

Appendix C: Test Data for E-UTRA Band 5

Product Name: LTE GSM/WCDMA Smartphone

Trade Mark: DOOGEE

Test Model: S70

Environmental Conditions

Temperature:	23.6
Relative Humidity:	52.1
ATM Pressure:	100.0 kPa
Test Engineer:	Mina.Xu
Supervised by:	Jayden Zhuo

C.1 Conducted Output Power

Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]		Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	21.75	21.00	PASS
		1	3	21.87	21.15	PASS
		1	5	21.77	21.01	PASS
		3	0	21.84	21.00	PASS
		3	2	21.85	20.98	PASS
		3	3	21.81	20.96	PASS
		6	0	20.82	19.78	PASS
	MCH	1	0	21.82	21.20	PASS
		1	3	21.85	21.34	PASS
		1	5	21.83	21.17	PASS
		3	0	21.89	20.88	PASS
		3	2	21.87	20.91	PASS
		3	3	21.88	20.92	PASS
		6	0	20.79	19.80	PASS
	HCH	1	0	21.80	21.09	PASS
		1	3	21.96	21.36	PASS
		1	5	21.82	21.10	PASS
		3	0	21.91	20.97	PASS
		3	2	21.97	21.00	PASS
		3	3	21.93	21.01	PASS
		6	0	20.84	20.02	PASS

Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict
		Size	Offset			
QPSK / 16QAM	LCH	1	0	21.82	21.10	PASS
		1	7	21.93	21.29	PASS
		1	14	21.80	21.04	PASS
		8	0	20.82	19.91	PASS
		8	4	20.87	19.97	PASS
		8	7	20.81	19.92	PASS
		15	0	20.75	19.82	PASS
	MCH	1	0	21.79	21.09	PASS
		1	7	22.15	21.35	PASS
		1	14	21.84	21.11	PASS
		8	0	20.81	19.95	PASS
		8	4	20.92	20.06	PASS
		8	7	20.88	19.97	PASS
		15	0	20.84	19.90	PASS
	HCH	1	0	21.85	21.20	PASS
		1	7	22.30	21.43	PASS
		1	14	21.85	21.28	PASS
		8	0	20.86	19.89	PASS
		8	4	20.92	19.92	PASS
		8	7	20.82	19.87	PASS
		15	0	20.83	19.89	PASS

Conducted Output Power Test Result (Channel Bandwidth: 5 MHz)

Modulation	Channel	RB Configuration		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict
		Size	Offset			
QPSK / 16QAM	LCH	1	0	21.72	21.11	PASS
		1	12	22.08	21.41	PASS
		1	24	21.66	21.08	PASS
		12	0	20.71	19.93	PASS
		12	6	20.83	20.04	PASS
		12	13	20.73	19.95	PASS
		25	0	20.77	19.81	PASS
	MCH	1	0	21.74	21.16	PASS
		1	12	22.10	21.67	PASS
		1	24	21.76	21.15	PASS
		12	0	20.81	20.03	PASS
		12	6	20.88	20.16	PASS
		12	13	20.89	20.11	PASS
		25	0	20.93	20.01	PASS
	HCH	1	0	21.76	20.81	PASS
		1	12	21.97	21.16	PASS
		1	24	21.77	20.82	PASS
		12	0	20.86	20.00	PASS
		12	6	20.90	20.02	PASS
		12	13	20.71	19.88	PASS
		25	0	20.86	19.94	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	21.79	21.13	PASS
		1	24	22.04	21.33	PASS
		1	49	21.77	21.10	PASS
		25	0	20.93	19.96	PASS
		25	12	20.84	19.95	PASS
		25	25	20.79	19.87	PASS
		50	0	20.84	19.85	PASS
	MCH	1	0	21.76	21.09	PASS
		1	24	22.02	21.34	PASS
		1	49	21.85	21.10	PASS
		25	0	20.87	19.94	PASS
		25	12	20.91	19.94	PASS
		25	25	21.00	20.06	PASS
		50	0	20.96	19.99	PASS
	HCH	1	0	21.80	21.19	PASS
		1	24	22.02	21.45	PASS
		1	49	21.85	21.25	PASS
		25	0	20.86	19.97	PASS
		25	12	20.89	19.95	PASS
		25	25	20.77	19.84	PASS
		50	0	20.85	19.94	PASS

C.2 Peak-to-Average Ratio

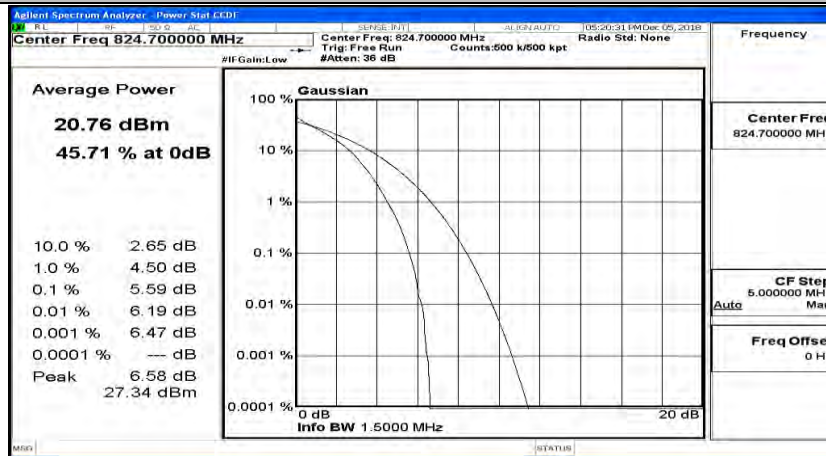
Peak-to Average Ratio Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.59	<13	PASS
	MCH	5.72	<13	PASS
	HCH	5.51	<13	PASS
16QAM	LCH	6.51	<13	PASS
	MCH	6.7	<13	PASS
	HCH	6.5	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.56	<13	PASS
	MCH	5.72	<13	PASS
	HCH	5.65	<13	PASS
16QAM	LCH	6.45	<13	PASS
	MCH	6.67	<13	PASS
	HCH	6.43	<13	PASS

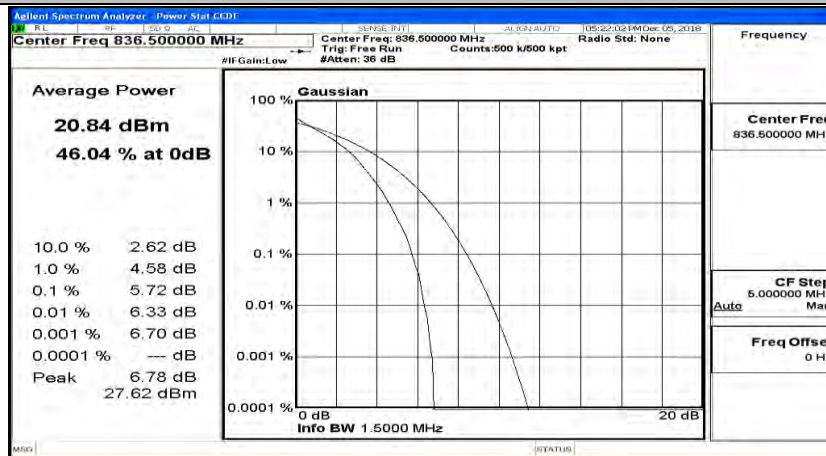
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.56	<13	PASS
	MCH	5.75	<13	PASS
	HCH	5.63	<13	PASS
16QAM	LCH	6.39	<13	PASS
	MCH	6.54	<13	PASS
	HCH	6.46	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.58	<13	PASS
	MCH	5.78	<13	PASS
	HCH	5.66	<13	PASS
16QAM	LCH	6.36	<13	PASS
	MCH	6.45	<13	PASS
	HCH	6.37	<13	PASS

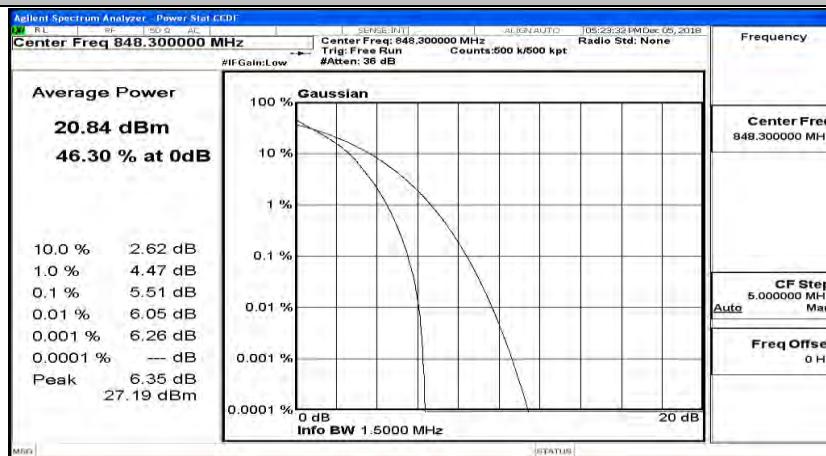
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



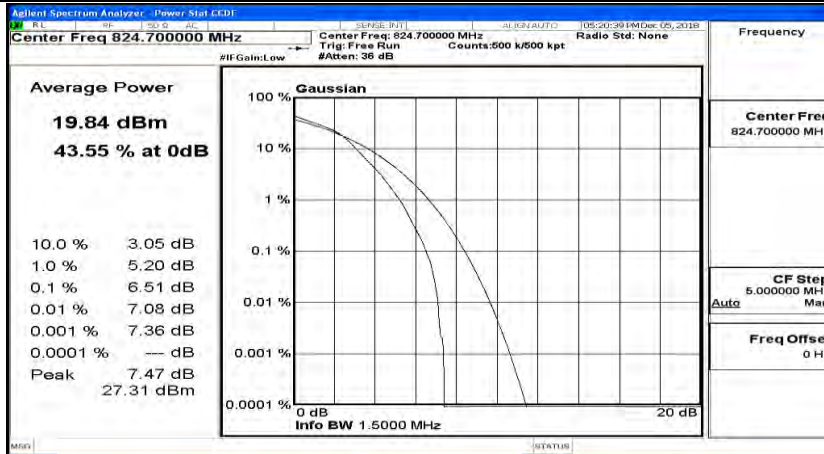
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



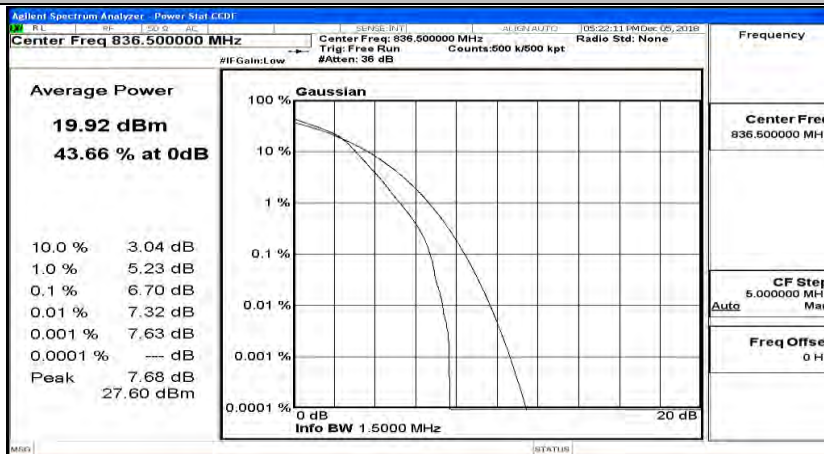
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



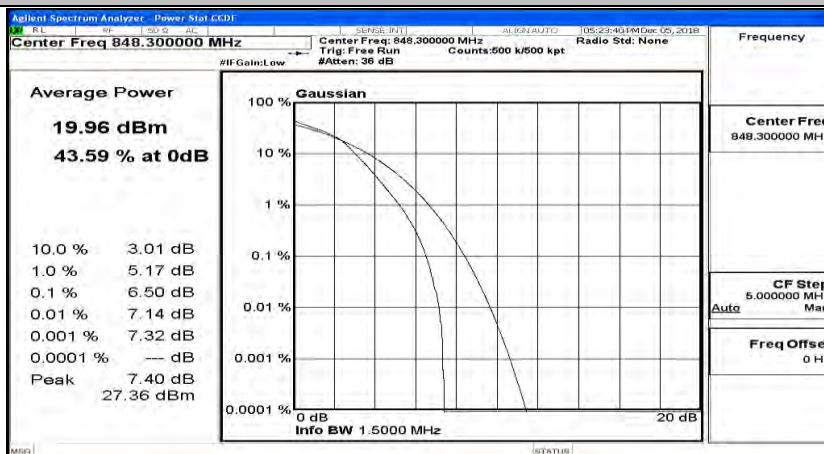
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



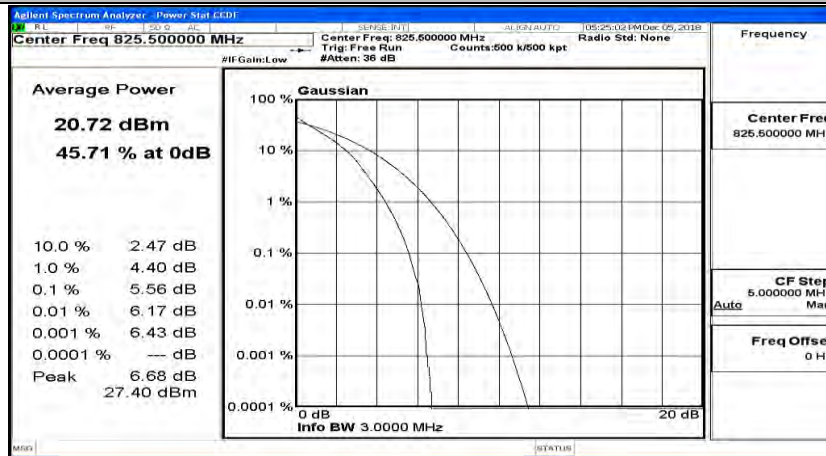
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



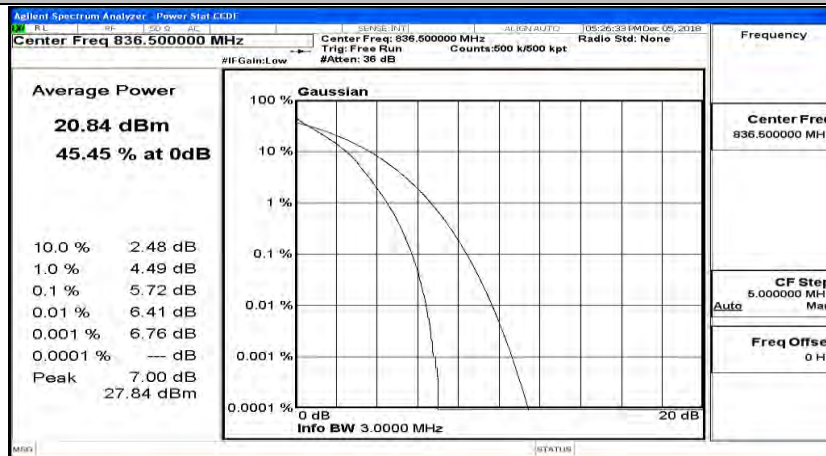
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



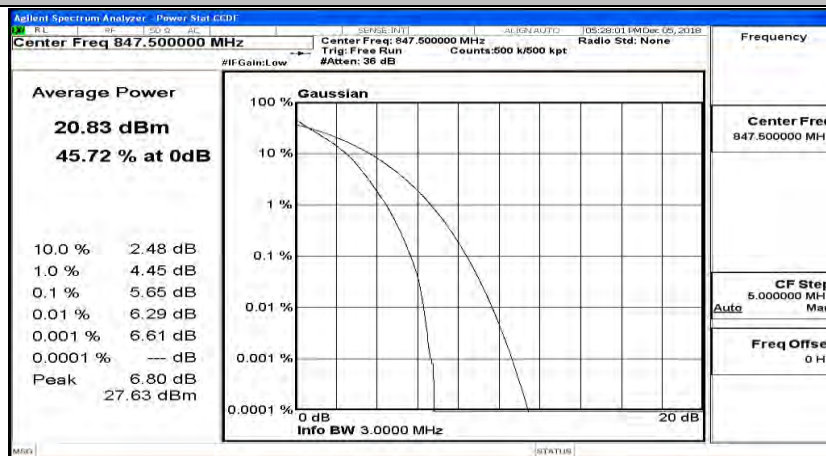
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



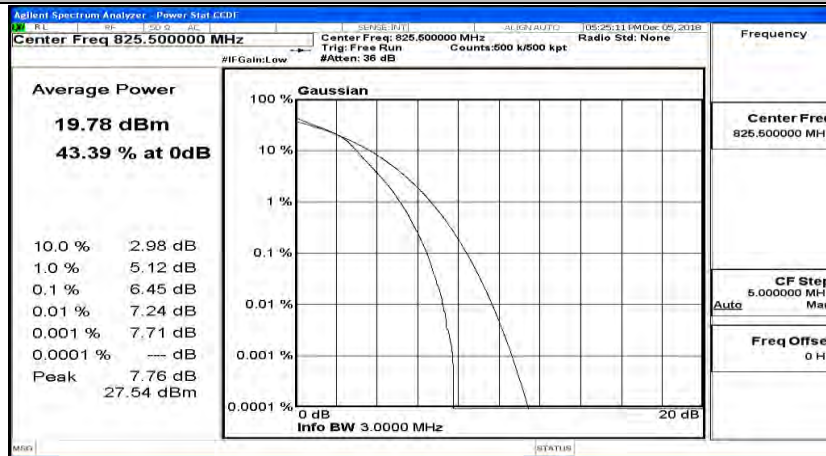
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



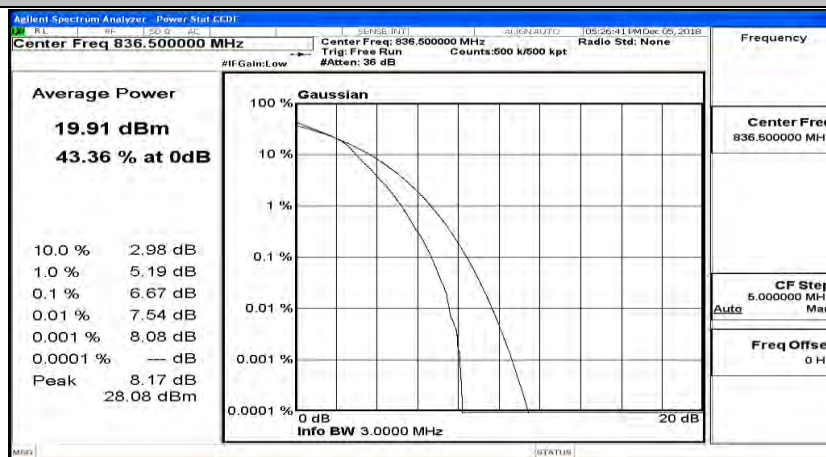
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



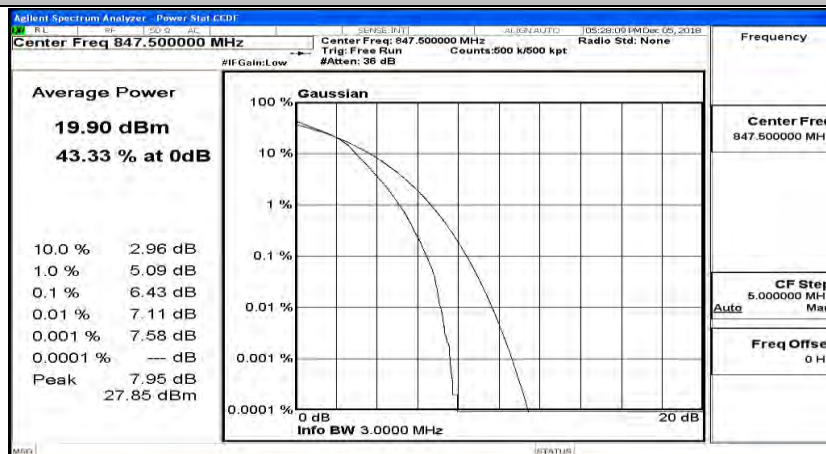
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



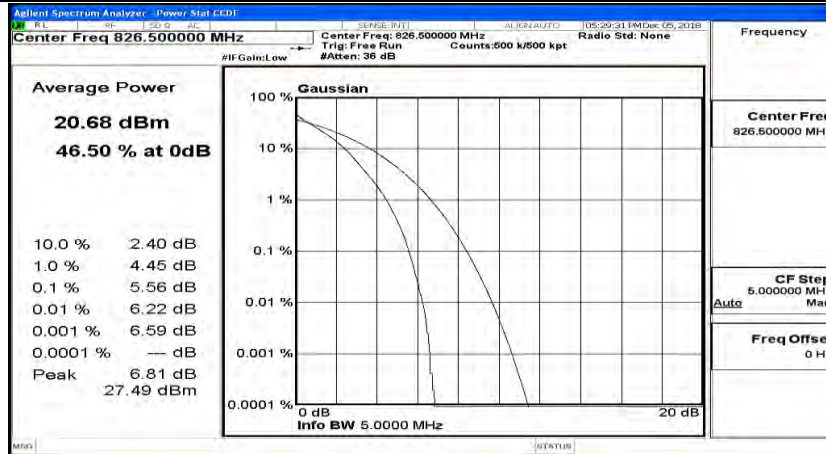
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



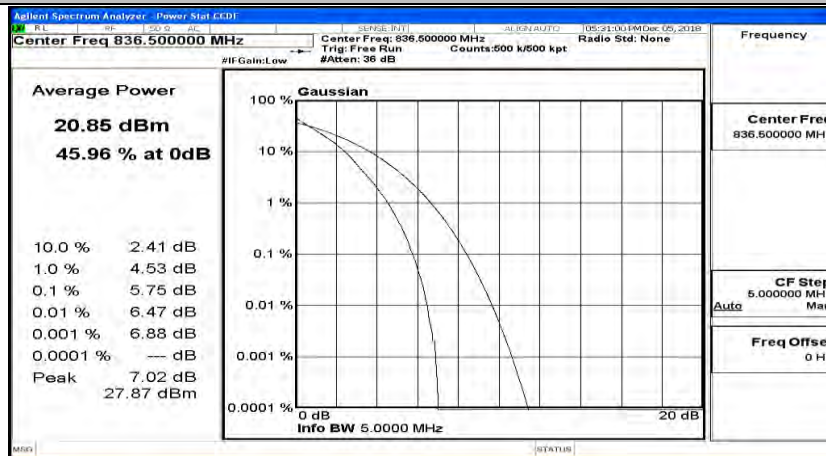
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



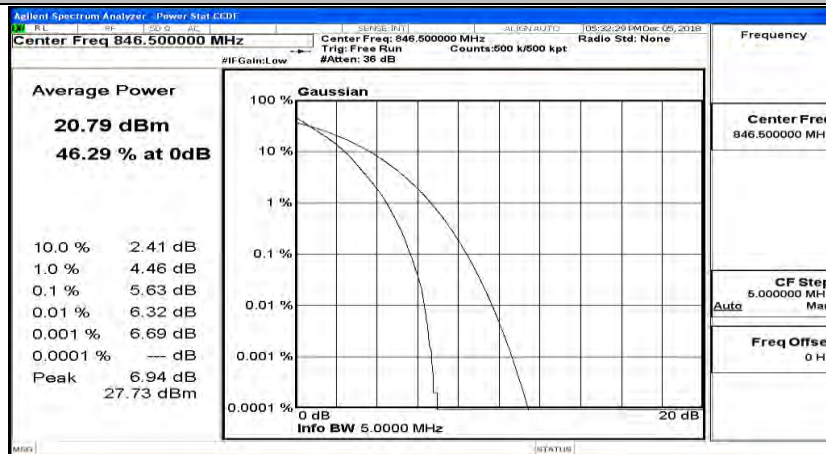
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



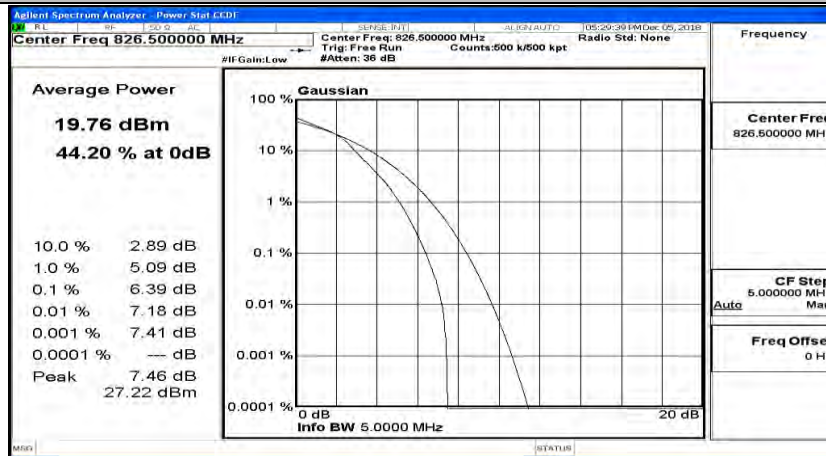
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



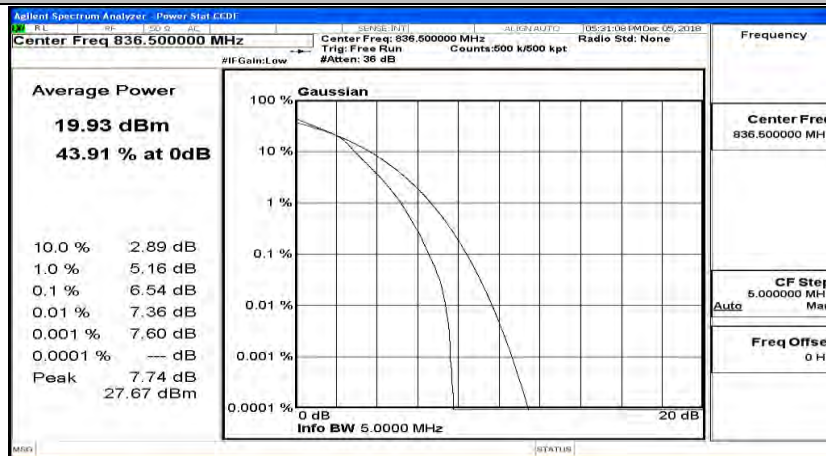
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



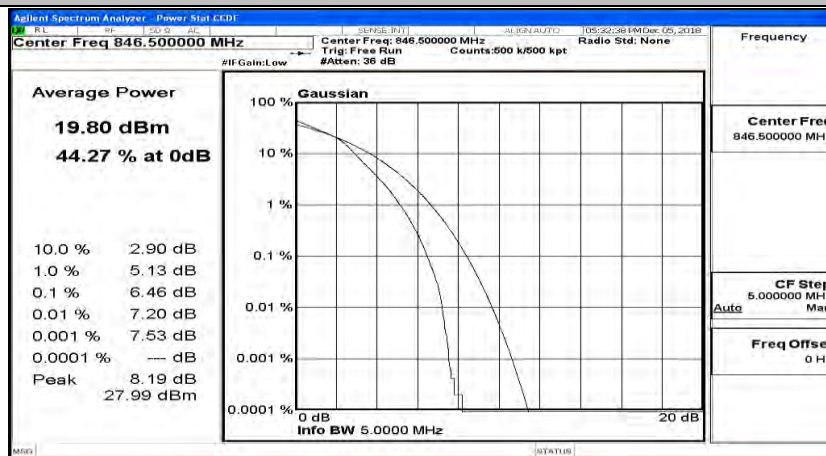
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



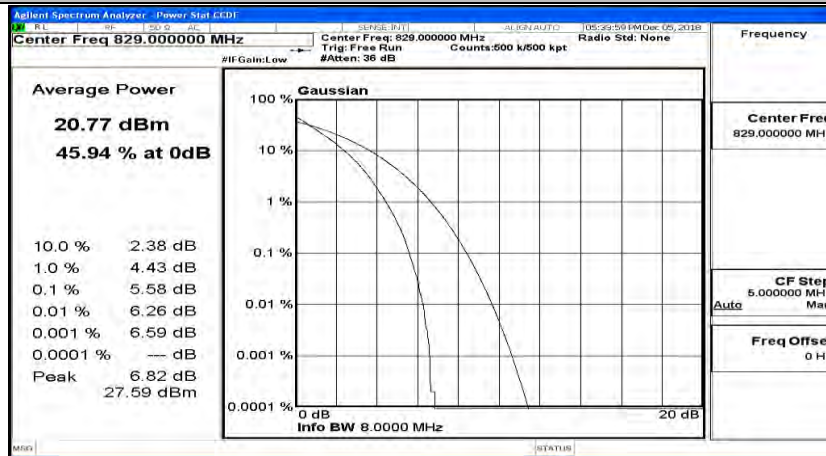
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



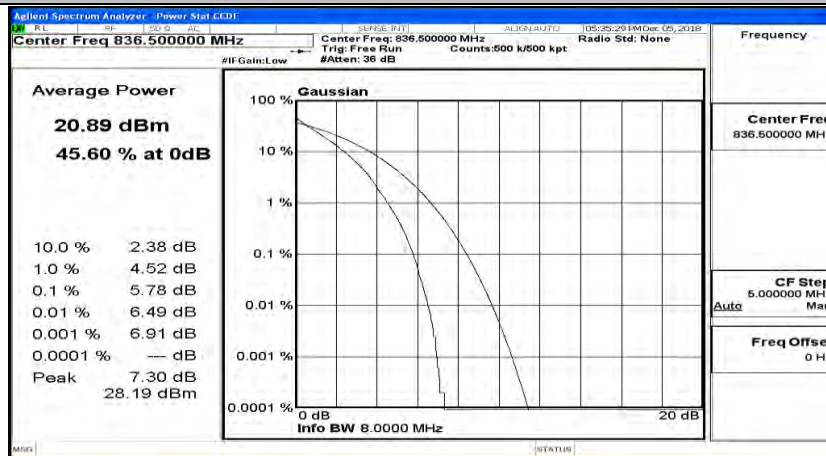
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



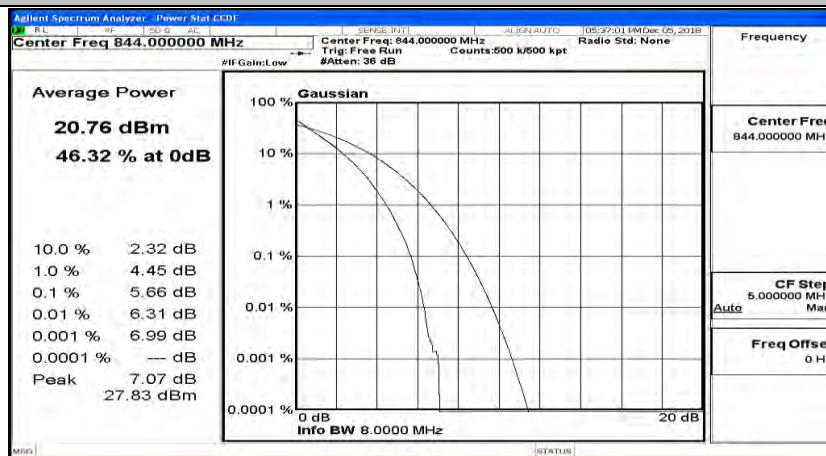
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



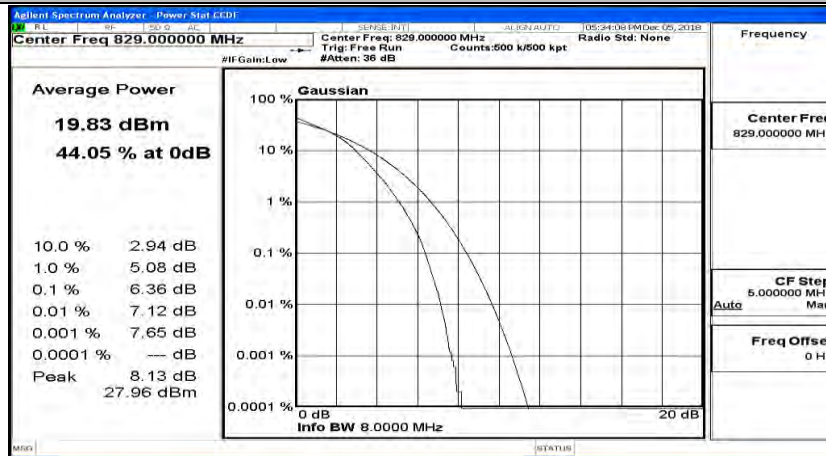
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



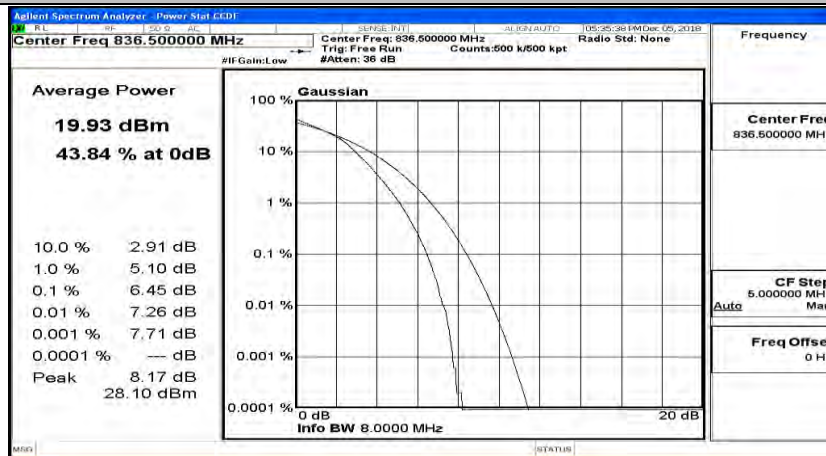
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



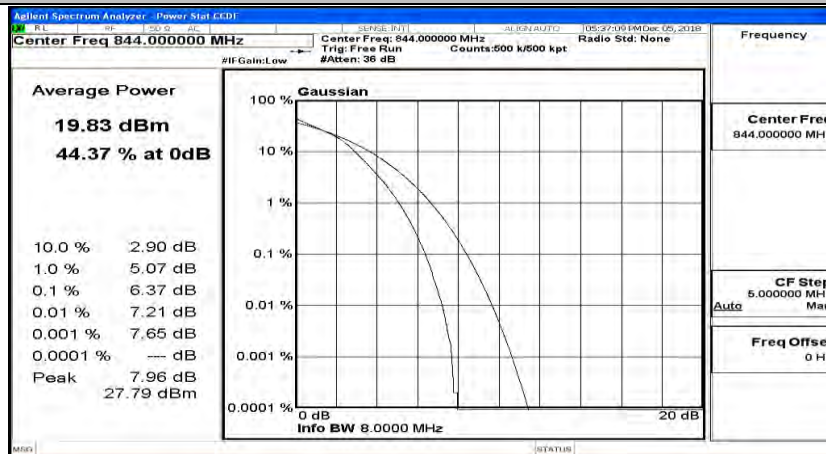
Peak-to-Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



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



C.3 26dB Bandwidth and Occupied Bandwidth

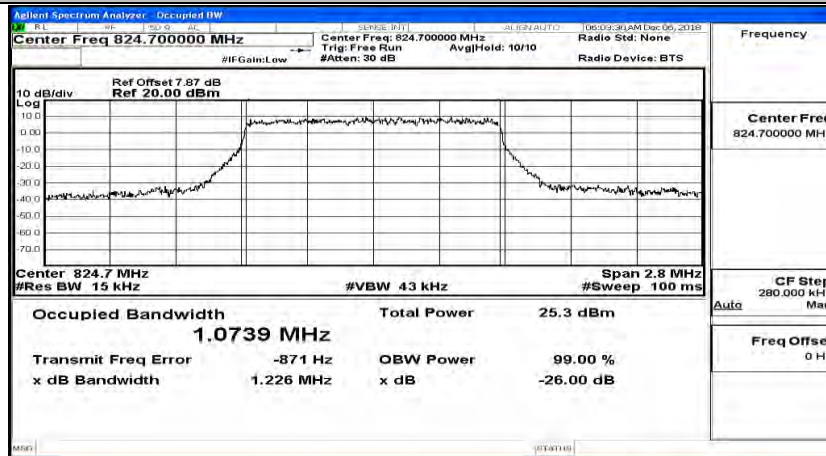
EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	1.0739	1.226	PASS
	MCH	1.0726	1.224	PASS
	HCH	1.0780	1.233	PASS
16QAM	LCH	1.0787	1.216	PASS
	MCH	1.0788	1.220	PASS
	HCH	1.0742	1.228	PASS

EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	2.6770	2.823	PASS
	MCH	2.6787	2.818	PASS
	HCH	2.6791	2.836	PASS
16QAM	LCH	2.6791	2.830	PASS
	MCH	2.6753	2.830	PASS
	HCH	2.6917	2.839	PASS

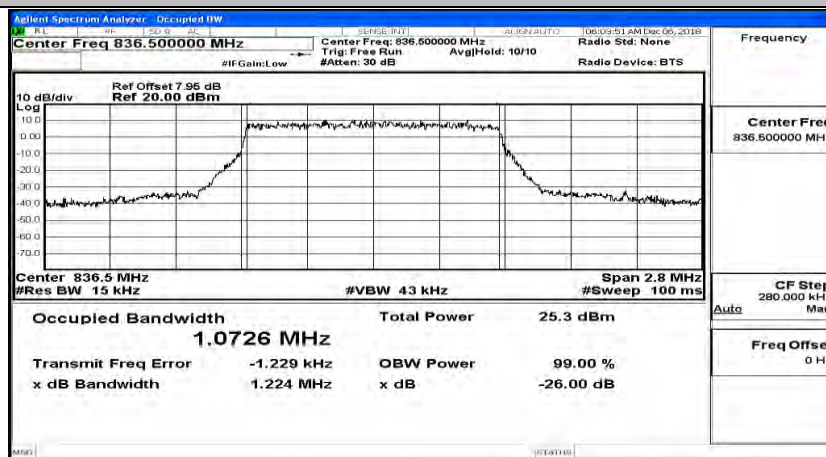
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.4738	4.756	PASS
	MCH	4.4844	4.862	PASS
	HCH	4.4681	4.841	PASS
16QAM	LCH	4.4762	4.815	PASS
	MCH	4.4798	4.816	PASS
	HCH	4.4783	4.877	PASS

EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	8.9288	9.489	PASS
	MCH	8.9620	9.498	PASS
	HCH	8.9221	9.457	PASS
16QAM	LCH	8.9238	9.479	PASS
	MCH	8.9604	9.559	PASS
	HCH	8.9394	9.431	PASS

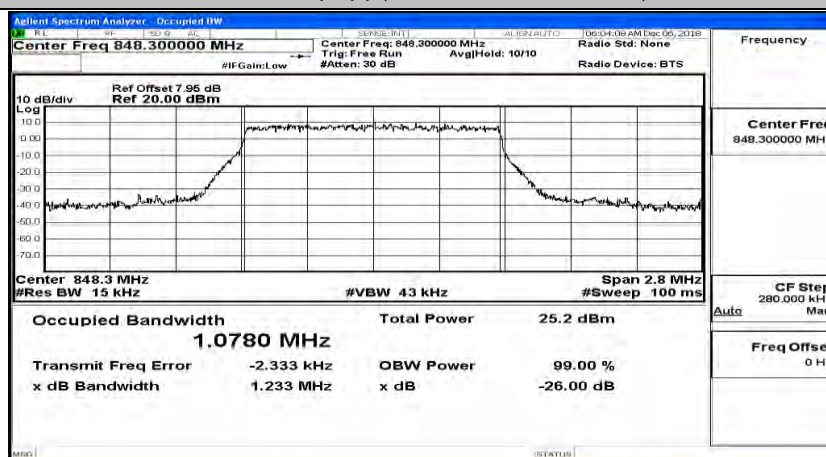
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



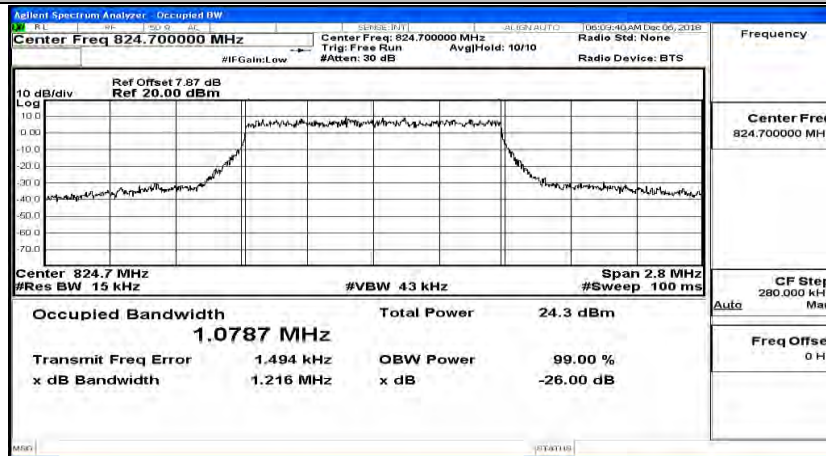
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



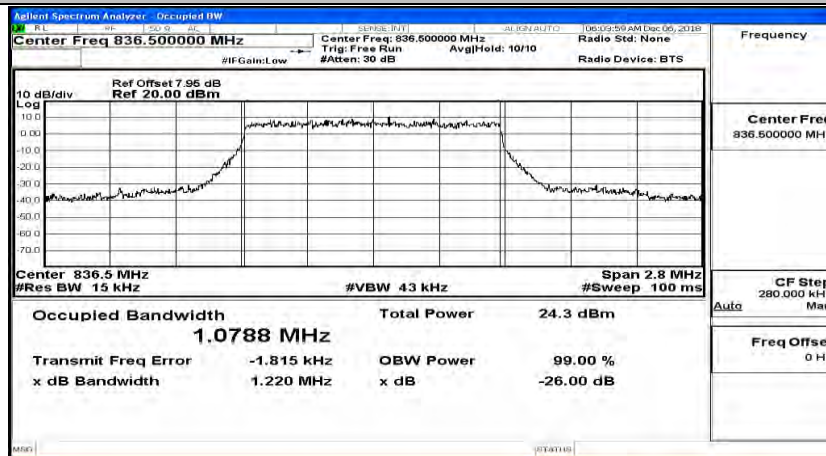
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



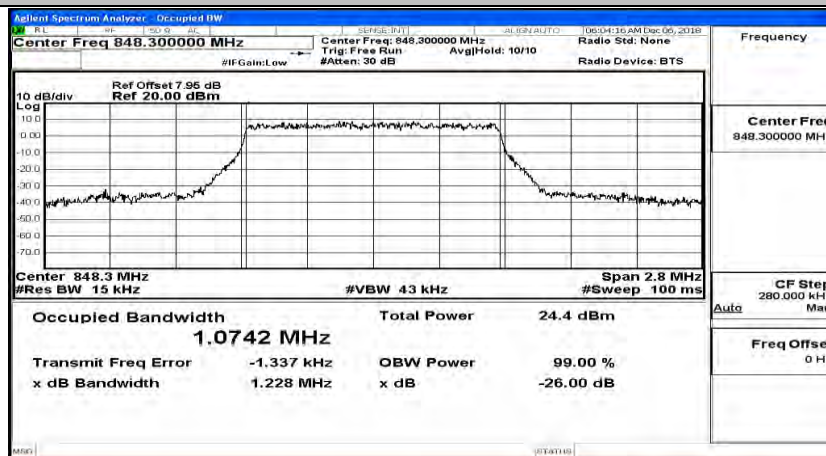
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



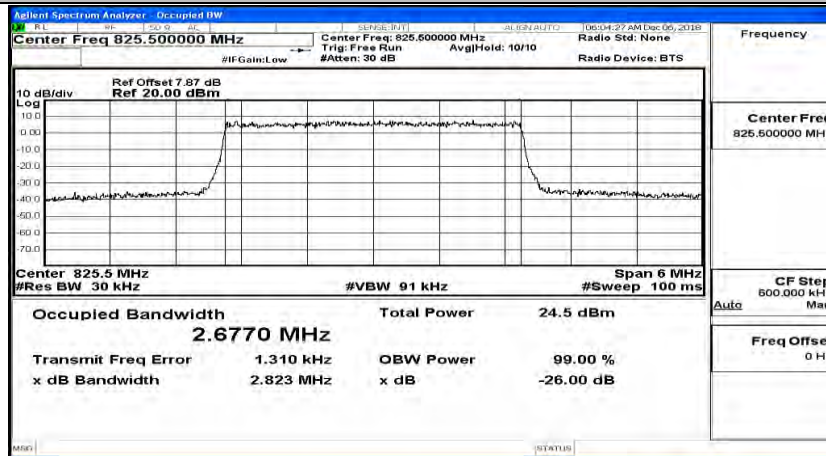
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



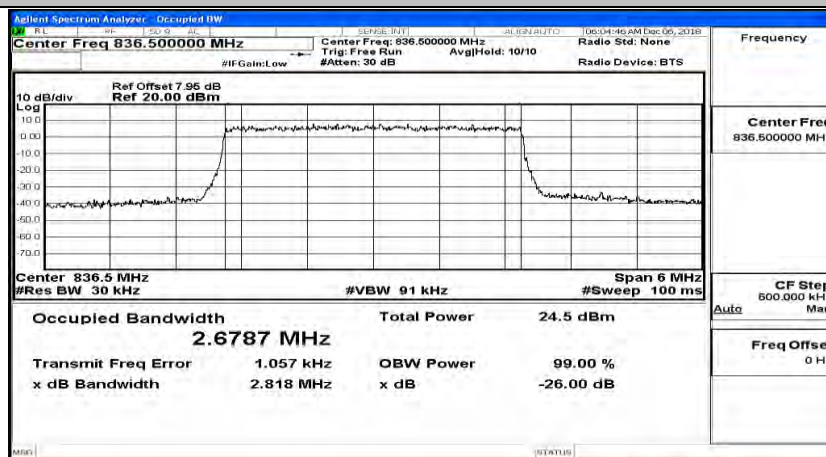
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



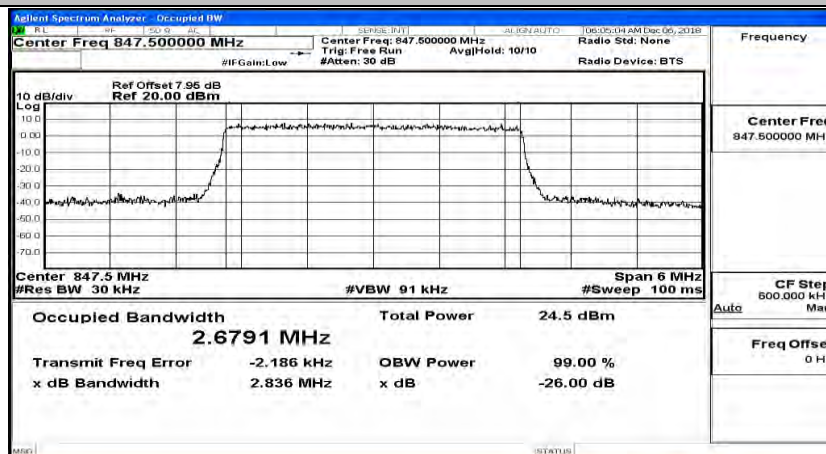
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



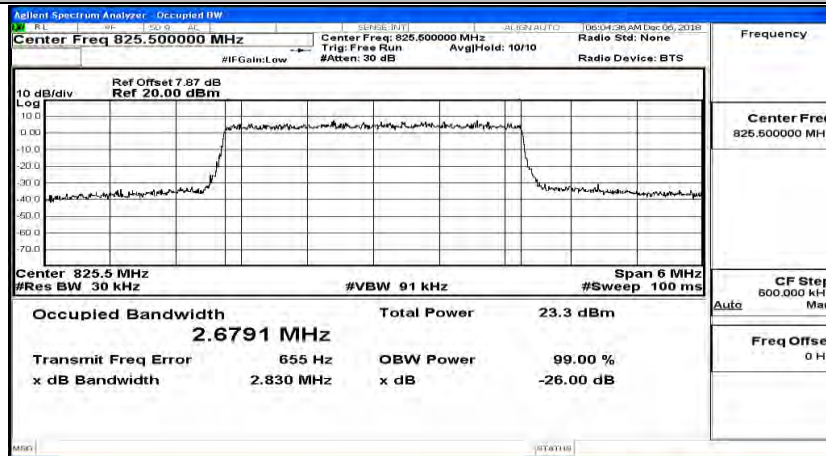
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



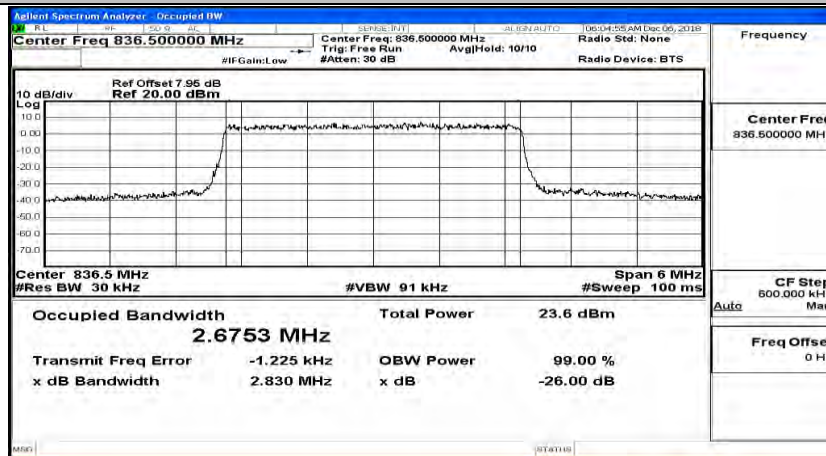
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



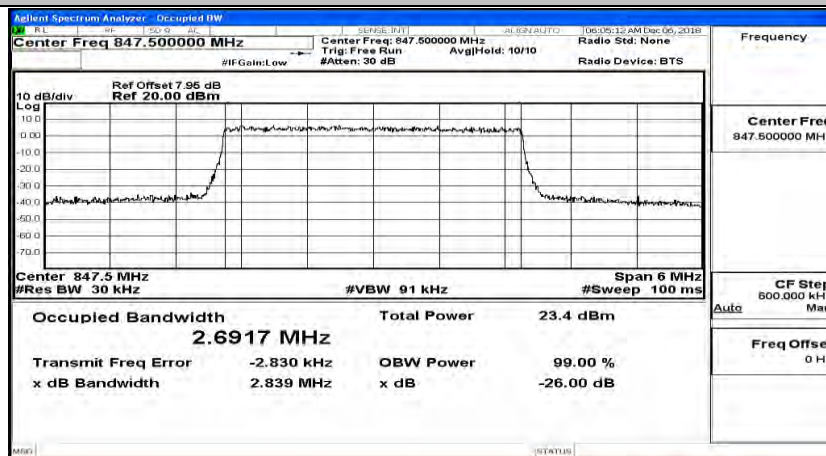
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



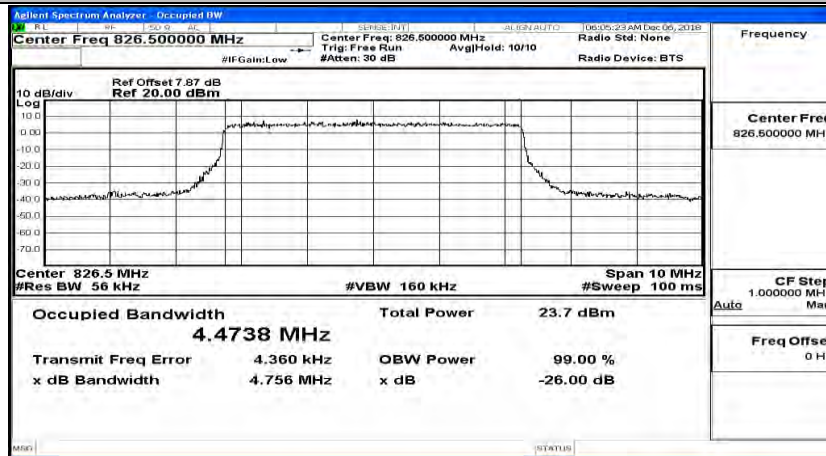
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



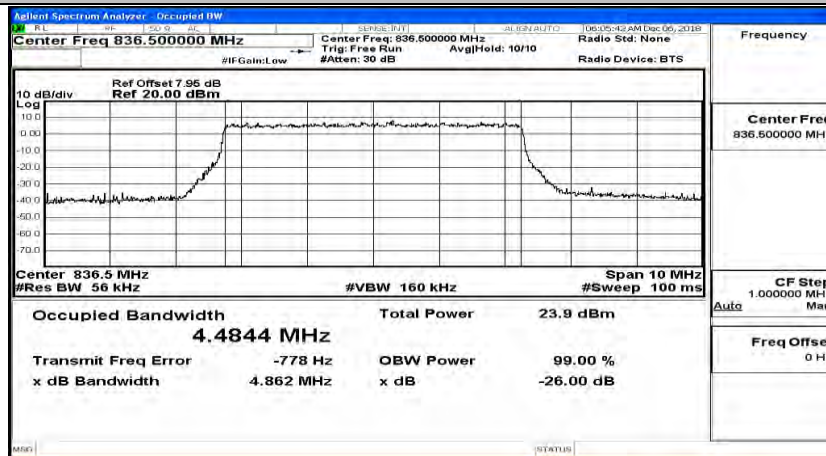
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



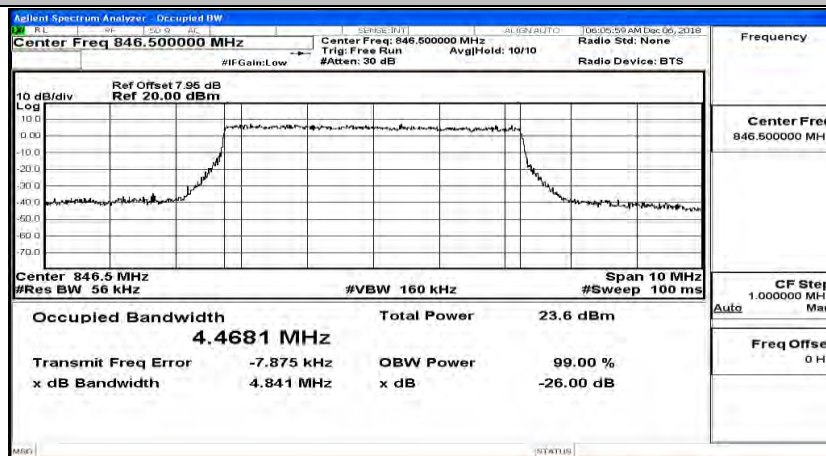
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



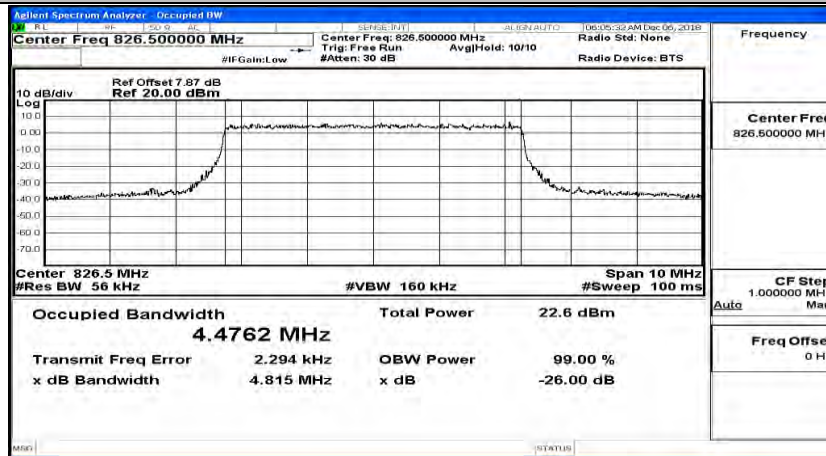
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



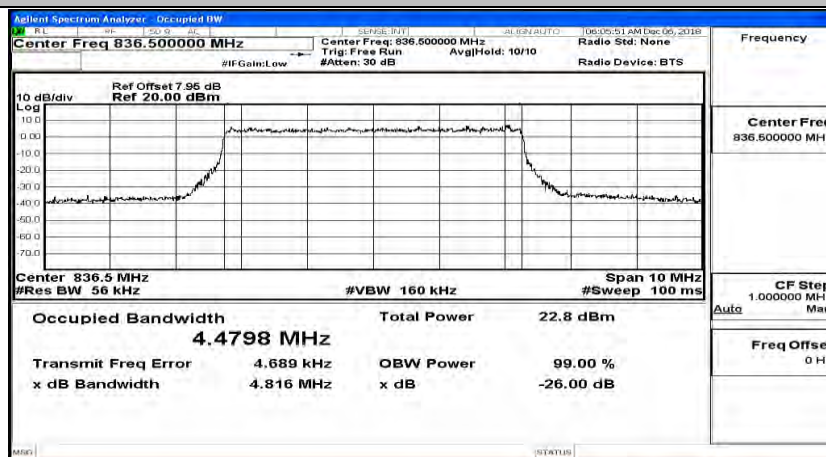
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



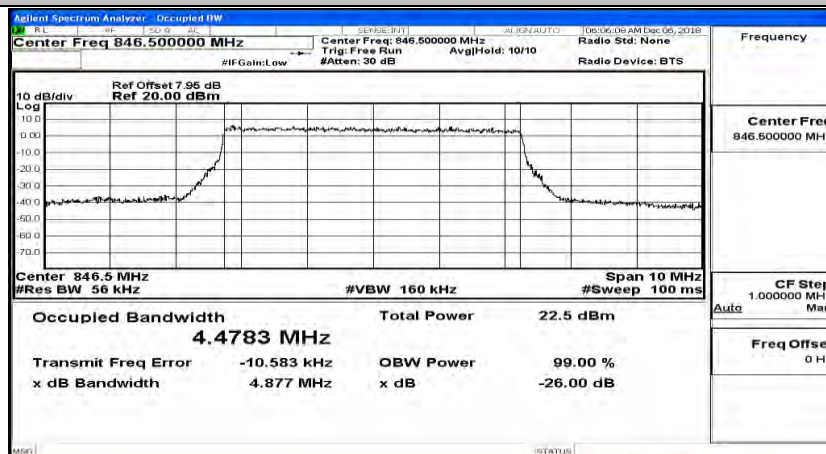
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



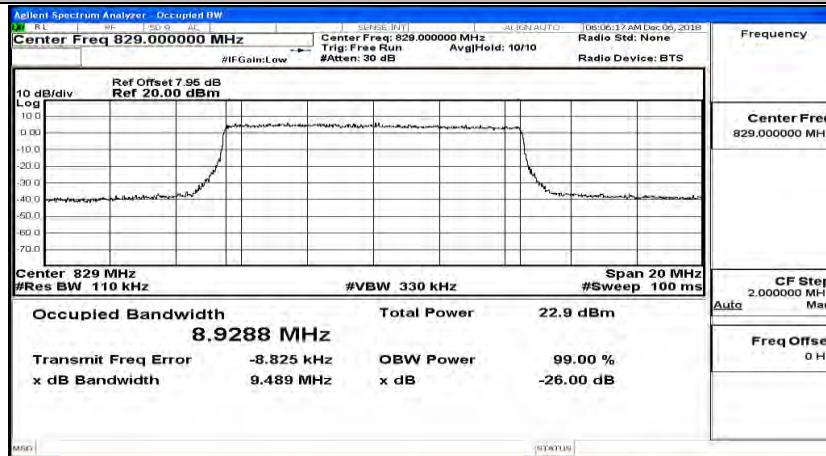
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



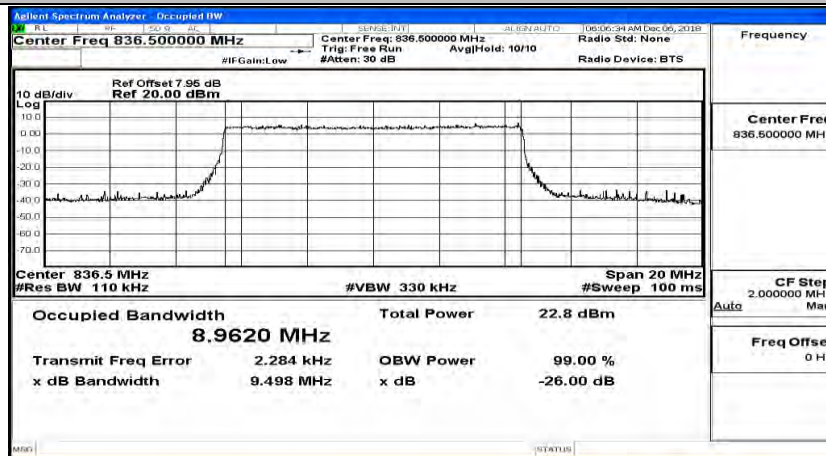
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



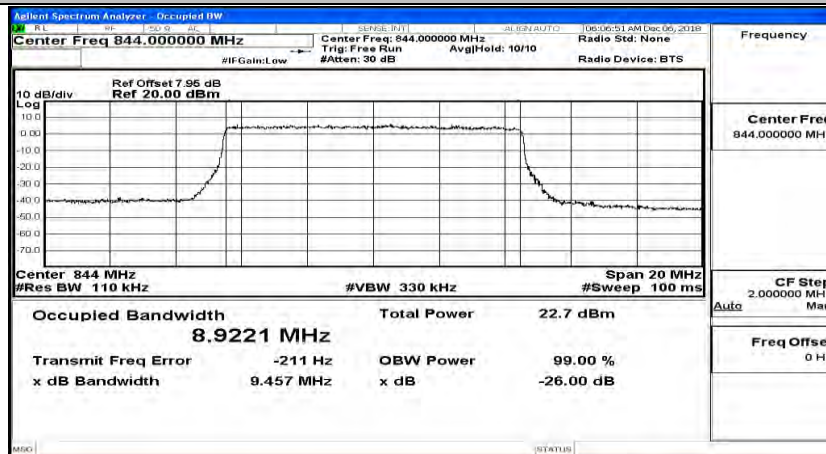
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



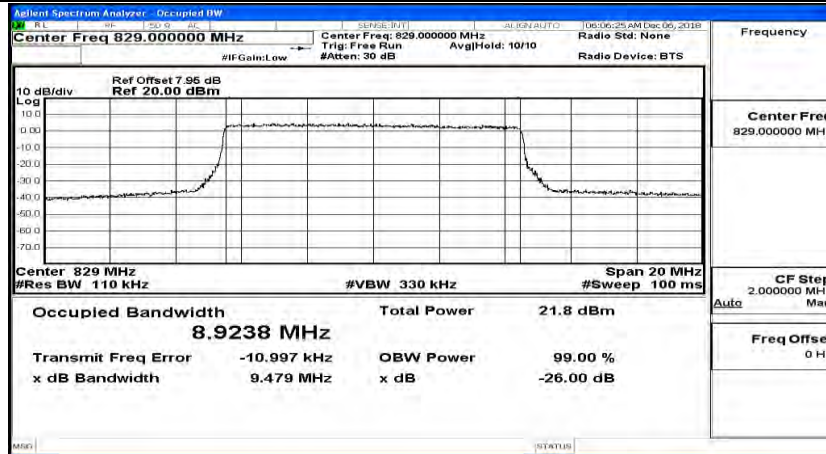
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



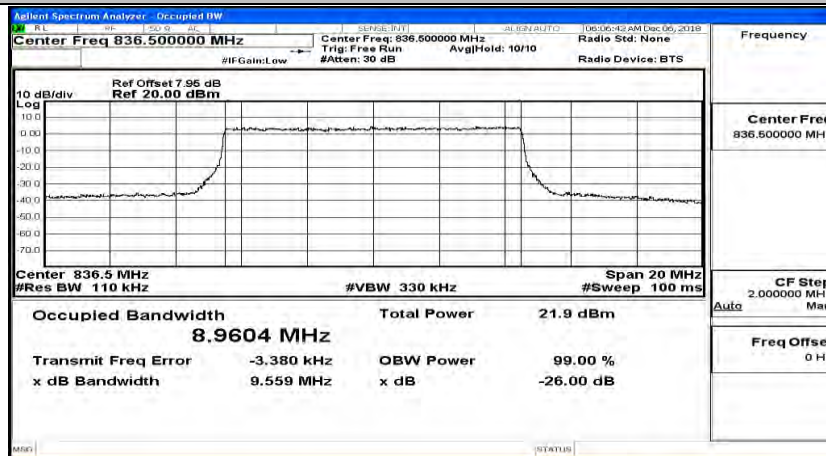
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



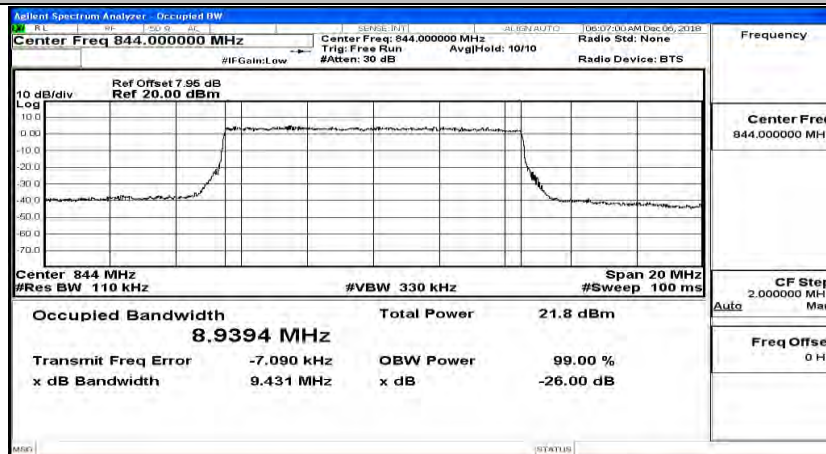
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



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

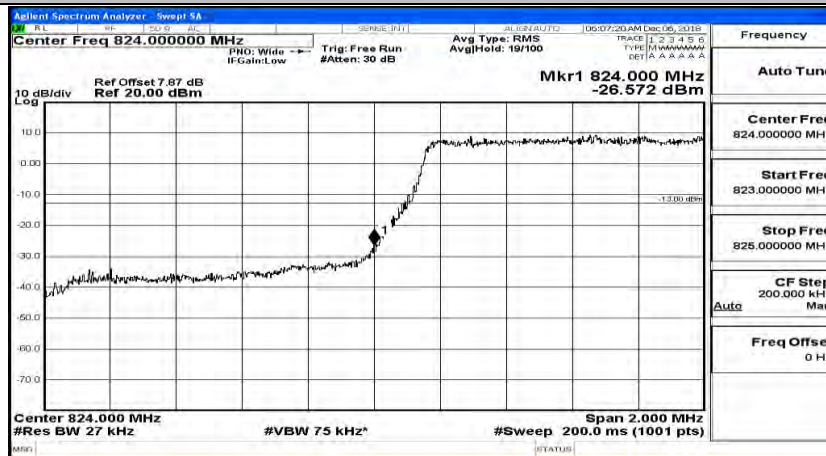


EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM

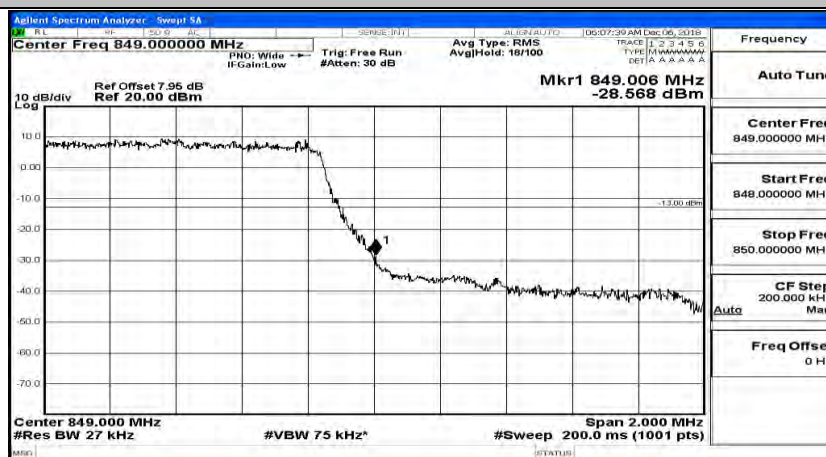


C.4 Band Edge

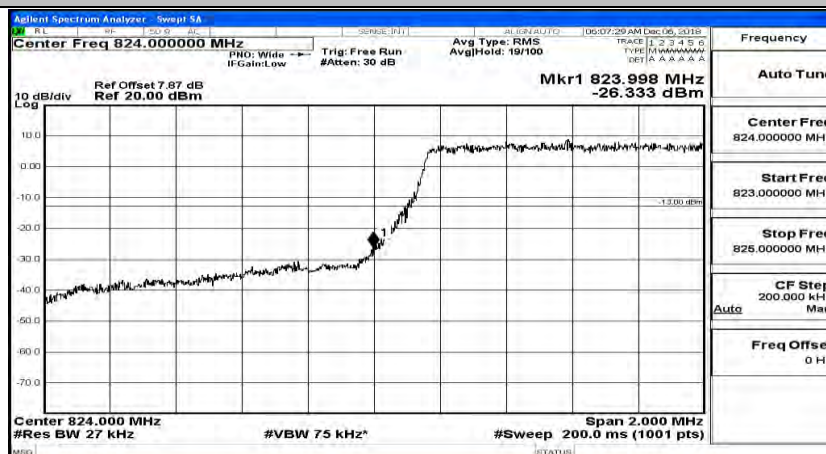
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



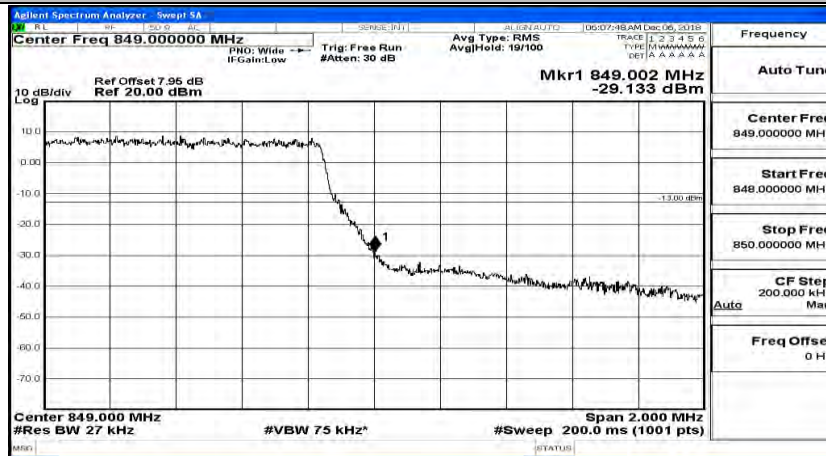
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



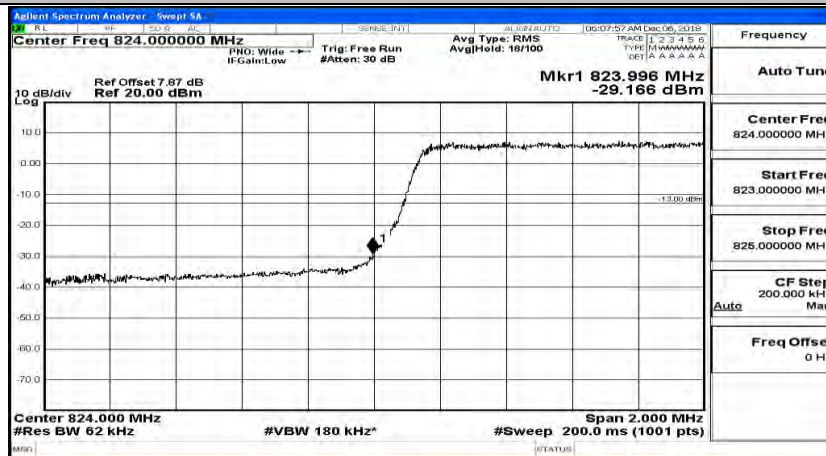
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



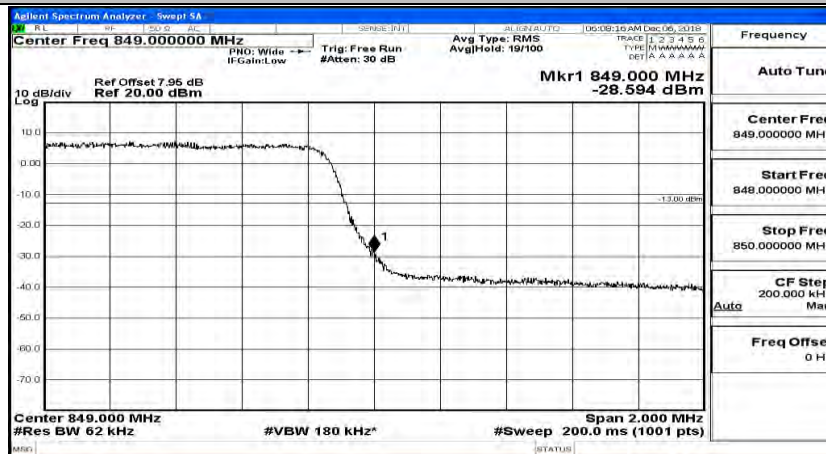
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



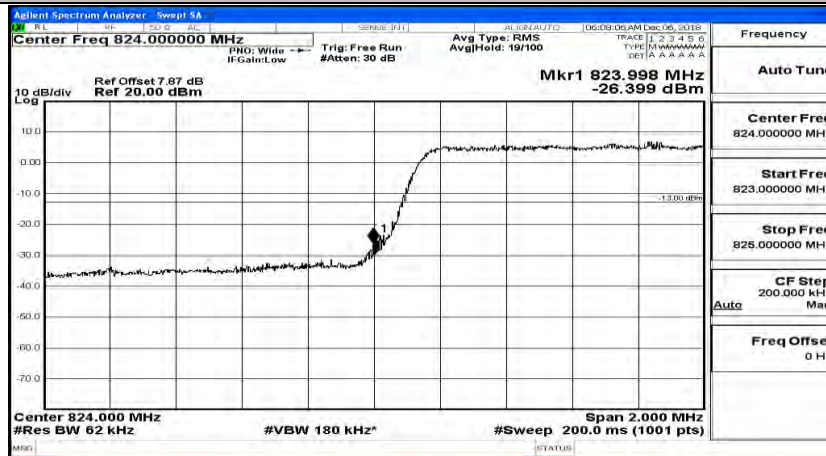
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



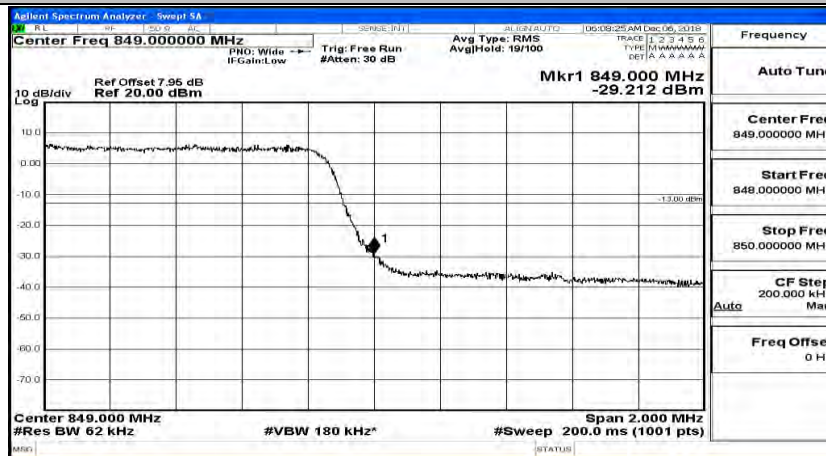
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



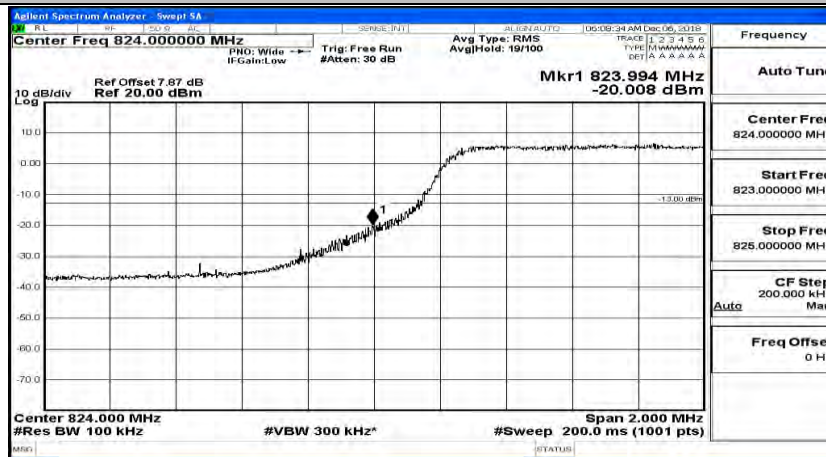
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



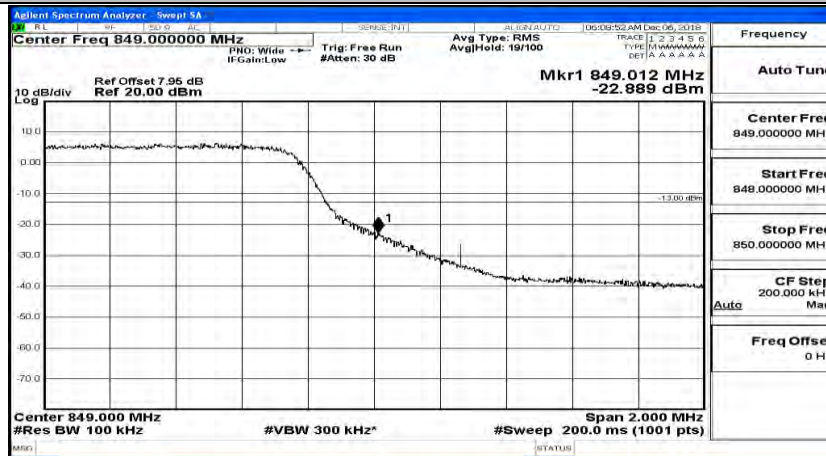
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



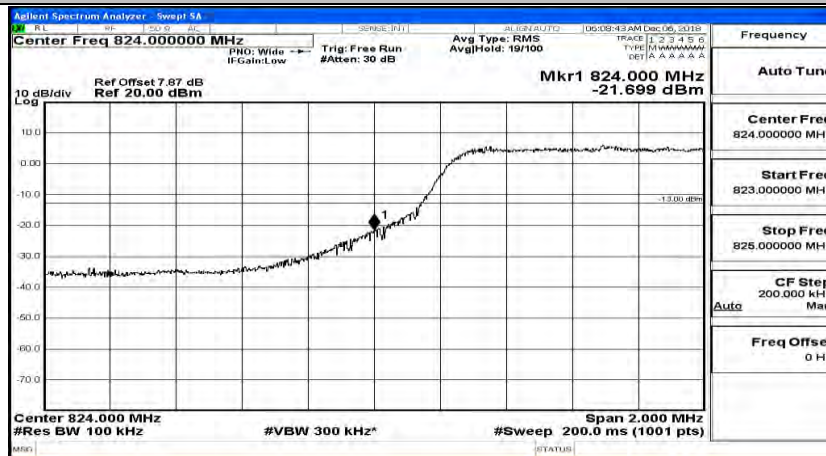
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



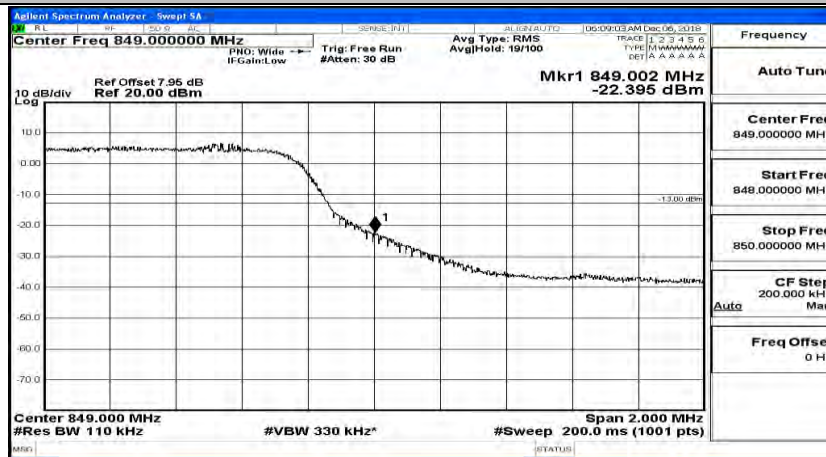
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



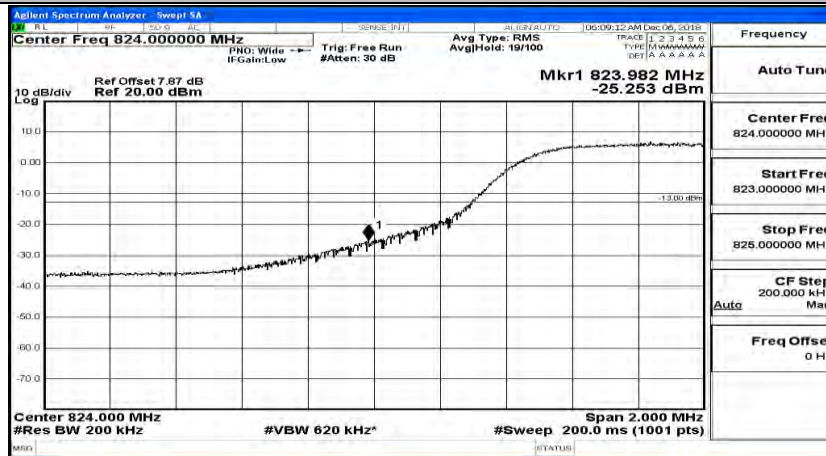
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



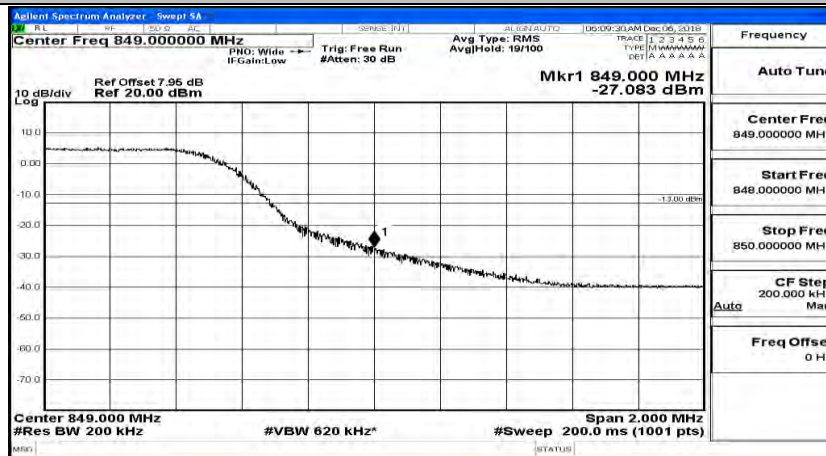
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



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



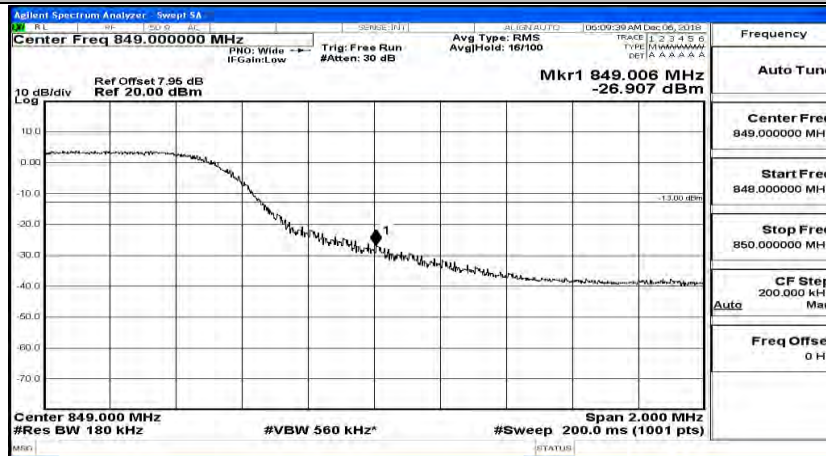
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



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

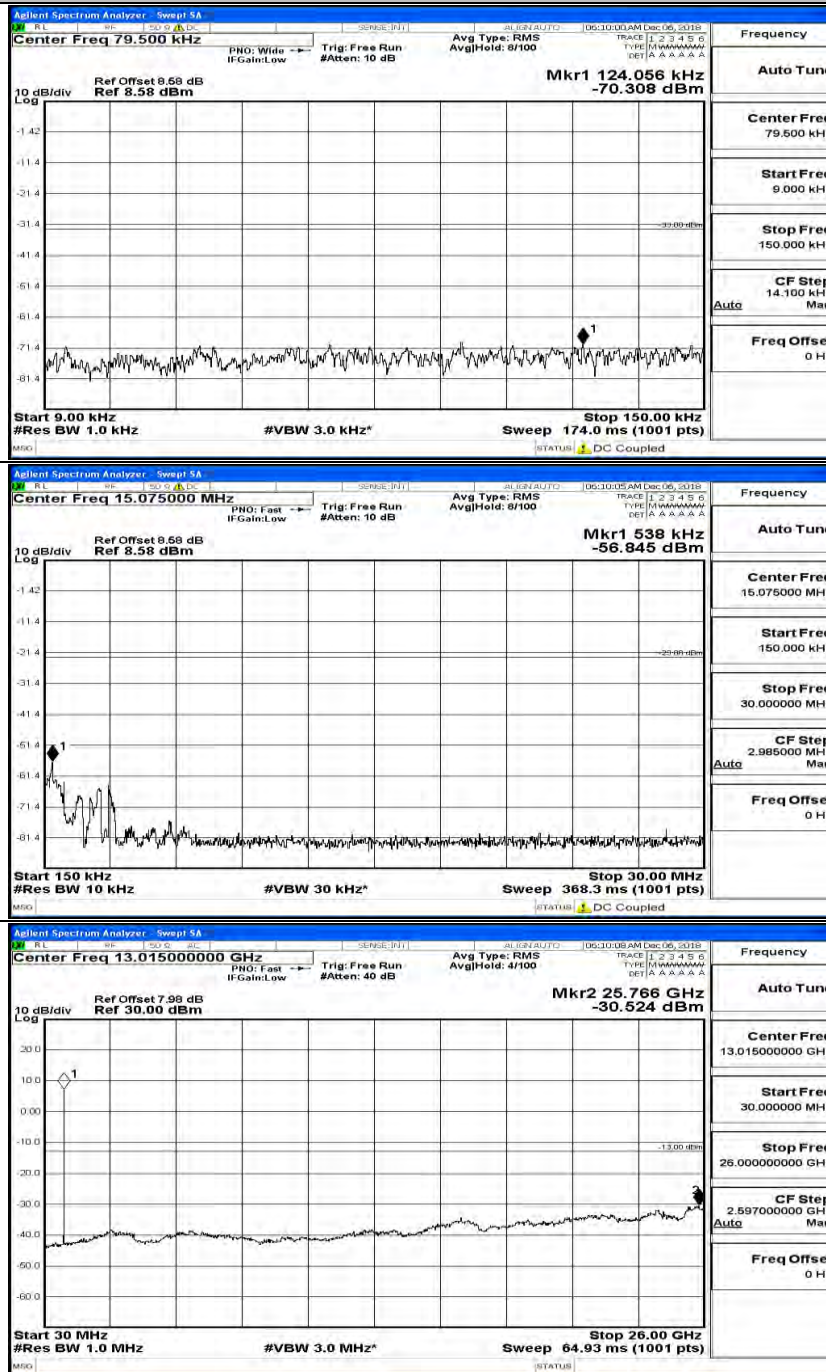


Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



C.5 Conducted Spurious Emission

CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK

Agilent Spectrum Analyzer - Sweep 5A

Center Freq 79.500 kHz

Ref Offset 8.58 dB
Ref 8.58 dBm

Mkr1 119.685 kHz
-67.924 dBm

Start 9.00 kHz
#Res BW 1.0 kHz

#VBW 3.0 kHz*

Sweep 174.0 ms (1001 pts)

Frequency

Auto Tune

Center Freq 79.500 kHz

Start Freq 9.000 kHz

Stop Freq 150.000 kHz

CF Step 14.100 kHz
Man

Freq Offset 0 Hz

Agilent Spectrum Analyzer - Sweep 5A

Center Freq 15.075000 MHz

Ref Offset 8.58 dB
Ref 8.58 dBm

Mkr1 538 kHz
-55.999 dBm

Start 150 kHz
#Res BW 10 kHz

#VBW 30 kHz*

Sweep 368.3 ms (1001 pts)

Frequency

Auto Tune

Center Freq 15.075000 MHz

Start Freq 150.000 kHz

Stop Freq 30.000000 MHz

CF Step 2.985000 MHz
Man

Freq Offset 0 Hz

Agilent Spectrum Analyzer - Sweep 5A

Center Freq 13.015000000 GHz

Ref Offset 7.98 dB
Ref 30.00 dBm

Mkr2 25.714 GHz
-30.573 dBm

Start 30 MHz
#Res BW 1.0 MHz

#VBW 3.0 MHz*

Sweep 64.93 ms (1001 pts)

Frequency

Auto Tune

Center Freq 13.015000000 GHz

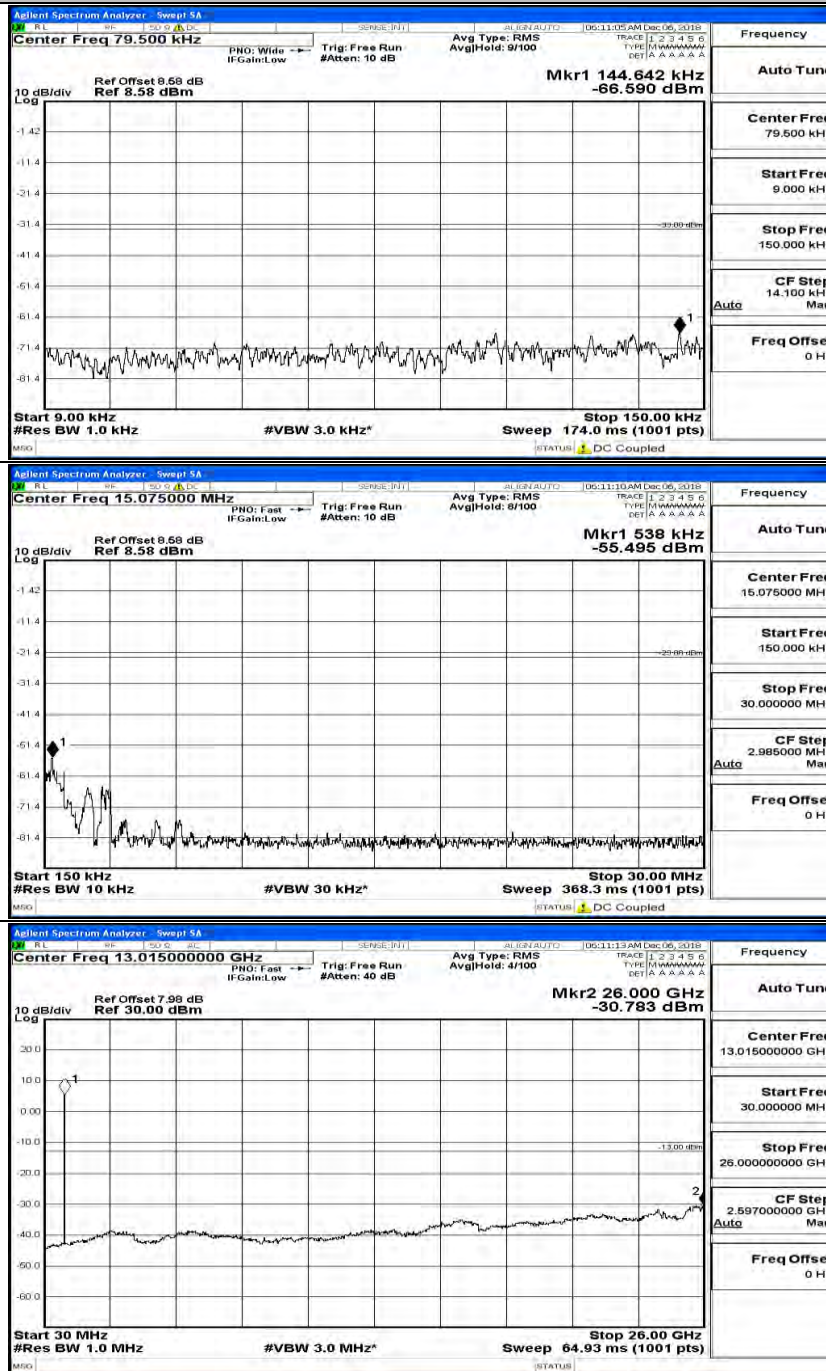
Start Freq 30.000000 MHz

Stop Freq 25.000000000 GHz

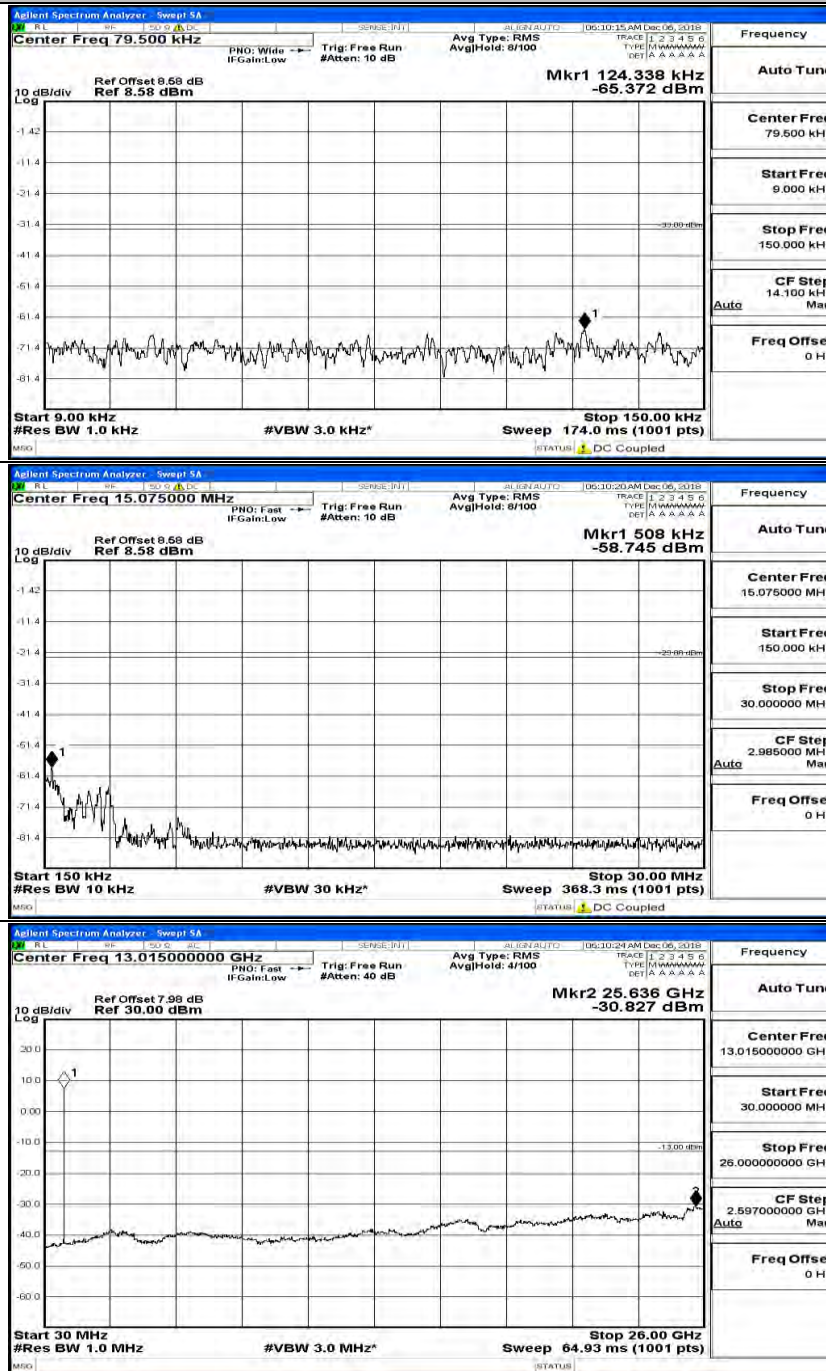
CF Step 2.597000000 GHz
Man

Freq Offset 0 Hz

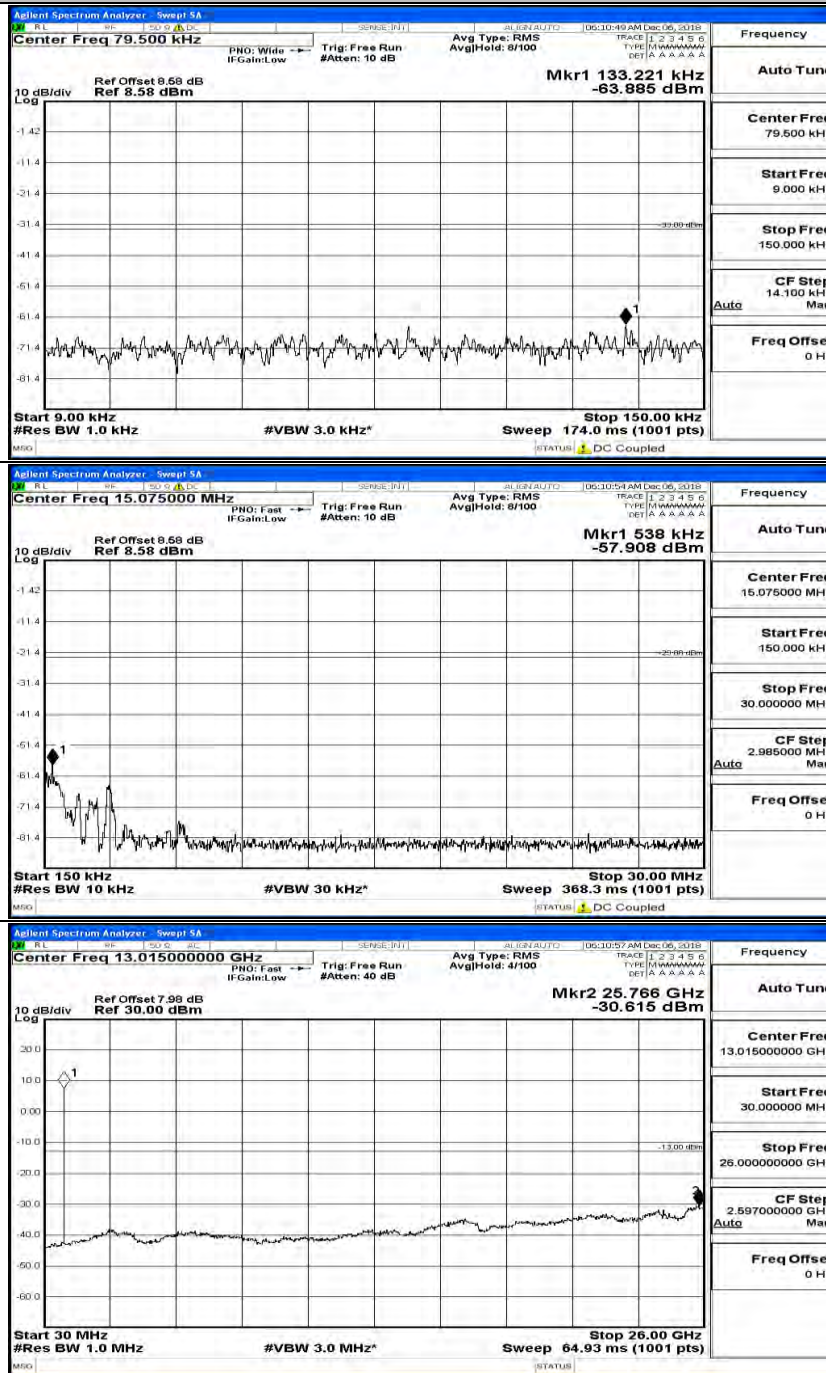
CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



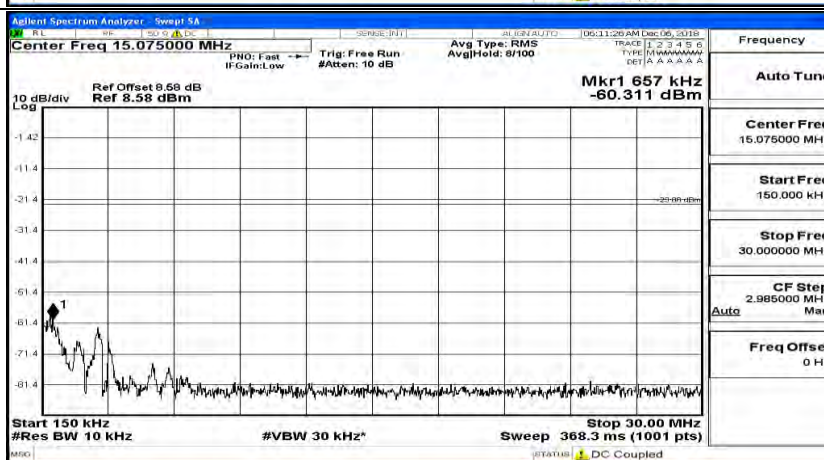
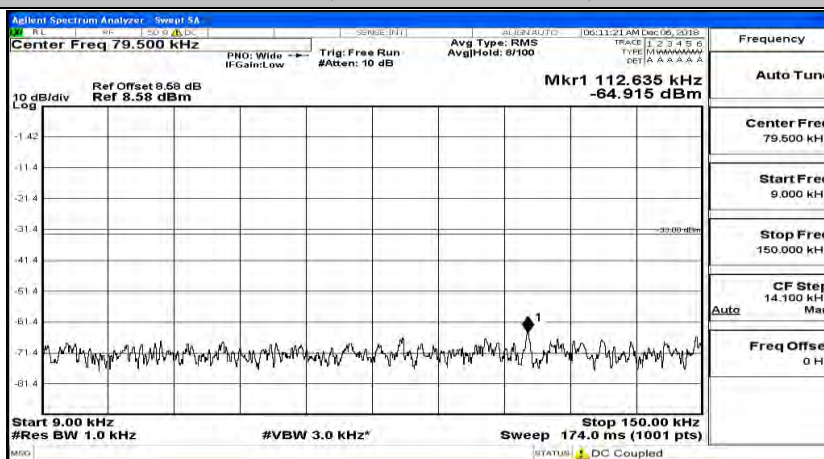
CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz) LCH_16QAM



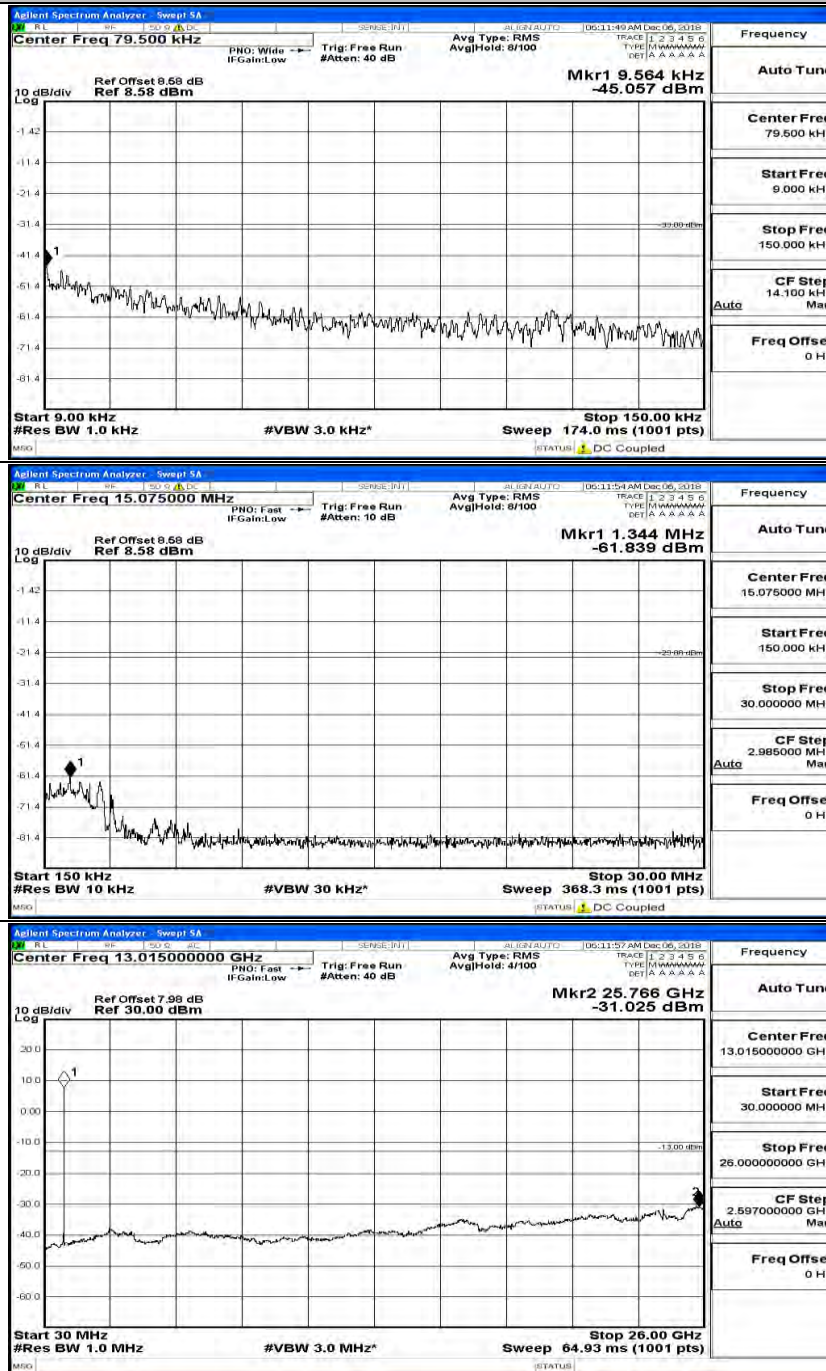
CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



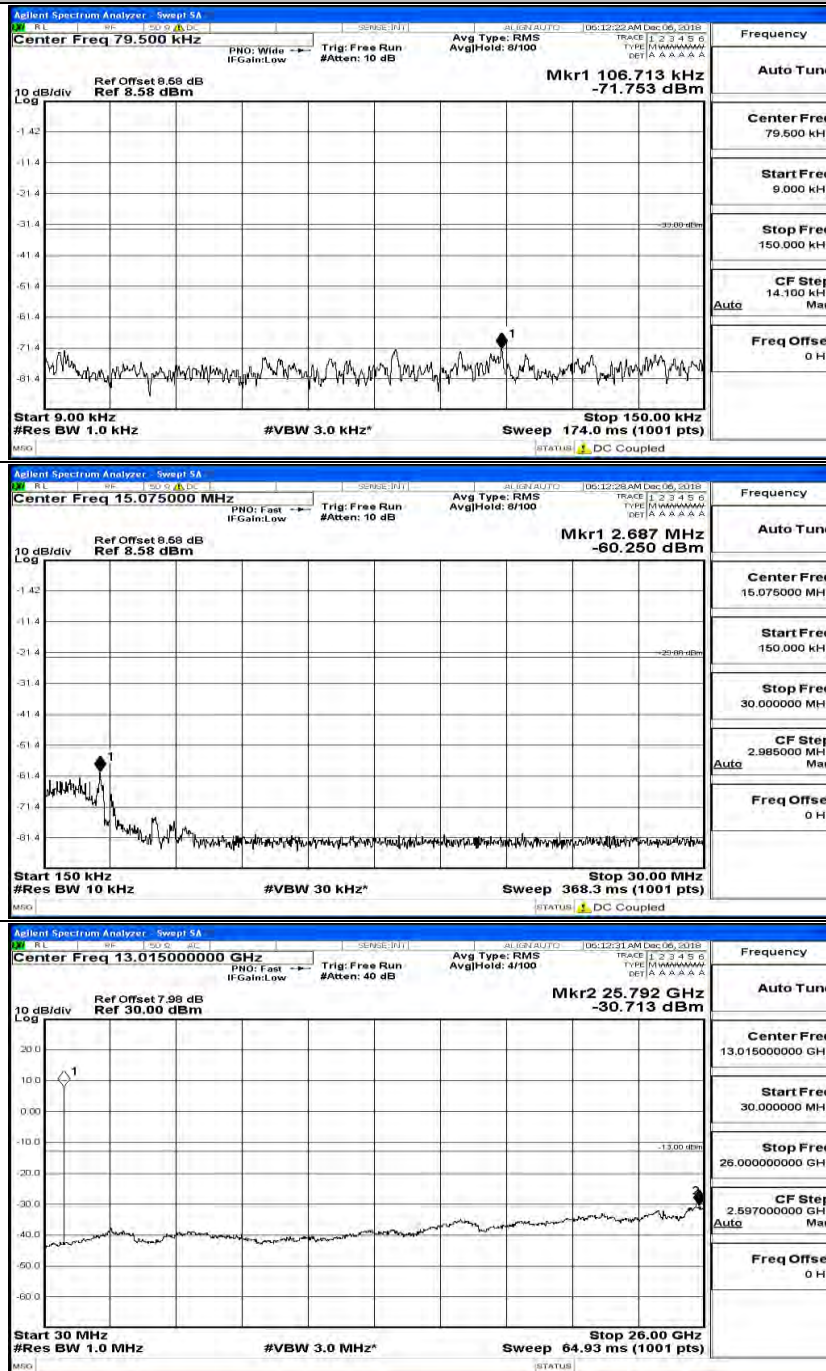
CSE Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



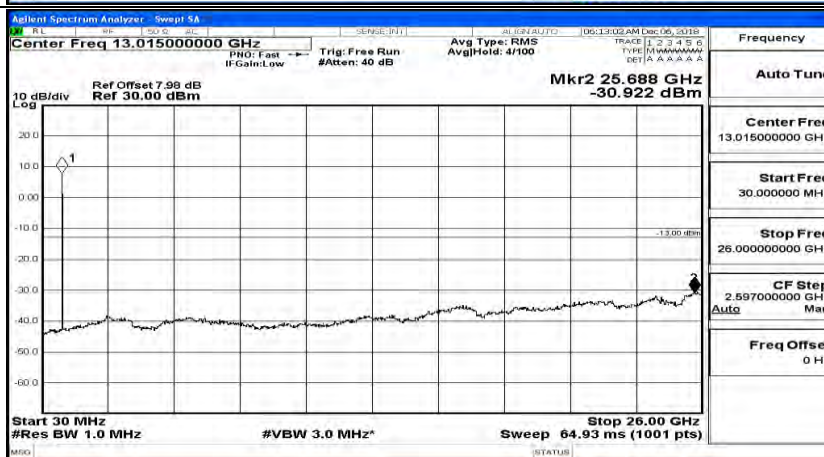
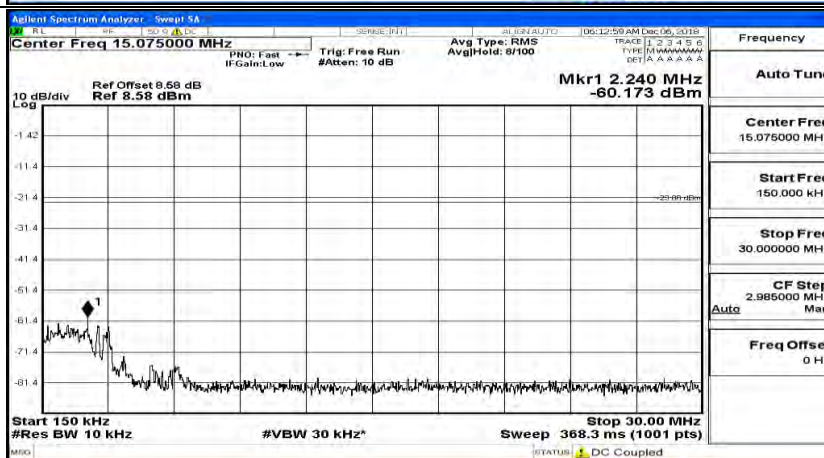
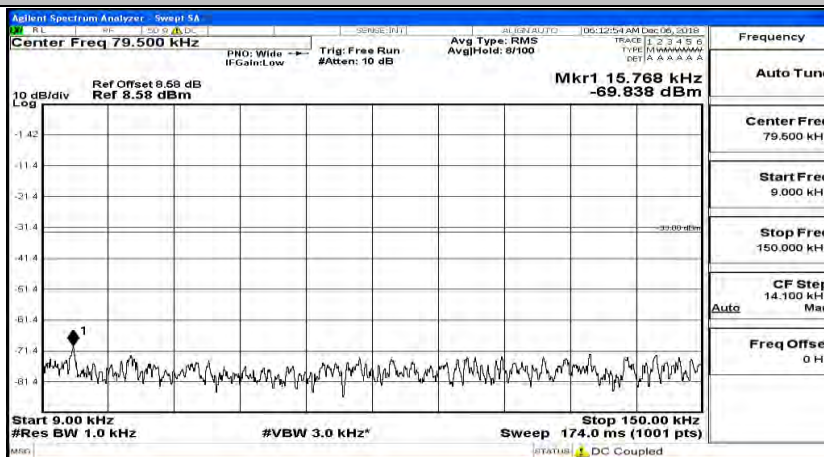
CSE Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



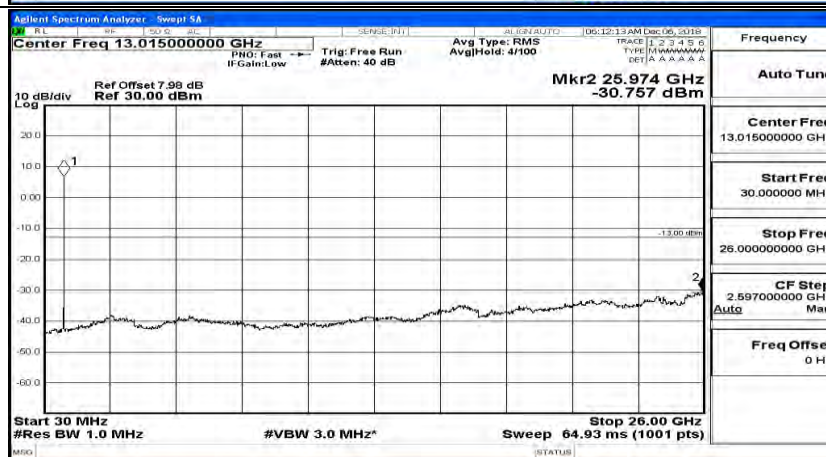
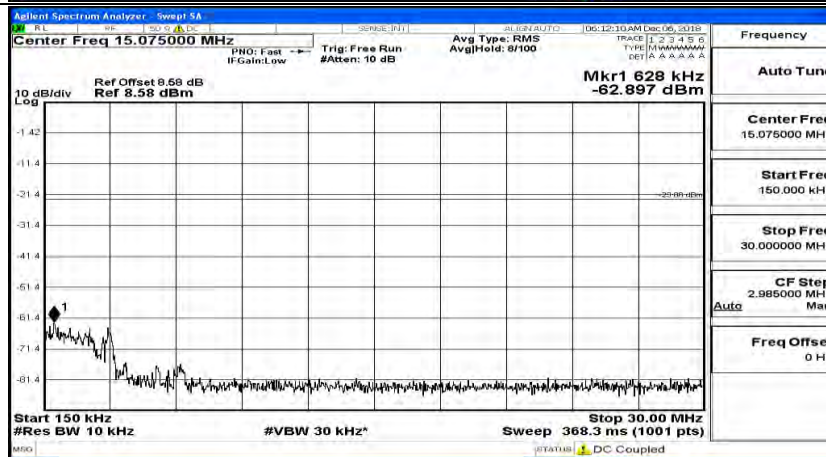
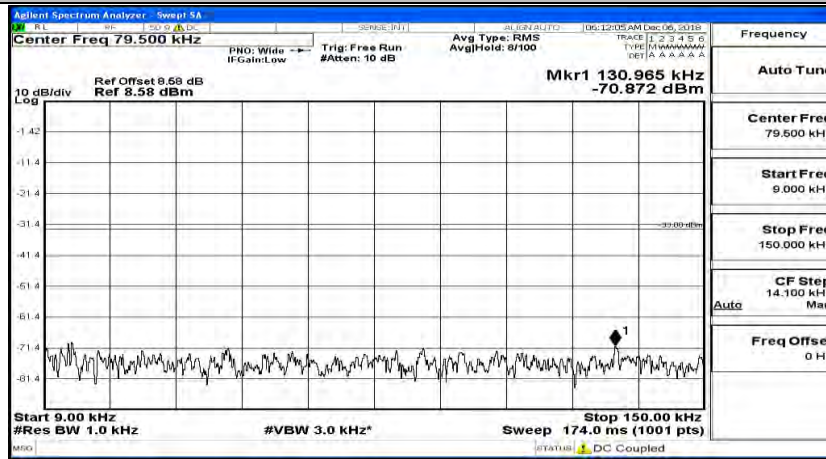
CSE Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



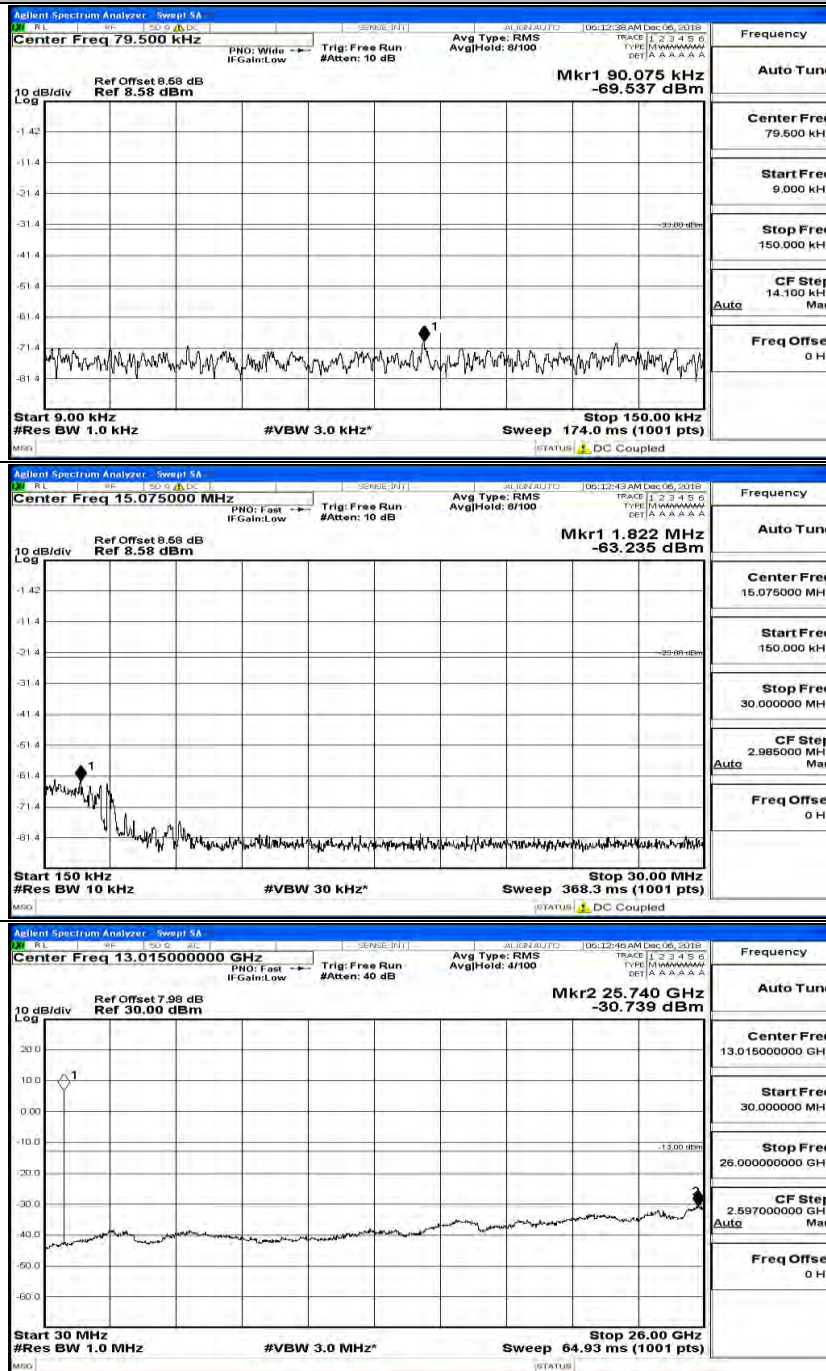
CSE Test Graph(s) (Channel Bandwidth: 3 MHz) HCH QPSK



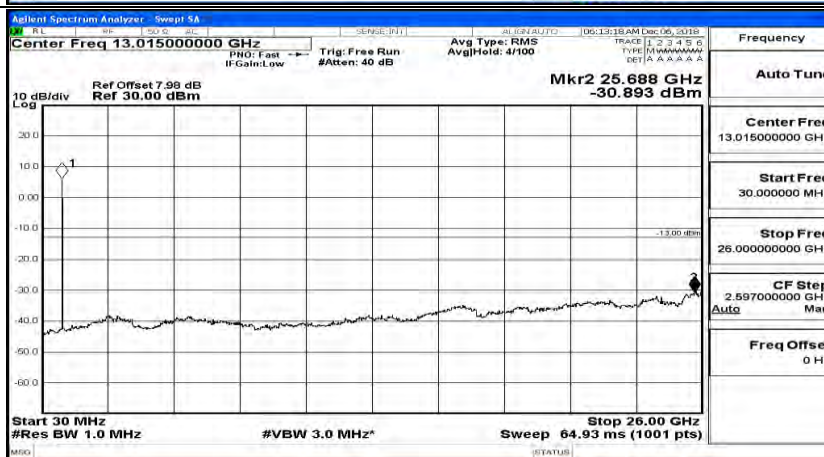
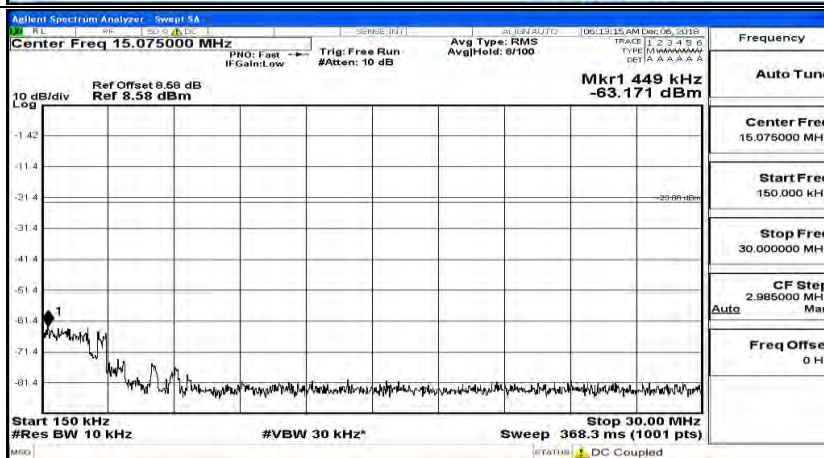
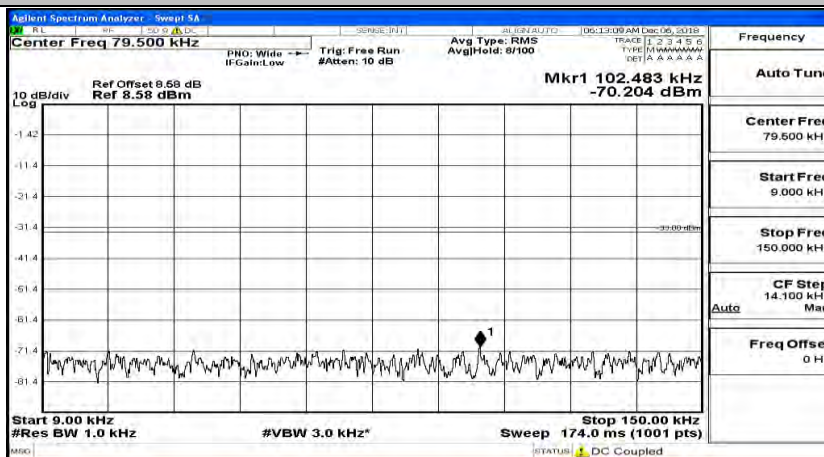
CSE Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



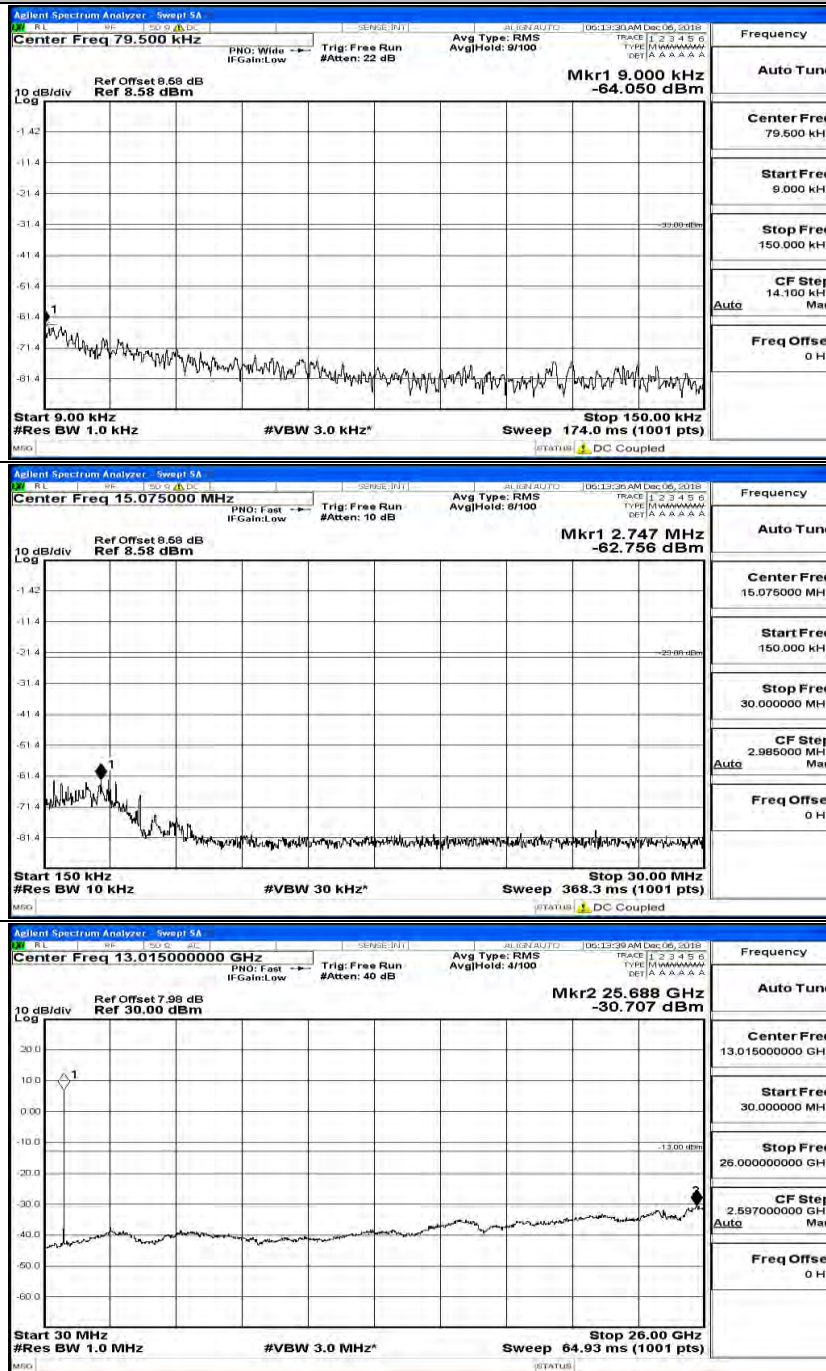
CSE Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



CSE Test Graph(s) (Channel Bandwidth: 3 MHz) HCH 16QAM



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



VectorStar Spectrum Analyzer - Sweep SA

Center Freq 79.500 kHz

Ref Offset 9.58 dB
Ref 8.58 dBm

PNO: Wide → IF Gain: Low

Trig: Free Run
#Atten: 10 dB

Avg Type: RMS
Avg Hold: 8100

Mkr1 139.707 kHz
-73.265 dBm

Start 9.00 kHz
#Res BW 1.0 kHz

#VBW 3.0 kHz*

Stop 150.00 kHz
Sweep 174.0 ms (1001 pts)

Frequency

Auto Tuning

Center Freq 79.500 kHz

Start Freq 9.000 kHz

Stop Freq 150.000 kHz

CF Step 14.100 kHz

Auto

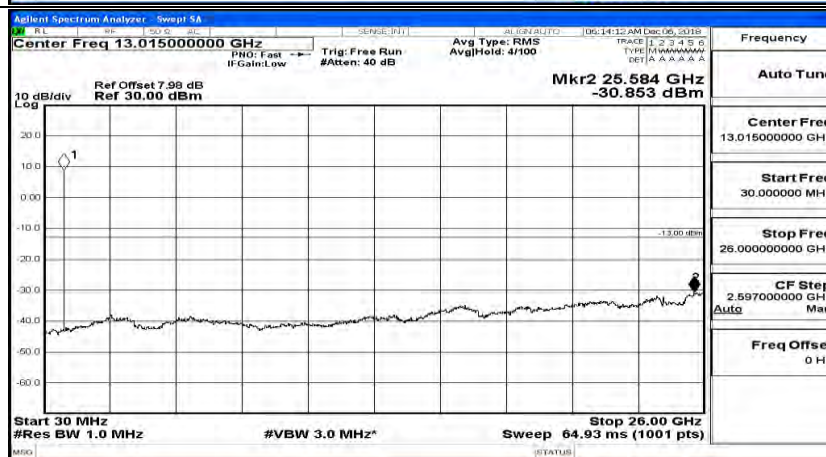
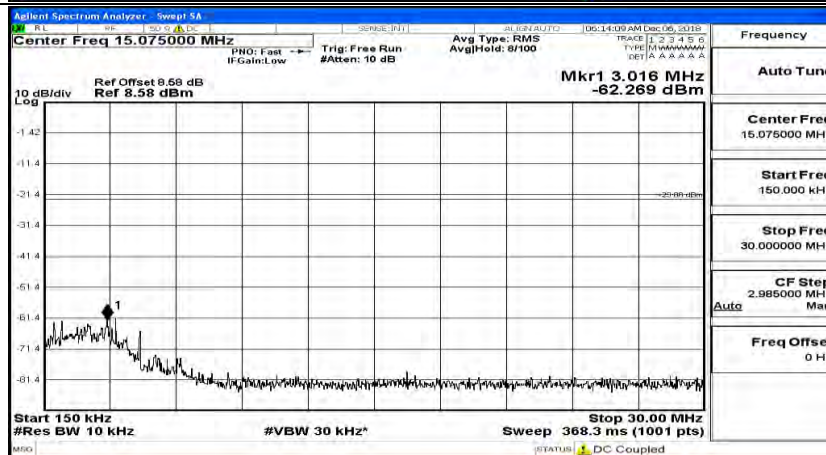
Mar

Freq Offset 0 Hz

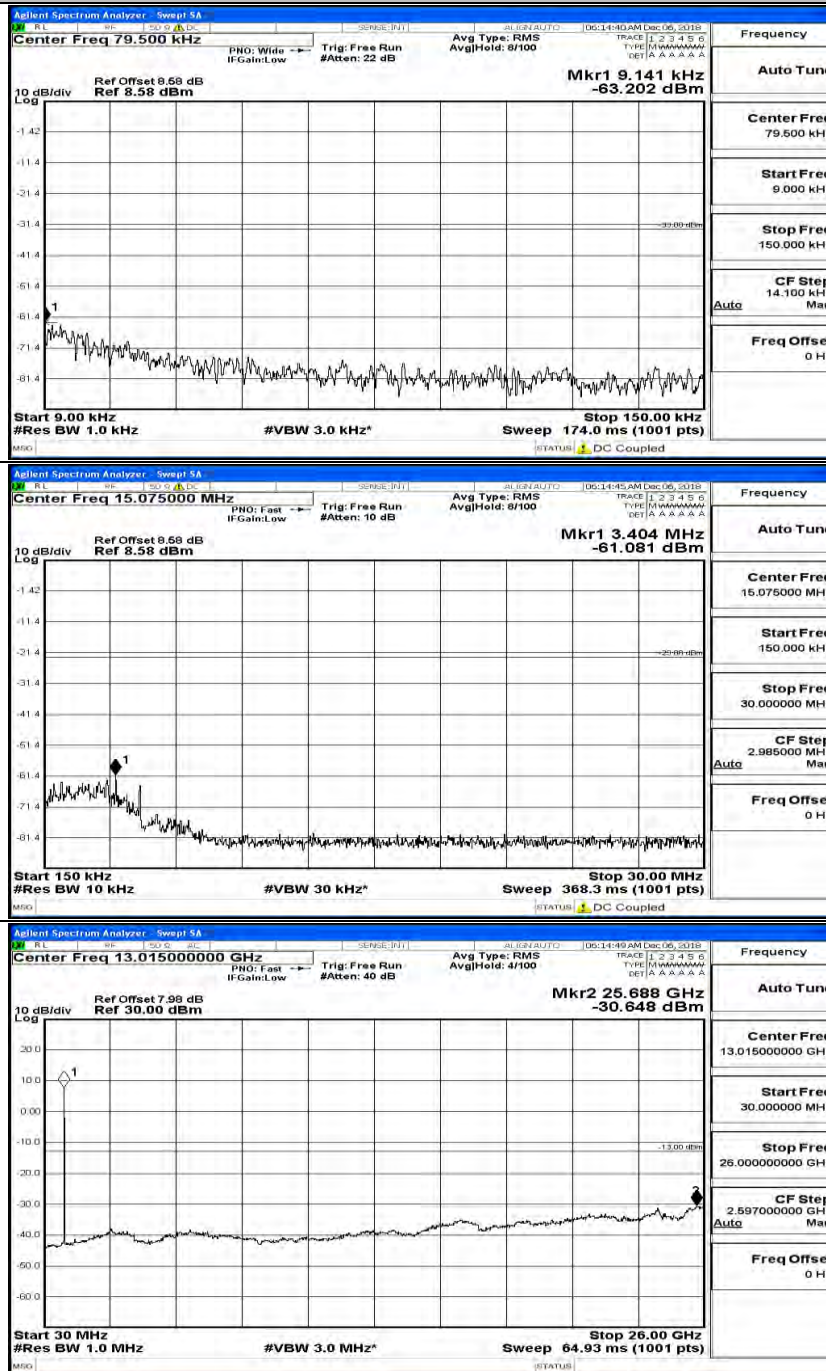
M550

DC Coupled

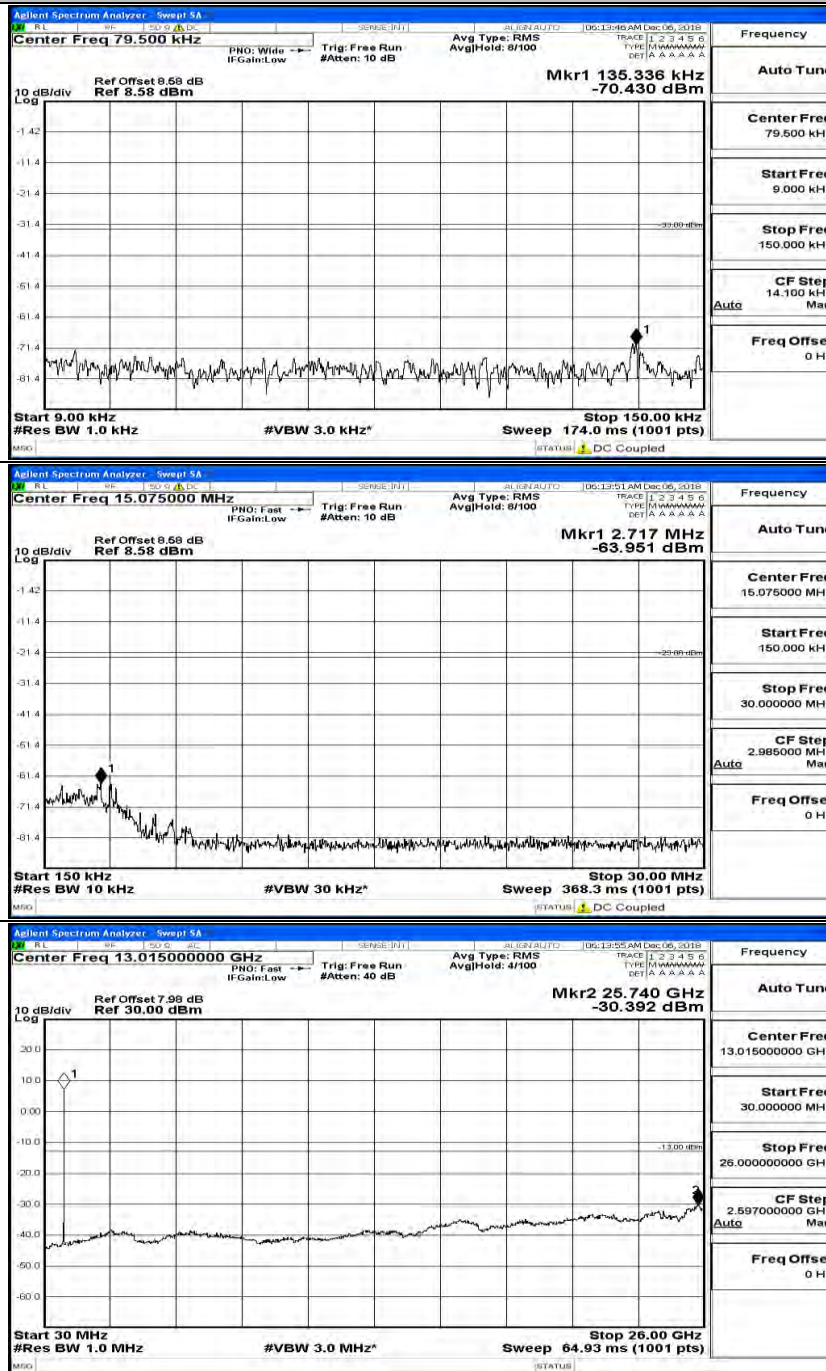
174.0 ms (1001 pts)



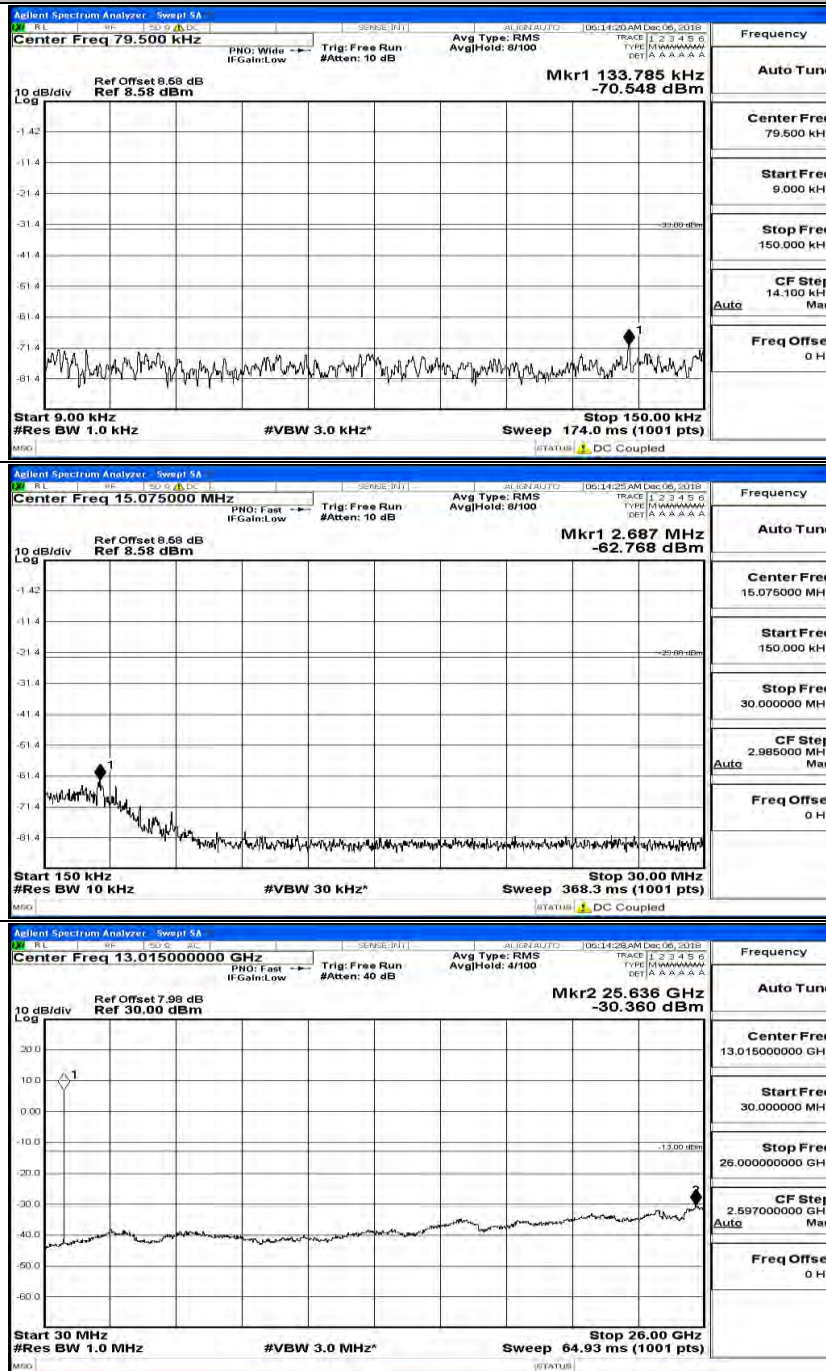
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



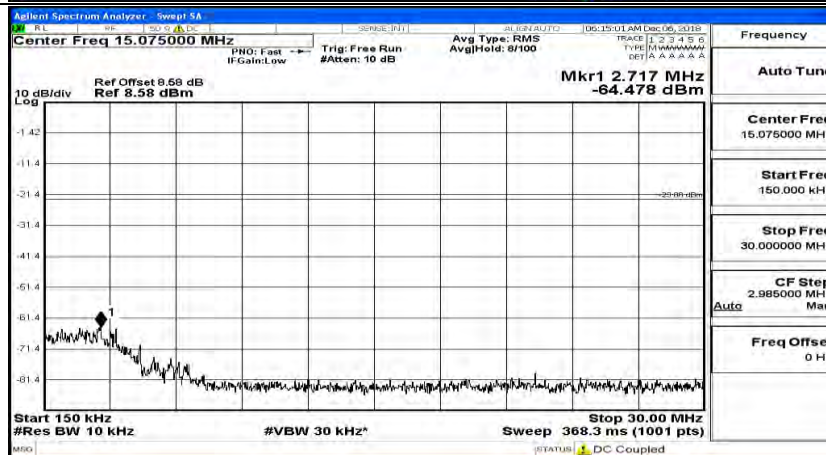
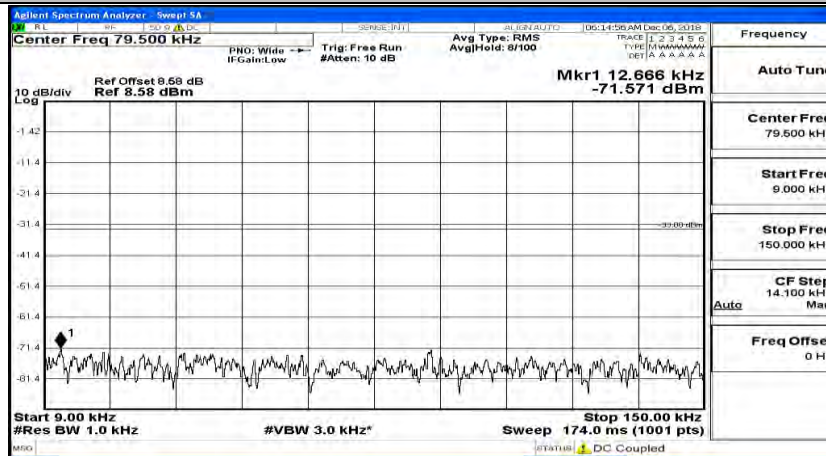
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



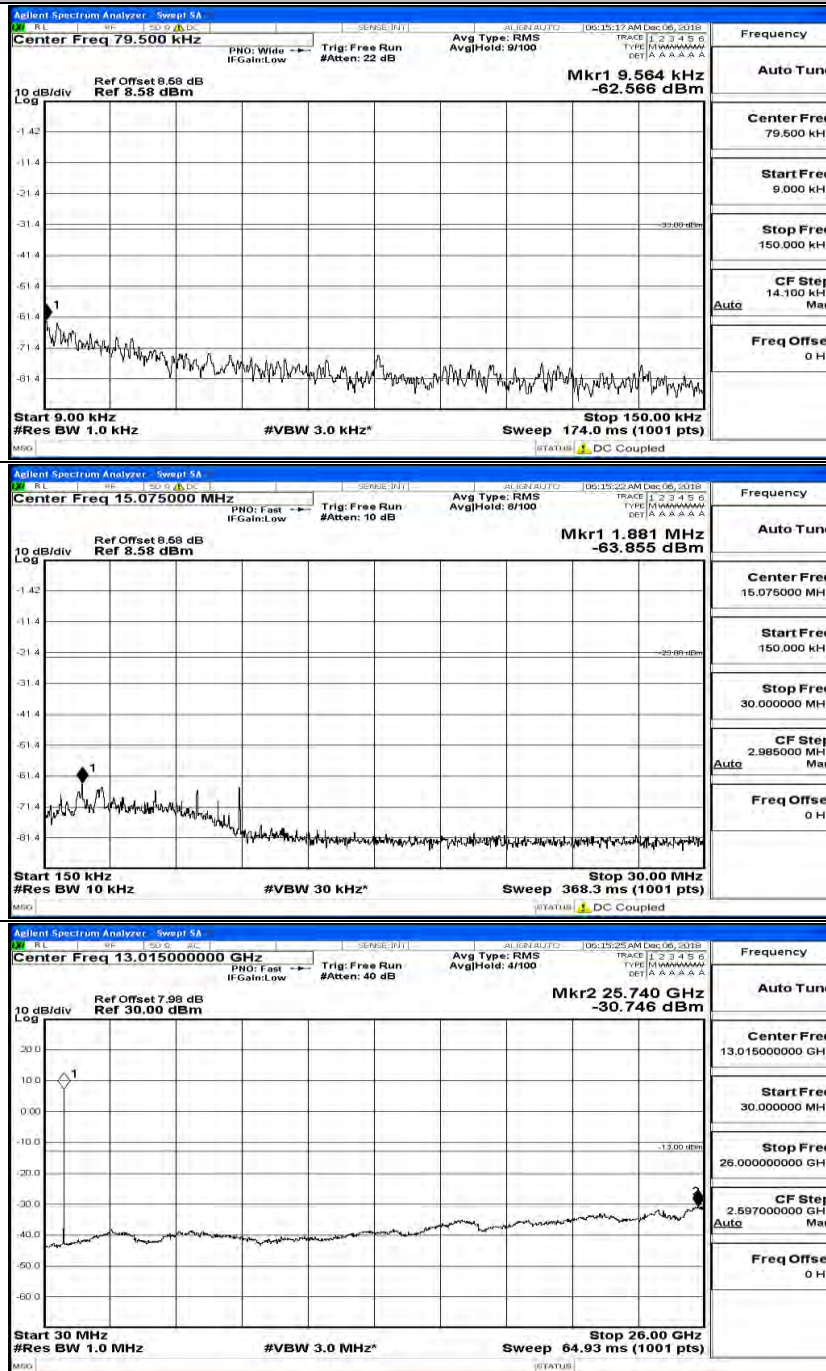
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



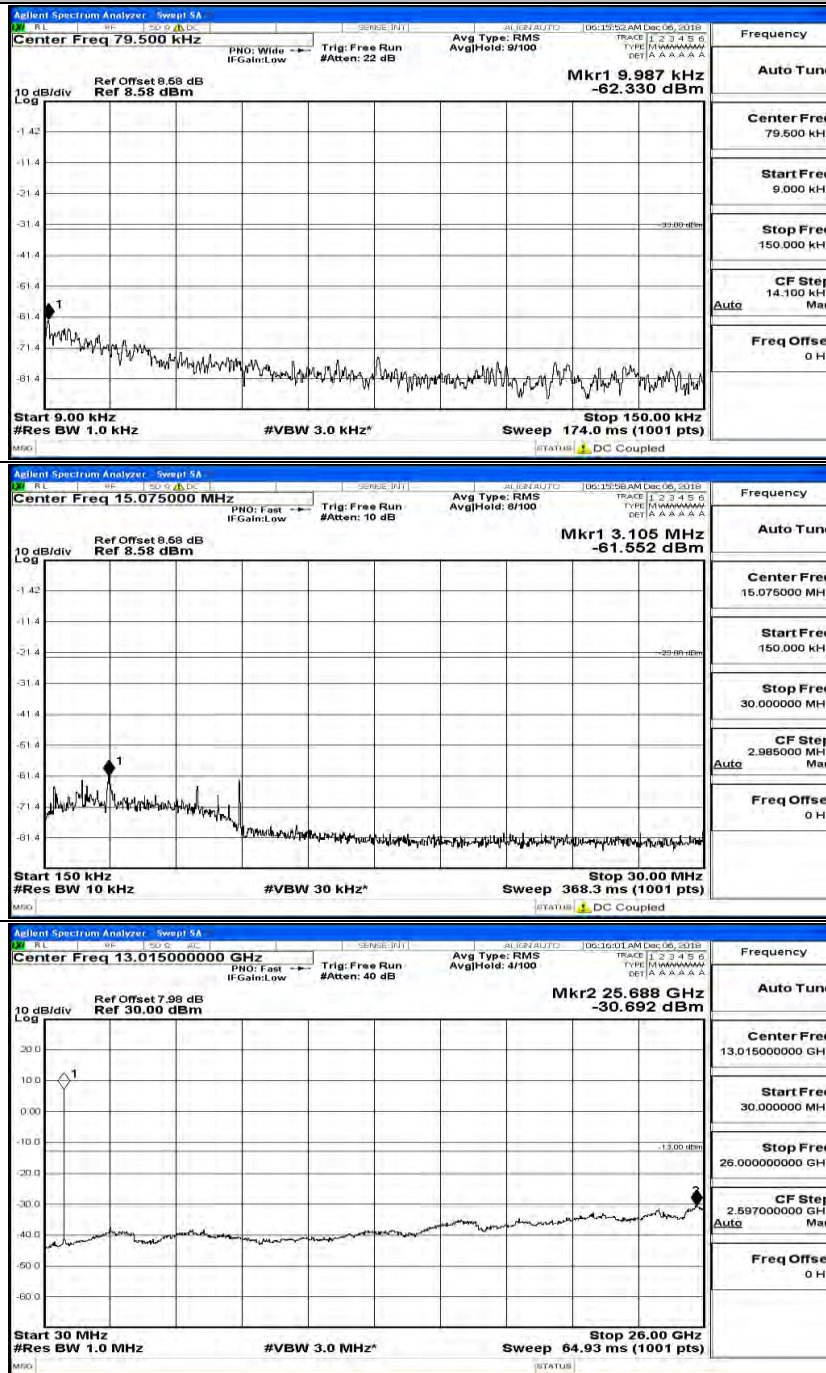
CSE Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



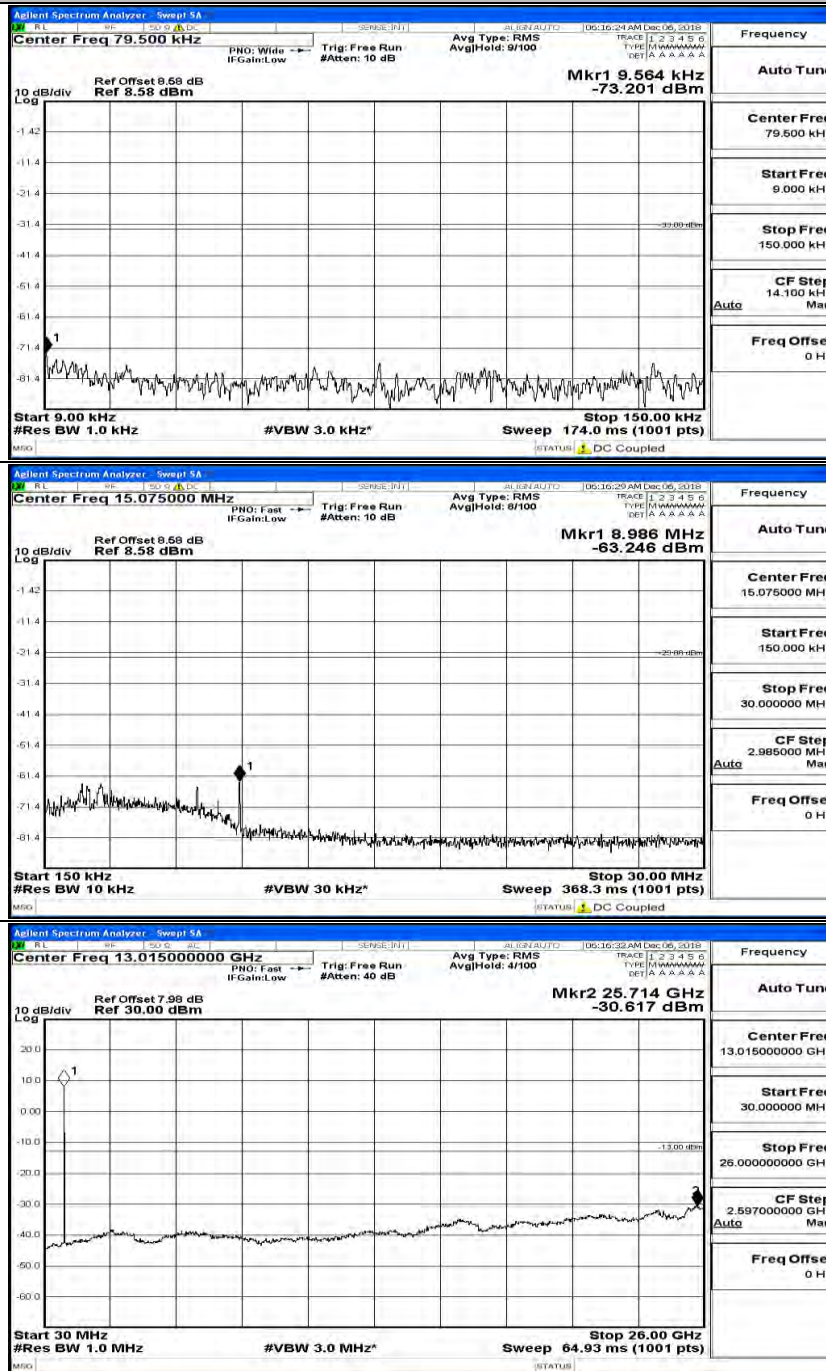
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



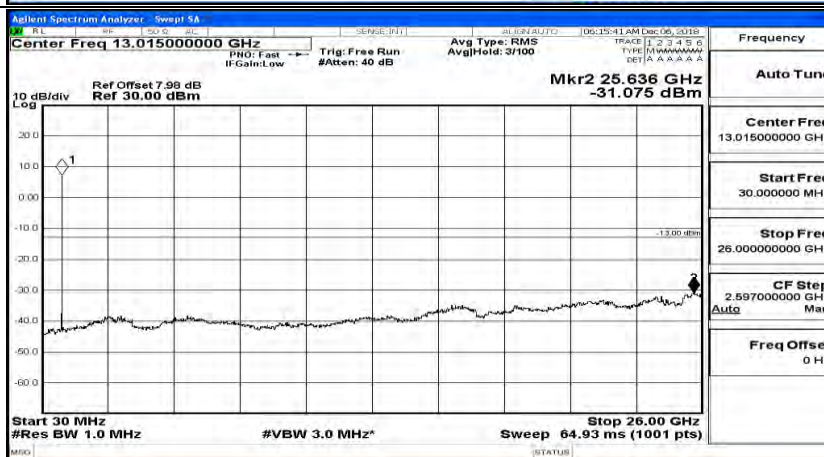
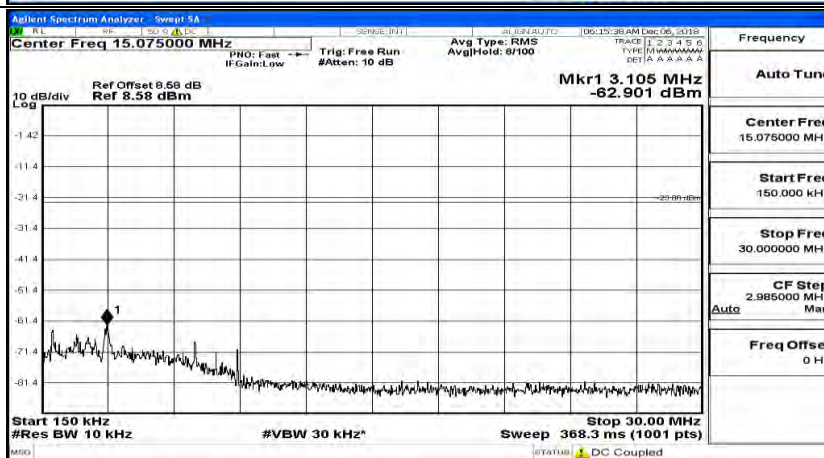
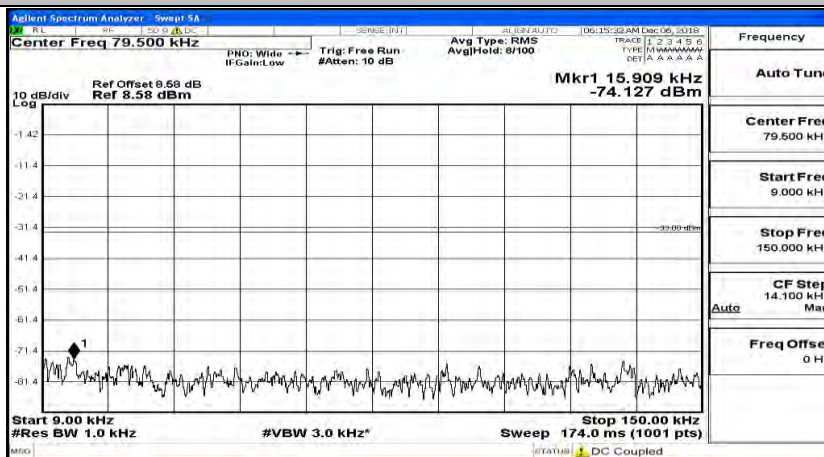
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



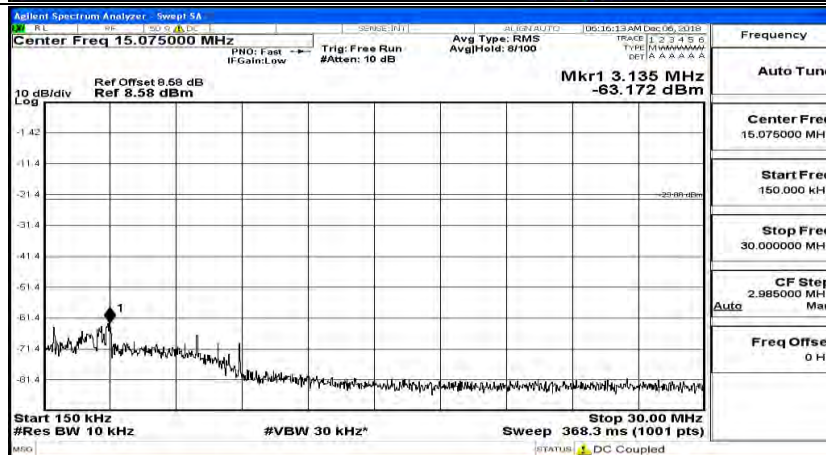
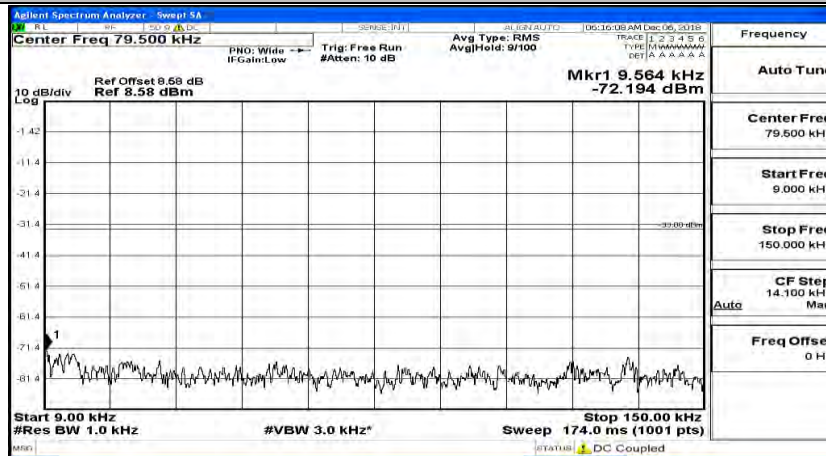
CSE Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



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

