Appendix A: Test Data for E-UTRA Band 2

Product Name: Portable Data Collector

Trade Mark: Newland Test Model: NLS-MT90

Environmental Conditions

Temperature:	24.1°C
Relative Humidity:	51.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom Liu
Supervised by:	Jayden Zhuo

A.1 Conducted Output Power

	Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)								
Madulation	Channel	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Vardiet			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	23.50	22.50	PASS			
		1	3	23.19	22.35	PASS			
		1	5	23.13	22.30	PASS			
	LCH	3	0	23.08	22.30	PASS			
		3	2	22.99	22.20	PASS			
		3	3	22.94	22.17	PASS			
		6	0	22.28	21.41	PASS			
		1	0	23.39	22.80	PASS			
		1	3	23.26	22.78	PASS			
QPSK /		1	5	23.36	22.81	PASS			
16QAM	MCH	3	0	23.36	22.43	PASS			
IOQAW		3	2	23.30	22.43	PASS			
		3	3	23.32	22.43	PASS			
		6	0	22.51	21.55	PASS			
		1	0	21.48	20.90	PASS			
		1	3	21.27	20.76	PASS			
		1	5	21.25	20.73	PASS			
	HCH	3	0	21.38	20.65	PASS			
		3	2	21.28	20.57	PASS			
		3	3	21.25	20.58	PASS			
		6	0	20.66	20.04	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)								
Modulation	Channel	RB Con	figuration Offset	Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict			
			0	22.69	22.12	PASS			
		1							
		1	7	22.38	21.85	PASS			
		1	14	22.25	21.72	PASS			
	LCH	8	0	22.03	21.26	PASS			
		8	4	21.90	21.16	PASS			
		8	7	21.85	21.09	PASS			
		15	0	21.96	21.10	PASS			
		1	0	23.01	22.41	PASS			
		1	7	22.95	22.37	PASS			
ODOK /		1	14	22.98	22.40	PASS			
QPSK / 16QAM	MCH	8	0	22.29	21.52	PASS			
TOQAIVI		8	4	22.27	21.52	PASS			
		8	7	22.29	21.52	PASS			
		15	0	22.30	21.43	PASS			
		1	0	21.55	21.03	PASS			
		1	7	21.26	20.81	PASS			
		1	14	21.04	20.60	PASS			
	HCH	8	0	20.77	20.00	PASS			
		8	4	20.64	19.88	PASS			
		8	7	20.55	19.84	PASS			
		15	0	20.60	19.88	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)								
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Vardiat			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	22.60	22.03	PASS			
		1	12	21.94	21.39	PASS			
		1	24	22.04	21.48	PASS			
	LCH	12	0	21.64	20.88	PASS			
		12	6	21.43	20.67	PASS			
		12	13	21.41	20.66	PASS			
		25	0	21.48	20.66	PASS			
		1	0	22.94	22.38	PASS			
	MCH	1	12	22.55	22.03	PASS			
QPSK /		1	24	22.84	22.31	PASS			
16QAM		12	0	21.90	21.18	PASS			
TOQAIVI		12	6	21.79	21.08	PASS			
		12	13	21.87	21.15	PASS			
		25	0	21.85	21.03	PASS			
		1	0	21.65	20.74	PASS			
		1	12	21.19	20.34	PASS			
		1	24	21.08	20.27	PASS			
	HCH	12	0	20.62	19.86	PASS			
		12	6	20.44	19.75	PASS			
		12	13	20.34	19.64	PASS			
		25	0	20.47	19.70	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)								
Modulation	Channel	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Verdict			
Modulation	Channel	Size	Offset	QPSK	16QAM	verdict			
		1	0	22.07	21.50	PASS			
		1	24	21.70	21.17	PASS			
		1	49	21.28	20.77	PASS			
	LCH	25	0	21.42	20.60	PASS			
		25	12	21.27	20.46	PASS			
		25	25	21.11	20.31	PASS			
		50	0	21.30	20.49	PASS			
		1	0	22.33	21.73	PASS			
	МСН	1	24	22.48	21.90	PASS			
QPSK /		1	49	21.90	21.34	PASS			
16QAM		25	0	21.74	20.90	PASS			
TOQAIVI		25	12	21.72	20.89	PASS			
		25	25	21.54	20.72	PASS			
		50	0	21.67	20.82	PASS			
		1	0	20.19	19.68	PASS			
		1	24	21.15	20.62	PASS			
		1	49	20.60	20.20	PASS			
	HCH	25	0	20.22	19.46	PASS			
		25	12	20.52	19.74	PASS			
		25	25	20.44	19.69	PASS			
		50	0	20.39	19.64	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 15 MHz)								
Modulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Vardiet			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	22.20	21.62	PASS			
		1	37	21.51	21.00	PASS			
		1	74	21.55	21.02	PASS			
	LCH	37	0	21.38	20.55	PASS			
		37	18	21.15	20.33	PASS			
		37	38	21.02	20.21	PASS			
		75	0	21.21	20.40	PASS			
		1	0	22.41	21.78	PASS			
		1	37	22.45	21.85	PASS			
QPSK /		1	74	21.70	21.13	PASS			
16QAM	MCH	37	0	21.71	20.86	PASS			
TOQAIVI		37	18	21.66	20.80	PASS			
		37	38	21.36	20.53	PASS			
		75	0	21.53	20.70	PASS			
		1	0	20.36	19.82	PASS			
		1	37	20.49	19.92	PASS			
		1	74	20.83	20.31	PASS			
	HCH	37	0	19.80	19.13	PASS			
		37	18	20.00	19.28	PASS			
		37	38	20.35	19.61	PASS			
		75	0	20.09	19.34	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 20 MHz)								
Modulation	Channel	RB Conf	figuration	Average Power [dBm]	Average Power [dBm]	Verdict			
Modulation	Channel	Size	Offset	QPSK	16QAM	verdict			
		1	0	22.28	21.57	PASS			
		1	49	21.59	20.98	PASS			
		1	99	21.90	21.20	PASS			
	LCH	50	0	21.33	20.50	PASS			
		50	25	21.12	20.30	PASS			
		50	50	21.09	20.26	PASS			
		100	0	21.23	20.43	PASS			
		1	0	22.40	21.67	PASS			
	MCH	1	49	22.55	21.83	PASS			
QPSK /		1	99	21.35	20.67	PASS			
16QAM		50	0	21.66	20.80	PASS			
TOQAM		50	25	21.58	20.70	PASS			
		50	50	21.15	20.33	PASS			
		100	0	21.40	20.57	PASS			
		1	0	21.20	20.62	PASS			
		1	49	20.06	19.55	PASS			
		1	99	20.80	20.34	PASS			
	HCH	50	0	20.04	19.36	PASS			
		50	25	19.80	19.11	PASS			
		50	50	20.16	19.42	PASS			
ĺ		100	0	20.13	19.38	PASS			

A.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	Griannei	[dB]	[dB]	verdict			
	LCH	3.86	<13	PASS			
QPSK	MCH	4.80	<13	PASS			
	HCH	4.37	<13	PASS			
	LCH	4.55	<13	PASS			
16QAM	MCH	5.56	<13	PASS			
	HCH	5.14	<13	PASS			

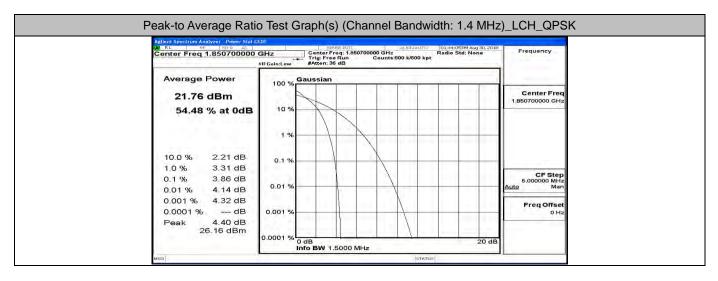
Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict			
Modulation	Channel	[dB]	[dB]	verdict			
	LCH	4.06	<13	PASS			
QPSK	MCH	4.97	<13	PASS			
	HCH	4.78	<13	PASS			
	LCH	4.78	<13	PASS			
16QAM	MCH	5.73	<13	PASS			
	HCH	5.44	<13	PASS			

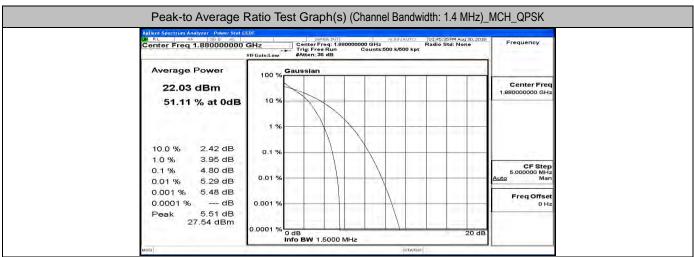
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)						
Modulation	Channel	Peak-to-Average Ratio	Limit	Vordict		
Modulation	Channel	[dB]	[dB]	Verdict		
	LCH	4.1	<13	PASS		
QPSK	MCH	5.1	<13	PASS		
	HCH	4.78	<13	PASS		
	LCH	4.79	<13	PASS		
16QAM	MCH	5.77	<13	PASS		
	HCH	5.46	<13	PASS		

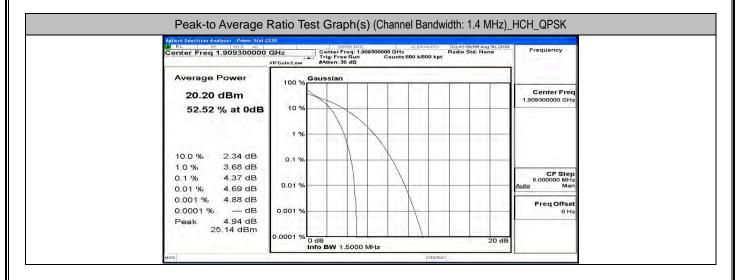
Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)						
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict		
Modulation	Griannei	[dB]	[dB]	verdict		
	LCH	4.26	<13	PASS		
QPSK	MCH	5.13	<13	PASS		
	HCH	4.54	<13	PASS		
	LCH	4.85	<13	PASS		
16QAM	MCH	5.83	<13	PASS		
	HCH	5.14	<13	PASS		

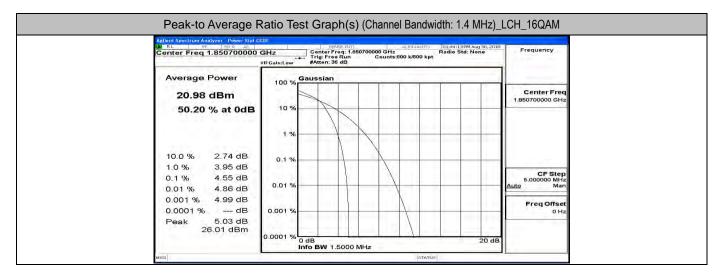
	Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict				
Modulation	Griannei	[dB]	[dB]	verdict				
	LCH	4.93	<13	PASS				
QPSK	MCH	5	<13	PASS				
	HCH	4.9	<13	PASS				
	LCH	5.66	<13	PASS				
16QAM	MCH	6.1	<13	PASS				
	HCH	5.58	<13	PASS				

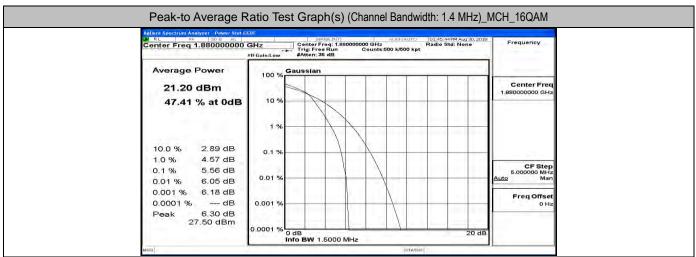
Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)				
Maralista Cara	Channel	Peak-to-Average Ratio	Limit	Verdict
Modulation		[dB]	[dB]	
QPSK	LCH	5.78	<13	PASS
	MCH	5.72	<13	PASS
	HCH	5.7	<13	PASS
16QAM	LCH	6.26	<13	PASS
	MCH	6.69	<13	PASS
	HCH	6.07	<13	PASS

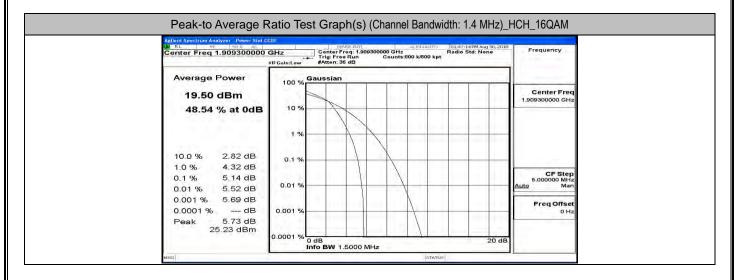


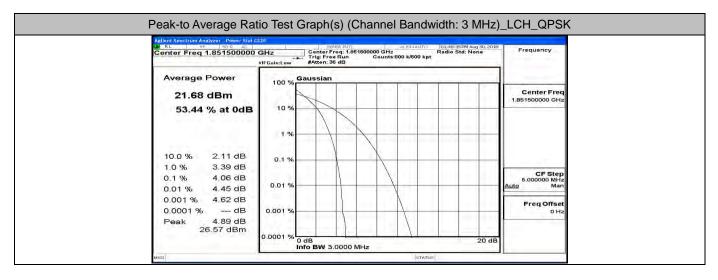


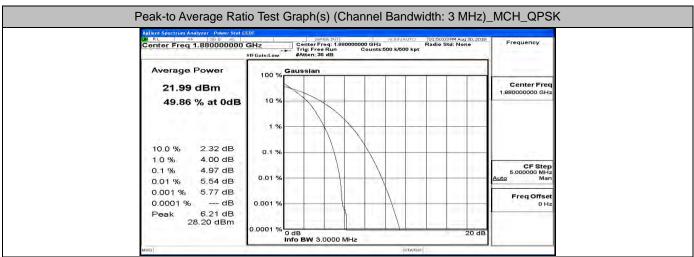


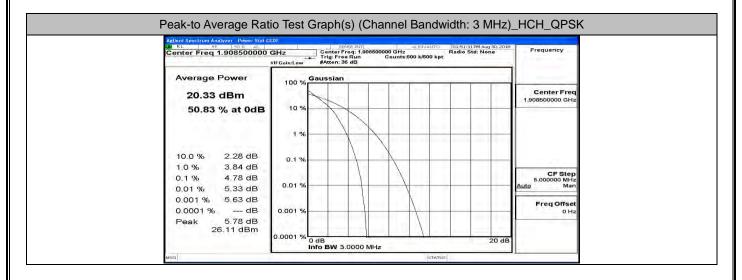


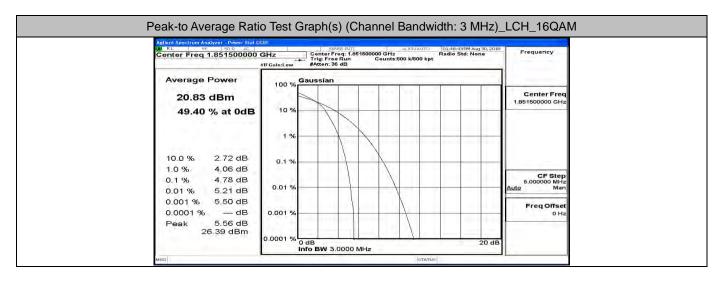


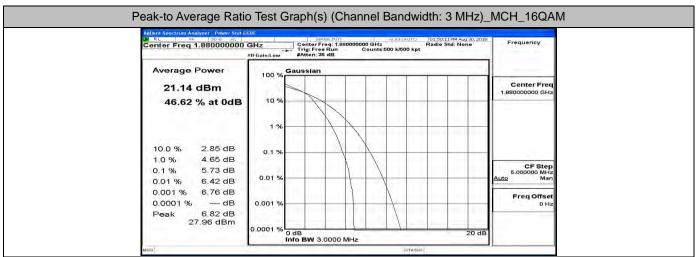


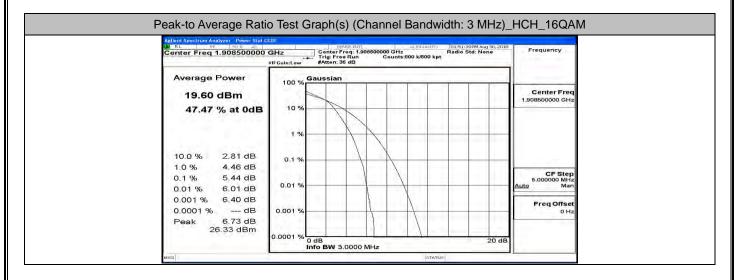


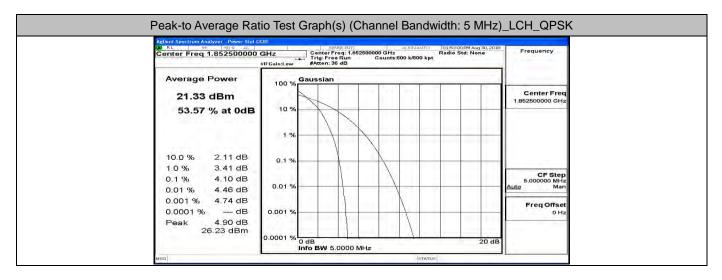


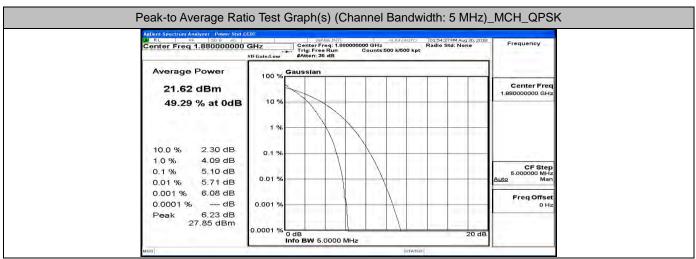


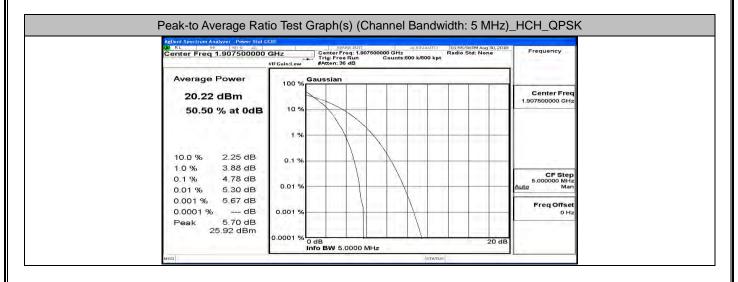


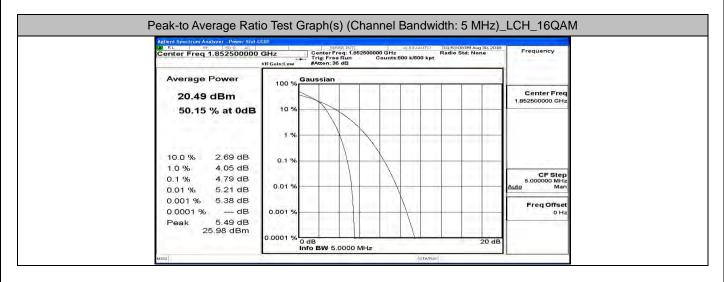


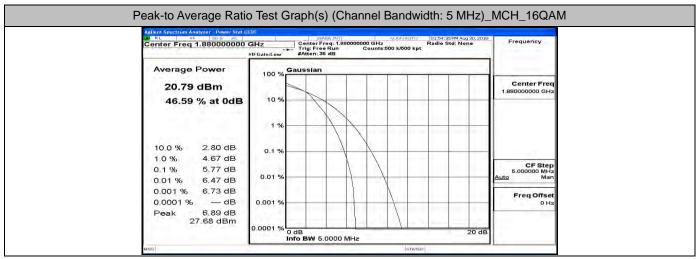


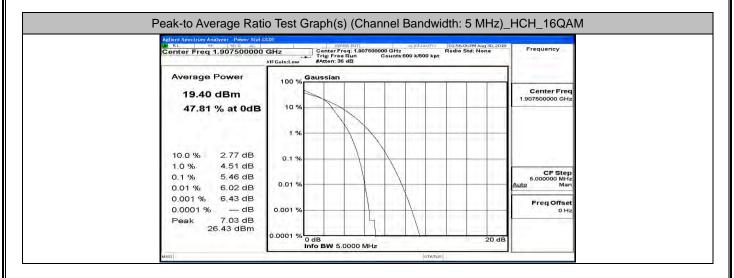




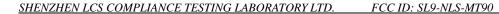




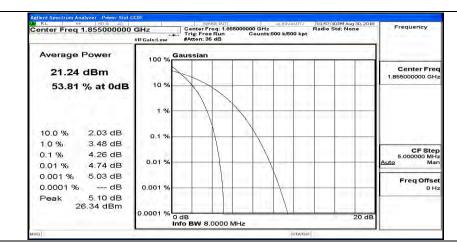


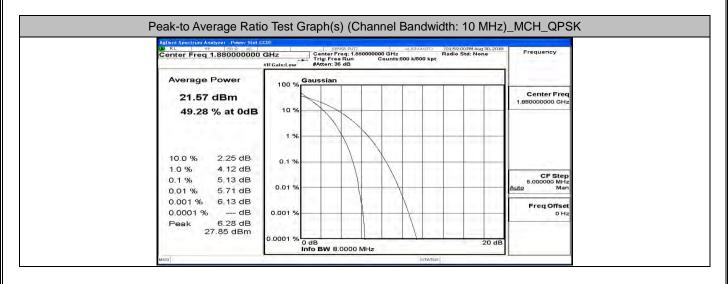


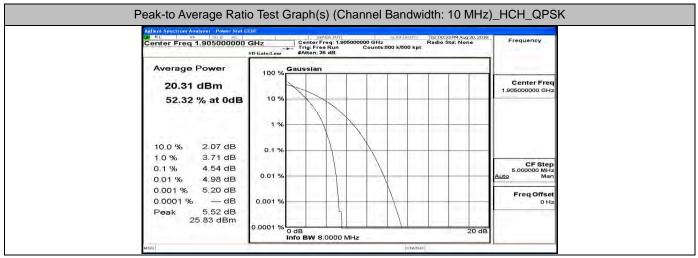
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK

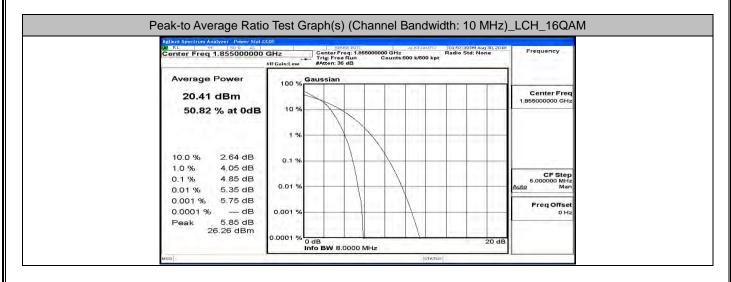


Report No.: LCS180704037AEA



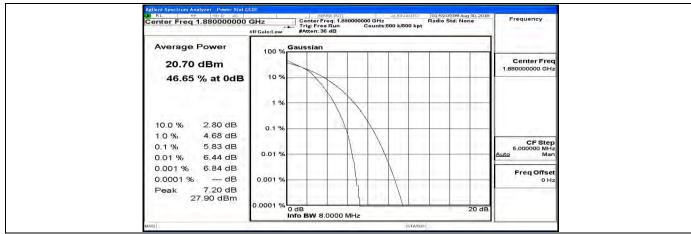


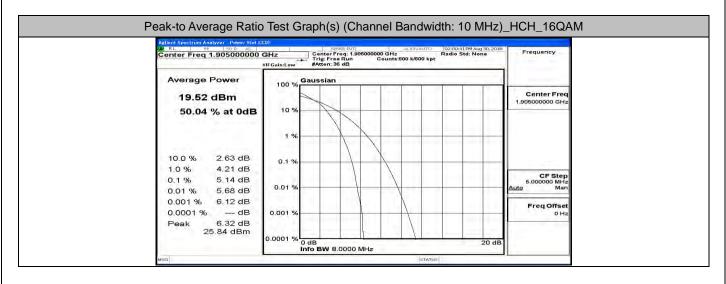


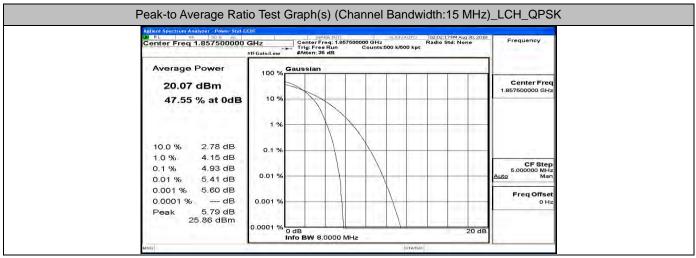


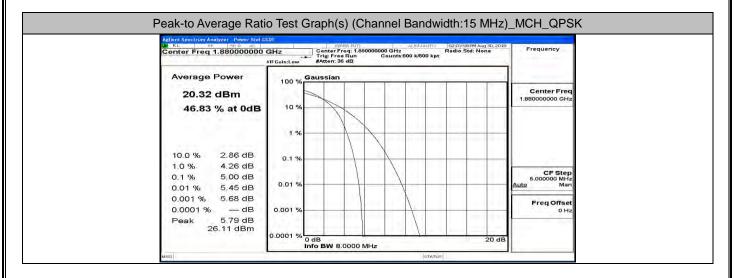
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



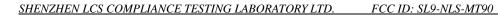




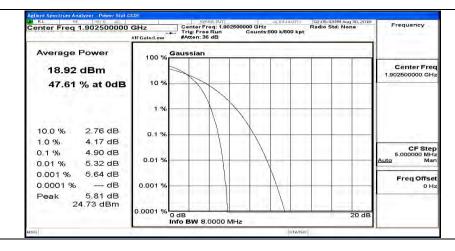


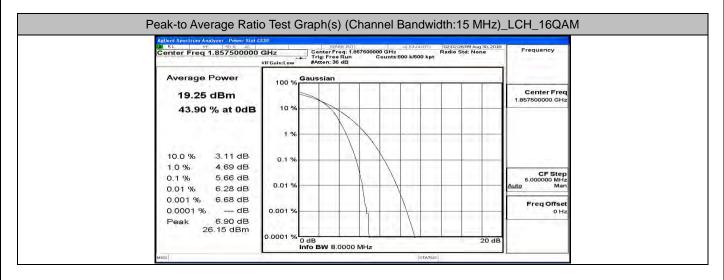


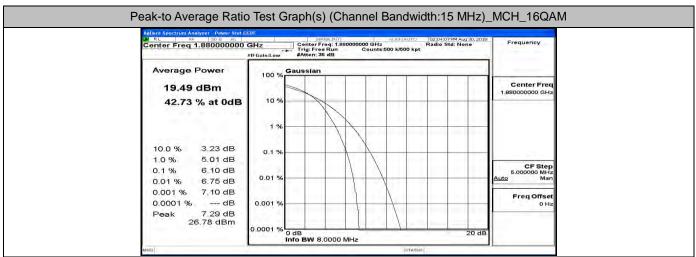
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK

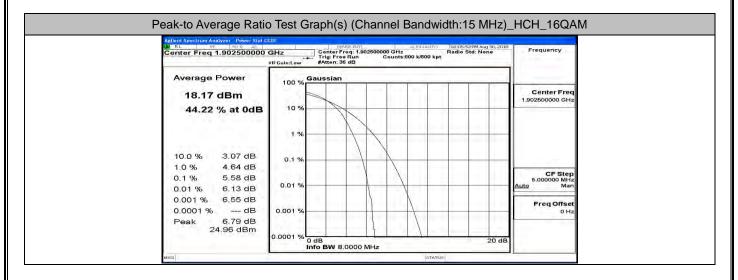


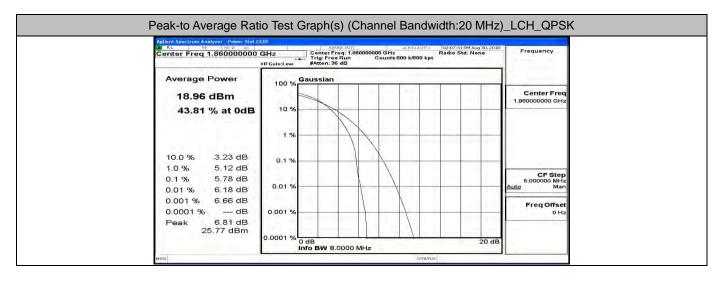
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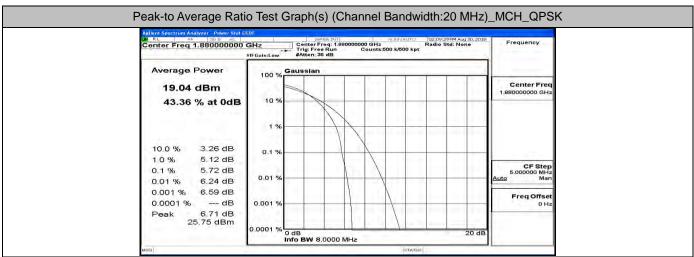


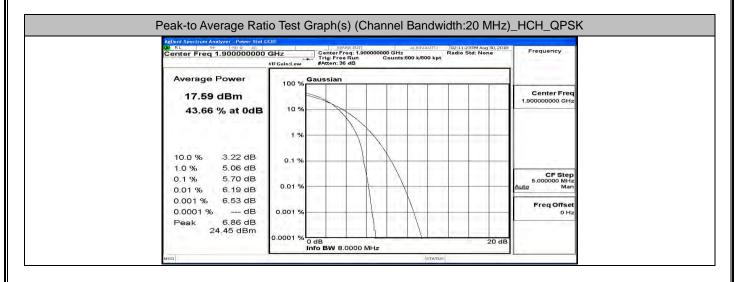


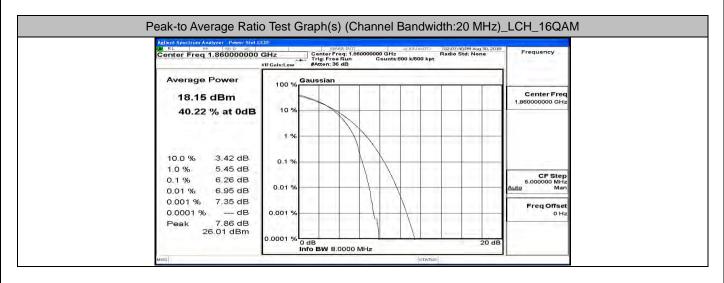


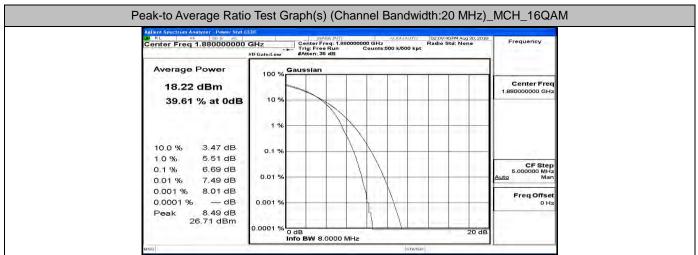


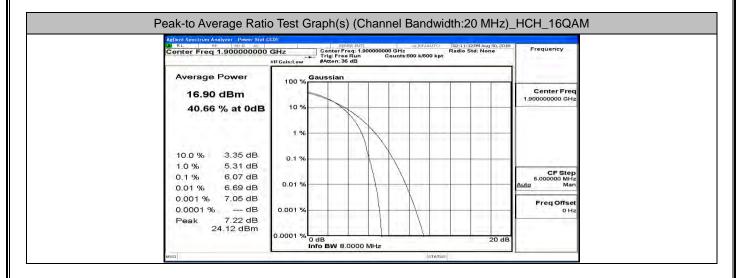












A.3 26dB Bandwidth and Occupied Bandwidth

EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
		(MHz)	(MHz)	
QPSK	LCH	1.0859	1.533	PASS
	MCH	1.0768	1.224	PASS
	HCH	1.0805	1.256	PASS
16QAM	LCH	1.0838	1.562	PASS
	MCH	1.0772	1.212	PASS
	HCH	1.0800	1.274	PASS

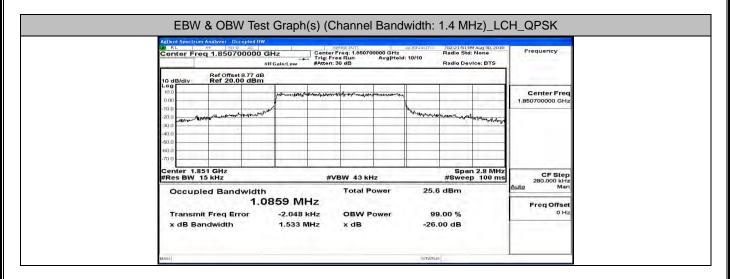
EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation	Chamilei	(MHz)	(MHz)	
QPSK	LCH	2.6972	4.160	PASS
	MCH	2.6838	2.871	PASS
	HCH	2.6899	2.883	PASS
16QAM	LCH	2.6951	3.458	PASS
	MCH	2.6850	2.849	PASS
	HCH	2.6864	2.930	PASS

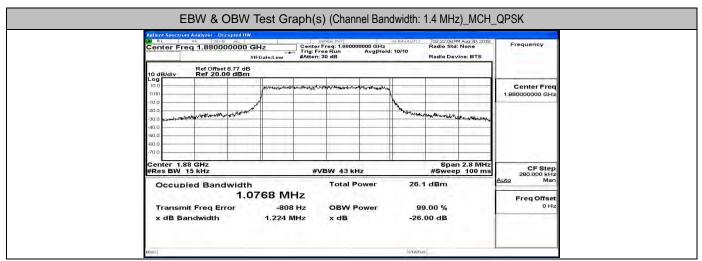
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	4.5011	6.593	PASS
	MCH	4.4805	4.813	PASS
	HCH	4.4863	4.878	PASS
16QAM	LCH	4.4878	5.633	PASS
	MCH	4.4824	4.840	PASS
	HCH	4.4938	4.866	PASS

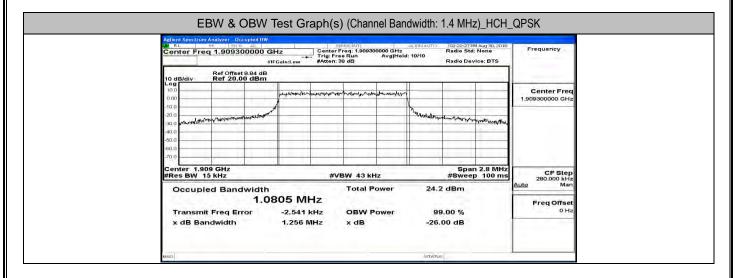
EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	8.9766	14.64	PASS
	MCH	8.9352	9.523	PASS
	HCH	8.9599	13.76	PASS
16QAM	LCH	8.9756	13.09	PASS
	MCH	8.9228	9.487	PASS
	HCH	8.9619	11.57	PASS

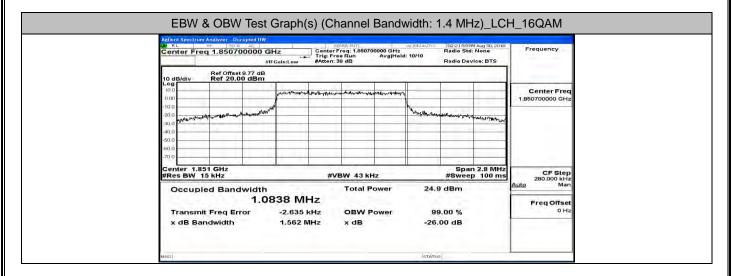
EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	13.546	26.50	PASS
	MCH	13.406	14.17	PASS
	HCH	13.973	26.15	PASS
16QAM	LCH	13.492	22.57	PASS
	MCH	13.409	14.07	PASS
	HCH	13.539	25.66	PASS

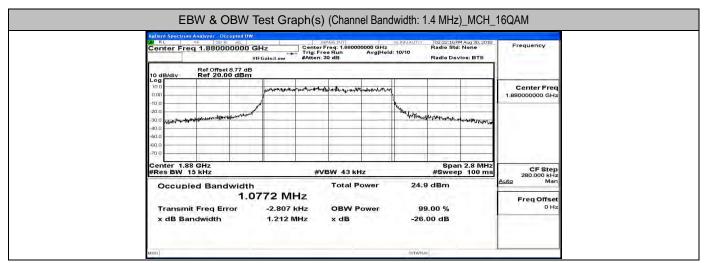
EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Mandadatian	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	17.986	30.97	PASS
	MCH	17.878	18.63	PASS
	HCH	18.206	33.78	PASS
16QAM	LCH	17.964	31.06	PASS
	MCH	17.878	18.64	PASS
	HCH	18.022	32.42	PASS

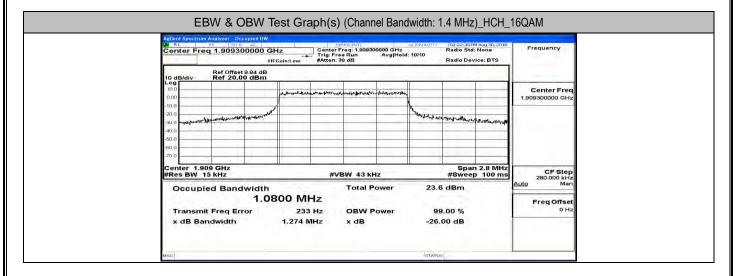


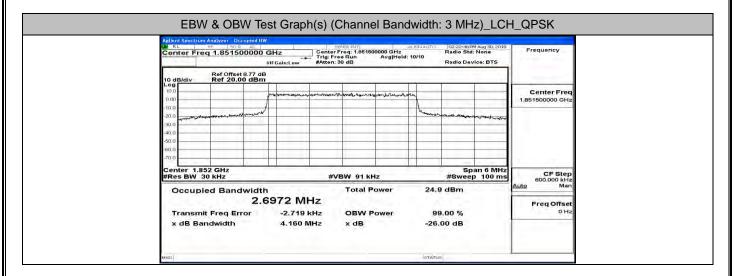


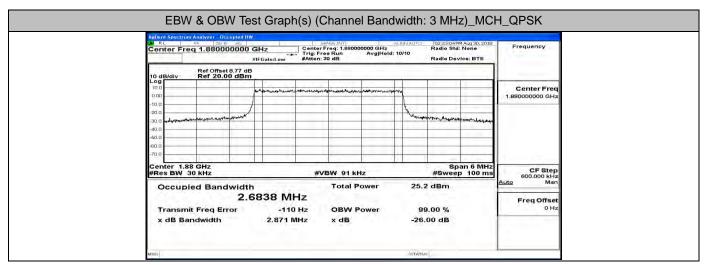


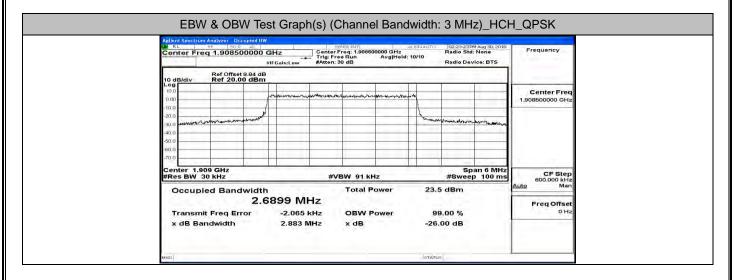


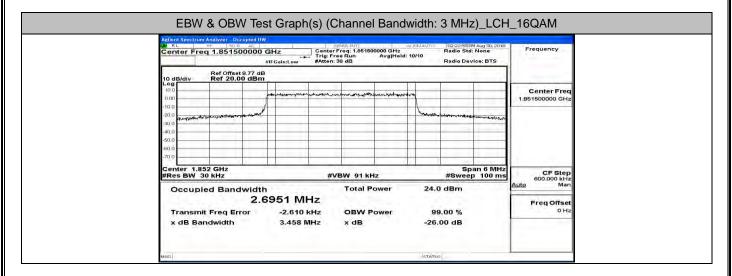


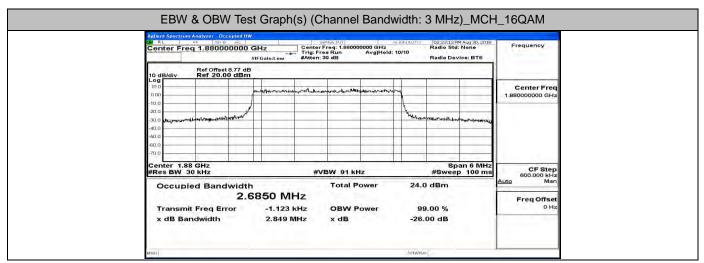


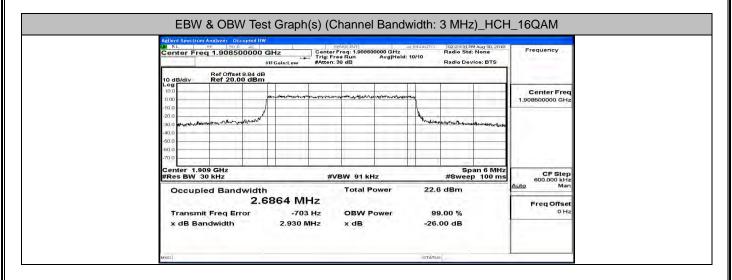


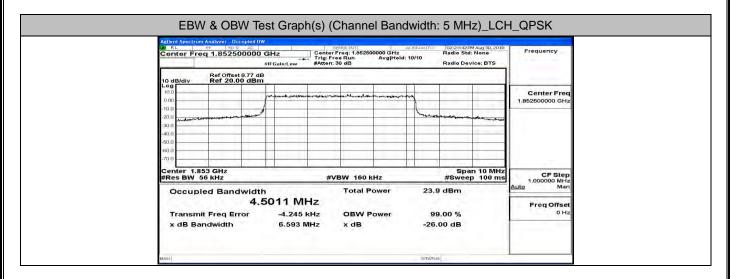


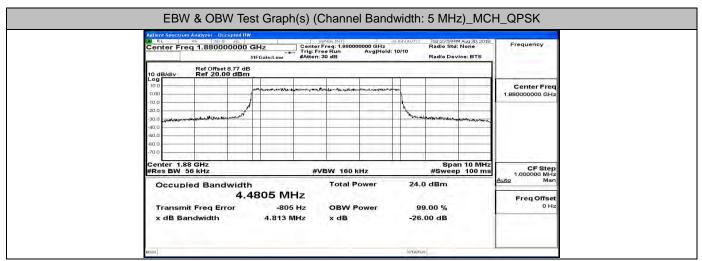


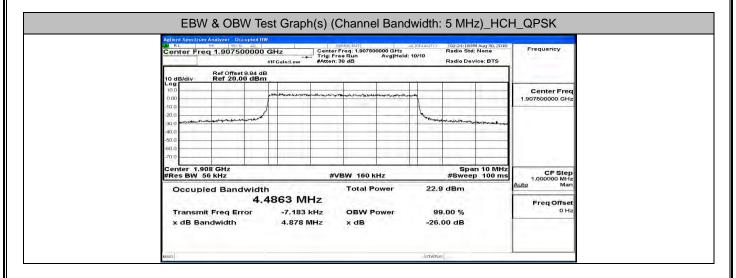


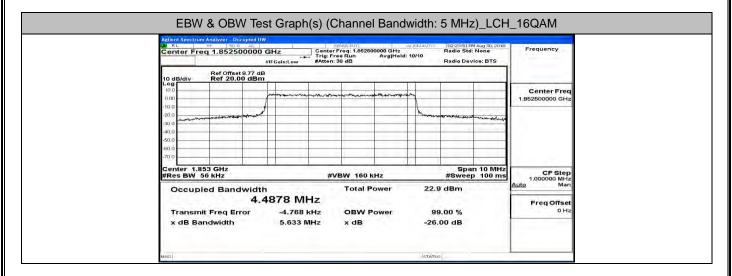


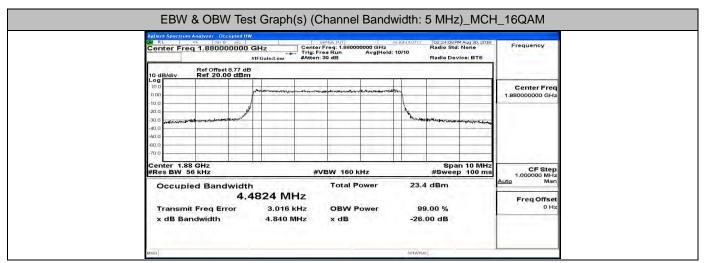


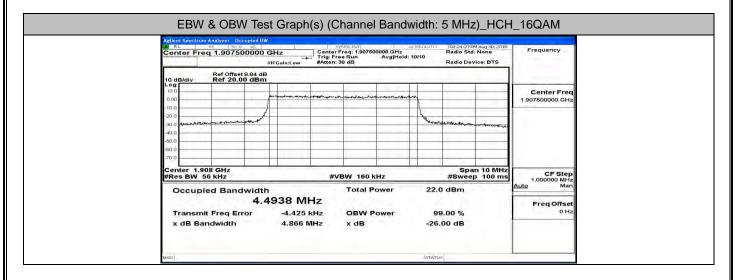


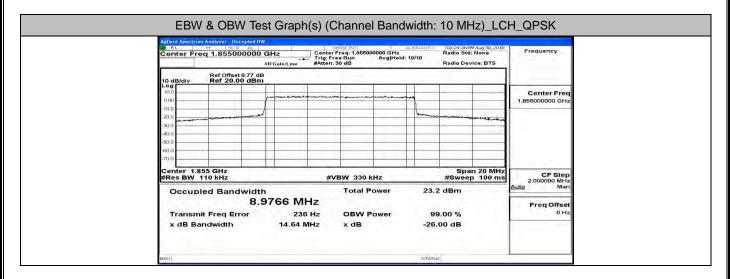


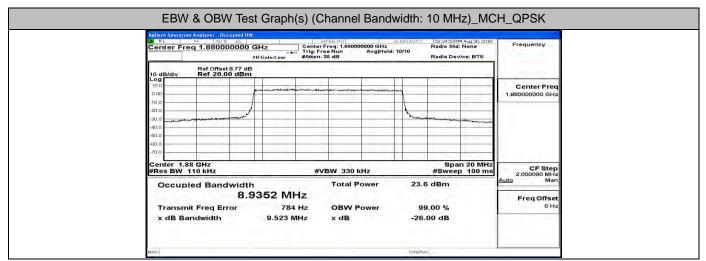


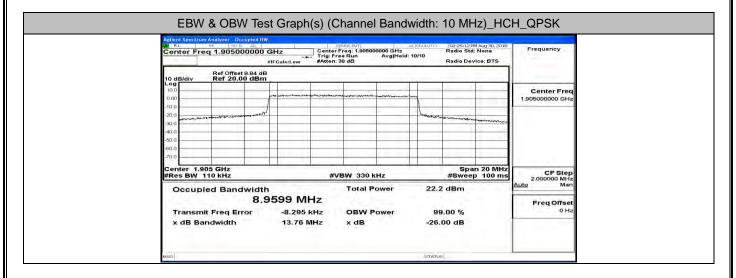


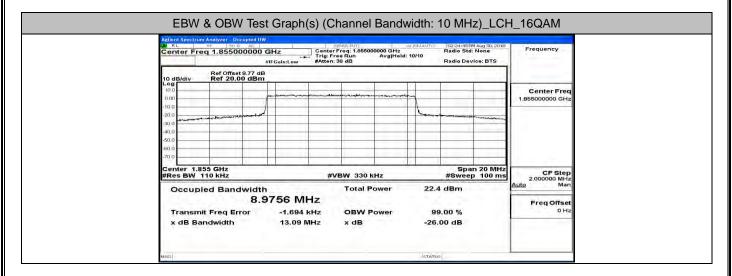


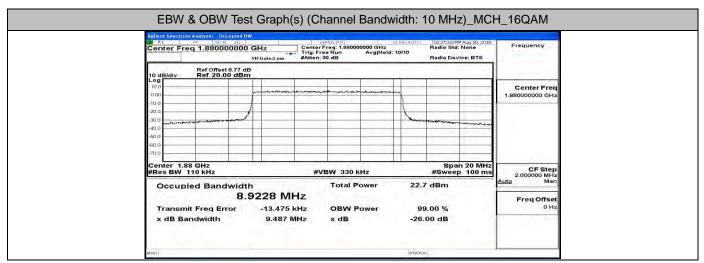


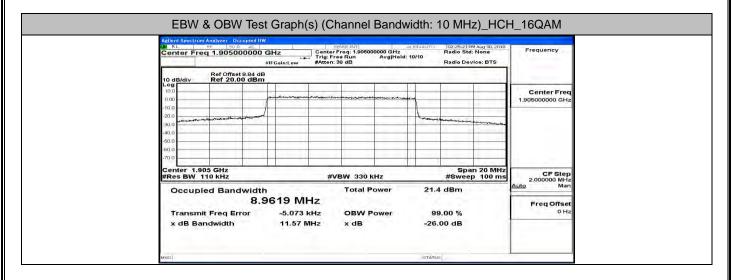


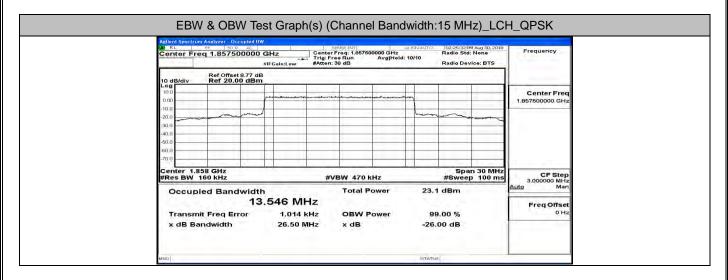


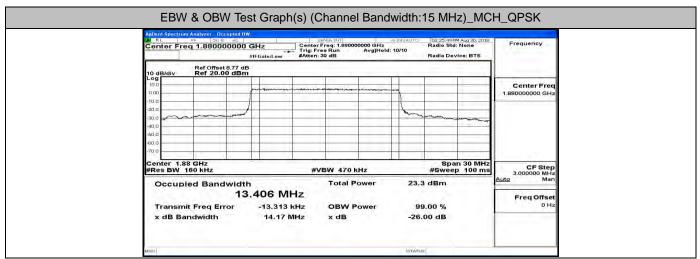


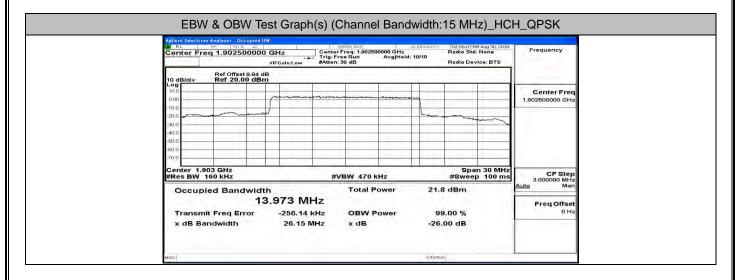


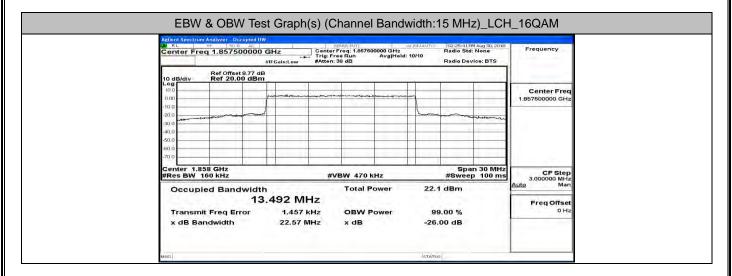


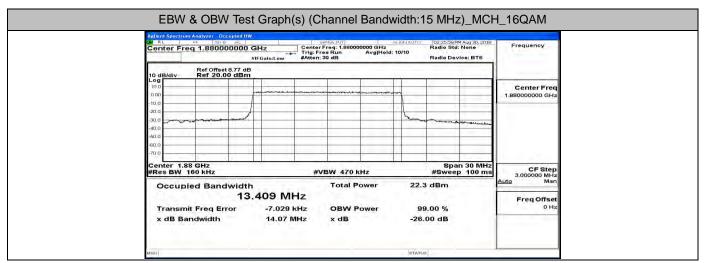


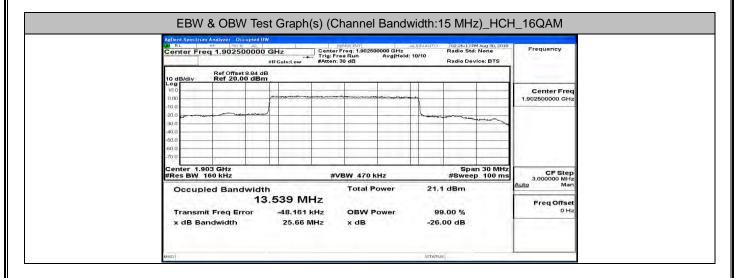


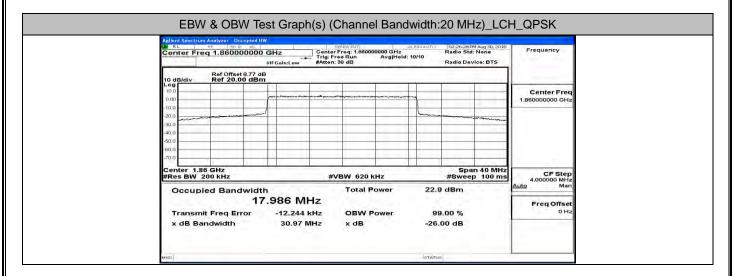


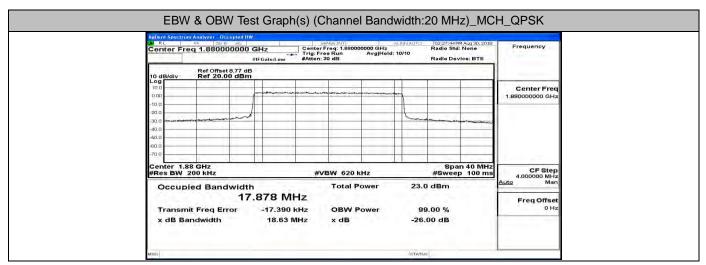


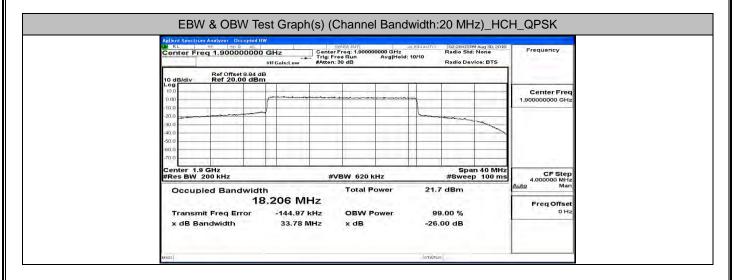


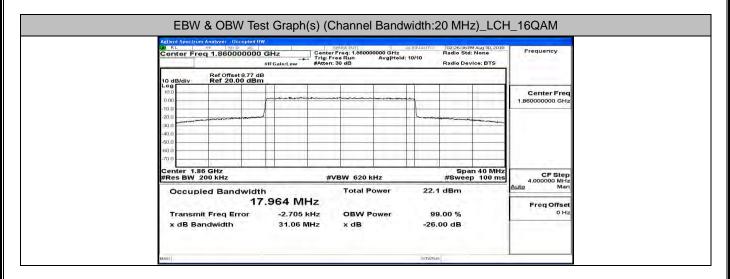


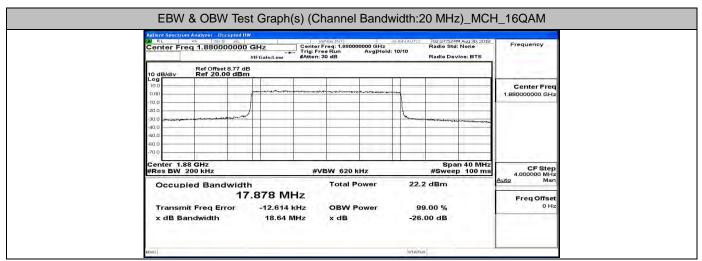


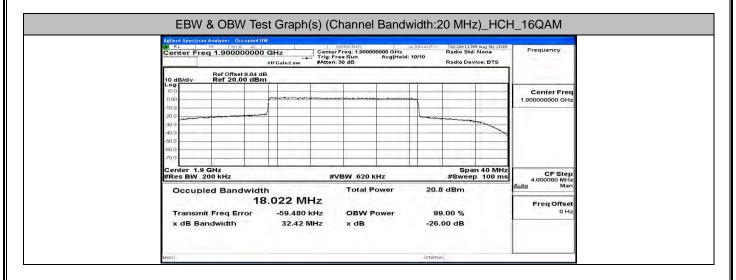




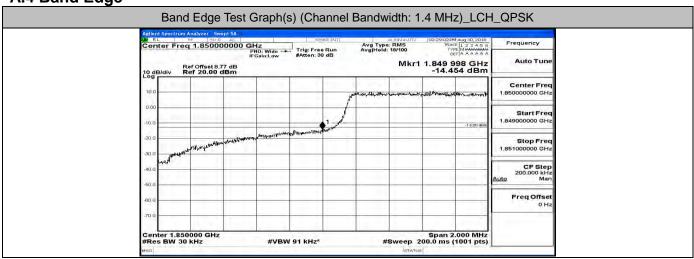


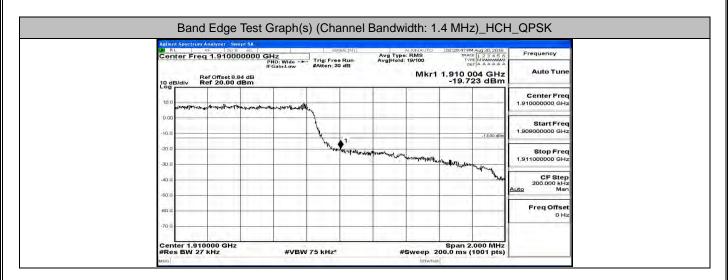


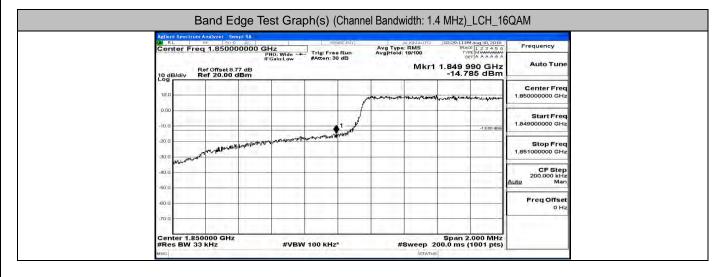


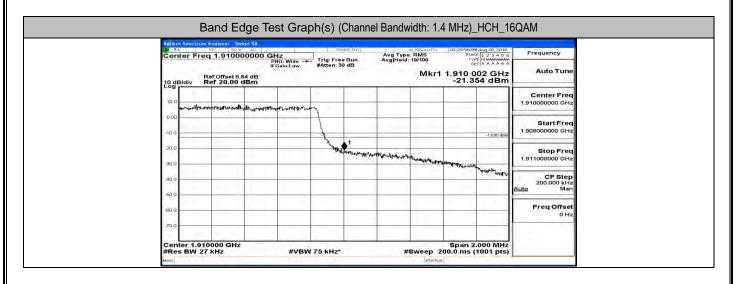


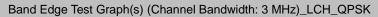
A.4 Band Edge



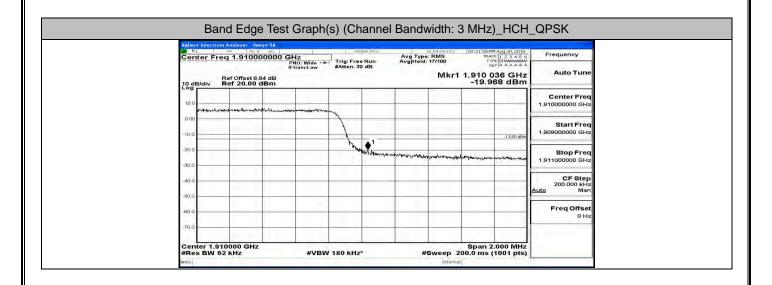


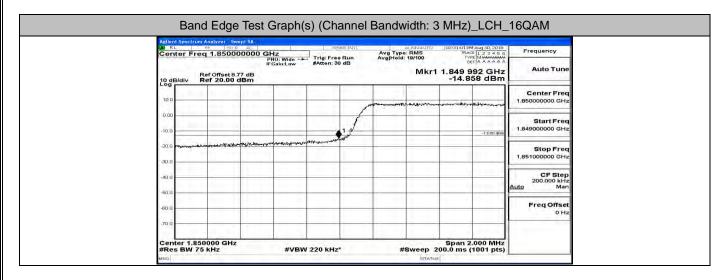


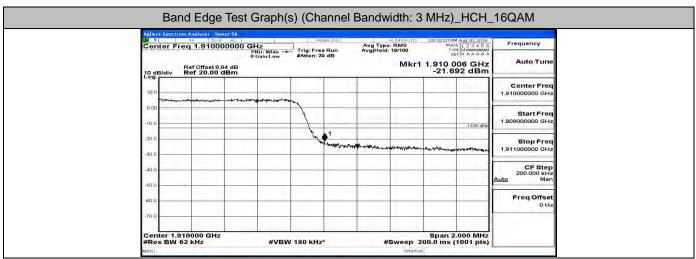


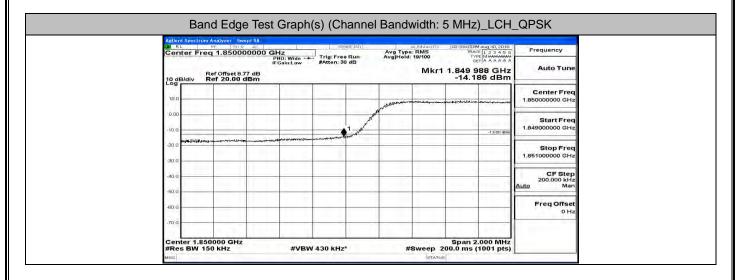


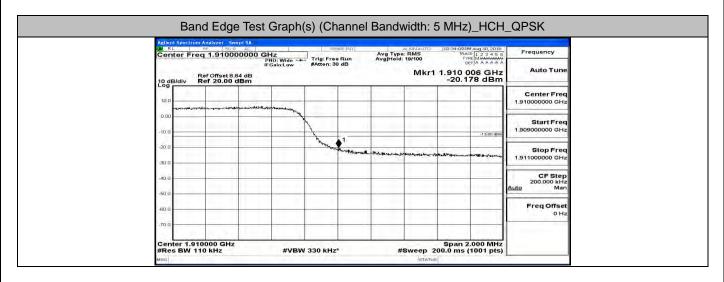
#Img-QPSK-L-3-F-L-BE

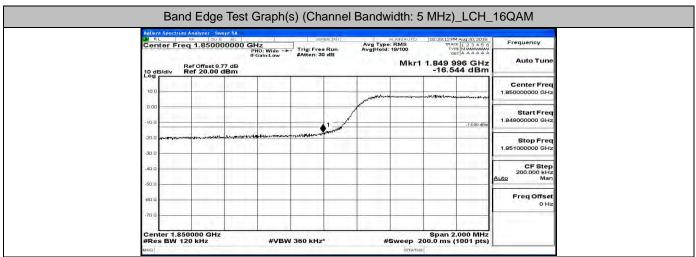


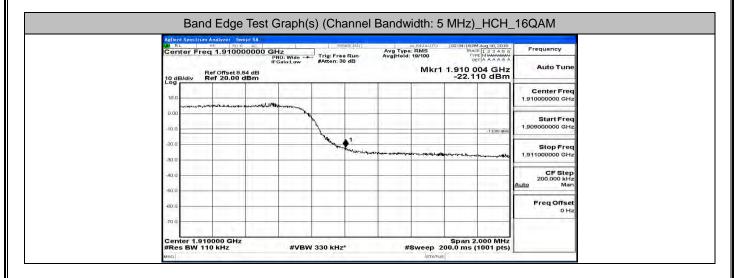






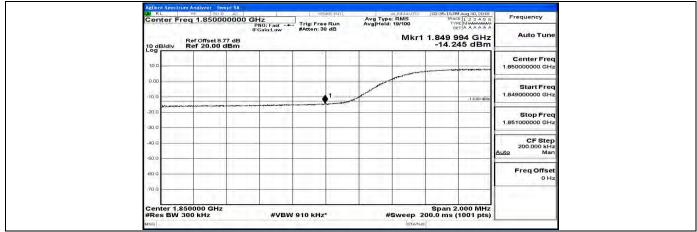


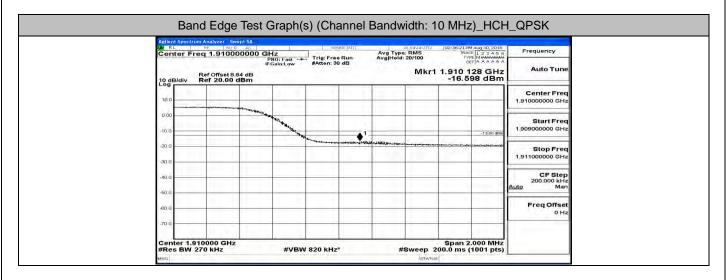


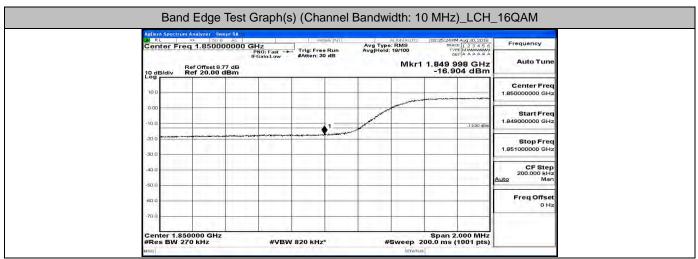


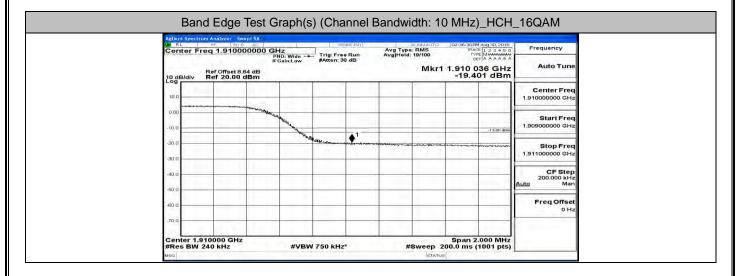
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK





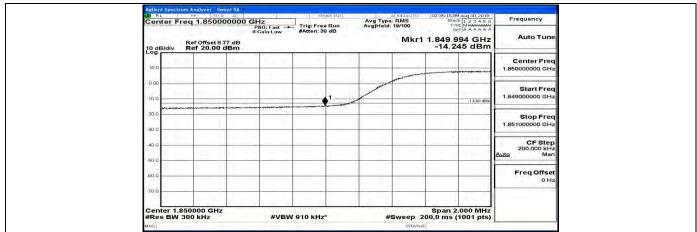


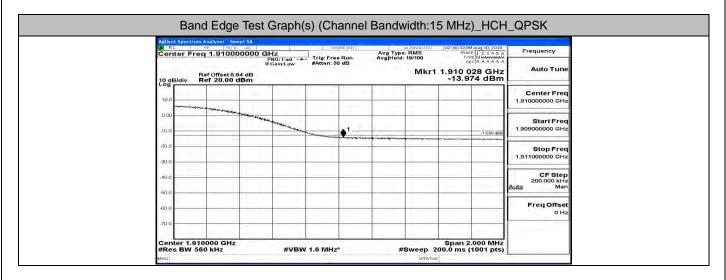


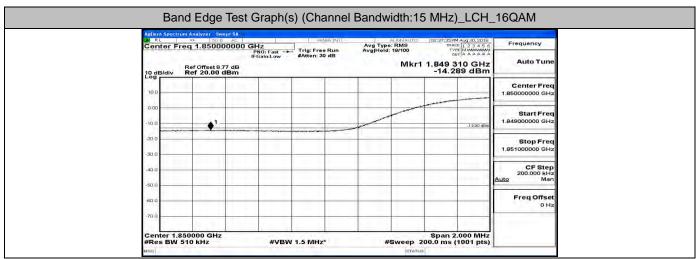


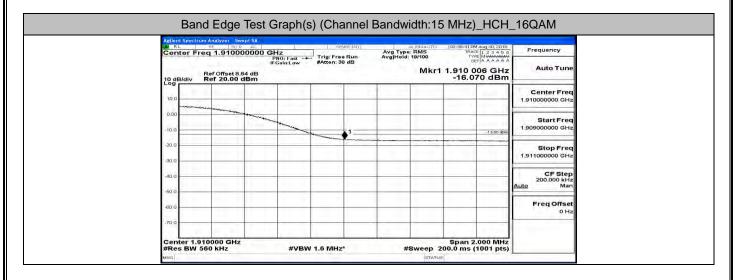
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK

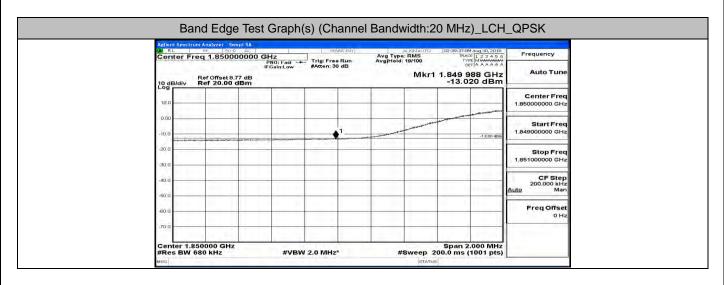


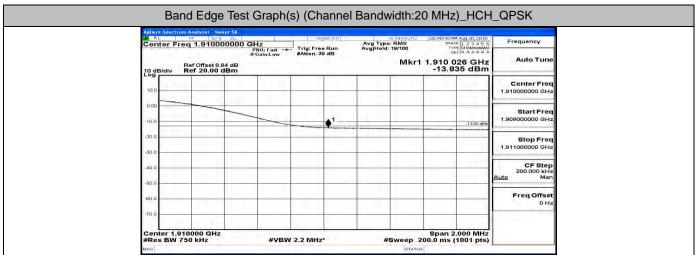


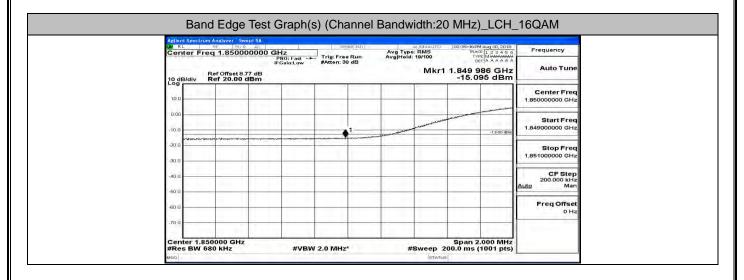


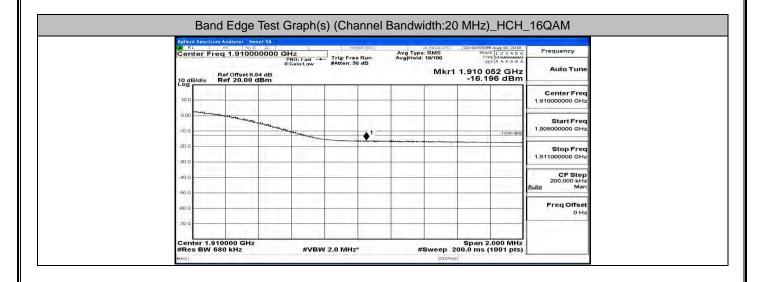












A.5 Conducted Spurious Emission

