

Appendix B: Test Data for E-UTRA Band 5

Product Name: Portable Data Collector

Trade Mark: Newland

Test Model: NLS-MT90

Environmental Conditions

Temperature:	24.1°C
Relative Humidity:	51.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom Liu
Supervised by:	Jayden Zhuo

A.1 Conducted Output Power

Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]		Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	23.73	22.95	PASS
		1	3	23.79	23.07	PASS
		1	5	23.72	22.94	PASS
		3	0	23.82	22.94	PASS
		3	2	23.79	22.89	PASS
		3	3	23.80	22.89	PASS
		6	0	22.79	21.75	PASS
	MCH	1	0	22.61	22.10	PASS
		1	3	22.64	22.12	PASS
		1	5	22.54	22.00	PASS
		3	0	22.92	21.96	PASS
		3	2	22.79	21.90	PASS
		3	3	22.84	21.93	PASS
		6	0	21.58	20.69	PASS
	HCH	1	0	23.34	22.62	PASS
		1	3	23.49	22.83	PASS
		1	5	23.48	22.73	PASS
		3	0	23.53	22.58	PASS
		3	2	23.52	22.58	PASS
		3	3	23.56	22.65	PASS
		6	0	22.45	21.66	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	23.65	22.95	PASS
		1	7	23.73	22.99	PASS
		1	14	23.60	22.84	PASS
		8	0	22.81	21.87	PASS
		8	4	22.80	21.84	PASS
		8	7	22.79	21.79	PASS
		15	0	22.79	21.74	PASS
	MCH	1	0	22.67	22.05	PASS
		1	7	22.51	21.95	PASS
		1	14	22.40	21.68	PASS
		8	0	21.77	20.94	PASS
		8	4	21.69	20.90	PASS
		8	7	21.61	20.82	PASS
		15	0	21.78	20.86	PASS
	HCH	1	0	23.06	22.49	PASS
		1	7	23.34	22.76	PASS
		1	14	23.45	22.80	PASS
		8	0	22.25	21.33	PASS
		8	4	22.36	21.42	PASS
		8	7	22.44	21.51	PASS
		15	0	22.37	21.41	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	23.76	23.13	PASS
		1	12	23.79	23.11	PASS
		1	24	23.55	22.91	PASS
		12	0	22.87	21.98	PASS
		12	6	22.83	21.93	PASS
		12	13	22.76	21.83	PASS
		25	0	22.76	21.74	PASS
	MCH	1	0	22.92	22.44	PASS
		1	12	22.62	22.18	PASS
		1	24	22.51	21.81	PASS
		12	0	21.97	21.23	PASS
		12	6	21.84	21.13	PASS
		12	13	21.74	21.00	PASS
		25	0	21.78	20.94	PASS
	HCH	1	0	22.98	22.00	PASS
		1	12	23.28	22.35	PASS
		1	24	23.51	22.49	PASS
		12	0	22.13	21.20	PASS
		12	6	22.26	21.36	PASS
		12	13	22.47	21.54	PASS
		25	0	22.25	21.32	PASS

Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)

Modulation	Channel	RB Configuration		Average Power [dBm]		Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	23.80	23.09	PASS
		1	24	23.62	22.93	PASS
		1	49	23.00	22.40	PASS
		25	0	22.81	21.80	PASS
		25	12	22.72	21.72	PASS
		25	25	22.45	21.55	PASS
		50	0	22.74	21.70	PASS
	MCH	1	0	23.21	22.59	PASS
		1	24	22.61	21.99	PASS
		1	49	22.55	21.74	PASS
		25	0	22.11	21.20	PASS
		25	12	21.89	20.97	PASS
		25	25	21.71	20.73	PASS
		50	0	21.89	20.96	PASS
	HCH	1	0	22.60	21.86	PASS
		1	24	22.82	22.18	PASS
		1	49	23.38	22.81	PASS
		25	0	21.72	20.71	PASS
		25	12	21.89	20.88	PASS
		25	25	22.15	21.22	PASS
		50	0	21.93	20.94	PASS

A.2 Peak-to-Average Ratio

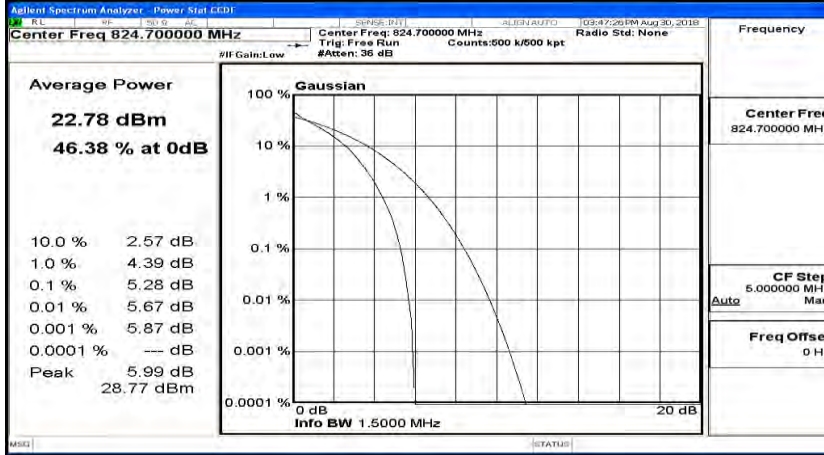
Peak-to Average Ratio Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.28	<13	PASS
	MCH	5.77	<13	PASS
	HCH	5.38	<13	PASS
16QAM	LCH	6.13	<13	PASS
	MCH	6.6	<13	PASS
	HCH	6.2	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.23	<13	PASS
	MCH	5.79	<13	PASS
	HCH	5.62	<13	PASS
16QAM	LCH	6.14	<13	PASS
	MCH	6.63	<13	PASS
	HCH	6.33	<13	PASS

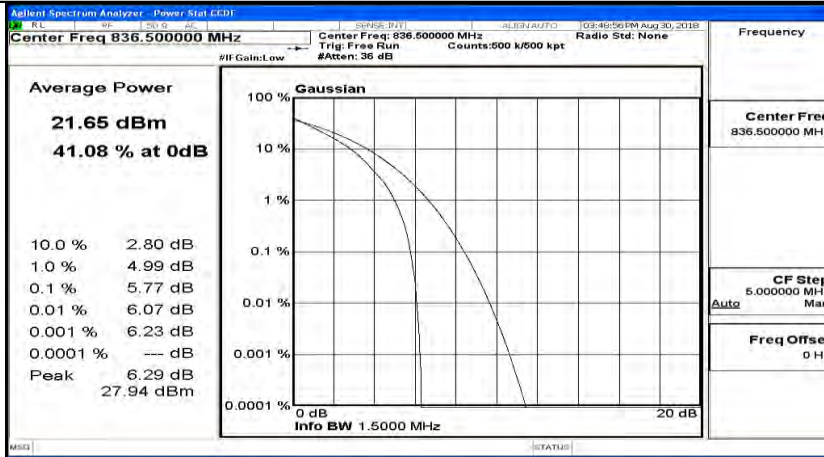
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.18	<13	PASS
	MCH	5.84	<13	PASS
	HCH	5.54	<13	PASS
16QAM	LCH	5.92	<13	PASS
	MCH	6.57	<13	PASS
	HCH	6.29	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.53	<13	PASS
	MCH	5.71	<13	PASS
	HCH	5.28	<13	PASS
16QAM	LCH	6.2	<13	PASS
	MCH	6.48	<13	PASS
	HCH	5.97	<13	PASS

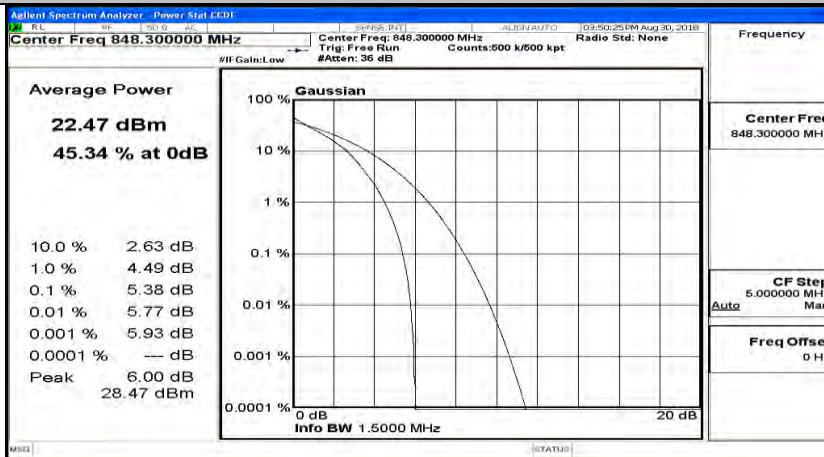
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



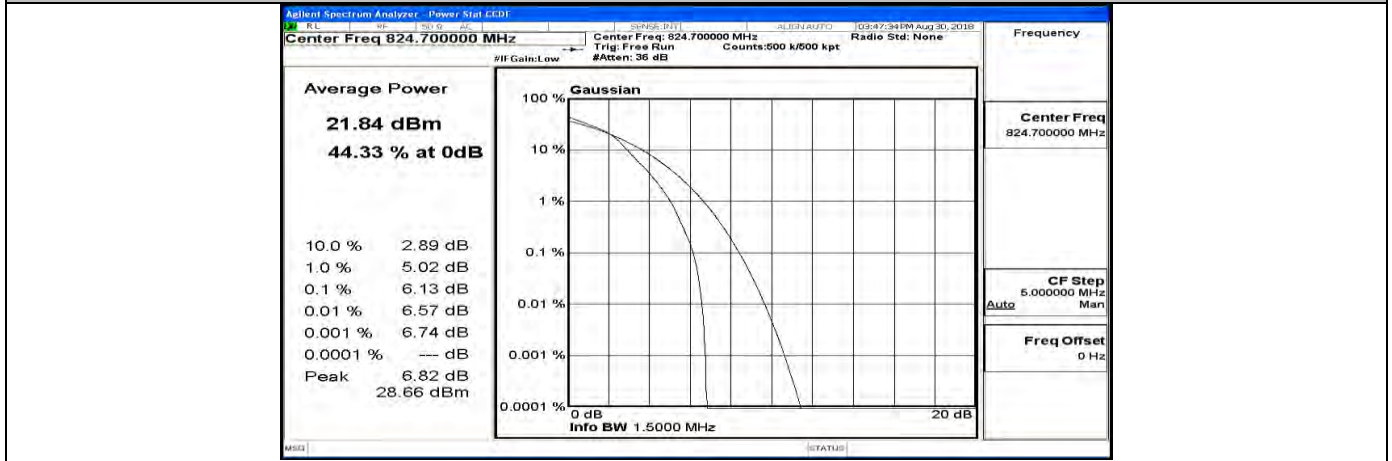
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



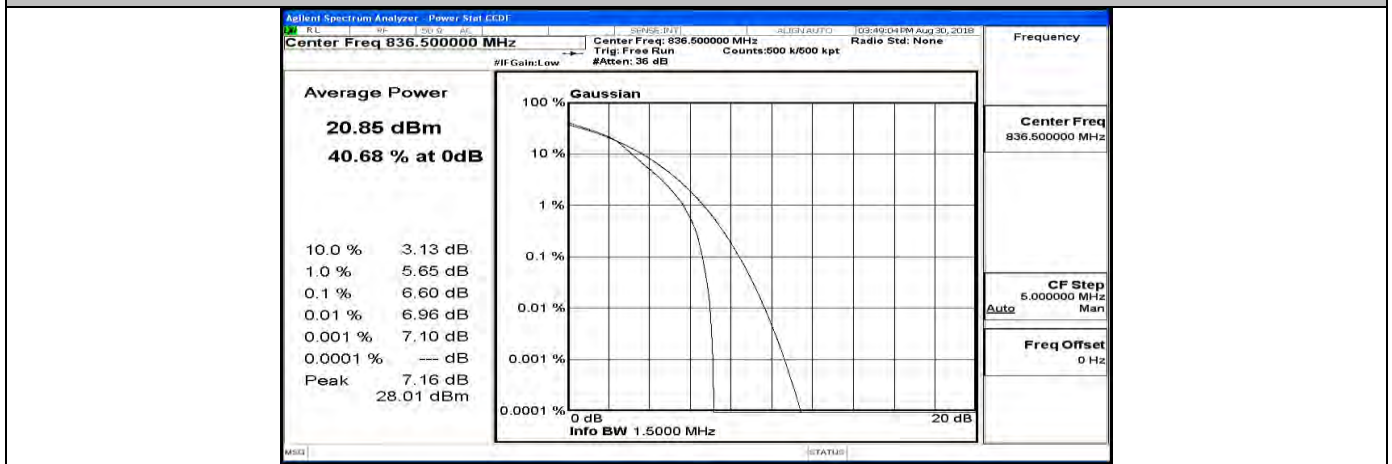
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



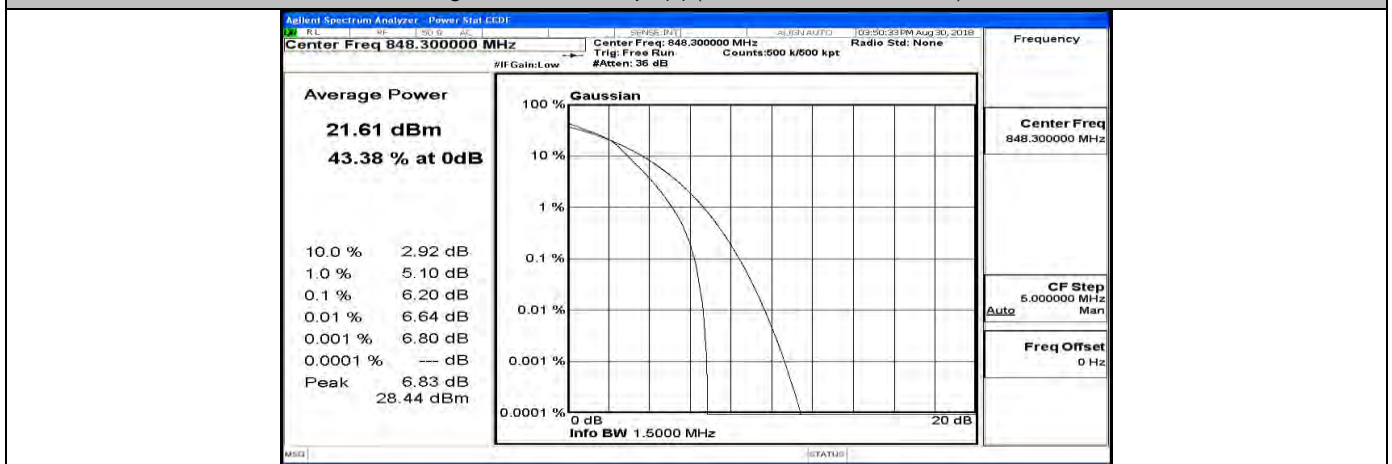
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



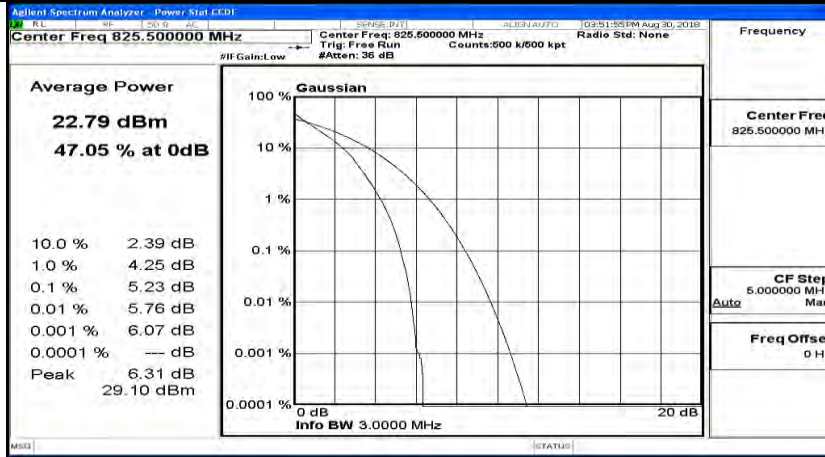
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



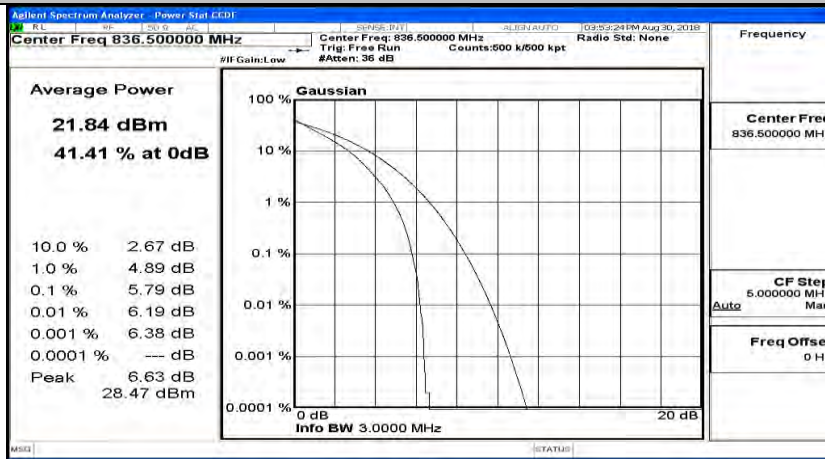
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



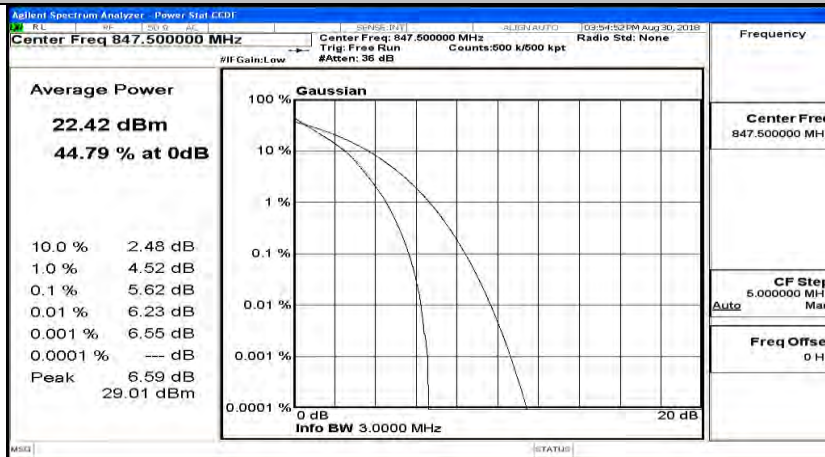
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



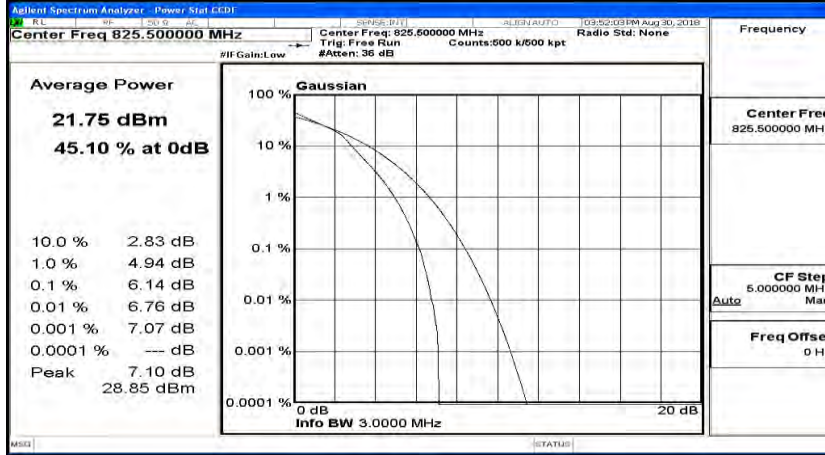
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



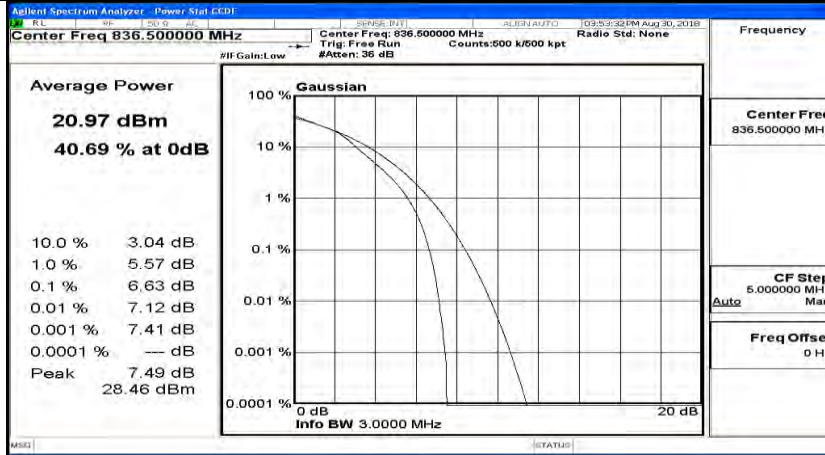
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



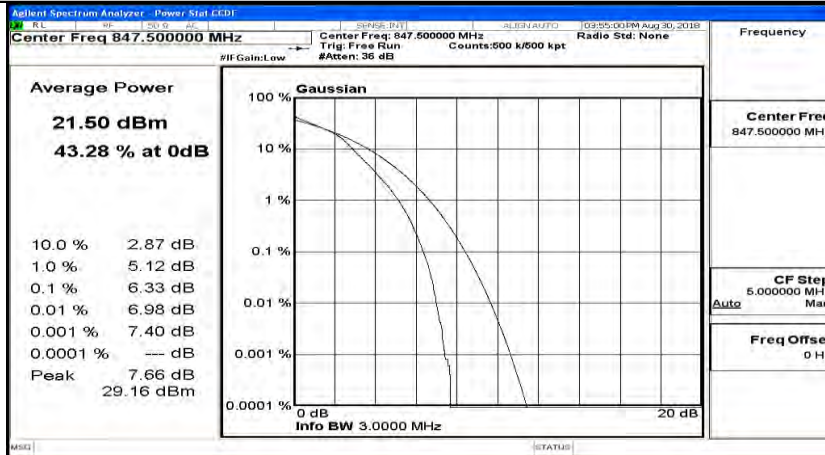
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



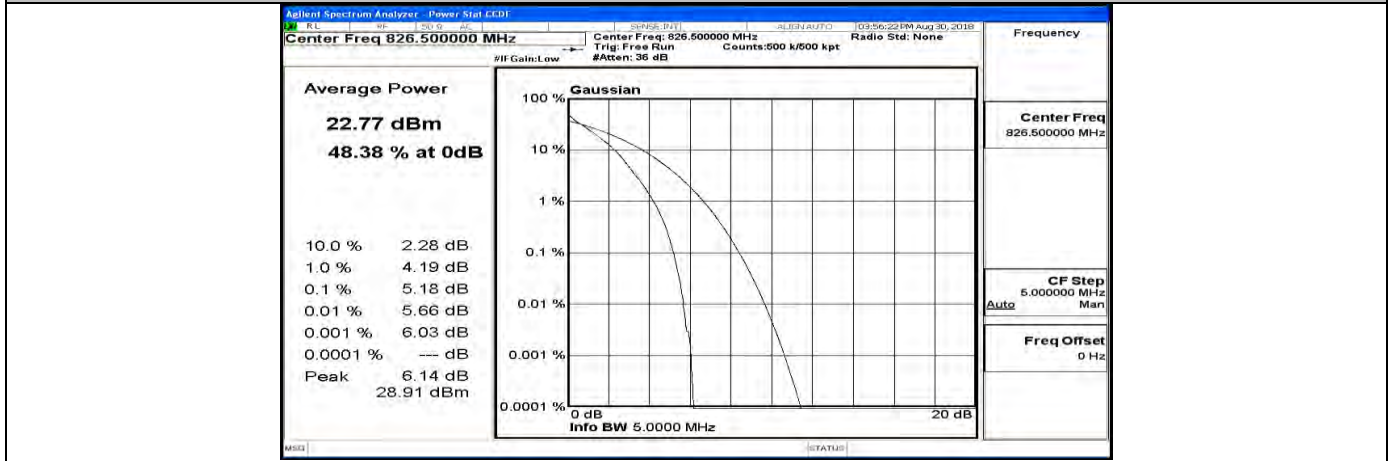
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



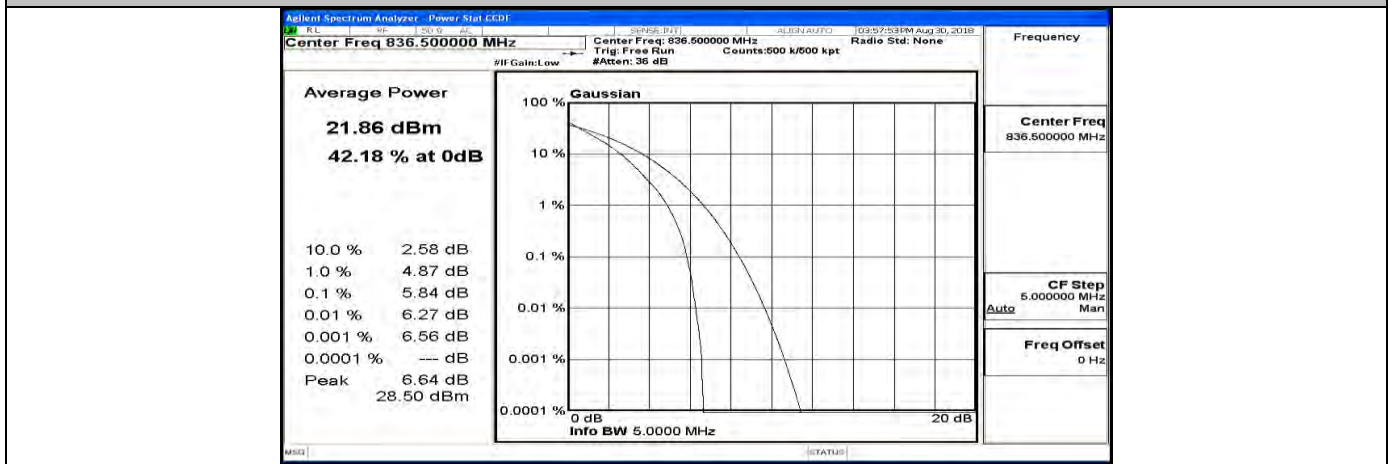
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



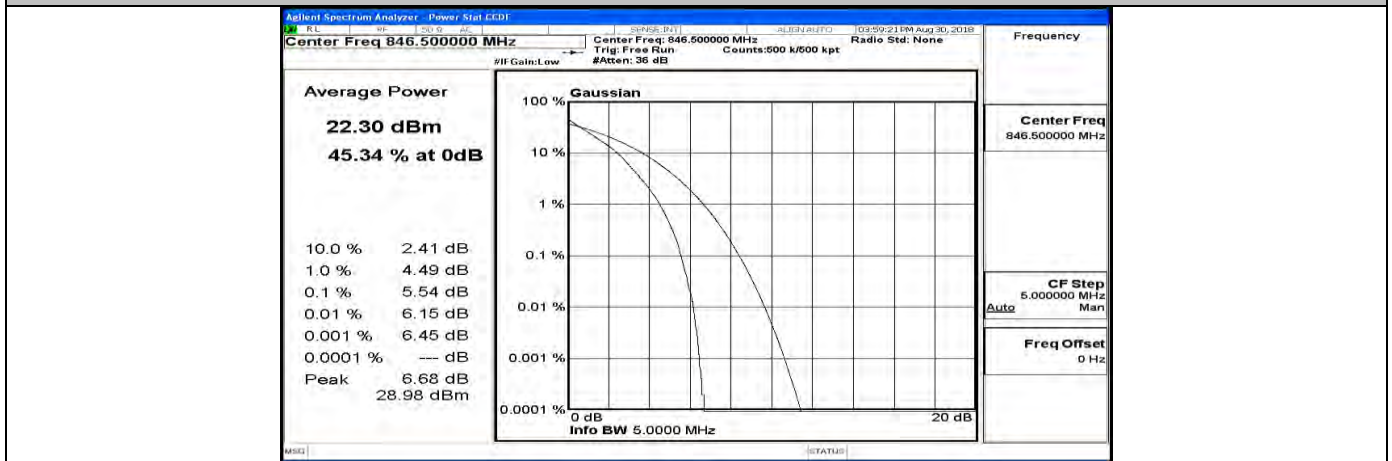
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



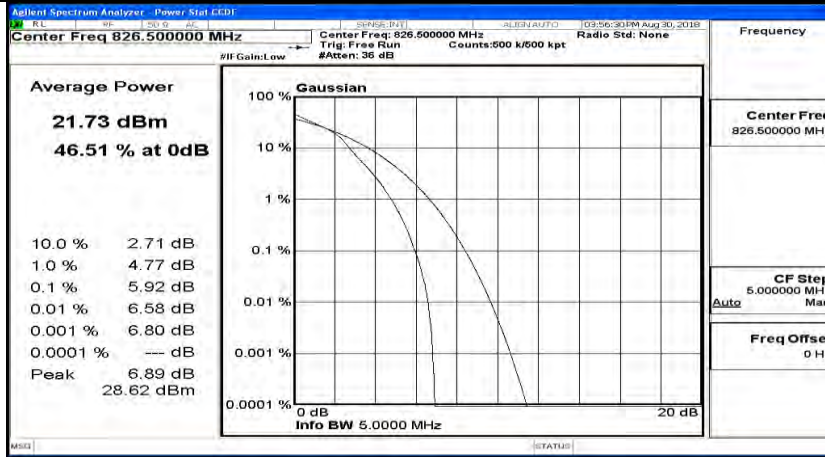
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



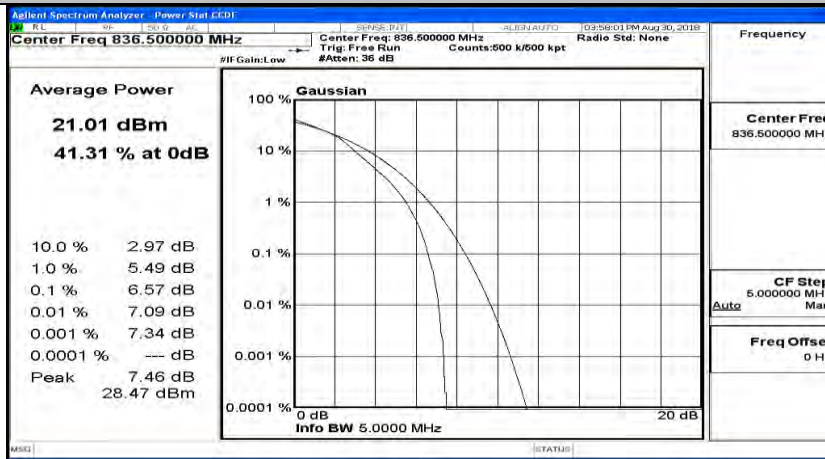
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



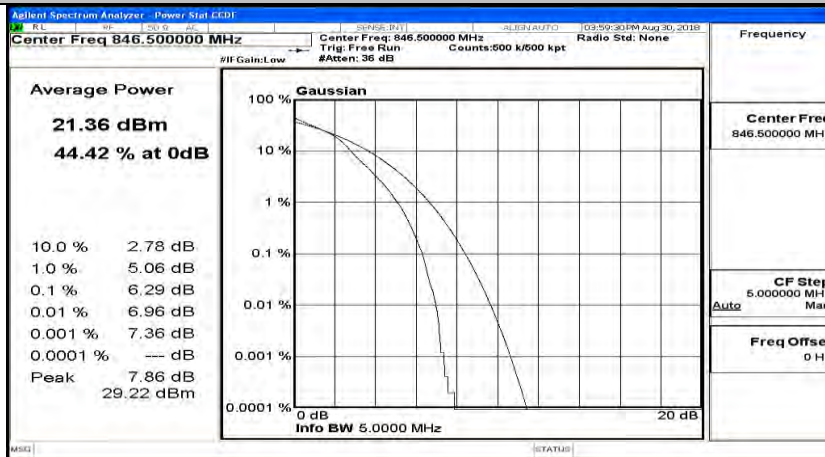
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



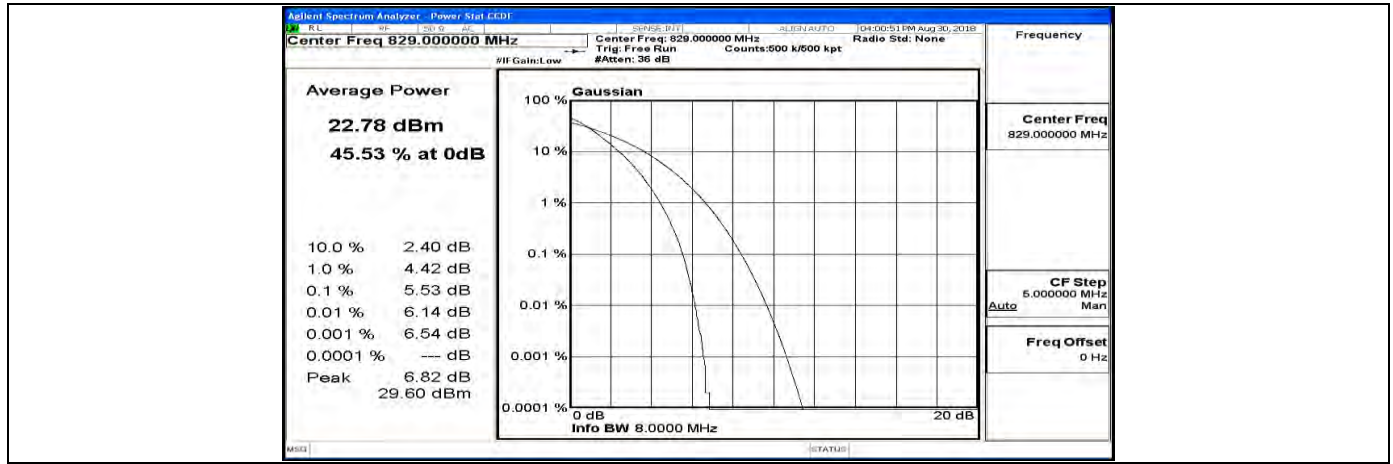
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



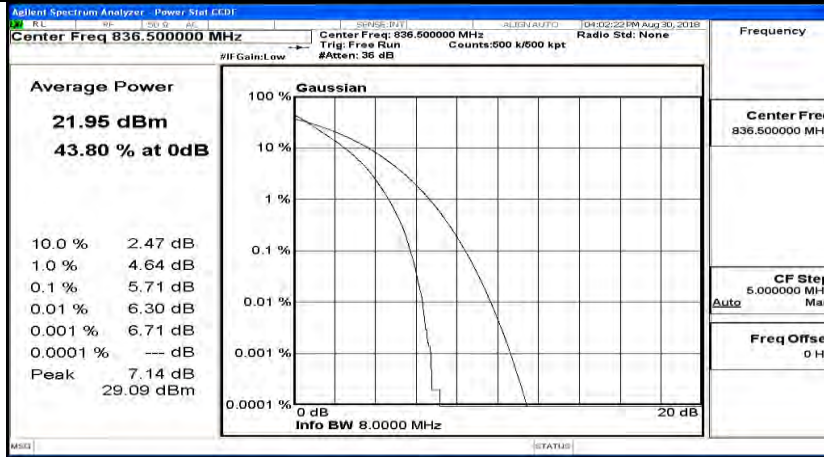
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



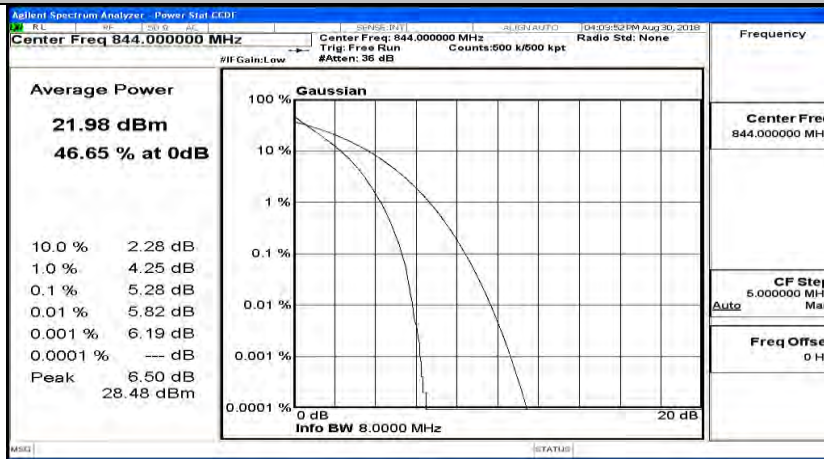
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



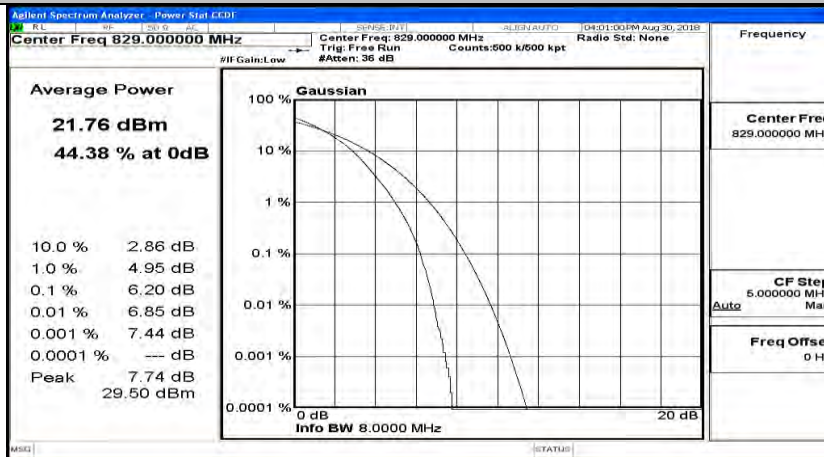
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



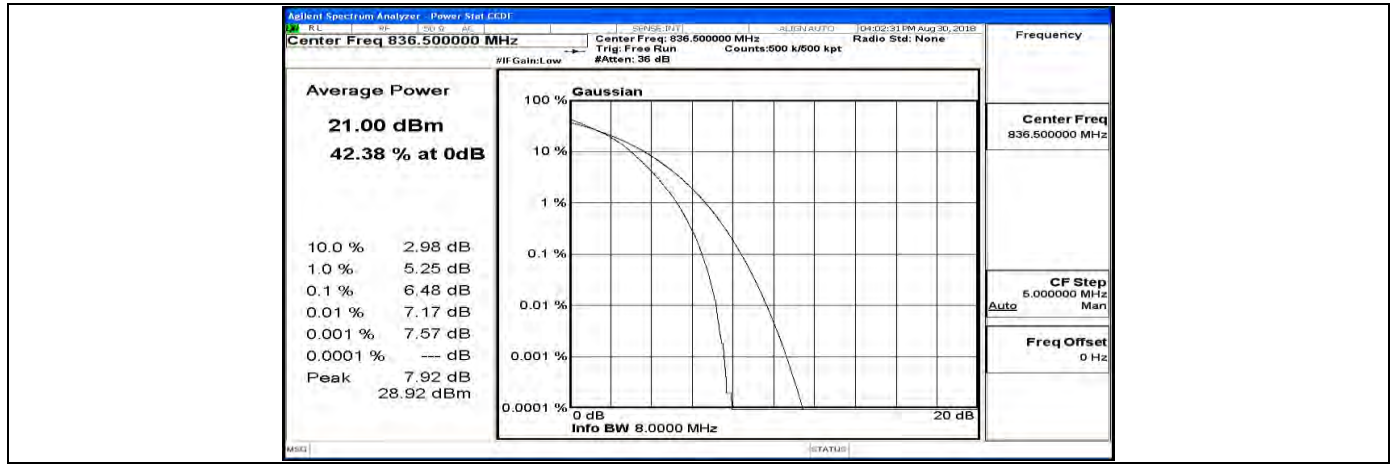
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



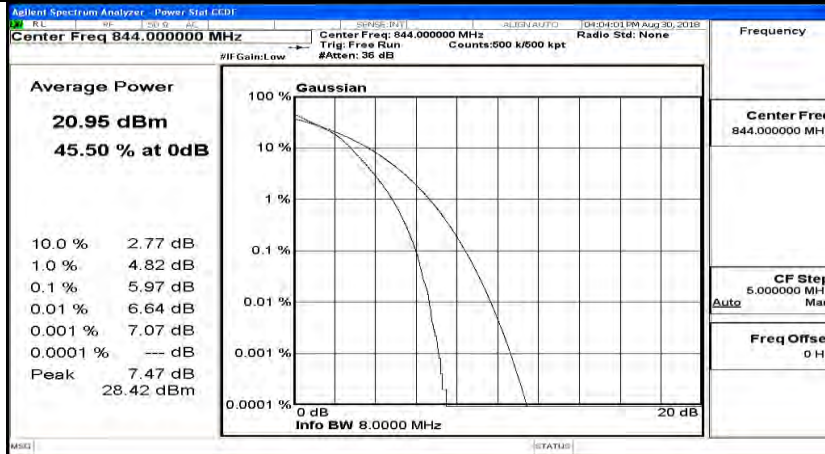
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



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



A.3 26dB Bandwidth and Occupied Bandwidth

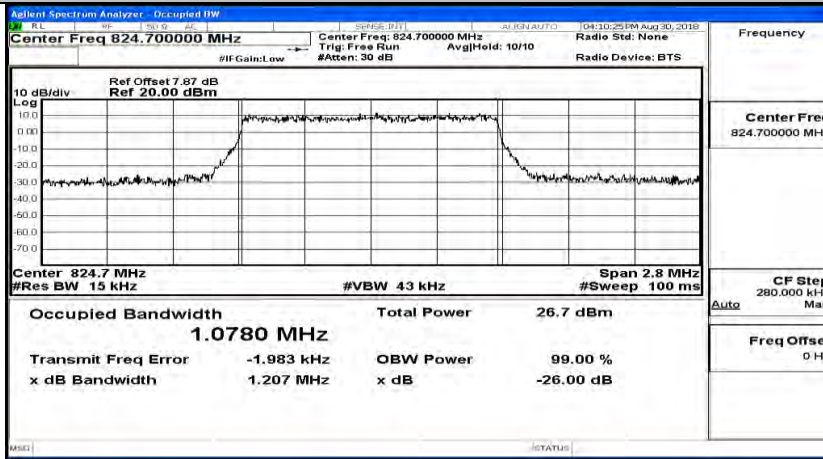
EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	1.0780	1.207	PASS
	MCH	1.0800	1.300	PASS
	HCH	1.0794	1.216	PASS
16QAM	LCH	1.0805	1.230	PASS
	MCH	1.0847	1.377	PASS
	HCH	1.0760	1.228	PASS

EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	2.6825	2.867	PASS
	MCH	2.6936	2.913	PASS
	HCH	2.6831	2.890	PASS
16QAM	LCH	2.6860	2.870	PASS
	MCH	2.6892	3.124	PASS
	HCH	2.6873	2.852	PASS

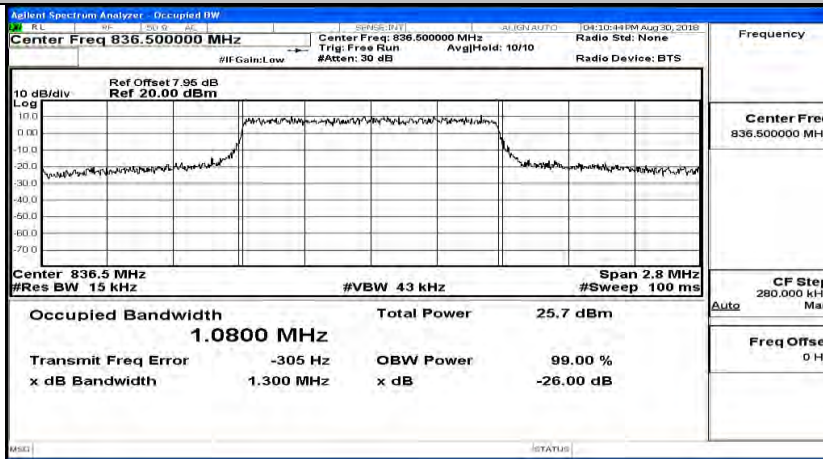
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.4734	4.835	PASS
	MCH	4.4955	5.890	PASS
	HCH	4.4805	4.829	PASS
16QAM	LCH	4.4715	4.818	PASS
	MCH	4.4900	4.886	PASS
	HCH	4.4884	4.831	PASS

EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	8.9282	9.376	PASS
	MCH	8.9739	9.610	PASS
	HCH	8.9293	9.480	PASS
16QAM	LCH	8.9084	9.390	PASS
	MCH	8.9733	9.541	PASS
	HCH	8.9405	9.436	PASS

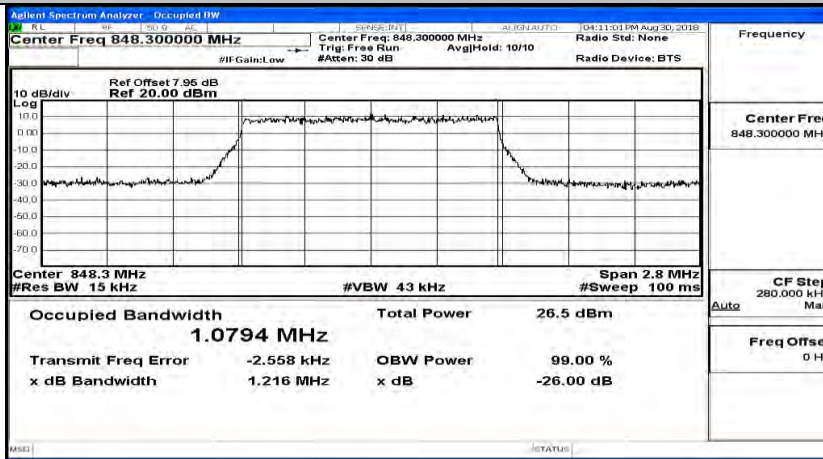
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



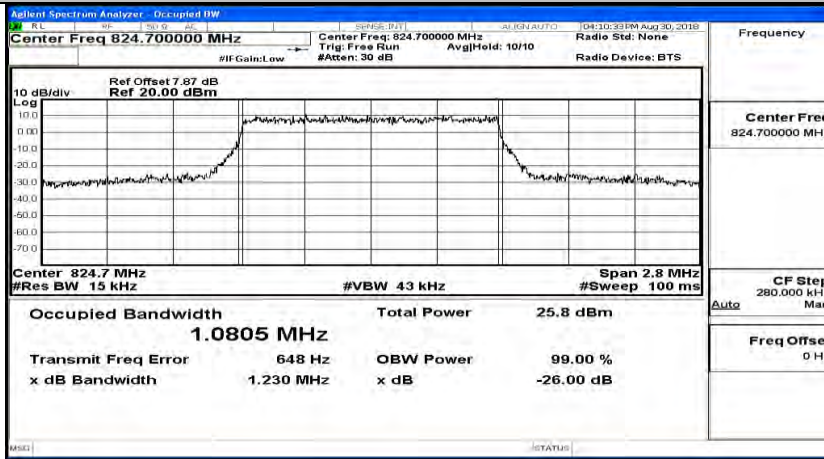
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



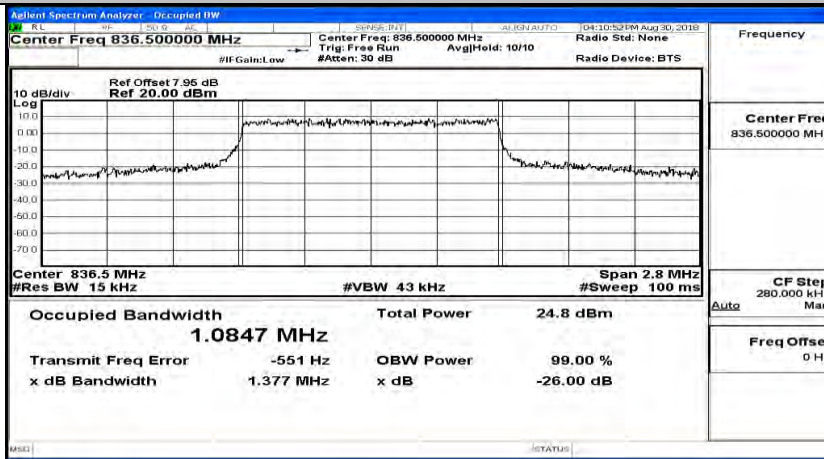
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



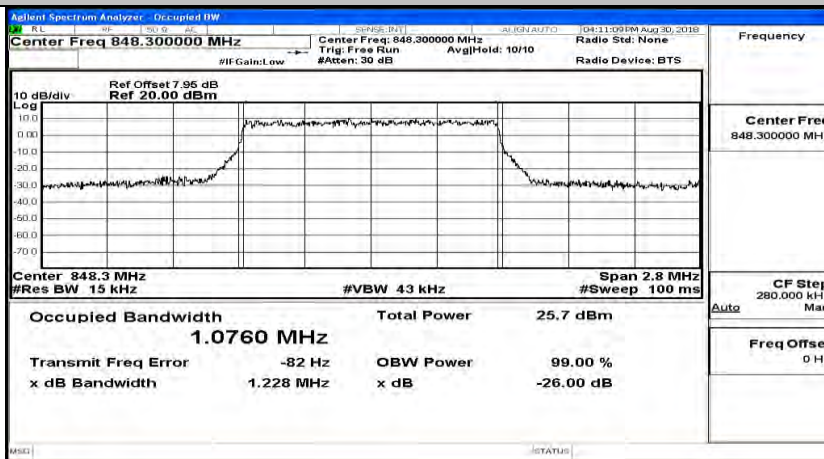
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



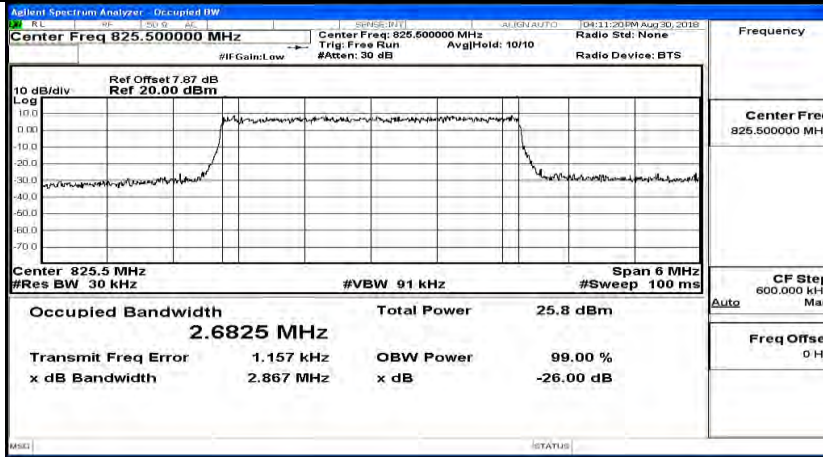
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



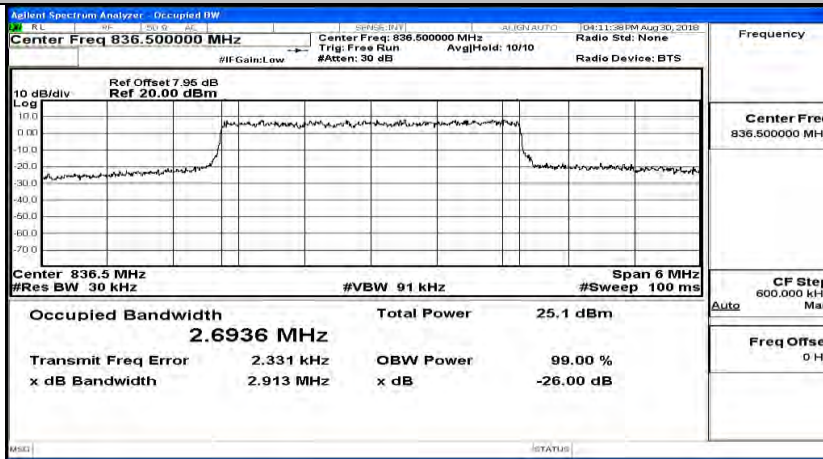
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



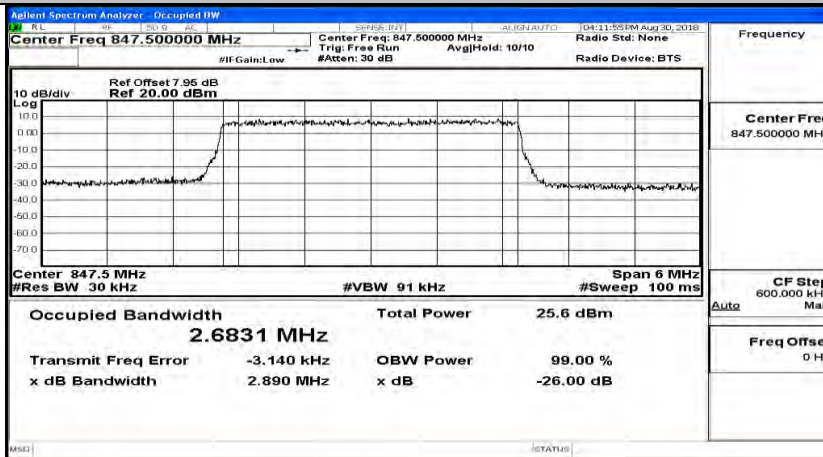
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



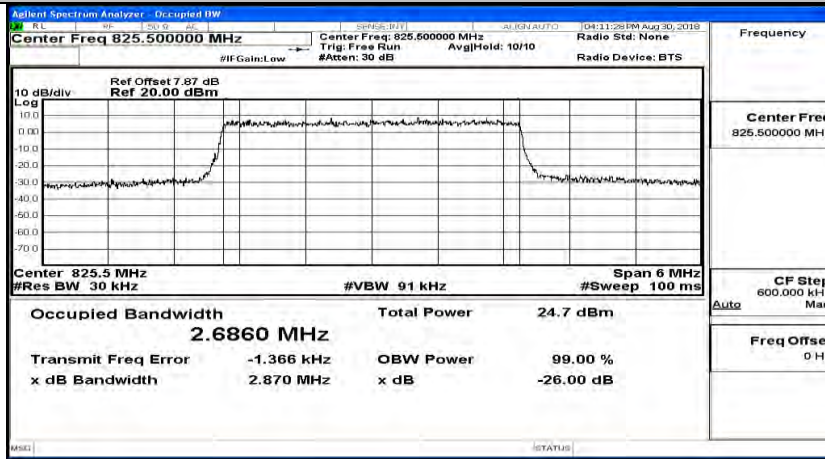
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



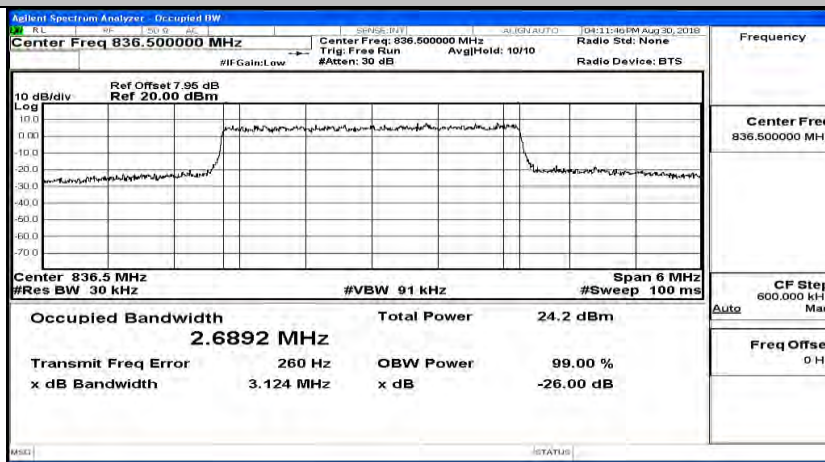
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



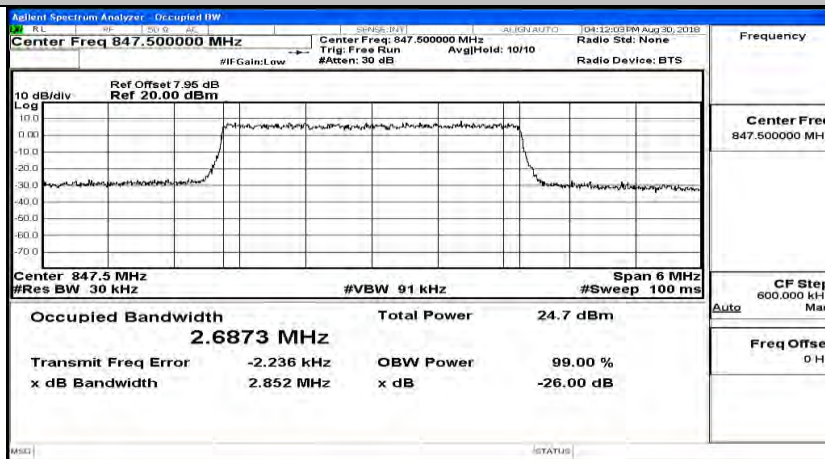
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



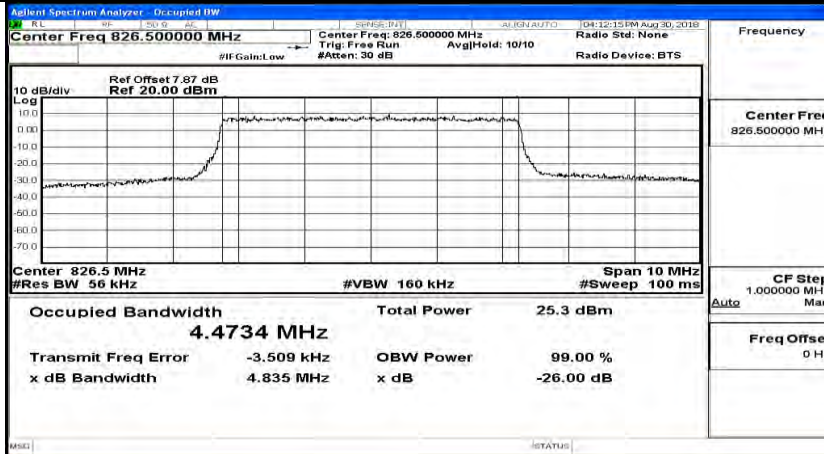
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



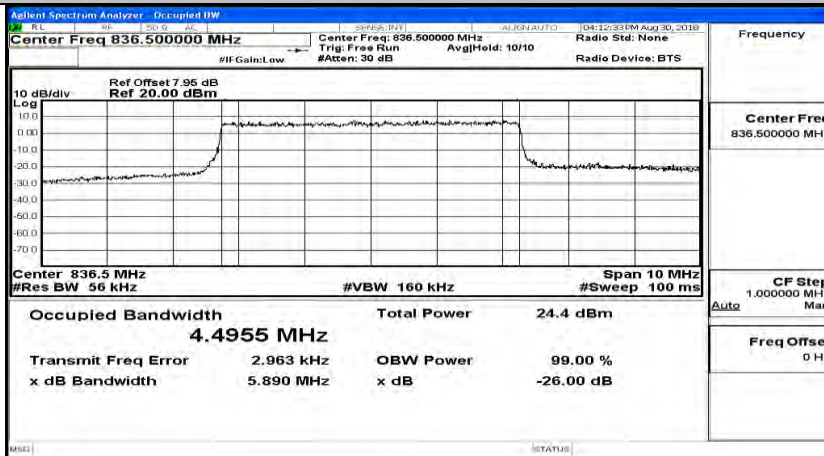
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



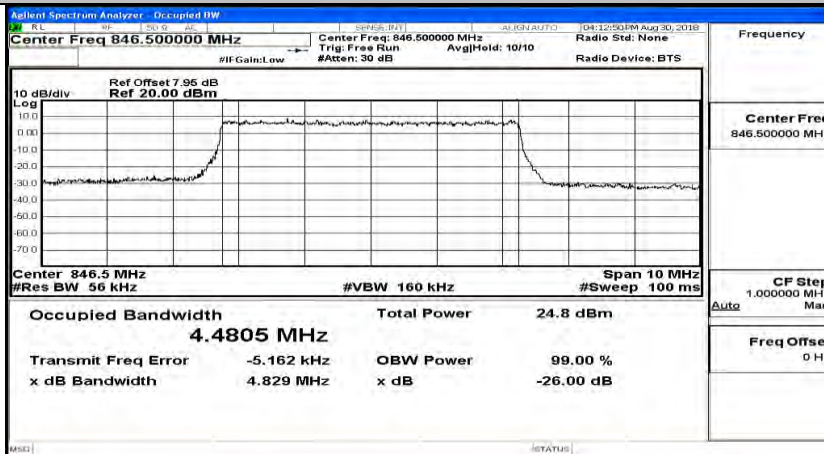
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



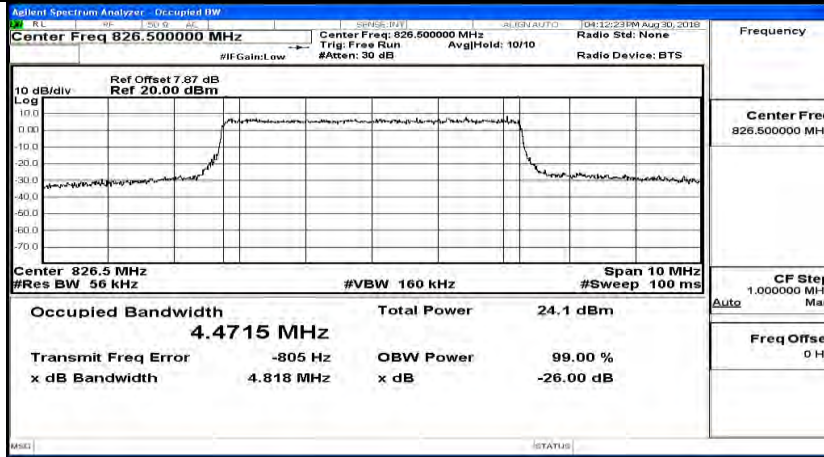
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



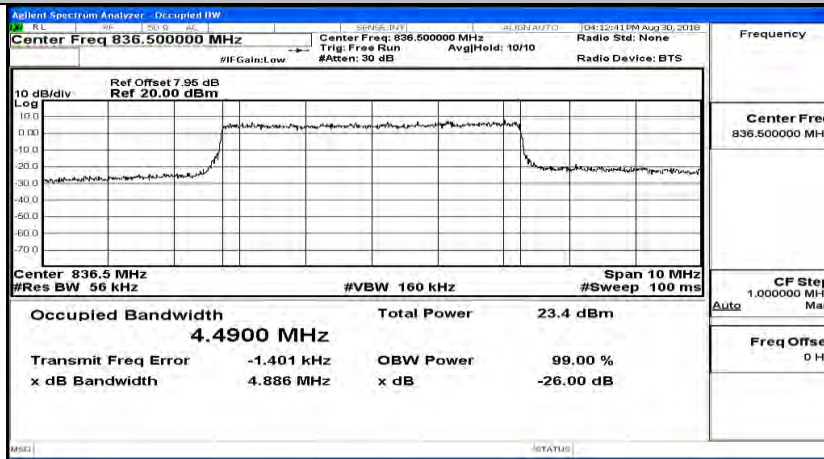
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



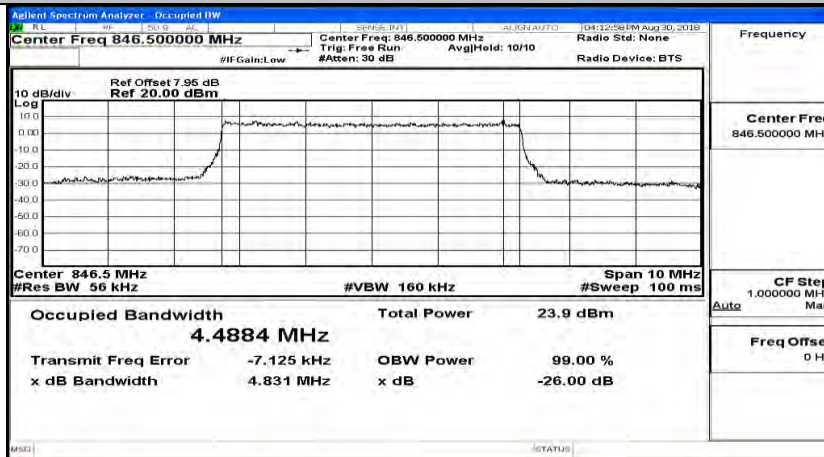
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



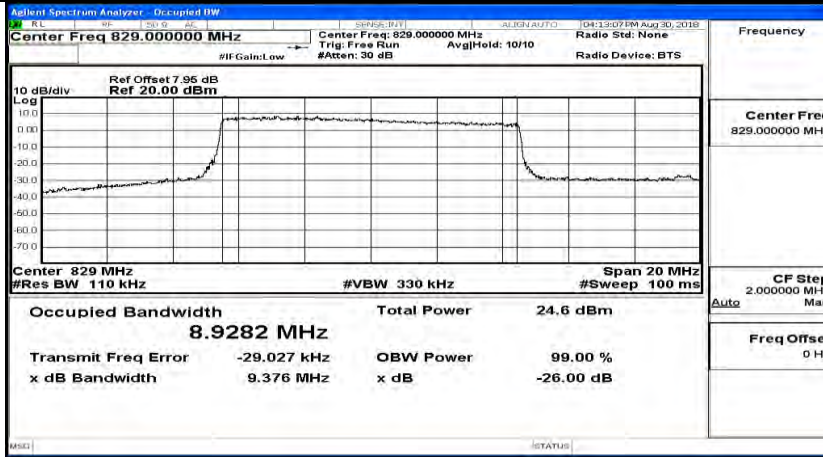
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



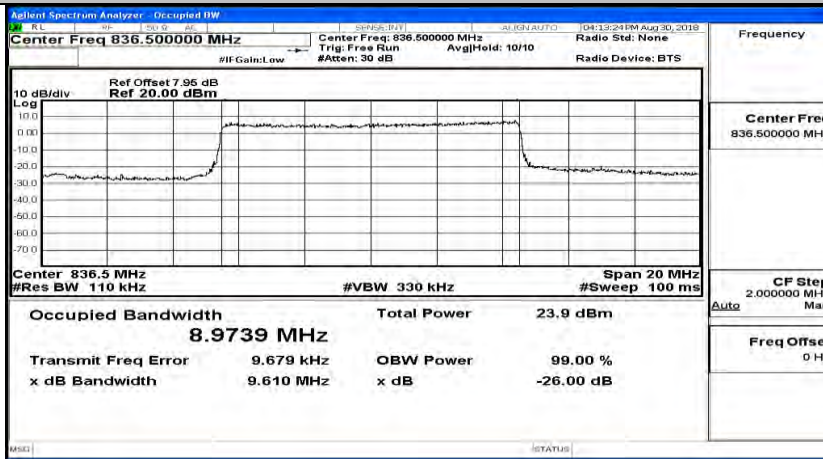
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



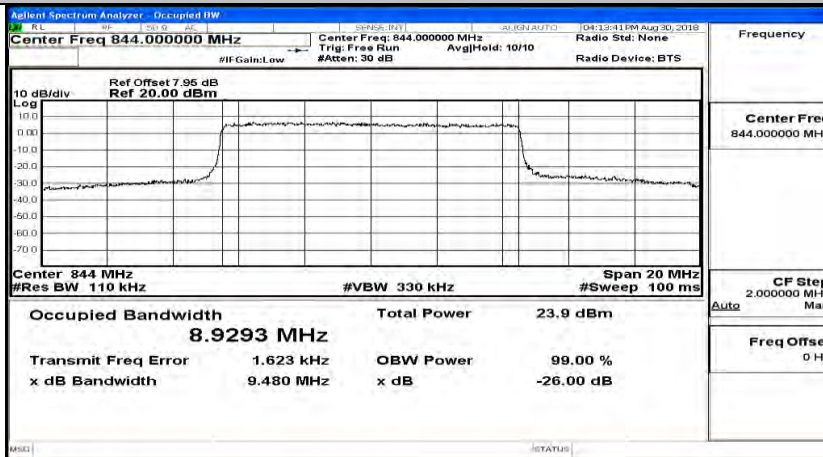
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



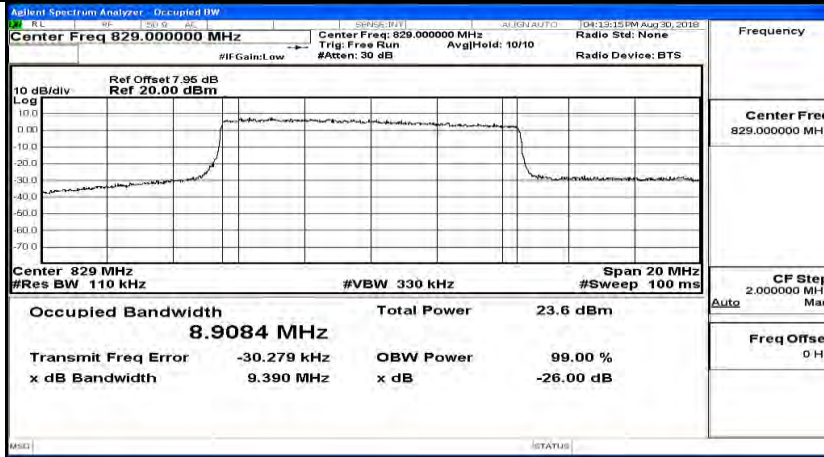
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



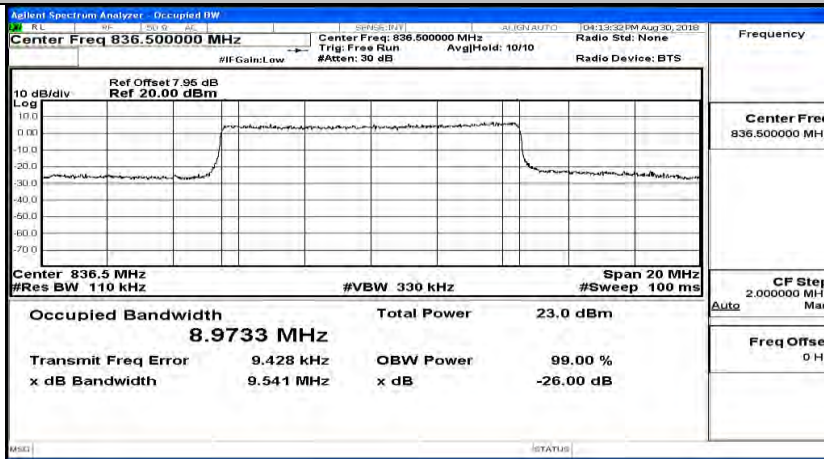
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



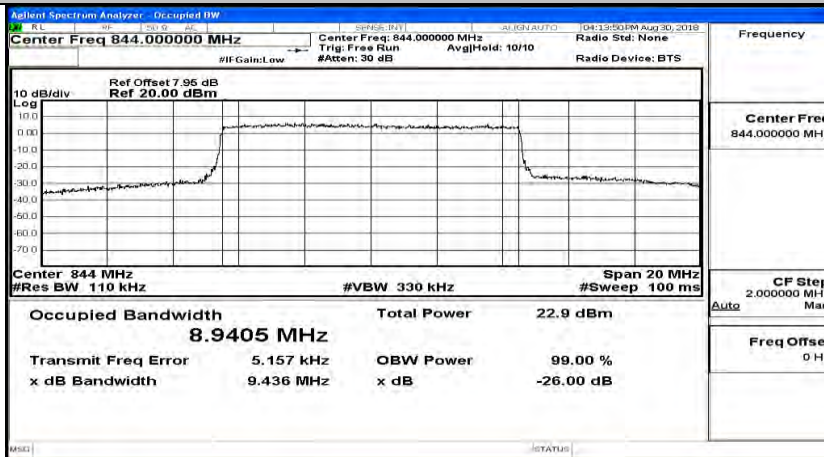
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



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

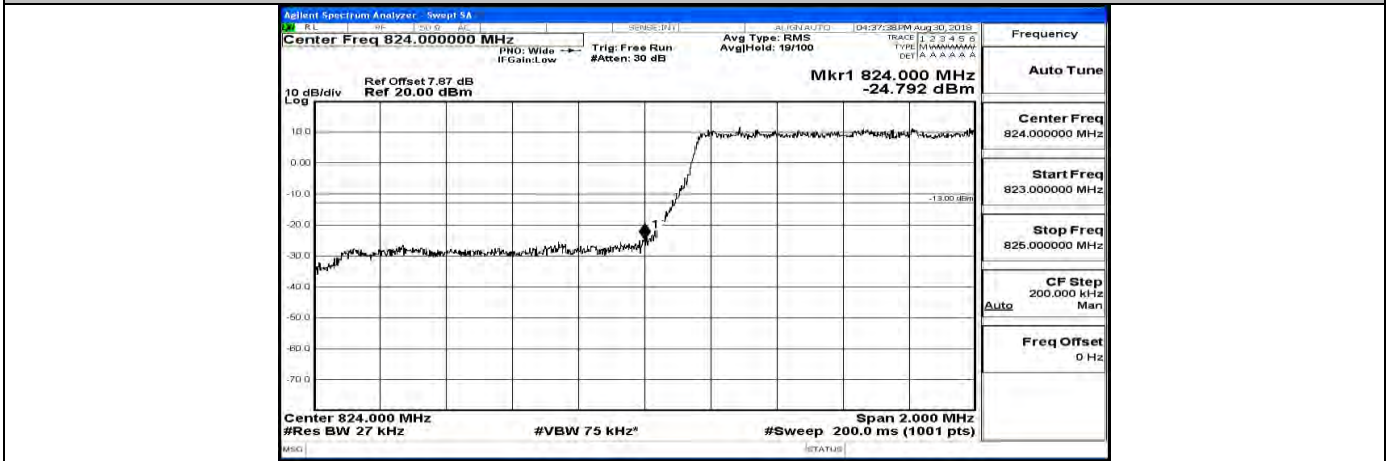


EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM

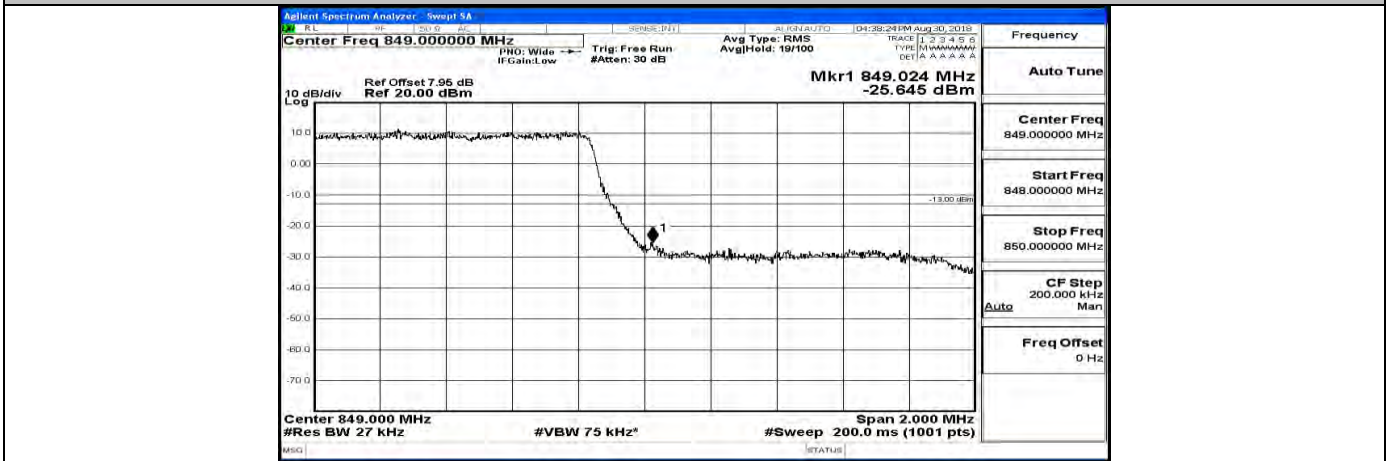


A.4 Band Edge

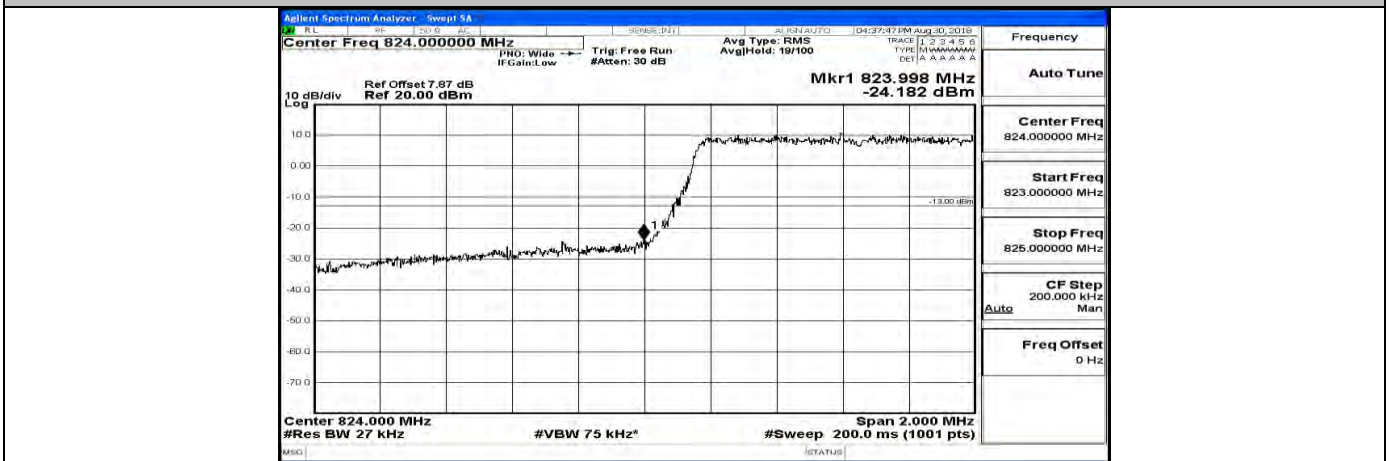
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



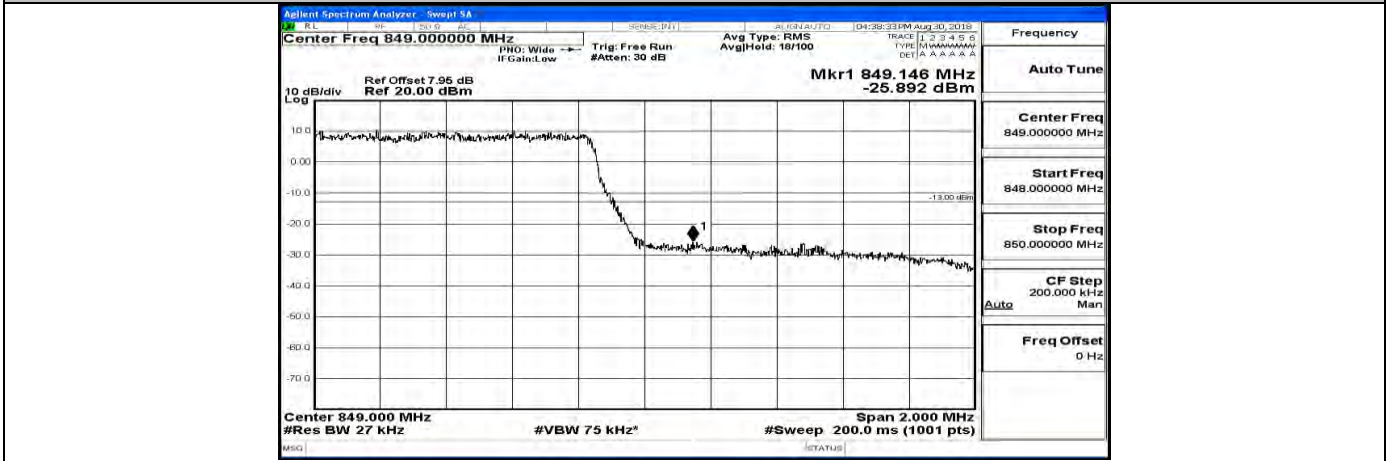
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



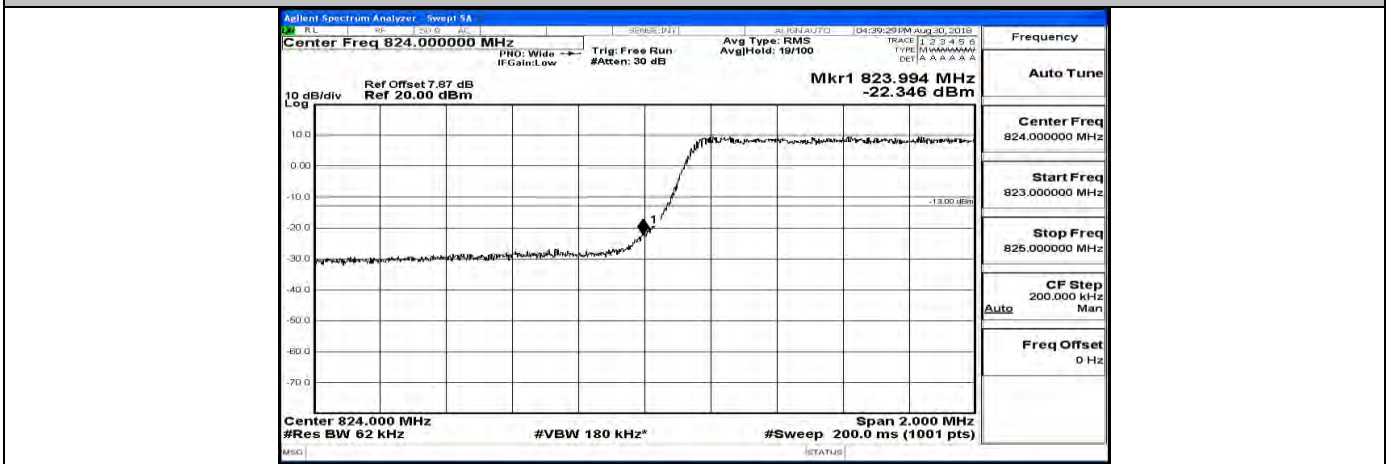
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



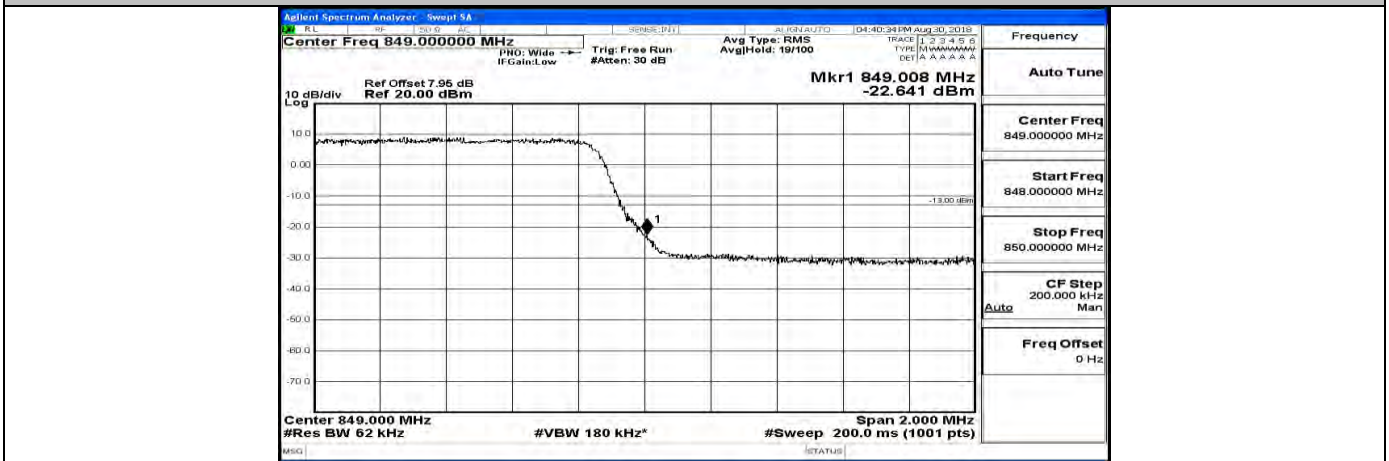
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



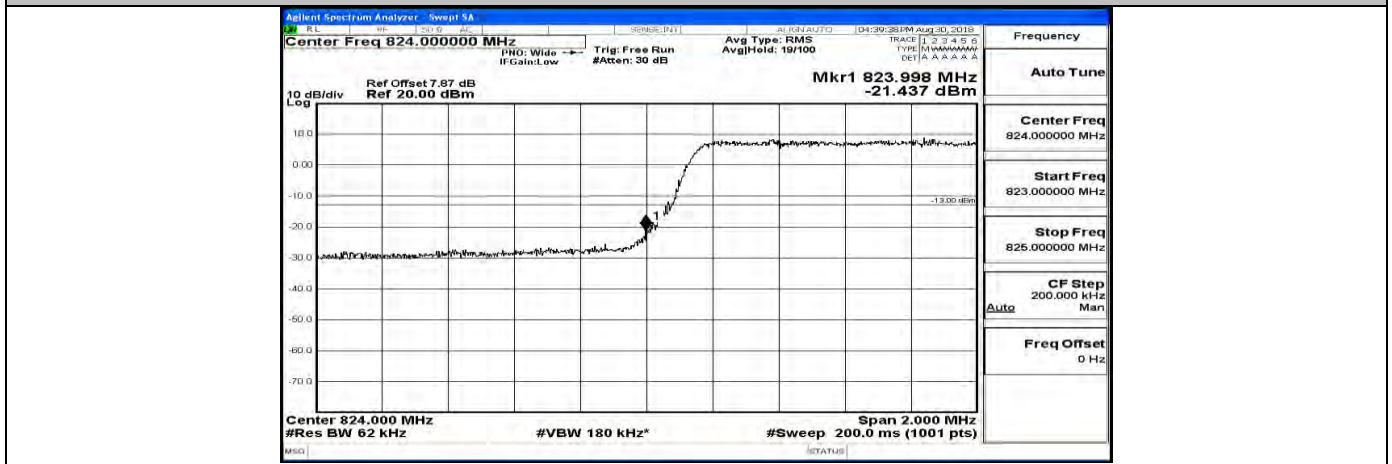
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



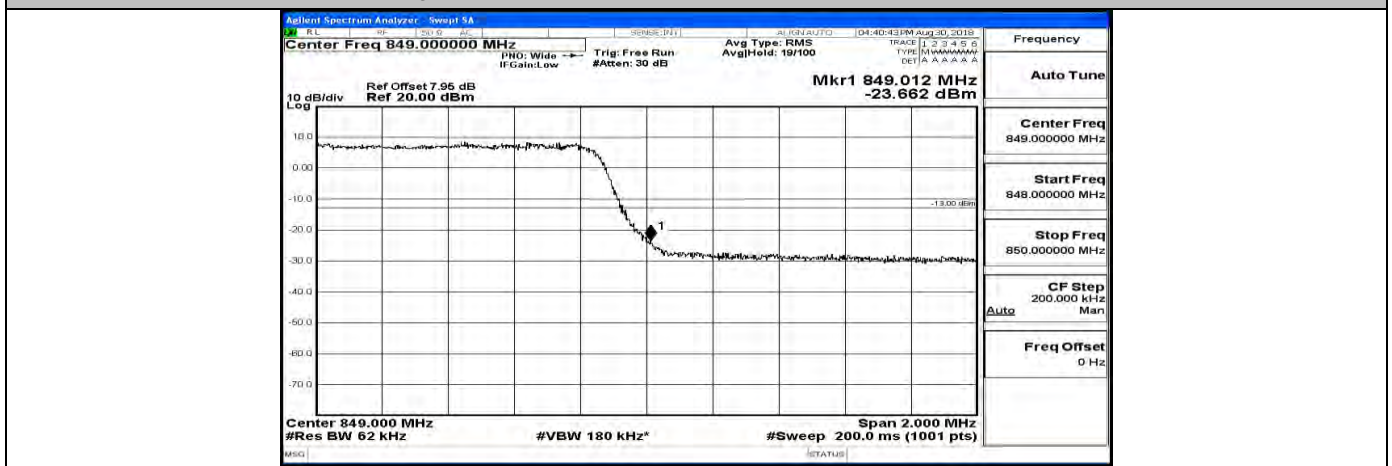
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



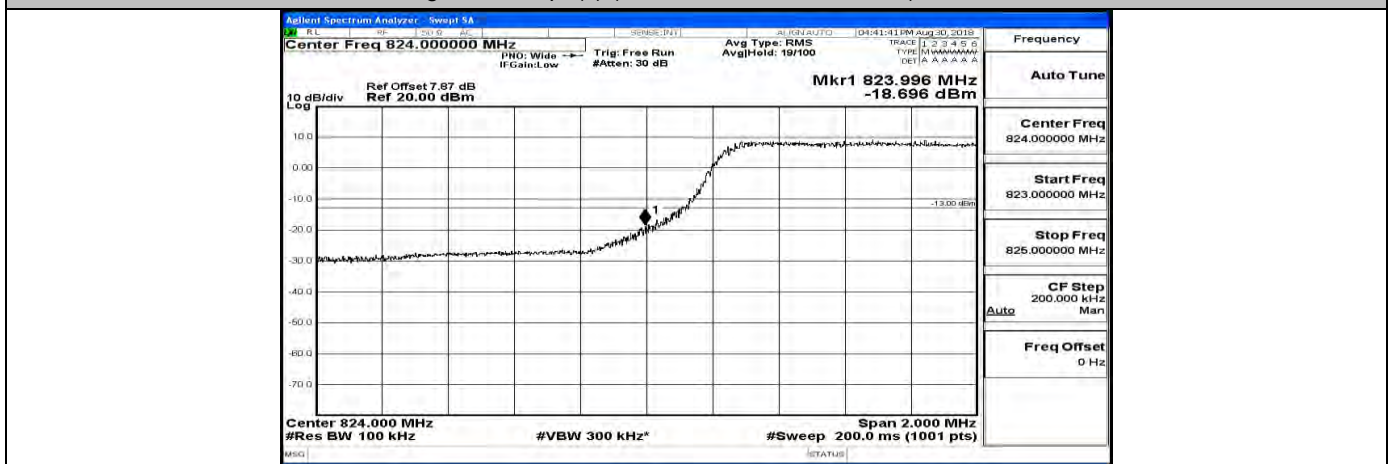
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



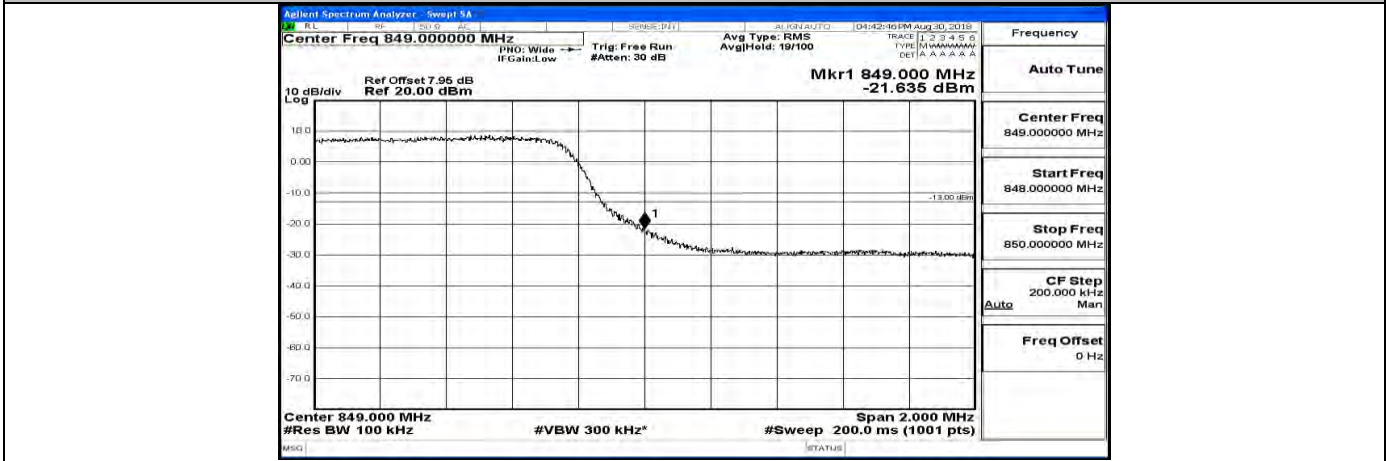
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



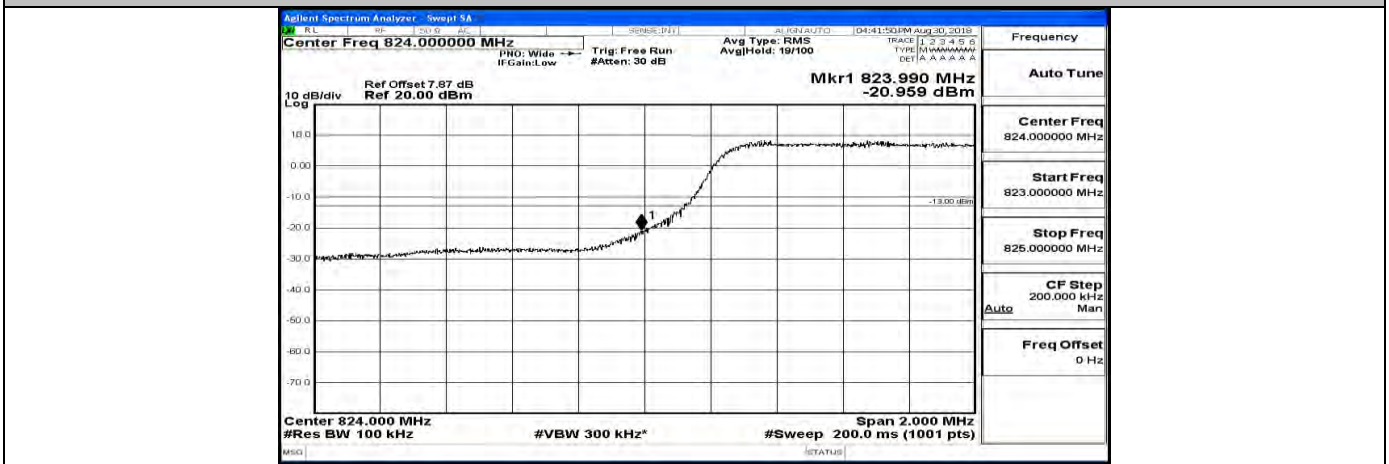
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



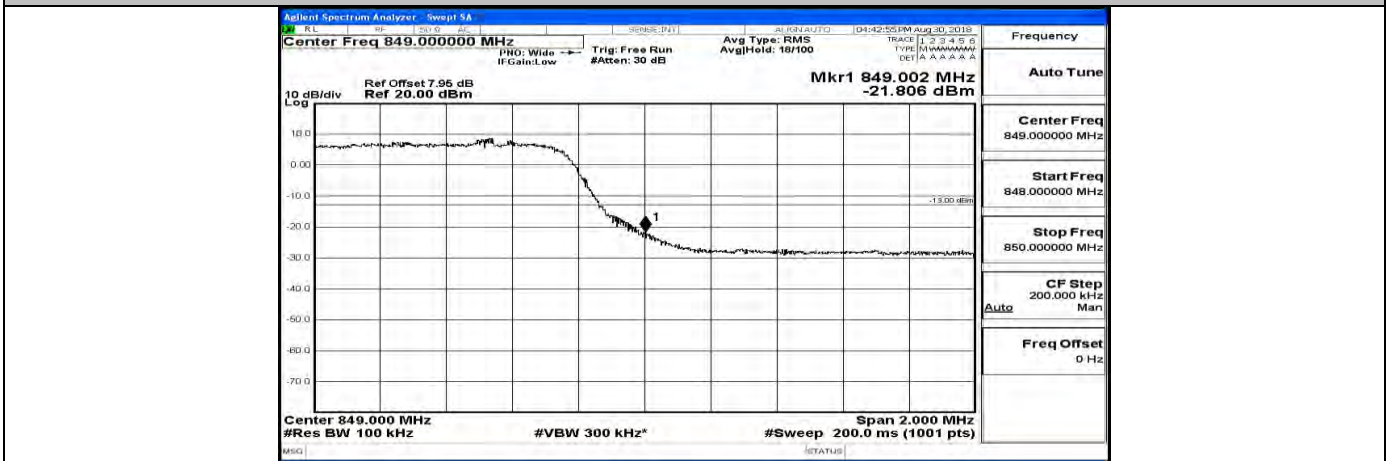
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



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

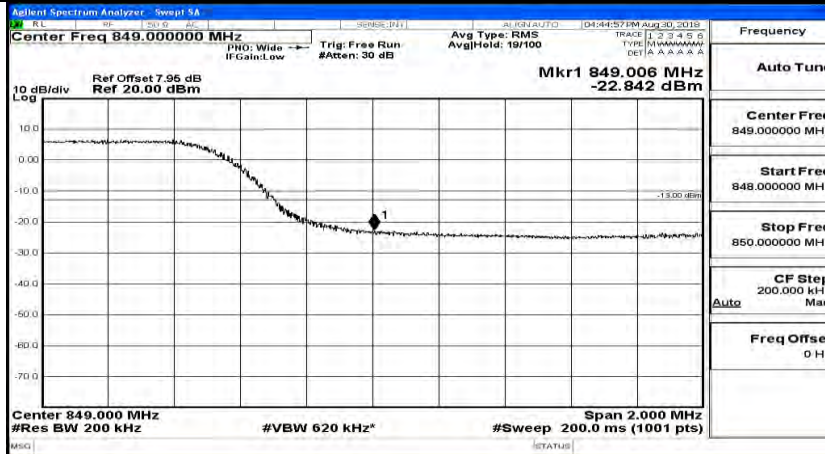


Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM

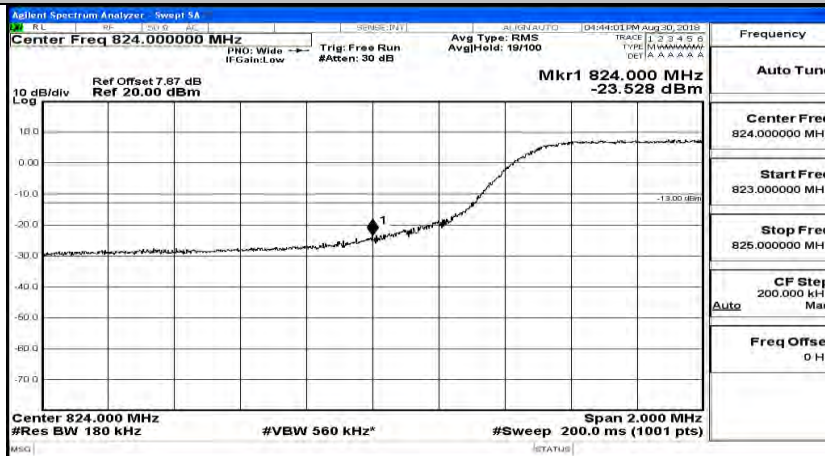


Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK

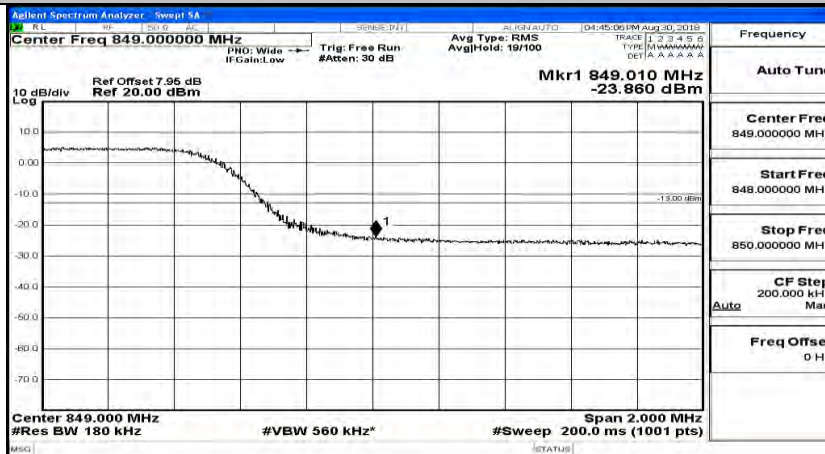
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



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



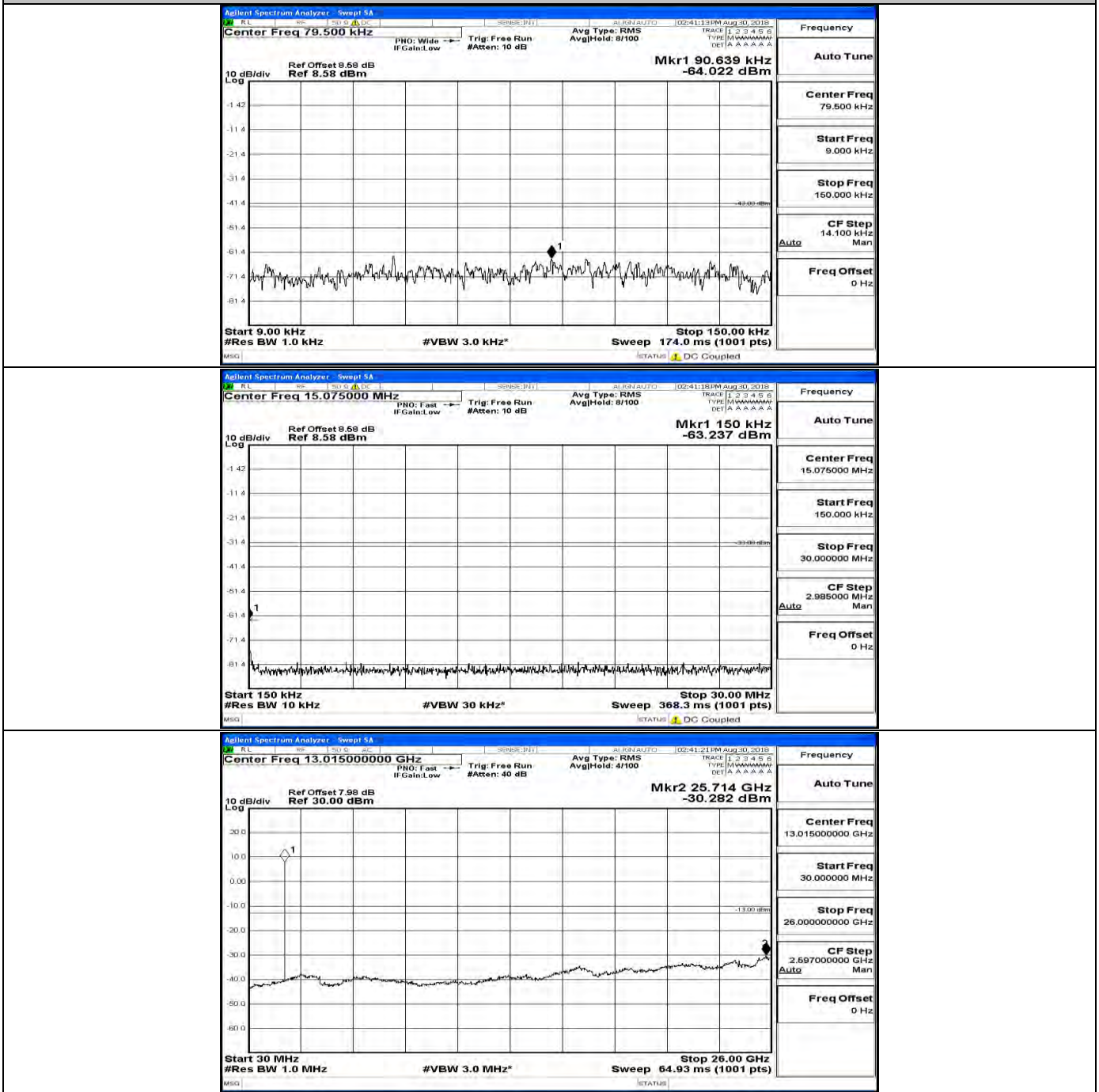
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



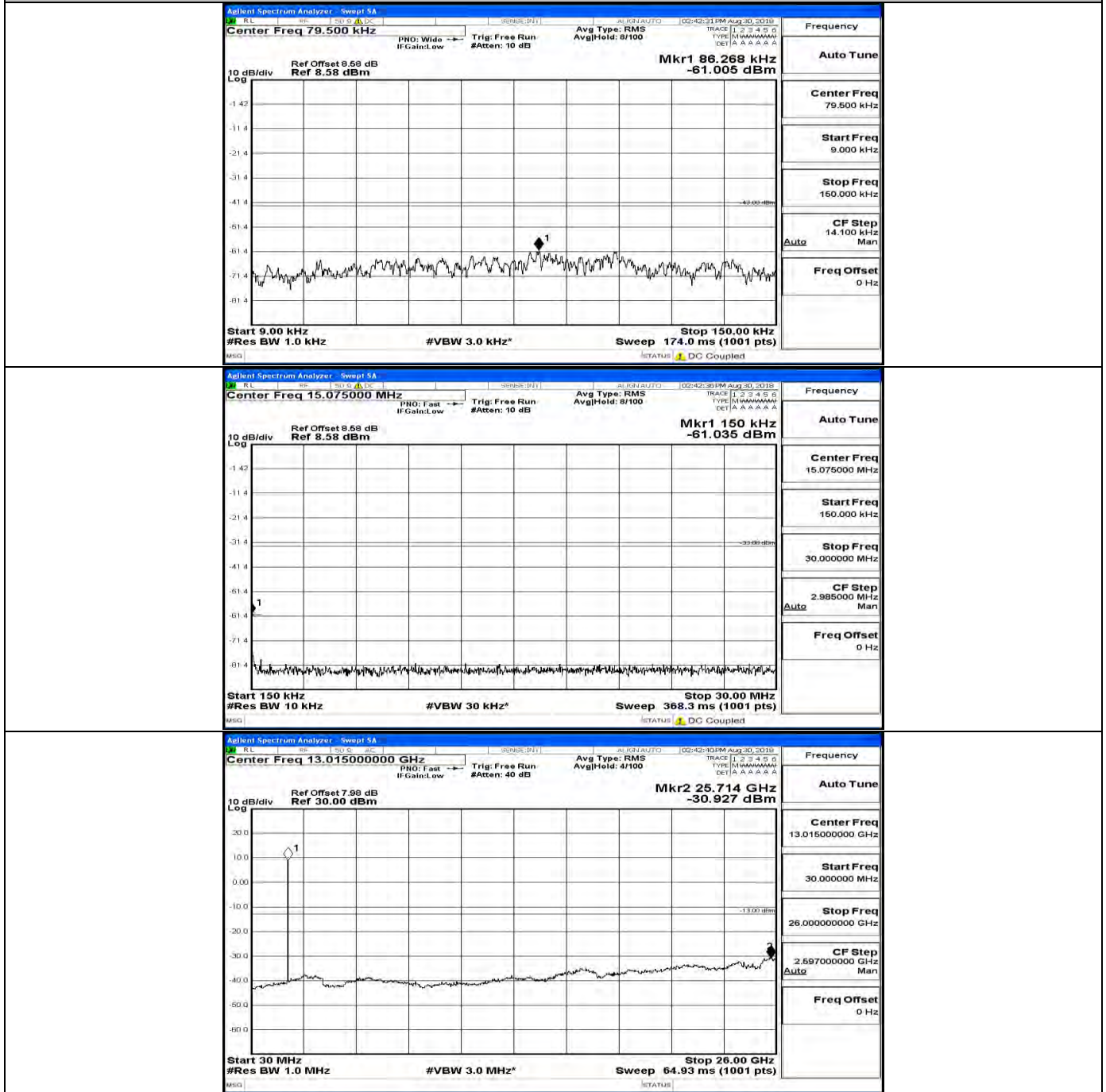
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK

A.5 Conducted Spurious Emission

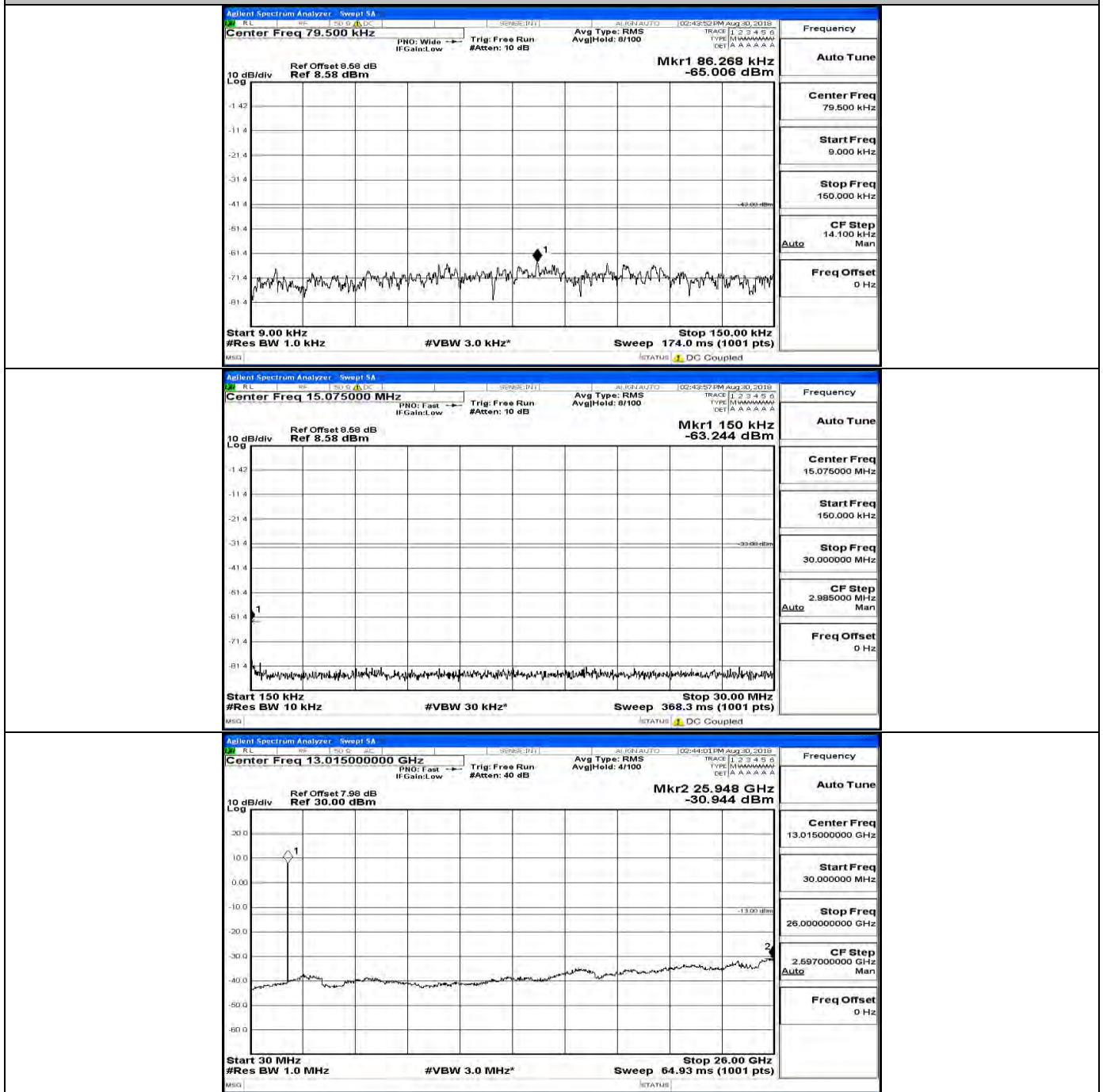
CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



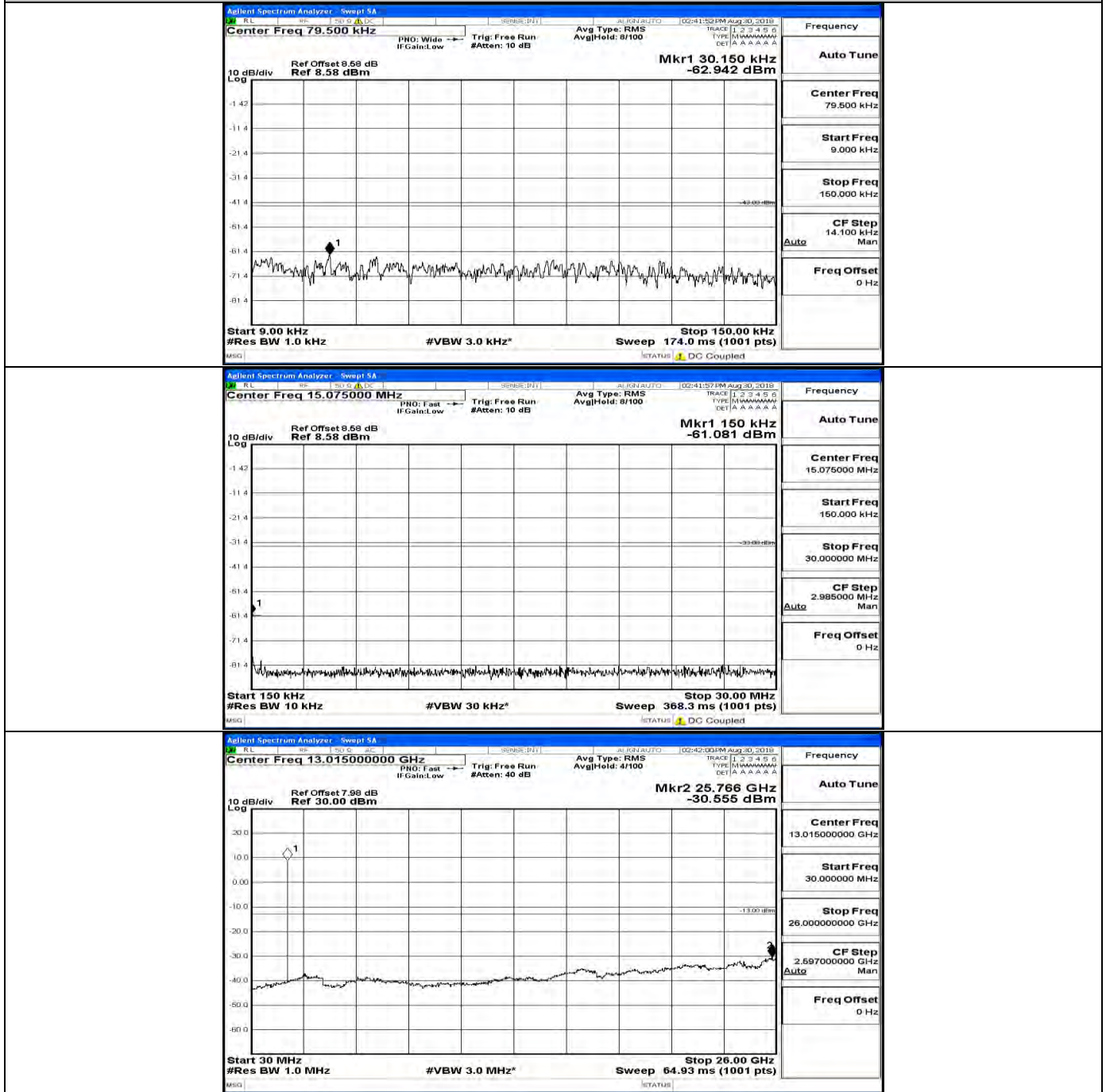
CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



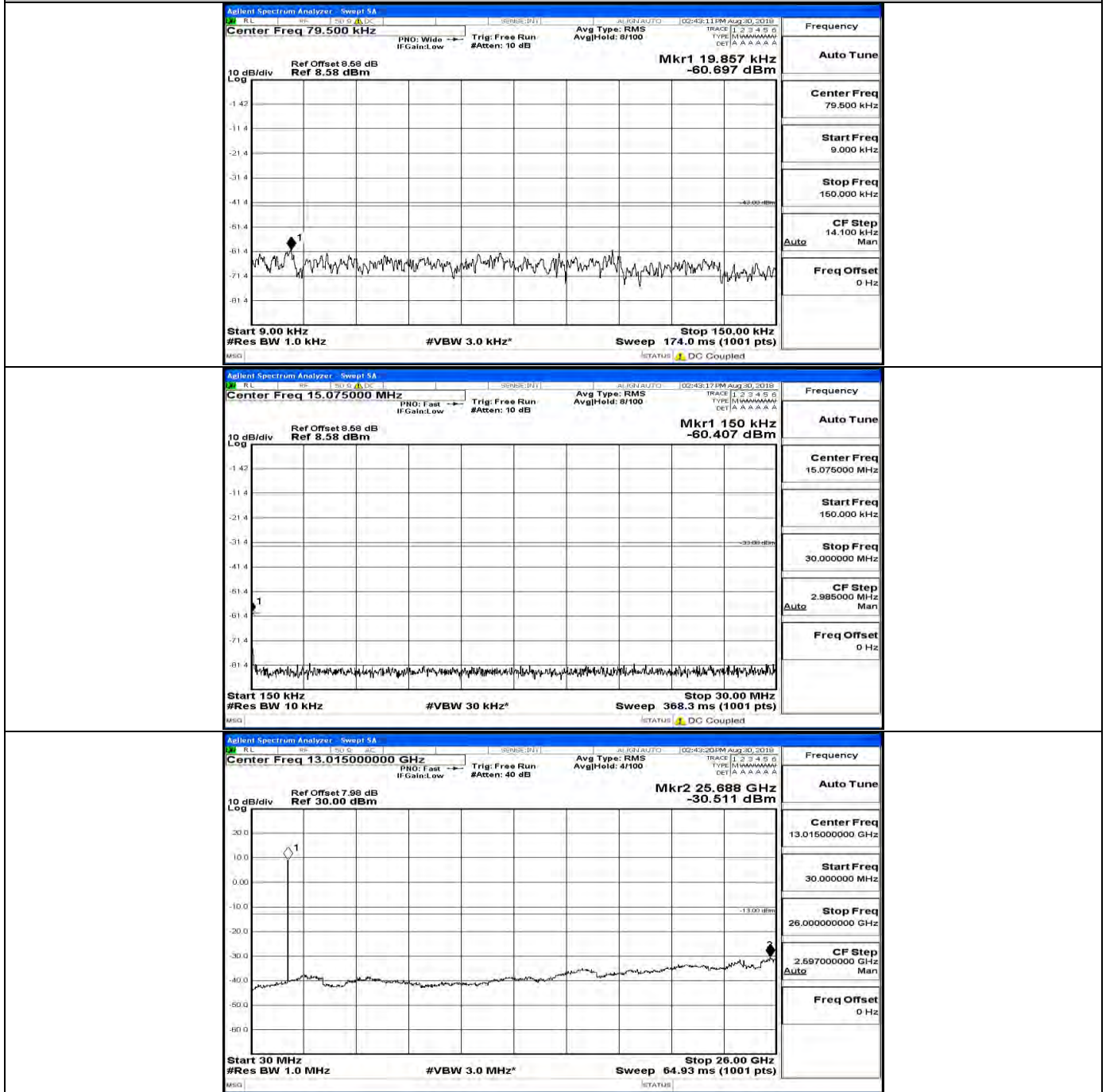
CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



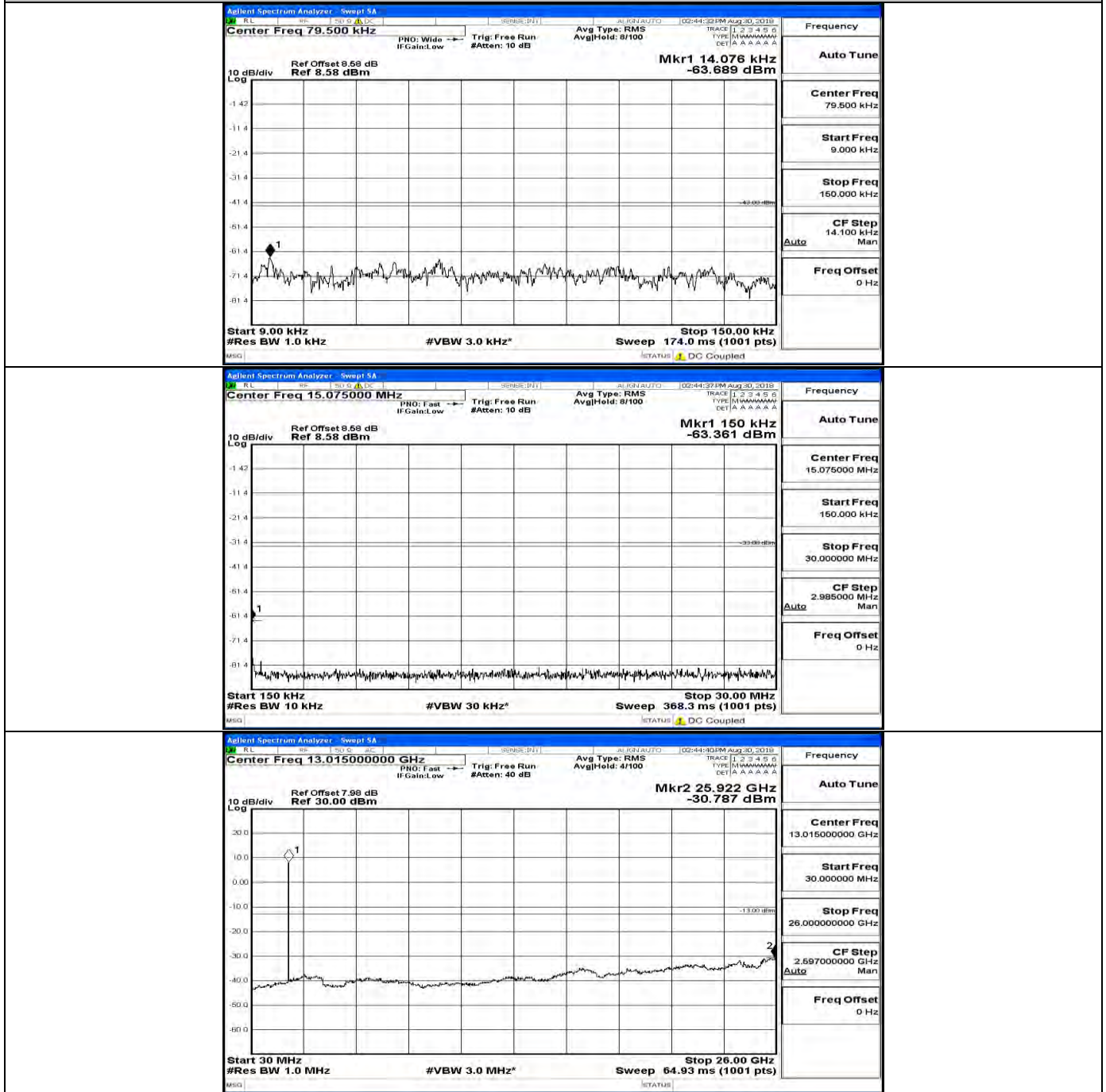
CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



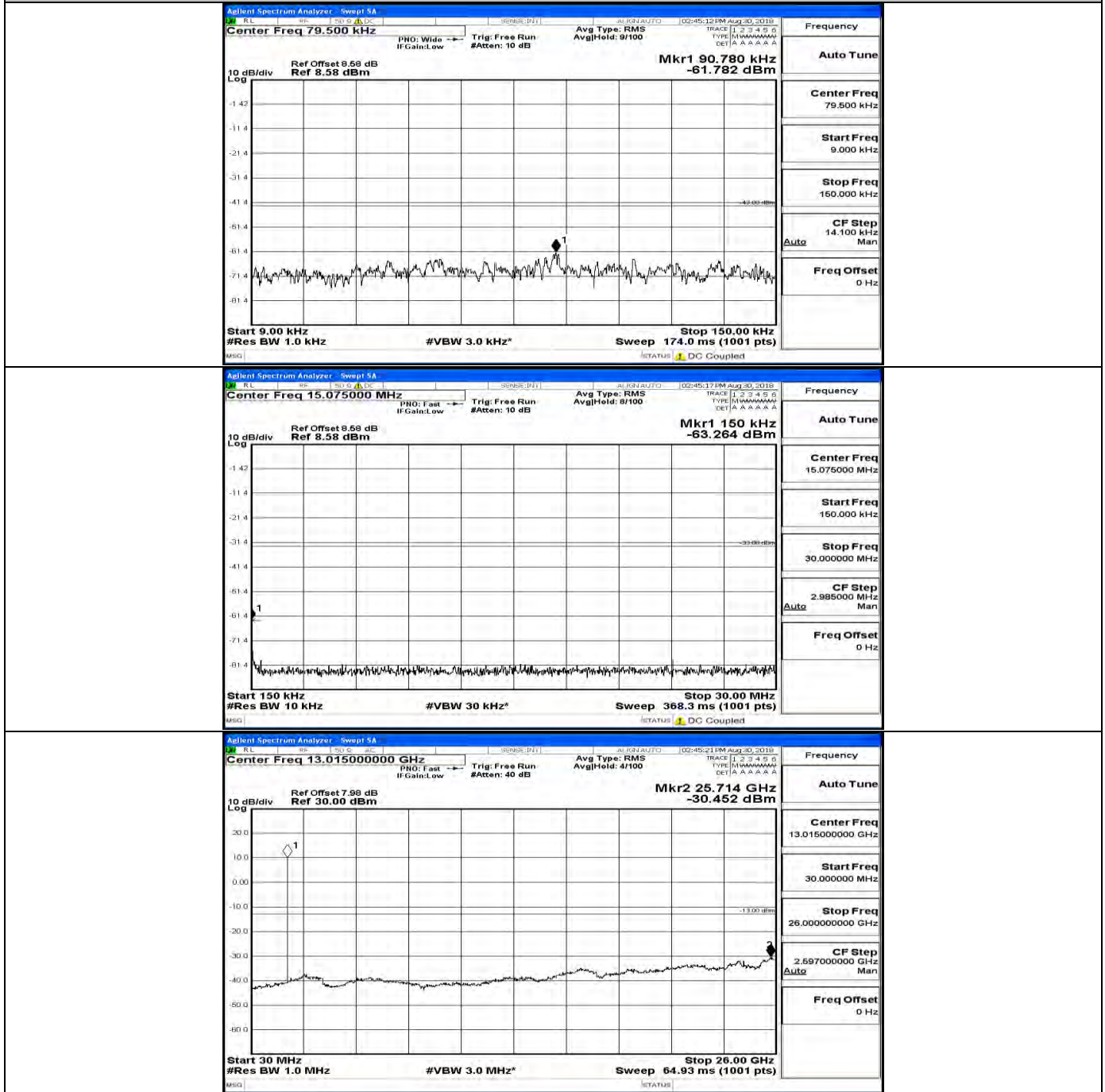
CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



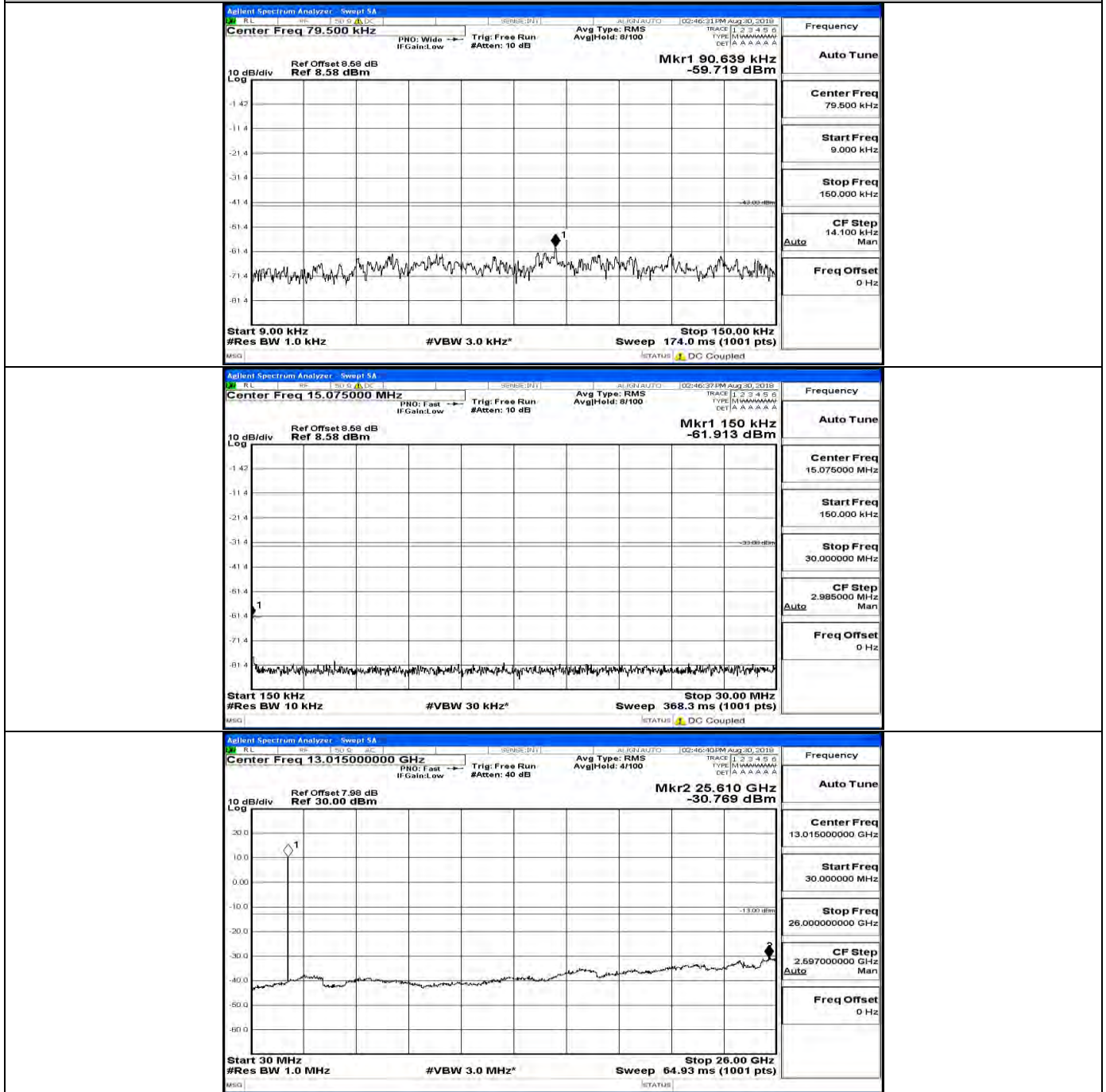
CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



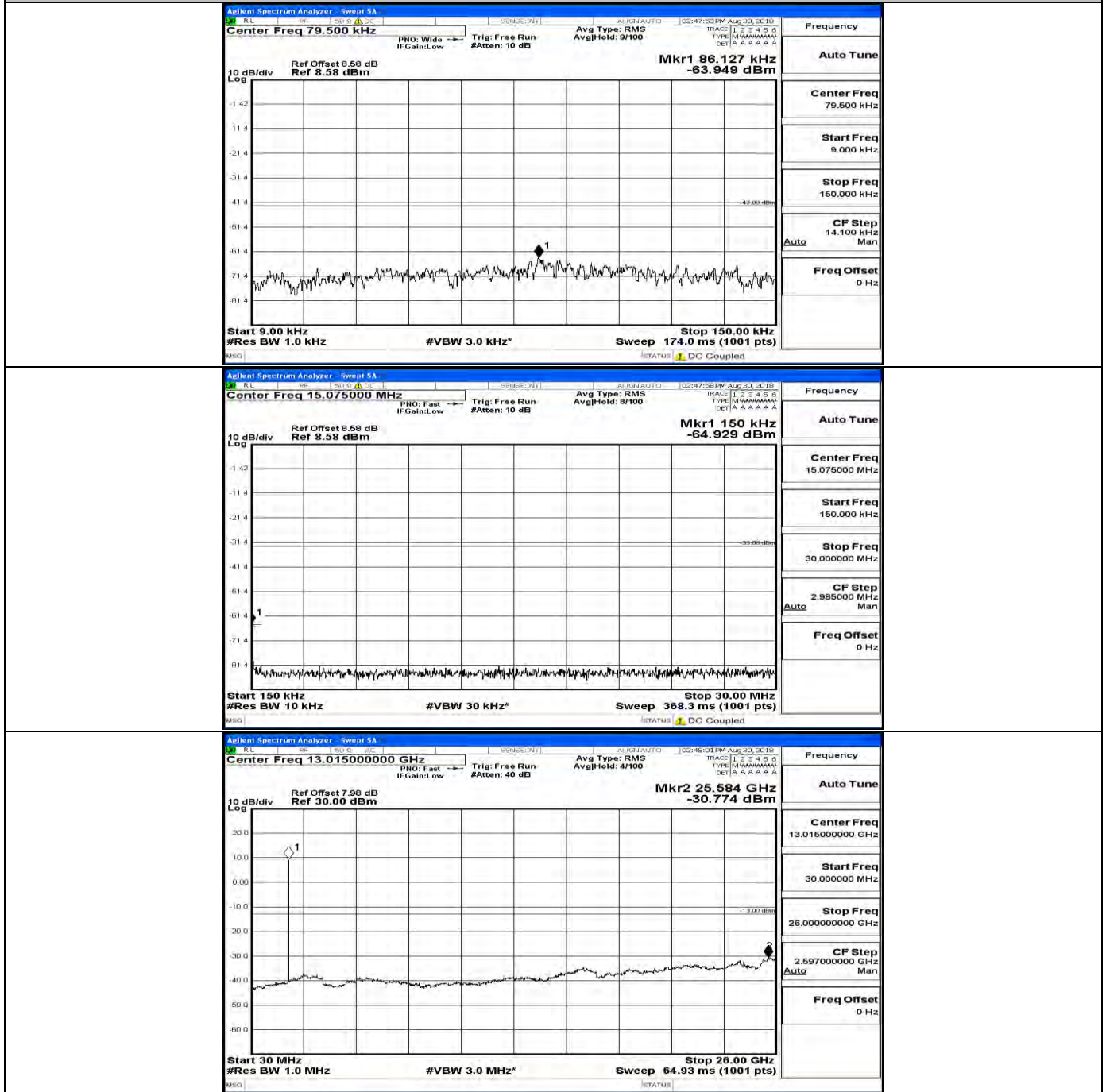
CSE Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



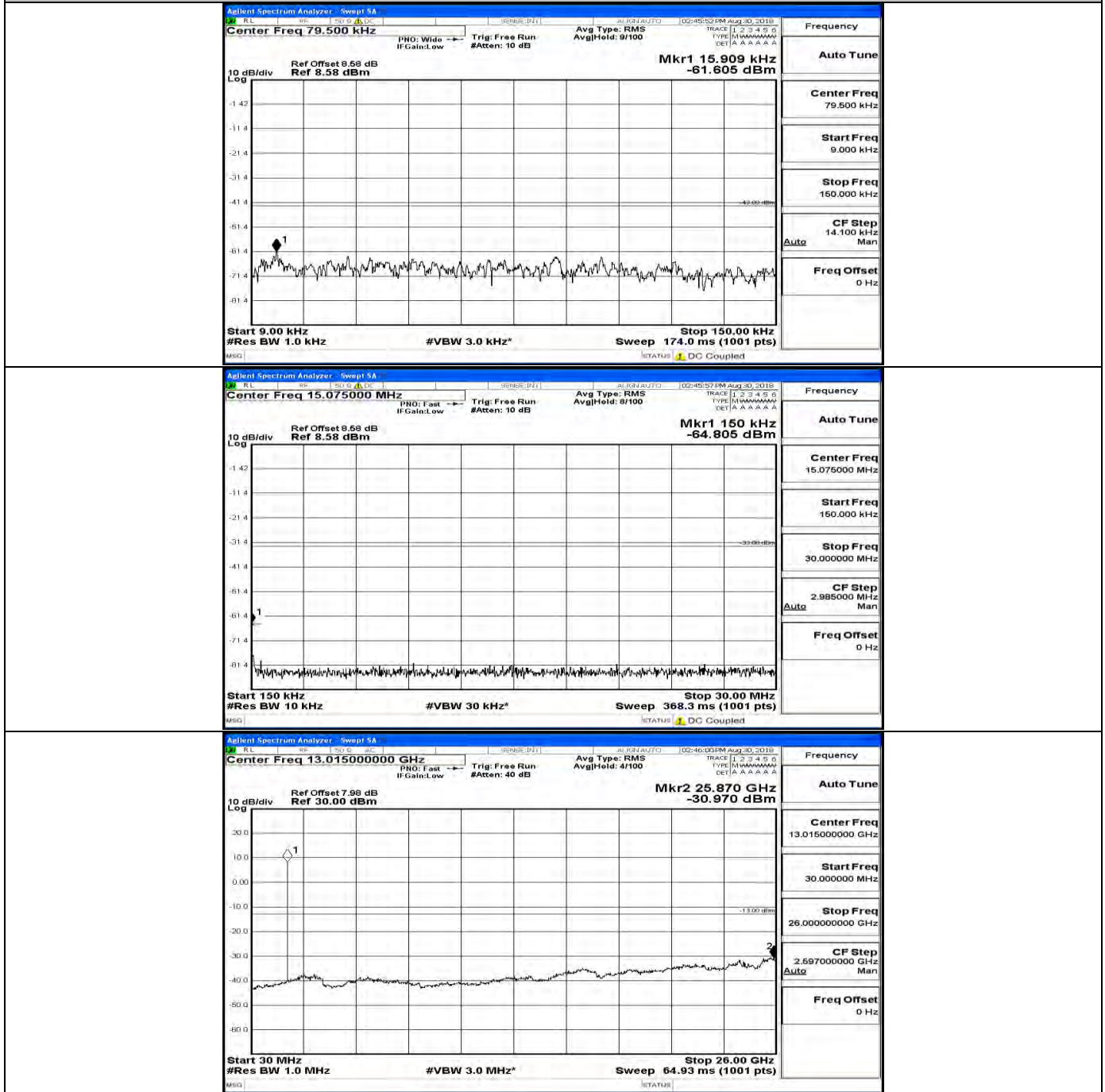
CSE Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



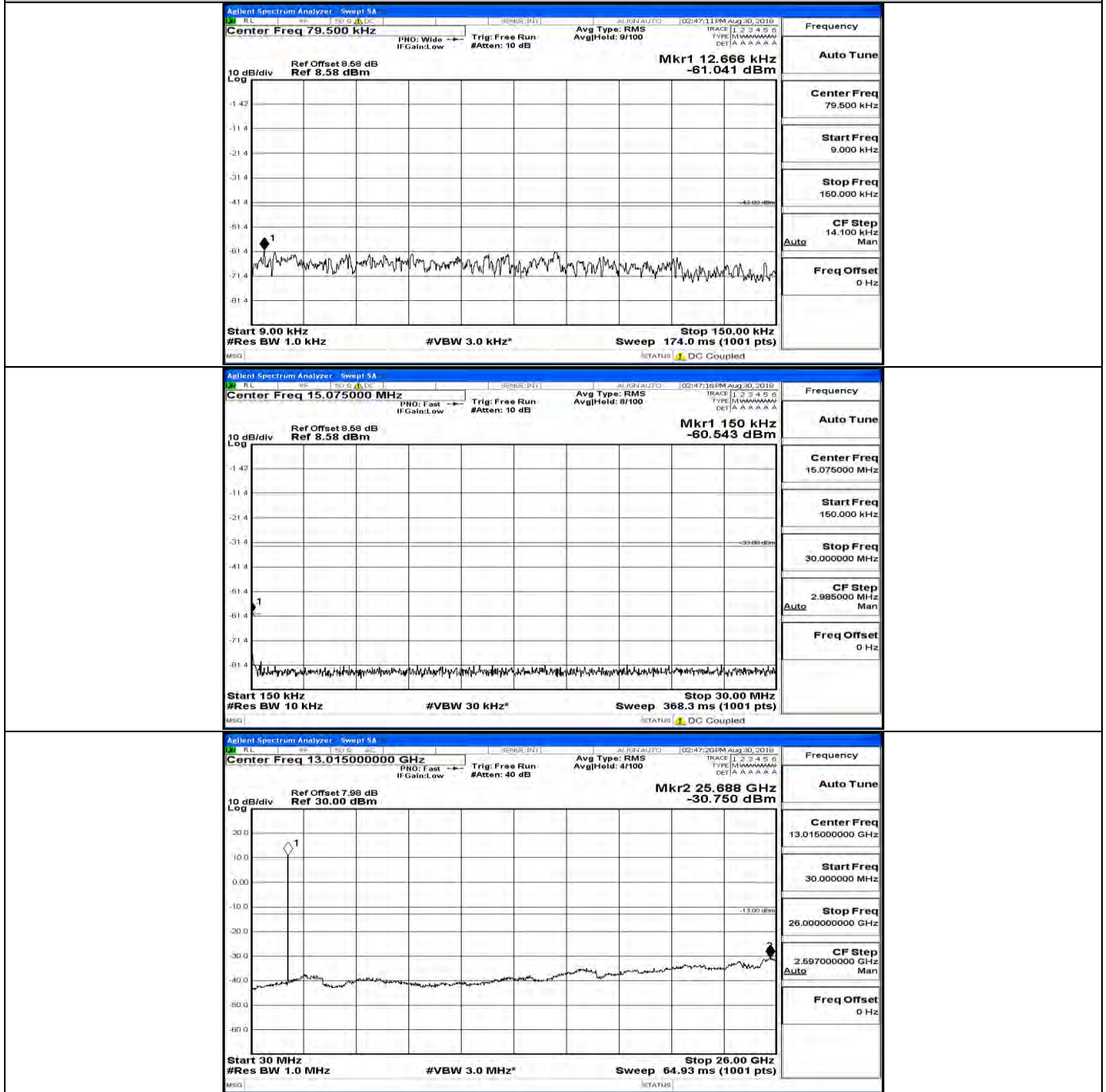
CSE Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



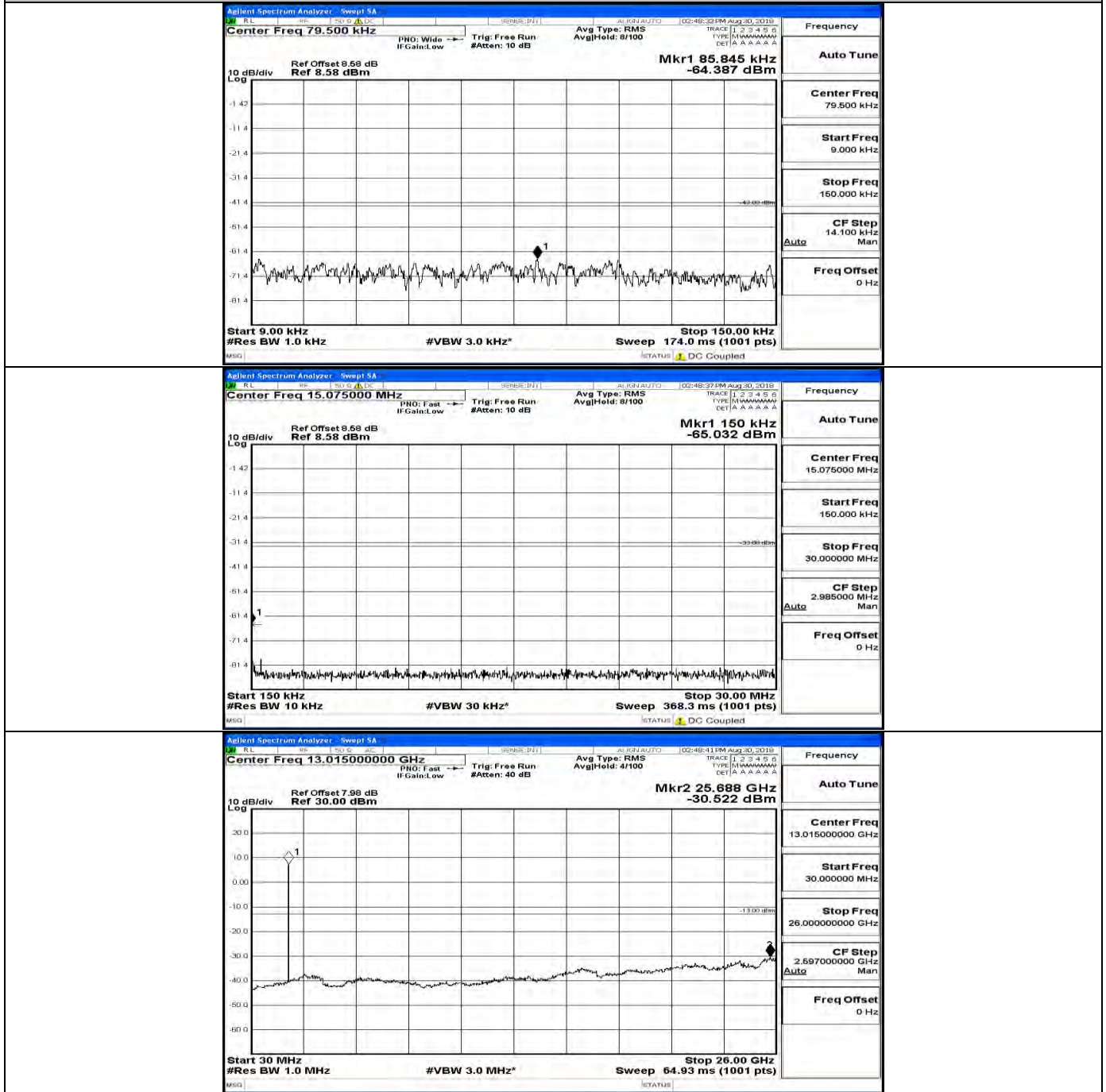
CSE Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



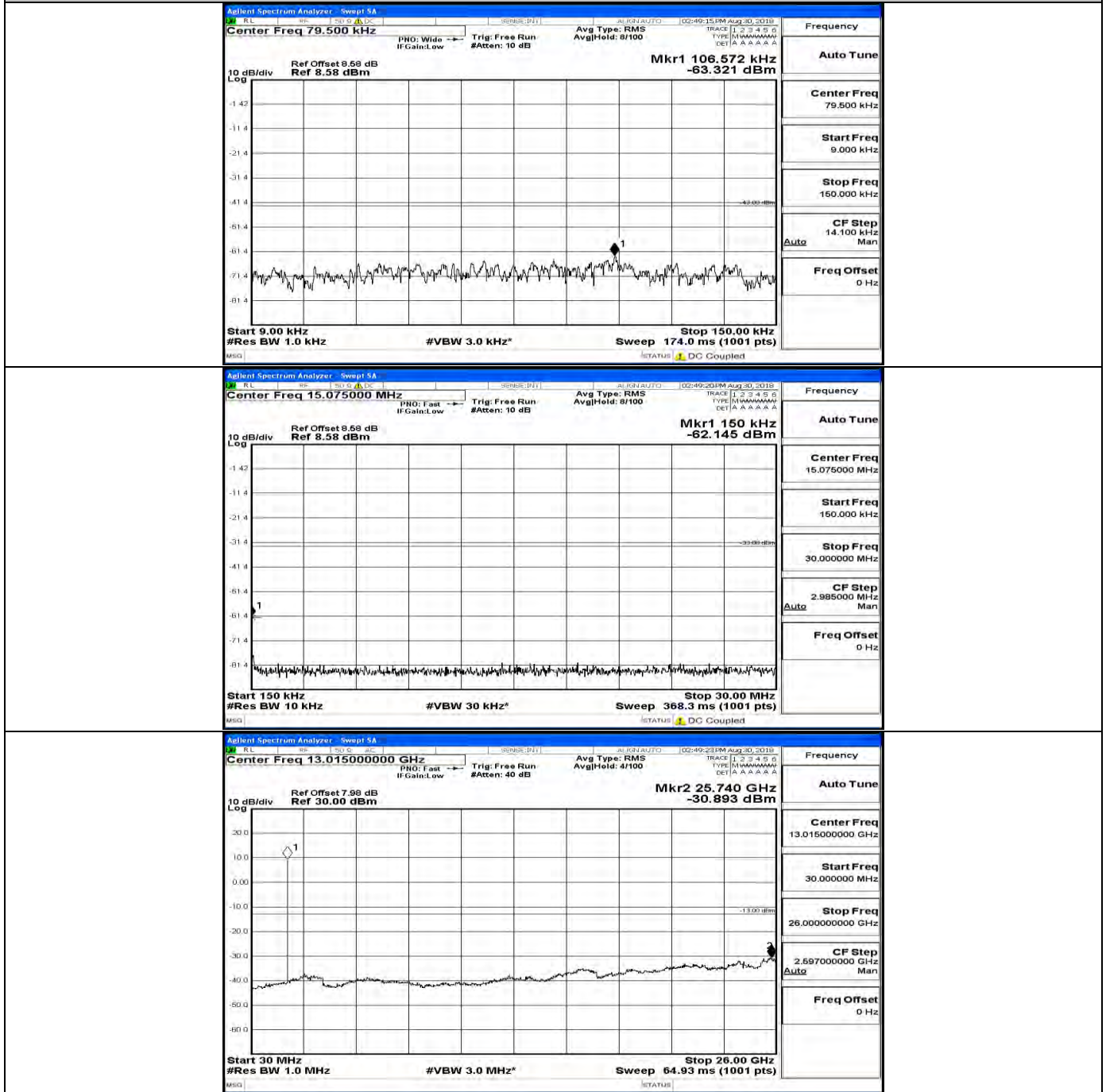
CSE Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



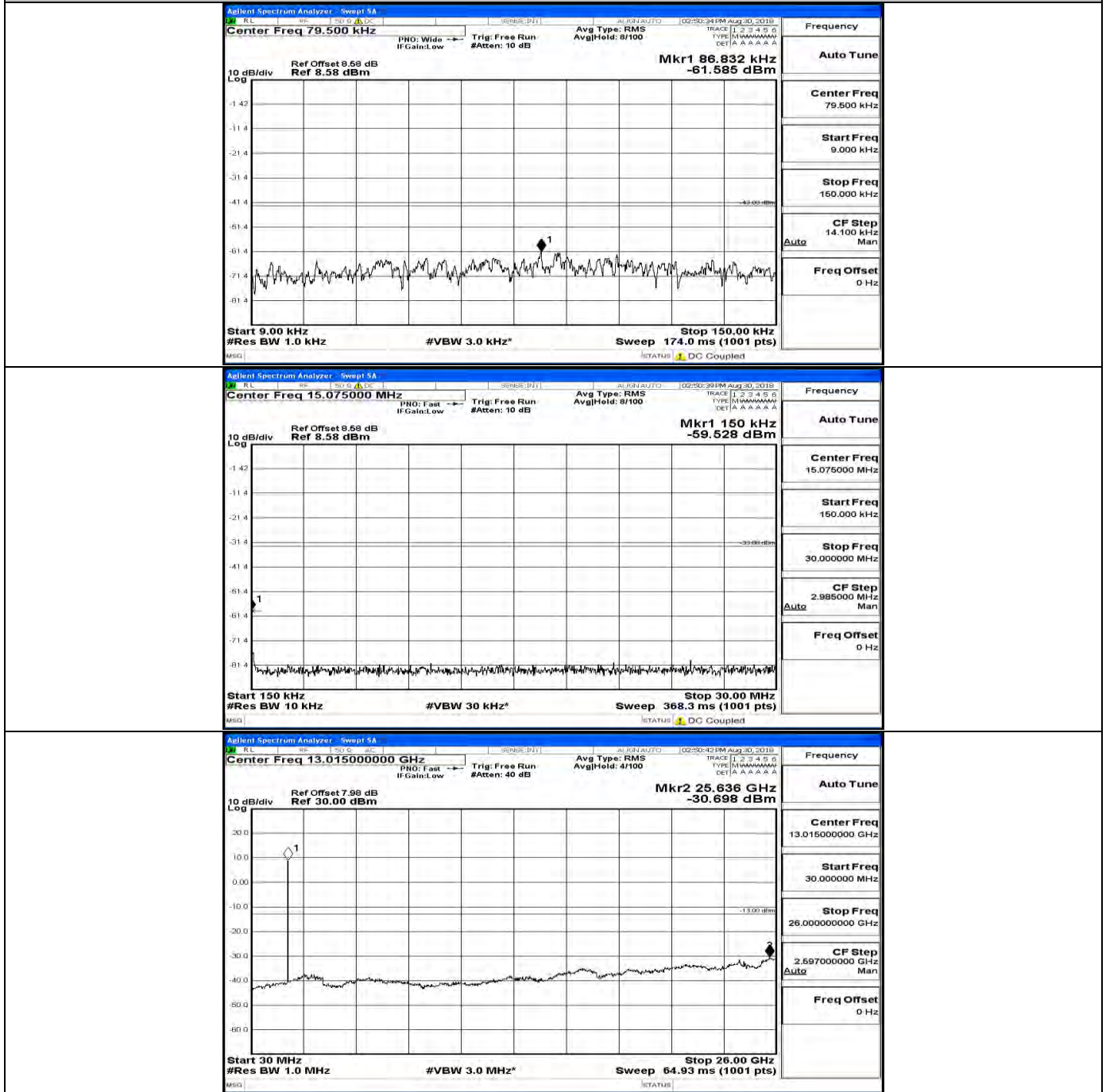
CSE Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



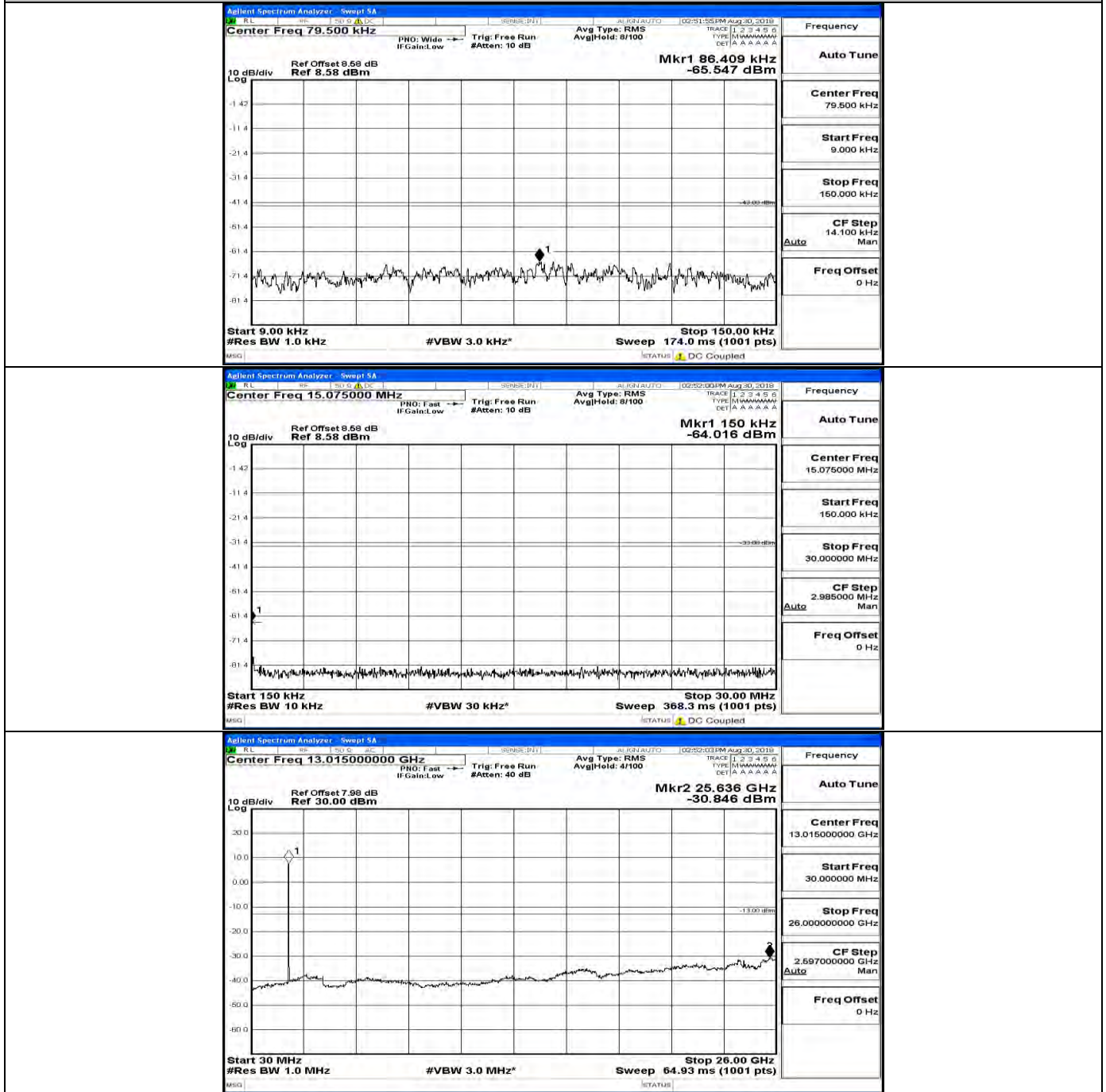
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



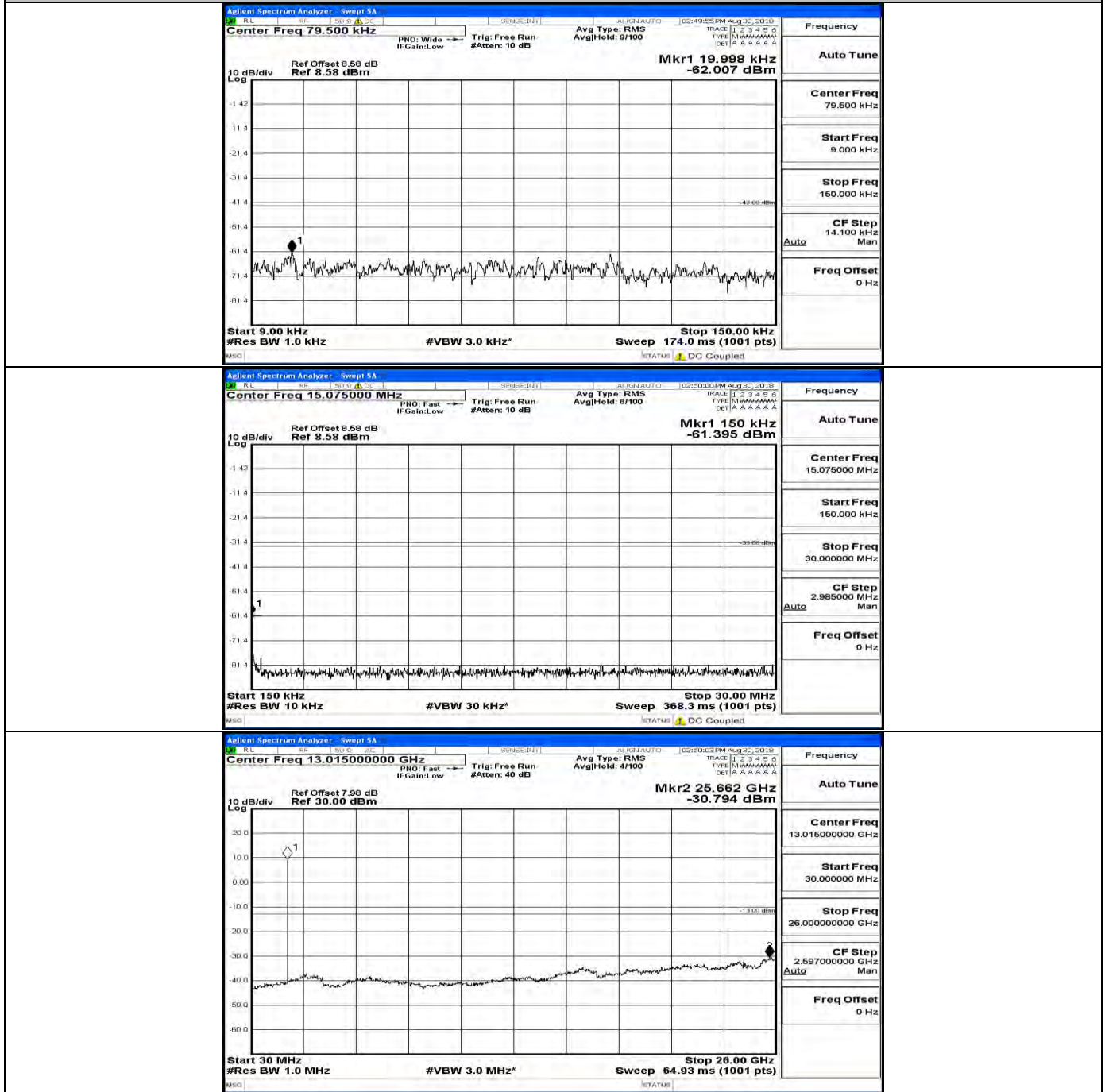
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



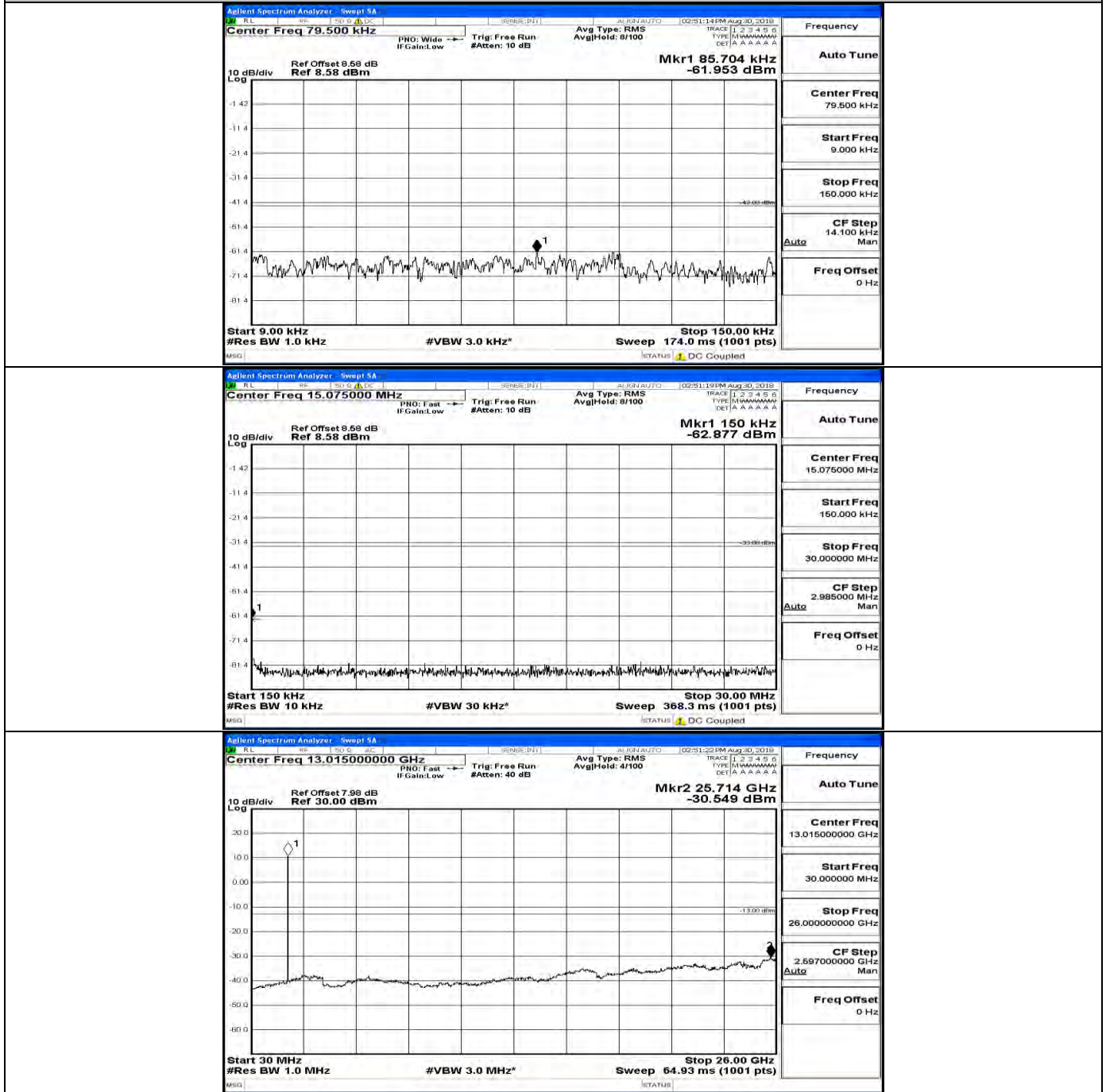
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



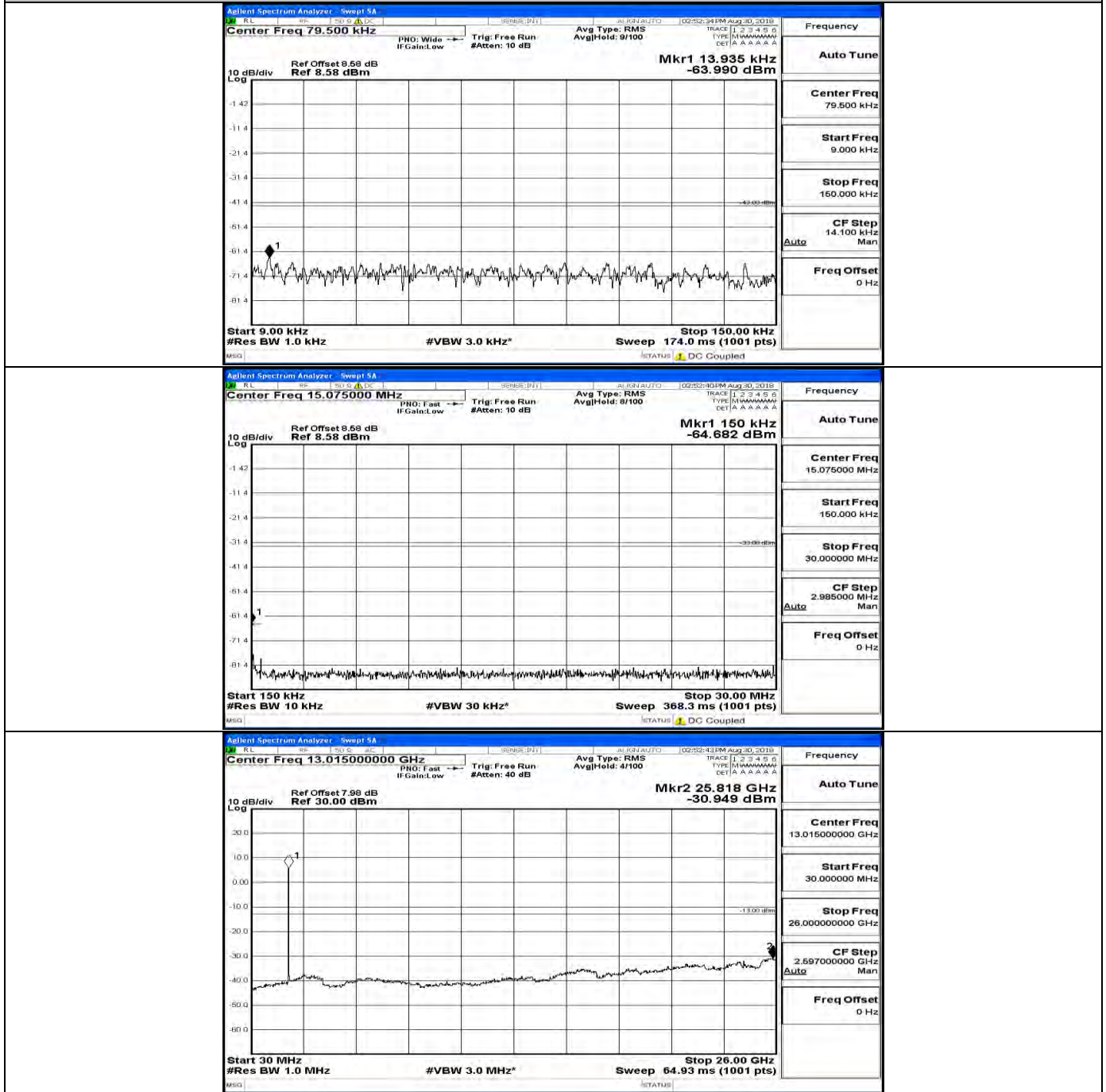
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



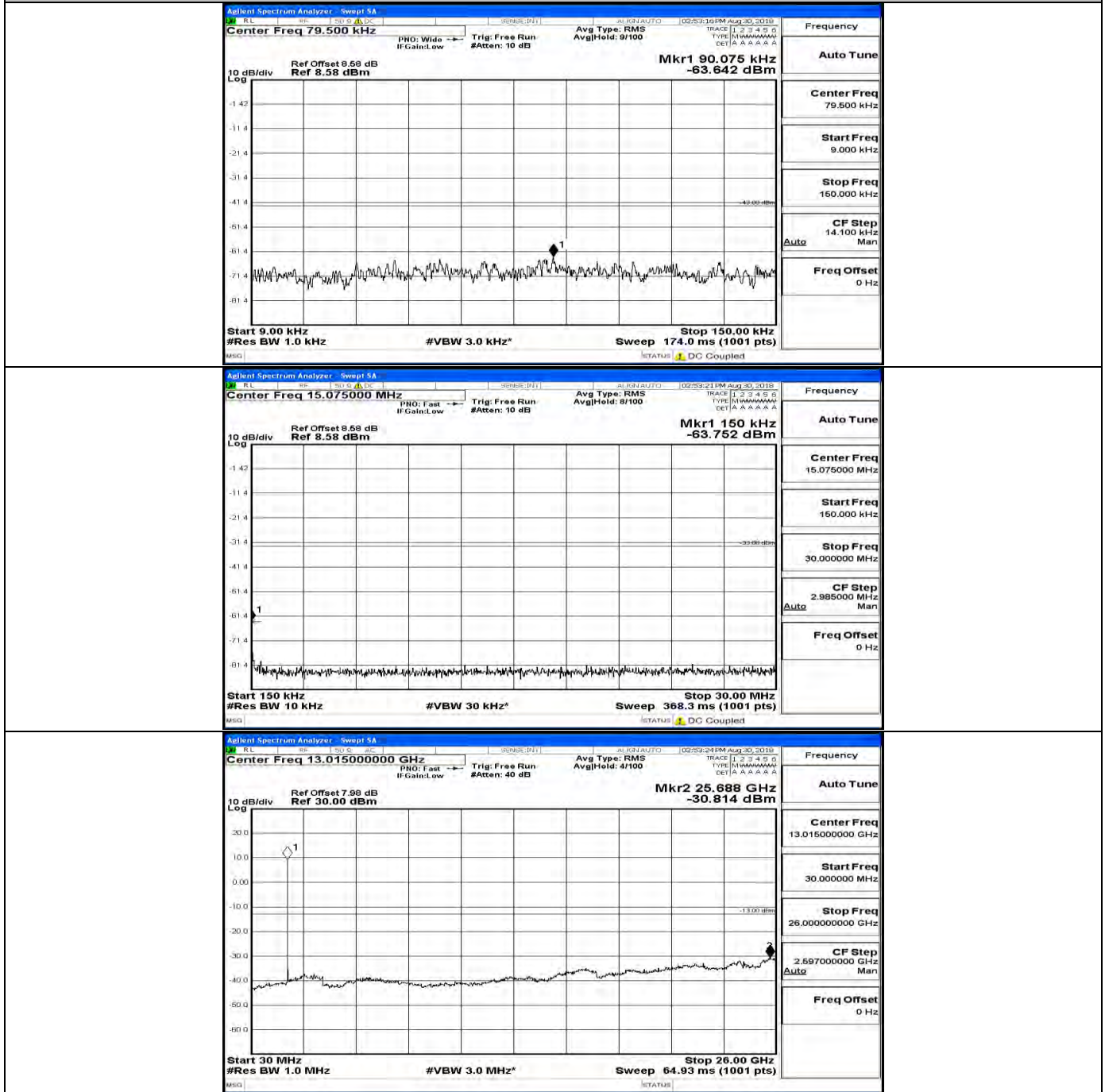
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



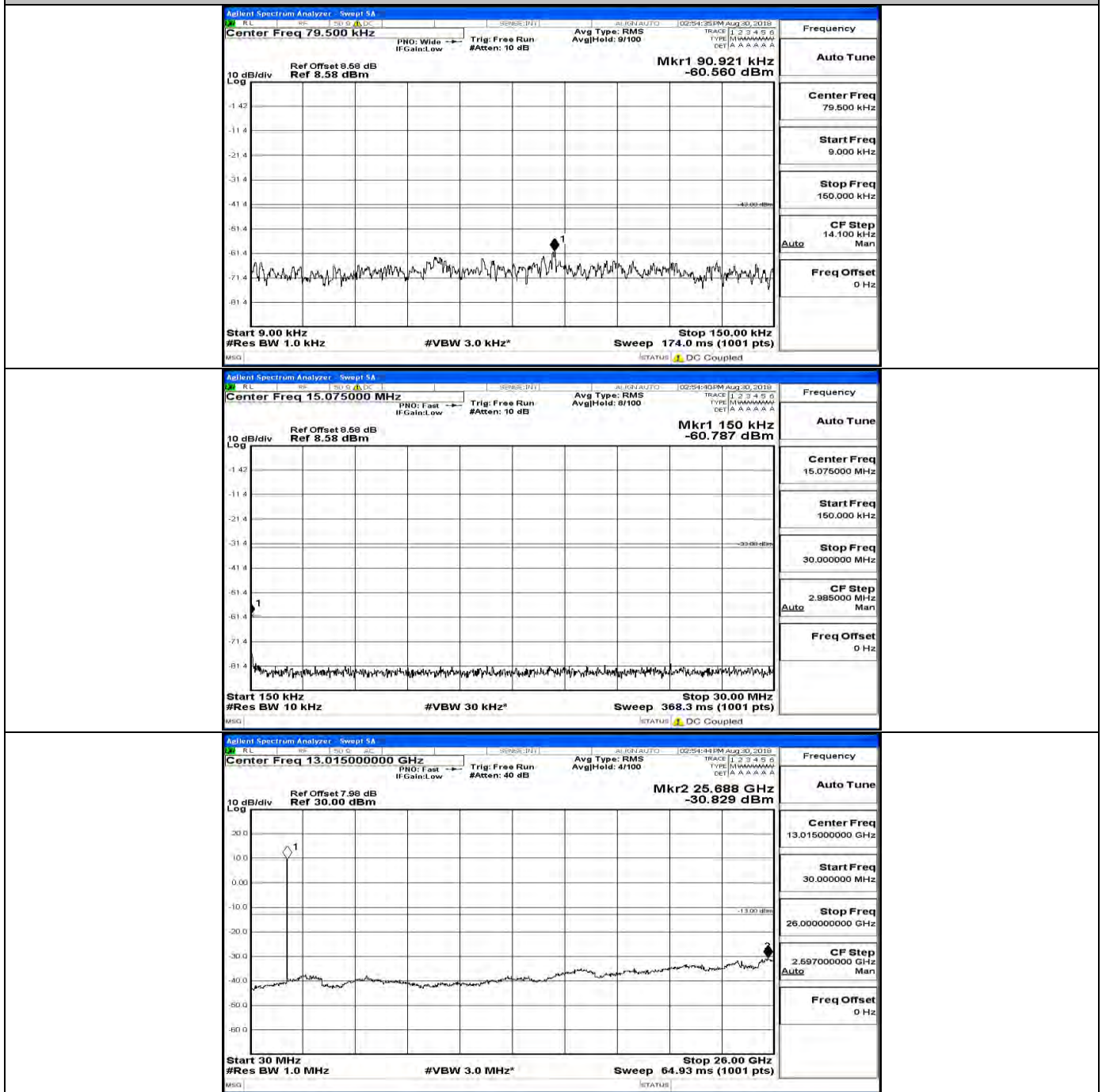
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



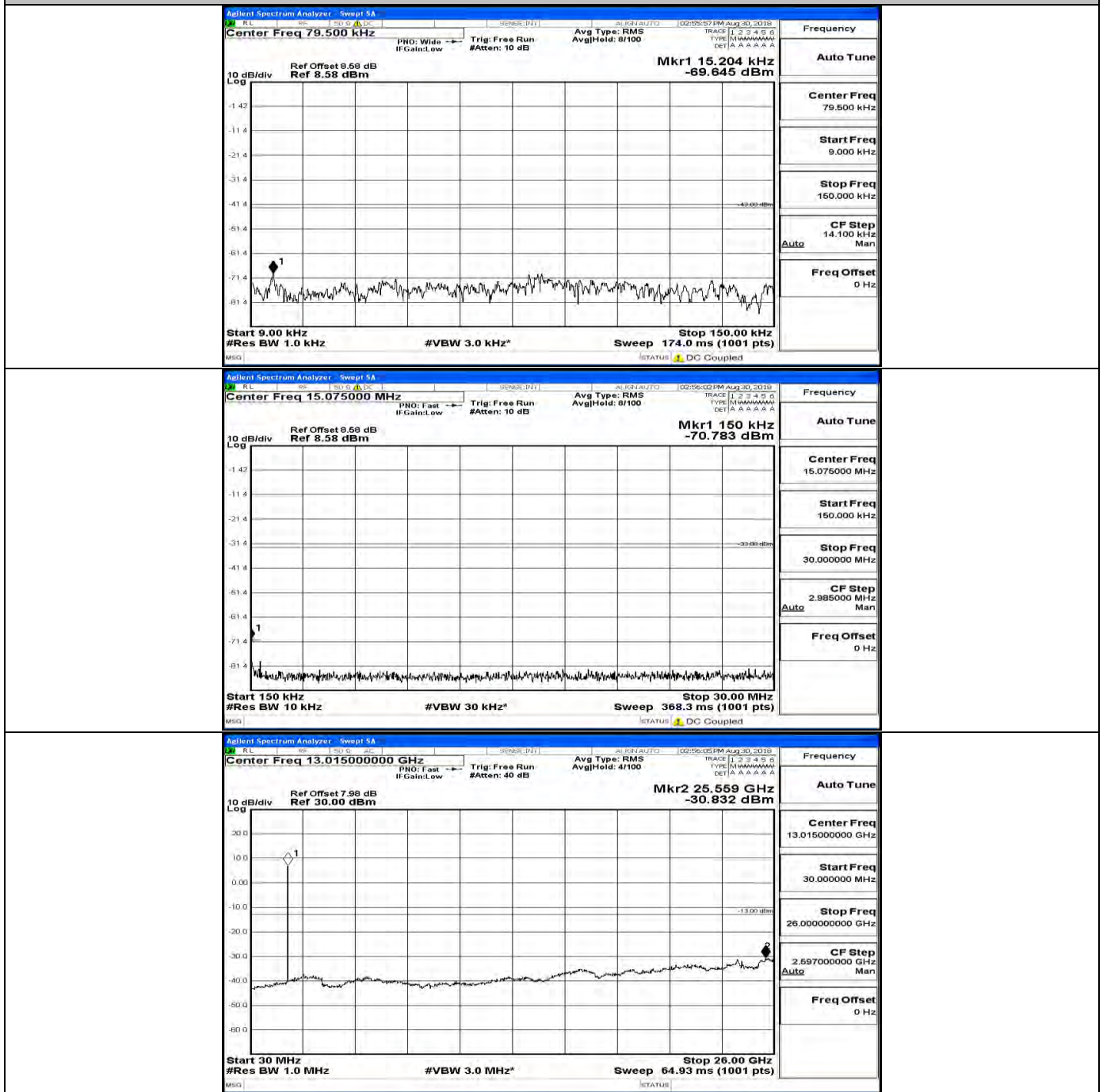
CSE Test Graph(s) (Channel Bandwidth: 10 MHz) LCH_QPSK



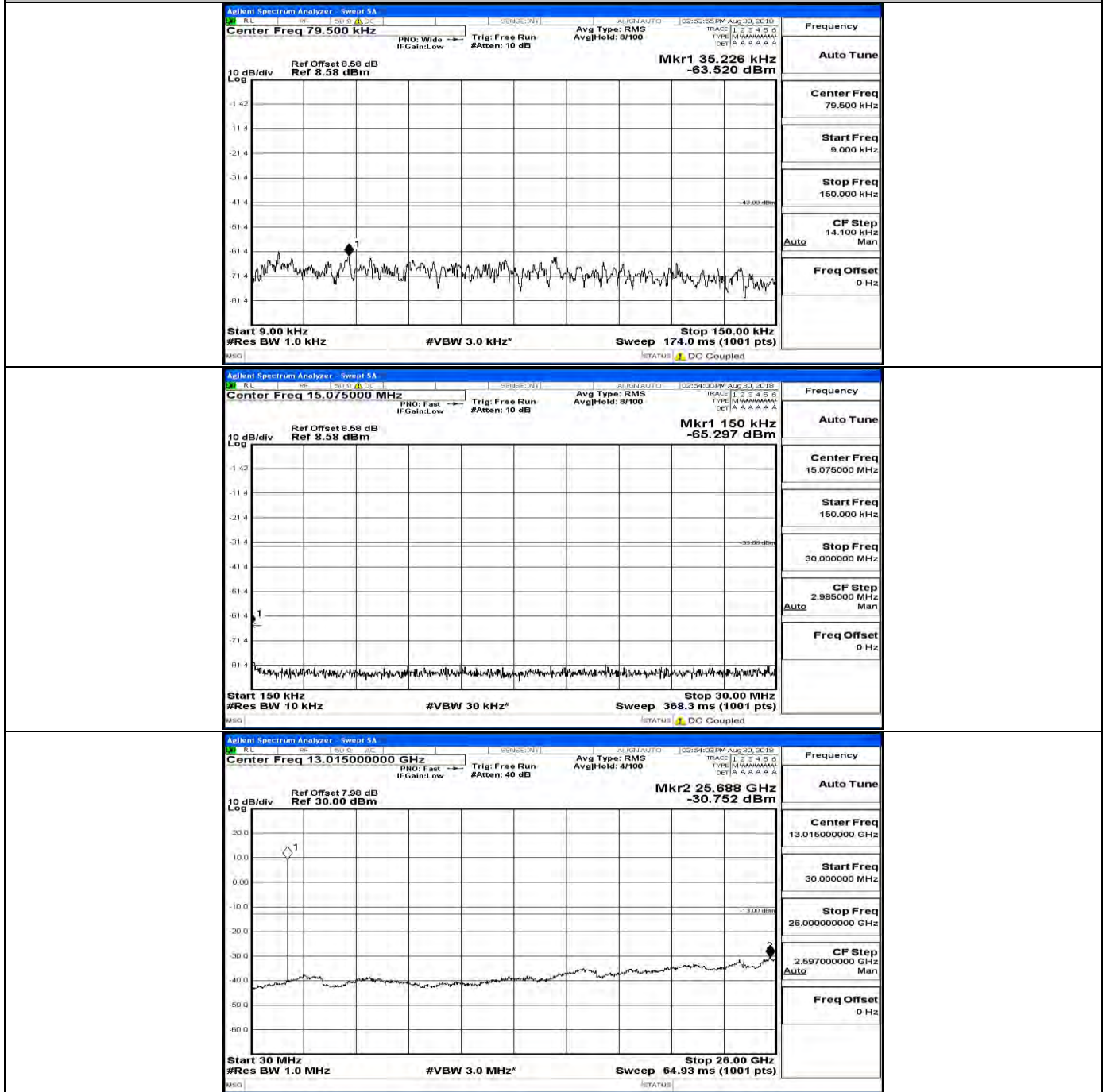
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



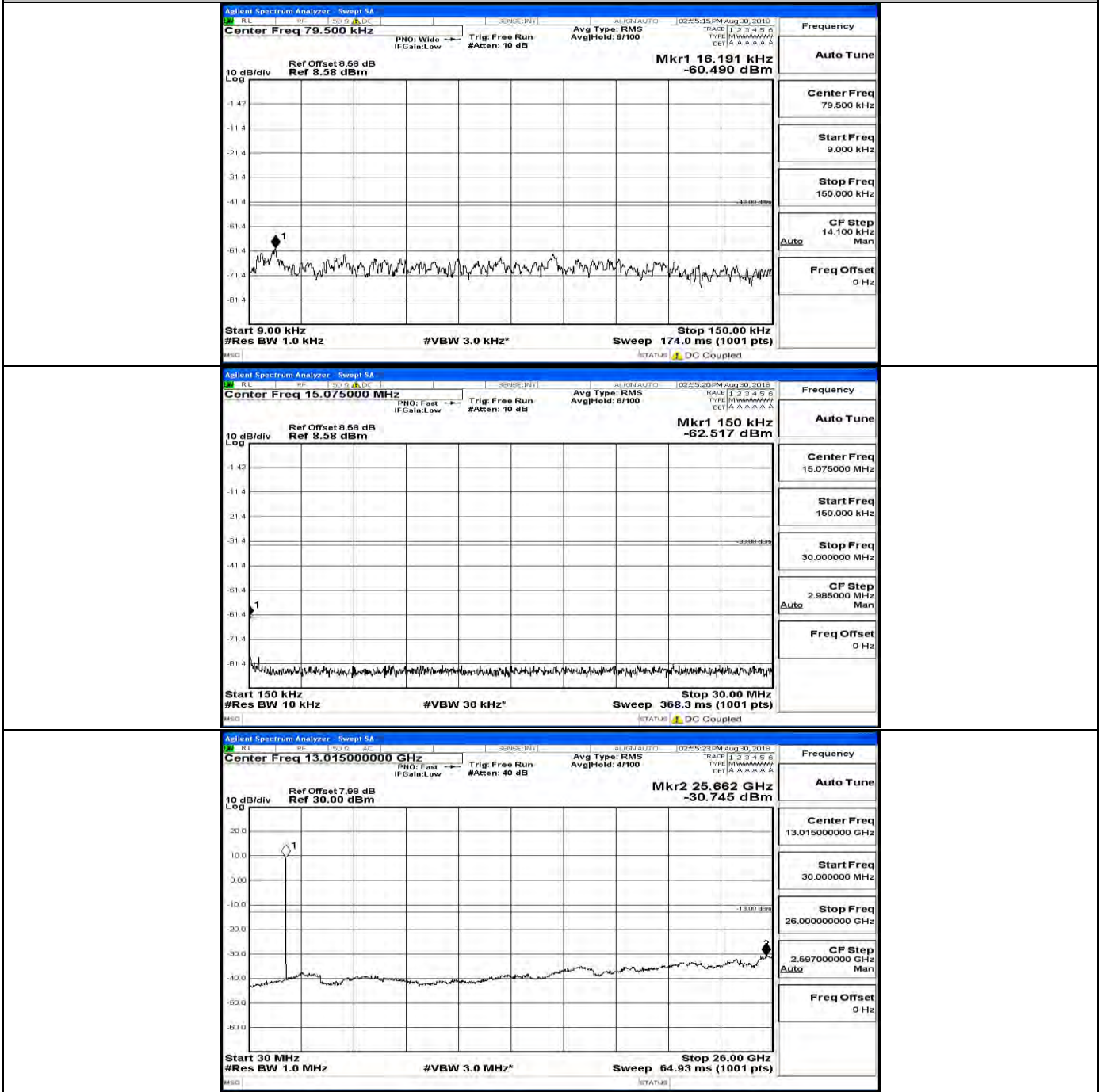
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



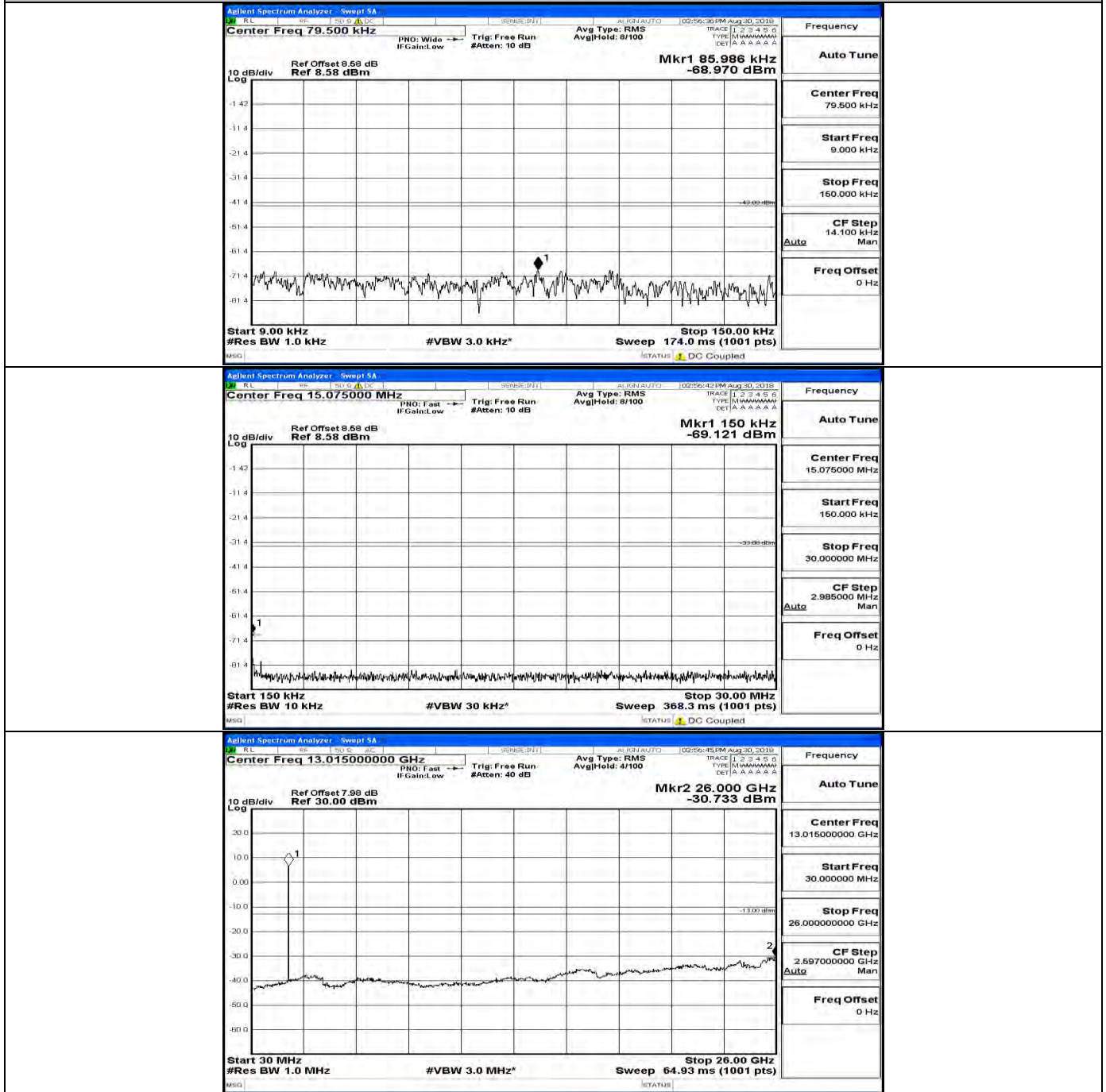
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



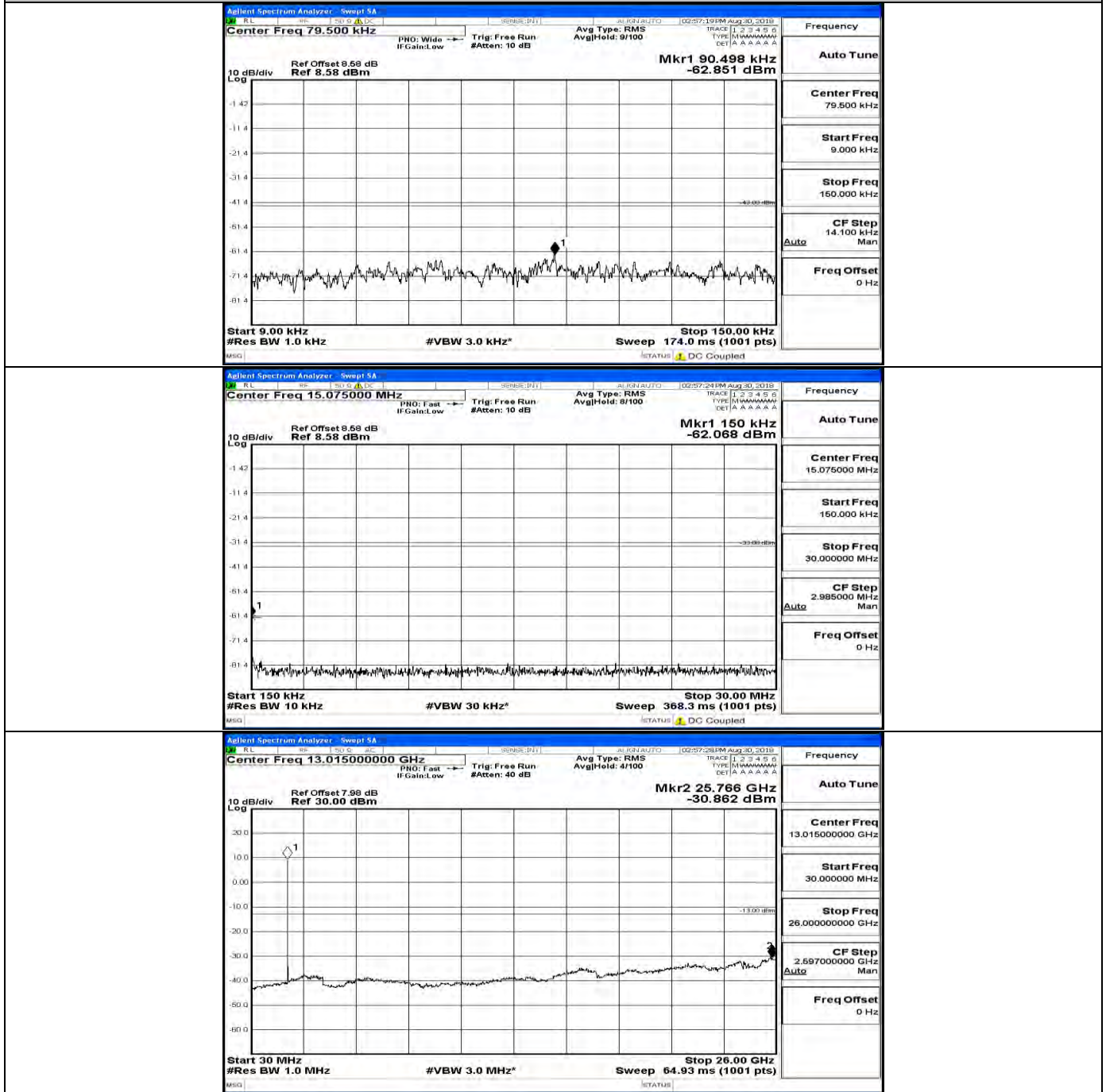
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



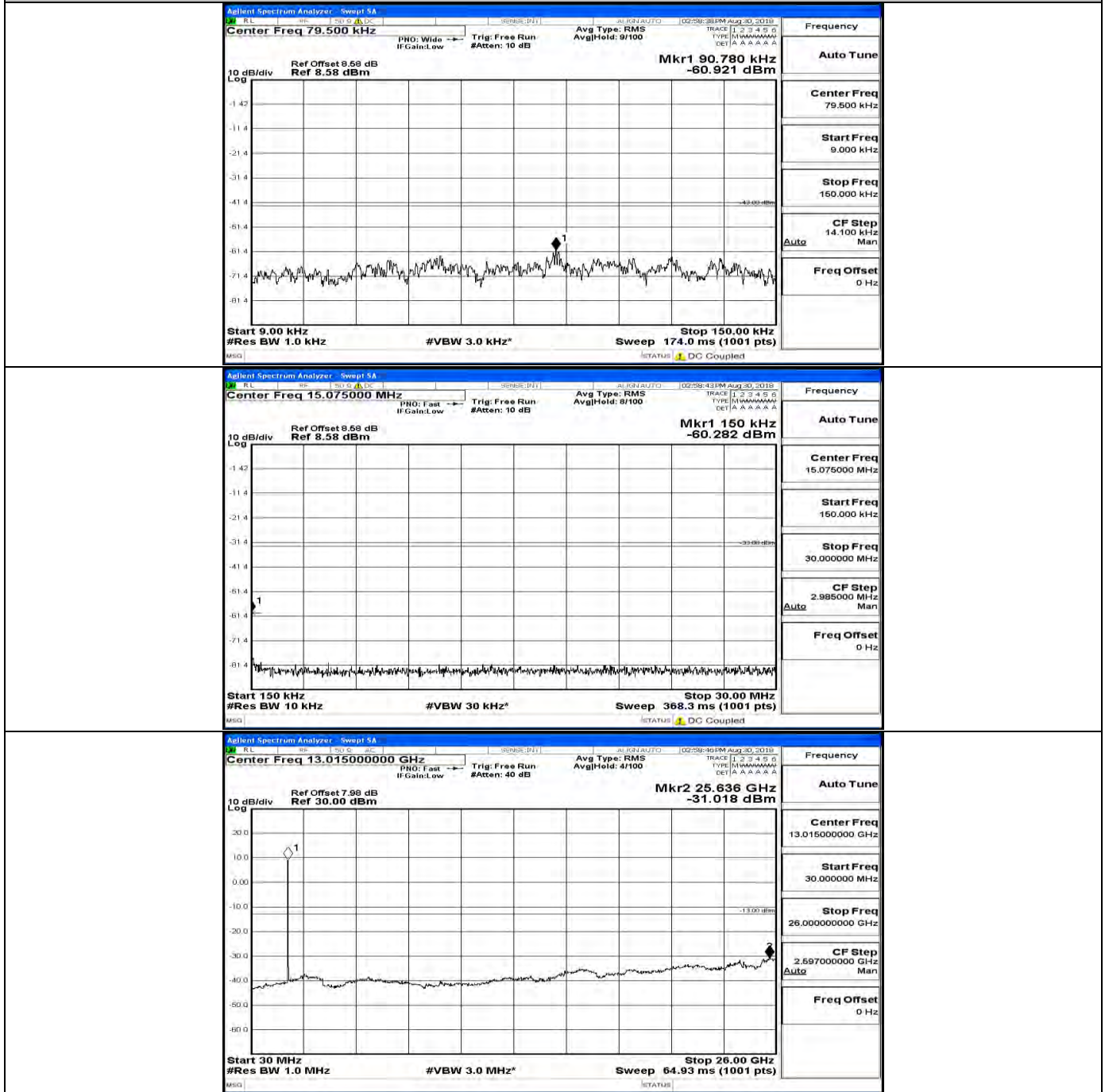
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



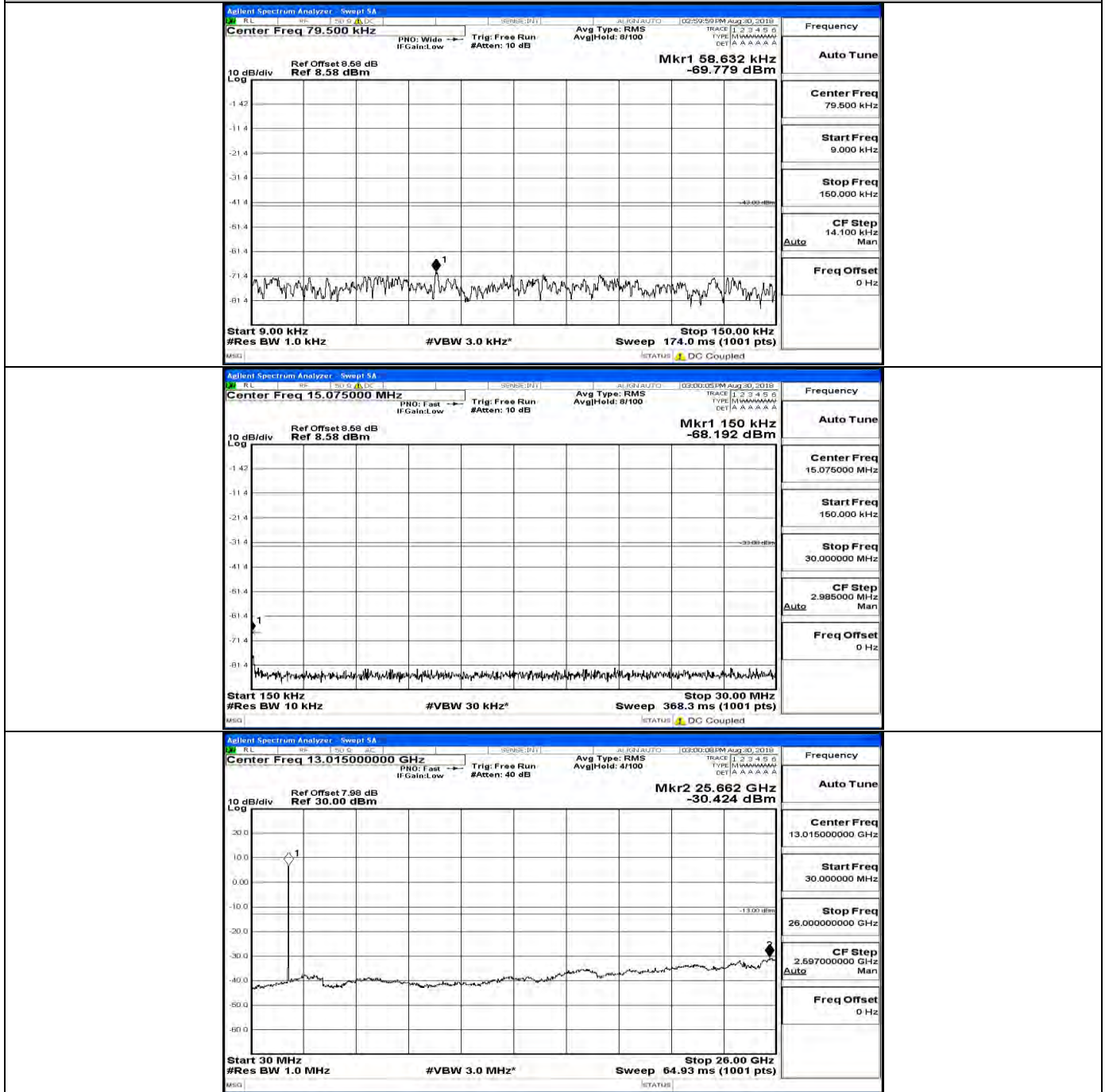
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



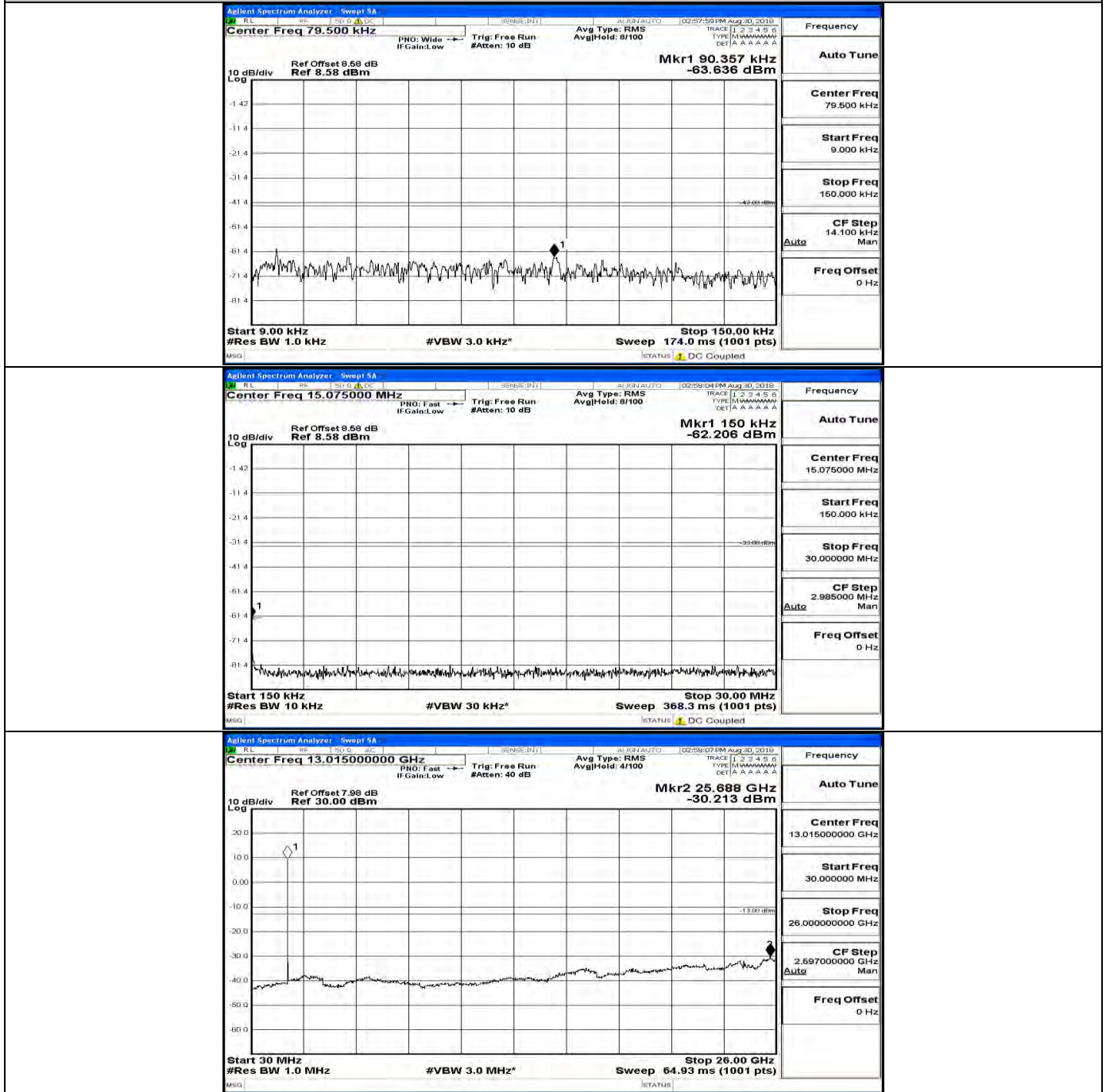
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK



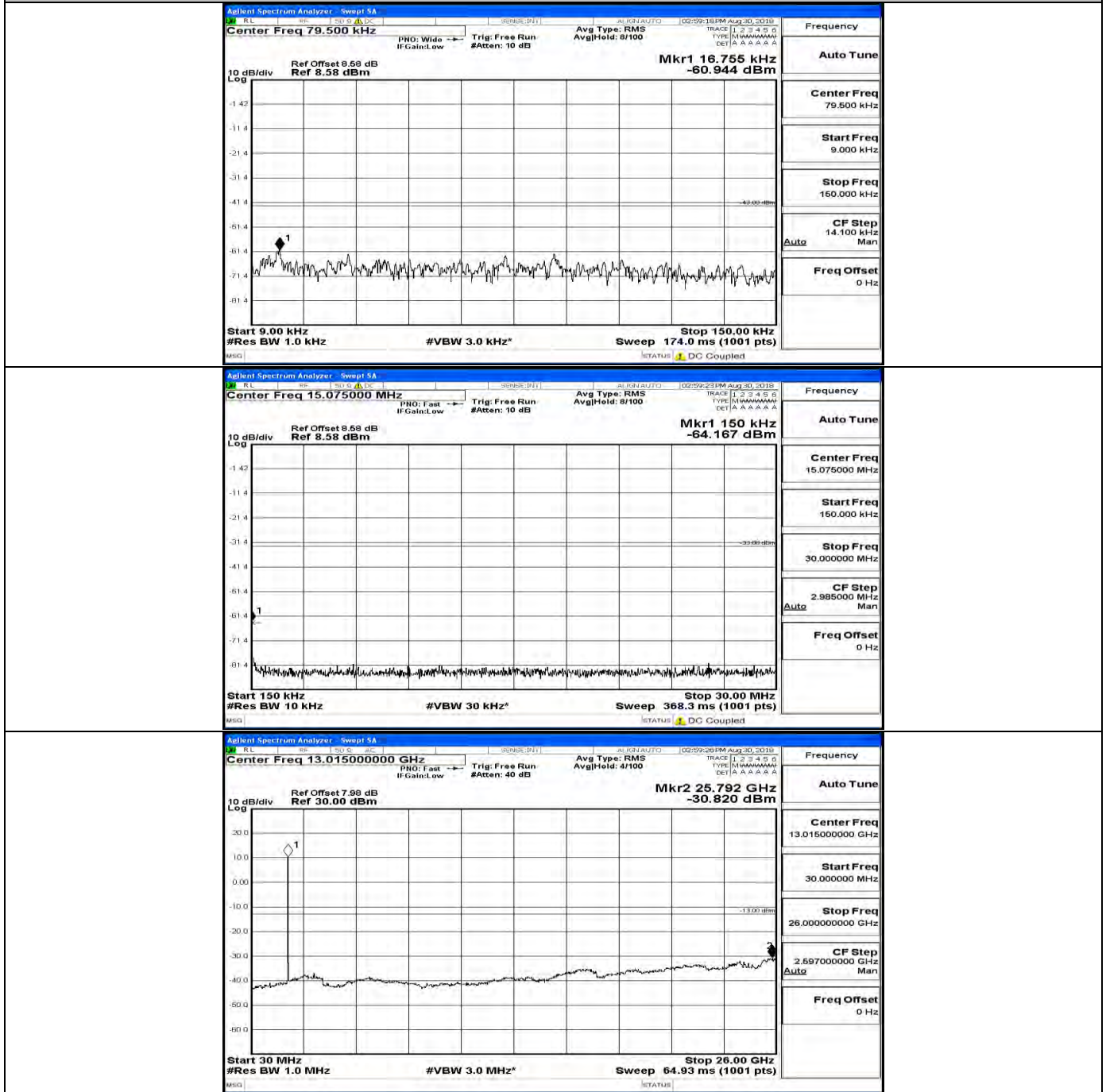
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



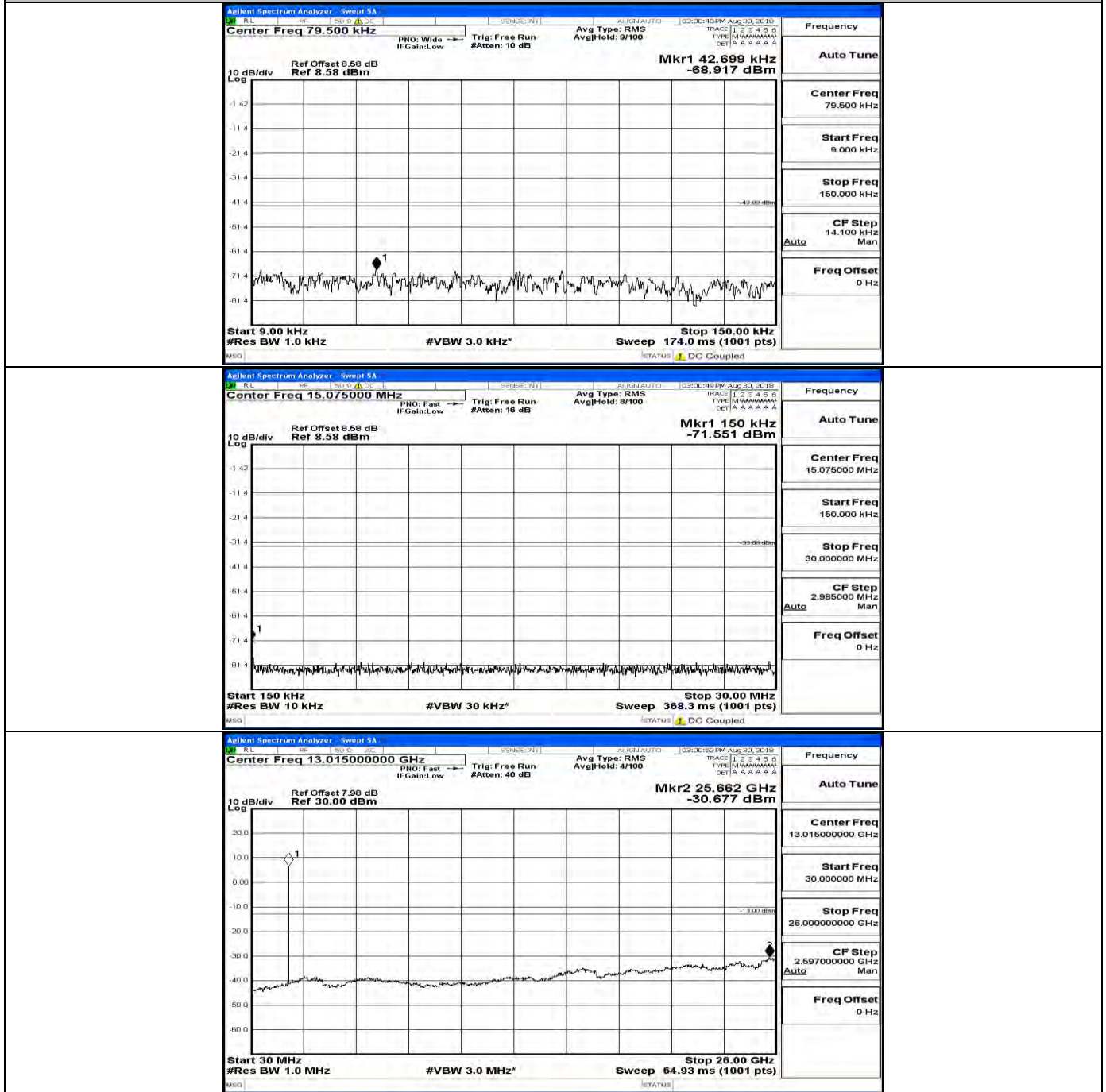
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



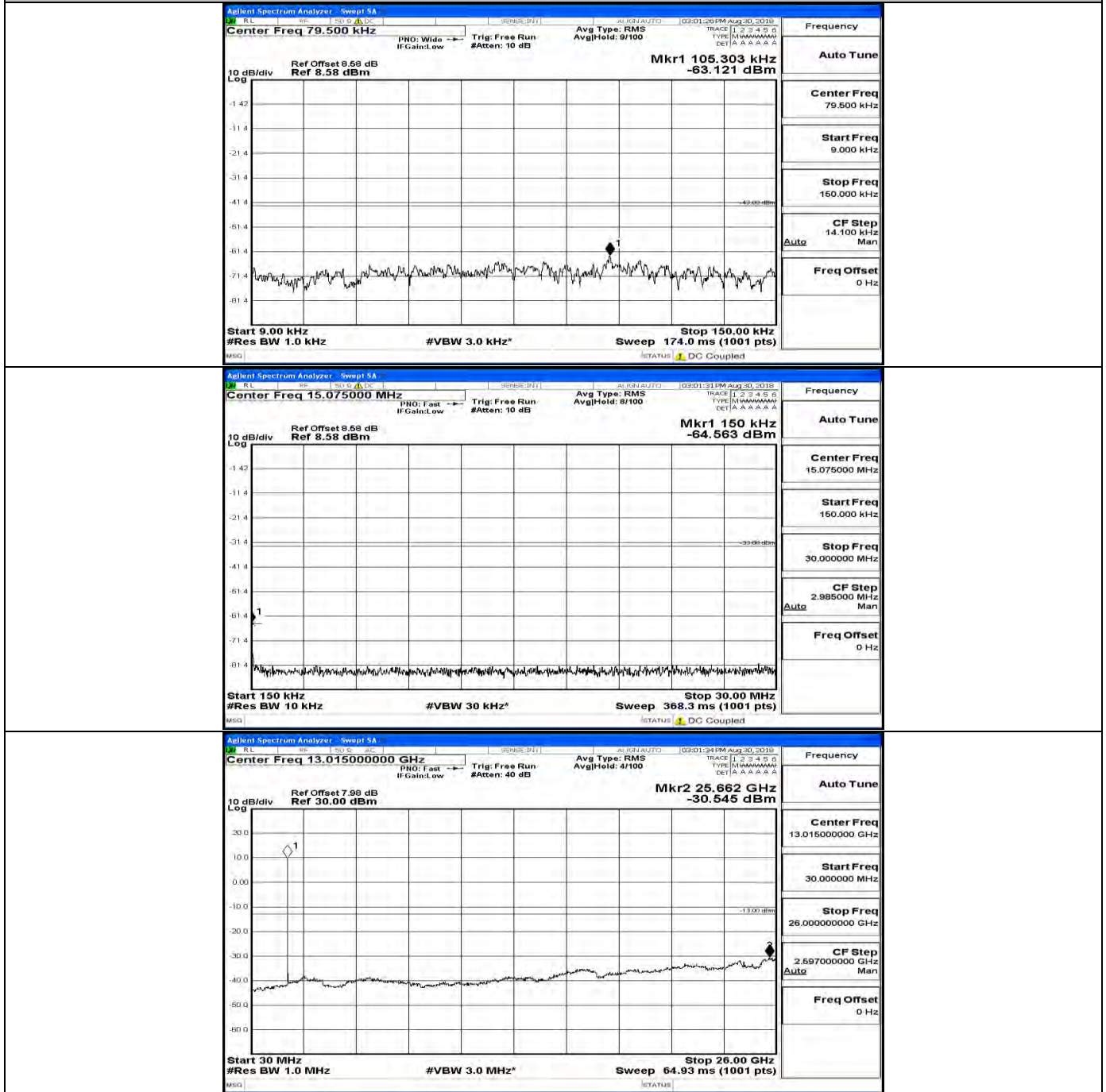
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM



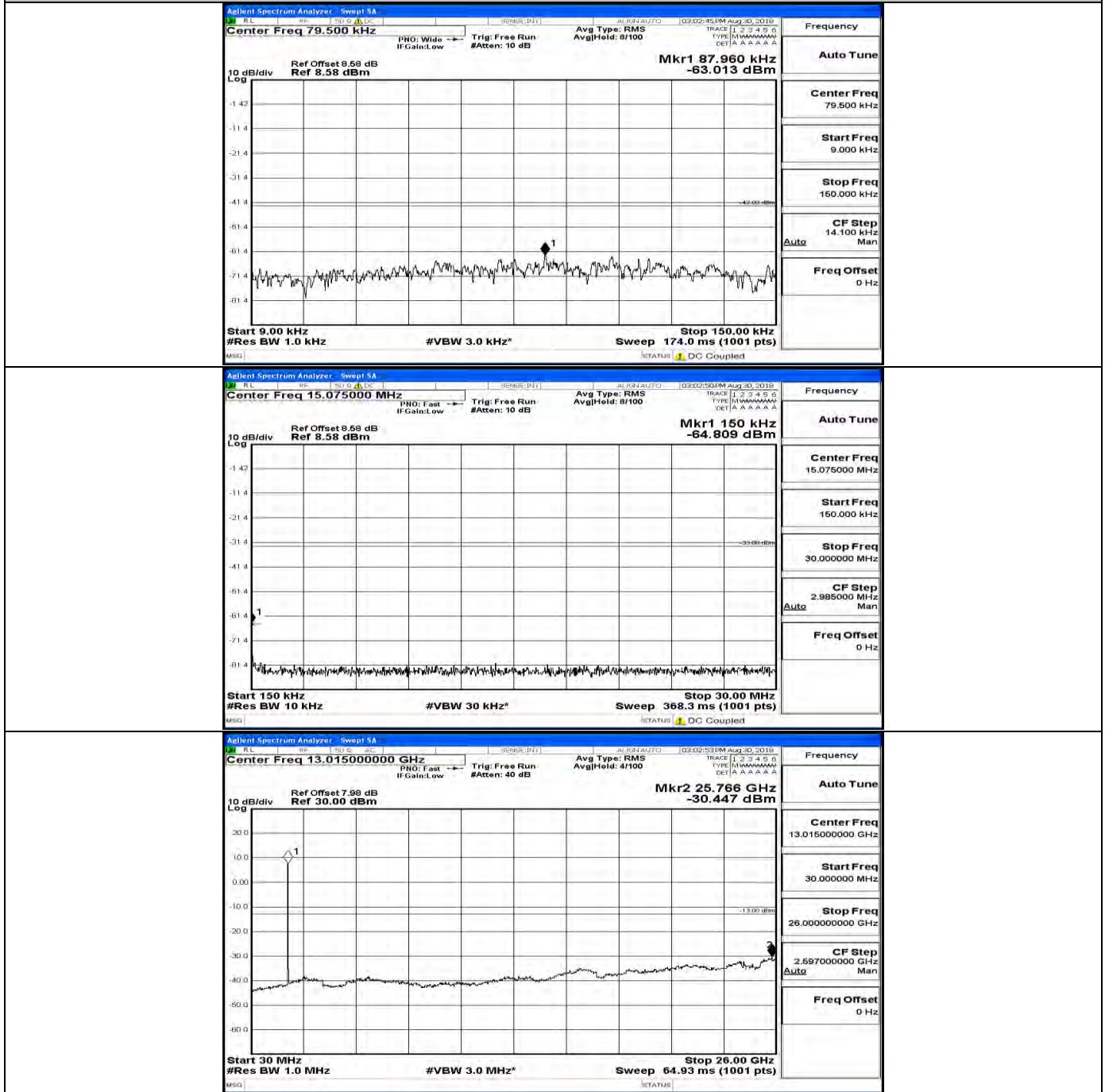
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



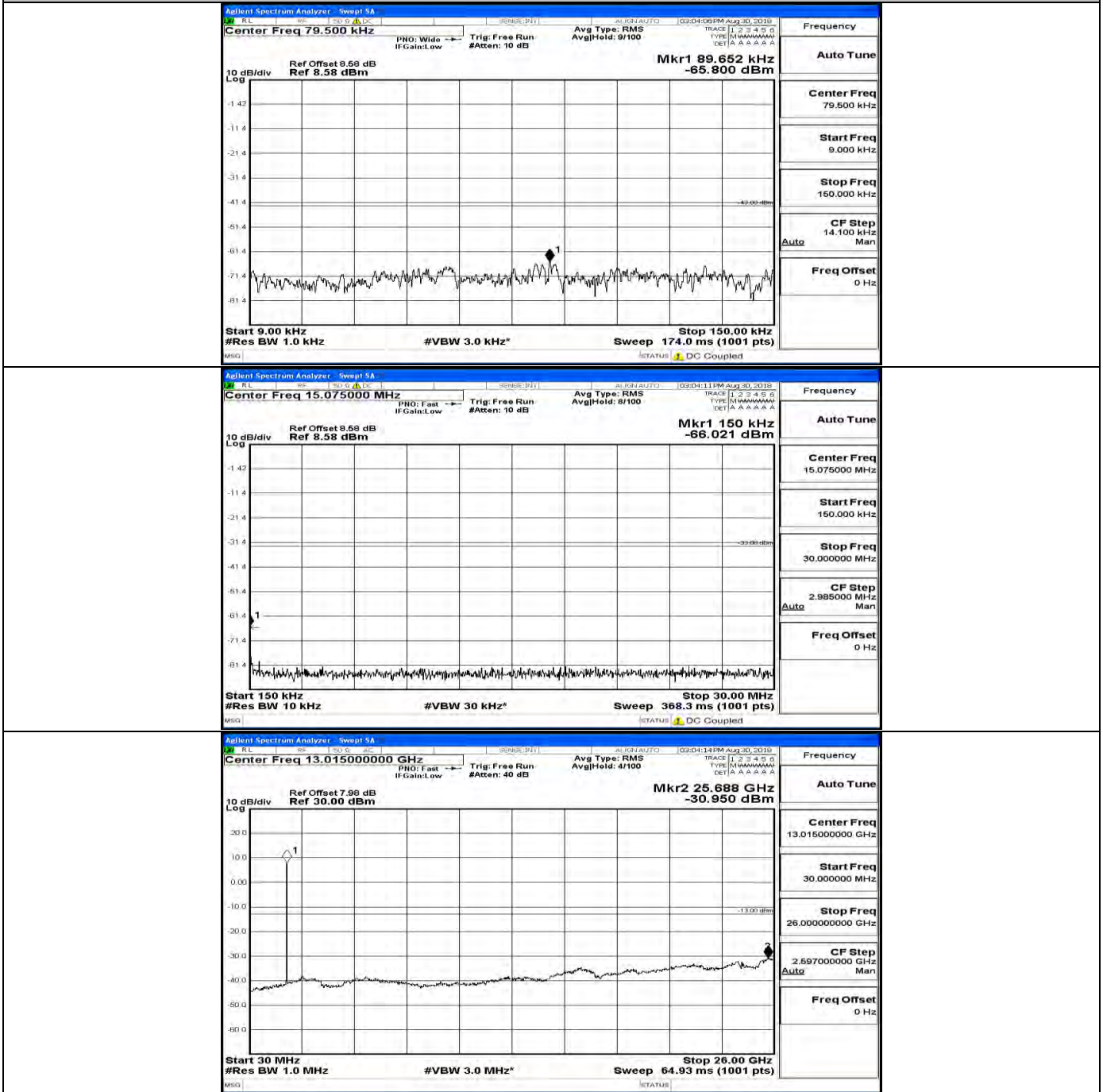
CSE Test Graph(s) (Channel Bandwidth:20 MHz) LCH_QPSK



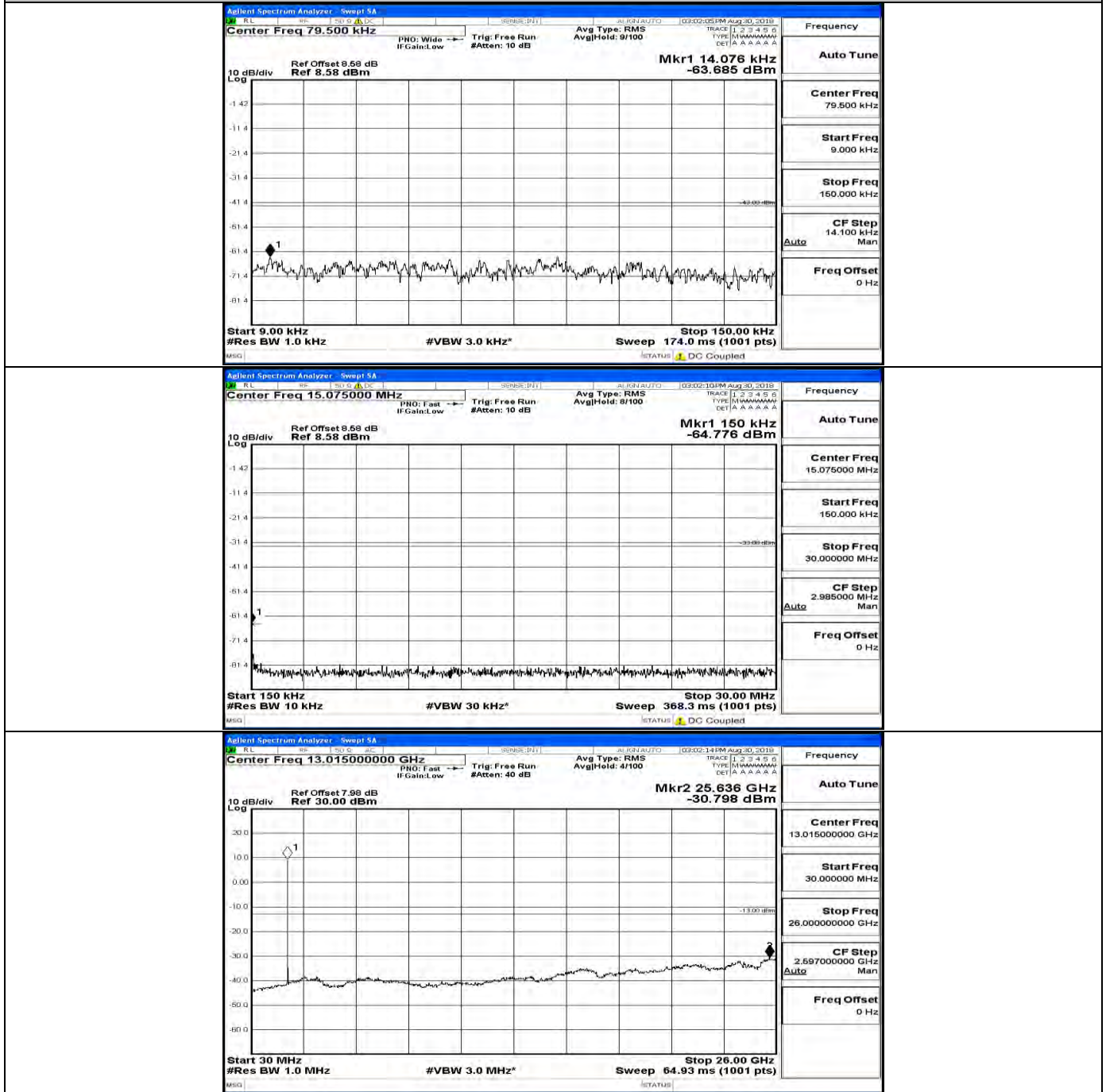
CSE Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK



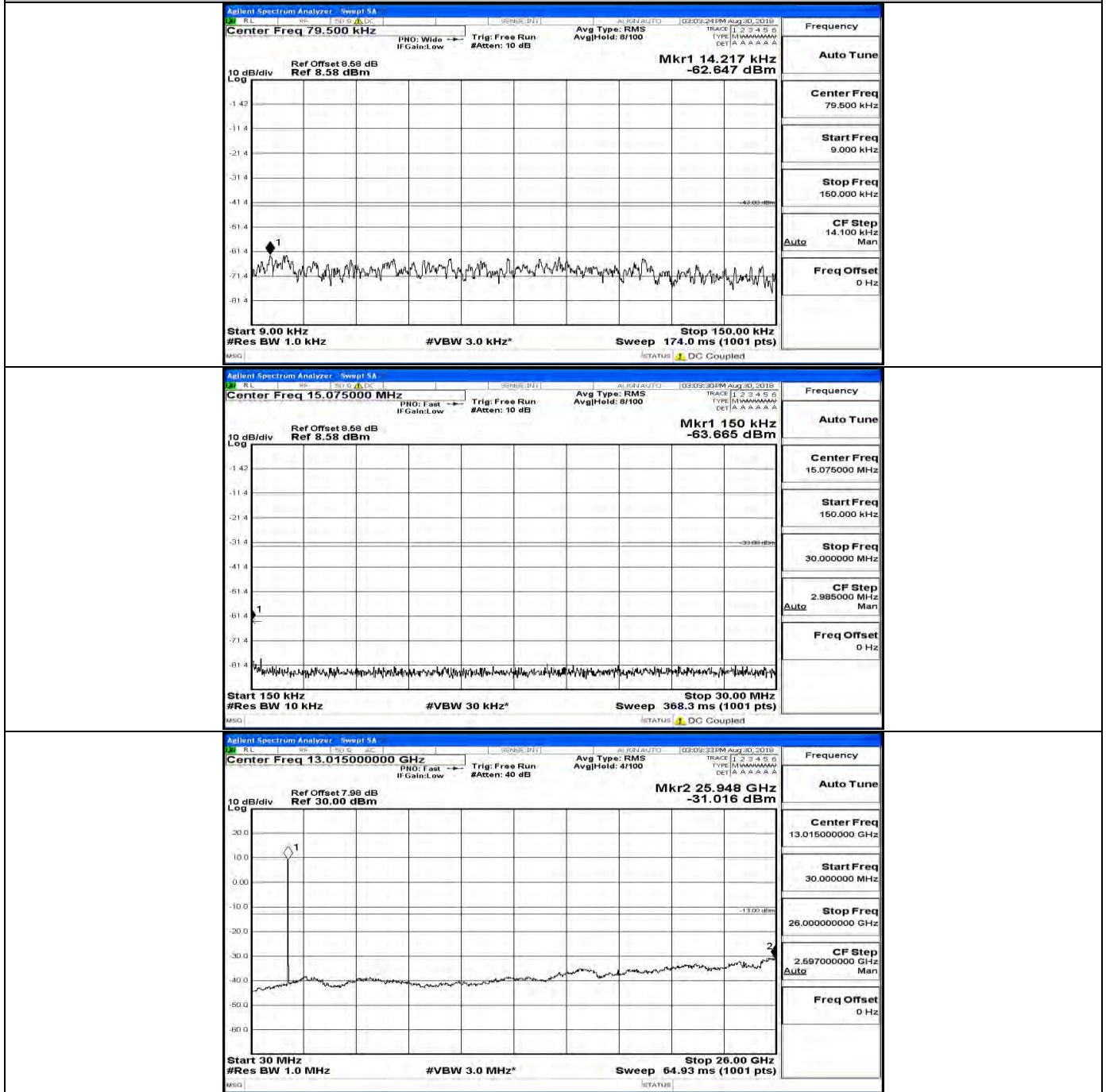
CSE Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



CSE Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM



CSE Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_16QAM



CSE Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM

