

Appendix D: Test Data for E-UTRA Band 12

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

D.1 Conducted Output Power

Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	24.40	23.61	PASS
		1	3	24.60	23.91	PASS
		1	5	24.52	23.77	PASS
		3	0	24.55	23.66	PASS
		3	2	24.67	23.69	PASS
		3	3	24.62	23.68	PASS
		6	0	23.54	22.51	PASS
	MCH	1	0	24.65	23.97	PASS
		1	3	24.70	24.10	PASS
		1	5	24.56	23.96	PASS
		3	0	24.73	23.71	PASS
		3	2	24.70	23.73	PASS
		3	3	24.69	23.72	PASS
		6	0	23.59	22.60	PASS
	HCH	1	0	24.17	23.34	PASS
		1	3	24.32	23.39	PASS
		1	5	24.18	23.00	PASS
		3	0	23.95	22.80	PASS
		3	2	23.77	22.76	PASS
		3	3	23.72	22.81	PASS
		6	0	22.73	21.84	PASS

Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	24.39	23.66	PASS
		1	7	24.77	24.04	PASS
		1	14	24.56	23.78	PASS
		8	0	23.51	22.59	PASS
		8	4	23.64	22.73	PASS
		8	7	23.62	22.66	PASS
		15	0	23.57	22.54	PASS
	MCH	1	0	24.61	23.91	PASS
		1	7	24.79	24.08	PASS
		1	14	24.53	23.75	PASS
		8	0	23.67	22.72	PASS
		8	4	23.64	22.72	PASS
		8	7	23.55	22.68	PASS
		15	0	23.57	22.57	PASS
	HCH	1	0	24.34	22.99	PASS
		1	7	24.16	23.33	PASS
		1	14	23.79	22.99	PASS
		8	0	22.82	21.84	PASS
		8	4	22.80	21.98	PASS
		8	7	22.79	22.05	PASS
		15	0	22.77	21.75	PASS

Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	24.35	23.74	PASS
		1	12	24.81	24.13	PASS
		1	24	24.54	23.88	PASS
		12	0	23.52	22.68	PASS
		12	6	23.68	22.77	PASS
		12	13	23.57	22.68	PASS
		25	0	23.57	22.57	PASS
	MCH	1	0	24.52	23.70	PASS
		1	12	24.81	23.84	PASS
		1	24	24.25	23.34	PASS
		12	0	23.43	22.35	PASS
		12	6	23.25	22.59	PASS
		12	13	23.26	22.75	PASS
		25	0	23.28	22.42	PASS
	HCH	1	0	24.31	22.66	PASS
		1	12	24.45	23.24	PASS
		1	24	23.80	22.74	PASS
		12	0	23.20	22.21	PASS
		12	6	23.06	22.34	PASS
		12	13	22.83	22.14	PASS
		25	0	23.28	22.13	PASS

Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	24.37	23.44	PASS
		1	24	24.75	23.74	PASS
		1	49	24.52	23.51	PASS
		25	0	23.57	22.55	PASS
		25	12	23.59	22.48	PASS
		25	25	23.75	22.77	PASS
		50	0	23.64	22.75	PASS
	MCH	1	0	24.54	23.39	PASS
		1	24	24.56	23.82	PASS
		1	49	23.92	23.00	PASS
		25	0	23.43	22.43	PASS
		25	12	23.25	22.22	PASS
		25	25	23.22	22.38	PASS
		50	0	23.33	22.34	PASS
	HCH	1	0	24.10	23.49	PASS
		1	24	24.04	23.23	PASS
		1	49	23.67	22.98	PASS
		25	0	22.84	21.97	PASS
		25	12	22.87	22.04	PASS
		25	25	22.51	21.86	PASS
		50	0	22.70	21.87	PASS

D.2 Peak-to-Average Ratio

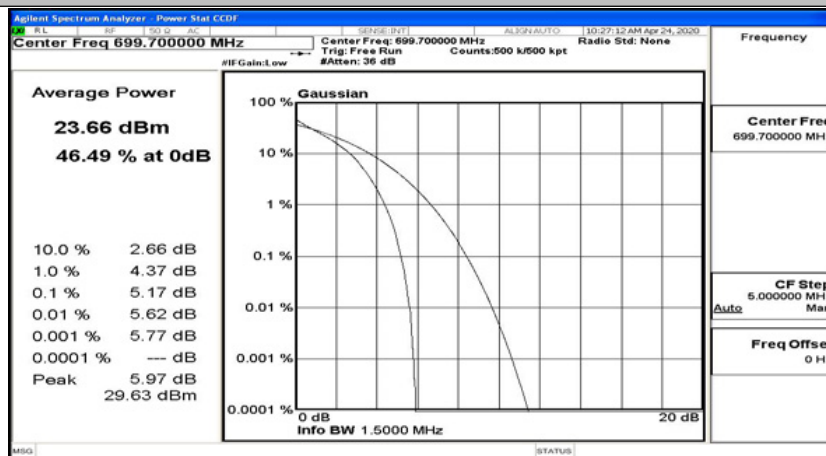
Peak-to Average Ratio Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.17	<13	PASS
	MCH	5.52	<13	PASS
	HCH	4.8	<13	PASS
16QAM	LCH	6.02	<13	PASS
	MCH	6.44	<13	PASS
	HCH	5.7	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.2	<13	PASS
	MCH	5.53	<13	PASS
	HCH	5.01	<13	PASS
16QAM	LCH	6.08	<13	PASS
	MCH	6.46	<13	PASS
	HCH	5.76	<13	PASS

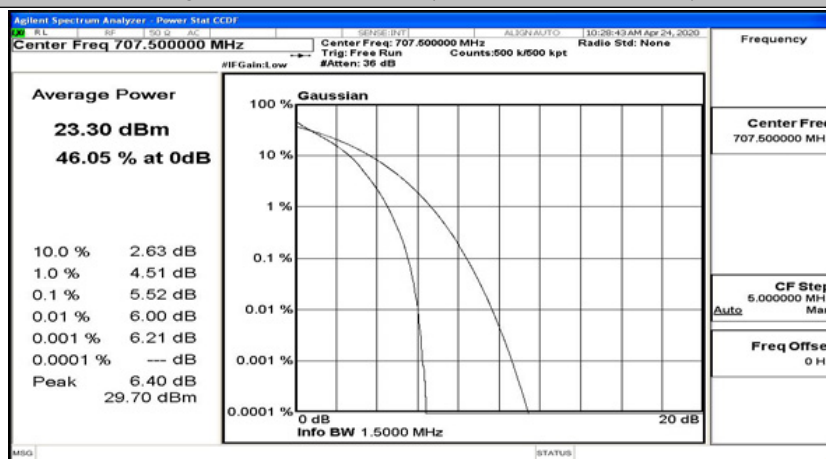
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.22	<13	PASS
	MCH	5.45	<13	PASS
	HCH	4.71	<13	PASS
16QAM	LCH	5.98	<13	PASS
	MCH	6.27	<13	PASS
	HCH	5.45	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.44	<13	PASS
	MCH	5.19	<13	PASS
	HCH	5.13	<13	PASS
16QAM	LCH	6.26	<13	PASS
	MCH	5.94	<13	PASS
	HCH	5.91	<13	PASS

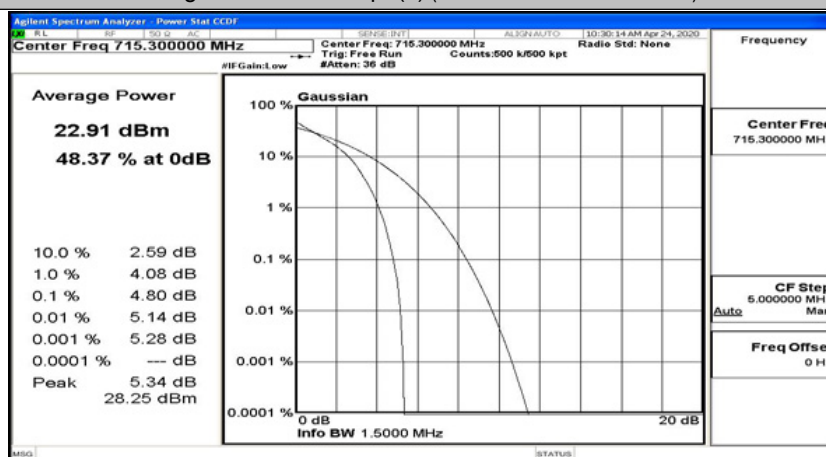
Peak-to-Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



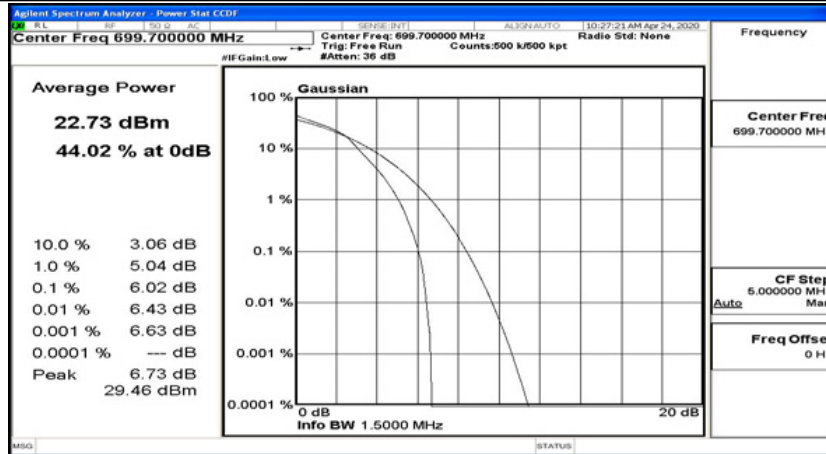
Peak-to-Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



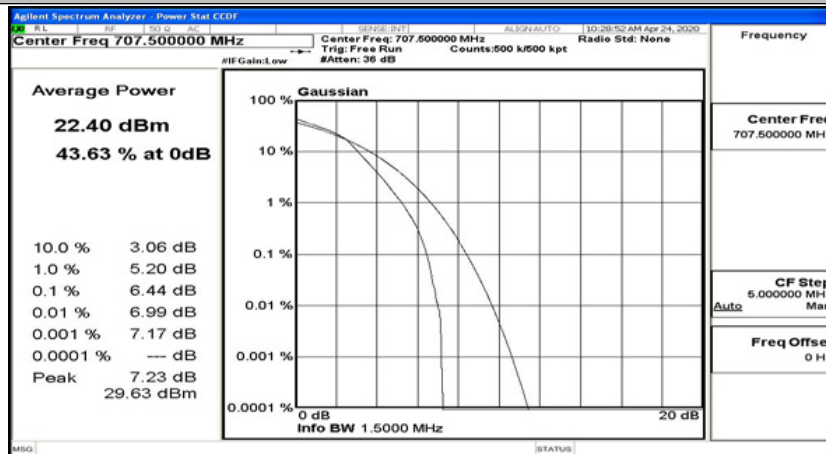
Peak-to-Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



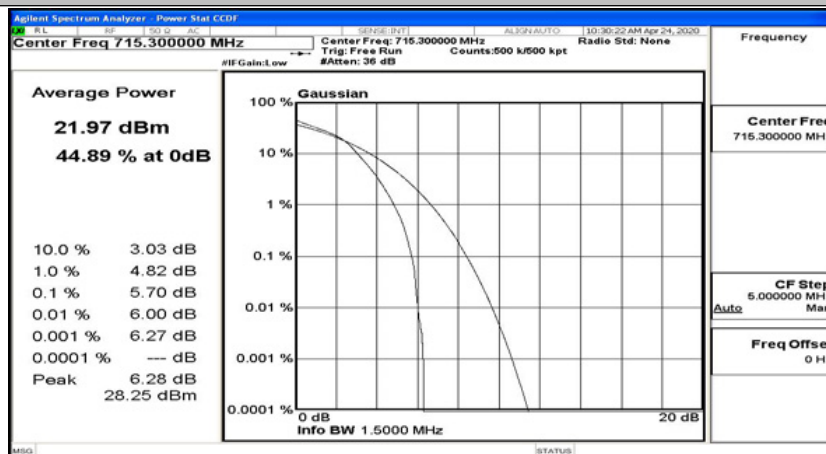
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



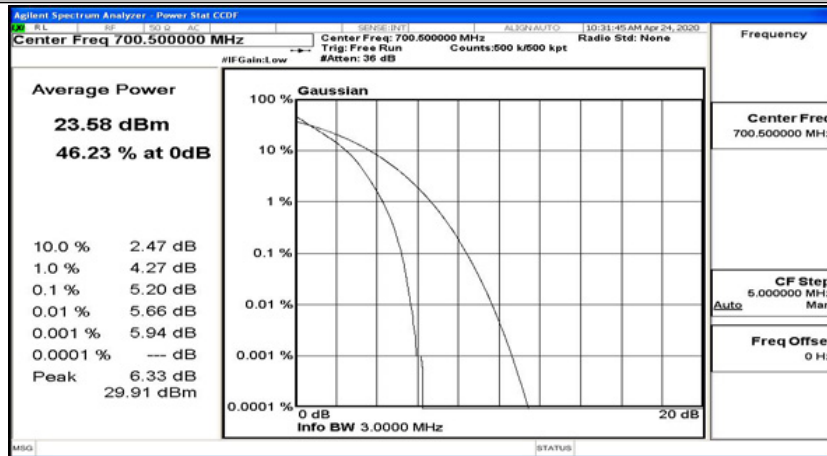
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



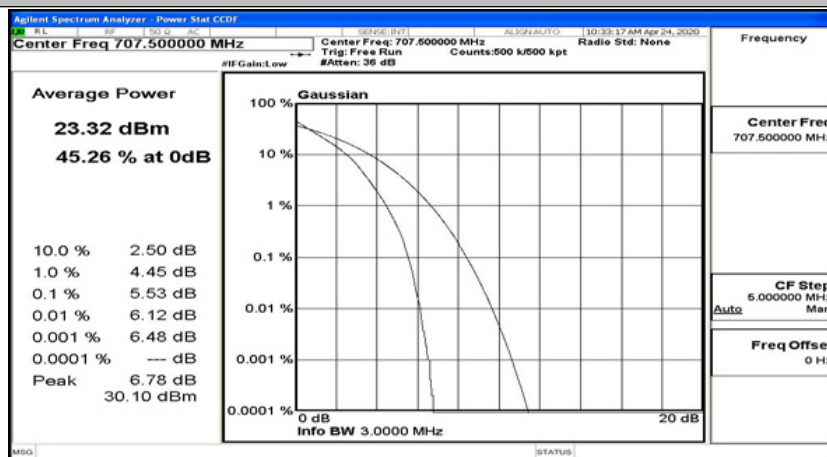
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



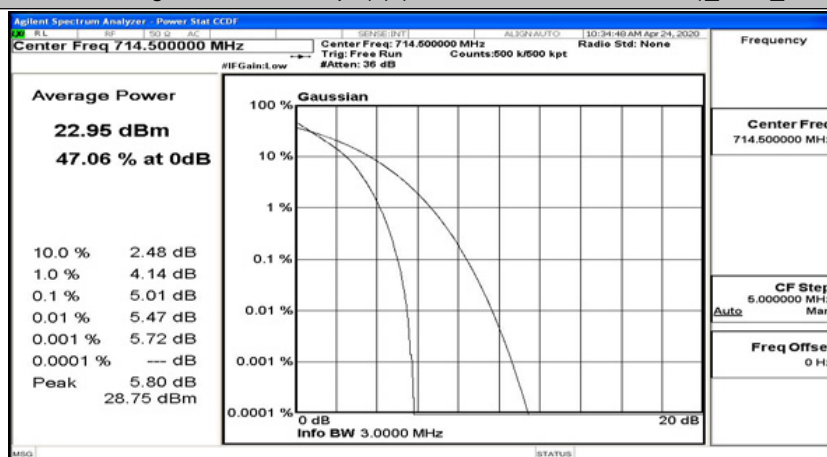
Peak-to-Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



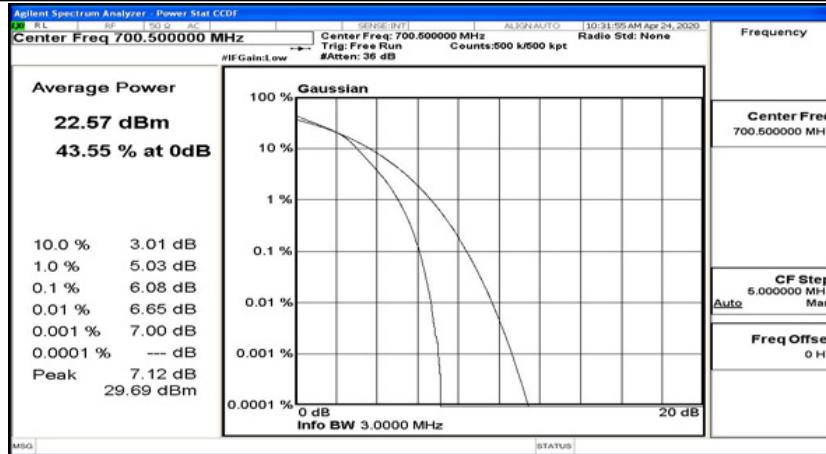
Peak-to-Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



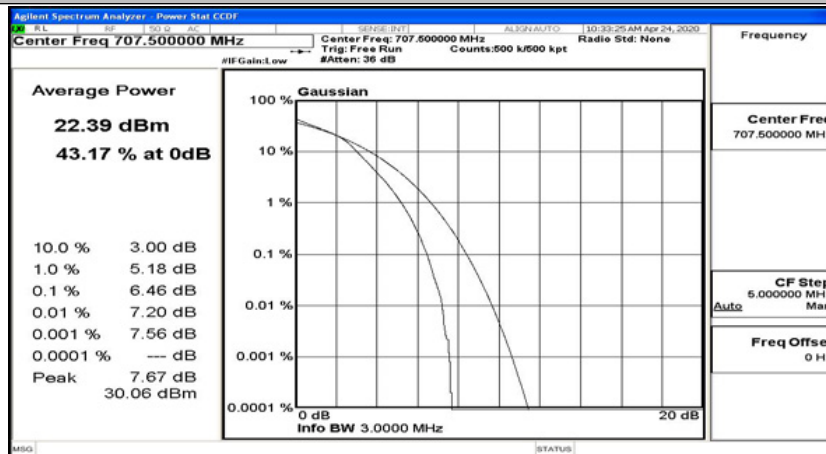
Peak-to-Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



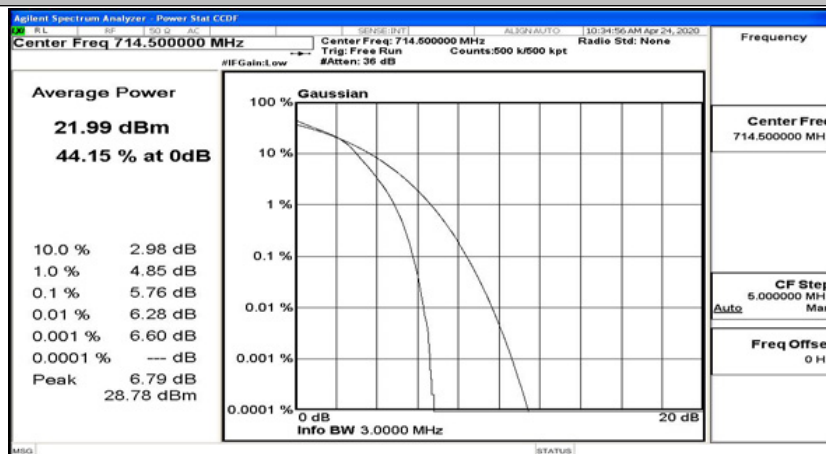
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



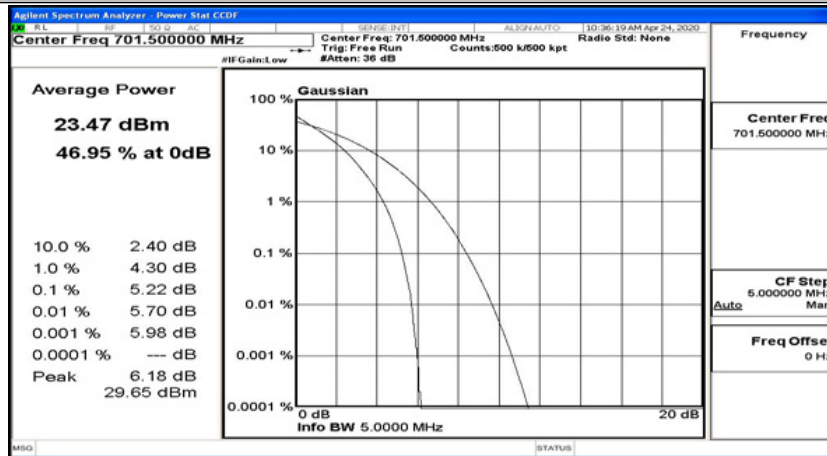
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



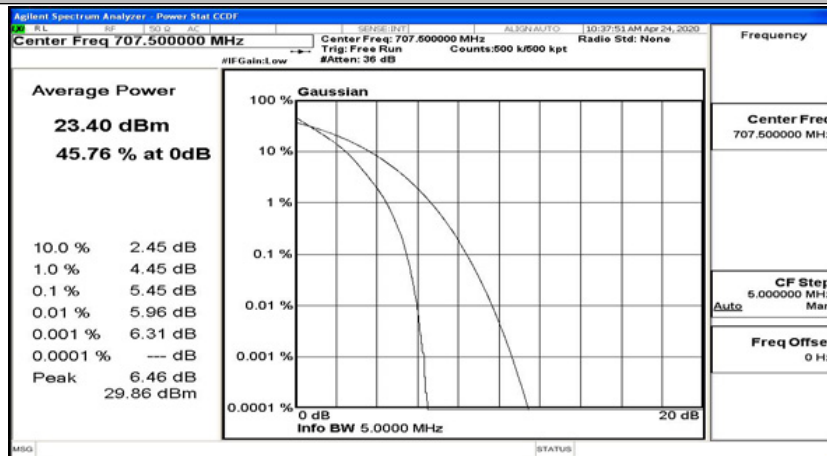
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



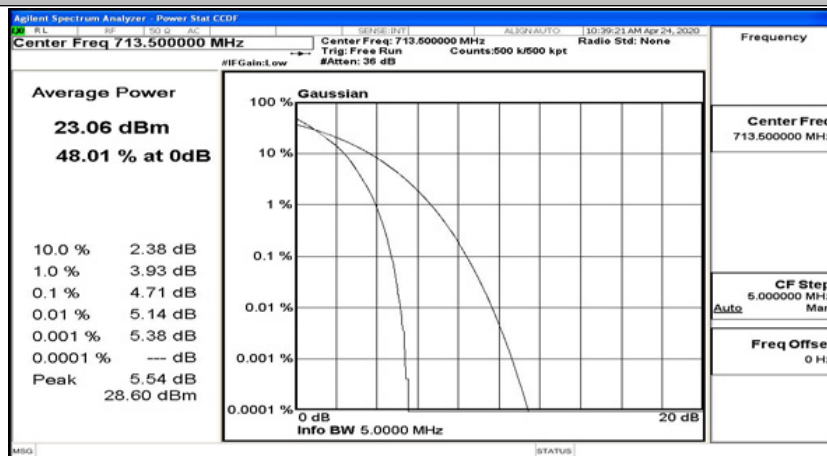
Peak-to-Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



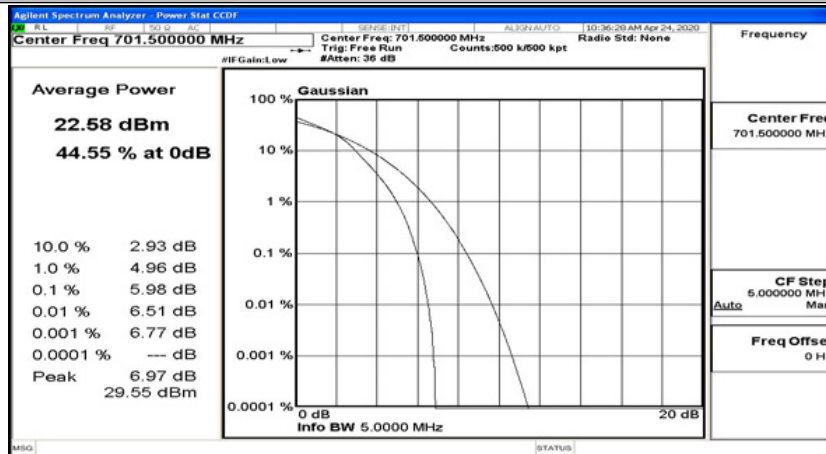
Peak-to-Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



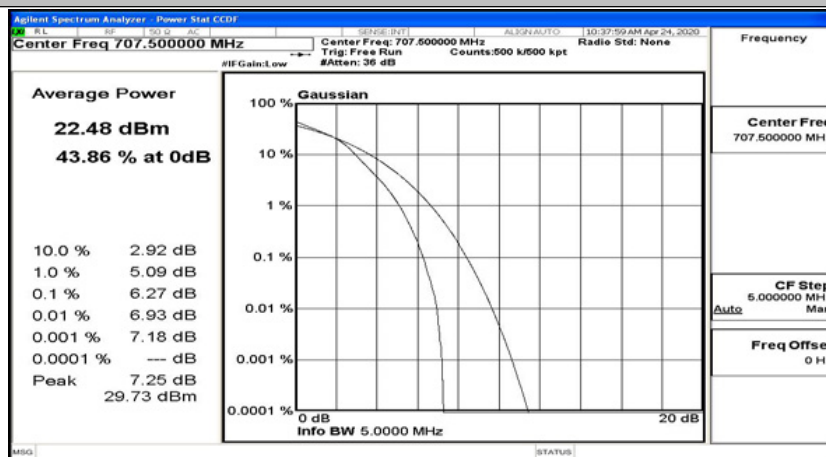
Peak-to-Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



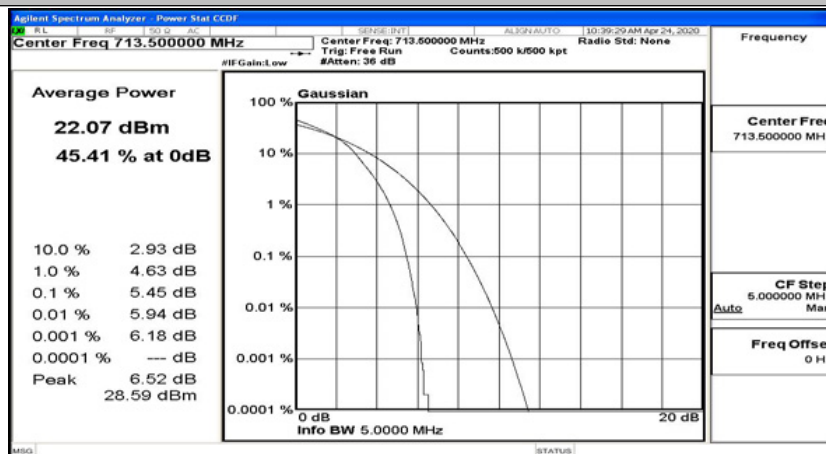
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



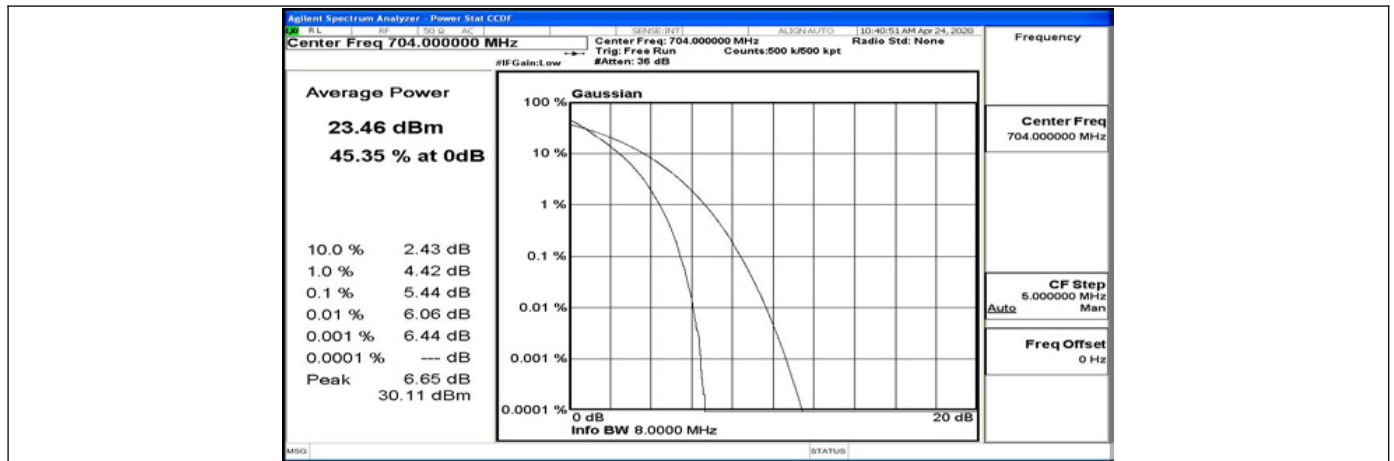
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



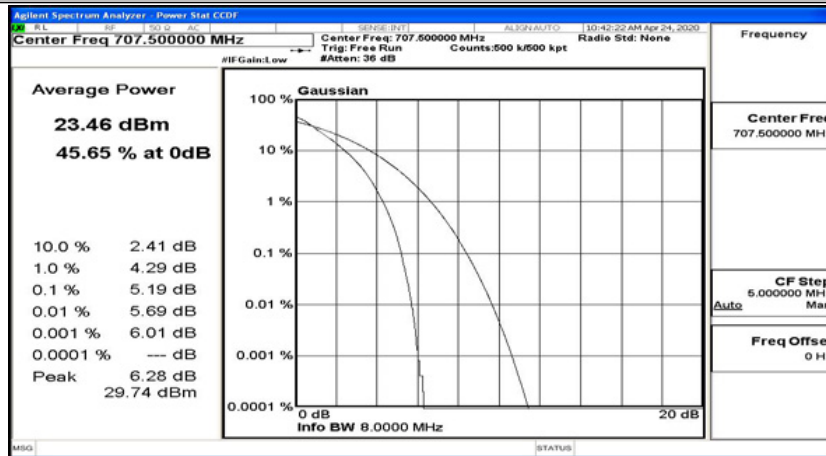
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



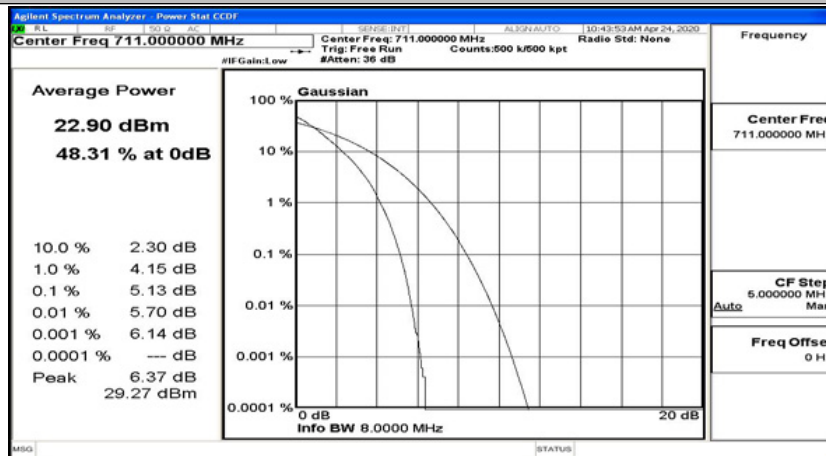
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



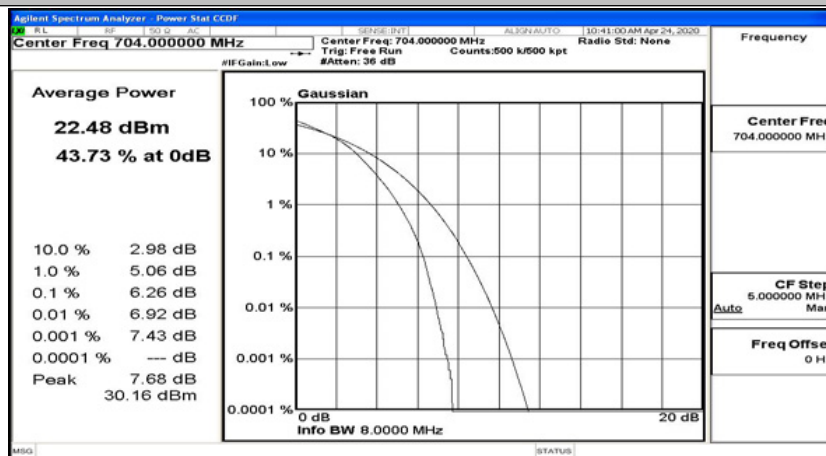
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



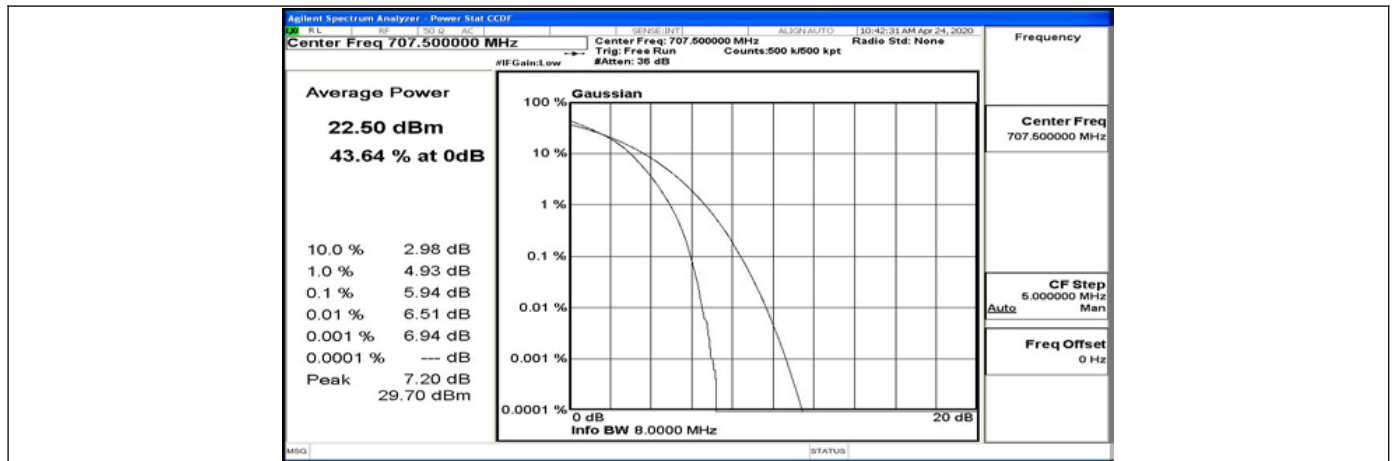
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



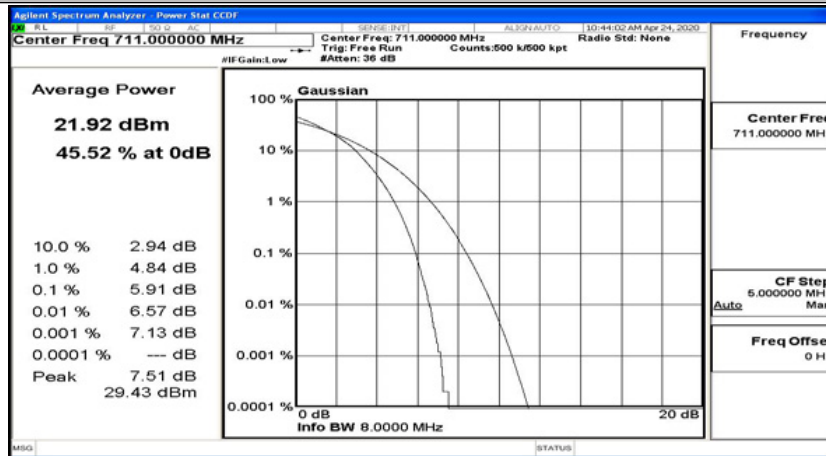
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



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



Peak-to-Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



D.3 26dB Bandwidth and Occupied Bandwidth

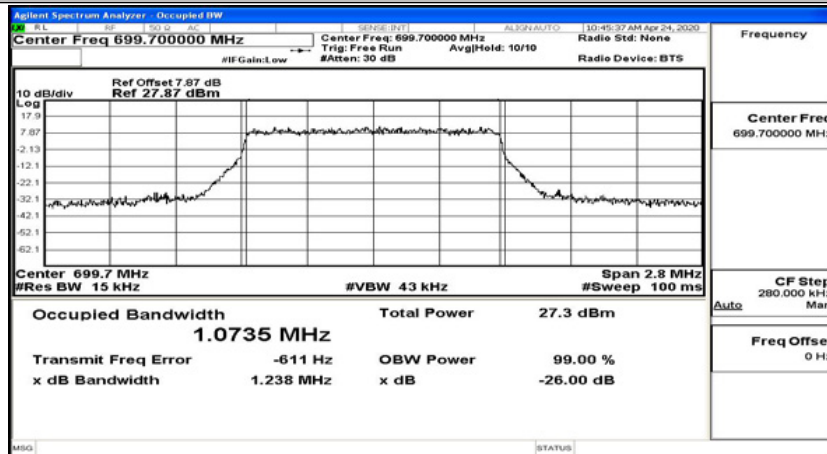
EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	1.0735	1.238	PASS
	MCH	1.0729	1.209	PASS
	HCH	1.0778	1.222	PASS
16QAM	LCH	1.0819	1.241	PASS
	MCH	1.0775	1.226	PASS
	HCH	1.0783	1.226	PASS

EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	2.6792	2.819	PASS
	MCH	2.6827	2.835	PASS
	HCH	2.6795	2.835	PASS
16QAM	LCH	2.6744	2.831	PASS
	MCH	2.6783	2.823	PASS
	HCH	2.6850	2.839	PASS

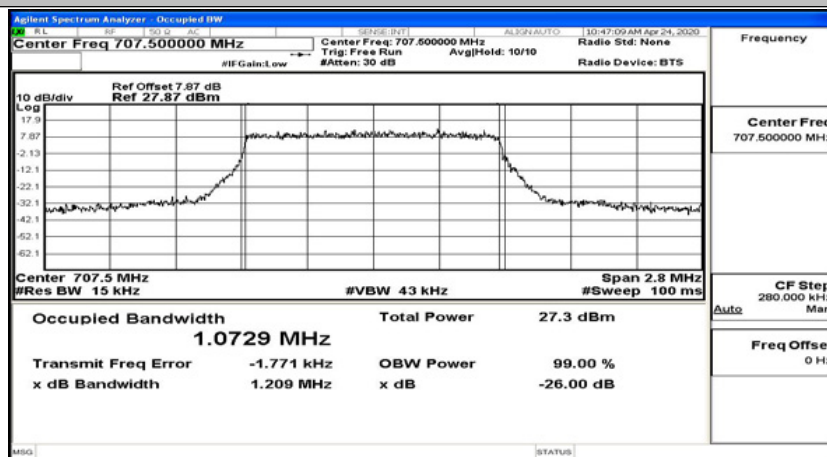
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.4668	4.873	PASS
	MCH	4.4733	4.878	PASS
	HCH	4.4779	4.866	PASS
16QAM	LCH	4.4739	4.808	PASS
	MCH	4.4841	4.838	PASS
	HCH	4.4755	4.787	PASS

EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	8.9393	9.533	PASS
	MCH	8.9493	9.674	PASS
	HCH	8.9136	9.424	PASS
16QAM	LCH	8.9478	9.437	PASS
	MCH	8.9599	9.628	PASS
	HCH	8.9034	9.488	PASS

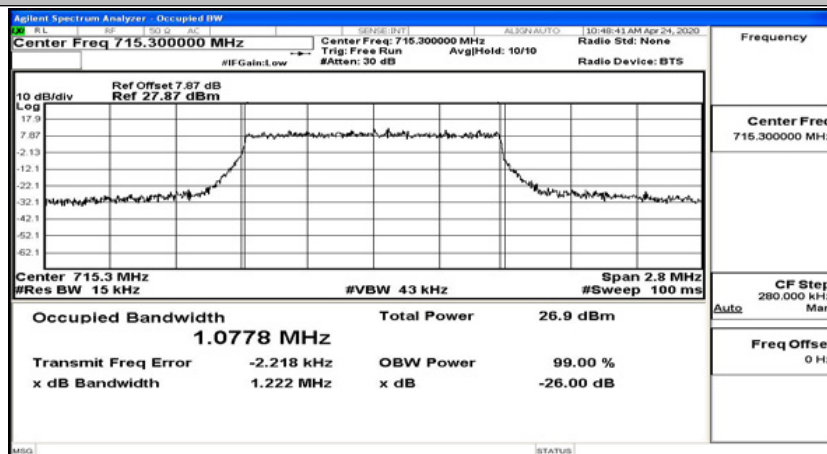
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



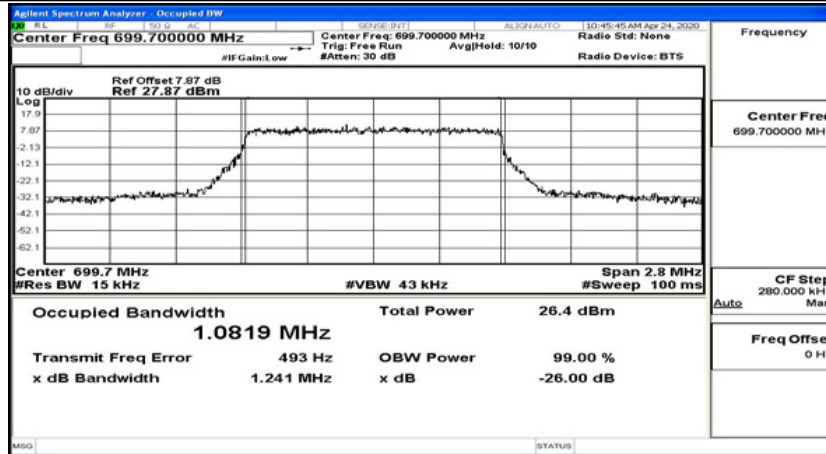
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



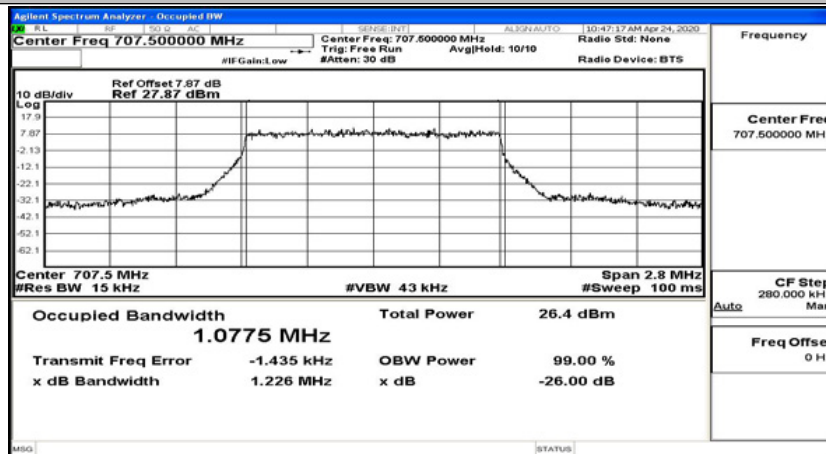
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



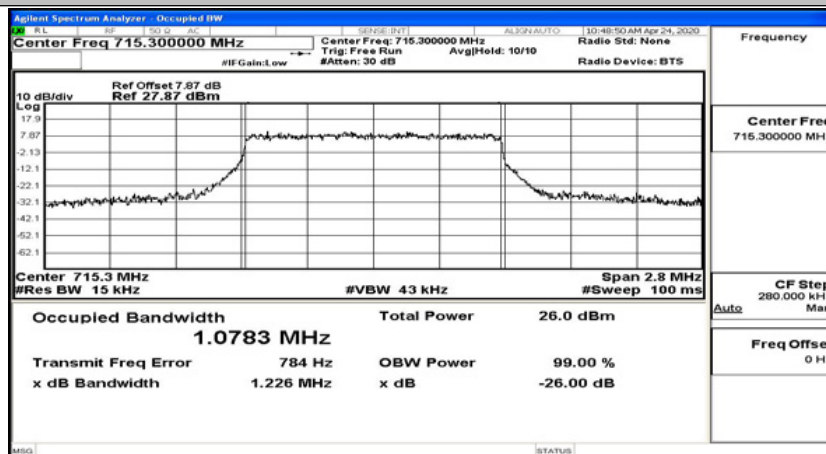
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



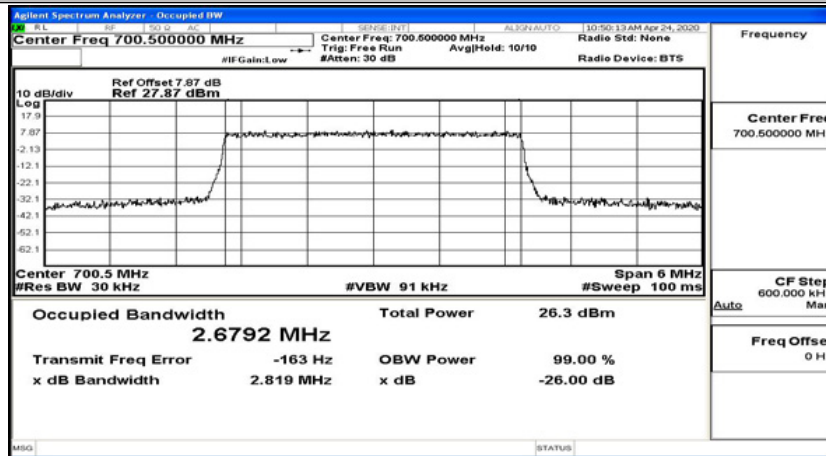
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



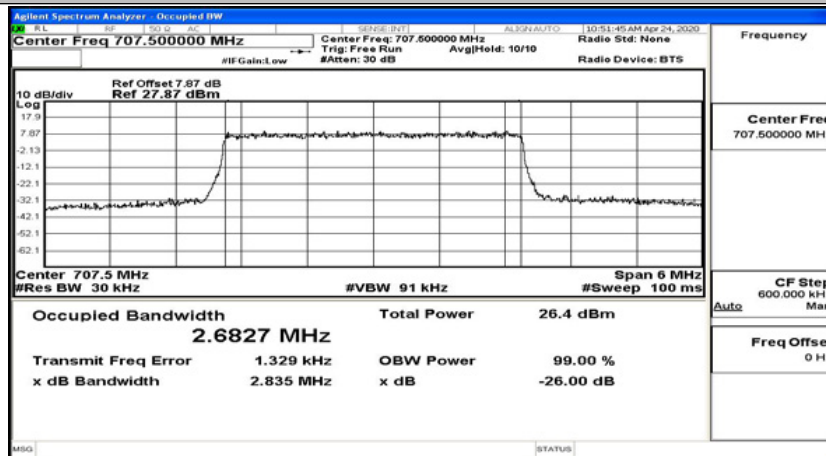
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



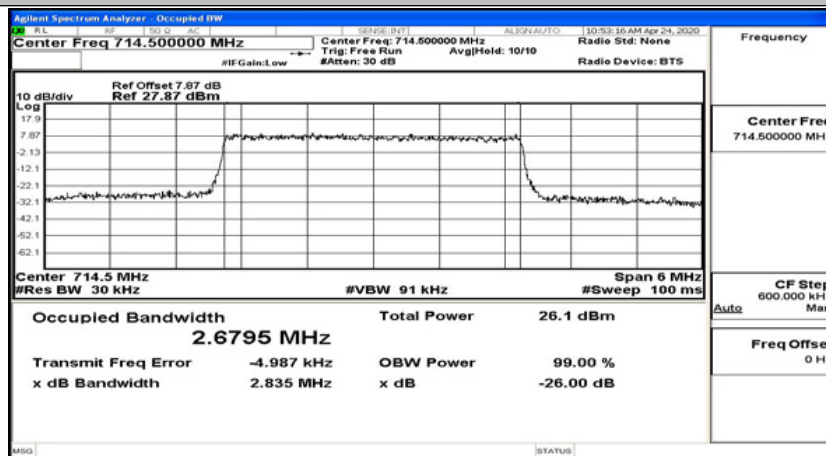
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



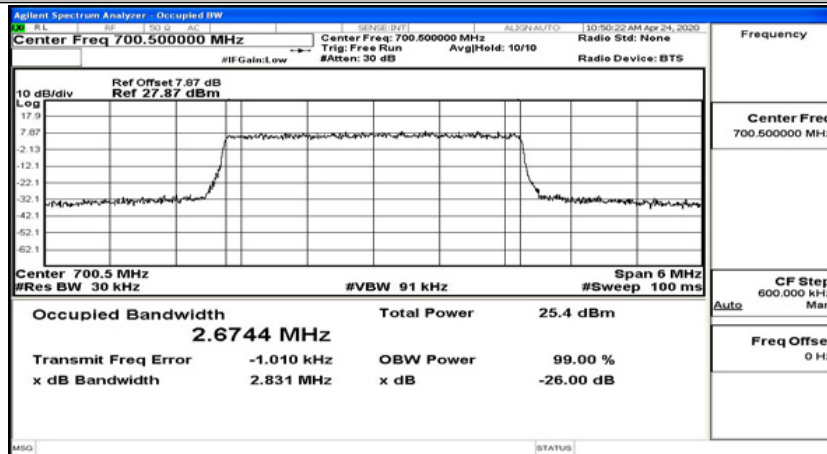
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



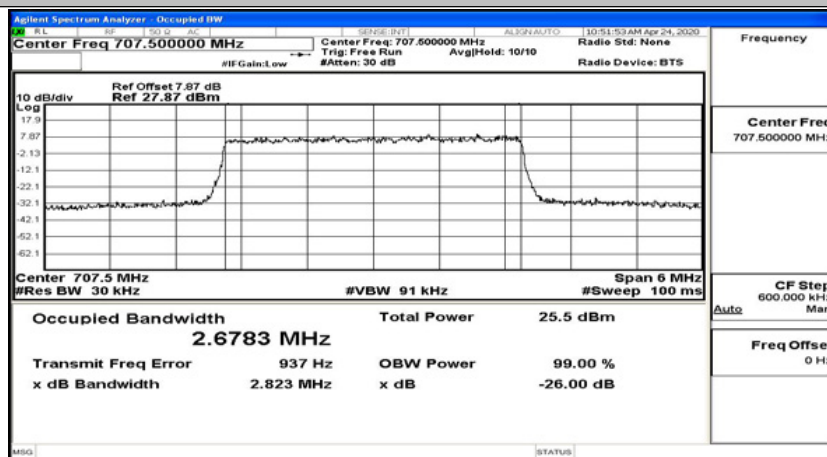
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



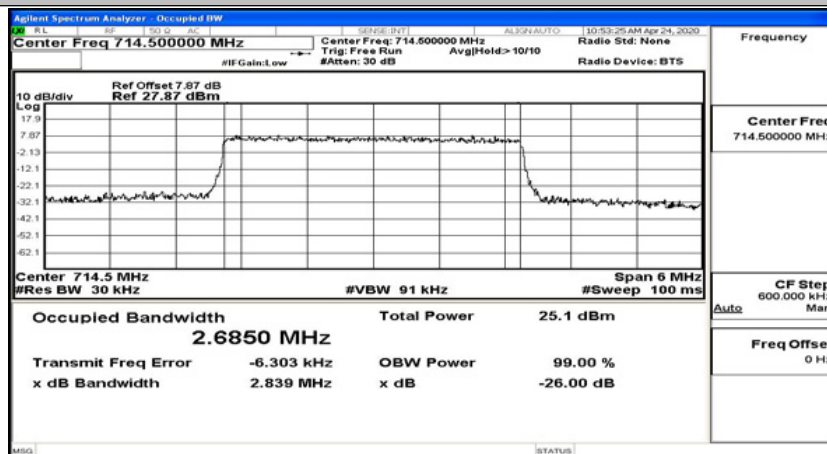
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



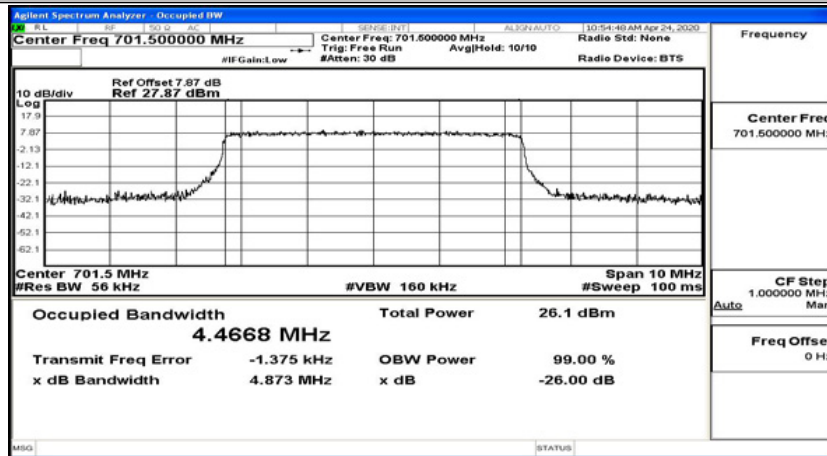
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



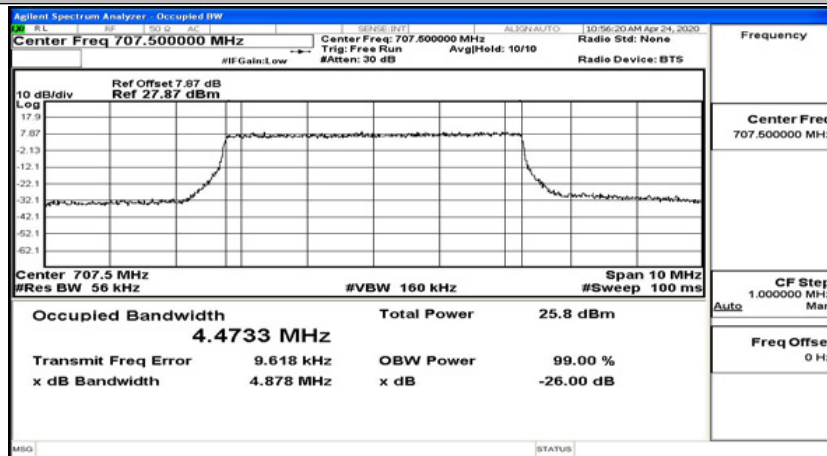
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



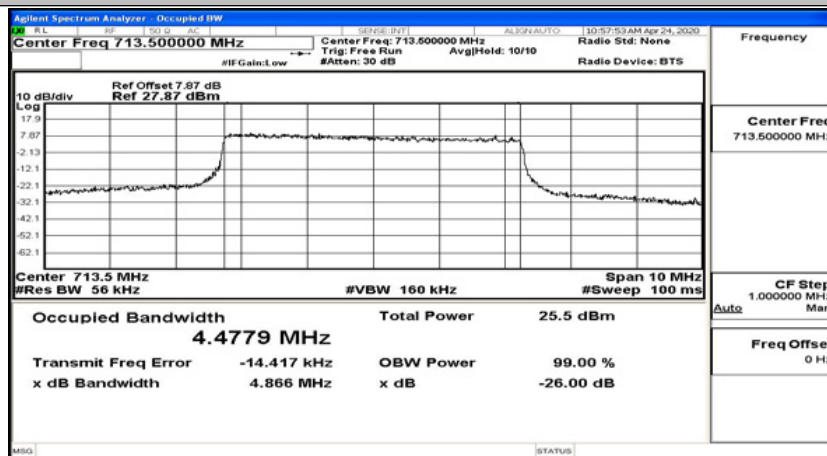
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



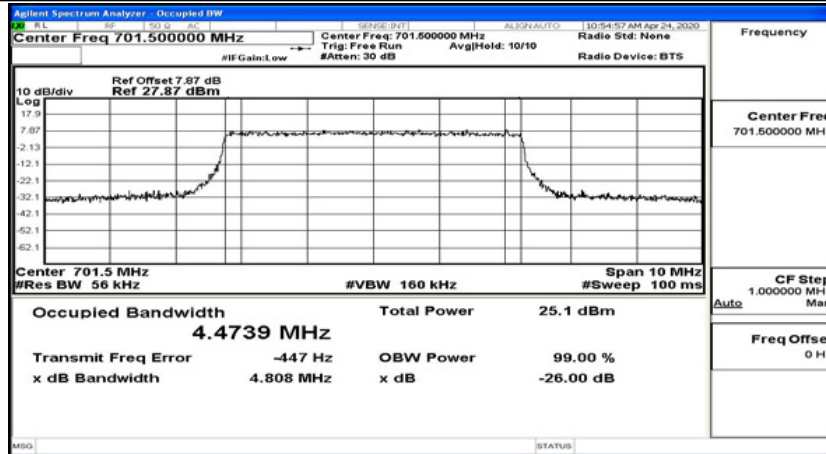
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



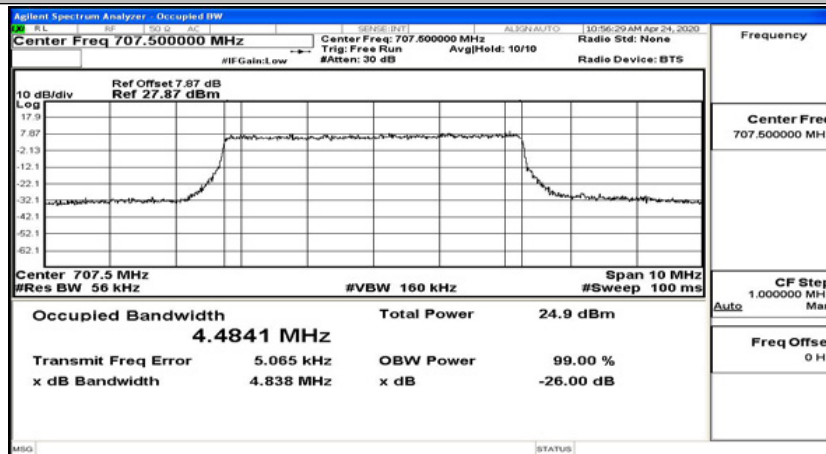
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



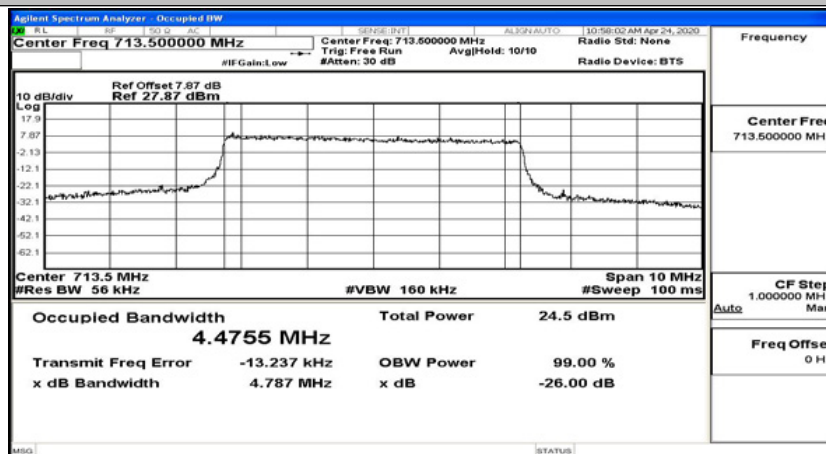
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



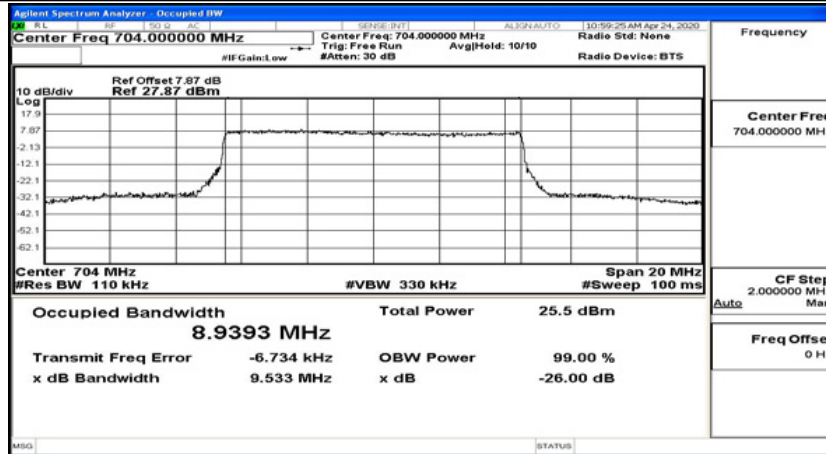
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



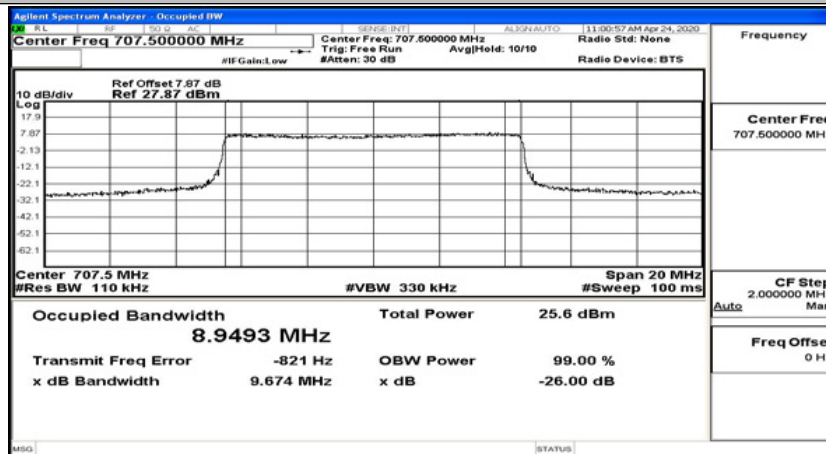
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



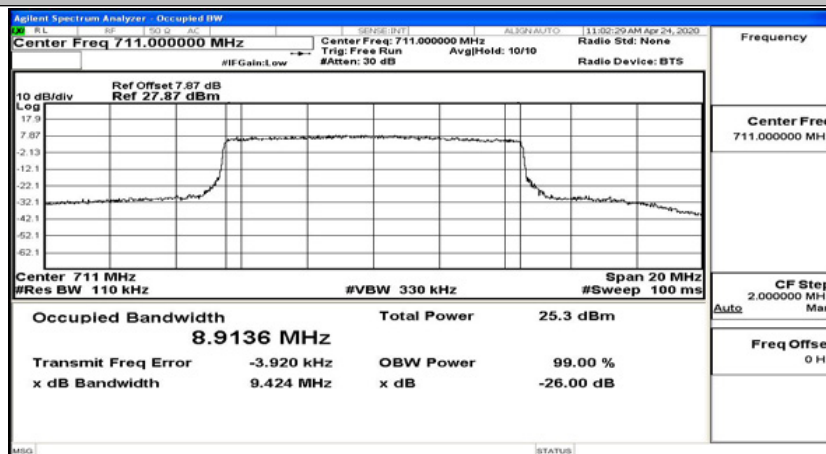
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



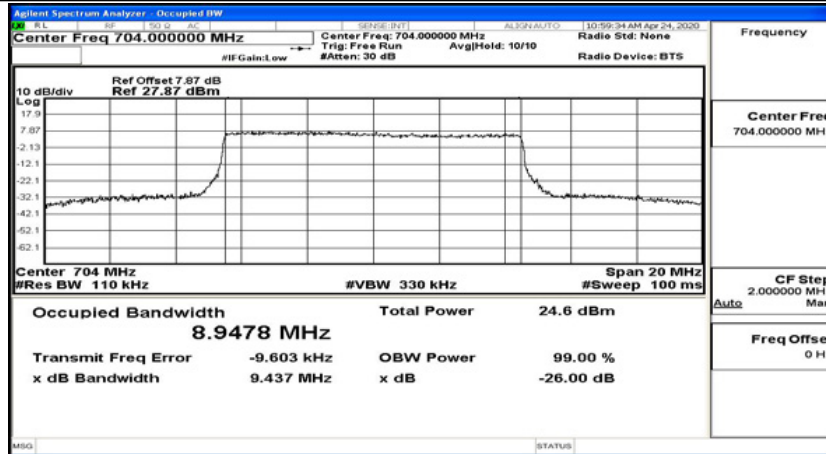
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



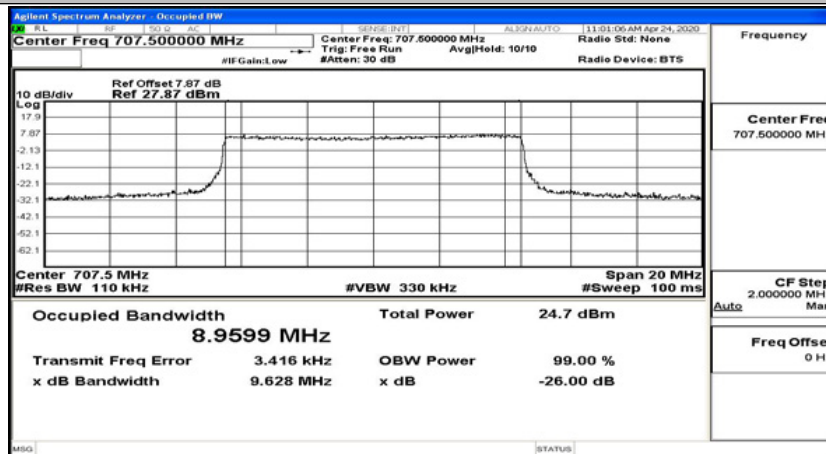
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



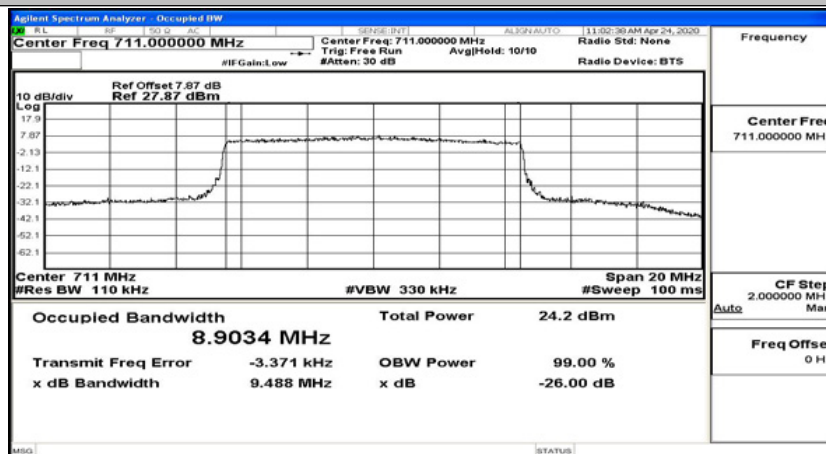
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM

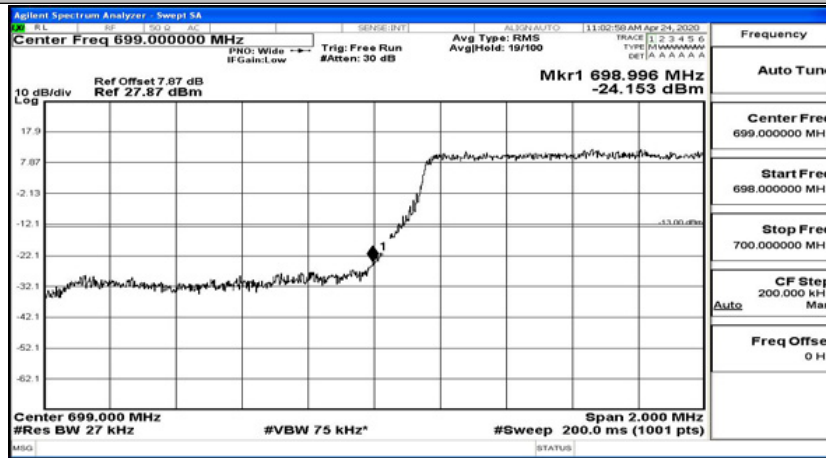


EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM

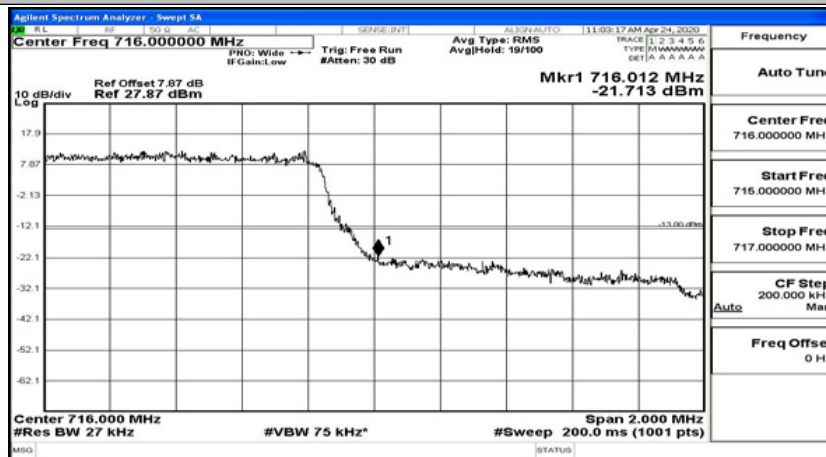


D.4 Band Edge

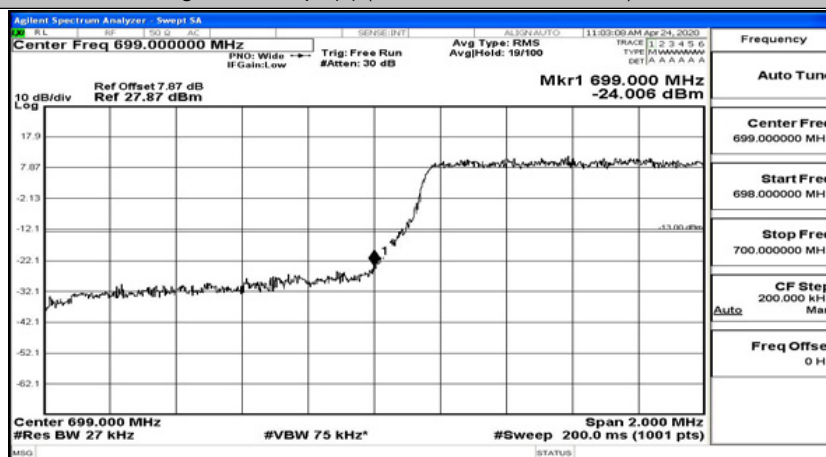
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



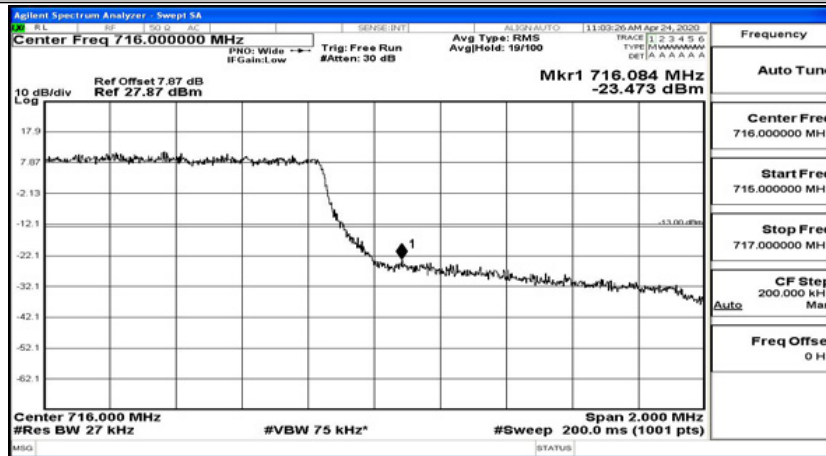
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



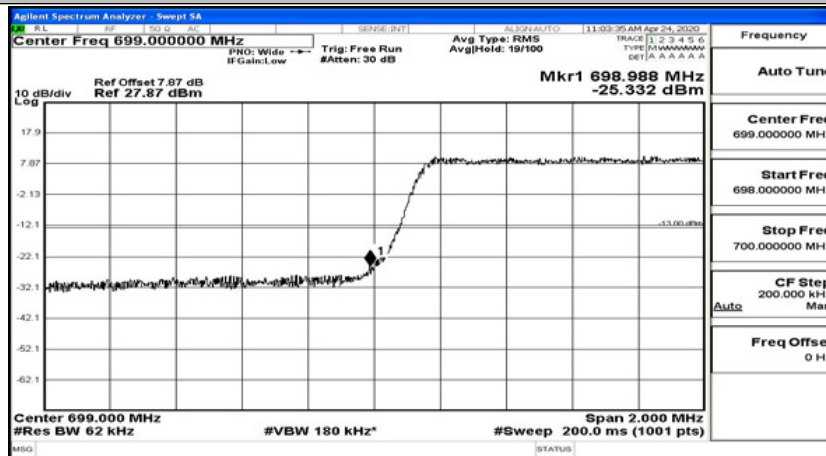
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



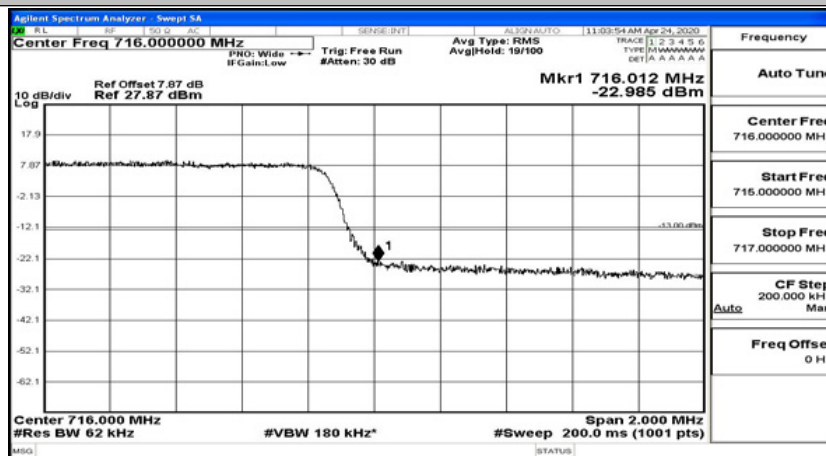
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



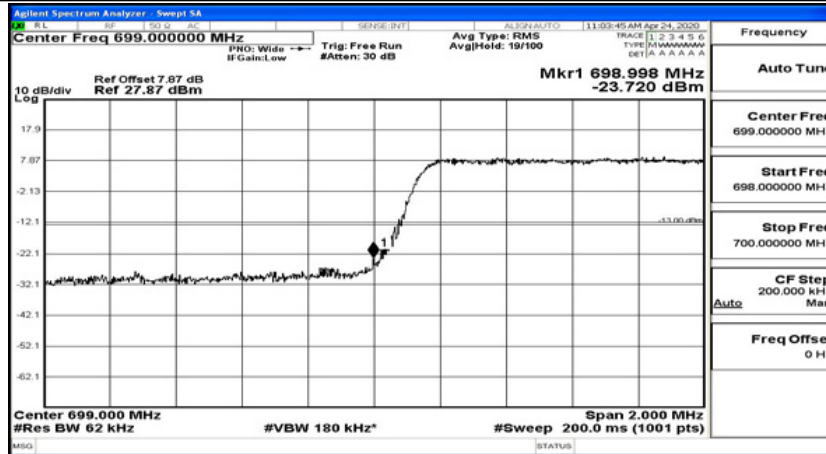
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



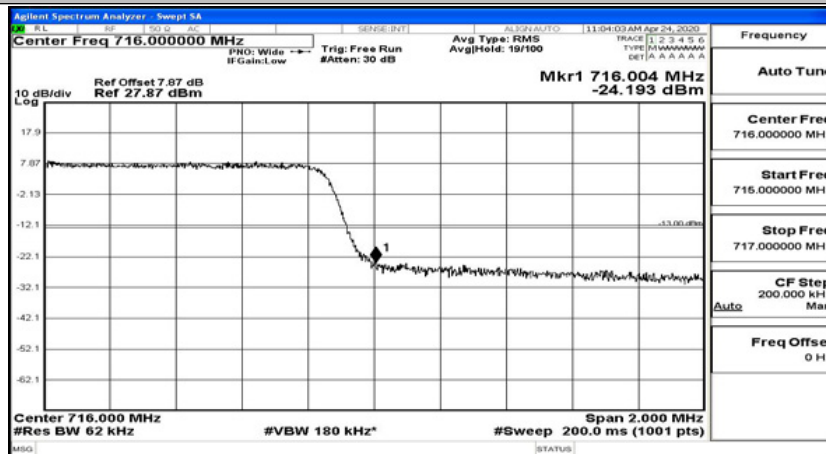
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



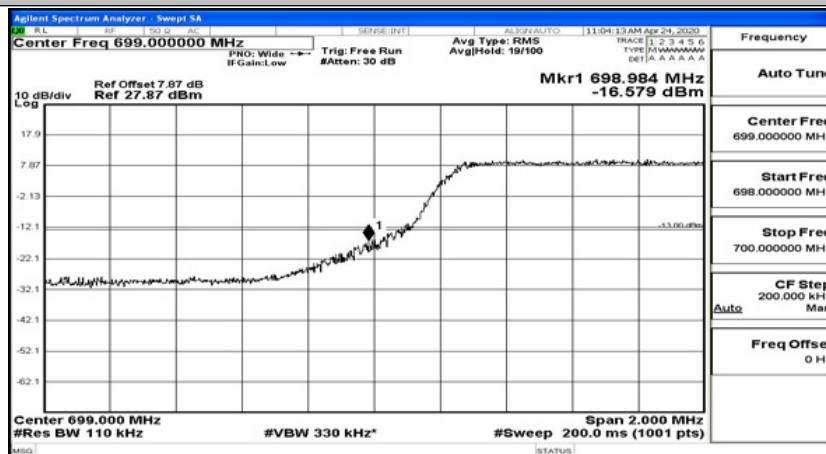
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



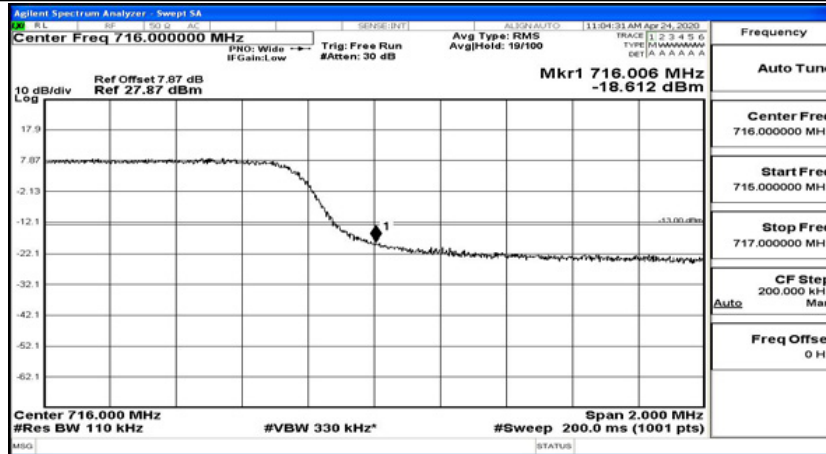
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



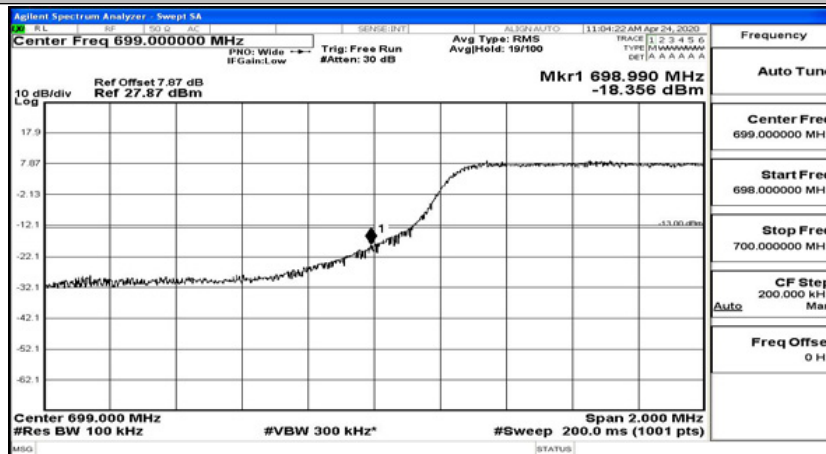
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



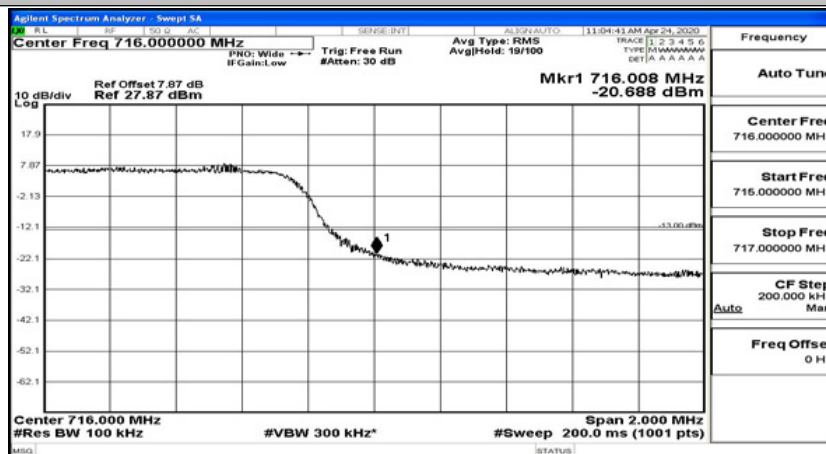
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



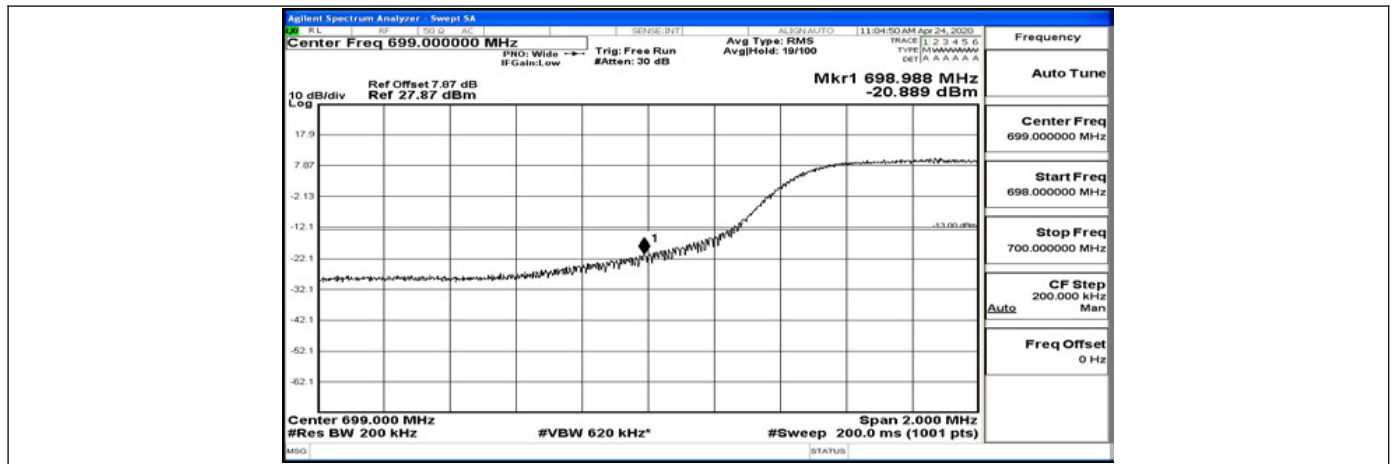
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



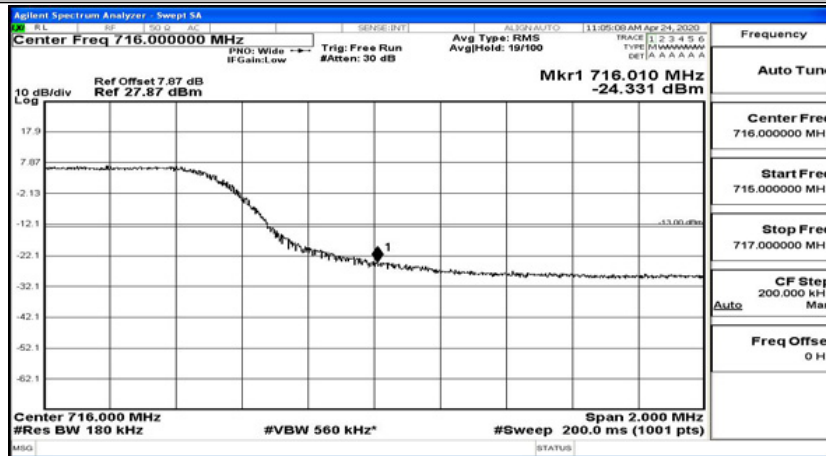
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



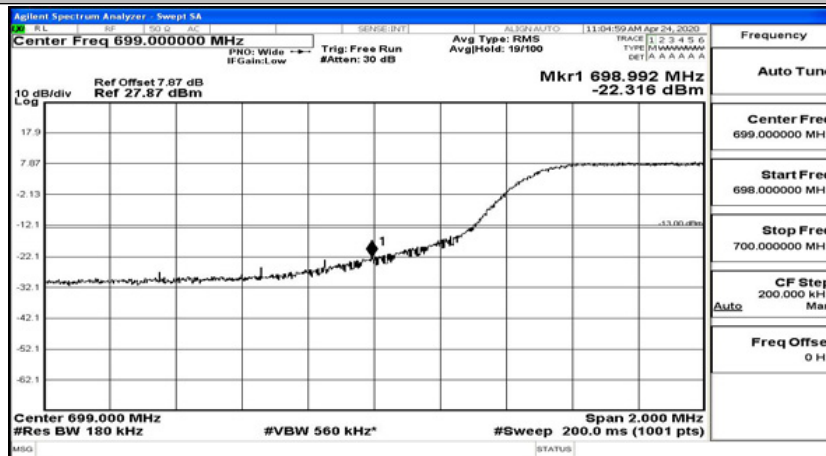
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



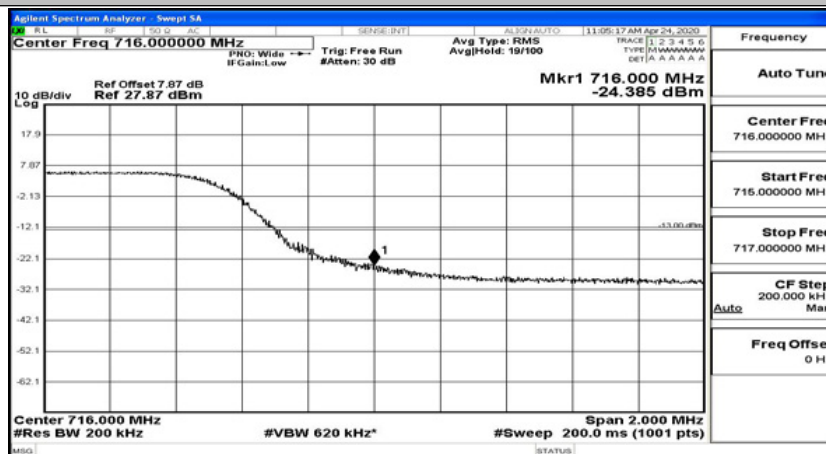
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM

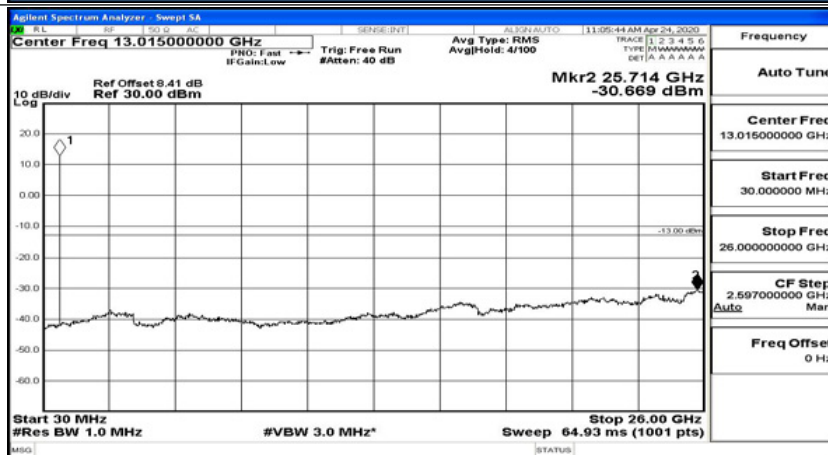
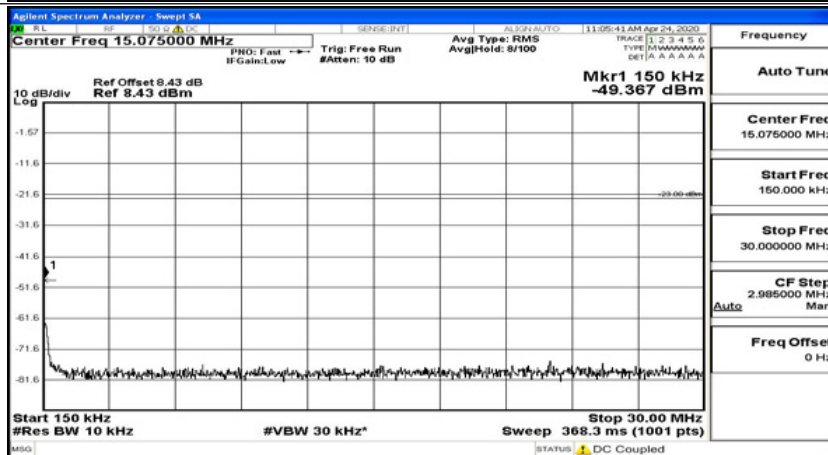
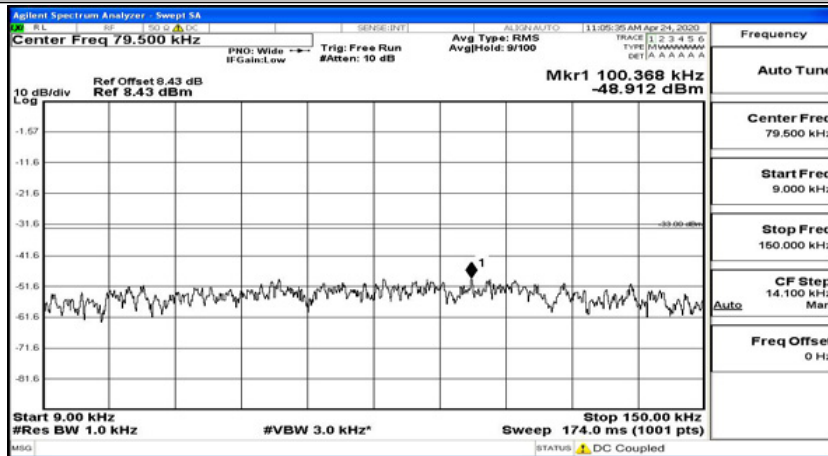


Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM

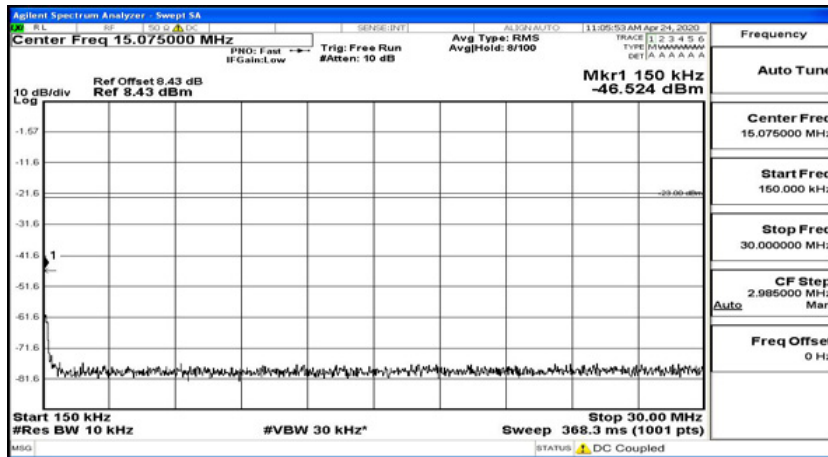
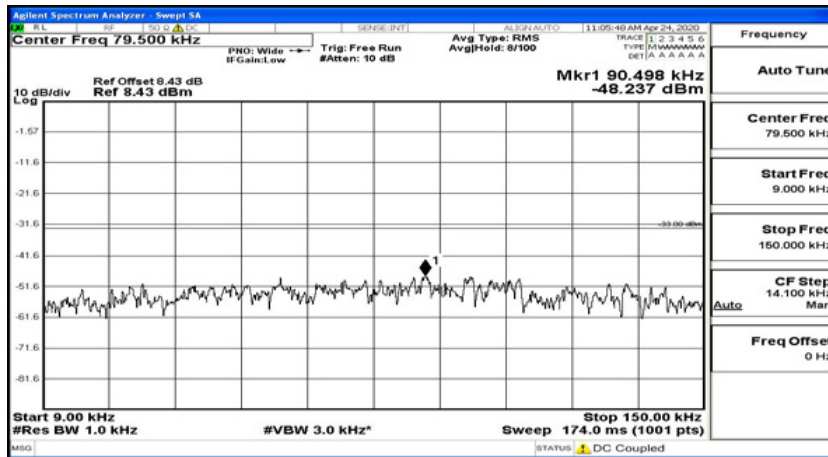


D.5 Conducted Spurious Emission

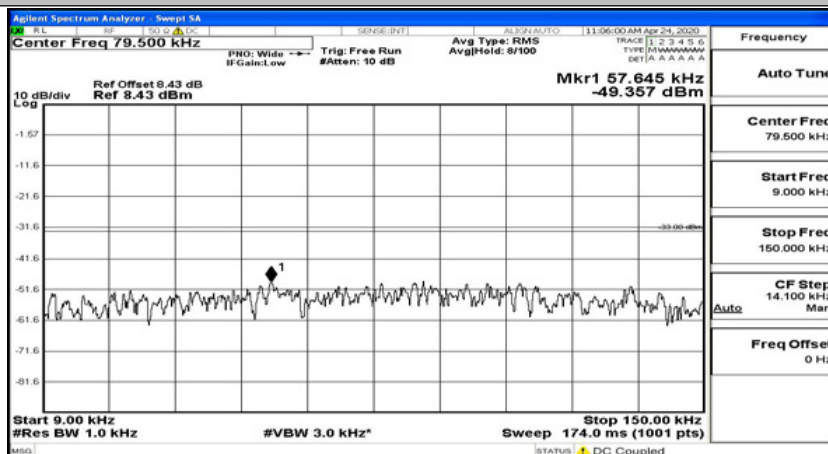
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#0

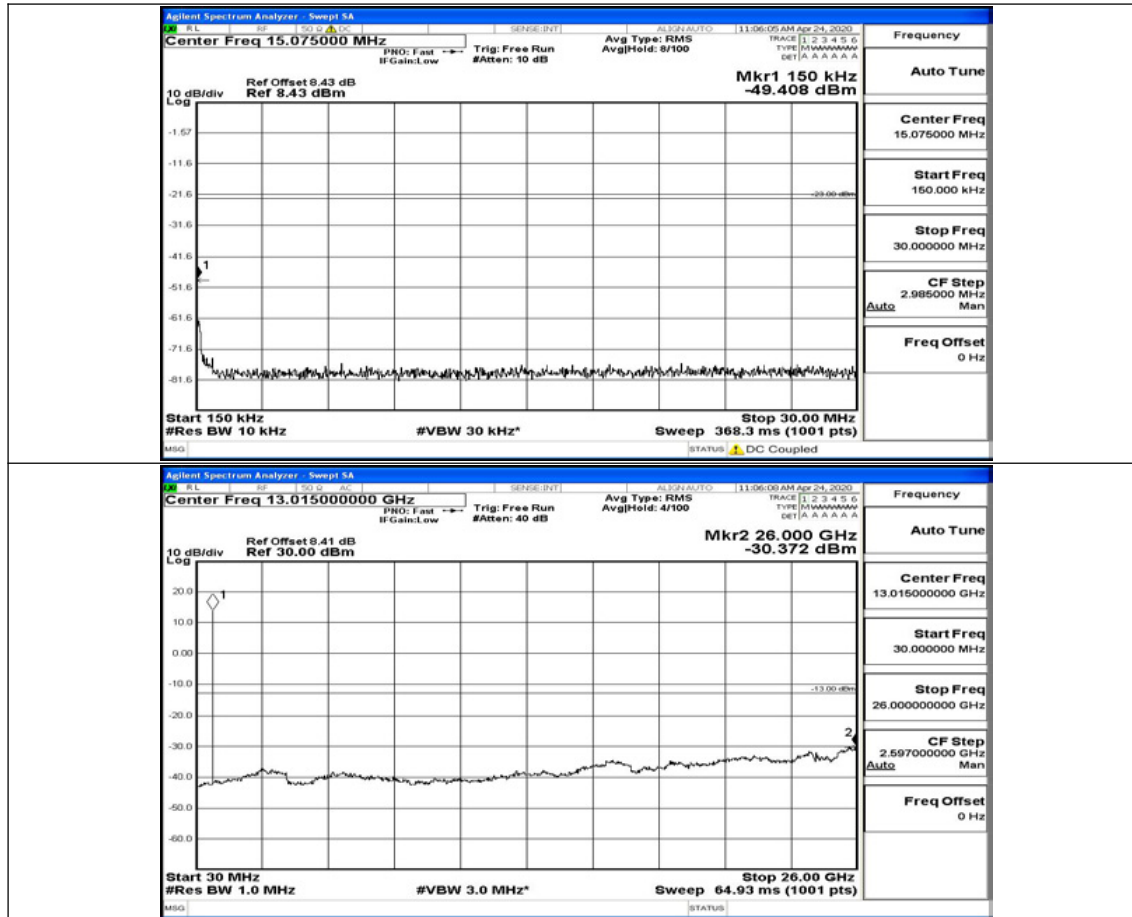


(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#3

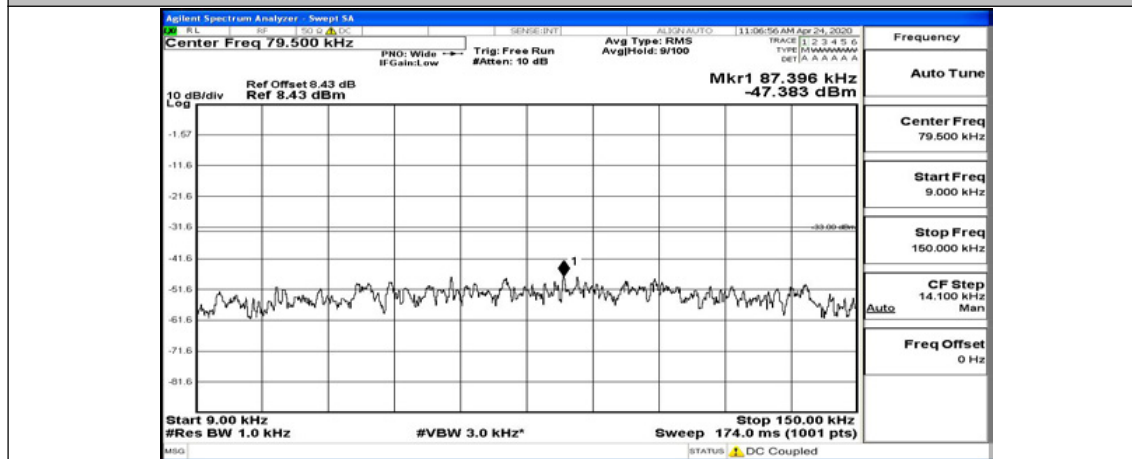


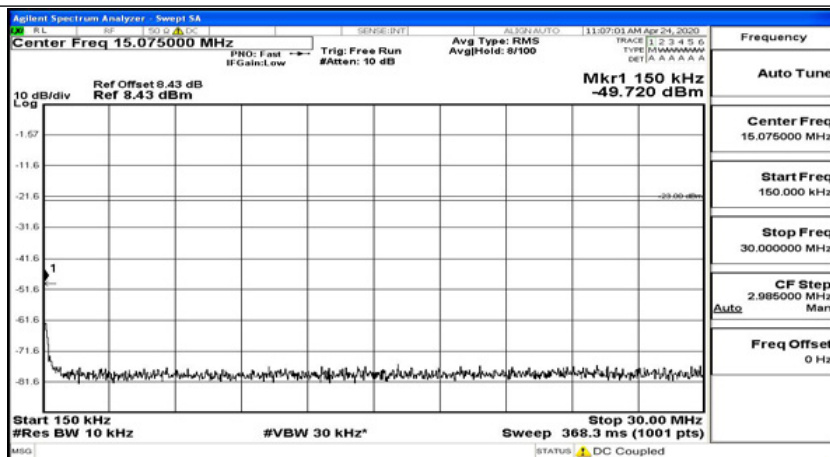
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#5



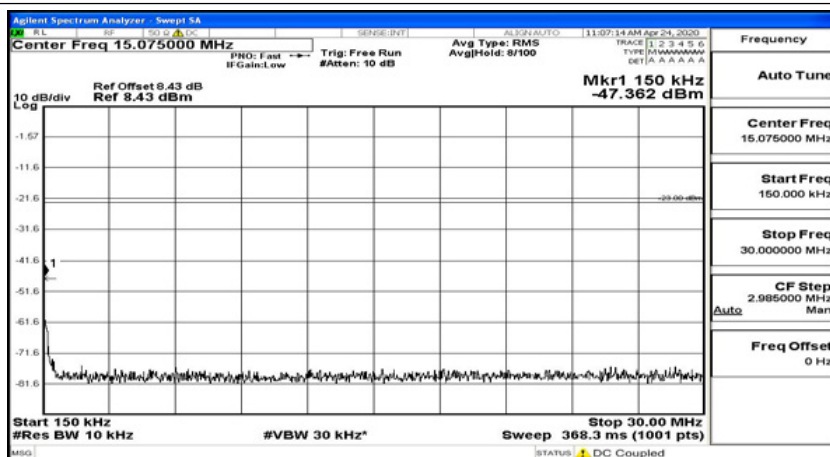
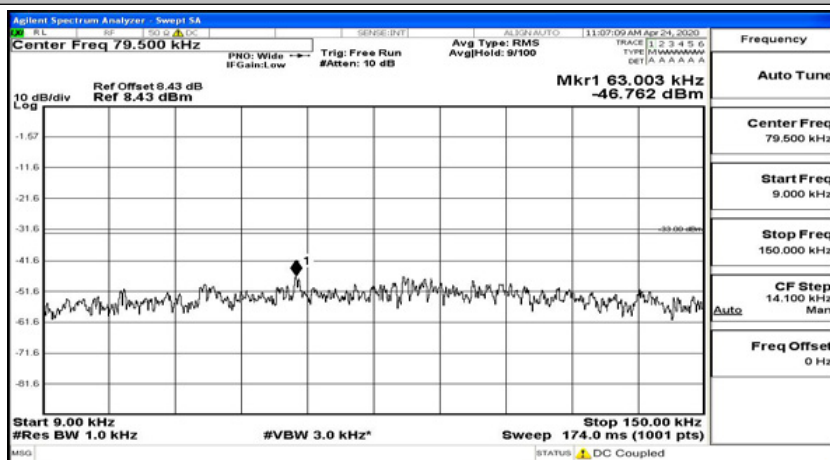


(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#0



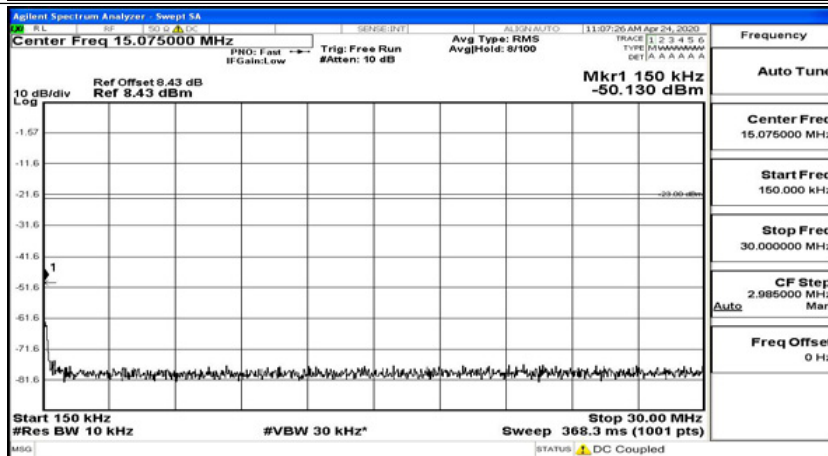
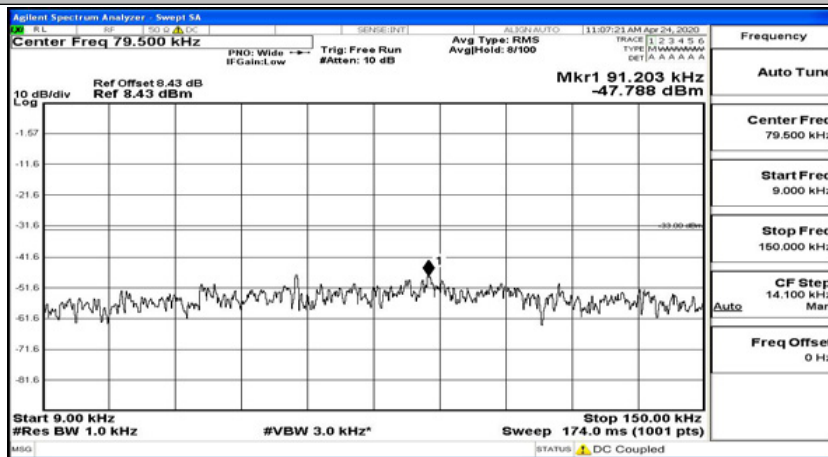


(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#3

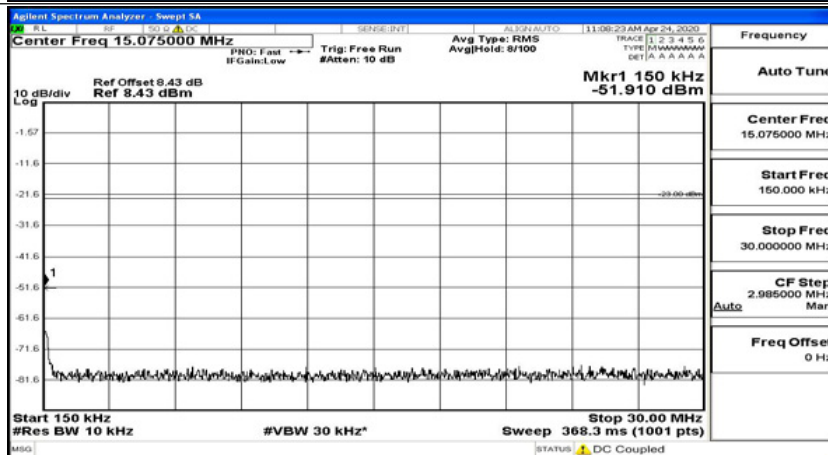
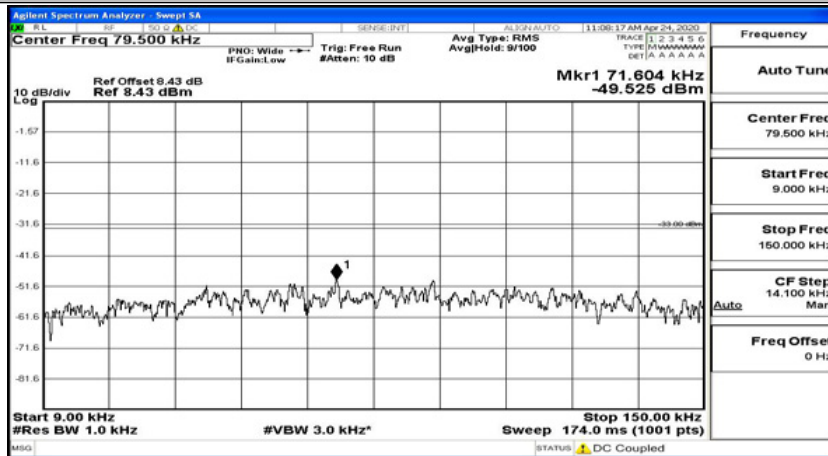




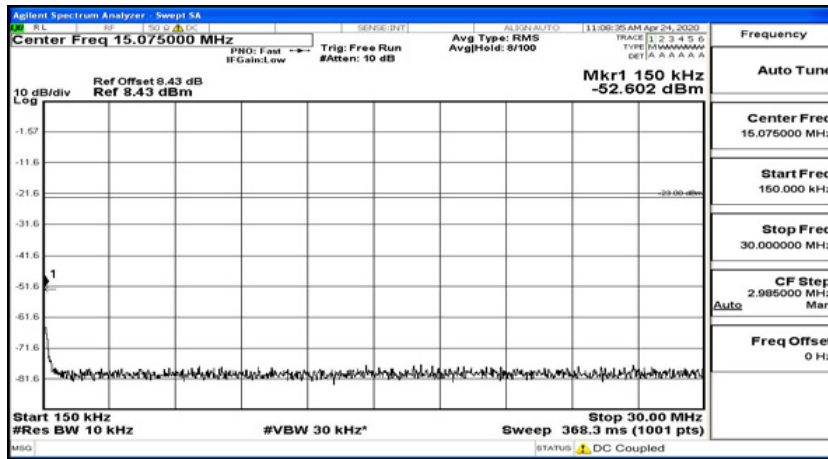
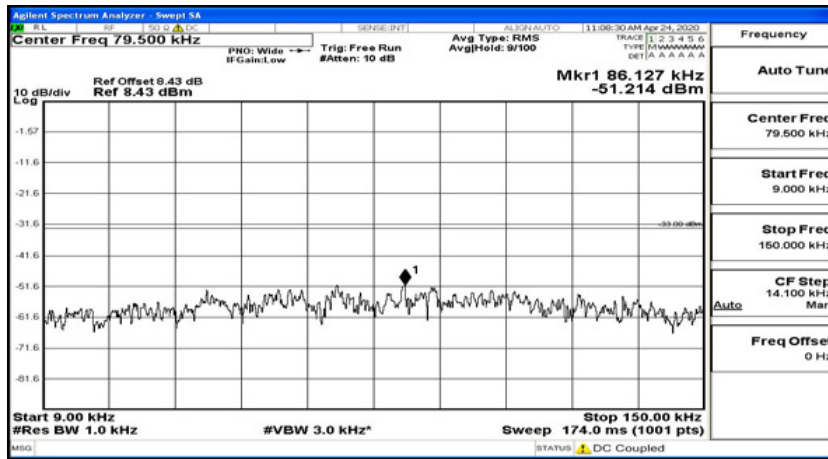
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#5



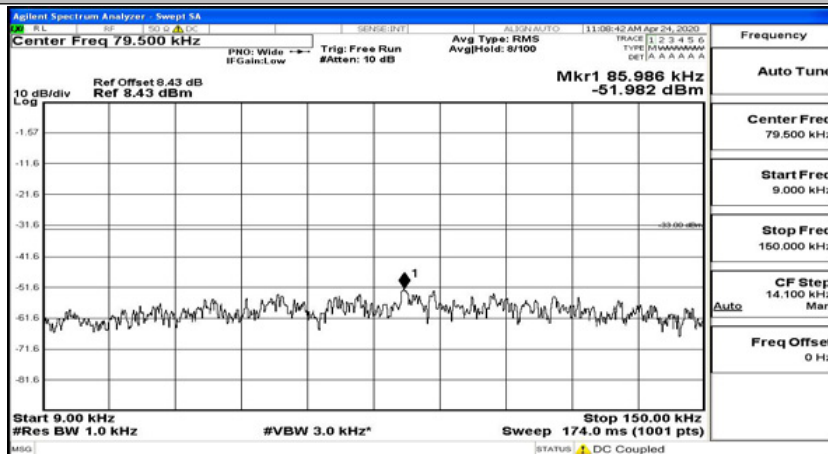
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#0

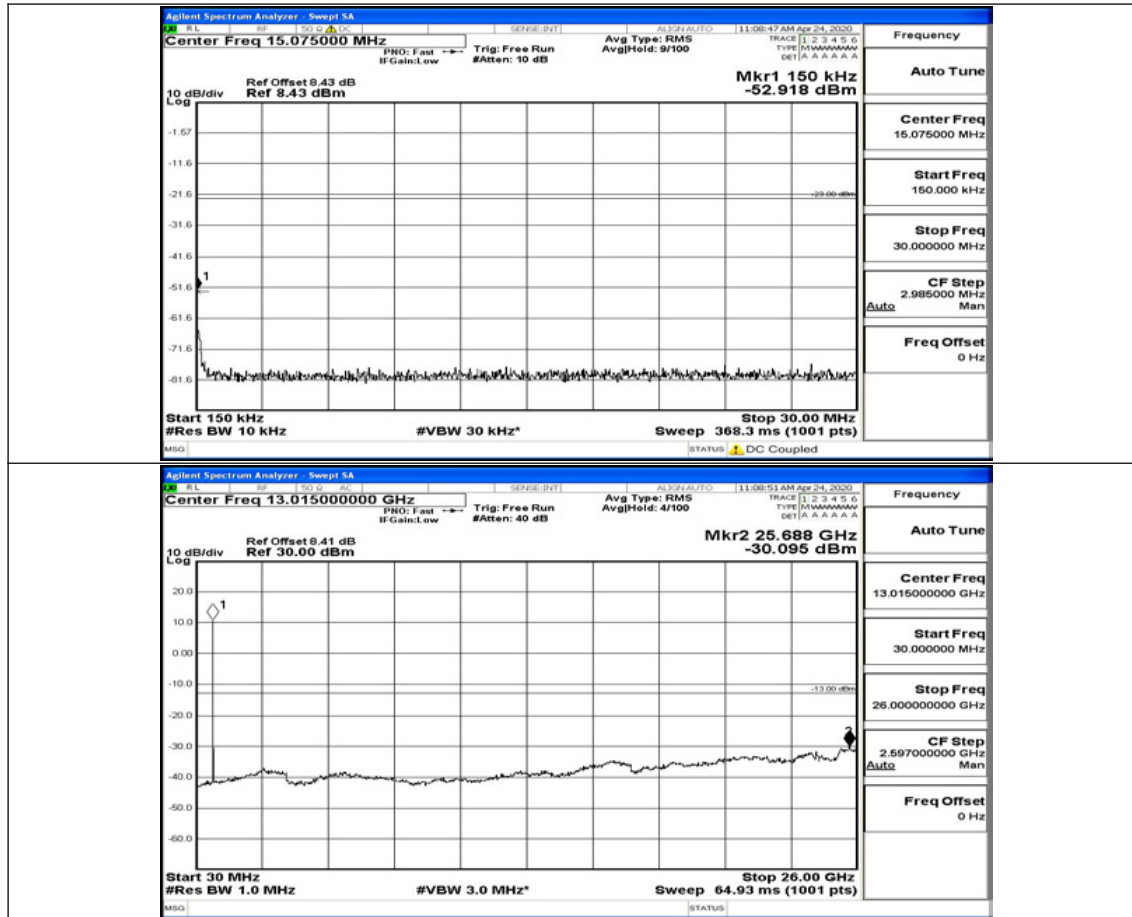


(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#3

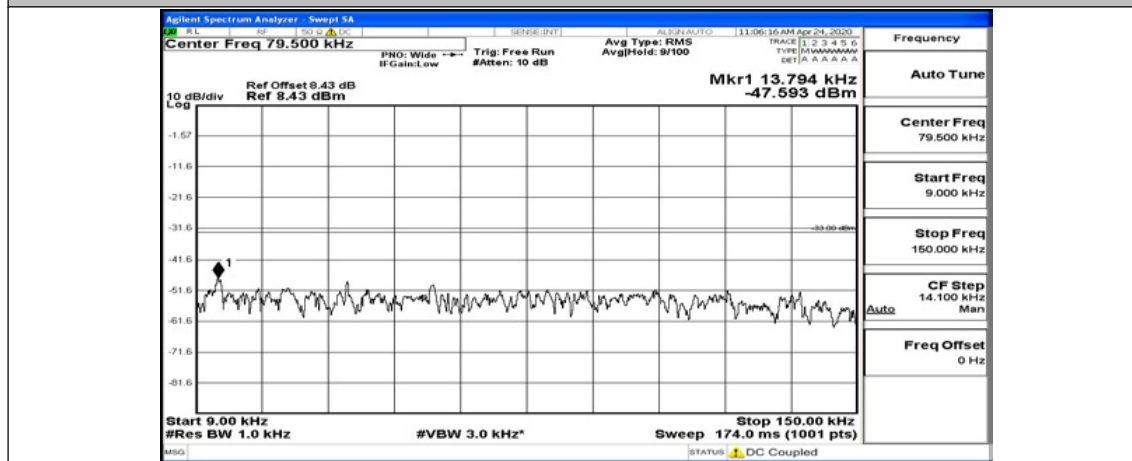


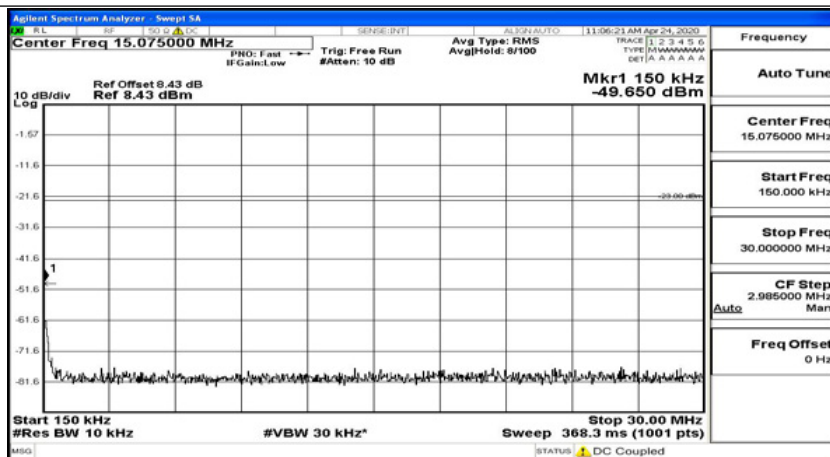
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#5





(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#0





(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#3

