Appendix C: Test Data for E-UTRA Band 4

Product Name: Brama L

Trade Mark: N/A

Test Model: ID

Environmental Conditions

Temperature:	22.9° C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

C.1 Conducted Output Power

Conducted Output Power Test Result (Channel Bandwidth: 1.4 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	22.42	21.37	PASS
		1	3	22.62	21.58	PASS
		1	5	22.47	21.42	PASS
		3	0	22.50	21.39	PASS
		3	2	22.50	21.41	PASS
		3	3	22.61	21.41	PASS
		6	0	21.57	20.55	PASS
	MCH	1	0	21.39	20.46	PASS
		1	3	21.44	20.61	PASS
		1	5	21.27	20.41	PASS
		3	0	21.47	20.38	PASS
		3	2	21.47	20.38	PASS
		3	3	21.41	20.29	PASS
		6	0	20.40	19.51	PASS
	HCH	1	0	21.74	20.86	PASS
		1	3	21.86	21.04	PASS
		1	5	21.73	20.89	PASS
		3	0	21.79	20.71	PASS
		3	2	21.82	20.71	PASS
		3	3	21.85	20.76	PASS
		6	0	20.78	19.70	PASS

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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	22.40	21.66	PASS
		1	7	22.46	21.63	PASS
		1	14	22.48	21.64	PASS
		8	0	21.52	20.54	PASS
		8	4	21.52	20.59	PASS
		8	7	21.57	20.65	PASS
		15	0	21.51	20.55	PASS
	MCH	1	0	21.48	20.69	PASS
		1	7	21.33	20.48	PASS
		1	14	21.24	20.38	PASS
		8	0	20.45	19.51	PASS
		8	4	20.43	19.52	PASS
		8	7	20.35	19.44	PASS
		15	0	20.34	19.38	PASS
	HCH	1	0	21.75	20.58	PASS
		1	7	21.83	20.64	PASS
		1	14	21.83	20.70	PASS
		8	0	20.74	19.78	PASS
		8	4	20.72	19.81	PASS
		8	7	20.75	19.78	PASS
		15	0	20.70	19.69	PASS

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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	22.41	21.53	PASS
		1	12	22.59	21.60	PASS
		1	24	22.48	21.54	PASS
		12	0	21.51	20.49	PASS
		12	6	21.51	20.50	PASS
		12	13	21.54	20.57	PASS
		25	0	21.55	20.59	PASS
	MCH	1	0	21.53	20.79	PASS
		1	12	21.41	20.62	PASS
		1	24	21.15	20.36	PASS
		12	0	20.37	19.48	PASS
		12	6	20.38	19.50	PASS
		12	13	20.38	19.51	PASS
		25	0	20.40	19.47	PASS
	HCH	1	0	21.59	20.59	PASS
		1	12	21.83	20.88	PASS
		1	24	21.80	20.83	PASS
		12	0	20.64	19.69	PASS
		12	6	20.61	19.70	PASS
		12	13	20.72	19.84	PASS
		25	0	20.71	19.84	PASS

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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	22.44	21.67	PASS
		1	24	22.64	21.90	PASS
		1	49	22.48	21.68	PASS
		25	0	21.65	20.65	PASS
		25	12	21.68	20.64	PASS
		25	25	21.56	20.58	PASS
		50	0	21.62	20.62	PASS
	MCH	1	0	21.82	21.01	PASS
		1	24	21.46	20.64	PASS
		1	49	21.08	20.25	PASS
		25	0	20.51	19.59	PASS
		25	12	20.46	19.60	PASS
		25	25	20.35	19.46	PASS
		50	0	20.35	19.50	PASS
	HCH	1	0	21.30	20.19	PASS
		1	24	21.74	20.54	PASS
		1	49	21.80	20.74	PASS
		25	0	20.51	19.63	PASS
		25	12	20.52	19.65	PASS
		25	25	20.76	19.91	PASS
		50	0	20.64	19.74	PASS

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Conducted Output Power Test Result (Channel Bandwidth: 15 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	22.32	21.61	PASS
		1	37	22.52	21.73	PASS
		1	74	22.12	21.32	PASS
		37	0	21.60	21.60	PASS
		37	18	21.60	21.59	PASS
		37	38	21.60	21.60	PASS
		75	0	21.59	20.55	PASS
	MCH	1	0	21.95	21.26	PASS
		1	37	21.39	20.65	PASS
		1	74	20.90	20.20	PASS
		37	0	20.41	20.39	PASS
		37	18	20.37	20.41	PASS
		37	38	20.39	20.40	PASS
		75	0	20.38	19.45	PASS
	HCH	1	0	21.01	19.93	PASS
		1	37	21.49	20.37	PASS
		1	74	21.69	20.57	PASS
		37	0	20.53	20.52	PASS
		37	18	20.51	20.52	PASS
		37	38	20.51	20.52	PASS
		75	0	20.53	19.57	PASS

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Conducted Output Power Test Result (Channel Bandwidth: 20 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	22.22	21.33	PASS
		1	49	22.71	21.77	PASS
		1	99	21.49	20.52	PASS
		50	0	21.65	20.69	PASS
		50	25	21.70	20.75	PASS
		50	50	21.36	20.41	PASS
		100	0	21.52	20.59	PASS
	MCH	1	0	22.06	21.18	PASS
		1	49	21.57	20.67	PASS
		1	99	20.82	20.00	PASS
		50	0	20.46	19.56	PASS
		50	25	20.45	19.56	PASS
		50	50	20.04	19.13	PASS
		100	0	20.26	19.36	PASS
	HCH	1	0	20.72	19.85	PASS
		1	49	21.31	20.44	PASS
		1	99	21.31	20.47	PASS
		50	0	20.36	19.48	PASS
		50	25	20.34	19.52	PASS
		50	50	20.49	19.66	PASS
		100	0	20.44	19.55	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	4.95	<13	PASS
	MCH	4.75	<13	PASS
	HCH	5.31	<13	PASS
16QAM	LCH	5.78	<13	PASS
	MCH	5.7	<13	PASS
	HCH	5.97	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	4.94	<13	PASS
	MCH	4.89	<13	PASS
	HCH	5.27	<13	PASS
16QAM	LCH	5.78	<13	PASS
	MCH	5.72	<13	PASS
	HCH	6.18	<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	<13	PASS
	MCH	5.02	<13	PASS
	HCH	5.4	<13	PASS
16QAM	LCH	5.83	<13	PASS
	MCH	5.79	<13	PASS
	HCH	6.19	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.07	<13	PASS
	MCH	5.1	<13	PASS
	HCH	5.47	<13	PASS
16QAM	LCH	5.89	<13	PASS
	MCH	5.91	<13	PASS
	HCH	6.23	<13	PASS

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Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.55	<13	PASS
	MCH	5.51	<13	PASS
	HCH	5.81	<13	PASS
16QAM	LCH	6.21	<13	PASS
	MCH	6.13	<13	PASS
	HCH	6.4	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.5	<13	PASS
	MCH	5.4	<13	PASS
	HCH	5.55	<13	PASS
16QAM	LCH	6.27	<13	PASS
	MCH	6.19	<13	PASS
	HCH	6.31	<13	PASS

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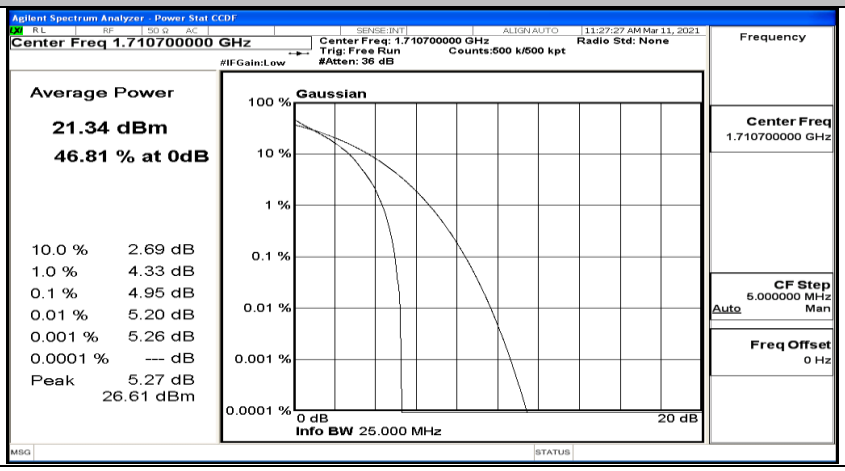
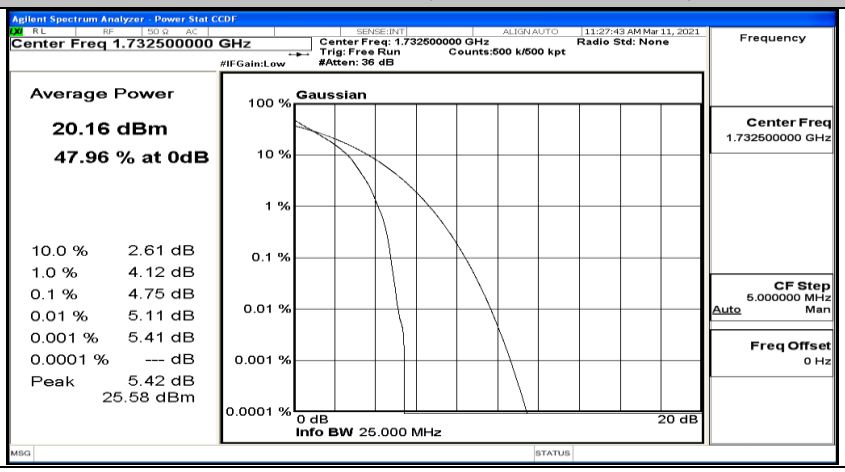
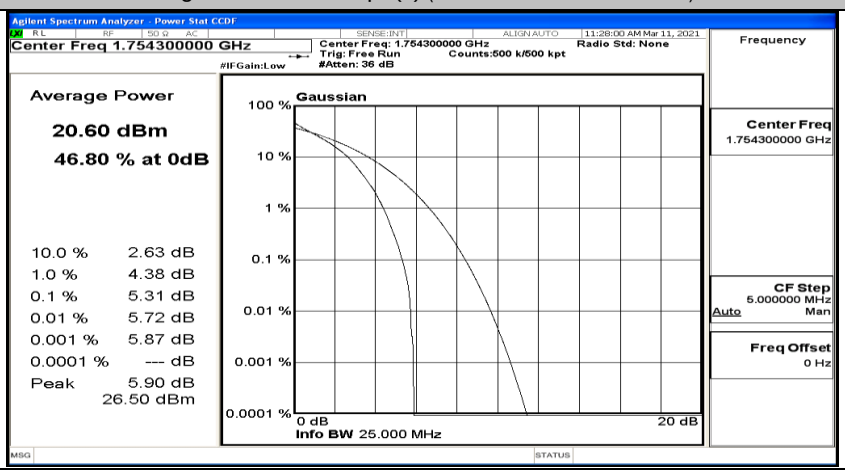
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



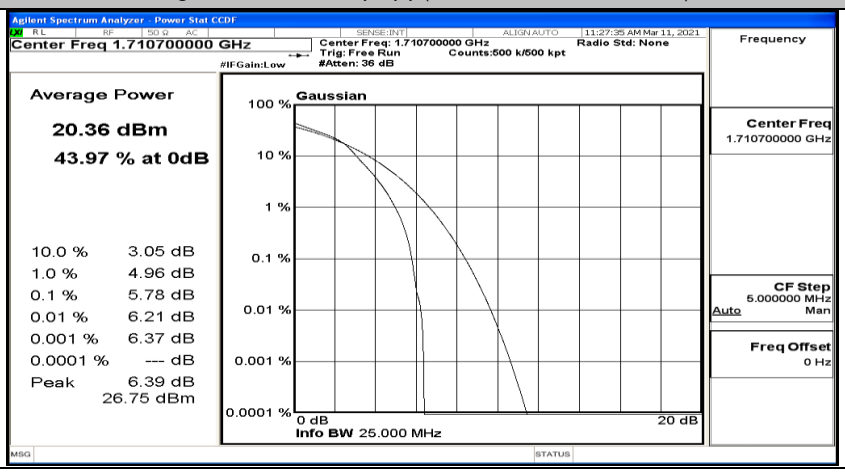
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



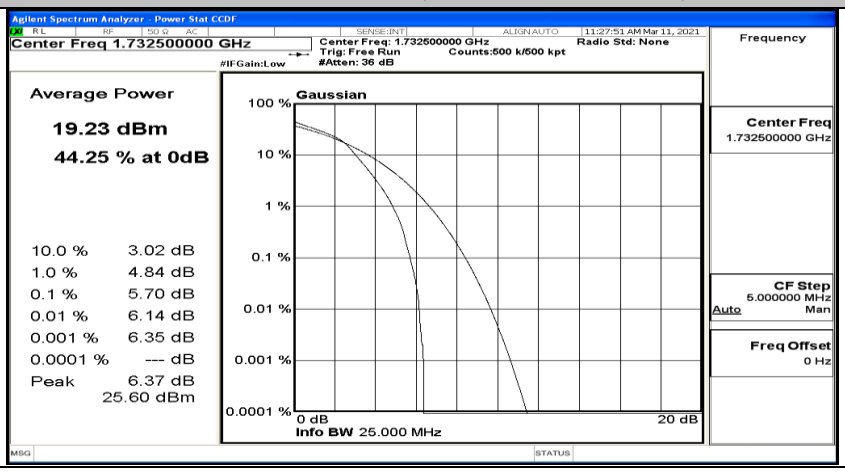
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



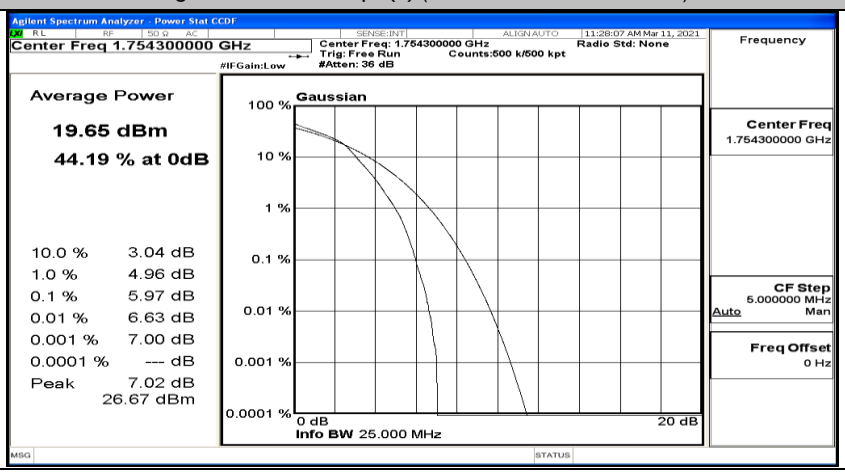
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



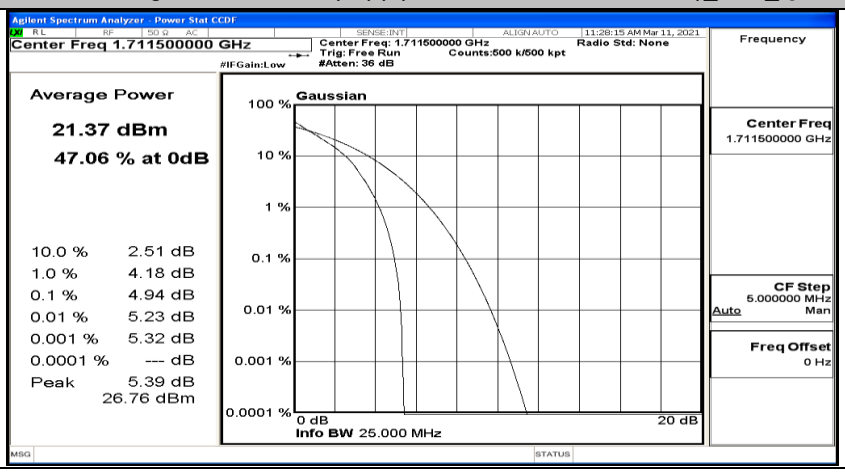
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



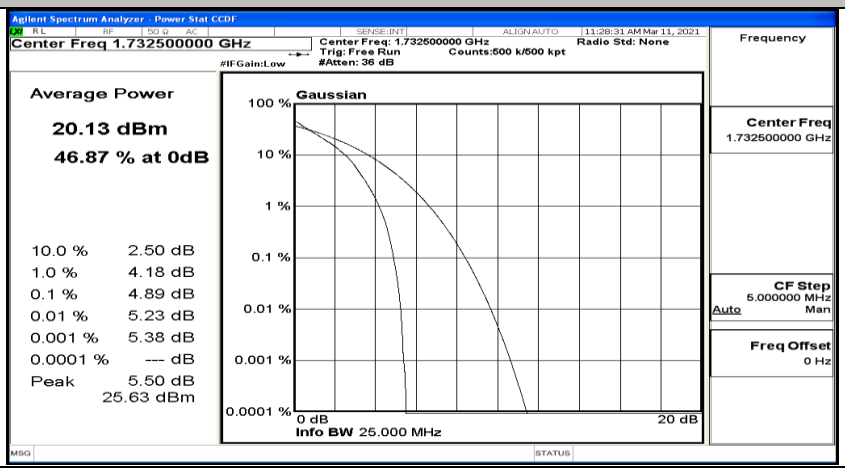
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



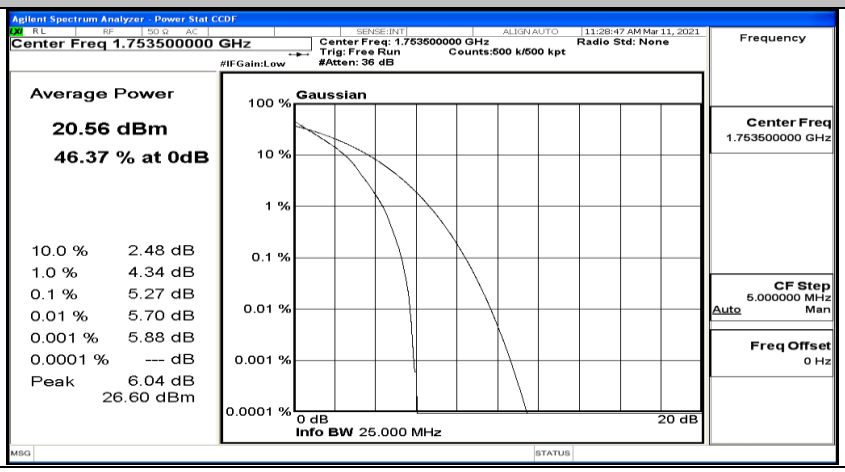
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



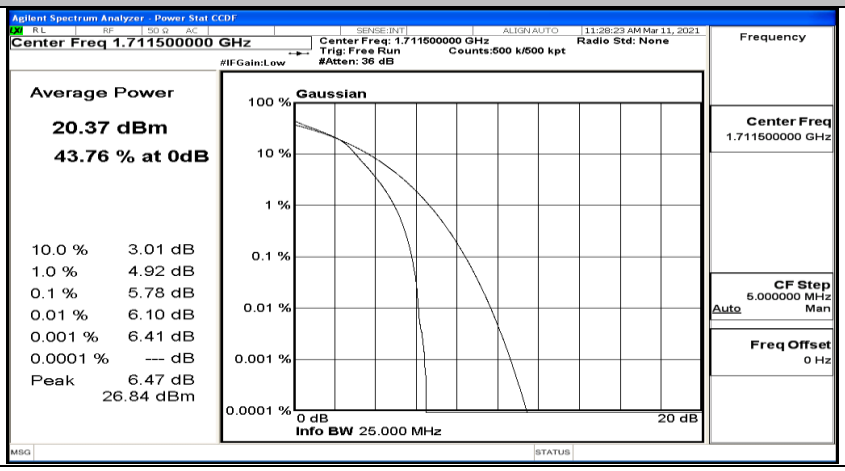
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



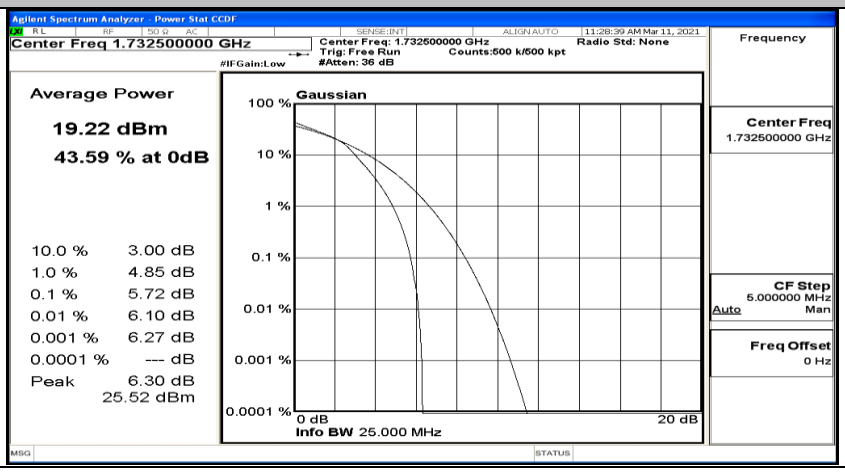
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



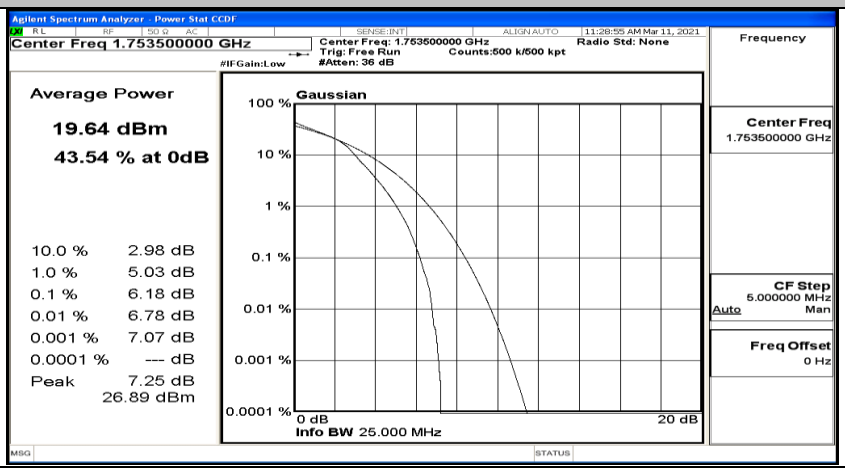
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



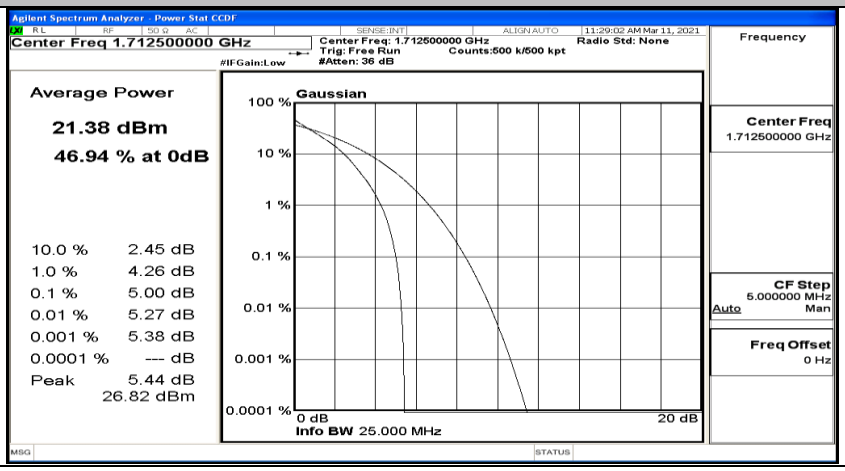
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



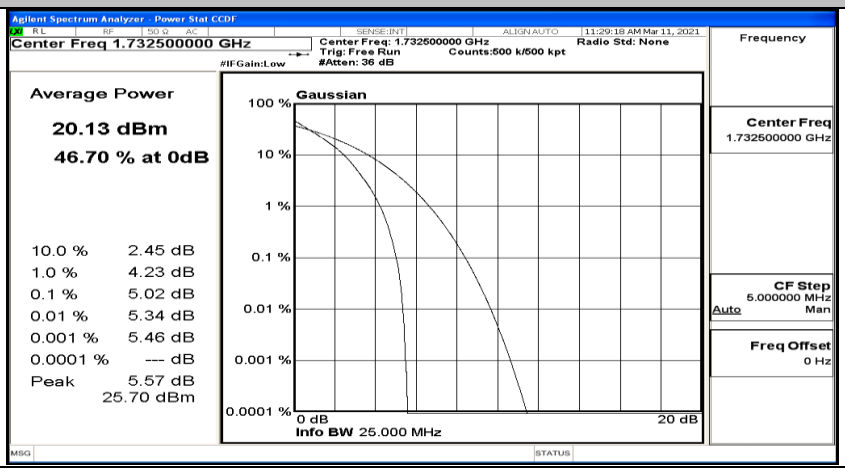
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



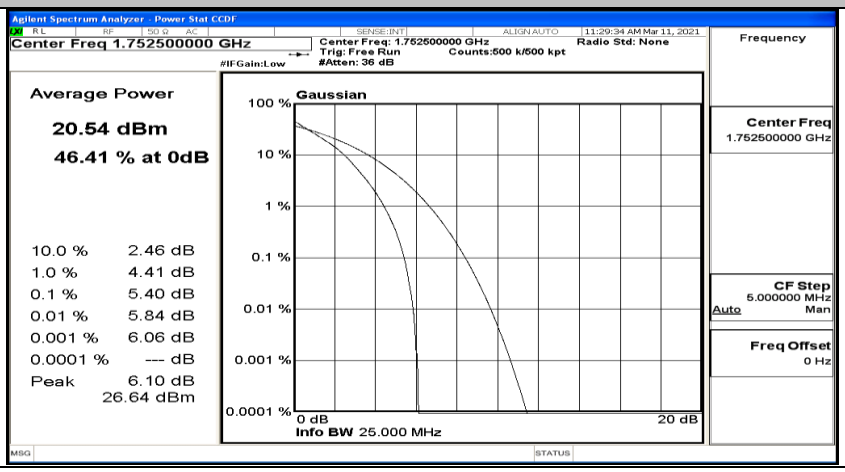
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



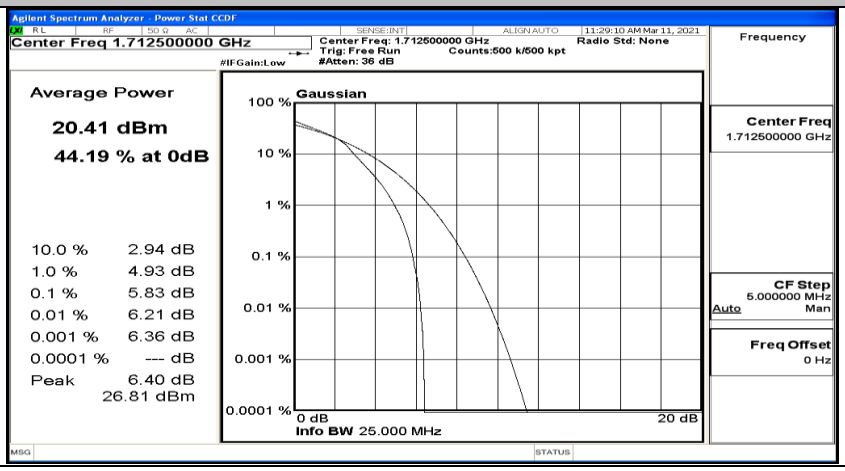
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



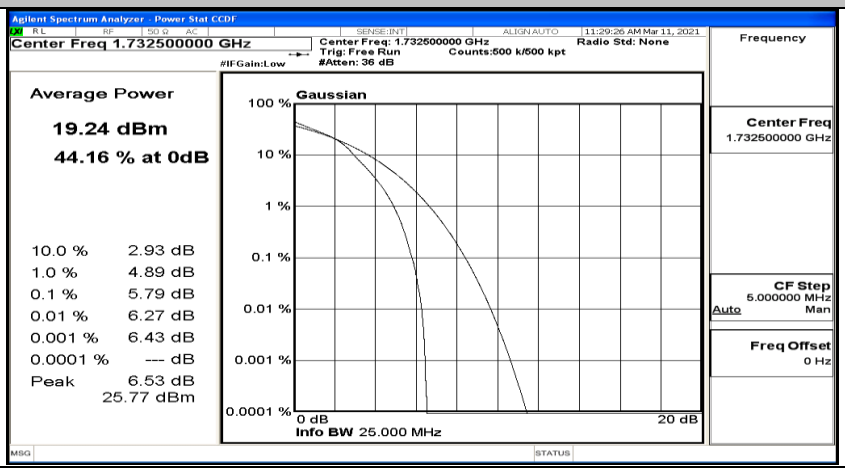
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



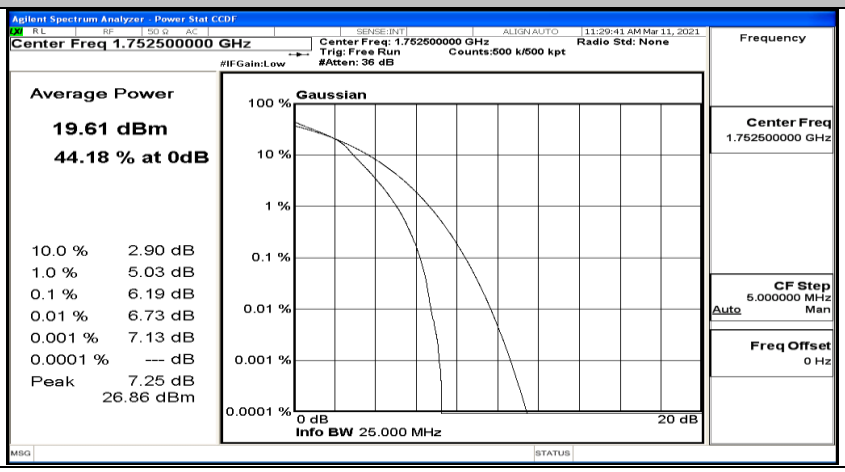
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



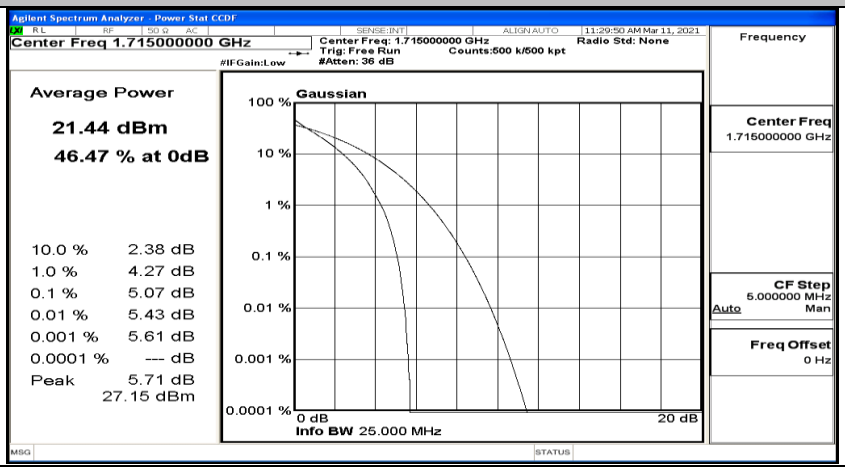
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



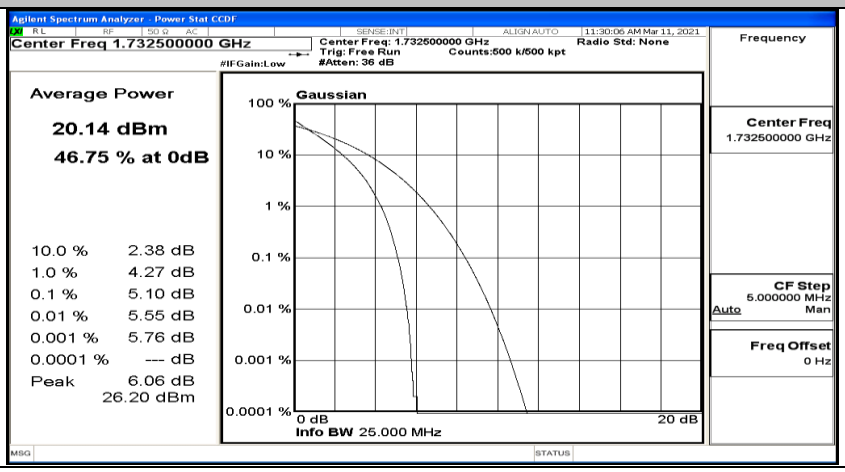
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



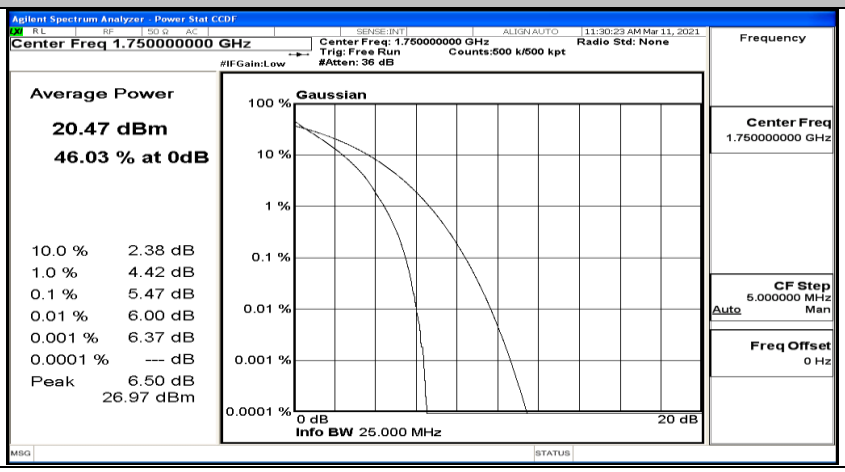
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



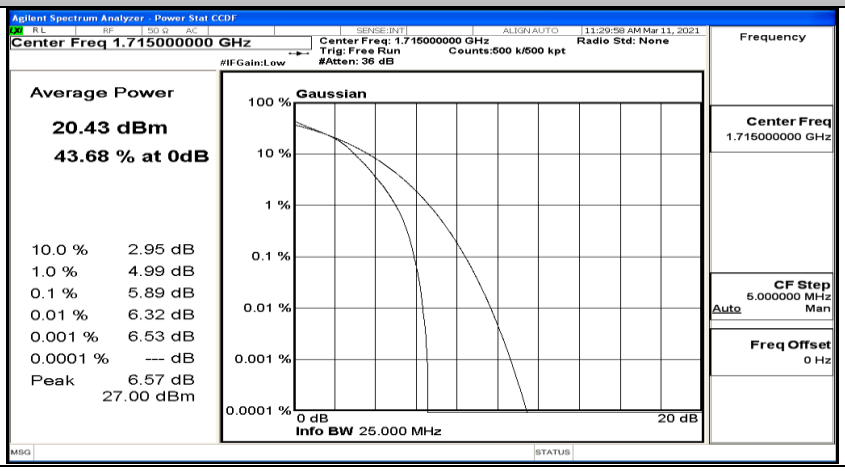
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



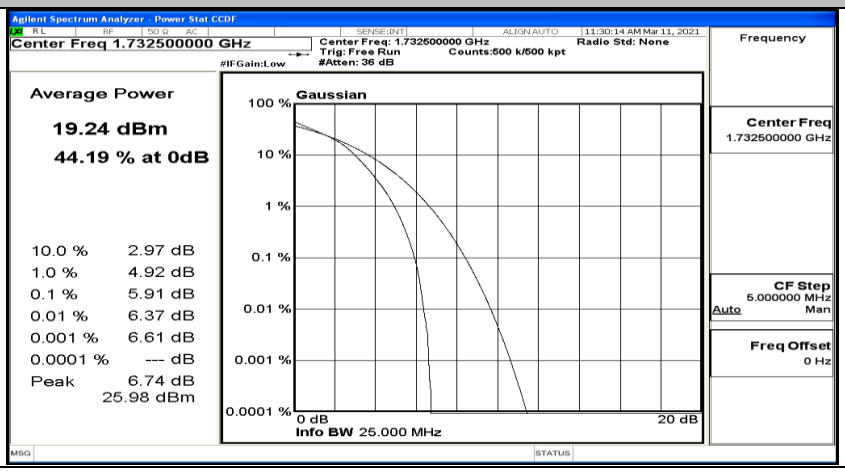
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



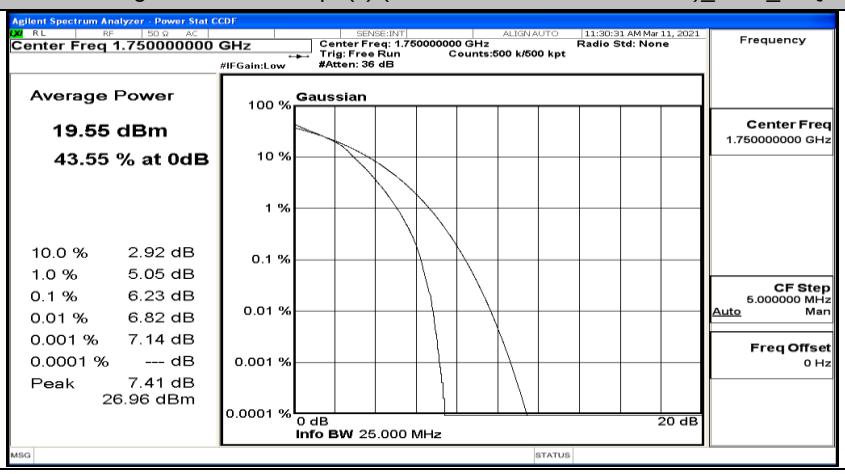
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



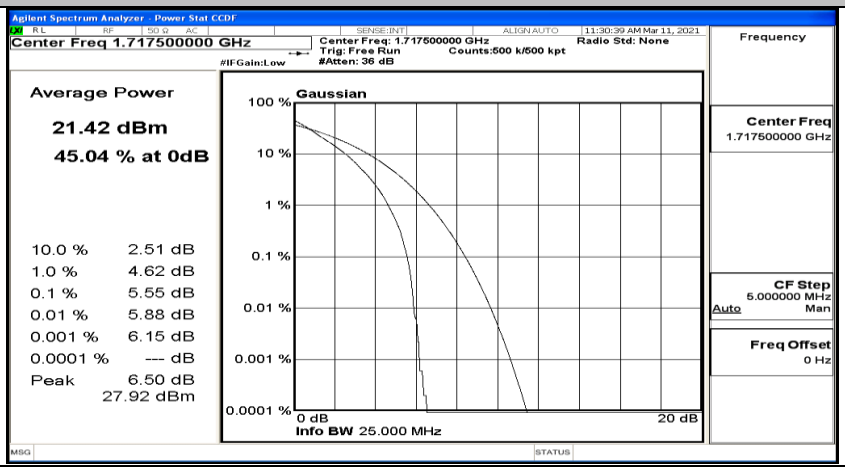
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



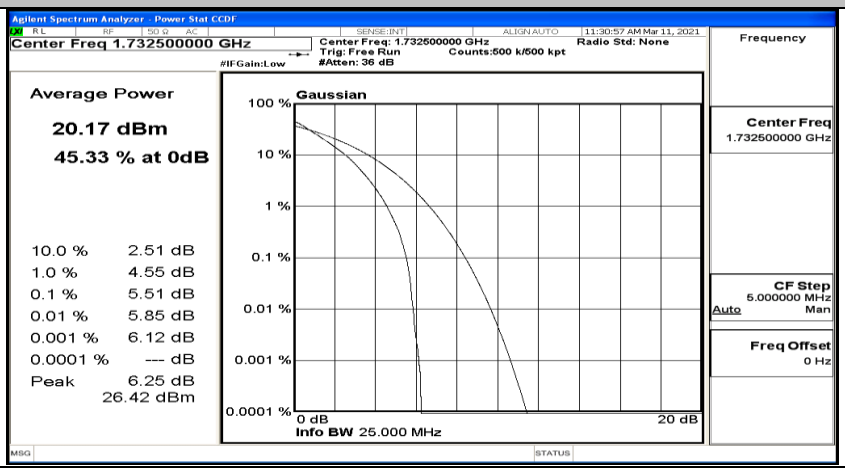
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



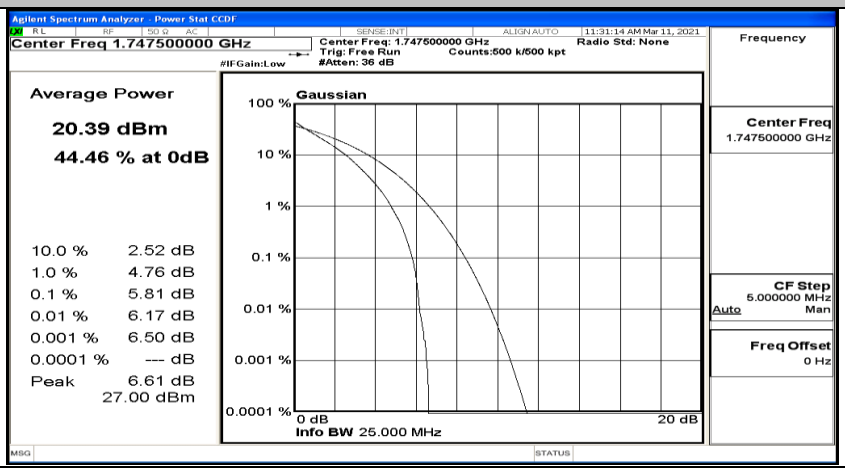
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



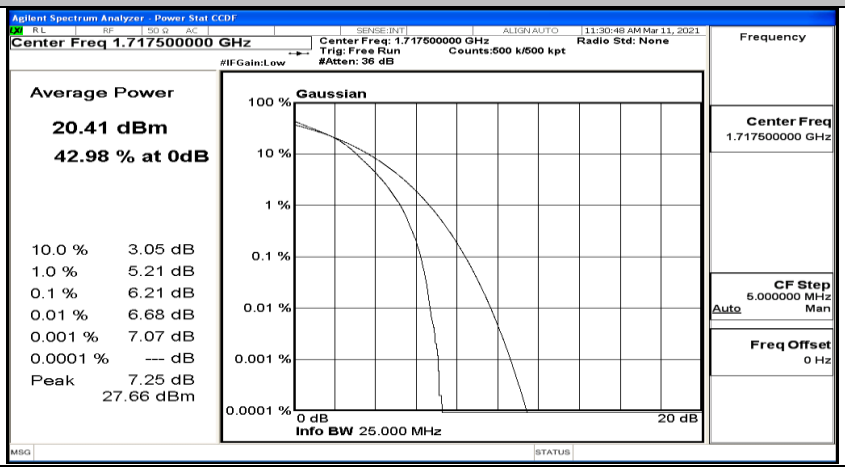
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK



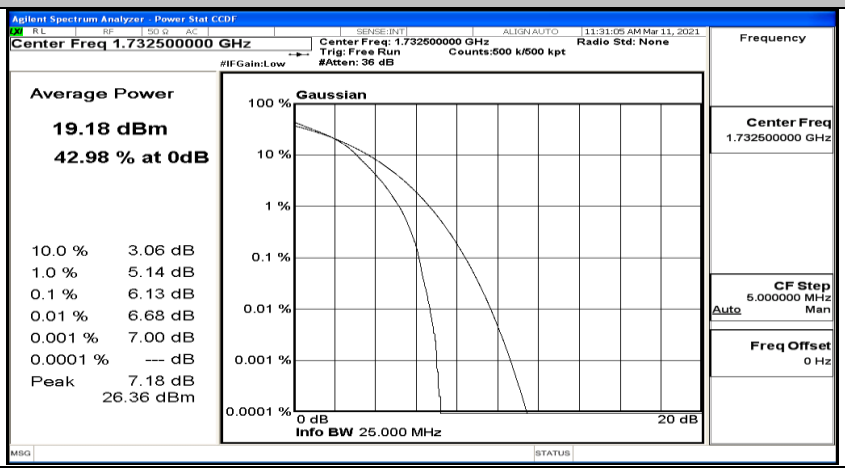
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



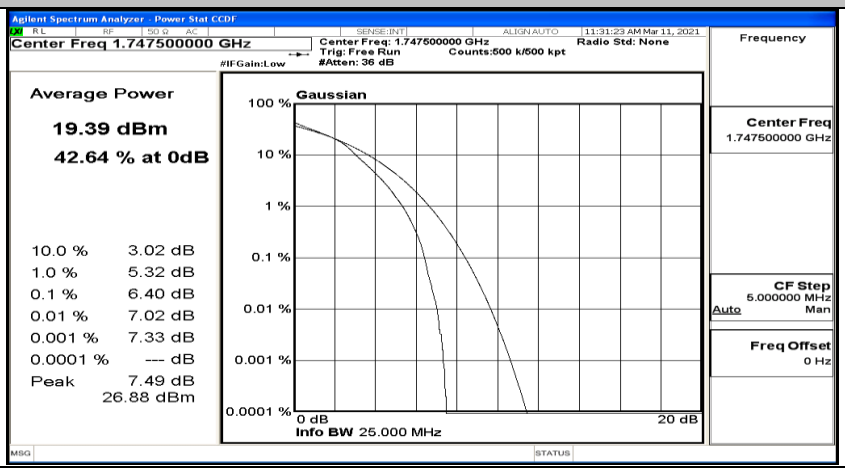
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



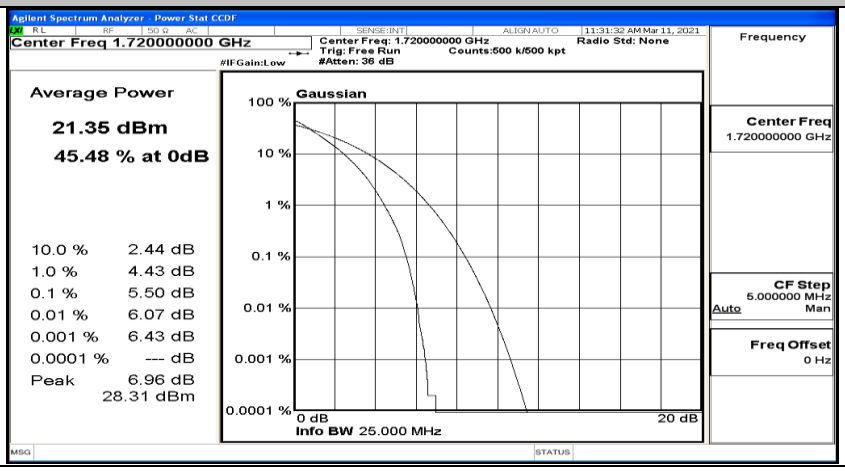
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM



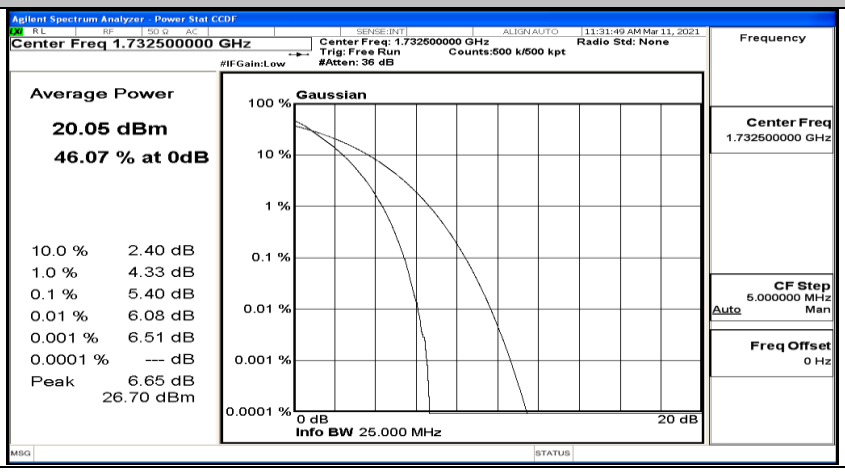
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



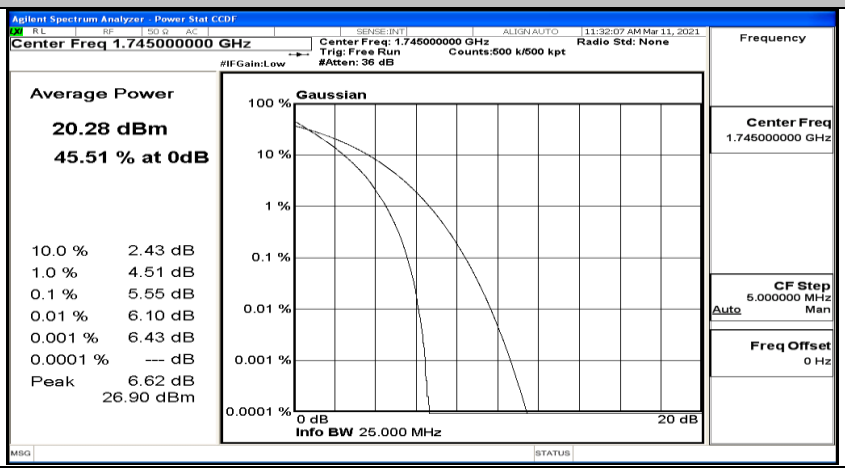
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



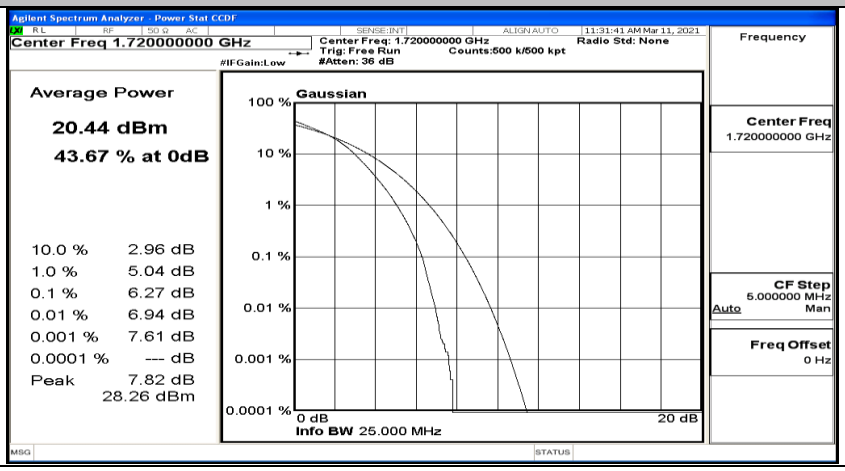
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK



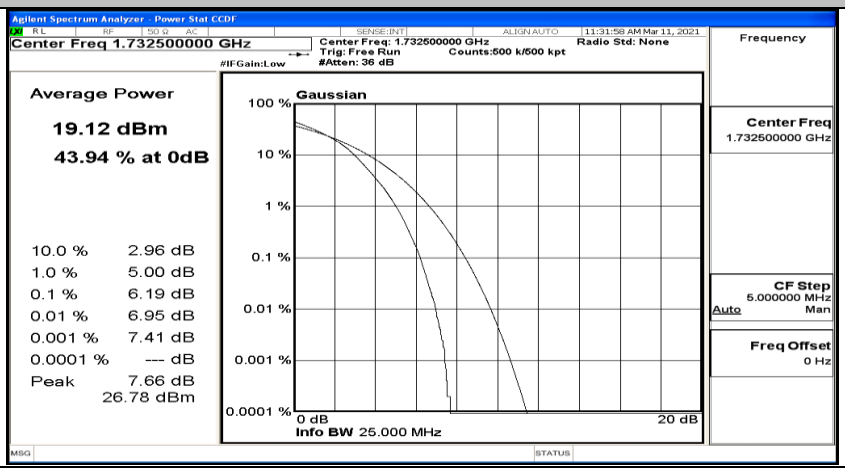
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



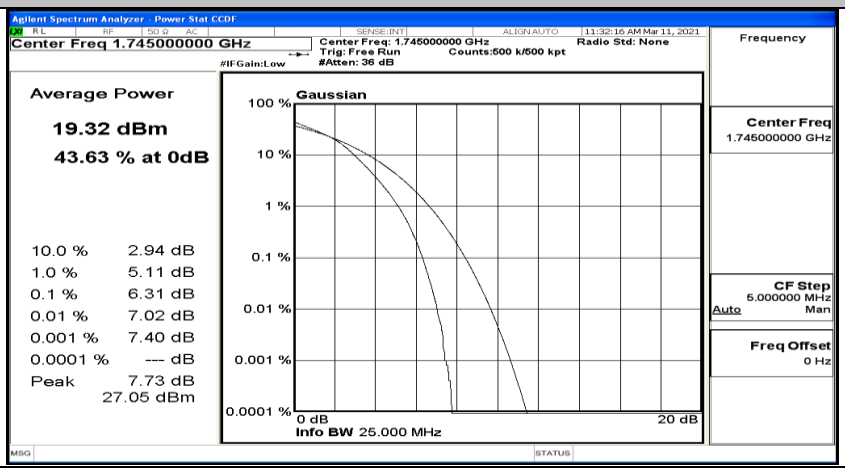
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM



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



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	1.0817	1.248	PASS
	MCH	1.0756	1.211	PASS
	HCH	1.0758	1.227	PASS
16QAM	LCH	1.0747	1.223	PASS
	MCH	1.0778	1.209	PASS
	HCH	1.0756	1.249	PASS

EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	2.6822	2.826	PASS
	MCH	2.6820	2.829	PASS
	HCH	2.6735	2.833	PASS
16QAM	LCH	2.6771	2.820	PASS
	MCH	2.6802	2.841	PASS
	HCH	2.6801	2.839	PASS

EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.4666	4.766	PASS
	MCH	4.4709	4.706	PASS
	HCH	4.4799	4.711	PASS
16QAM	LCH	4.4780	4.752	PASS
	MCH	4.4773	4.763	PASS
	HCH	4.4705	4.749	PASS

EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	8.9359	9.363	PASS
	MCH	8.9380	9.341	PASS
	HCH	8.9424	9.373	PASS
16QAM	LCH	8.9141	9.352	PASS
	MCH	8.9290	9.340	PASS
	HCH	8.9310	9.399	PASS

EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	13.405	14.04	PASS
	MCH	13.375	13.93	PASS
	HCH	13.416	13.96	PASS
16QAM	LCH	13.388	13.98	PASS
	MCH	13.384	13.98	PASS
	HCH	13.415	13.99	PASS

EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	17.897	18.54	PASS
	MCH	17.812	18.60	PASS
	HCH	17.893	18.54	PASS
16QAM	LCH	17.886	18.58	PASS
	MCH	17.821	18.54	PASS
	HCH	17.908	18.62	PASS

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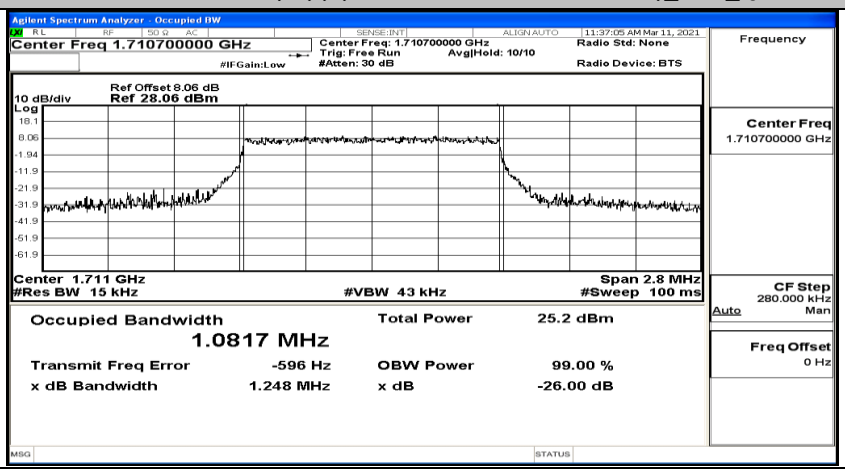
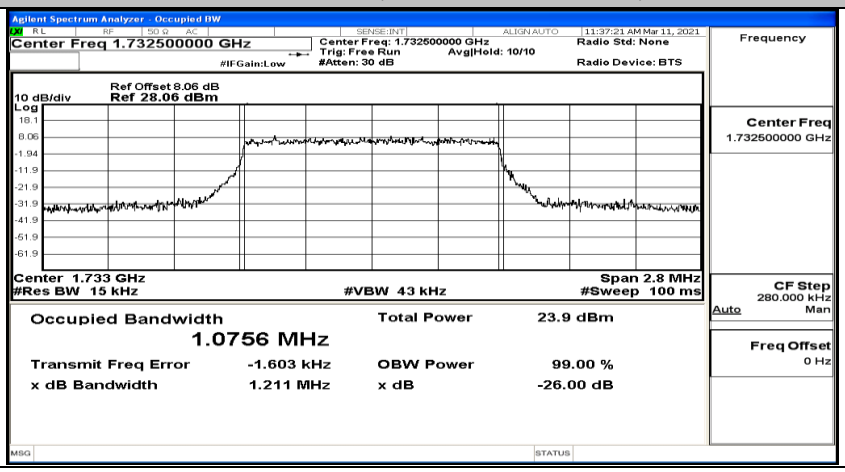
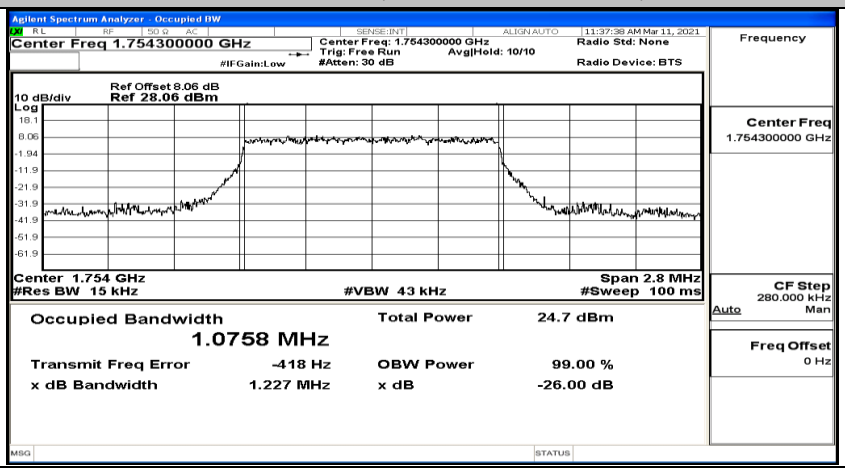
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



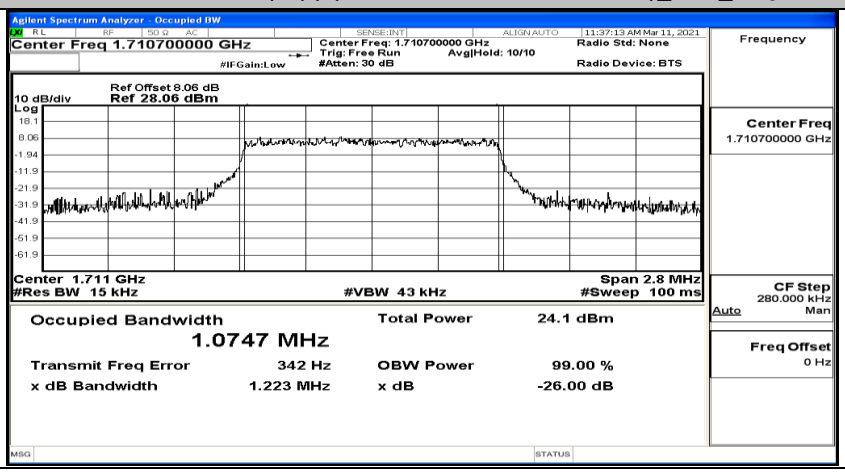
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK



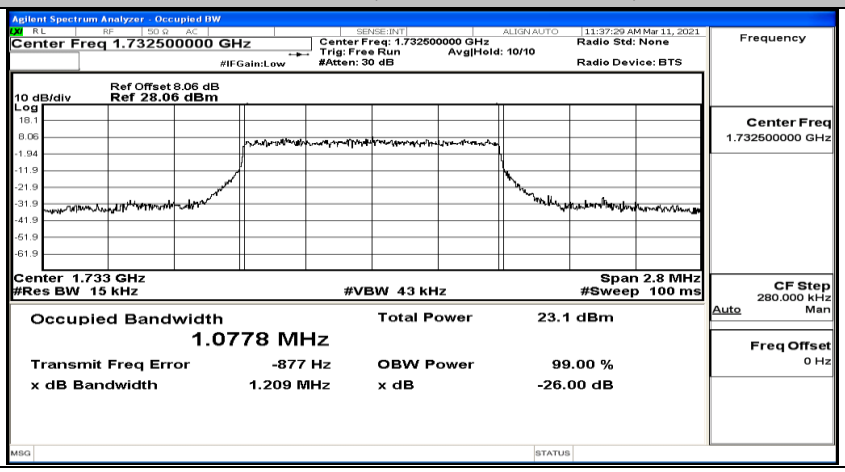
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



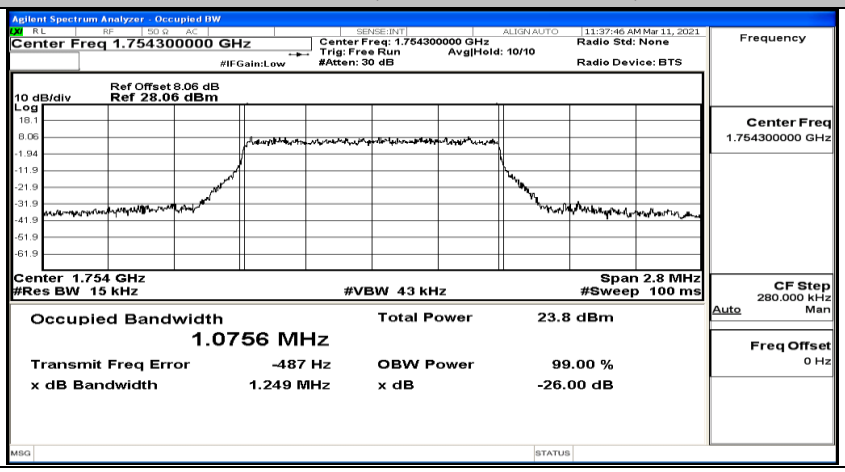
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



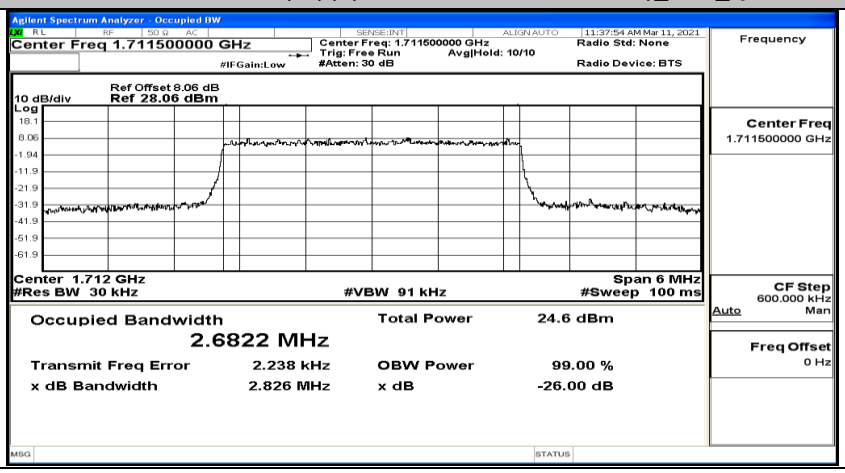
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM



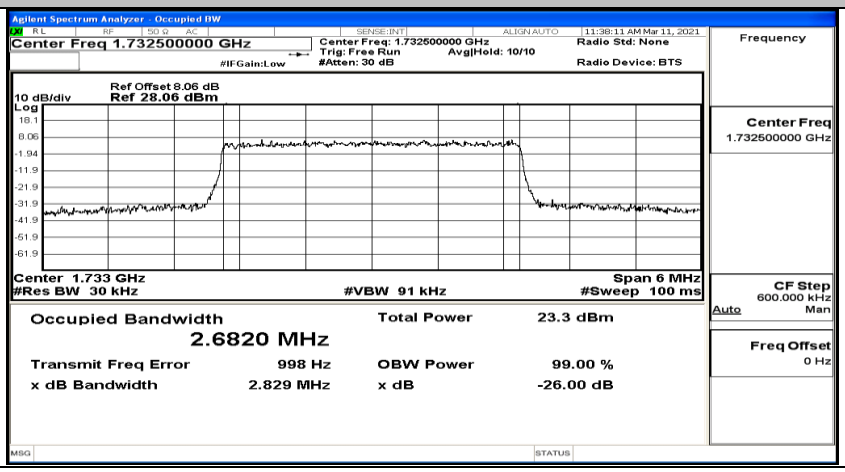
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



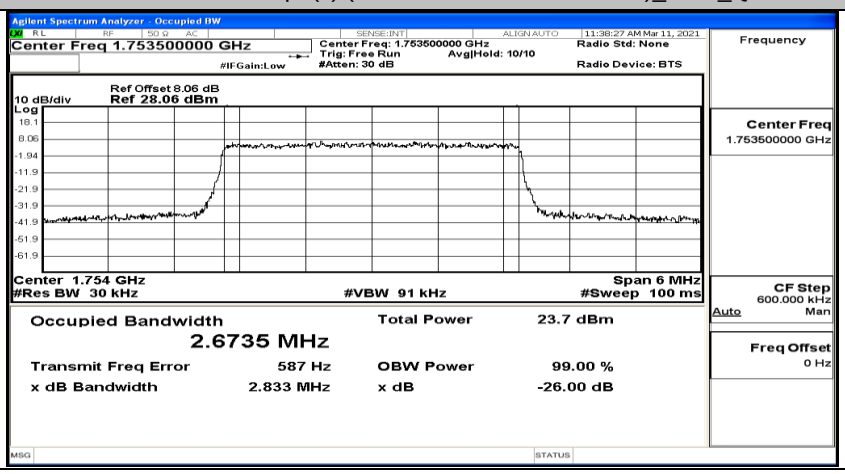
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



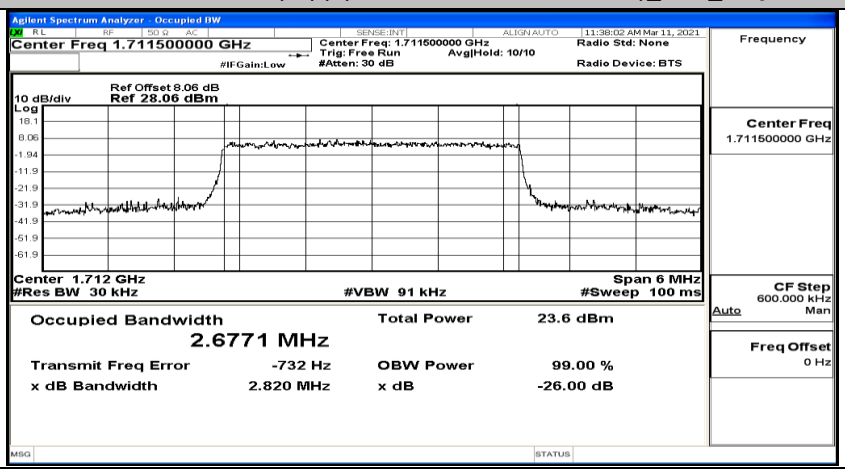
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK



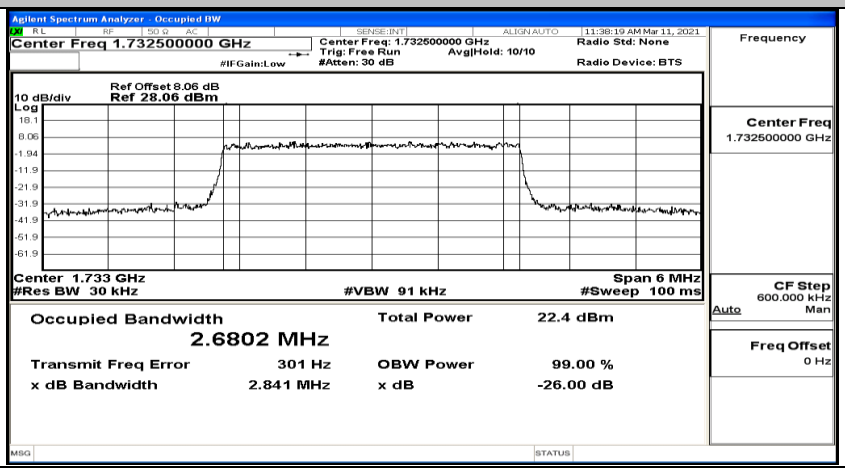
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



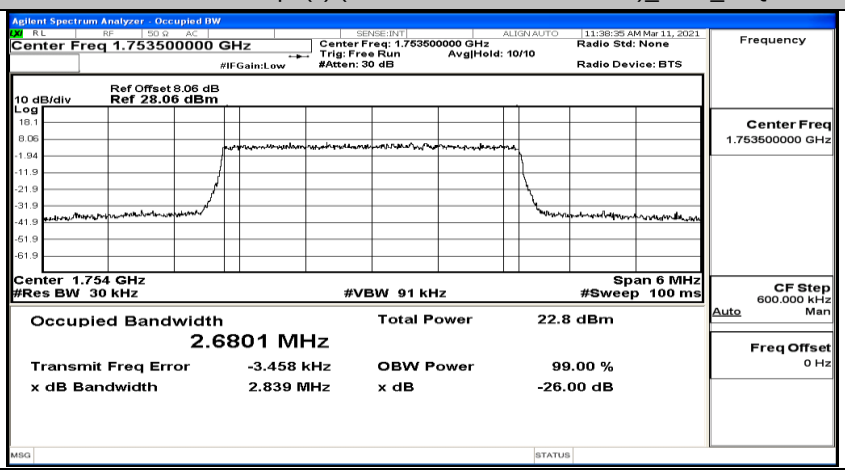
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



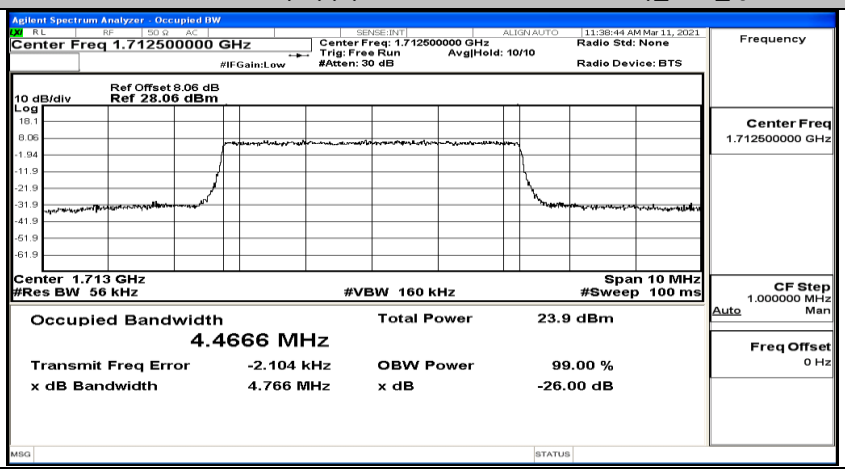
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM



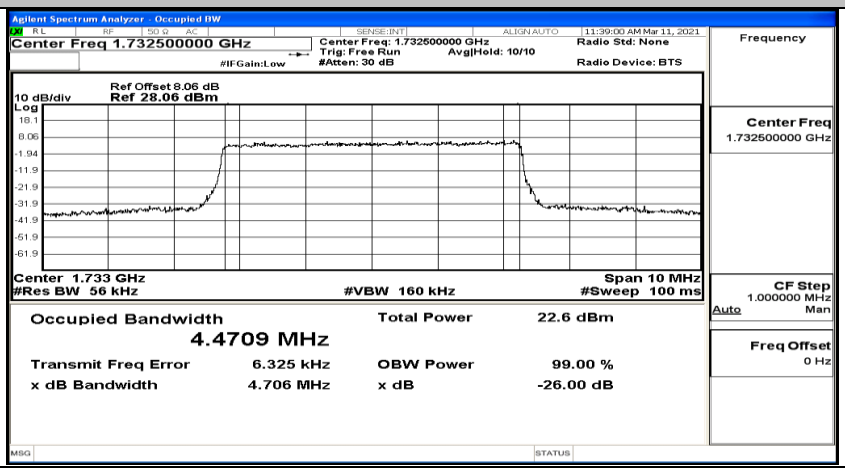
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



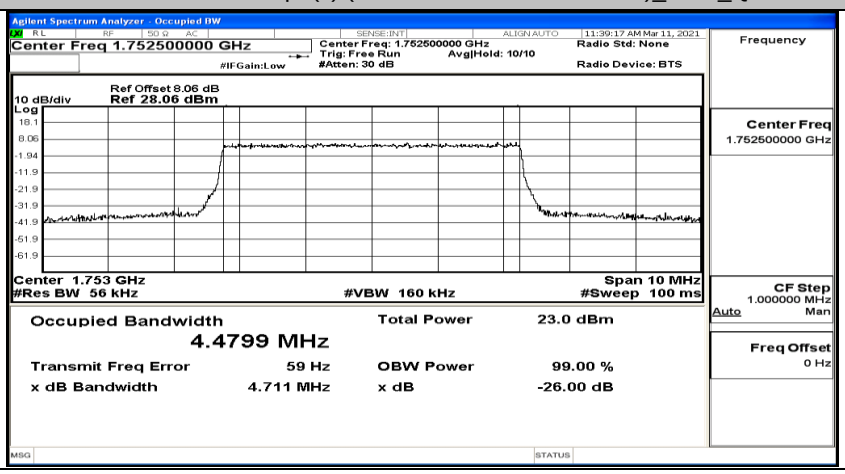
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



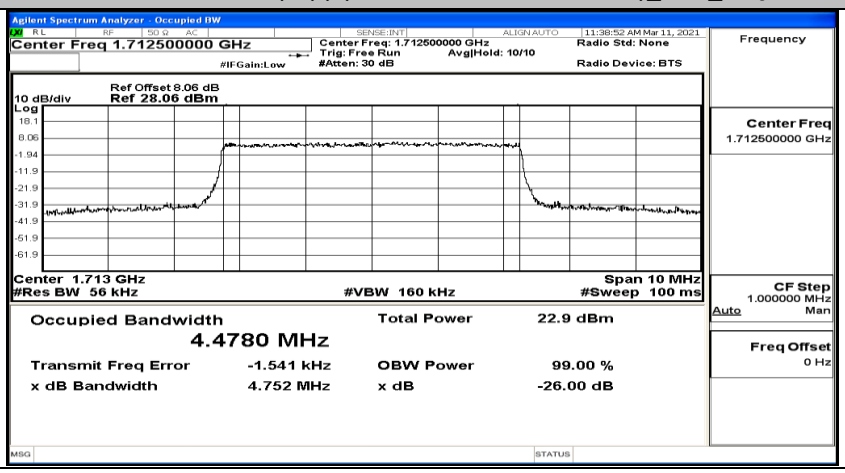
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK



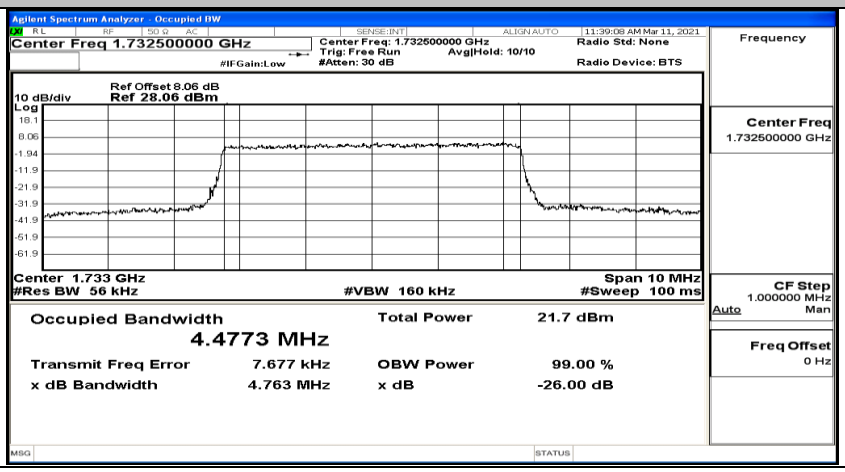
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



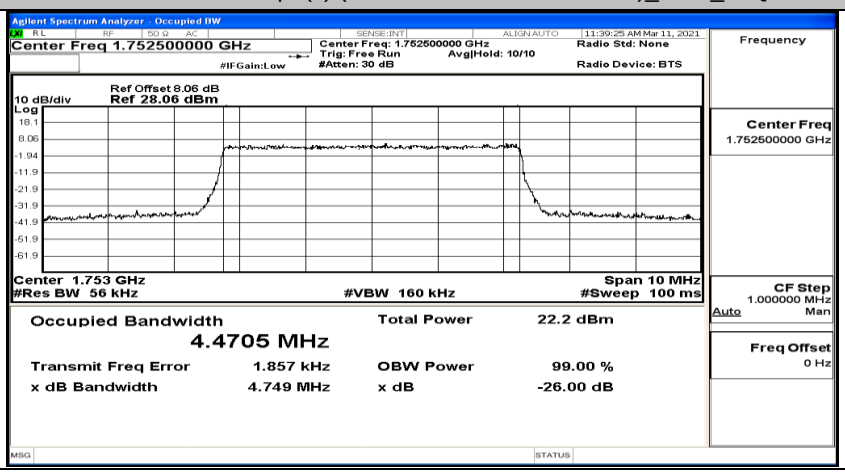
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



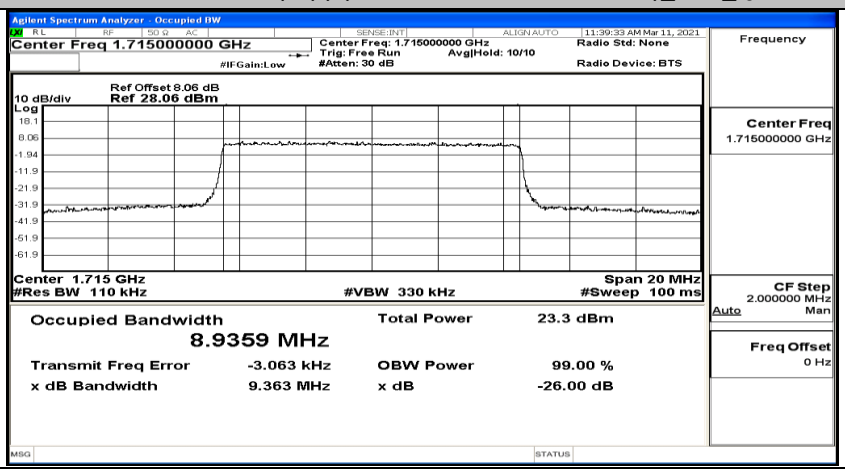
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM



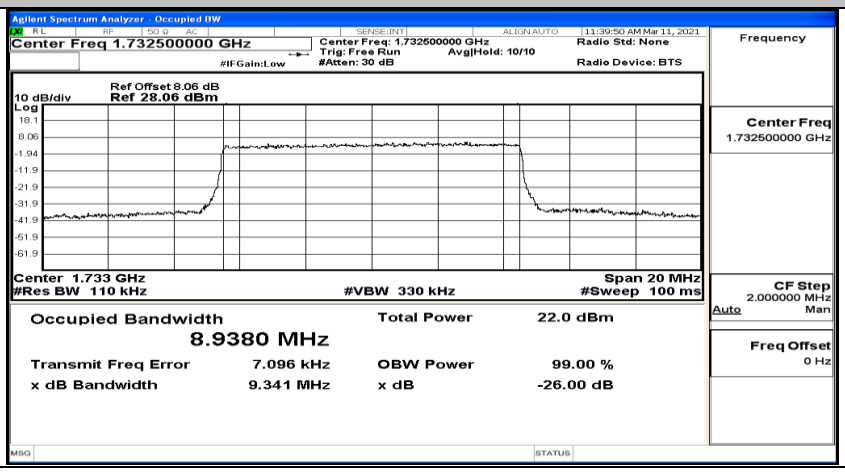
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



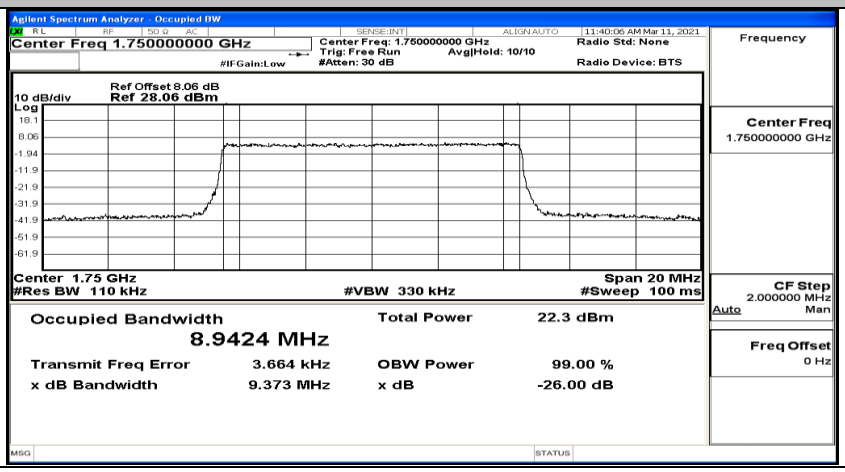
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



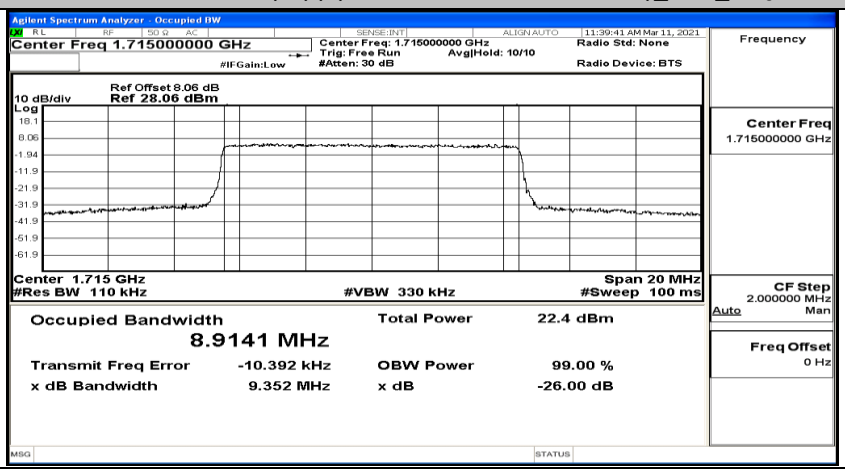
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK



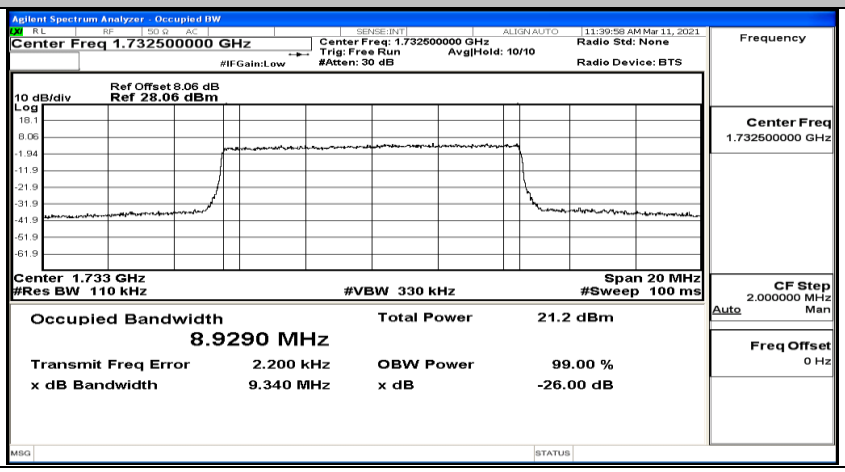
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



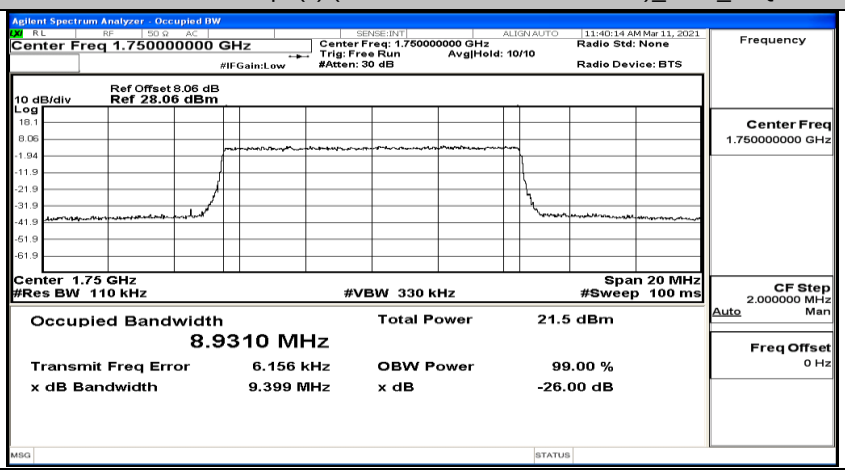
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



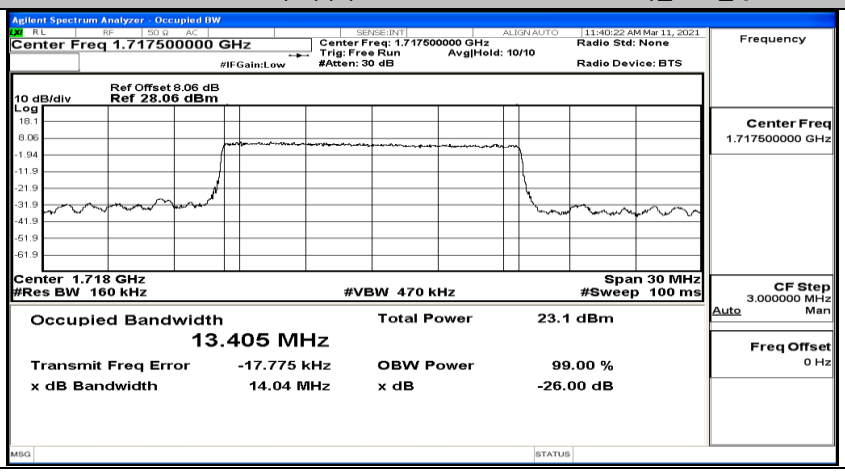
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



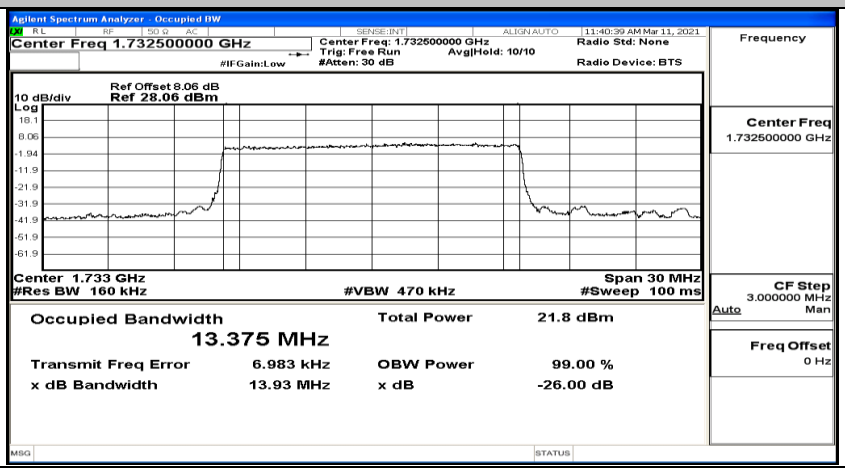
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



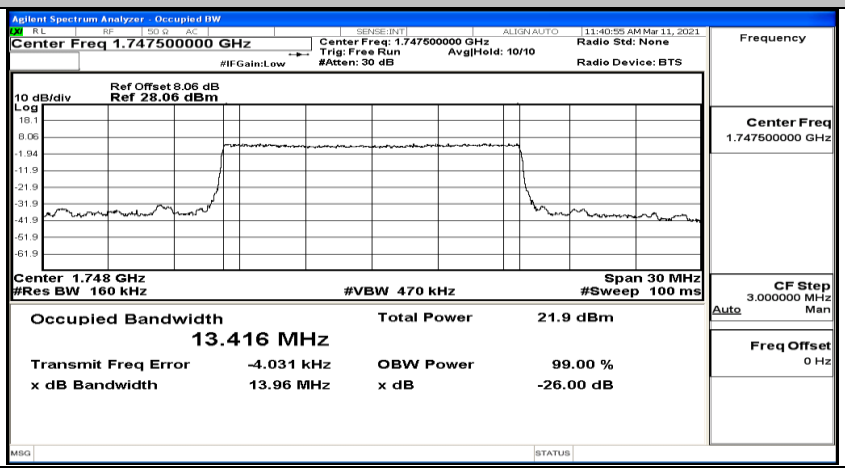
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



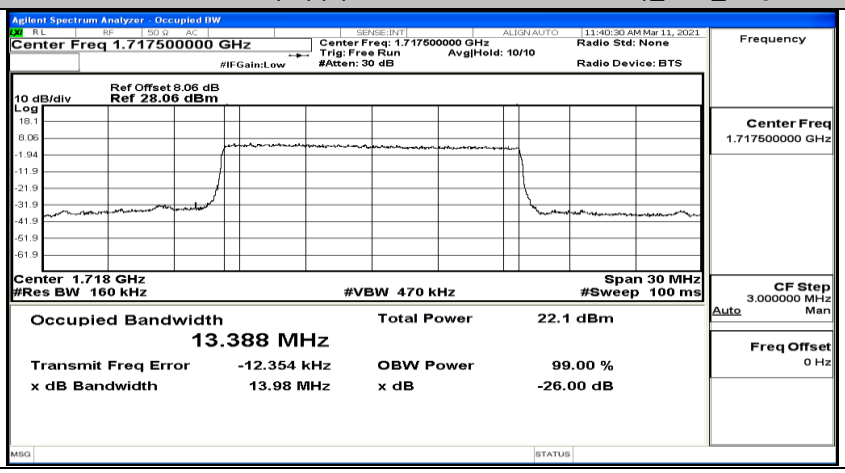
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK



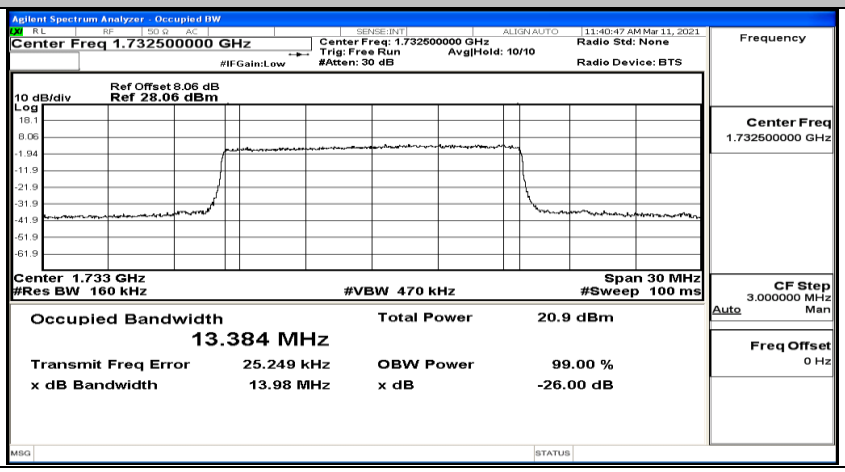
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



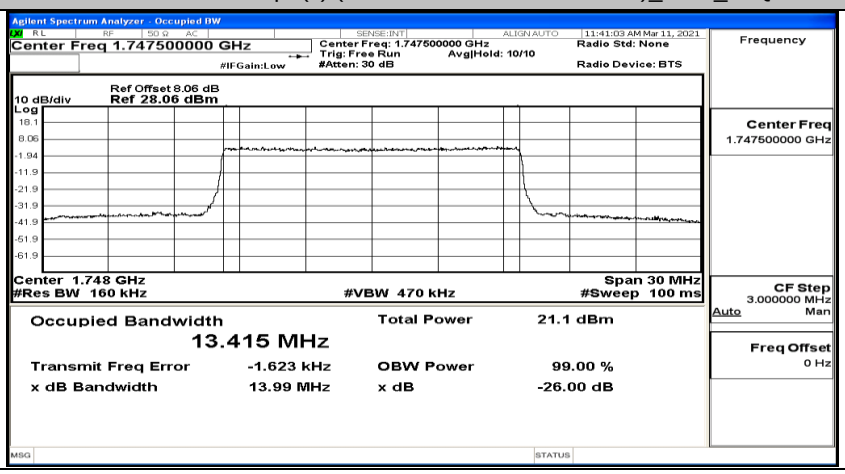
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



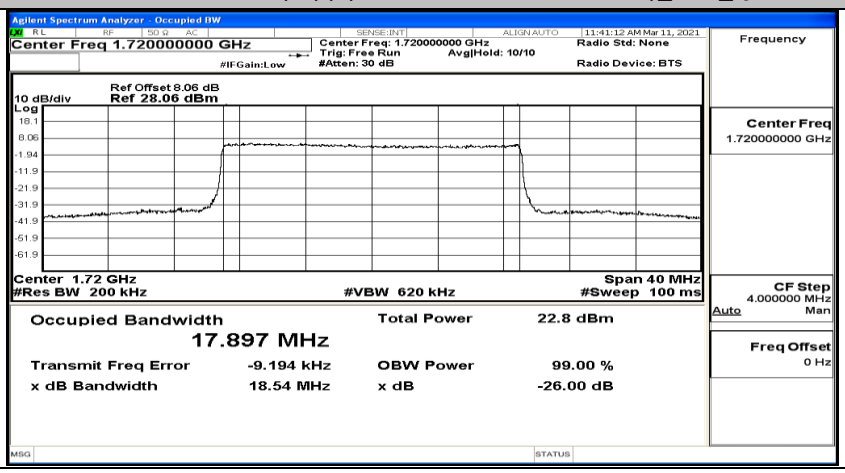
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM



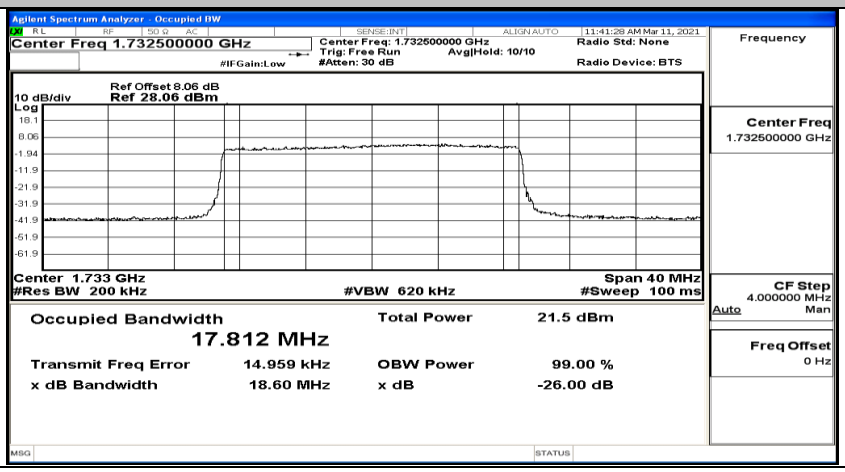
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



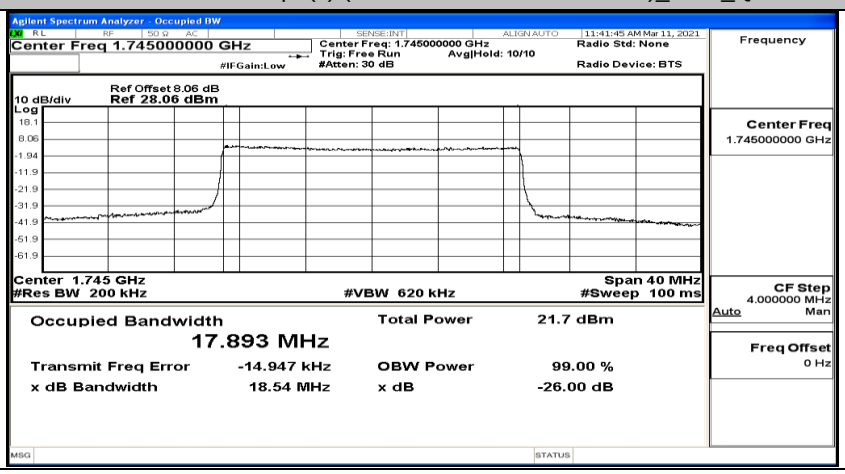
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



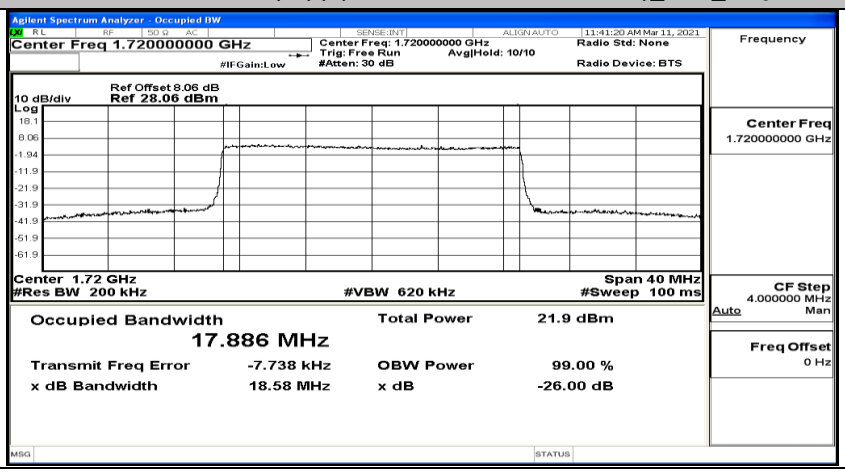
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK



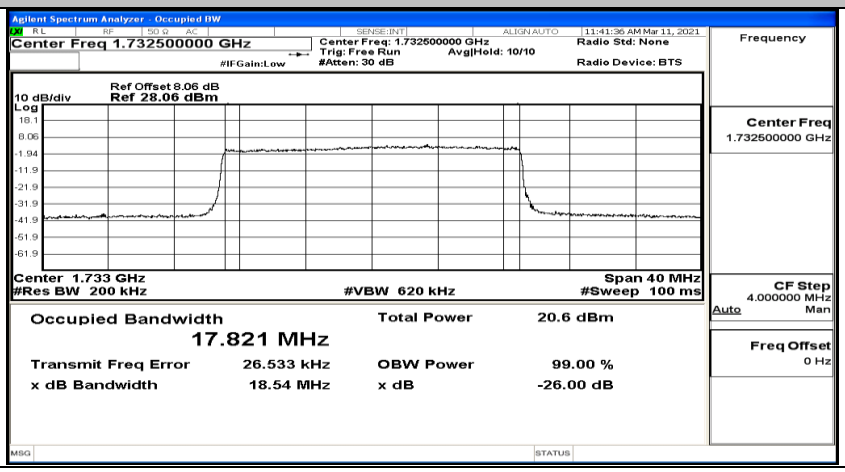
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



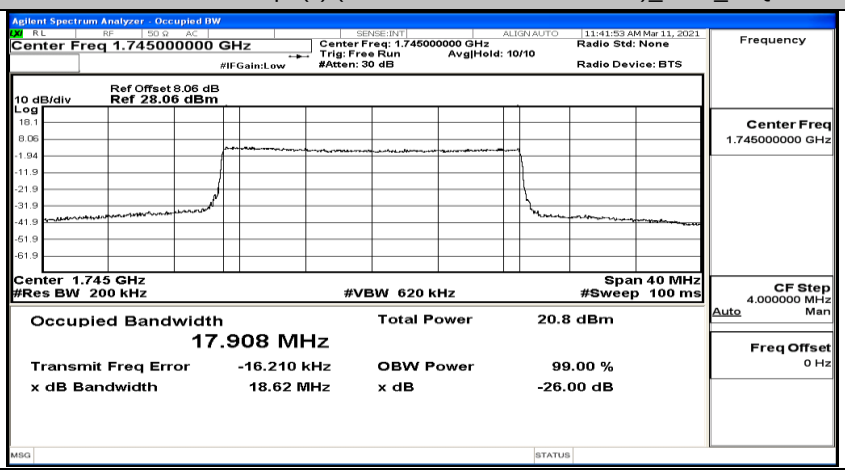
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM



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

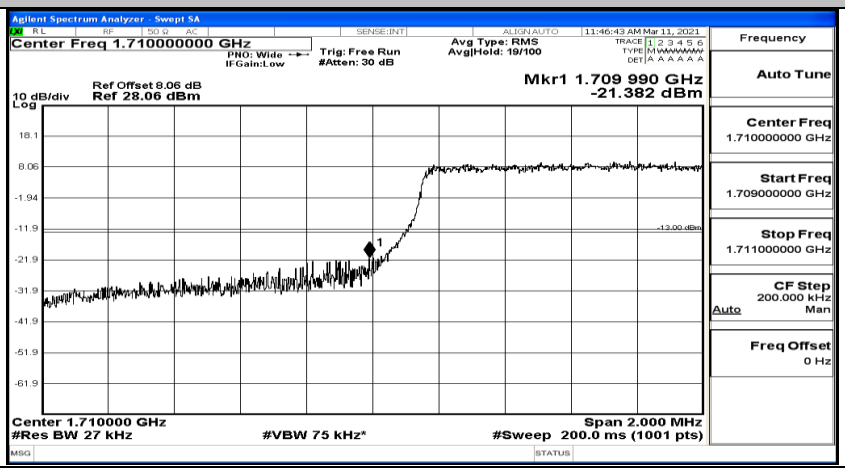


EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM

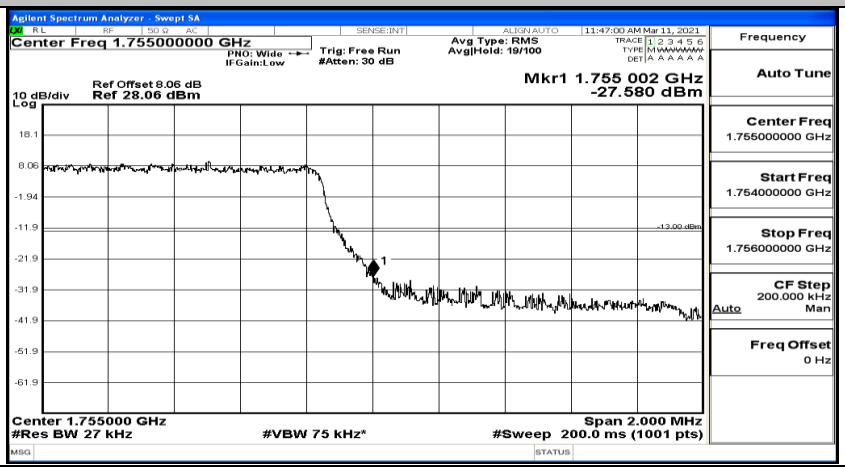


C.4 Band Edge

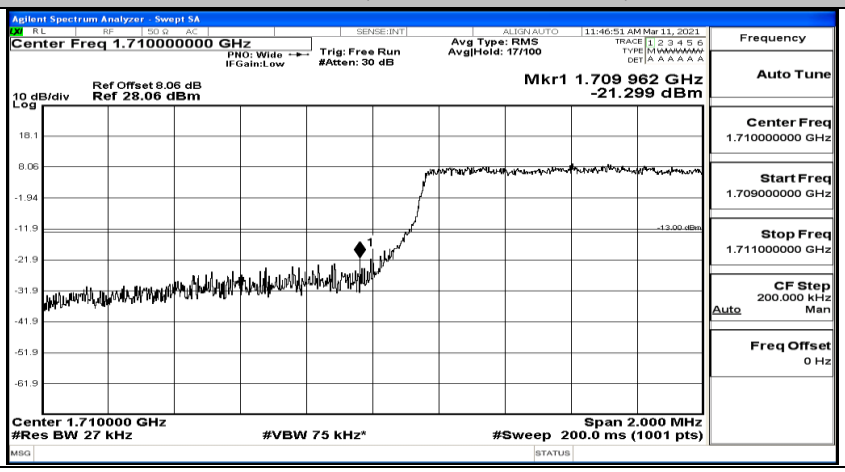
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK



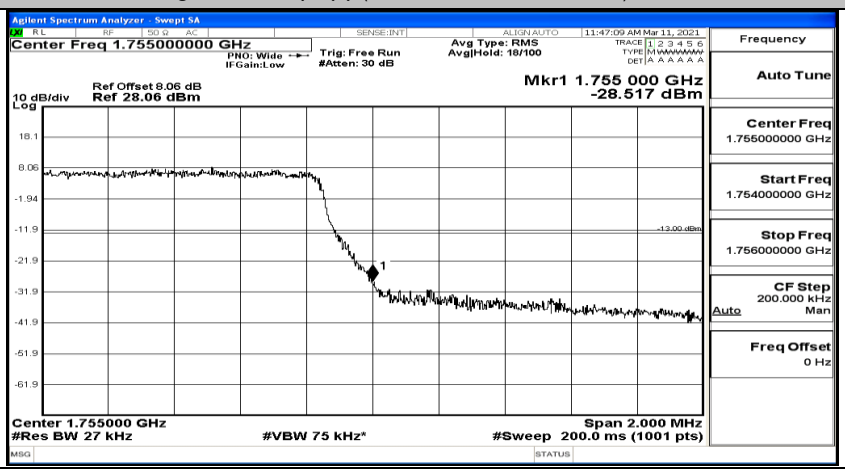
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK



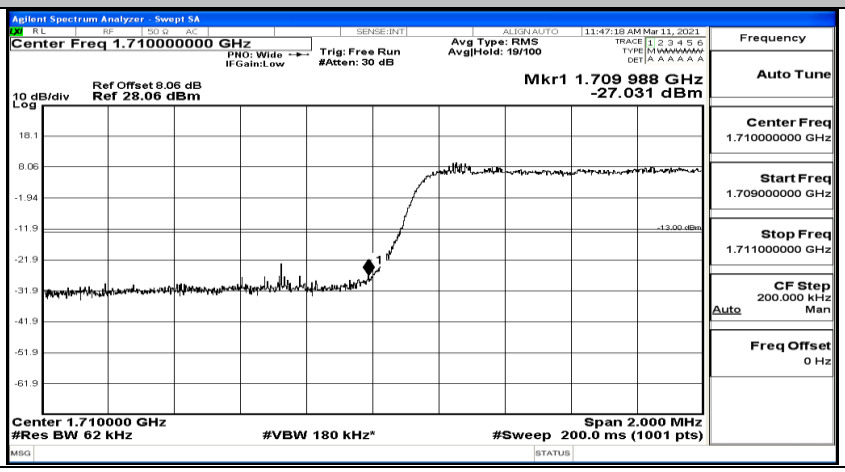
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM



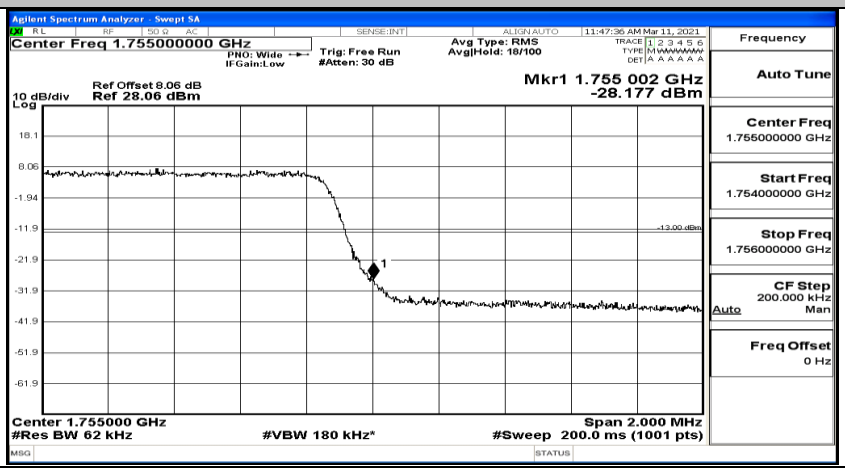
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM



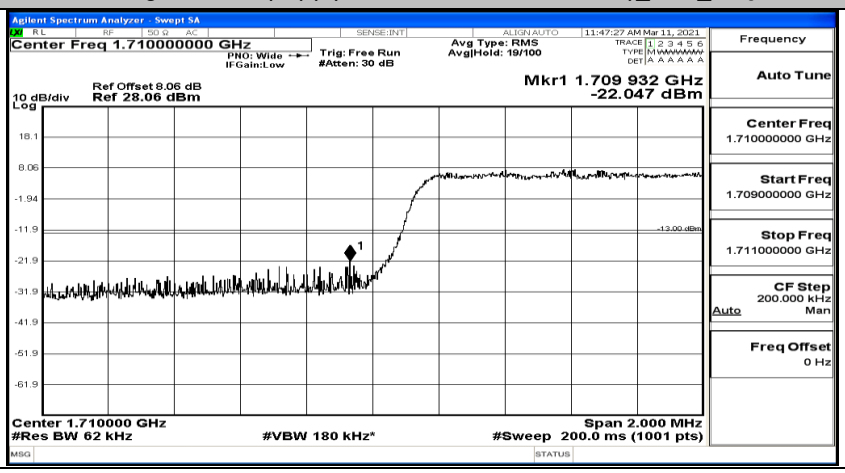
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK



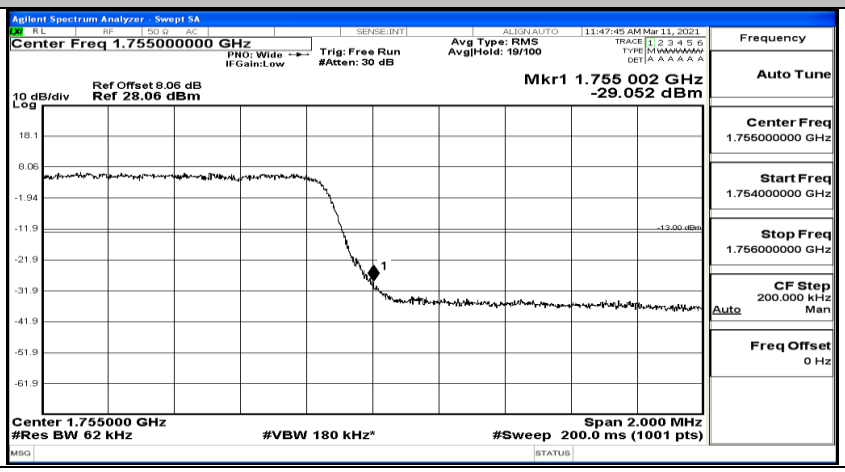
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK



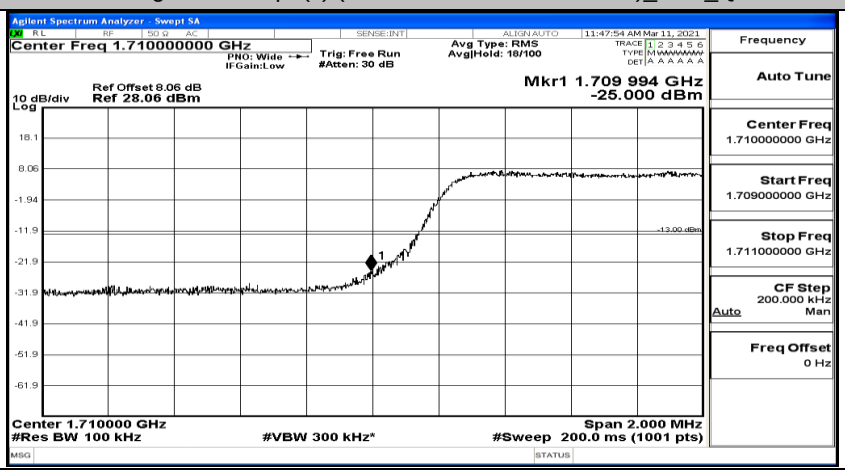
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM



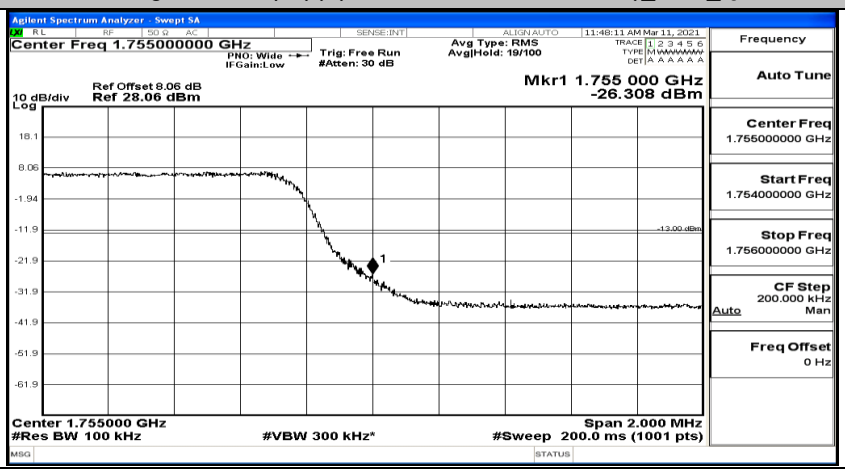
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM



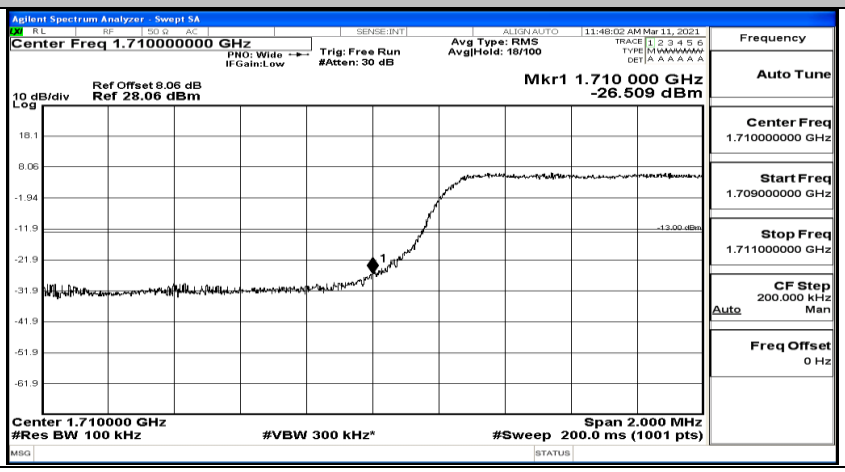
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK



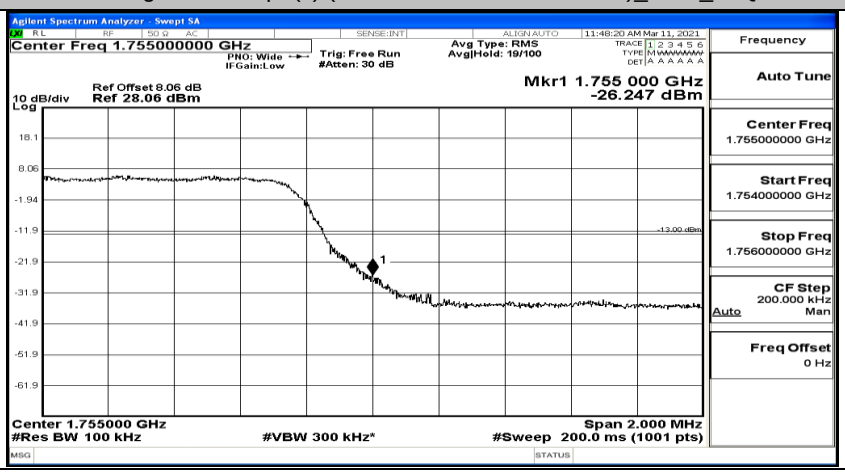
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK



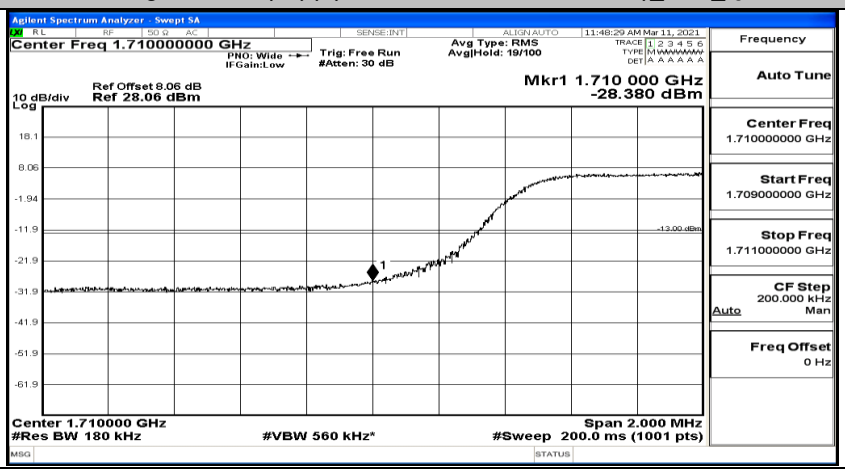
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM



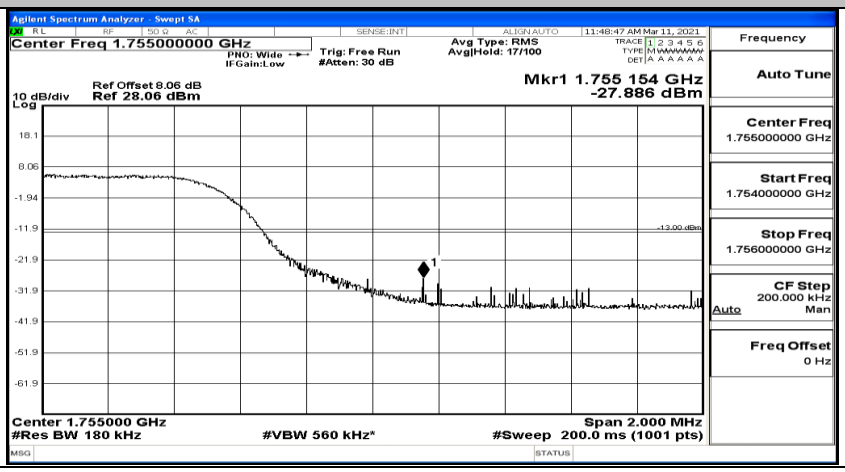
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM



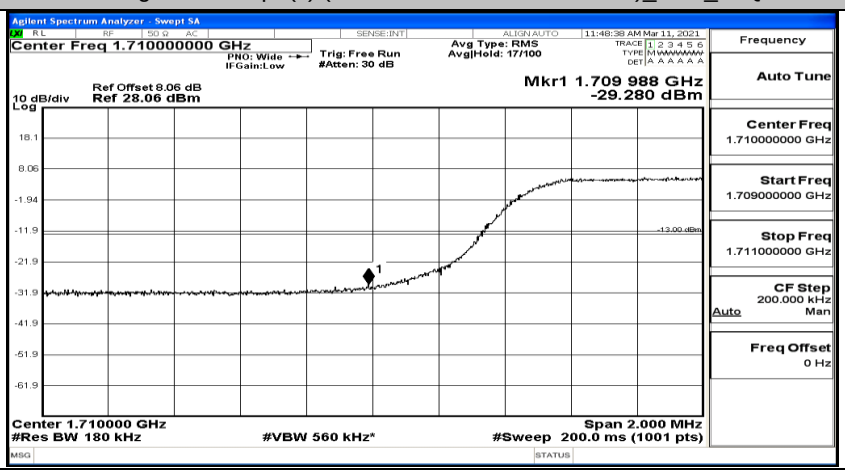
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK



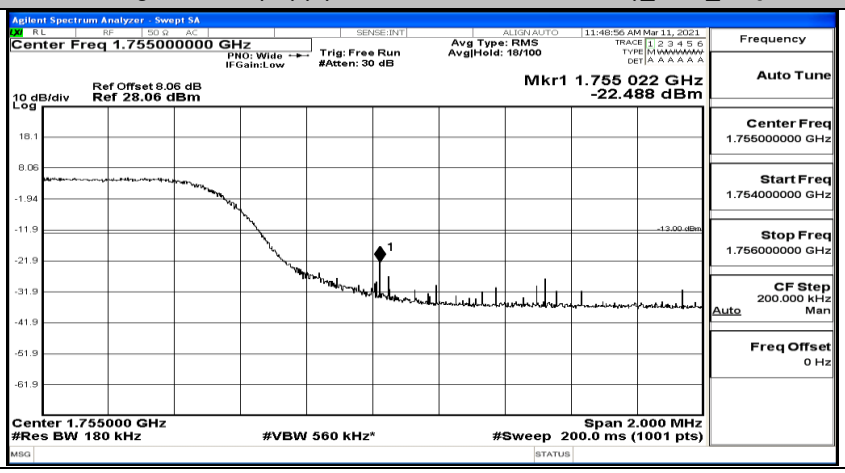
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK



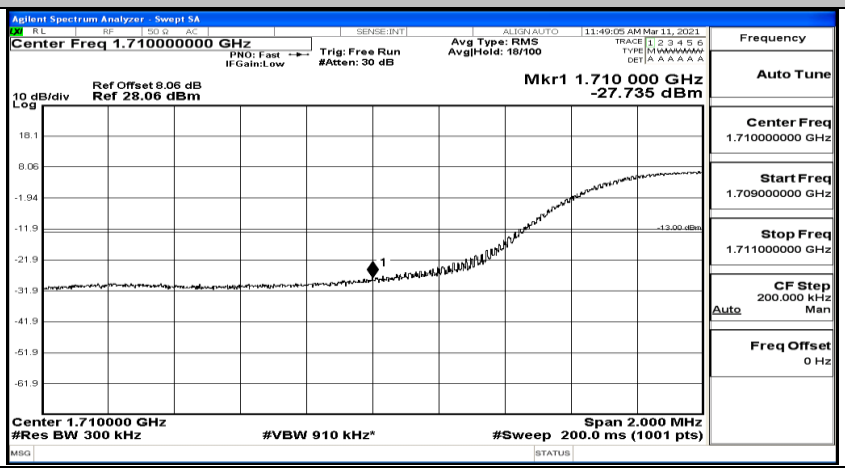
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM



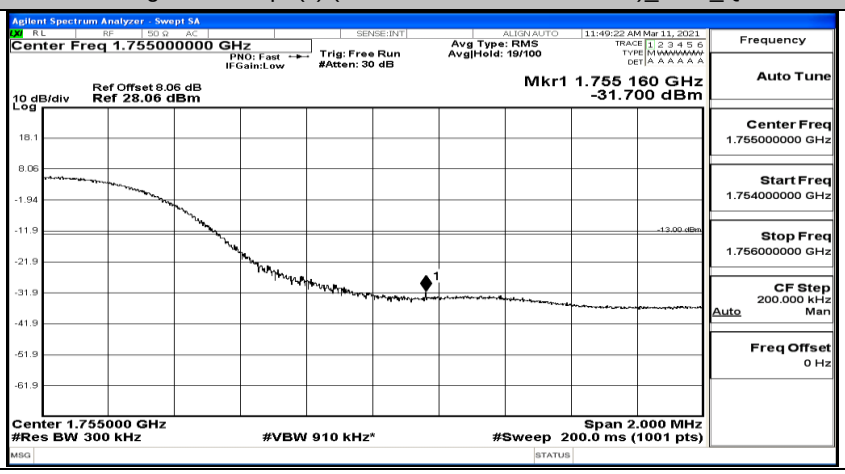
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM



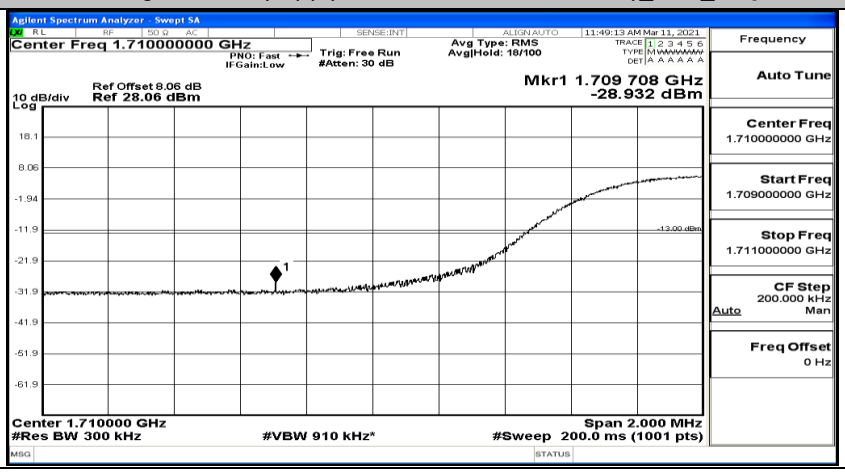
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK



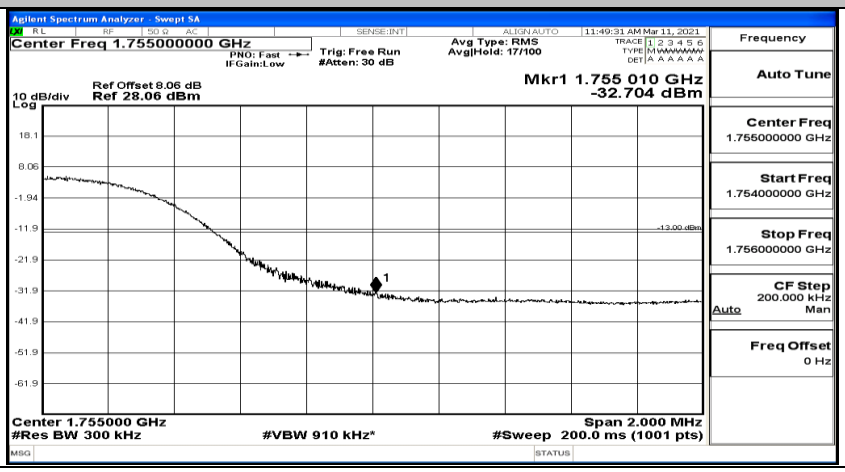
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



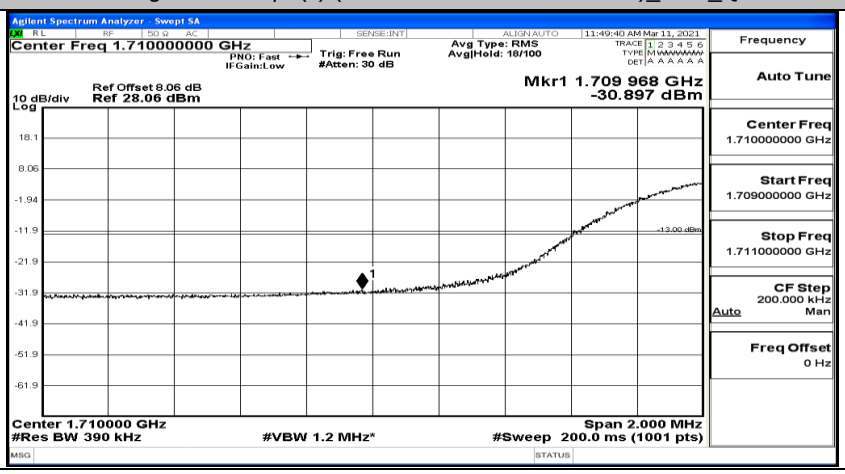
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM



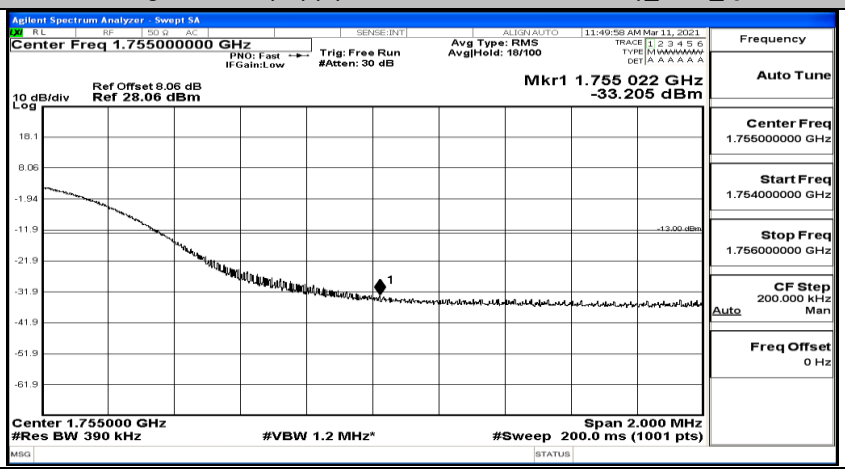
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM



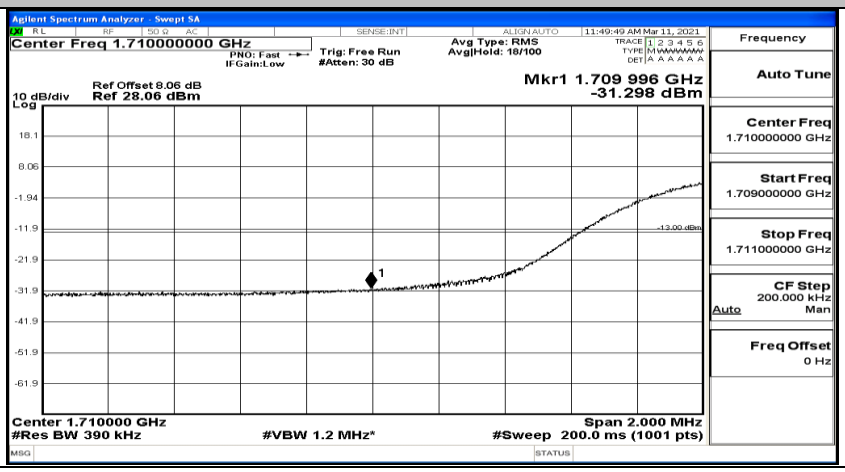
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK



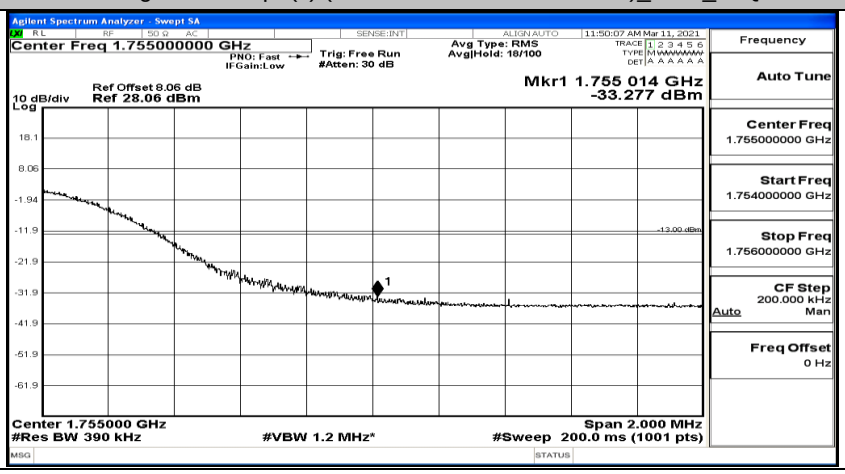
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK



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



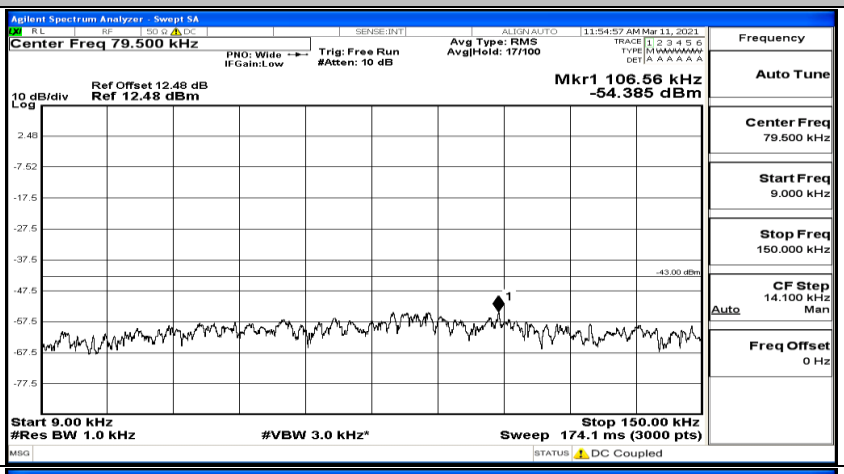
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM

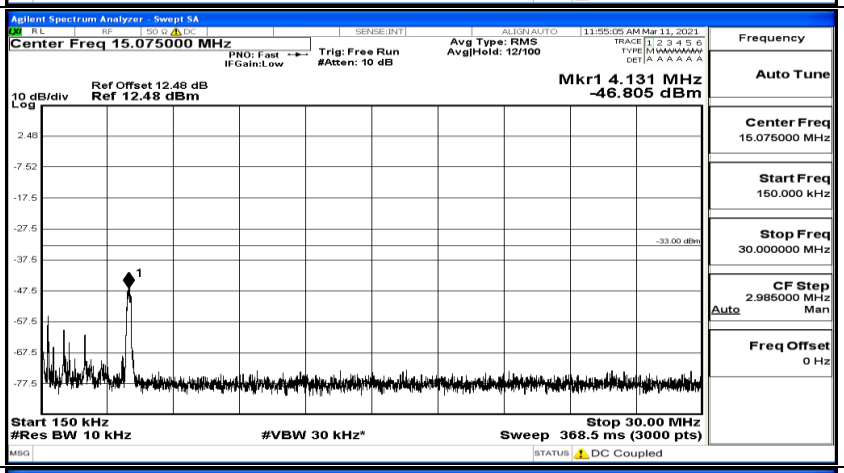


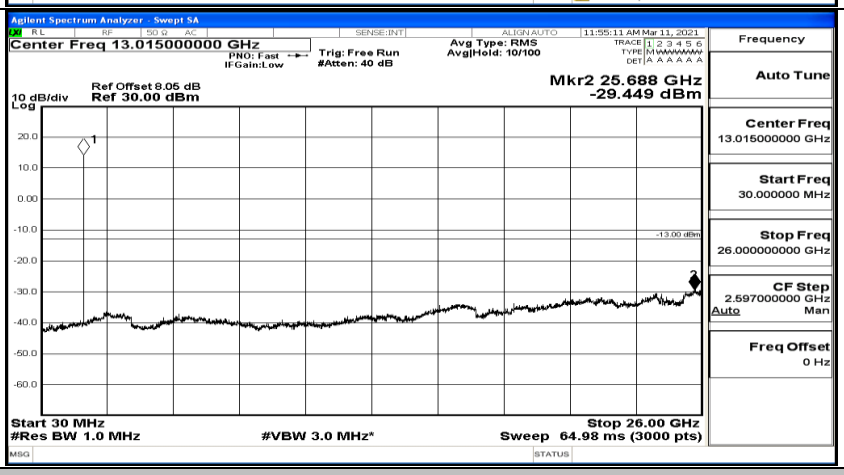
C.5 Conducted Spurious Emission

Channel Bandwidth: 1.4 MHz

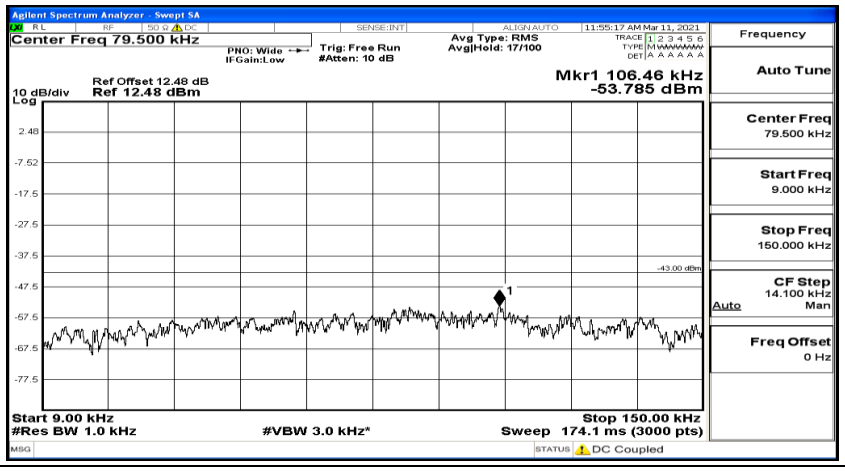
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#0

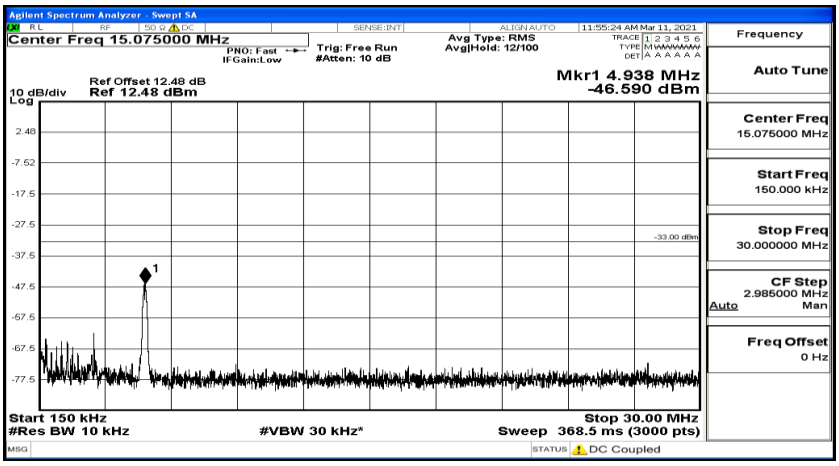


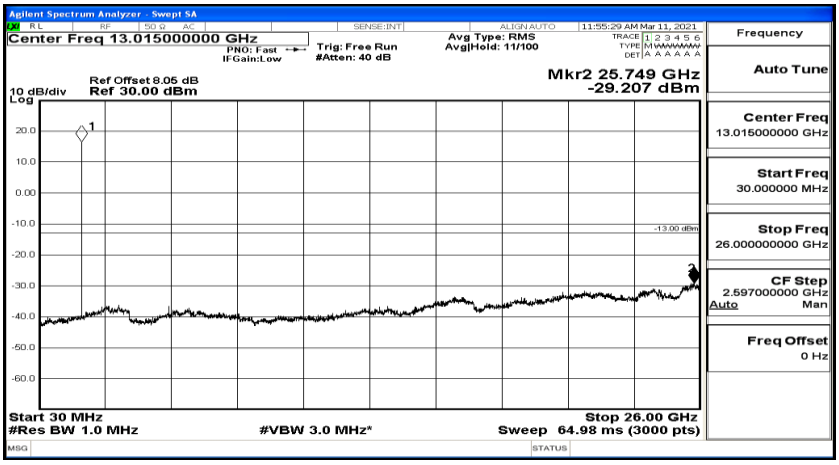




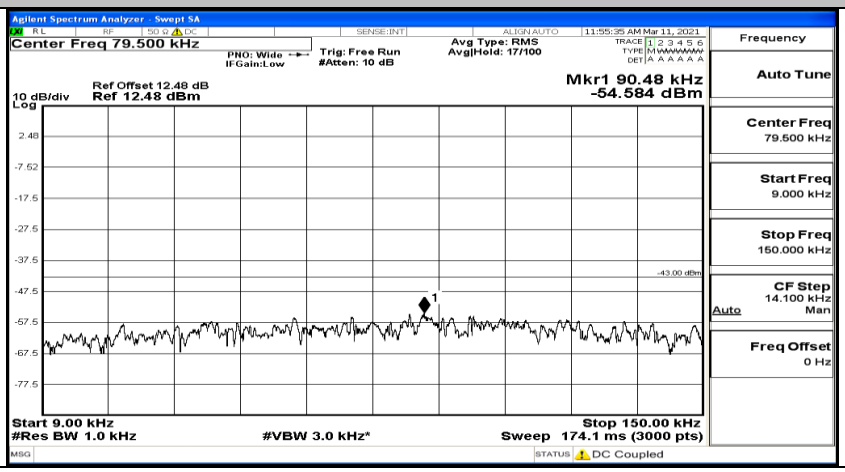
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#3

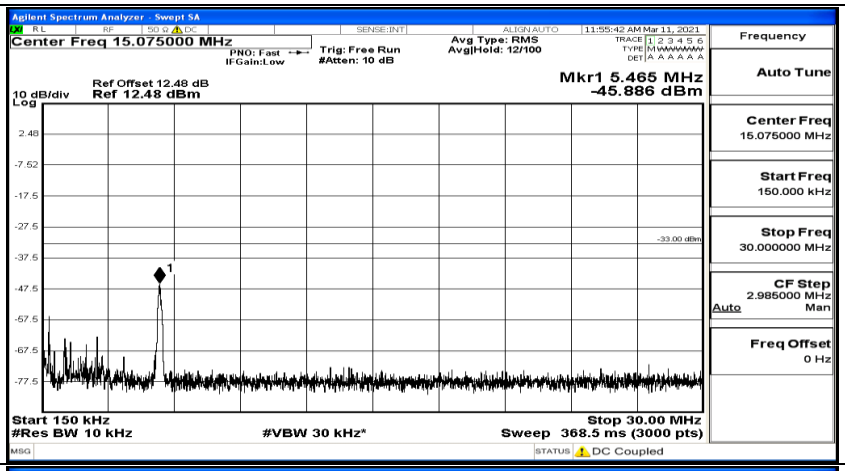


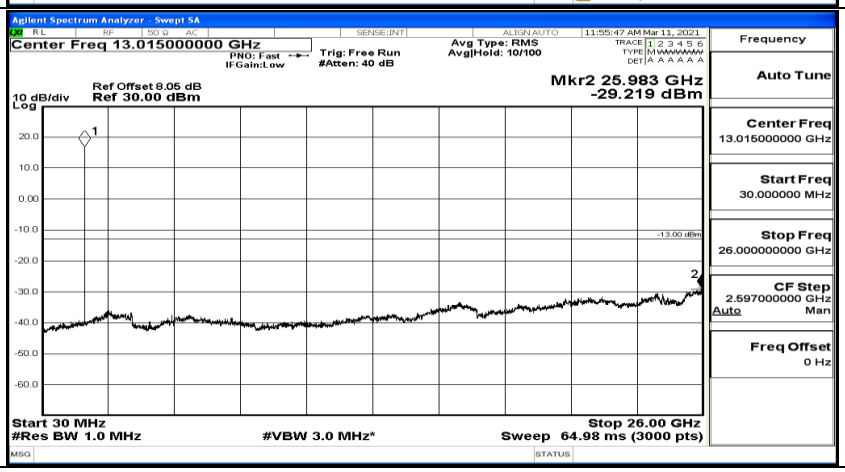




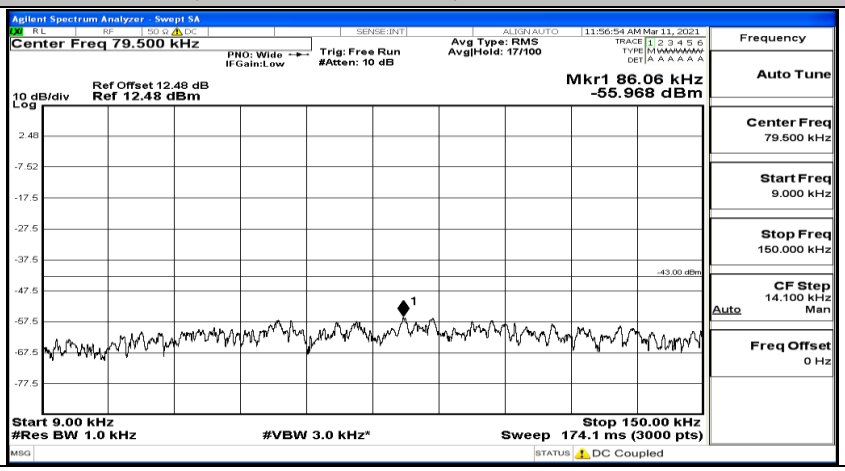
(Channel Bandwidth: 1.4 MHz)_LCH_QPSK_1RB#5

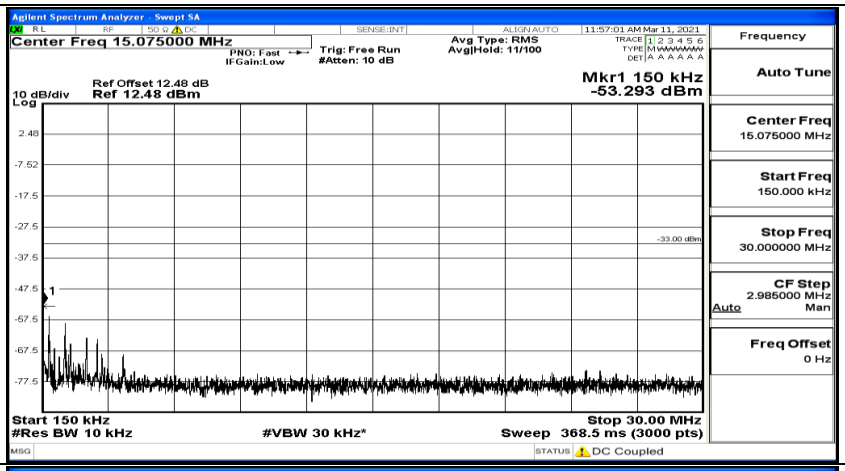


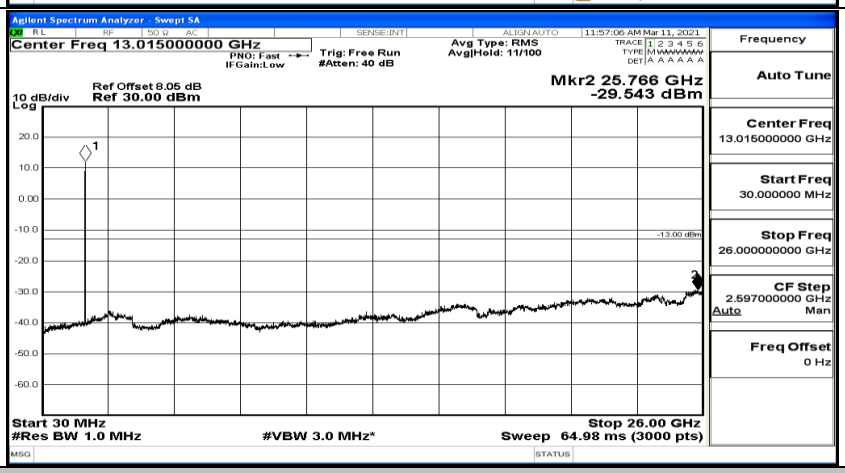




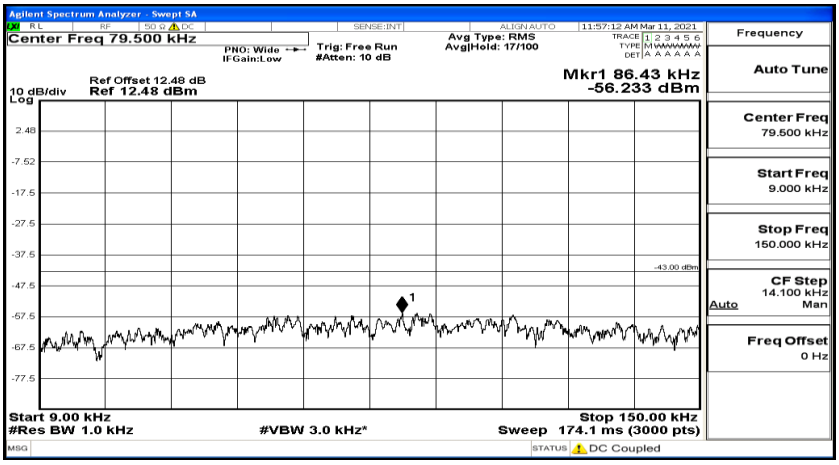
(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#0

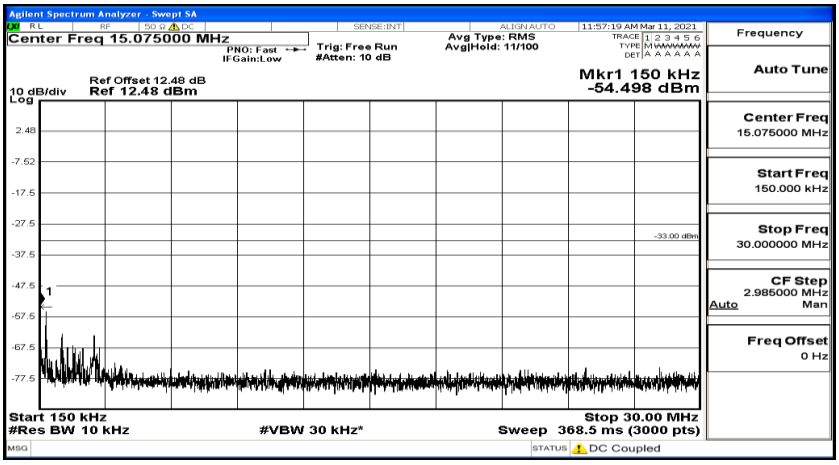


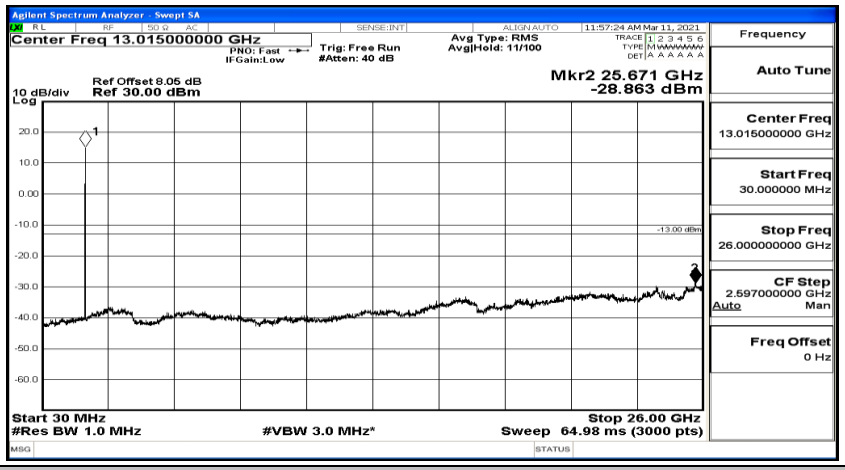
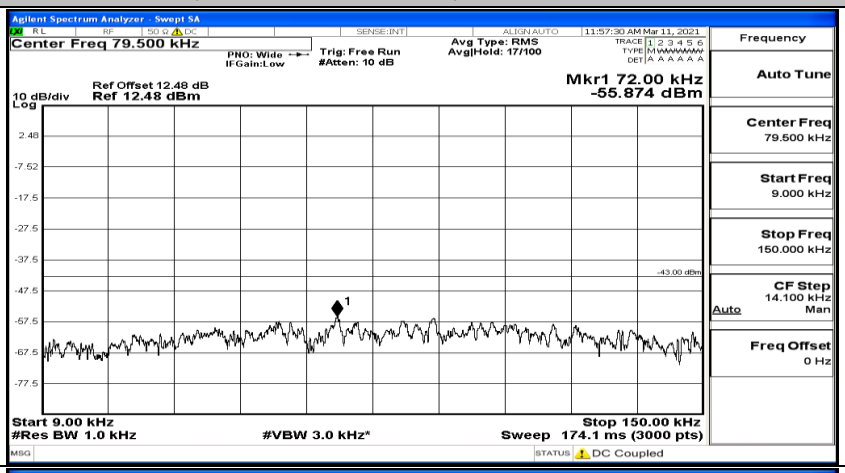
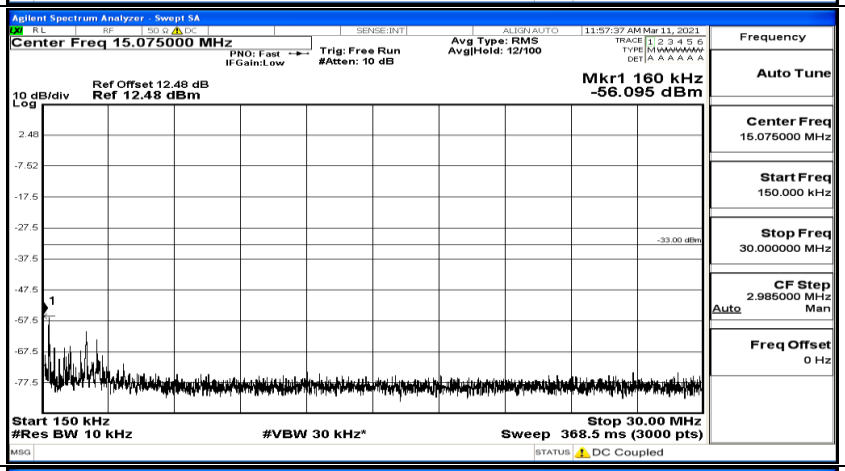
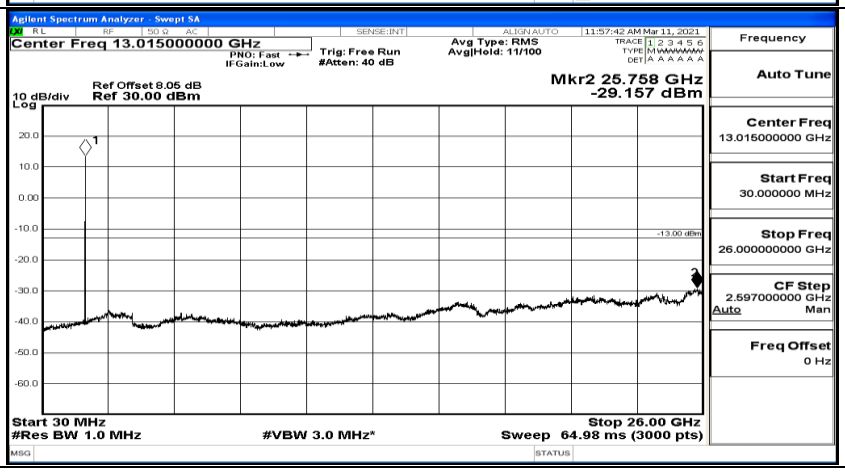




(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#3







(Channel Bandwidth: 1.4 MHz)_MCH_QPSK_1RB#5