

Appendix for Band 13

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	23.47	PASS
		1	12	23.78	PASS
		1	24	23.5	PASS
		12	0	22.34	PASS
		12	6	22.5	PASS
		12	13	22.37	PASS
		25	0	22.38	PASS
	MCH	1	0	23.45	PASS
		1	12	23.8	PASS
		1	24	23.54	PASS
		12	0	22.61	PASS
		12	6	22.6	PASS
		12	13	22.44	PASS
		25	0	22.53	PASS
	HCH	1	0	23.57	PASS
		1	12	23.86	PASS
		1	24	23.6	PASS
		12	0	22.59	PASS
		12	6	22.61	PASS
		12	13	22.6	PASS
		25	0	22.65	PASS
16QAM	LCH	1	0	22.65	PASS
		1	12	22.89	PASS
		1	24	22.7	PASS
		12	0	21.44	PASS
		12	6	21.68	PASS
		12	13	21.53	PASS
		25	0	21.44	PASS
	MCH	1	0	22.58	PASS
		1	12	22.78	PASS
		1	24	22.76	PASS
		12	0	21.86	PASS
		12	6	21.84	PASS

		12	13	21.68	PASS
		25	0	21.66	PASS
	HCH	1	0	22.68	PASS
		1	12	22.67	PASS
		1	24	22.74	PASS
		12	0	21.74	PASS
		12	6	21.74	PASS
		12	13	21.78	PASS
		25	0	21.83	PASS

Channel Bandwidth: 10 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	MCH	1	0	23.47	PASS
		1	24	23.82	PASS
		1	49	23.56	PASS
		25	0	22.48	PASS
		25	12	22.54	PASS
		25	25	22.51	PASS
		50	0	22.49	PASS
16QAM	MCH	1	0	22.63	PASS
		1	24	22.89	PASS
		1	49	22.80	PASS
		25	0	21.58	PASS
		25	12	21.64	PASS
		25	25	21.67	PASS
		50	0	21.57	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	3.54	<13	PASS
		1	24	4.62	<13	PASS
		12	0	4.55	<13	PASS
		12	6	4.32	<13	PASS
		12	13	4.79	<13	PASS
		25	0	4.82	<13	PASS
	MCH	1	0	3.78	<13	PASS
		1	12	4.49	<13	PASS
		1	24	5.09	<13	PASS
		12	0	4.83	<13	PASS
		12	6	5.31	<13	PASS
		12	13	5.67	<13	PASS
		25	0	5.28	<13	PASS
	HCH	1	0	5.12	<13	PASS
		1	12	5.18	<13	PASS
		1	24	4.57	<13	PASS
		12	0	5.68	<13	PASS
		12	6	5.62	<13	PASS
		12	13	5.47	<13	PASS
		25	0	5.54	<13	PASS
16QAM	LCH	1	0	5.04	<13	PASS
		1	12	4.5	<13	PASS
		1	24	5.57	<13	PASS
		12	0	5.37	<13	PASS
		12	6	5.21	<13	PASS
		12	13	5.64	<13	PASS
		25	0	5.6	<13	PASS
	MCH	1	0	4.74	<13	PASS
		1	12	5.42	<13	PASS
		1	24	6.24	<13	PASS
		12	0	5.57	<13	PASS

		12	6	6.07	<13	PASS
		12	13	6.53	<13	PASS
		25	0	5.96	<13	PASS
	HCH	1	0	5.88	<13	PASS
		1	12	6.04	<13	PASS
		1	24	5.45	<13	PASS
		12	0	6.6	<13	PASS
		12	6	6.52	<13	PASS
		12	13	6.32	<13	PASS
		25	0	6.27	<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	MCH	1	0	3.9	<13	PASS
		1	24	4.61	<13	PASS
		1	49	4.52	<13	PASS
		25	0	4.74	<13	PASS
		25	12	5.25	<13	PASS
		25	25	5.59	<13	PASS
		50	0	5.11	<13	PASS
16QAM	MCH	1	0	4.89	<13	PASS
		1	24	5.43	<13	PASS
		1	49	5.38	<13	PASS
		25	0	5.58	<13	PASS
		25	12	6.14	<13	PASS
		25	25	6.42	<13	PASS
		50	0	5.93	<13	PASS

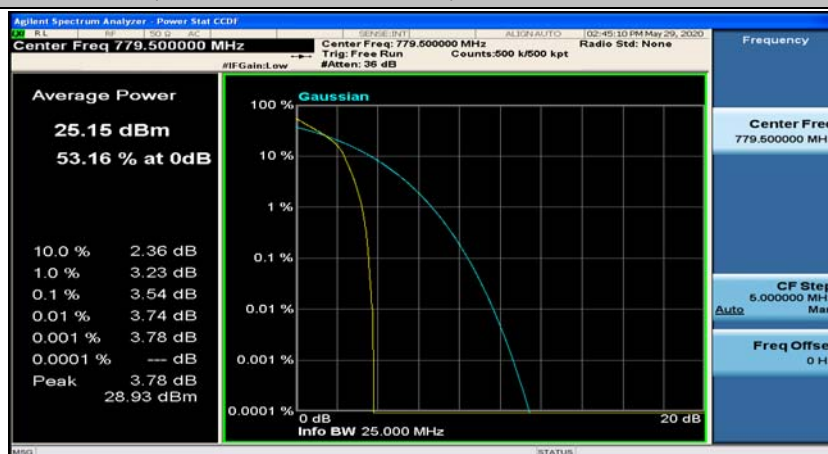
Test Graphs

Channel Bandwidth: 5 MHz

(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



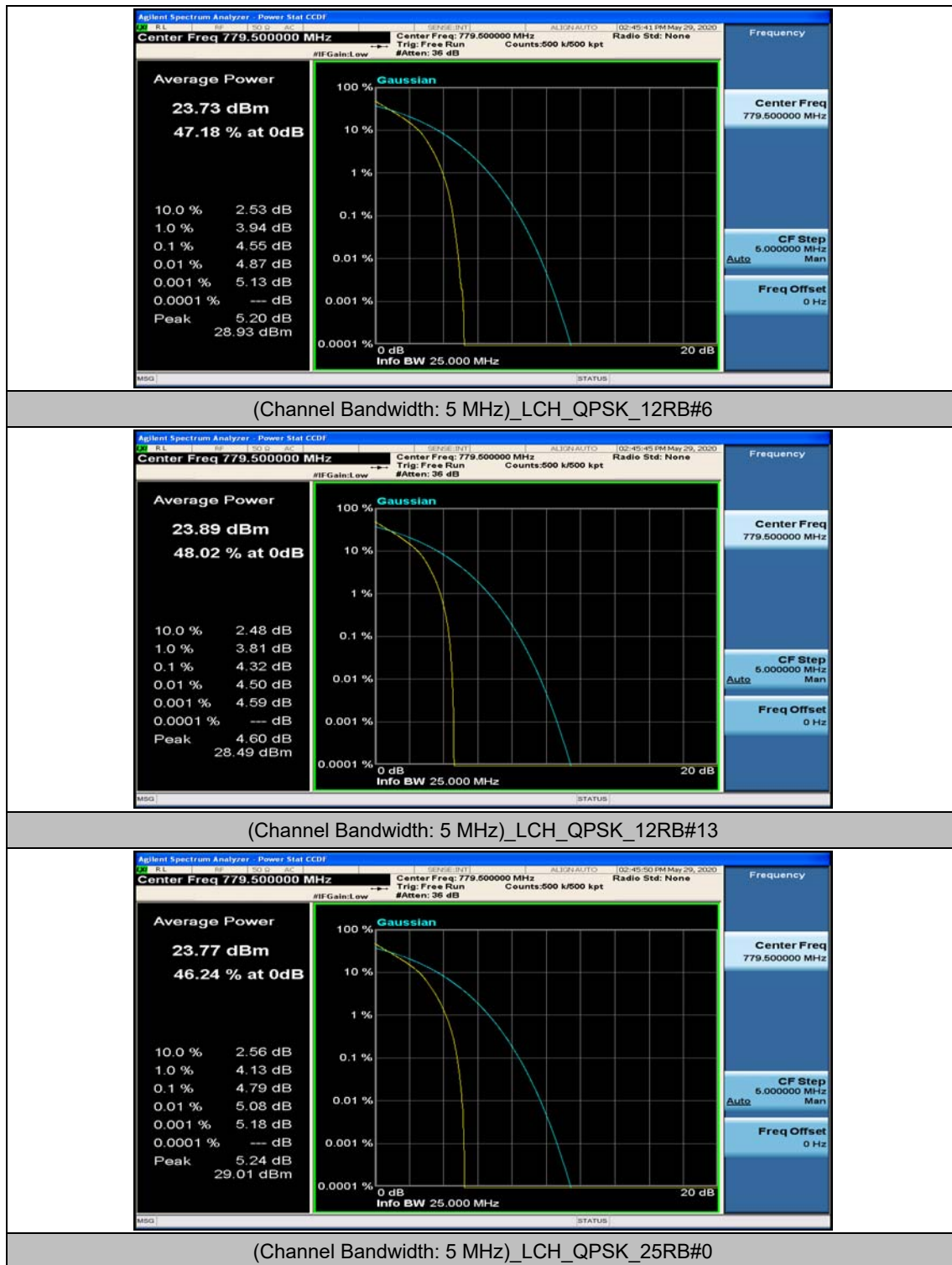
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12

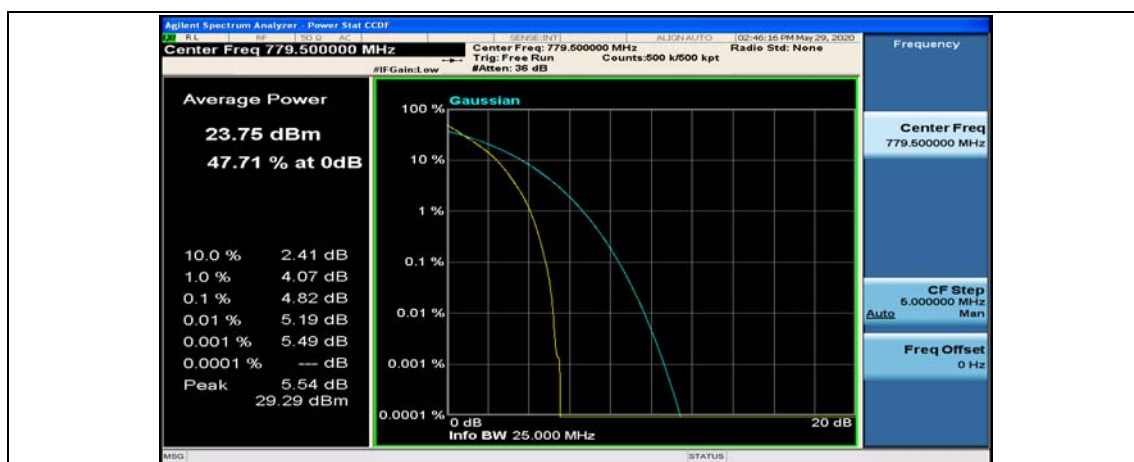


(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24



(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0





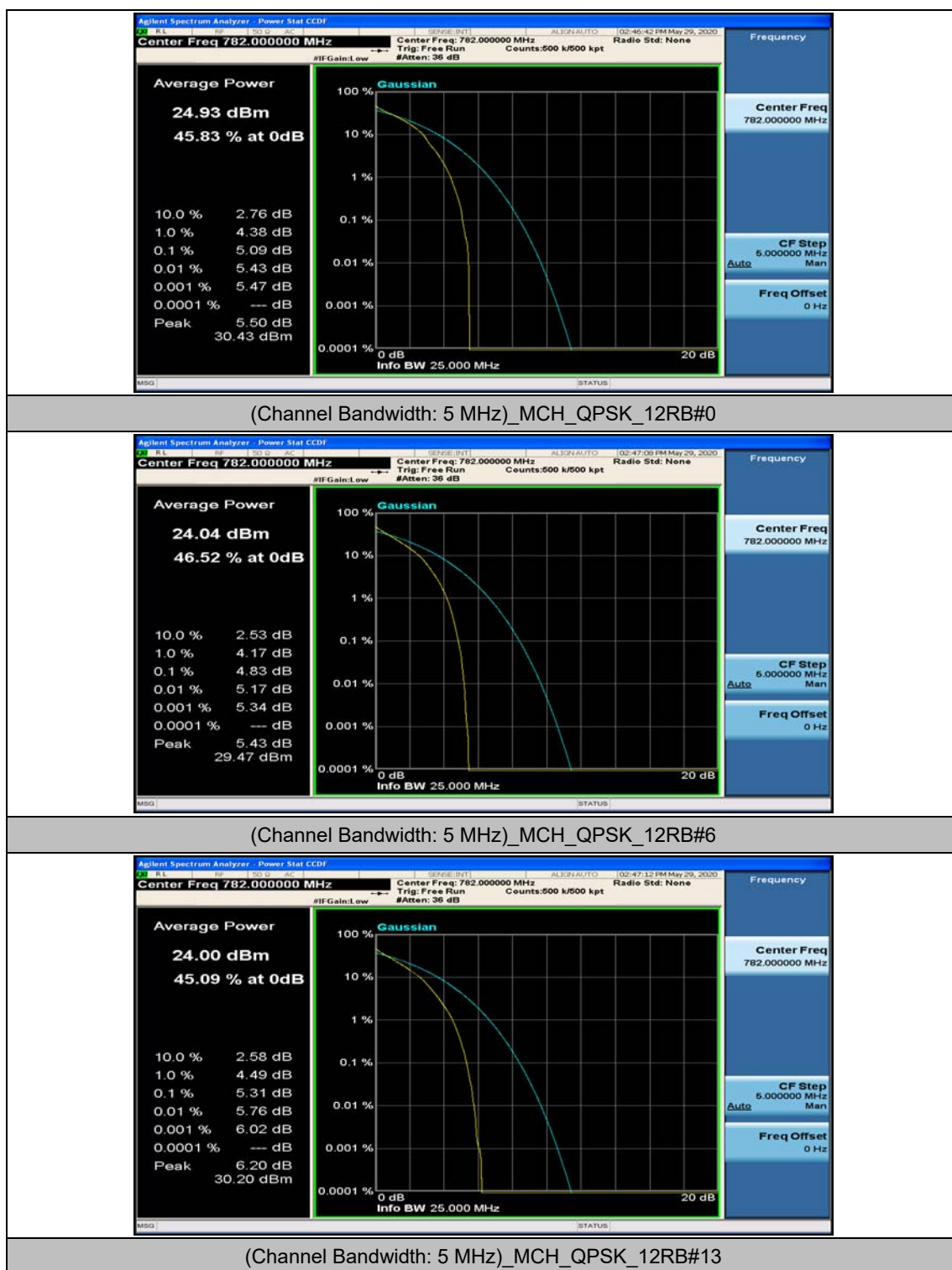
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0

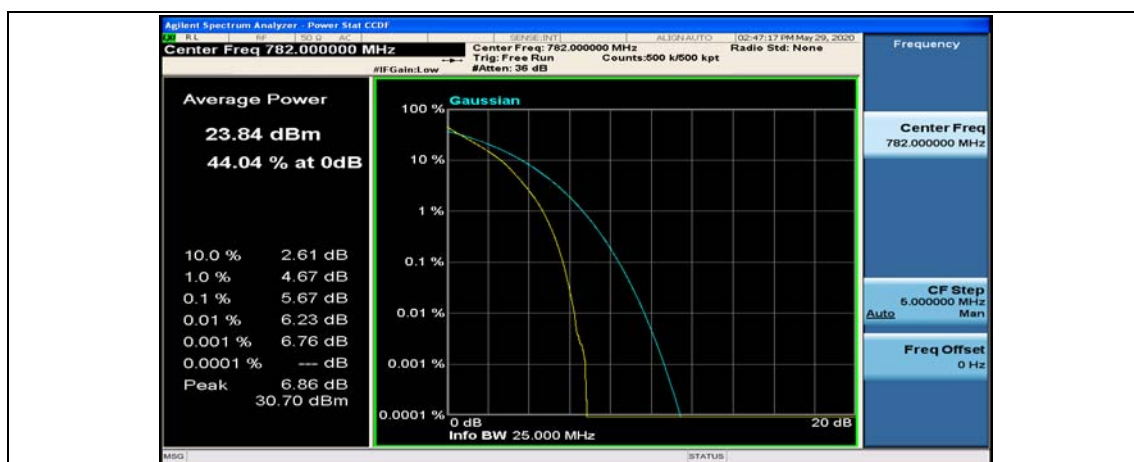


(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12

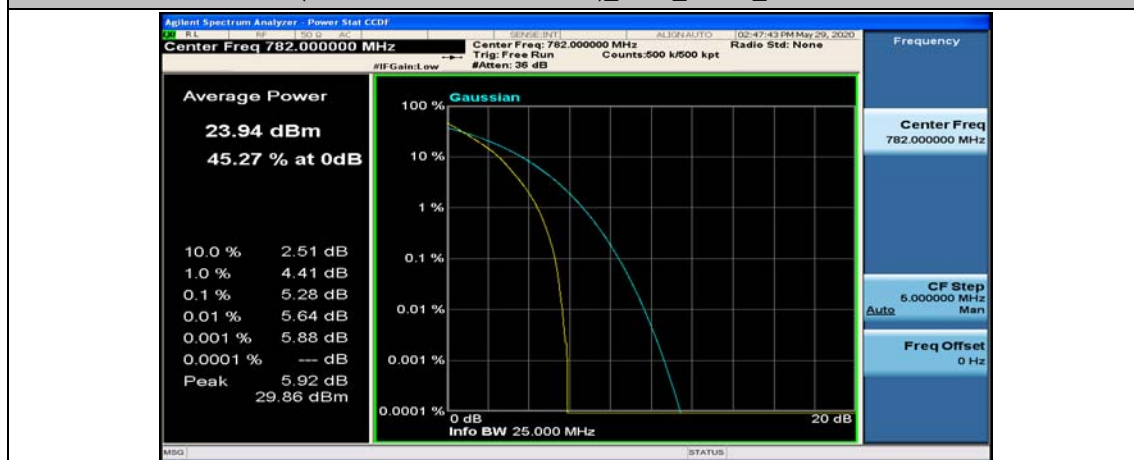


(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24





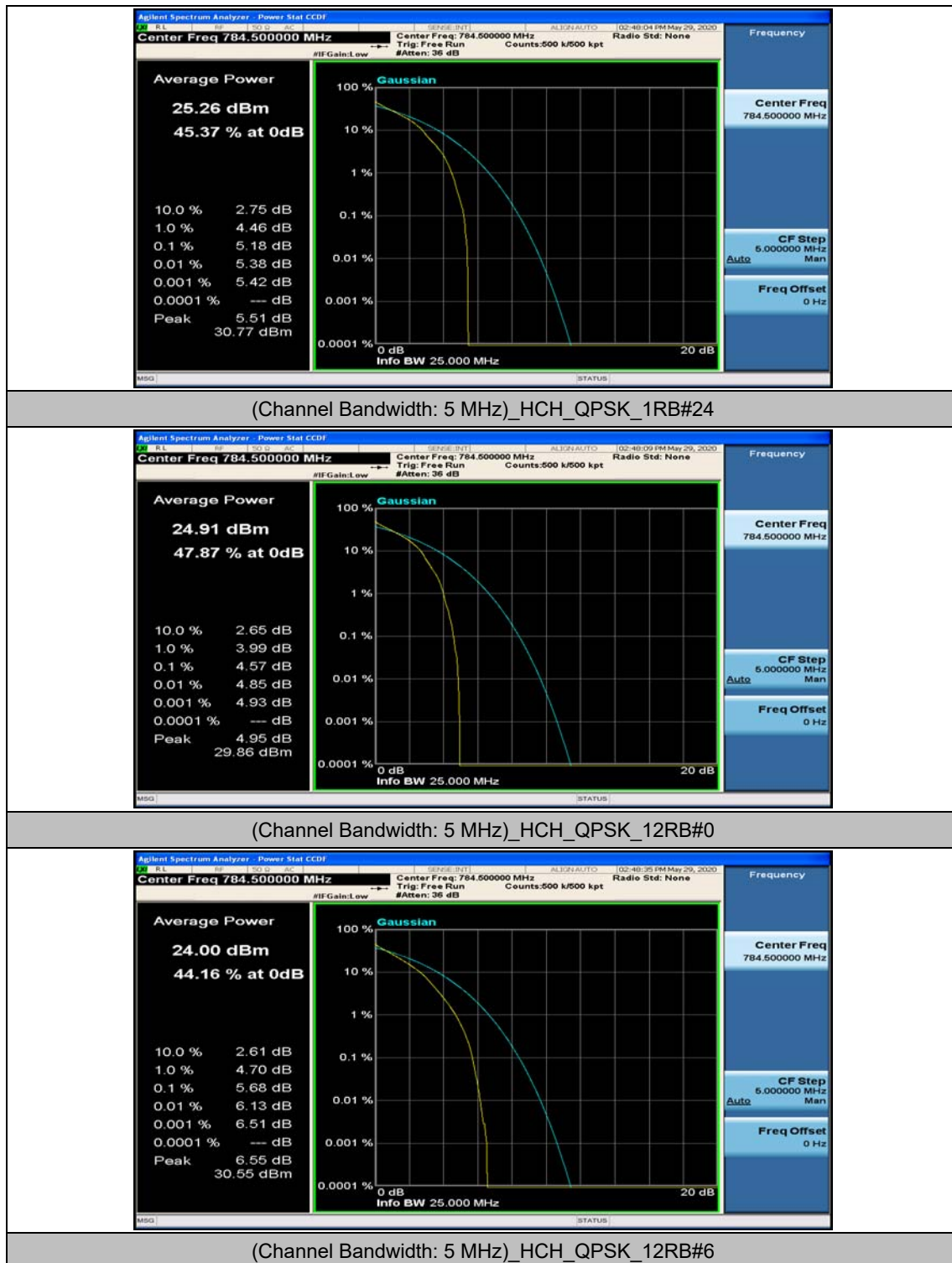
(Channel Bandwidth: 5 MHz)_MCH_QPSK_25RB#0

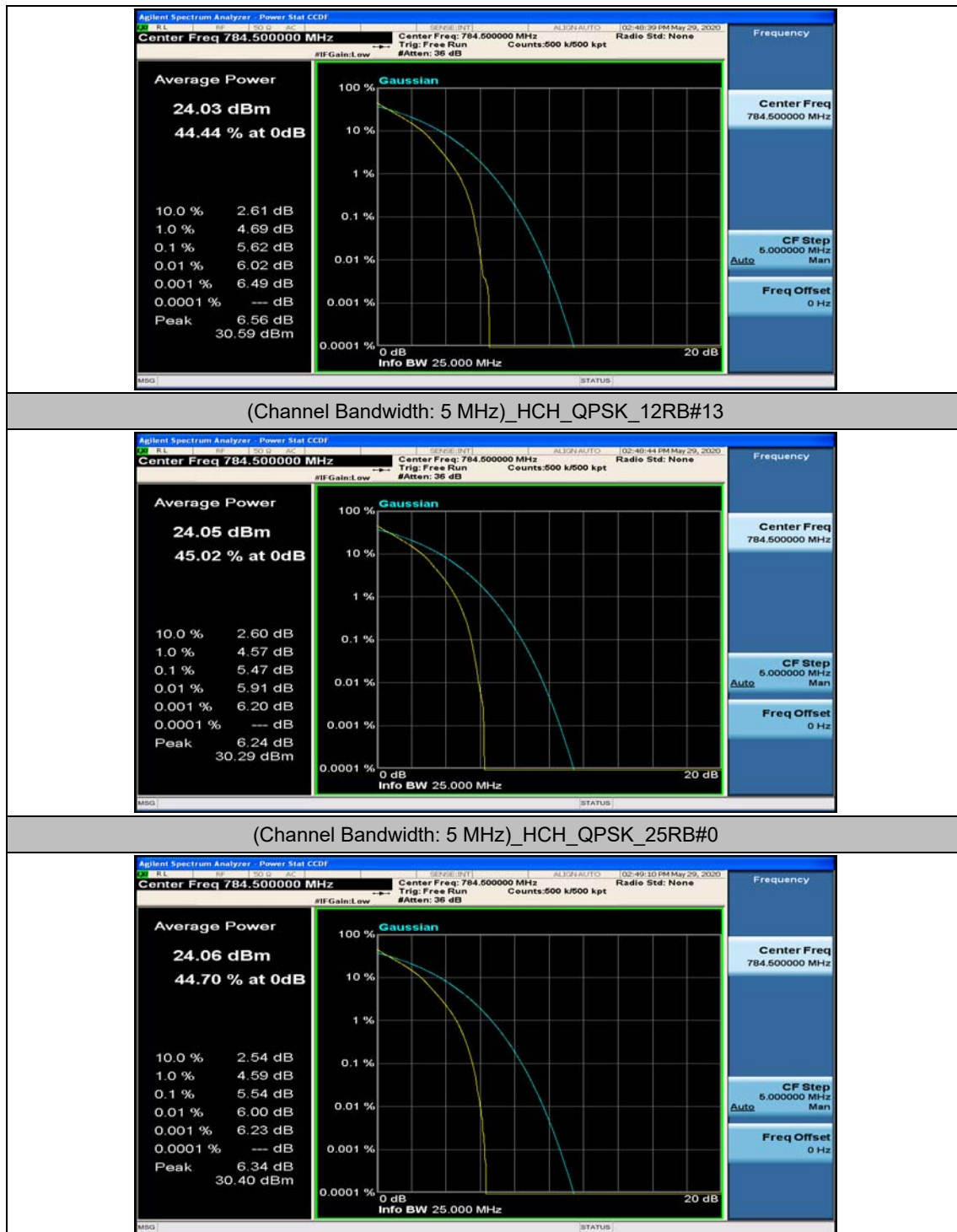


(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12

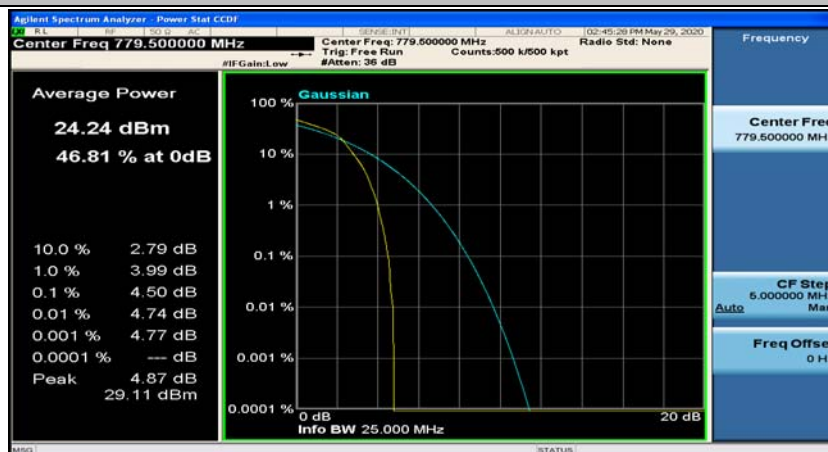




(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



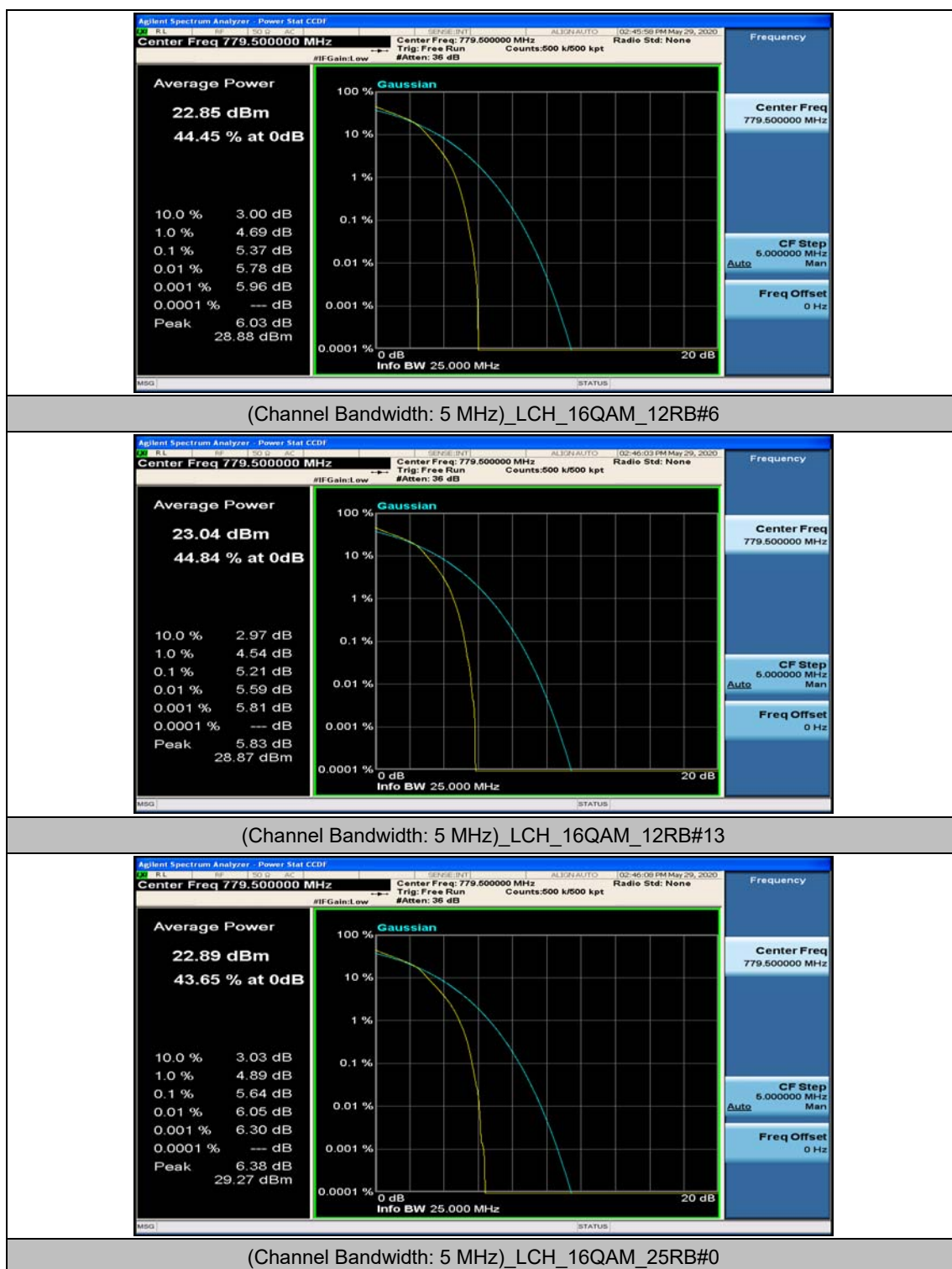
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

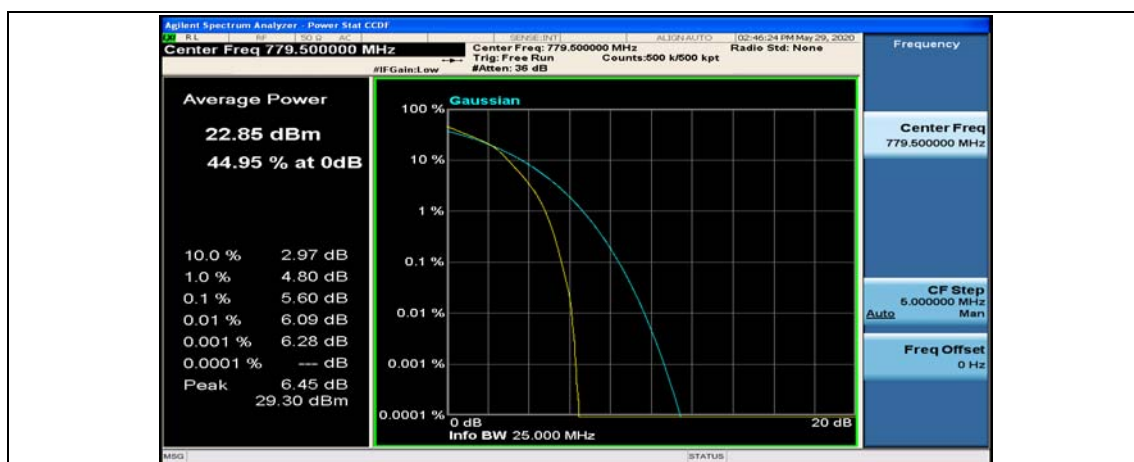


(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24



(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#0





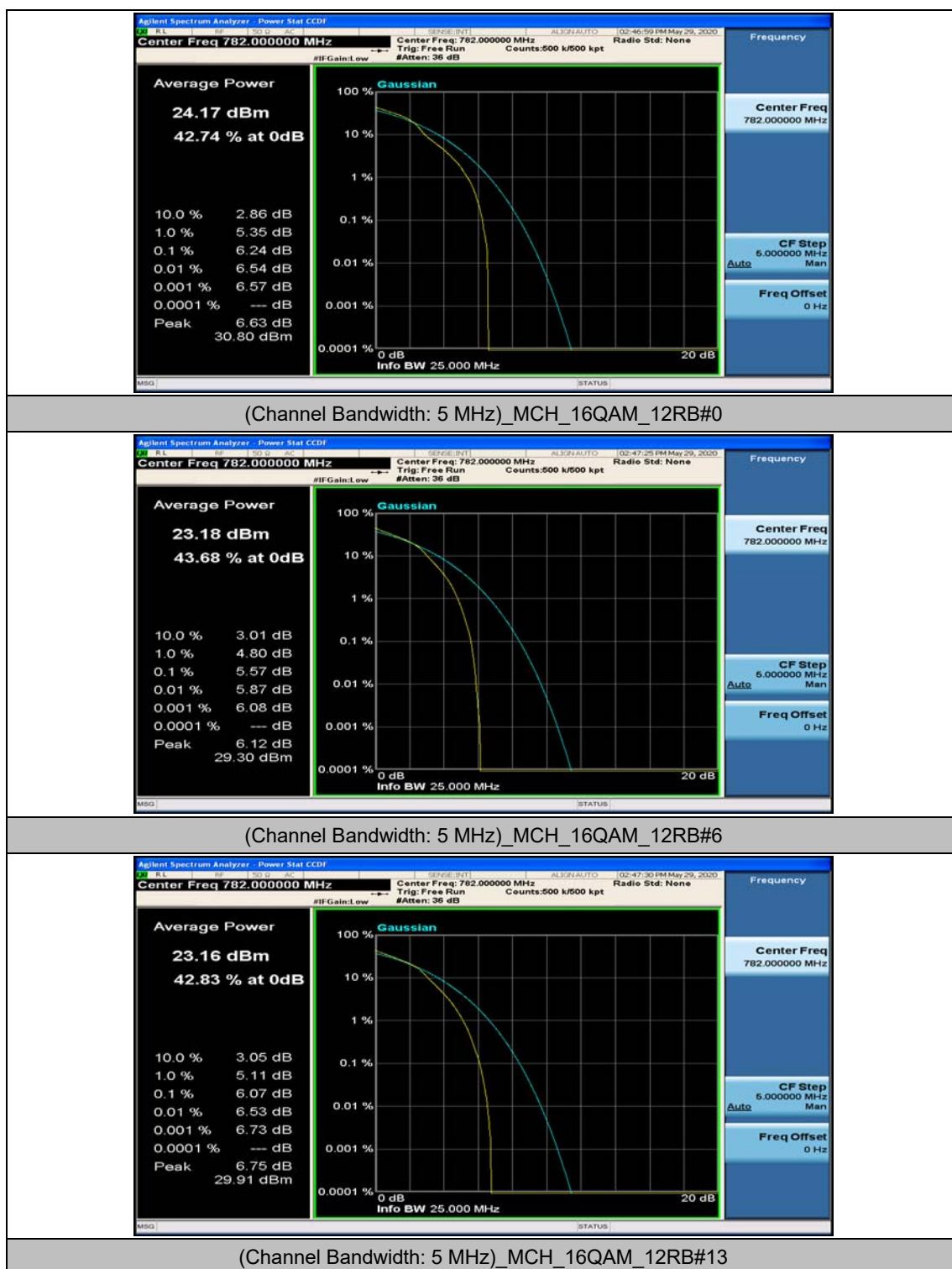
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(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12

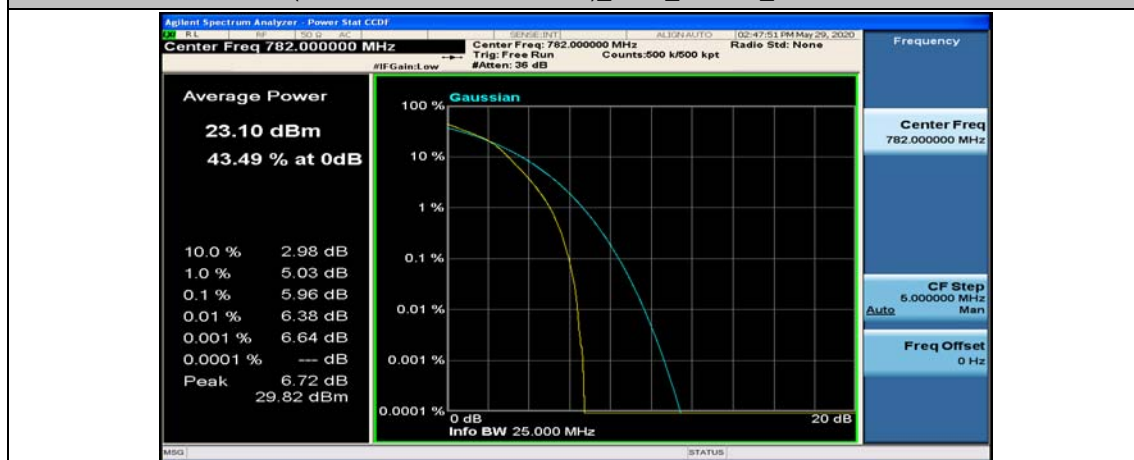


(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24





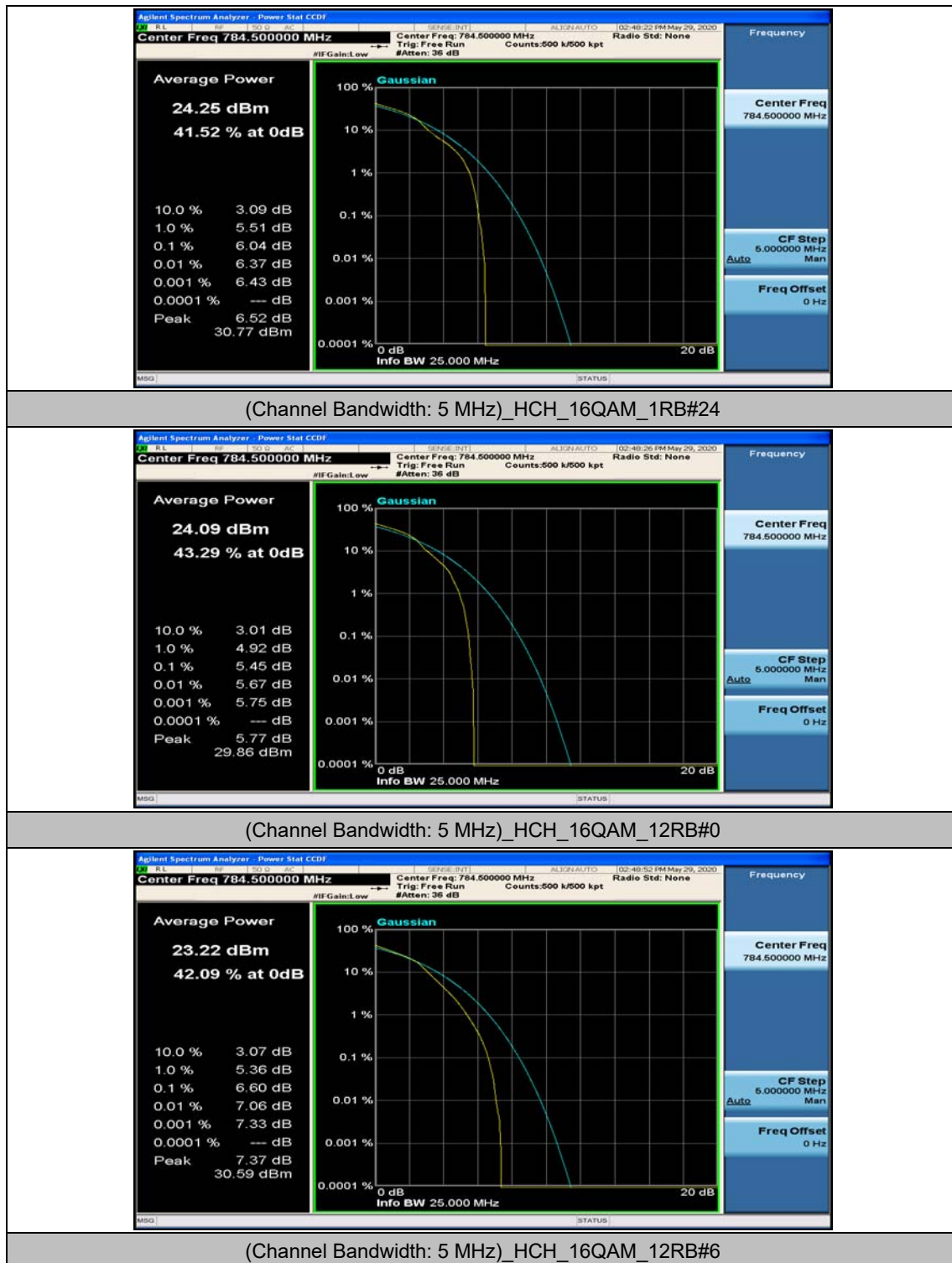
(Channel Bandwidth: 5 MHz)_MCH_16QAM_25RB#0

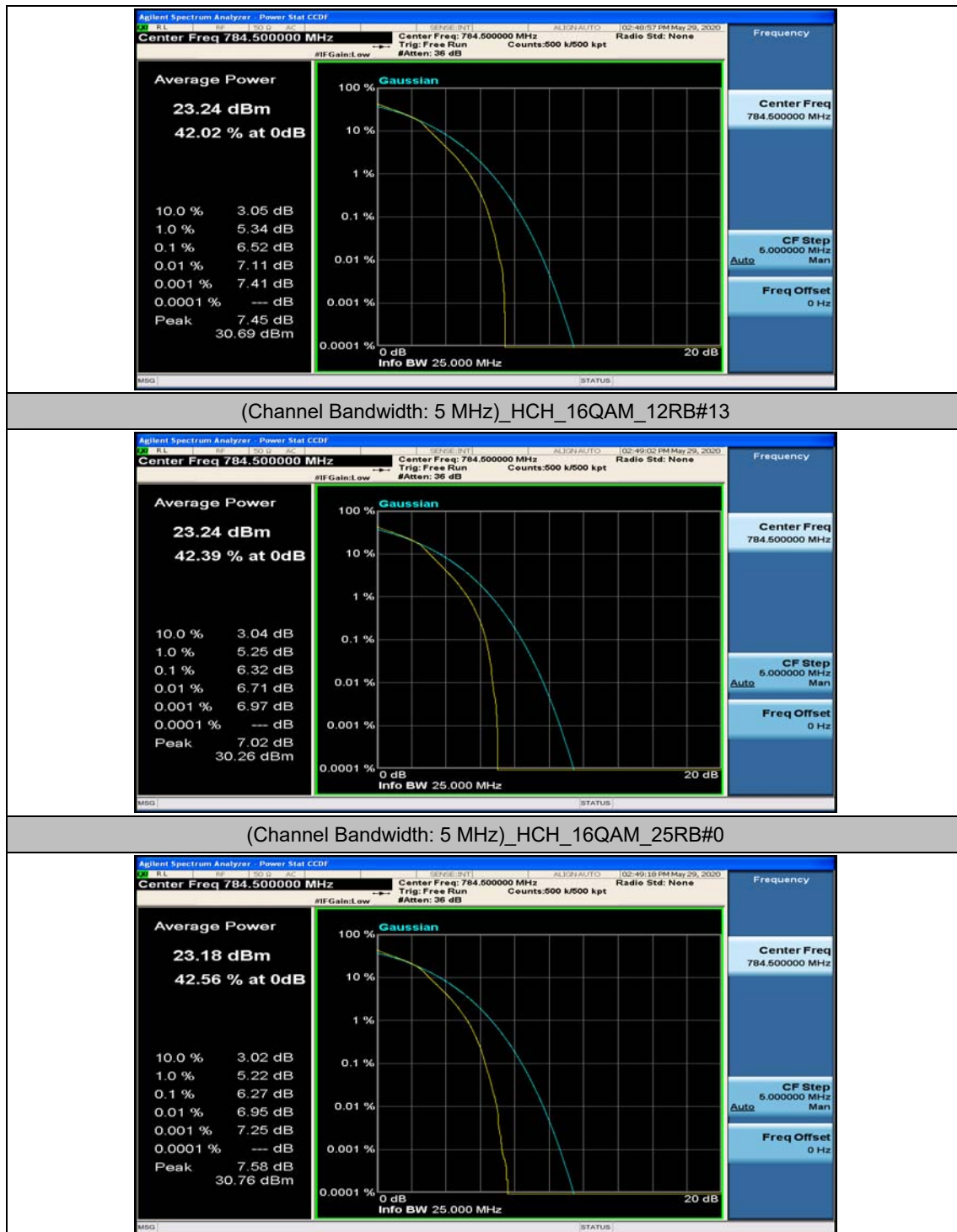


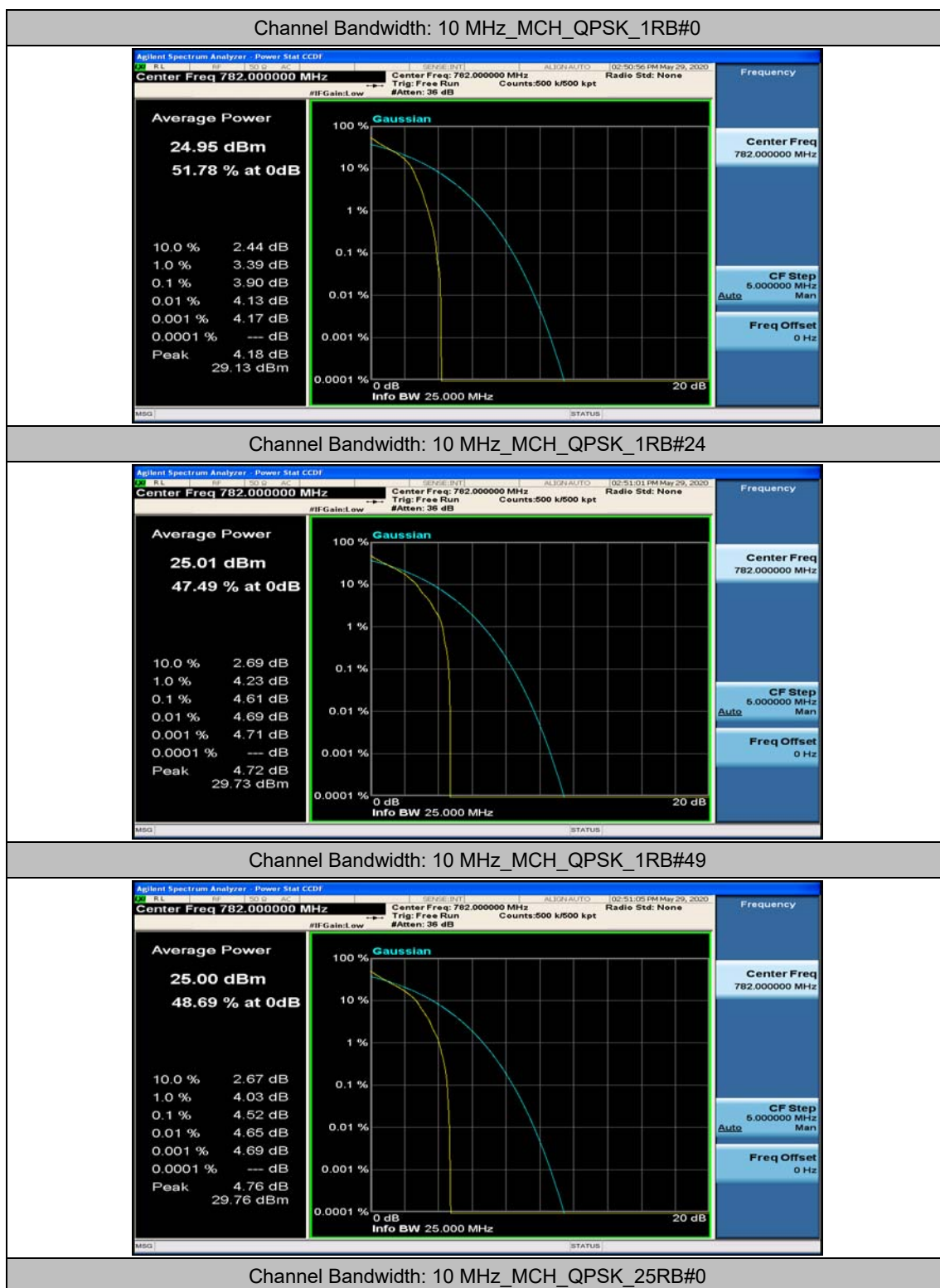
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0

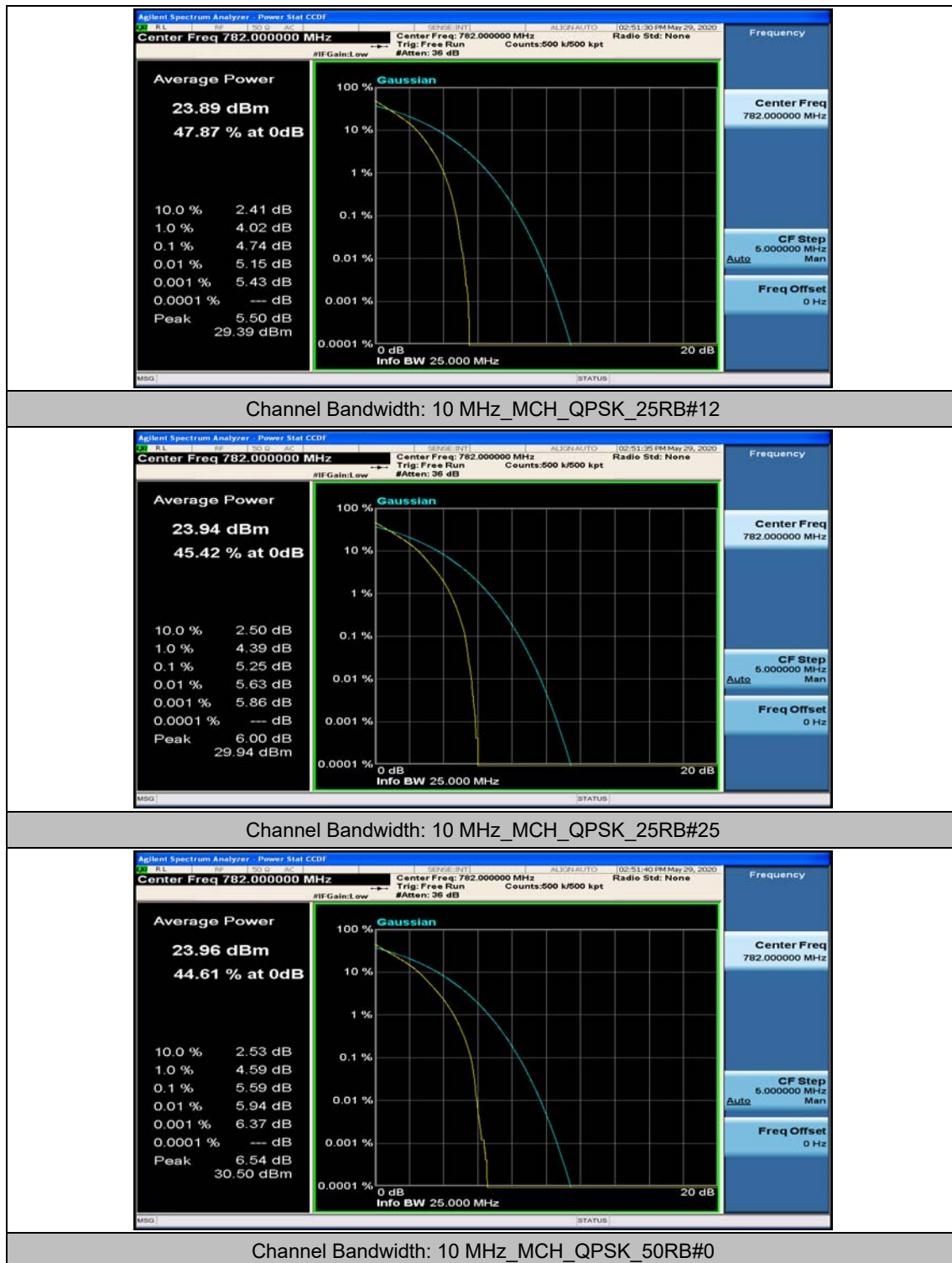


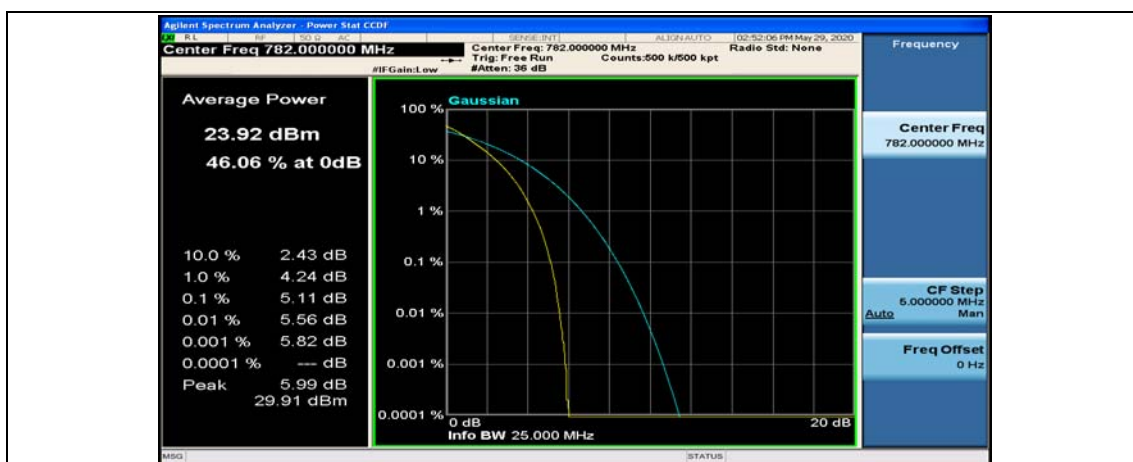
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12





Channel Bandwidth: 10 MHz

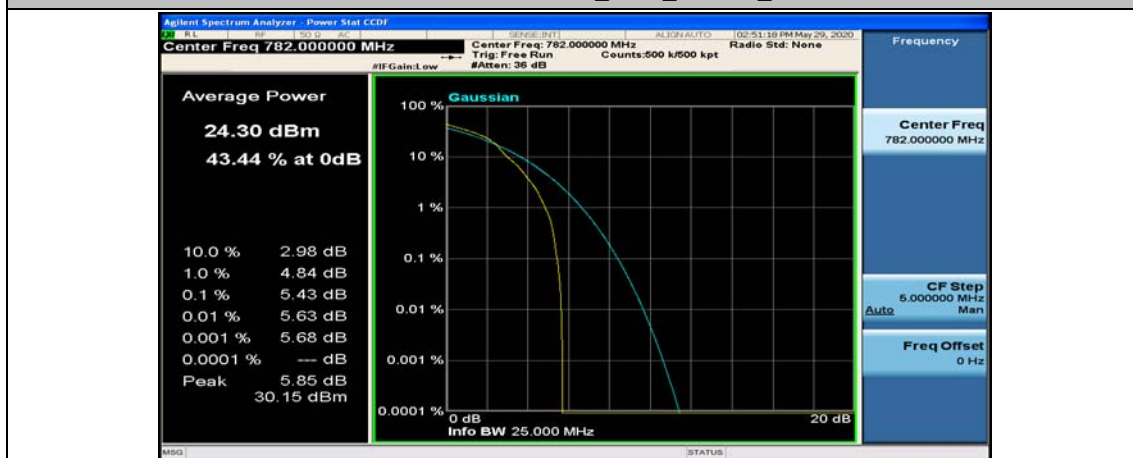




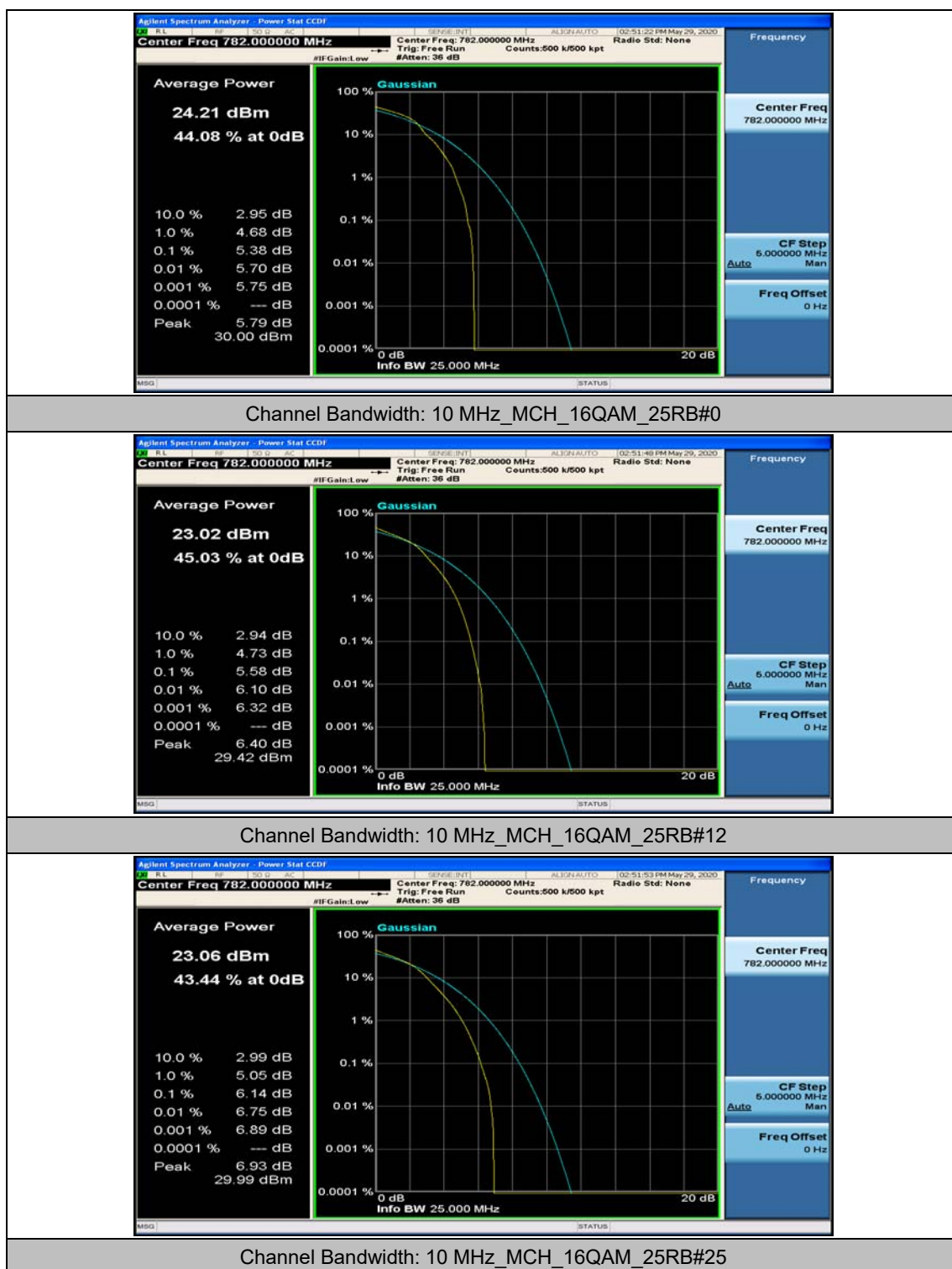
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0

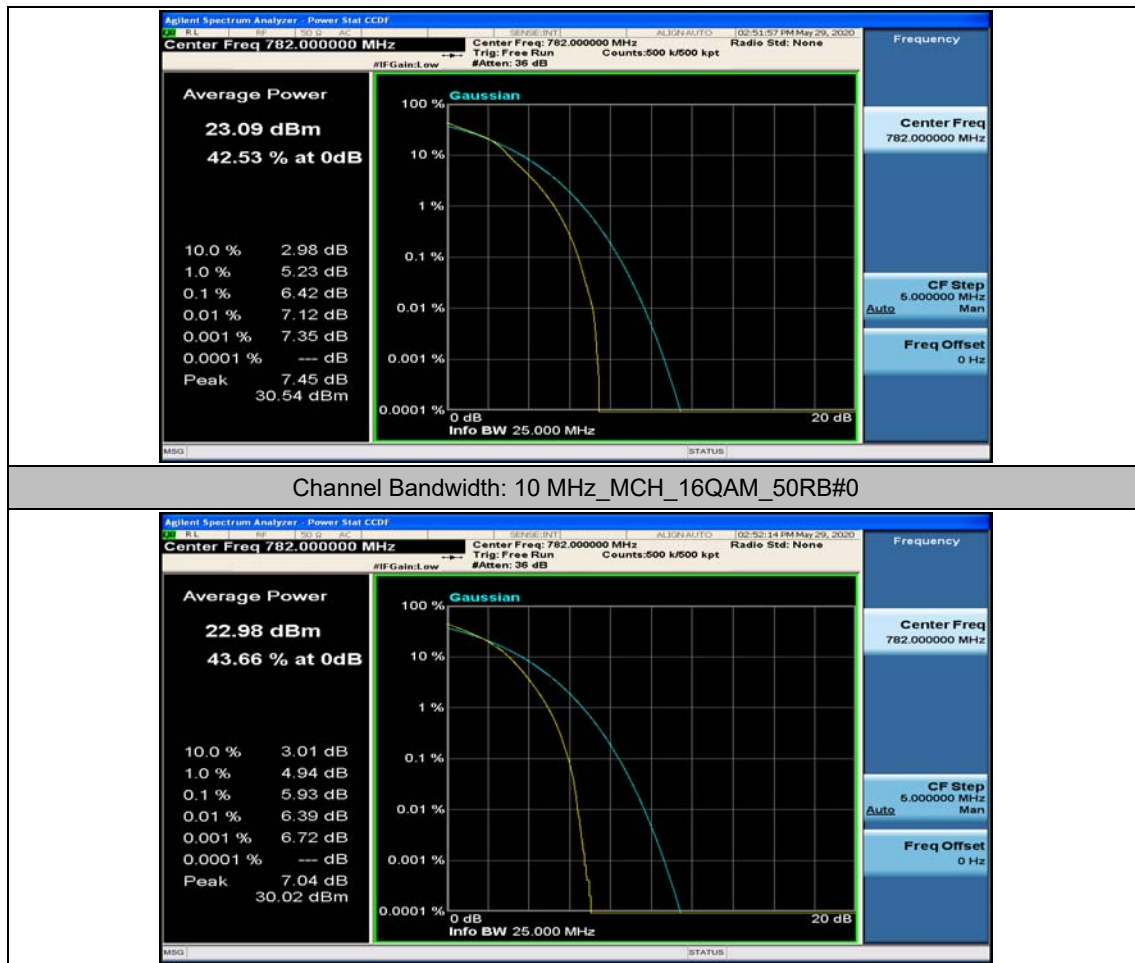


Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24



Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49





Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Channel Bandwidth: 5 MHz

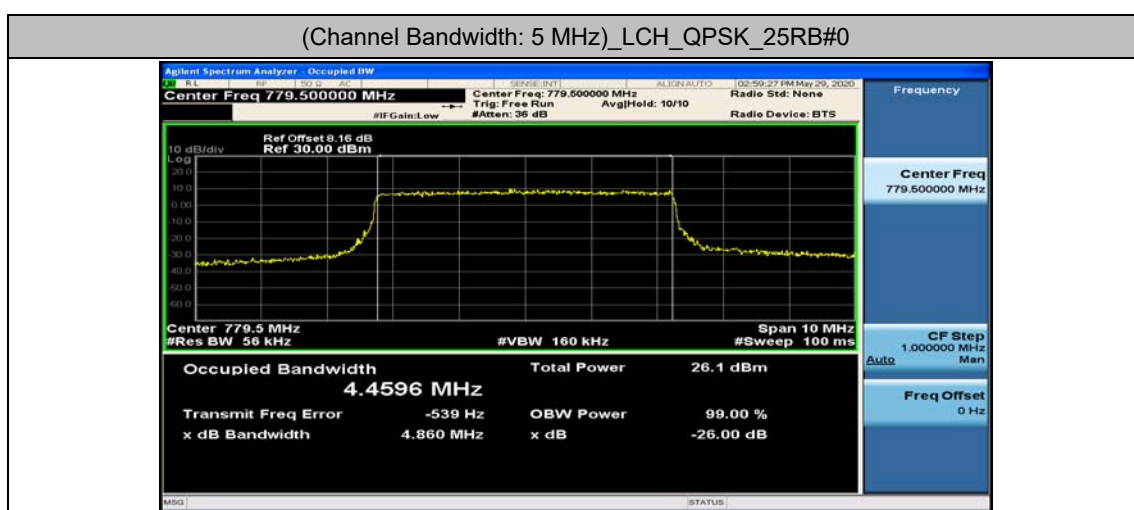
Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	4.4596	4.860	PASS
	MCH	25	0	4.4861	4.804	PASS
	HCH	25	0	4.4829	4.896	PASS
16QAM	LCH	25	0	4.4734	4.794	PASS
	MCH	25	0	4.4808	4.883	PASS
	HCH	25	0	4.4956	4.878	PASS

Channel Bandwidth: 10 MHz

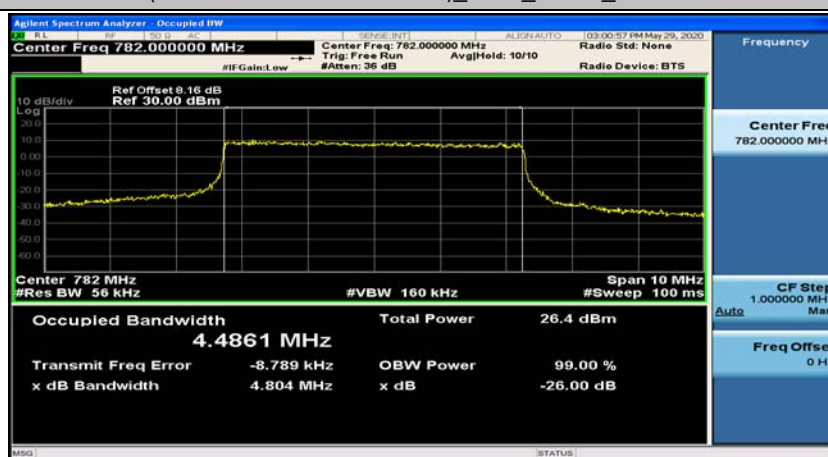
Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	MCH	50	0	8.9421	9.438	PASS
16QAM	MCH	50	0	8.9331	9.500	PASS

Test Graphs

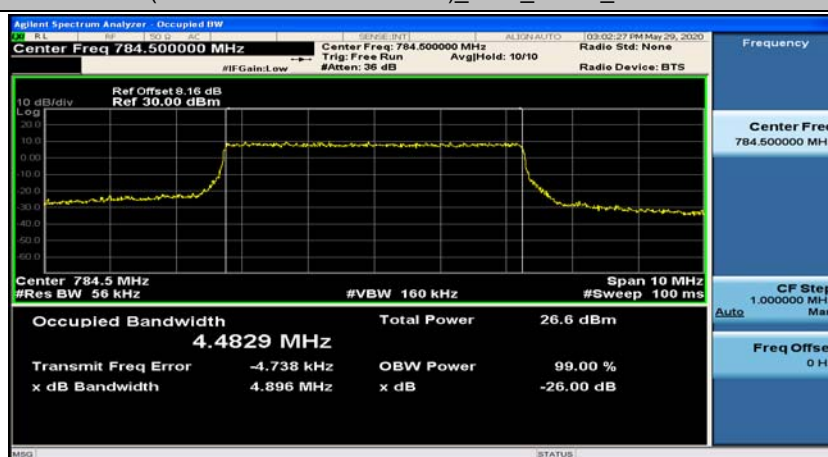
Channel Bandwidth: 5 MHz



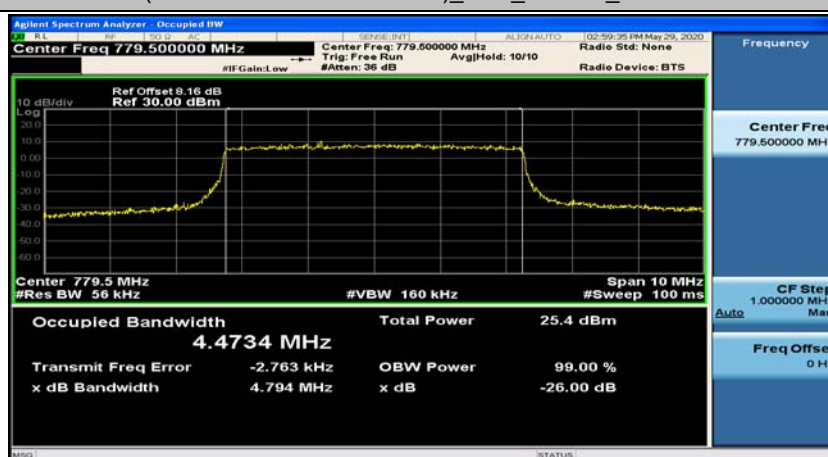
(Channel Bandwidth: 5 MHz)_MCH_QPSK_25RB#0



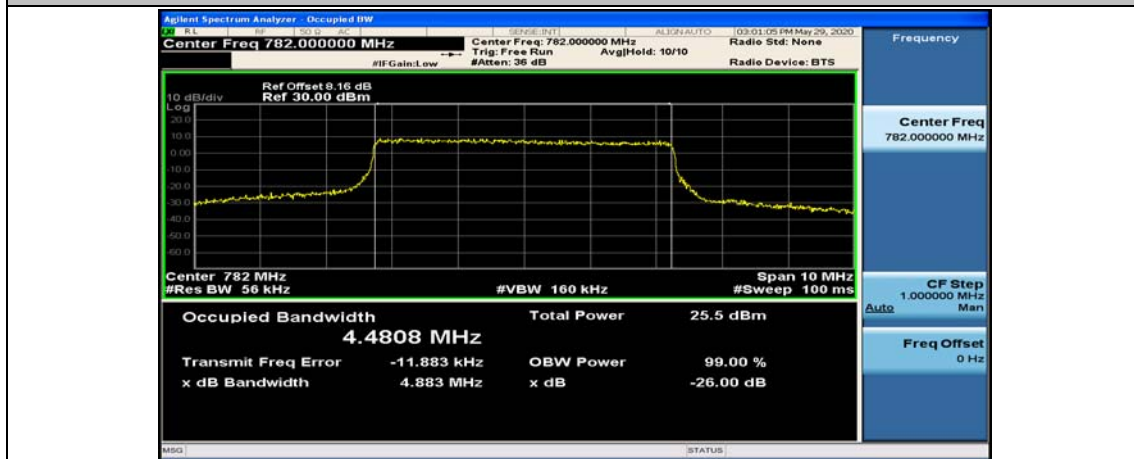
(Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0



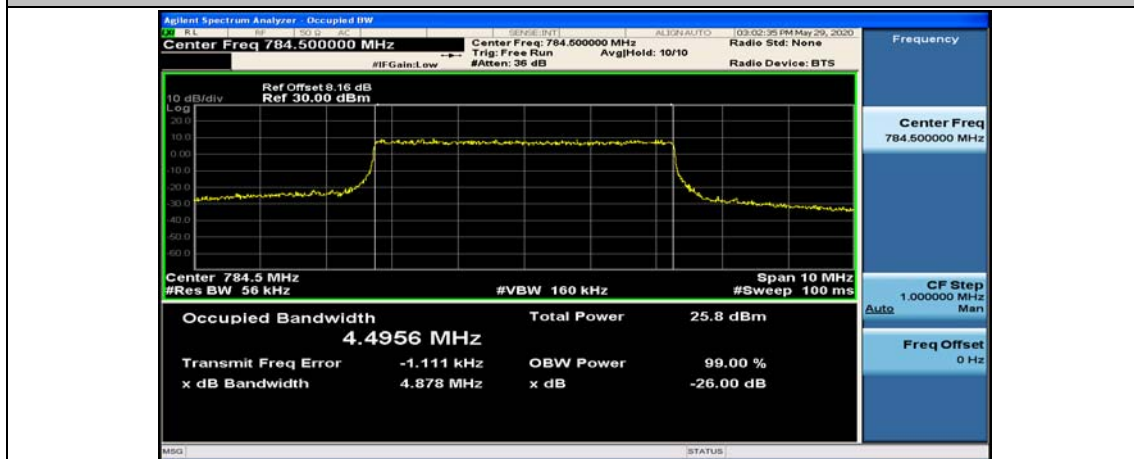
(Channel Bandwidth: 5 MHz)_LCH_16QAM_25RB#0



(Channel Bandwidth: 5 MHz)_MCH_16QAM_25RB#0

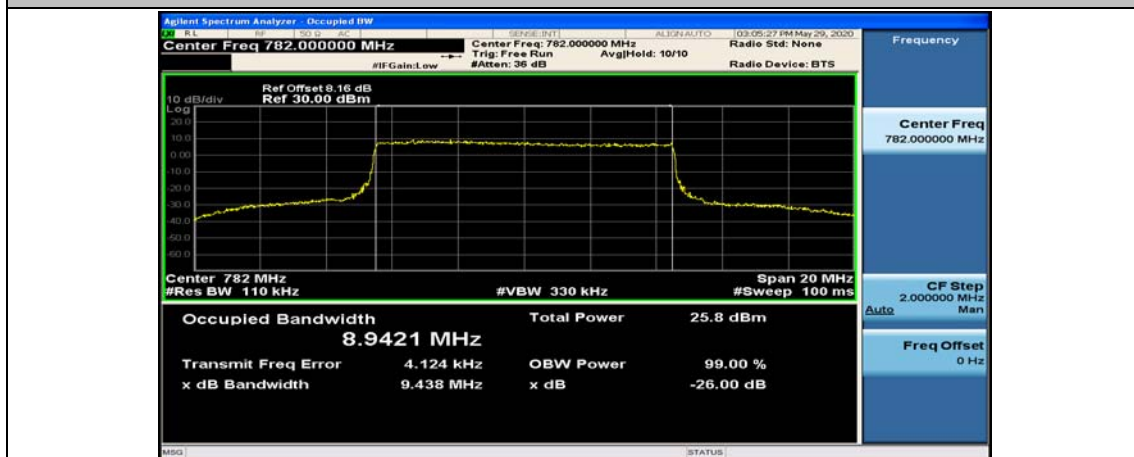


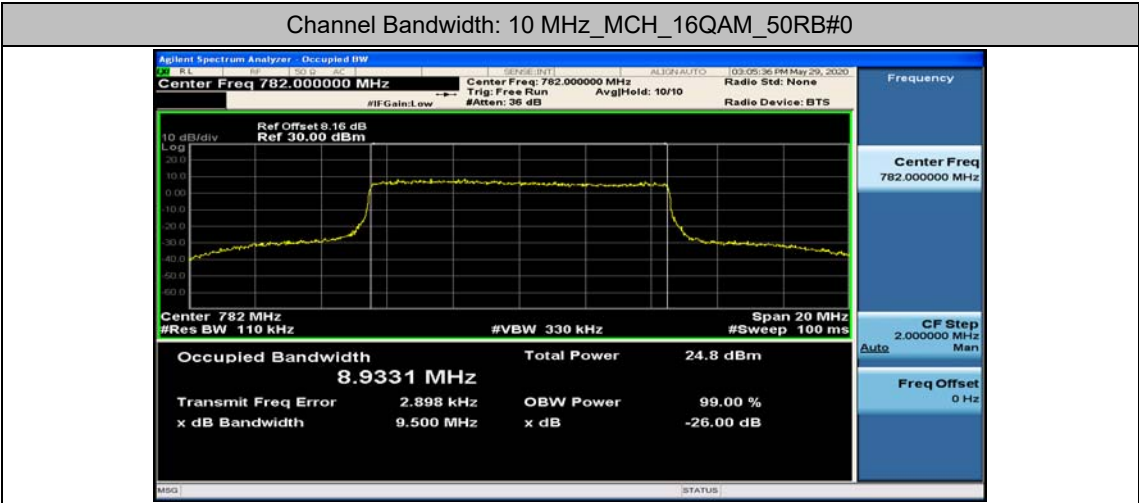
(Channel Bandwidth: 5 MHz)_HCH_16QAM_25RB#0



Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz_MCH_QPSK_50RB#0





Appendix D: Band Edge

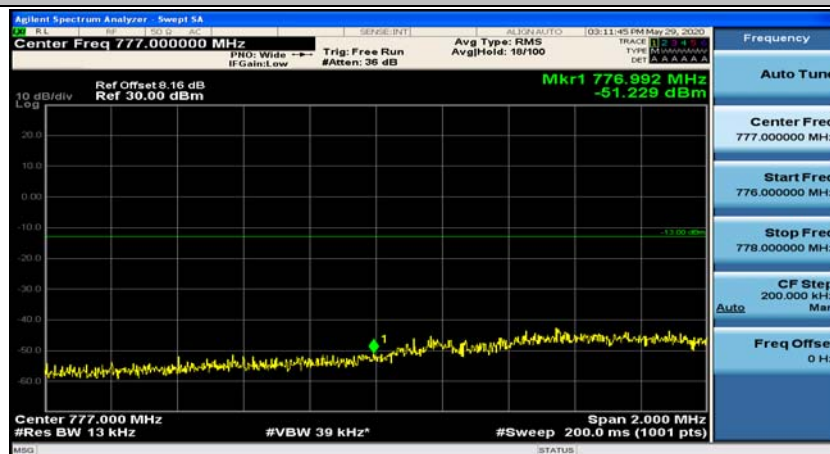
Test Graphs

Channel Bandwidth: 5 MHz

(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



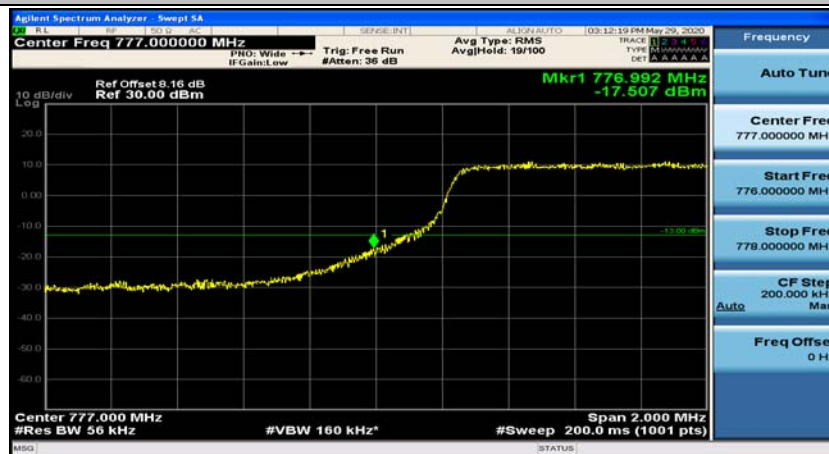
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12



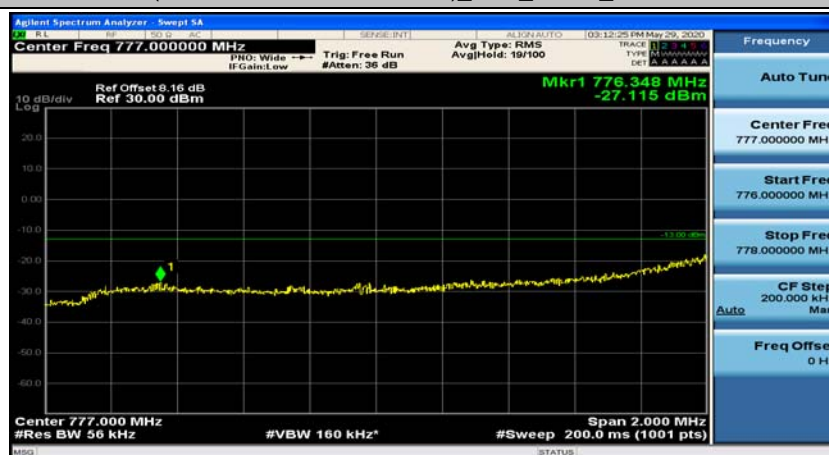
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24



(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0



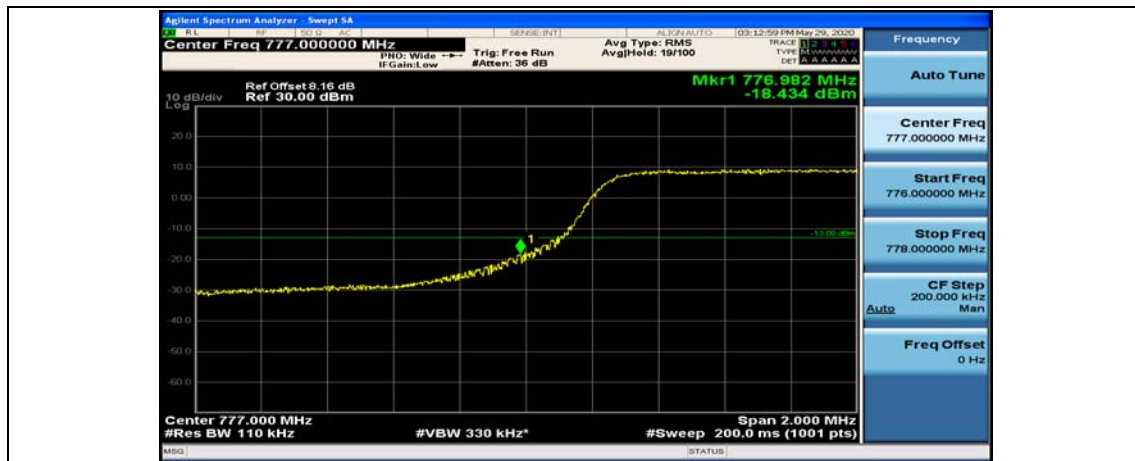
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#6



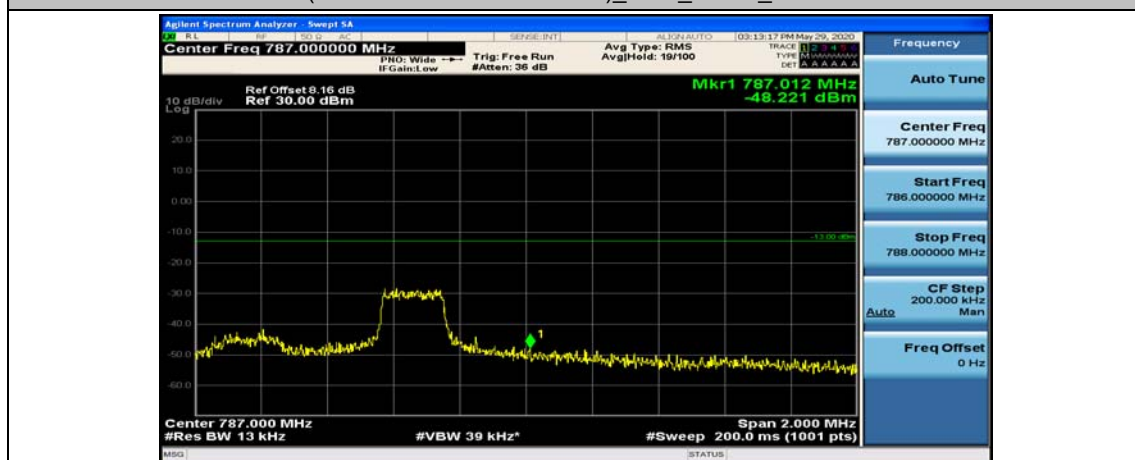
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#13



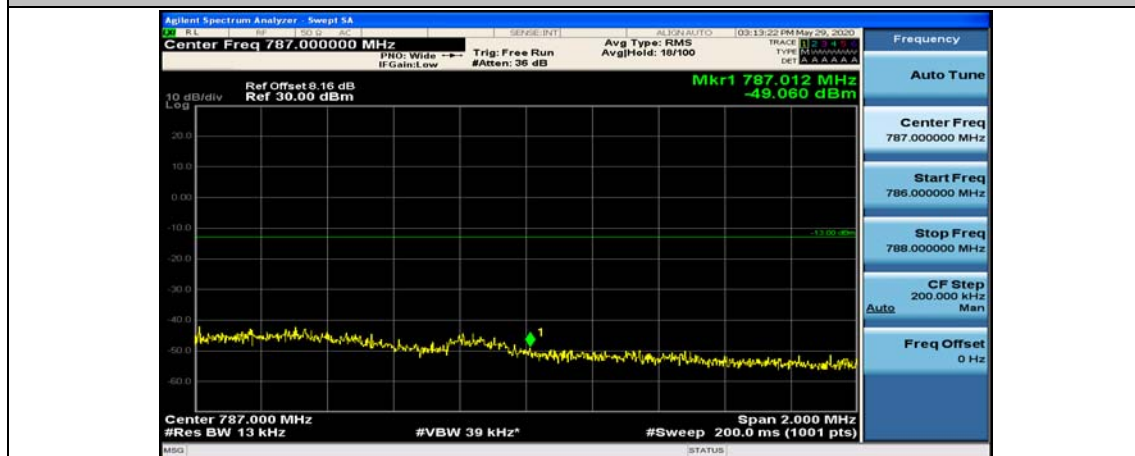
(Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0



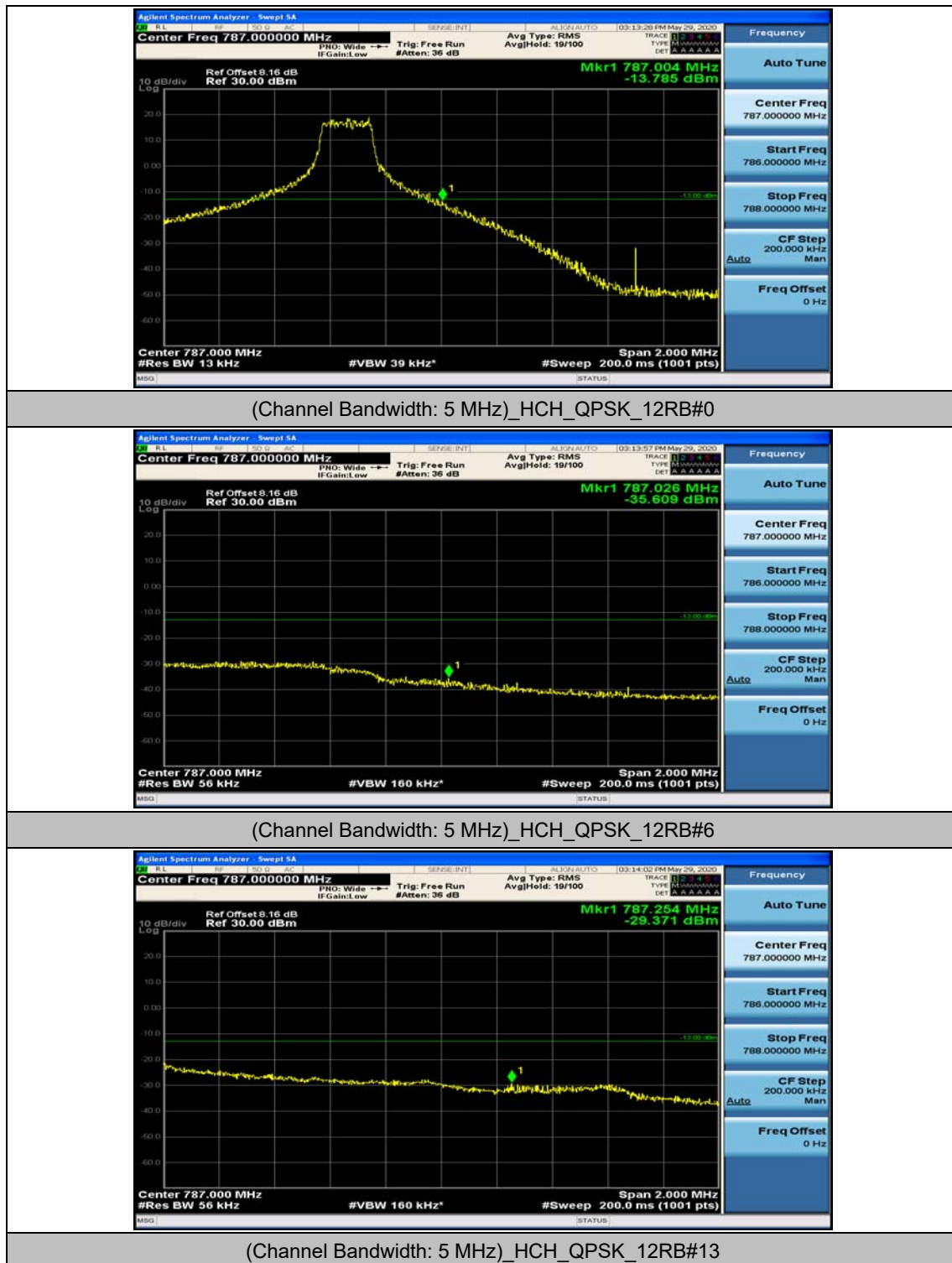
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

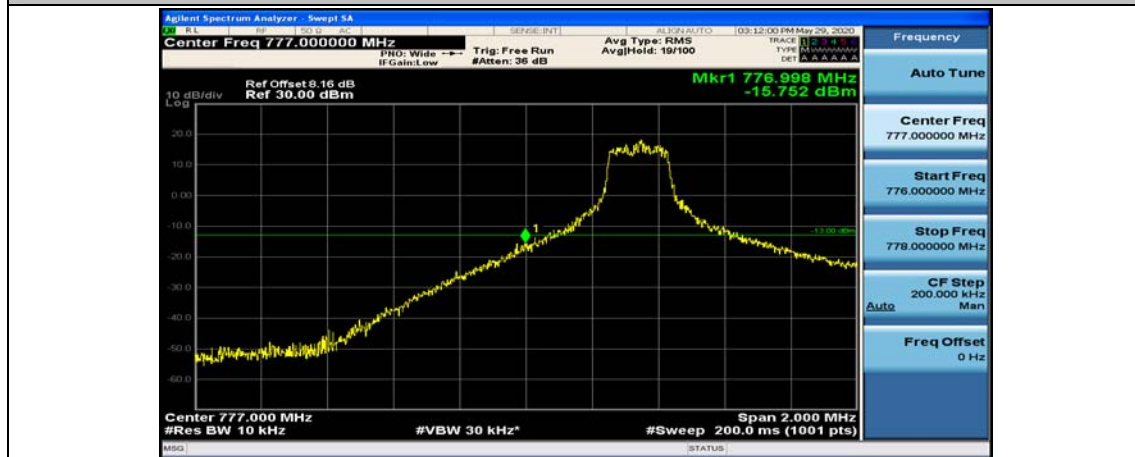




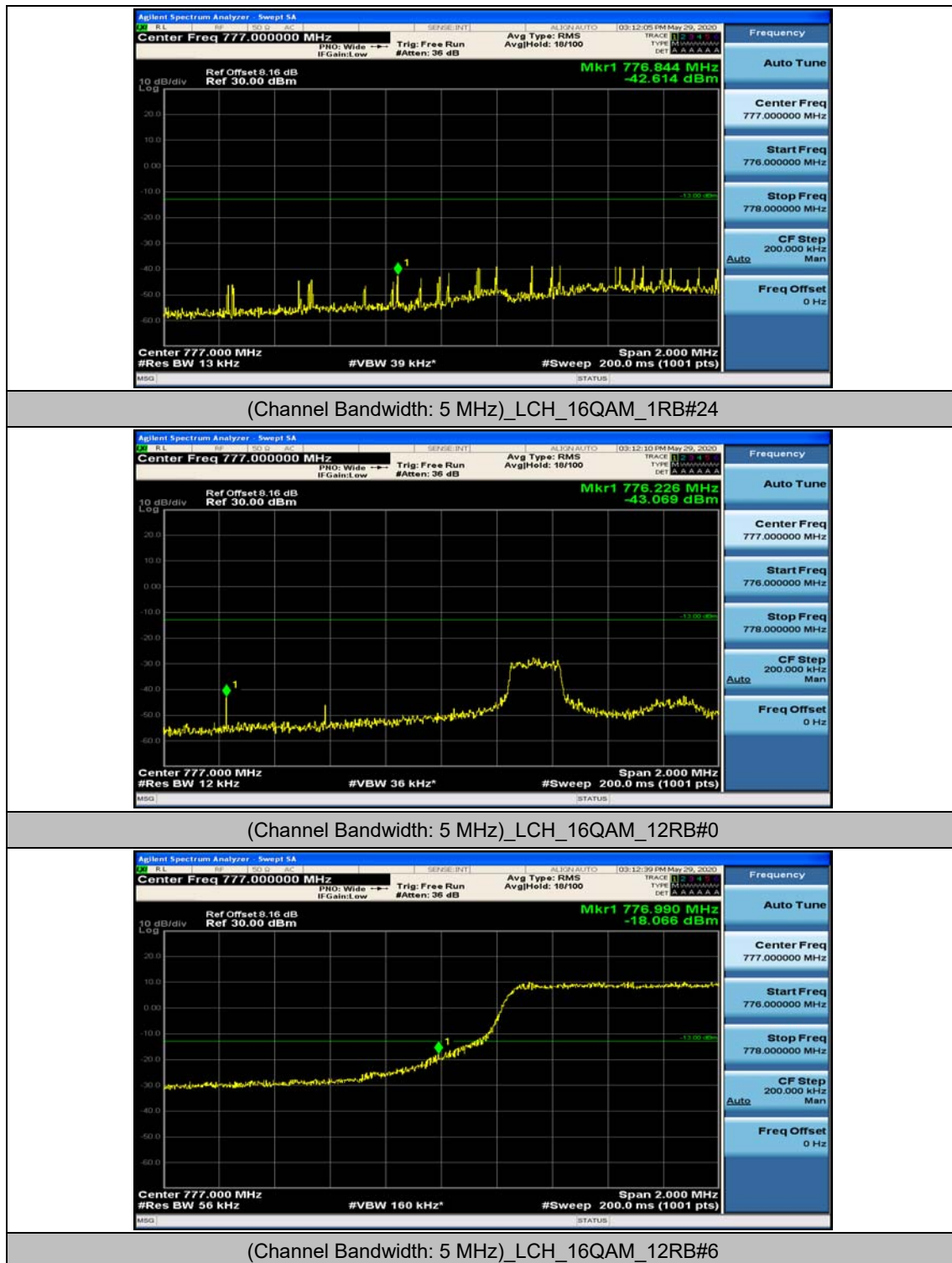
(Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0

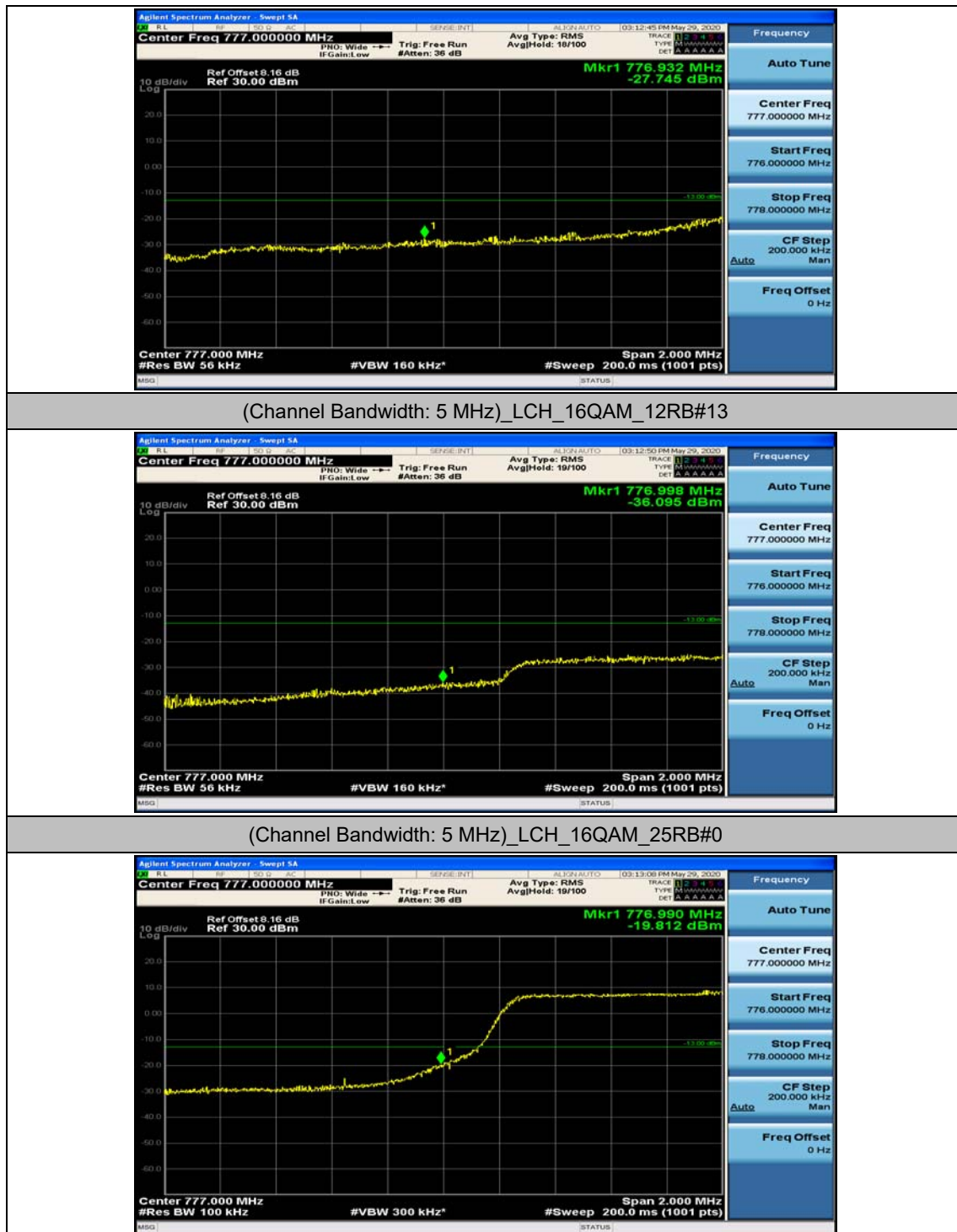


(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

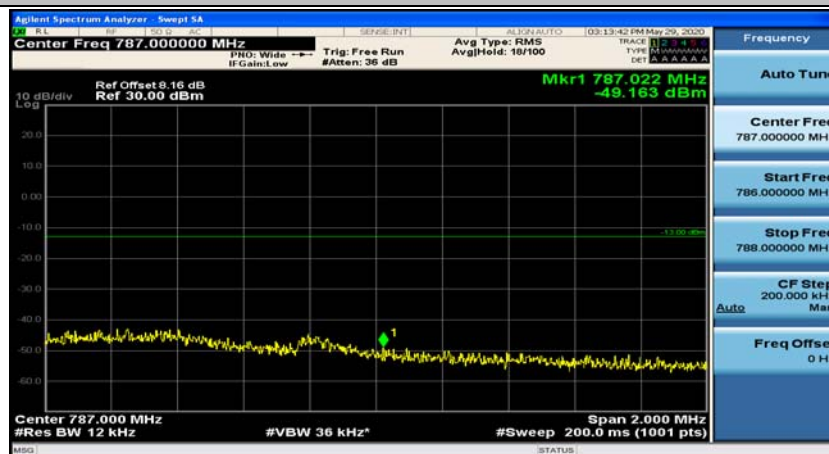




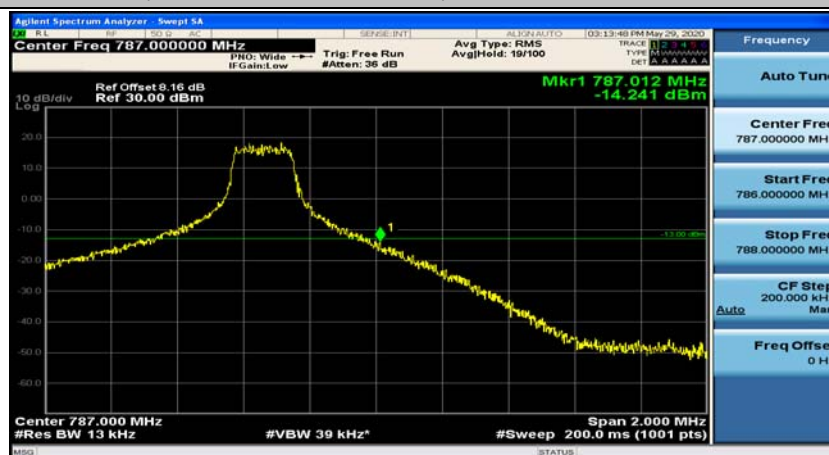
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



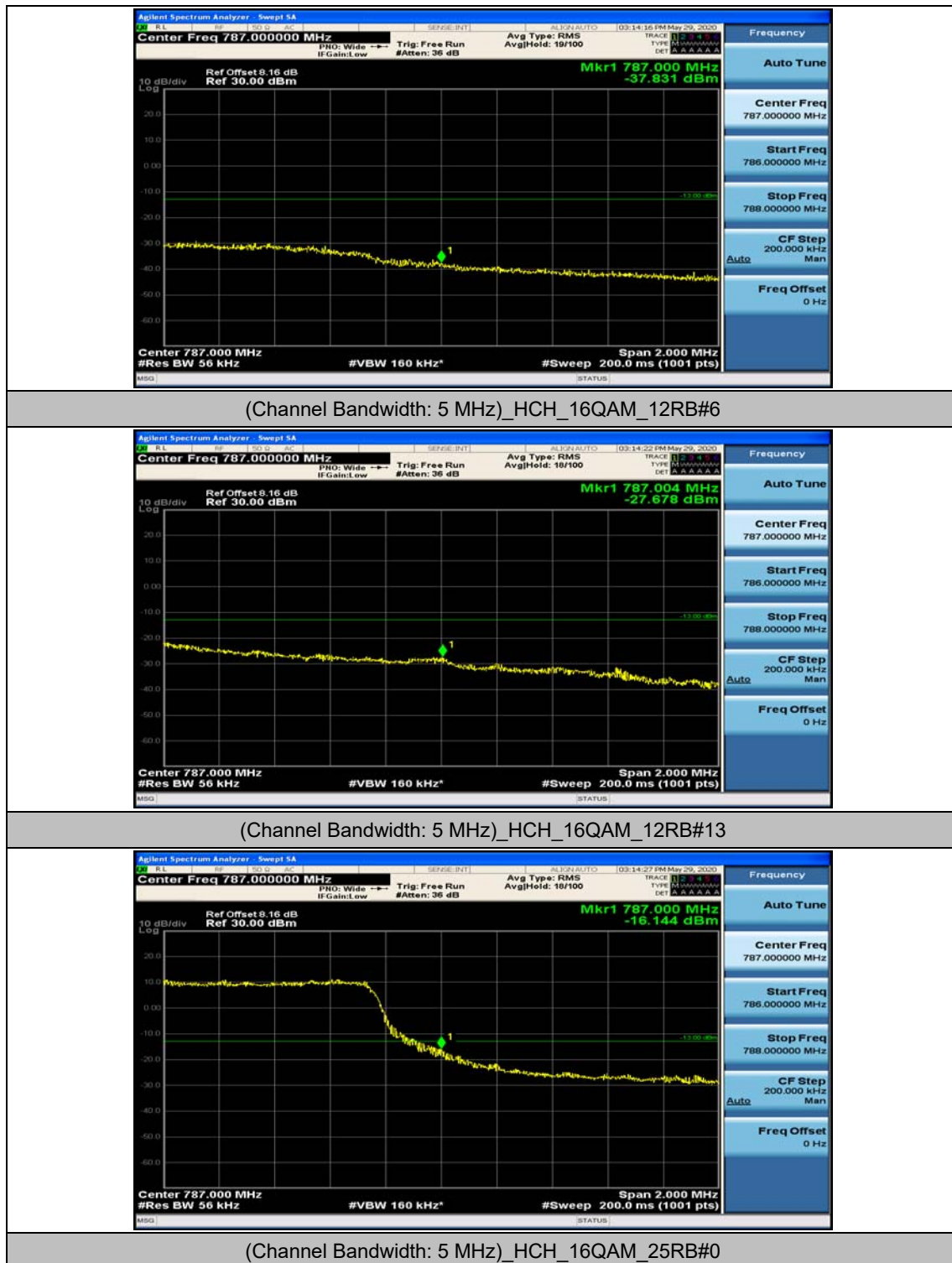
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12

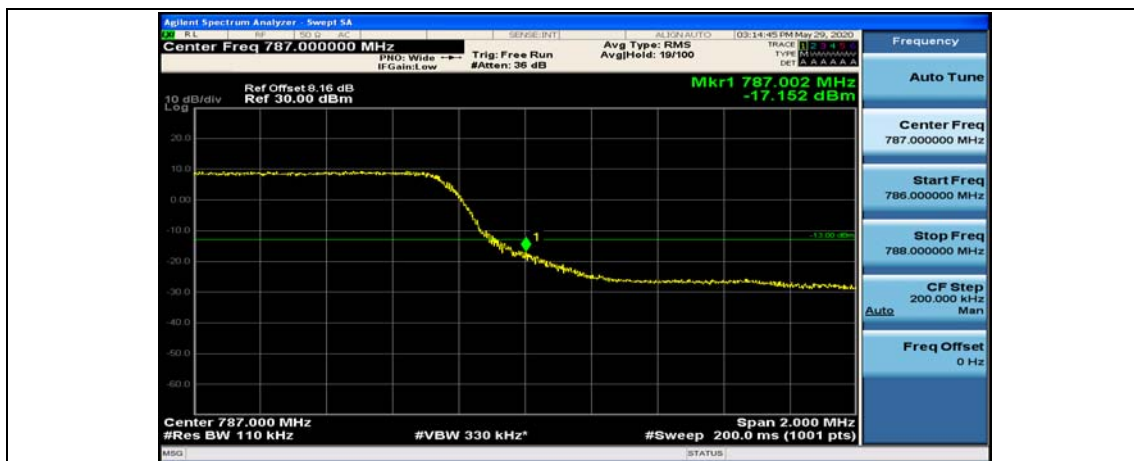


(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24

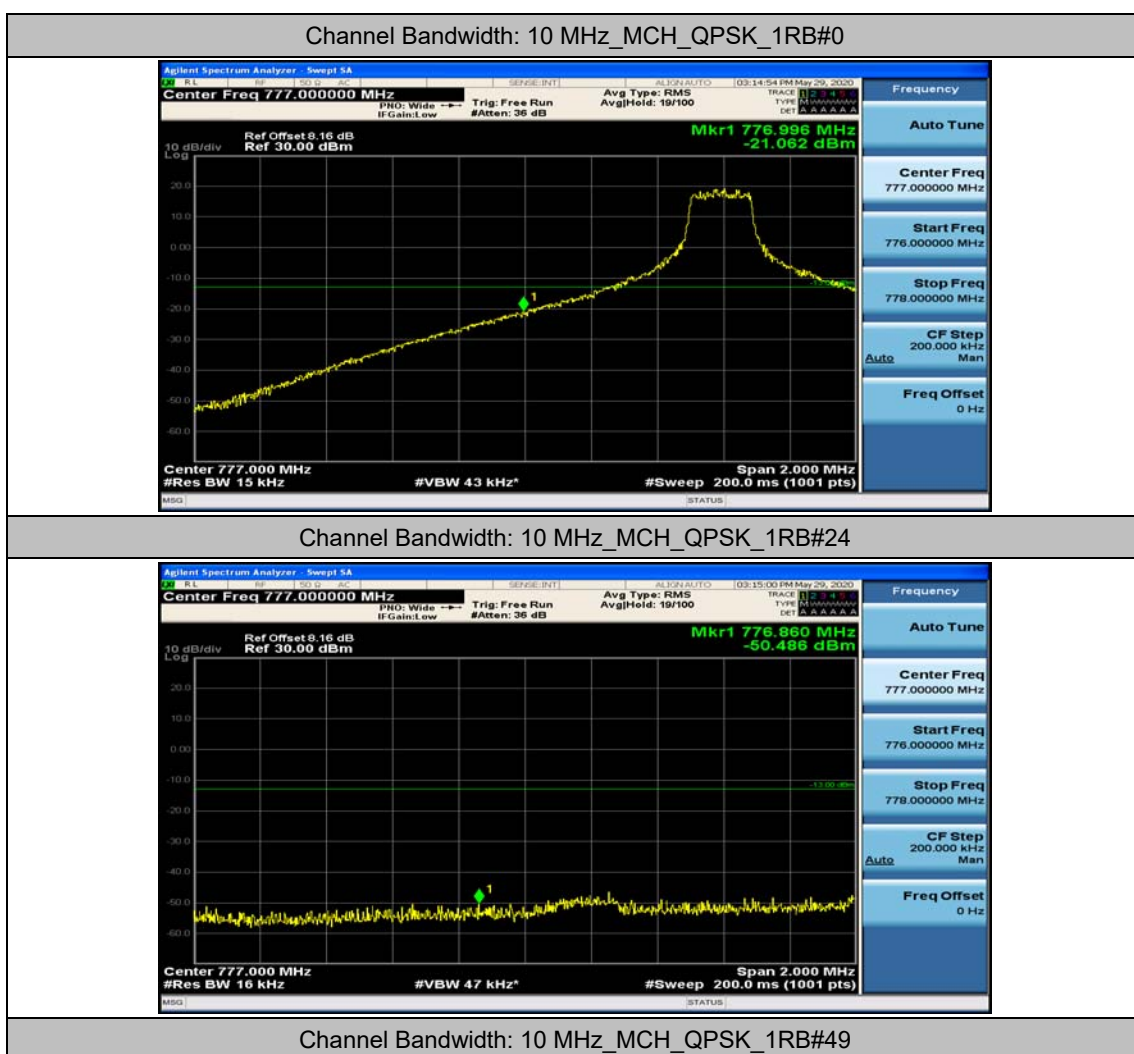


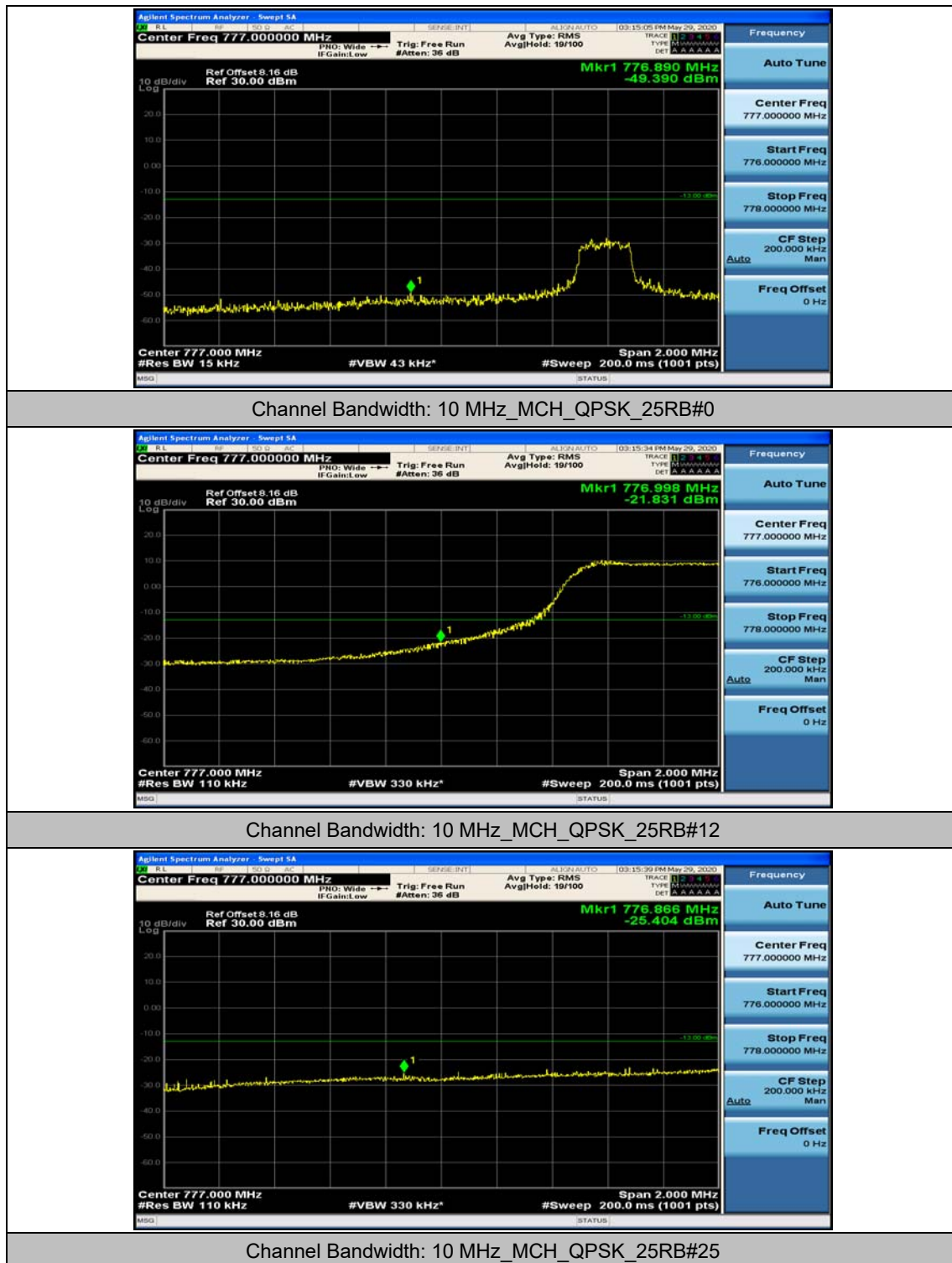
(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#0





Channel Bandwidth: 10 MHz



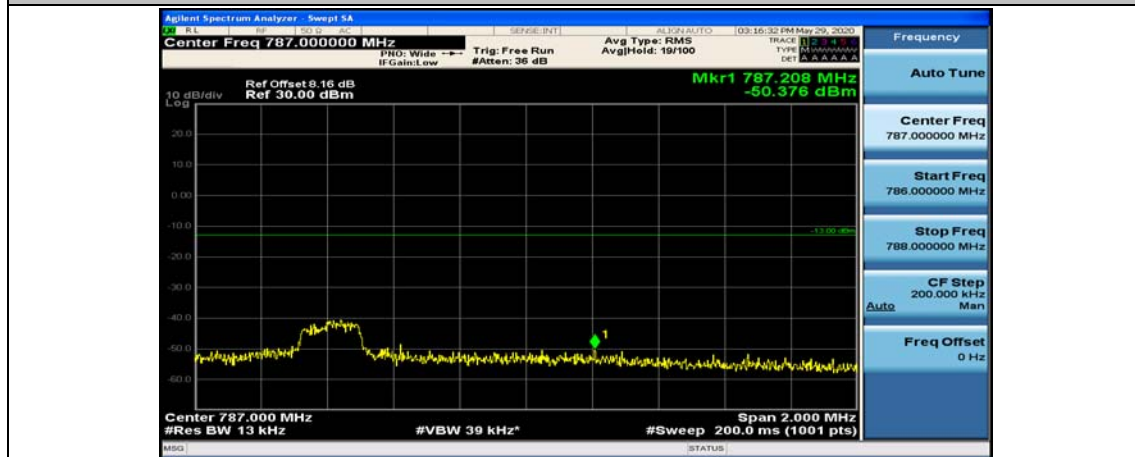




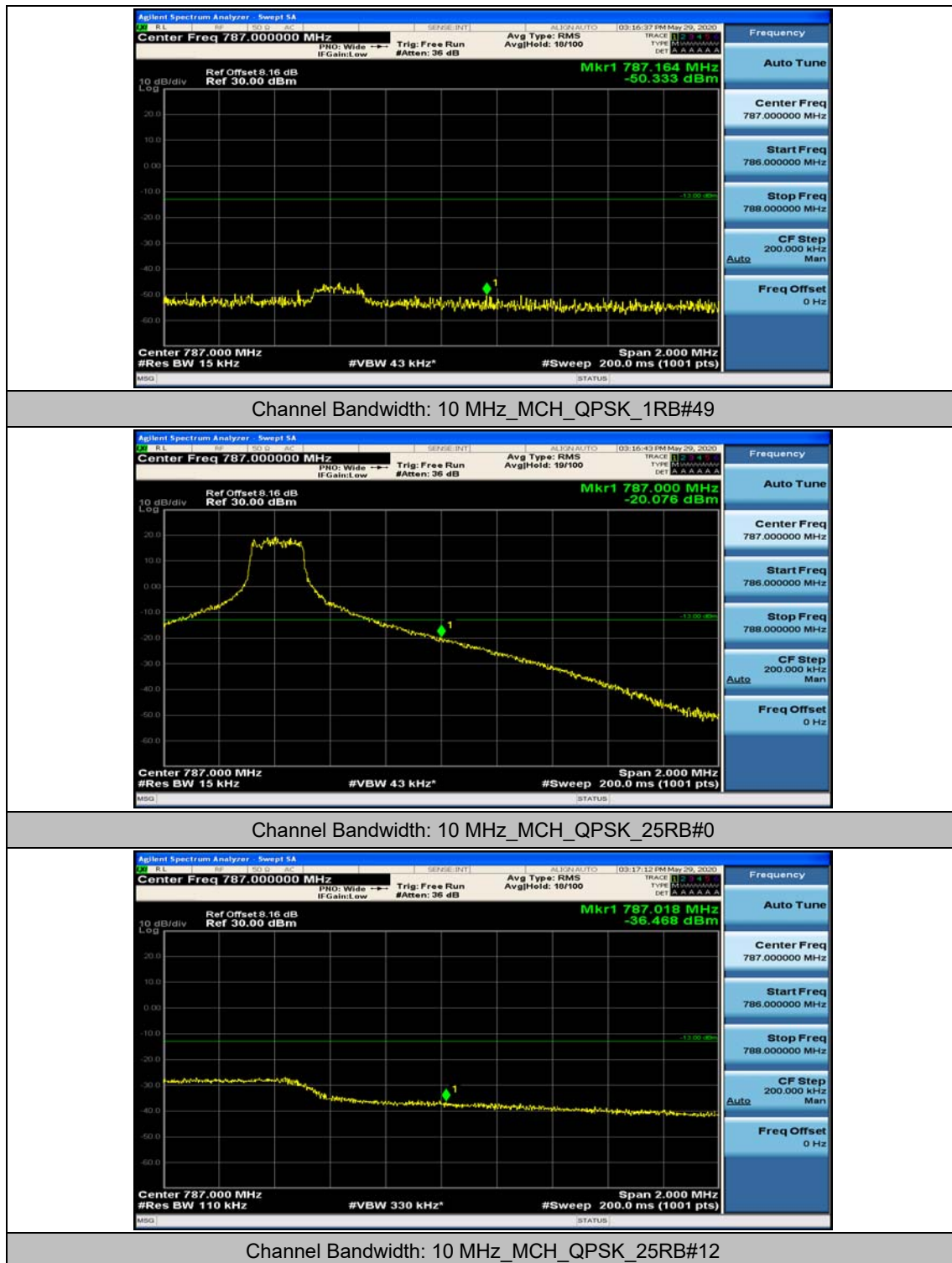
Channel Bandwidth: 10 MHz_MCH_QPSK_50RB#0

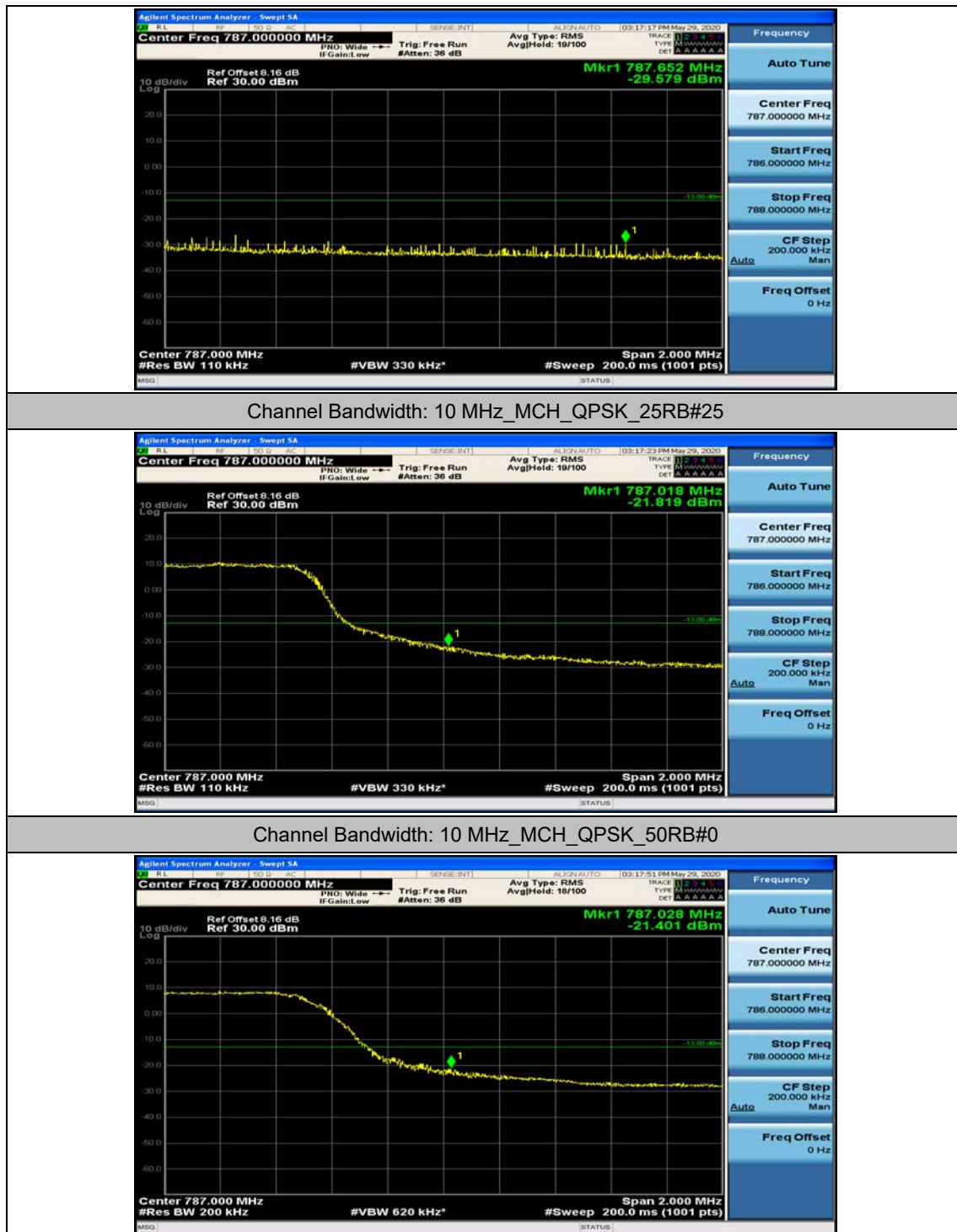


Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0

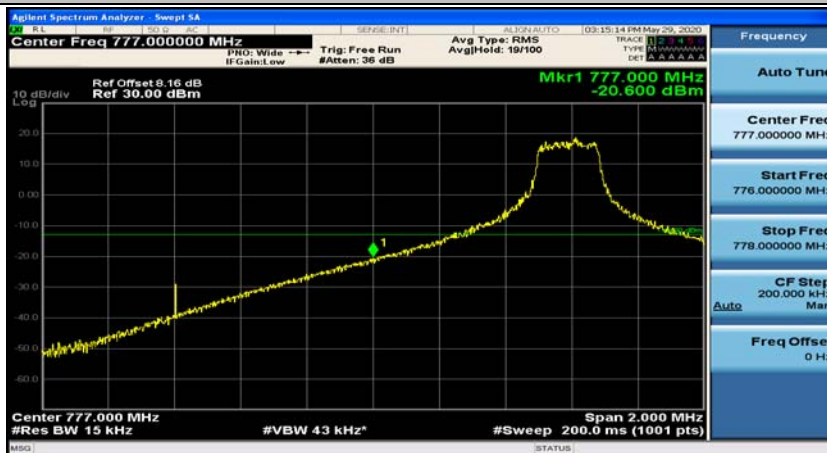


Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

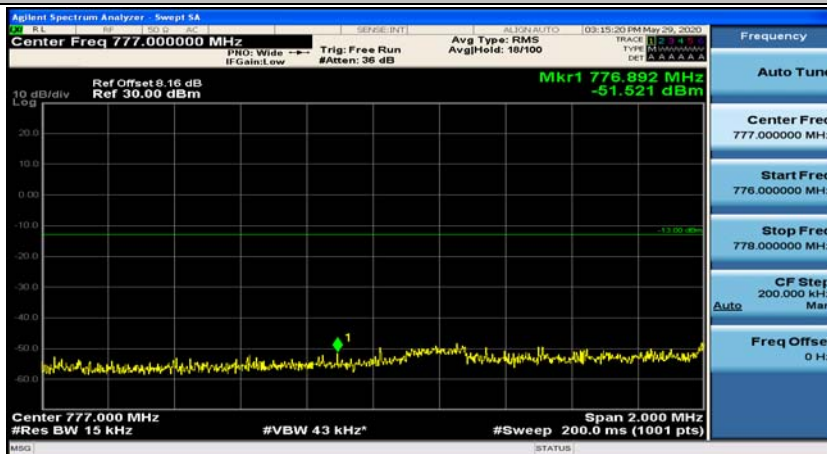




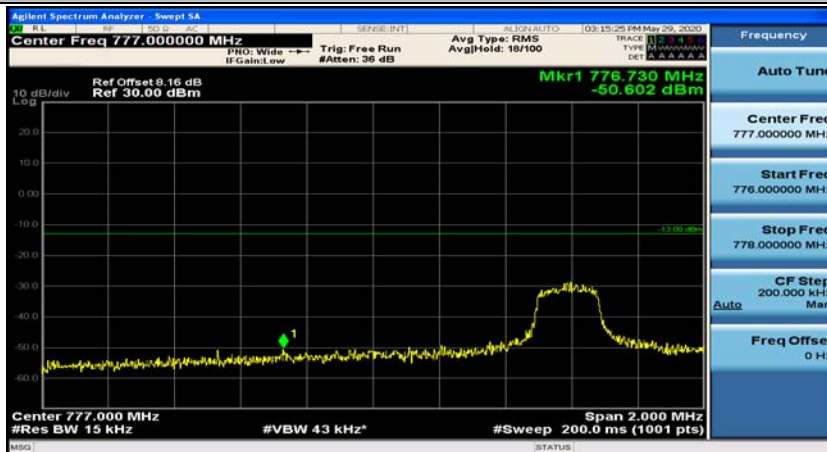
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



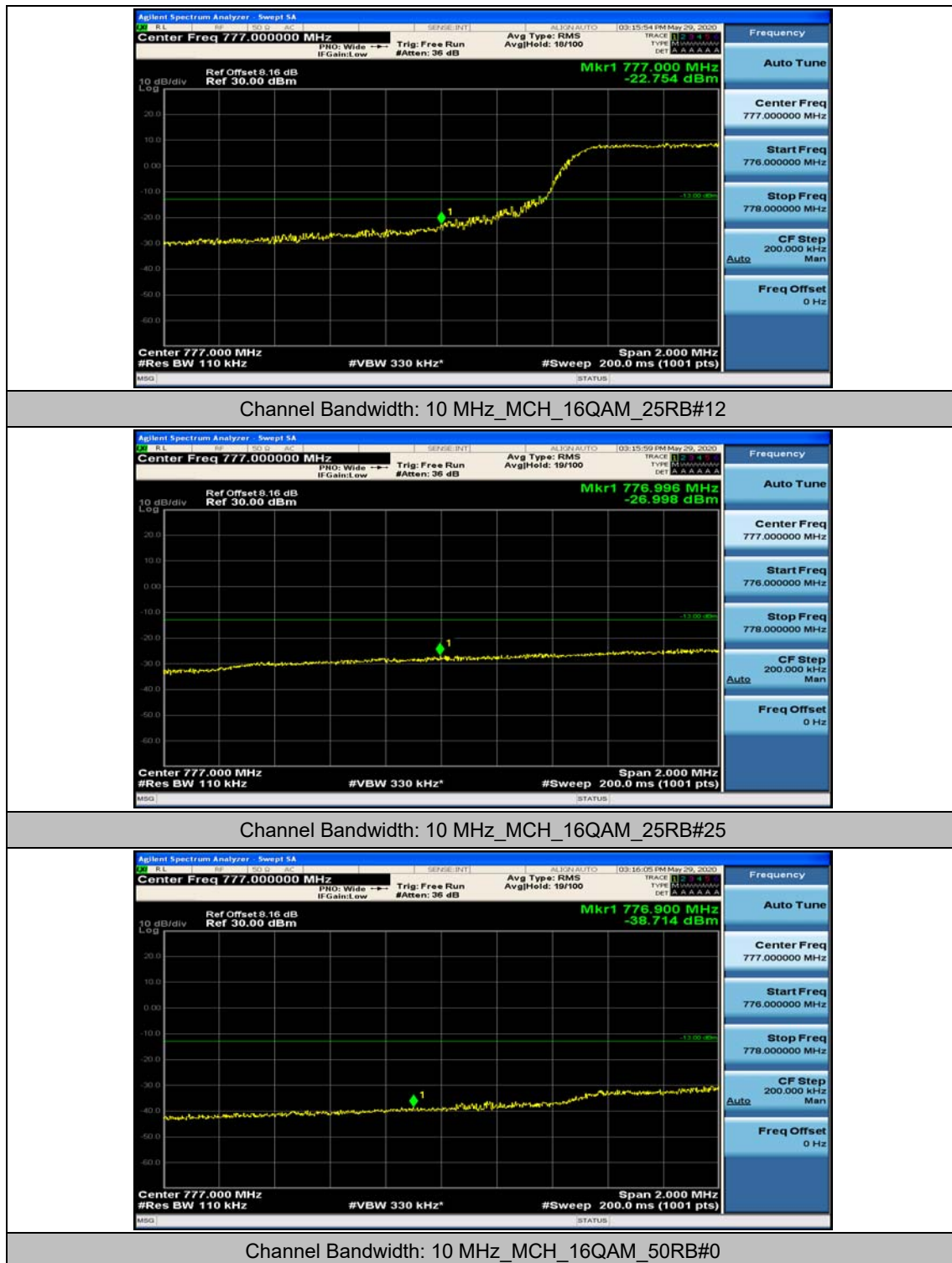
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24



Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49

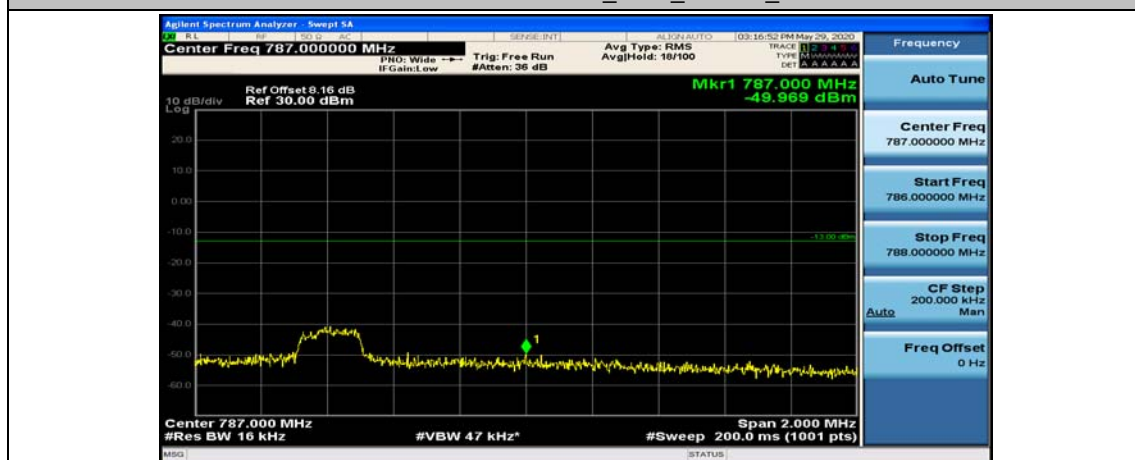


Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#0

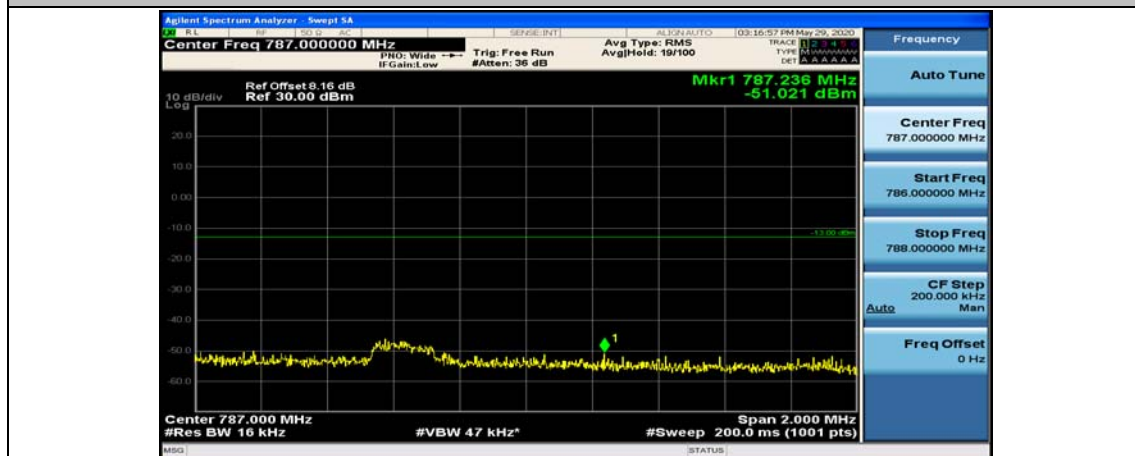




Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0



Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24



Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49