

## **Appendix for Band 30**

Product Name: Rugged Phone

Model No: CM17XA

## Appendix A: Average Power Output Data

### Test Result

#### Channel Bandwidth: 5 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	22.15	PASS
		1	12	22.44	PASS
		1	24	22.13	PASS
		12	0	21.11	PASS
		12	6	21.19	PASS
		12	13	21.19	PASS
		25	0	21.19	PASS
	MCH	1	0	22.17	PASS
		1	12	22.49	PASS
		1	24	22.21	PASS
		12	0	21.14	PASS
		12	6	21.22	PASS
		12	13	21.18	PASS
		25	0	21.16	PASS
	HCH	1	0	22.13	PASS
		1	12	22.52	PASS
		1	24	22.17	PASS
		12	0	21.15	PASS
		12	6	21.20	PASS
		12	13	21.19	PASS
		25	0	21.17	PASS
16QAM	LCH	1	0	21.33	PASS
		1	12	21.59	PASS
		1	24	21.31	PASS
		12	0	20.68	PASS
		12	6	20.85	PASS
		12	13	20.54	PASS
		25	0	20.66	PASS
	MCH	1	0	21.49	PASS
		1	12	21.76	PASS
		1	24	21.48	PASS
		12	0	20.65	PASS
		12	6	20.50	PASS

		12	13	20.69	PASS
		25	0	20.78	PASS
	HCH	1	0	21.37	PASS
		1	12	21.71	PASS
		1	24	21.38	PASS
		12	0	20.57	PASS
		12	6	20.41	PASS
		12	13	20.50	PASS
		25	0	20.57	PASS

**Channel Bandwidth: 10 MHz**

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	MCH	1	0	22.56	PASS
		1	24	22.44	PASS
		1	49	22.17	PASS
		25	0	21.08	PASS
		25	12	21.18	PASS
		25	25	21.18	PASS
		50	0	21.14	PASS
16QAM	MCH	1	0	21.39	PASS
		1	24	21.41	PASS
		1	49	21.45	PASS
		25	0	20.45	PASS
		25	12	20.51	PASS
		25	25	20.68	PASS
		50	0	20.71	PASS

## Appendix B: Peak-to-Average Ratio

### Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	9.63	<13	PASS
		1	12	6.62	<13	PASS
		1	24	9.4	<13	PASS
		12	0	10.93	<13	PASS
		12	6	7.64	<13	PASS
		12	13	7.42	<13	PASS
		25	0	7.99	<13	PASS
	MCH	1	0	10.68	<13	PASS
		1	12	6.62	<13	PASS
		1	24	7.25	<13	PASS
		12	0	8.26	<13	PASS
		12	6	10.13	<13	PASS
		12	13	8.14	<13	PASS
		25	0	9.32	<13	PASS
	HCH	1	0	7.53	<13	PASS
		1	12	9.25	<13	PASS
		1	24	6.57	<13	PASS
		12	0	12.73	<13	PASS
		12	6	8.49	<13	PASS
		12	13	6.63	<13	PASS
		25	0	8.7	<13	PASS
16QAM	LCH	1	0	7.1	<13	PASS
		1	12	8.39	<13	PASS
		1	24	8.03	<13	PASS
		12	0	9.21	<13	PASS
		12	6	8.69	<13	PASS
		12	13	9.52	<13	PASS
		25	0	9.31	<13	PASS
	MCH	1	0	7.79	<13	PASS
		1	12	9.75	<13	PASS
		1	24	9.88	<13	PASS

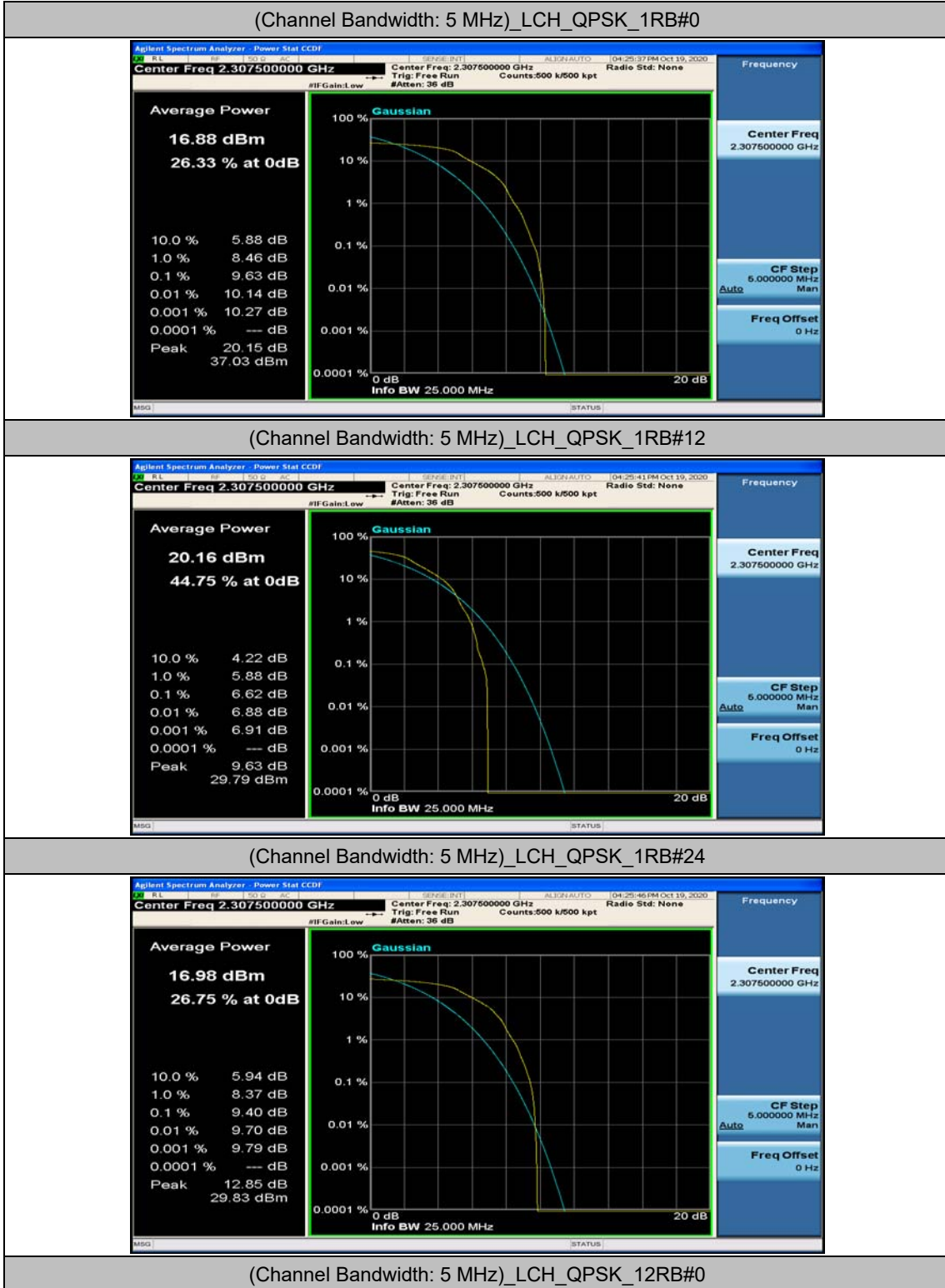
		12	0	8.31	<13	PASS
		12	6	10.11	<13	PASS
		12	13	8.52	<13	PASS
		25	0	9.33	<13	PASS
	HCH	1	0	7.8	<13	PASS
		1	12	8.67	<13	PASS
		1	24	8.2	<13	PASS
		12	0	7.50	<13	PASS
		12	6	9.98	<13	PASS
		12	13	8.08	<13	PASS
		25	0	7.32	<13	PASS

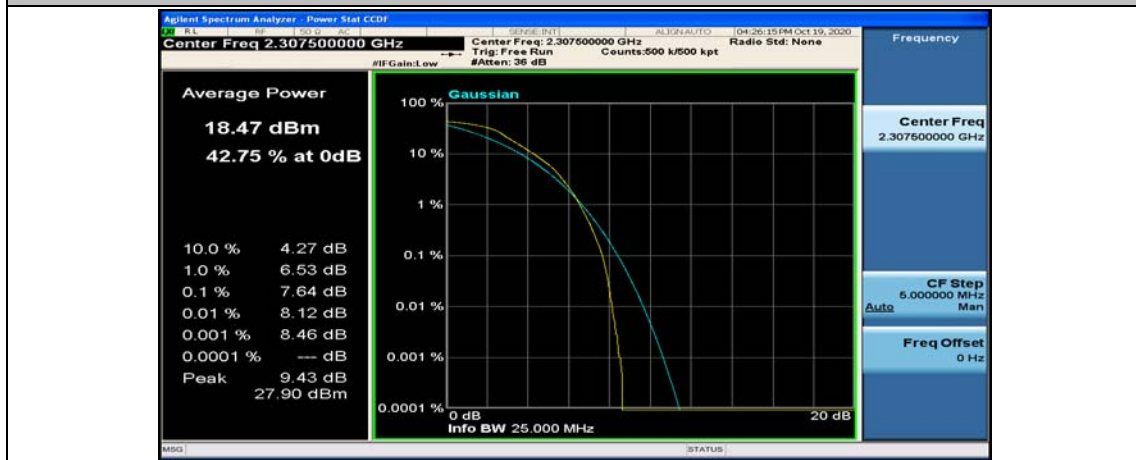
**Channel Bandwidth: 10 MHz**

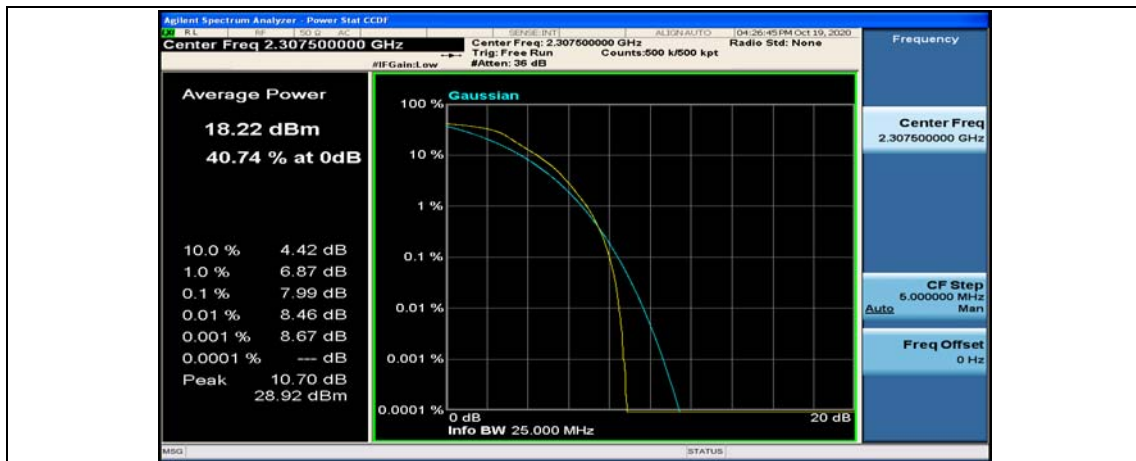
Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	MCH	1	0	9.36	<13	PASS
		1	24	8.77	<13	PASS
		1	49	8.38	<13	PASS
		25	0	10.37	<13	PASS
		25	12	10.74	<13	PASS
		25	25	8.63	<13	PASS
		50	0	8.66	<13	PASS
16QAM	MCH	1	0	8.56	<13	PASS
		1	24	9.49	<13	PASS
		1	49	8.54	<13	PASS
		25	0	9.69	<13	PASS
		25	12	10.32	<13	PASS
		25	25	9.95	<13	PASS
		50	0	10.29	<13	PASS

## Test Graphs

### Channel Bandwidth: 5 MHz



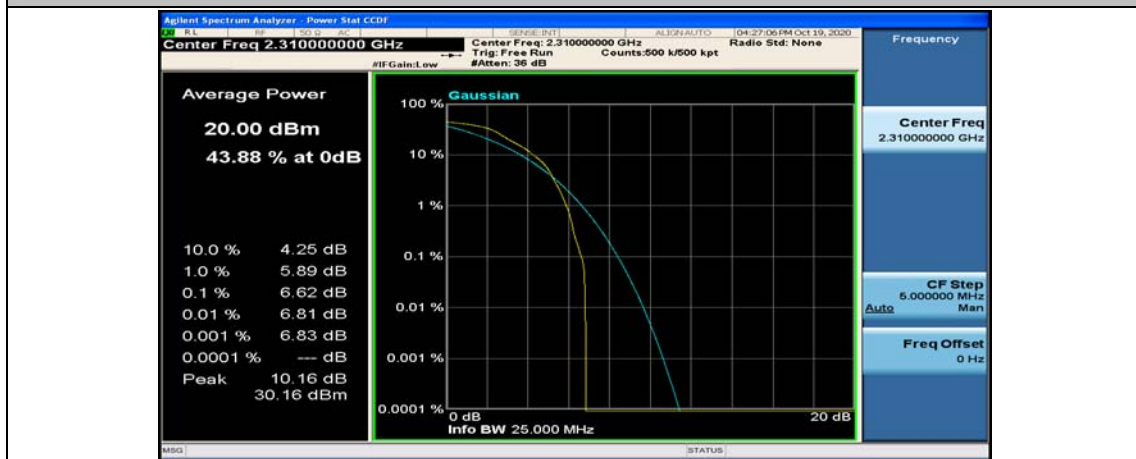




(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_1RB#0



(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_1RB#12



(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_1RB#24

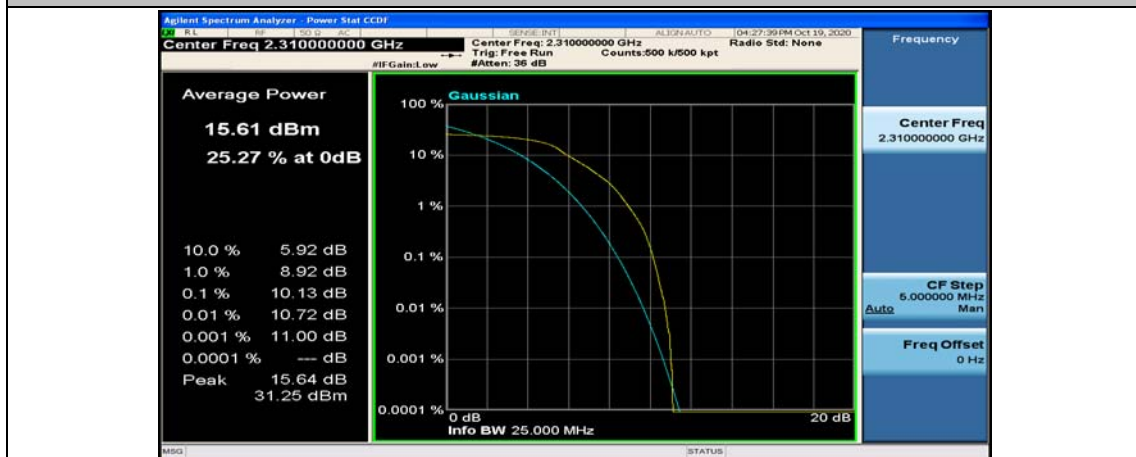




(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_12RB#0



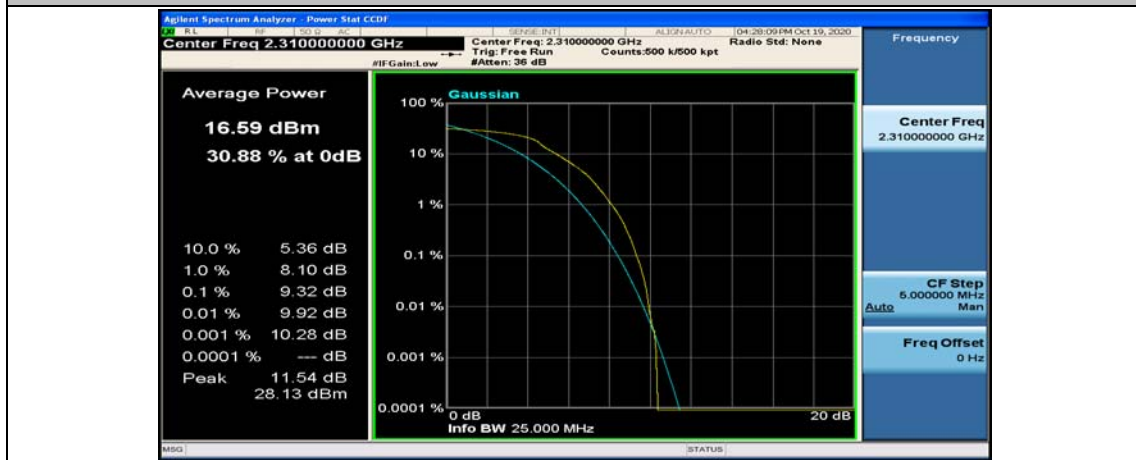
(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_12RB#6



(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_12RB#13



(Channel Bandwidth: 5 MHz)\_MCH\_QPSK\_25RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#12



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#24



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_12RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_12RB#6



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_12RB#13



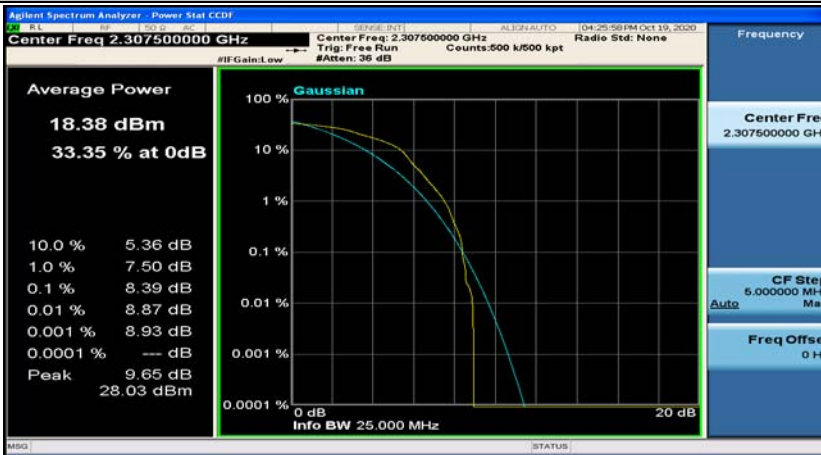
(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_25RB#0



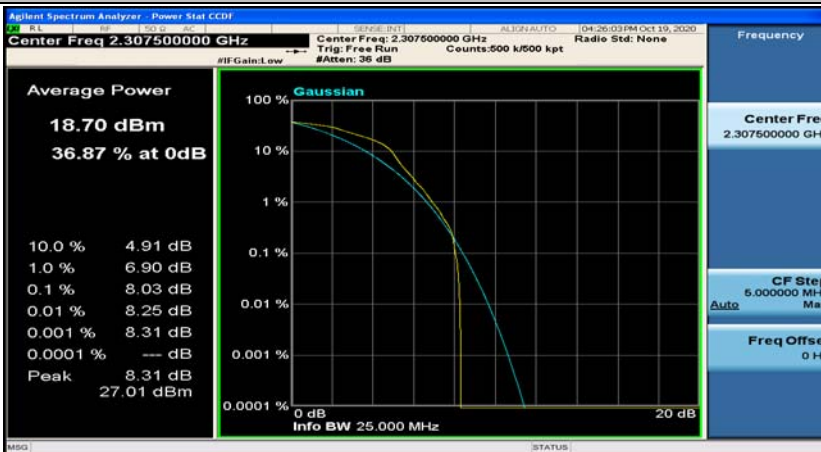
(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_1RB#0



(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_1RB#12



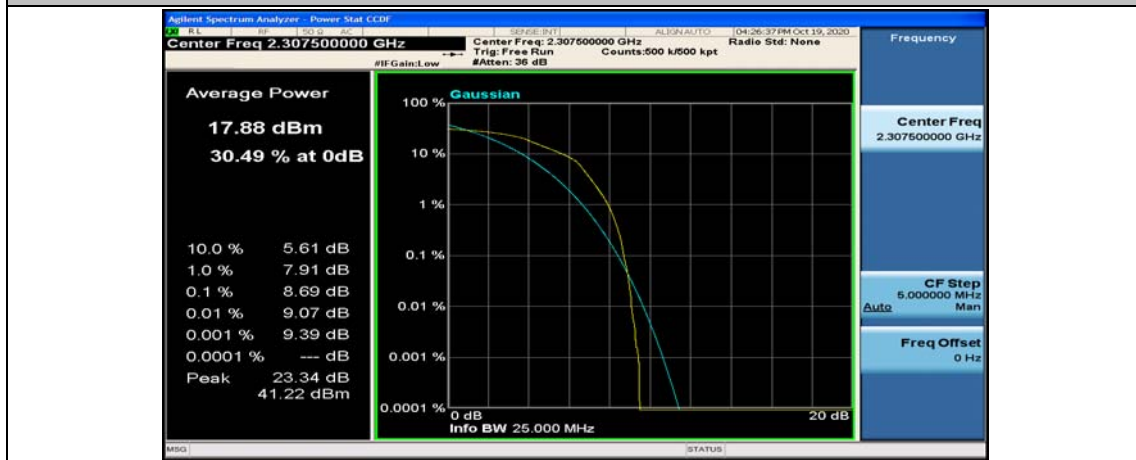
(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_1RB#24



(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_12RB#0



(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_12RB#6



(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_12RB#13



(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_25RB#0



(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_1RB#0



(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_1RB#12



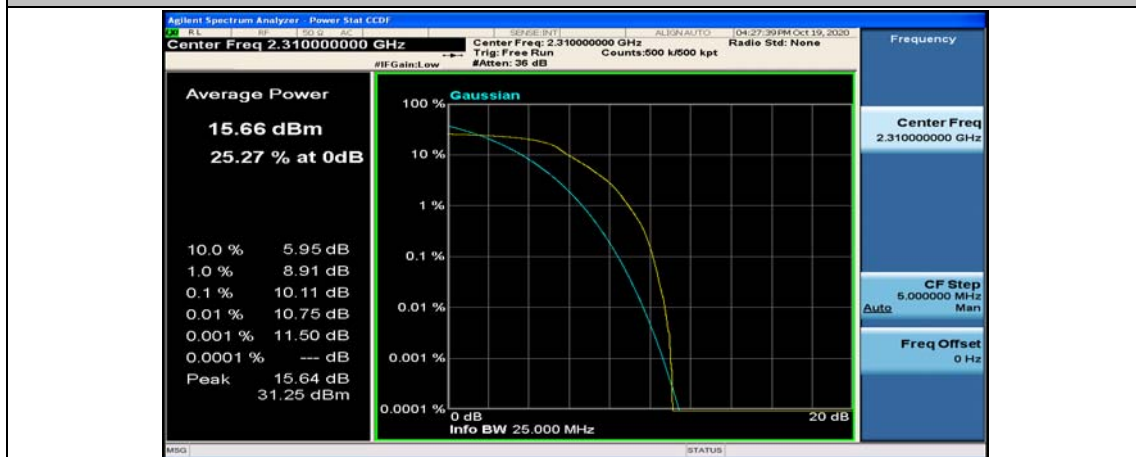
(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_1RB#24



(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_12RB#0

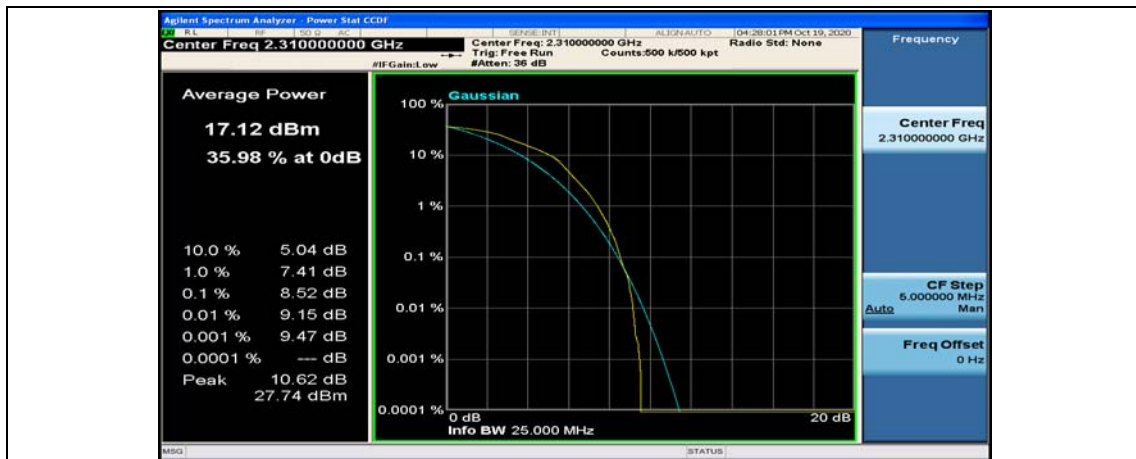


(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_12RB#6

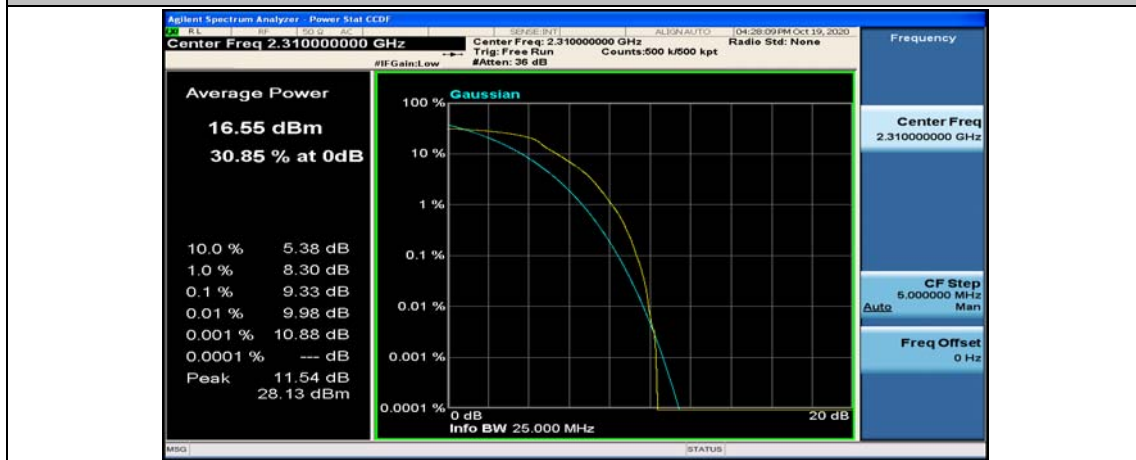


(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_12RB#13





(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_25RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_1RB#0



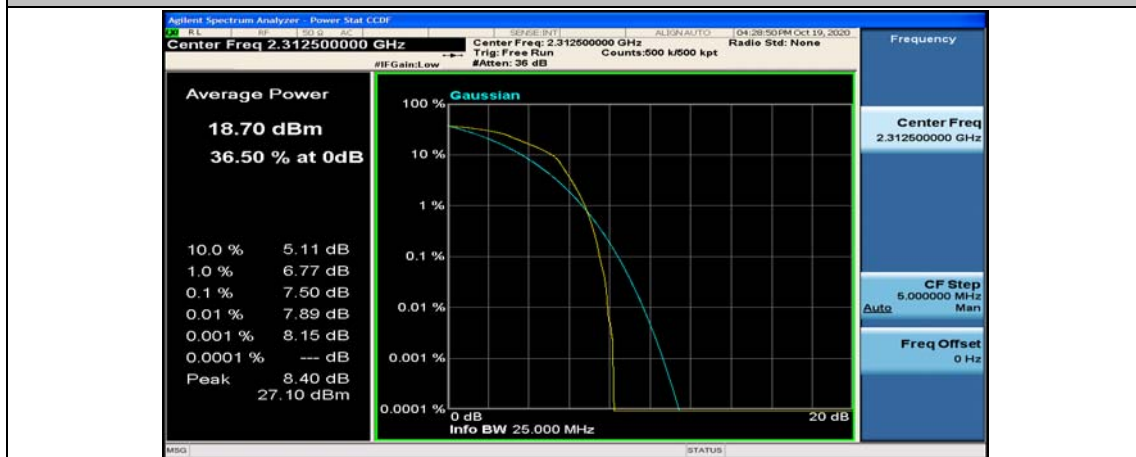
(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_1RB#12



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_1RB#24



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_12RB#0



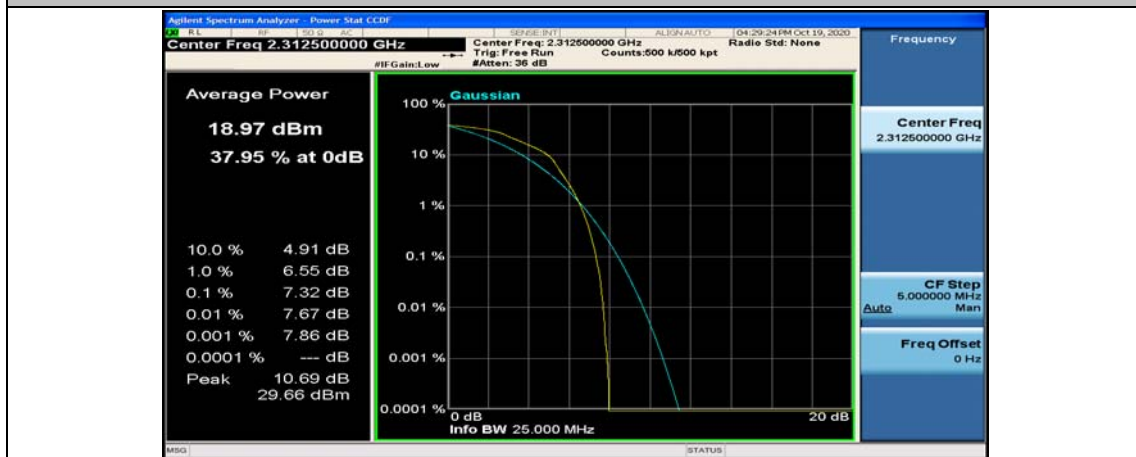
(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_12RB#6



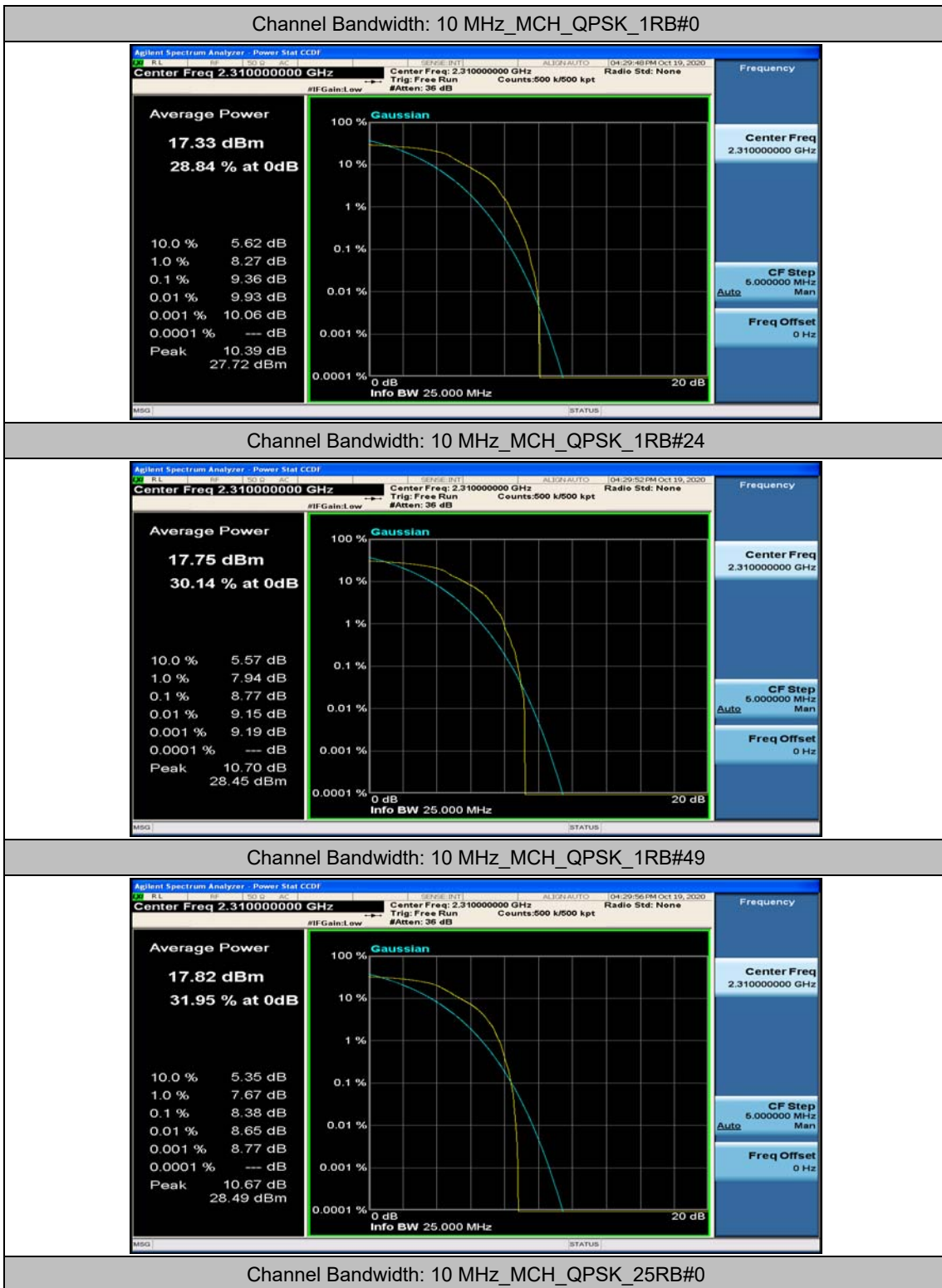
(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_12RB#13

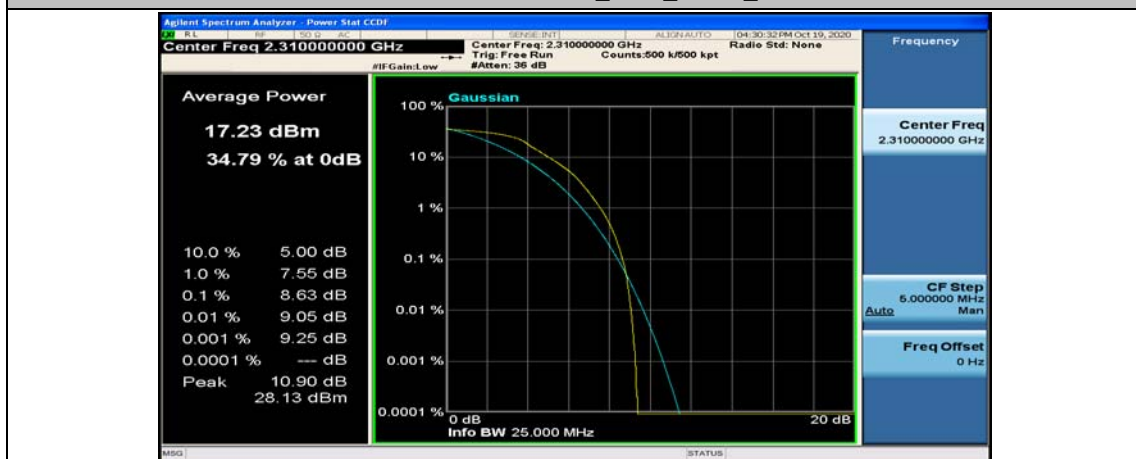


(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_25RB#0



### Channel Bandwidth: 10 MHz



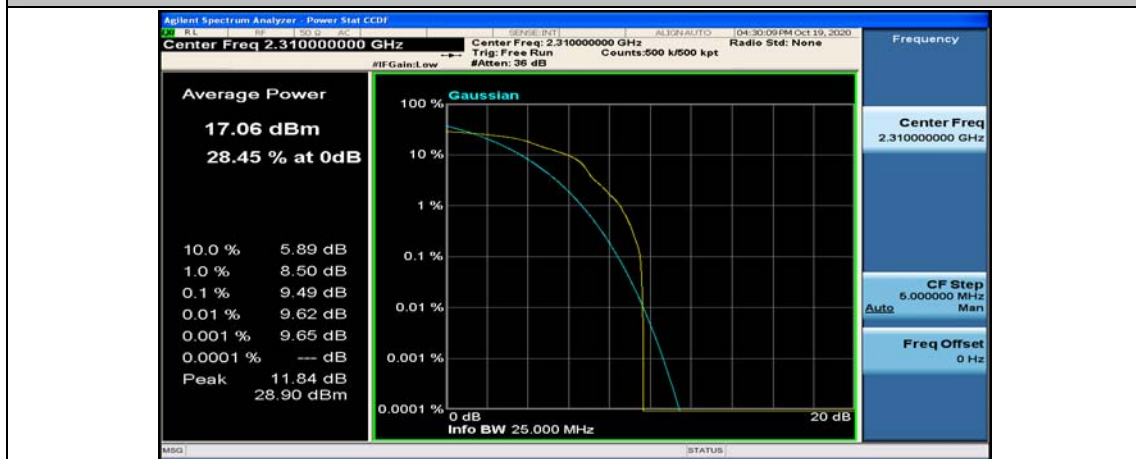




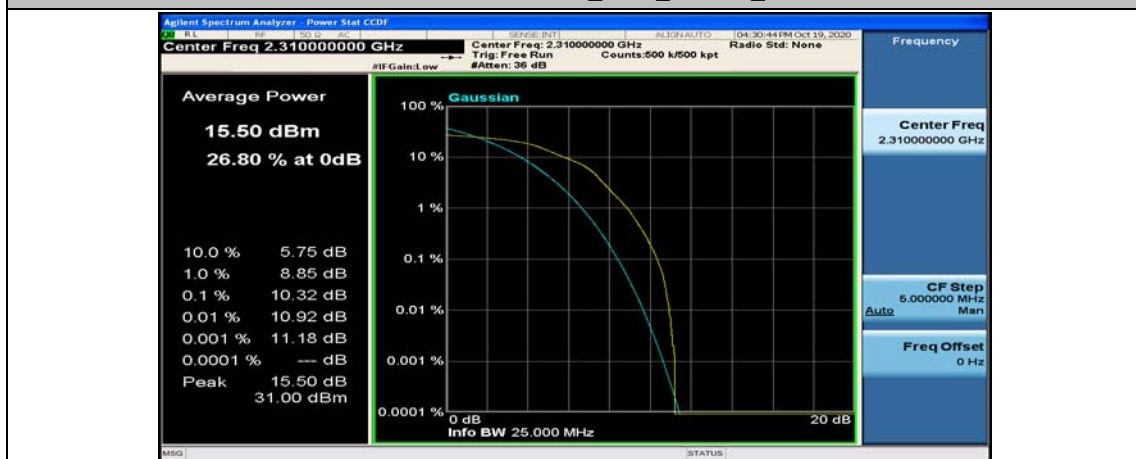
Channel Bandwidth: 10 MHz\_MCH\_16QAM\_1RB#0

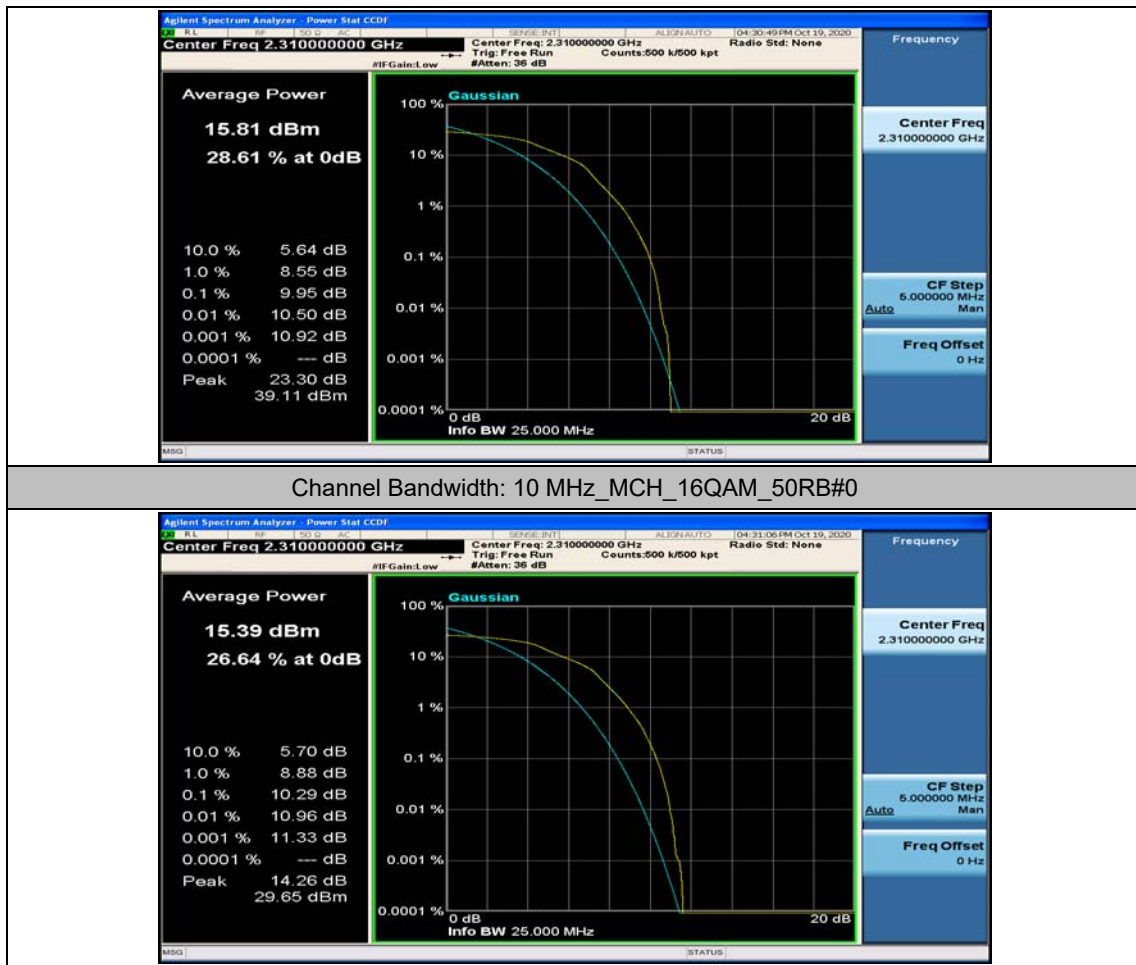


Channel Bandwidth: 10 MHz\_MCH\_16QAM\_1RB#24



Channel Bandwidth: 10 MHz\_MCH\_16QAM\_1RB#49







## Appendix C: 26dB Bandwidth and Occupied Bandwidth

### Test Result

#### Channel Bandwidth: 5 MHz

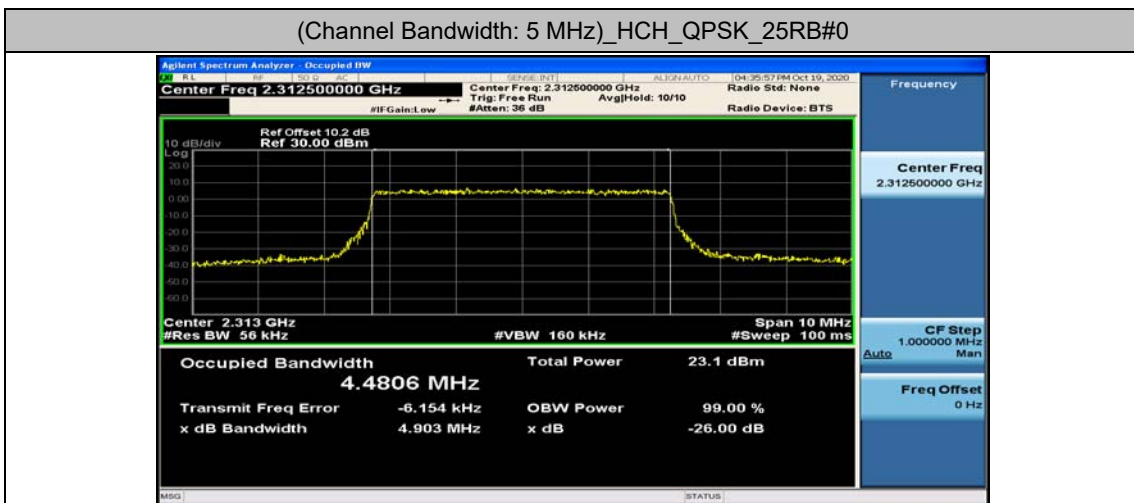
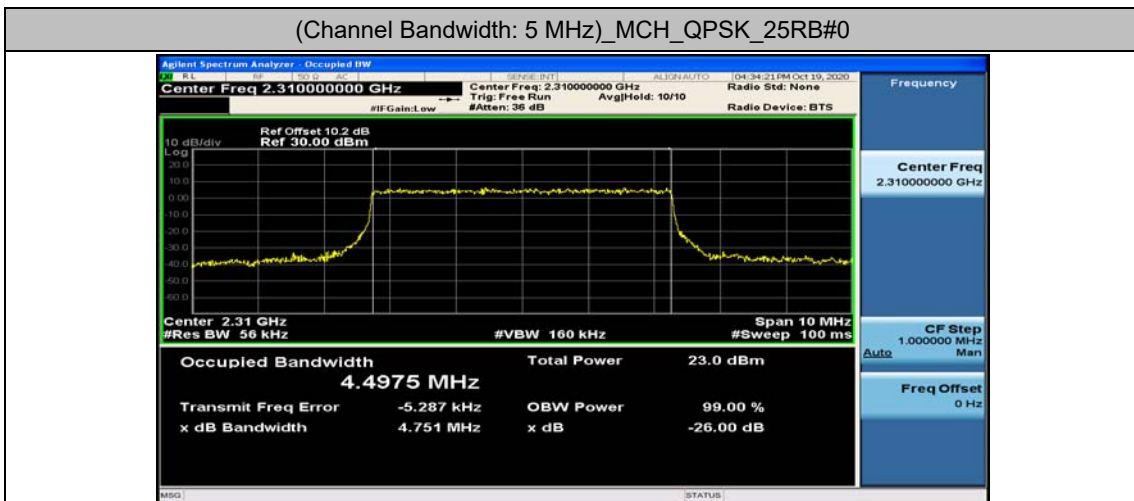
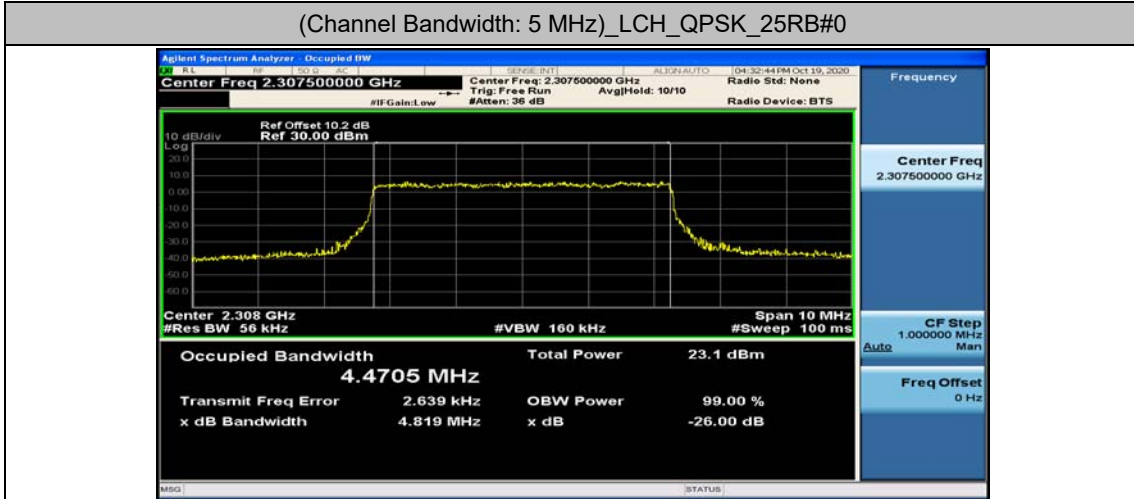
Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	4.4705	4.819	PASS
	MCH	25	0	4.4975	4.751	PASS
	HCH	25	0	4.4806	4.903	PASS
16QAM	LCH	25	0	4.4809	4.906	PASS
	MCH	25	0	4.4707	4.803	PASS
	HCH	25	0	4.4674	4.825	PASS

#### Channel Bandwidth: 10 MHz

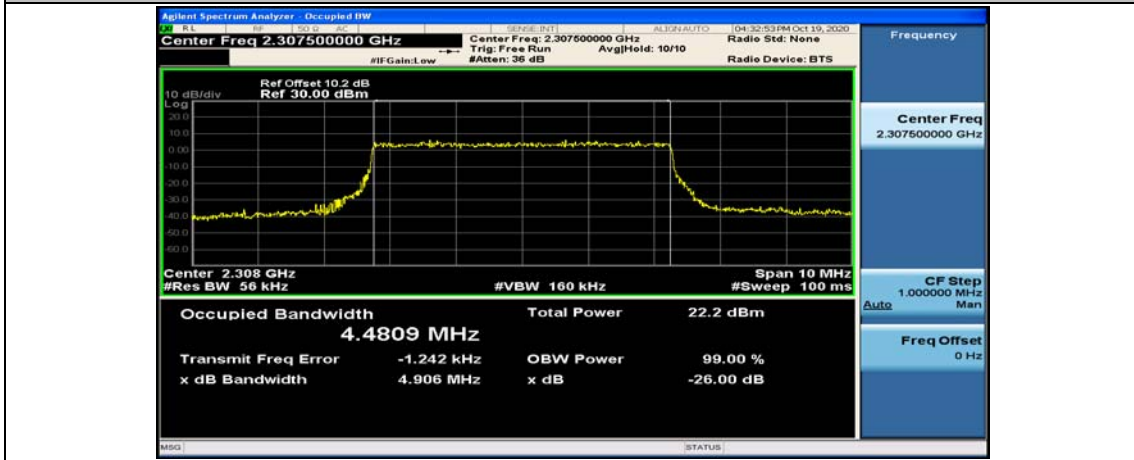
Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	MCH	50	0	8.9278	9.395	PASS
16QAM	MCH	50	0	8.9224	9.400	PASS

## Test Graphs

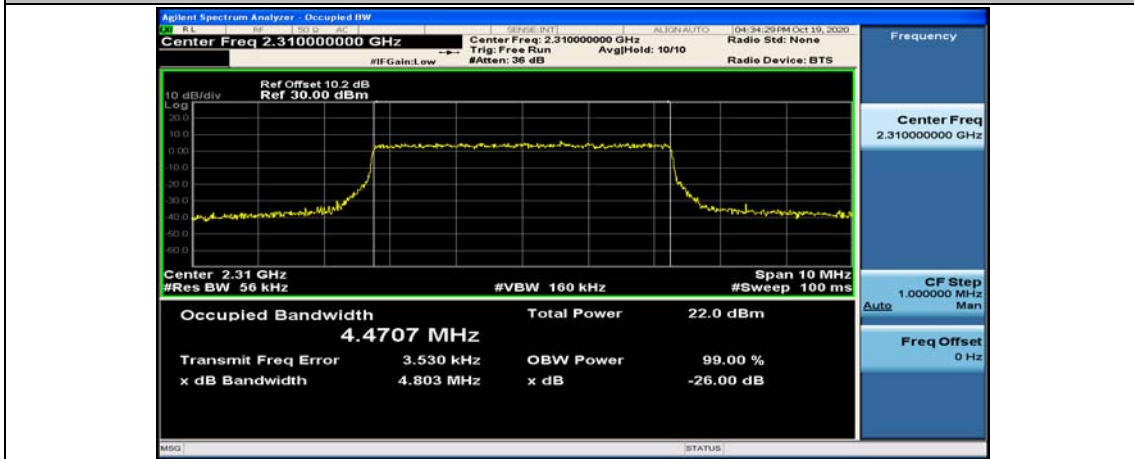
### Channel Bandwidth: 5 MHz



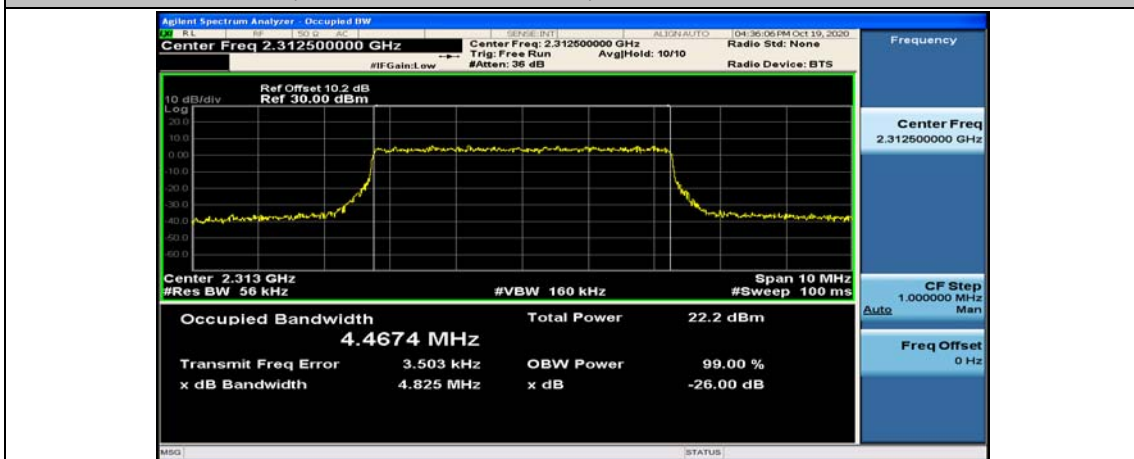
(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_25RB#0



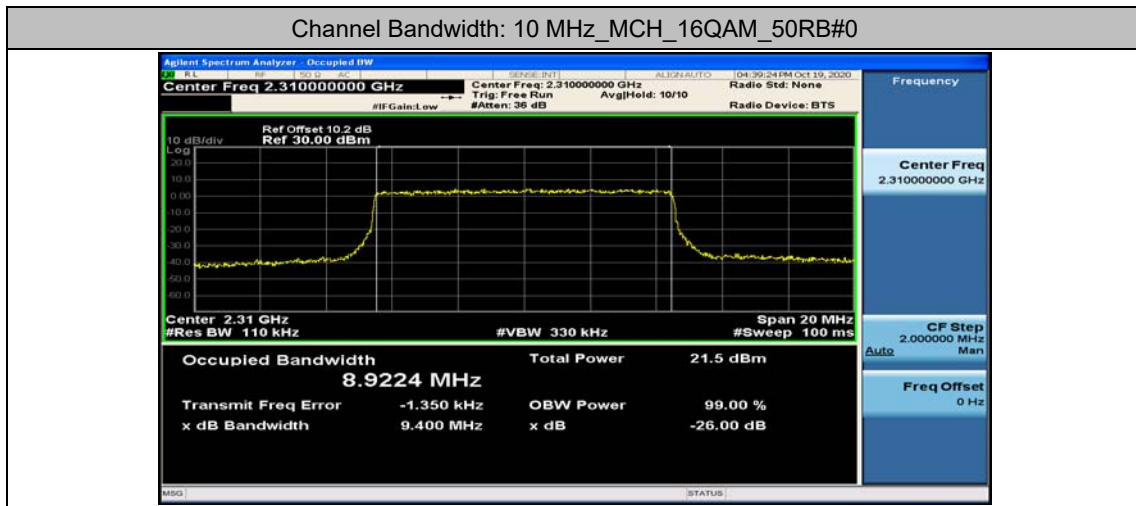
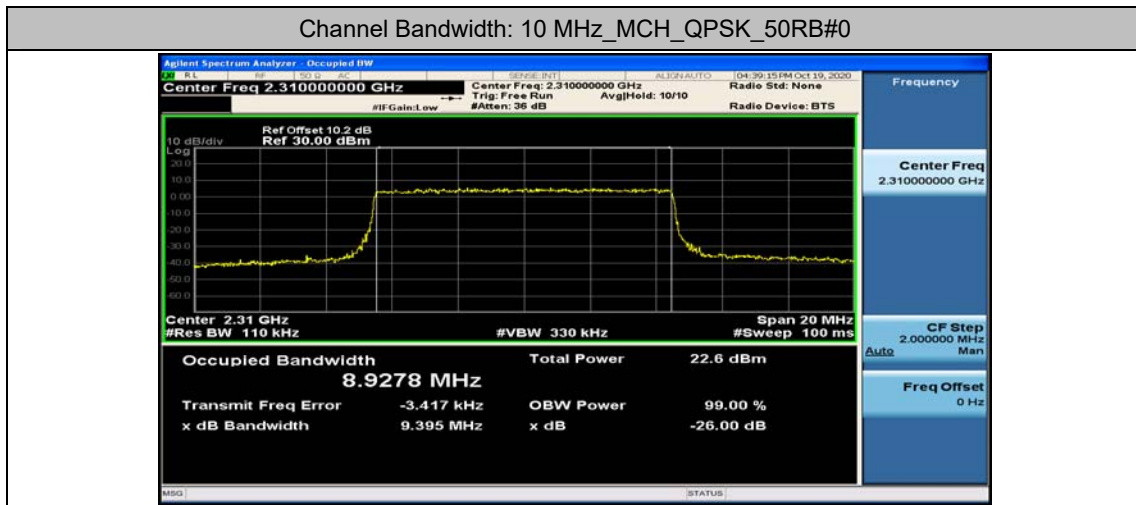
(Channel Bandwidth: 5 MHz)\_MCH\_16QAM\_25RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_25RB#0



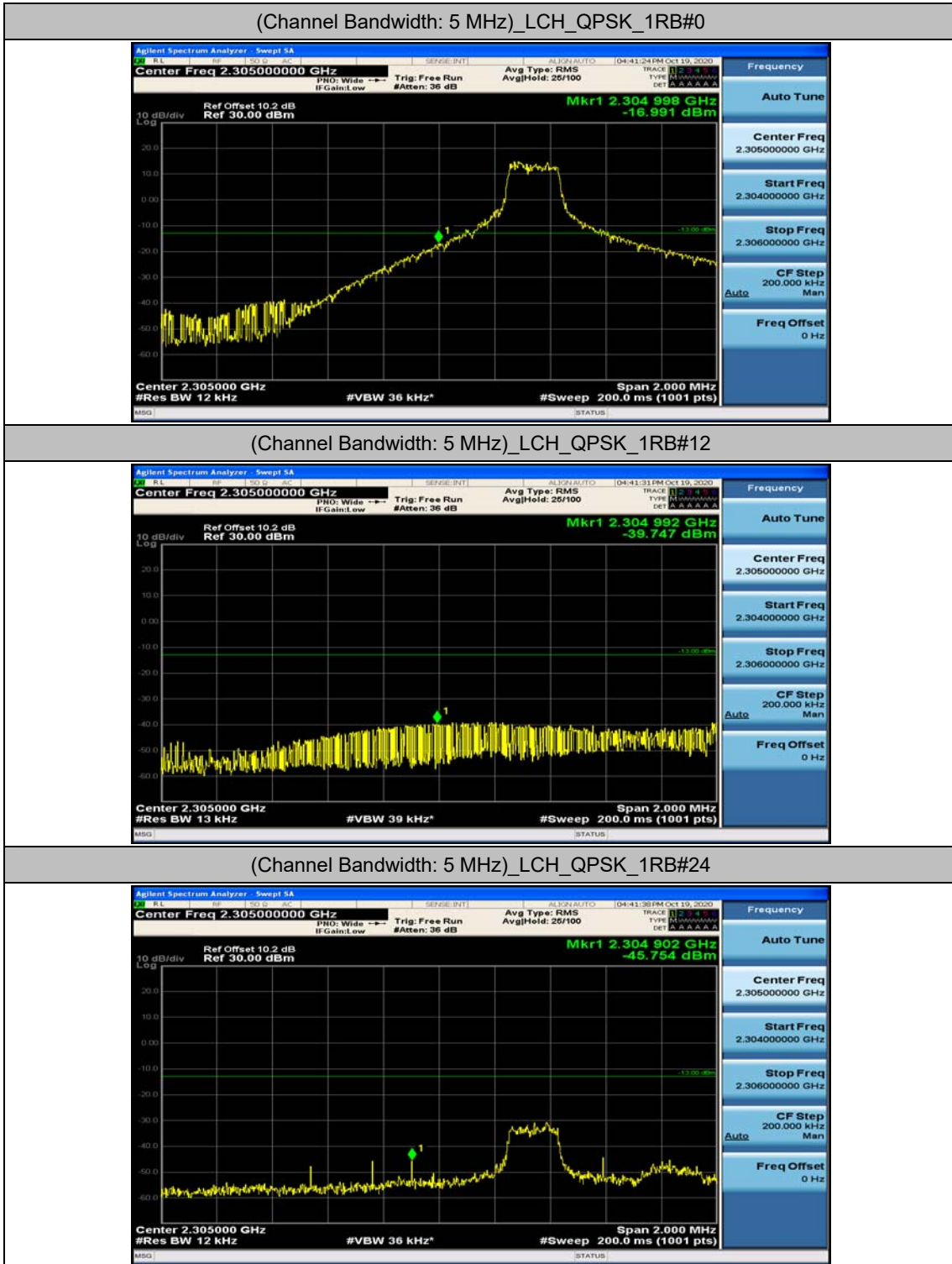
### Channel Bandwidth: 10 MHz



## Appendix D: Band Edge

### Test Graphs

Channel Bandwidth: 5 MHz



(Channel Bandwidth: 5 MHz)\_LCH\_QPSK\_12RB#0



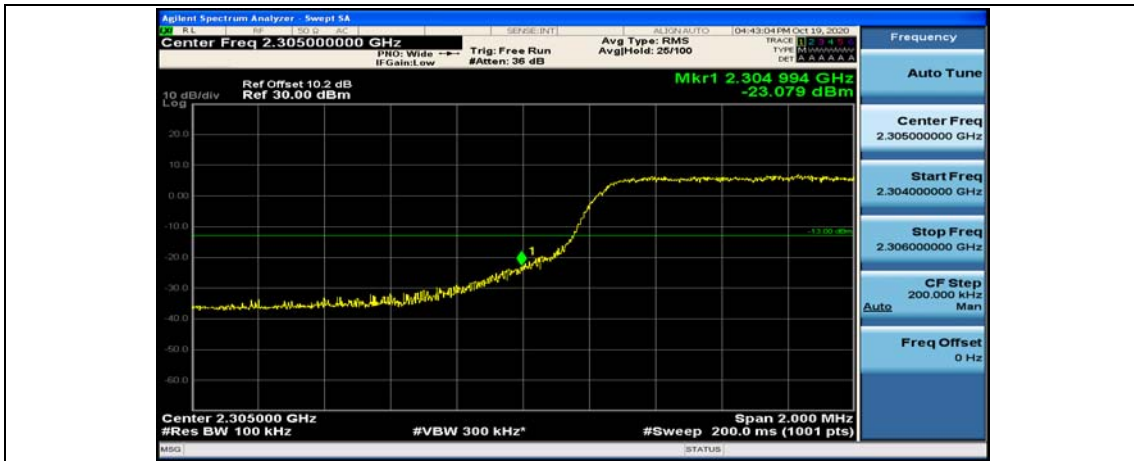
(Channel Bandwidth: 5 MHz)\_LCH\_QPSK\_12RB#6



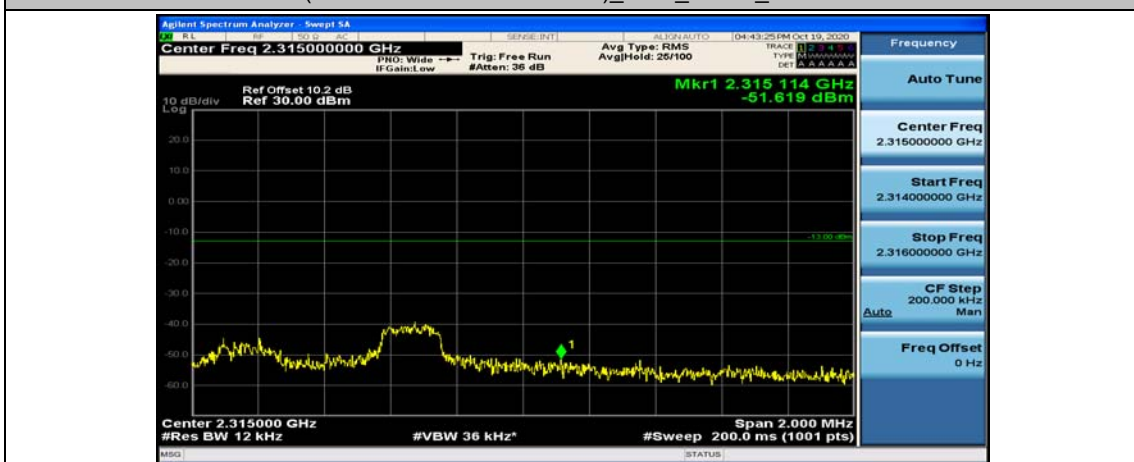
(Channel Bandwidth: 5 MHz)\_LCH\_QPSK\_12RB#13



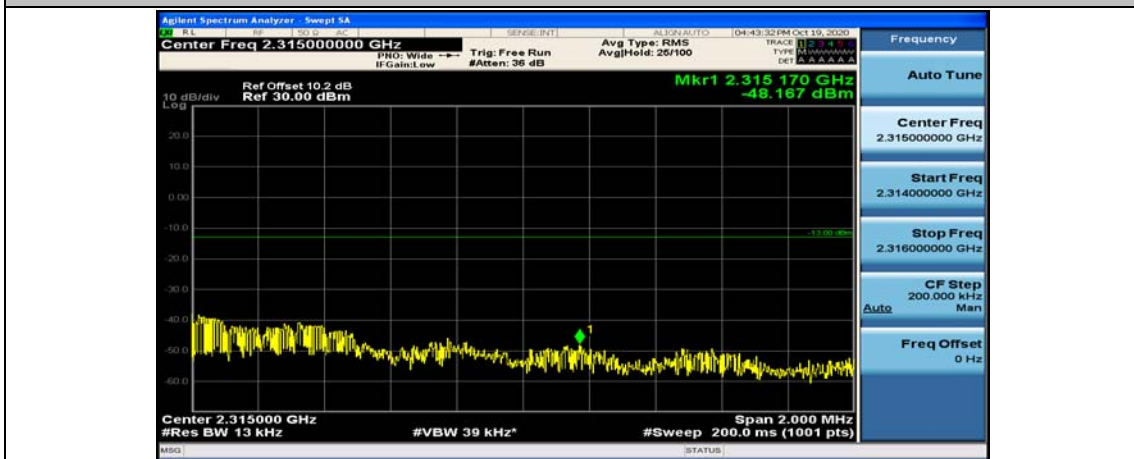
(Channel Bandwidth: 5 MHz)\_LCH\_QPSK\_25RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#12



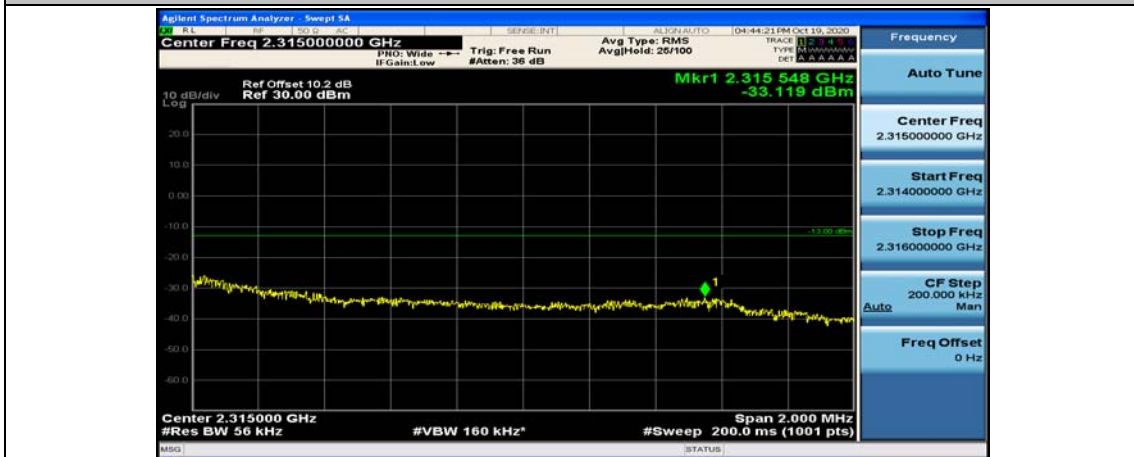
(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#24



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_12RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_12RB#6



(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_12RB#13

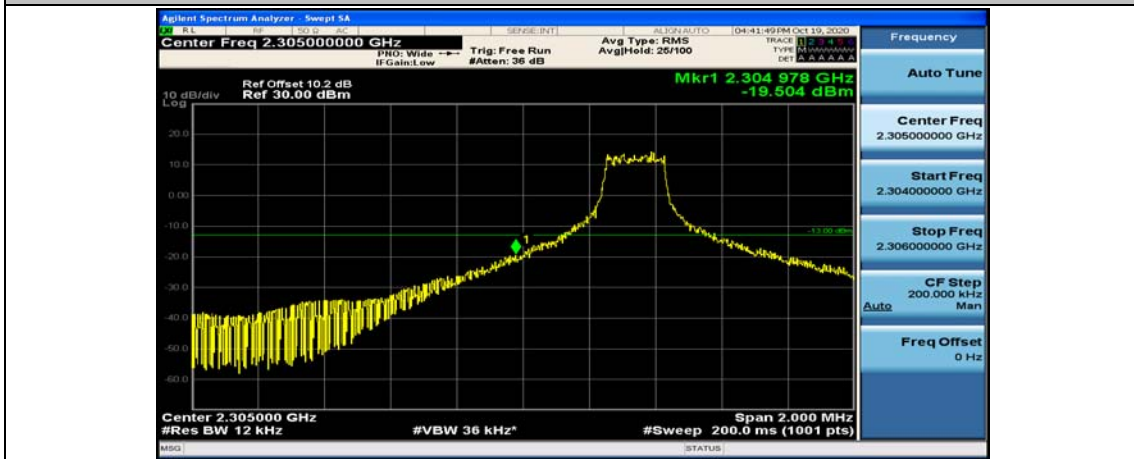




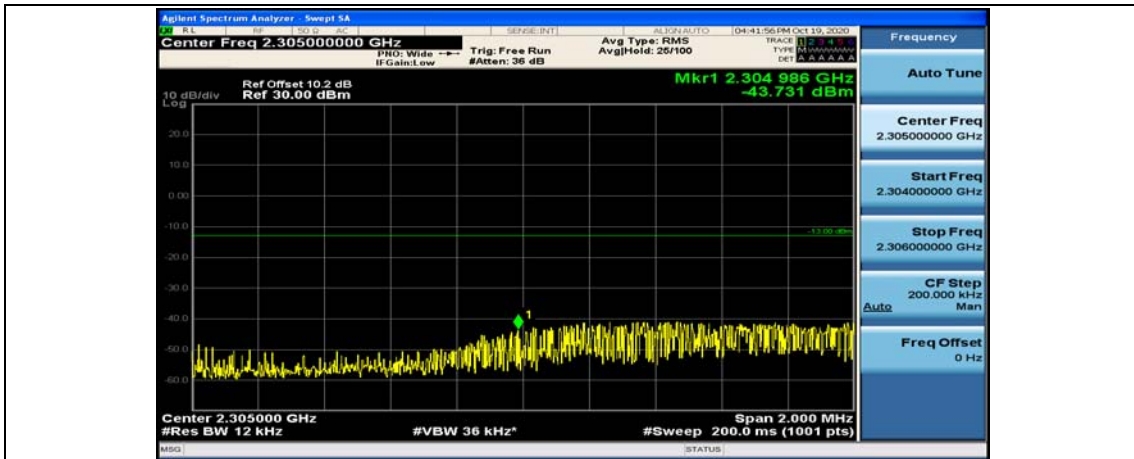
(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_25RB#0



(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_1RB#0



(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_1RB#12



(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_1RB#24



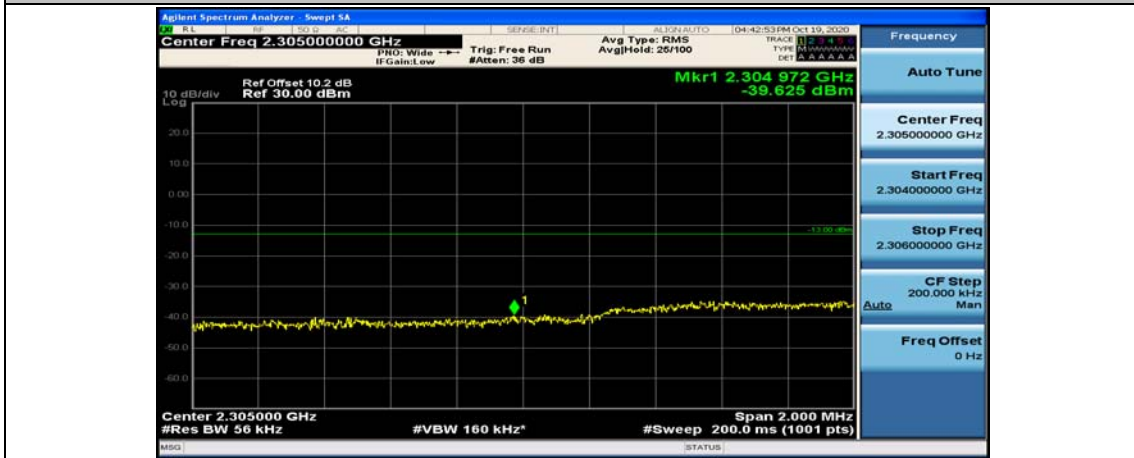
(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_12RB#0



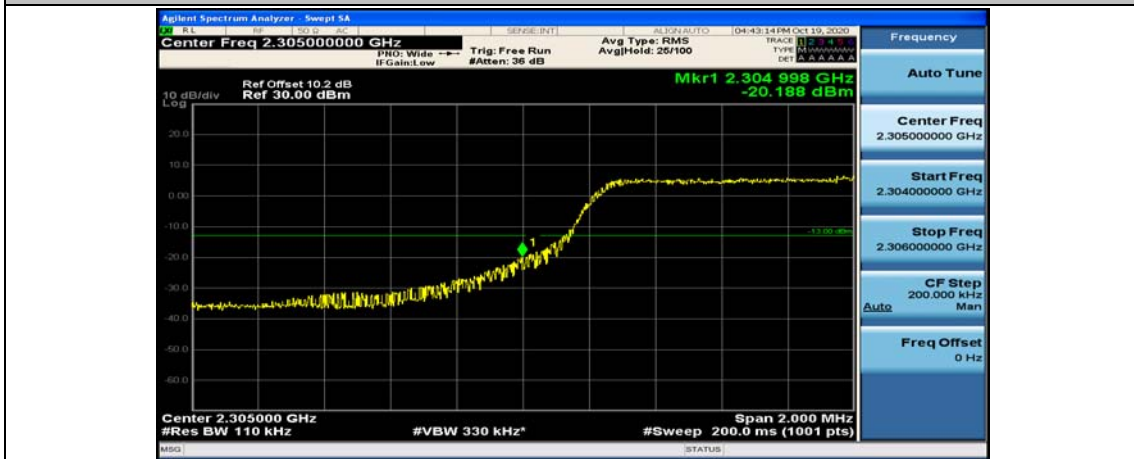
(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_12RB#6



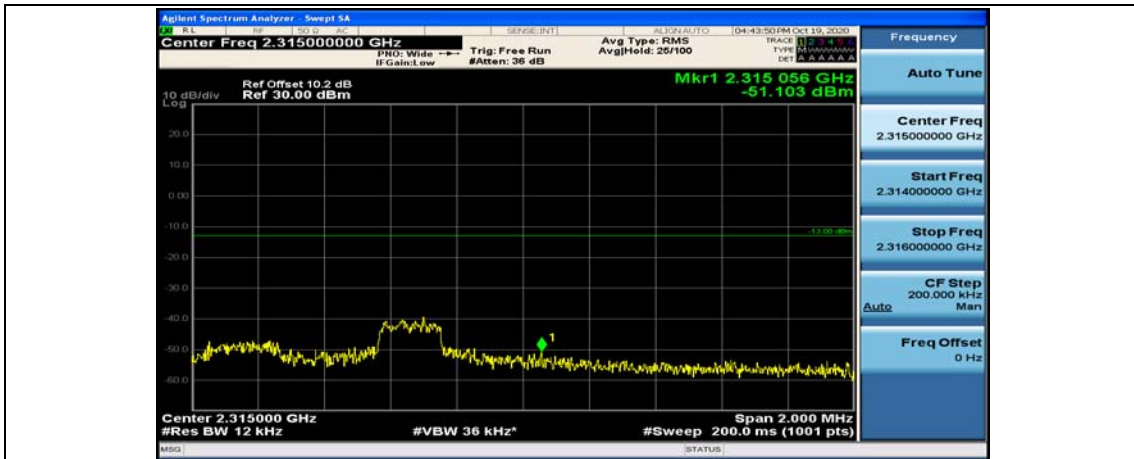
(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_12RB#13



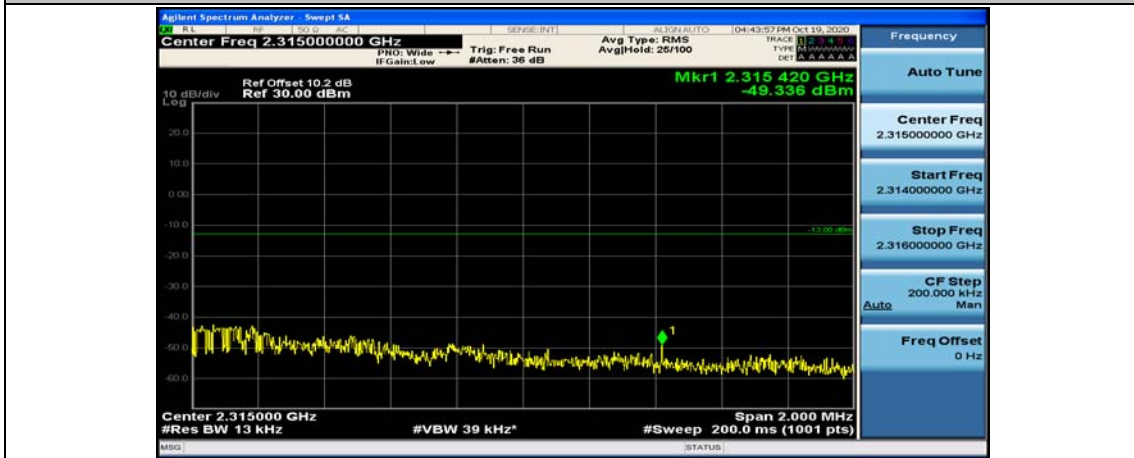
(Channel Bandwidth: 5 MHz)\_LCH\_16QAM\_25RB#0



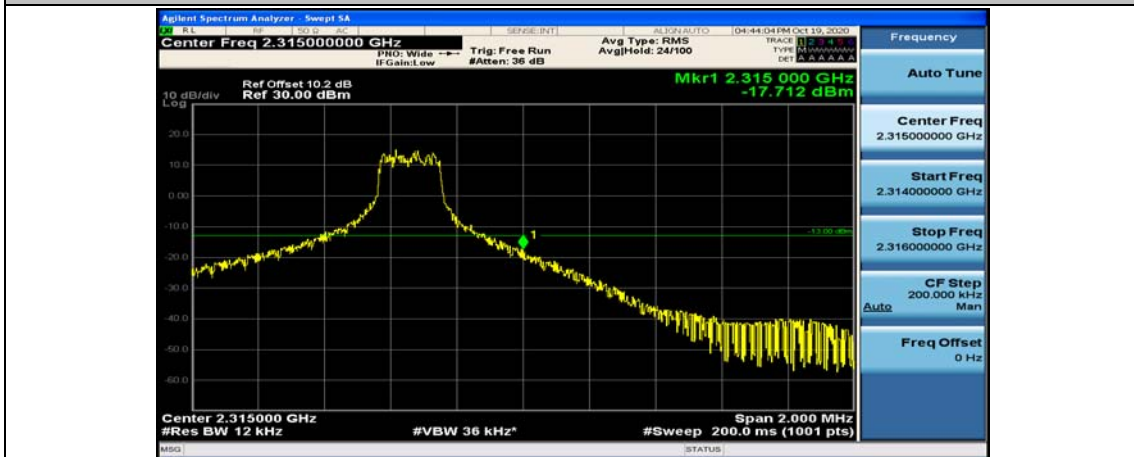
(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_1RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_1RB#12



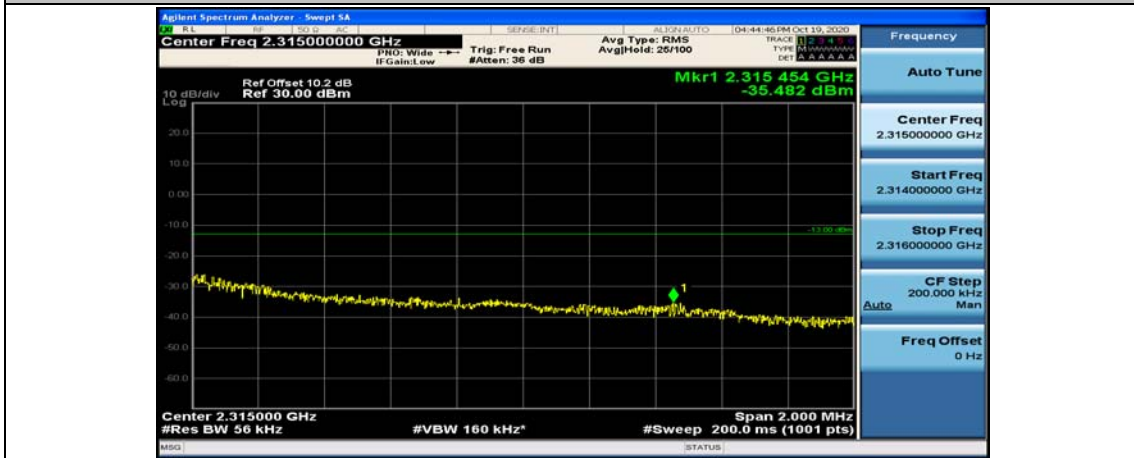
(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_1RB#24



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_12RB#0



(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_12RB#6



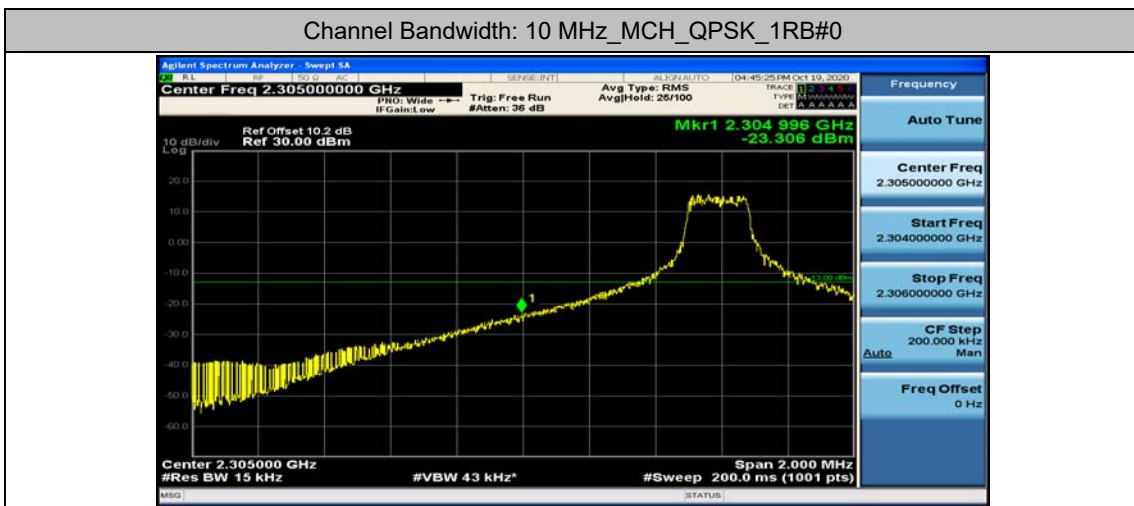
(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_12RB#13



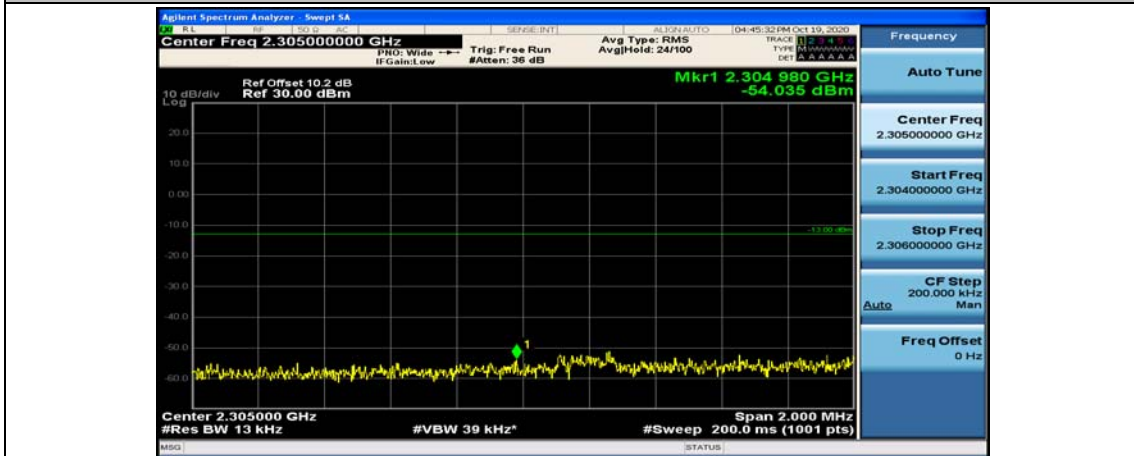
(Channel Bandwidth: 5 MHz)\_HCH\_16QAM\_25RB#0



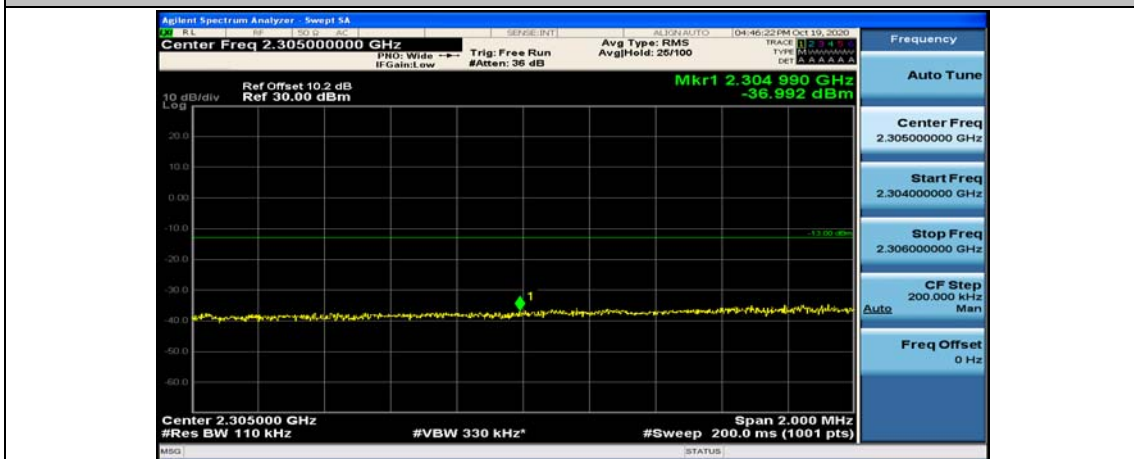
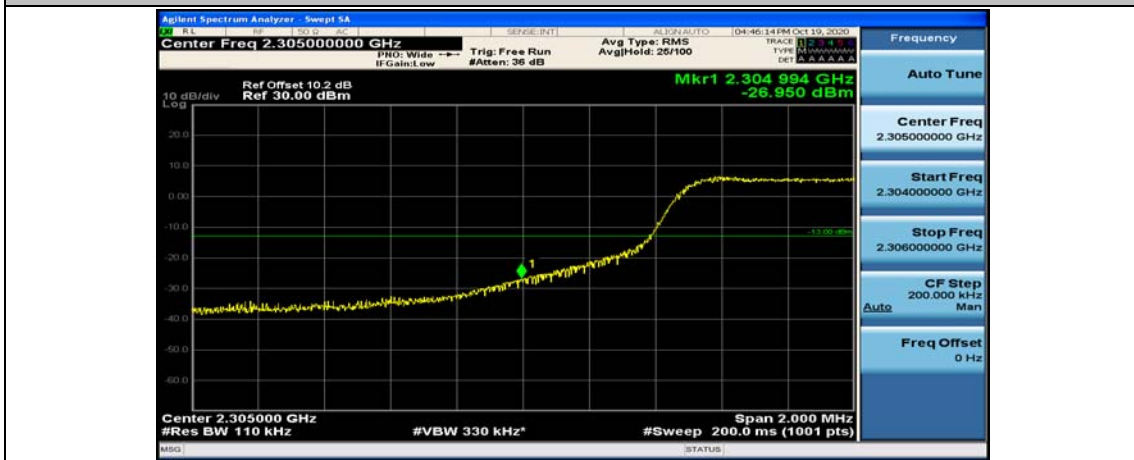
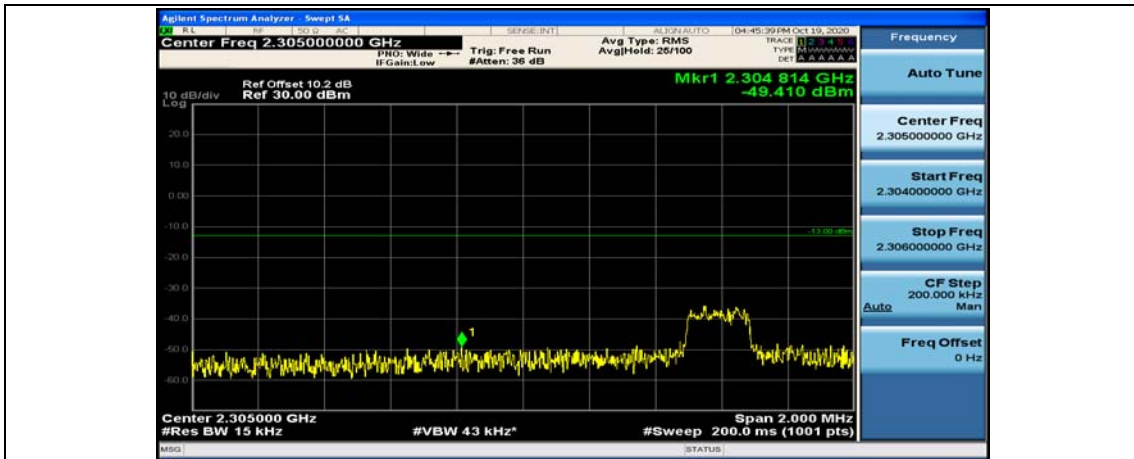
Channel Bandwidth: 10 MHz



Channel Bandwidth: 10 MHz\_MCH\_QPSK\_1RB#24



Channel Bandwidth: 10 MHz\_MCH\_QPSK\_1RB#49

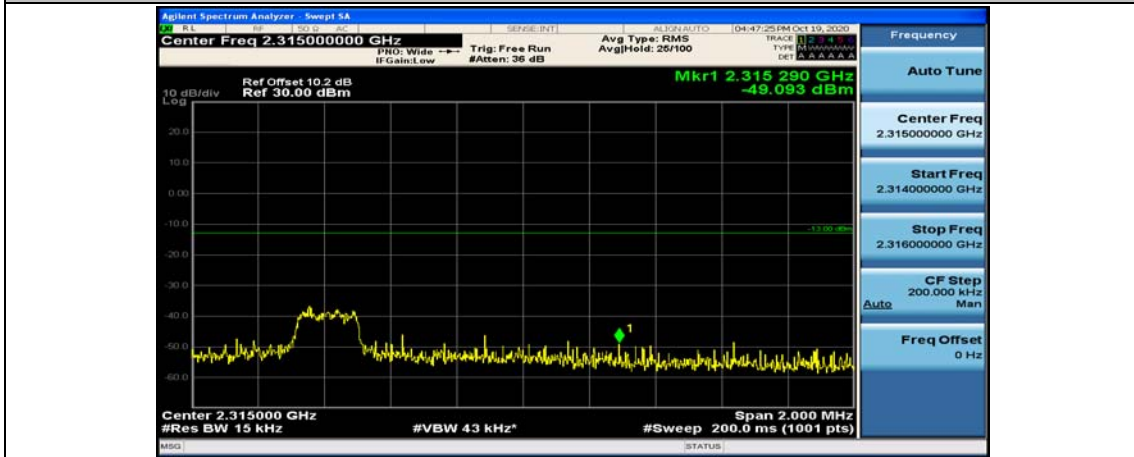




Channel Bandwidth: 10 MHz\_MCH\_QPSK\_50RB#0



Channel Bandwidth: 10 MHz\_MCH\_QPSK\_1RB#0



Channel Bandwidth: 10 MHz\_MCH\_QPSK\_1RB#24