Appendix E: Test Data for E-UTRA Band 7

Product Name: 4G Mi-Fi
Trade Mark: LOGIC, iSWAG, UNONU
Test Model: ML10

Environmental Conditions

Temperature:	23.1° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	DIAMOND.LU
Supervised by:	LI HUAN

E.1 Conducted Output Power

Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	20.93	20.01	PASS
		1	12	20.85	20.02	PASS
		1	24	19.90	19.05	PASS
		12	0	19.73	18.54	PASS
		12	6	19.49	18.37	PASS
		12	13	19.12	18.33	PASS
		25	0	19.38	18.36	PASS
	MCH	1	0	21.36	20.50	PASS
		1	12	21.53	20.62	PASS
		1	24	20.77	20.03	PASS
		12	0	20.25	19.40	PASS
		12	6	20.20	19.31	PASS
		12	13	19.92	19.02	PASS
		25	0	20.19	19.15	PASS
	HCH	1	0	20.87	20.05	PASS
		1	12	21.44	20.48	PASS
		1	24	20.98	20.15	PASS
		12	0	19.97	19.06	PASS
		12	6	20.03	19.10	PASS
		12	13	19.96	19.04	PASS

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		25	0	19.96	18.96	PASS

Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	20.55	19.80	PASS
		1	24	19.67	18.85	PASS
		1	49	18.62	17.75	PASS
		25	0	19.04	17.99	PASS
		25	12	18.54	17.50	PASS
		25	25	18.17	17.15	PASS
		50	0	18.59	17.55	PASS
	MCH	1	0	21.45	20.78	PASS
		1	24	21.39	20.76	PASS
		1	49	20.34	19.74	PASS
		25	0	20.48	19.45	PASS
		25	12	20.22	19.21	PASS
		25	25	19.85	18.84	PASS
		50	0	20.12	19.19	PASS
	HCH	1	0	20.26	19.44	PASS
		1	24	21.08	20.28	PASS
		1	49	21.02	20.22	PASS
		25	0	19.66	18.68	PASS
		25	12	19.85	18.82	PASS
		25	25	20.00	18.97	PASS
		50	0	19.87	18.86	PASS

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Conducted Output Power Test Result (Channel Bandwidth: 15 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	20.41	19.62	PASS
		1	37	19.18	18.35	PASS
		1	74	18.43	17.50	PASS
		37	0	18.71	17.70	PASS
		37	18	18.16	17.11	PASS
		37	38	17.84	16.73	PASS
		75	0	18.24	17.11	PASS
	MCH	1	0	21.11	20.40	PASS
		1	37	21.41	20.69	PASS
		1	74	19.79	19.07	PASS
		37	0	20.47	19.42	PASS
		37	18	20.28	19.24	PASS
		37	38	19.69	18.59	PASS
		75	0	20.09	19.05	PASS
	HCH	1	0	19.29	18.49	PASS
		1	37	20.77	20.01	PASS
		1	74	20.93	20.13	PASS
		37	0	19.06	18.01	PASS
		37	18	19.53	18.48	PASS
		37	38	19.91	18.84	PASS
		75	0	19.48	18.46	PASS

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Conducted Output Power Test Result (Channel Bandwidth: 20 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	20.27	19.40	PASS
		1	49	18.94	17.95	PASS
		1	99	18.91	18.02	PASS
		50	0	18.17	17.10	PASS
		50	25	17.72	16.67	PASS
		50	50	17.68	16.58	PASS
		100	0	17.87	16.80	PASS
	MCH	1	0	20.61	19.97	PASS
		1	49	21.48	20.81	PASS
		1	99	19.27	18.57	PASS
		50	0	20.38	19.36	PASS
		50	25	20.22	19.19	PASS
		50	50	19.51	18.52	PASS
		100	0	19.92	18.89	PASS
	HCH	1	0	18.67	17.85	PASS
		1	49	20.21	19.48	PASS
		1	99	20.64	19.91	PASS
		50	0	18.57	17.56	PASS
		50	25	19.17	18.12	PASS
		50	50	19.61	18.60	PASS
		100	0	19.06	18.06	PASS

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E.2 Peak-to-Average Ratio

Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.31	<13	PASS
	MCH	5.58	<13	PASS
	HCH	5.49	<13	PASS
16QAM	LCH	6.16	<13	PASS
	MCH	6.34	<13	PASS
	HCH	6.21	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.25	<13	PASS
	MCH	5.56	<13	PASS
	HCH	5.45	<13	PASS
16QAM	LCH	6.02	<13	PASS
	MCH	6.35	<13	PASS
	HCH	6.24	<13	PASS

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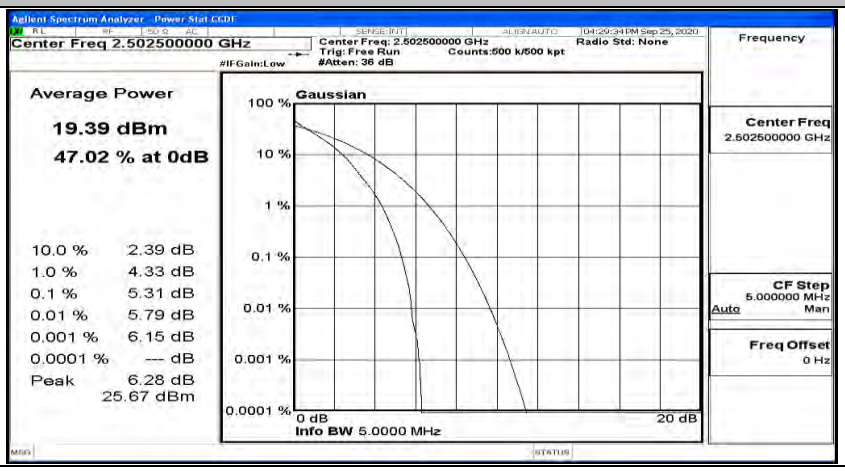
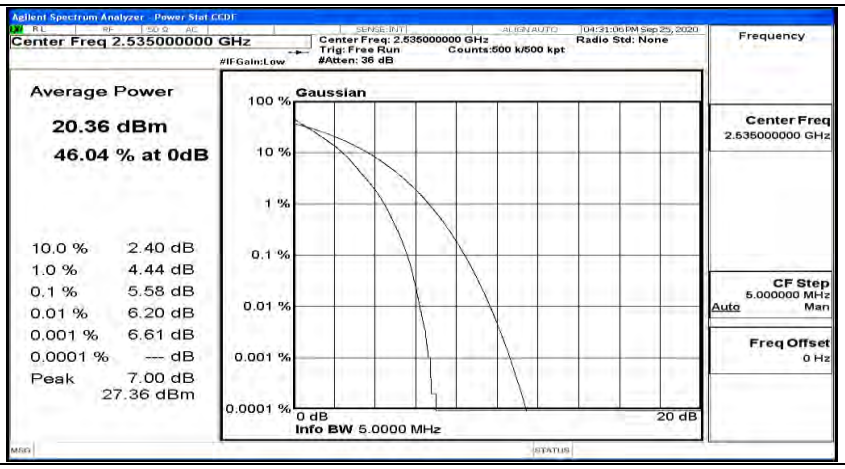
Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.09	<13	PASS
	MCH	4.95	<13	PASS
	HCH	5.01	<13	PASS
16QAM	LCH	6.2	<13	PASS
	MCH	6.24	<13	PASS
	HCH	6.27	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.78	<13	PASS
	MCH	5.75	<13	PASS
	HCH	5.75	<13	PASS
16QAM	LCH	6.75	<13	PASS
	MCH	6.74	<13	PASS
	HCH	6.73	<13	PASS

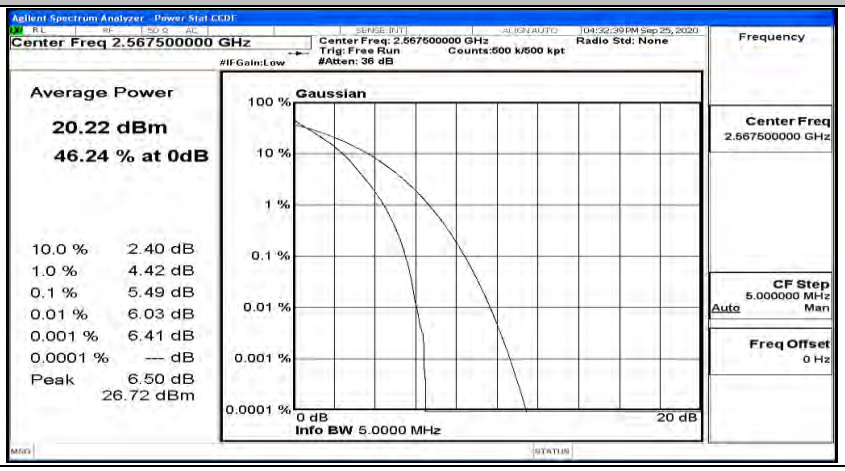
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



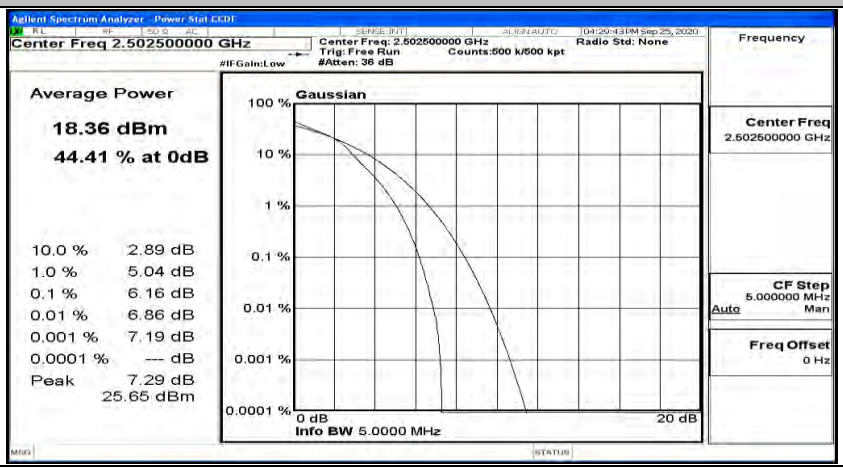
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



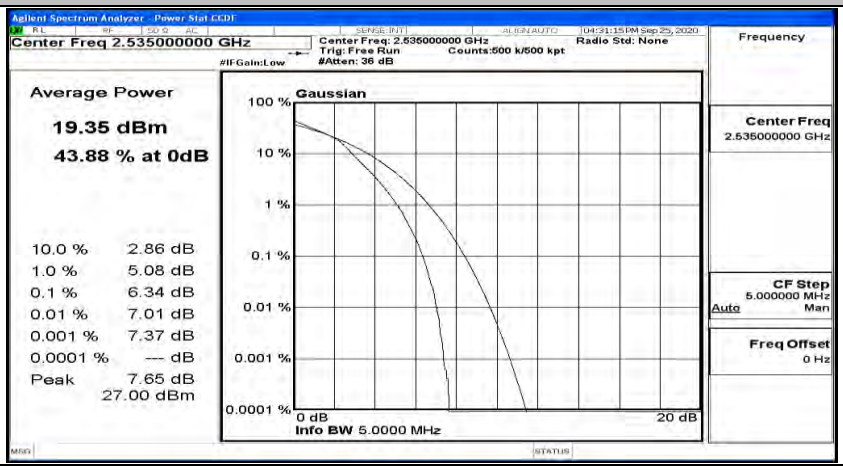
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



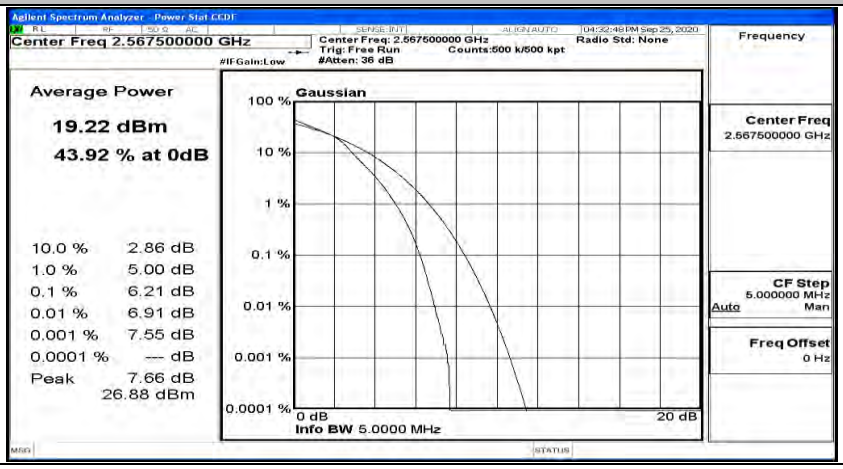
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



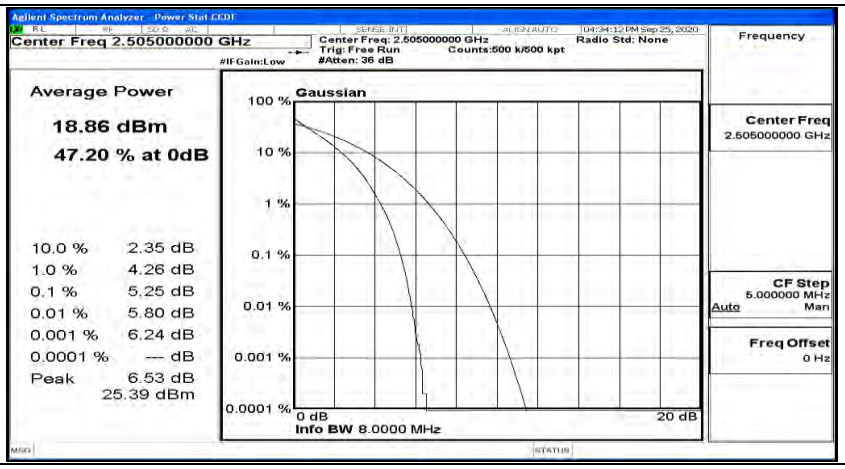
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



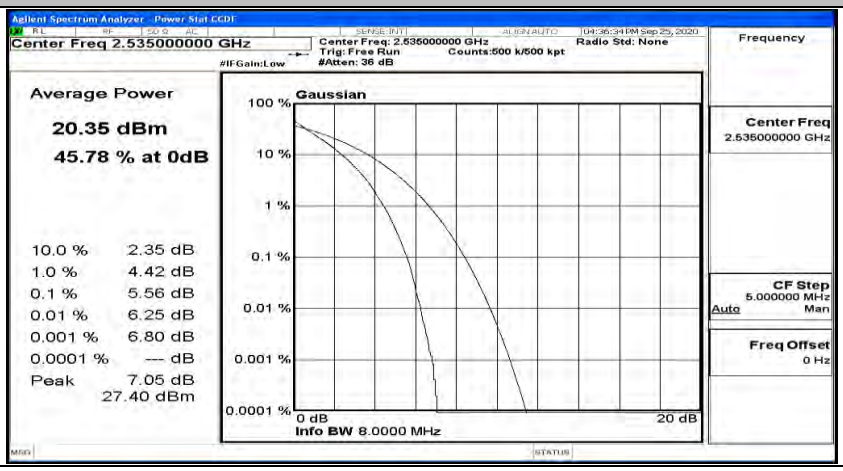
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



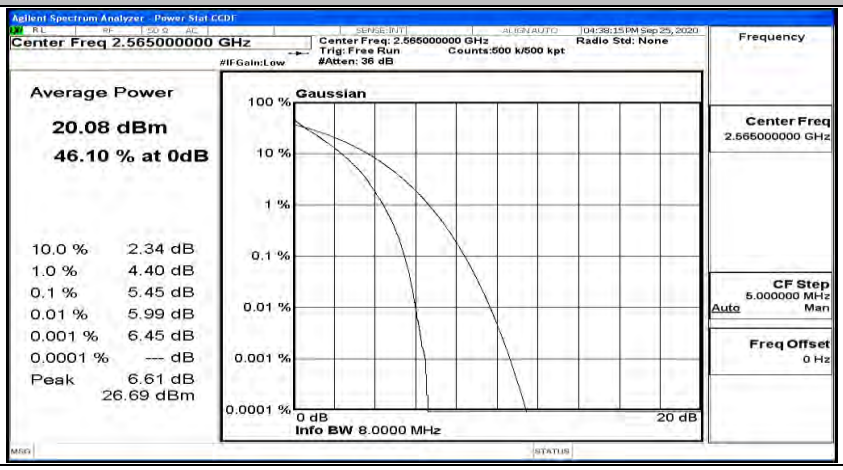
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK


Agilent Spectrum Analyzer - Power Stat CCDF
Center Freq 2.505000000 GHz
Center Freq: 2.505000000 GHz
Trig: Free Run
#Atten: 36 dB
Counts:500 k/500 kpt
Radio Std: None
#IFGain:Low
Frequency
Average Power
18.86 dBm
47.20 % at 0dB
Gaussian
100 %
10 %
1 %
0.1 %
0.01 %
0.001 %
0.0001 %
10.0 % 2.35 dB
1.0 % 4.26 dB
0.1 % 5.25 dB
0.01 % 5.80 dB
0.001 % 6.24 dB
0.0001 % --- dB
Peak 6.53 dB
25.39 dBm
0 dB
20 dB
Info BW 8.0000 MHz
Center Freq
2.505000000 GHz
CF Step
5.000000 MHz
Auto Man
Freq Offset
0 Hz
MSG
STATUS

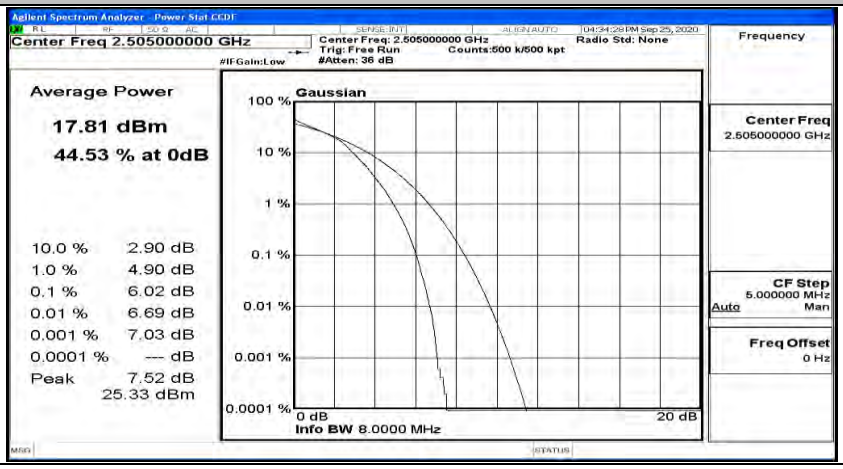
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



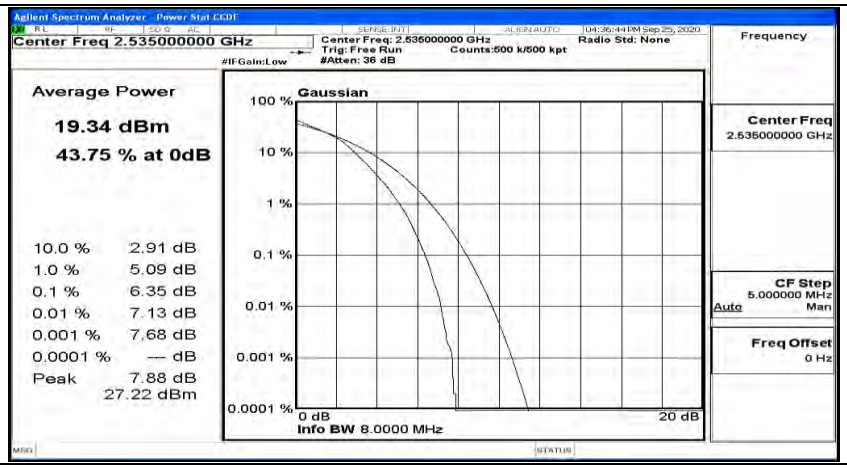
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



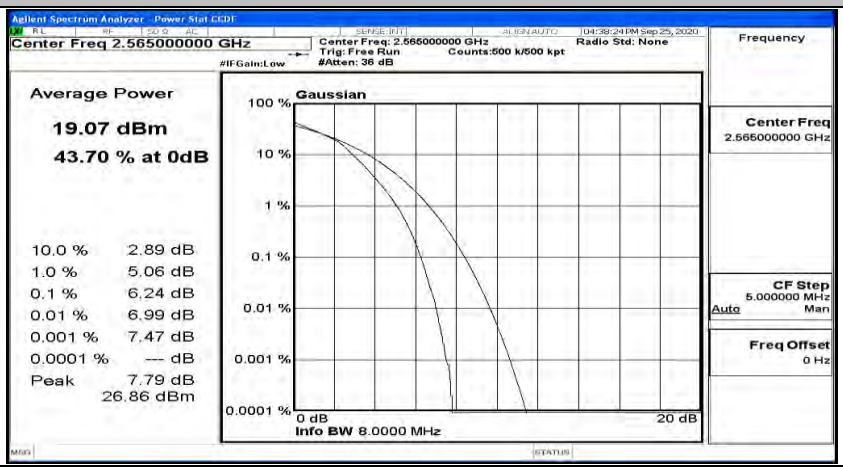
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



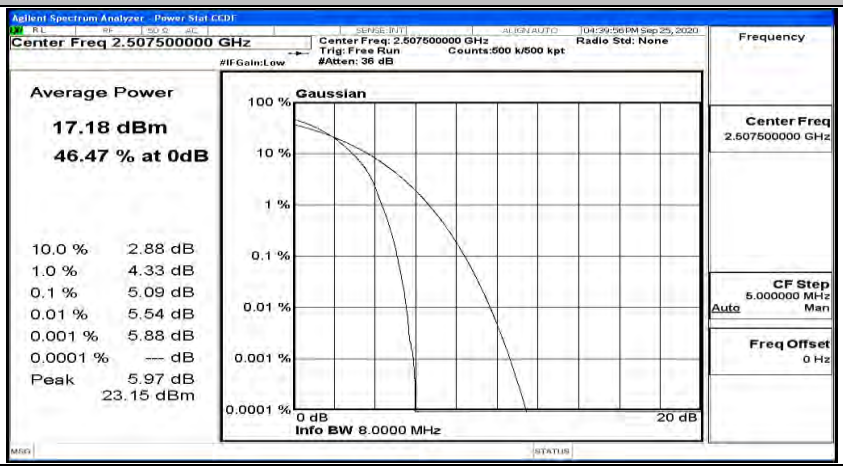
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM


Agilent Spectrum Analyzer - Power Stat CCDF
Center Freq 2.535000000 GHz
Center Freq: 2.535000000 GHz
Trig: Free Run
#Atten: 36 dB
Counts:500 k/500 kpt
Radio Std: None
#IFGain:Low
Frequency
Average Power
19.34 dBm
43.75 % at 0dB
Gaussian
100 %
10 %
1 %
0.1 %
0.01 %
0.001 %
0.0001 %
10.0 % 2.91 dB
1.0 % 5.09 dB
0.1 % 6.35 dB
0.01 % 7.13 dB
0.001 % 7.68 dB
0.0001 % --- dB
Peak 7.88 dB
27.22 dBm
0 dB
20 dB
Info BW 8.0000 MHz
Center Freq
2.535000000 GHz
CF Step
5.000000 MHz
Auto Man
Freq Offset
0 Hz
MSG
STATUS

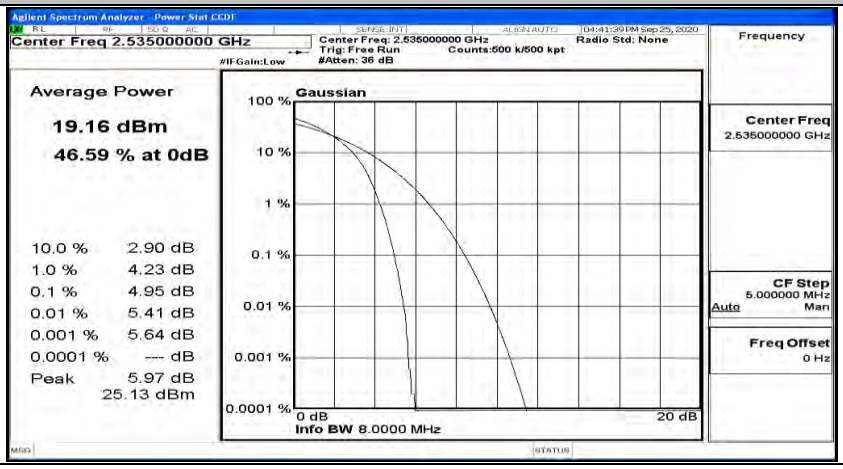
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



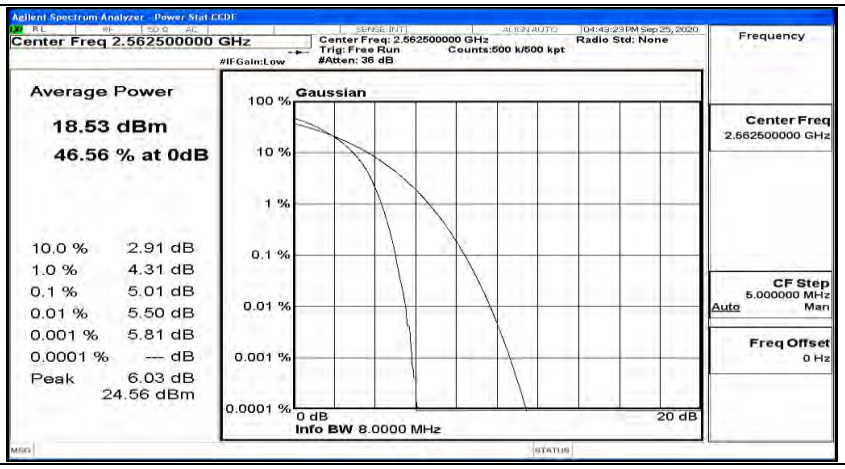
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



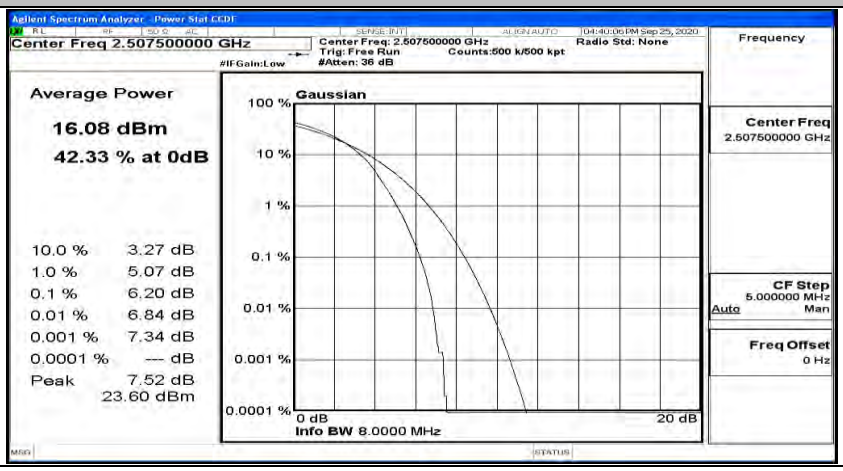
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK



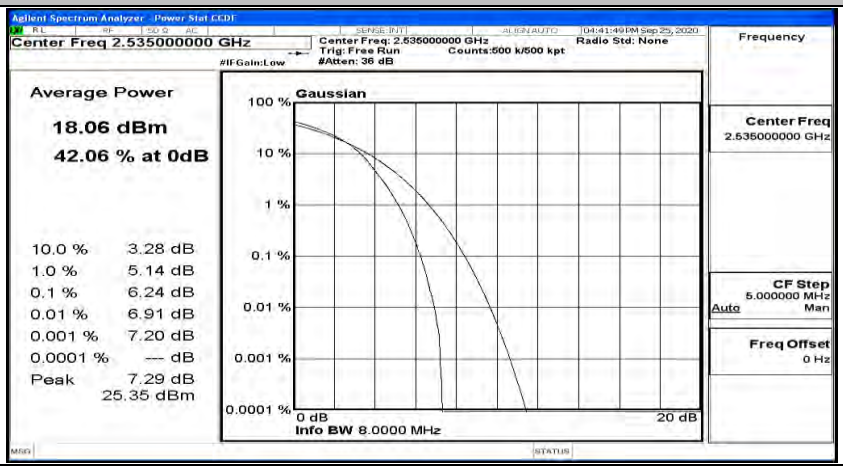
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK


Agilent Spectrum Analyzer - Power Stat CCDF
Center Freq 2.562500000 GHz
Center Freq: 2.562500000 GHz
Trig: Free Run
#Atten: 36 dB
Counts:500 k/500 kpt
Radio Std: None
#IFGain:Low
Frequency
Average Power
18.53 dBm
46.56 % at 0dB
10.0 % 2.91 dB
1.0 % 4.31 dB
0.1 % 5.01 dB
0.01 % 5.50 dB
0.001 % 5.81 dB
0.0001 % --- dB
Peak 6.03 dB
24.56 dBm
Gaussian
100 %
10 %
1 %
0.1 %
0.01 %
0.001 %
0.0001 %
0 dB
20 dB
Info BW 8.0000 MHz
Center Freq
2.562500000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

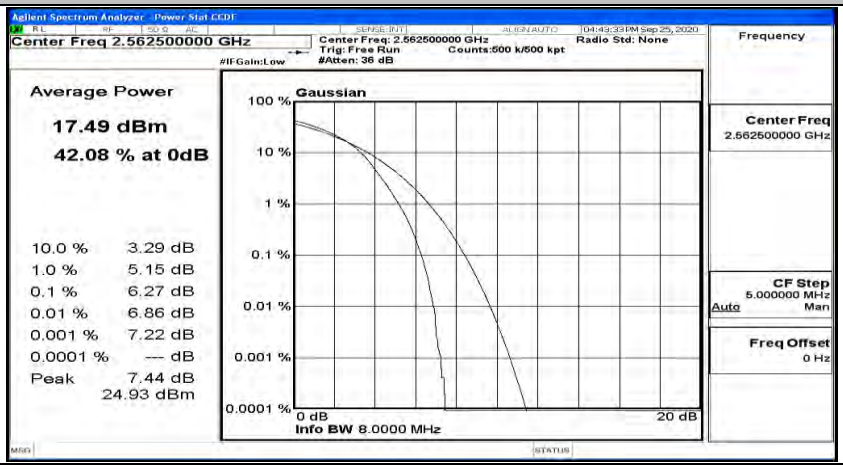
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



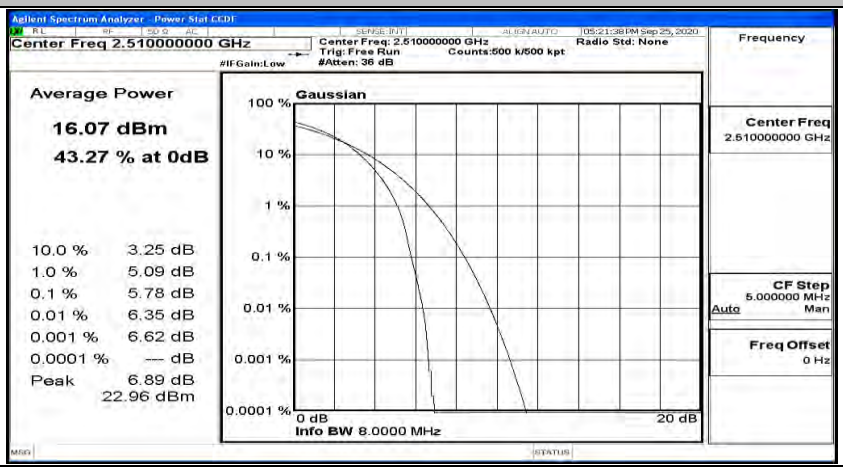
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM



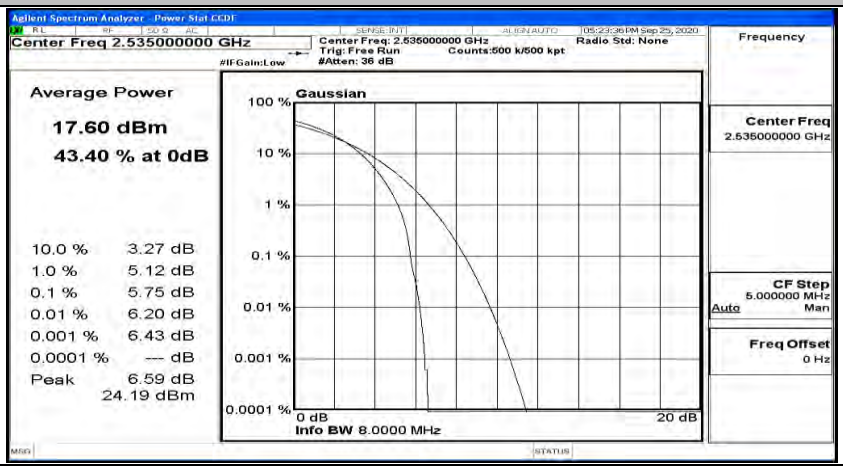
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



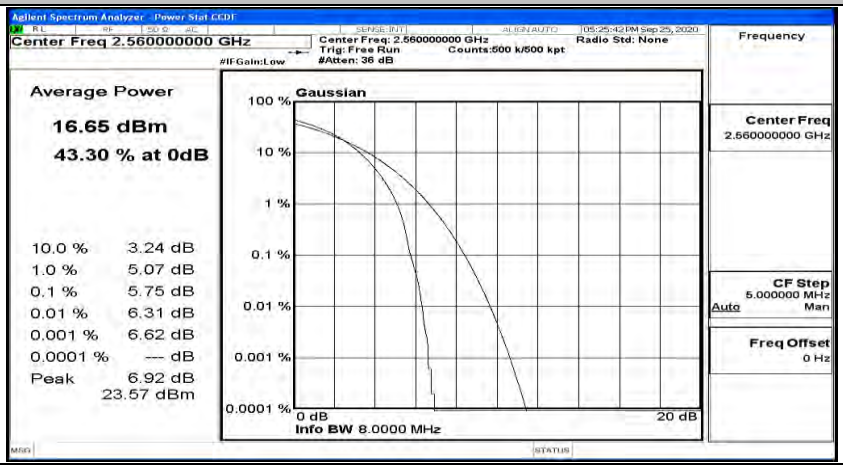
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



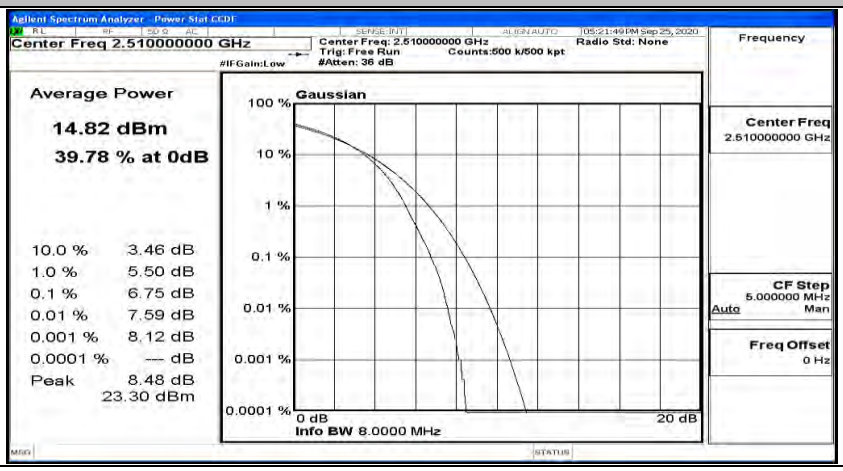
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK



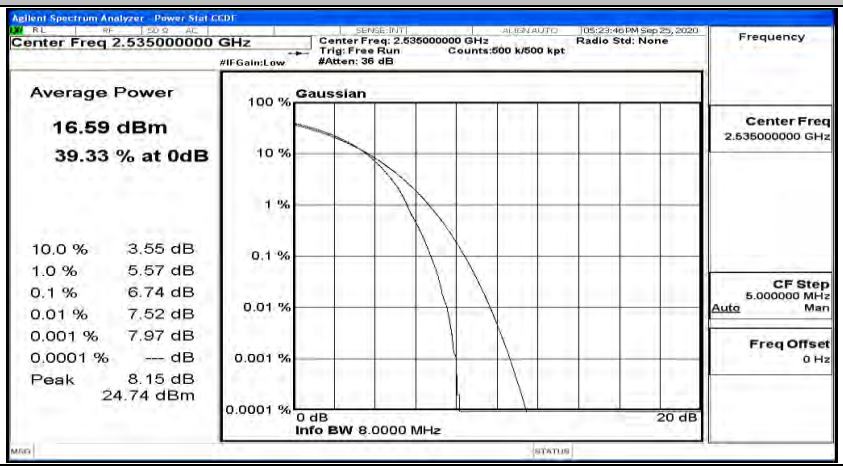
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



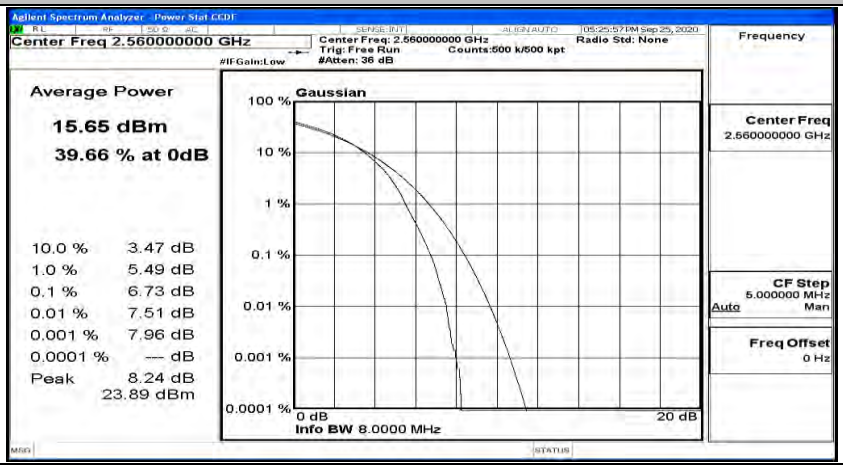
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM



Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_16QAM



Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM



E.3 26dB Bandwidth and Occupied Bandwidth

EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.4683	4.825	PASS
	MCH	4.4744	4.857	PASS
	HCH	4.4765	4.823	PASS
16QAM	LCH	4.4729	4.794	PASS
	MCH	4.4694	4.783	PASS
	HCH	4.4813	4.791	PASS

EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	8.9277	9.436	PASS
	MCH	8.9254	9.501	PASS
	HCH	8.9181	9.430	PASS
16QAM	LCH	8.9275	9.394	PASS
	MCH	8.9480	9.473	PASS
	HCH	8.9112	9.366	PASS

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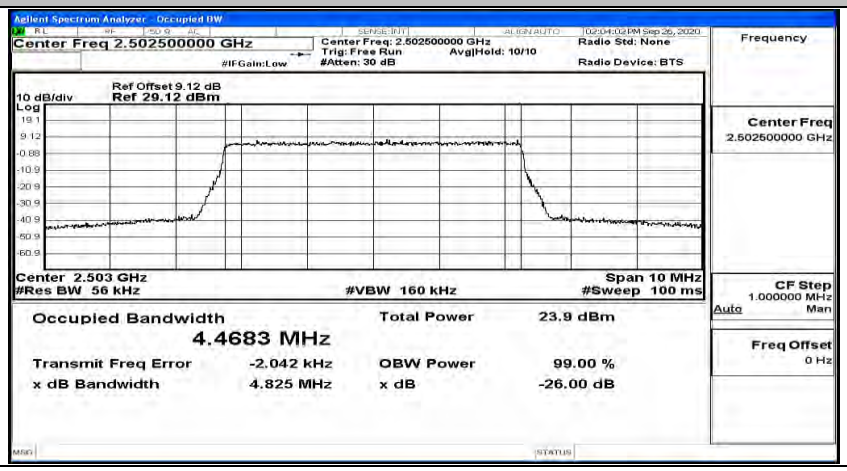
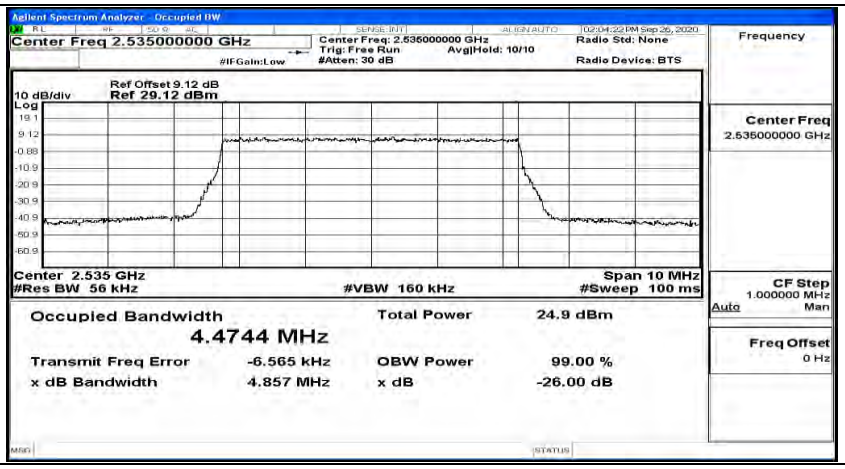
EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	13.368	14.08	PASS
	MCH	13.378	14.00	PASS
	HCH	13.365	13.99	PASS
16QAM	LCH	13.371	13.98	PASS
	MCH	13.536	13.97	PASS
	HCH	13.363	14.00	PASS

EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	17.811	18.56	PASS
	MCH	17.855	18.63	PASS
	HCH	17.844	18.56	PASS
16QAM	LCH	17.816	18.54	PASS
	MCH	17.855	18.66	PASS
	HCH	17.828	18.59	PASS

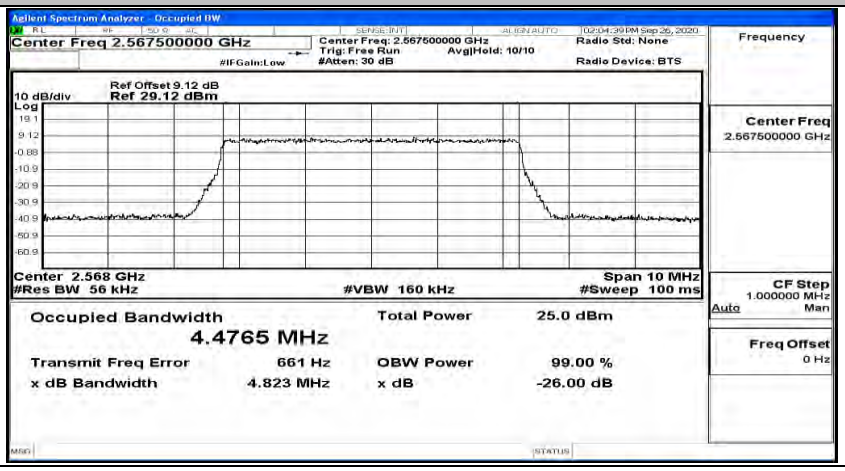
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



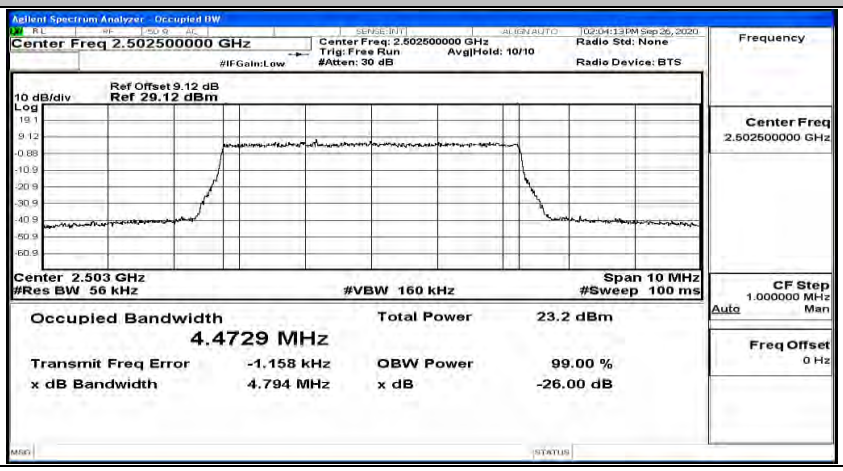
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



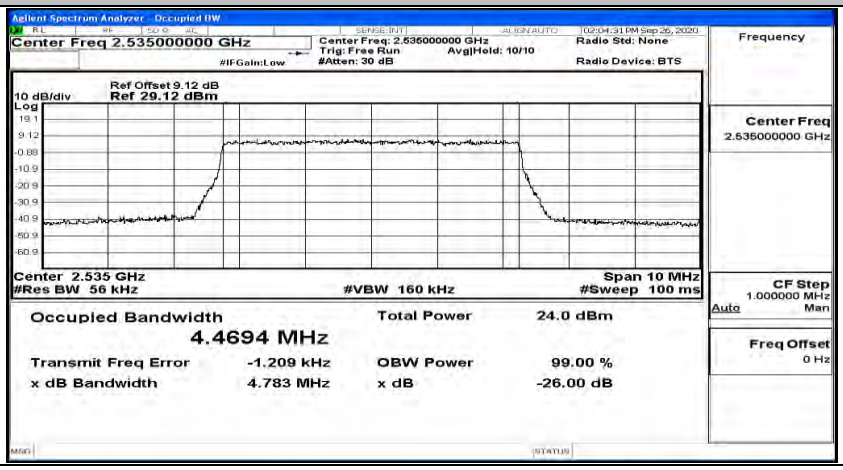
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



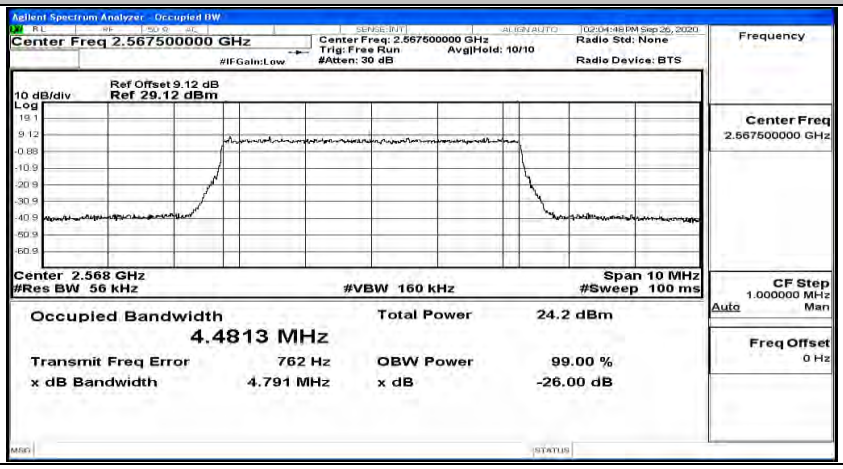
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



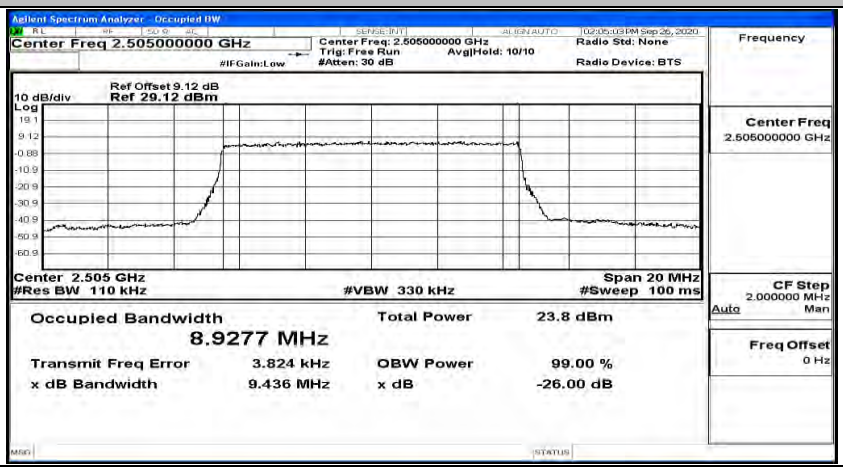
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



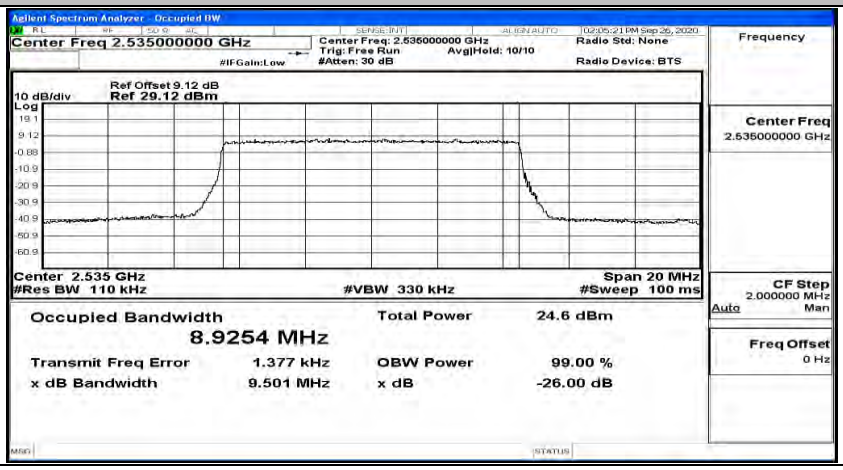
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



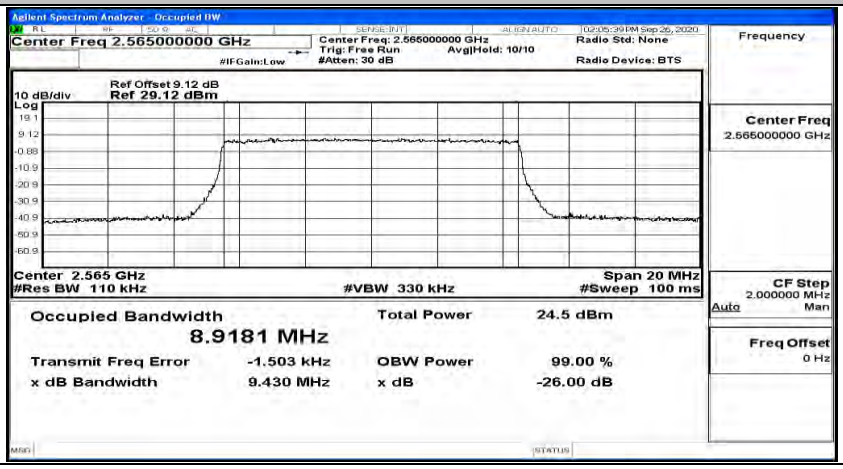
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



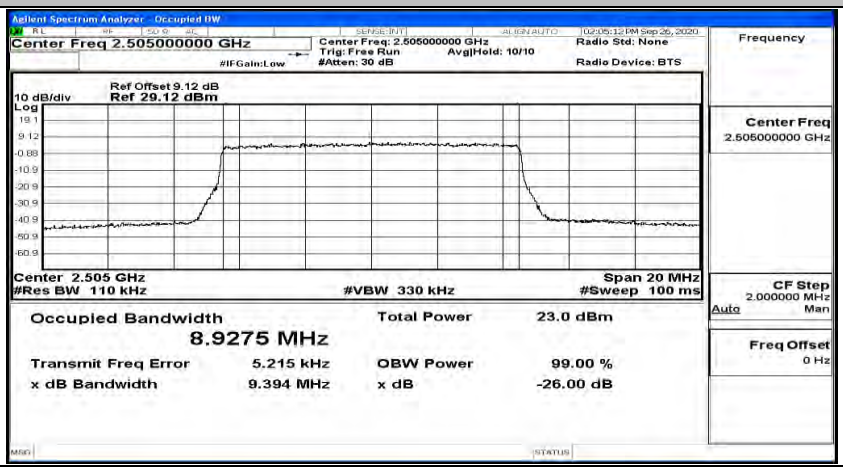
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



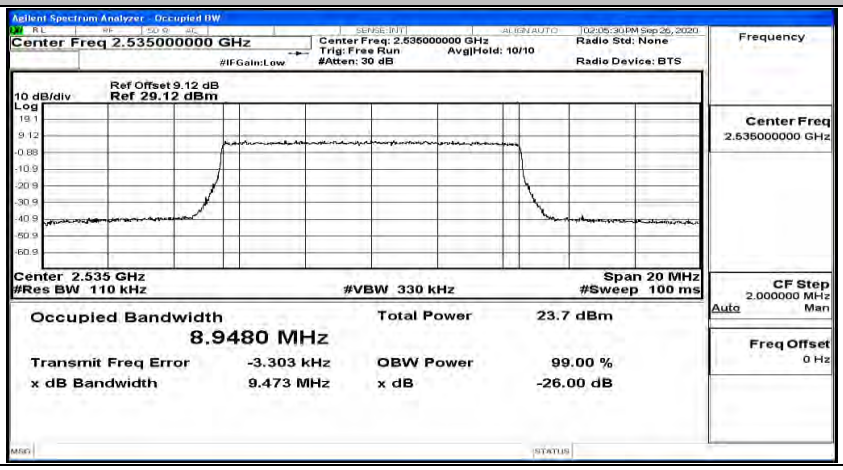
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



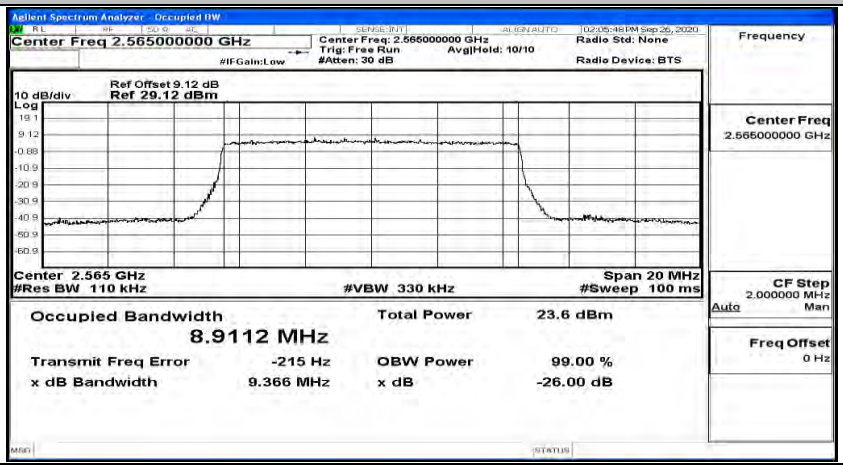
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



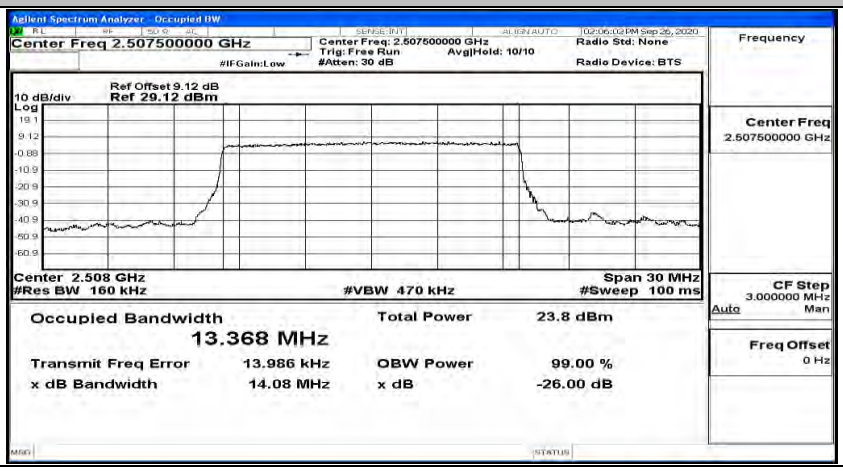
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



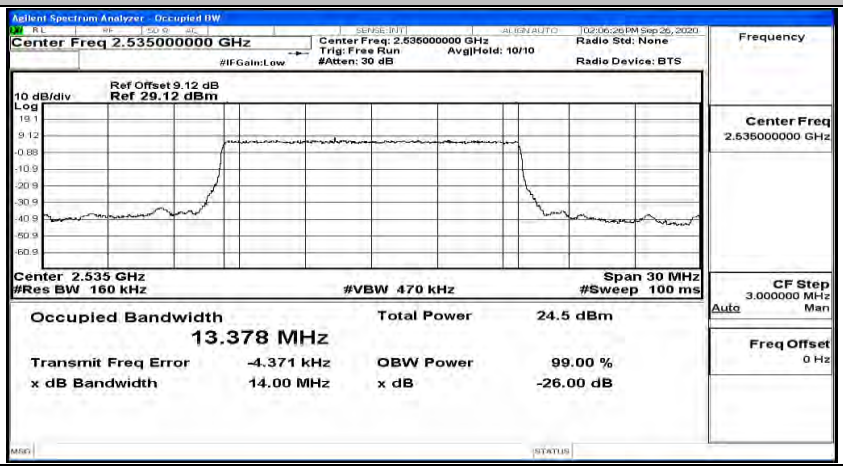
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



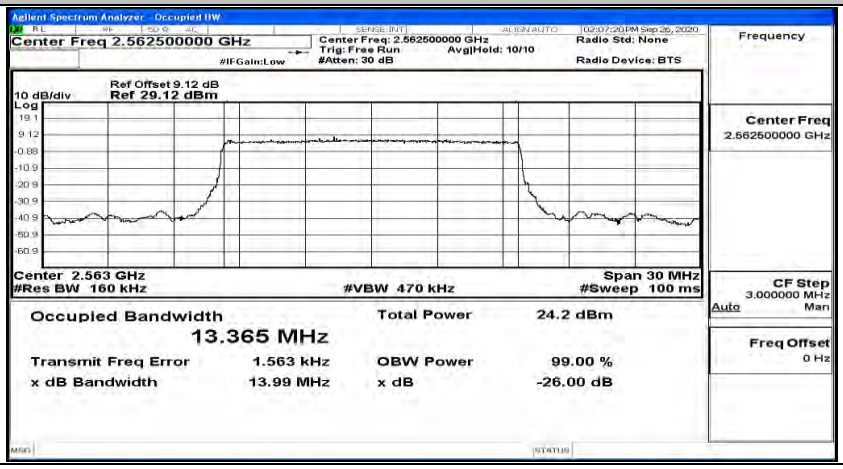
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



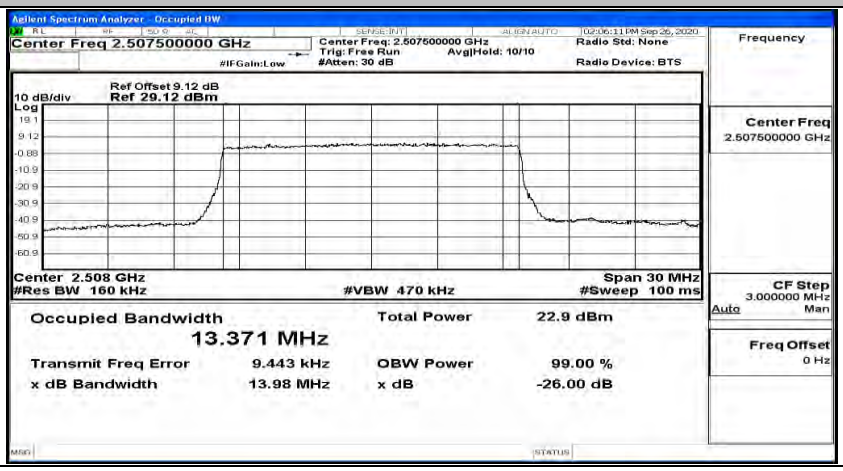
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK



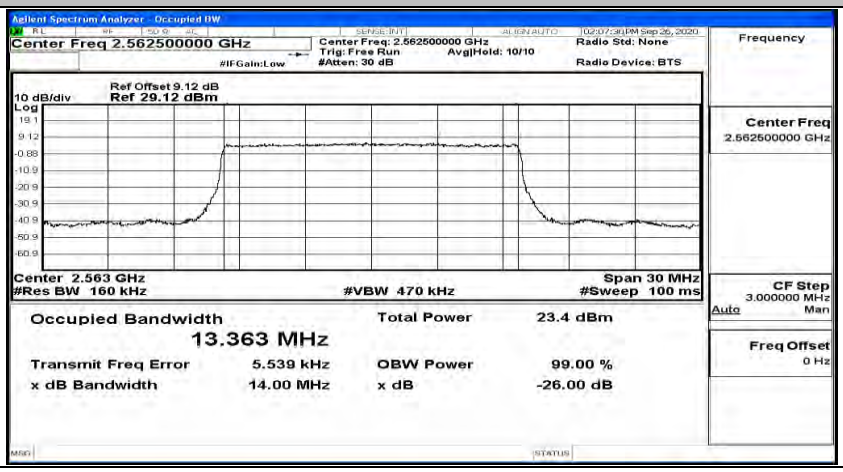
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



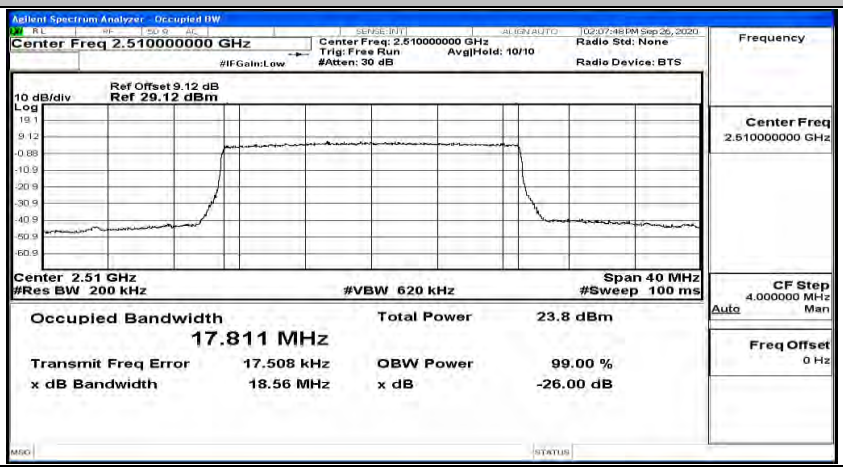
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



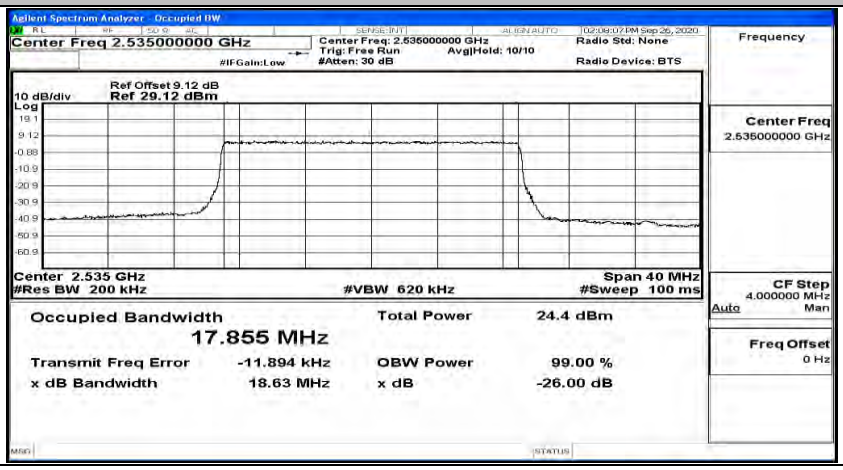
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



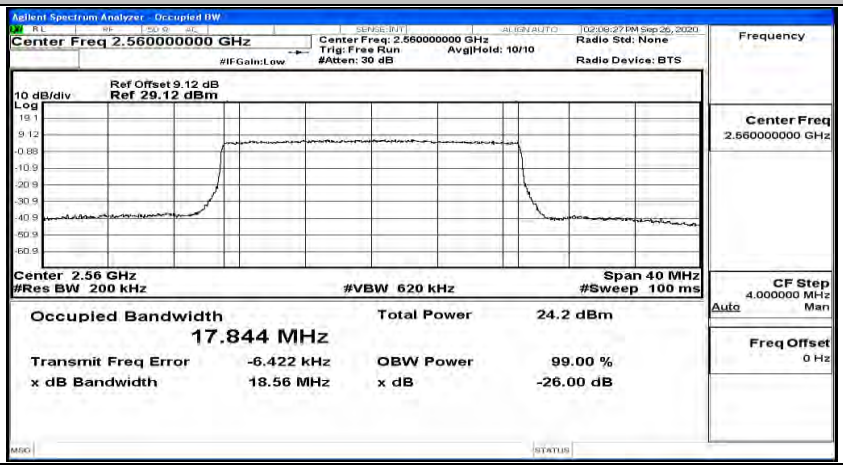
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



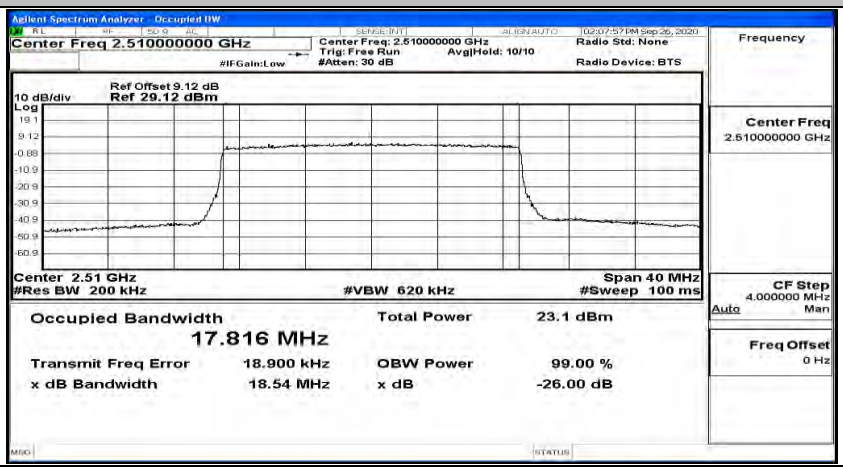
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK



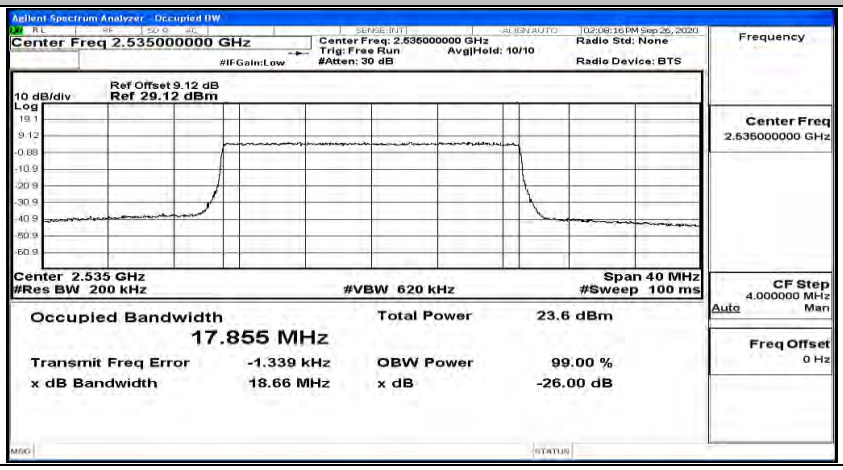
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



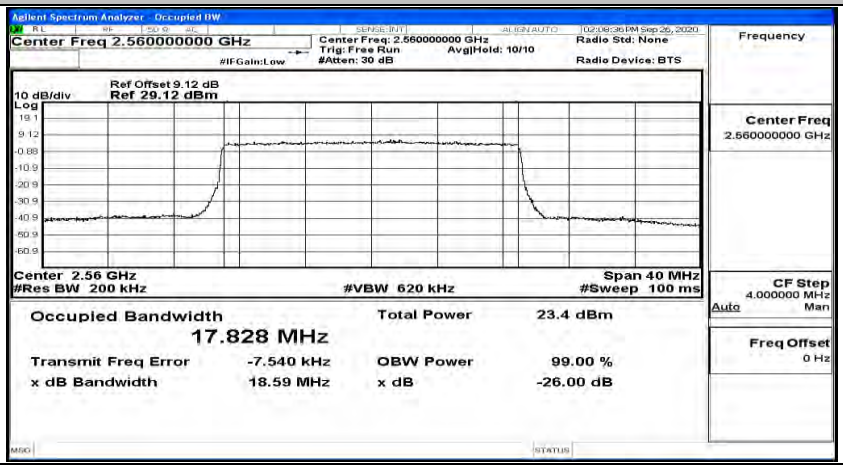
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM



EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_16QAM



EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM



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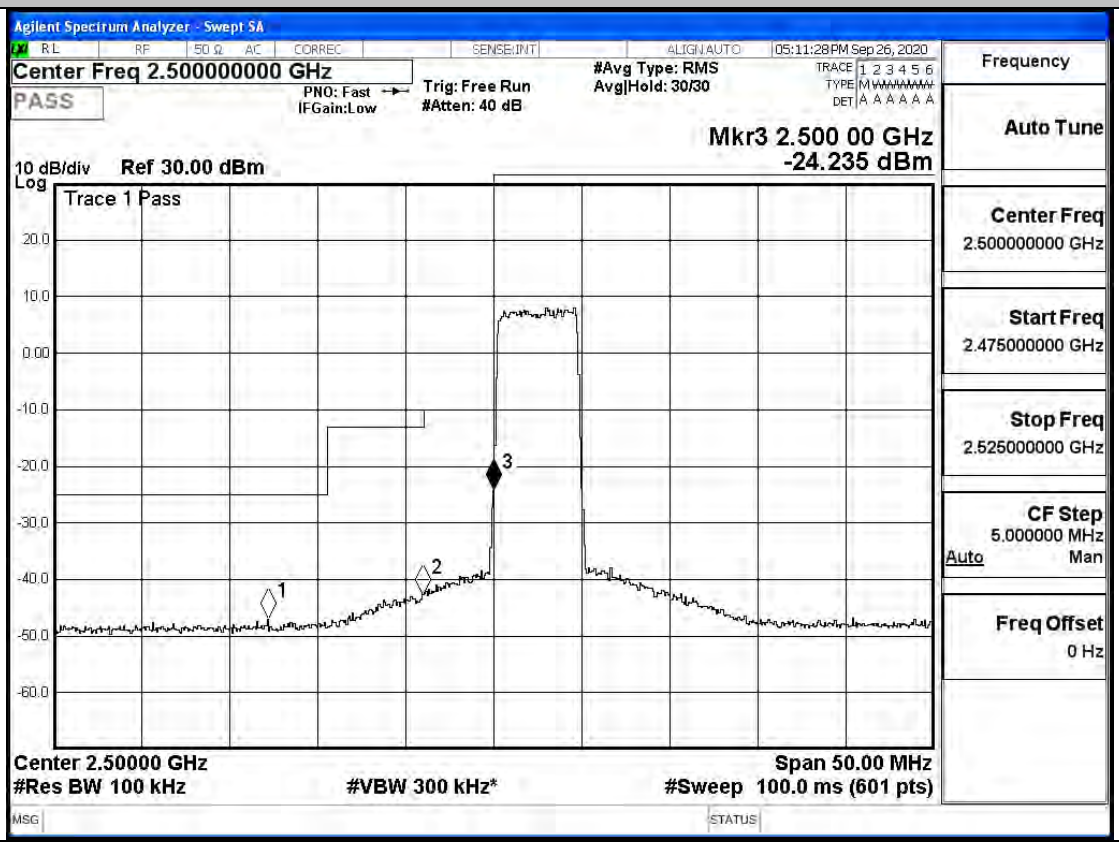
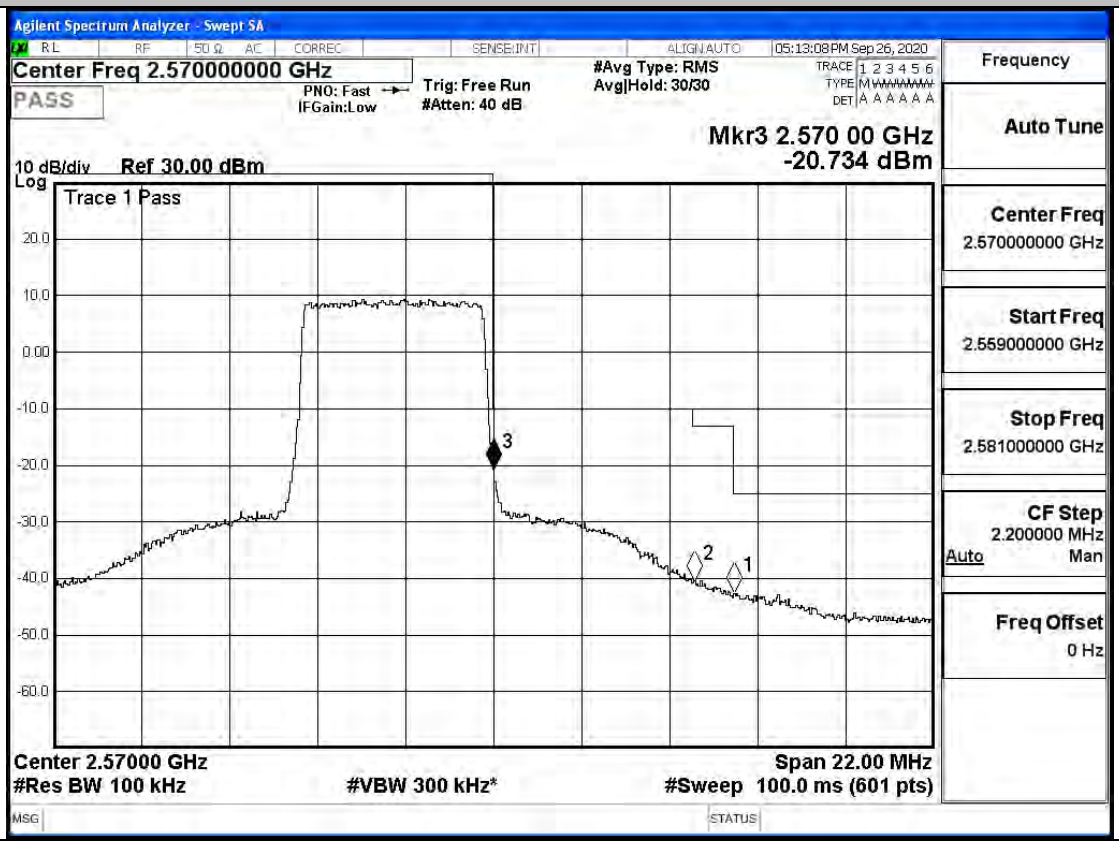
E.4 Band Edge

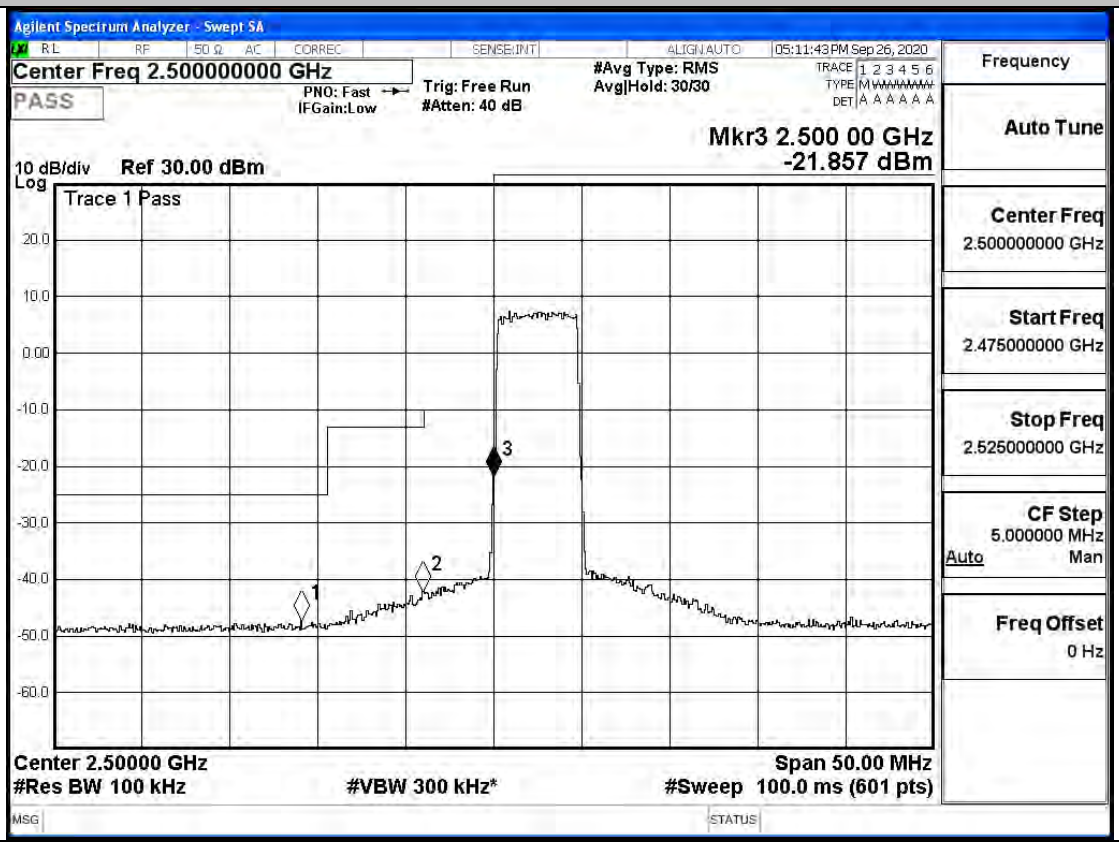
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



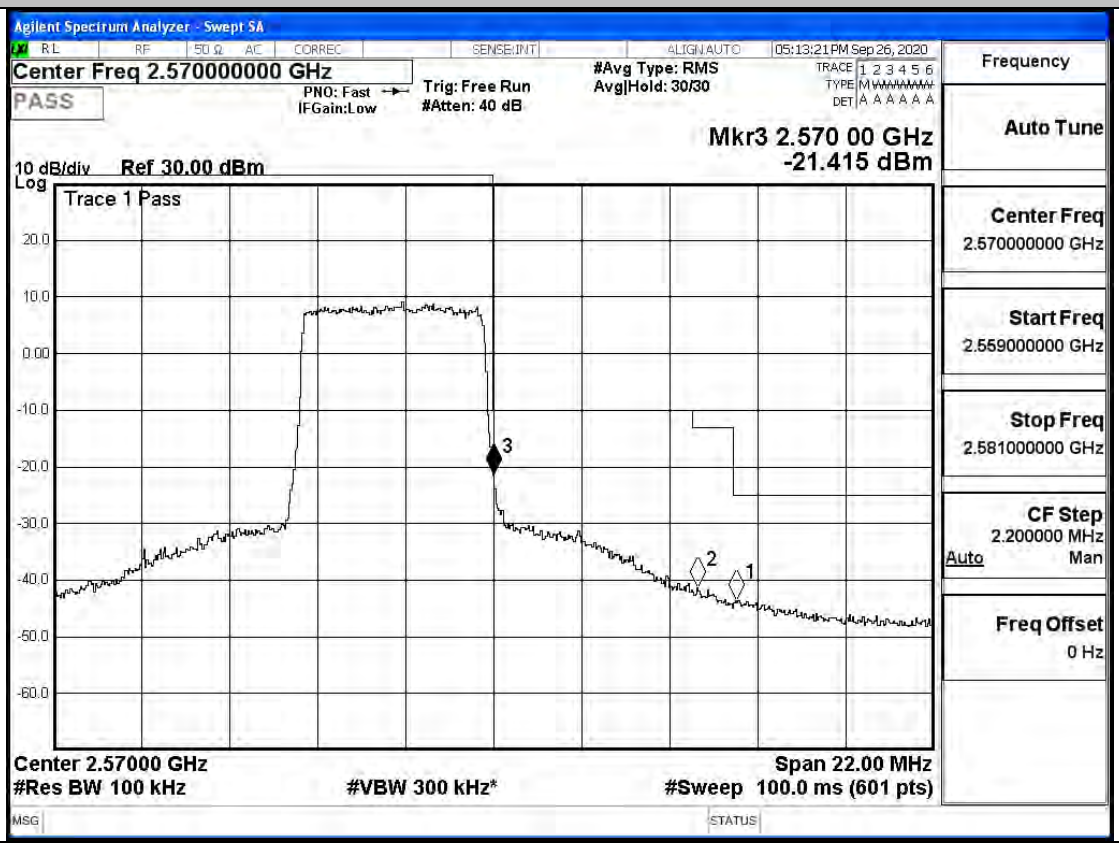
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



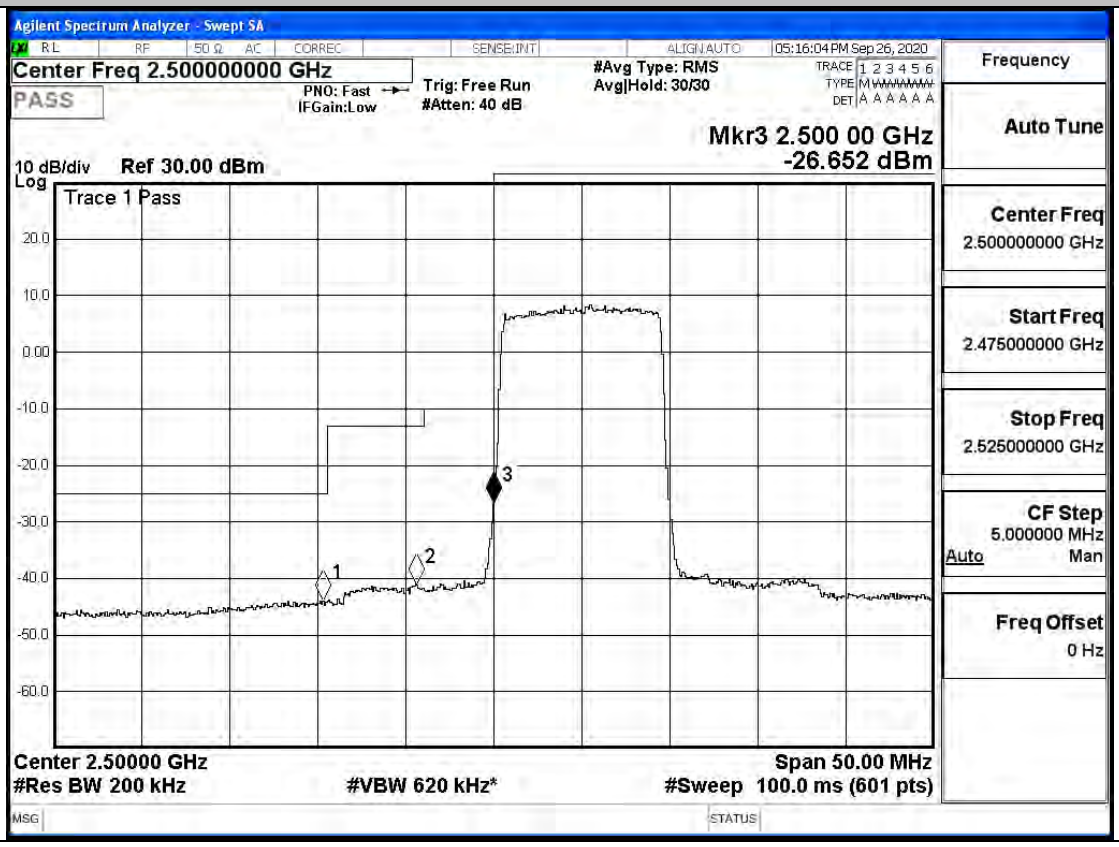
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



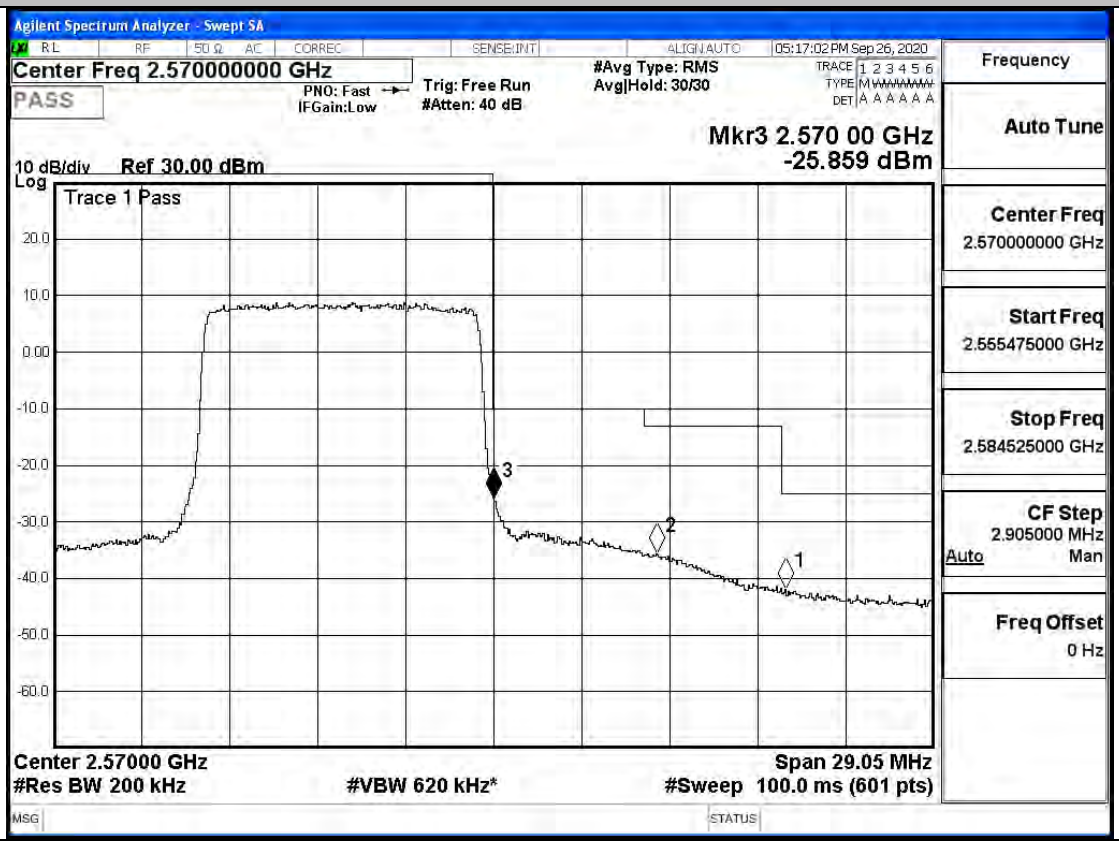
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



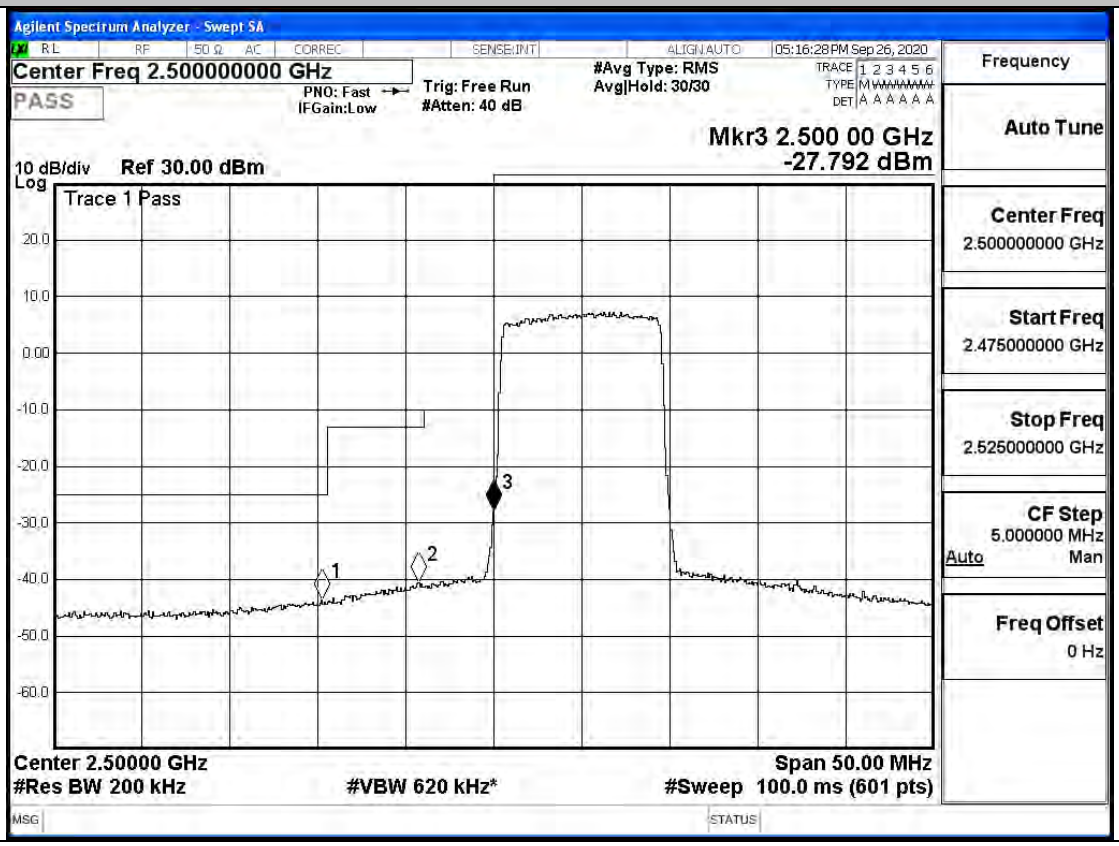
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



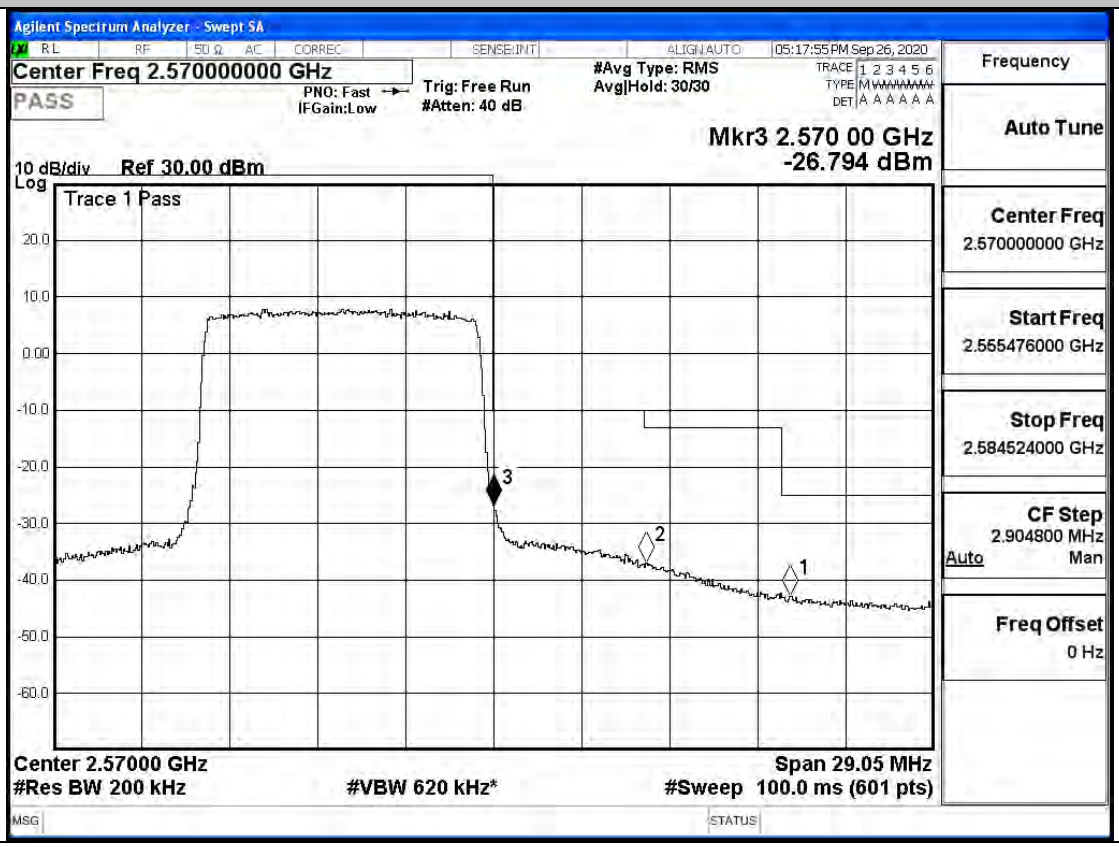
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



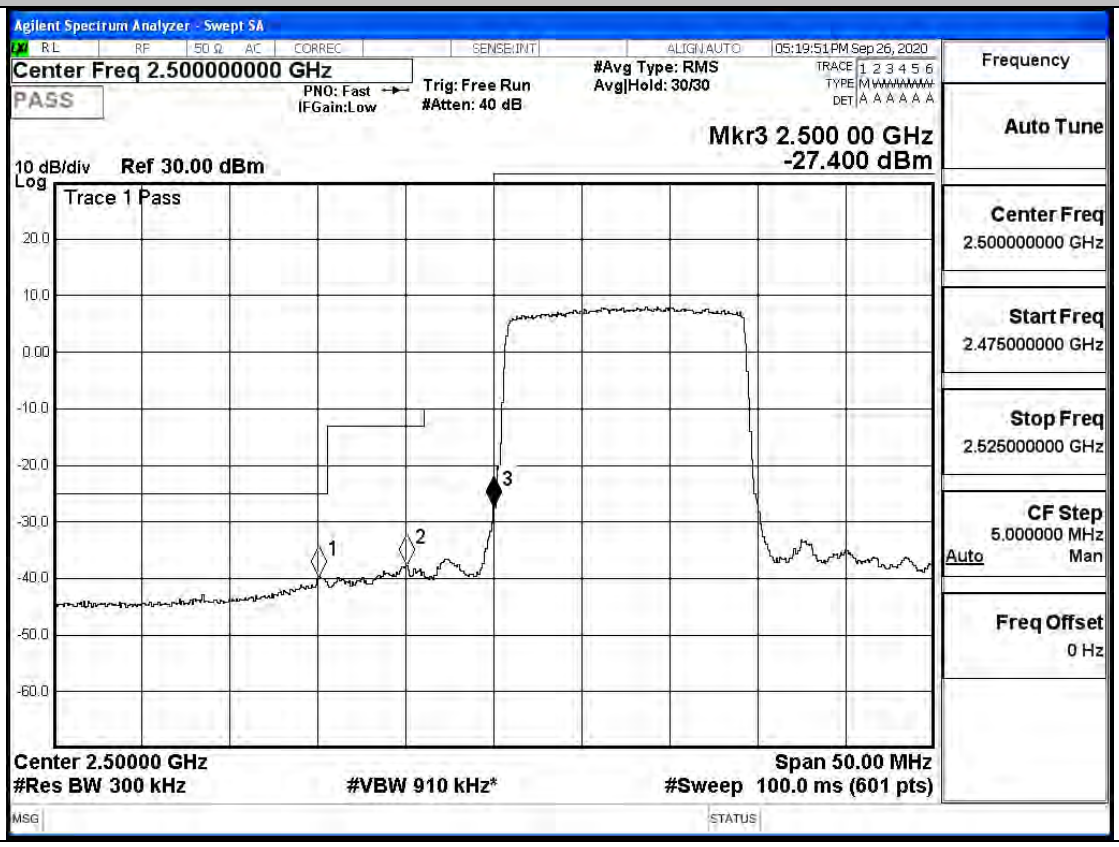
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



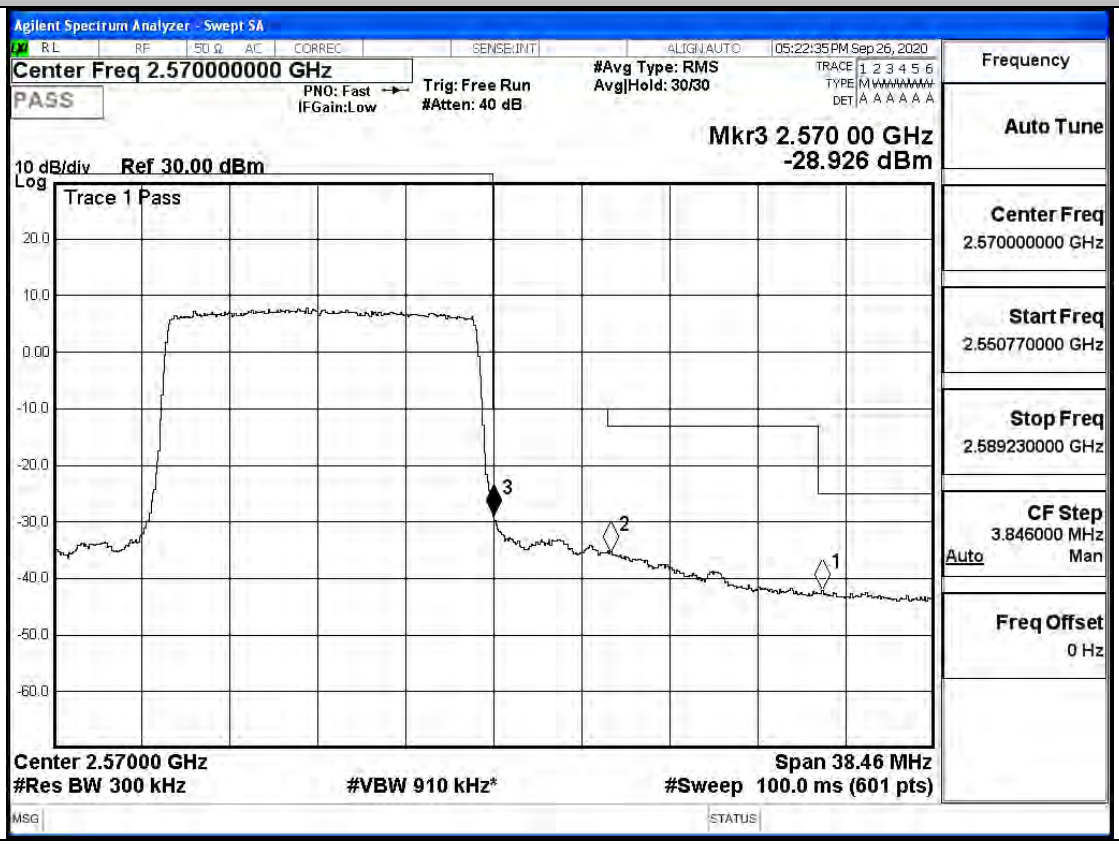
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



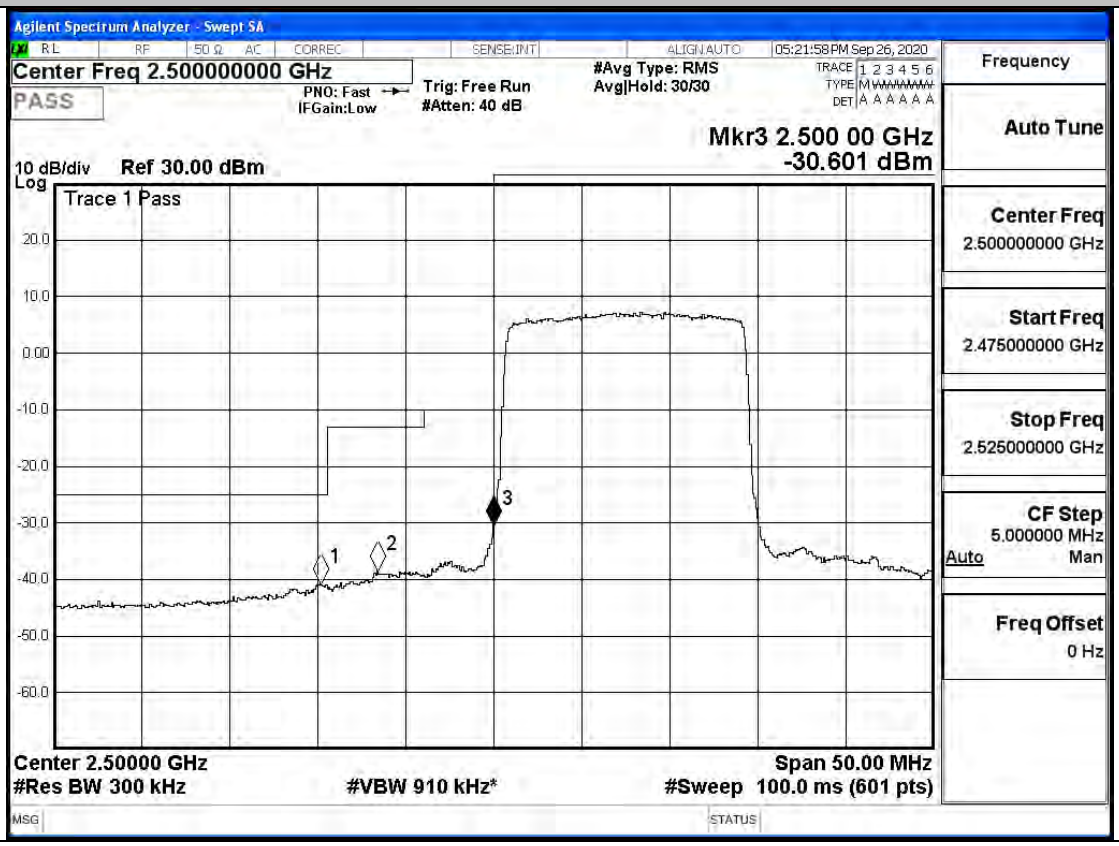
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



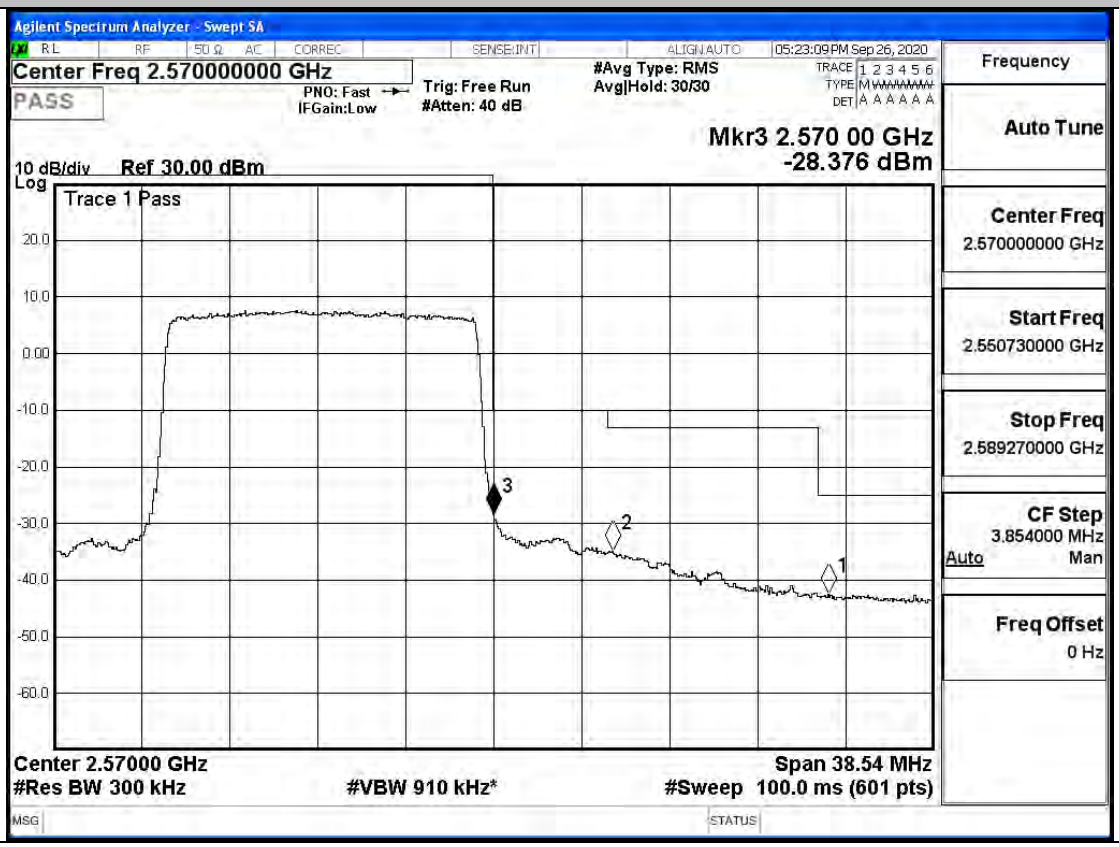
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



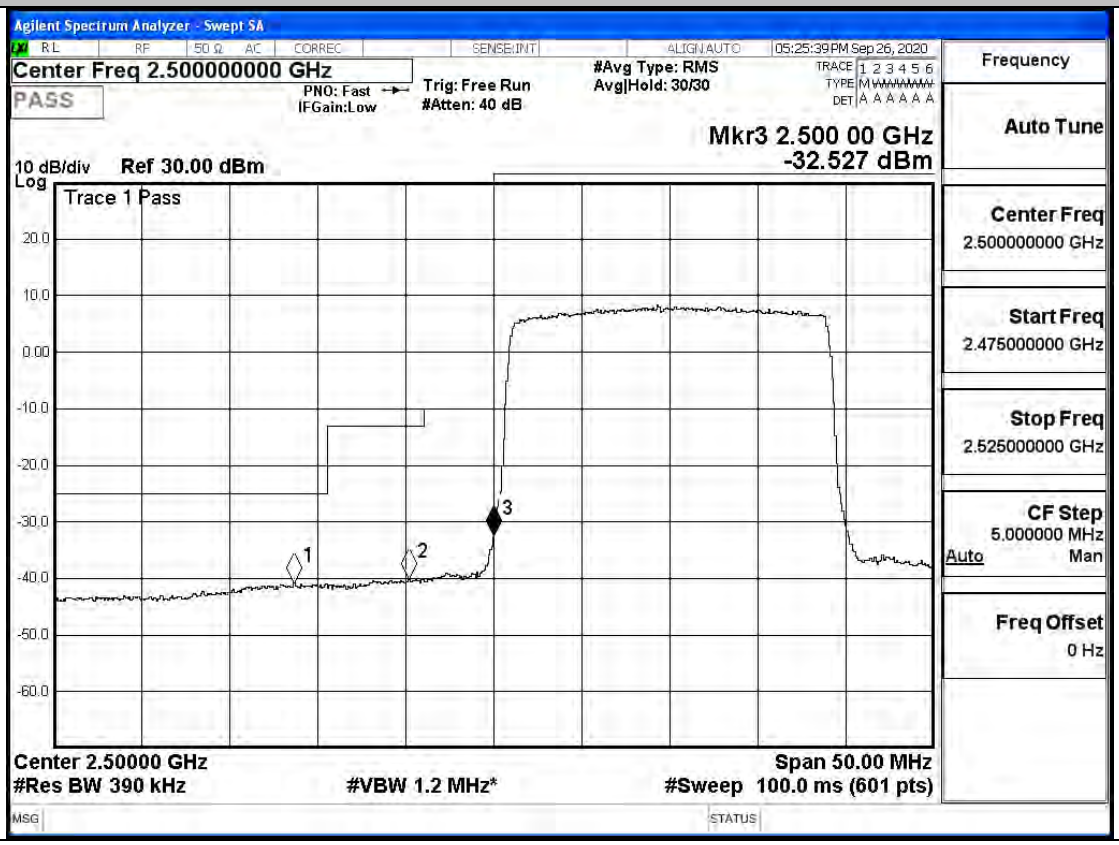
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



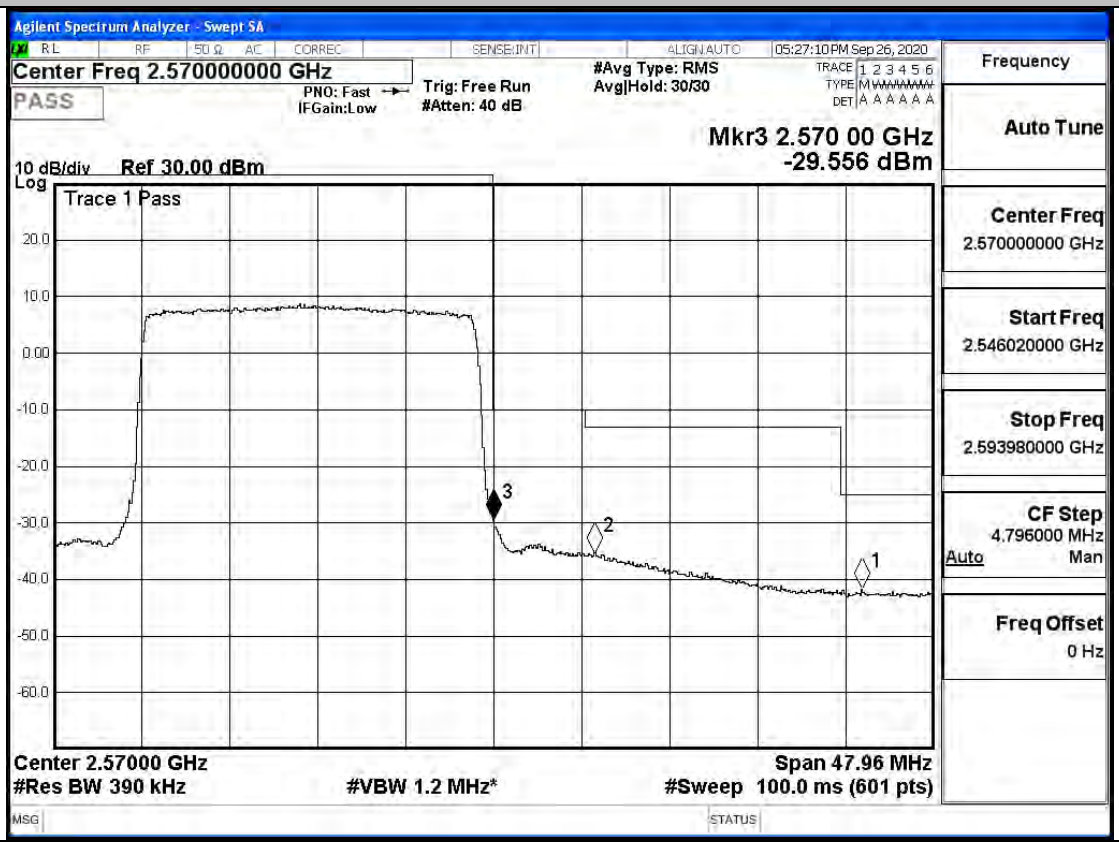
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



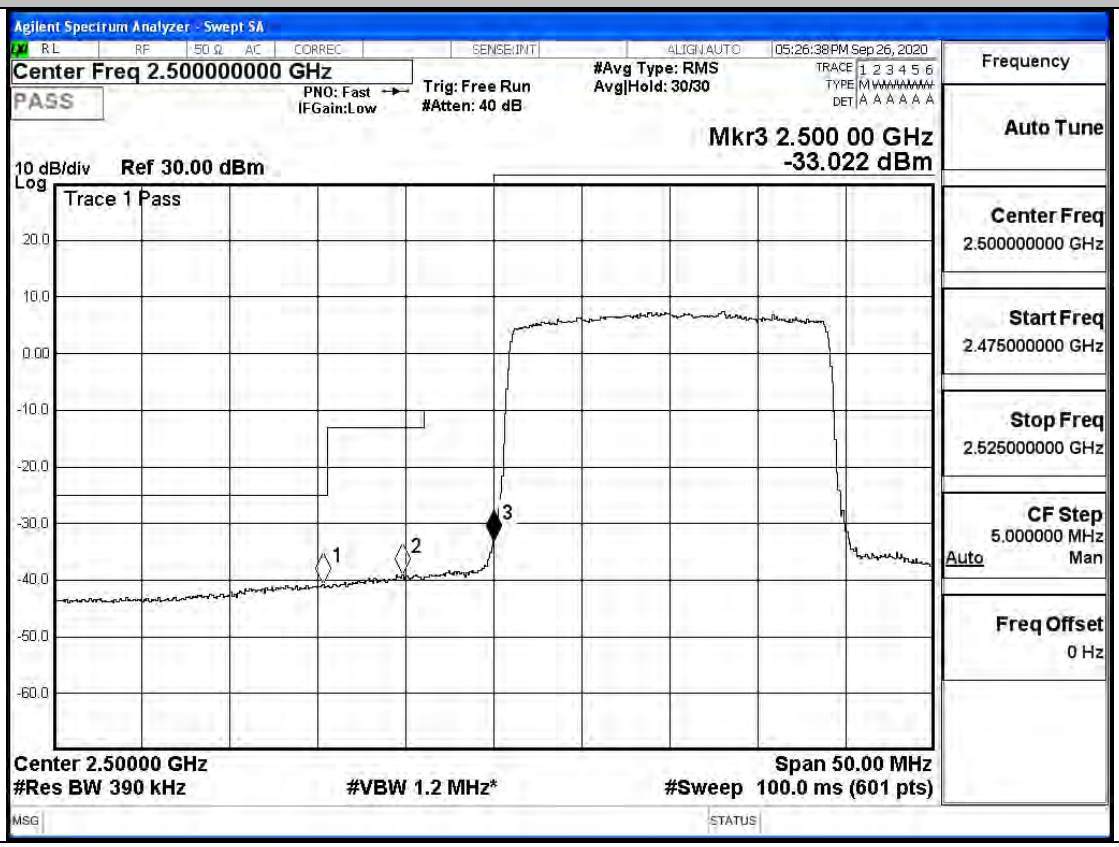
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



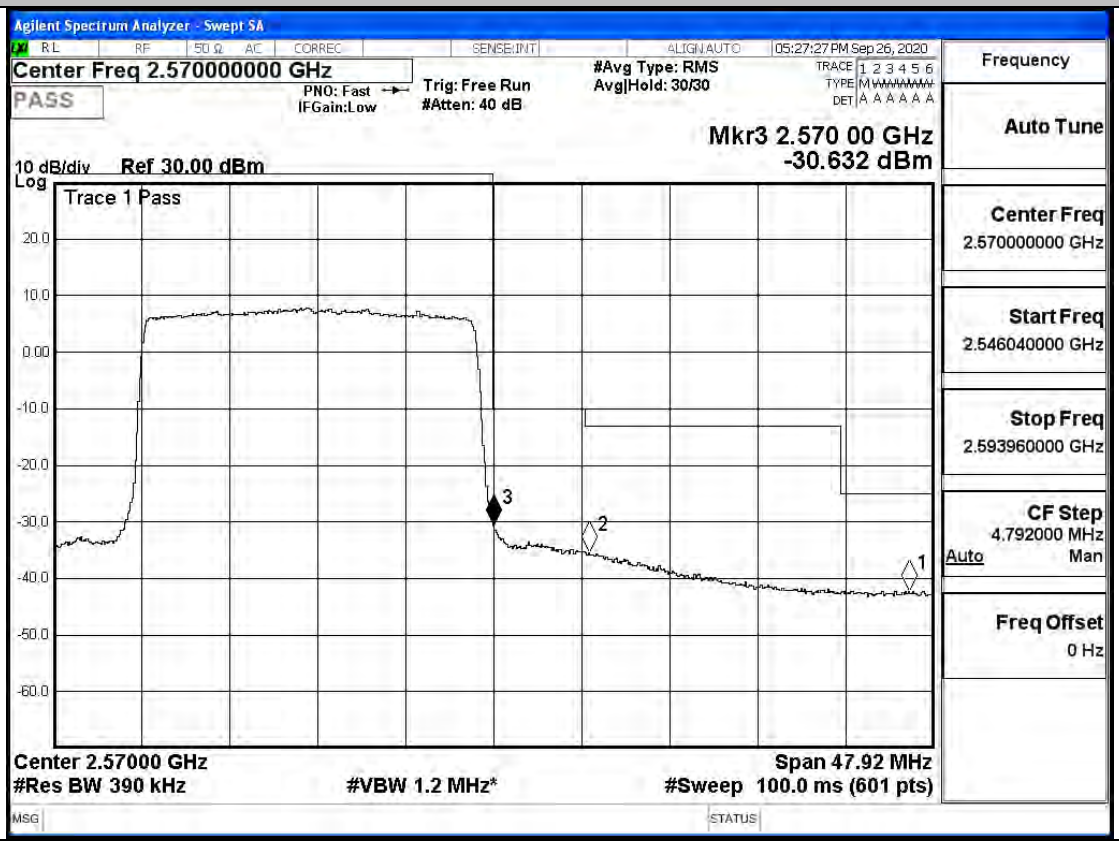
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM

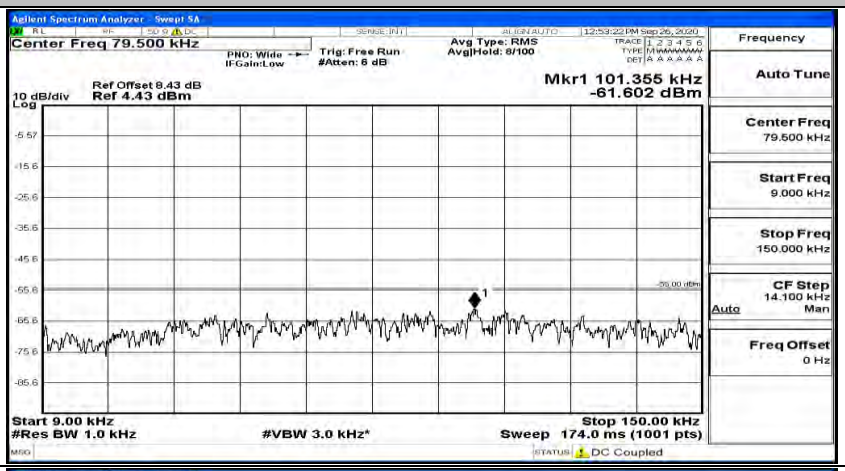
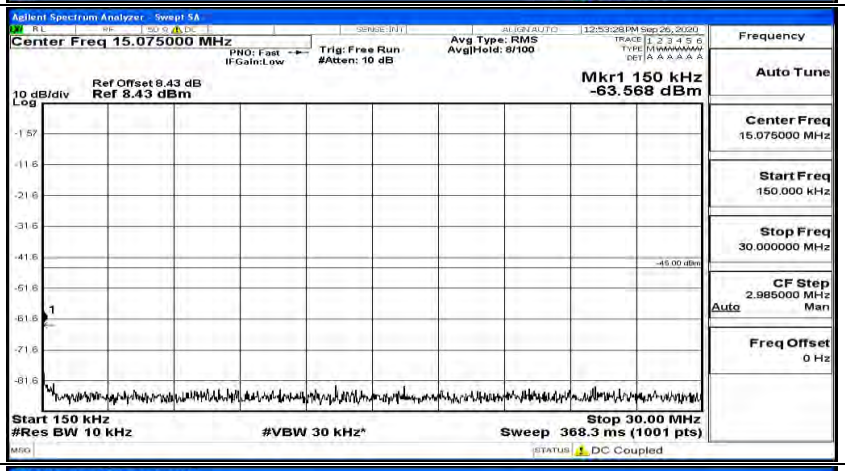
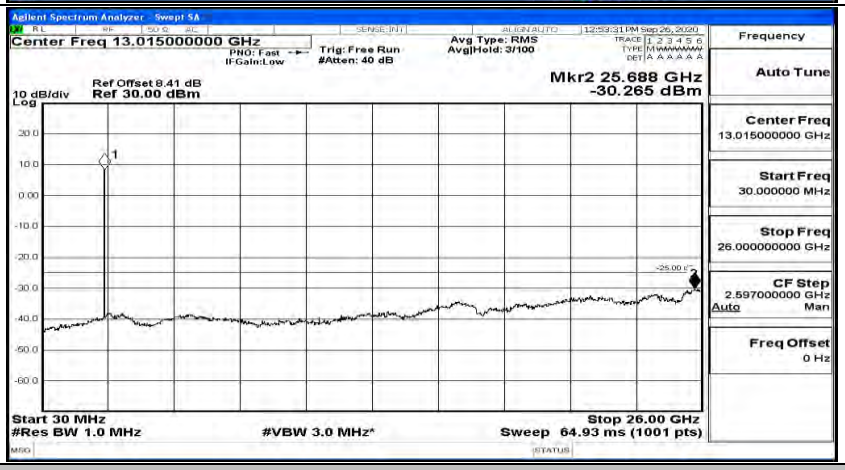


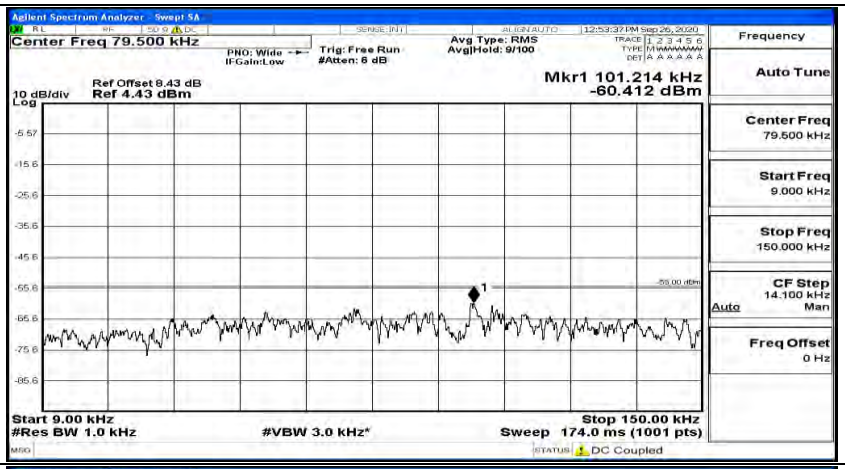
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM

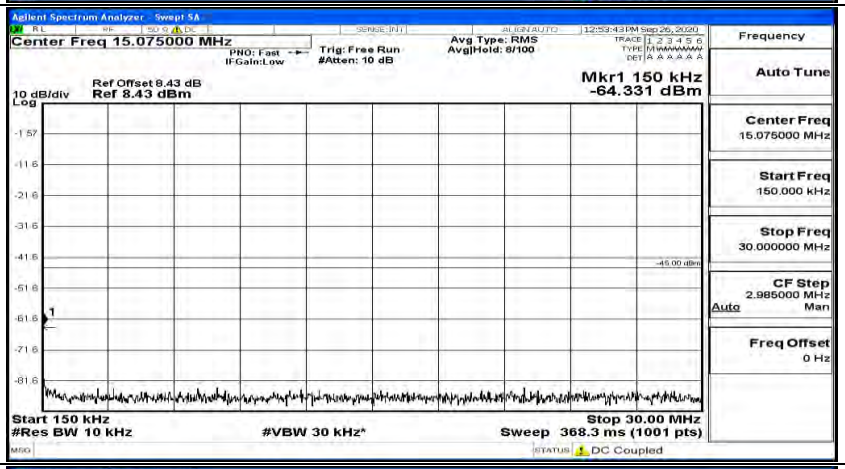


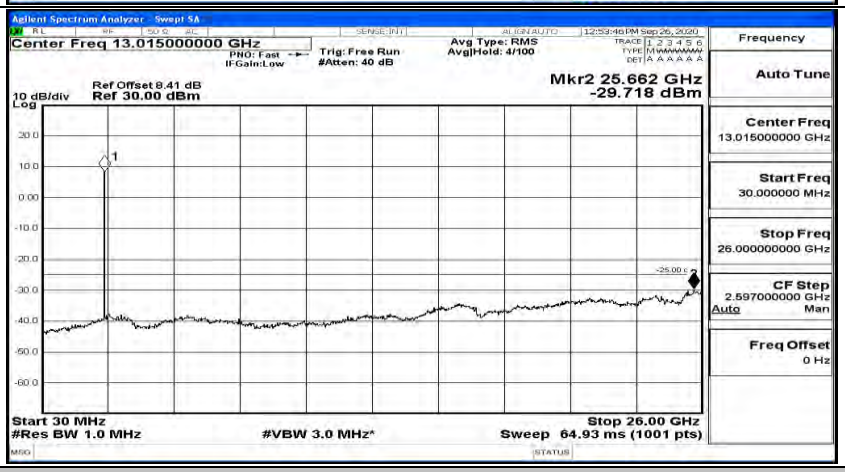
E.5 Conducted Spurious Emission

Channel Bandwidth: 5 MHz

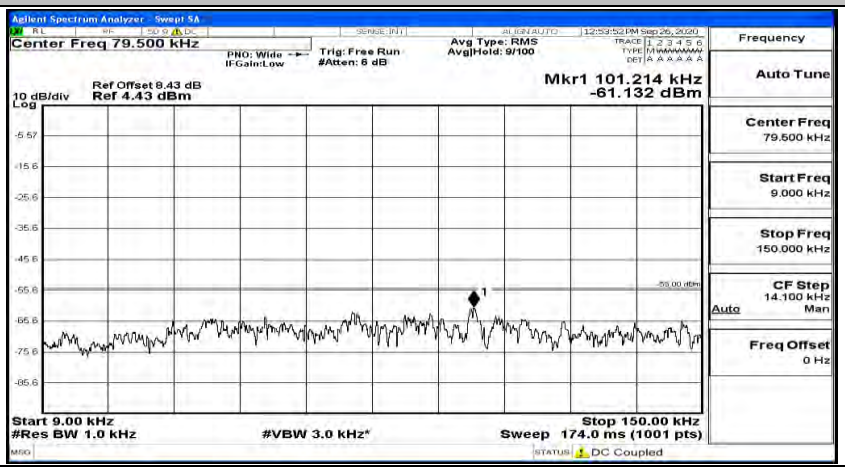
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0



(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12

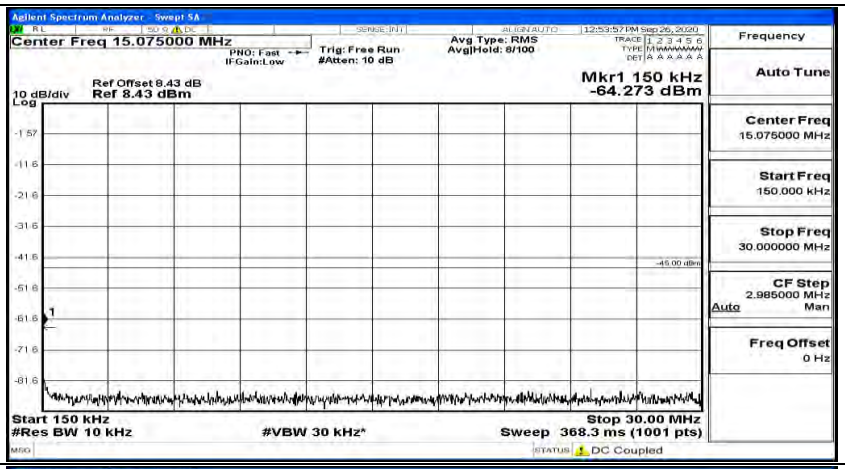


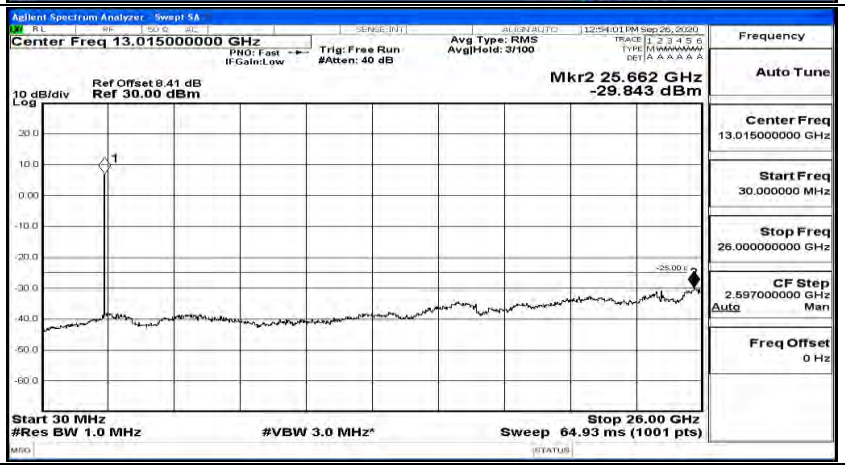




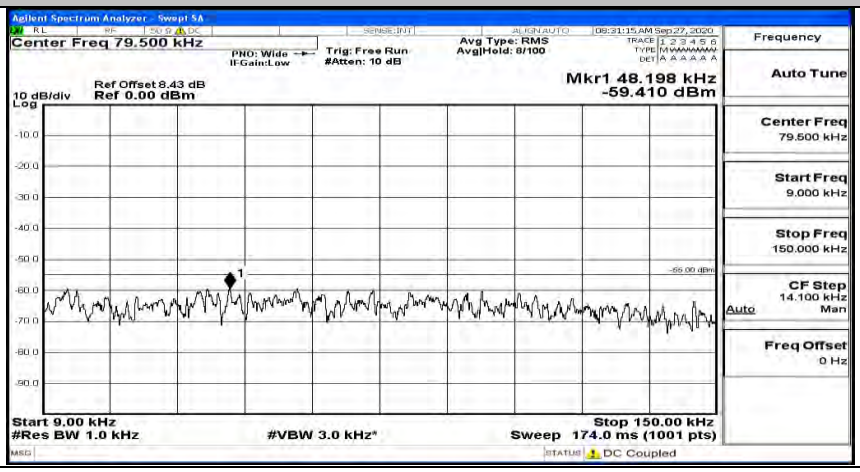
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24

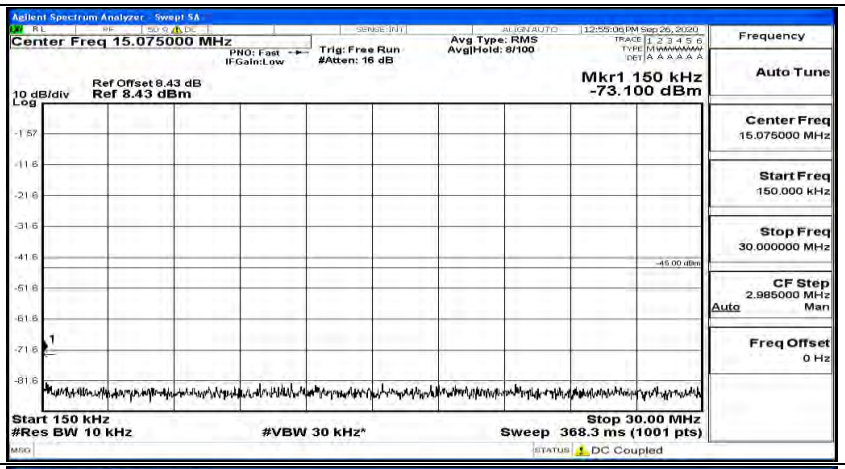




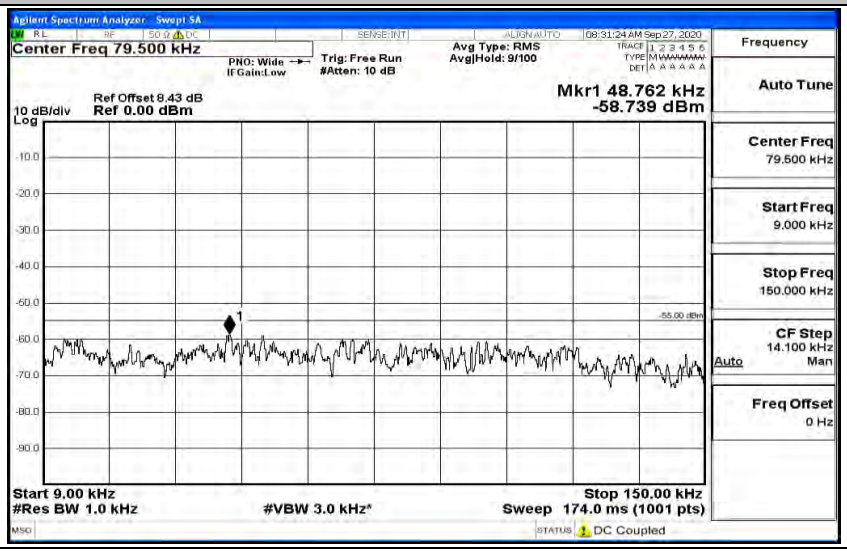


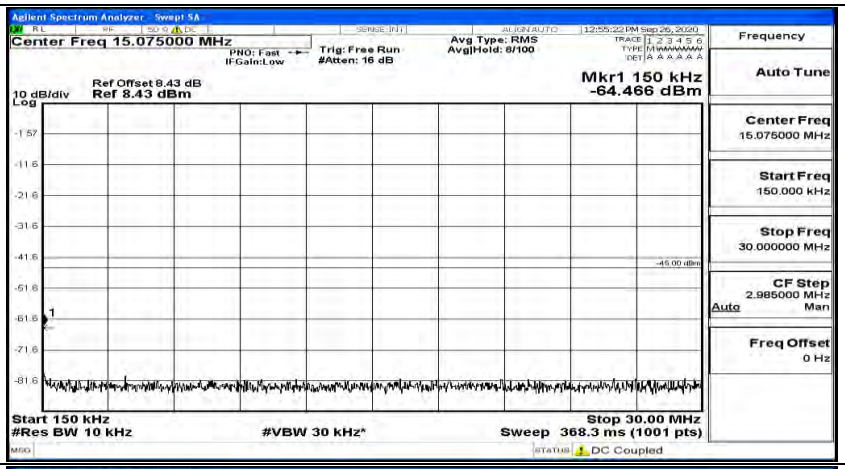
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0



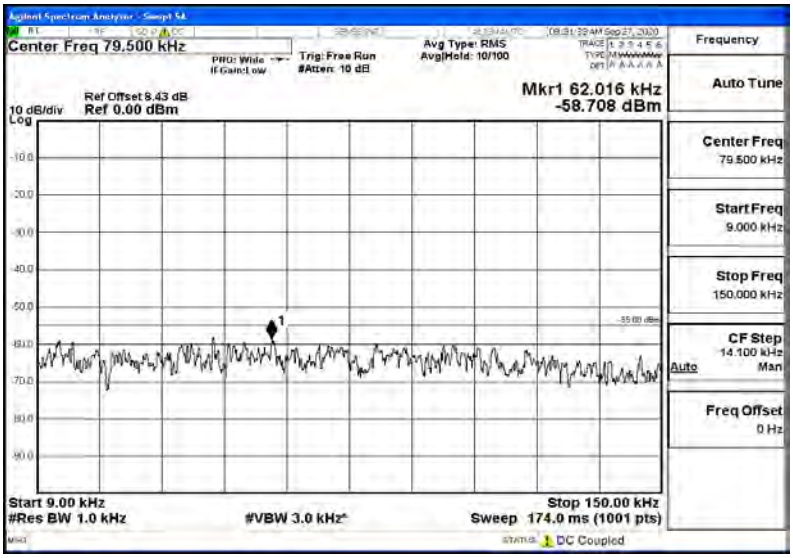


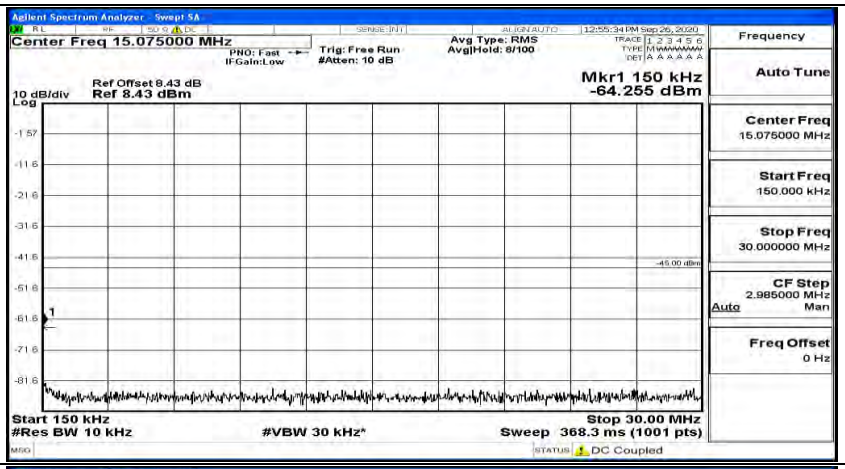
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12

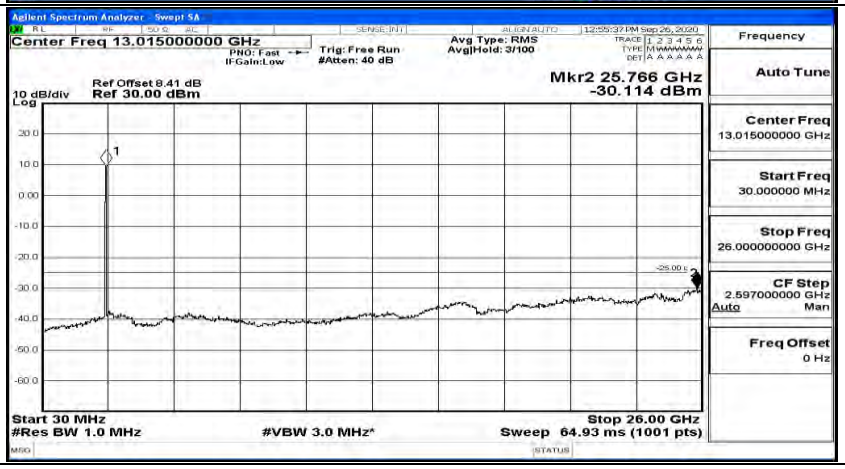




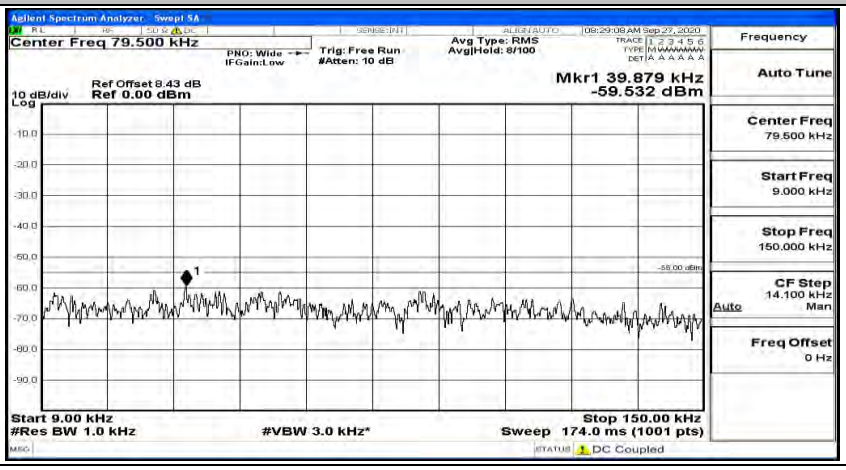
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

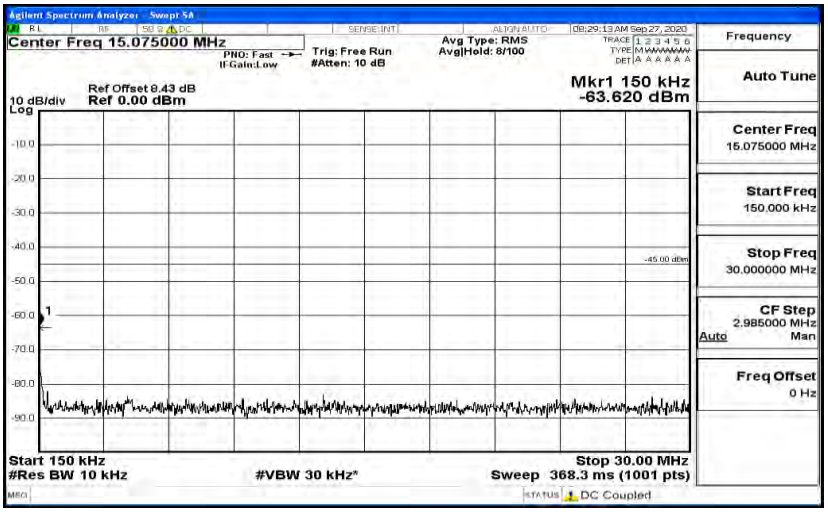


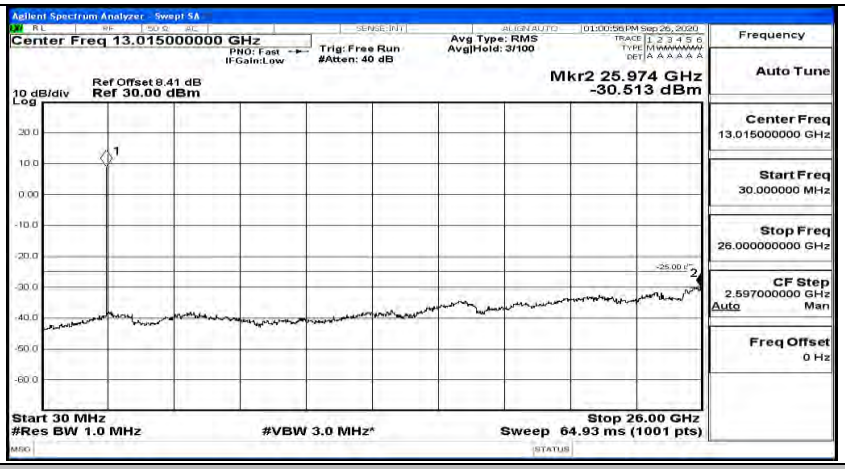




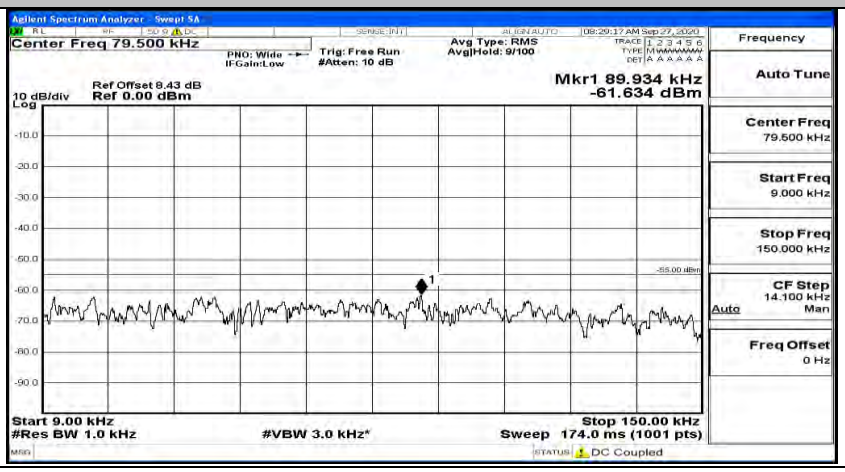
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0

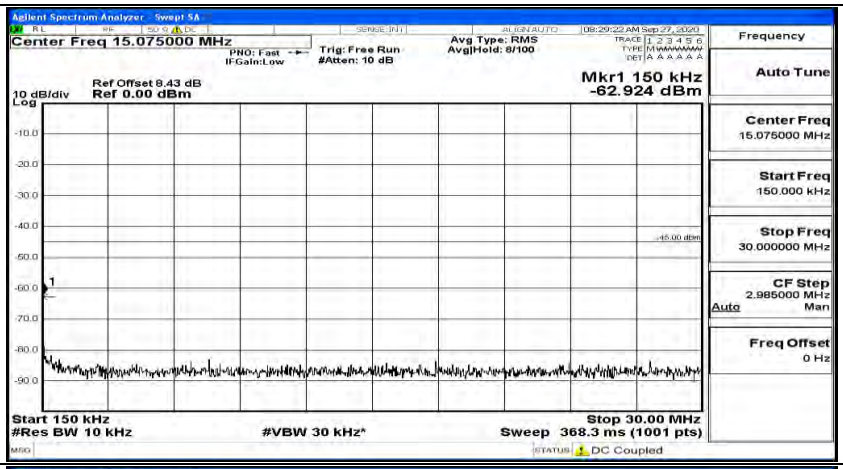


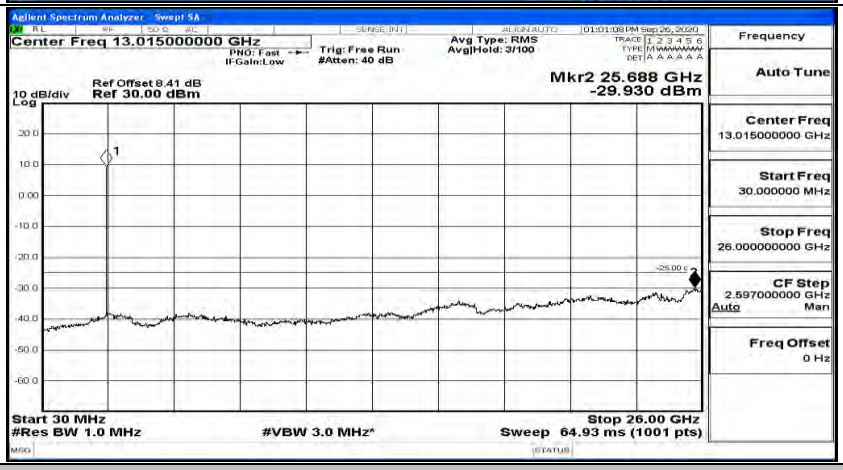




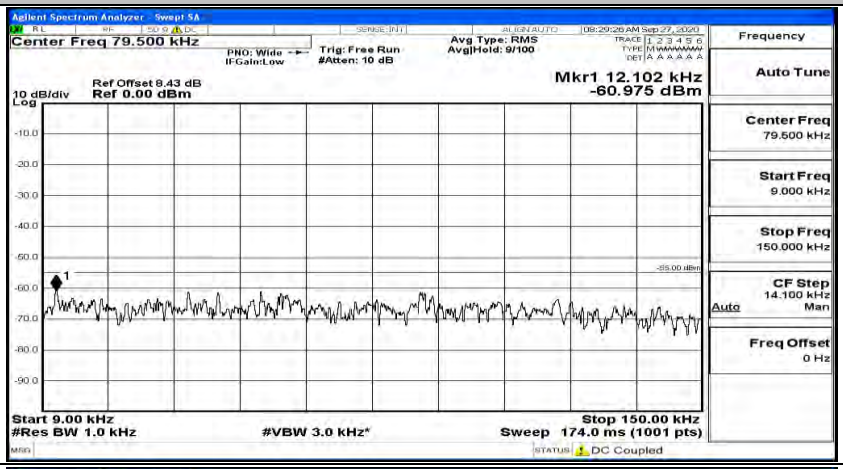
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12

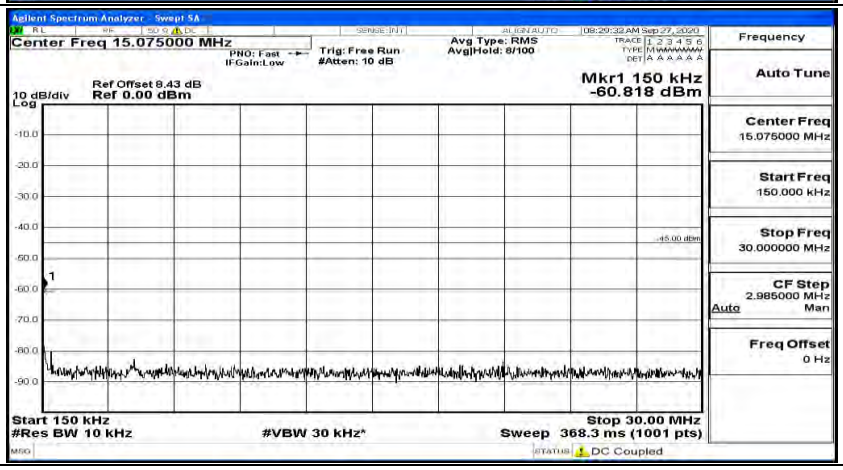


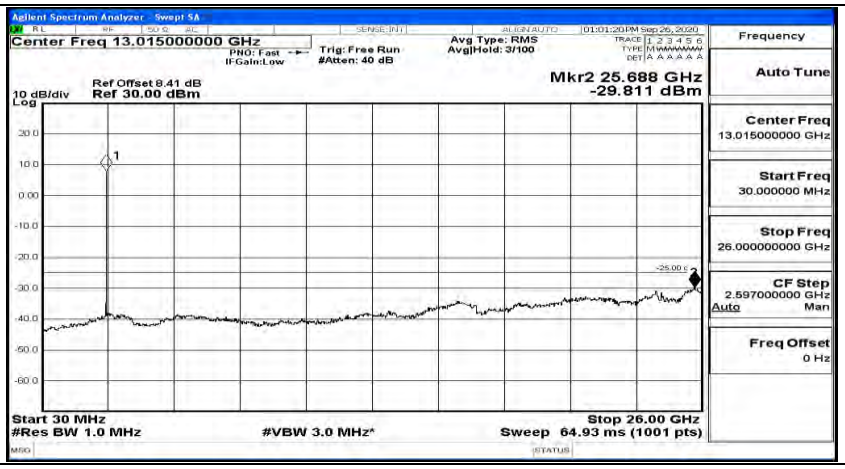




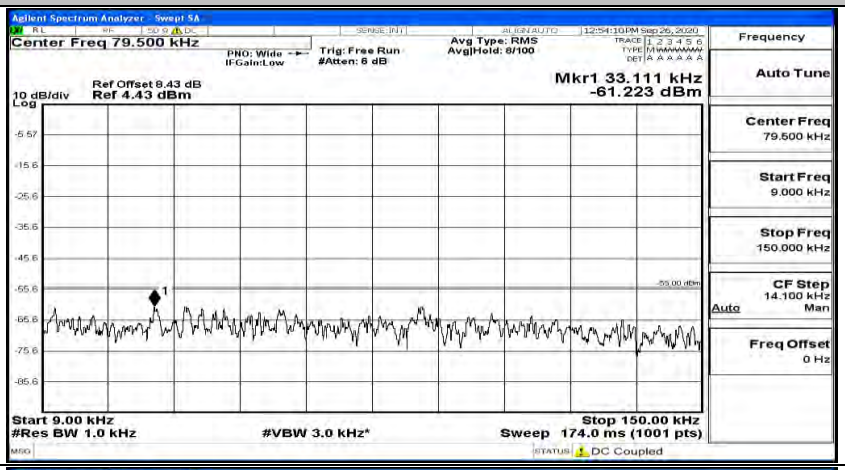
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24

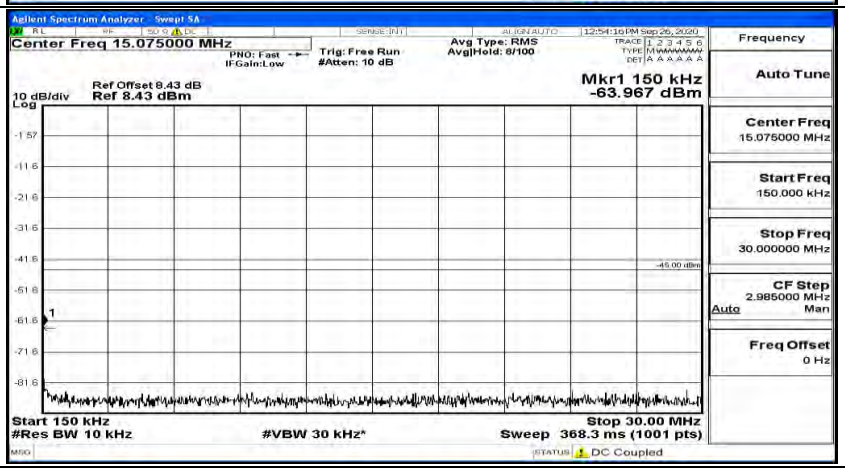




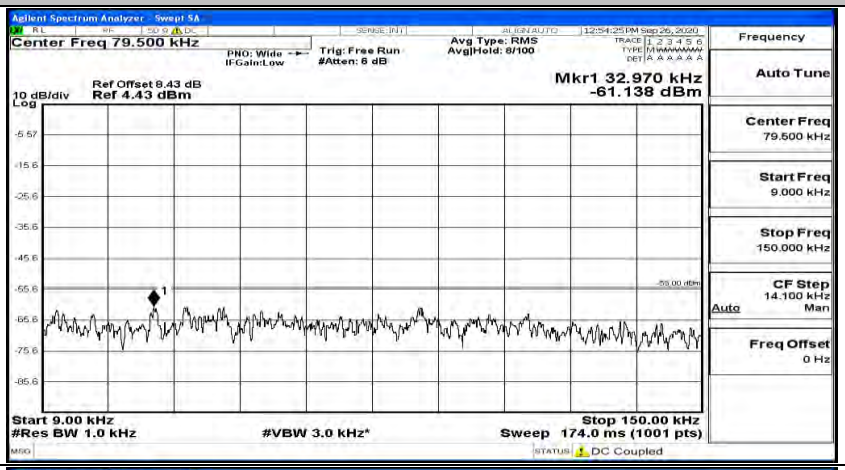


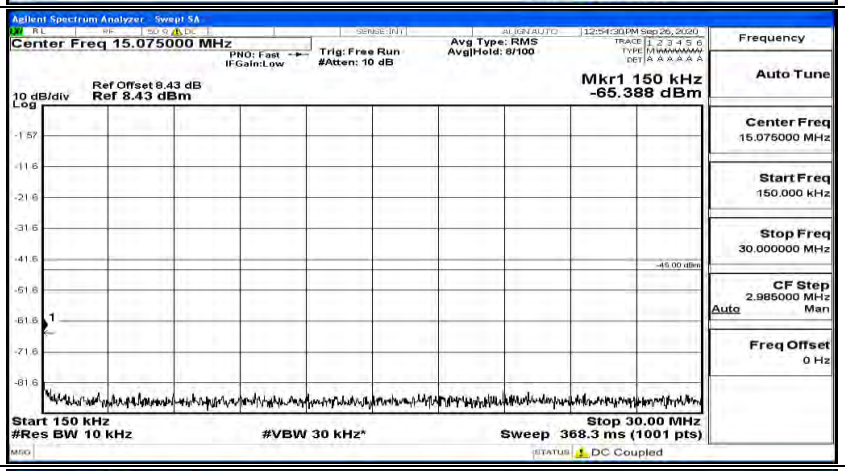
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0

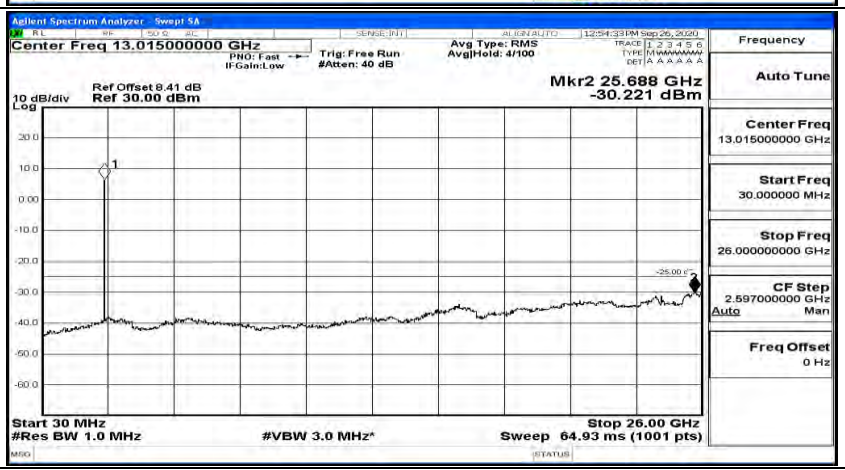




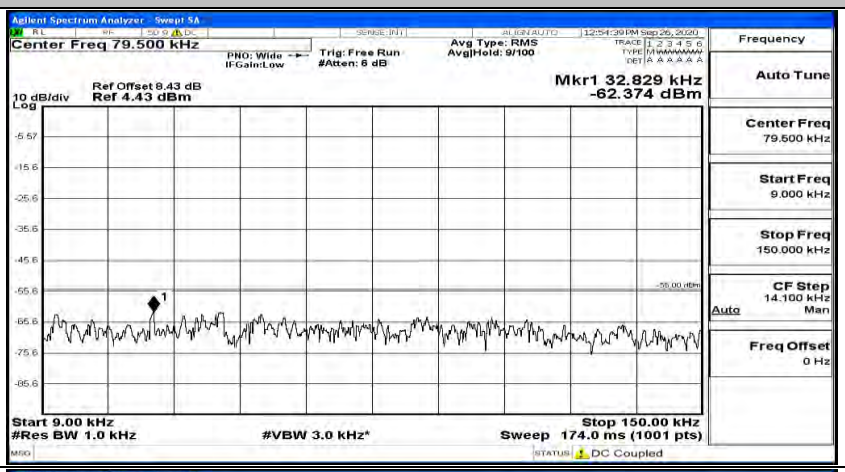
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12

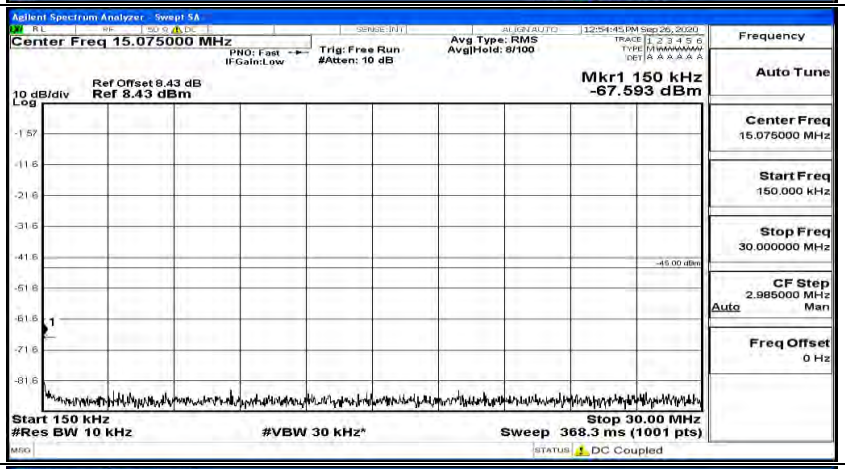


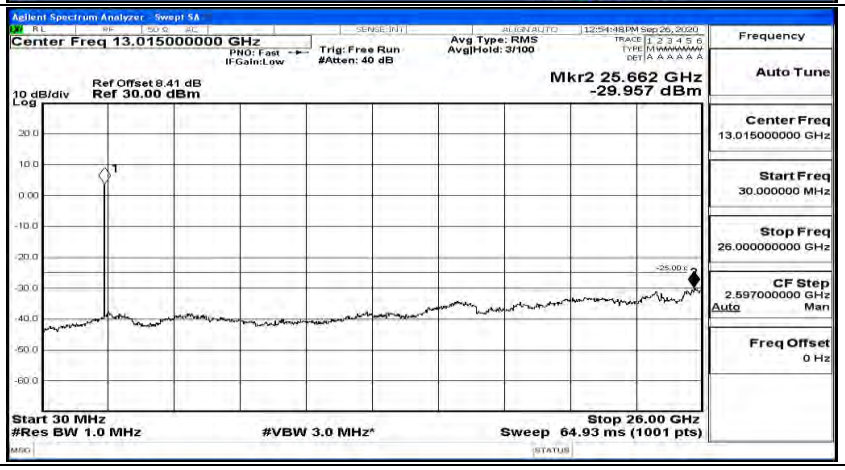




(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24







(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0