Appendix for Band 13

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	23.16	PASS
		1	12	23.47	PASS
		1	24	23.18	PASS
		12	0	22.13	PASS
		12	6	22.23	PASS
		12	13	22.26	PASS
		25	0	22.24	PASS
	MCH	1	0	23.20	PASS
		1	12	23.35	PASS
		1	24	23.16	PASS
		12	0	22.14	PASS
		12	6	22.20	PASS
		12	13	22.11	PASS
		25	0	22.17	PASS
	HCH	1	0	23.18	PASS
		1	12	23.59	PASS
		1	24	23.23	PASS
		12	0	22.13	PASS
		12	6	22.25	PASS
		12	13	22.16	PASS
		25	0	22.22	PASS
16QAM	LCH	1	0	22.38	PASS
		1	12	22.74	PASS
		1	24	22.40	PASS
		12	0	21.22	PASS
		12	6	21.36	PASS
		12	13	21.37	PASS
		25	0	21.26	PASS
	MCH	1	0	22.46	PASS
		1	12	22.68	PASS
		1	24	22.40	PASS
		12	0	21.25	PASS
		12	6	21.37	PASS

		12	13	21.26	PASS
		25	0	21.17	PASS
	HCH	1	0	22.37	PASS
		1	12	22.47	PASS
		1	24	22.40	PASS
		12	0	21.21	PASS
		12	6	21.27	PASS
		12	13	21.24	PASS
		25	0	21.26	PASS

Channel Bandwidth: 10 MHz

Modulation	Channel	RB Configuration		Average Power [dBm]	Verdict
		Size	Offset		
QPSK	MCH	1	0	23.66	PASS
		1	24	23.42	PASS
		1	49	23.22	PASS
		25	0	22.11	PASS
		25	12	22.24	PASS
		25	25	22.29	PASS
		50	0	22.20	PASS
16QAM	MCH	1	0	22.44	PASS
		1	24	22.67	PASS
		1	49	22.47	PASS
		25	0	21.18	PASS
		25	12	21.27	PASS
		25	25	21.31	PASS
		50	0	21.20	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	4.99	<13	PASS
		1	12	5.62	<13	PASS
		1	24	5.69	<13	PASS
		12	0	5.6	<13	PASS
		12	6	5.67	<13	PASS
		12	13	5.75	<13	PASS
		25	0	5.69	<13	PASS
	MCH	1	0	5.35	<13	PASS
		1	12	5.16	<13	PASS
		1	24	5.45	<13	PASS
		12	0	5.57	<13	PASS
		12	6	5.58	<13	PASS
		12	13	5.6	<13	PASS
		25	0	5.64	<13	PASS
	HCH	1	0	5.08	<13	PASS
		1	12	5.15	<13	PASS
		1	24	5.39	<13	PASS
		12	0	5.72	<13	PASS
		12	6	5.72	<13	PASS
		12	13	5.77	<13	PASS
		25	0	5.78	<13	PASS
16QAM	LCH	1	0	5.7	<13	PASS
		1	12	6	<13	PASS
		1	24	6.24	<13	PASS
		12	0	6.46	<13	PASS
		12	6	6.53	<13	PASS
		12	13	6.61	<13	PASS
		25	0	6.31	<13	PASS
	MCH	1	0	6.37	<13	PASS
		1	12	6.33	<13	PASS
		1	24	6.57	<13	PASS

		12	0	6.36	<13	PASS
		12	6	6.39	<13	PASS
		12	13	6.29	<13	PASS
		25	0	6.44	<13	PASS
	HCH	1	0	6.24	<13	PASS
		1	12	6.45	<13	PASS
		1	24	6.31	<13	PASS
		12	0	6.39	<13	PASS
		12	6	6.38	<13	PASS
		12	13	6.53	<13	PASS
		25	0	6.4	<13	PASS

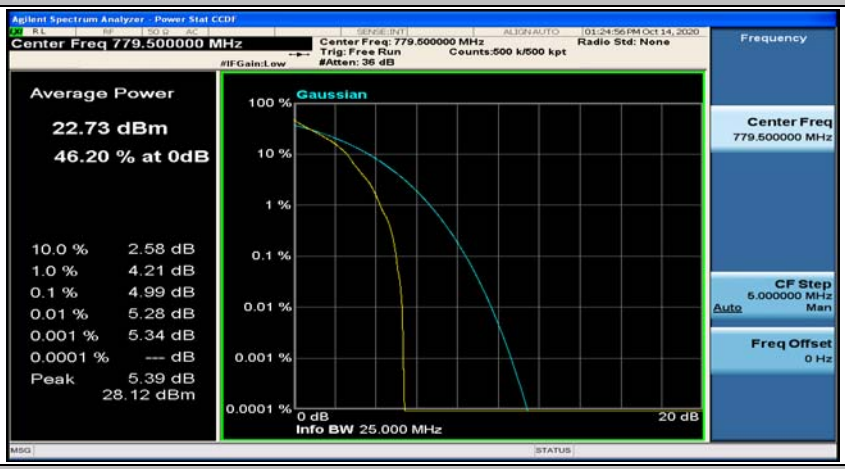
Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	MCH	1	0	4.79	<13	PASS
		1	24	5.18	<13	PASS
		1	49	5.51	<13	PASS
		25	0	5.66	<13	PASS
		25	12	5.64	<13	PASS
		25	25	5.79	<13	PASS
		50	0	5.64	<13	PASS
16QAM	MCH	1	0	5.71	<13	PASS
		1	24	6.12	<13	PASS
		1	49	6.54	<13	PASS
		25	0	6.5	<13	PASS
		25	12	6.41	<13	PASS
		25	25	6.58	<13	PASS
		50	0	6.36	<13	PASS

Test Graphs

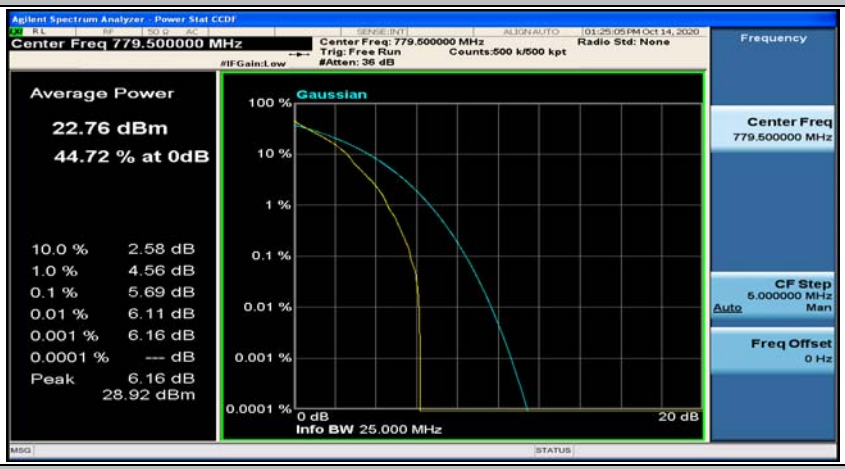
Channel Bandwidth: 5 MHz

(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0

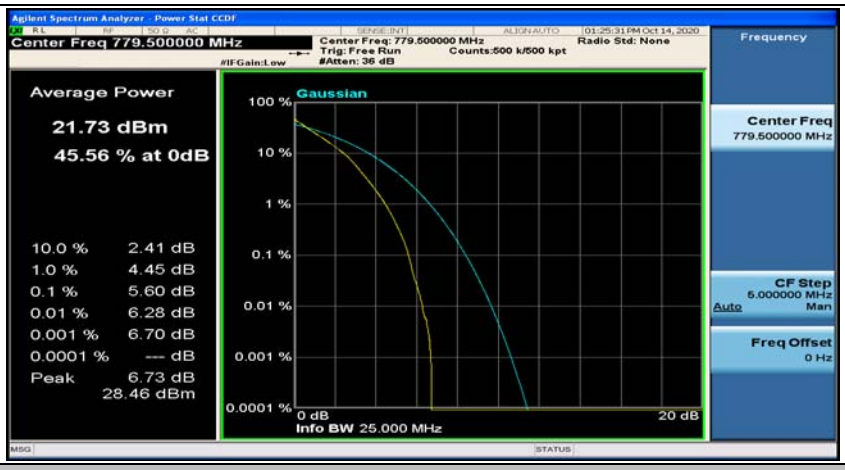


(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12

(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24



(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0



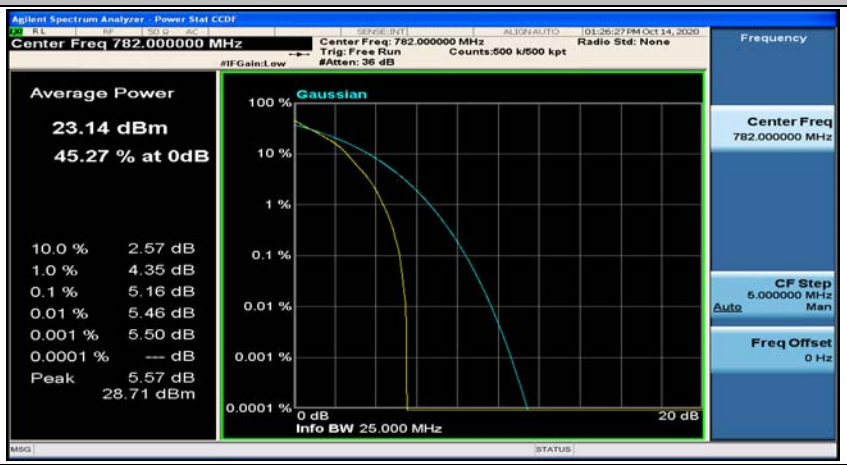
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#6

(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

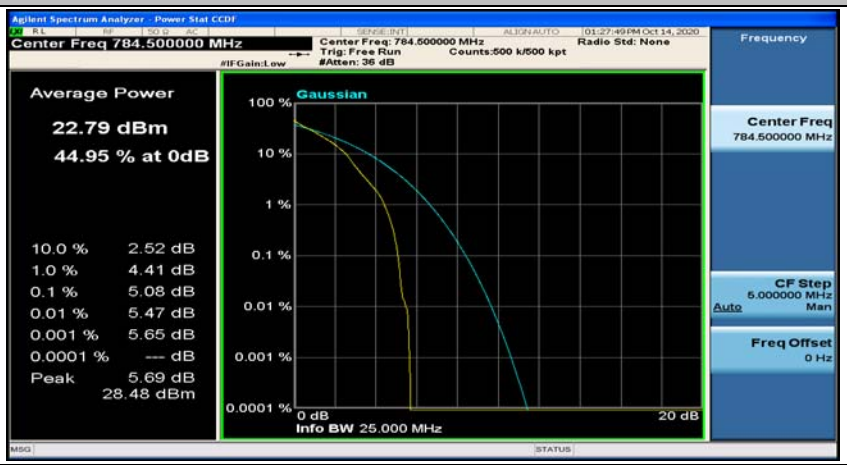
(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#0

(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#6

(Channel Bandwidth: 5 MHz)_MCH_QPSK_12RB#13

(Channel Bandwidth: 5 MHz)_MCH_QPSK_25RB#0

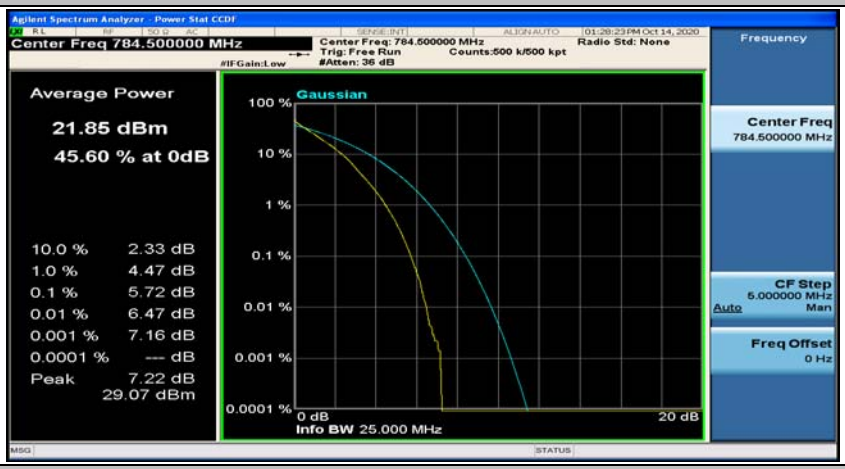
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



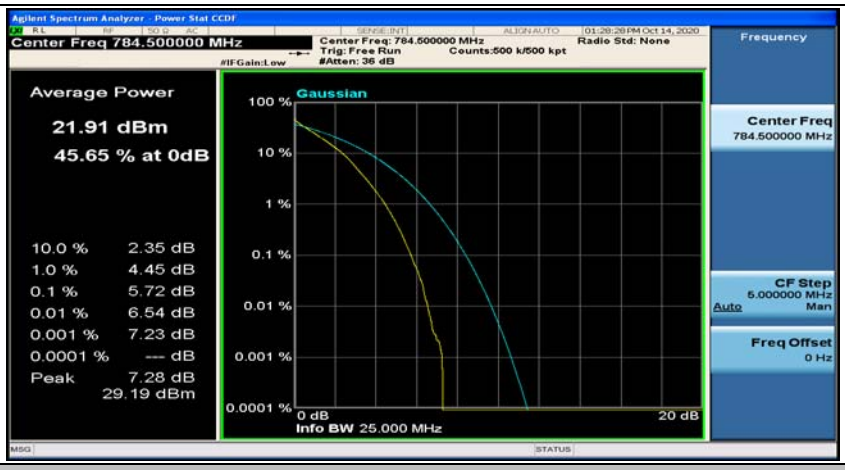
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12

(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#0

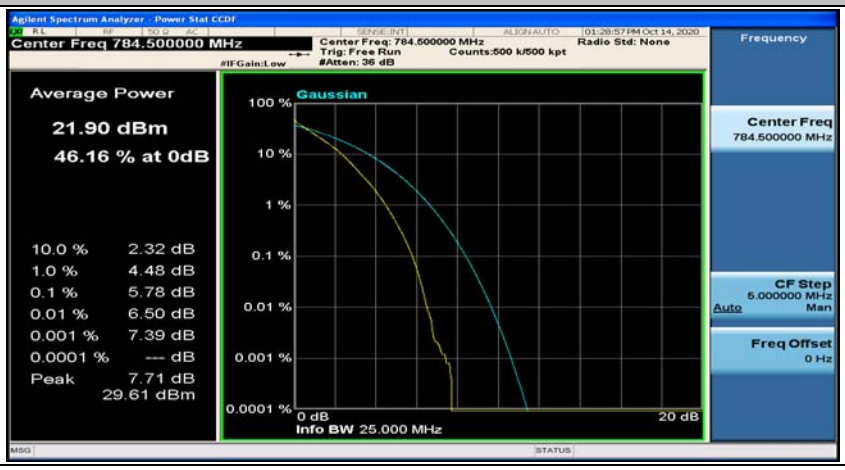


(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#6



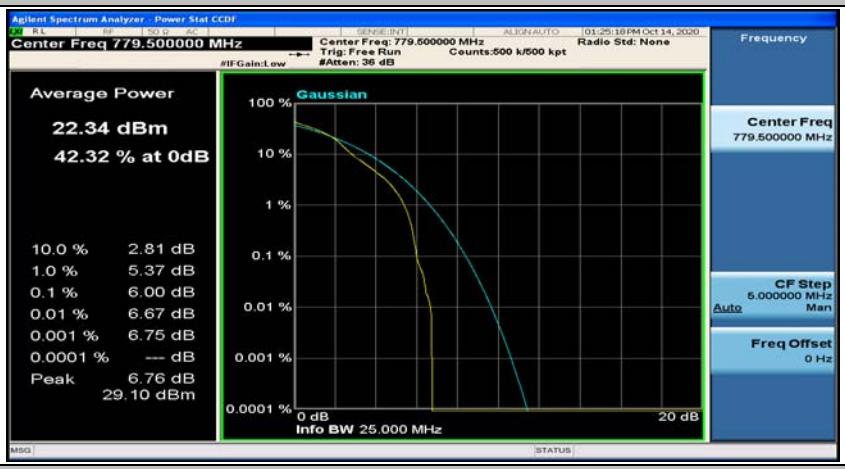
(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#13

(Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0



(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0

(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

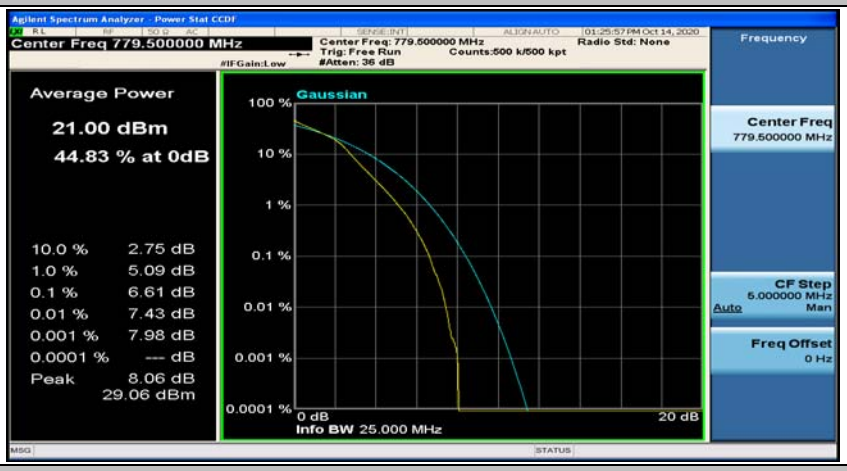


(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24

(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#0

(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#6

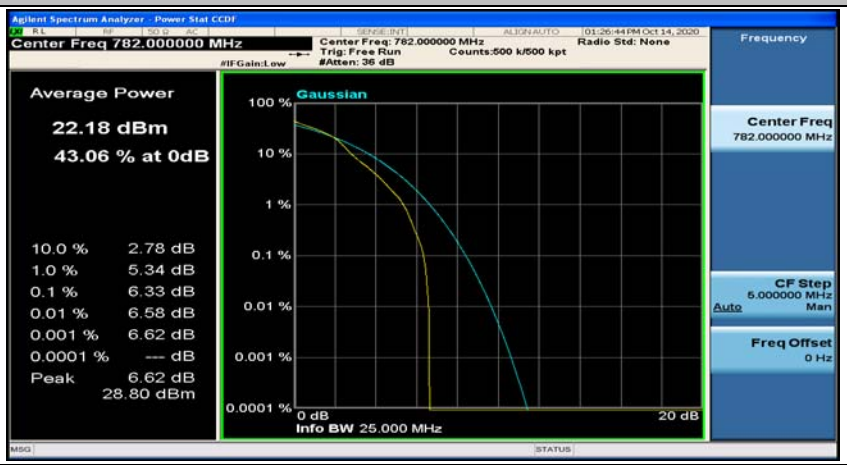
(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#13



(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

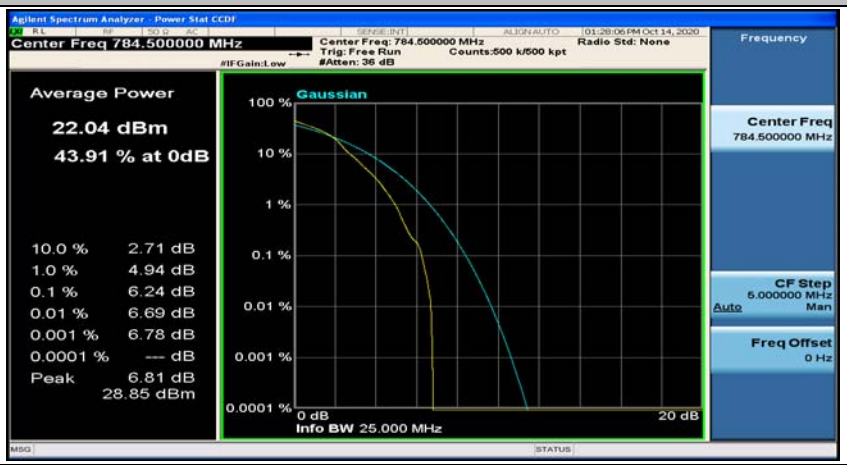
(Channel Bandwidth: 5 MHz)_MCH_16QAM_12RB#0

(Channel Bandwidth: 5 MHz)_MCH_16QAM_12RB#6

(Channel Bandwidth: 5 MHz)_MCH_16QAM_12RB#13

(Channel Bandwidth: 5 MHz)_MCH_16QAM_25RB#0

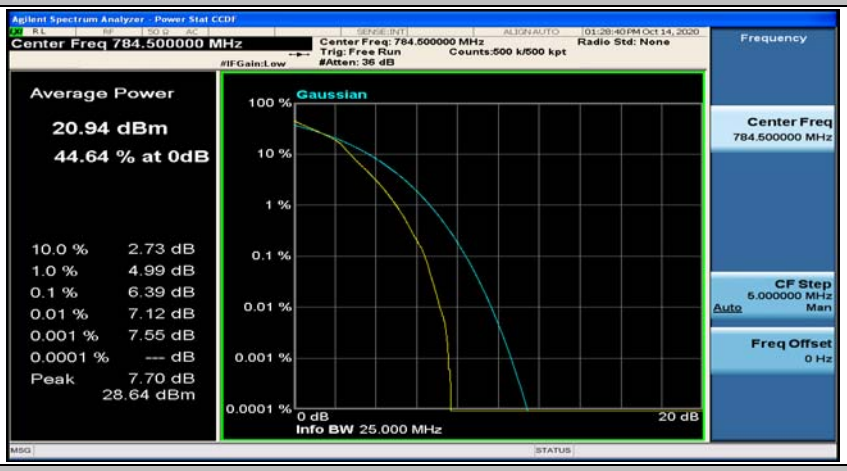
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



(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

(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#13

(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: 10 MHz_MCH_QPSK_25RB#0

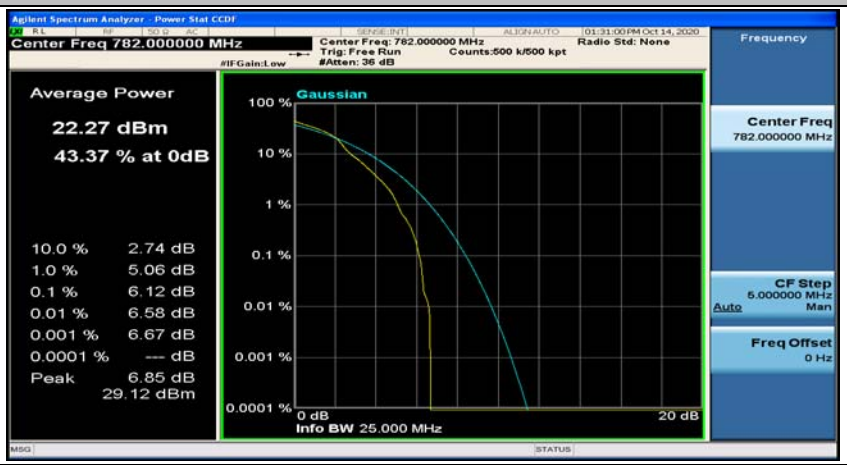
Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#12

Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#25

Channel Bandwidth: 10 MHz_MCH_QPSK_50RB#0

Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#0

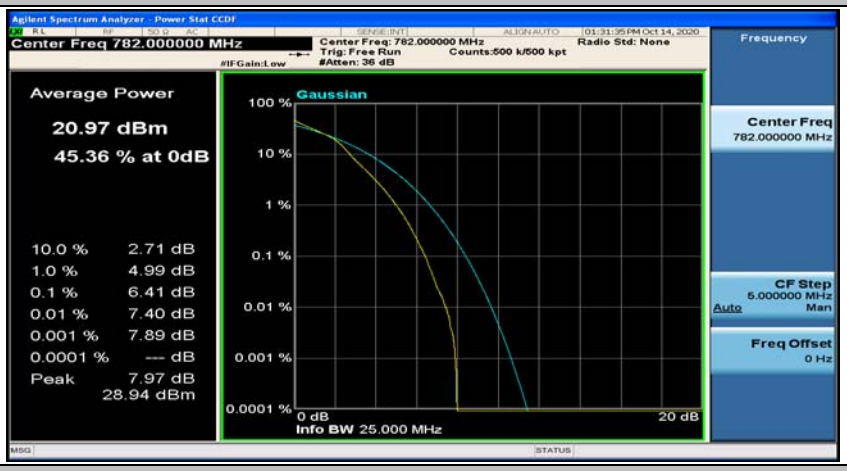
Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#24



Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49

Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#0

Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#12



Channel Bandwidth: 10 MHz_MCH_16QAM_25RB#25

Channel Bandwidth: 10 MHz_MCH_16QAM_50RB#0

Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	4.4753	4.804	PASS
	MCH	25	0	4.4842	4.792	PASS
	HCH	25	0	4.4757	4.885	PASS
16QAM	LCH	25	0	4.4759	4.851	PASS
	MCH	25	0	4.4723	4.863	PASS
	HCH	25	0	4.4861	4.825	PASS

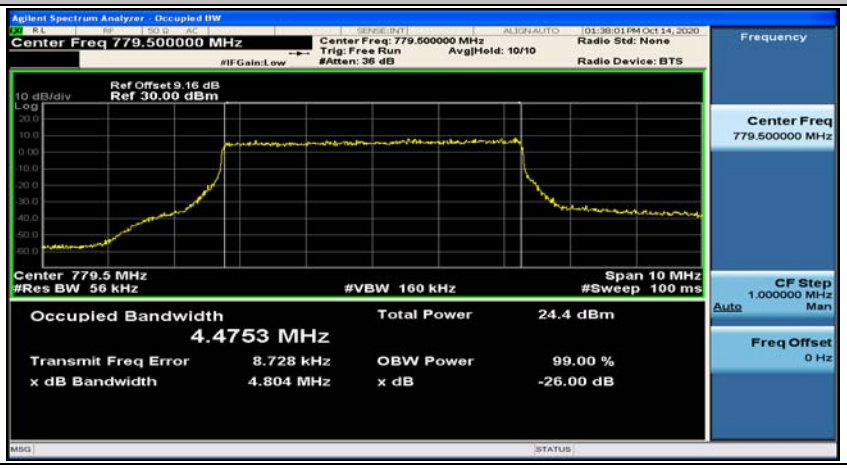
Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	MCH	50	0	8.9421	9.410	PASS
16QAM	MCH	50	0	8.9396	9.531	PASS

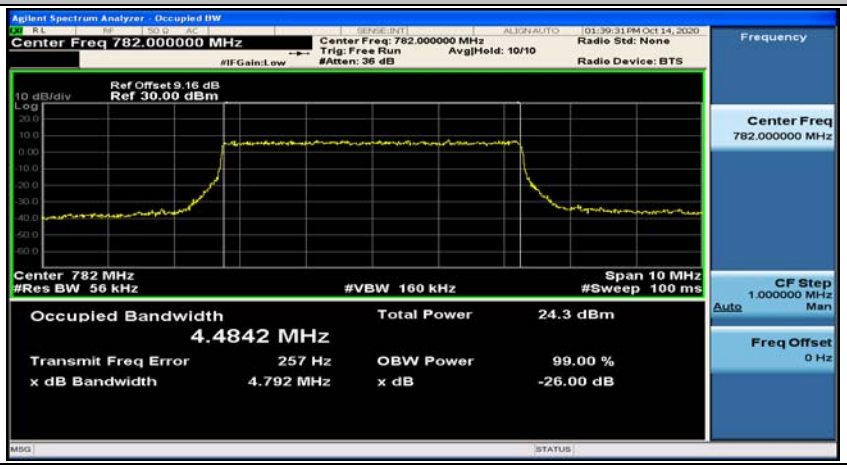
Test Graphs

Channel Bandwidth: 5 MHz

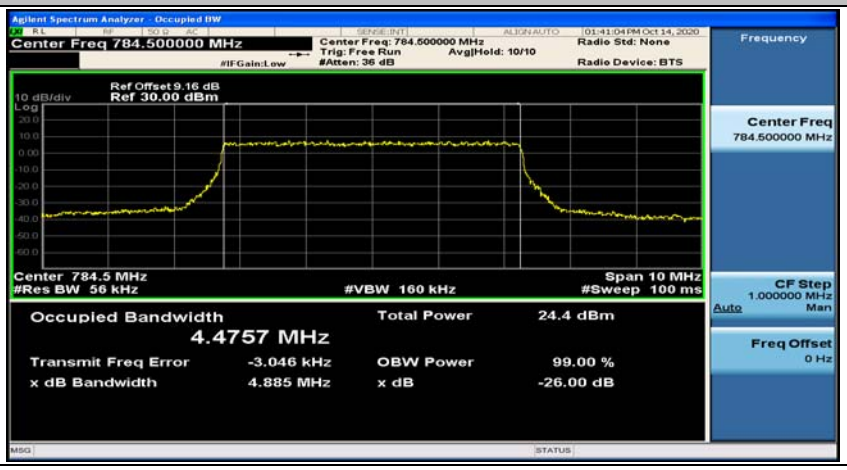
(Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0



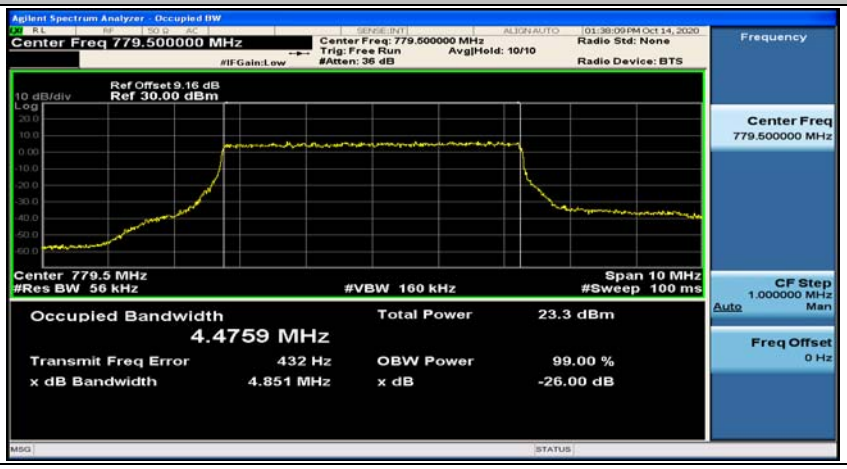
(Channel Bandwidth: 5 MHz)_MCH_QPSK_25RB#0



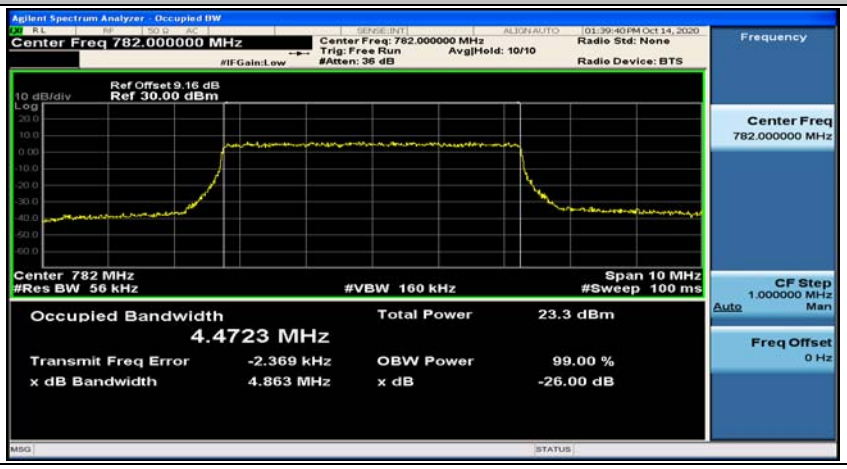
(Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0



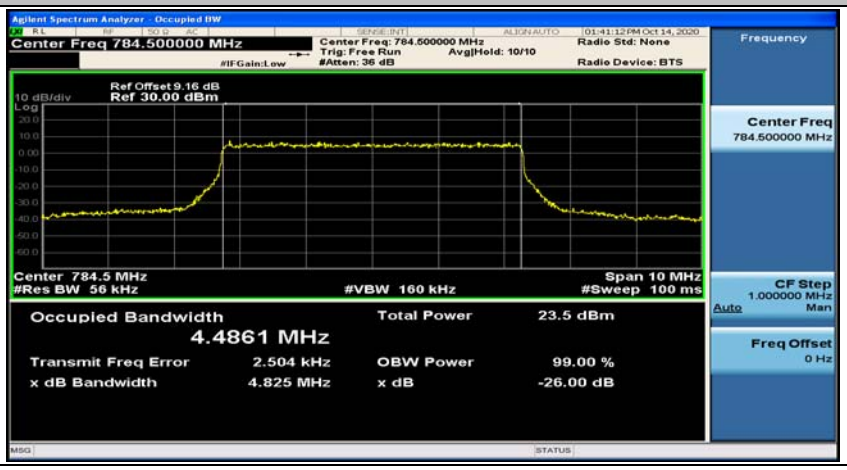
(Channel Bandwidth: 5 MHz)_LCH_16QAM_25RB#0



(Channel Bandwidth: 5 MHz)_MCH_16QAM_25RB#0

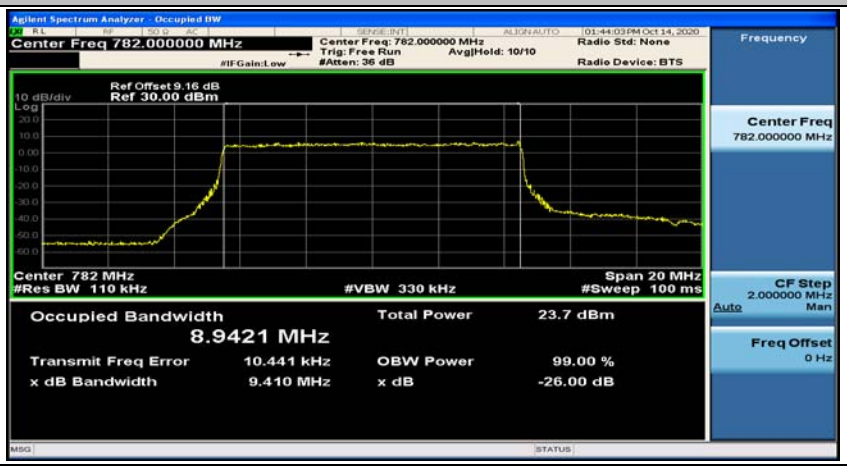


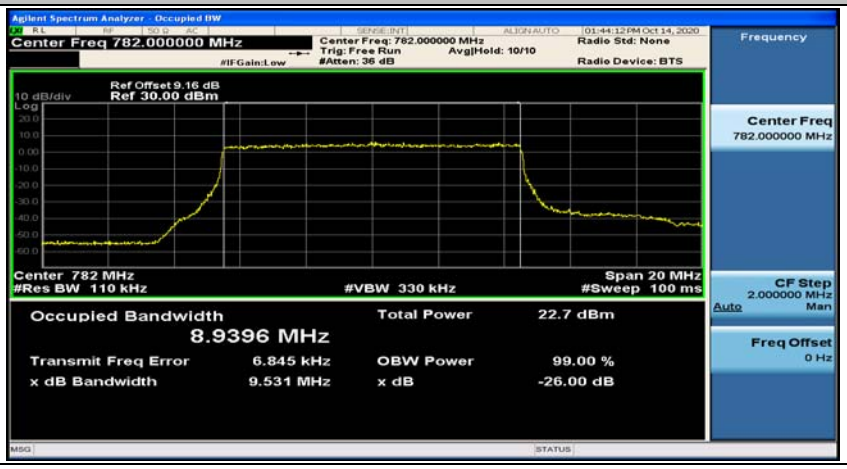
(Channel Bandwidth: 5 MHz)_HCH_16QAM_25RB#0



Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz_MCH_QPSK_50RB#0



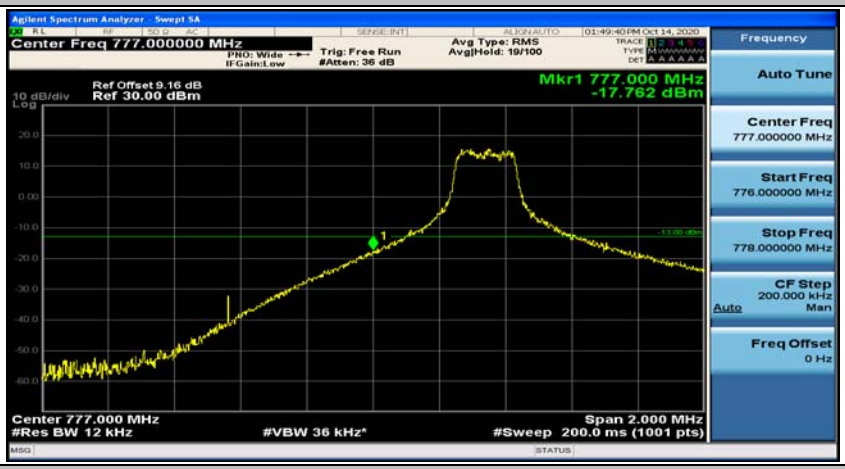
Channel Bandwidth: 10 MHz_MCH_16QAM_50RB#0


Appendix D: Band Edge

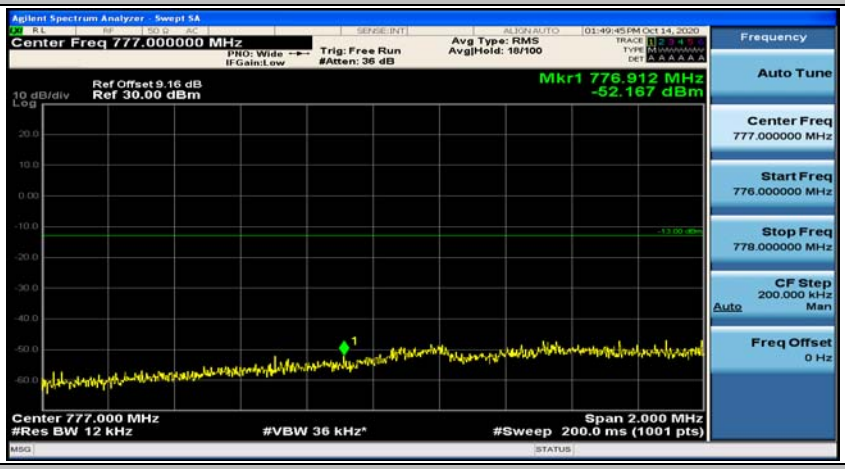
Test Graphs

Channel Bandwidth: 5 MHz

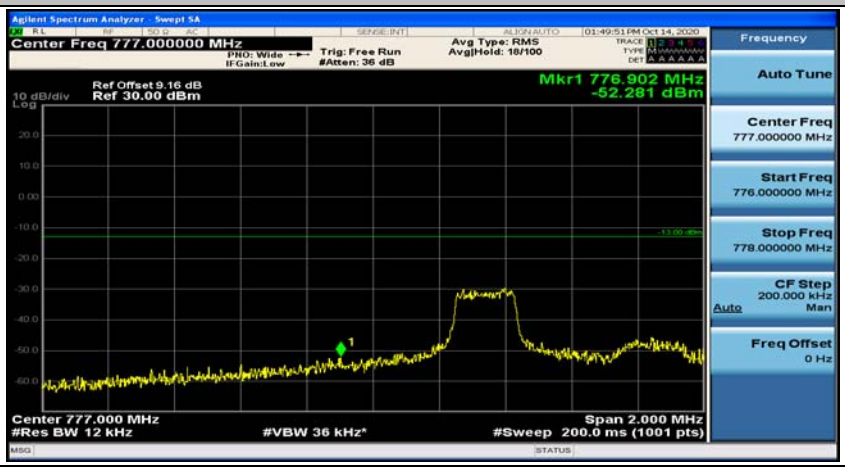
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12



(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24

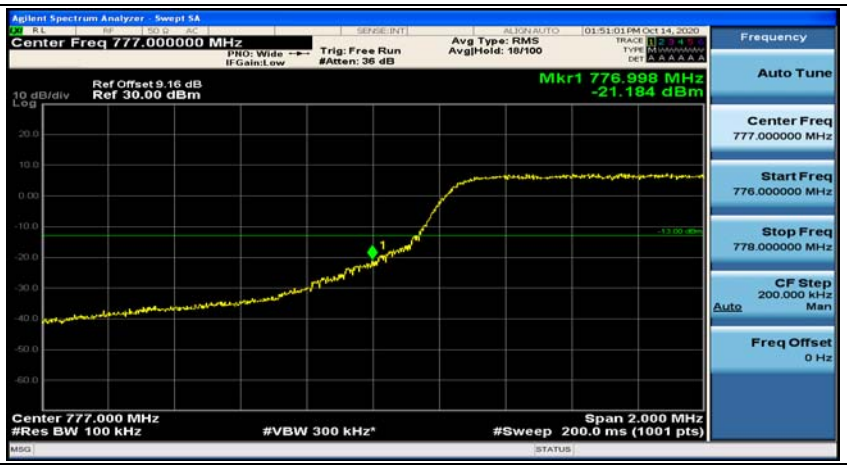


(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#0

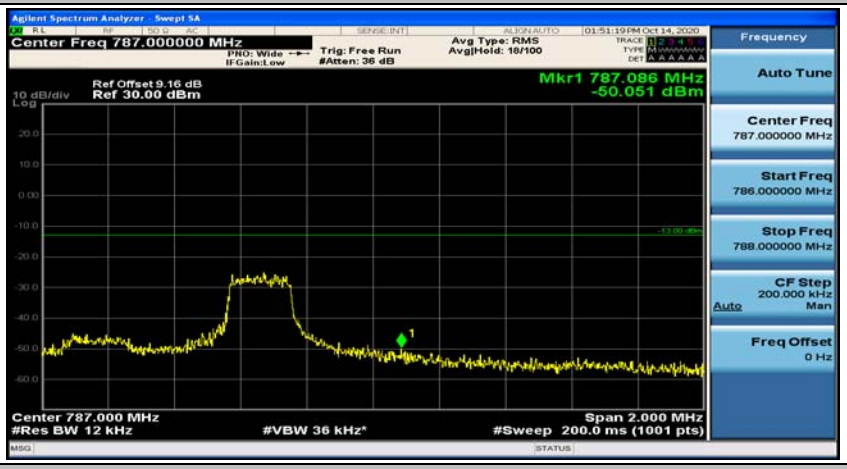
(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#6

(Channel Bandwidth: 5 MHz)_LCH_QPSK_12RB#13

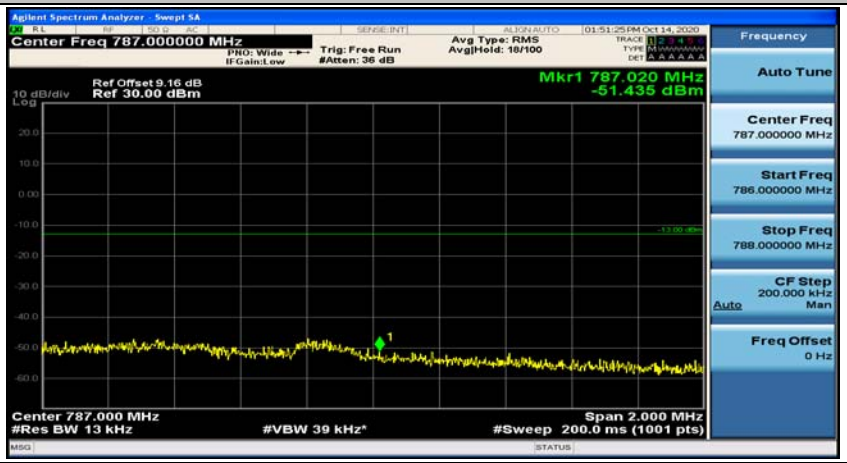
(Channel Bandwidth: 5 MHz)_LCH_QPSK_25RB#0



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12



(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

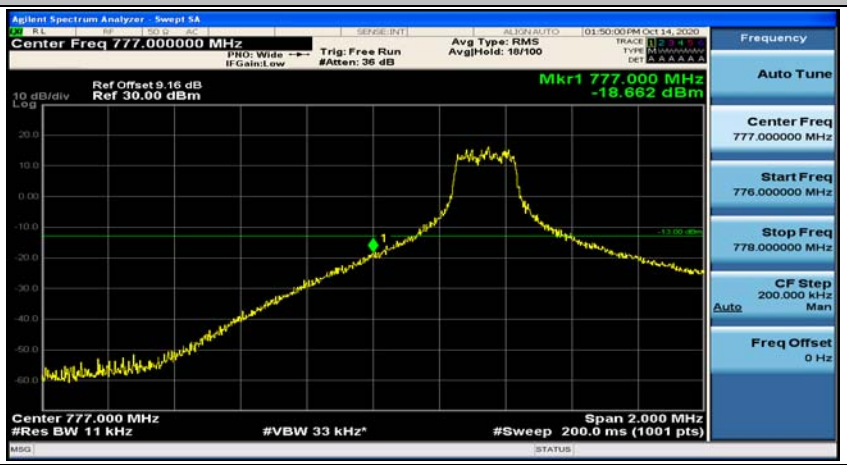
(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#0

(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#6

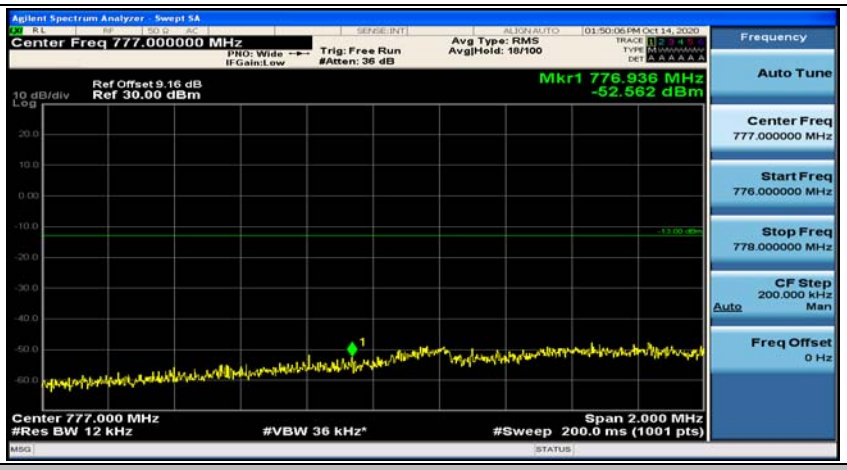
(Channel Bandwidth: 5 MHz)_HCH_QPSK_12RB#13

(Channel Bandwidth: 5 MHz)_HCH_QPSK_25RB#0

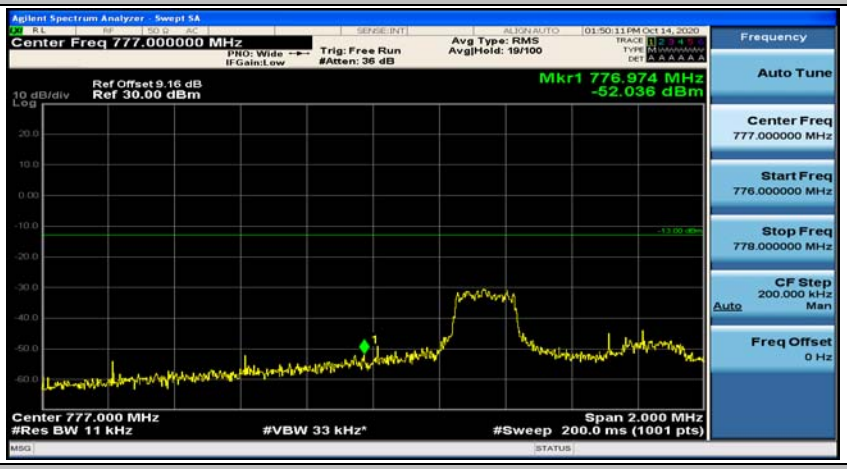
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0



(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12



(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24

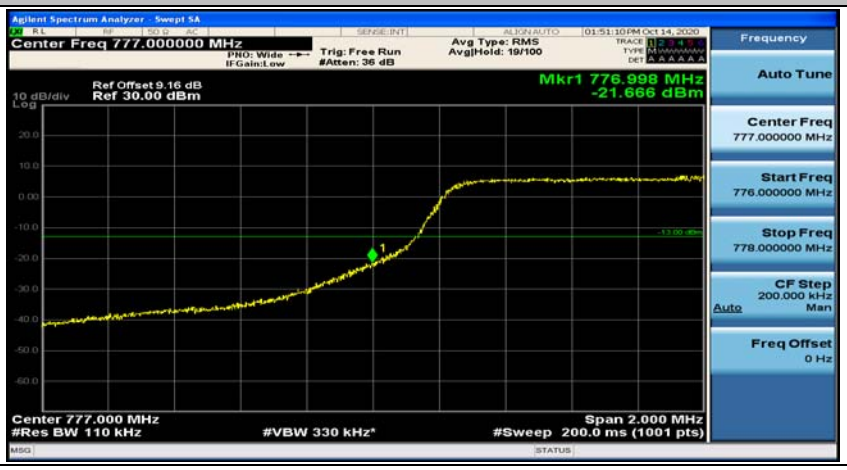


(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#0

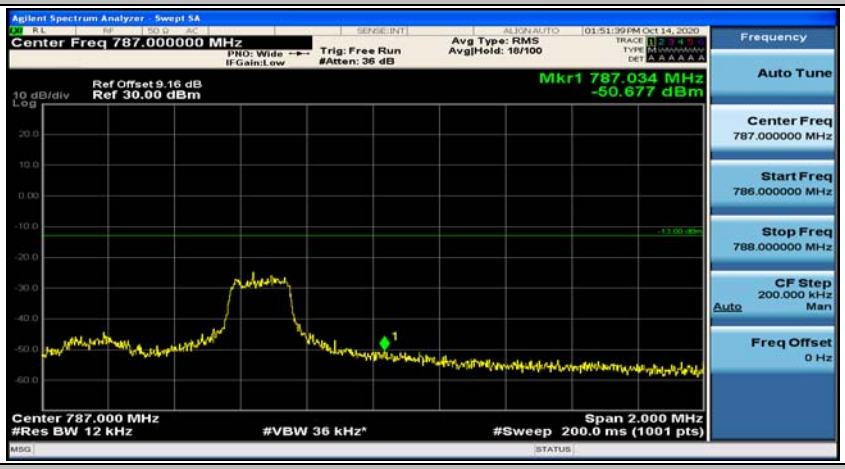
(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#6

(Channel Bandwidth: 5 MHz)_LCH_16QAM_12RB#13

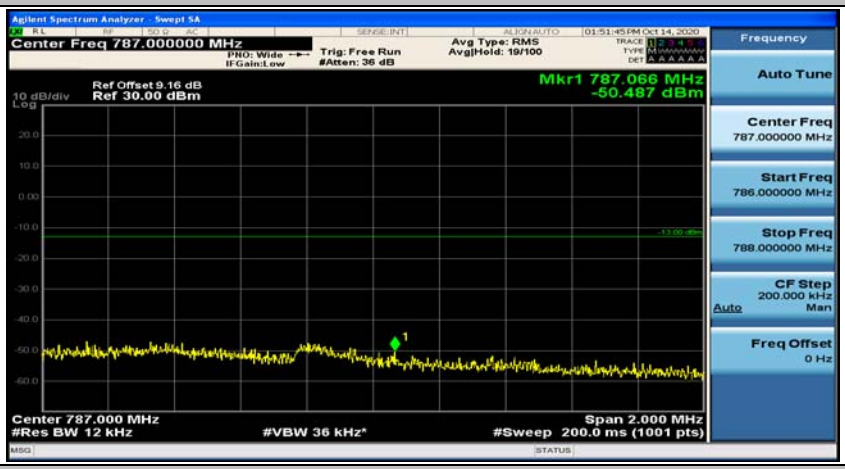
(Channel Bandwidth: 5 MHz)_LCH_16QAM_25RB#0



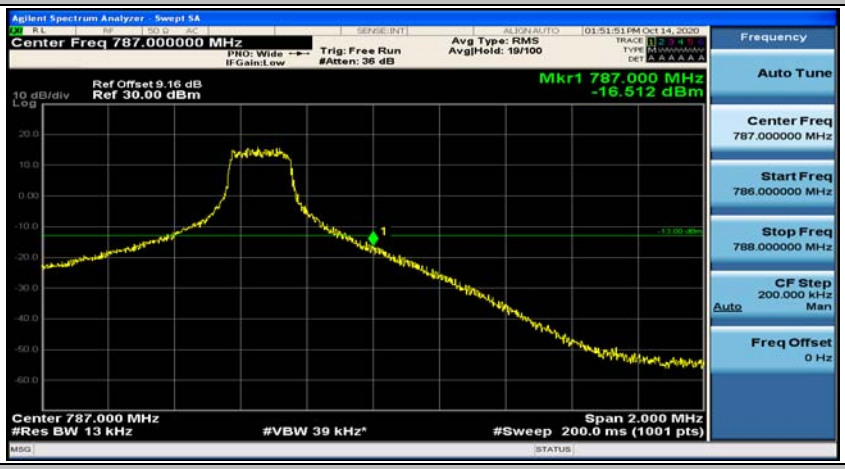
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0



(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

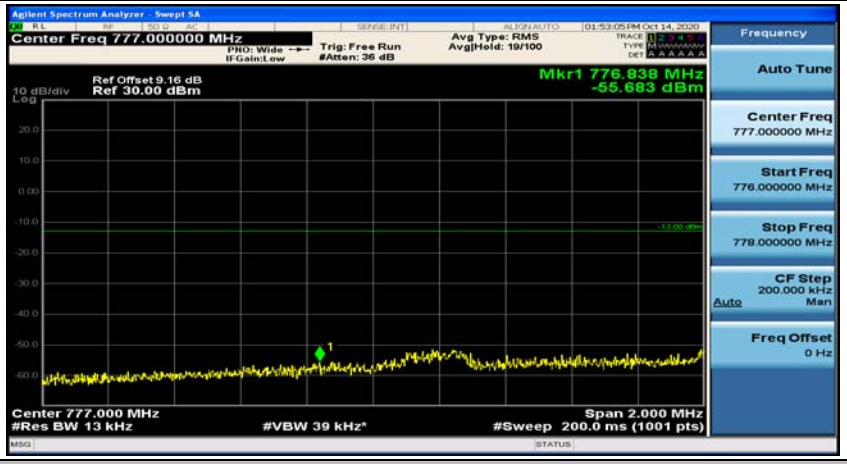
(Channel Bandwidth: 5 MHz)_HCH_16QAM_12RB#13

(Channel Bandwidth: 5 MHz)_HCH_16QAM_25RB#0

Channel Bandwidth: 10 MHz

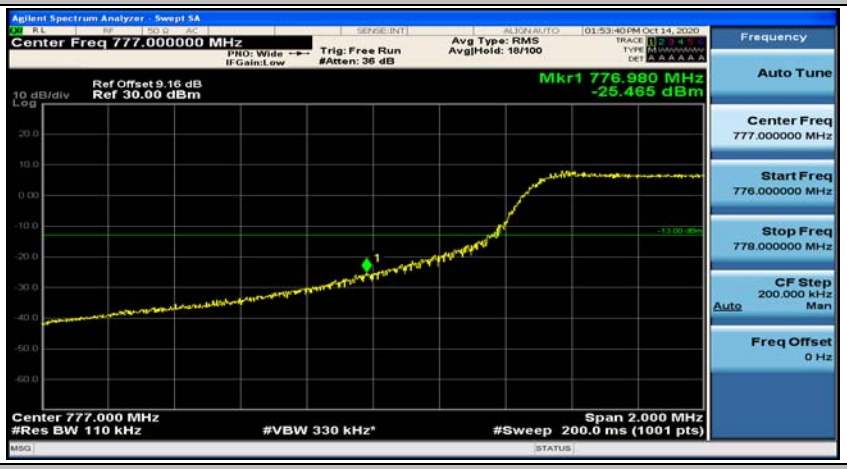
Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0

Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24

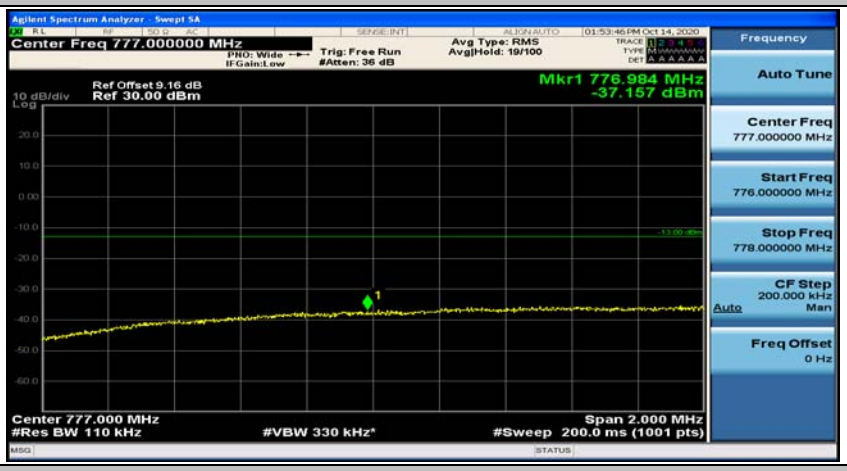


Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#49

Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#0



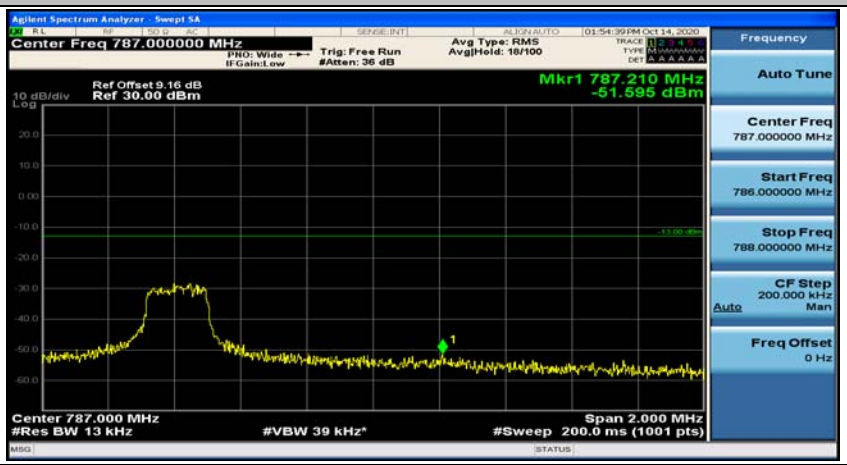
Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#12



Channel Bandwidth: 10 MHz_MCH_QPSK_25RB#25

Channel Bandwidth: 10 MHz_MCH_QPSK_50RB#0

Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#0



Channel Bandwidth: 10 MHz_MCH_QPSK_1RB#24