Appendix A: Test Data for E-UTRA Band 2

Product Name: LTE GSM/WCDMA Smartphone

Trade Mark: DOOGEE Test Model: S90

Environmental Conditions

Temperature:	23.9
Relative Humidity:	52.8
ATM Pressure:	100.0 kPa
Test Engineer:	Mina.Xu
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]	Verdict			
Modulation	Channel	Size	Offset	QPSK	16QAM	verdict			
		1	0	23.04	22.35	PASS			
		1	3	23.10	22.49	PASS			
		1	5	22.95	22.31	PASS			
	LCH	3	0	23.12	22.26	PASS			
		3	2	23.07	22.27	PASS			
		3	3	23.06	22.23	PASS			
		6	0	21.88	20.87	PASS			
	MCH	1	0	23.28	22.60	PASS			
		1	3	23.39	22.84	PASS			
ODCK /		1	5	23.29	22.58	PASS			
QPSK / 16QAM		3	0	23.27	22.29	PASS			
TOQAM		3	2	23.23	22.32	PASS			
		3	3	23.28	22.30	PASS			
		6	0	22.22	21.16	PASS			
		1	0	22.64	21.90	PASS			
		1	3	22.82	22.17	PASS			
		1	5	22.75	22.03	PASS			
	HCH	3	0	22.74	21.84	PASS			
		3	2	22.81	21.90	PASS			
		3	3	22.83	21.91	PASS			
		6	0	21.73	20.85	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)								
Modulation	Channel	RB Configuration Size Offset		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict			
		1	0	22.96	22.29	PASS			
		1	7	23.13	22.36	PASS			
		1	14	22.69	22.00	PASS			
	1.011								
	LCH	8	0	21.90	20.98	PASS			
		8	4	21.82	20.93	PASS			
		8	7	21.73	20.81	PASS			
		15	0	21.79	20.79	PASS			
	мсн	1	0	23.18	22.57	PASS			
		1	7	23.38	22.80	PASS			
QPSK /		1	14	23.19	22.46	PASS			
16QAM		8	0	22.21	21.28	PASS			
TOQAIVI		8	4	22.26	21.38	PASS			
		8	7	22.18	21.24	PASS			
		15	0	22.17	21.17	PASS			
		1	0	22.51	21.91	PASS			
		1	7	22.95	22.32	PASS			
		1	14	22.83	22.24	PASS			
	НСН	8	0	21.60	20.57	PASS			
		8	4	21.66	20.63	PASS			
		8	7	21.67	20.64	PASS			
		15	0	21.59	20.59	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)								
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Vardiet			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	22.89	22.33	PASS			
		1	12	22.99	22.43	PASS			
		1	24	22.40	21.83	PASS			
	LCH	12	0	21.83	21.02	PASS			
		12	6	21.78	20.97	PASS			
		12	13	21.54	20.81	PASS			
		25	0	21.75	20.79	PASS			
		1	0	23.17	22.60	PASS			
	мсн	1	12	23.44	22.88	PASS			
QPSK /		1	24	23.05	22.49	PASS			
16QAM		12	0	22.23	21.41	PASS			
TOQAIVI		12	6	22.27	21.41	PASS			
		12	13	22.18	21.39	PASS			
		25	0	22.27	21.32	PASS			
		1	0	22.24	21.31	PASS			
		1	12	22.95	21.87	PASS			
		1	24	22.70	21.77	PASS			
	HCH	12	0	21.45	20.51	PASS			
		12	6	21.56	20.66	PASS			
		12	13	21.53	20.58	PASS			
		25	0	21.55	20.55	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	22.94	22.25	PASS		
		1	24	22.59	21.95	PASS		
		1	49	22.07	21.41	PASS		
	LCH	25	0	21.74	20.77	PASS		
		25	12	21.47	20.49	PASS		
		25	25	21.40	20.42	PASS		
		50	0	21.55	20.57	PASS		
	MCH	1	0	23.11	22.44	PASS		
		1	24	23.37	22.73	PASS		
QPSK /		1	49	22.95	22.27	PASS		
16QAM		25	0	22.30	21.31	PASS		
TOQAIVI		25	12	22.26	21.26	PASS		
		25	25	22.23	21.21	PASS		
		50	0	22.24	21.26	PASS		
		1	0	21.97	21.42	PASS		
		1	24	22.46	21.88	PASS		
		1	49	22.71	22.19	PASS		
	HCH	25	0	21.17	20.15	PASS		
		25	12	21.33	20.33	PASS		
		25	25	21.42	20.40	PASS		
		50	0	21.24	20.23	PASS		

	Conducted Output Power Test Result (Channel Bandwidth: 15 MHz)								
Modulation	Channel		figuration	Average Power [dBm]	Average Power [dBm]	Verdict			
		Size	Offset	QPSK	16QAM				
		1	0	22.85	22.20	PASS			
		1	37	22.46	21.77	PASS			
		1	74	21.99	21.29	PASS			
	LCH	37	0	21.51	20.55	PASS			
		37	18	21.24	20.30	PASS			
		37	38	21.10	20.14	PASS			
		75	0	21.35	20.36	PASS			
	MCH	1	0	22.85	22.13	PASS			
		1	37	23.48	22.66	PASS			
QPSK /		1	74	22.61	21.91	PASS			
16QAM		37	0	22.15	21.17	PASS			
TOQAM		37	18	22.24	21.23	PASS			
		37	38	21.99	21.07	PASS			
		75	0	22.17	21.18	PASS			
		1	0	21.84	21.22	PASS			
		1	37	22.27	21.55	PASS			
		1	74	22.65	21.99	PASS			
	HCH	37	0	20.88	19.88	PASS			
		37	18	21.13	20.18	PASS			
		37	38	21.29	20.36	PASS			
		75	0	21.12	20.13	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 20 MHz)								
Modulation	Channel	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Verdict			
Modulation	Channel	Size	Offset	QPSK	16QAM	verdict			
		1	0	22.90	22.12	PASS			
		1	49	22.38	21.60	PASS			
		1	99	22.38	21.56	PASS			
	LCH	50	0	21.30	20.30	PASS			
		50	25	21.15	20.17	PASS			
		50	50	21.30	20.28	PASS			
		100	0	21.32	20.25	PASS			
		1	0	22.66	21.84	PASS			
	мсн	1	49	23.52	22.73	PASS			
ODCK /		1	99	22.39	21.58	PASS			
QPSK / 16QAM		50	0	22.14	21.11	PASS			
TOQAW		50	25	22.23	21.22	PASS			
		50	50	21.93	20.91	PASS			
		100	0	22.03	21.03	PASS			
		1	0	22.22	21.61	PASS			
		1	49	22.22	21.58	PASS			
		1	99	22.62	22.00	PASS			
	HCH	50	0	20.99	20.05	PASS			
		50	25	21.07	20.06	PASS			
		50	50	21.16	20.21	PASS			
		100	0	21.10	20.08	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			
Modulation	Grianner	[dB]	[dB]	verdict			
	LCH	6.02	<13	PASS			
QPSK	MCH	5.71	<13	PASS			
	HCH	5.66	<13	PASS			
	LCH	7	<13	PASS			
16QAM	MCH	6.66	<13	PASS			
	HCH	6.58	<13	PASS			

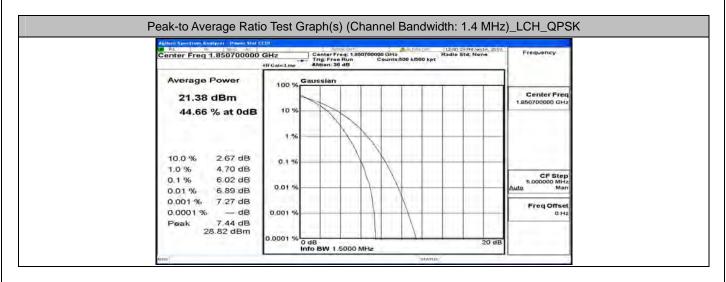
Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Vordict			
Modulation	Channel	[dB]	[dB]	Verdict			
	LCH	5.92	<13	PASS			
QPSK	MCH	5.73	<13	PASS			
	HCH	5.72	<13	PASS			
	LCH	6.9	<13	PASS			
16QAM	MCH	6.65	<13	PASS			
	HCH	6.52	<13	PASS			

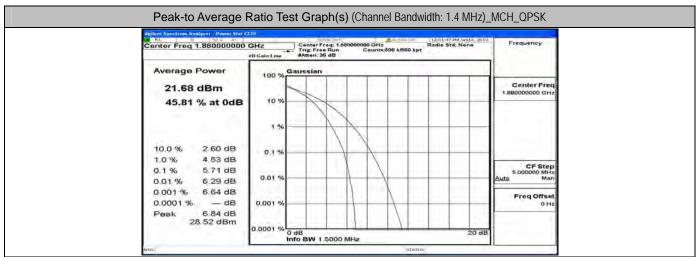
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)						
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict		
iviodulation	Grianner	[dB]	[dB]	verdict		
	LCH	6.02	<13	PASS		
QPSK	MCH	5.82	<13	PASS		
	HCH	5.7	<13	PASS		
	LCH	6.84	<13	PASS		
16QAM	MCH	6.67	<13	PASS		
	HCH	6.43	<13	PASS		

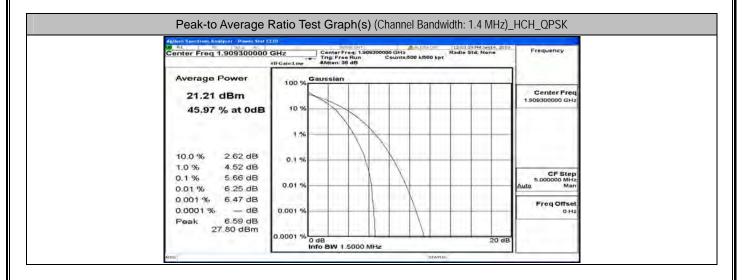
Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict			
Modulation	Channel	[dB]	[dB]	verdict			
	LCH	6.01	<13	PASS			
QPSK	MCH	5.78	<13	PASS			
	HCH	5.57	<13	PASS			
16QAM	LCH	6.75	<13	PASS			
	MCH	6.49	<13	PASS			
	HCH	6.34	<13	PASS			

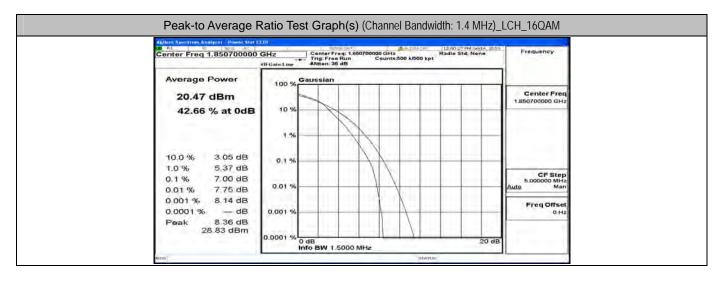
	Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict				
Modulation	Grianner	[dB]	[dB]	verdict				
	LCH	5.12	<13	PASS				
QPSK	MCH	5.02	<13	PASS				
	HCH	4.91	<13	PASS				
	LCH	6.43	<13	PASS				
16QAM	MCH	6.32	<13	PASS				
	HCH	6.28	<13	PASS				

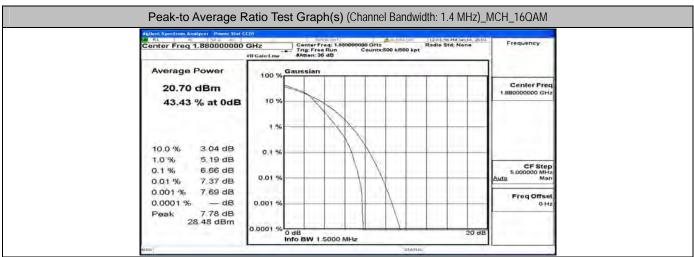
Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)				
Marakata Gara	Channel	Peak-to-Average Ratio	Limit	Verdict
Modulation		[dB]	[dB]	
QPSK	LCH	5.73	<13	PASS
	MCH	5.69	<13	PASS
	HCH	5.77	<13	PASS
16QAM	LCH	6.87	<13	PASS
	MCH	6.8	<13	PASS
	HCH	6.72	<13	PASS

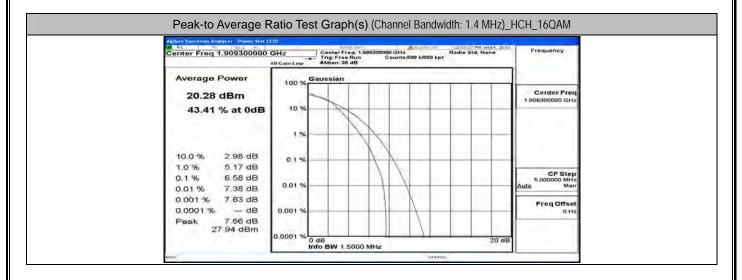


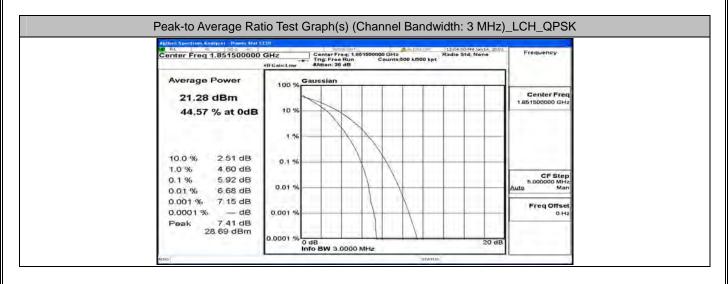


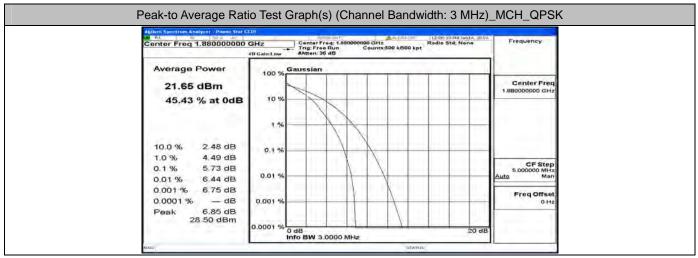


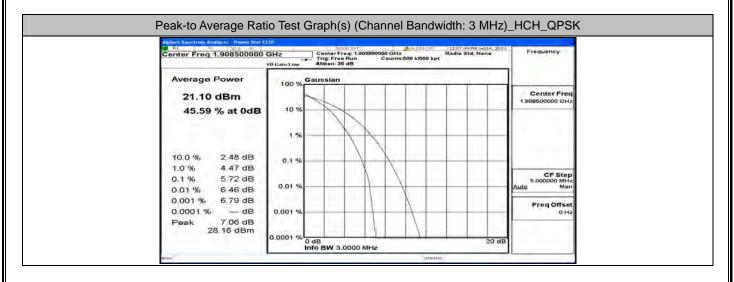


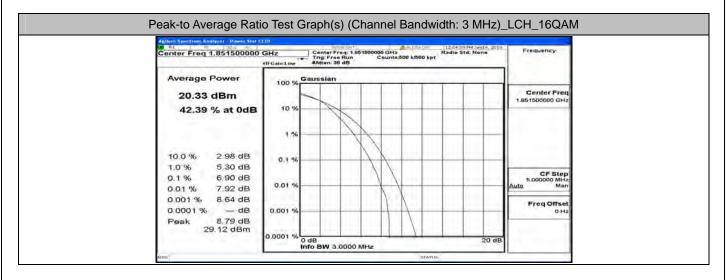


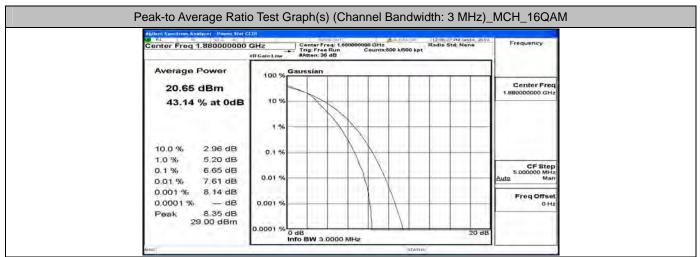


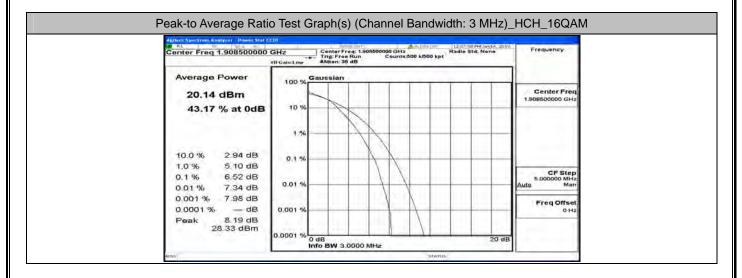


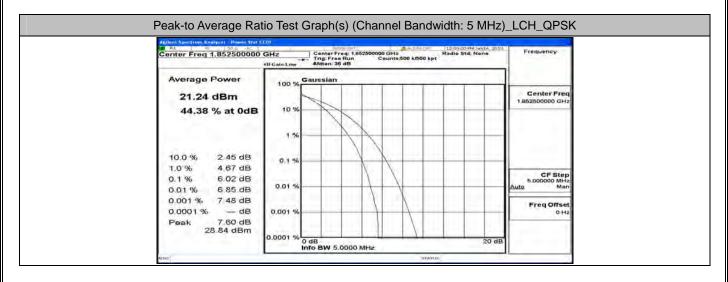


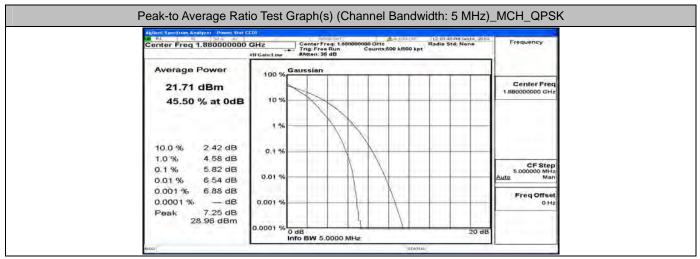


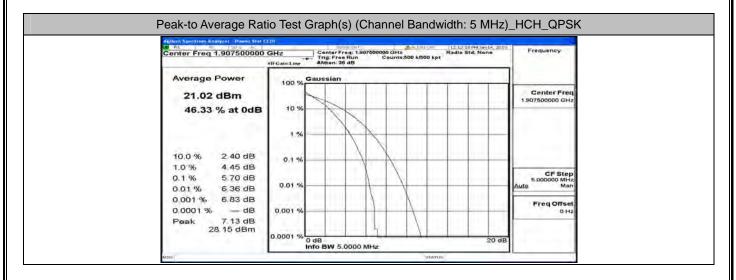


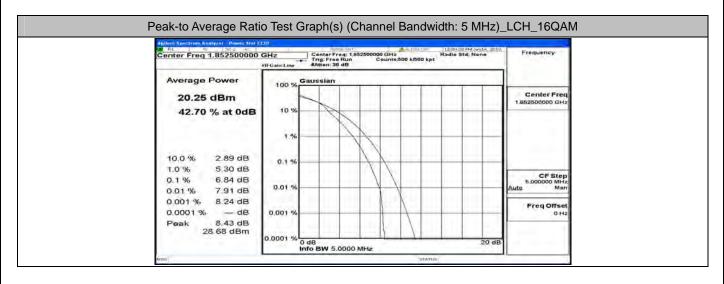


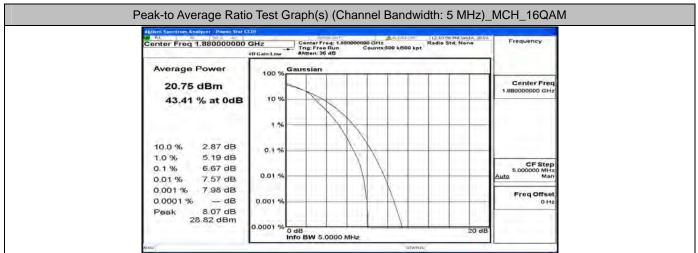


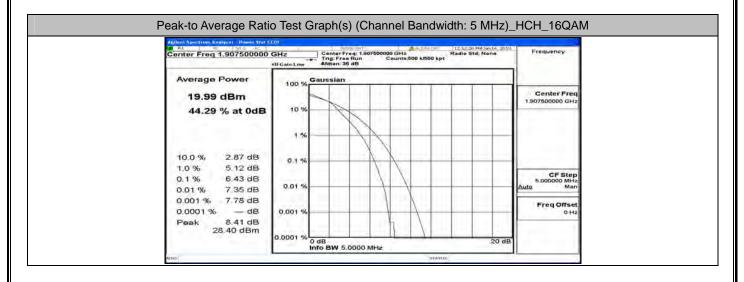


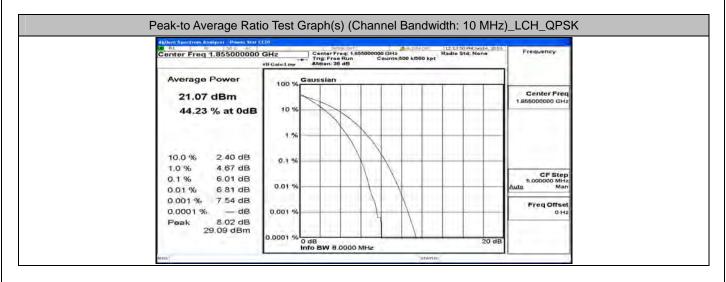


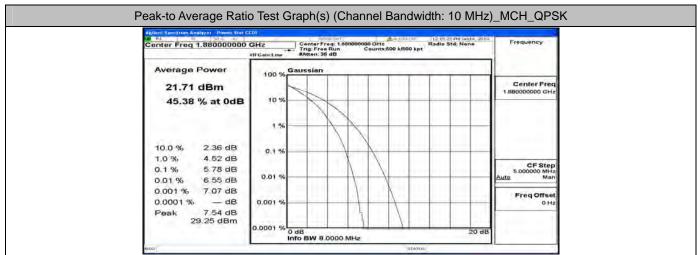


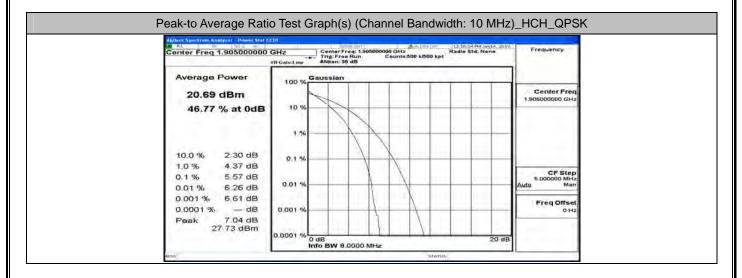


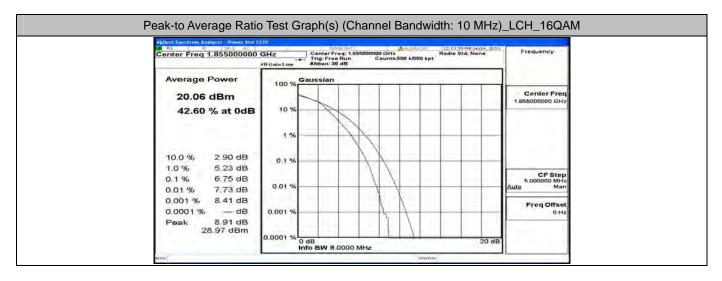


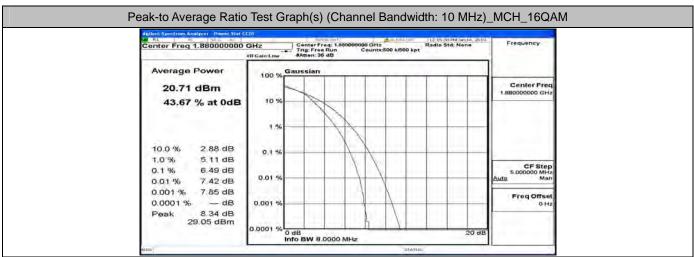


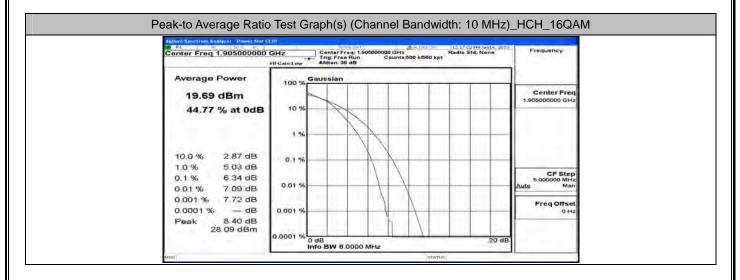


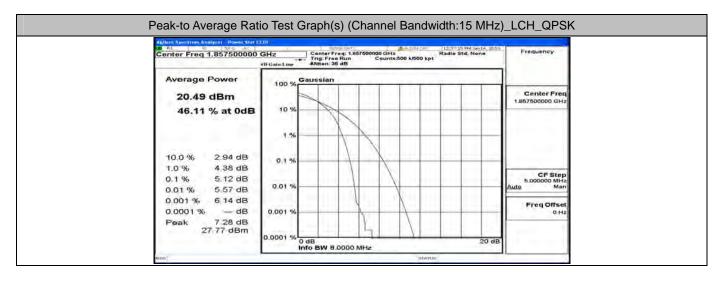


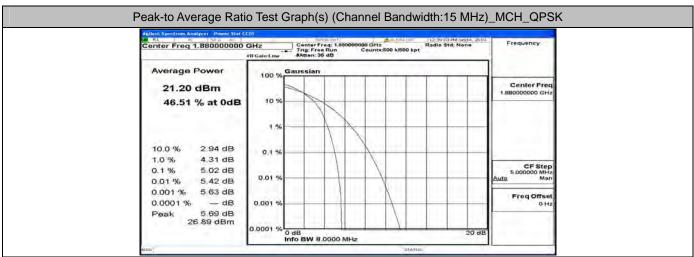


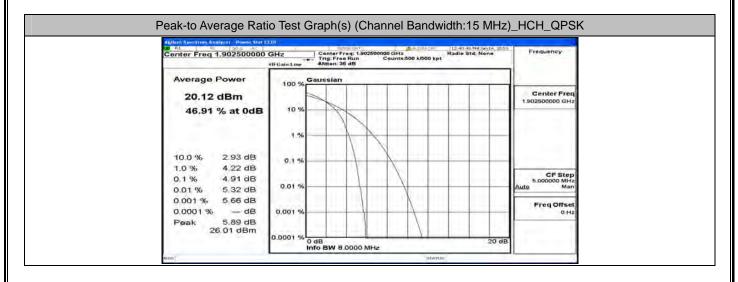


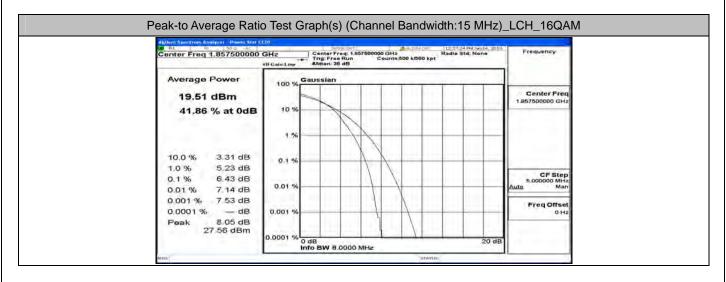


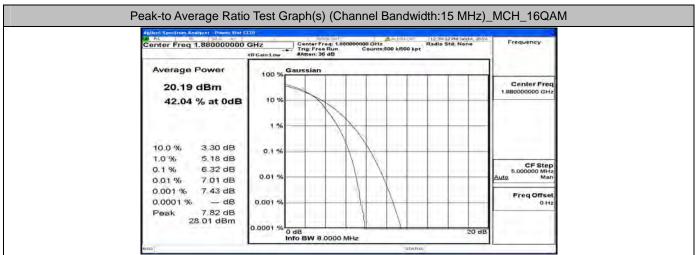


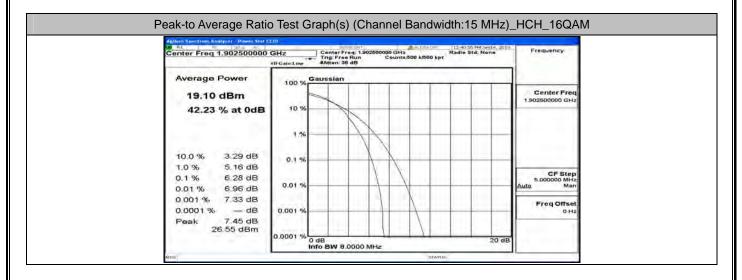


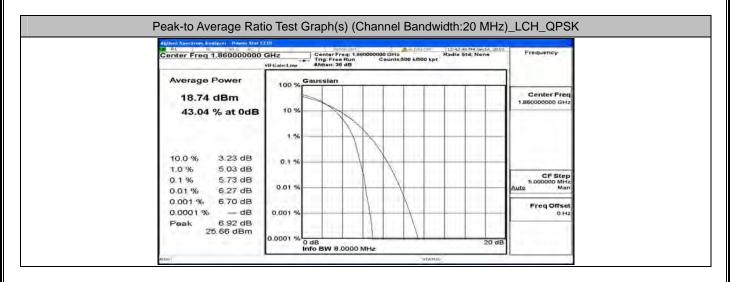


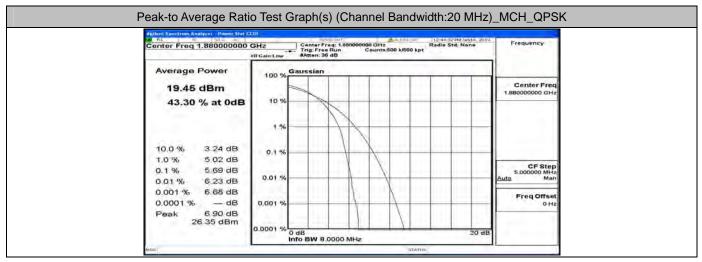


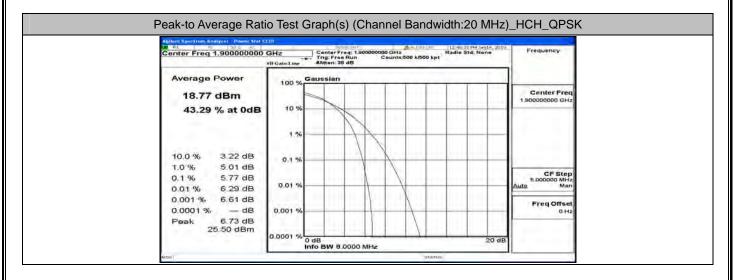


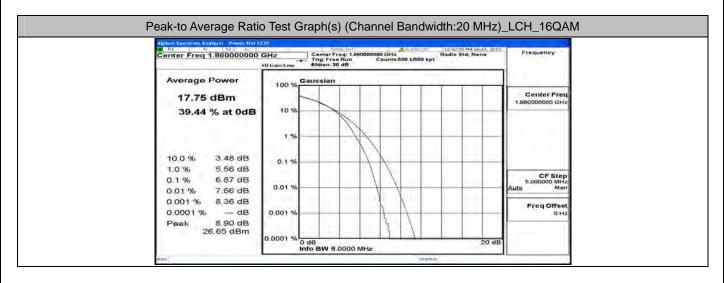


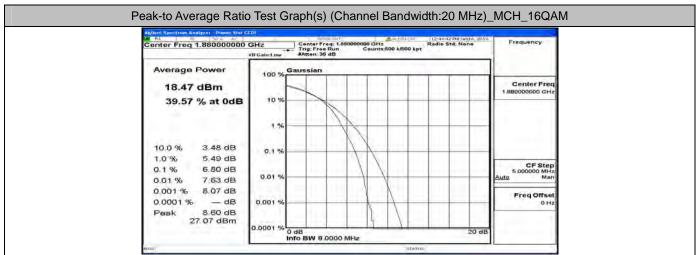


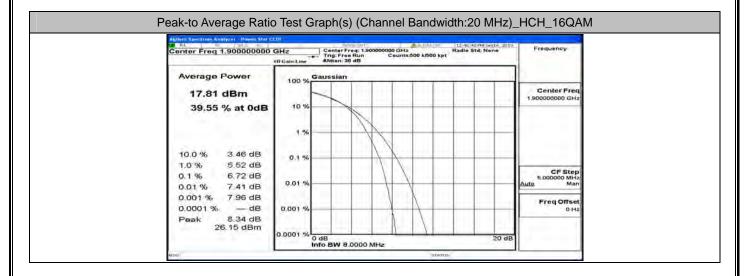












A.3 26dB Bandwidth and Occupied Bandwidth

EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
		(MHz)	(MHz)	
QPSK	LCH	1.0741	1.237	PASS
	MCH	1.0740	1.204	PASS
	HCH	1.0758	1.220	PASS
16QAM	LCH	1.0776	1.239	PASS
	MCH	1.0773	1.240	PASS
	HCH	1.0737	1.216	PASS

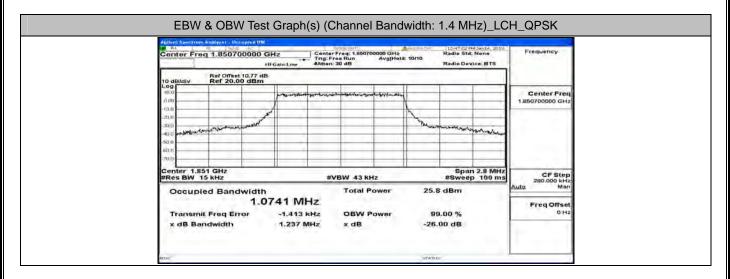
EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	2.6778	2.813	PASS
	MCH	2.6804	2.829	PASS
	HCH	2.6787	2.820	PASS
16QAM	LCH	2.6810	2.831	PASS
	MCH	2.6807	2.846	PASS
	HCH	2.6783	2.828	PASS

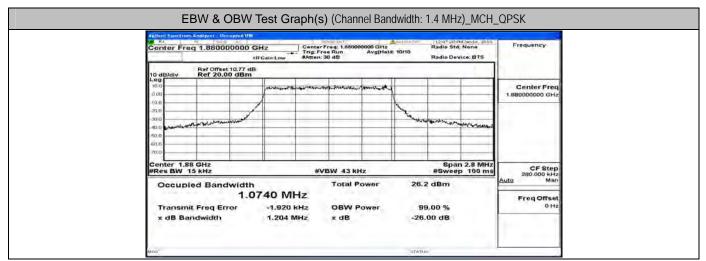
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)					
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict	
IVIOGUIATIOTI		(MHz)	(MHz)		
QPSK	LCH	4.4773	4.873	PASS	
	MCH	4.4799	4.876	PASS	
	HCH	4.4744	4.864	PASS	
16QAM	LCH	4.4802	4.876	PASS	
	MCH	4.4713	4.865	PASS	
	HCH	4.4804	4.902	PASS	

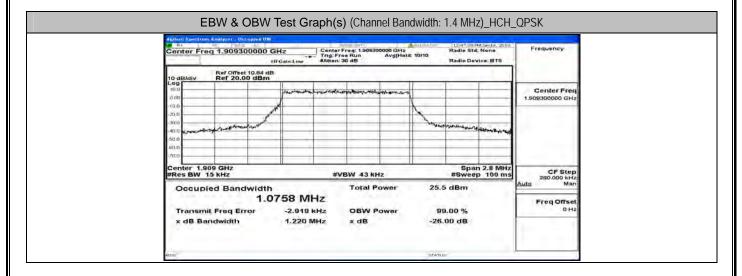
EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	8.9492	9.579	PASS
	MCH	8.9416	9.570	PASS
	HCH	8.9268	9.532	PASS
16QAM	LCH	8.9553	9.546	PASS
	MCH	8.9431	9.482	PASS
	HCH	8.9456	9.564	PASS

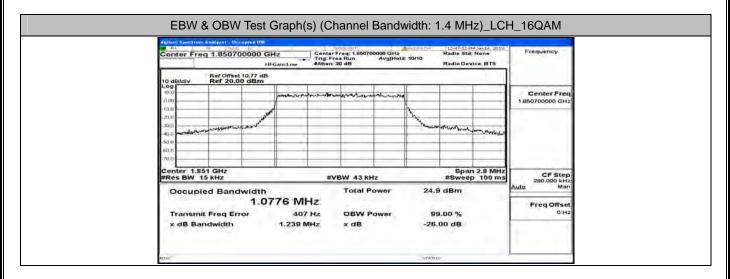
EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	13.429	14.19	PASS
	MCH	13.415	14.20	PASS
	HCH	13.371	14.17	PASS
16QAM	LCH	13.419	14.07	PASS
	MCH	13.397	14.14	PASS
	HCH	13.375	14.04	PASS

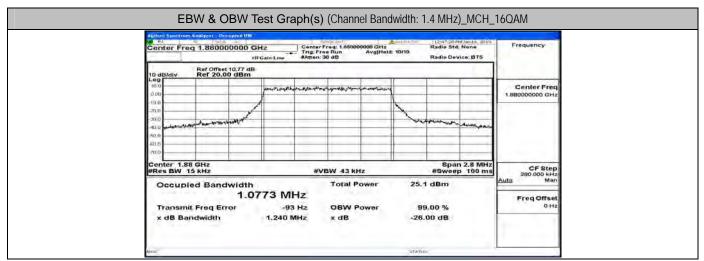
EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	17.868	18.61	PASS
	MCH	17.854	18.70	PASS
	HCH	17.826	18.59	PASS
16QAM	LCH	17.875	18.68	PASS
	MCH	17.847	18.65	PASS
	HCH	17.815	18.58	PASS

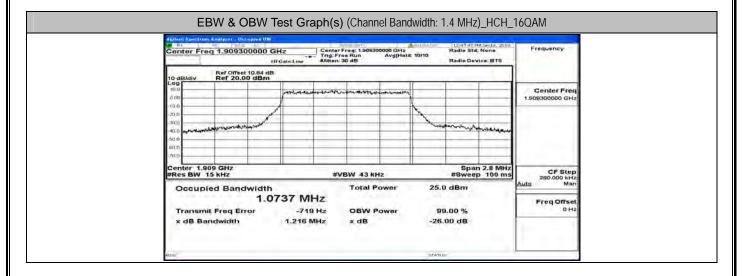


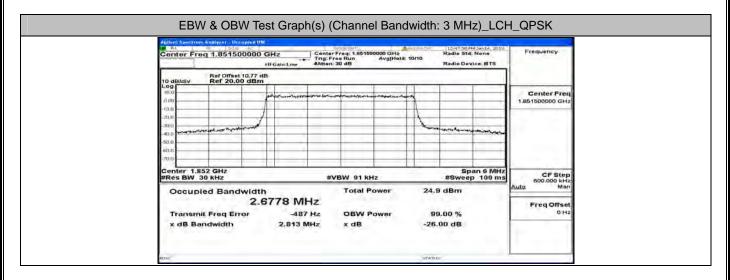


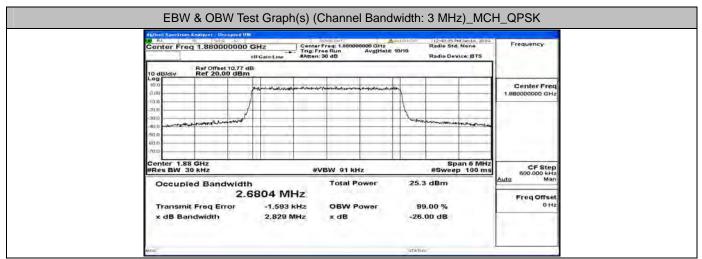


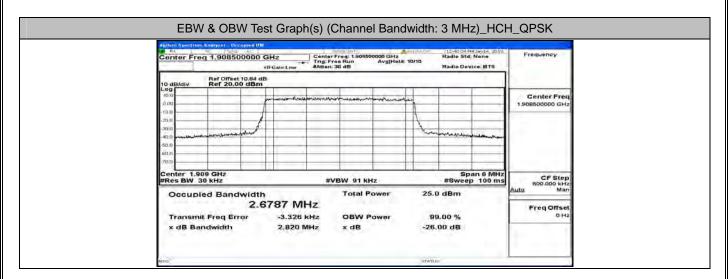


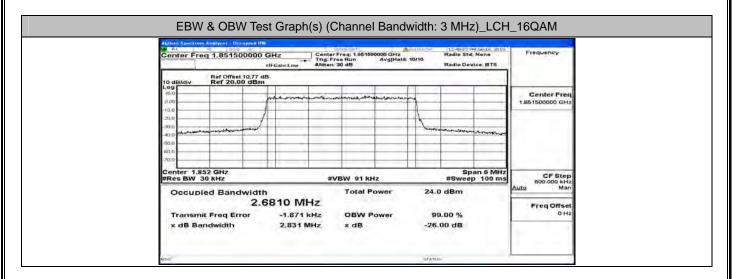


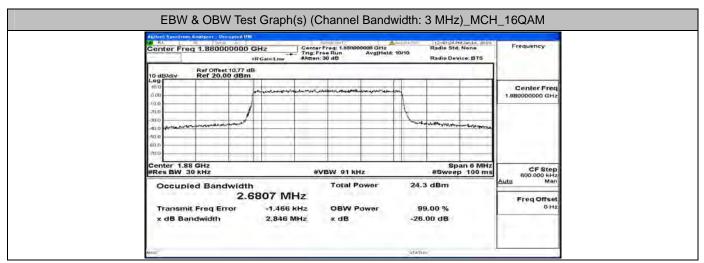


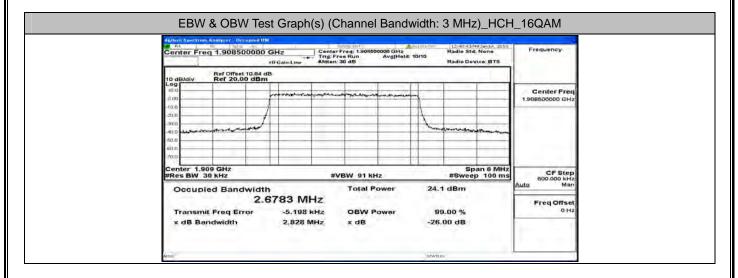


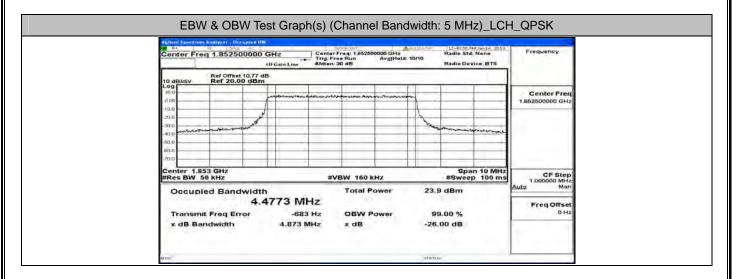


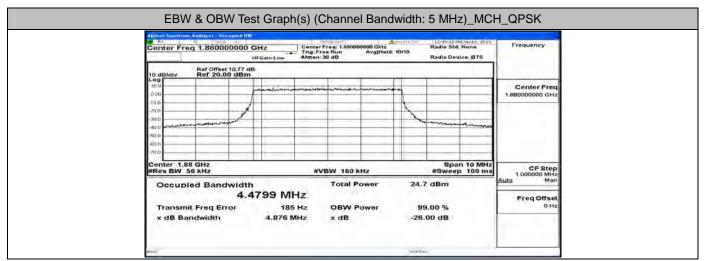


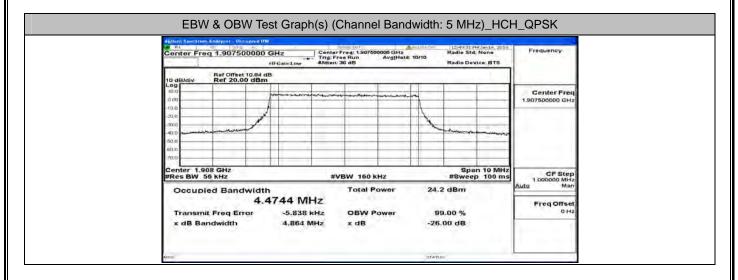


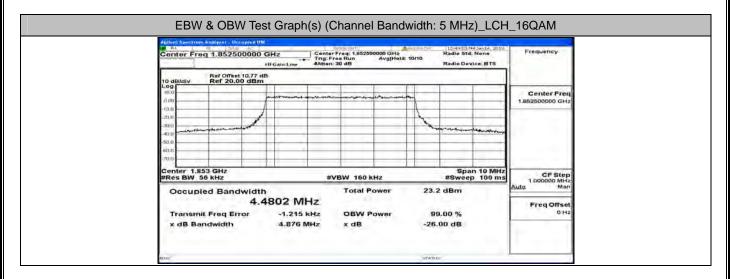


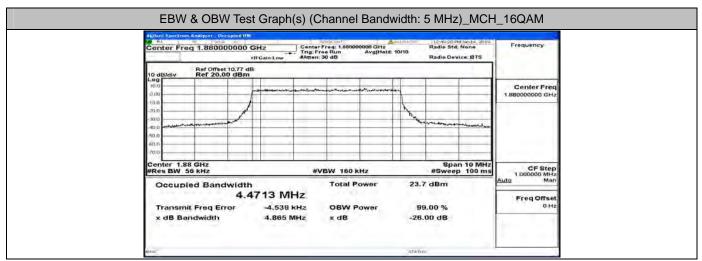


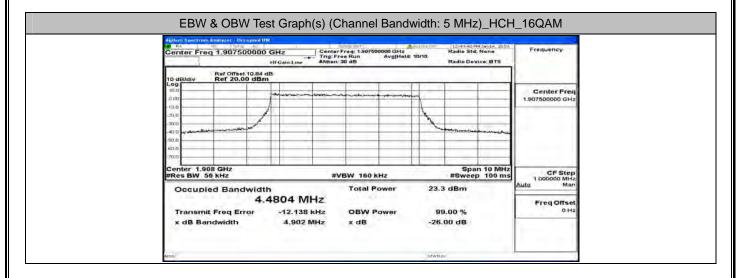


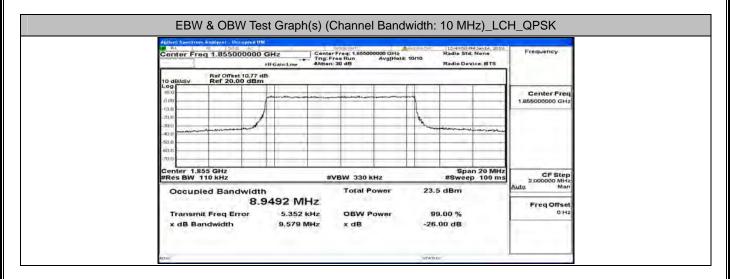


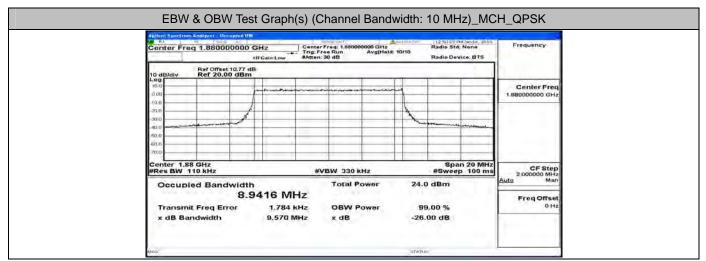


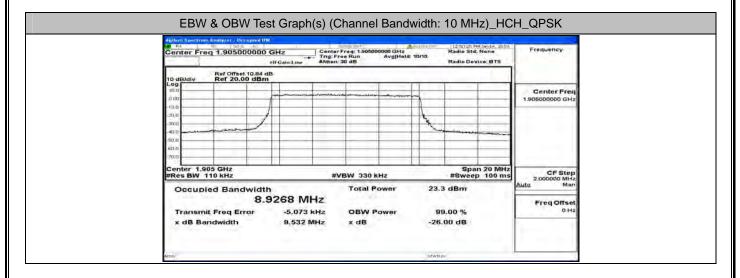


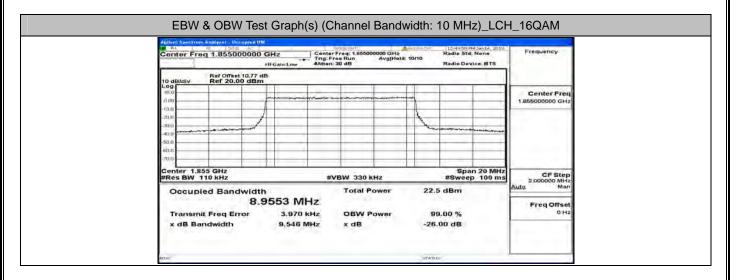


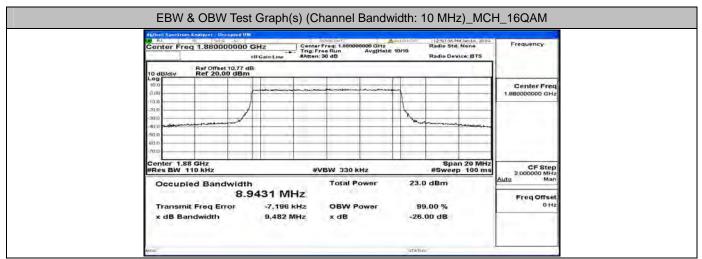


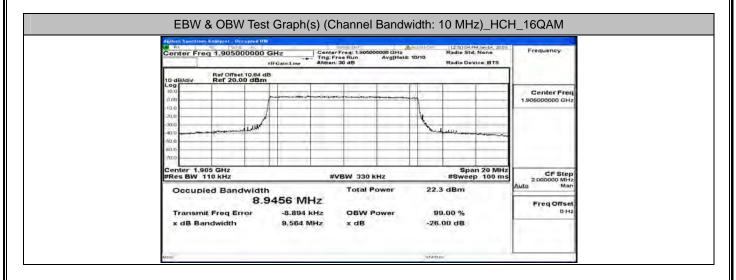


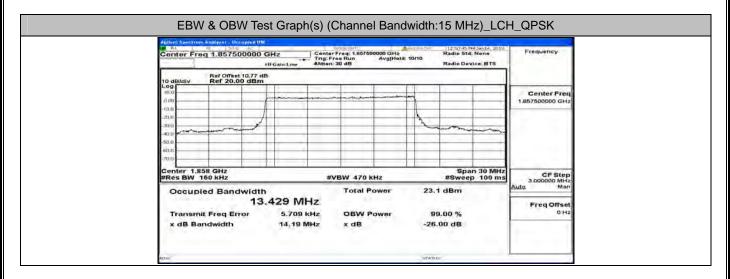


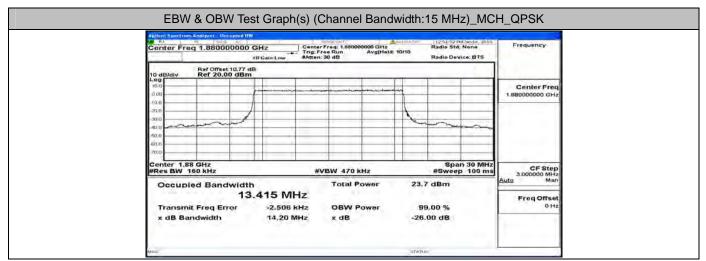


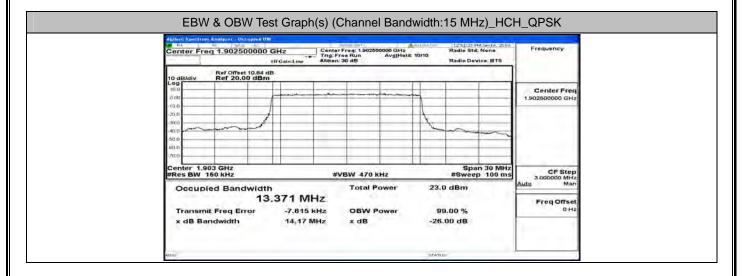


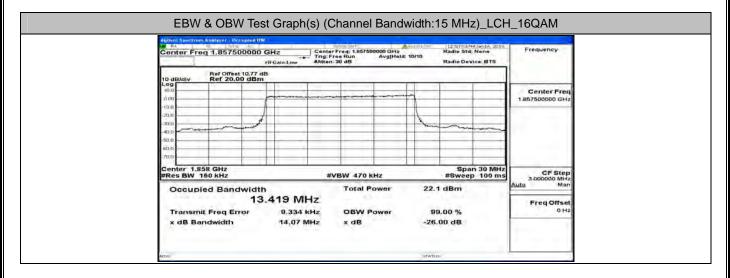


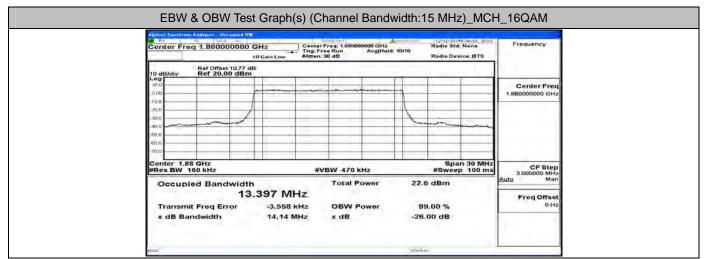


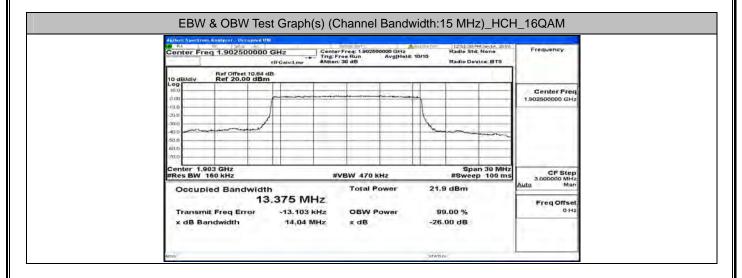


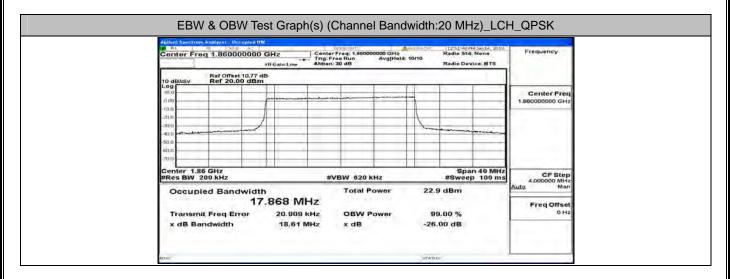


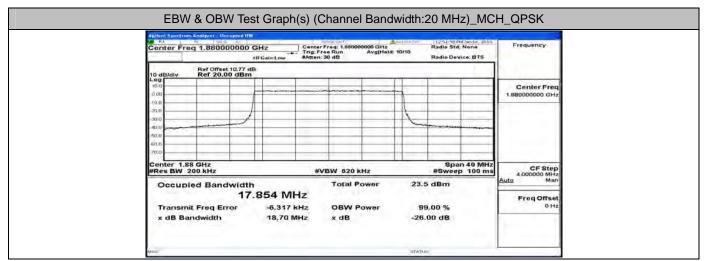


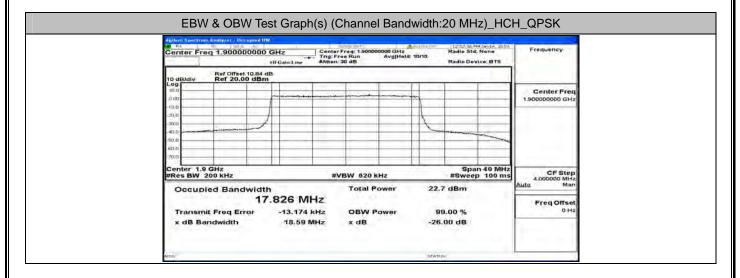


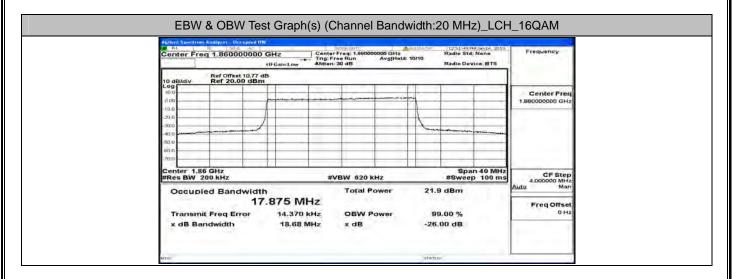


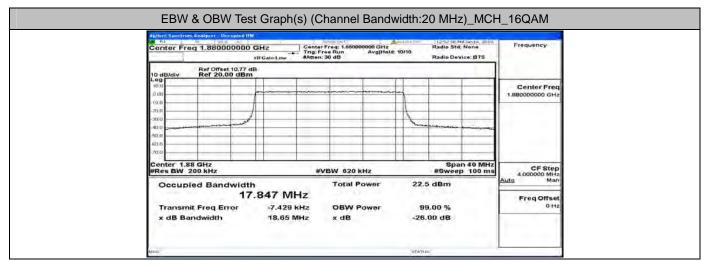


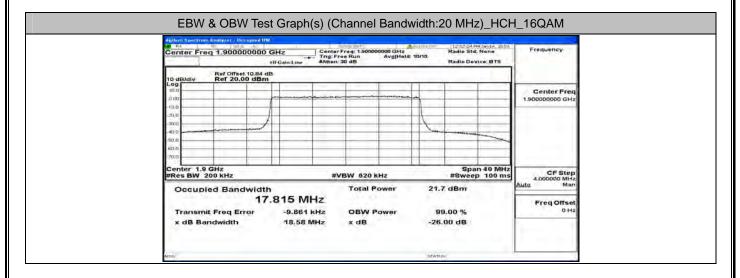




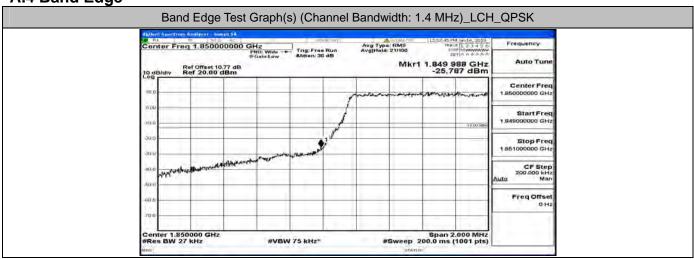


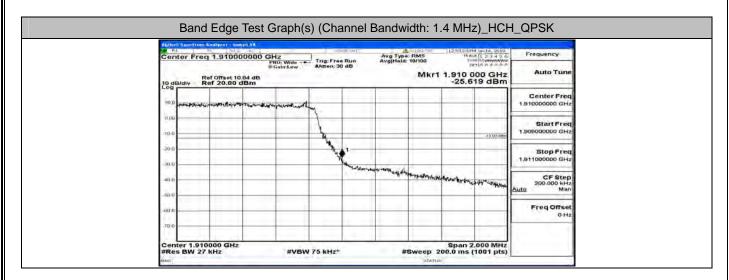


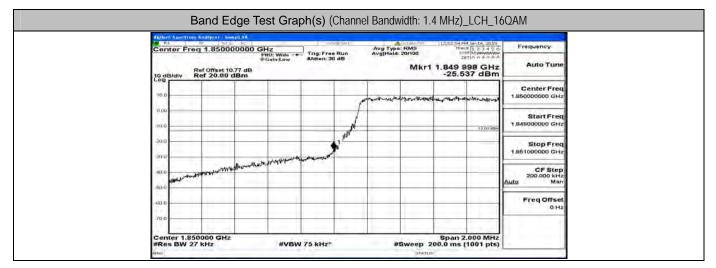


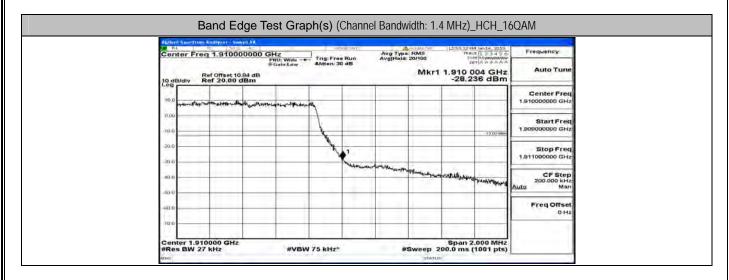


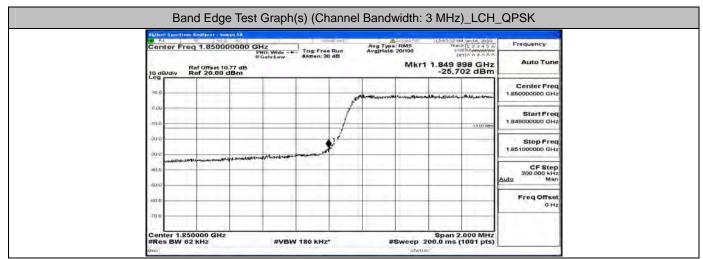
A.4 Band Edge

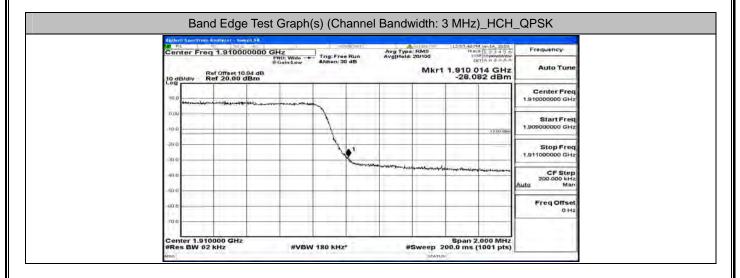


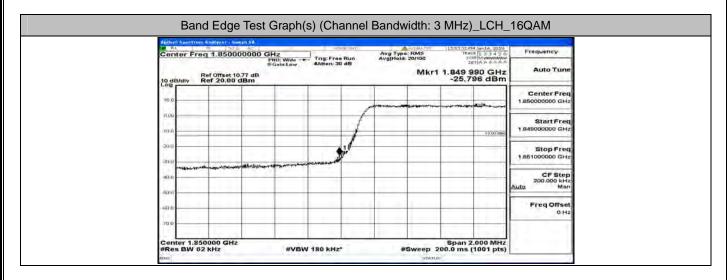


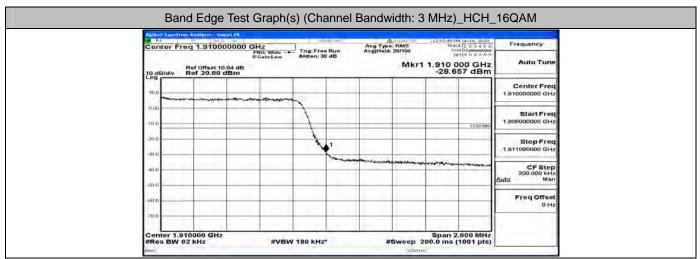


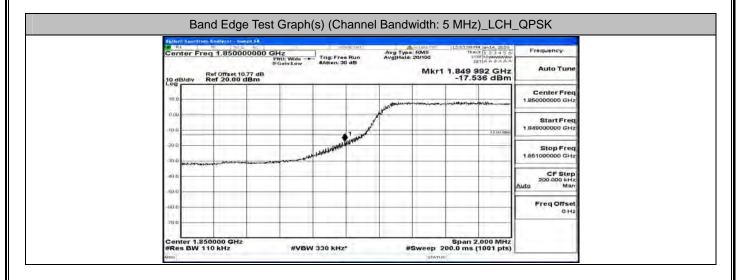


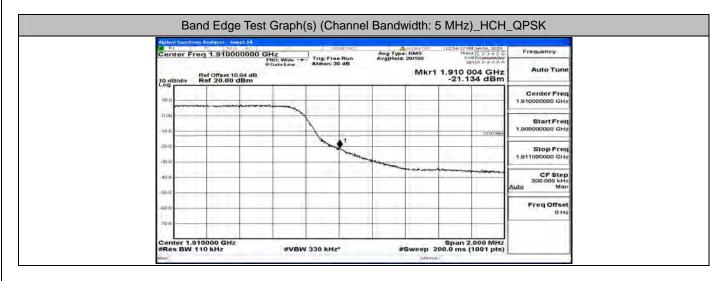


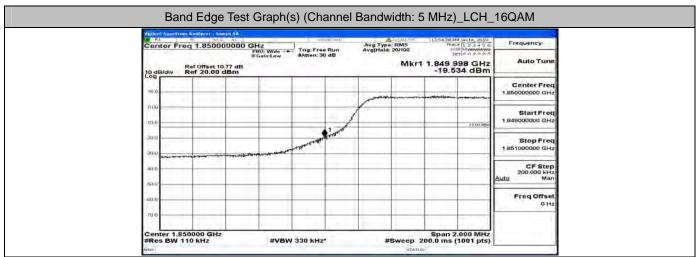


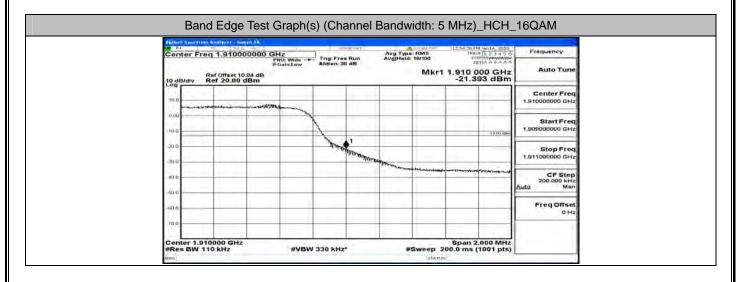


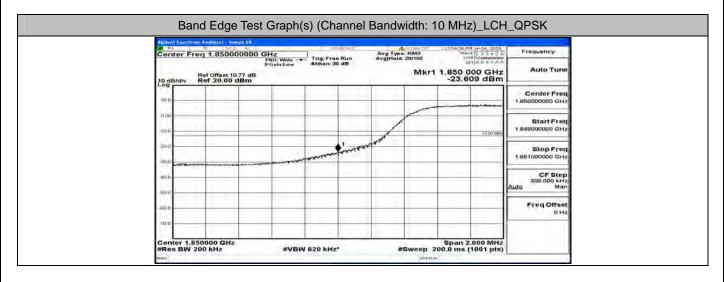


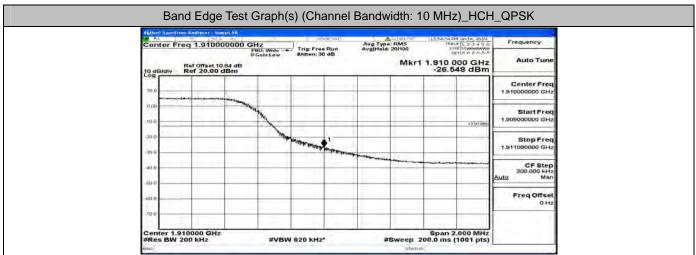


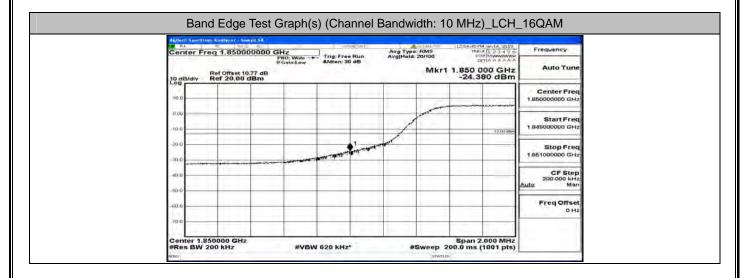


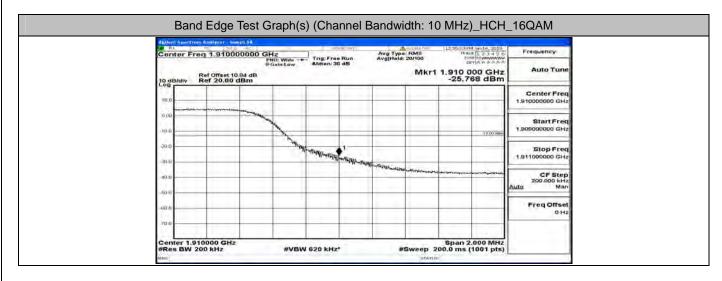


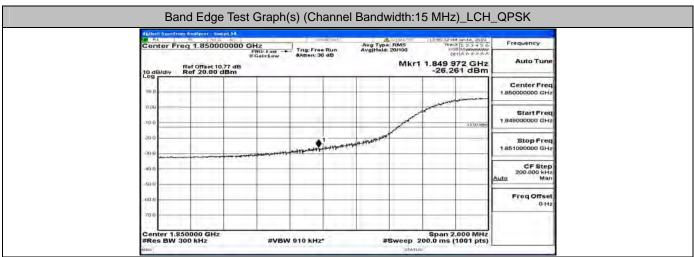


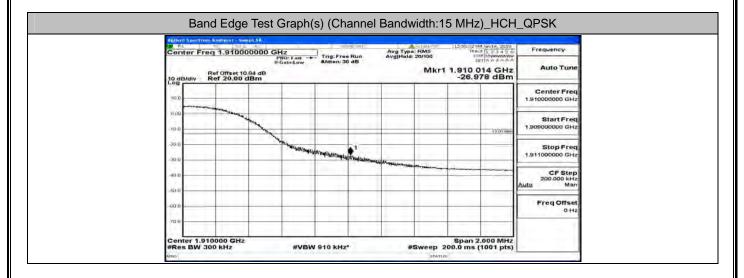


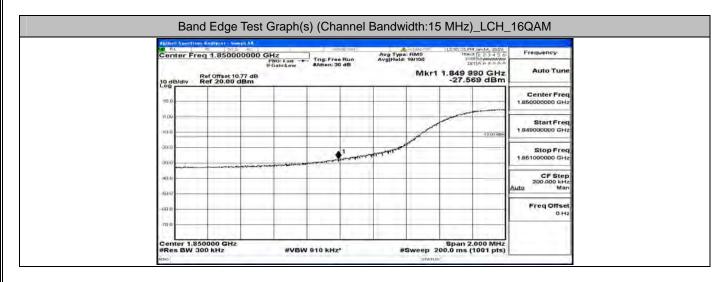


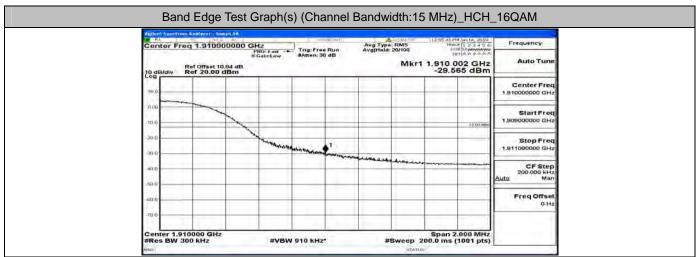


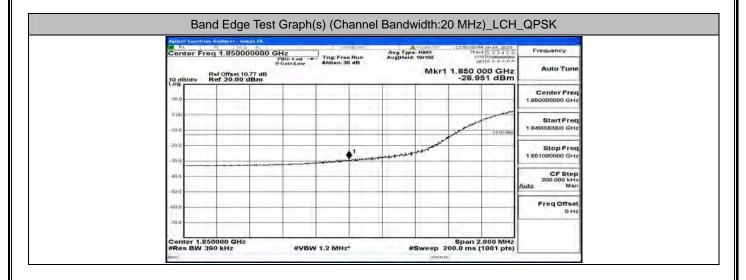


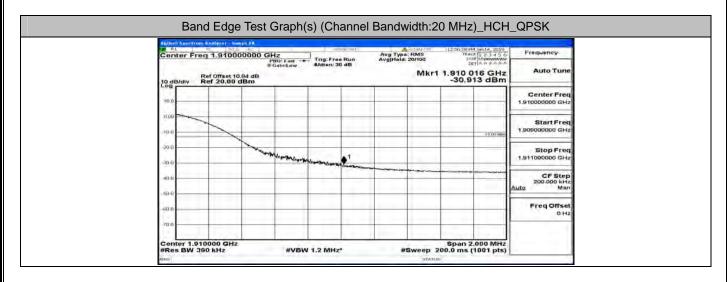


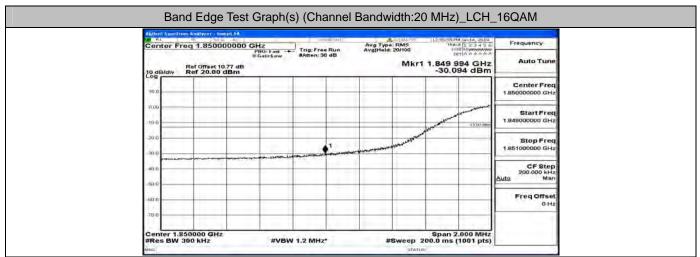


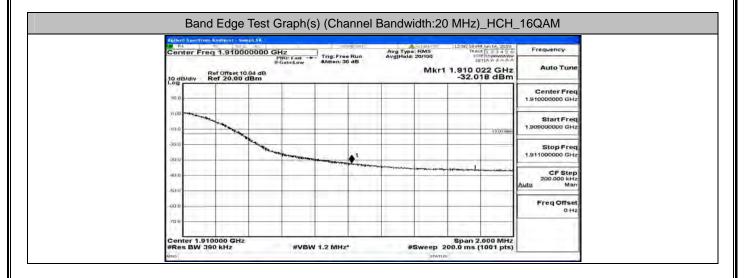












A.5 Conducted Spurious Emission

