

Appendix for Band 7

Product Name: Rugged Phone

Model No: CM17XA

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	23.56	PASS
		1	12	23.88	PASS
		1	24	23.56	PASS
		12	0	22.56	PASS
		12	6	22.64	PASS
		12	13	22.59	PASS
		25	0	22.63	PASS
	MCH	1	0	23.42	PASS
		1	12	23.77	PASS
		1	24	23.60	PASS
		12	0	22.50	PASS
		12	6	22.52	PASS
		12	13	22.47	PASS
		25	0	22.57	PASS
	HCH	1	0	23.56	PASS
		1	12	23.68	PASS
		1	24	23.21	PASS
		12	0	22.53	PASS
		12	6	22.49	PASS
		12	13	22.23	PASS
		25	0	22.41	PASS
16QAM	LCH	1	0	22.78	PASS
		1	12	23.06	PASS
		1	24	22.75	PASS
		12	0	21.59	PASS
		12	6	21.68	PASS
		12	13	21.59	PASS
		25	0	21.58	PASS
	MCH	1	0	22.61	PASS
		1	12	22.95	PASS
		1	24	22.80	PASS
		12	0	21.60	PASS

		12	6	21.60	PASS
		12	13	21.59	PASS
		25	0	21.52	PASS
	HCH	1	0	22.63	PASS
		1	12	22.79	PASS
		1	24	22.31	PASS
		12	0	21.48	PASS
		12	6	21.42	PASS
		12	13	21.22	PASS
	25	0	21.42	PASS	

Channel Bandwidth: 10 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	23.54	PASS
		1	24	23.72	PASS
		1	49	23.49	PASS
		25	0	22.64	PASS
		25	12	22.60	PASS
		25	25	22.70	PASS
		50	0	22.67	PASS
	MCH	1	0	23.34	PASS
		1	24	23.64	PASS
		1	49	23.70	PASS
		25	0	22.59	PASS
		25	12	22.50	PASS
		25	25	22.54	PASS
		50	0	22.59	PASS
	HCH	1	0	23.93	PASS
		1	24	23.68	PASS
		1	49	23.22	PASS
		25	0	22.81	PASS
		25	12	22.65	PASS
		25	25	22.37	PASS
		50	0	22.56	PASS
16QAM	LCH	1	0	22.80	PASS
		1	24	22.92	PASS
		1	49	22.71	PASS
		25	0	21.59	PASS
		25	12	21.55	PASS
		25	25	21.66	PASS

	MCH	50	0	21.59	PASS
		1	0	22.72	PASS
		1	24	22.97	PASS
		1	49	23.02	PASS
		25	0	21.58	PASS
		25	12	21.53	PASS
		25	25	21.54	PASS
	50	0	21.59	PASS	
	HCH	1	0	23.09	PASS
		1	24	22.89	PASS
		1	49	22.38	PASS
		25	0	21.75	PASS
		25	12	21.57	PASS
		25	25	21.32	PASS
50		0	21.59	PASS	

Channel Bandwidth: 15 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	23.51	PASS
		1	37	23.71	PASS
		1	74	23.29	PASS
		37	0	22.64	PASS
		37	18	22.67	PASS
		37	38	22.68	PASS
		75	0	22.69	PASS
	MCH	1	0	23.26	PASS
		1	37	23.75	PASS
		1	74	23.70	PASS
		37	0	22.60	PASS
		37	18	22.58	PASS
		37	38	22.64	PASS
		75	0	22.66	PASS
	HCH	1	0	24.13	PASS
		1	37	24.07	PASS
		1	74	23.14	PASS
		37	0	23.17	PASS
		37	18	22.98	PASS
		37	38	22.62	PASS
		75	0	22.90	PASS
16QAM	LCH	1	0	22.75	PASS

		1	37	22.99	PASS
		1	74	22.51	PASS
		37	0	21.55	PASS
		37	18	21.61	PASS
		37	38	21.63	PASS
		75	0	21.59	PASS
	MCH	1	0	22.50	PASS
		1	37	22.93	PASS
		1	74	22.98	PASS
		37	0	21.55	PASS
		37	18	21.59	PASS
		37	38	21.66	PASS
	HCH	75	0	21.59	PASS
		1	0	23.23	PASS
		1	37	23.15	PASS
		1	74	22.30	PASS
		37	0	22.01	PASS
		37	18	21.87	PASS
		37	38	21.54	PASS
	75	0	21.80	PASS	

Channel Bandwidth: 20 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	23.40	PASS
		1	49	23.77	PASS
		1	99	23.12	PASS
		50	0	22.45	PASS
		50	25	22.51	PASS
		50	50	22.56	PASS
		100	0	22.52	PASS
	MCH	1	0	23.12	PASS
		1	49	23.73	PASS
		1	99	23.73	PASS
		50	0	22.59	PASS
		50	25	22.57	PASS
		50	50	22.56	PASS
		100	0	22.58	PASS
	HCH	1	0	23.93	PASS
		1	49	24.15	PASS
		1	99	22.93	PASS

		50	0	22.95	PASS
		50	25	22.99	PASS
		50	50	22.61	PASS
		100	0	22.74	PASS
16QAM	LCH	1	0	22.56	PASS
		1	49	22.88	PASS
		1	99	22.23	PASS
		50	0	21.38	PASS
		50	25	21.42	PASS
		50	50	21.52	PASS
		100	0	21.46	PASS
	MCH	1	0	22.41	PASS
		1	49	23.03	PASS
		1	99	23.04	PASS
		50	0	21.59	PASS
		50	25	21.61	PASS
		50	50	21.56	PASS
		100	0	21.55	PASS
	HCH	1	0	23.11	PASS
		1	49	23.23	PASS
		1	99	22.17	PASS
		50	0	21.89	PASS
		50	25	21.92	PASS
		50	50	21.58	PASS
		100	0	21.72	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	4.58	<13	PASS
		1	12	4.45	<13	PASS
		1	24	4.65	<13	PASS
		12	0	5.09	<13	PASS
		12	6	5.14	<13	PASS
		12	13	5.14	<13	PASS
		25	0	5.1	<13	PASS
	MCH	1	0	4.4	<13	PASS
		1	12	4.41	<13	PASS
		1	24	4.75	<13	PASS
		12	0	5.08	<13	PASS
		12	6	5.06	<13	PASS
		12	13	5.16	<13	PASS
		25	0	5.15	<13	PASS
	HCH	1	0	3.23	<13	PASS
		1	12	3	<13	PASS
		1	24	3.41	<13	PASS
		12	0	4.08	<13	PASS
		12	6	4.11	<13	PASS
		12	13	4.23	<13	PASS
		25	0	4.2	<13	PASS
16QAM	LCH	1	0	5.2	<13	PASS
		1	12	5.29	<13	PASS
		1	24	5.47	<13	PASS
		12	0	6.07	<13	PASS
		12	6	5.97	<13	PASS
		12	13	6.11	<13	PASS
		25	0	5.88	<13	PASS
	MCH	1	0	5.46	<13	PASS
		1	12	5.39	<13	PASS
		1	24	5.67	<13	PASS

		12	0	5.92	<13	PASS
		12	6	5.94	<13	PASS
		12	13	6.02	<13	PASS
		25	0	6.02	<13	PASS
	HCH	1	0	4	<13	PASS
		1	12	3.83	<13	PASS
		1	24	4.13	<13	PASS
		12	0	4.98	<13	PASS
		12	6	4.98	<13	PASS
		12	13	5.17	<13	PASS
		25	0	5.06	<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	4.4	<13	PASS
		1	24	4.39	<13	PASS
		1	49	4.29	<13	PASS
		25	0	5.09	<13	PASS
		25	12	5.09	<13	PASS
		25	25	5.06	<13	PASS
		50	0	5.12	<13	PASS
	MCH	1	0	4.1	<13	PASS
		1	24	4.29	<13	PASS
		1	49	4.6	<13	PASS
		25	0	5.12	<13	PASS
		25	12	5.23	<13	PASS
		25	25	5.28	<13	PASS
		50	0	5.25	<13	PASS
	HCH	1	0	3.3	<13	PASS
		1	24	3.02	<13	PASS
		1	49	3.32	<13	PASS
		25	0	4.15	<13	PASS
		25	12	4.06	<13	PASS
		25	25	4.18	<13	PASS
		50	0	4.24	<13	PASS
16QAM	LCH	1	0	5.25	<13	PASS
		1	24	5.39	<13	PASS
		1	49	5.25	<13	PASS
		25	0	5.92	<13	PASS

		25	12	6.02	<13	PASS
		25	25	5.93	<13	PASS
		50	0	5.9	<13	PASS
	MCH	1	0	5.08	<13	PASS
		1	24	5.32	<13	PASS
		1	49	5.58	<13	PASS
		25	0	5.9	<13	PASS
		25	12	6.04	<13	PASS
		25	25	6.17	<13	PASS
		50	0	6.03	<13	PASS
	HCH	1	0	4.34	<13	PASS
		1	24	4.14	<13	PASS
		1	49	4.34	<13	PASS
		25	0	5.19	<13	PASS
		25	12	5.09	<13	PASS
		25	25	5.13	<13	PASS
		50	0	5.18	<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	4.41	<13	PASS
		1	37	4.27	<13	PASS
		1	74	4.03	<13	PASS
		37	0	5.12	<13	PASS
		37	18	5.02	<13	PASS
		37	38	4.89	<13	PASS
		75	0	5.4	<13	PASS
	MCH	1	0	4.18	<13	PASS
		1	37	4.34	<13	PASS
		1	74	4.84	<13	PASS
		37	0	4.94	<13	PASS
		37	18	5.15	<13	PASS
		37	38	5.25	<13	PASS
		75	0	5.49	<13	PASS
	HCH	1	0	3.97	<13	PASS
		1	37	2.98	<13	PASS
		1	74	3.31	<13	PASS
		37	0	4.39	<13	PASS
		37	18	4.05	<13	PASS

		37	38	4.05	<13	PASS
		75	0	4.64	<13	PASS
16QAM	LCH	1	0	5.24	<13	PASS
		1	37	5.24	<13	PASS
		1	74	5.01	<13	PASS
		37	0	5.92	<13	PASS
		37	18	5.87	<13	PASS
		37	38	5.77	<13	PASS
		75	0	6.06	<13	PASS
		MCH	1	0	5.08	<13
	1		37	5.35	<13	PASS
	1		74	5.87	<13	PASS
	37		0	5.85	<13	PASS
	37		18	6.02	<13	PASS
	37		38	6.18	<13	PASS
	75		0	6.11	<13	PASS
	HCH	1	0	4.95	<13	PASS
		1	37	4.15	<13	PASS
		1	74	4.3	<13	PASS
		37	0	5.3	<13	PASS
		37	18	5.05	<13	PASS
		37	38	5.01	<13	PASS
		75	0	5.44	<13	PASS

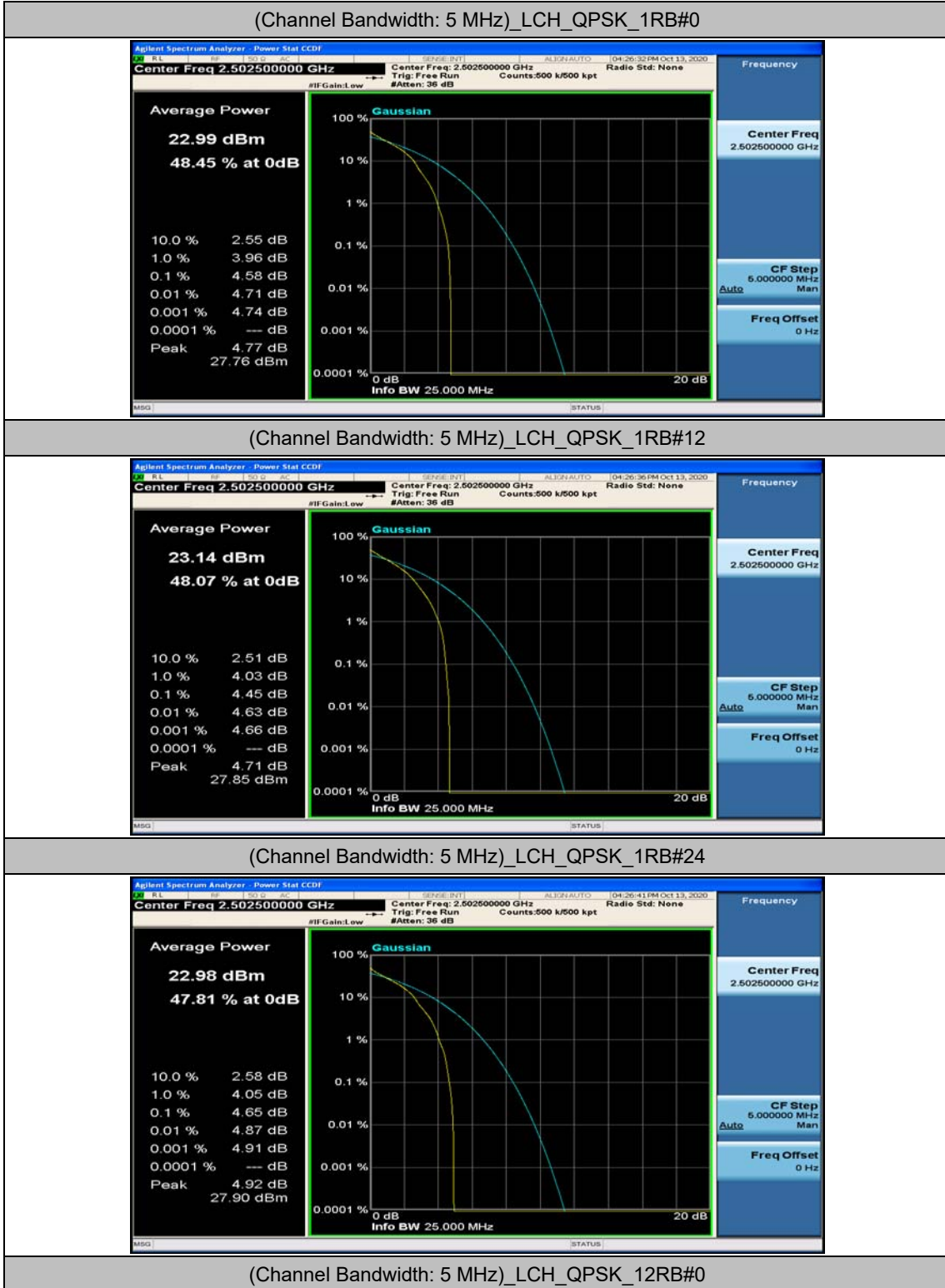
Channel Bandwidth: 20 MHz

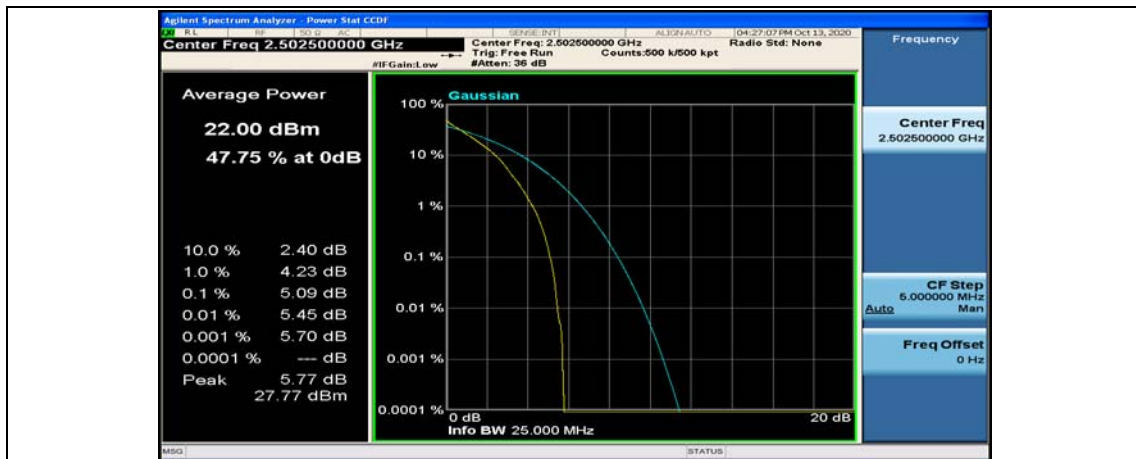
Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.55	<13	PASS
		1	49	4.04	<13	PASS
		1	99	4.03	<13	PASS
		50	0	5.2	<13	PASS
		50	25	4.99	<13	PASS
		50	50	4.87	<13	PASS
		100	0	5.24	<13	PASS
	MCH	1	0	4.23	<13	PASS
		1	49	4.48	<13	PASS
		1	99	5.1	<13	PASS
		50	0	5.05	<13	PASS
		50	25	5.25	<13	PASS
		50	50	5.37	<13	PASS

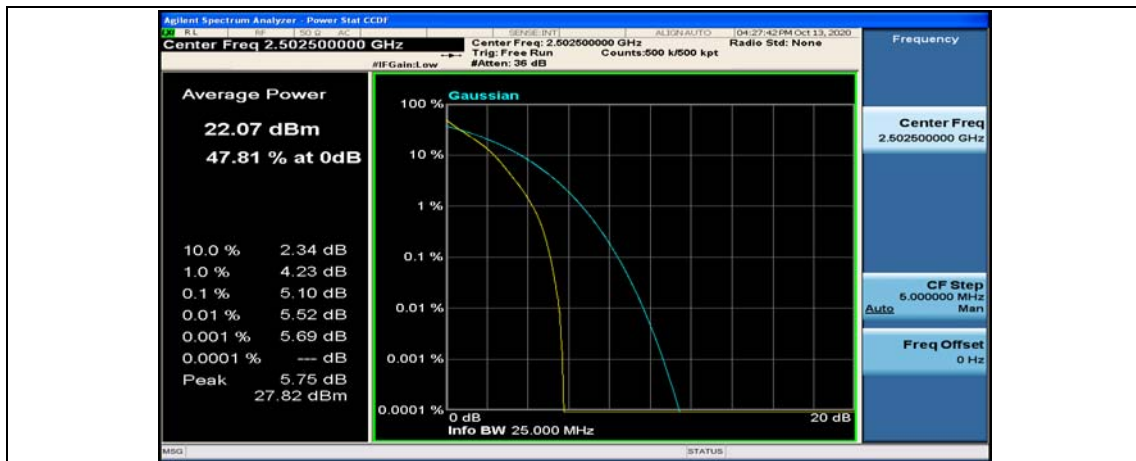
		100	0	5.36	<13	PASS
	HCH	1	0	4.41	<13	PASS
		1	49	3.34	<13	PASS
		1	99	3.46	<13	PASS
		50	0	4.84	<13	PASS
		50	25	4.33	<13	PASS
		50	50	4.23	<13	PASS
100	0	4.86	<13	PASS		
16QAM	LCH	1	0	5.45	<13	PASS
		1	49	5.01	<13	PASS
		1	99	4.85	<13	PASS
		50	0	6.02	<13	PASS
		50	25	5.85	<13	PASS
		50	50	5.72	<13	PASS
		100	0	6.03	<13	PASS
	MCH	1	0	4.98	<13	PASS
		1	49	5.19	<13	PASS
		1	99	5.68	<13	PASS
		50	0	5.84	<13	PASS
		50	25	6.01	<13	PASS
		50	50	6.11	<13	PASS
		100	0	6.1	<13	PASS
	HCH	1	0	5.66	<13	PASS
		1	49	4.39	<13	PASS
		1	99	4.52	<13	PASS
		50	0	5.73	<13	PASS
		50	25	5.29	<13	PASS
		50	50	5.17	<13	PASS
		100	0	5.68	<13	PASS

Test Graphs

Channel Bandwidth: 5 MHz







(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_12RB#0



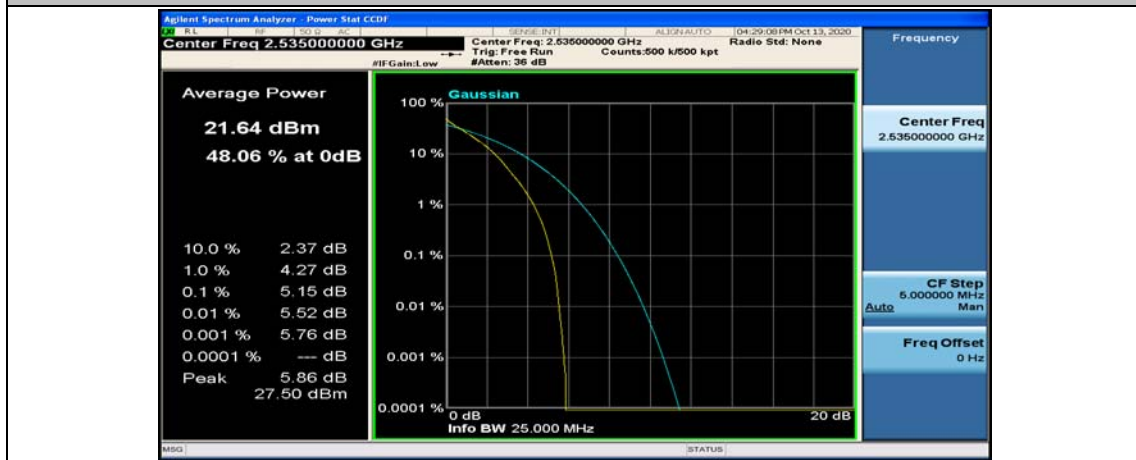
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(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#13



(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)_HCH_QPSK_12RB#13



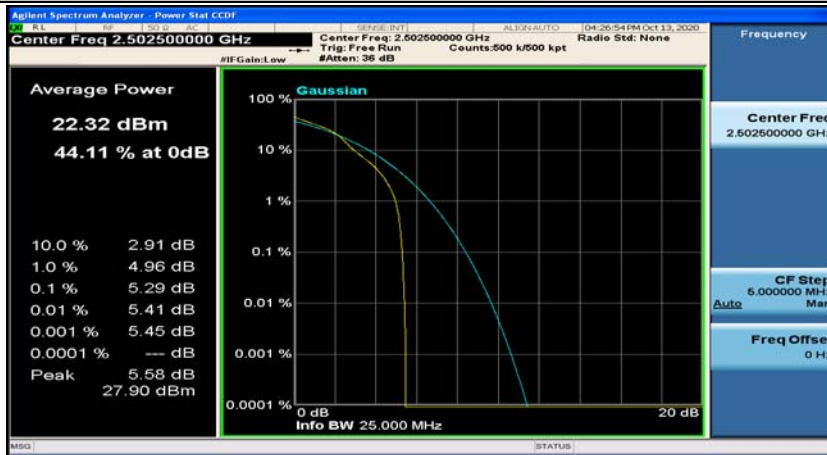
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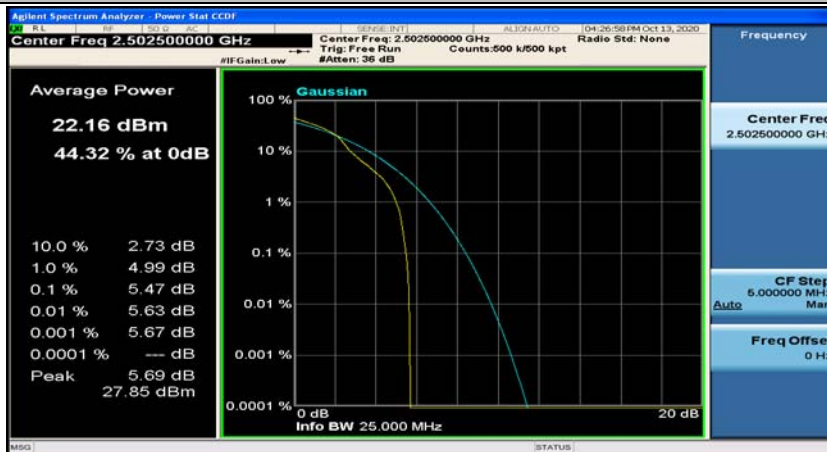
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(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12



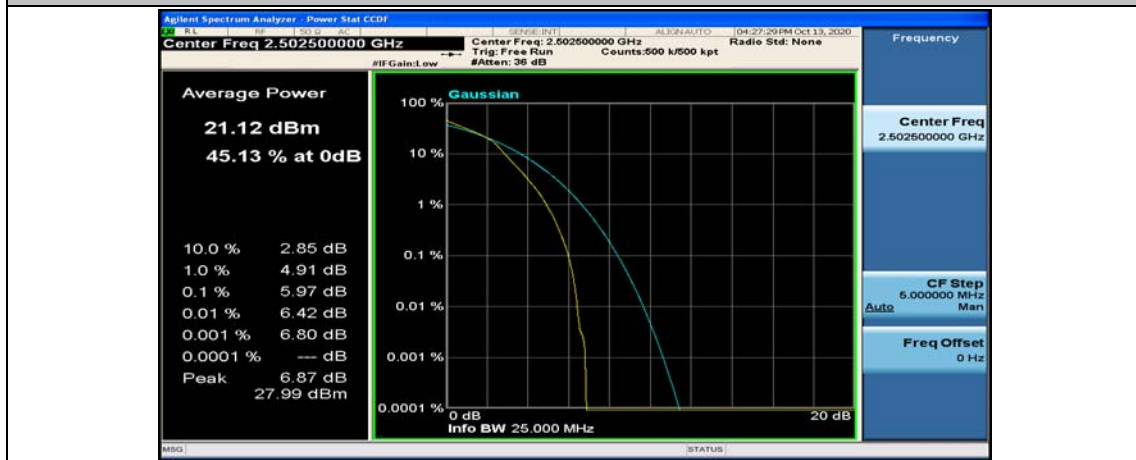
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(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#0



(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#6



(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#13



(Channel Bandwidth: 5 MHz)_LCH_16QAM_25RB#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



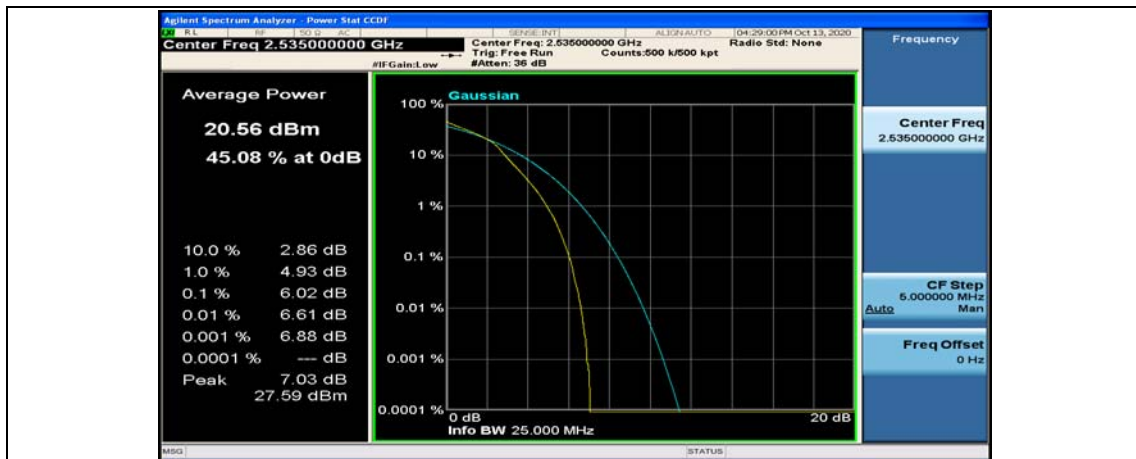
(Channel Bandwidth: 5 MHz)_MCH_16QAM_12RB#0



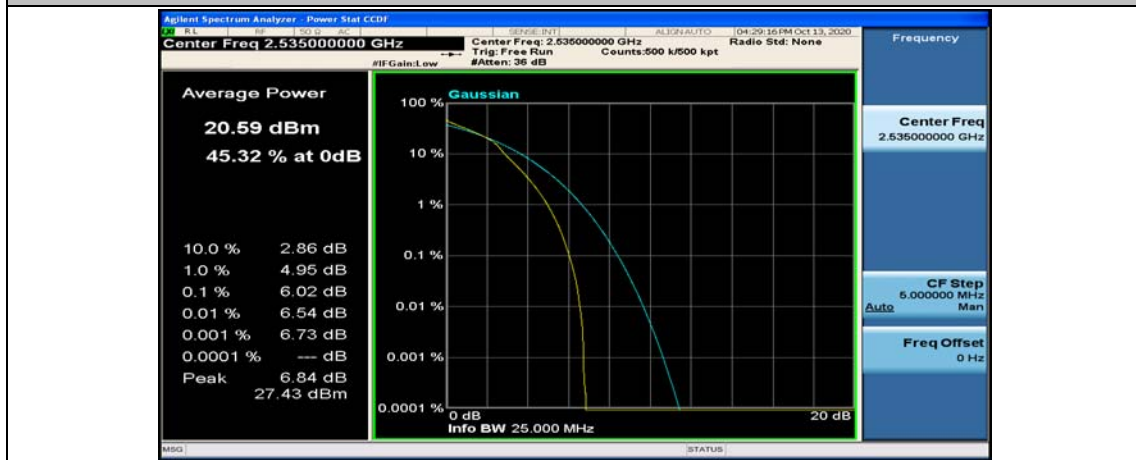
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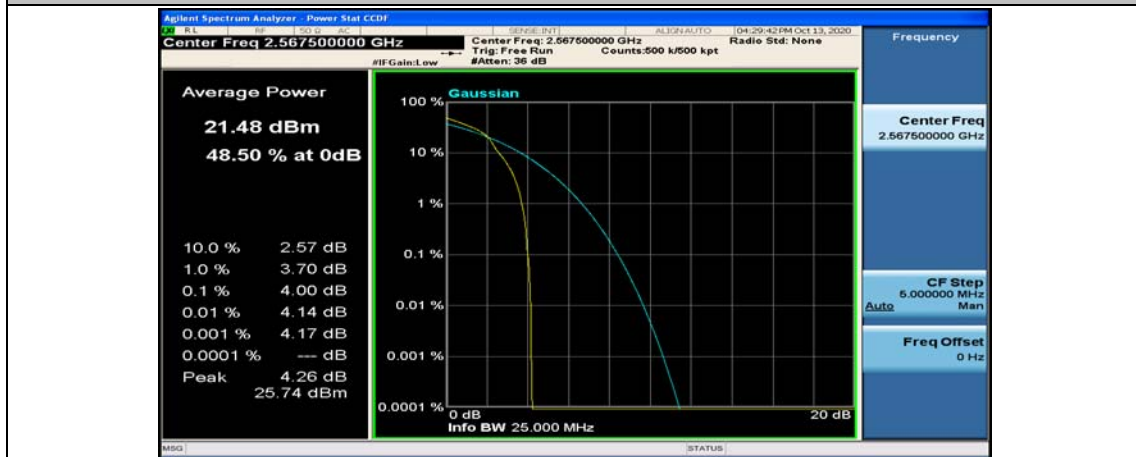
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(Channel Bandwidth: 5 MHz)_MCH_16QAM_25RB#0



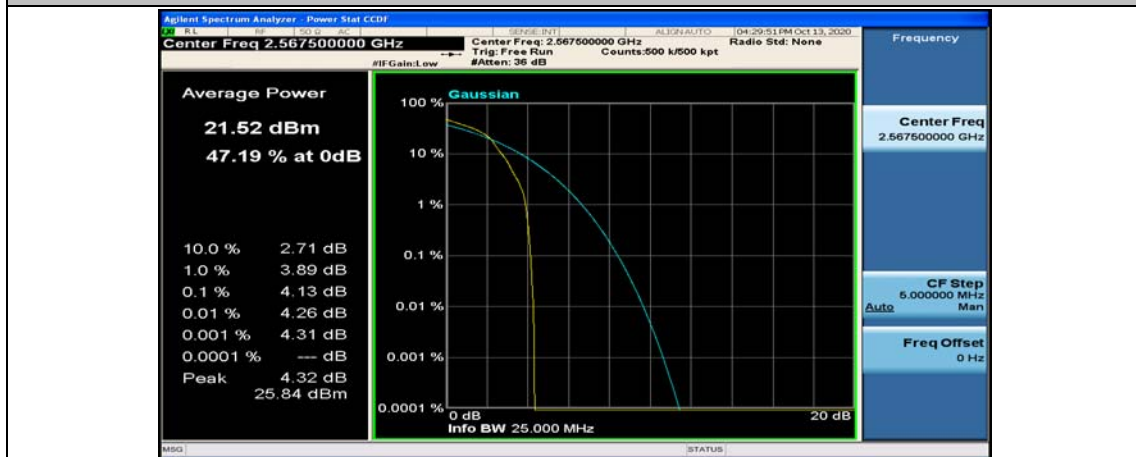
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12



(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24



(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#0



(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#6



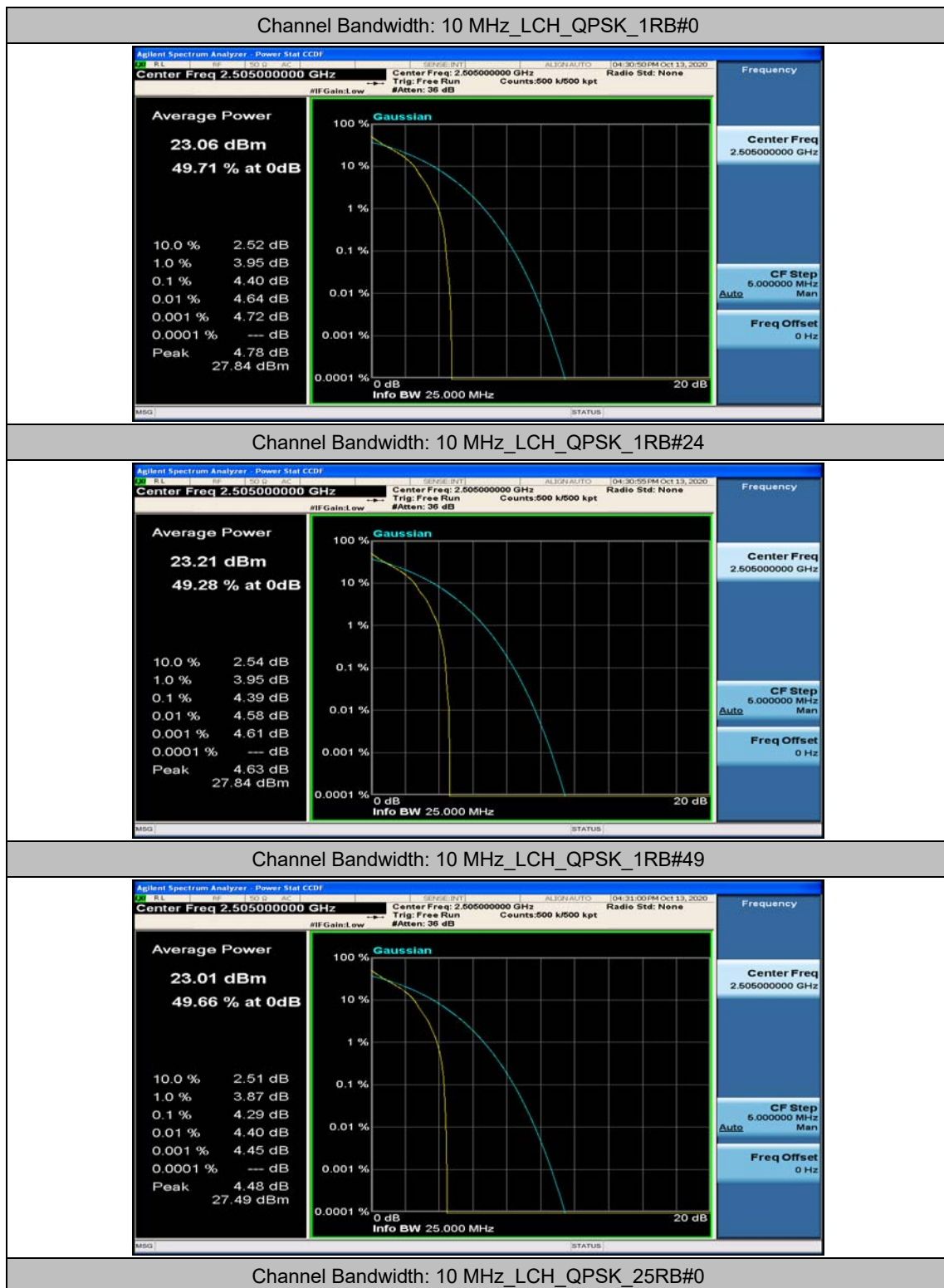
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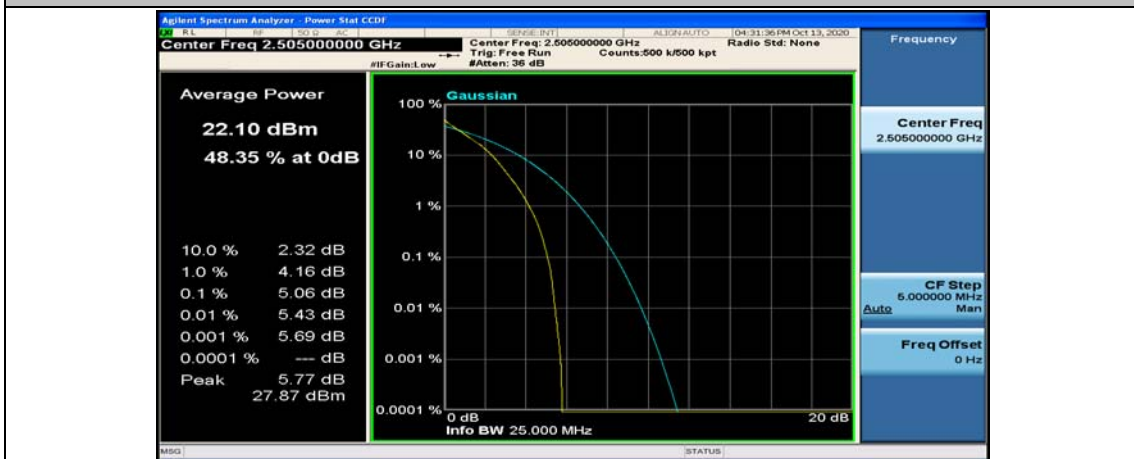
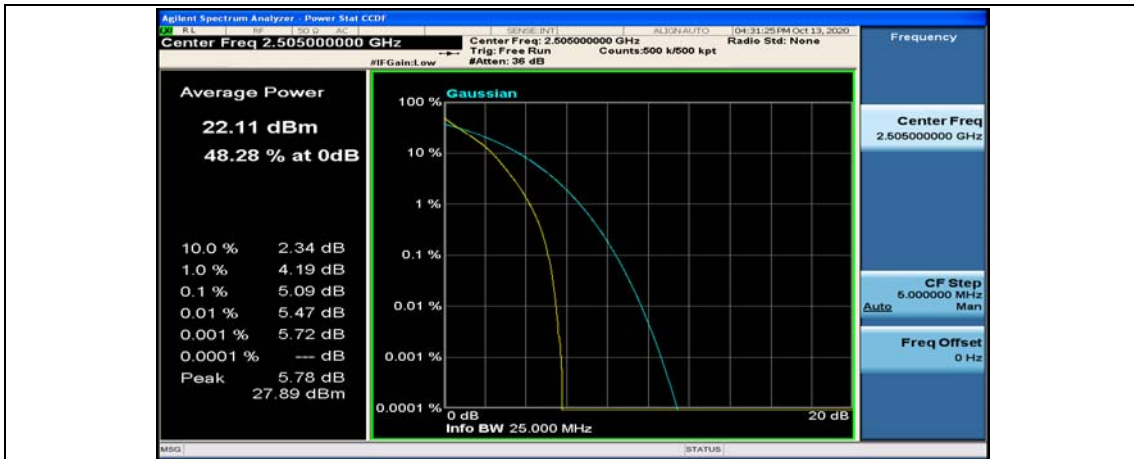


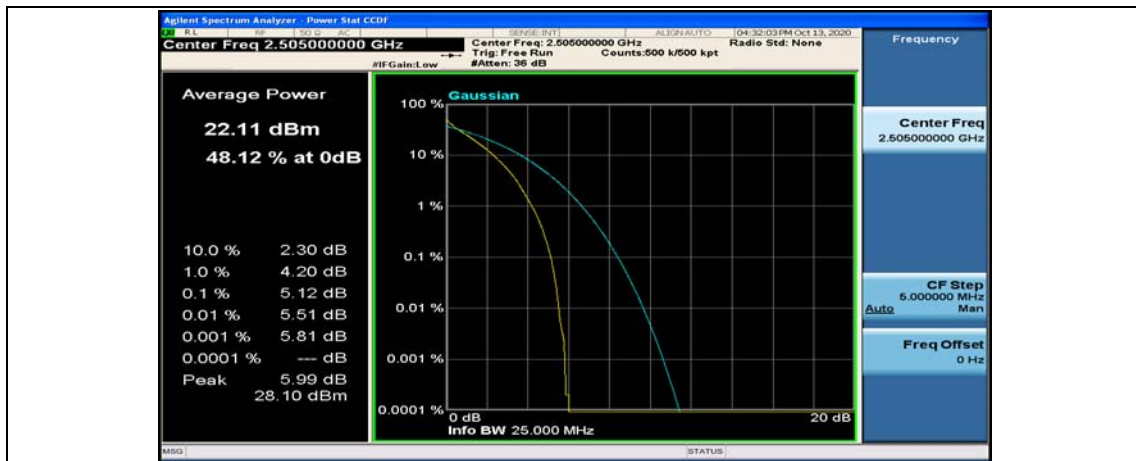
(Channel Bandwidth: 5 MHz)_HCH_16QAM_25RB#0



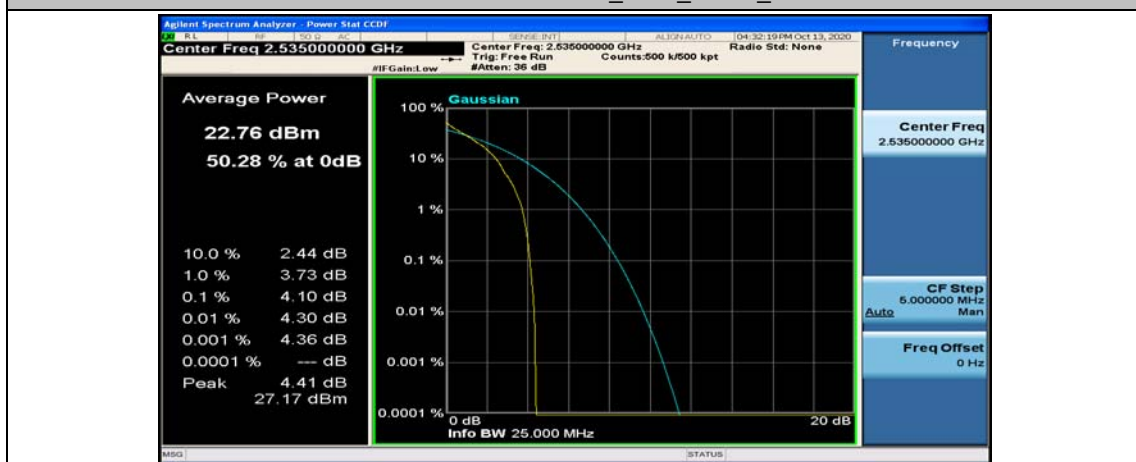
Channel Bandwidth: 10 MHz



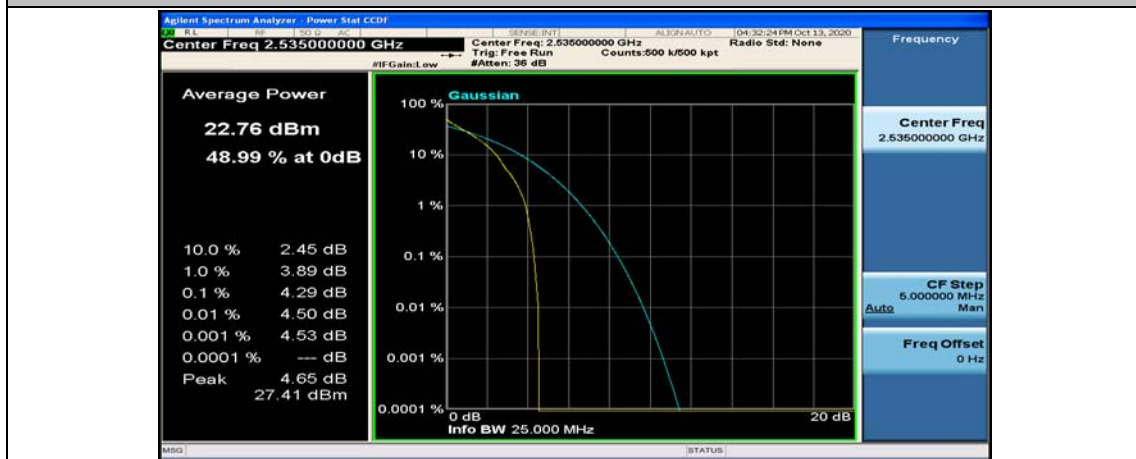




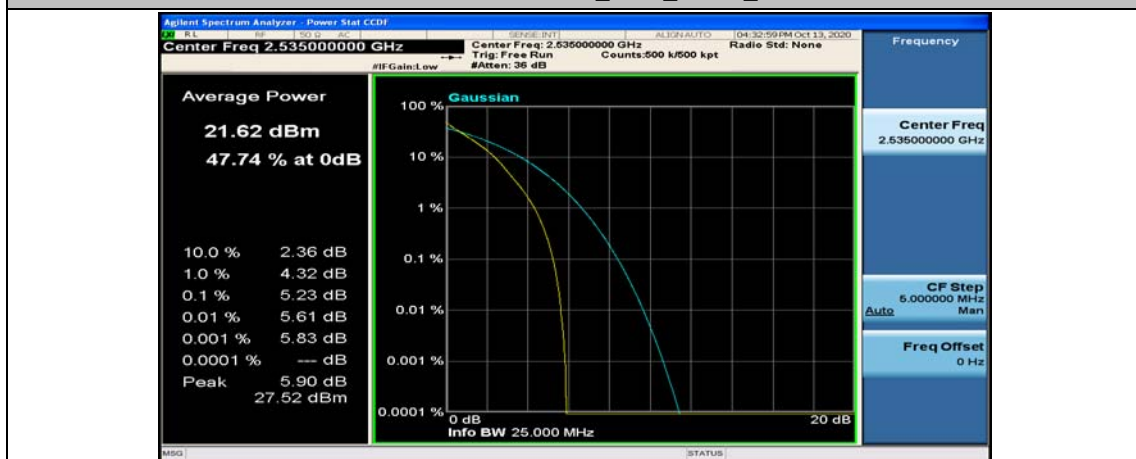
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0

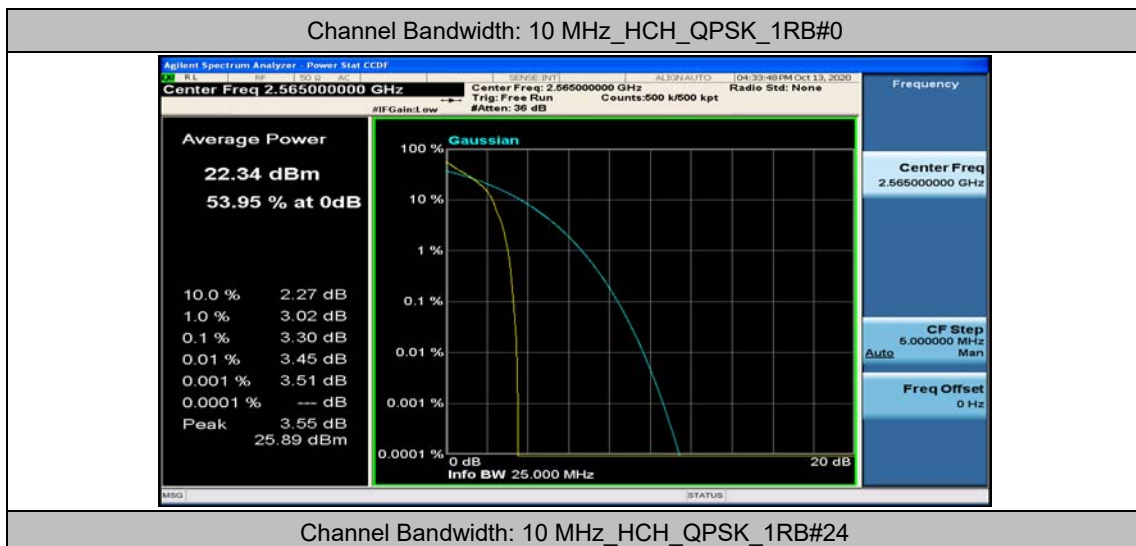
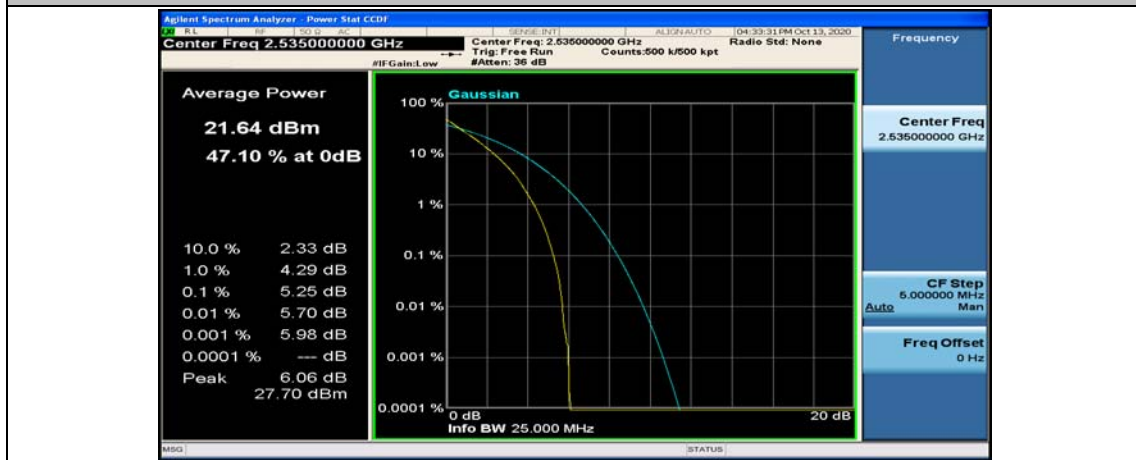


Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

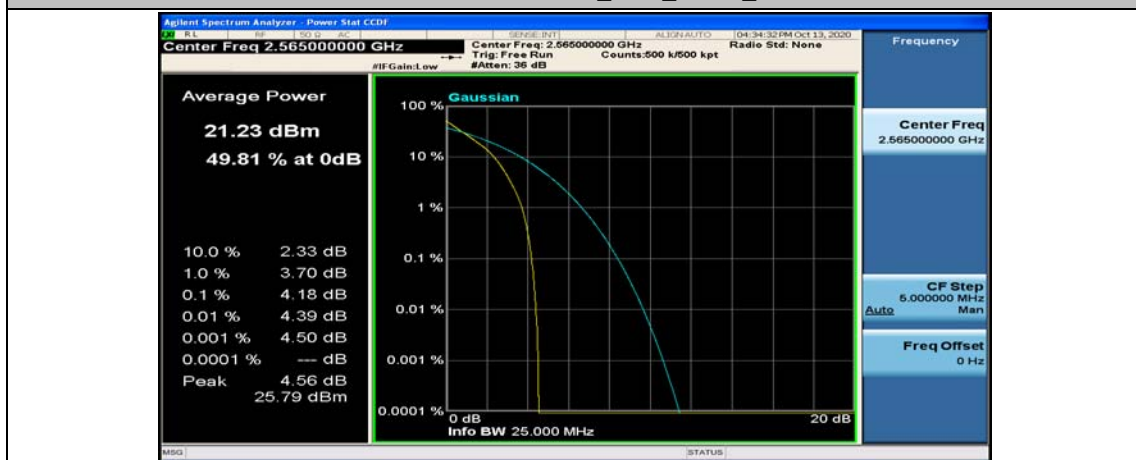


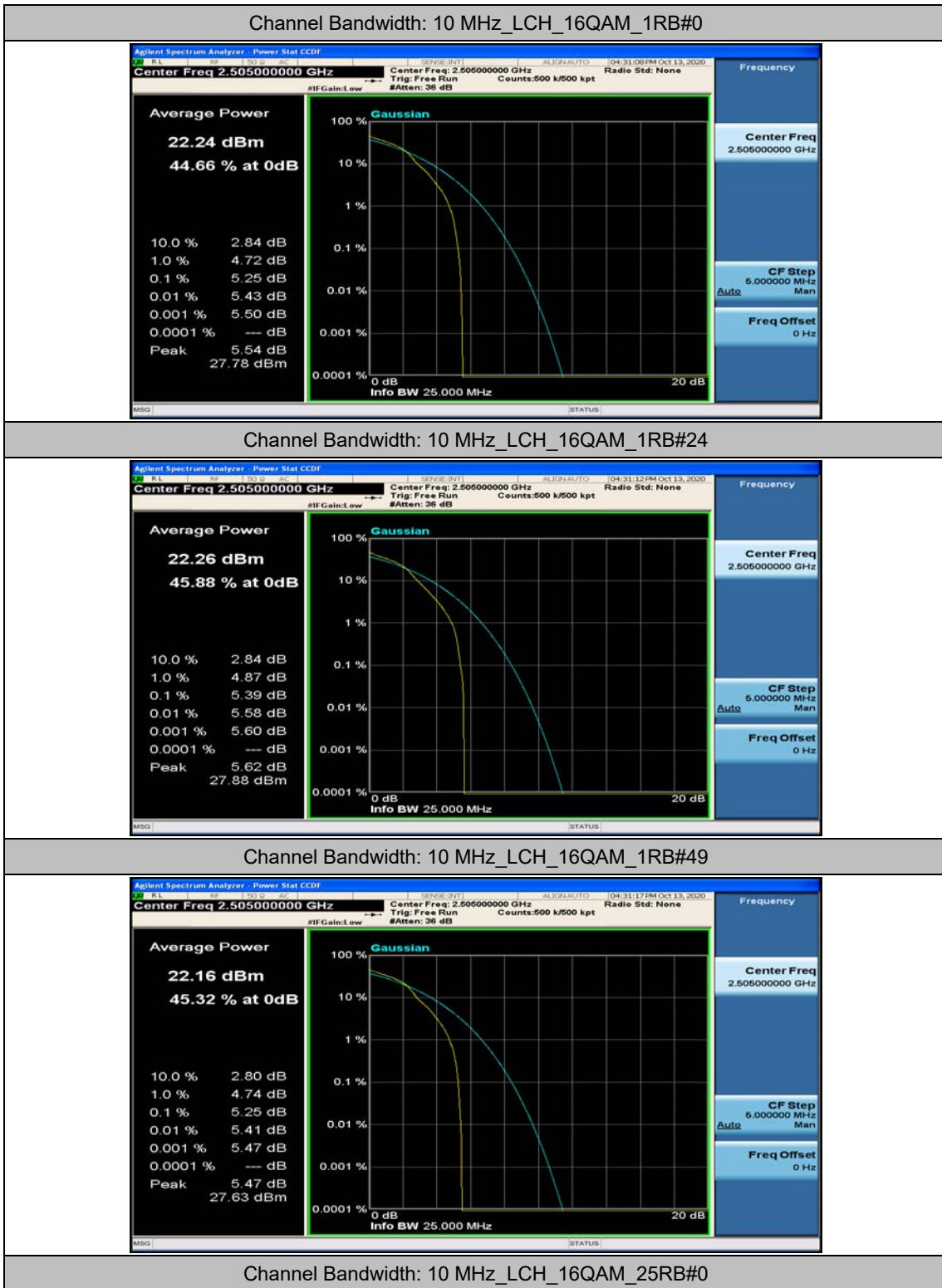
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

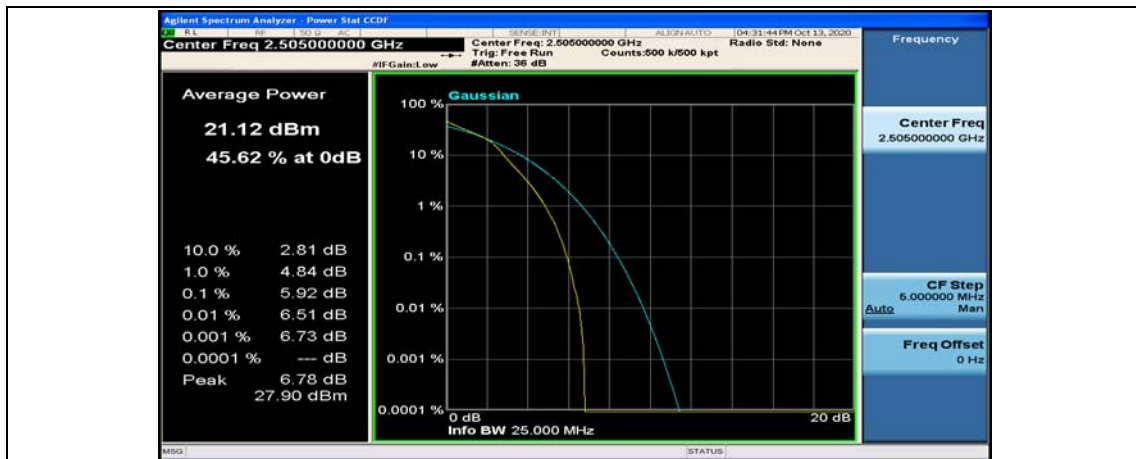


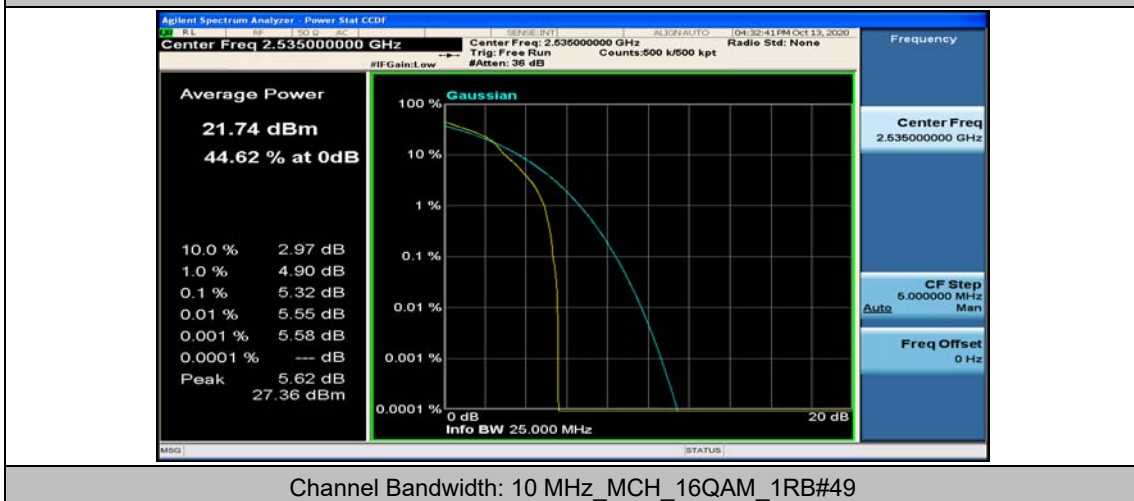
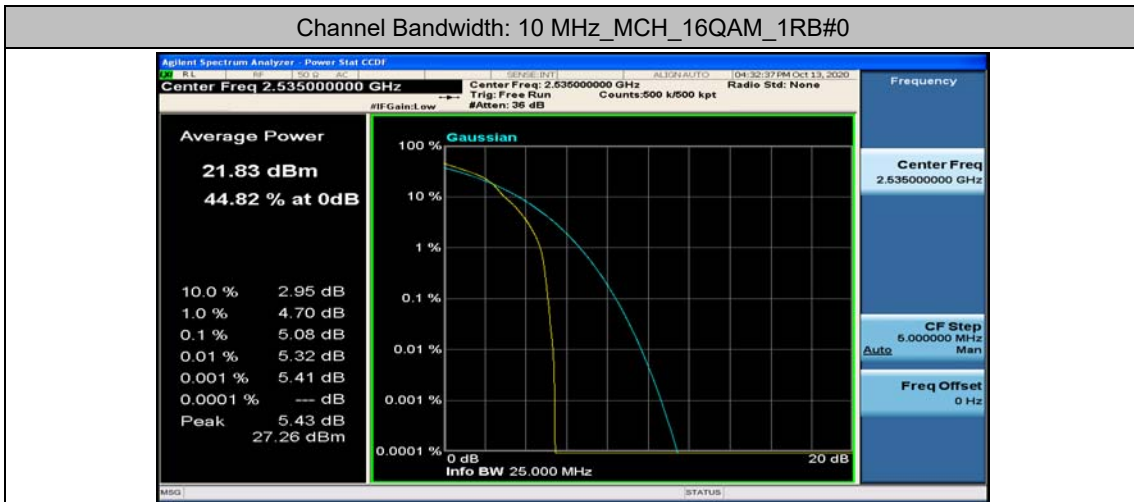




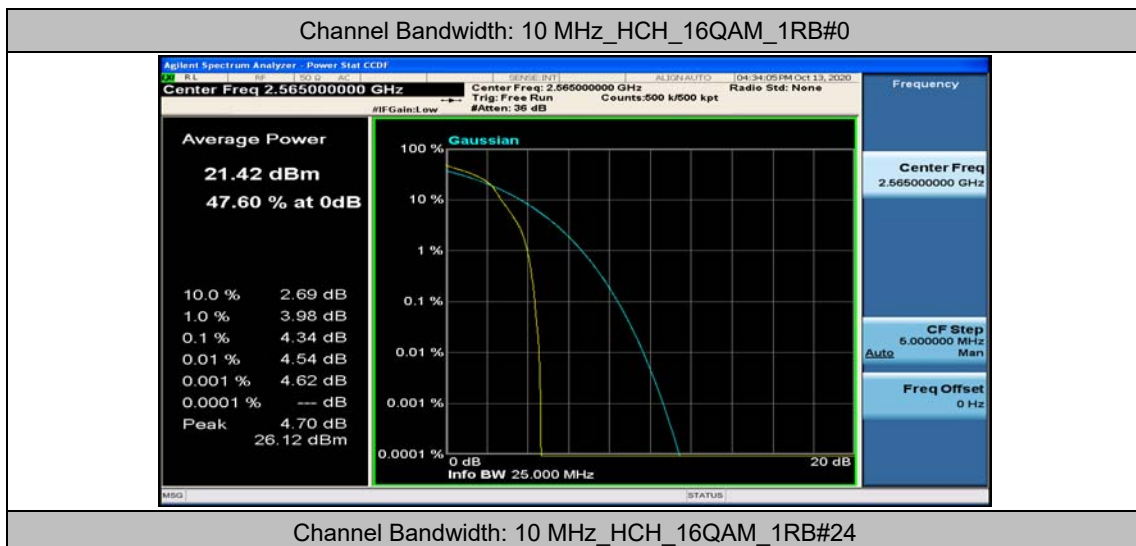




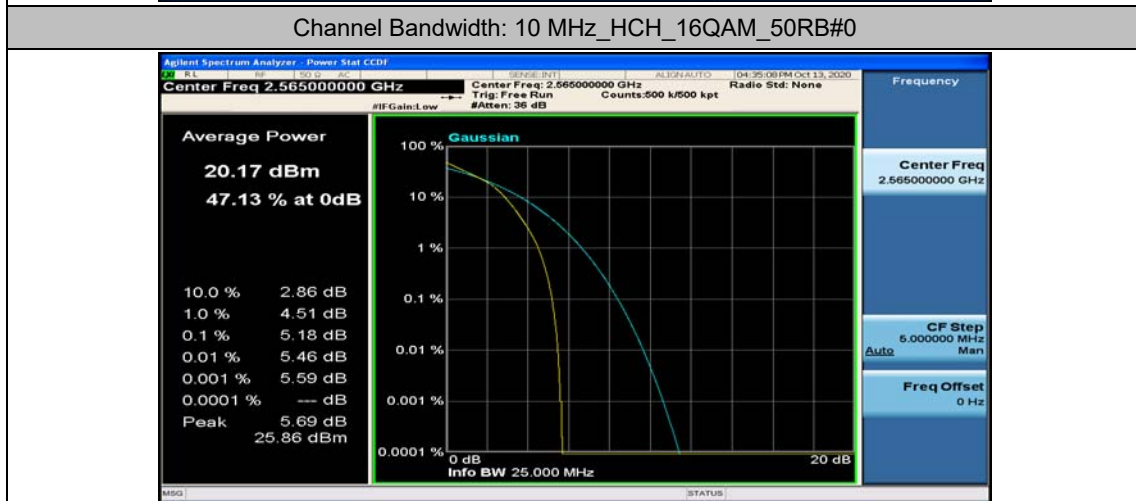
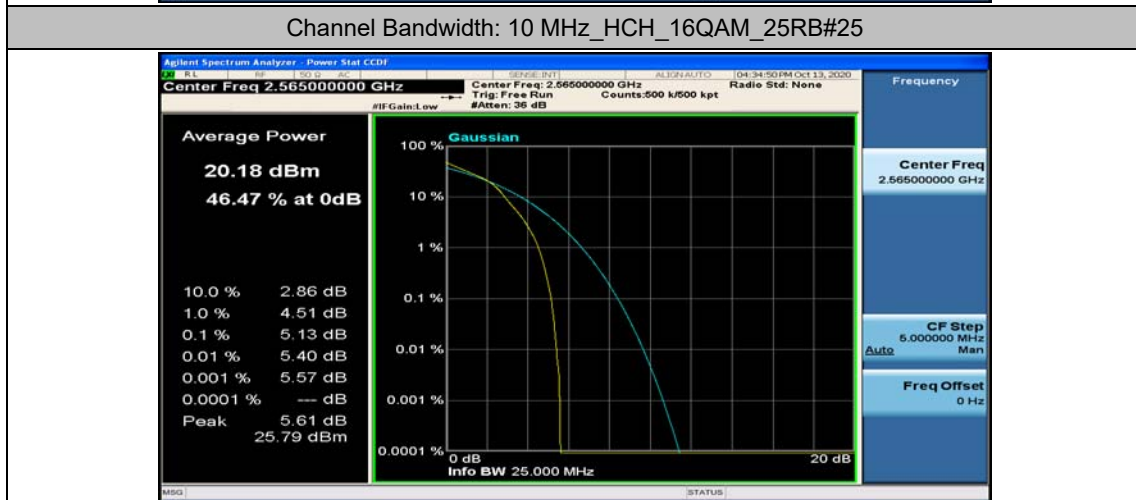




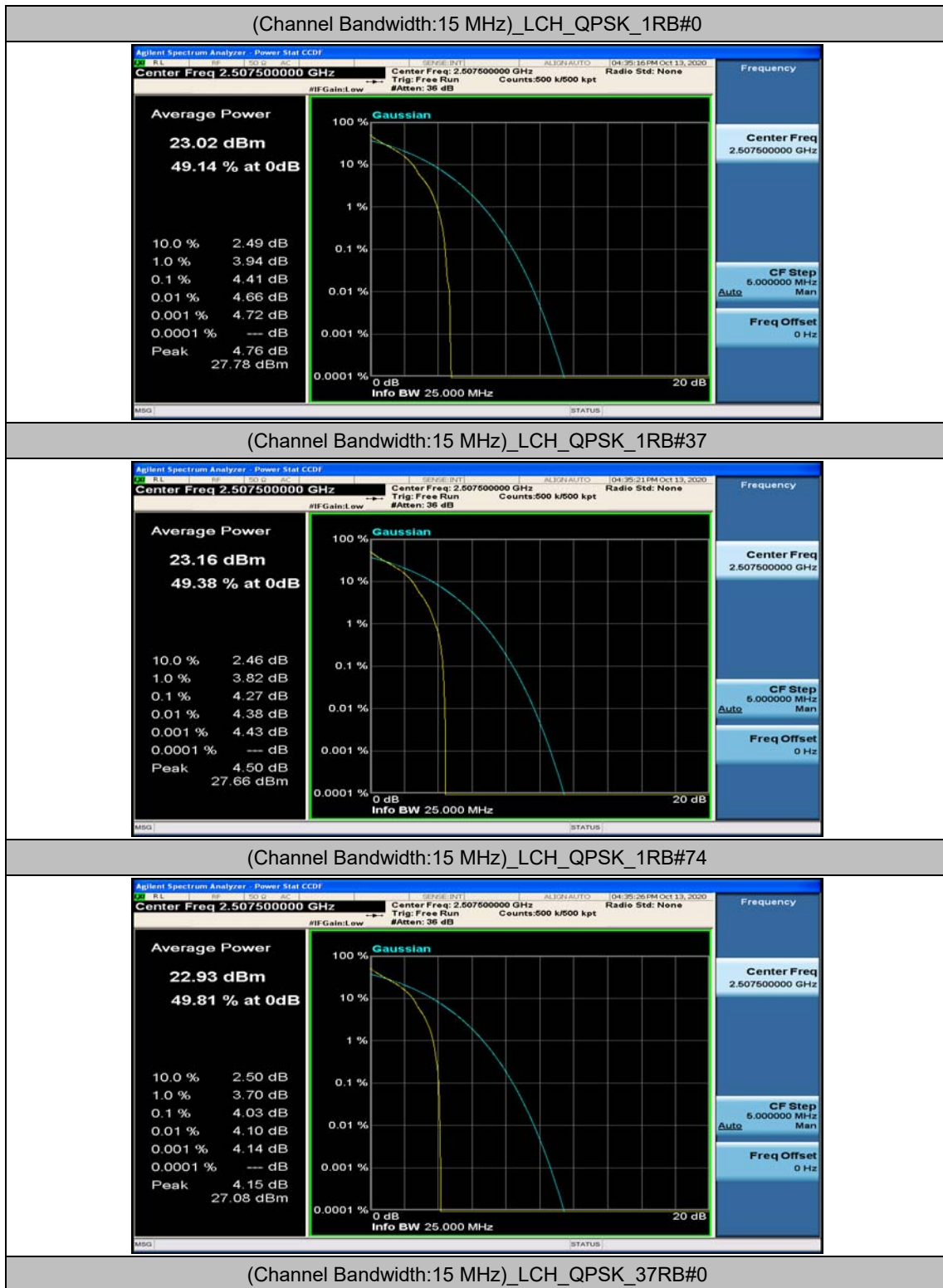








Channel Bandwidth: 15 MHz





(Channel Bandwidth:15 MHz)_LCH_QPSK_37RB#18



(Channel Bandwidth:15 MHz)_LCH_QPSK_37RB#38



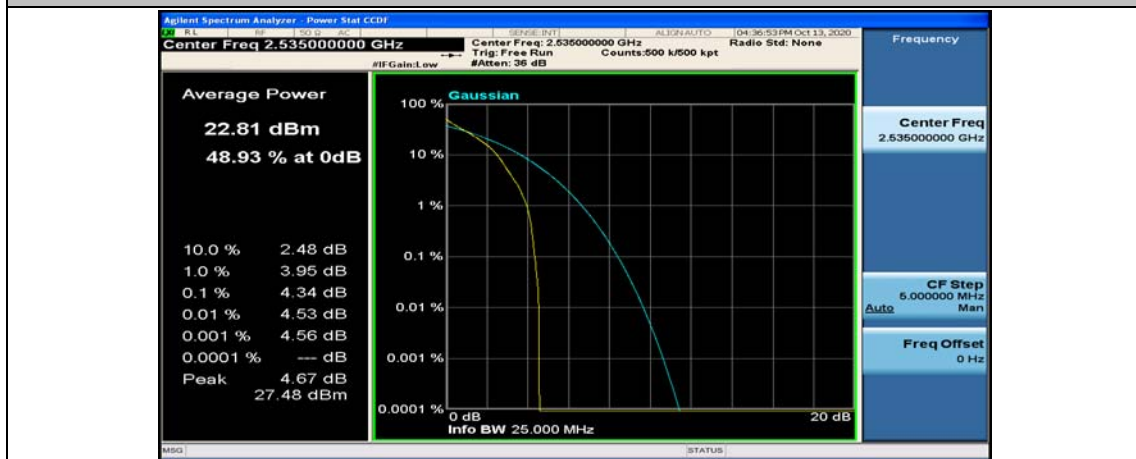
(Channel Bandwidth:15 MHz)_LCH_QPSK_75RB#0



(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)_MCH_QPSK_37RB#0



(Channel Bandwidth:15 MHz)_MCH_QPSK_37RB#18



(Channel Bandwidth:15 MHz)_MCH_QPSK_37RB#38



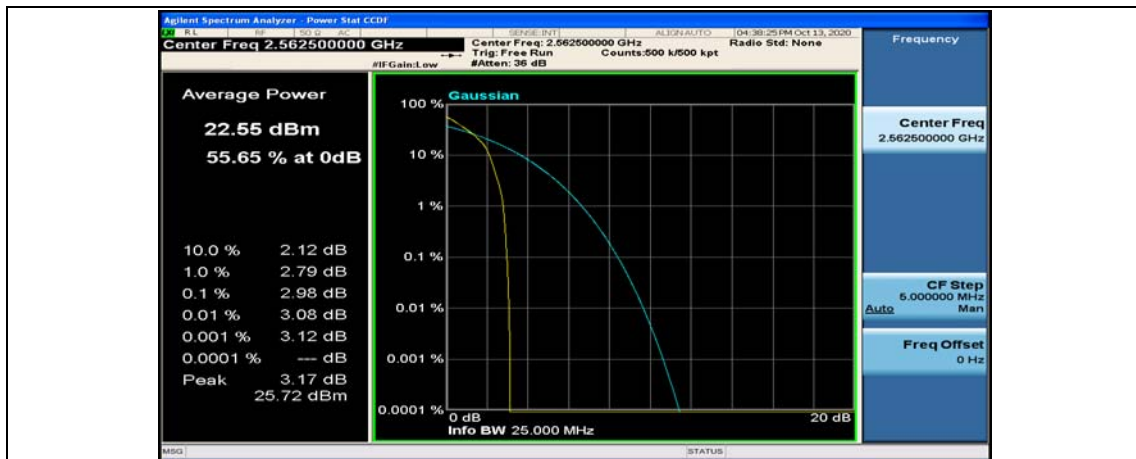
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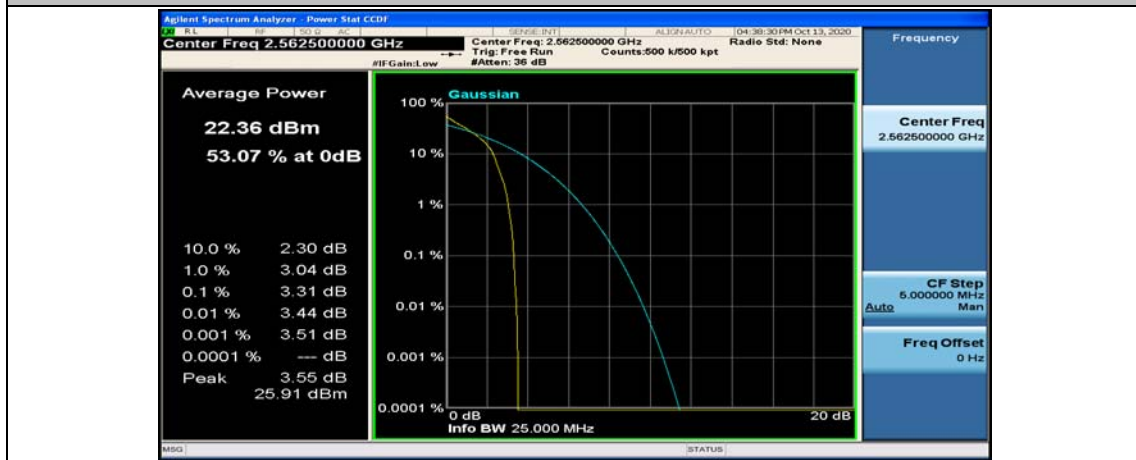
(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#0



(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#37



(Channel Bandwidth:15 MHz)_HCH_QPSK_1RB#74



(Channel Bandwidth:15 MHz)_HCH_QPSK_37RB#0



(Channel Bandwidth:15 MHz)_HCH_QPSK_37RB#18



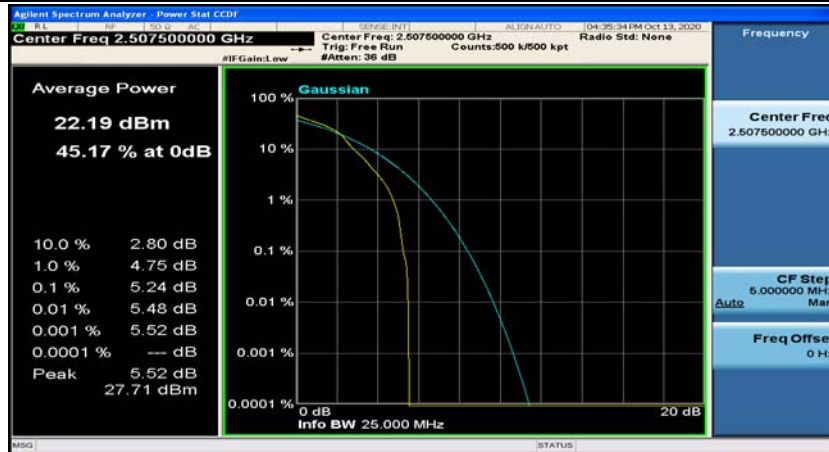
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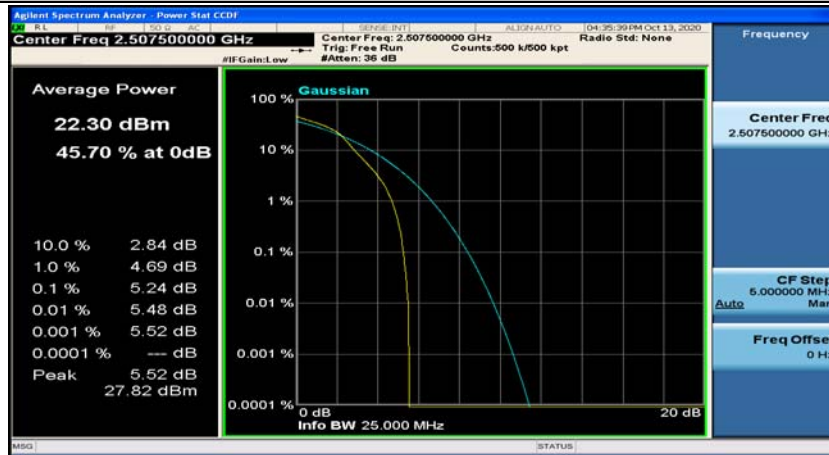
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(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#0



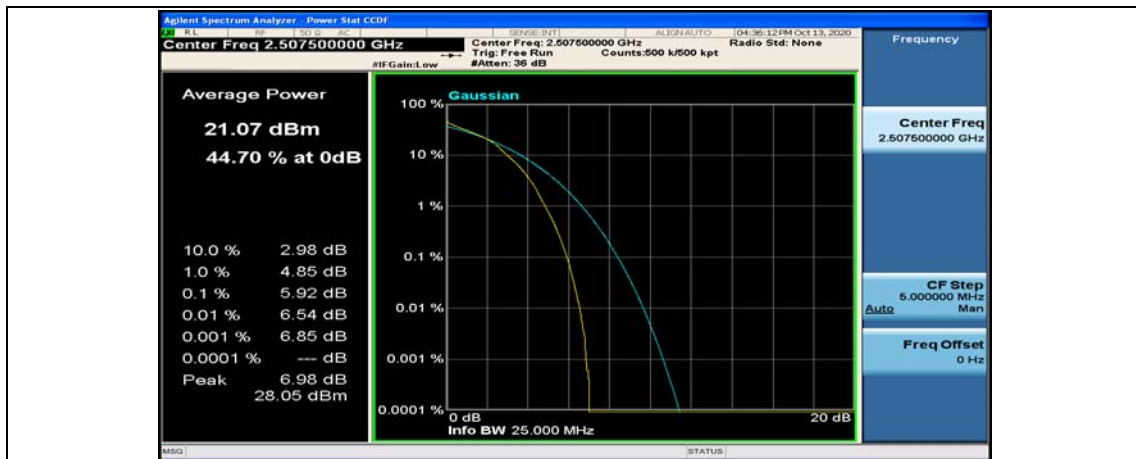
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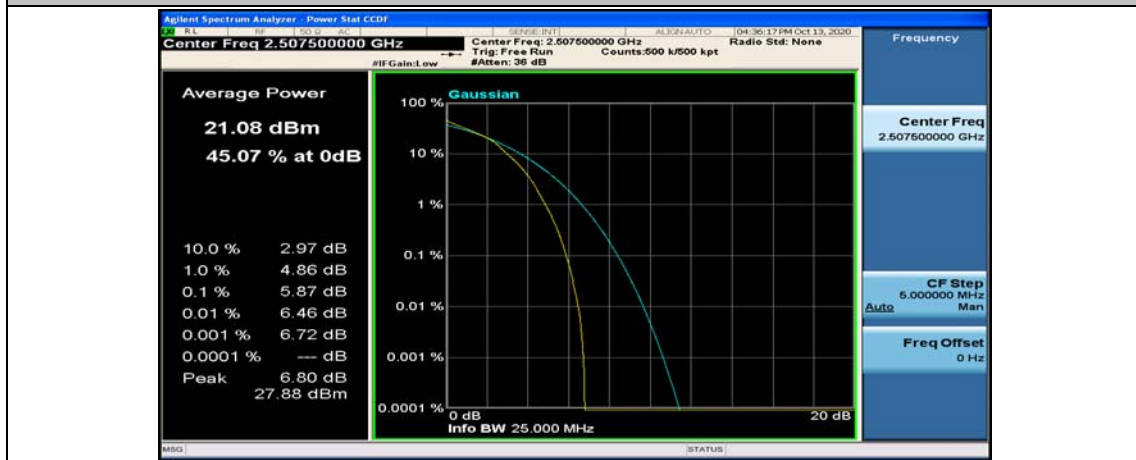
(Channel Bandwidth:15 MHz)_LCH_16QAM_1RB#74



(Channel Bandwidth:15 MHz)_LCH_16QAM_37RB#0



(Channel Bandwidth:15 MHz)_LCH_16QAM_37RB#18



(Channel Bandwidth:15 MHz)_LCH_16QAM_37RB#38



(Channel Bandwidth:15 MHz)_LCH_16QAM_75RB#0



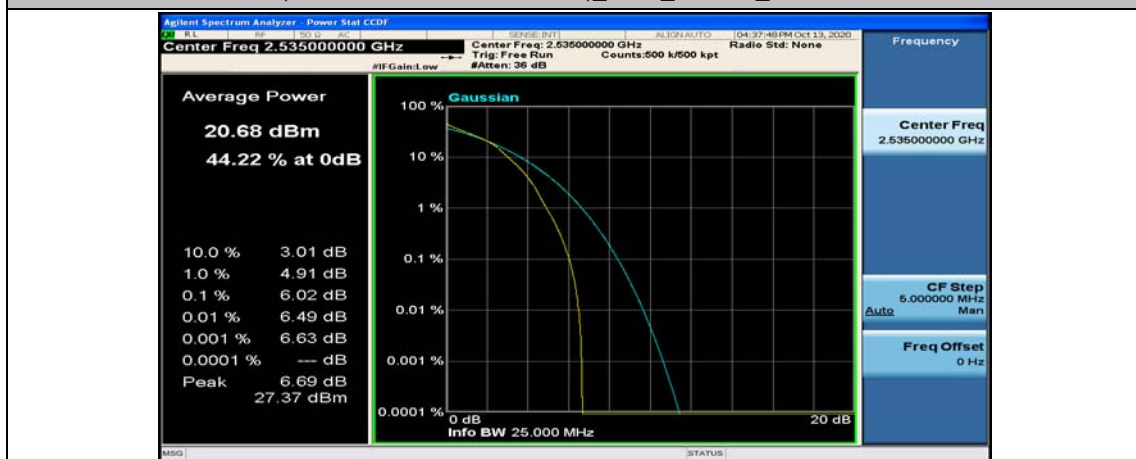
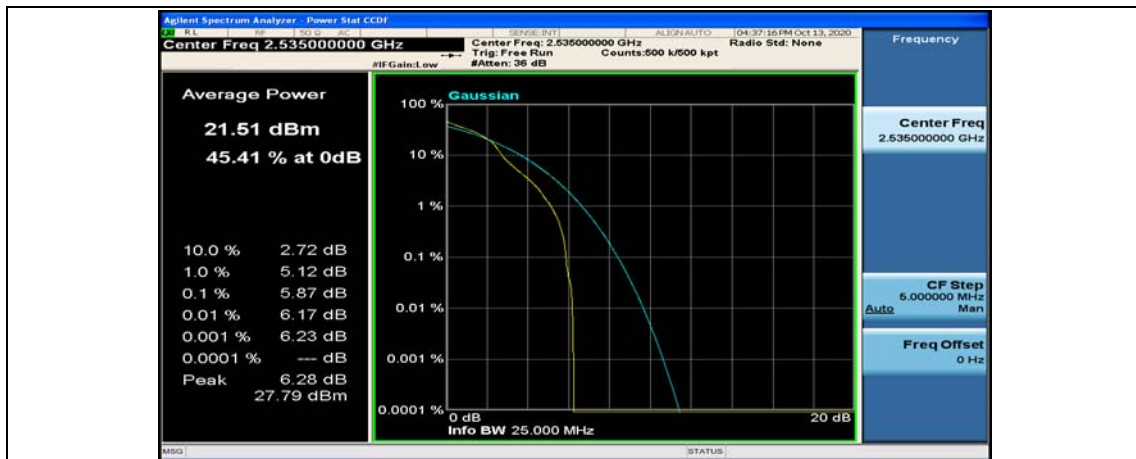
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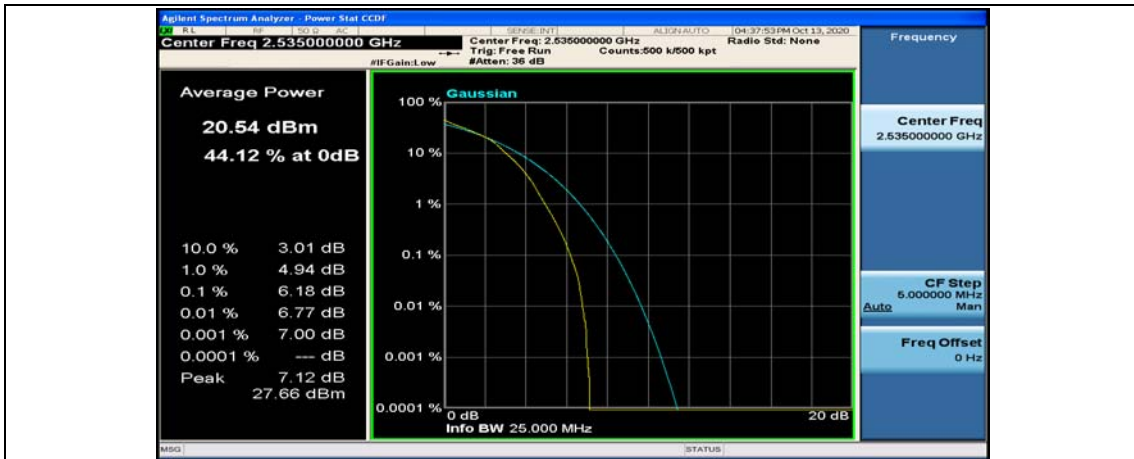


(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#37



(Channel Bandwidth:15 MHz)_MCH_16QAM_1RB#74





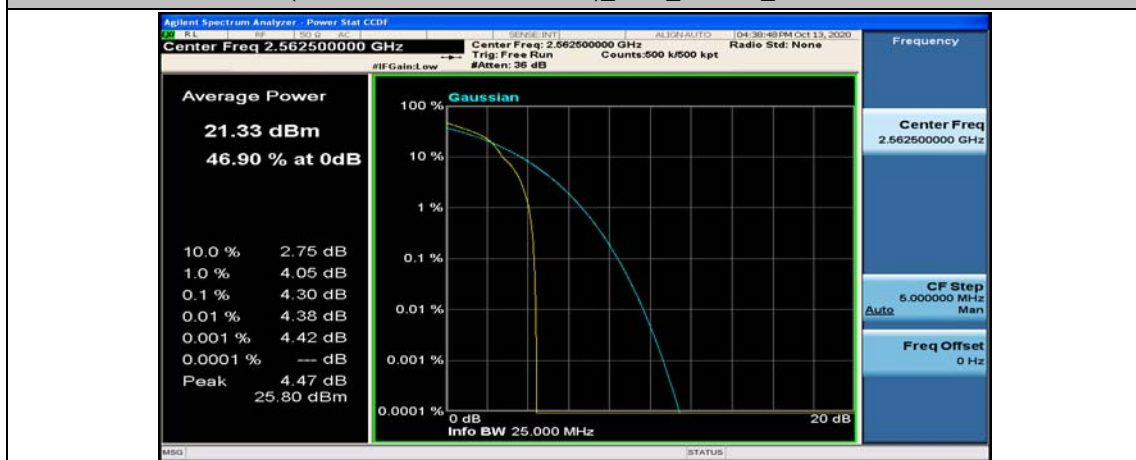
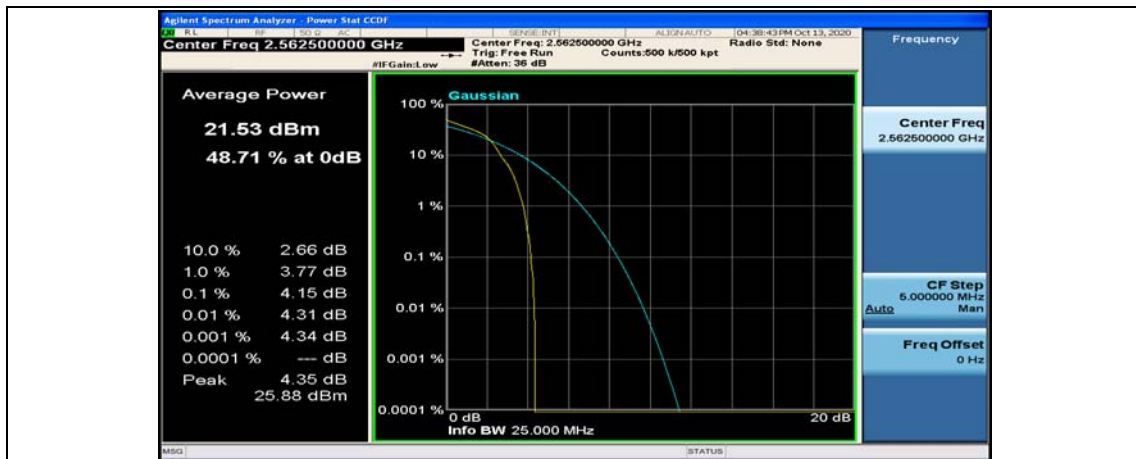
(Channel Bandwidth:15 MHz)_MCH_16QAM_75RB#0



(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#0



(Channel Bandwidth:15 MHz)_HCH_16QAM_1RB#37





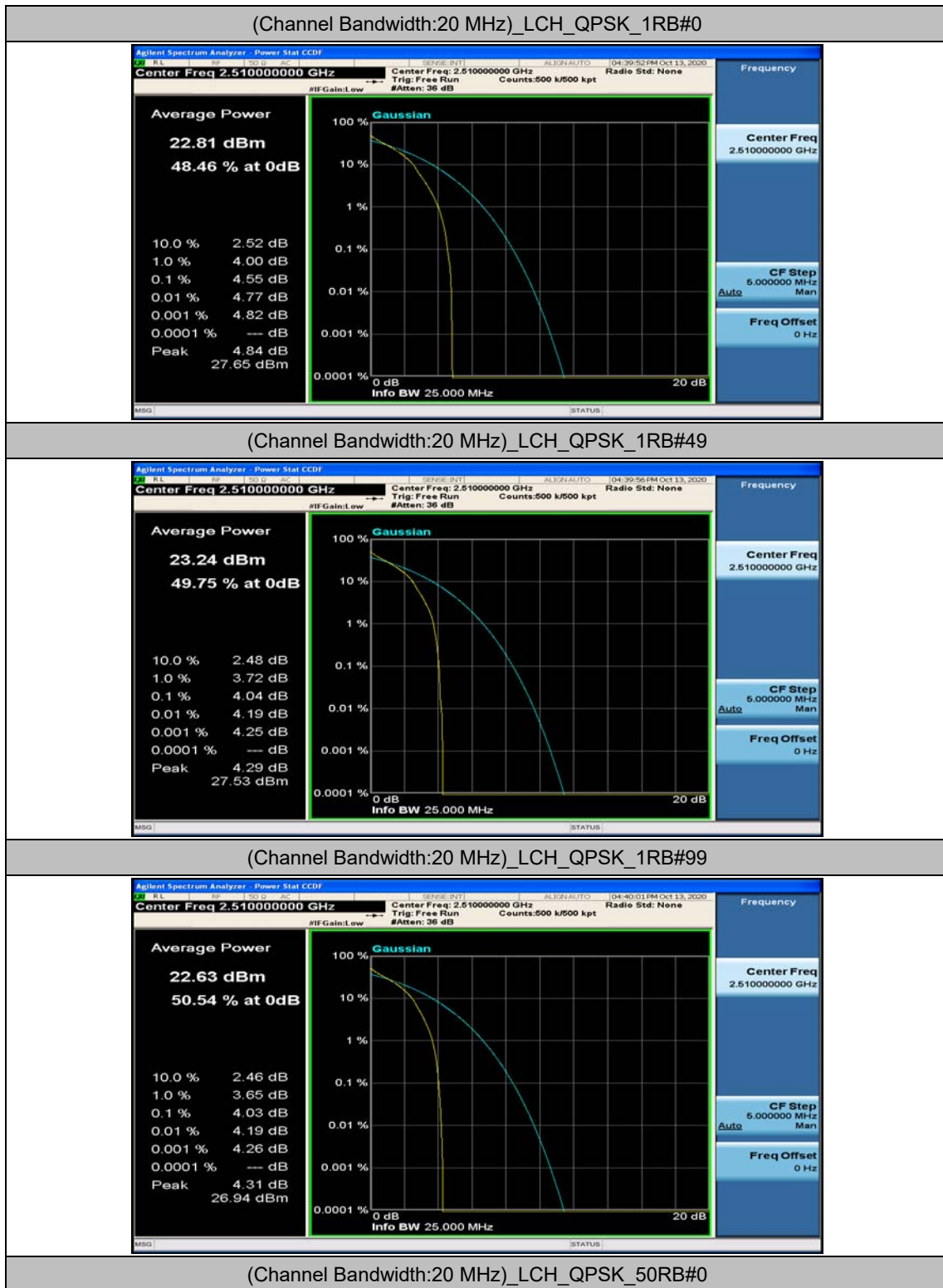
(Channel Bandwidth:15 MHz)_HCH_16QAM_37RB#38

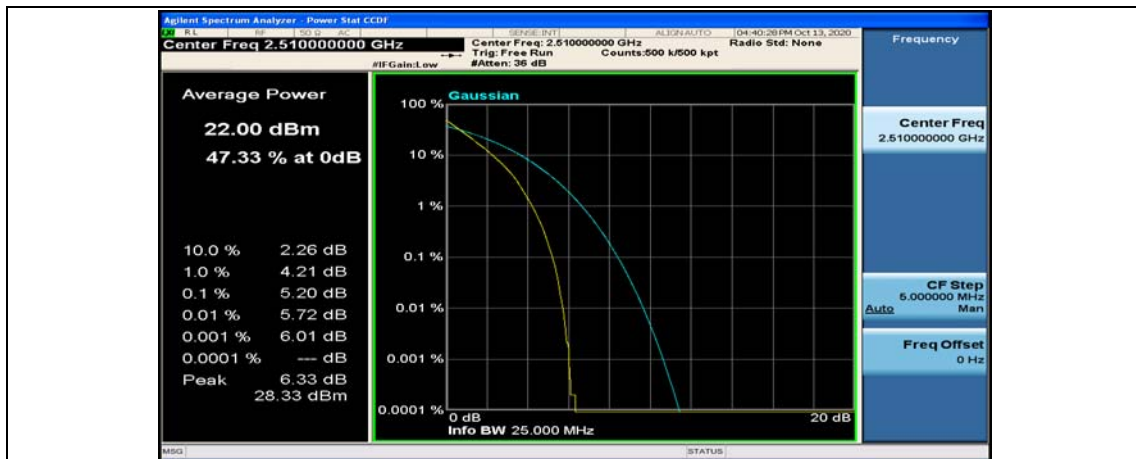


(Channel Bandwidth:15 MHz)_HCH_16QAM_75RB#0



Channel Bandwidth: 20 MHz

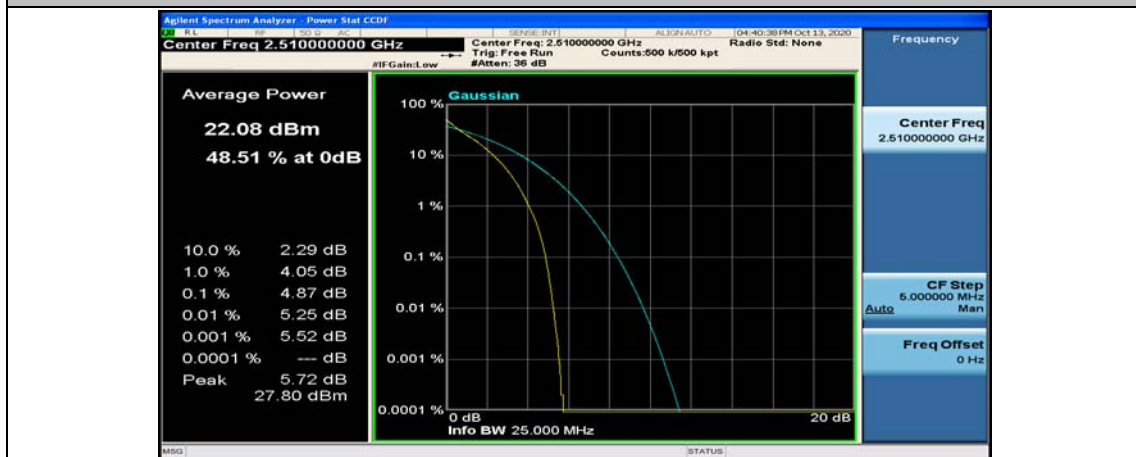




(Channel Bandwidth:20 MHz)_LCH_QPSK_50RB#25



(Channel Bandwidth:20 MHz)_LCH_QPSK_50RB#50



(Channel Bandwidth:20 MHz)_LCH_QPSK_100RB#0