

Appendix for Band 5

Product Name: LTE USB Dongle

Model No: GLU194ST

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	23.19	PASS
		1	3	24.17	PASS
		1	5	24.37	PASS
		3	0	23.76	PASS
		3	2	24.01	PASS
		3	3	24.65	PASS
		6	0	22.86	PASS
	MCH	1	0	22.50	PASS
		1	3	22.61	PASS
		1	5	22.58	PASS
		3	0	22.45	PASS
		3	2	22.33	PASS
		3	3	22.38	PASS
		6	0	21.58	PASS
	HCH	1	0	24.44	PASS
		1	3	24.66	PASS
		1	5	24.62	PASS
		3	0	24.36	PASS
		3	2	24.54	PASS
		3	3	24.40	PASS
		6	0	23.37	PASS
16QAM	LCH	1	0	23.31	PASS
		1	3	23.75	PASS
		1	5	23.80	PASS
		3	0	22.84	PASS
		3	2	23.01	PASS
		3	3	23.11	PASS
		6	0	21.97	PASS
	MCH	1	0	22.06	PASS
		1	3	22.01	PASS
		1	5	22.17	PASS
		3	0	21.69	PASS
		3	2	21.59	PASS

		3	3	21.68	PASS
		6	0	20.74	PASS
	HCH	1	0	24.00	PASS
		1	3	24.23	PASS
		1	5	23.91	PASS
		3	0	23.65	PASS
		3	2	23.70	PASS
		3	3	23.71	PASS
		6	0	22.08	PASS

Channel Bandwidth: 3 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	23.87	PASS
		1	7	24.92	PASS
		1	14	25.51	PASS
		8	0	22.40	PASS
		8	4	23.97	PASS
		8	7	24.12	PASS
		15	0	23.78	PASS
	MCH	1	0	22.51	PASS
		1	7	22.42	PASS
		1	14	22.56	PASS
		8	0	21.33	PASS
		8	4	21.53	PASS
		8	7	21.53	PASS
		15	0	21.38	PASS
	HCH	1	0	24.55	PASS
		1	7	24.34	PASS
		1	14	24.56	PASS
		8	0	22.26	PASS
		8	4	23.33	PASS
		8	7	23.25	PASS
		15	0	23.30	PASS
16QAM	LCH	1	0	23.12	PASS
		1	7	24.50	PASS
		1	14	24.88	PASS
		8	0	21.58	PASS
		8	4	22.33	PASS
		8	7	22.52	PASS
		15	0	22.22	PASS

	MCH	1	0	21.96	PASS
		1	7	22.07	PASS
		1	14	22.22	PASS
		8	0	20.42	PASS
		8	4	20.62	PASS
		8	7	20.64	PASS
		15	0	20.60	PASS
	HCH	1	0	23.33	PASS
		1	7	23.22	PASS
		1	14	23.99	PASS
		8	0	21.41	PASS
		8	4	21.71	PASS
		8	7	21.67	PASS
		15	0	21.75	PASS

Channel Bandwidth: 5 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	24.01	PASS
		1	12	25.43	PASS
		1	24	25.43	PASS
		12	0	23.48	PASS
		12	6	24.07	PASS
		12	13	24.31	PASS
		25	0	24.02	PASS
	MCH	1	0	23.59	PASS
		1	12	22.29	PASS
		1	24	22.90	PASS
		12	0	21.46	PASS
		12	6	21.41	PASS
		12	13	21.49	PASS
		25	0	21.54	PASS
	HCH	1	0	25.31	PASS
		1	12	24.61	PASS
		1	24	24.59	PASS
		12	0	23.67	PASS
		12	6	22.78	PASS
		12	13	22.47	PASS
		25	0	23.58	PASS
16QAM	LCH	1	0	22.81	PASS
		1	12	24.89	PASS

		1	24	24.91	PASS
		12	0	22.04	PASS
		12	6	22.69	PASS
		12	13	22.95	PASS
		25	0	22.67	PASS
	MCH	1	0	22.30	PASS
		1	12	21.83	PASS
		1	24	22.42	PASS
		12	0	20.62	PASS
		12	6	20.75	PASS
		12	13	20.84	PASS
		25	0	20.78	PASS
	HCH	1	0	24.59	PASS
		1	12	23.11	PASS
		1	24	24.03	PASS
		12	0	22.13	PASS
		12	6	21.92	PASS
		12	13	21.52	PASS
		25	0	22.05	PASS

Channel Bandwidth: 10 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	24.12	PASS
		1	24	25.61	PASS
		1	49	23.91	PASS
		25	0	24.09	PASS
		25	12	24.32	PASS
		25	25	23.96	PASS
		50	0	24.14	PASS
	MCH	1	0	24.64	PASS
		1	24	22.27	PASS
		1	49	24.72	PASS
		25	0	22.05	PASS
		25	12	21.65	PASS
		25	25	21.92	PASS
		50	0	22.03	PASS
	HCH	1	0	24.12	PASS
		1	24	25.60	PASS
		1	49	24.58	PASS
		25	0	23.54	PASS

		25	12	24.26	PASS
		25	25	22.97	PASS
		50	0	23.16	PASS
16QAM	LCH	1	0	23.87	PASS
		1	24	25.21	PASS
		1	49	23.55	PASS
		25	0	22.77	PASS
		25	12	22.98	PASS
		25	25	22.82	PASS
		50	0	22.81	PASS
	MCH	1	0	24.35	PASS
		1	24	21.90	PASS
		1	49	23.72	PASS
		25	0	21.35	PASS
		25	12	20.78	PASS
		25	25	21.21	PASS
		50	0	21.30	PASS
	HCH	1	0	22.88	PASS
		1	24	24.21	PASS
		1	49	24.07	PASS
		25	0	22.58	PASS
		25	12	22.59	PASS
		25	25	22.09	PASS
		50	0	22.42	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	5.62	<13	PASS
		1	3	5.54	<13	PASS
		1	5	5.57	<13	PASS
		3	0	5.74	<13	PASS
		3	2	5.6	<13	PASS
		3	3	5.59	<13	PASS
		6	0	5.92	<13	PASS
	MCH	1	0	5.79	<13	PASS
		1	3	5.88	<13	PASS
		1	5	6.07	<13	PASS
		3	0	6.28	<13	PASS
		3	2	5.9	<13	PASS
		3	3	6.16	<13	PASS
		6	0	5.82	<13	PASS
	HCH	1	0	5.39	<13	PASS
		1	3	5.37	<13	PASS
		1	5	5.5	<13	PASS
		3	0	5.61	<13	PASS
		3	2	5.46	<13	PASS
		3	3	5.6	<13	PASS
		6	0	6.03	<13	PASS
16QAM	LCH	1	0	6.39	<13	PASS
		1	3	6.28	<13	PASS
		1	5	6.19	<13	PASS
		3	0	6.52	<13	PASS
		3	2	6.48	<13	PASS
		3	3	6.41	<13	PASS
		6	0	6.8	<13	PASS
	MCH	1	0	6.73	<13	PASS
		1	3	6.74	<13	PASS
1		5	6.96	<13	PASS	

		3	0	7.04	<13	PASS
		3	2	7.08	<13	PASS
		3	3	7.02	<13	PASS
		6	0	6.63	<13	PASS
	HCH	1	0	6.08	<13	PASS
		1	3	5.95	<13	PASS
		1	5	6.28	<13	PASS
		3	0	6.34	<13	PASS
		3	2	6.28	<13	PASS
		3	3	6.21	<13	PASS
		6	0	6.9	<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	5.3	<13	PASS
		1	7	5.33	<13	PASS
		1	14	5.27	<13	PASS
		8	0	6.15	<13	PASS
		8	4	5.75	<13	PASS
		8	7	5.94	<13	PASS
		15	0	5.82	<13	PASS
	MCH	1	0	5.68	<13	PASS
		1	7	5.65	<13	PASS
		1	14	5.52	<13	PASS
		8	0	5.93	<13	PASS
		8	4	5.96	<13	PASS
		8	7	5.97	<13	PASS
		15	0	6.03	<13	PASS
	HCH	1	0	5.59	<13	PASS
		1	7	5.36	<13	PASS
		1	14	5.41	<13	PASS
		8	0	6.37	<13	PASS
		8	4	6.07	<13	PASS
		8	7	6.1	<13	PASS
		15	0	6.08	<13	PASS
16QAM	LCH	1	0	6.27	<13	PASS
		1	7	6	<13	PASS
		1	14	5.96	<13	PASS
		8	0	6.58	<13	PASS

		8	4	6.57	<13	PASS
		8	7	6.53	<13	PASS
		15	0	6.85	<13	PASS
	MCH	1	0	6.43	<13	PASS
		1	7	6.75	<13	PASS
		1	14	6.37	<13	PASS
		8	0	6.48	<13	PASS
		8	4	6.44	<13	PASS
		8	7	6.48	<13	PASS
		15	0	6.86	<13	PASS
	HCH	1	0	6.26	<13	PASS
		1	7	6.51	<13	PASS
		1	14	6.18	<13	PASS
		8	0	7.31	<13	PASS
		8	4	7.02	<13	PASS
		8	7	7.08	<13	PASS
		15	0	6.91	<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	5.8	<13	PASS
		1	12	5.22	<13	PASS
		1	24	5.38	<13	PASS
		12	0	5.99	<13	PASS
		12	6	5.78	<13	PASS
		12	13	5.98	<13	PASS
		25	0	5.85	<13	PASS
	MCH	1	0	5.95	<13	PASS
		1	12	5.91	<13	PASS
		1	24	5.98	<13	PASS
		12	0	5.82	<13	PASS
		12	6	5.6	<13	PASS
		12	13	5.96	<13	PASS
		25	0	5.92	<13	PASS
	HCH	1	0	5.47	<13	PASS
		1	12	5.4	<13	PASS
		1	24	5.26	<13	PASS
		12	0	6.18	<13	PASS
		12	6	6.14	<13	PASS

		12	13	6.25	<13	PASS
		25	0	6.2	<13	PASS
16QAM	LCH	1	0	6.2	<13	PASS
		1	12	5.94	<13	PASS
		1	24	6.06	<13	PASS
		12	0	6.79	<13	PASS
		12	6	6.75	<13	PASS
		12	13	6.72	<13	PASS
		25	0	6.48	<13	PASS
		MCH	1	0	6.78	<13
	1		12	6.66	<13	PASS
	1		24	6.91	<13	PASS
	12		0	6.55	<13	PASS
	12		6	6.51	<13	PASS
	12		13	6.6	<13	PASS
	25		0	6.54	<13	PASS
	HCH	1	0	6.19	<13	PASS
		1	12	6.15	<13	PASS
		1	24	6.13	<13	PASS
		12	0	6.95	<13	PASS
		12	6	6.9	<13	PASS
		12	13	6.86	<13	PASS
		25	0	6.81	<13	PASS

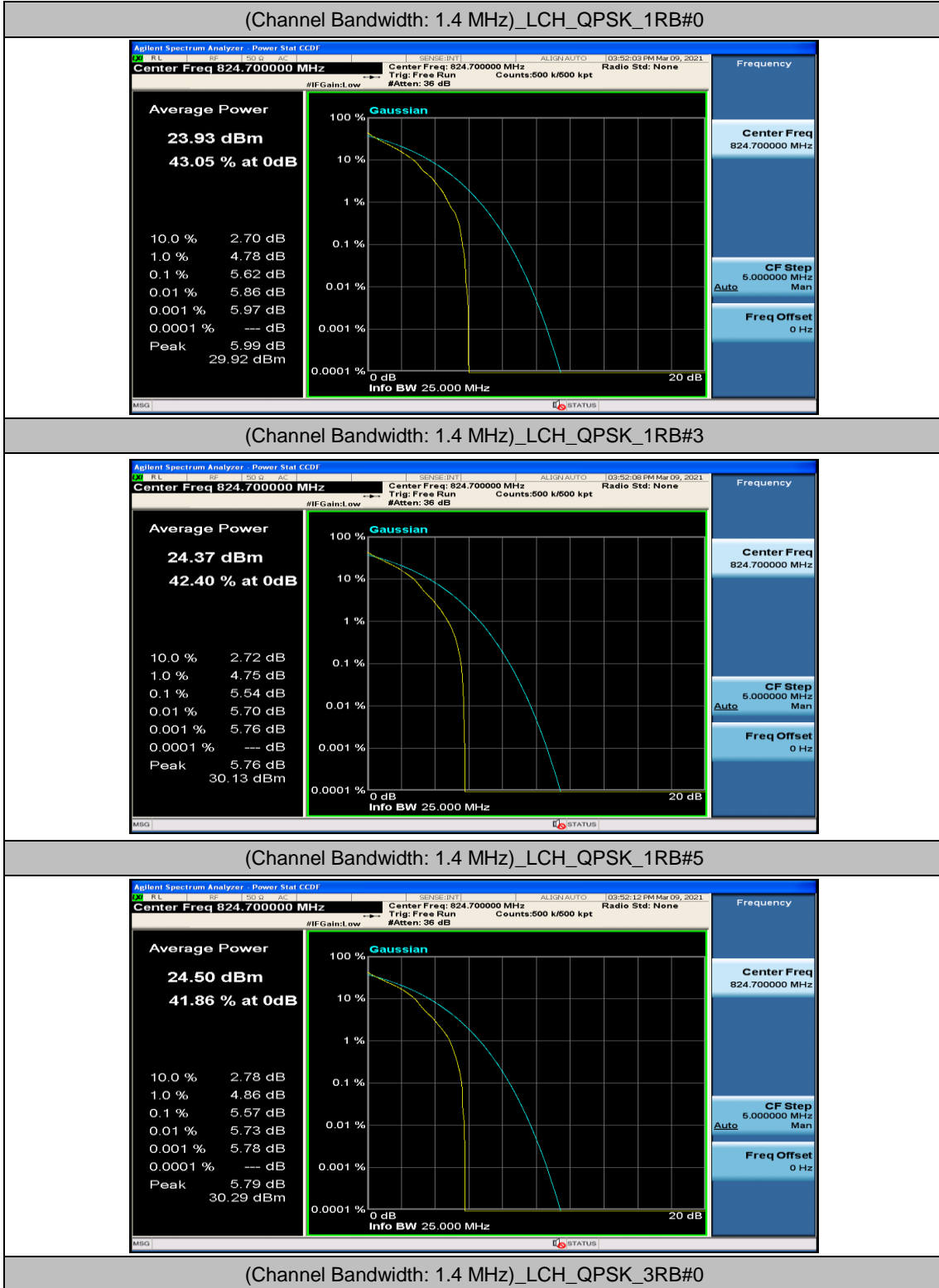
Channel Bandwidth: 10 MHz

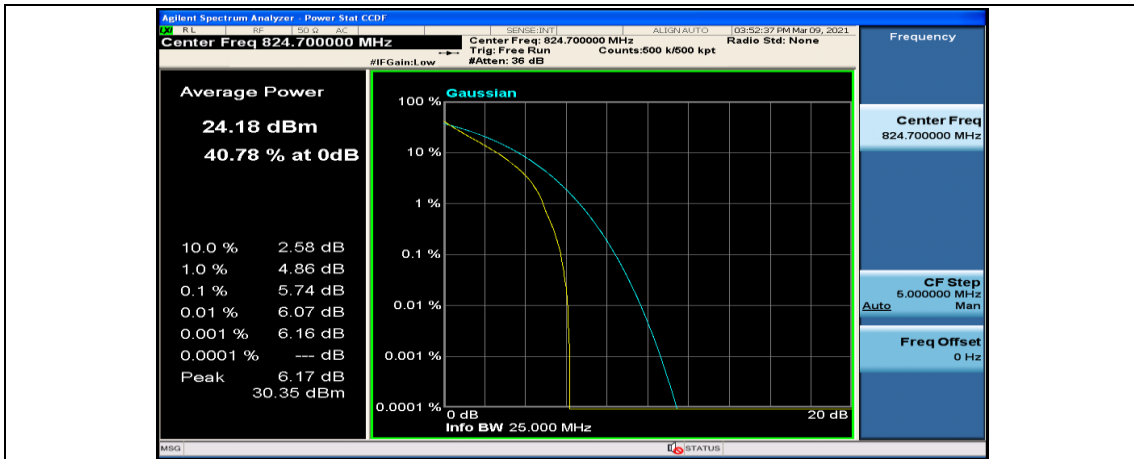
Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	5.38	<13	PASS
		1	24	5.21	<13	PASS
		1	49	5.75	<13	PASS
		25	0	5.94	<13	PASS
		25	12	5.86	<13	PASS
		25	25	6.11	<13	PASS
		50	0	5.98	<13	PASS
	MCH	1	0	5.35	<13	PASS
		1	24	5.61	<13	PASS
		1	49	5.58	<13	PASS
		25	0	6.12	<13	PASS
		25	12	5.77	<13	PASS
		25	25	6.11	<13	PASS

		50	0	5.94	<13	PASS
	HCH	1	0	5.94	<13	PASS
		1	24	5.38	<13	PASS
		1	49	5.27	<13	PASS
		25	0	6.17	<13	PASS
		25	12	6.08	<13	PASS
		25	25	6.21	<13	PASS
		50	0	6.06	<13	PASS
16QAM	LCH	1	0	6.1	<13	PASS
		1	24	5.84	<13	PASS
		1	49	6.63	<13	PASS
		25	0	6.65	<13	PASS
		25	12	6.63	<13	PASS
		25	25	6.72	<13	PASS
		50	0	6.57	<13	PASS
	MCH	1	0	6.26	<13	PASS
		1	24	6.57	<13	PASS
		1	49	6.44	<13	PASS
		25	0	6.82	<13	PASS
		25	12	6.73	<13	PASS
		25	25	6.73	<13	PASS
		50	0	6.62	<13	PASS
	HCH	1	0	6.84	<13	PASS
		1	24	6.36	<13	PASS
		1	49	6.1	<13	PASS
		25	0	7.07	<13	PASS
		25	12	6.9	<13	PASS
		25	25	6.99	<13	PASS
		50	0	6.85	<13	PASS

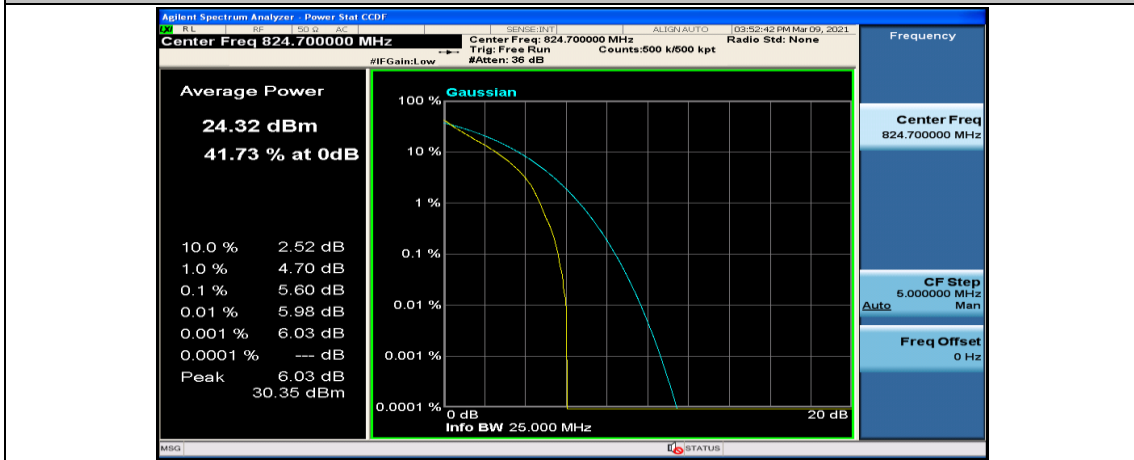
Test Graphs

Channel Bandwidth: 1.4 MHz

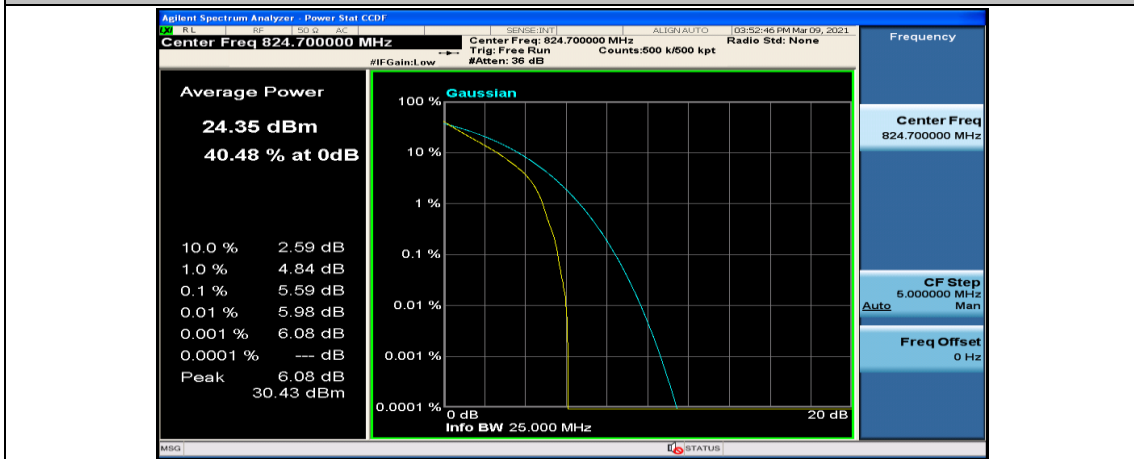




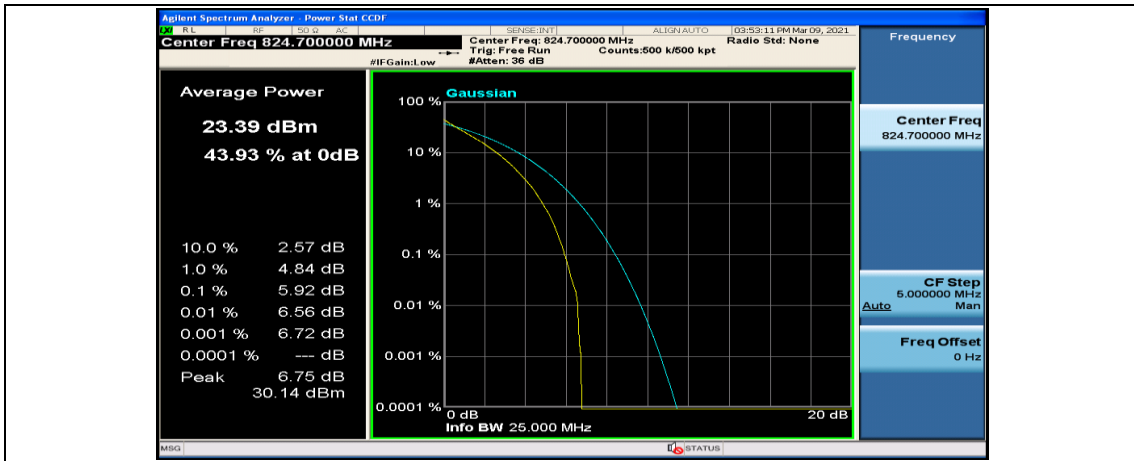
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_3RB#2



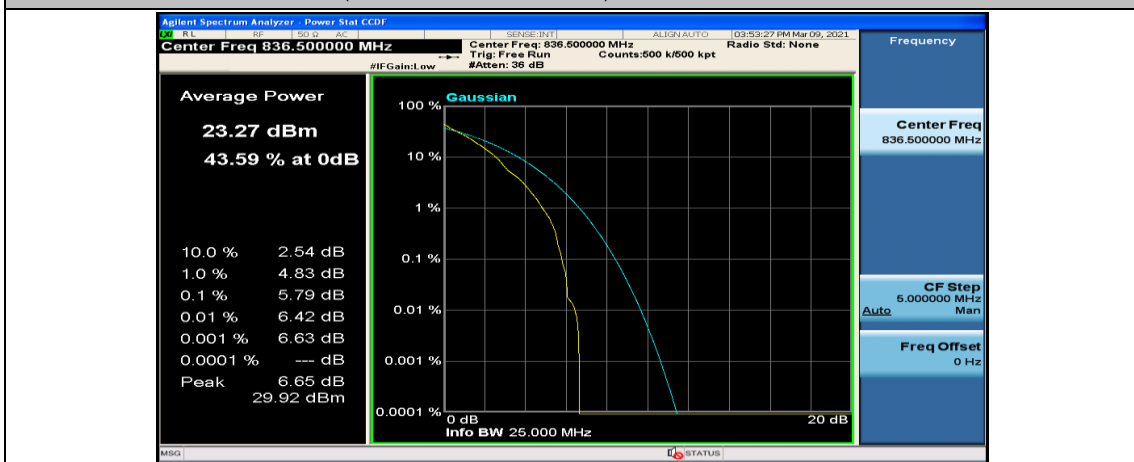
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_3RB#3



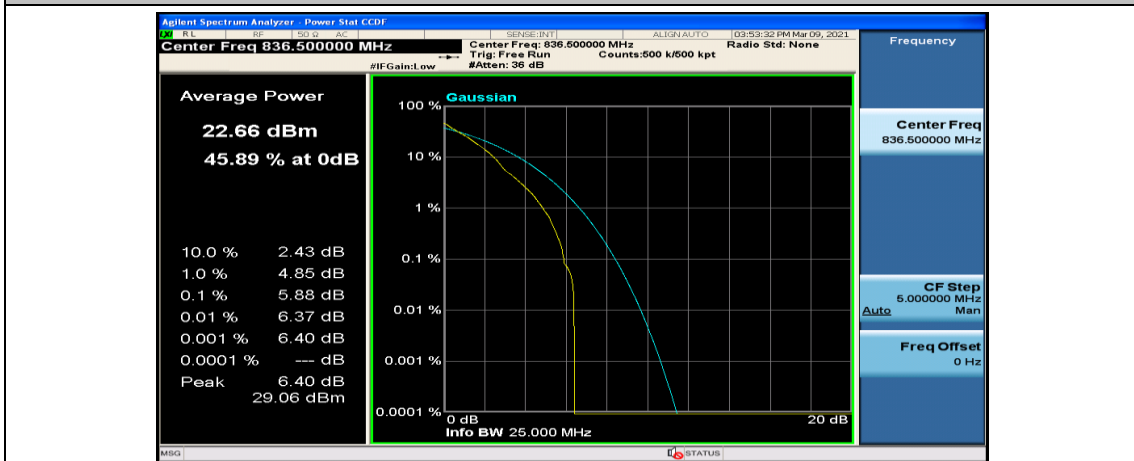
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_6RB#0



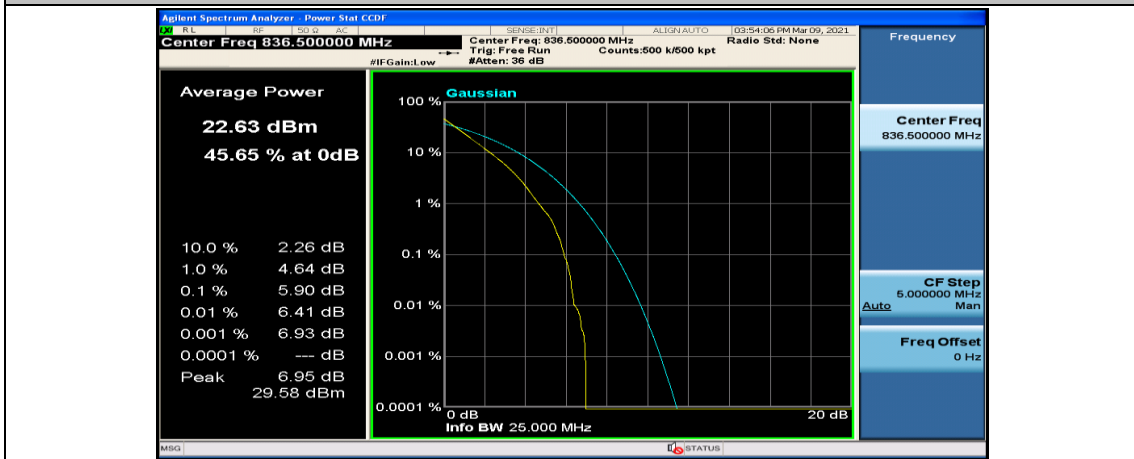
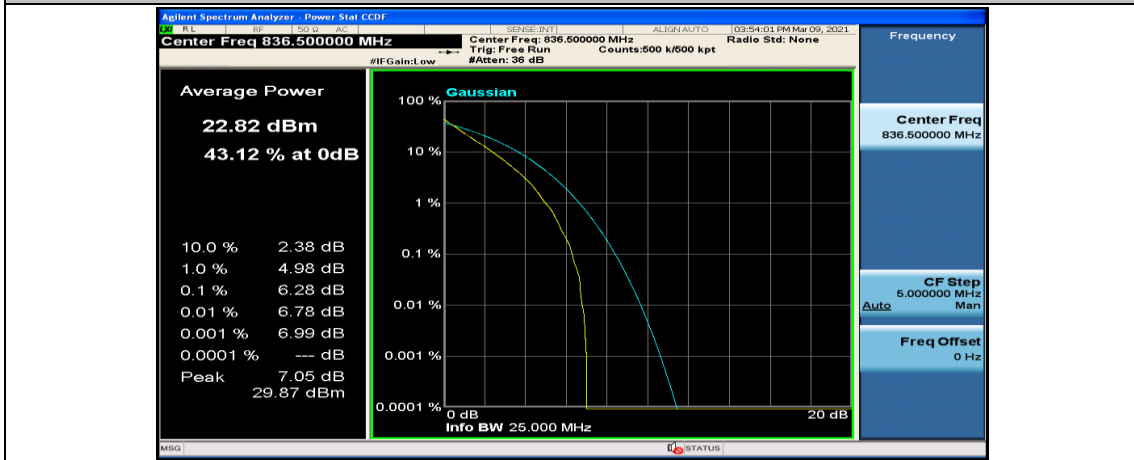
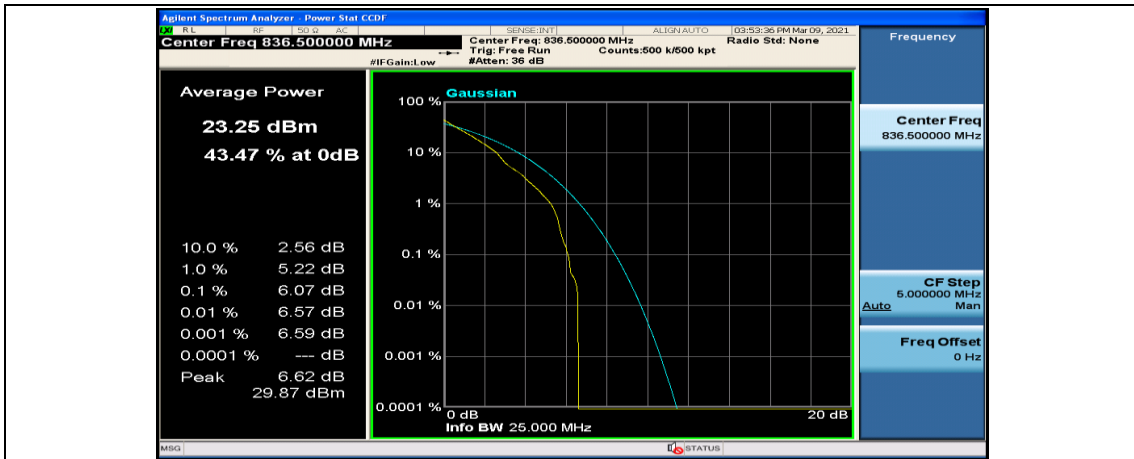
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#0

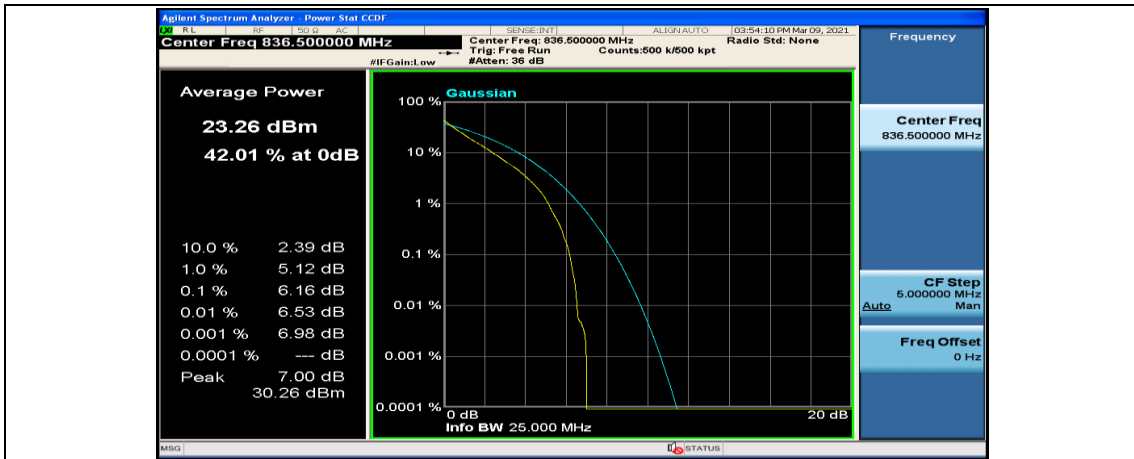


(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#3

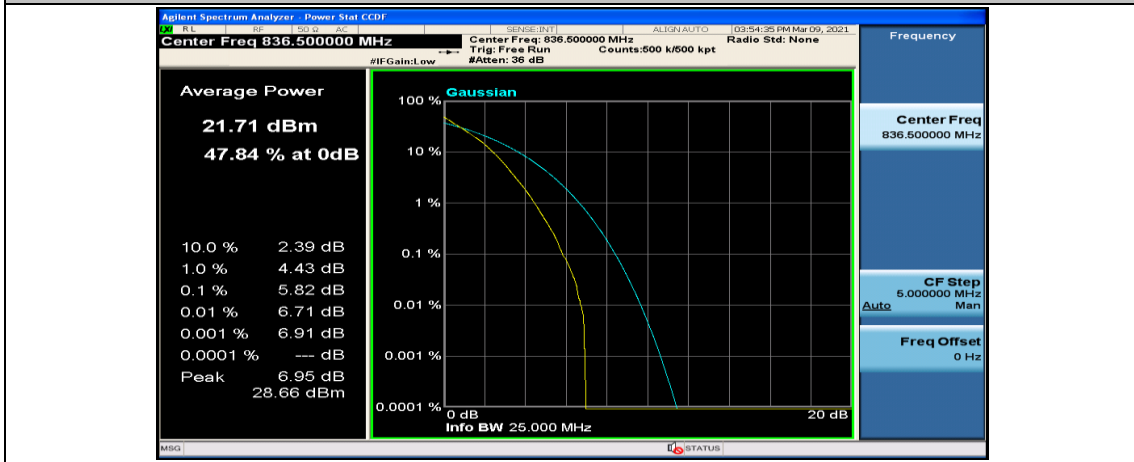


(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#5

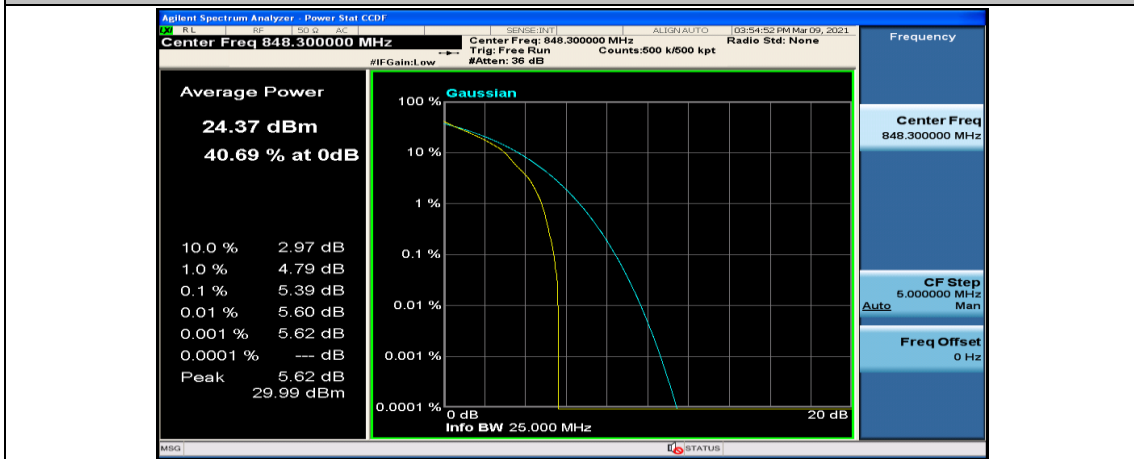




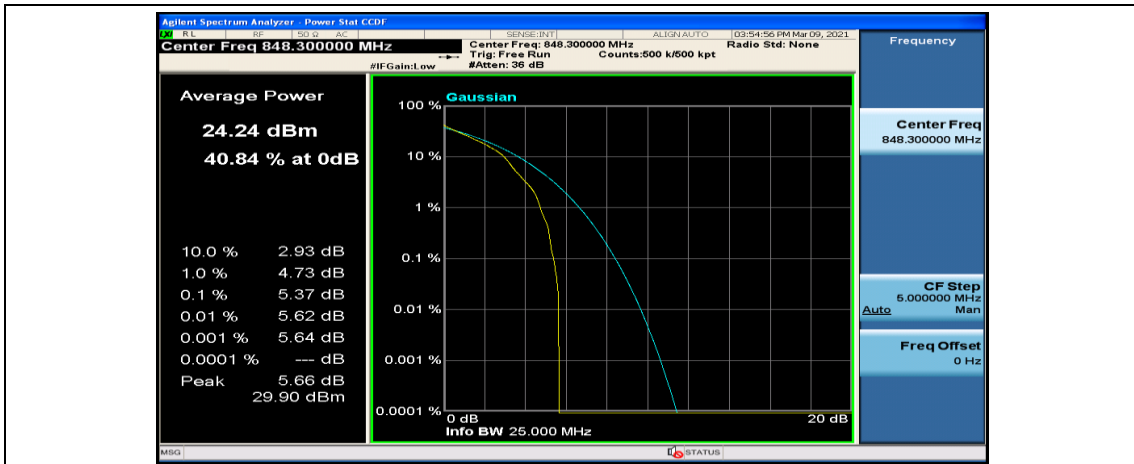
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_6RB#0



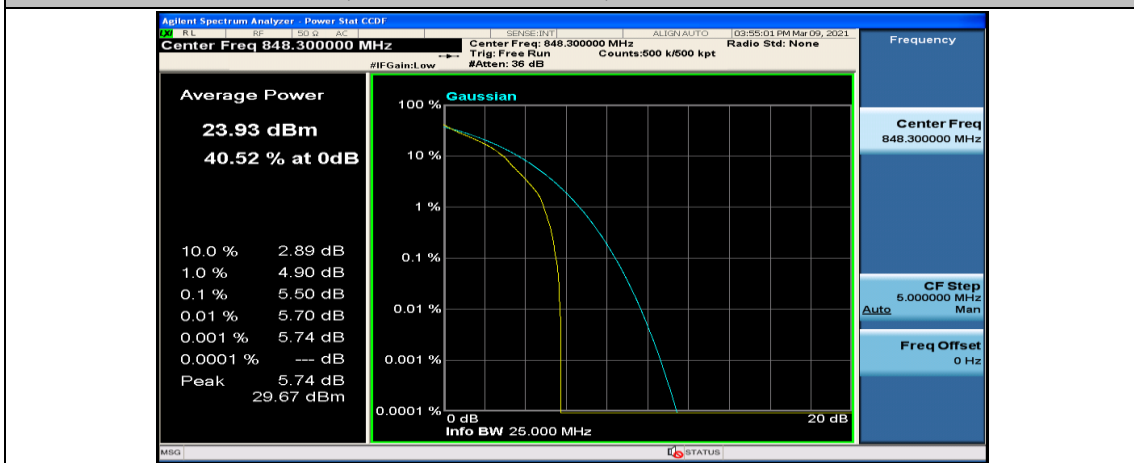
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#0



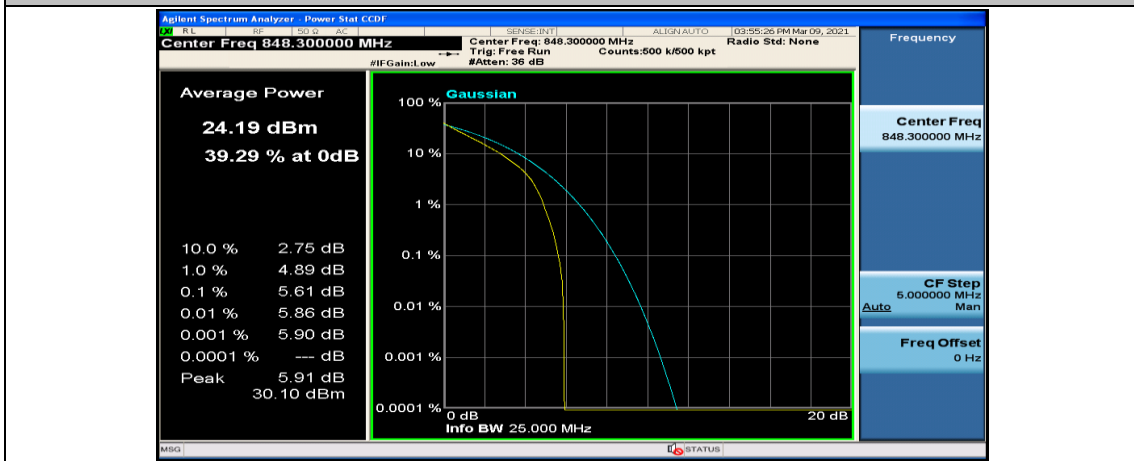
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#3



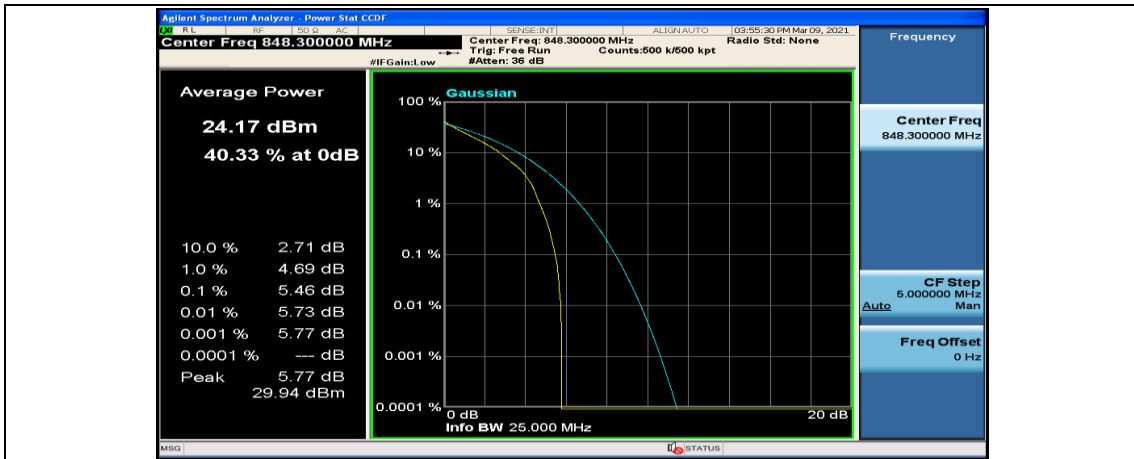
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#5



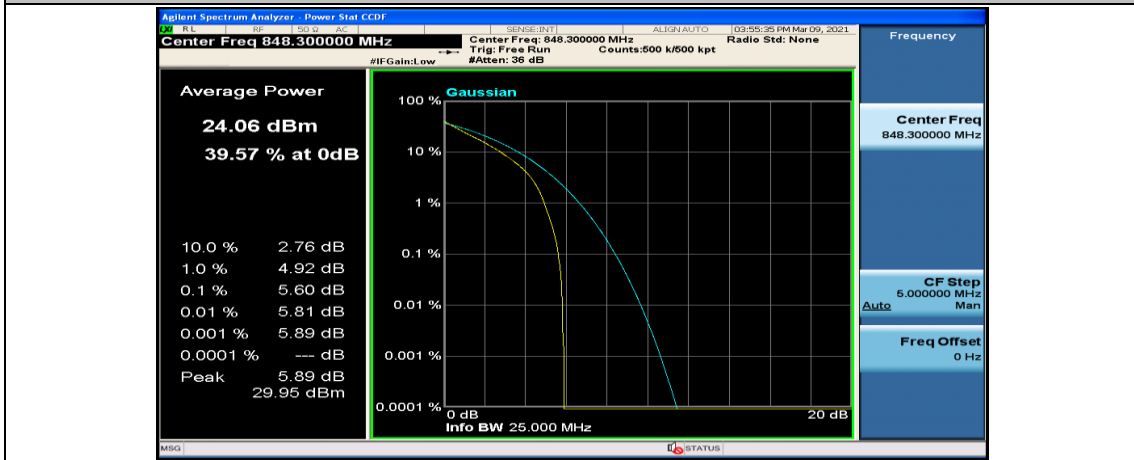
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_3RB#0



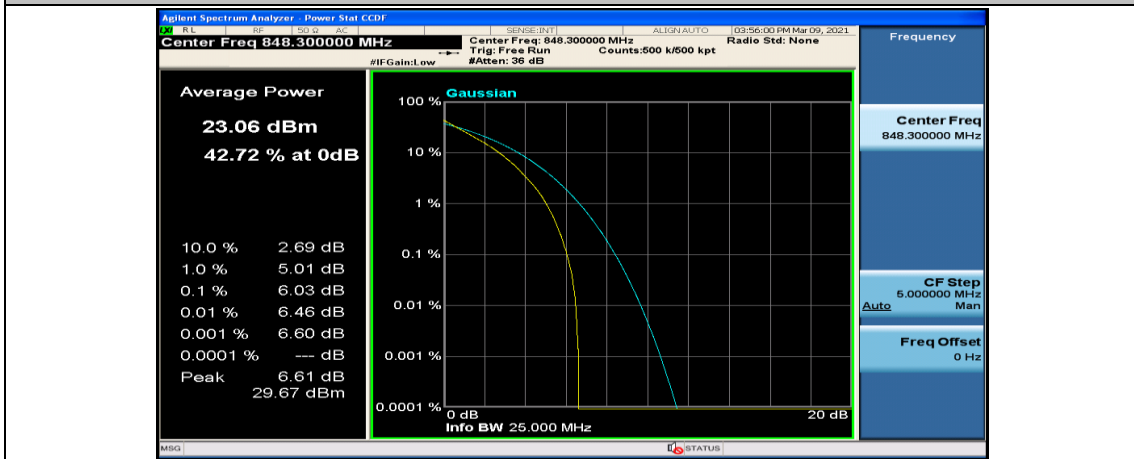
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_3RB#2

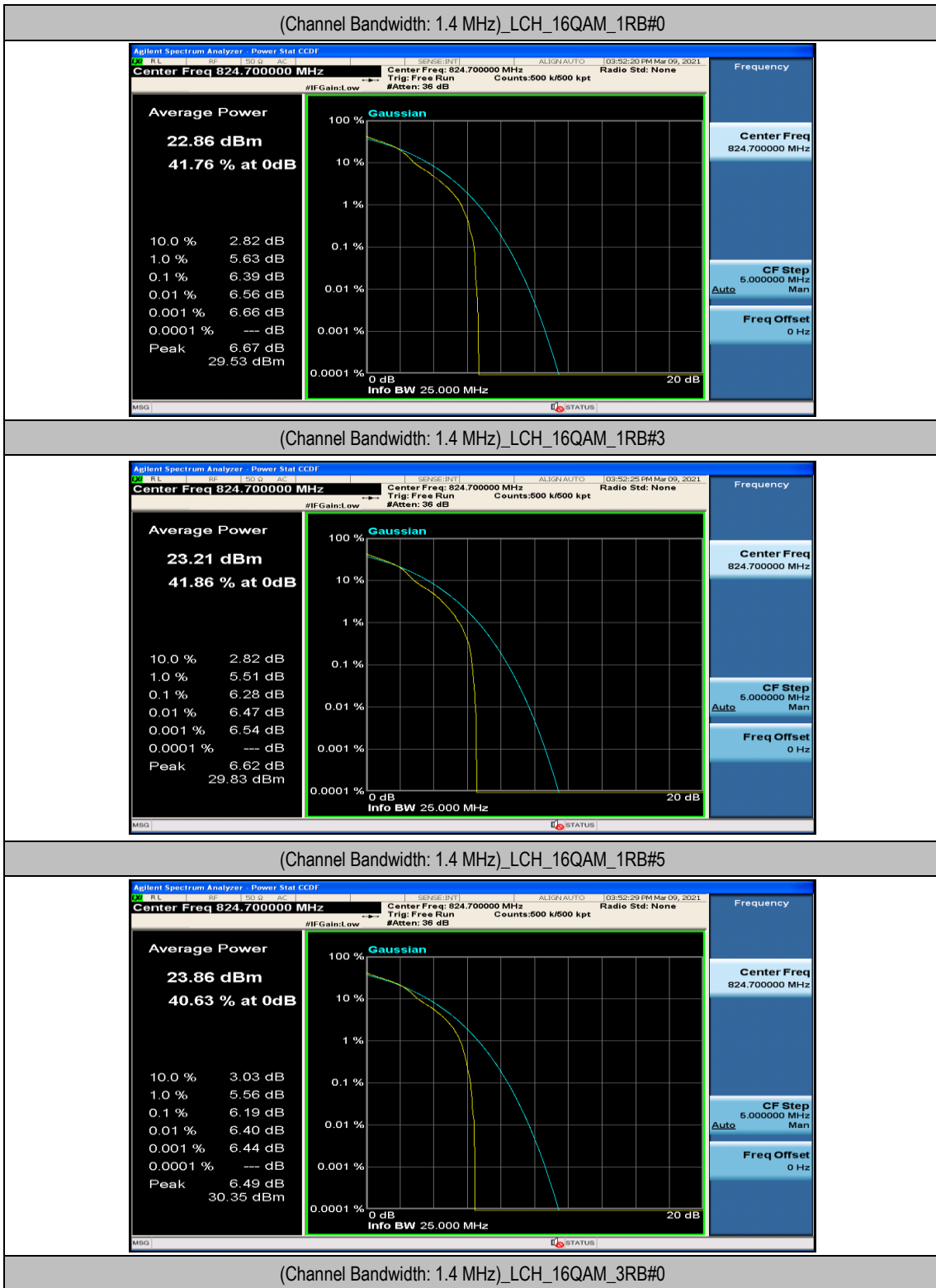


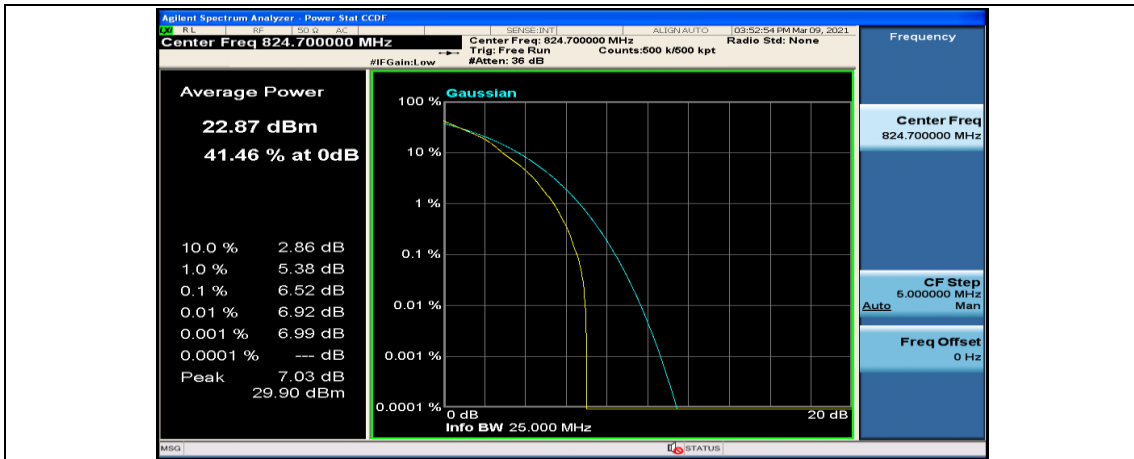
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_3RB#3



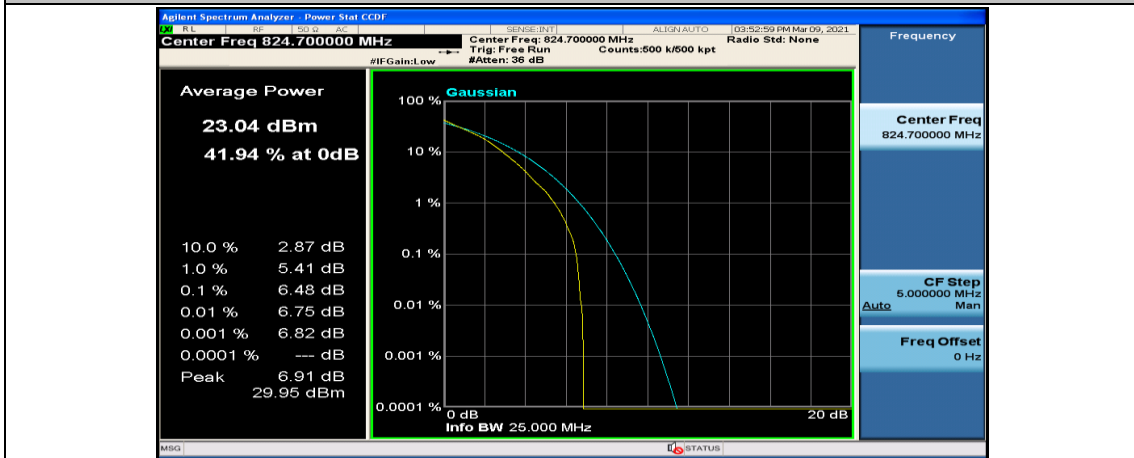
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_6RB#0



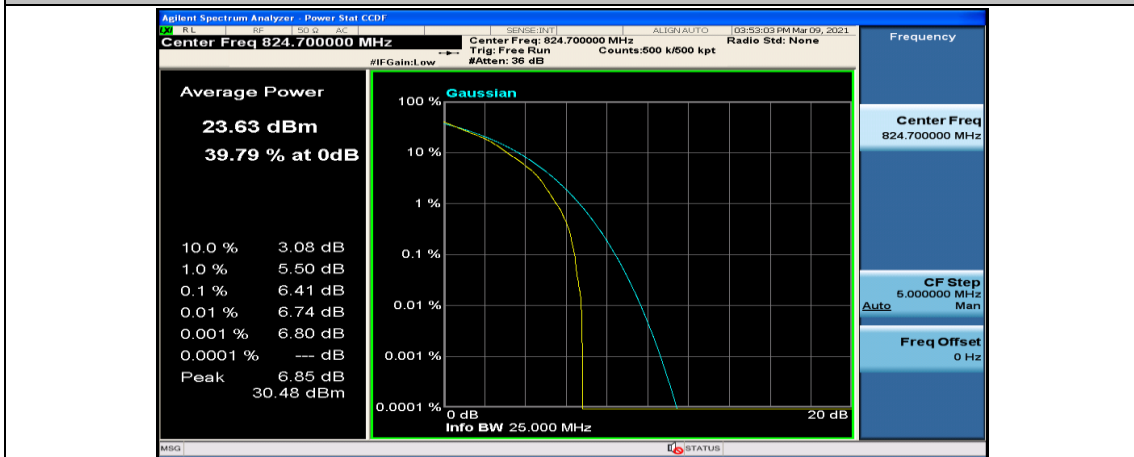




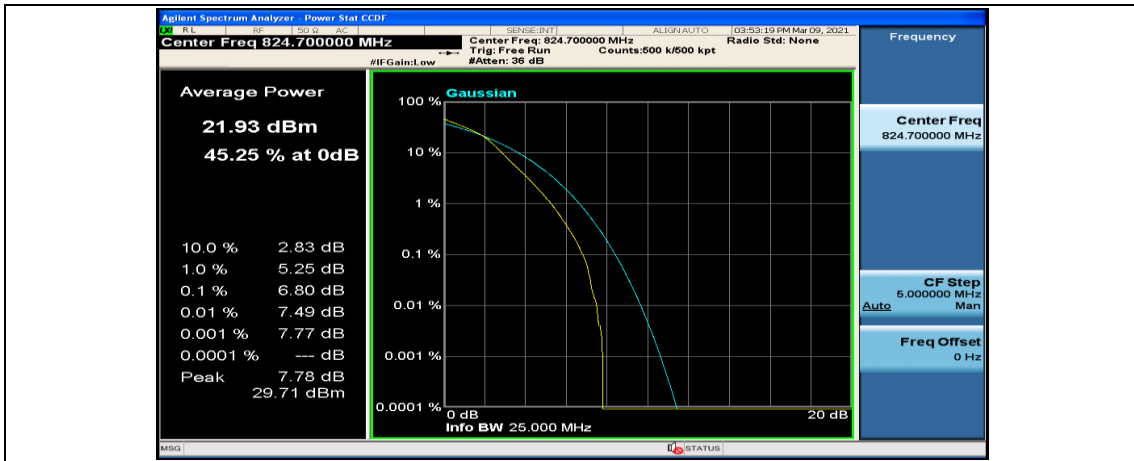
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_3RB#2



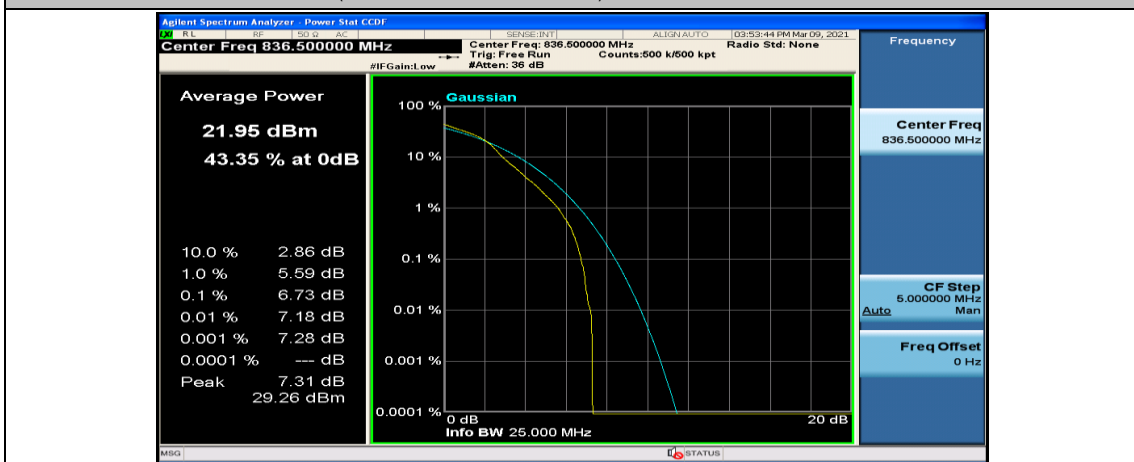
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_3RB#3



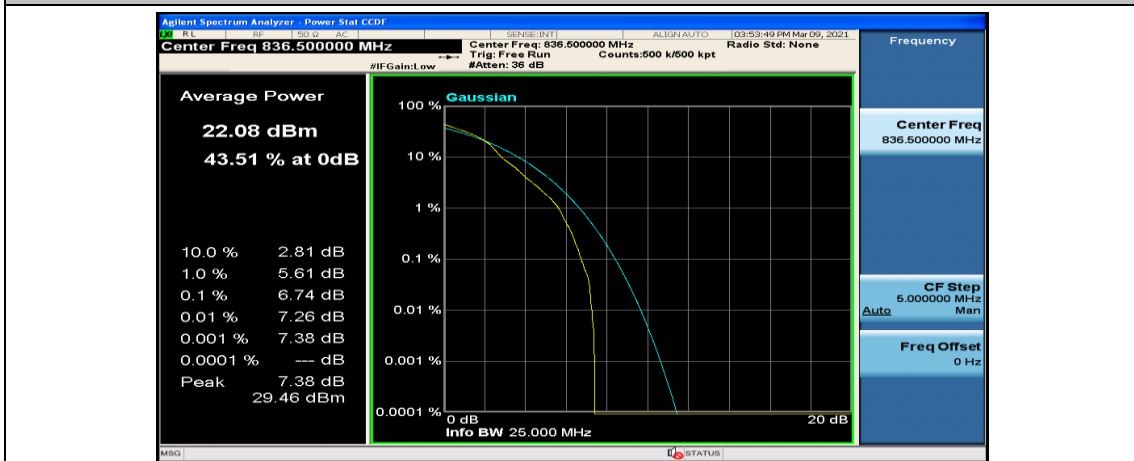
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_6RB#0



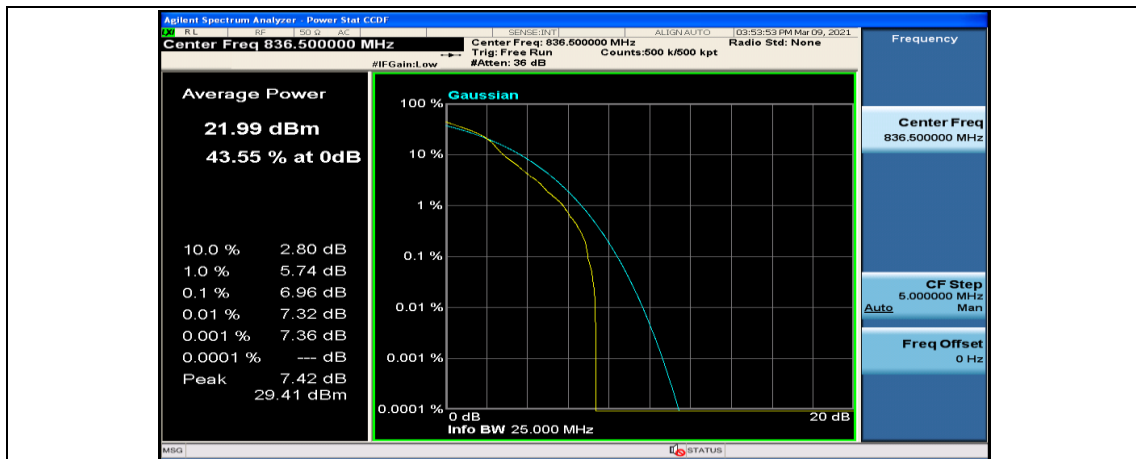
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#0



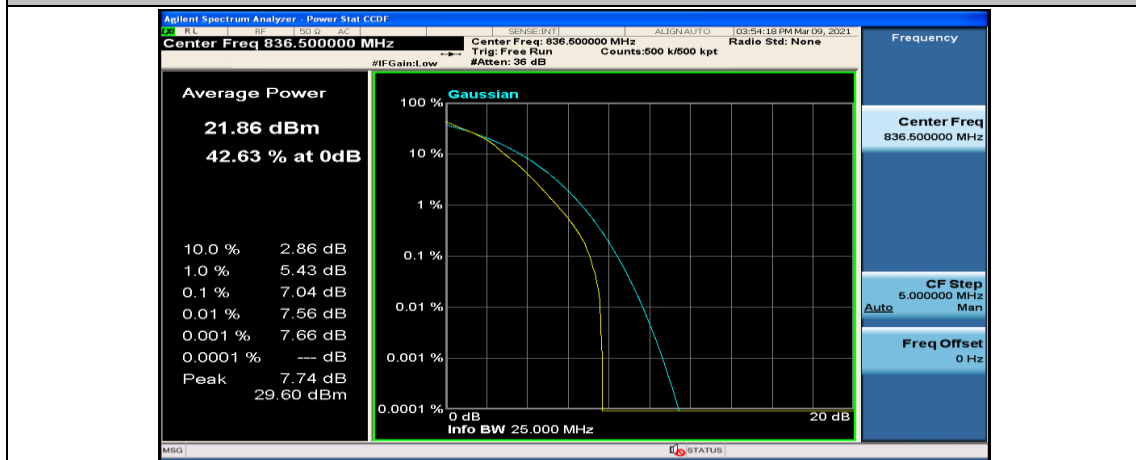
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#3



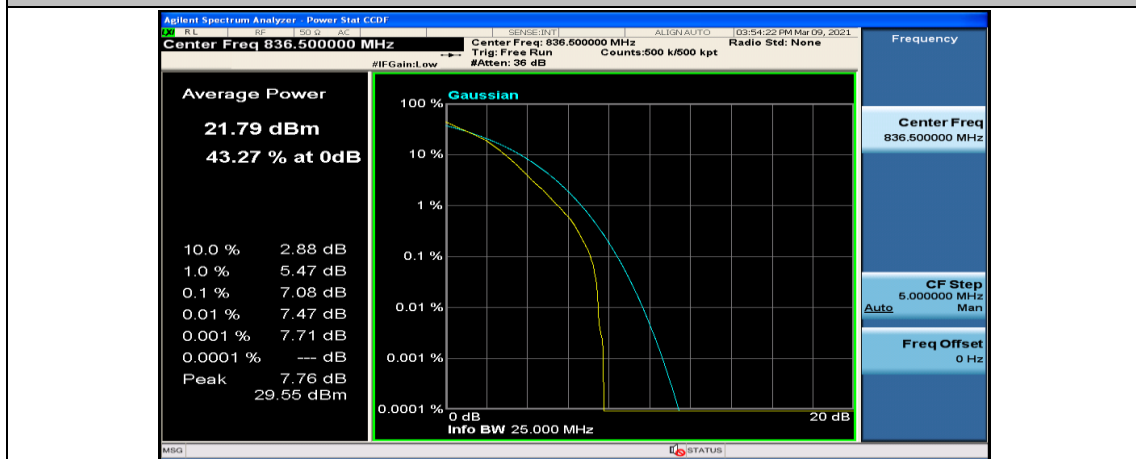
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#5



(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_3RB#0



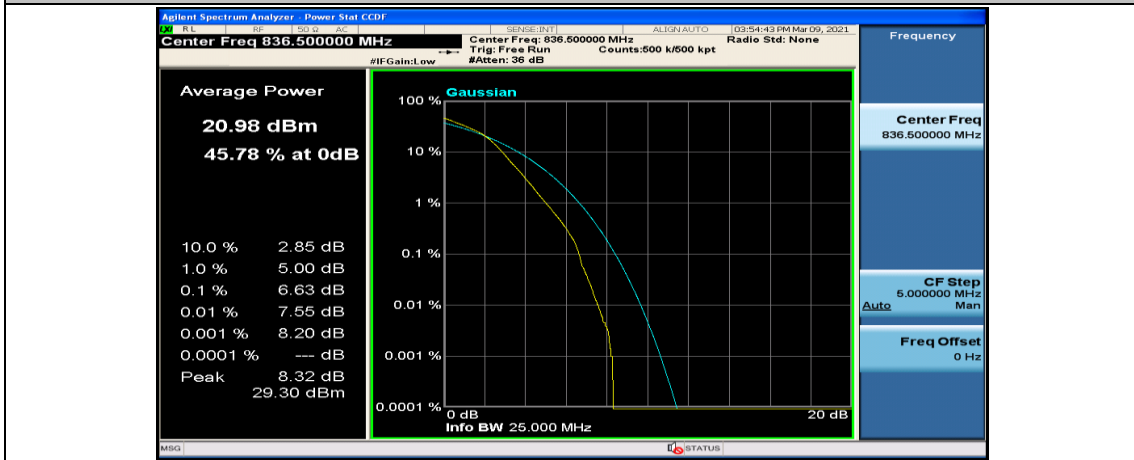
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_3RB#2



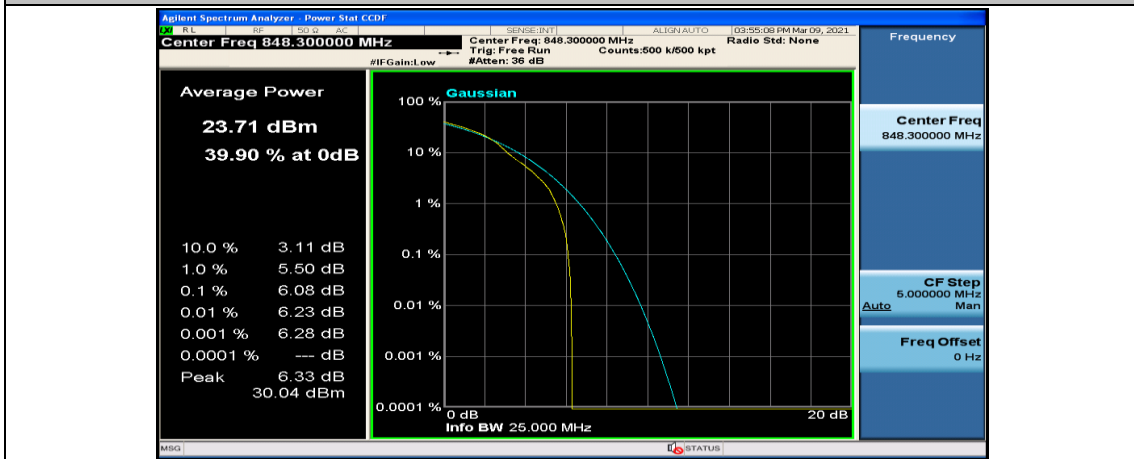
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_3RB#3



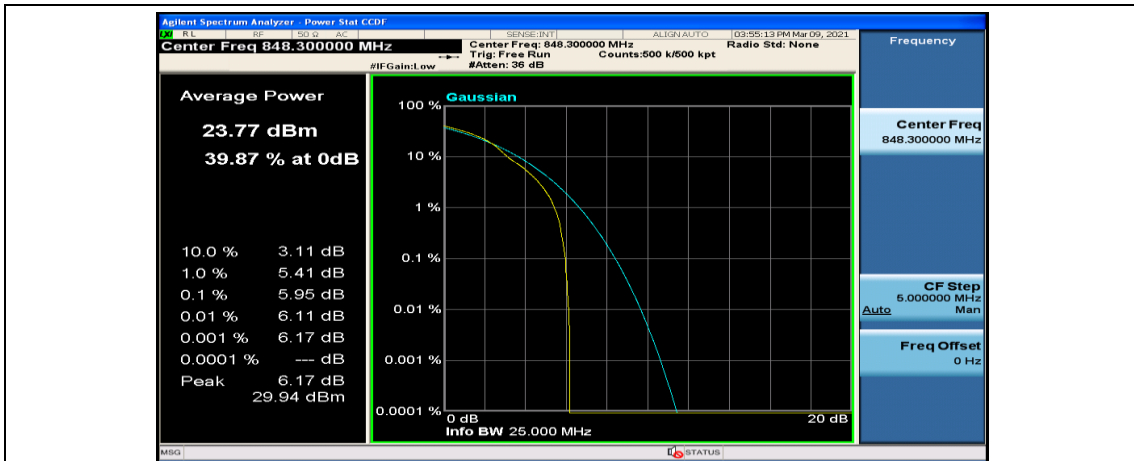
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_6RB#0



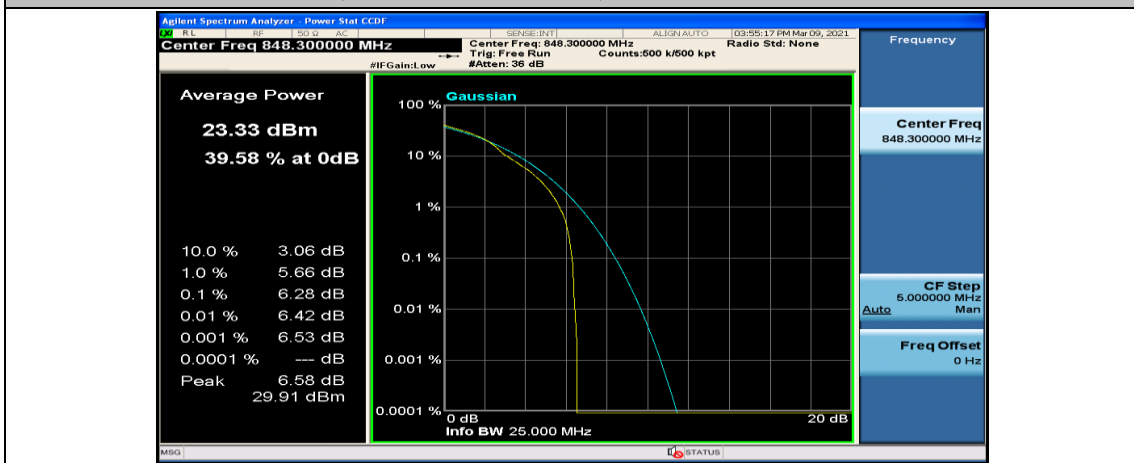
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#0



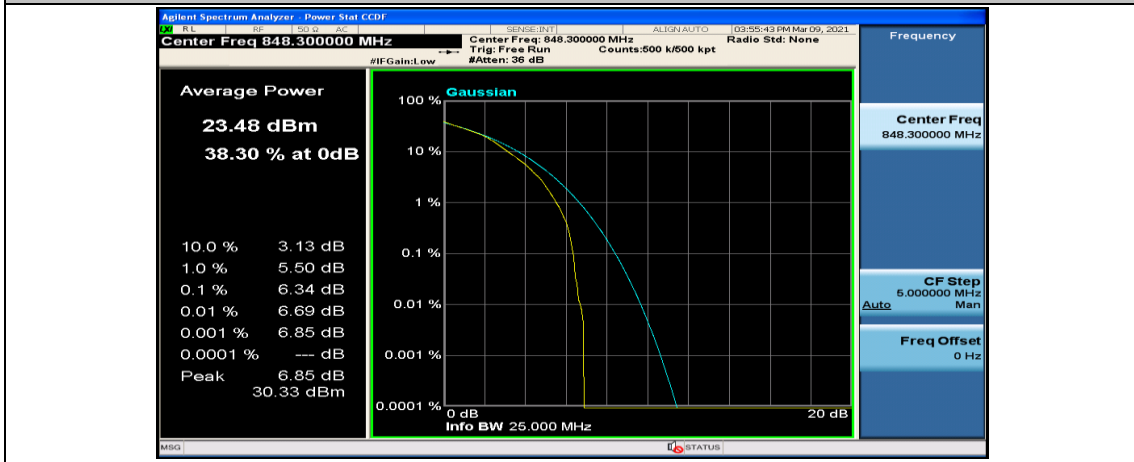
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#3



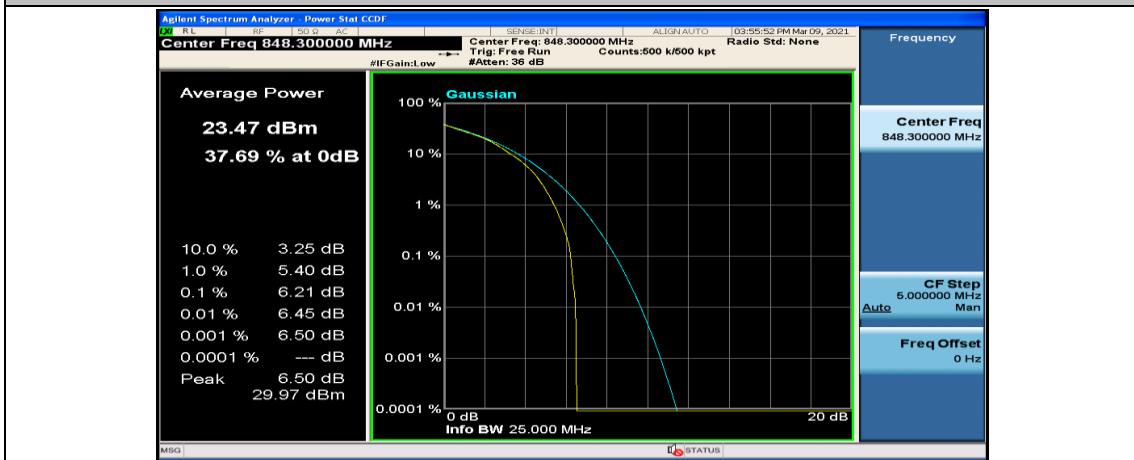
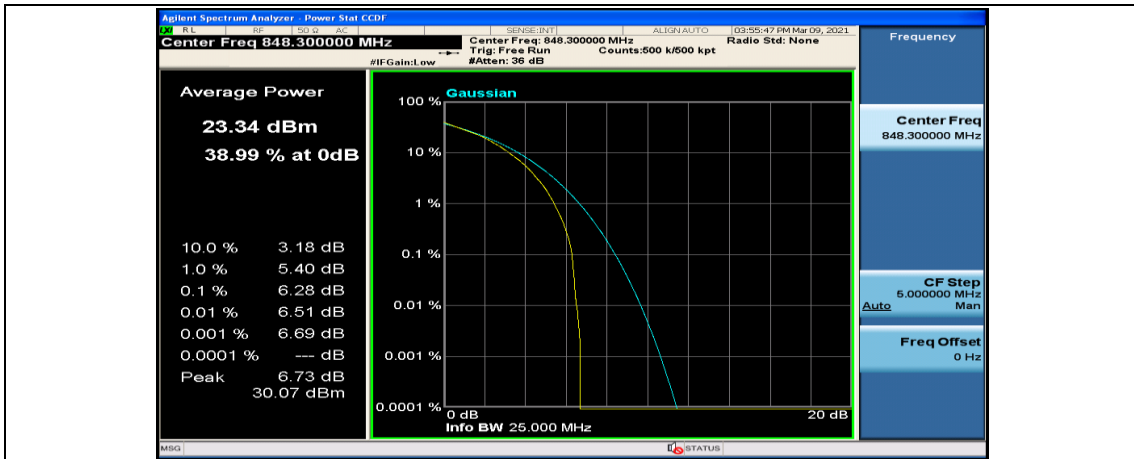
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#5



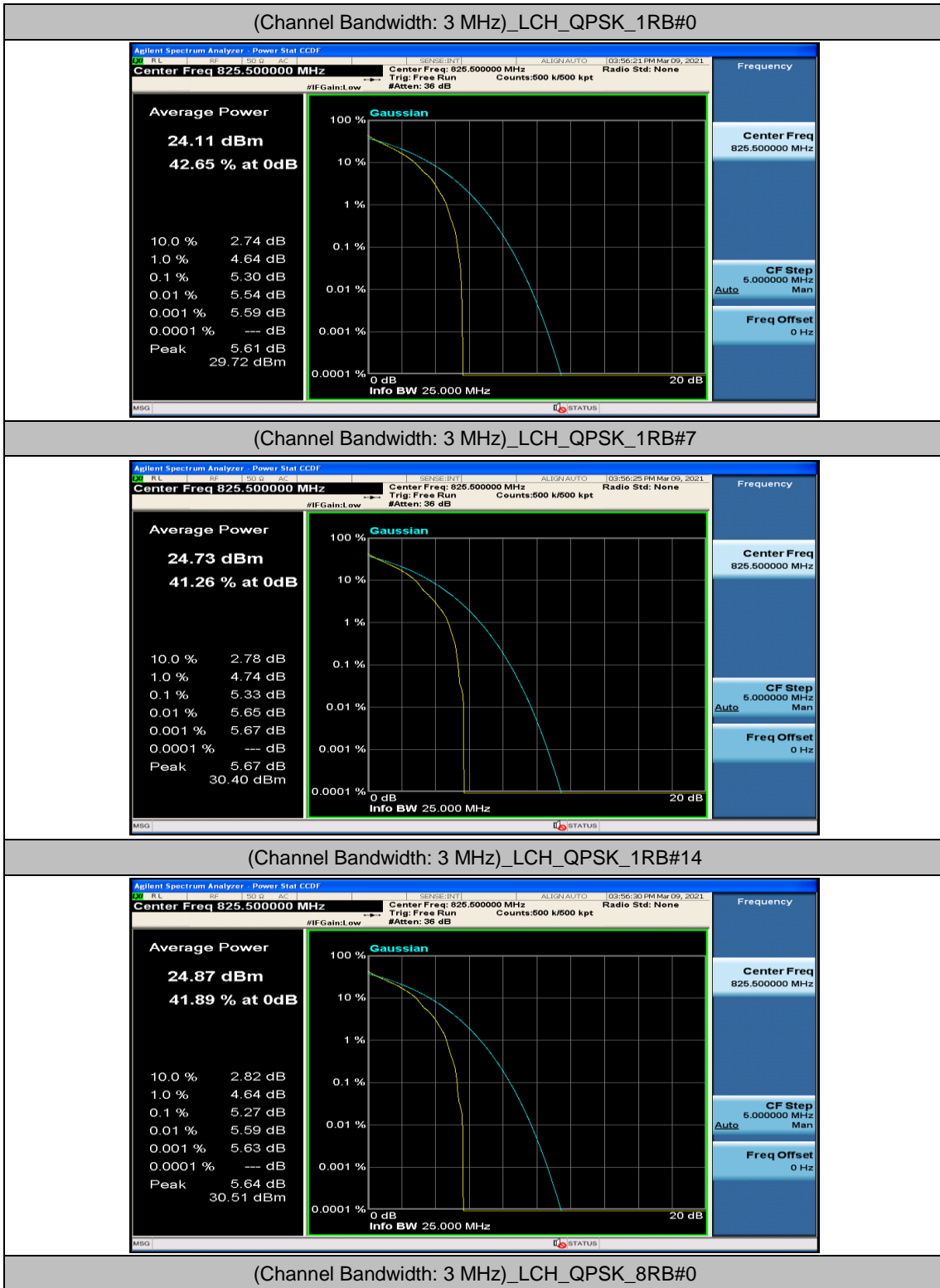
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_3RB#0

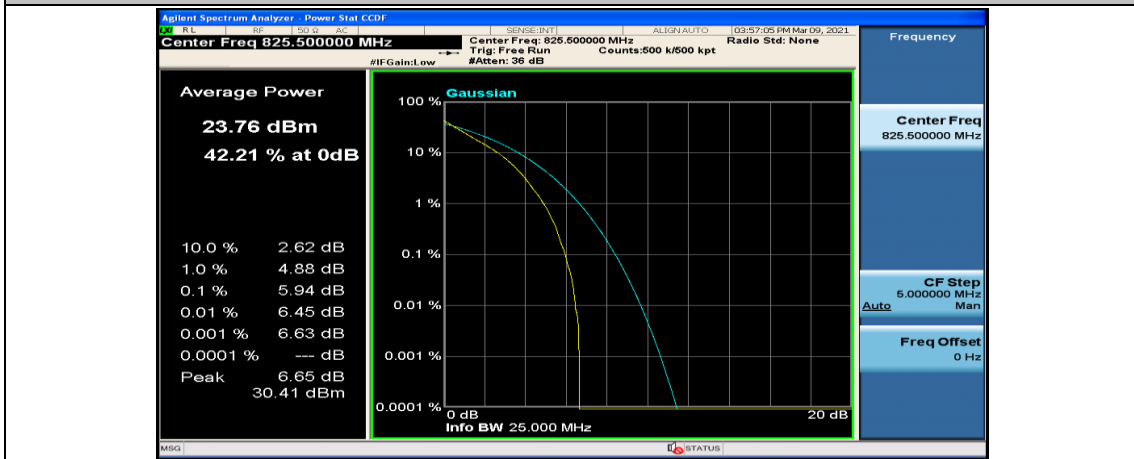
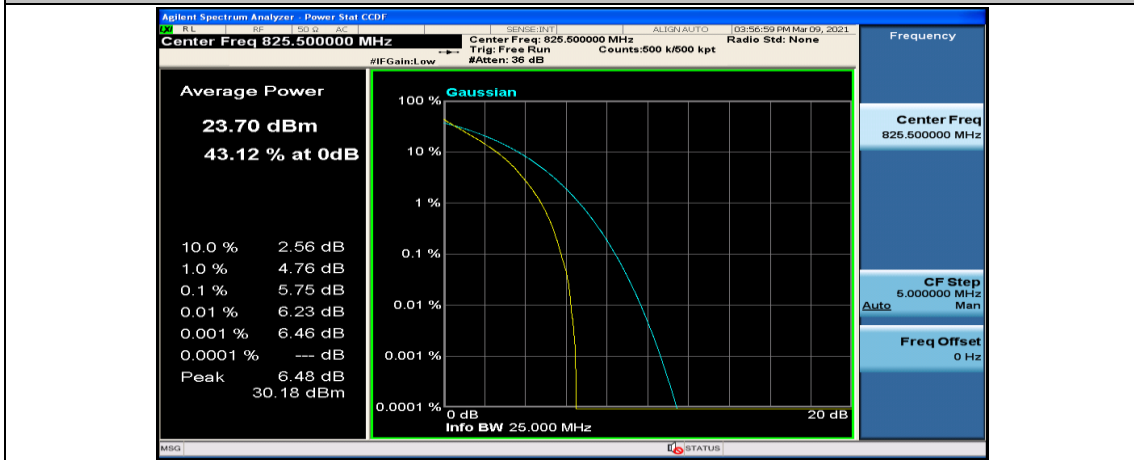
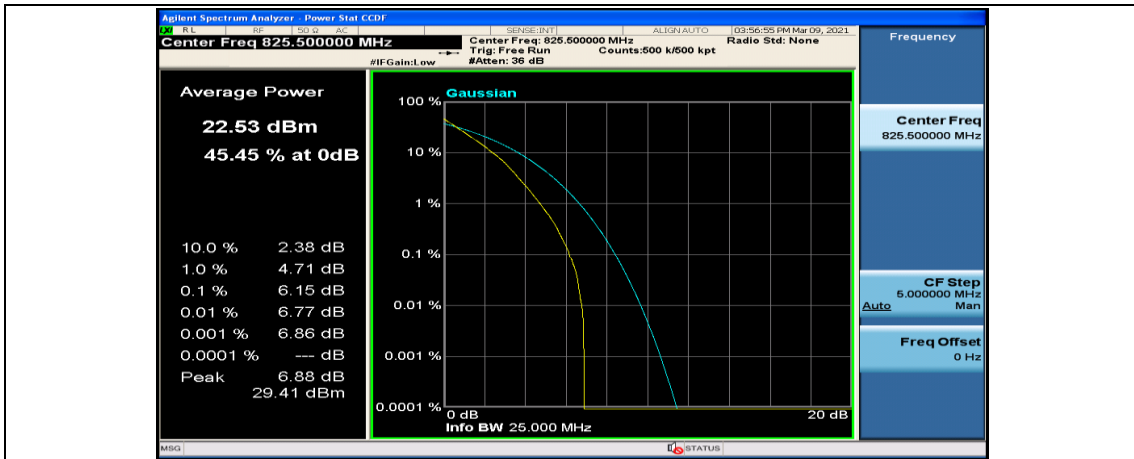


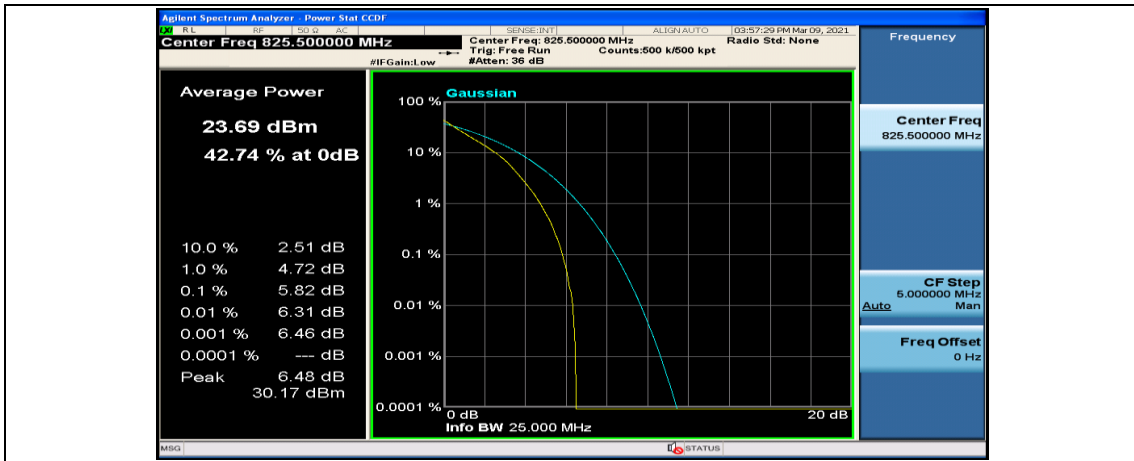
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_3RB#2



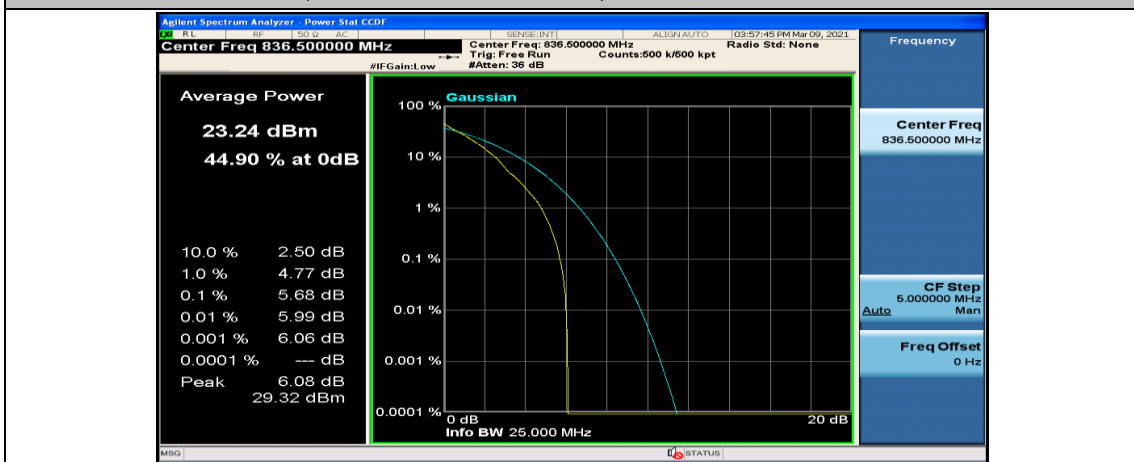
Channel Bandwidth: 3 MHz



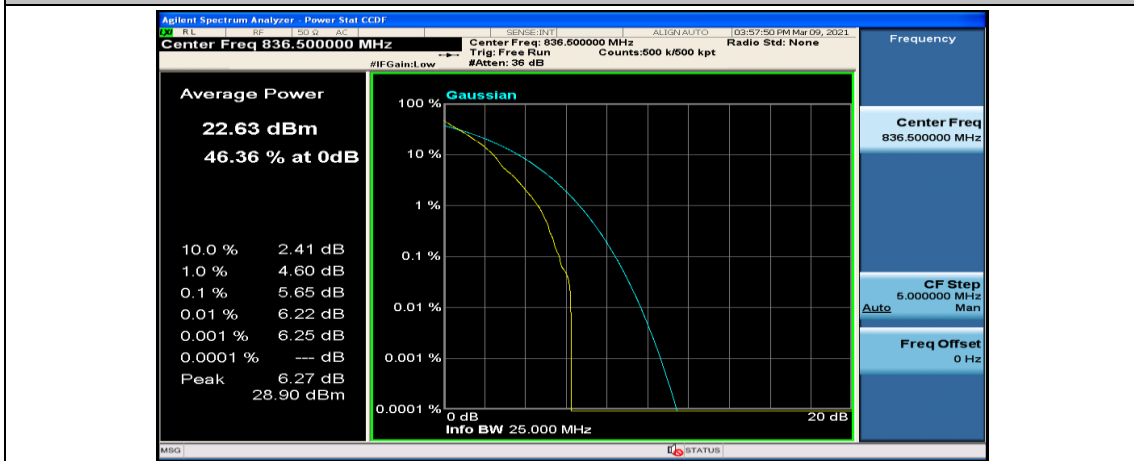




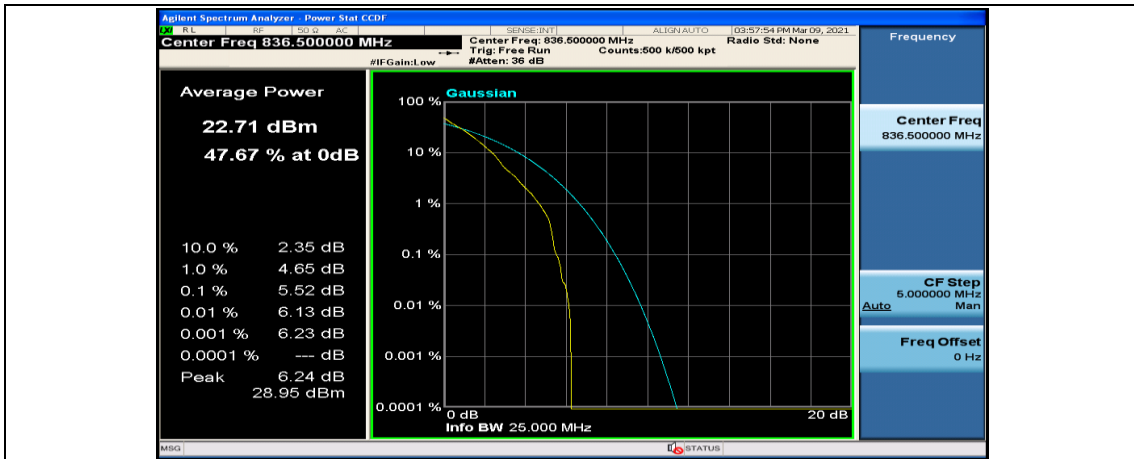
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#0



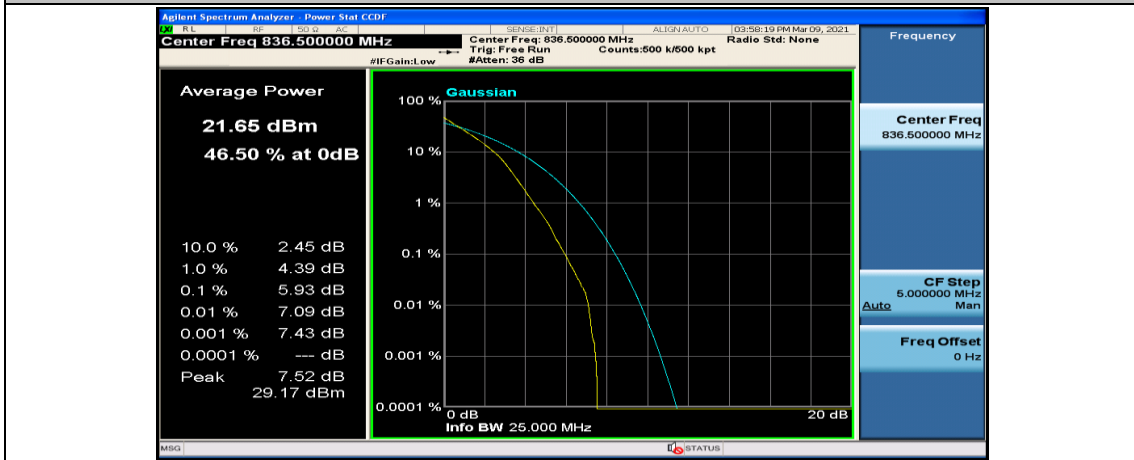
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#7



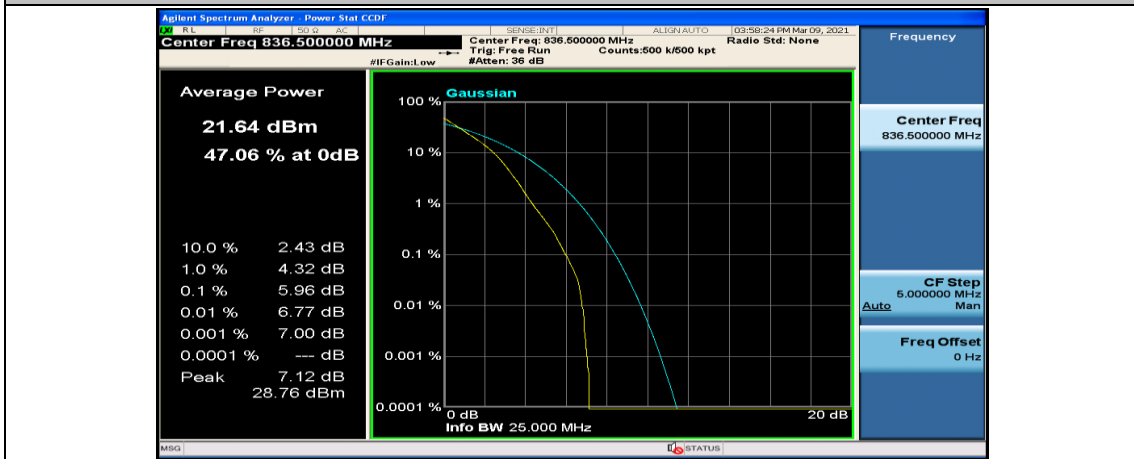
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#14



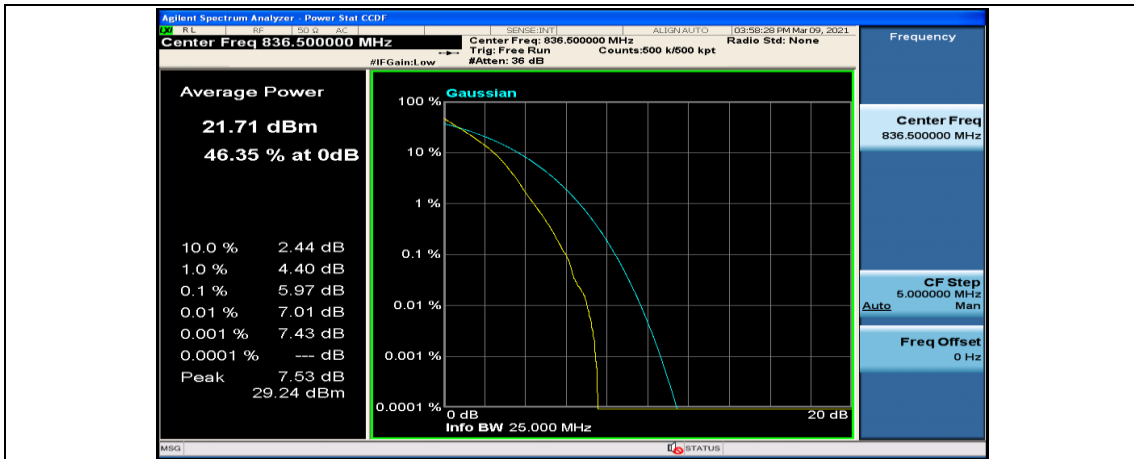
(Channel Bandwidth: 3 MHz)_MCH_QPSK_8RB#0



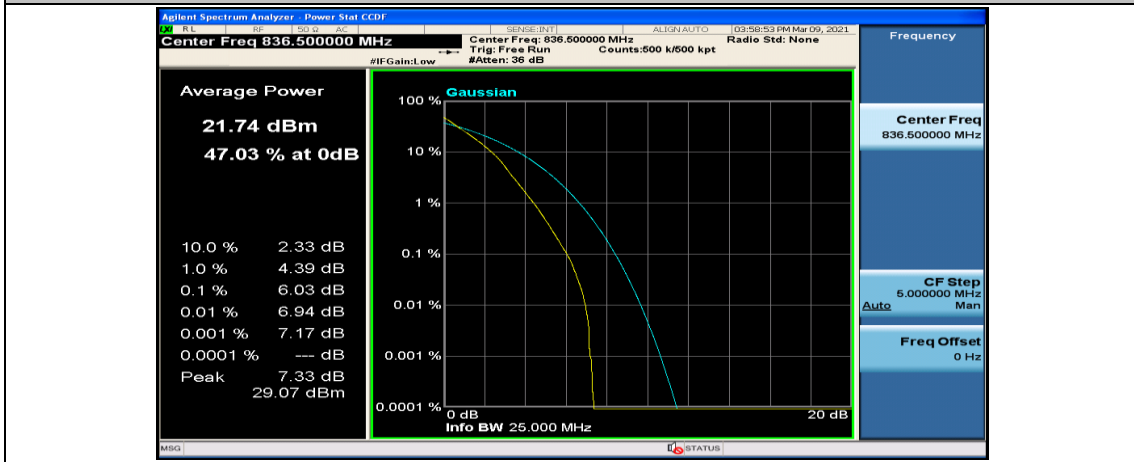
(Channel Bandwidth: 3 MHz)_MCH_QPSK_8RB#4



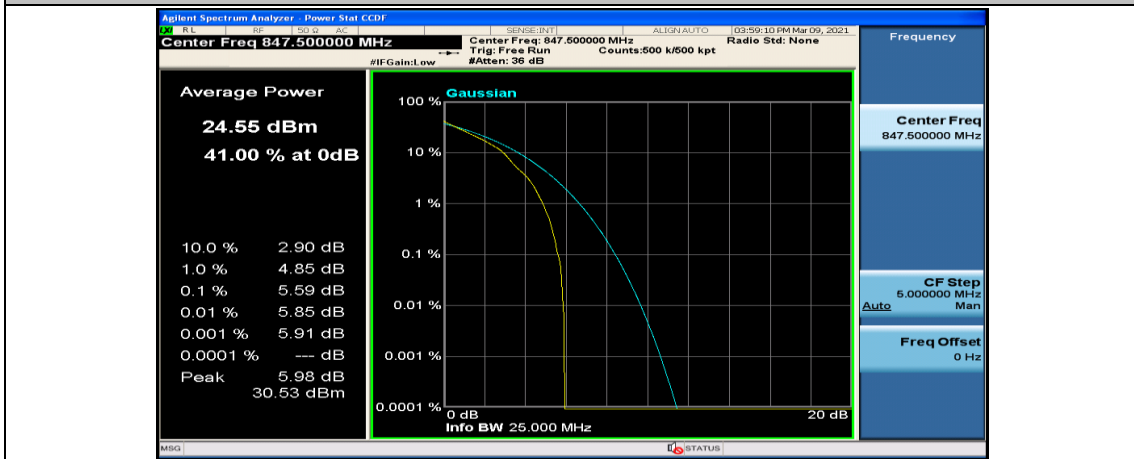
(Channel Bandwidth: 3 MHz)_MCH_QPSK_8RB#7



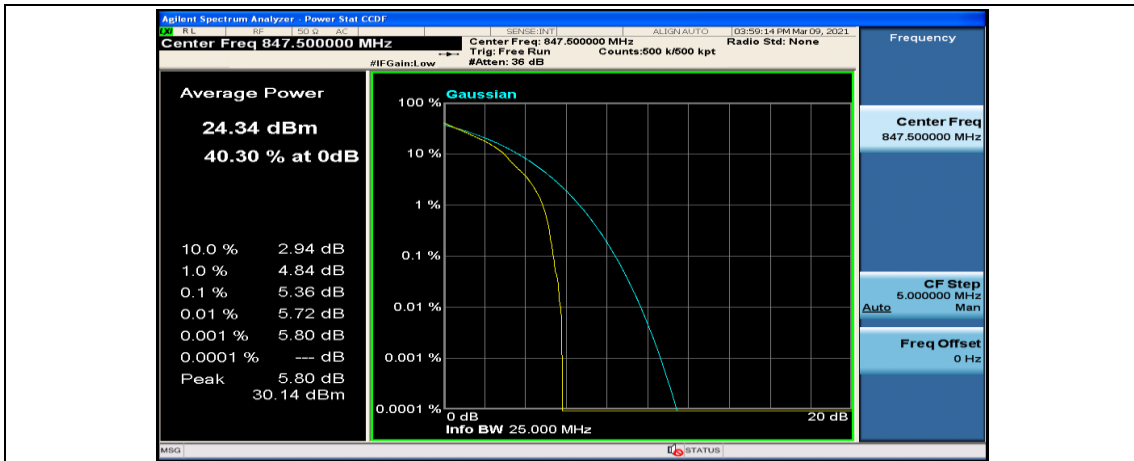
(Channel Bandwidth: 3 MHz)_MCH_QPSK_15RB#0



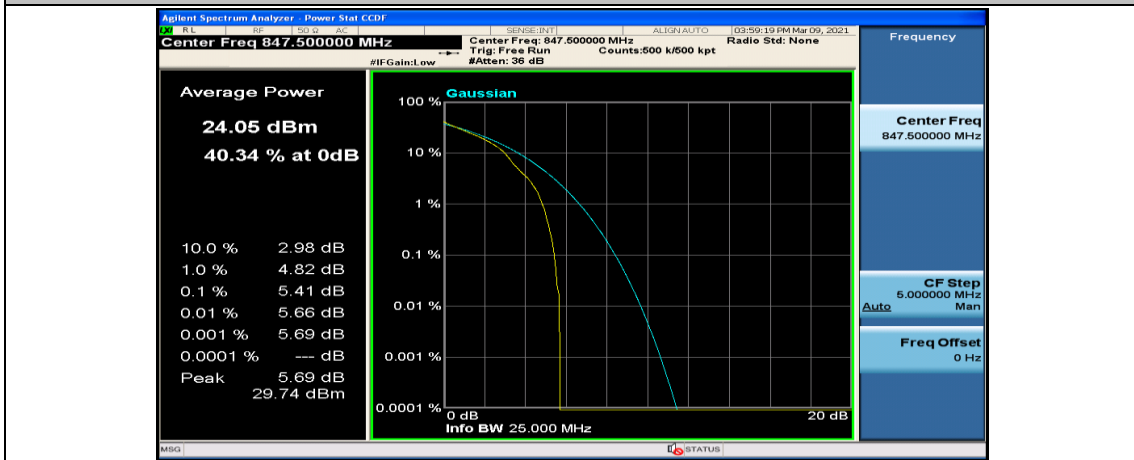
(Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#0



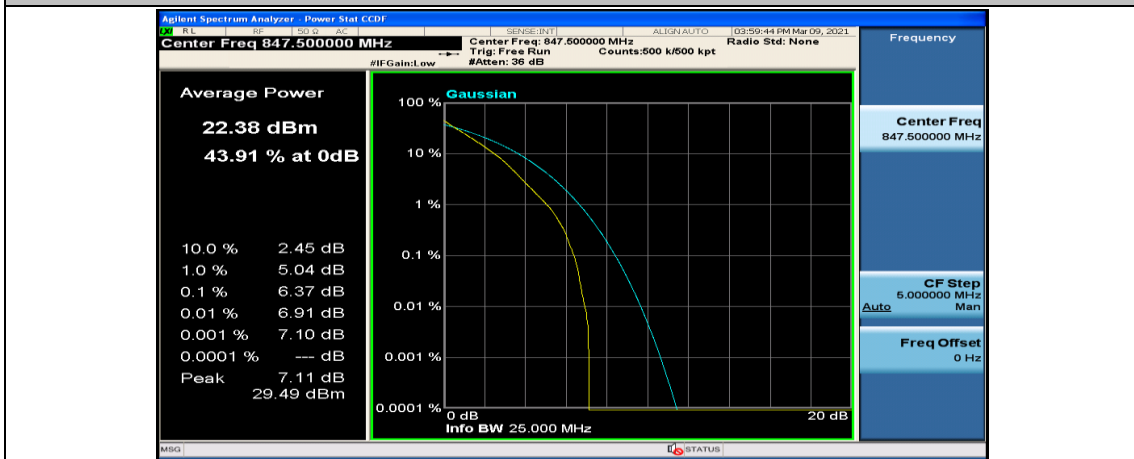
(Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#7



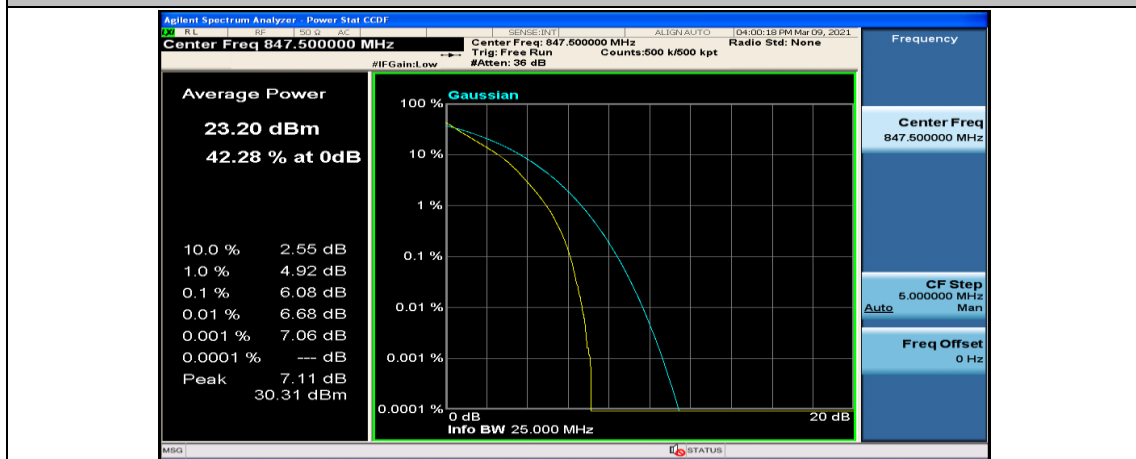
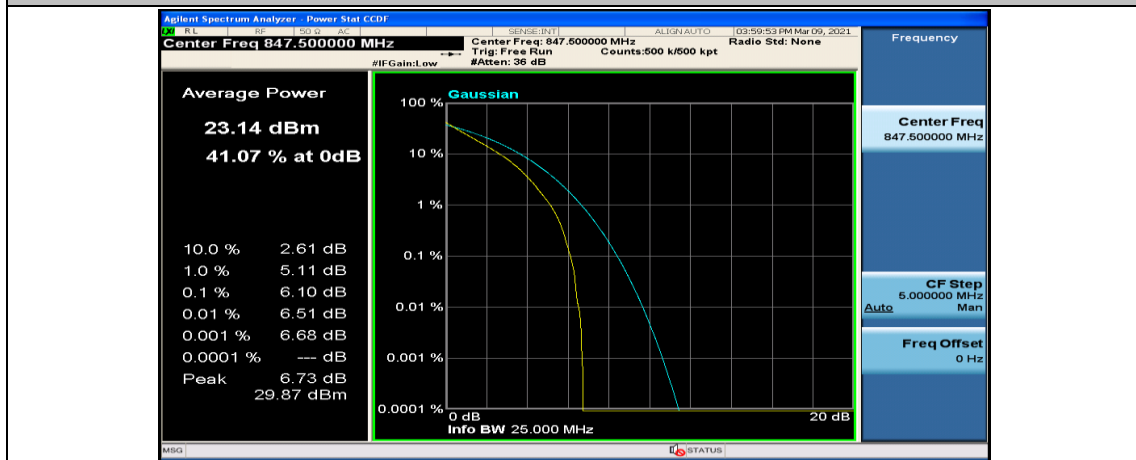
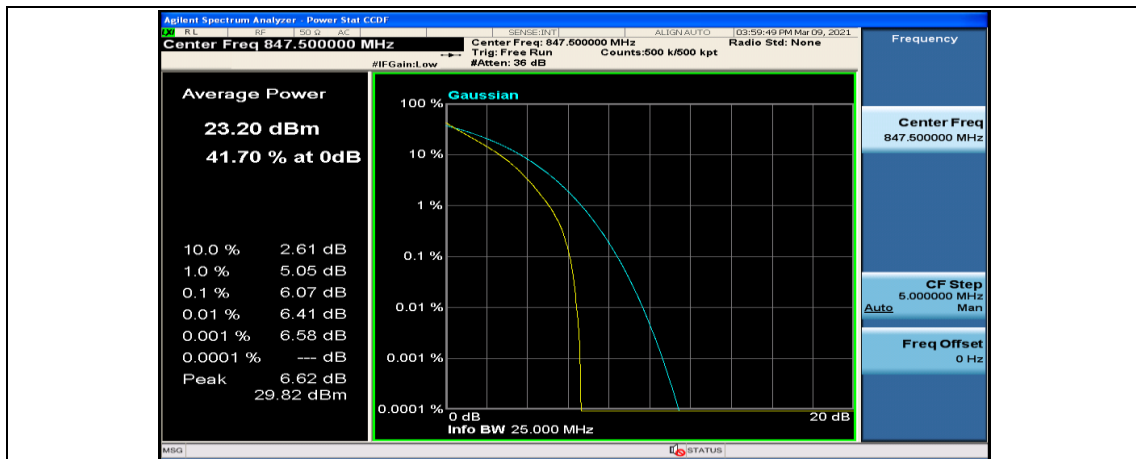
(Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#14

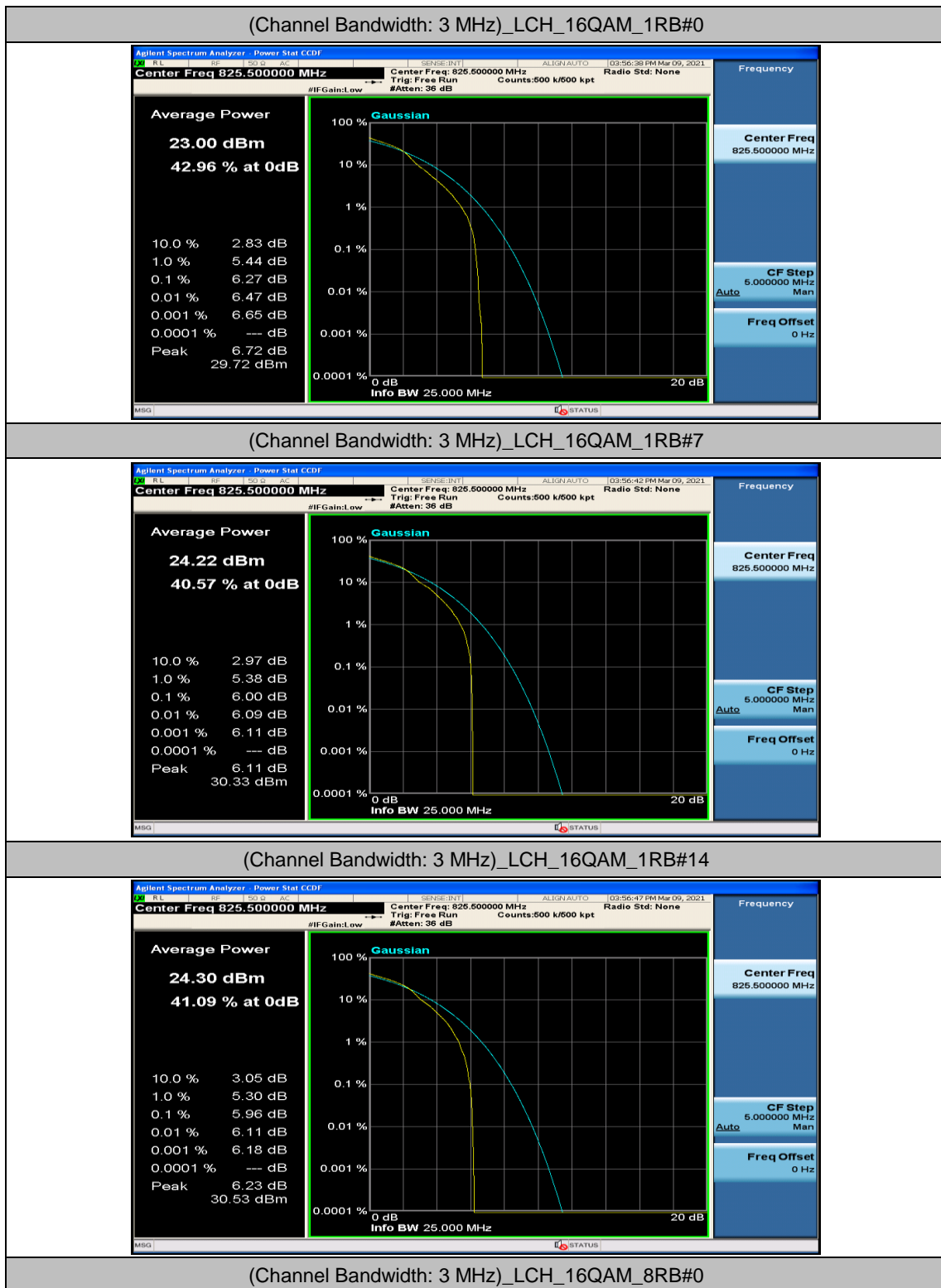


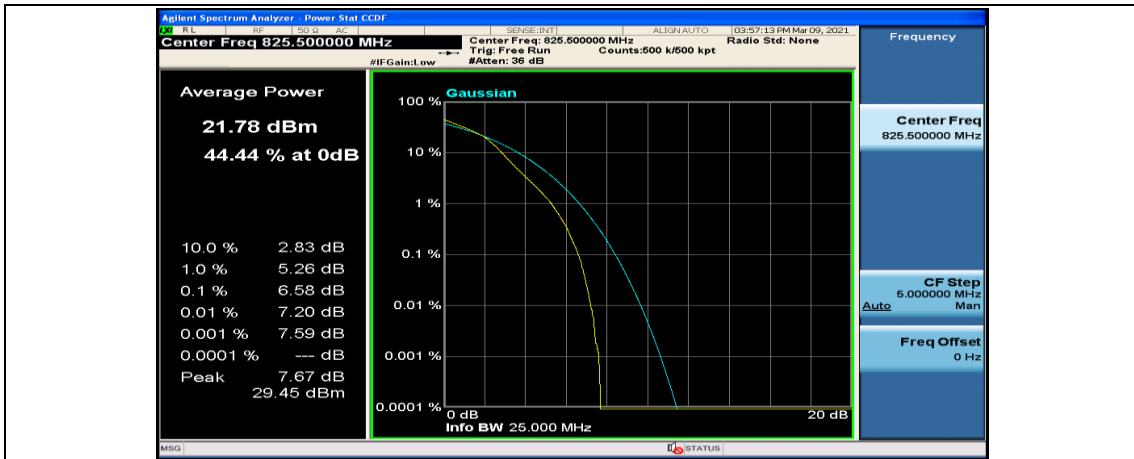
(Channel Bandwidth: 3 MHz)_HCH_QPSK_8RB#0



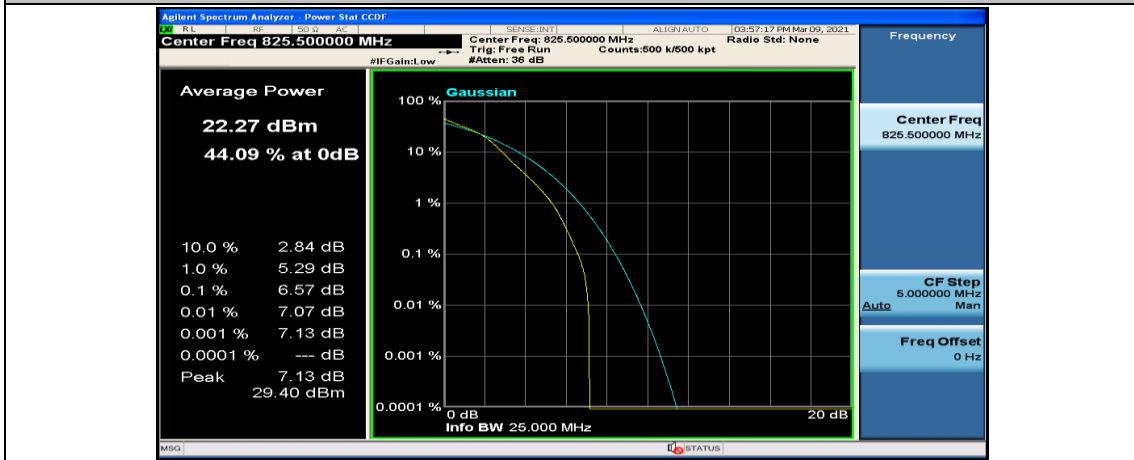
(Channel Bandwidth: 3 MHz)_HCH_QPSK_8RB#4



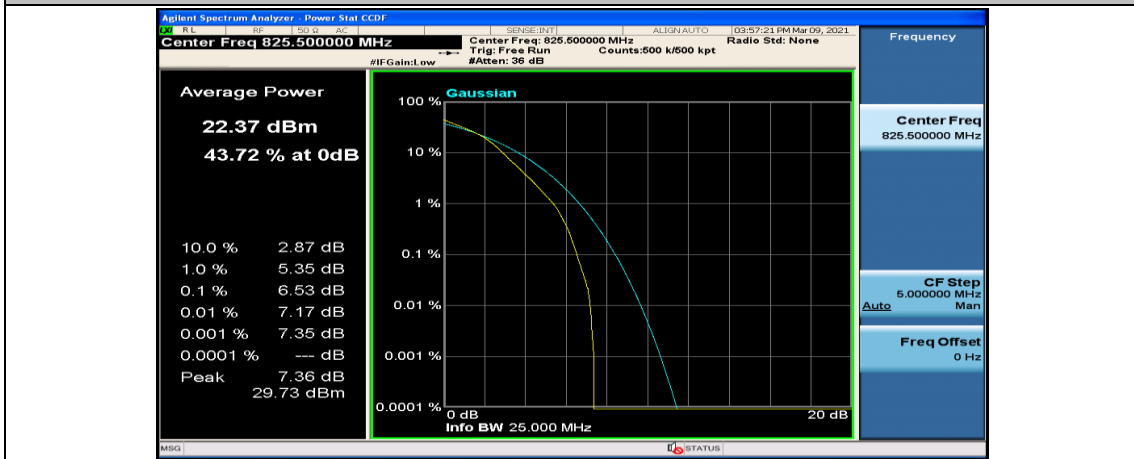




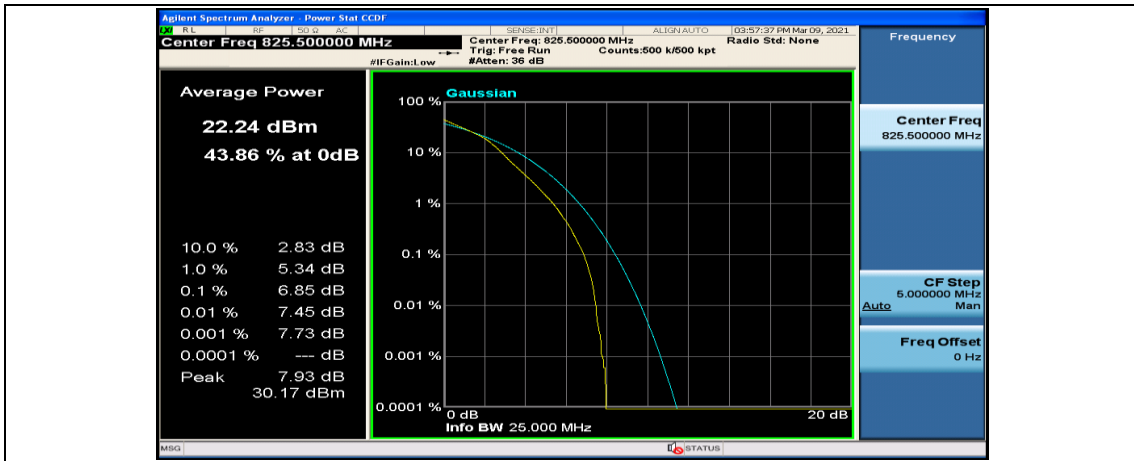
(Channel Bandwidth: 3 MHz)_LCH_16QAM_8RB#4



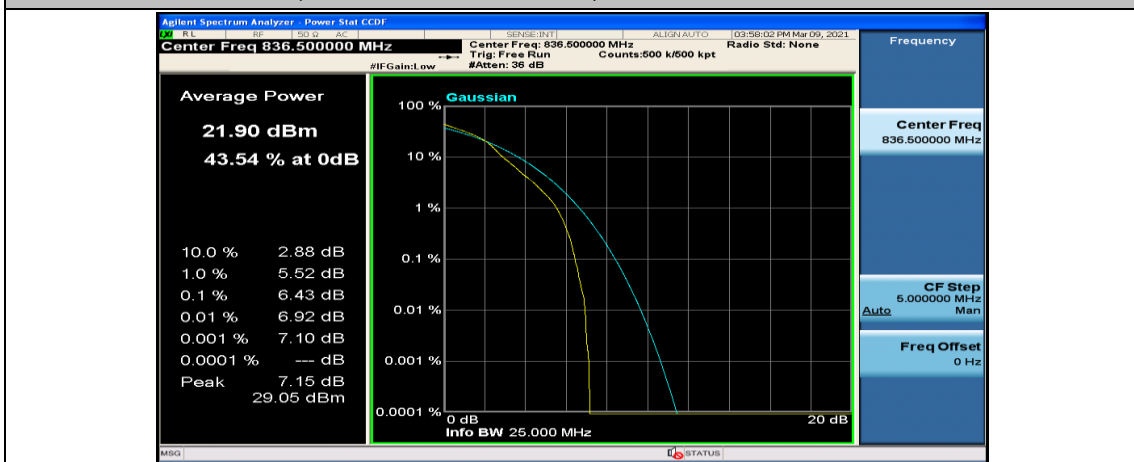
(Channel Bandwidth: 3 MHz)_LCH_16QAM_8RB#7



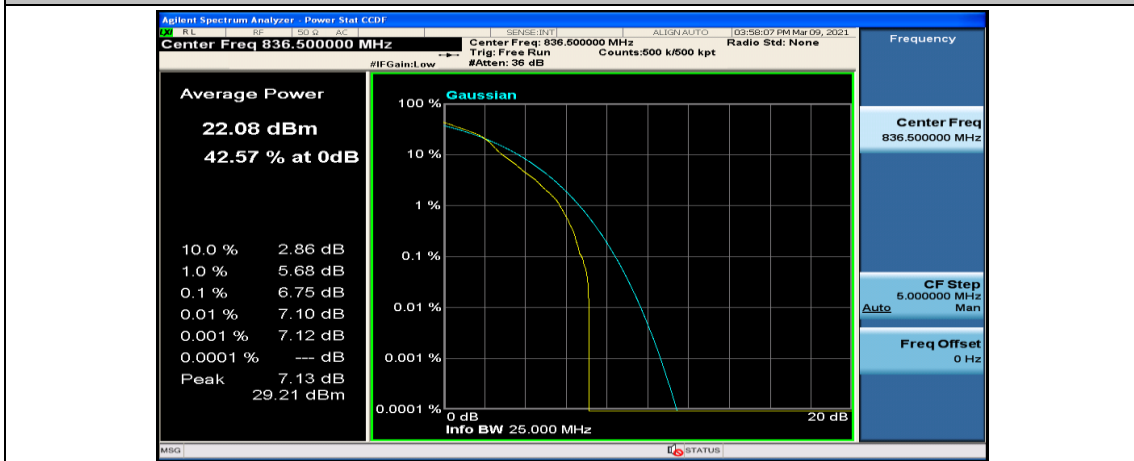
(Channel Bandwidth: 3 MHz)_LCH_16QAM_15RB#0



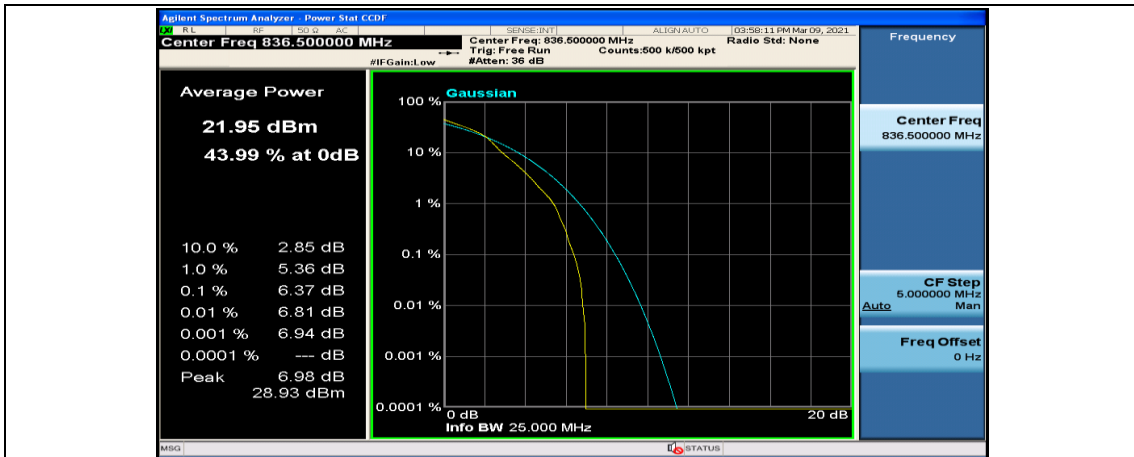
(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#0



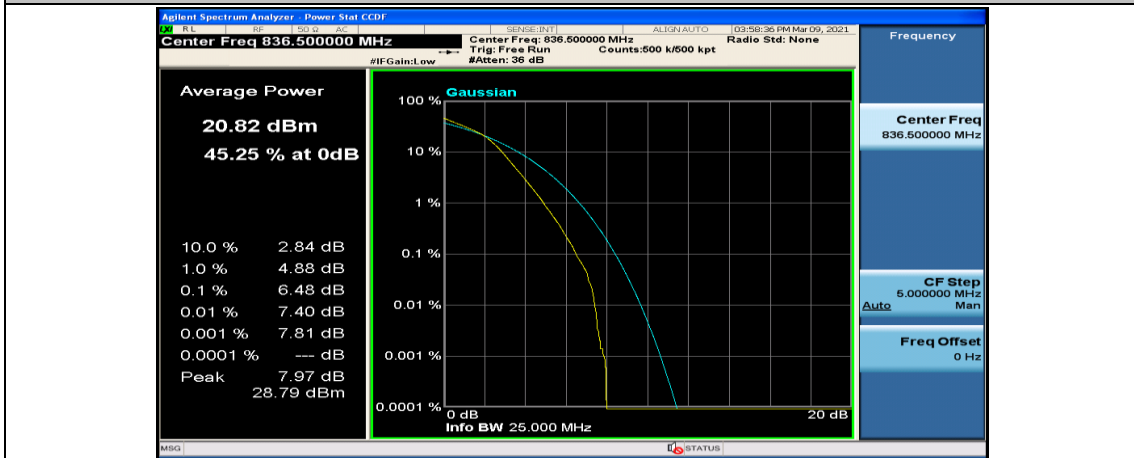
(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#7



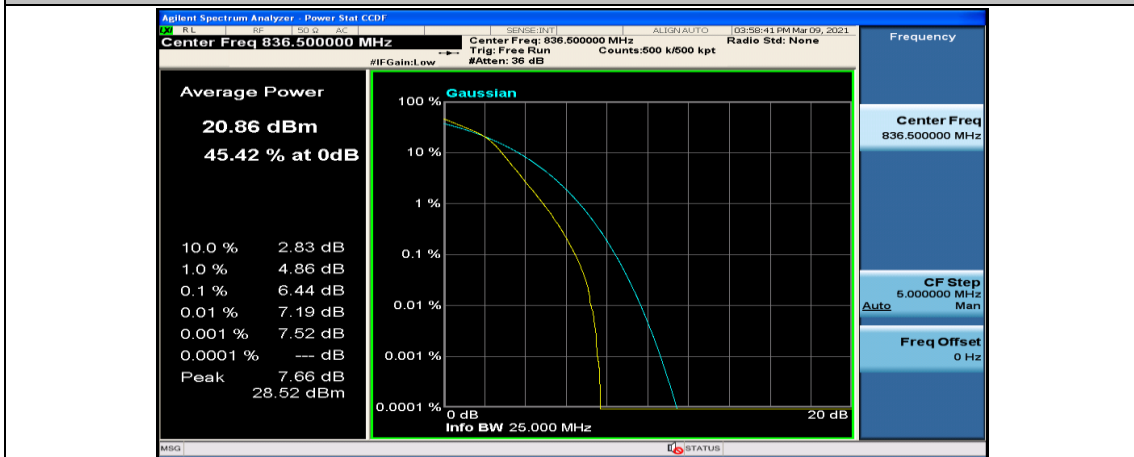
(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#14



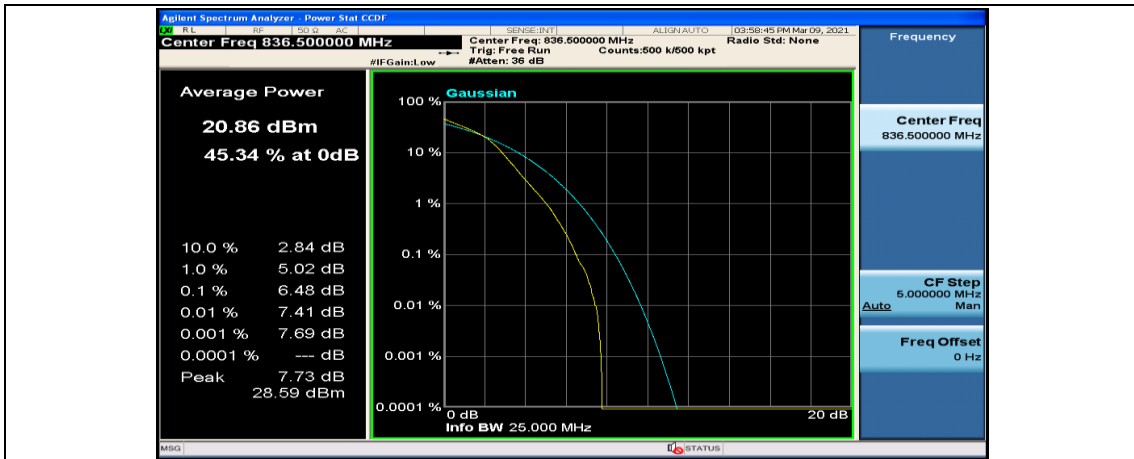
(Channel Bandwidth: 3 MHz)_MCH_16QAM_8RB#0



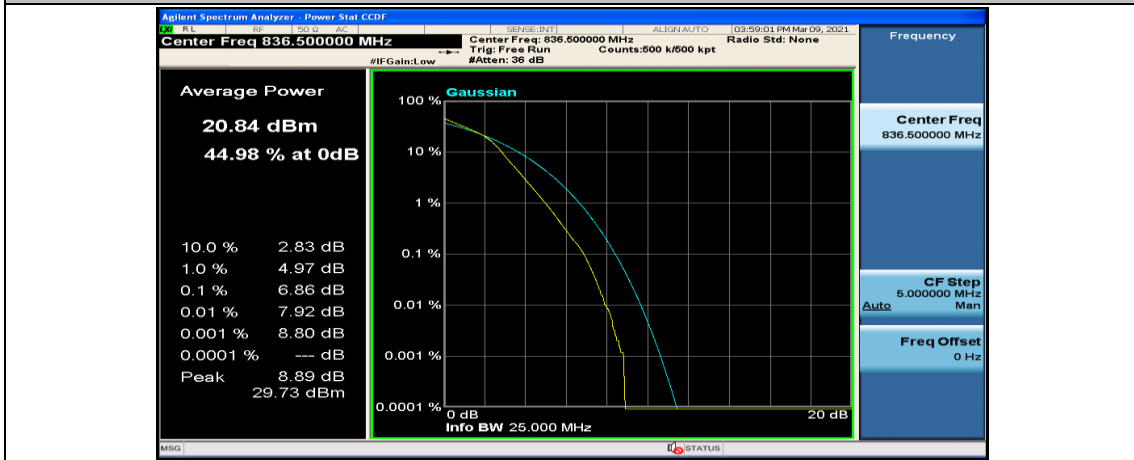
(Channel Bandwidth: 3 MHz)_MCH_16QAM_8RB#4



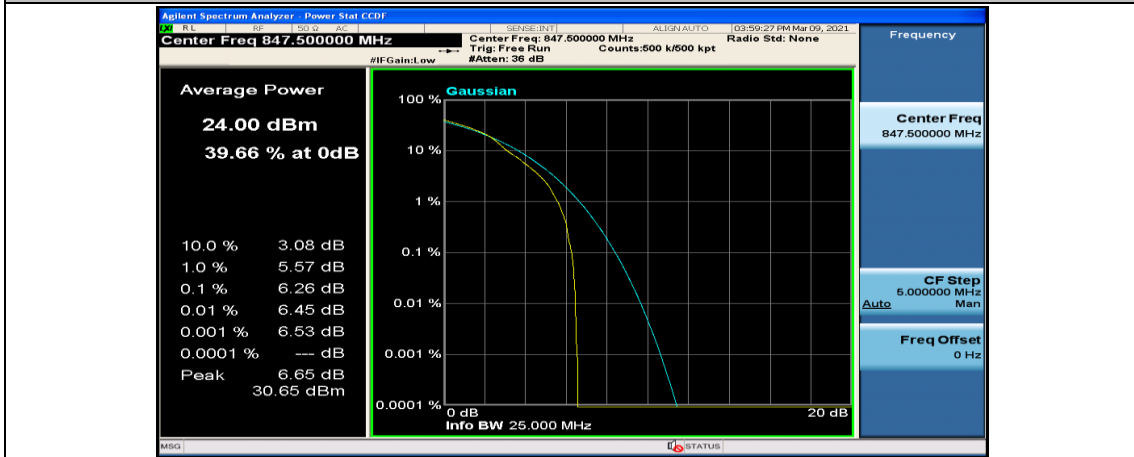
(Channel Bandwidth: 3 MHz)_MCH_16QAM_8RB#7



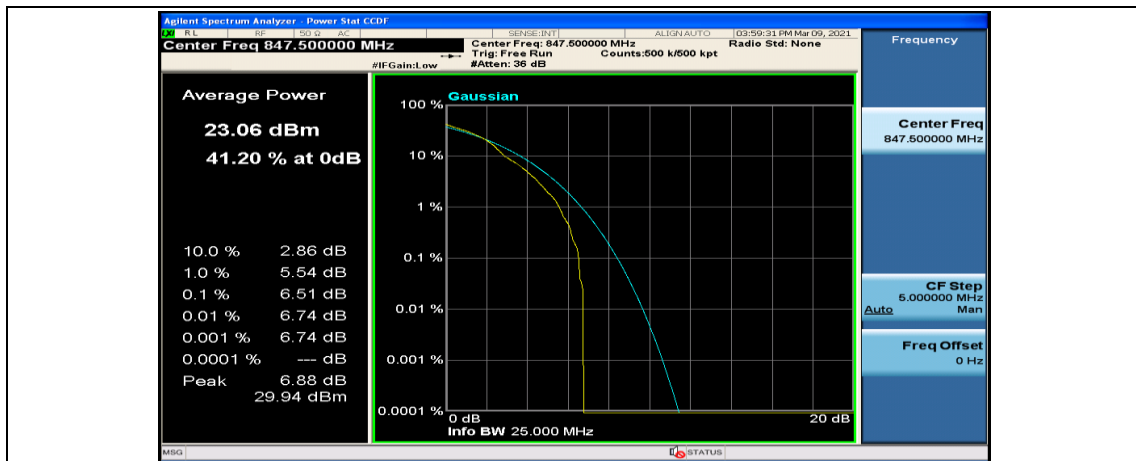
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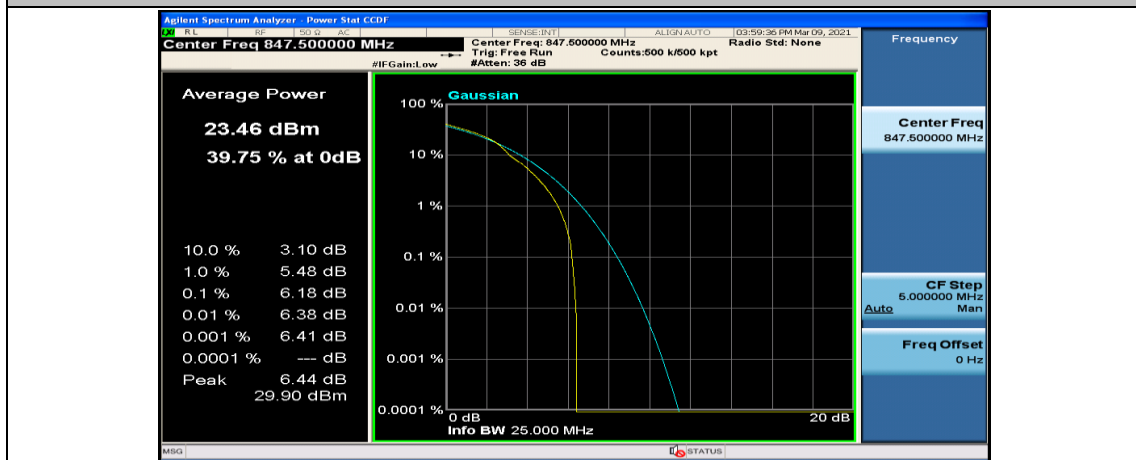
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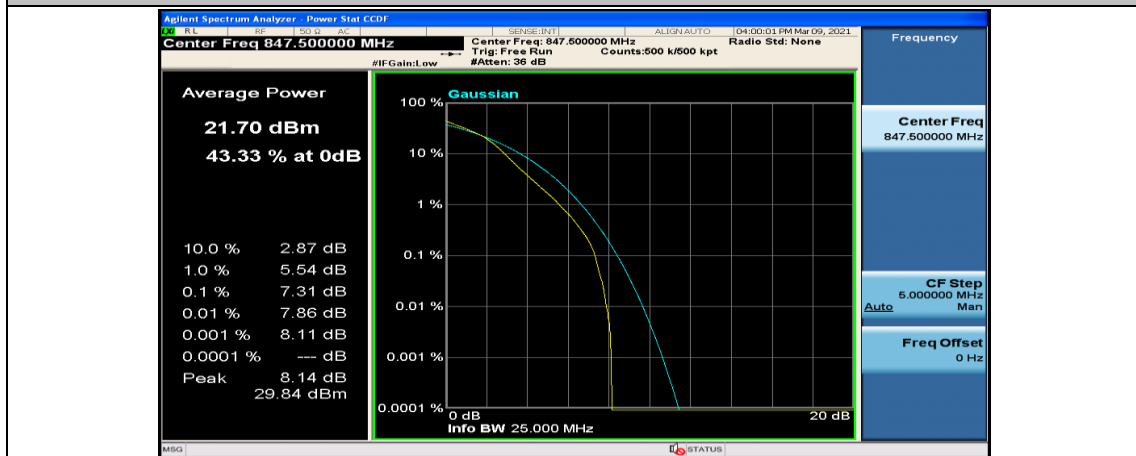
(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#7



(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#14



(Channel Bandwidth: 3 MHz)_HCH_16QAM_8RB#0



(Channel Bandwidth: 3 MHz)_HCH_16QAM_8RB#4