

Appendix for Band 12

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	21.73	PASS
		1	3	22.77	PASS
		1	5	22.94	PASS
		3	0	22.70	PASS
		3	2	22.41	PASS
		3	3	22.70	PASS
		6	0	21.74	PASS
	MCH	1	0	23.45	PASS
		1	3	23.45	PASS
		1	5	23.18	PASS
		3	0	23.38	PASS
		3	2	23.23	PASS
		3	3	23.03	PASS
		6	0	22.41	PASS
	HCH	1	0	23.88	PASS
		1	3	23.92	PASS
		1	5	23.78	PASS
		3	0	23.76	PASS
		3	2	23.83	PASS
		3	3	23.78	PASS
		6	0	22.89	PASS
16QAM	LCH	1	0	22.51	PASS
		1	3	22.18	PASS
		1	5	22.50	PASS
		3	0	21.83	PASS
		3	2	21.59	PASS
		3	3	21.79	PASS
		6	0	20.69	PASS
	MCH	1	0	23.03	PASS
		1	3	22.67	PASS
		1	5	22.66	PASS
		3	0	22.57	PASS
		3	2	22.24	PASS

		3	3	22.30	PASS
		6	0	21.41	PASS
	HCH	1	0	23.50	PASS
		1	3	23.49	PASS
		1	5	23.25	PASS
		3	0	22.99	PASS
		3	2	23.08	PASS
		3	3	22.92	PASS
		6	0	21.97	PASS

Channel Bandwidth: 3 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	21.65	PASS
		1	7	22.70	PASS
		1	14	23.29	PASS
		8	0	21.10	PASS
		8	4	21.74	PASS
		8	7	21.98	PASS
		15	0	21.66	PASS
	MCH	1	0	23.84	PASS
		1	7	23.36	PASS
		1	14	23.05	PASS
		8	0	22.29	PASS
		8	4	22.28	PASS
		8	7	22.05	PASS
		15	0	22.22	PASS
	HCH	1	0	23.98	PASS
		1	7	24.05	PASS
		1	14	23.66	PASS
		8	0	22.95	PASS
		8	4	23.24	PASS
		8	7	22.88	PASS
		15	0	22.88	PASS
16QAM	LCH	1	0	21.64	PASS
		1	7	22.34	PASS
		1	14	22.92	PASS
		8	0	20.50	PASS
		8	4	20.74	PASS
		8	7	21.00	PASS
		15	0	20.63	PASS

	MCH	1	0	23.21	PASS
		1	7	22.79	PASS
		1	14	22.55	PASS
		8	0	21.33	PASS
		8	4	21.23	PASS
		8	7	21.04	PASS
		15	0	21.24	PASS
	HCH	1	0	23.61	PASS
		1	7	23.57	PASS
		1	14	23.17	PASS
		8	0	22.00	PASS
		8	4	22.18	PASS
		8	7	21.86	PASS
		15	0	21.91	PASS

Channel Bandwidth: 5 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	22.17	PASS
		1	12	23.37	PASS
		1	24	23.92	PASS
		12	0	21.52	PASS
		12	6	22.21	PASS
		12	13	22.26	PASS
		25	0	22.18	PASS
	MCH	1	0	23.89	PASS
		1	12	23.54	PASS
		1	24	23.06	PASS
		12	0	22.43	PASS
		12	6	22.30	PASS
		12	13	21.92	PASS
		25	0	22.40	PASS
	HCH	1	0	23.56	PASS
		1	12	24.03	PASS
		1	24	23.87	PASS
		12	0	22.49	PASS
		12	6	22.94	PASS
		12	13	22.94	PASS
		25	0	22.82	PASS
16QAM	LCH	1	0	21.73	PASS
		1	12	22.56	PASS

		1	24	23.15	PASS
		12	0	20.61	PASS
		12	6	21.32	PASS
		12	13	21.62	PASS
		25	0	21.17	PASS
	MCH	1	0	23.24	PASS
		1	12	22.76	PASS
		1	24	22.54	PASS
		12	0	21.62	PASS
		12	6	21.63	PASS
		12	13	21.06	PASS
		25	0	21.44	PASS
	HCH	1	0	22.91	PASS
		1	12	23.54	PASS
		1	24	23.10	PASS
		12	0	21.74	PASS
		12	6	22.22	PASS
		12	13	21.94	PASS
		25	0	22.05	PASS

Channel Bandwidth: 10 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	LCH	1	0	22.54	PASS
		1	24	23.71	PASS
		1	49	22.75	PASS
		25	0	22.06	PASS
		25	12	22.63	PASS
		25	25	22.69	PASS
		50	0	22.54	PASS
	MCH	1	0	23.48	PASS
		1	24	23.44	PASS
		1	49	23.56	PASS
		25	0	22.77	PASS
		25	12	22.37	PASS
		25	25	22.08	PASS
		50	0	22.51	PASS
	HCH	1	0	23.66	PASS
		1	24	23.41	PASS
		1	49	24.08	PASS
		25	0	22.29	PASS

		25	12	22.24	PASS
		25	25	22.77	PASS
		50	0	22.57	PASS
16QAM	LCH	1	0	21.79	PASS
		1	24	23.33	PASS
		1	49	22.38	PASS
		25	0	21.29	PASS
		25	12	21.77	PASS
		25	25	21.72	PASS
		50	0	21.58	PASS
	MCH	1	0	22.68	PASS
		1	24	22.64	PASS
		1	49	23.04	PASS
		25	0	21.77	PASS
		25	12	21.33	PASS
		25	25	21.22	PASS
		50	0	21.52	PASS
	HCH	1	0	23.25	PASS
		1	24	23.02	PASS
		1	49	23.48	PASS
		25	0	21.35	PASS
		25	12	21.48	PASS
		25	25	21.87	PASS
		50	0	21.63	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	6.67	<13	PASS
		1	3	6.35	<13	PASS
		1	5	6.56	<13	PASS
		3	0	6.45	<13	PASS
		3	2	6.1	<13	PASS
		3	3	6.35	<13	PASS
		6	0	6.26	<13	PASS
	MCH	1	0	5.53	<13	PASS
		1	3	5.37	<13	PASS
		1	5	5.54	<13	PASS
		3	0	5.59	<13	PASS
		3	2	5.47	<13	PASS
		3	3	5.66	<13	PASS
		6	0	5.66	<13	PASS
	HCH	1	0	6.8	<13	PASS
		1	3	6.6	<13	PASS
		1	5	6.48	<13	PASS
		3	0	6.98	<13	PASS
		3	2	6.74	<13	PASS
		3	3	6.79	<13	PASS
		6	0	6.62	<13	PASS
16QAM	LCH	1	0	6.96	<13	PASS
		1	3	7.08	<13	PASS
		1	5	7.42	<13	PASS
		3	0	7.24	<13	PASS
		3	2	7.07	<13	PASS
		3	3	7.51	<13	PASS
		6	0	6.82	<13	PASS
	MCH	1	0	6.58	<13	PASS
		1	3	6.12	<13	PASS
1		5	6.5	<13	PASS	

		3	0	6.72	<13	PASS
		3	2	6.55	<13	PASS
		3	3	6.62	<13	PASS
		6	0	6.4	<13	PASS
	HCH	1	0	7.71	<13	PASS
		1	3	7.6	<13	PASS
		1	5	7.3	<13	PASS
		3	0	7.69	<13	PASS
		3	2	7.43	<13	PASS
		3	3	7.52	<13	PASS
		6	0	7.34	<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	6.07	<13	PASS
		1	7	6.58	<13	PASS
		1	14	6.78	<13	PASS
		8	0	6.42	<13	PASS
		8	4	6.23	<13	PASS
		8	7	6.49	<13	PASS
		15	0	6.27	<13	PASS
	MCH	1	0	5.31	<13	PASS
		1	7	5.26	<13	PASS
		1	14	5.36	<13	PASS
		8	0	5.83	<13	PASS
		8	4	5.62	<13	PASS
		8	7	5.72	<13	PASS
		15	0	5.83	<13	PASS
	HCH	1	0	6.55	<13	PASS
		1	7	6.67	<13	PASS
		1	14	6.47	<13	PASS
		8	0	6.83	<13	PASS
		8	4	6.57	<13	PASS
		8	7	6.81	<13	PASS
		15	0	6.57	<13	PASS
16QAM	LCH	1	0	7.02	<13	PASS
		1	7	7.4	<13	PASS
		1	14	7.56	<13	PASS
		8	0	6.67	<13	PASS

		8	4	6.67	<13	PASS
		8	7	6.74	<13	PASS
		15	0	7.01	<13	PASS
	MCH	1	0	6.51	<13	PASS
		1	7	6.26	<13	PASS
		1	14	6.18	<13	PASS
		8	0	6.68	<13	PASS
		8	4	6.14	<13	PASS
		8	7	6.13	<13	PASS
		15	0	6.42	<13	PASS
	HCH	1	0	7.61	<13	PASS
		1	7	7.65	<13	PASS
		1	14	7.55	<13	PASS
		8	0	7.8	<13	PASS
		8	4	7.76	<13	PASS
8		7	7.54	<13	PASS	
15		0	6.98	<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	6.48	<13	PASS
		1	12	7.28	<13	PASS
		1	24	7.01	<13	PASS
		12	0	6.27	<13	PASS
		12	6	6.28	<13	PASS
		12	13	6.19	<13	PASS
		25	0	6.27	<13	PASS
	MCH	1	0	6.13	<13	PASS
		1	12	5.54	<13	PASS
		1	24	5.64	<13	PASS
		12	0	5.62	<13	PASS
		12	6	5.47	<13	PASS
		12	13	5.55	<13	PASS
		25	0	5.77	<13	PASS
	HCH	1	0	6.02	<13	PASS
		1	12	6.59	<13	PASS
		1	24	6.31	<13	PASS
		12	0	6.37	<13	PASS
12		6	6.36	<13	PASS	

		12	13	6.68	<13	PASS
		25	0	6.6	<13	PASS
16QAM	LCH	1	0	7.01	<13	PASS
		1	12	7.14	<13	PASS
		1	24	7.2	<13	PASS
		12	0	6.89	<13	PASS
		12	6	7.03	<13	PASS
		12	13	7.08	<13	PASS
		25	0	6.68	<13	PASS
		MCH	1	0	6.78	<13
	1		12	6.06	<13	PASS
	1		24	6.5	<13	PASS
	12		0	6.47	<13	PASS
	12		6	6.28	<13	PASS
	12		13	6.29	<13	PASS
	25		0	6.34	<13	PASS
	HCH	1	0	6.92	<13	PASS
		1	12	7.42	<13	PASS
		1	24	7.52	<13	PASS
		12	0	7.08	<13	PASS
		12	6	7.27	<13	PASS
		12	13	7.12	<13	PASS
		25	0	7.22	<13	PASS

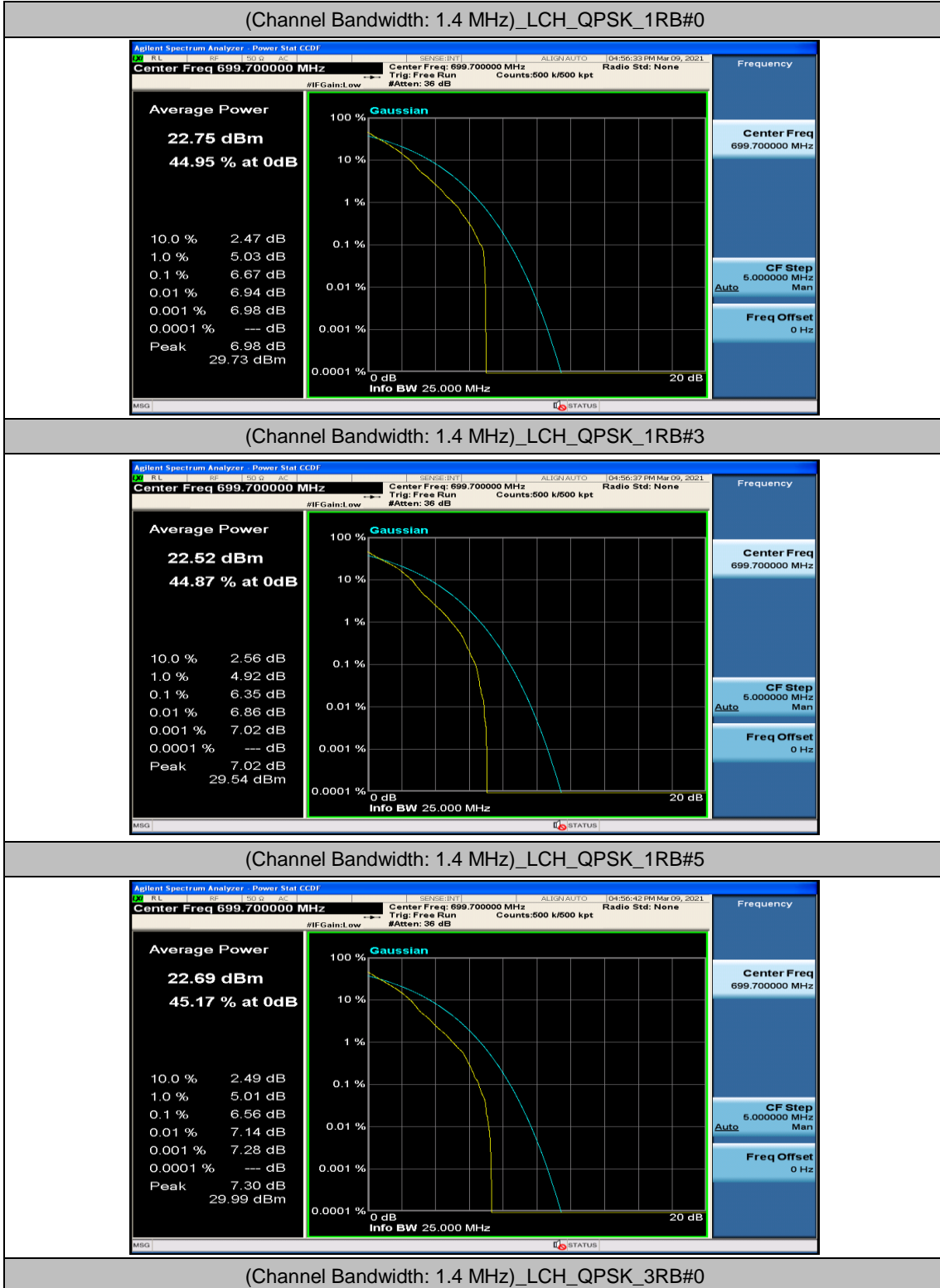
Channel Bandwidth: 10 MHz

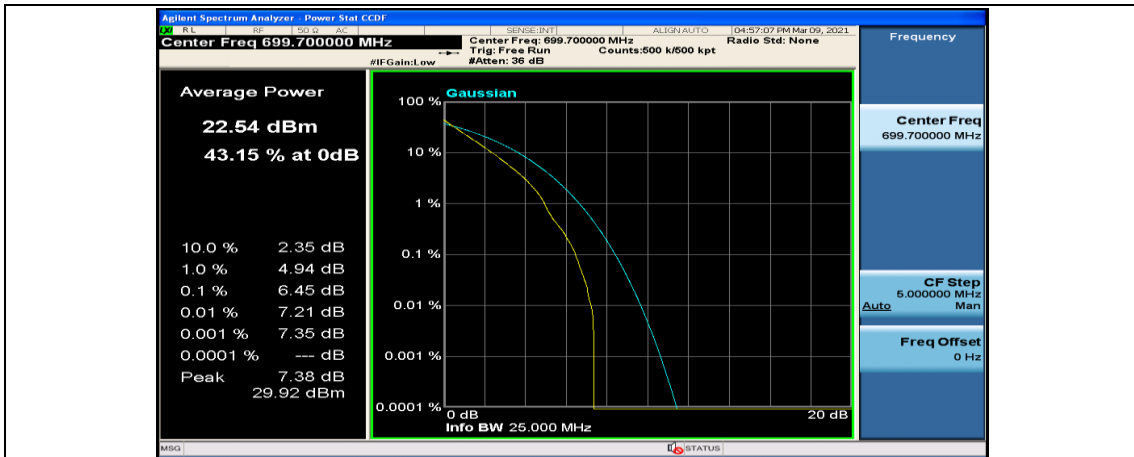
Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	6.18	<13	PASS
		1	24	6.07	<13	PASS
		1	49	5.56	<13	PASS
		25	0	6.11	<13	PASS
		25	12	5.87	<13	PASS
		25	25	6	<13	PASS
		50	0	5.85	<13	PASS
	MCH	1	0	5.86	<13	PASS
		1	24	5.38	<13	PASS
		1	49	6.04	<13	PASS
		25	0	6.17	<13	PASS
		25	12	5.61	<13	PASS
		25	25	5.98	<13	PASS

		50	0	5.92	<13	PASS
	HCH	1	0	5.89	<13	PASS
		1	24	5.87	<13	PASS
		1	49	6.36	<13	PASS
		25	0	5.74	<13	PASS
		25	12	5.79	<13	PASS
		25	25	6.51	<13	PASS
		50	0	6.3	<13	PASS
16QAM	LCH	1	0	7.1	<13	PASS
		1	24	7.2	<13	PASS
		1	49	6.51	<13	PASS
		25	0	6.93	<13	PASS
		25	12	6.64	<13	PASS
		25	25	6.62	<13	PASS
		50	0	6.45	<13	PASS
	MCH	1	0	6.97	<13	PASS
		1	24	6.07	<13	PASS
		1	49	6.93	<13	PASS
		25	0	6.63	<13	PASS
		25	12	6.38	<13	PASS
		25	25	6.43	<13	PASS
		50	0	6.41	<13	PASS
	HCH	1	0	6.83	<13	PASS
		1	24	6.68	<13	PASS
		1	49	7.56	<13	PASS
		25	0	6.38	<13	PASS
		25	12	6.78	<13	PASS
		25	25	7.33	<13	PASS
		50	0	6.7	<13	PASS

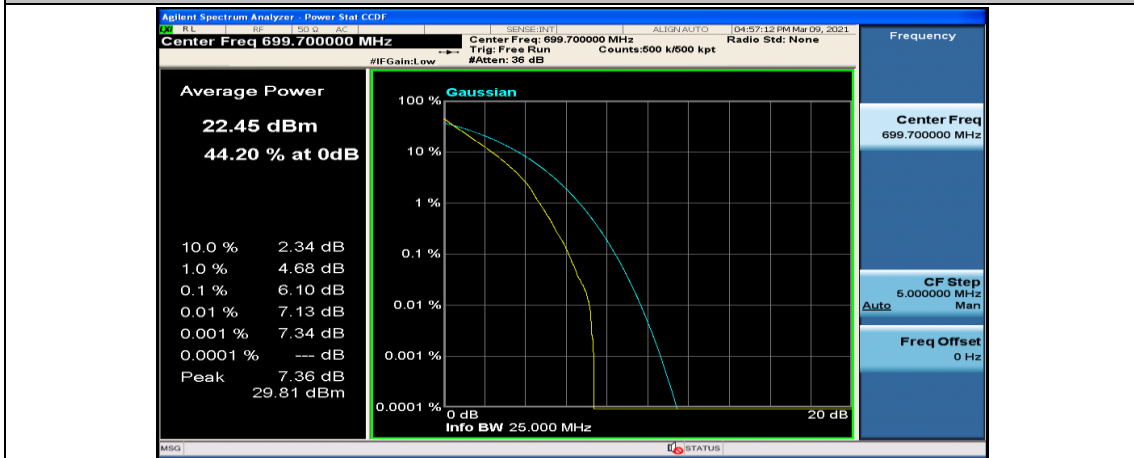
Test Graphs

Channel Bandwidth: 1.4 MHz

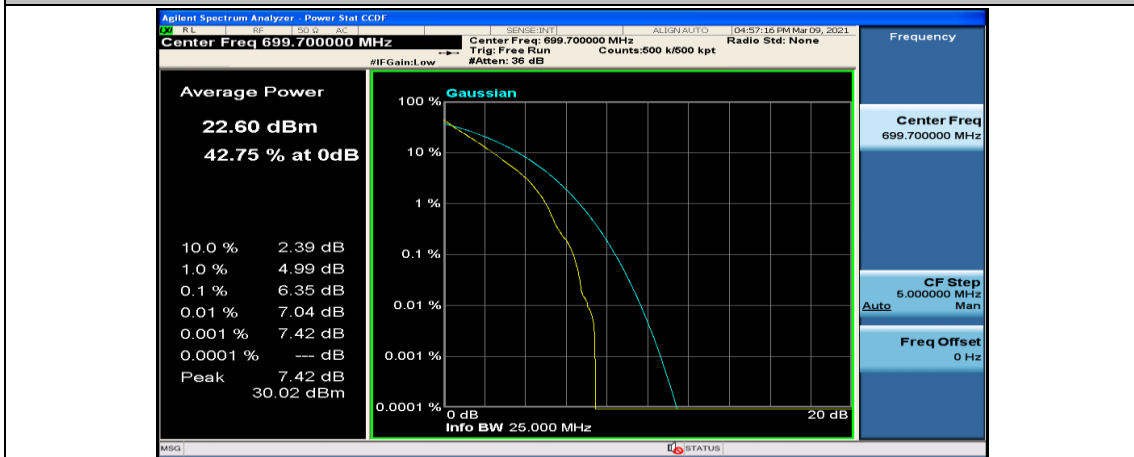




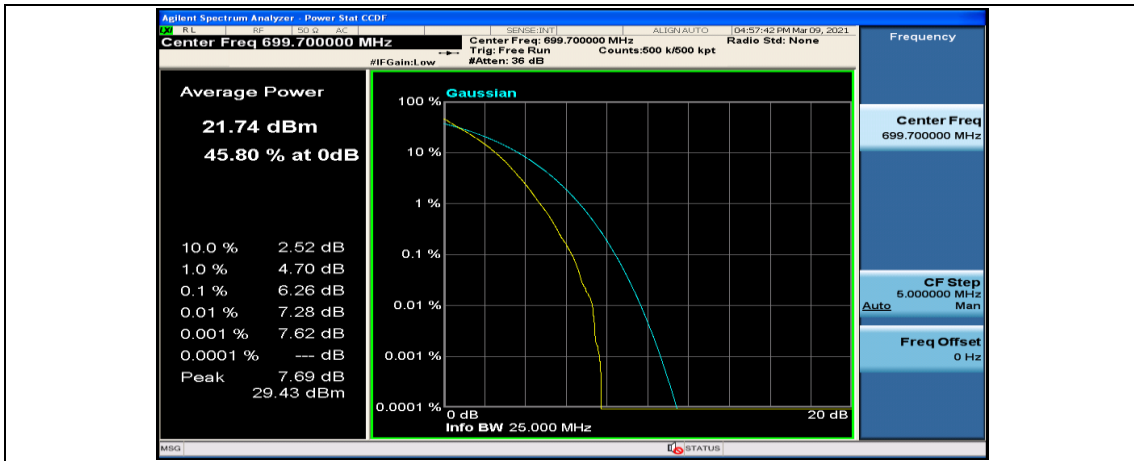
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_3RB#2



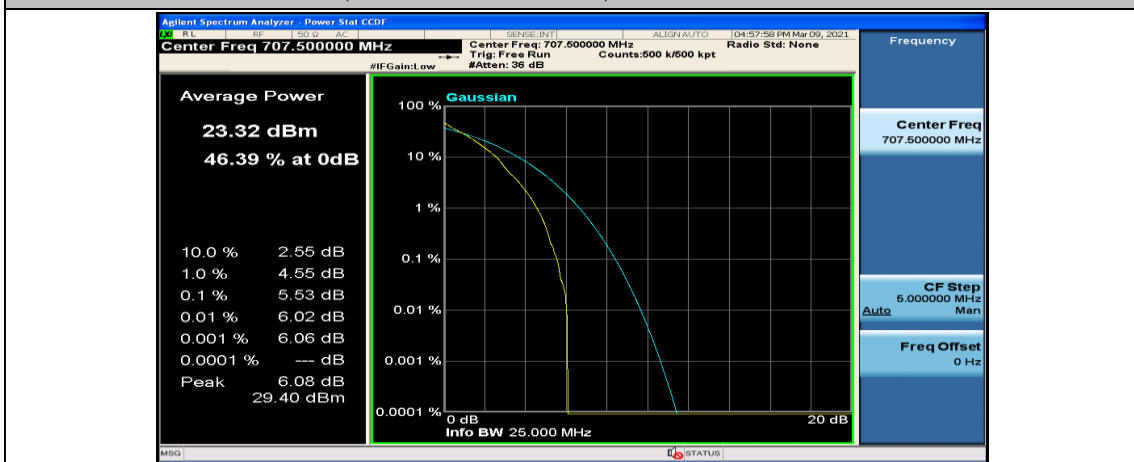
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_3RB#3



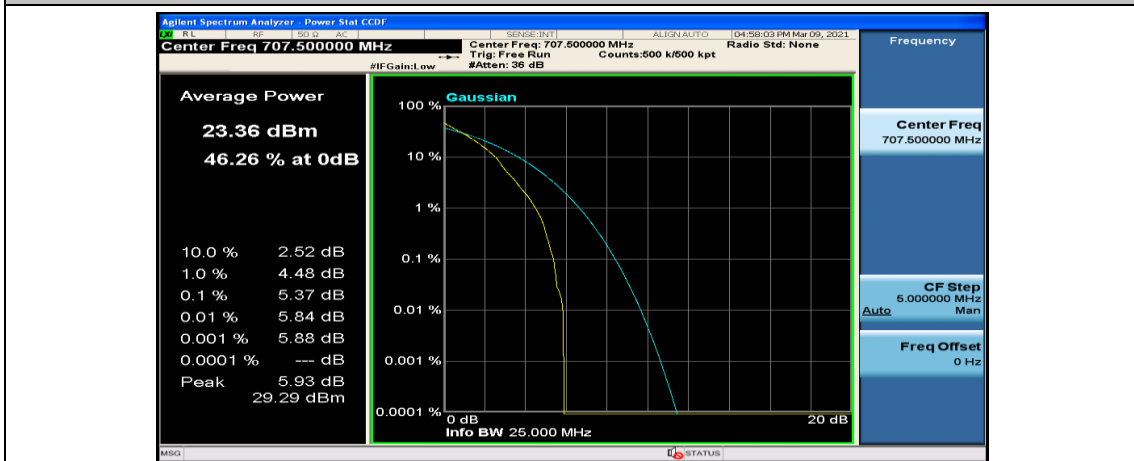
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_6RB#0



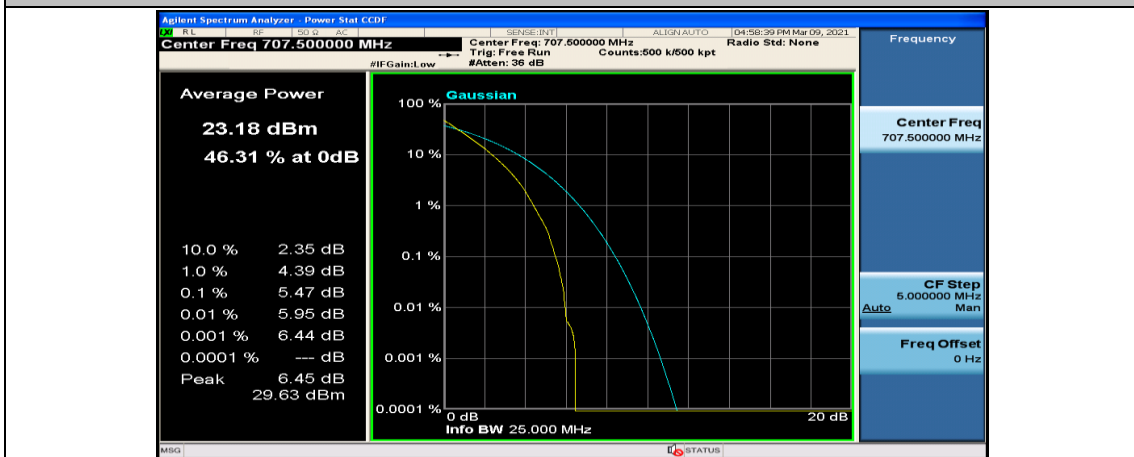
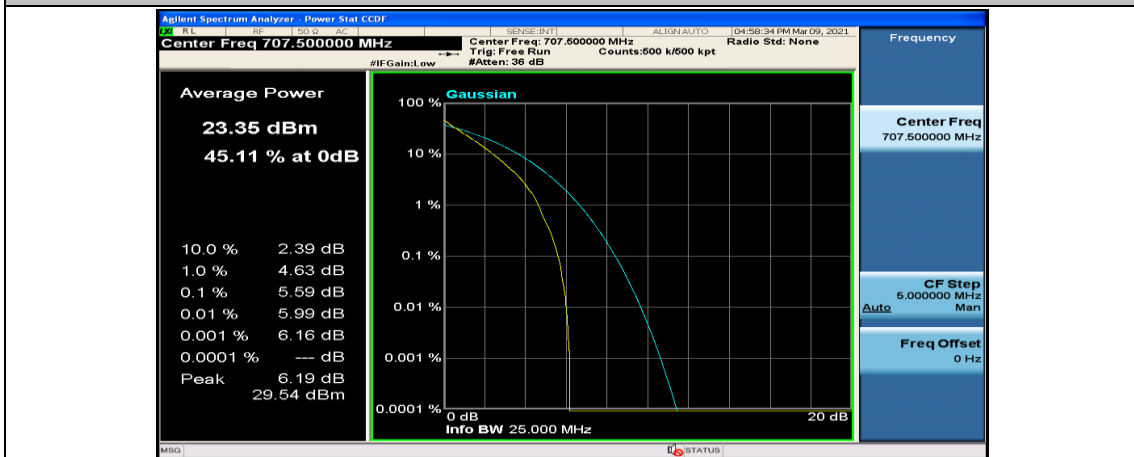
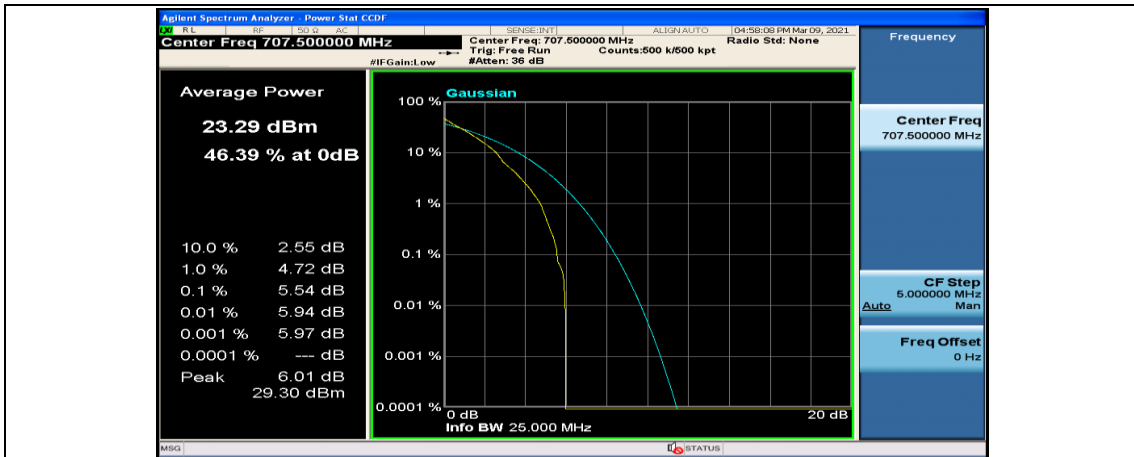
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#0

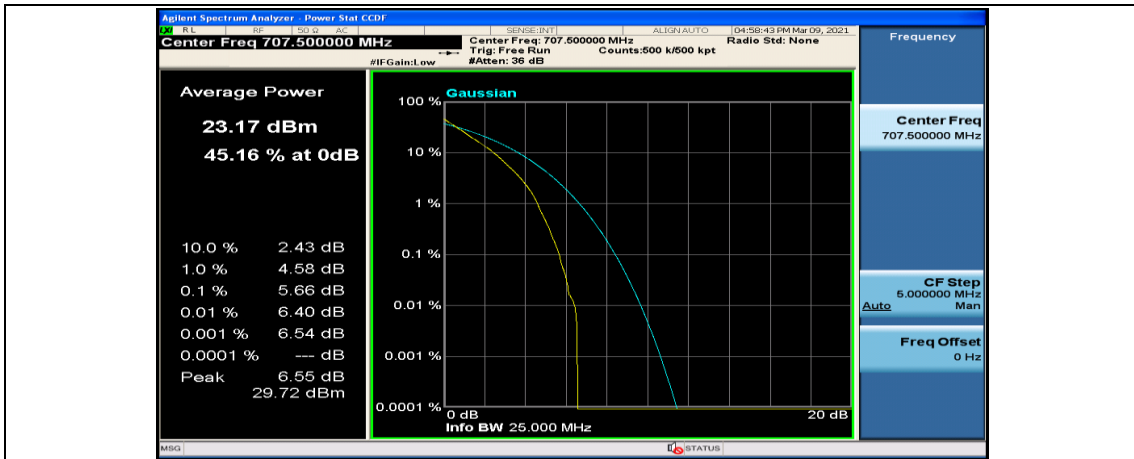


(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#3

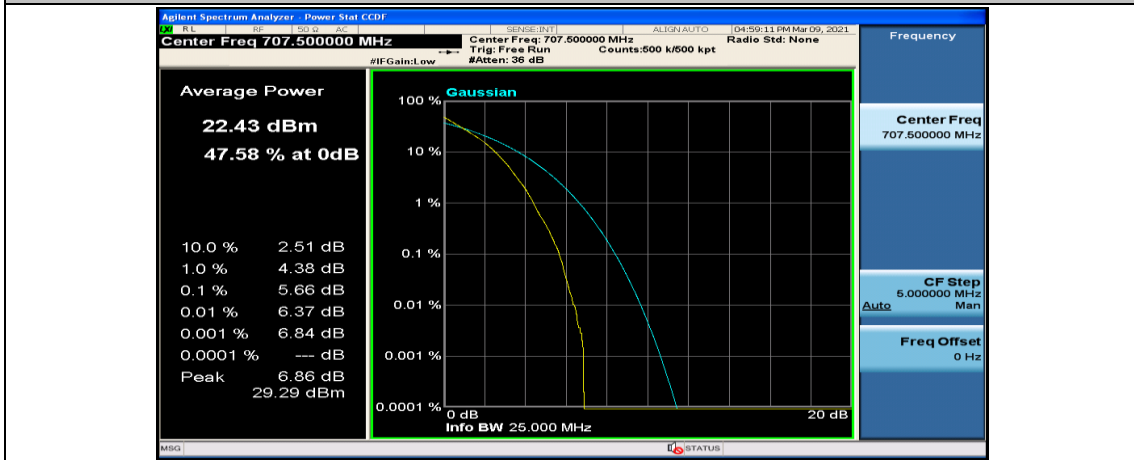


(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#5

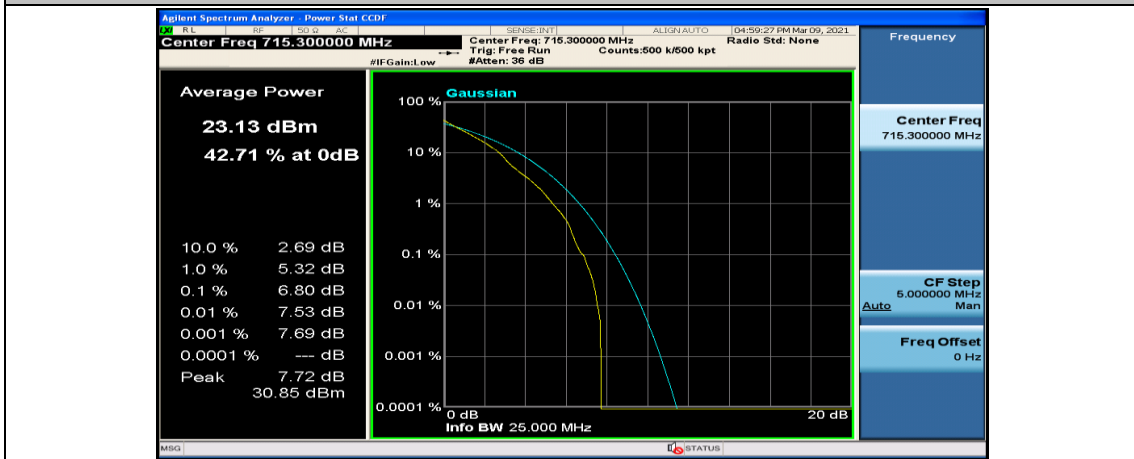




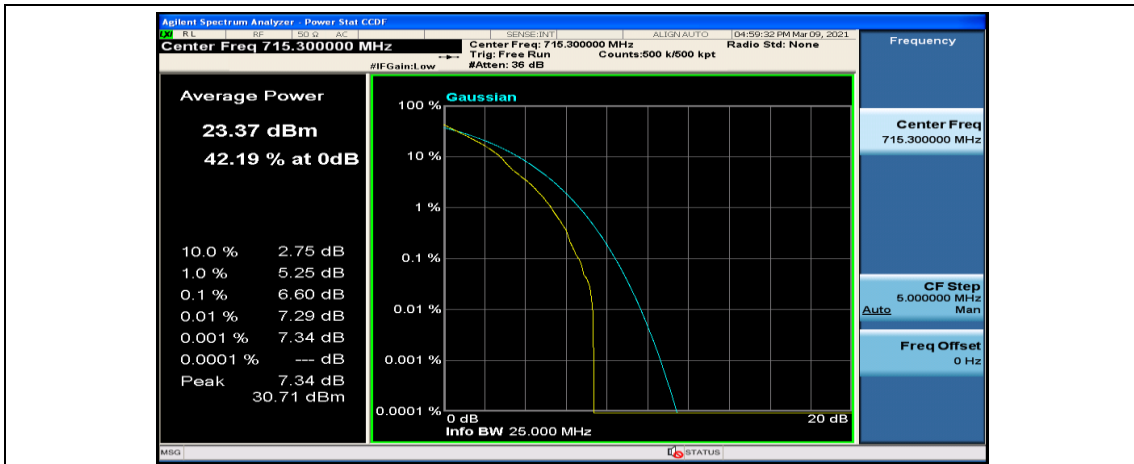
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_6RB#0



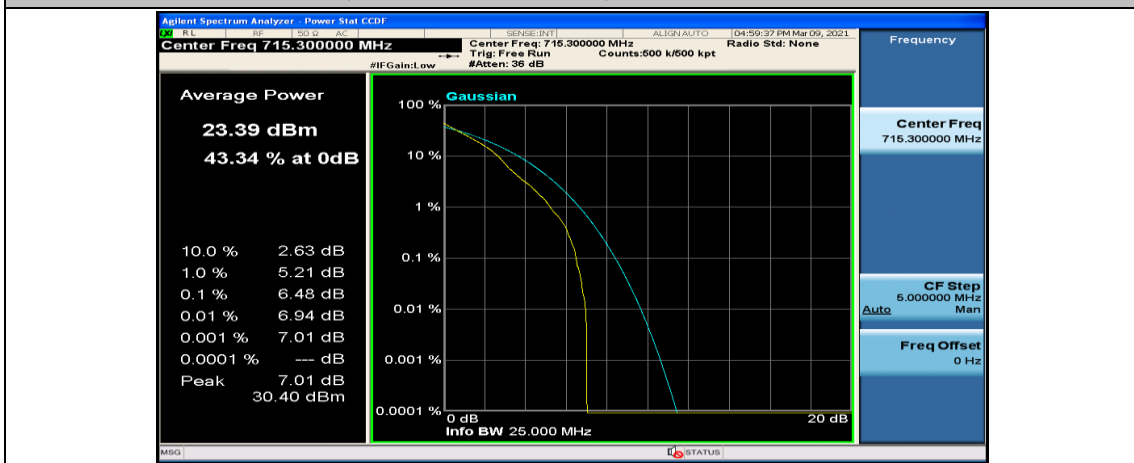
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#0



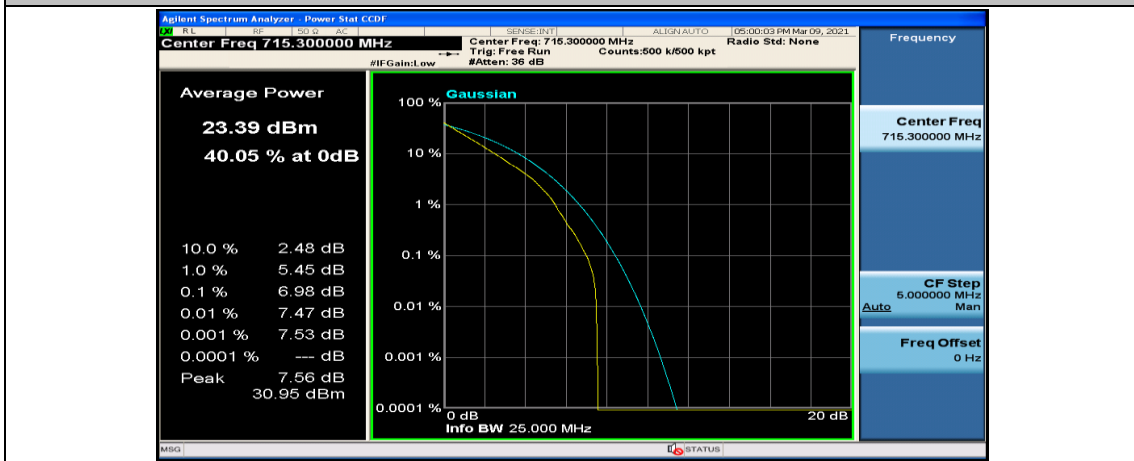
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#3



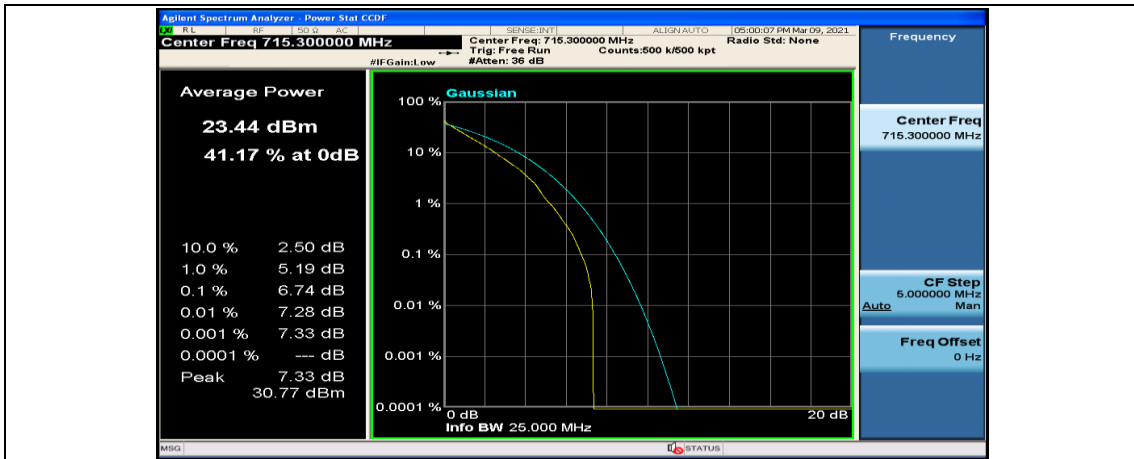
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#5



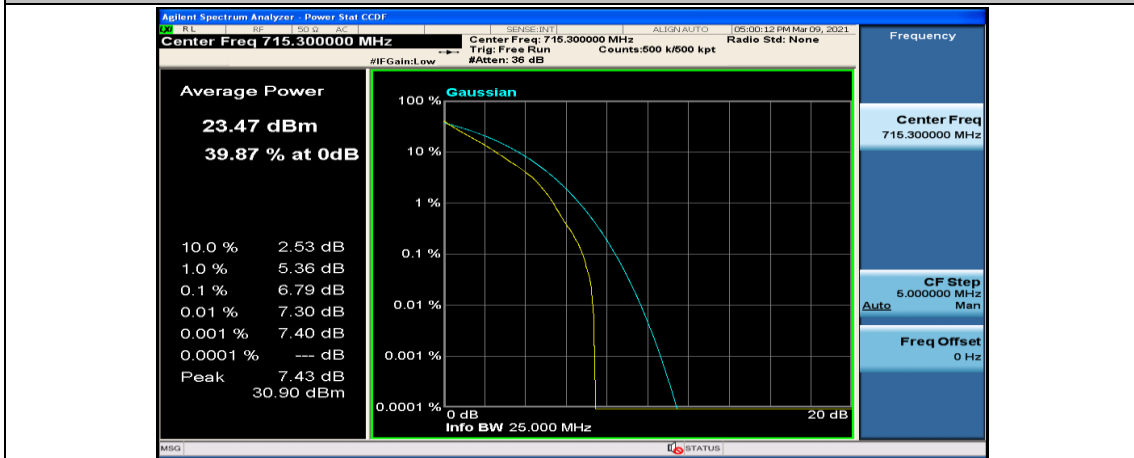
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_3RB#0



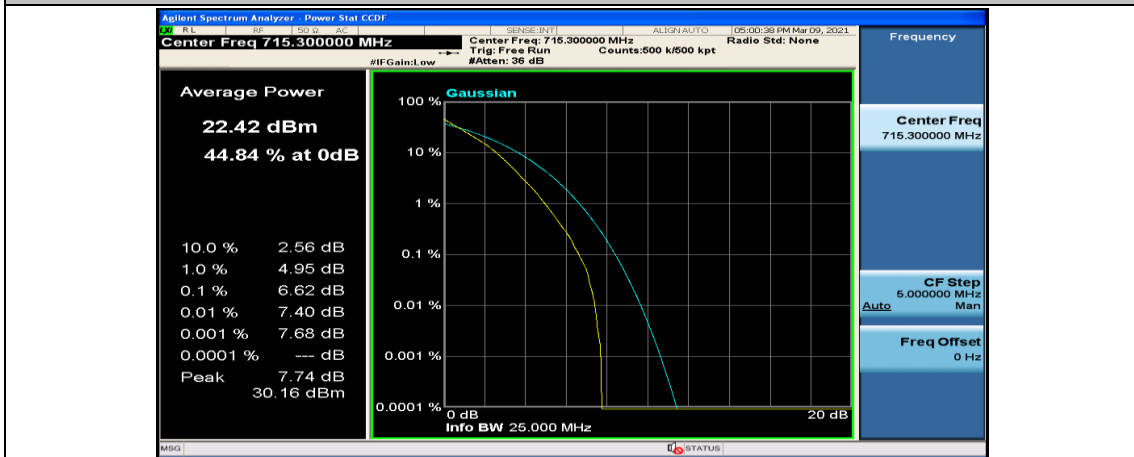
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_3RB#2



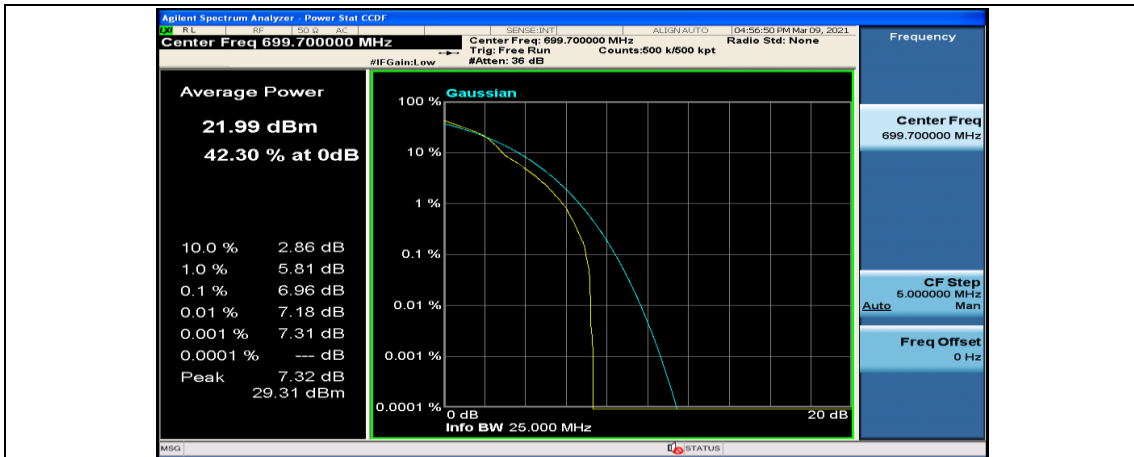
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_3RB#3



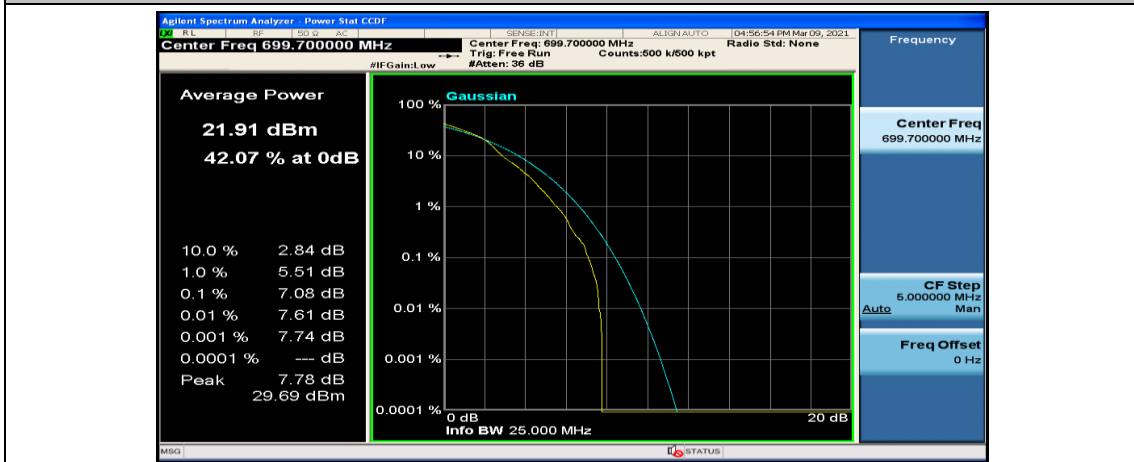
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_6RB#0



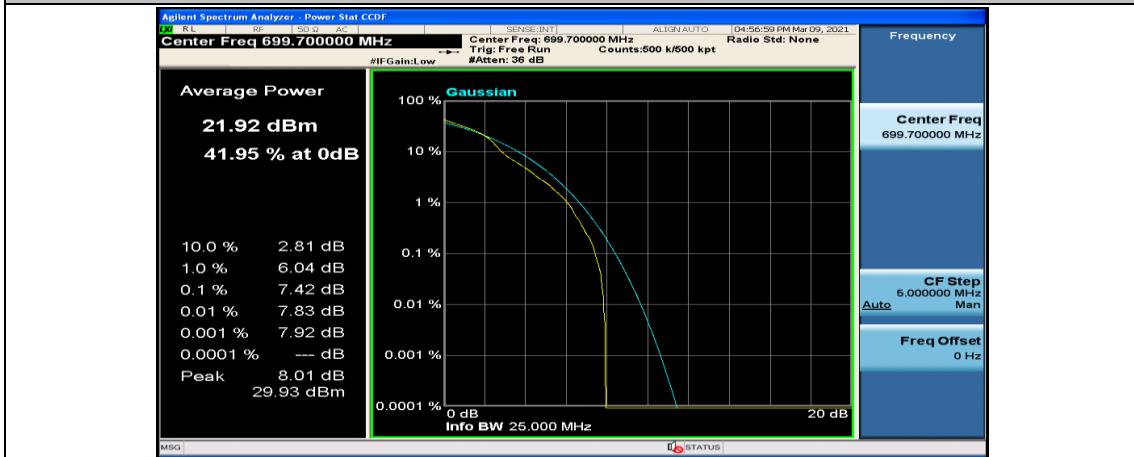
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#0



(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#3



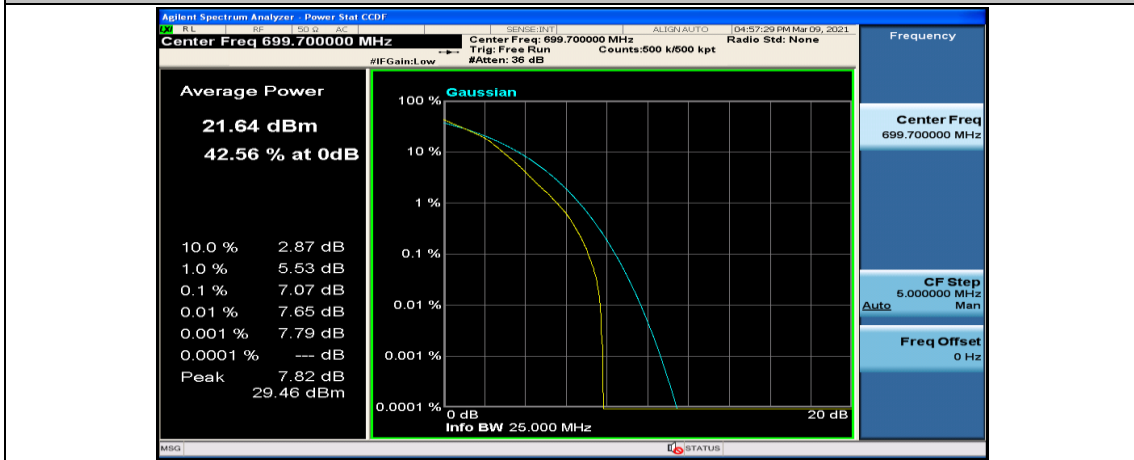
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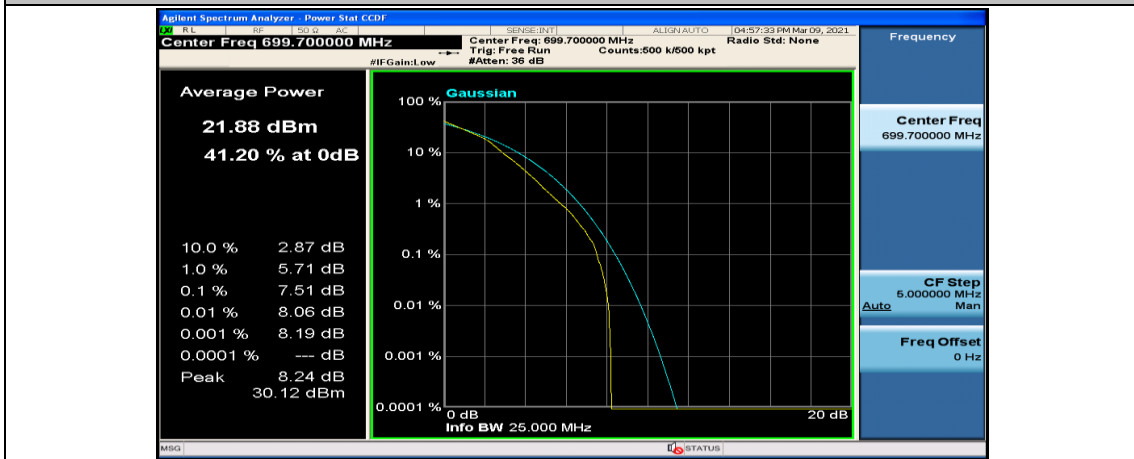
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_3RB#0



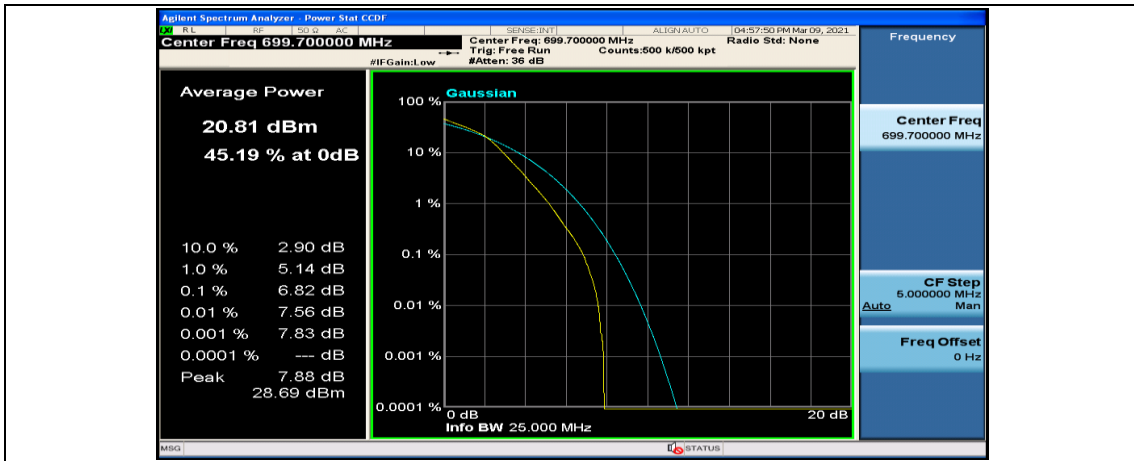
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_3RB#2



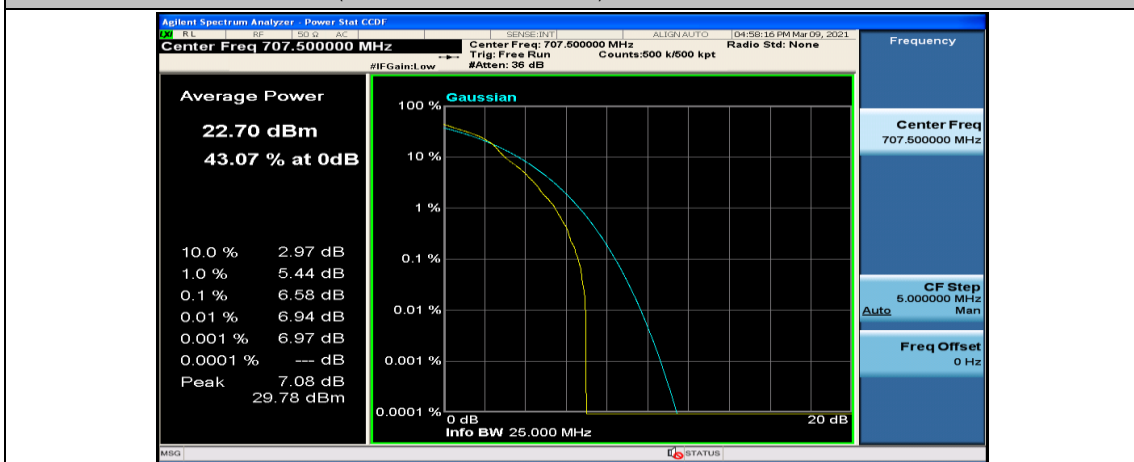
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_3RB#3



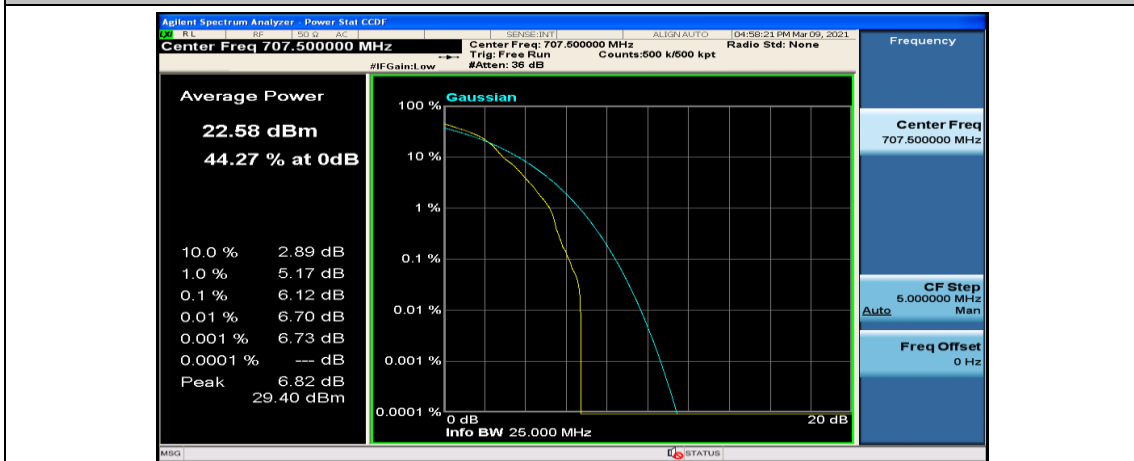
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_6RB#0



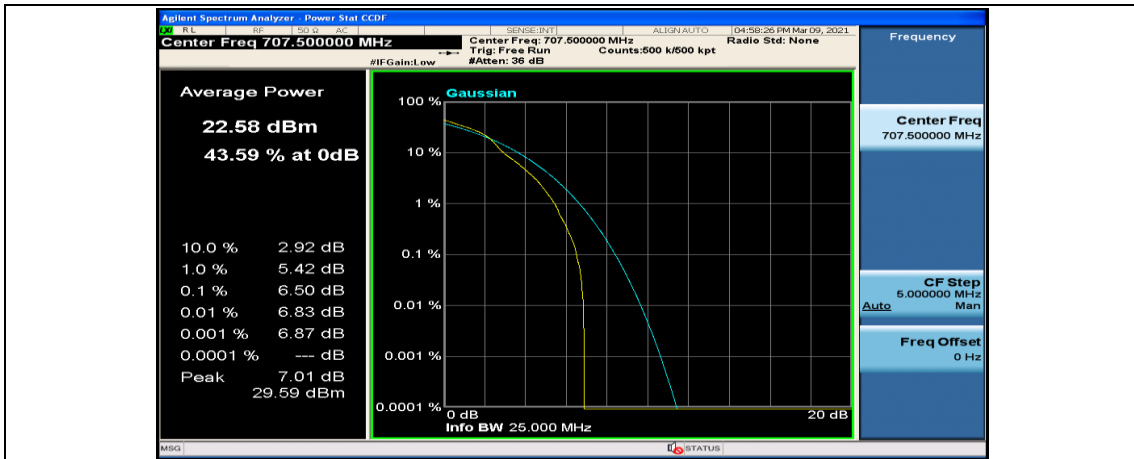
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#0



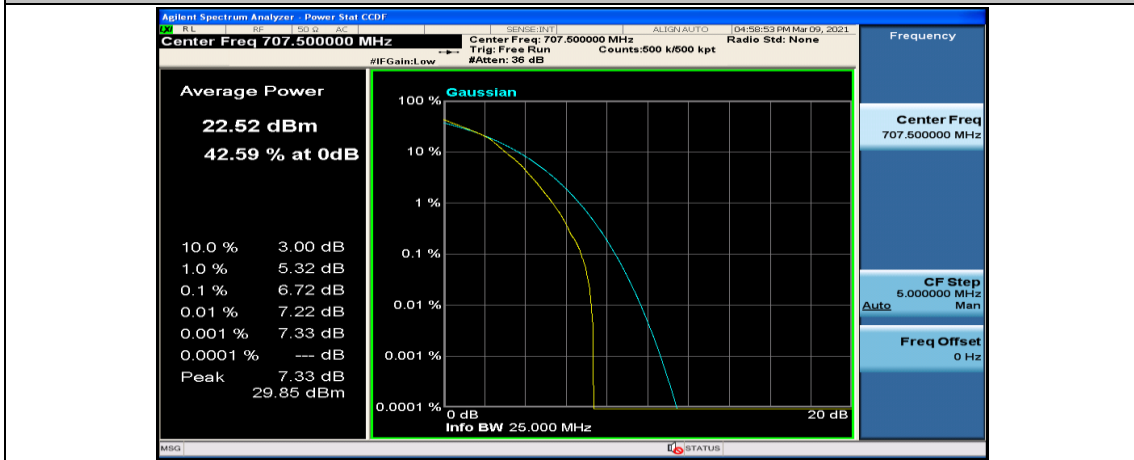
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#3



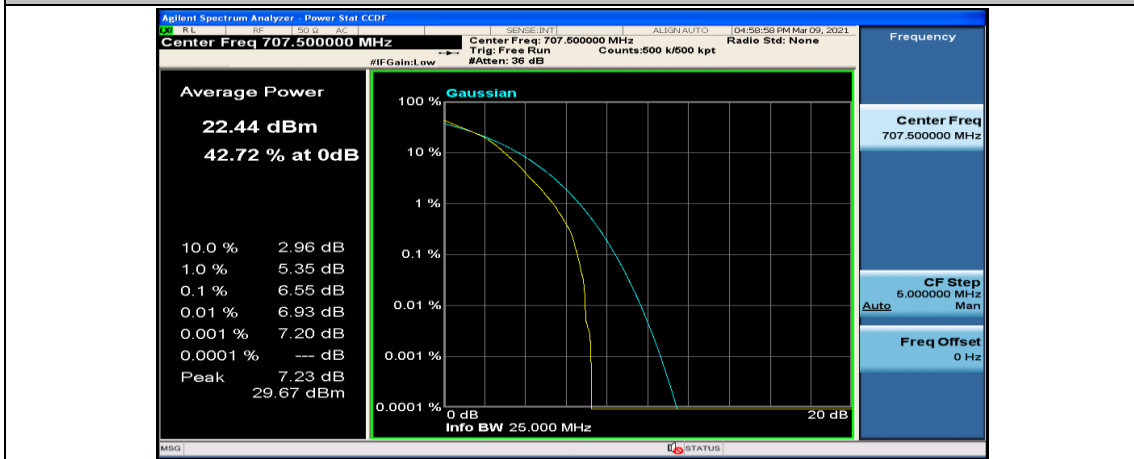
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#5



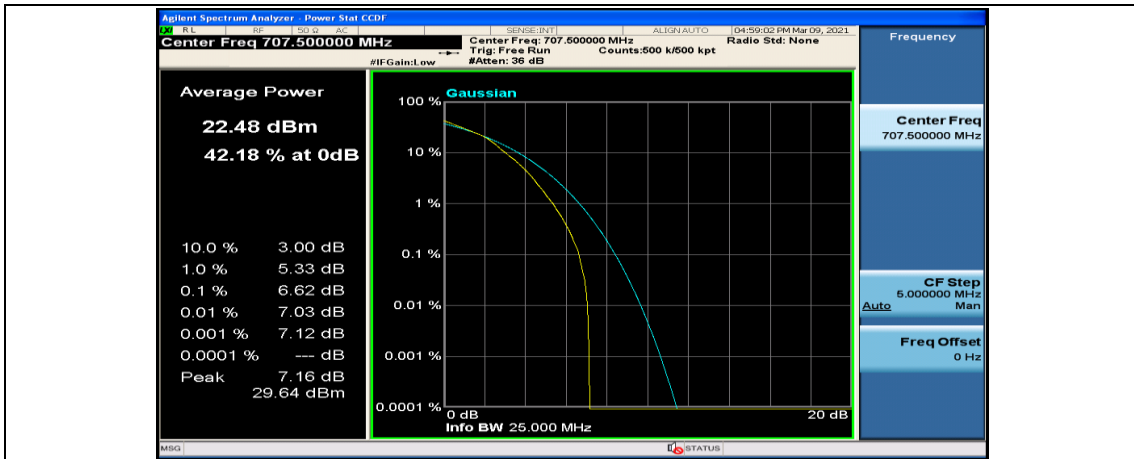
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_3RB#0



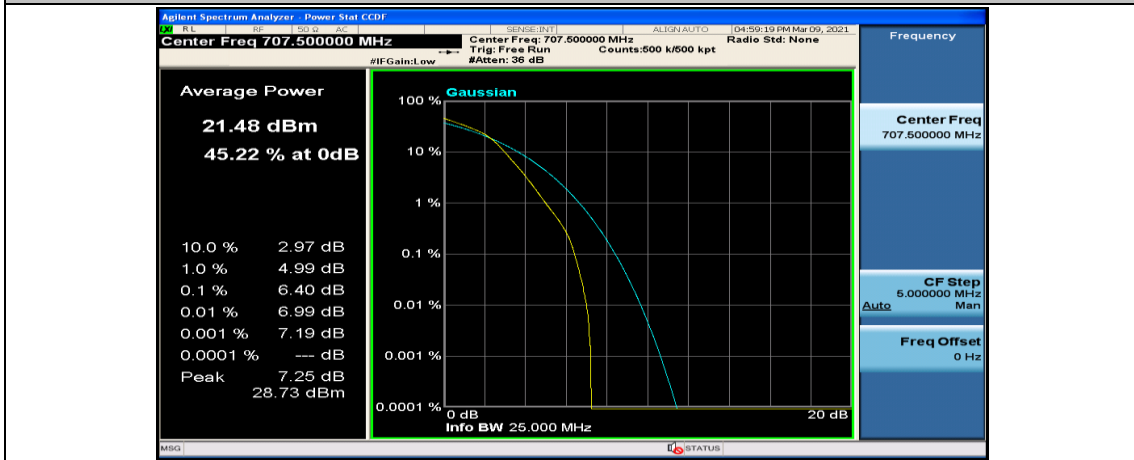
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_3RB#2



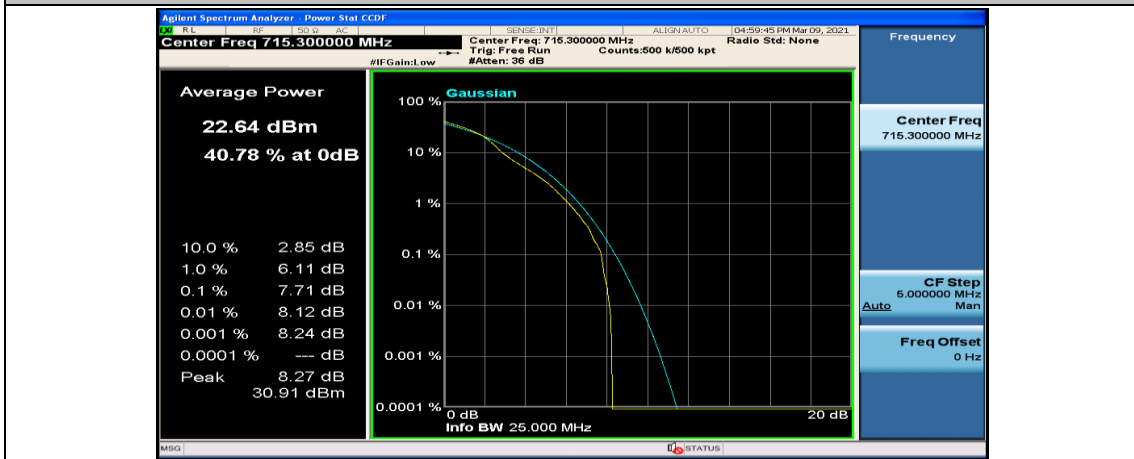
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_3RB#3



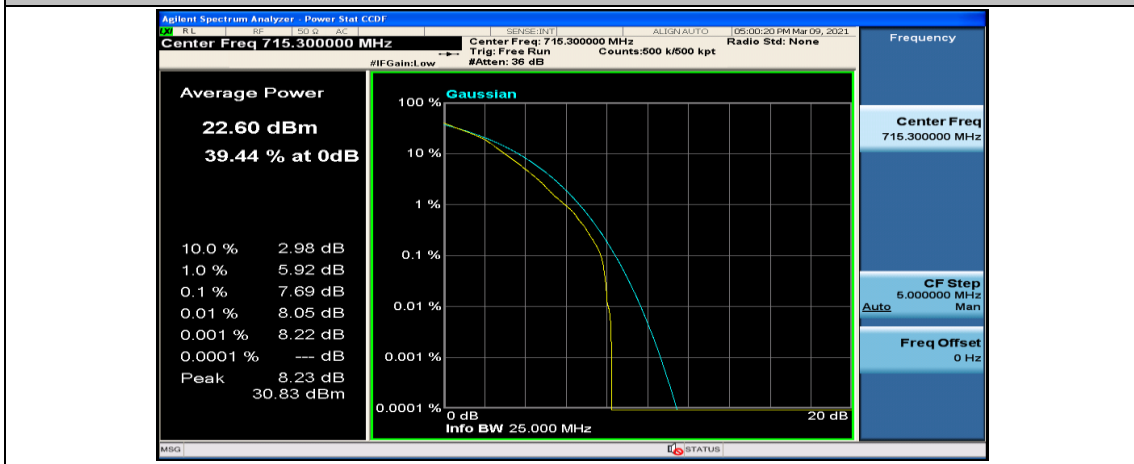
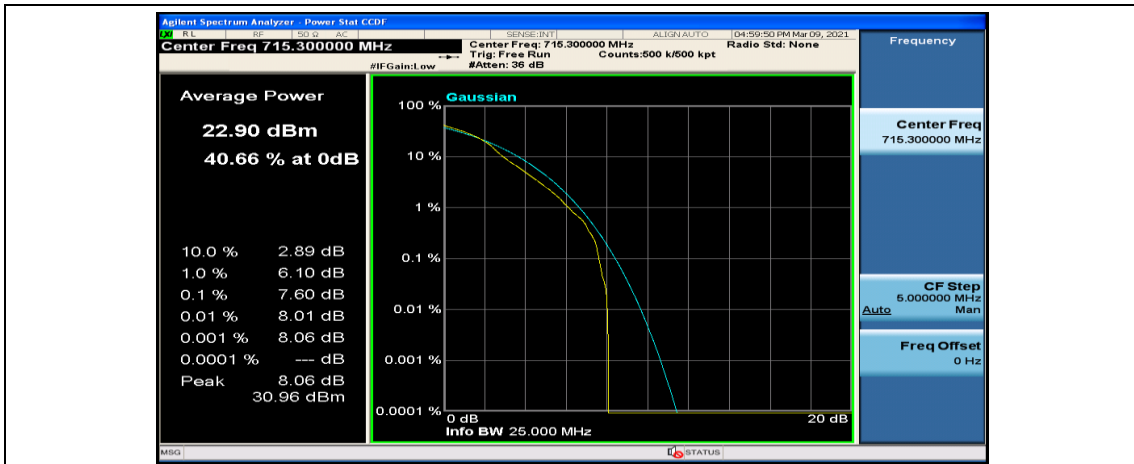
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_6RB#0

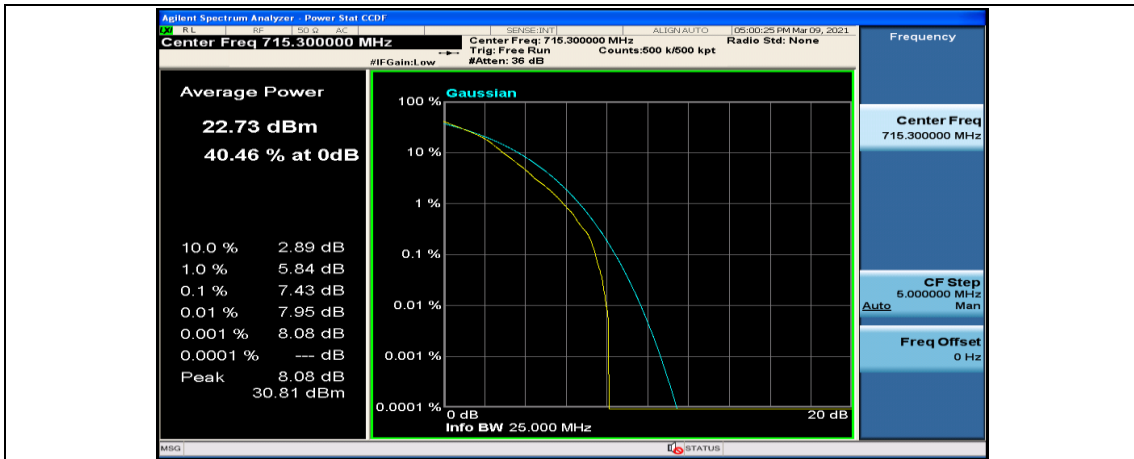


(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#0

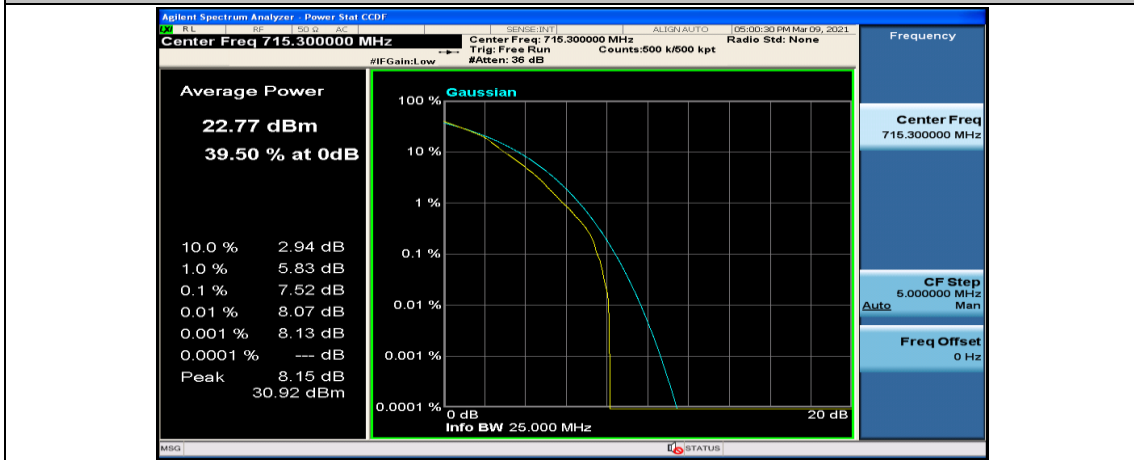


(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#3

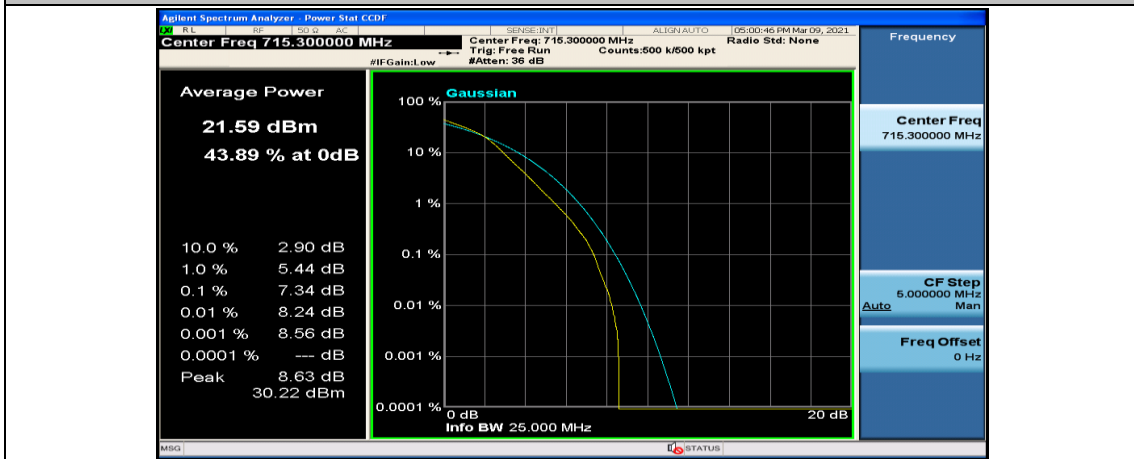




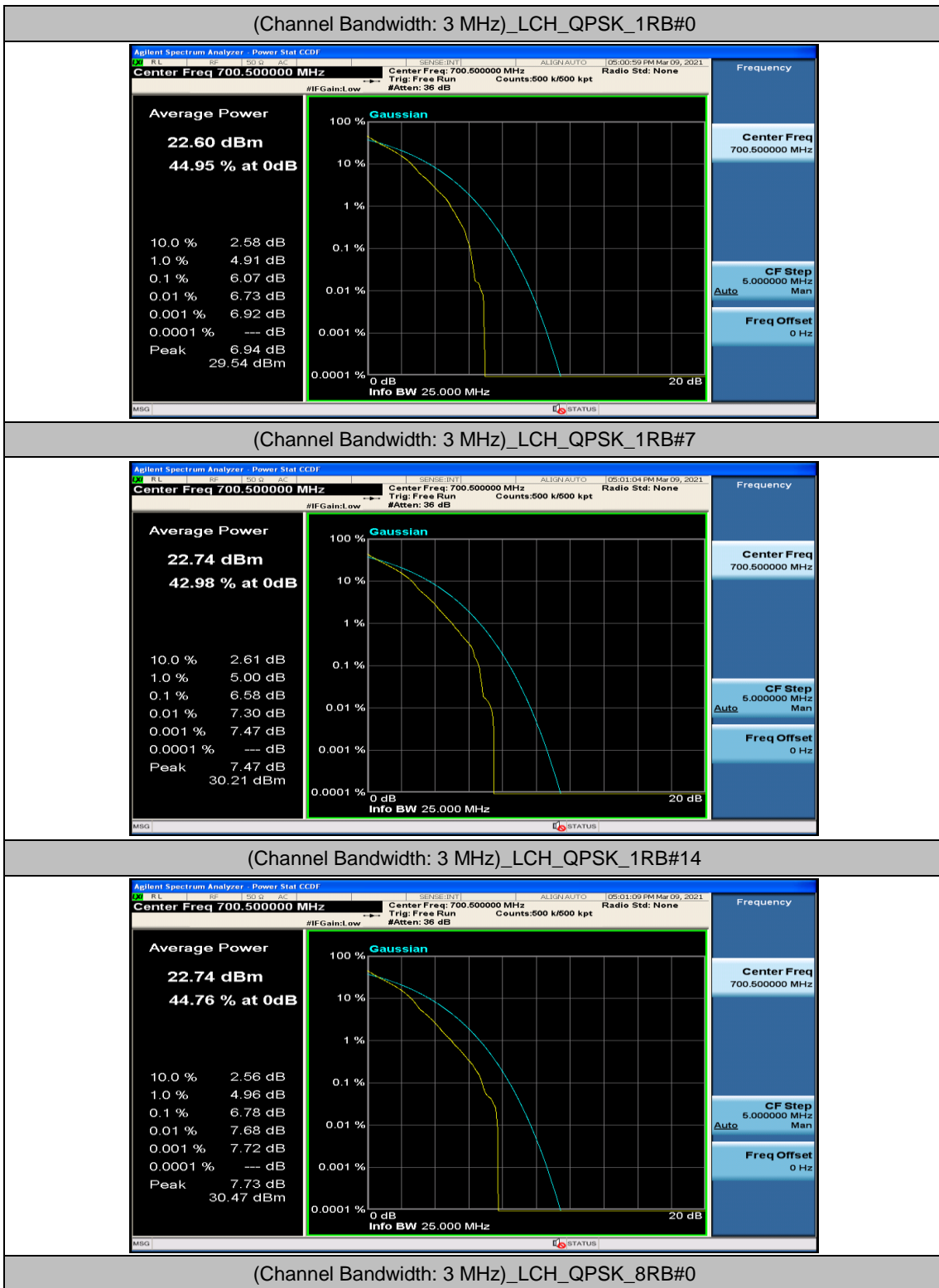
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_3RB#3

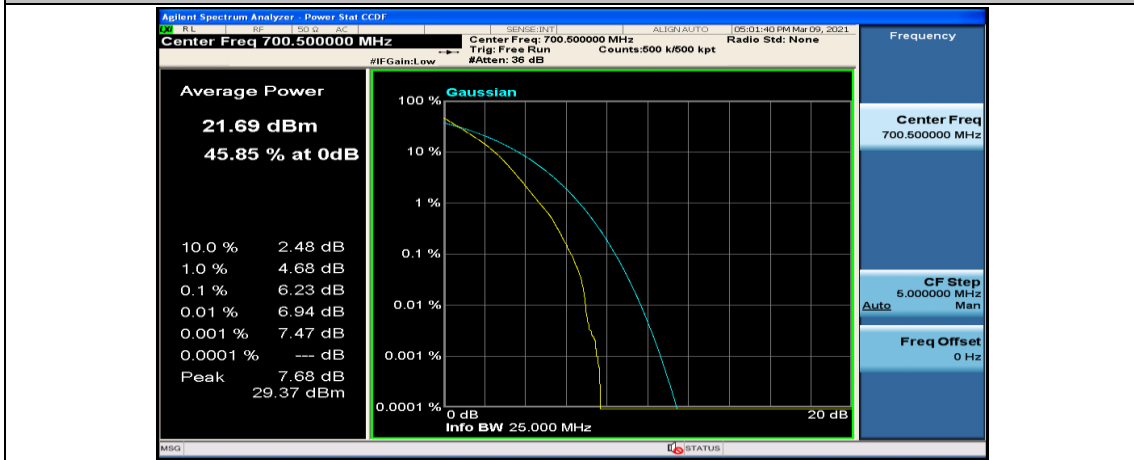
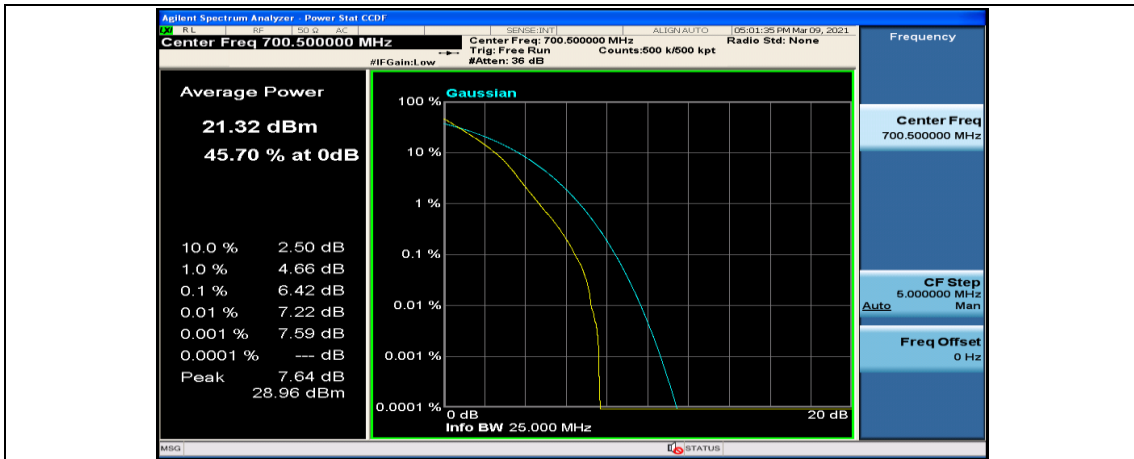


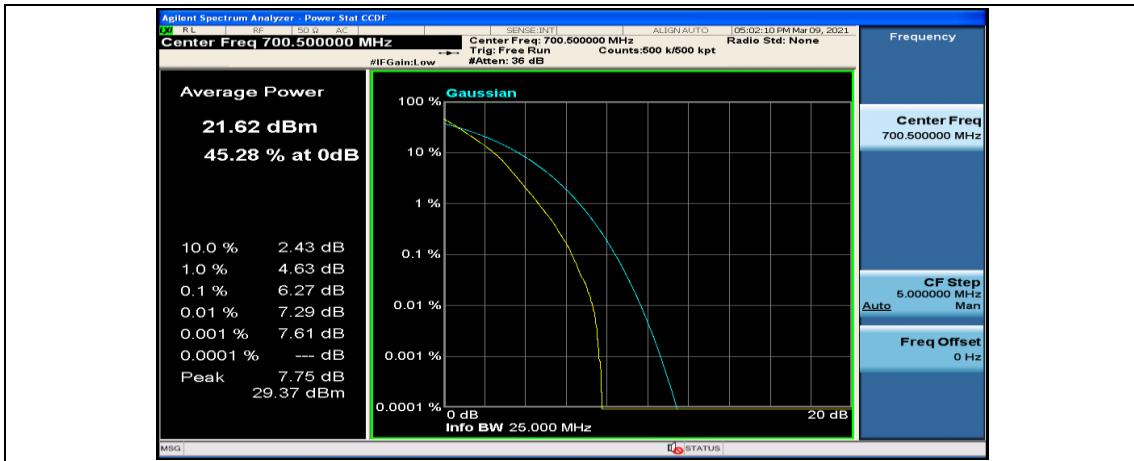
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_6RB#0



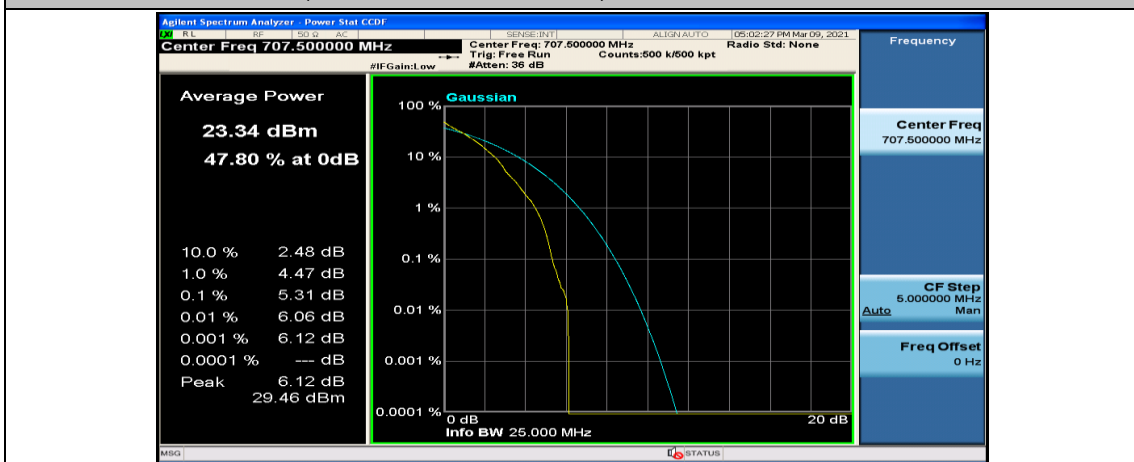
Channel Bandwidth: 3 MHz



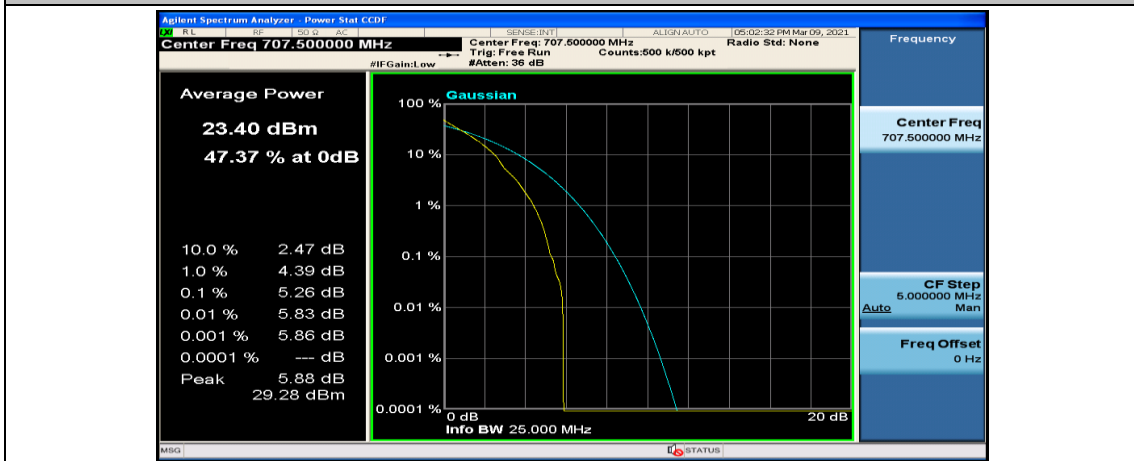




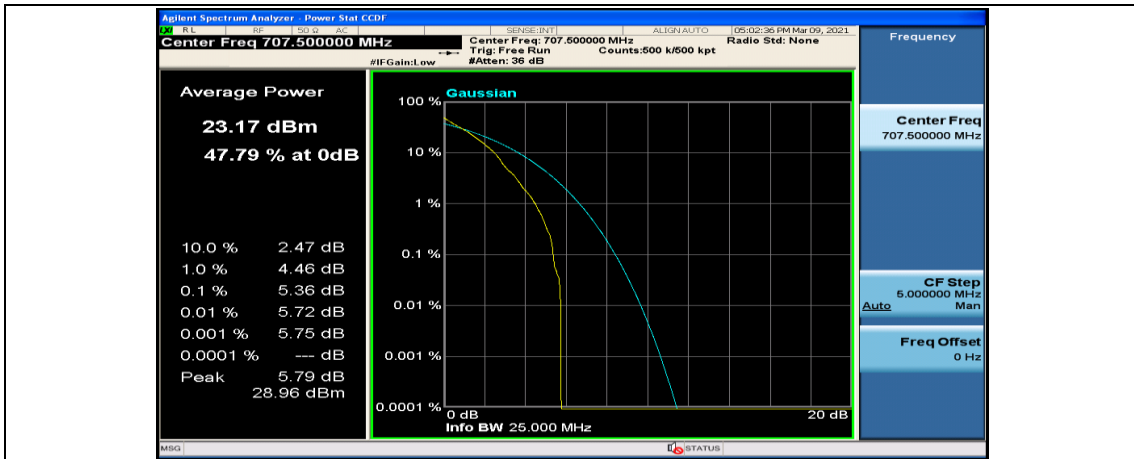
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#0



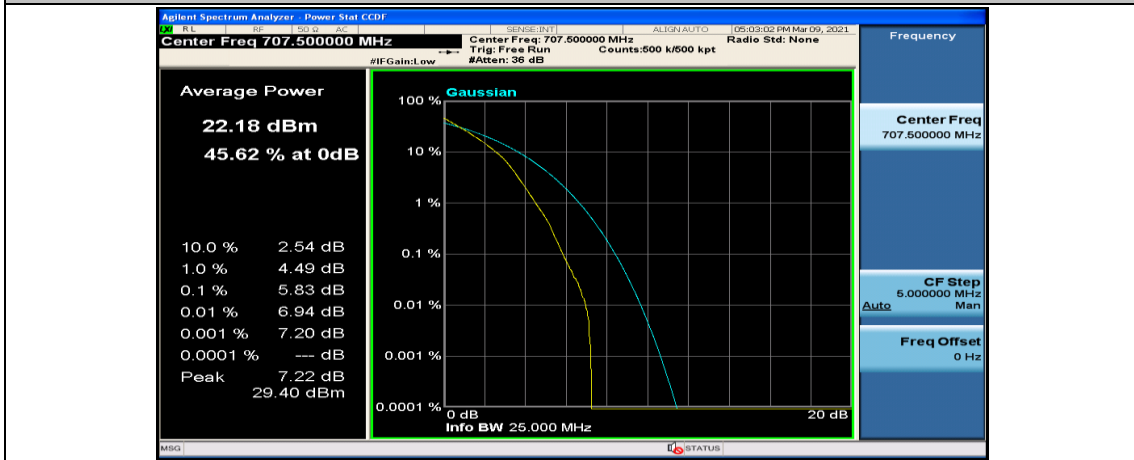
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#7



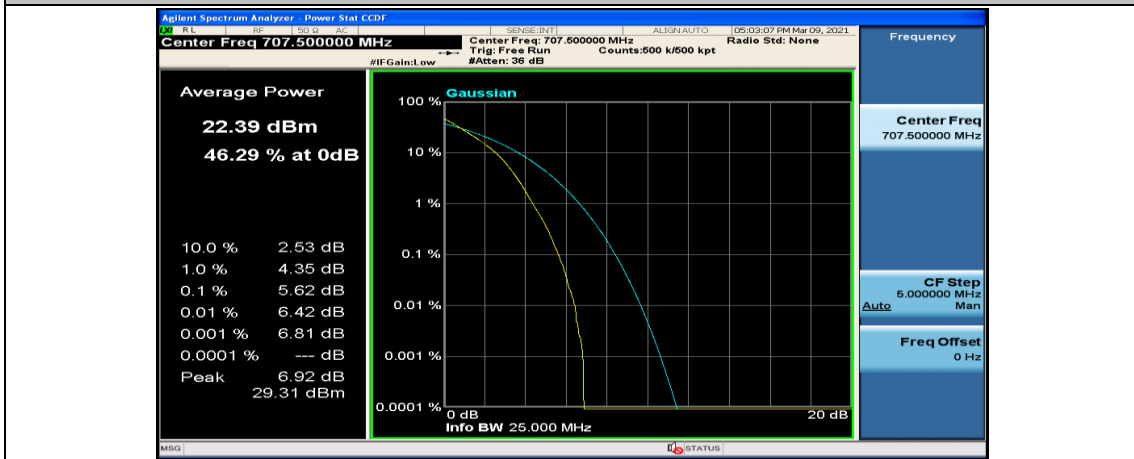
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#14



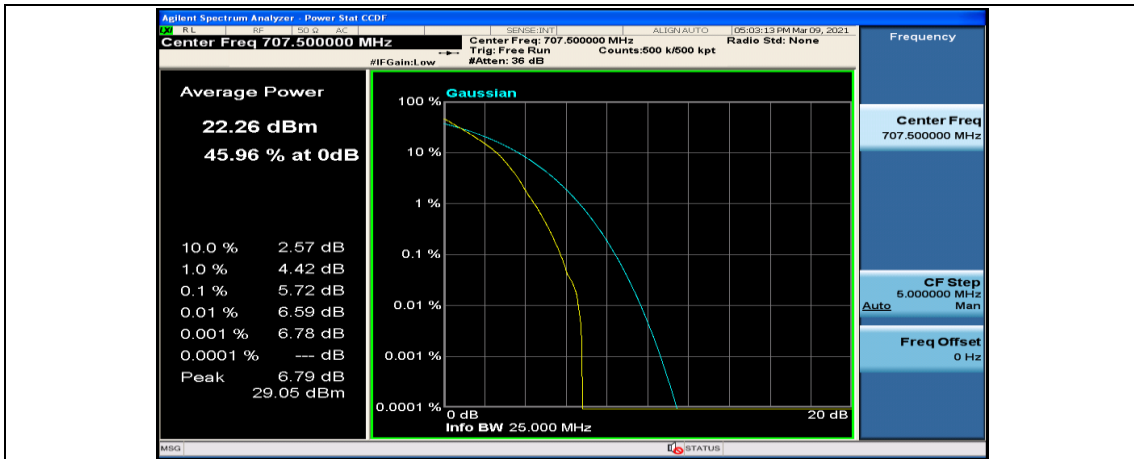
(Channel Bandwidth: 3 MHz)_MCH_QPSK_8RB#0



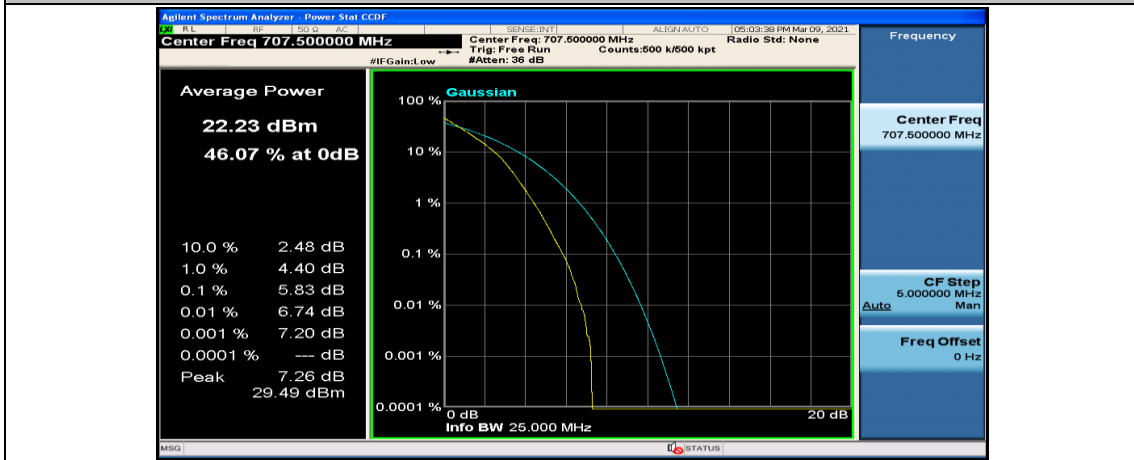
(Channel Bandwidth: 3 MHz)_MCH_QPSK_8RB#4



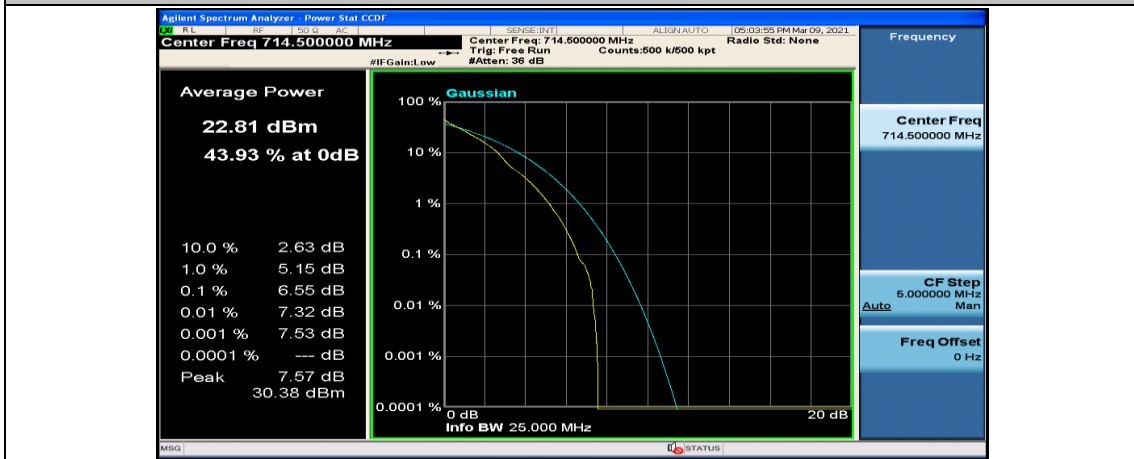
(Channel Bandwidth: 3 MHz)_MCH_QPSK_8RB#7



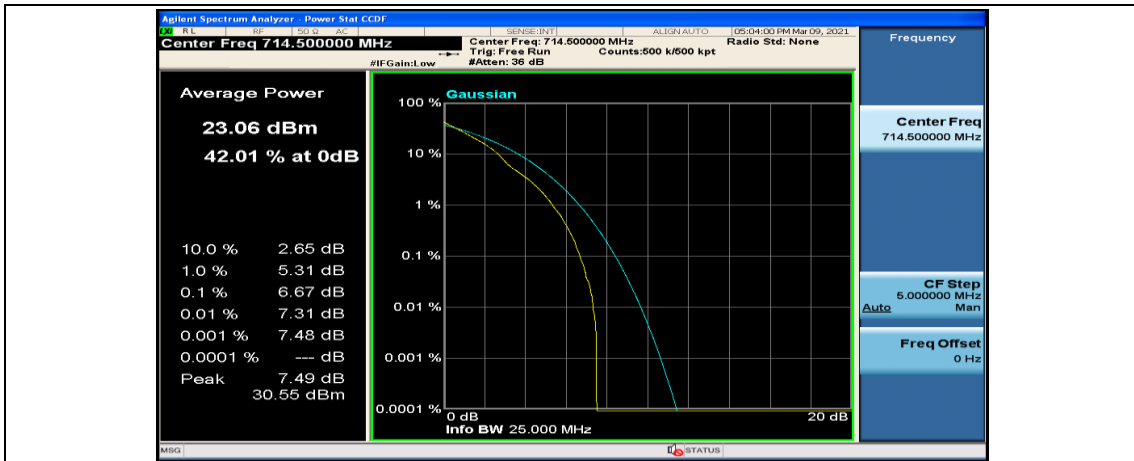
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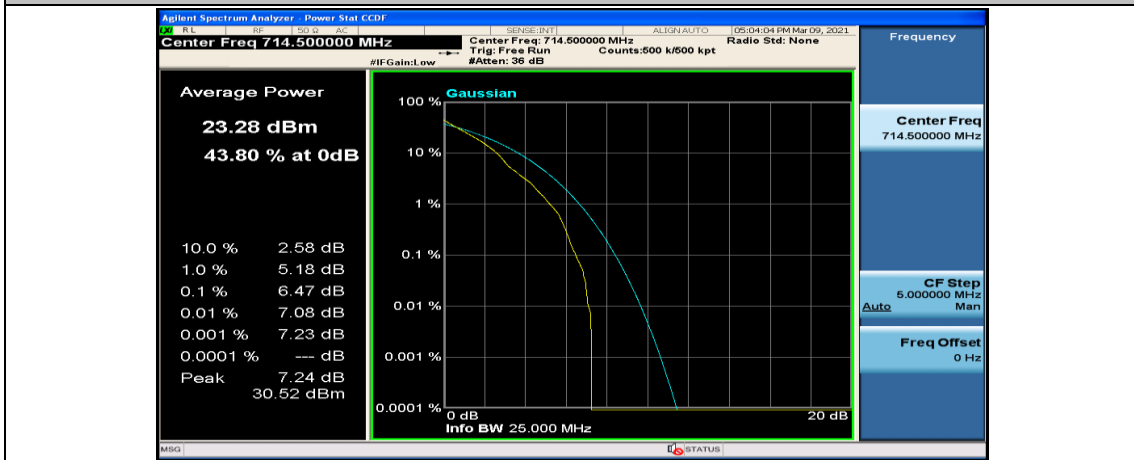
(Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#0



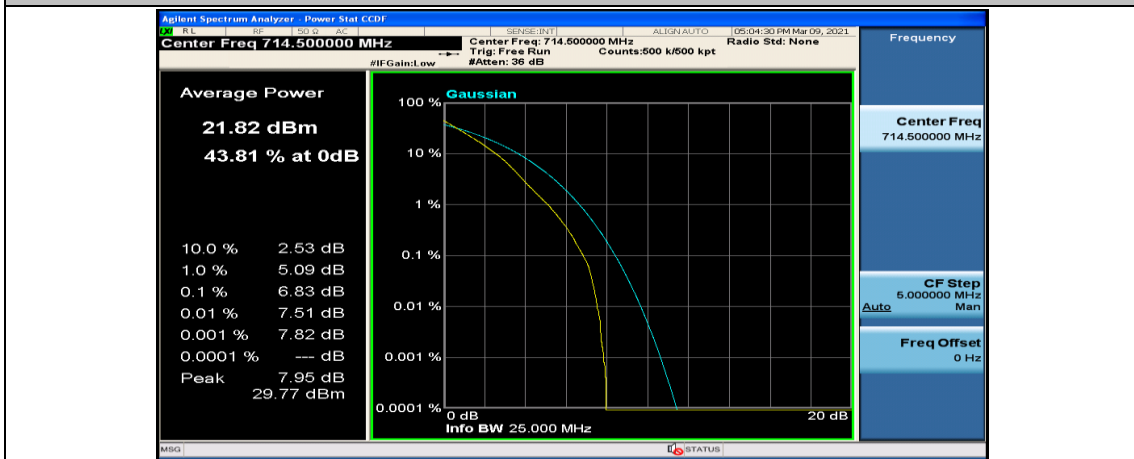
(Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#7



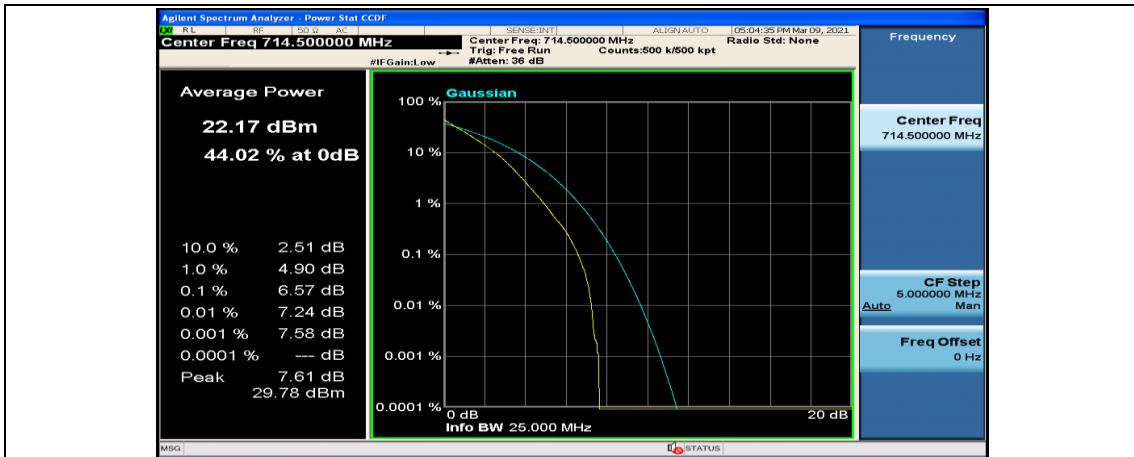
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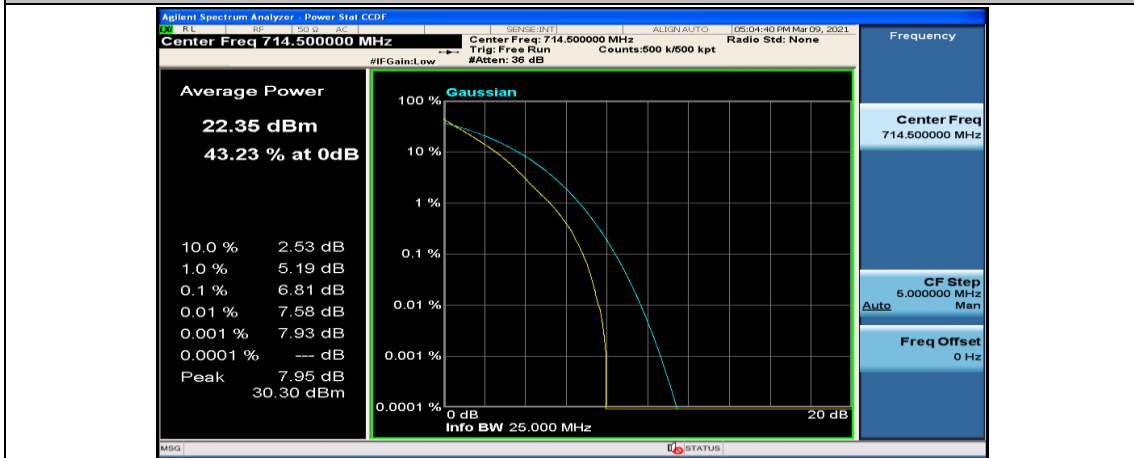
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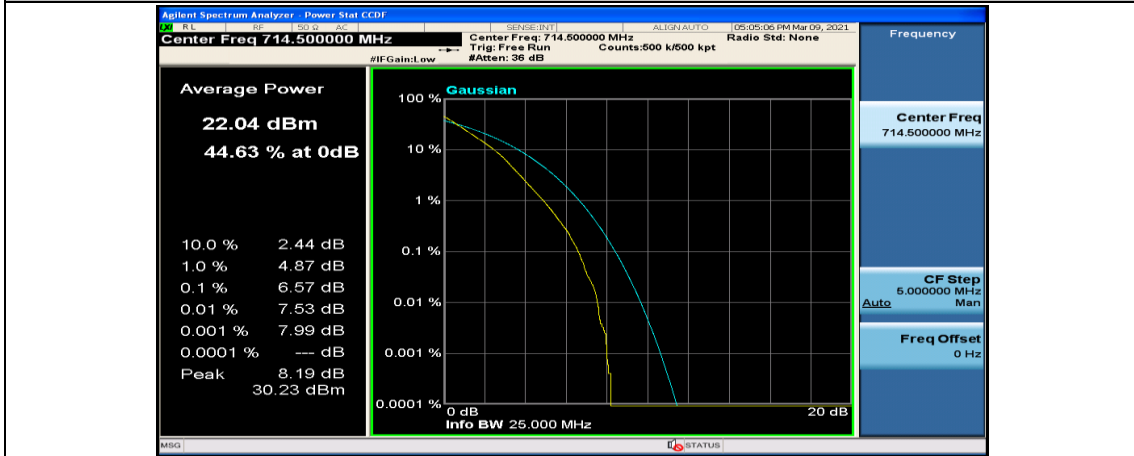
(Channel Bandwidth: 3 MHz)_HCH_QPSK_8RB#4

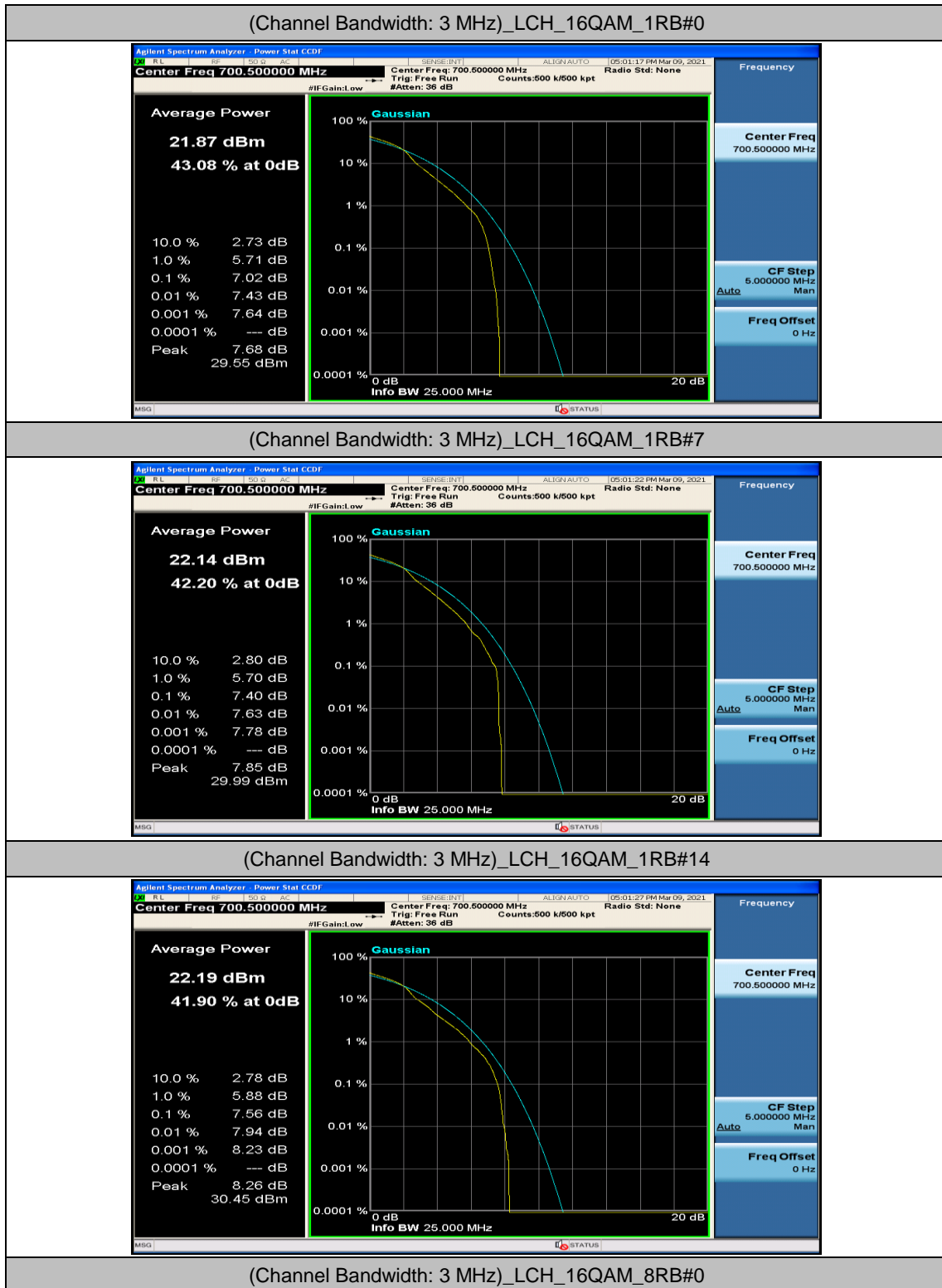


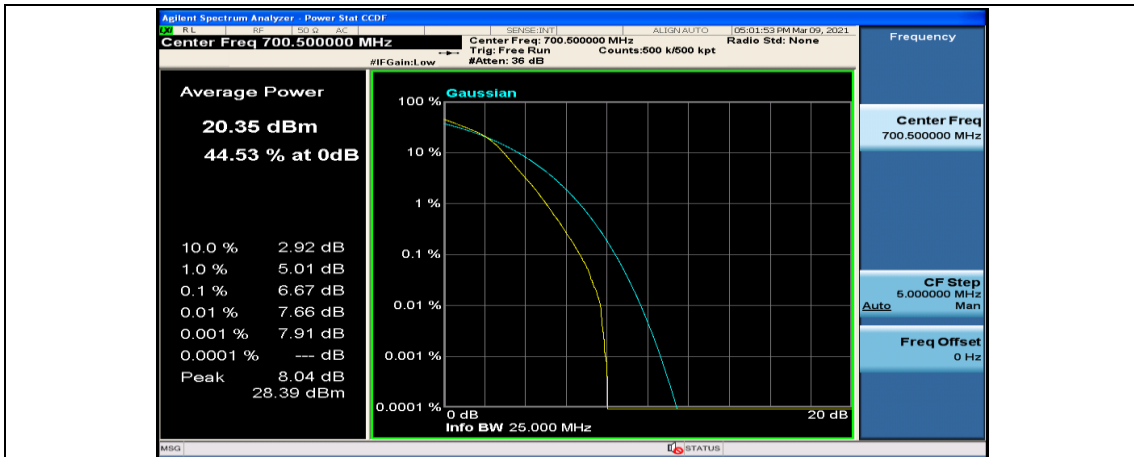
(Channel Bandwidth: 3 MHz)_HCH_QPSK_8RB#7



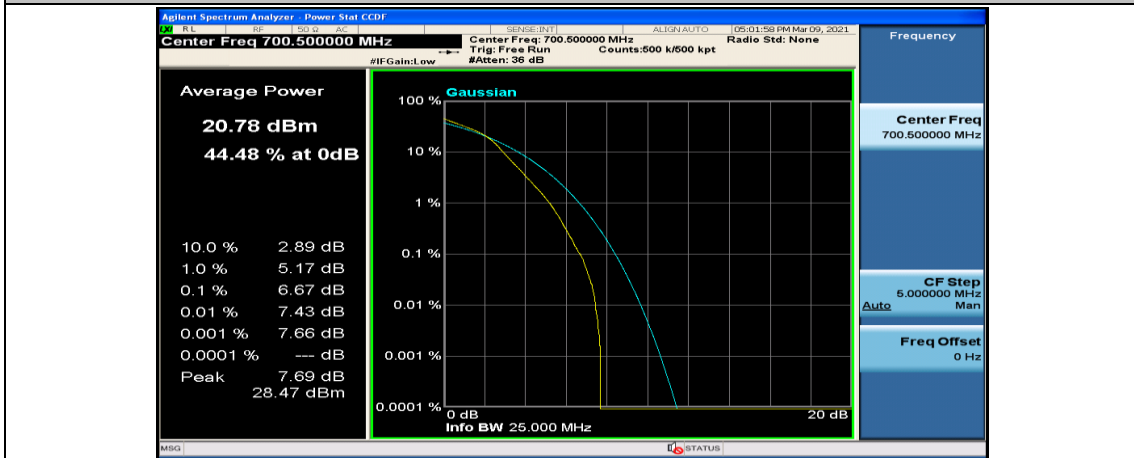
(Channel Bandwidth: 3 MHz)_HCH_QPSK_15RB#0



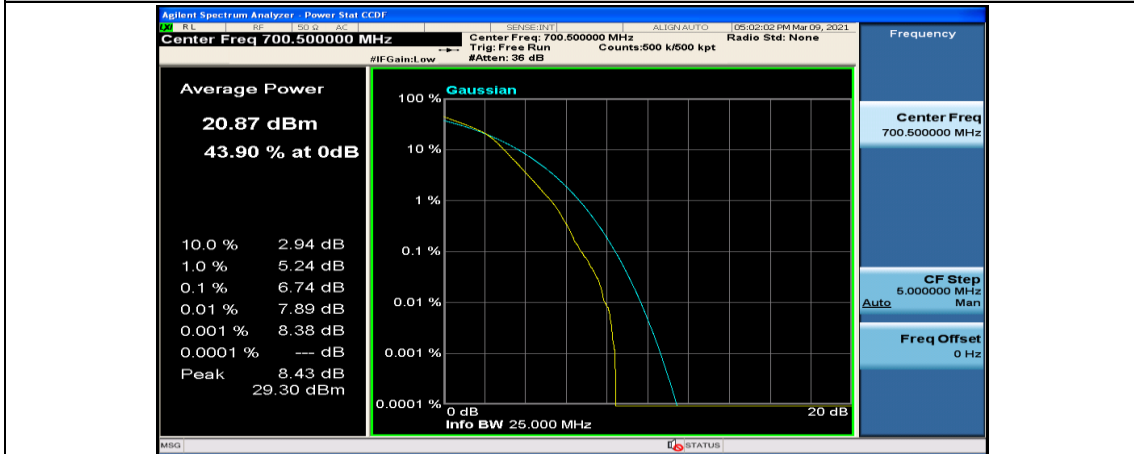




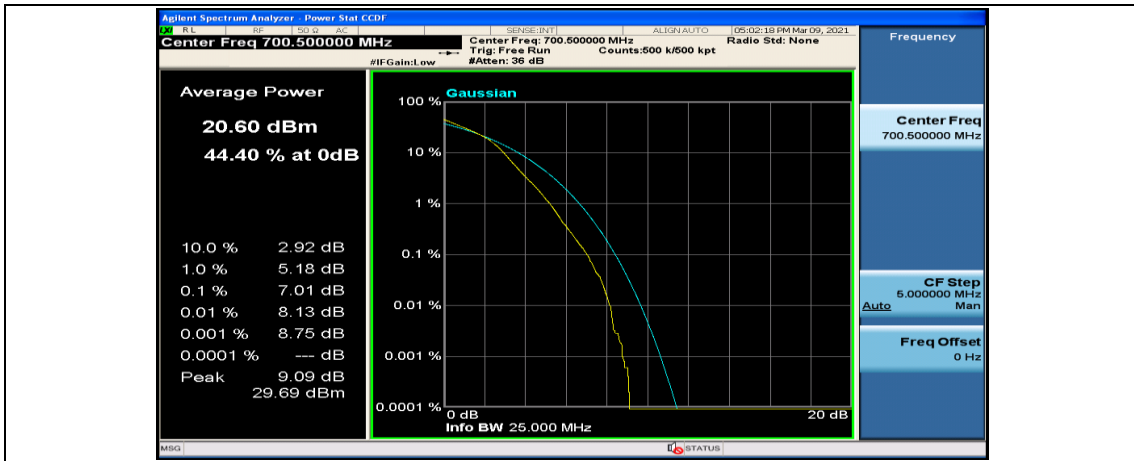
(Channel Bandwidth: 3 MHz)_LCH_16QAM_8RB#4



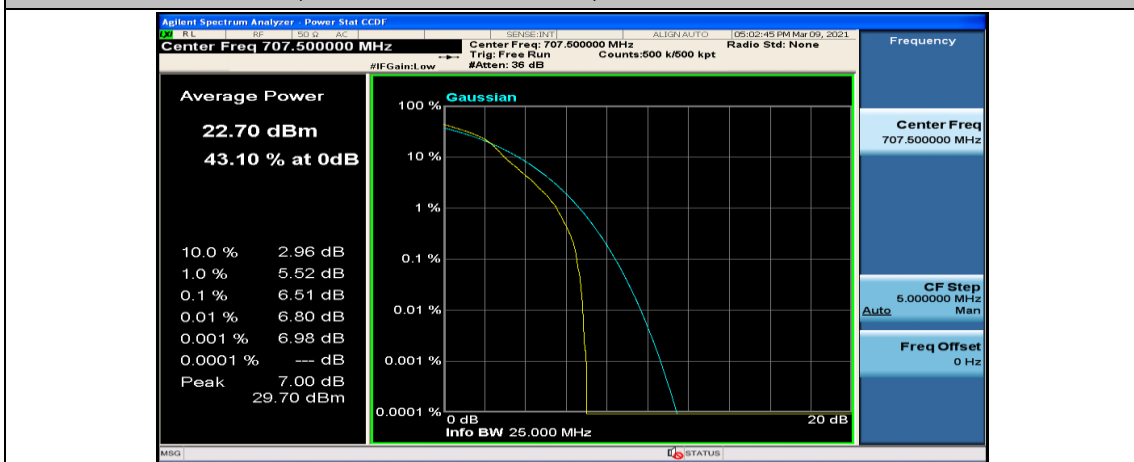
(Channel Bandwidth: 3 MHz)_LCH_16QAM_8RB#7



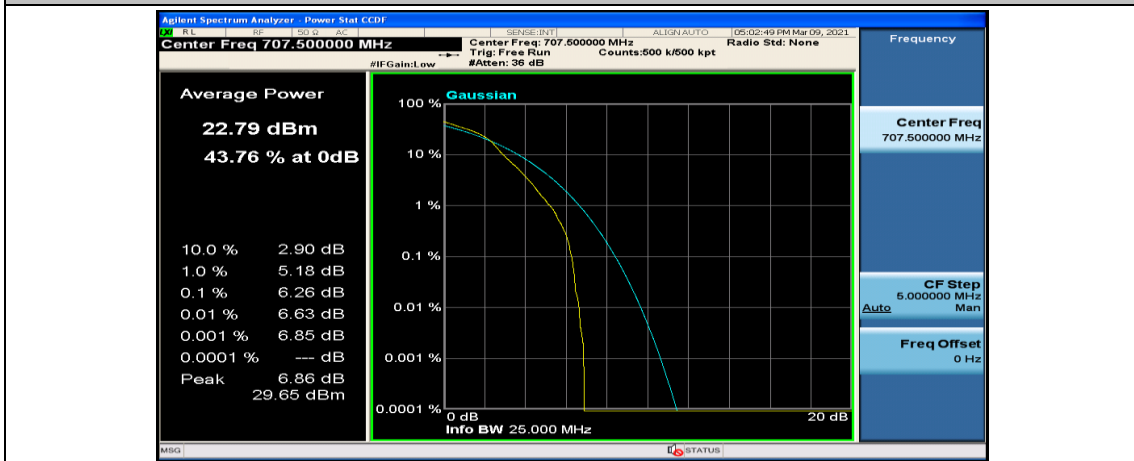
(Channel Bandwidth: 3 MHz)_LCH_16QAM_15RB#0



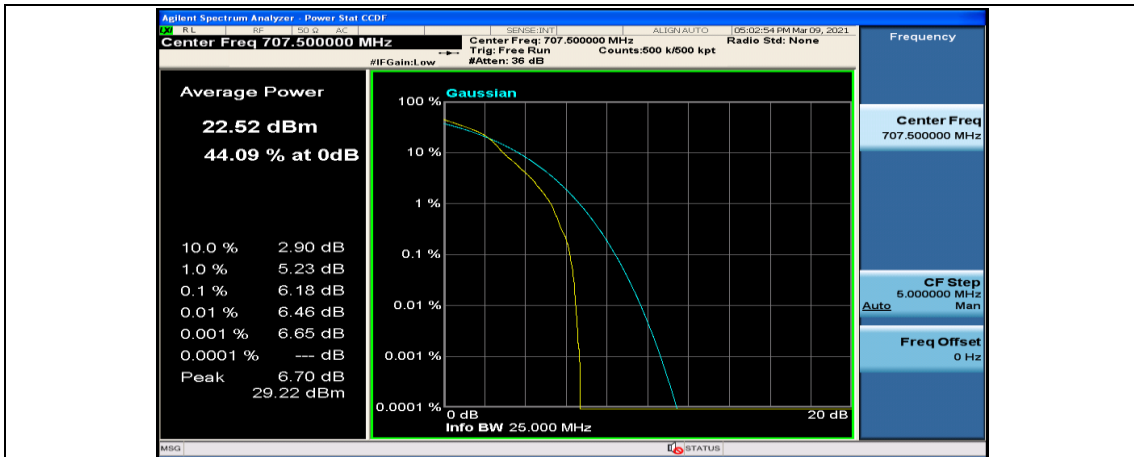
(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#0



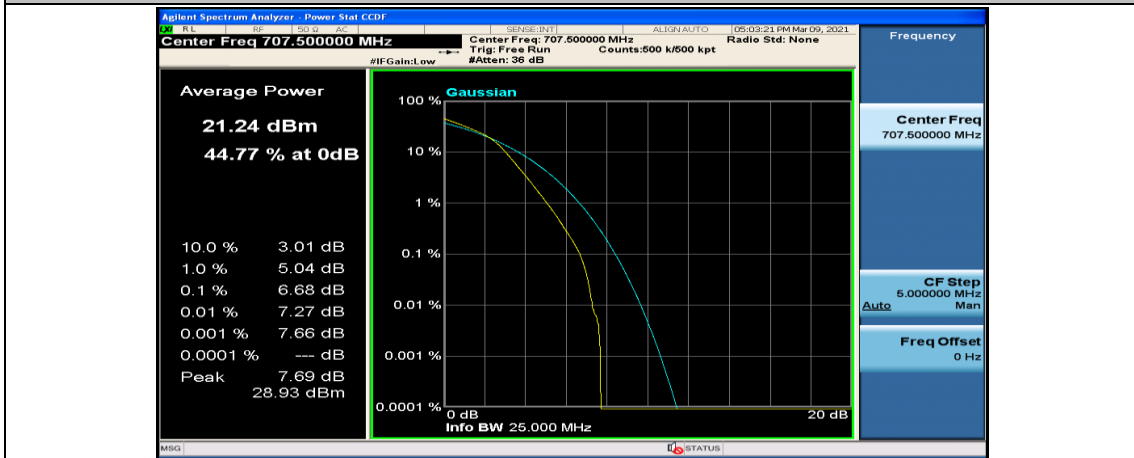
(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#7



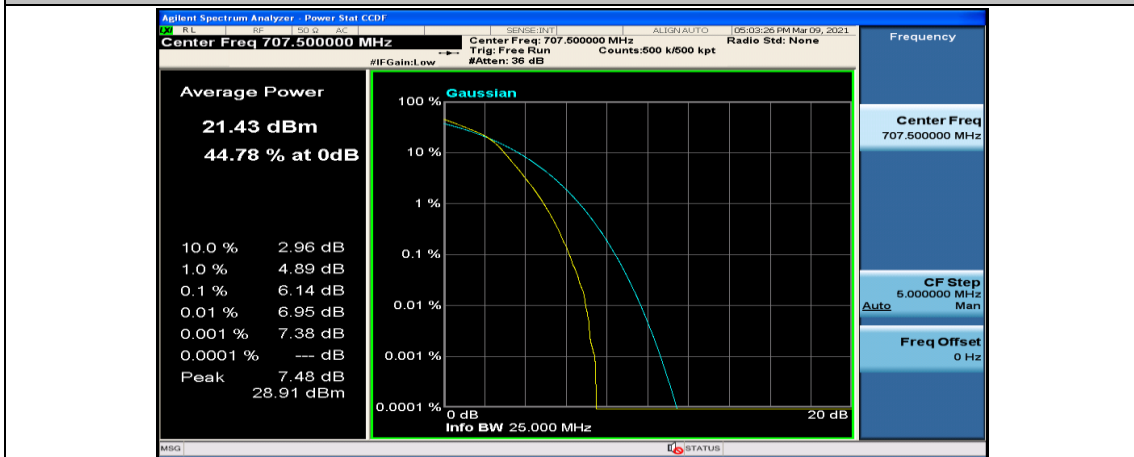
(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#14



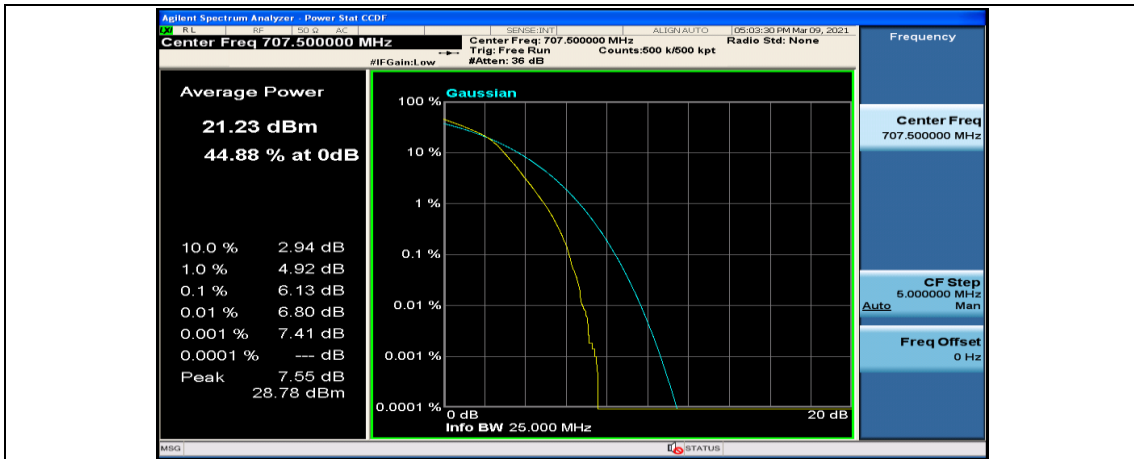
(Channel Bandwidth: 3 MHz)_MCH_16QAM_8RB#0



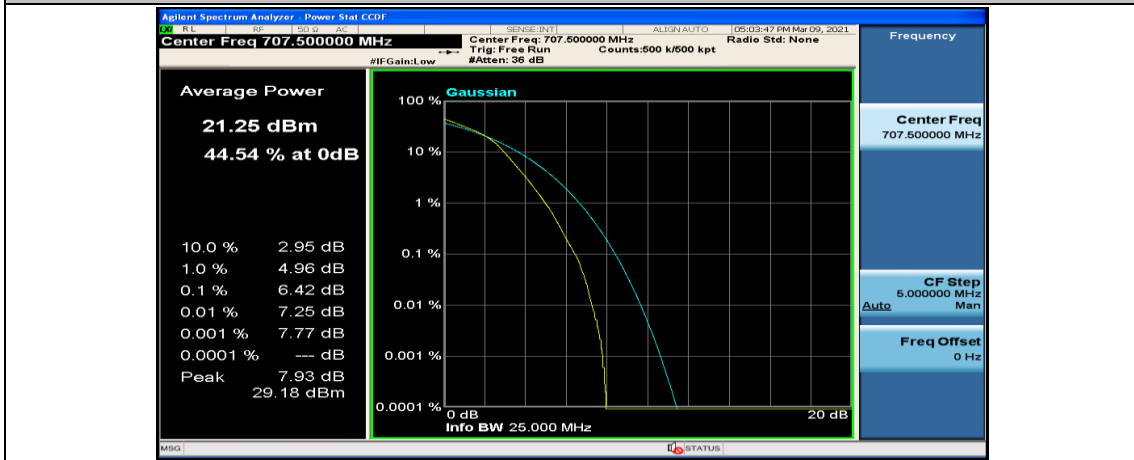
(Channel Bandwidth: 3 MHz)_MCH_16QAM_8RB#4



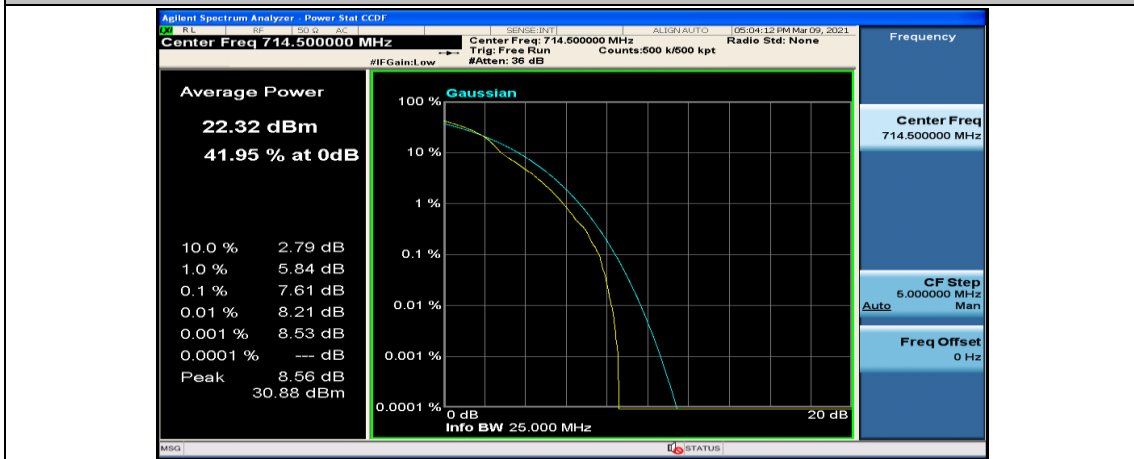
(Channel Bandwidth: 3 MHz)_MCH_16QAM_8RB#7



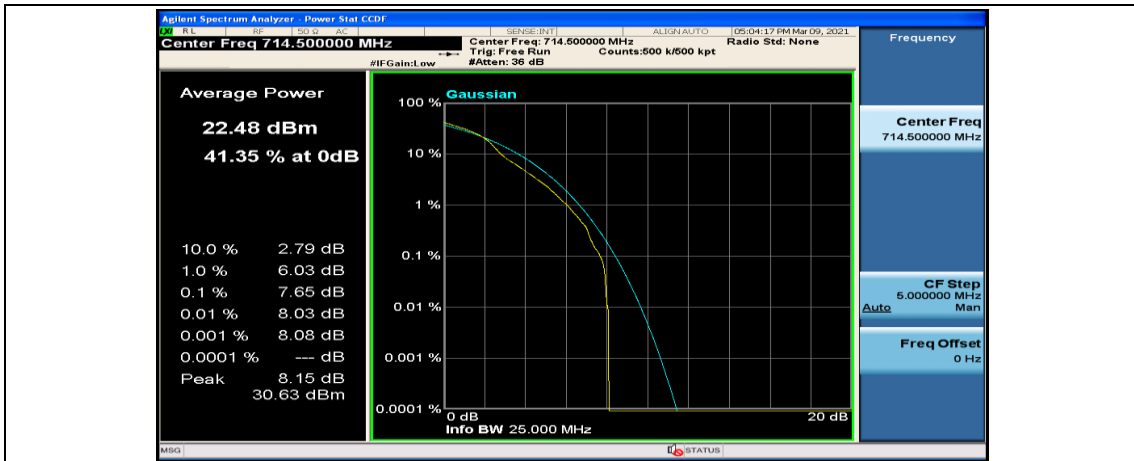
(Channel Bandwidth: 3 MHz)_MCH_16QAM_15RB#0



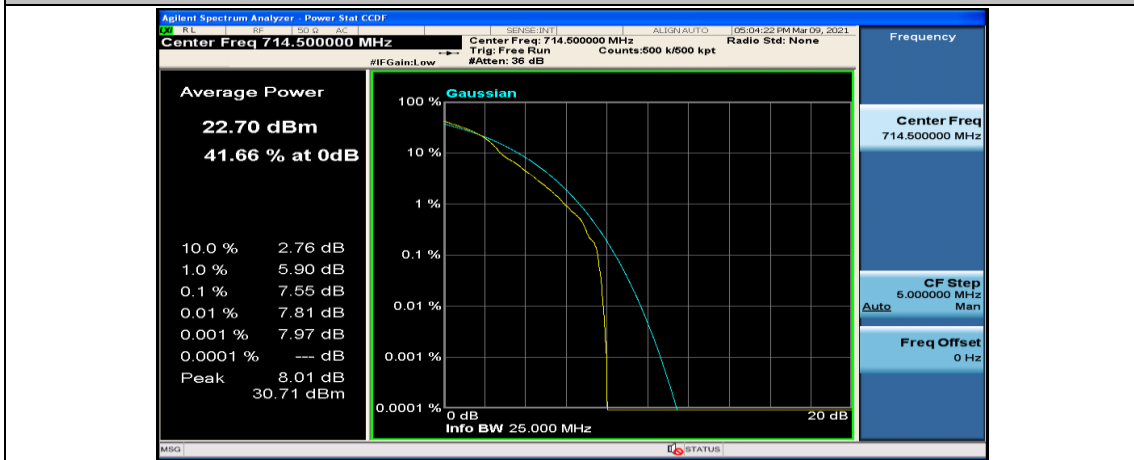
(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#0



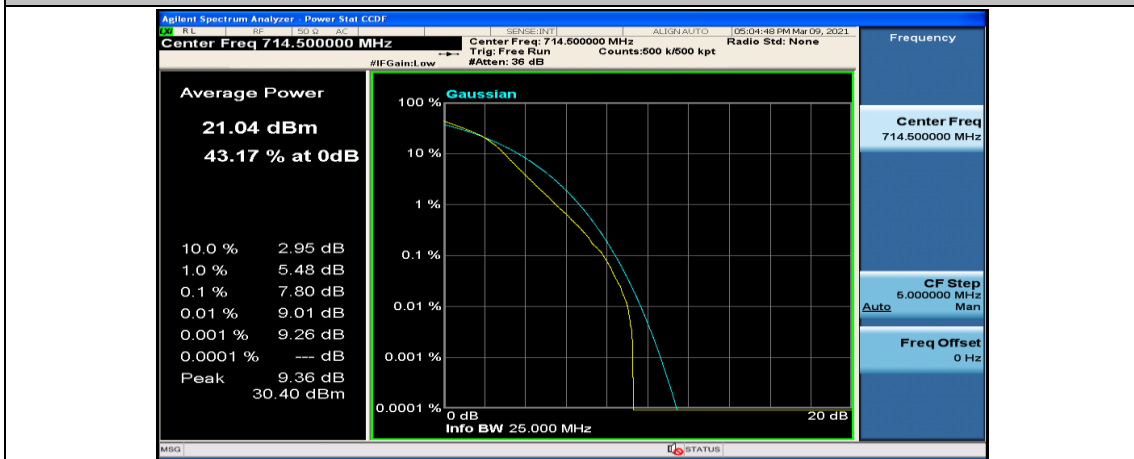
(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#7



(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#14



(Channel Bandwidth: 3 MHz)_HCH_16QAM_8RB#0



(Channel Bandwidth: 3 MHz)_HCH_16QAM_8RB#4