

# **Appendix A: Average Output Power Data**

## **Test Result**

			Channel	Bandwidth: 1.4 MHz	
Modulati		RB Cont	figuration		Verdic
on	Channel	Size	Offset	Average Power [dBm]	t
		1	0	22.58	PASS
		1	2	22.59	PASS
		1	5	22.57	PASS
	LCH	3	0	22.58	PASS
		3	1	22.54	PASS
		3	3	22.37	PASS
		6	0	21.41	PASS
		1	0	22.74	PASS
		1	2	22.68	PASS
		1	5	22.70	PASS
QPSK	MCH	3	0	22.45	PASS
		3	1	22.64	PASS
		3	3	22.38	PASS
		6	0	21.50	PASS
		1	0	22.59	PASS
		1	2	22.68	PASS
		1	5	22.51	PASS
	HCH	3	0	22.32	PASS
		3	1	22.47	PASS
		3	3	22.31	PASS
		6	0	21.49	PASS
		1	0	22.04	PASS
		1	2	22.01	PASS
		1	5	22.00	PASS
	LCH	3	0	21.28	PASS
16QAM		3	1	21.26	PASS
IUQAW		3	3	21.29	PASS
		6	0	20.84	PASS
		1	0	22.15	PASS
	MCH	1	2	22.17	PASS
		1	5	22.16	PASS



	3	0	21.74	PASS
	3	1	21.95	PASS
	3	3	21.65	PASS
	6	0	20.84	PASS
	1	0	22.15	PASS
	1	2	22.13	PASS
	1	5	22.14	PASS
HCH	3	0	21.38	PASS
	3	1	21.50	PASS
	3	3	21.84	PASS
	6	0	20.84	PASS

			Cha	annel Bandwidth: 3 MHz	
		F	RB		
Modulation	Channel		guration	Average Power [dBm]	Verdict
		Size	Offset		
		1	0	22.49	PASS
		1	7	22.69	PASS
		1	14	22.72	PASS
	LCH	8	0	21.56	PASS
		8	3	21.60	PASS
		8	7	21.68	PASS
		15	0	21.63	PASS
	мсн	1	0	22.47	PASS
		1	7	22.54	PASS
		1	14	22.61	PASS
QPSK		8	0	21.62	PASS
		8	3	21.66	PASS
		8	7	21.51	PASS
		15	0	21.66	PASS
		1	0	22.49	PASS
		1	7	22.50	PASS
		1	14	22.44	PASS
	HCH	8	0	21.53	PASS
		8	3	21.61	PASS
		8	7	21.51	PASS
		15	0	21.48	PASS
16QAM	LCH	1	0	22.05	PASS



	1	7	22.15	PASS
	1	14	22.14	PASS
	8	0	20.72	PASS
	8	3	20.72	PASS
	8	7	20.76	PASS
	15	0	20.72	PASS
	1	0	22.07	PASS
	1	7	22.14	PASS
	1	14	22.13	PASS
MCH	8	0	20.74	PASS
	8	3	20.74	PASS
	8	7	20.60	PASS
	15	0	20.65	PASS
	1	0	22.01	PASS
	1	7	21.94	PASS
	1	14	22.11	PASS
НСН	8	0	20.54	PASS
	8	3	20.61	PASS
	8	7	20.58	PASS
	15	0	20.59	PASS

			Channe	l Bandwidth: 5 MHz	
Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
Woddiation	Orianiici	Size	Offset	Average Fower [dblii]	Verdict
		1	0	22.61	PASS
		1	12	22.57	PASS
		1	24	22.79	PASS
	LCH	12	0	21.67	PASS
		12	6	21.89	PASS
		12	13	21.73	PASS
QPSK		25	0	21.75	PASS
QPSK		1	0	22.68	PASS
		1	12	22.72	PASS
		1	24	22.74	PASS
	MCH	12	0	21.52	PASS
		12	6	21.56	PASS
		12	13	21.67	PASS
		25	0	21.83	PASS



		1	0	22.64	PASS
		1	12	22.43	PASS
		1	24	22.78	PASS
	HCH	12	0	21.70	PASS
		12	6	21.68	PASS
		12	13	21.69	PASS
		25	0	21.68	PASS
		1	0	22.10	PASS
		1	12	21.90	PASS
		1	24	22.05	PASS
	LCH	12	0	20.75	PASS
		12	6	20.86	PASS
		12	13	20.83	PASS
		25	0	20.77	PASS
		1	0	22.13	PASS
		1	12	21.94	PASS
		1	24	22.14	PASS
16QAM	MCH	12	0	20.67	PASS
		12	6	20.69	PASS
		12	13	20.76	PASS
		25	0	20.87	PASS
		1	0	22.15	PASS
		1	12	22.06	PASS
		1	24	22.13	PASS
	HCH	12	0	20.81	PASS
		12	6	20.74	PASS
		12	13	20.86	PASS
		25	0	20.78	PASS

	Channel Bandwidth: 10 MHz									
Modulation	Channel	RB Conf	iguration	Average Power [dBm]	Verdict					
Woddiation	Orialino	Size	Offset	Average 1 ower [ubin]	verdict					
	1	0	22.69	PASS						
		1	24	22.72	PASS					
QPSK	LCH	1	49	22.80	PASS					
QFSK	LON	25	0	21.50	PASS					
		25	12	21.59	PASS					
		25	25	21.84	PASS					



		50	0	21.65	PASS
		1	0	22.65	PASS
		1	24	22.77	PASS
		1	49	22.85	PASS
	MCH	25	0	21.56	PASS
		25	12	21.90	PASS
		25	25	21.75	PASS
		50	0	21.94	PASS
		1	0	22.76	PASS
		1	24	22.72	PASS
		1	49	22.82	PASS
	HCH	25	0	21.85	PASS
		25	12	21.71	PASS
		25	25	21.75	PASS
		50	0	21.86	PASS
		1	0	22.01	PASS
	LCH	1	24	22.11	PASS
		1	49	22.14	PASS
		25	0	20.83	PASS
		25	12	20.97	PASS
		25	25	21.22	PASS
		50	0	20.91	PASS
		1	0	21.91	PASS
		1	24	22.15	PASS
		1	49	22.11	PASS
16QAM	MCH	25	0	20.88	PASS
		25	12	20.84	PASS
		25	25	20.71	PASS
		50	0	20.87	PASS
		1	0	22.07	PASS
		1	24	22.04	PASS
		1	49	22.08	PASS
	HCH	25	0	20.78	PASS
		25	12	20.70	PASS
		25	25	20.84	PASS
		50	0	20.79	PASS



Appendix B: Peak-to-Average Ratio

**Test Result** 

**Channel Bandwidth: 1.4 MHz** 

Channel Bandwidth: 1.4 MHz										
Modulation Channel		RB Configuration		Peak-to-Average Ratio	Limit	Verdict				
		Size	Offset	(dB)	(dB)	verdict				
QPSK	MCH	1	0	3.74	<13	PASS				
16QAM	MCH	1	0	4.34	<13	PASS				

**Channel Bandwidth: 3 MHz** 

Channel Bandwidth: 3 MHz										
Modulation	Mad latin Olassal		iguration	Peak-to-Average Ratio	Limit	Verdict				
Modulation	Channel	Size	Offset	[dB]	[dB]	verdict				
QPSK	MCH	1	0	3.74	<13	PASS				
16QAM	MCH	1	0	4.41	<13	PASS				

**Channel Bandwidth: 5 MHz** 

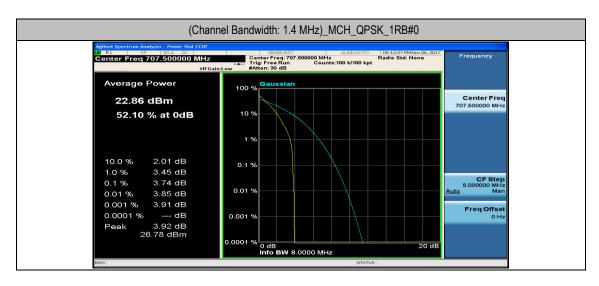
Channel Bandwidth: 5 MHz										
Modulation Channel		RB Configuration		Peak-to-Average Ratio	Limit	Verdict				
		Size	Offset	[dB]	[dB]	verdict				
QPSK	MCH	1	0	3.78	<13	PASS				
16QAM	MCH	1	0	4.28	<13	PASS				

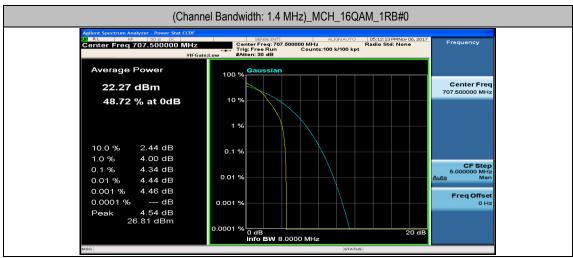
Channel Bandwidth: 10 MHz										
Modulation Channel		RB Configuration		Peak-to-Average Ratio	Limit	Verdict				
		Size	Offset	[dB]	[dB]	verdict				
QPSK	MCH	1	0	3.69	<13	PASS				
16QAM	MCH	1	0	4.6	<13	PASS				



## **Test Graphs**

#### **Channel Bandwidth: 1.4 MHz**

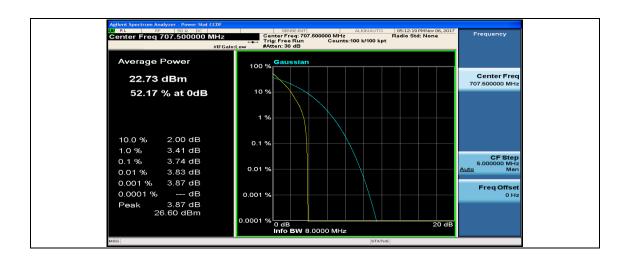




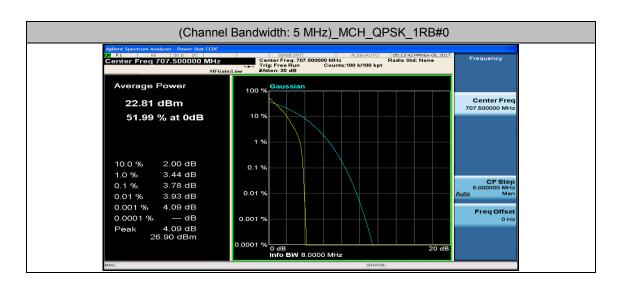
**Channel Bandwidth: 3 MHz** 

(Channel Bandwidth: 3 MHz)\_MCH\_QPSK\_1RB#0

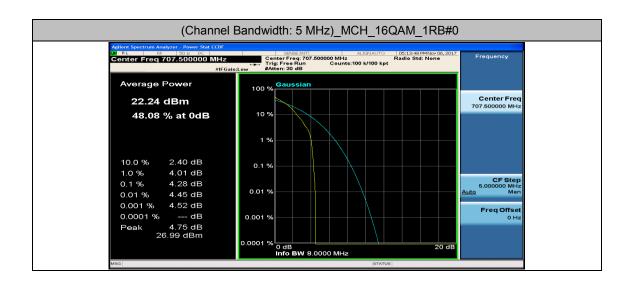


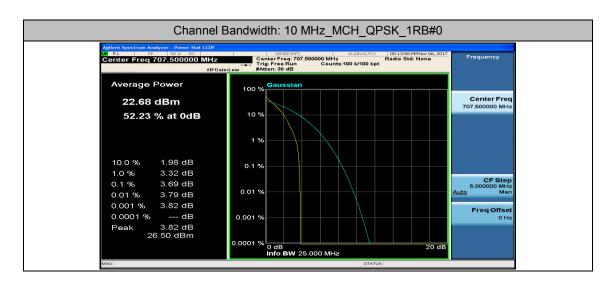






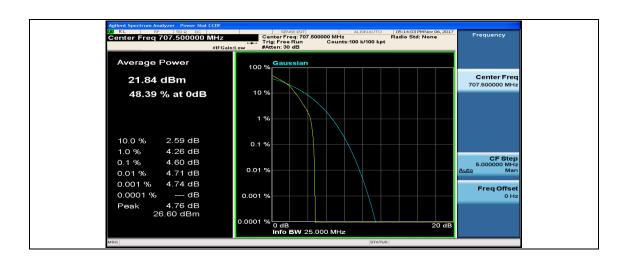






Channel Bandwidth: 10 MHz\_MCH\_16QAM\_1RB#0







# Appendix C: 26dB Bandwidth and Occupied Bandwidth

**Test Result** 

**Channel Bandwidth: 1.4 MHz** 

			Channel	Bandwidth: 1.4 MHz			
		RB Conf	iguration	Occupied	26dB Bandwidth		
Modulation Channel	Channel	Size	Offset	Bandwidth (MHz)	(MHz)	Verdict	
ODOK	LCH	6	0	1.0776	1.214	PASS	
QPSK	MCH	6	0	1.0768	1.220	PASS	
	HCH	6	0	1.0787	1.215	PASS	
	LCH	6	0	1.0772	1.213	PASS	
16QAM	MCH	6	0	1.0767	1.205	PASS	
	HCH	6	0	1.0776	1.244	PASS	

**Channel Bandwidth: 3 MHz** 

			Channe	l Bandwidth: 3 MHz			
		RB Conf	iguration	Occupied	26dB Bandwidth		
Modulation Channel	Size	Offset	Bandwidth	(MHz)	Verdict		
	Size	Oliset	(MHz)	(IVII IZ)			
QPSK	LCH	15	0	2.6871	2.920	PASS	
QFSK	MCH	15	0	2.6874	2.909	PASS	
	HCH	15	0	2.6914	2.923	PASS	
	LCH	15	0	2.6815	2.890	PASS	
16QAM	MCH	15	0	2.6877	2.908	PASS	
	HCH	15	0	2.6868	2.934	PASS	

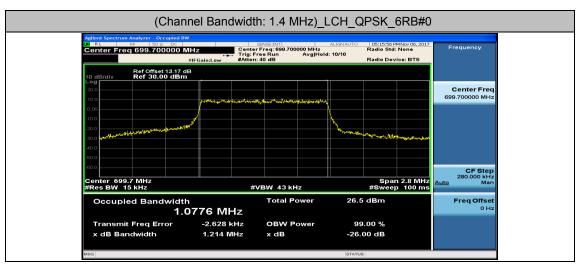
Channel Bandwidth: 5 MHz										
Modulation Channel	RB Configuration		Occupied	26dB Bandwidth						
	Size	Offset	Bandwidth (MHz)	(MHz)	Verdict					
QPSK	LCH	25	0	4.4639	4.756	PASS				



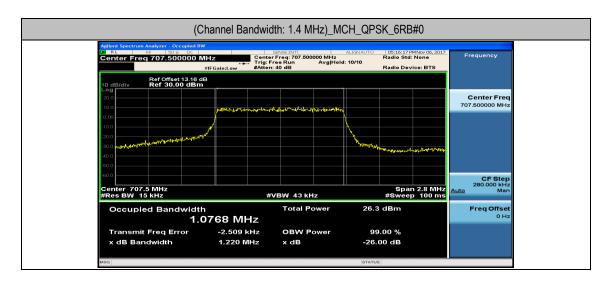
	MCH	25	0	4.4775	4.812	PASS
	HCH	25	0	4.4772	4.791	PASS
	LCH	25	0	4.4691	4.789	PASS
16QAM	MCH	25	0	4.4870	4.863	PASS
	HCH	25	0	4.4918	4.858	PASS

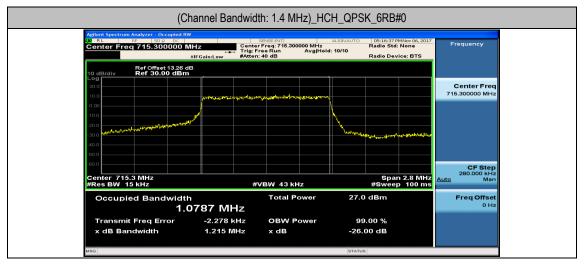
			Channel	Bandwidth: 10 MHz			
		RB Conf	iguration	Occupied	26dB Bandwidth		
Modulation Channel	Size	Offset	Bandwidth	(MHz)	Verdict		
	Size	Oliset	(MHz)	(1711 12)			
QPSK	LCH	50	0	8.9520	9.387	PASS	
QFSK	MCH	50	0	8.9528	9.488	PASS	
	HCH	50	0	8.9225	9.375	PASS	
	LCH	50	0	8.9570	9.456	PASS	
16QAM	MCH	50	0	8.9680	9.471	PASS	
	HCH	50	0	8.9332	9.432	PASS	

# **Test Graphs**

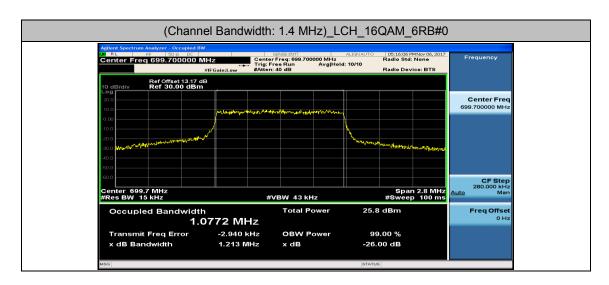


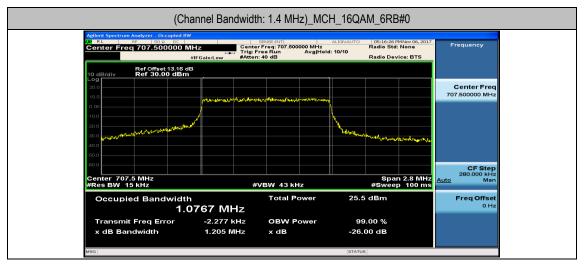


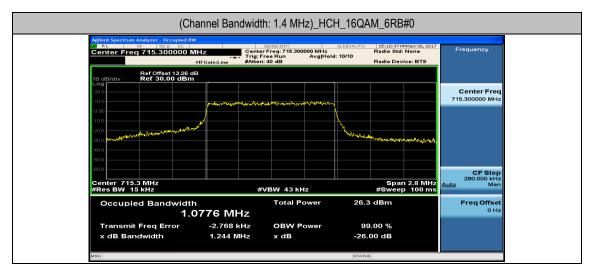




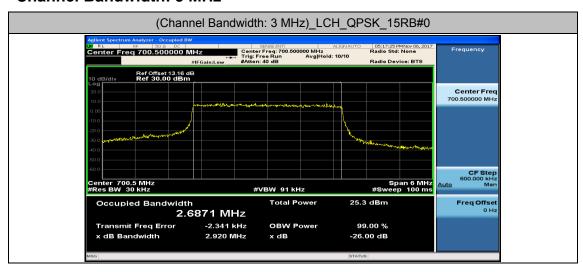


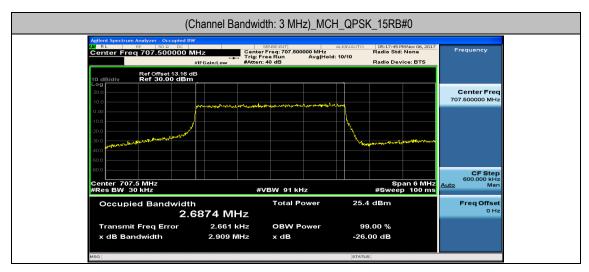


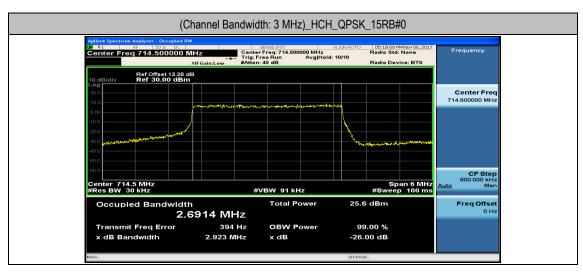




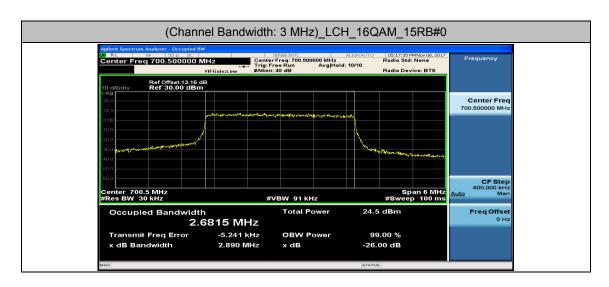


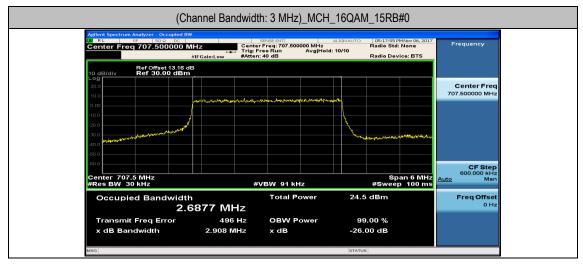


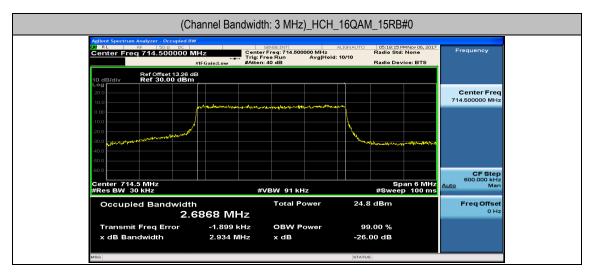




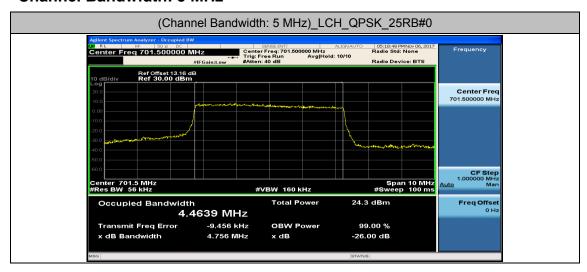


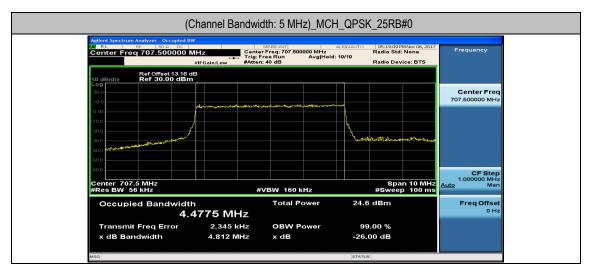


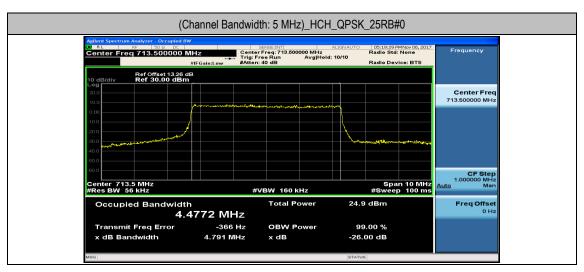




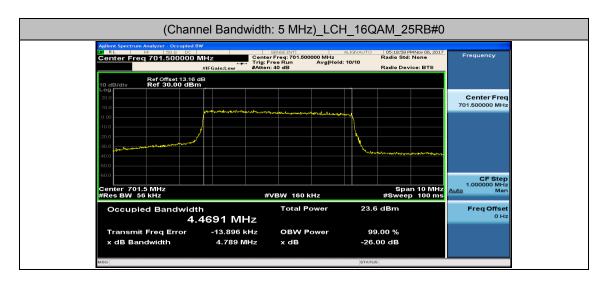


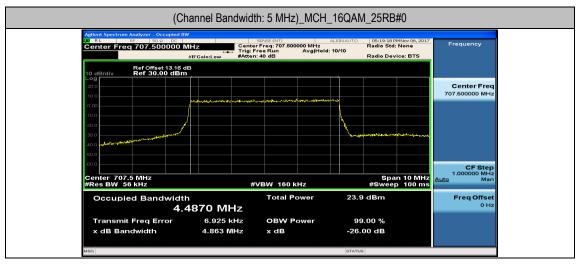


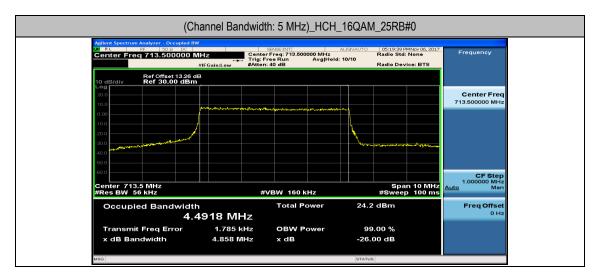




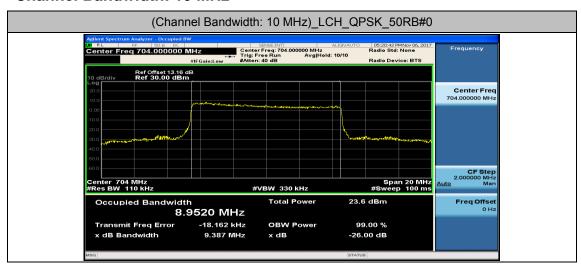


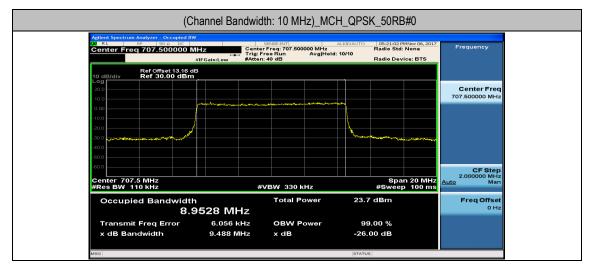


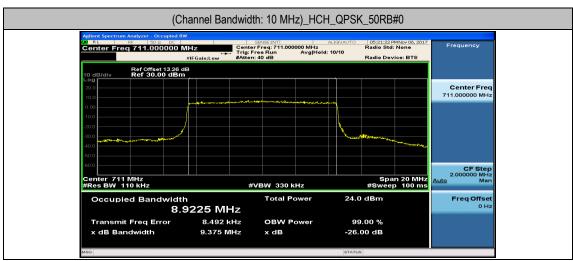




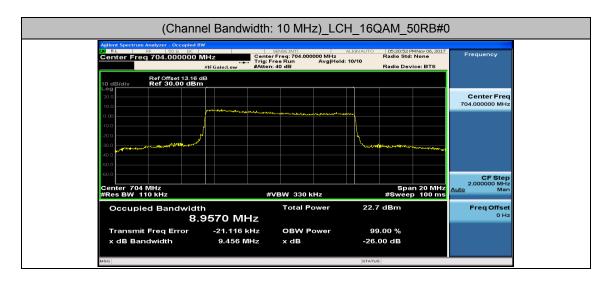


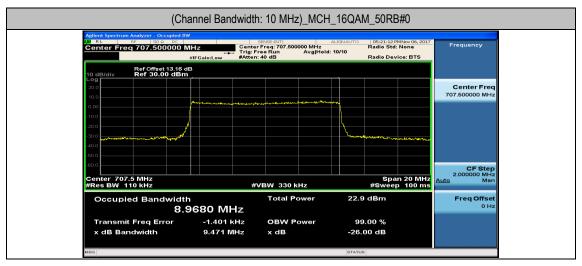


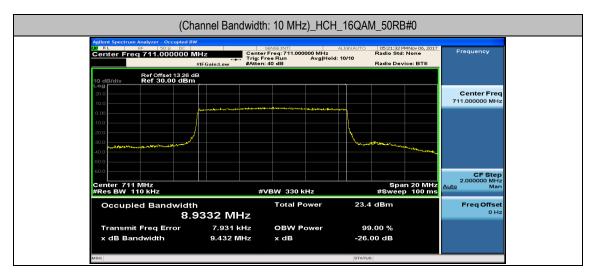








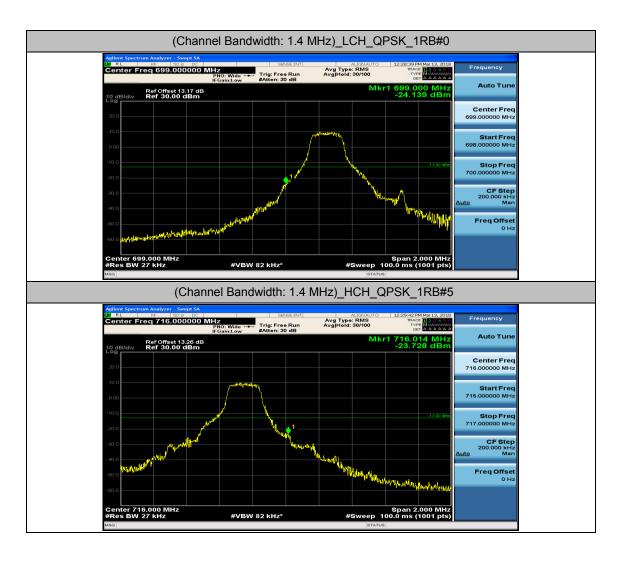




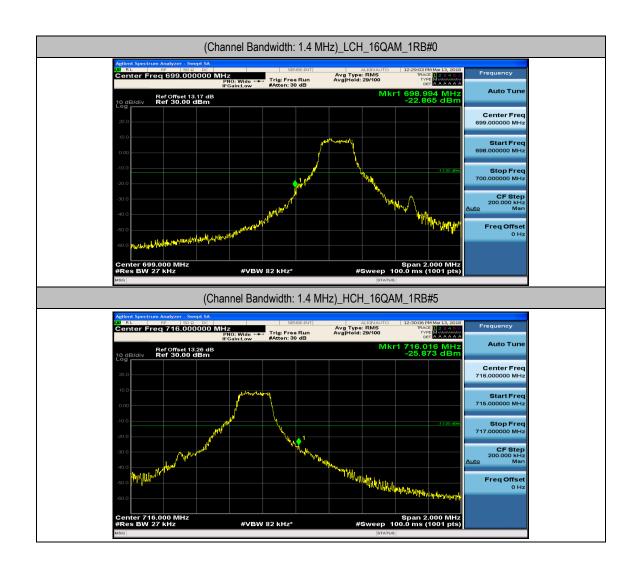


**Appendix D: Band Edge** 

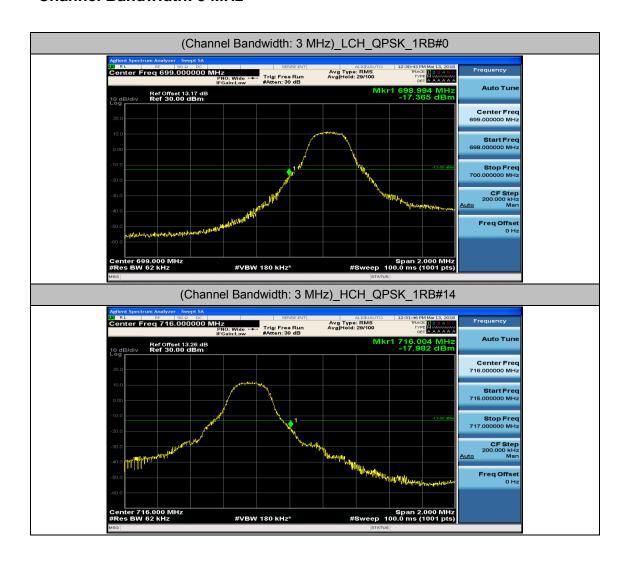
**Test Graphs** 



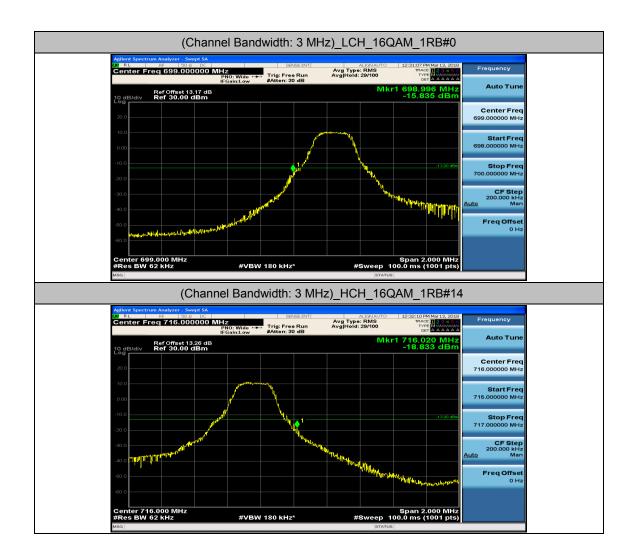




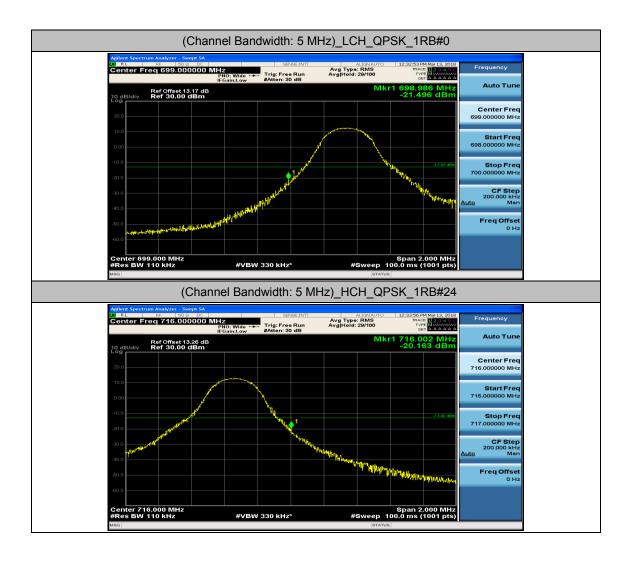




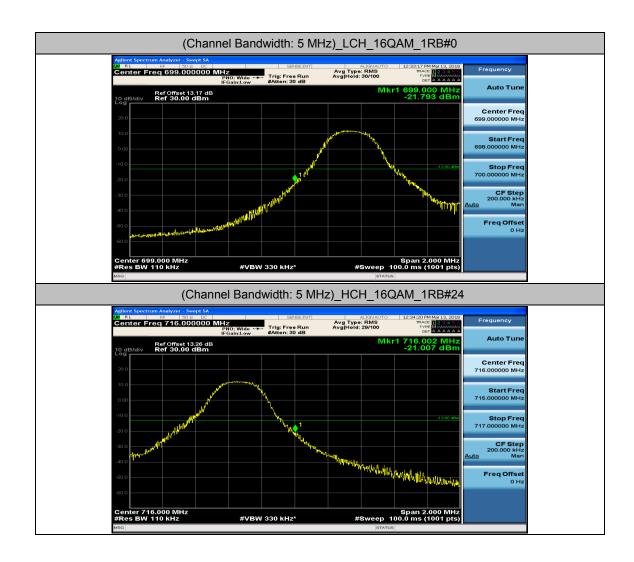




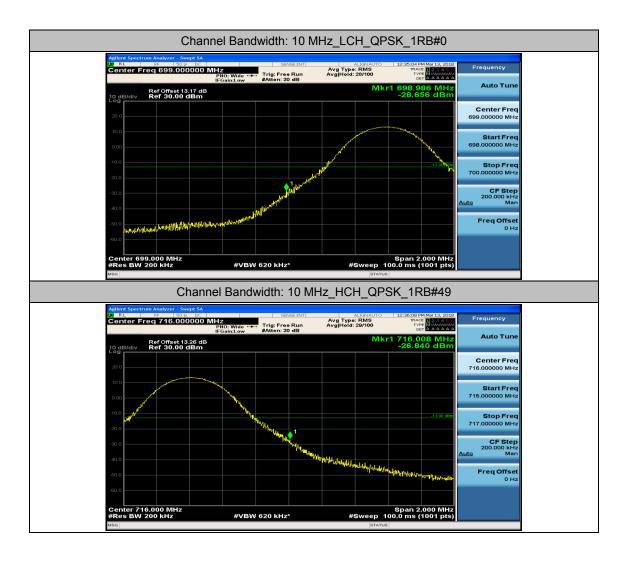




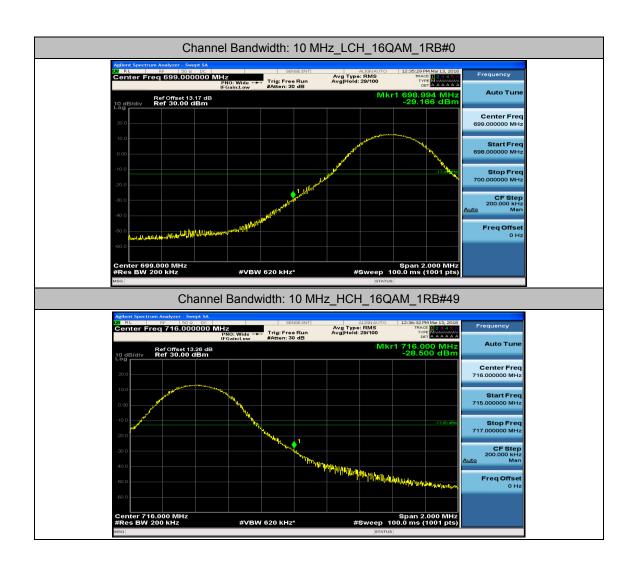










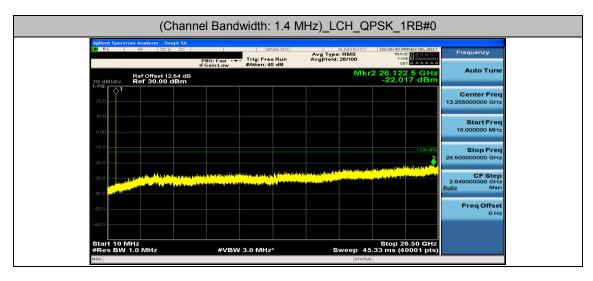


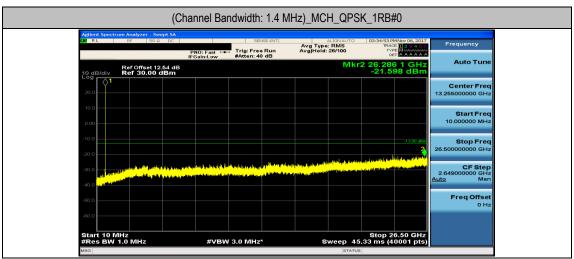


# **Appendix E: Conducted Spurious Emission**

**Test Graphs** 

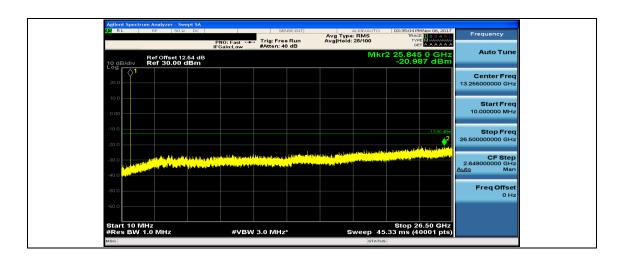
**Channel Bandwidth: 1.4 MHz** 

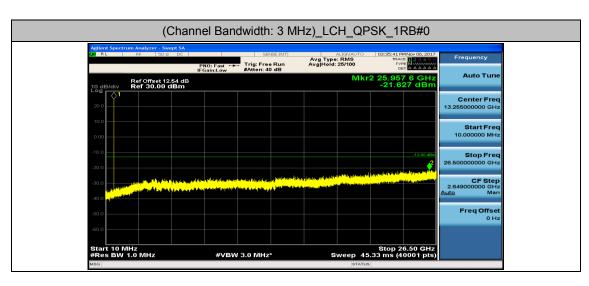


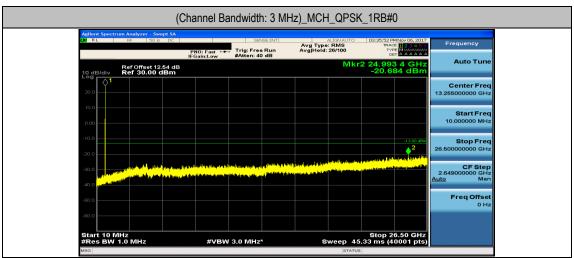


(Channel Bandwidth: 1.4 MHz)\_HCH\_QPSK\_1RB#0



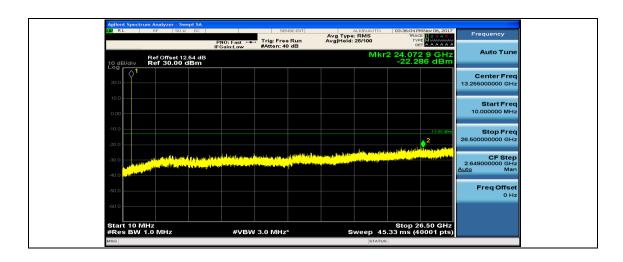


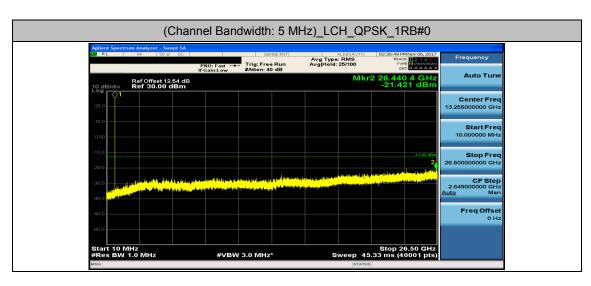


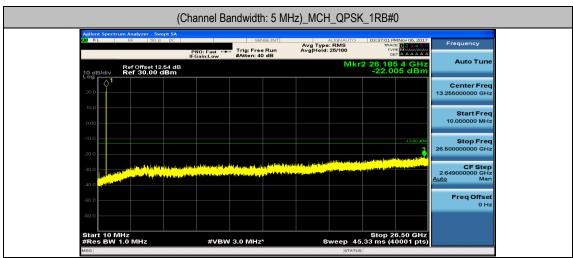


(Channel Bandwidth: 3 MHz)\_HCH\_QPSK\_1RB#0



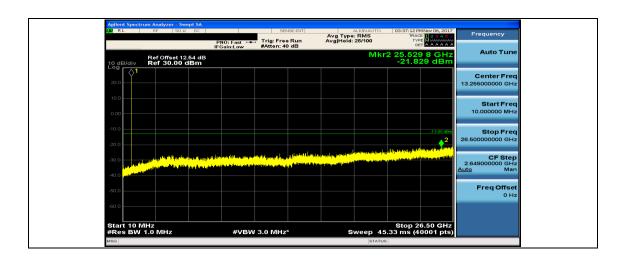


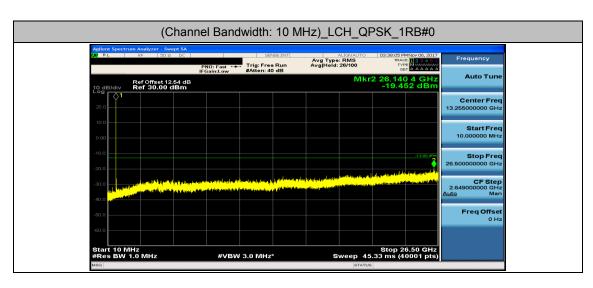


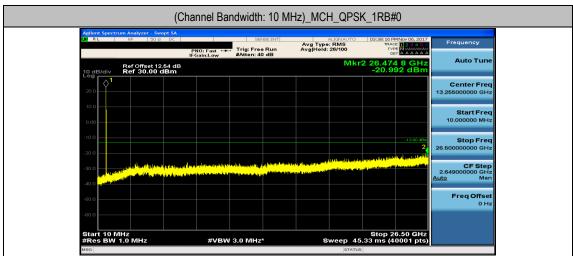


(Channel Bandwidth: 5 MHz)\_HCH\_QPSK\_1RB#0



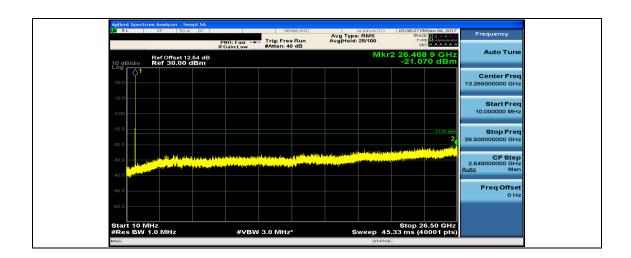






(Channel Bandwidth: 10 MHz)\_HCH\_QPSK\_1RB#0







# Appendix F: Frequency Stability

**Test Result** 

			Channel Band	width: 1.4 MHz			
			Vol	tage			
Modulation	Channel	Voltage [Vdc]	Temperature $(^{\circ}\!\mathbb{C})$	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VL	TN	-0.60	-0.000858	± 2.5	PASS
	LCH	VN	TN	0.90	0.001286	± 2.5	PASS
		VH	TN	0.20	0.000286	± 2.5	PASS
		VL	TN	1.60	0.002261	± 2.5	PASS
QPSK	MCH	VN	TN	-1.40	-0.001979	± 2.5	PASS
		VH	TN	-0.80	-0.001131	± 2.5	PASS
		VL	TN	-0.90	-0.001258	± 2.5	PASS
	HCH	VN	TN	-2.10	-0.002936	± 2.5	PASS
		VH	TN	-0.10	-0.000140	± 2.5	PASS
			Temp	erature			
Modulation	Channe I	Voltage [Vdc]	Temperature $(^{\circ}\!$	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VN	-30	0.90	0.001286	± 2.5	PASS
		VN	-20	-1.10	-0.001572	± 2.5	PASS
	LCH	VN	-10	-0.30	-0.000429	± 2.5	PASS
		VN	0	2.60	0.003716	± 2.5	PASS
		VN	10	-0.30	-0.000429	± 2.5	PASS
		VN	20	2.30	0.003287	± 2.5	PASS
		VN	30	3.60	0.005145	± 2.5	PASS
		VN	40	2.30	0.003287	± 2.5	PASS
QPSK		VN	50	0.30	0.000429	± 2.5	PASS
QFSK		VN	-30	-0.40	-0.000565	± 2.5	PASS
		VN	-20	2.90	0.004099	± 2.5	PASS
		VN	-10	-0.60	-0.000848	± 2.5	PASS
		VN	0	0.30	0.000424	± 2.5	PASS
	MCH	VN	10	-2.00	-0.002827	± 2.5	PASS
		VN	20	0.40	0.000565	± 2.5	PASS
		VN	30	1.40	0.001979	± 2.5	PASS
		VN	40	-2.00	-0.002827	± 2.5	PASS
		VN	50	0.90	0.001272	± 2.5	PASS



	VN	-30	0.50	0.000699	± 2.5	PASS
	VN	-20	0.60	0.000839	± 2.5	PASS
	VN	-10	-1.20	-0.001678	± 2.5	PASS
	VN	0	-0.20	-0.000280	± 2.5	PASS
HCH	VN	10	-1.30	-0.001817	± 2.5	PASS
	VN	20	-1.70	-0.002377	± 2.5	PASS
	VN	30	-1.40	-0.001957	± 2.5	PASS
	VN	40	-1.00	-0.001398	± 2.5	PASS
	VN	50	0.60	0.000839	± 2.5	PASS

			Channel Band	lwidth: 3 MHz+			
			Volt	tage			
Modulation	Channel	Voltage [Vdc]	Temperature $(^{\circ}\!$	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VL	TN	-1.50	-0.002141	± 2.5	PASS
	LCH	VN	TN	-21.40	-0.030550	± 2.5	PASS
		VH	TN	-9.40	-0.013419	± 2.5	PASS
		VL	TN	-0.30	-0.000424	± 2.5	PASS
QPSK	MCH	VN	TN	0.40	0.000565	± 2.5	PASS
		VH	TN	-1.50	-0.002120	± 2.5	PASS
		VL	TN	1.40	0.001959	± 2.5	PASS
	HCH	VN	TN	-1.40	-0.001959	± 2.5	PASS
		VH	TN	1.20	0.001679	± 2.5	PASS
			Tempe	erature			
Modulation	Channel	Voltage [Vdc]	Temperature $(^{\circ}\!$	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VN	-30	-1.40	-0.001999	± 2.5	PASS
		VN	-20	-1.00	-0.001428	± 2.5	PASS
	LCH	VN	-10	-10.00	-0.014276	± 2.5	PASS
		VN	0	-9.10	-0.012991	± 2.5	PASS
		VN	10	-1.90	-0.002712	± 2.5	PASS
		VN	20	-2.00	-0.002855	± 2.5	PASS
		VN	30	-2.80	-0.003997	± 2.5	PASS
		VN	40	-3.40	-0.004854	± 2.5	PASS
QPSK		VN	50	-2.80	-0.003997	± 2.5	PASS
QP5K		VN	-30	1.00	0.001413	± 2.5	PASS
		VN	-20	-1.80	-0.002544	± 2.5	PASS
		VN	-10	0.40	0.000565	± 2.5	PASS
		VN	0	-2.10	-0.002968	± 2.5	PASS
	MCH	VN	10	0.70	0.000989	± 2.5	PASS
		VN	20	-1.40	-0.001979	± 2.5	PASS
		VN	30	-1.60	-0.002261	± 2.5	PASS
		VN	40	3.90	0.005512	± 2.5	PASS
		VN	50	-1.60	-0.002261	± 2.5	PASS



	VN	-30	0.40	0.000560	± 2.5	PASS
	VN	-20	-1.60	-0.002239	± 2.5	PASS
	VN	-10	-0.70	-0.000980	± 2.5	PASS
	VN	0	2.00	0.002799	± 2.5	PASS
HCH	VN	10	1.10	0.001540	± 2.5	PASS
	VN	20	0.90	0.001260	± 2.5	PASS
	VN	30	0.00	0.000000	± 2.5	PASS
	VN	40	-1.10	-0.001540	± 2.5	PASS
	VN	50	0.00	0.000000	± 2.5	PASS

			Channel Ban	dwidth: 5 MHz			
			Vol	tage			
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VL	TN	1.30	0.001853	± 2.5	PASS
	LCH	VN	TN	-1.20	-0.001711	± 2.5	PASS
		VH	TN	-1.10	-0.001568	± 2.5	PASS
		VL	TN	-2.20	-0.003110	± 2.5	PASS
QPSK	MCH	VN	TN	-1.90	-0.002686	± 2.5	PASS
		VH	TN	0.20	0.000283	± 2.5	PASS
		VL	TN	1.00	0.001402	± 2.5	PASS
	HCH	VN	TN	-0.60	-0.000841	± 2.5	PASS
		VH	TN	-0.60	-0.000841	± 2.5	PASS
			Tempe	erature			
Modulation	Channel	Voltage [Vdc]	Temperature $(^{\circ}C)$	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VN	-30	-0.70	-0.000998	± 2.5	PASS
		VN	-20	-1.30	-0.001853	± 2.5	PASS
	LCH	VN	-10	-1.60	-0.002281	± 2.5	PASS
		VN	0	0.20	0.000285	± 2.5	PASS
		VN	10	0.80	0.001140	± 2.5	PASS
		VN	20	-0.80	-0.001140	± 2.5	PASS
		VN	30	-2.10	-0.002994	± 2.5	PASS
		VN	40	-0.90	-0.001283	± 2.5	PASS
QPSK		VN	50	-0.90	-0.001283	± 2.5	PASS
QFSK		VN	-30	1.80	0.002544	± 2.5	PASS
		VN	-20	-2.10	-0.002968	± 2.5	PASS
		VN	-10	0.60	0.000848	± 2.5	PASS
		VN	0	-1.90	-0.002686	± 2.5	PASS
	MCH	VN	10	0.70	0.000989	± 2.5	PASS
		VN	20	0.50	0.000707	± 2.5	PASS
		VN	30	0.80	0.001131	± 2.5	PASS
		VN	40	1.20	0.001696	± 2.5	PASS
		VN	50	-0.40	-0.000565	± 2.5	PASS



	VN	-30	0.40	0.000561	± 2.5	PASS
	VN	-20	0.90	0.001261	± 2.5	PASS
	VN	-10	-2.00	-0.002803	± 2.5	PASS
	VN	0	-1.00	-0.001402	± 2.5	PASS
HCH	VN	10	-1.30	-0.001822	± 2.5	PASS
	VN	20	-0.10	-0.000140	± 2.5	PASS
	VN	30	-2.50	-0.003504	± 2.5	PASS
	VN	40	-1.70	-0.002383	± 2.5	PASS
	VN	50	-2.40	-0.003364	± 2.5	PASS

			Channel Band	lwidth: 10 MHz			
			Vol	tage			
Modulation	Channel	Voltage [Vdc]	Temperature (°ℂ)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VL	TN	-2.30	-0.003267	± 2.5	PASS
	LCH	VN	TN	0.40	0.000568	± 2.5	PASS
		VH	TN	-0.60	-0.000852	± 2.5	PASS
		VL	TN	-0.40	-0.000565	± 2.5	PASS
QPSK	MCH	VN	TN	1.00	0.001413	± 2.5	PASS
		VH	TN	-1.10	-0.001555	± 2.5	PASS
		VL	TN	0.60	0.000844	± 2.5	PASS
	HCH	VN	TN	-0.30	-0.000422	± 2.5	PASS
		VH	TN	-1.60	-0.002250	± 2.5	PASS
			Tempe	erature			
Modulation	Channel	Voltage [Vdc]	Temperature $(^{\circ}C)$	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
		VN	-30	-0.20	-0.000284	± 2.5	PASS
		VN	-20	0.70	0.000994	± 2.5	PASS
	LCH	VN	-10	-1.40	-0.001989	± 2.5	PASS
		VN	0	0.00	0.000000	± 2.5	PASS
		VN	10	1.00	0.001420	± 2.5	PASS
		VN	20	-1.30	-0.001847	± 2.5	PASS
		VN	30	-1.60	-0.002273	± 2.5	PASS
		VN	40	-1.30	-0.001847	± 2.5	PASS
QPSK		VN	50	-1.90	-0.002699	± 2.5	PASS
QPSK		VN	-30	0.80	0.001131	± 2.5	PASS
		VN	-20	-0.40	-0.000565	± 2.5	PASS
		VN	-10	1.30	0.001837	± 2.5	PASS
		VN	0	1.00	0.001413	± 2.5	PASS
	MCH	VN	10	0.00	0.000000	± 2.5	PASS
		VN	20	-1.10	-0.001555	± 2.5	PASS
		VN	30	-2.70	-0.003816	± 2.5	PASS
		VN	40	0.80	0.001131	± 2.5	PASS
		VN	50	-2.10	-0.002968	± 2.5	PASS



нсн	VN	-30	-0.10	-0.000141	± 2.5	PASS
	VN	-20	-1.60	-0.002250	± 2.5	PASS
	VN	-10	-1.80	-0.002532	± 2.5	PASS
	VN	0	-0.20	-0.000281	± 2.5	PASS
	VN	10	-3.10	-0.004360	± 2.5	PASS
	VN	20	-0.60	-0.000844	± 2.5	PASS
	VN	30	0.80	0.001125	± 2.5	PASS
	VN	40	-1.00	-0.001406	± 2.5	PASS
	VN	50	-3.00	-0.004219	± 2.5	PASS