

Appendix A: Test Data for E-UTRA Band 41

Product Name: GNSS RECEIVER

Trade Mark: KOLIDA, SANDING, RUIDE, TIANYU, SOUTH

Test Model: G1Star

Environmental Conditions

Temperature:	21.8°C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Mina.Xu
Supervised by:	Tom.Liu

A.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	22.62	22.22	PASS
		1	12	22.58	22.27	PASS
		1	24	22.37	22.12	PASS
		12	0	22.49	22.16	PASS
		12	6	22.48	22.18	PASS
		12	13	22.36	22.07	PASS
		25	0	22.40	22.08	PASS
	MCH	1	0	19.91	19.00	PASS
		1	12	20.32	19.42	PASS
		1	24	20.16	19.34	PASS
		12	0	19.06	18.11	PASS
		12	6	19.21	18.19	PASS
		12	13	19.23	18.20	PASS
		25	0	19.10	18.21	PASS
	HCH	1	0	20.59	19.78	PASS
		1	12	20.71	19.87	PASS
		1	24	20.26	19.46	PASS
		12	0	19.70	18.73	PASS
		12	6	19.64	18.69	PASS
		12	13	19.48	18.54	PASS
		25	0	19.61	18.69	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	22.29	22.22	PASS
		1	24	21.93	21.99	PASS
		1	49	21.28	21.42	PASS
		25	0	22.34	22.03	PASS
		25	12	22.09	21.84	PASS
		25	25	21.68	21.49	PASS
		50	0	21.99	21.78	PASS
	MCH	1	0	19.91	19.19	PASS
		1	24	20.13	19.44	PASS
		1	49	20.45	19.83	PASS
		25	0	19.05	18.10	PASS
		25	12	19.18	18.25	PASS
		25	25	19.32	18.35	PASS
		50	0	19.23	18.26	PASS
	HCH	1	0	21.10	20.40	PASS
		1	24	20.84	20.10	PASS
		1	49	20.39	19.72	PASS
		25	0	20.04	19.06	PASS
		25	12	19.82	18.87	PASS
		25	25	19.57	18.61	PASS
		50	0	19.78	18.83	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	22.27	22.13	PASS
		1	37	21.50	21.50	PASS
		1	74	21.16	20.98	PASS
		37	0	22.04	21.75	PASS
		37	18	21.57	21.37	PASS
		37	38	21.17	21.03	PASS
		75	0	21.56	21.23	PASS
	MCH	1	0	19.80	19.07	PASS
		1	37	20.30	19.60	PASS
		1	74	20.57	19.90	PASS
		37	0	19.16	18.11	PASS
		37	18	19.32	18.27	PASS
		37	38	19.51	18.47	PASS
		75	0	19.35	18.29	PASS
	HCH	1	0	21.29	20.56	PASS
		1	37	21.20	20.45	PASS
		1	74	20.35	19.63	PASS
		37	0	20.42	19.38	PASS
		37	18	20.26	19.19	PASS
		37	38	19.88	18.84	PASS
		75	0	20.20	19.14	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	22.32	22.11	PASS
		1	49	21.32	21.36	PASS
		1	99	21.20	21.24	PASS
		50	0	21.86	21.60	PASS
		50	25	21.25	21.04	PASS
		50	50	21.06	20.95	PASS
		100	0	21.40	21.07	PASS
	MCH	1	0	19.76	19.03	PASS
		1	49	20.19	19.52	PASS
		1	99	20.59	19.99	PASS
		50	0	19.00	17.99	PASS
		50	25	19.29	18.28	PASS
		50	50	19.52	18.54	PASS
		100	0	19.27	18.29	PASS
	HCH	1	0	21.08	20.43	PASS
		1	49	21.35	20.66	PASS
		1	99	20.24	19.62	PASS
		50	0	20.32	19.36	PASS
		50	25	20.22	19.30	PASS
		50	50	19.80	18.87	PASS
		100	0	20.07	19.05	PASS

A.2 Peak-to-Average Ratio

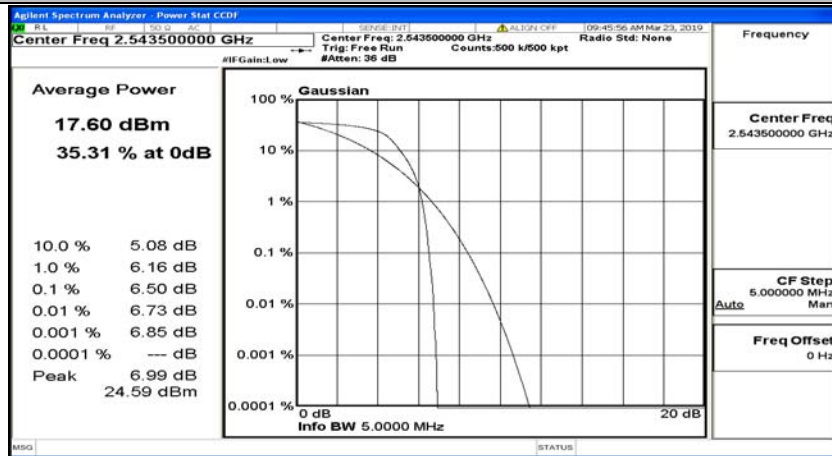
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	6.5	<13	PASS
	MCH	11.1	<13	PASS
	HCH	9.73	<13	PASS
16QAM	LCH	6.11	<13	PASS
	MCH	9.99	<13	PASS
	HCH	9.4	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	7.02	<13	PASS
	MCH	8.44	<13	PASS
	HCH	9.02	<13	PASS
16QAM	LCH	7.55	<13	PASS
	MCH	8.12	<13	PASS
	HCH	9.27	<13	PASS

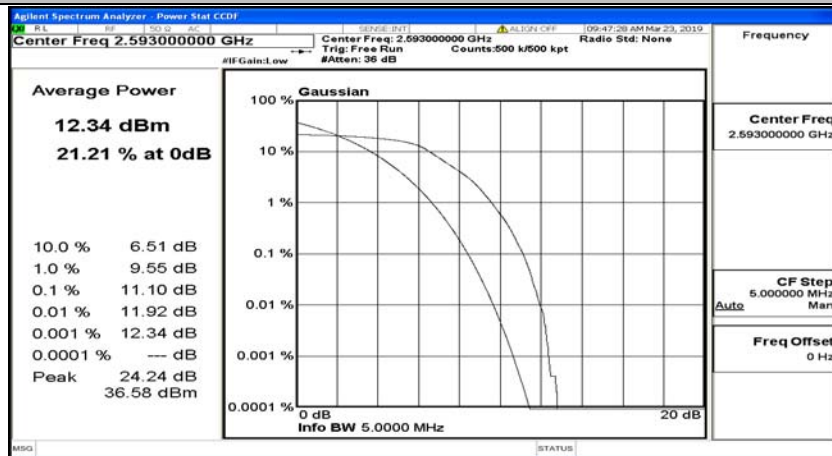
Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	9.24	<13	PASS
	MCH	7.53	<13	PASS
	HCH	9.48	<13	PASS
16QAM	LCH	10.1	<13	PASS
	MCH	9.89	<13	PASS
	HCH	9.01	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	8.99	<13	PASS
	MCH	8.73	<13	PASS
	HCH	8.39	<13	PASS
16QAM	LCH	10.28	<13	PASS
	MCH	10.09	<13	PASS
	HCH	9.52	<13	PASS

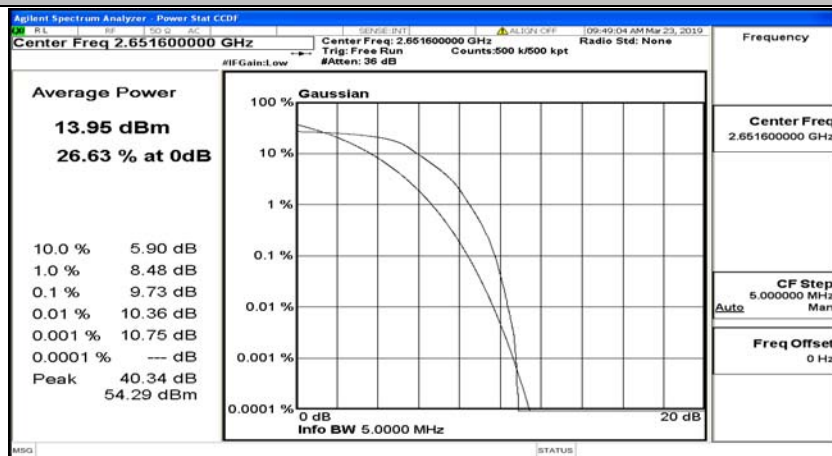
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



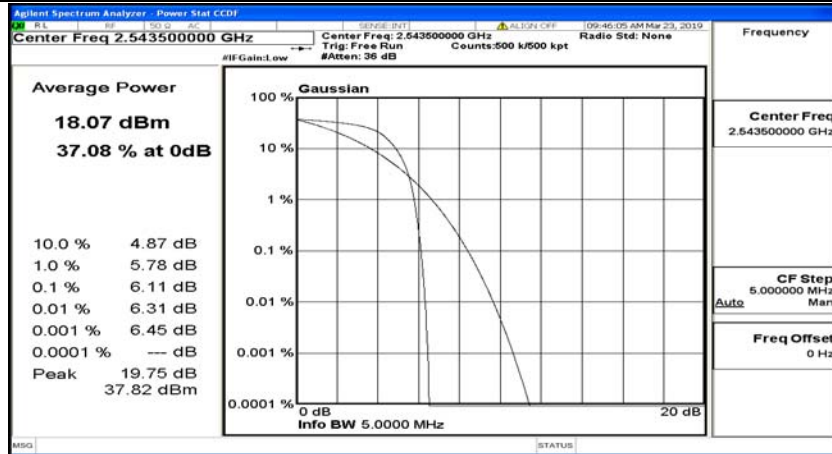
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



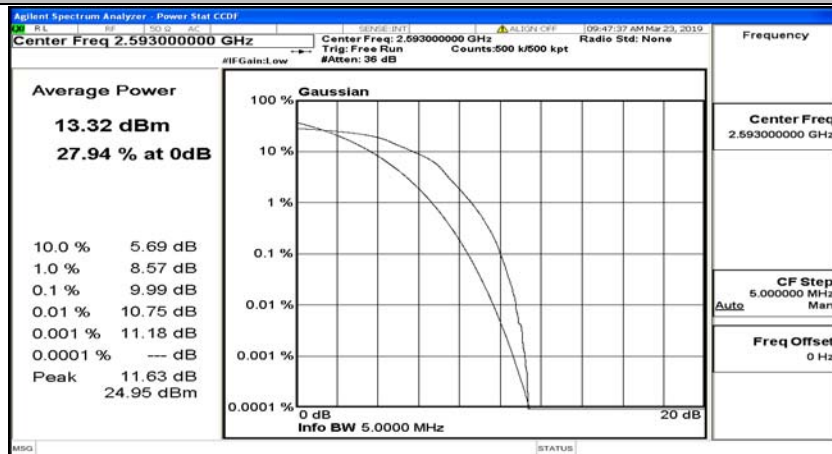
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



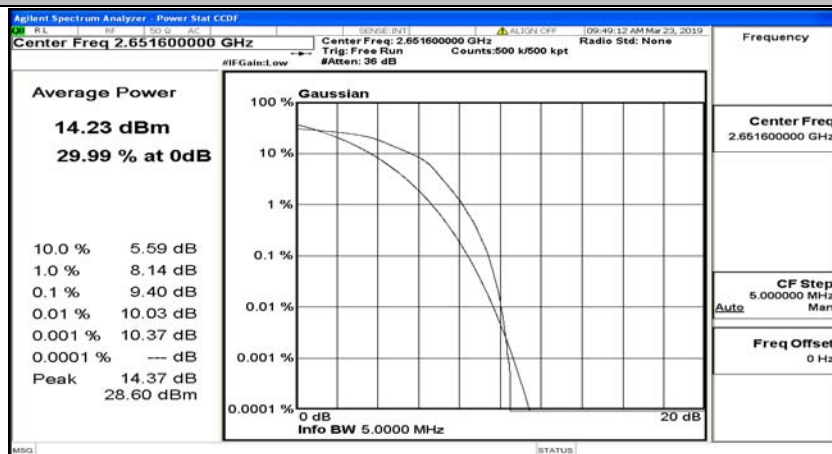
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



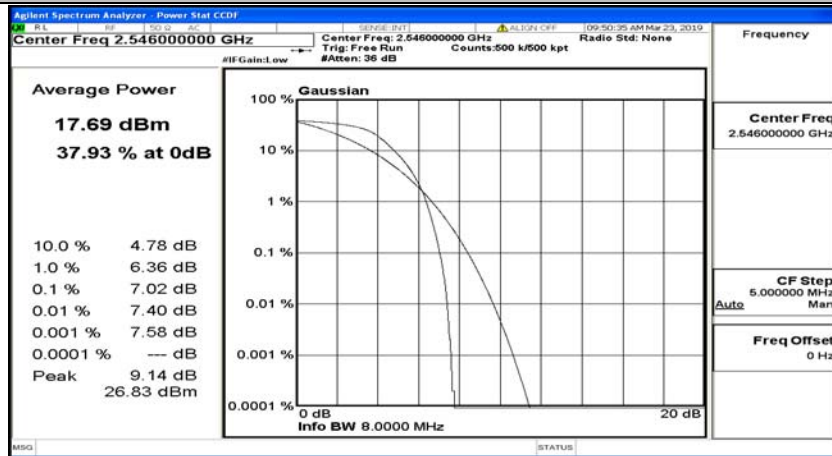
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



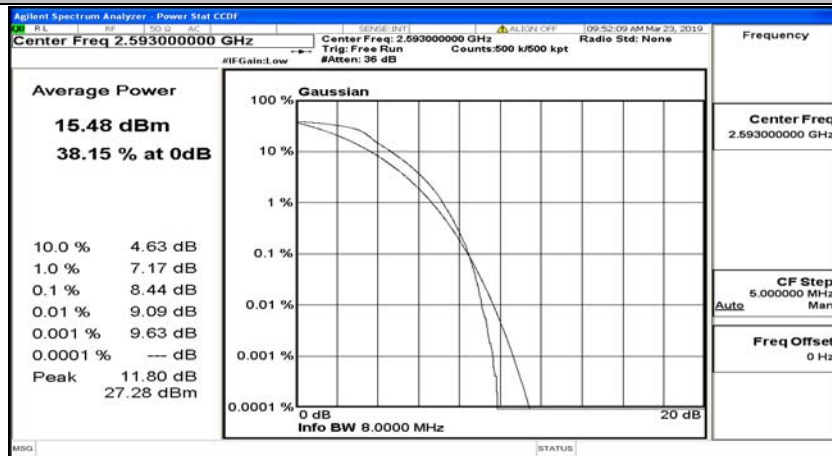
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



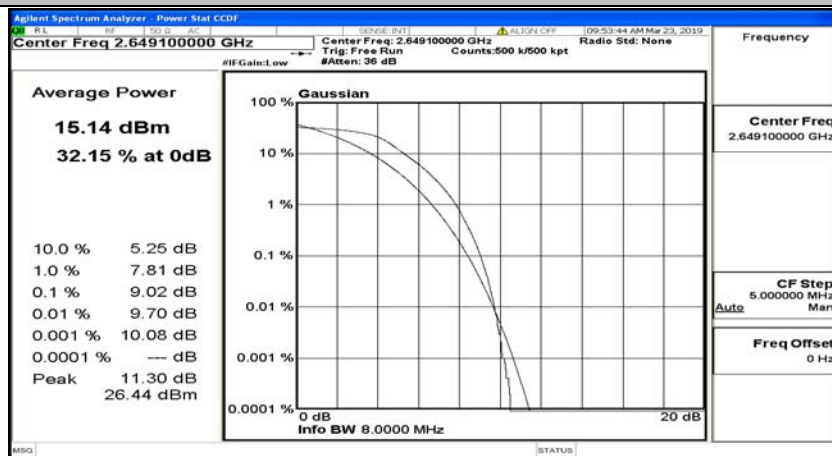
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



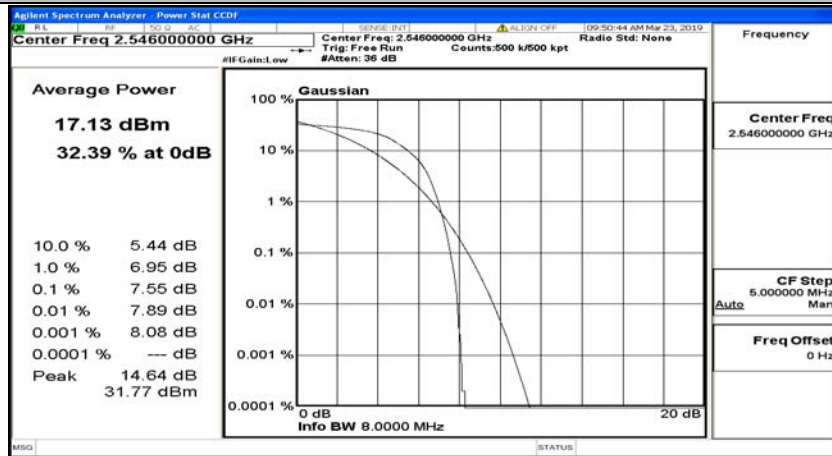
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



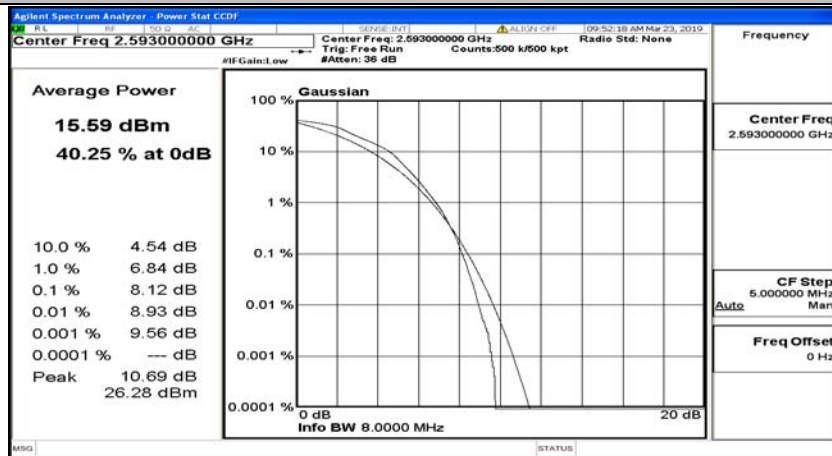
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



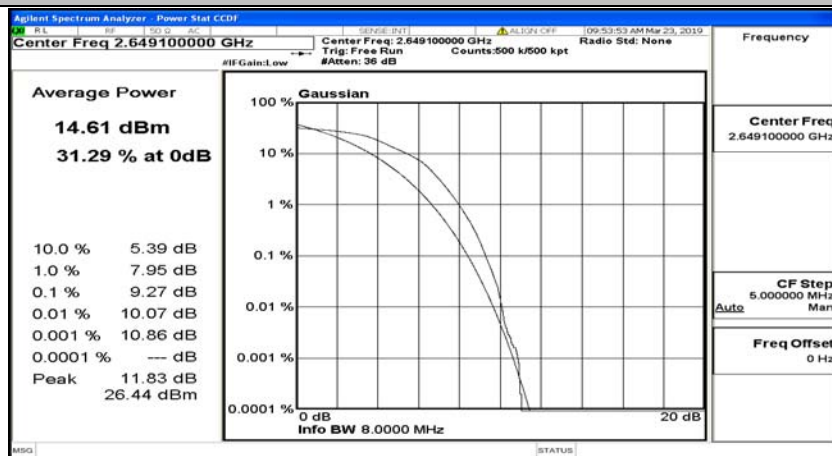
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



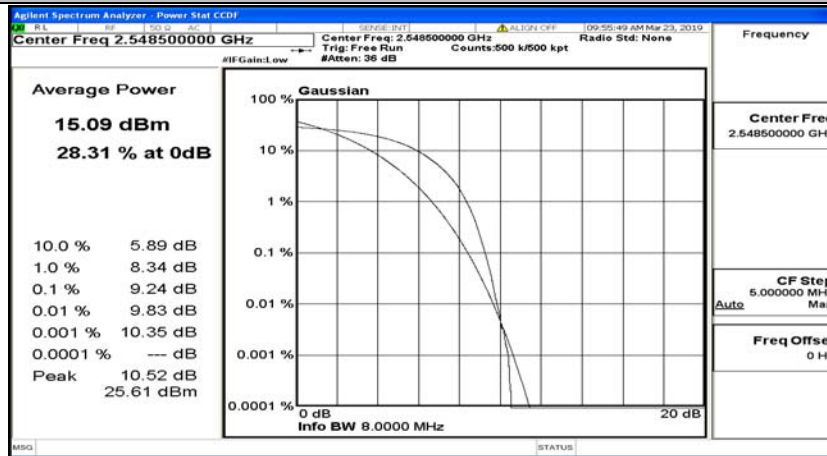
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



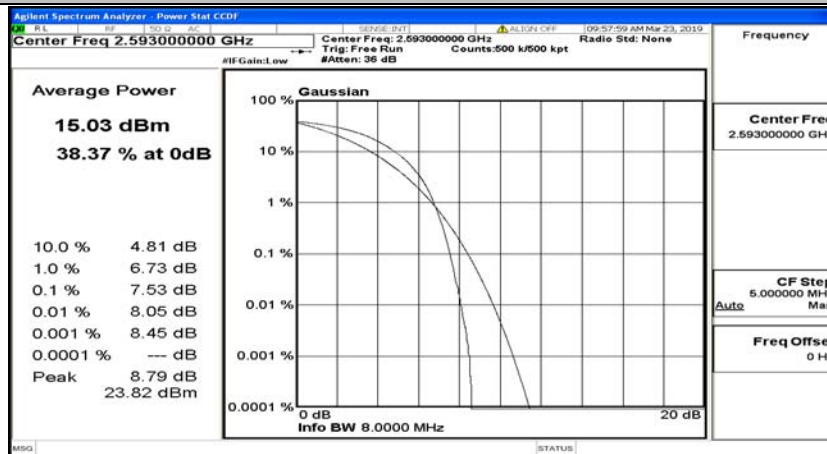
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



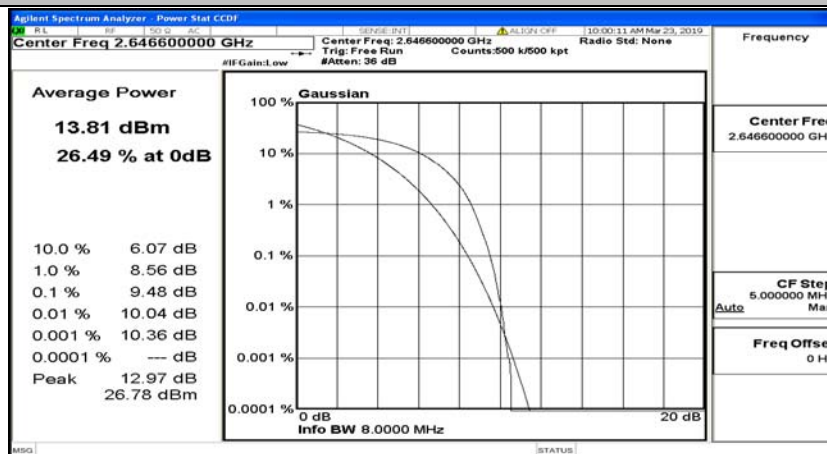
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



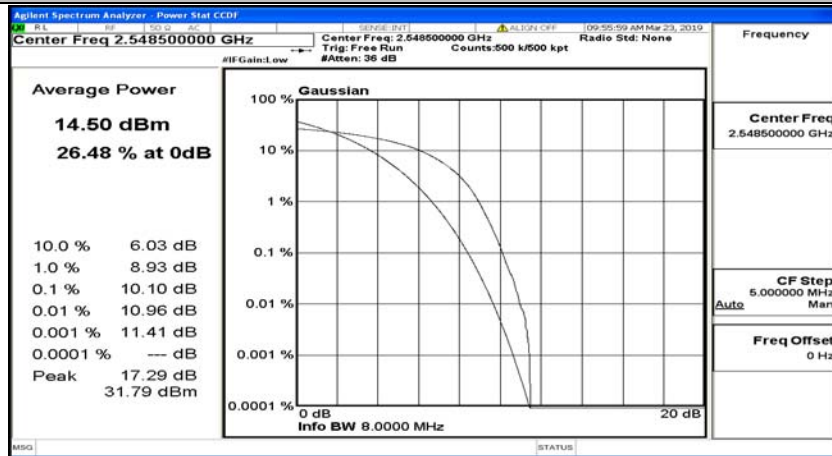
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK



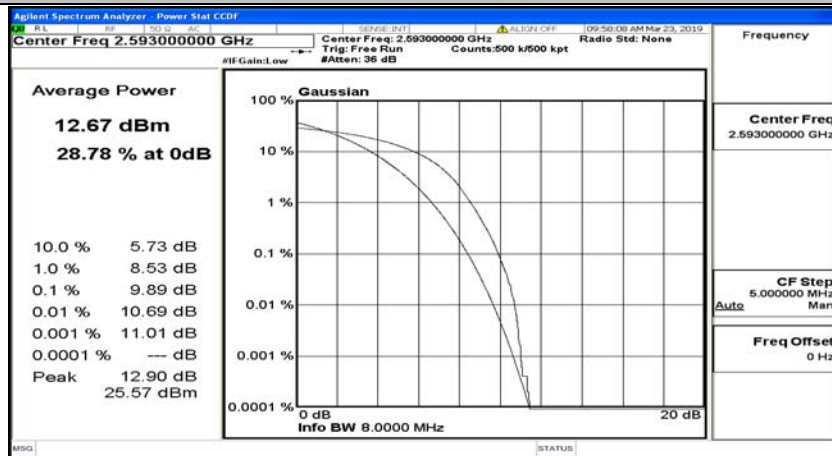
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



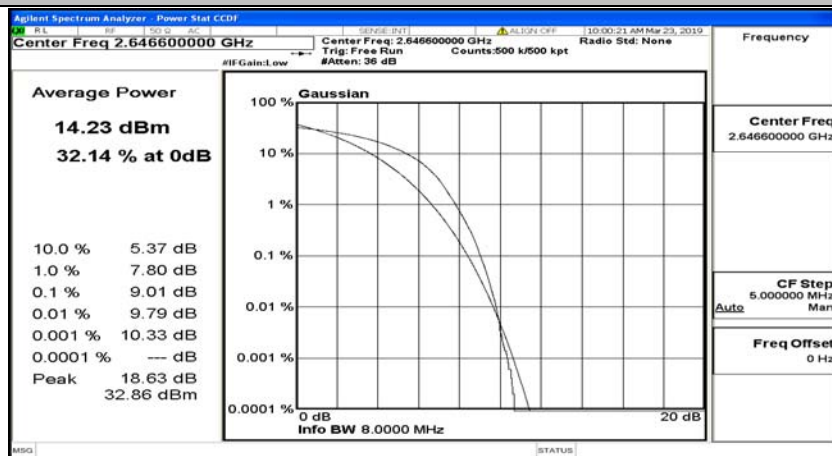
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



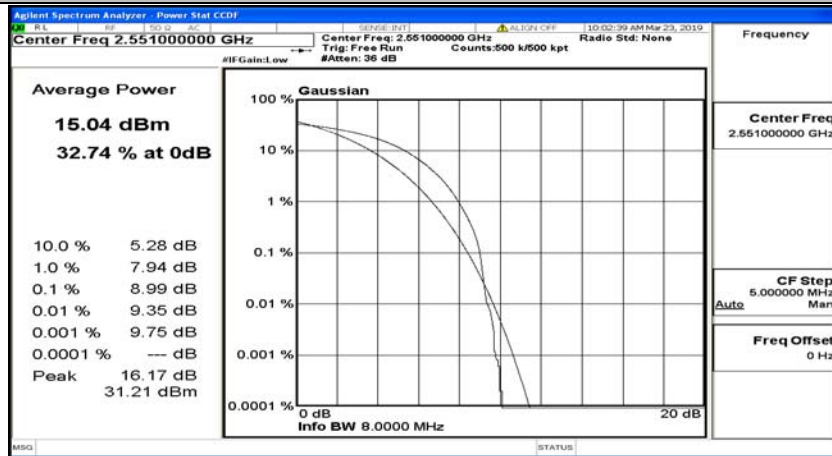
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM



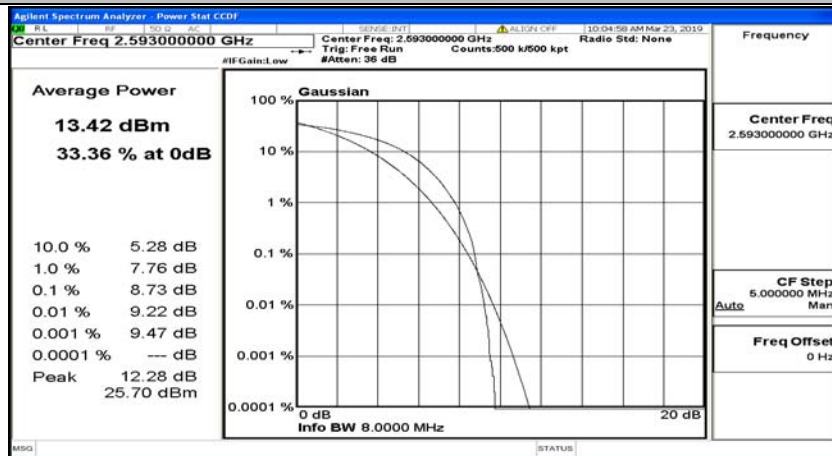
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



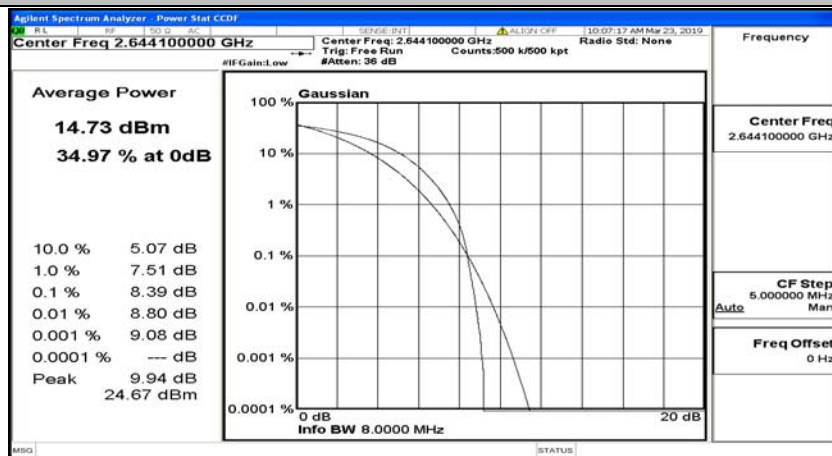
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



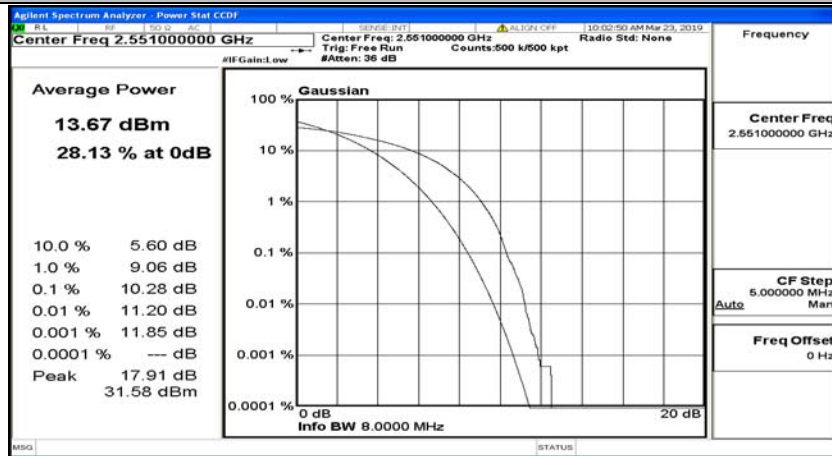
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK



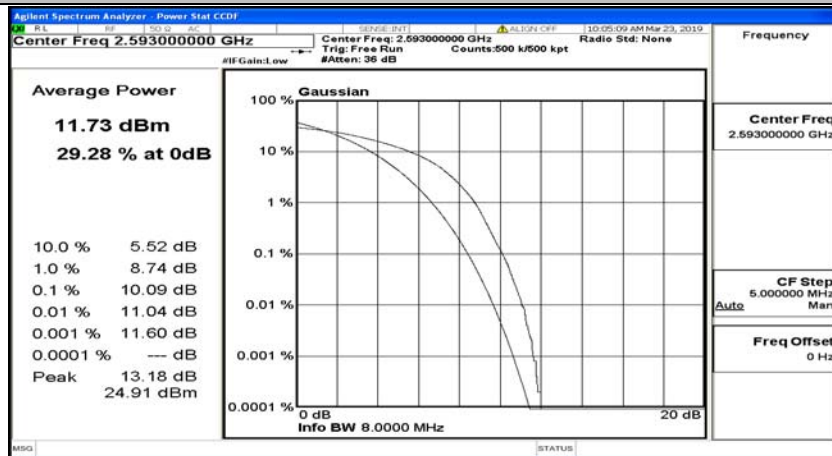
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



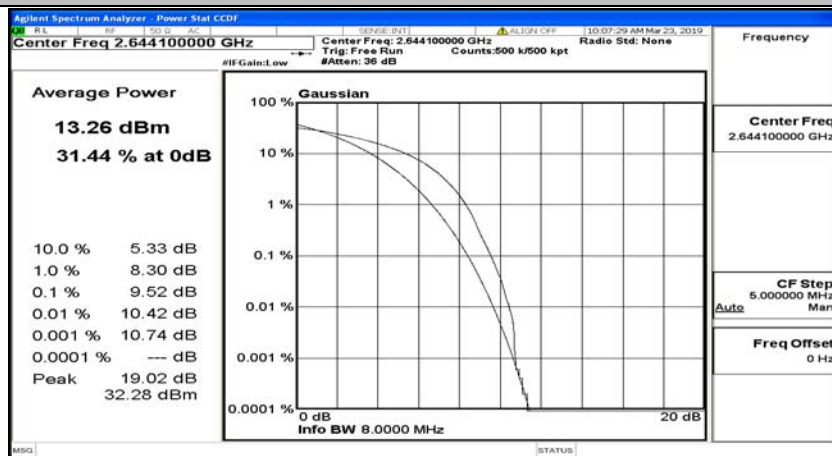
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM



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



A.3 26dB Bandwidth and Occupied Bandwidth

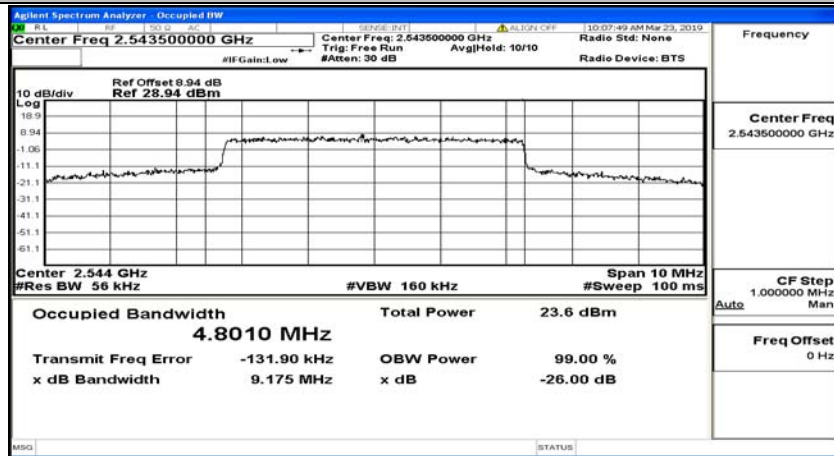
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.8010	9.175	PASS
	MCH	4.4675	4.713	PASS
	HCH	4.4900	4.754	PASS
16QAM	LCH	5.3003	9.901	PASS
	MCH	4.4704	4.748	PASS
	HCH	4.4675	4.701	PASS

EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	9.0466	16.65	PASS
	MCH	8.9375	9.289	PASS
	HCH	8.9526	9.364	PASS
16QAM	LCH	9.8615	18.86	PASS
	MCH	8.9249	9.303	PASS
	HCH	8.9279	9.367	PASS

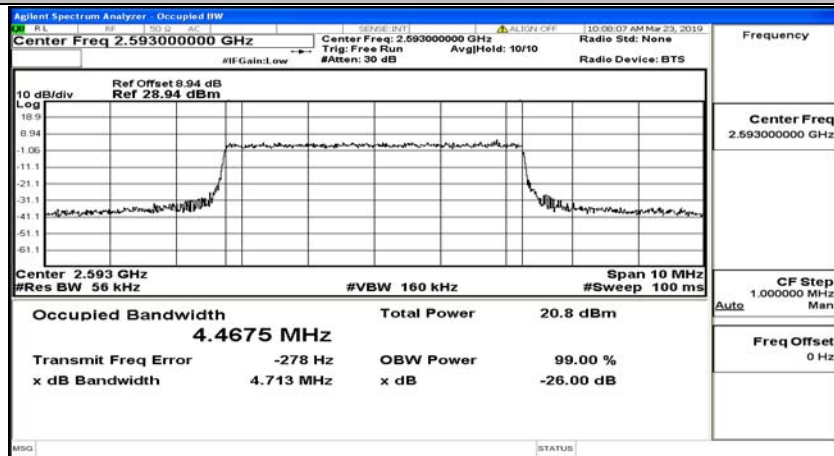
EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	13.573	28.14	PASS
	MCH	13.400	13.95	PASS
	HCH	13.397	13.97	PASS
16QAM	LCH	13.534	25.29	PASS
	MCH	13.397	13.94	PASS
	HCH	13.404	13.95	PASS

EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	17.946	30.09	PASS
	MCH	17.833	18.51	PASS
	HCH	17.826	18.49	PASS
16QAM	LCH	17.970	25.58	PASS
	MCH	17.856	18.53	PASS
	HCH	17.834	18.54	PASS

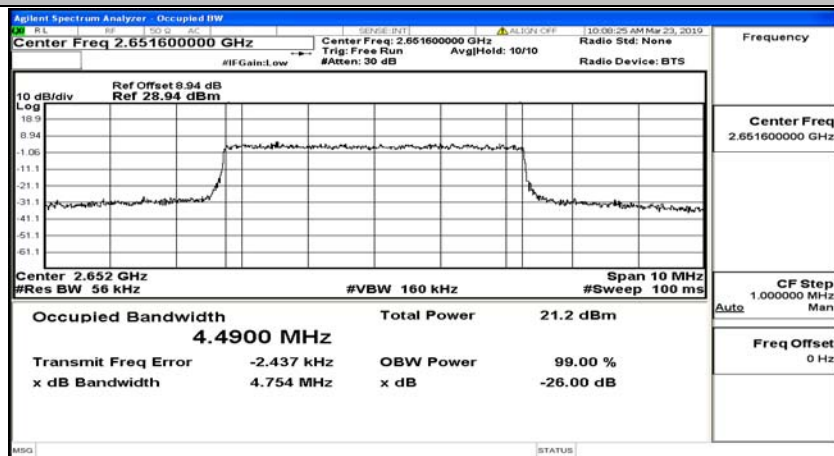
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



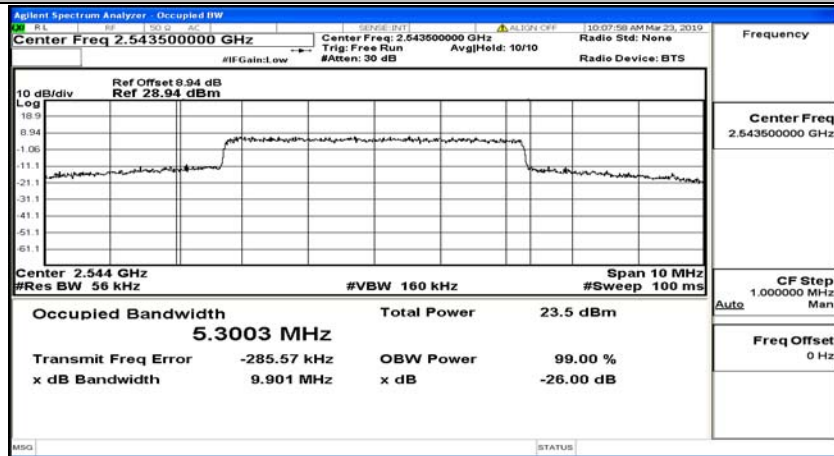
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



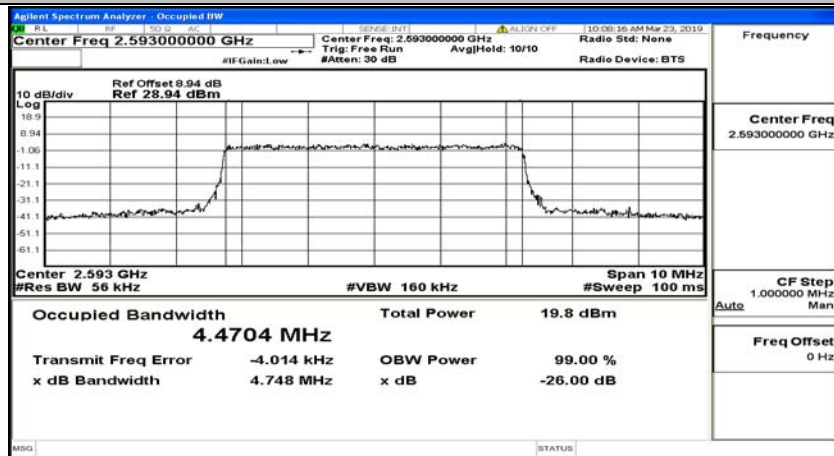
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



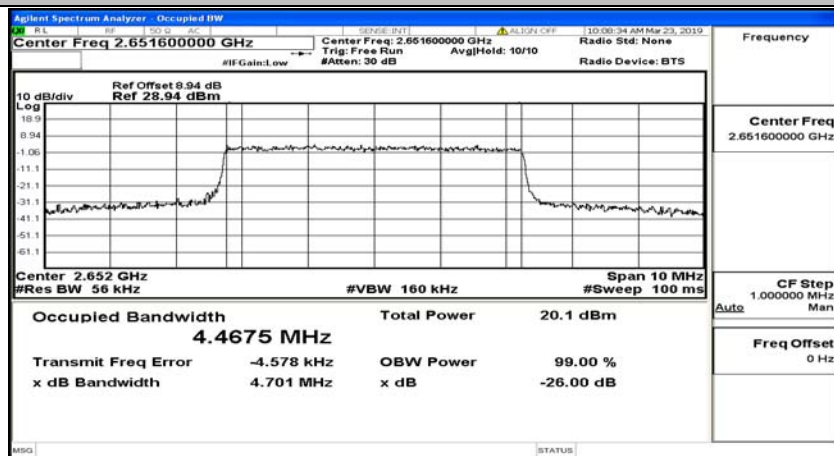
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



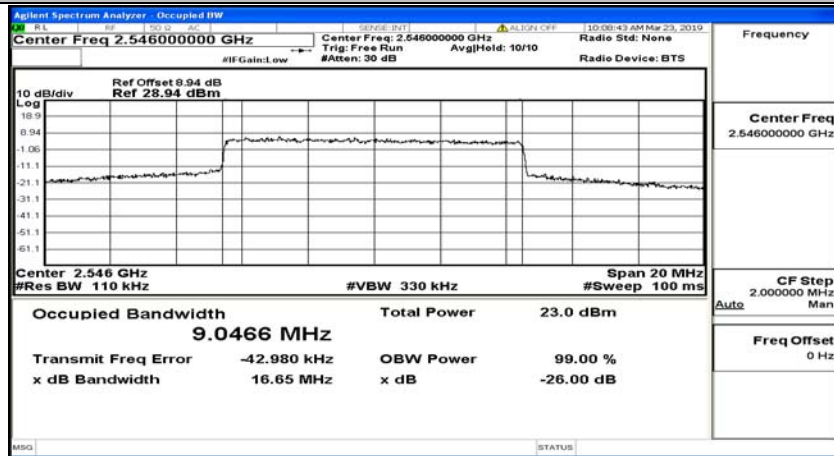
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



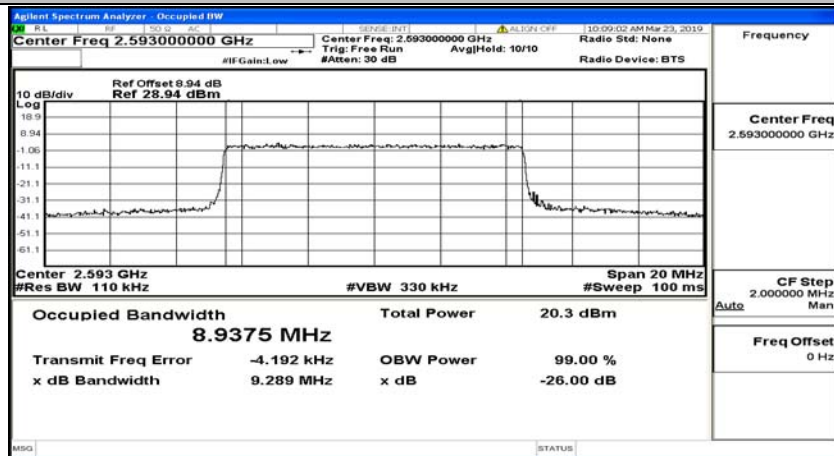
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



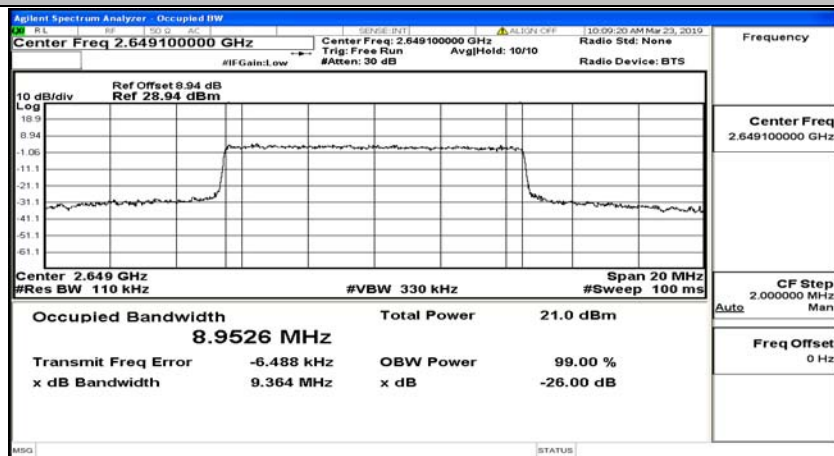
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



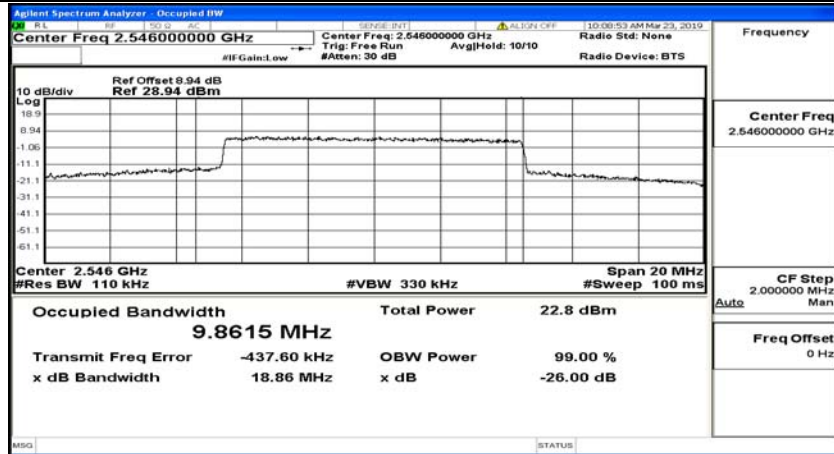
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



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



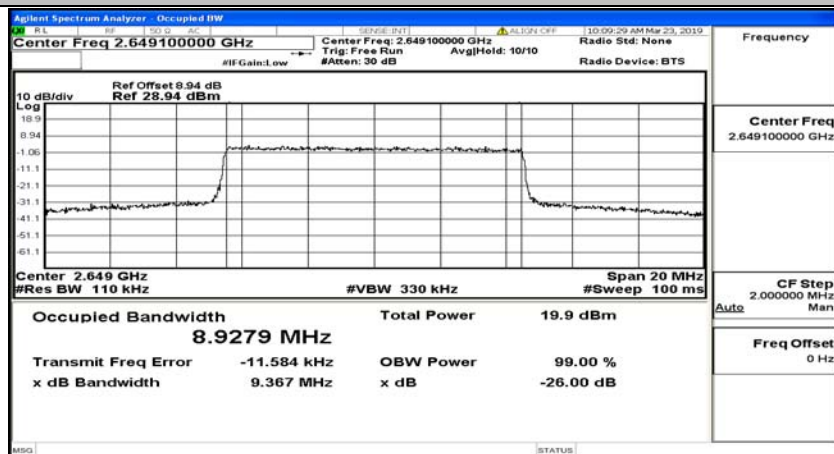
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



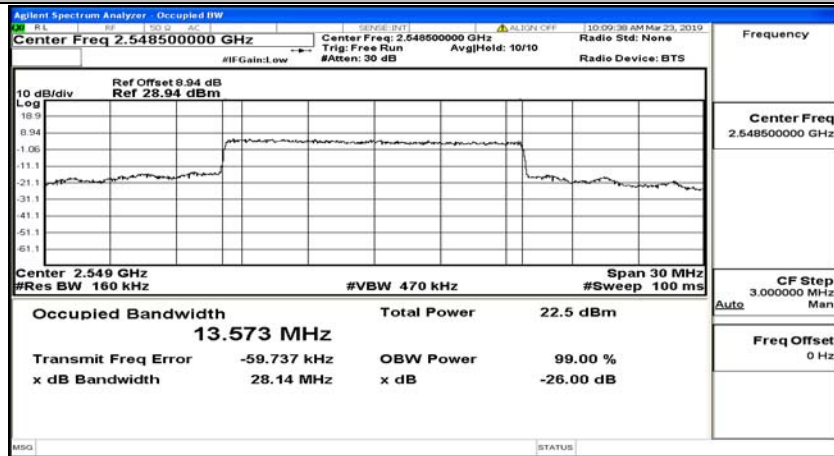
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



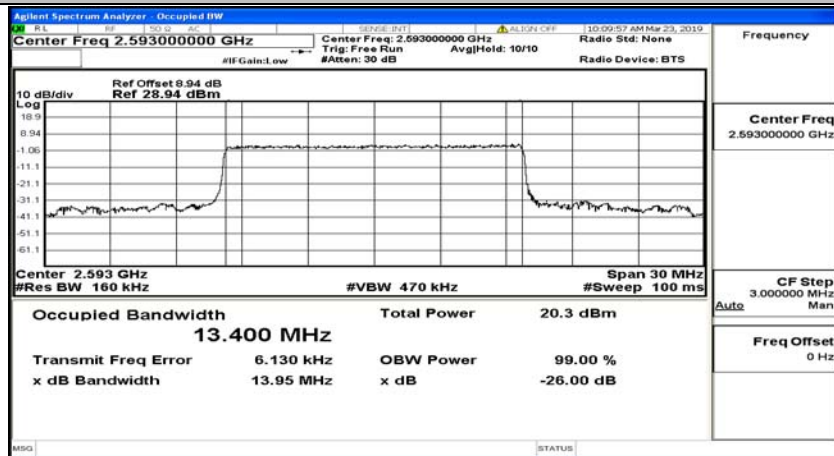
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



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



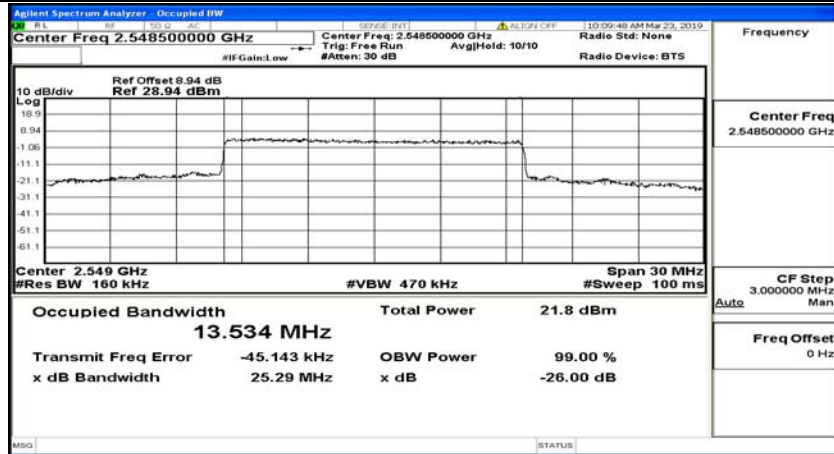
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK



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



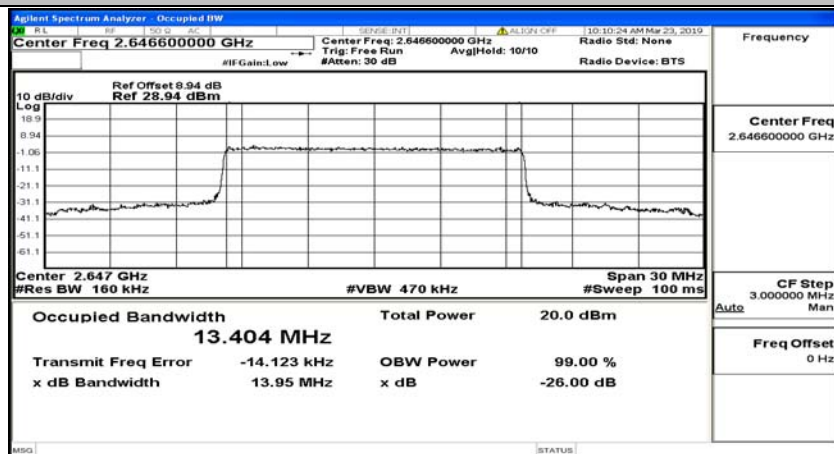
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



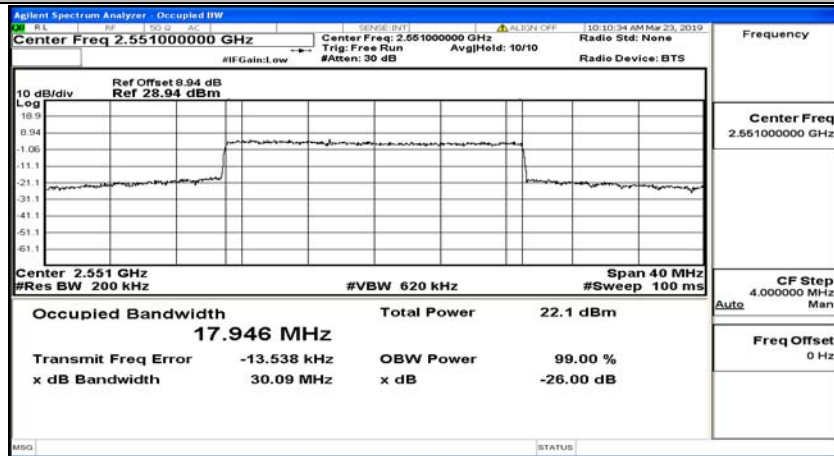
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM



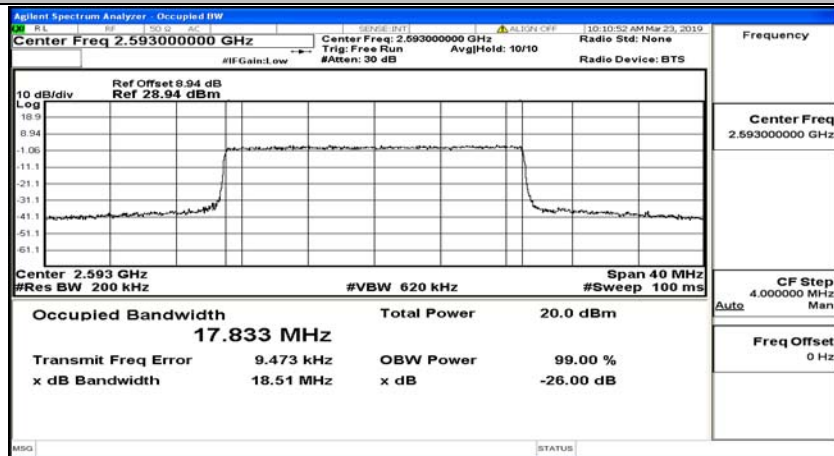
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



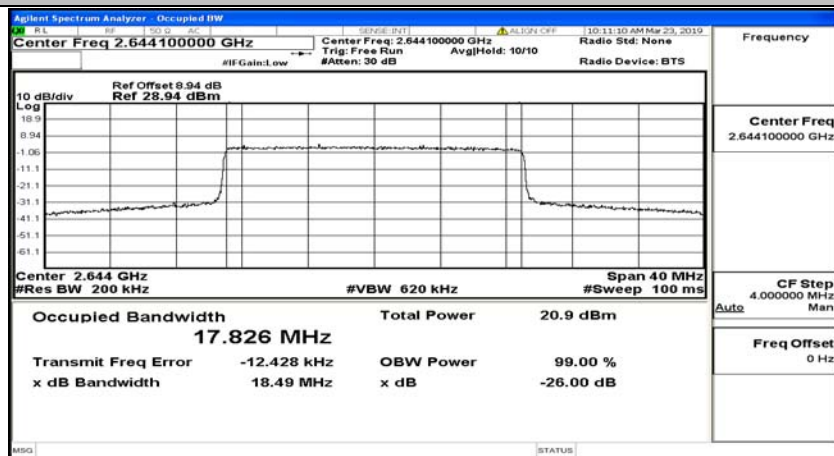
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



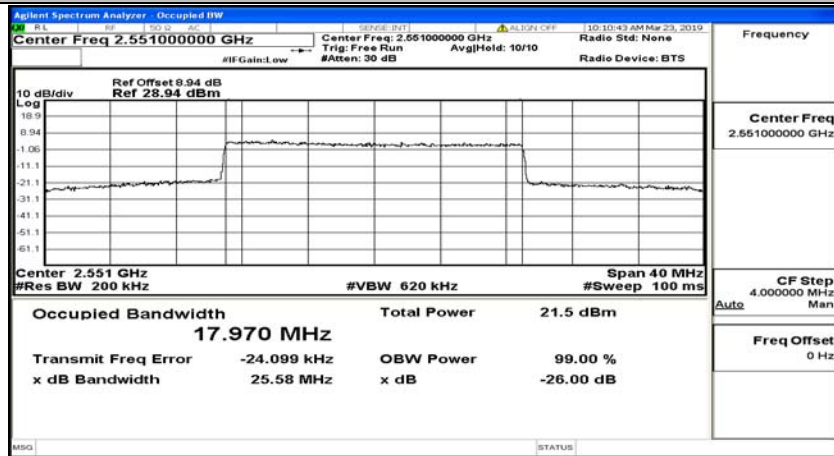
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK



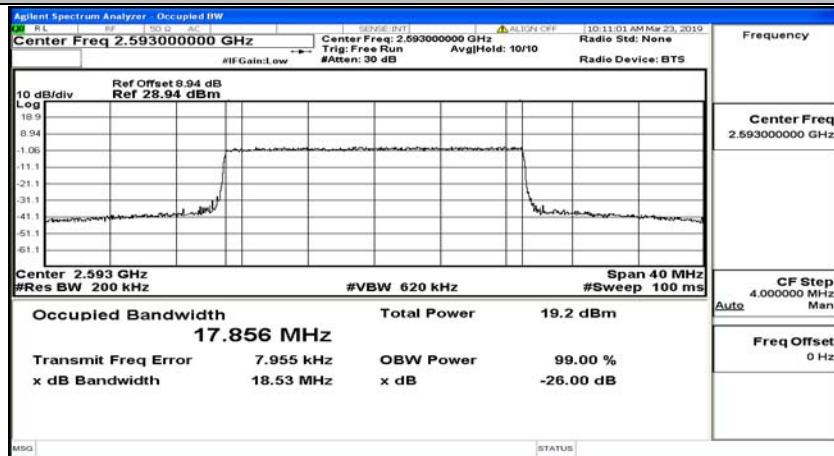
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



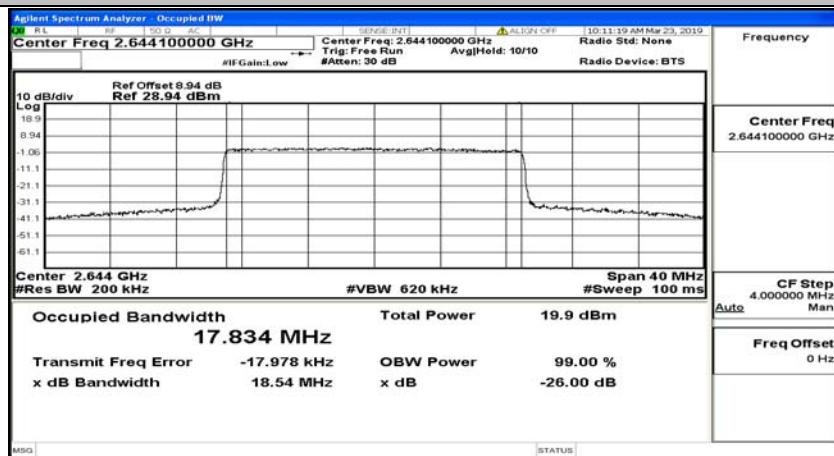
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM



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

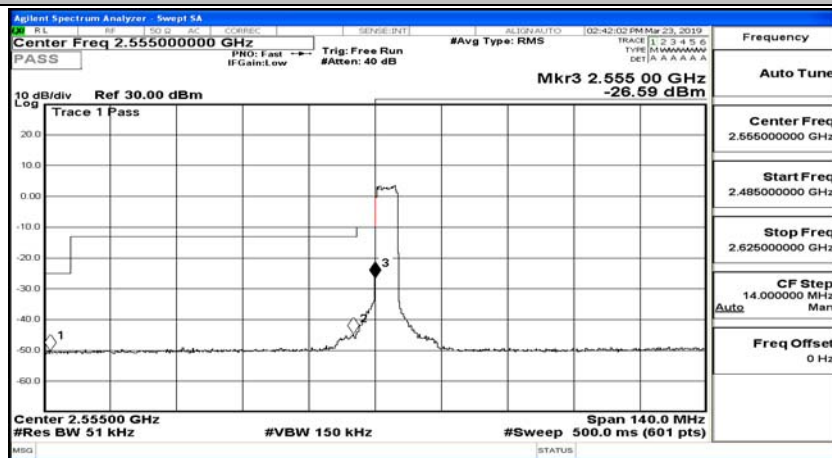


EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM

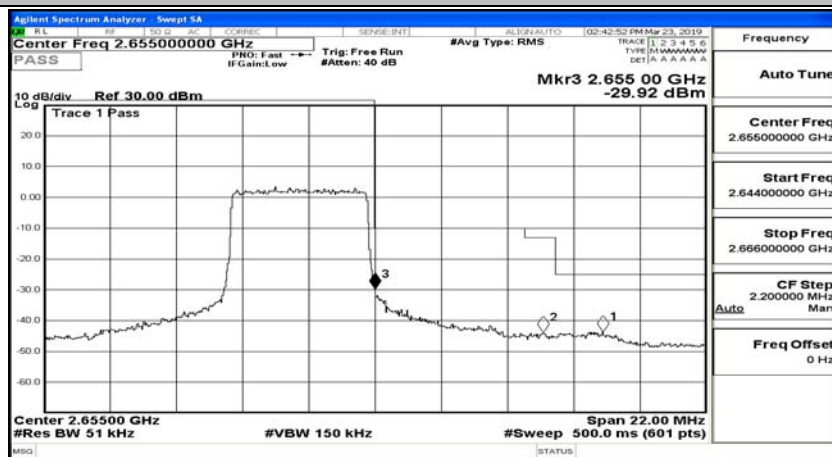


A.4 Band Edge

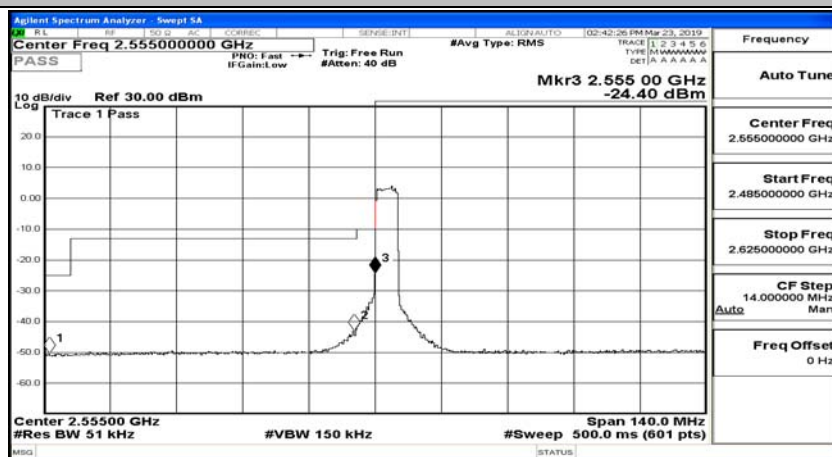
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



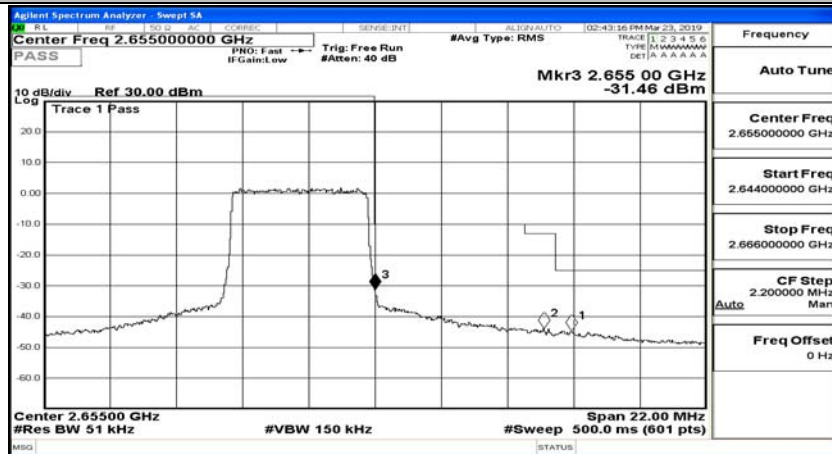
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



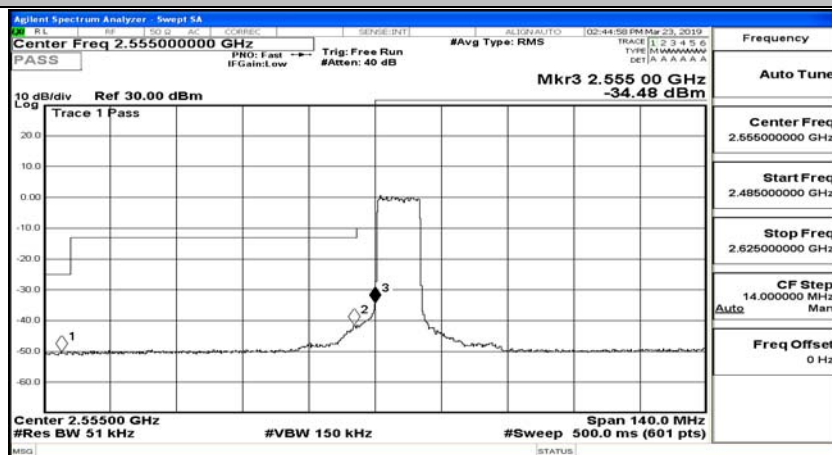
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



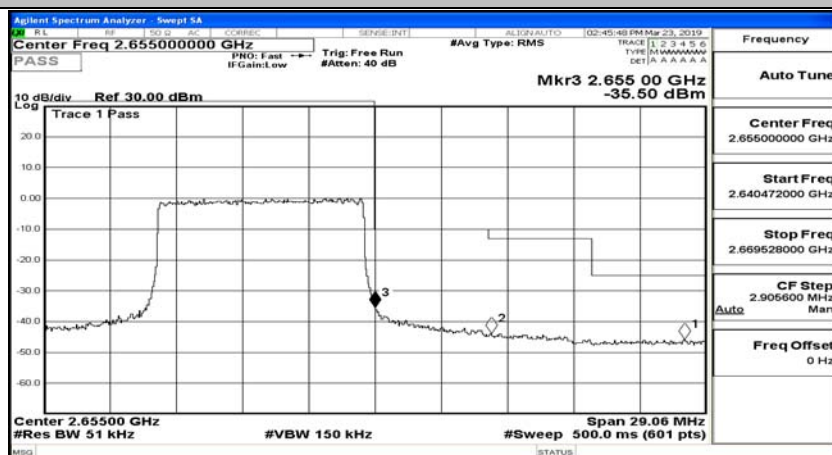
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



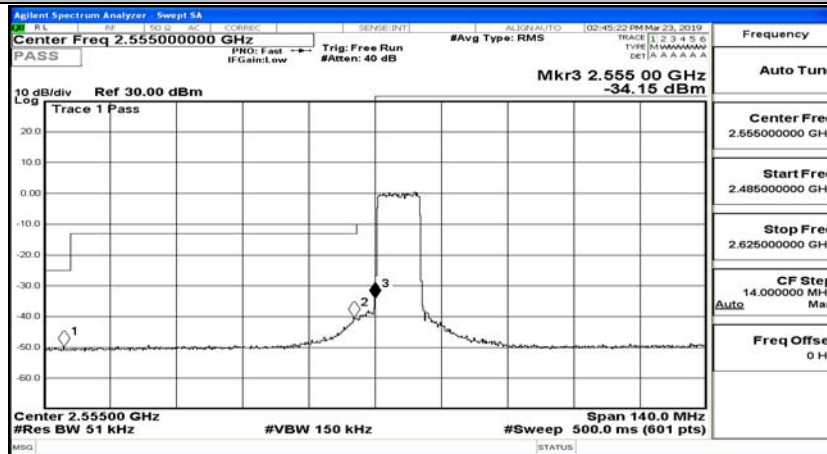
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



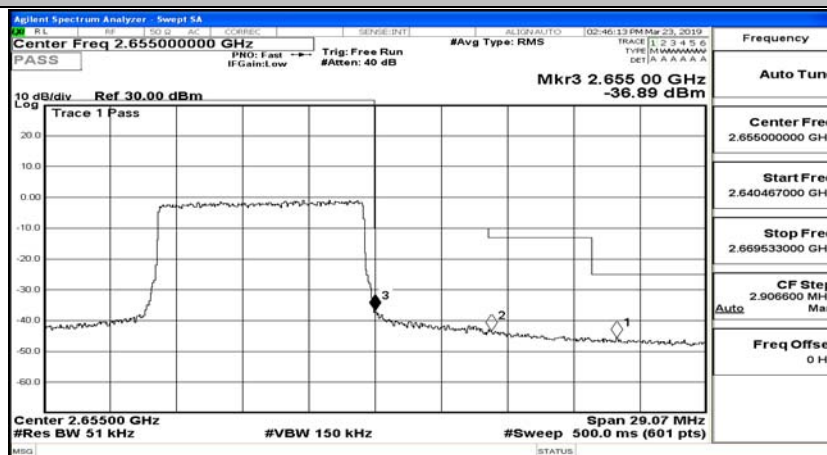
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



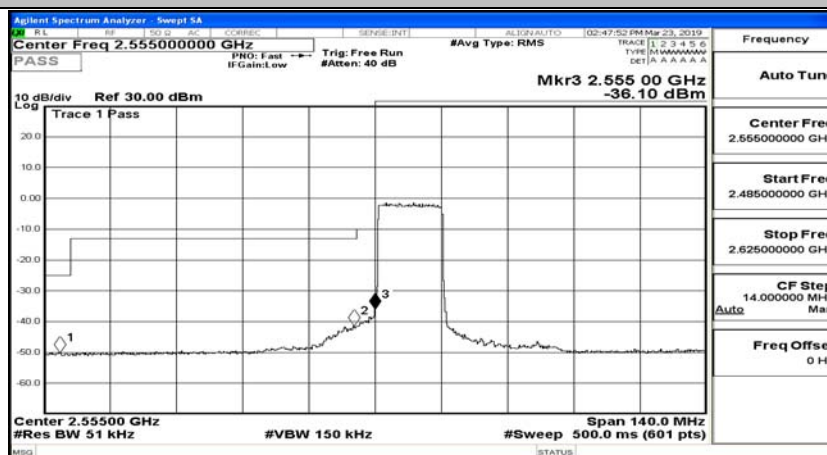
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



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



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



Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.655000000 GHz

Span 38.52 MHz

Ref 30.00 dBm

Trace 1 Pass

Mkr3 2.655 000 0 GHz -37.07 dBm

Center 2.65500 GHz

Res BW 51 kHz

VBW 150 kHz

Sweep 500.0 ms (601 pts)

Frequency

Auto Tun

Center Freq 2.655000000 GHz

Start Freq 2.635740000 GHz

Stop Freq 2.674260000 GHz

CF Step 3.852000 MHz

Auto

Freq Offset 0 Hz

Agilent Spectrum Analyzer - Swept SA

2.550000 GHz

Center Freq 2.55000000 GHz

PASS

PRN: Fast
IF Gain: Low

Trig: Free Run
#Atten: 40 dB

#Avg Type: RMS

(02-40) 17 Feb Mar 23, 2019

TRACE [1 2 3 4 5 6]
TYPE [M W W W W W W W]
DET [A A A A A A A]

Frequency

Auto Tun

Mkr3 2.555 00 GHz
-36.67 dBm

10 dB/div Ref 30.00 dBm

Log

Trace 1 Pass

1 2 3

Center 2.555000 GHz

Span 140.0 MHz

#Res BW 51 kHz

#VBW 150 kHz

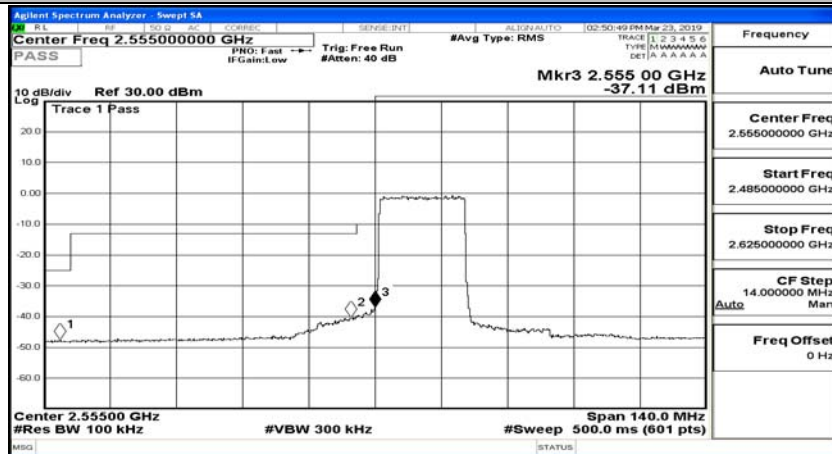
#Sweep 500.0 ms (601 pts)

CF Step
14.000000 MHz
Auto

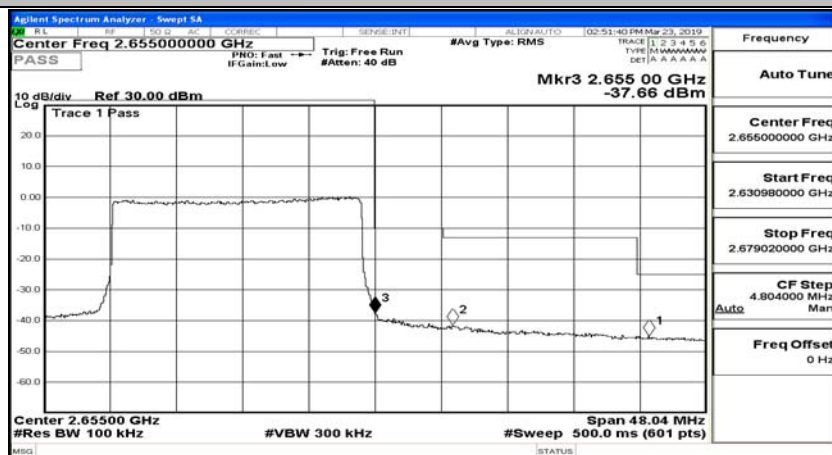
Freq Offset
0 Hz

[illegible]

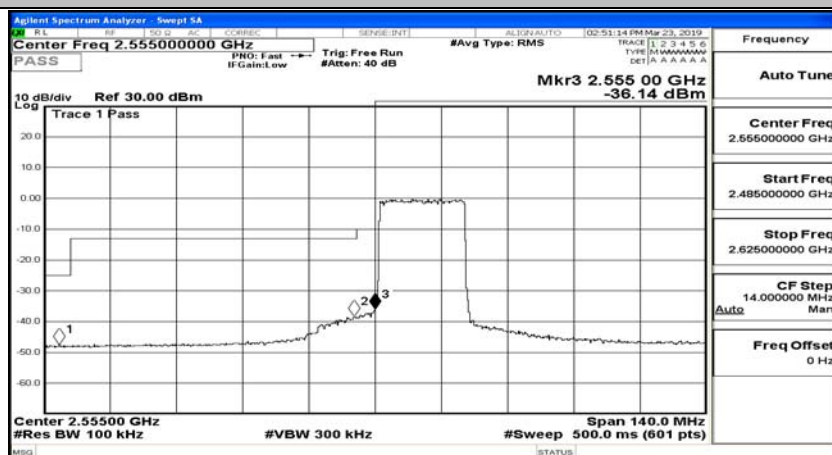
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



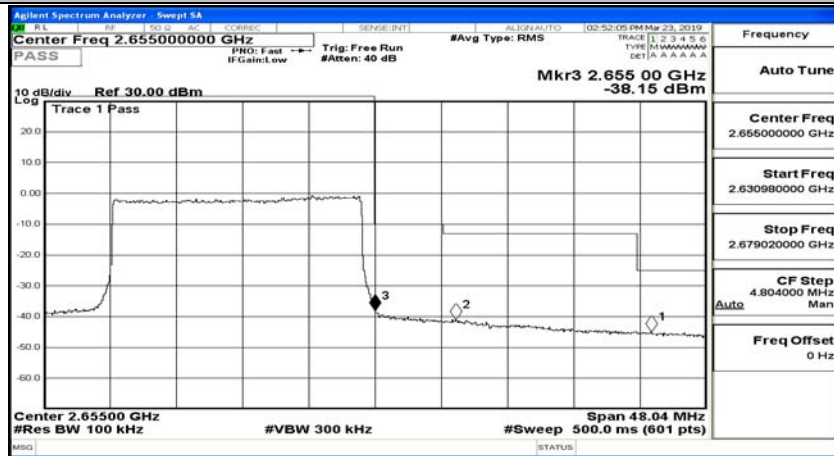
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



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



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

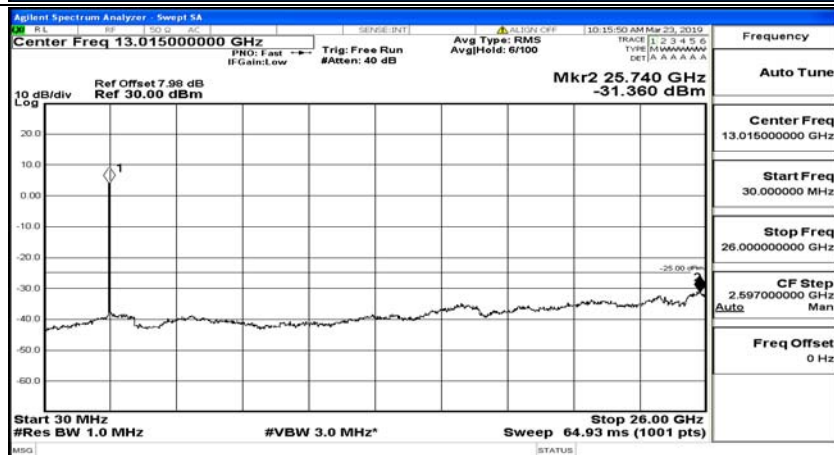
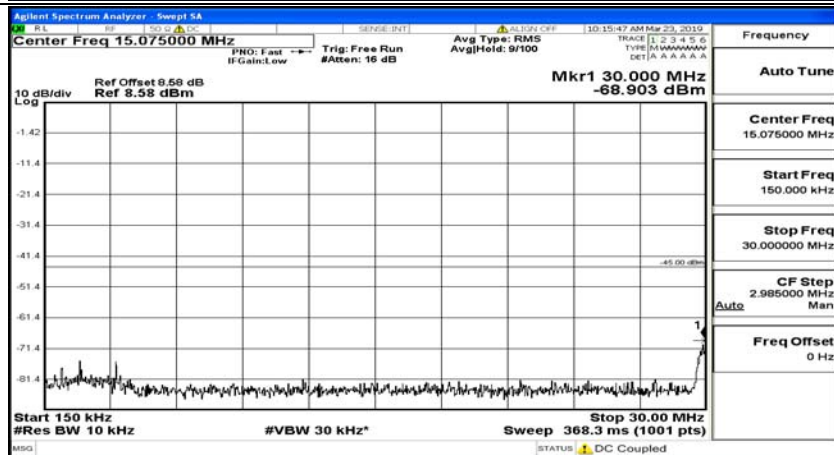
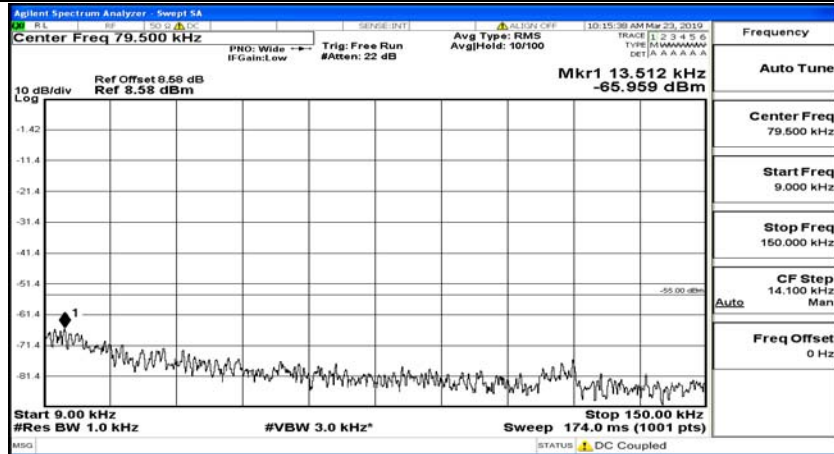


A.5 Conducted Spurious Emission

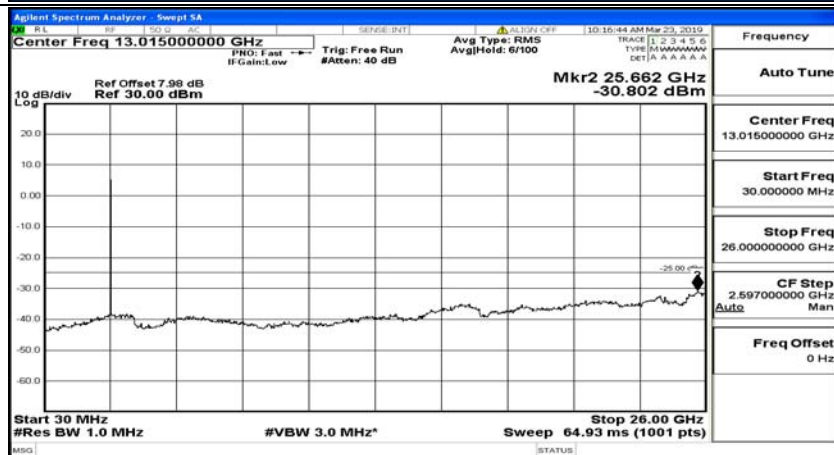
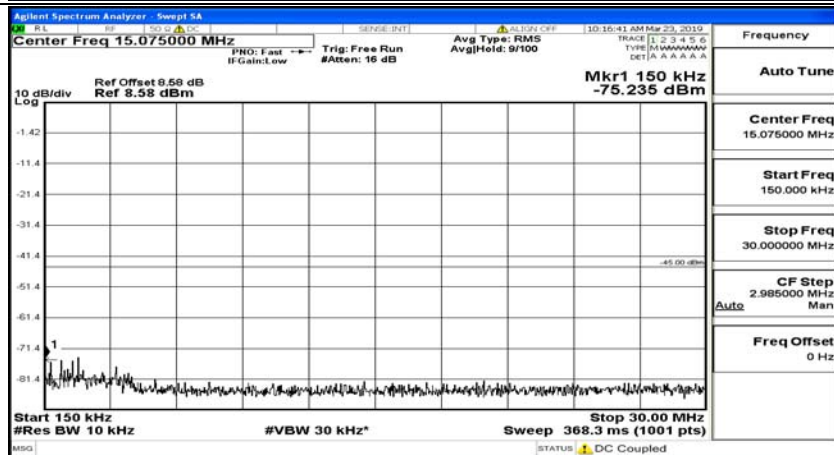
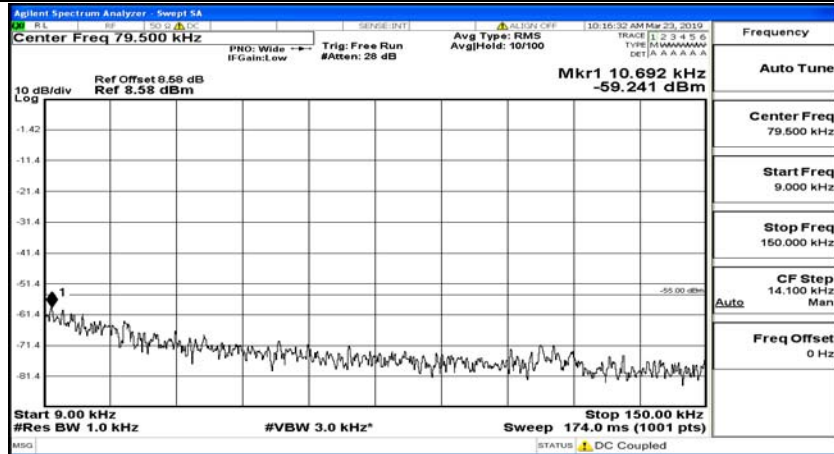
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



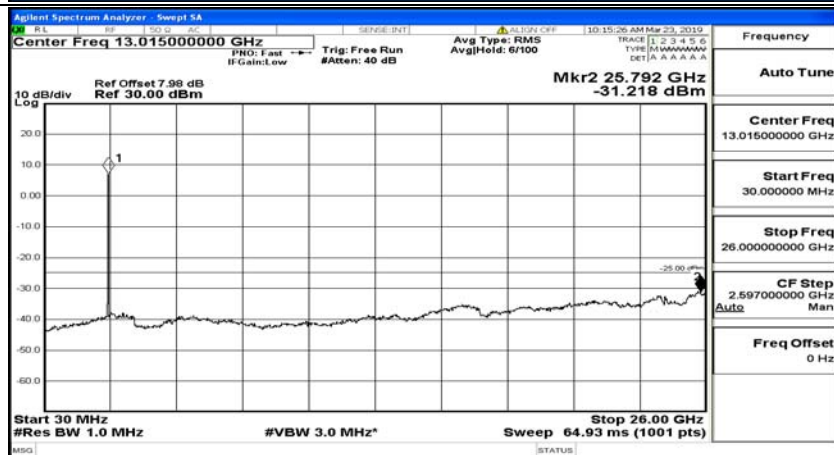
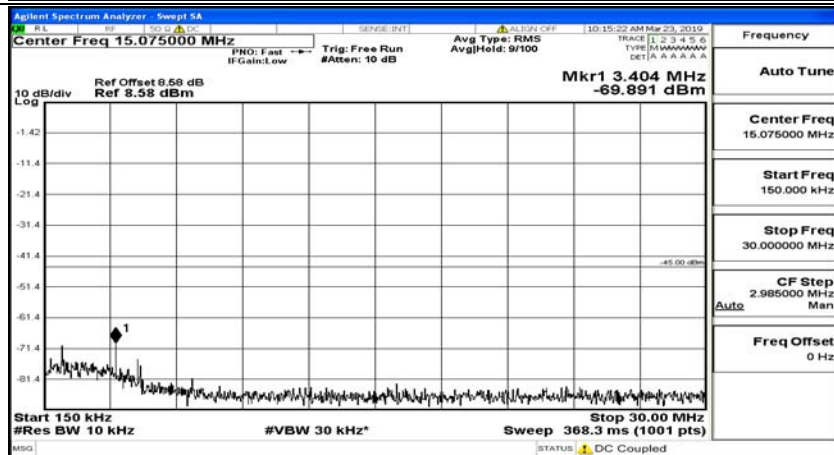
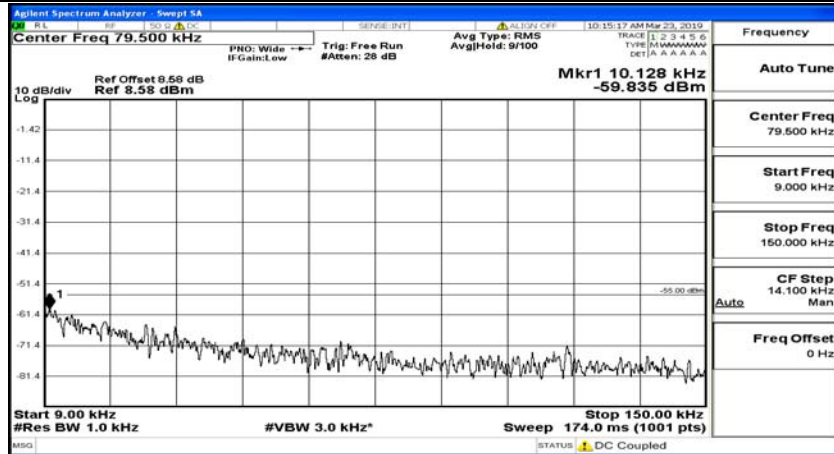
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



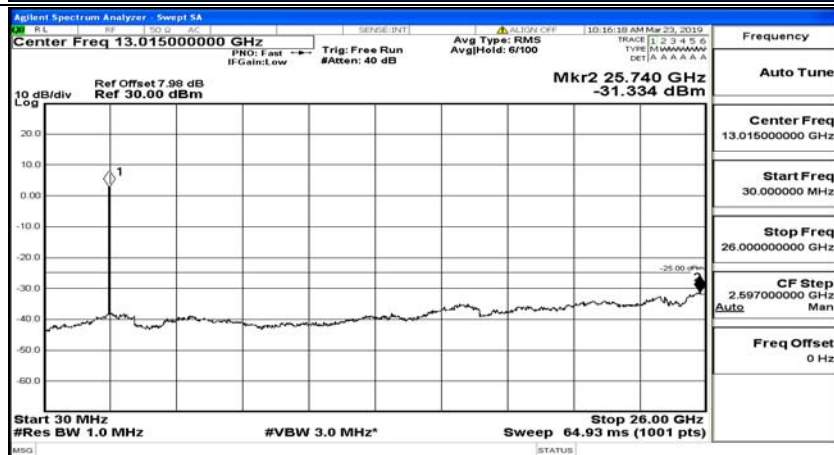
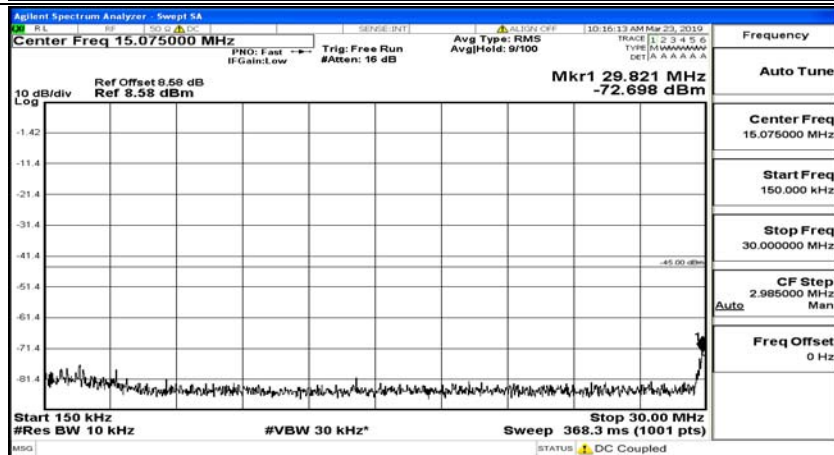
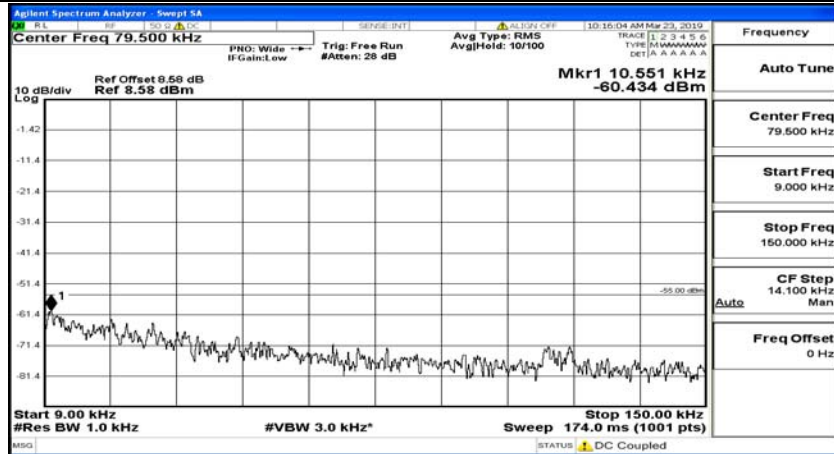
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



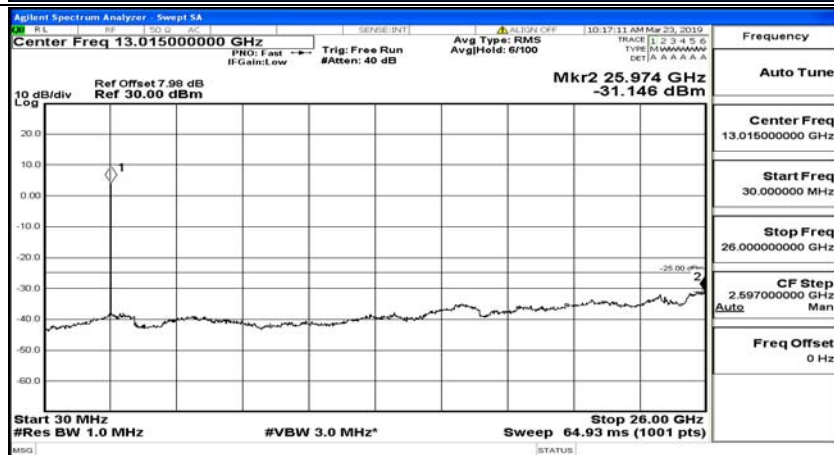
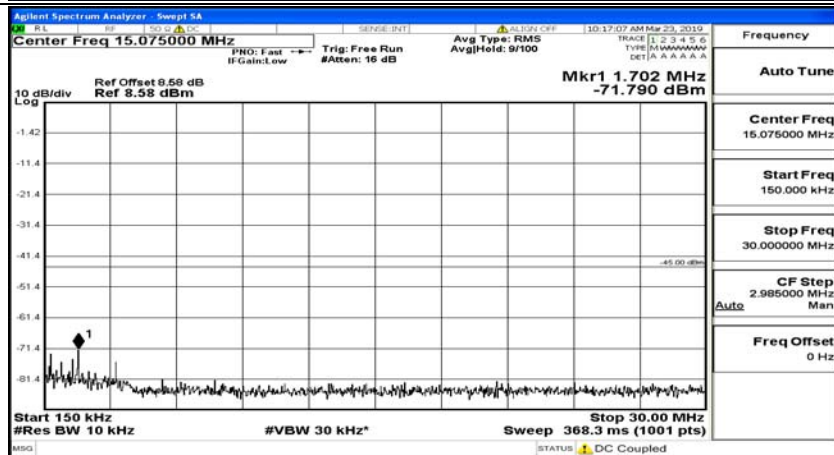
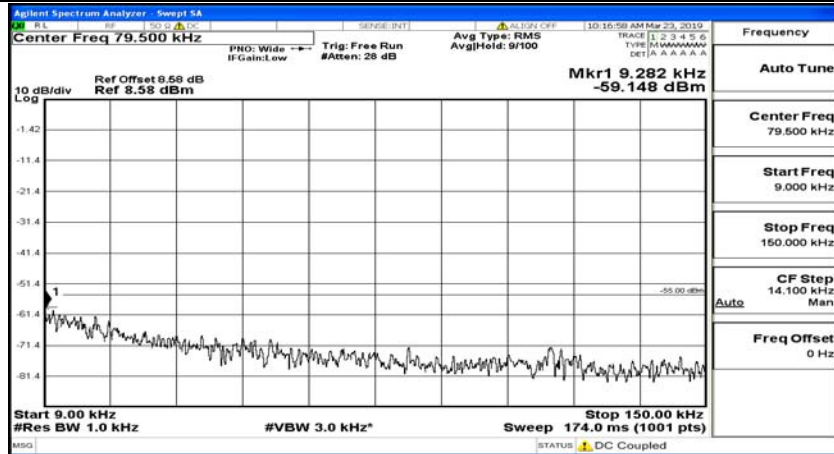
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



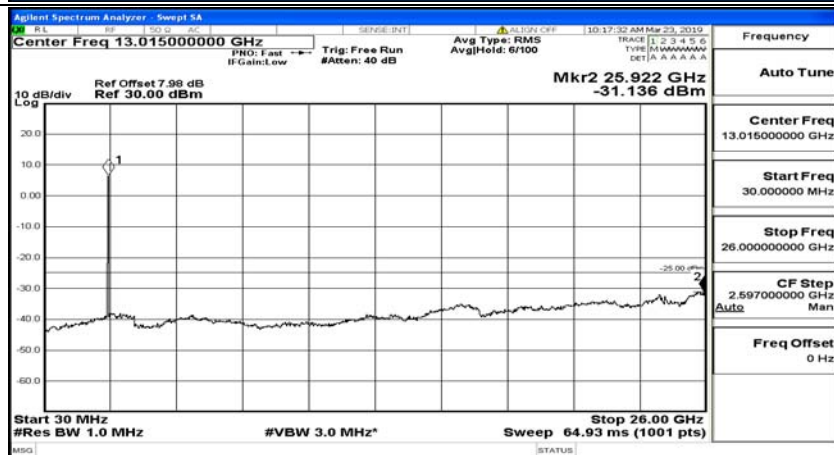
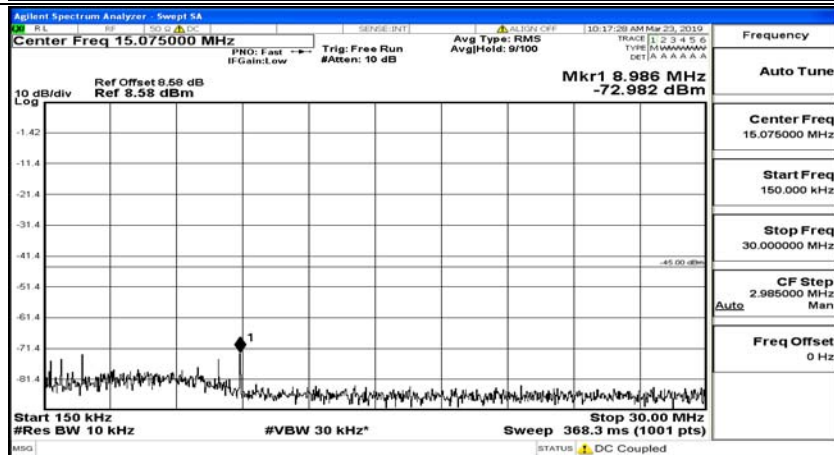
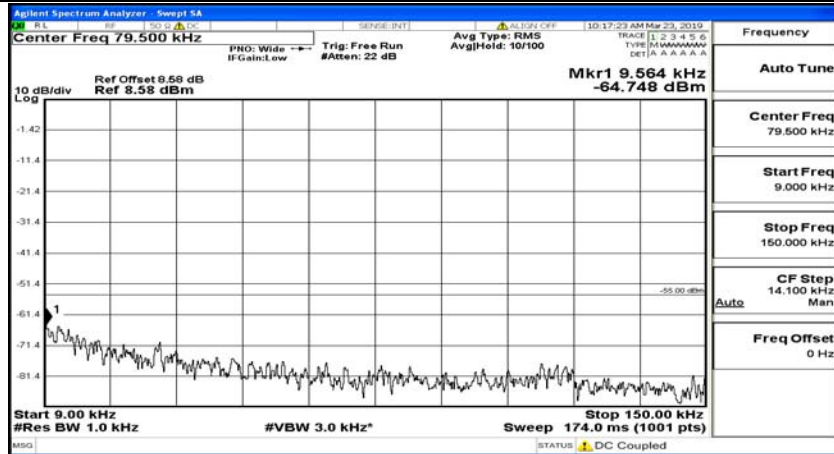
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



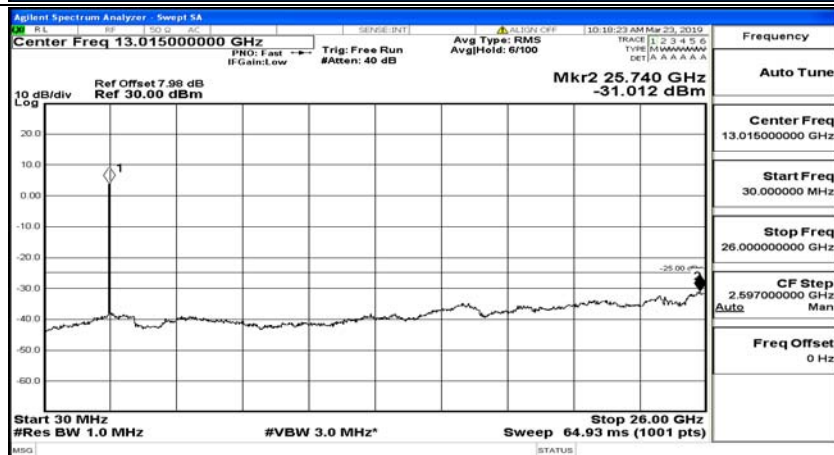
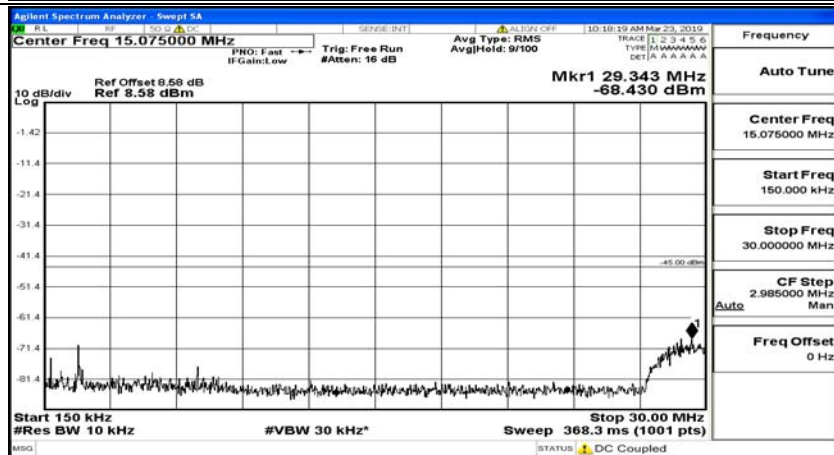
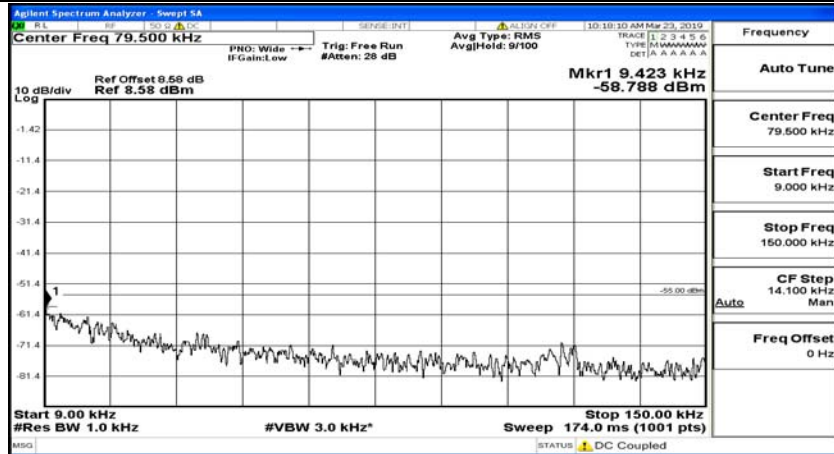
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



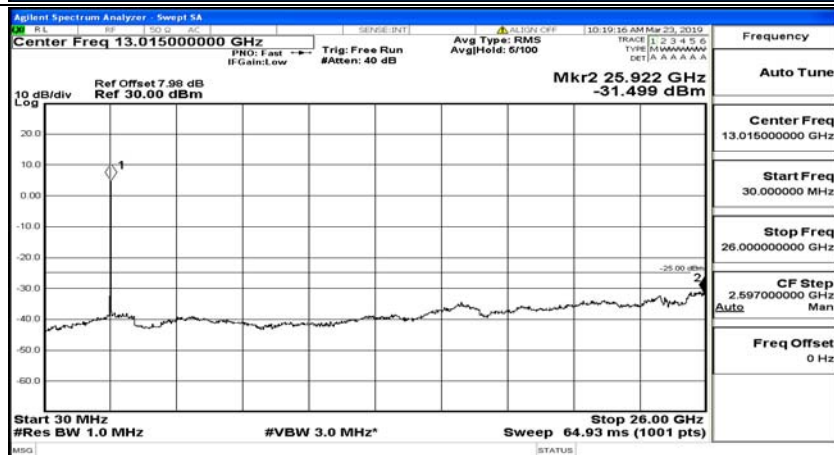
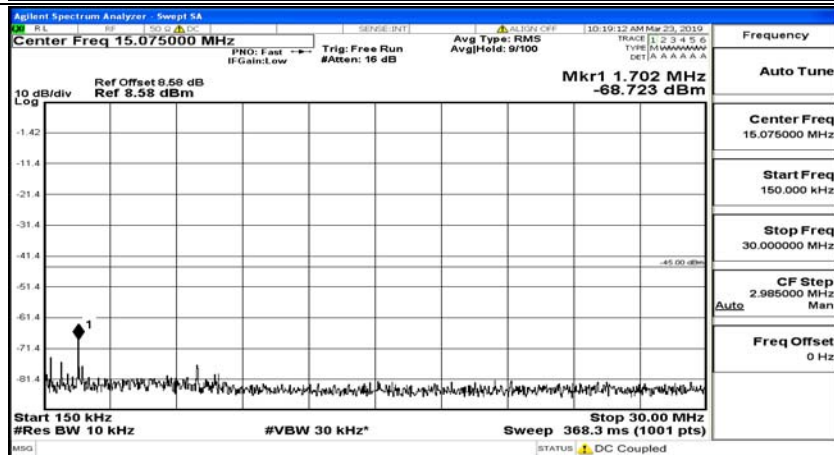
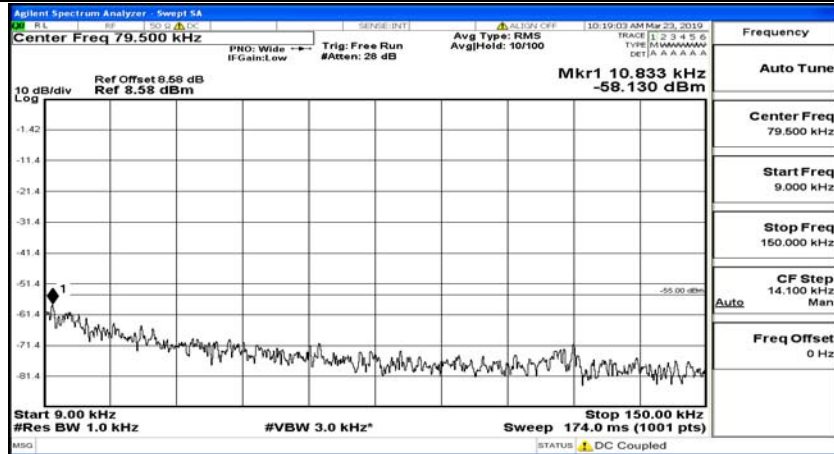
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



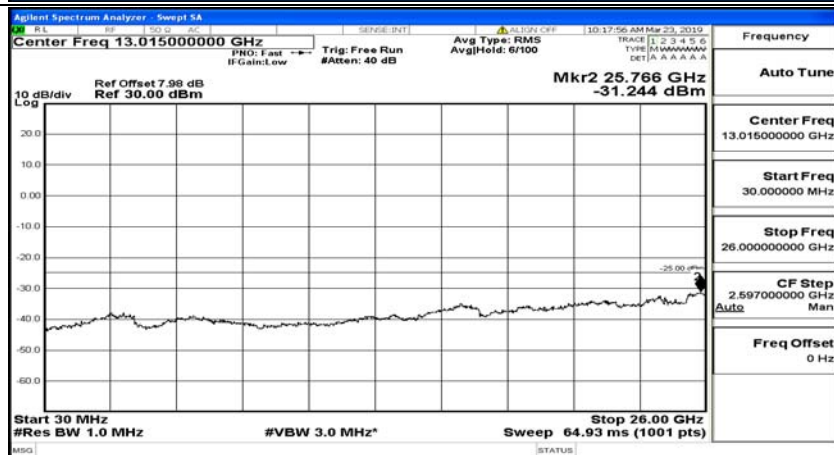
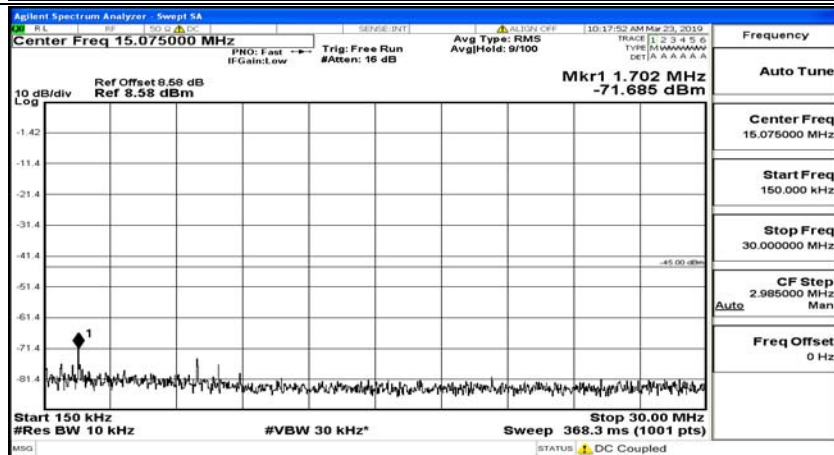
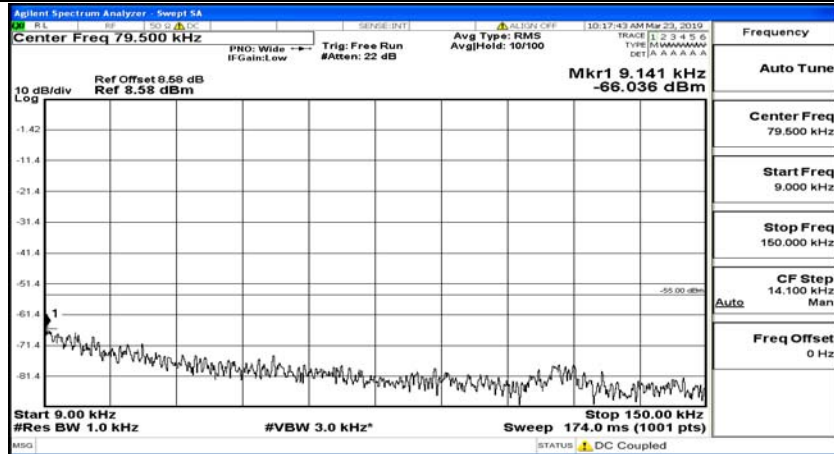
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



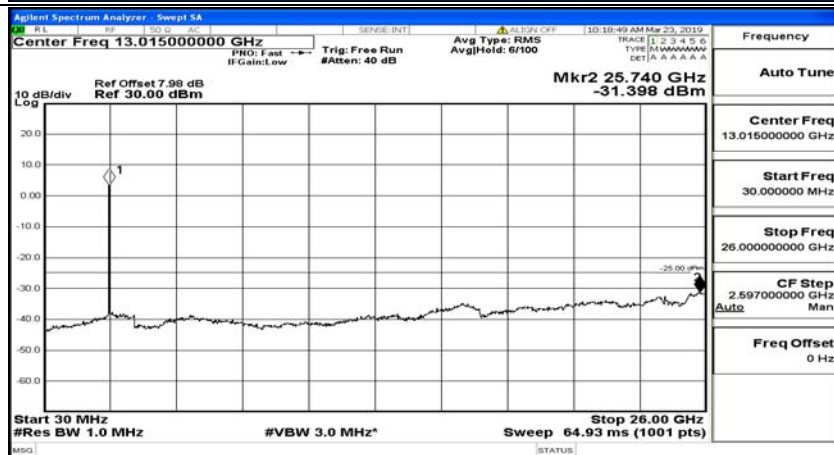
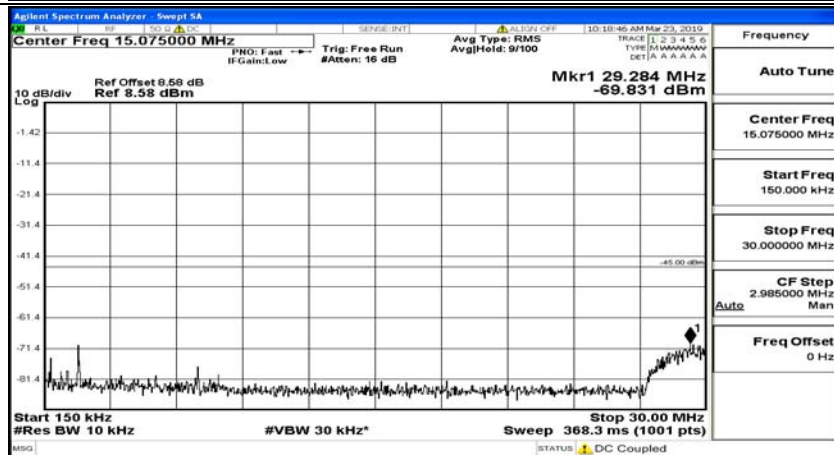
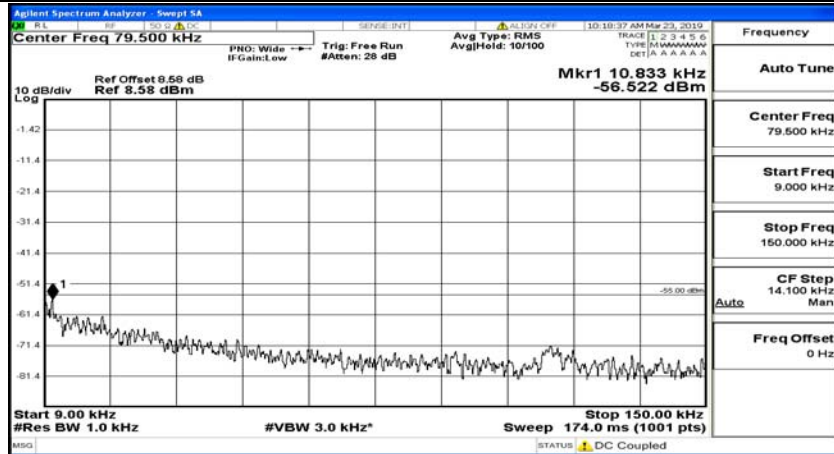
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



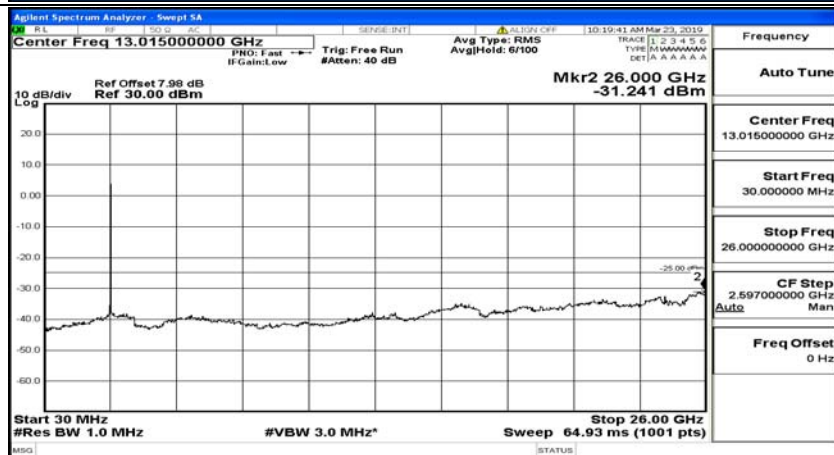
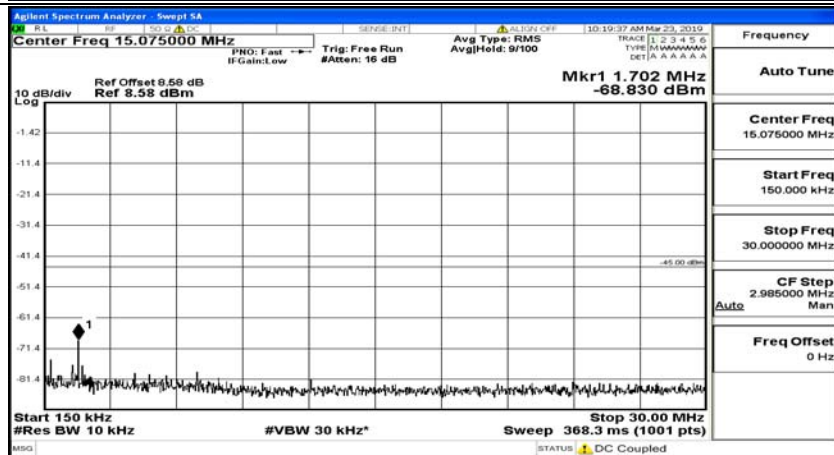
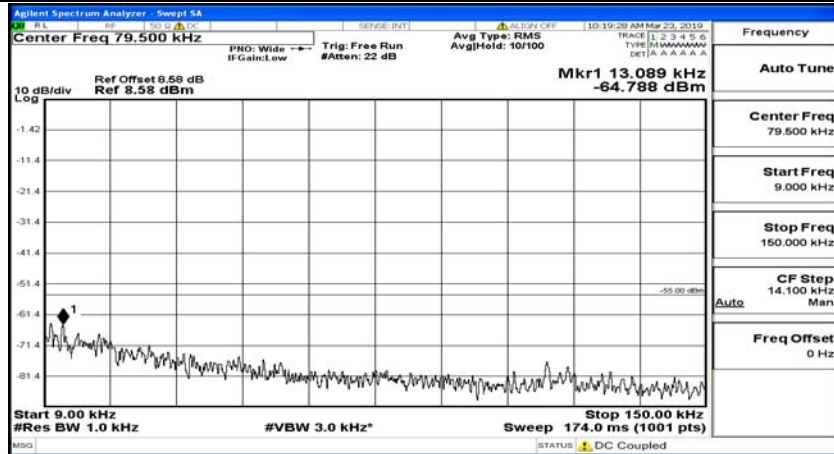
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



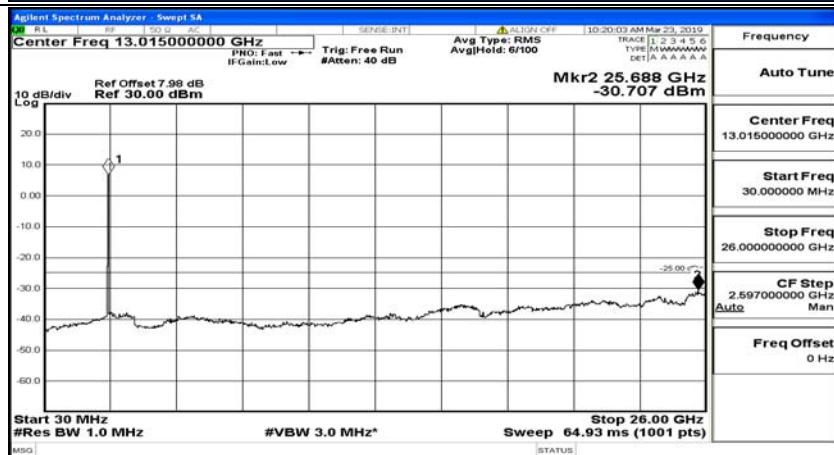
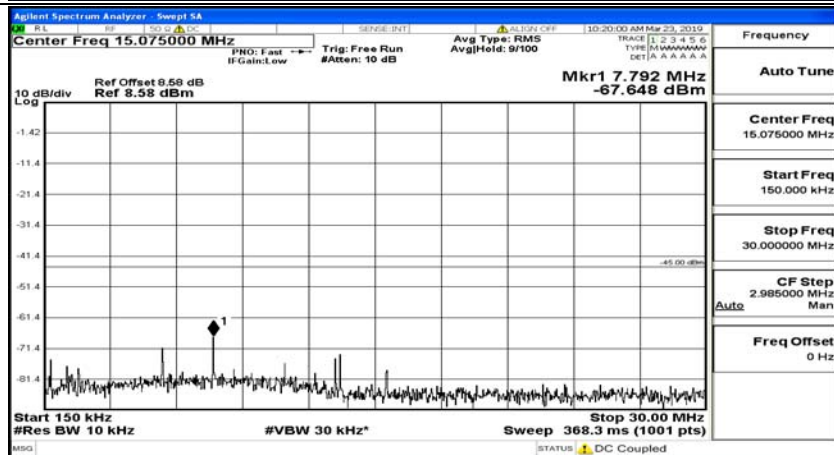
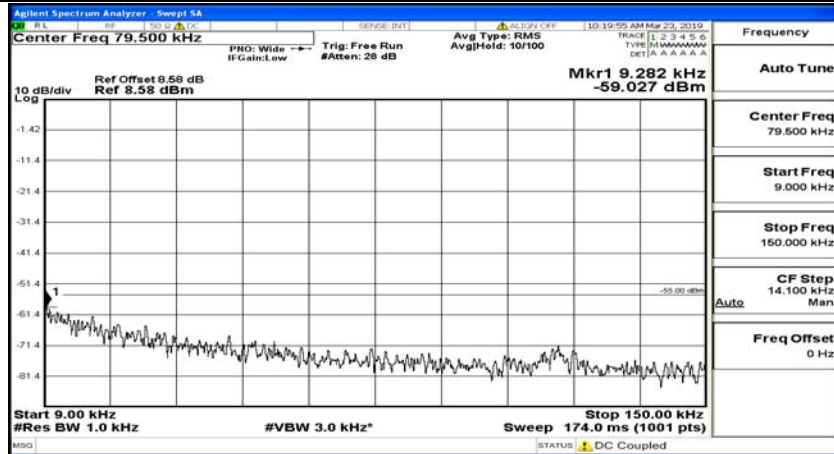
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



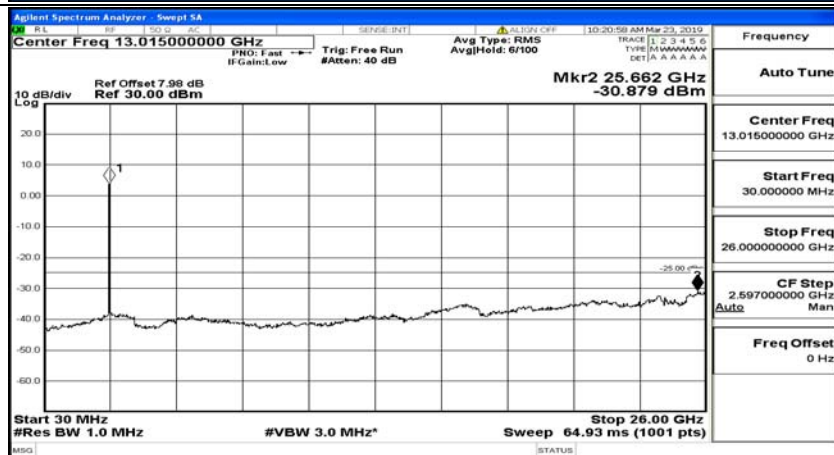
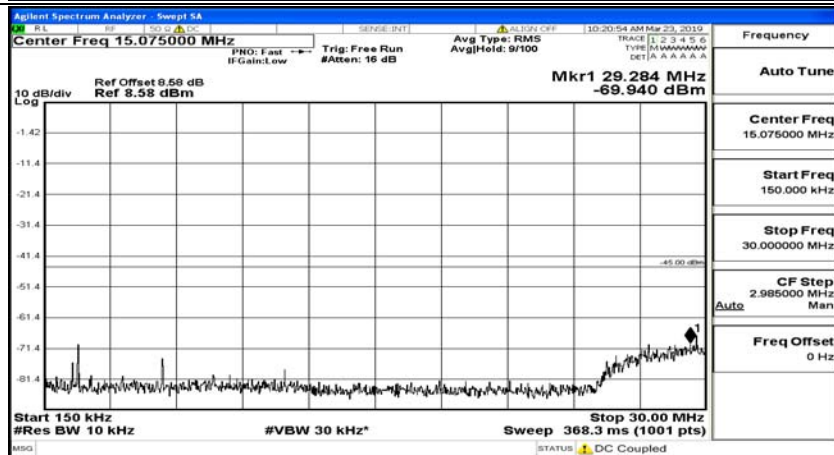
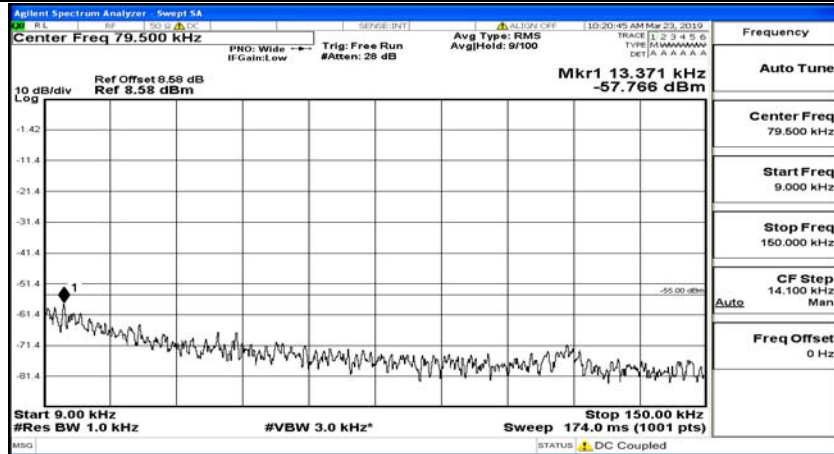
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



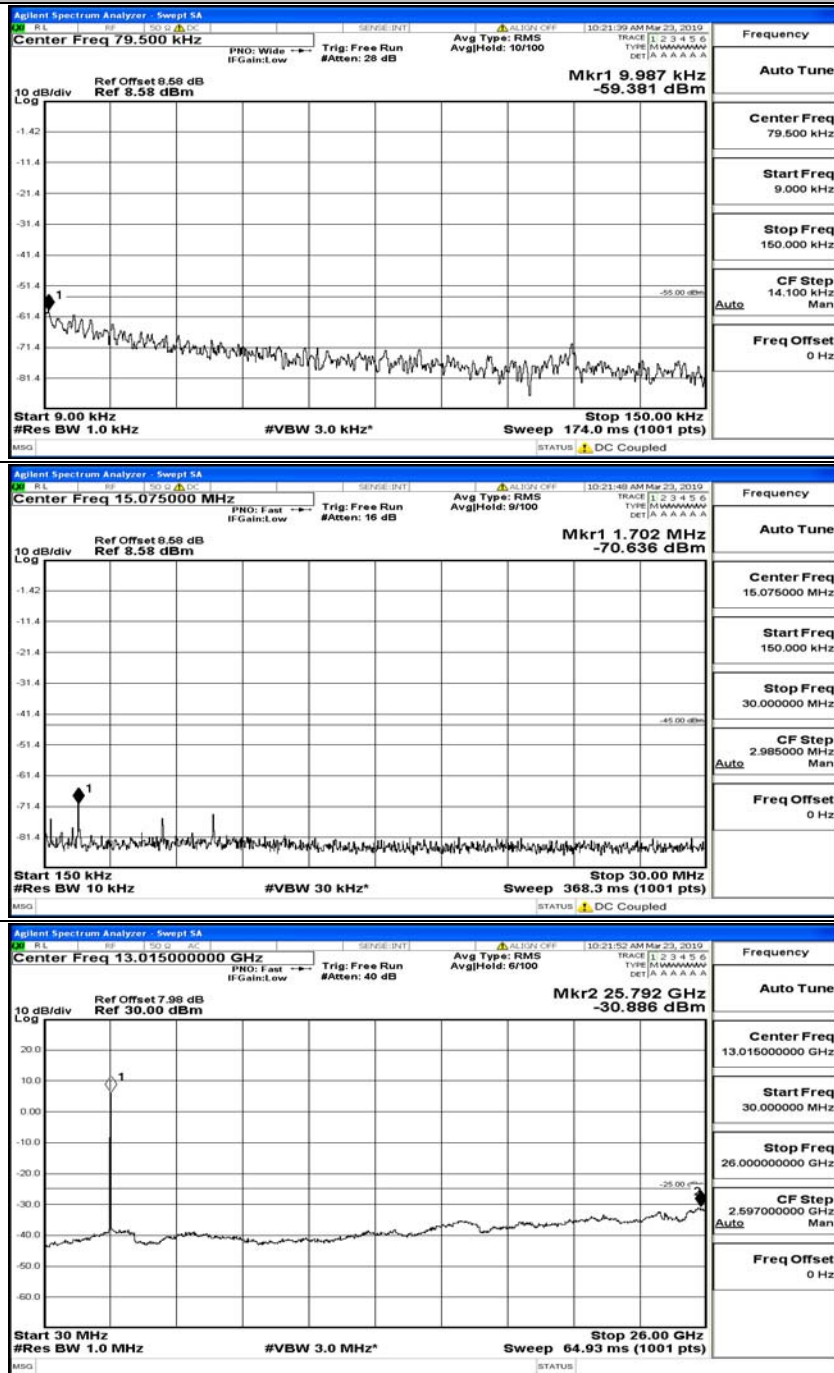
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



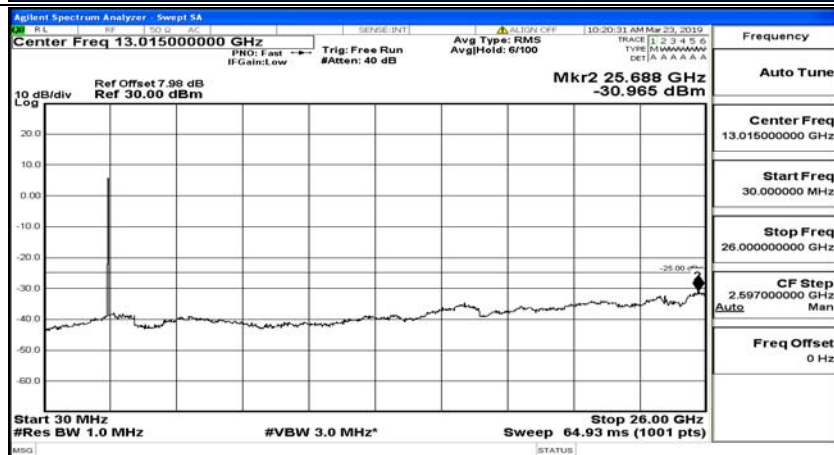
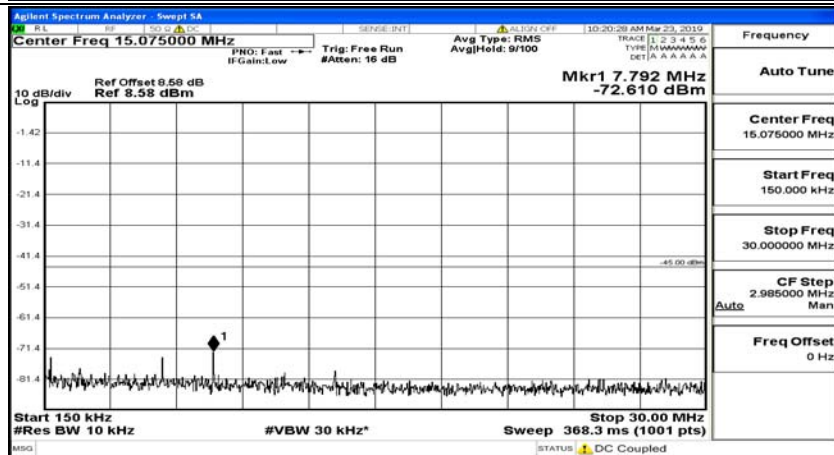
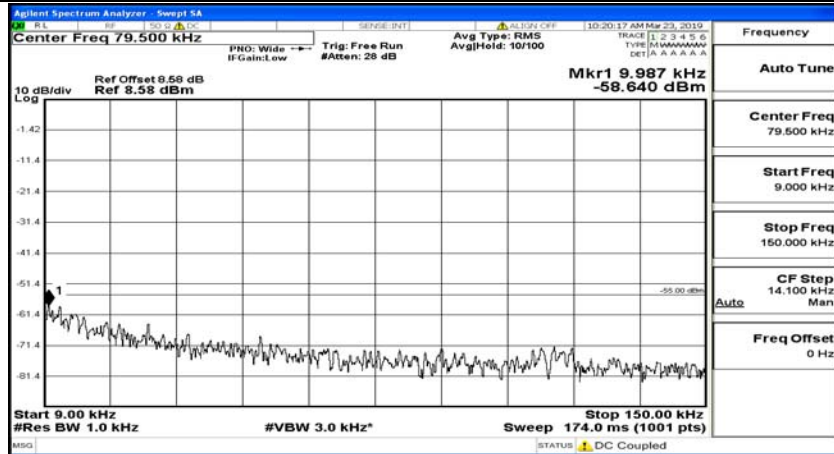
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK



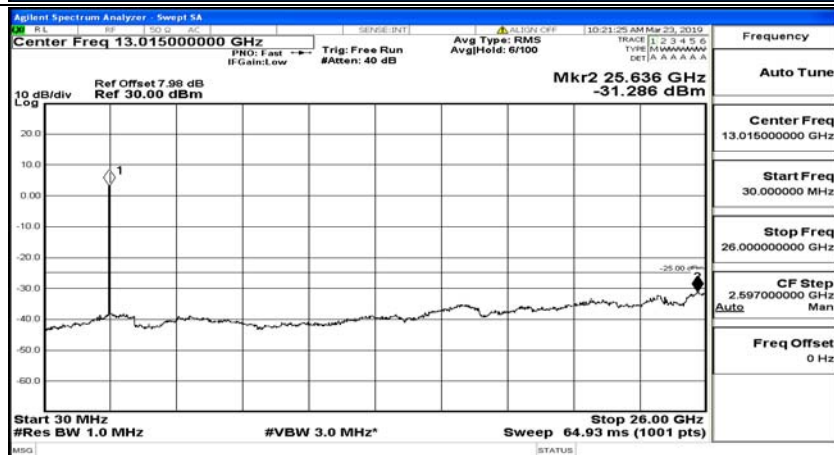
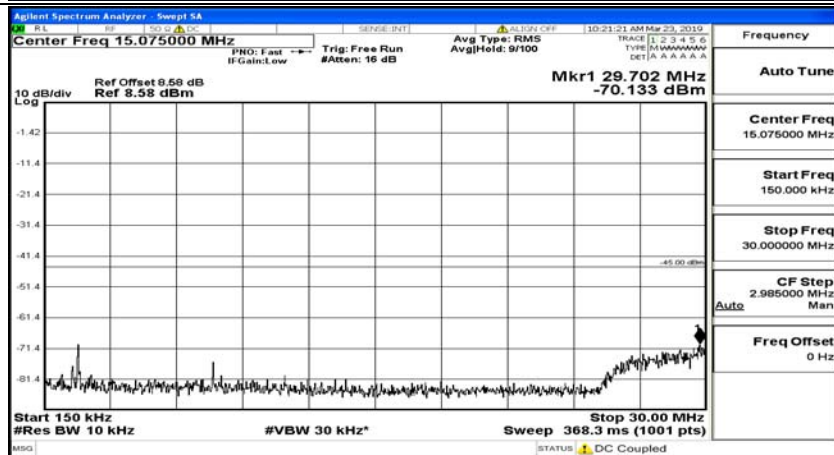
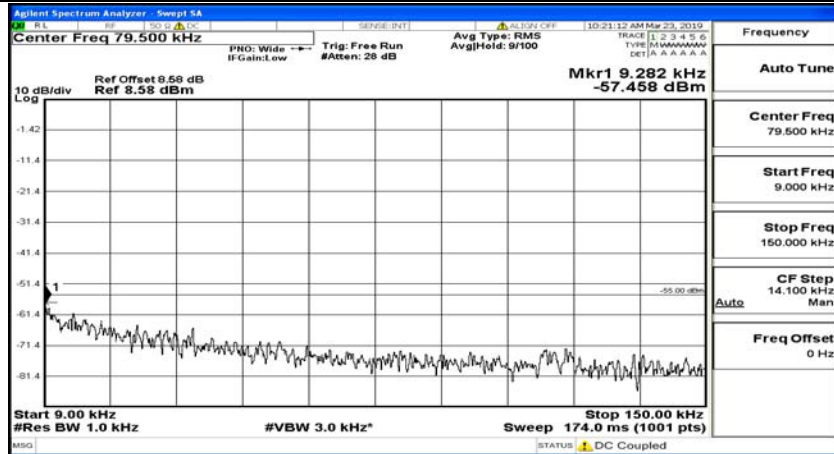
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



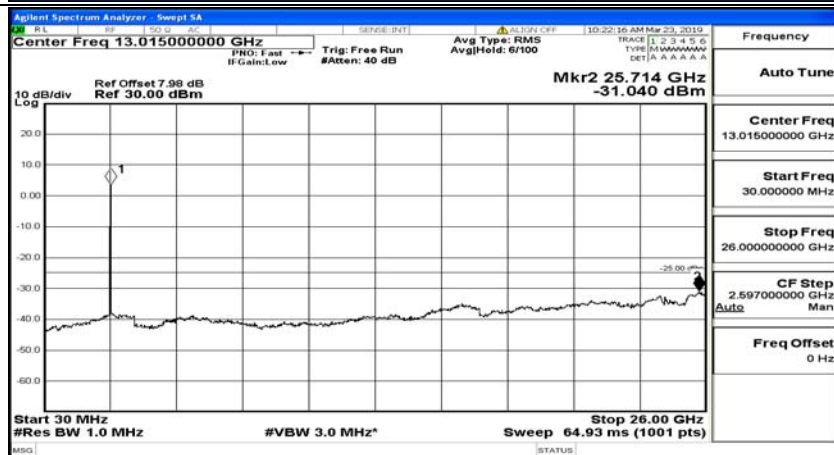
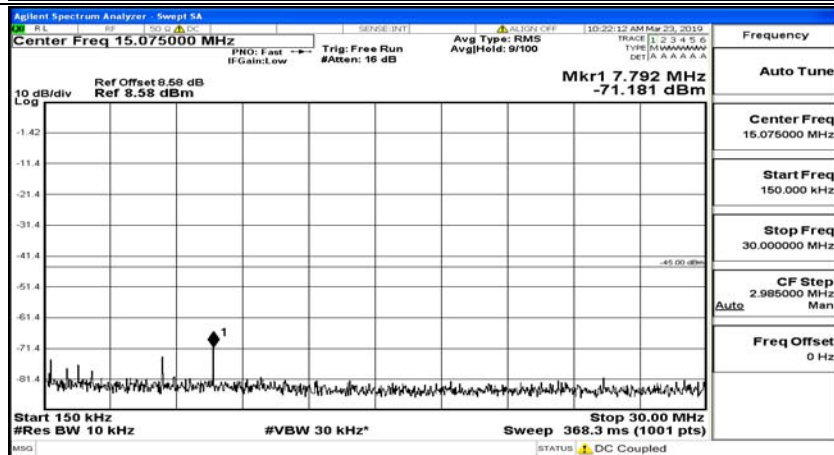
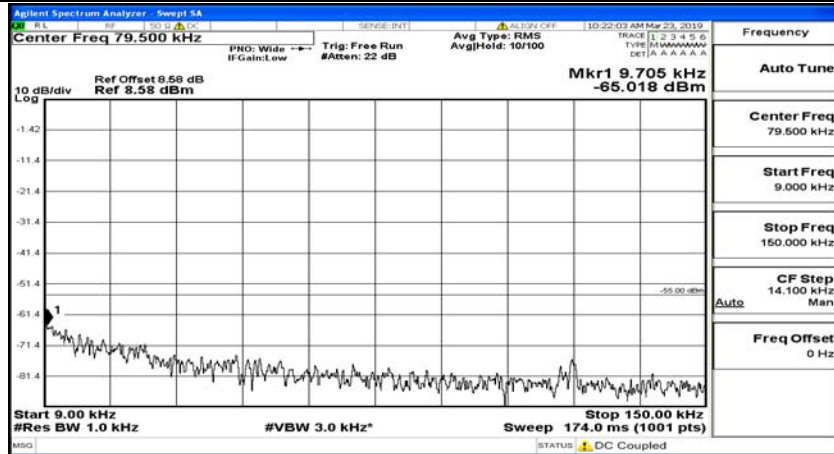
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



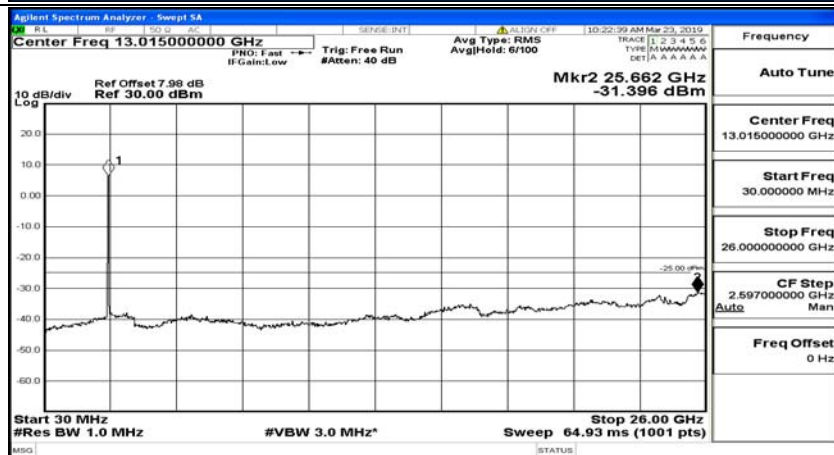
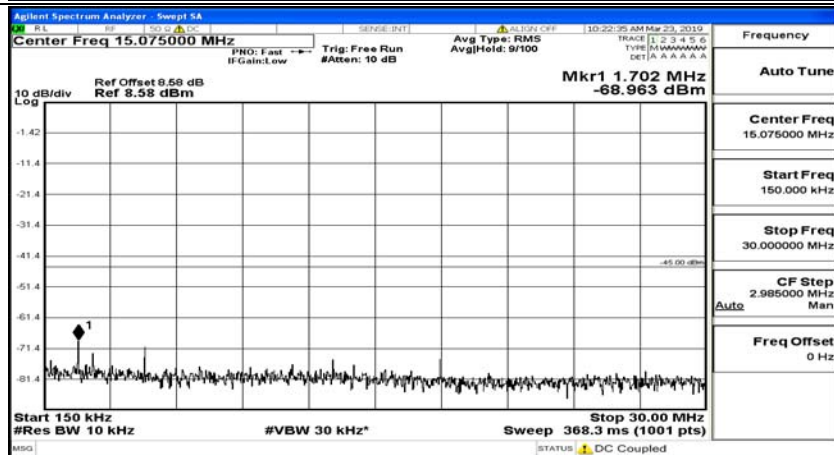
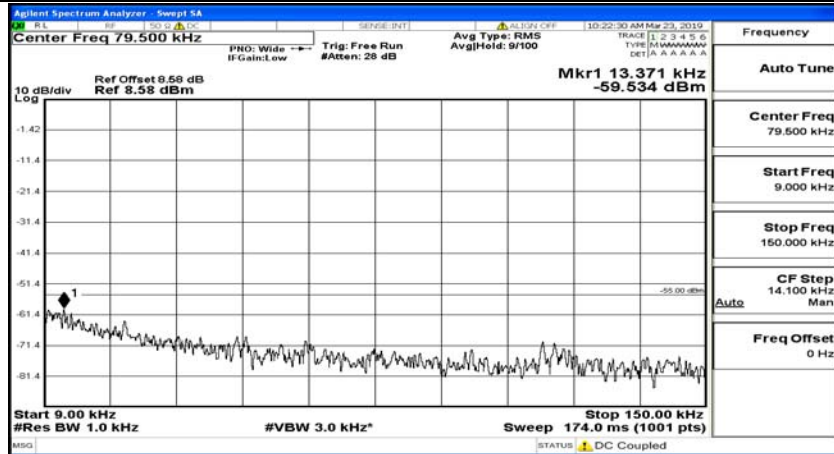
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM



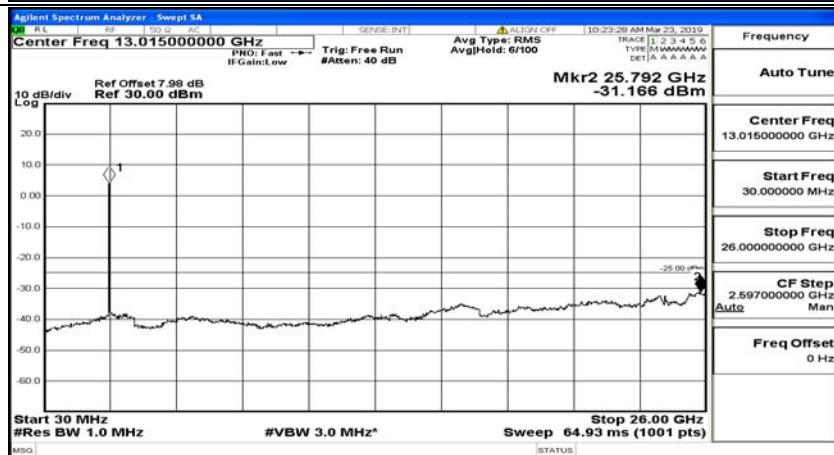
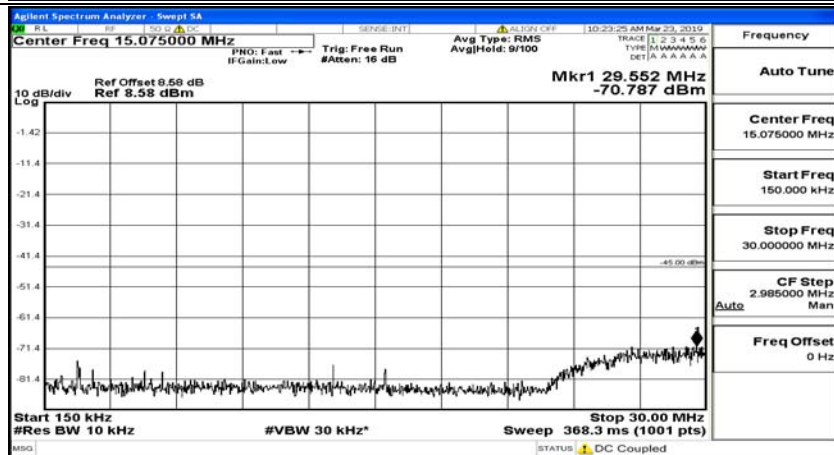
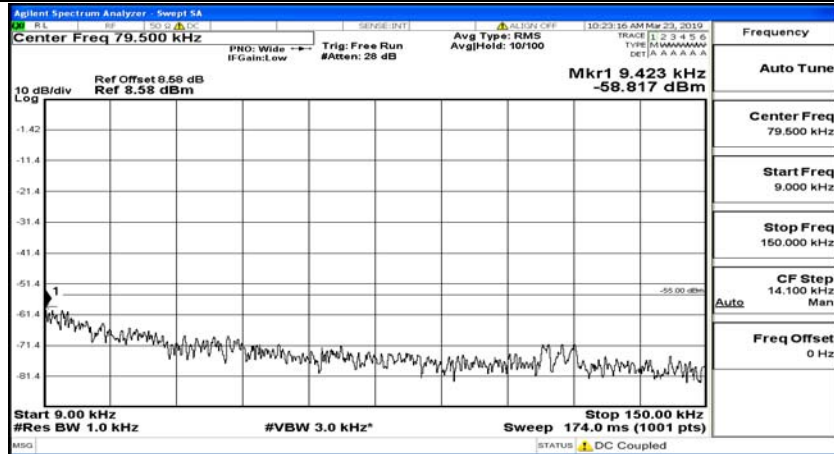
CSE Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



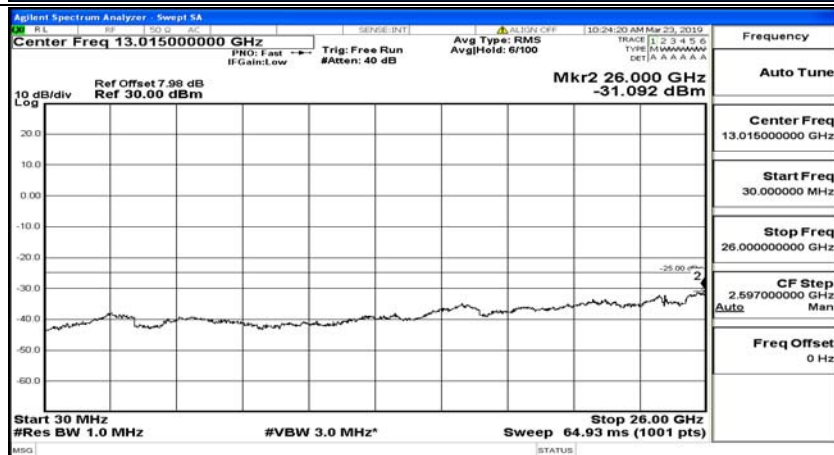
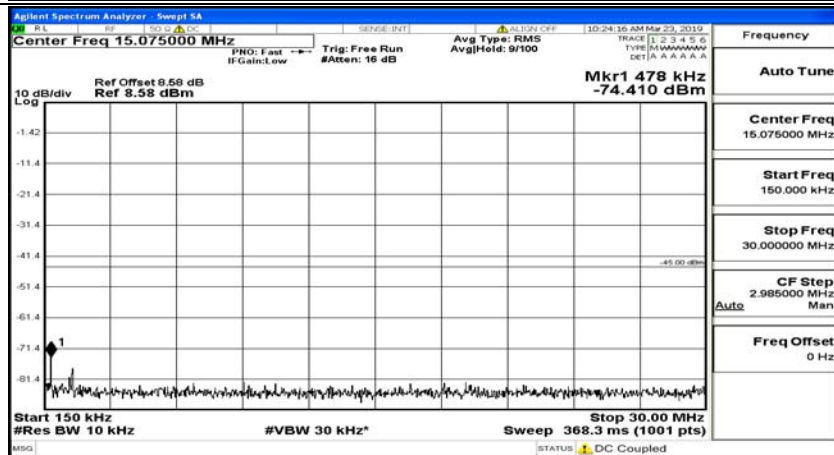
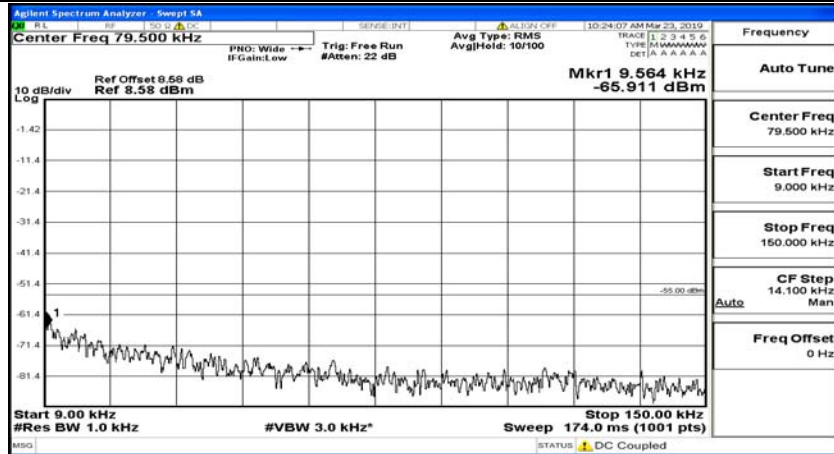
CSE Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



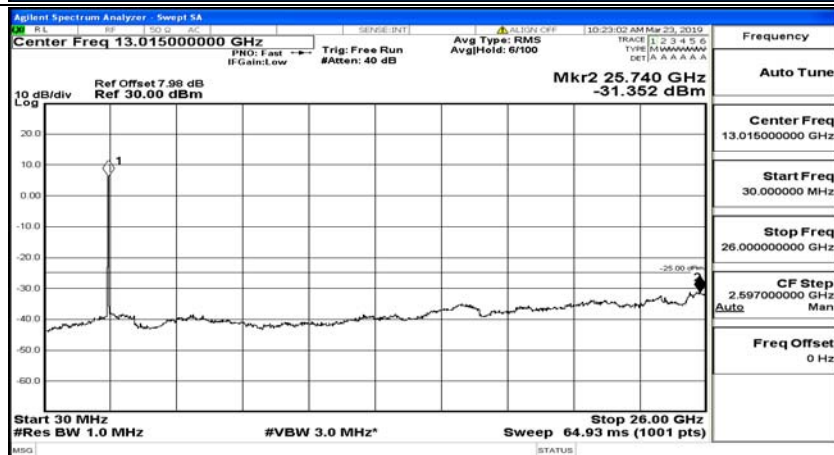
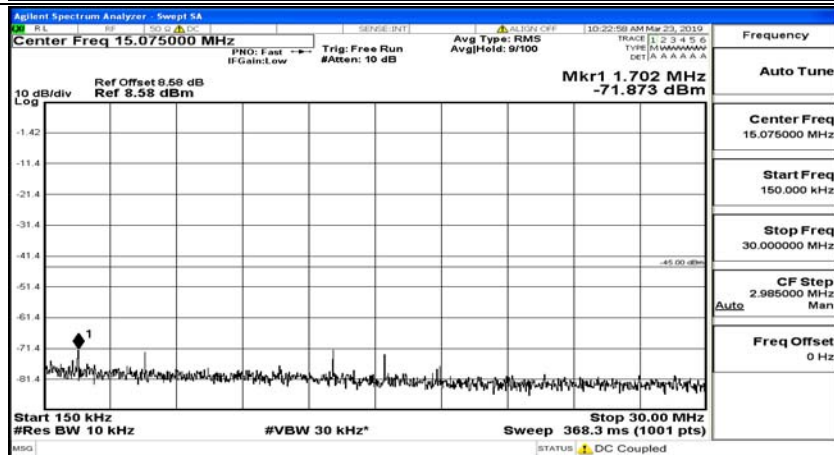
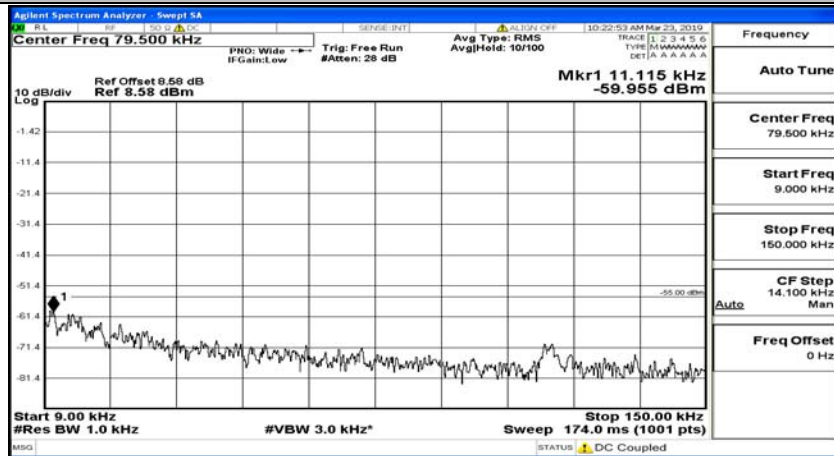
CSE Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK



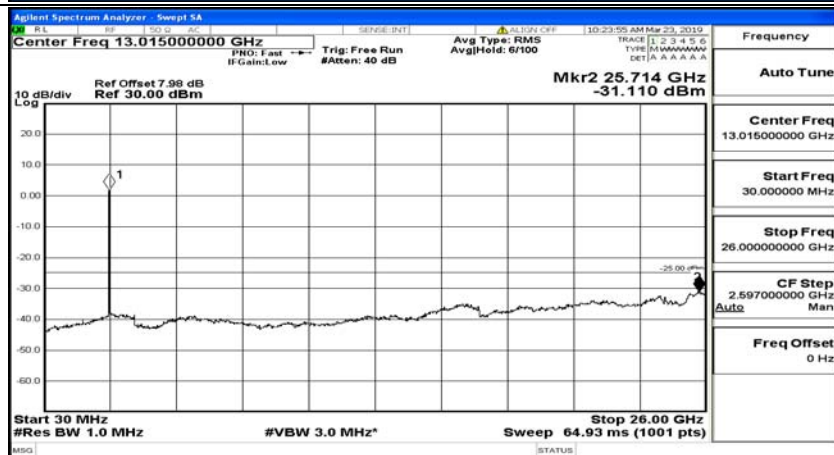
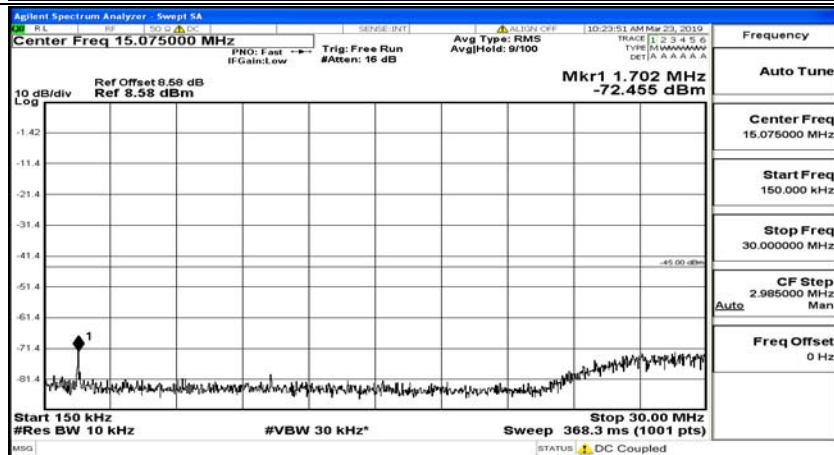
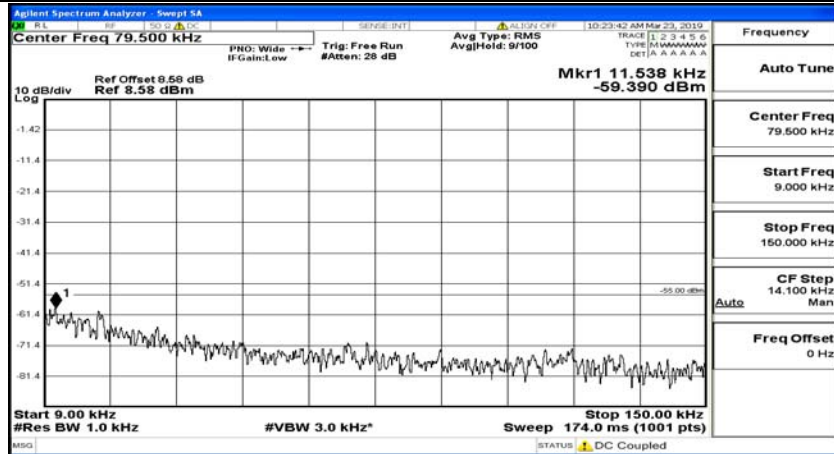
CSE Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



CSE Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM



CSE Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_16QAM



CSE Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM

