Appendix F: Test Data for E-UTRA Band 4

Product Name: Smart POS
Trade Mark: N/A
Test Model: WIZARPOS Q3

Environmental Conditions

Temperature:	22.5° C
Relative Humidity:	53.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Li Huan
Supervised by:	Tom.Liu

F.1 Conducted Output Power

	Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)							
Madulation	Channal	RB Configuration		Average Power [dBm]	Average Power [dBm]	\/a ==li =4		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	23.16	22.46	PASS		
		1	3	23.06	22.43	PASS		
		1	5	22.91	22.29	PASS		
	LCH	3	0	23.07	22.32	PASS		
		3	2	23.02	22.25	PASS		
		3	3	22.93	22.15	PASS		
		6	0	22.68	21.53	PASS		
		1	0	23.15	22.55	PASS		
	мсн	1	3	23.15	22.40	PASS		
QPSK /		1	5	23.00	22.29	PASS		
16QAM		3	0	23.24	22.25	PASS		
IOQAW		3	2	23.30	22.18	PASS		
		3	3	23.16	21.98	PASS		
		6	0	21.97	21.08	PASS		
		1	0	23.76	22.31	PASS		
		1	3	23.93	22.50	PASS		
		1	5	23.63	22.42	PASS		
	HCH	3	0	23.61	22.24	PASS		
		3	2	23.66	22.39	PASS		
		3	3	23.65	22.31	PASS		
		6	0	22.45	21.78	PASS		

	Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)								
Modulation	Channal	RB Configuration		Average Power [dBm]	Average Power [dBm]	Vardiet			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	23.13	22.44	PASS			
		1	7	22.92	22.23	PASS			
		1	14	22.50	21.85	PASS			
	LCH	8	0	22.78	21.96	PASS			
		8	4	22.54	21.79	PASS			
		8	7	22.54	21.55	PASS			
		15	0	22.69	21.81	PASS			
		1	0	23.10	22.47	PASS			
	MCH	1	7	23.32	22.29	PASS			
ODCK /		1	14	23.18	21.97	PASS			
QPSK / 16QAM		8	0	22.08	21.13	PASS			
TOQAW		8	4	22.20	21.19	PASS			
		8	7	22.11	21.11	PASS			
		15	0	22.03	21.14	PASS			
		1	0	23.47	22.49	PASS			
		1	7	23.97	22.89	PASS			
		1	14	24.05	22.96	PASS			
	HCH	8	0	22.39	21.09	PASS			
		8	4	22.59	21.25	PASS			
		8	7	22.53	21.57	PASS			
		15	0	22.34	21.38	PASS			

Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)								
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/a ==li =4		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	23.09	22.50	PASS		
		1	12	22.67	22.13	PASS		
		1	24	22.24	21.68	PASS		
	LCH	12	0	22.63	21.99	PASS		
		12	6	22.50	21.79	PASS		
		12	13	22.24	21.50	PASS		
		25	0	22.45	21.61	PASS		
		1	0	23.03	22.33	PASS		
	MCH	1	12	23.28	22.21	PASS		
QPSK /		1	24	23.03	22.23	PASS		
16QAM		12	0	22.10	21.27	PASS		
TOQAW		12	6	22.07	21.33	PASS		
		12	13	22.06	21.21	PASS		
		25	0	22.03	21.18	PASS		
		1	0	23.28	21.60	PASS		
		1	12	24.10	22.18	PASS		
		1	24	24.17	22.15	PASS		
	HCH	12	0	22.39	21.39	PASS		
		12	6	22.63	21.73	PASS		
		12	13	22.67	21.77	PASS		
		25	0	22.54	21.59	PASS		

Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)								
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/a ==li =4		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	22.21	21.58	PASS		
		1	24	22.32	21.71	PASS		
		1	49	22.17	21.55	PASS		
	LCH	25	0	22.16	21.27	PASS		
		25	12	22.18	21.31	PASS		
		25	25	22.16	21.26	PASS		
		50	0	22.12	21.23	PASS		
		1	0	22.56	21.95	PASS		
	мсн	1	24	23.27	22.67	PASS		
QPSK /		1	49	23.34	22.73	PASS		
16QAM		25	0	22.15	21.19	PASS		
IOQAW		25	12	22.12	21.15	PASS		
		25	25	22.03	21.04	PASS		
		50	0	22.04	21.16	PASS		
		1	0	22.34	21.83	PASS		
		1	24	23.29	22.83	PASS		
		1	49	23.70	23.21	PASS		
	нсн	25	0	22.26	21.24	PASS		
		25	12	22.55	21.70	PASS		
		25	25	22.61	21.68	PASS		
		50	0	22.36	21.43	PASS		

	Conducted Output Power Test Result (Channel Bandwidth: 15 MHz)								
Madulation	Channal	RB Configuration		Average Power [dBm]	Average Power [dBm]	\/a ==li =4			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	21.94	21.30	PASS			
		1	37	22.47	21.87	PASS			
		1	74	22.98	22.33	PASS			
	LCH	37	0	21.91	21.01	PASS			
		37	18	22.39	21.48	PASS			
		37	38	22.92	22.04	PASS			
		75	0	22.38	21.52	PASS			
	МСН	1	0	22.77	22.13	PASS			
		1	37	23.14	22.55	PASS			
QPSK /		1	74	23.18	22.73	PASS			
16QAM		37	0	22.28	21.37	PASS			
TOQAW		37	18	22.13	21.11	PASS			
		37	38	21.99	20.92	PASS			
		75	0	22.07	21.20	PASS			
		1	0	22.98	22.49	PASS			
		1	37	22.80	22.29	PASS			
		1	74	23.40	22.84	PASS			
	HCH	37	0	22.10	21.07	PASS			
		37	18	22.34	21.41	PASS			
		37	38	22.56	21.66	PASS			
		75	0	22.36	21.37	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 20 MHz)								
Madulation	Channal	RB Configuration		Average Power [dBm]	Average Power [dBm]	\/andiat			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	22.51	21.58	PASS			
		1	49	23.71	21.85	PASS			
		1	99	22.69	21.37	PASS			
	LCH	50	0	22.26	21.31	PASS			
		50	25	23.08	22.02	PASS			
		50	50	22.62	21.68	PASS			
		100	0	22.58	21.70	PASS			
		1	0	22.81	22.00	PASS			
	МСН	1	49	23.23	22.25	PASS			
ODCK /		1	99	22.91	21.25	PASS			
QPSK / 16QAM		50	0	22.17	21.34	PASS			
IOQAW		50	25	21.92	21.11	PASS			
		50	50	21.74	20.89	PASS			
		100	0	22.03	21.12	PASS			
		1	0	22.80	21.64	PASS			
		1	49	23.51	22.09	PASS			
		1	99	23.47	22.42	PASS			
	HCH	50	0	21.89	20.96	PASS			
		50	25	22.02	20.98	PASS			
		50	50	22.25	21.13	PASS			
		100	0	22.11	21.13	PASS			

F.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	5.18	<13	PASS			
QPSK	MCH	5.28	<13	PASS			
	HCH	5.11	<13	PASS			
	LCH	6.01	<13	PASS			
16QAM	MCH	6.11	<13	PASS			
	HCH	5.96	<13	PASS			

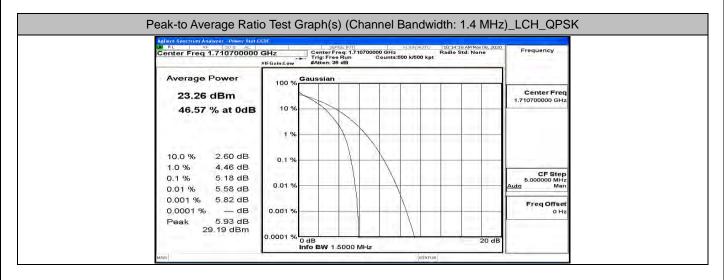
Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict			
Modulation	Channel	[dB]	[dB]	verdict			
	LCH	5.29	<13	PASS			
QPSK	MCH	5.32	<13	PASS			
	HCH	5.25	<13	PASS			
16QAM	LCH	6.19	<13	PASS			
	MCH	6.2	<13	PASS			
	HCH	6.1	<13	PASS			

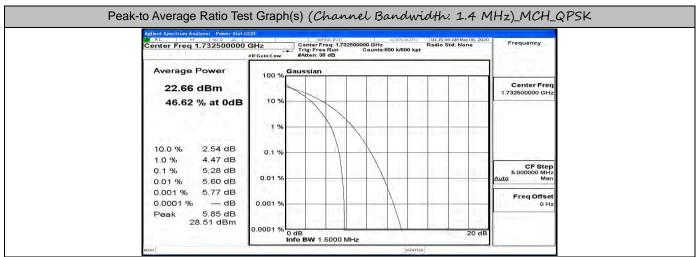
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Vordict			
Modulation	Channel	[dB]	[dB]	Verdict			
	LCH	5.6	<13	PASS			
QPSK	MCH	5.3	<13	PASS			
	HCH	5.29	<13	PASS			
	LCH	6.09	<13	PASS			
16QAM	MCH	6.07	<13	PASS			
	HCH	6.03	<13	PASS			

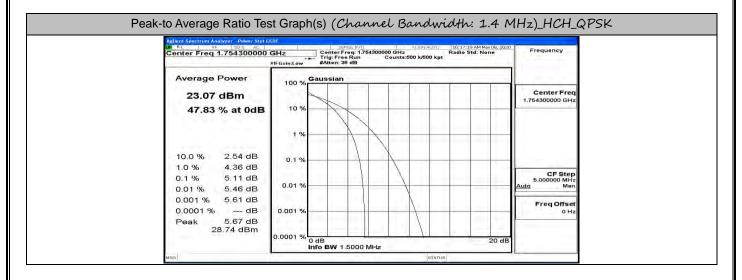
Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict			
Modulation	Griannei	[dB]	[dB]	verdict			
	LCH	5.74	<13	PASS			
QPSK	MCH	5.31	<13	PASS			
	HCH	5.31	<13	PASS			
	LCH	6.45	<13	PASS			
16QAM	MCH	6.02	<13	PASS			
	HCH	6.05	<13	PASS			

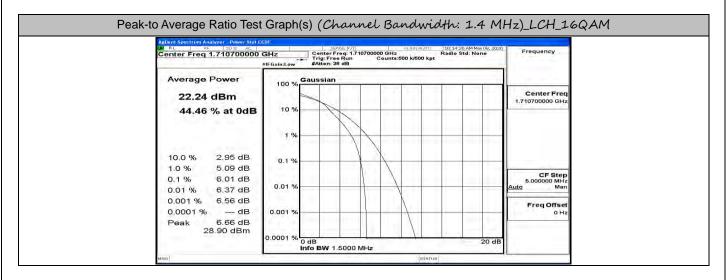
	Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict				
Modulation	Chame	[dB]	[dB]	verdict				
	LCH	5.18	<13	PASS				
QPSK	MCH	4.97	<13	PASS				
	HCH	5.04	<13	PASS				
	LCH	6.26	<13	PASS				
16QAM	MCH	6.19	<13	PASS				
	HCH	6.2	<13	PASS				

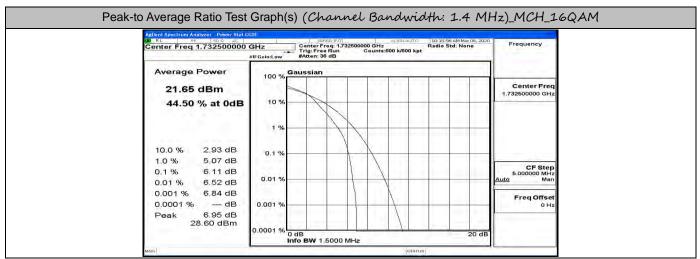
Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)				
Manhalatina	Channel	Peak-to-Average Ratio	Limit	Verdict
Modulation		[dB]	[dB]	
QPSK	LCH	5.69	<13	PASS
	MCH	5.71	<13	PASS
	HCH	5.84	<13	PASS
16QAM	LCH	6.77	<13	PASS
	MCH	6.73	<13	PASS
	HCH	6.67	<13	PASS

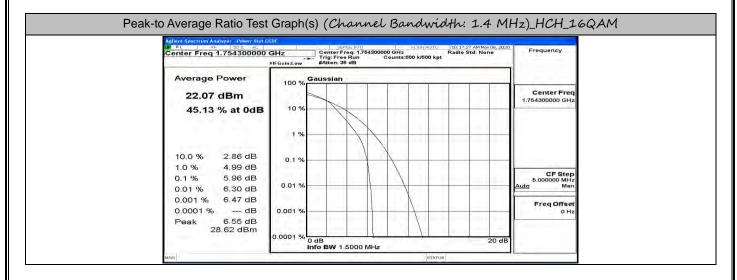


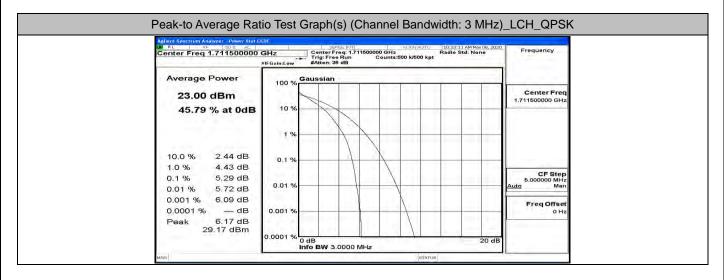


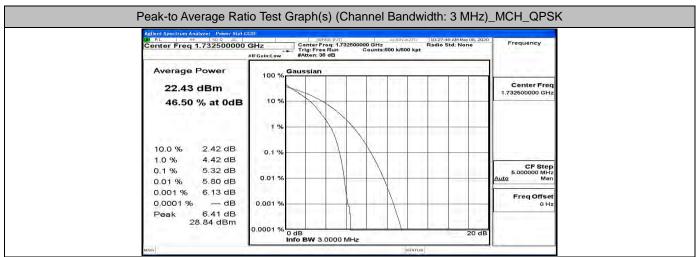


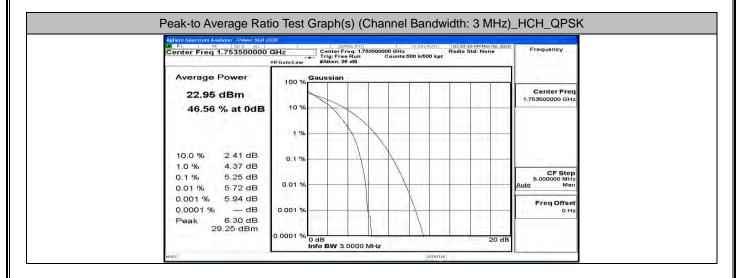


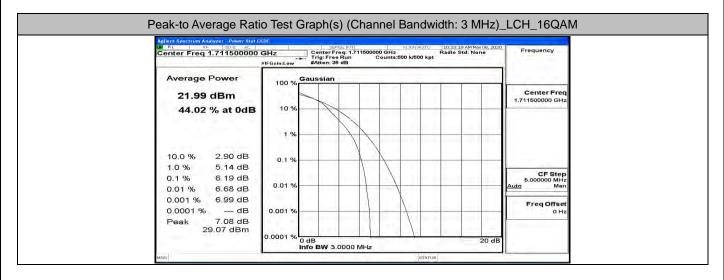


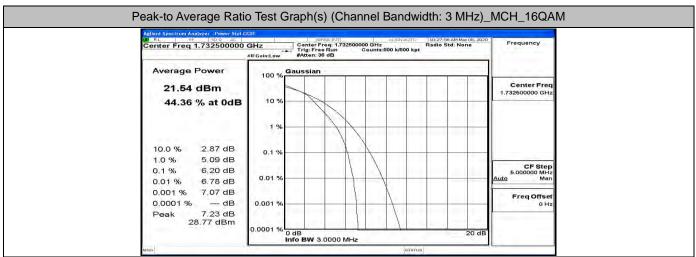


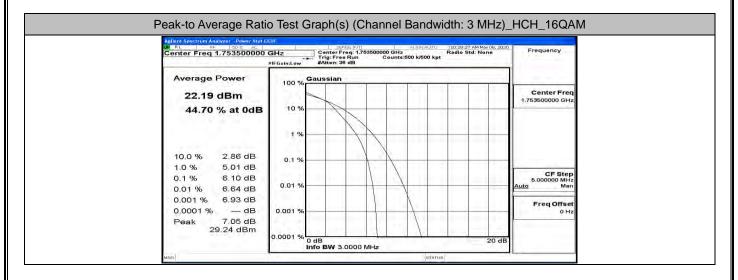


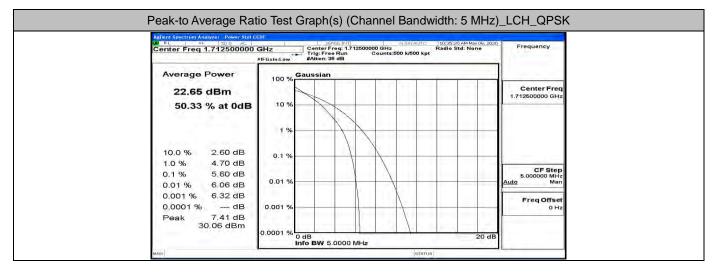


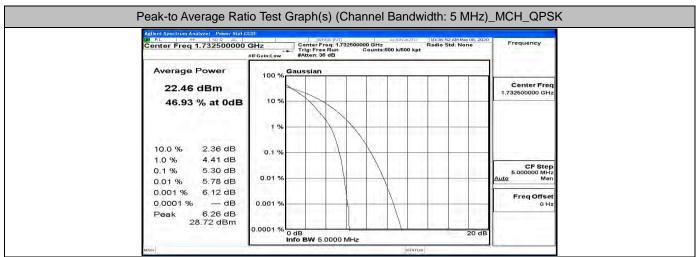


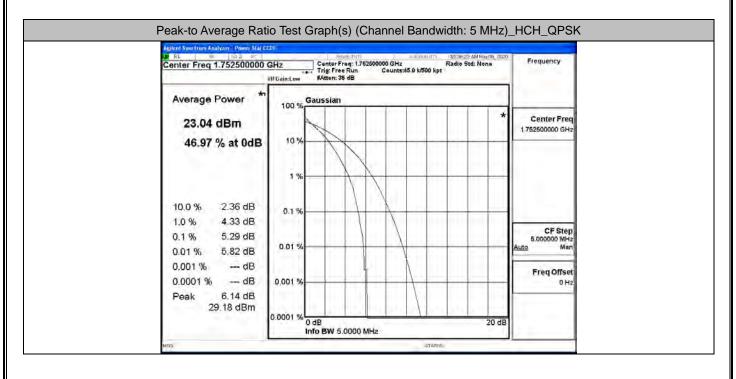


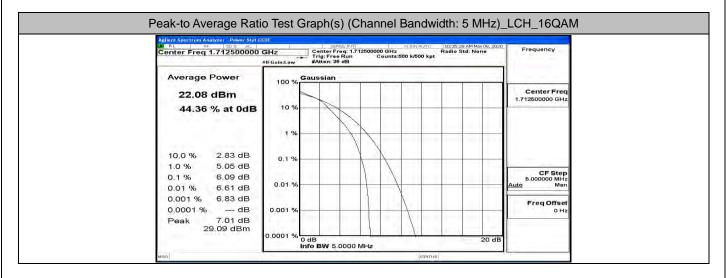


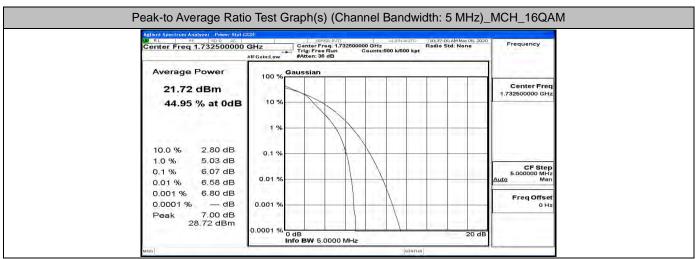


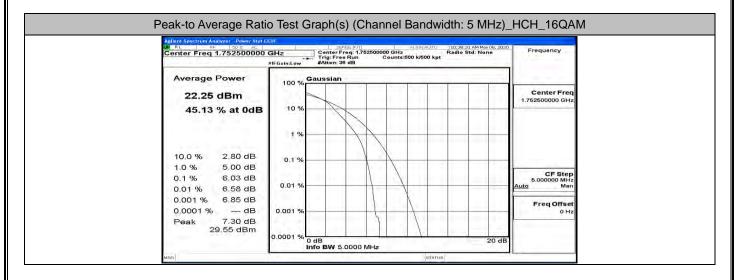


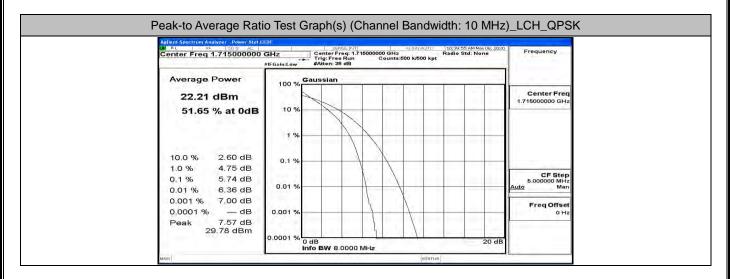


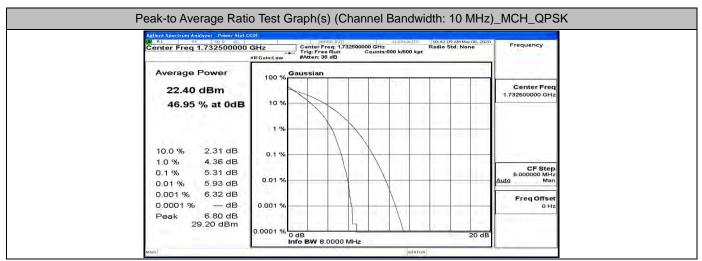


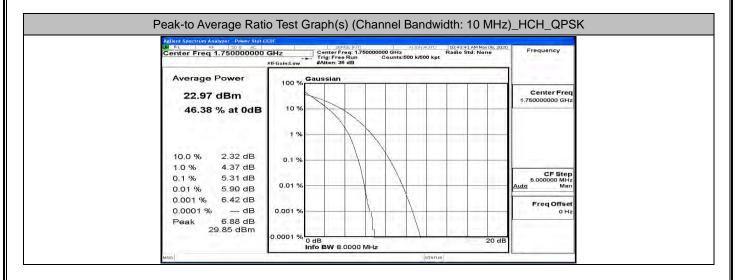


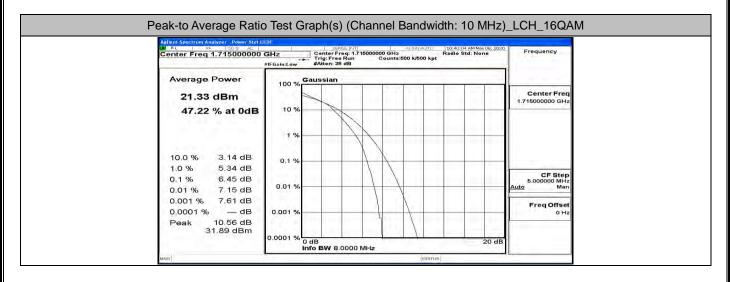


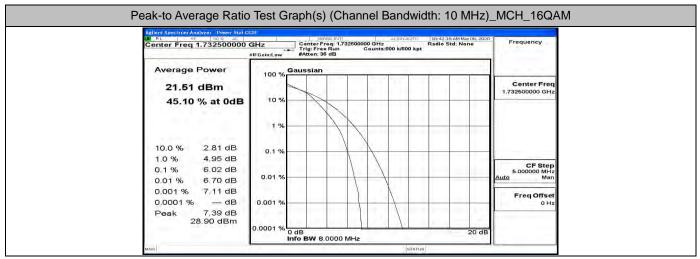


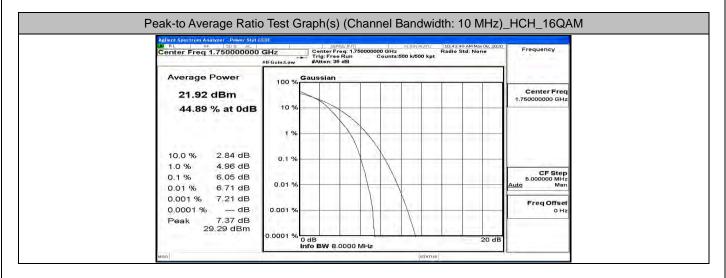


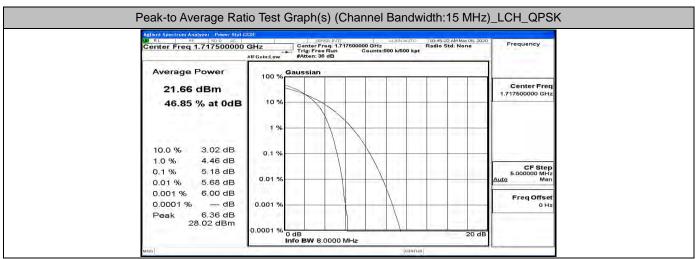


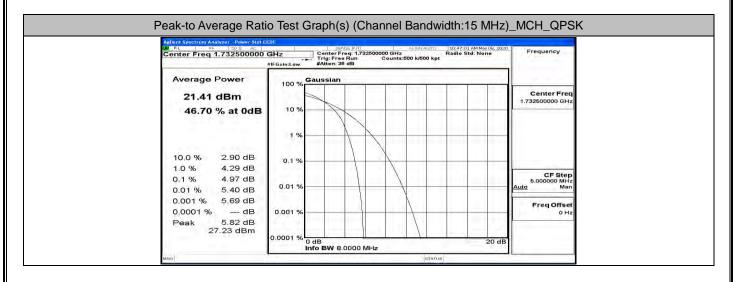


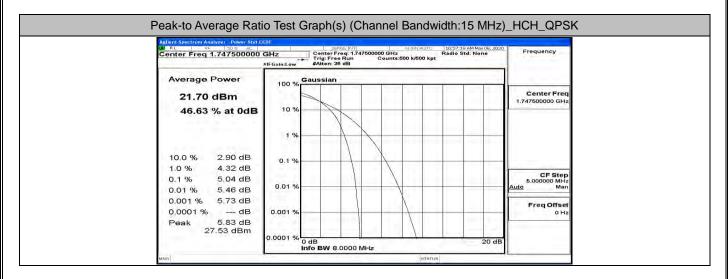


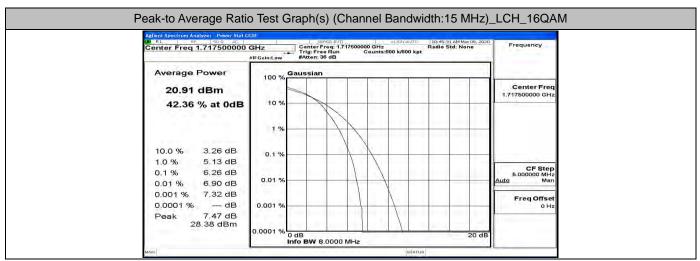


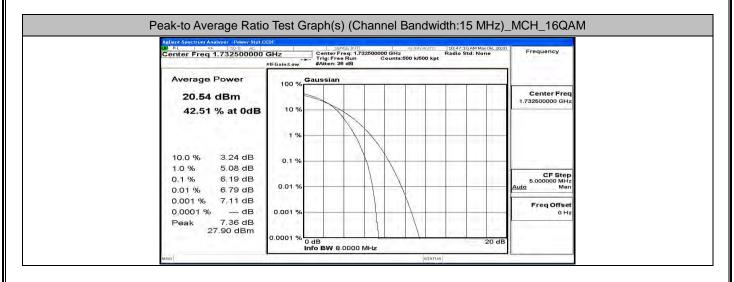


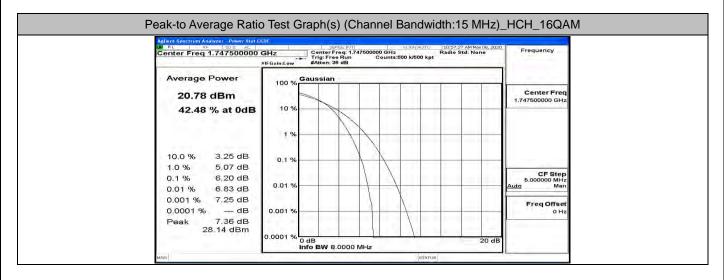


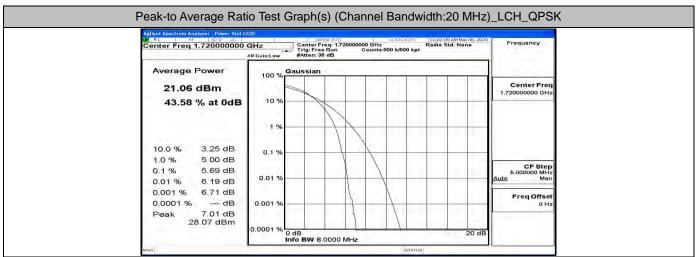


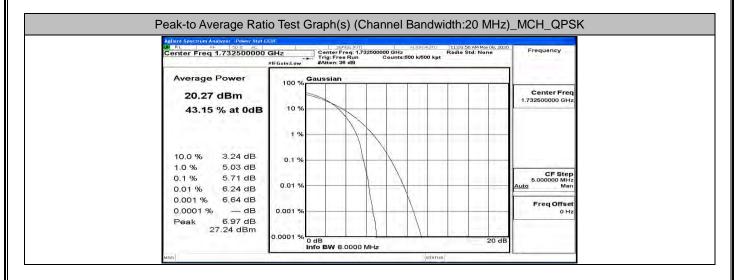


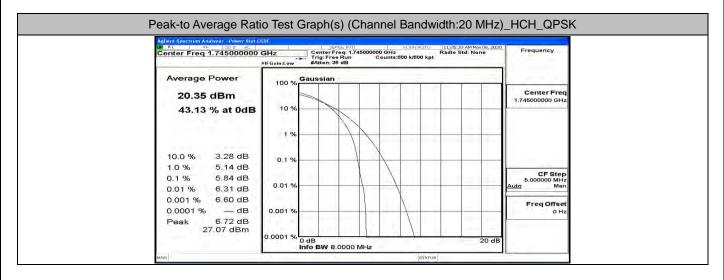


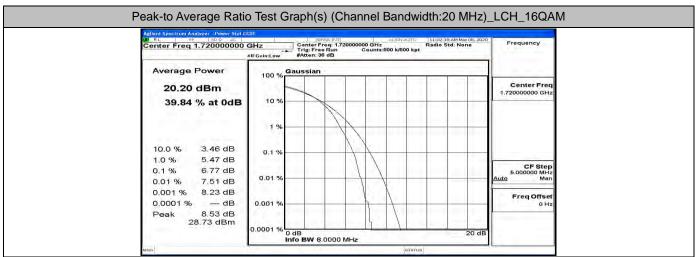


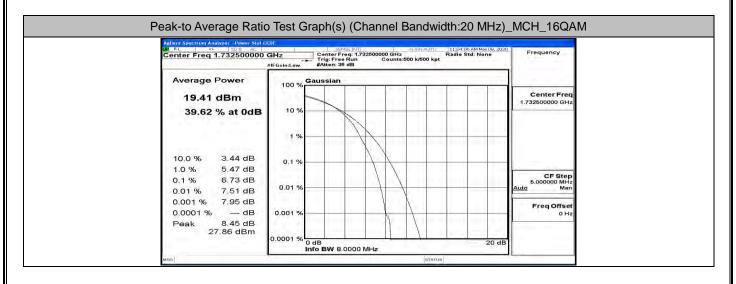


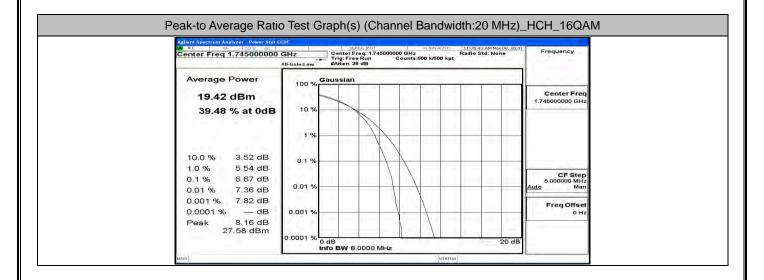












F.3 26dB Bandwidth and Occupied Bandwidth

EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
iviodulation		(MHz)	(MHz)	
QPSK	LCH	1.0738	1.234	PASS
	MCH	1.0752	1.240	PASS
	HCH	1.0778	1.228	PASS
16QAM	LCH	1.0796	1.232	PASS
	MCH	1.0817	1.229	PASS
	HCH	1.0785	1.223	PASS

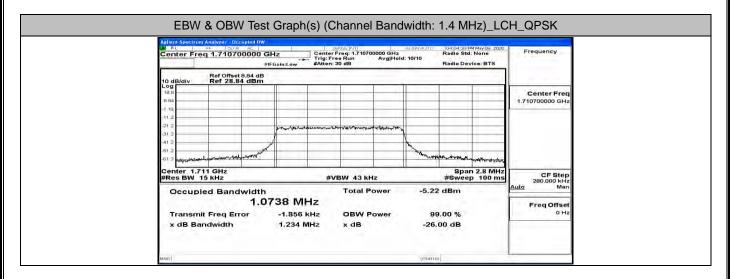
EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation	Charmer	(MHz)	(MHz)	
QPSK	LCH	2.6805	2.885	PASS
	MCH	2.6877	2.885	PASS
	HCH	2.6753	2.880	PASS
16QAM	LCH	2.6884	2.896	PASS
	MCH	2.6864	2.901	PASS
	HCH	2.6845	2.863	PASS

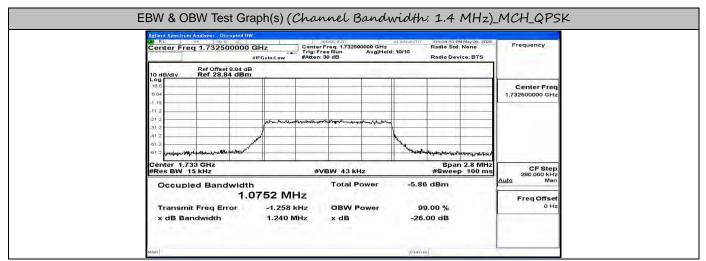
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)					
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict	
Modulation		(MHz)	(MHz)		
QPSK	LCH	4.4743	4.773	PASS	
	MCH	4.4769	4.790	PASS	
	HCH	4.4717	4.805	PASS	
16QAM	LCH	4.4687	4.832	PASS	
	MCH	4.4779	4.821	PASS	
	HCH	4.4750	4.839	PASS	

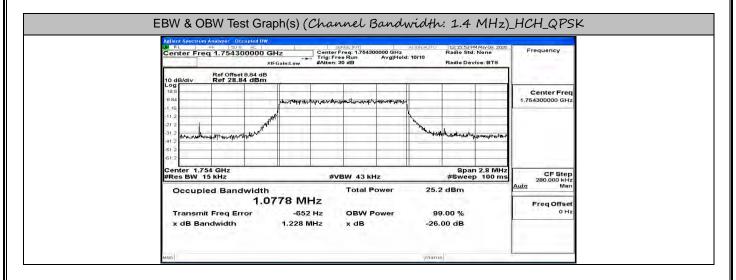
EBW & OBW Test Result (Channel Bandwidth: 10 MHz)					
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict	
Modulation		(MHz)	(MHz)		
QPSK	LCH	8.9390	9.503	PASS	
	MCH	8.9400	9.532	PASS	
	HCH	8.9282	9.467	PASS	
16QAM	LCH	8.9288	9.521	PASS	
	MCH	8.9309	9.427	PASS	
	HCH	8.9437	9.425	PASS	

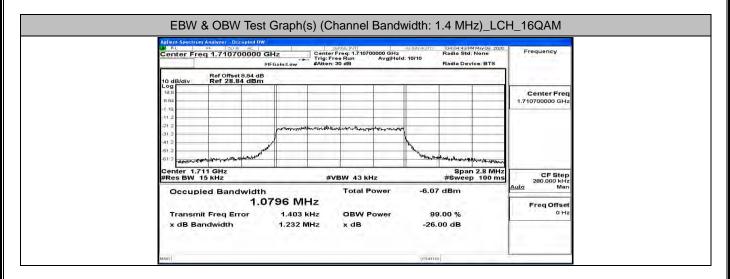
EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	13.405	14.02	PASS
	MCH	13.412	14.04	PASS
	HCH	13.395	14.05	PASS
16QAM	LCH	13.400	14.01	PASS
	MCH	13.393	14.05	PASS
	HCH	13.405	14.05	PASS

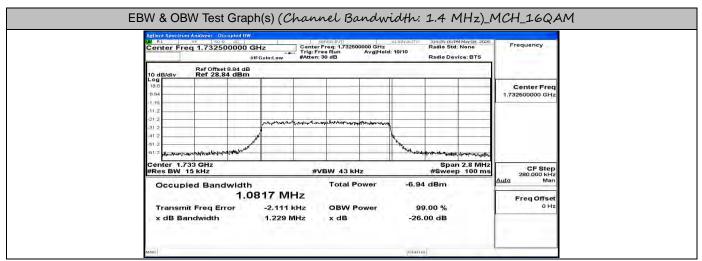
EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Mandadatian	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	17.826	18.55	PASS
	MCH	17.819	18.66	PASS
	HCH	17.832	18.59	PASS
16QAM	LCH	17.813	18.55	PASS
	MCH	17.830	18.56	PASS
	HCH	17.825	18.60	PASS

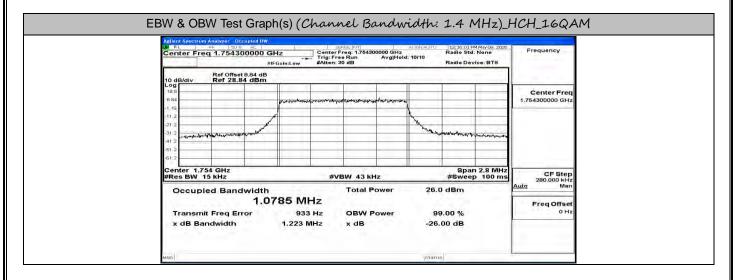


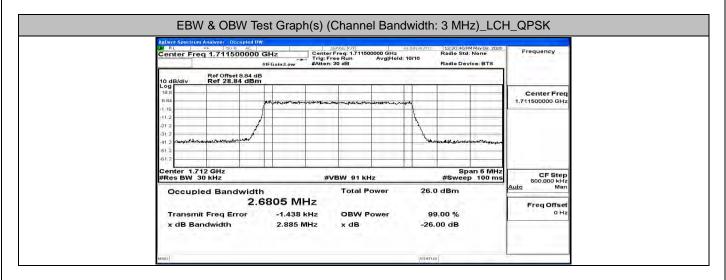


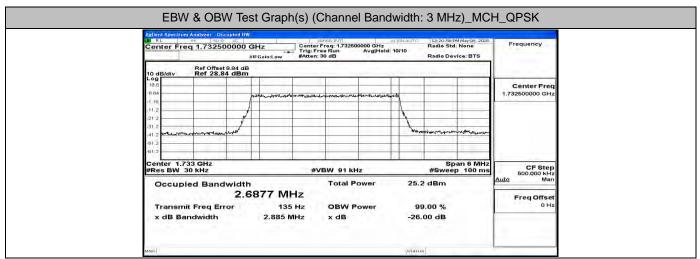


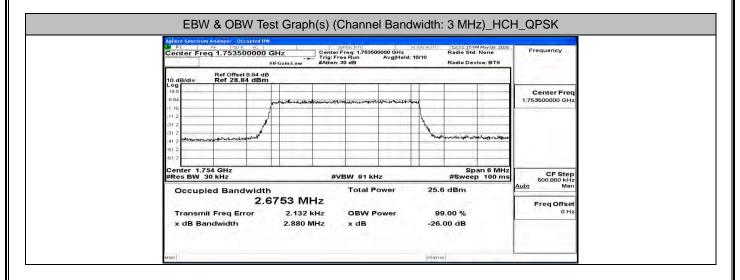


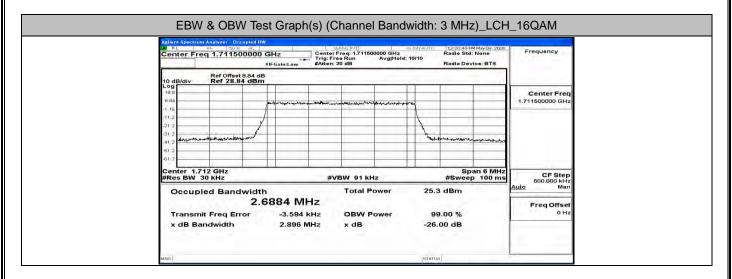


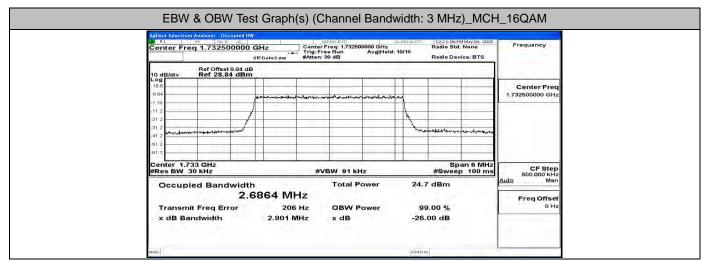


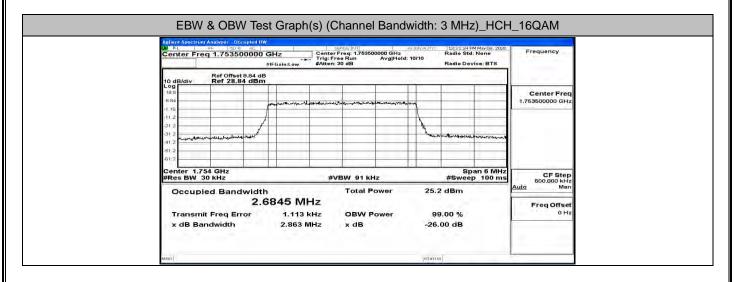


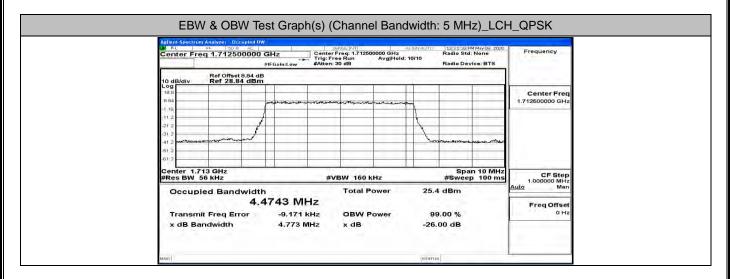


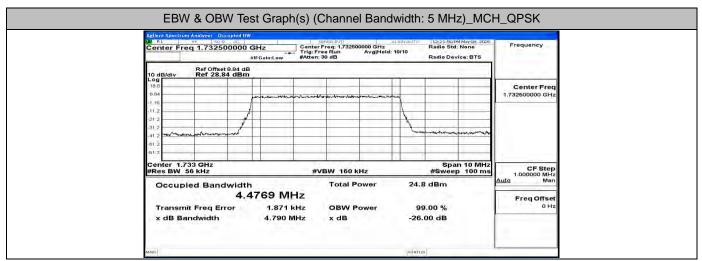


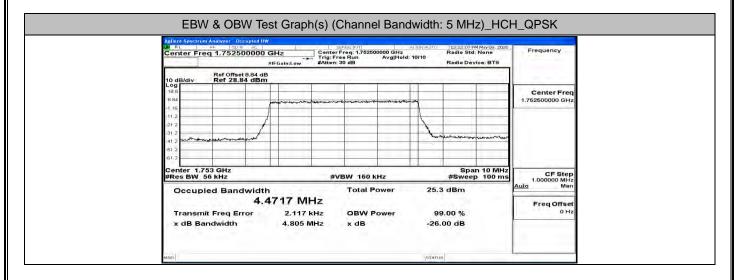


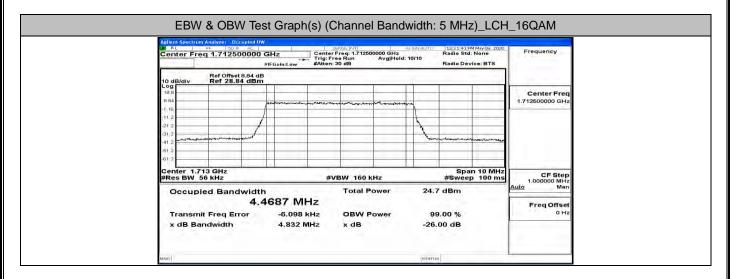


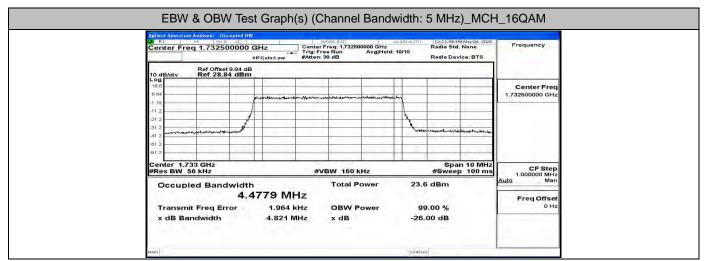


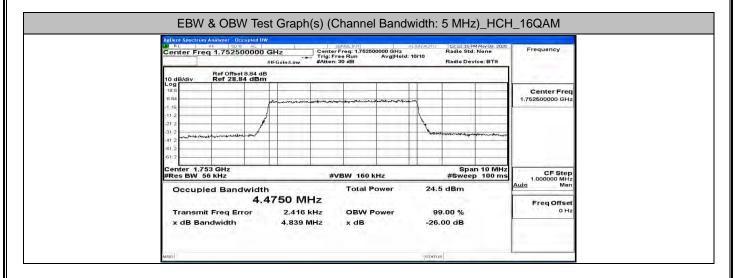


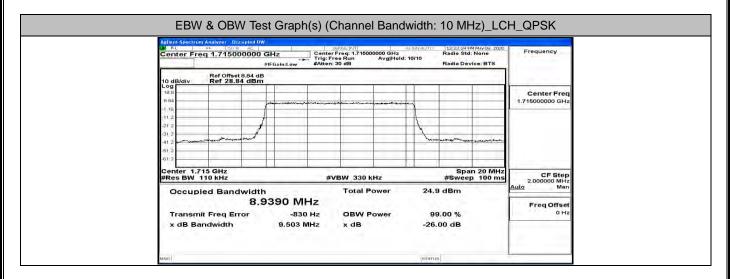


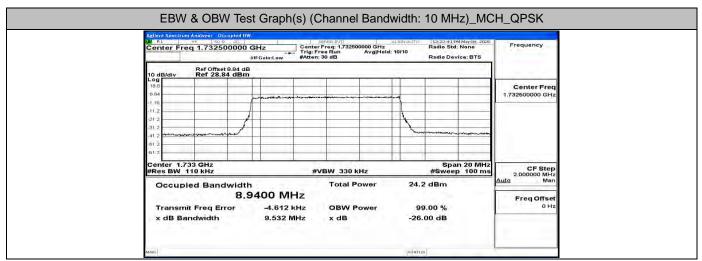


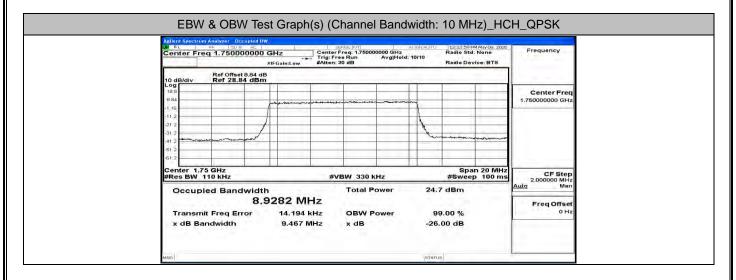


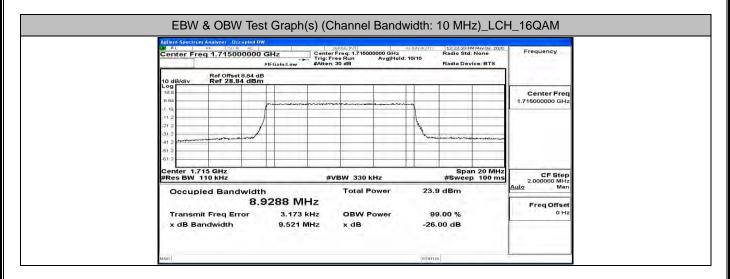


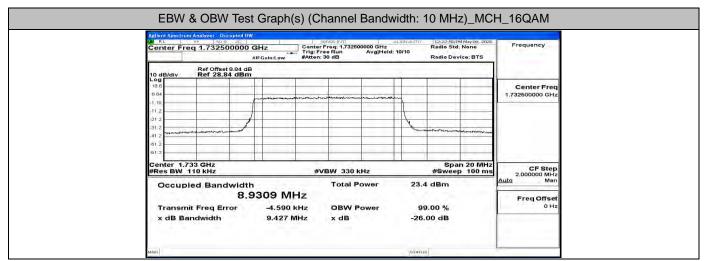


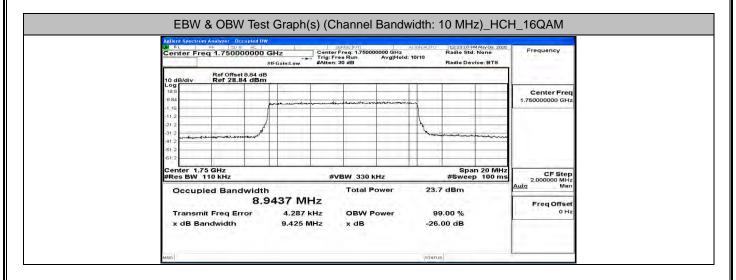


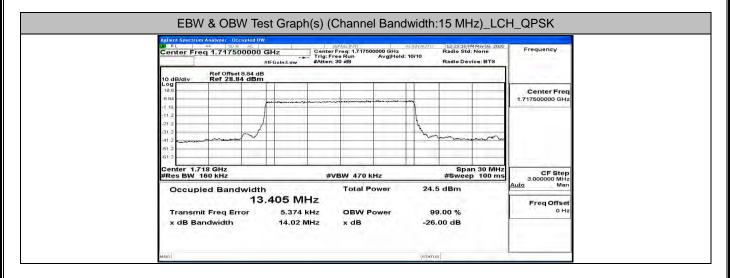


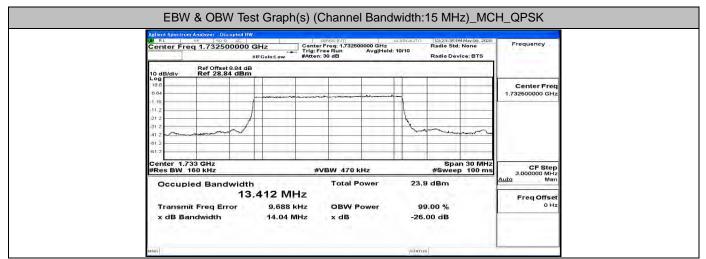


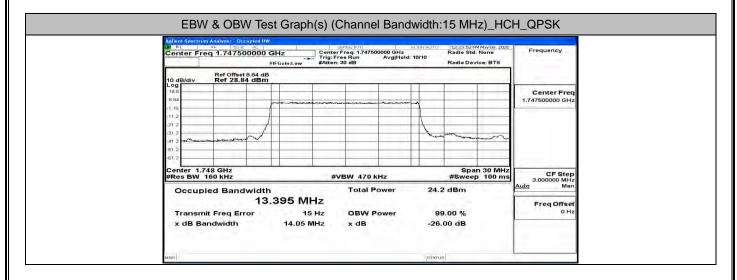


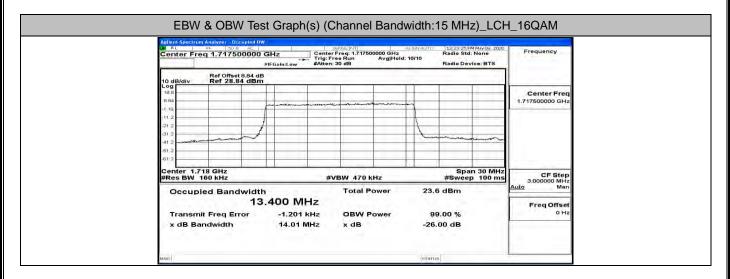


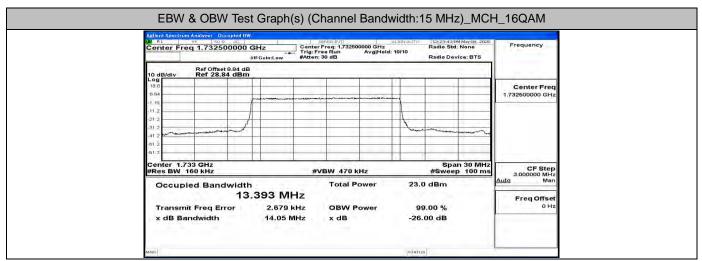


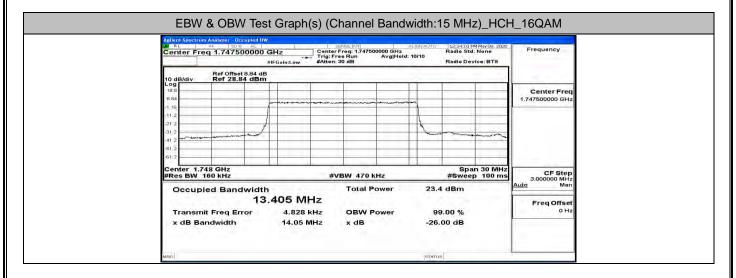


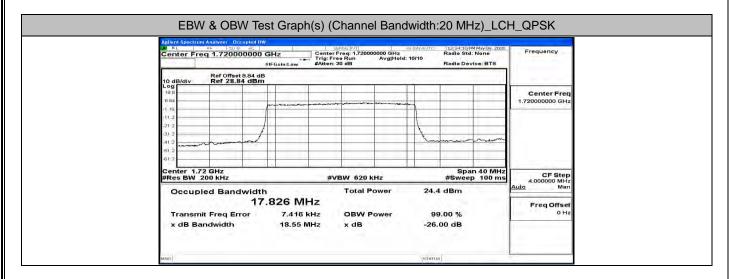


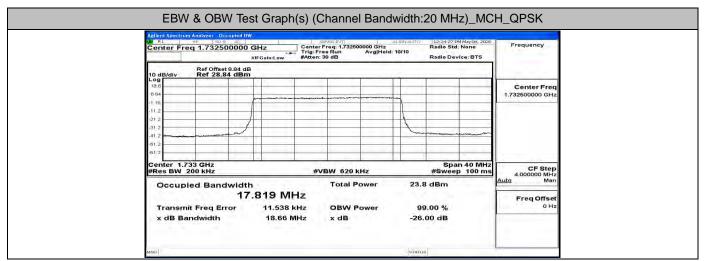


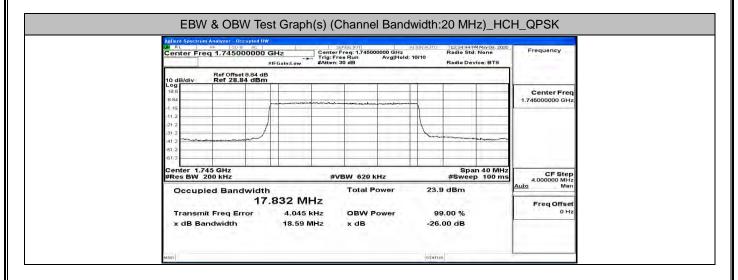


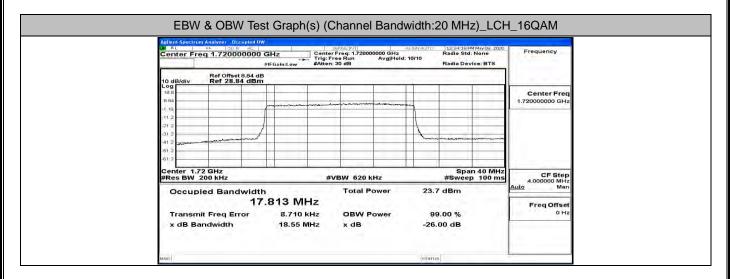


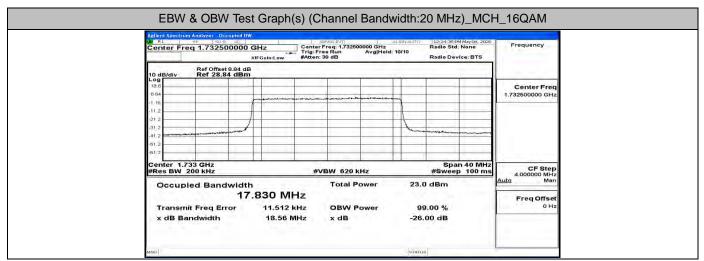


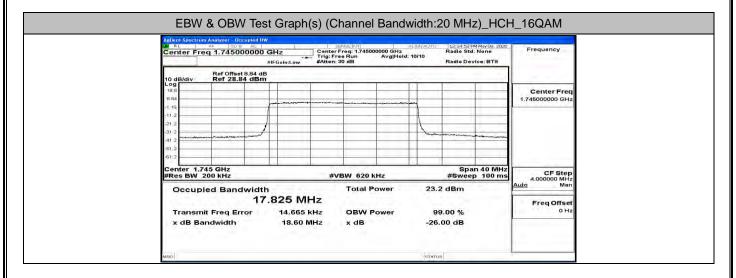




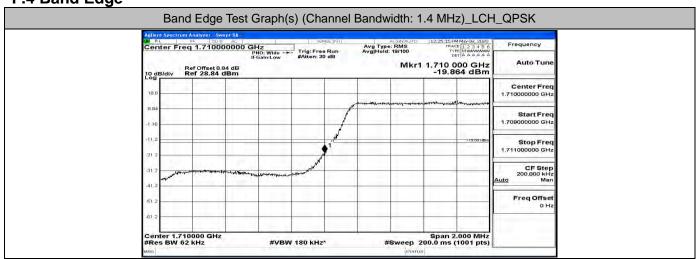


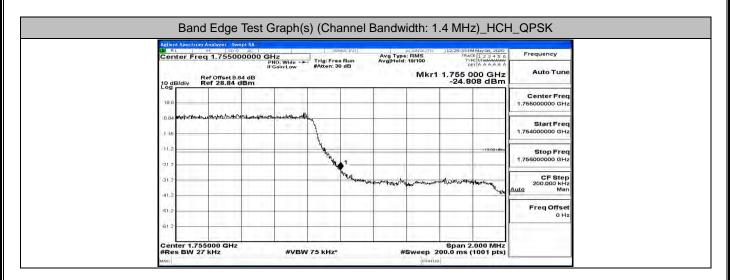


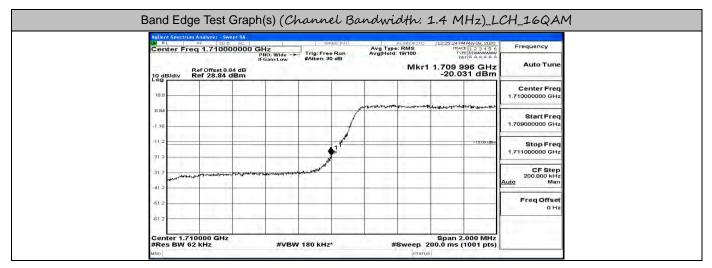


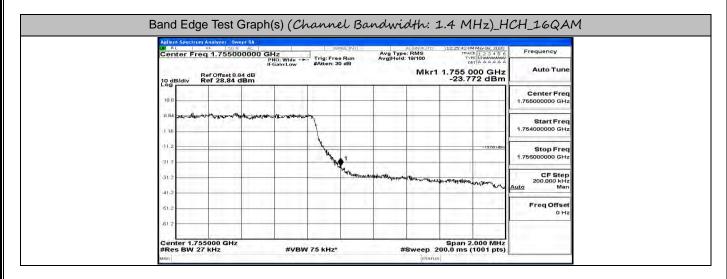


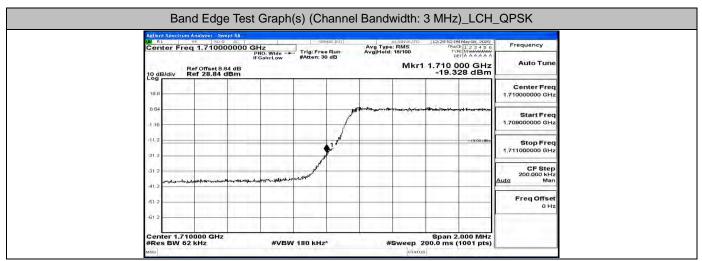
F.4 Band Edge

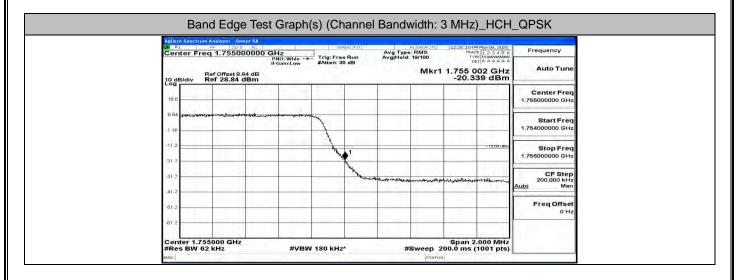


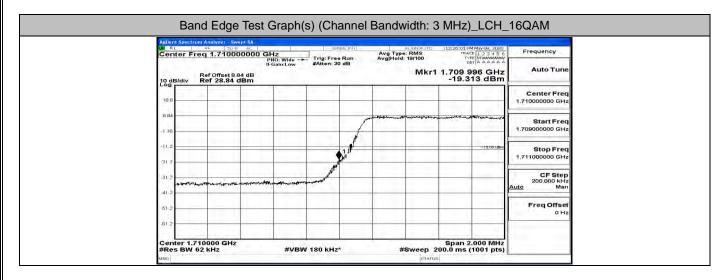


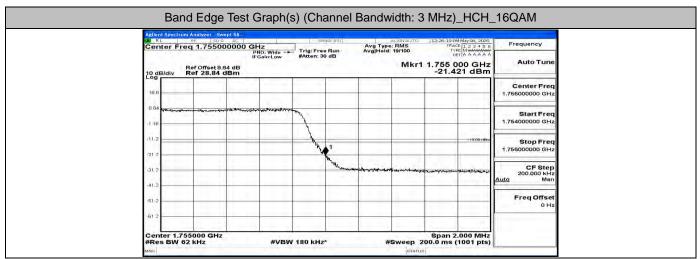


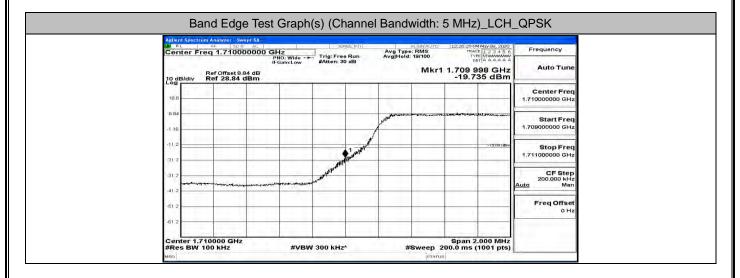


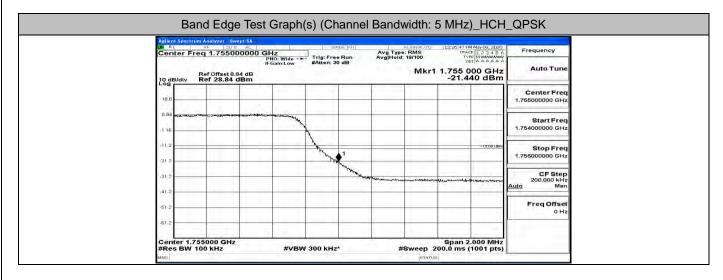


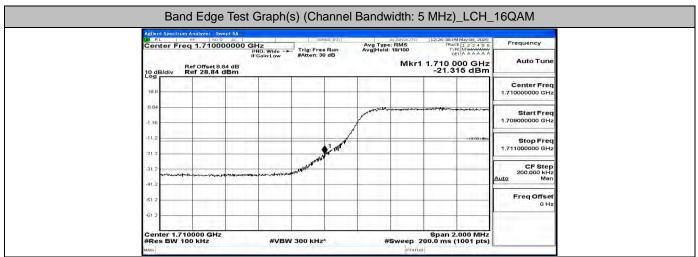


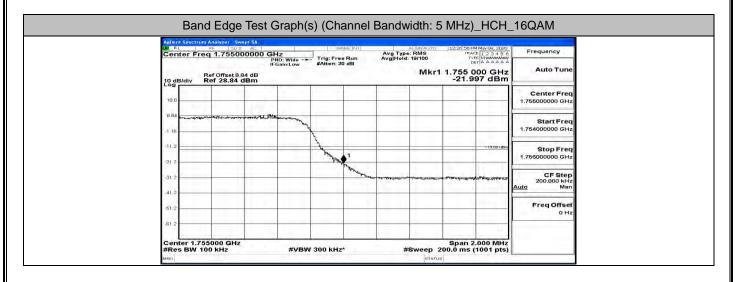




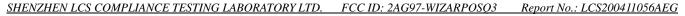


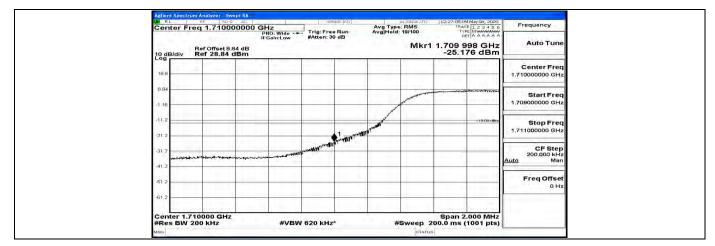


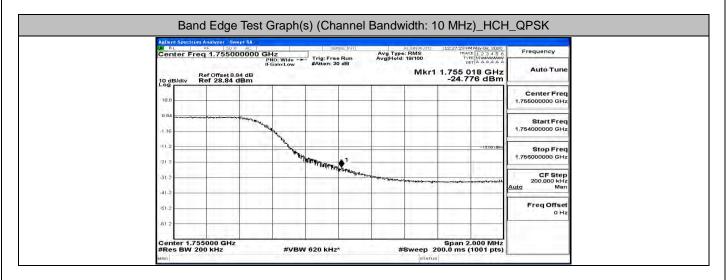


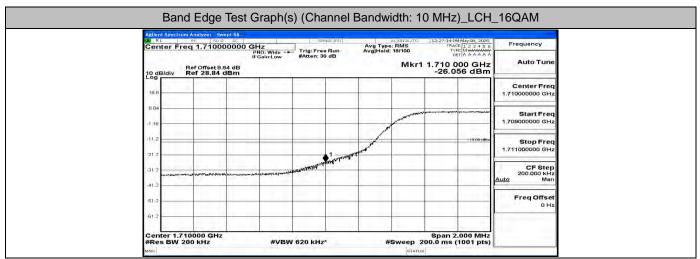


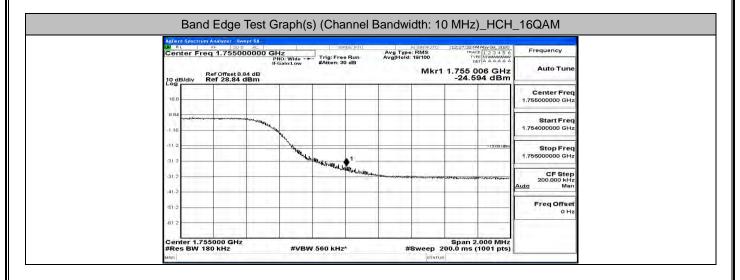
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK

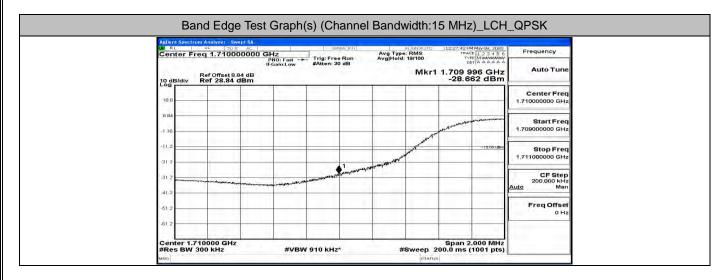


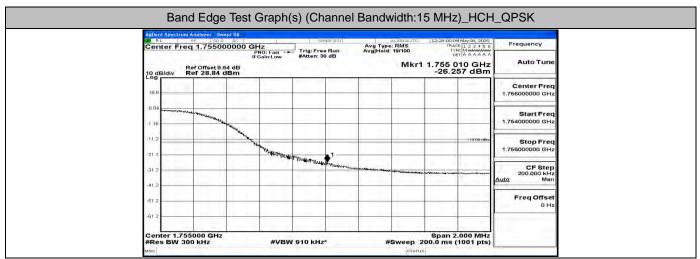


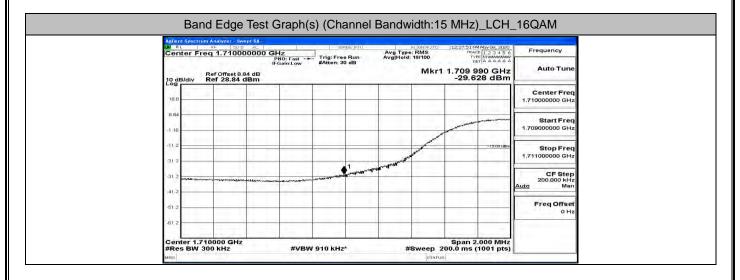


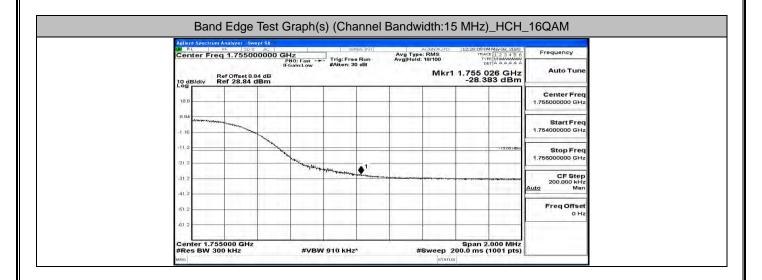


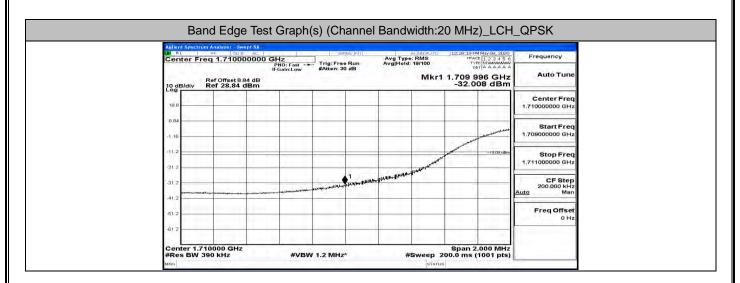


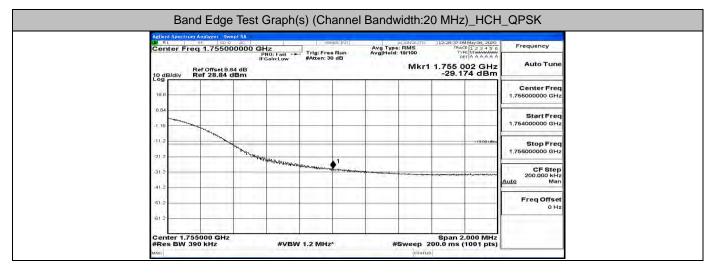


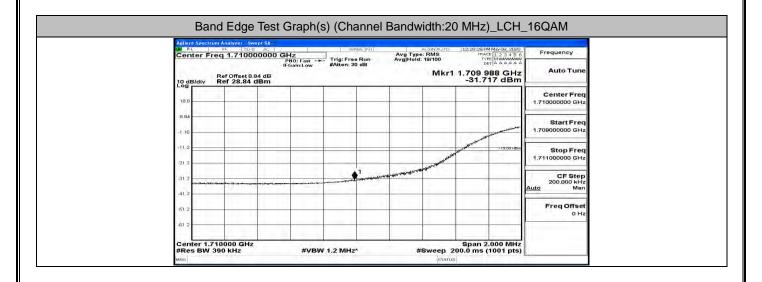


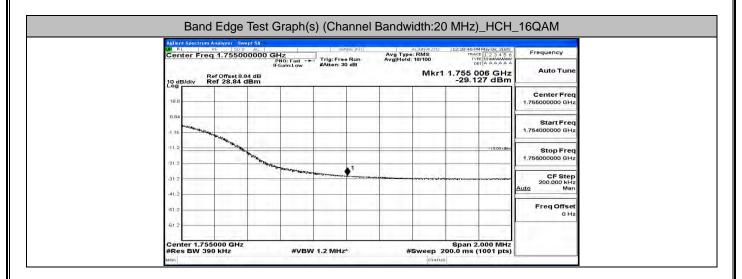




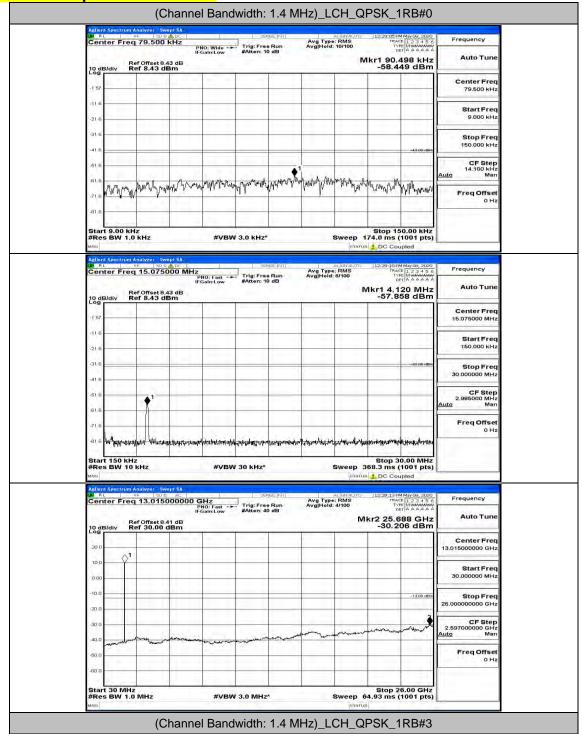


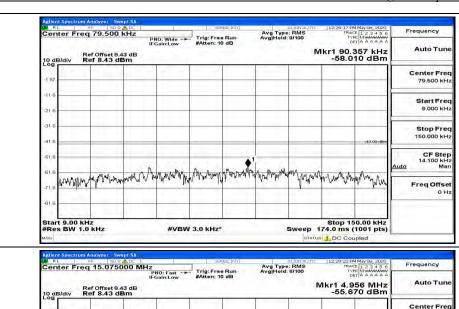


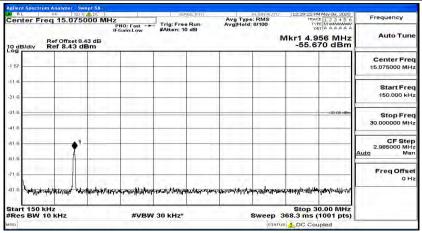


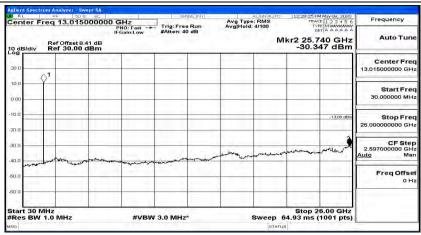


F.5 Conducted Spurious Emission

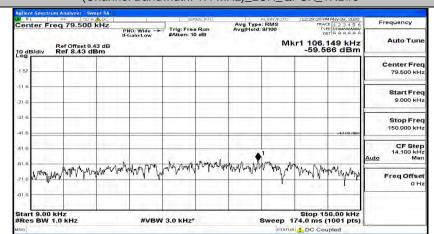


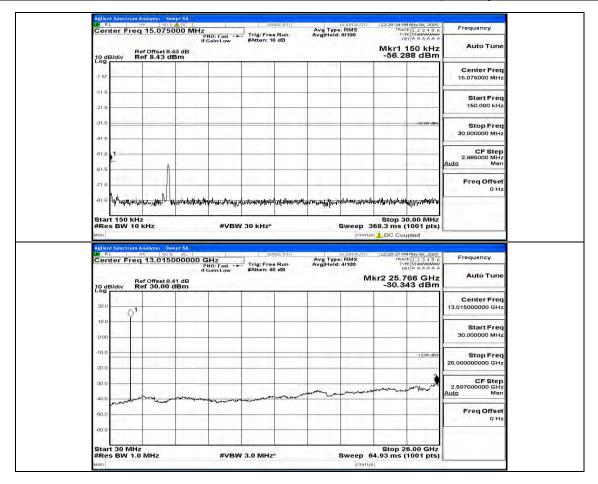


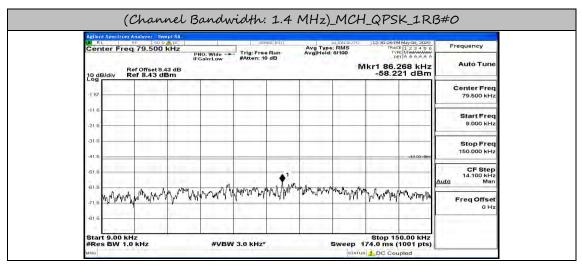


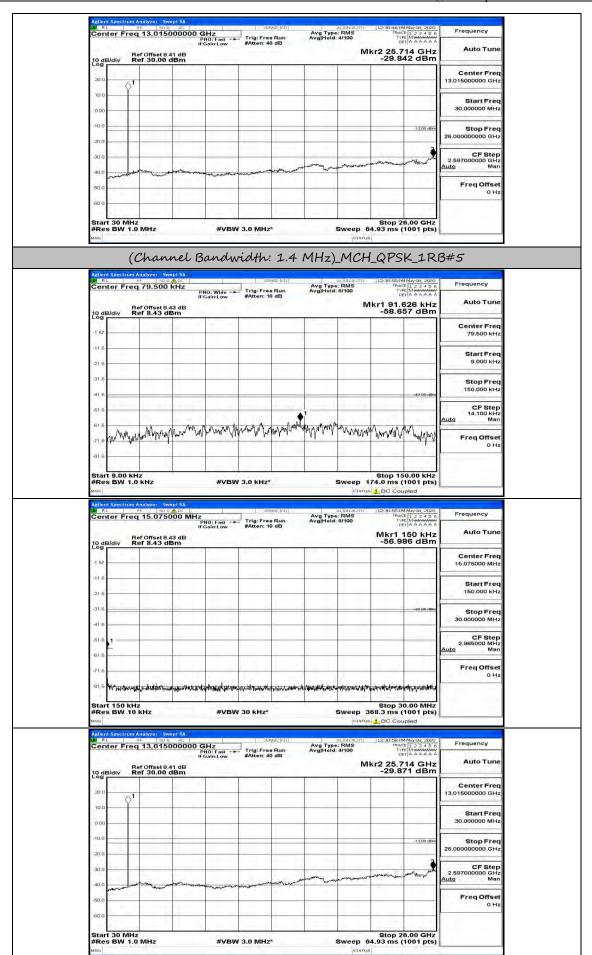


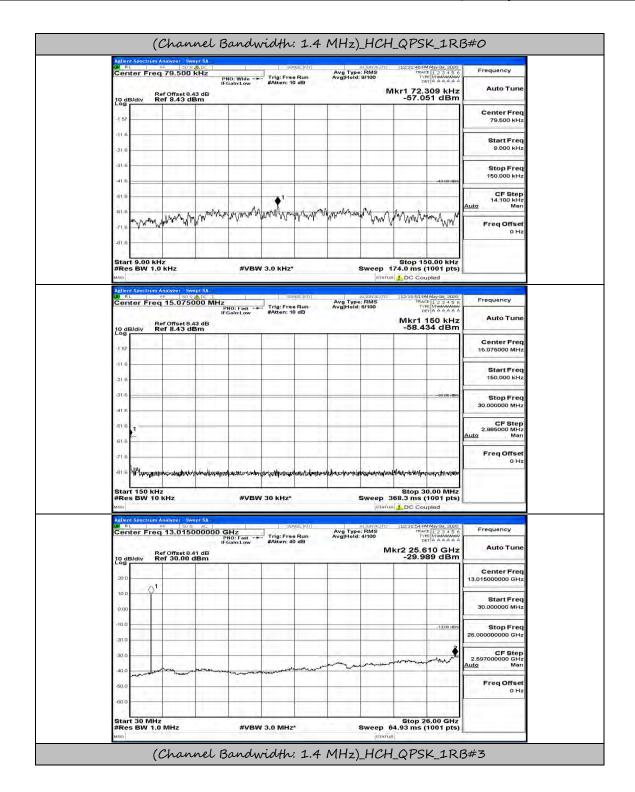
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#5

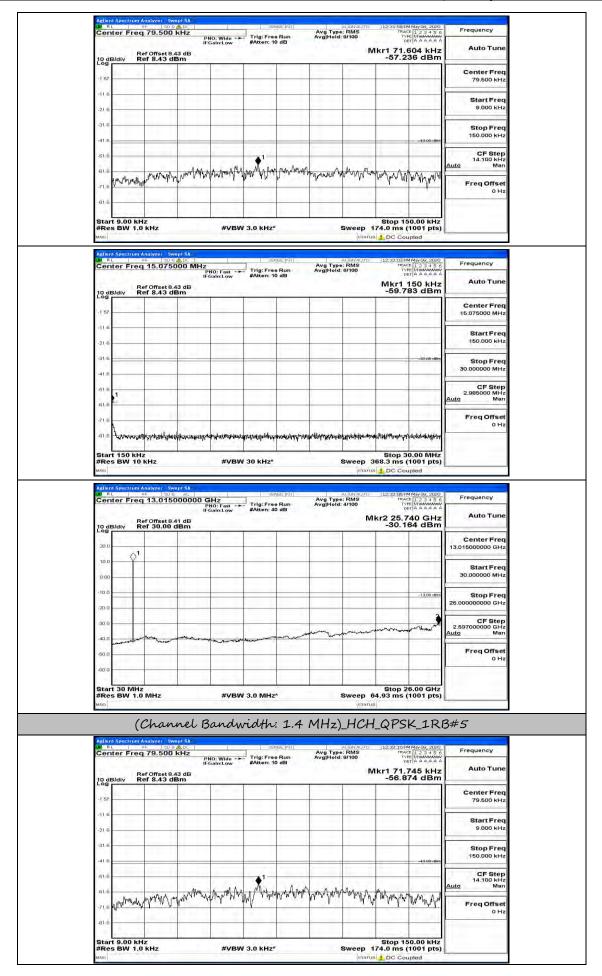


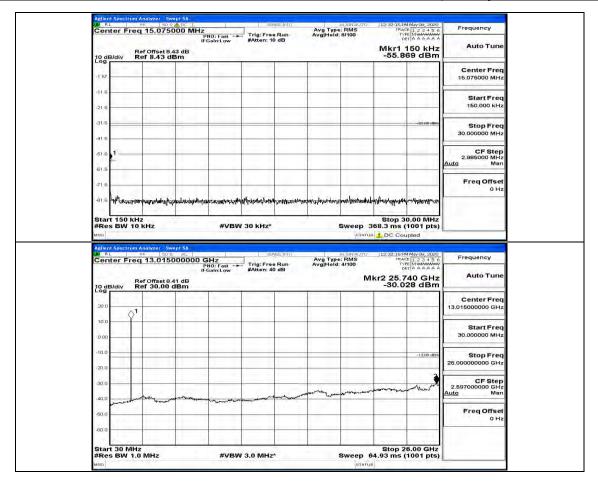


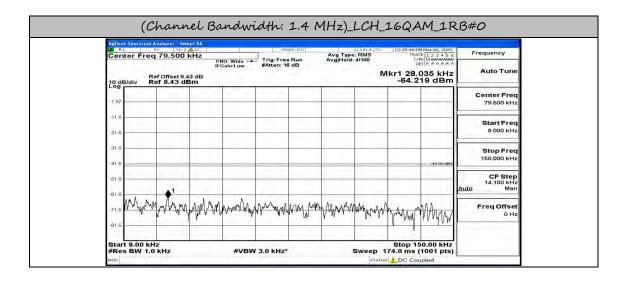






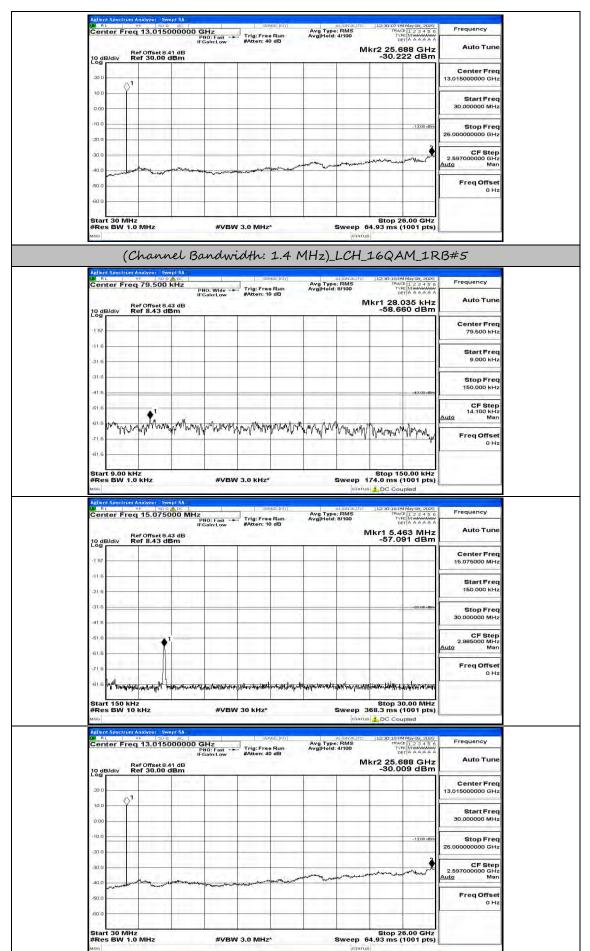


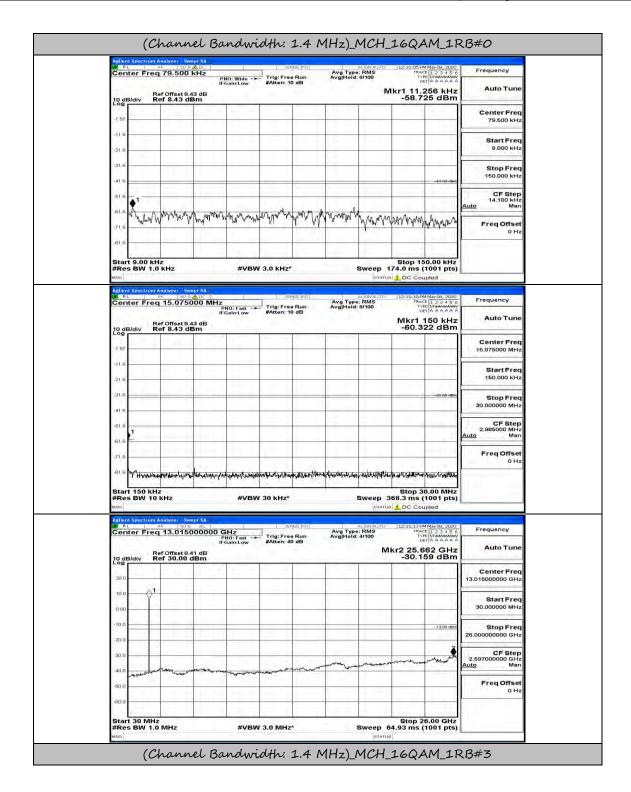


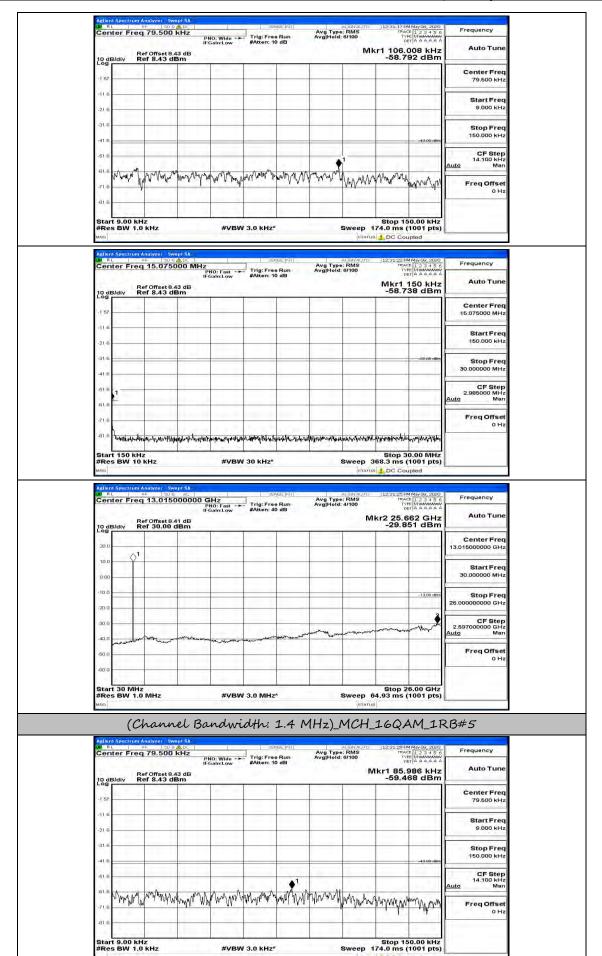


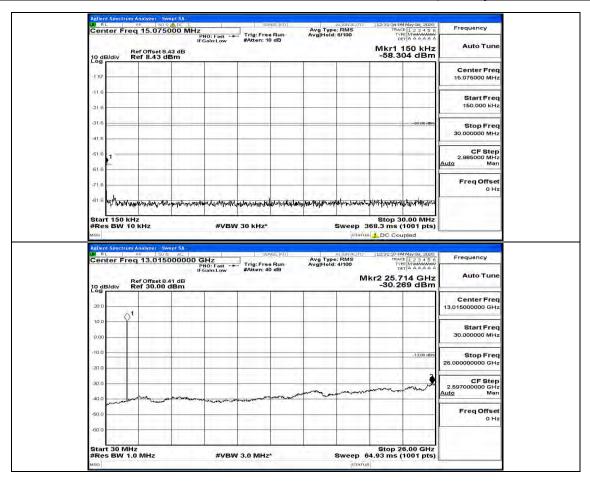
Start 150 kHz #Res BW 10 kHz Freq Offse

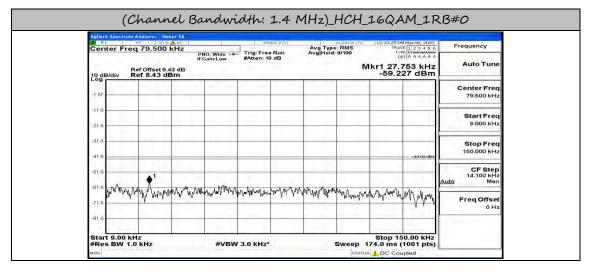
Stop 30.00 MHz Sweep 368.3 ms (1001 pts)





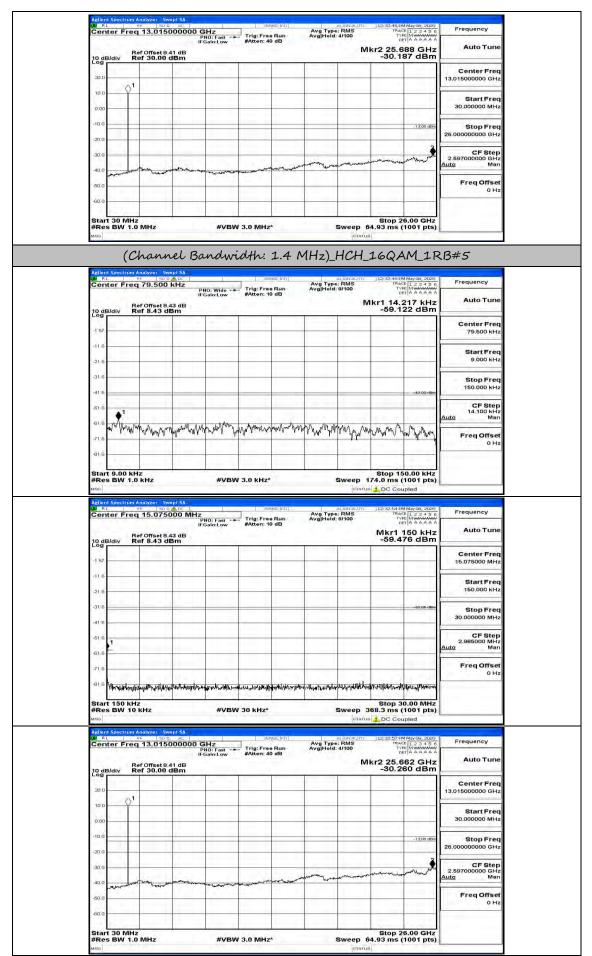




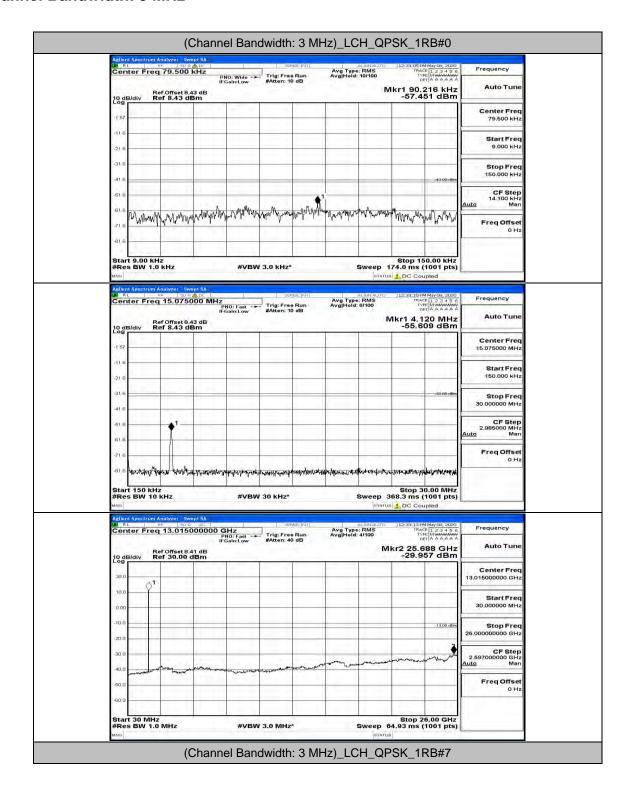


Stop 30.00 MHz Sweep 368.3 ms (1001 pts)

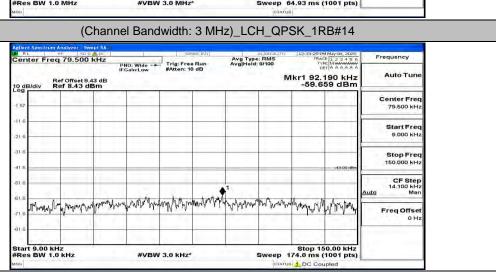
Start 150 kHz #Res BW 10 kHz

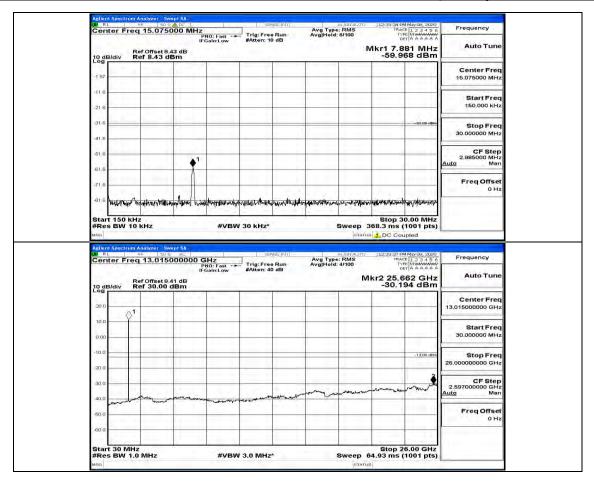


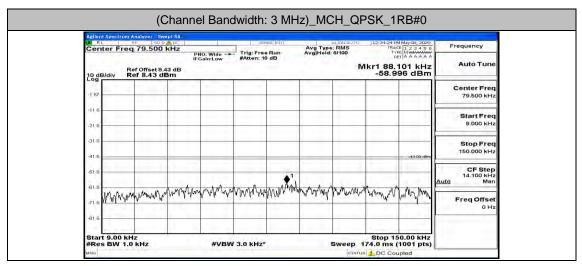
Channel Bandwidth: 3 MHz



SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. FCC ID: 2AG97-WIZARPOSQ3 Report No.: LCS200411056AEG Center Freq 79.500 kHz Avg Type: RMS Avg|Hold: 9/100 PNO: Wide -- Trig: Free Run IFGain:Low #Atten: 10 dB Mkr1 90.780 kHz -56.254 dBm Ref Offset 8.43 dB Ref 8.43 dBm Center Fred 79,500 kHz Stop Fred CF Step 14.100 kHz Man way a may make the man and the second and the secon Freq Offset 0 Hz Start 9.00 kHz #Res BW 1.0 kHz Stop 150.00 kHz Sweep 174.0 ms (1001 pts) #VBW 3.0 kHz* Aligni 2018 Aligni Avg Type: RMS Avg|Hold: 8/100 Mkr1 150 kHz -57.365 dBm Ref Offset 8.43 dB Ref 8.43 dBm 10 dB Center Fred 15.075000 MHz Start Fred Stop Free 30.000000 MH CF Step 2.985000 MH Freq Offset 0 Hz was a sell or any place was the best with the compared of the best of the best and a place of the best Start 150 kHz #Res BW 10 kHz Stop 30.00 MHz Sweep 368.3 ms (1001 pts) #VBW 30 kHz* Adlent Spectrum Analyzer Bearing And Spectrum Analyzer Bearing And Spectrum Analyzer Bearing And Spectrum Analyzer Bearing Analyzer Broad Spectrum Ana Avg Type: RMS Avg|Hold: 4/100 Auto Tun Mkr2 25.662 GHz -30.321 dBm Ref Offset 8.41 dB Ref 30.00 dBm Start Fred 30.000000 MHz Stop Free CF Step 2.597000000 GH uto Mar Start 30 MHz #Res BW 1.0 MHz Stop 26.00 GHz Sweep 64.93 ms (1001 pts) #VBW 3.0 MHz*







Stop 30.00 MHz Sweep 368.3 ms (1001 pts)

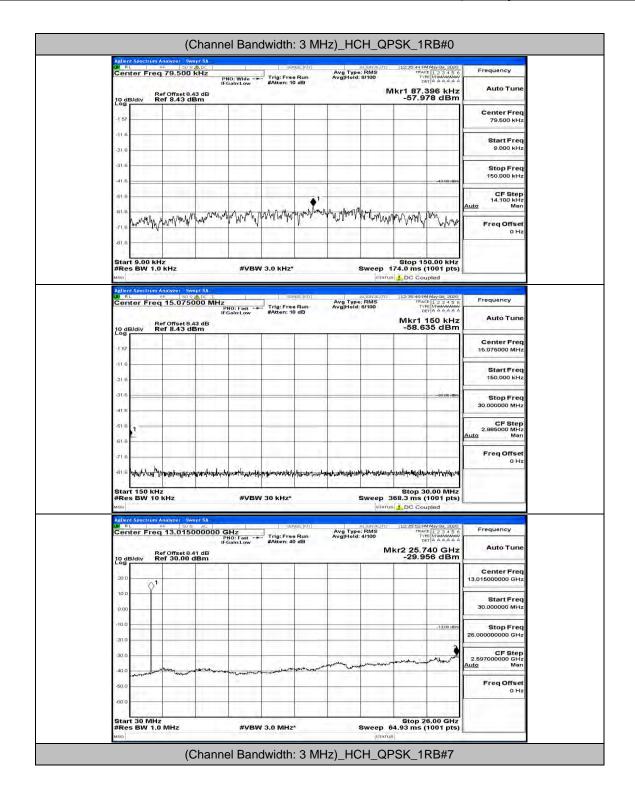
Start 150 kHz #Res BW 10 kHz CF Step 2.985000 MHz Man Freq Offset 0 Hz

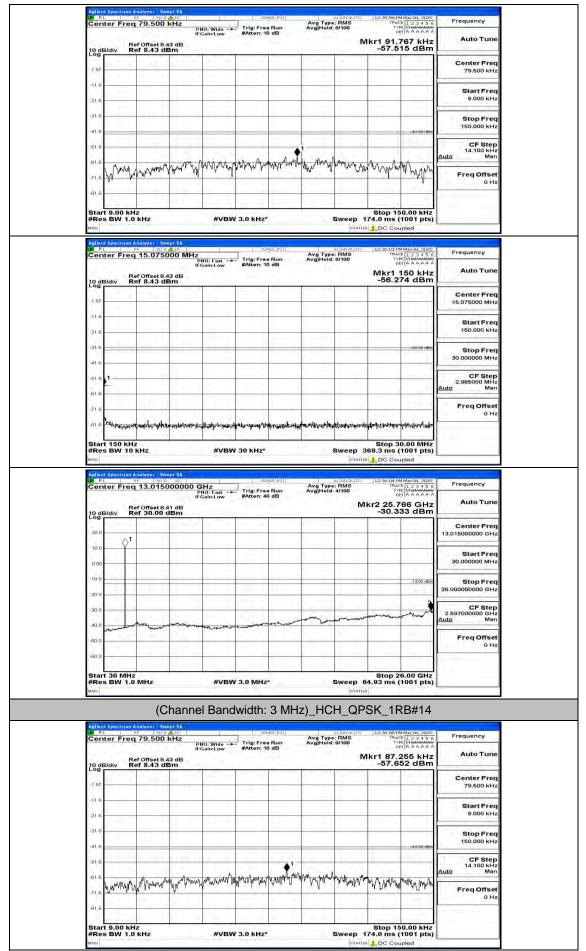
#VBW 3.0 MHz*

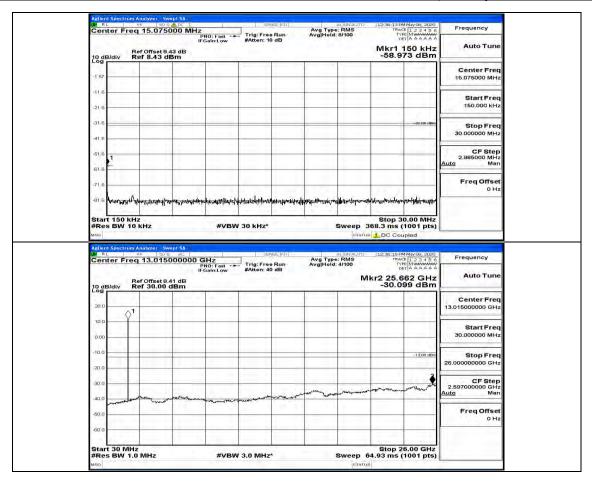
Start 30 MHz #Res BW 1.0 MHz Stop Freq 26.000000000 GHz CF Step 2.597000000 GHz Auto Man

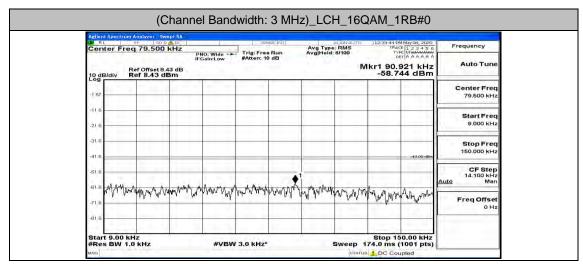
> Freq Offset 0 Hz

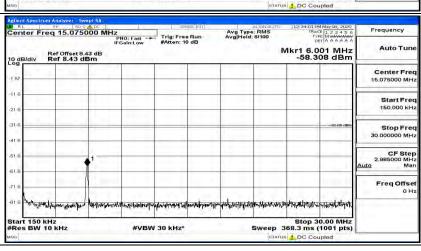
Stop 26.00 GHz Sweep 64.93 ms (1001 pts)

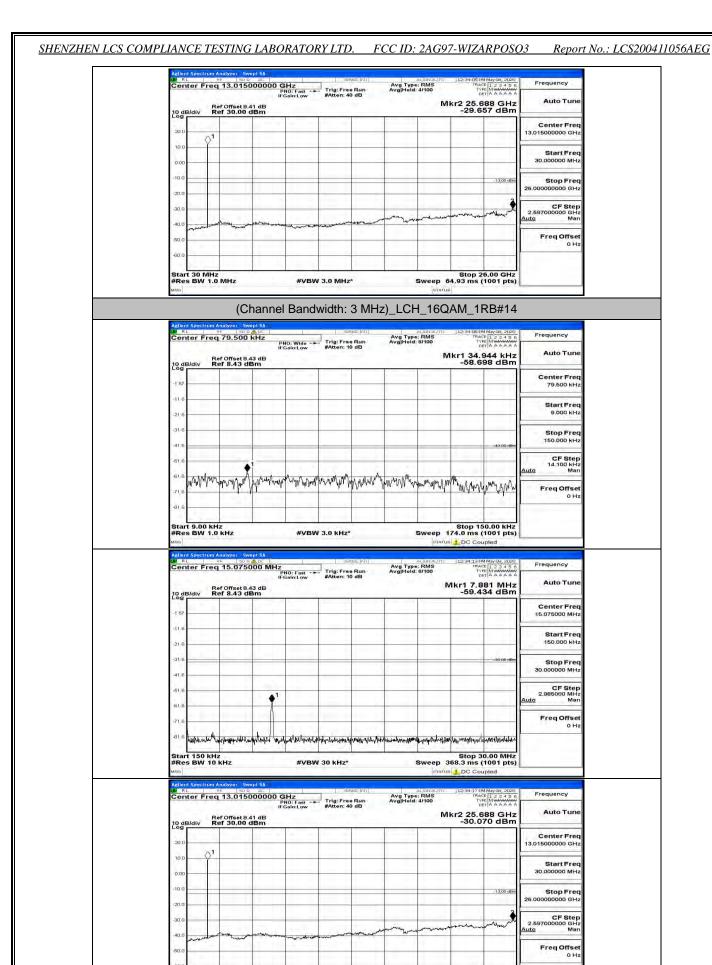








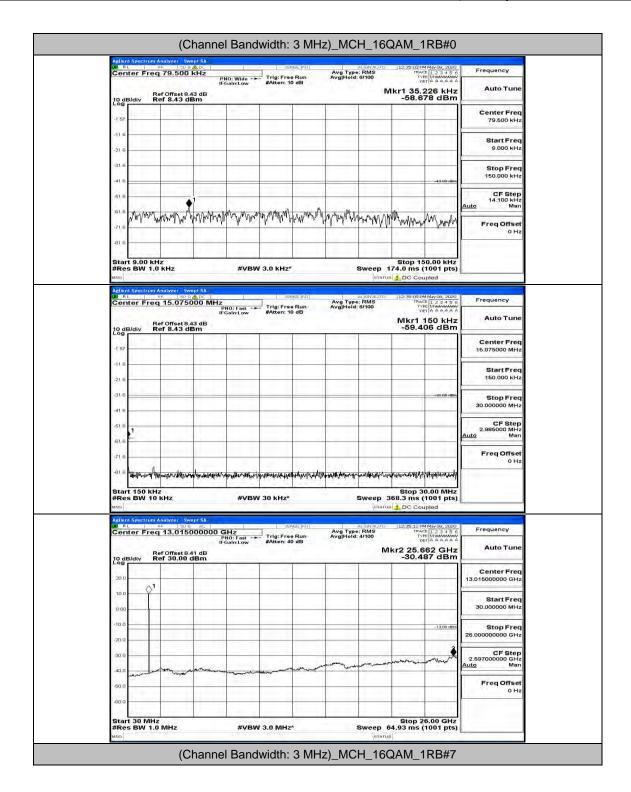


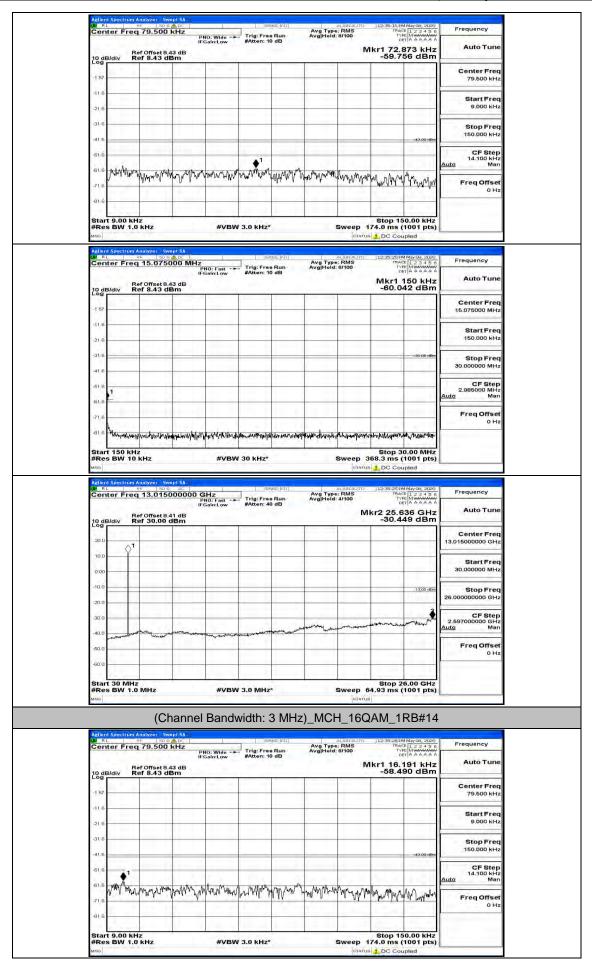


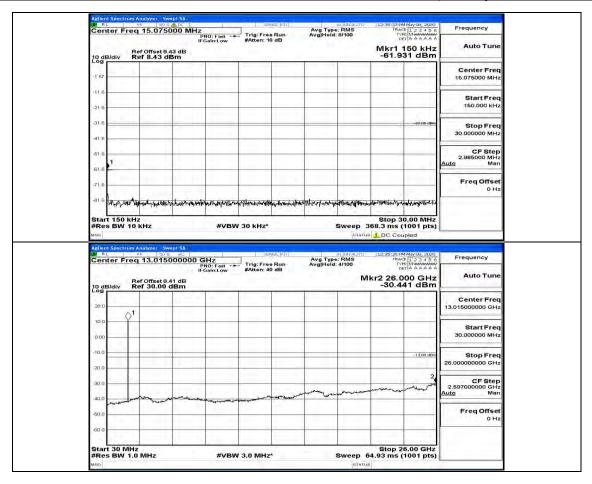
#VBW 3.0 MHz*

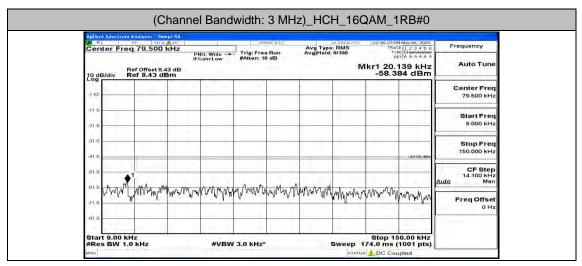
Stop 26.00 GHz Sweep 64.93 ms (1001 pts)

Start 30 MHz #Res BW 1.0 MHz



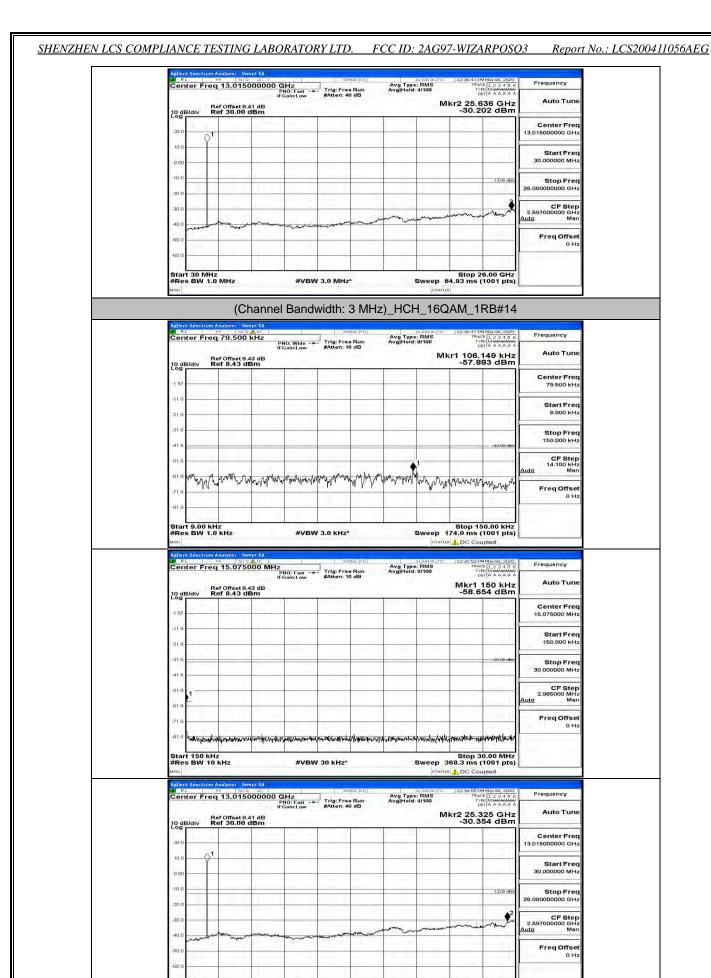






Stop 30.00 MHz Sweep 368.3 ms (1001 pts)

Start 150 kHz #Res BW 10 kHz



#VBW 3.0 MHz*

Stop 26.00 GHz Sweep 64.93 ms (1001 pts)

Start 30 MHz #Res BW 1.0 MHz

Channel Bandwidth: 5 MHz

