# Appendix B: Test Data for E-UTRA Band 2

**Product Name: Battery Operated LTE Cellular GPS Tracker** 

**Trade Mark: Phillips Connect Technologies** 

Test Model: Dagger67

#### **Environmental Conditions**

Temperature:	23.1° C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Tom.Liu

### **B.1 Conducted Output Power**

	Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)							
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Vandiat		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	23.07	22.04	PASS		
		1	3	23.19	22.07	PASS		
		1	5	23.11	22.07	PASS		
	LCH	3	0	22.94	21.92	PASS		
		3	2	23.06	22.03	PASS		
		3	3	23.13	22.06	PASS		
		6	0	21.81	20.84	PASS		
		1	0	22.93	22.25	PASS		
		1	3	22.99	22.28	PASS		
QPSK /		1	5	22.92	22.07	PASS		
16QAM	MCH	3	0	23.05	22.03	PASS		
TOQAIVI		3	2	23.11	22.12	PASS		
		3	3	22.97	21.92	PASS		
		6	0	22.02	20.78	PASS		
		1	0	23.07	21.64	PASS		
		1	3	22.87	21.60	PASS		
		1	5	22.83	21.45	PASS		
	HCH	3	0	22.99	21.83	PASS		
		3	2	23.00	22.83	PASS		
		3	3	22.96	21.75	PASS		
		6	0	21.92	20.89	PASS		

Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)							
NA - de de ations	Observat	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\	
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict	
		1	0	23.05	22.05	PASS	
		1	7	23.01	22.20	PASS	
		1	14	22.83	22.00	PASS	
	LCH	8	0	21.93	21.00	PASS	
		8	4	21.94	21.09	PASS	
		8	7	21.88	21.01	PASS	
		15	0	21.92	20.91	PASS	
		1	0	23.12	22.64	PASS	
	мсн	1	7	23.18	22.73	PASS	
QPSK /		1	14	23.05	22.37	PASS	
16QAM		8	0	22.04	21.18	PASS	
IOQAW		8	4	22.09	20.98	PASS	
		8	7	22.01	20.97	PASS	
		15	0	22.10	21.11	PASS	
		1	0	22.96	22.35	PASS	
		1	7	22.94	21.99	PASS	
		1	14	22.18	21.65	PASS	
	нсн	8	0	21.93	21.21	PASS	
		8	4	21.89	20.81	PASS	
		8	7	21.89	20.70	PASS	
		15	0	21.93	21.00	PASS	

	Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)								
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Vandiat			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	22.87	22.32	PASS			
		1	12	22.96	22.30	PASS			
		1	24	22.73	22.08	PASS			
	LCH	12	0	21.93	21.05	PASS			
		12	6	21.91	21.13	PASS			
		12	13	21.89	21.11	PASS			
		25	0	21.91	21.04	PASS			
		1	0	23.01	22.30	PASS			
	мсн	1	12	23.09	22.41	PASS			
QPSK /		1	24	22.85	22.12	PASS			
16QAM		12	0	22.08	21.32	PASS			
IOQAW		12	6	22.09	21.33	PASS			
		12	13	22.08	21.23	PASS			
		25	0	22.02	21.26	PASS			
		1	0	22.89	21.25	PASS			
		1	12	23.40	21.52	PASS			
		1	24	22.05	20.98	PASS			
	нсн	12	0	21.92	21.02	PASS			
		12	6	22.03	21.20	PASS			
		12	13	21.85	20.95	PASS			
		25	0	21.88	21.00	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)								
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	Vandiat			
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict			
		1	0	23.16	22.75	PASS			
		1	24	23.36	22.90	PASS			
		1	49	22.57	21.90	PASS			
	LCH	25	0	22.04	21.11	PASS			
		25	12	22.03	21.13	PASS			
		25	25	21.98	21.04	PASS			
		50	0	22.02	21.01	PASS			
		1	0	22.29	21.65	PASS			
	мсн	1	24	24.01	23.39	PASS			
QPSK /		1	49	22.87	22.11	PASS			
16QAM		25	0	22.12	21.21	PASS			
IOQAIVI		25	12	22.24	21.41	PASS			
		25	25	22.05	21.30	PASS			
		50	0	22.05	21.22	PASS			
		1	0	20.86	20.33	PASS			
		1	24	22.85	22.10	PASS			
		1	49	21.53	21.05	PASS			
	нсн	25	0	21.77	20.88	PASS			
		25	12	22.71	21.36	PASS			
		25	25	22.03	21.17	PASS			
		50	0	21.98	21.05	PASS			

	Conducted Output Power Test Result (Channel Bandwidth: 15 MHz)							
Madulatian	01	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/l:t		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	22.93	22.78	PASS		
		1	37	23.31	22.87	PASS		
		1	74	22.03	21.39	PASS		
	LCH	37	0	21.99	20.95	PASS		
		37	18	22.12	21.09	PASS		
		37	38	22.01	21.06	PASS		
		75	0	22.08	21.19	PASS		
		1	0	22.83	22.19	PASS		
	мсн	1	37	23.86	23.26	PASS		
QPSK /		1	74	22.91	22.57	PASS		
16QAM		37	0	22.29	21.20	PASS		
IOQAIVI		37	18	22.29	21.34	PASS		
		37	38	22.18	21.18	PASS		
		75	0	22.21	21.27	PASS		
		1	0	21.20	20.61	PASS		
		1	37	21.92	21.30	PASS		
		1	74	21.27	20.74	PASS		
	нсн	37	0	21.27	20.37	PASS		
		37	18	21.89	20.98	PASS		
		37	38	22.41	21.51	PASS		
		75	0	21.84	21.03	PASS		

	Conducted Output Power Test Result (Channel Bandwidth: 20 MHz)							
Madulation	Channal	RB Con	figuration	Average Power [dBm]	Average Power [dBm]	\/andiat		
Modulation	Channel	Size	Offset	QPSK	16QAM	Verdict		
		1	0	23.09	21.94	PASS		
		1	49	23.23	22.16	PASS		
		1	99	21.55	20.75	PASS		
	LCH	50	0	22.25	21.40	PASS		
		50	25	22.33	21.49	PASS		
		50	50	22.19	21.31	PASS		
		100	0	22.20	21.22	PASS		
		1	0	22.55	21.23	PASS		
	мсн	1	49	24.00	22.80	PASS		
QPSK /		1	99	22.84	21.15	PASS		
16QAM		50	0	22.28	21.28	PASS		
IOQAIVI		50	25	22.37	21.52	PASS		
		50	50	22.20	21.28	PASS		
		100	0	22.27	21.28	PASS		
		1	0	22.57	21.84	PASS		
		1	49	21.58	20.96	PASS		
		1	99	21.39	20.85	PASS		
	нсн	50	0	21.86	20.99	PASS		
		50	25	21.65	20.78	PASS		
		50	50	21.99	21.15	PASS		
		100	0	21.89	20.99	PASS		

## **B.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	Chamilei	[dB]	[dB]	verdict			
	LCH	5.07	<13	PASS			
QPSK	MCH	5.18	<13	PASS			
	HCH	5.1	<13	PASS			
	LCH	5.92	<13	PASS			
16QAM	MCH	6.03	<13	PASS			
	HCH	5.93	<13	PASS			

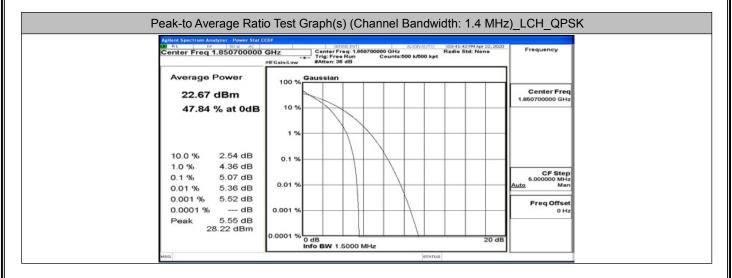
	Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)						
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict			
Modulation	Charmer	[dB]	[dB]	verdict			
	LCH	5.11	<13	PASS			
QPSK	MCH	5.27	<13	PASS			
	HCH	5.17	<13	PASS			
	LCH	5.98	<13	PASS			
16QAM	MCH	6.14	<13	PASS			
	HCH	5.94	<13	PASS			

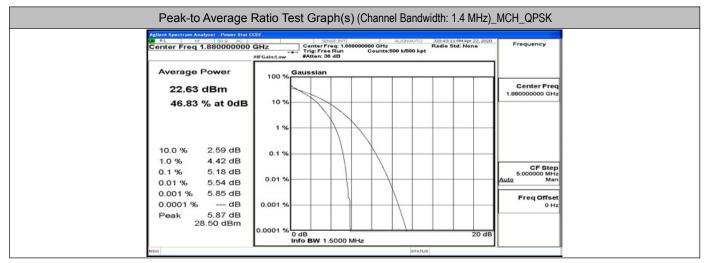
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)						
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict		
Modulation	Channel	[dB]	[dB]	verdict		
	LCH	5.11	<13	PASS		
QPSK	MCH	5.24	<13	PASS		
	HCH	5.08	<13	PASS		
	LCH	5.87	<13	PASS		
16QAM	MCH	6.03	<13	PASS		
	HCH	5.92	<13	PASS		

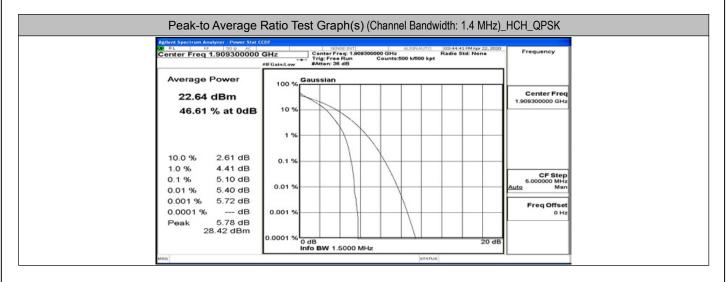
Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)						
Modulation	Channel	Peak-to-Average Ratio	Limit	Verdict		
iviodulation	Glialillei	[dB]	[dB]	verdict		
	LCH	5.14	<13	PASS		
QPSK	MCH	5.13	<13	PASS		
	HCH	5.12	<13	PASS		
	LCH	5.92	<13	PASS		
16QAM	MCH	5.96	<13	PASS		
	HCH	5.98	<13	PASS		

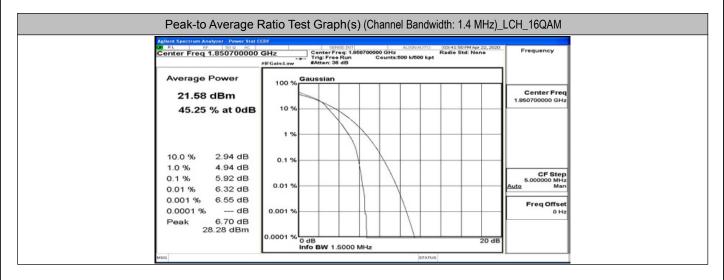
	Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)							
Modulation	Channel	Peak-to-Average Ratio	Limit	Vordiet				
Wodulation	Charmer	[dB]	[dB]	Verdict				
	LCH	4.94	<13	PASS				
QPSK	MCH	4.86	<13	PASS				
	HCH	5.06	<13	PASS				
	LCH	6.13	<13	PASS				
16QAM	MCH	6.14	<13	PASS				
	HCH	6.3	<13	PASS				

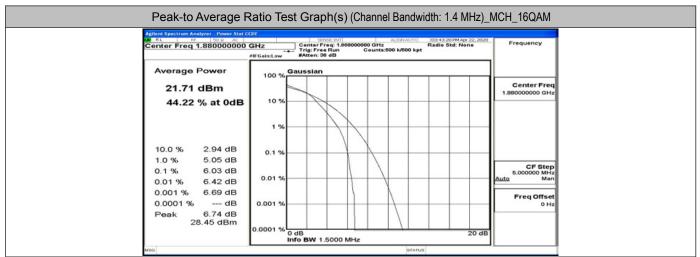
Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)				
Madulation	Channel	Peak-to-Average Ratio	Limit	Verdict
Modulation		[dB]	[dB]	
QPSK	LCH	5.71	<13	PASS
	MCH	5.64	<13	PASS
	HCH	5.84	<13	PASS
16QAM	LCH	6.75	<13	PASS
	MCH	6.73	<13	PASS
	HCH	6.71	<13	PASS

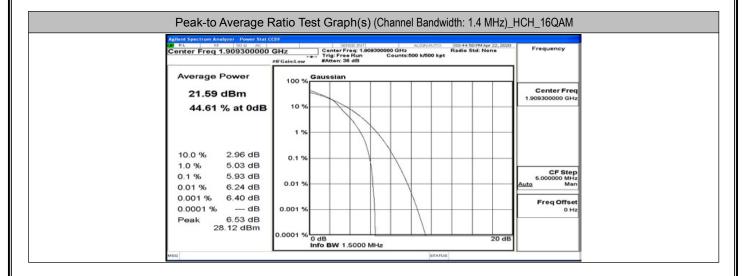


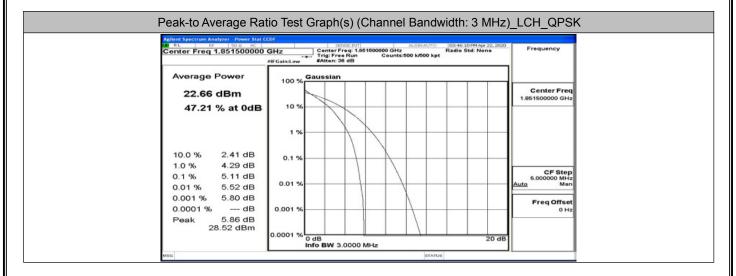


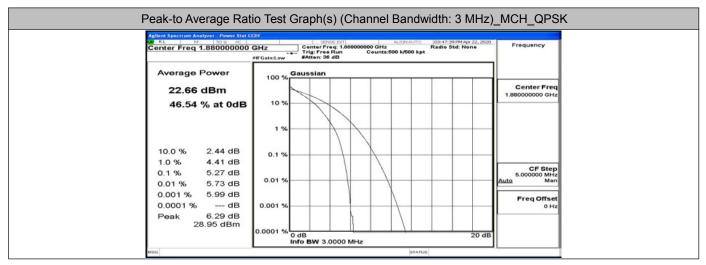


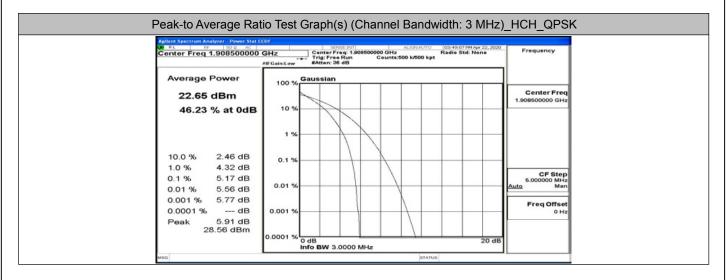


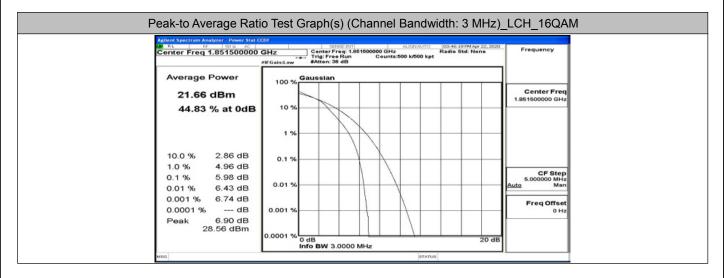


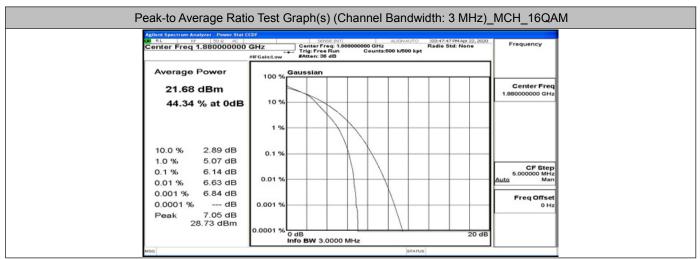


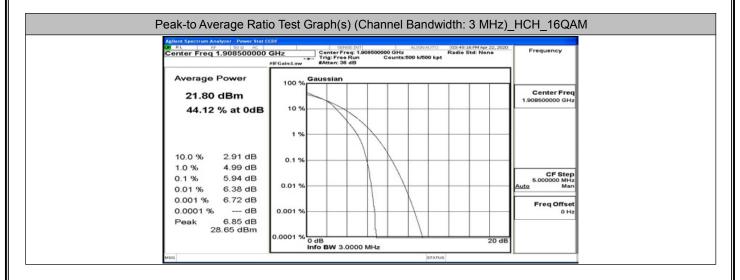


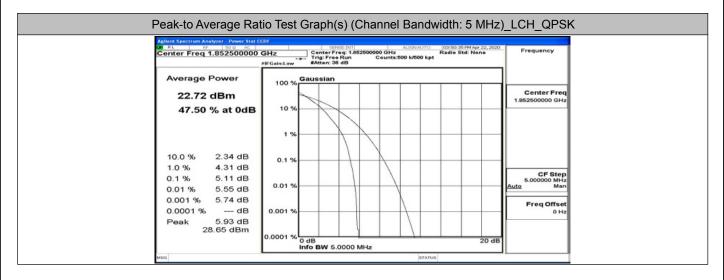


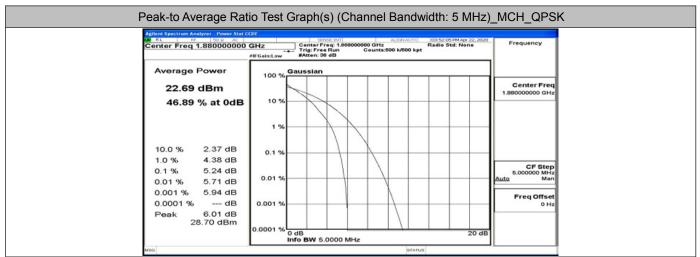


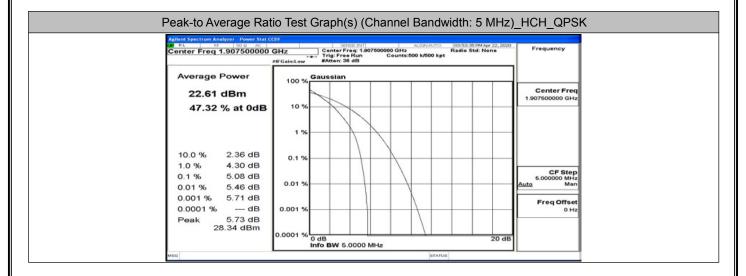


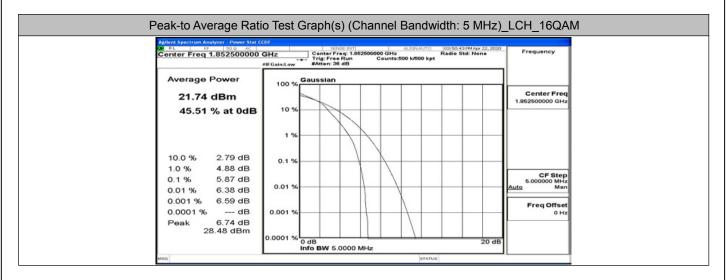


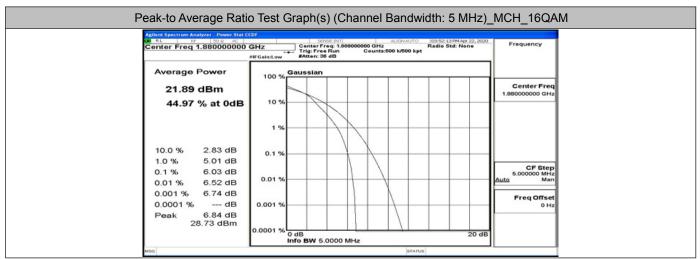


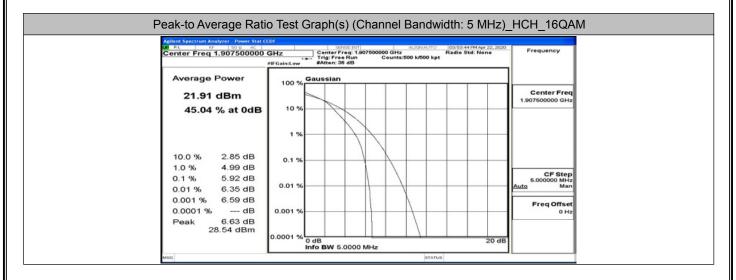




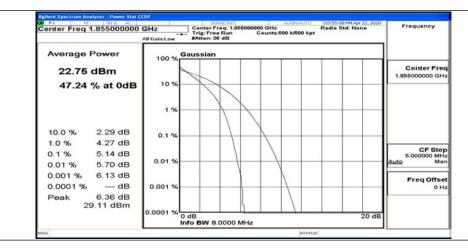


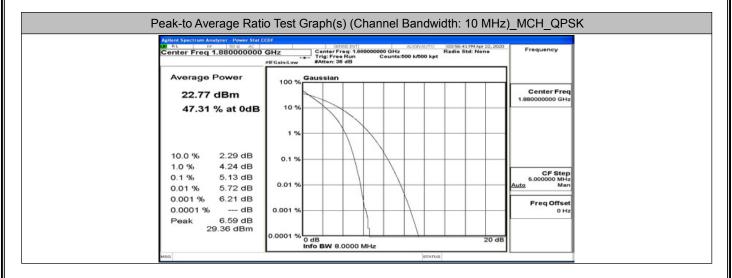


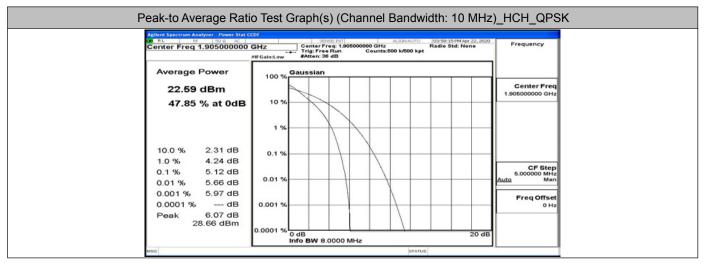


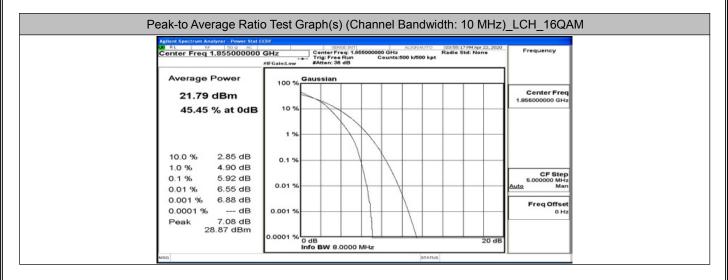


Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_QPSK

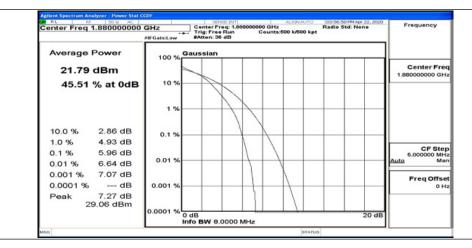


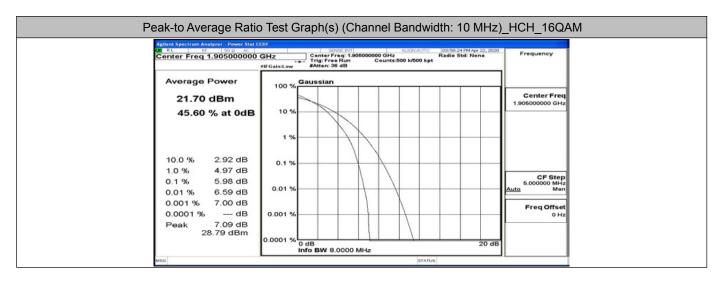


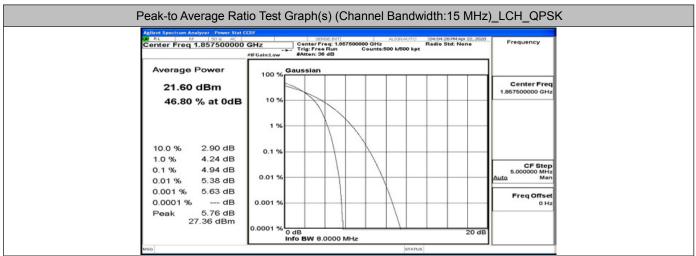


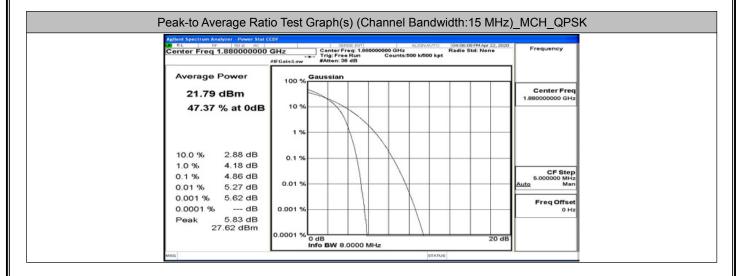


Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)\_MCH\_16QAM

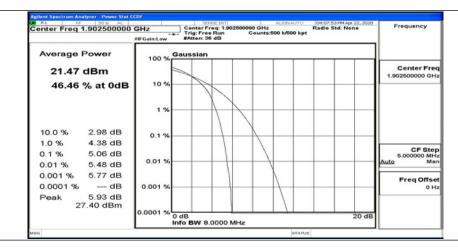


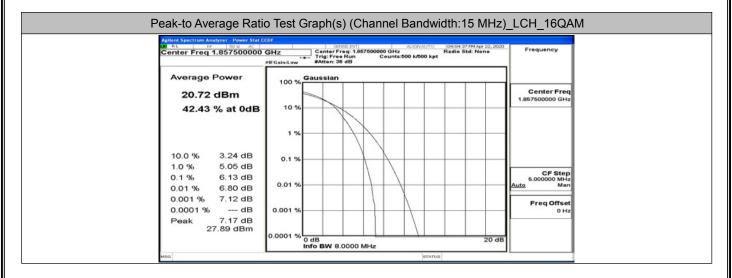


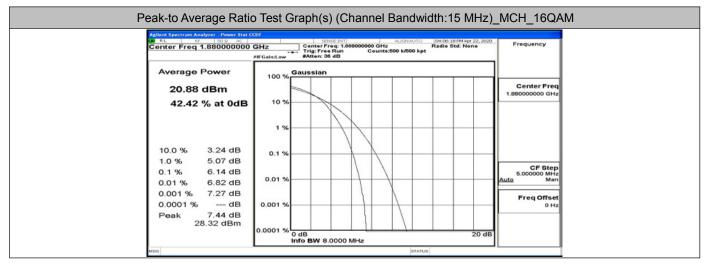


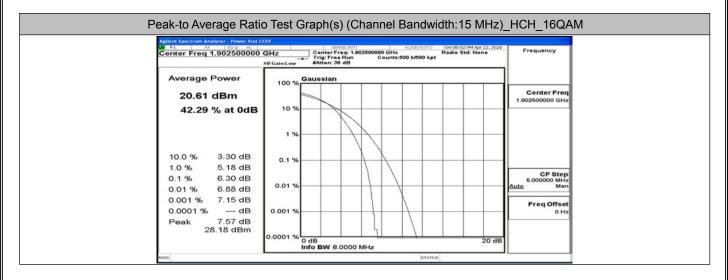


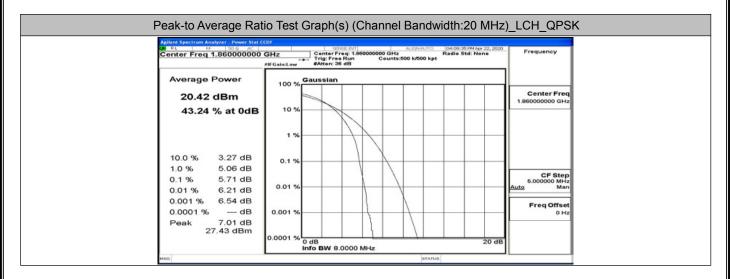
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)\_HCH\_QPSK

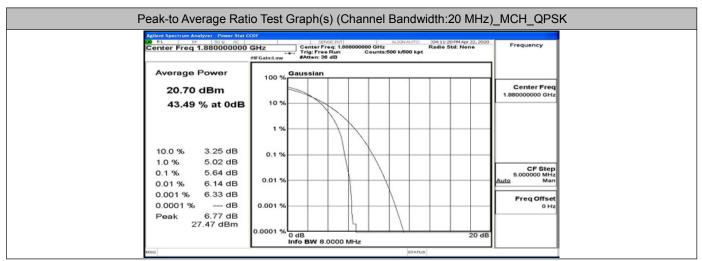


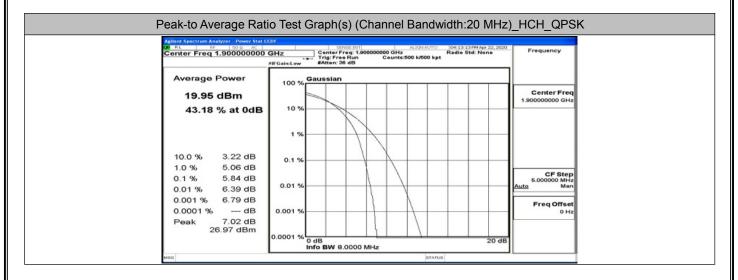


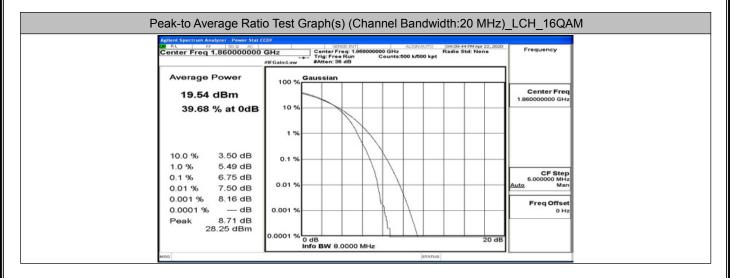


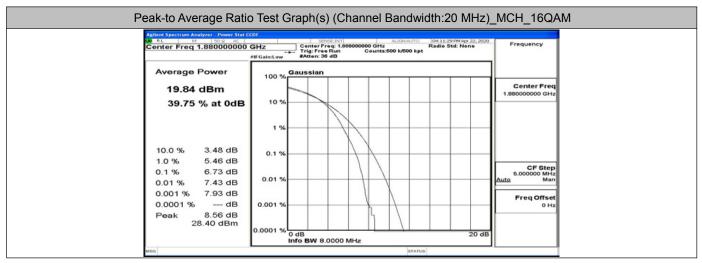


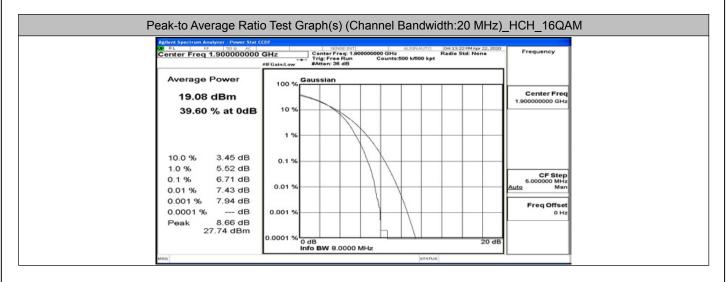












## **B.3 26dB Bandwidth and Occupied Bandwidth**

EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)					
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict	
Modulation		(MHz)	(MHz)		
QPSK	LCH	1.0761	1.240	PASS	
	MCH	1.0755	1.235	PASS	
	HCH	1.0783	1.243	PASS	
16QAM	LCH	1.0792	1.244	PASS	
	MCH	1.0794	1.232	PASS	
	HCH	1.0749	1.240	PASS	

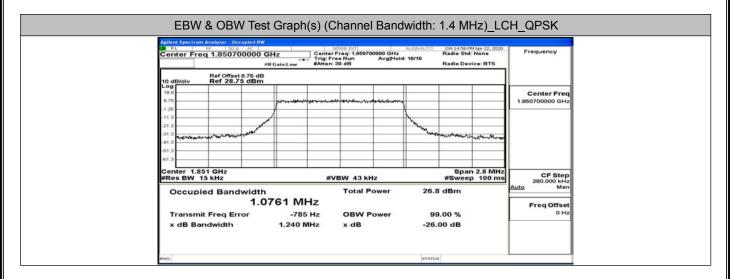
EBW & OBW Test Result (Channel Bandwidth: 3 MHz)					
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict	
iviodulation		(MHz)	(MHz)		
QPSK	LCH	2.6821	2.902	PASS	
	MCH	2.6868	2.903	PASS	
	HCH	2.6816	2.906	PASS	
16QAM	LCH	2.6794	2.899	PASS	
	MCH	2.6779	2.890	PASS	
	НСН	2.6865	2.886	PASS	

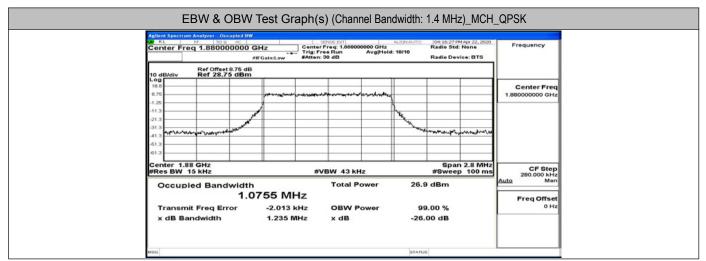
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)					
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict	
Modulation		(MHz)	(MHz)		
QPSK	LCH	4.4711	4.814	PASS	
	MCH	4.4701	4.785	PASS	
	HCH	4.4661	4.787	PASS	
16QAM	LCH	4.4741	4.806	PASS	
	MCH	4.4787	4.822	PASS	
	HCH	4.4666	4.779	PASS	

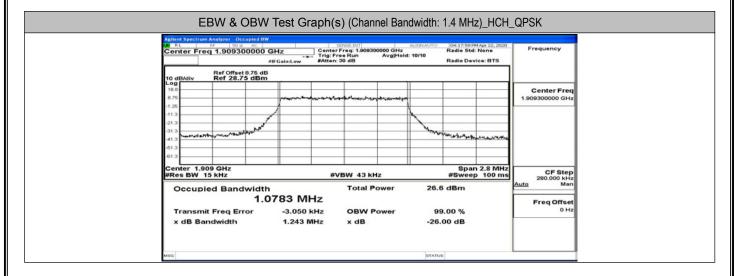
EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
iviodulation		(MHz)	(MHz)	
QPSK	LCH	8.9142	9.465	PASS
	MCH	8.9069	9.438	PASS
	HCH	8.9032	9.372	PASS
16QAM	LCH	8.9139	9.406	PASS
	MCH	8.9126	9.400	PASS
	HCH	8.9031	9.316	PASS

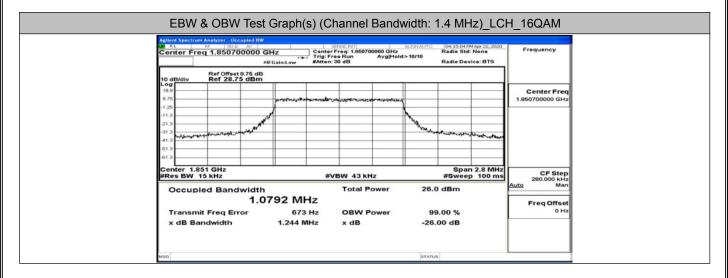
EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
iviodulation		(MHz)	(MHz)	
QPSK	LCH	13.379	14.01	PASS
	MCH	13.345	13.99	PASS
	HCH	13.357	14.04	PASS
16QAM	LCH	13.378	13.97	PASS
	MCH	13.357	13.97	PASS
	HCH	13.357	13.98	PASS

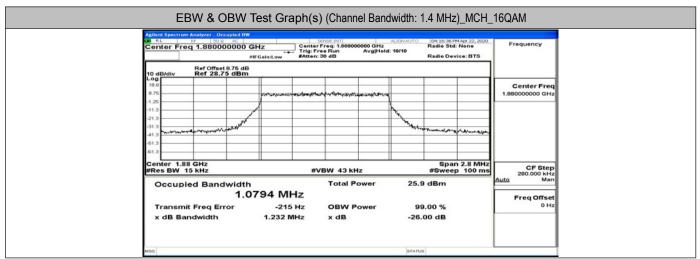
EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Verdict
Modulation		(MHz)	(MHz)	
QPSK	LCH	17.833	18.63	PASS
	MCH	17.784	18.56	PASS
	HCH	17.861	18.68	PASS
16QAM	LCH	17.827	18.58	PASS
	MCH	17.801	18.55	PASS
	HCH	17.876	18.63	PASS

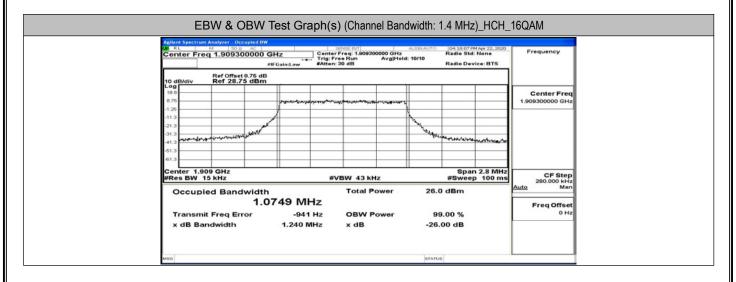


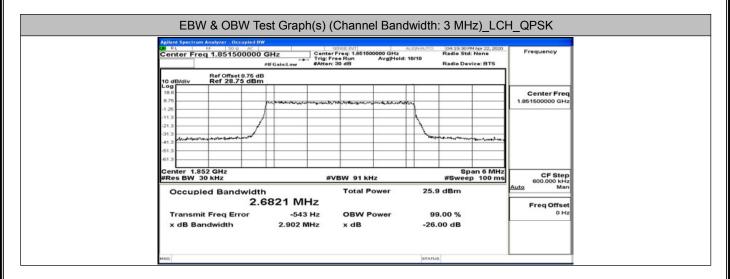


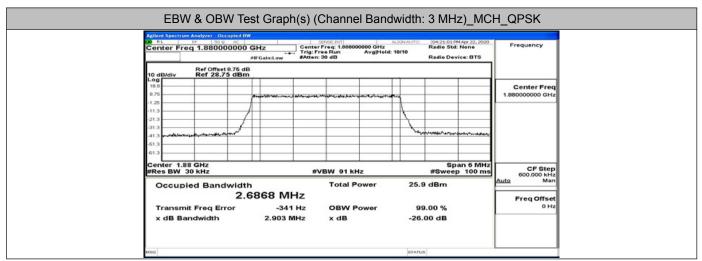


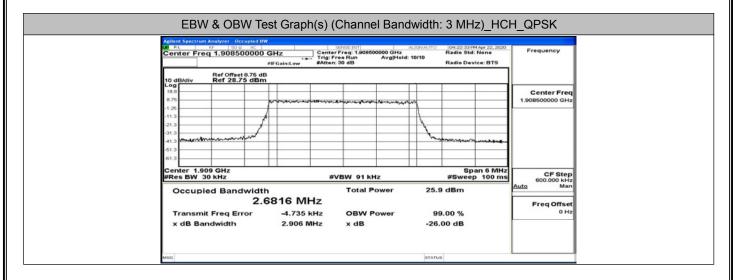


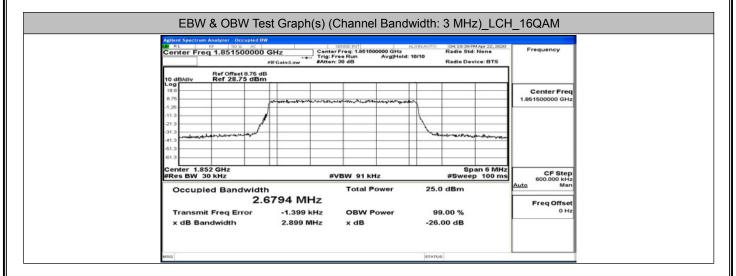


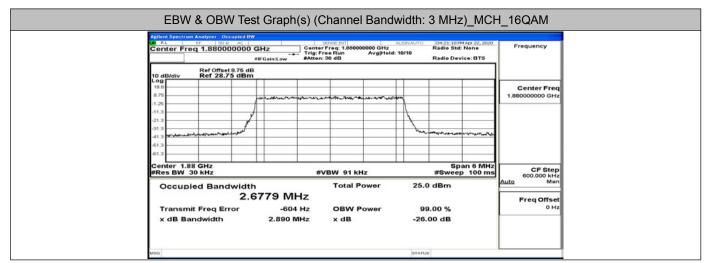


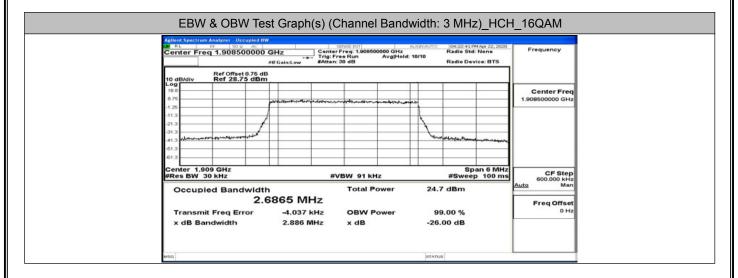


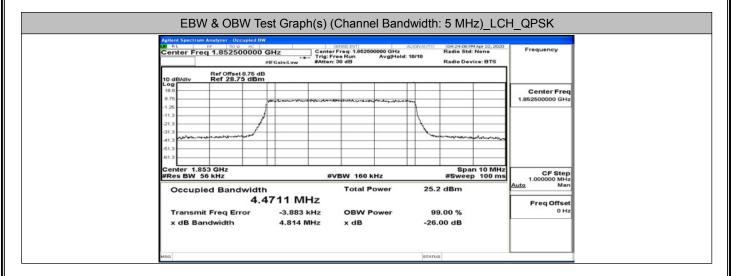


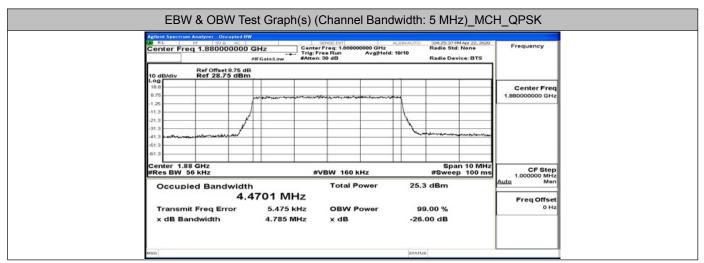


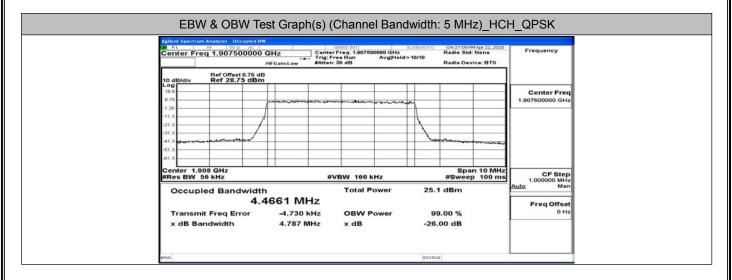


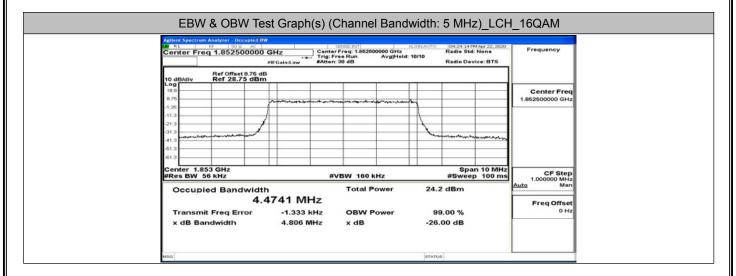


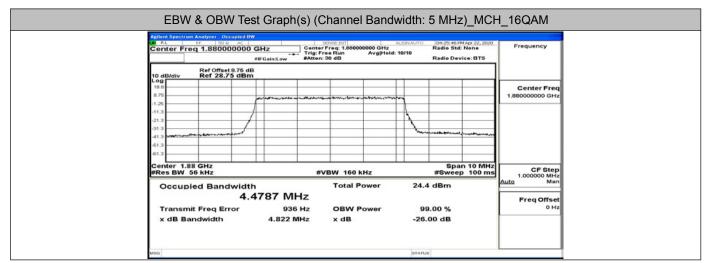


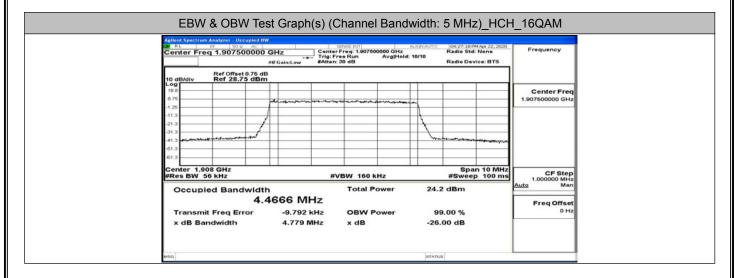


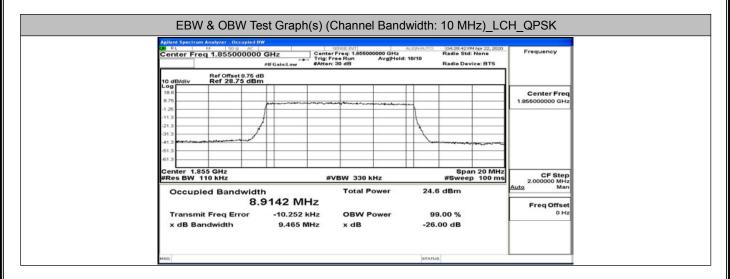


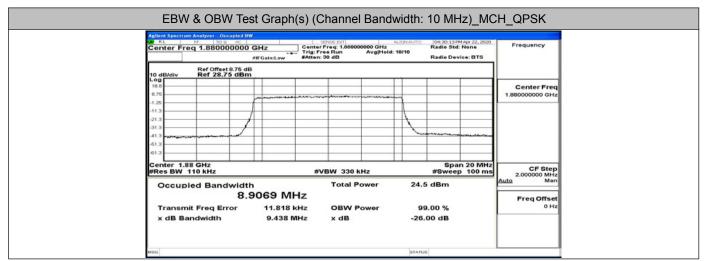


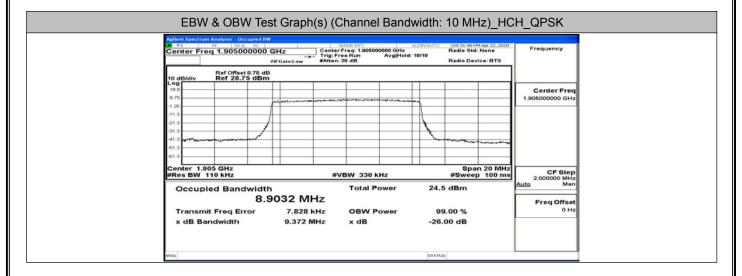


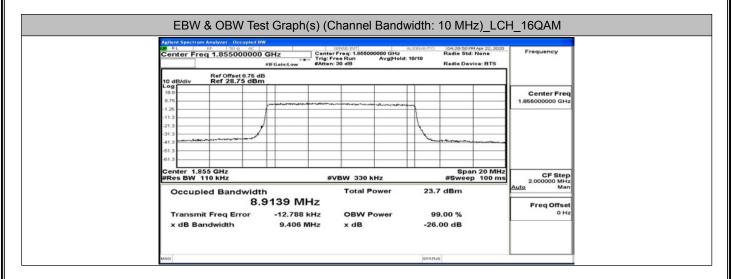


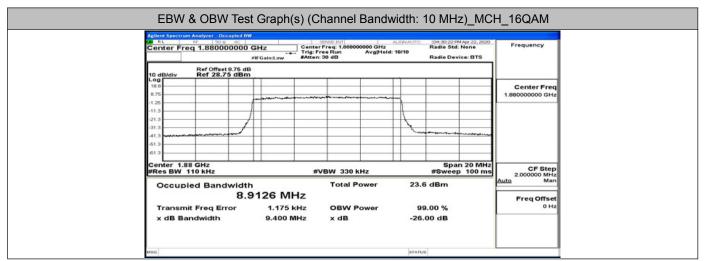


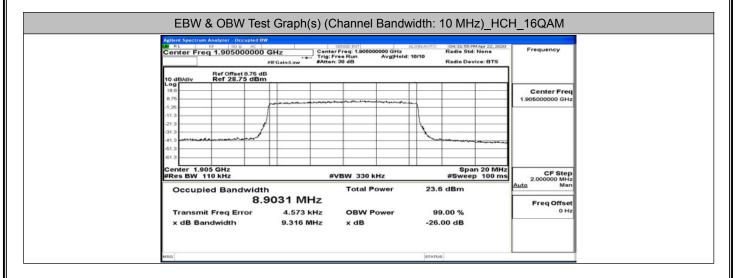


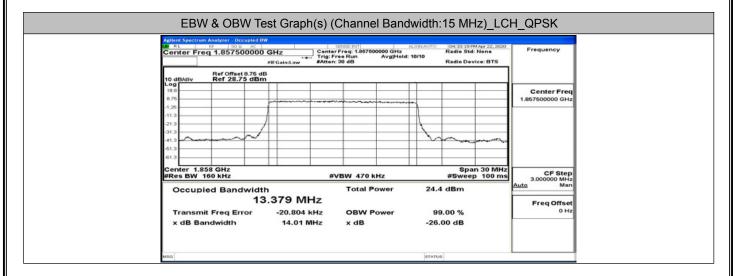


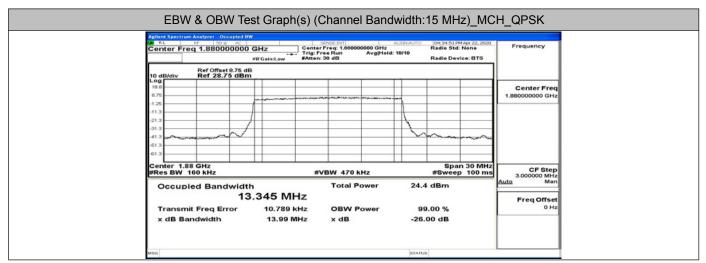


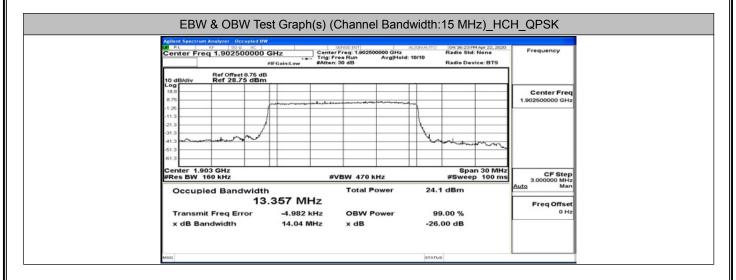


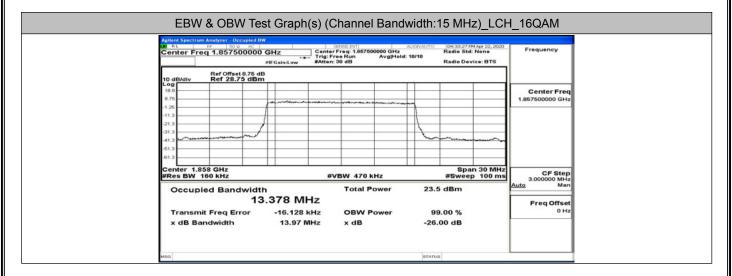


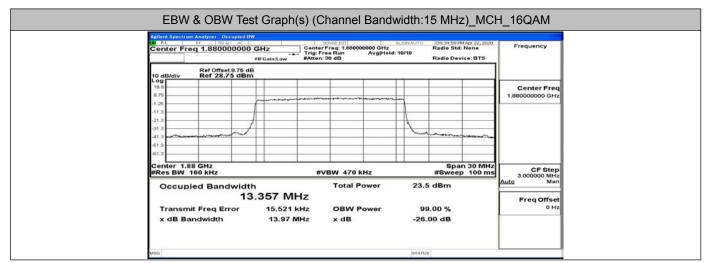


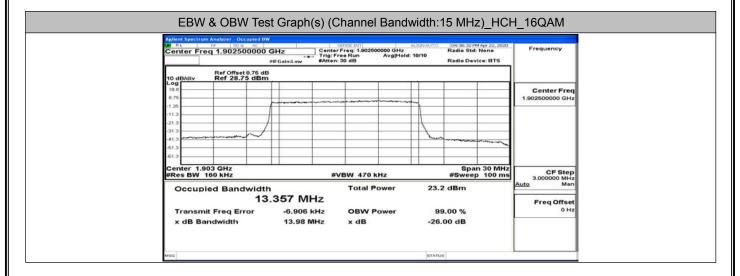


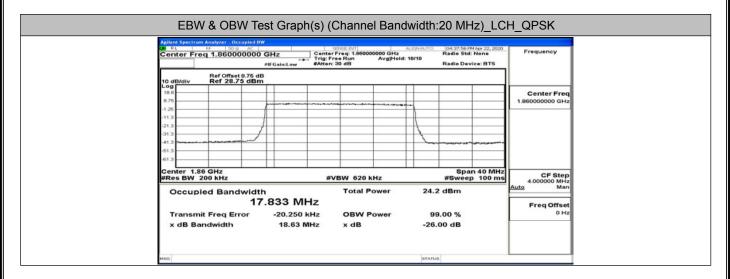


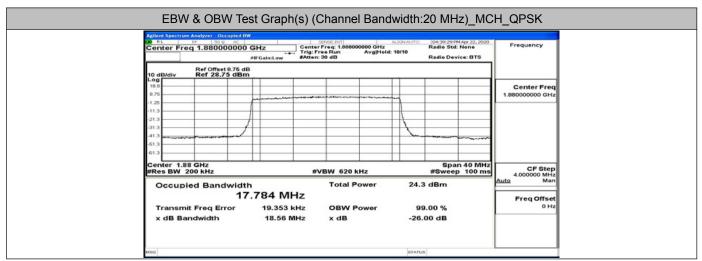


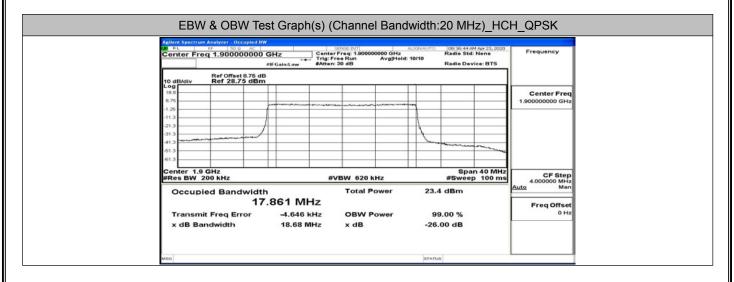


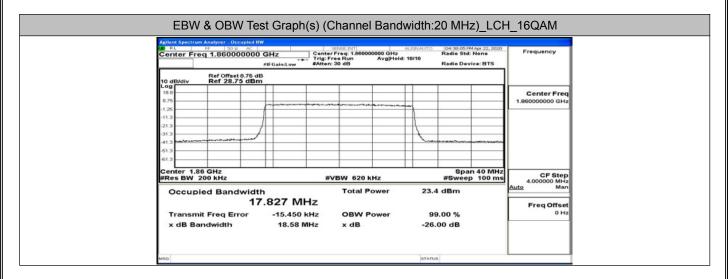


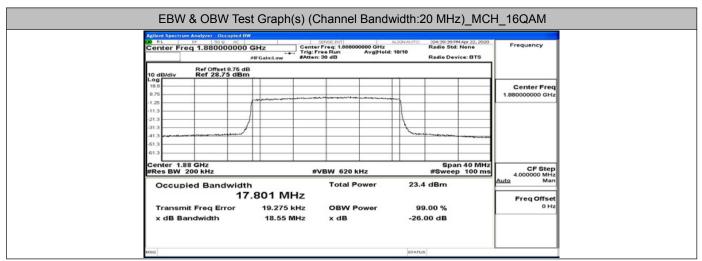


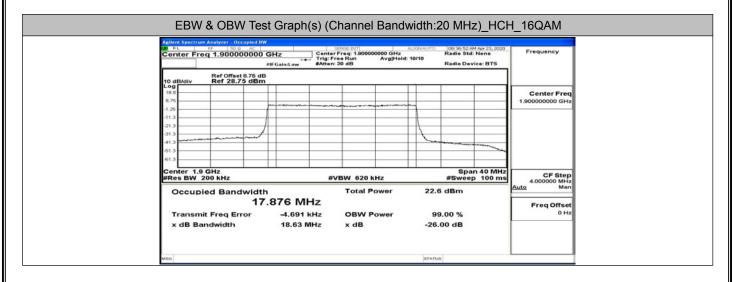




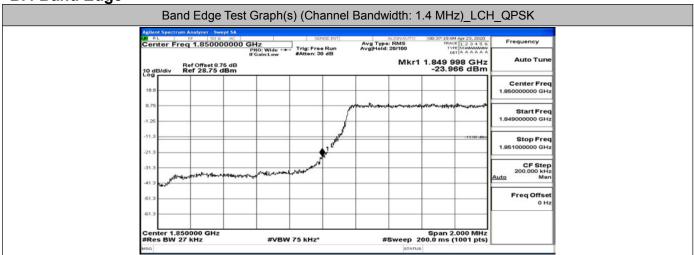


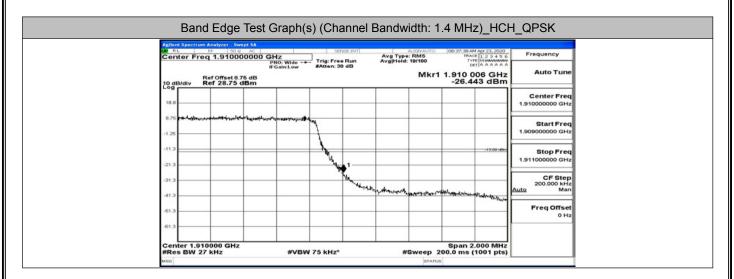


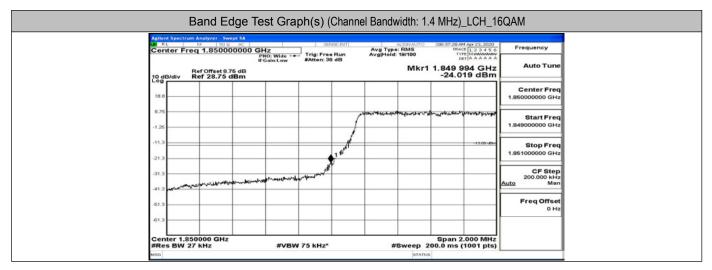


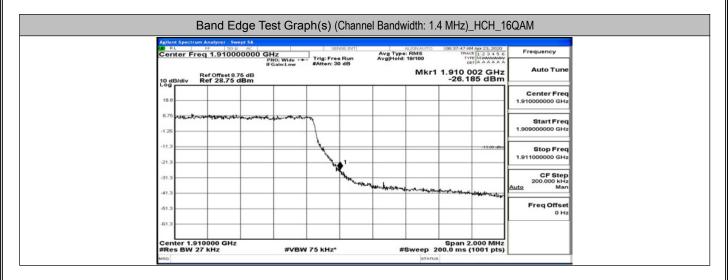


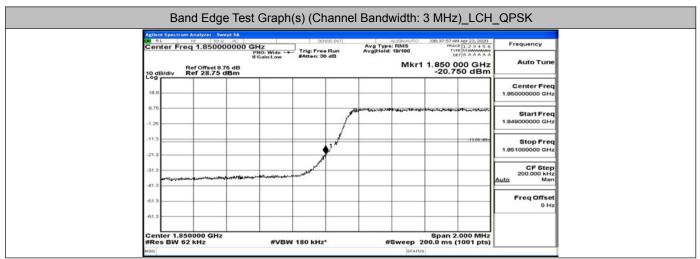
**B.4 Band Edge** 

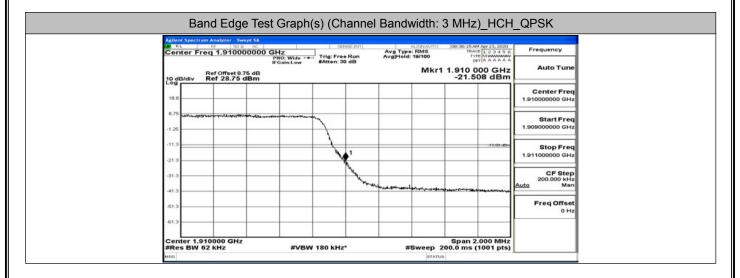


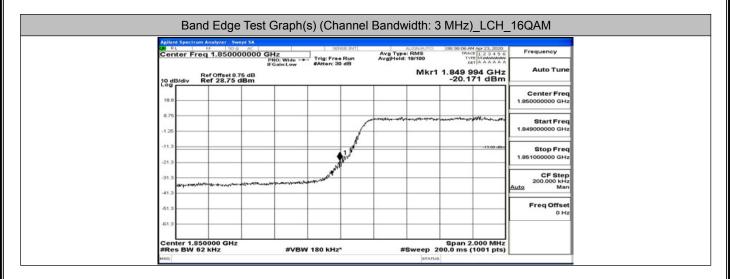


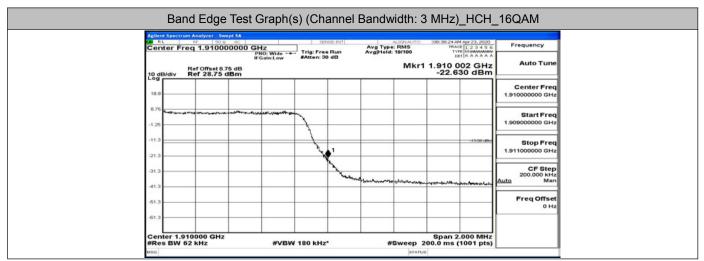


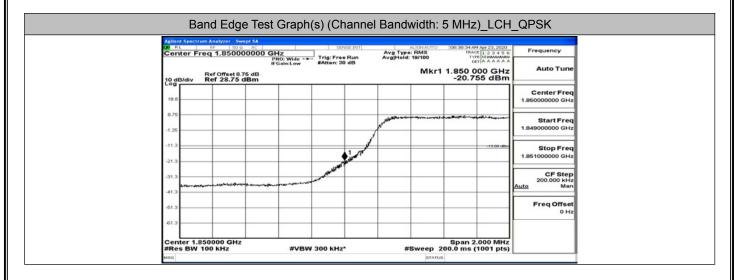


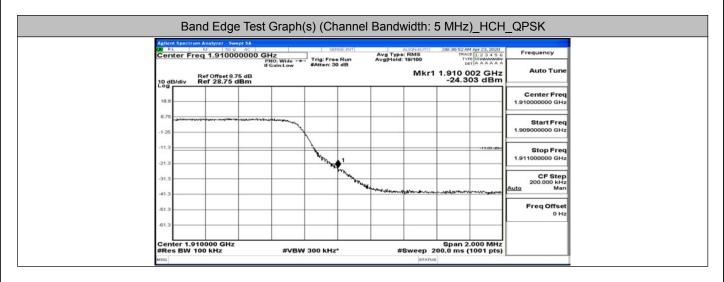


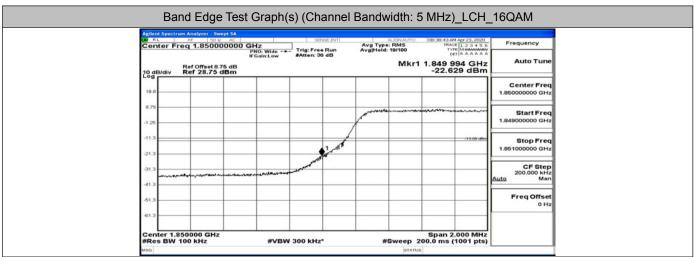


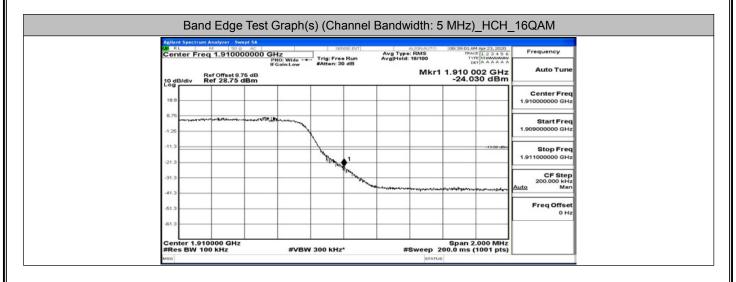




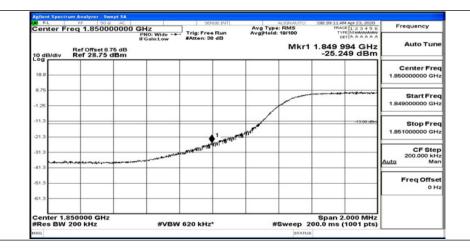


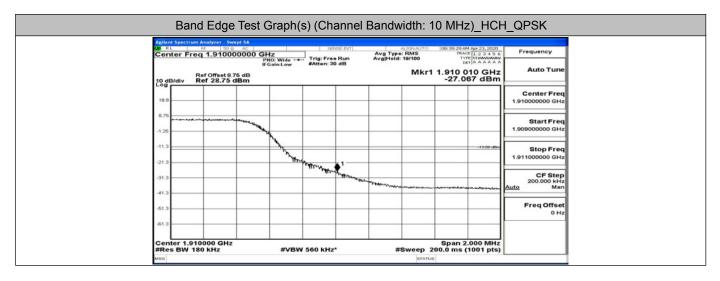


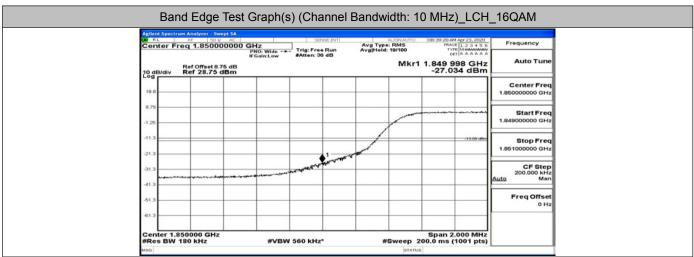


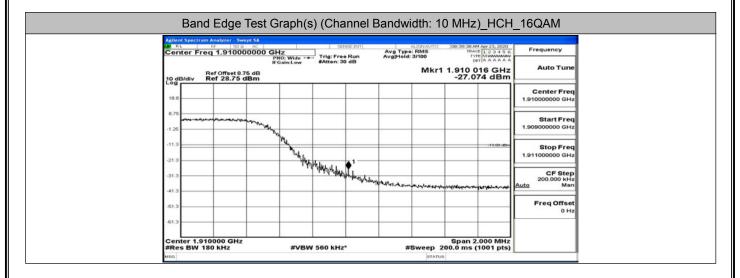


Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)\_LCH\_QPSK

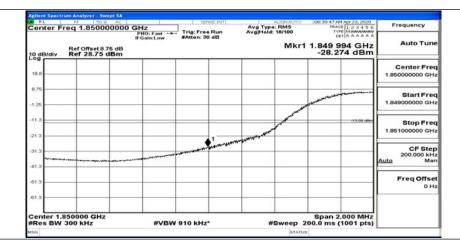


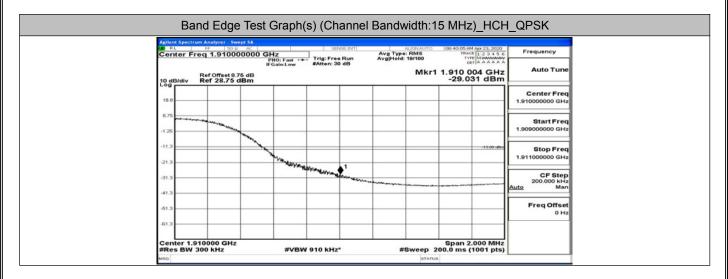


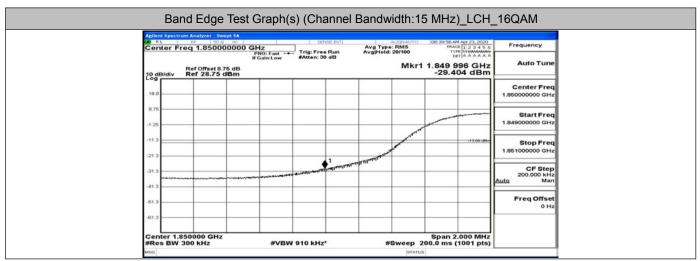


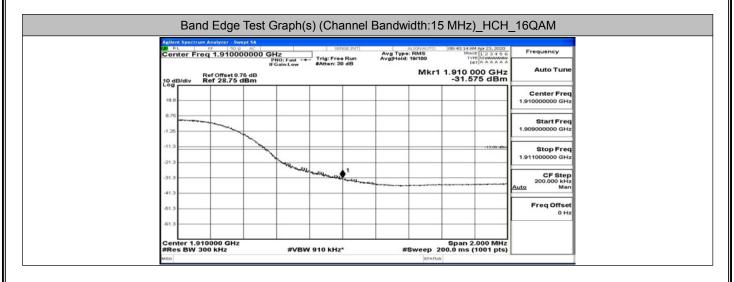


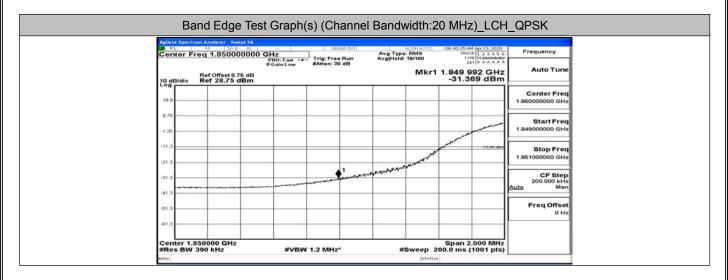
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)\_LCH\_QPSK

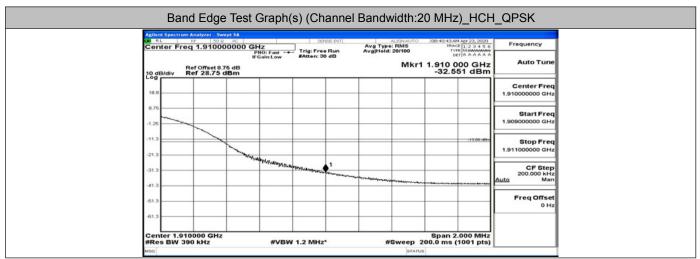


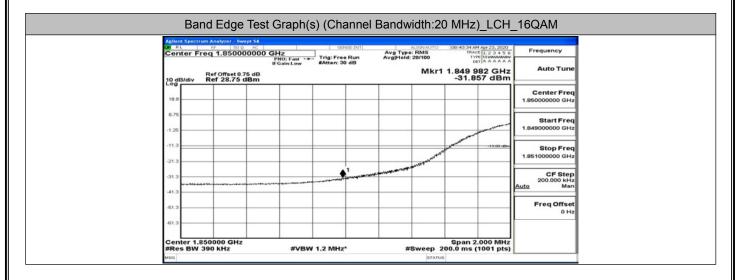


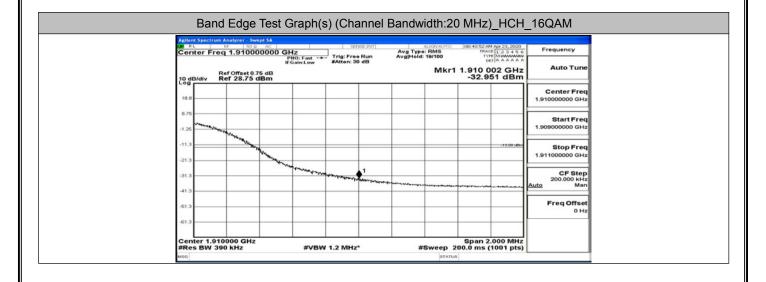












## **B.5 Conducted Spurious Emission**

