Appendix E: Test Data for E-UTRA Band 7

Product Name: Vehicle intelligent terminal
Trade Mark: TENSORTEC
Test Model: MV03

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	53.1%
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	22.50	21.44	PASS
		1	12	22.71	21.65	PASS
		1	24	22.41	21.59	PASS
		12	0	21.99	21.04	PASS
		12	6	21.95	21.17	PASS
		12	13	21.85	21.06	PASS
		25	0	21.97	21.33	PASS
	MCH	1	0	23.85	22.91	PASS
		1	12	24.04	23.01	PASS
		1	24	24.05	22.81	PASS
		12	0	23.01	22.08	PASS
		12	6	23.04	22.01	PASS
		12	13	23.00	22.00	PASS
		25	0	23.05	22.20	PASS
	HCH	1	0	23.82	22.64	PASS
		1	12	24.26	23.06	PASS
		1	24	24.13	22.89	PASS
		12	0	22.92	22.03	PASS
		12	6	23.11	21.97	PASS
		12	13	23.10	21.95	PASS

		25	0	22.98	22.24	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	23.45	22.67	PASS
		1	24	23.42	23.14	PASS
		1	49	22.96	22.46	PASS
		25	0	22.30	21.26	PASS
		25	12	22.43	21.39	PASS
		25	25	22.20	21.27	PASS
		50	0	22.25	21.41	PASS
	MCH	1	0	24.01	23.43	PASS
		1	24	24.62	24.09	PASS
		1	49	23.91	23.39	PASS
		25	0	23.27	22.27	PASS
		25	12	23.34	22.44	PASS
		25	25	23.19	22.30	PASS
		50	0	23.21	22.24	PASS
	HCH	1	0	23.34	22.60	PASS
		1	24	24.06	23.38	PASS
		1	49	23.15	22.48	PASS
		25	0	22.98	22.05	PASS
		25	12	23.20	22.37	PASS
		25	25	23.16	22.12	PASS
		50	0	23.16	22.26	PASS

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	23.55	22.87	PASS
		1	37	23.56	23.72	PASS
		1	74	23.41	22.93	PASS
		37	0	22.46	21.53	PASS
		37	18	22.49	21.57	PASS
		37	38	22.37	21.44	PASS
		75	0	22.42	21.66	PASS
	MCH	1	0	24.10	23.45	PASS
		1	37	24.32	23.69	PASS
		1	74	23.98	23.38	PASS
		37	0	23.38	22.34	PASS
		37	18	23.44	22.34	PASS
		37	38	23.32	22.29	PASS
		75	0	23.36	22.45	PASS
	HCH	1	0	22.72	22.04	PASS
		1	37	23.68	23.04	PASS
		1	74	22.88	22.27	PASS
		37	0	22.95	21.83	PASS
		37	18	23.15	22.07	PASS
		37	38	23.24	22.17	PASS
		75	0	23.13	22.15	PASS

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	23.29	22.50	PASS
		1	49	24.26	22.50	PASS
		1	99	23.49	22.11	PASS
		50	0	22.51	21.64	PASS
		50	25	22.59	21.68	PASS
		50	50	22.71	21.35	PASS
		100	0	22.56	21.53	PASS
	MCH	1	0	24.06	22.89	PASS
		1	49	24.40	23.33	PASS
		1	99	23.84	23.03	PASS
		50	0	23.35	22.35	PASS
		50	25	23.49	22.46	PASS
		50	50	23.36	22.47	PASS
		100	0	23.36	22.44	PASS
	HCH	1	0	22.72	22.05	PASS
		1	49	23.72	23.08	PASS
		1	99	22.57	22.94	PASS
		50	0	23.11	22.01	PASS
		50	25	23.15	22.22	PASS
		50	50	23.16	22.16	PASS
		100	0	23.15	22.17	PASS

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	5.17	<13	PASS
	MCH	5.12	<13	PASS
	HCH	4.54	<13	PASS
16QAM	LCH	5.92	<13	PASS
	MCH	5.89	<13	PASS
	HCH	5.32	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.05	<13	PASS
	MCH	5.14	<13	PASS
	HCH	4.73	<13	PASS
16QAM	LCH	5.85	<13	PASS
	MCH	5.90	<13	PASS
	HCH	5.61	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	4.89	<13	PASS
	MCH	4.98	<13	PASS
	HCH	4.95	<13	PASS
16QAM	LCH	6.12	<13	PASS
	MCH	6.19	<13	PASS
	HCH	6.14	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.73	<13	PASS
	MCH	5.77	<13	PASS
	HCH	5.75	<13	PASS
16QAM	LCH	6.64	<13	PASS
	MCH	6.69	<13	PASS
	HCH	6.66	<13	PASS

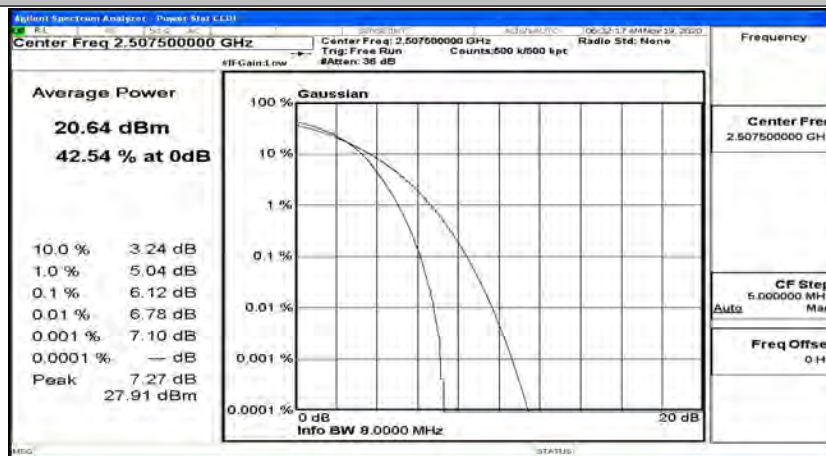## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK
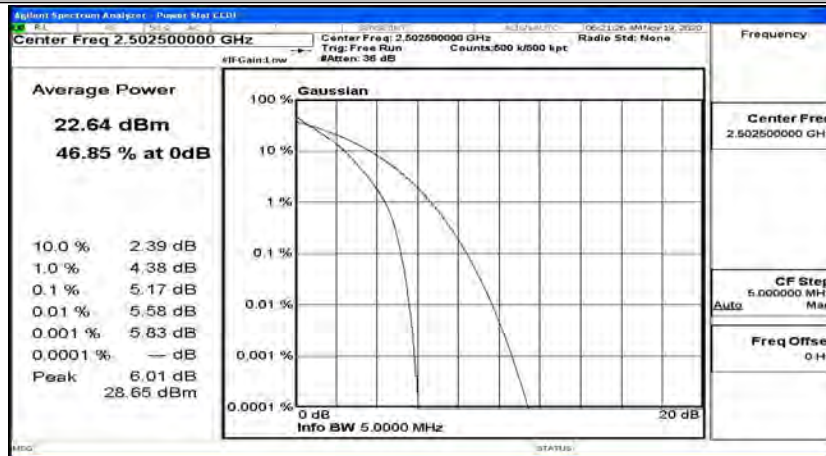
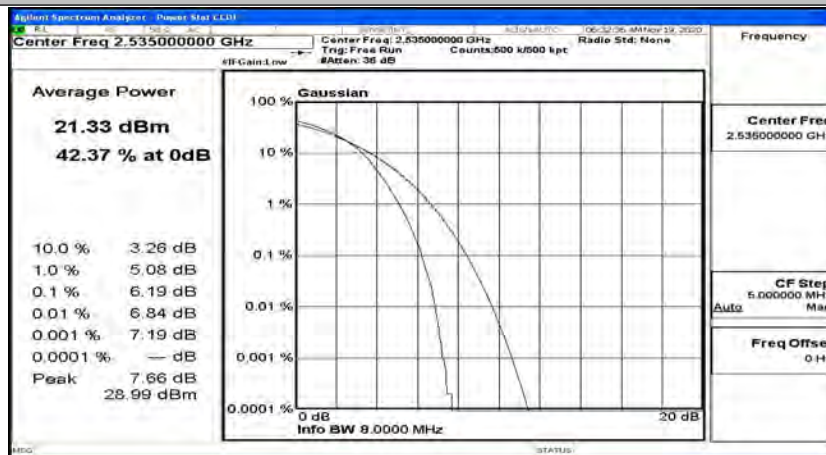## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK
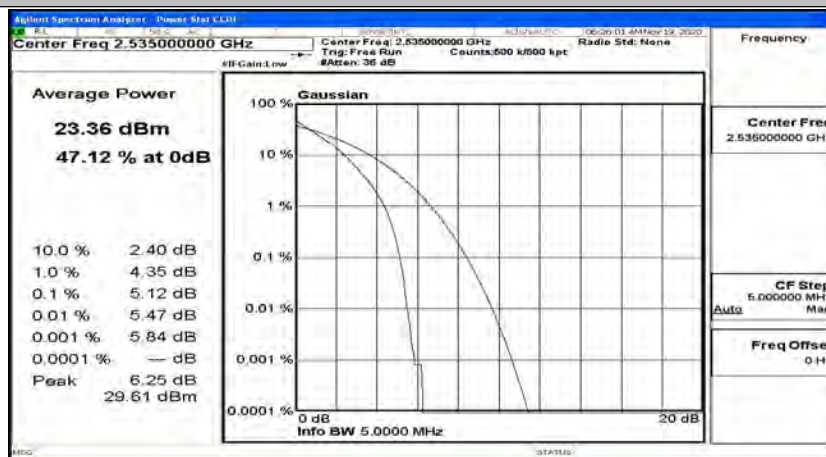
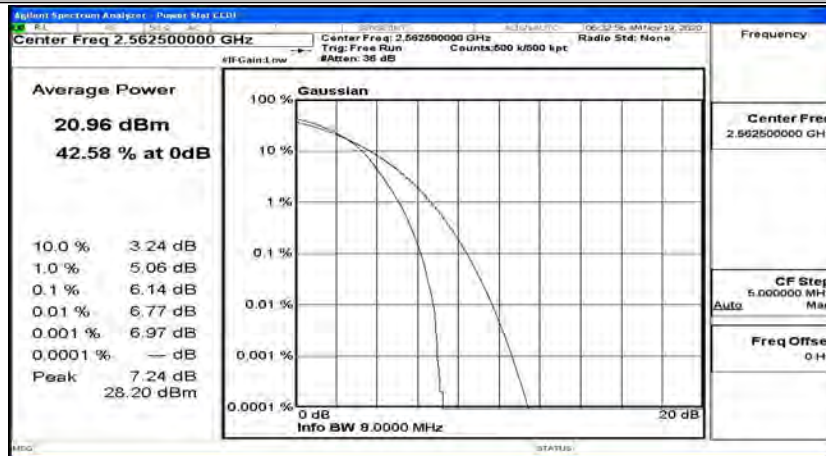## Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK
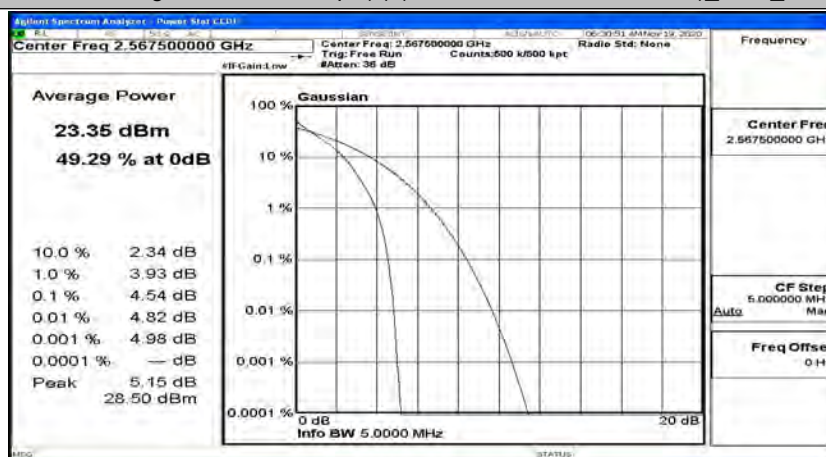
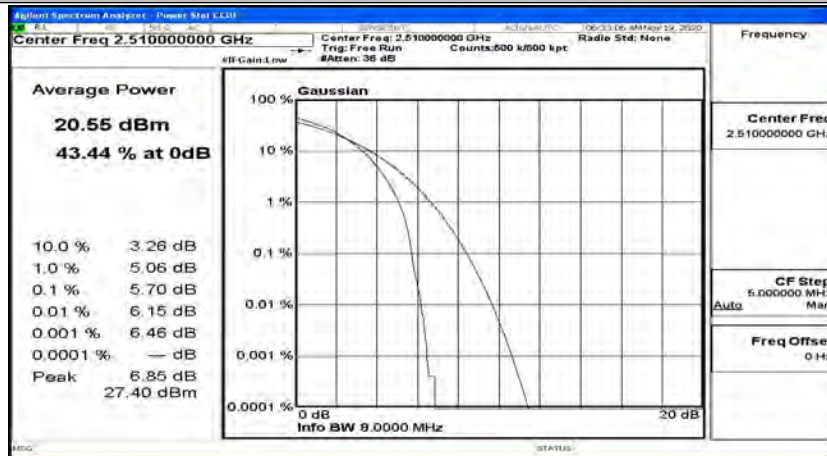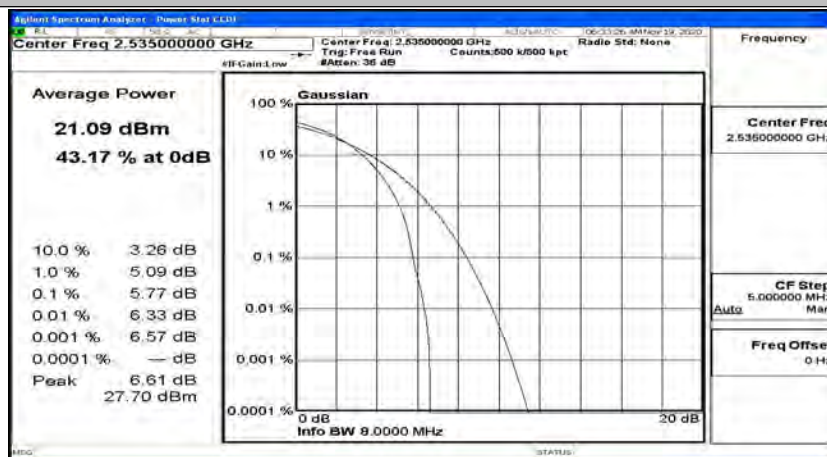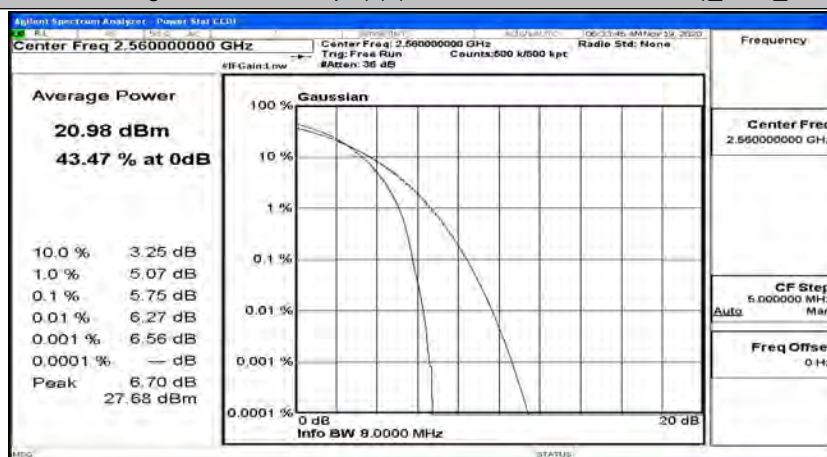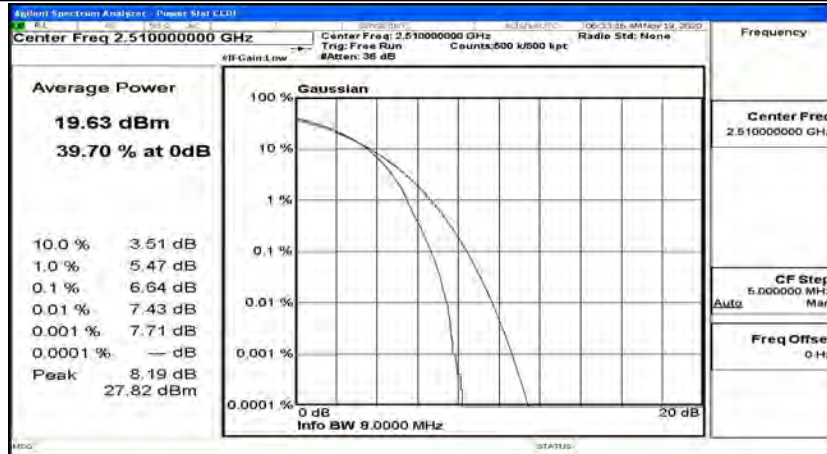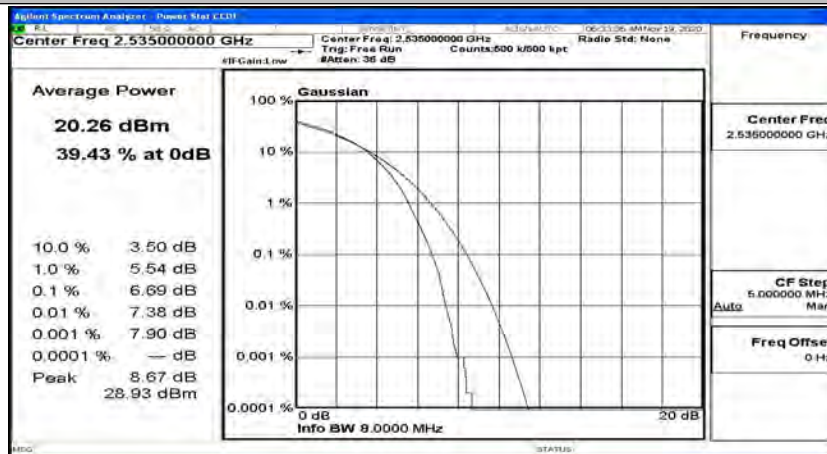| Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM |
|---|
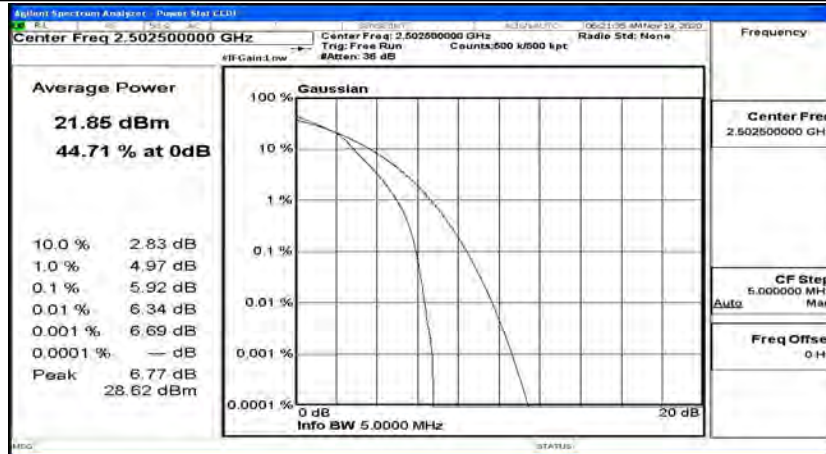
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM
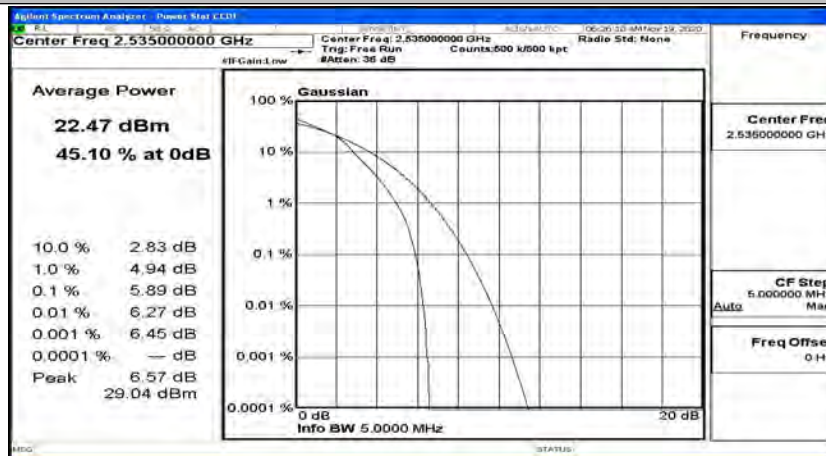
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM
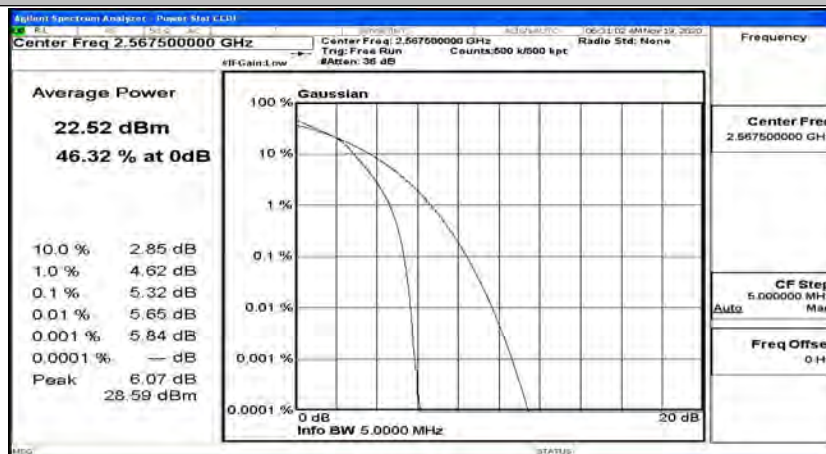
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK
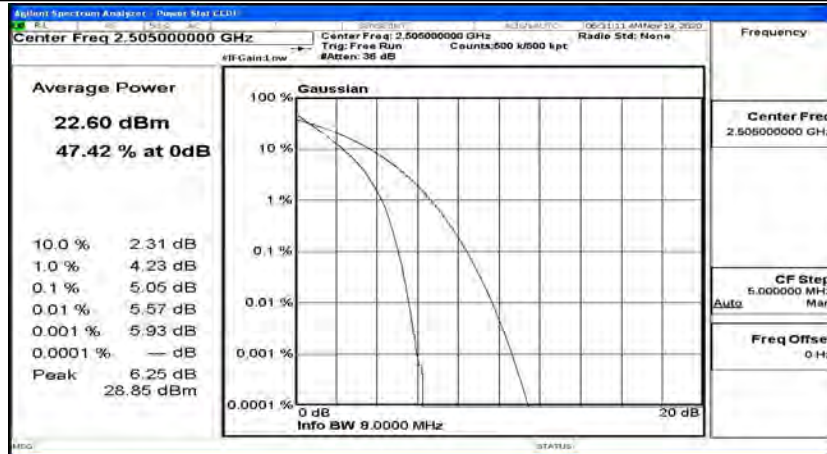
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK
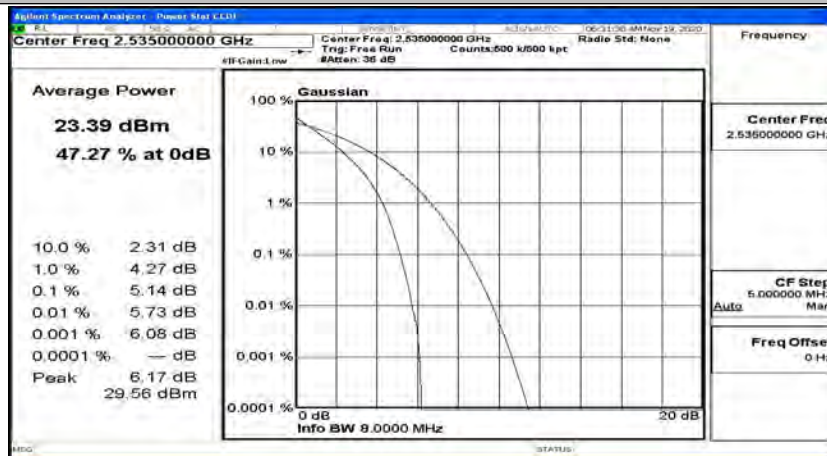
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK
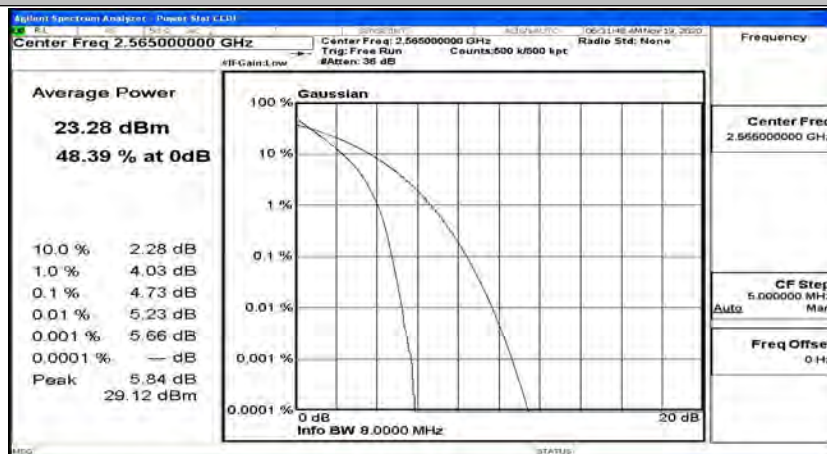
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM

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

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

Agilent Spectrum Analyzer - Power Stat CCDF

Center Freq 2.565000000 GHz   Center Freq 2.565000000 GHz   Radio Std: None   Frequency
                                     Trig: Free Run   Counts:500 k/500 kpt
#IF Gain:Low   #Atten: 36 dB

Average Power   100 %   Gaussian   Center Freq
22.21 dBm   2.565000000 GHz
45.84 % at 0dB   10 %

                     1 %

10.0 %   2.87 dB   0.1 %
1.0 %   4.77 dB
0.1 %   5.61 dB
0.01 %   6.10 dB   0.01 %   CF Step
0.001 %   6.39 dB   5.000000 MHz
0.0001 %   — dB   0.001 %   Auto   Man
Peak   6.53 dB   Freq Offset
          28.74 dBm   0 Hz
                     0.0001 % 0 dB   20 dB
                             Info BW 8.0000 MHz

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

Agilent Spectrum Analyzer - Power Stat CCDF

Center Freq 2.507500000 GHz   Center Freq 2.507500000 GHz   Radio Std: None   Frequency
                                     Trig: Free Run   Counts:500 k/500 kpt
#IF Gain:Low   #Atten: 36 dB

Average Power   100 %   Gaussian   Center Freq
21.58 dBm   2.507500000 GHz
47.15 % at 0dB   10 %

                     1 %

10.0 %   2.88 dB   0.1 %
1.0 %   4.20 dB
0.1 %   4.89 dB
0.01 %   5.35 dB   0.01 %   CF Step
0.001 %   5.65 dB   5.000000 MHz
0.0001 %   — dB   0.001 %   Auto   Man
Peak   5.76 dB   Freq Offset
          27.34 dBm   0 Hz
                     0.0001 % 0 dB   20 dB
                             Info BW 8.0000 MHz

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

Agilent Spectrum Analyzer - Power Stat CCDF

Center Freq 2.535000000 GHz   Center Freq 2.535000000 GHz   Radio Std: None   Frequency
                                     Trig: Free Run   Counts:500 k/500 kpt
#IF Gain:Low   #Atten: 36 dB

Average Power   100 %   Gaussian   Center Freq
22.27 dBm   2.535000000 GHz
46.88 % at 0dB   10 %

                     1 %

10.0 %   2.88 dB   0.1 %
1.0 %   4.26 dB
0.1 %   4.98 dB
0.01 %   5.42 dB   0.01 %   CF Step
0.001 %   5.67 dB   5.000000 MHz
0.0001 %   — dB   0.001 %   Auto   Man
Peak   5.90 dB   Freq Offset
          28.17 dBm   0 Hz
                     0.0001 % 0 dB   20 dB
                             Info BW 8.0000 MHz

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

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
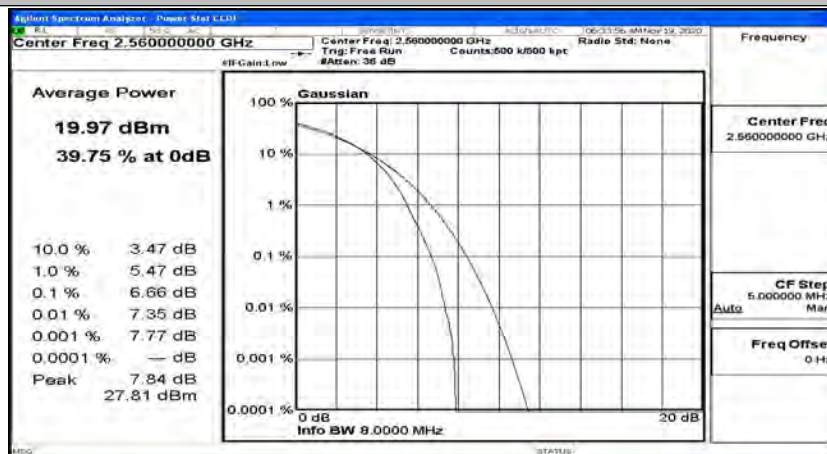
E.3 26dB Bandwidth and Occupied Bandwidth

EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.4712	4.784	PASS
	MCH	4.4732	4.838	PASS
	HCH	4.4641	4.810	PASS
16QAM	LCH	4.4802	4.806	PASS
	MCH	4.4720	4.786	PASS
	HCH	4.4728	4.787	PASS

EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	8.9140	9.467	PASS
	MCH	8.9257	9.482	PASS
	HCH	8.9345	9.477	PASS
16QAM	LCH	8.9259	9.420	PASS
	MCH	8.9352	9.402	PASS
	HCH	8.9117	9.421	PASS

EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	13.374	14.02	PASS
	MCH	13.373	14.04	PASS
	HCH	13.376	14.04	PASS
16QAM	LCH	13.374	13.97	PASS
	MCH	13.379	14.04	PASS
	HCH	13.370	14.04	PASS

EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	17.810	18.59	PASS
	MCH	17.853	18.61	PASS
	HCH	17.840	18.63	PASS
16QAM	LCH	17.798	18.53	PASS
	MCH	17.846	18.71	PASS
	HCH	17.817	18.53	PASS

EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK
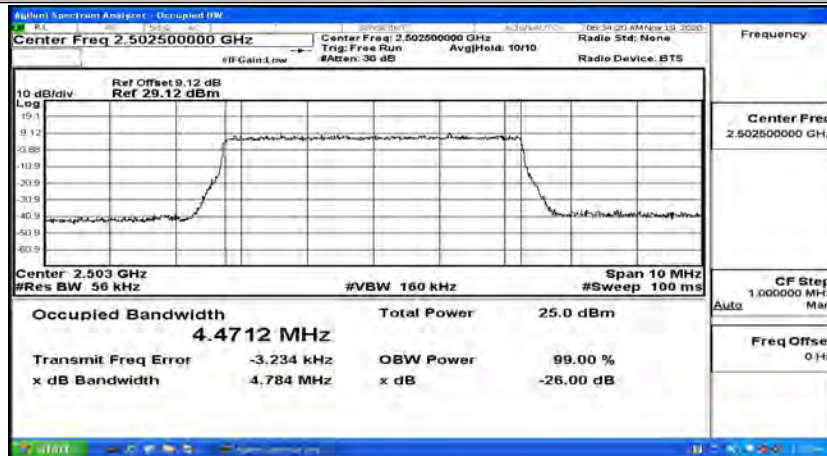
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK
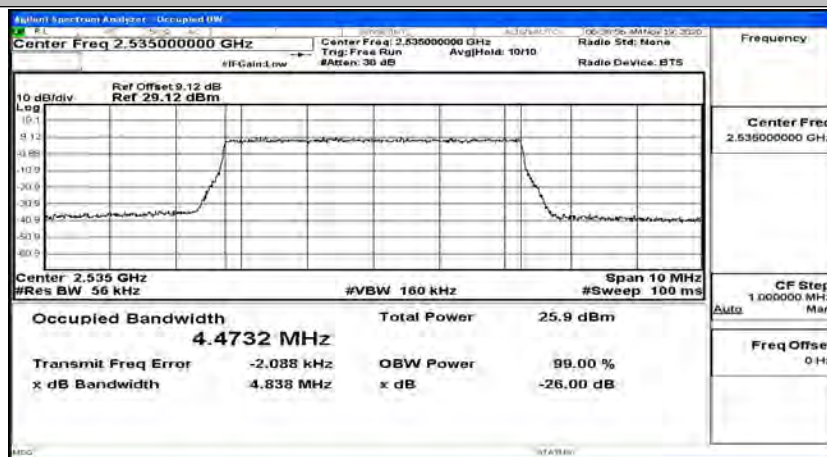
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK
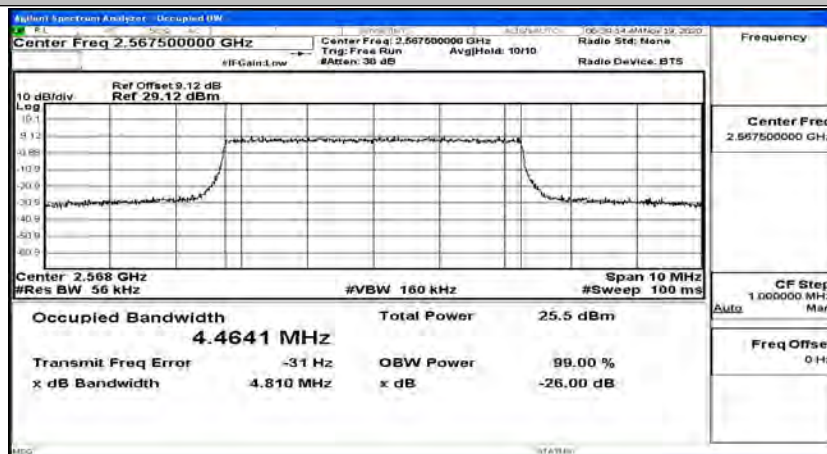
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM
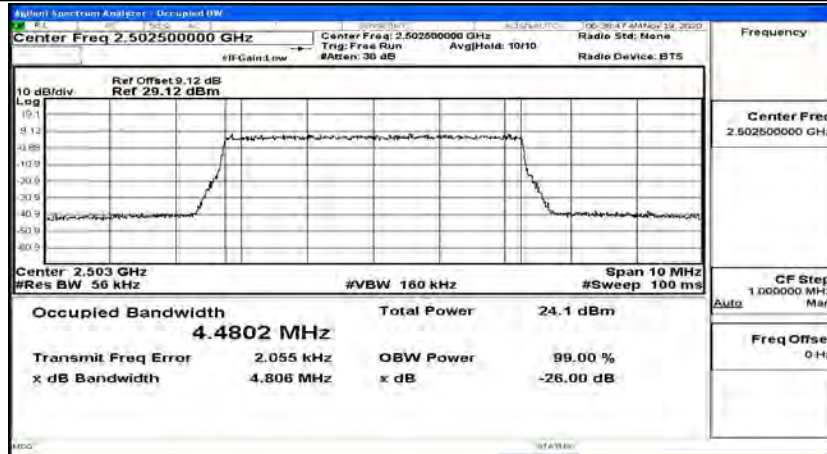
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM
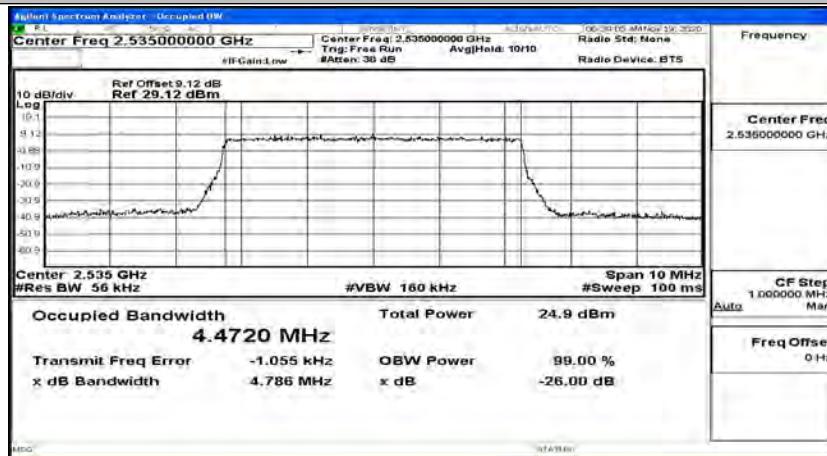
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM
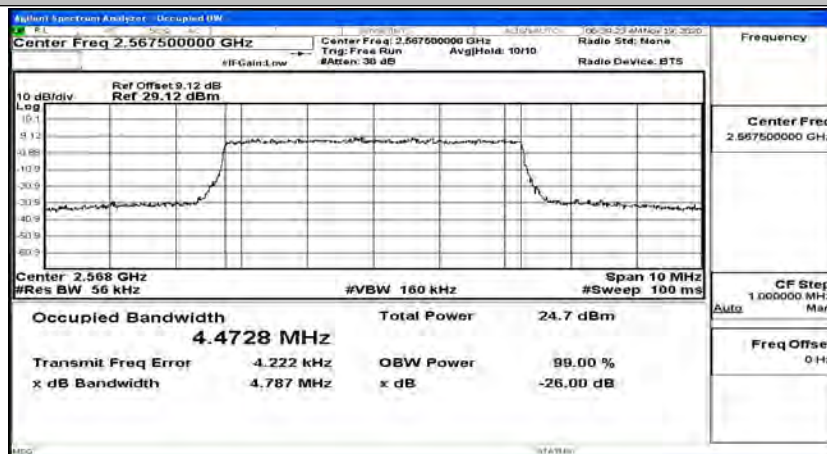
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK
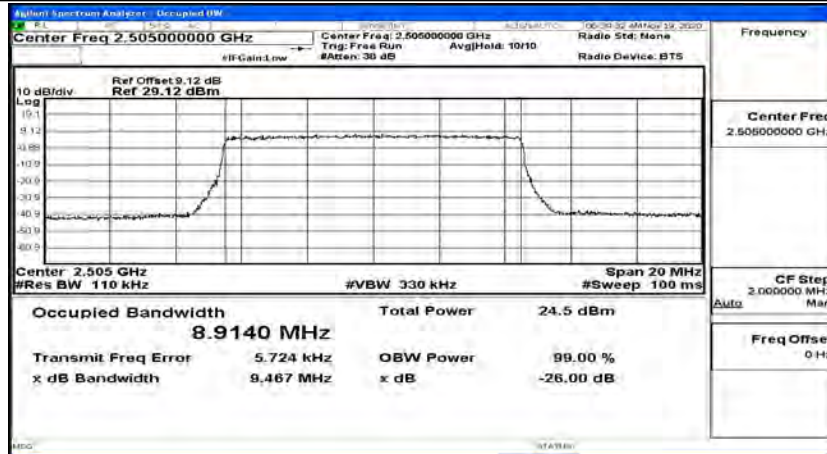
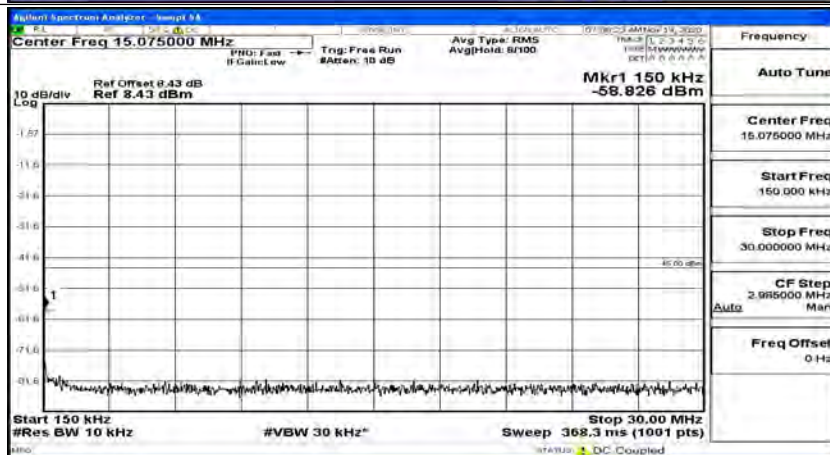| EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK |
|---|
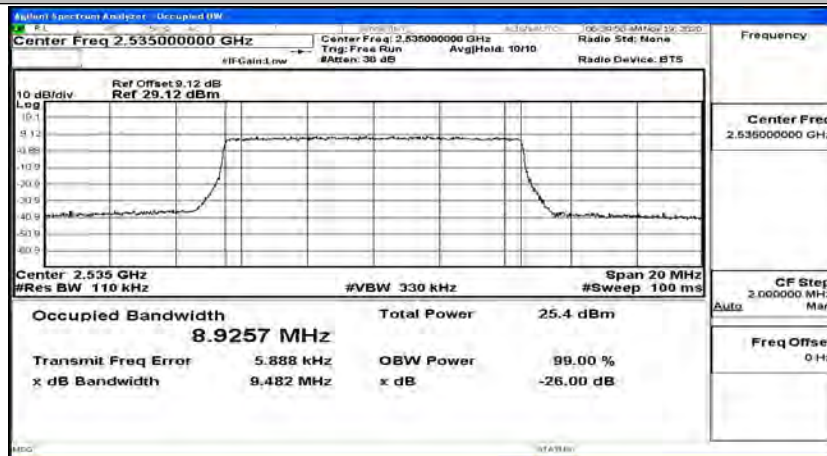
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK
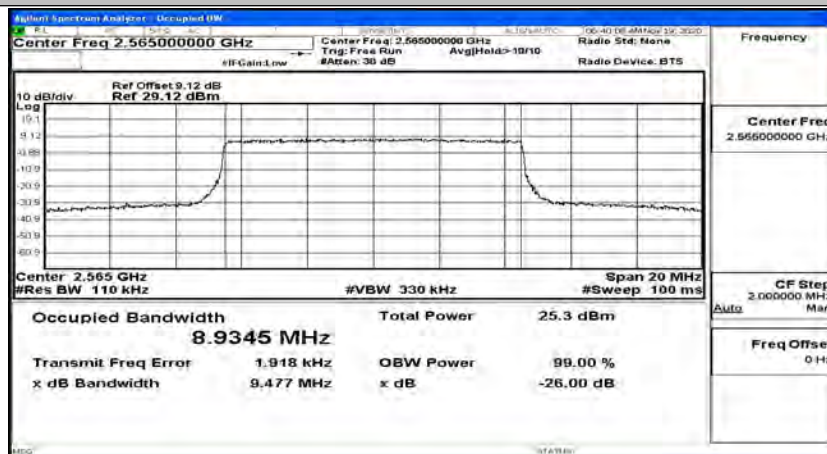
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM
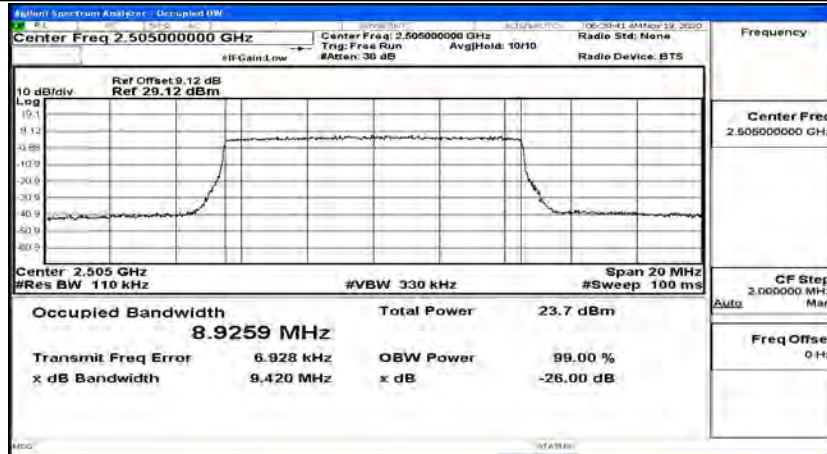
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM
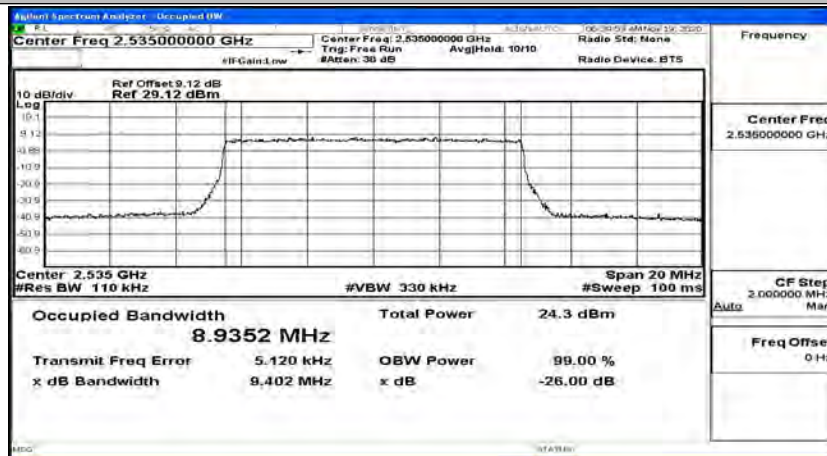
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM
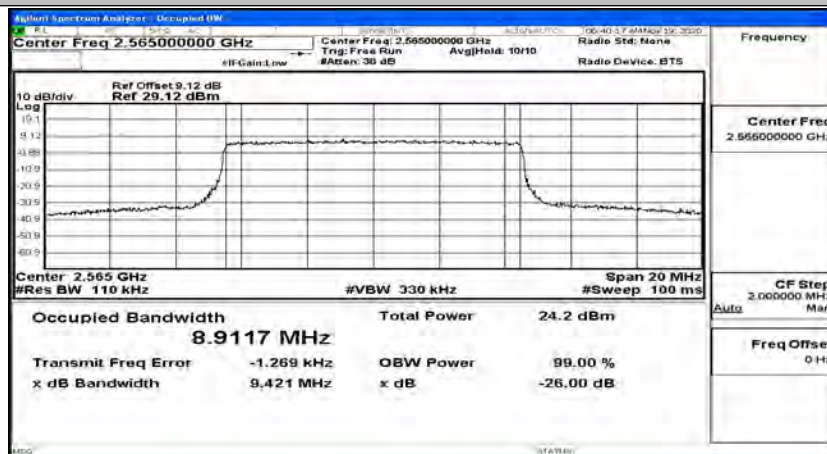
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK
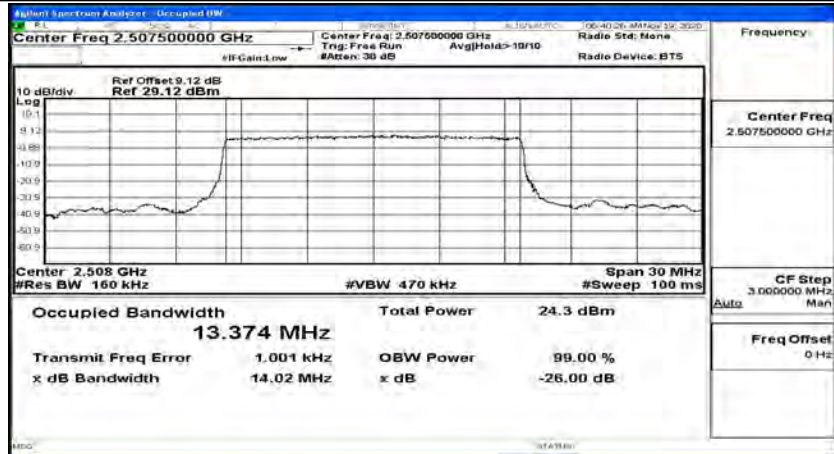
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK

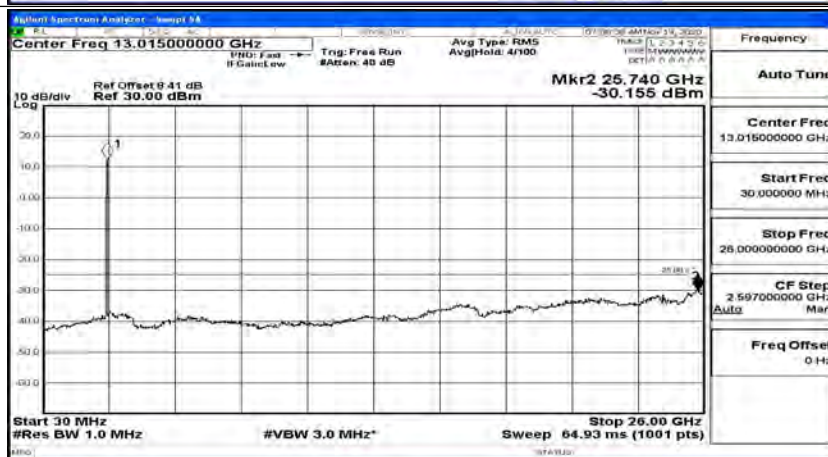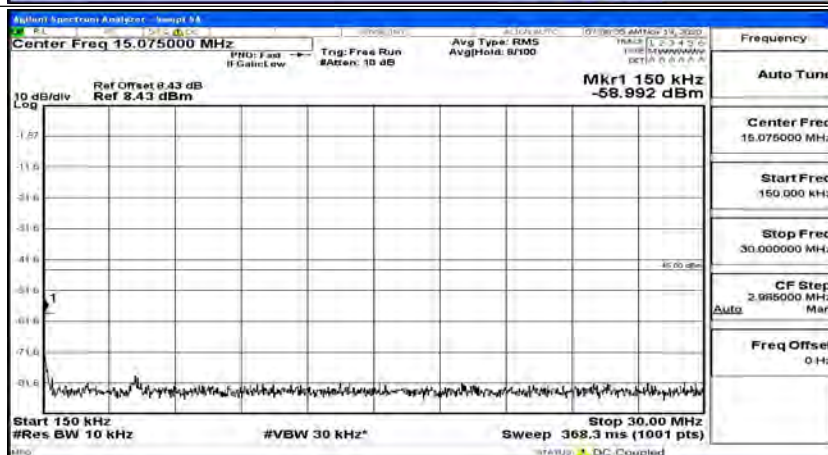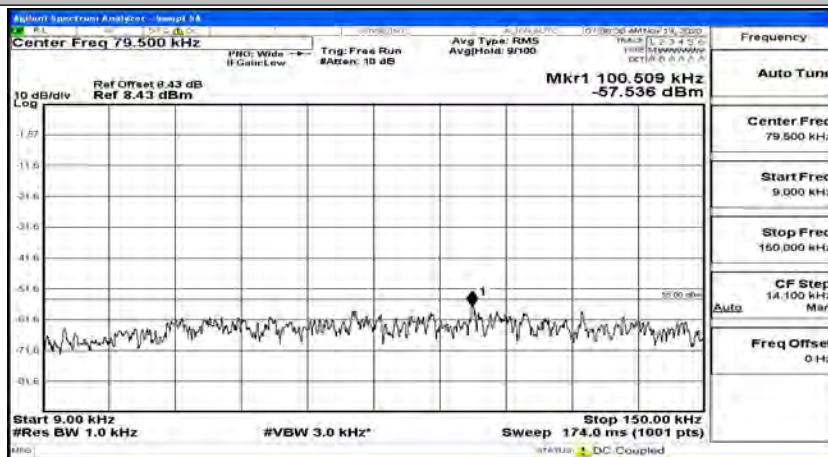| EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK |
|---|
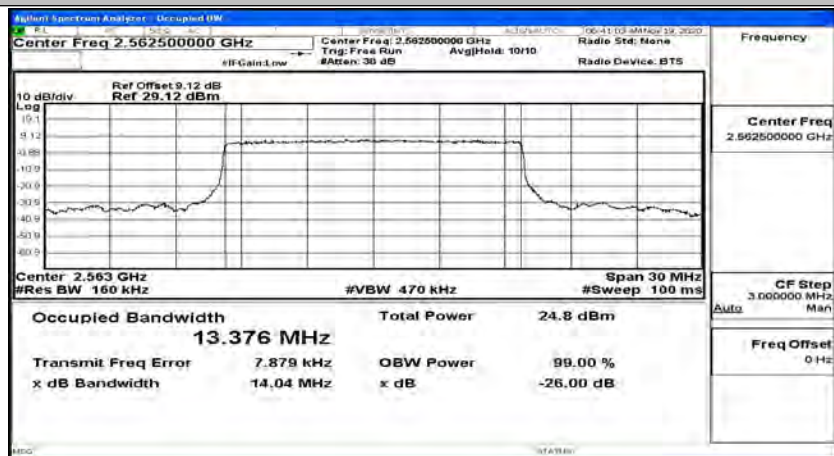
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM
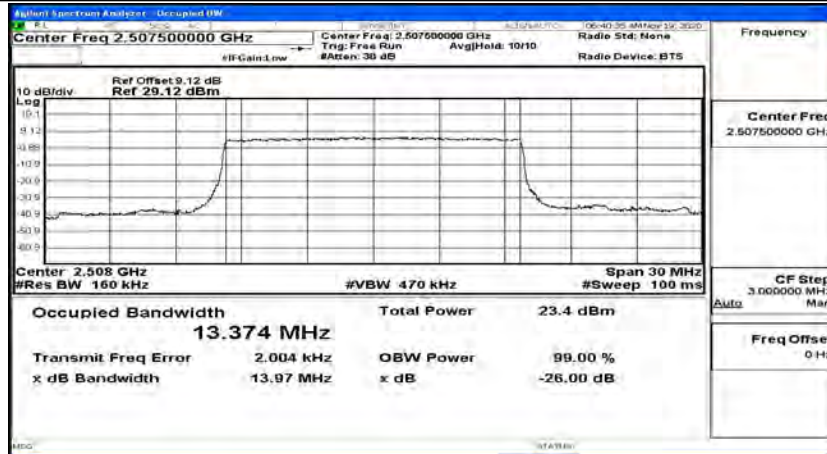
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM
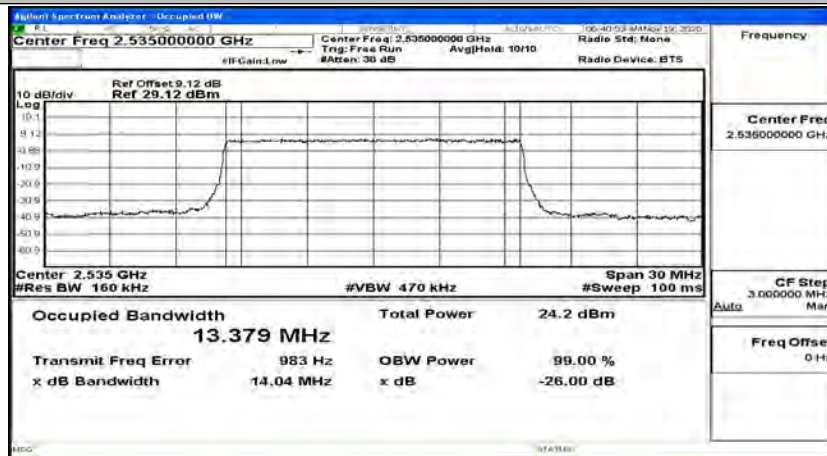
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM
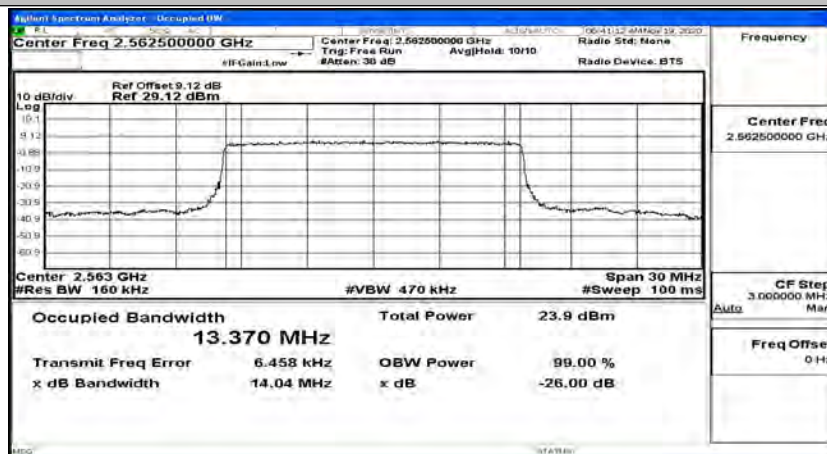
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK
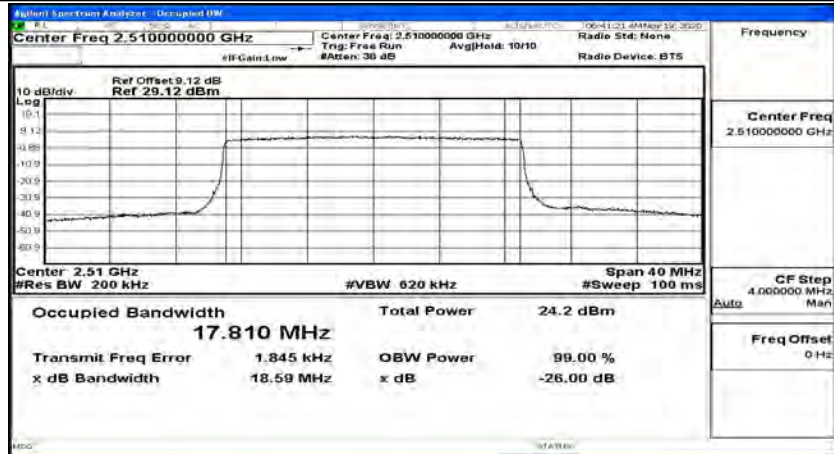
| EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK |
|---|
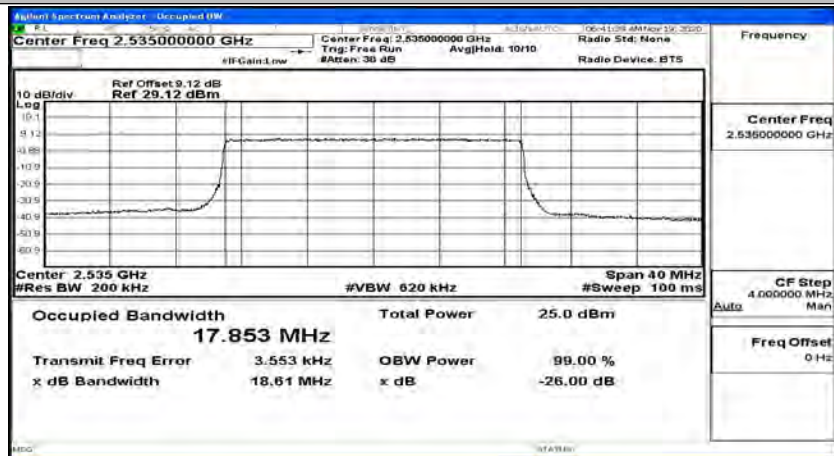
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK
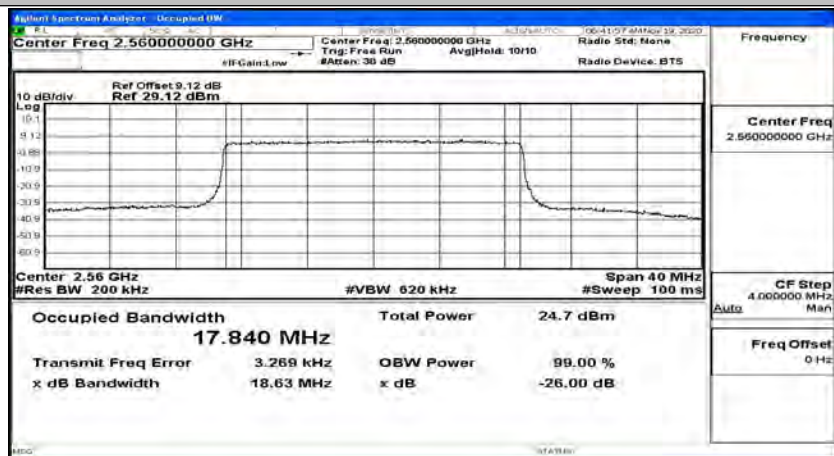
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM

Occupied Bandwidth	Total Power	23.3 dBm
17.798 MHz		
Transmit Freq Error	4.085 kHz	OBW Power	99.00 %
x dB Bandwidth	18.53 MHz	x dB	-26.00 dB

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

Occupied Bandwidth	Total Power	24.0 dBm
17.846 MHz		
Transmit Freq Error	-14.273 kHz	OBW Power	99.00 %
x dB Bandwidth	18.71 MHz	x dB	-26.00 dB

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

Occupied Bandwidth	Total Power	23.8 dBm
17.817 MHz		
Transmit Freq Error	4.379 kHz	OBW Power	99.00 %
x dB Bandwidth	18.53 MHz	x dB	-26.00 dB
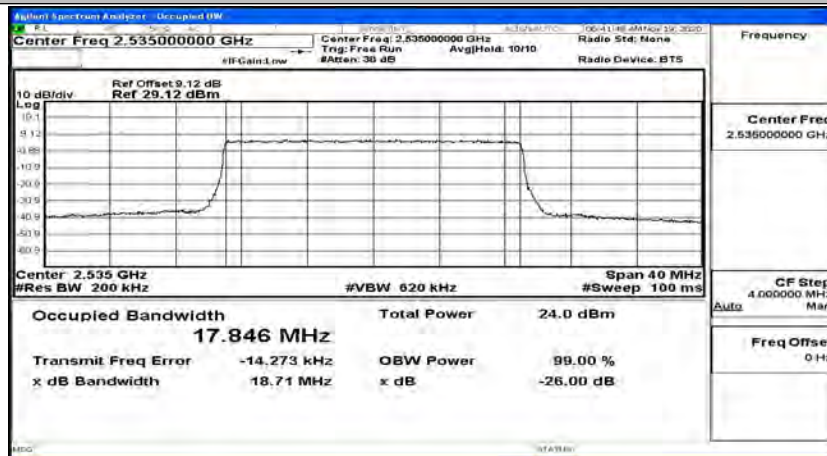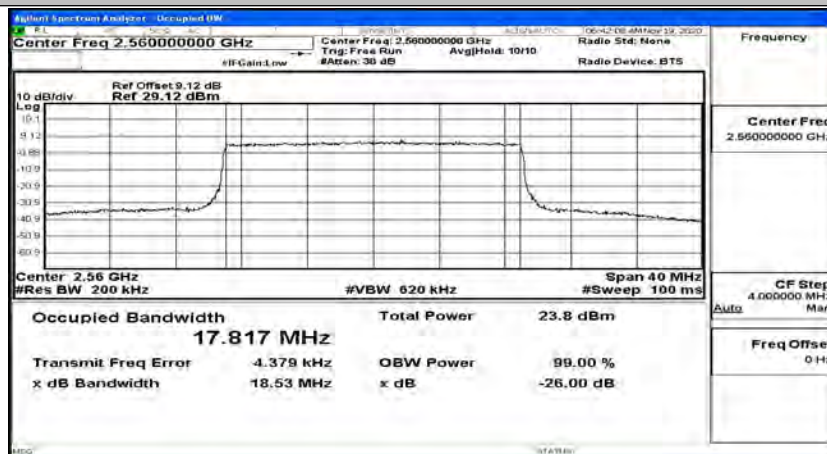
E.4 Band Edge

Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK
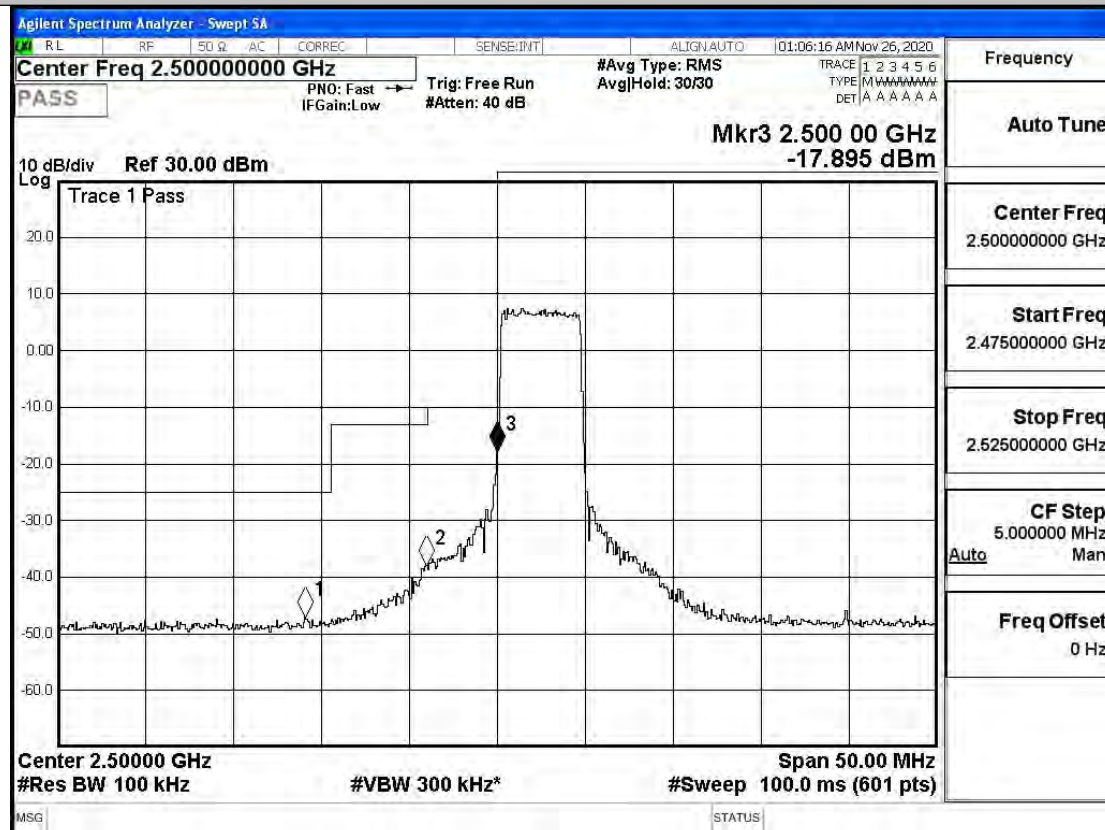
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK
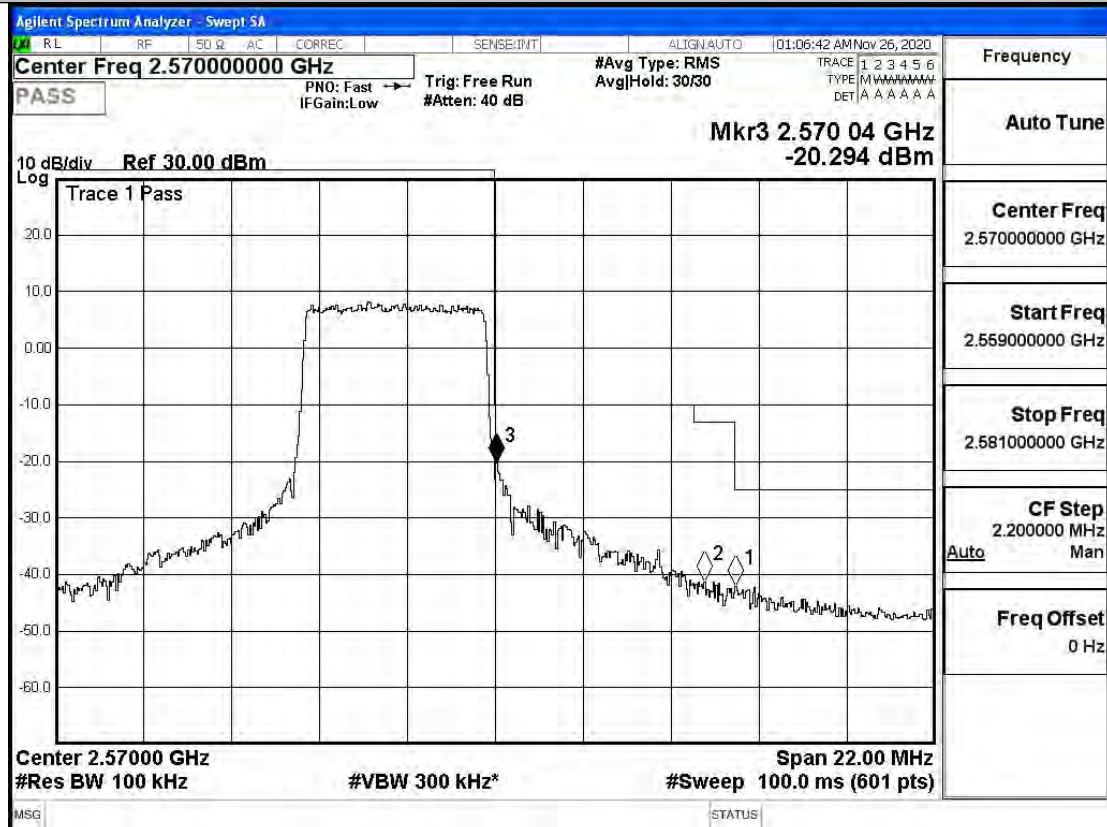
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM
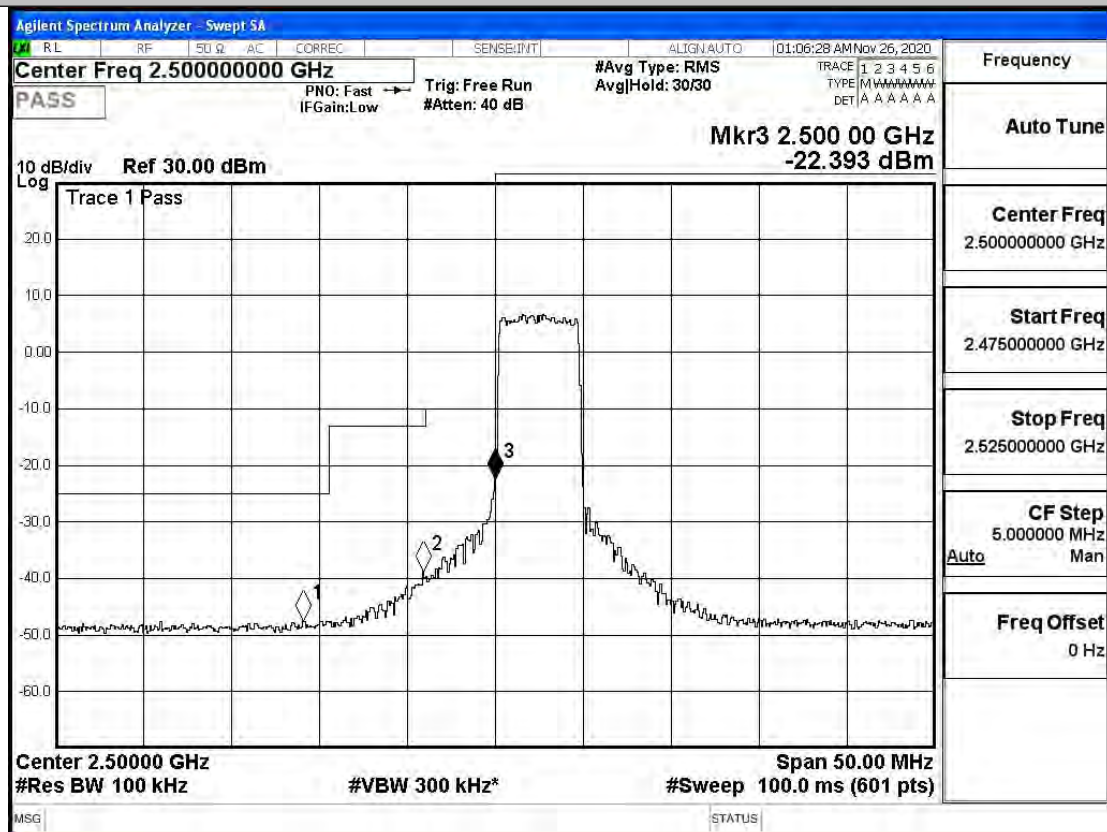
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM
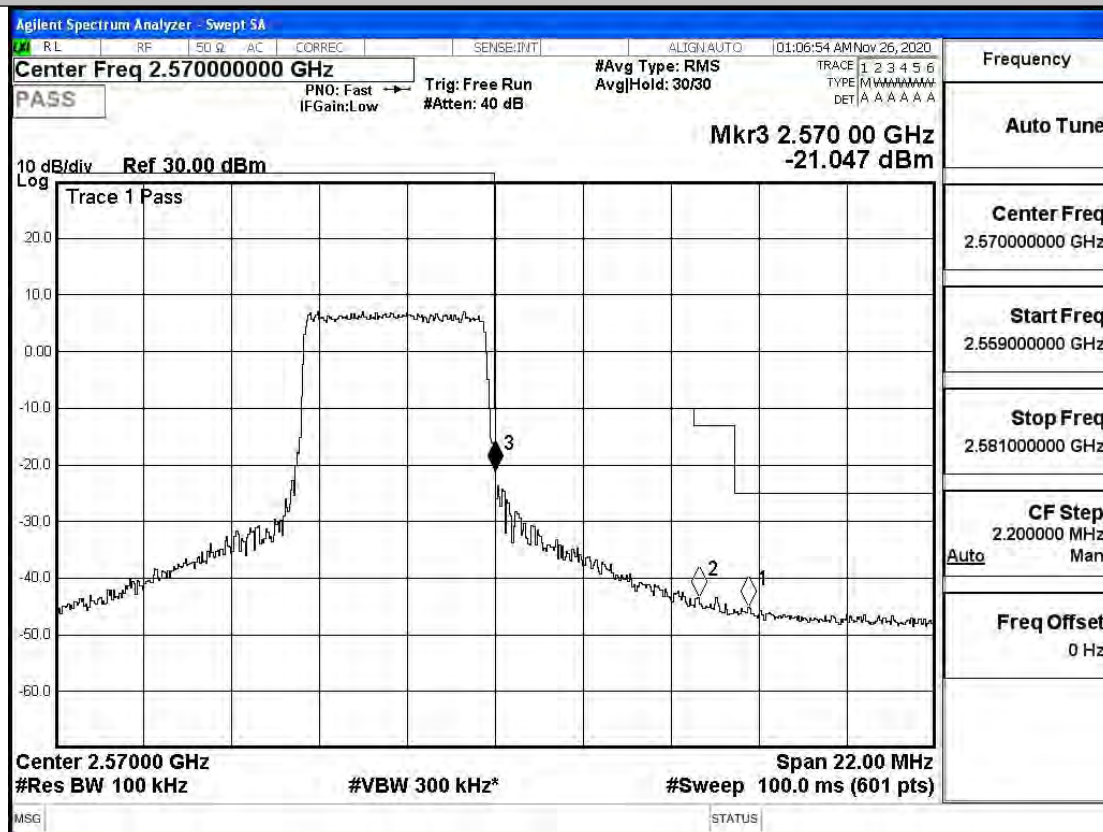

Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK
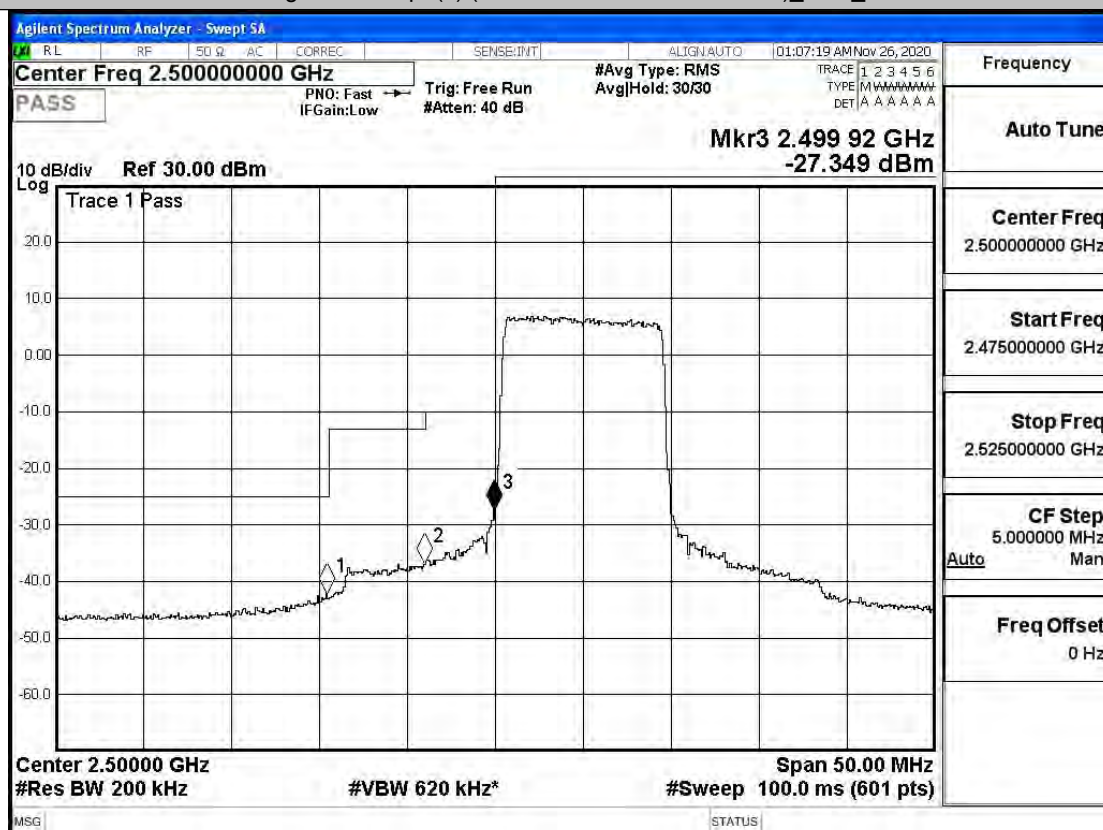
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK
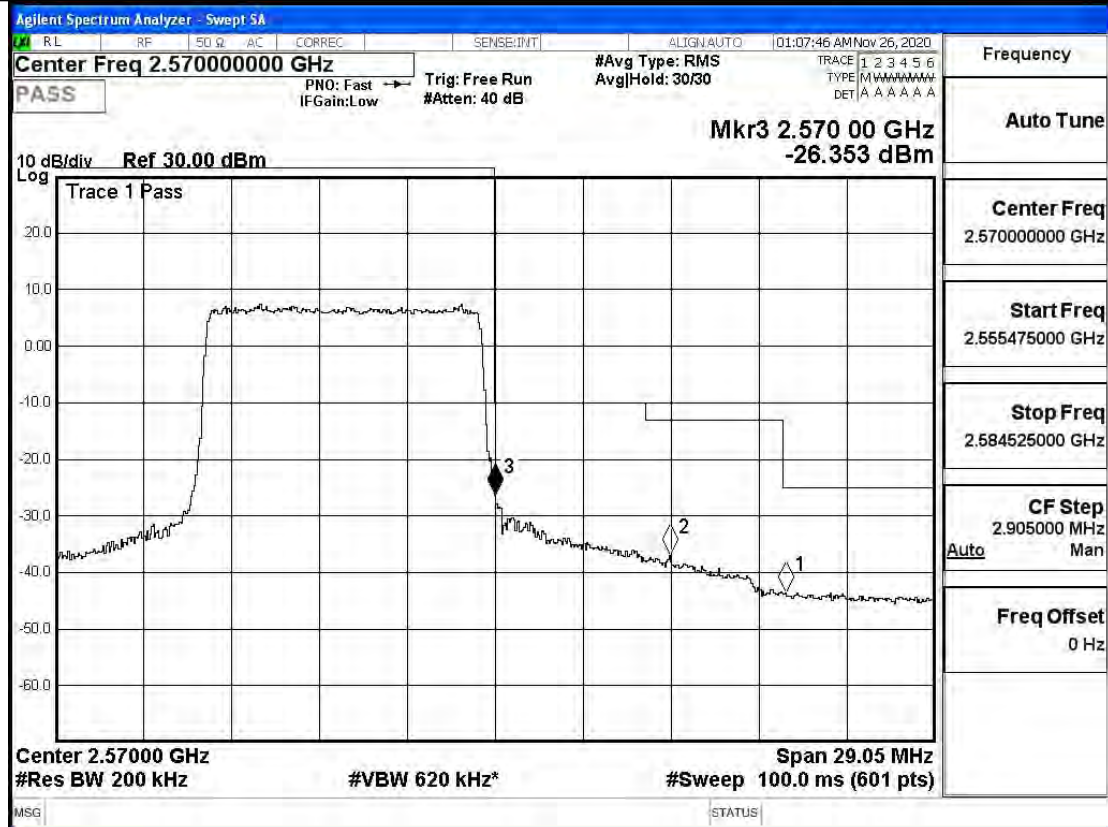
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM
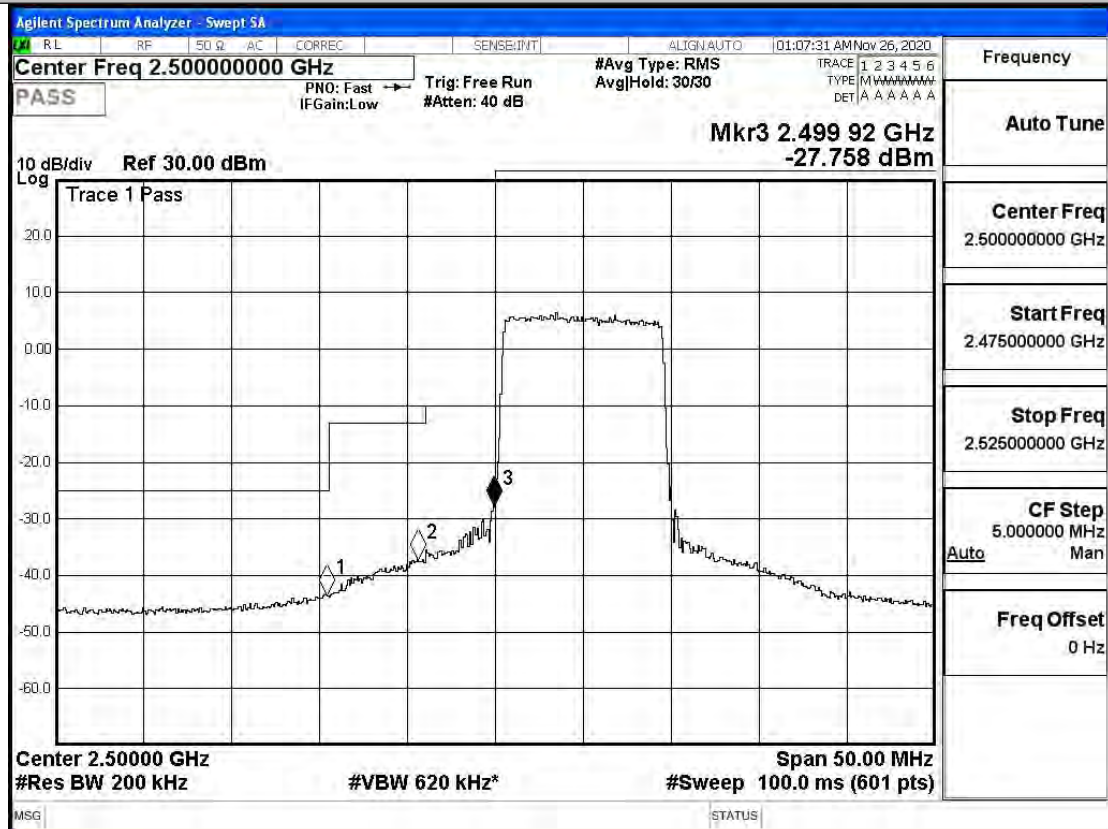
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM
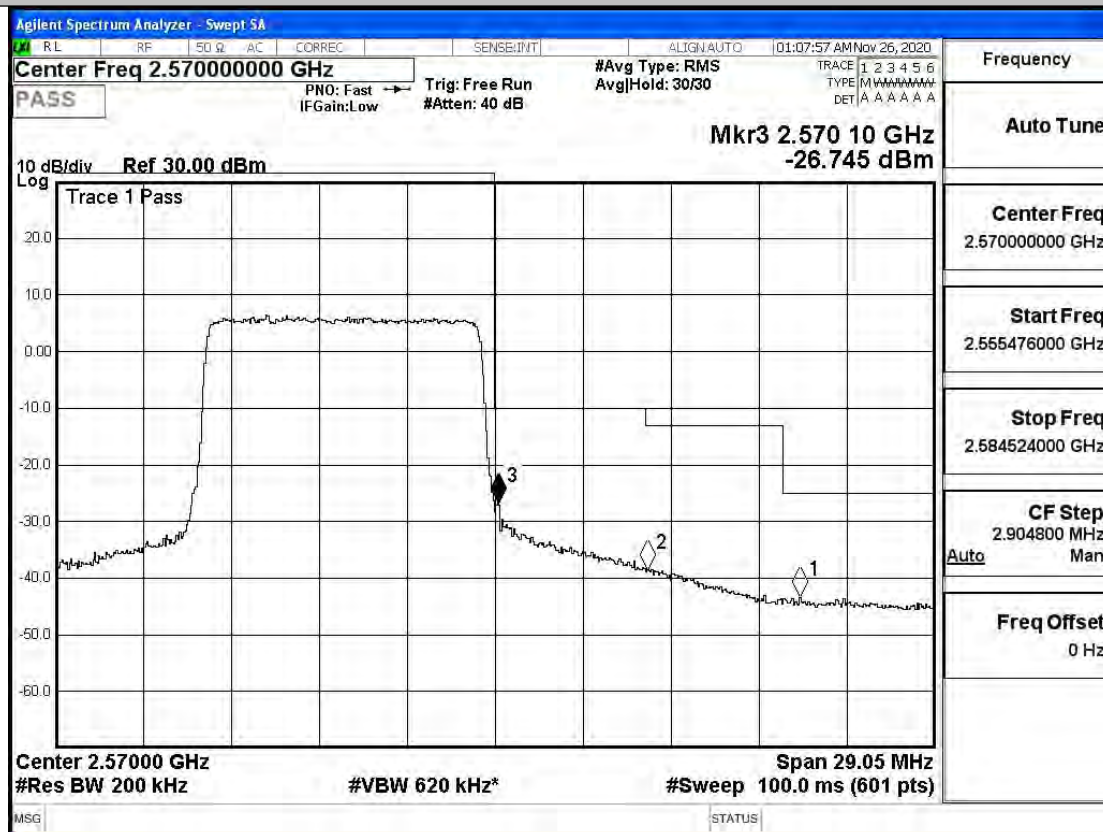
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK

Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK
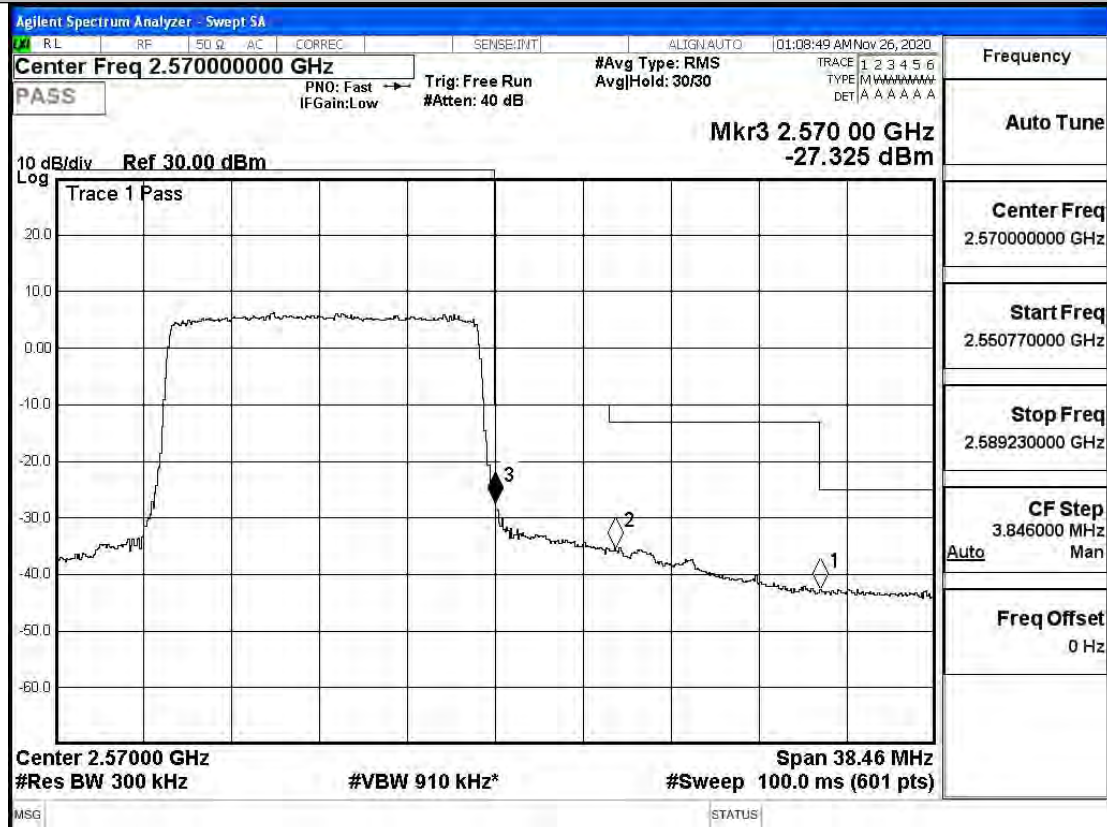
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM
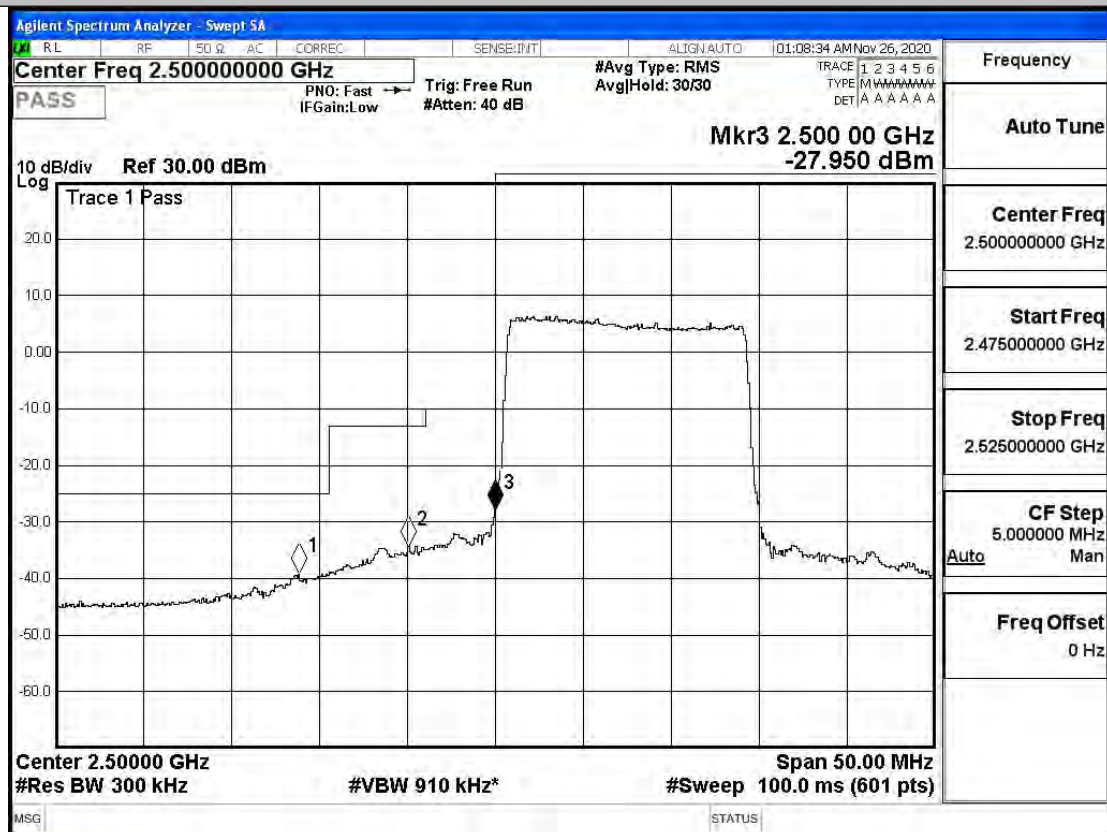
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM
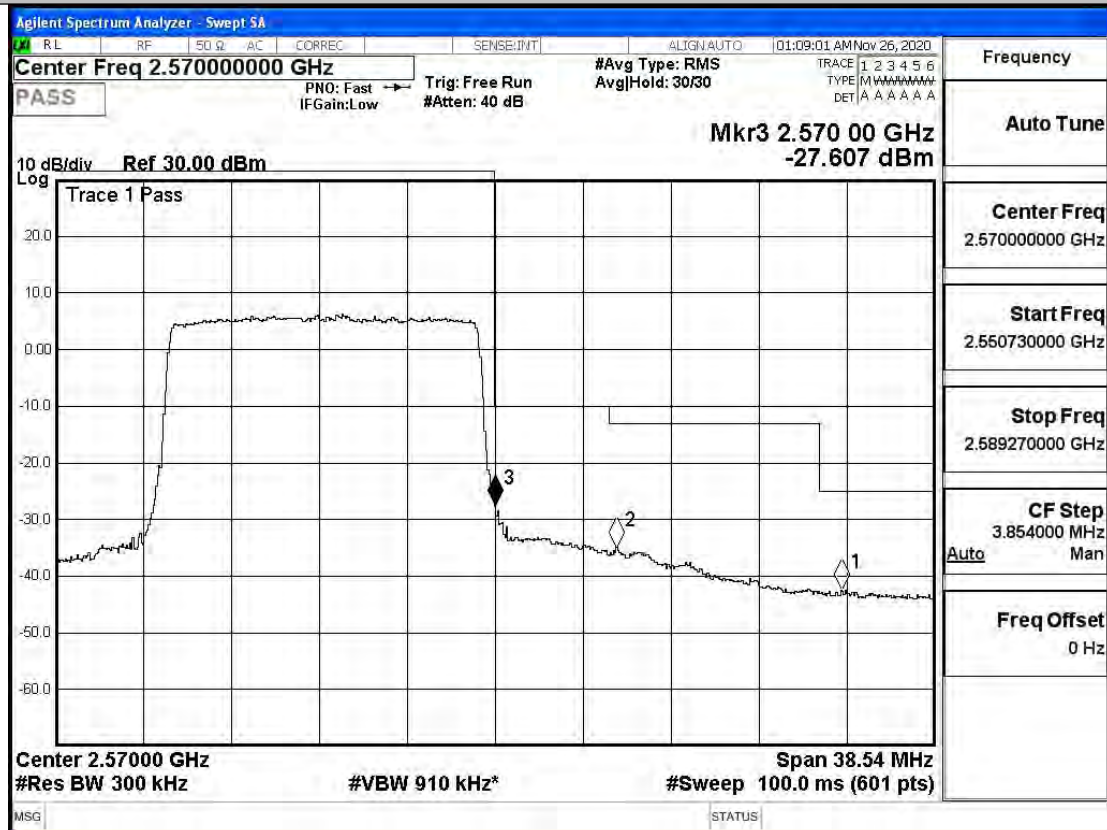
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK
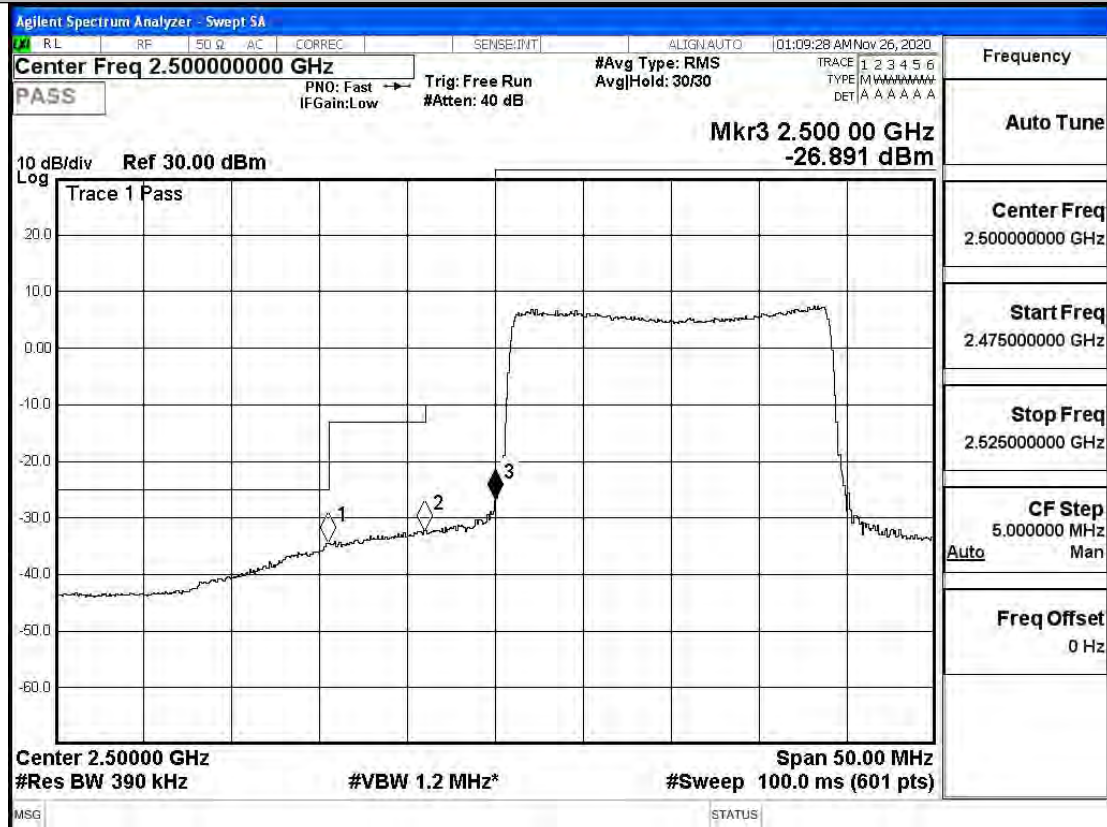
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK

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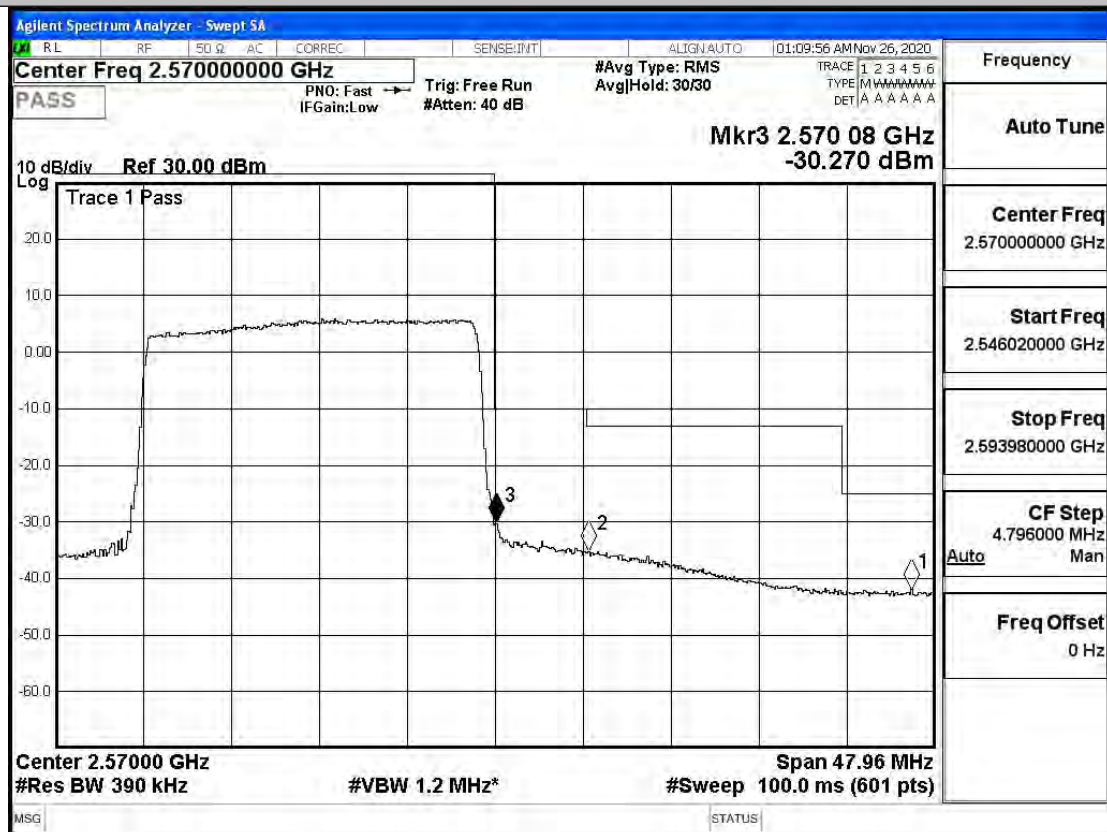
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM
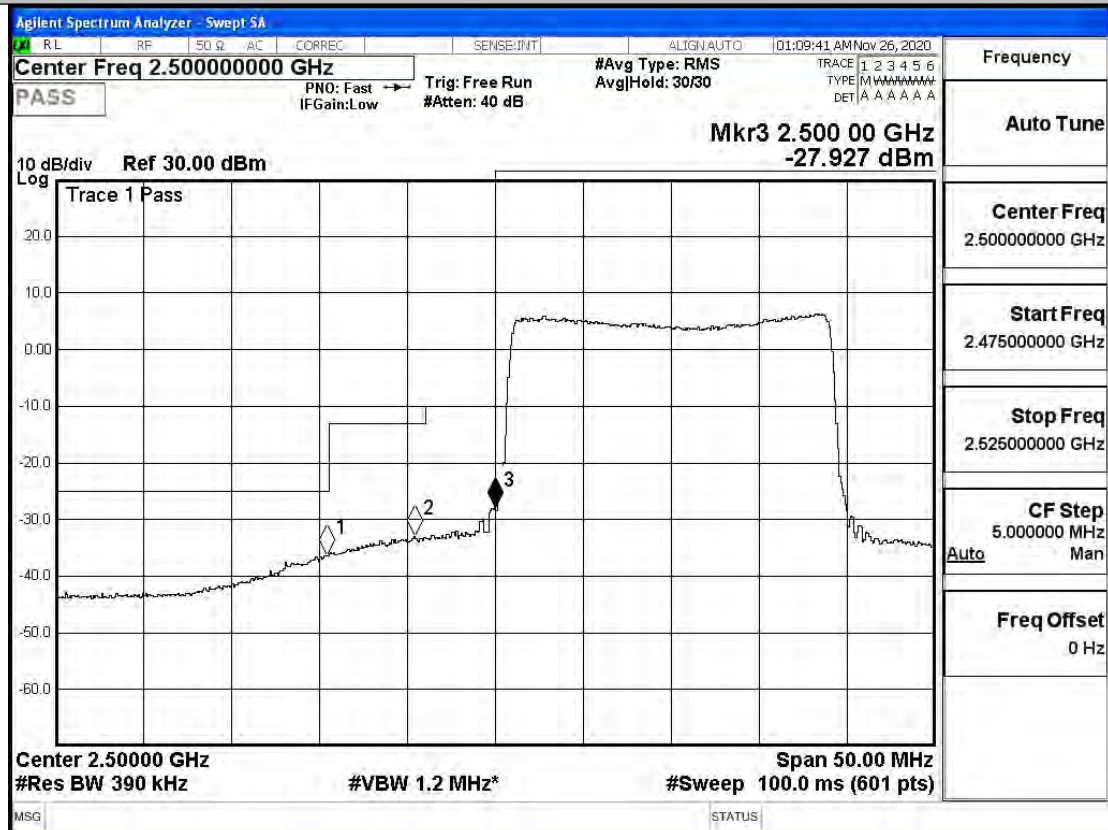
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM
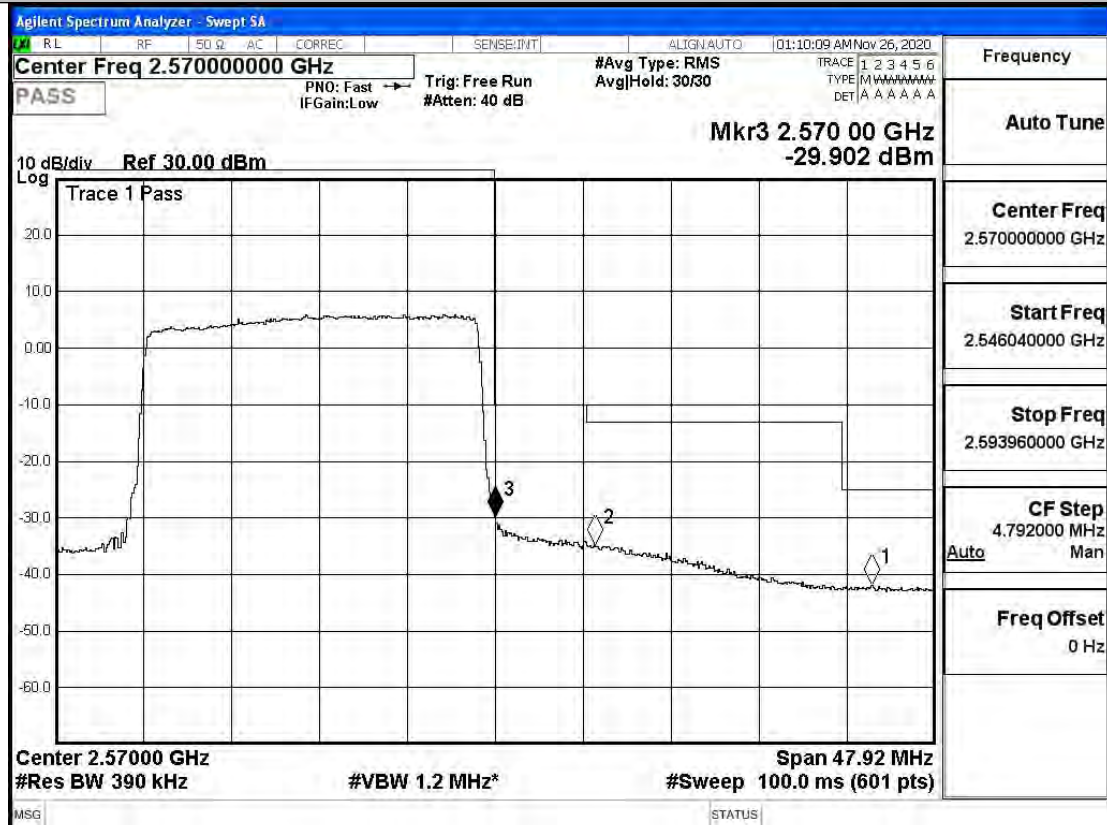
E.5 Conducted Spurious Emission

Test Graphs

Channel Bandwidth: 5 MHz

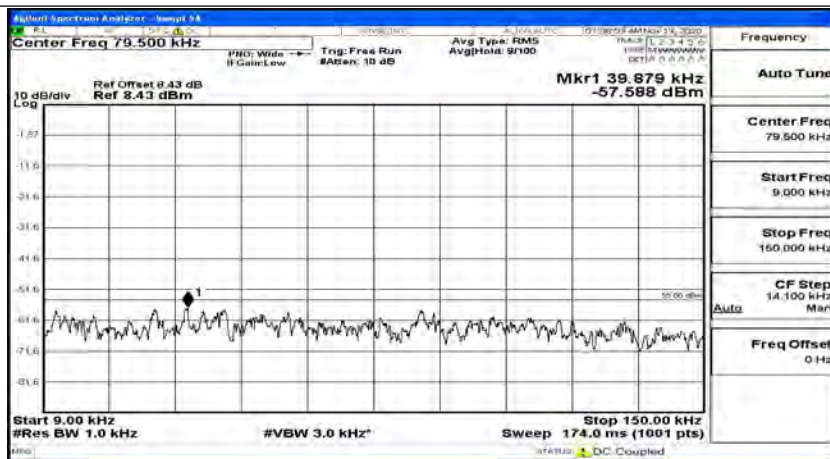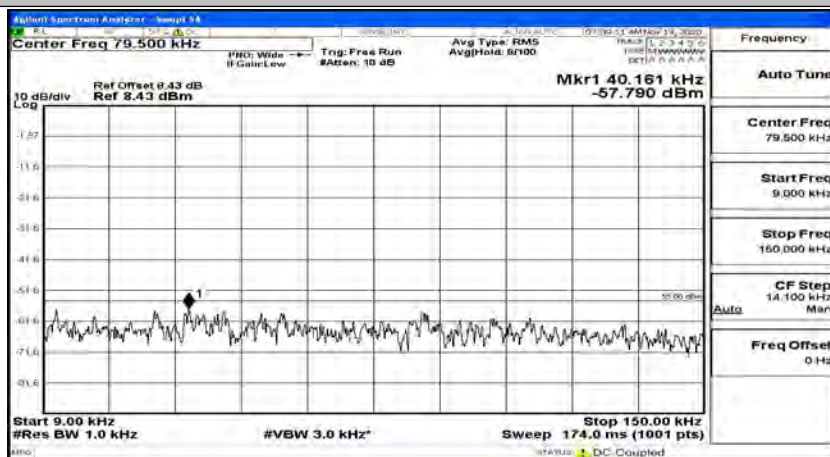| (Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#0 |
|---|
| |
| |
| |
| (Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#12 |
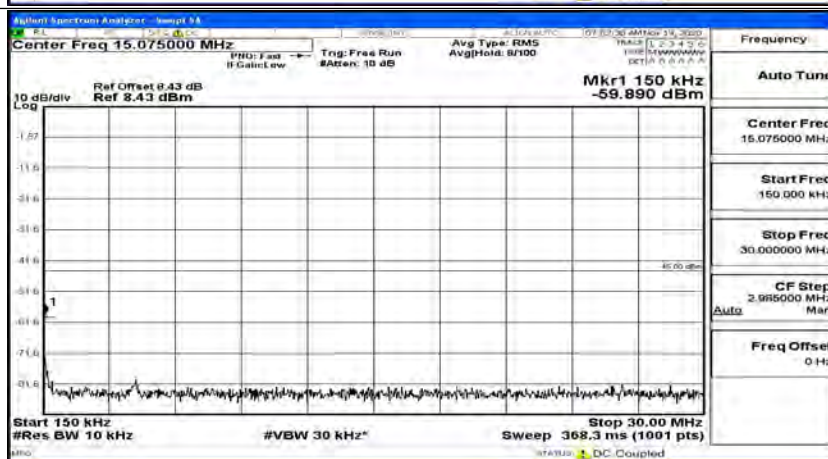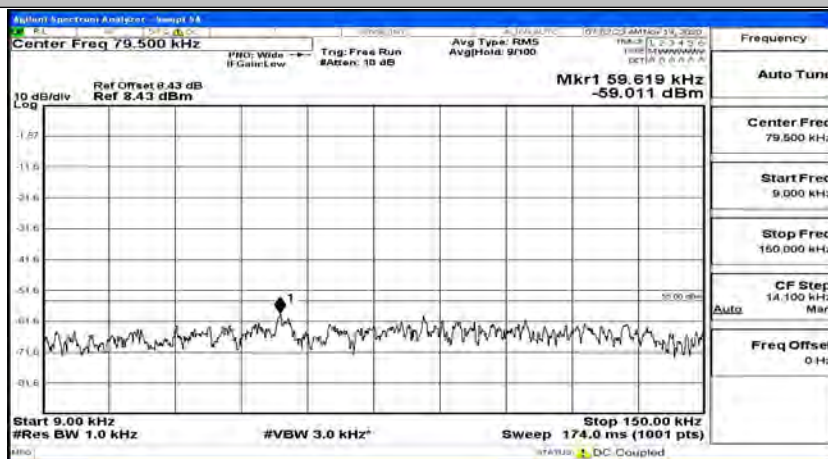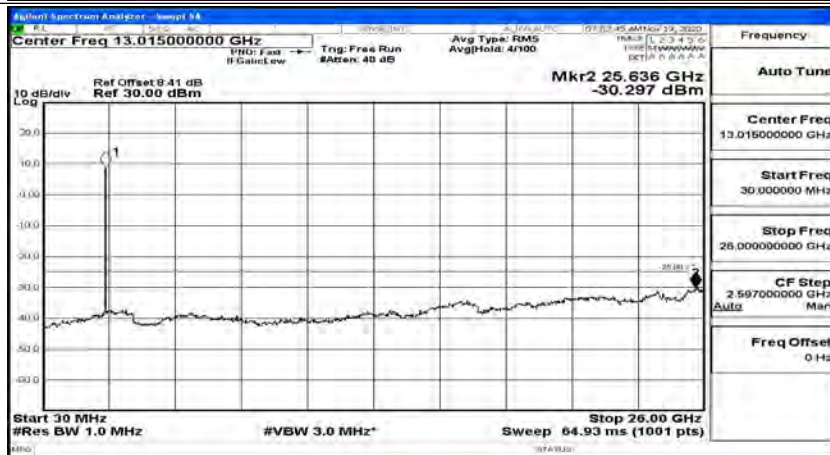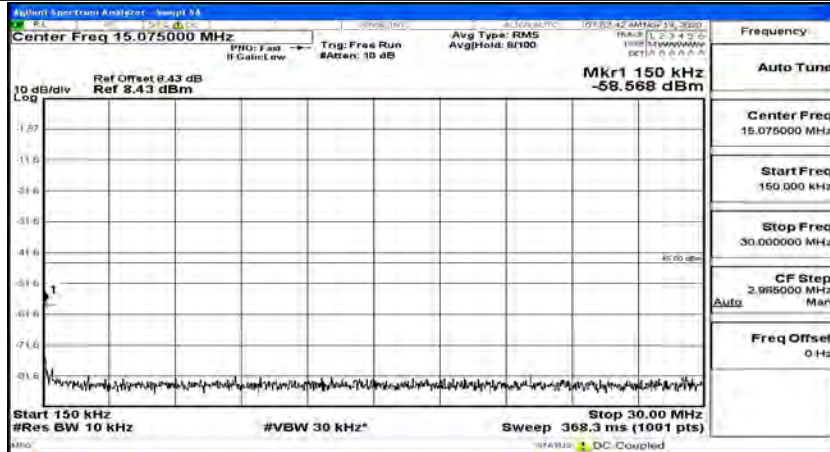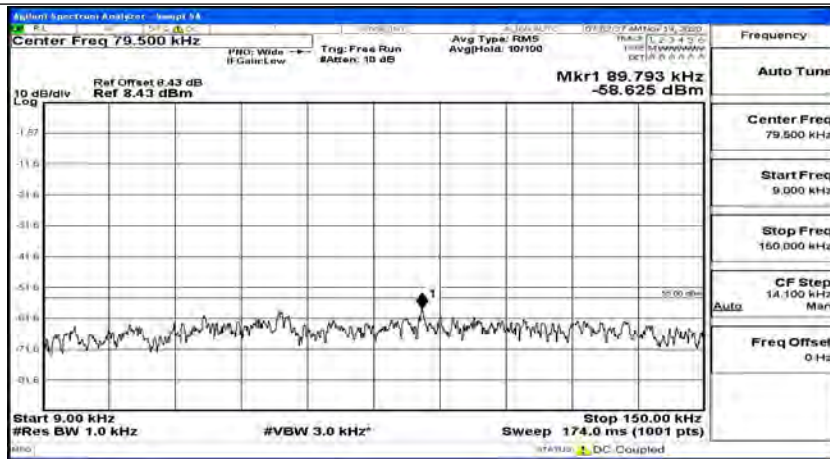
(Channel Bandwidth: 5 MHz)_LCH_QPSK_1RB#24

(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#0

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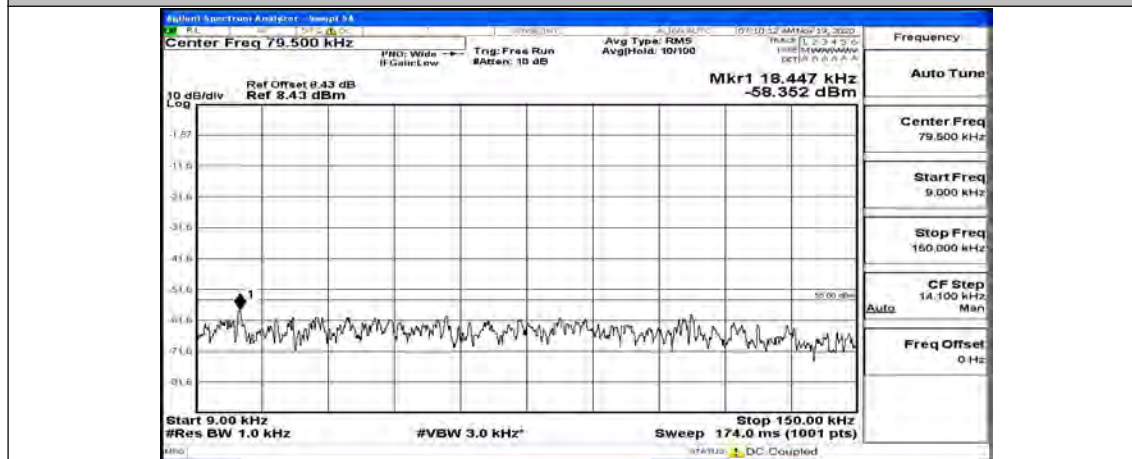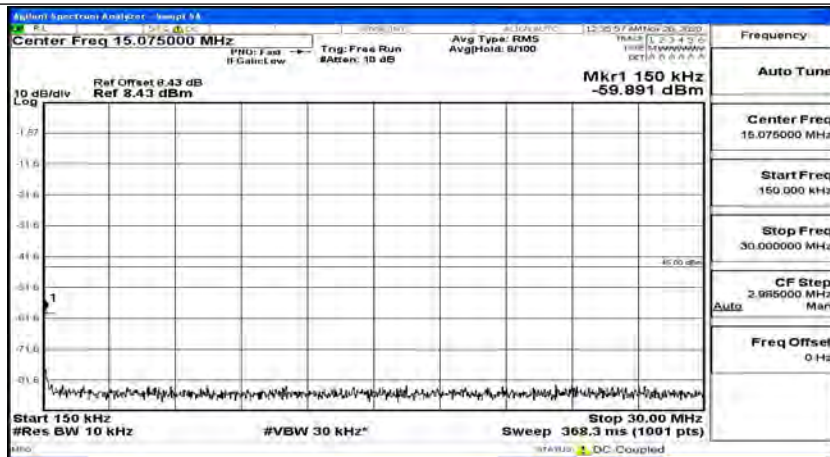*Page 37 of 94*
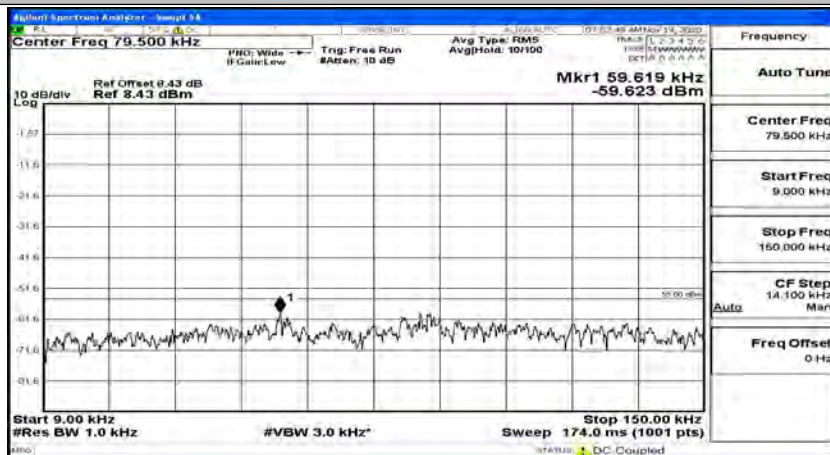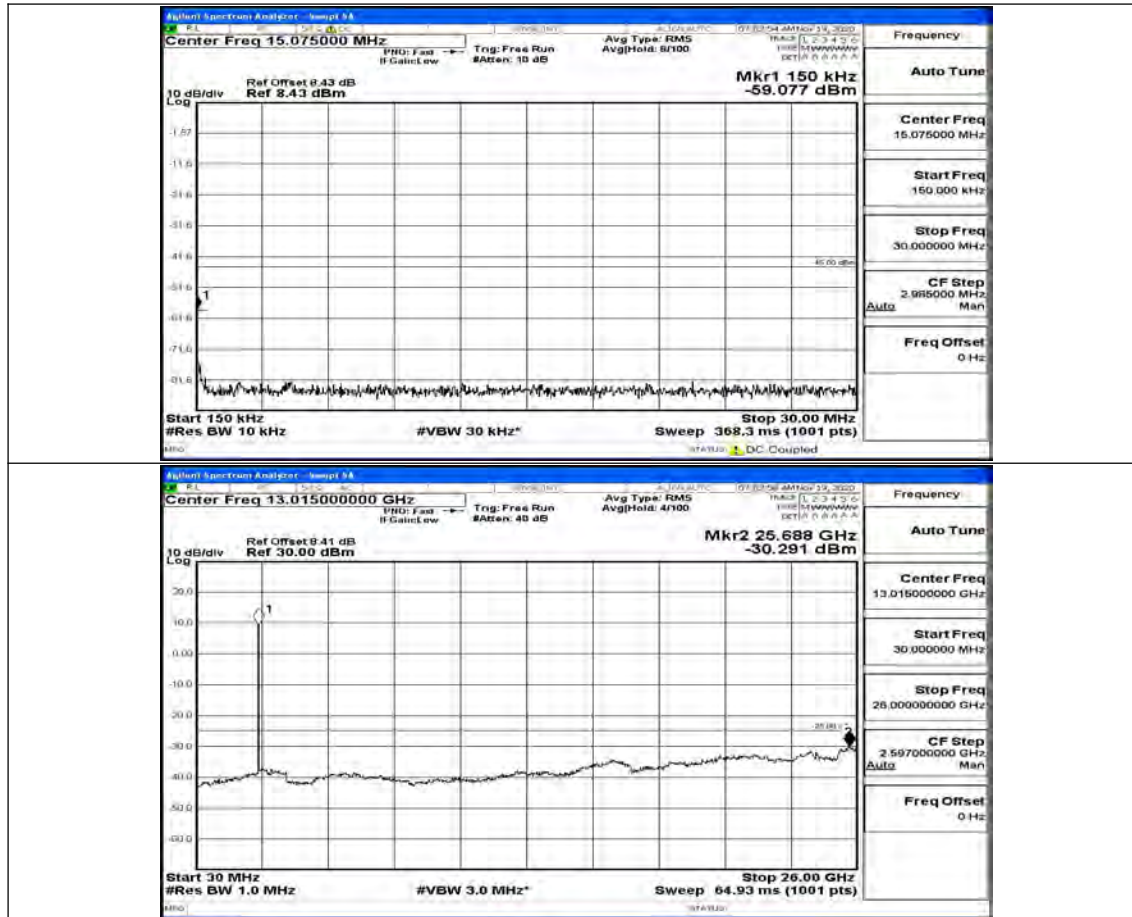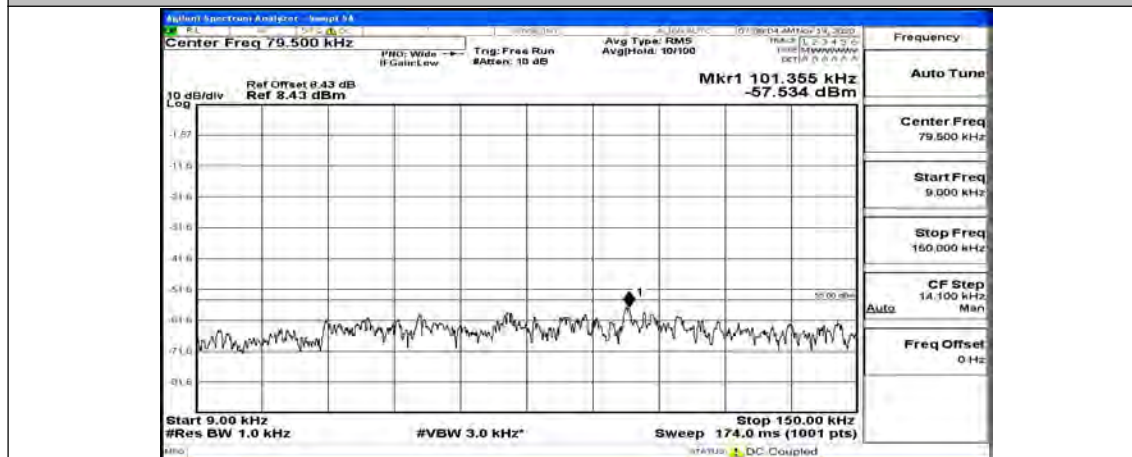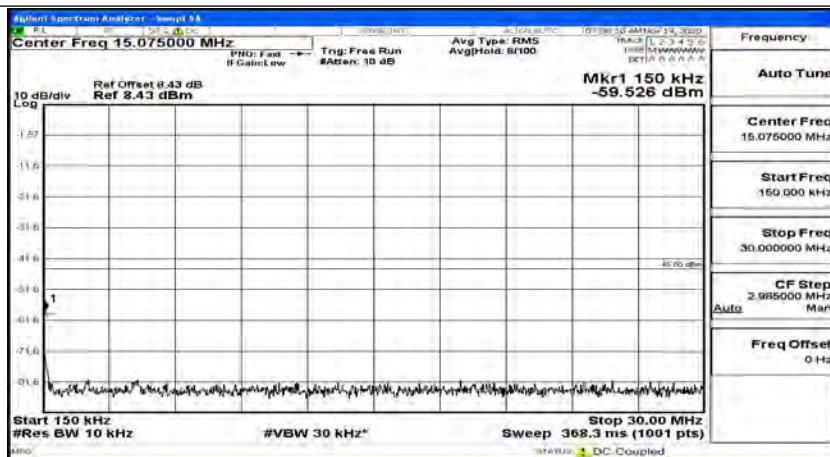
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#12
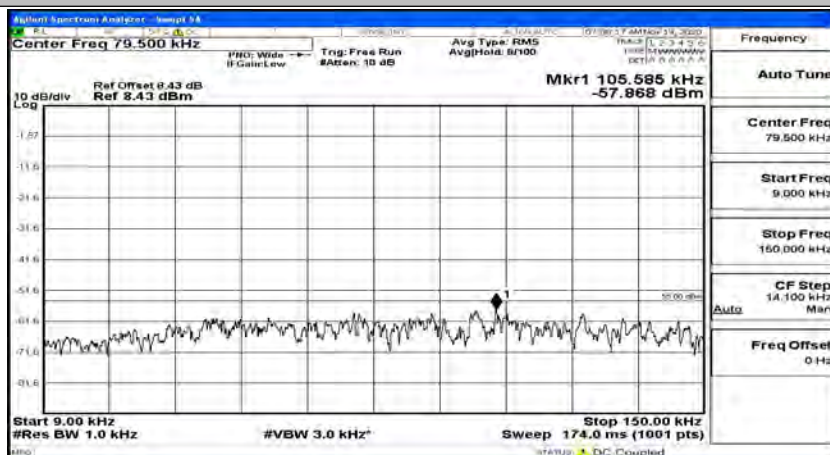
(Channel Bandwidth: 5 MHz)_MCH_QPSK_1RB#24

(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#0
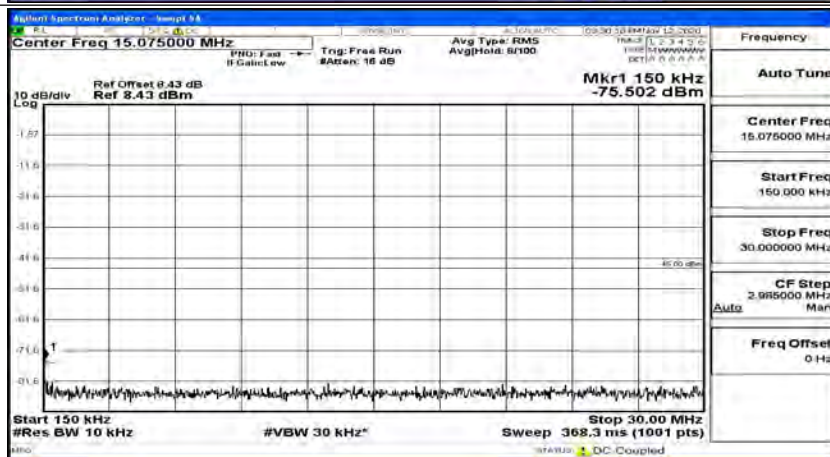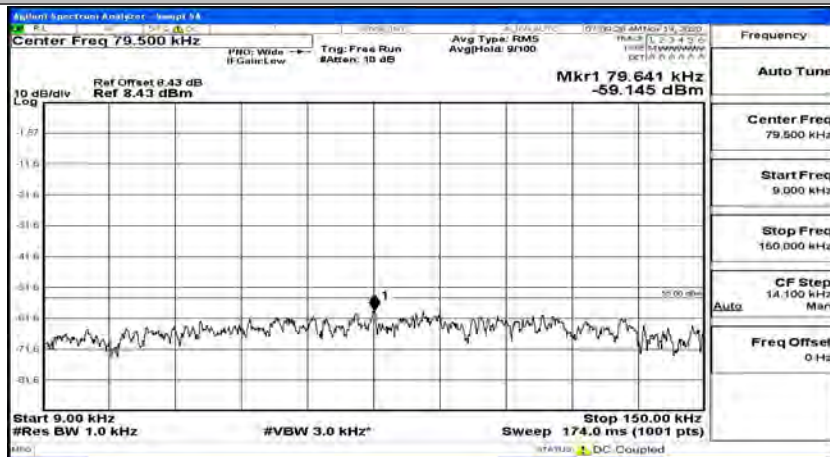
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12
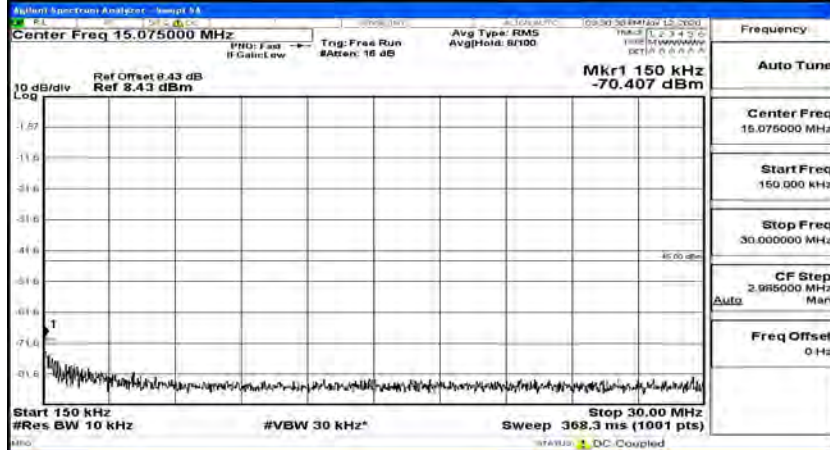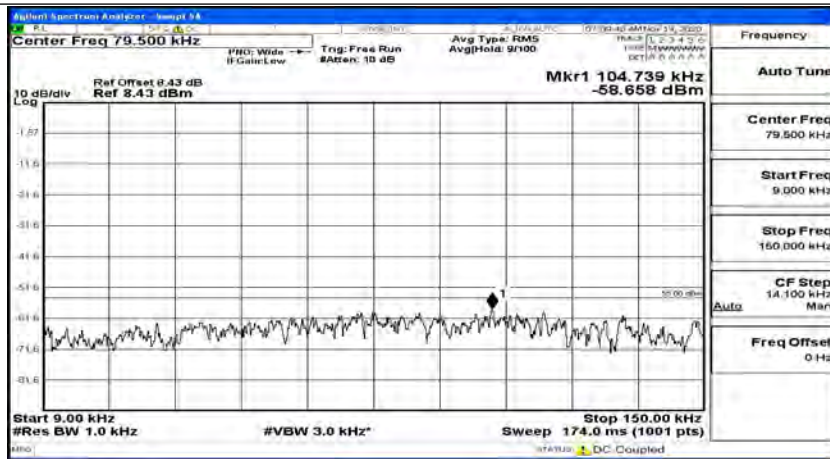
(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#24
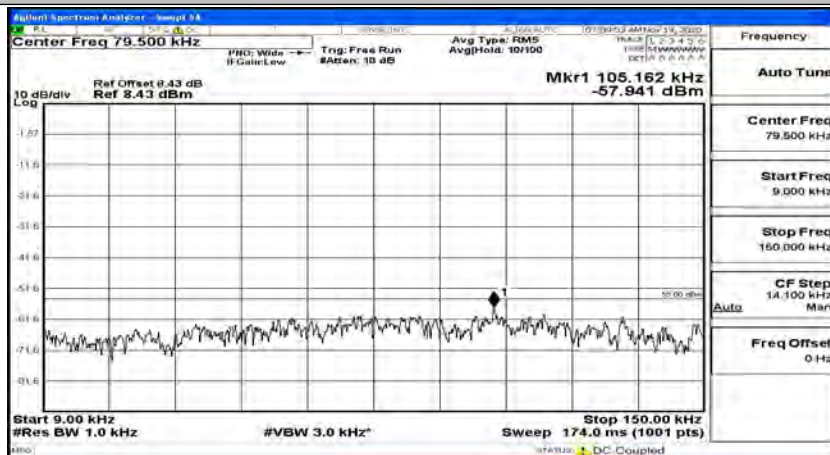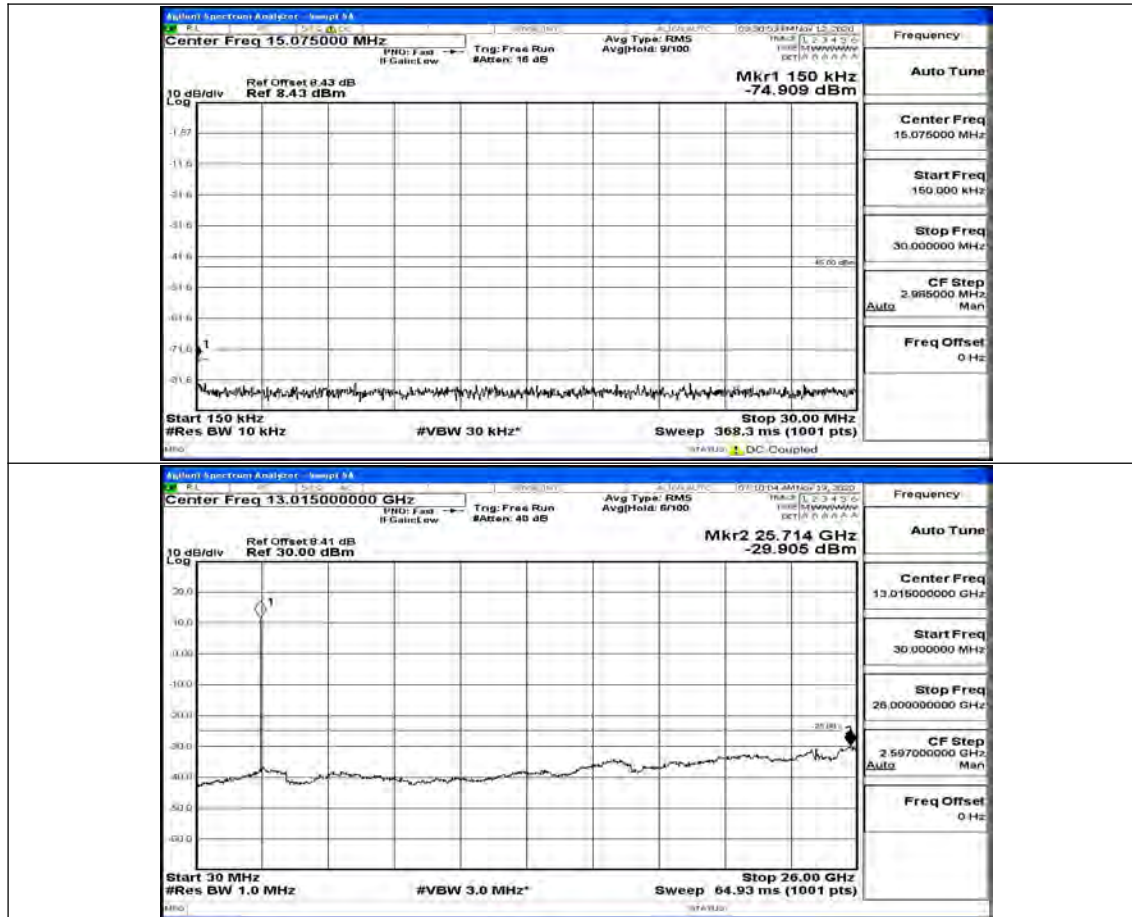
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#0
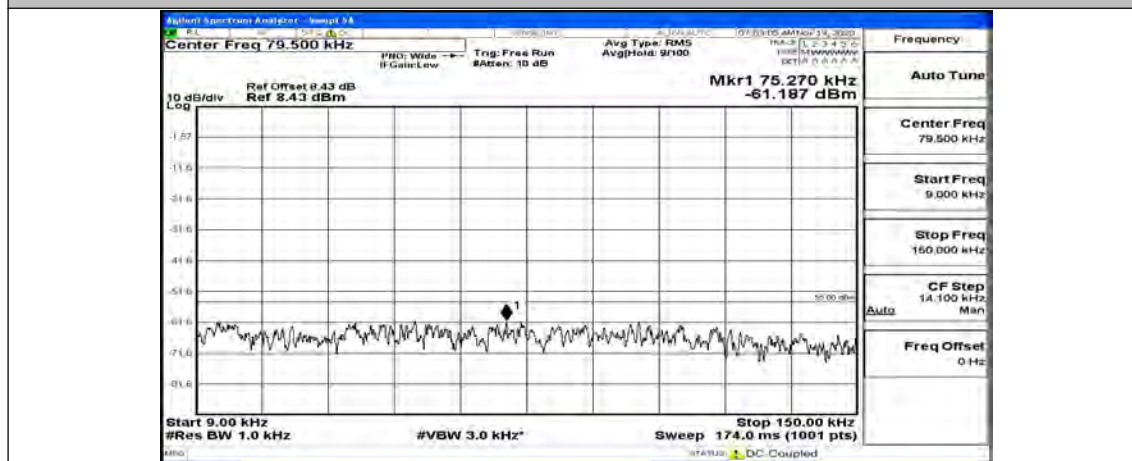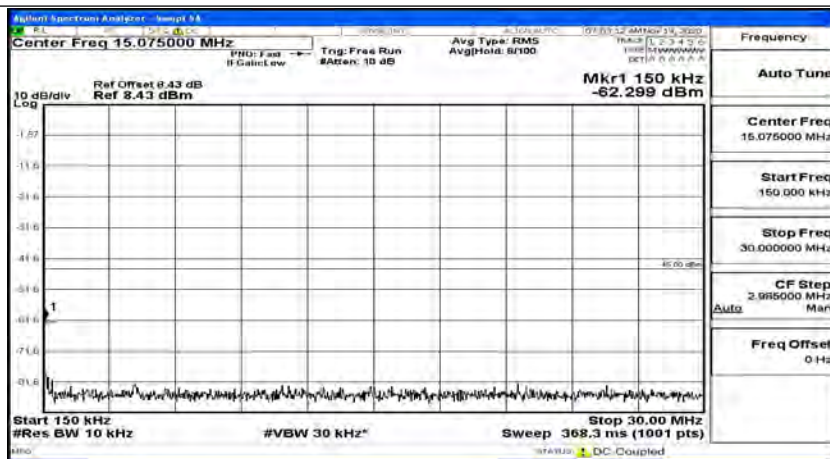
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#12
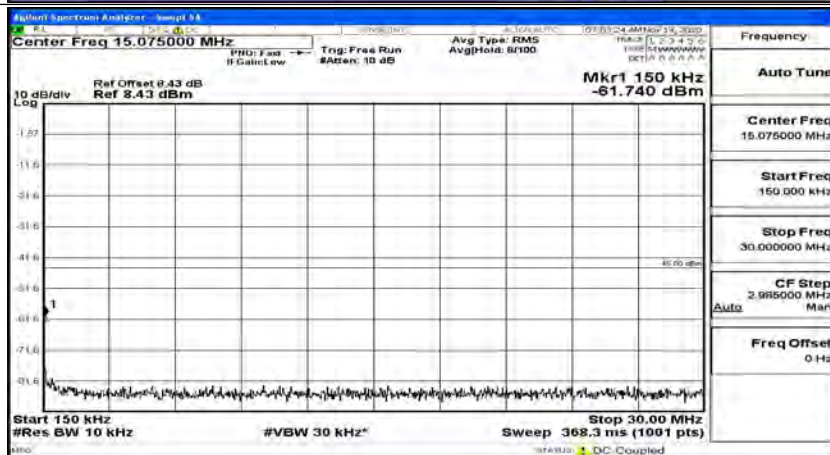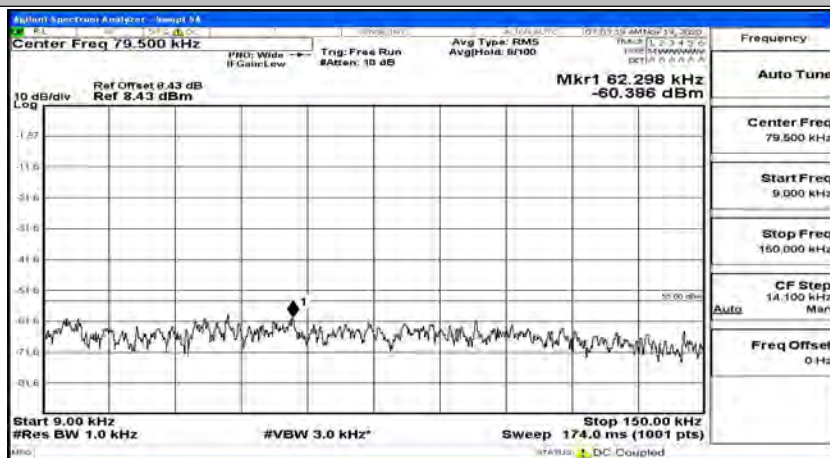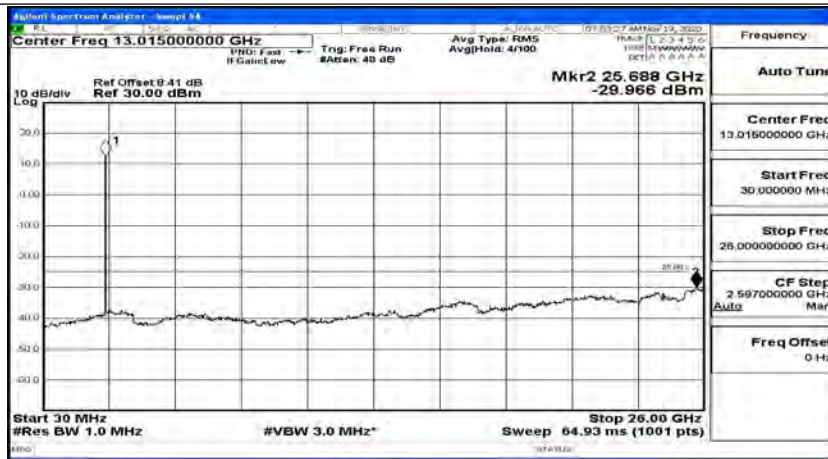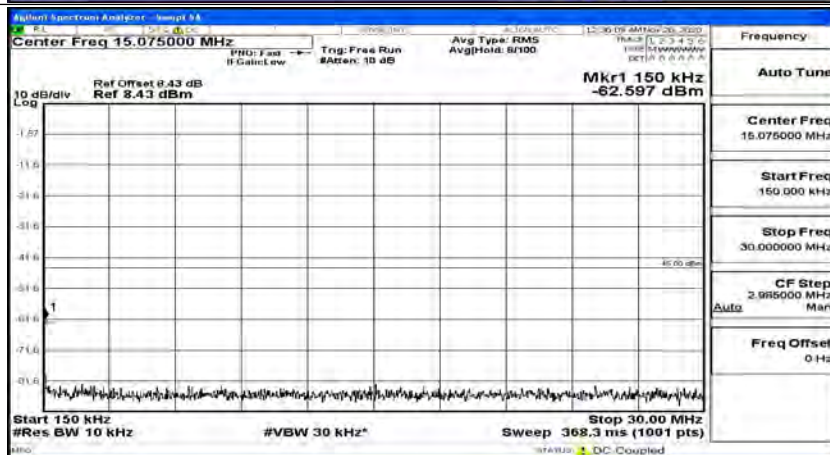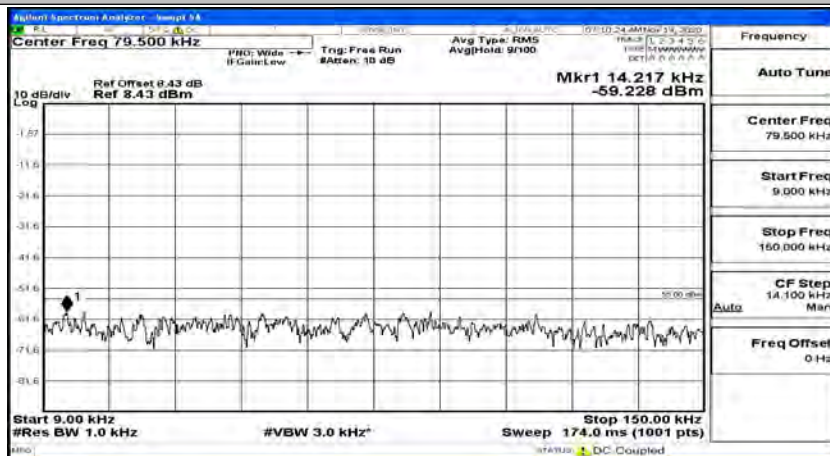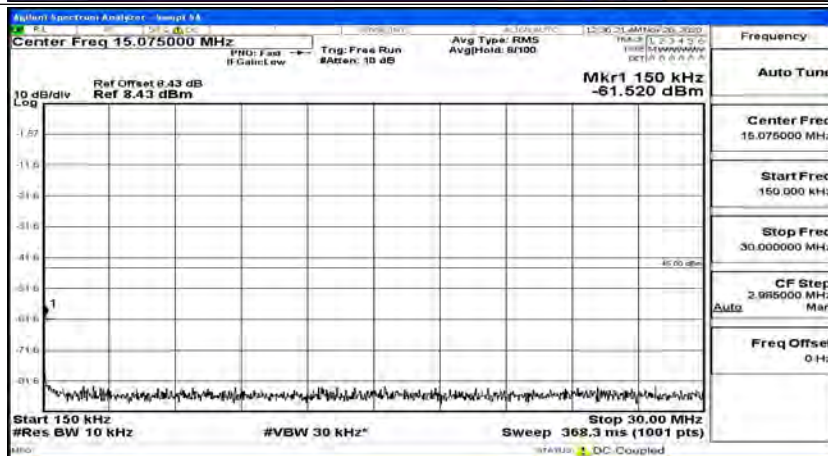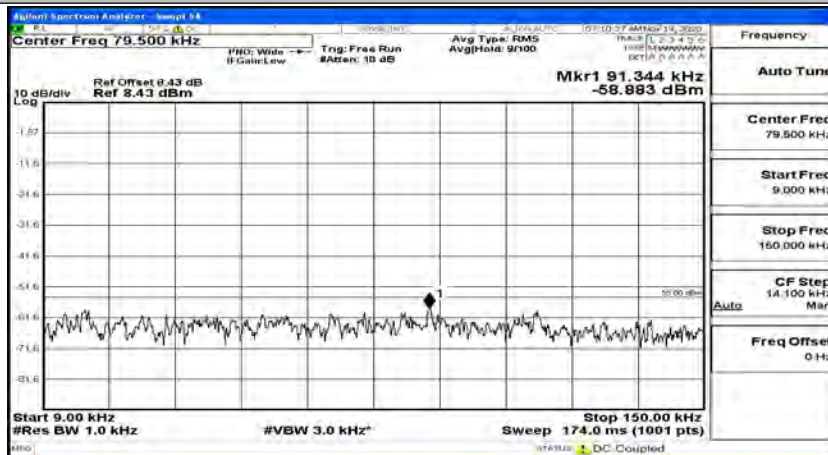
(Channel Bandwidth: 5 MHz)_LCH_16QAM_1RB#24
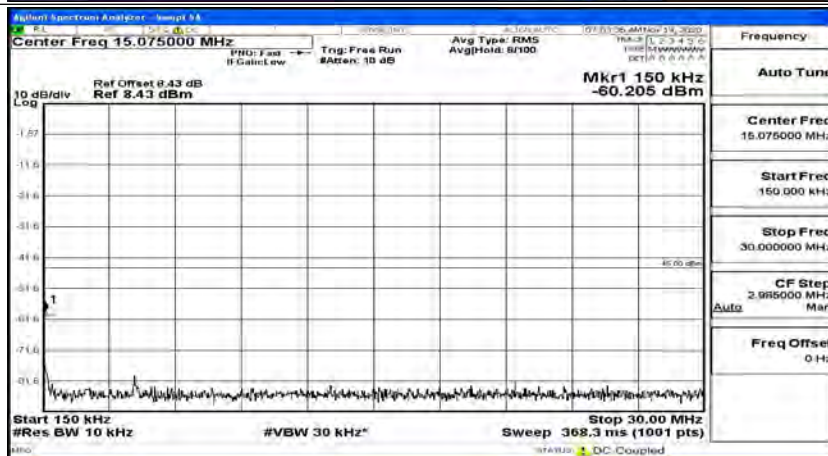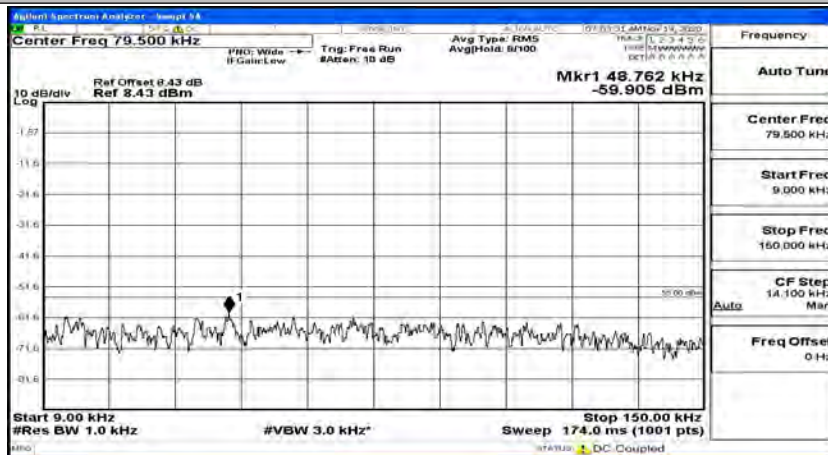
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0
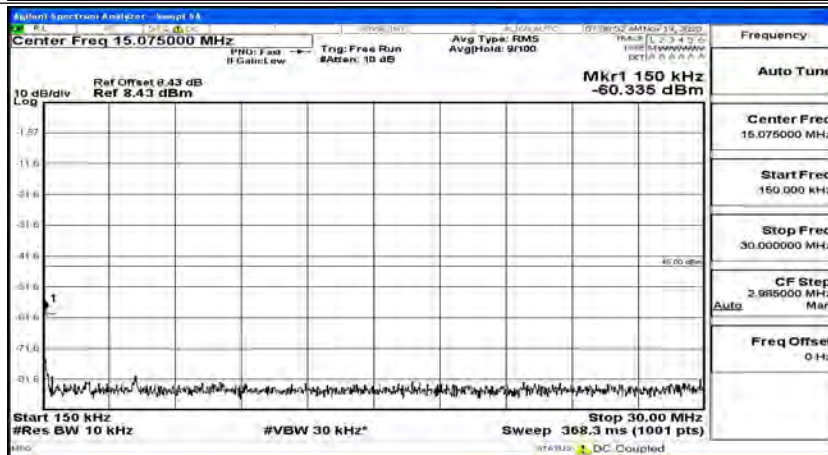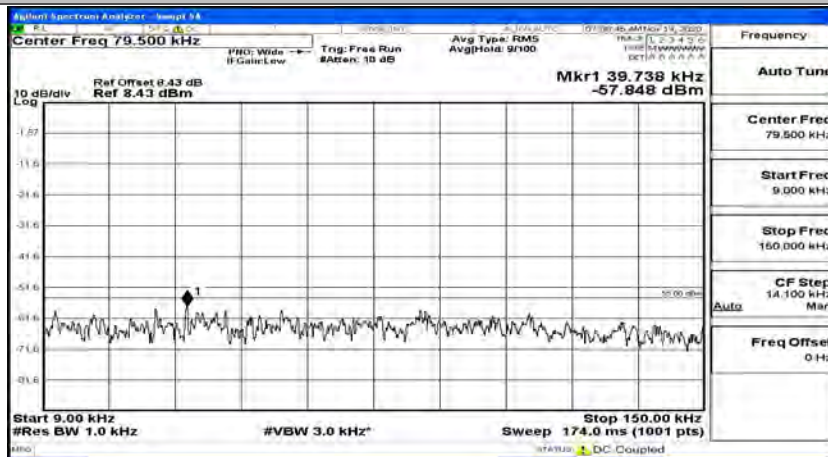
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#12
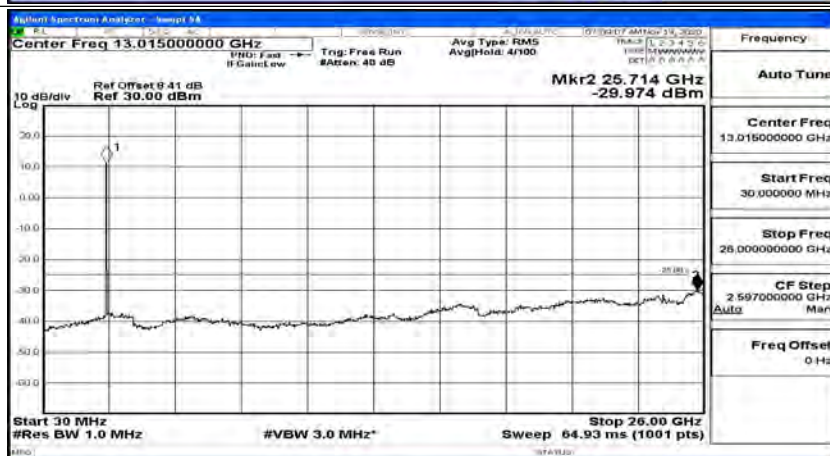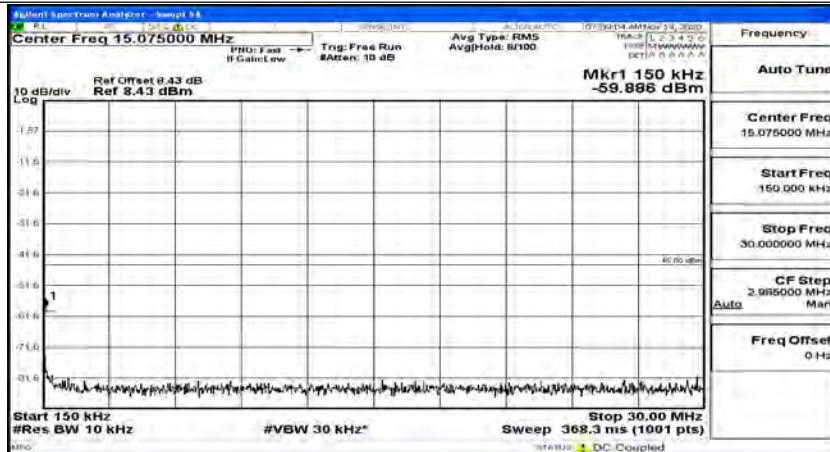
(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#24
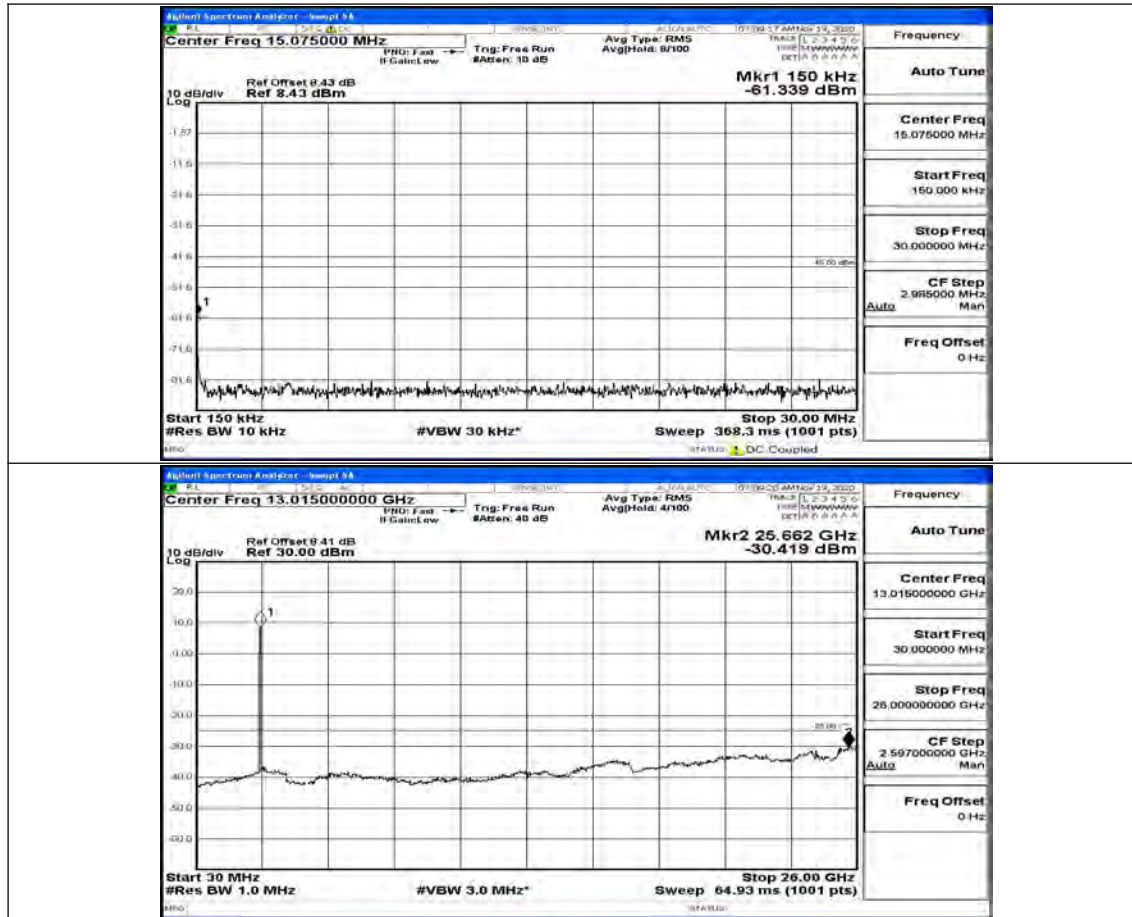
(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#0

(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#12

(Channel Bandwidth: 5 MHz)_HCH_16QAM_1RB#24

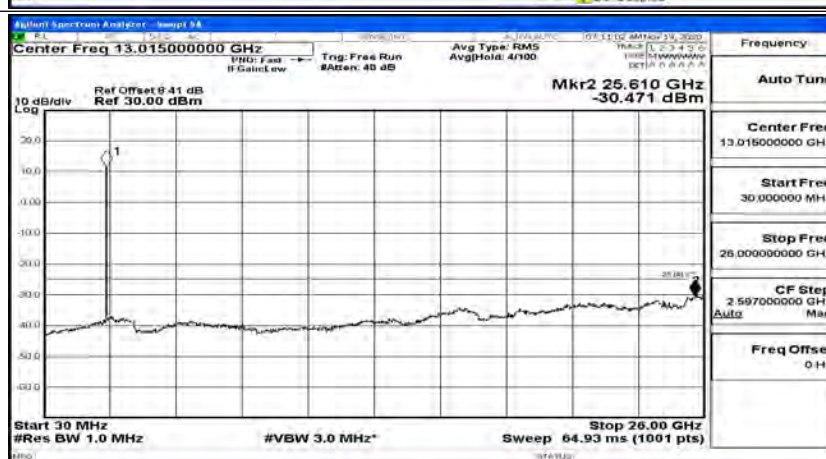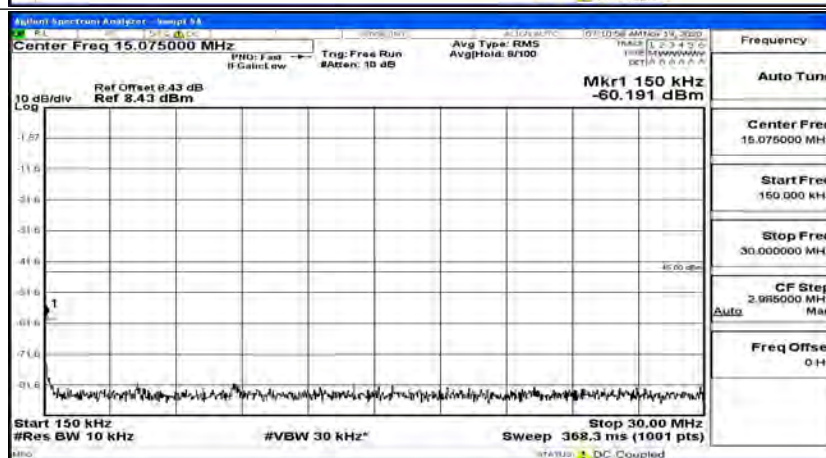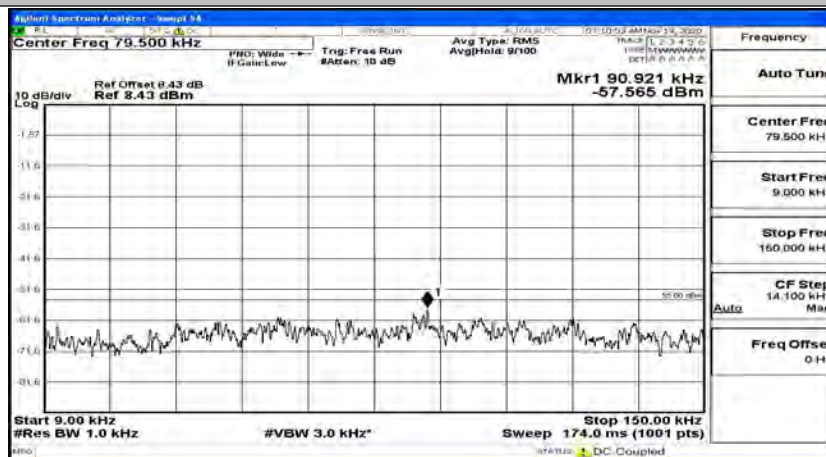## Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#0

Channel Bandwidth: 10 MHz_LCH_QPSK_1RB#24