Appendix B: Test Data for E-UTRA Band 2

Product Name: 4G Car DVR

Trade Mark: AddSecure

Test Model: AddSecure FFC LTE NA

Environmental Conditions

Temperature:	22.3° C
Relative Humidity:	53.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

B.1 Conducted Output Power

Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm] QPSK	Average Power [dBm] 16QAM	Verdict
		Size	Offset			
QPSK / 16QAM	LCH	1	0	21.36	20.62	PASS
		1	3	21.41	20.80	PASS
		1	5	21.28	20.72	PASS
		3	0	21.28	20.23	PASS
		3	2	21.41	20.35	PASS
		3	3	21.42	20.35	PASS
		6	0	20.39	19.36	PASS
	MCH	1	0	22.23	21.27	PASS
		1	3	22.30	21.25	PASS
		1	5	22.14	21.03	PASS
		3	0	22.33	21.24	PASS
		3	2	22.29	21.24	PASS
		3	3	22.29	21.16	PASS
		6	0	21.34	20.58	PASS
	HCH	1	0	23.02	21.98	PASS
		1	3	22.74	22.00	PASS
		1	5	22.60	21.86	PASS
		3	0	22.65	21.91	PASS
		3	2	22.63	22.16	PASS
		3	3	22.53	21.78	PASS
		6	0	21.74	20.64	PASS

Conducted Output Power Test Result (Channel Bandwidth: 3 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	21.35	20.66	PASS
		1	7	21.27	21.03	PASS
		1	14	21.45	20.91	PASS
		8	0	20.54	19.50	PASS
		8	4	20.55	19.52	PASS
		8	7	20.49	19.69	PASS
		15	0	20.51	19.55	PASS
	MCH	1	0	22.82	22.08	PASS
		1	7	22.51	22.03	PASS
		1	14	22.47	21.92	PASS
		8	0	21.62	20.75	PASS
		8	4	21.50	20.59	PASS
		8	7	21.38	20.61	PASS
		15	0	21.43	20.55	PASS
	HCH	1	0	22.85	21.72	PASS
		1	7	22.87	21.87	PASS
		1	14	23.00	21.63	PASS
		8	0	21.96	20.56	PASS
		8	4	21.73	20.93	PASS
		8	7	21.81	20.93	PASS
		15	0	21.91	20.93	PASS

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	21.28	20.28	PASS
		1	12	21.83	20.34	PASS
		1	24	21.70	20.34	PASS
		12	0	20.50	19.58	PASS
		12	6	20.60	19.72	PASS
		12	13	20.73	19.76	PASS
		25	0	20.60	19.90	PASS
	MCH	1	0	23.07	21.39	PASS
		1	12	22.80	21.55	PASS
		1	24	22.31	21.11	PASS
		12	0	21.79	20.83	PASS
		12	6	21.51	20.47	PASS
		12	13	21.44	20.58	PASS
		25	0	21.61	20.75	PASS
	HCH	1	0	22.57	21.54	PASS
		1	12	22.86	21.34	PASS
		1	24	23.04	21.51	PASS
		12	0	21.77	20.78	PASS
		12	6	21.85	20.53	PASS
		12	13	22.00	21.04	PASS
		25	0	21.97	20.80	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	21.37	21.52	PASS
		1	24	21.79	21.04	PASS
		1	49	22.60	22.51	PASS
		25	0	20.81	19.89	PASS
		25	12	20.86	19.92	PASS
		25	25	21.33	20.38	PASS
		50	0	21.06	20.13	PASS
	MCH	1	0	23.52	23.02	PASS
		1	24	22.48	22.17	PASS
		1	49	22.06	21.53	PASS
		25	0	22.12	21.26	PASS
		25	12	21.69	20.63	PASS
		25	25	21.40	20.36	PASS
		50	0	21.72	20.78	PASS
	HCH	1	0	22.72	21.19	PASS
		1	24	22.83	21.36	PASS
		1	49	22.95	21.76	PASS
		25	0	21.89	20.89	PASS
		25	12	22.02	20.96	PASS
		25	25	22.08	21.11	PASS
		50	0	21.86	20.83	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	22.66	22.10	PASS
		1	37	22.12	22.06	PASS
		1	74	23.65	23.57	PASS
		37	0	21.86	20.06	PASS
		37	18	21.22	20.25	PASS
		37	38	22.08	21.12	PASS
		75	0	21.45	20.49	PASS
	MCH	1	0	23.84	23.67	PASS
		1	37	22.68	22.16	PASS
		1	74	22.90	22.35	PASS
		37	0	22.41	21.41	PASS
		37	18	21.86	20.89	PASS
		37	38	21.26	20.33	PASS
		75	0	21.78	20.84	PASS
	HCH	1	0	22.33	21.13	PASS
		1	37	23.18	22.01	PASS
		1	74	22.95	21.95	PASS
		37	0	21.56	20.69	PASS
		37	18	21.90	20.97	PASS
		37	38	21.99	21.04	PASS
		75	0	21.74	20.78	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	23.77	21.14	PASS
		1	49	23.03	21.56	PASS
		1	99	24.25	22.90	PASS
		50	0	21.19	20.16	PASS
		50	25	21.92	21.13	PASS
		50	50	22.79	21.89	PASS
		100	0	22.03	21.05	PASS
	MCH	1	0	23.98	22.90	PASS
		1	49	22.91	21.72	PASS
		1	99	22.01	21.48	PASS
		50	0	22.50	21.56	PASS
		50	25	21.75	20.74	PASS
		50	50	21.31	20.16	PASS
		100	0	22.00	21.04	PASS
	HCH	1	0	21.72	20.44	PASS
		1	49	22.77	21.29	PASS
		1	99	22.73	21.39	PASS
		50	0	21.23	20.30	PASS
		50	25	21.70	20.53	PASS
		50	50	22.02	21.11	PASS
		100	0	21.69	20.73	PASS

B.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	8.46	<13	PASS
	MCH	8.38	<13	PASS
	HCH	8.43	<13	PASS
16QAM	LCH	8.37	<13	PASS
	MCH	8.44	<13	PASS
	HCH	8.39	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	8.43	<13	PASS
	MCH	8.44	<13	PASS
	HCH	8.37	<13	PASS
16QAM	LCH	8.48	<13	PASS
	MCH	8.38	<13	PASS
	HCH	8.45	<13	PASS

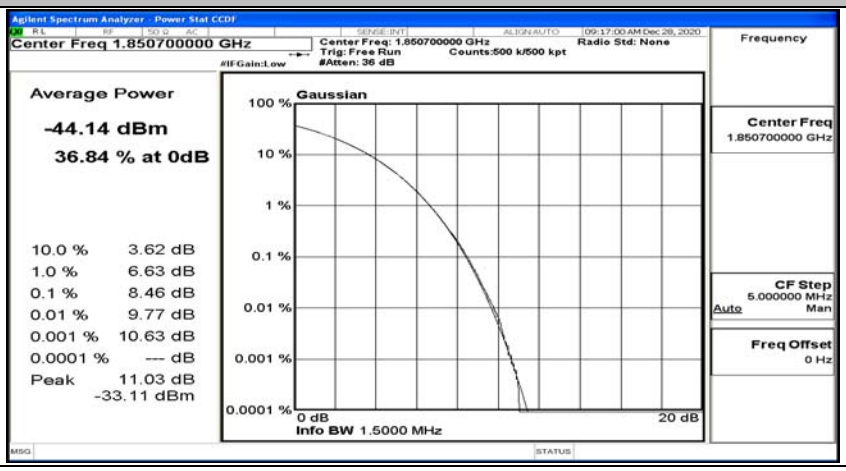
Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	8.46	<13	PASS
	MCH	8.41	<13	PASS
	HCH	8.44	<13	PASS
16QAM	LCH	8.32	<13	PASS
	MCH	8.39	<13	PASS
	HCH	8.4	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	8.41	<13	PASS
	MCH	8.38	<13	PASS
	HCH	8.37	<13	PASS
16QAM	LCH	8.36	<13	PASS
	MCH	8.38	<13	PASS
	HCH	8.35	<13	PASS

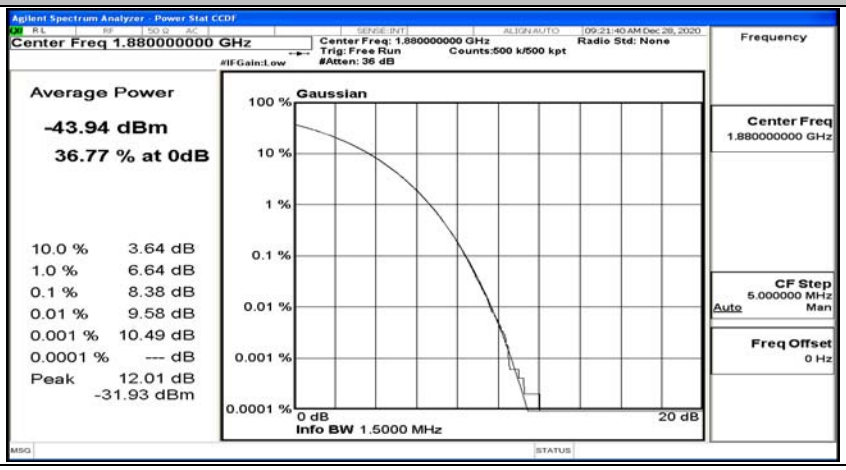
Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	8.39	<13	PASS
	MCH	8.37	<13	PASS
	HCH	8.39	<13	PASS
16QAM	LCH	8.39	<13	PASS
	MCH	8.41	<13	PASS
	HCH	8.39	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.84	<13	PASS
	MCH	5.73	<13	PASS
	HCH	5.72	<13	PASS
16QAM	LCH	6.83	<13	PASS
	MCH	6.64	<13	PASS
	HCH	6.67	<13	PASS

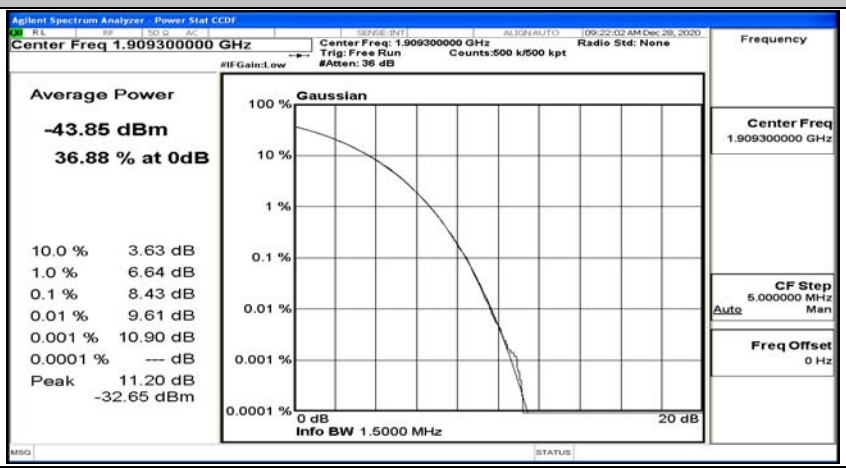
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



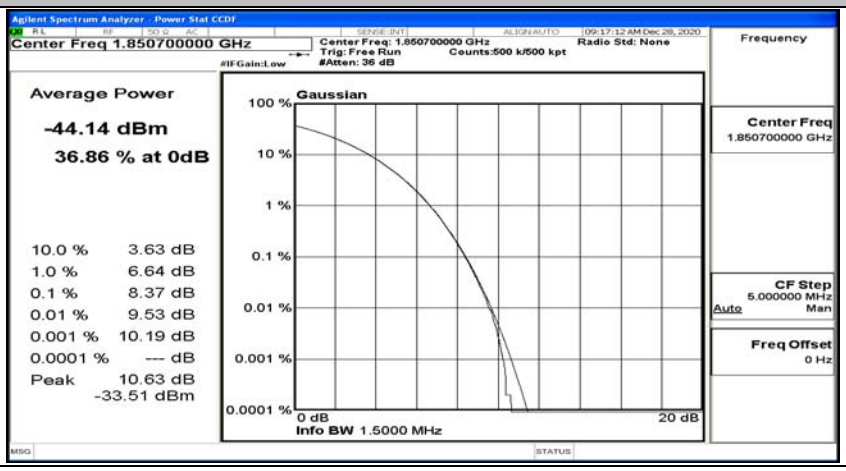
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



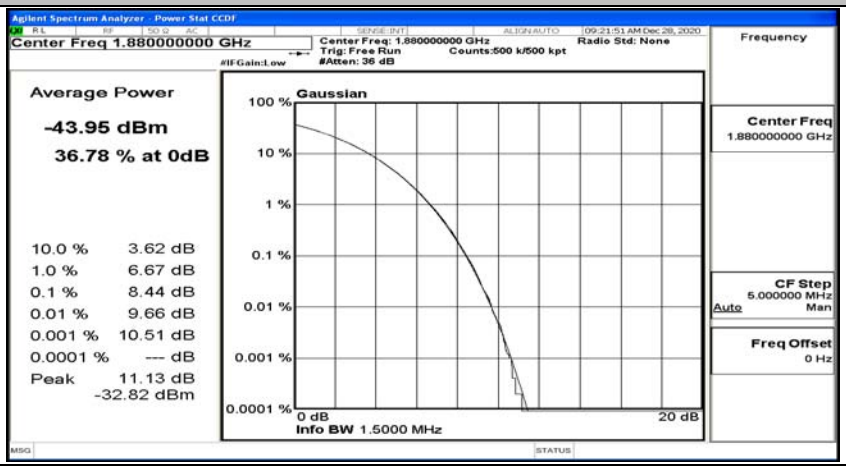
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



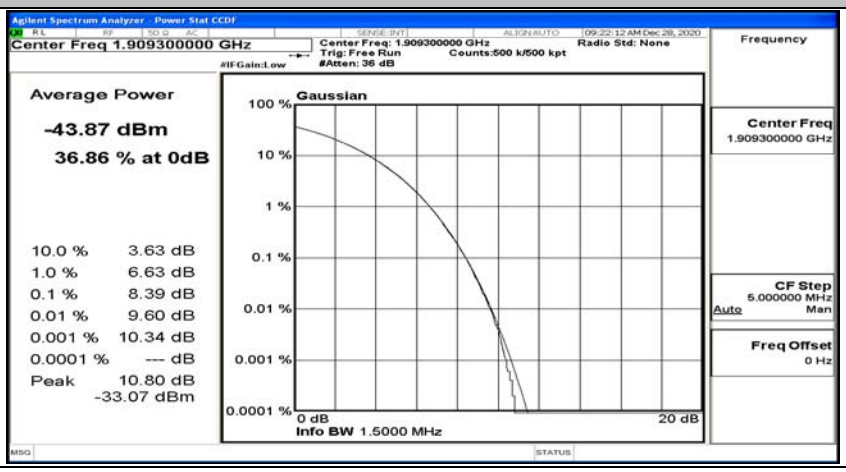
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



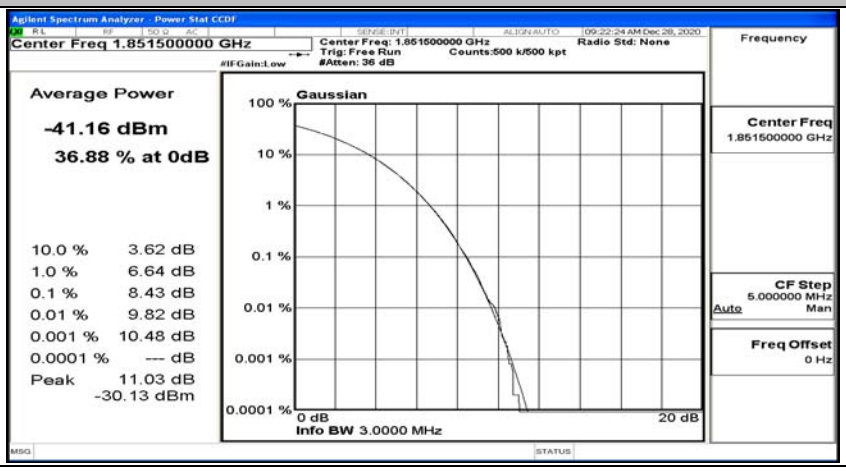
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



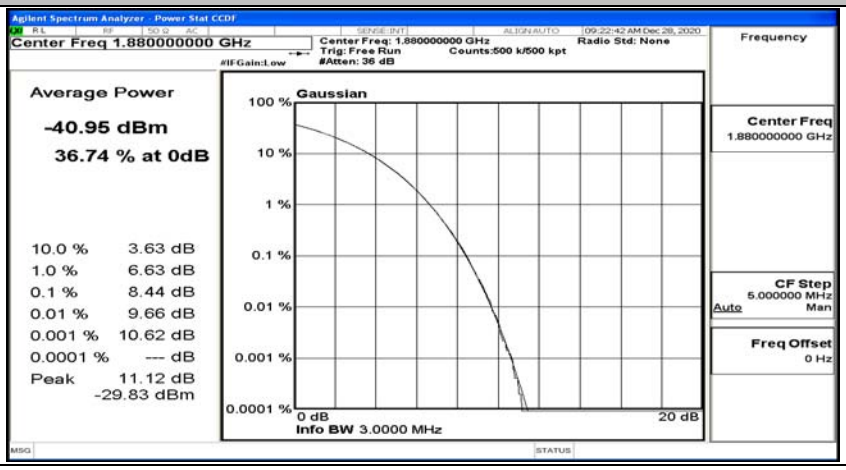
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



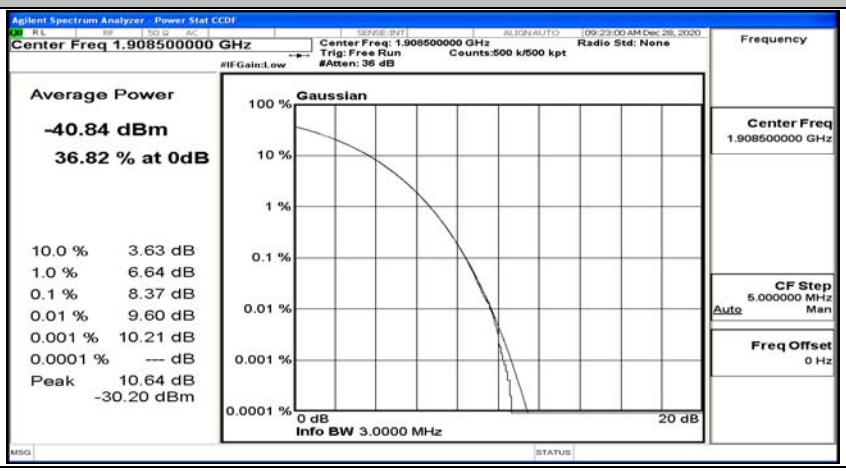
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



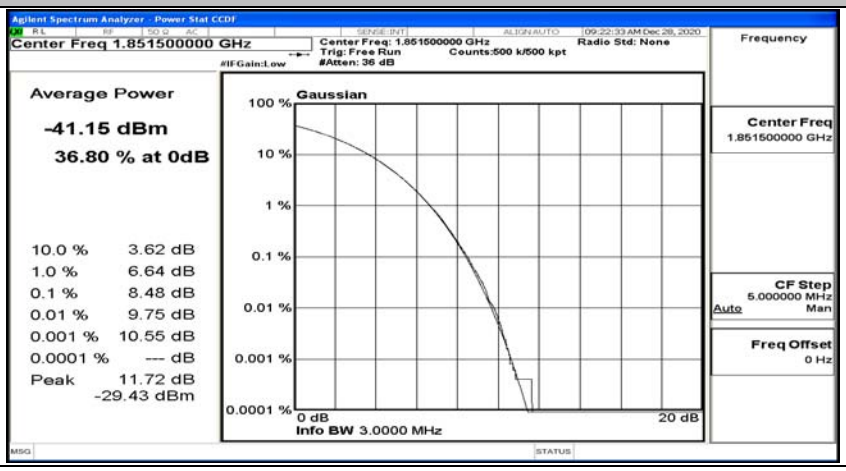
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



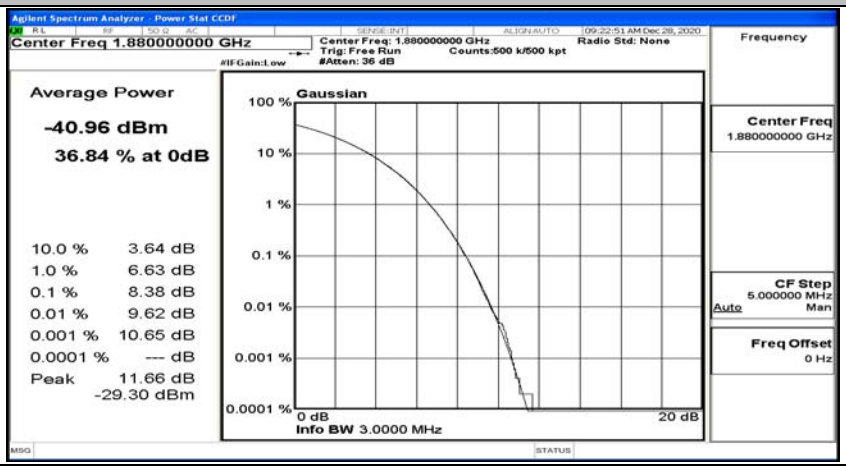
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



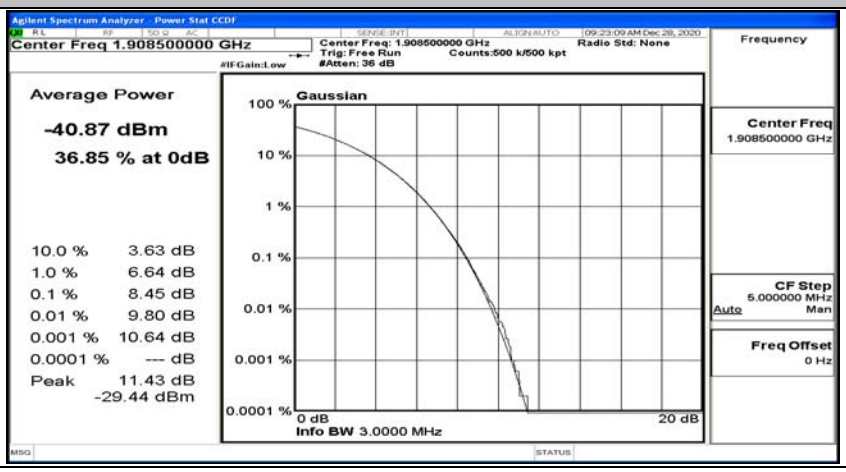
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



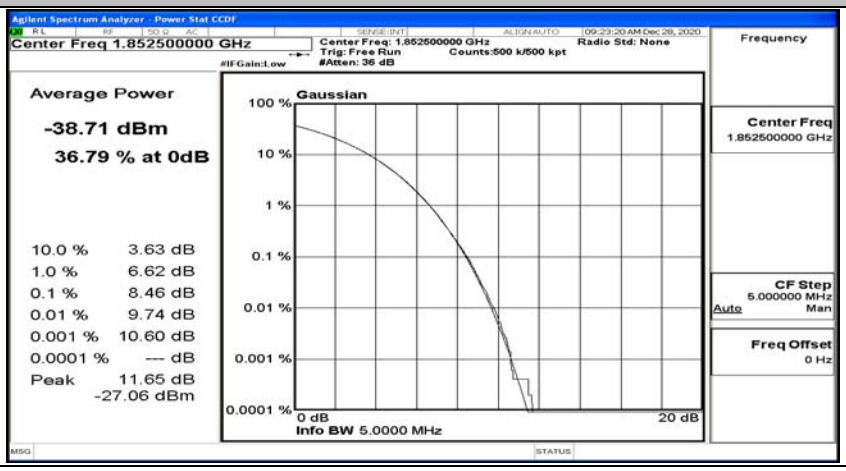
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



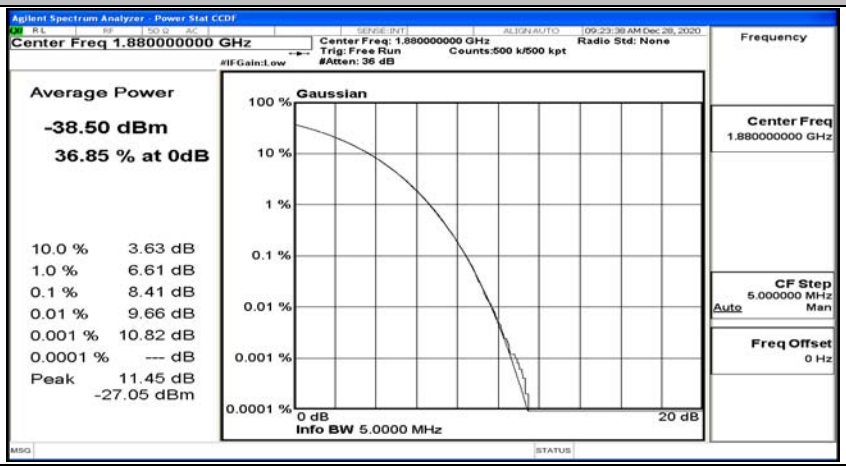
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



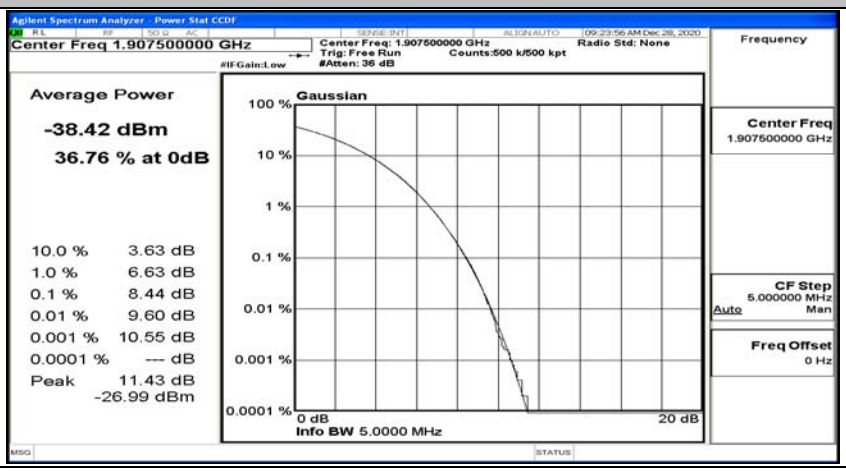
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



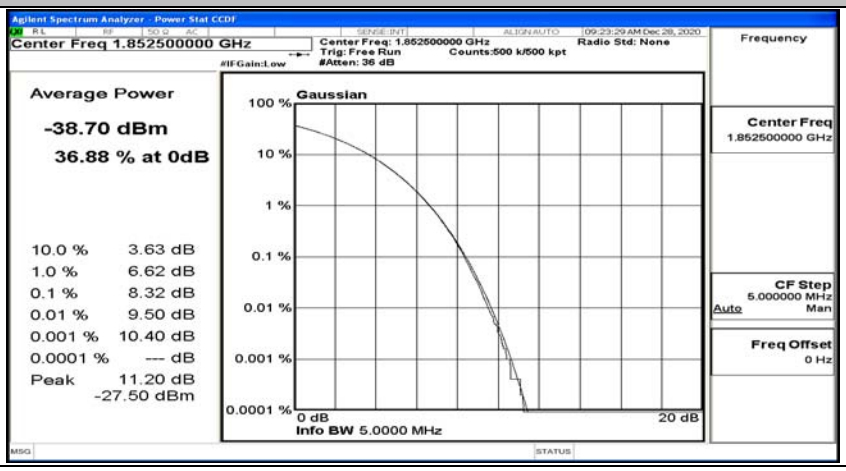
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



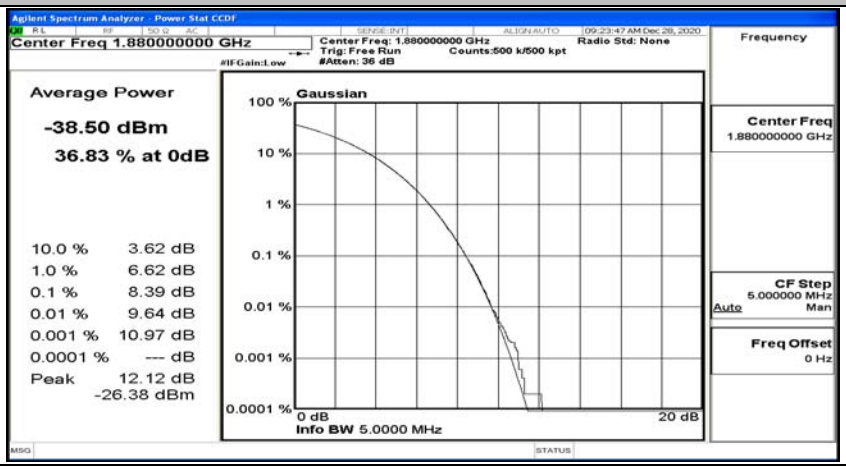
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



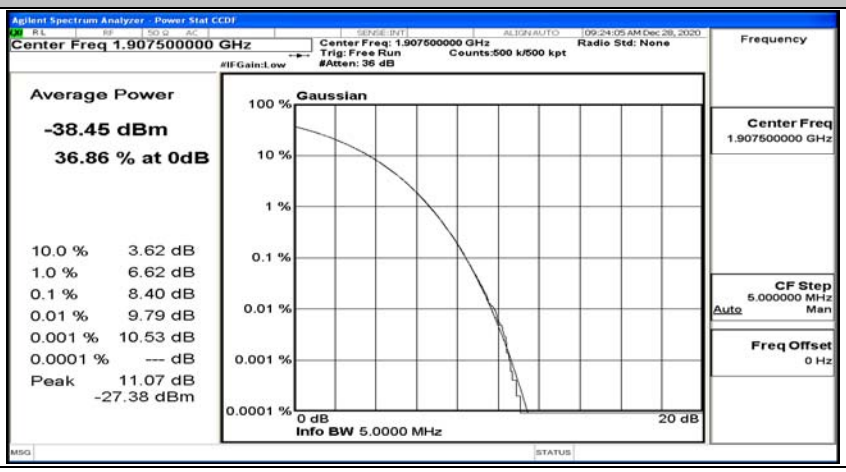
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



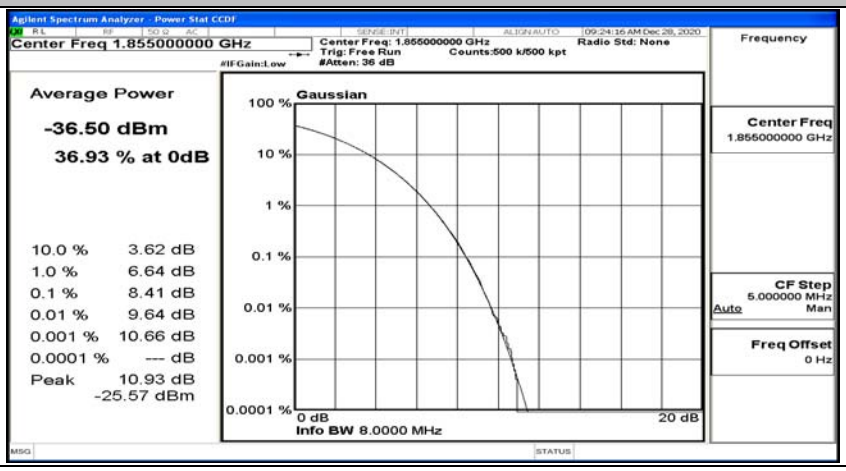
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



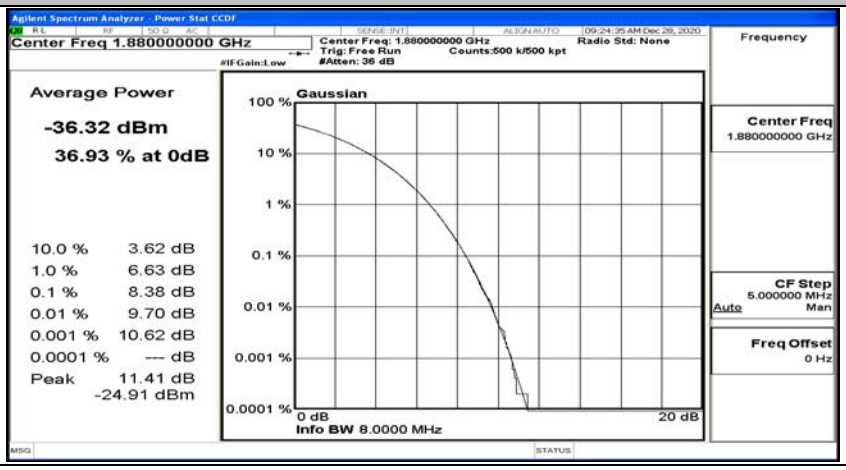
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



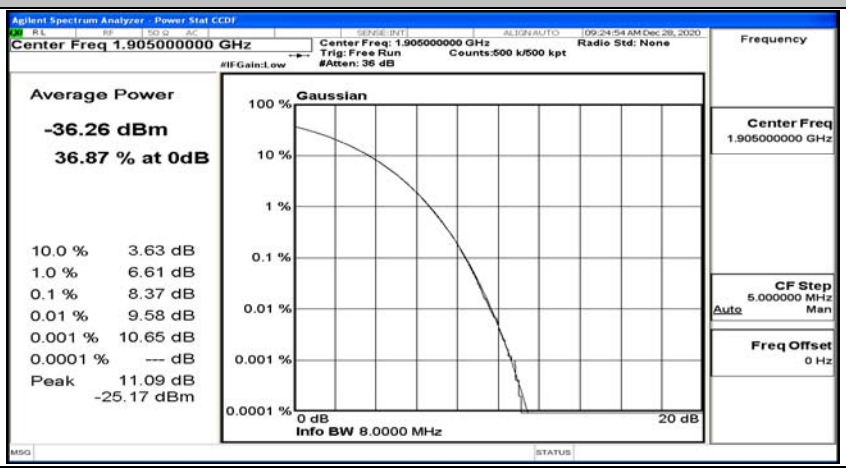
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



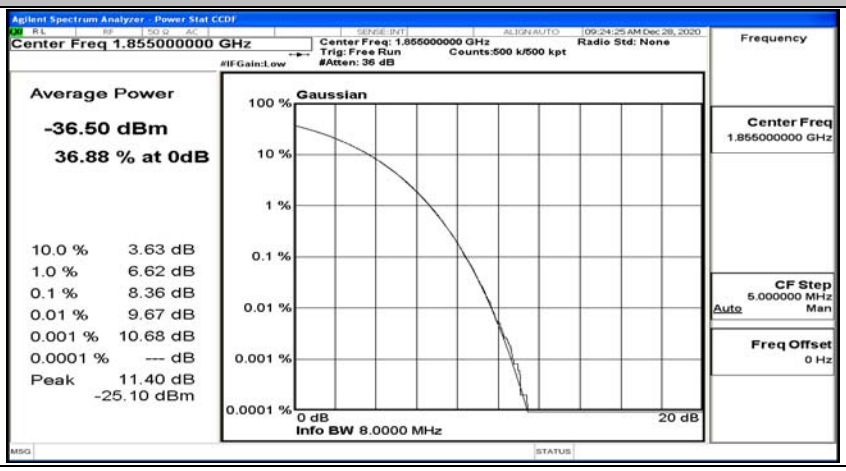
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



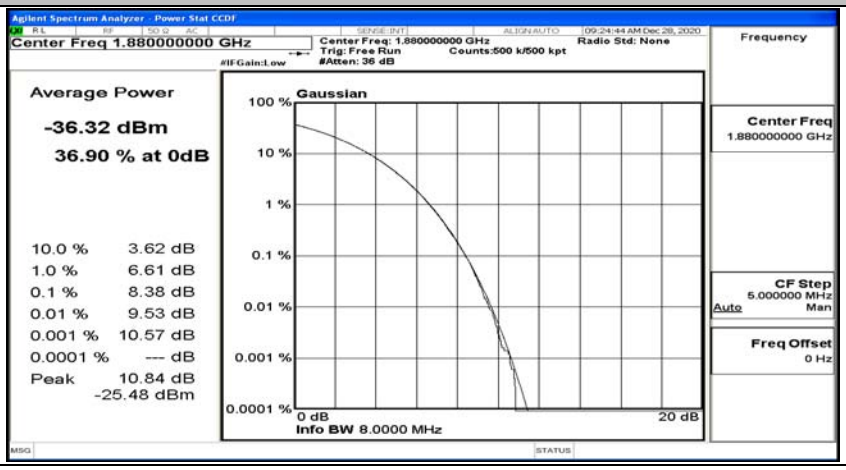
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



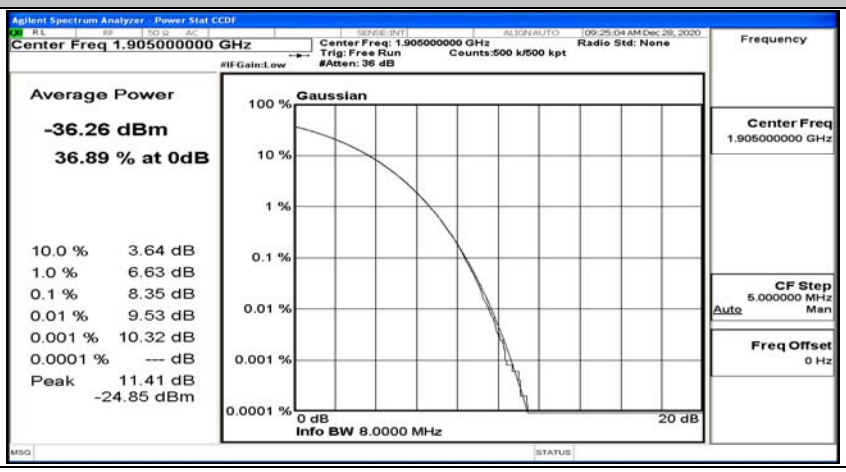
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



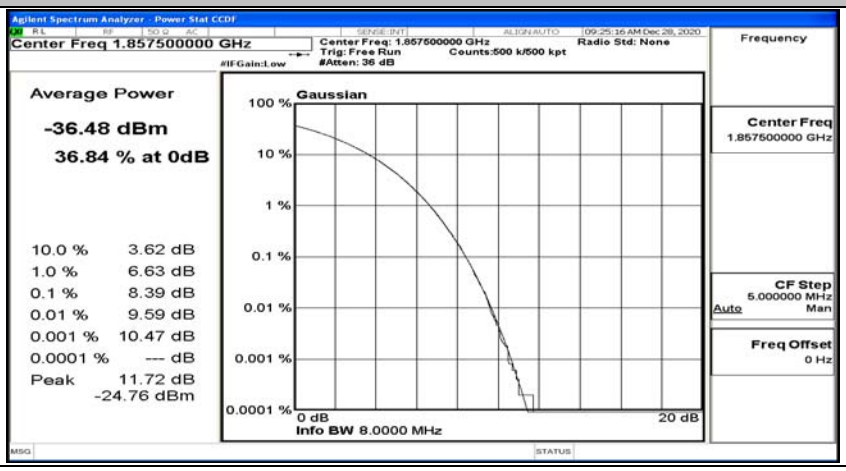
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



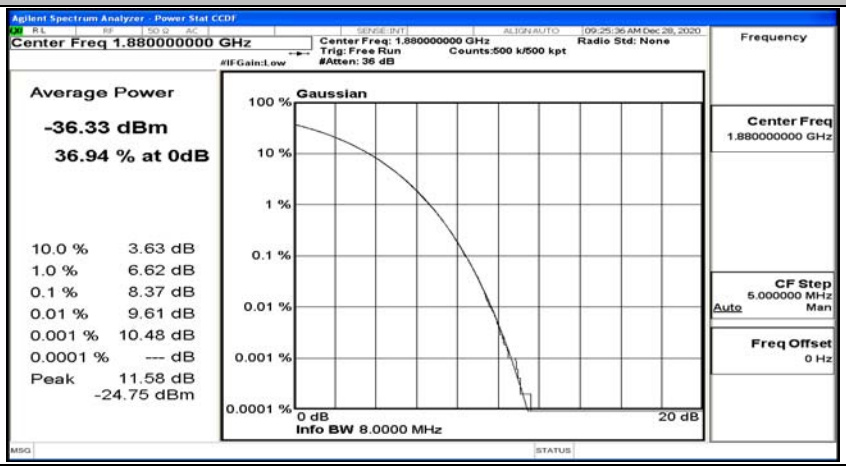
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



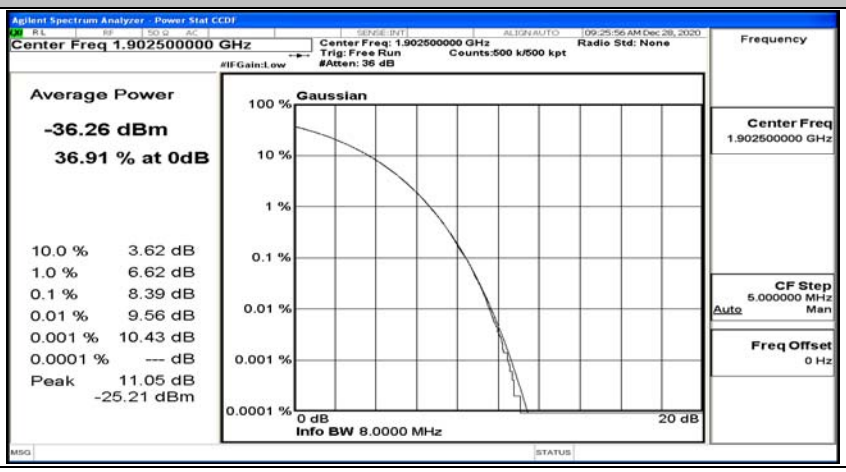
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



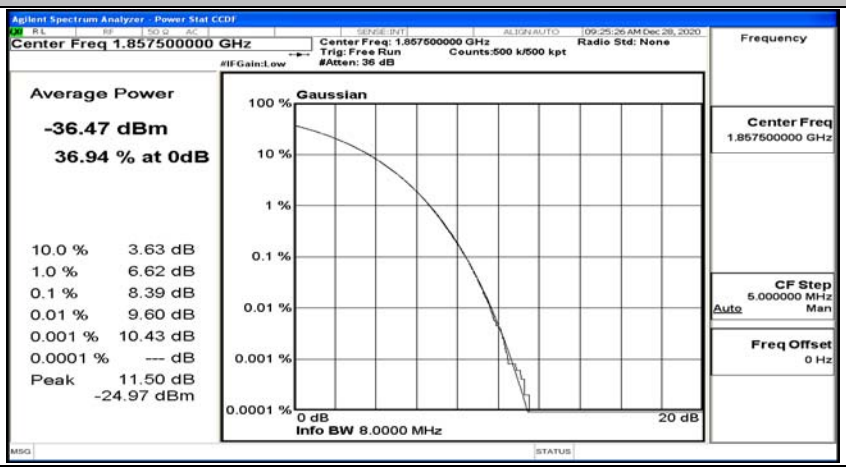
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK



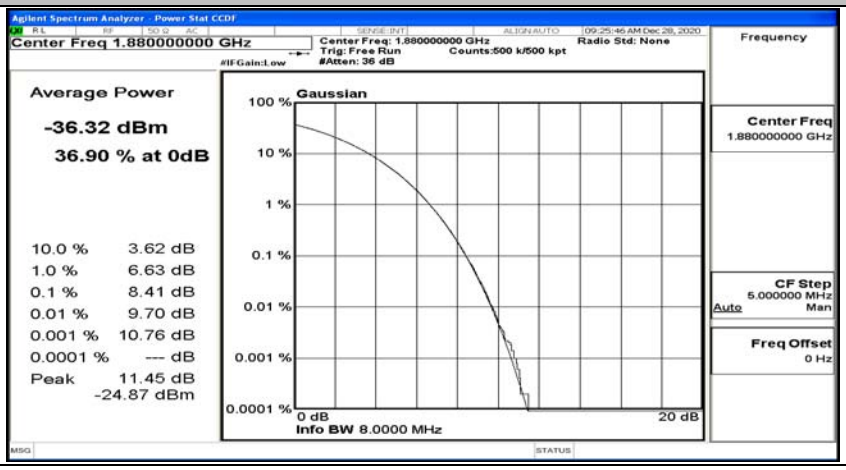
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



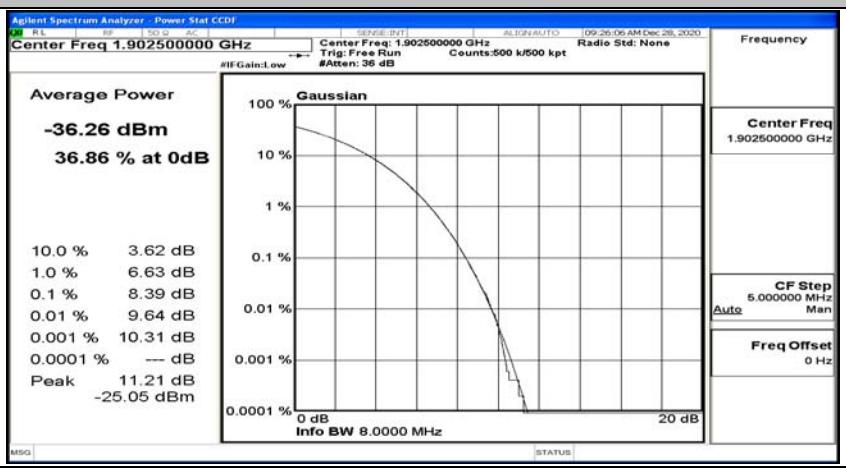
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



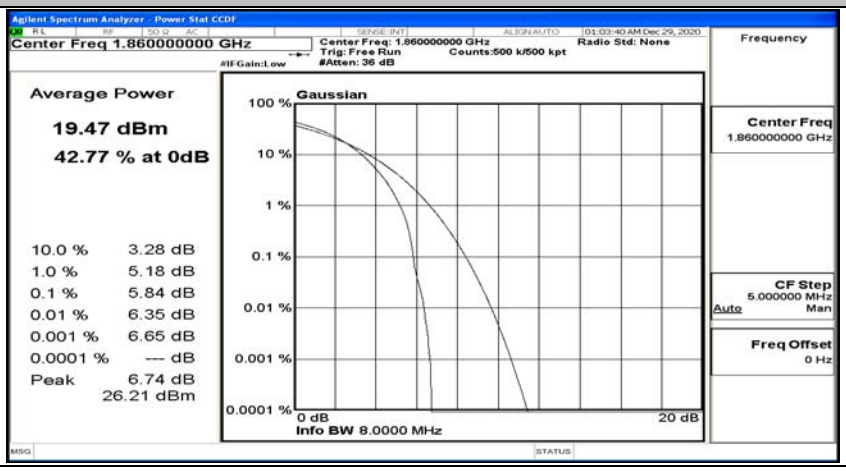
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM



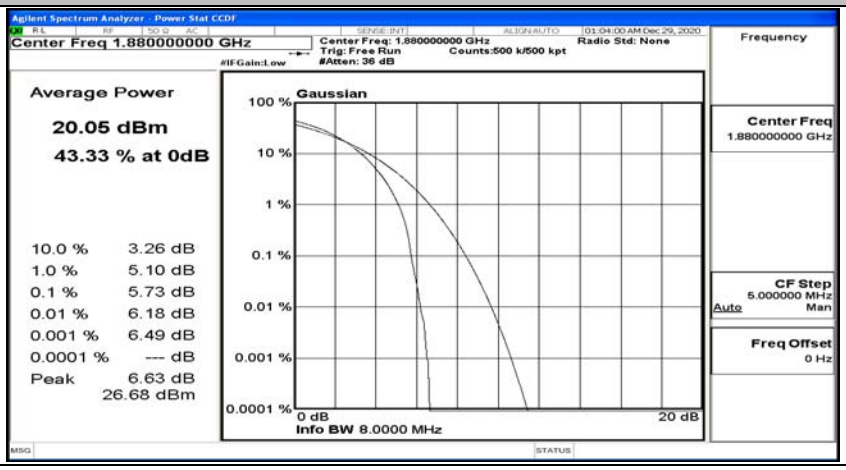
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



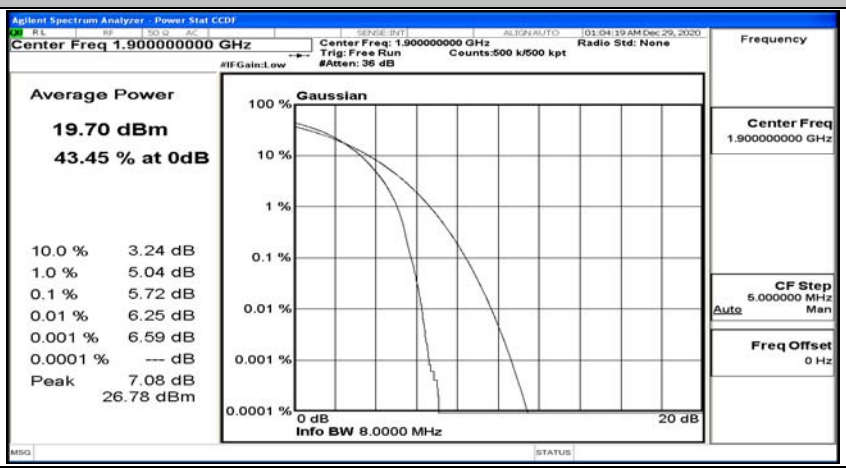
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



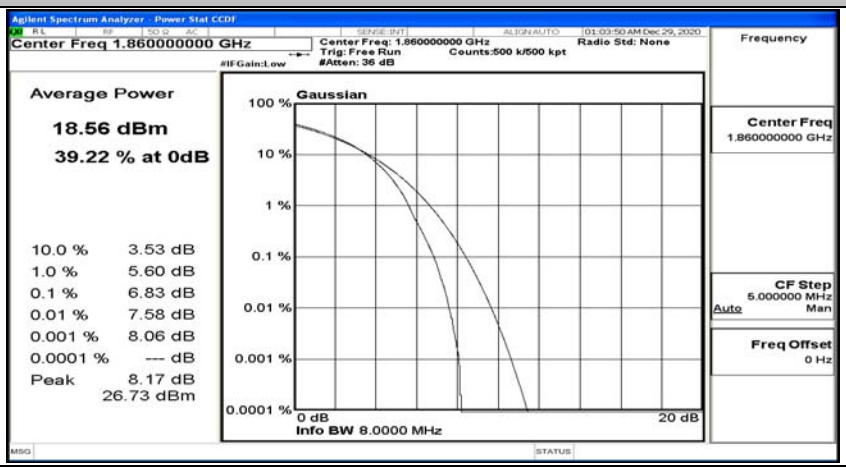
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK



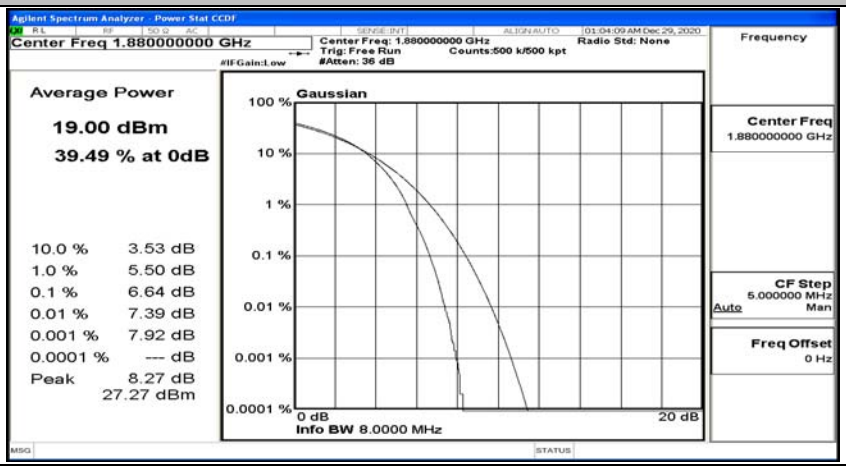
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



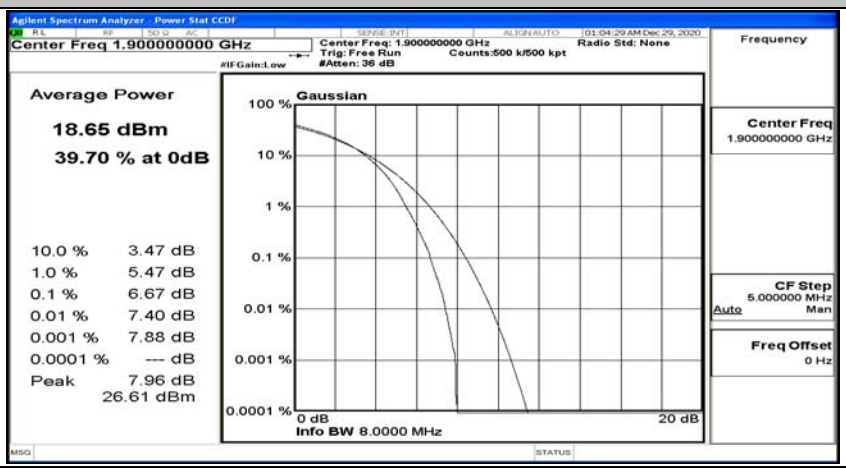
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM



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



B.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	1.0792	1.264	PASS
	MCH	1.0793	1.228	PASS
	HCH	1.0807	1.251	PASS
16QAM	LCH	1.0802	1.263	PASS
	MCH	1.0789	1.232	PASS
	HCH	1.0790	1.264	PASS

EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	2.6858	2.942	PASS
	MCH	2.6850	2.910	PASS
	HCH	2.6795	2.880	PASS
16QAM	LCH	2.6874	2.908	PASS
	MCH	2.6863	2.891	PASS
	HCH	2.6824	2.897	PASS

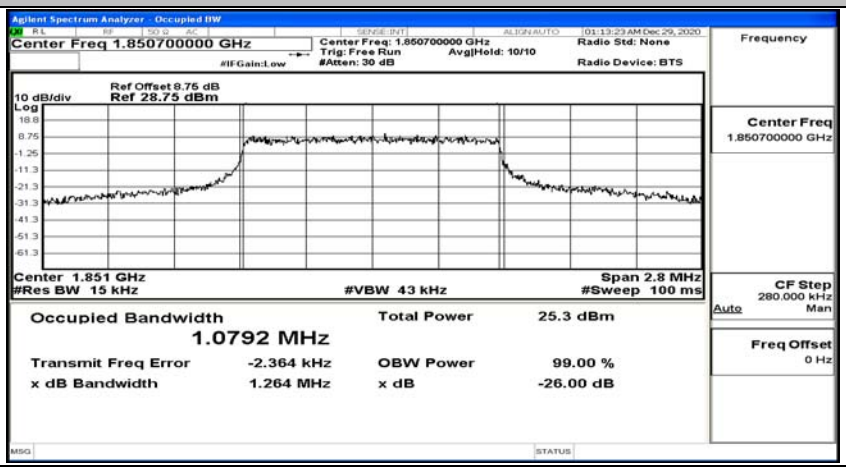
EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.4848	4.934	PASS
	MCH	4.4690	4.808	PASS
	HCH	4.4744	4.788	PASS
16QAM	LCH	4.4807	4.868	PASS
	MCH	4.4742	4.797	PASS
	HCH	4.4660	4.803	PASS

EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	8.9371	9.566	PASS
	MCH	8.9277	9.422	PASS
	HCH	8.9148	9.420	PASS
16QAM	LCH	8.9210	9.515	PASS
	MCH	8.9252	9.515	PASS
	HCH	8.9053	9.427	PASS

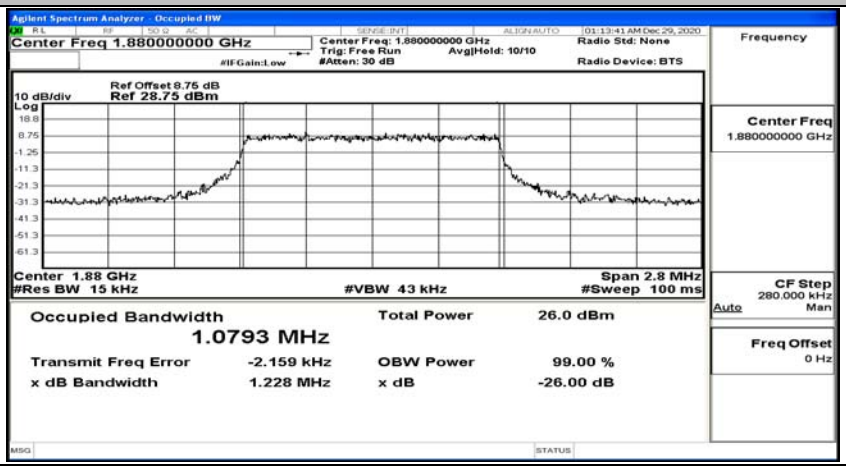
EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	13.378	14.32	PASS
	MCH	13.375	14.07	PASS
	HCH	13.362	13.97	PASS
16QAM	LCH	13.387	14.03	PASS
	MCH	13.362	14.02	PASS
	HCH	13.341	14.00	PASS

EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	17.837	18.62	PASS
	MCH	17.792	18.54	PASS
	HCH	17.797	18.59	PASS
16QAM	LCH	17.851	18.62	PASS
	MCH	17.788	18.66	PASS
	HCH	17.801	18.54	PASS

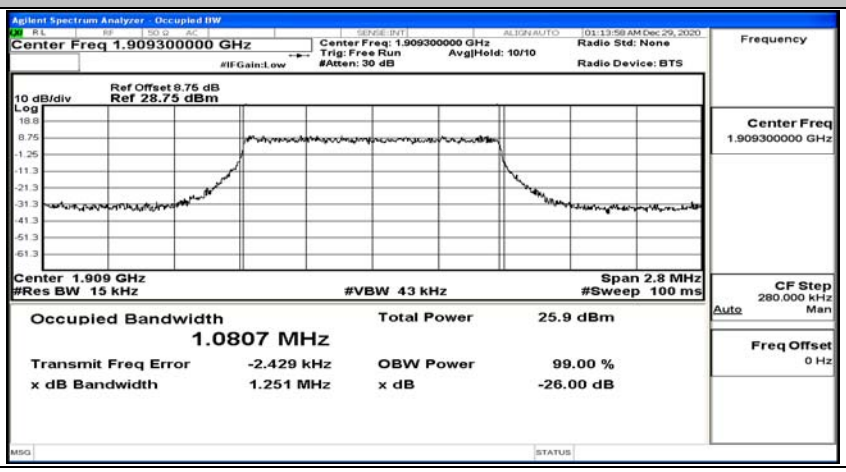
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



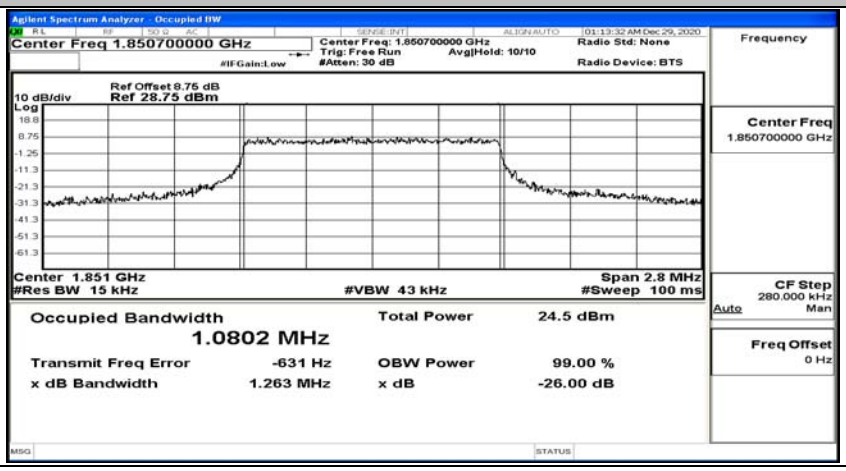
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



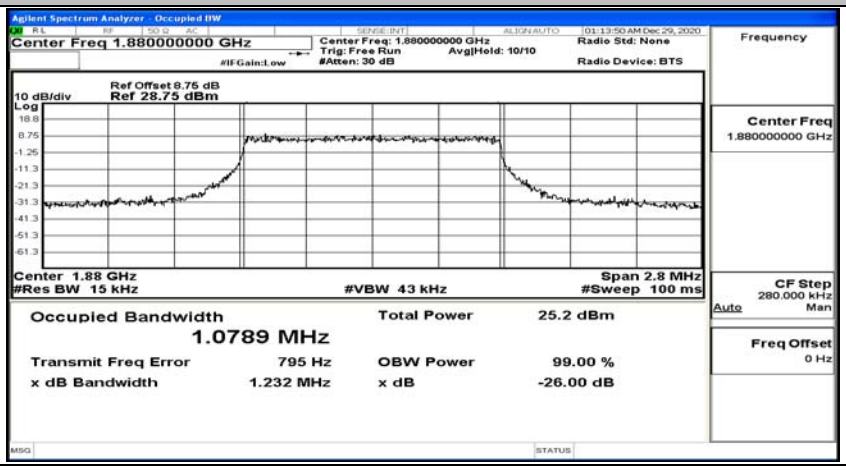
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



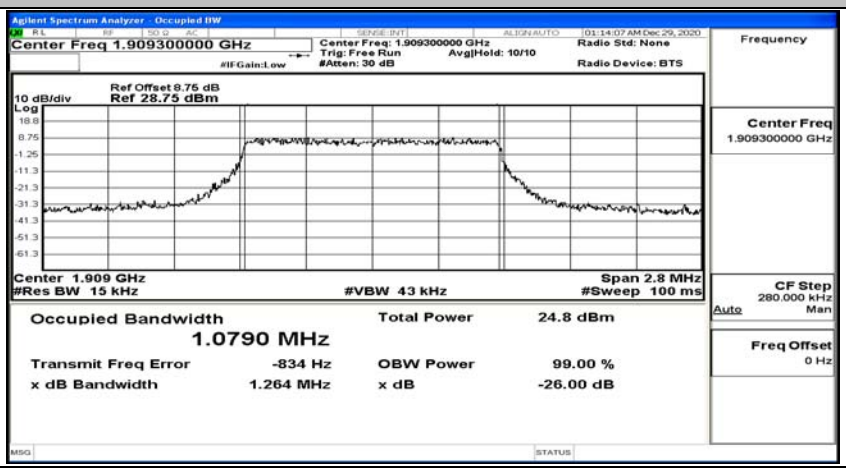
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



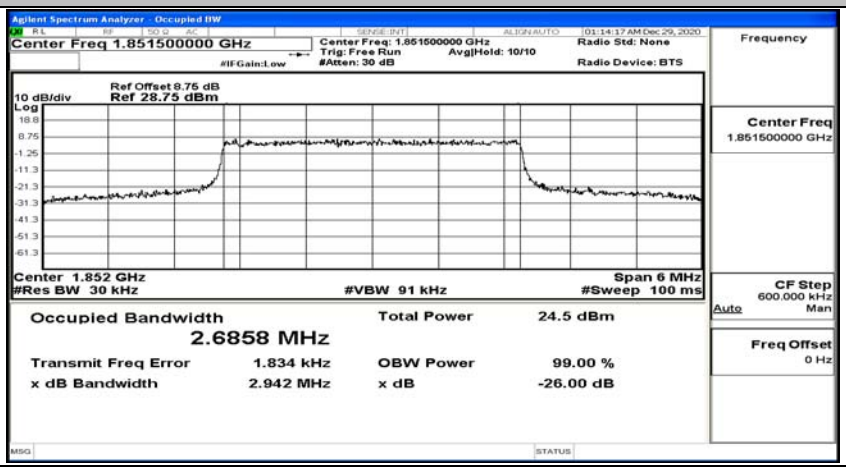
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



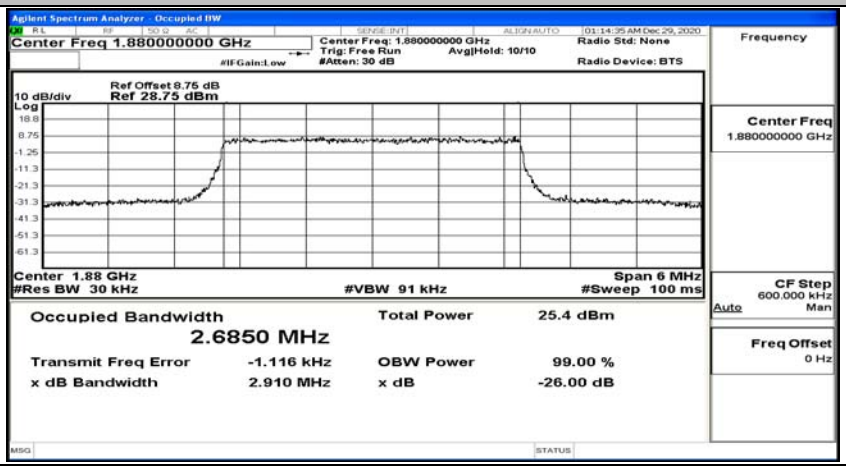
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



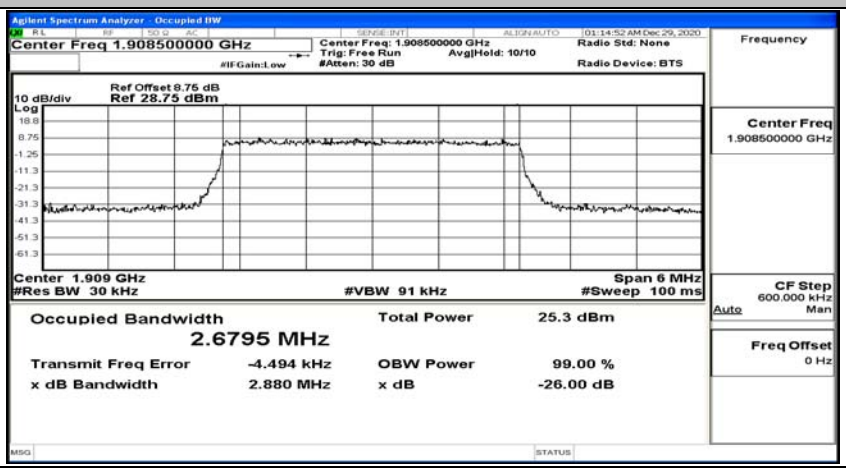
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



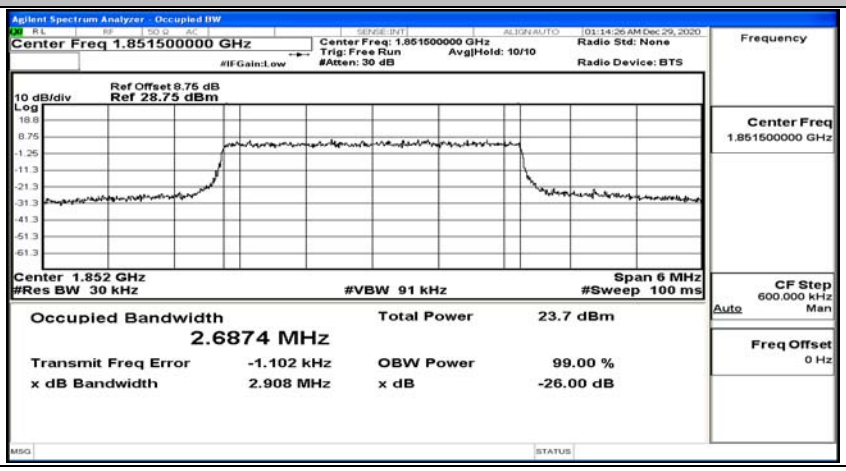
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



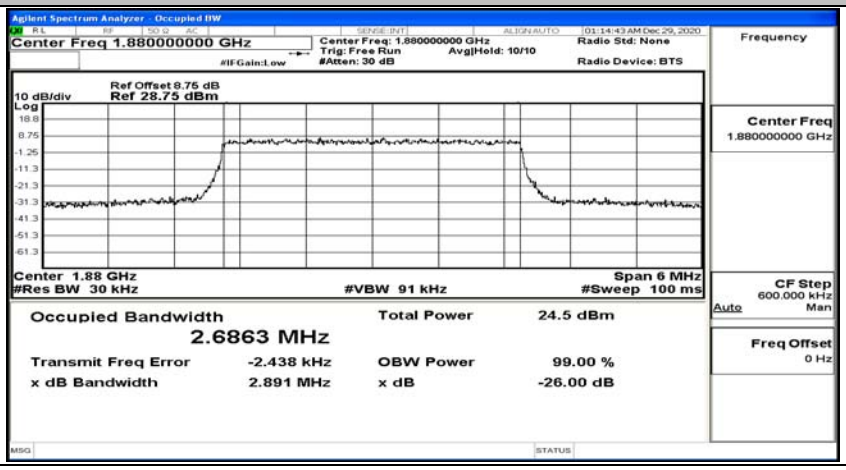
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



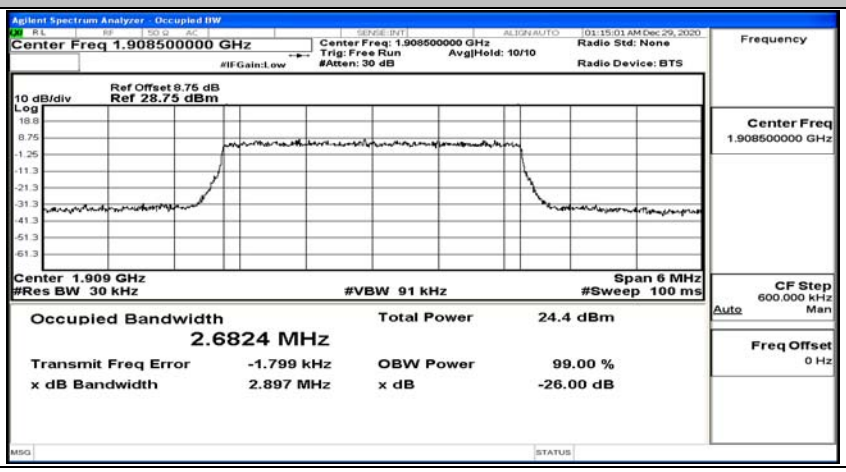
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



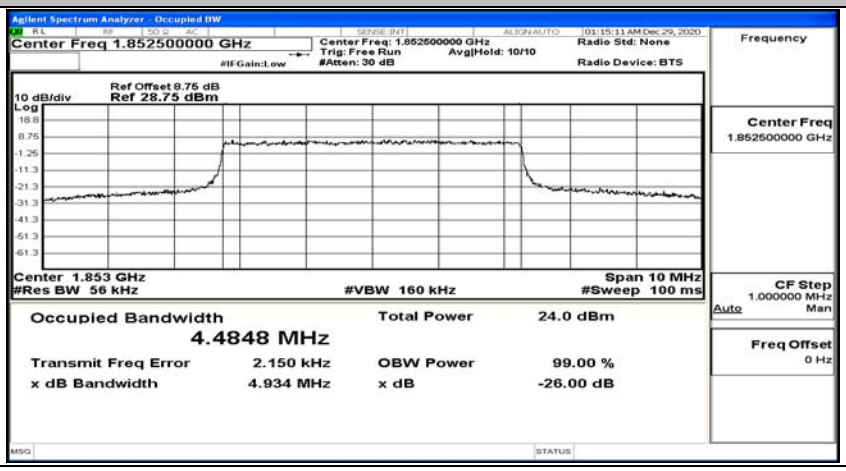
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



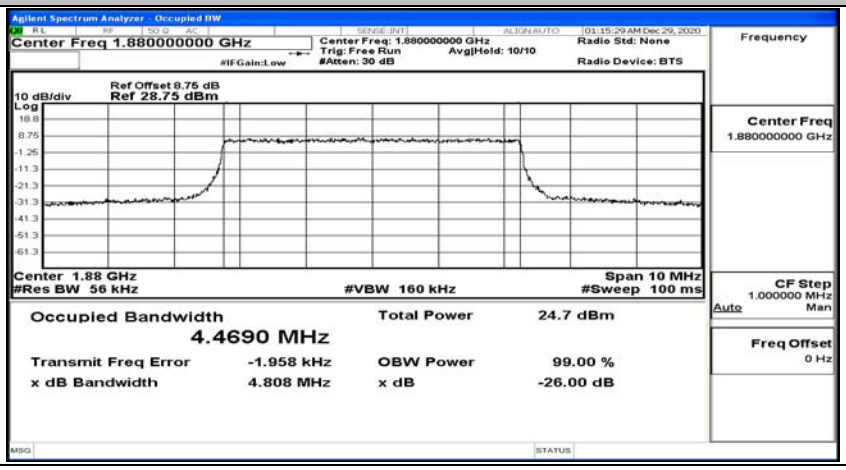
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



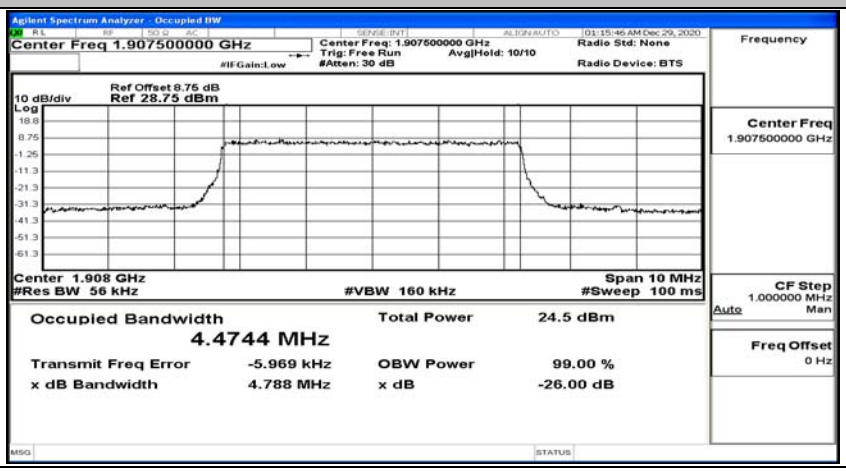
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



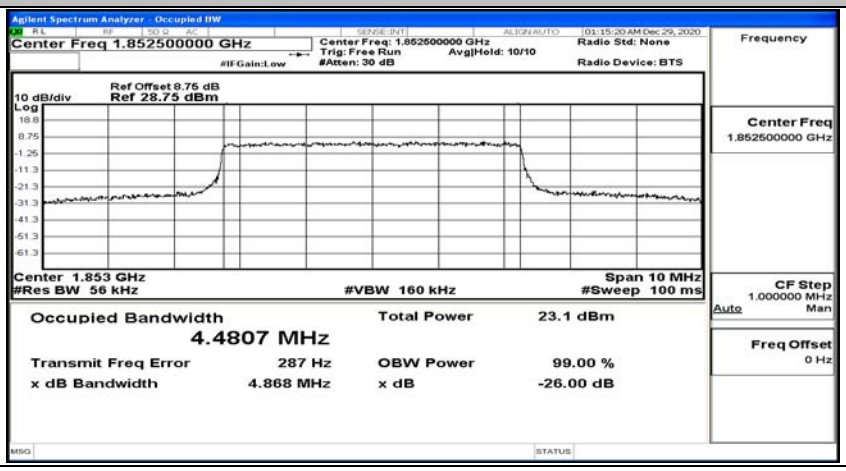
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



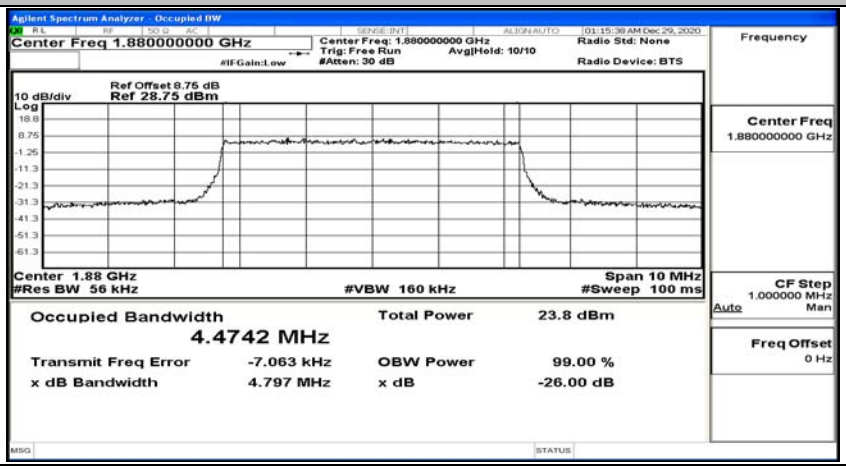
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



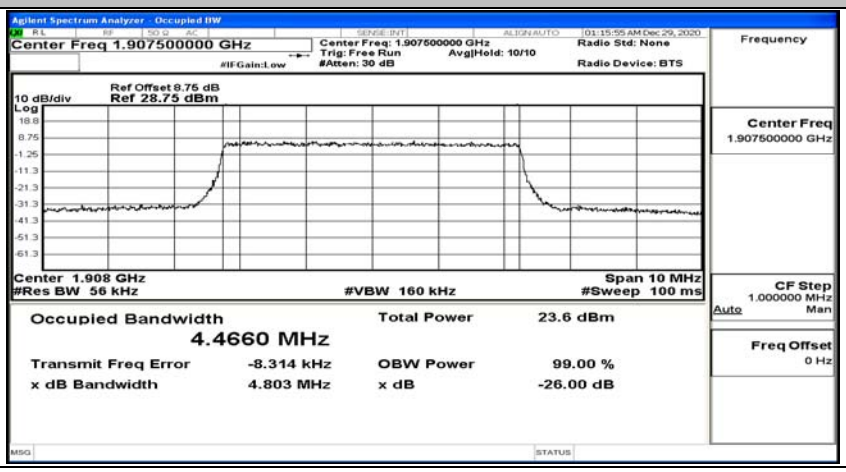
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



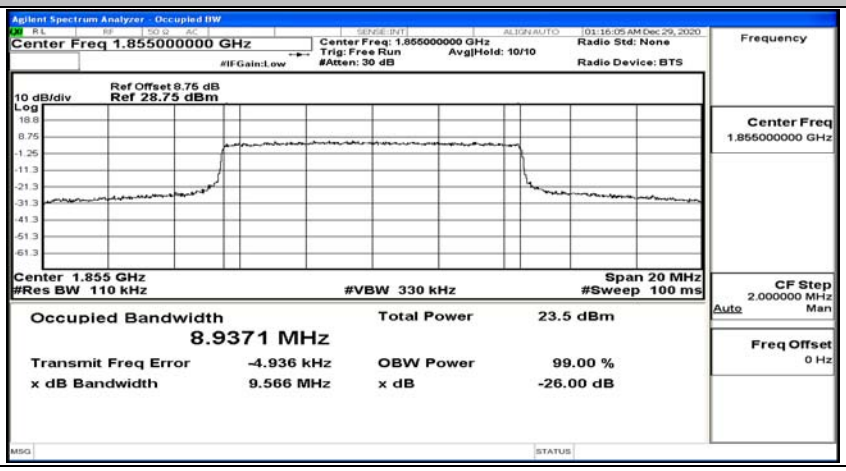
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



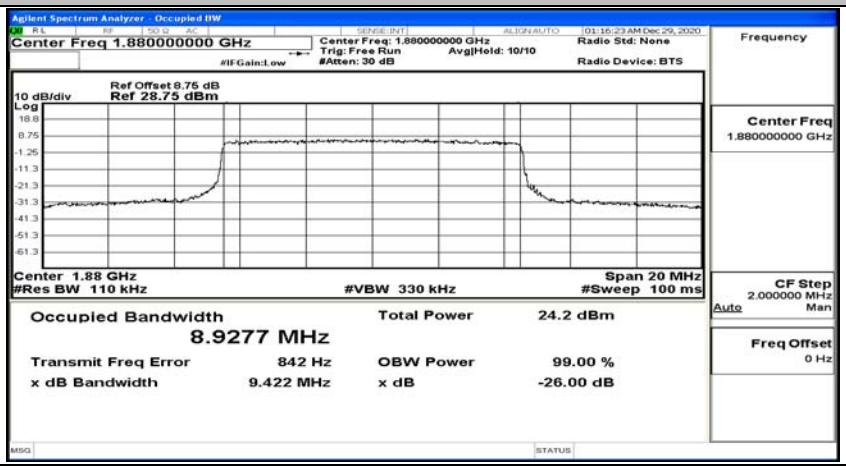
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



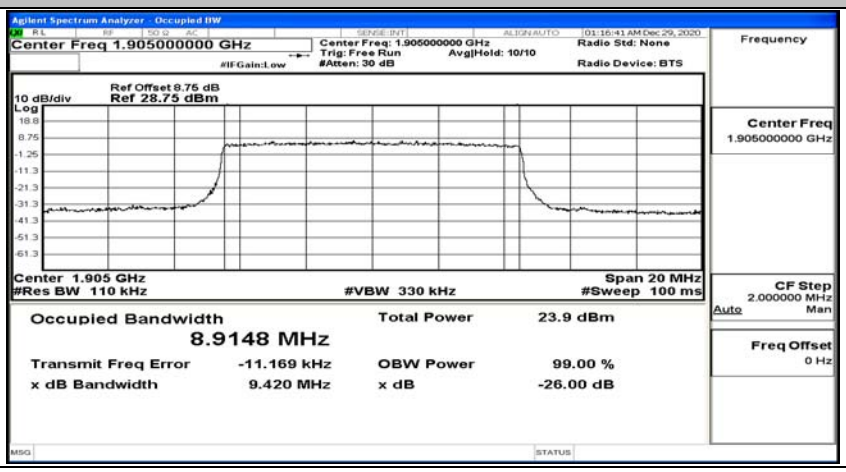
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



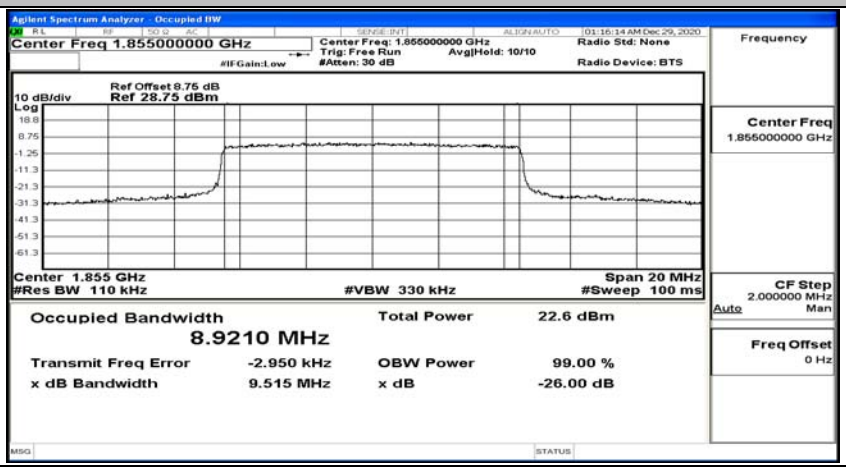
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



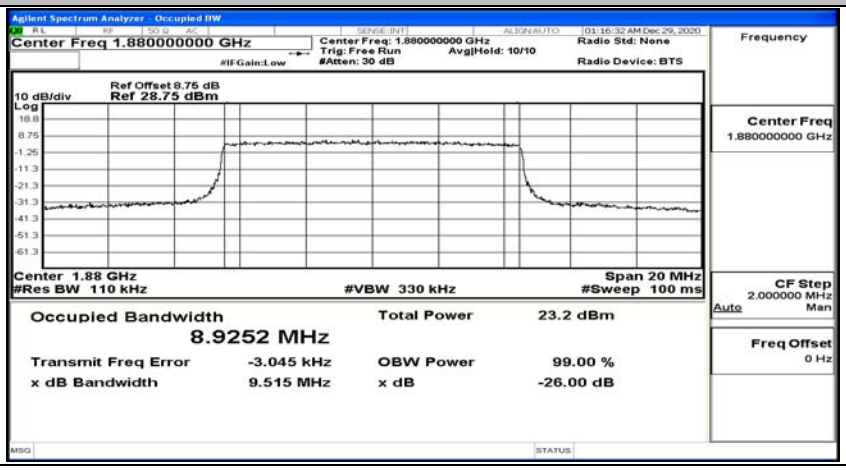
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



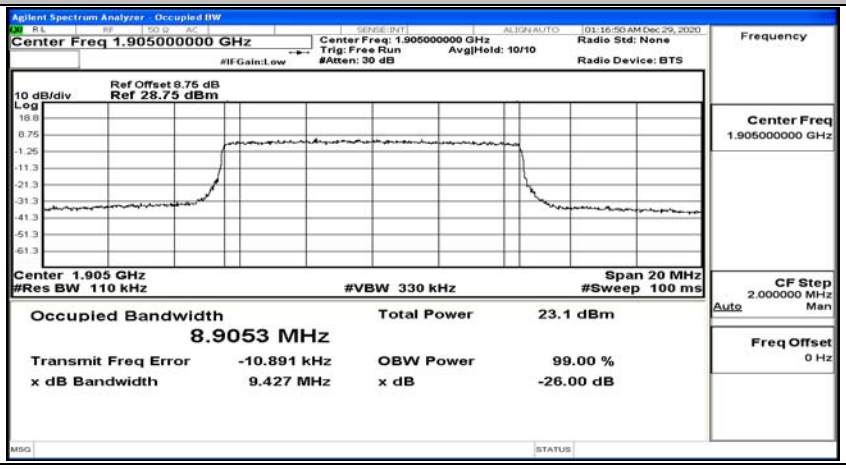
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



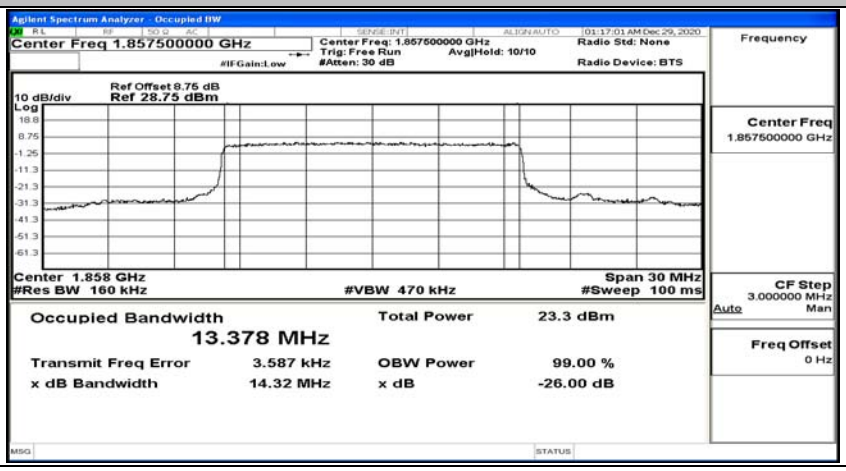
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



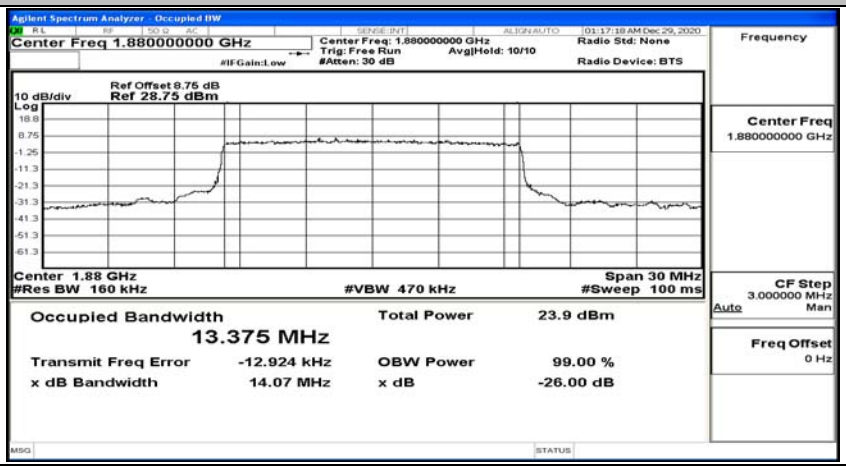
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



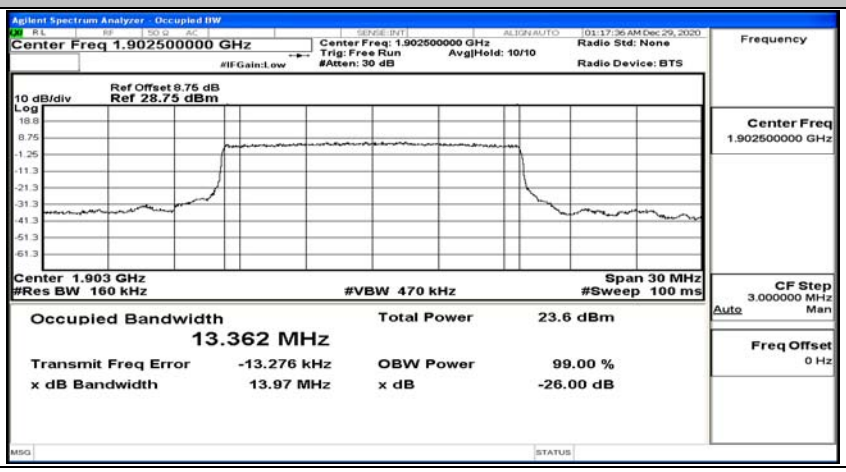
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



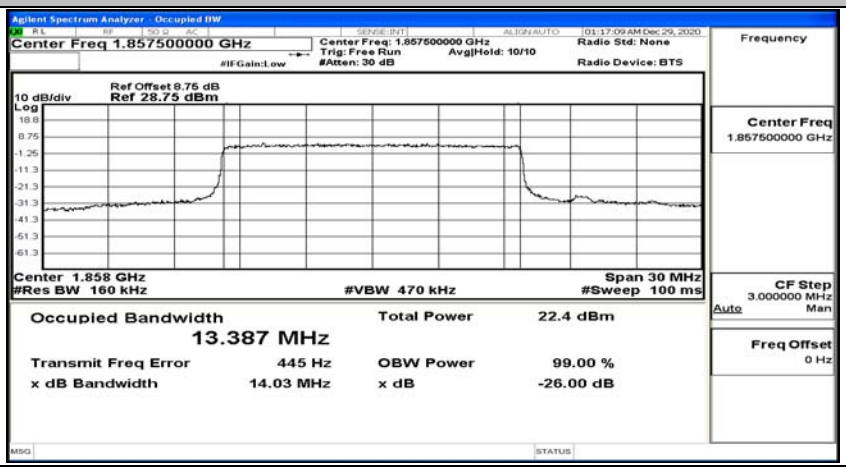
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK



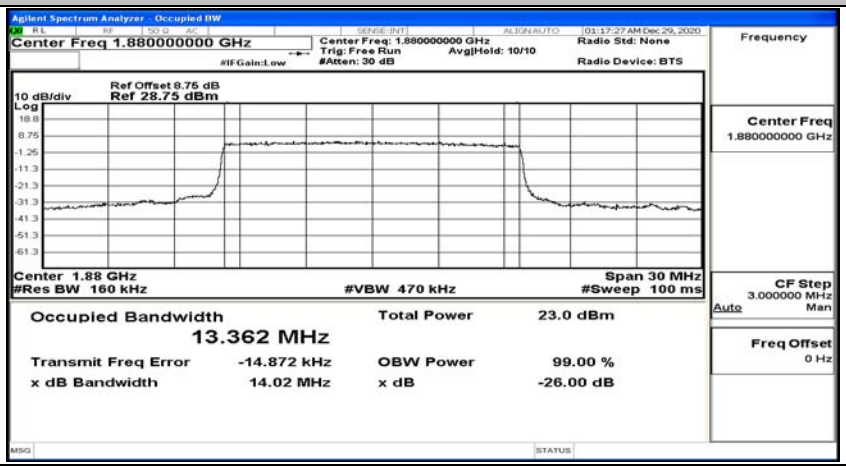
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



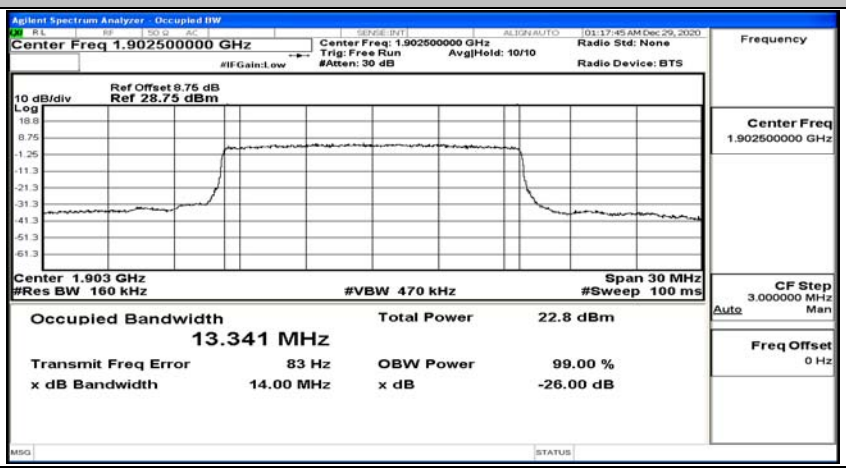
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



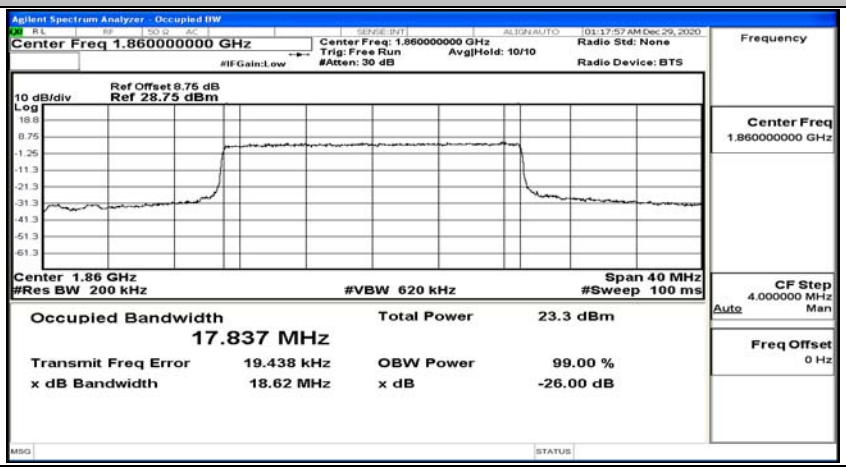
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM



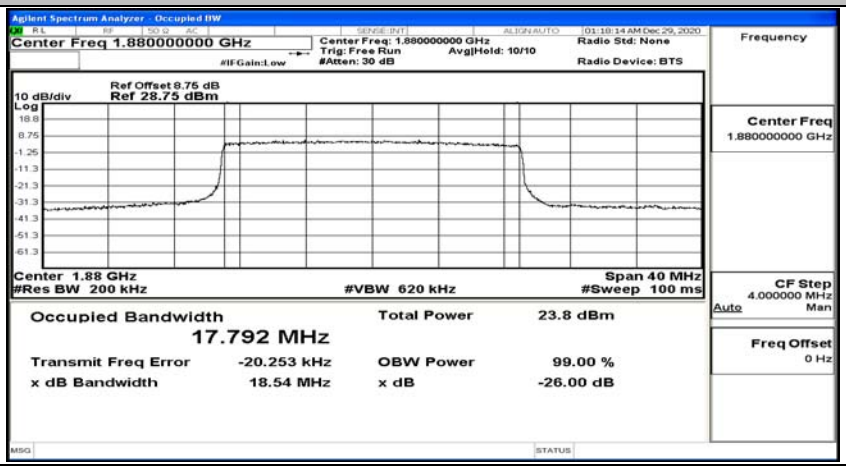
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



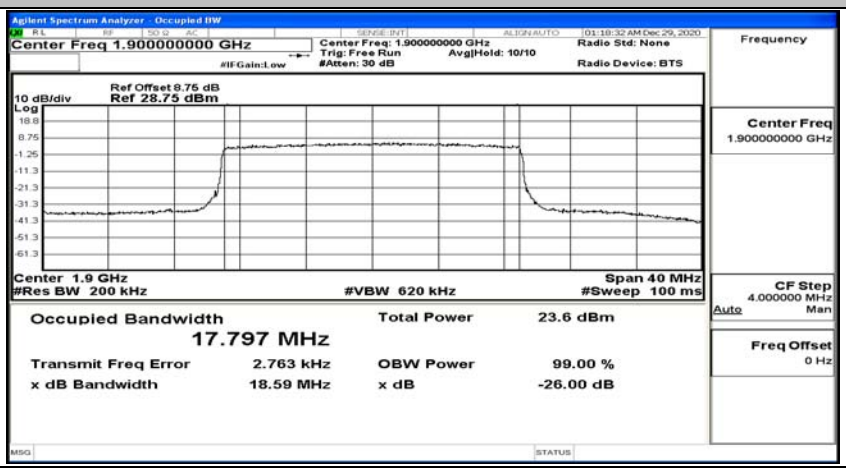
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



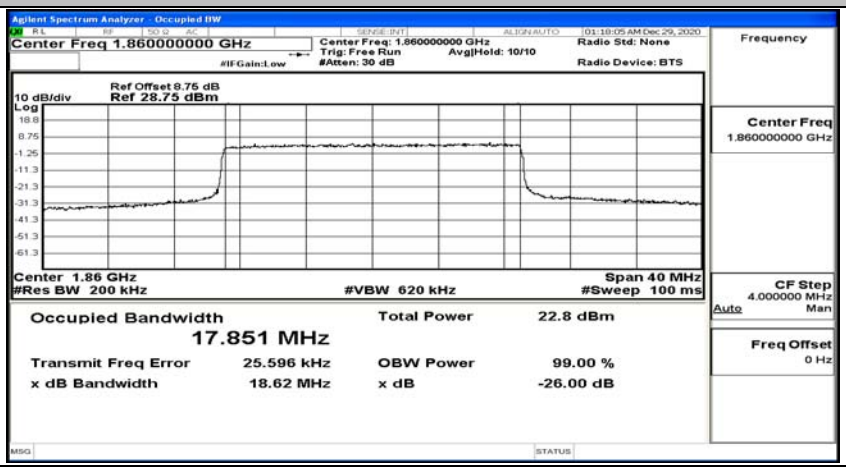
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK



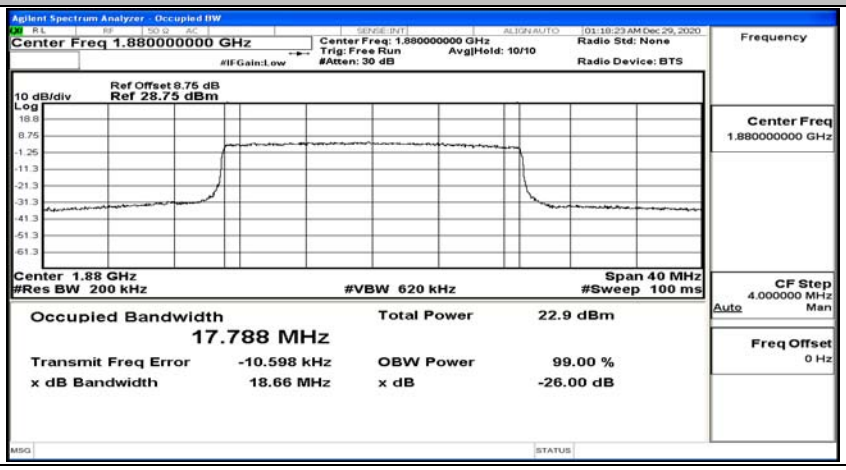
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



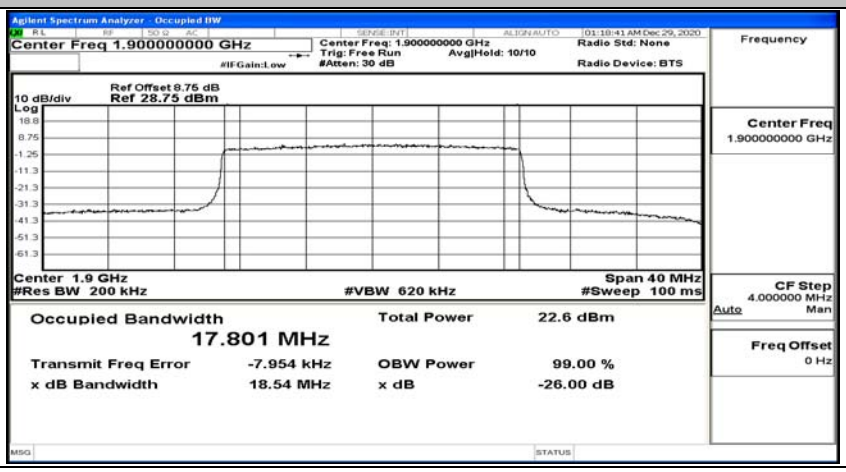
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM



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

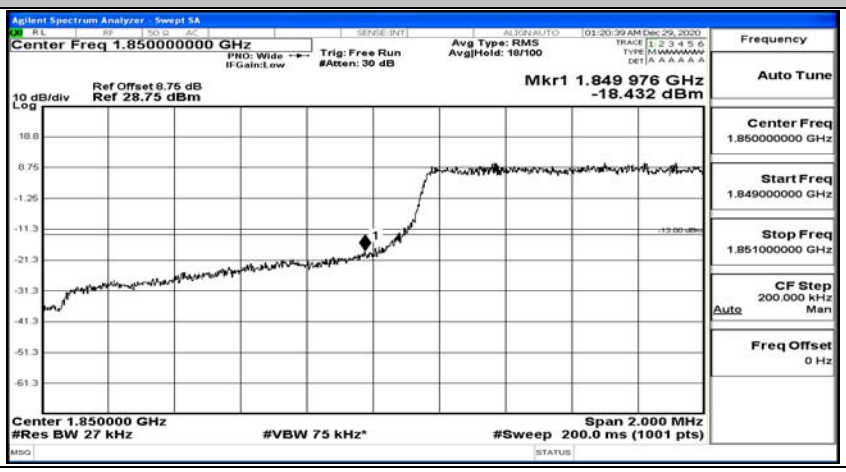


EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM

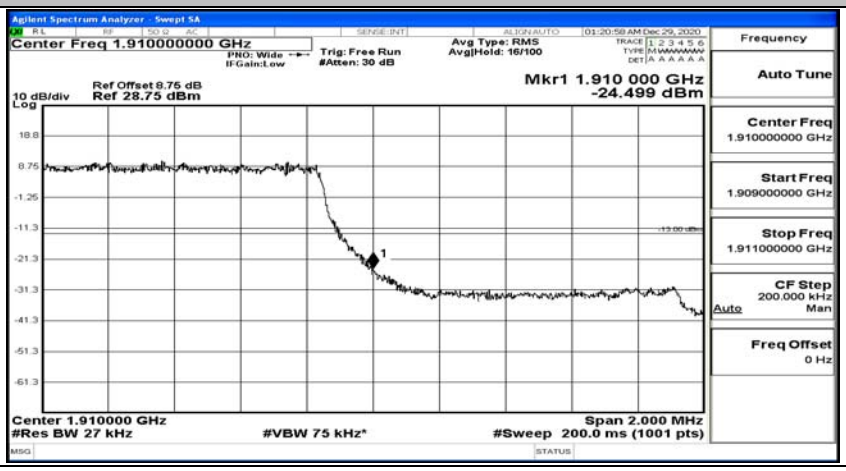


B.4 Band Edge

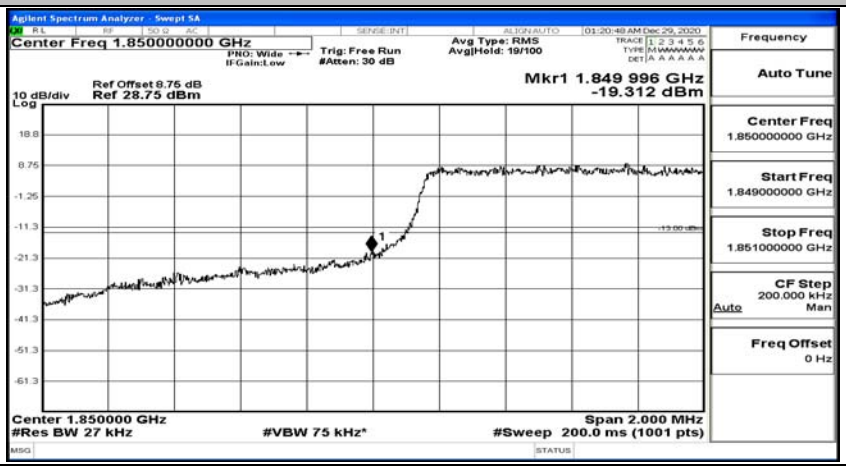
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



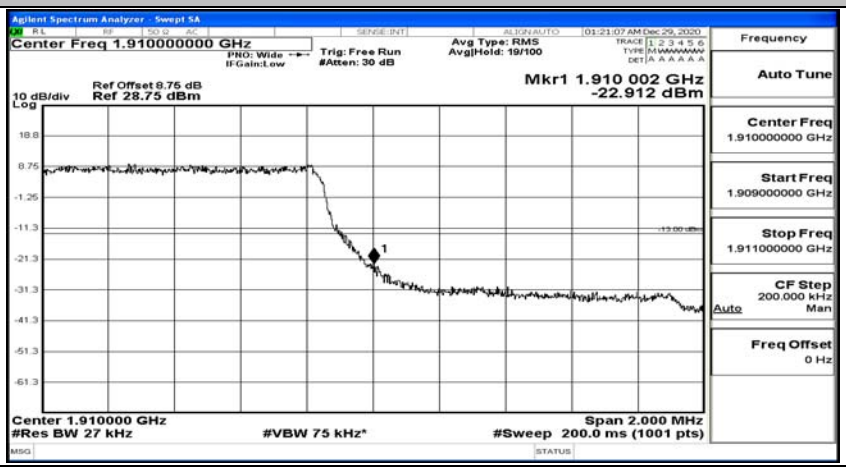
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



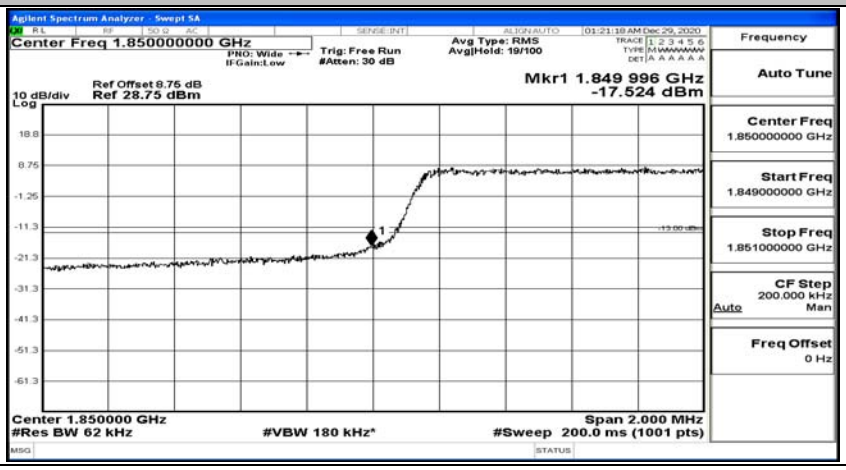
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



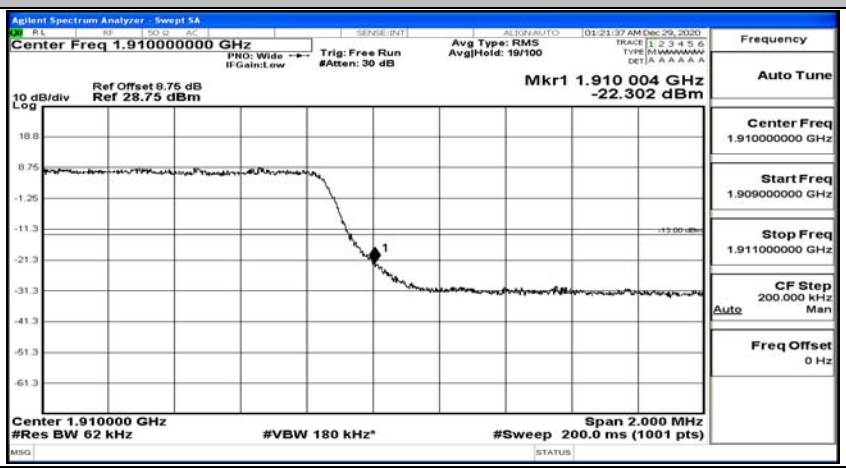
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



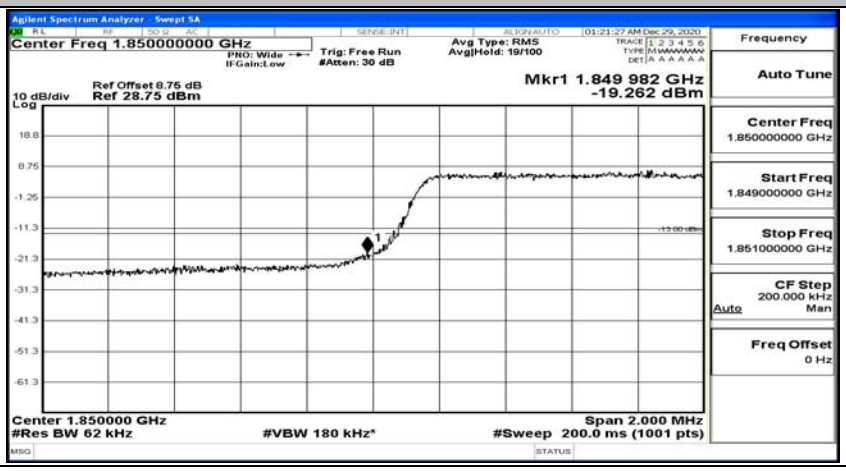
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



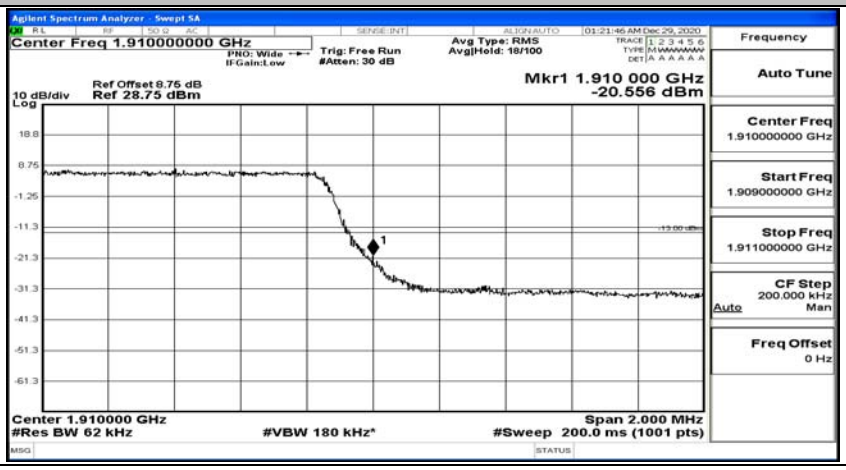
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



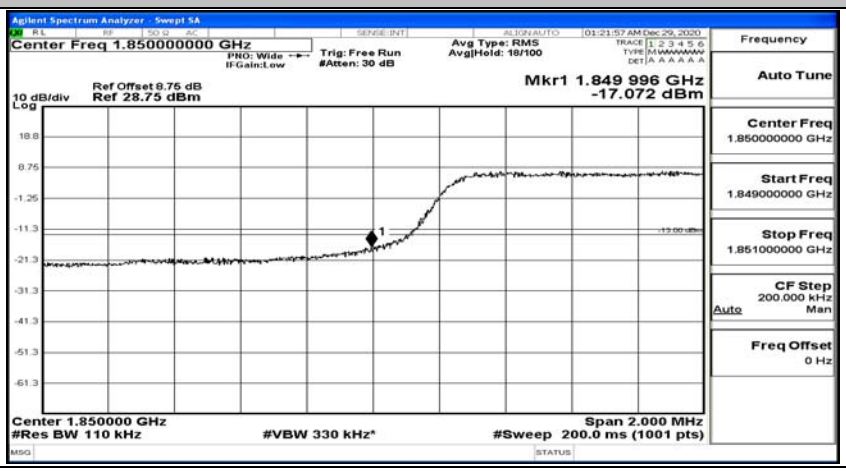
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



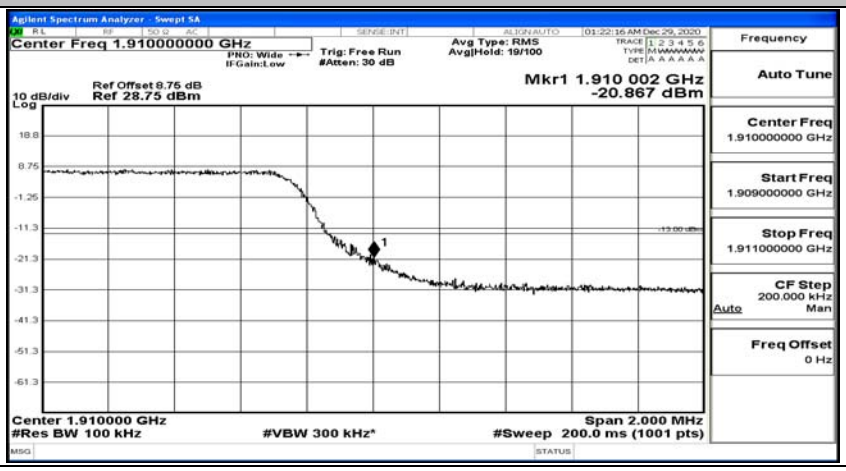
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



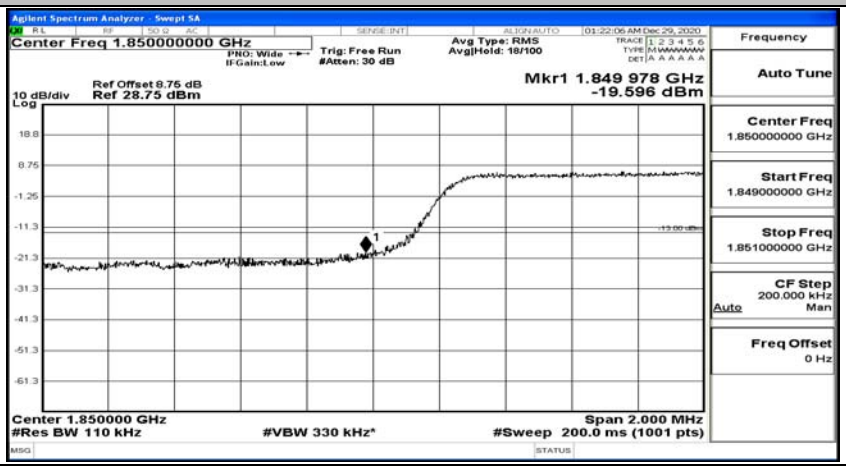
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



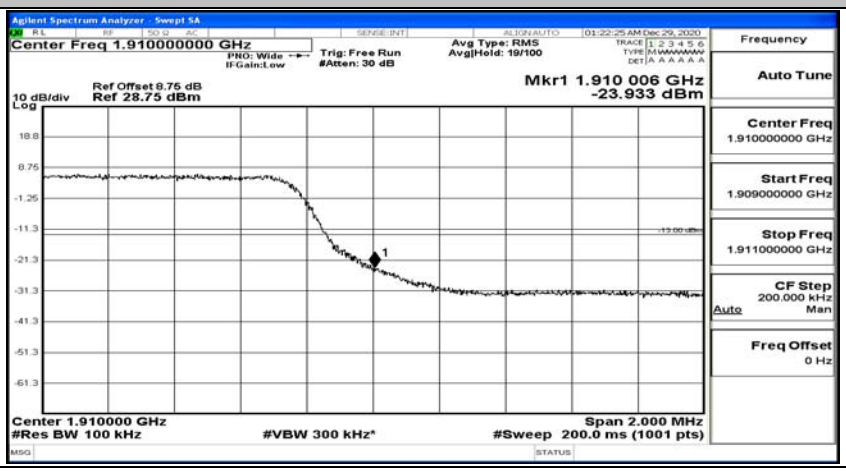
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



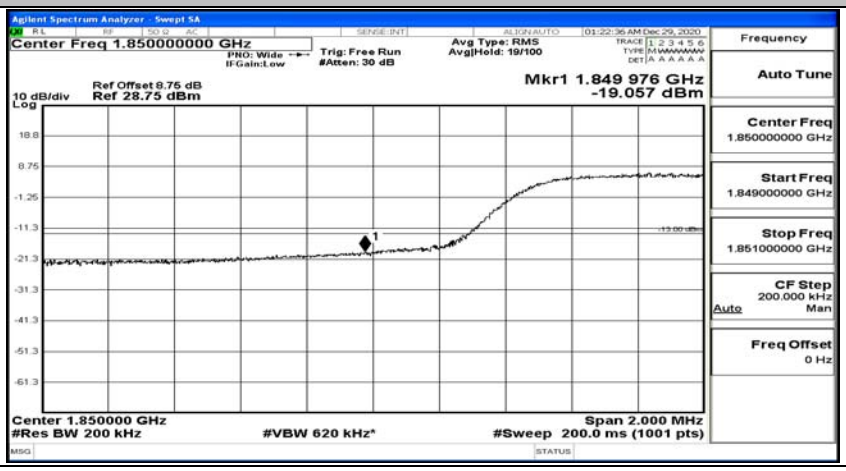
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



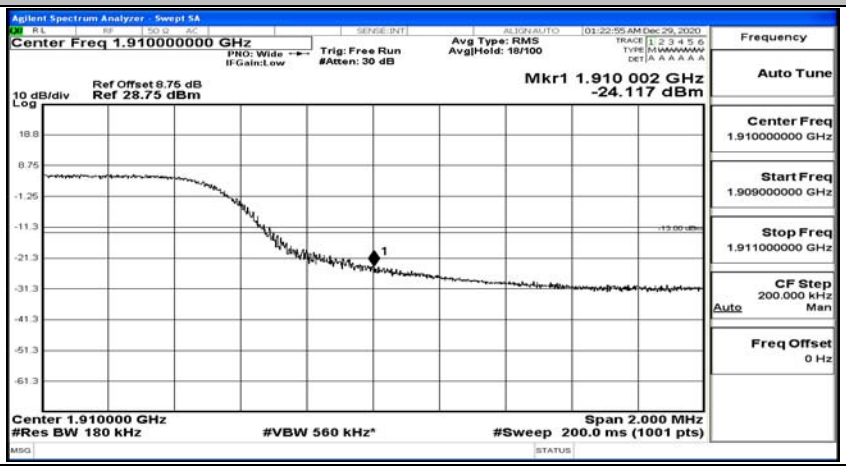
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



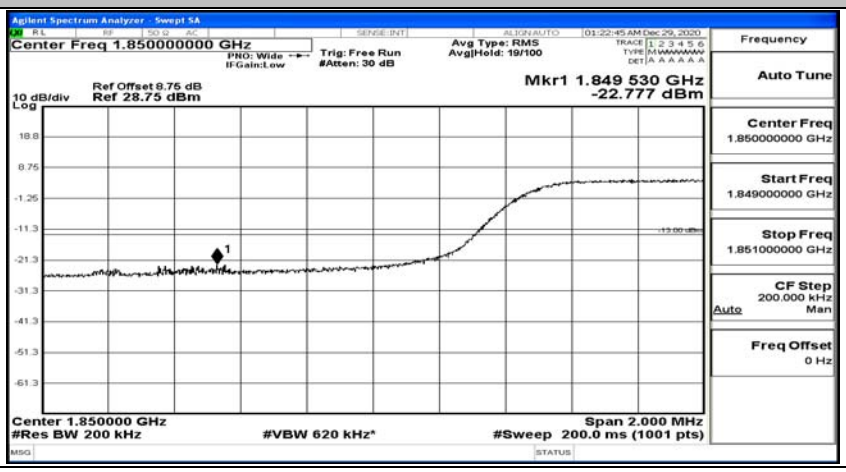
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



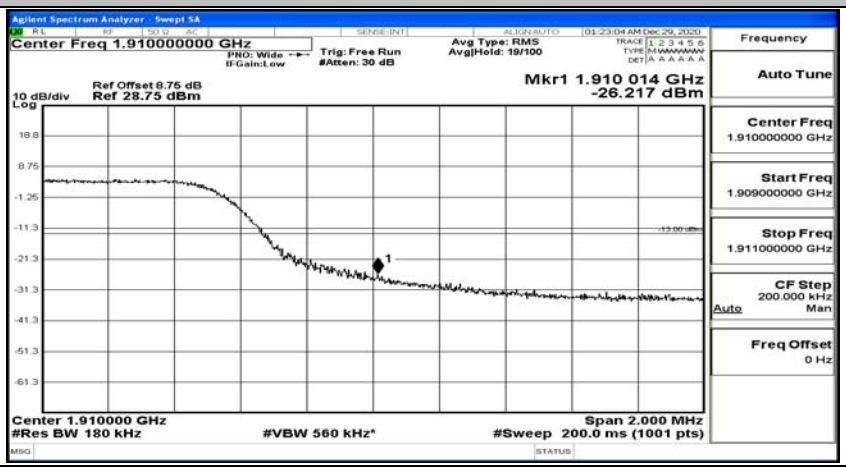
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



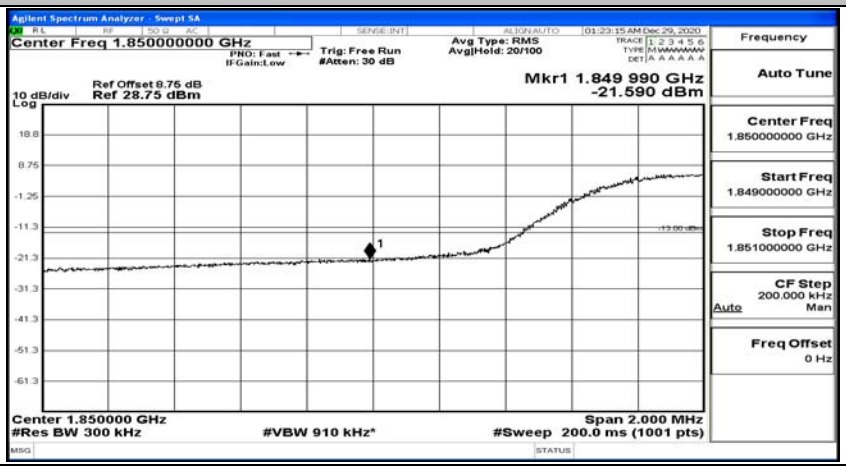
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



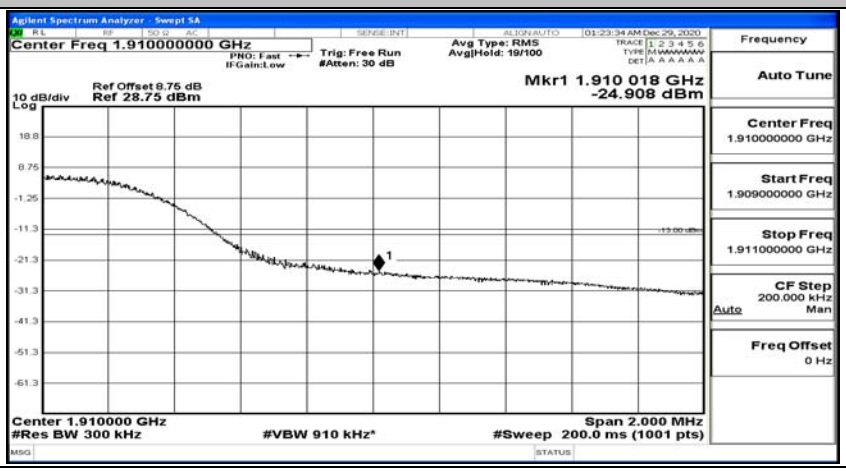
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



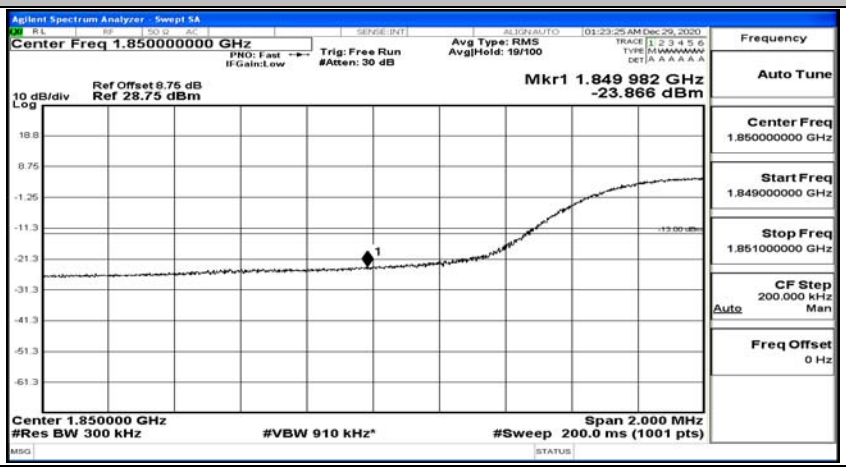
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



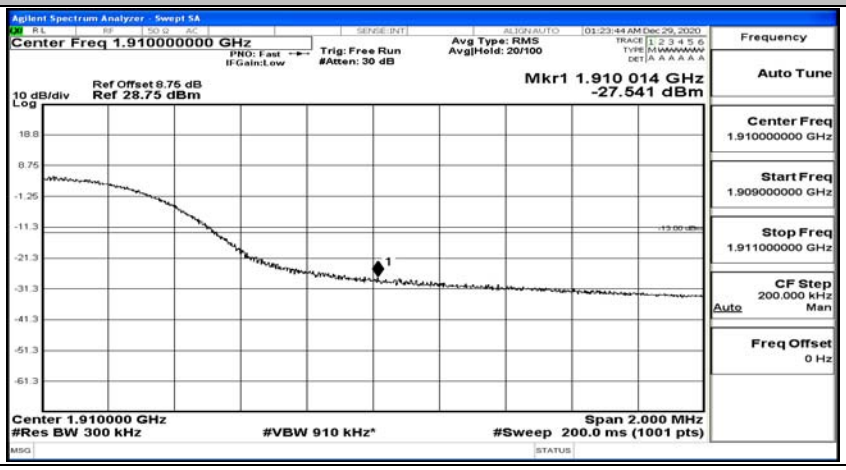
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



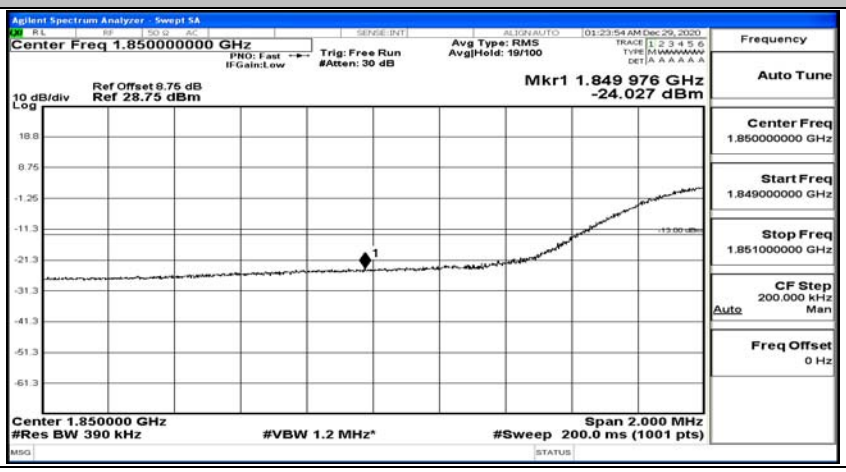
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



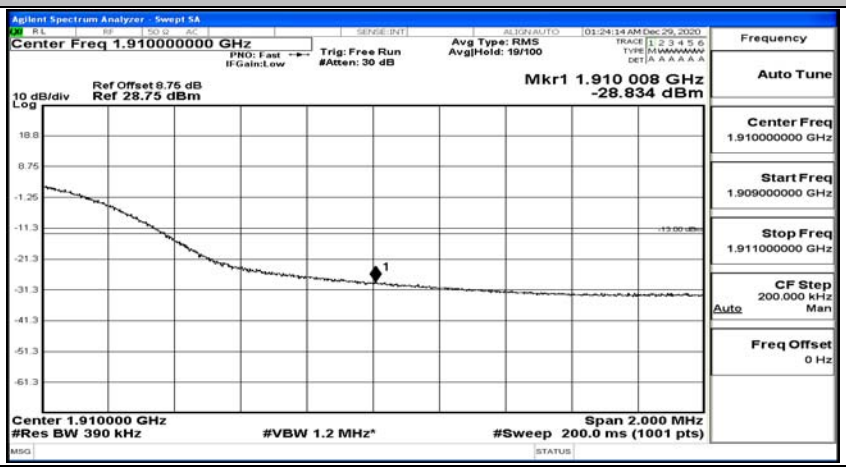
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



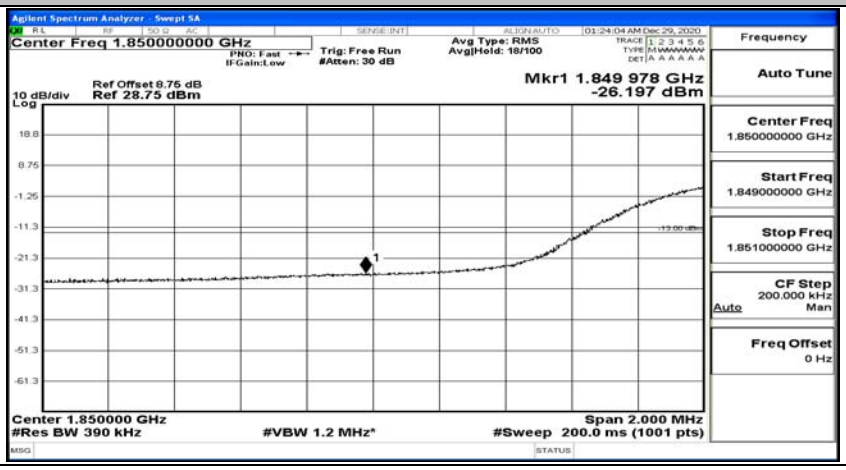
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



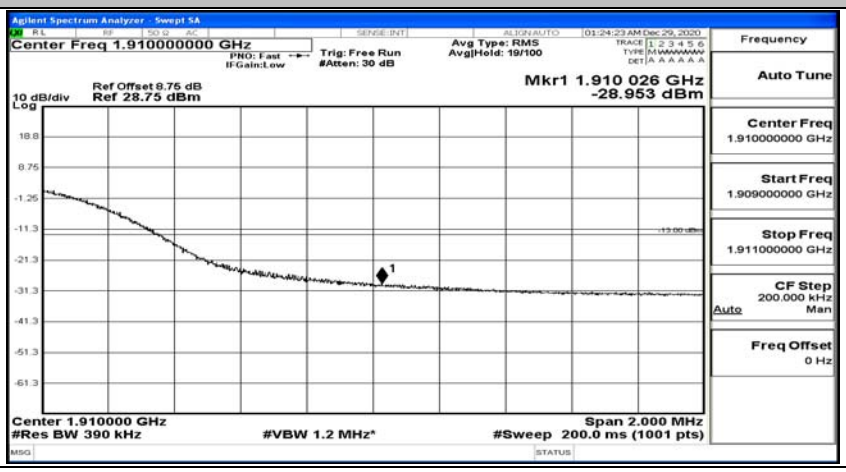
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



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



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



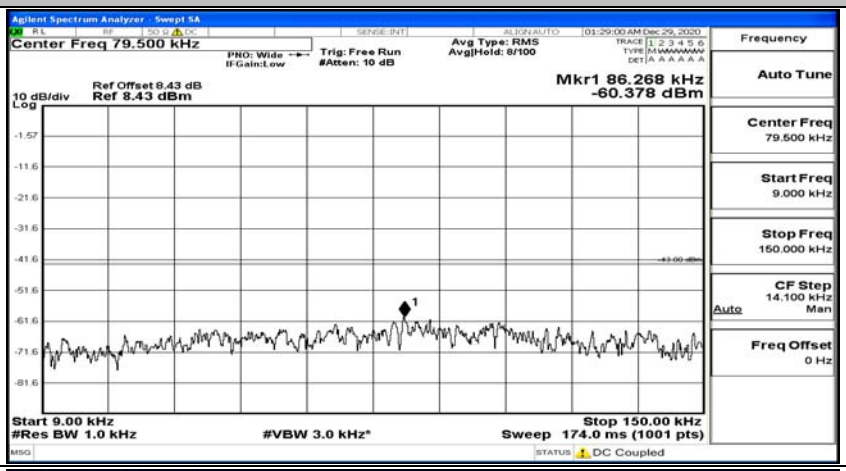
B.5 Conducted Spurious Emission

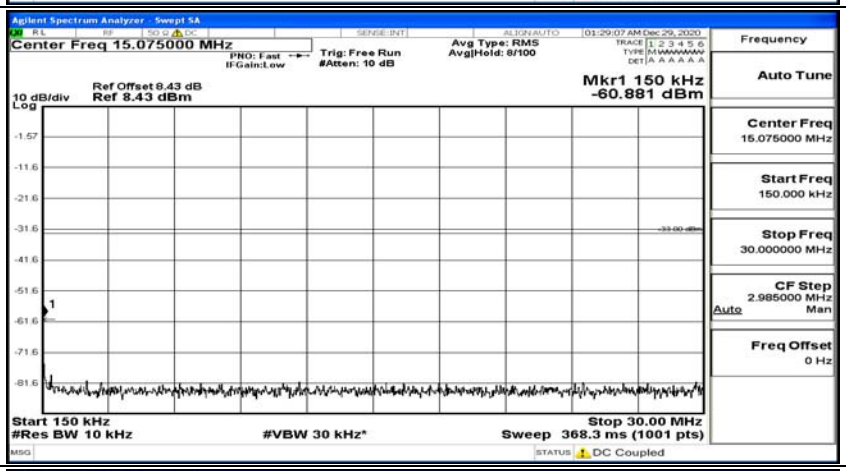
Appendix E: Conducted Spurious Emission

Test Graphs

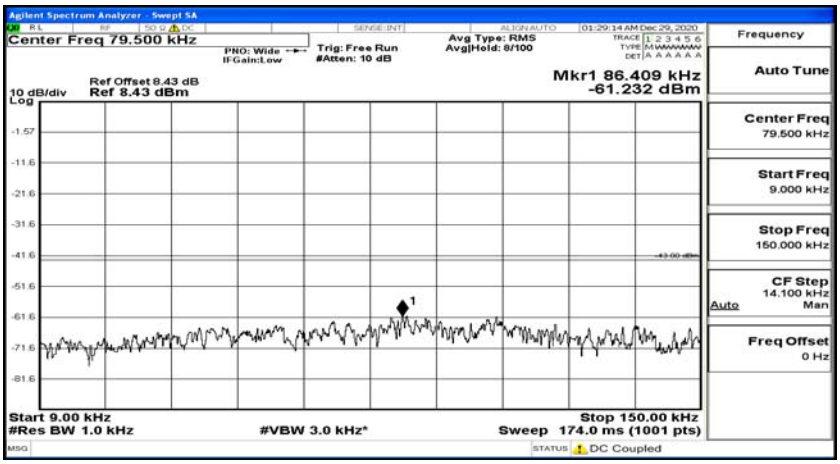
Channel Bandwidth: 1.4 MHz

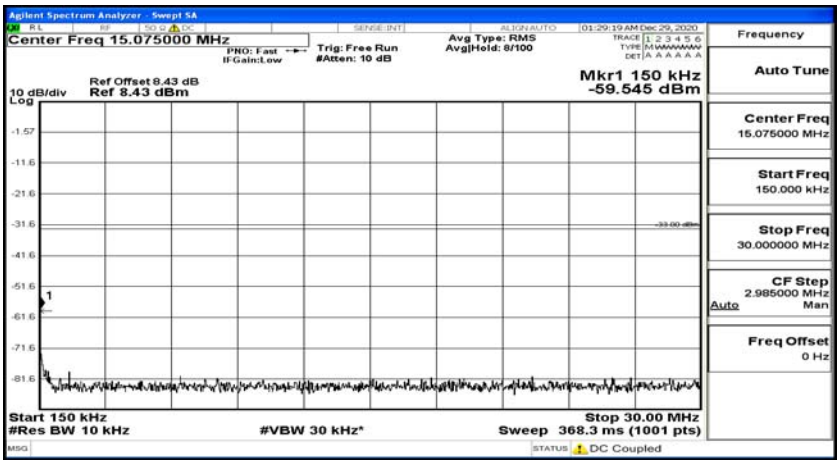
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#0

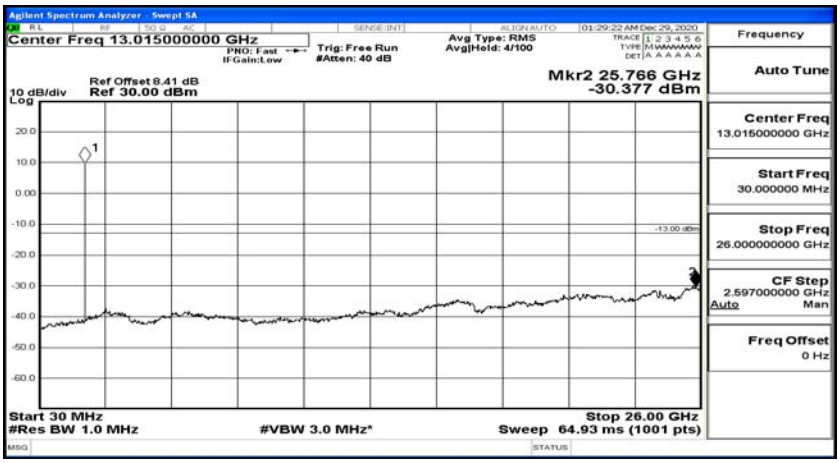




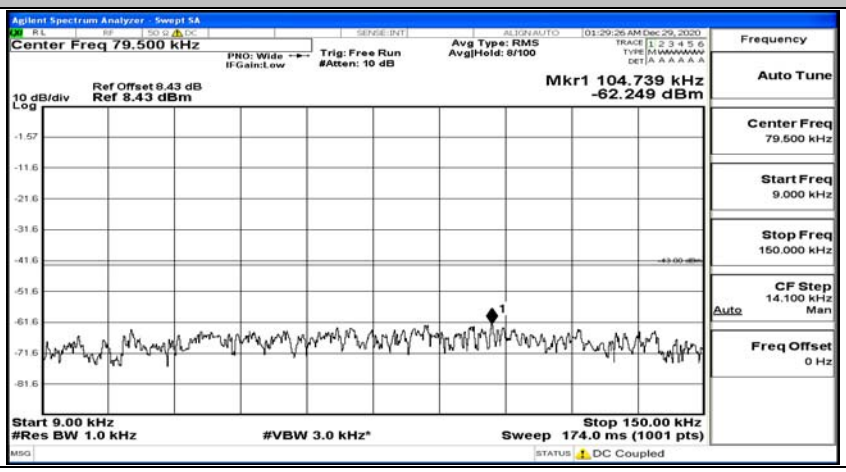
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#3

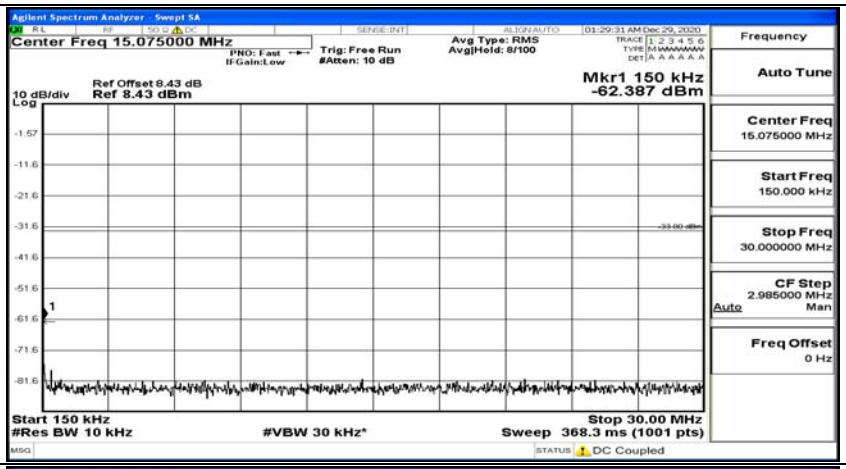


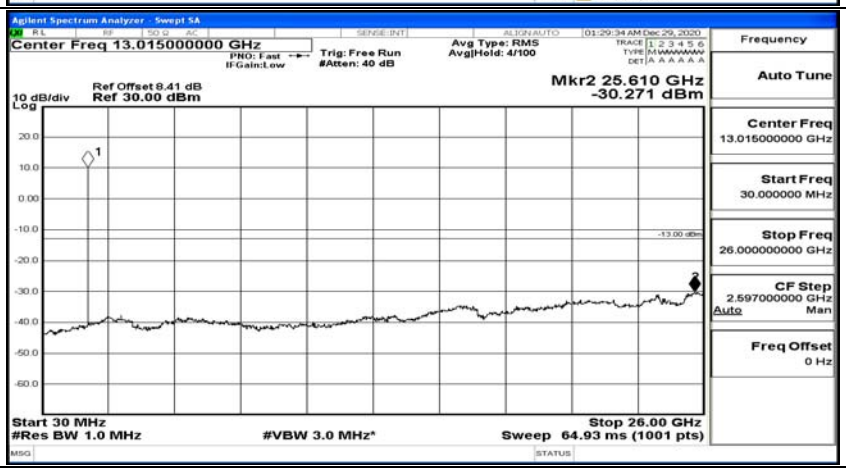




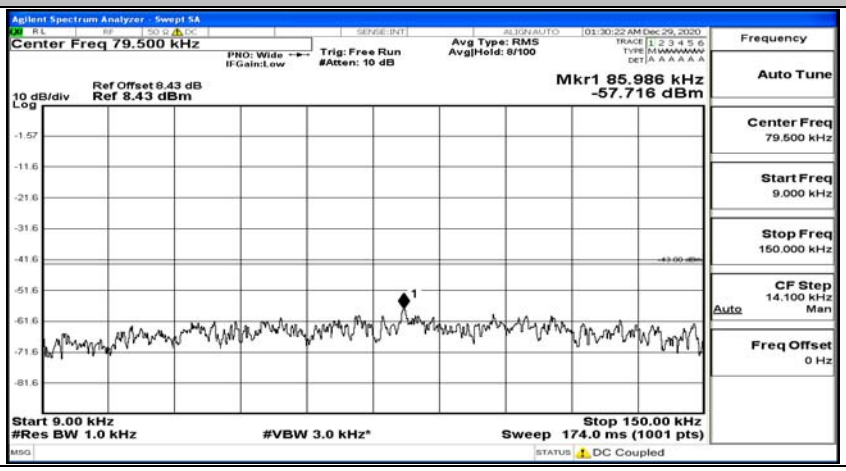
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#5

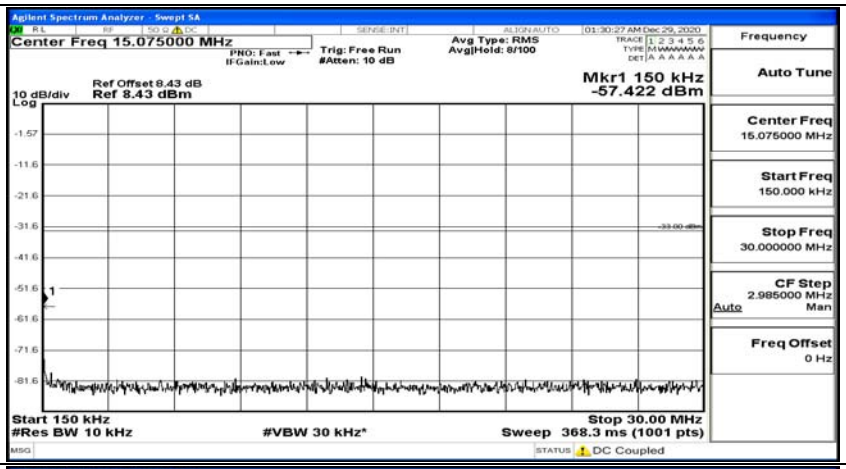


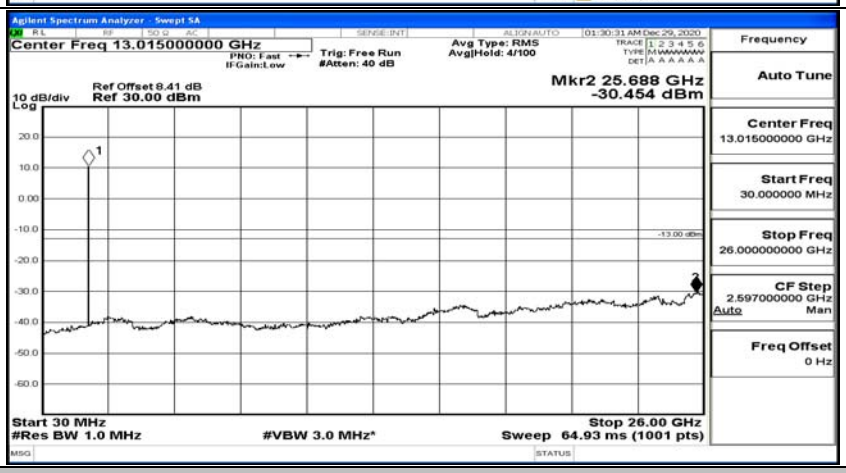




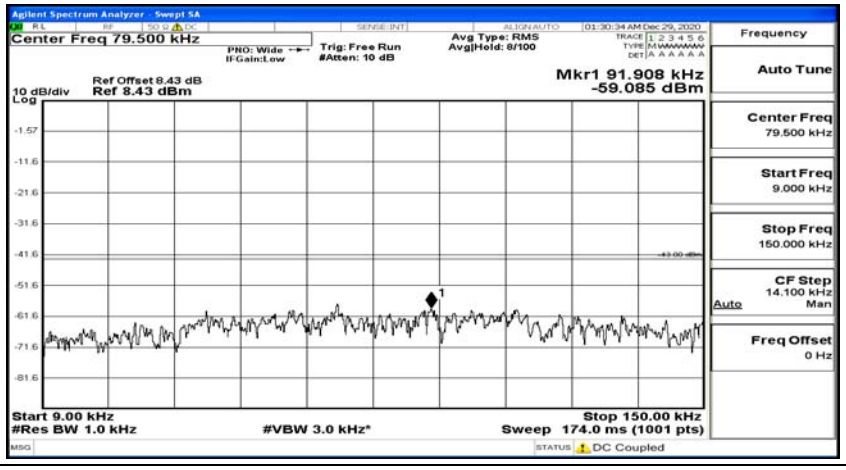
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#0

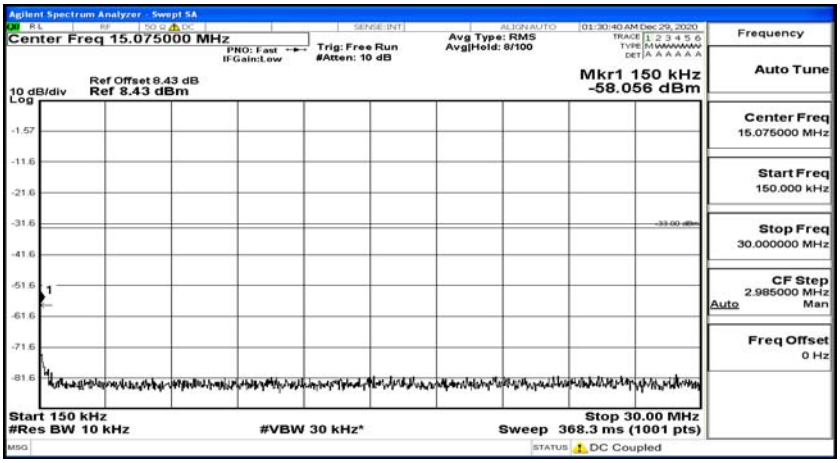


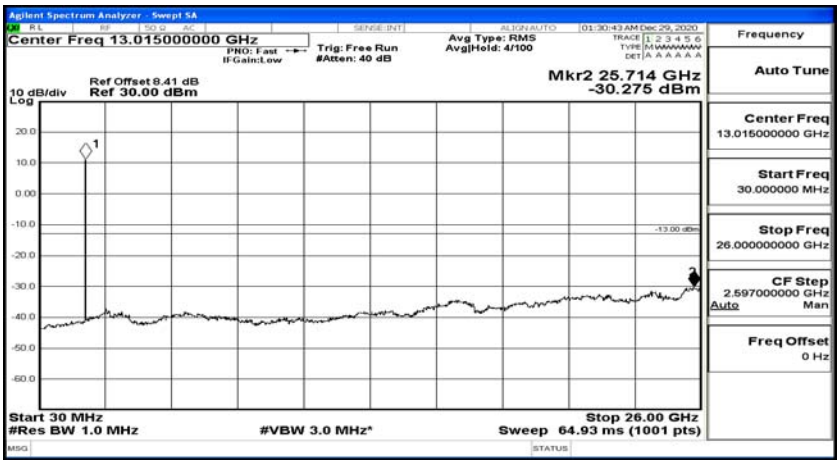




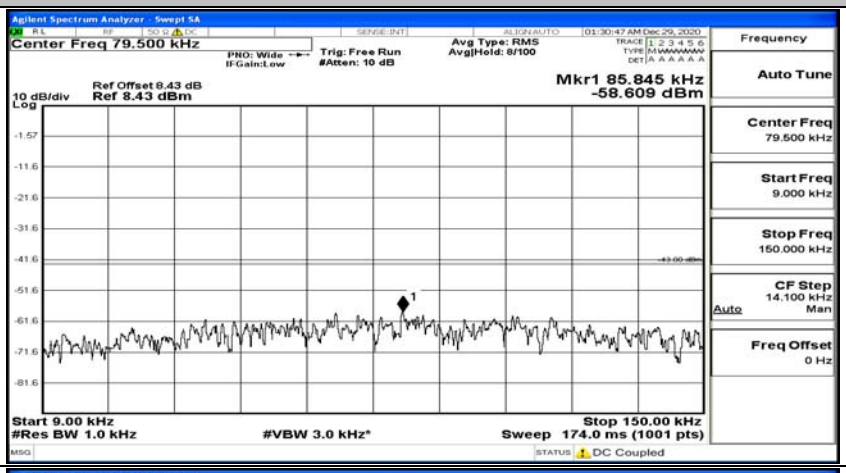
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#3

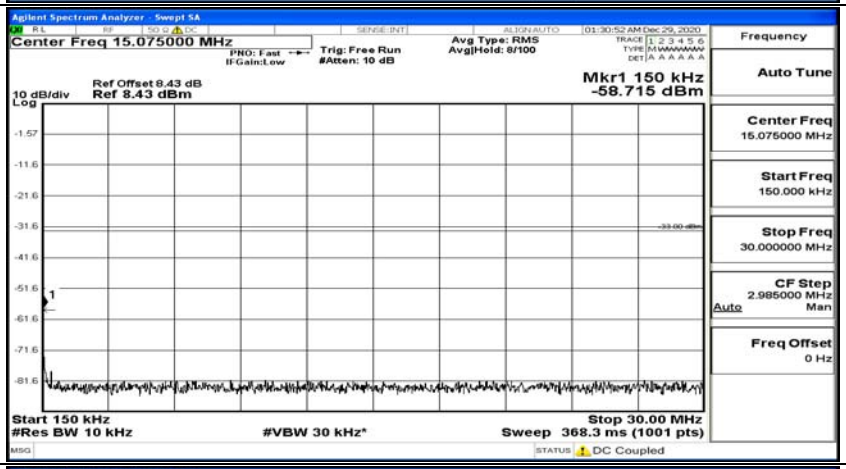




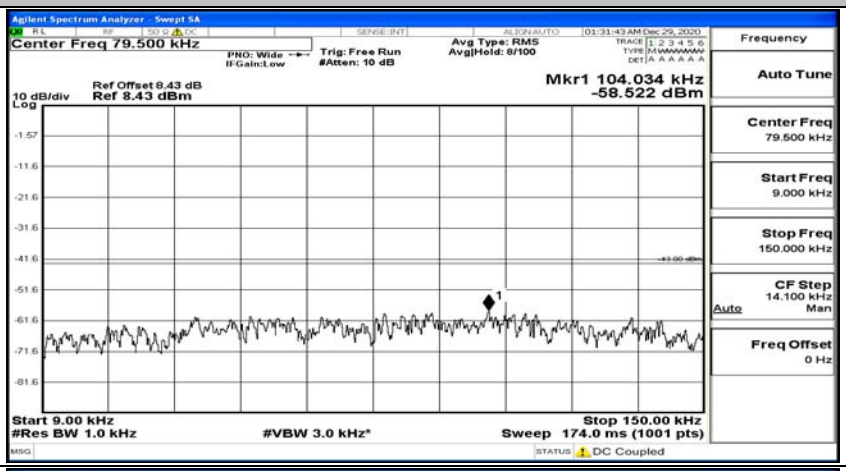


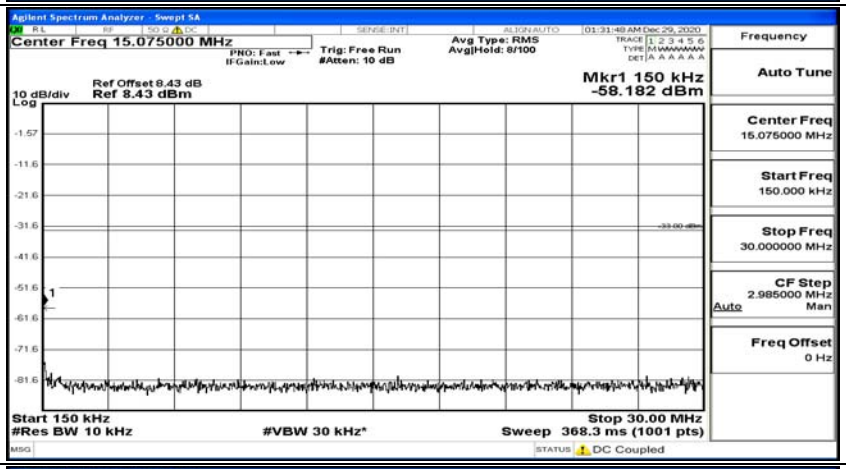
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#5



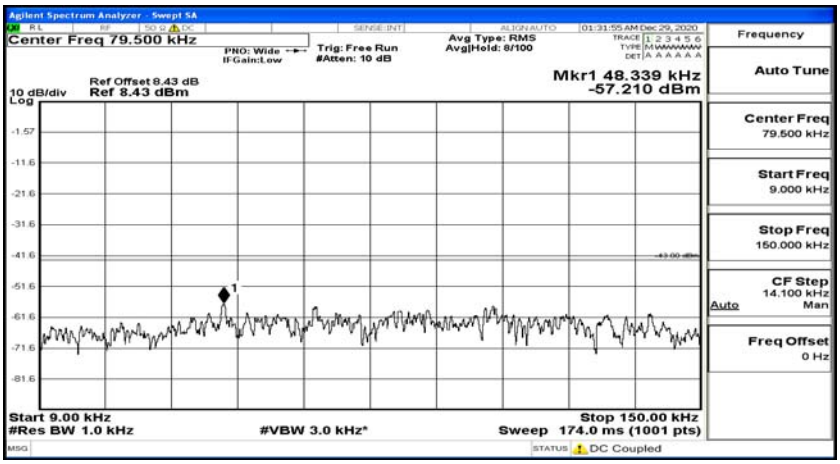


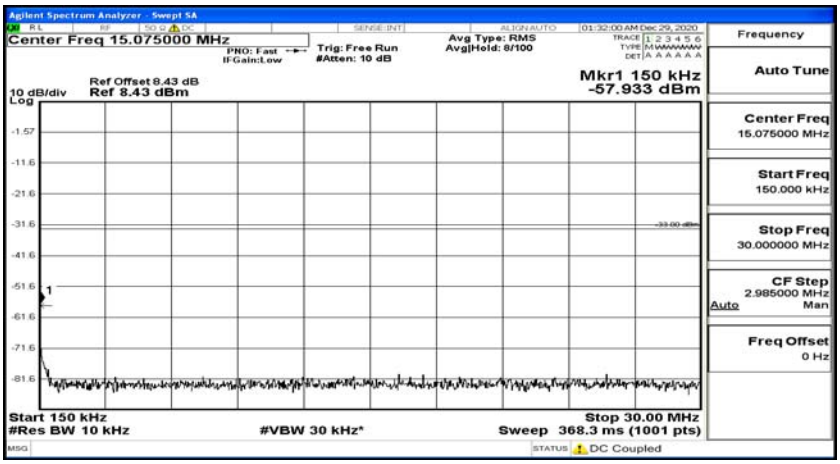
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#0

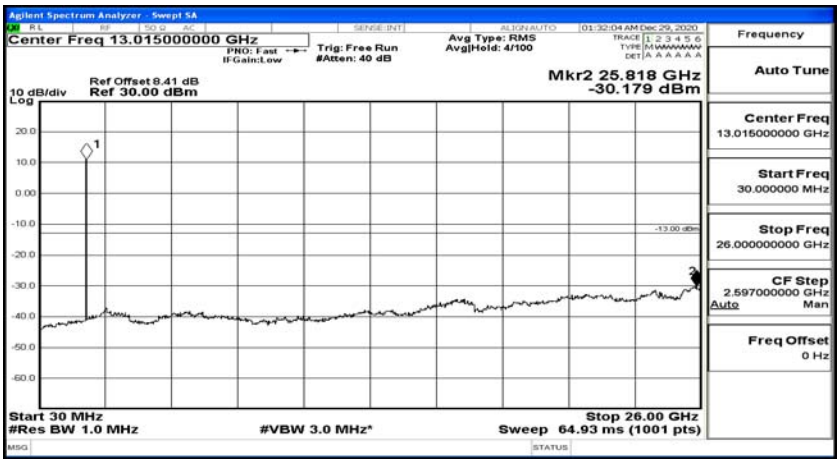




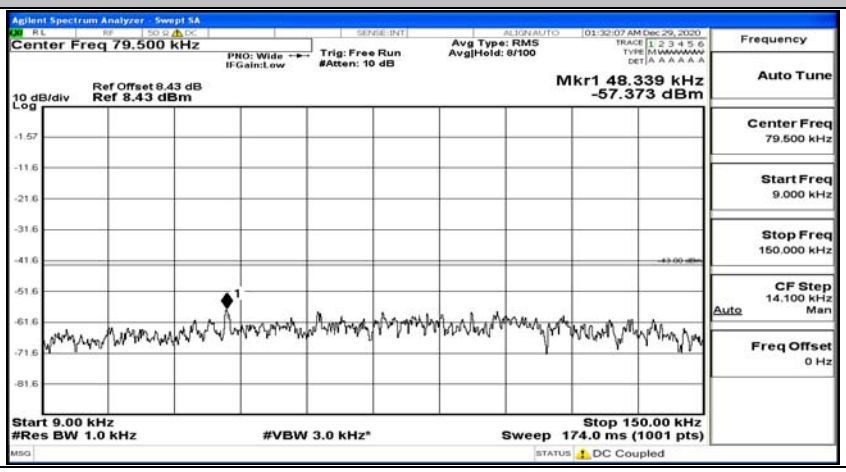
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#3

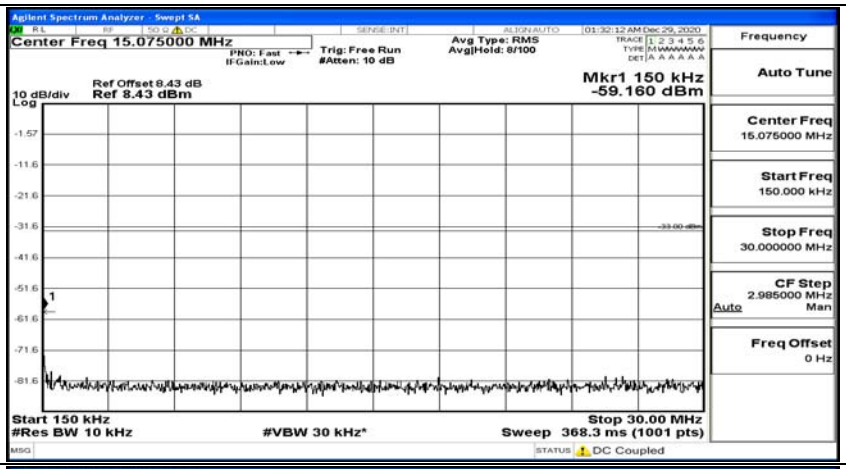


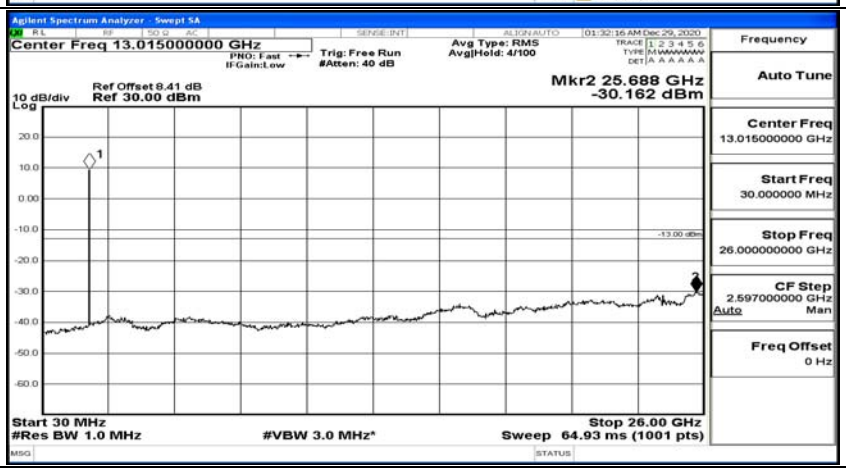




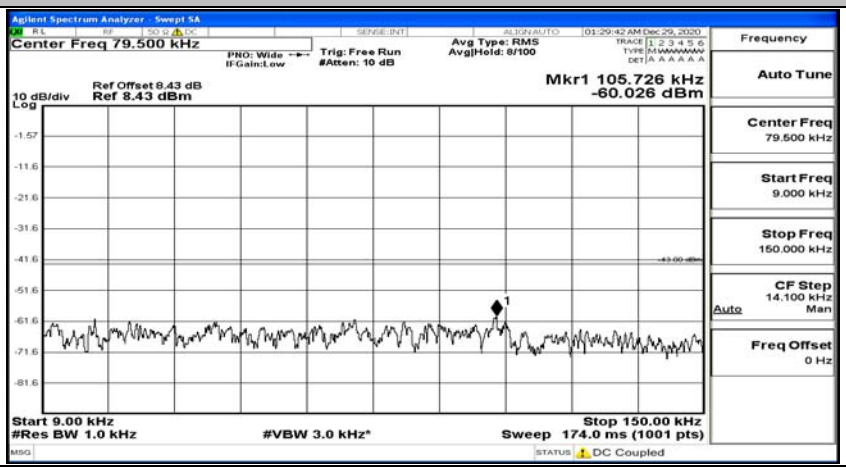
(Channel Bandwidth: 1.4 MHz)_HCH_QPSK_1RB#5

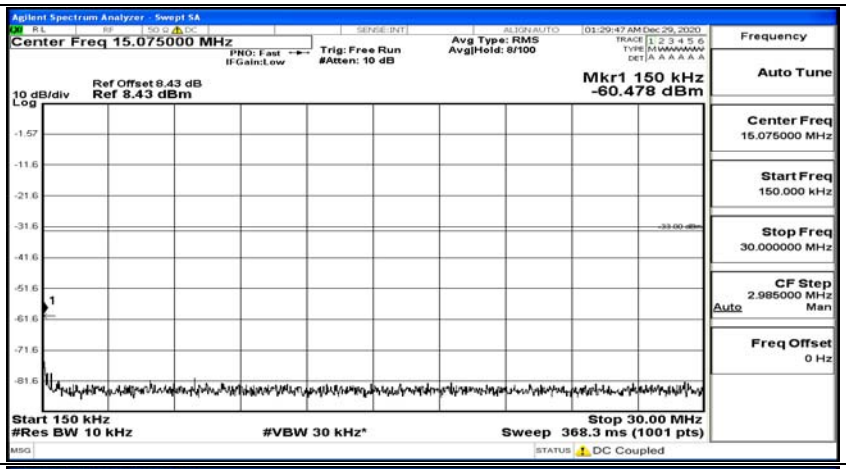


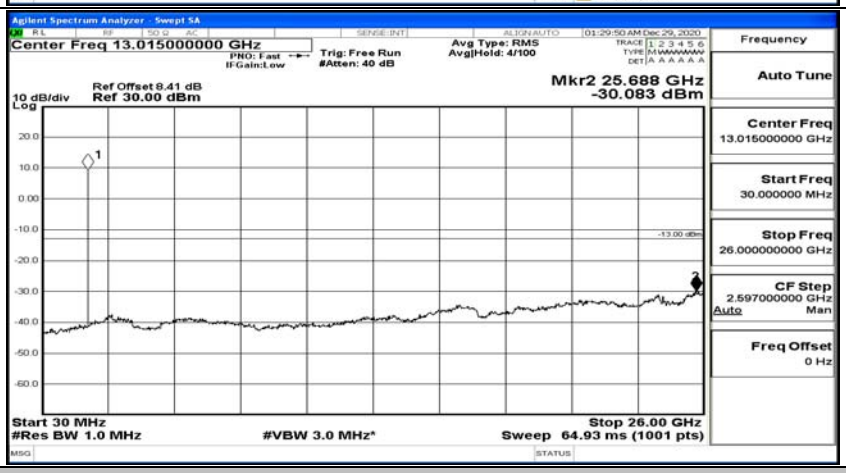




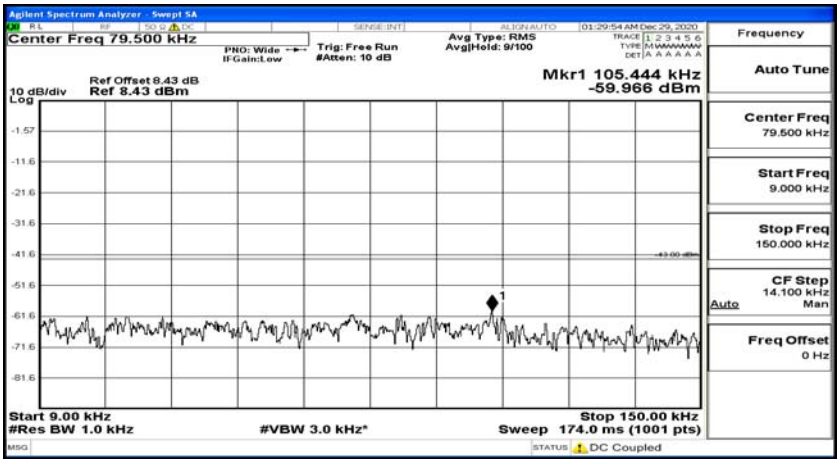
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#0

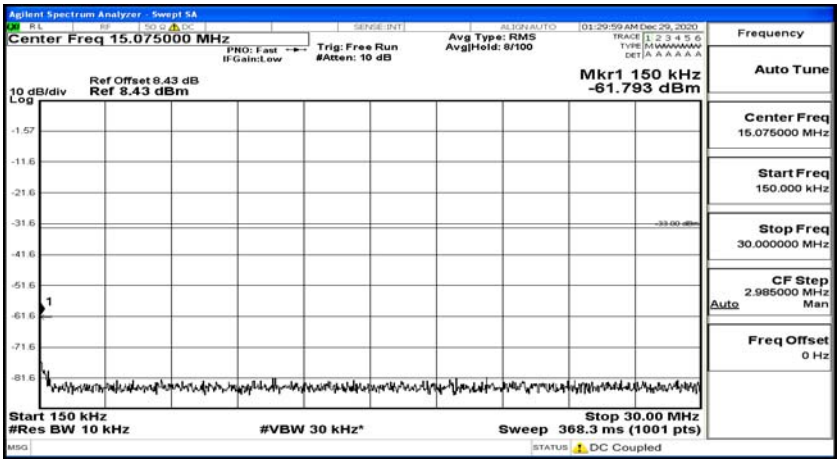


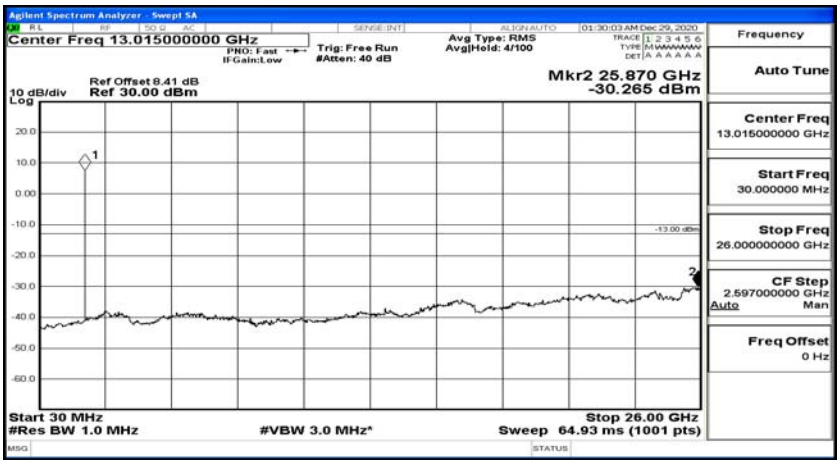




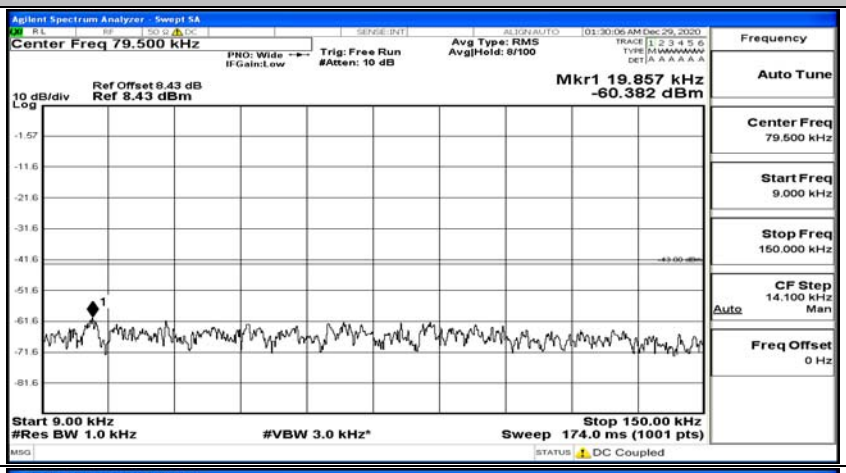
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#3

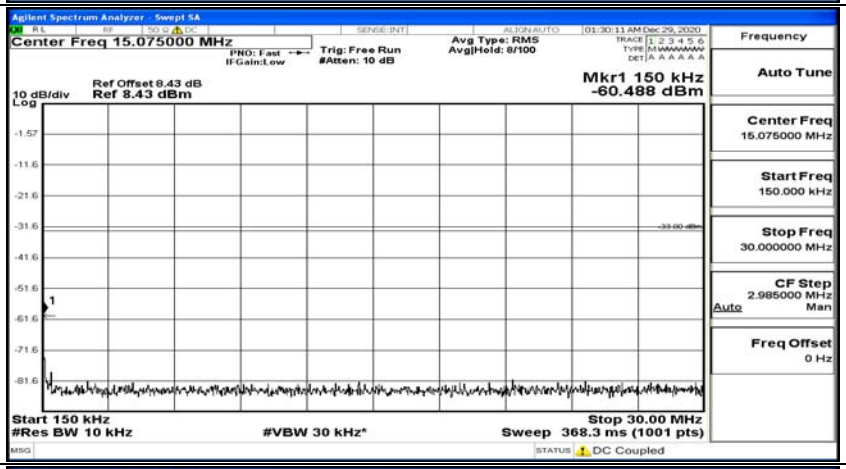




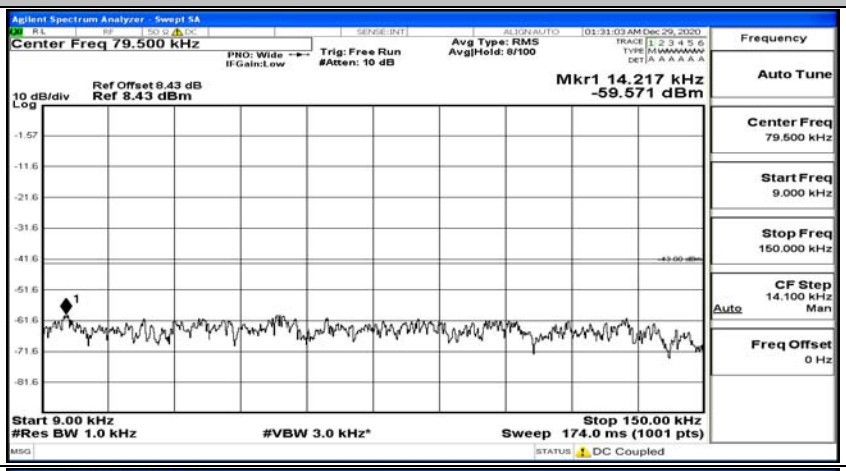


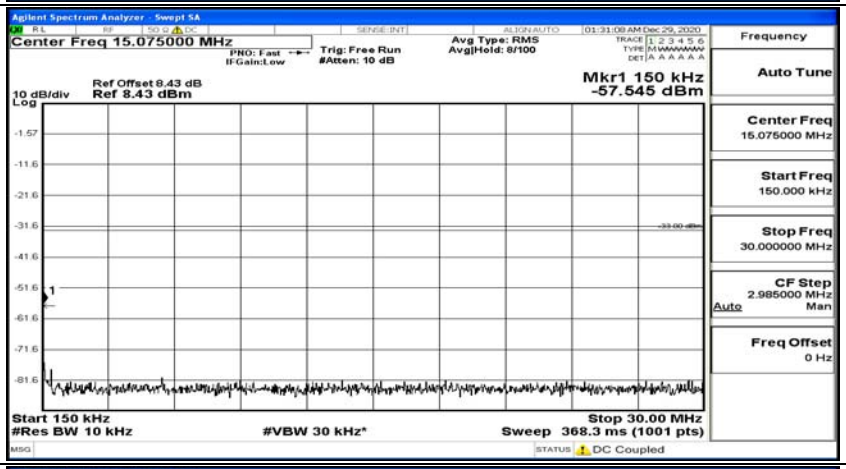
(Channel Bandwidth: 1.4 MHz)_LCH_16QAM_1RB#5



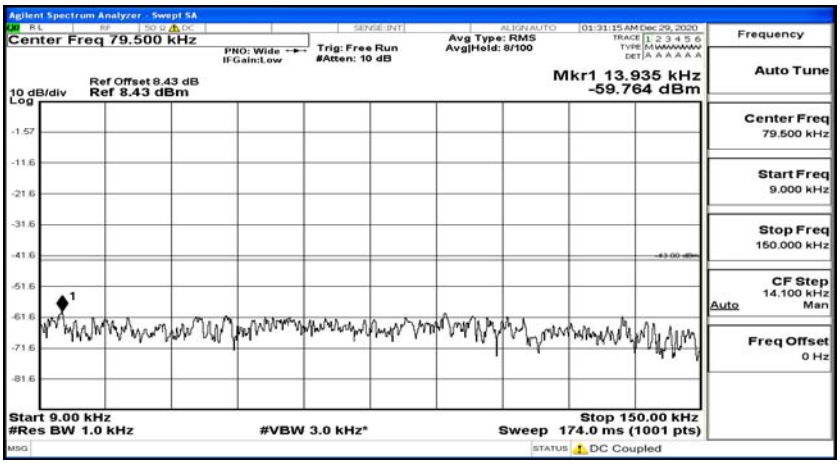


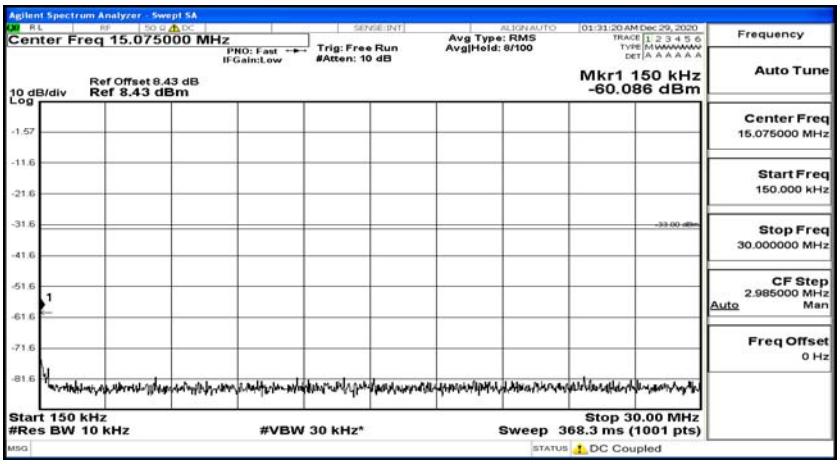
(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#0

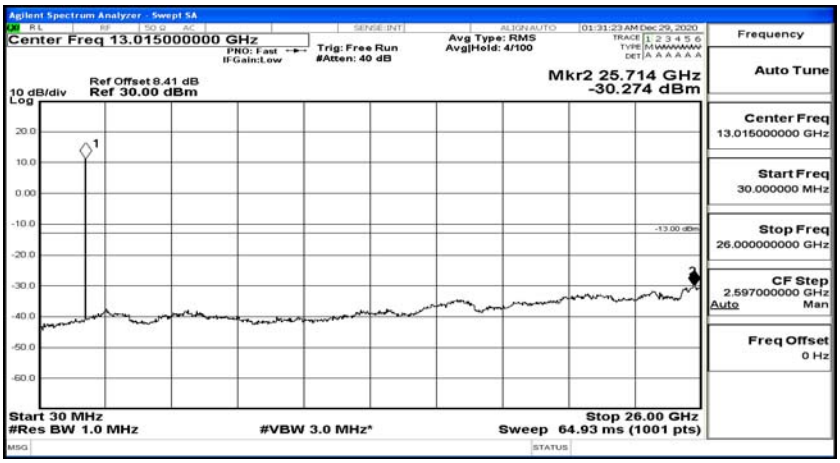
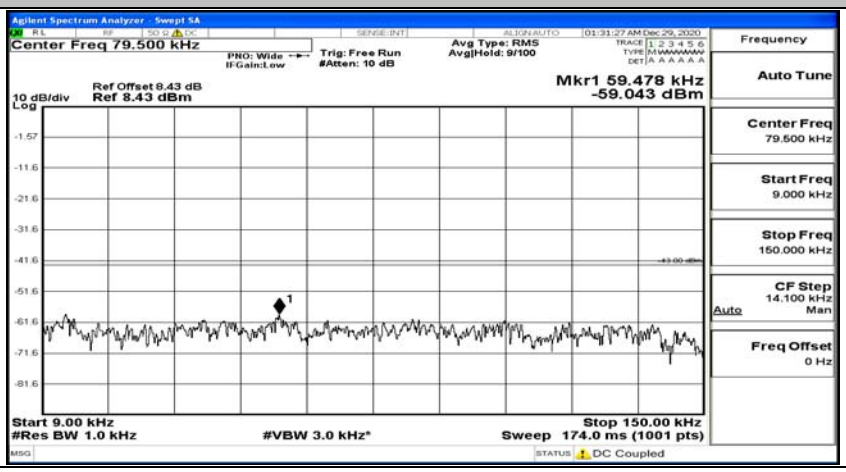




(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#3







(Channel Bandwidth: 1.4 MHz)_MCH_16QAM_1RB#5