

Appendix for Band 17

Product Name: Intelligent Two Way Radio
Model No: T640A

Appendix A: Average Power Output Data

Test Result

Channel Bandwidth: 5 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	23.58	PASS
		1	12	23.82	PASS
		1	24	23.48	PASS
		12	0	22.59	PASS
		12	6	22.65	PASS
		12	13	22.64	PASS
		25	0	22.67	PASS
	MCH	1	0	23.53	PASS
		1	12	23.89	PASS
		1	24	23.49	PASS
		12	0	22.60	PASS
		12	6	22.65	PASS
		12	13	22.60	PASS
		25	0	22.59	PASS
	HCH	1	0	23.55	PASS
		1	12	23.94	PASS
		1	24	23.48	PASS
		12	0	22.59	PASS
		12	6	22.66	PASS
		12	13	22.57	PASS
		25	0	22.59	PASS
16QAM	LCH	1	0	22.88	PASS
		1	12	23.18	PASS
		1	24	22.79	PASS
		12	0	21.63	PASS
		12	6	21.71	PASS
		12	13	21.69	PASS
		25	0	21.64	PASS
	MCH	1	0	22.77	PASS
		1	12	23.10	PASS
		1	24	22.71	PASS
		12	0	21.68	PASS
		12	6	21.74	PASS

		12	13	21.70	PASS
		25	0	21.59	PASS
	HCH	1	0	22.74	PASS
		1	12	22.94	PASS
		1	24	22.65	PASS
		12	0	21.54	PASS
		12	6	21.59	PASS
		12	13	21.51	PASS
		25	0	21.55	PASS

Channel Bandwidth: 10 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	23.54	PASS
		1	24	23.90	PASS
		1	49	23.45	PASS
		25	0	22.66	PASS
		25	12	22.63	PASS
		25	25	22.63	PASS
		50	0	22.61	PASS
	MCH	1	0	23.53	PASS
		1	24	23.68	PASS
		1	49	23.53	PASS
		25	0	22.62	PASS
		25	12	22.65	PASS
		25	25	22.64	PASS
		50	0	22.59	PASS
	HCH	1	0	23.53	PASS
		1	24	23.69	PASS
		1	49	23.5	PASS
		25	0	22.69	PASS
		25	12	22.68	PASS
		25	25	22.64	PASS
		50	0	22.63	PASS
16QAM	LCH	1	0	22.86	PASS
		1	24	22.93	PASS
		1	49	22.66	PASS
		25	0	21.62	PASS
		25	12	21.62	PASS
		25	25	21.59	PASS
		50	0	21.6	PASS

	MCH	1	0	22.96	PASS
		1	24	22.89	PASS
		1	49	22.81	PASS
		25	0	21.63	PASS
		25	12	21.61	PASS
		25	25	21.62	PASS
		50	0	21.59	PASS
	HCH	1	0	22.82	PASS
		1	24	22.96	PASS
		1	49	22.66	PASS
		25	0	21.67	PASS
		25	12	21.63	PASS
		25	25	21.59	PASS
		50	0	21.59	PASS

Appendix B: Peak-to-Average Ratio

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.09	<13	PASS
		1	12	3.81	<13	PASS
		1	24	4.03	<13	PASS
		12	0	4.77	<13	PASS
		12	6	4.67	<13	PASS
		12	13	4.66	<13	PASS
		25	0	4.72	<13	PASS
	MCH	1	0	3.97	<13	PASS
		1	12	3.73	<13	PASS
		1	24	3.56	<13	PASS
		12	0	4.67	<13	PASS
		12	6	4.59	<13	PASS
		12	13	4.48	<13	PASS
		25	0	4.58	<13	PASS
	HCH	1	0	3.72	<13	PASS
		1	12	3.08	<13	PASS
		1	24	3.29	<13	PASS
		12	0	4.38	<13	PASS
		12	6	4.14	<13	PASS
		12	13	4.07	<13	PASS
		25	0	4.26	<13	PASS
16QAM	LCH	1	0	4.75	<13	PASS
		1	12	4.46	<13	PASS
		1	24	4.8	<13	PASS
		12	0	5.67	<13	PASS
		12	6	5.59	<13	PASS
		12	13	5.62	<13	PASS
		25	0	5.57	<13	PASS
	MCH	1	0	4.7	<13	PASS
		1	12	4.51	<13	PASS
		1	24	4.53	<13	PASS
		12	0	5.6	<13	PASS

		12	6	5.5	<13	PASS
		12	13	5.4	<13	PASS
		25	0	5.58	<13	PASS
	HCH	1	0	4.59	<13	PASS
		1	12	4.05	<13	PASS
		1	24	4.21	<13	PASS
		12	0	5.21	<13	PASS
		12	6	5.09	<13	PASS
		12	13	4.97	<13	PASS
		25	0	5.17	<13	PASS

Channel Bandwidth: 10 MHz

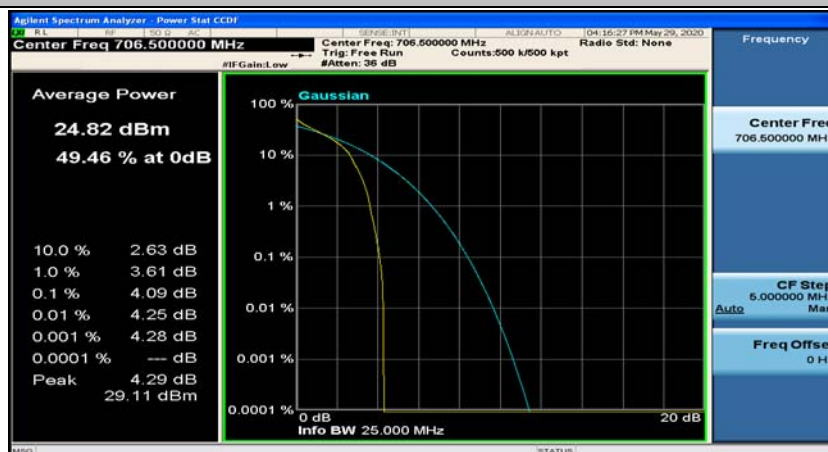
Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.83	<13	PASS
		1	24	3.77	<13	PASS
		1	49	3.25	<13	PASS
		25	0	4.68	<13	PASS
		25	12	4.58	<13	PASS
		25	25	4.43	<13	PASS
		50	0	4.66	<13	PASS
	MCH	1	0	3.77	<13	PASS
		1	24	3.54	<13	PASS
		1	49	3.18	<13	PASS
		25	0	4.69	<13	PASS
		25	12	4.58	<13	PASS
		25	25	4.31	<13	PASS
		50	0	4.61	<13	PASS
	HCH	1	0	3.73	<13	PASS
		1	24	3.62	<13	PASS
		1	49	3.29	<13	PASS
		25	0	4.53	<13	PASS
		25	12	4.44	<13	PASS
		25	25	4.19	<13	PASS
		50	0	4.52	<13	PASS
16QAM	LCH	1	0	4.66	<13	PASS
		1	24	4.7	<13	PASS
		1	49	4.23	<13	PASS
		25	0	5.62	<13	PASS
		25	12	5.58	<13	PASS

		25	25	5.42	<13	PASS
		50	0	5.54	<13	PASS
	MCH	1	0	4.73	<13	PASS
		1	24	4.59	<13	PASS
		1	49	4.15	<13	PASS
		25	0	5.59	<13	PASS
		25	12	5.51	<13	PASS
		25	25	5.29	<13	PASS
		50	0	5.52	<13	PASS
	HCH	1	0	4.68	<13	PASS
		1	24	4.5	<13	PASS
		1	49	4.05	<13	PASS
		25	0	5.55	<13	PASS
		25	12	5.45	<13	PASS
		25	25	5.19	<13	PASS
		50	0	5.47	<13	PASS

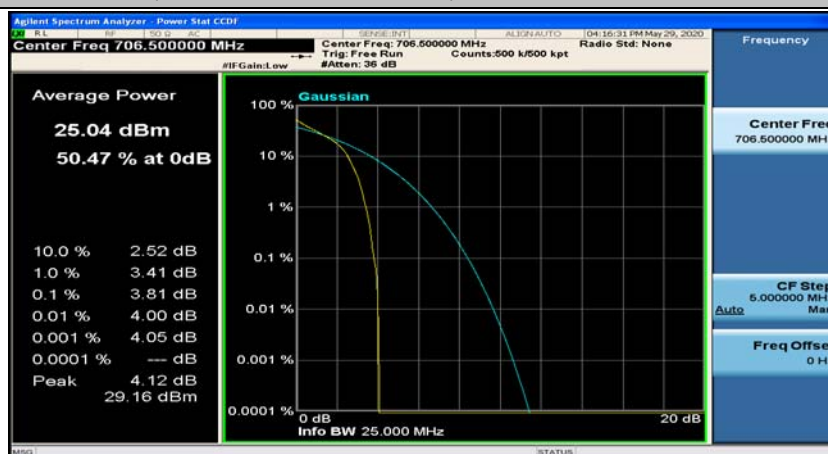
Test Graphs

Channel Bandwidth: 5 MHz

(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



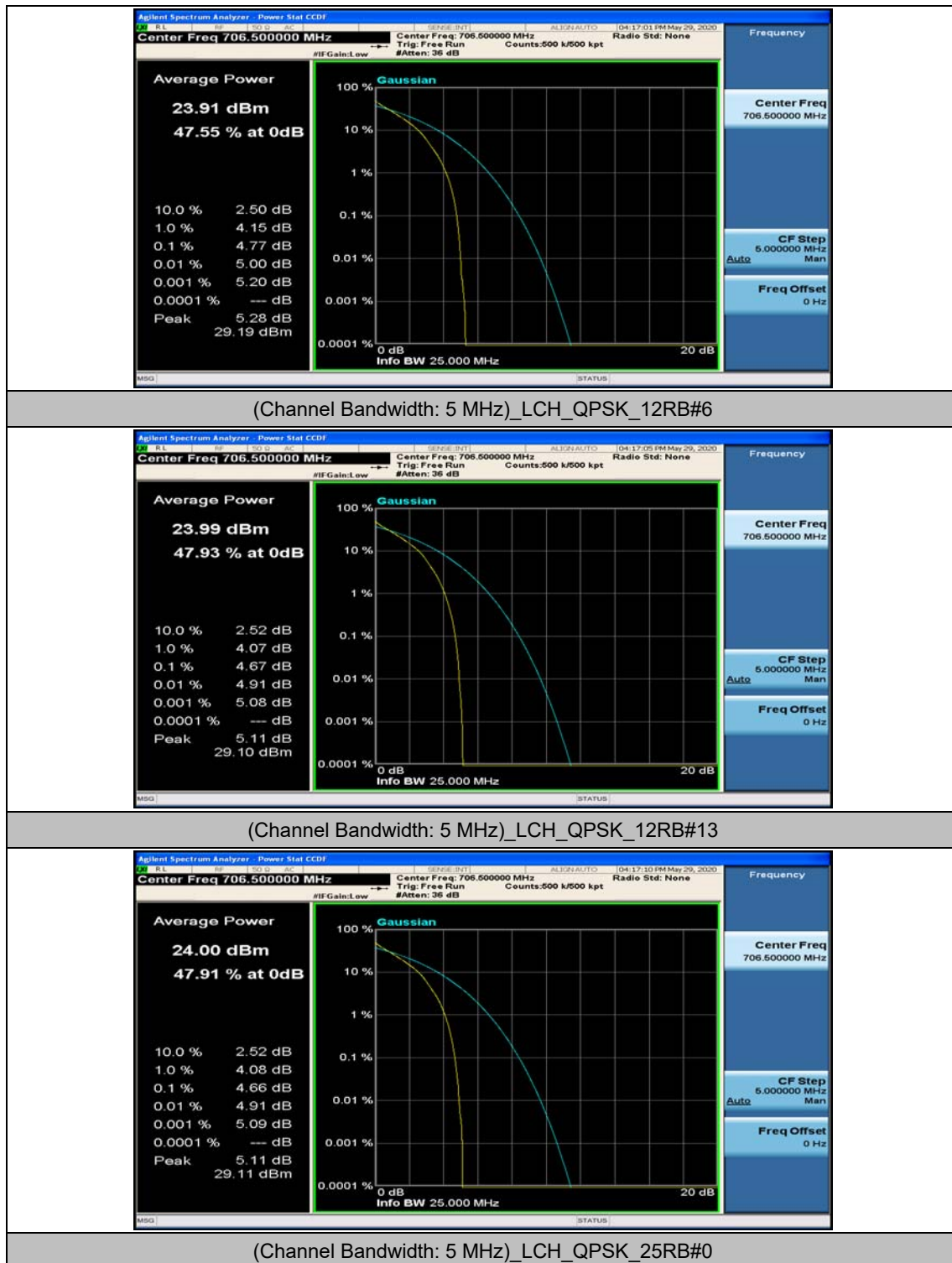
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12



(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24



(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0





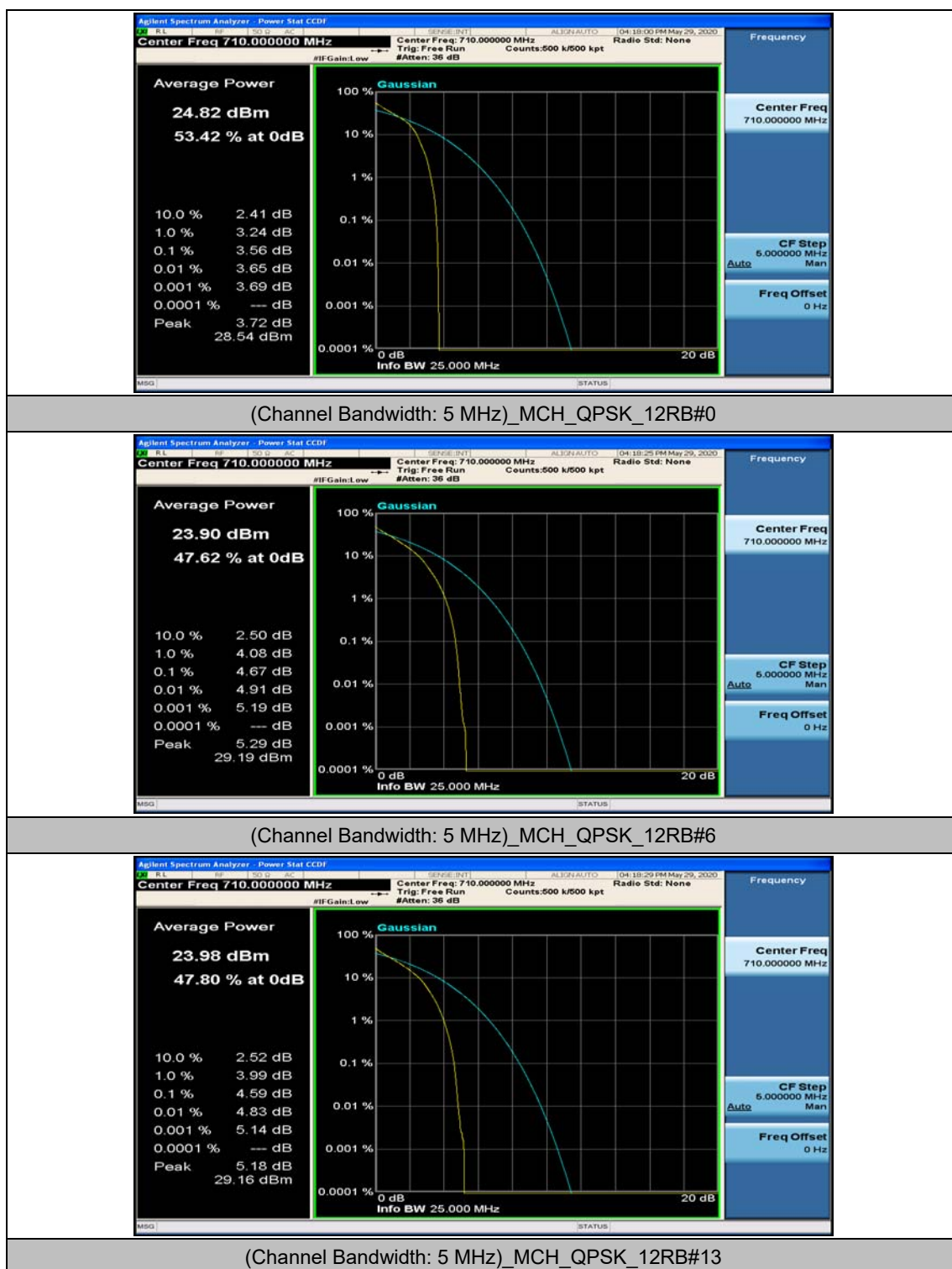
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(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12

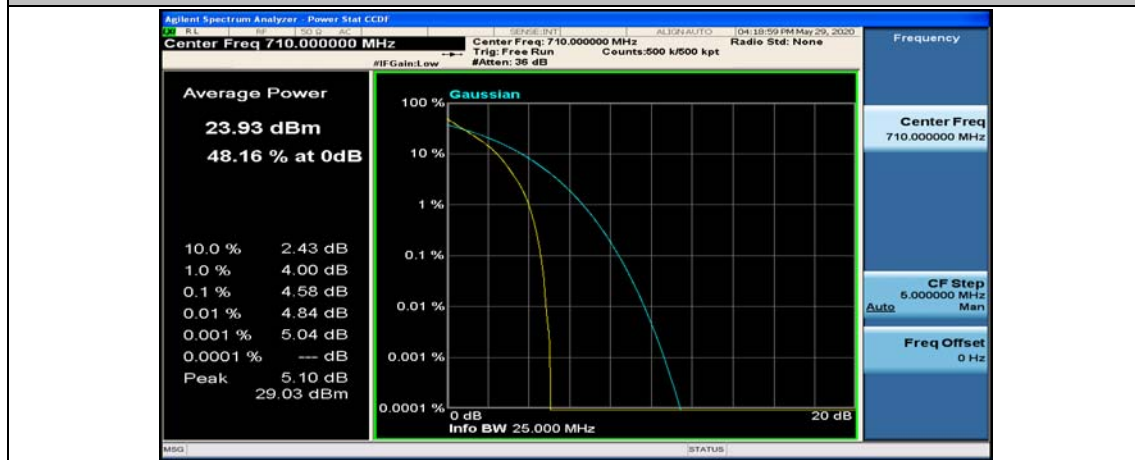


(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

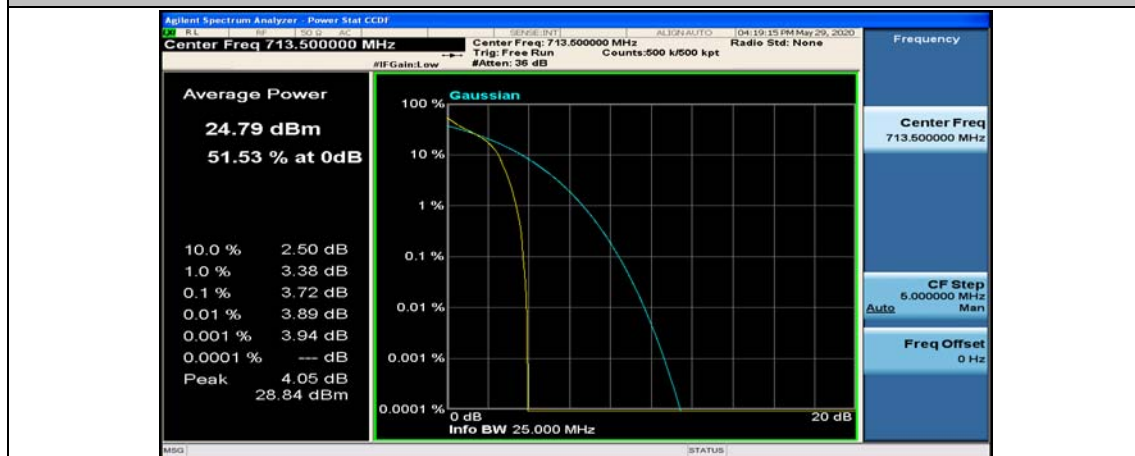




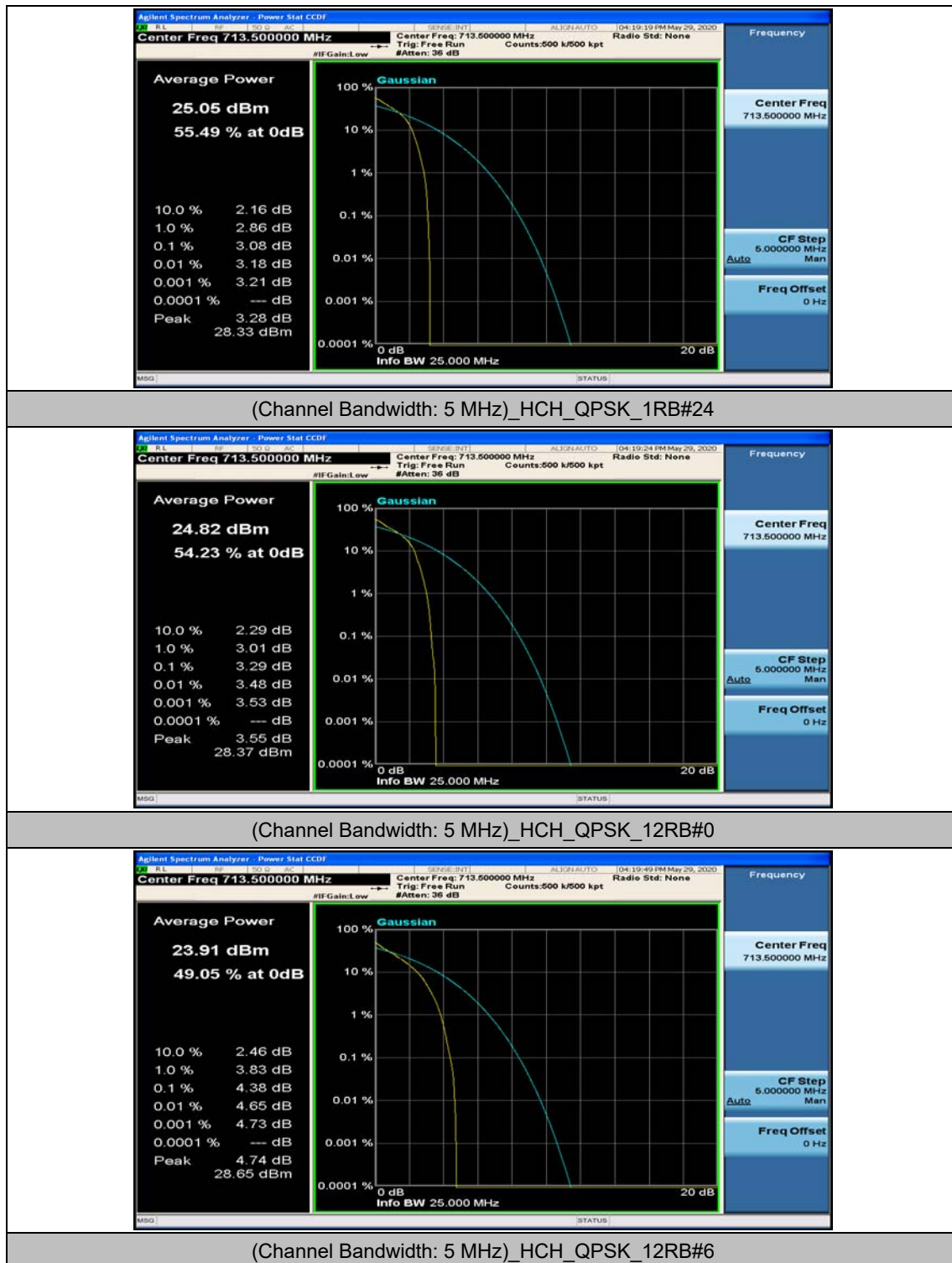
(Channel Bandwidth: 5 MHz)_MCH_QPSK_25RB#0

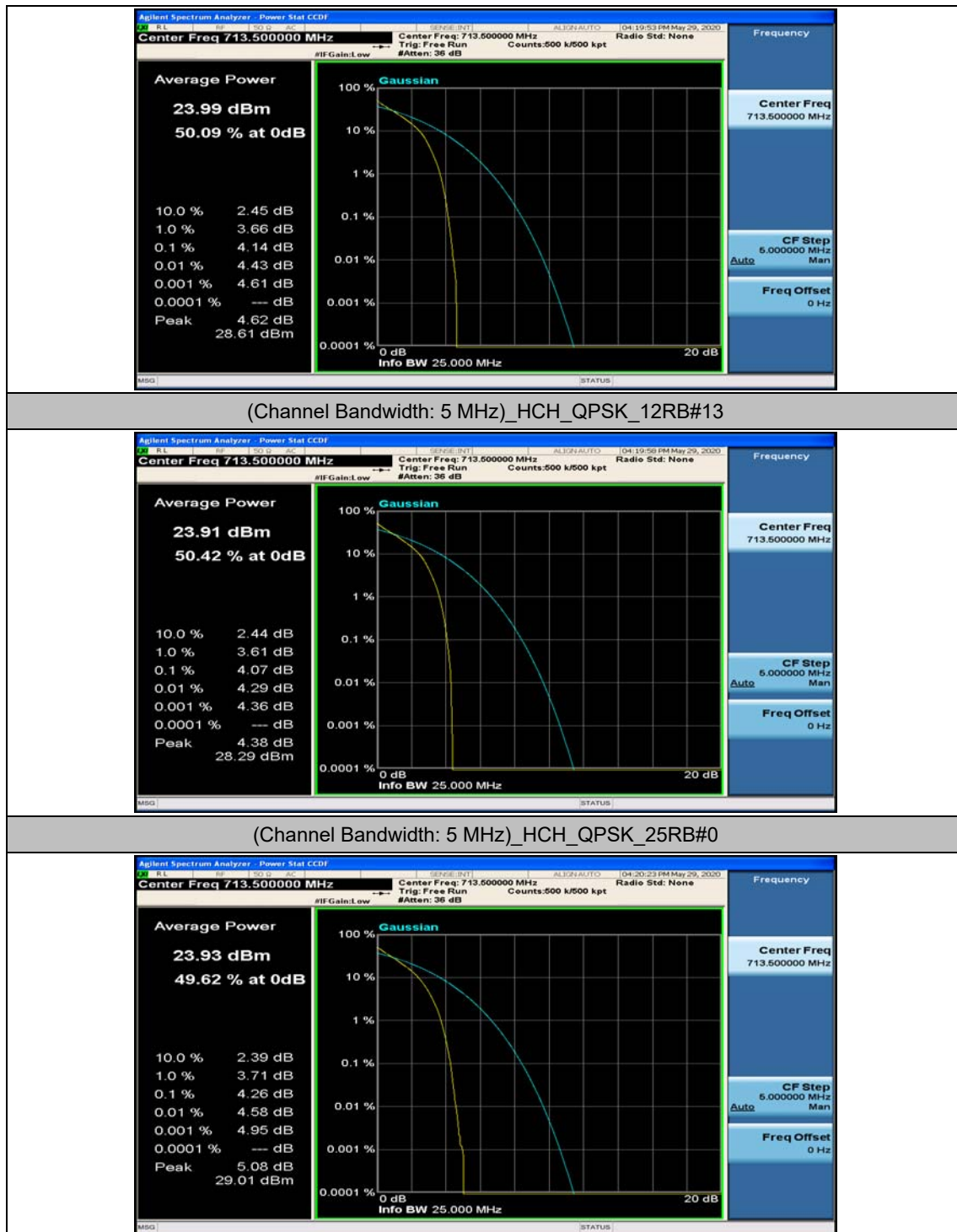


(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0

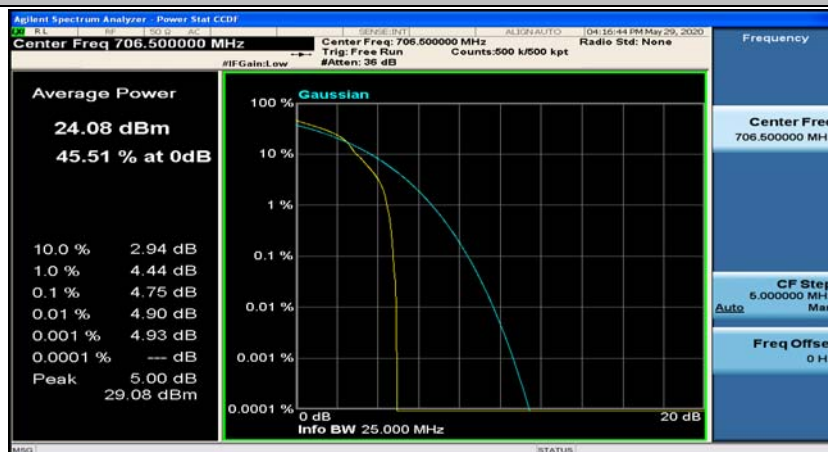


(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12





(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



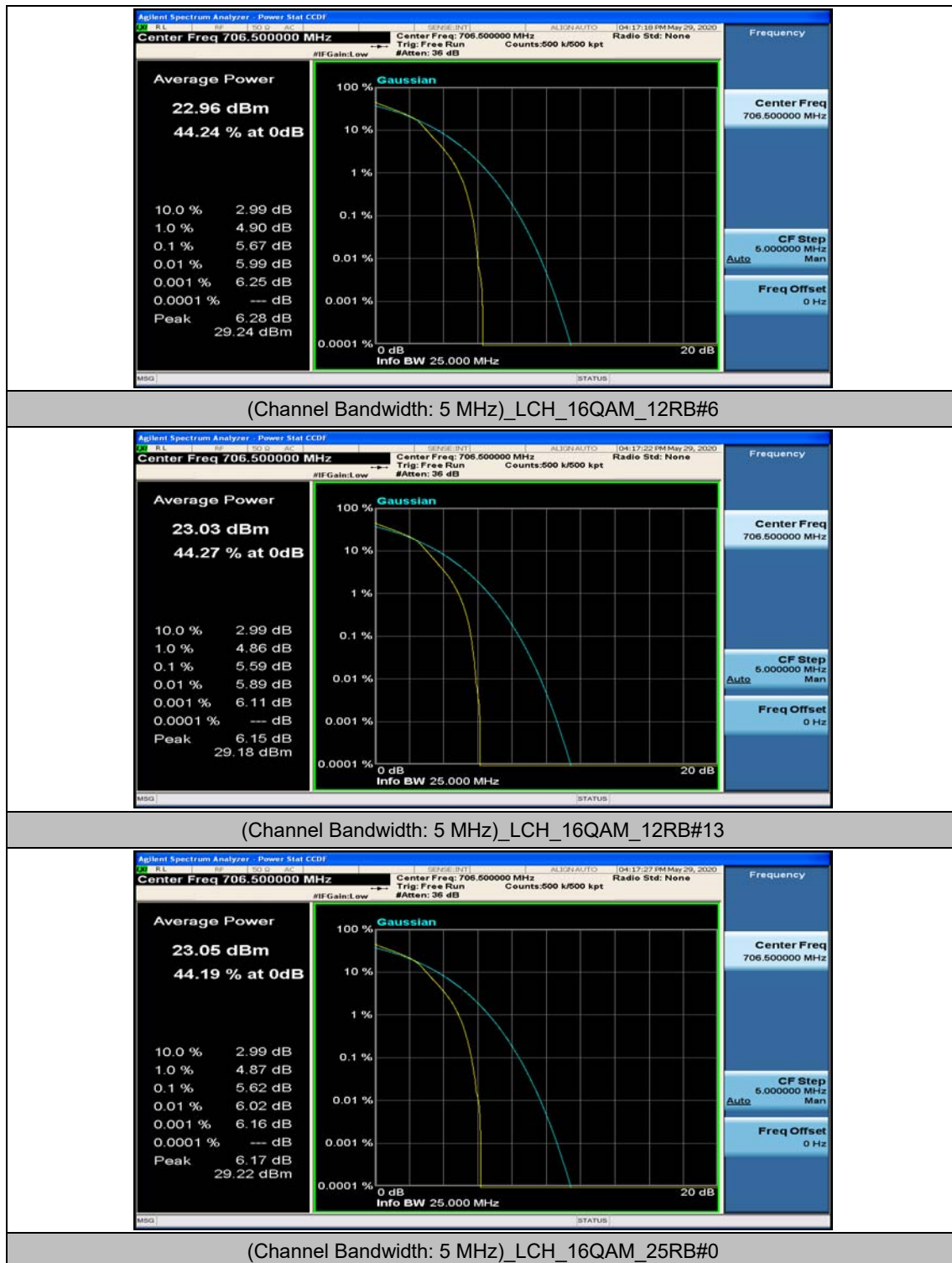
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12



(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24



(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#0





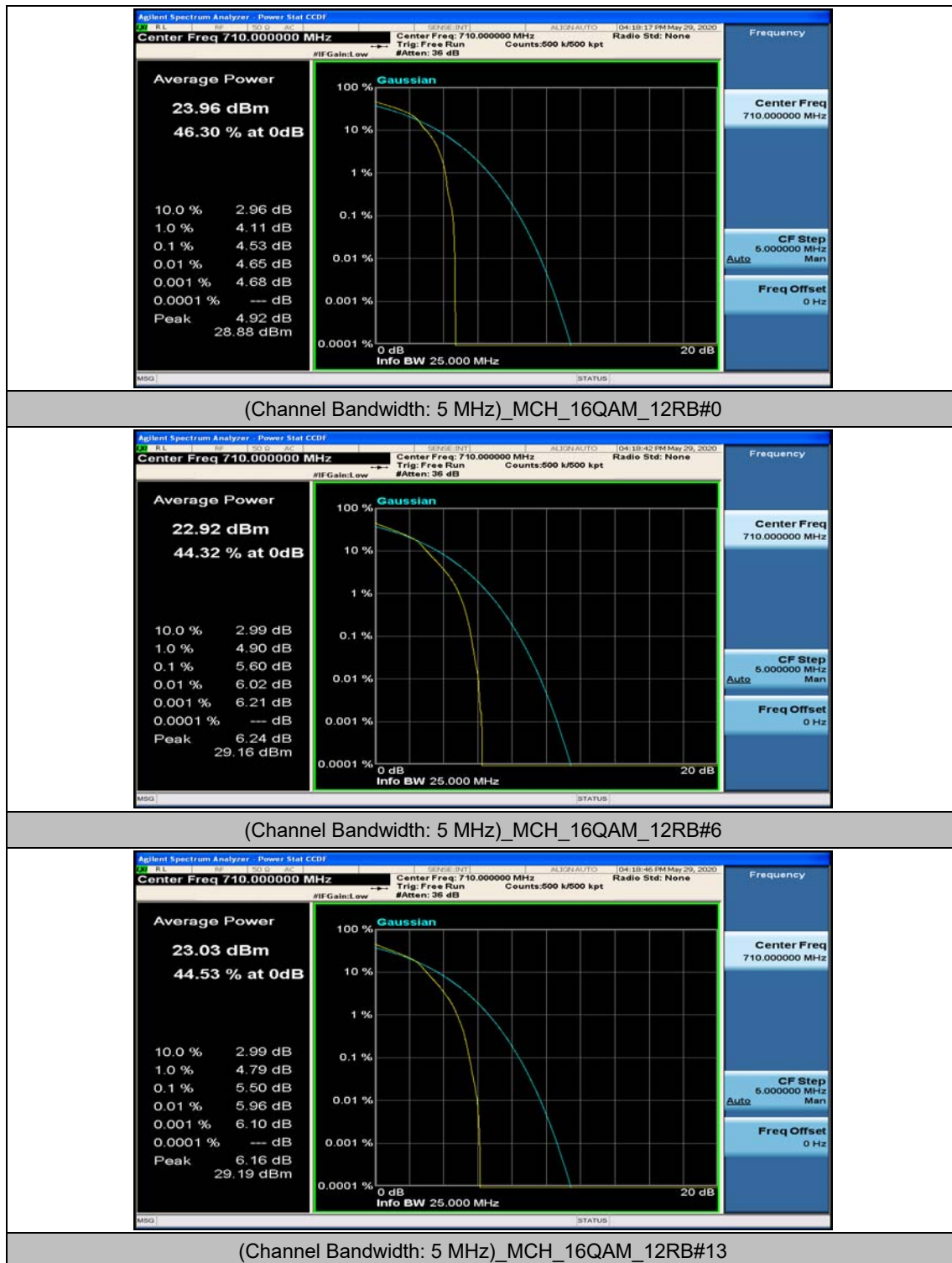
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0

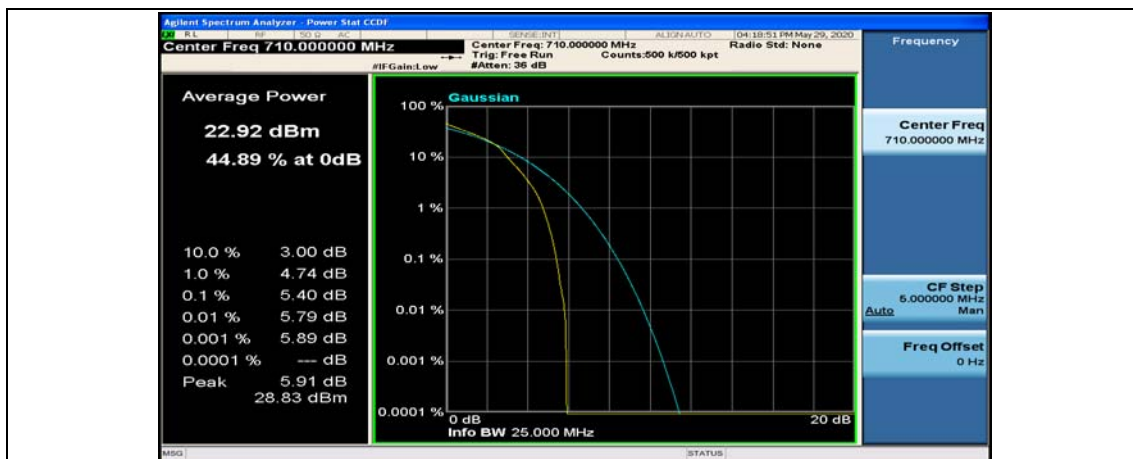


(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12



(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24





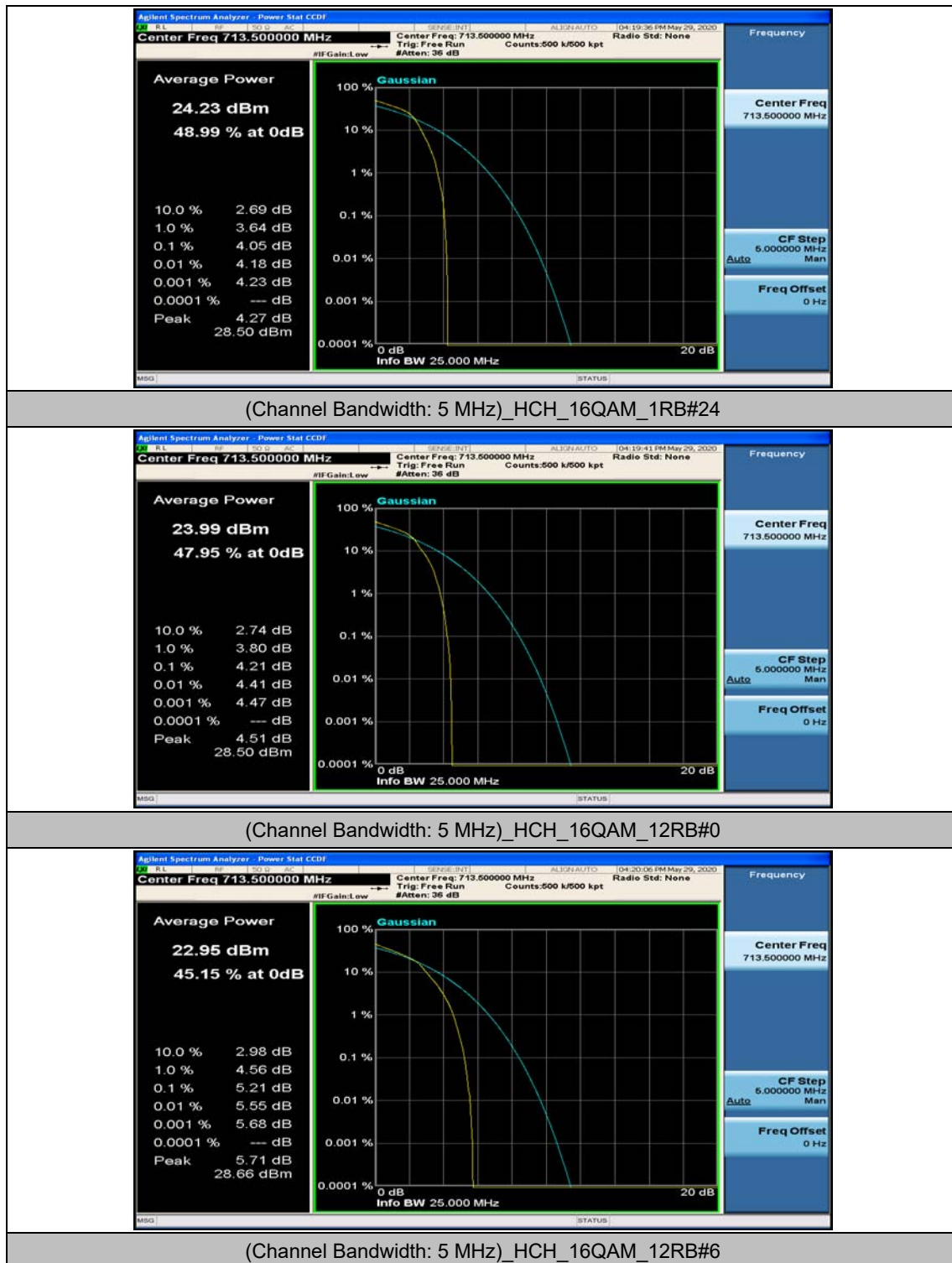
(Channel Bandwidth: 5 MHz)_MCH_16QAM_25RB#0

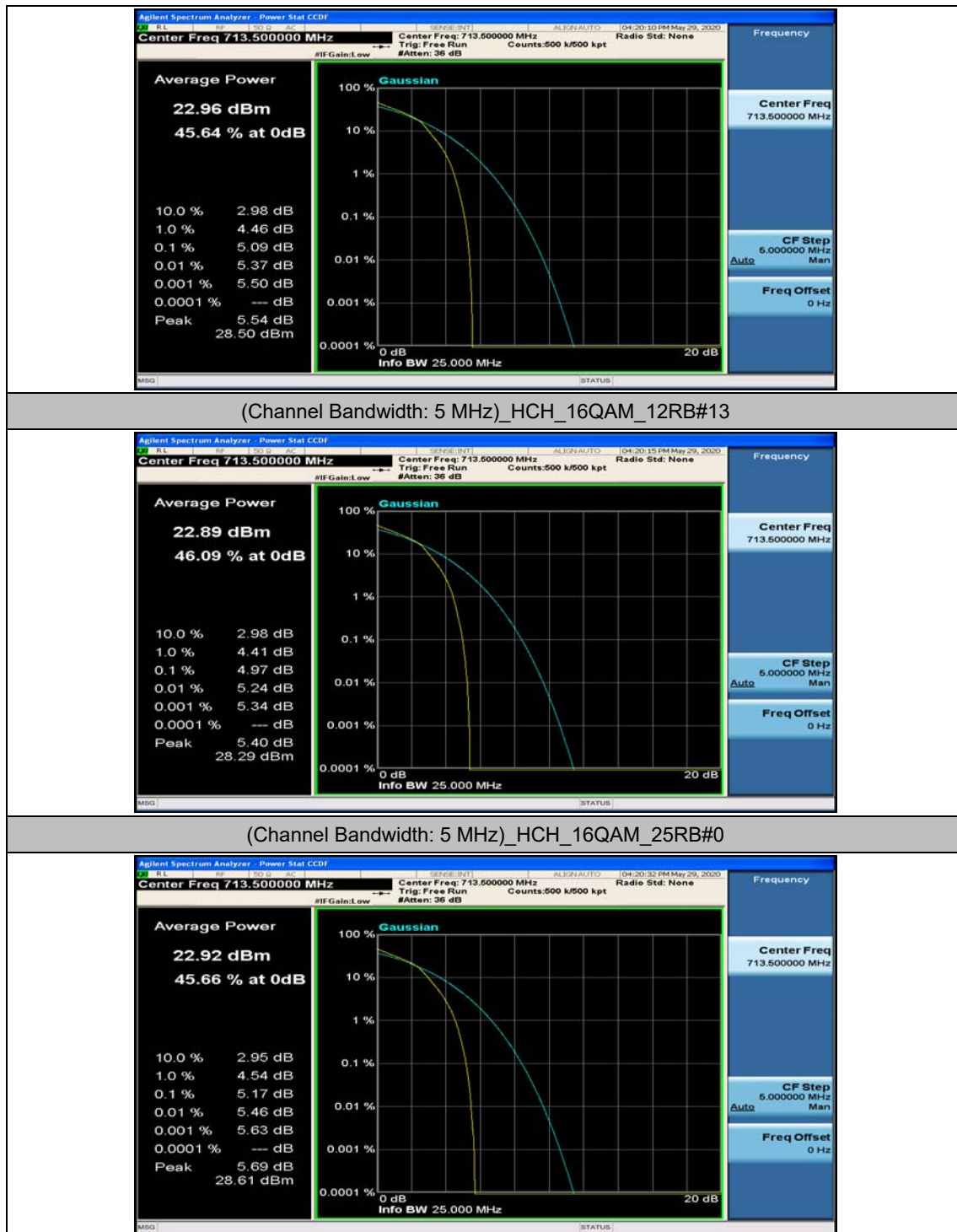


(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12



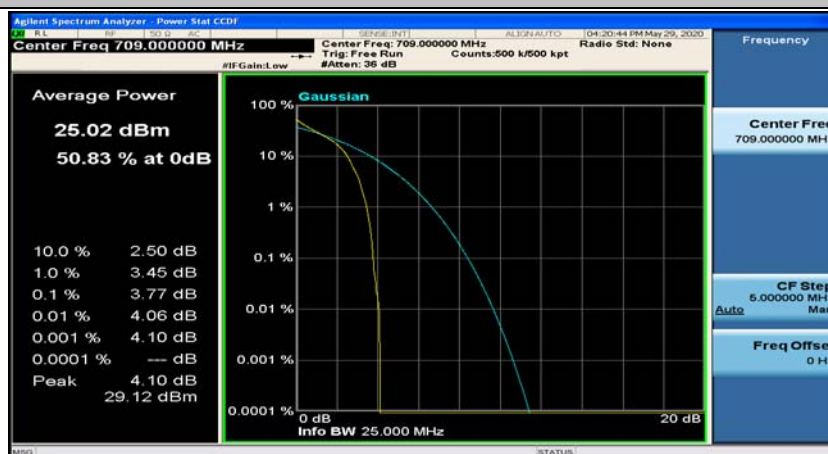


Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#0



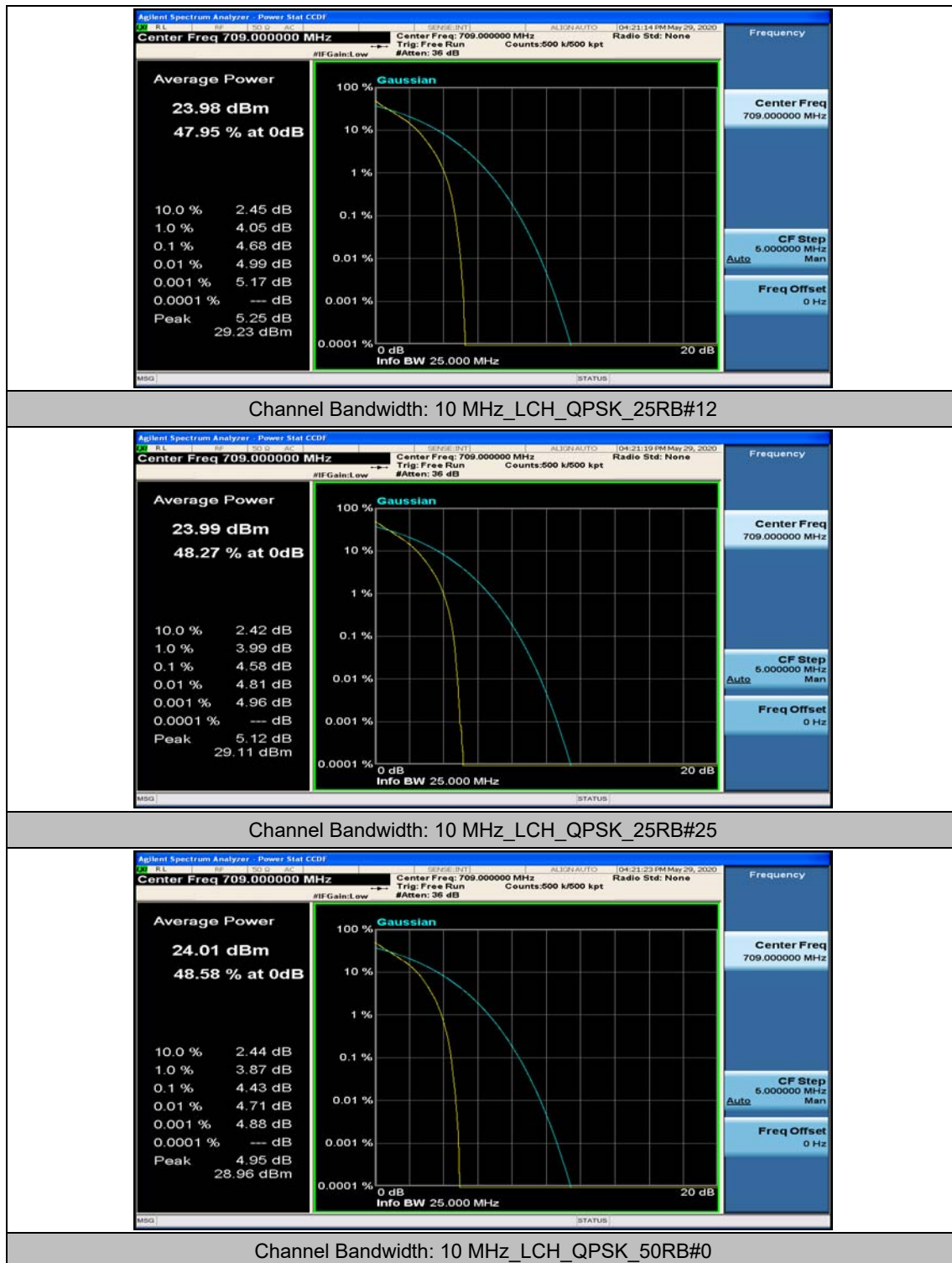
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#24



Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#49



Channel Bandwidth: 10 MHz_LCH_QPSK_25RB#0





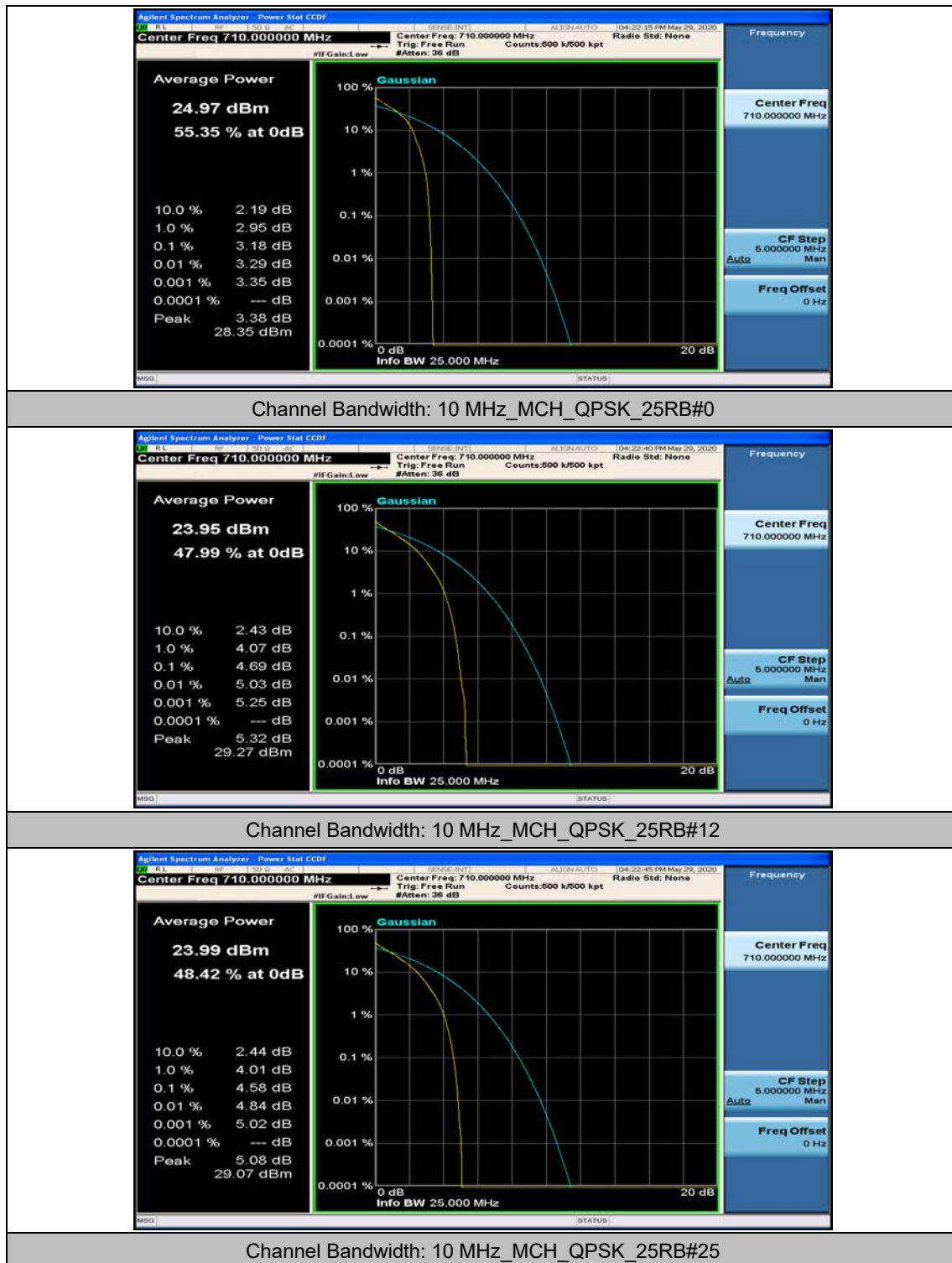
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0

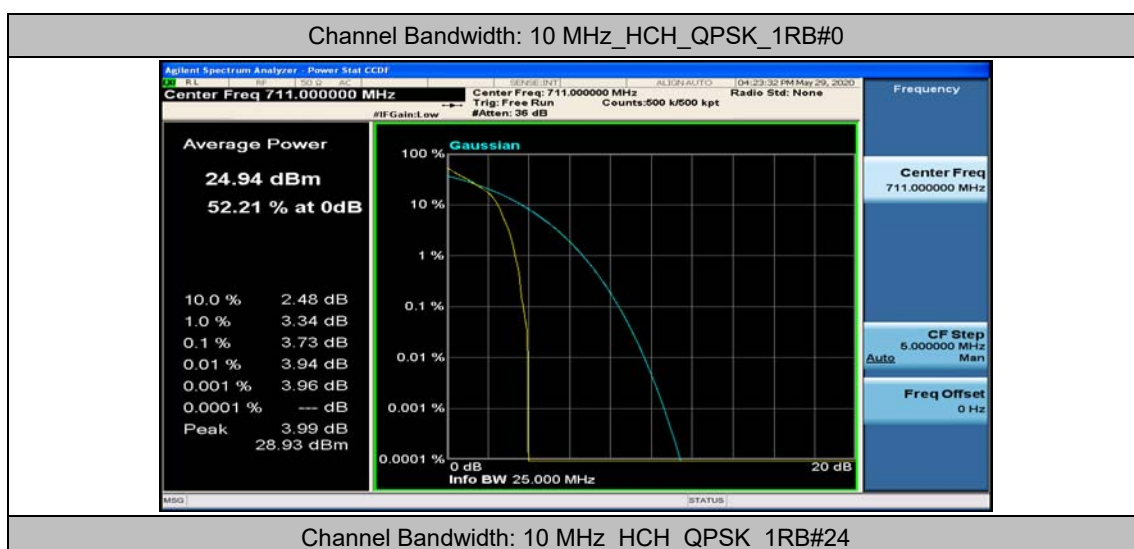


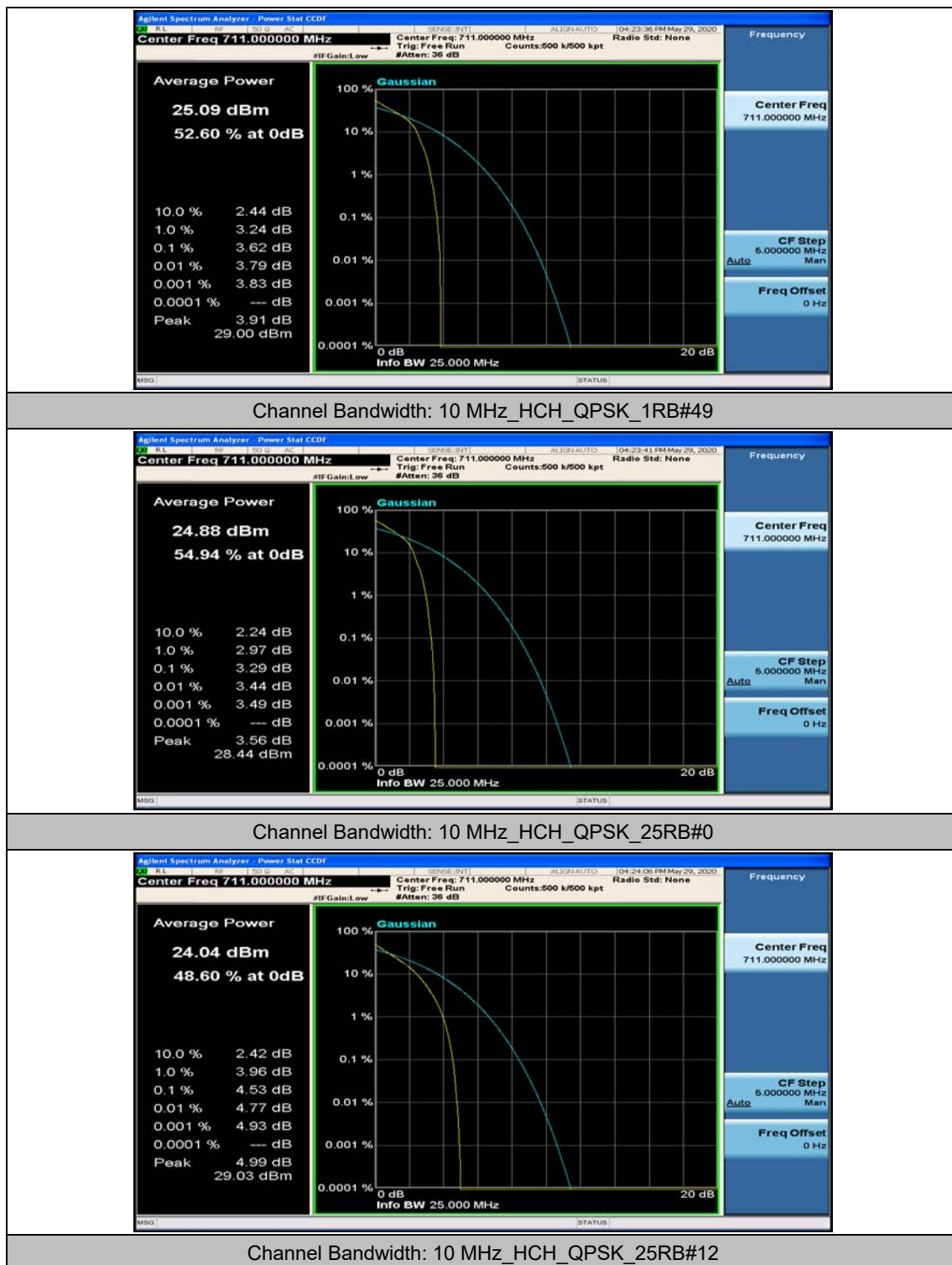
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

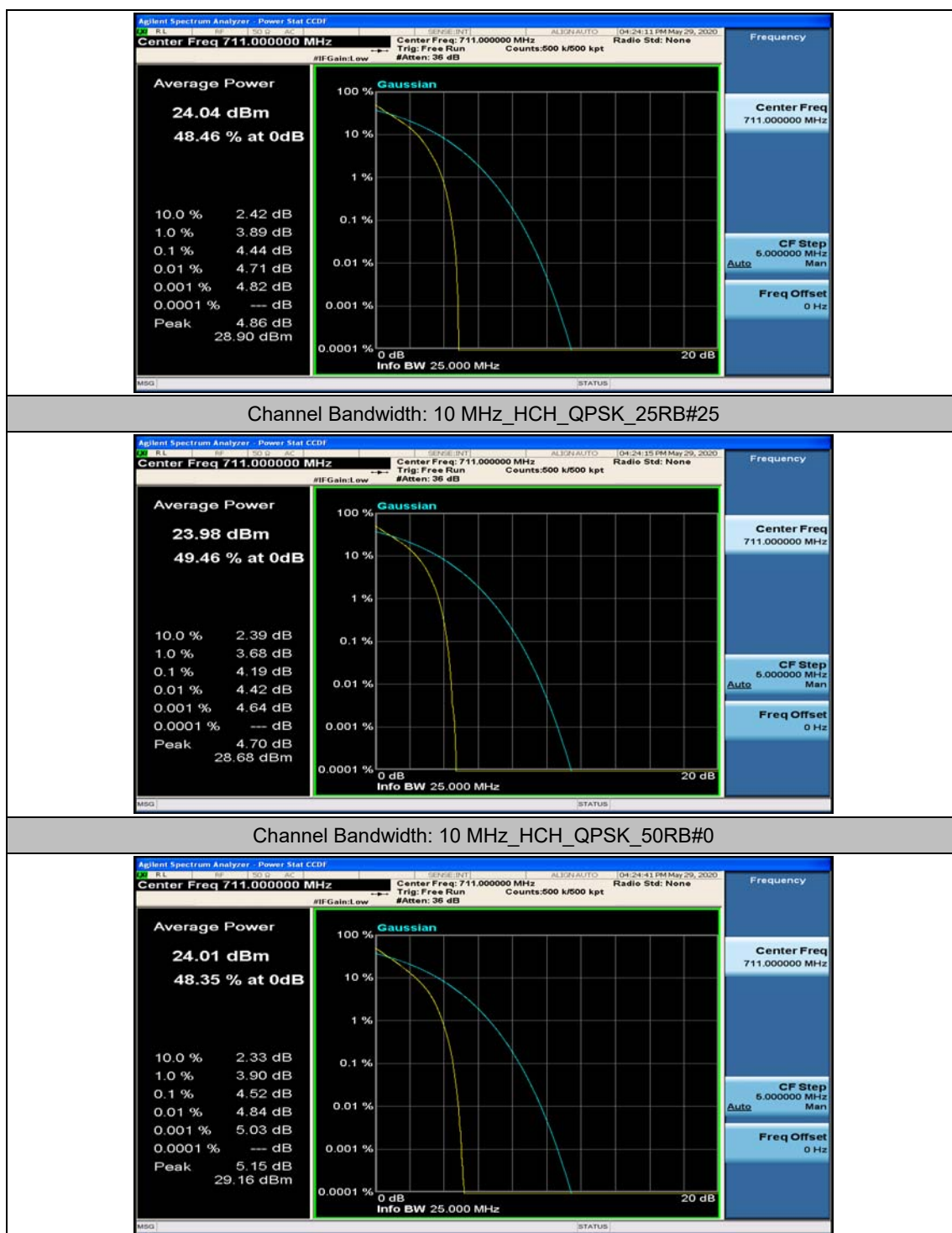


Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

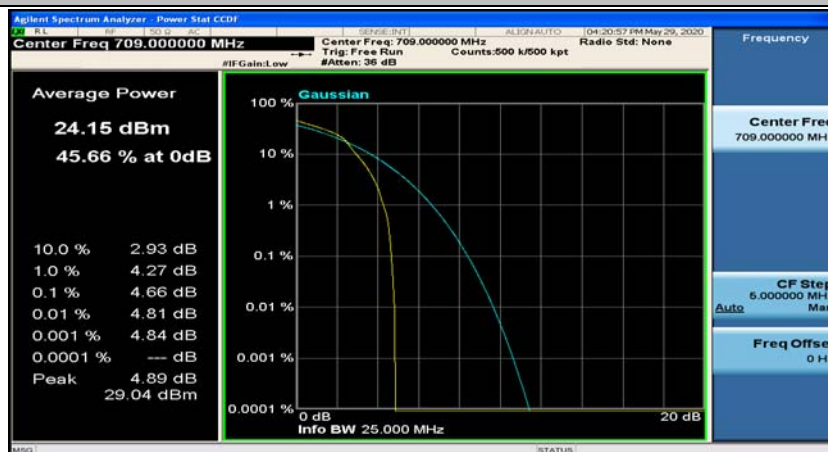




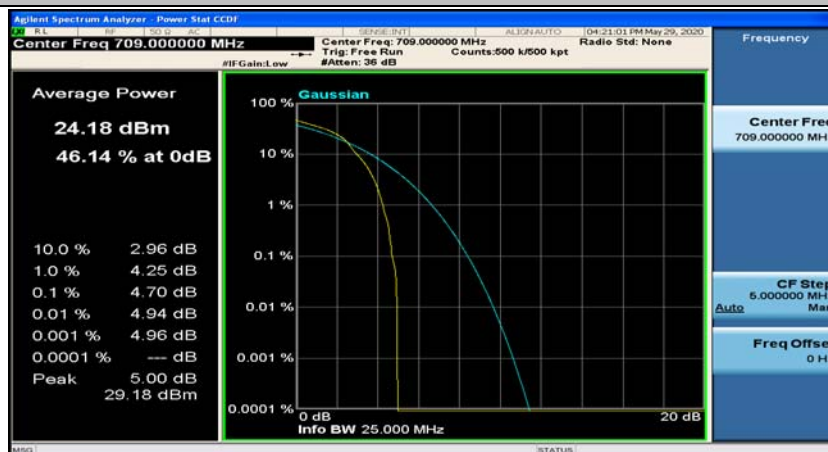




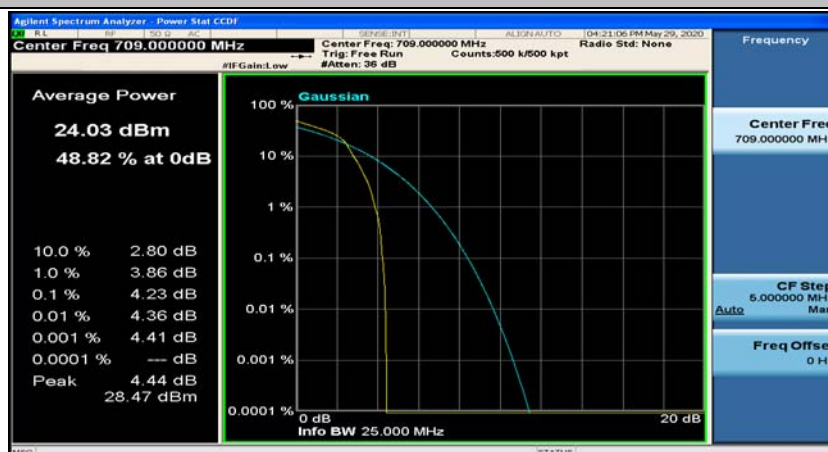
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#0



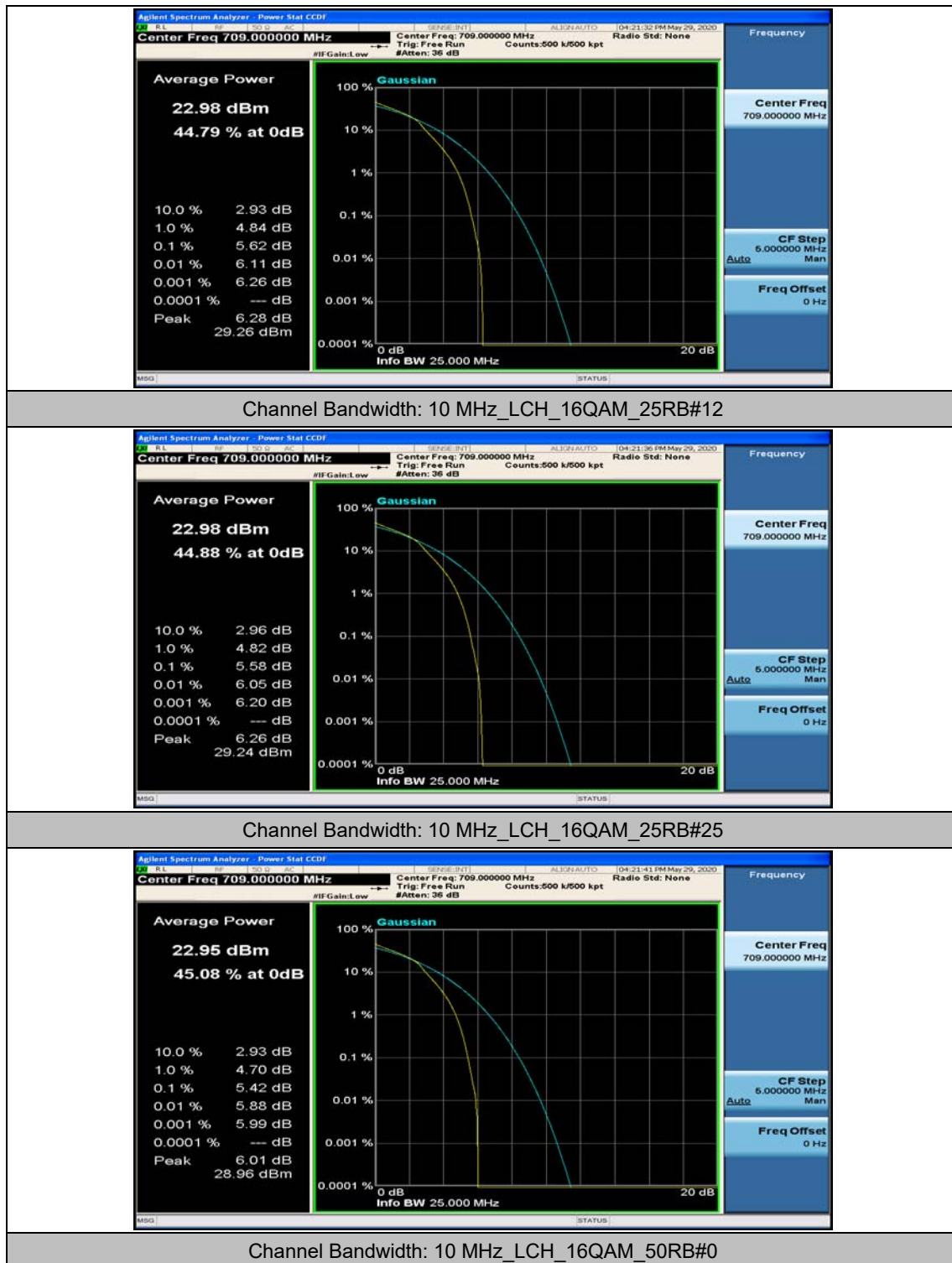
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#24

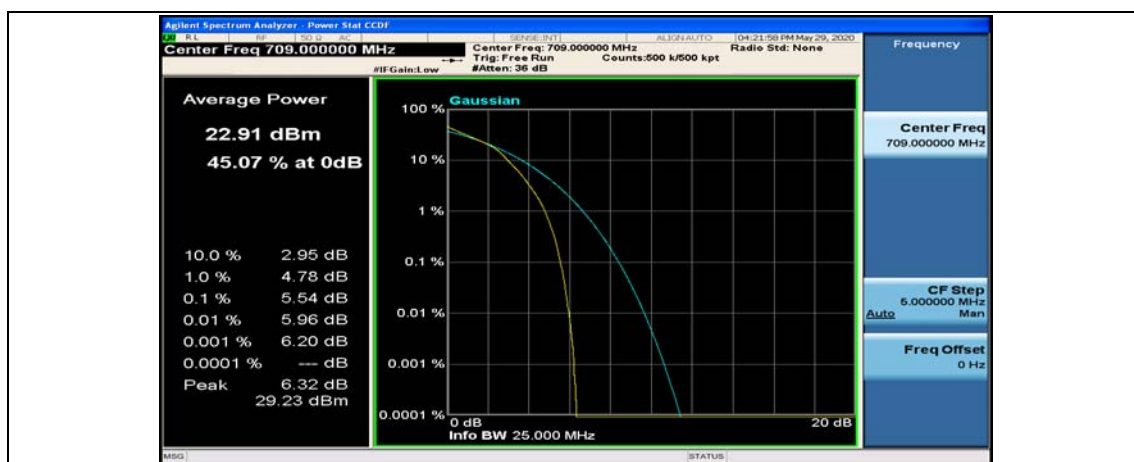


Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#49



Channel Bandwidth: 10 MHz_LCH_16QAM_25RB#0





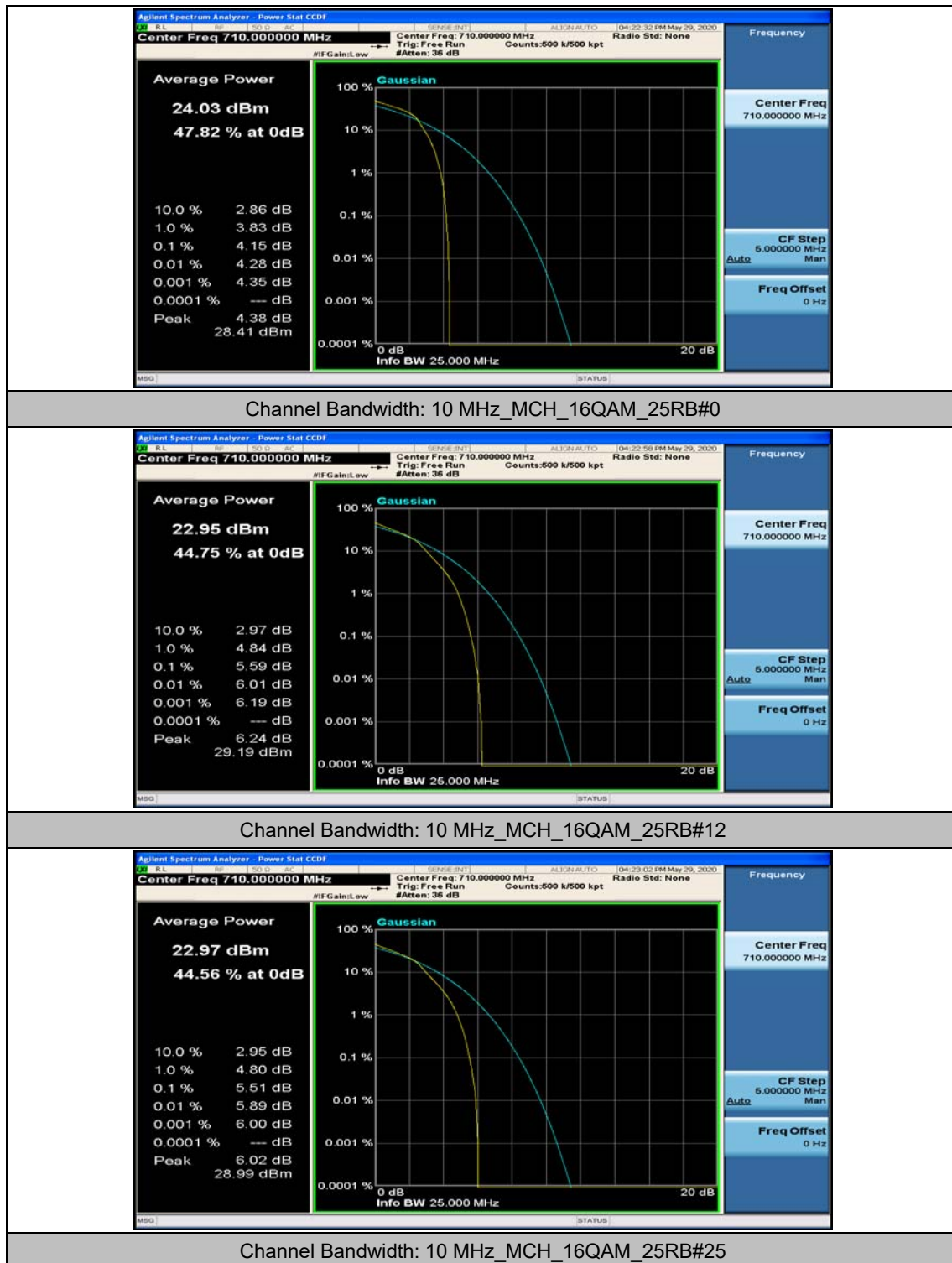
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0

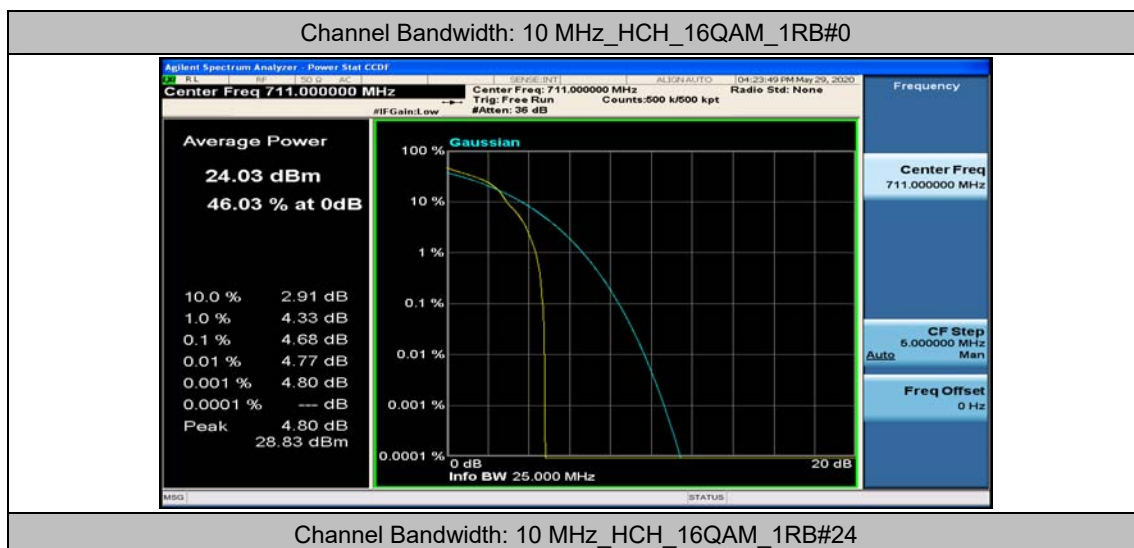


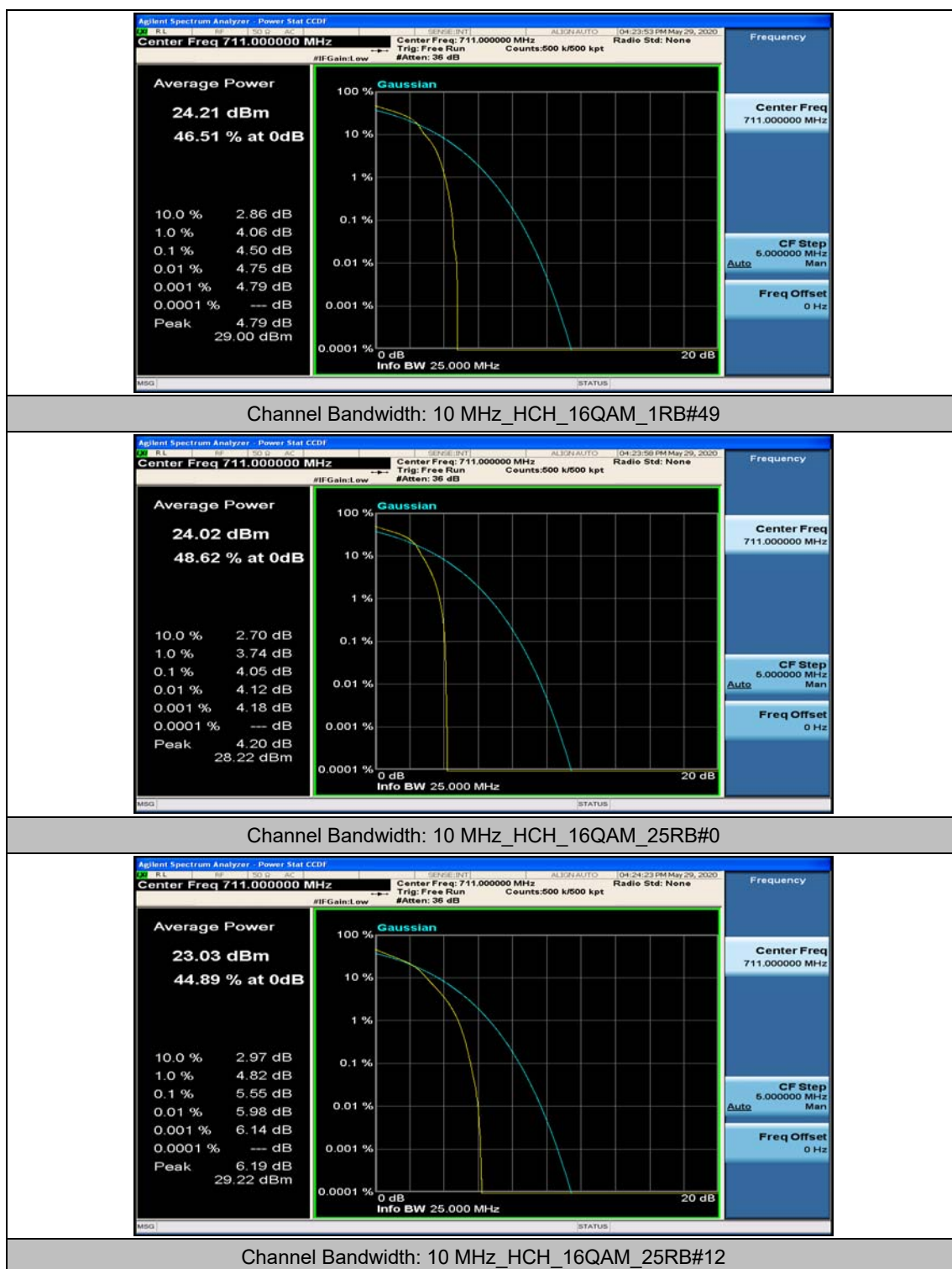
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24

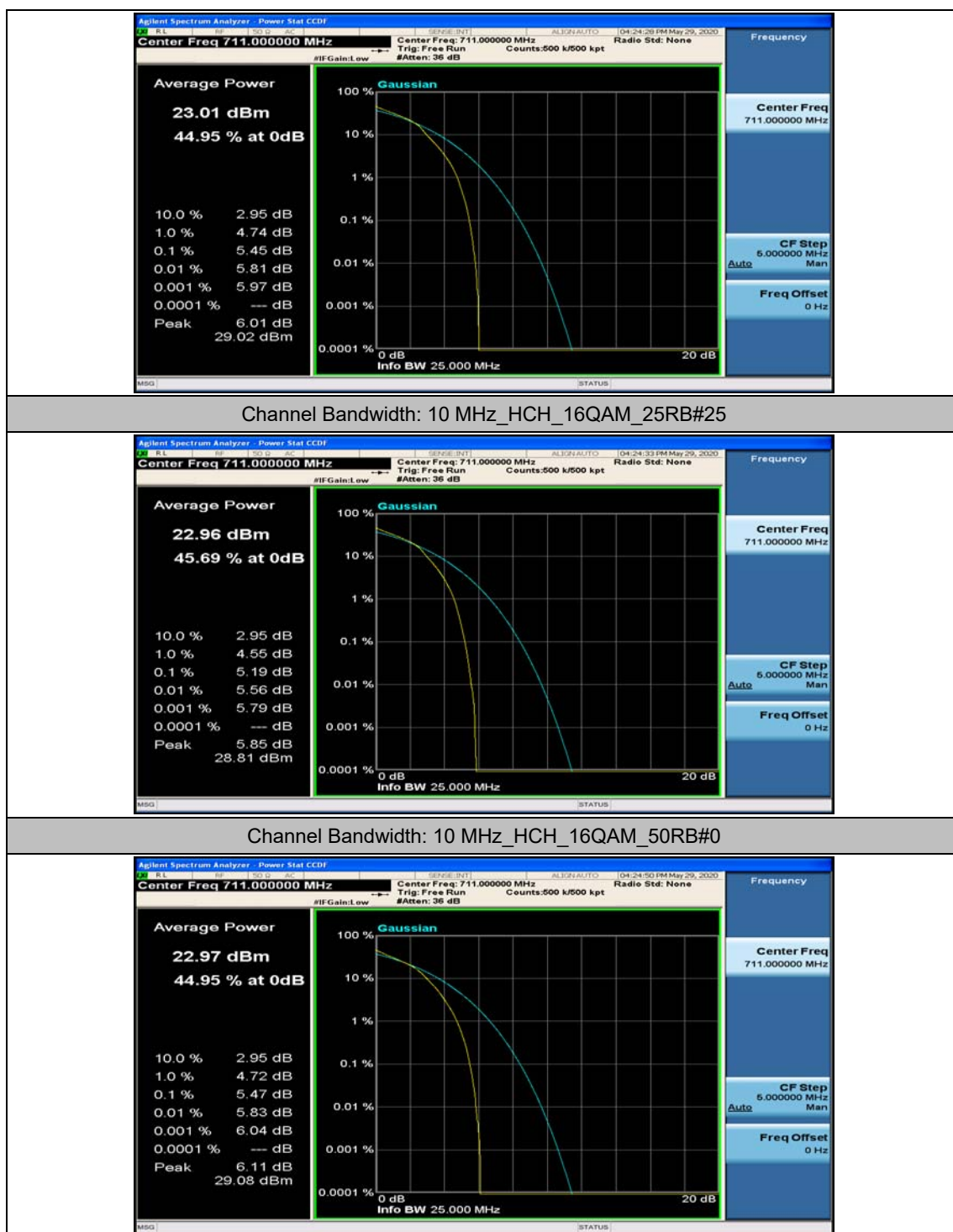


Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49









Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	4.4716	4.864	PASS
	MCH	25	0	4.4691	4.911	PASS
	HCH	25	0	4.4774	4.894	PASS
16QAM	LCH	25	0	4.4790	4.789	PASS
	MCH	25	0	4.4753	4.871	PASS
	HCH	25	0	4.4849	4.888	PASS

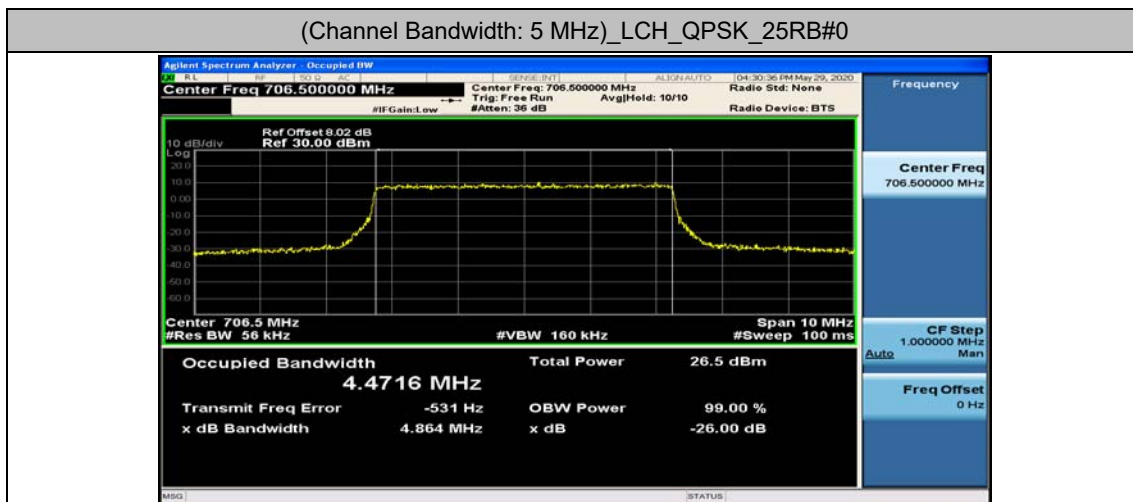
Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	8.9368	9.536	PASS
	MCH	50	0	8.9356	9.552	PASS
	HCH	50	0	8.9326	9.627	PASS
16QAM	LCH	50	0	8.9365	9.442	PASS
	MCH	50	0	8.9424	9.495	PASS
	HCH	50	0	8.9295	9.448	PASS

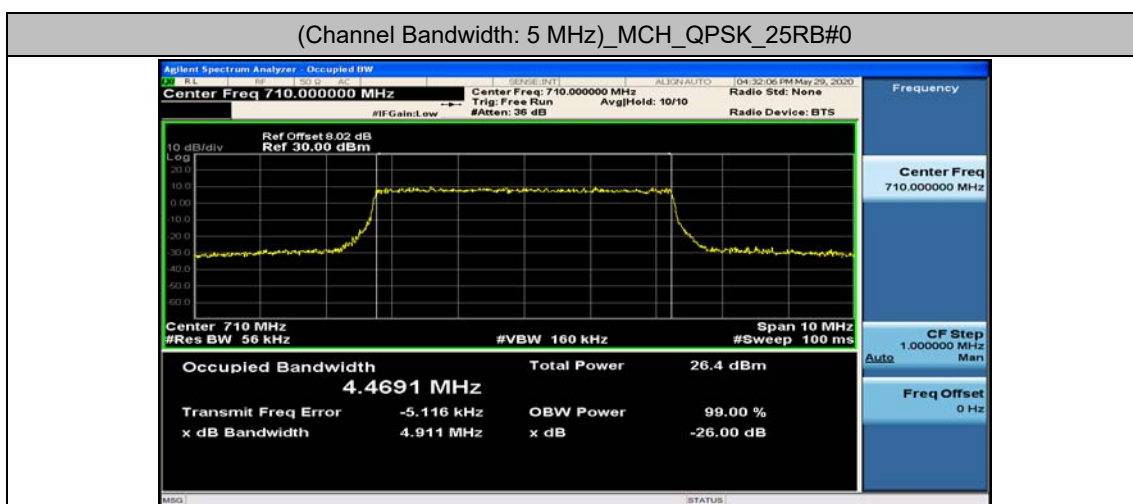
Test Graphs

Channel Bandwidth: 5 MHz

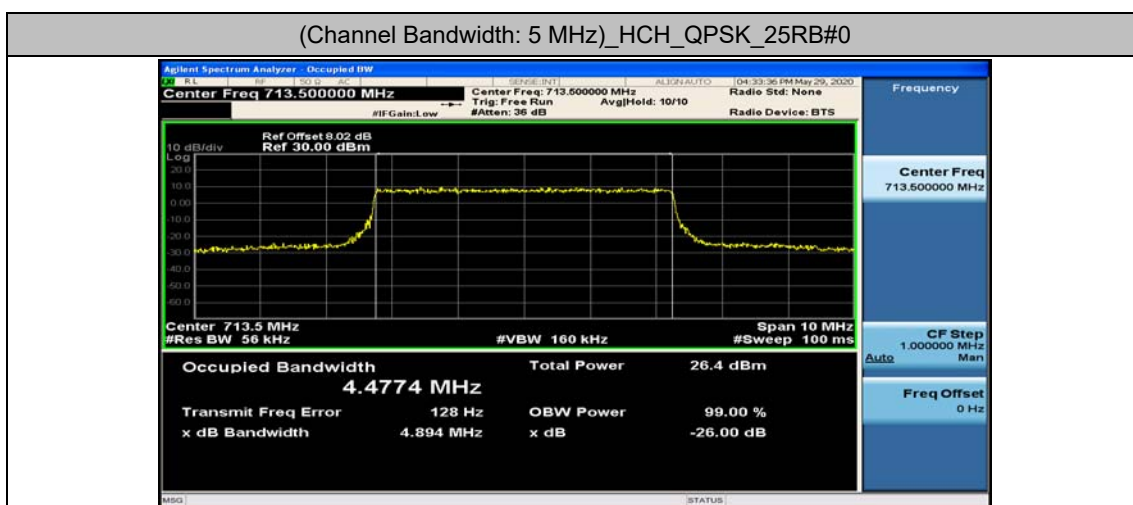
(Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0



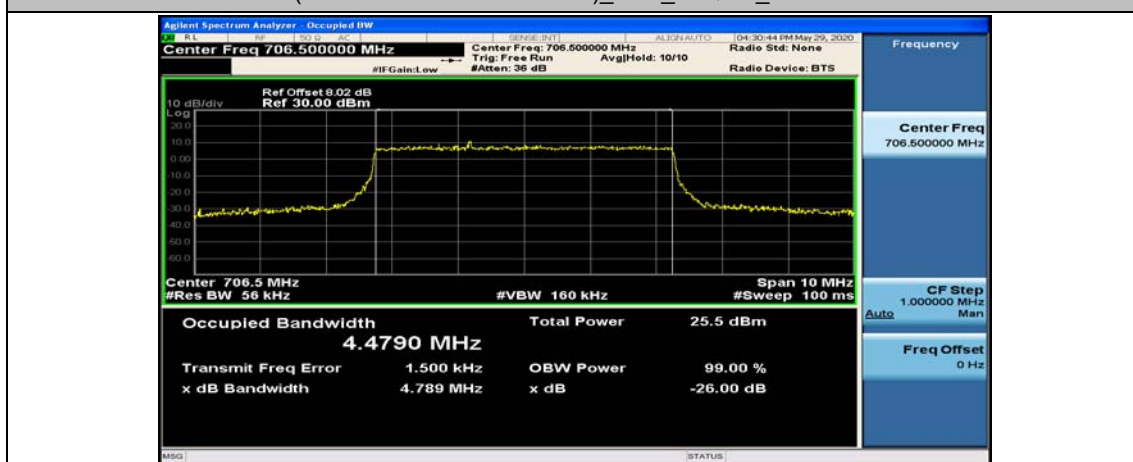
(Channel Bandwidth: 5 MHz)_MCH_QPSK_25RB#0



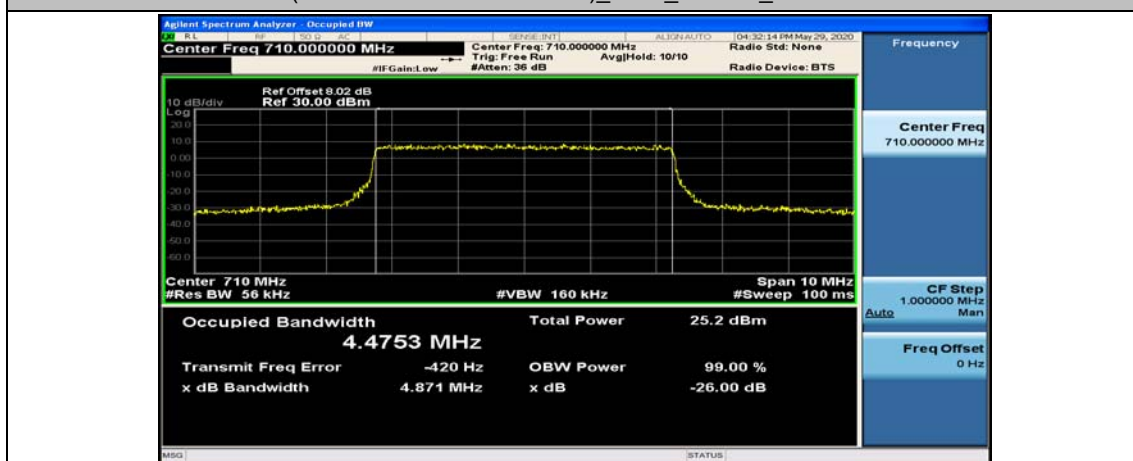
(Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0



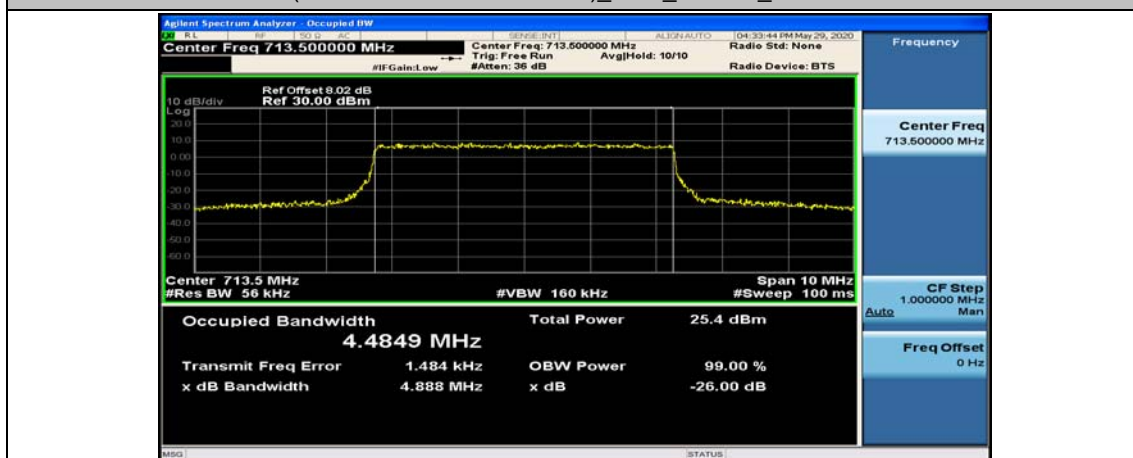
(Channel Bandwidth: 5 MHz)_LCH_16QAM_25RB#0

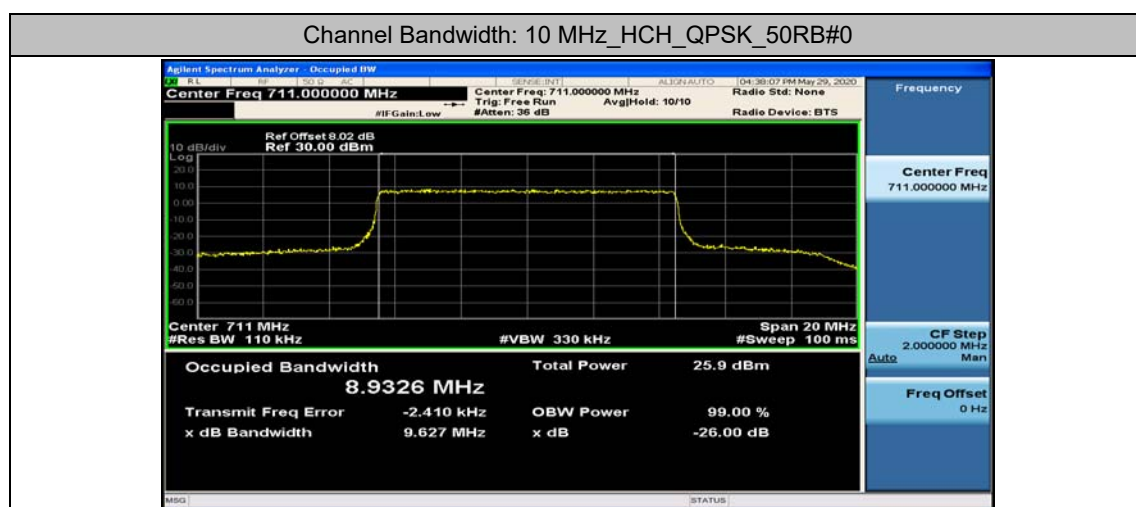
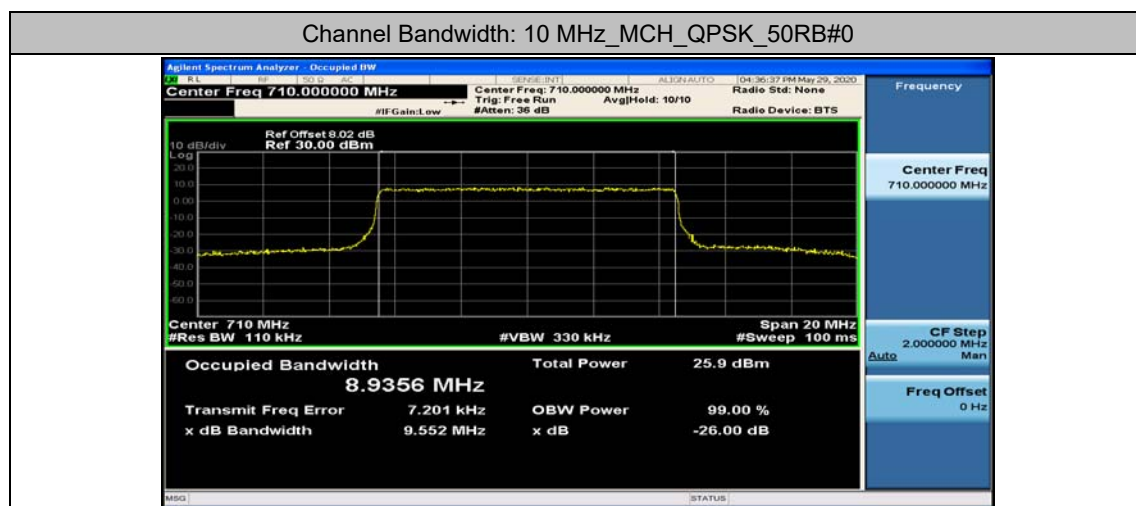
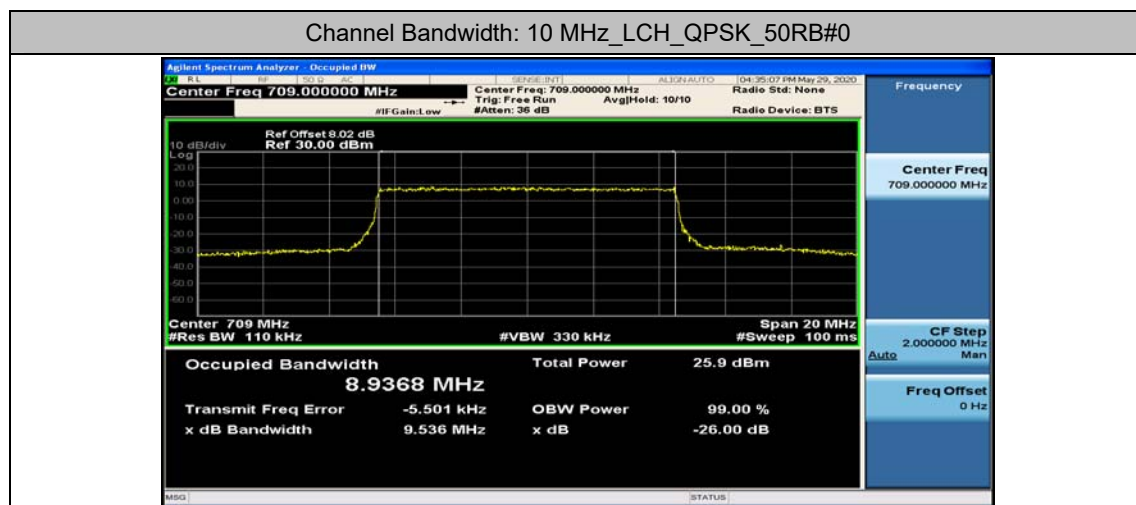


(Channel Bandwidth: 5 MHz)_MCH_16QAM_25RB#0

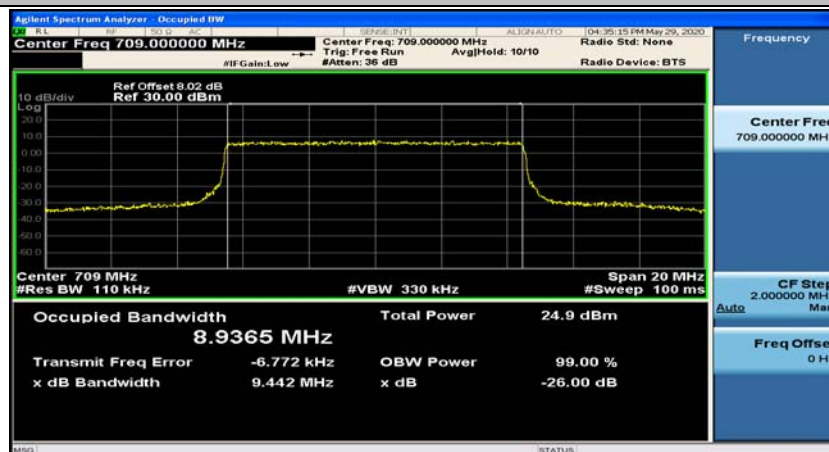


(Channel Bandwidth: 5 MHz)_HCH_16QAM_25RB#0

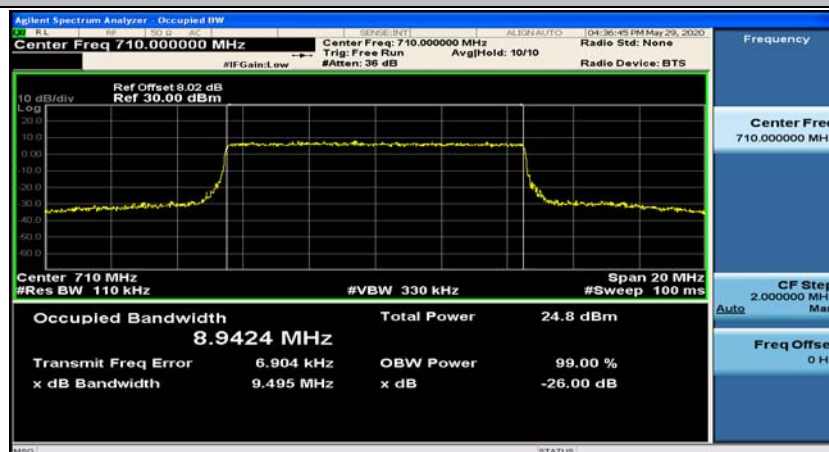


Channel Bandwidth: 10 MHz

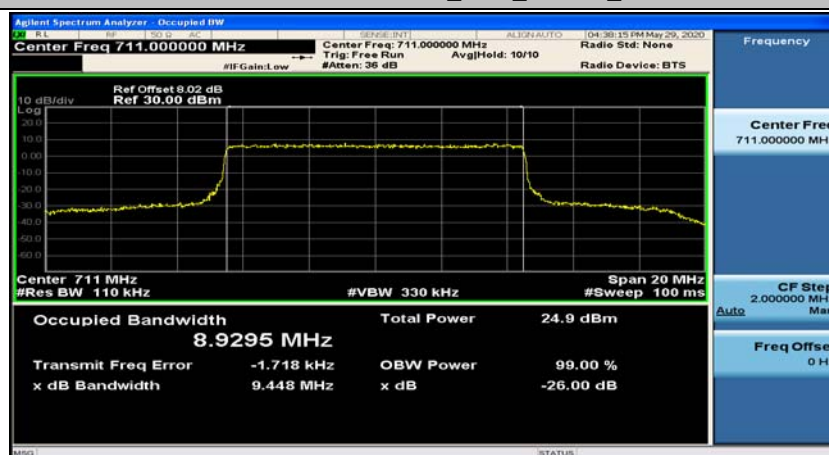
Channel Bandwidth: 10 MHz_LCH_16QAM_50RB#0



Channel Bandwidth: 10 MHz_MCH_16QAM_50RB#0



Channel Bandwidth: 10 MHz_HCH_16QAM_50RB#0

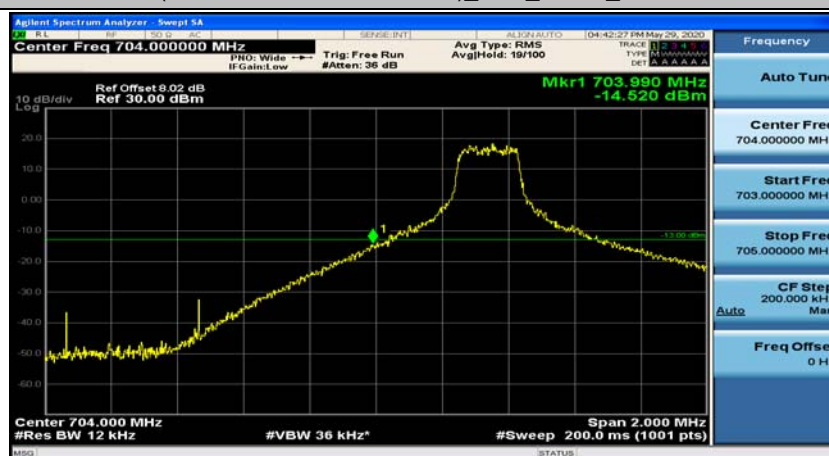


Appendix D: Band Edge

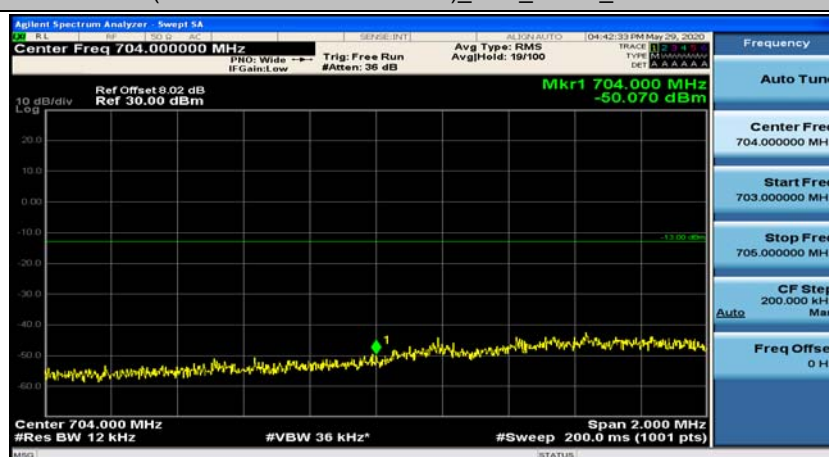
Test Graphs

Channel Bandwidth: 5 MHz

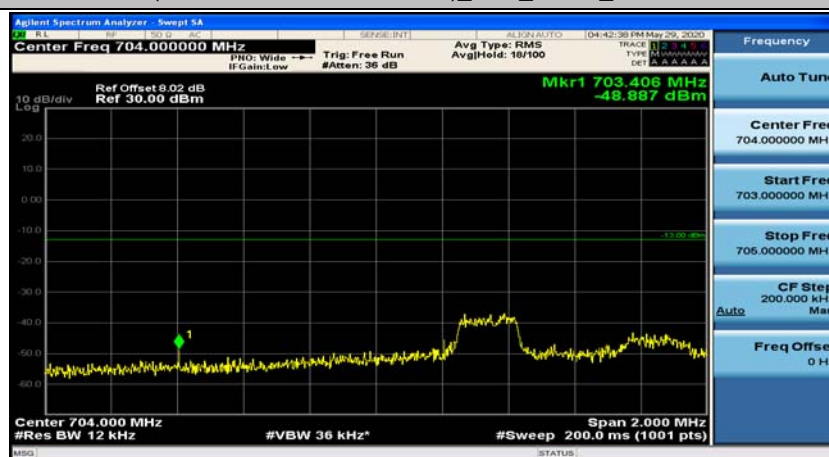
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



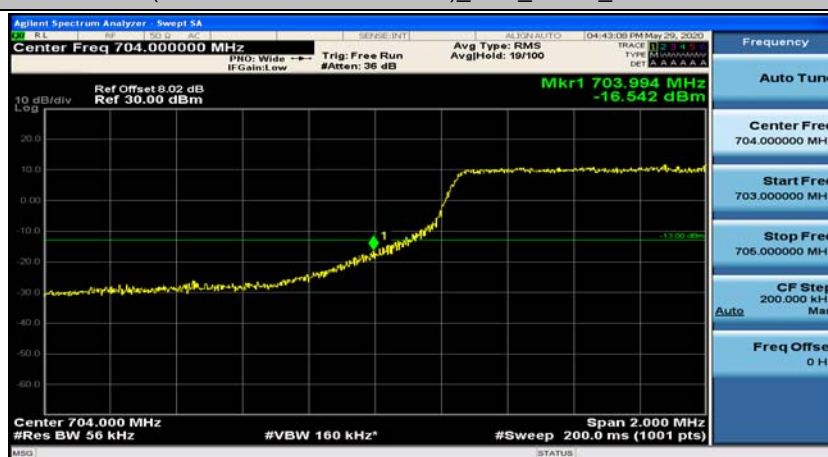
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12



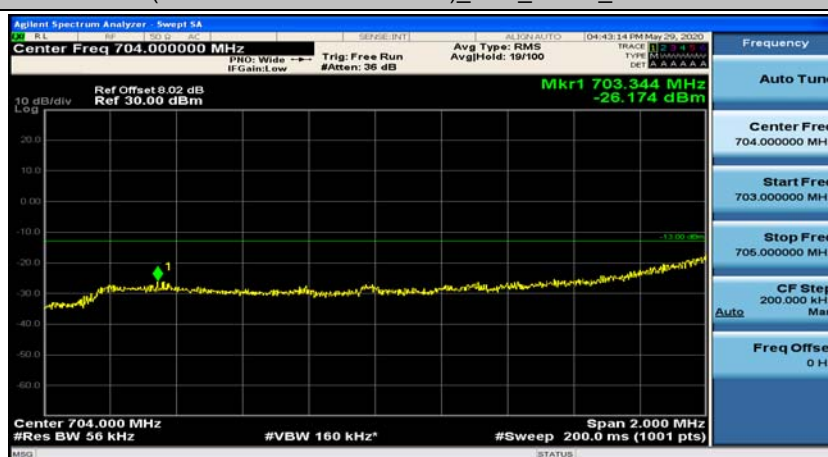
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24



(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0



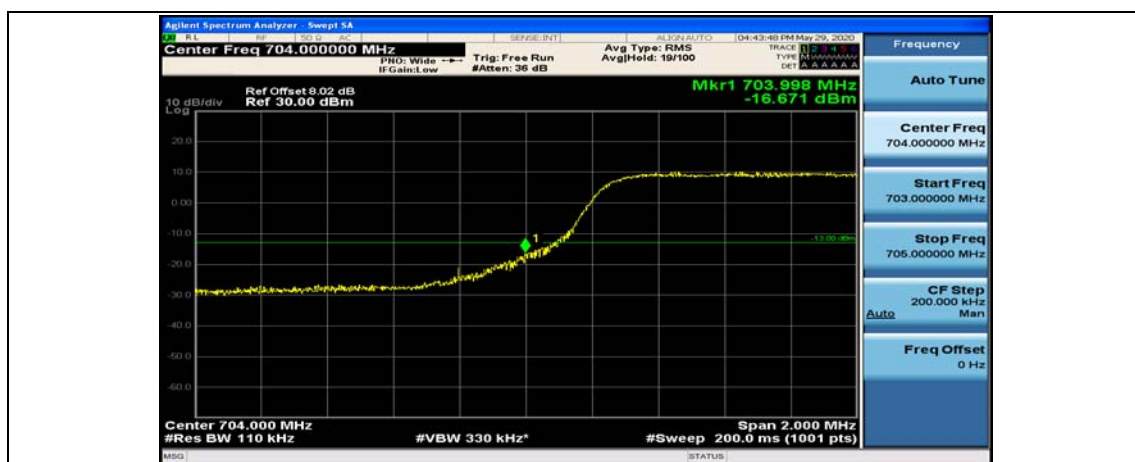
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#6



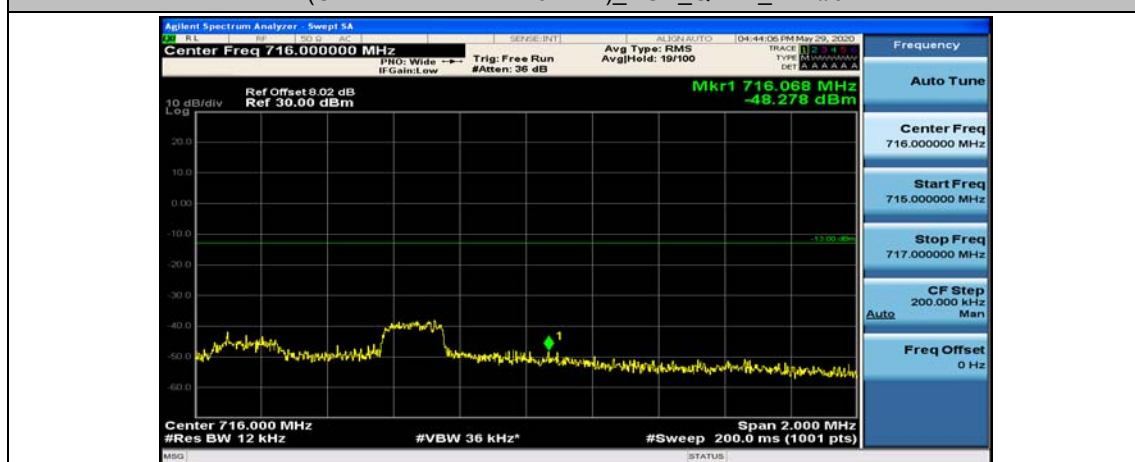
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#13



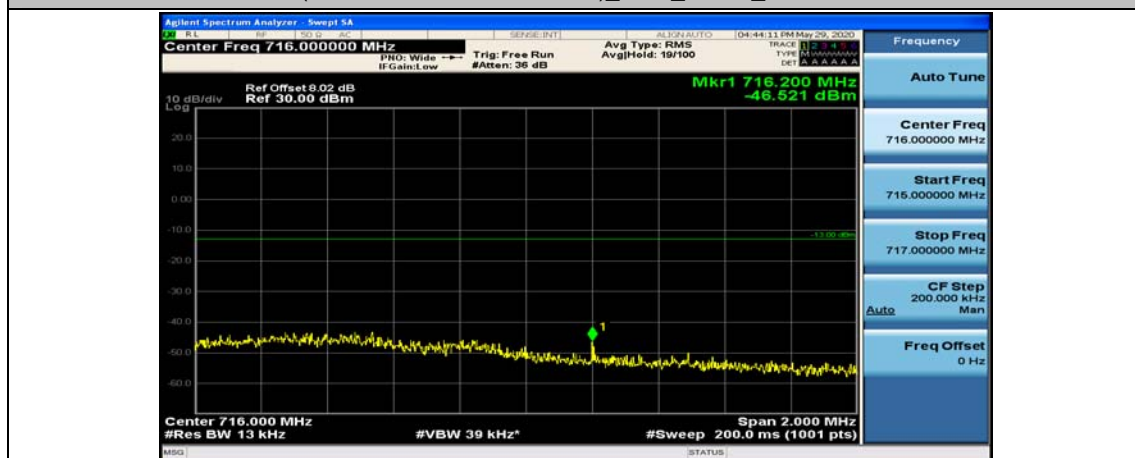
(Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0



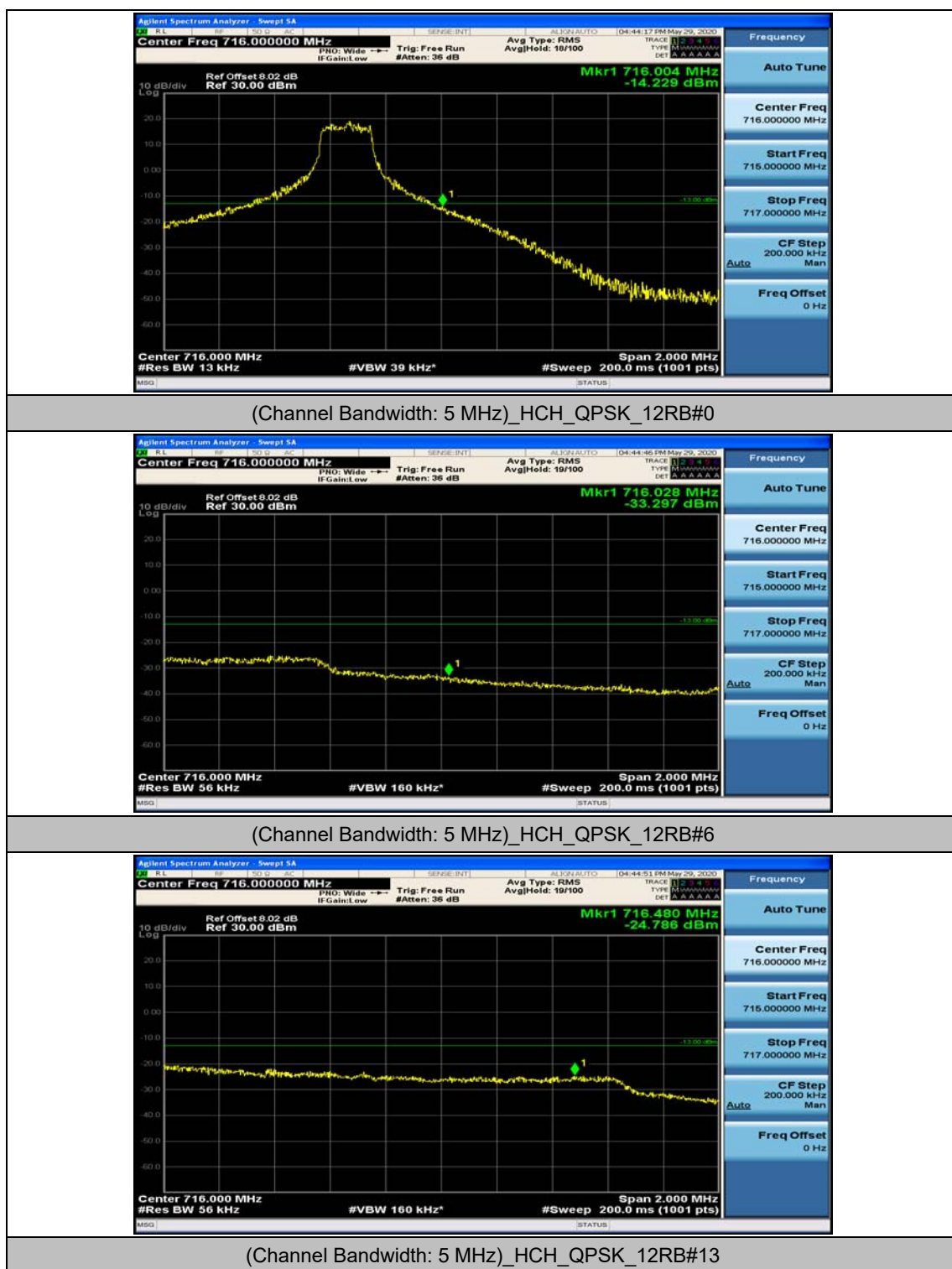
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24





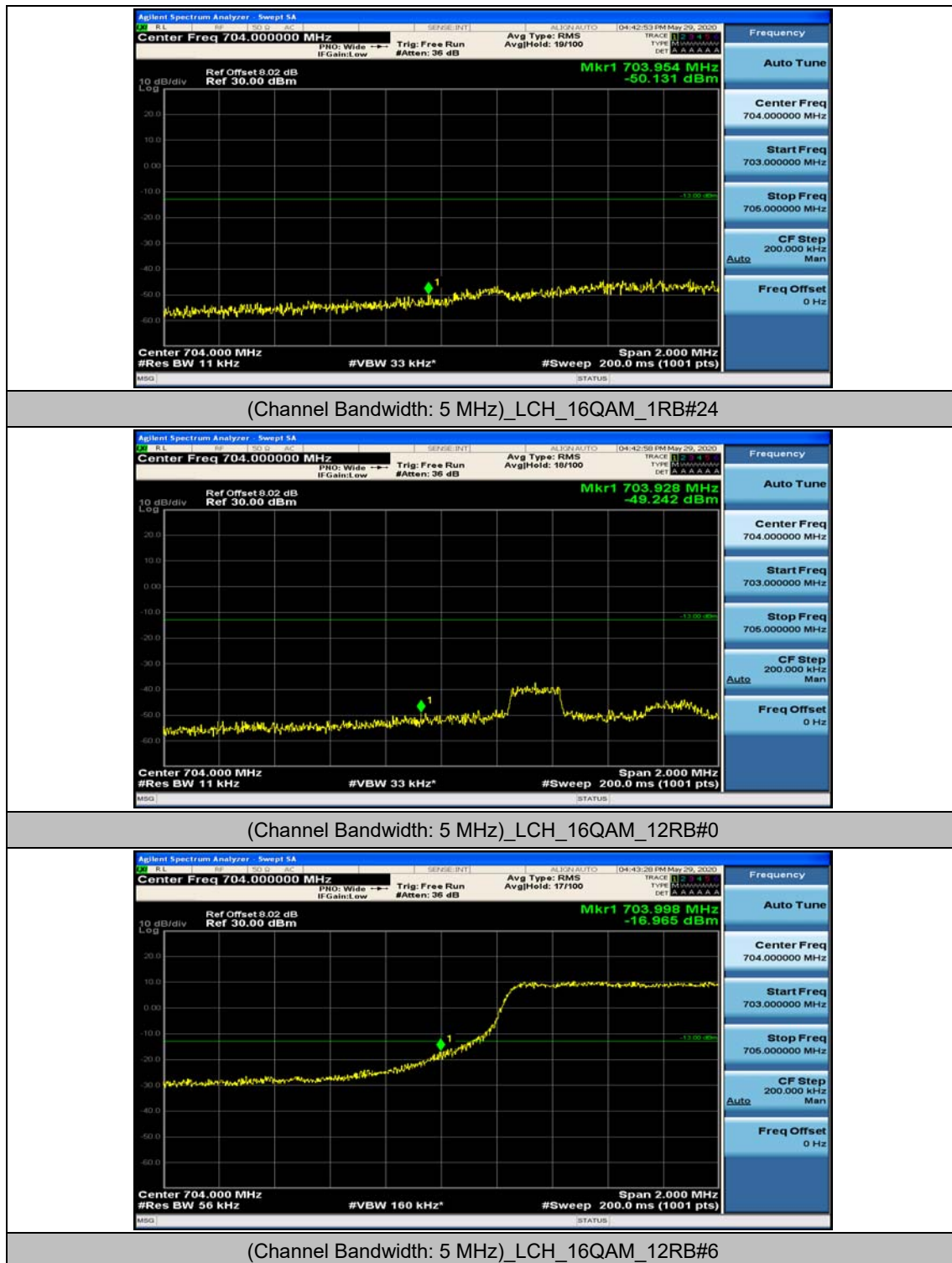
(Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0

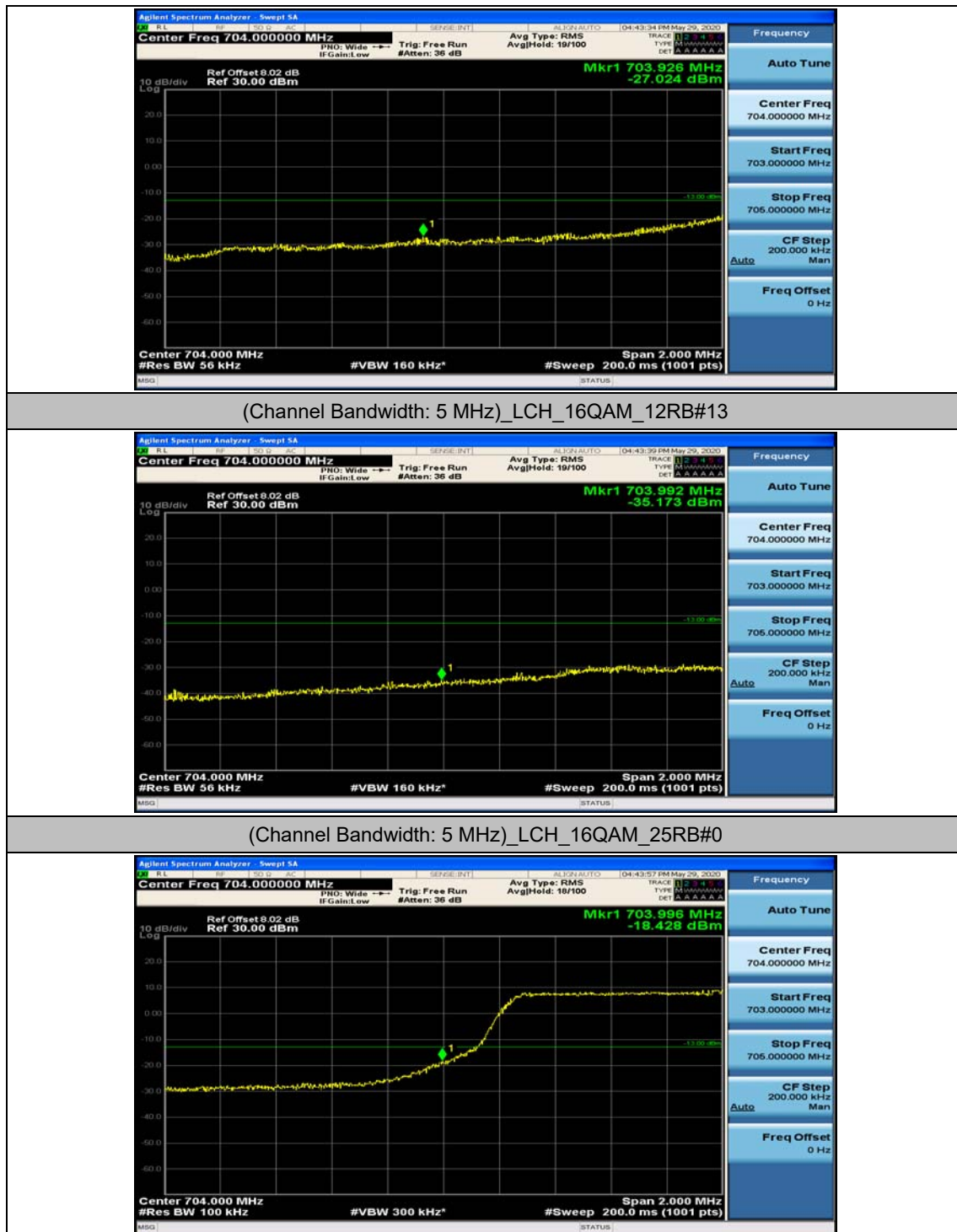


(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0

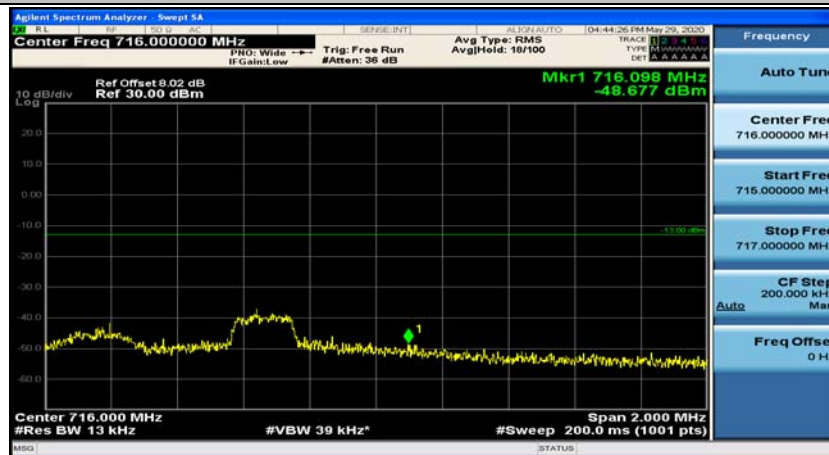


(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

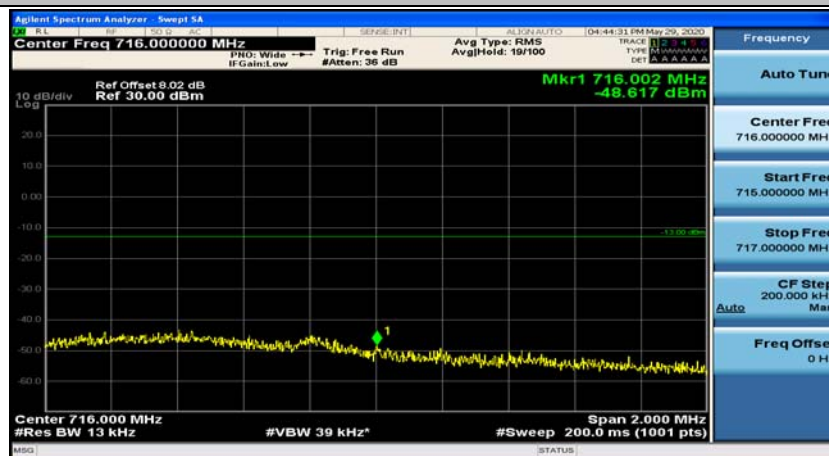




(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



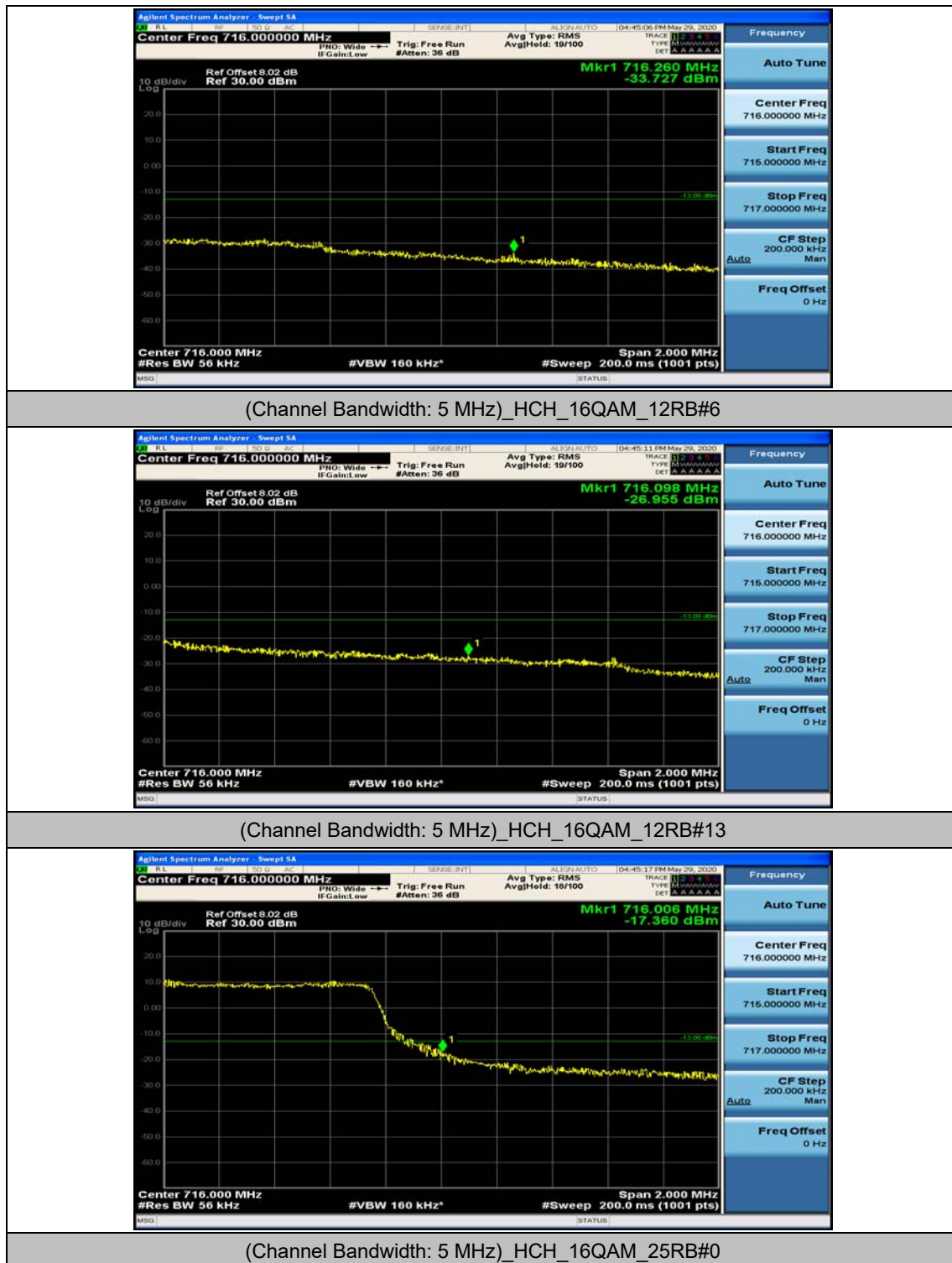
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12

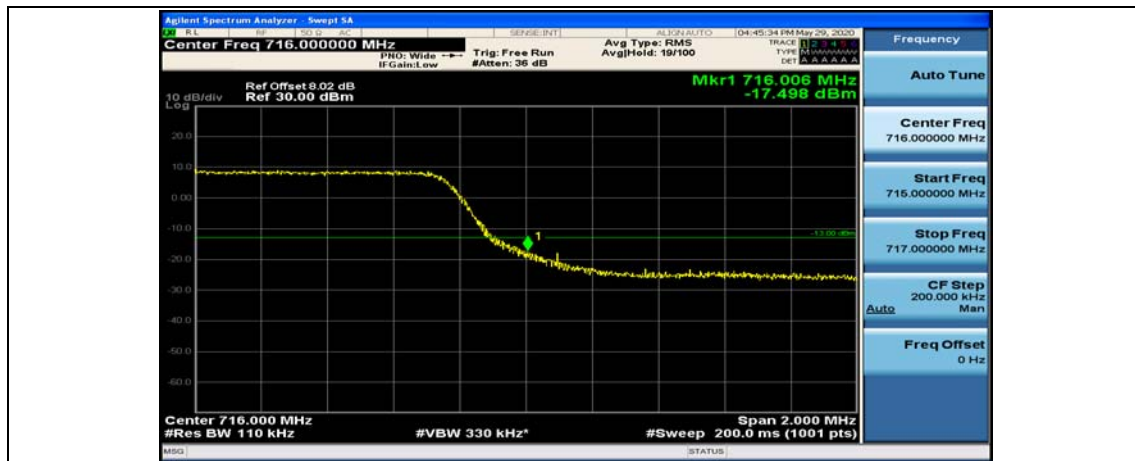


(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24



(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#0





Channel Bandwidth: 10 MHz

