Appendix B: Peak-to-Average Ratio
LTE Band 4 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	2.3	<13	PASS
		1	3	2.33	<13	PASS
		1	5	2.27	<13	PASS
		3	0	2.64	<13	PASS
		3	2	2.47	<13	PASS
		3	3	2.58	<13	PASS
		6	0	3.75	<13	PASS
	MCH	1	0	3.36	<13	PASS
		1	3	3.27	<13	PASS
		1	5	3.28	<13	PASS
		3	0	3.84	<13	PASS
		3	2	3.83	<13	PASS
		3	3	3.84	<13	PASS
		6	0	4.93	<13	PASS
	HCH	1	0	3.23	<13	PASS
		1	3	3.39	<13	PASS
		1	5	3.35	<13	PASS
		3	0	3.63	<13	PASS
		3	2	3.69	<13	PASS
		3	3	3.73	<13	PASS
		6	0	4.56	<13	PASS
16QAM	LCH	1	0	3.33	<13	PASS
		1	3	3.18	<13	PASS
		1	5	3.22	<13	PASS
		3	0	3.61	<13	PASS
		3	2	3.51	<13	PASS
		3	3	3.55	<13	PASS
		6	0	4.63	<13	PASS
	MCH	1	0	4.41	<13	PASS
		1	3	4.43	<13	PASS
		1	5	4.45	<13	PASS
		3	0	4.75	<13	PASS
		3	2	4.74	<13	PASS
		3	3	4.75	<13	PASS
		6	0	5.71	<13	PASS
	HCH	1	0	3.99	<13	PASS
		1	3	3.98	<13	PASS
		1	5	4.02	<13	PASS
		3	0	4.36	<13	PASS
		3	2	4.35	<13	PASS
		3	3	4.4	<13	PASS
		6	0	5.37	<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	2.26	<13	PASS
		1	7	2.27	<13	PASS
		1	14	2.29	<13	PASS
		8	0	3.52	<13	PASS

		8	4	3.31	<13	PASS
		8	7	3.51	<13	PASS
		15	0	4.18	<13	PASS
	MCH	1	0	3.44	<13	PASS
		1	7	3.41	<13	PASS
		1	14	3.38	<13	PASS
		8	0	4.83	<13	PASS
		8	4	4.79	<13	PASS
		8	7	4.86	<13	PASS
		15	0	5.11	<13	PASS
	HCH	1	0	2.87	<13	PASS
		1	7	3.12	<13	PASS
		1	14	3.23	<13	PASS
		8	0	4.26	<13	PASS
		8	4	4.28	<13	PASS
		8	7	4.5	<13	PASS
		15	0	4.83	<13	PASS
16QAM	LCH	1	0	3.38	<13	PASS
		1	7	3.19	<13	PASS
		1	14	3.26	<13	PASS
		8	0	4.41	<13	PASS
		8	4	4.21	<13	PASS
		8	7	4.38	<13	PASS
		15	0	5.01	<13	PASS
	MCH	1	0	4.21	<13	PASS
		1	7	4.28	<13	PASS
		1	14	4.34	<13	PASS
		8	0	5.46	<13	PASS
		8	4	5.51	<13	PASS
		8	7	5.58	<13	PASS
		15	0	5.97	<13	PASS
	HCH	1	0	3.88	<13	PASS
		1	7	4.03	<13	PASS
		1	14	4.2	<13	PASS
		8	0	5	<13	PASS
		8	4	5	<13	PASS
		8	7	5.22	<13	PASS
		15	0	5.52	<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	2.37	<13	PASS
		1	12	2.32	<13	PASS
		1	24	2.43	<13	PASS
		12	0	3.64	<13	PASS
		12	6	3.42	<13	PASS
		12	13	3.64	<13	PASS
		25	0	4.28	<13	PASS
	MCH	1	0	3.43	<13	PASS
		1	12	3.31	<13	PASS
		1	24	3.4	<13	PASS
		12	0	4.91	<13	PASS
		12	6	4.85	<13	PASS
		12	13	4.91	<13	PASS
		25	0	5.26	<13	PASS
	HCH	1	0	2.63	<13	PASS
		1	12	2.94	<13	PASS
		1	24	3.18	<13	PASS
		12	0	4.03	<13	PASS

		12	6	4.13	<13	PASS
		12	13	4.41	<13	PASS
		25	0	4.65	<13	PASS
16QAM	LCH	1	0	3.54	<13	PASS
		1	12	3.43	<13	PASS
		1	24	3.64	<13	PASS
		12	0	4.57	<13	PASS
		12	6	4.37	<13	PASS
		12	13	4.53	<13	PASS
		25	0	5.03	<13	PASS
	MCH	1	0	4.51	<13	PASS
		1	12	4.47	<13	PASS
		1	24	4.54	<13	PASS
		12	0	5.71	<13	PASS
		12	6	5.7	<13	PASS
		12	13	5.76	<13	PASS
		25	0	6	<13	PASS
	HCH	1	0	3.65	<13	PASS
		1	12	3.87	<13	PASS
		1	24	4.04	<13	PASS
		12	0	4.94	<13	PASS
		12	6	4.99	<13	PASS
		12	13	5.28	<13	PASS
		25	0	5.39	<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	2.43	<13	PASS
		1	24	2.59	<13	PASS
		1	49	3.54	<13	PASS
		25	0	3.97	<13	PASS
		25	12	3.89	<13	PASS
		25	25	4.41	<13	PASS
		50	0	4.7	<13	PASS
	MCH	1	0	3.67	<13	PASS
		1	24	3.46	<13	PASS
		1	49	3.59	<13	PASS
		25	0	5.11	<13	PASS
		25	12	5.02	<13	PASS
		25	25	5.02	<13	PASS
		50	0	5.28	<13	PASS
	HCH	1	0	2.3	<13	PASS
		1	24	2.47	<13	PASS
		1	49	3.24	<13	PASS
		25	0	3.99	<13	PASS
		25	12	3.9	<13	PASS
		25	25	4.35	<13	PASS
		50	0	4.73	<13	PASS
16QAM	LCH	1	0	3.53	<13	PASS
		1	24	3.62	<13	PASS
		1	49	4.32	<13	PASS
		25	0	4.8	<13	PASS
		25	12	4.71	<13	PASS
		25	25	5.24	<13	PASS
		50	0	5.4	<13	PASS
	MCH	1	0	4.56	<13	PASS
		1	24	4.46	<13	PASS
		1	49	4.41	<13	PASS
		25	0	5.91	<13	PASS

		25	12	5.81	<13	PASS
		25	25	5.84	<13	PASS
		50	0	6.02	<13	PASS
	HCH	1	0	3.56	<13	PASS
		1	24	3.65	<13	PASS
		1	49	4.28	<13	PASS
		25	0	4.84	<13	PASS
		25	12	4.73	<13	PASS
		25	25	5.16	<13	PASS
		50	0	5.39	<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	9.33	<13	PASS
		1	37	3.05	<13	PASS
		1	74	9.97	<13	PASS
		37	0	4.34	<13	PASS
		37	18	4.53	<13	PASS
		37	38	4.66	<13	PASS
		75	0	4.94	<13	PASS
	MCH	1	0	8.38	<13	PASS
		1	37	3.45	<13	PASS
		1	74	10.22	<13	PASS
		37	0	4.51	<13	PASS
		37	18	5.14	<13	PASS
		37	38	4.66	<13	PASS
		75	0	4.95	<13	PASS
	HCH	1	0	8.62	<13	PASS
		1	37	2.32	<13	PASS
		1	74	10.43	<13	PASS
		37	0	4.26	<13	PASS
		37	18	4.09	<13	PASS
		37	38	4.36	<13	PASS
		75	0	4.78	<13	PASS
16QAM	LCH	1	0	8.92	<13	PASS
		1	37	3.92	<13	PASS
		1	74	10.3	<13	PASS
		37	0	5.31	<13	PASS
		37	18	5.29	<13	PASS
		37	38	5.79	<13	PASS
		75	0	5.95	<13	PASS
	MCH	1	0	8.73	<13	PASS
		1	37	4.36	<13	PASS
		1	74	10.5	<13	PASS
		37	0	5.71	<13	PASS
		37	18	5.89	<13	PASS
		37	38	5.87	<13	PASS
		75	0	6.11	<13	PASS
	HCH	1	0	8.52	<13	PASS
		1	37	3.45	<13	PASS
		1	74	11.05	<13	PASS
		37	0	5.32	<13	PASS
		37	18	4.89	<13	PASS
		37	38	5.42	<13	PASS
		75	0	5.75	<13	PASS

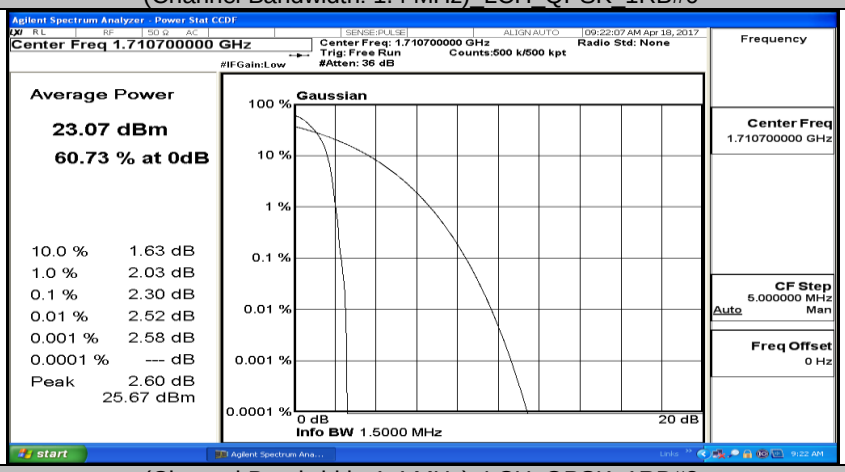
Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	9.81	<13	PASS
		1	49	3.49	<13	PASS
		1	99	9.62	<13	PASS
		50	0	5.4	<13	PASS
		50	25	5.17	<13	PASS
		50	50	5.74	<13	PASS
		100	0	5.79	<13	PASS
	MCH	1	0	9.89	<13	PASS
		1	49	3.35	<13	PASS
		1	99	9.99	<13	PASS
		50	0	5.36	<13	PASS
		50	25	5.33	<13	PASS
		50	50	5.7	<13	PASS
		100	0	5.65	<13	PASS
	HCH	1	0	9.58	<13	PASS
		1	49	2.44	<13	PASS
		1	99	9.89	<13	PASS
		50	0	5.2	<13	PASS
		50	25	4.71	<13	PASS
		50	50	5.54	<13	PASS
		100	0	5.65	<13	PASS
16QAM	LCH	1	0	9.63	<13	PASS
		1	49	4.23	<13	PASS
		1	99	9.55	<13	PASS
		50	0	6.36	<13	PASS
		50	25	5.87	<13	PASS
		50	50	6.54	<13	PASS
		100	0	6.71	<13	PASS
	MCH	1	0	9.54	<13	PASS
		1	49	4.32	<13	PASS
		1	99	9.66	<13	PASS
		50	0	6.36	<13	PASS
		50	25	6.03	<13	PASS
		50	50	6.49	<13	PASS
		100	0	6.64	<13	PASS
	HCH	1	0	9.68	<13	PASS
		1	49	3.37	<13	PASS
		1	99	9.6	<13	PASS
		50	0	6.23	<13	PASS
		50	25	5.41	<13	PASS
		50	50	6.25	<13	PASS
		100	0	6.41	<13	PASS

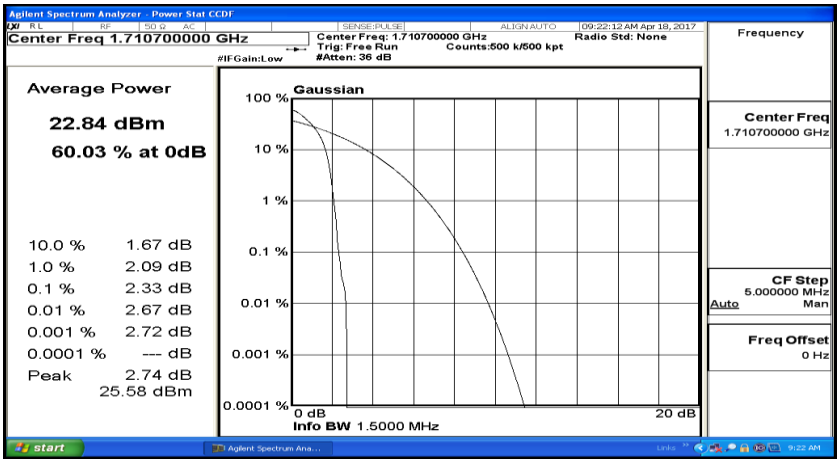
Test Graphs

Channel Bandwidth: 1.4 MHz

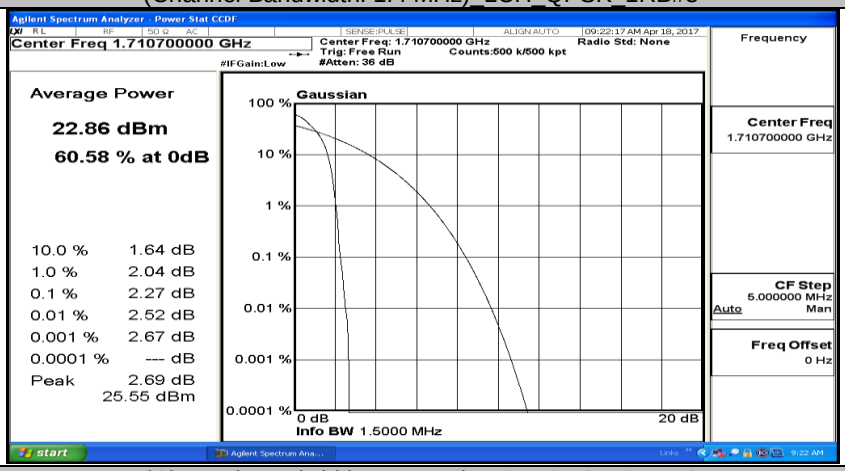
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#0



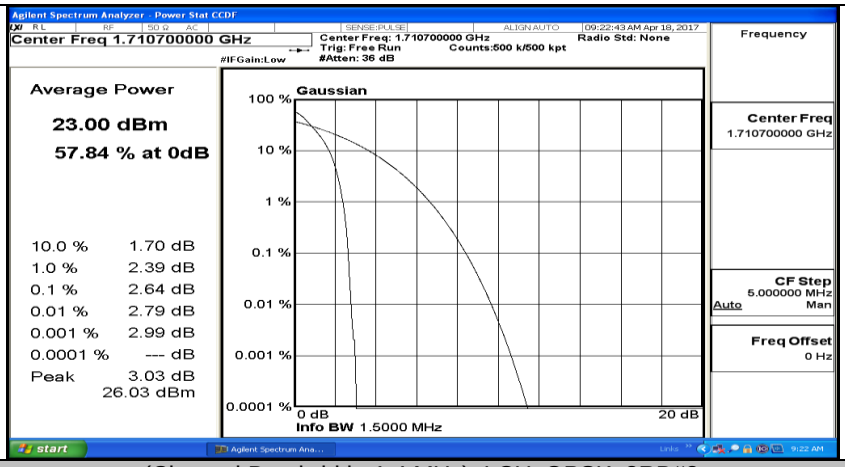
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#3



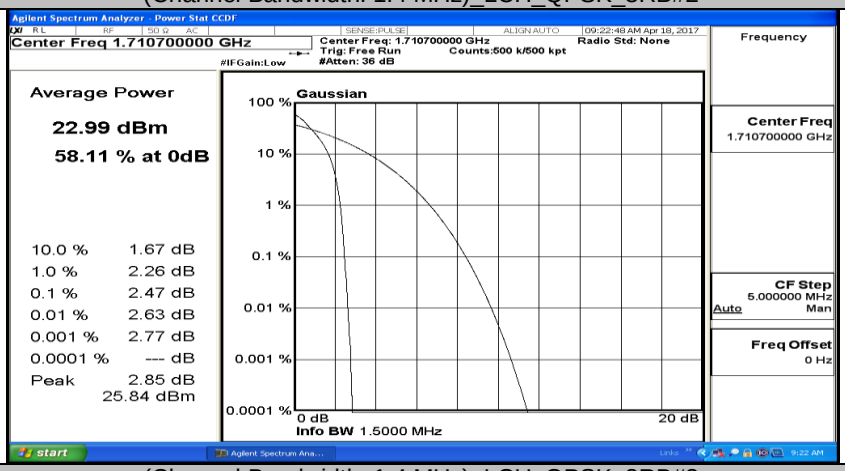
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#5



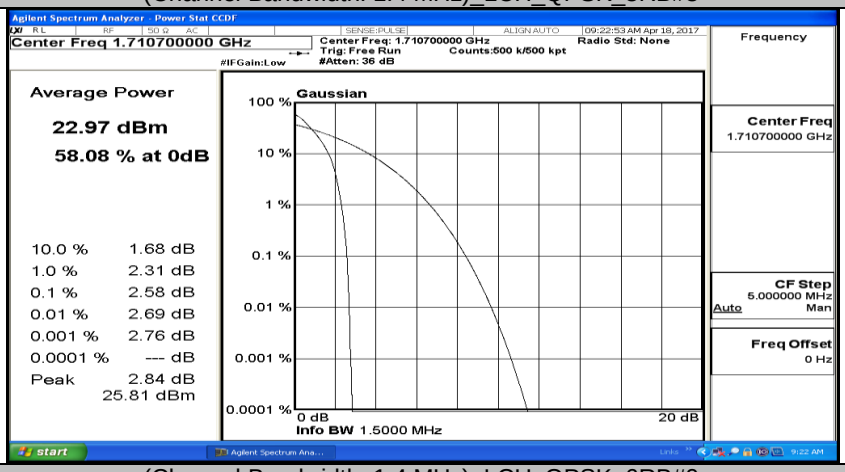
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_3RB#0



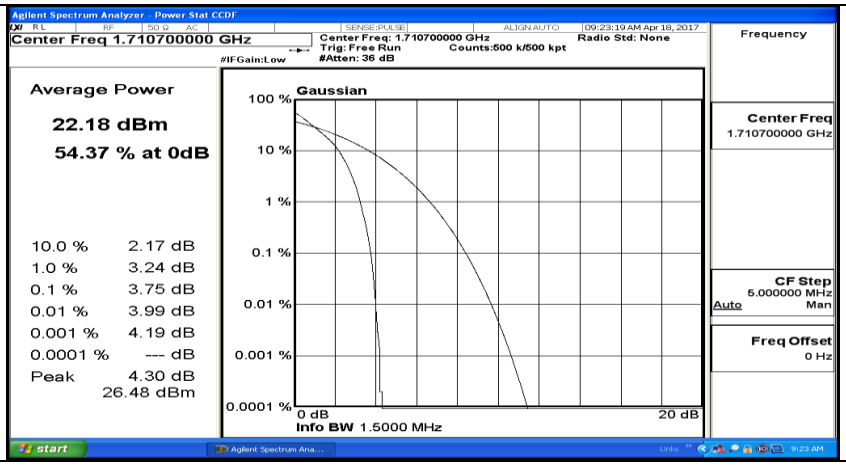
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_3RB#2



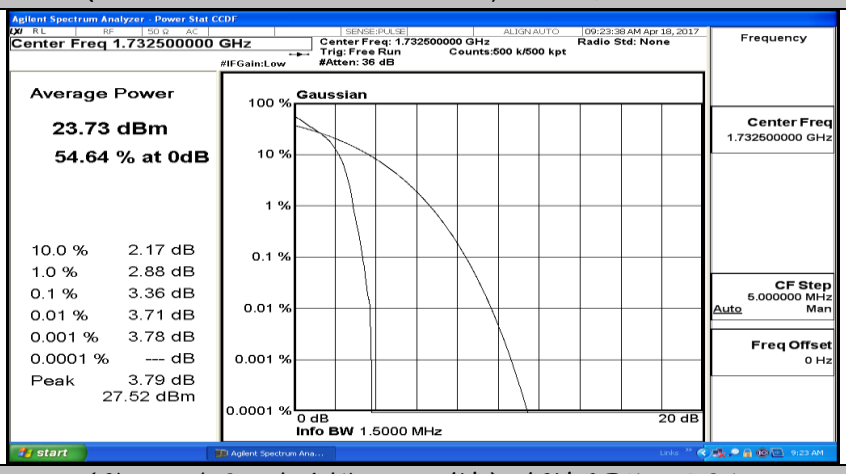
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_3RB#3



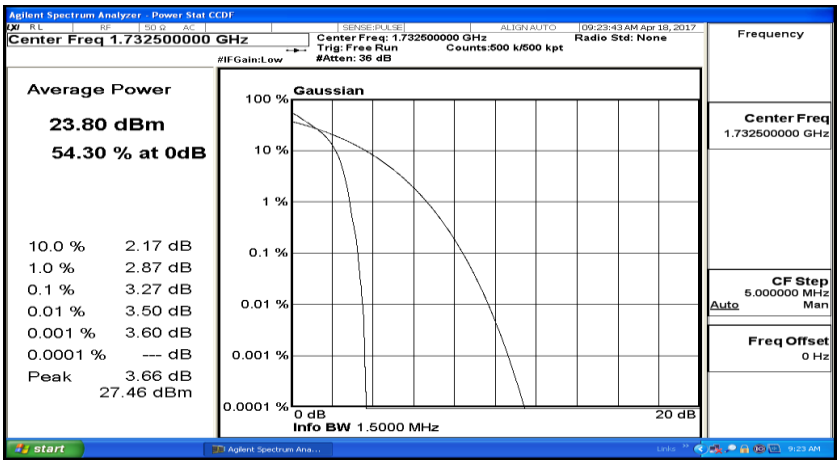
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_6RB#0



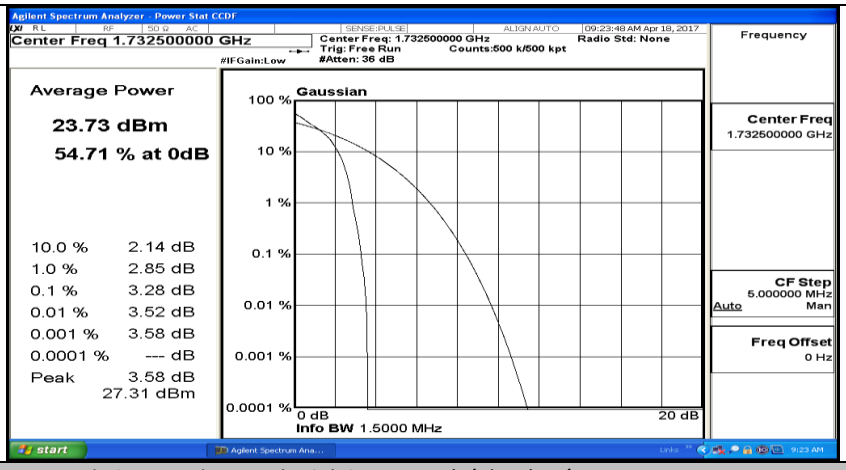
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#0



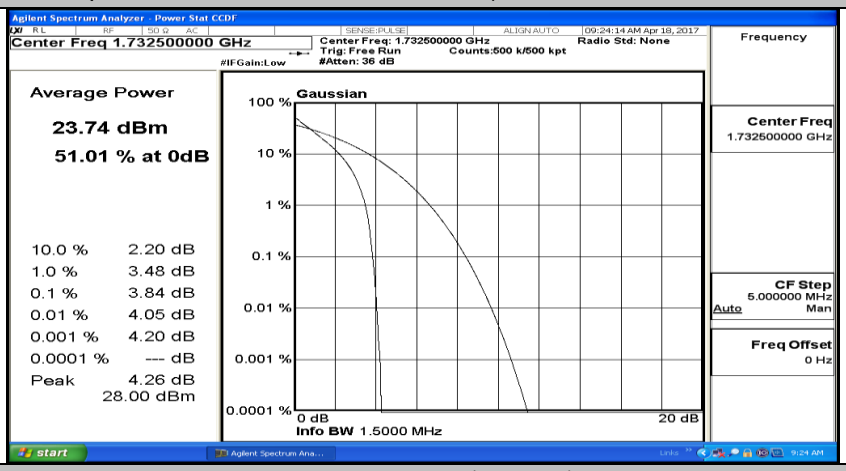
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#3



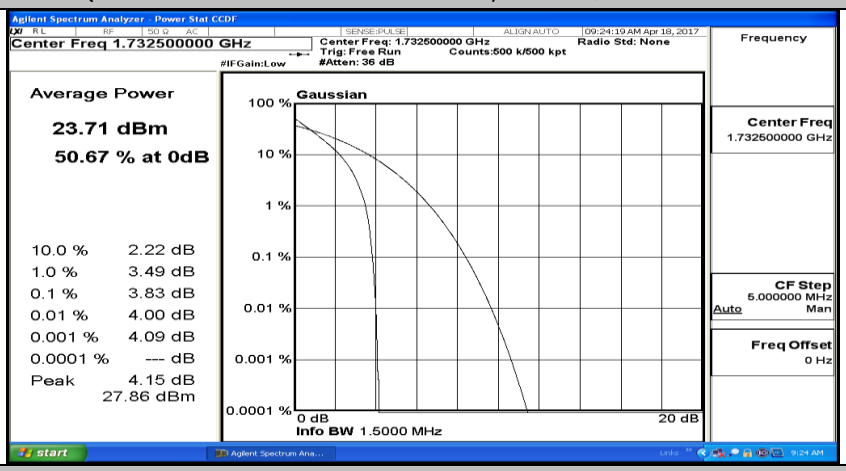
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#5



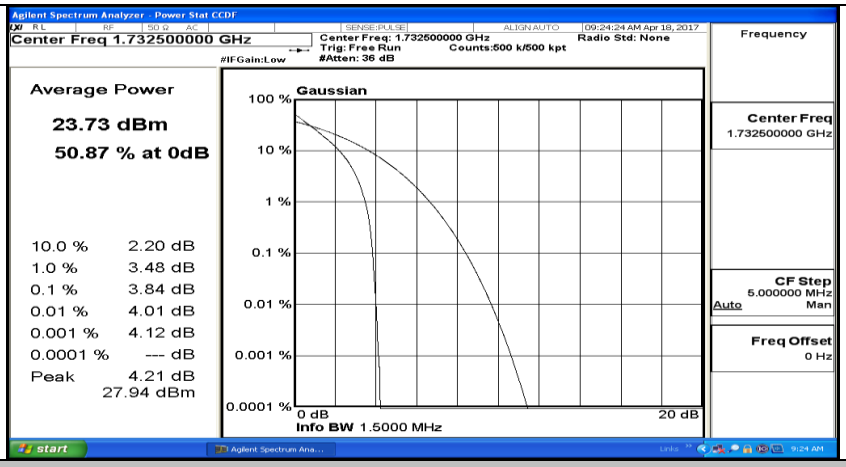
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_3RB#0



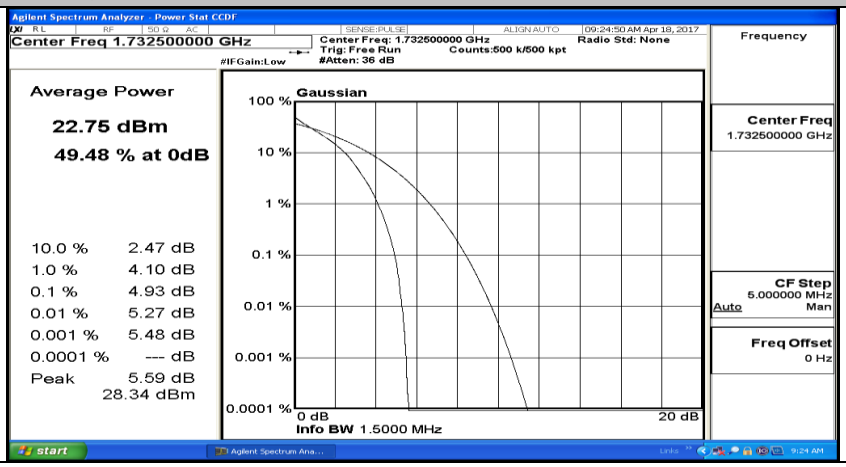
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_3RB#2



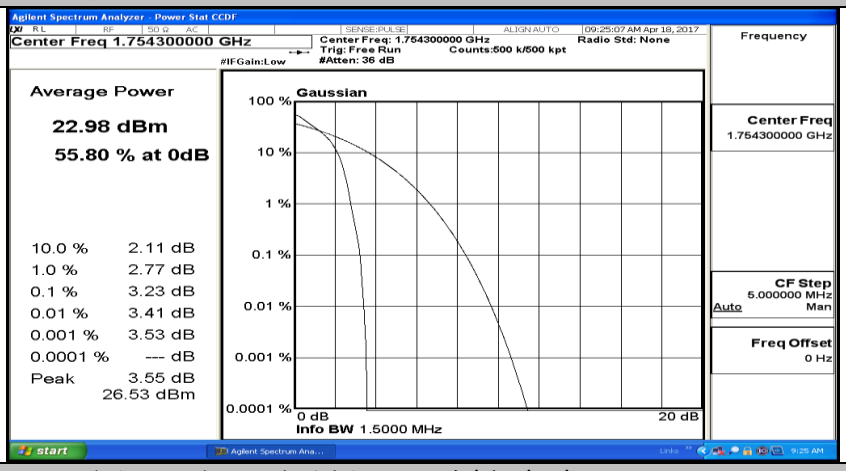
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_3RB#3



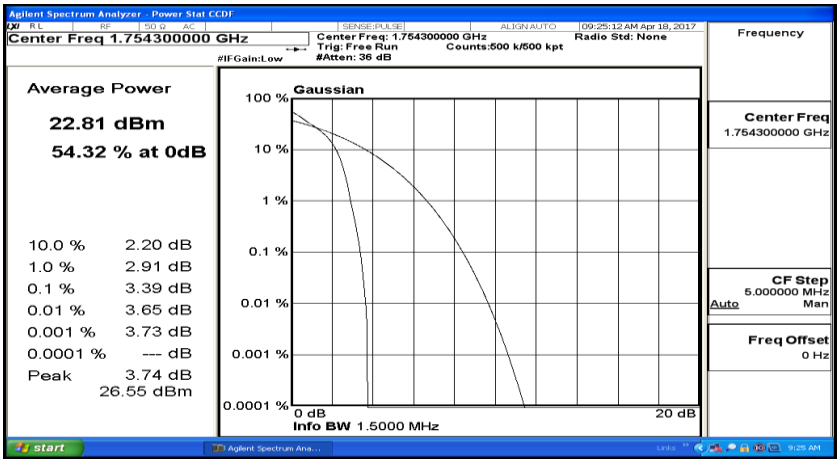
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_6RB#0



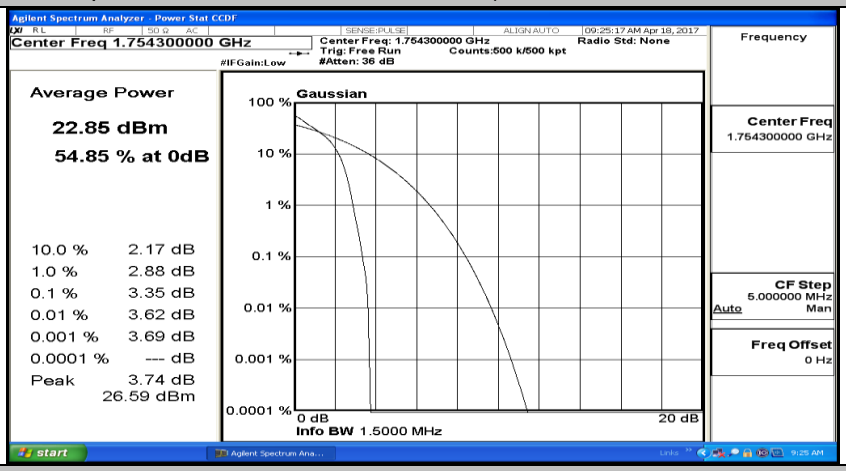
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#0



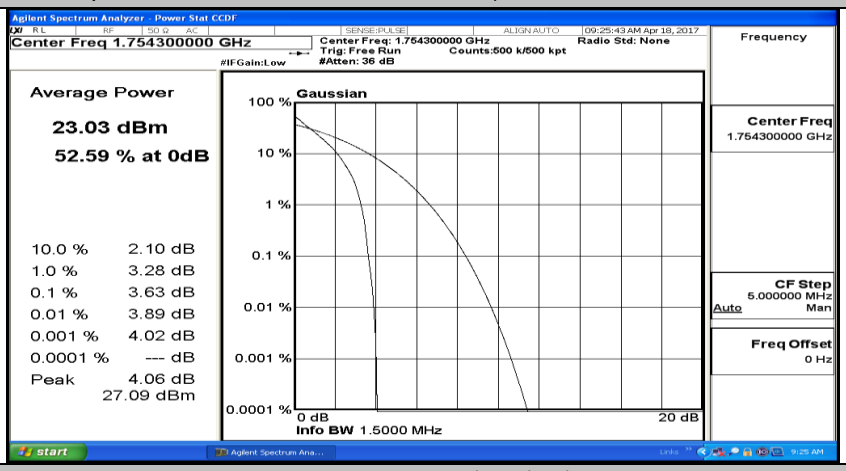
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#3



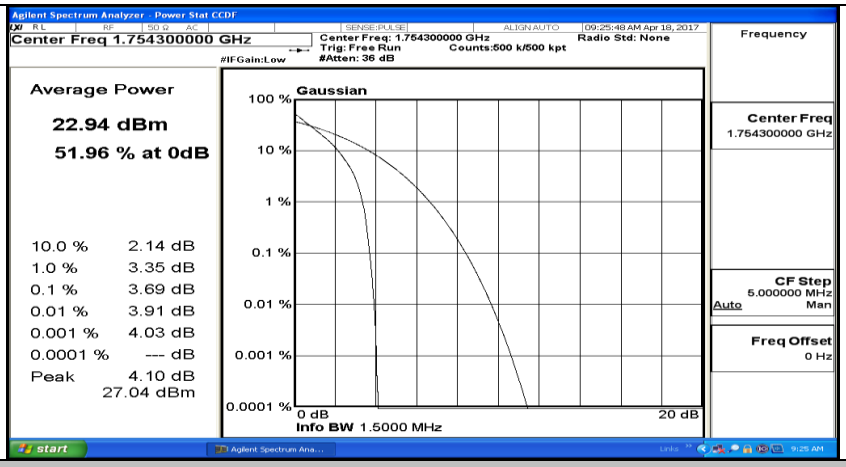
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#5



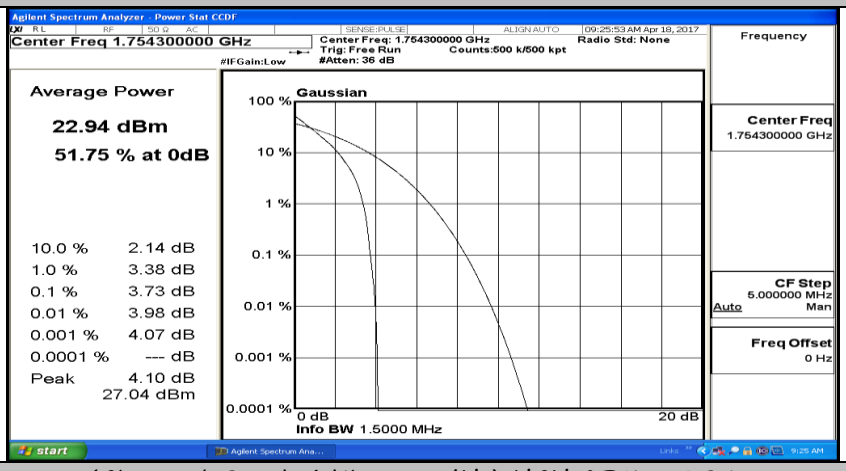
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_3RB#0



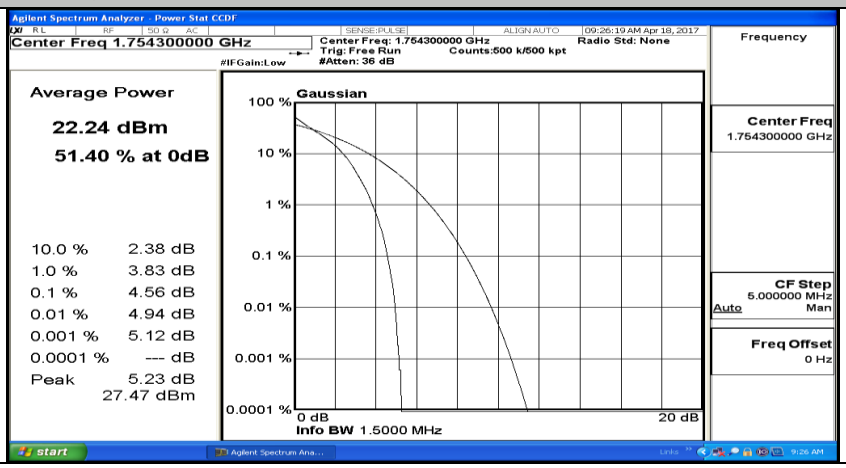
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_3RB#2



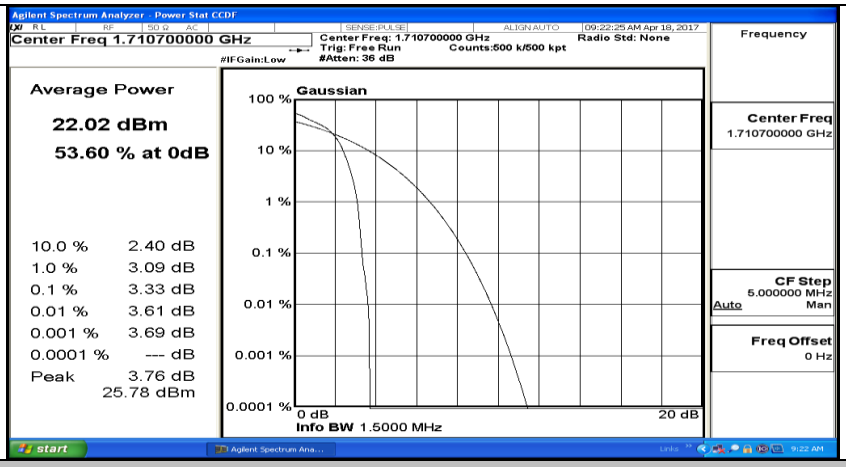
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_3RB#3



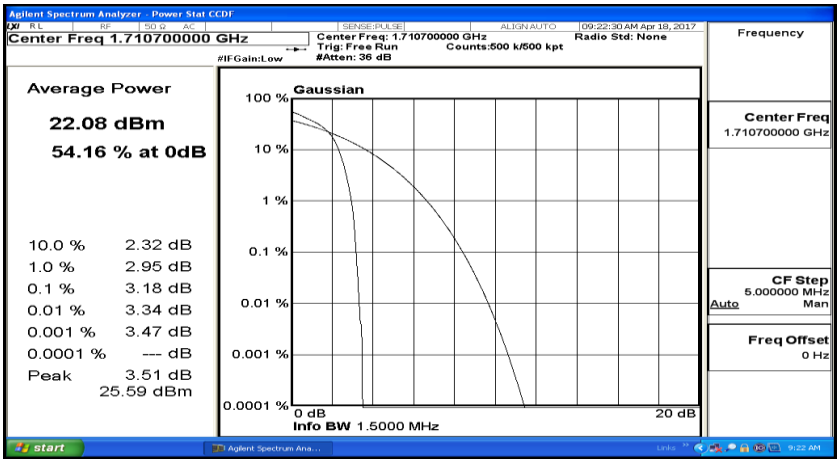
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_6RB#0



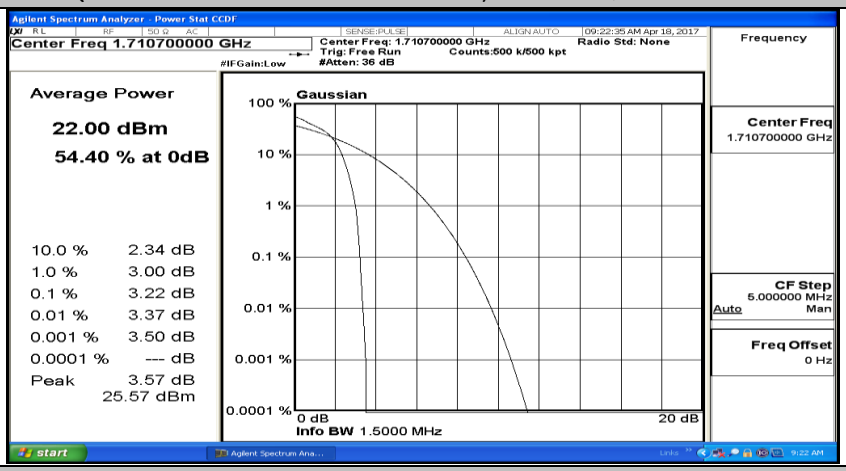
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#0



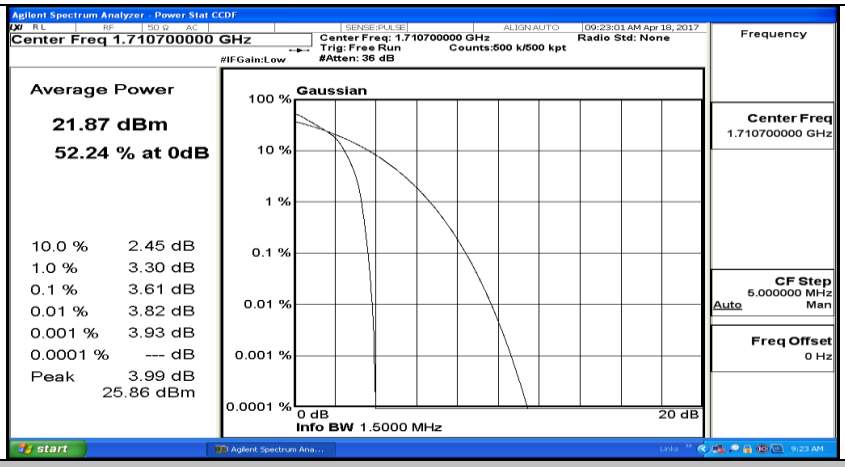
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#3



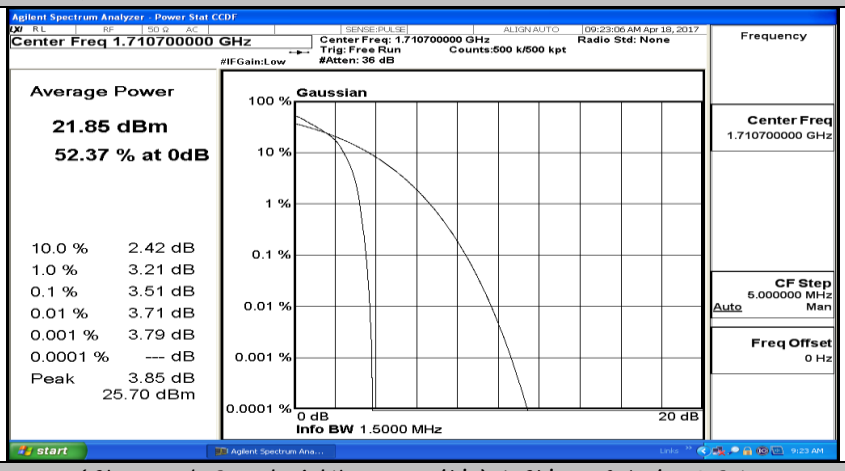
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#5



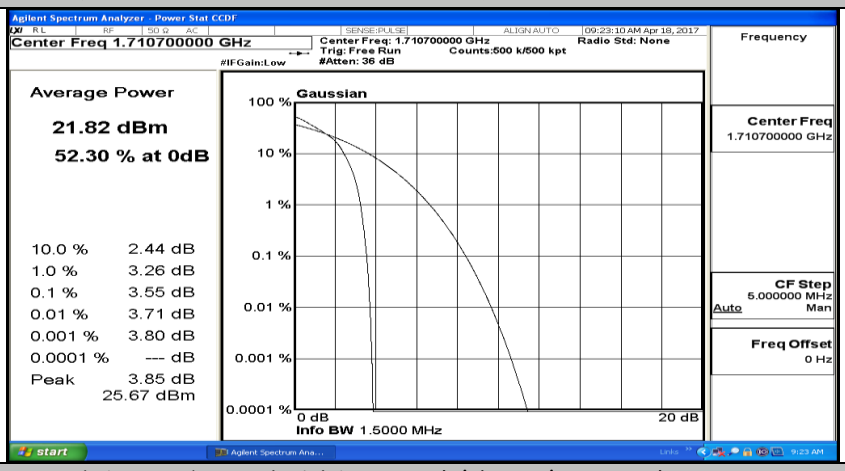
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_3RB#0



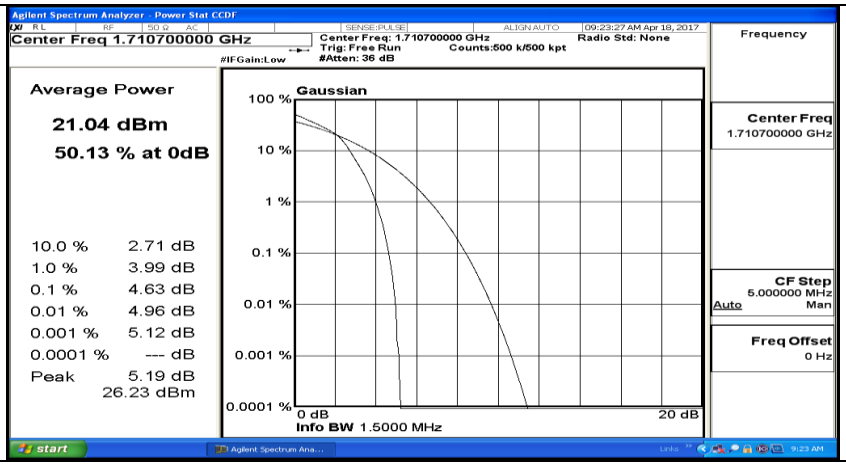
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_3RB#2



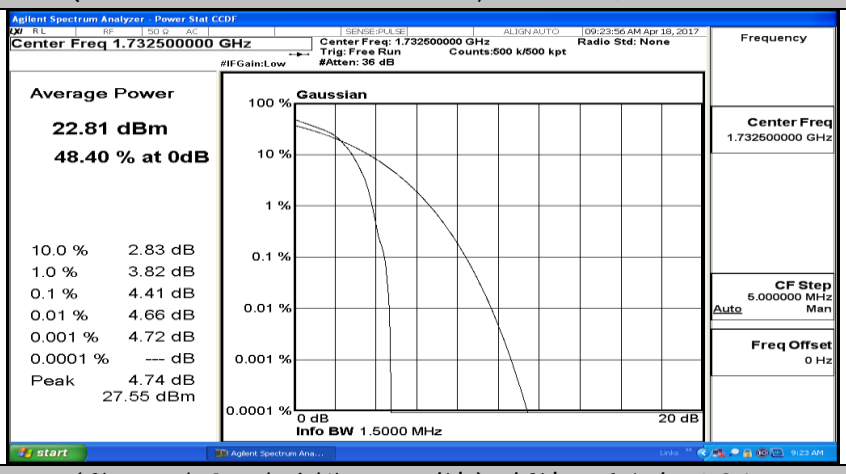
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_3RB#3



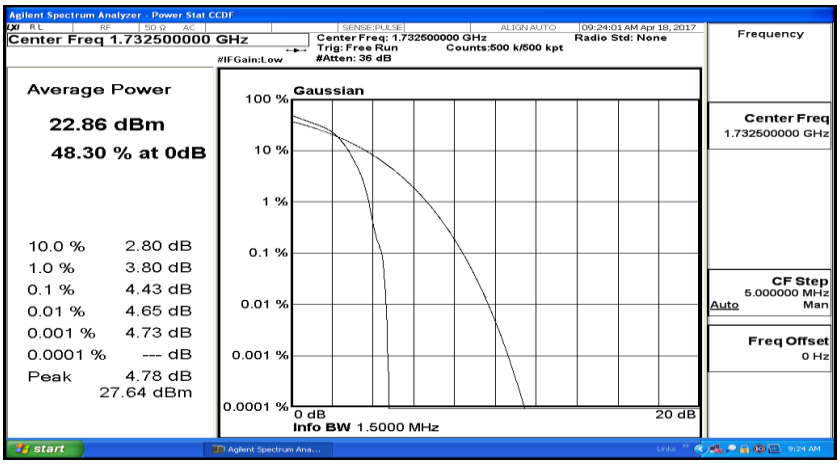
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_6RB#0



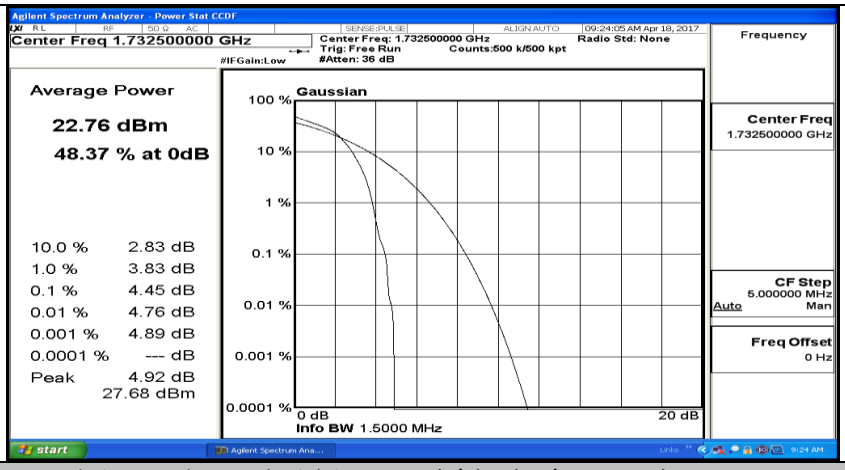
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#0



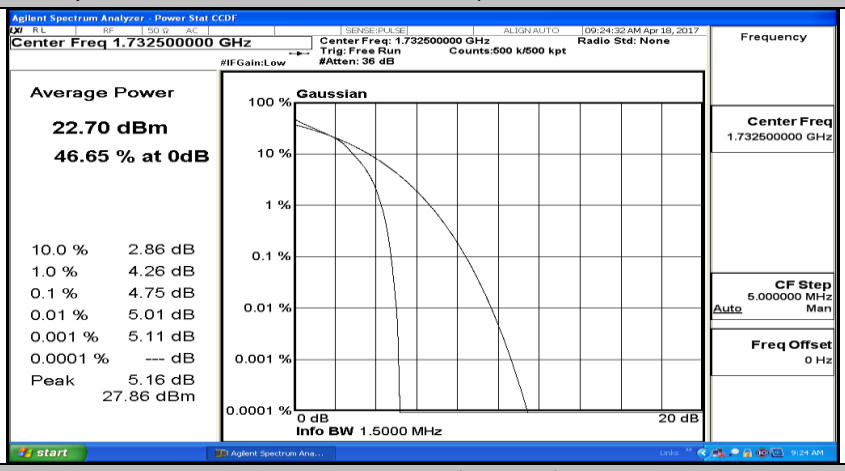
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#3



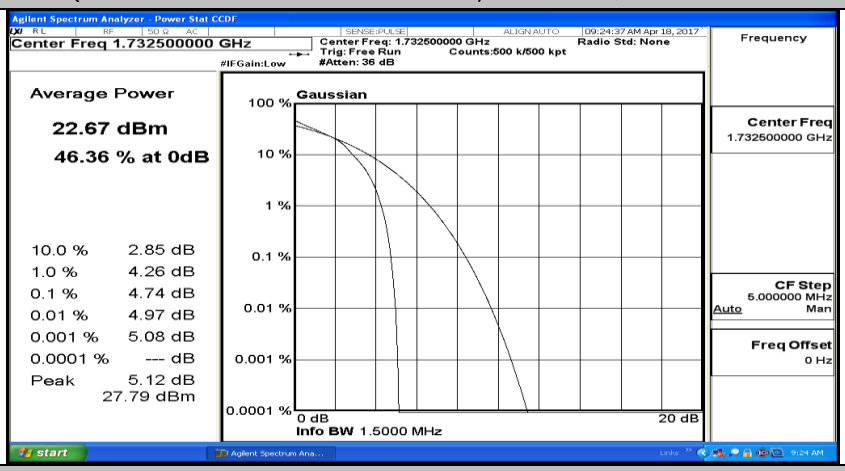
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#5



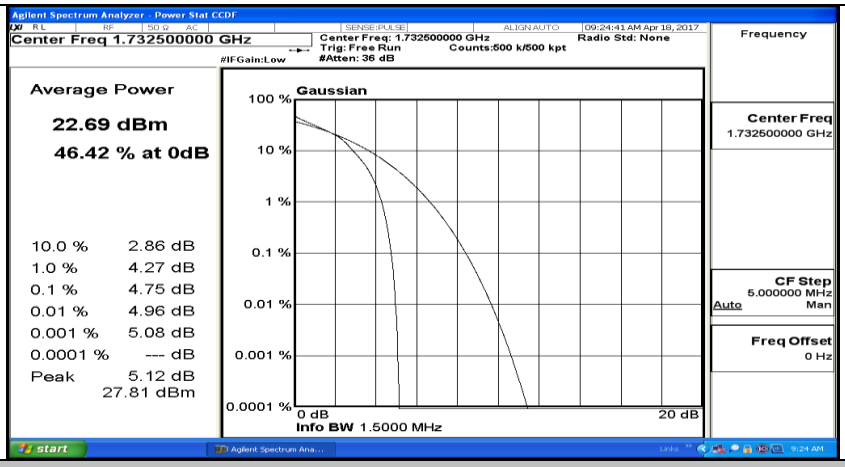
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_3RB#0



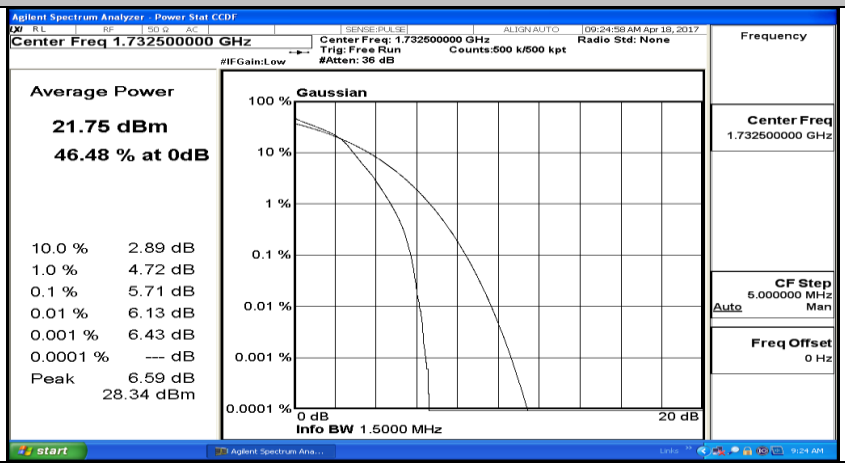
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_3RB#2



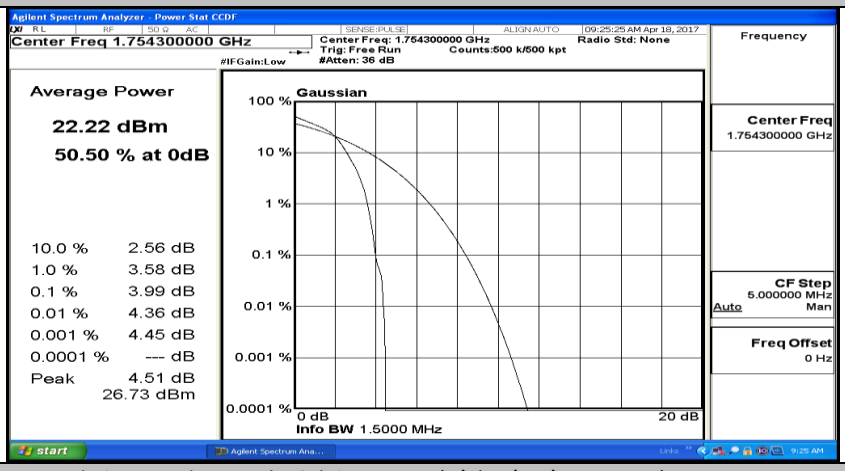
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_3RB#3



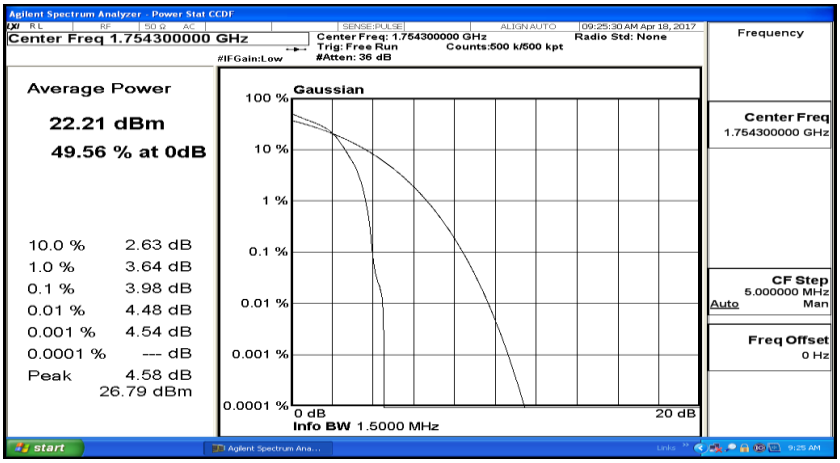
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_6RB#0



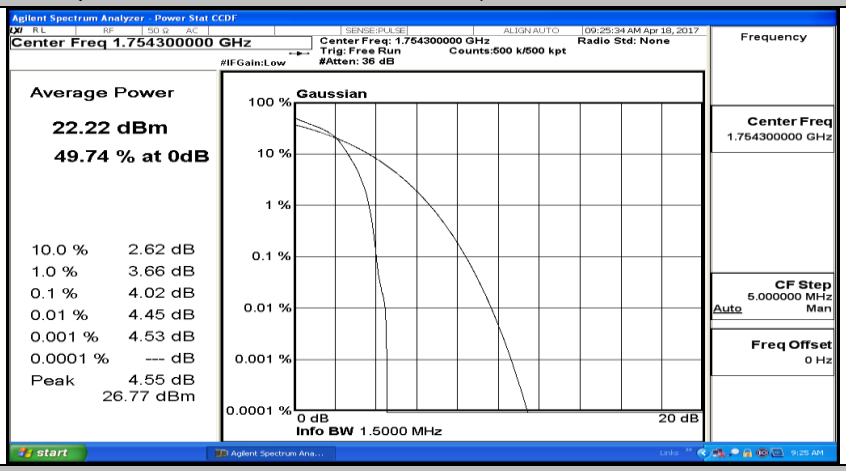
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#0



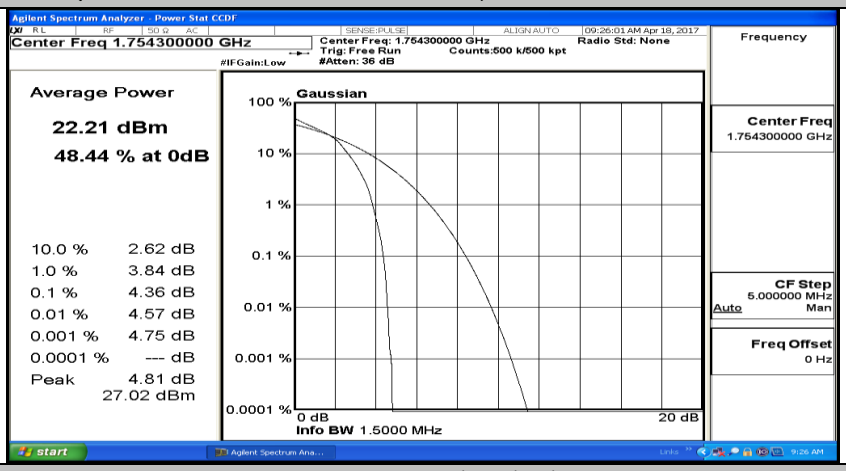
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#3



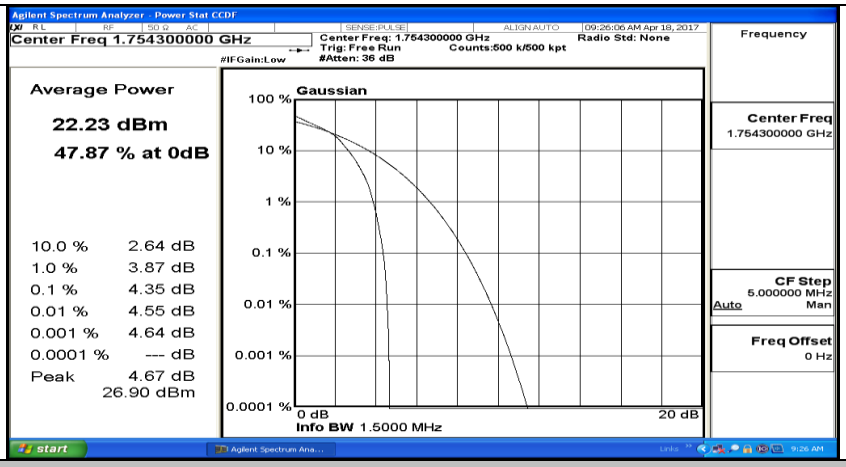
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_1RB#5



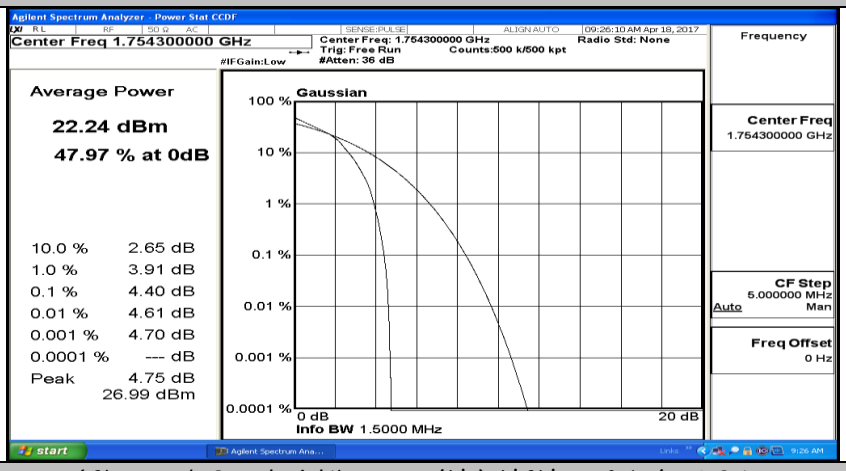
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_3RB#0



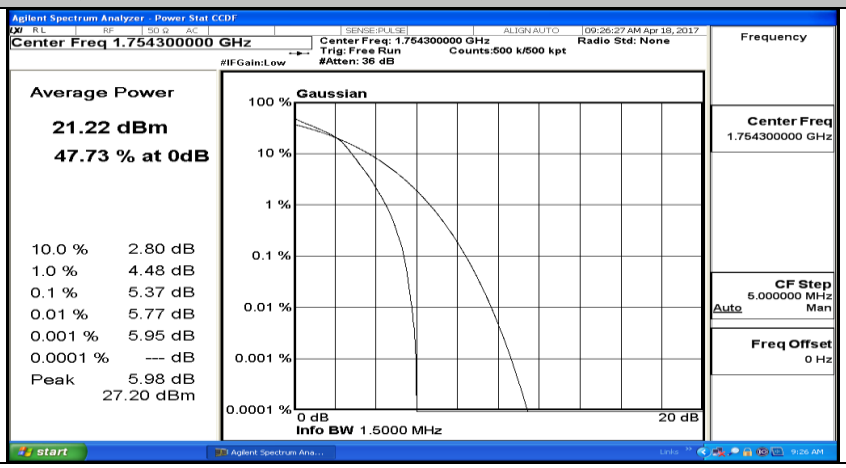
(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_3RB#2



(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_3RB#3

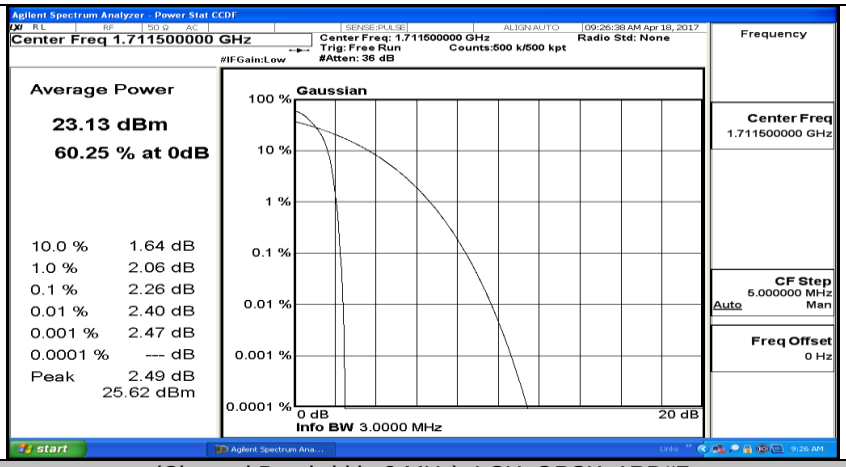


(Channel Bandwidth: 1.4 MHz)_HCH_16QAM_6RB#0

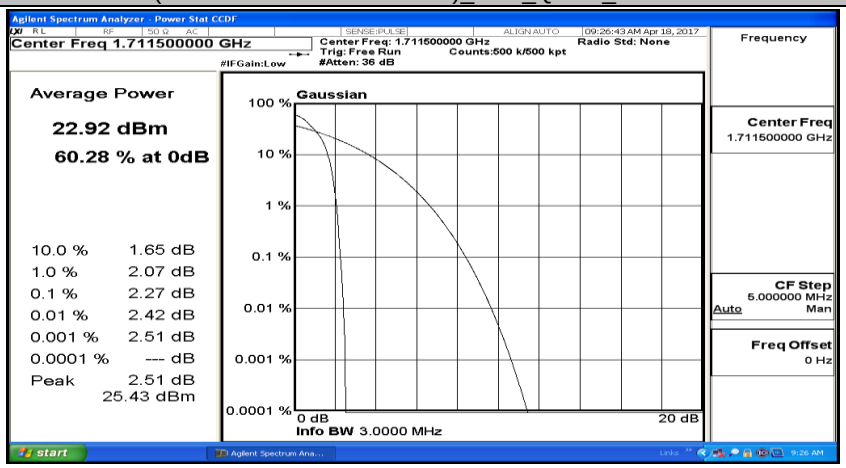


Channel Bandwidth: 3 MHz

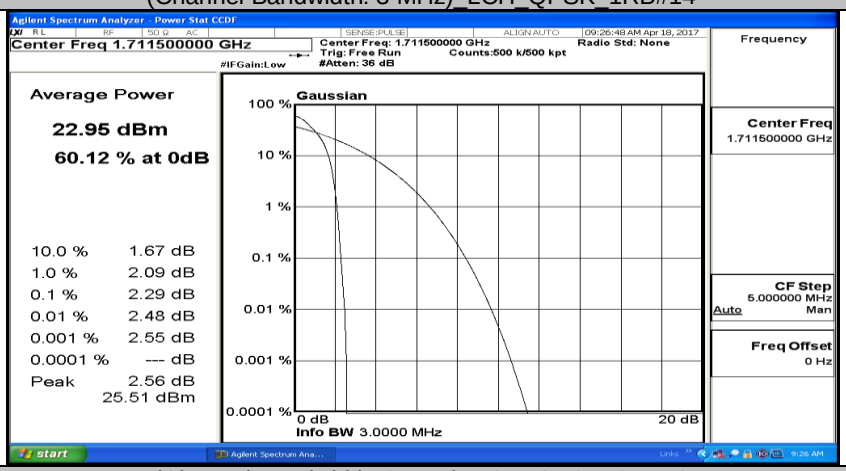
(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#0



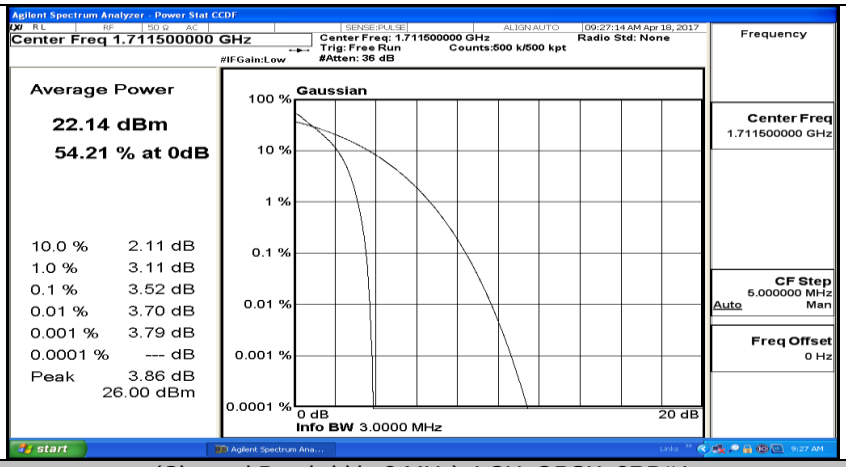
(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#7



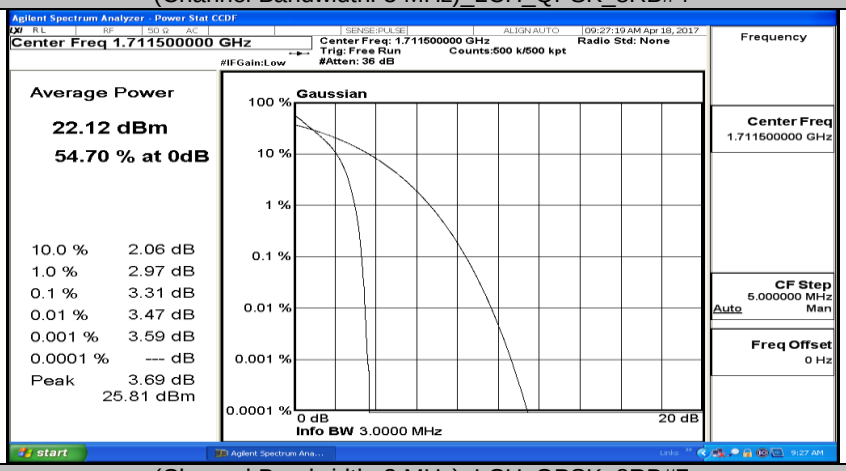
(Channel Bandwidth: 3 MHz)_LCH_QPSK_1RB#14



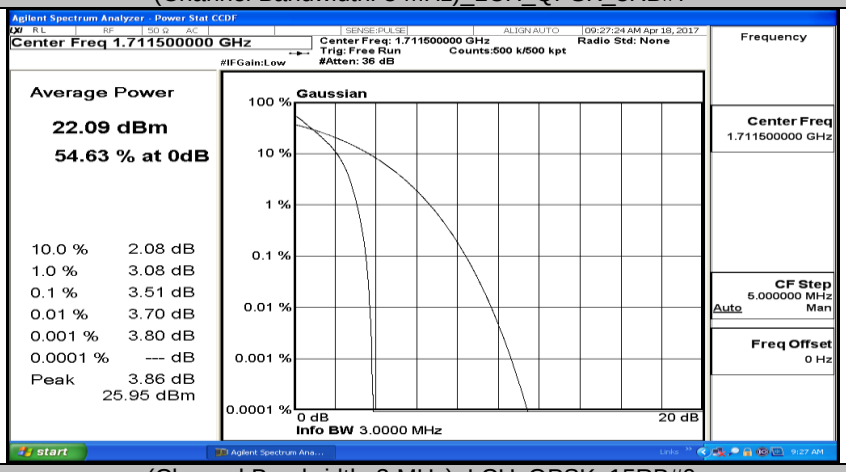
(Channel Bandwidth: 3 MHz)_LCH_QPSK_8RB#0



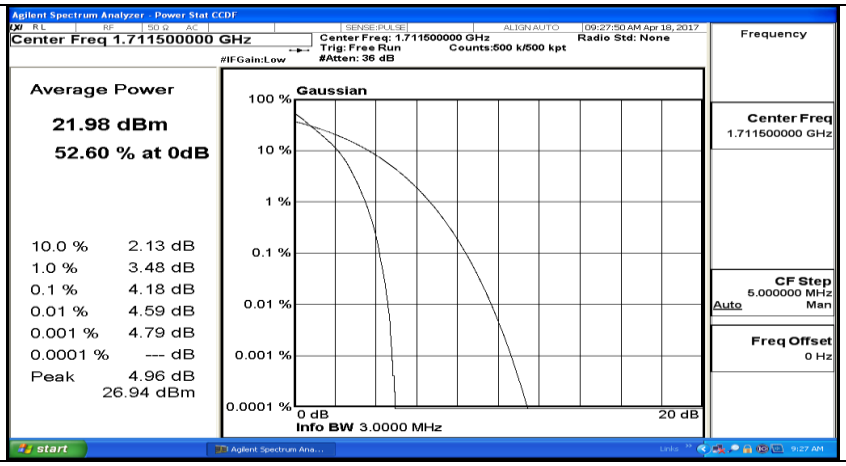
(Channel Bandwidth: 3 MHz)_LCH_QPSK_8RB#4



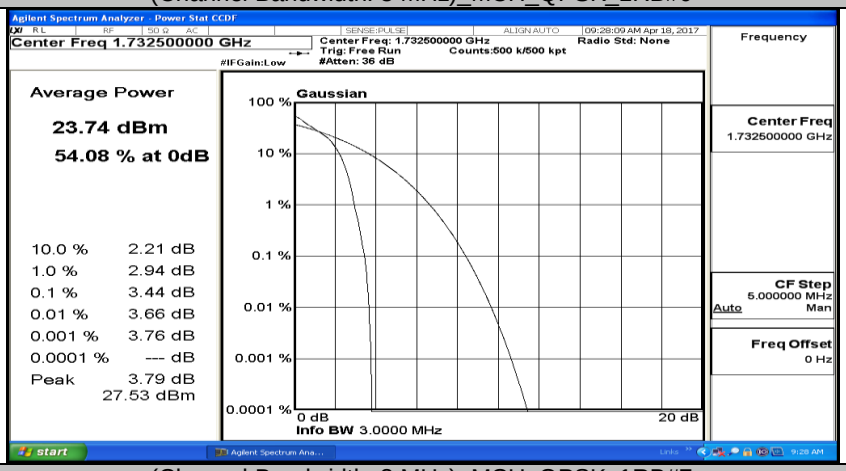
(Channel Bandwidth: 3 MHz)_LCH_QPSK_8RB#7



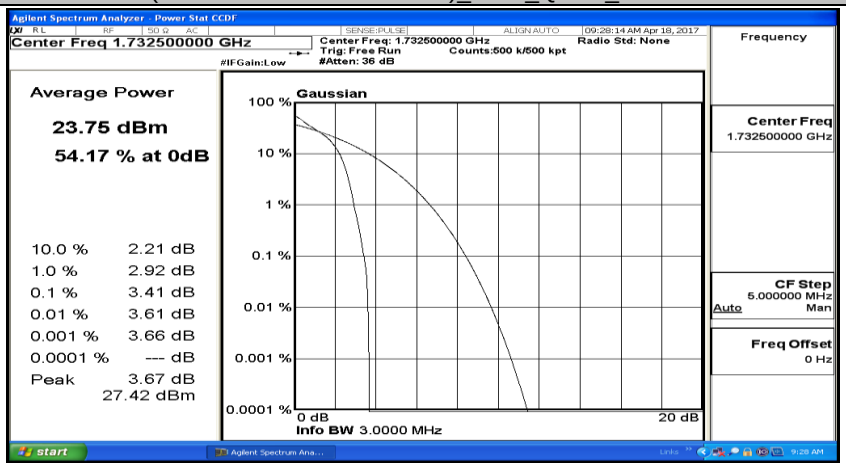
(Channel Bandwidth: 3 MHz)_LCH_QPSK_15RB#0



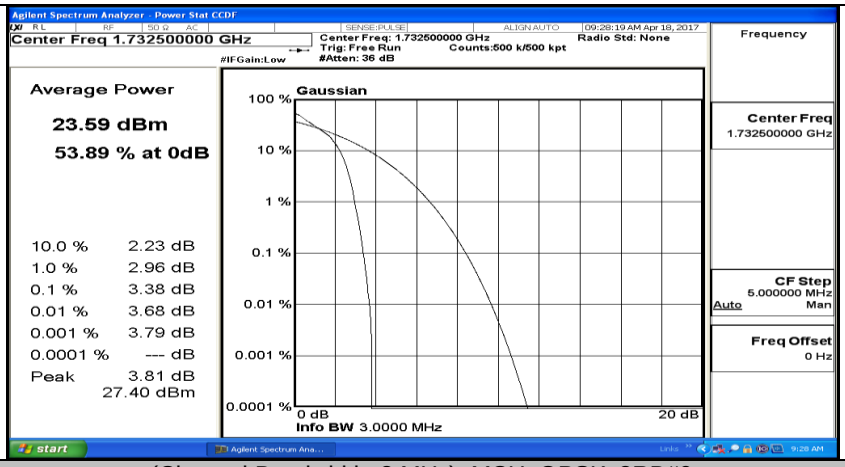
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#0



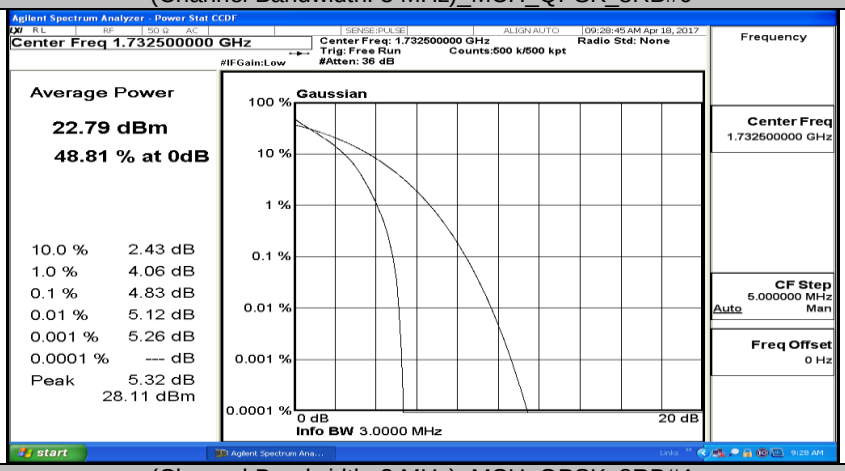
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#7



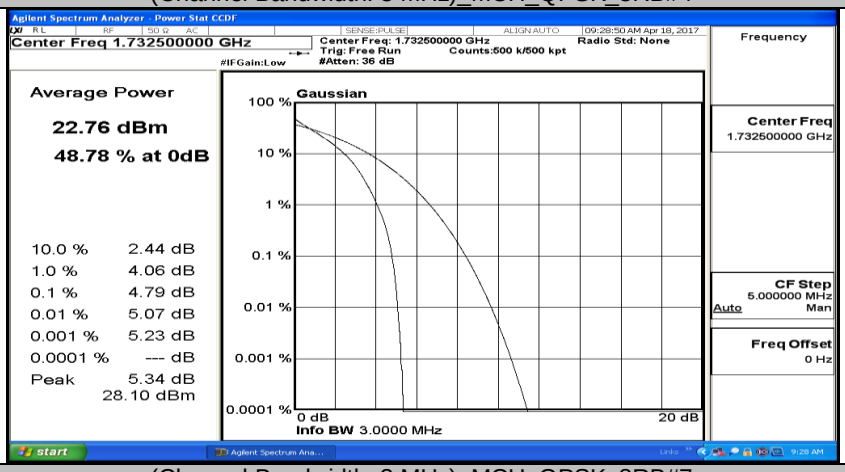
(Channel Bandwidth: 3 MHz)_MCH_QPSK_1RB#14



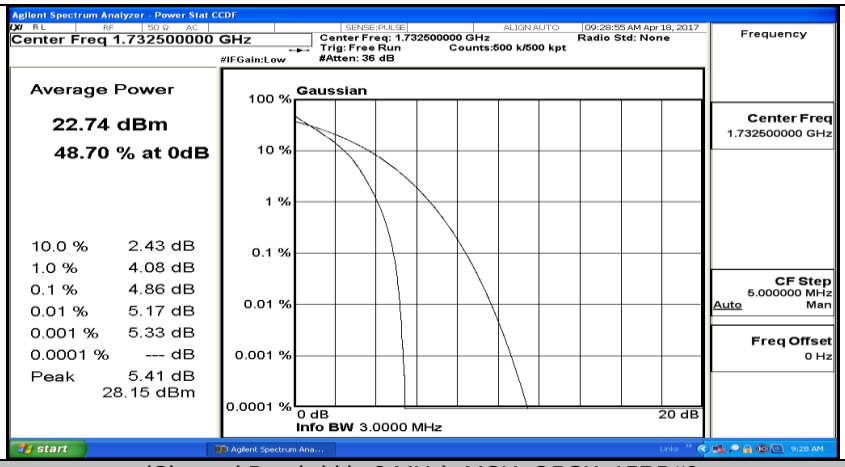
(Channel Bandwidth: 3 MHz)_MCH_QPSK_8RB#0



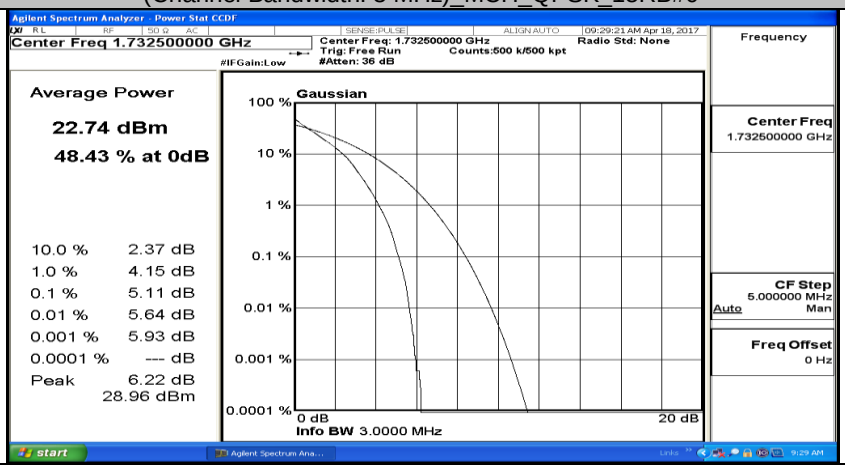
(Channel Bandwidth: 3 MHz)_MCH_QPSK_8RB#4



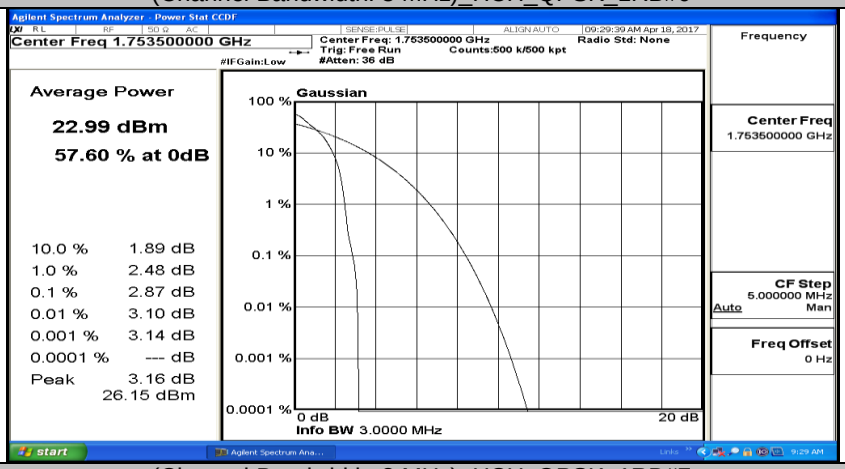
(Channel Bandwidth: 3 MHz)_MCH_QPSK_8RB#7



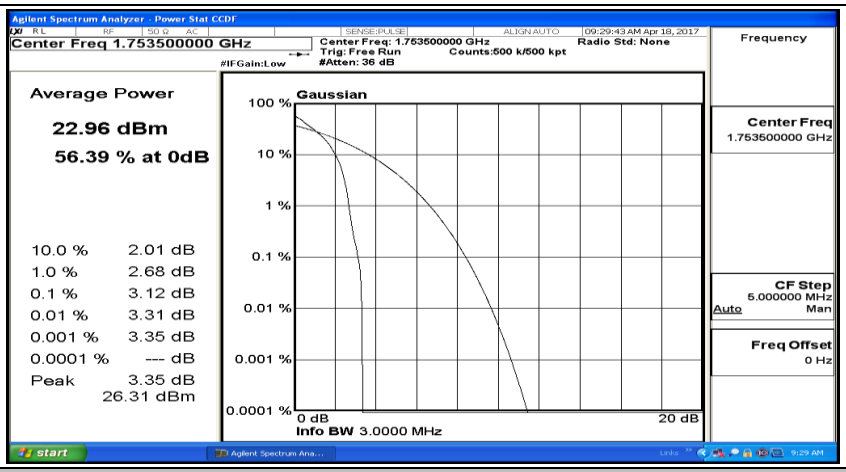
(Channel Bandwidth: 3 MHz)_MCH_QPSK_15RB#0



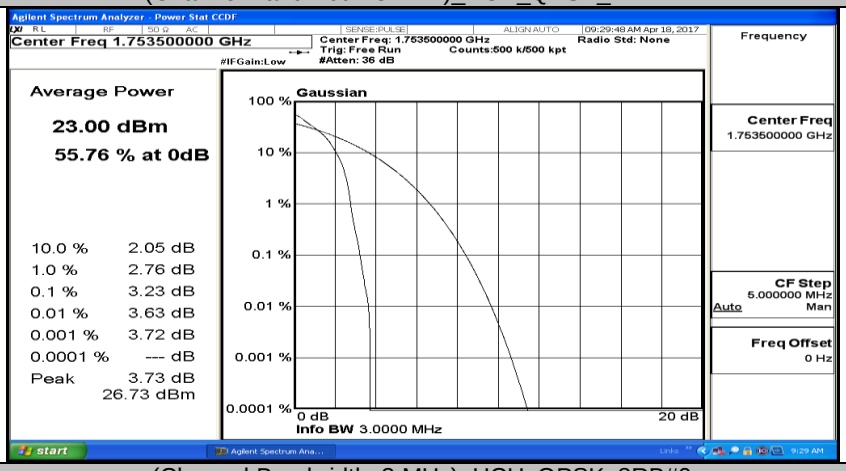
(Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#0



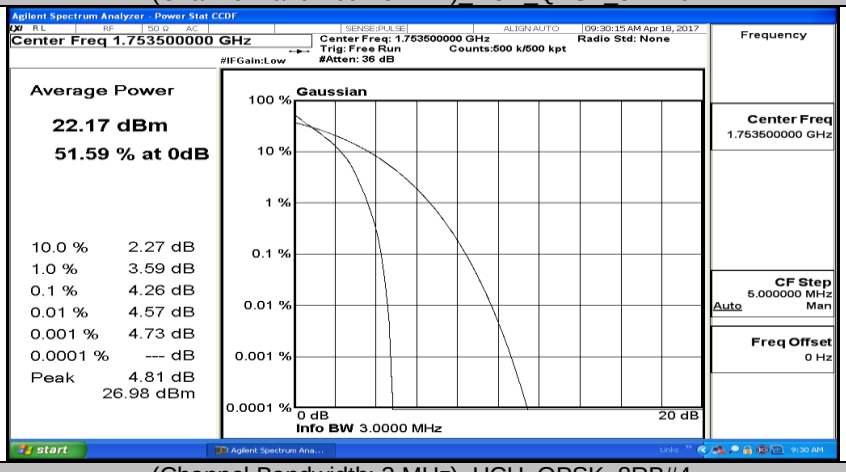
(Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#7



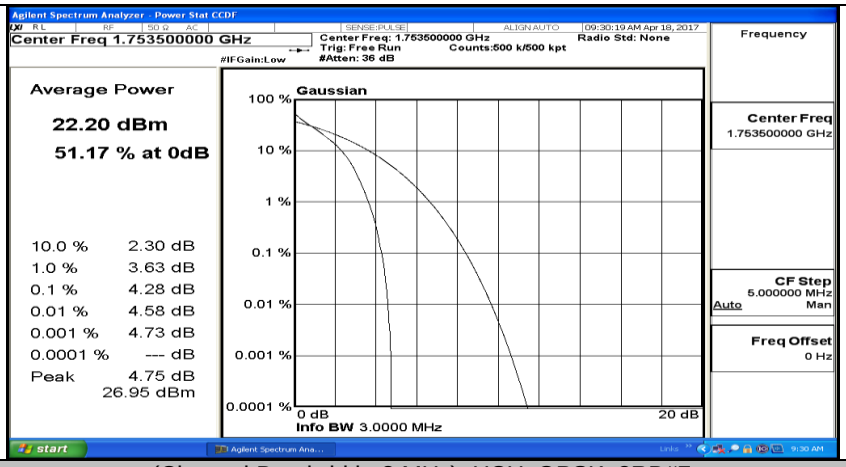
(Channel Bandwidth: 3 MHz)_HCH_QPSK_1RB#14



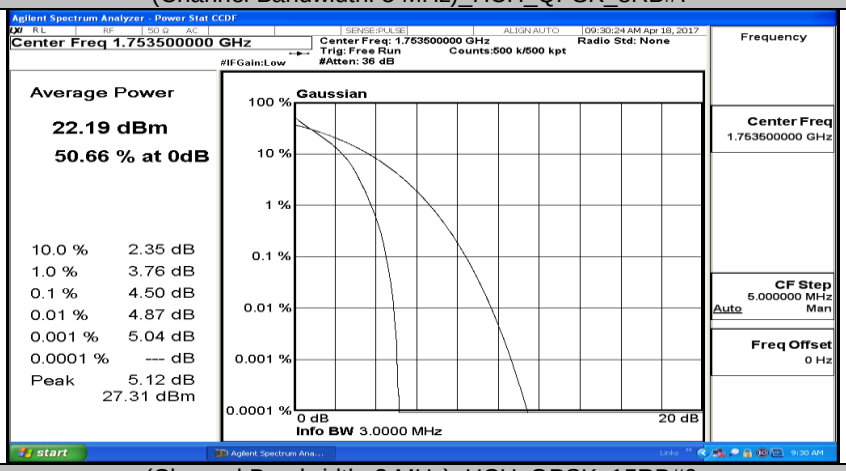
(Channel Bandwidth: 3 MHz)_HCH_QPSK_8RB#0



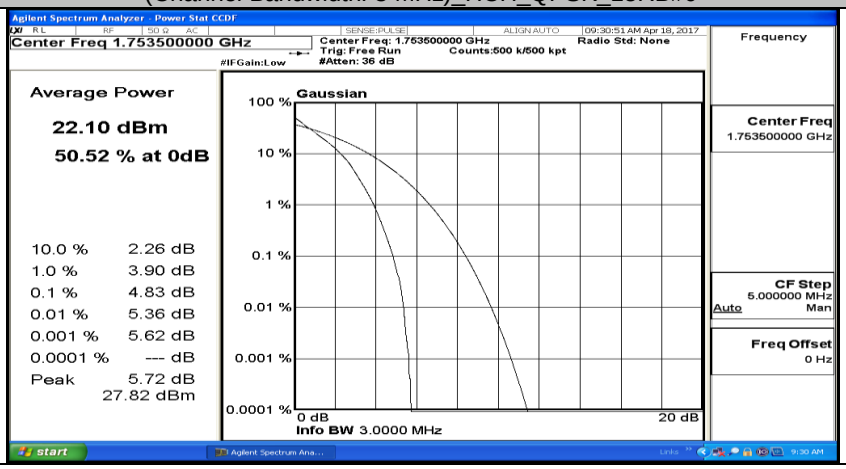
(Channel Bandwidth: 3 MHz)_HCH_QPSK_8RB#4



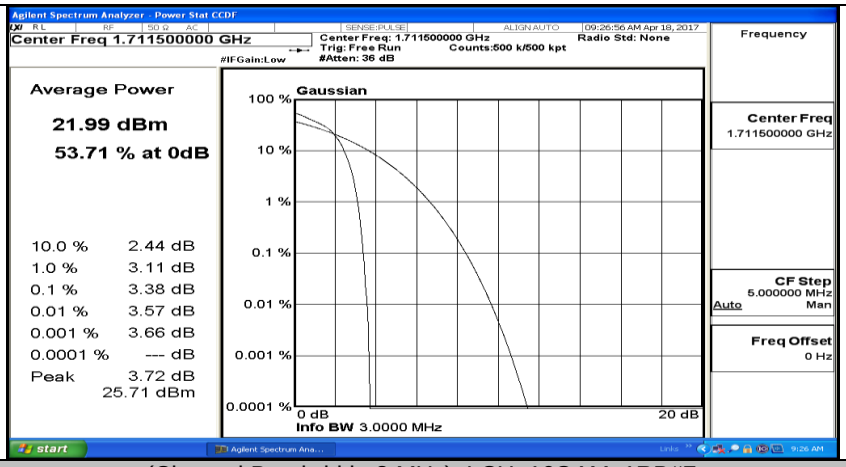
(Channel Bandwidth: 3 MHz)_HCH_QPSK_8RB#7



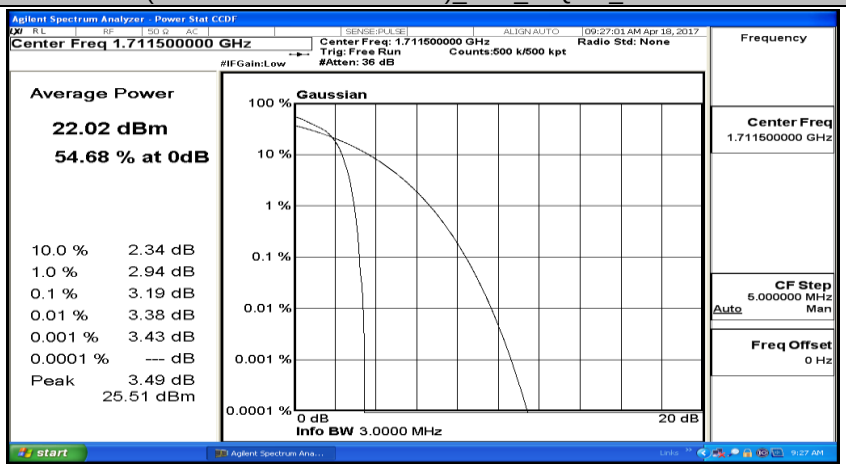
(Channel Bandwidth: 3 MHz)_HCH_QPSK_15RB#0



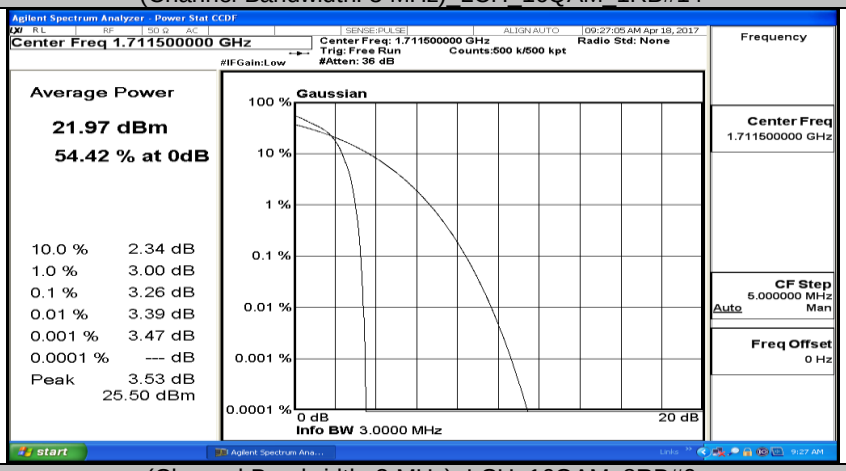
(Channel Bandwidth: 3 MHz)_LCH_16QAM_1RB#0



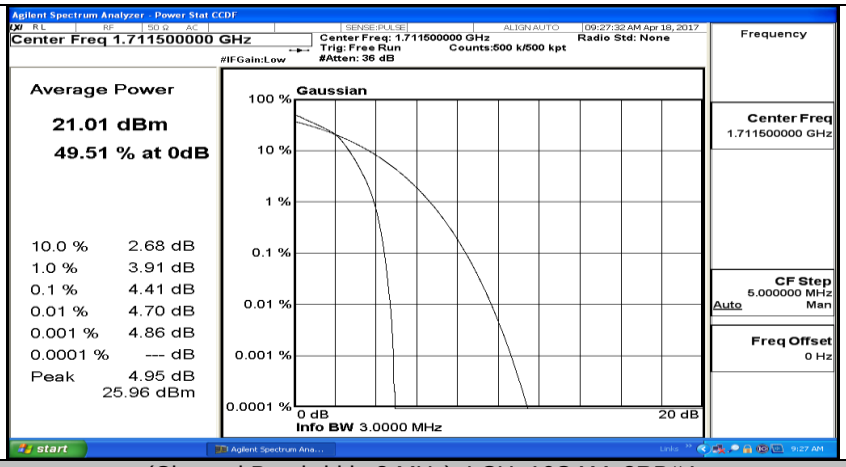
(Channel Bandwidth: 3 MHz)_LCH_16QAM_1RB#7



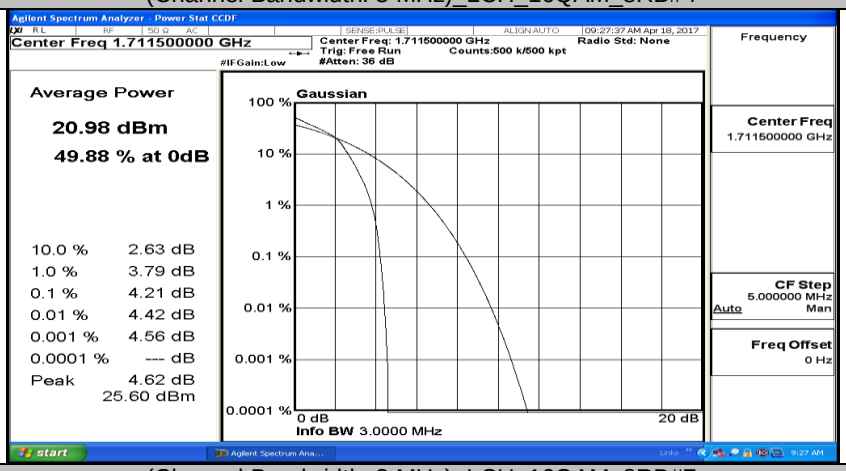
(Channel Bandwidth: 3 MHz)_LCH_16QAM_1RB#14



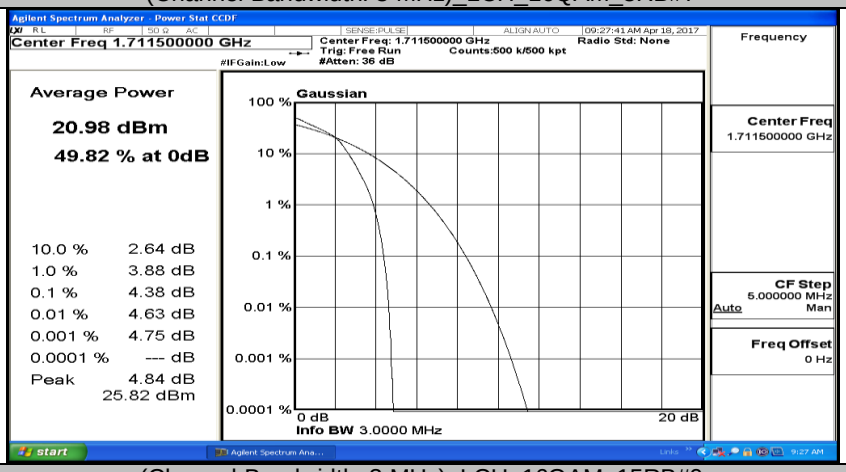
(Channel Bandwidth: 3 MHz)_LCH_16QAM_8RB#0



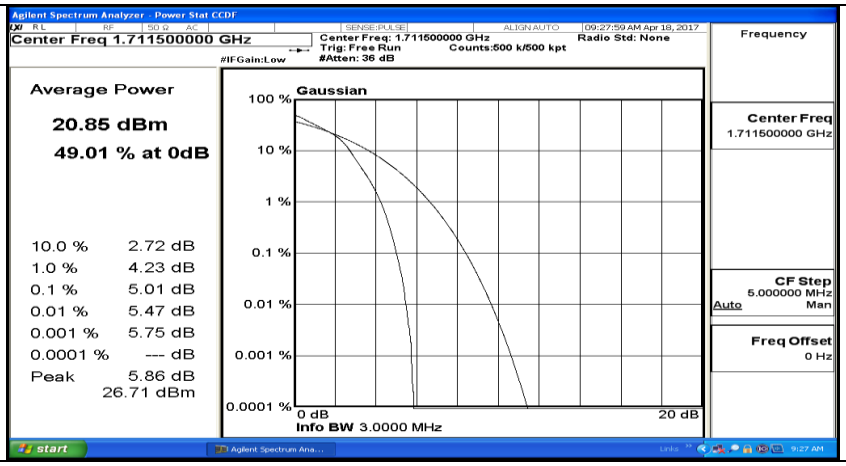
(Channel Bandwidth: 3 MHz)_LCH_16QAM_8RB#4



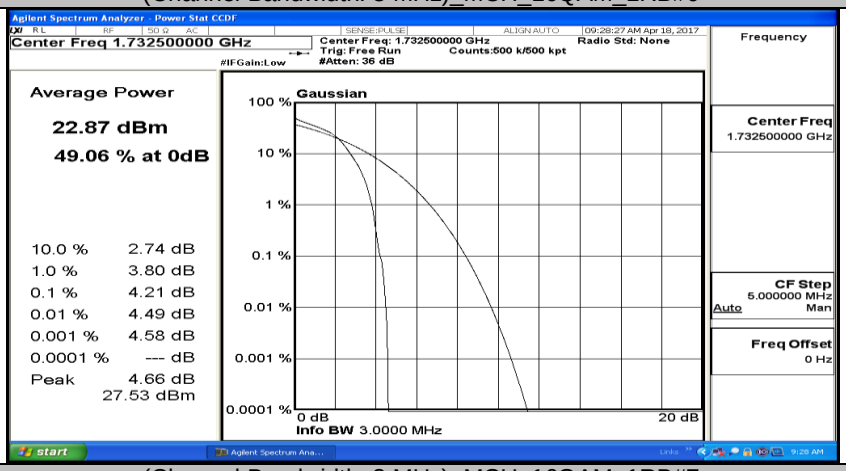
(Channel Bandwidth: 3 MHz)_LCH_16QAM_8RB#7



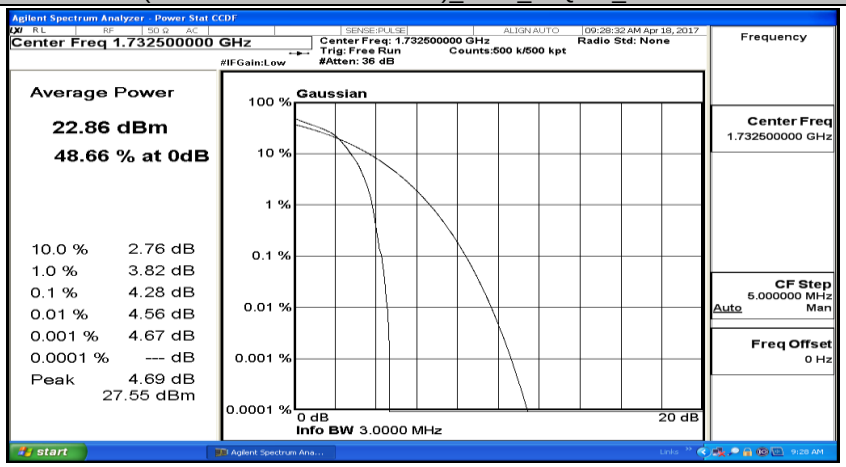
(Channel Bandwidth: 3 MHz)_LCH_16QAM_15RB#0



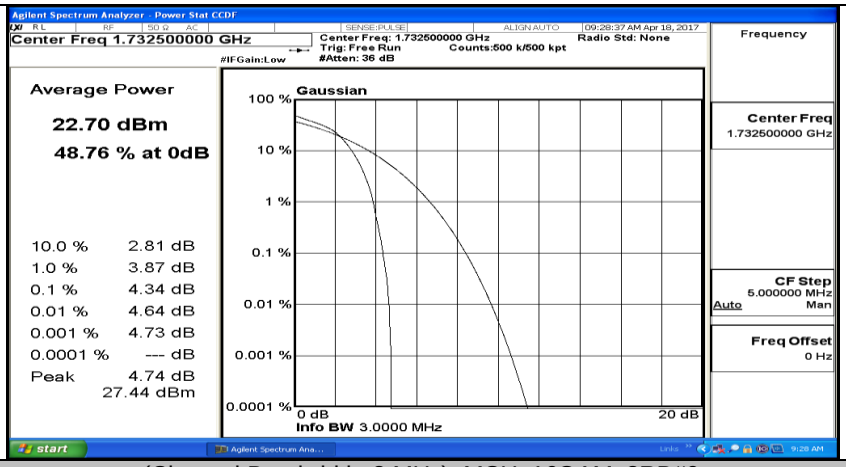
(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#0



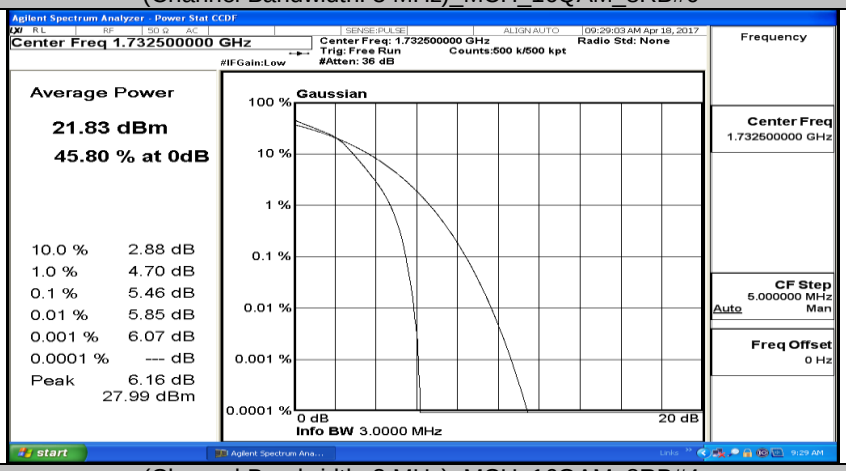
(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#7



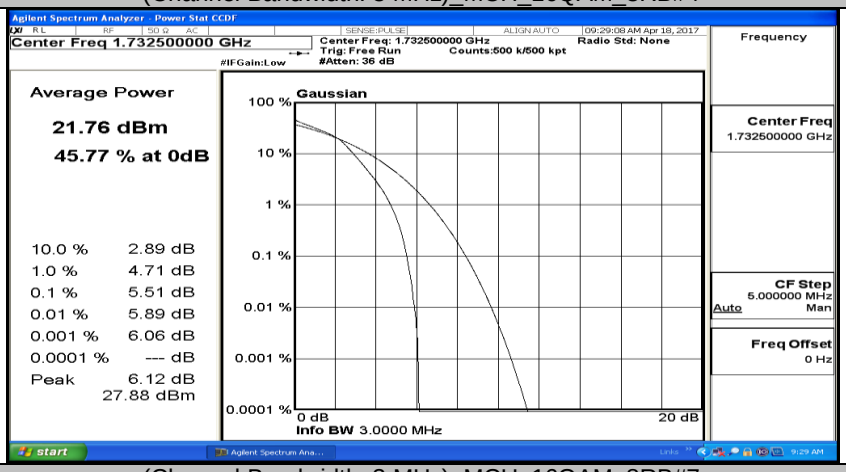
(Channel Bandwidth: 3 MHz)_MCH_16QAM_1RB#14



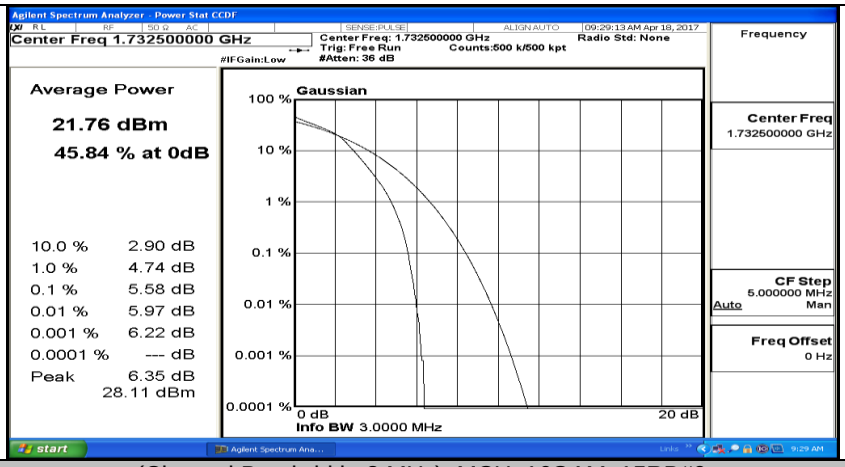
(Channel Bandwidth: 3 MHz)_MCH_16QAM_8RB#0



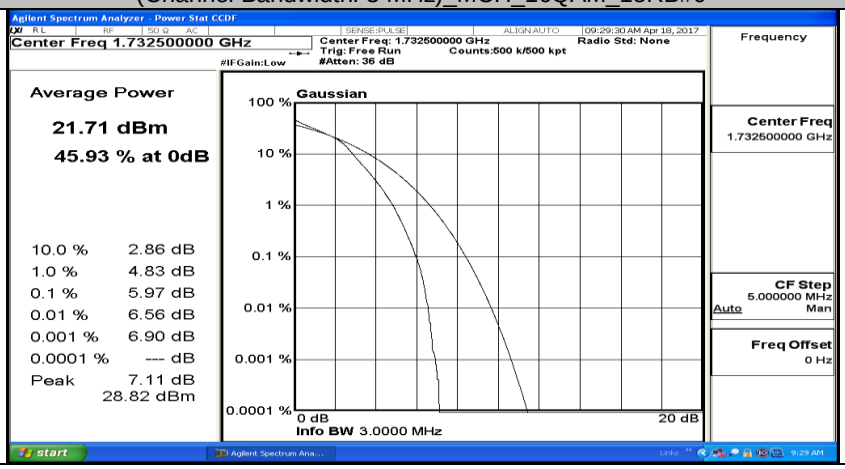
(Channel Bandwidth: 3 MHz)_MCH_16QAM_8RB#4



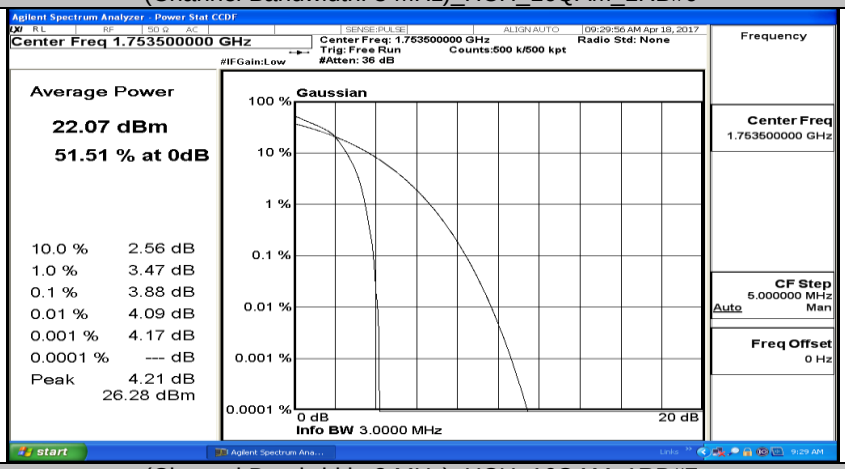
(Channel Bandwidth: 3 MHz)_MCH_16QAM_8RB#7



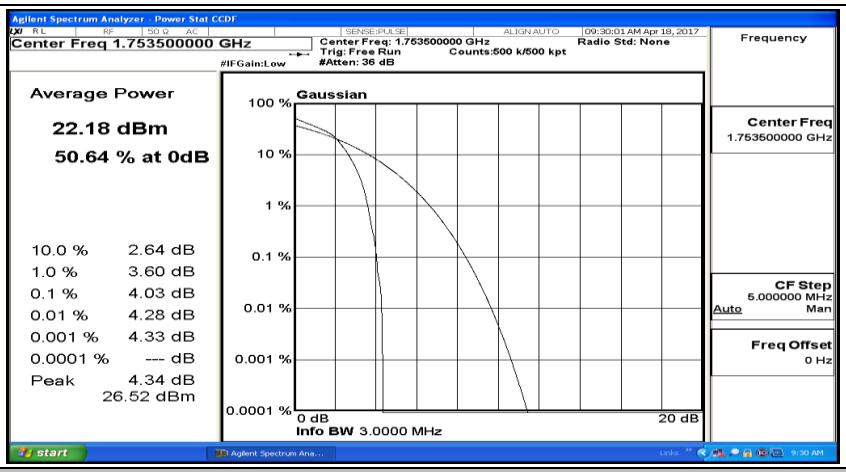
(Channel Bandwidth: 3 MHz)_MCH_16QAM_15RB#0



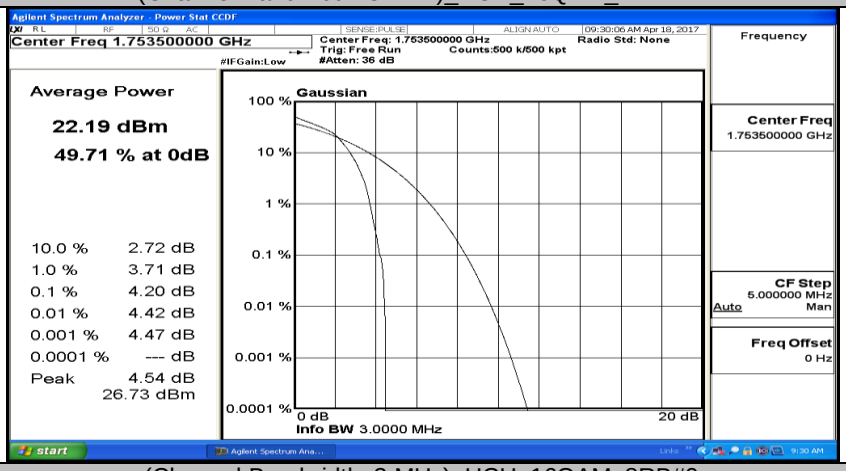
(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#0



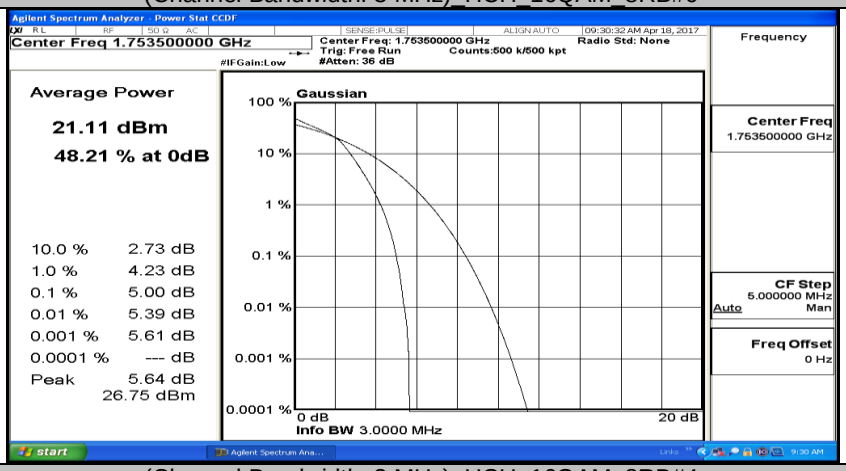
(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#7



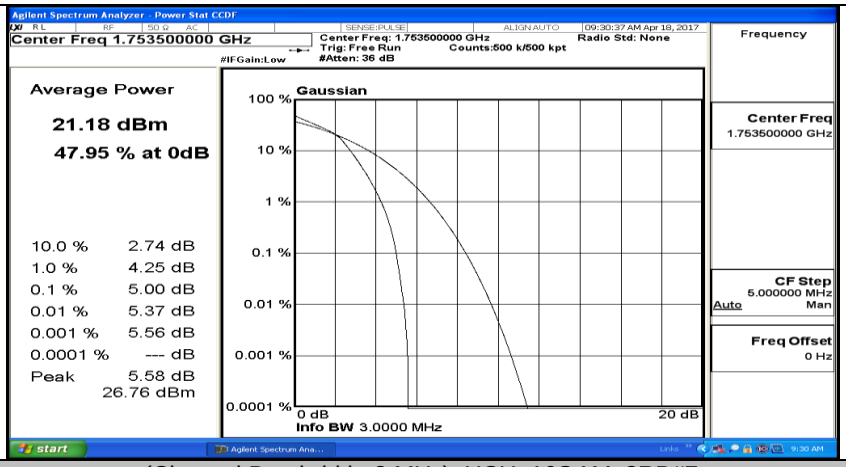
(Channel Bandwidth: 3 MHz)_HCH_16QAM_1RB#14



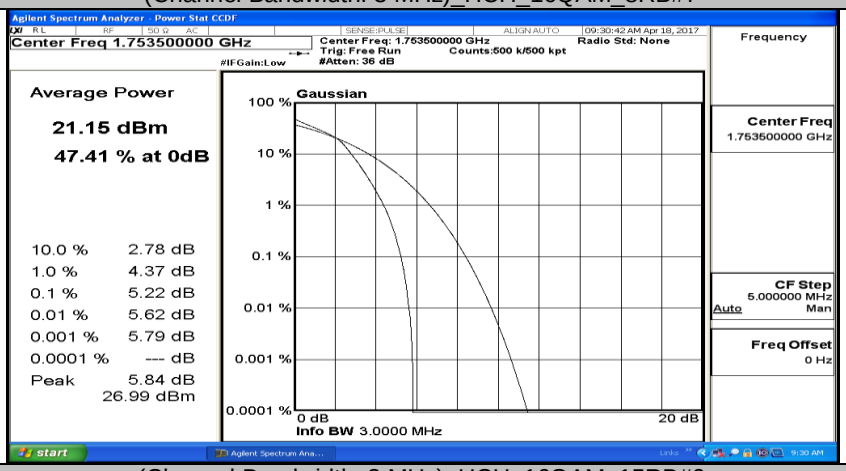
(Channel Bandwidth: 3 MHz)_HCH_16QAM_8RB#0



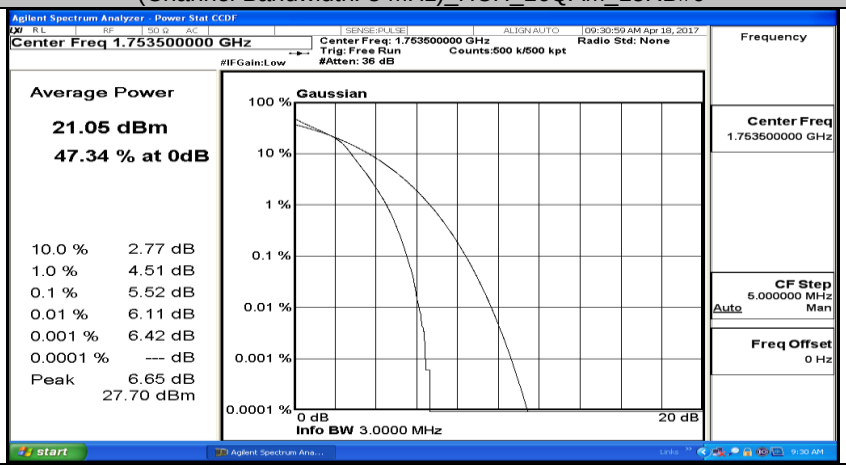
(Channel Bandwidth: 3 MHz)_HCH_16QAM_8RB#4



(Channel Bandwidth: 3 MHz)_HCH_16QAM_8RB#7

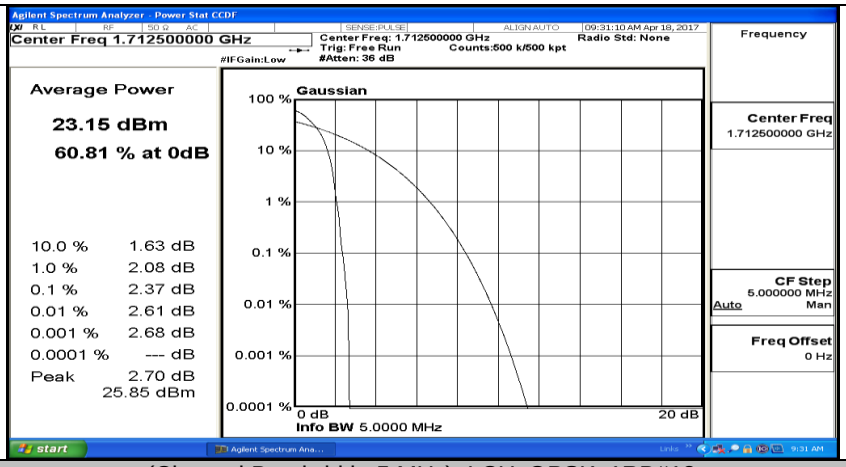


(Channel Bandwidth: 3 MHz)_HCH_16QAM_15RB#0

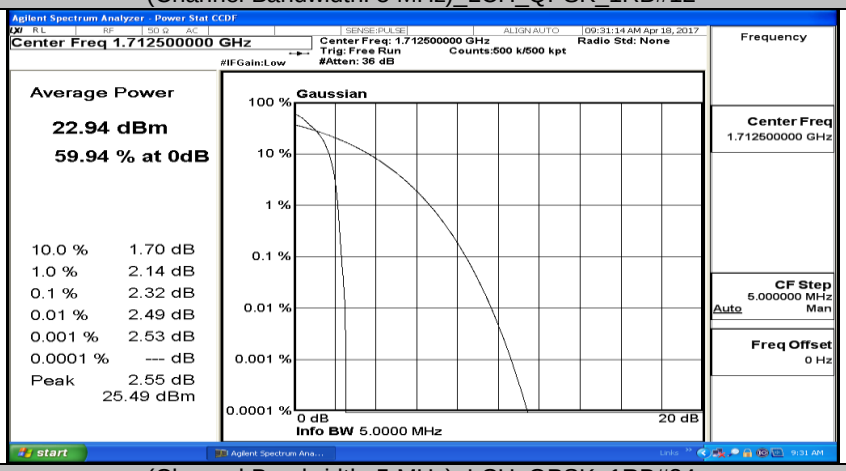


Channel Bandwidth: 5 MHz

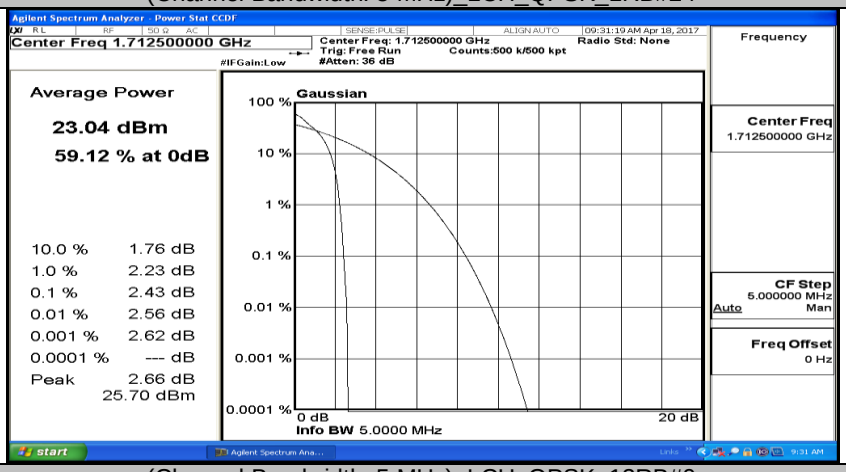
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



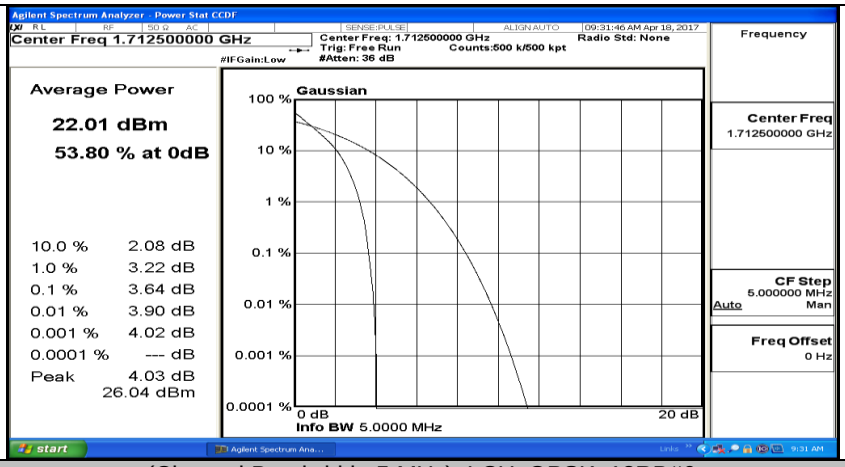
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12



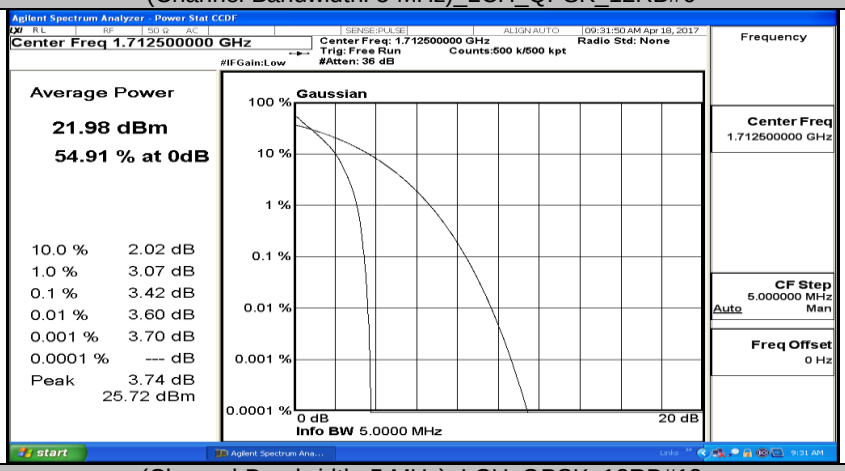
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24



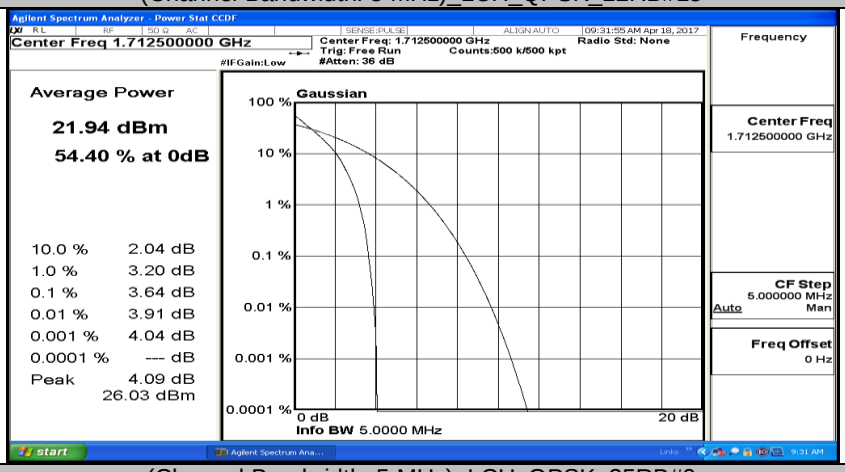
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0



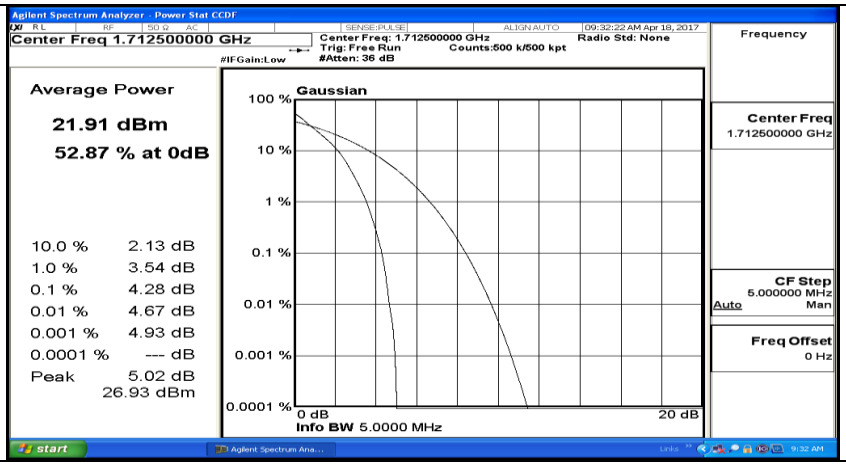
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#6



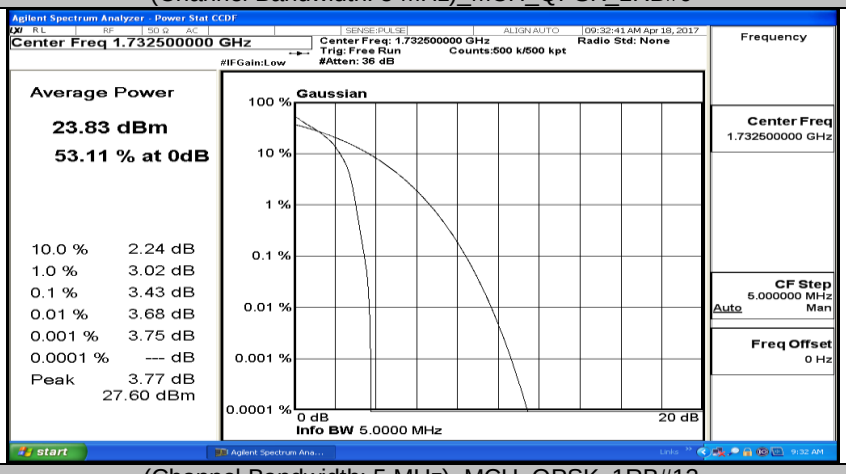
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#13



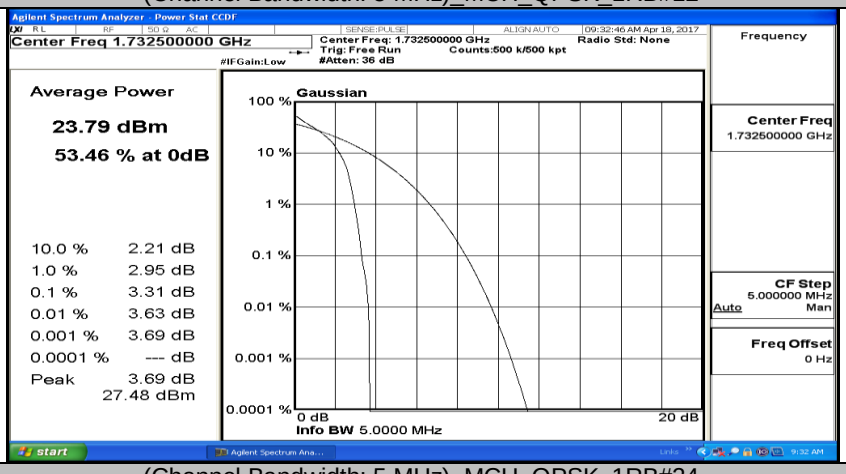
(Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0



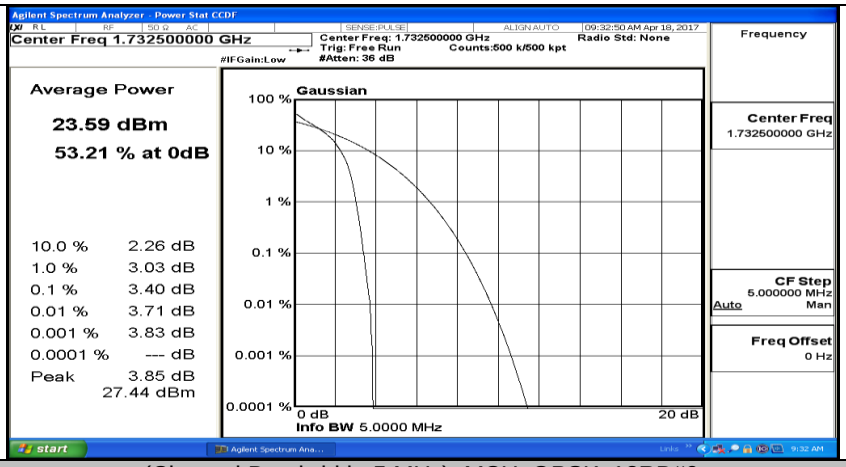
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



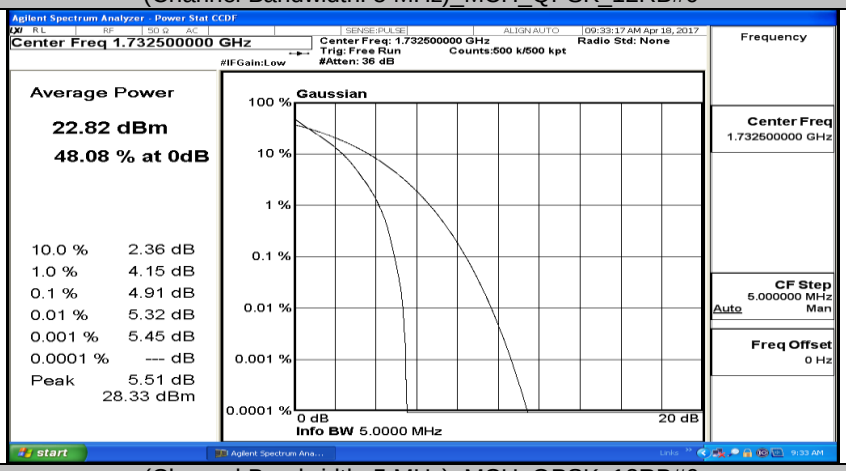
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12



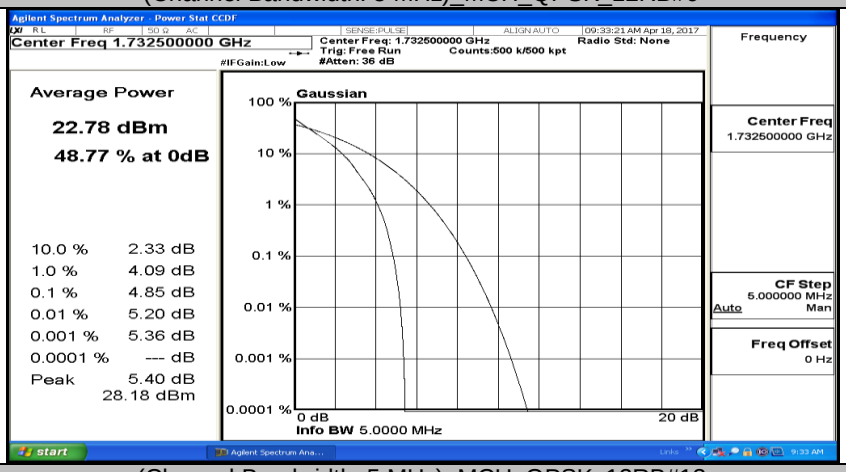
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24



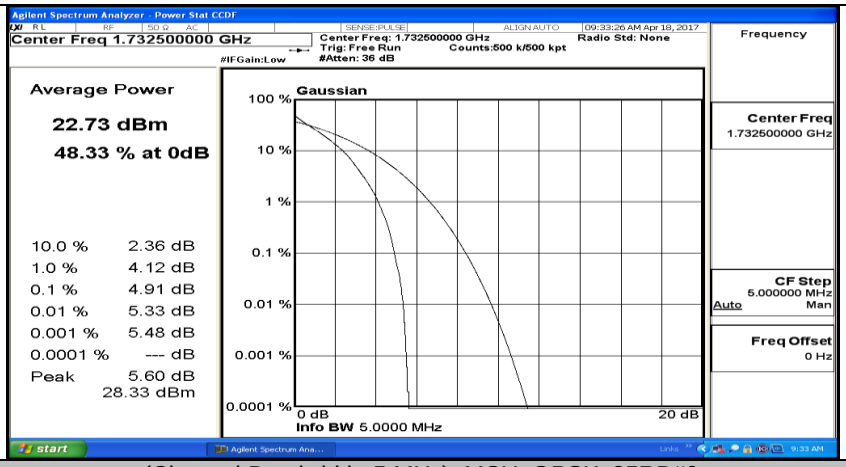
(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#0



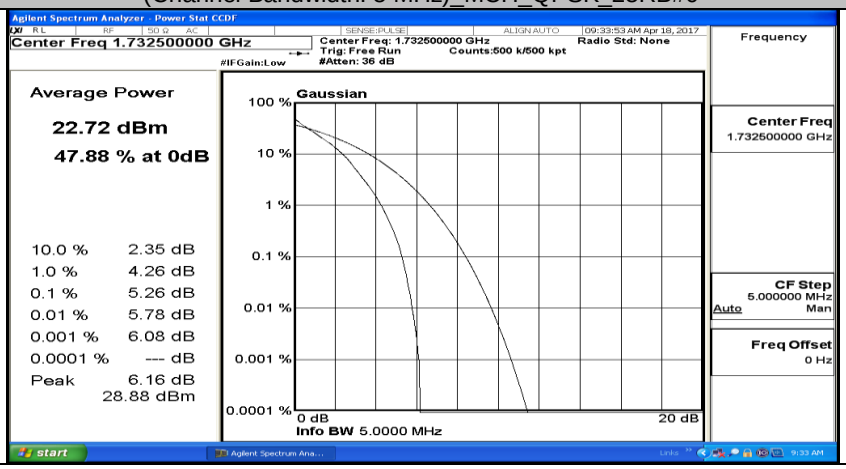
(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#6



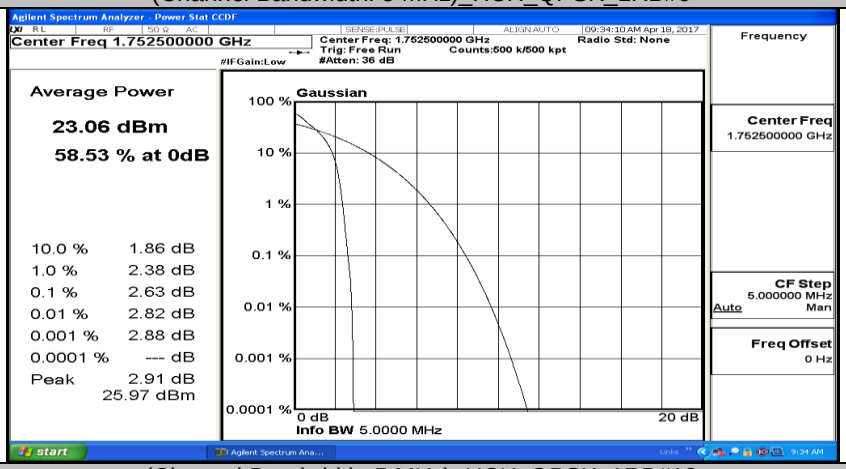
(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#13



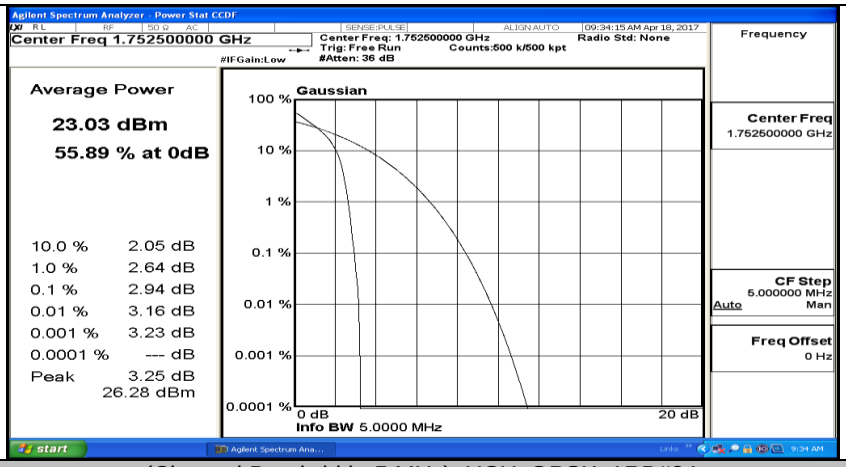
(Channel Bandwidth: 5 MHz)_MCH_QPSK_25RB#0



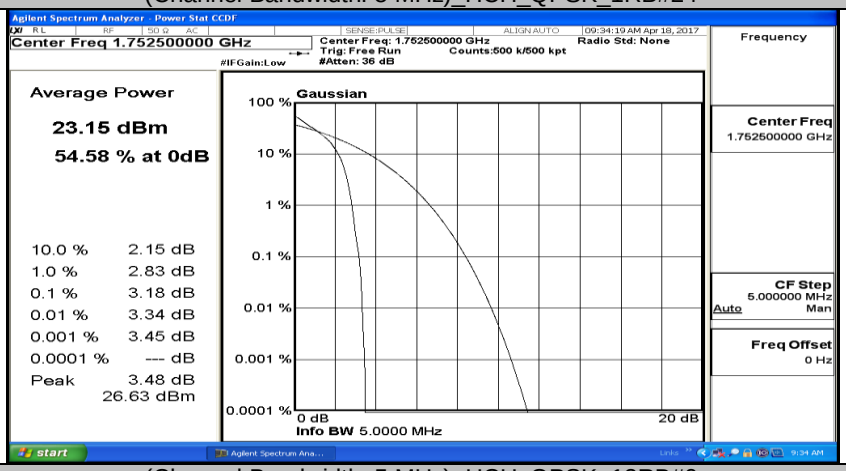
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



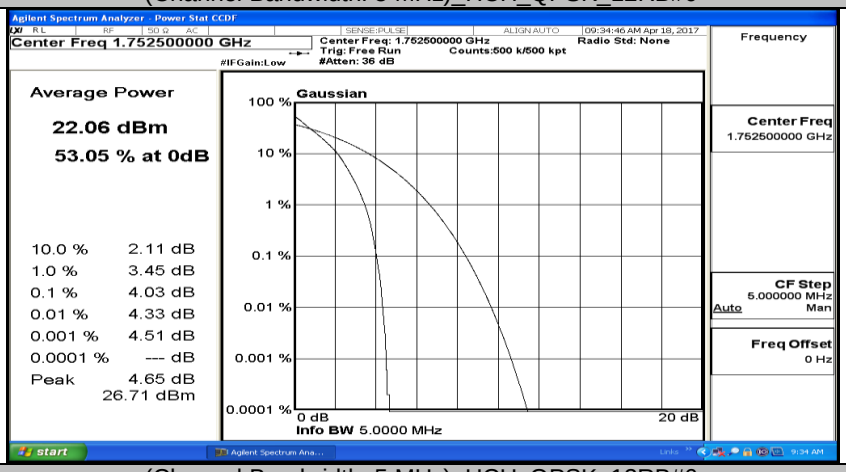
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12



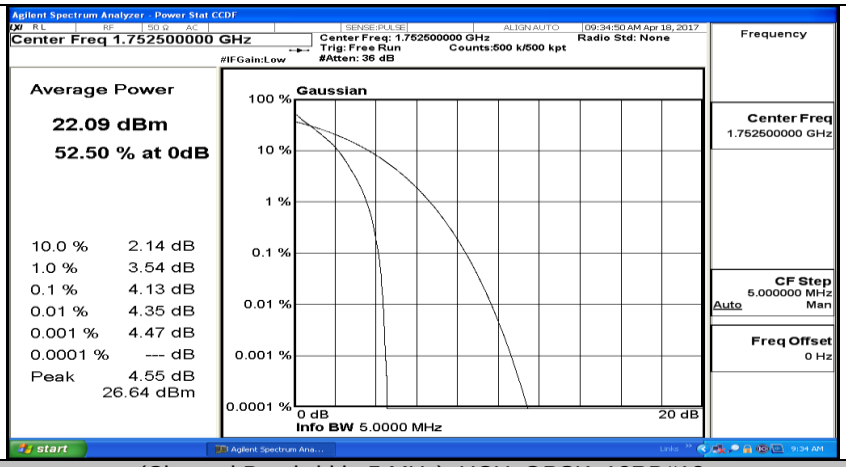
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24



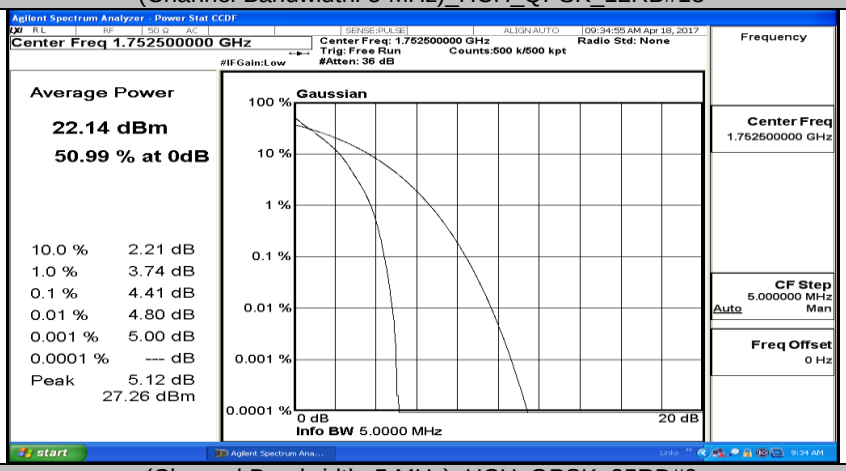
(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#0



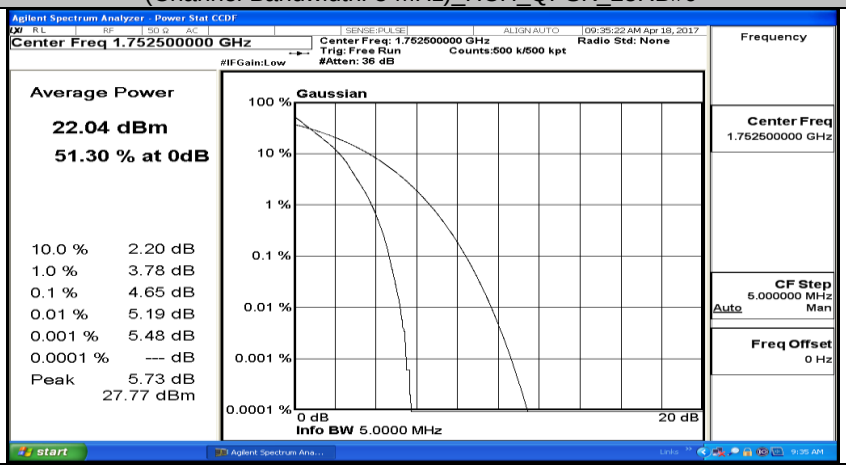
(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#6



(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#13



(Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0



(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0