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

**Product Name: 4G dash Camera** Trade Mark: N/A

**Test Model: ES-D4** 

#### **Environmental Conditions**

Temperature:	23.5			
Relative Humidity:	53.1			
ATM Pressure:	100.0 kPa			
Test Engineer:	Mina.Xu			
Supervised by:	Jayden Zhuo			

#### **E.1 Conducted Output Power**

Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)								
Modulation	Channel	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Verdict		
Wodulation	Chaine	Size	Offset	QPSK	16QAM	Verdict		
		1	0	20.68	20.93	PASS		
		1	3	20.75	21.10	PASS		
		1	5	20.68	20.96	PASS		
	LCH	3	0	20.69	20.88	PASS		
		3	2	20.68	20.83	PASS		
		3	3	20.71	20.86	PASS		
		6	0	20.68	20.67	PASS		
		1	0	20.42	20.82	PASS		
		1	3	20.50	20.94	PASS		
QPSK /		1	5	20.41	20.81	PASS		
16QAM	MCH	3	0	20.43	20.45	PASS		
TOQAIVI		3	2	20.38	20.43	PASS		
		3	3	20.43	20.48	PASS		
		6	0	20.43	20.41	PASS		
		1	0	20.02	20.32	PASS		
		1	3	20.14	20.47	PASS		
		1	5	20.05	20.34	PASS		
	HCH	3	0	20.04	20.10	PASS		
		3	2	20.01	20.08	PASS		
		3	3	20.03	20.12	PASS		
		6	0	20.01	20.16	PASS		

Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)								
Modulation	Channel	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Vardiet		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	20.64	20.94	PASS		
		1	7	20.75	21.07	PASS		
		1	14	20.68	20.99	PASS		
	LCH	8	0	20.68	20.76	PASS		
		8	4	20.69	20.78	PASS		
		8	7	20.69	20.76	PASS		
		15	0	20.69	20.69	PASS		
		1	0	20.33	20.63	PASS		
	мсн	1	7	20.47	20.77	PASS		
QPSK /		1	14	20.37	20.67	PASS		
16QAM		8	0	20.40	20.47	PASS		
TOQAW		8	4	20.41	20.49	PASS		
		8	7	20.43	20.49	PASS		
		15	0	20.40	20.39	PASS		
		1	0	19.97	20.38	PASS		
		1	7	20.09	20.50	PASS		
		1	14	19.98	20.41	PASS		
	HCH	8	0	19.97	19.99	PASS		
		8	4	19.97	19.96	PASS		
		8	7	19.98	19.99	PASS		
		15	0	19.98	20.01	PASS		

Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)								
Modulation	Channel	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Vardiet		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	21.38	21.84	PASS		
		1	12	21.55	21.95	PASS		
		1	24	21.51	21.92	PASS		
	LCH	12	0	21.45	21.62	PASS		
		12	6	21.47	21.65	PASS		
		12	13	21.51	21.69	PASS		
		25	0	21.45	21.51	PASS		
		1	0	21.09	21.52	PASS		
	MCH	1	12	21.23	21.67	PASS		
ODCK /		1	24	21.19	21.60	PASS		
QPSK / 16QAM		12	0	21.16	21.31	PASS		
IOQAW		12	6	21.17	21.33	PASS		
		12	13	21.17	21.34	PASS		
		25	0	21.12	21.17	PASS		
		1	0	20.77	20.92	PASS		
		1	12	20.81	20.93	PASS		
		1	24	20.77	20.87	PASS		
	HCH	12	0	20.81	20.87	PASS		
		12	6	20.78	20.83	PASS		
		12	13	20.78	20.84	PASS		
		25	0	20.76	20.82	PASS		

Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)								
Madulation	Channal	RB Configuration		Average Power [dBm]	Average Power [dBm]	Vardiet		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	21.48	21.80	PASS		
		1	24	21.57	21.88	PASS		
		1	49	21.57	21.91	PASS		
	LCH	25	0	21.52	21.55	PASS		
		25	12	21.53	21.56	PASS		
		25	25	21.54	21.57	PASS		
		50	0	21.53	21.55	PASS		
		1	0	21.17	21.47	PASS		
	МСН	1	24	21.20	21.50	PASS		
QPSK /		1	49	21.27	21.59	PASS		
16QAM		25	0	21.13	21.17	PASS		
TOQAW		25	12	21.17	21.20	PASS		
		25	25	21.22	21.26	PASS		
		50	0	21.17	21.20	PASS		
		1	0	21.07	21.55	PASS		
		1	24	20.83	21.29	PASS		
		1	49	20.79	21.24	PASS		
	HCH	25	0	20.96	21.04	PASS		
		25	12	20.82	20.88	PASS		
		25	25	20.79	20.85	PASS		
		50	0	20.86	20.94	PASS		

Conducted Output Power Test Result (Channel Bandwidth: 15 MHz)								
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/andiat		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	21.50	21.81	PASS		
		1	37	21.69	21.99	PASS		
		1	74	21.39	21.71	PASS		
	LCH	37	0	21.51	21.52	PASS		
		37	18	21.55	21.58	PASS		
		37	38	21.51	21.52	PASS		
		75	0	21.52	21.54	PASS		
		1	0	21.24	21.53	PASS		
	мсн	1	37	21.31	21.60	PASS		
QPSK /		1	74	21.34	21.67	PASS		
16QAM		37	0	21.19	21.19	PASS		
TOQAIVI		37	18	21.20	21.21	PASS		
		37	38	21.27	21.28	PASS		
		75	0	21.22	21.23	PASS		
		1	0	21.27	21.65	PASS		
		1	37	21.05	21.42	PASS		
		1	74	20.79	21.14	PASS		
	HCH	37	0	21.16	21.21	PASS		
		37	18	21.01	21.06	PASS		
		37	38	20.82	20.87	PASS		
		75	0	20.99	21.02	PASS		

Conducted Output Power Test Result (Channel Bandwidth: 20 MHz)								
Madulation	Channal	RB Configuration		Average Power [dBm]	Average Power [dBm]	\/a ==li =4		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	21.65	21.83	PASS		
		1	49	21.71	21.89	PASS		
		1	99	21.44	21.60	PASS		
	LCH	50	0	21.59	21.59	PASS		
		50	25	21.53	21.54	PASS		
		50	50	21.43	21.46	PASS		
		100	0	21.51	21.52	PASS		
		1	0	21.45	21.65	PASS		
	MCH	1	49	21.36	21.53	PASS		
ODCK /		1	99	21.48	21.66	PASS		
QPSK / 16QAM		50	0	21.23	21.24	PASS		
TOQAW		50	25	21.24	21.24	PASS		
		50	50	21.30	21.32	PASS		
		100	0	21.26	21.28	PASS		
		1	0	21.37	21.77	PASS		
		1	49	21.24	21.67	PASS		
		1	99	20.91	21.32	PASS		
	HCH	50	0	21.32	21.40	PASS		
		50	25	21.16	21.24	PASS		
		50	50	20.96	21.03	PASS		
		100	0	21.13	21.16	PASS		

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

	Peak-to Average Ratio Test Result (Channel Bandwidth: 1.4 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict				
Modulation	Griannei	[dB]	[dB]	verdict				
	LCH	5.91	<13	PASS				
QPSK	MCH	5.75	<13	PASS				
	HCH	5.84	<13	PASS				
	LCH	6.66	<13	PASS				
16QAM	MCH	6.45	<13	PASS				
	HCH	6.42	<13	PASS				

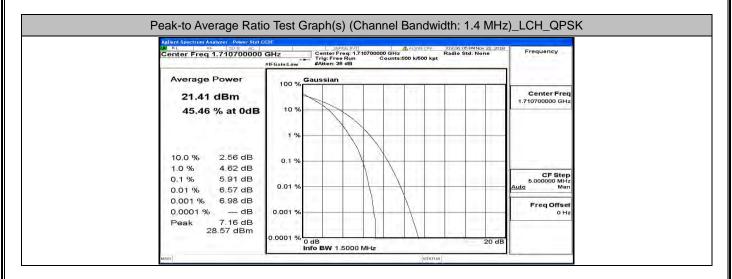
Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict			
Modulation	Channel	[dB]	[dB]	verdict			
	LCH	5.88	<13	PASS			
QPSK	MCH	5.85	<13	PASS			
	HCH	5.99	<13	PASS			
	LCH	6.69	<13	PASS			
16QAM	MCH	6.53	<13	PASS			
	HCH	6.56	<13	PASS			

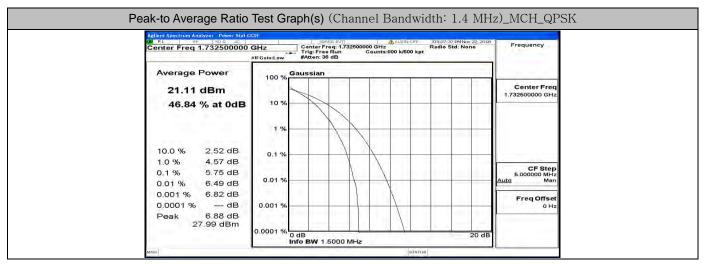
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict			
Modulation	Channel	[dB]	[dB]	verdict			
	LCH	5.98	<13	PASS			
QPSK	MCH	5.88	<13	PASS			
	HCH	6.03	<13	PASS			
	LCH	6.59	<13	PASS			
16QAM	MCH	6.48	<13	PASS			
	HCH	6.6	<13	PASS			

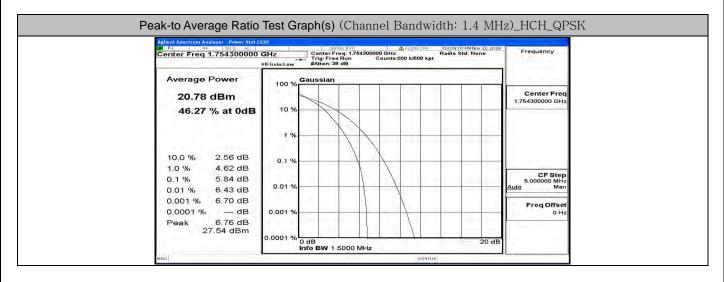
Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict			
iviodulation	Griannei	[dB]	[dB]	verdict			
	LCH	5.83	<13	PASS			
QPSK	MCH	5.85	<13	PASS			
	HCH	5.93	<13	PASS			
	LCH	6.46	<13	PASS			
16QAM	MCH	6.41	<13	PASS			
	HCH	6.53	<13	PASS			

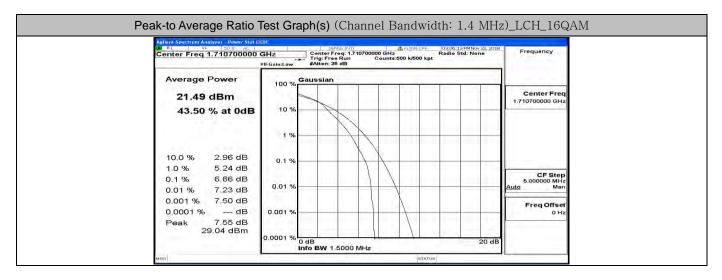
Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict			
IVIOGUIATION	Griannei	[dB]	[dB]	verdict			
	LCH	5.02	<13	PASS			
QPSK	MCH	5.05	<13	PASS			
	HCH	5.06	<13	PASS			
16QAM	LCH	6.33	<13	PASS			
	MCH	6.32	<13	PASS			
	HCH	6.36	<13	PASS			

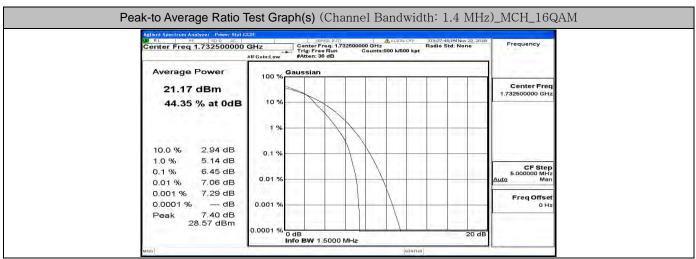
Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)					
Mandada Gara	Channel	Peak-to-Average Ratio	Limit	Verdict	
Modulation		[dB]	[dB]	verdict	
QPSK	LCH	5.7	<13	PASS	
	MCH	5.72	<13	PASS	
	HCH	5.74	<13	PASS	
16QAM	LCH	6.77	<13	PASS	
	MCH	6.76	<13	PASS	
	HCH	6.7	<13	PASS	

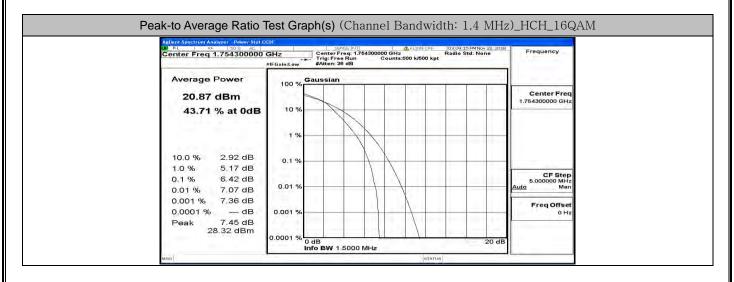


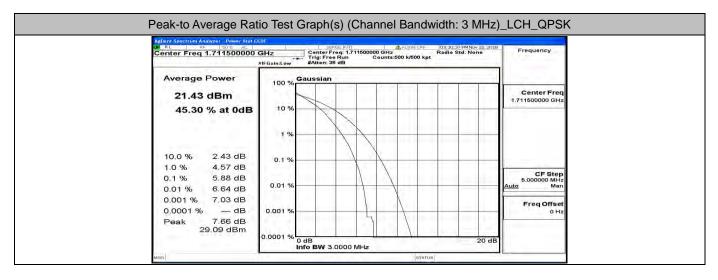


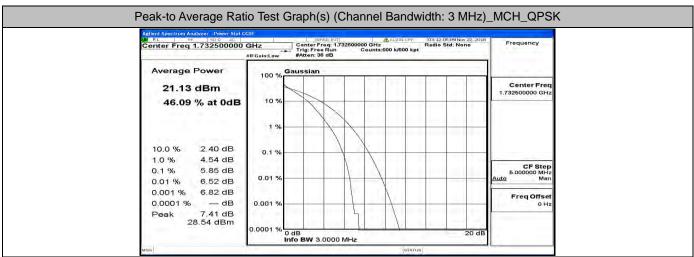


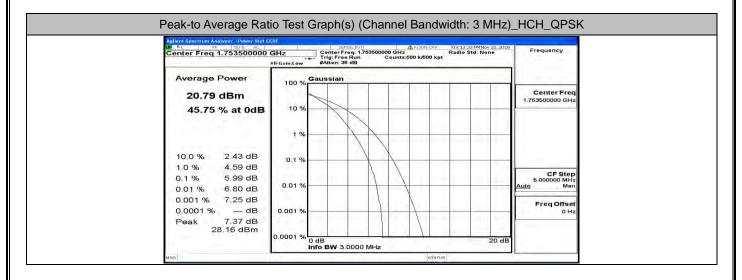


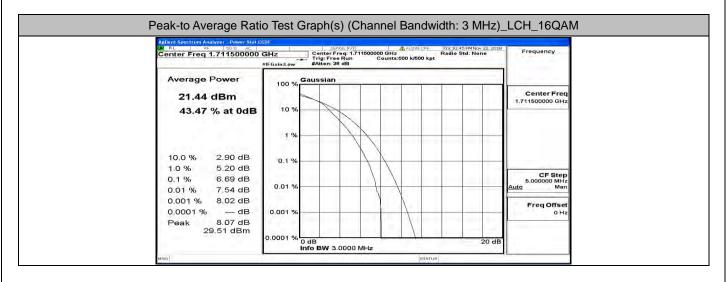


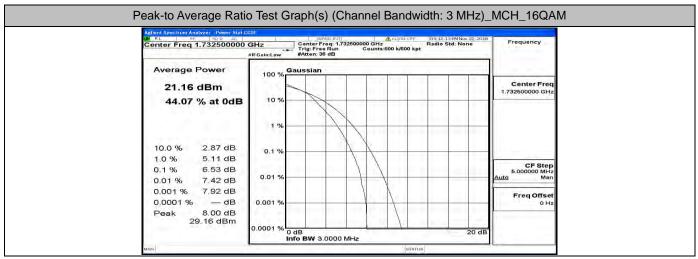


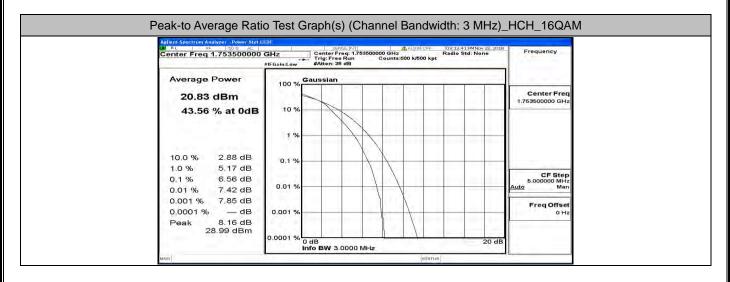


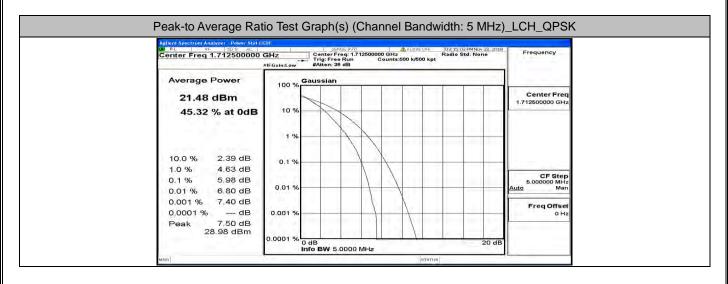


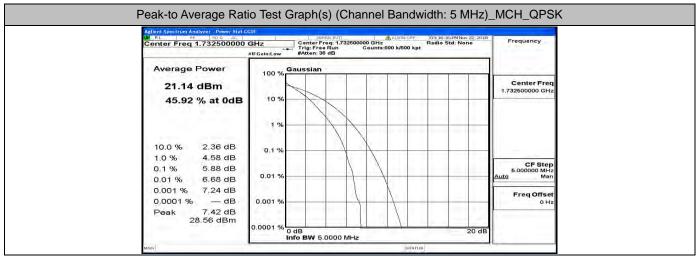


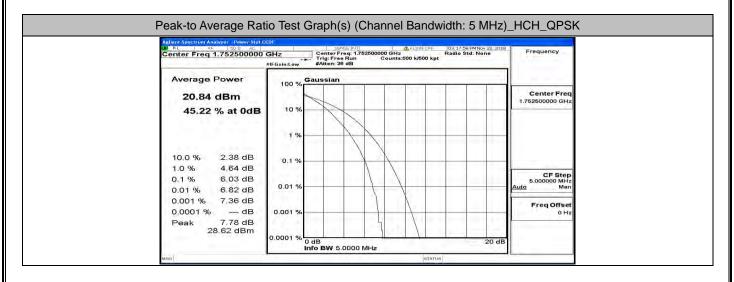


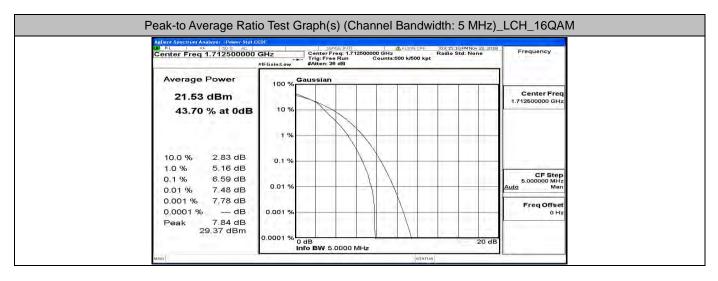


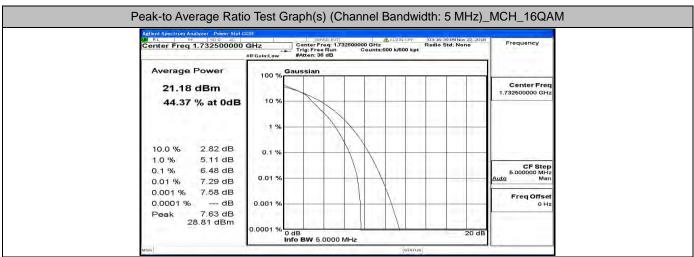


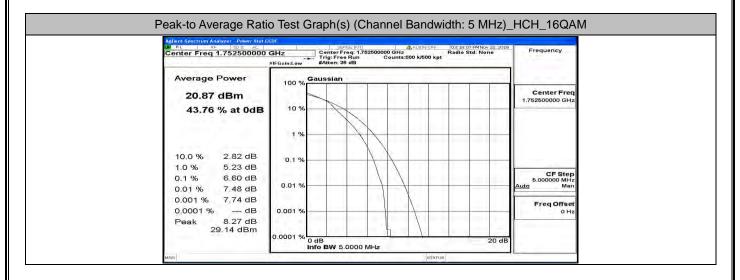


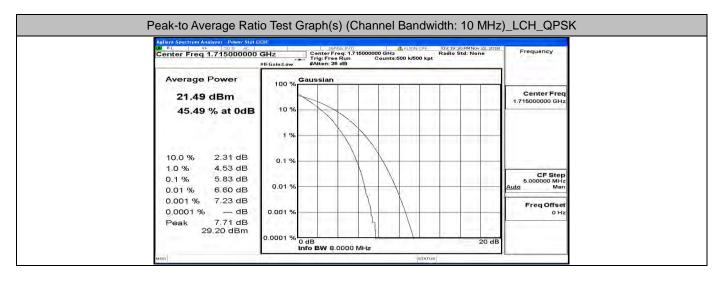


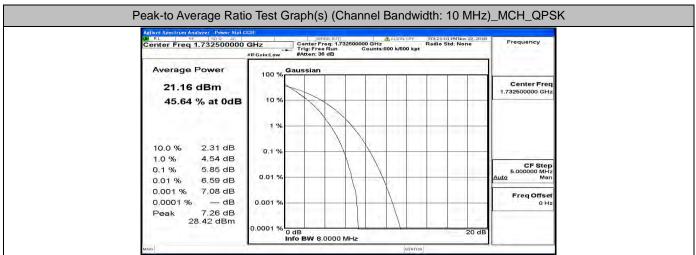


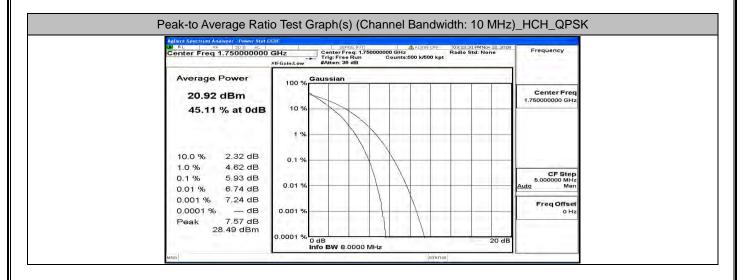


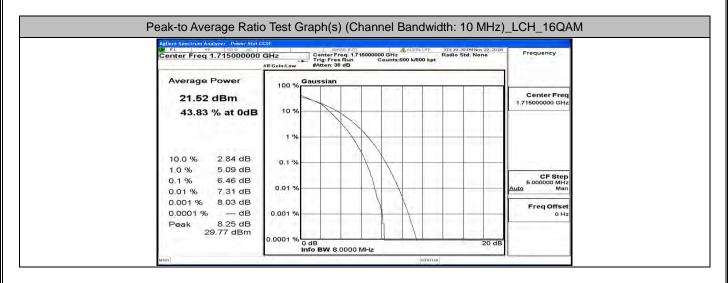


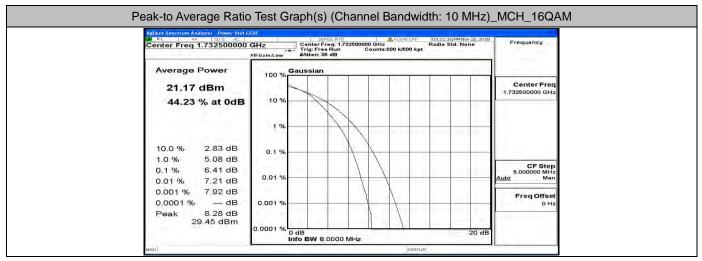


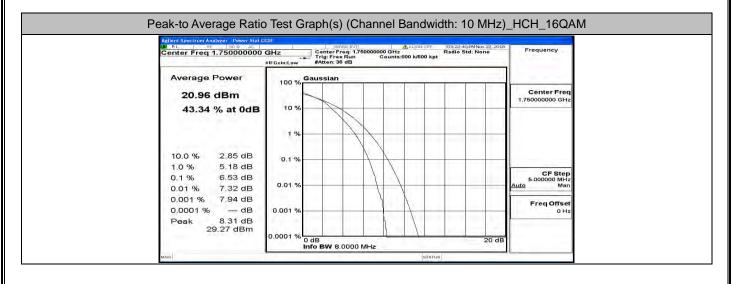


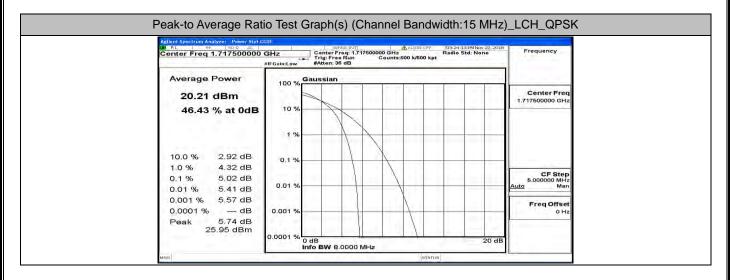


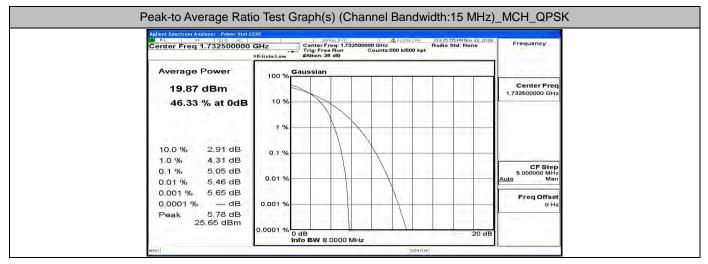


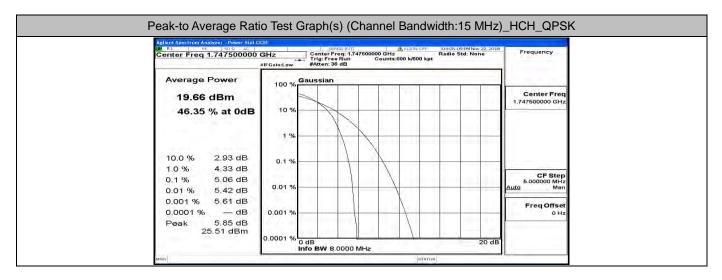


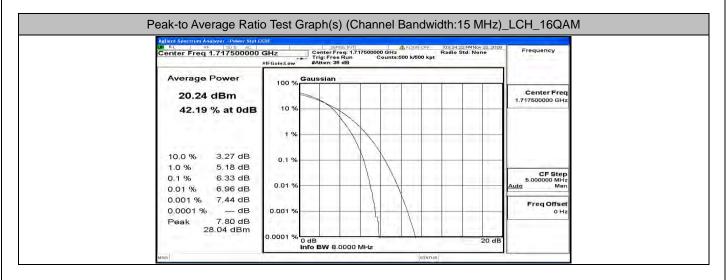


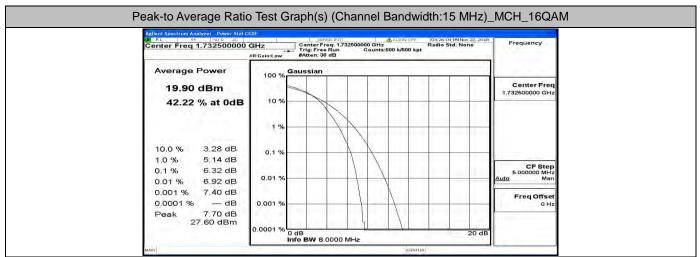


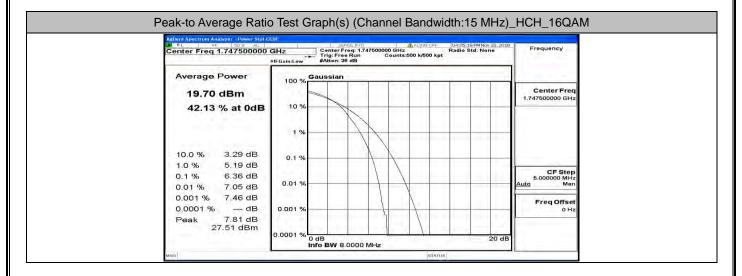


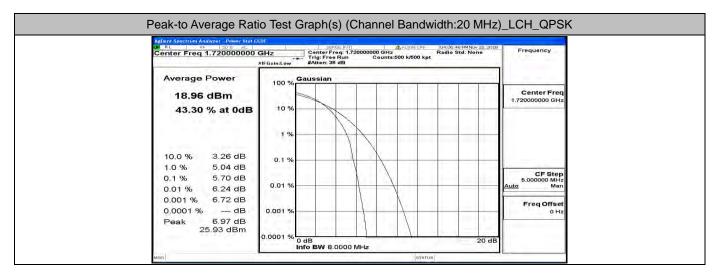


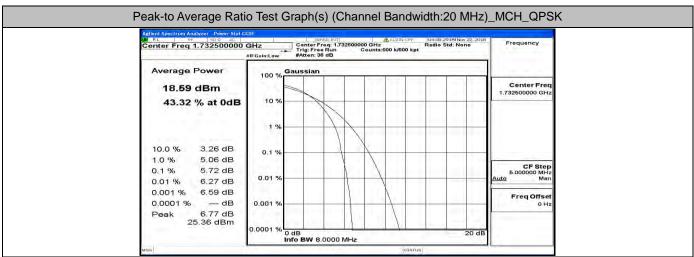


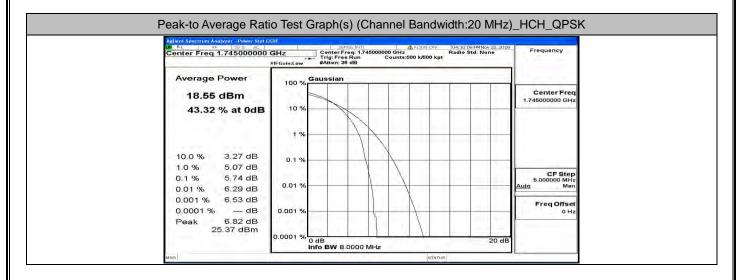


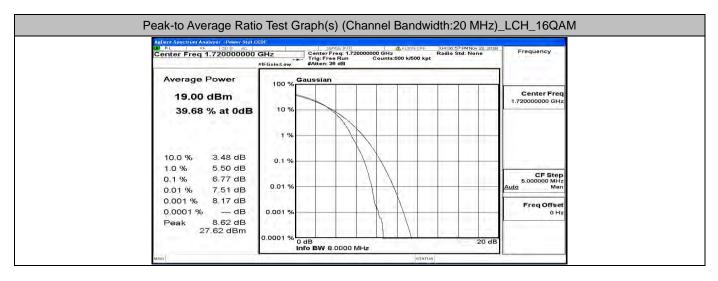


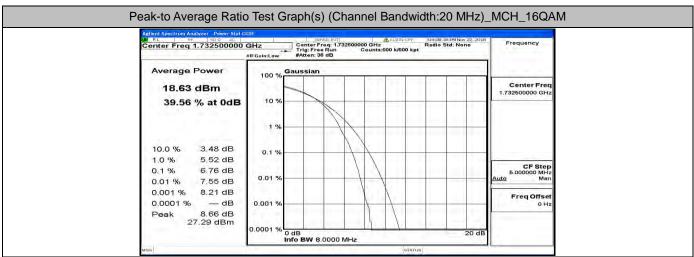


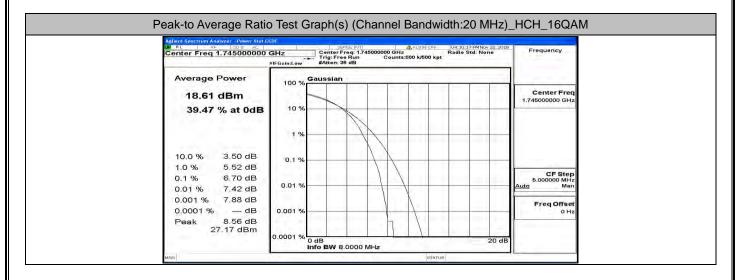












## E.3 26dB Bandwidth and Occupied Bandwidth

EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
IVIOGUIATION		(MHz)	(MHz)	
QPSK	LCH	1.0784	1.211	PASS
	MCH	1.0769	1.211	PASS
	HCH	1.0774	1.209	PASS
16QAM	LCH	1.0787	1.226	PASS
	MCH	1.0790	1.211	PASS
	HCH	1.0768	1.212	PASS

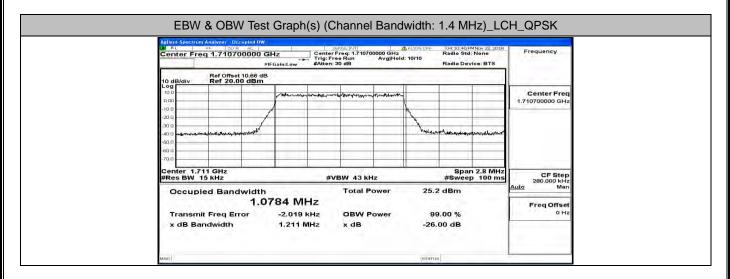
EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	2.6857	2.871	PASS
	MCH	2.6811	2.875	PASS
	HCH	2.6828	2.872	PASS
16QAM	LCH	2.6829	2.871	PASS
	MCH	2.6852	2.877	PASS
	HCH	2.6884	2.863	PASS

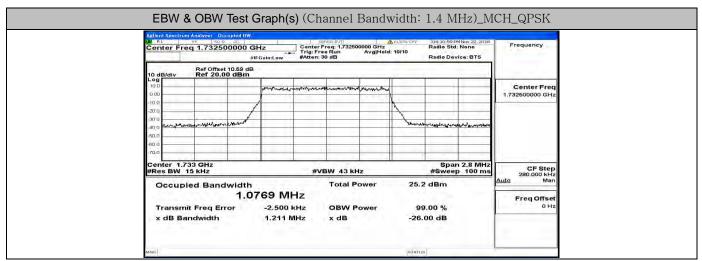
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
		(MHz)	(MHz)	
QPSK	LCH	4.4880	4.823	PASS
	MCH	4.4810	4.787	PASS
	HCH	4.4815	4.825	PASS
16QAM	LCH	4.4774	4.847	PASS
	MCH	4.4828	4.838	PASS
	HCH	4.4880	4.816	PASS

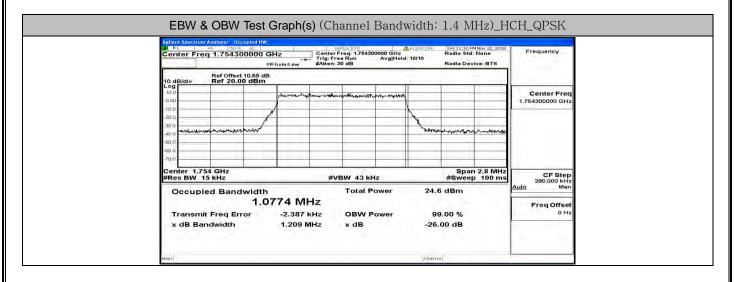
EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	8.9381	9.475	PASS
	MCH	8.9478	9.492	PASS
	HCH	8.9301	9.474	PASS
16QAM	LCH	8.9238	9.438	PASS
	MCH	8.9376	9.428	PASS
	HCH	8.9468	9.441	PASS

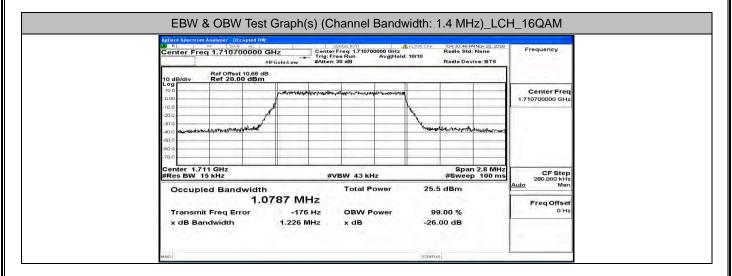
EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	13.390	14.06	PASS
	MCH	13.412	14.08	PASS
	HCH	13.419	14.02	PASS
16QAM	LCH	13.393	14.06	PASS
	MCH	13.415	14.04	PASS
	HCH	13.400	14.11	PASS

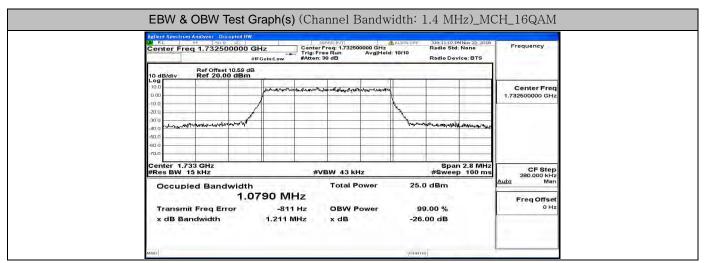
EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
		(MHz)	(MHz)	
QPSK	LCH	17.853	18.64	PASS
	MCH	17.880	18.64	PASS
	HCH	17.867	18.63	PASS
16QAM	LCH	17.849	18.62	PASS
	MCH	17.895	18.65	PASS
	HCH	17.853	18.63	PASS

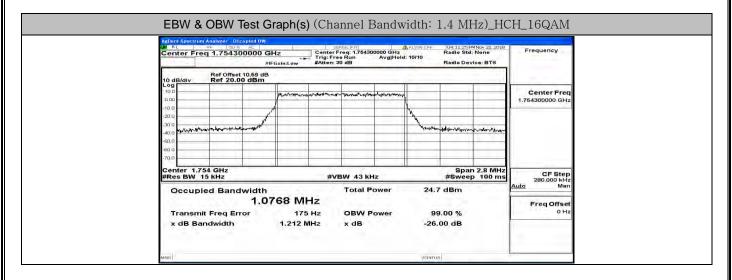


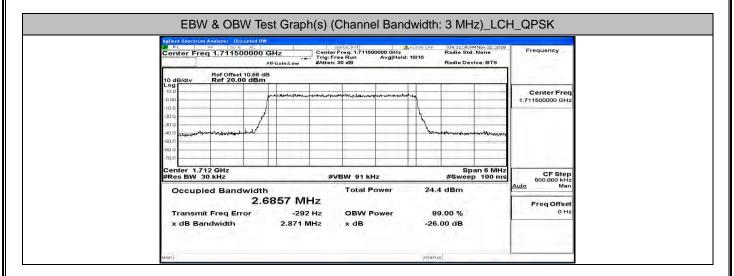


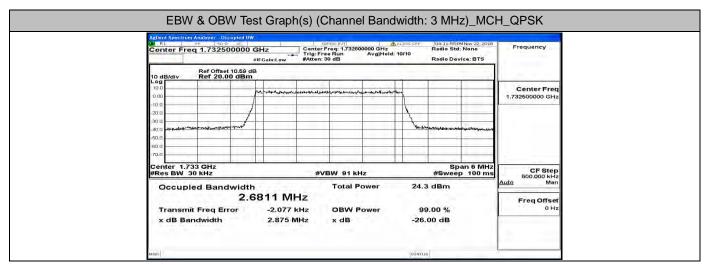


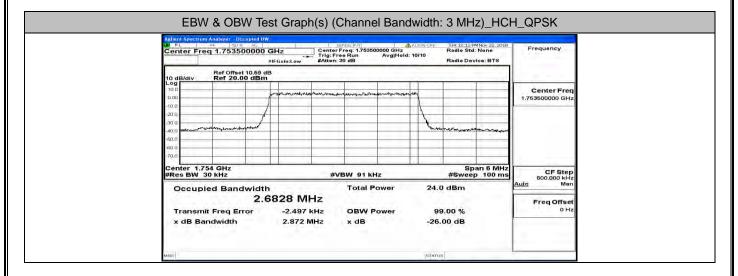


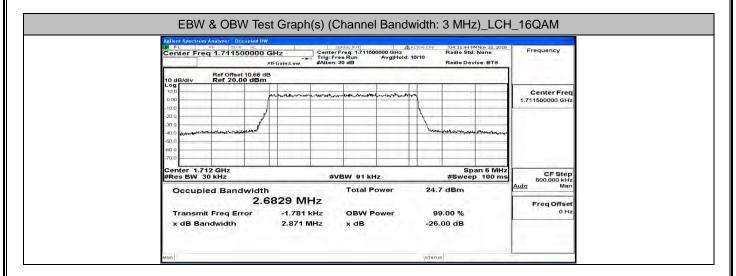


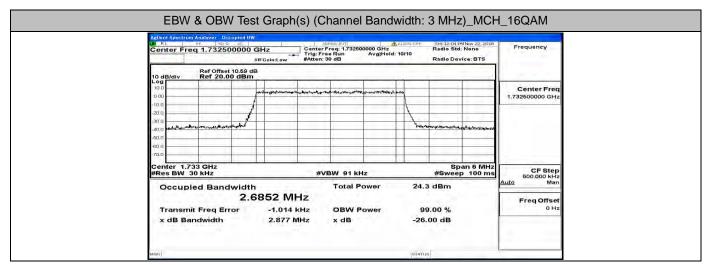


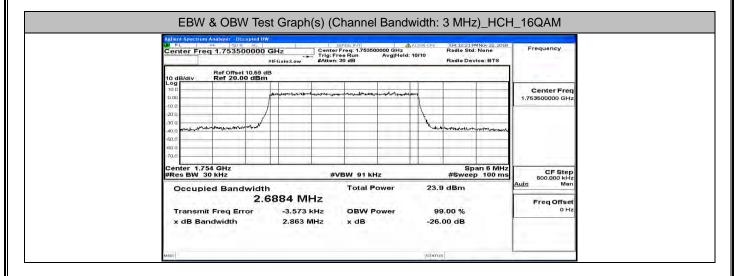


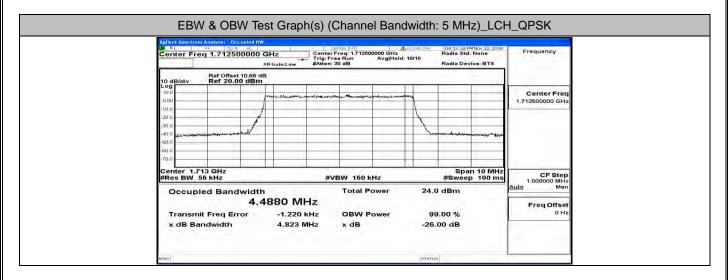


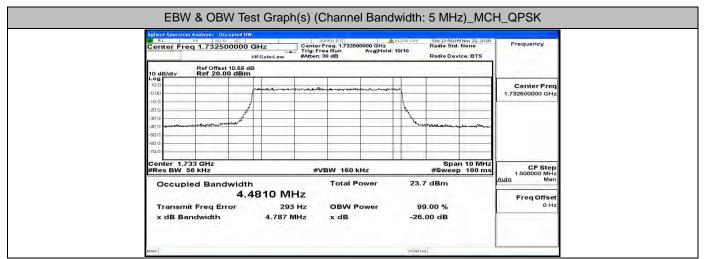


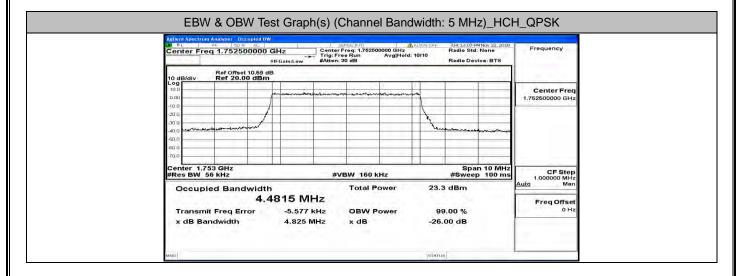


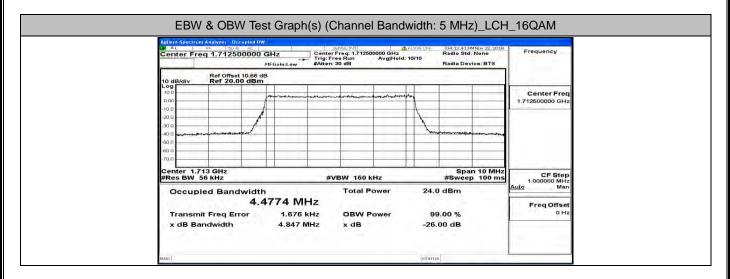


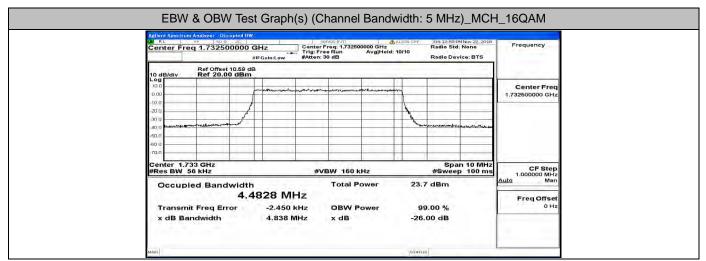


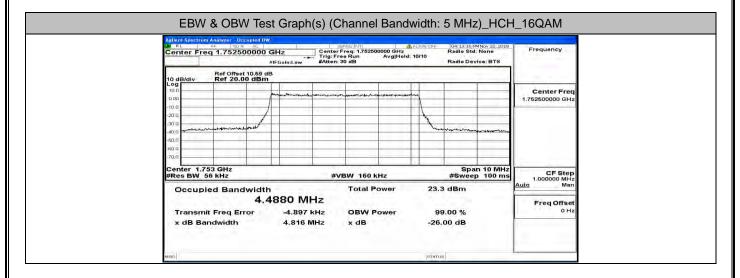


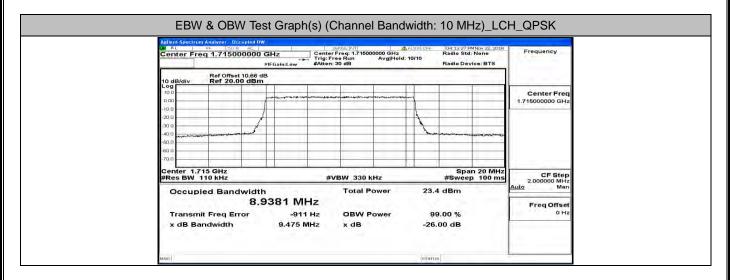


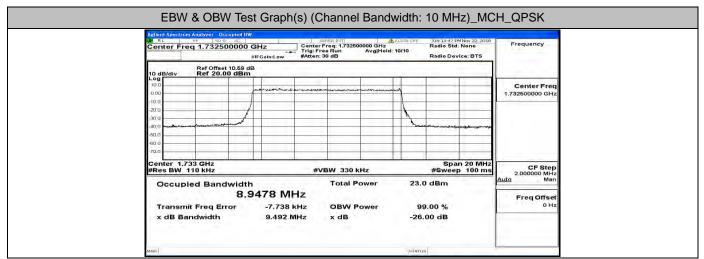


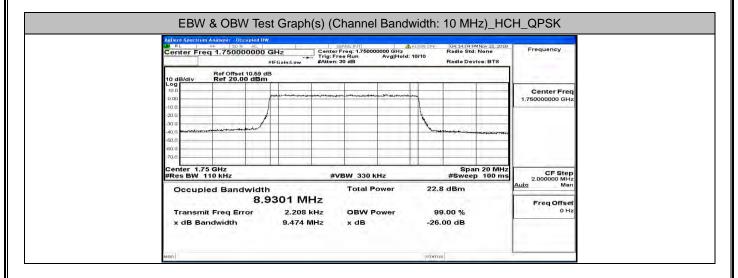


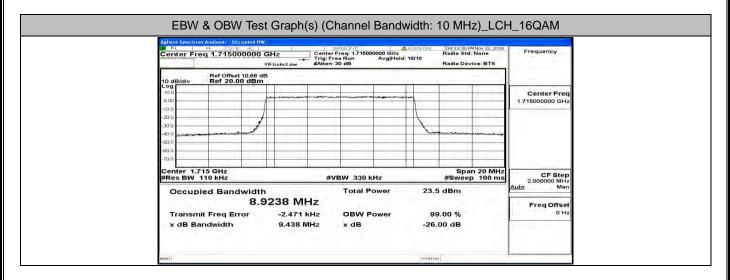


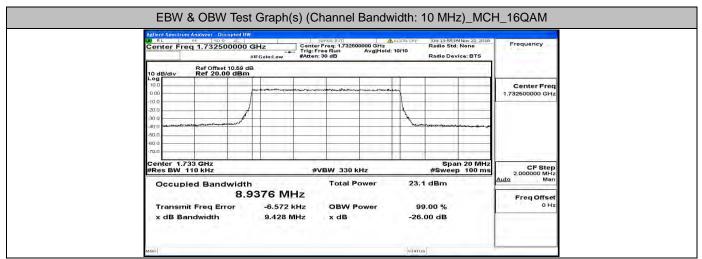


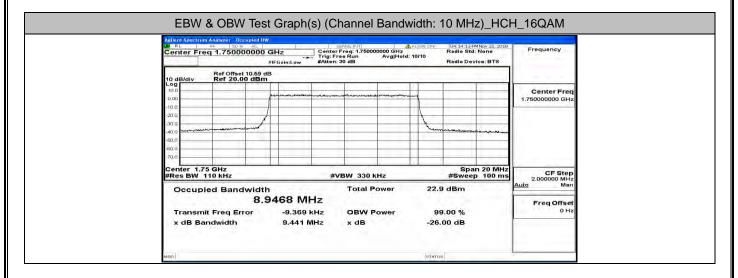


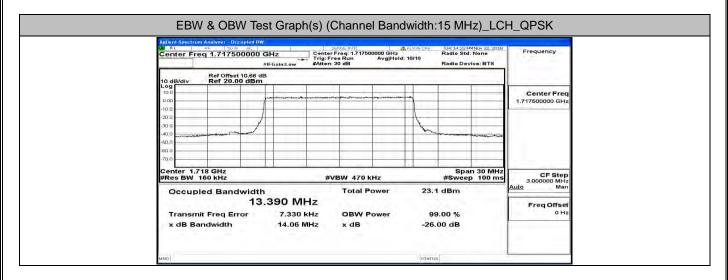


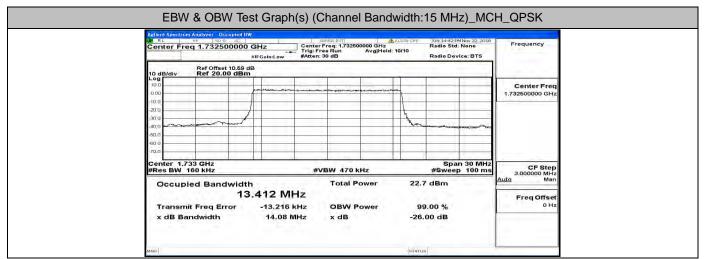


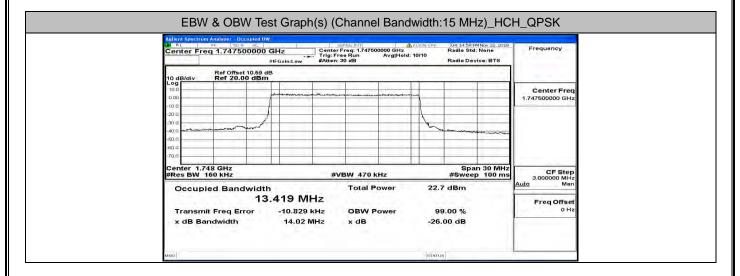


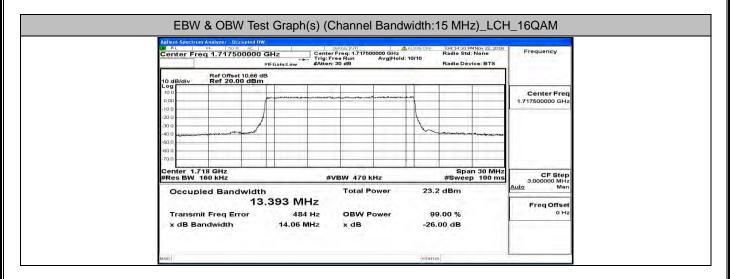


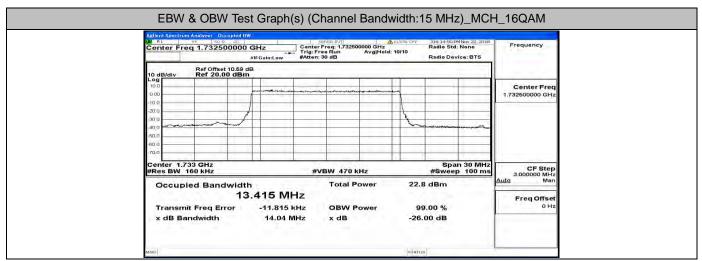


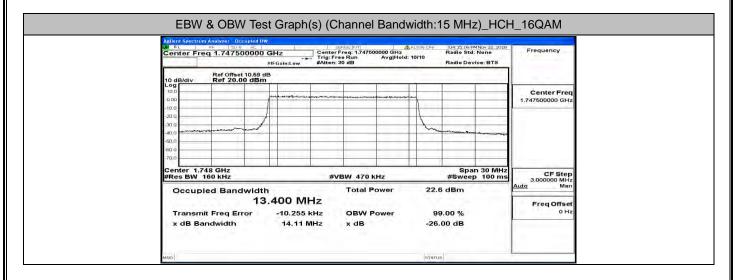


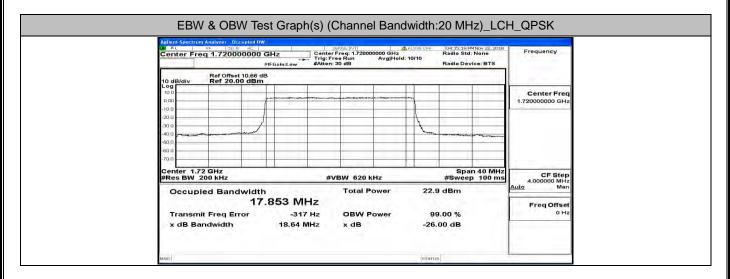


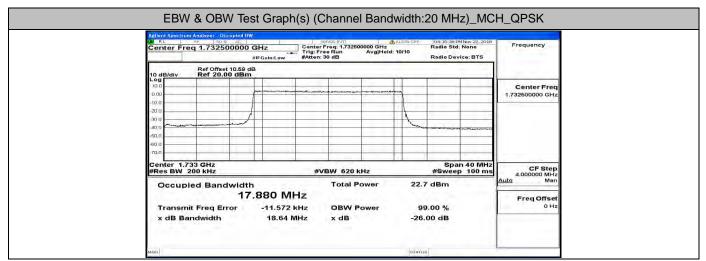


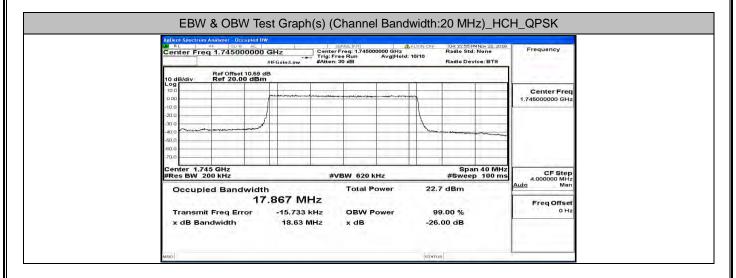


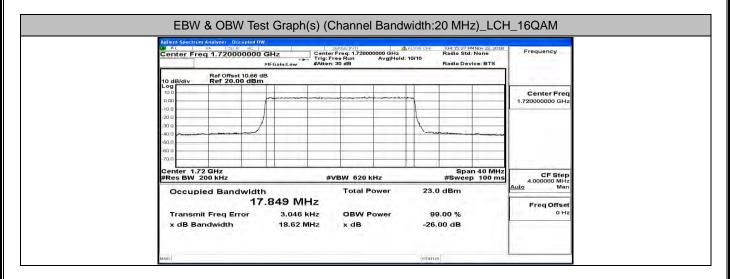


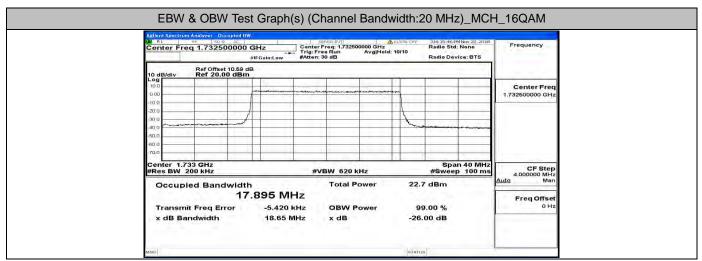


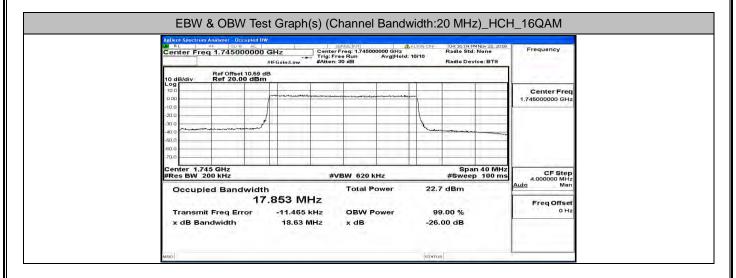




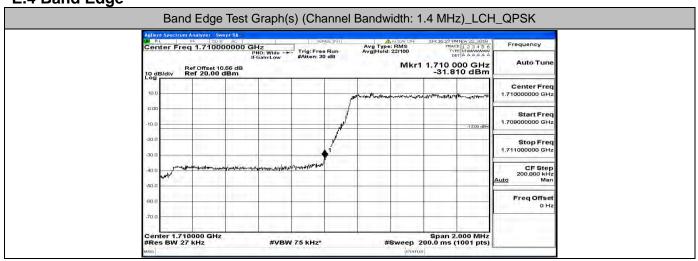


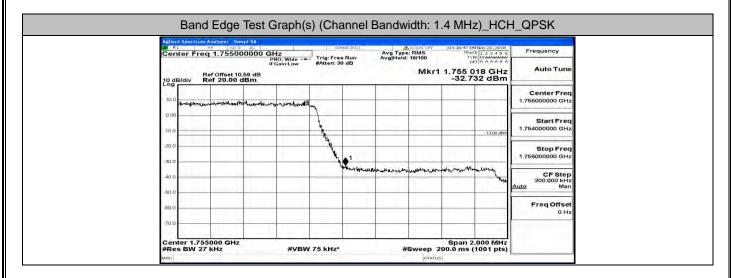


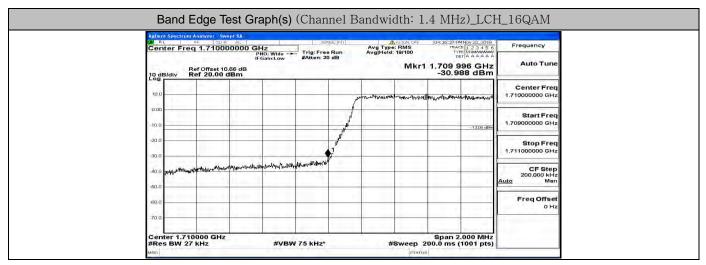


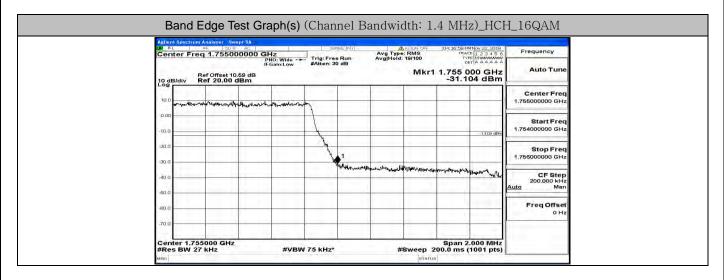


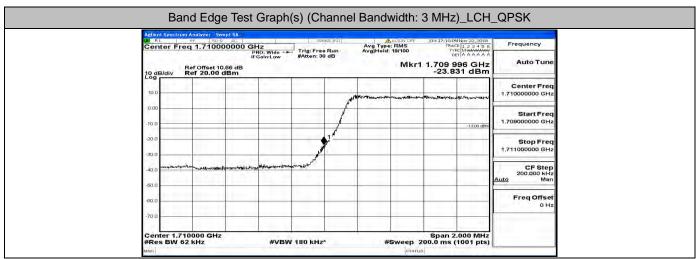
E.4 Band Edge

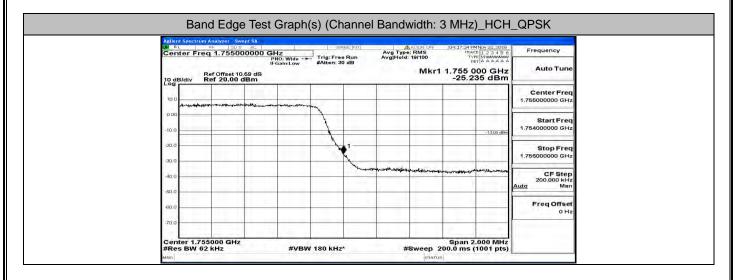


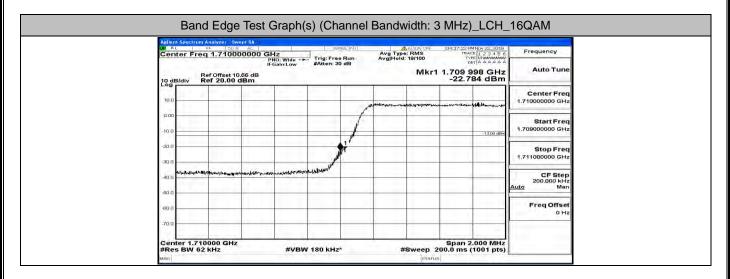


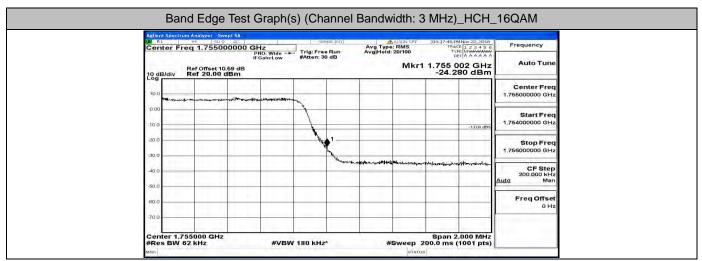


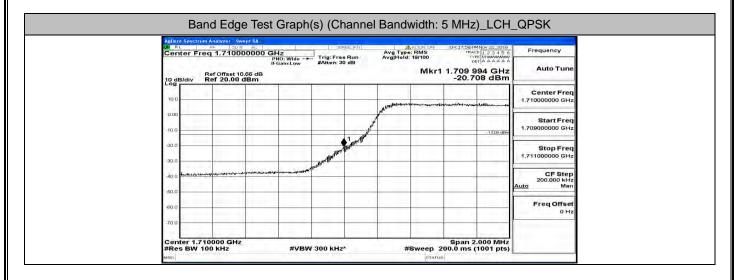


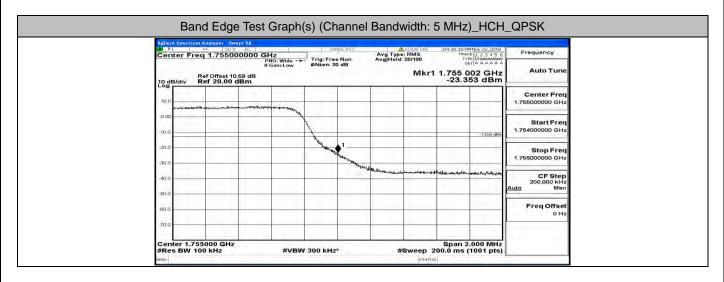


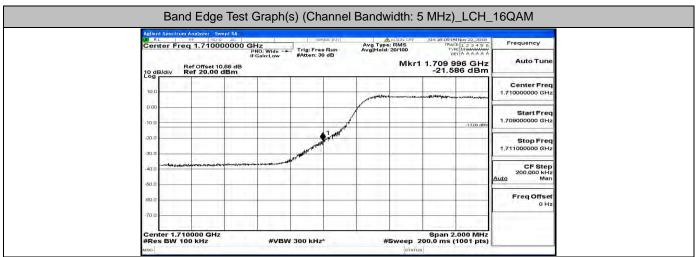


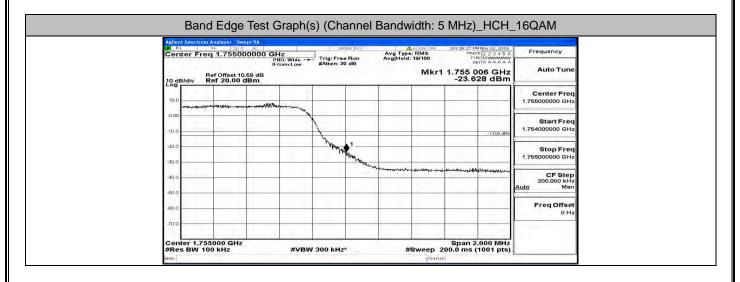


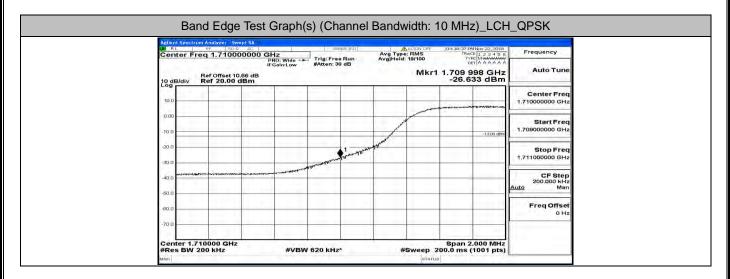


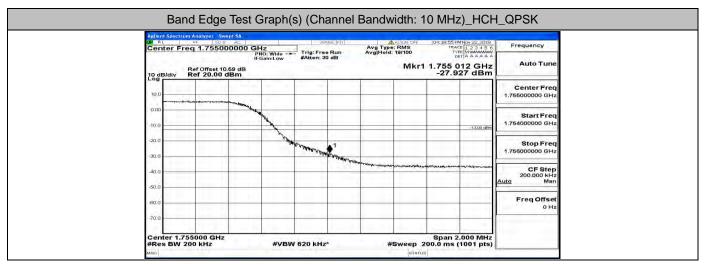


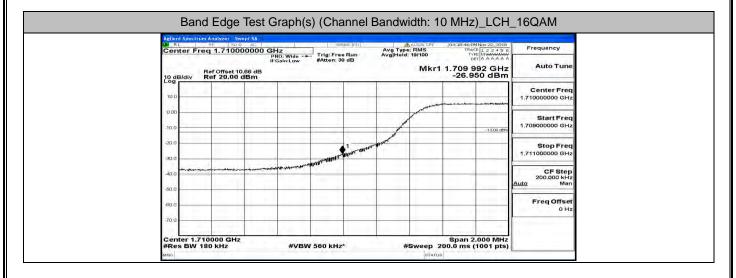


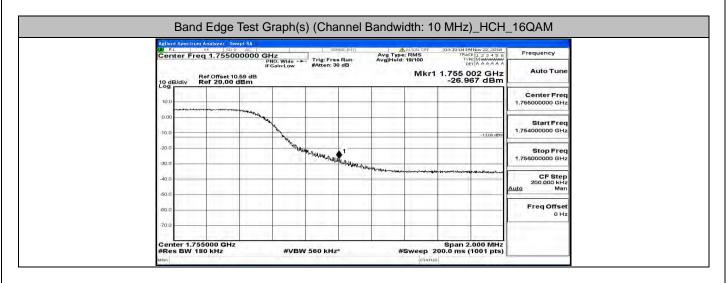


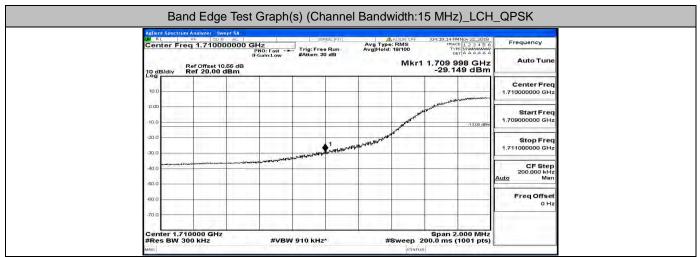


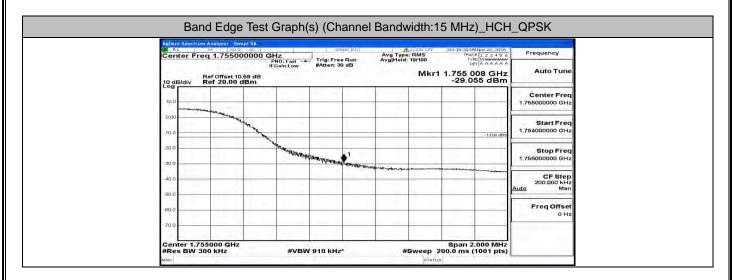


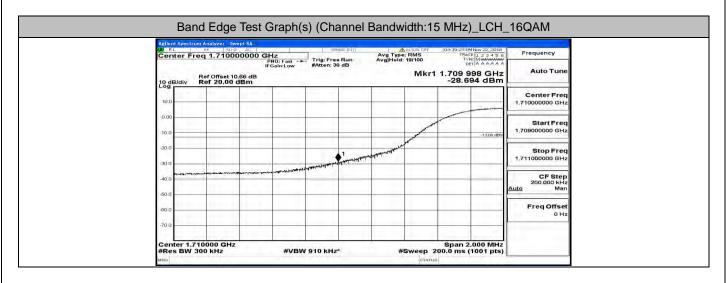


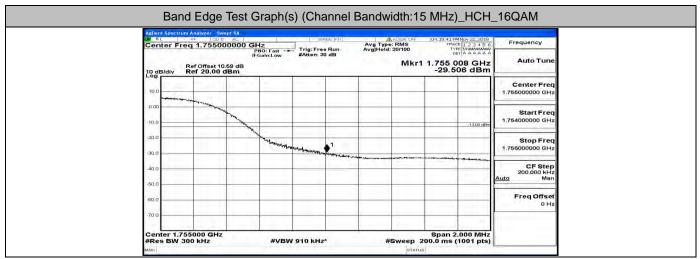


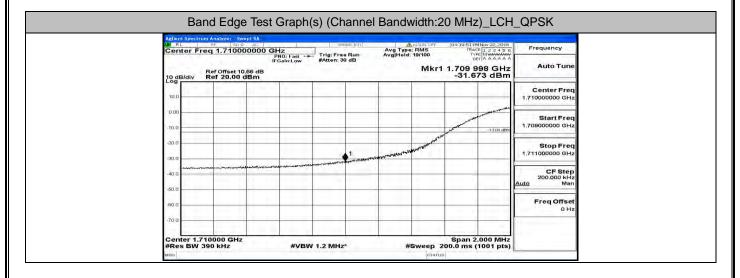


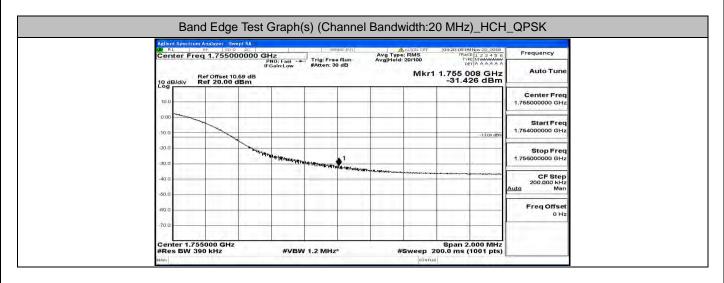


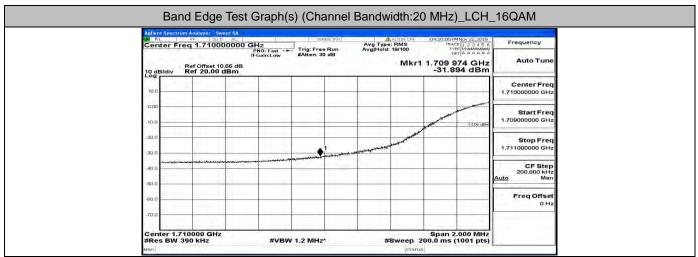


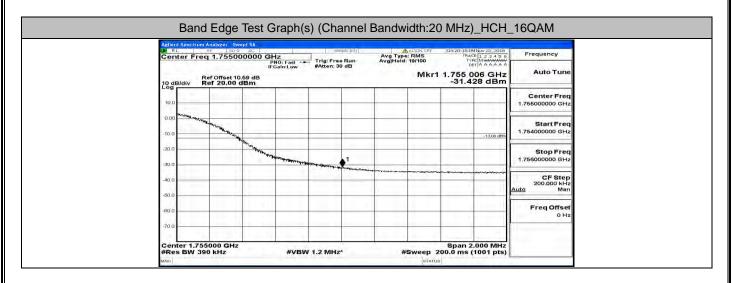












## **E.5 Conducted Spurious Emission**

