

Appendix for Band 5

Product Name: 4G Vehicle GPS Tracker
Model No: JM-VL01

Appendix A: Average Power Output Data

Test Result

Channel Bandwidth: 1.4 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	24.43	PASS
		1	3	24.40	PASS
		1	5	24.35	PASS
		3	0	24.49	PASS
		3	2	24.41	PASS
		3	3	24.45	PASS
		6	0	23.05	PASS
	MCH	1	0	24.62	PASS
		1	3	24.70	PASS
		1	5	24.64	PASS
		3	0	24.52	PASS
		3	2	24.29	PASS
		3	3	24.53	PASS
		6	0	23.40	PASS
	HCH	1	0	24.49	PASS
		1	3	24.52	PASS
		1	5	24.56	PASS
		3	0	24.59	PASS
		3	2	24.64	PASS
		3	3	24.68	PASS
		6	0	23.59	PASS
16QAM	LCH	1	0	24.30	PASS
		1	3	24.32	PASS
		1	5	24.33	PASS
		3	0	23.26	PASS
		3	2	23.19	PASS
		3	3	23.17	PASS
		6	0	21.96	PASS
	MCH	1	0	24.06	PASS
		1	3	23.97	PASS
		1	5	23.85	PASS
		3	0	23.11	PASS
		3	2	23.11	PASS

		3	3	23.14	PASS
		6	0	22.32	PASS
	HCH	1	0	23.72	PASS
		1	3	23.72	PASS
		1	5	23.75	PASS
		3	0	23.25	PASS
		3	2	23.32	PASS
		3	3	23.41	PASS
		6	0	22.74	PASS

Channel Bandwidth: 3 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	24.45	PASS
		1	7	24.36	PASS
		1	14	24.47	PASS
		8	0	23.05	PASS
		8	4	23.06	PASS
		8	7	23.14	PASS
		15	0	23.05	PASS
	MCH	1	0	24.62	PASS
		1	7	24.67	PASS
		1	14	24.67	PASS
		8	0	23.52	PASS
		8	4	23.43	PASS
		8	7	23.40	PASS
		15	0	23.41	PASS
	HCH	1	0	24.53	PASS
		1	7	24.49	PASS
		1	14	24.53	PASS
		8	0	23.50	PASS
		8	4	23.57	PASS
		8	7	23.56	PASS
		15	0	23.55	PASS
16QAM	LCH	1	0	23.98	PASS
		1	7	23.94	PASS
		1	14	23.95	PASS
		8	0	21.96	PASS
		8	4	21.98	PASS
		8	7	22.06	PASS
		15	0	22.18	PASS

	MCH	1	0	24.80	PASS
		1	7	24.77	PASS
		1	14	24.64	PASS
		8	0	22.29	PASS
		8	4	22.47	PASS
		8	7	22.50	PASS
		15	0	22.50	PASS
	HCH	1	0	24.14	PASS
		1	7	24.13	PASS
		1	14	24.14	PASS
		8	0	22.87	PASS
		8	4	22.85	PASS
		8	7	22.81	PASS
		15	0	22.73	PASS

Channel Bandwidth: 5 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	24.43	PASS
		1	12	24.38	PASS
		1	24	24.53	PASS
		12	0	23.07	PASS
		12	6	23.16	PASS
		12	13	23.16	PASS
		25	0	23.04	PASS
	MCH	1	0	24.52	PASS
		1	12	24.53	PASS
		1	24	24.49	PASS
		12	0	23.47	PASS
		12	6	23.47	PASS
		12	13	23.43	PASS
		25	0	23.42	PASS
	HCH	1	0	24.73	PASS
		1	12	24.69	PASS
		1	24	24.72	PASS
		12	0	23.66	PASS
		12	6	23.51	PASS
		12	13	23.45	PASS
		25	0	23.59	PASS
16QAM	LCH	1	0	22.91	PASS
		1	12	23.01	PASS

		1	24	23.18	PASS
		12	0	22.14	PASS
		12	6	22.13	PASS
		12	13	22.16	PASS
		25	0	22.37	PASS
	MCH	1	0	24.14	PASS
		1	12	24.04	PASS
		1	24	24.10	PASS
		12	0	22.37	PASS
		12	6	22.65	PASS
		12	13	22.68	PASS
		25	0	22.78	PASS
	HCH	1	0	23.17	PASS
		1	12	23.22	PASS
		1	24	23.23	PASS
		12	0	22.59	PASS
		12	6	22.58	PASS
		12	13	22.64	PASS
		25	0	22.80	PASS

Channel Bandwidth: 10 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	24.38	PASS
		1	24	24.47	PASS
		1	49	24.50	PASS
		25	0	23.14	PASS
		25	12	23.45	PASS
		25	25	23.34	PASS
		50	0	23.39	PASS
	MCH	1	0	24.35	PASS
		1	24	24.57	PASS
		1	49	24.54	PASS
		25	0	23.59	PASS
		25	12	23.35	PASS
		25	25	23.56	PASS
		50	0	23.40	PASS
	HCH	1	0	24.69	PASS
		1	24	24.81	PASS
		1	49	24.73	PASS
		25	0	23.51	PASS

		25	12	23.60	PASS
		25	25	23.59	PASS
		50	0	23.51	PASS
16QAM	LCH	1	0	23.88	PASS
		1	24	24.15	PASS
		1	49	24.24	PASS
		25	0	22.17	PASS
		25	12	22.18	PASS
		25	25	22.37	PASS
		50	0	22.28	PASS
	MCH	1	0	23.95	PASS
		1	24	23.97	PASS
		1	49	24.08	PASS
		25	0	22.31	PASS
		25	12	22.60	PASS
		25	25	22.61	PASS
		50	0	22.64	PASS
	HCH	1	0	23.78	PASS
		1	24	23.83	PASS
		1	49	23.76	PASS
		25	0	22.38	PASS
		25	12	22.75	PASS
		25	25	22.75	PASS
		50	0	22.79	PASS

Appendix B: Peak-to-Average Ratio

Test Result

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.76	<13	PASS
		1	3	4.81	<13	PASS
		1	5	4.85	<13	PASS
		3	0	4.81	<13	PASS
		3	2	4.9	<13	PASS
		3	3	4.85	<13	PASS
		6	0	5.36	<13	PASS
	MCH	1	0	4.76	<13	PASS
		1	3	4.73	<13	PASS
		1	5	4.76	<13	PASS
		3	0	5.06	<13	PASS
		3	2	5.05	<13	PASS
		3	3	5.02	<13	PASS
		6	0	5.42	<13	PASS
	HCH	1	0	3.81	<13	PASS
		1	3	3.66	<13	PASS
		1	5	3.65	<13	PASS
		3	0	3.99	<13	PASS
		3	2	3.88	<13	PASS
		3	3	3.8	<13	PASS
		6	0	4.59	<13	PASS
16QAM	LCH	1	0	5.27	<13	PASS
		1	3	5.35	<13	PASS
		1	5	5.32	<13	PASS
		3	0	5.94	<13	PASS
		3	2	6.1	<13	PASS
		3	3	6.1	<13	PASS
		6	0	6.18	<13	PASS
	MCH	1	0	5.71	<13	PASS
		1	3	5.69	<13	PASS
		1	5	5.83	<13	PASS

		3	0	6.2	<13	PASS
		3	2	6.28	<13	PASS
		3	3	6.31	<13	PASS
		6	0	6.39	<13	PASS
	HCH	1	0	4.82	<13	PASS
		1	3	4.59	<13	PASS
		1	5	4.48	<13	PASS
		3	0	5.08	<13	PASS
		3	2	4.97	<13	PASS
		3	3	4.91	<13	PASS
		6	0	5.6	<13	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.64	<13	PASS
		1	7	4.68	<13	PASS
		1	14	4.78	<13	PASS
		8	0	5.38	<13	PASS
		8	4	5.52	<13	PASS
		8	7	5.4	<13	PASS
		15	0	5.4	<13	PASS
	MCH	1	0	4.76	<13	PASS
		1	7	4.77	<13	PASS
		1	14	4.69	<13	PASS
		8	0	5.49	<13	PASS
		8	4	5.53	<13	PASS
		8	7	5.49	<13	PASS
		15	0	5.55	<13	PASS
	HCH	1	0	4.37	<13	PASS
		1	7	3.99	<13	PASS
		1	14	3.65	<13	PASS
		8	0	5.02	<13	PASS
		8	4	4.77	<13	PASS
		8	7	4.72	<13	PASS
		15	0	4.83	<13	PASS
16QAM	LCH	1	0	5.46	<13	PASS
		1	7	5.49	<13	PASS
		1	14	5.55	<13	PASS
		8	0	6.14	<13	PASS

		8	4	6.07	<13	PASS
		8	7	6.16	<13	PASS
		15	0	6.26	<13	PASS
	MCH	1	0	5.74	<13	PASS
		1	7	5.64	<13	PASS
		1	14	5.7	<13	PASS
		8	0	6.34	<13	PASS
		8	4	6.06	<13	PASS
		8	7	6.2	<13	PASS
		15	0	6.32	<13	PASS
	HCH	1	0	4.81	<13	PASS
		1	7	4.5	<13	PASS
		1	14	4.04	<13	PASS
		8	0	5.81	<13	PASS
		8	4	5.62	<13	PASS
		8	7	5.5	<13	PASS
		15	0	5.62	<13	PASS

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	5.08	<13	PASS
		1	12	5.18	<13	PASS
		1	24	5.11	<13	PASS
		12	0	5.36	<13	PASS
		12	6	5.37	<13	PASS
		12	13	5.41	<13	PASS
		25	0	5.39	<13	PASS
	MCH	1	0	4.98	<13	PASS
		1	12	4.96	<13	PASS
		1	24	5.01	<13	PASS
		12	0	5.29	<13	PASS
		12	6	5.4	<13	PASS
		12	13	5.4	<13	PASS
		25	0	5.38	<13	PASS
	HCH	1	0	4.5	<13	PASS
		1	12	4.2	<13	PASS
		1	24	3.48	<13	PASS
		12	0	5.16	<13	PASS
		12	6	5.08	<13	PASS

		12	13	4.86	<13	PASS
		25	0	5.02	<13	PASS
16QAM	LCH	1	0	6.07	<13	PASS
		1	12	6.04	<13	PASS
		1	24	5.98	<13	PASS
		12	0	6.28	<13	PASS
		12	6	6.39	<13	PASS
		12	13	6.34	<13	PASS
		25	0	6.07	<13	PASS
	MCH	1	0	5.68	<13	PASS
		1	12	5.76	<13	PASS
		1	24	5.64	<13	PASS
		12	0	6.15	<13	PASS
		12	6	6.2	<13	PASS
		12	13	6.16	<13	PASS
		25	0	6.24	<13	PASS
	HCH	1	0	5.98	<13	PASS
		1	12	5.49	<13	PASS
		1	24	4.97	<13	PASS
		12	0	6.11	<13	PASS
		12	6	5.84	<13	PASS
		12	13	5.67	<13	PASS
		25	0	5.77	<13	PASS

Channel Bandwidth: 10 MHz

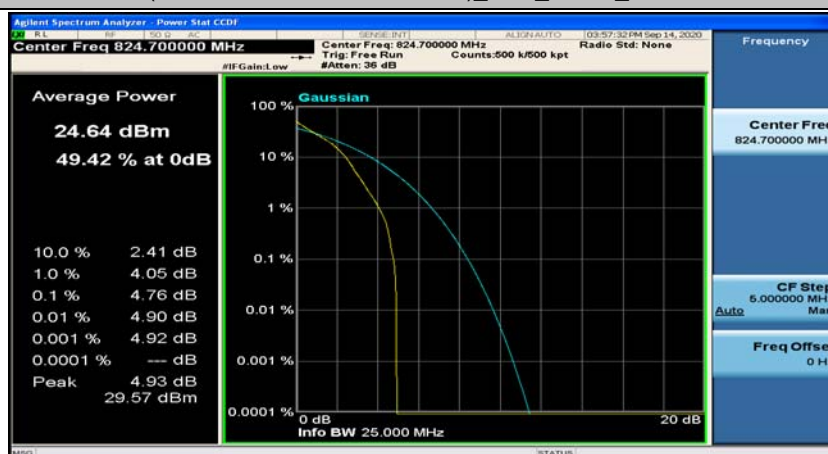
Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.71	<13	PASS
		1	24	4.78	<13	PASS
		1	49	4.93	<13	PASS
		25	0	5.39	<13	PASS
		25	12	5.41	<13	PASS
		25	25	5.41	<13	PASS
		50	0	5.39	<13	PASS
	MCH	1	0	4.86	<13	PASS
		1	24	4.68	<13	PASS
		1	49	4.77	<13	PASS
		25	0	5.46	<13	PASS
		25	12	5.49	<13	PASS
		25	25	5.52	<13	PASS

		50	0	5.46	<13	PASS
	HCH	1	0	4.81	<13	PASS
		1	24	4.57	<13	PASS
		1	49	3.62	<13	PASS
		25	0	5.46	<13	PASS
		25	12	5.28	<13	PASS
		25	25	5.01	<13	PASS
		50	0	5.27	<13	PASS
16QAM	LCH	1	0	5.36	<13	PASS
		1	24	5.37	<13	PASS
		1	49	5.4	<13	PASS
		25	0	6.2	<13	PASS
		25	12	6.33	<13	PASS
		25	25	6.22	<13	PASS
		50	0	6.16	<13	PASS
	MCH	1	0	5.7	<13	PASS
		1	24	5.54	<13	PASS
		1	49	5.55	<13	PASS
		25	0	6.27	<13	PASS
		25	12	6.3	<13	PASS
		25	25	6.32	<13	PASS
		50	0	6.17	<13	PASS
	HCH	1	0	5.98	<13	PASS
		1	24	5.51	<13	PASS
		1	49	4.67	<13	PASS
		25	0	6.24	<13	PASS
		25	12	6.16	<13	PASS
		25	25	5.89	<13	PASS
		50	0	6.06	<13	PASS

Test Graphs

Channel Bandwidth: 1.4 MHz

(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#0



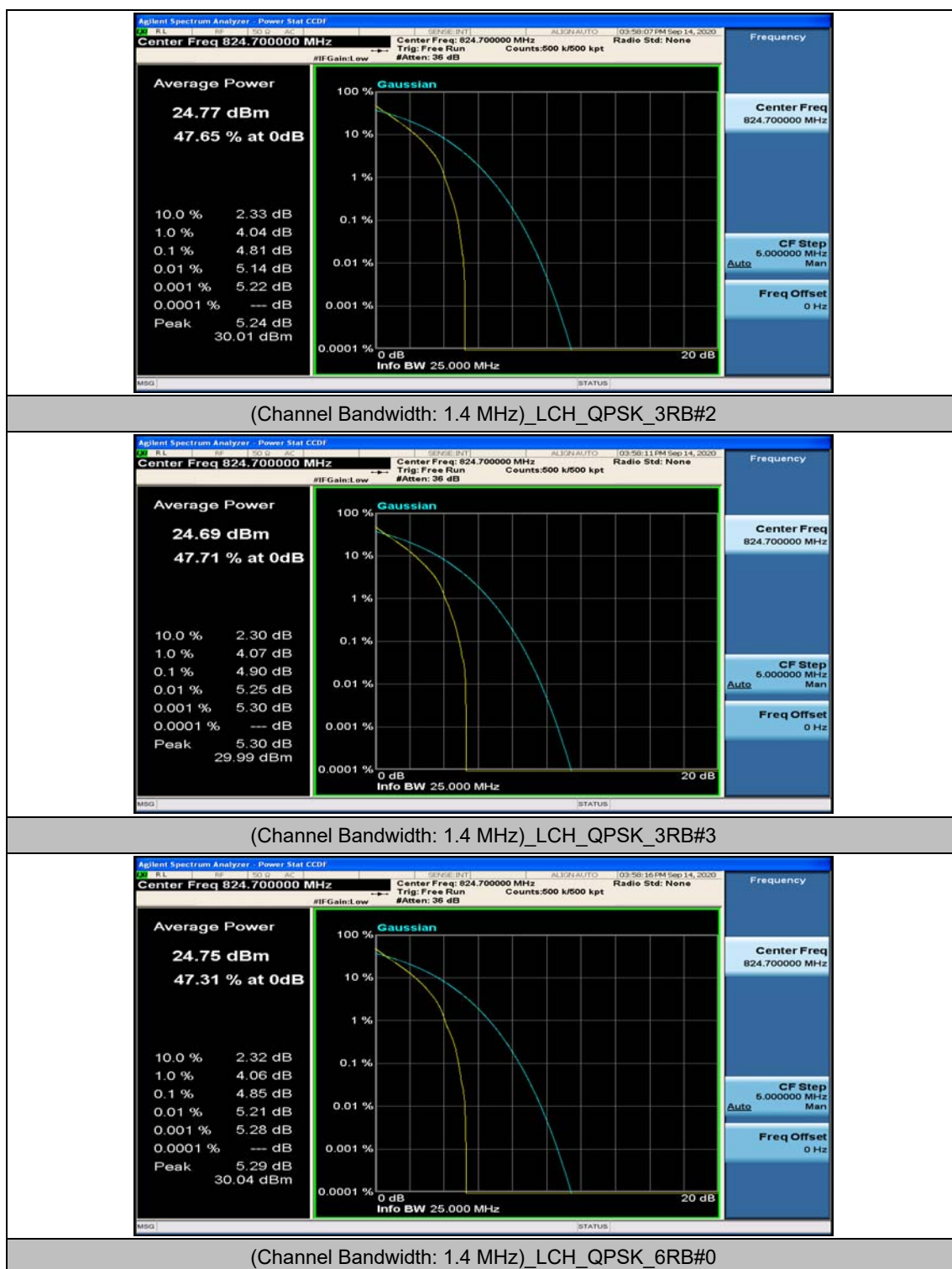
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#3

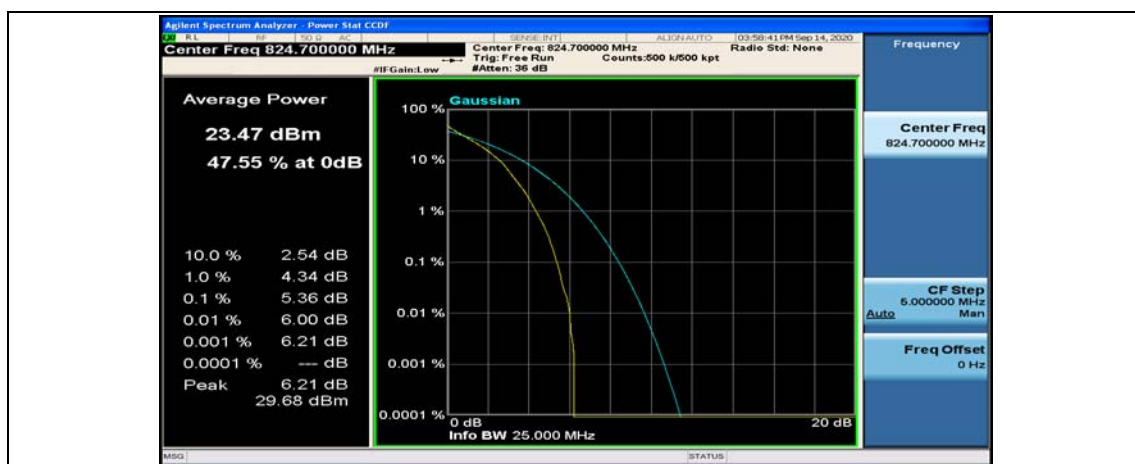


(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#5

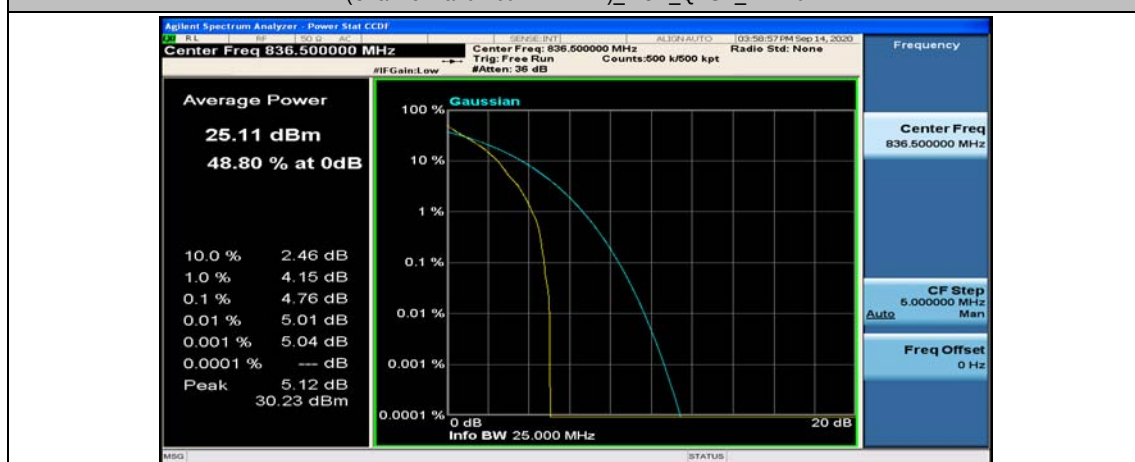


(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_3RB#0

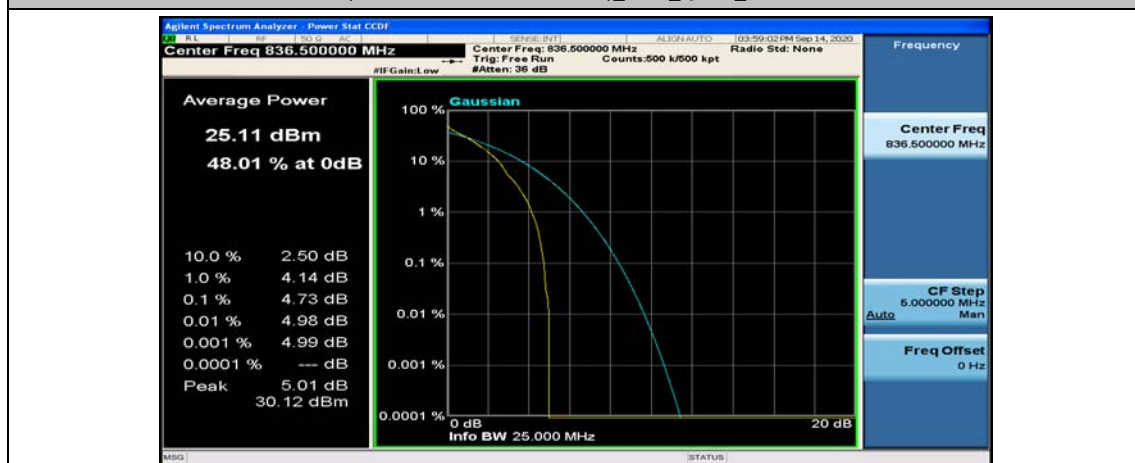




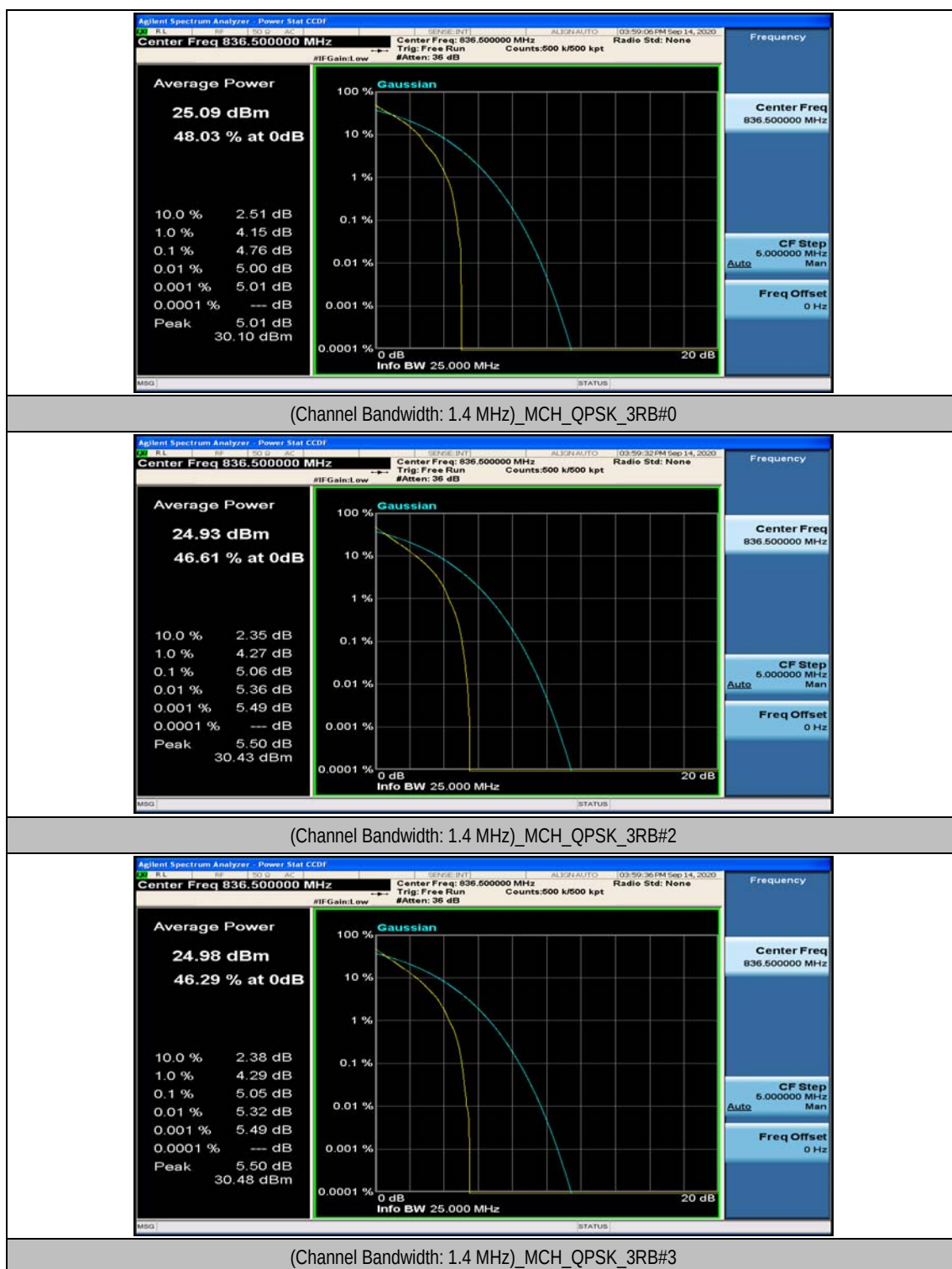
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#0



(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#3

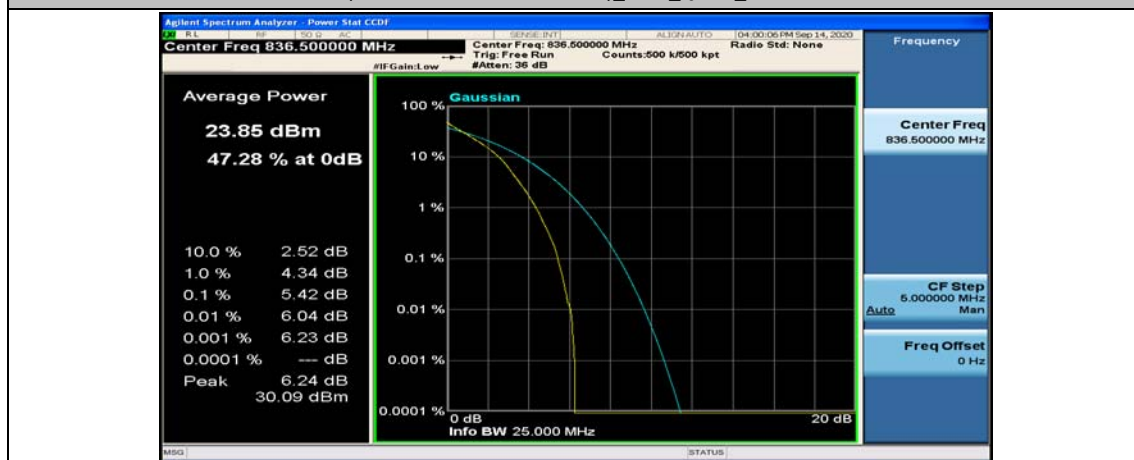


(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#5





(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_6RB#0



(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#0



(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#3



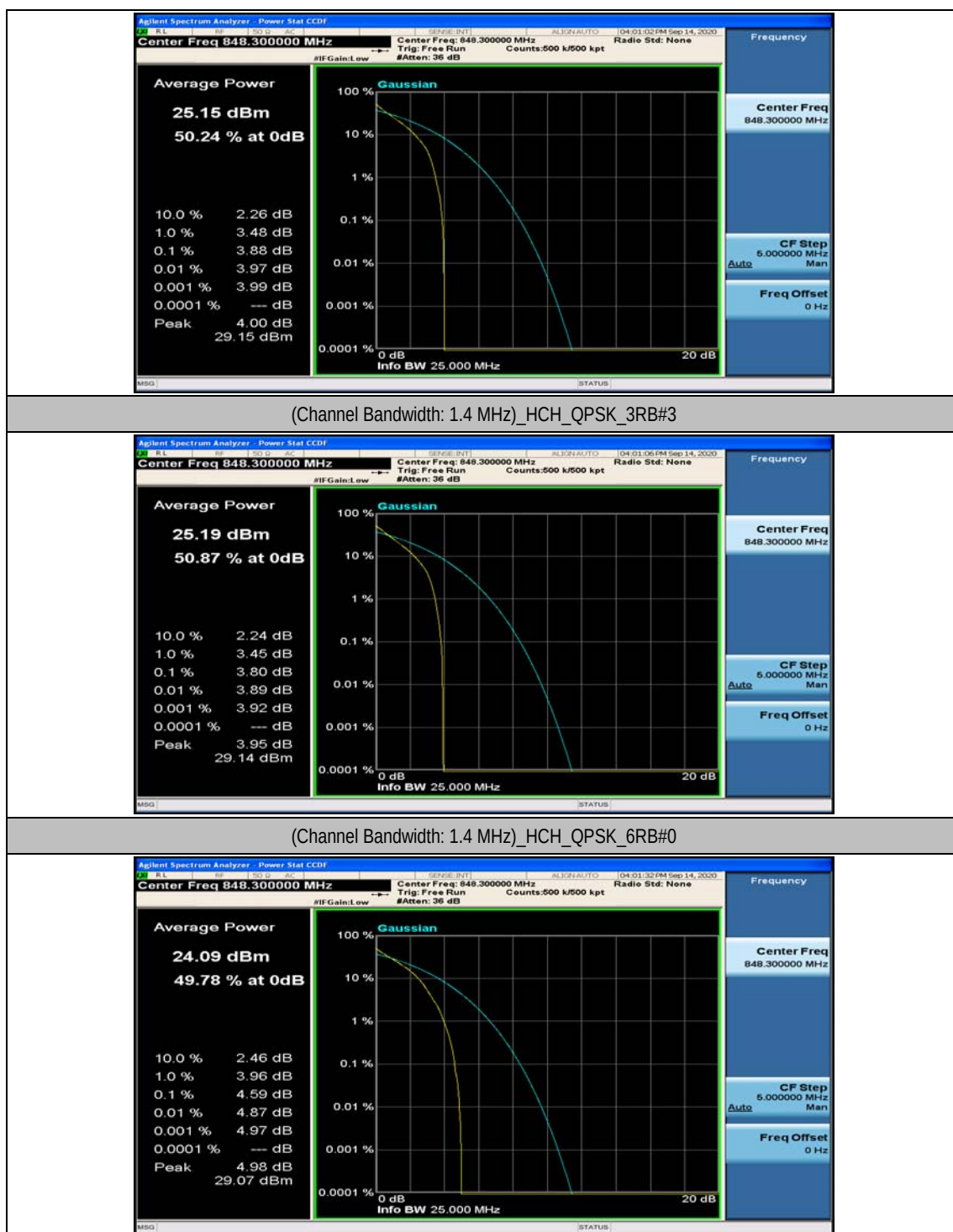
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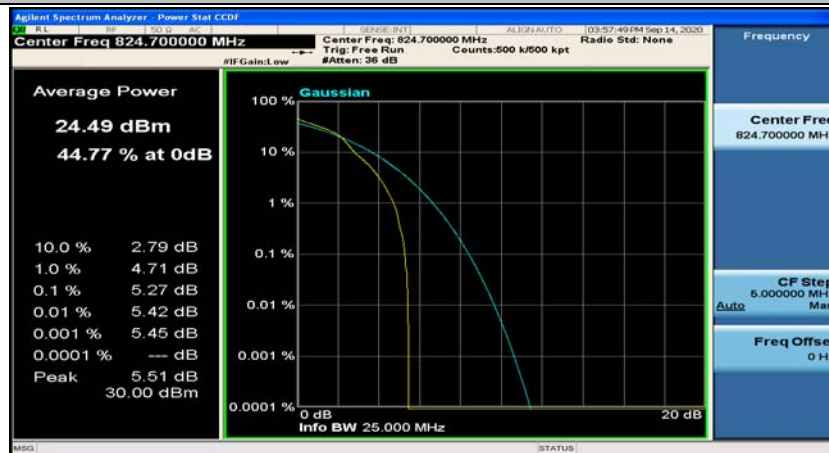
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_3RB#0



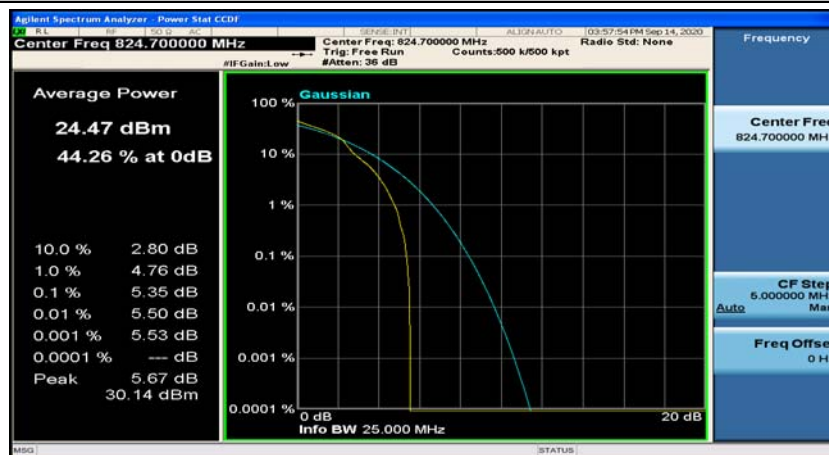
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_3RB#2



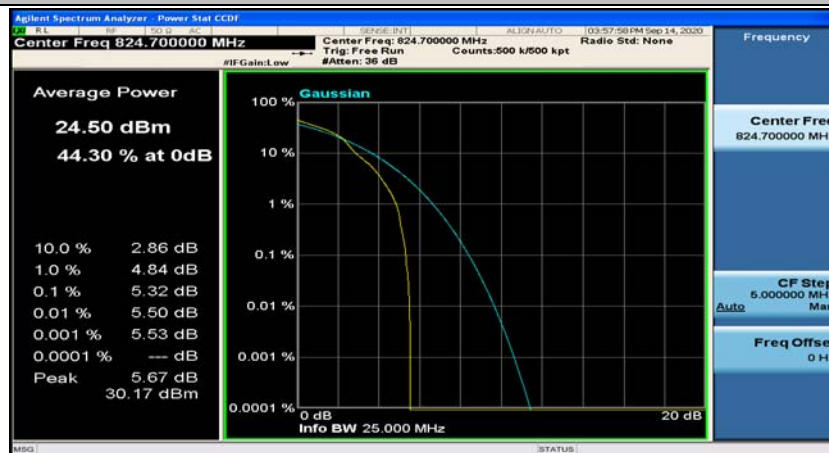
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#0



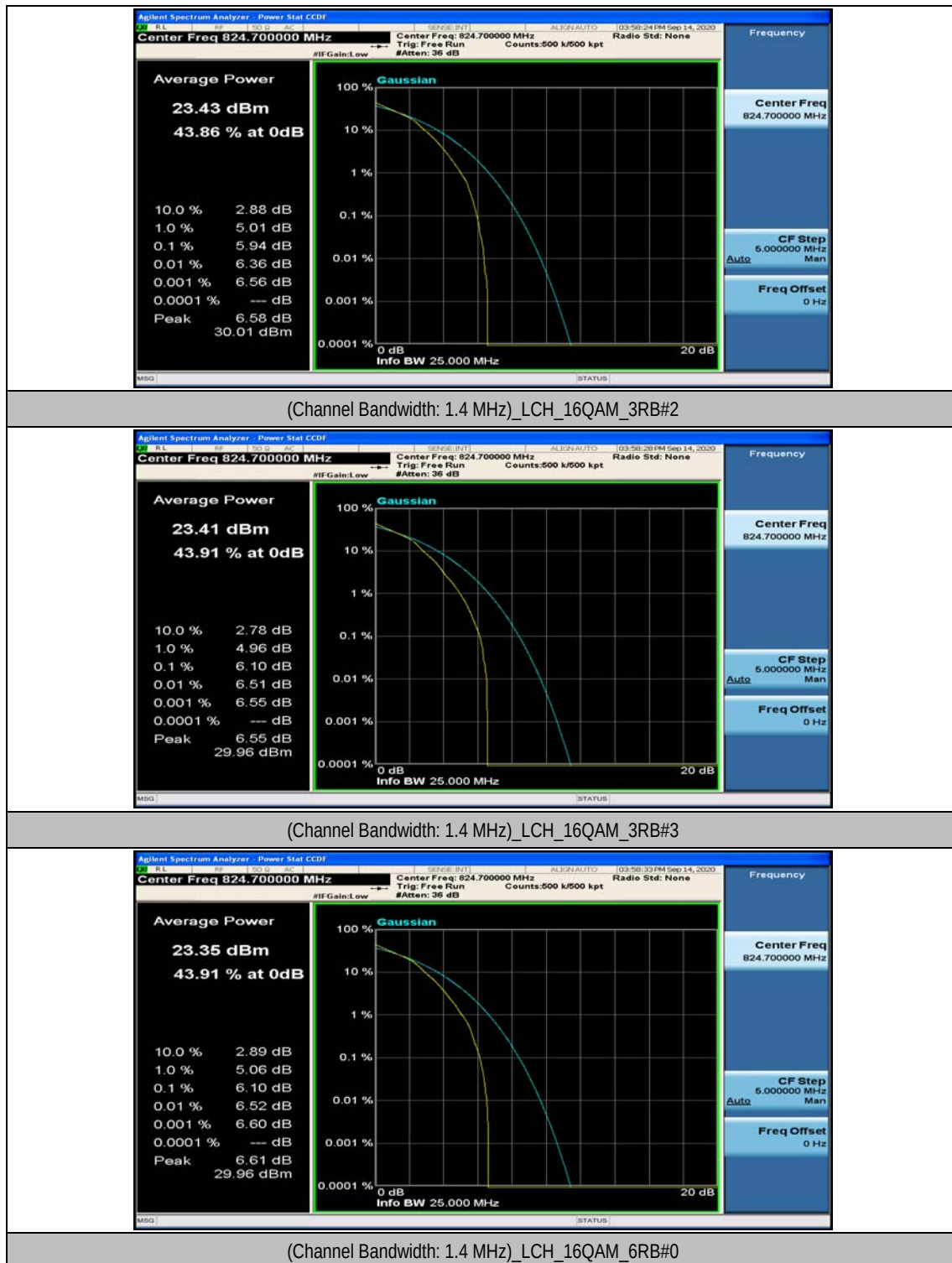
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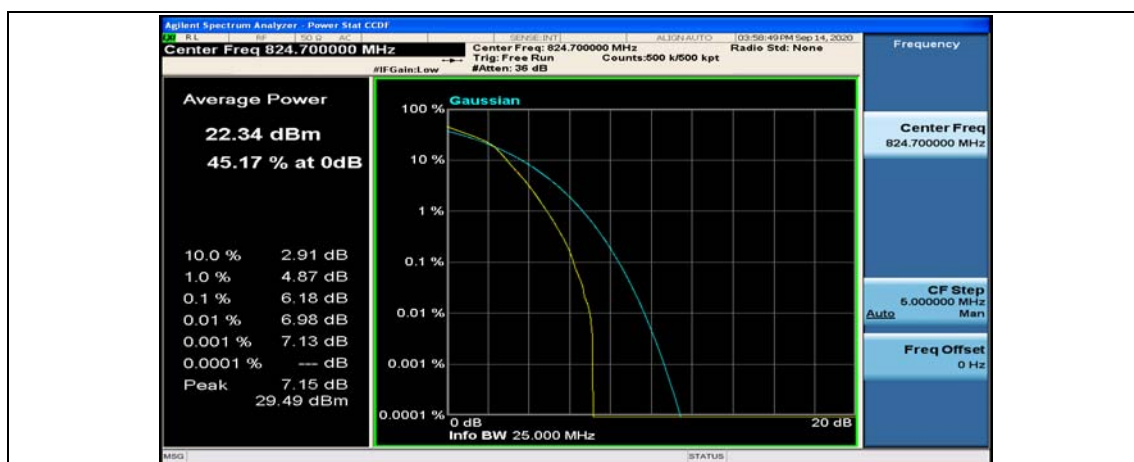


(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#5



(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_3RB#0





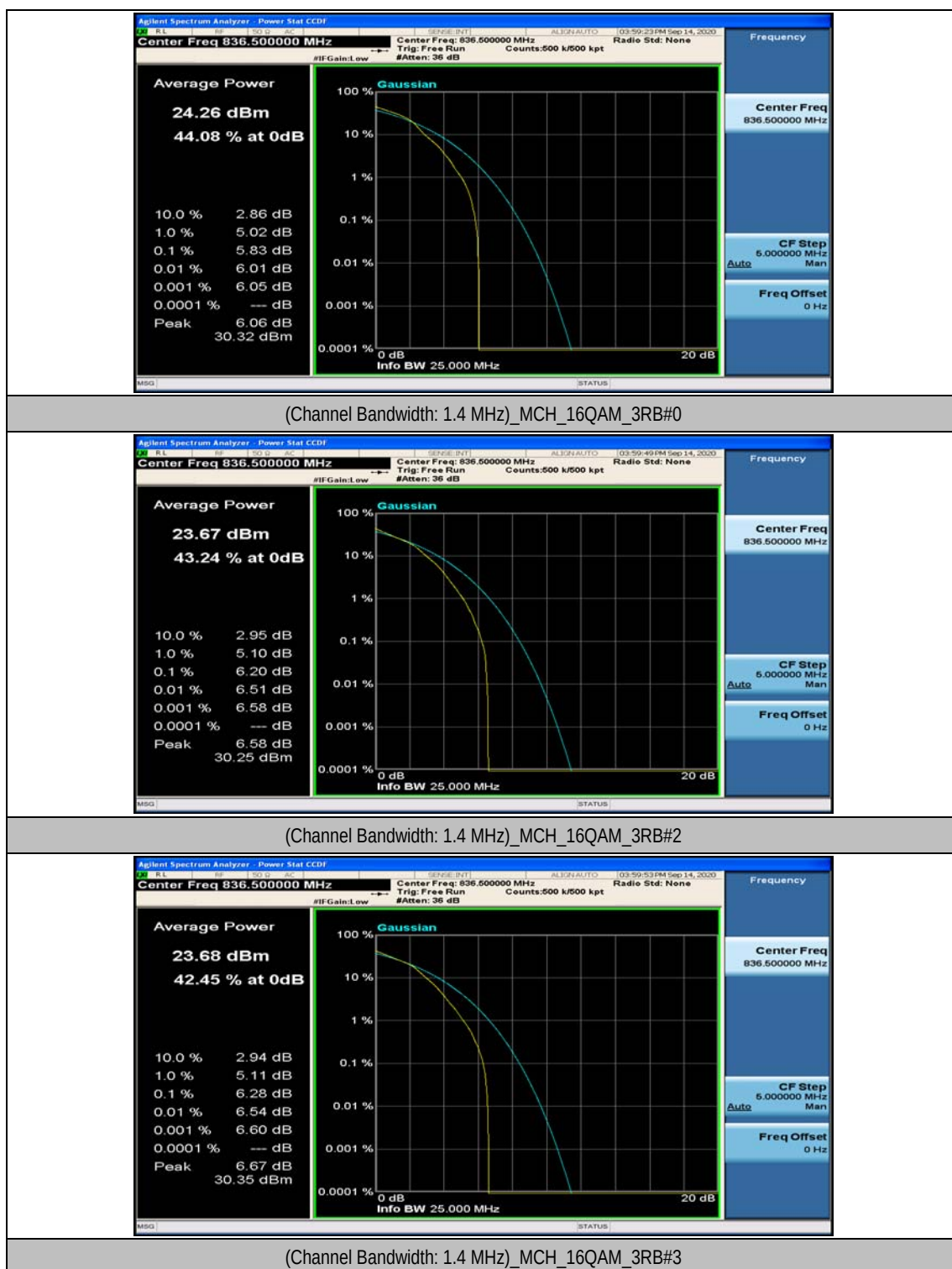
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#0



(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#3



(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#5





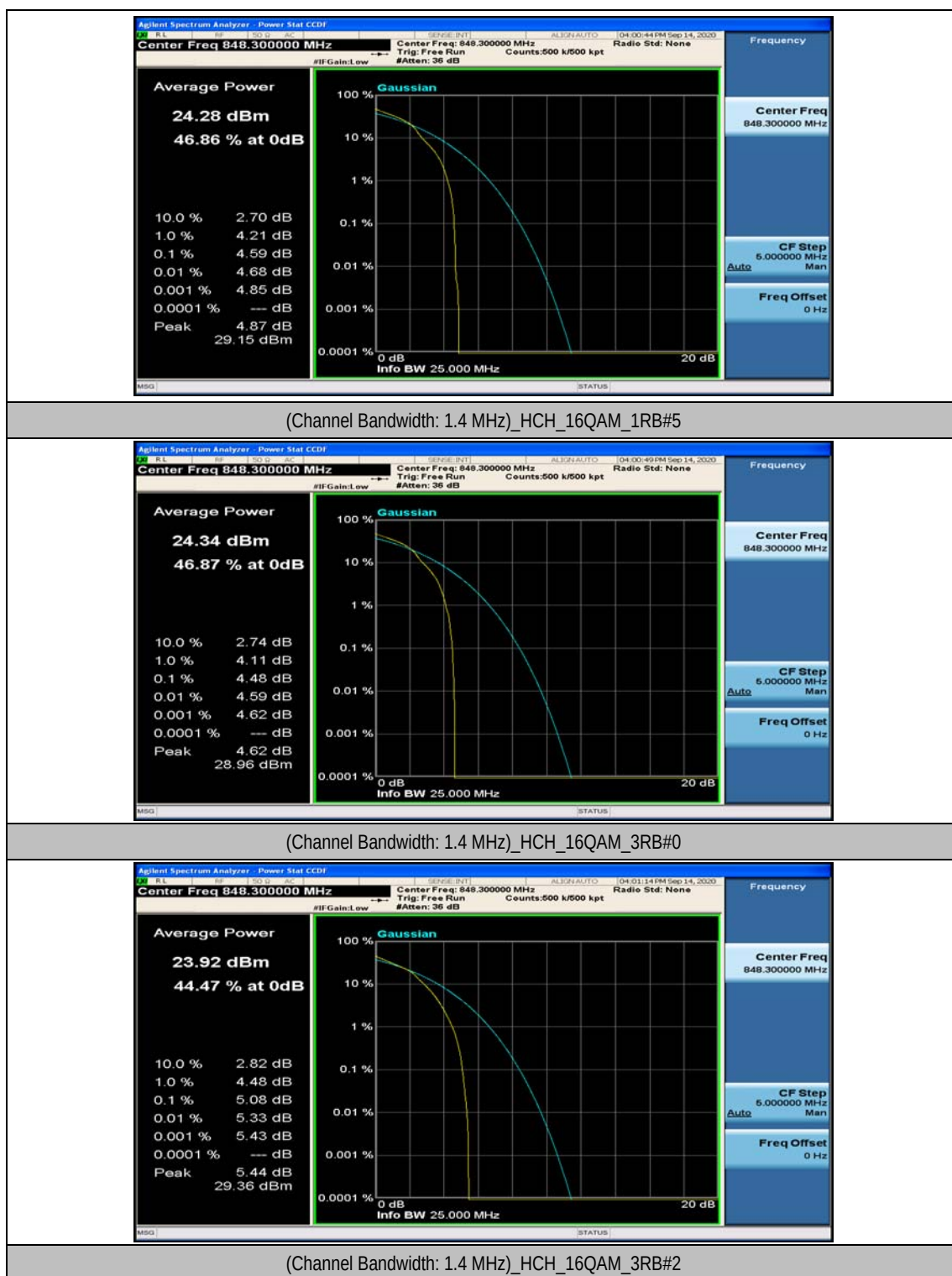
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_6RB#0

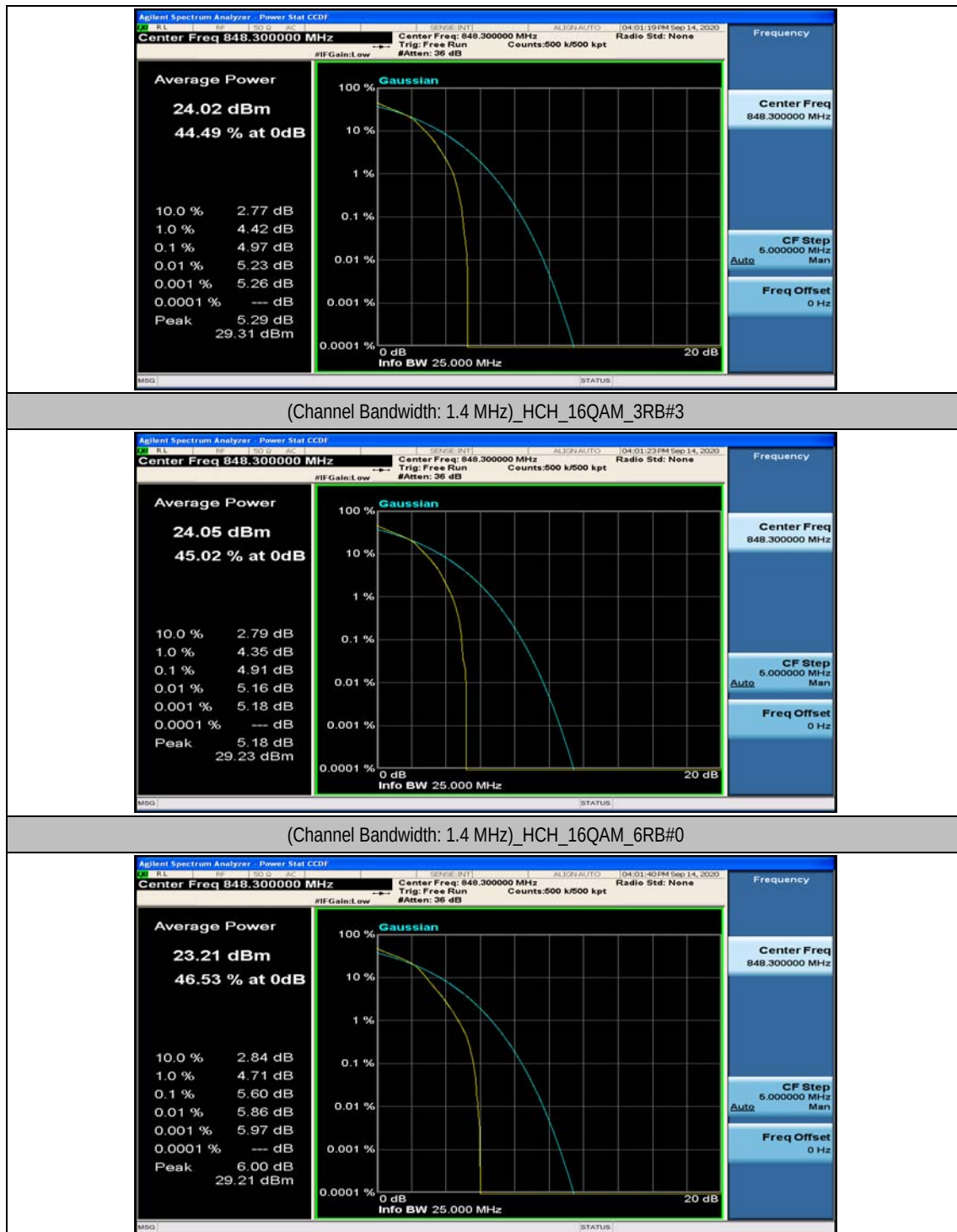


(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#3





Channel Bandwidth: 3 MHz

(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#0



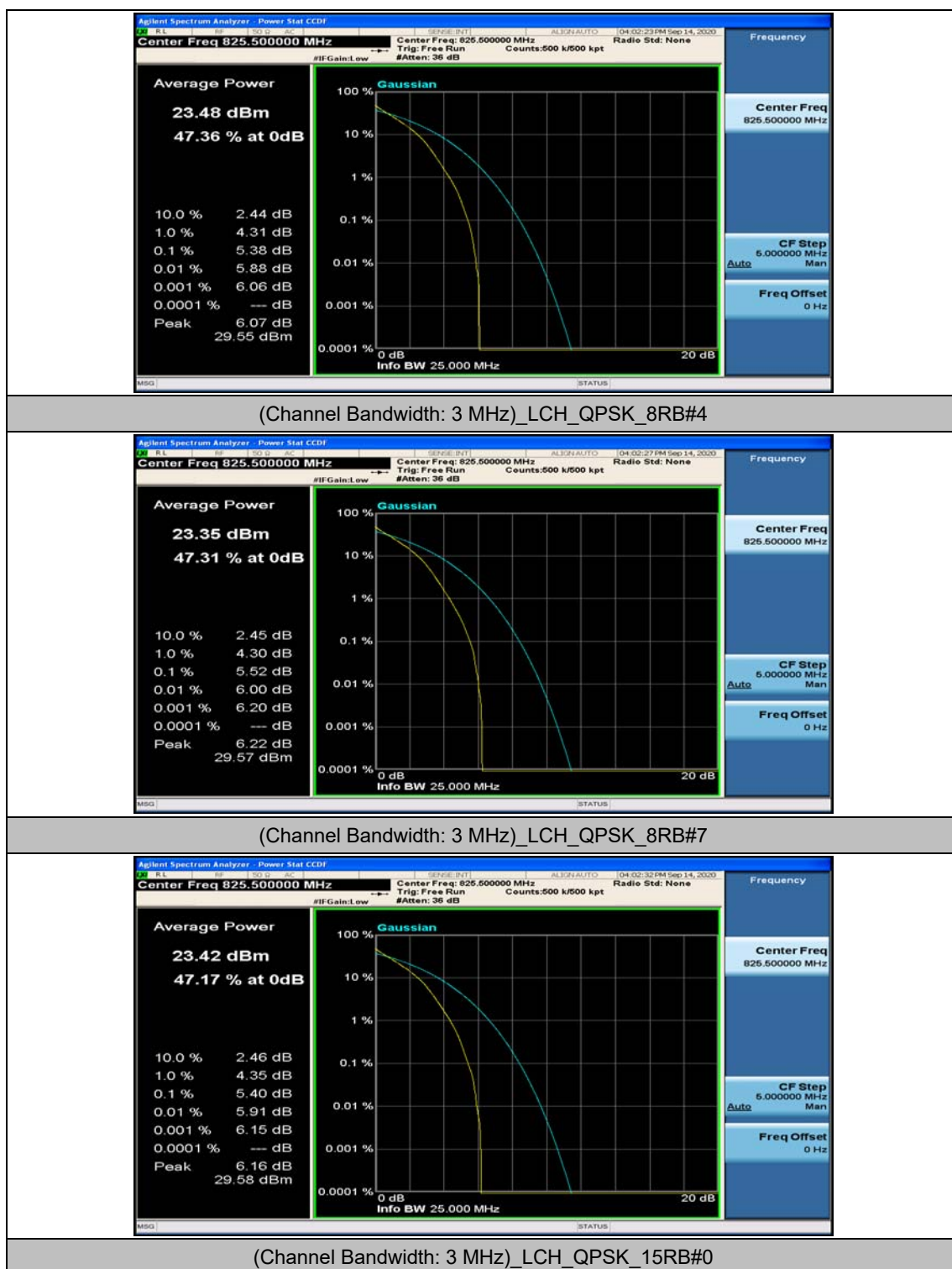
(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#7

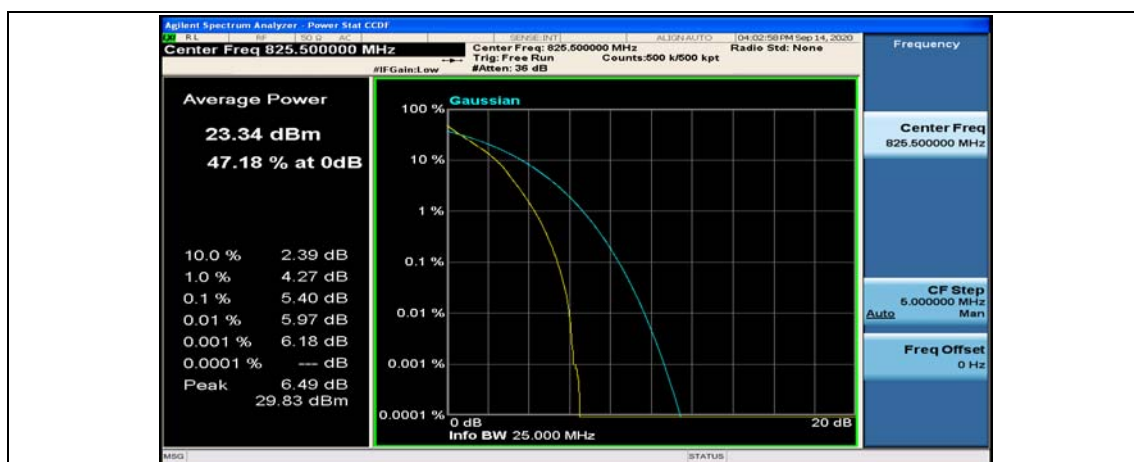


(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#14



(Channel Bandwidth: 3 MHz)_LCH_QPSK_8RB#0





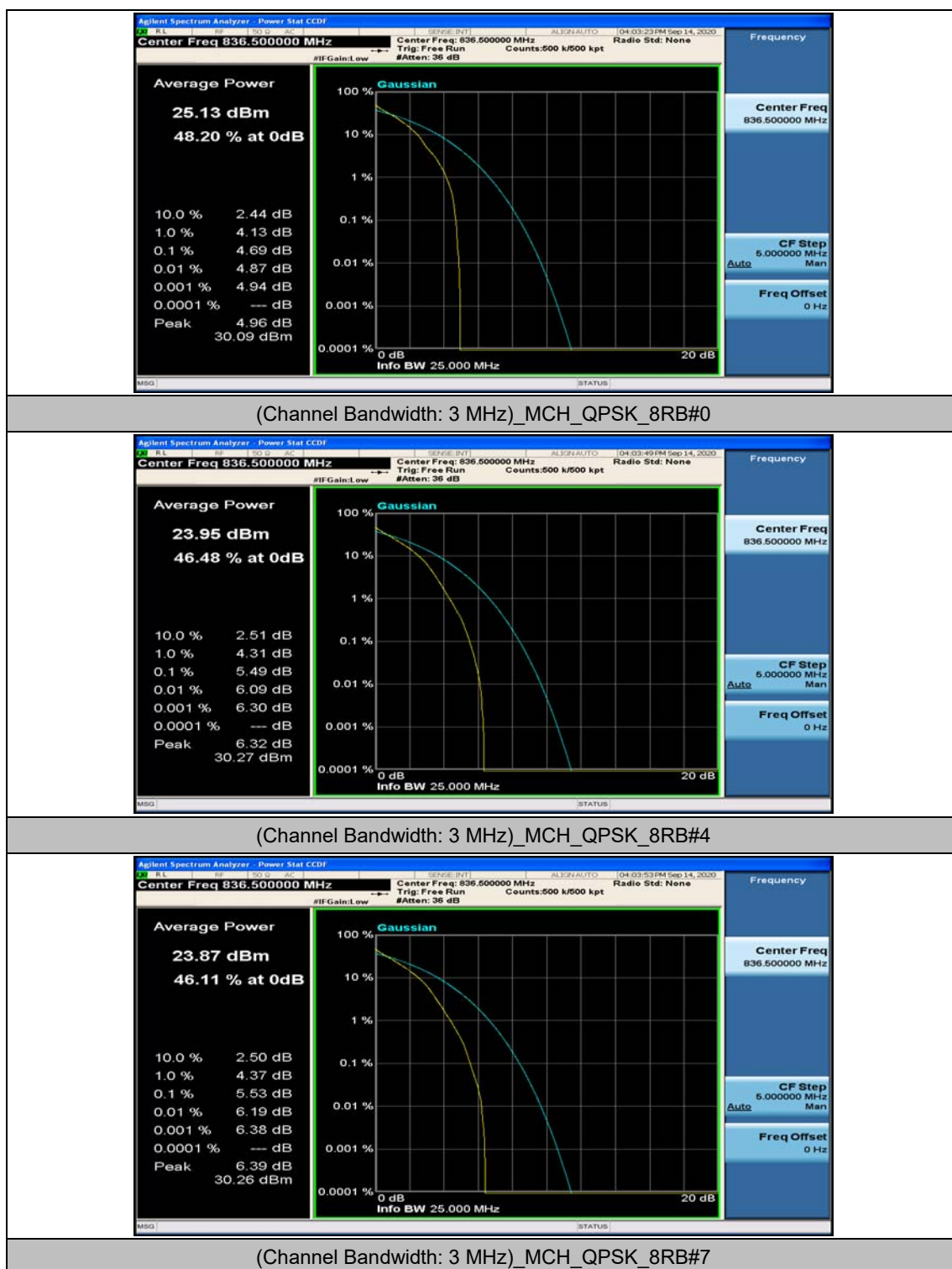
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#0

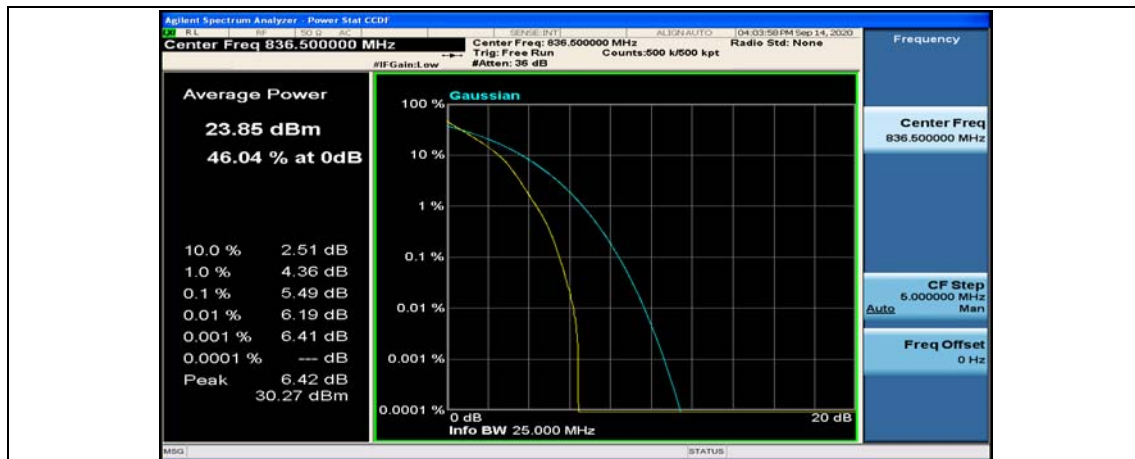


(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#7

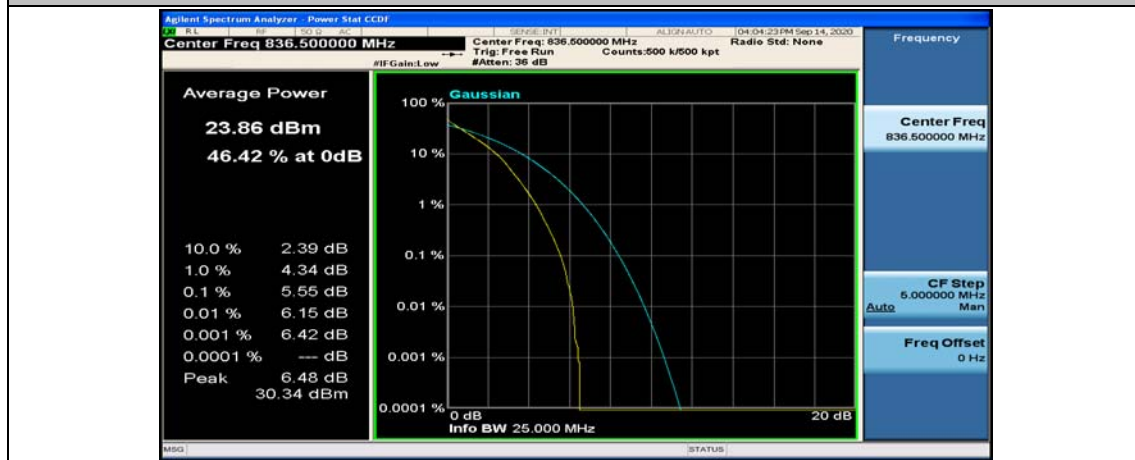


(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#14

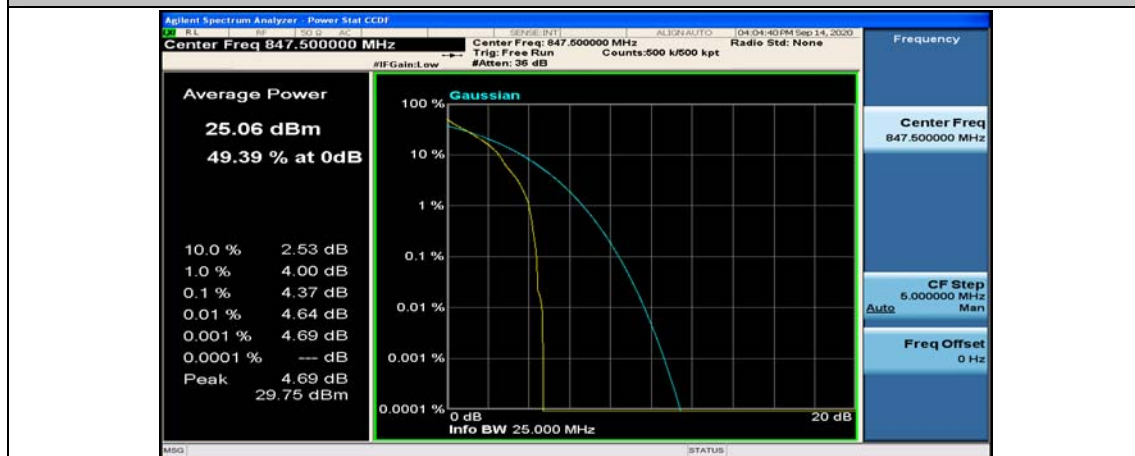




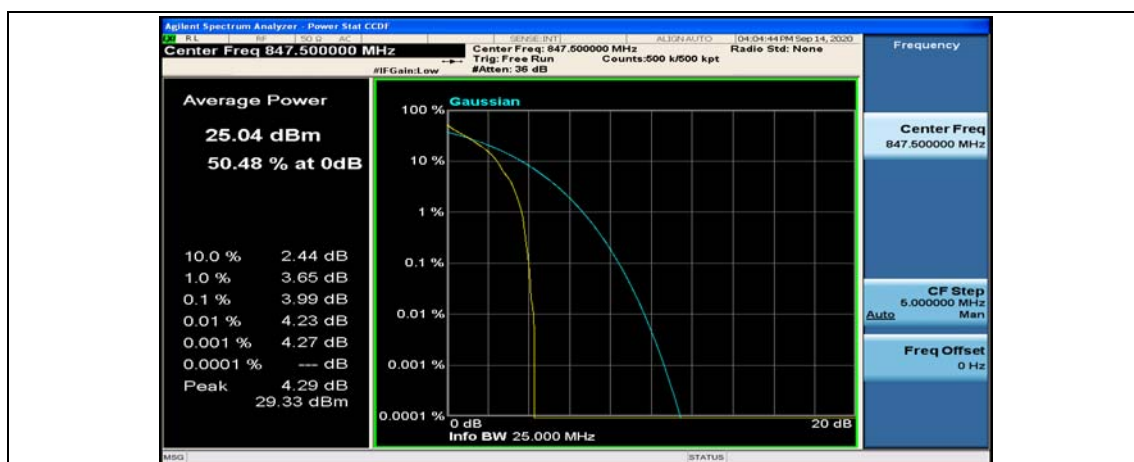
(Channel Bandwidth: 3 MHz)_MCH_QPSK_15RB#0

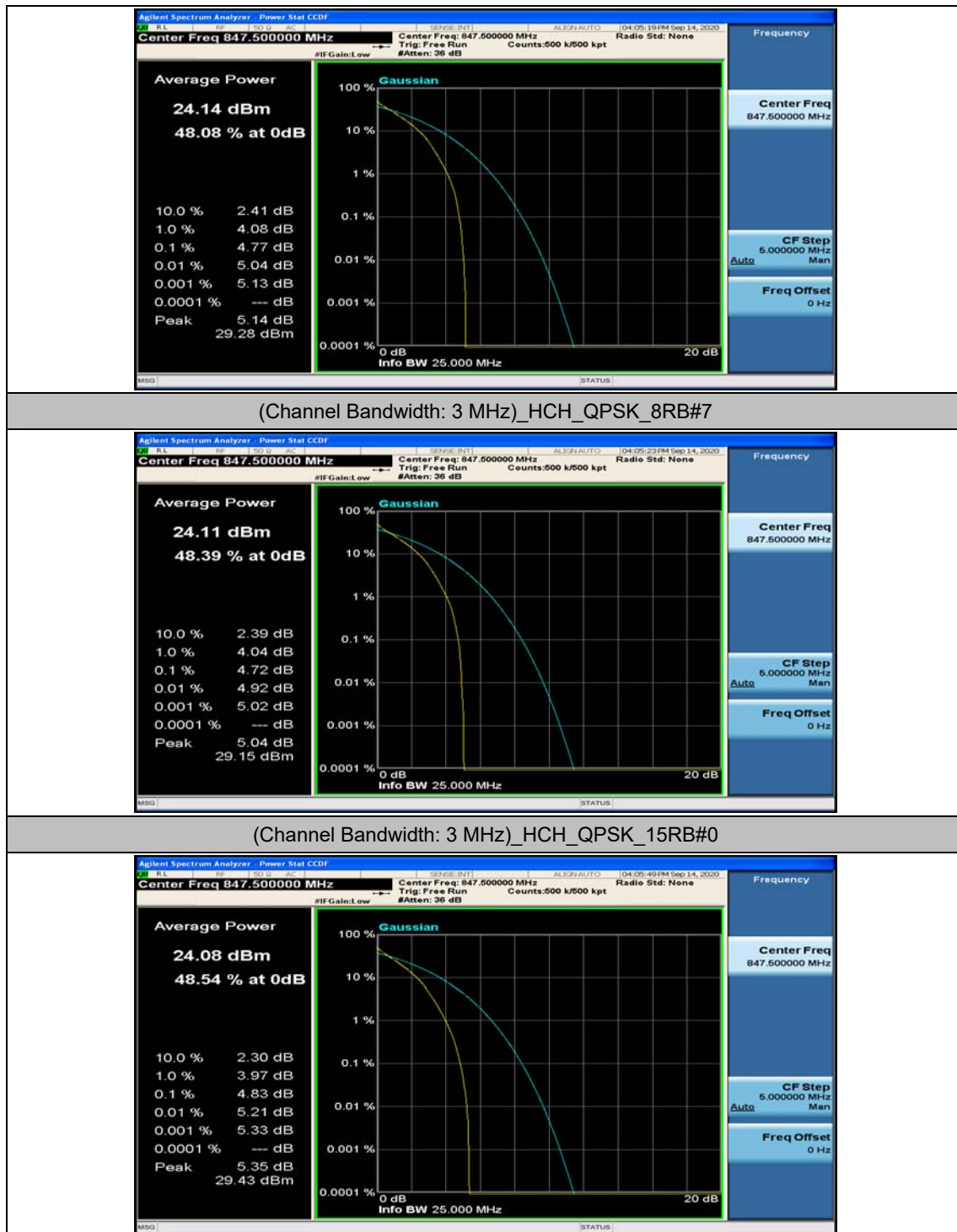


(Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#0

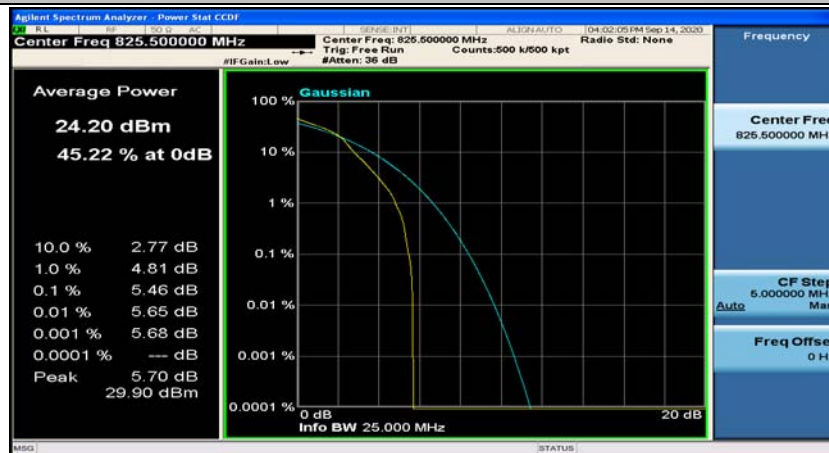


(Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#7

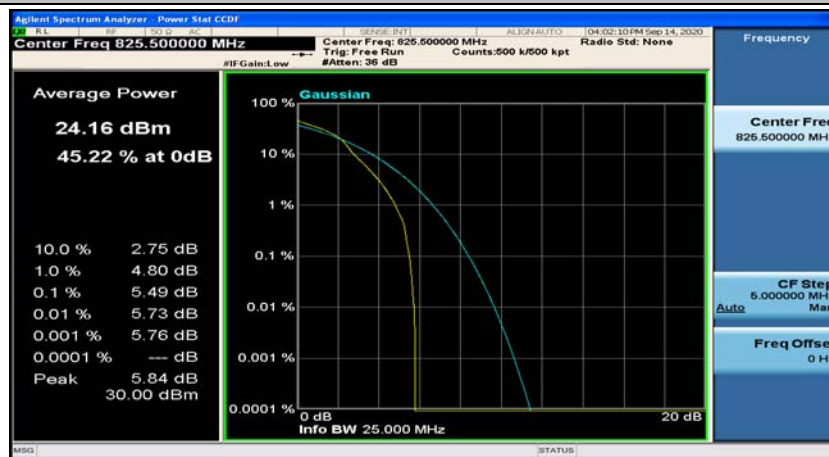




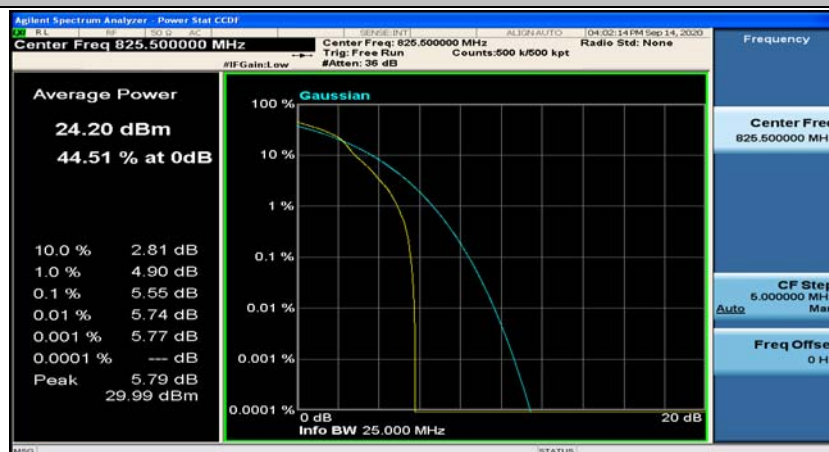
(Channel Bandwidth: 3 MHz)_LCH_16QAM_1RB#0



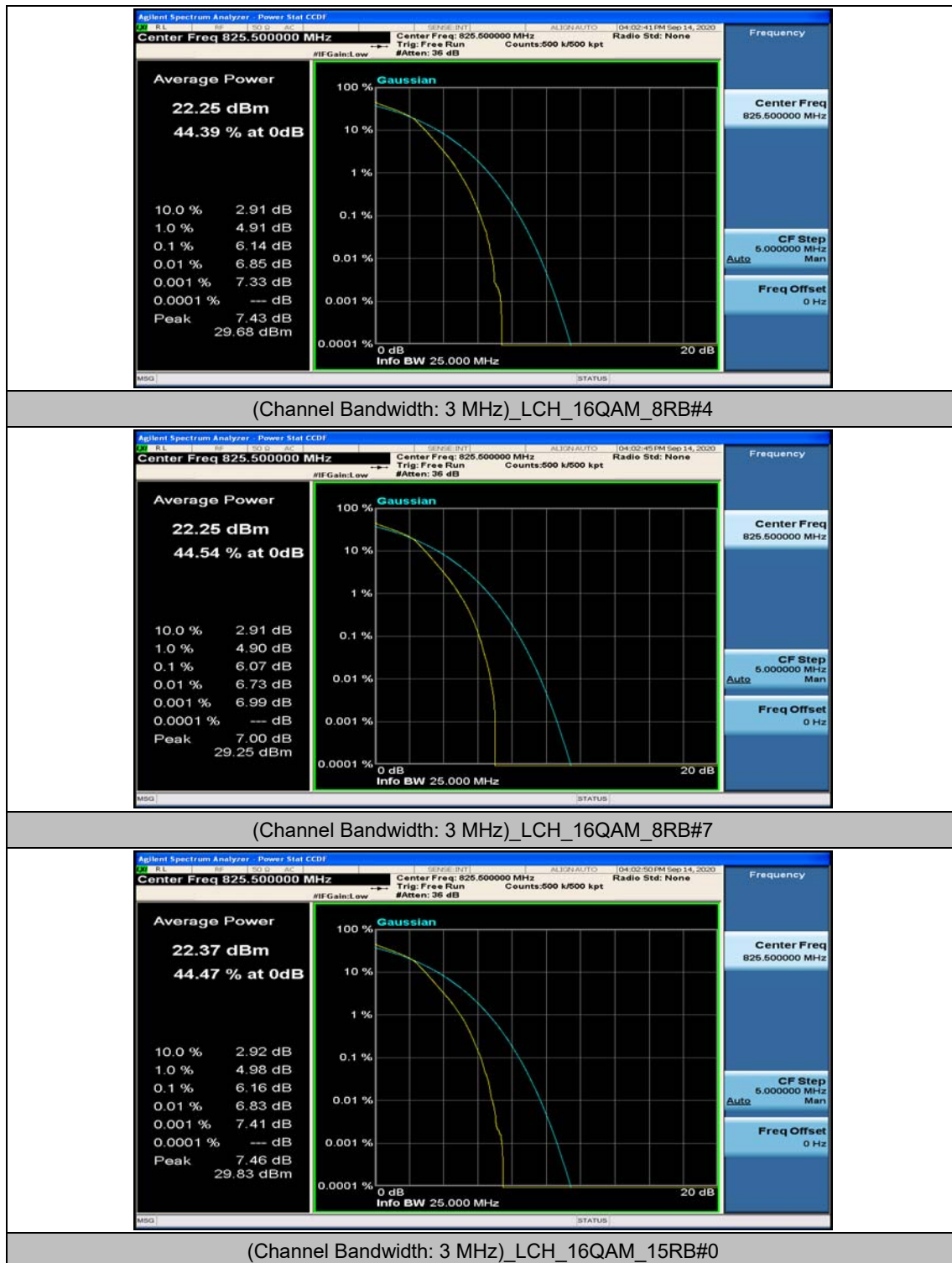
(Channel Bandwidth: 3 MHz)_LCH_16QAM_1RB#7

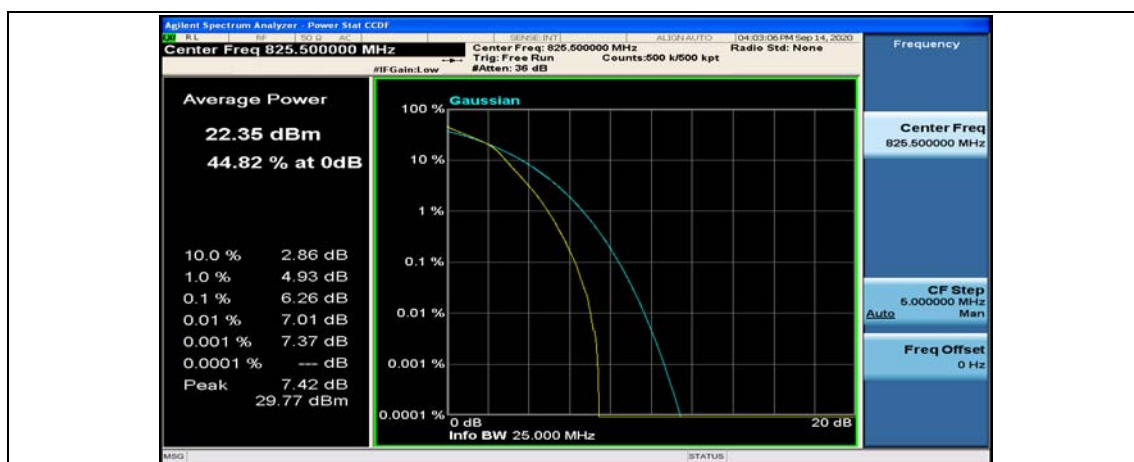


(Channel Bandwidth: 3 MHz)_LCH_16QAM_1RB#14



(Channel Bandwidth: 3 MHz)_LCH_16QAM_8RB#0





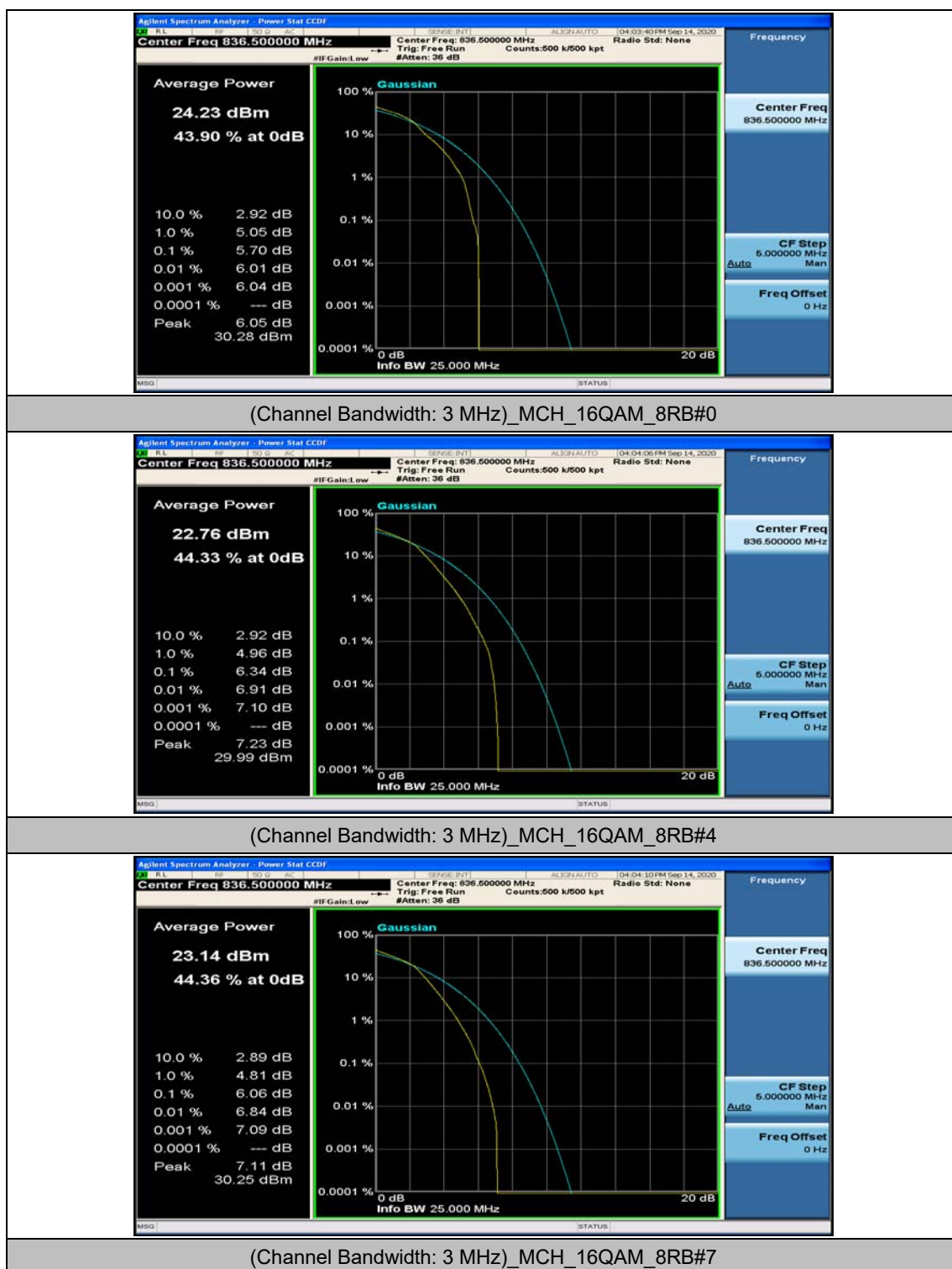
(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#0



(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#7



(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#14





(Channel Bandwidth: 3 MHz)_MCH_16QAM_15RB#0



(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#7



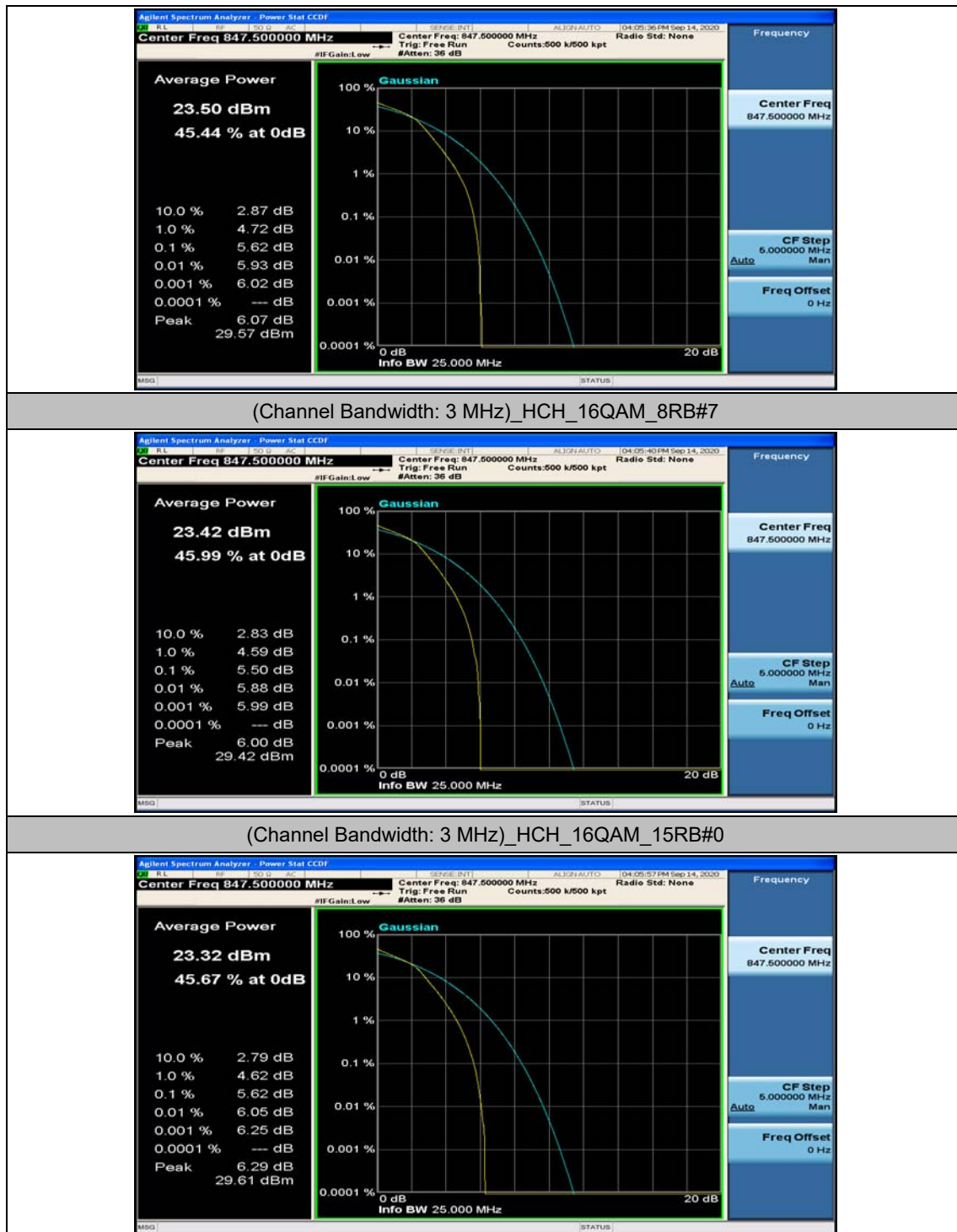
(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#14



(Channel Bandwidth: 3 MHz)_HCH_16QAM_8RB#0



(Channel Bandwidth: 3 MHz)_HCH_16QAM_8RB#4



Channel Bandwidth: 5 MHz

(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



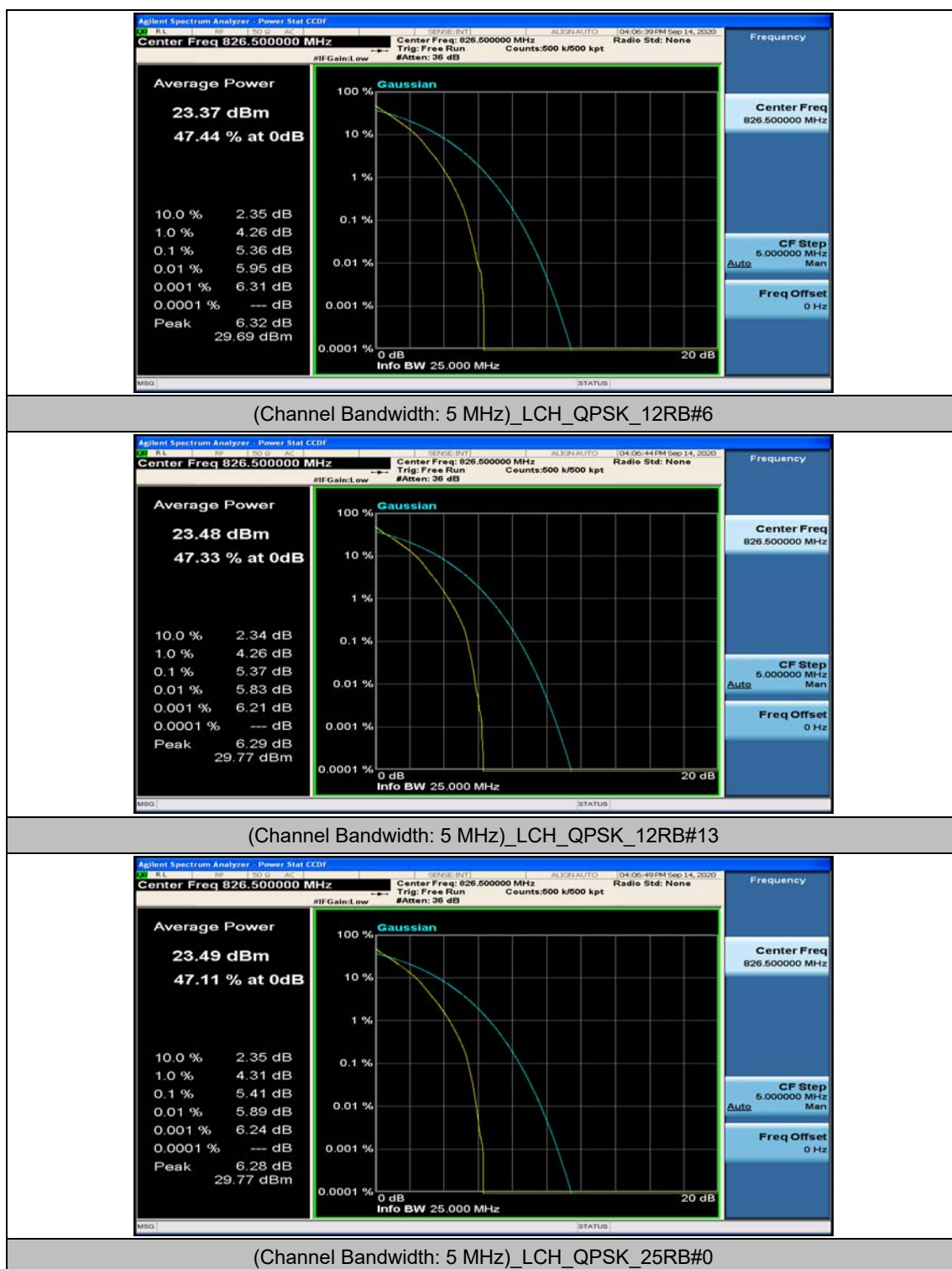
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12

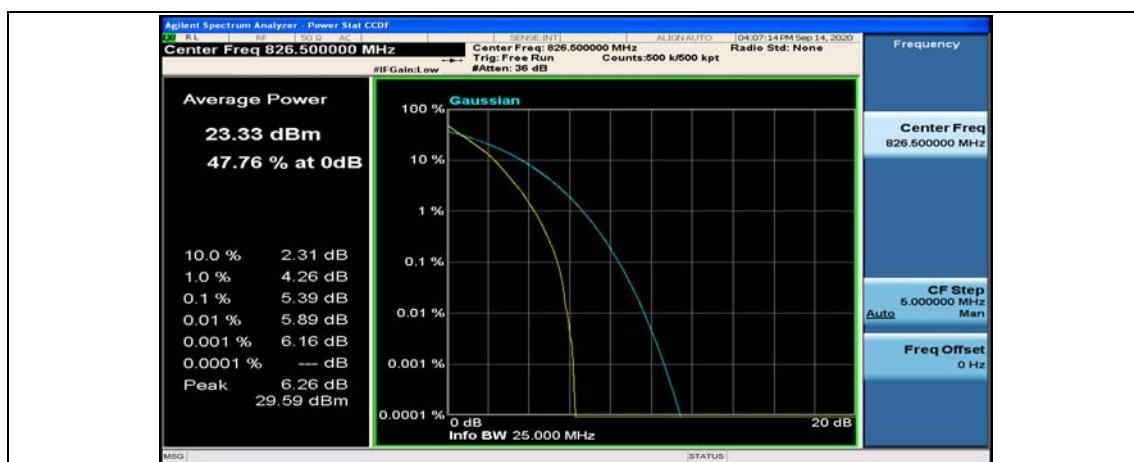


(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24



(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0





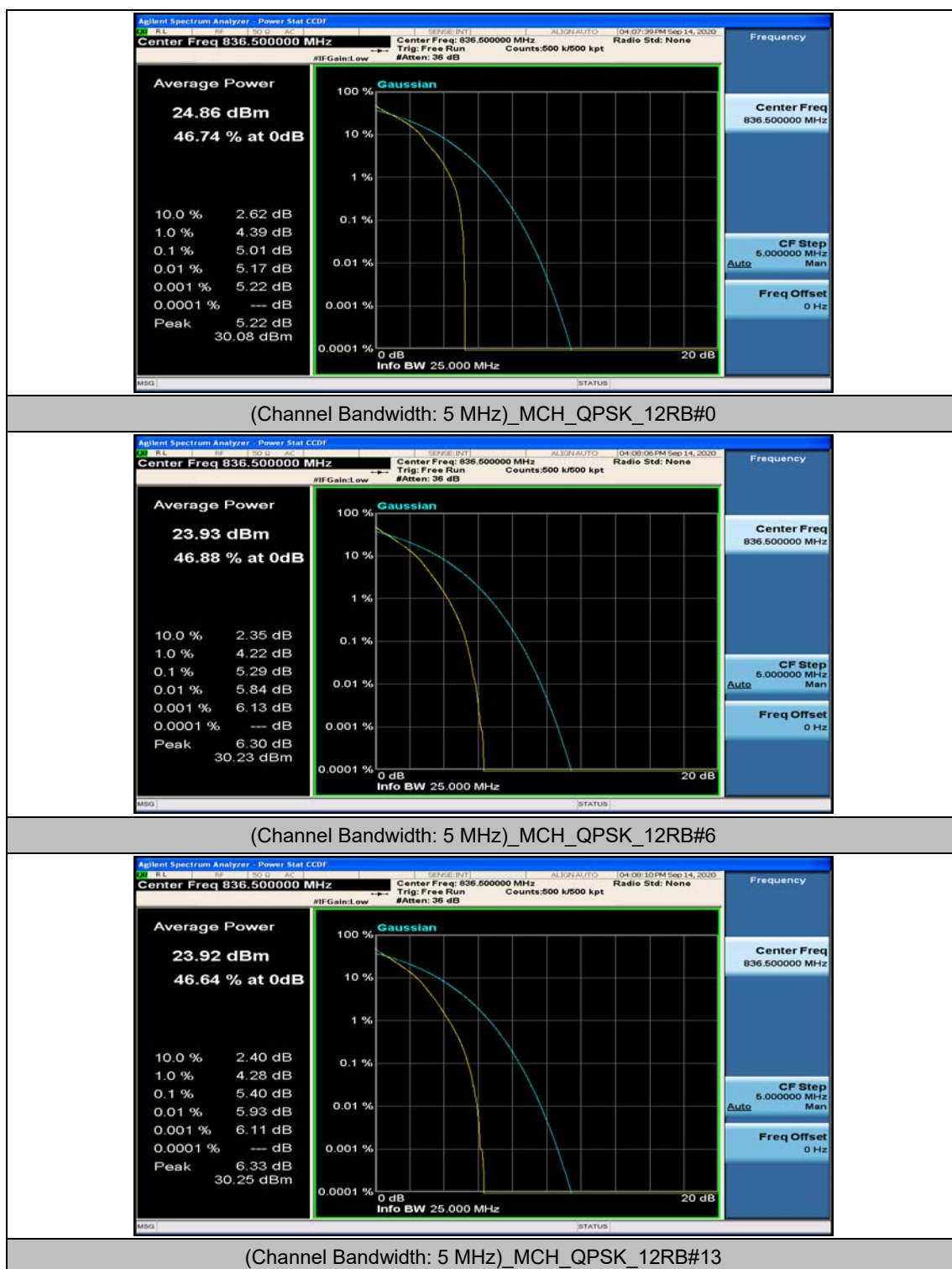
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0

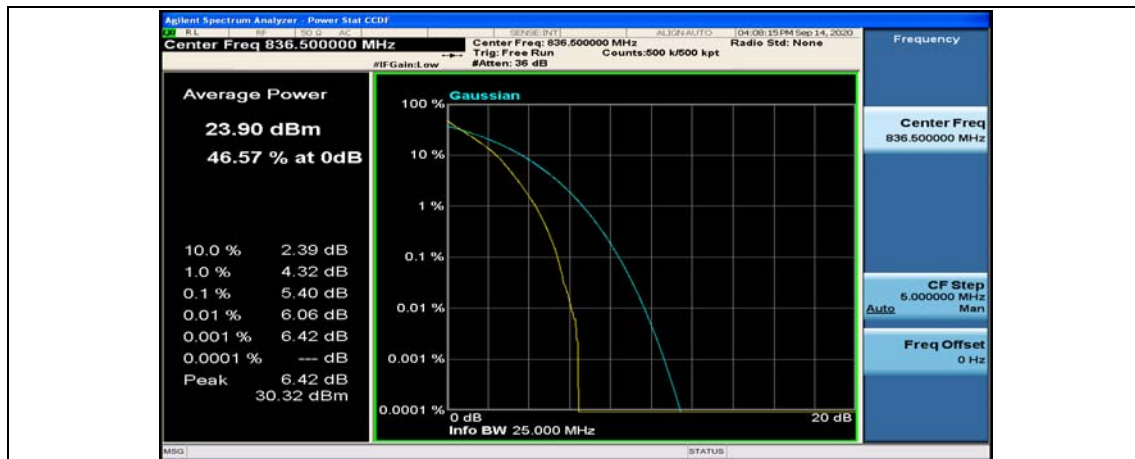


(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12



(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

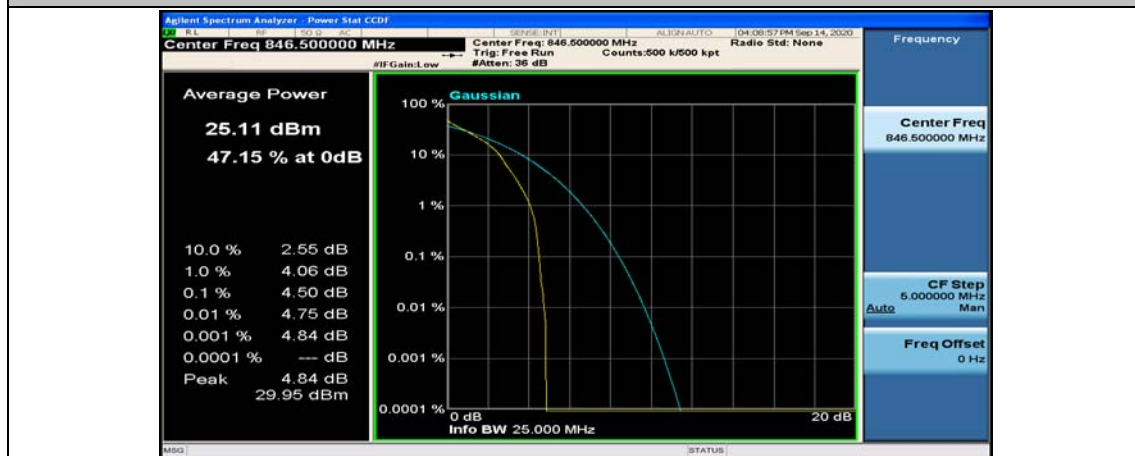




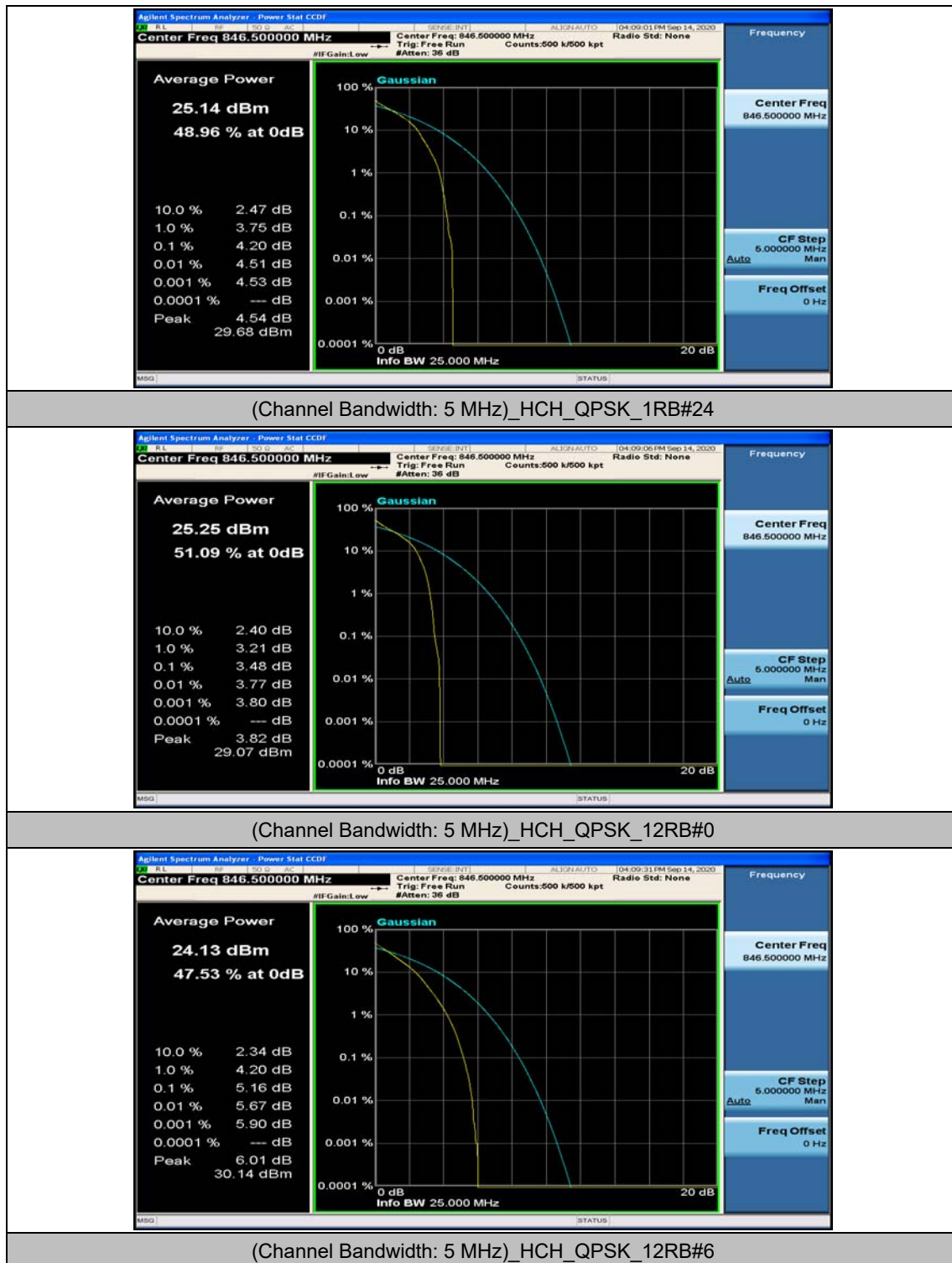
(Channel Bandwidth: 5 MHz)_MCH_QPSK_25RB#0

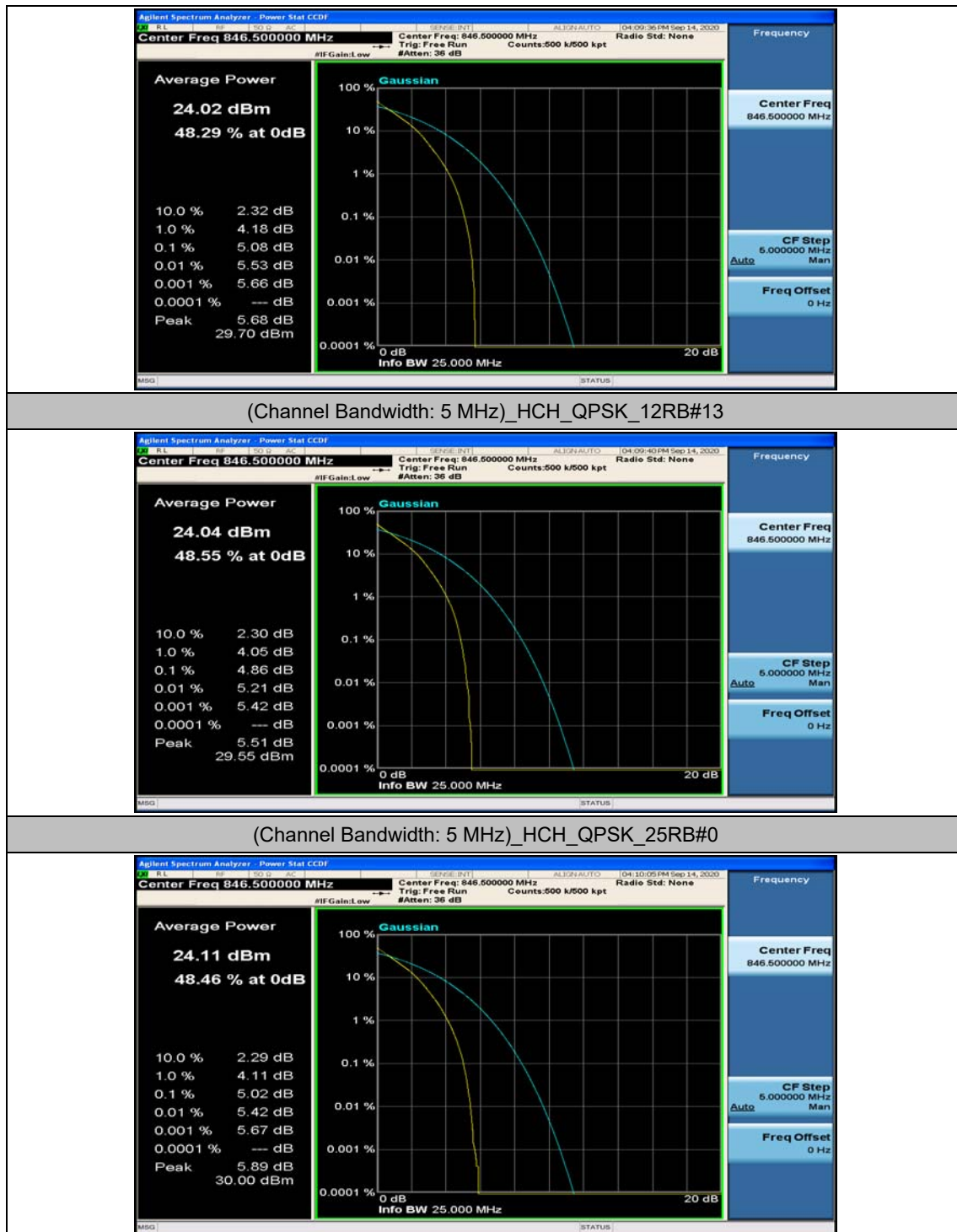


(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12





(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



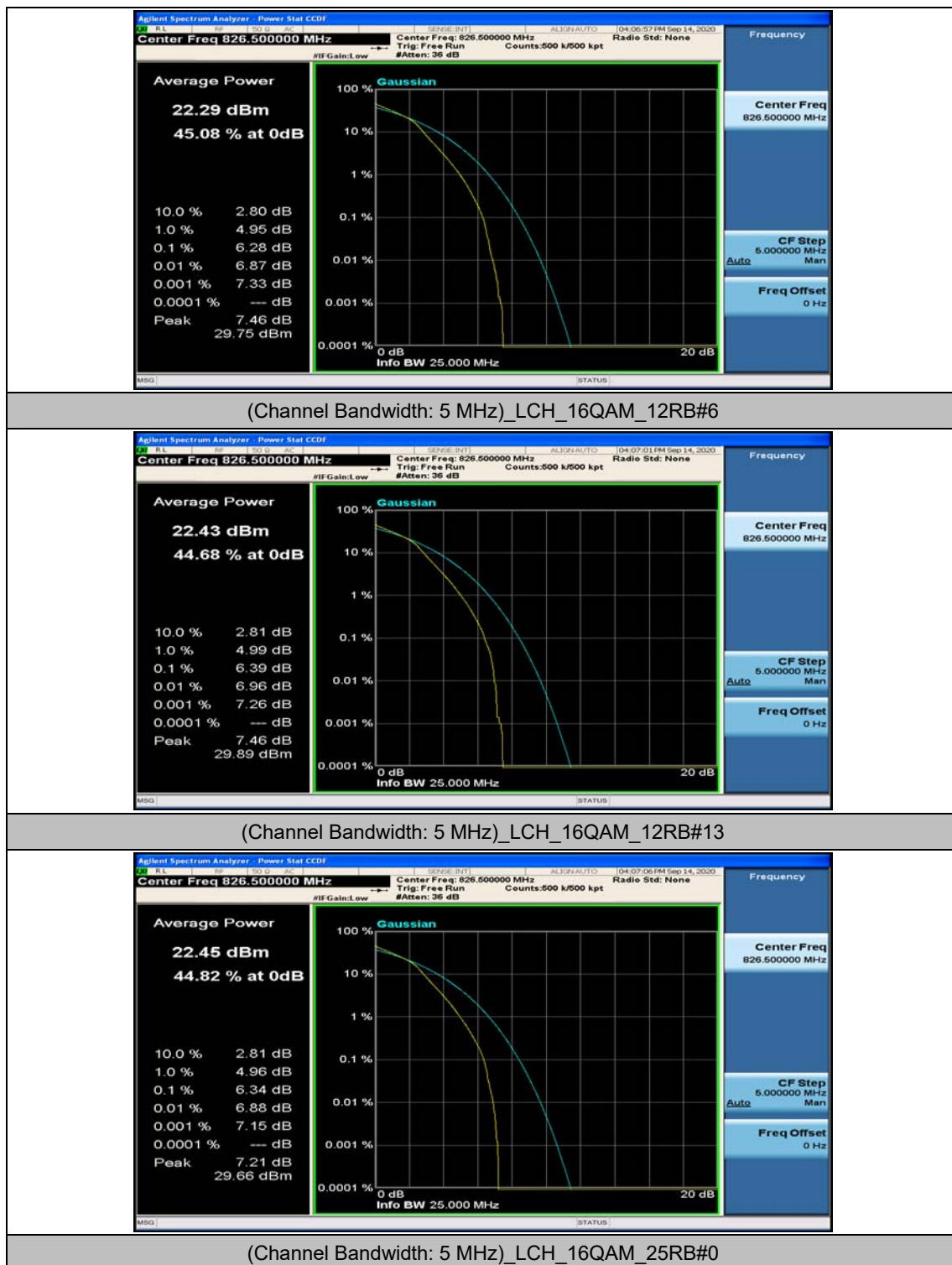
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

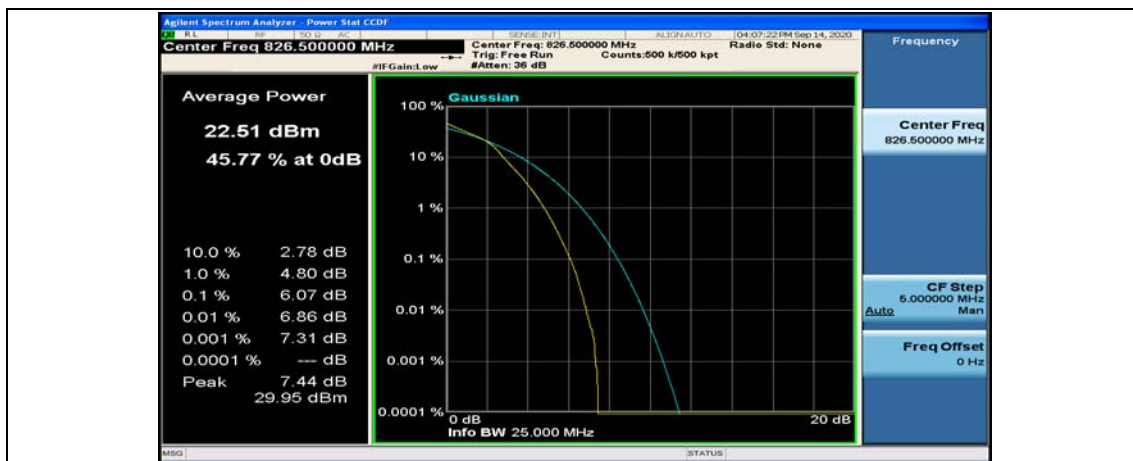


(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24



(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#0





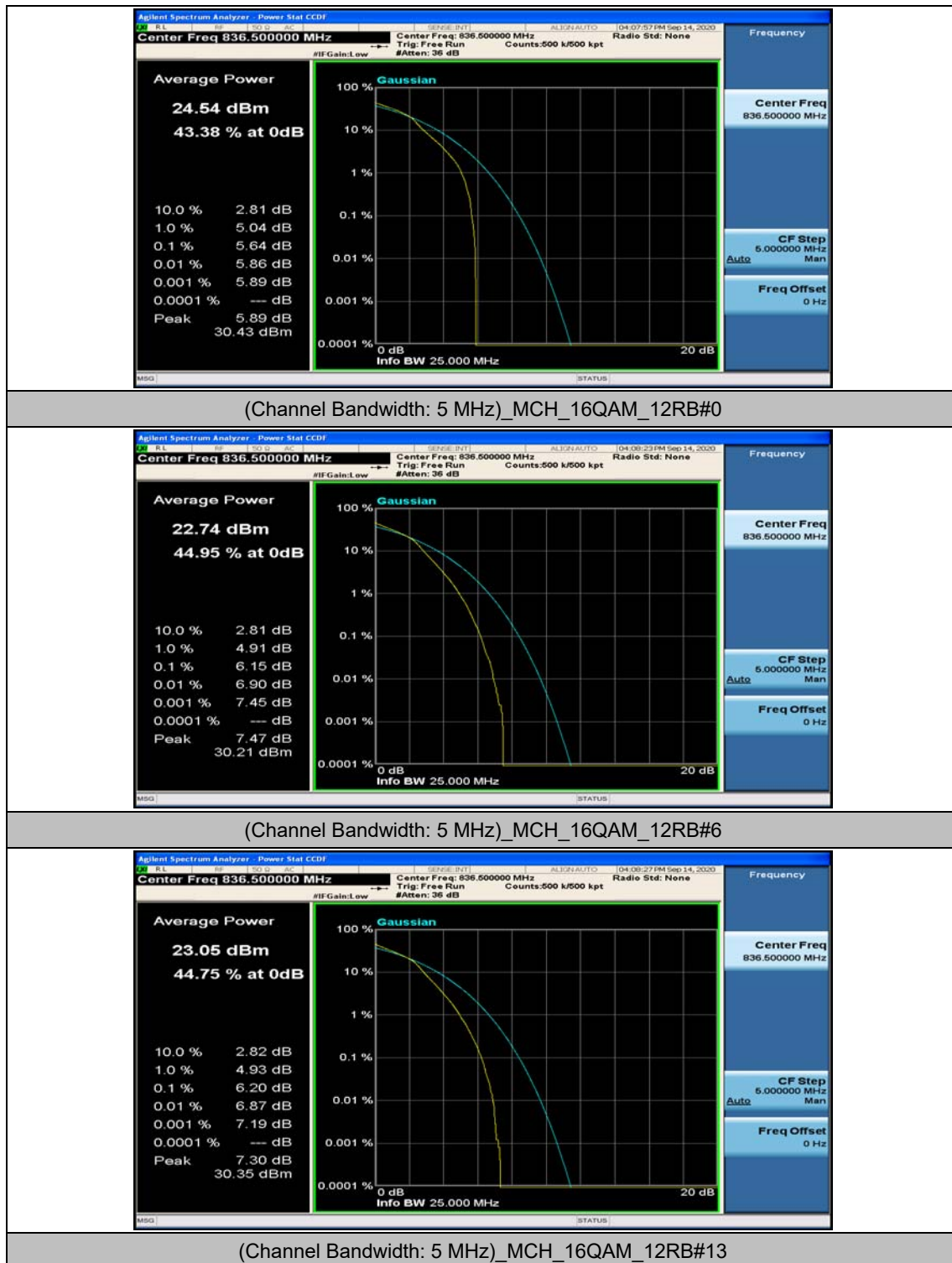
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12



(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24





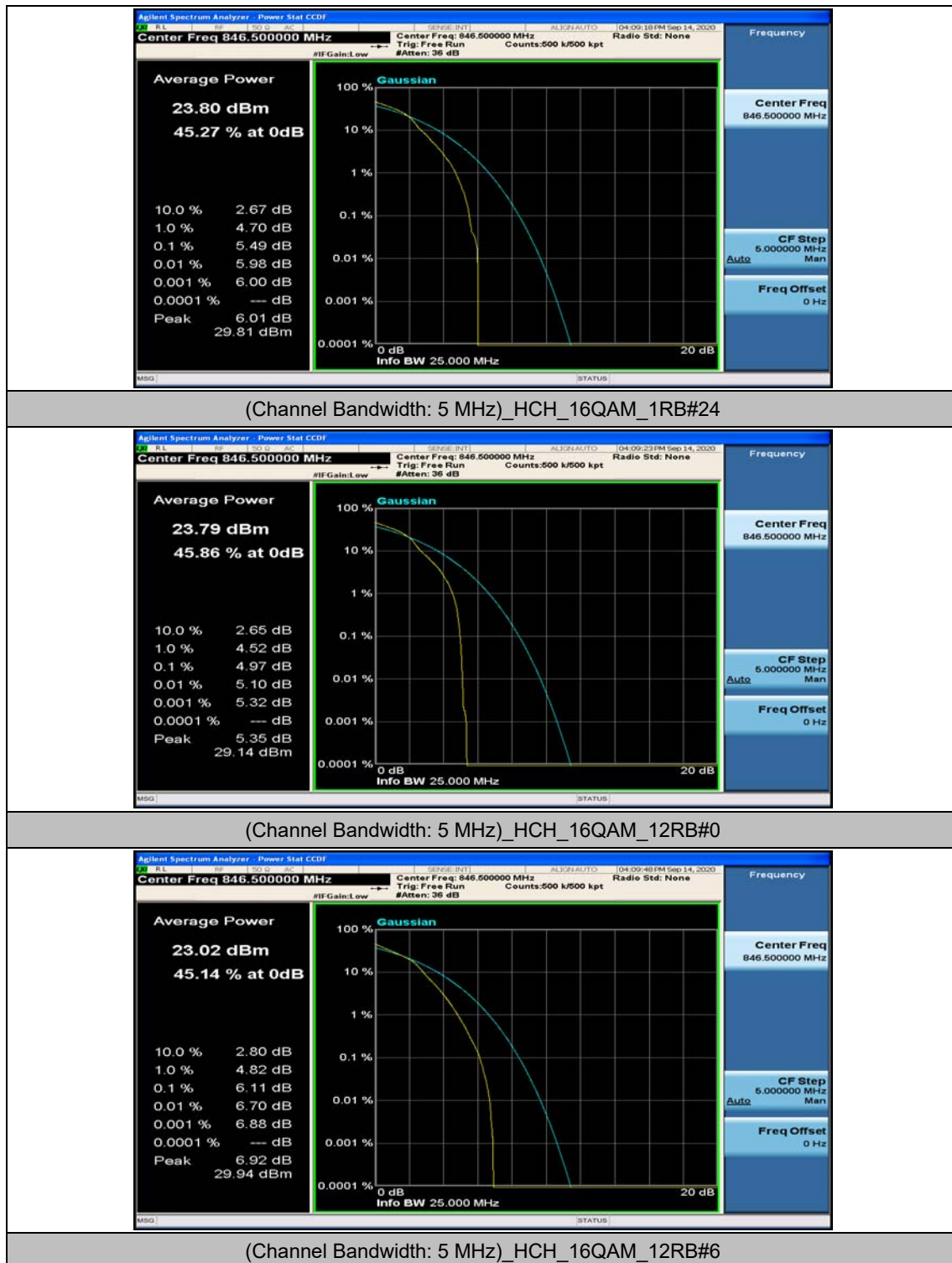
(Channel Bandwidth: 5 MHz)_MCH_16QAM_25RB#0

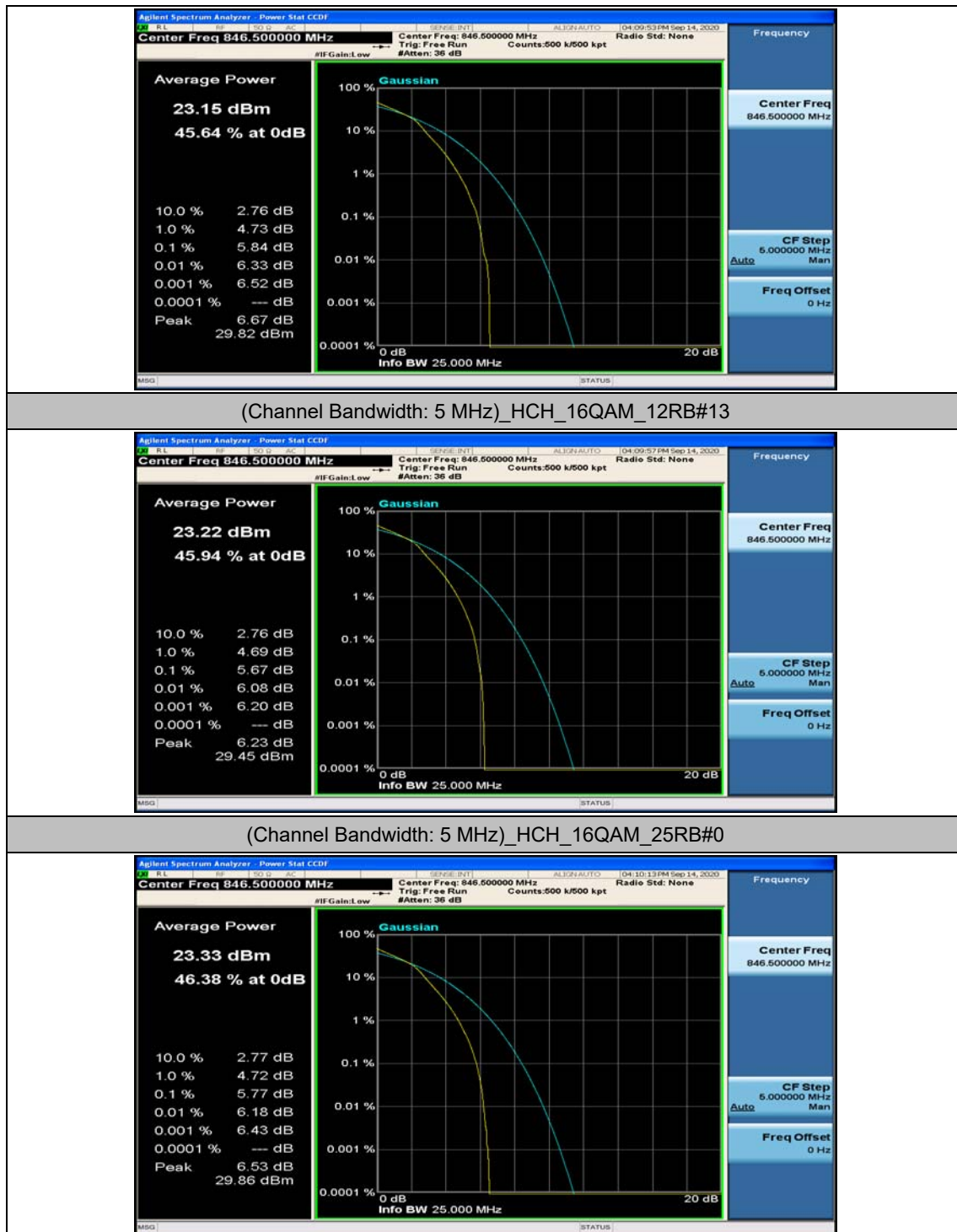


(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12



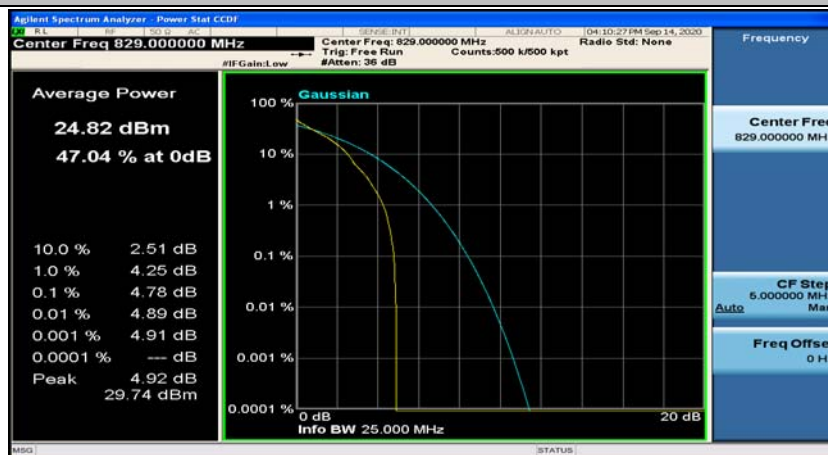


Channel Bandwidth: 10 MHz

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

