# Appendix D: Test Data for E-UTRA Band 4

**Product Name: Smart Phone Trade Mark: Kalley Test Model: BLACK PRO** 

#### **Environmental Conditions**

Temperature:	24.6℃
Relative Humidity:	54.6%
ATM Pressure:	100.0 kPa
Test Engineer:	WANG CHUANG
Supervised by:	Jayden Zhuo

## **D.1 Conducted Output Power** <SIM1>

	Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)								
Madulation	Channel	RB Conf	figuration	Average Power [dBm]	Average Power [dBm]	Vardiet			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	22.14	21.53	PASS			
		1	3	22.27	21.64	PASS			
		1	5	22.20	21.07	PASS			
	LCH	3	0	21.79	20.72	PASS			
		3	2	21.81	20.81	PASS			
		3	3	21.78	20.80	PASS			
		6	0	21.27	20.24	PASS			
		1	0	21.64	20.96	PASS			
		1	3	21.78	21.07	PASS			
ODCK /	МСН	1	5	21.58	20.82	PASS			
QPSK /		3	0	21.72	20.73	PASS			
16QAM		3	2	21.73	20.76	PASS			
		3	3	21.74	20.74	PASS			
		6	0	21.15	20.30	PASS			
		1	0	21.80	21.00	PASS			
		1	3	22.03	21.24	PASS			
		1	5	21.87	21.07	PASS			
	HCH	3	0	21.90	21.02	PASS			
		3	2	21.99	21.04	PASS			
		3	3	21.97	21.02	PASS			
		6	0	21.46	20.45	PASS			

20.40

20.35

**PASS** 

**PASS** 

8

15

7

0

21.37

21.27

Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)									
Madulation	Chamal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/a nali at			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	22.11	21.50	PASS			
		1	12	22.38	21.80	PASS			
		1	24	22.25	21.64	PASS			
	LCH	12	0	21.21	20.37	PASS			
		12	6	21.29	20.45	PASS			
		12	13	21.35	20.53	PASS			
		25	0	21.27	20.37	PASS			
		1	0	22.19	21.53	PASS			
	МСН	1	12	22.26	21.78	PASS			
QPSK /		1	24	21.91	21.32	PASS			
16QAM		12	0	21.21	20.30	PASS			
TOQAIVI		12	6	21.15	20.31	PASS			
		12	13	21.05	20.21	PASS			
		25	0	21.12	20.16	PASS			
		1	0	22.08	21.10	PASS			
		1	12	22.54	21.49	PASS			
		1	24	22.33	21.32	PASS			
	HCH	12	0	21.17	20.14	PASS			
		12	6	21.32	20.37	PASS			
		12	13	21.35	20.42	PASS			
		25	0	21.27	20.34	PASS			

		Conducted	l Output Pov	ver Test Result (Channel Band	lwidth: 10 MHz)	
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Vardiet
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict
		1	0	22.18	21.45	PASS
		1	24	22.50	21.78	PASS
		1	49	22.53	21.82	PASS
	LCH	25	0	21.27	20.31	PASS
		25	12	21.41	20.45	PASS
		25	25	21.72	20.77	PASS
		50	0	21.49	20.54	PASS
		1	0	22.37	21.66	PASS
	МСН	1	24	22.25	21.57	PASS
QPSK /		1	49	21.88	21.19	PASS
16QAM		25	0	21.34	20.37	PASS
TOQAIVI		25	12	21.16	20.19	PASS
		25	25	21.06	20.12	PASS
		50	0	21.18	20.20	PASS
		1	0	21.86	21.28	PASS
		1	24	22.26	21.68	PASS
		1	49	22.35	21.71	PASS
	HCH	25	0	20.98	20.03	PASS
		25	12	21.17	20.23	PASS
		25	25	21.45	20.49	PASS
		50	0	21.24	20.28	PASS

Conducted Output Power Test Result (Channel Bandwidth: 15 MHz)									
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/a ==li =t			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	22.03	21.34	PASS			
		1	37	22.68	21.96	PASS			
		1	74	22.52	21.76	PASS			
	LCH	37	0	21.26	20.27	PASS			
		37	18	21.56	20.52	PASS			
		37	38	21.68	20.66	PASS			
		75	0	21.54	20.51	PASS			
		1	0	22.33	21.61	PASS			
		1	37	22.27	21.54	PASS			
QPSK /	MCH	1	74	21.70	20.99	PASS			
16QAM		37	0	21.41	20.35	PASS			
IOQAW		37	18	21.24	20.21	PASS			
		37	38	21.04	20.05	PASS			
		75	0	21.19	20.19	PASS			
		1	0	21.73	21.03	PASS			
		1	37	22.14	21.49	PASS			
		1	74	22.29	21.56	PASS			
	HCH	37	0	21.08	20.07	PASS			
		37	18	21.13	20.16	PASS			
		37	38	21.42	20.46	PASS			
		75	0	21.20	20.21	PASS			

20.46

**PASS** 

21.46

0

100

### **<SIM2>**

		Conducted	Output Pow	er Test Result (Channel Band	width: 1.4 MHz)	
Madulation	Channel	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/a.u.di.a.t
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict
		1	0	22.09	21.48	PASS
		1	3	22.24	21.58	PASS
		1	5	22.14	21.04	PASS
	LCH	3	0	21.73	20.67	PASS
		3	2	21.76	20.78	PASS
		3	3	21.74	20.75	PASS
		6	0	21.22	20.19	PASS
		1	0	21.61	20.92	PASS
	мсн	1	3	21.74	21.03	PASS
QPSK /		1	5	21.54	20.78	PASS
16QAM		3	0	21.66	20.67	PASS
TOQAIVI		3	2	21.69	20.72	PASS
		3	3	21.68	20.70	PASS
		6	0	21.11	20.26	PASS
		1	0	21.75	20.94	PASS
		1	3	21.97	21.19	PASS
		1	5	21.83	21.03	PASS
	НСН	3	0	21.85	20.98	PASS
		3	2	21.94	20.99	PASS
		3	3	21.91	20.96	PASS
		6	0	21.42	20.39	PASS

Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)								
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/a.u.di.a.t		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	22.09	21.42	PASS		
		1	7	22.38	21.66	PASS		
		1	14	22.20	21.46	PASS		
	LCH	8	0	21.16	20.23	PASS		
		8	4	21.20	20.26	PASS		
		8	7	21.18	20.27	PASS		
		15	0	21.13	20.19	PASS		
		1	0	22.10	21.42	PASS		
	МСН	1	7	22.26	21.60	PASS		
QPSK /		1	14	21.95	21.23	PASS		
16QAM		8	0	21.07	20.17	PASS		
TOQAIVI		8	4	21.05	20.17	PASS		
		8	7	21.07	20.19	PASS		
		15	0	21.09	20.14	PASS		
		1	0	22.19	21.55	PASS		
		1	7	22.47	21.86	PASS		
		1	14	22.30	21.74	PASS		
	HCH	8	0	21.26	20.25	PASS		
		8	4	21.33	20.33	PASS		
		8	7	21.32	20.37	PASS		
		15	0	21.22	20.31	PASS		

Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)									
Manalada di an	Observat	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	22.07	21.45	PASS			
		1	12	22.34	21.75	PASS			
		1	24	22.19	21.59	PASS			
	LCH	12	0	21.16	20.33	PASS			
		12	6	21.23	20.39	PASS			
		12	13	21.29	20.50	PASS			
		25	0	21.23	20.32	PASS			
		1	0	22.15	21.49	PASS			
	МСН	1	12	22.20	21.73	PASS			
QPSK /		1	24	21.86	21.28	PASS			
16QAM		12	0	21.17	20.26	PASS			
TOQAIVI		12	6	21.09	20.28	PASS			
		12	13	21.01	20.17	PASS			
		25	0	21.08	20.11	PASS			
		1	0	22.03	21.05	PASS			
		1	12	22.51	21.45	PASS			
		1	24	22.29	21.26	PASS			
	HCH	12	0	21.11	20.08	PASS			
		12	6	21.27	20.33	PASS			
		12	13	21.31	20.37	PASS			
		25	0	21.22	20.28	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)								
Madulatian	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/a nali a t			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	22.13	21.40	PASS			
		1	24	22.46	21.74	PASS			
		1	49	22.50	21.78	PASS			
	LCH	25	0	21.22	20.27	PASS			
		25	12	21.36	20.40	PASS			
		25	25	21.68	20.74	PASS			
		50	0	21.44	20.49	PASS			
		1	0	22.31	21.63	PASS			
		1	24	22.21	21.54	PASS			
QPSK /		1	49	21.84	21.14	PASS			
16QAM	MCH	25	0	21.31	20.33	PASS			
TOQAIVI		25	12	21.12	20.16	PASS			
		25	25	21.02	20.07	PASS			
		50	0	21.14	20.15	PASS			
		1	0	21.83	21.24	PASS			
		1	24	22.23	21.64	PASS			
		1	49	22.31	21.67	PASS			
	HCH	25	0	21.03	20.08	PASS			
		25	12	21.12	20.19	PASS			
		25	25	21.40	20.46	PASS			
		50	0	21.20	20.23	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 15 MHz)									
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/a ==li =4				
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict				
		1	0	21.99	21.30	PASS				
		1	37	22.64	21.92	PASS				
		1	74	22.49	21.72	PASS				
	LCH	37	0	21.22	20.23	PASS				
		37	18	21.53	20.49	PASS				
		37	38	21.62	20.61	PASS				
		75	0	21.49	20.45	PASS				
		1	0	22.28	21.56	PASS				
	мсн	1	37	22.21	21.48	PASS				
QPSK /		1	74	21.67	20.94	PASS				
16QAM		37	0	21.37	20.31	PASS				
IOQAW		37	18	21.21	20.17	PASS				
		37	38	21.05	20.06	PASS				
		75	0	21.16	20.16	PASS				
		1	0	21.67	20.97	PASS				
		1	37	22.10	21.45	PASS				
		1	74	22.25	21.51	PASS				
	HCH	37	0	21.03	20.02	PASS				
		37	18	21.08	20.12	PASS				
		37	38	21.37	20.41	PASS				
		75	0	21.15	20.16	PASS				

	Conducted Output Power Test Result (Channel Bandwidth: 20 MHz)									
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/ordiot				
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict				
		1	0	22.26	21.41	PASS				
		1	49	22.72	21.86	PASS				
		1	99	22.50	21.69	PASS				
	LCH	50	0	21.38	20.40	PASS				
		50	25	21.85	20.83	PASS				
		50	50	21.75	20.76	PASS				
		100	0	21.59	20.60	PASS				
		1	0	22.57	21.72	PASS				
	МСН	1	49	22.65	21.82	PASS				
QPSK /		1	99	21.84	21.06	PASS				
16QAM		50	0	21.69	20.67	PASS				
TOQAIVI		50	25	21.38	20.47	PASS				
		50	50	21.03	20.06	PASS				
		100	0	21.39	20.39	PASS				
		1	0	21.87	21.28	PASS				
		1	49	22.31	21.70	PASS				
		1	99	22.33	21.66	PASS				
	HCH	50	0	21.21	20.30	PASS				
		50	25	21.22	20.29	PASS				
		50	50	21.59	20.65	PASS				
		100	0	21.42	20.43	PASS				

## D.2 Peak-to-Average Ratio

	Peak-to Average Ratio Test Result (Channel Bandwidth: 1.4 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict				
iviodulation	Channel	[dB]	[dB]	verdict				
	LCH	5.31	<13	PASS				
QPSK	MCH	5.4	<13	PASS				
	HCH	5.06	<13	PASS				
	LCH	6.31	<13	PASS				
16QAM	MCH	6.3	<13	PASS				
	HCH	5.94	<13	PASS				

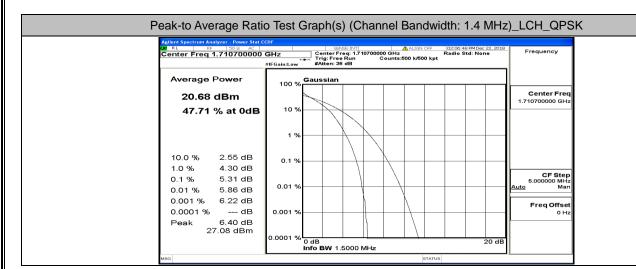
Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)					
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict	
Modulation	Channel	[dB]	[dB]	verdict	
	LCH	5.47	<13	PASS	
QPSK	MCH	5.48	<13	PASS	
	HCH	5.3	<13	PASS	
	LCH	6.35	<13	PASS	
16QAM	MCH	6.34	<13	PASS	
	HCH	5.98	<13	PASS	

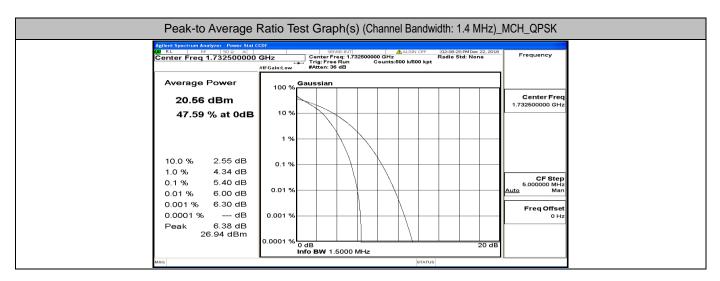
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)					
Modulation	01	Peak-to-Average Ratio	Limit	Mandiat	
Modulation	Channel	[dB]	[dB]	Verdict	
	LCH	5.48	<13	PASS	
QPSK	MCH	5.61	<13	PASS	
	HCH	5.24	<13	PASS	
16QAM	LCH	6.26	<13	PASS	
	MCH	6.35	<13	PASS	
	HCH	6.05	<13	PASS	

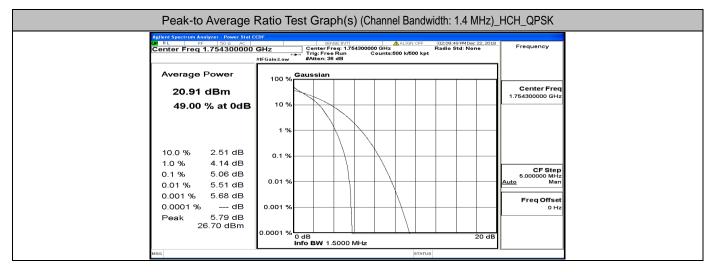
Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)					
Modulation	01 1	Peak-to-Average Ratio	Limit	Verdict	
Modulation	Channel	[dB]	[dB]	verdict	
	LCH	5.55	<13	PASS	
QPSK	MCH	5.58	<13	PASS	
	HCH	5.41	<13	PASS	
16QAM	LCH	6.19	<13	PASS	
	MCH	6.27	<13	PASS	
	HCH	6.18	<13	PASS	

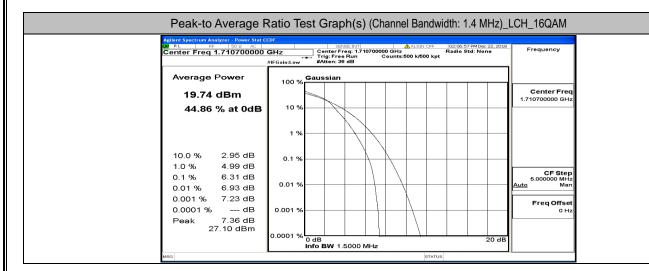
Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)					
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict	
Modulation	Griannei	[dB]	[dB]	verdict	
	LCH	5.03	<13	PASS	
QPSK	MCH	4.93	<13	PASS	
	HCH	5.11	<13	PASS	
16QAM	LCH	6.22	<13	PASS	
	MCH	6.23	<13	PASS	
	HCH	6.27	<13	PASS	

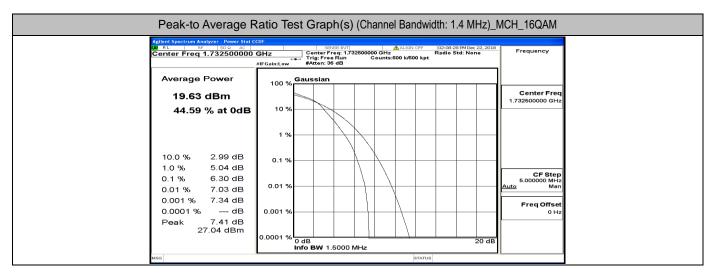
Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)					
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict	
Modulation	Channel	[dB]	[dB]	verdict	
	LCH	5.66	<13	PASS	
QPSK	MCH	5.69	<13	PASS	
	HCH	5.82	<13	PASS	
16QAM	LCH	6.74	<13	PASS	
	MCH	6.76	<13	PASS	
	HCH	6.74	<13	PASS	

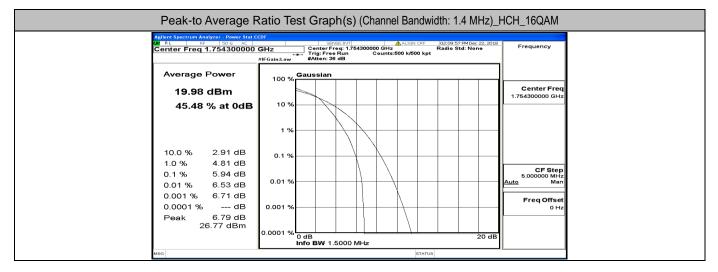




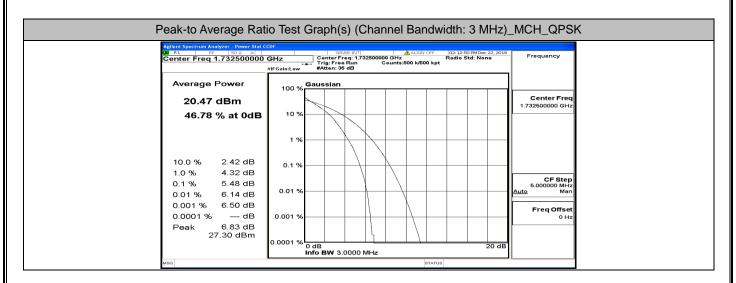


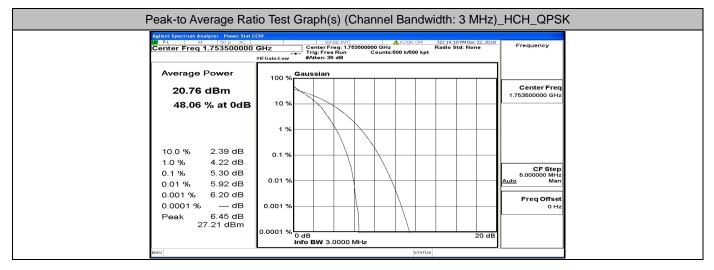


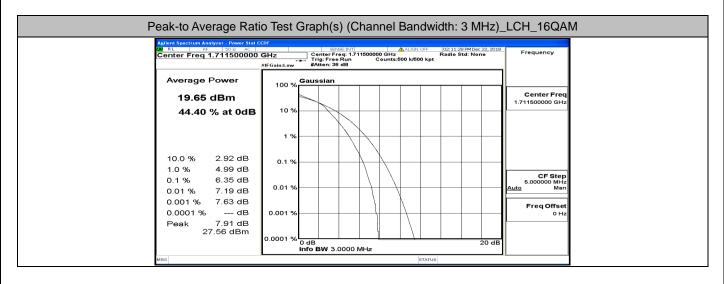


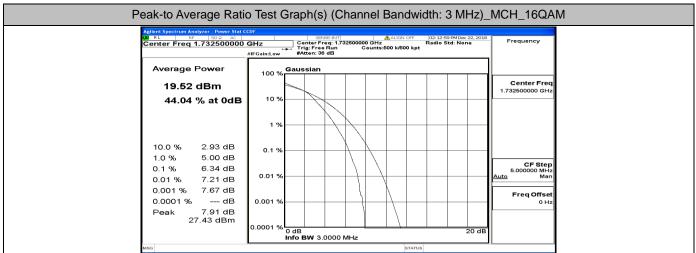


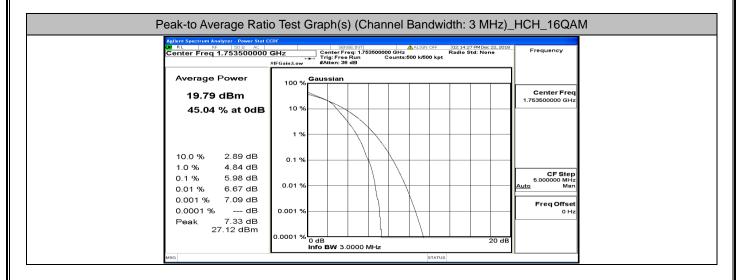
0 dB Info BW 3.0000 MHz



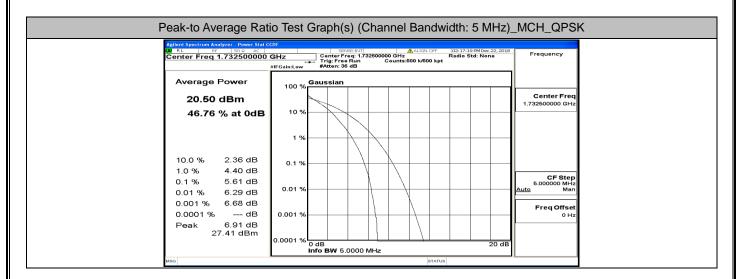


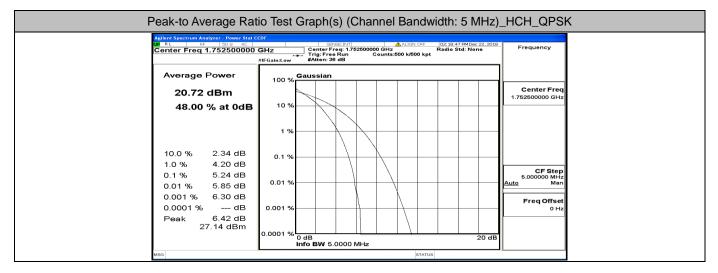


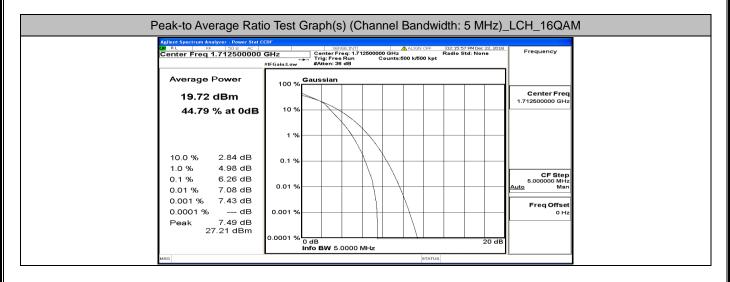


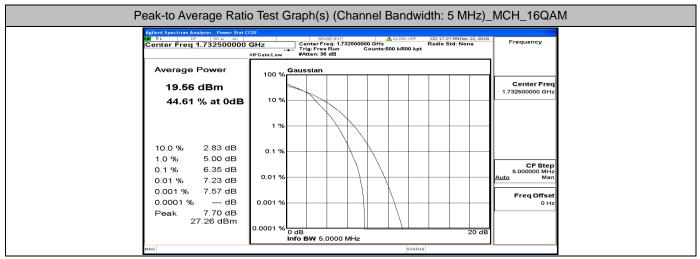


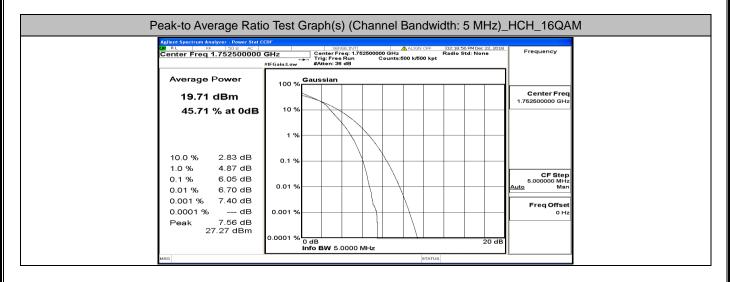
0 dB Info BW 5.0000 MHz

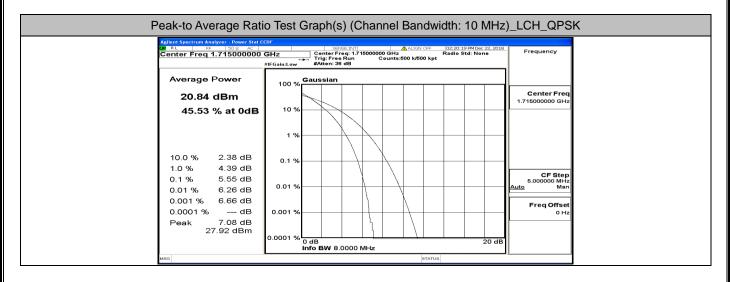


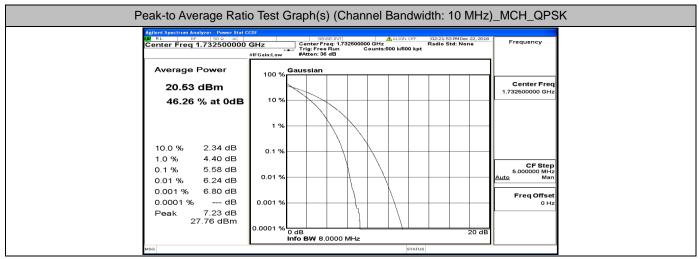


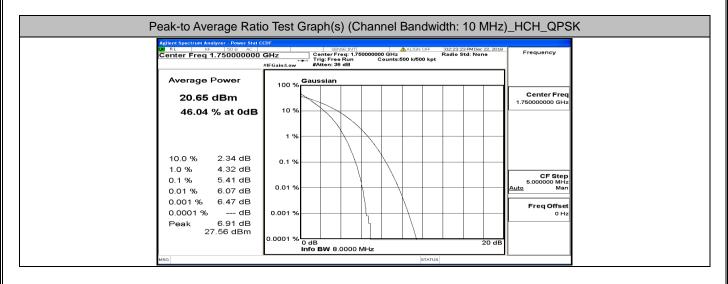


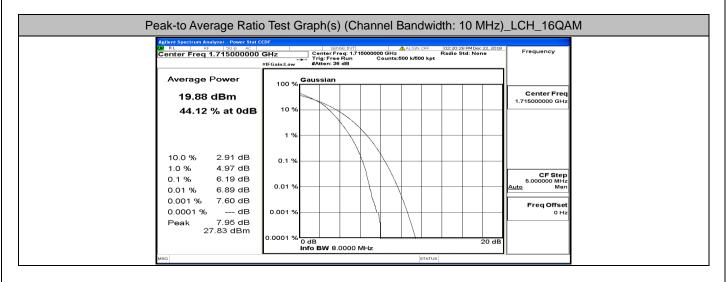


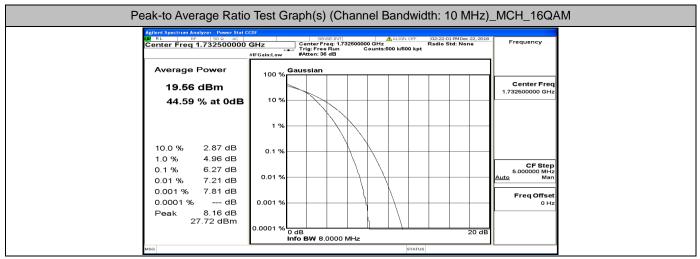


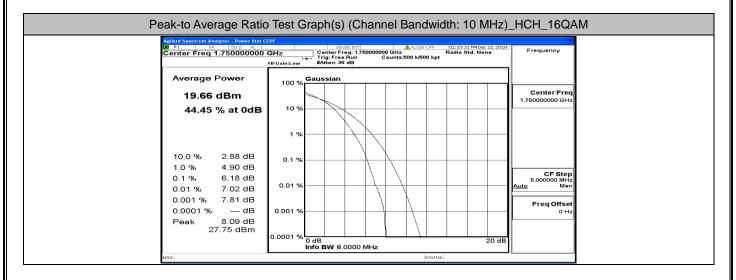


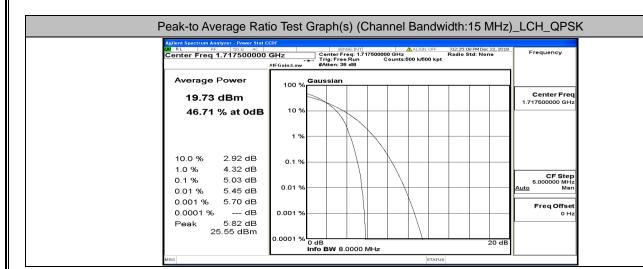


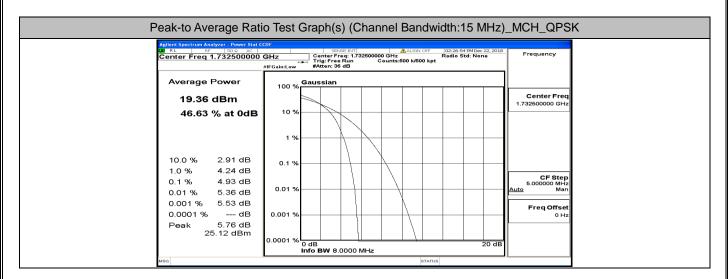


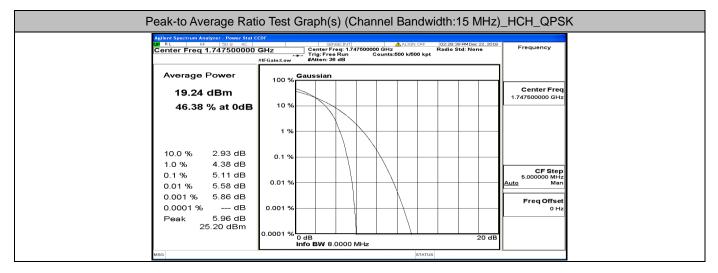


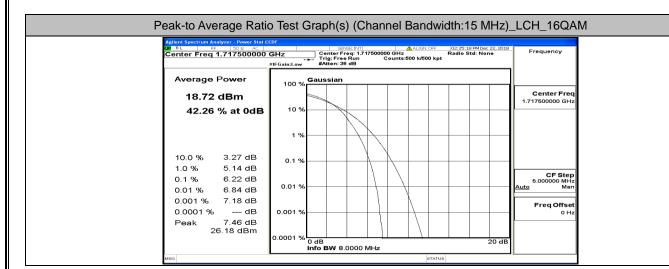


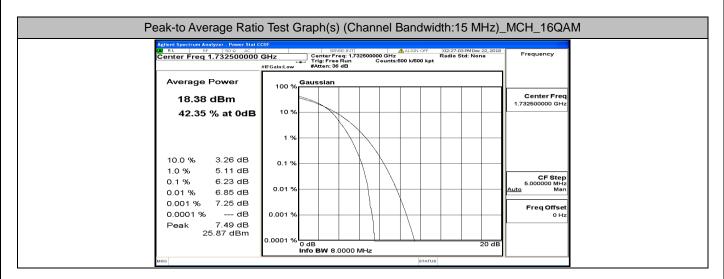


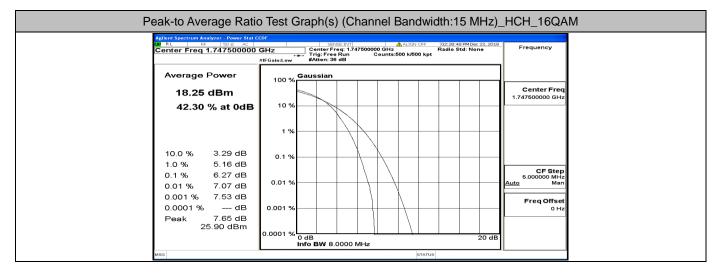


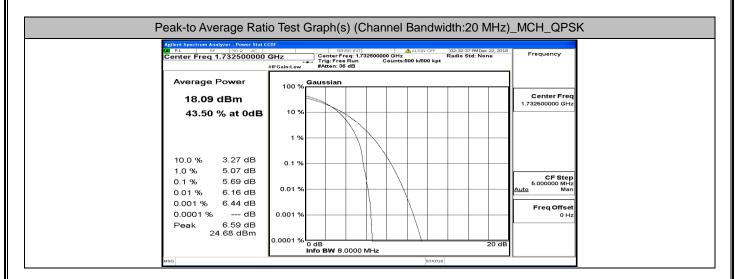


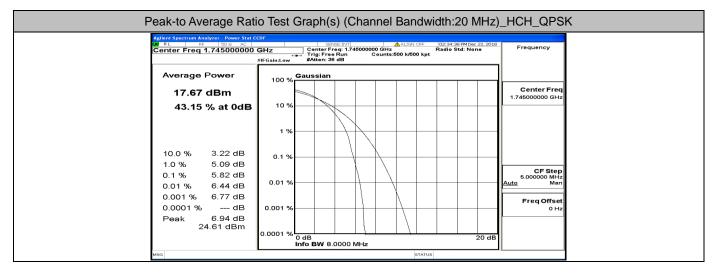


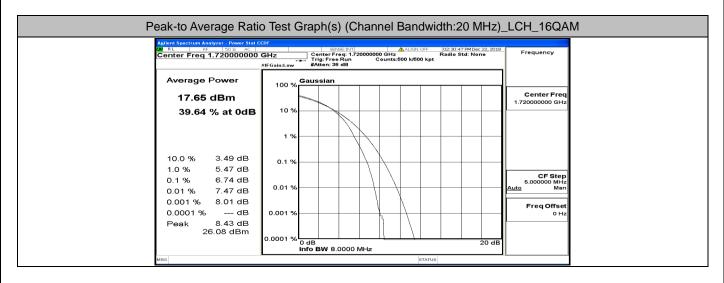


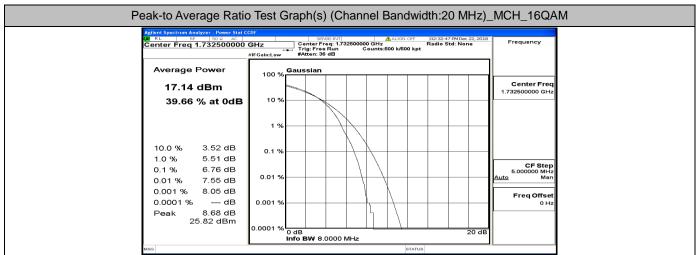


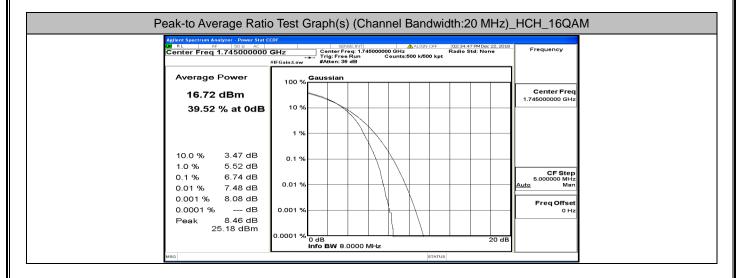












## D.3 26dB Bandwidth and Occupied Bandwidth

EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)					
Modulation	Ohamad	Occupied Bandwidth	26dB Bandwidth	Verdict	
iviodulation	Channel	(MHz)	(MHz)	verdict	
	LCH	1.0730	1.223	PASS	
QPSK	MCH	1.0725	1.227	PASS	
	HCH	1.0770	1.218	PASS	
16QAM	LCH	1.0797	1.236	PASS	
	MCH	1.0785	1.240	PASS	
	HCH	1.0750	1.220	PASS	

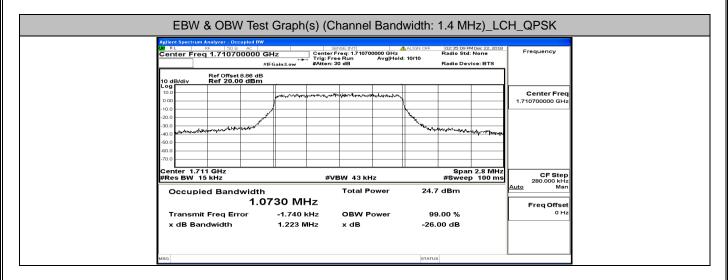
EBW & OBW Test Result (Channel Bandwidth: 3 MHz)					
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict	
Modulation	Channel	(MHz)	(MHz)	verdict	
	LCH	2.6833	2.826	PASS	
QPSK	MCH	2.6764	2.839	PASS	
	HCH	2.6795	2.845	PASS	
16QAM	LCH	2.6769	2.826	PASS	
	MCH	2.6788	2.850	PASS	
	HCH	2.6832	2.831	PASS	

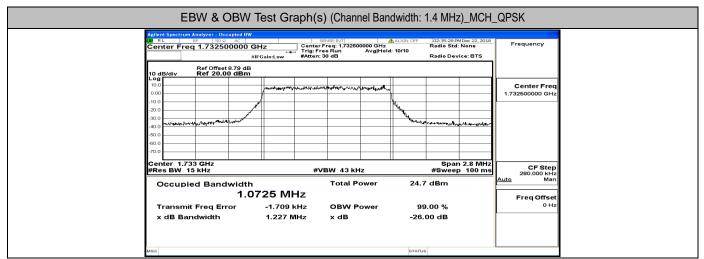
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)					
Modulation	01	Occupied Bandwidth	26dB Bandwidth	Verdict	
Modulation	Channel	(MHz)	(MHz)	verdict	
QPSK	LCH	4.4739	4.735	PASS	
	MCH	4.4688	4.698	PASS	
	HCH	4.4679	4.756	PASS	
16QAM	LCH	4.4664	4.730	PASS	
	MCH	4.4776	4.748	PASS	
	HCH	4.4745	4.747	PASS	

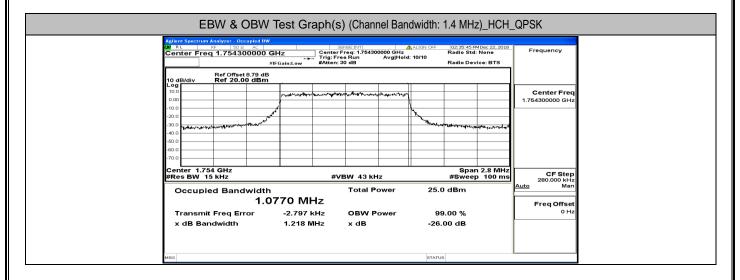
EBW & OBW Test Result (Channel Bandwidth: 10 MHz)					
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Vordict	
Modulation	Griannei	(MHz)	(MHz)	Verdict	
	LCH	8.9545	9.370	PASS	
QPSK	MCH	8.9412	9.392	PASS	
	HCH	8.9293	9.352	PASS	
16QAM	LCH	8.9453	9.342	PASS	
	MCH	8.9388	9.388	PASS	
	HCH	8.9299	9.401	PASS	

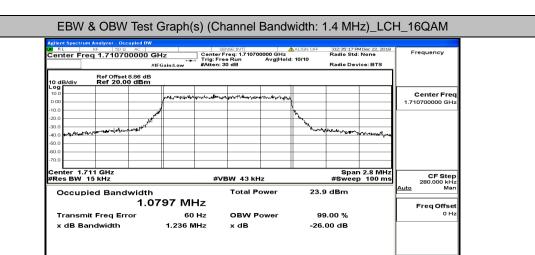
EBW & OBW Test Result (Channel Bandwidth: 15 MHz)					
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict	
Modulation	Griannei	(MHz)	(MHz)	verdict	
	LCH	13.383	13.91	PASS	
QPSK	MCH	13.395	13.97	PASS	
	HCH	13.393	13.92	PASS	
16QAM	LCH	13.381	13.92	PASS	
	MCH	13.394	13.95	PASS	
	HCH	13.411	13.95	PASS	

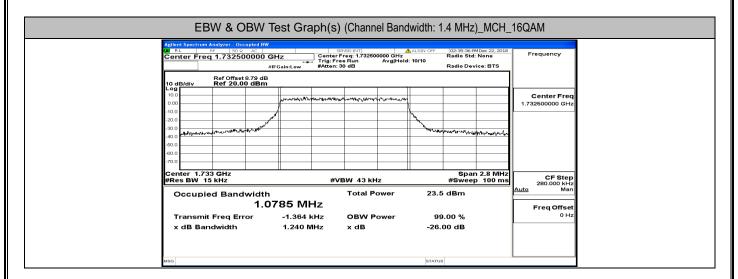
EBW & OBW Test Result (Channel Bandwidth: 20 MHz)					
Modulation	01	Occupied Bandwidth	26dB Bandwidth	Vordict	
Modulation	Channel	(MHz)	(MHz)	Verdict	
	LCH	17.790	18.56	PASS	
QPSK	MCH	17.844	18.56	PASS	
	HCH	17.891	18.54	PASS	
	LCH	17.811	18.51	PASS	
16QAM	MCH	17.844	18.58	PASS	
	HCH	17.885	18.54	PASS	

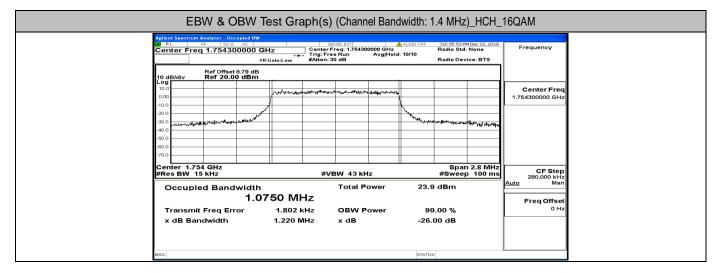


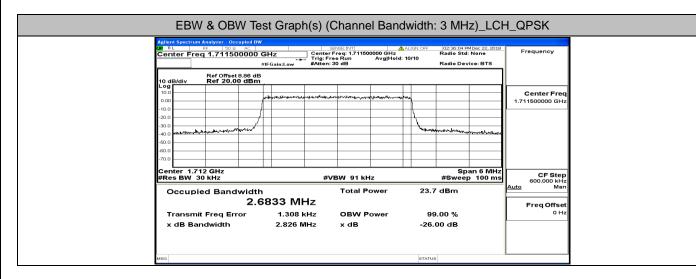


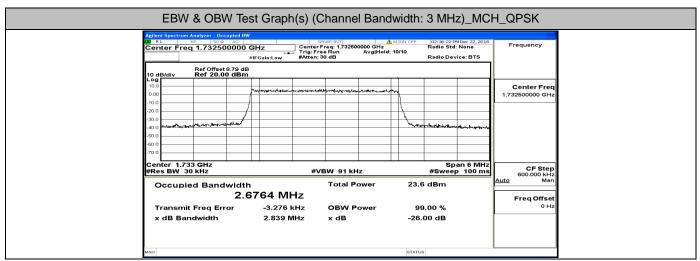


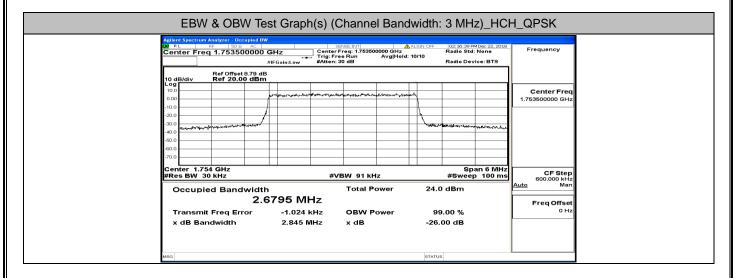


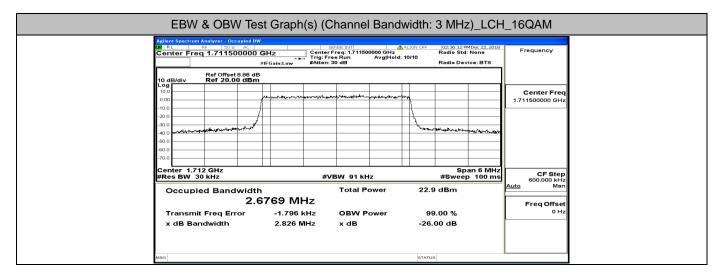


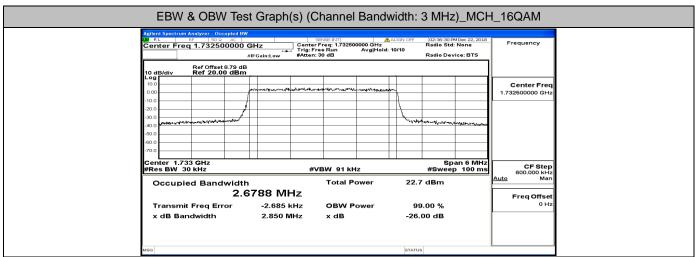


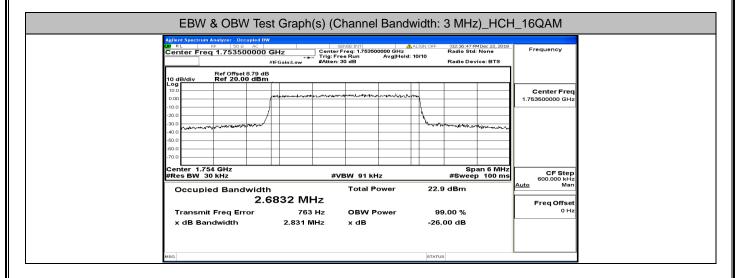


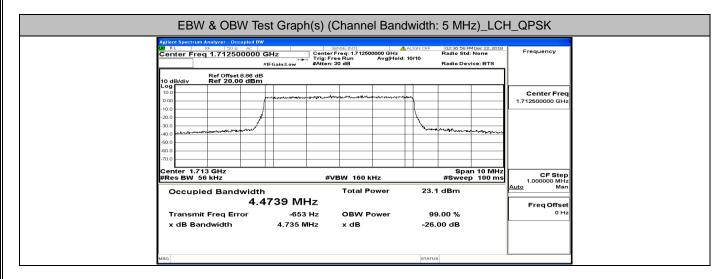


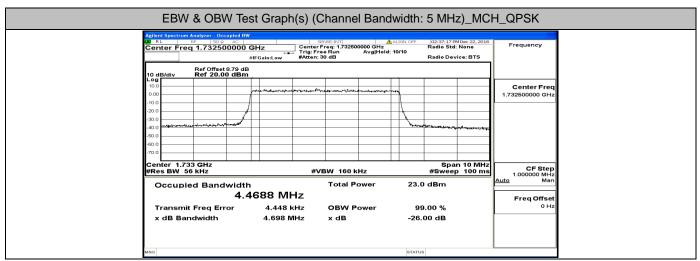


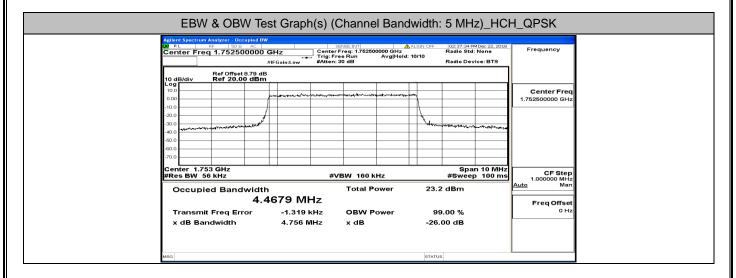


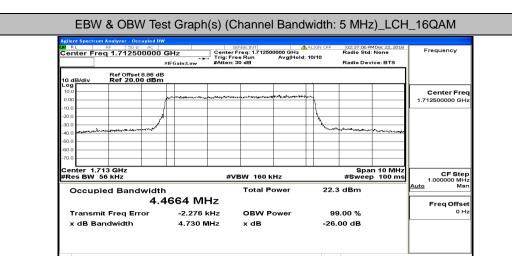


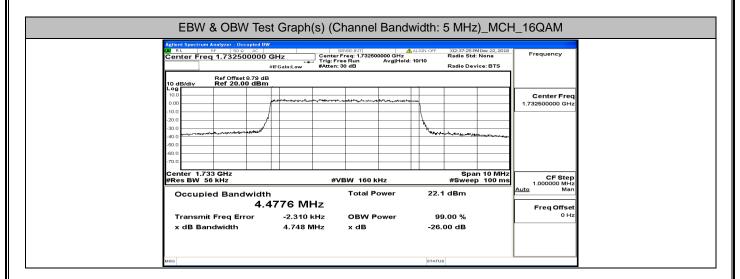


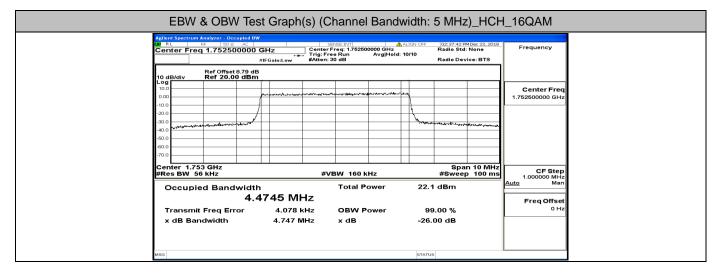


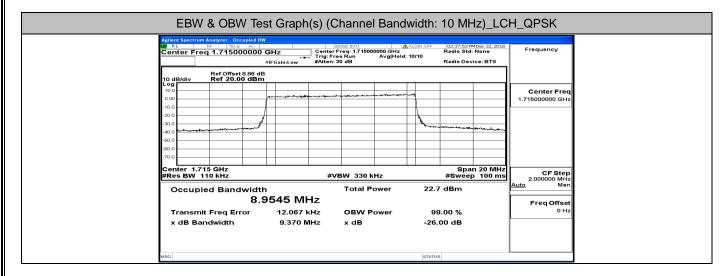


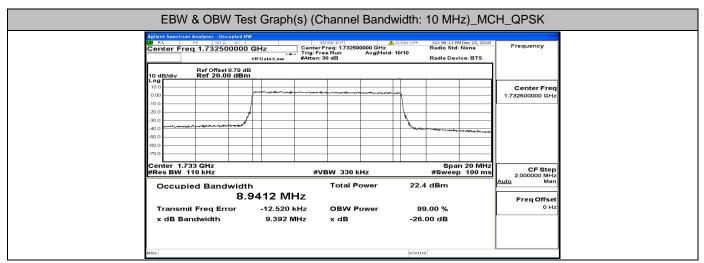


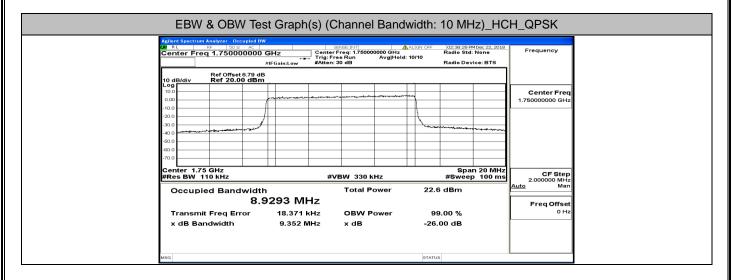


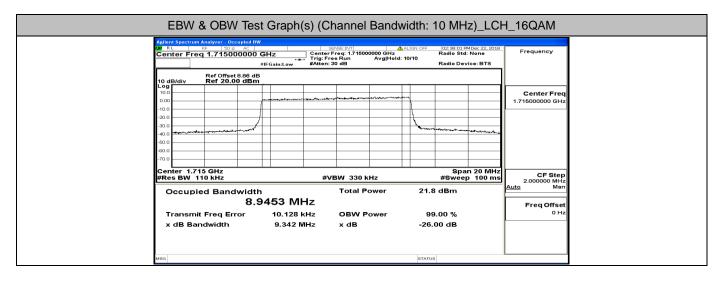


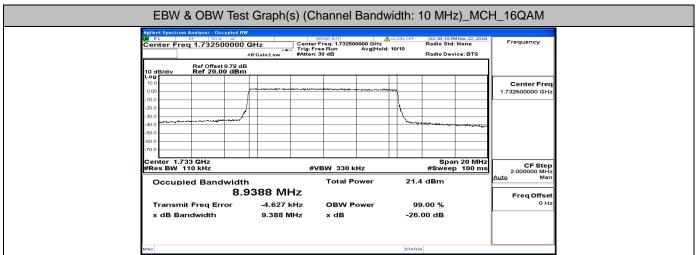


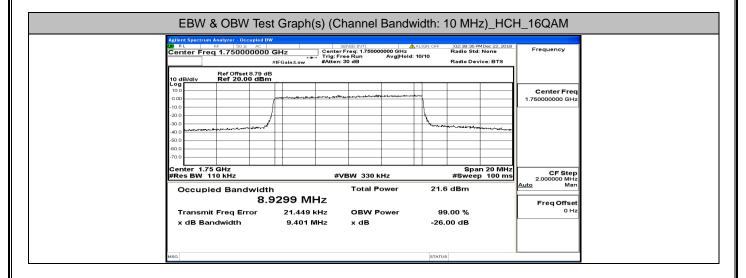


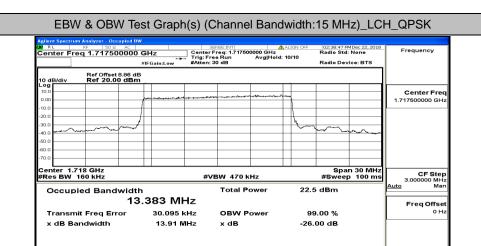


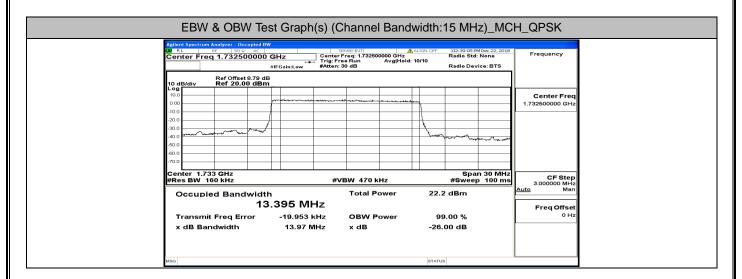


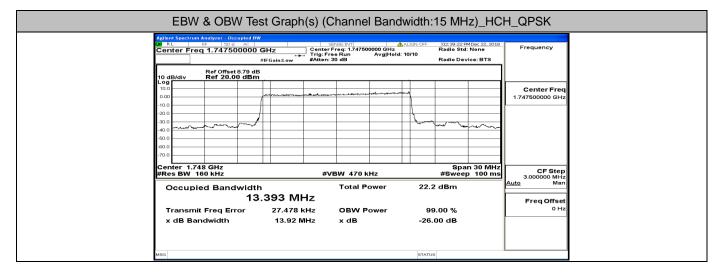


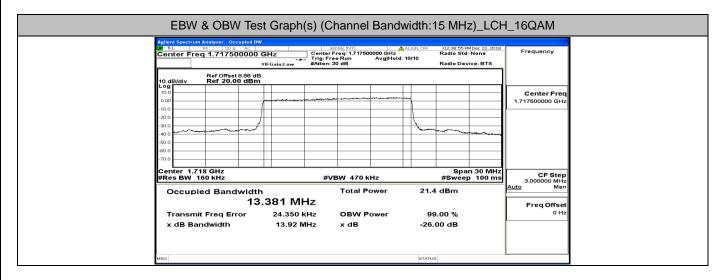


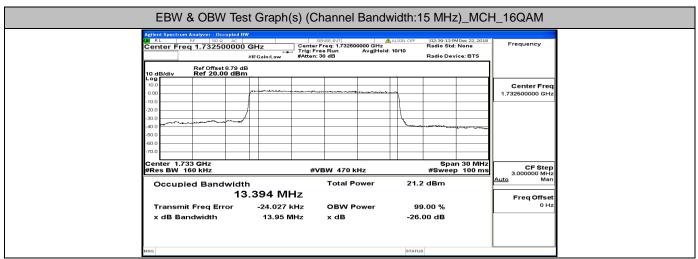


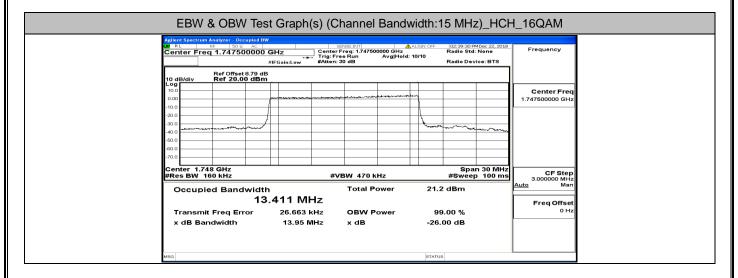


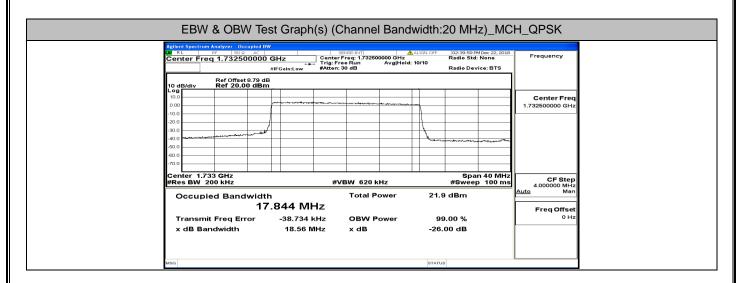


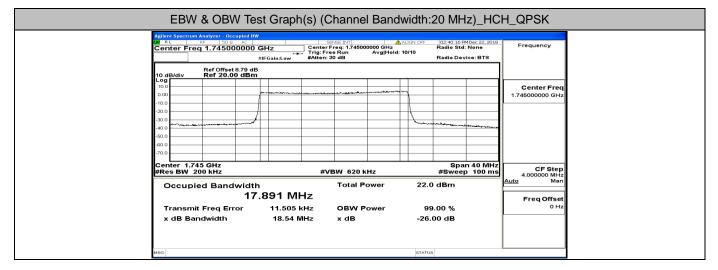


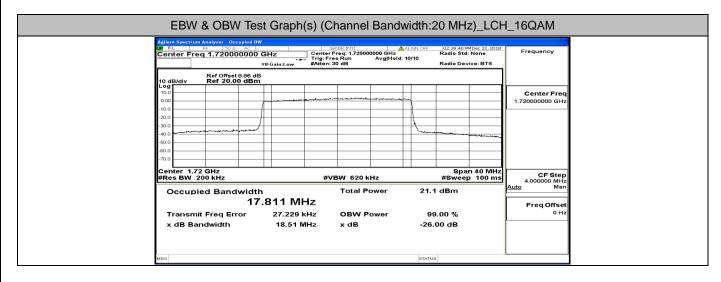


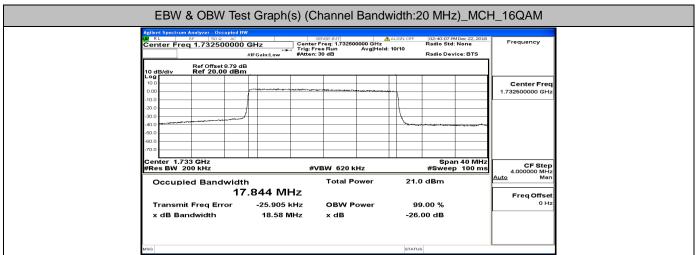


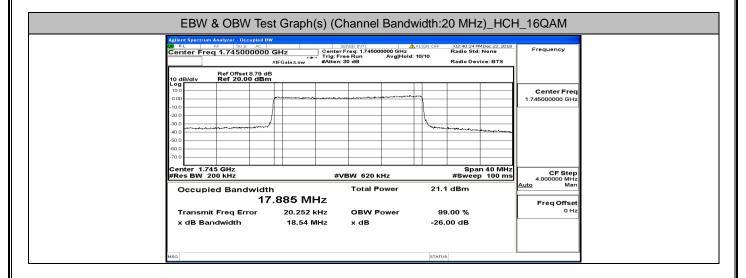




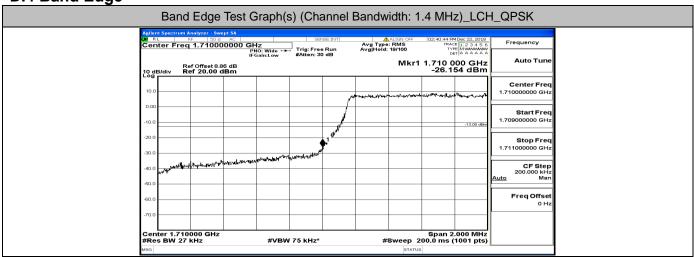


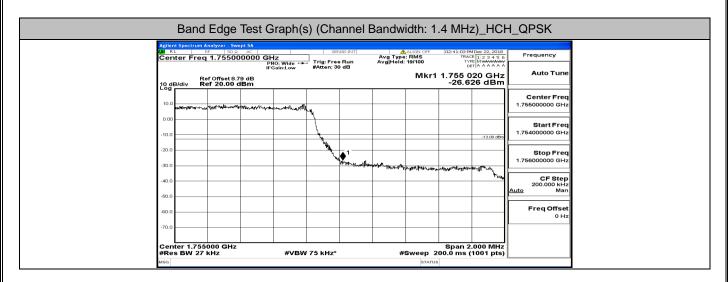


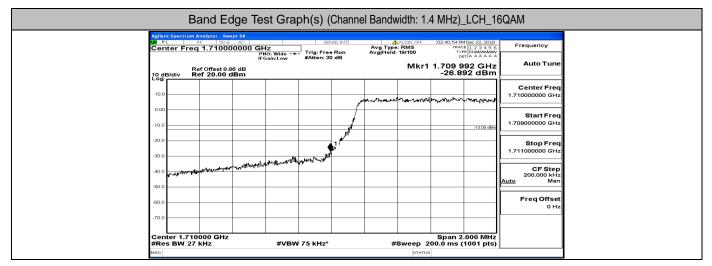


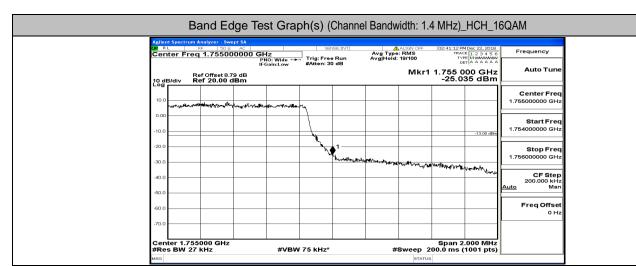


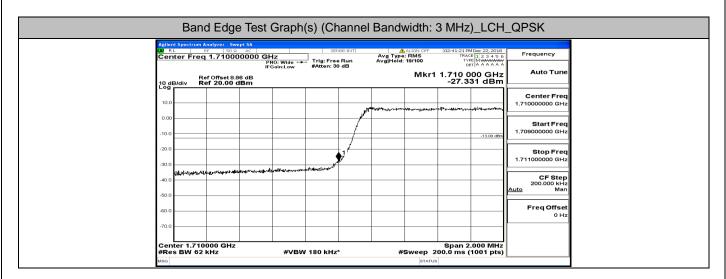
## **D.4 Band Edge**

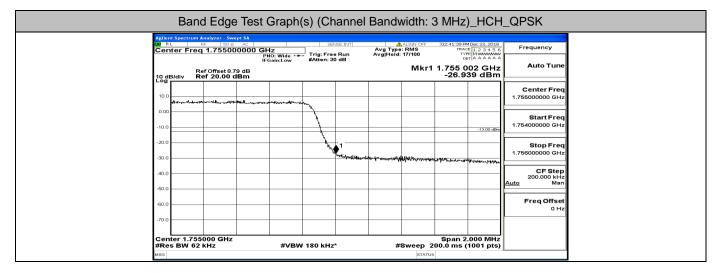


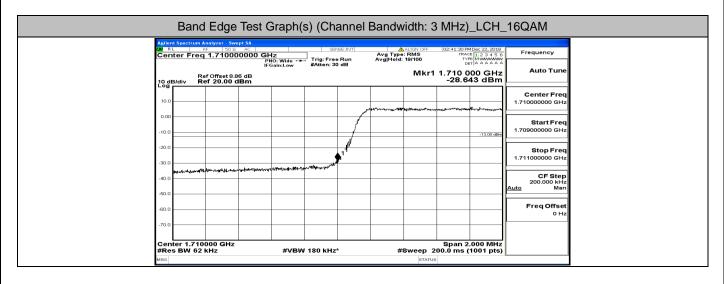


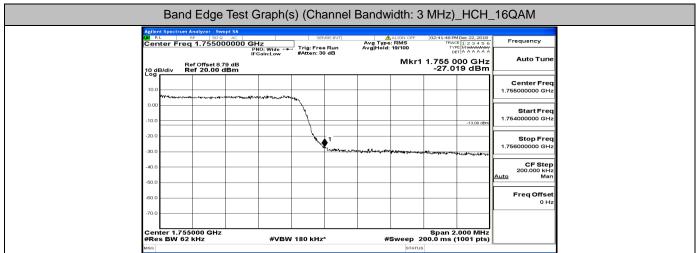


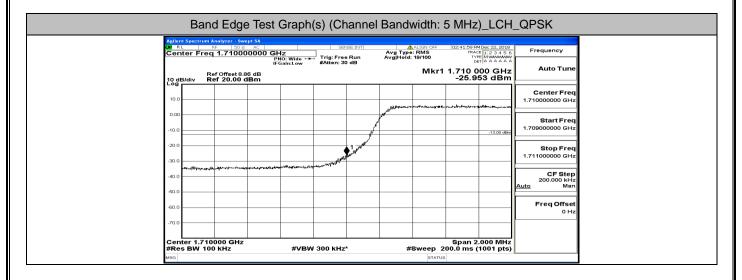


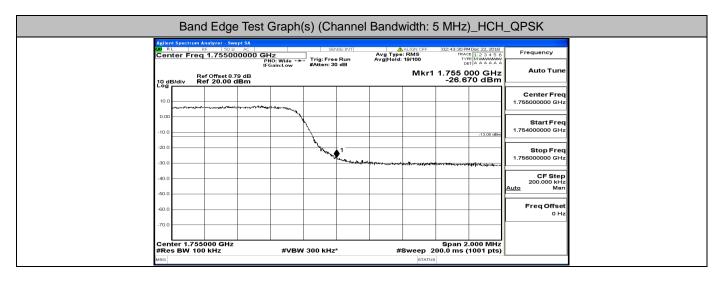


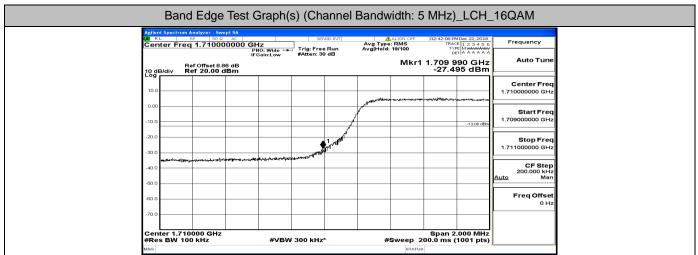


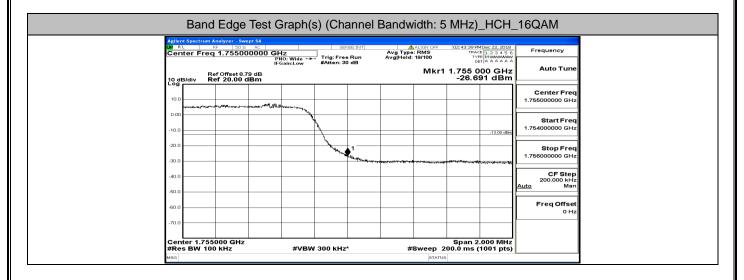


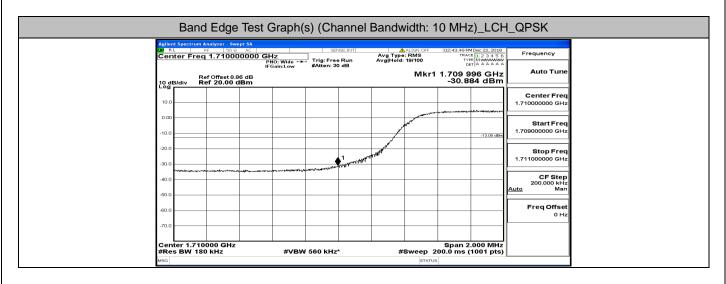


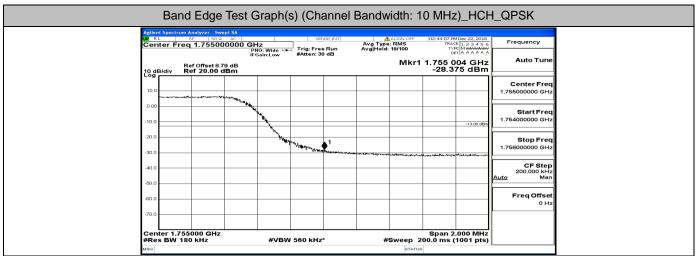


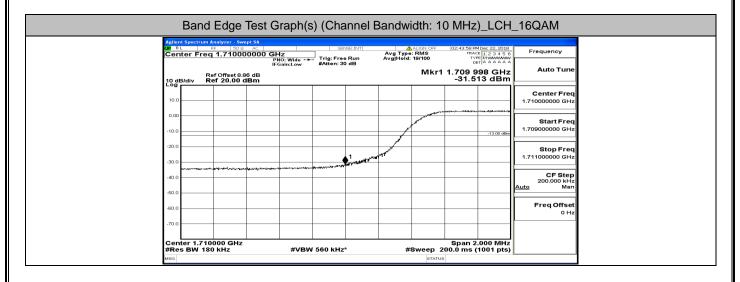


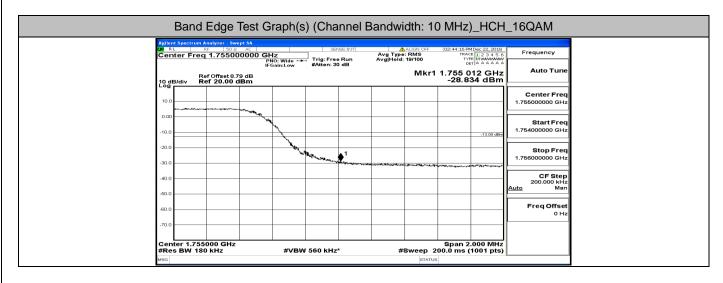


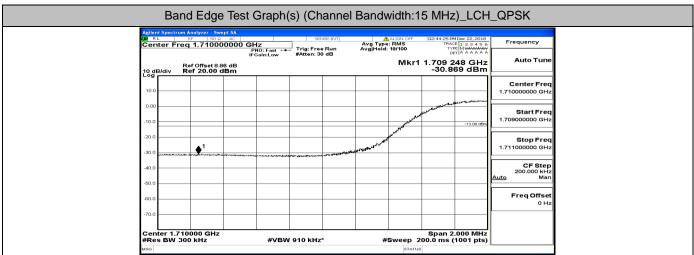


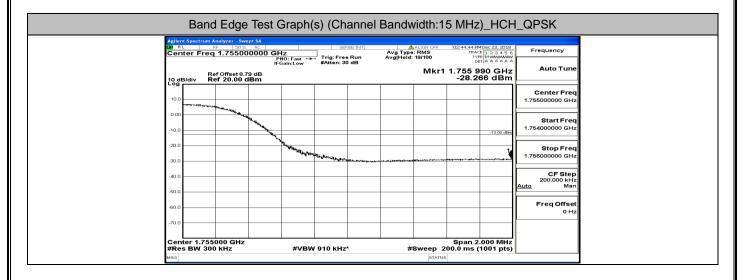


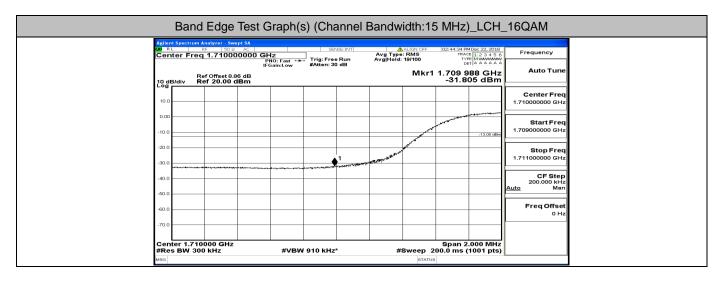


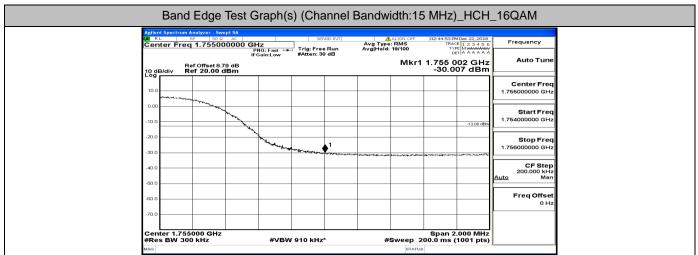


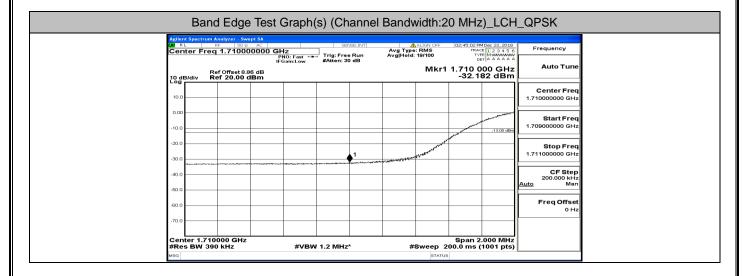


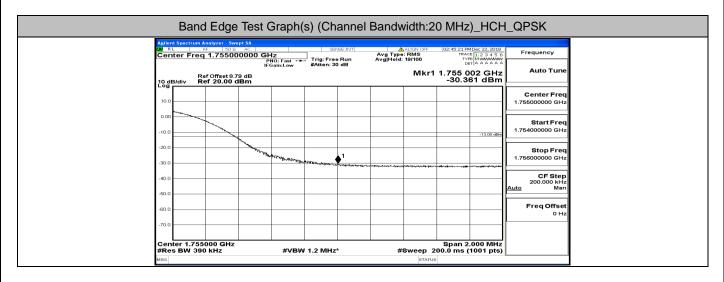


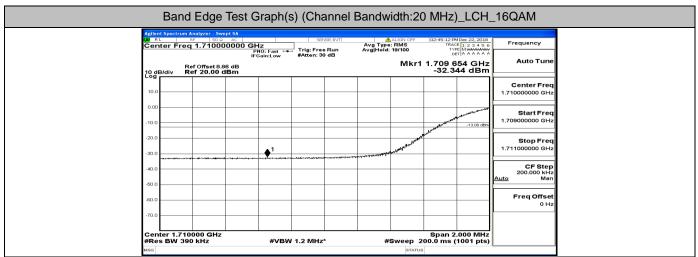


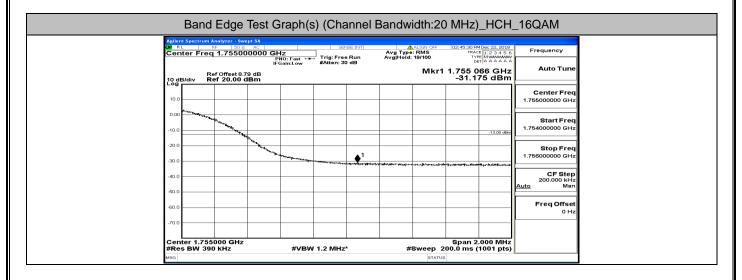












## **D.5 Conducted Spurious Emission**

