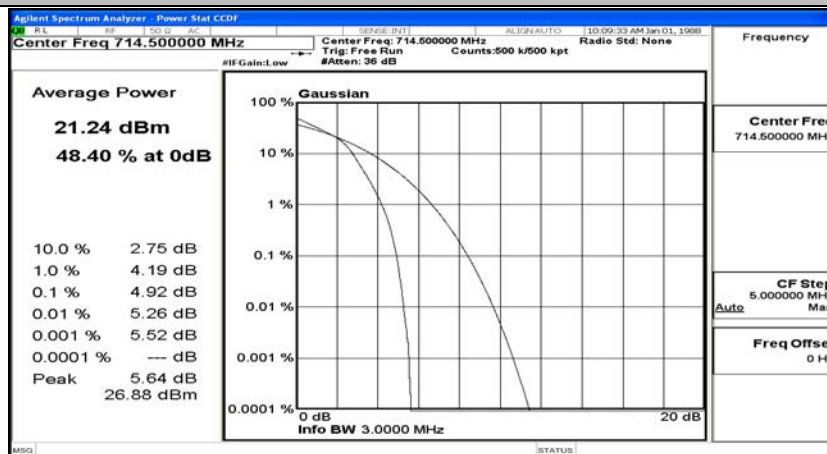
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_LCH\_16QAM



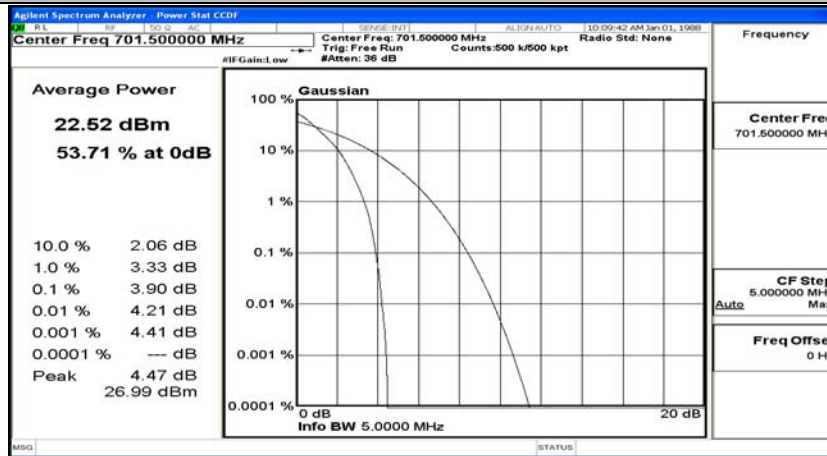
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_MCH\_16QAM



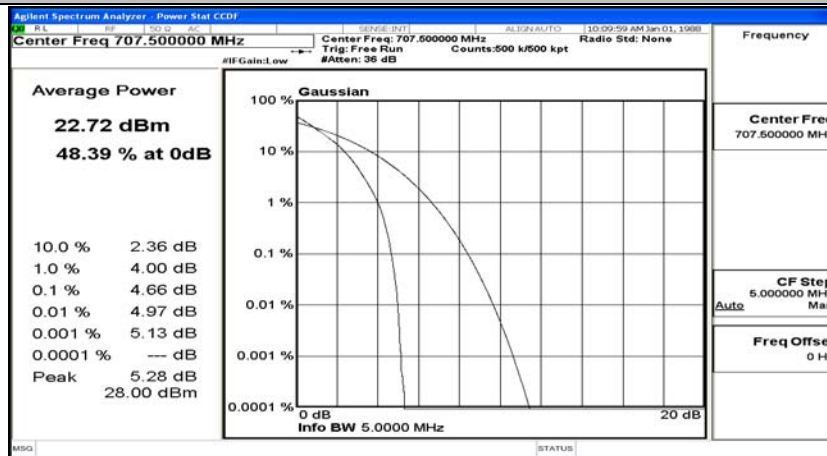
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)\_HCH\_16QAM



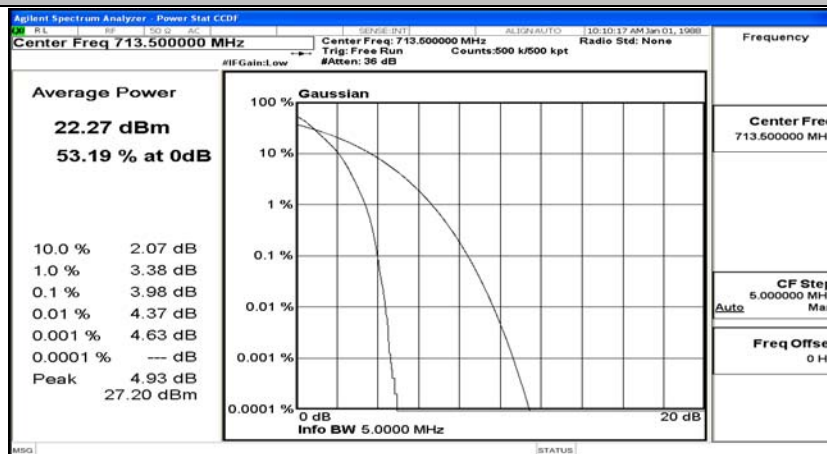
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_LCH\_QPSK



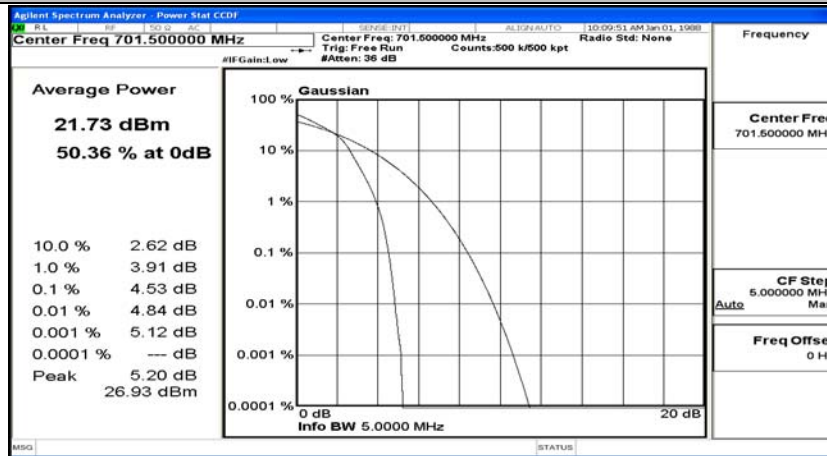
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_MCH\_QPSK



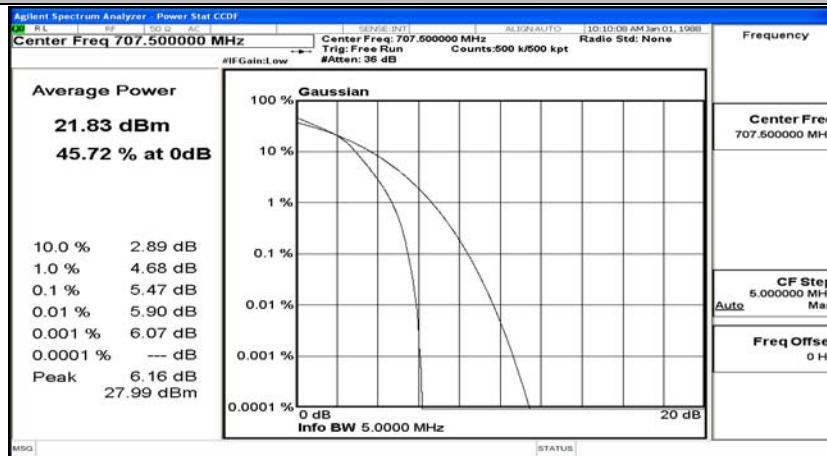
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_HCH\_QPSK



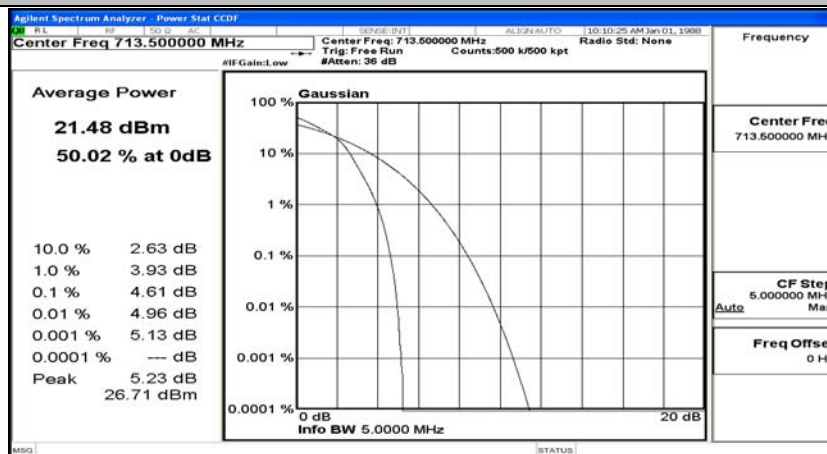
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_LCH\_16QAM



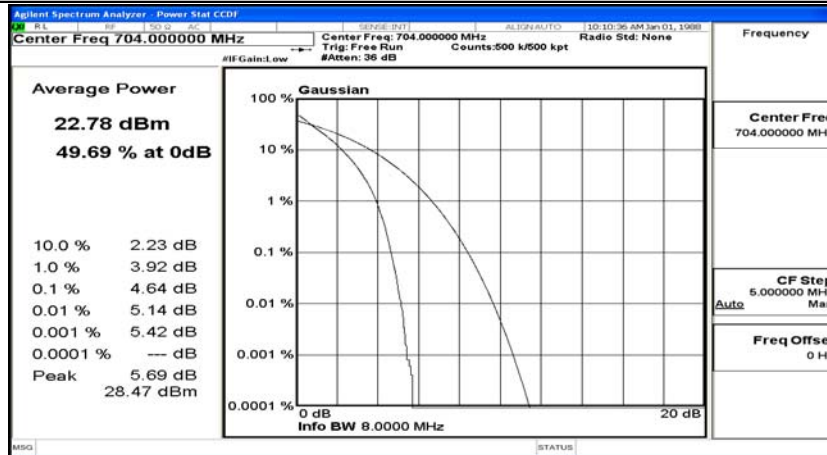
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_MCH\_16QAM



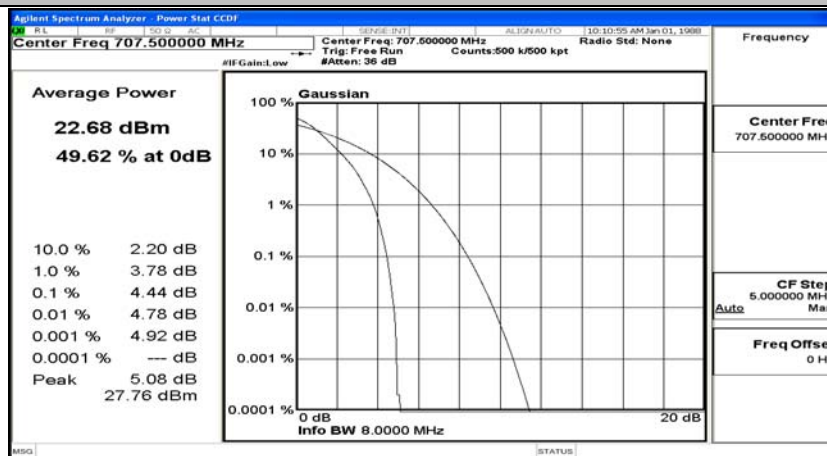
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)\_HCH\_16QAM



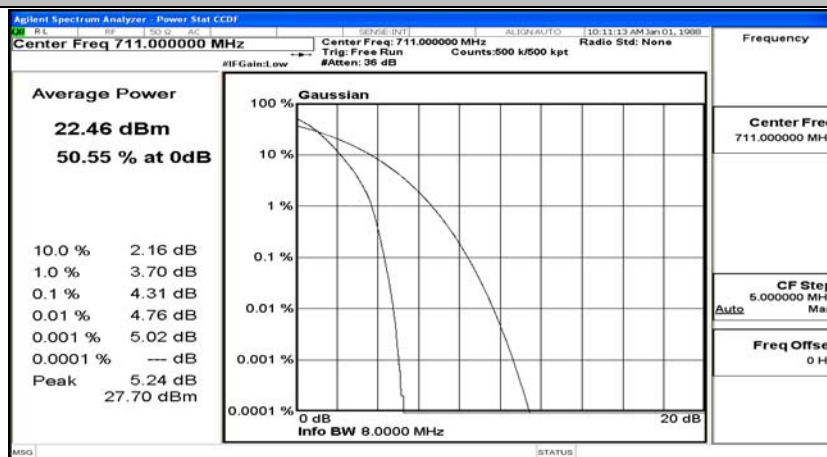
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_QPSK



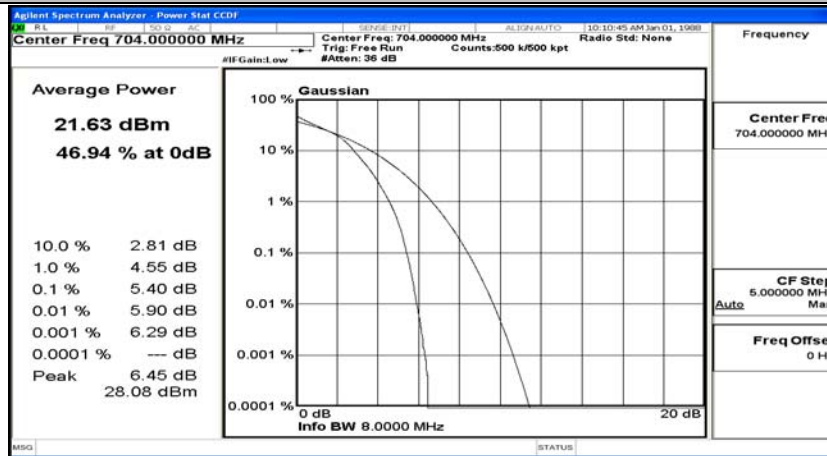
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)\_MCH\_QPSK



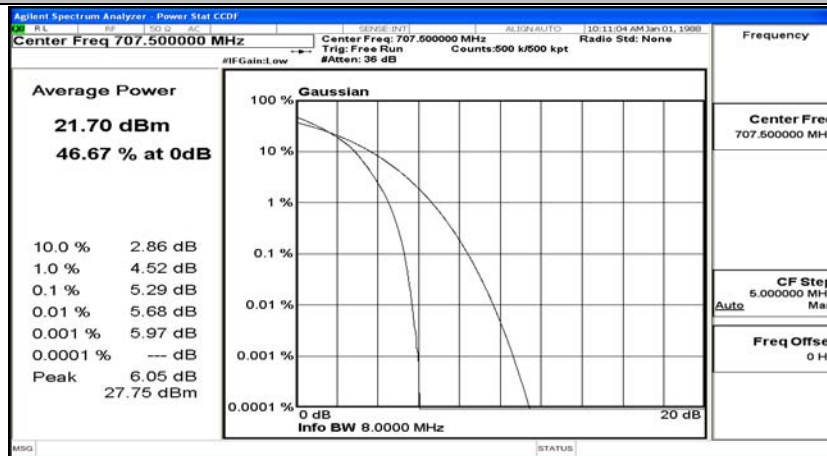
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)\_HCH\_QPSK



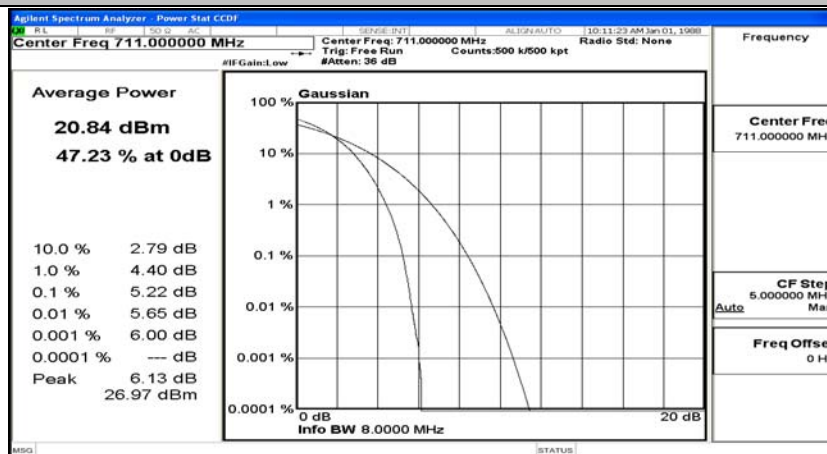
## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_16QAM



## 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



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

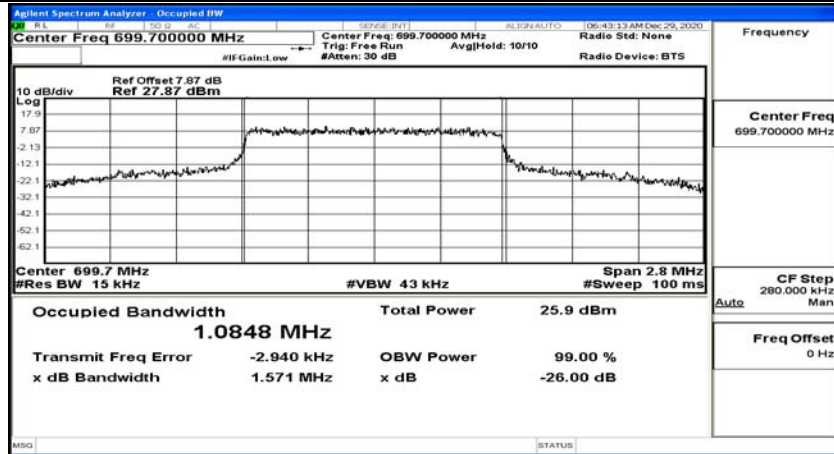
<b>EBW &amp; OBW Test Result (Channel Bandwidth: 1.4 MHz)</b>				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	1.0848	1.571	PASS
	MCH	1.0774	1.237	PASS
	HCH	1.0793	1.245	PASS
16QAM	LCH	1.0846	1.395	PASS
	MCH	1.0787	1.230	PASS
	HCH	1.0779	1.237	PASS

<b>EBW &amp; OBW Test Result (Channel Bandwidth: 3 MHz)</b>				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	2.6962	3.694	PASS
	MCH	2.6840	2.898	PASS
	HCH	2.6849	2.927	PASS
16QAM	LCH	2.6945	3.216	PASS
	MCH	2.6830	2.890	PASS
	HCH	2.6893	2.908	PASS

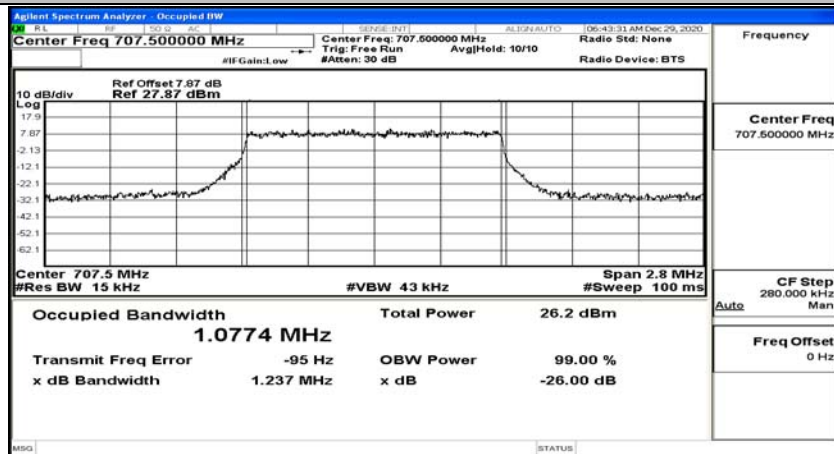
<b>EBW &amp; OBW Test Result (Channel Bandwidth: 5 MHz)</b>				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.4939	5.182	PASS
	MCH	4.4667	4.832	PASS
	HCH	4.4987	5.817	PASS
16QAM	LCH	4.4871	5.291	PASS
	MCH	4.4721	4.789	PASS
	HCH	4.4902	5.035	PASS

<b>EBW &amp; OBW Test Result (Channel Bandwidth: 10 MHz)</b>				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	8.9624	9.834	PASS
	MCH	8.8991	9.435	PASS
	HCH	8.9135	9.440	PASS
16QAM	LCH	8.9569	9.638	PASS
	MCH	8.9072	9.387	PASS
	HCH	8.9032	9.403	PASS

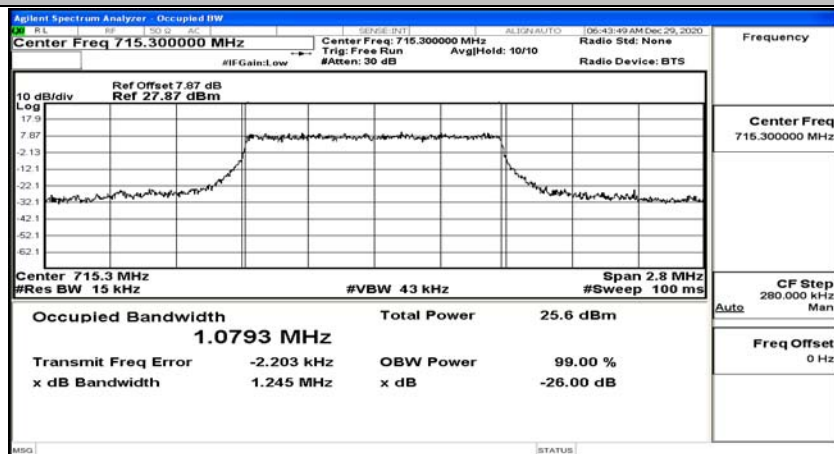
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_LCH\_QPSK



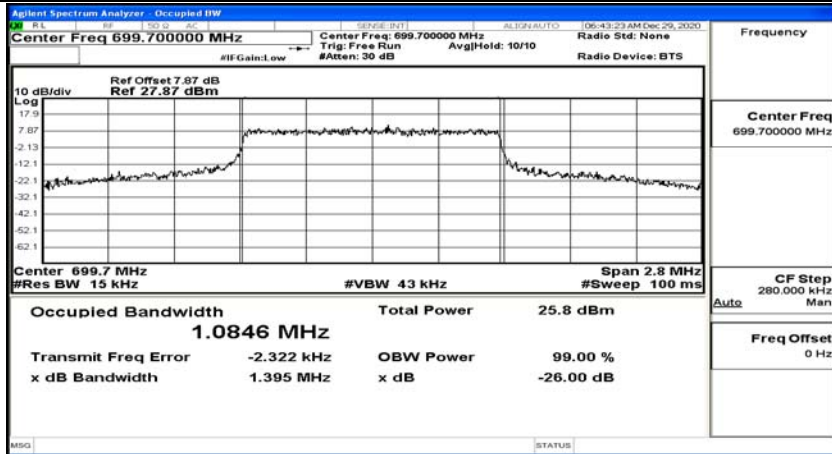
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_MCH\_QPSK



## 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



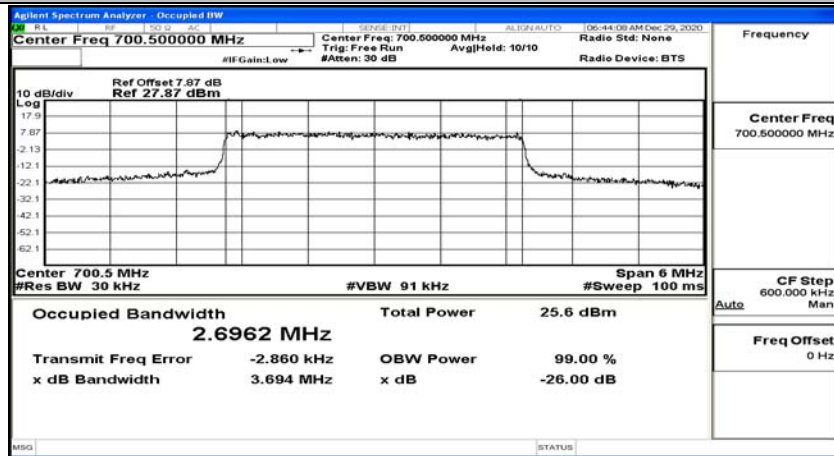
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_MCH\_16QAM



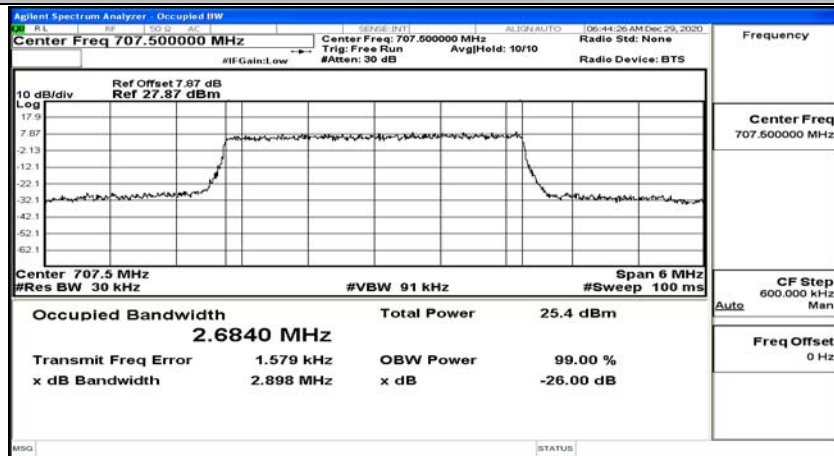
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_HCH\_16QAM



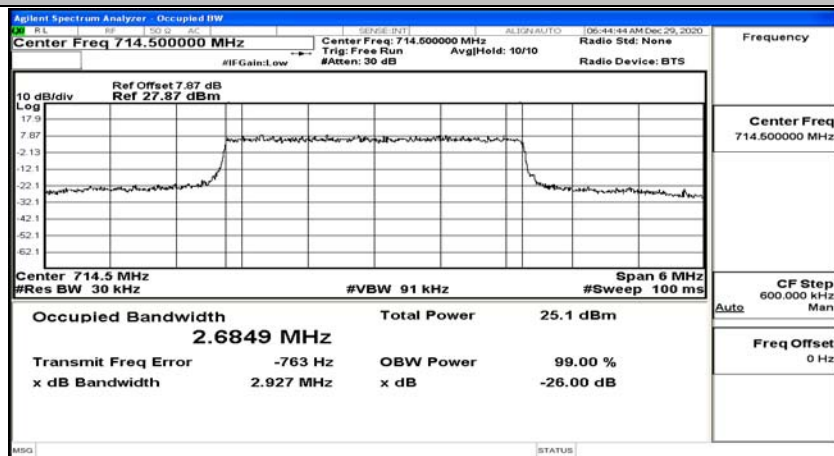
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_LCH\_QPSK



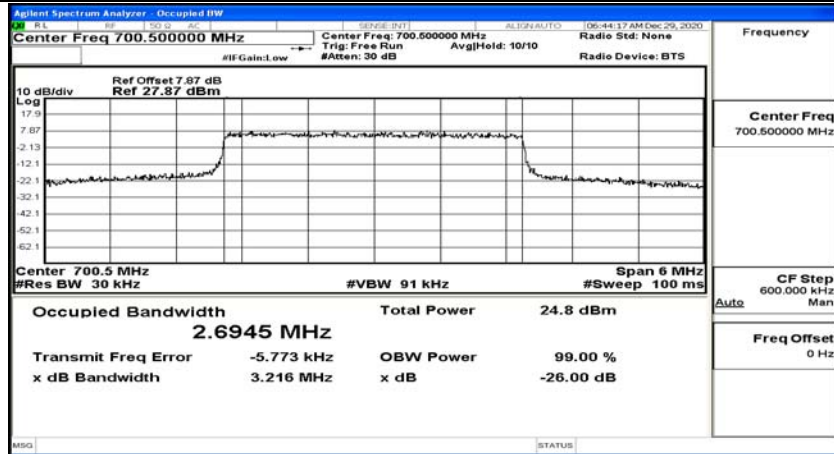
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_MCH\_QPSK



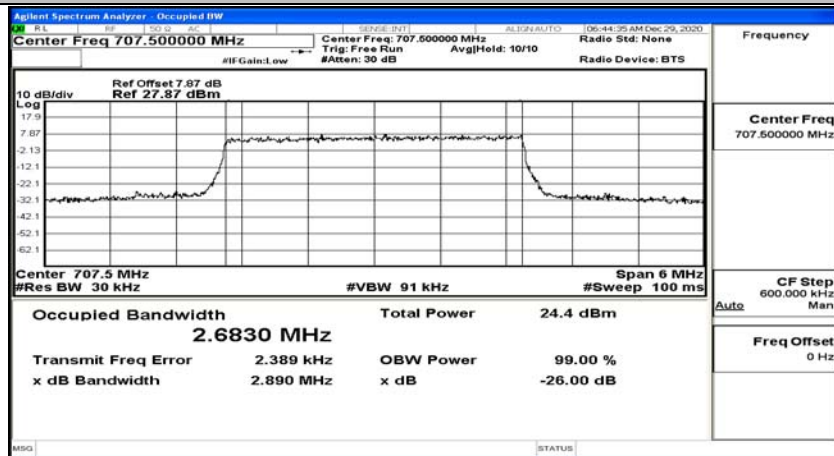
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_HCH\_QPSK



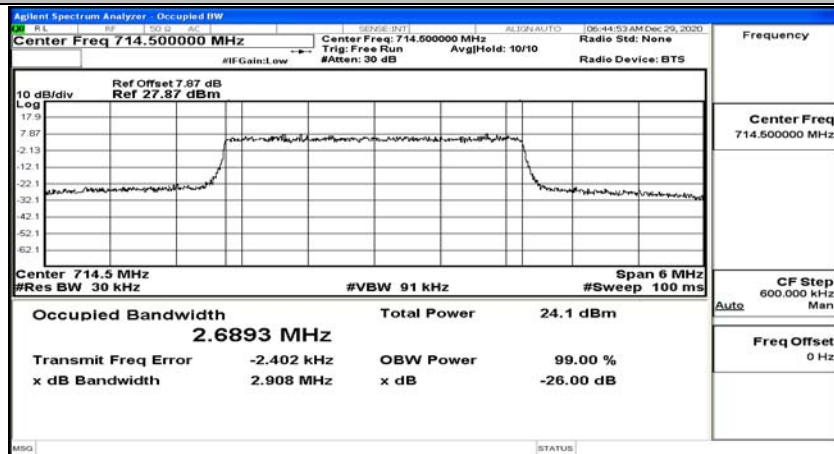
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_LCH\_16QAM



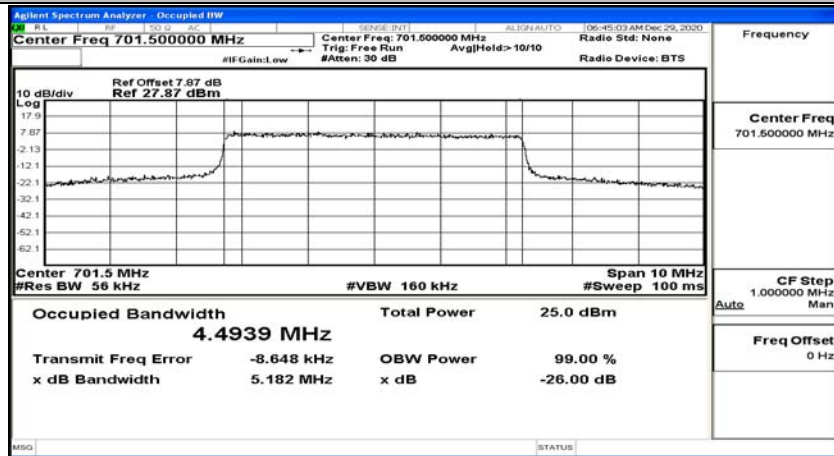
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_MCH\_16QAM



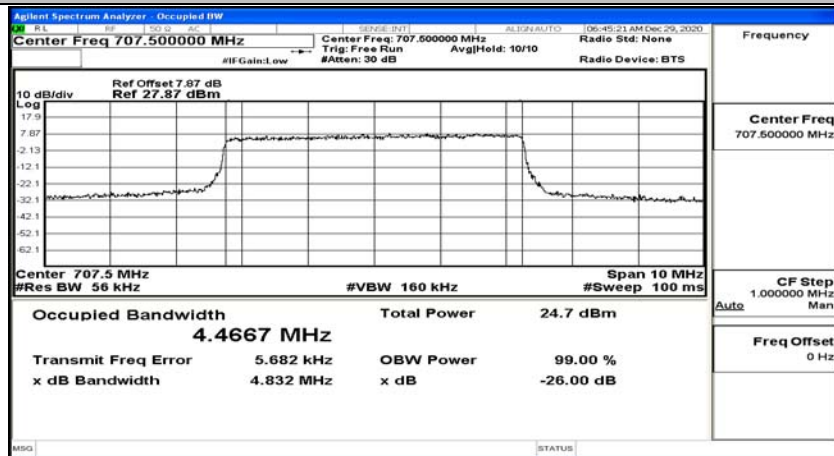
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)\_HCH\_16QAM



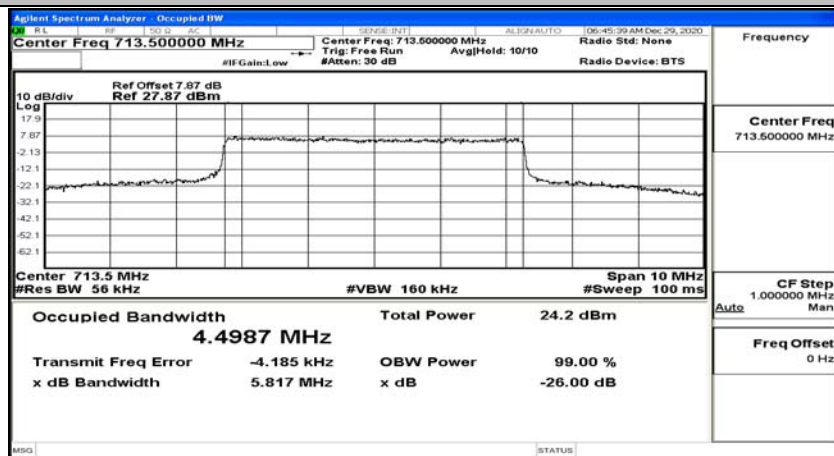
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 5 MHz)\_LCH\_QPSK



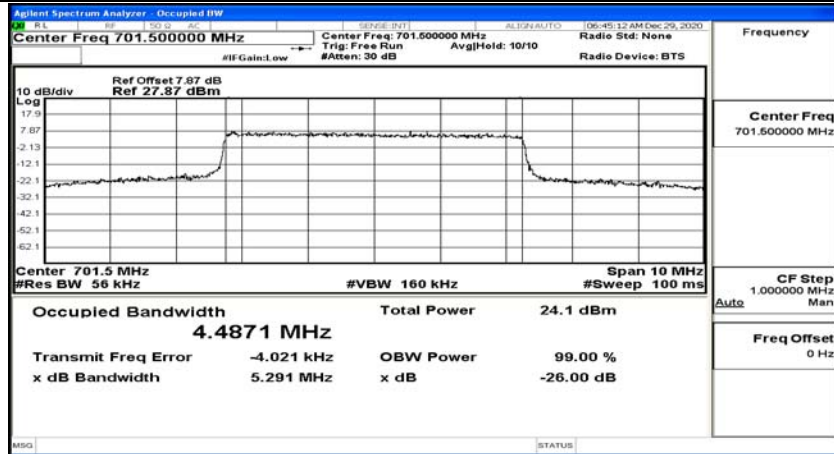
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 5 MHz)\_MCH\_QPSK



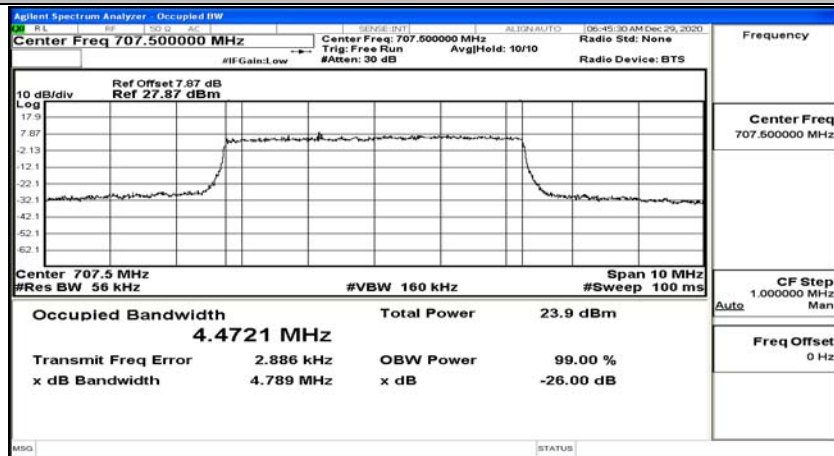
## EBW &amp; OBW Test Graph(s) (Channel Bandwidth: 5 MHz)\_HCH\_QPSK



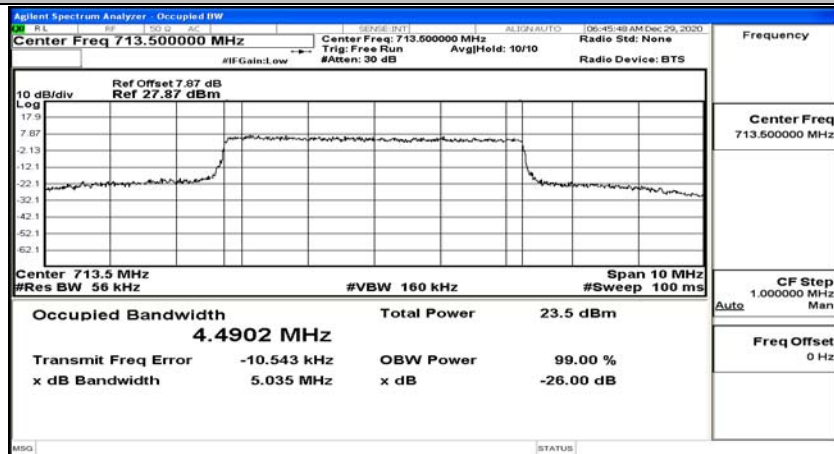
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)\_LCH\_16QAM



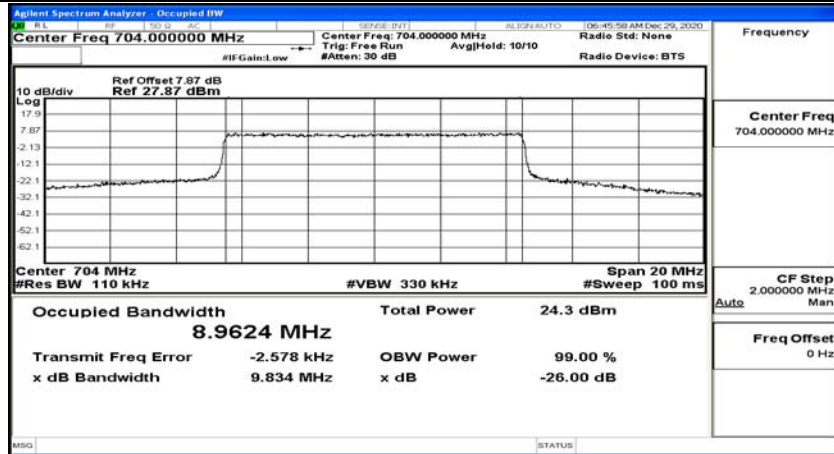
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)\_MCH\_16QAM



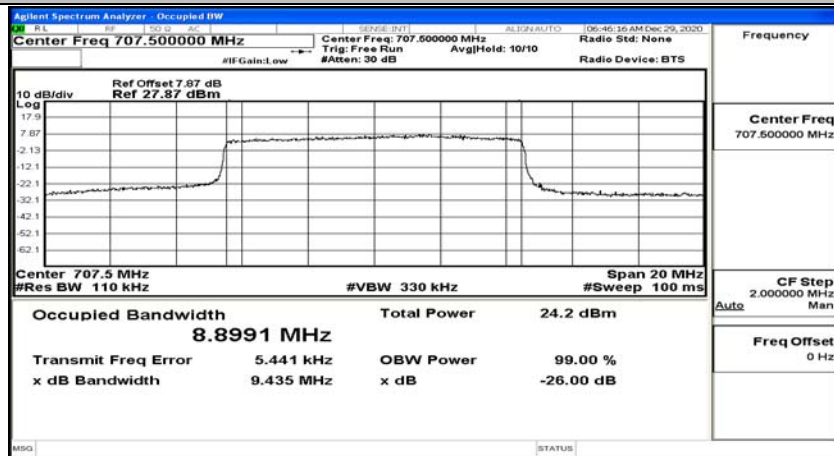
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)\_HCH\_16QAM



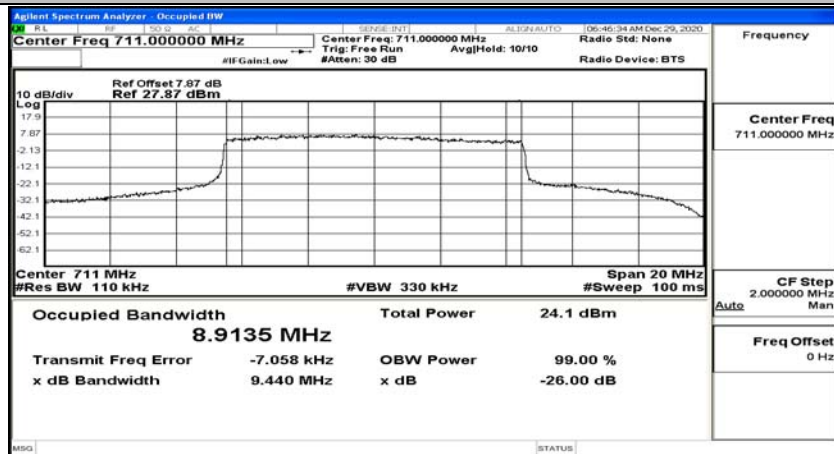
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_QPSK



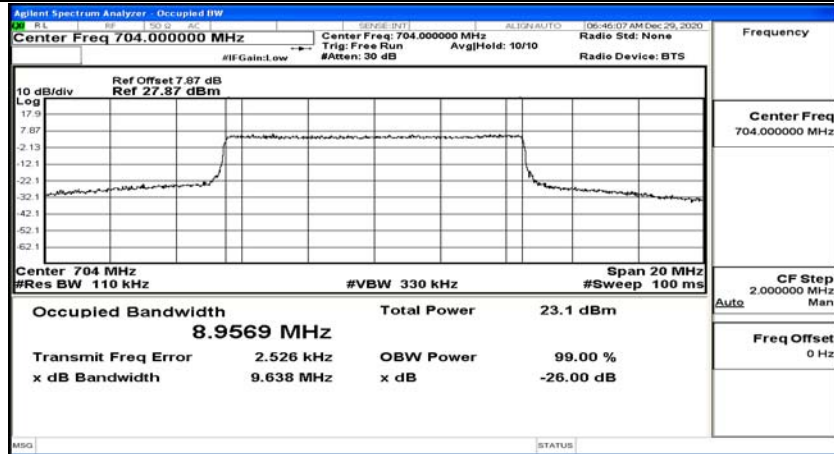
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)\_MCH\_QPSK



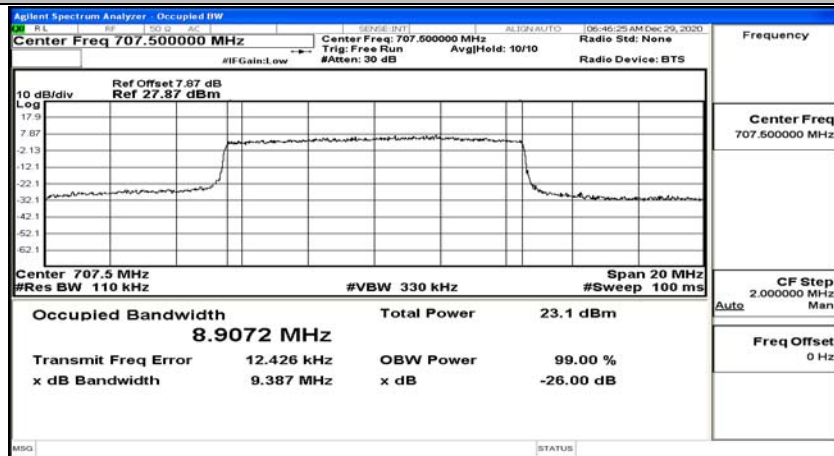
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)\_HCH\_QPSK



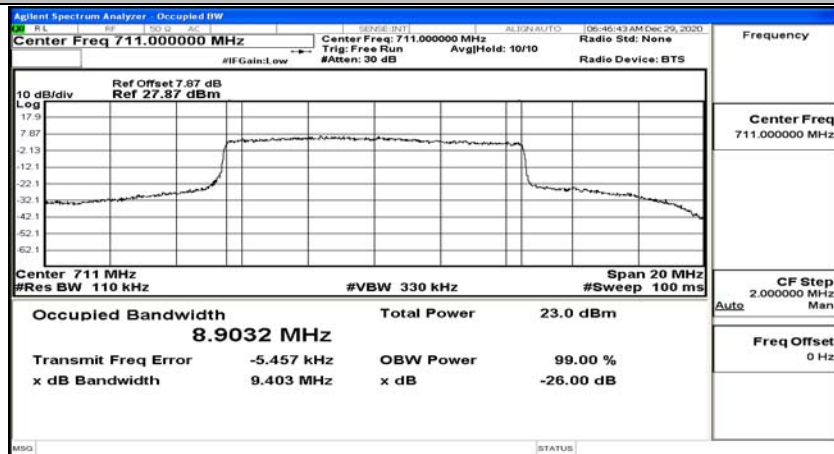
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_16QAM



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



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



## E.4 Band Edge

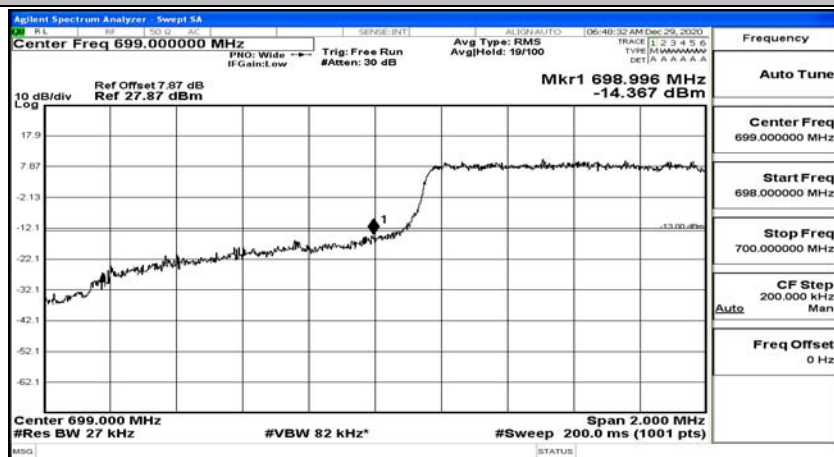
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_LCH\_QPSK

#Img-QPSK-L-1.4-F-L-BE

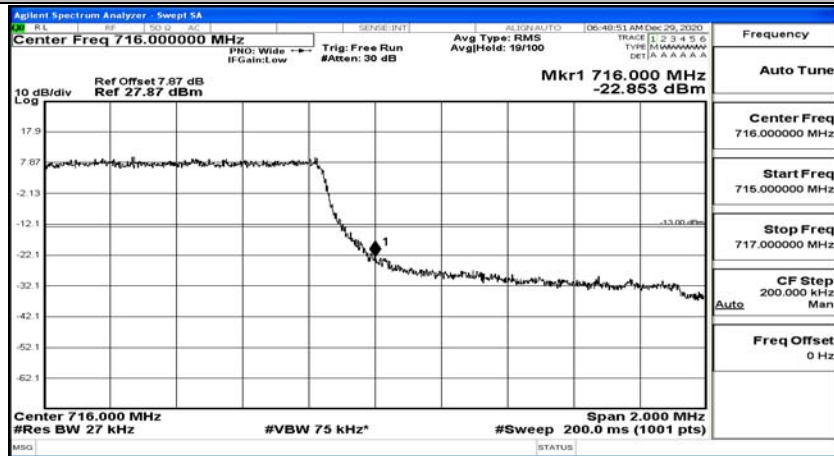
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_HCH\_QPSK



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



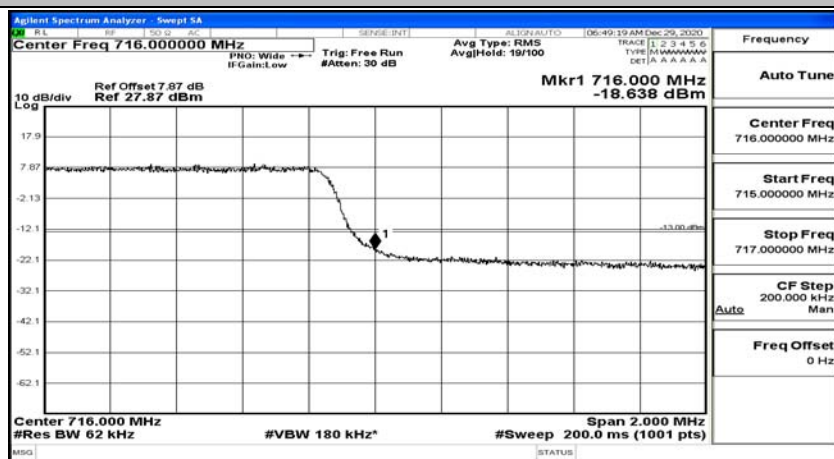
## Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)\_HCH\_16QAM



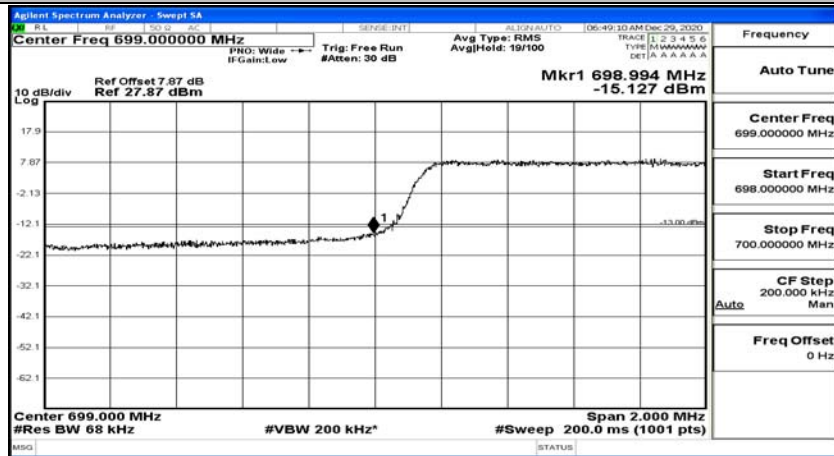
## Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)\_LCH\_QPSK

#Img-QPSK-L-3-F-L-BE

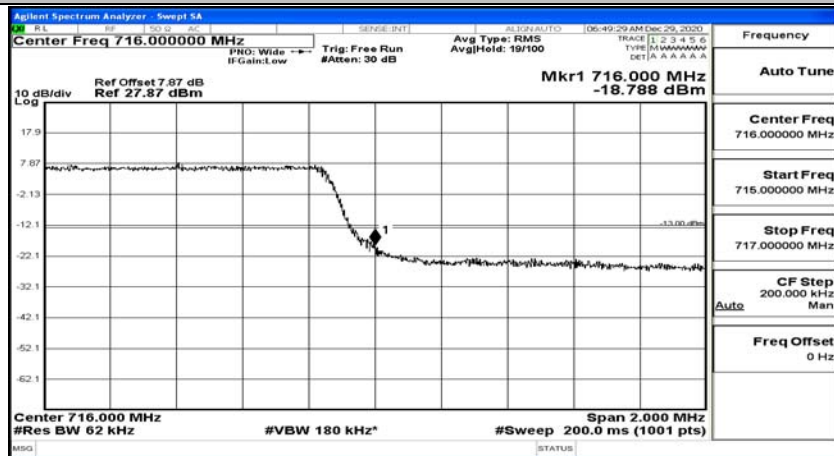
## Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)\_HCH\_QPSK



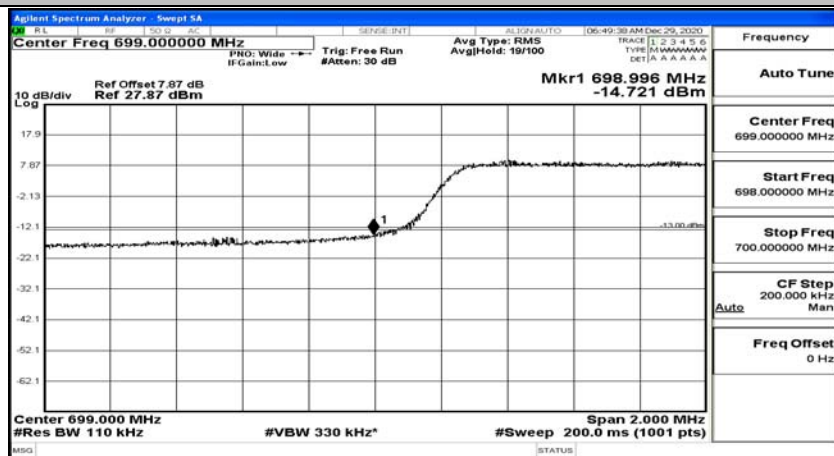
## Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)\_LCH\_16QAM



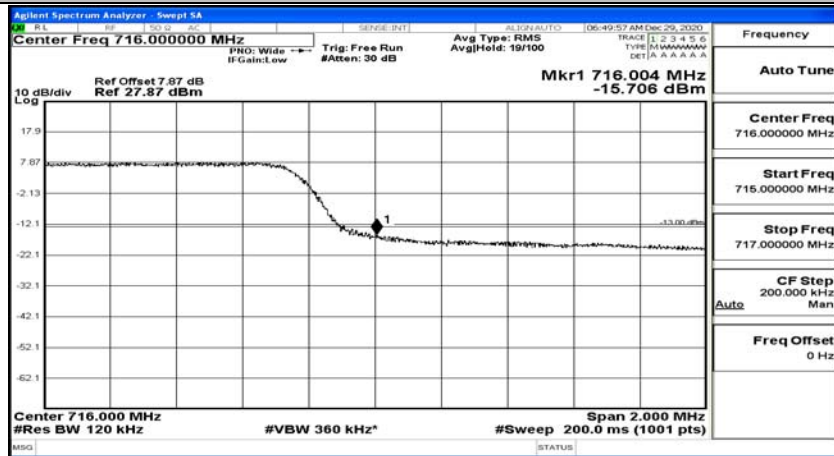
## Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)\_HCH\_16QAM



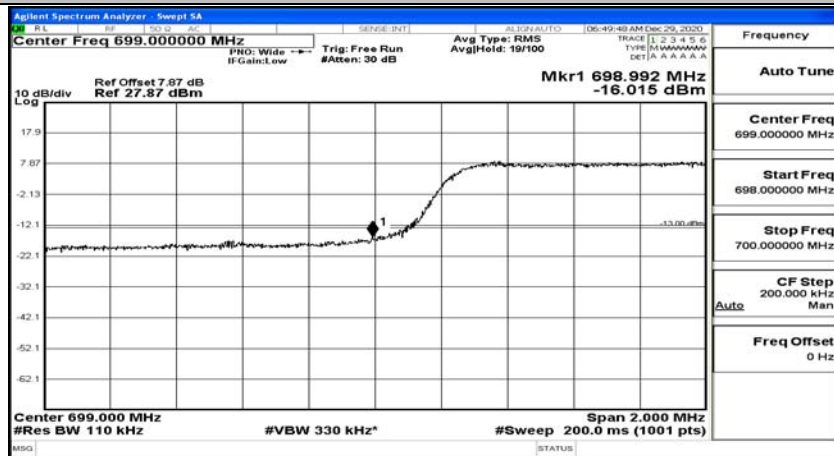
## Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)\_LCH\_QPSK



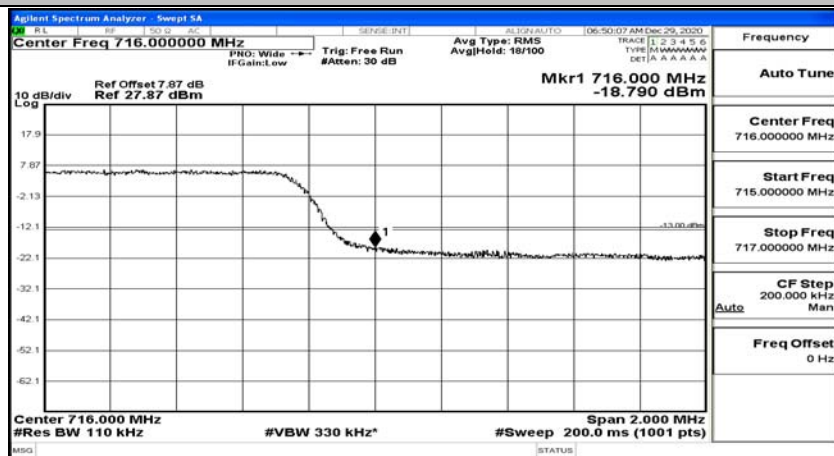
## Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)\_HCH\_QPSK



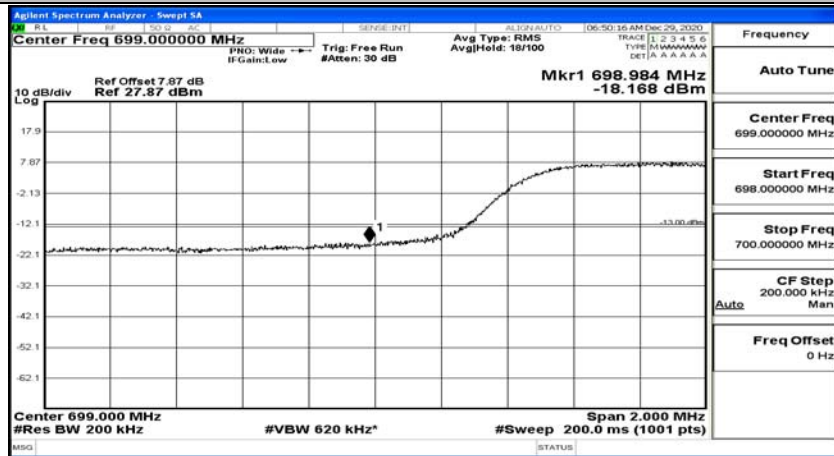
## Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)\_LCH\_16QAM



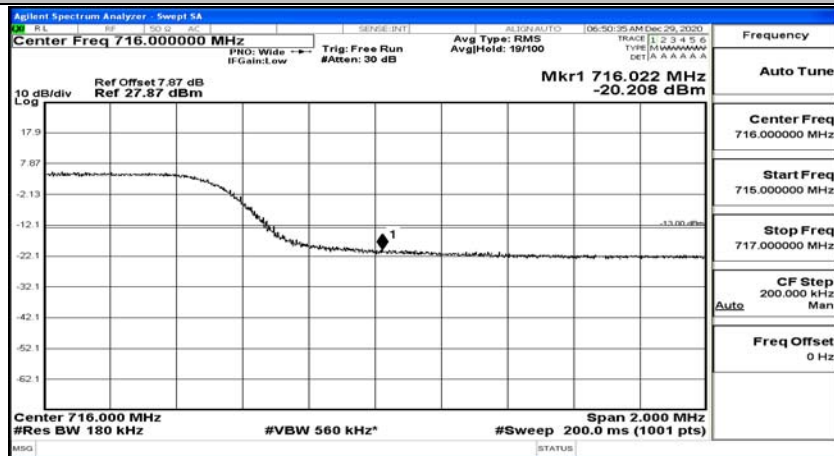
## Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)\_HCH\_16QAM



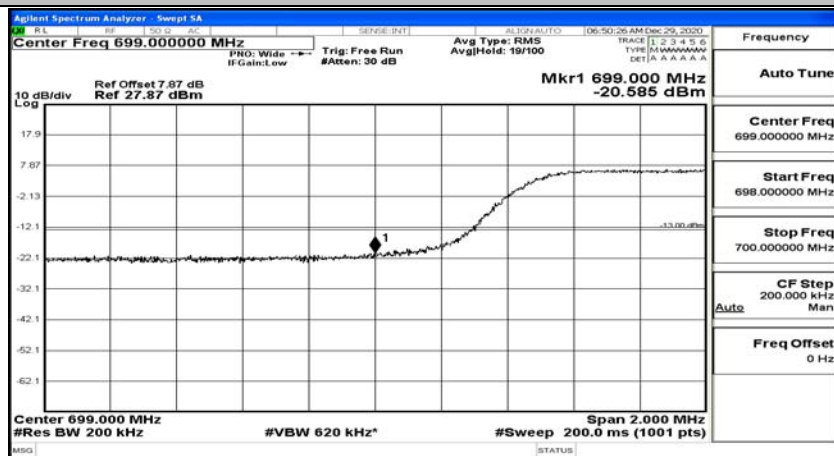
## Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_QPSK



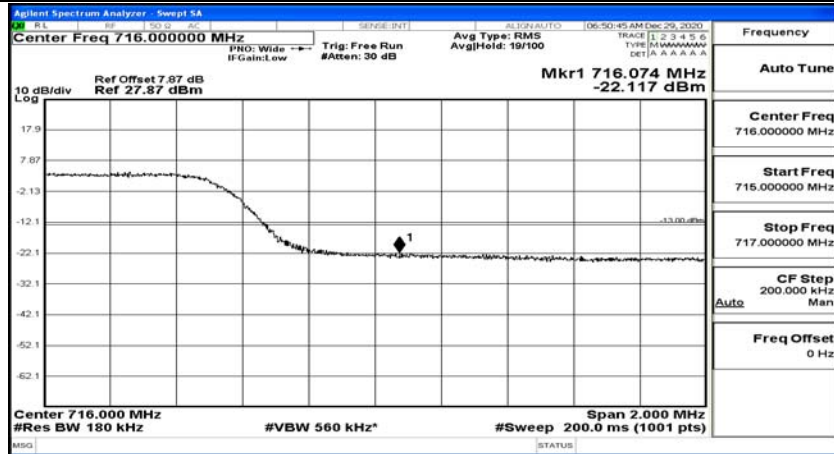
## Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)\_HCH\_QPSK



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



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



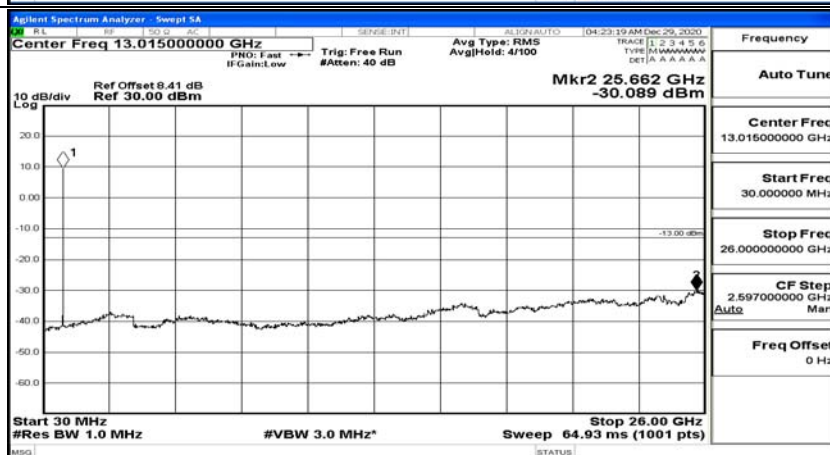
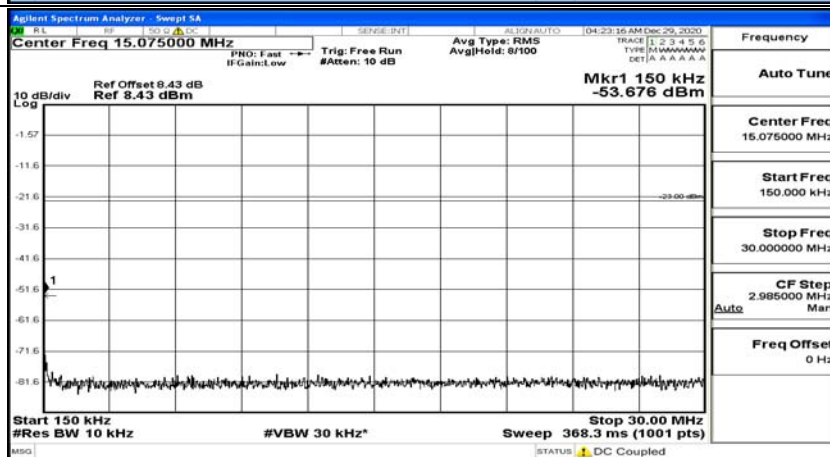
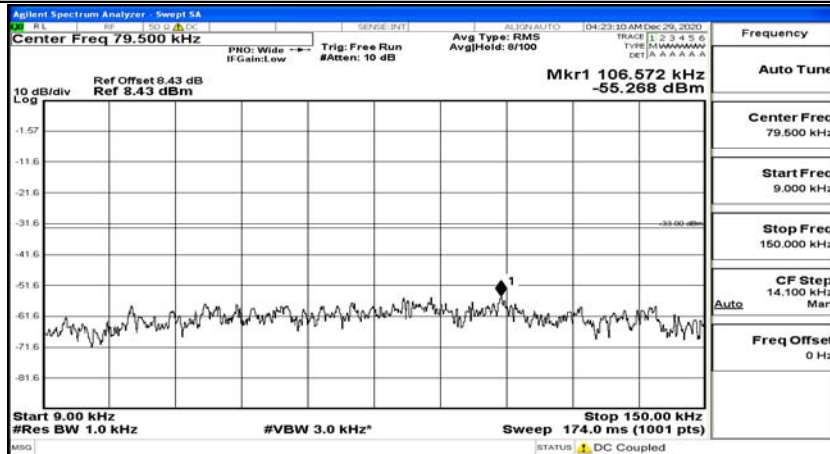
## E.5 Conducted Spurious Emission

## Appendix E: Conducted Spurious Emission

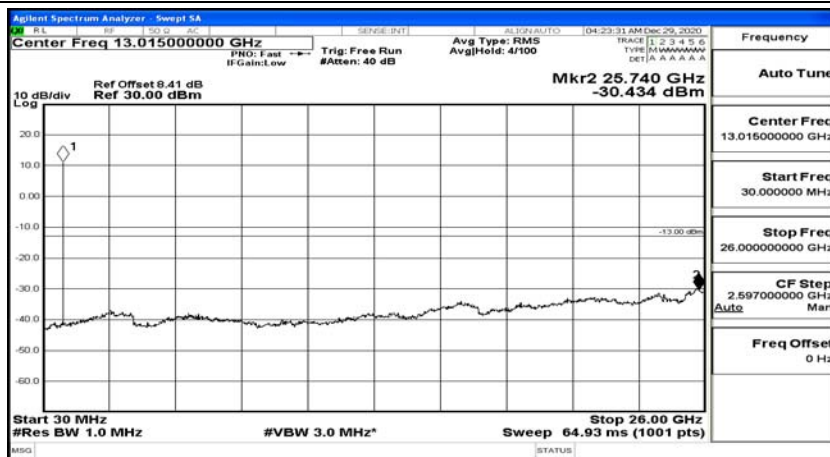
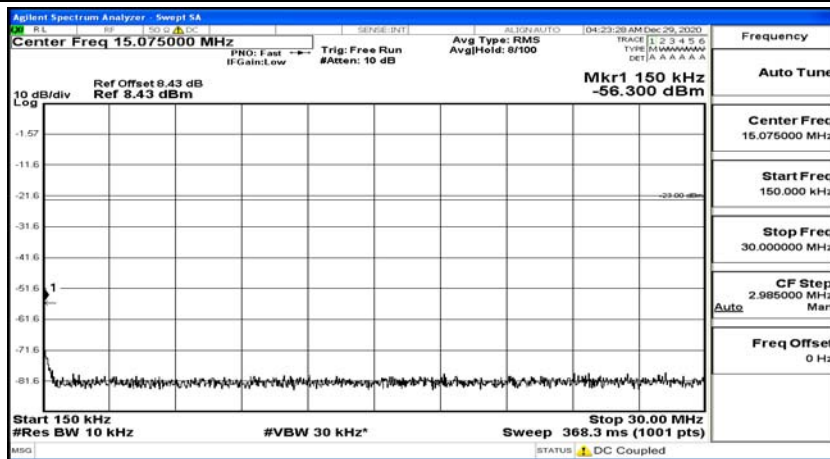
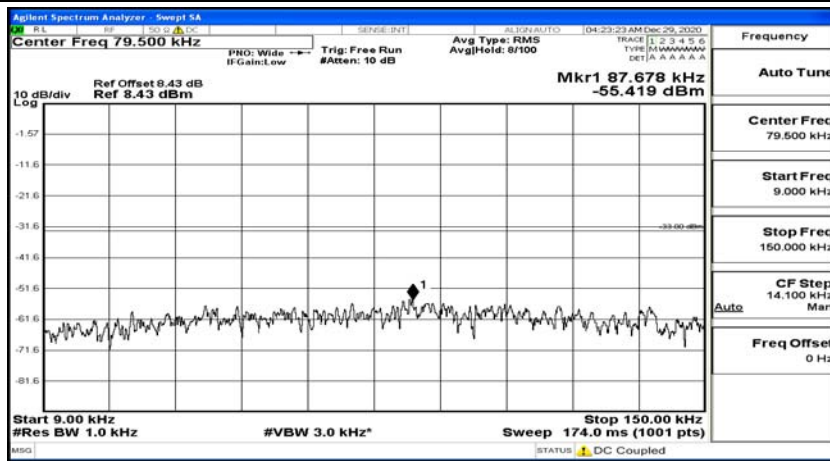
## Test Graphs

Channel Bandwidth: 1.4 MHz

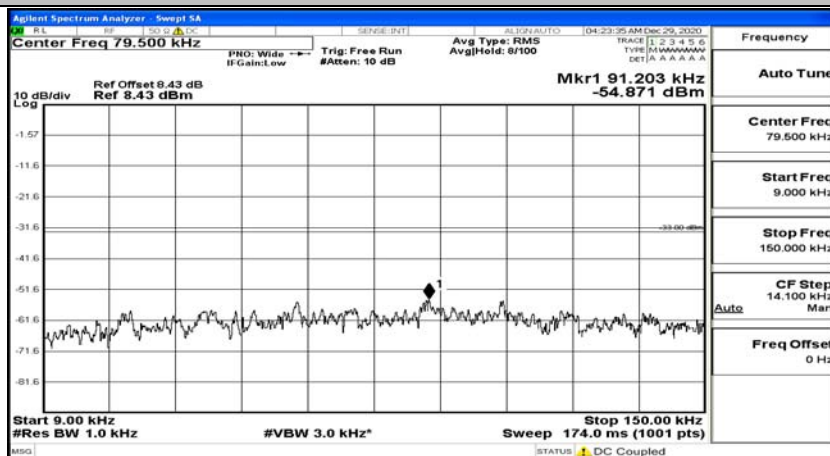
(Channel Bandwidth: 1.4 MHz)\_LCH\_QPSK\_1RB#0

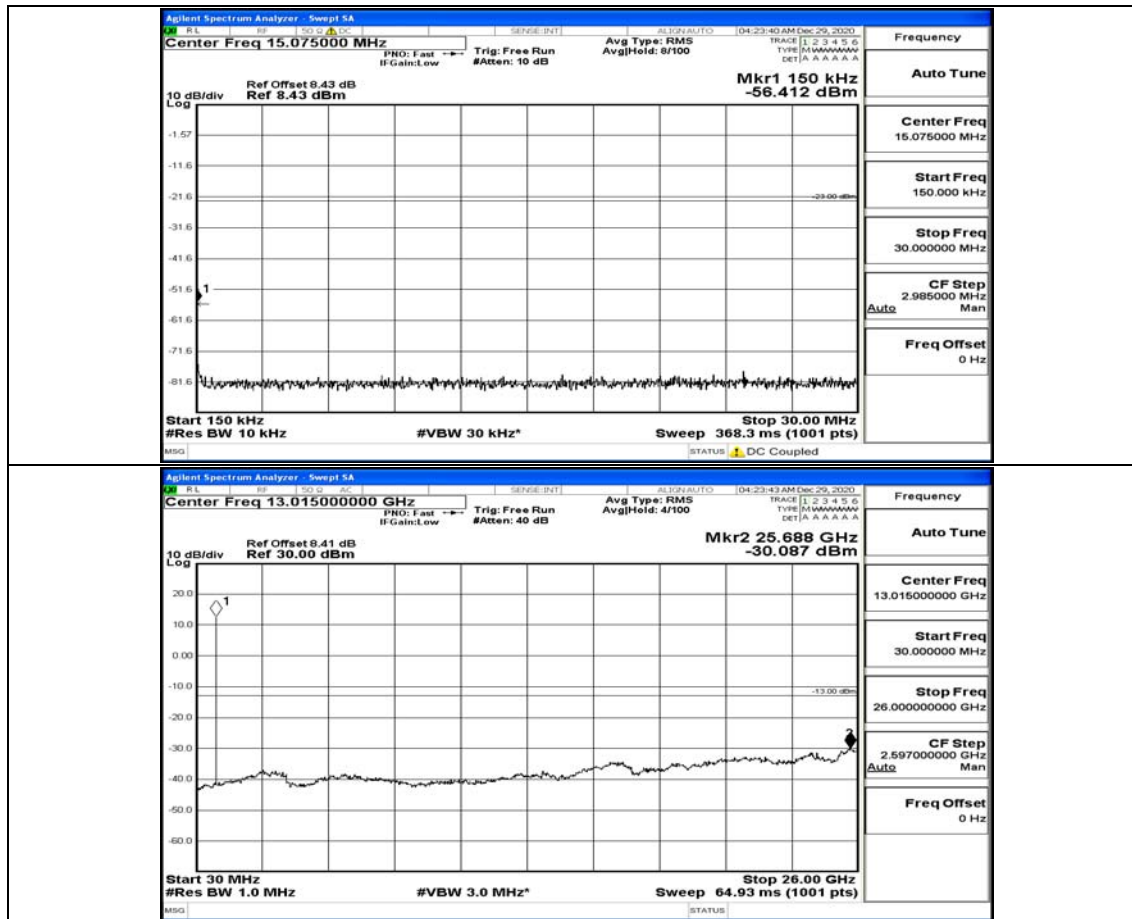


(Channel Bandwidth: 1.4 MHz)\_LCH\_QPSK\_1RB#3

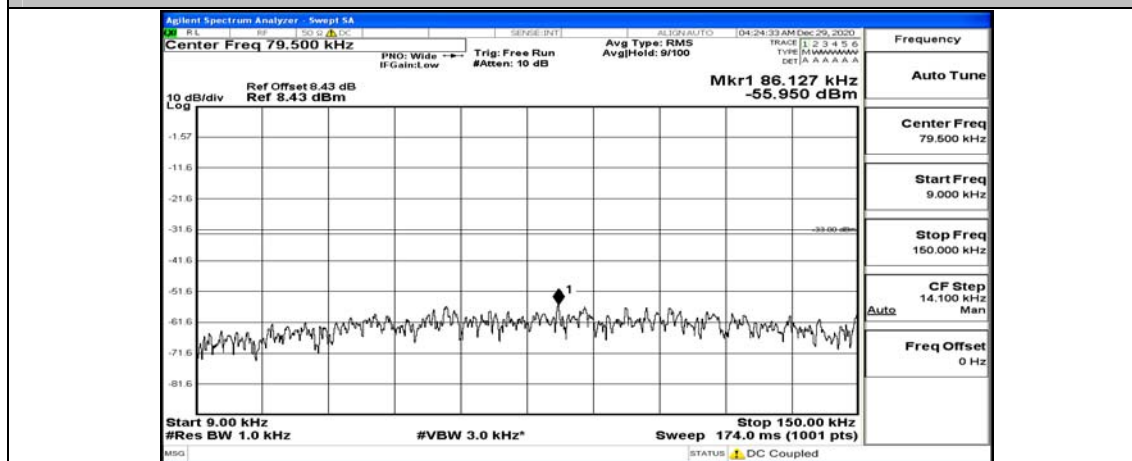


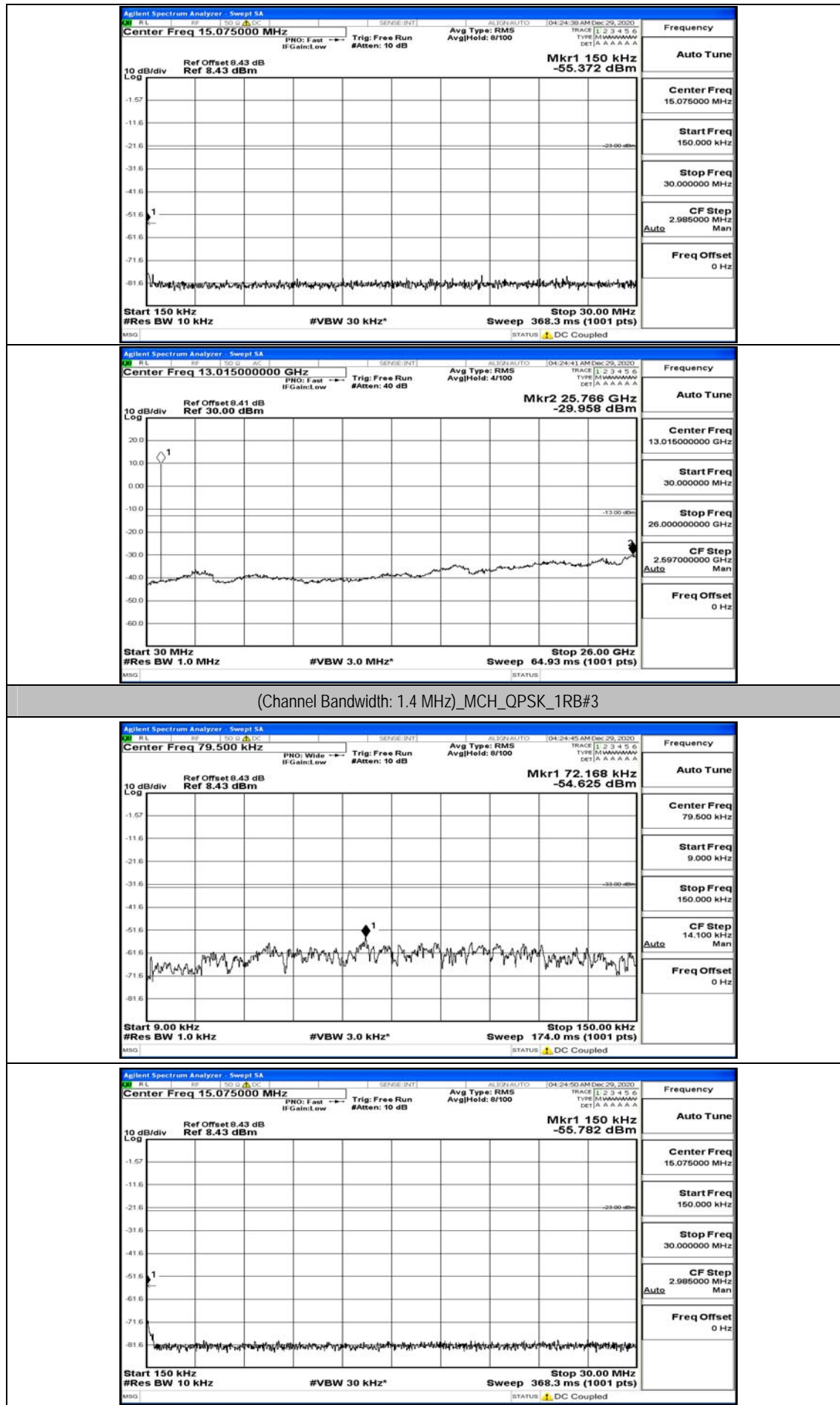
(Channel Bandwidth: 1.4 MHz)\_LCH\_QPSK\_1RB#5





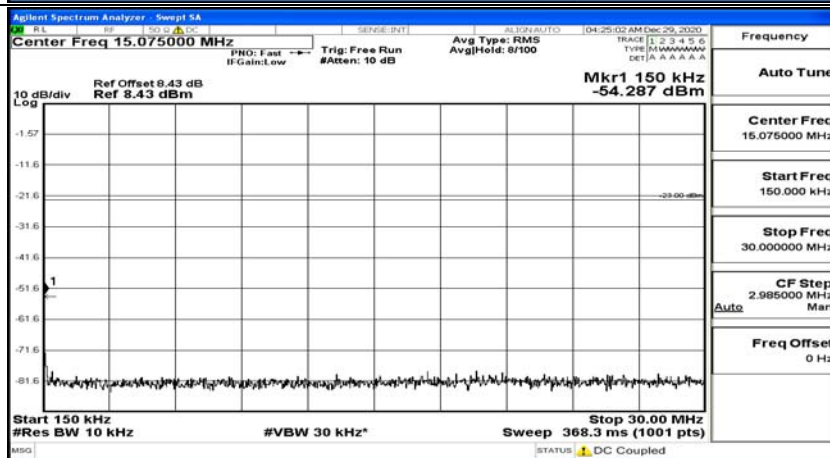
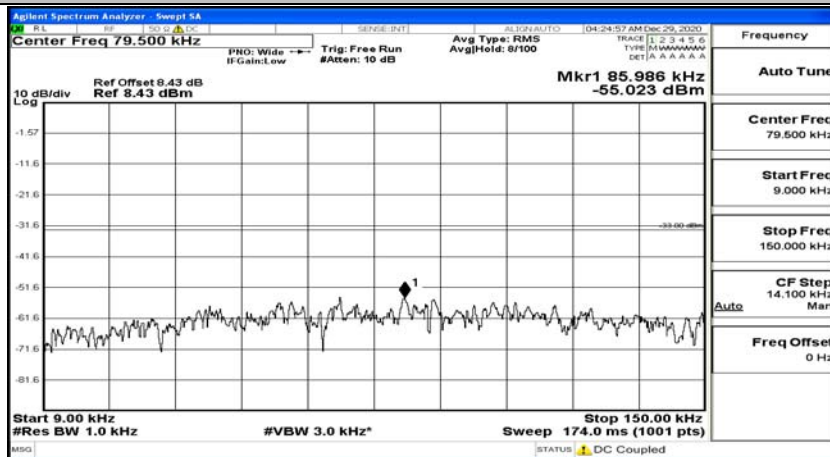
(Channel Bandwidth: 1.4 MHz)\_MCH\_OPSK\_1RB#0



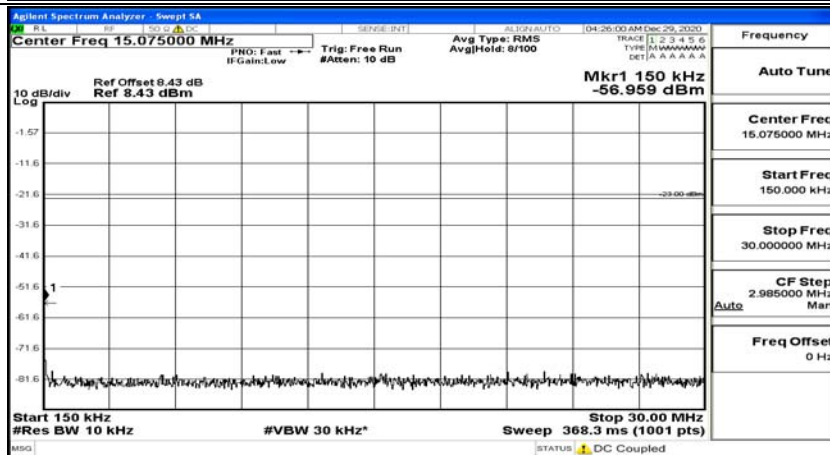
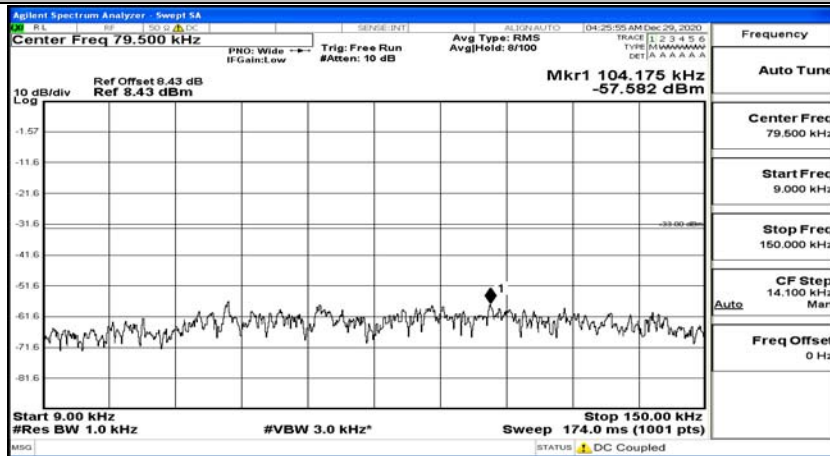




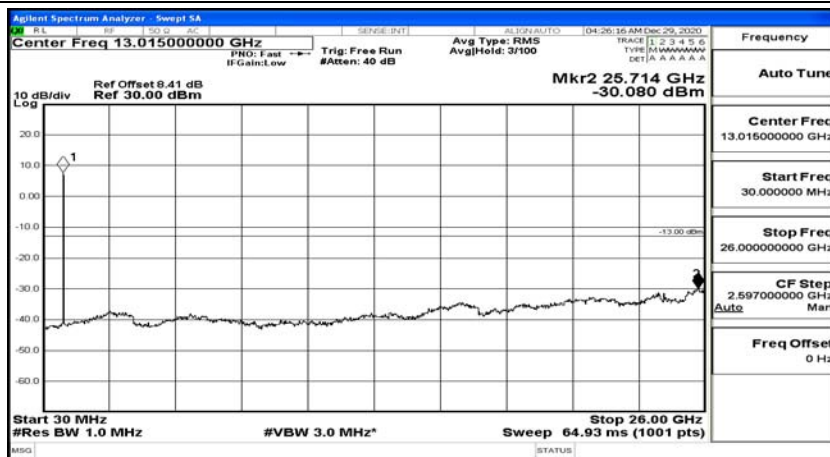
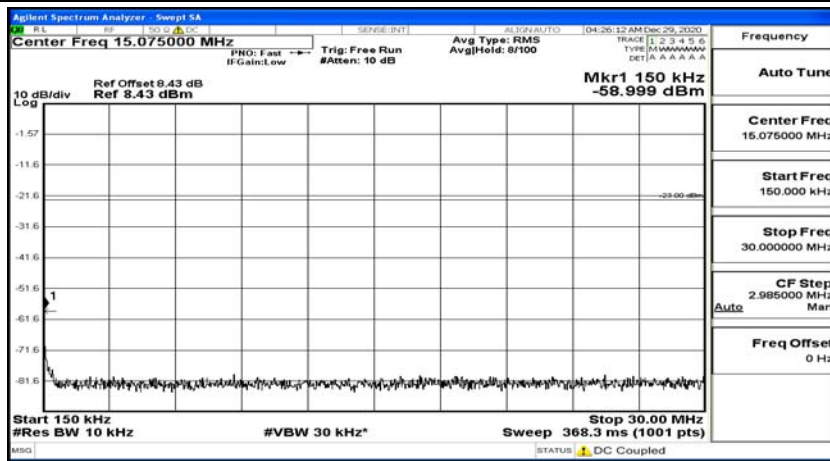
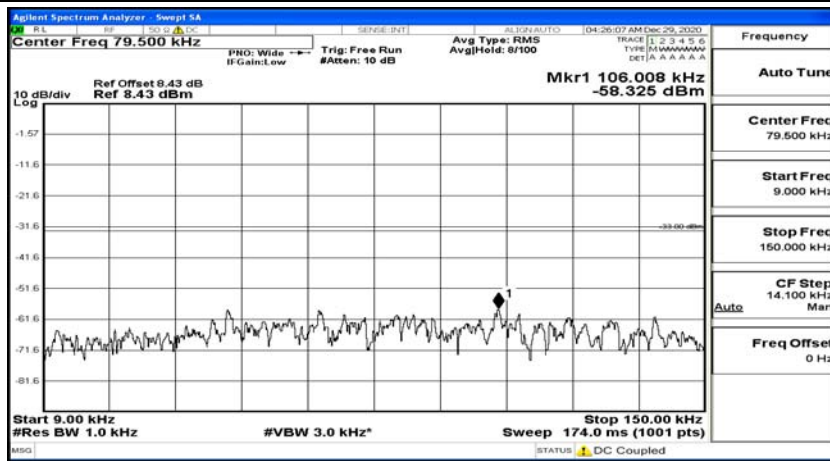
(Channel Bandwidth: 1.4 MHz)\_MCH\_QPSK\_1RB#5



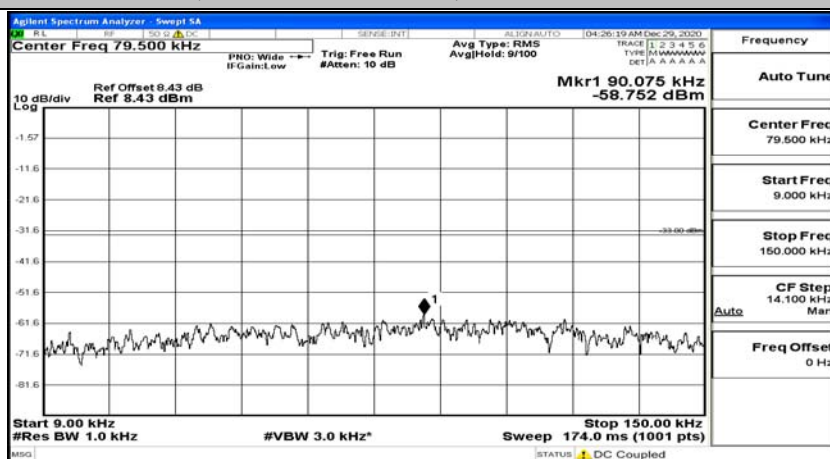
(Channel Bandwidth: 1.4 MHz)\_HCH\_QPSK\_1RB#0

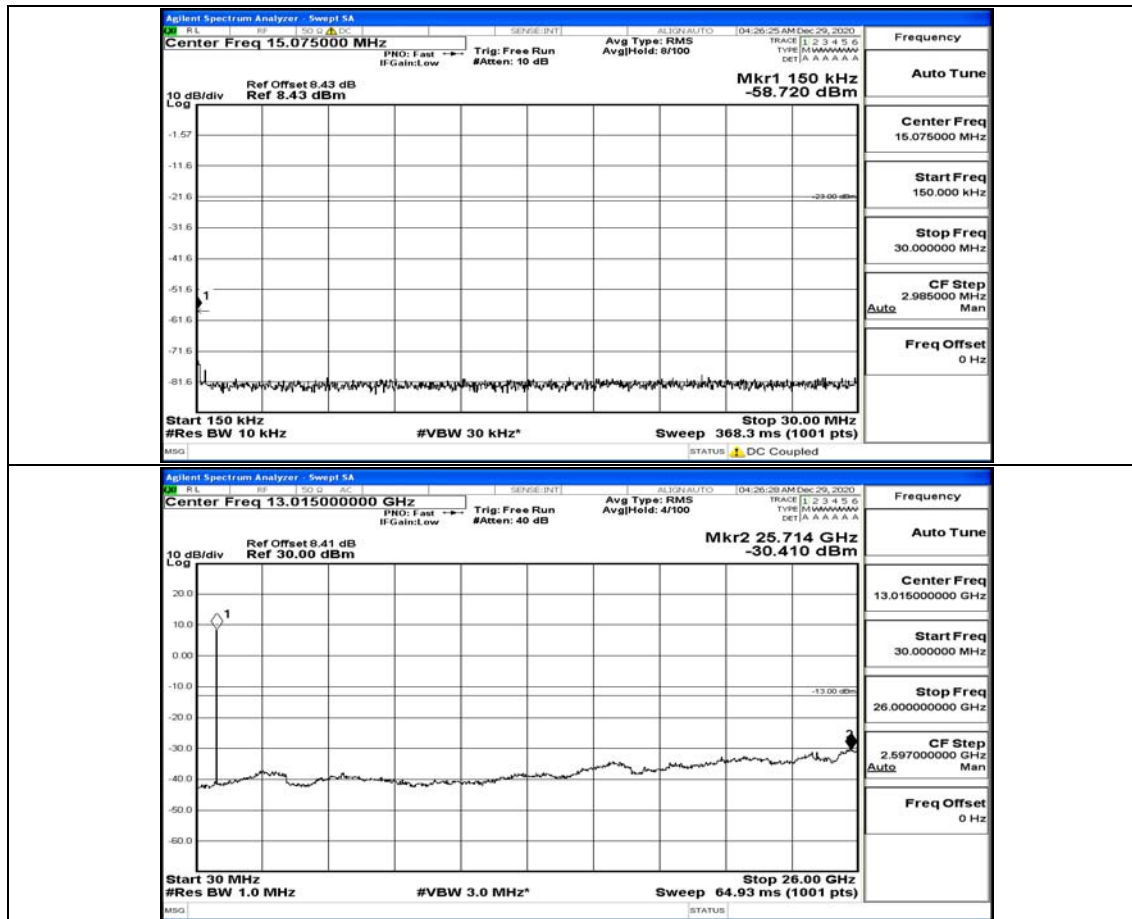


(Channel Bandwidth: 1.4 MHz)\_HCH\_QPSK\_1RB#3

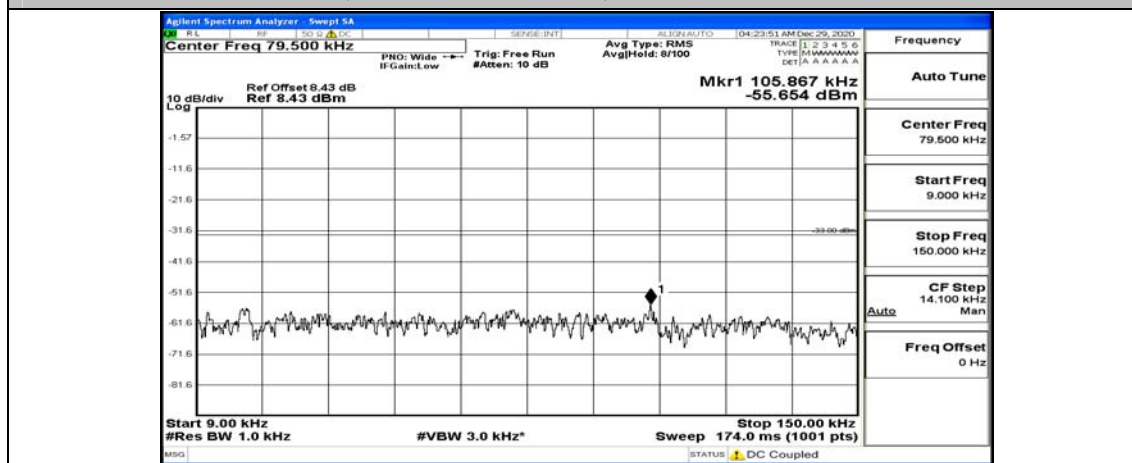


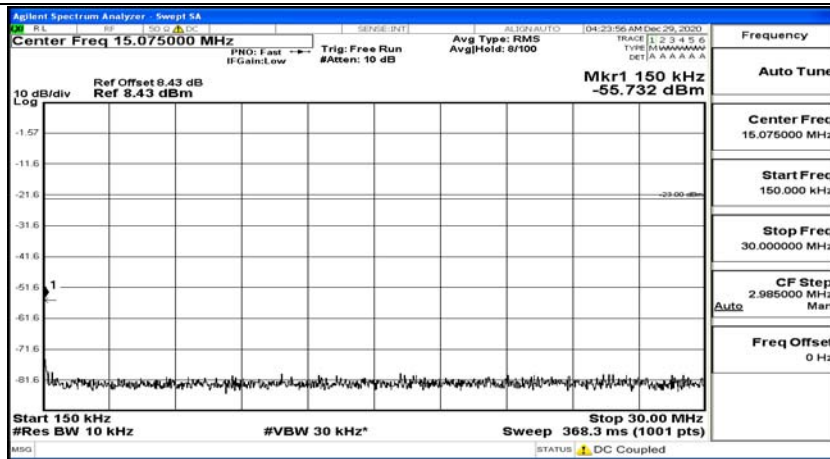
(Channel Bandwidth: 1.4 MHz)\_HCH\_QPSK\_1RB#5



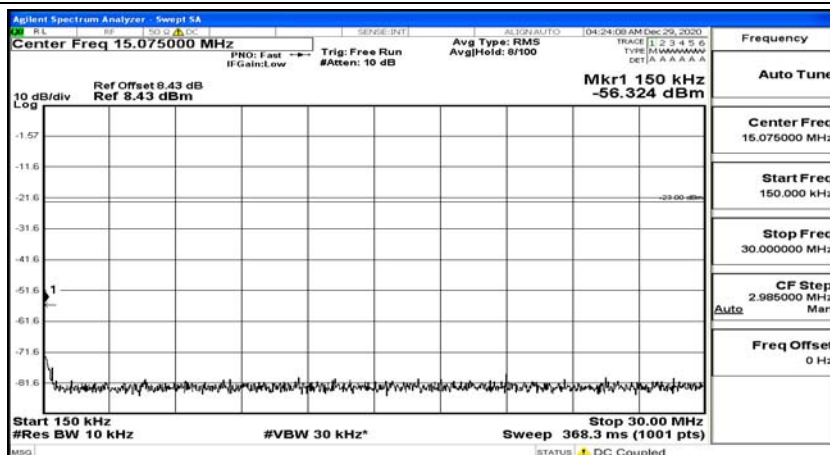
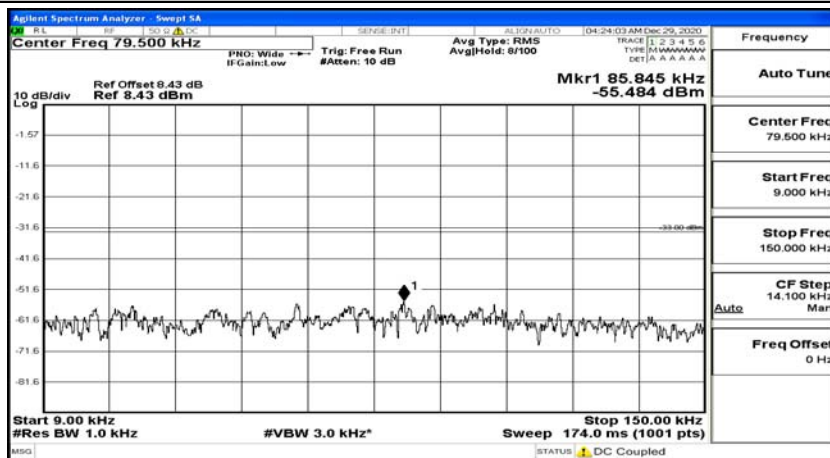


(Channel Bandwidth: 1.4 MHz)\_LCH\_16QAM\_1RB#0



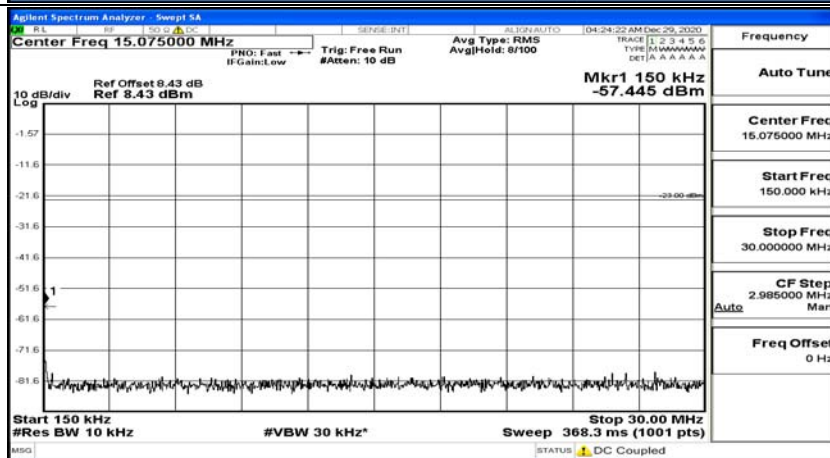
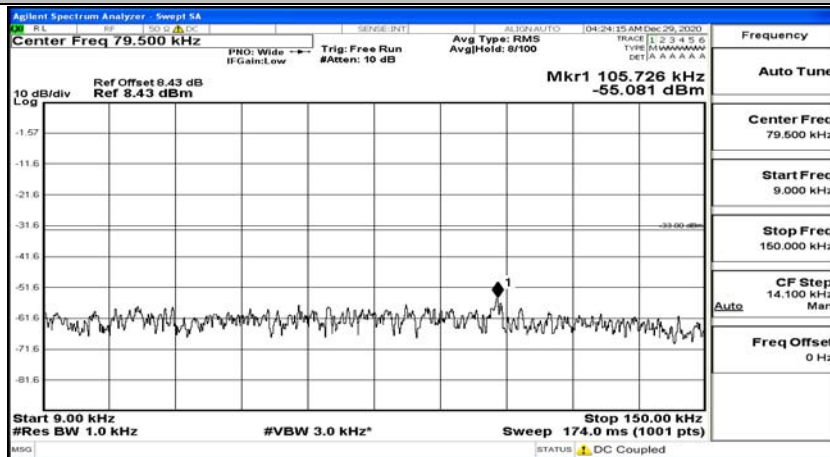


(Channel Bandwidth: 1.4 MHz)\_LCH\_16QAM\_1RB#3

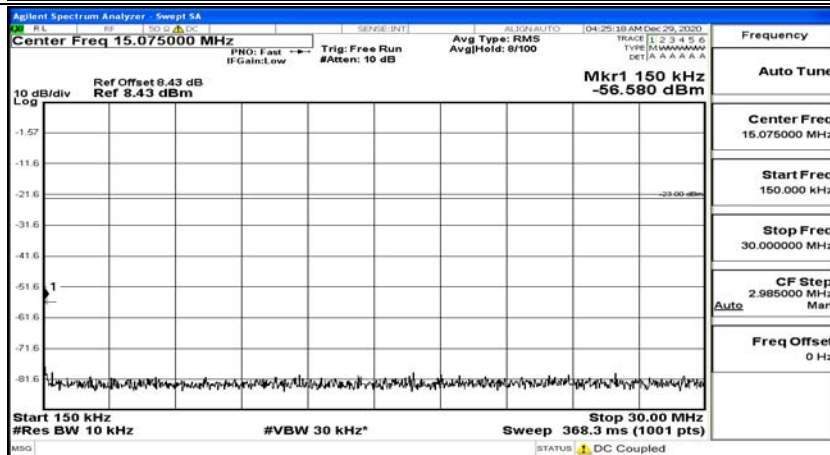
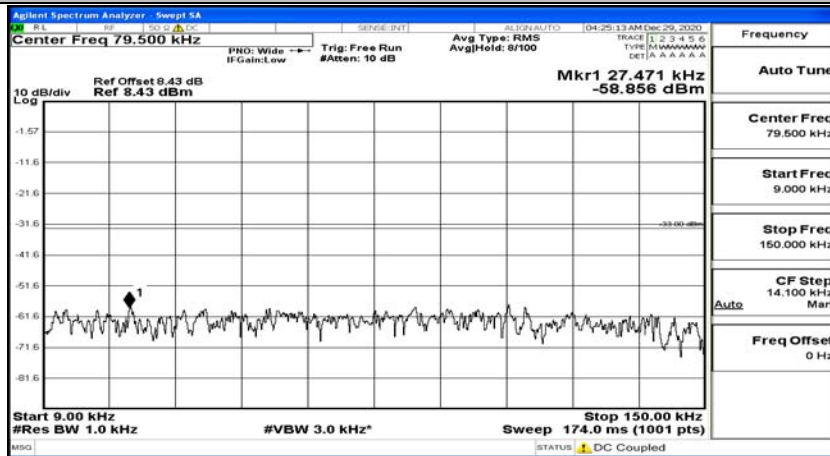




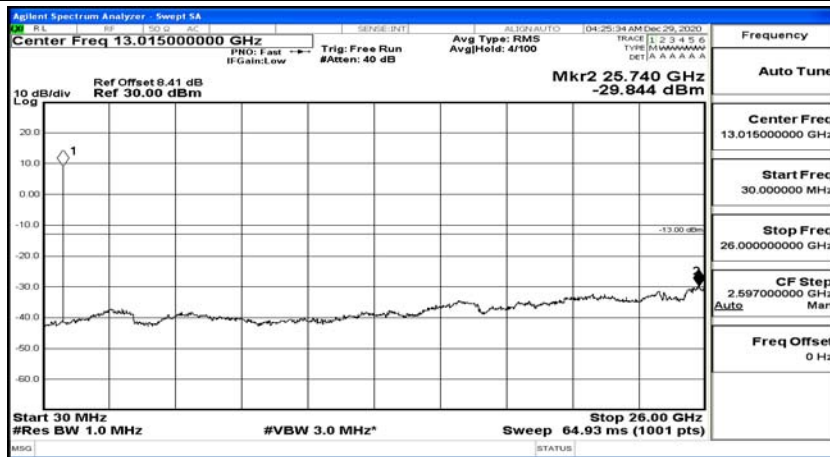
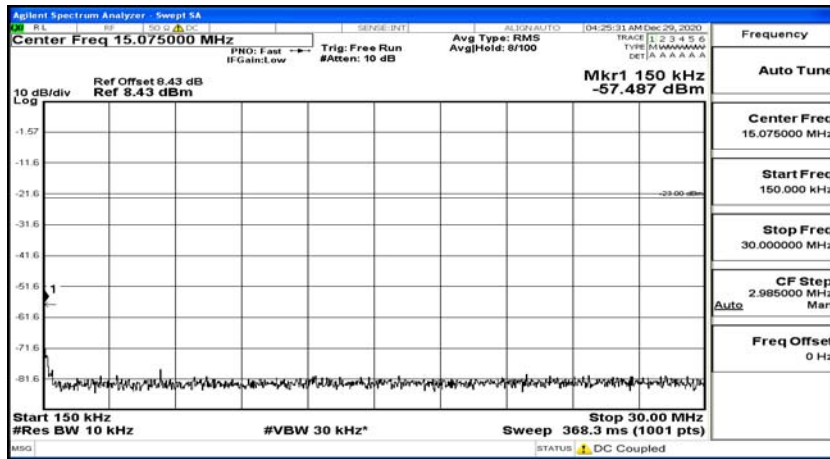
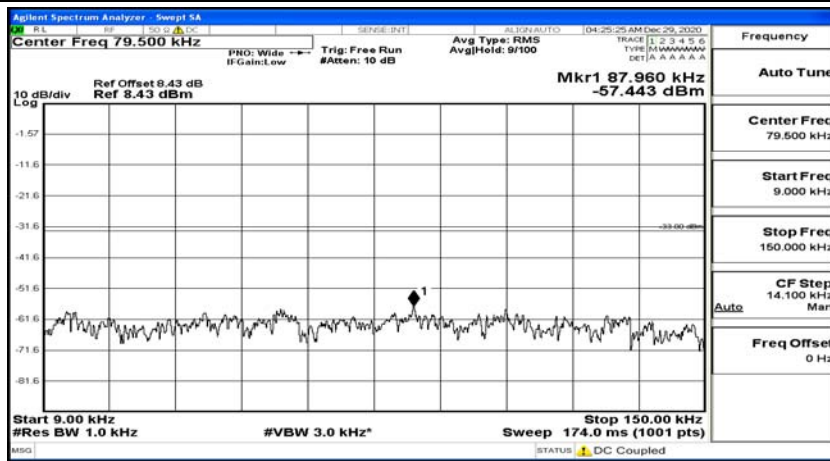
(Channel Bandwidth: 1.4 MHz)\_LCH\_16QAM\_1RB#5



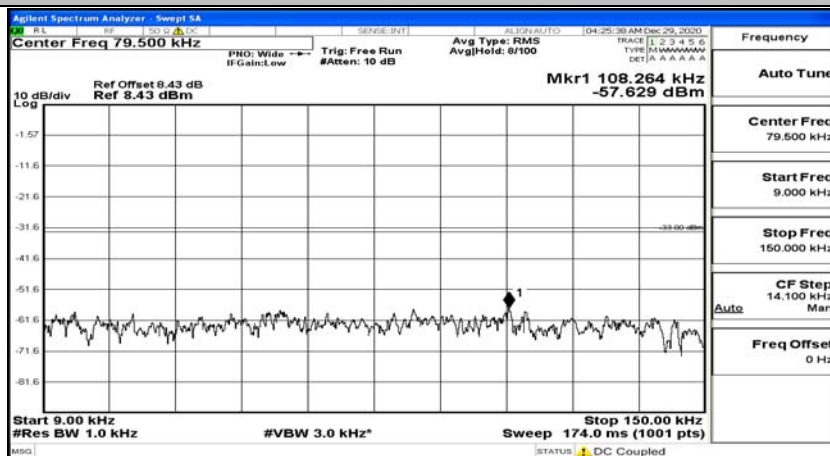
(Channel Bandwidth: 1.4 MHz)\_MCH\_16QAM\_1RB#0

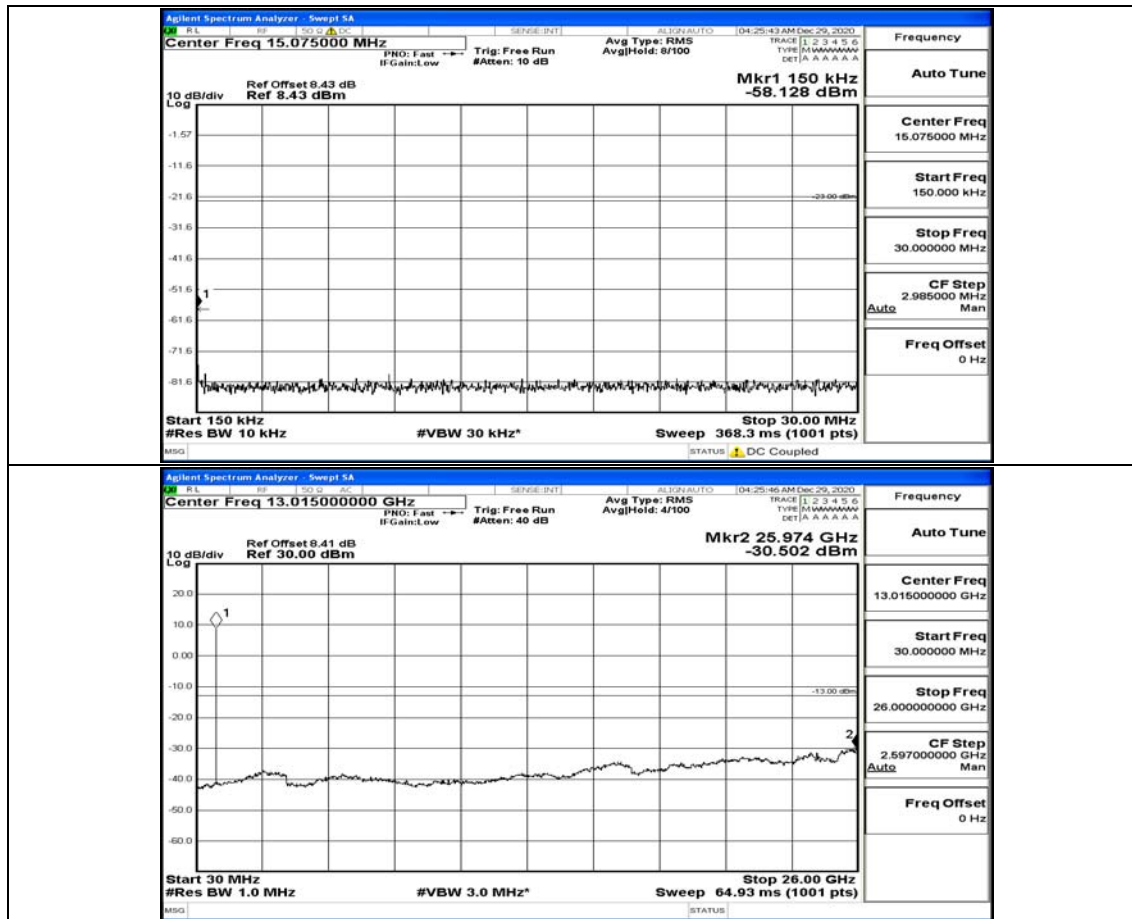


(Channel Bandwidth: 1.4 MHz)\_MCH\_16QAM\_1RB#3

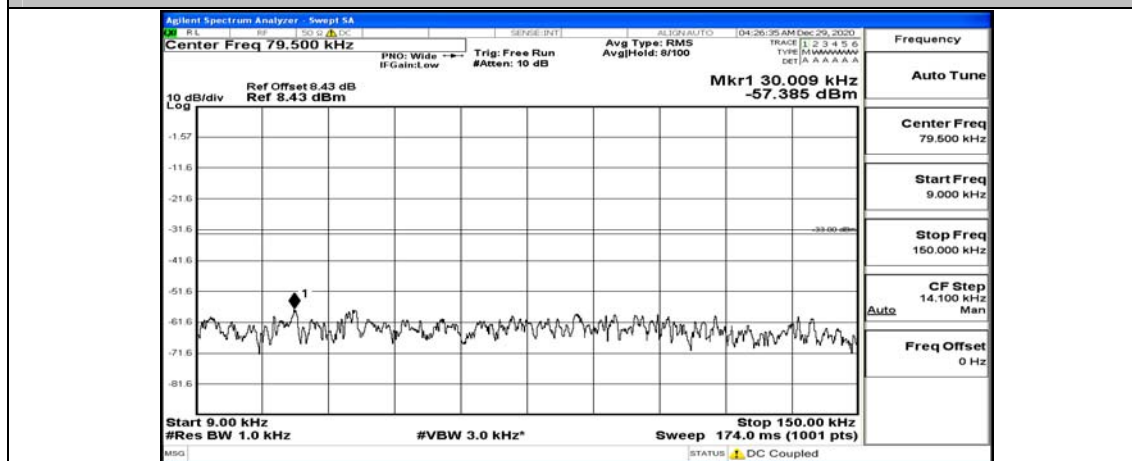


(Channel Bandwidth: 1.4 MHz)\_MCH\_16QAM\_1RB#5





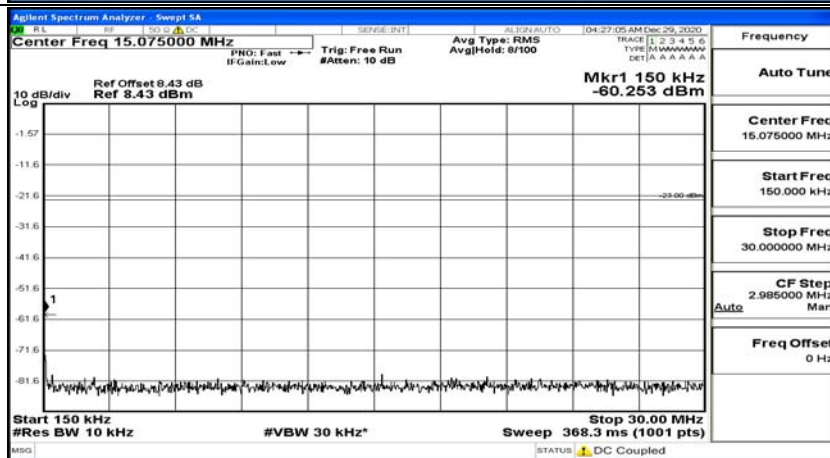
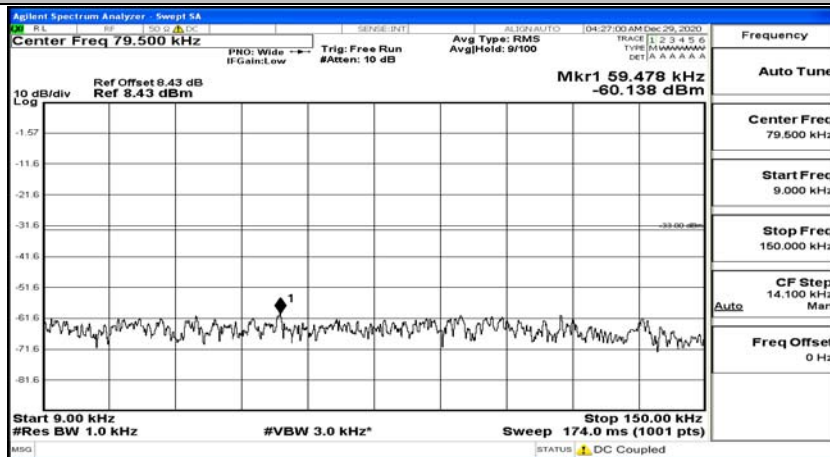
(Channel Bandwidth: 1.4 MHz)\_HCH\_16QAM\_1RB#0





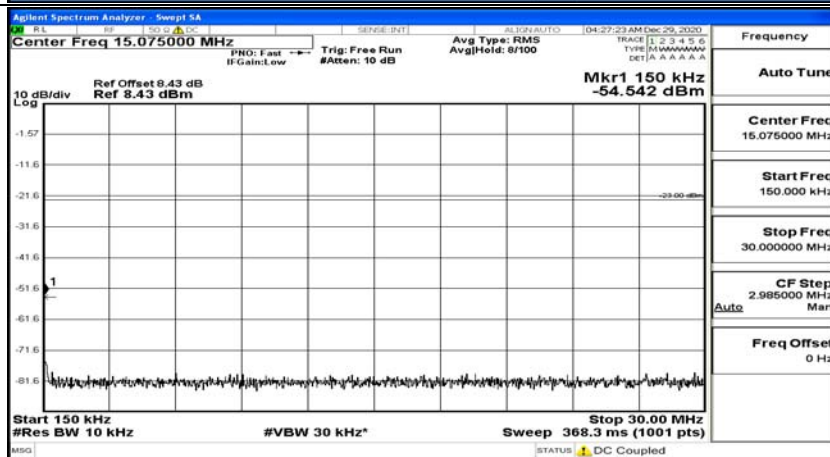
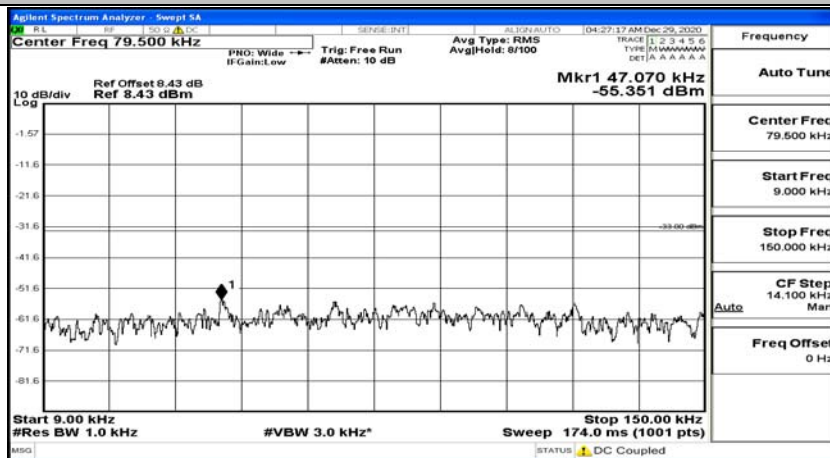


(Channel Bandwidth: 1.4 MHz)\_HCH\_16QAM\_1RB#5

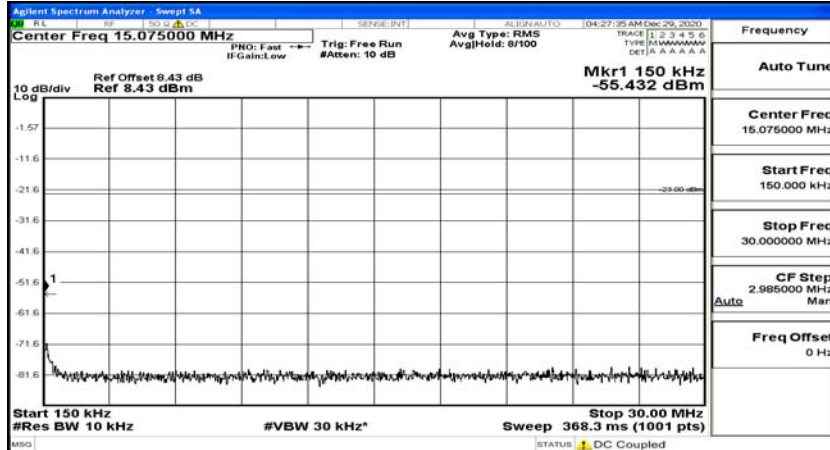
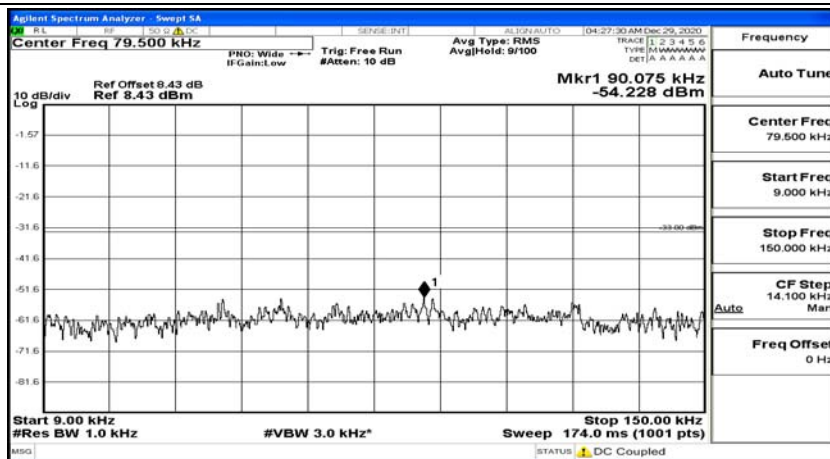


## Channel Bandwidth: 3 MHz

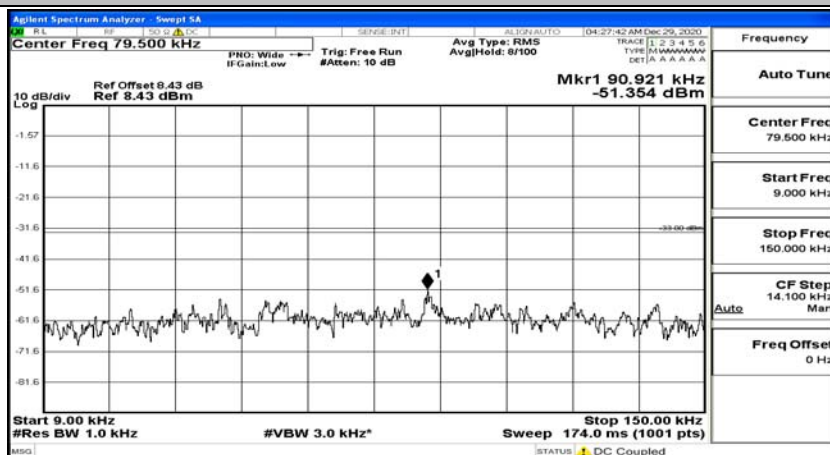
(Channel Bandwidth: 3 MHz)\_LCH\_QPSK\_1RB#0

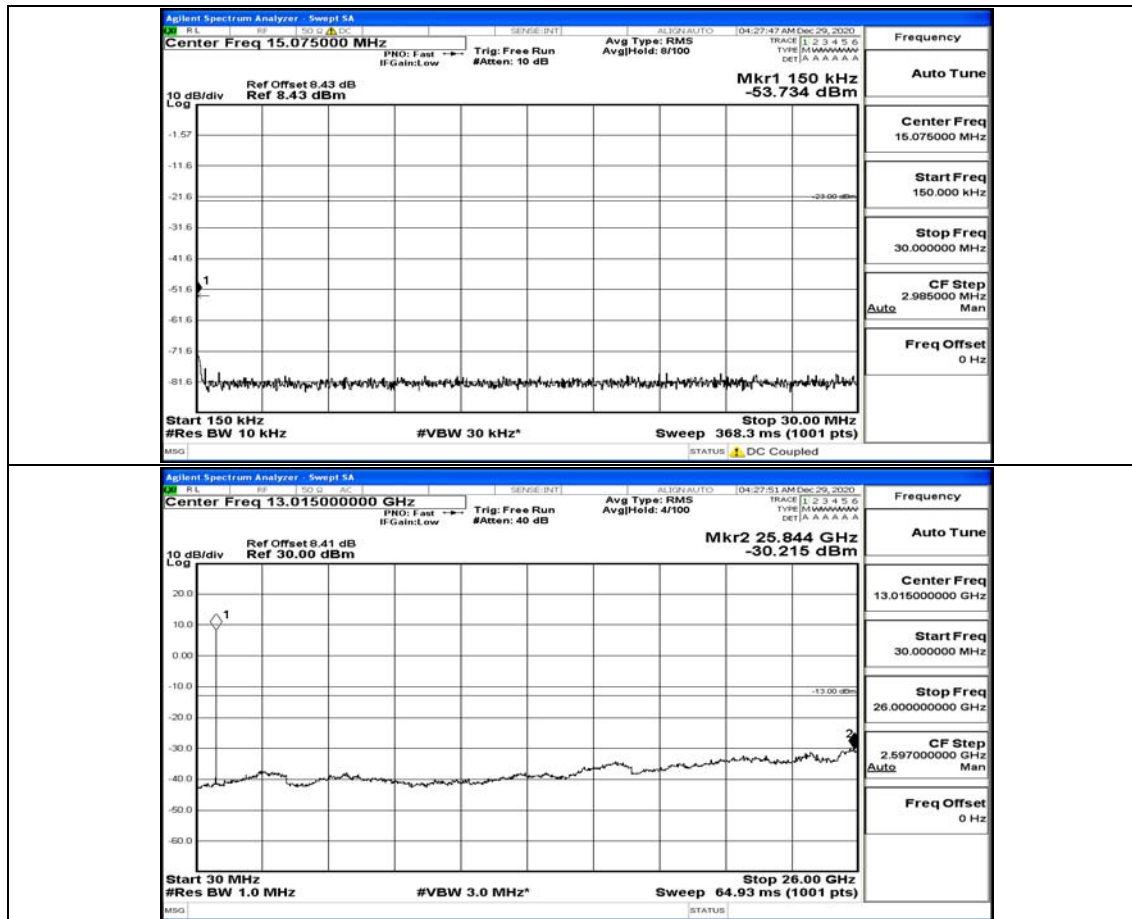


(Channel Bandwidth: 3 MHz)\_LCH\_QPSK\_1RB#7

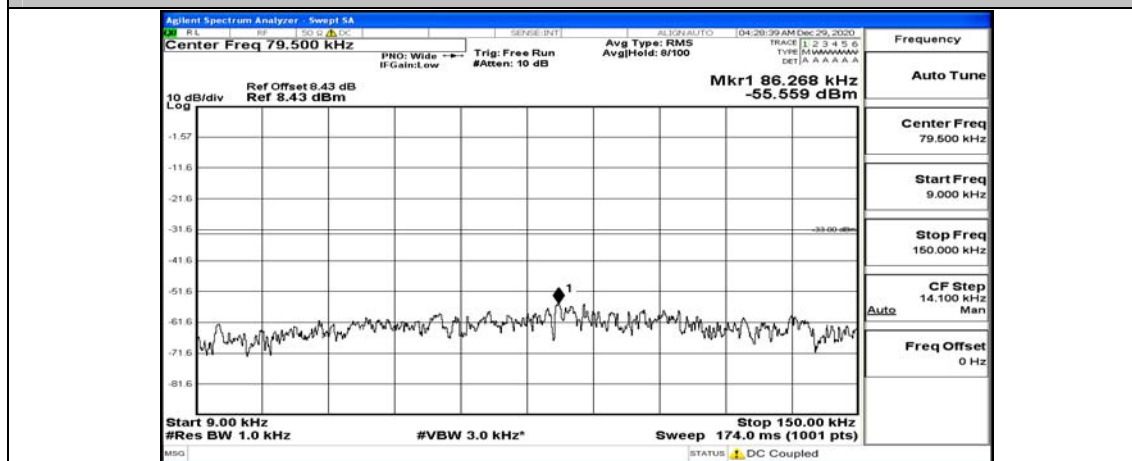


(Channel Bandwidth: 3 MHz)\_LCH\_QPSK\_1RB#14

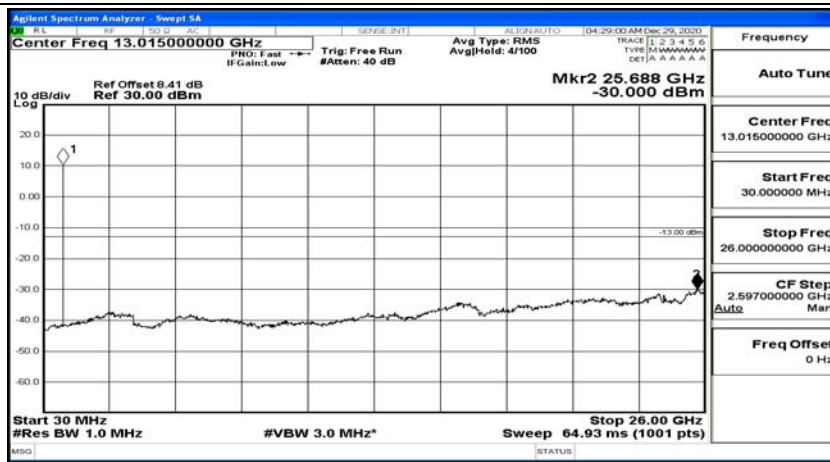




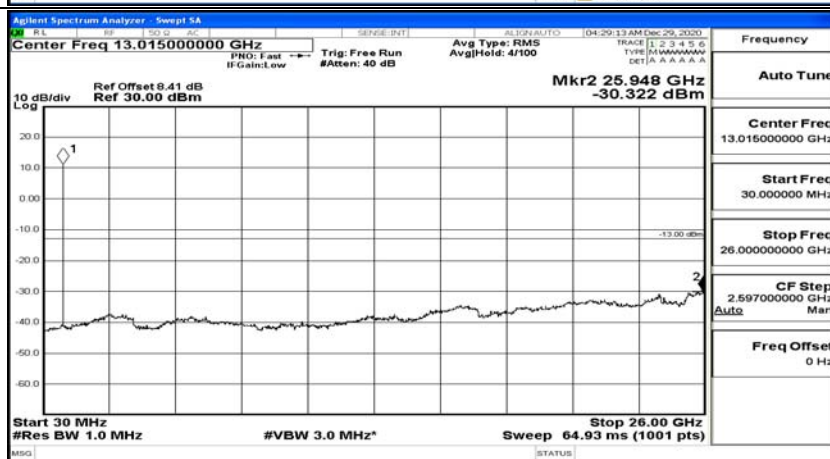
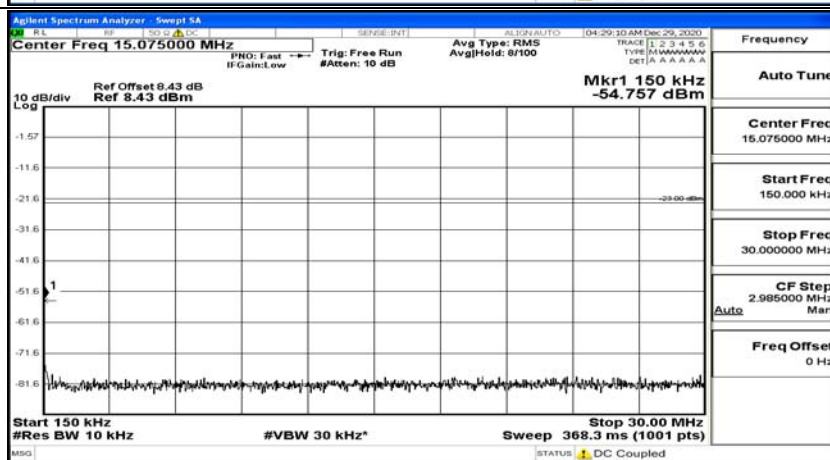
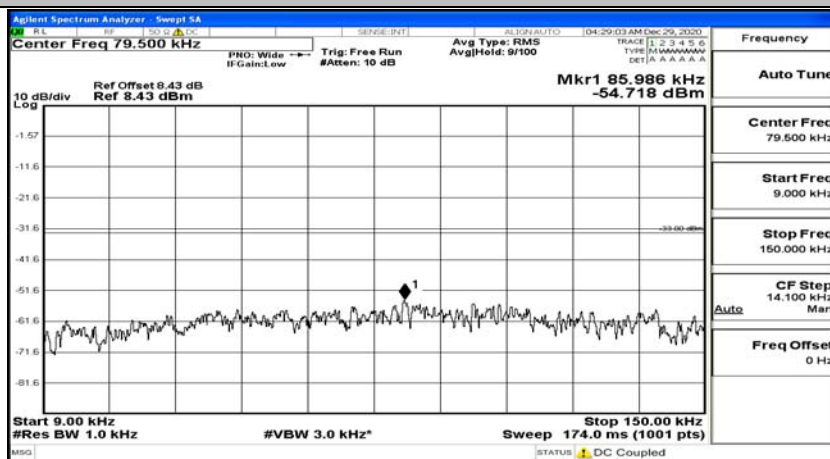
(Channel Bandwidth: 3 MHz)\_MCH\_QPSK\_1RB#0





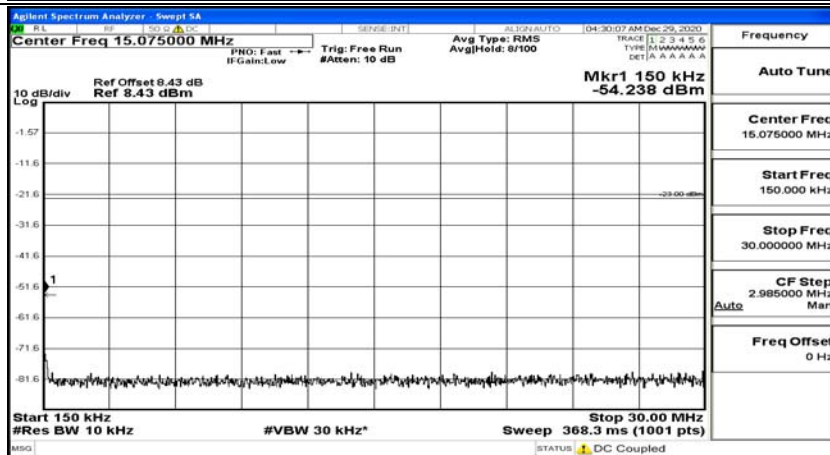
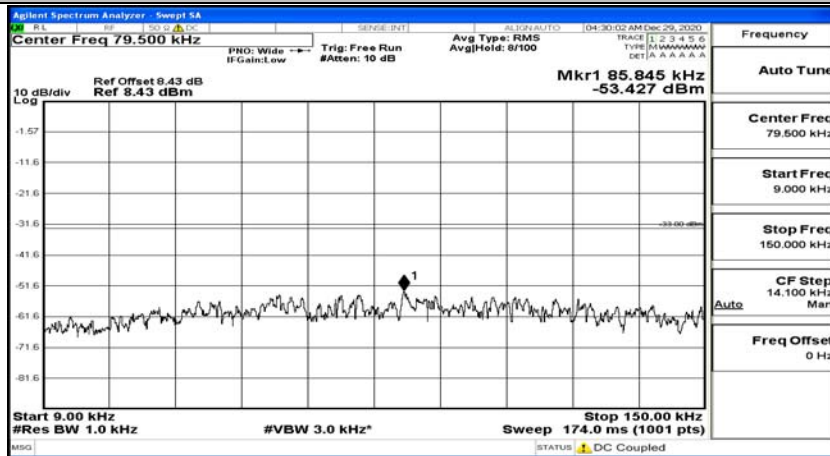


(Channel Bandwidth: 3 MHz)\_MCH\_QPSK\_1RB#14

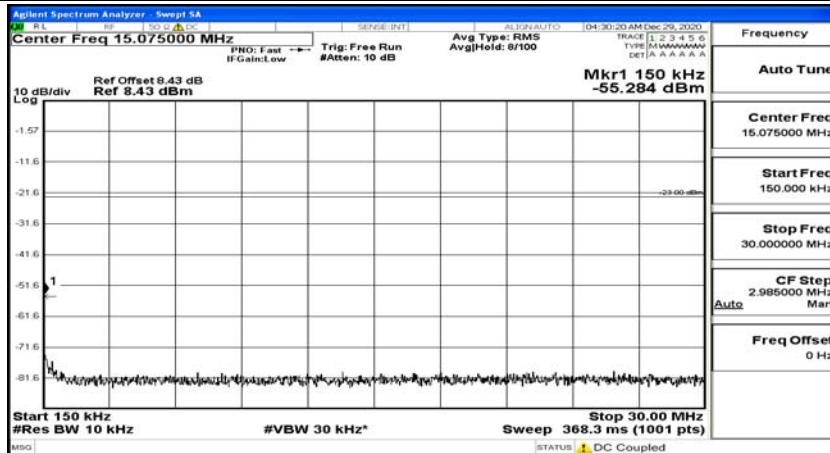
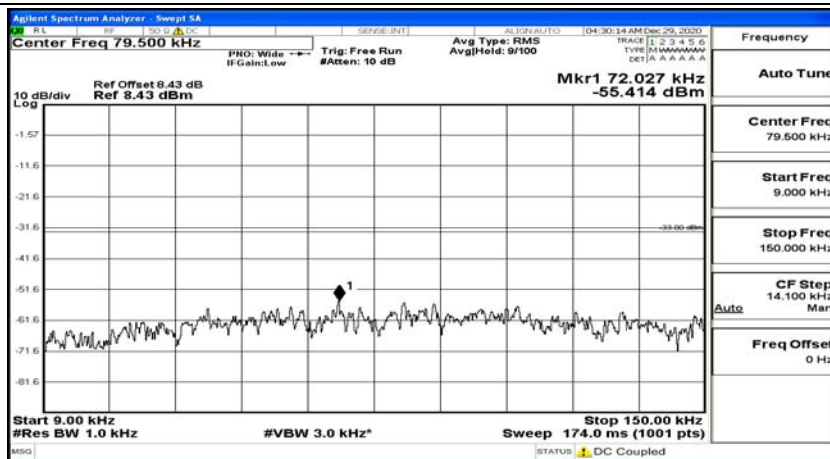




(Channel Bandwidth: 3 MHz)\_HCH\_QPSK\_1RB#0



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



(Channel Bandwidth: 3 MHz)\_HCH\_QPSK\_1RB#14

