

Appendix for Band 17

Product Name: LTE USB Dongle

Model No: GLU194ST

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	23.92	PASS
		1	12	23.90	PASS
		1	24	22.87	PASS
		12	0	22.38	PASS
		12	6	22.51	PASS
		12	13	22.15	PASS
		25	0	22.53	PASS
	MCH	1	0	23.33	PASS
		1	12	23.21	PASS
		1	24	23.55	PASS
		12	0	21.86	PASS
		12	6	22.06	PASS
		12	13	22.27	PASS
		25	0	22.36	PASS
	HCH	1	0	23.45	PASS
		1	12	24.11	PASS
		1	24	23.84	PASS
		12	0	22.51	PASS
		12	6	22.97	PASS
		12	13	22.83	PASS
		25	0	22.76	PASS
16QAM	LCH	1	0	23.14	PASS
		1	12	23.11	PASS
		1	24	22.34	PASS
		12	0	21.70	PASS
		12	6	21.82	PASS
		12	13	21.32	PASS
		25	0	21.75	PASS
	MCH	1	0	22.55	PASS
		1	12	22.52	PASS
		1	24	22.92	PASS
		12	0	20.86	PASS
		12	6	21.07	PASS

		12	13	21.48	PASS
		25	0	21.38	PASS
	HCH	1	0	23.01	PASS
		1	12	23.65	PASS
		1	24	23.04	PASS
		12	0	21.74	PASS
		12	6	22.21	PASS
		12	13	21.91	PASS
		25	0	21.93	PASS

Channel Bandwidth: 10 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	21.56	PASS
		1	24	23.08	PASS
		1	49	23.96	PASS
		25	0	22.58	PASS
		25	12	22.29	PASS
		25	25	22.44	PASS
		50	0	22.52	PASS
	MCH	1	0	23.77	PASS
		1	24	23.11	PASS
		1	49	24.15	PASS
		25	0	22.43	PASS
		25	12	22.21	PASS
		25	25	22.72	PASS
		50	0	22.61	PASS
	HCH	1	0	23.65	PASS
		1	24	23.49	PASS
		1	49	23.80	PASS
		25	0	22.31	PASS
		25	12	22.39	PASS
		25	25	22.91	PASS
		50	0	22.55	PASS
16QAM	LCH	1	0	23.34	PASS
		1	24	22.59	PASS
		1	49	23.69	PASS
		25	0	21.73	PASS
		25	12	21.29	PASS
		25	25	21.68	PASS
		50	0	21.67	PASS

	MCH	1	0	23.13	PASS
		1	24	22.71	PASS
		1	49	23.57	PASS
		25	0	21.49	PASS
		25	12	21.12	PASS
		25	25	22.00	PASS
		50	0	21.65	PASS
	HCH	1	0	23.19	PASS
		1	24	22.93	PASS
		1	49	23.39	PASS
		25	0	21.31	PASS
		25	12	21.41	PASS
		25	25	21.96	PASS
		50	0	21.58	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	6.19	<13	PASS
		1	12	5.53	<13	PASS
		1	24	5.61	<13	PASS
		12	0	5.76	<13	PASS
		12	6	5.61	<13	PASS
		12	13	5.66	<13	PASS
		25	0	5.84	<13	PASS
	MCH	1	0	5.4	<13	PASS
		1	12	5.56	<13	PASS
		1	24	6.16	<13	PASS
		12	0	5.69	<13	PASS
		12	6	5.69	<13	PASS
		12	13	6.09	<13	PASS
		25	0	5.95	<13	PASS
	HCH	1	0	6.42	<13	PASS
		1	12	7.13	<13	PASS
		1	24	6.84	<13	PASS
		12	0	6.47	<13	PASS
		12	6	6.52	<13	PASS
		12	13	6.7	<13	PASS
		25	0	6.63	<13	PASS
16QAM	LCH	1	0	7.05	<13	PASS
		1	12	6.48	<13	PASS
		1	24	6.51	<13	PASS
		12	0	6.62	<13	PASS
		12	6	6.35	<13	PASS
		12	13	6.23	<13	PASS
		25	0	6.52	<13	PASS
	MCH	1	0	5.72	<13	PASS
		1	12	6.07	<13	PASS
		1	24	6.68	<13	PASS

		12	0	6.26	<13	PASS
		12	6	6.17	<13	PASS
		12	13	6.71	<13	PASS
		25	0	6.54	<13	PASS
	HCH	1	0	7.14	<13	PASS
		1	12	7.43	<13	PASS
		1	24	7.58	<13	PASS
		12	0	7.17	<13	PASS
		12	6	7.42	<13	PASS
		12	13	7.35	<13	PASS
		25	0	7.17	<13	PASS

Channel Bandwidth: 10 MHz

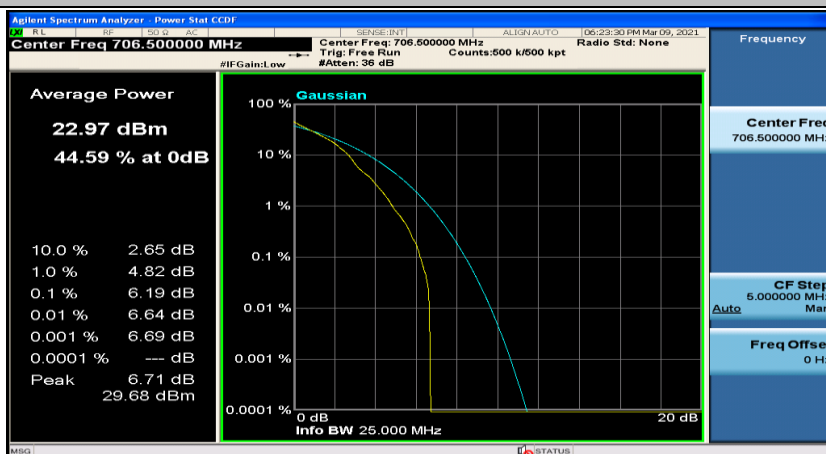
Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	6.25	<13	PASS
		1	24	5.57	<13	PASS
		1	49	6.82	<13	PASS
		25	0	5.99	<13	PASS
		25	12	5.6	<13	PASS
		25	25	6.35	<13	PASS
		50	0	6.01	<13	PASS
	MCH	1	0	5.62	<13	PASS
		1	24	5.53	<13	PASS
		1	49	6.56	<13	PASS
		25	0	5.86	<13	PASS
		25	12	5.74	<13	PASS
		25	25	6.55	<13	PASS
		50	0	6.28	<13	PASS
	HCH	1	0	5.82	<13	PASS
		1	24	6.4	<13	PASS
		1	49	6.53	<13	PASS
		25	0	5.76	<13	PASS
		25	12	5.85	<13	PASS
		25	25	6.44	<13	PASS
		50	0	6.28	<13	PASS
16QAM	LCH	1	0	6.97	<13	PASS
		1	24	6.33	<13	PASS
		1	49	7.78	<13	PASS
		25	0	6.54	<13	PASS

		25	12	6.27	<13	PASS
		25	25	6.91	<13	PASS
		50	0	6.45	<13	PASS
	MCH	1	0	6.75	<13	PASS
		1	24	6.25	<13	PASS
		1	49	7.23	<13	PASS
		25	0	6.41	<13	PASS
		25	12	6.32	<13	PASS
		25	25	7.25	<13	PASS
		50	0	6.55	<13	PASS
	HCH	1	0	6.75	<13	PASS
		1	24	6.66	<13	PASS
		1	49	7.67	<13	PASS
		25	0	6.42	<13	PASS
		25	12	6.61	<13	PASS
		25	25	7.14	<13	PASS
		50	0	6.72	<13	PASS

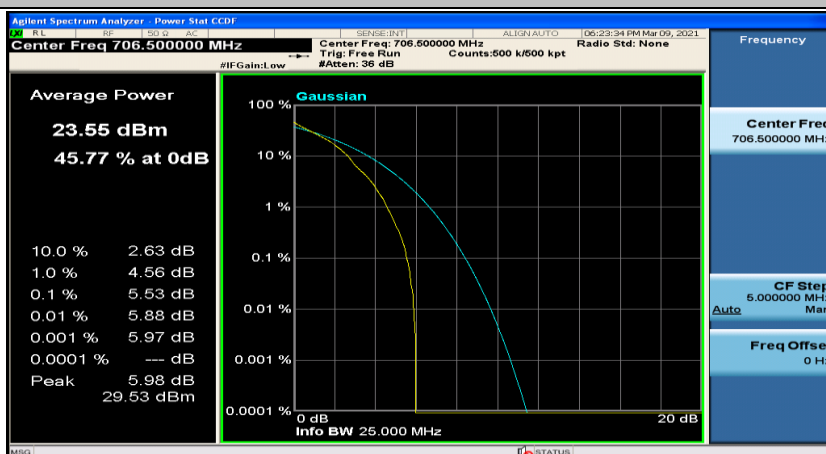
Test Graphs

Channel Bandwidth: 5 MHz

(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



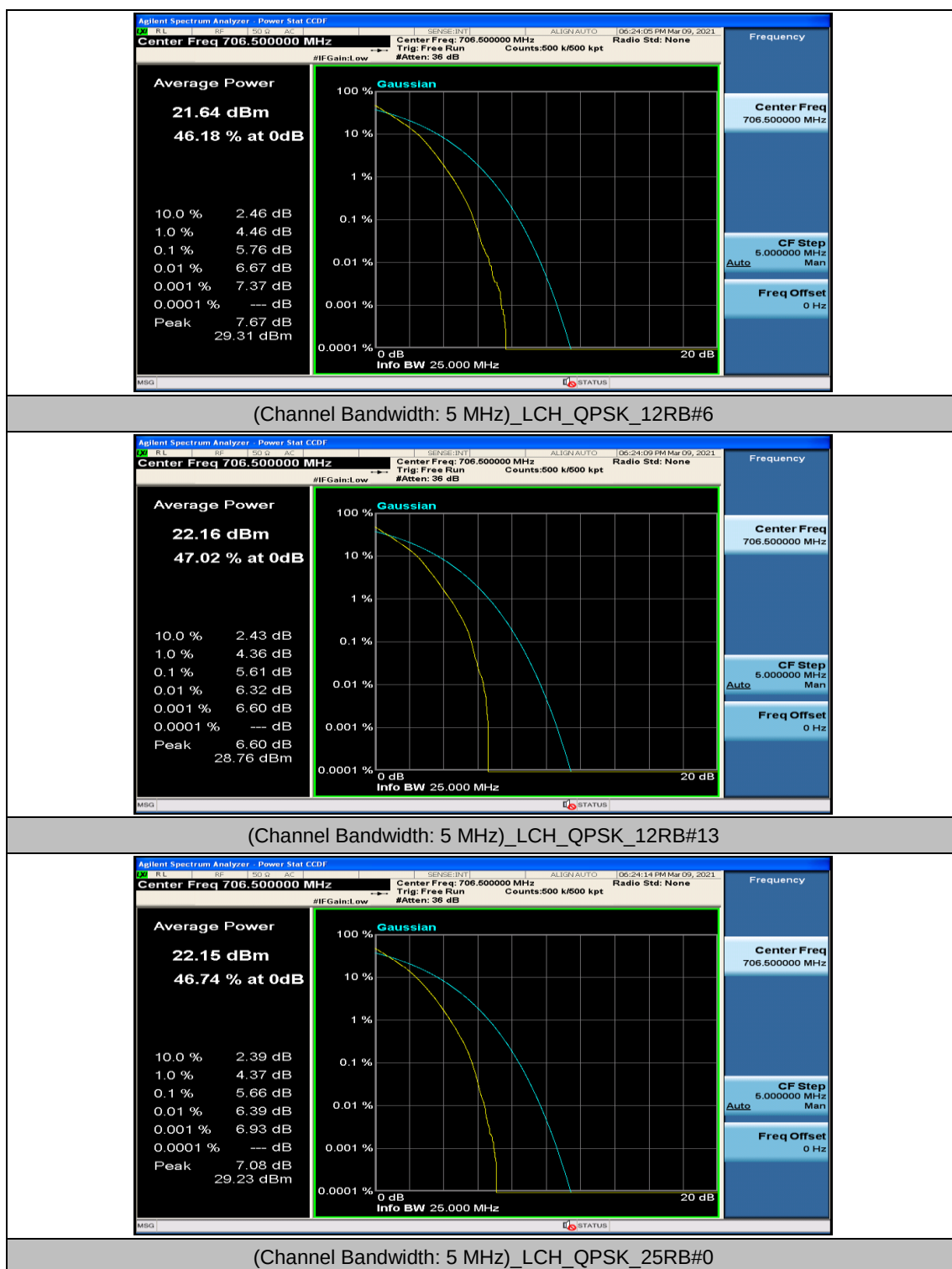
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(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24

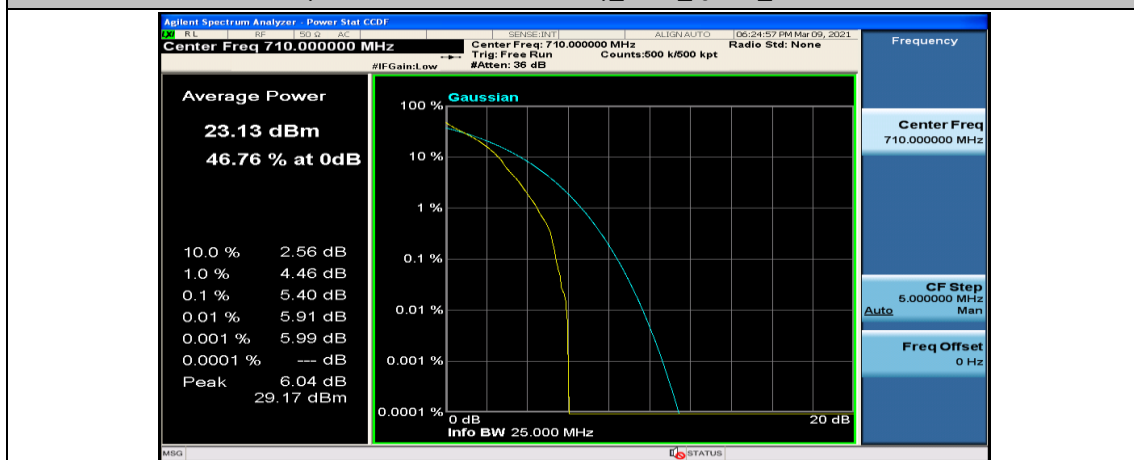


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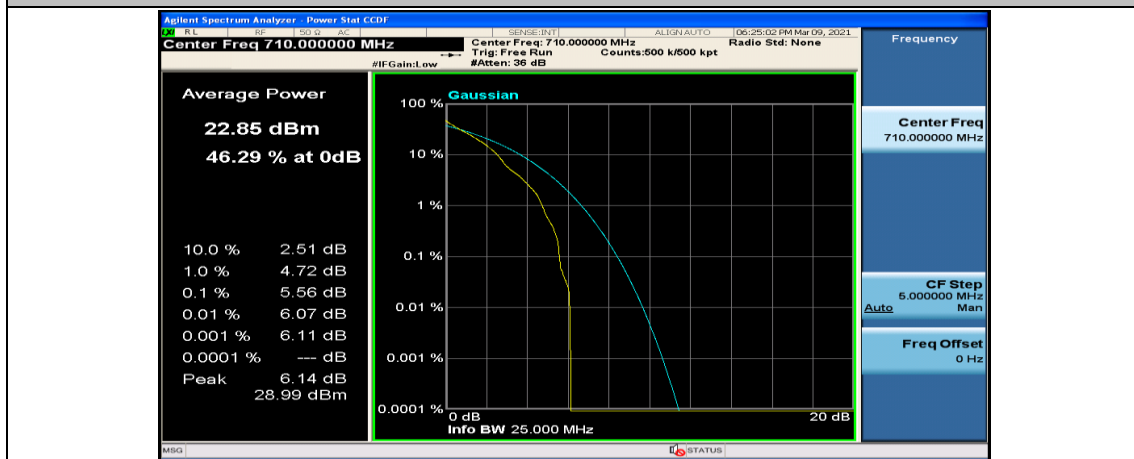




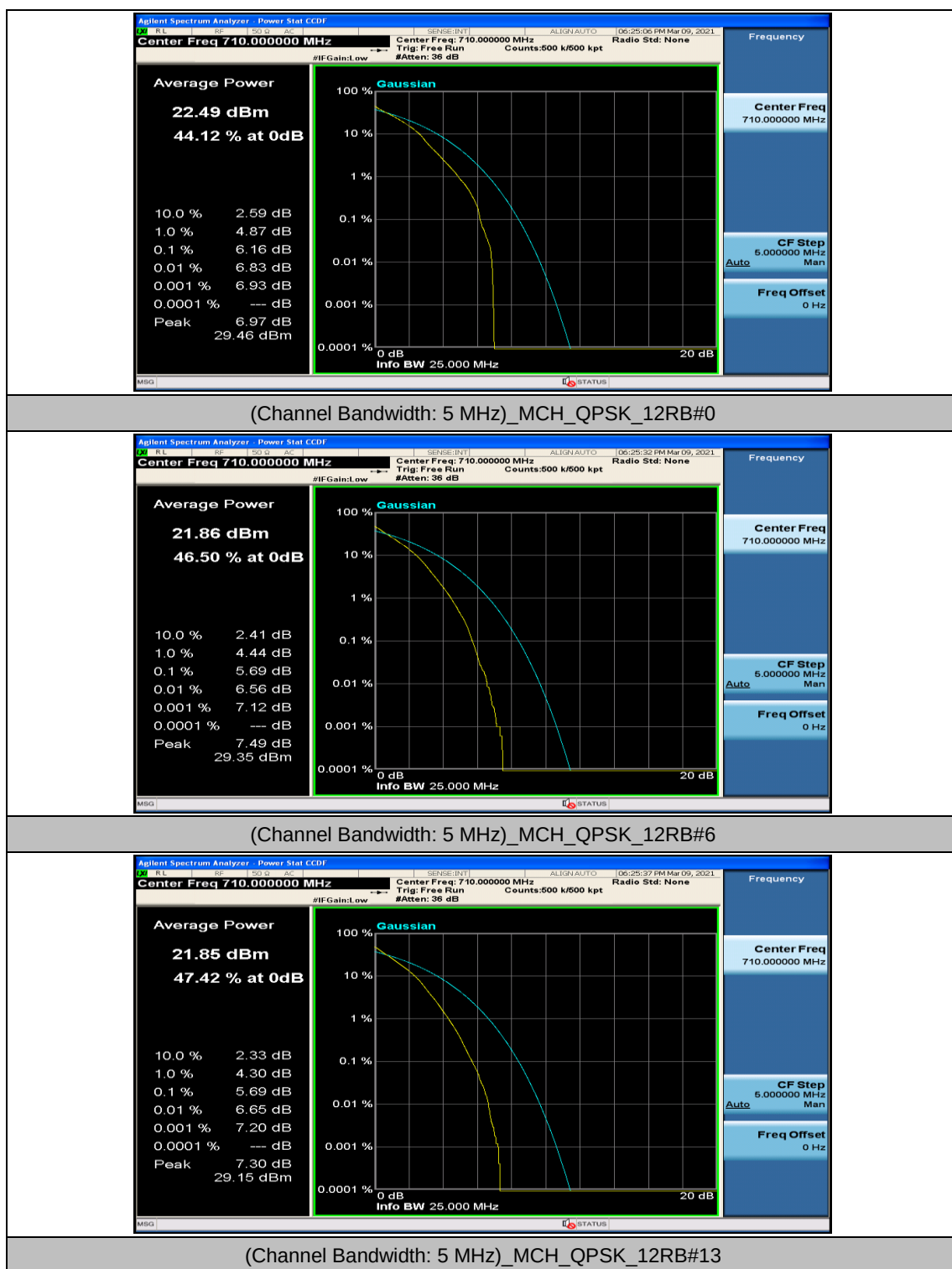
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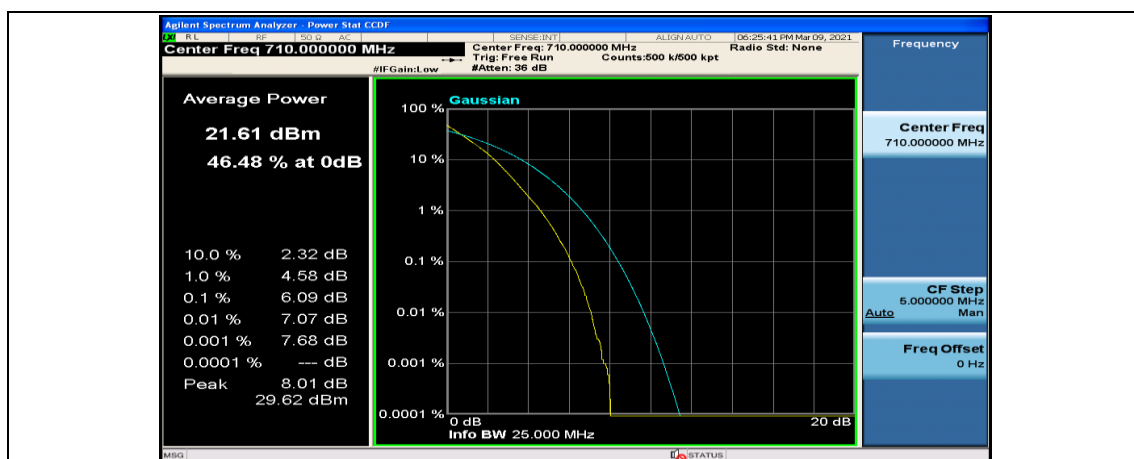


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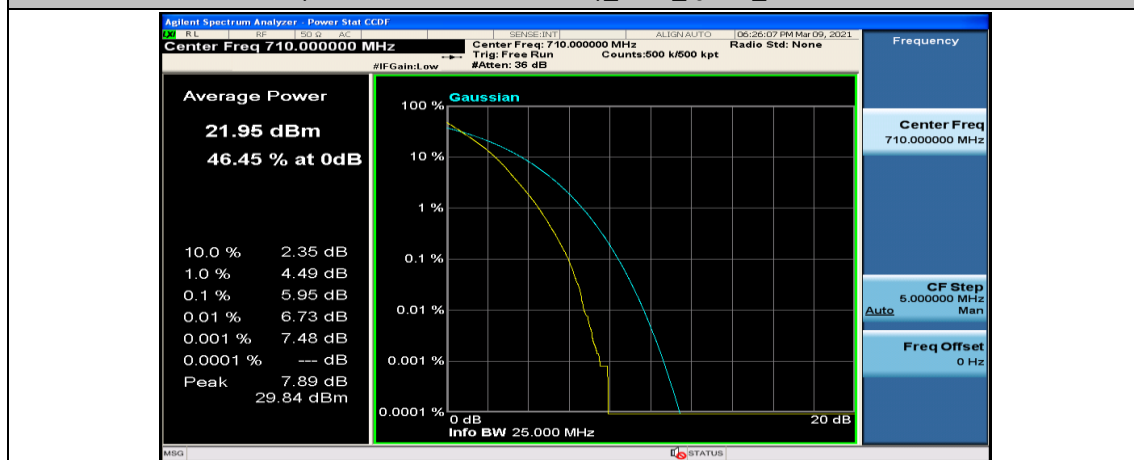


(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

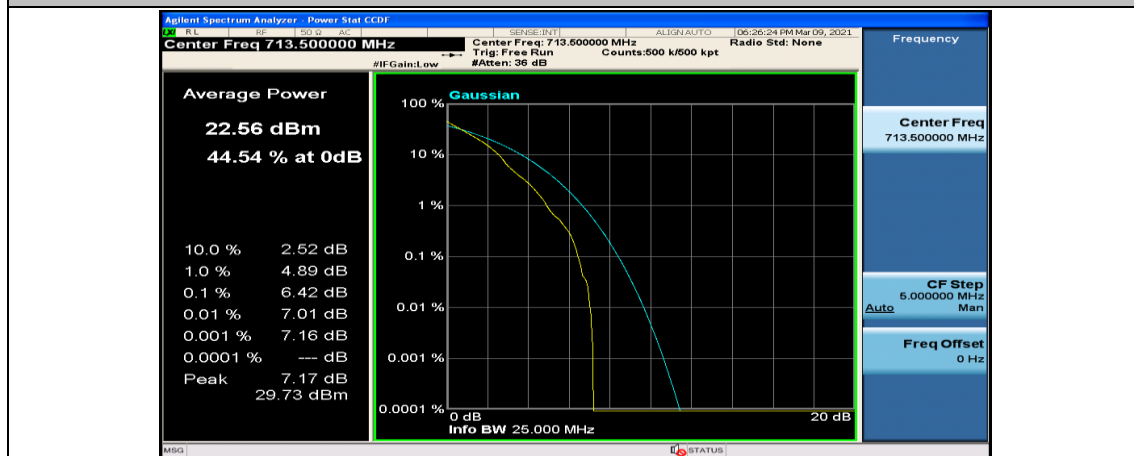




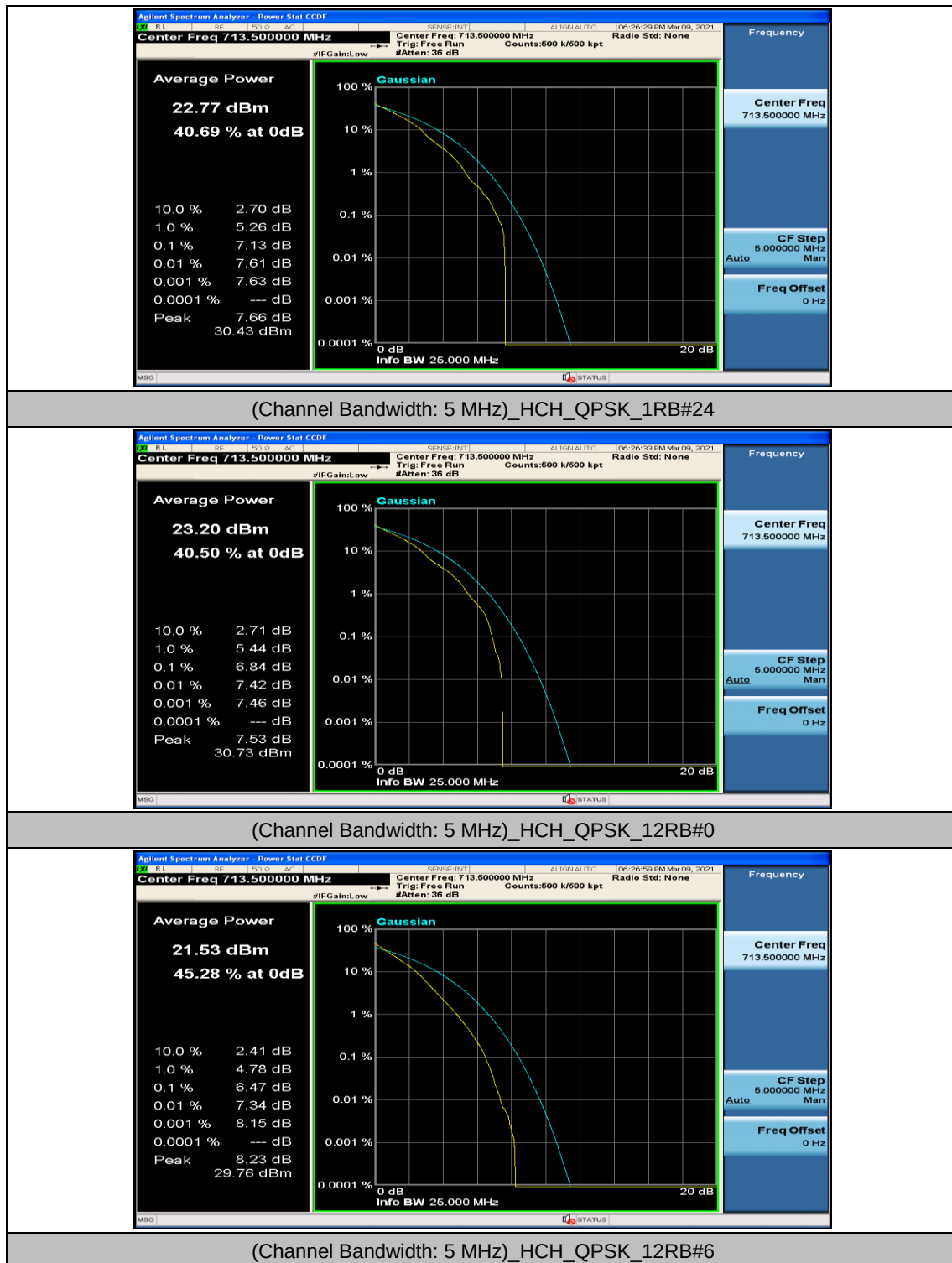
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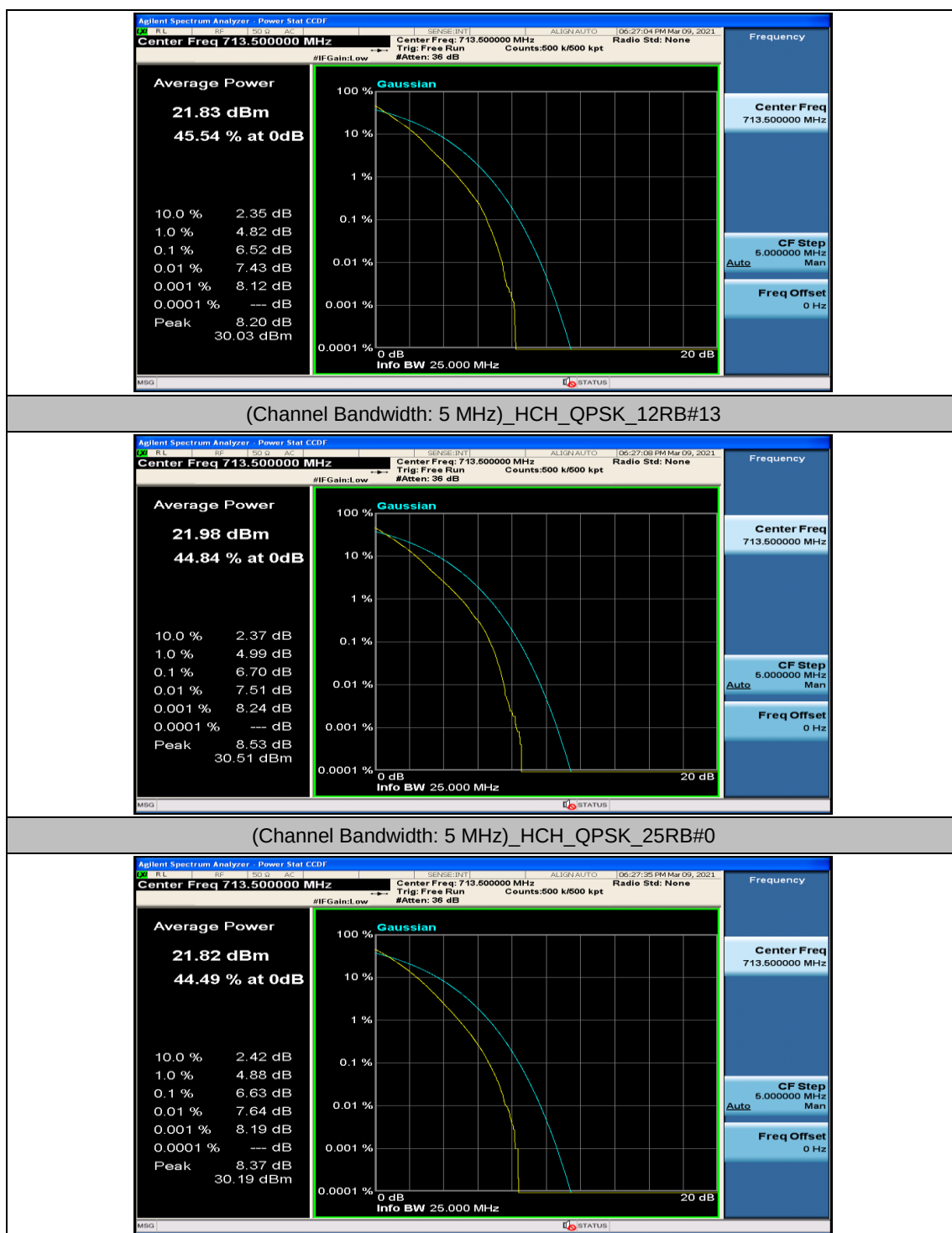


(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0

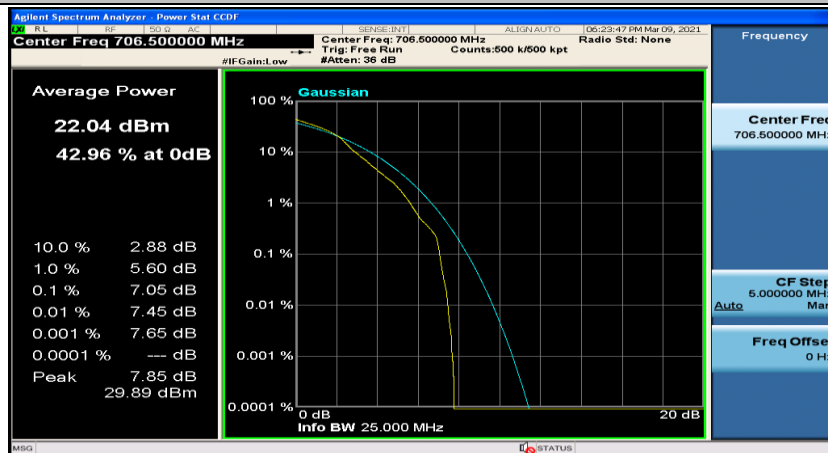


(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12





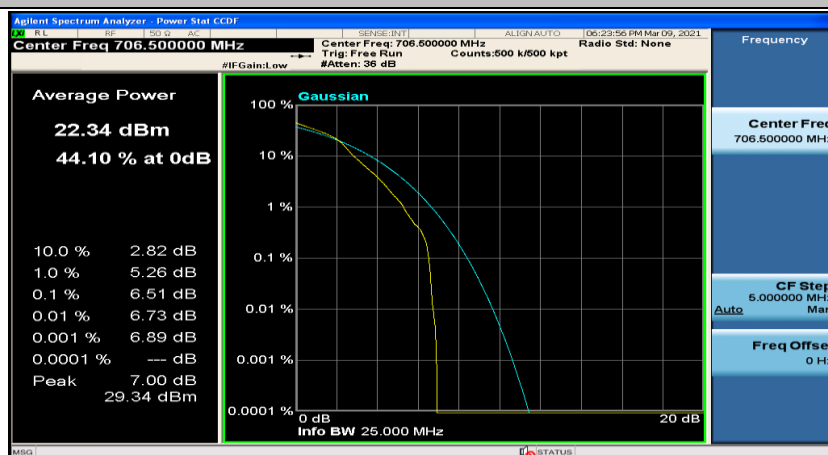
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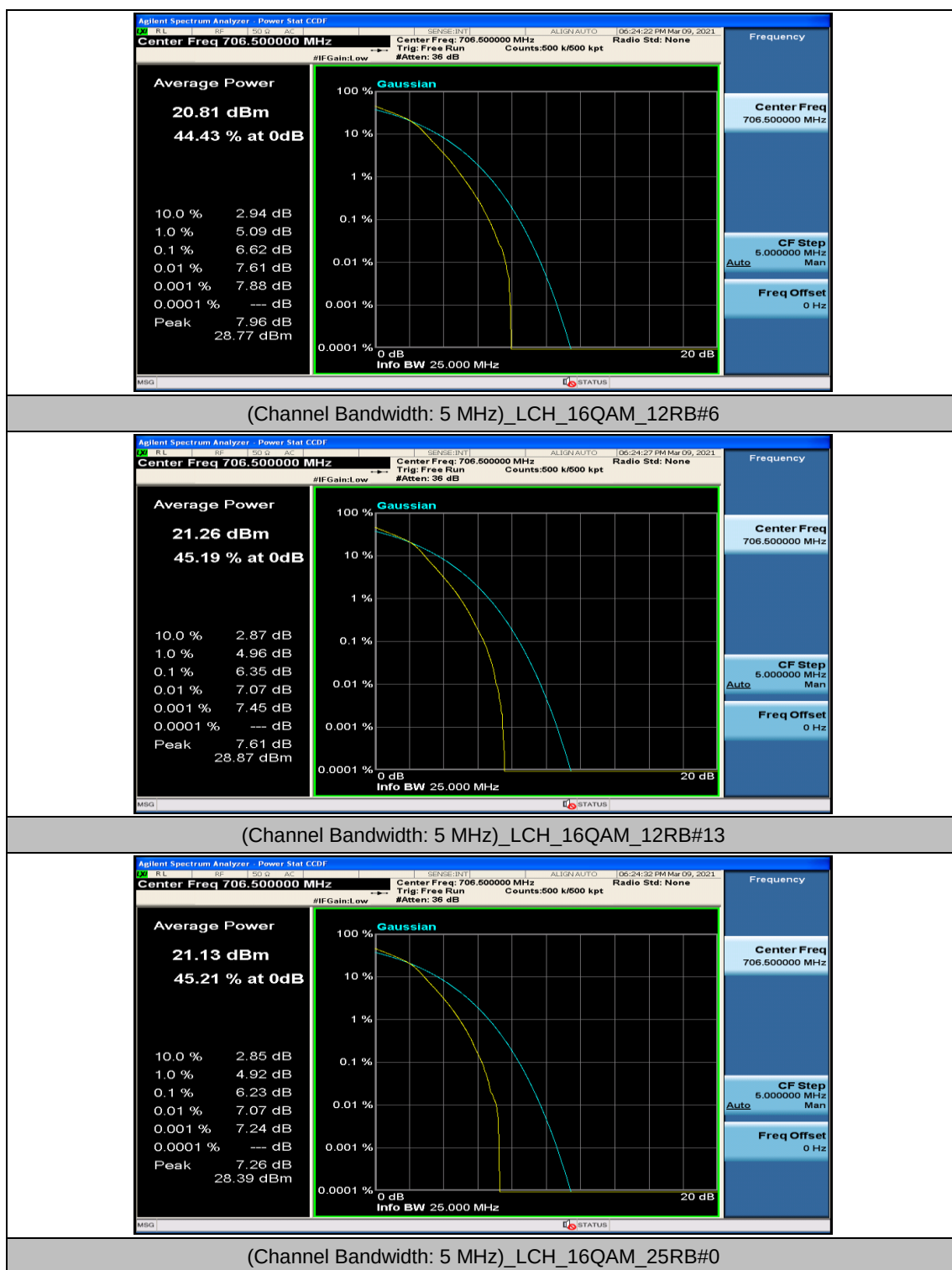
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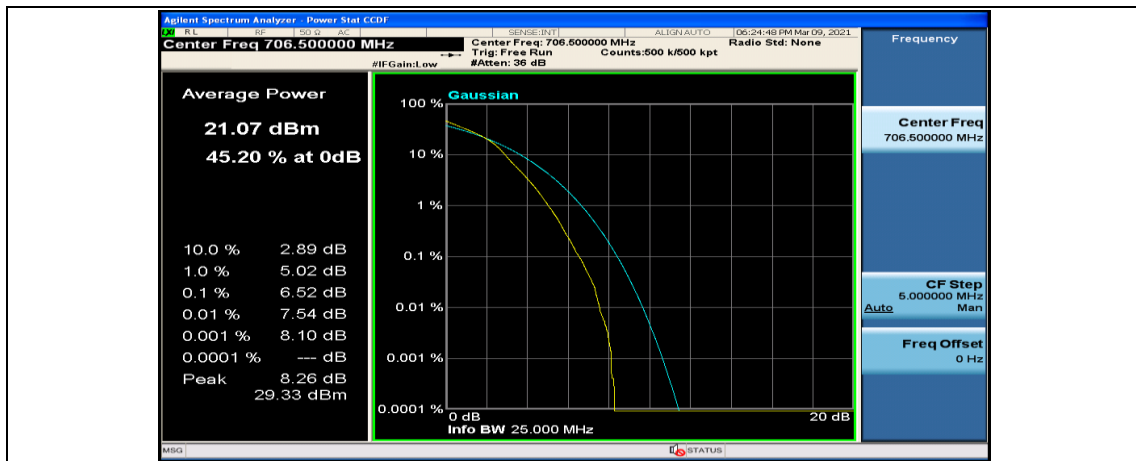


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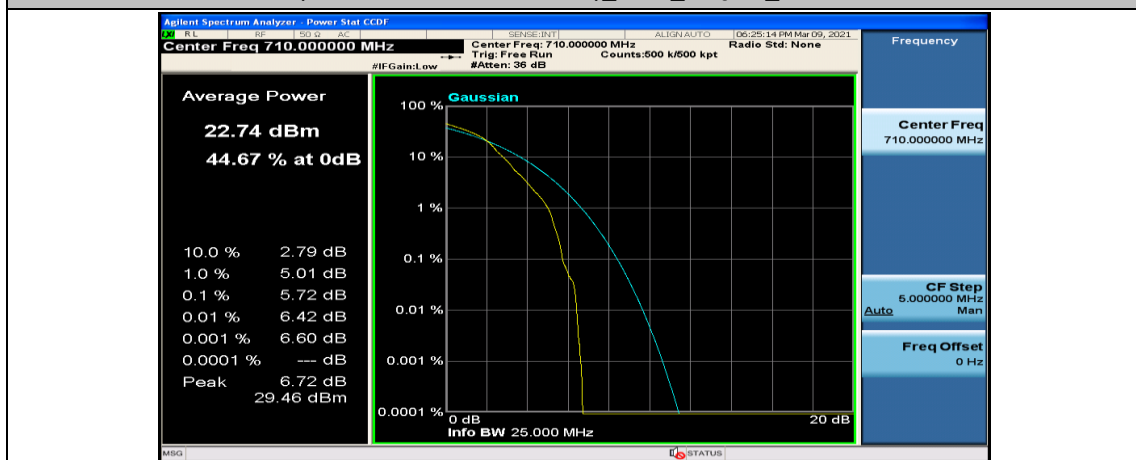


(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#0

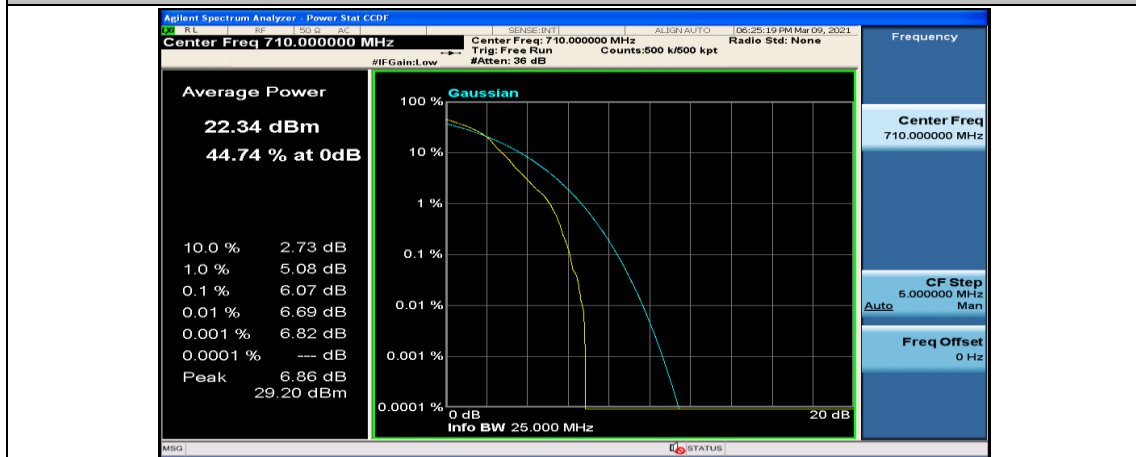




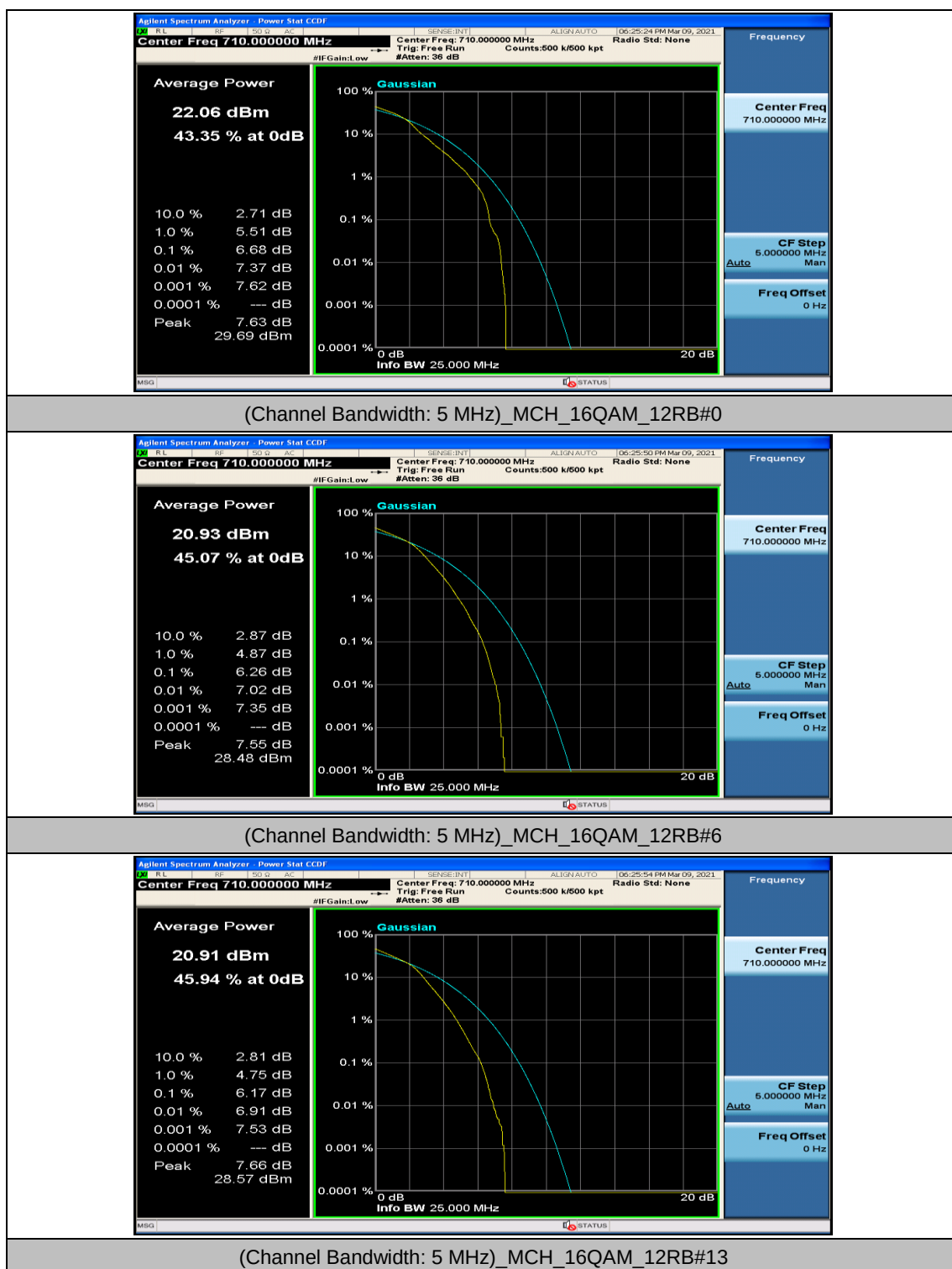
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0

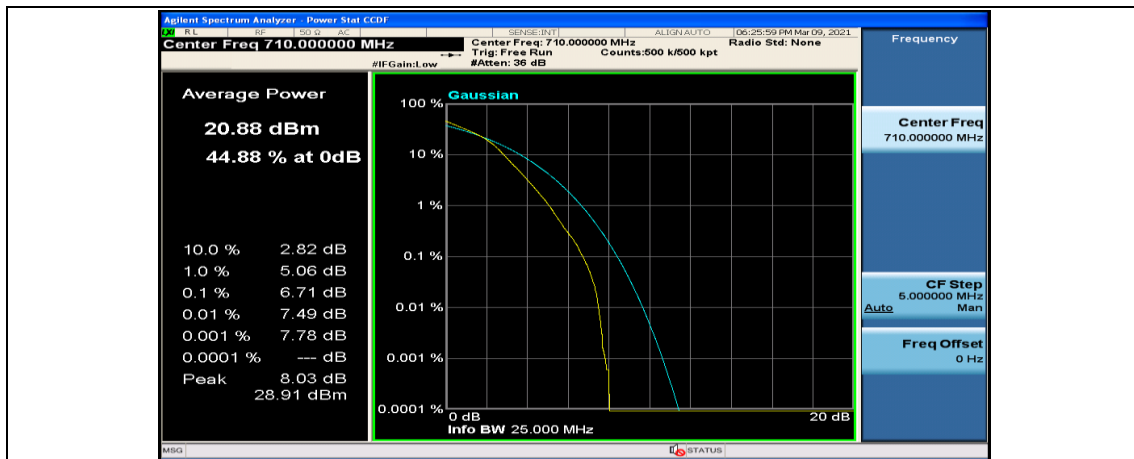


(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12

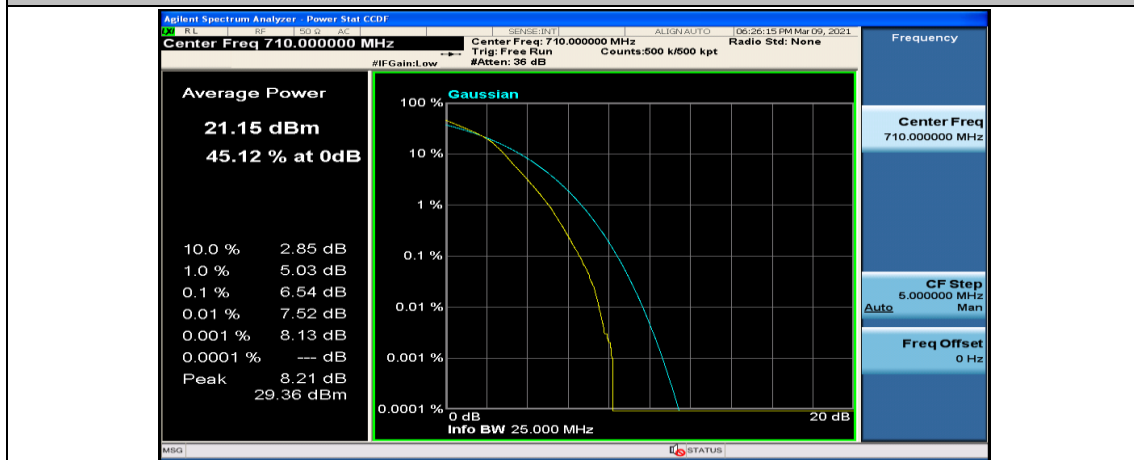


(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24

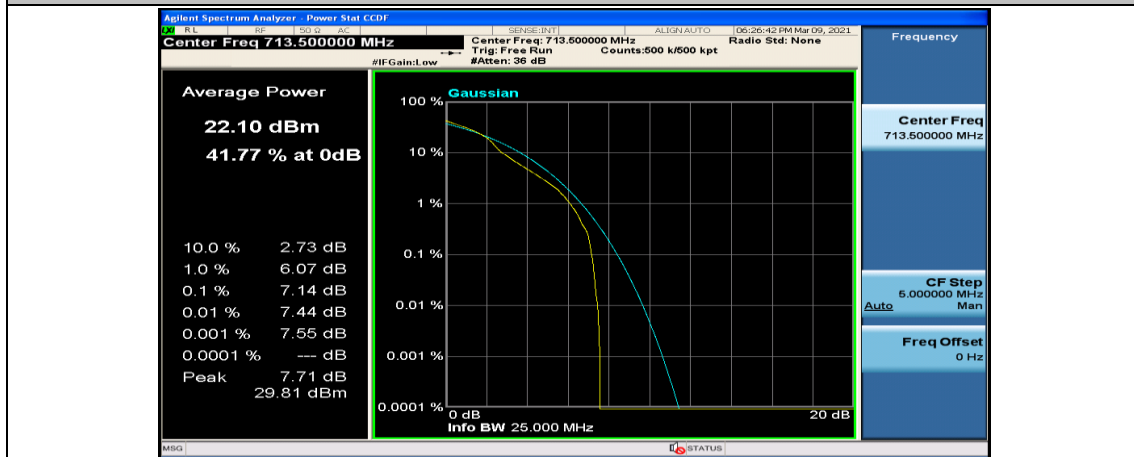




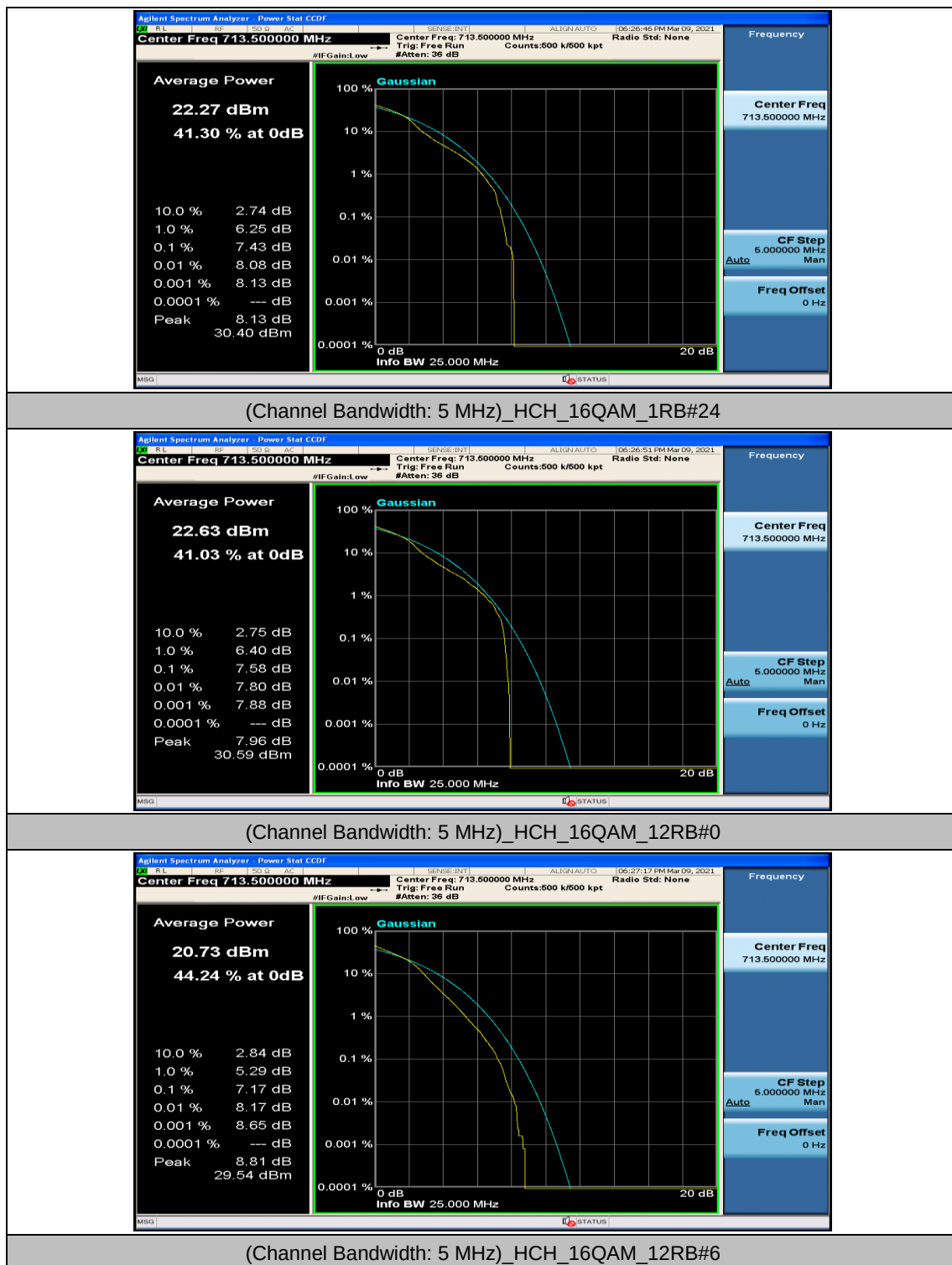
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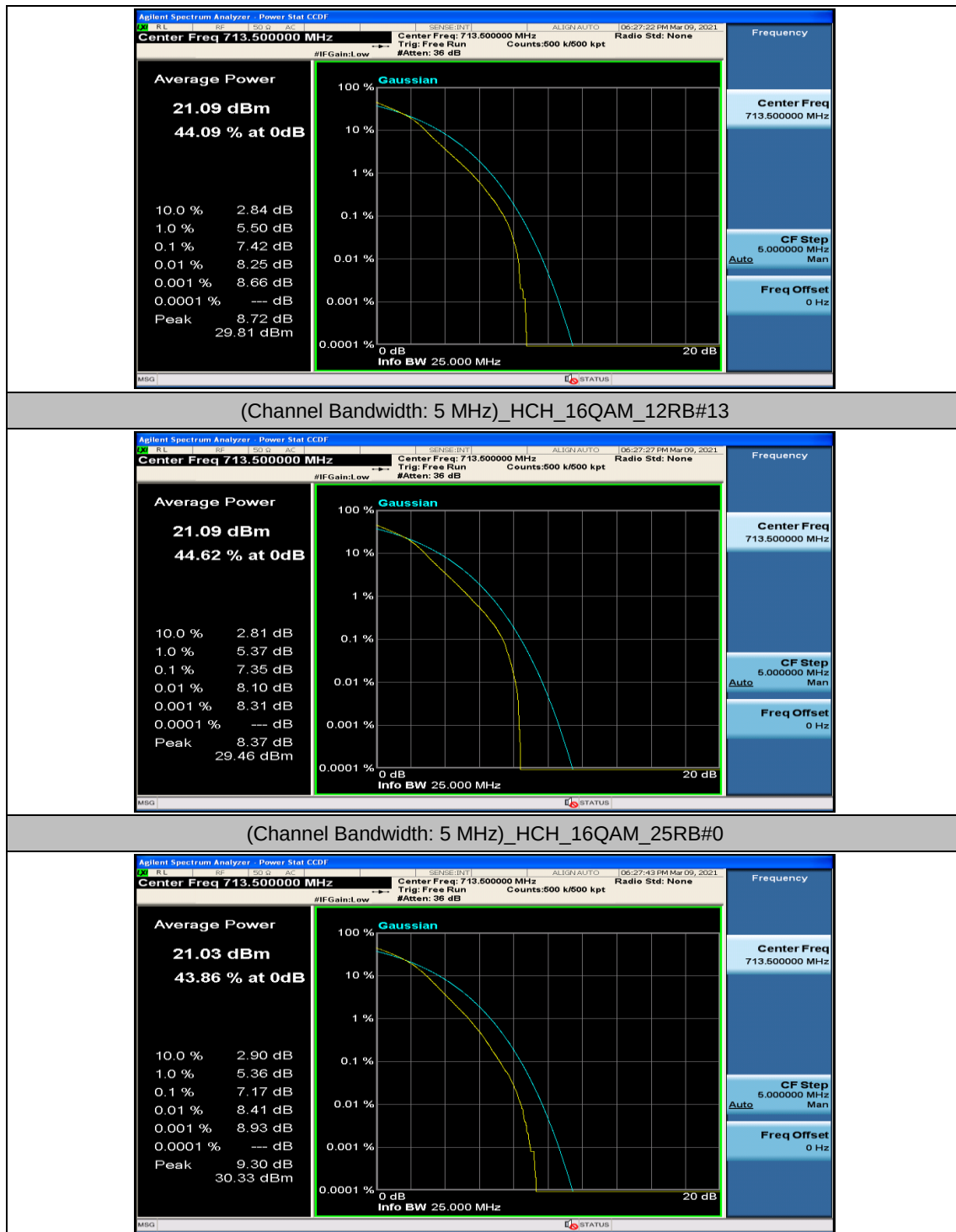


(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0

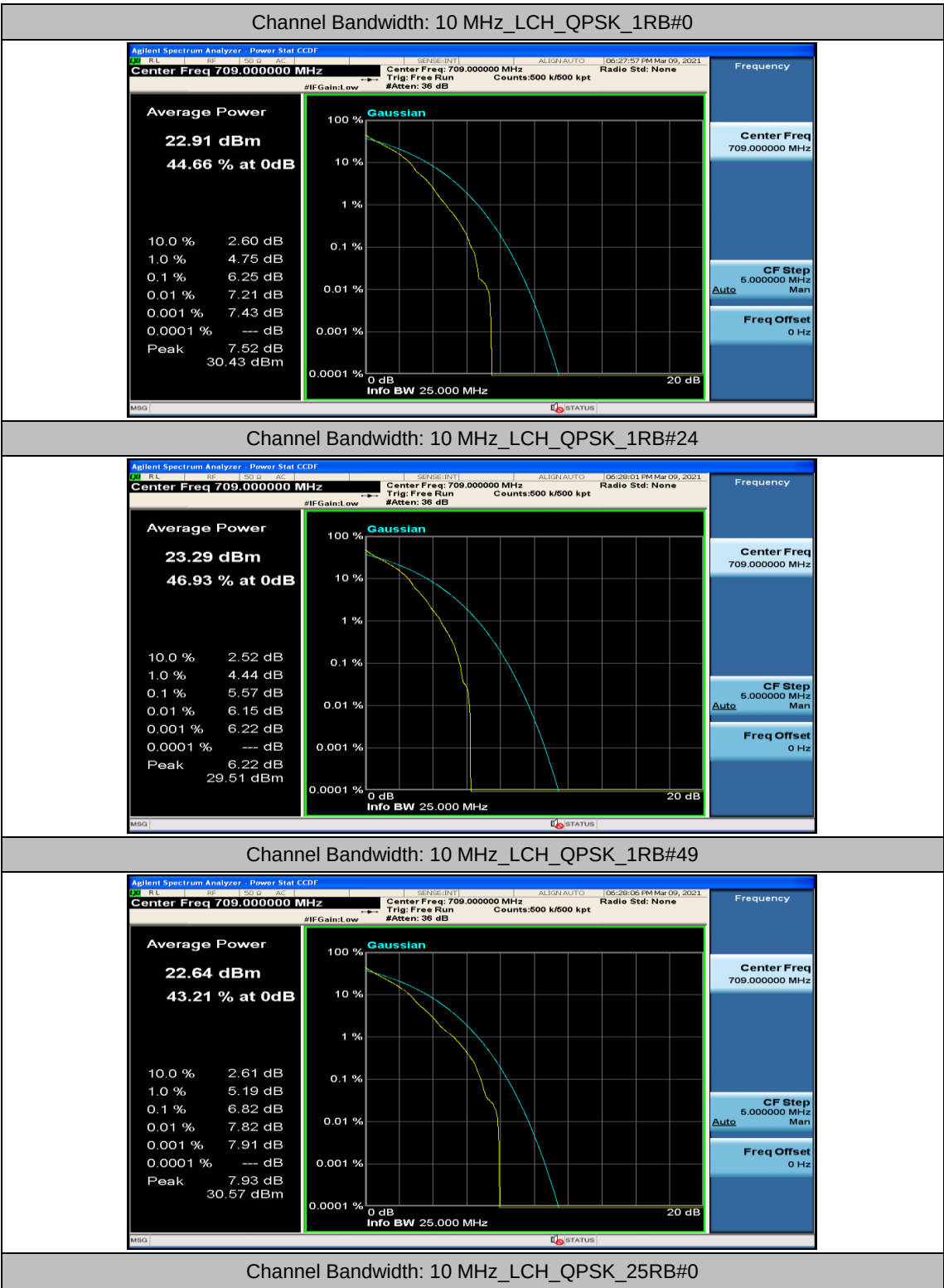


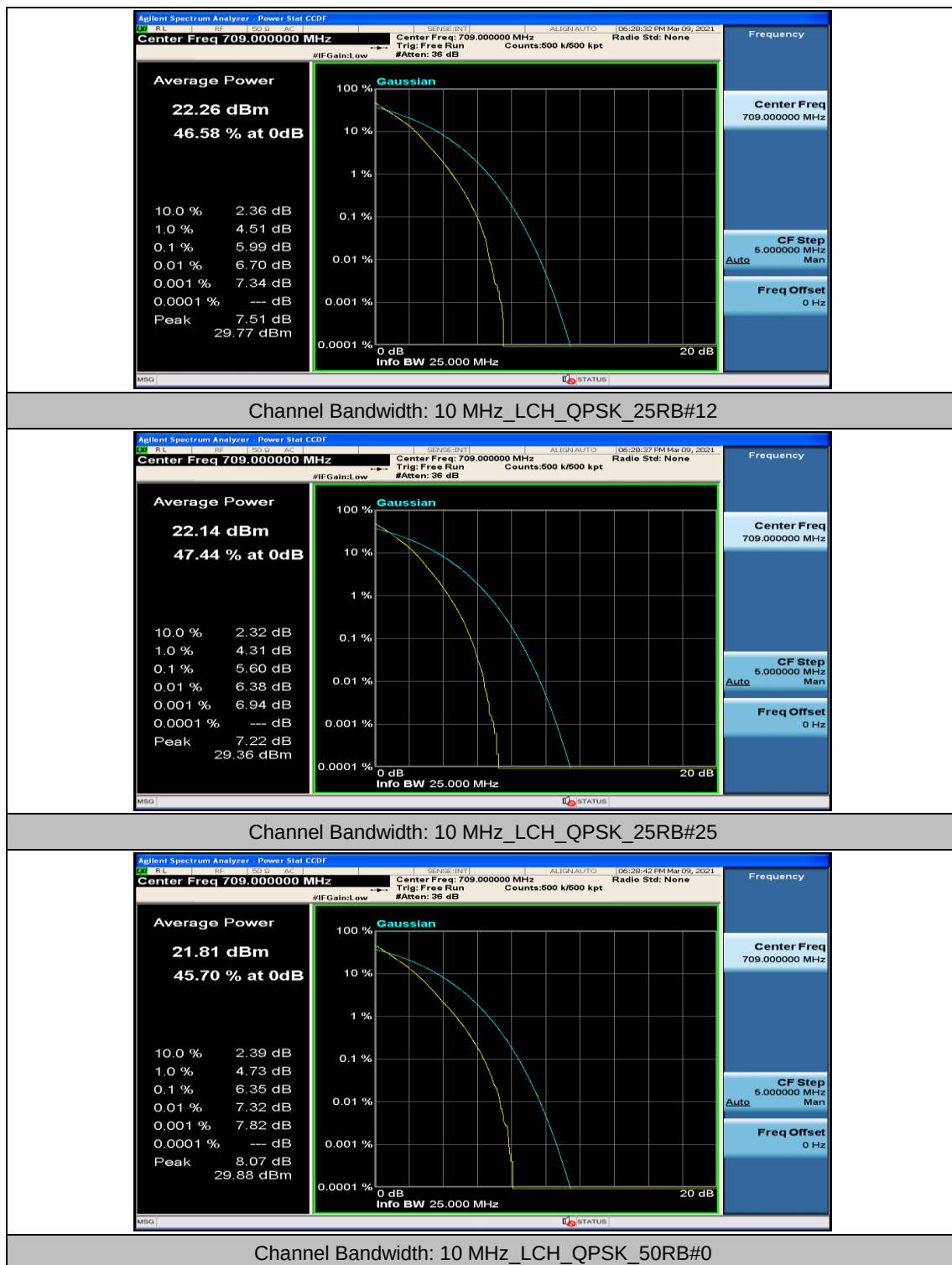
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12

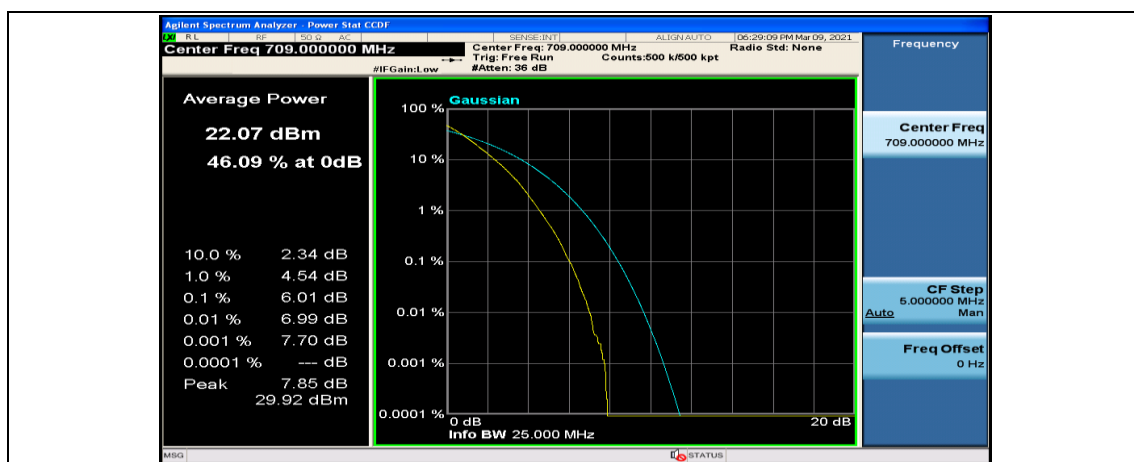




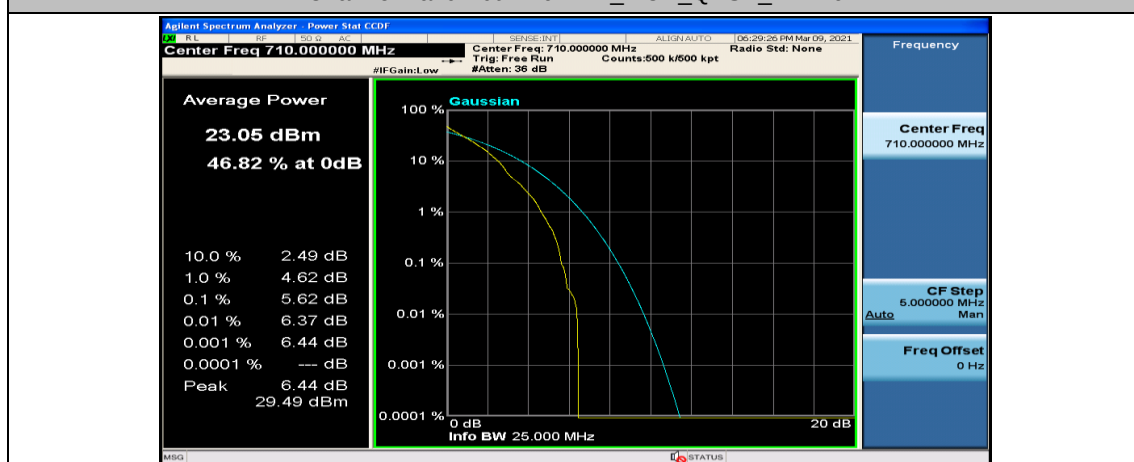
Channel Bandwidth: 10 MHz



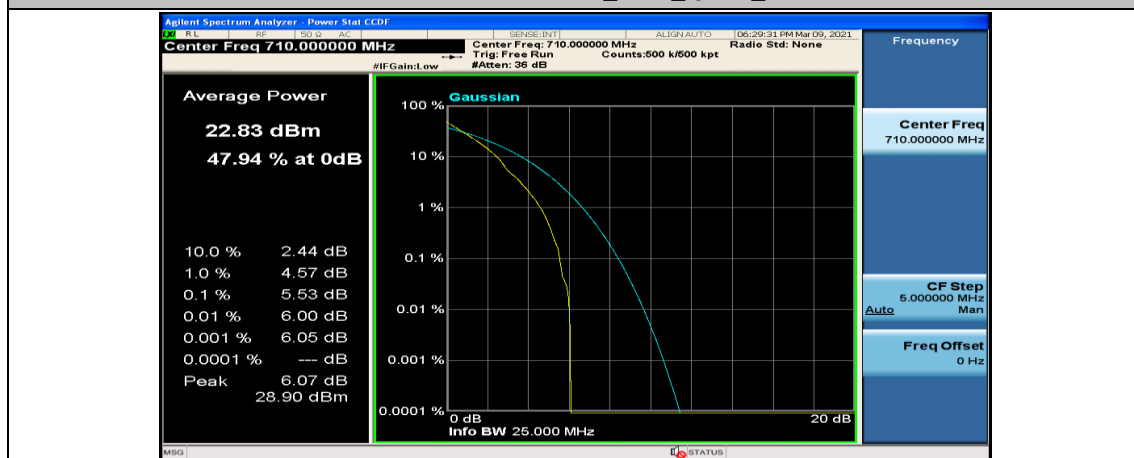




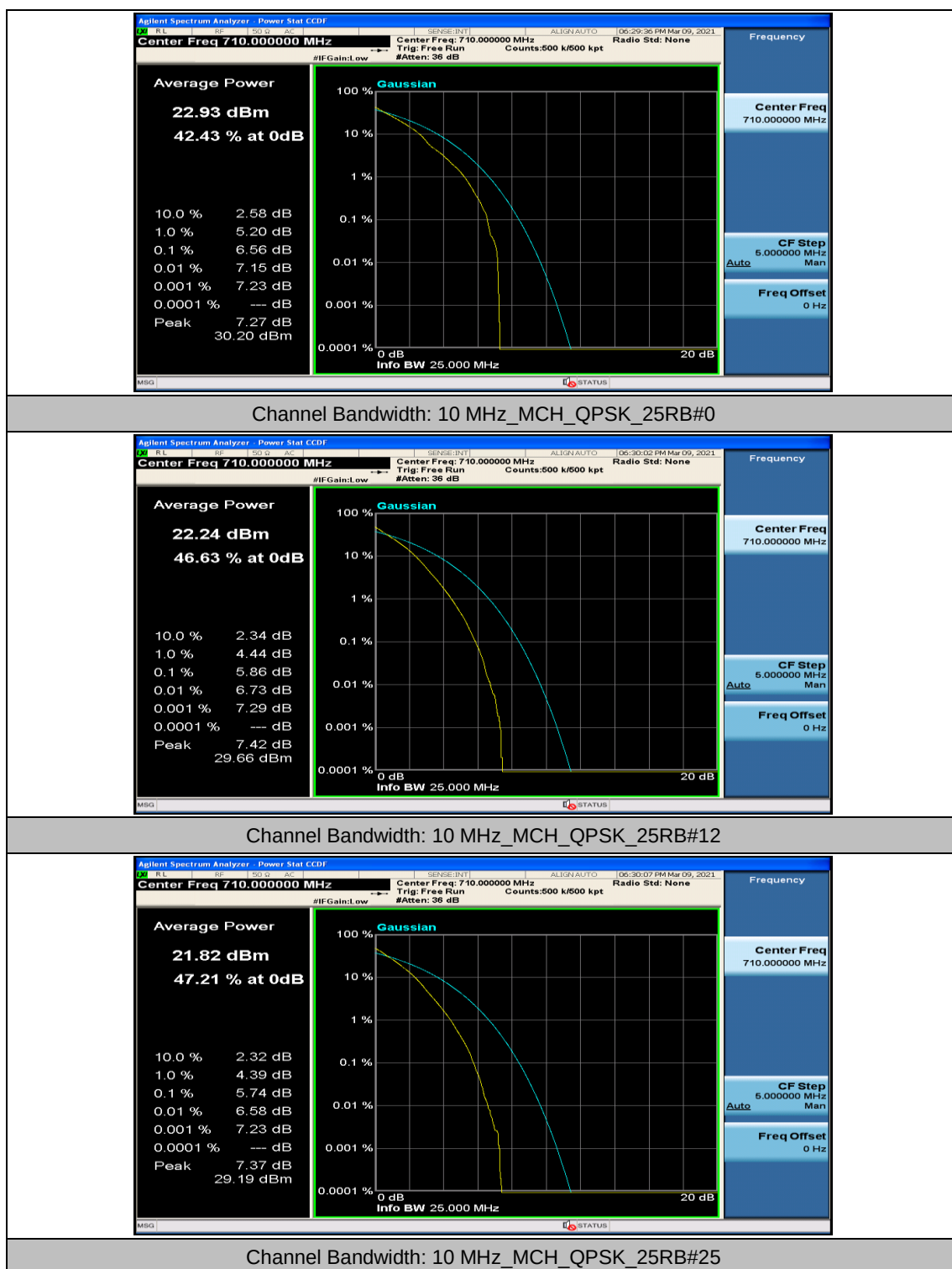
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0

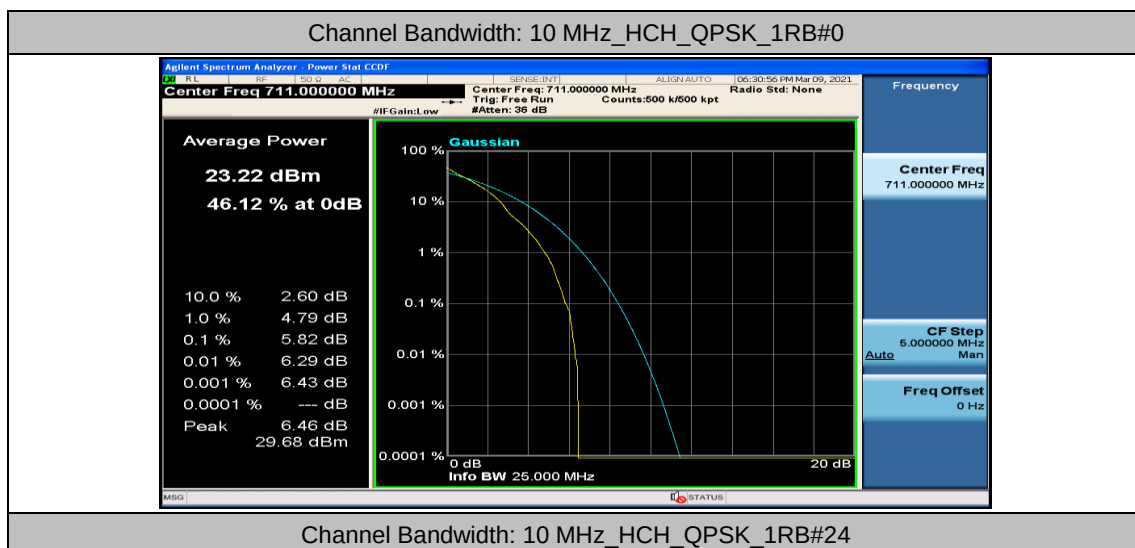
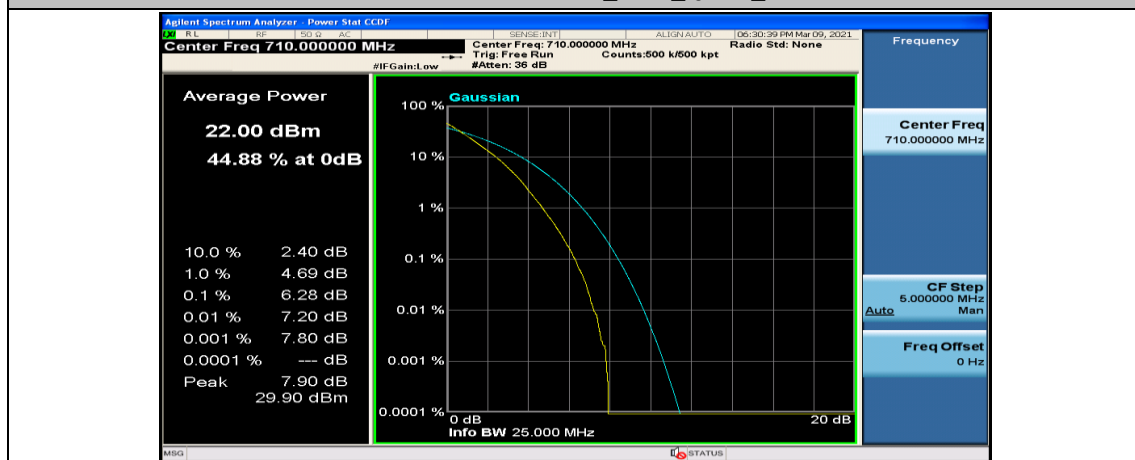
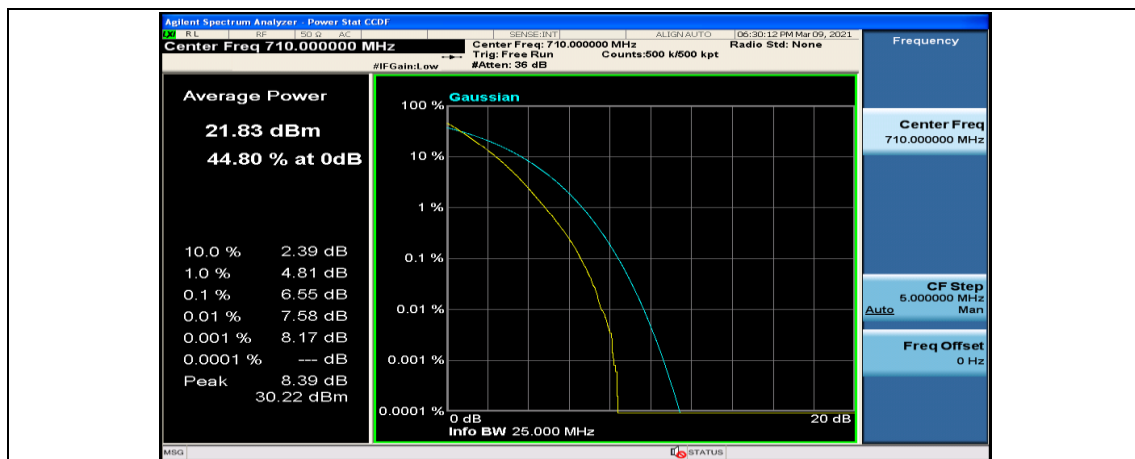


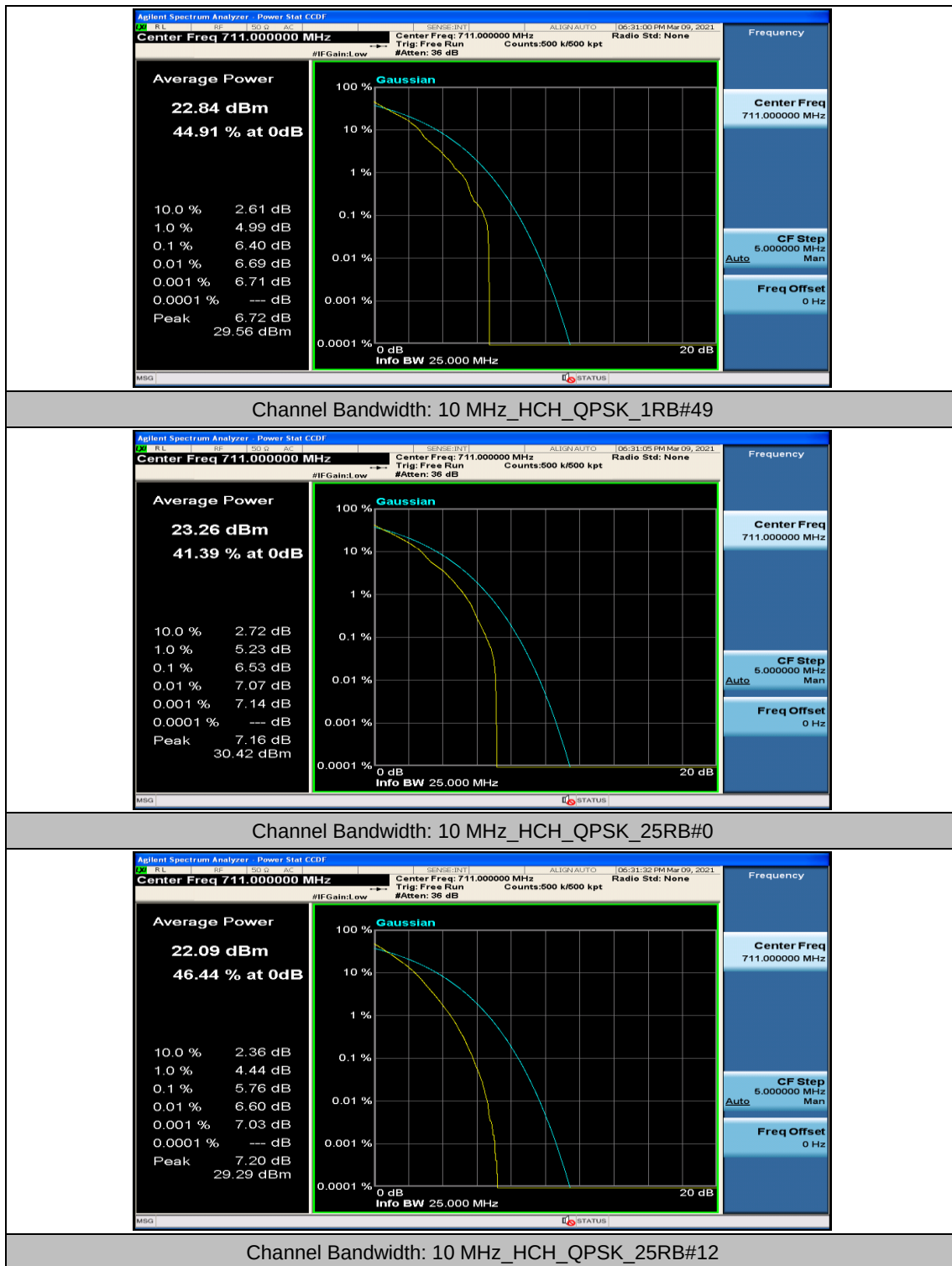
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

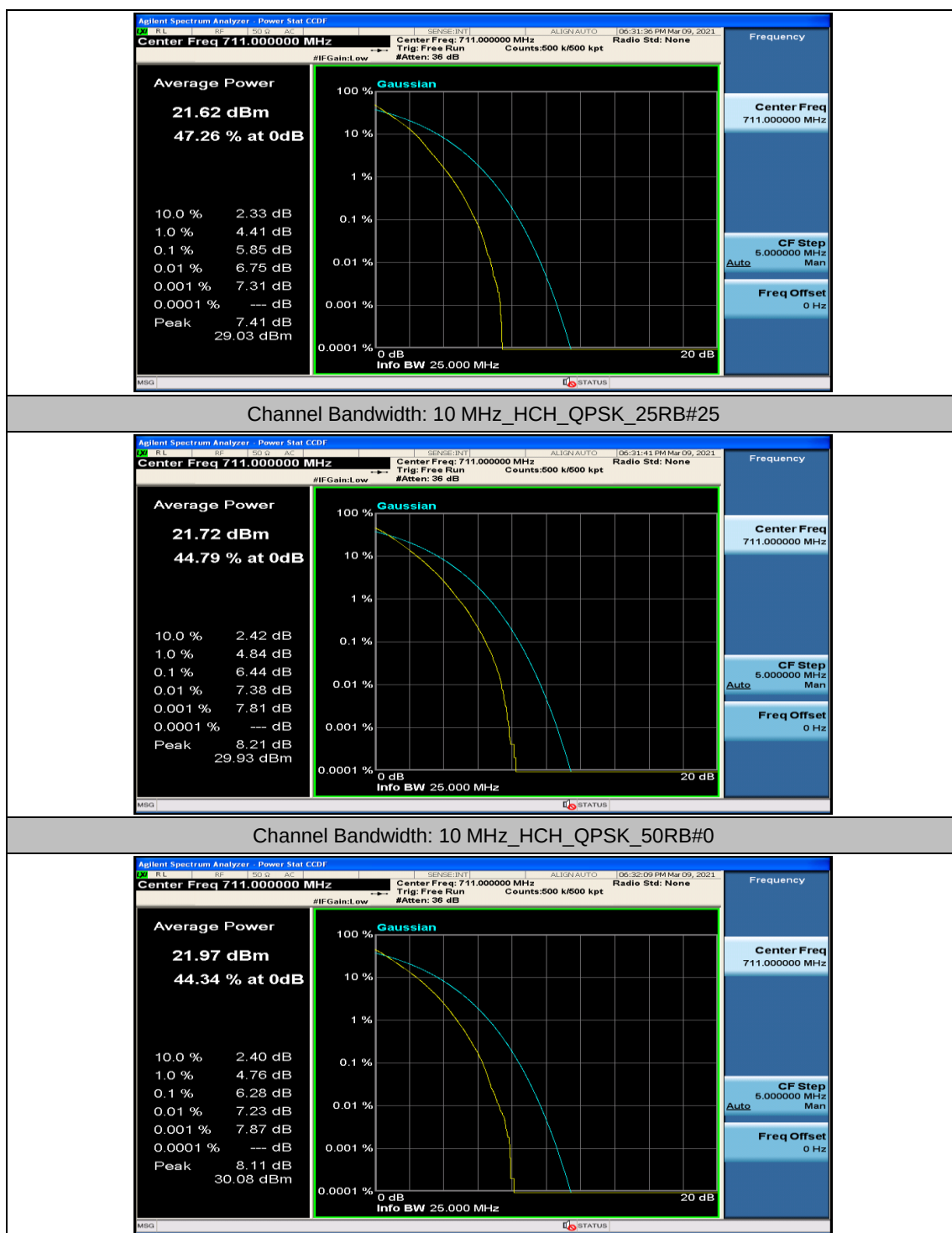


Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

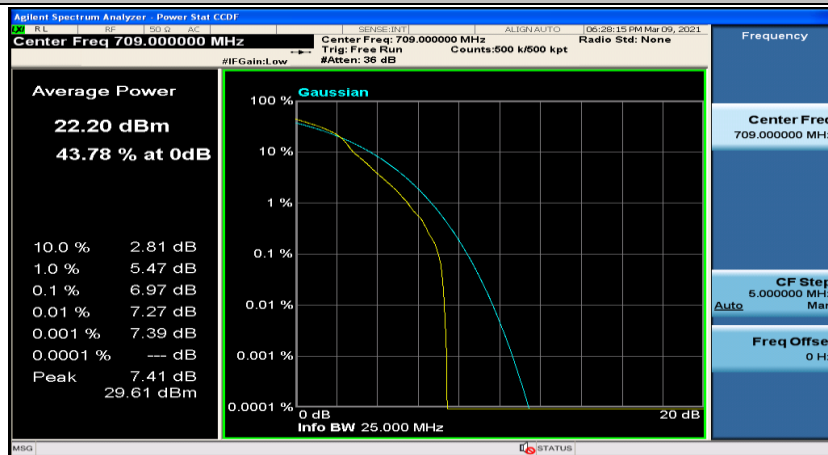




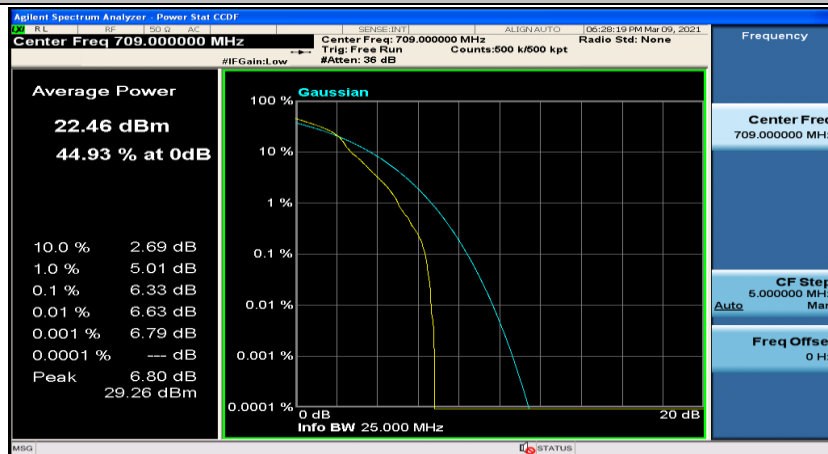




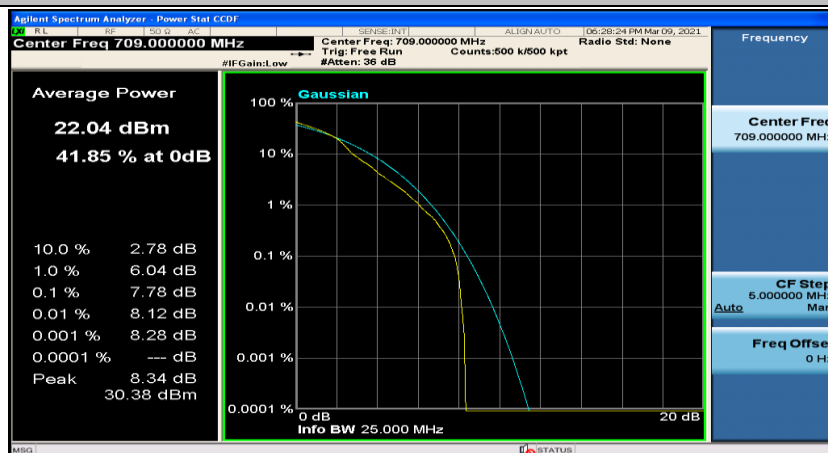
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#0



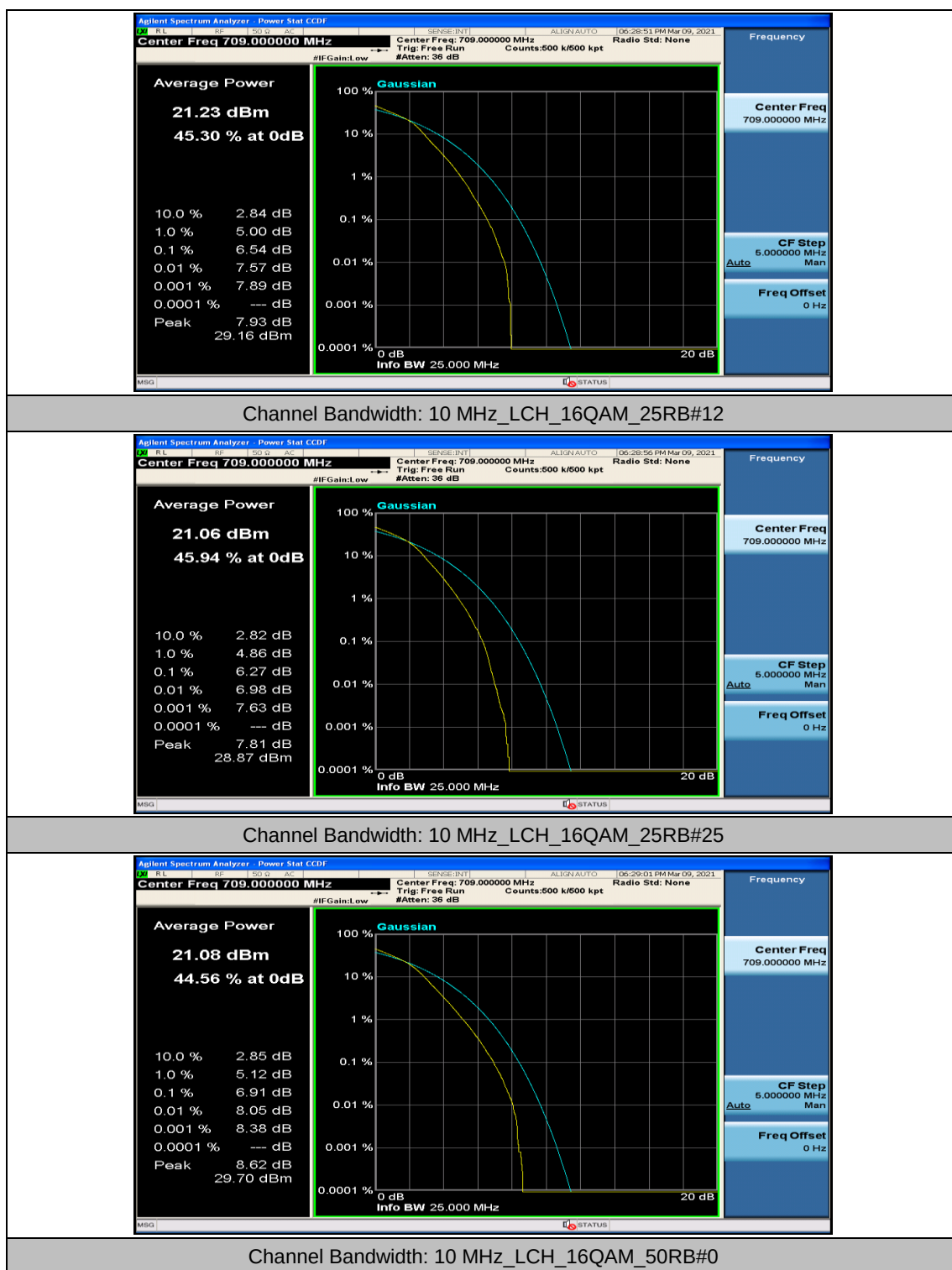
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#24



Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#49

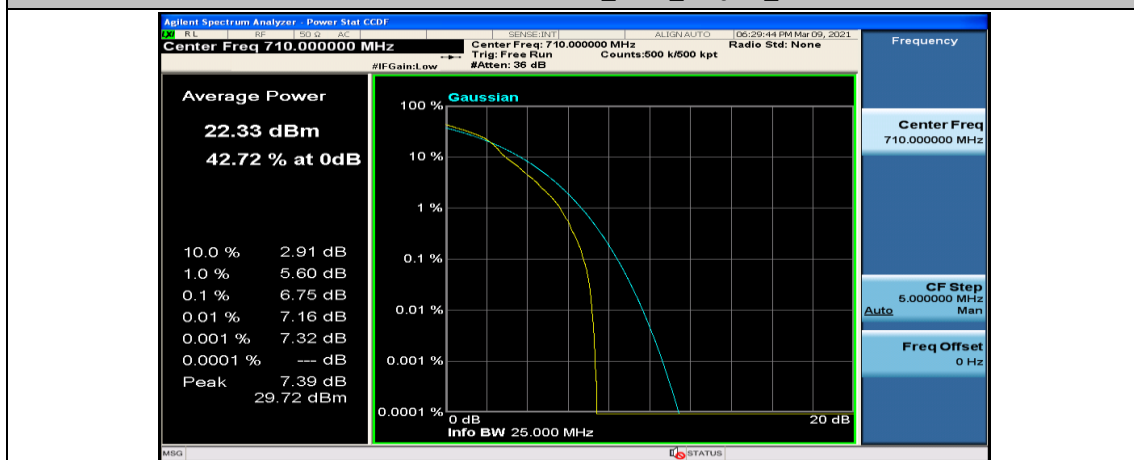


Channel Bandwidth: 10 MHz_LCH_16QAM_25RB#0

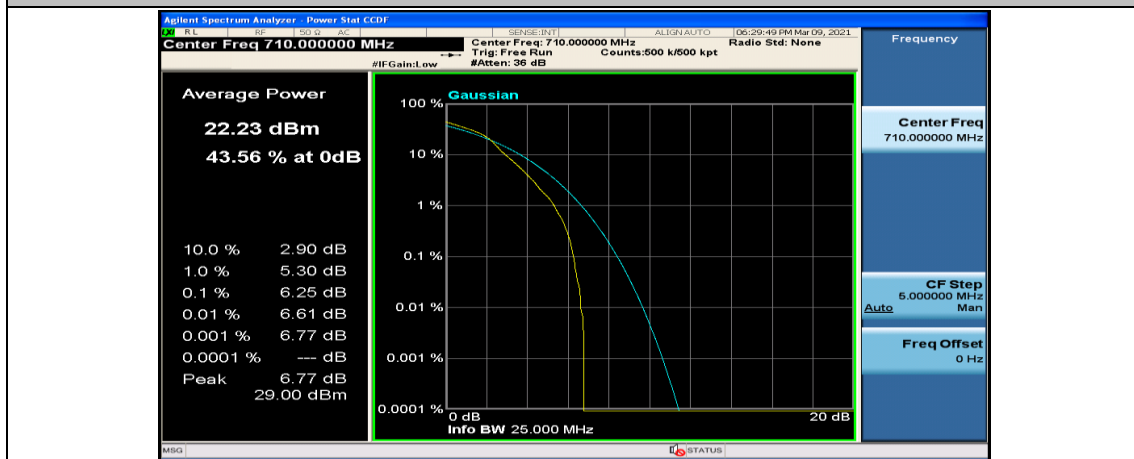




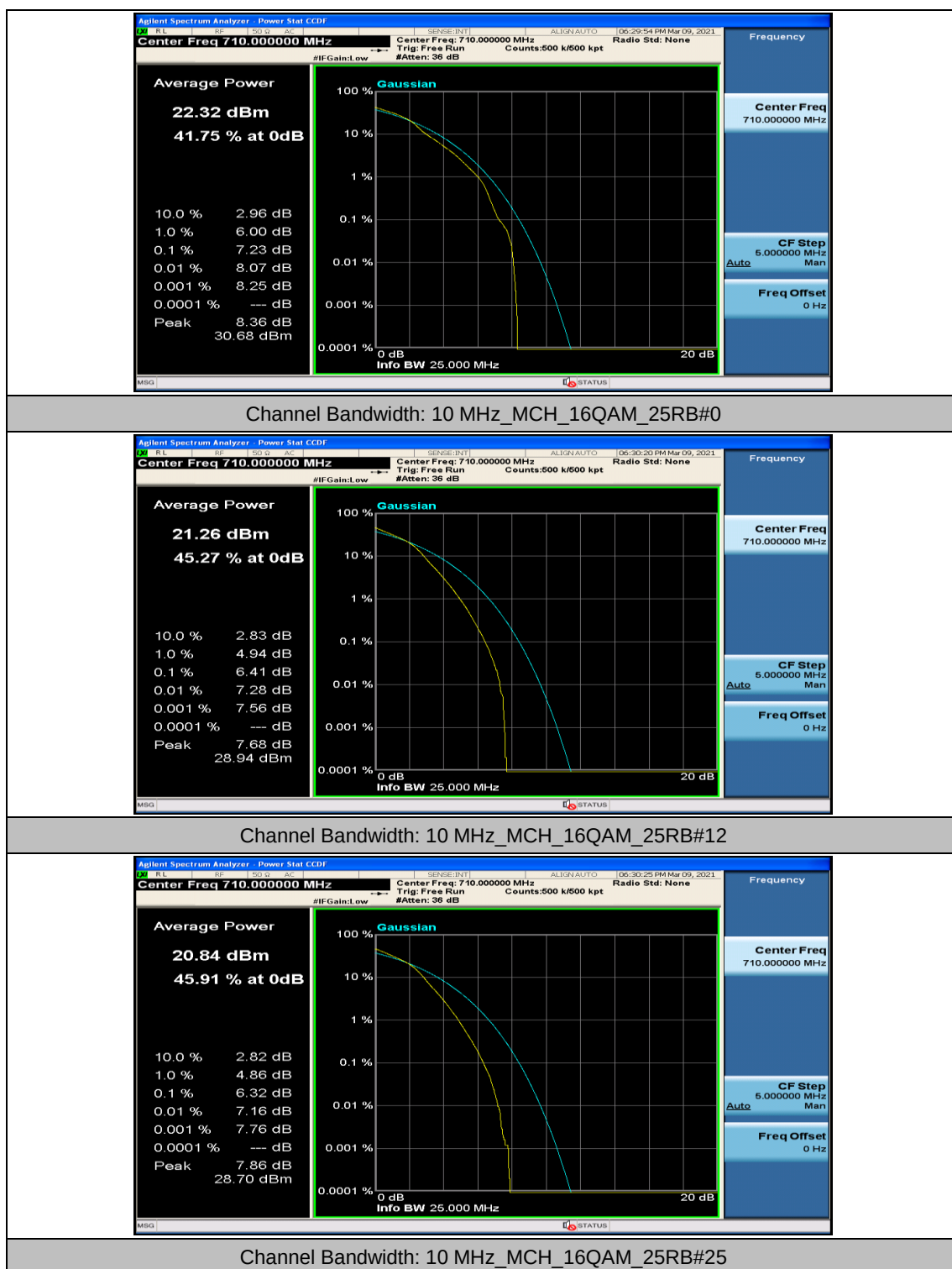
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0

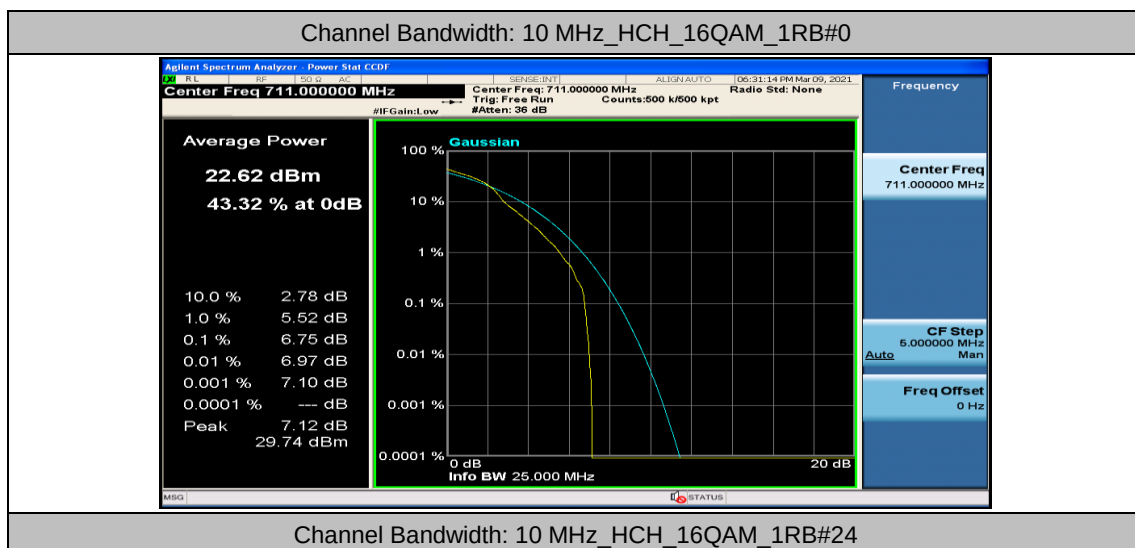
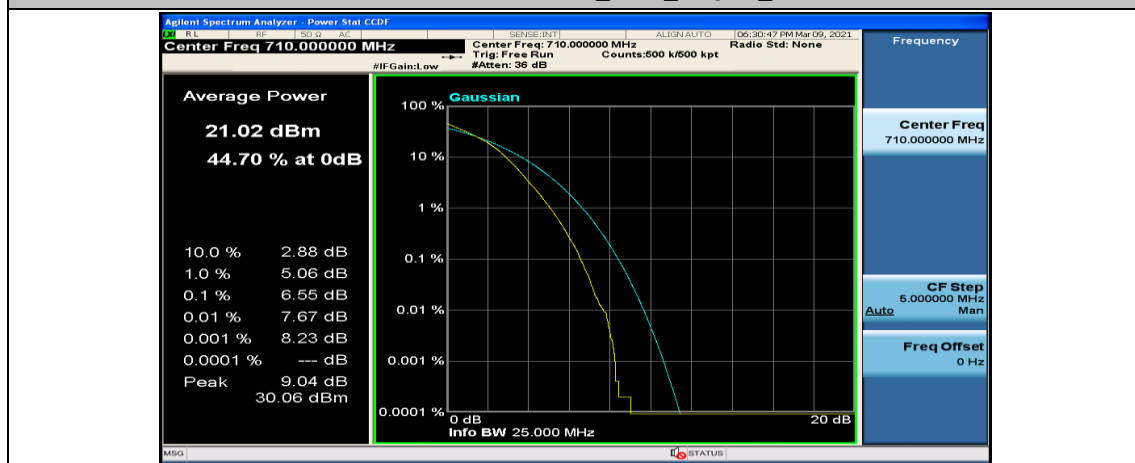
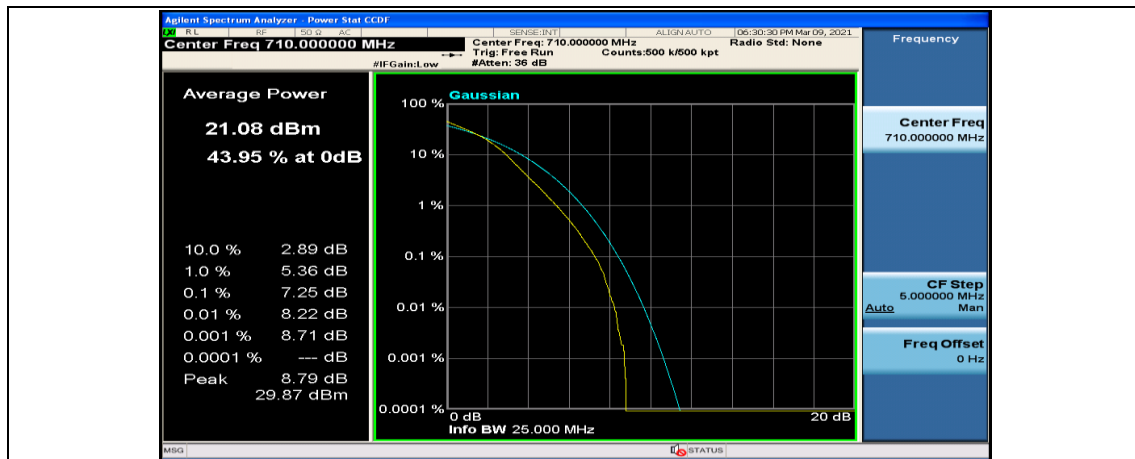


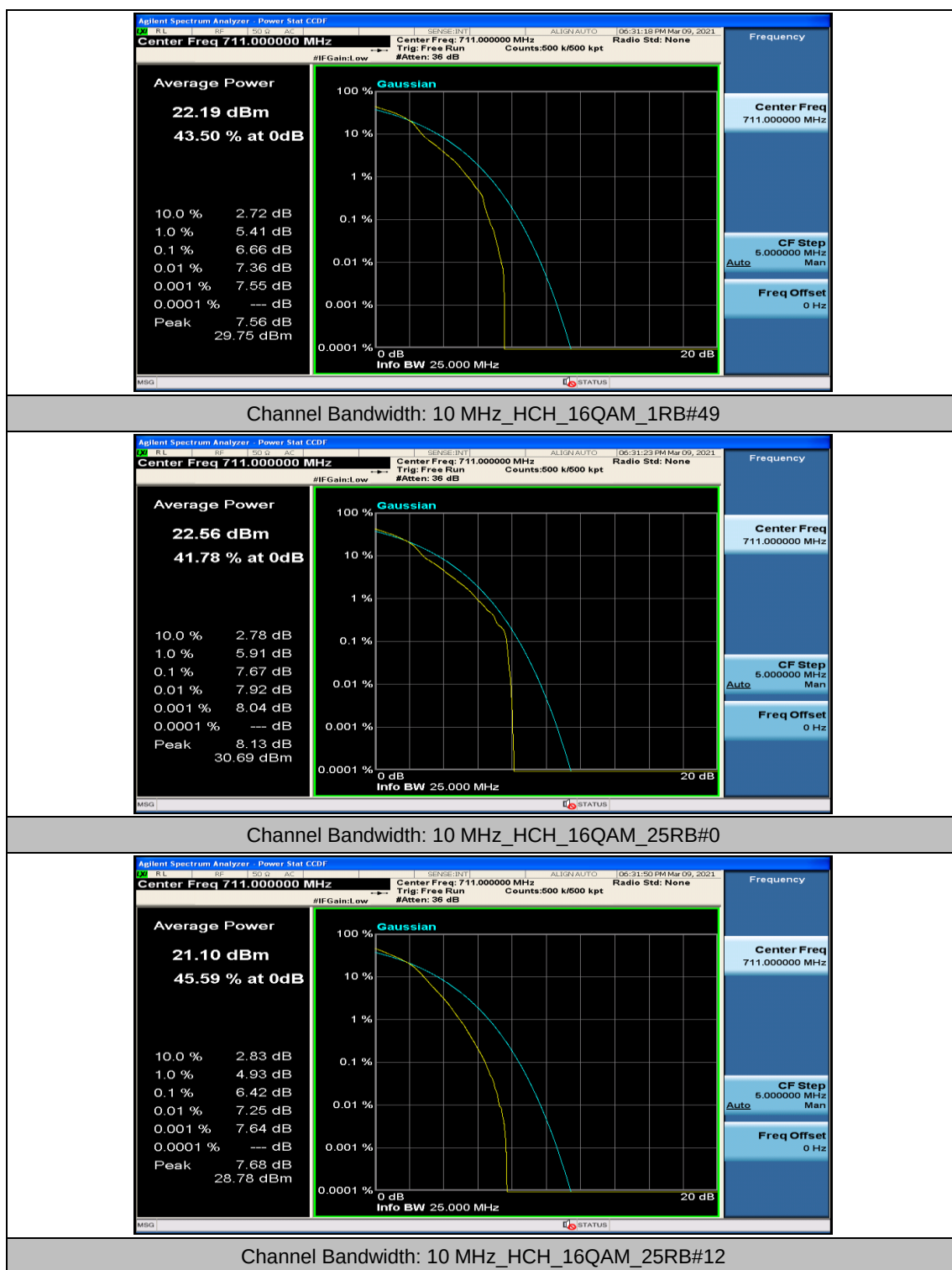
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24

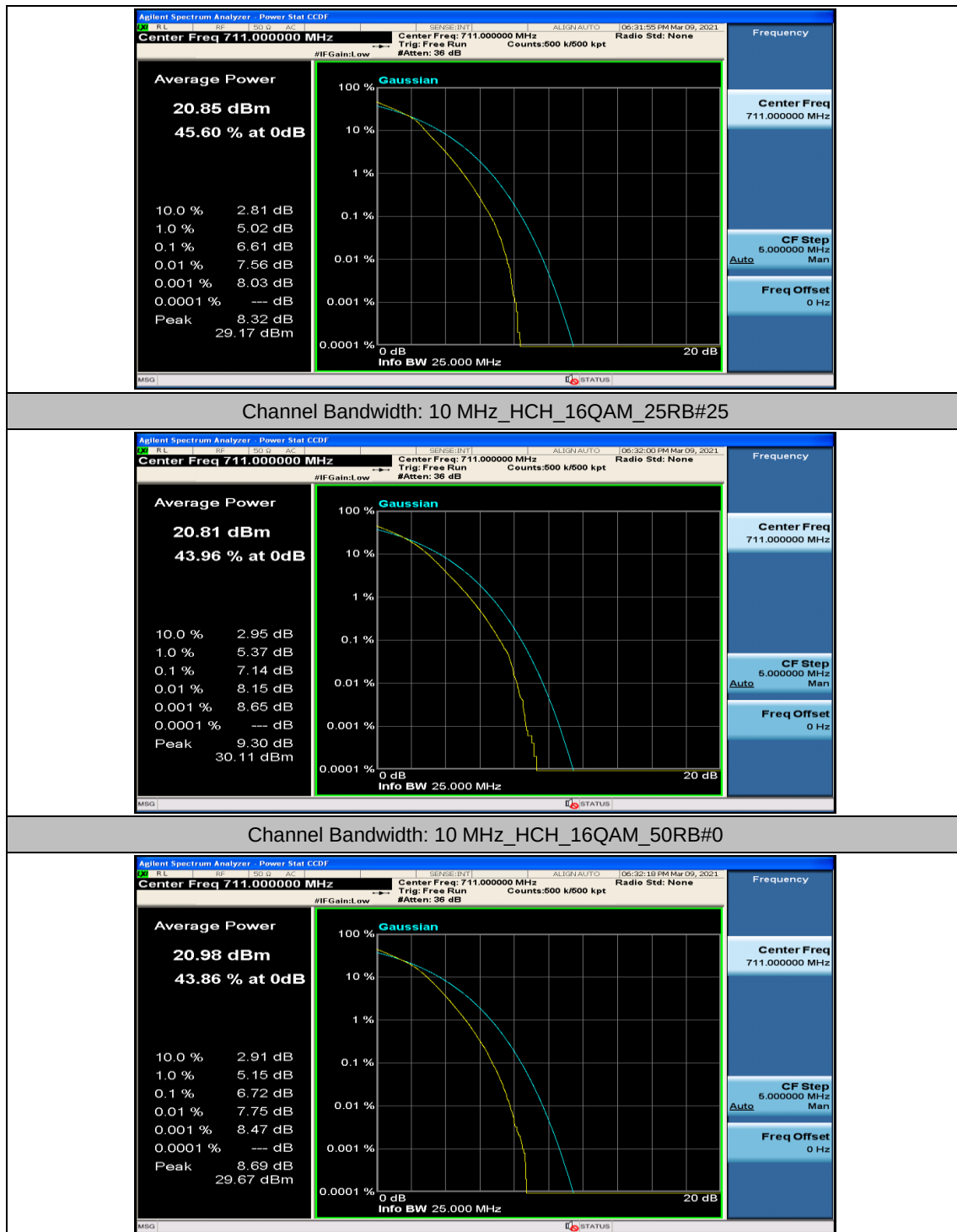


Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49









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	4.4702	4.868	PASS
	MCH	25	0	4.4810	4.845	PASS
	HCH	25	0	4.4741	4.829	PASS
16QAM	LCH	25	0	4.4685	4.794	PASS
	MCH	25	0	4.4684	4.859	PASS
	HCH	25	0	4.4811	4.845	PASS

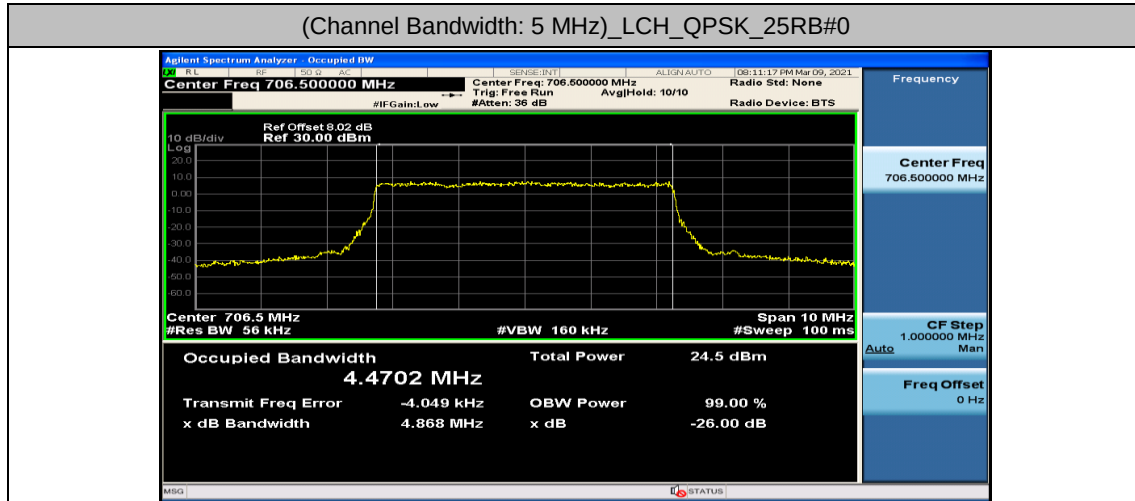
Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	8.9345	9.498	PASS
	MCH	50	0	8.9583	9.489	PASS
	HCH	50	0	8.9514	9.498	PASS
16QAM	LCH	50	0	8.9273	9.401	PASS
	MCH	50	0	8.9514	9.603	PASS
	HCH	50	0	8.9502	9.617	PASS

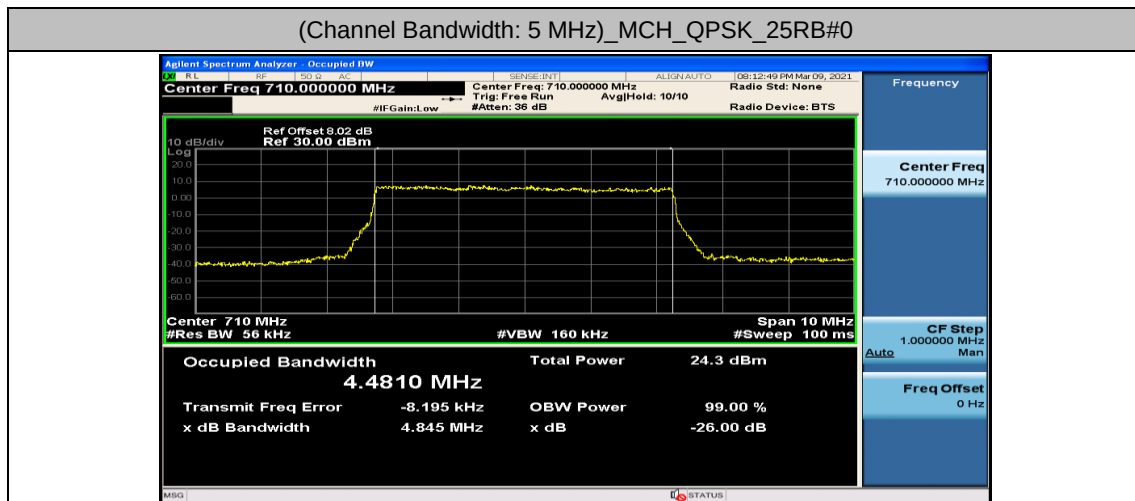
Test Graphs

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

