

Appendix for Band 7

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

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	25.00	PASS
		1	12	24.98	PASS
		1	24	24.97	PASS
		12	0	24.06	PASS
		12	6	23.93	PASS
		12	13	23.88	PASS
		25	0	23.95	PASS
	MCH	1	0	24.43	PASS
		1	12	24.46	PASS
		1	24	24.49	PASS
		12	0	23.64	PASS
		12	6	23.68	PASS
		12	13	23.71	PASS
		25	0	23.84	PASS
	HCH	1	0	25.00	PASS
		1	12	24.95	PASS
		1	24	23.92	PASS
		12	0	24.04	PASS
		12	6	24.05	PASS
		12	13	24.06	PASS
		25	0	24.01	PASS
16QAM	LCH	1	0	23.89	PASS
		1	12	23.86	PASS
		1	24	23.80	PASS
		12	0	23.04	PASS
		12	6	22.99	PASS
		12	13	23.00	PASS
		25	0	23.18	PASS
	MCH	1	0	24.36	PASS
		1	12	24.37	PASS
		1	24	24.40	PASS
		12	0	22.89	PASS
		12	6	22.91	PASS

		12	13	22.88	PASS
		25	0	23.05	PASS
	HCH	1	0	23.74	PASS
		1	12	23.74	PASS
		1	24	23.77	PASS
		12	0	23.08	PASS
		12	6	23.11	PASS
		12	13	23.27	PASS
		25	0	23.24	PASS

Channel Bandwidth: 10 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	24.91	PASS
		1	24	24.85	PASS
		1	49	24.81	PASS
		25	0	23.94	PASS
		25	12	23.88	PASS
		25	25	23.87	PASS
		50	0	23.94	PASS
	MCH	1	0	24.86	PASS
		1	24	24.81	PASS
		1	49	24.90	PASS
		25	0	23.71	PASS
		25	12	23.81	PASS
		25	25	23.81	PASS
		50	0	23.78	PASS
	HCH	1	0	24.92	PASS
		1	24	24.89	PASS
		1	49	24.30	PASS
		25	0	24.06	PASS
		25	12	23.93	PASS
		25	25	23.99	PASS
		50	0	23.97	PASS
16QAM	LCH	1	0	25.06	PASS
		1	24	24.96	PASS
		1	49	24.91	PASS
		25	0	23.06	PASS
		25	12	23.01	PASS
		25	25	23.03	PASS
		50	0	23.05	PASS

	MCH	1	0	24.42	PASS
		1	24	24.45	PASS
		1	49	24.48	PASS
		25	0	22.94	PASS
		25	12	22.94	PASS
		25	25	22.97	PASS
		50	0	23.01	PASS
	HCH	1	0	24.20	PASS
		1	24	24.24	PASS
		1	49	24.32	PASS
		25	0	23.17	PASS
		25	12	23.10	PASS
		25	25	23.22	PASS
		50	0	23.18	PASS

Channel Bandwidth: 15 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	24.90	PASS
		1	37	24.86	PASS
		1	74	24.76	PASS
		37	0	23.95	PASS
		37	18	23.79	PASS
		37	38	23.88	PASS
		75	0	23.84	PASS
	MCH	1	0	24.83	PASS
		1	37	24.95	PASS
		1	74	24.89	PASS
		37	0	23.79	PASS
		37	18	23.77	PASS
		37	38	23.87	PASS
		75	0	23.81	PASS
	HCH	1	0	24.90	PASS
		1	37	24.98	PASS
		1	74	24.03	PASS
		37	0	24.03	PASS
		37	18	23.98	PASS
		37	38	23.99	PASS
		75	0	24.06	PASS
16QAM	LCH	1	0	25.00	PASS
		1	37	24.84	PASS

		1	74	24.79	PASS
		37	0	23.14	PASS
		37	18	23.07	PASS
		37	38	23.00	PASS
		75	0	23.01	PASS
	MCH	1	0	24.60	PASS
		1	37	24.56	PASS
		1	74	24.59	PASS
		37	0	22.92	PASS
		37	18	22.95	PASS
		37	38	22.97	PASS
		75	0	22.92	PASS
	HCH	1	0	24.13	PASS
		1	37	24.19	PASS
		1	74	24.09	PASS
		37	0	23.17	PASS
		37	18	23.20	PASS
		37	38	23.11	PASS
		75	0	23.24	PASS

Channel Bandwidth: 20 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	25.15	PASS
		1	49	25.03	PASS
		1	99	24.92	PASS
		50	0	24.03	PASS
		50	25	23.87	PASS
		50	50	23.73	PASS
		100	0	23.85	PASS
	MCH	1	0	24.89	PASS
		1	49	24.91	PASS
		1	99	24.90	PASS
		50	0	23.88	PASS
		50	25	23.84	PASS
		50	50	23.80	PASS
		100	0	23.78	PASS
	HCH	1	0	24.83	PASS
		1	49	24.91	PASS
		1	99	24.38	PASS
		50	0	23.89	PASS

		50	25	23.89	PASS
		50	50	24.01	PASS
		100	0	23.93	PASS
16QAM	LCH	1	0	24.18	PASS
		1	49	24.12	PASS
		1	99	24.01	PASS
		50	0	23.11	PASS
		50	25	23.03	PASS
		50	50	23.00	PASS
		100	0	22.94	PASS
	MCH	1	0	23.96	PASS
		1	49	23.92	PASS
		1	99	24.01	PASS
		50	0	22.94	PASS
		50	25	22.90	PASS
		50	50	22.95	PASS
		100	0	22.86	PASS
	HCH	1	0	24.44	PASS
		1	49	24.41	PASS
		1	99	24.50	PASS
		50	0	23.00	PASS
		50	25	23.08	PASS
		50	50	23.20	PASS
		100	0	23.10	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	4.01	<13	PASS
		1	12	4.34	<13	PASS
		1	24	4.3	<13	PASS
		12	0	4.8	<13	PASS
		12	6	4.84	<13	PASS
		12	13	4.92	<13	PASS
		25	0	4.88	<13	PASS
	MCH	1	0	4.61	<13	PASS
		1	12	4.66	<13	PASS
		1	24	4.76	<13	PASS
		12	0	5	<13	PASS
		12	6	5.07	<13	PASS
		12	13	5.02	<13	PASS
		25	0	5.06	<13	PASS
	HCH	1	0	3.71	<13	PASS
		1	12	3.52	<13	PASS
		1	24	4.02	<13	PASS
		12	0	4.46	<13	PASS
		12	6	4.38	<13	PASS
		12	13	4.16	<13	PASS
		25	0	4.35	<13	PASS
16QAM	LCH	1	0	4.83	<13	PASS
		1	12	5	<13	PASS
		1	24	5.23	<13	PASS
		12	0	5.69	<13	PASS
		12	6	5.81	<13	PASS
		12	13	5.83	<13	PASS
		25	0	5.56	<13	PASS
	MCH	1	0	5.26	<13	PASS
		1	12	5.25	<13	PASS
		1	24	5.27	<13	PASS

		12	0	5.83	<13	PASS
		12	6	5.8	<13	PASS
		12	13	5.85	<13	PASS
		25	0	5.89	<13	PASS
	HCH	1	0	4.82	<13	PASS
		1	12	4.79	<13	PASS
		1	24	4.22	<13	PASS
		12	0	5.41	<13	PASS
		12	6	5.41	<13	PASS
		12	13	5.17	<13	PASS
		25	0	5.19	<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	3.96	<13	PASS
		1	24	4.29	<13	PASS
		1	49	4.33	<13	PASS
		25	0	4.85	<13	PASS
		25	12	4.92	<13	PASS
		25	25	5.02	<13	PASS
		50	0	5.02	<13	PASS
	MCH	1	0	4.09	<13	PASS
		1	24	4.17	<13	PASS
		1	49	4.18	<13	PASS
		25	0	5.04	<13	PASS
		25	12	5.08	<13	PASS
		25	25	5.1	<13	PASS
		50	0	5.12	<13	PASS
	HCH	1	0	4.02	<13	PASS
		1	24	3.69	<13	PASS
		1	49	3.74	<13	PASS
		25	0	4.61	<13	PASS
		25	12	4.62	<13	PASS
		25	25	4.26	<13	PASS
		50	0	4.56	<13	PASS
16QAM	LCH	1	0	4.25	<13	PASS
		1	24	4.48	<13	PASS
		1	49	4.63	<13	PASS
		25	0	5.72	<13	PASS

		25	12	5.77	<13	PASS
		25	25	5.71	<13	PASS
		50	0	5.67	<13	PASS
	MCH	1	0	4.85	<13	PASS
		1	24	4.9	<13	PASS
		1	49	5.02	<13	PASS
		25	0	5.85	<13	PASS
		25	12	5.86	<13	PASS
		25	25	5.87	<13	PASS
		50	0	5.83	<13	PASS
	HCH	1	0	4.63	<13	PASS
		1	24	4.33	<13	PASS
		1	49	4.17	<13	PASS
		25	0	5.49	<13	PASS
		25	12	5.48	<13	PASS
		25	25	5.25	<13	PASS
		50	0	5.41	<13	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	4	<13	PASS
		1	37	4.23	<13	PASS
		1	74	4.39	<13	PASS
		37	0	4.85	<13	PASS
		37	18	5.01	<13	PASS
		37	38	5.04	<13	PASS
		75	0	5.32	<13	PASS
	MCH	1	0	4.39	<13	PASS
		1	37	4.29	<13	PASS
		1	74	4.23	<13	PASS
		37	0	4.98	<13	PASS
		37	18	5.03	<13	PASS
		37	38	5.02	<13	PASS
		75	0	5.38	<13	PASS
	HCH	1	0	4.03	<13	PASS
		1	37	3.84	<13	PASS
		1	74	4.11	<13	PASS
		37	0	4.75	<13	PASS
		37	18	4.71	<13	PASS

16QAM		37	38	4.47	<13	PASS
		75	0	4.97	<13	PASS
	LCH	1	0	4.05	<13	PASS
		1	37	4.5	<13	PASS
		1	74	4.51	<13	PASS
		37	0	5.64	<13	PASS
		37	18	5.69	<13	PASS
		37	38	5.85	<13	PASS
		75	0	5.87	<13	PASS
	MCH	1	0	5	<13	PASS
		1	37	4.97	<13	PASS
		1	74	4.88	<13	PASS
		37	0	5.78	<13	PASS
		37	18	5.82	<13	PASS
		37	38	5.84	<13	PASS
		75	0	5.93	<13	PASS
	HCH	1	0	4.66	<13	PASS
		1	37	4.5	<13	PASS
		1	74	4.14	<13	PASS
		37	0	5.58	<13	PASS
		37	18	5.47	<13	PASS
		37	38	5.28	<13	PASS
		75	0	5.6	<13	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.86	<13	PASS
		1	49	4.13	<13	PASS
		1	99	4.35	<13	PASS
		50	0	4.96	<13	PASS
		50	25	4.97	<13	PASS
		50	50	5.1	<13	PASS
		100	0	5.27	<13	PASS
	MCH	1	0	4.3	<13	PASS
		1	49	4.28	<13	PASS
		1	99	4.23	<13	PASS
		50	0	5.08	<13	PASS
		50	25	5.07	<13	PASS
		50	50	5.08	<13	PASS

		100	0	5.33	<13	PASS
	HCH	1	0	3.95	<13	PASS
		1	49	3.76	<13	PASS
		1	99	3.82	<13	PASS
		50	0	4.81	<13	PASS
		50	25	4.75	<13	PASS
		50	50	4.61	<13	PASS
		100	0	5	<13	PASS
16QAM	LCH	1	0	5.08	<13	PASS
		1	49	5.44	<13	PASS
		1	99	5.38	<13	PASS
		50	0	5.76	<13	PASS
		50	25	5.75	<13	PASS
		50	50	5.8	<13	PASS
		100	0	5.92	<13	PASS
	MCH	1	0	5.27	<13	PASS
		1	49	5.25	<13	PASS
		1	99	5.19	<13	PASS
		50	0	5.81	<13	PASS
		50	25	5.79	<13	PASS
		50	50	5.85	<13	PASS
		100	0	5.99	<13	PASS
	HCH	1	0	4.73	<13	PASS
		1	49	4.5	<13	PASS
		1	99	4.05	<13	PASS
		50	0	5.63	<13	PASS
		50	25	5.56	<13	PASS
		50	50	5.57	<13	PASS
		100	0	5.71	<13	PASS

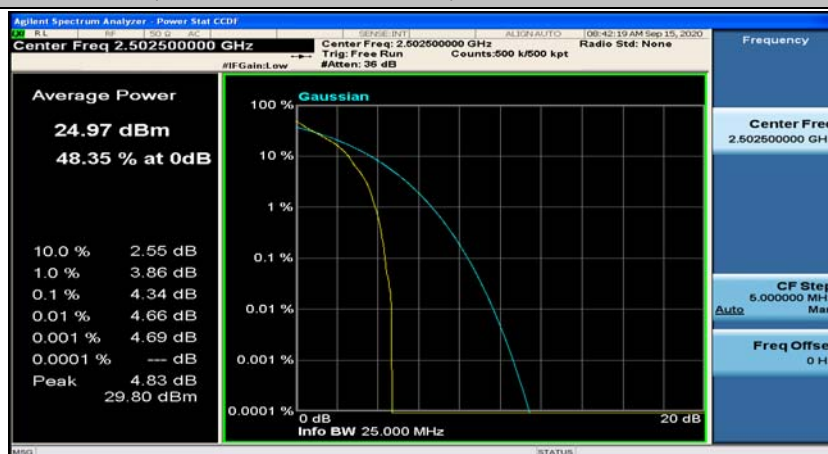
Test Graphs

Channel Bandwidth: 5 MHz

(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



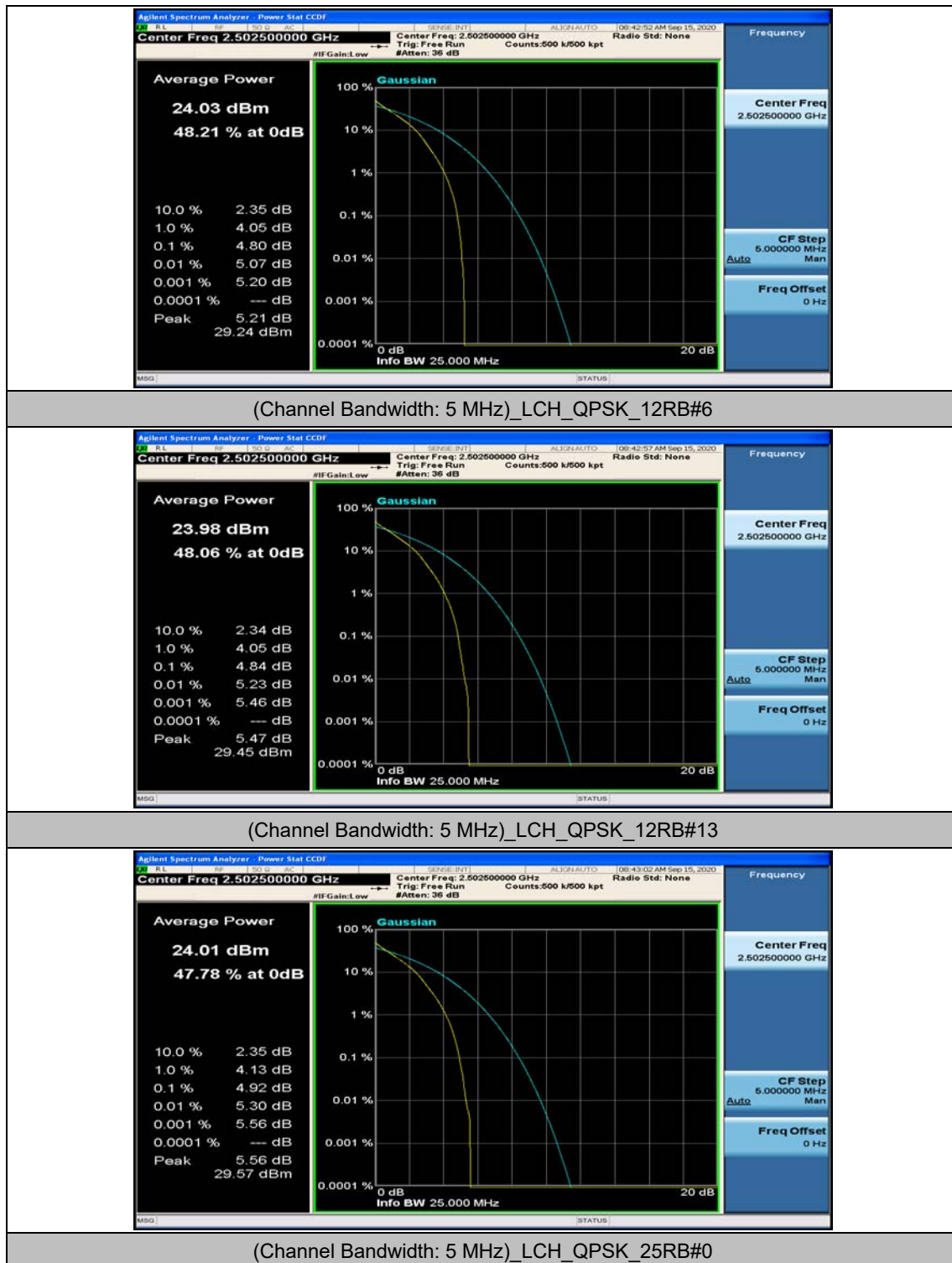
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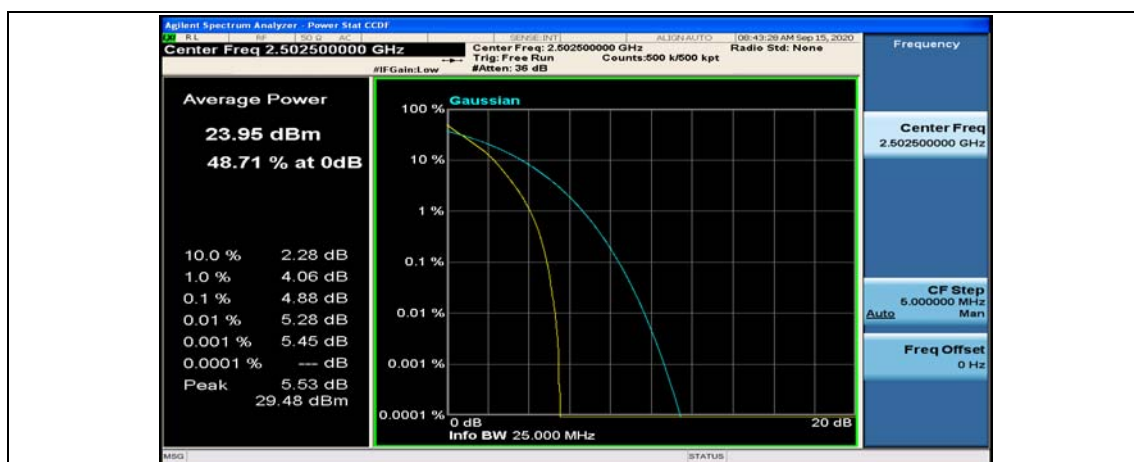


(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24



(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0

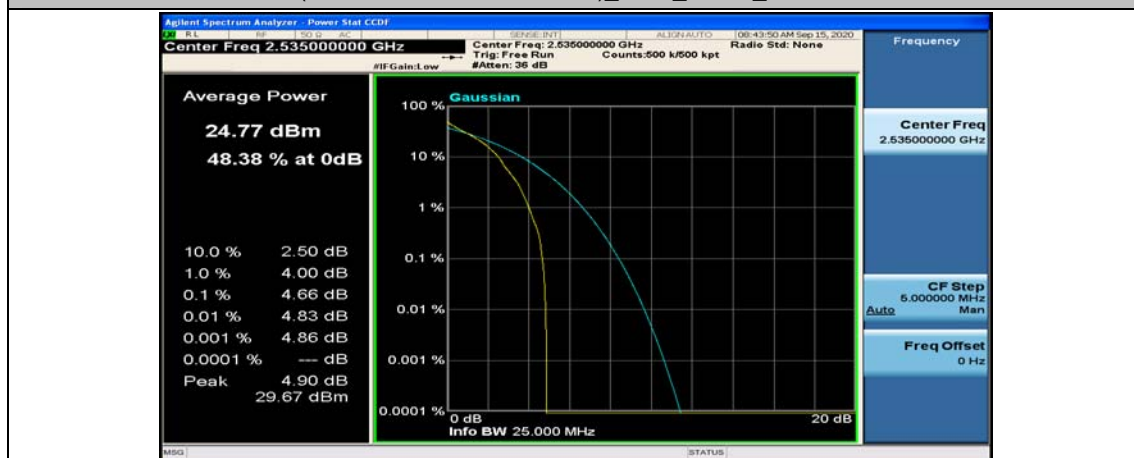




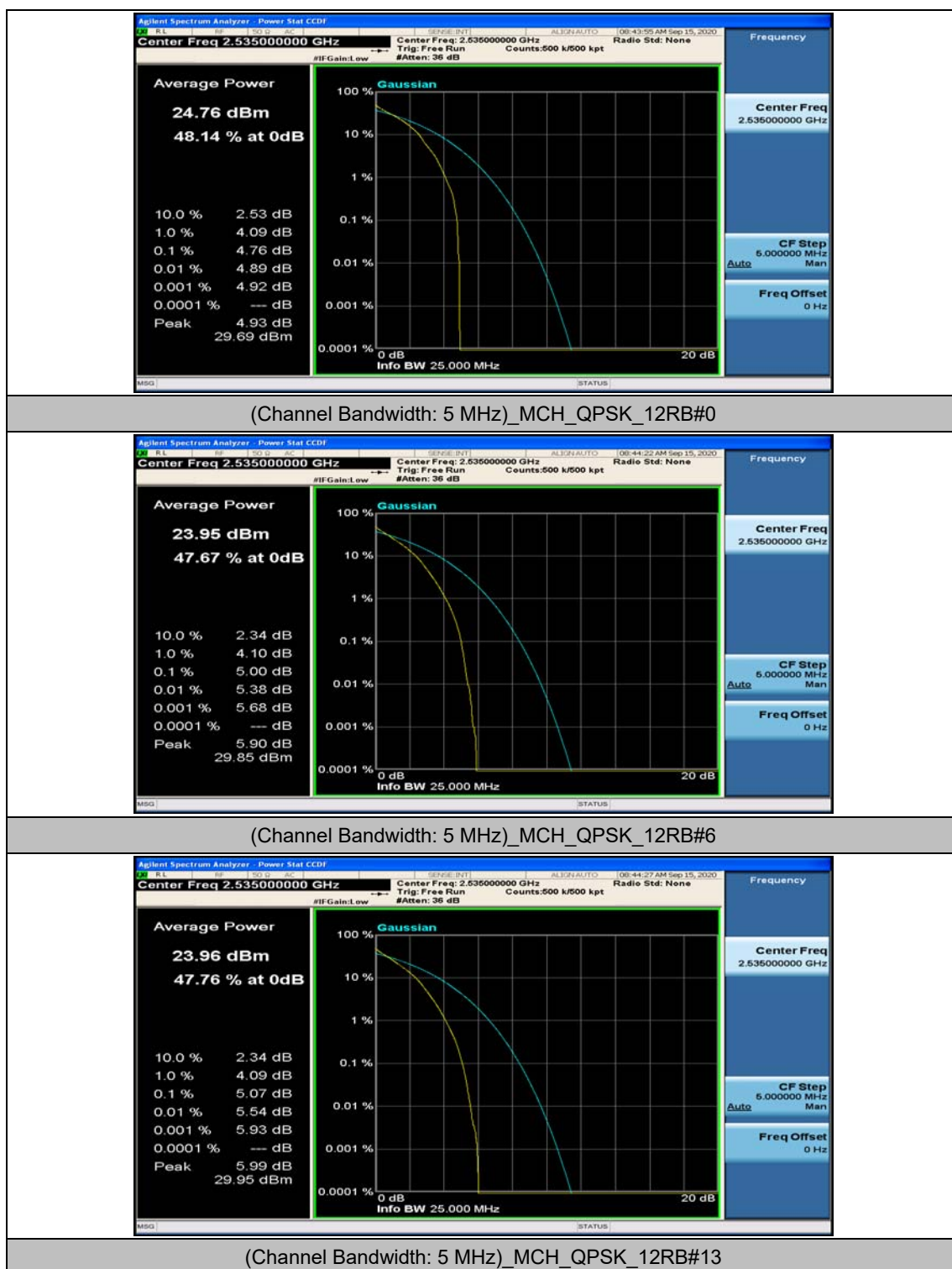
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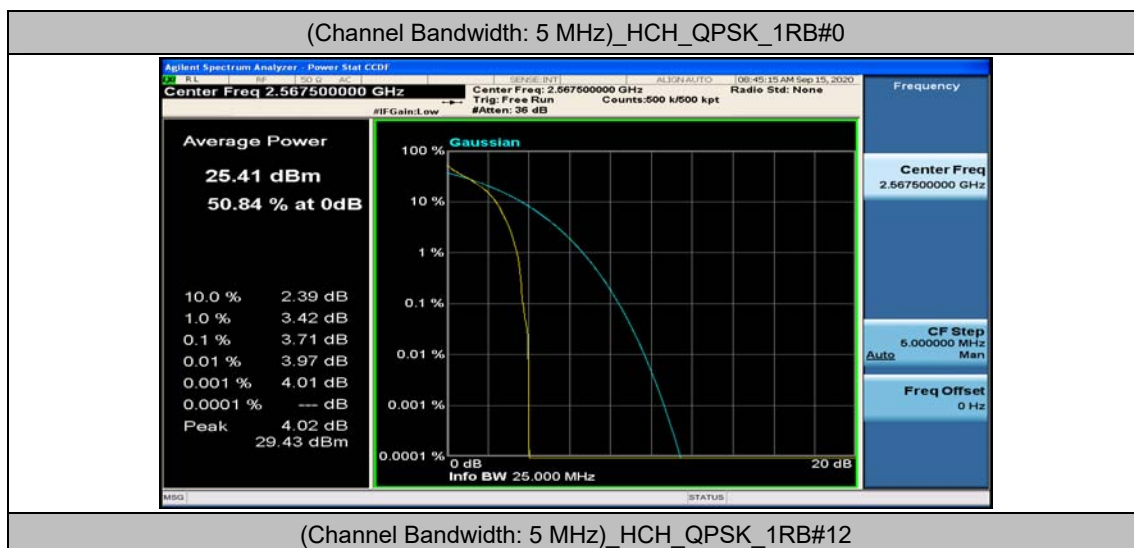
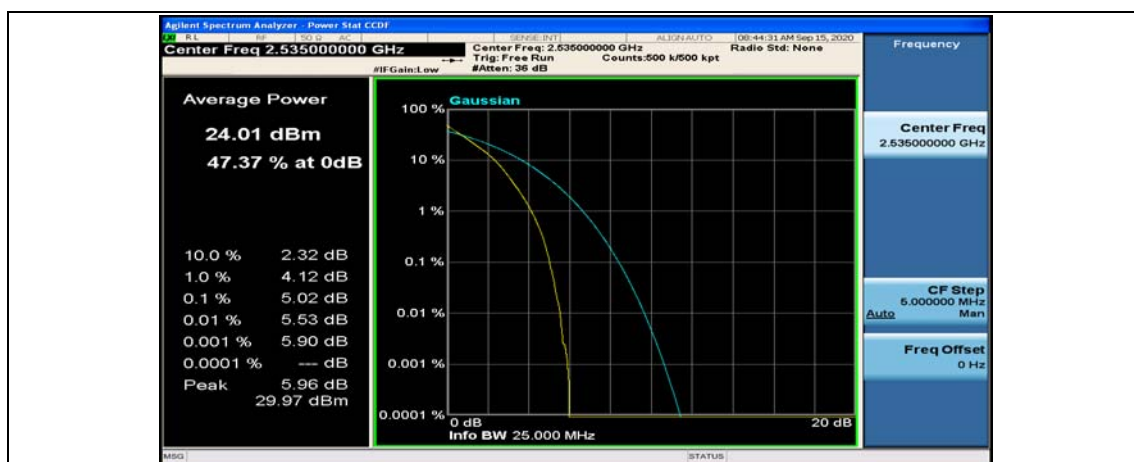


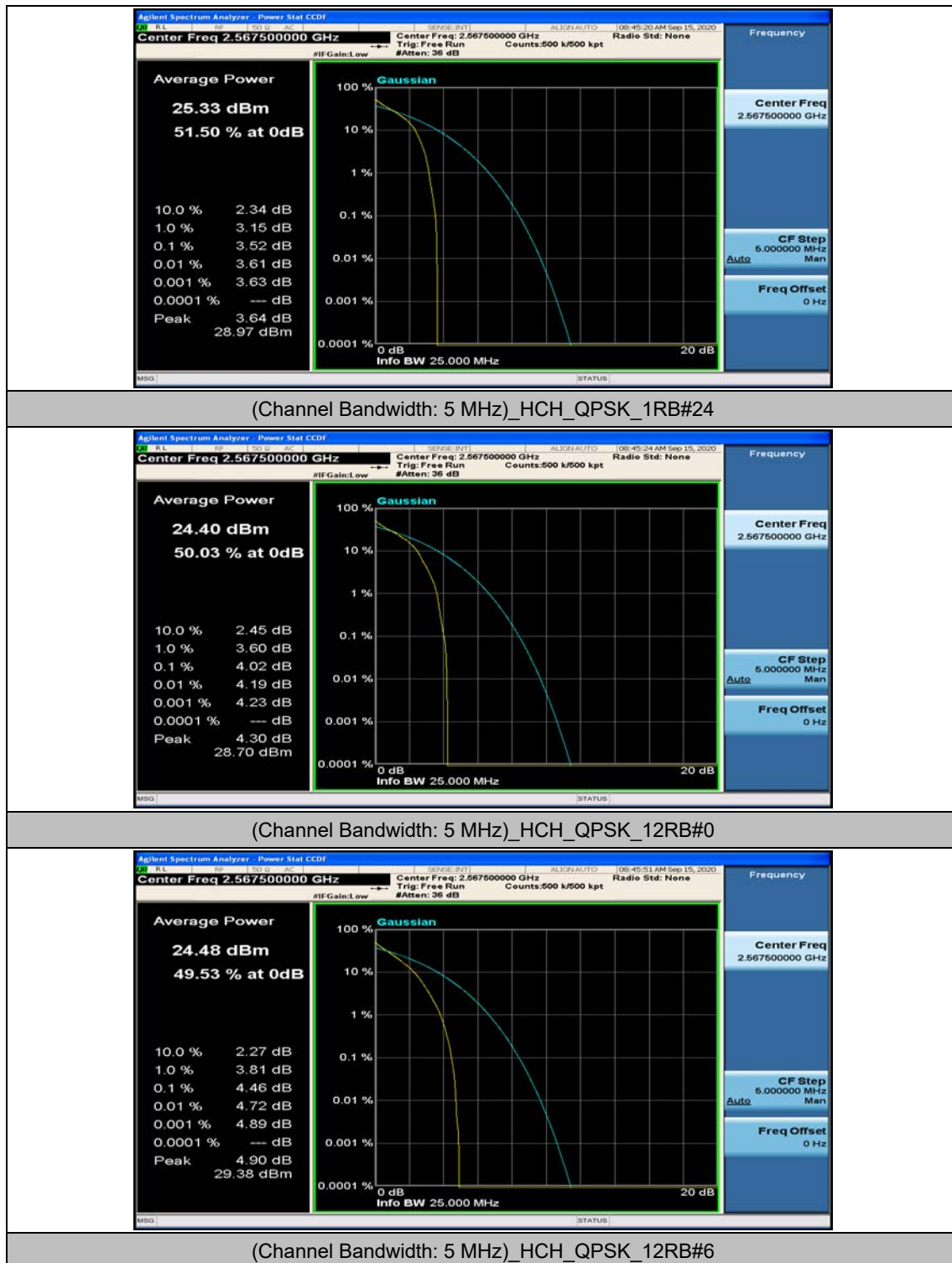
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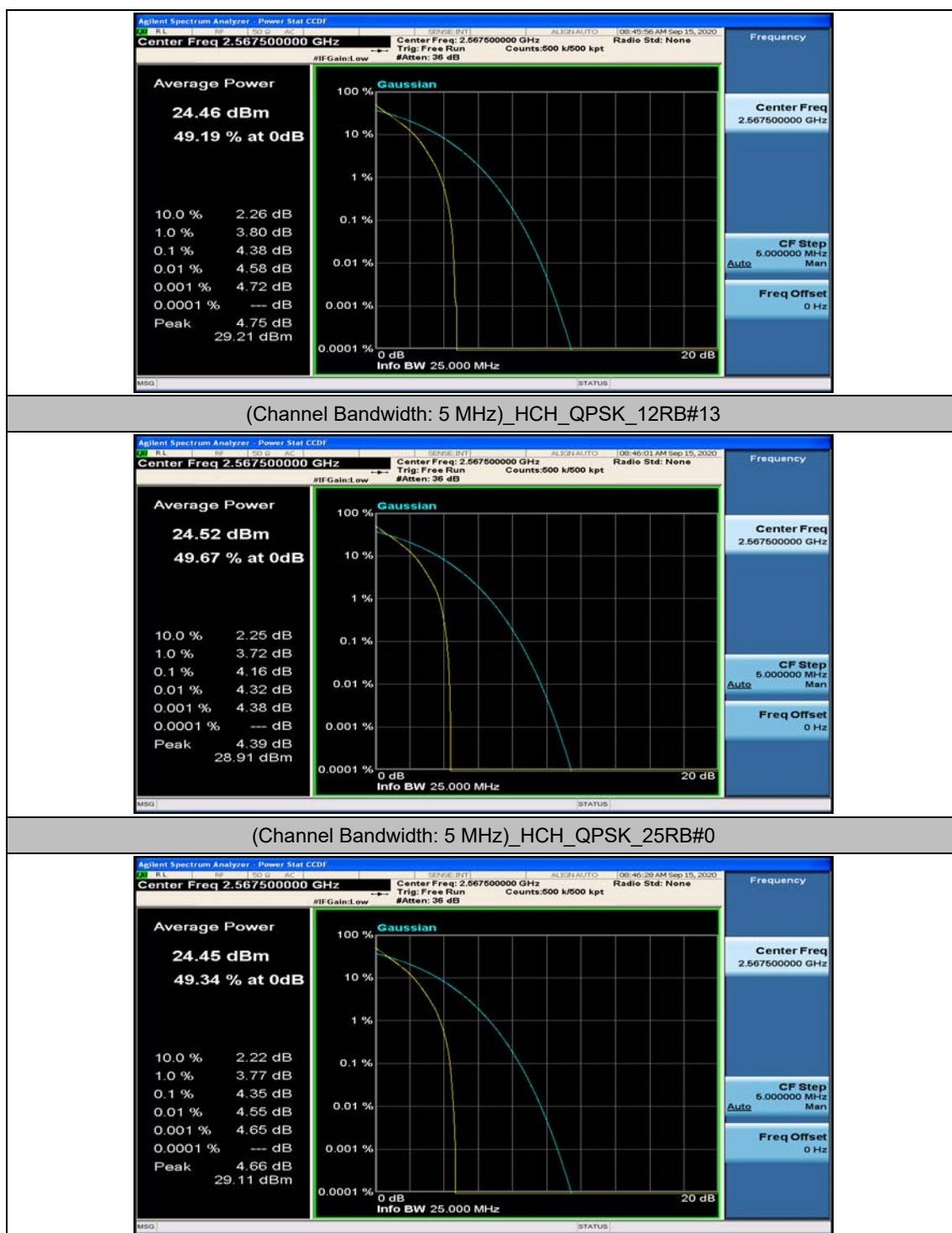


(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24









(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



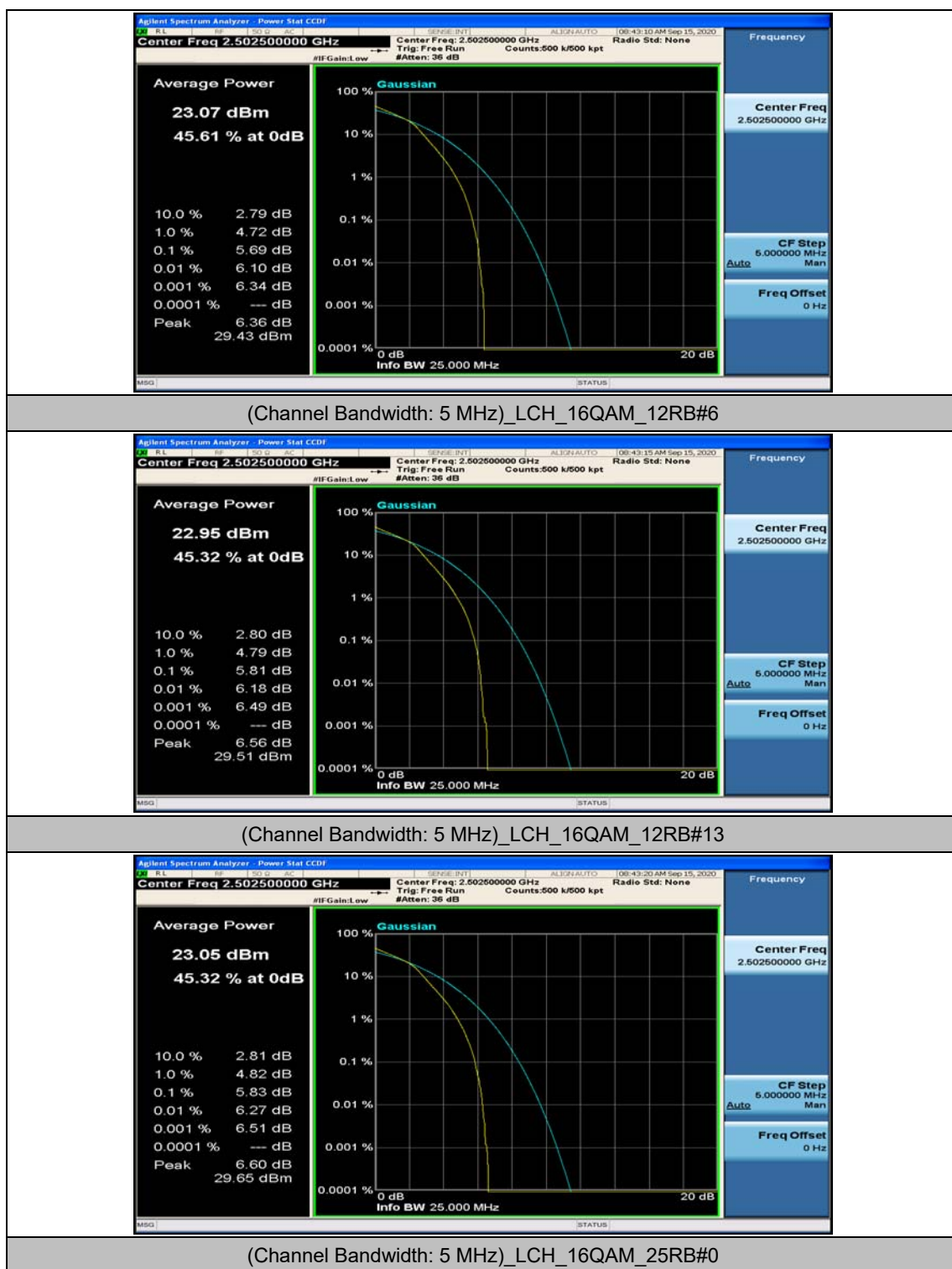
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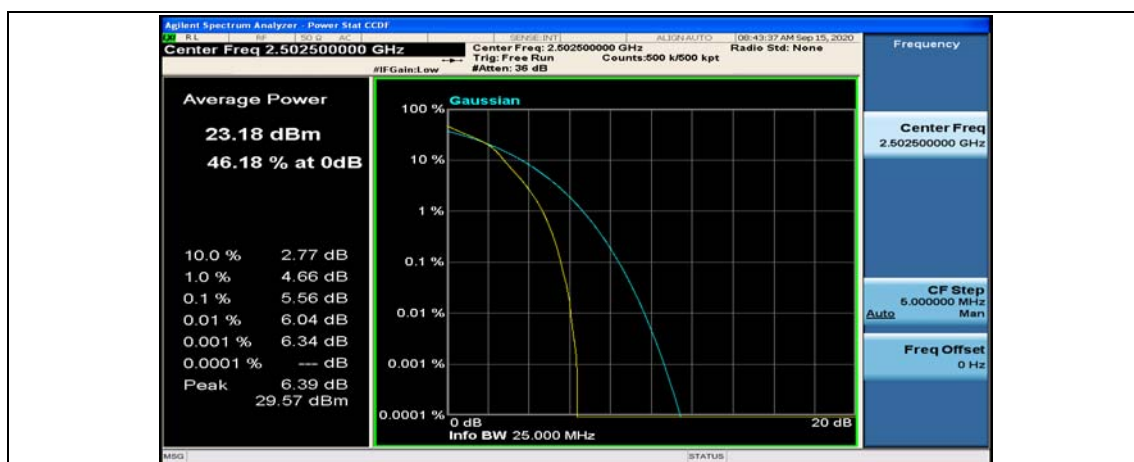


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(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#0





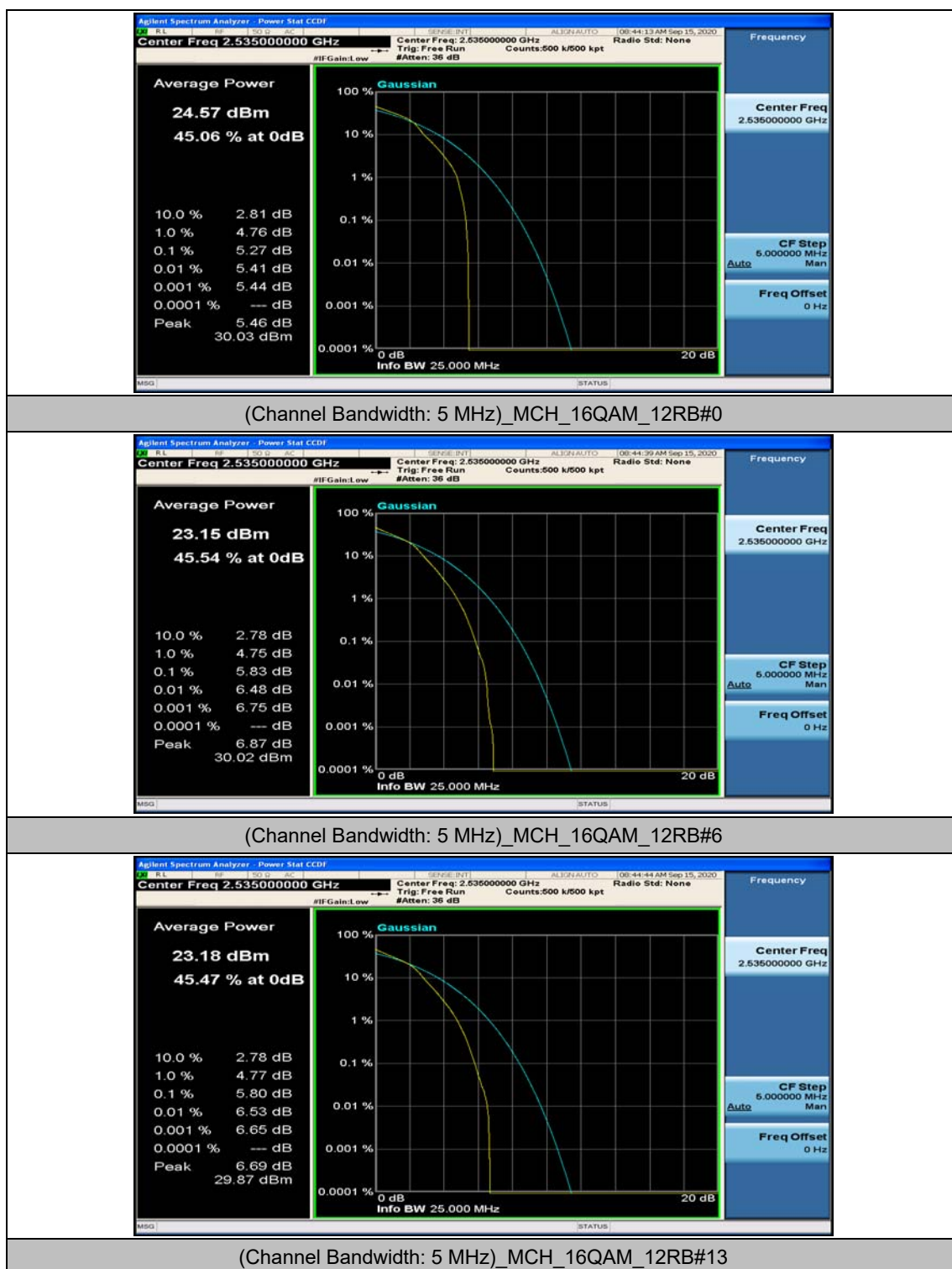
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(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12



(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24





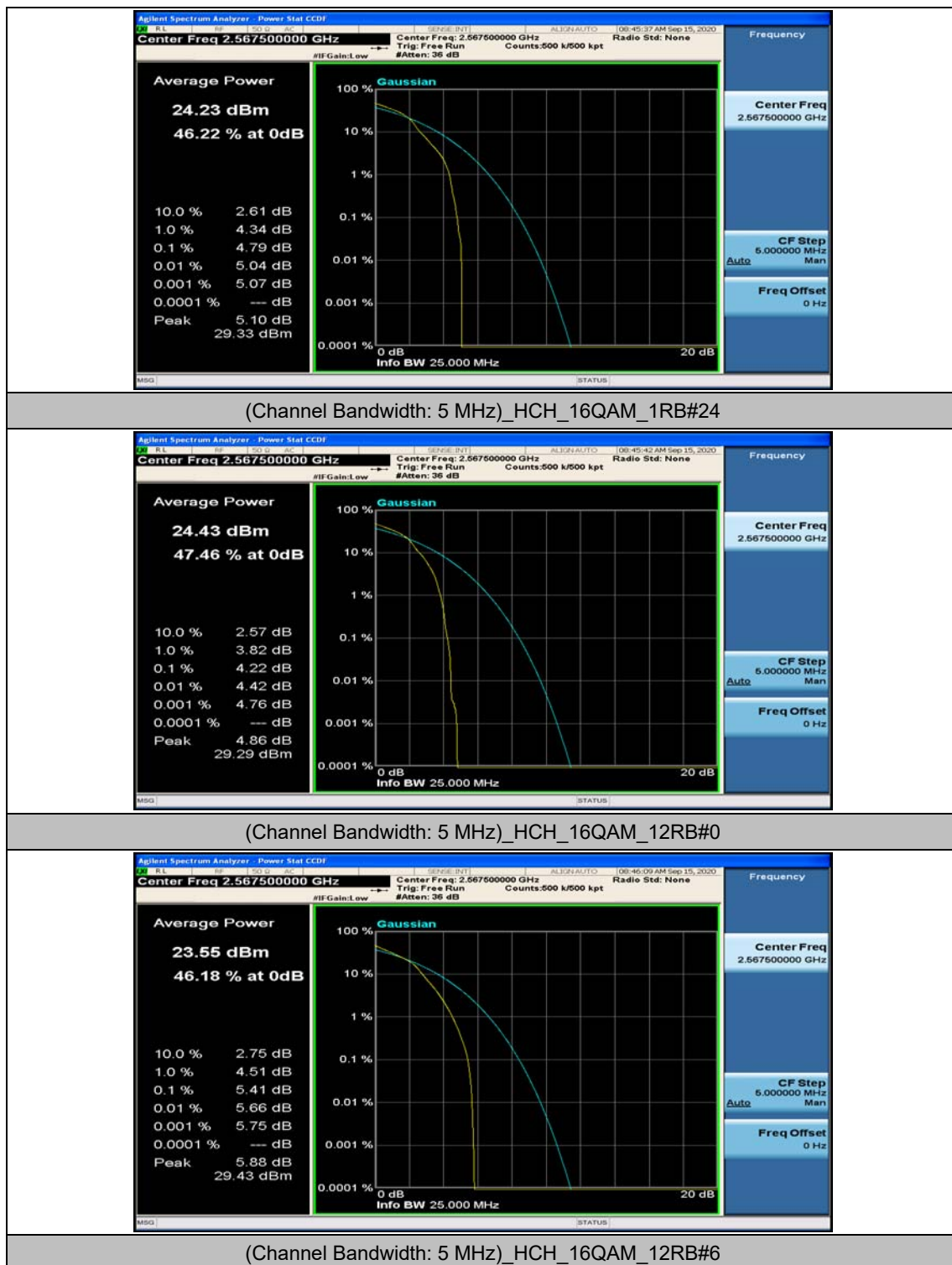
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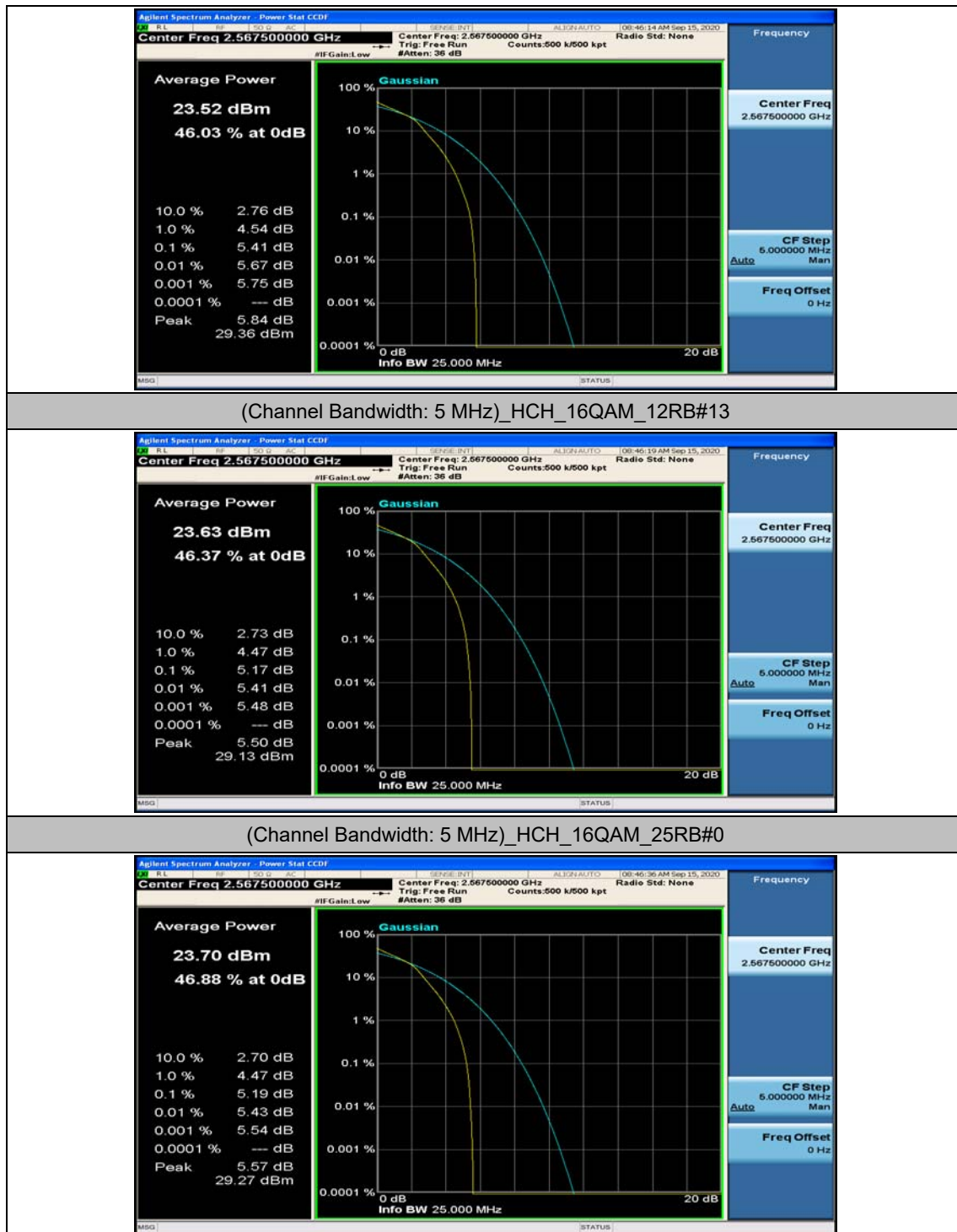


(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12



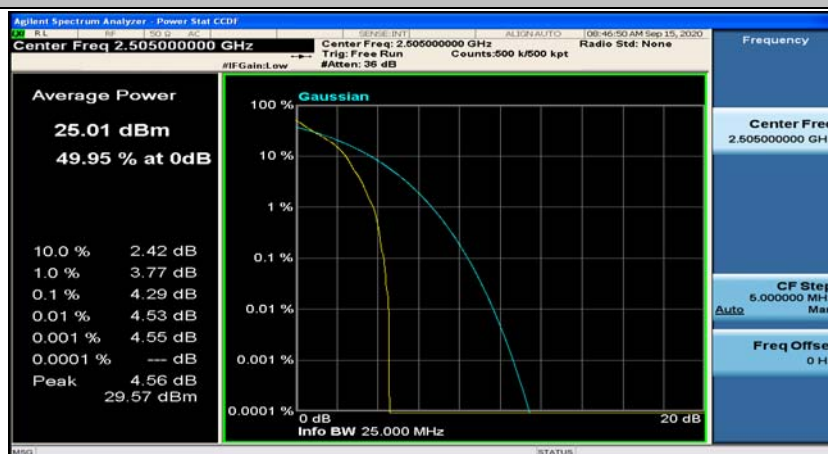


Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#0



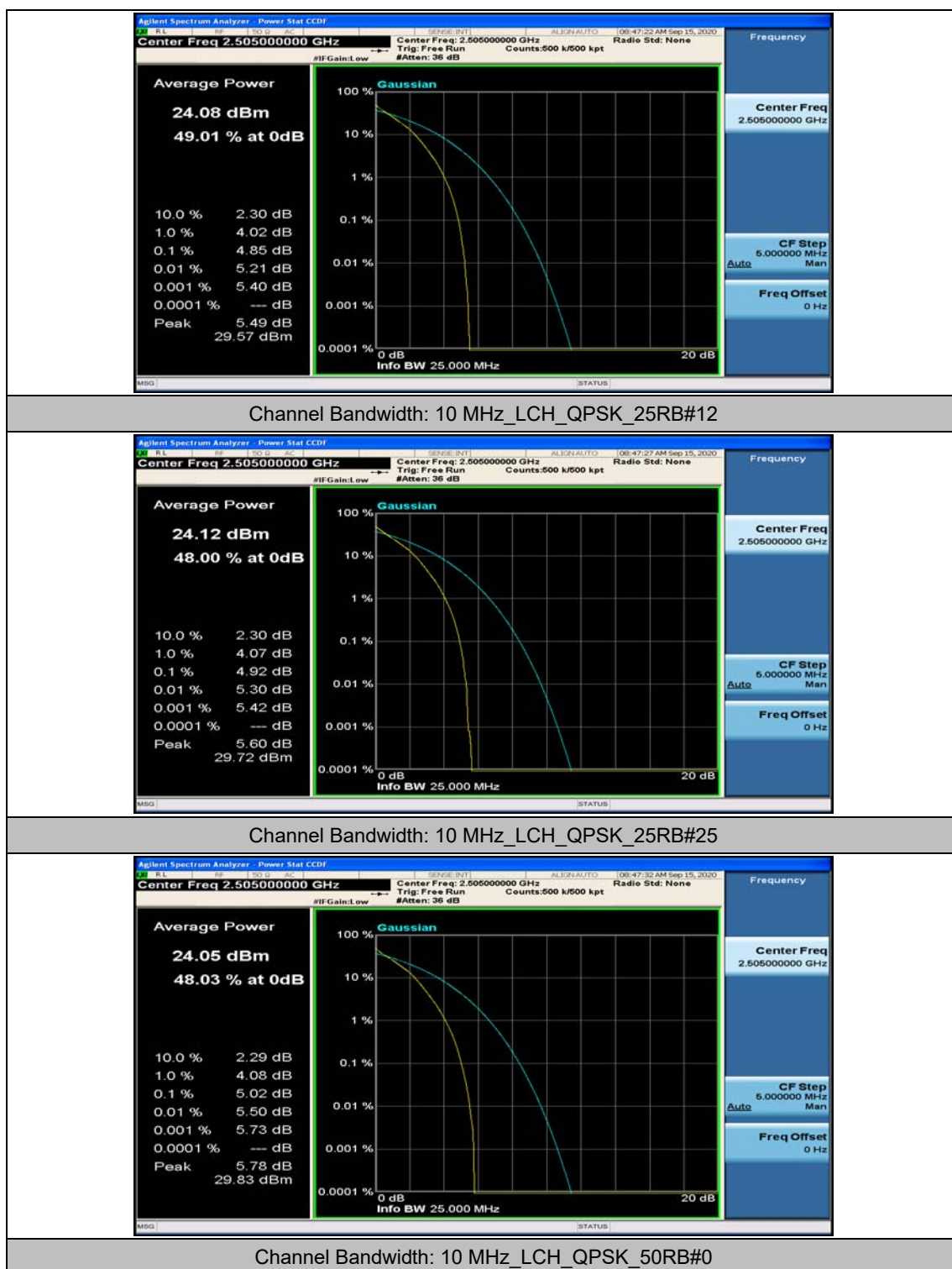
Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#24

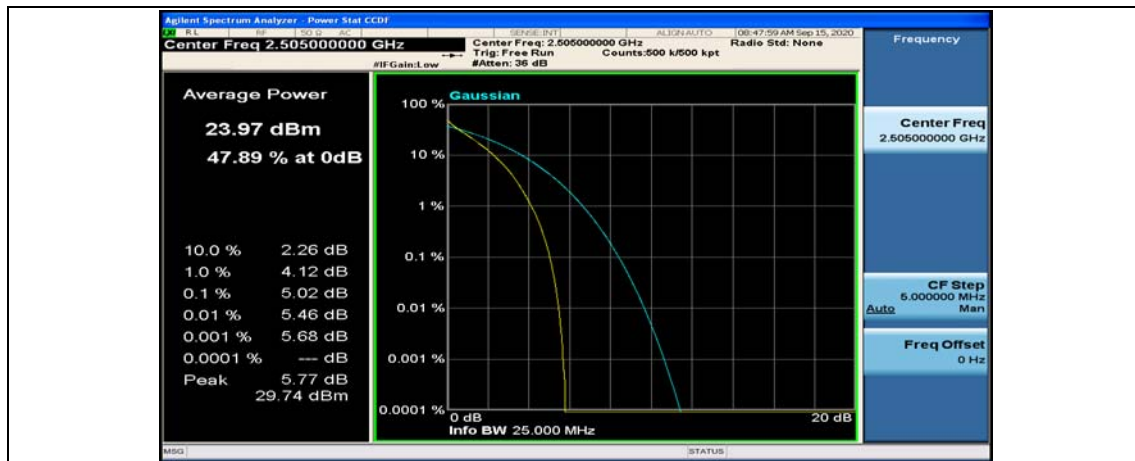


Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#49



Channel Bandwidth: 10 MHz_LCH_QPSK_25RB#0





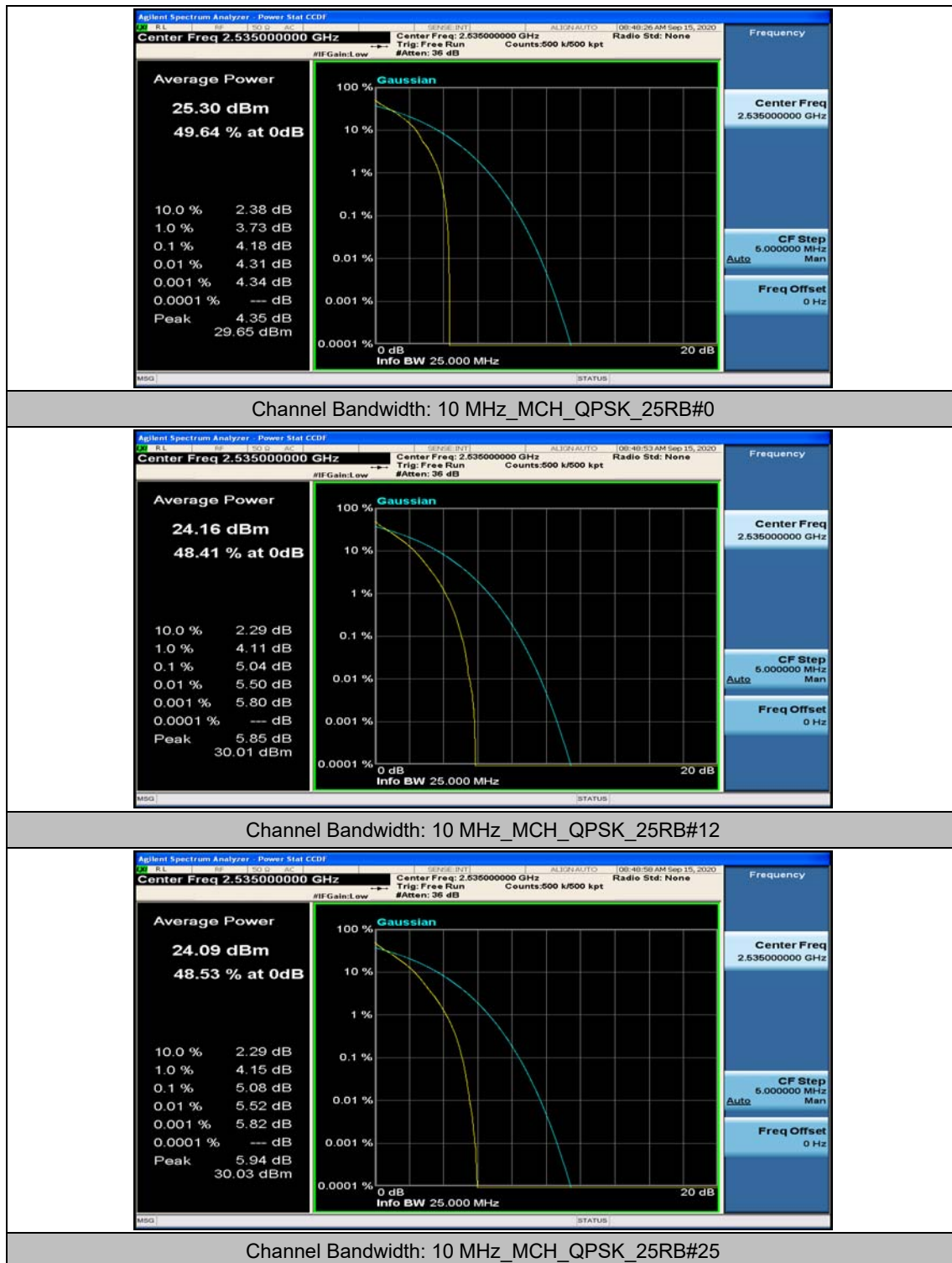
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0

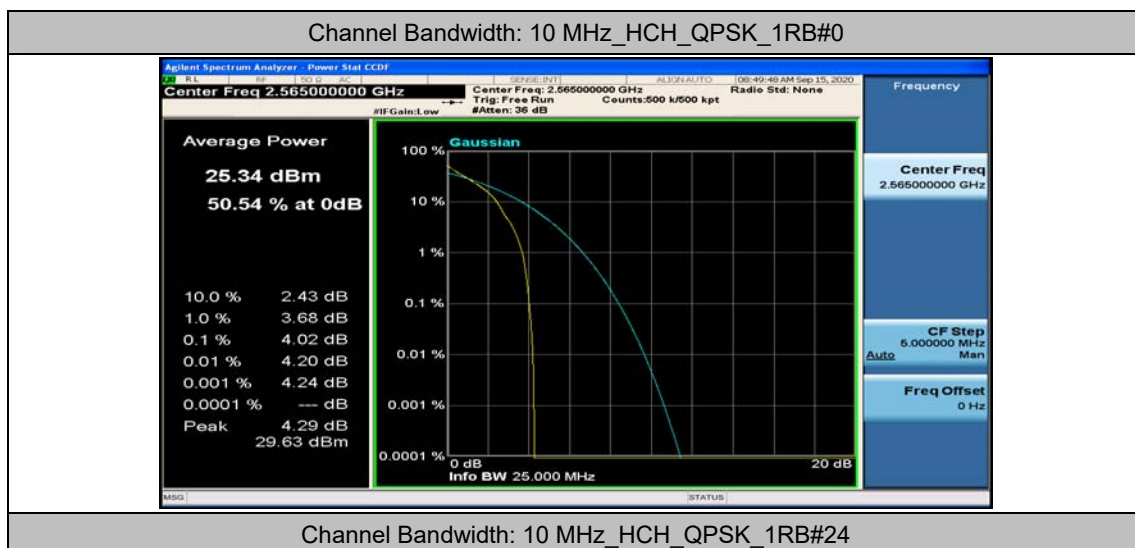
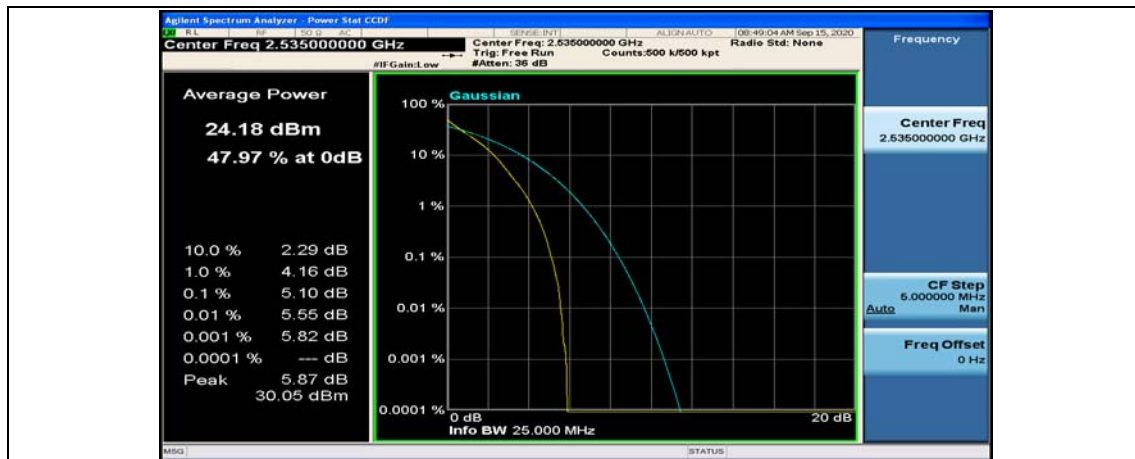


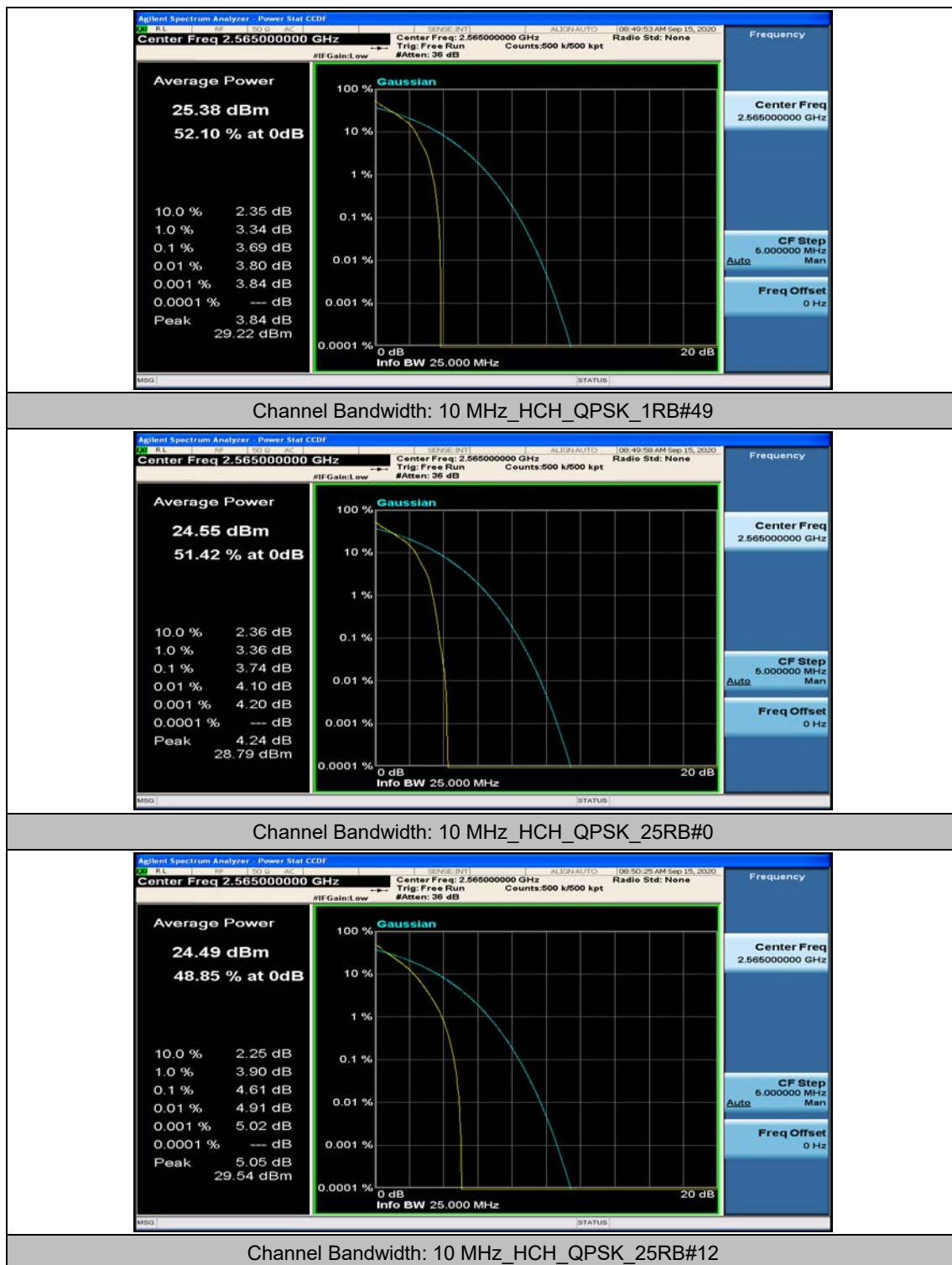
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

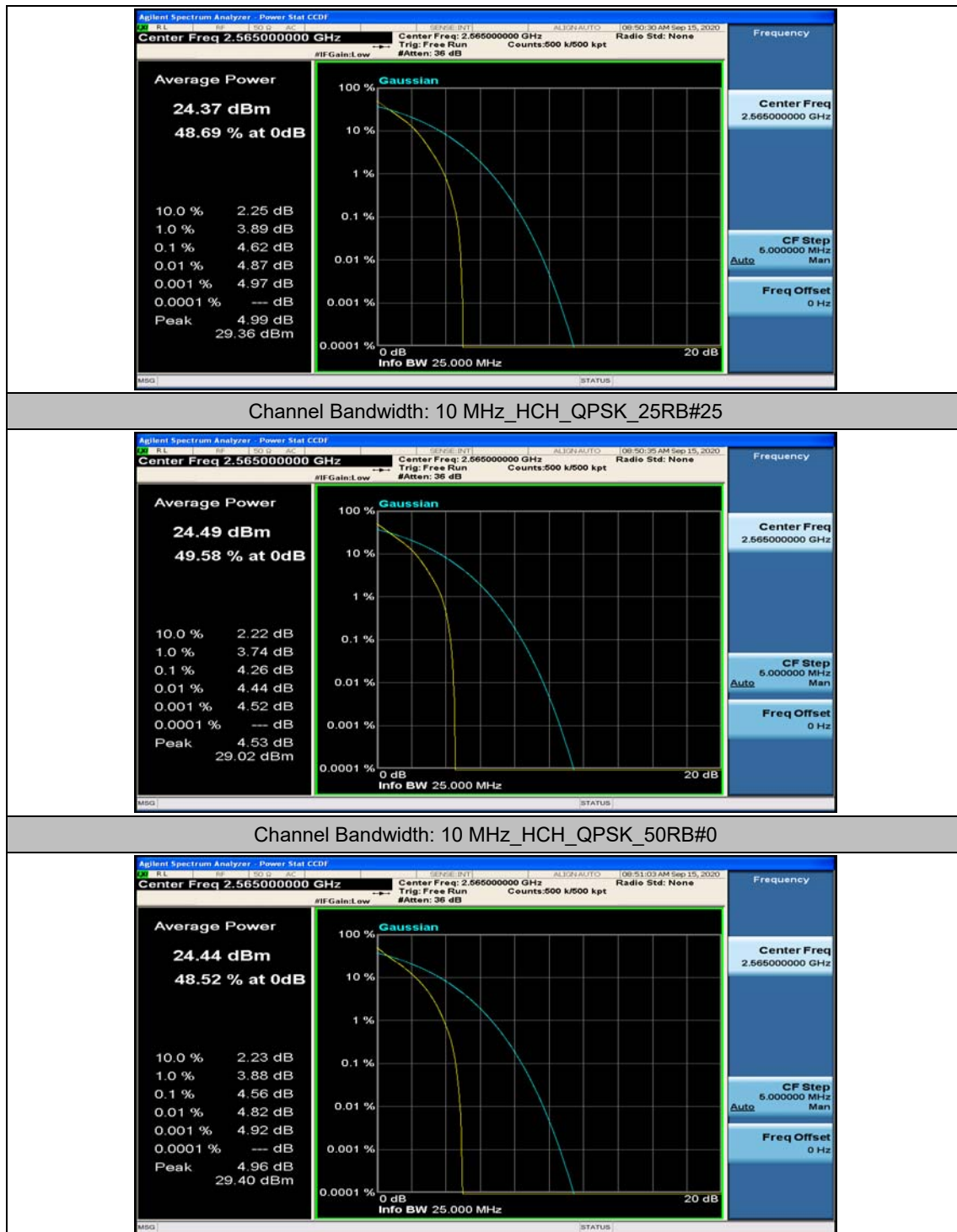


Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

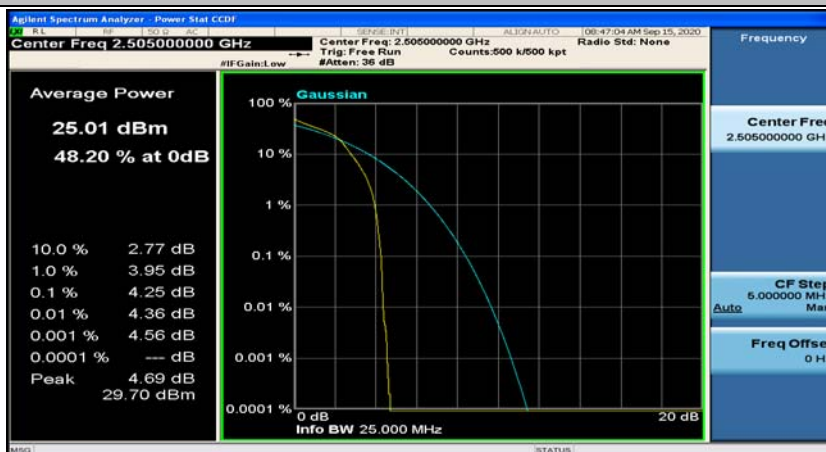




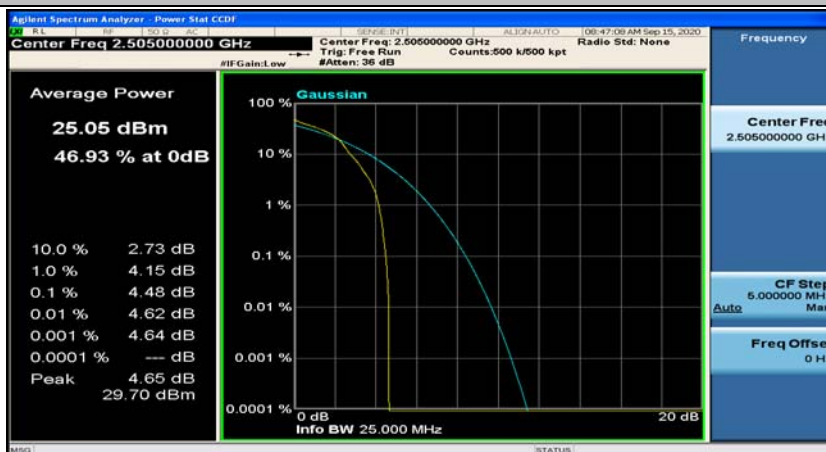




Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#0



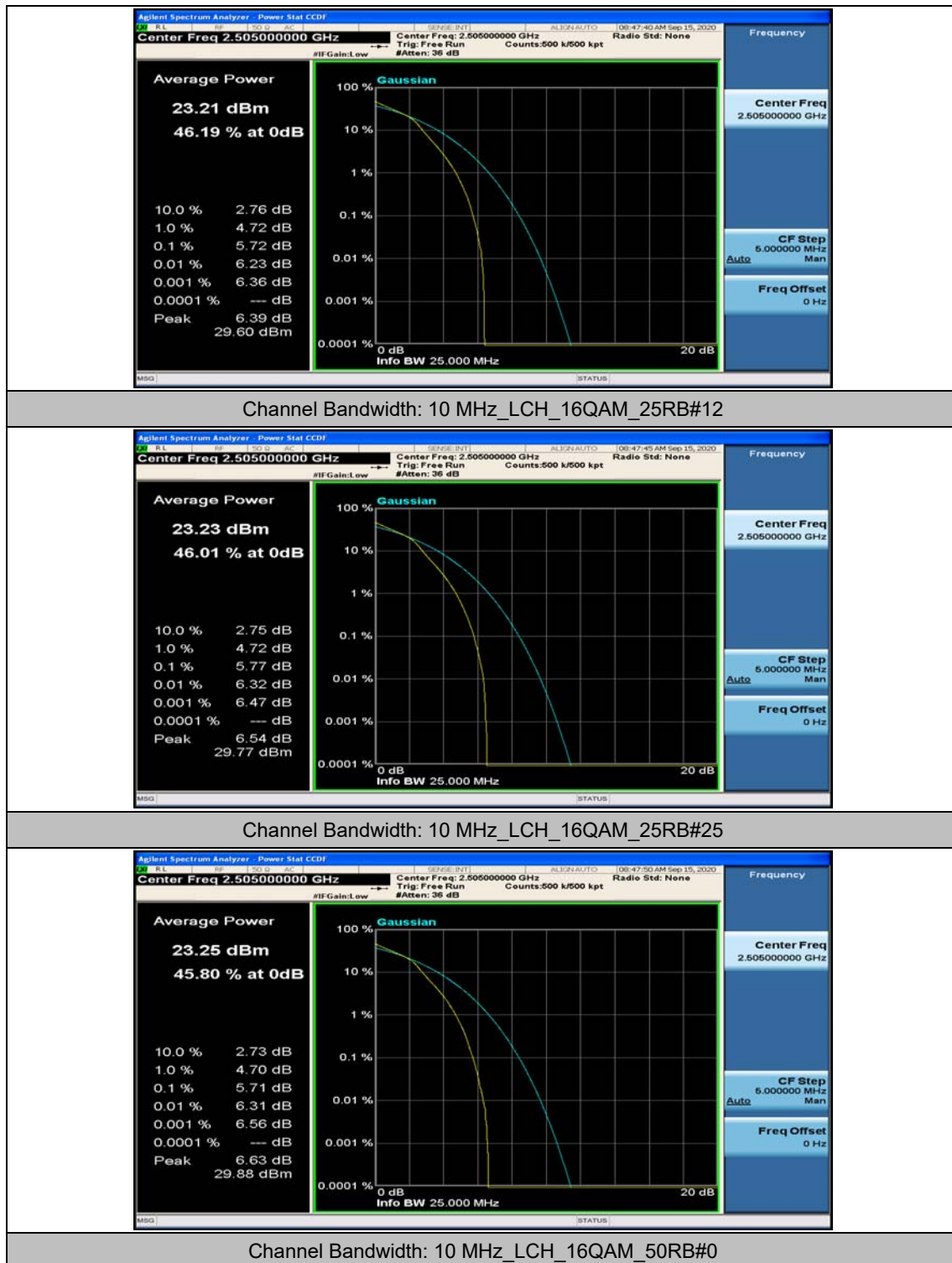
Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#24

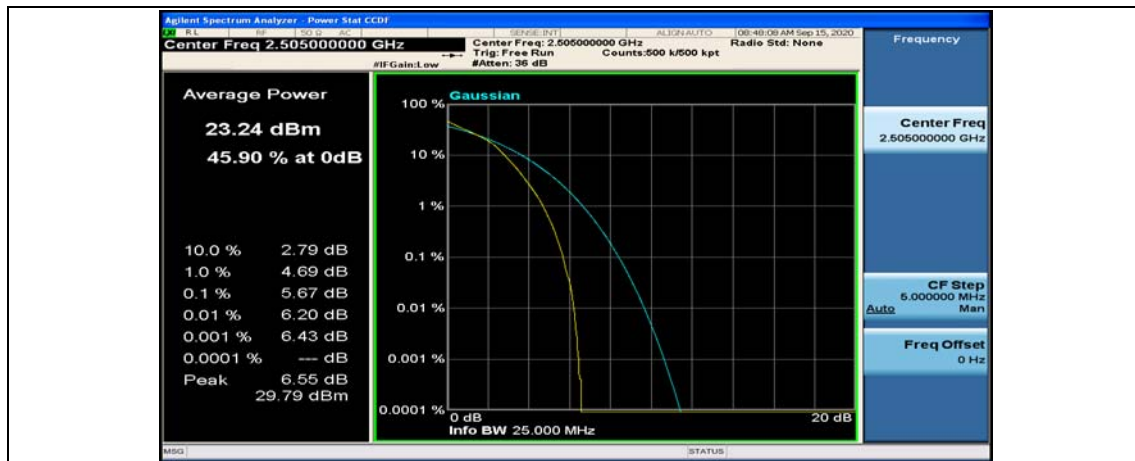


Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#49



Channel Bandwidth: 10 MHz_LCH_16QAM_25RB#0

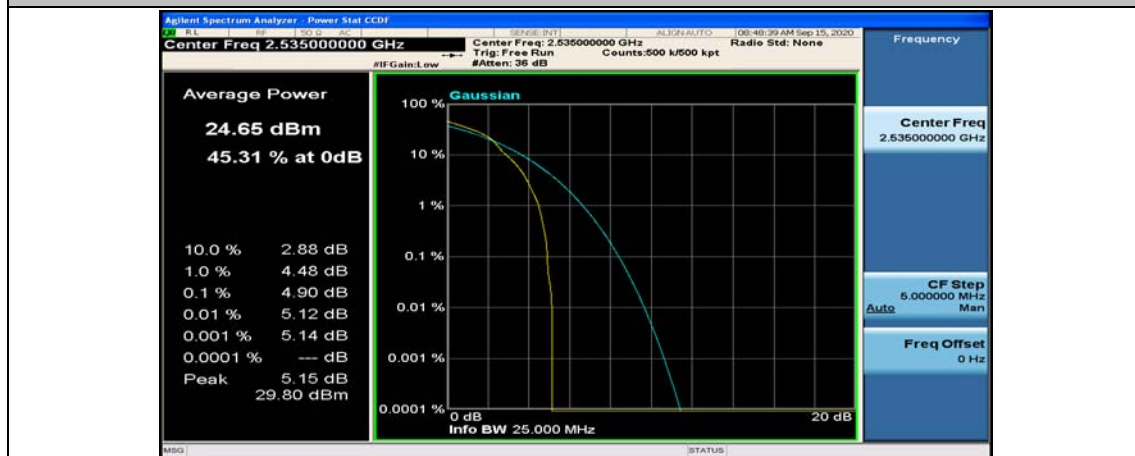




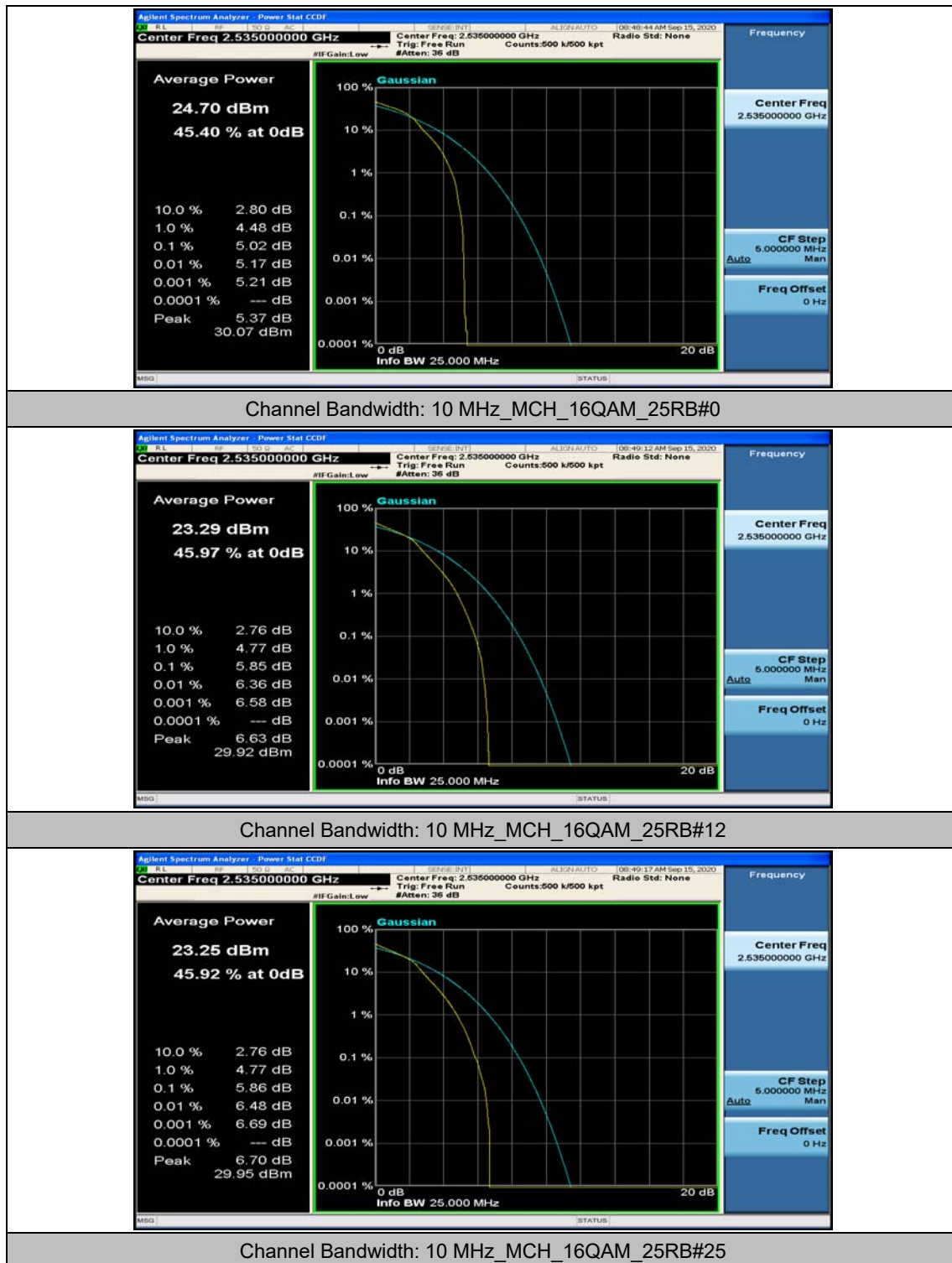
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0

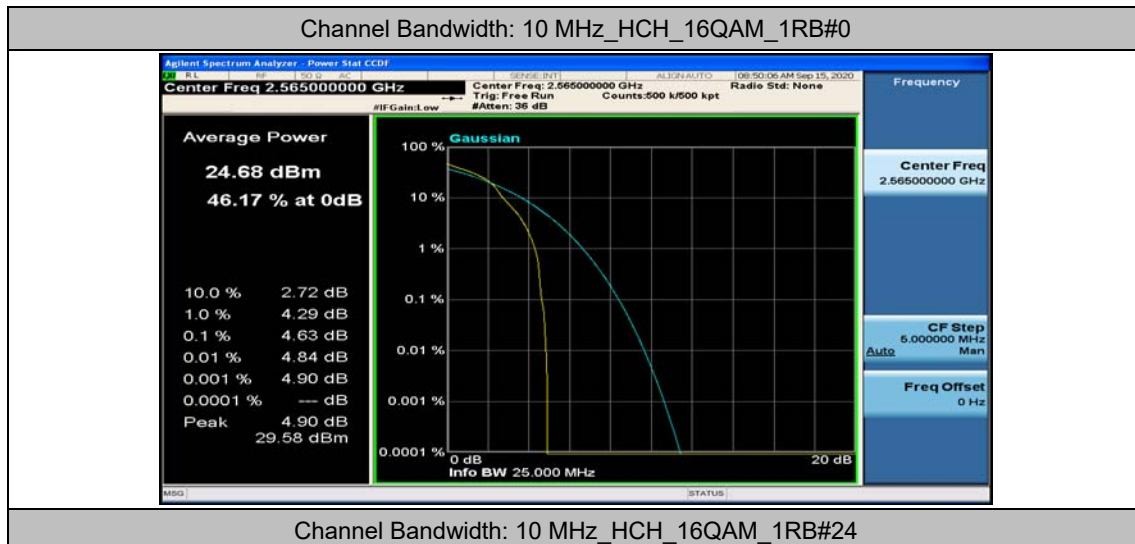
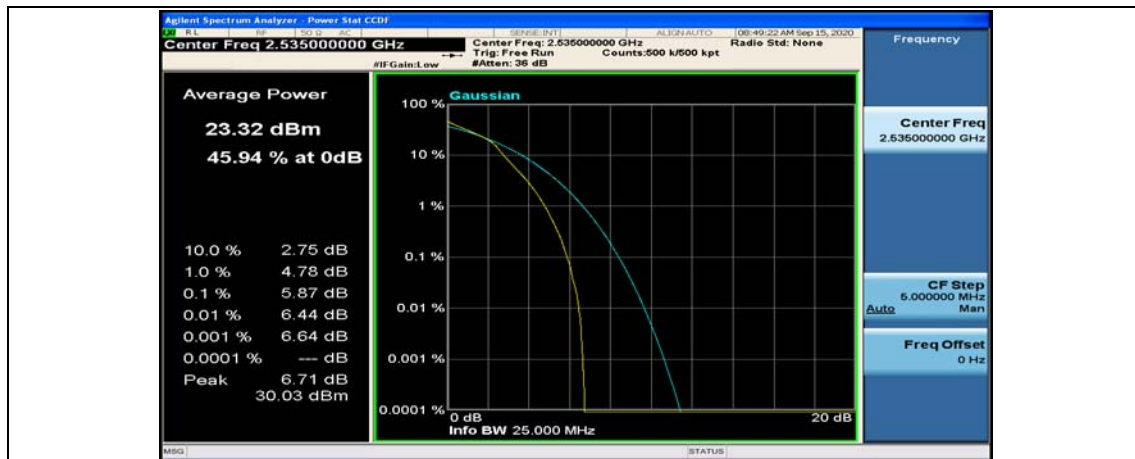


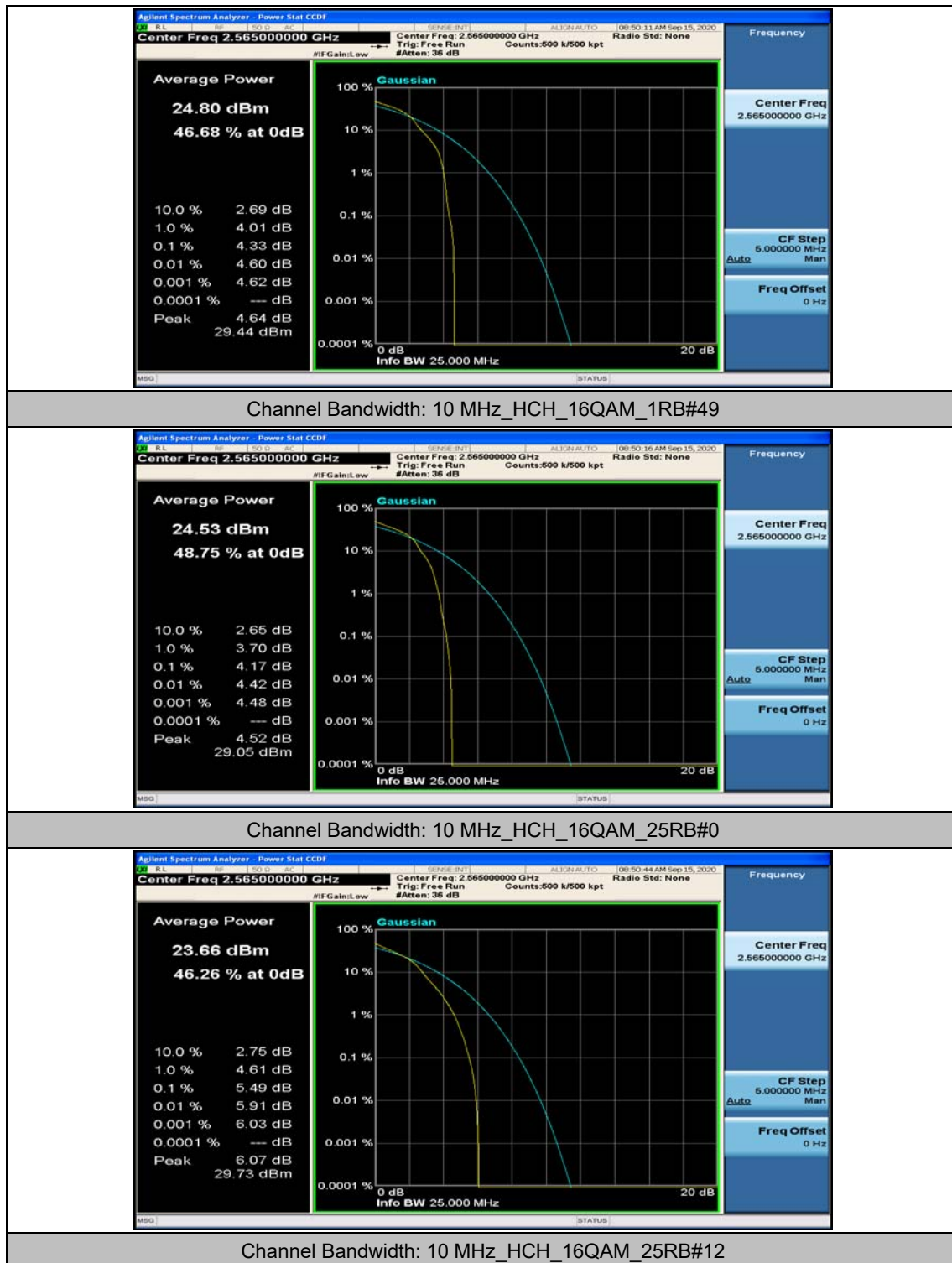
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24

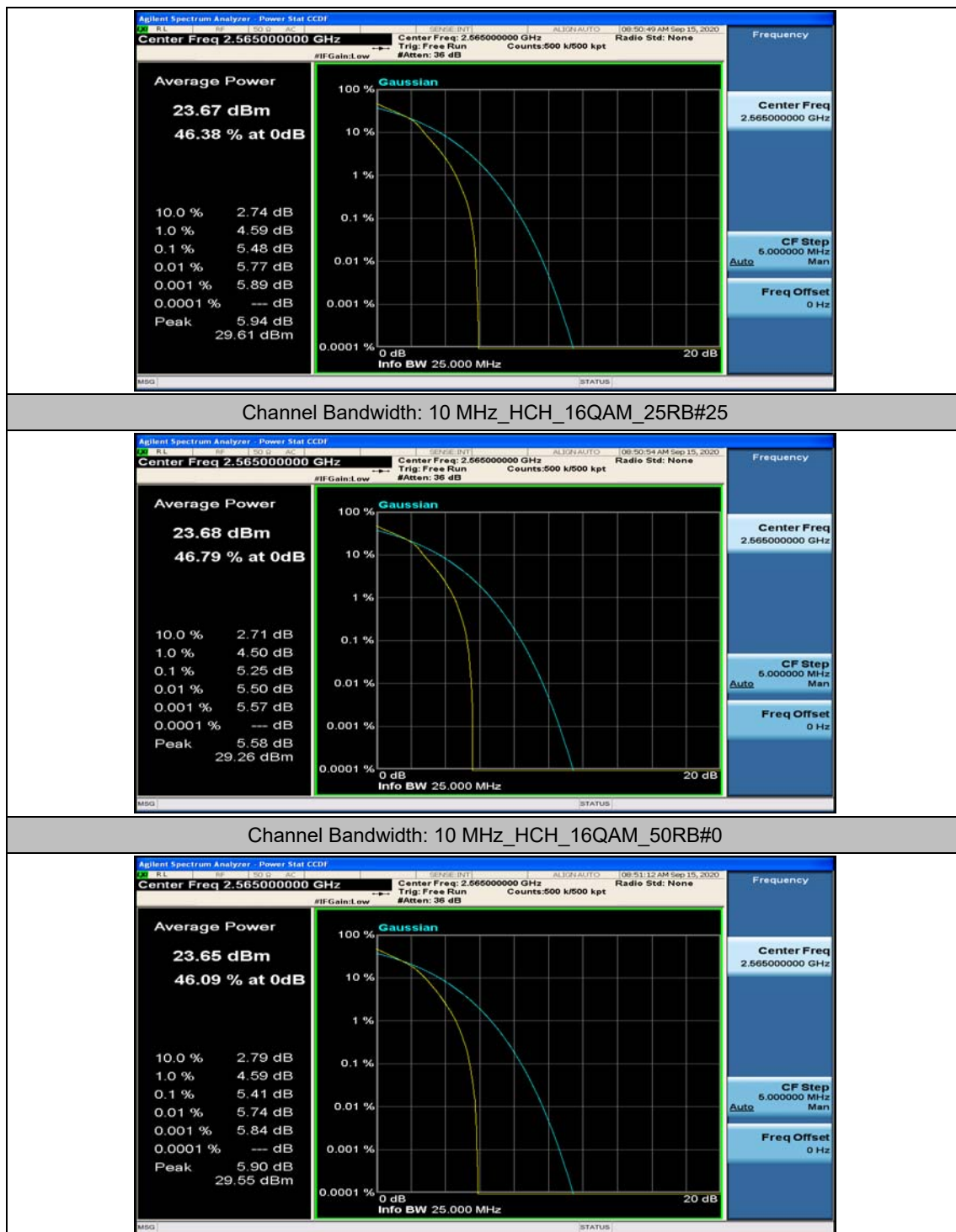


Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49







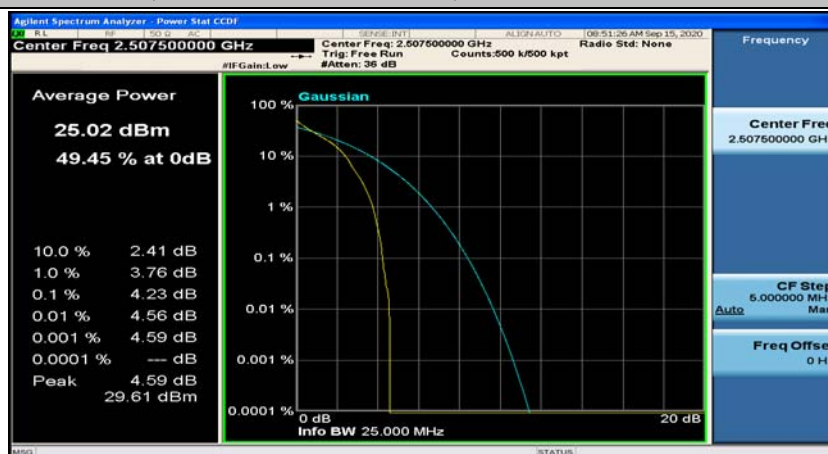


Channel Bandwidth: 15 MHz

(Channel Bandwidth:15 MHz)_LCH_QPSK_1RB#0



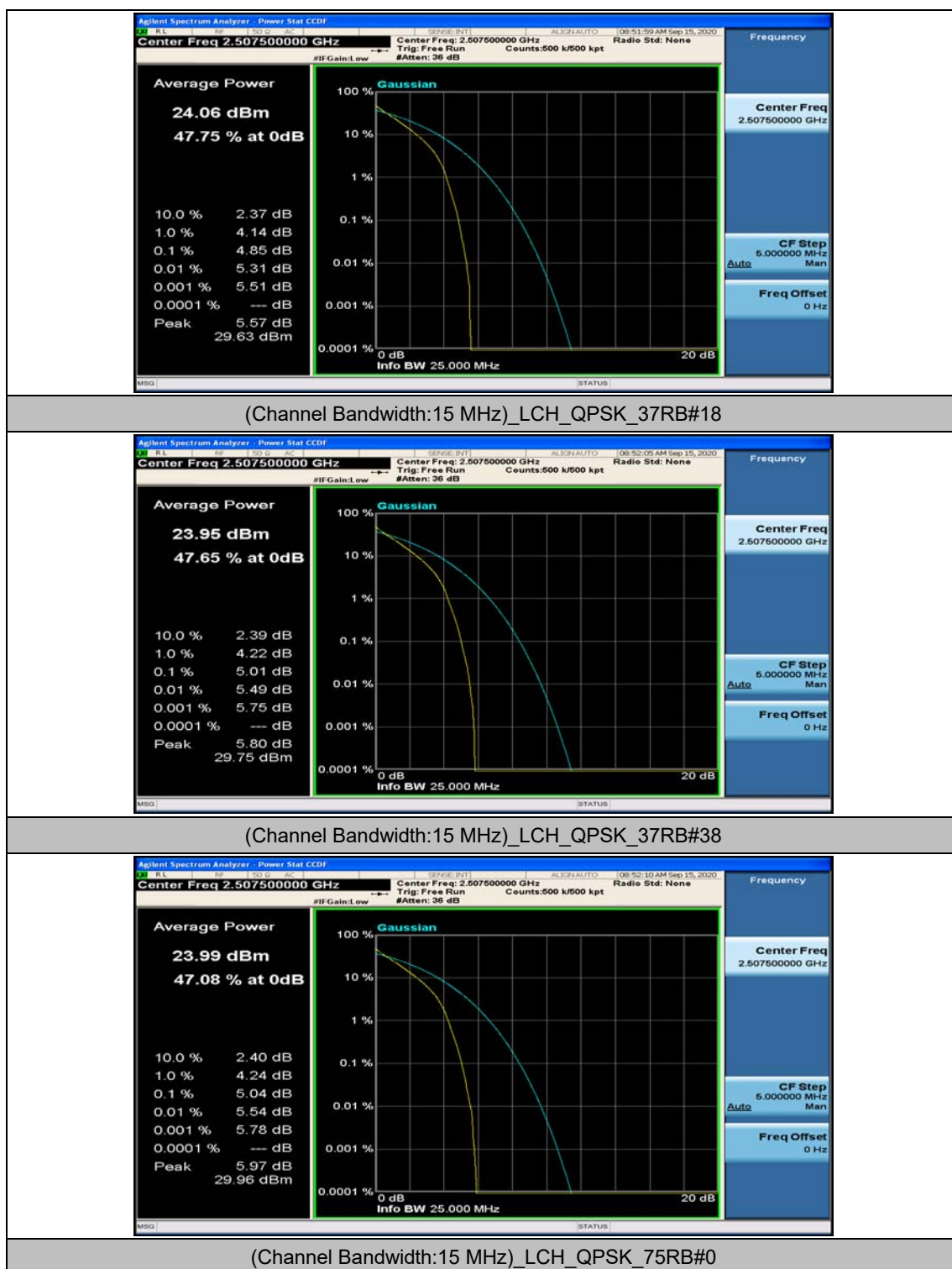
(Channel Bandwidth:15 MHz)_LCH_QPSK_1RB#37

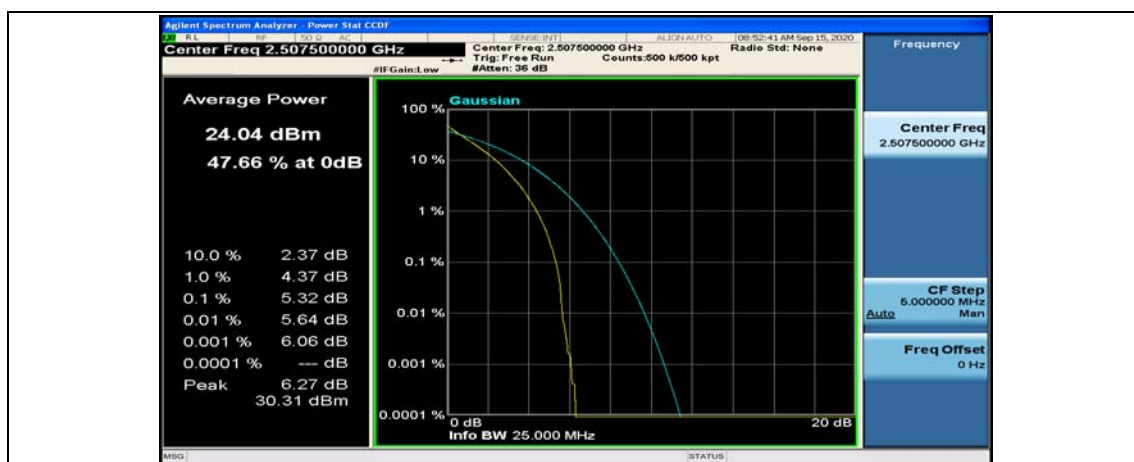


(Channel Bandwidth:15 MHz)_LCH_QPSK_1RB#74



(Channel Bandwidth:15 MHz)_LCH_QPSK_37RB#0

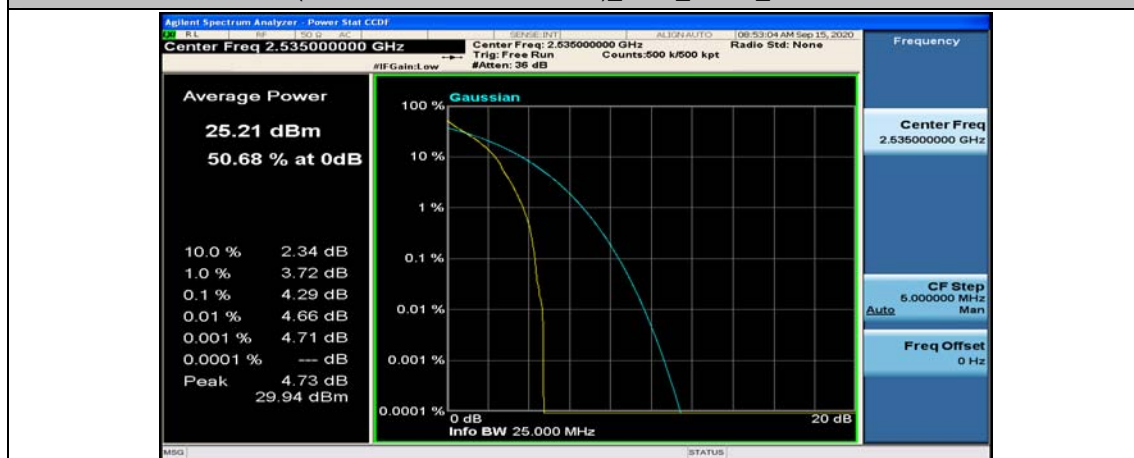




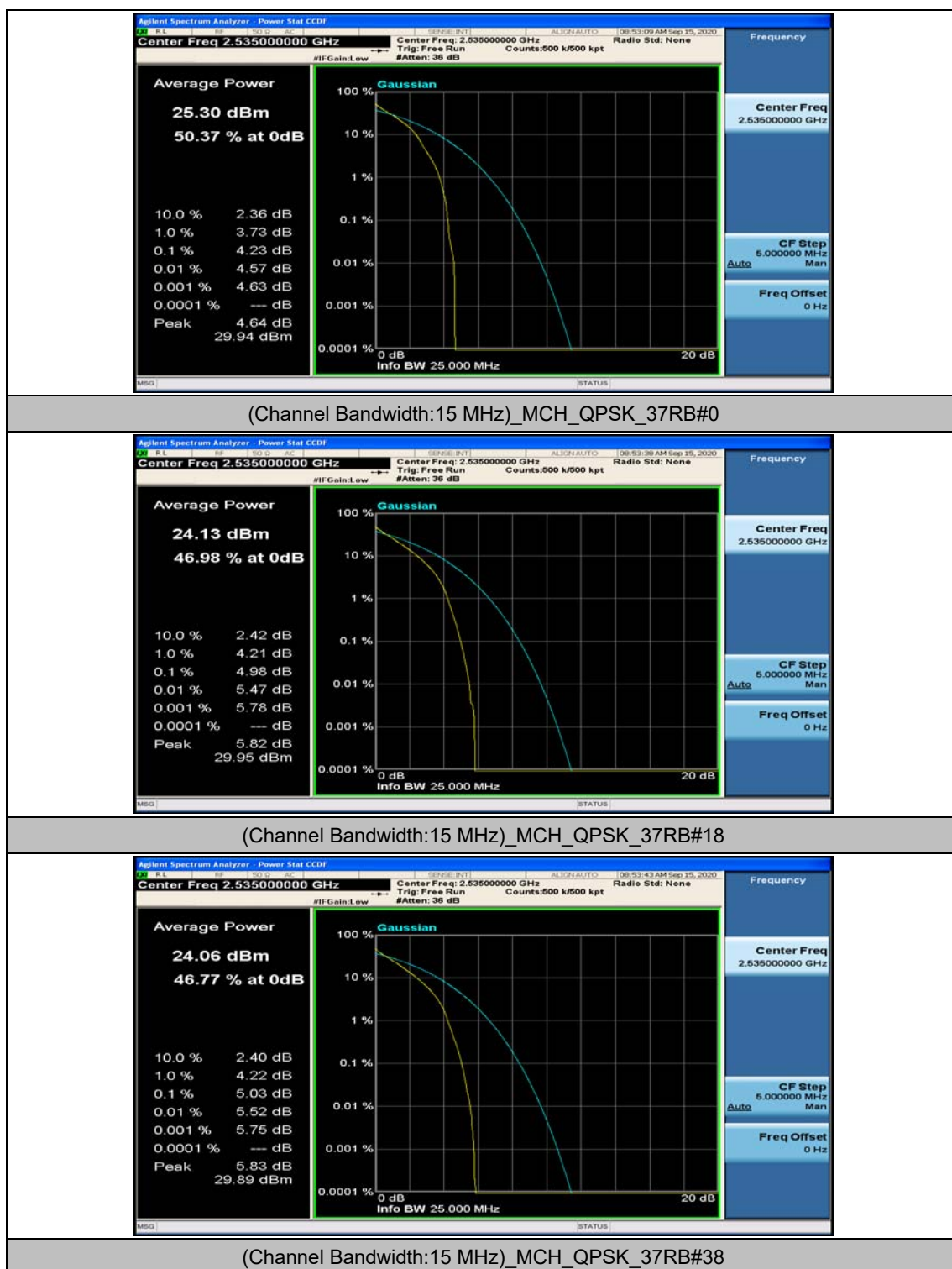
(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#0

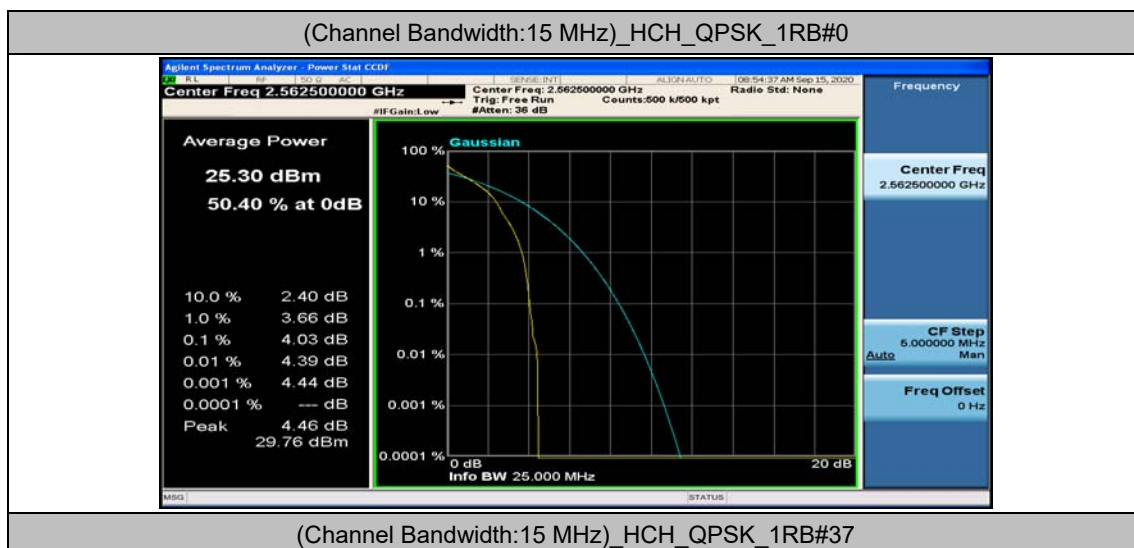
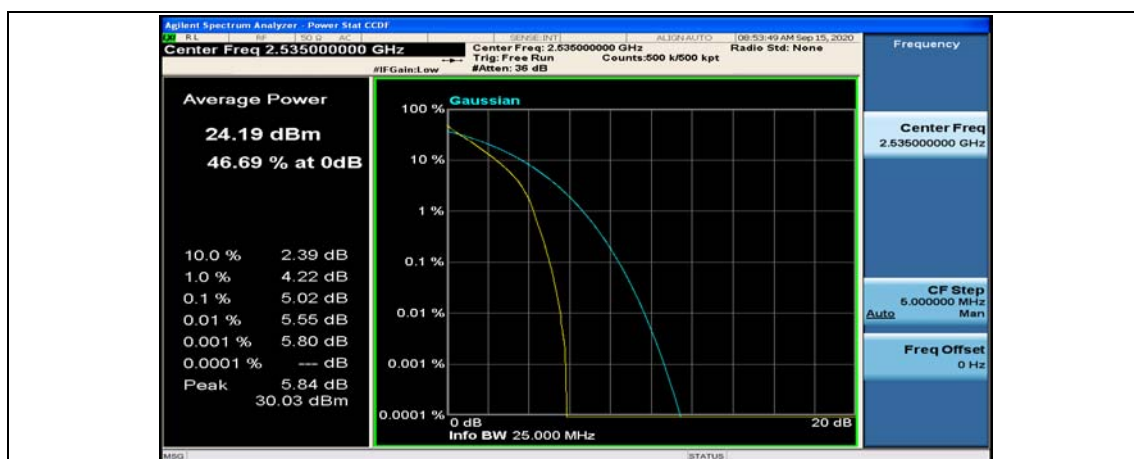


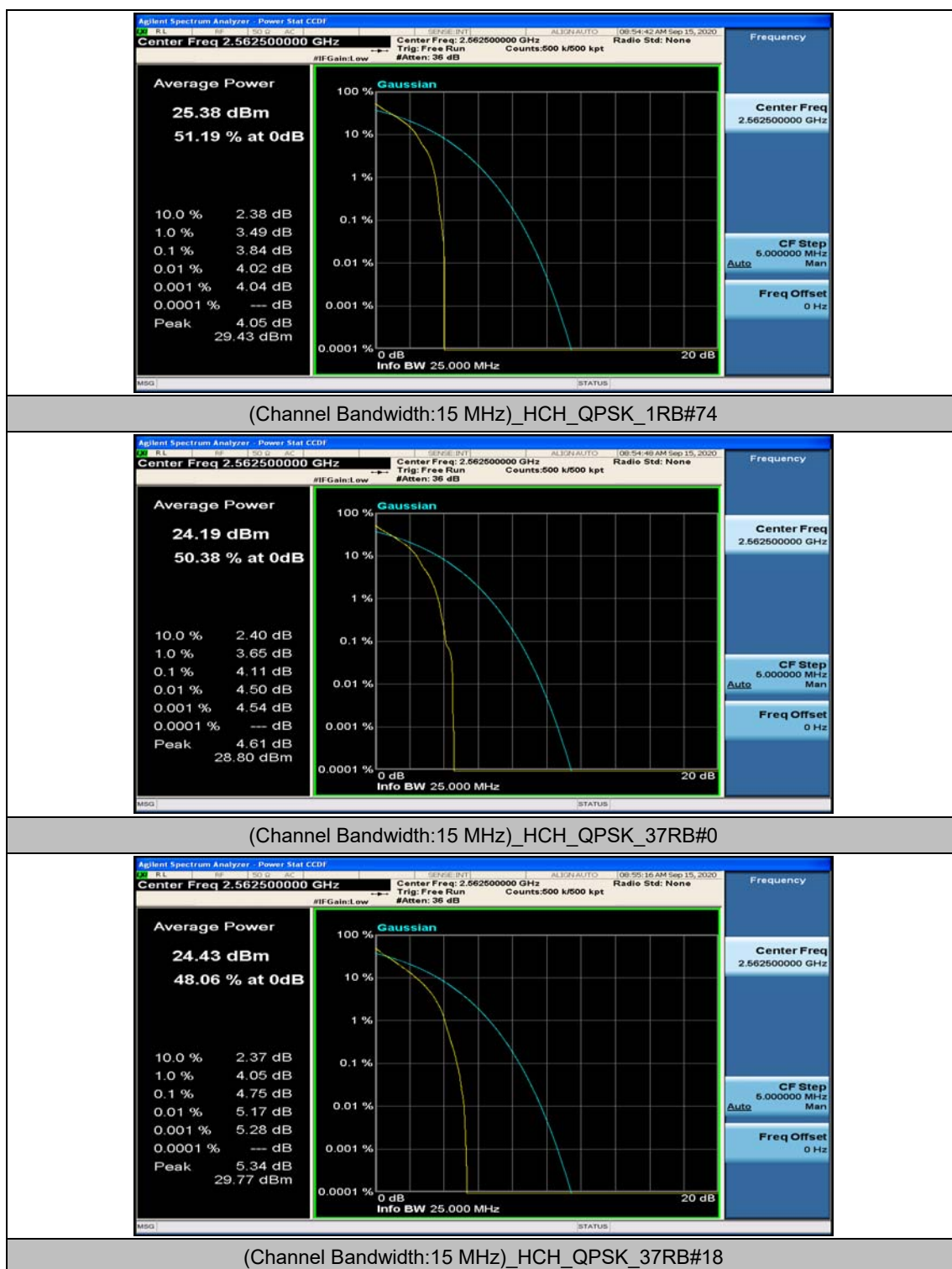
(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#37

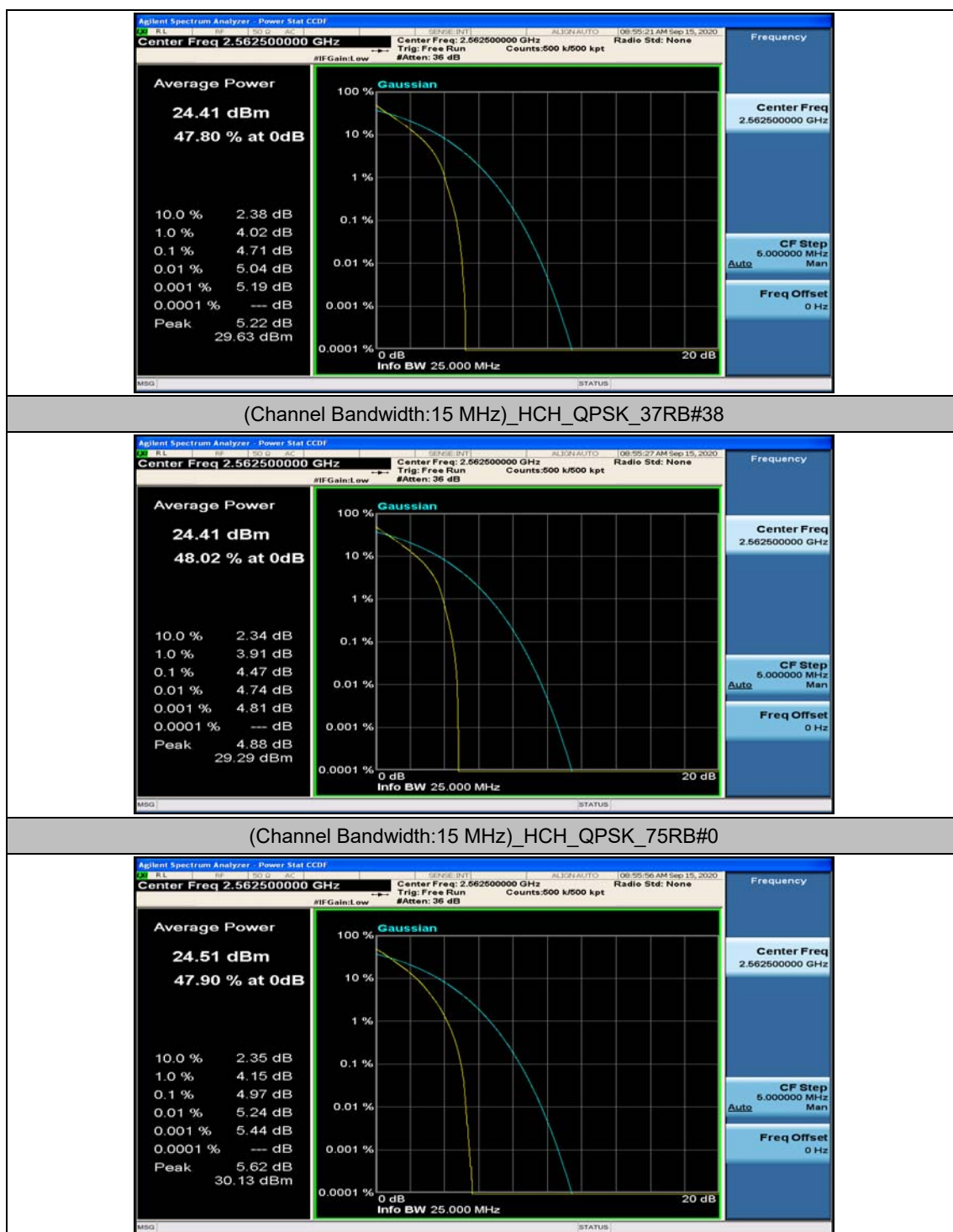


(Channel Bandwidth:15 MHz)_MCH_QPSK_1RB#74

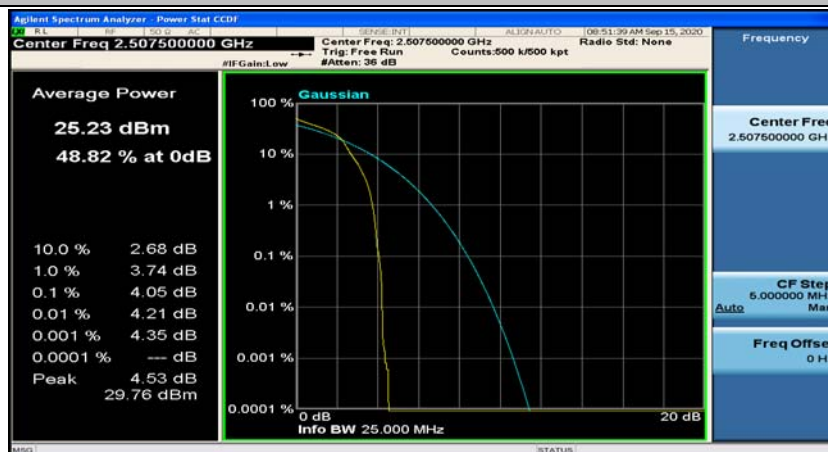




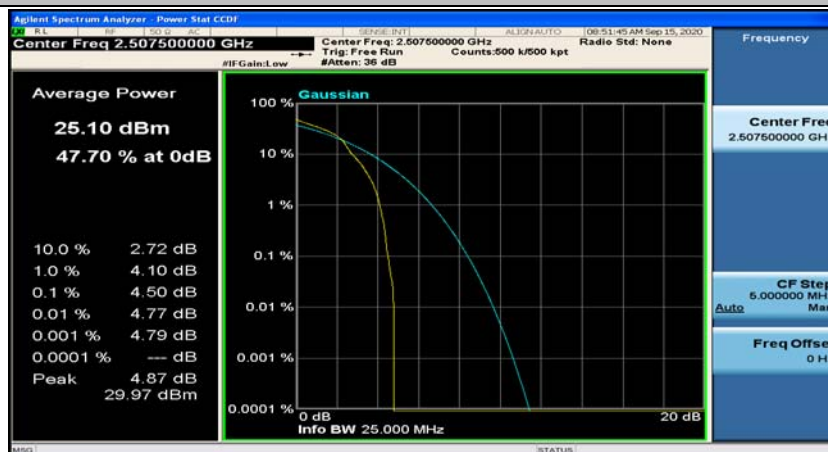




(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#0



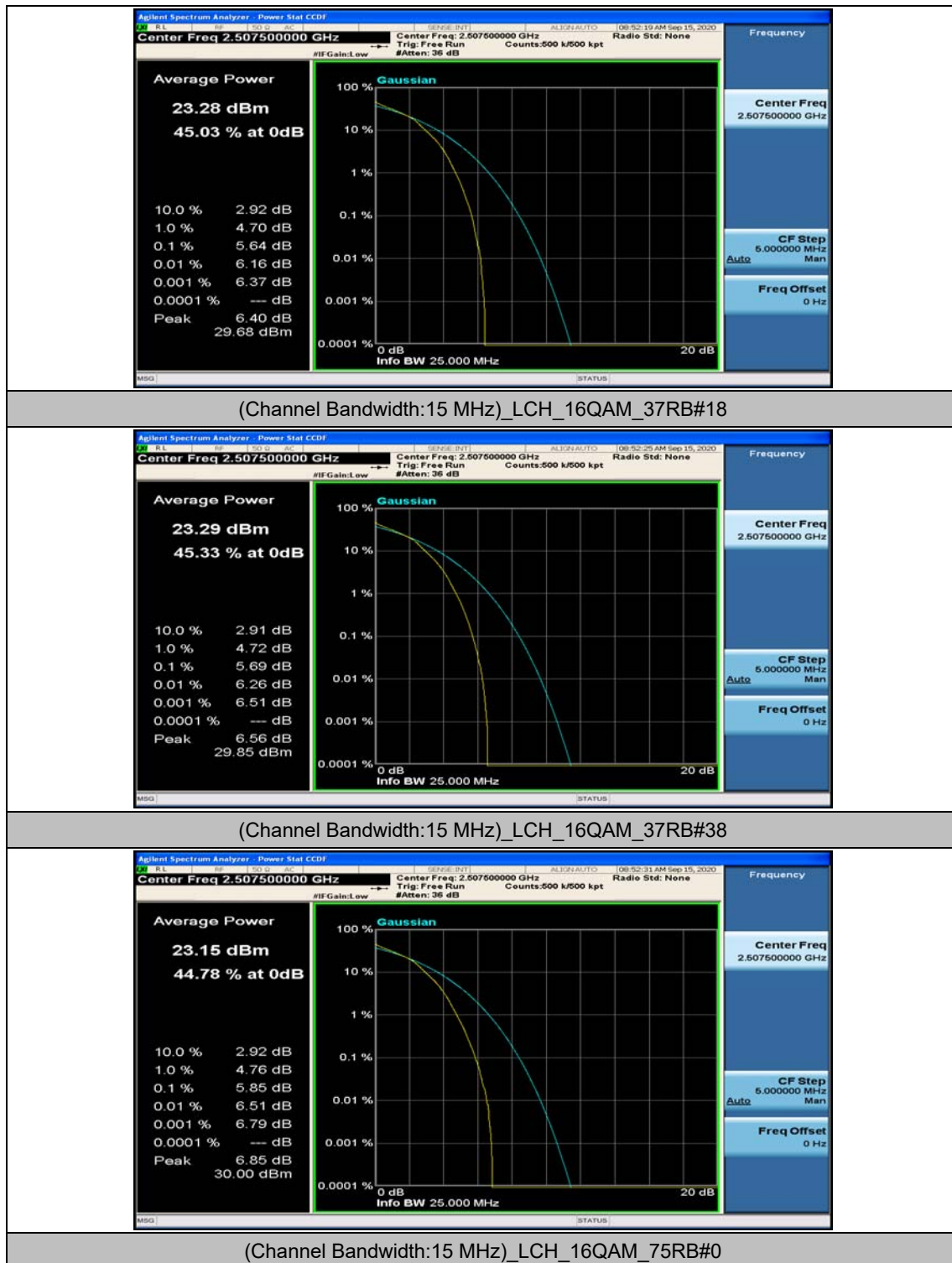
(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#37

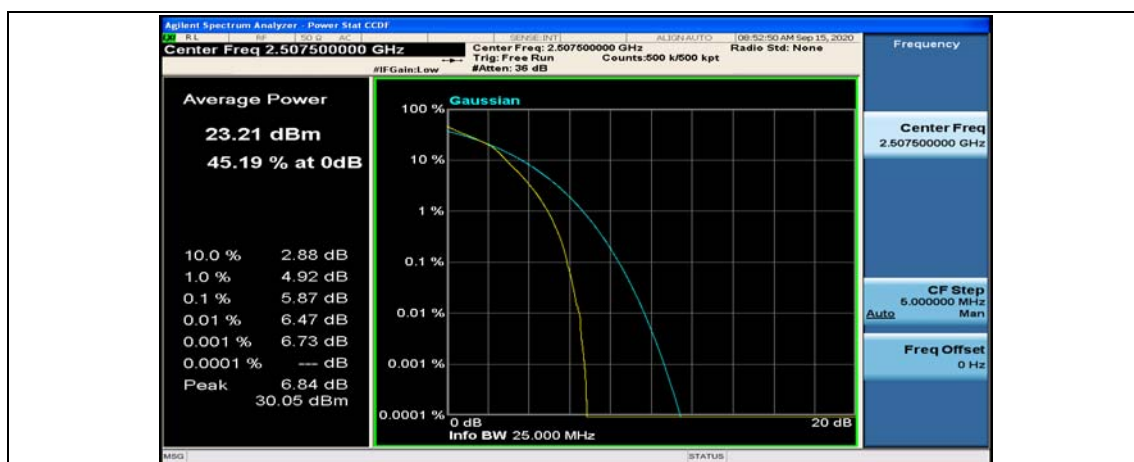


(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#74



(Channel Bandwidth:15 MHz)_LCH_16QAM_37RB#0

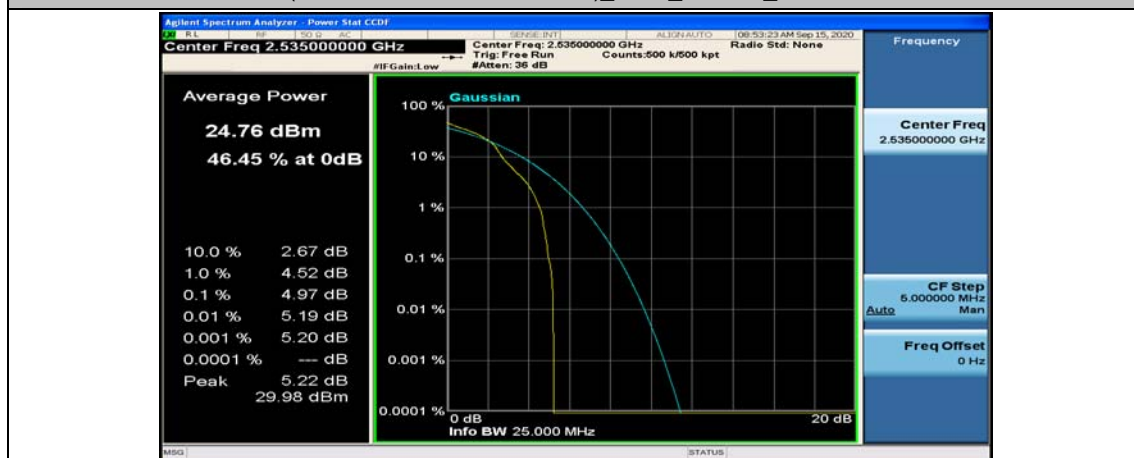




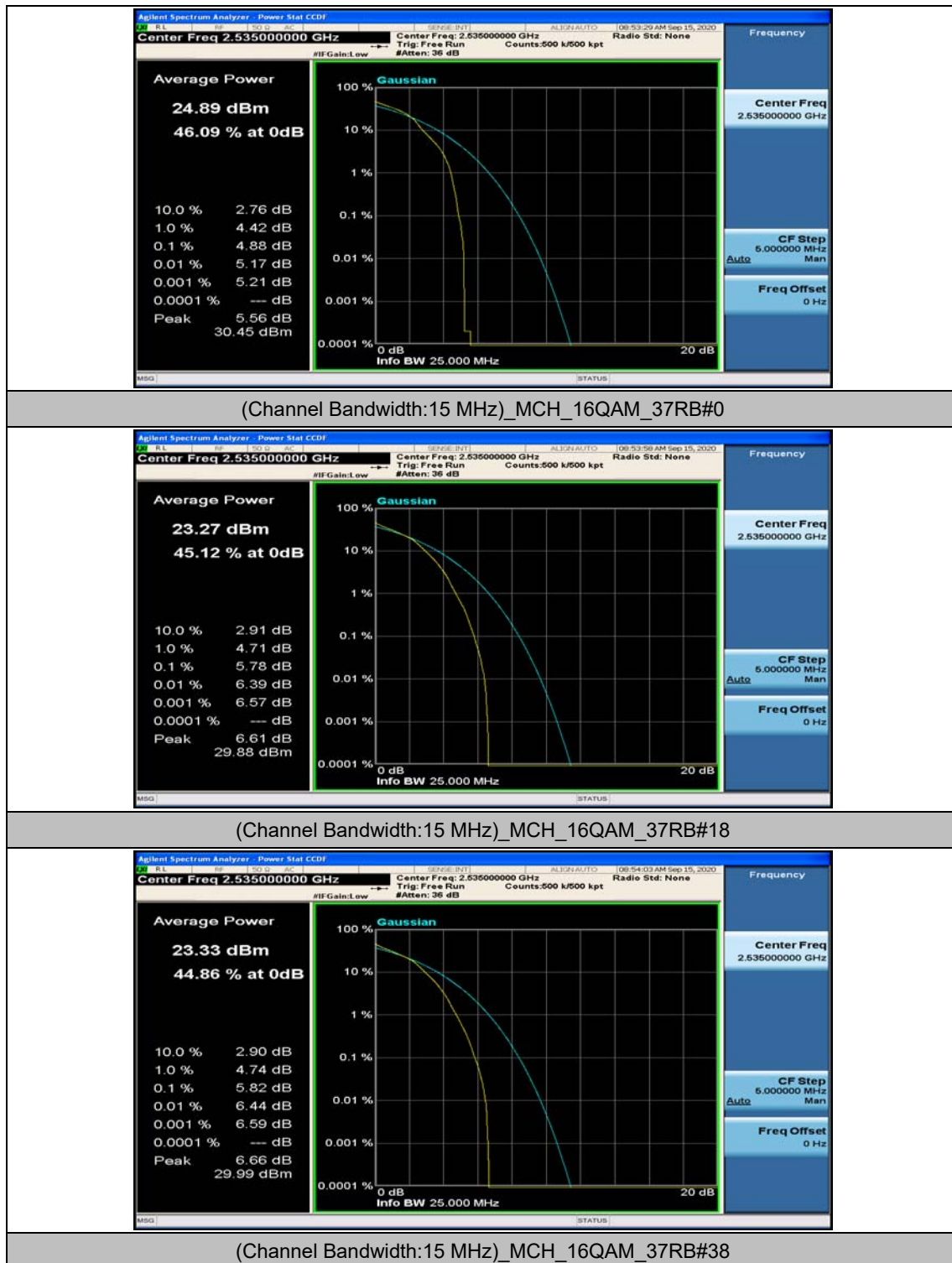
(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#0



(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#37

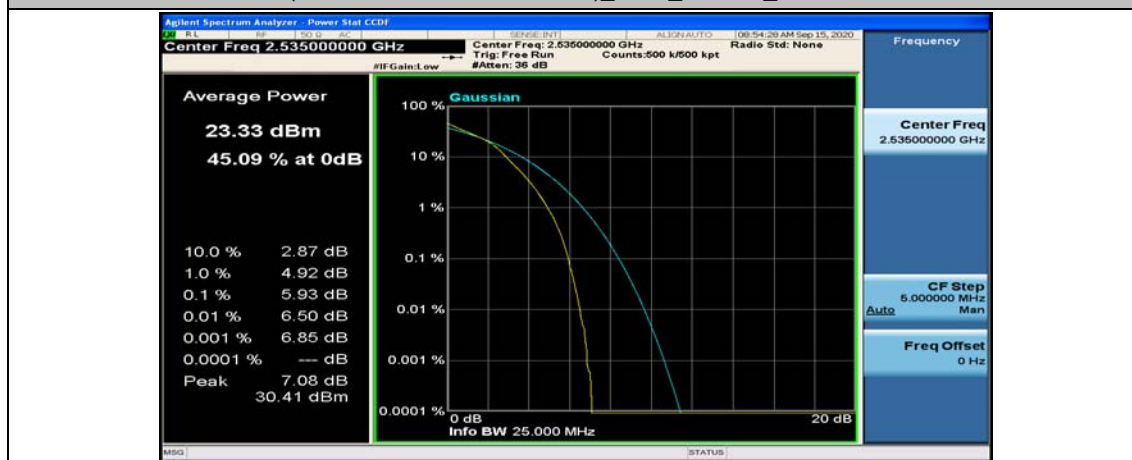


(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#74

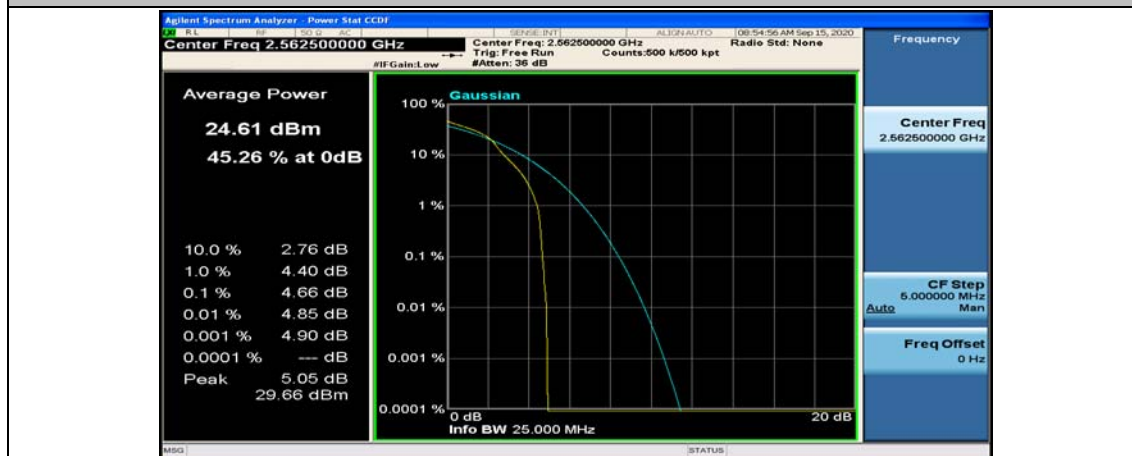




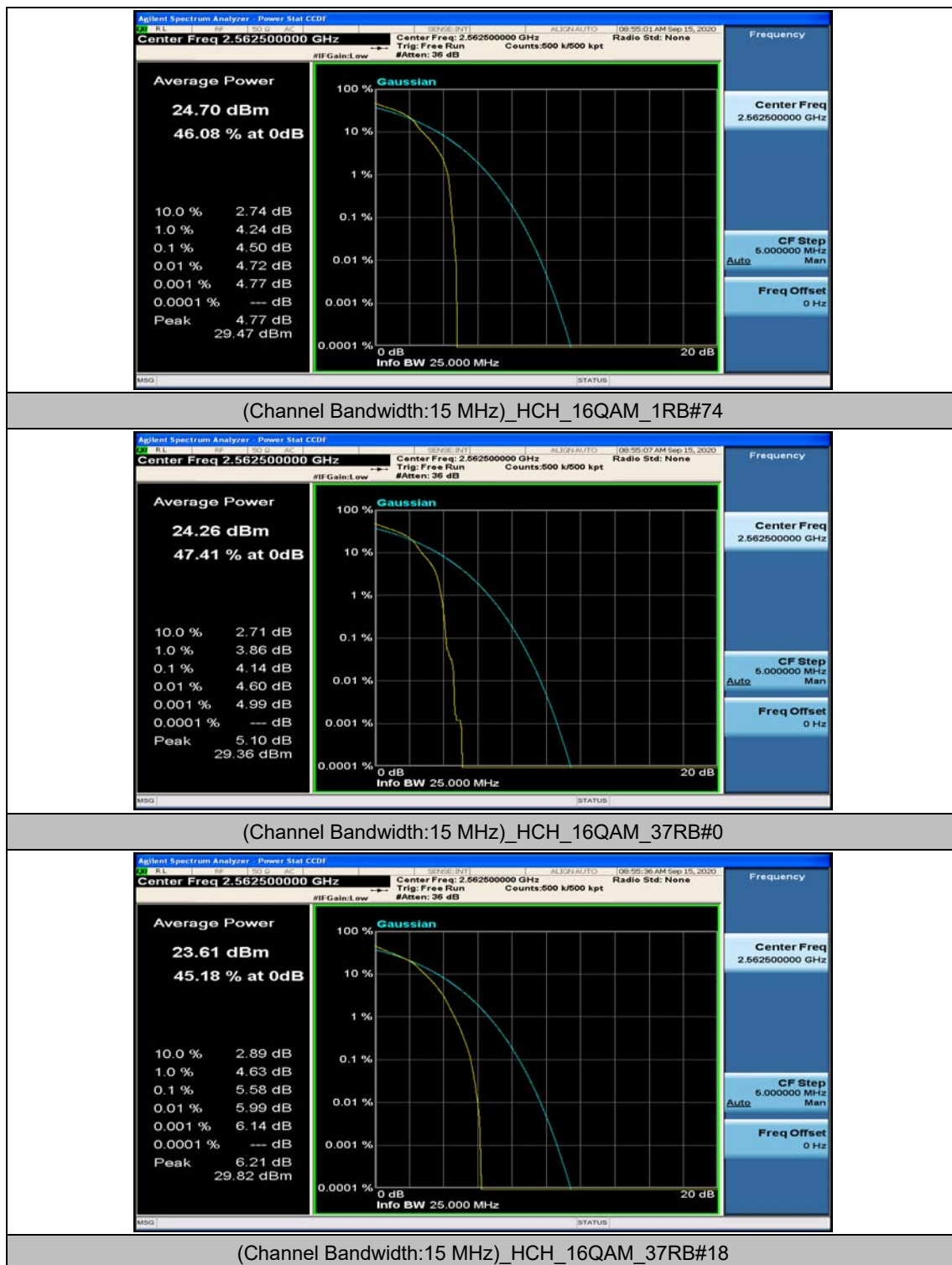
(Channel Bandwidth:15 MHz)_MCH_16QAM_75RB#0

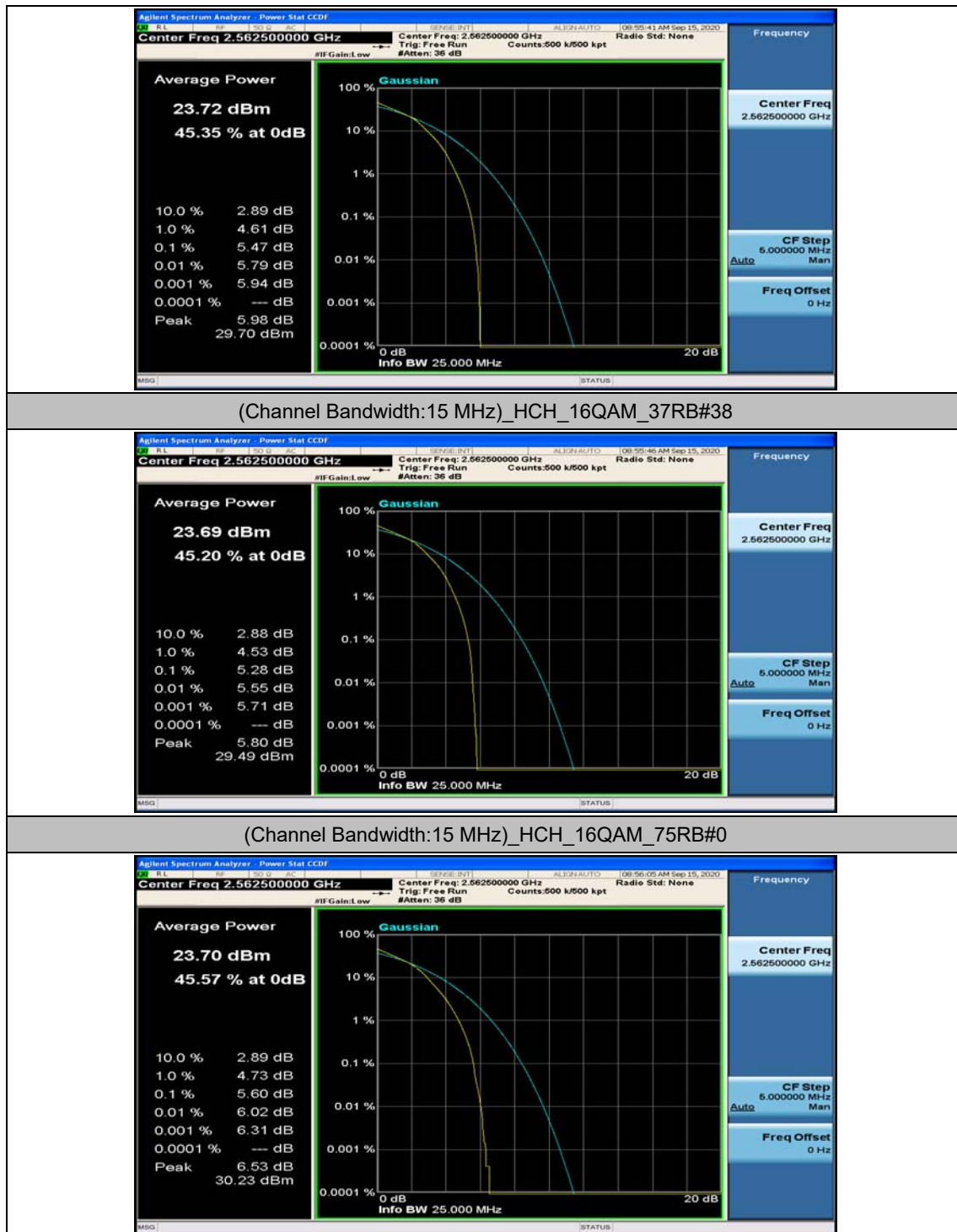


(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#0



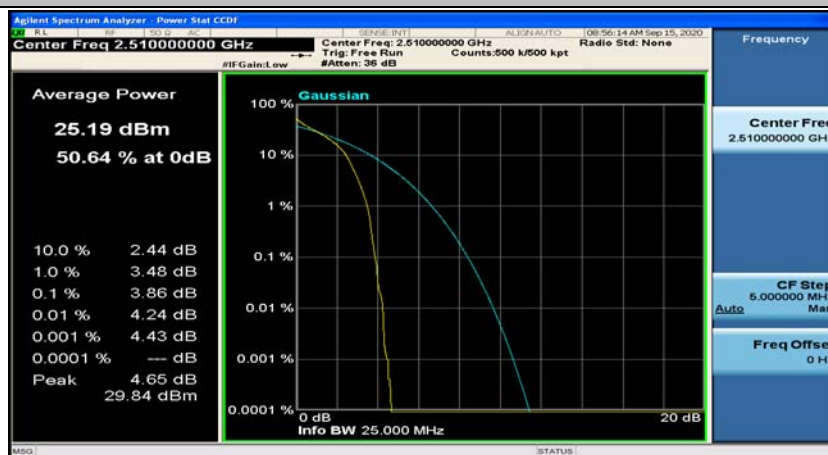
(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#37



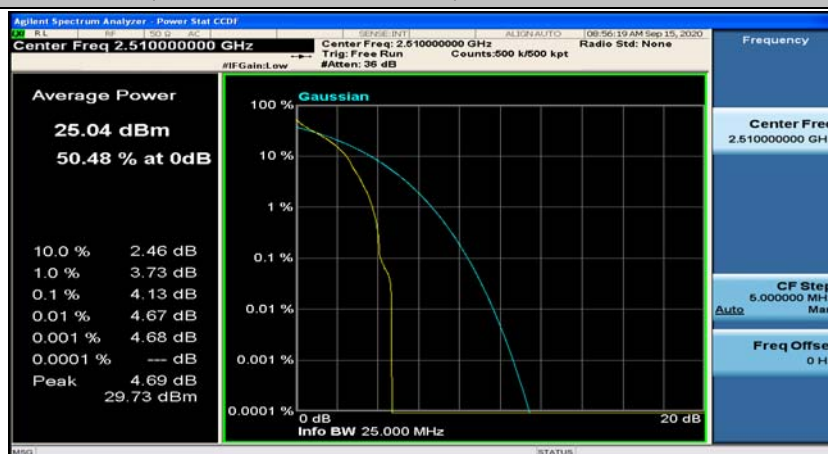


Channel Bandwidth: 20 MHz

(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#0



(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#49



(Channel Bandwidth:20 MHz)_LCH_QPSK_1RB#99



(Channel Bandwidth:20 MHz)_LCH_QPSK_50RB#0

