Appendix E: Test Data for E-UTRA Band 4

Product Name: 4G Smartphone
Trade Mark: Hello Smart Phones
Test Model: Hello AN6 pro

Environmental Conditions

Temperature:	24.3
Relative Humidity:	52.7
ATM Pressure:	100.0 kPa
Test Engineer:	Tom Liu
Supervised by:	Jayden Zhuo

E.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	22.60	21.30	PASS
		1	3	22.02	21.57	PASS
		1	5	22.29	21.28	PASS
		3	0	22.23	21.37	PASS
		3	2	22.68	21.43	PASS
		3	3	21.95	21.36	PASS
		6	0	22.14	21.34	PASS
	MCH	1	0	22.47	21.44	PASS
		1	3	22.47	21.06	PASS
		1	5	21.99	20.98	PASS
		3	0	22.37	21.46	PASS
		3	2	22.39	21.17	PASS
		3	3	21.92	21.23	PASS
		6	0	22.34	21.58	PASS
	HCH	1	0	22.24	21.24	PASS
		1	3	22.02	21.28	PASS
		1	5	22.41	21.24	PASS
		3	0	22.66	21.64	PASS
		3	2	21.94	21.27	PASS
		3	3	22.27	21.48	PASS
		6	0	22.09	21.42	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	22.08	21.42	PASS
		1	7	22.34	21.23	PASS
		1	14	22.42	21.59	PASS
		8	0	22.11	21.15	PASS
		8	4	22.18	21.38	PASS
		8	7	22.22	21.19	PASS
		15	0	22.04	21.25	PASS
	MCH	1	0	22.05	21.74	PASS
		1	7	22.46	21.46	PASS
		1	14	22.18	21.79	PASS
		8	0	22.02	21.36	PASS
		8	4	22.29	21.72	PASS
		8	7	22.55	21.42	PASS
		15	0	22.49	21.48	PASS
	HCH	1	0	22.68	21.10	PASS
		1	7	22.60	21.26	PASS
		1	14	21.98	21.12	PASS
		8	0	22.43	21.12	PASS
		8	4	22.42	21.20	PASS
		8	7	22.69	21.59	PASS
		15	0	22.63	21.70	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	22.41	21.60	PASS
		1	12	22.57	21.32	PASS
		1	24	22.30	21.34	PASS
		12	0	22.14	21.46	PASS
		12	6	22.20	21.23	PASS
		12	13	22.42	21.61	PASS
		25	0	22.59	21.58	PASS
	MCH	1	0	22.70	21.18	PASS
		1	12	22.23	21.36	PASS
		1	24	21.92	21.24	PASS
		12	0	22.20	21.33	PASS
		12	6	22.27	21.61	PASS
		12	13	22.05	21.51	PASS
		25	0	22.50	21.75	PASS
	HCH	1	0	22.34	21.46	PASS
		1	12	22.67	21.37	PASS
		1	24	22.48	21.78	PASS
		12	0	22.67	21.39	PASS
		12	6	22.10	21.52	PASS
		12	13	22.26	21.62	PASS
		25	0	22.06	21.58	PASS

Conducted Output Power Test Result (Channel Bandwidth: 10 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	22.61	21.74	PASS
		1	24	22.11	21.19	PASS
		1	49	22.51	21.76	PASS
		25	0	22.20	21.38	PASS
		25	12	22.20	21.63	PASS
		25	25	22.41	21.66	PASS
		50	0	22.11	21.69	PASS
	MCH	1	0	22.49	21.11	PASS
		1	24	21.97	21.21	PASS
		1	49	22.27	21.45	PASS
		25	0	22.23	21.72	PASS
		25	12	22.42	21.62	PASS
		25	25	22.03	21.40	PASS
		50	0	22.58	21.71	PASS
	HCH	1	0	21.98	21.14	PASS
		1	24	22.25	21.50	PASS
		1	49	22.37	21.16	PASS
		25	0	22.53	21.55	PASS
		25	12	21.98	20.96	PASS
		25	25	22.11	21.13	PASS
		50	0	21.89	21.14	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	22.60	21.22	PASS
		1	37	22.16	21.05	PASS
		1	74	22.36	21.47	PASS
		37	0	22.63	21.41	PASS
		37	18	21.93	21.37	PASS
		37	38	22.39	21.64	PASS
		75	0	22.57	21.74	PASS
	MCH	1	0	22.08	21.39	PASS
		1	37	22.34	21.67	PASS
		1	74	22.39	21.48	PASS
		37	0	22.62	21.83	PASS
		37	18	22.39	21.64	PASS
		37	38	22.40	21.69	PASS
		75	0	22.59	21.52	PASS
	HCH	1	0	22.49	21.72	PASS
		1	37	22.41	21.46	PASS
		1	74	22.64	21.55	PASS
		37	0	22.23	21.39	PASS
		37	18	22.54	21.55	PASS
		37	38	22.29	21.60	PASS
		75	0	22.62	21.59	PASS

Conducted Output Power Test Result (Channel Bandwidth: 20 MHz)						
Modulation	Channel	RB Configuration		Average Power [dBm]	Average Power [dBm]	Verdict
		Size	Offset	QPSK	16QAM	
QPSK / 16QAM	LCH	1	0	22.35	21.54	PASS
		1	49	22.79	21.69	PASS
		1	99	22.36	21.57	PASS
		50	0	22.90	21.67	PASS
		50	25	22.20	21.56	PASS
		50	50	22.44	21.44	PASS
		100	0	22.52	21.47	PASS
	MCH	1	0	22.79	21.66	PASS
		1	49	22.24	21.57	PASS
		1	99	22.19	21.45	PASS
		50	0	22.47	21.77	PASS
		50	25	22.48	21.66	PASS
		50	50	22.38	21.64	PASS
		100	0	22.80	21.47	PASS
	HCH	1	0	22.31	21.51	PASS
		1	49	22.31	21.65	PASS
		1	99	22.08	21.61	PASS
		50	0	22.78	21.49	PASS
		50	25	22.39	21.63	PASS
		50	50	22.56	21.79	PASS
		100	0	22.23	21.75	PASS

E.2 Peak-to-Average Ratio

Peak-to Average Ratio Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.02	<13	PASS
	MCH	4.92	<13	PASS
	HCH	4.83	<13	PASS
16QAM	LCH	5.27	<13	PASS
	MCH	5.18	<13	PASS
	HCH	5.06	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.05	<13	PASS
	MCH	5.08	<13	PASS
	HCH	5.12	<13	PASS
16QAM	LCH	5.38	<13	PASS
	MCH	5.42	<13	PASS
	HCH	5.33	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.16	<13	PASS
	MCH	5.2	<13	PASS
	HCH	5.16	<13	PASS
16QAM	LCH	5.47	<13	PASS
	MCH	5.5	<13	PASS
	HCH	5.47	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.08	<13	PASS
	MCH	5.29	<13	PASS
	HCH	5.17	<13	PASS
16QAM	LCH	5.47	<13	PASS
	MCH	5.66	<13	PASS
	HCH	5.54	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	4.96	<13	PASS
	MCH	5.03	<13	PASS
	HCH	4.98	<13	PASS
16QAM	LCH	6.03	<13	PASS
	MCH	6.15	<13	PASS
	HCH	5.96	<13	PASS

Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
QPSK	LCH	5.74	<13	PASS
	MCH	5.75	<13	PASS
	HCH	5.73	<13	PASS
16QAM	LCH	6.67	<13	PASS
	MCH	6.77	<13	PASS
	HCH	6.59	<13	PASS

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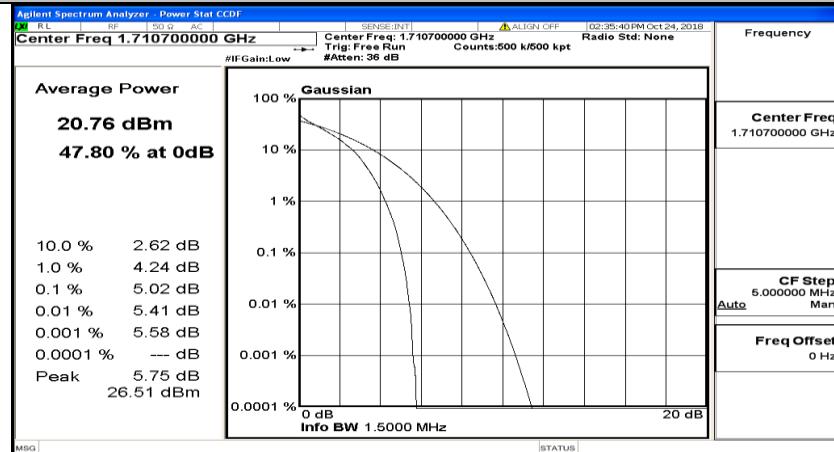
| Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK |
|---|

| Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK |
|---|
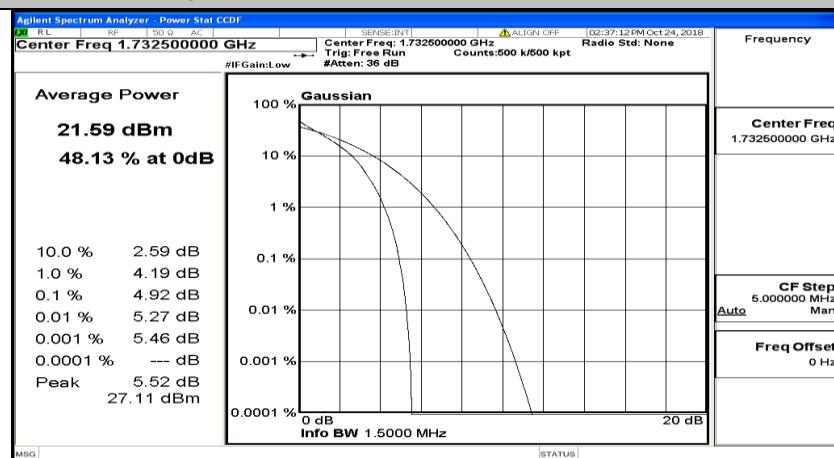
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Page 9 of 77
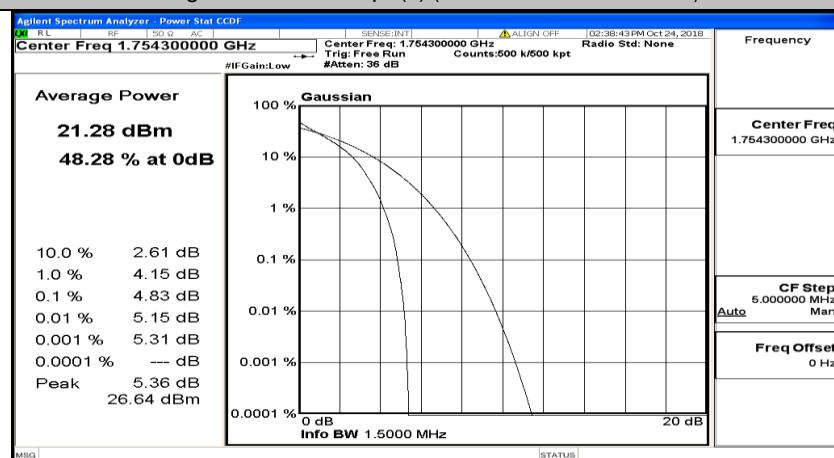
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM
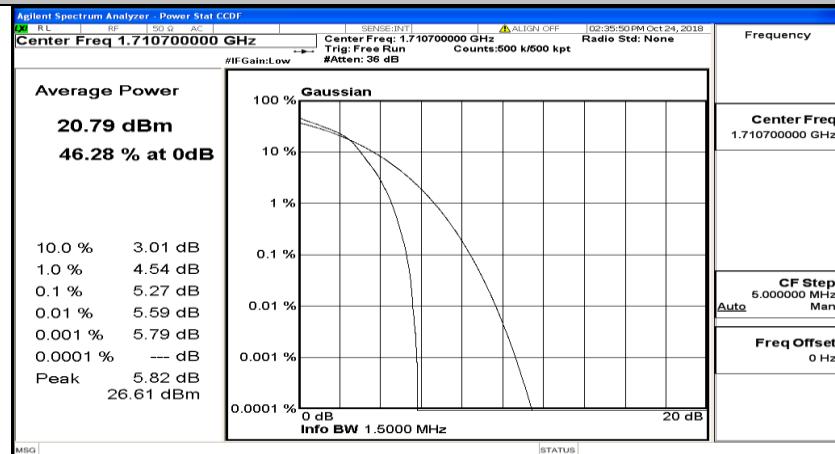
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_16QAM
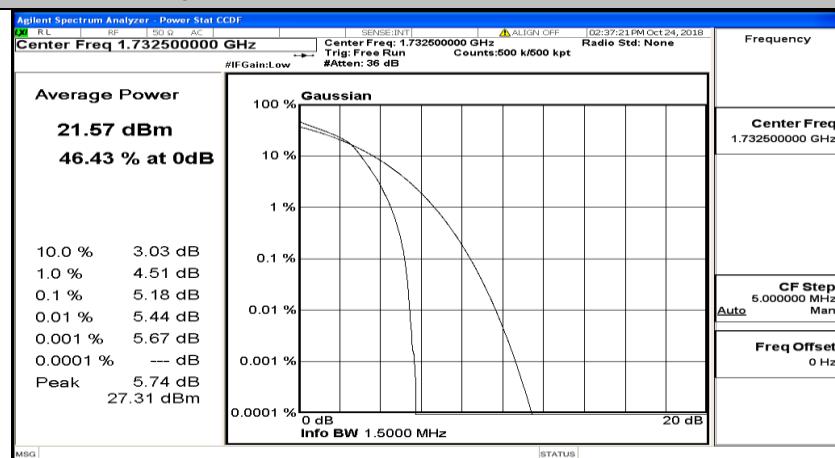
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM
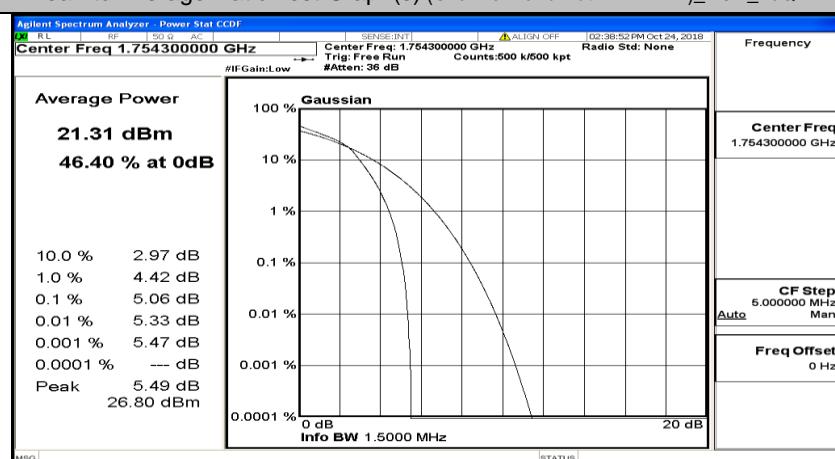
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK
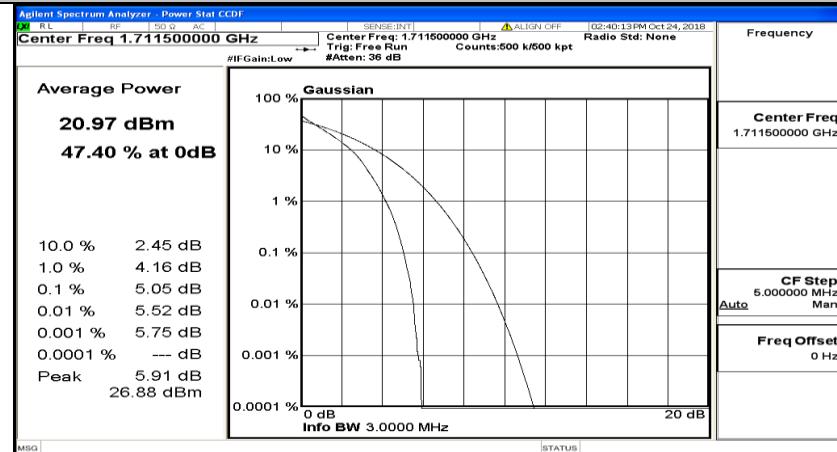
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK
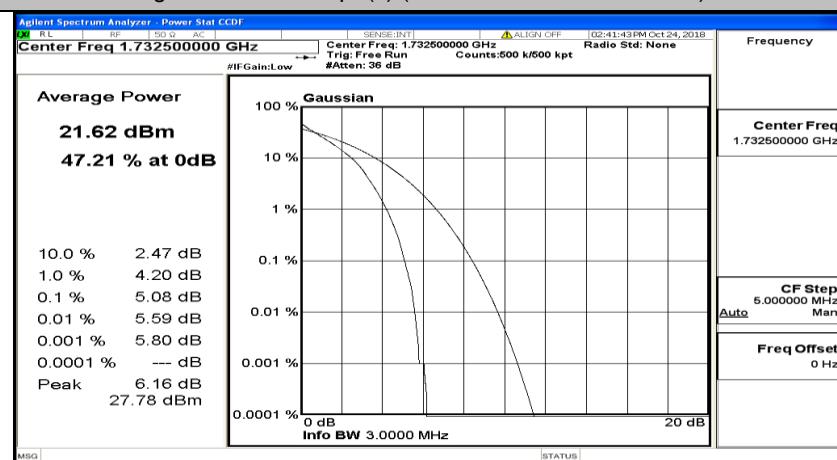
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK
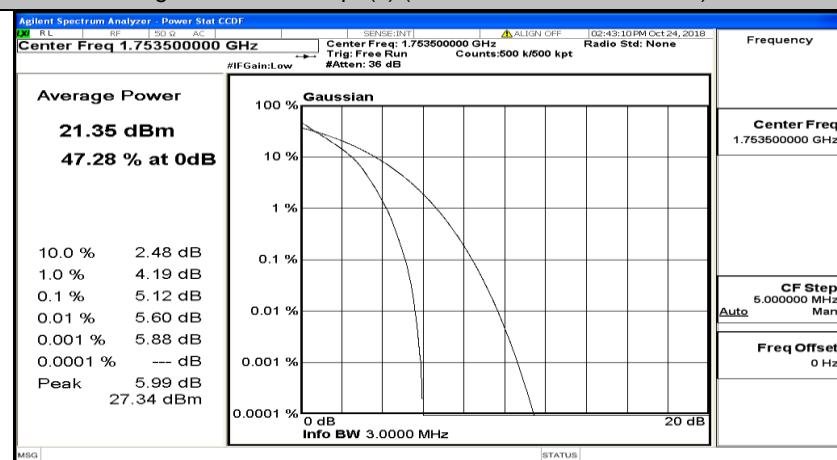
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM
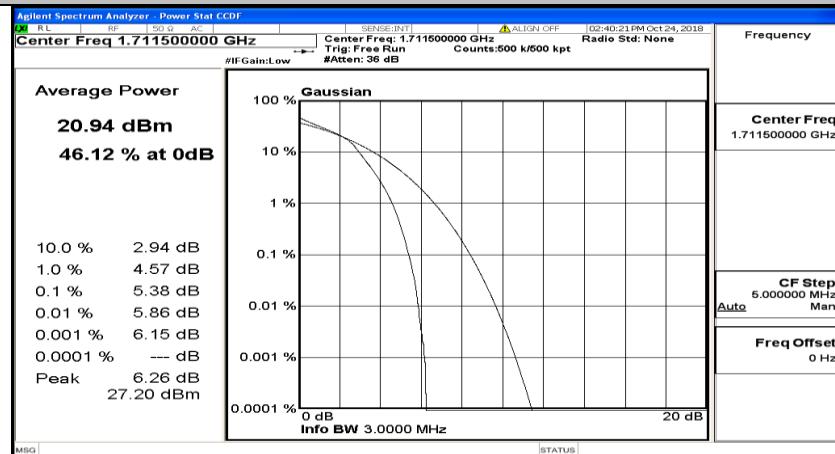
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM
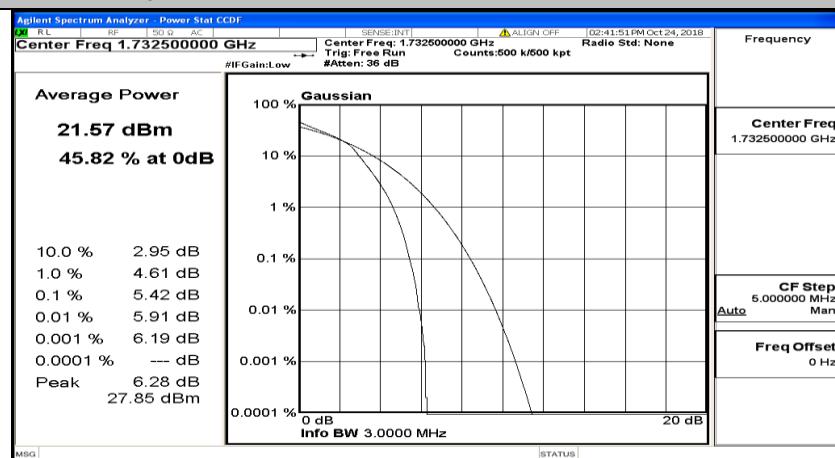
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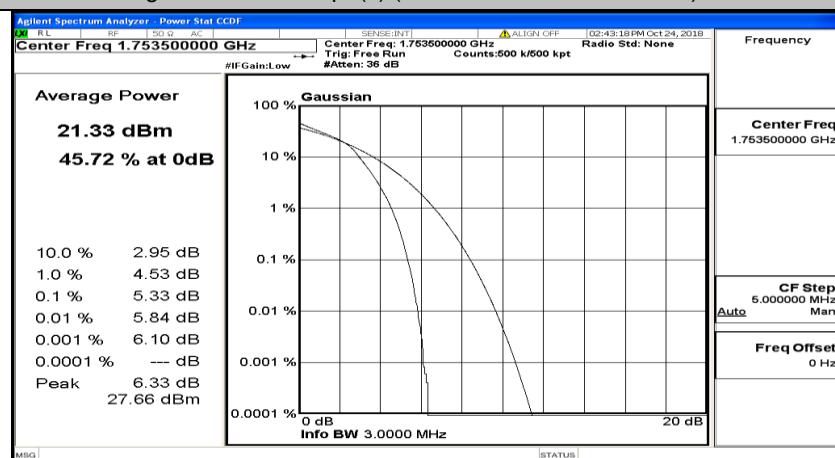
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK
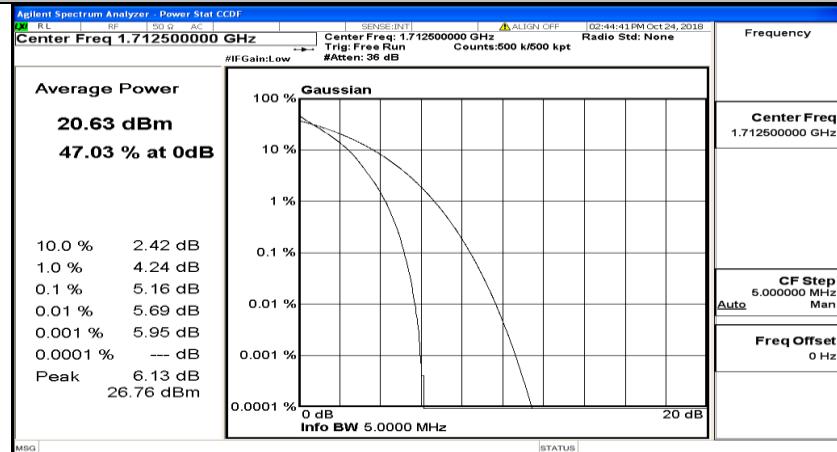
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK
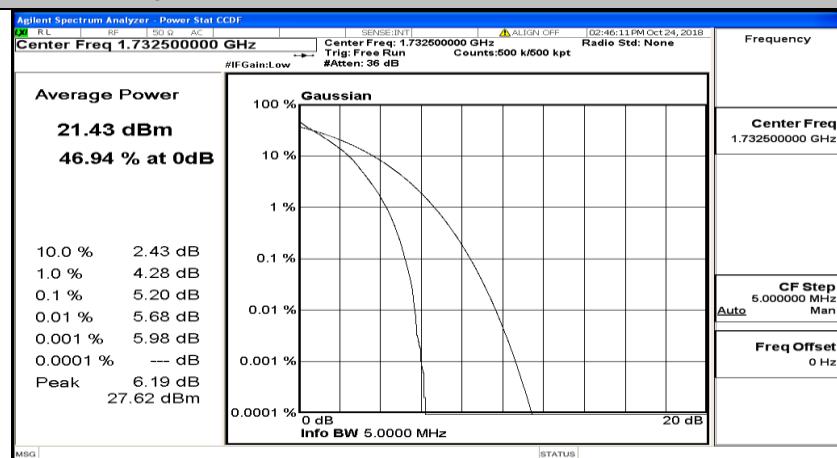
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK
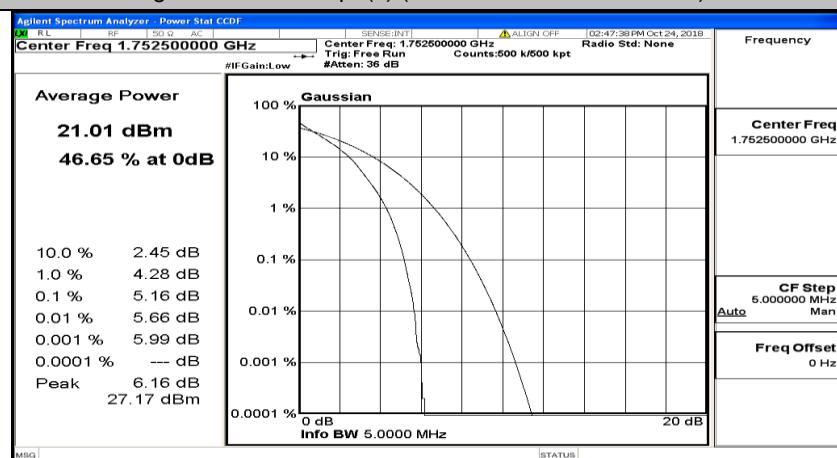
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM
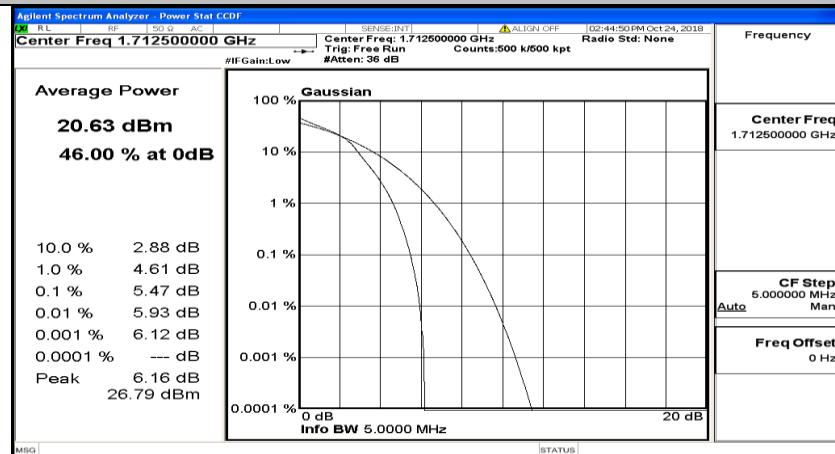
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM
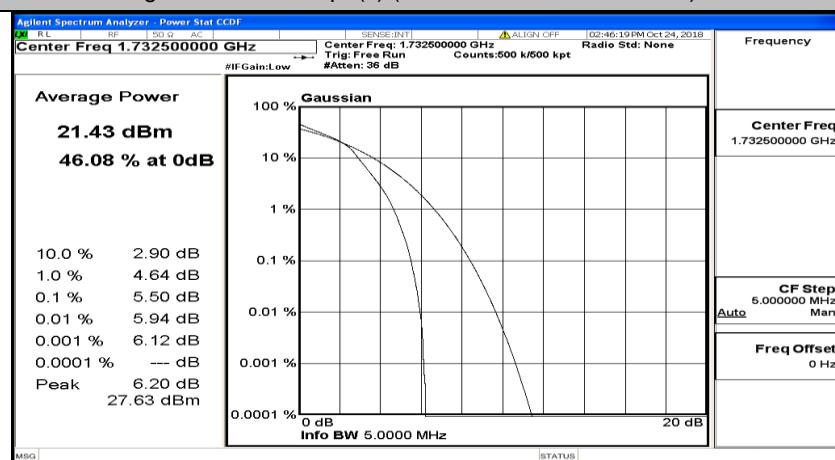
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM
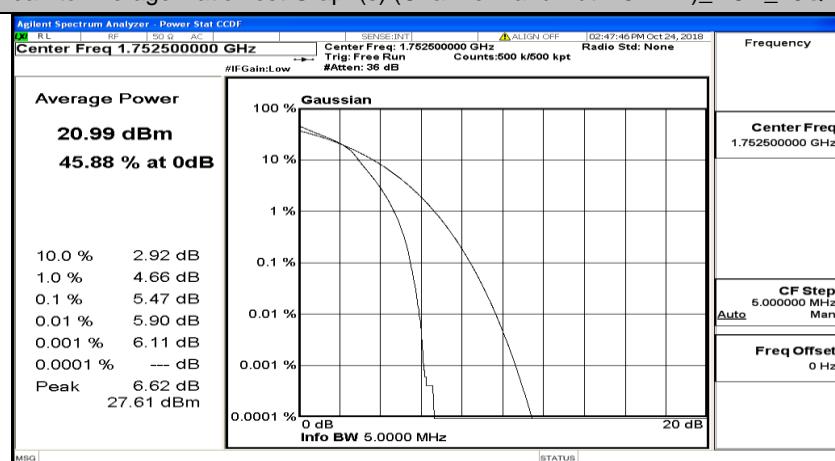
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK
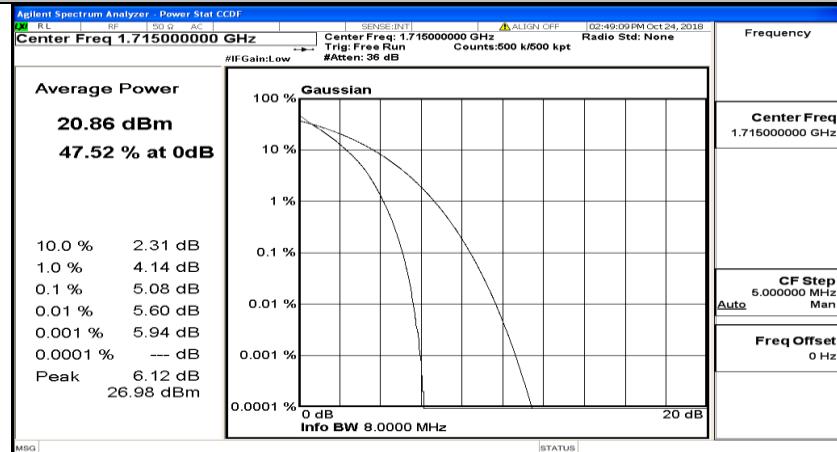
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK
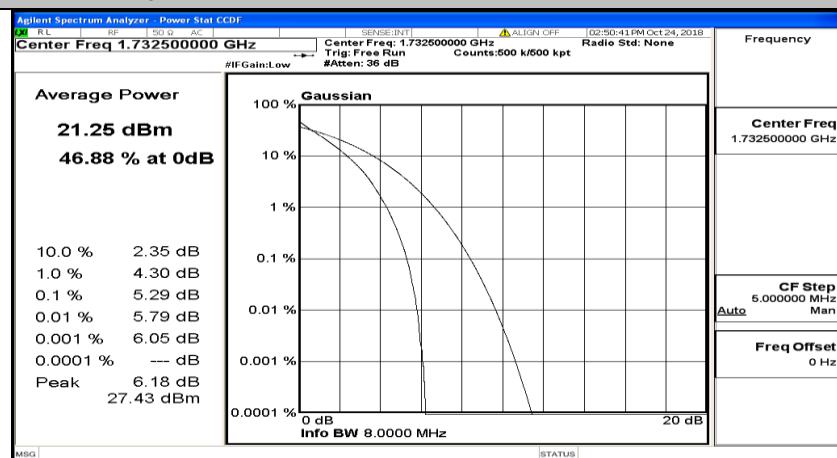
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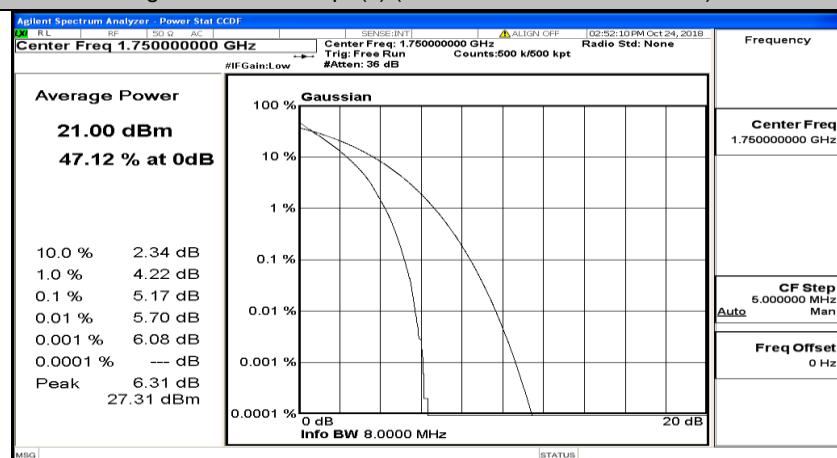
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM
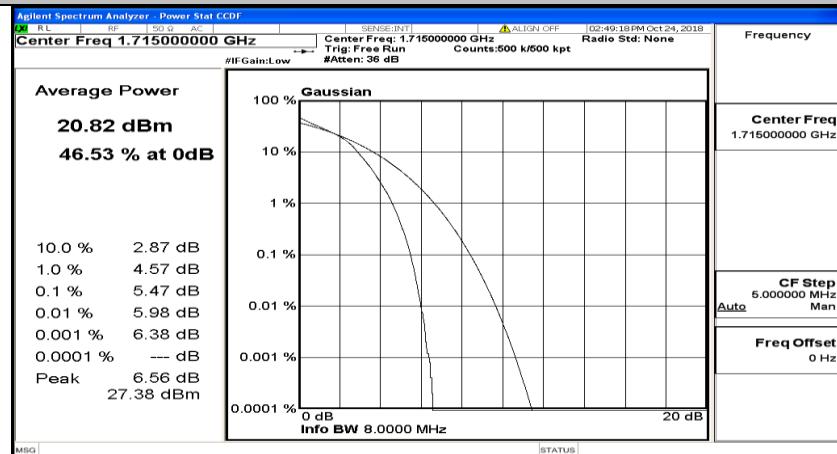
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM
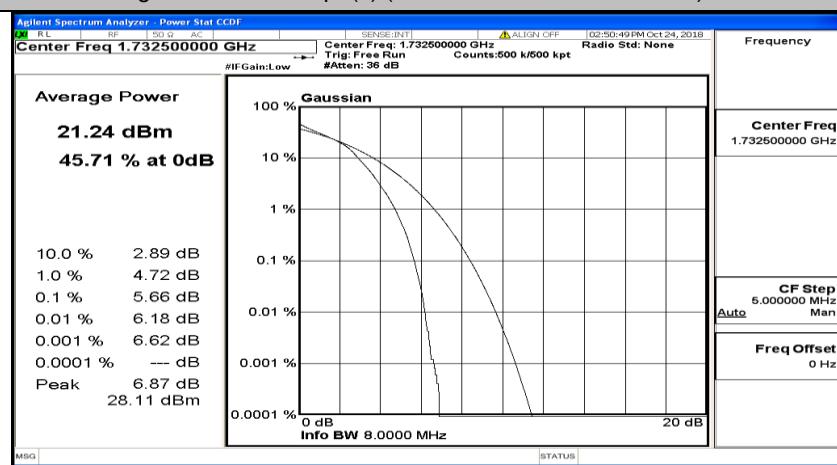
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM
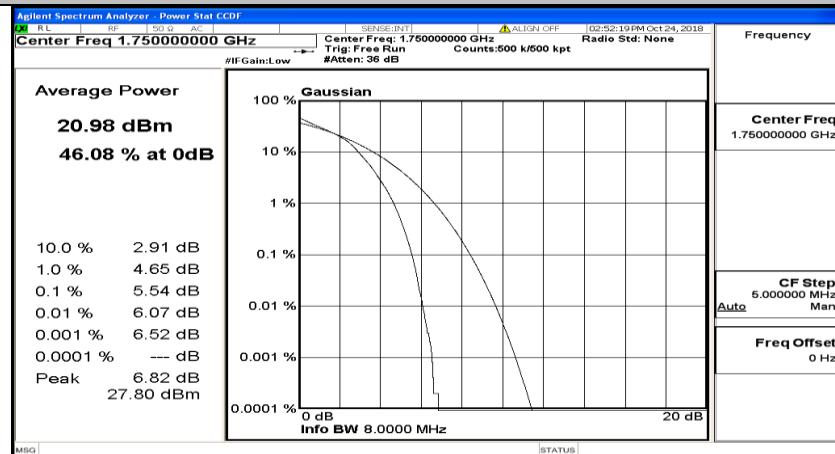
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK
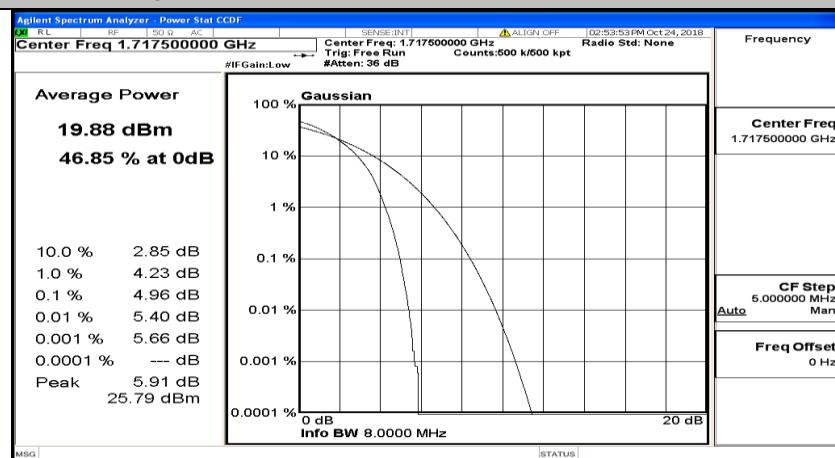
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK
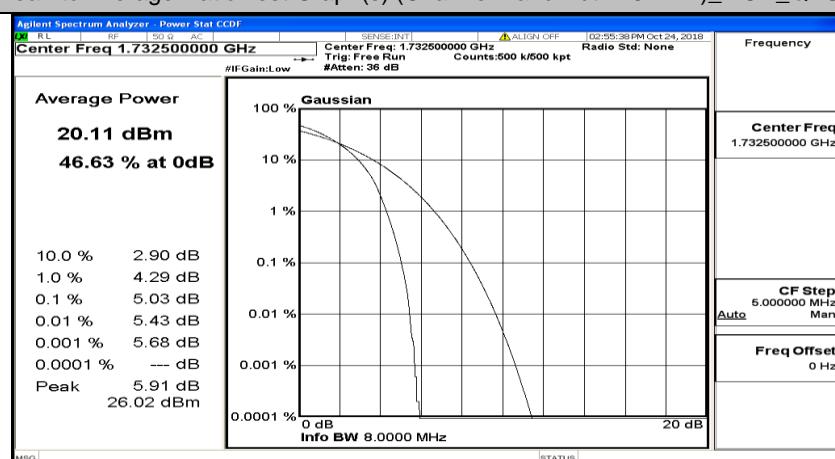
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK
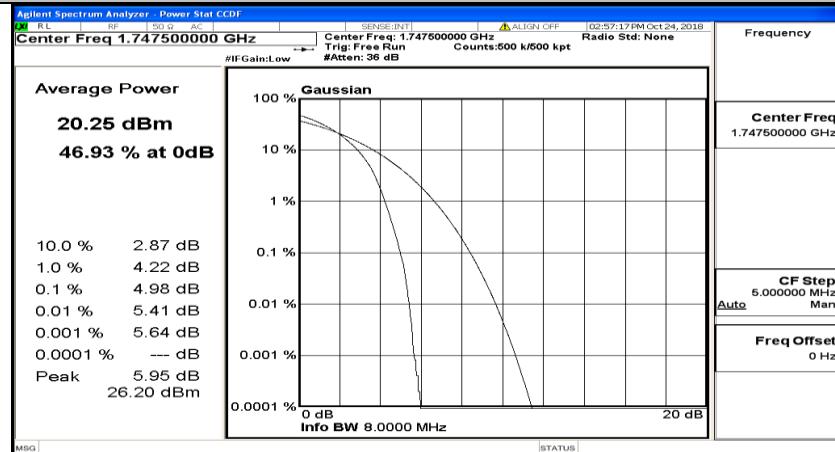
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM
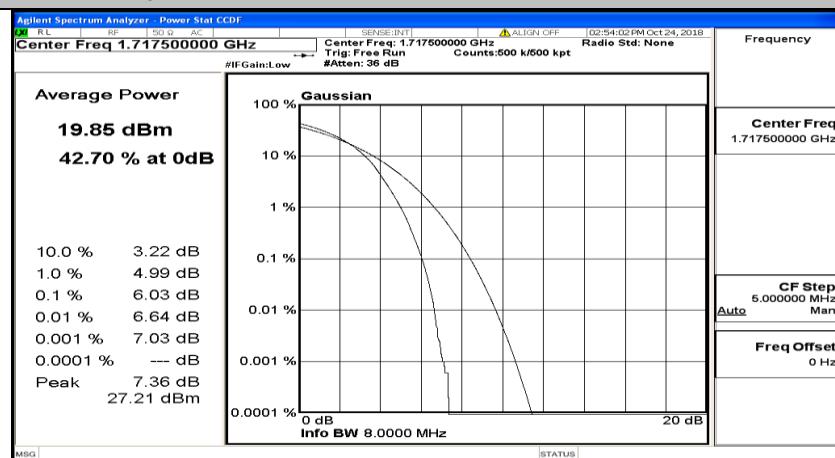
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM
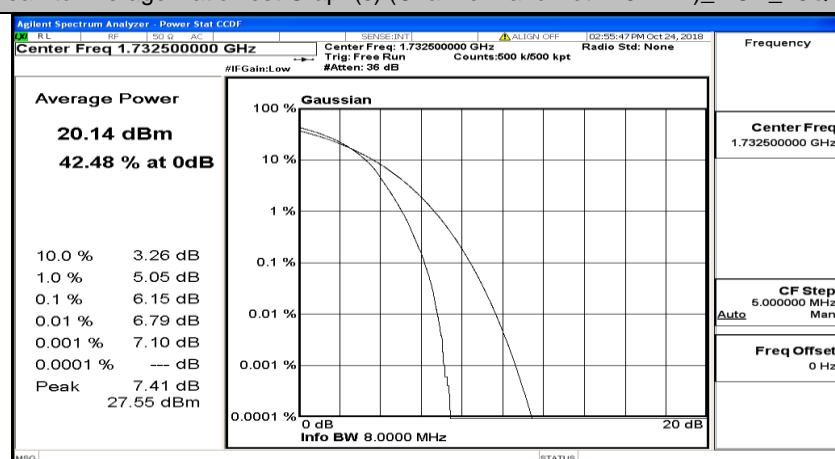
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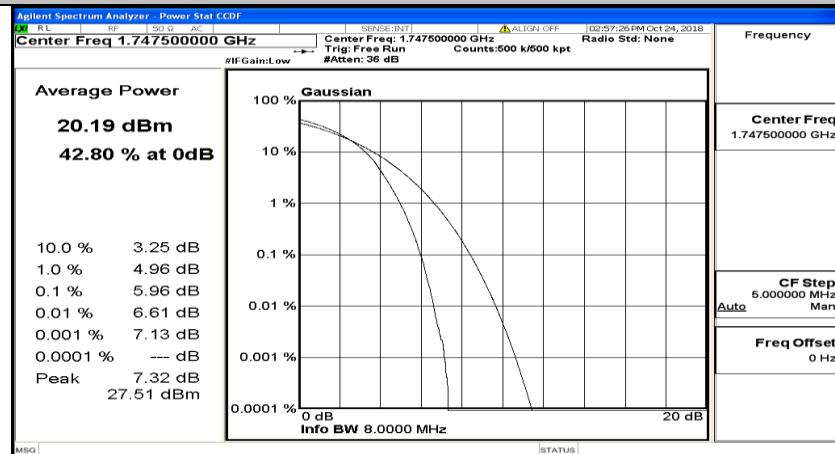
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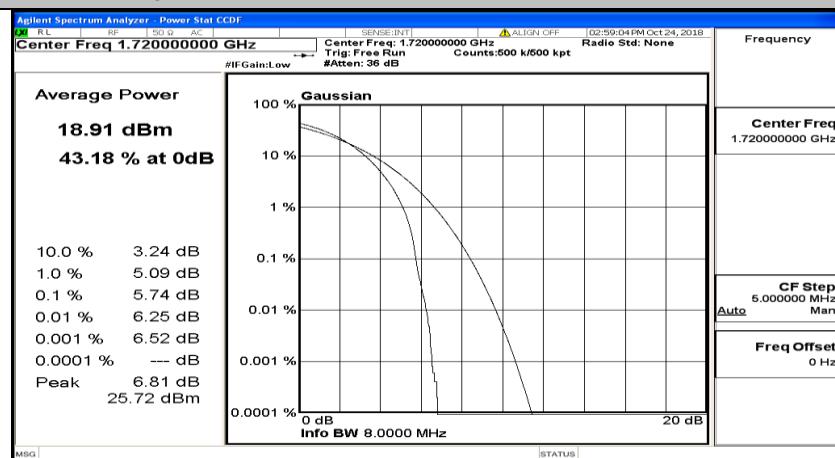
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK
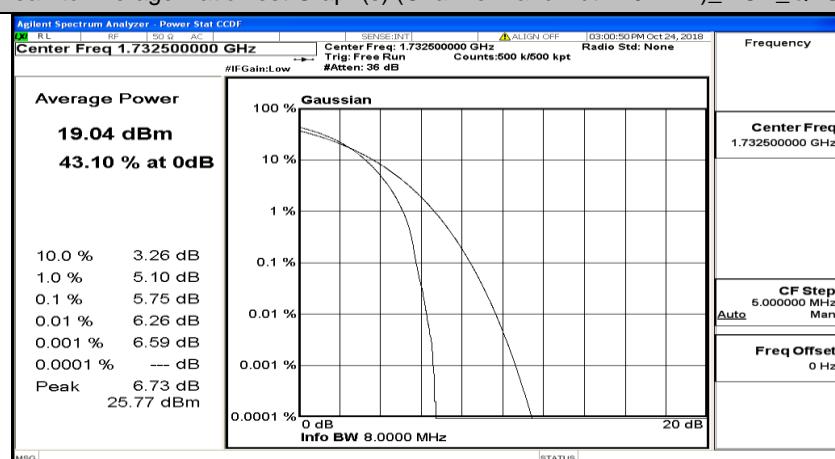
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK
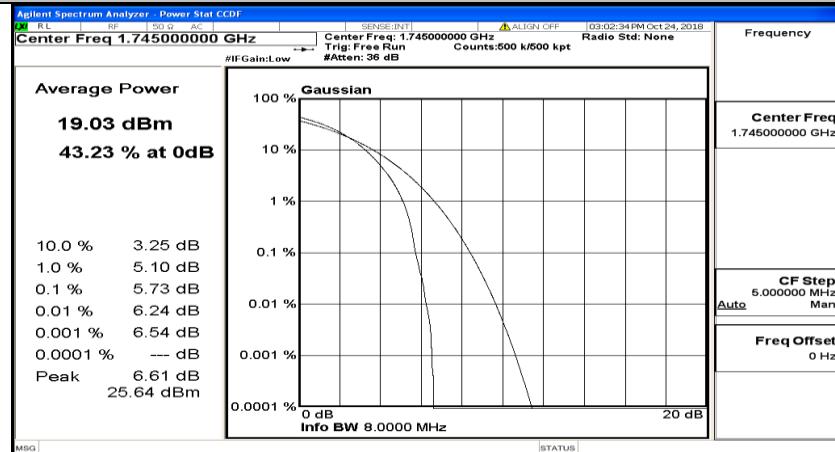
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM

Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_16QAM
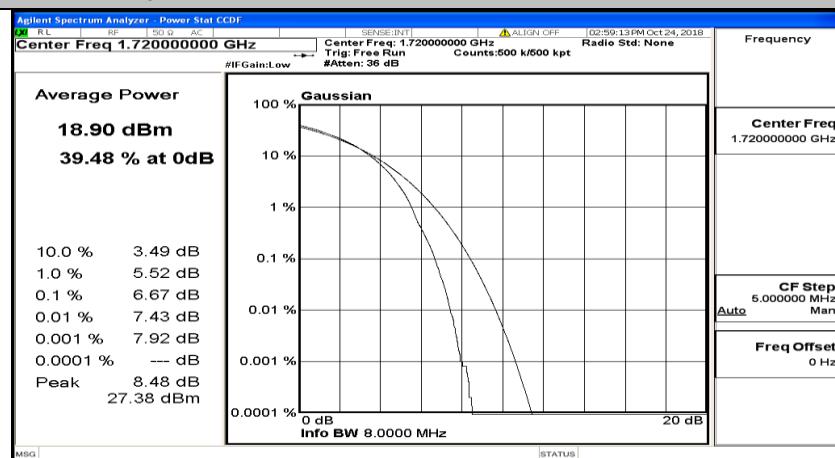
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM
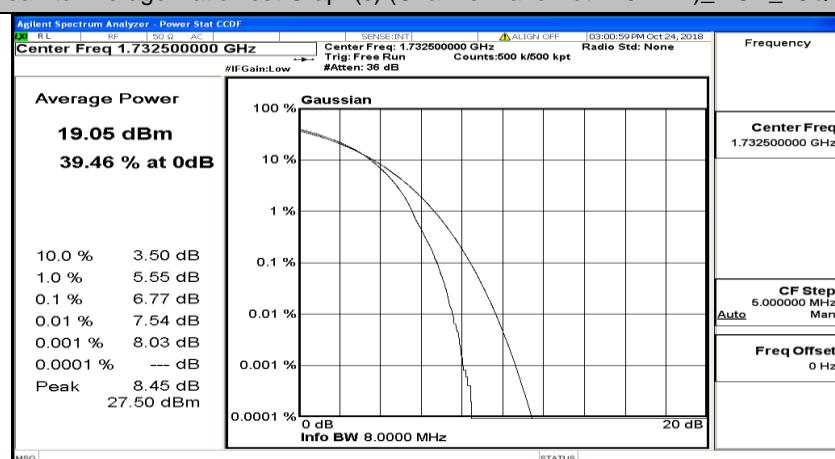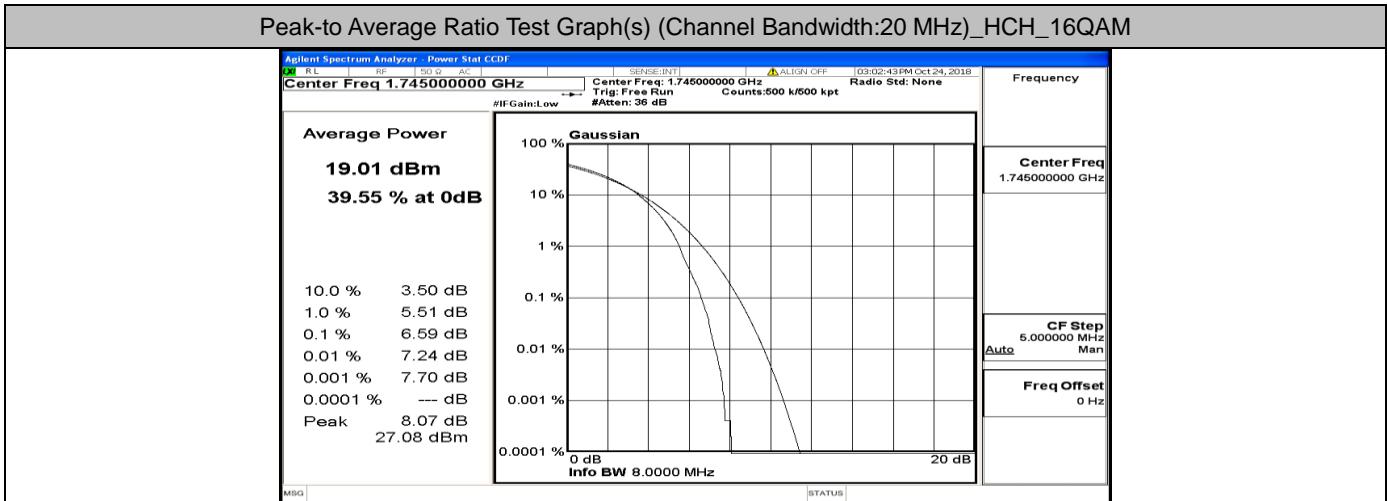
E.3 26dB Bandwidth and Occupied Bandwidth

EBW & OBW Test Result (Channel Bandwidth: 1.4 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	1.0776	1.226	PASS
	MCH	1.0761	1.204	PASS
	HCH	1.0784	1.218	PASS
16QAM	LCH	1.0811	1.224	PASS
	MCH	1.0804	1.209	PASS
	HCH	1.0796	1.230	PASS

EBW & OBW Test Result (Channel Bandwidth: 3 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	2.6844	2.871	PASS
	MCH	2.6839	2.856	PASS
	HCH	2.6867	2.866	PASS
16QAM	LCH	2.6857	2.890	PASS
	MCH	2.6883	2.877	PASS
	HCH	2.6864	2.896	PASS

EBW & OBW Test Result (Channel Bandwidth: 5 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	4.4799	4.780	PASS
	MCH	4.4788	4.851	PASS
	HCH	4.4799	4.845	PASS
16QAM	LCH	4.4793	4.837	PASS
	MCH	4.4820	4.821	PASS
	HCH	4.4897	4.878	PASS

EBW & OBW Test Result (Channel Bandwidth: 10 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	8.9373	9.427	PASS
	MCH	8.9314	9.467	PASS
	HCH	8.9243	9.398	PASS
16QAM	LCH	8.9378	9.446	PASS
	MCH	8.9447	9.549	PASS
	HCH	8.9421	9.416	PASS

EBW & OBW Test Result (Channel Bandwidth: 15 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	13.422	14.04	PASS
	MCH	13.408	14.15	PASS
	HCH	13.386	14.15	PASS
16QAM	LCH	13.396	14.20	PASS
	MCH	13.415	14.18	PASS
	HCH	13.395	14.08	PASS

EBW & OBW Test Result (Channel Bandwidth: 20 MHz)				
Modulation	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
QPSK	LCH	17.857	18.63	PASS
	MCH	17.874	18.60	PASS
	HCH	17.852	18.55	PASS
16QAM	LCH	17.854	18.66	PASS
	MCH	17.881	18.66	PASS
	HCH	17.850	18.67	PASS

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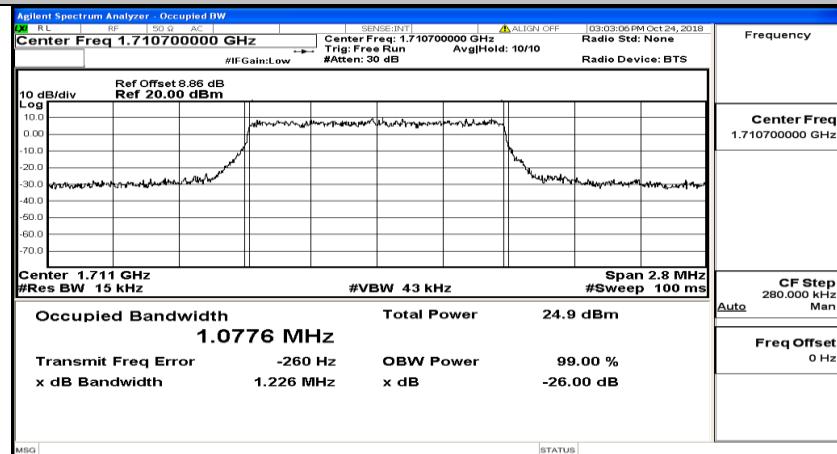
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_MCH_QPSK
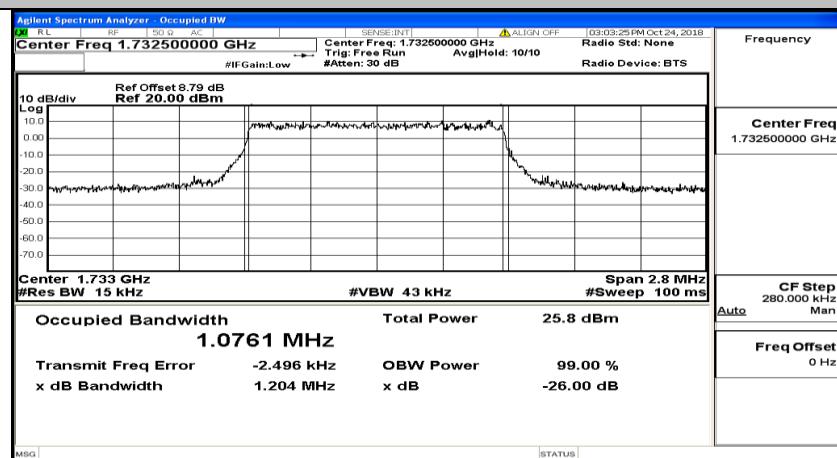
EBW & OBW Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK

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 |
|---|
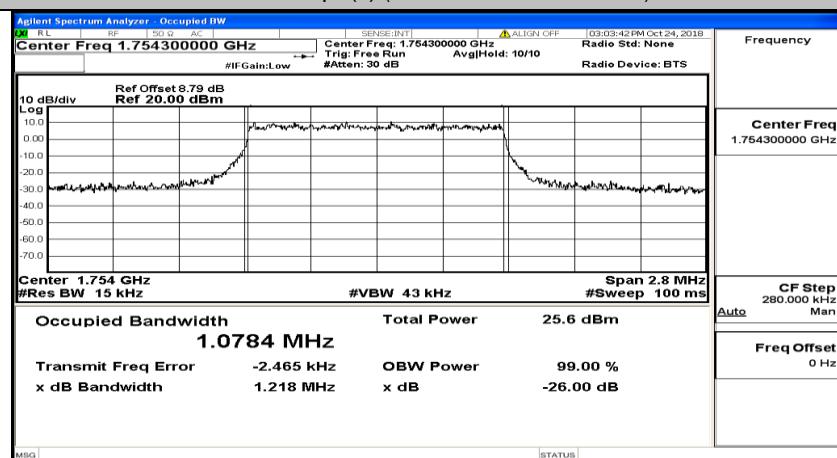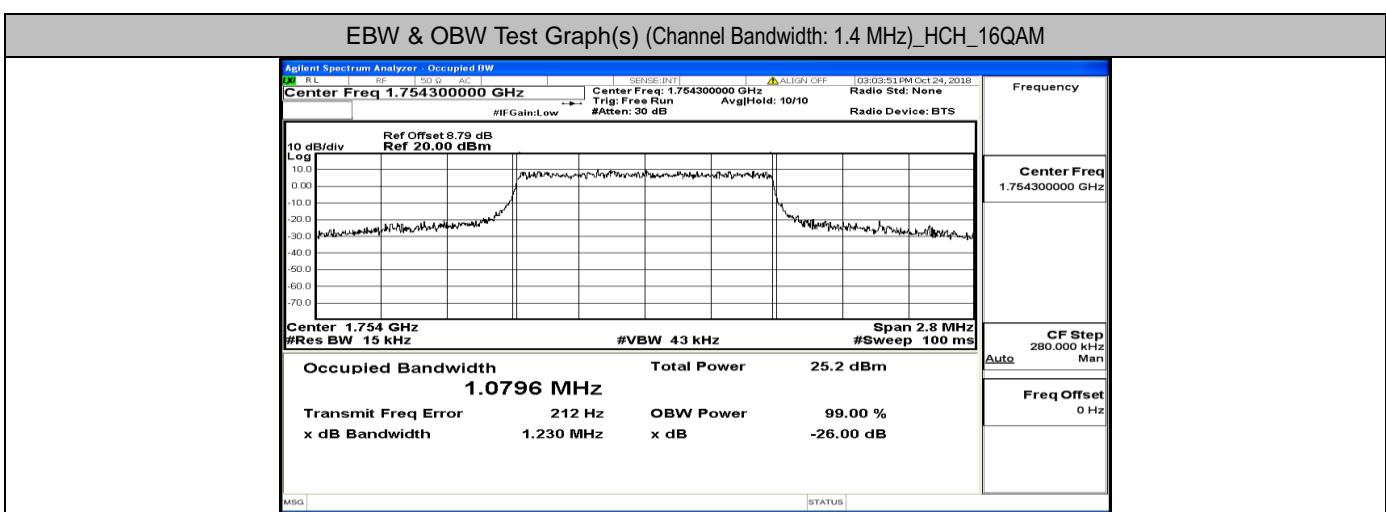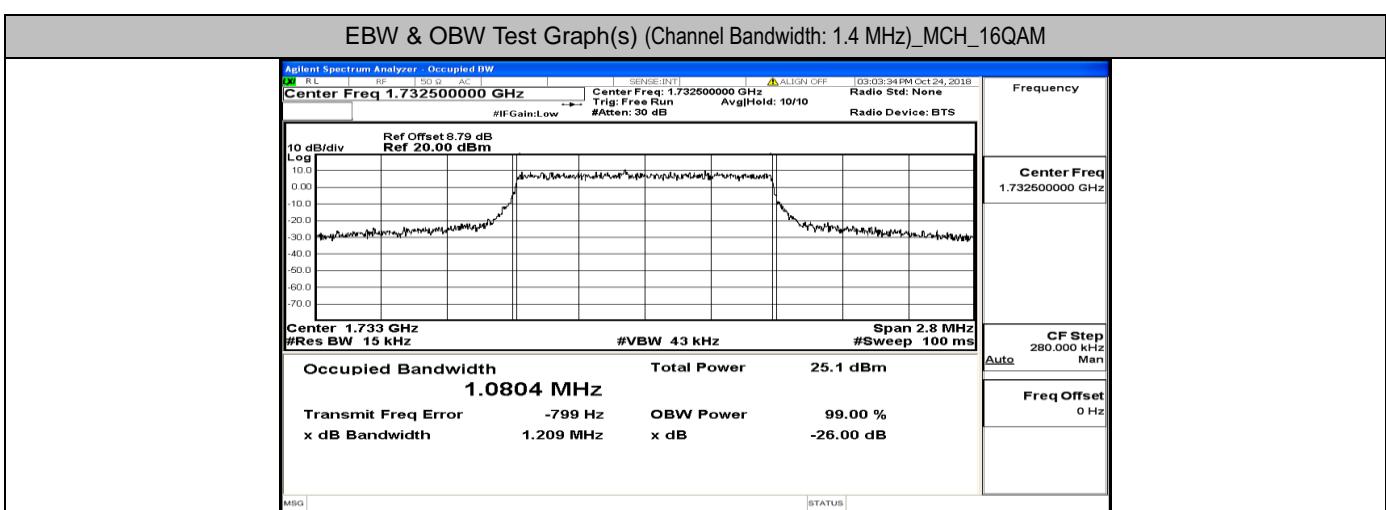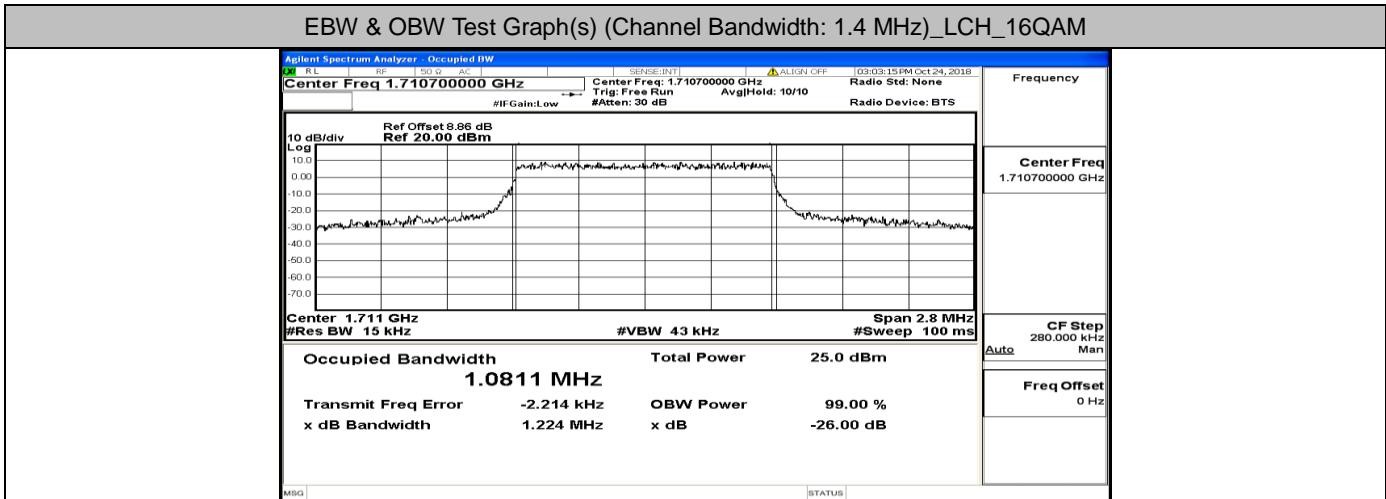
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK
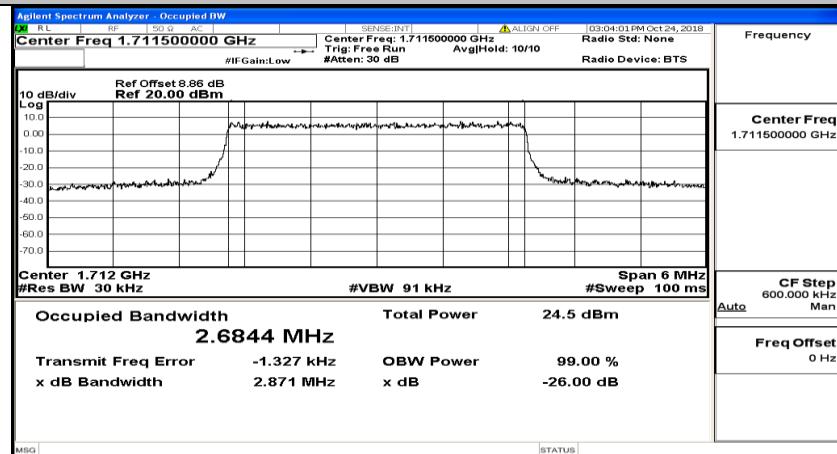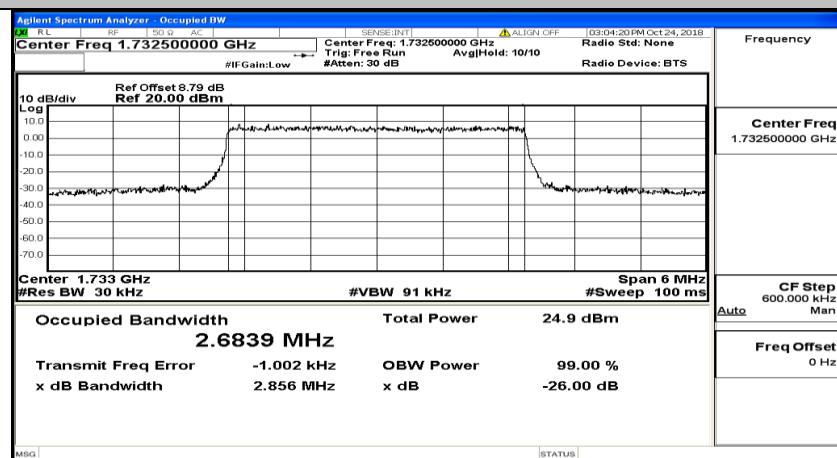
| EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_QPSK |
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| EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK |
|---|
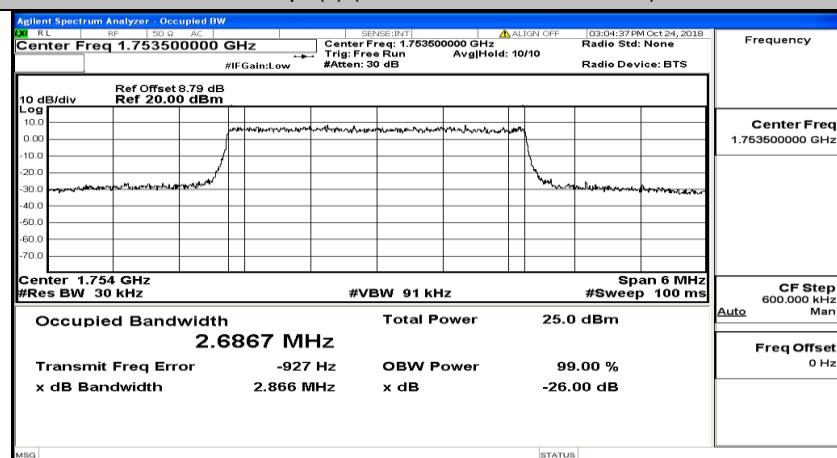
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM
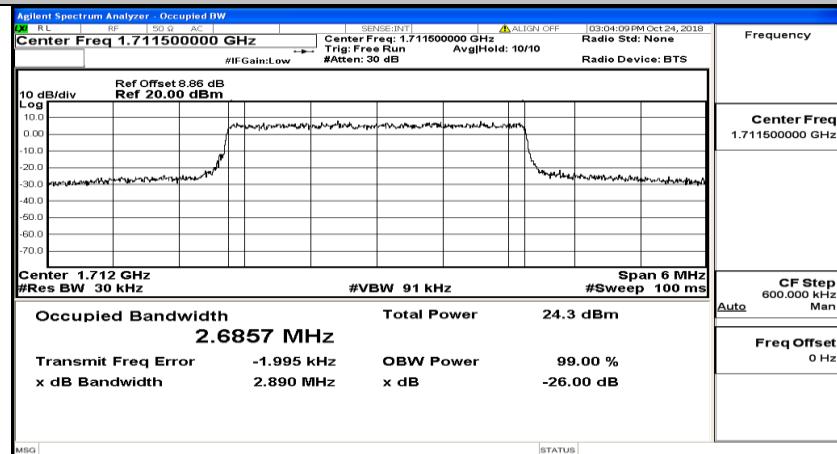
EBW & OBW Test Graph(s) (Channel Bandwidth: 3 MHz)_MCH_16QAM
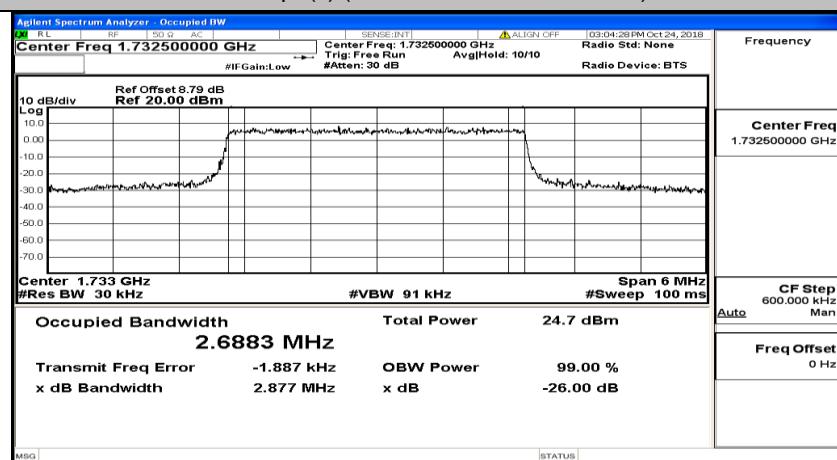
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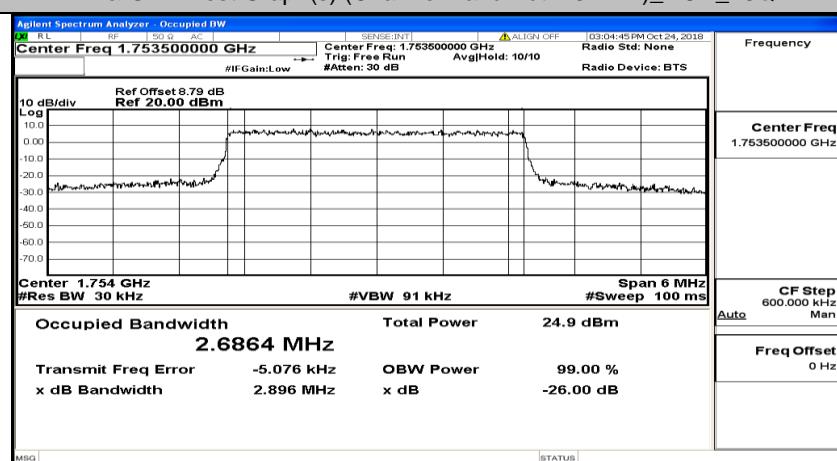
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK
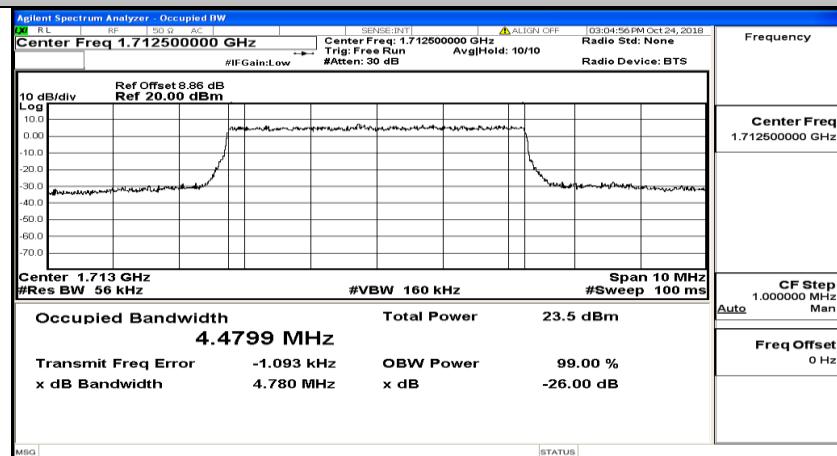
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK
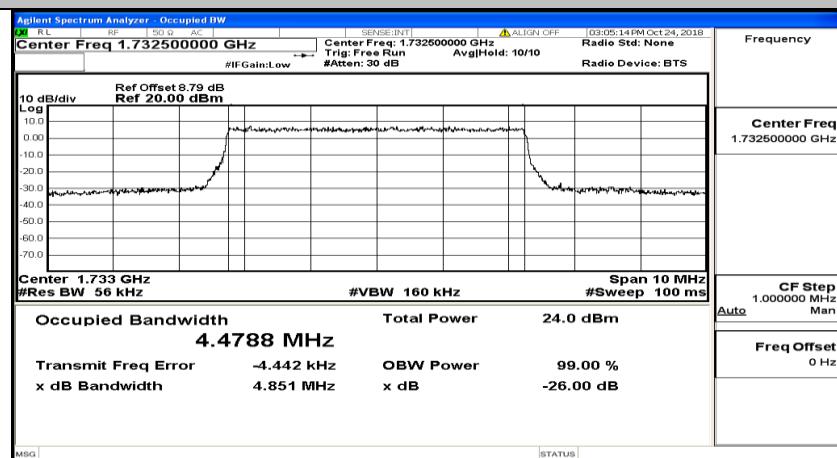
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK
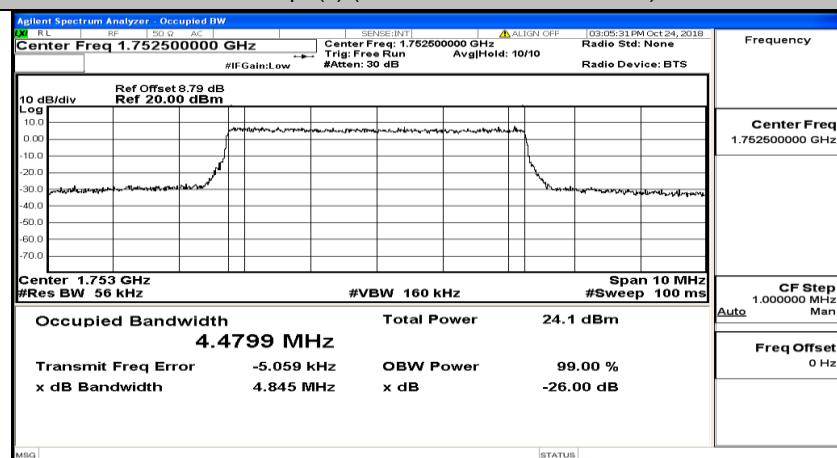
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM
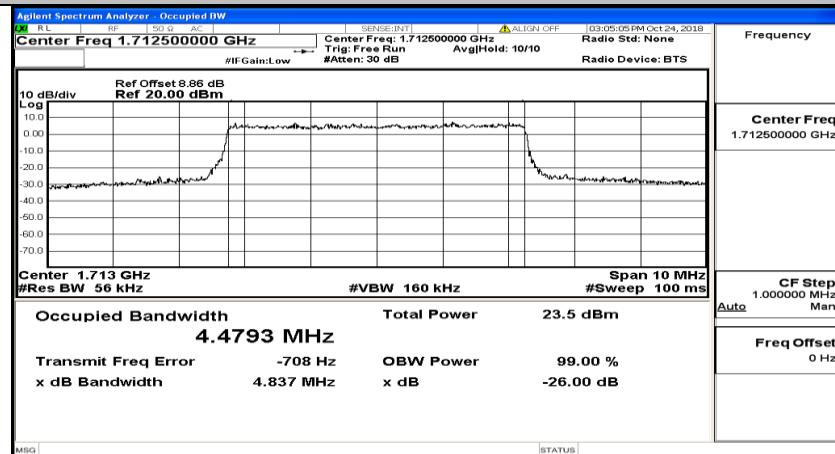
| EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_16QAM |
| --- |
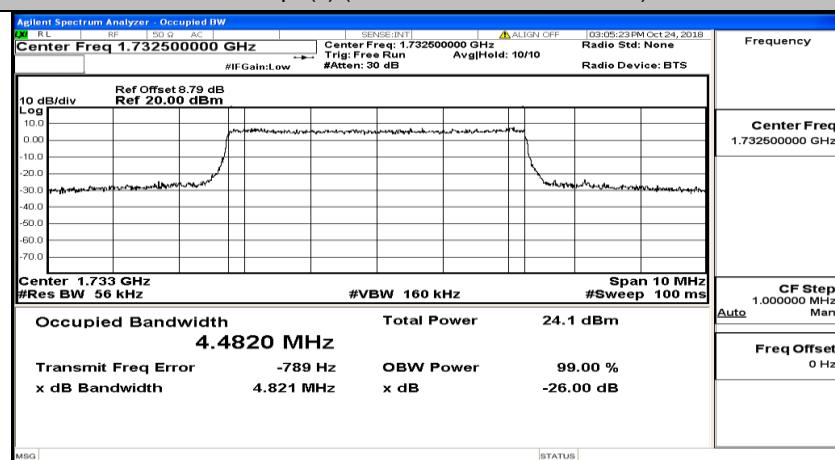
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM
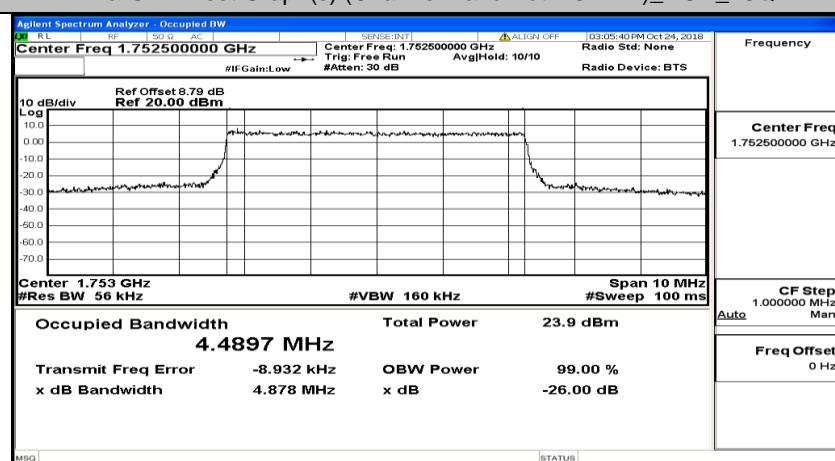
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK
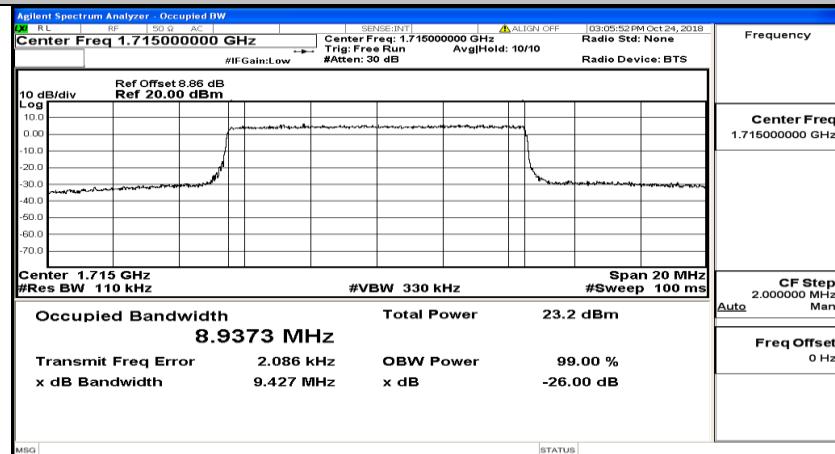
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_QPSK
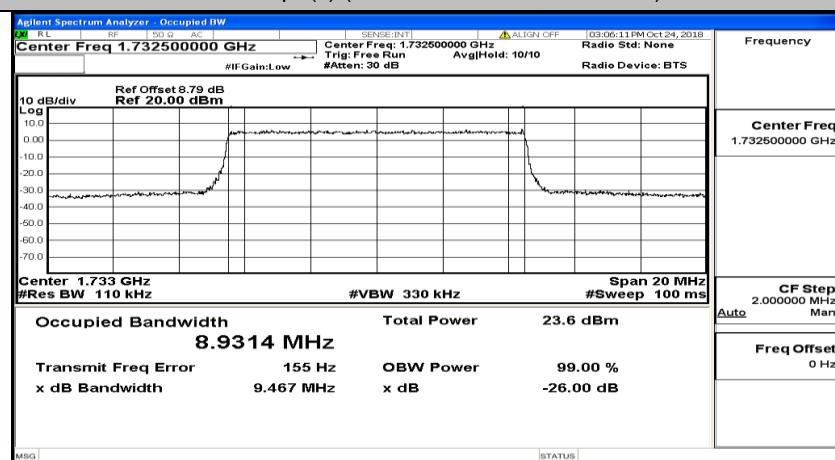
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK
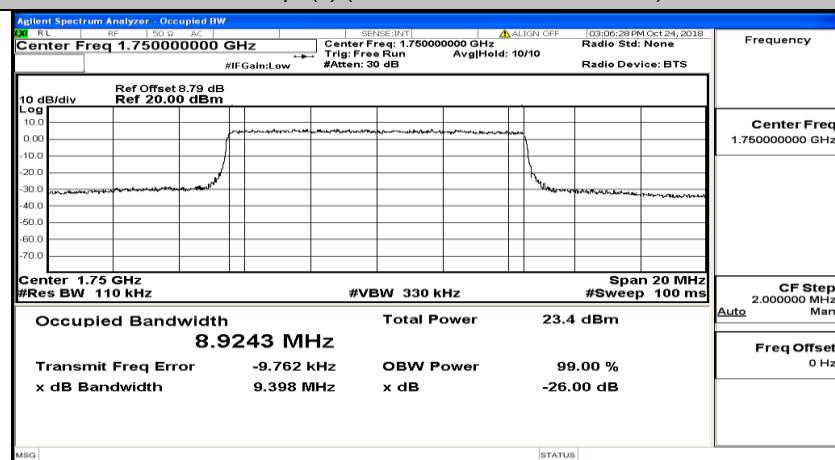
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM
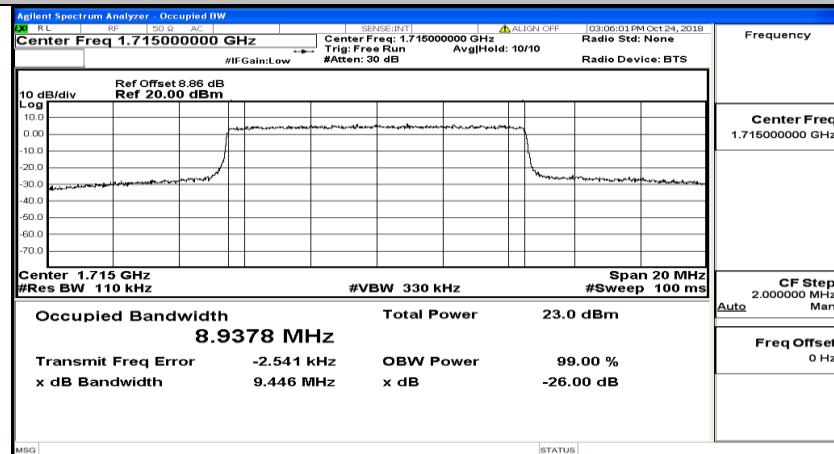
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM
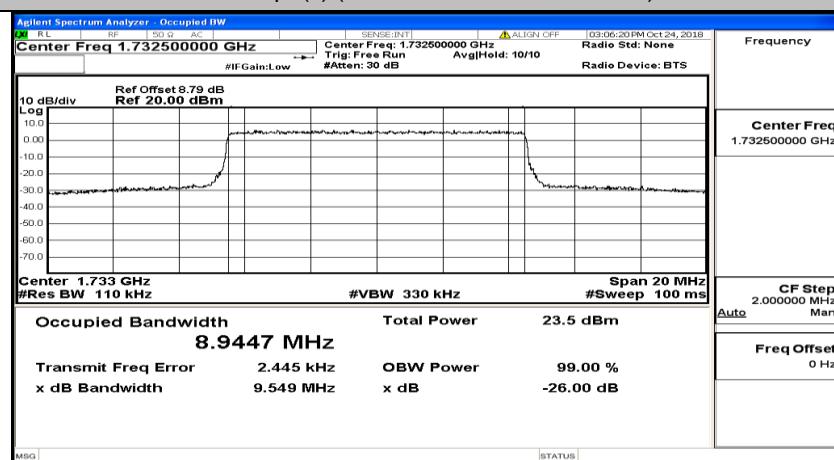
EBW & OBW Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM
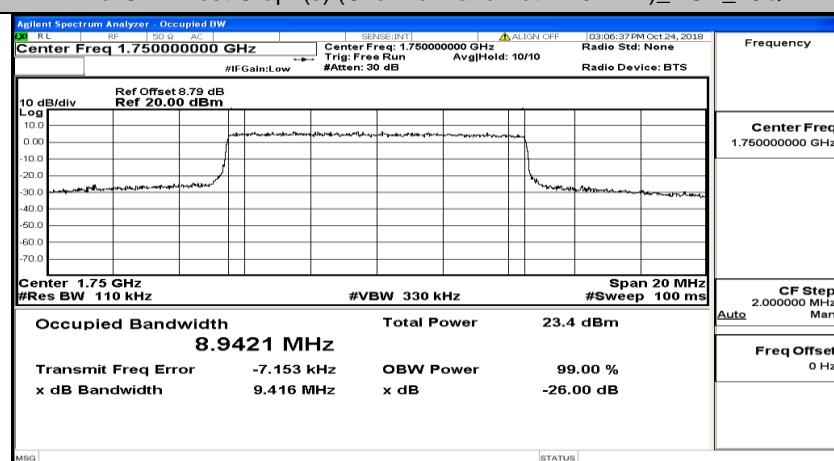
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK
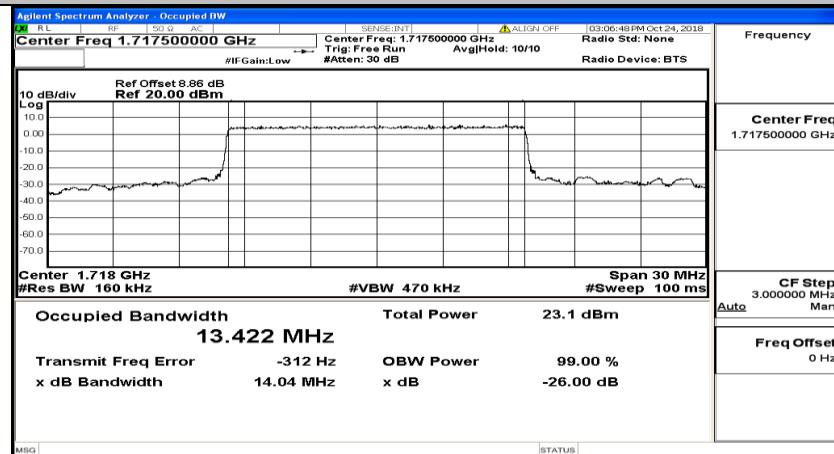
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_QPSK
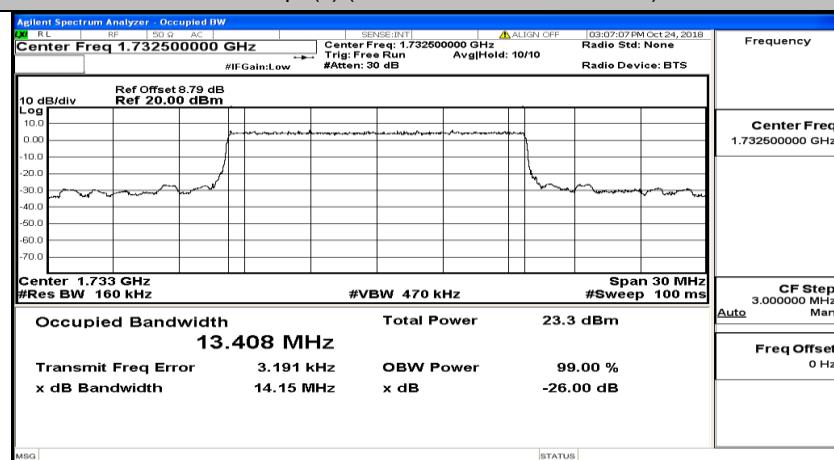
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK
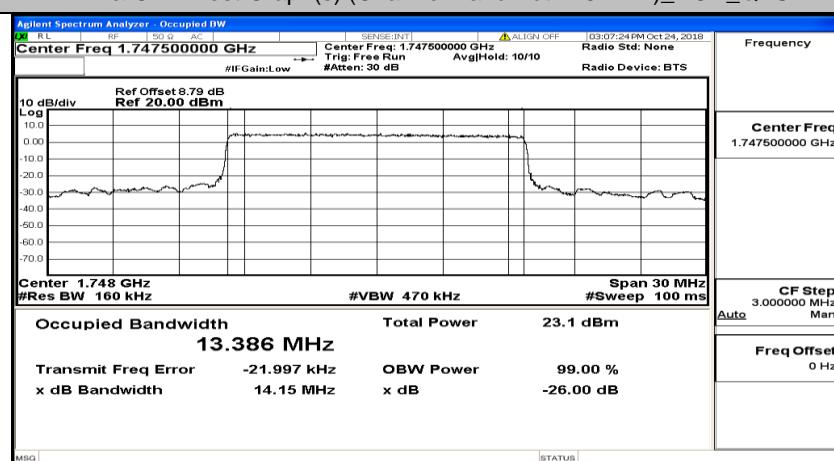
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM
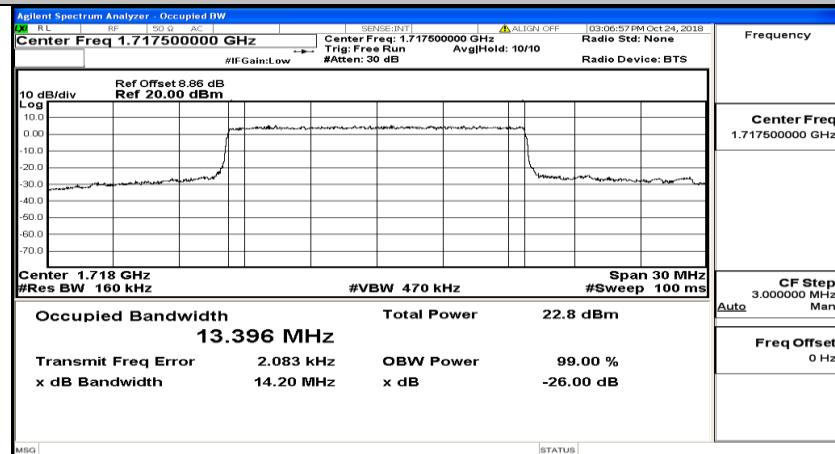
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_MCH_16QAM
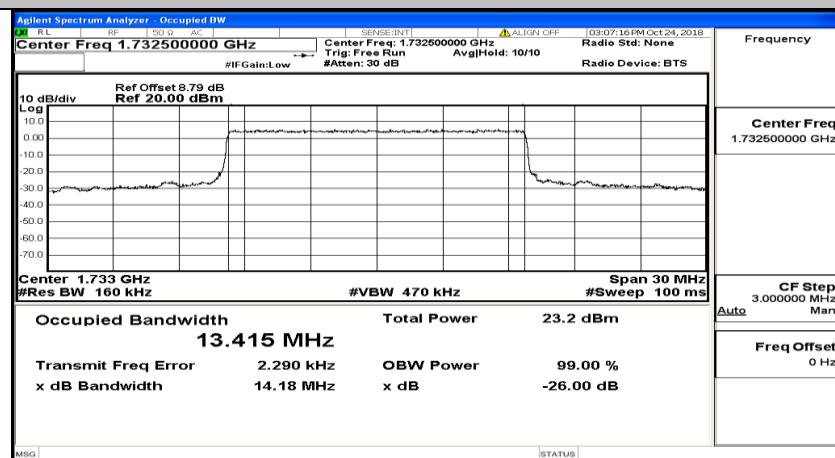
EBW & OBW Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM
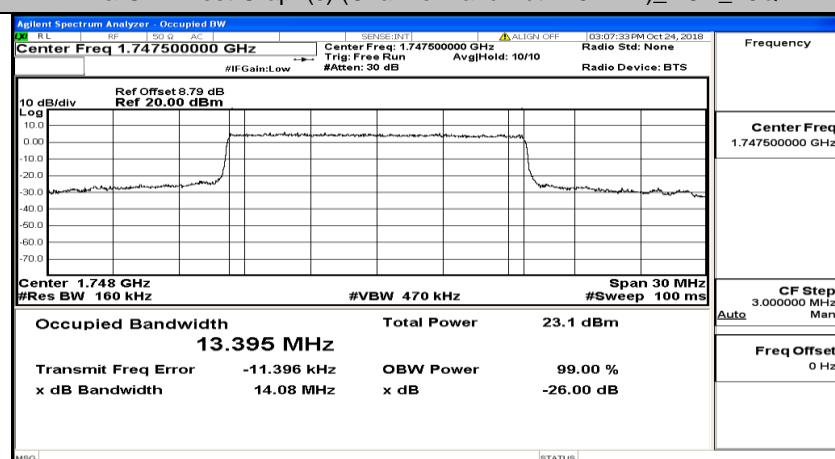
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK
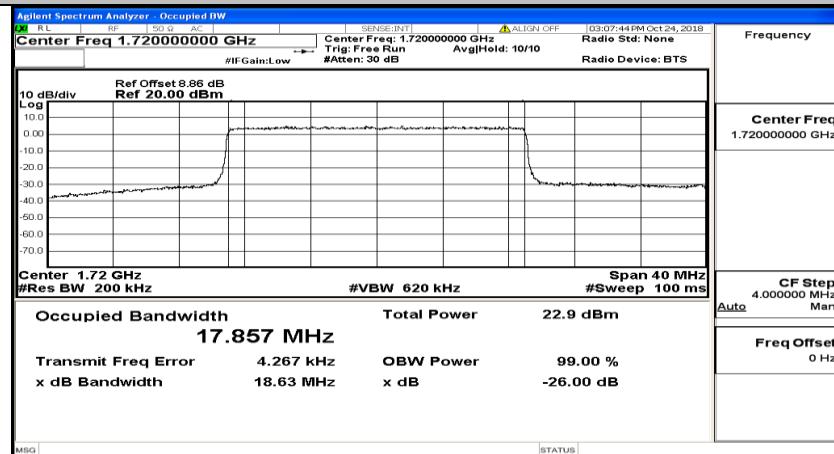
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_QPSK
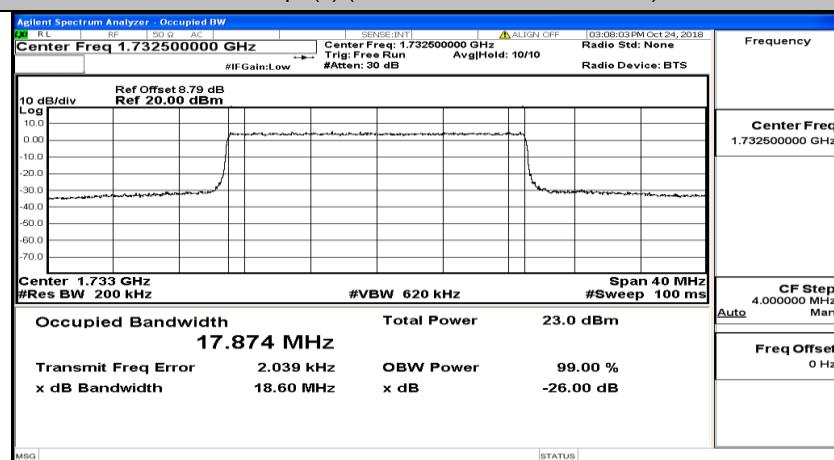
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK
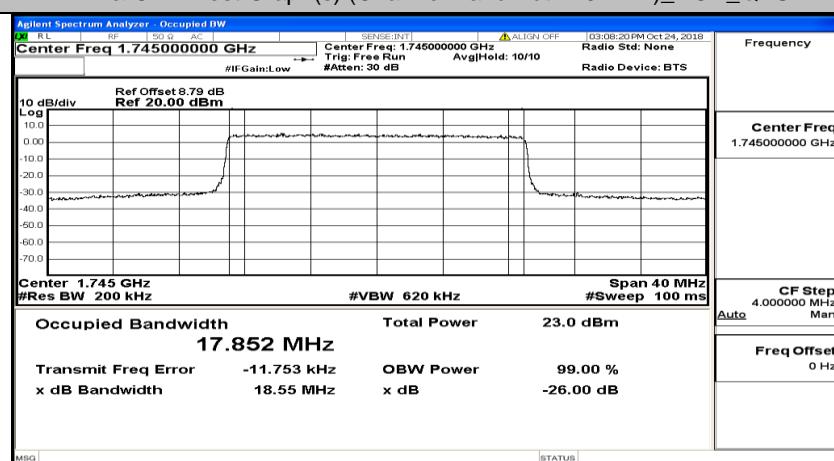
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_16QAM
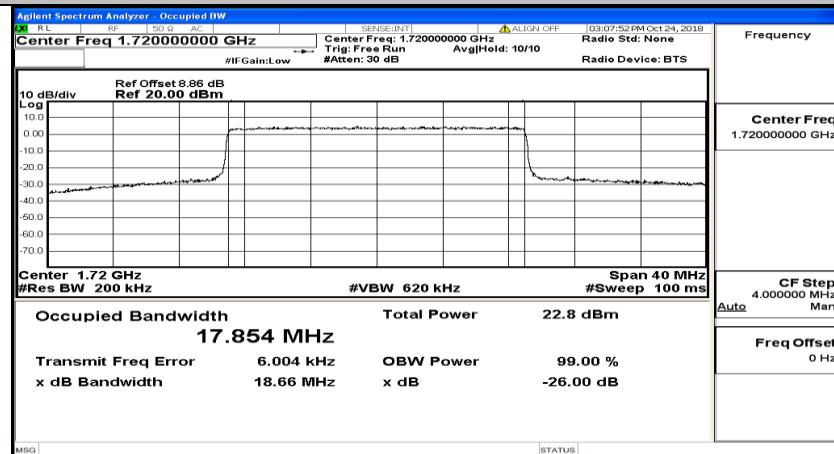
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_MCH_16QAM
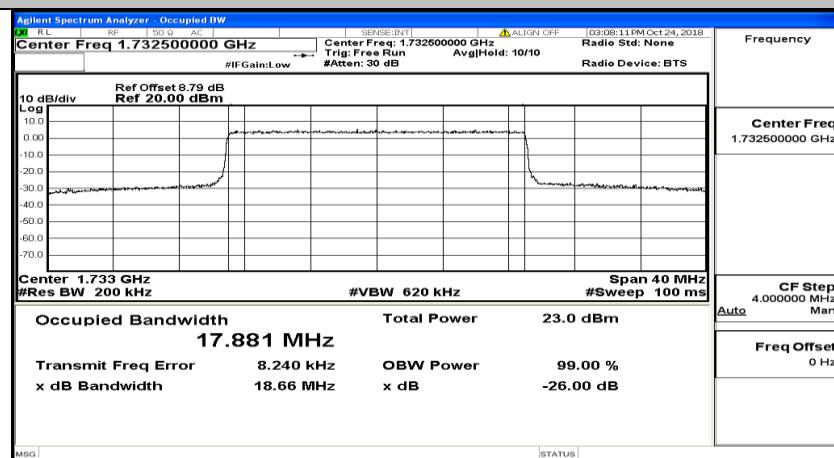
EBW & OBW Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_16QAM
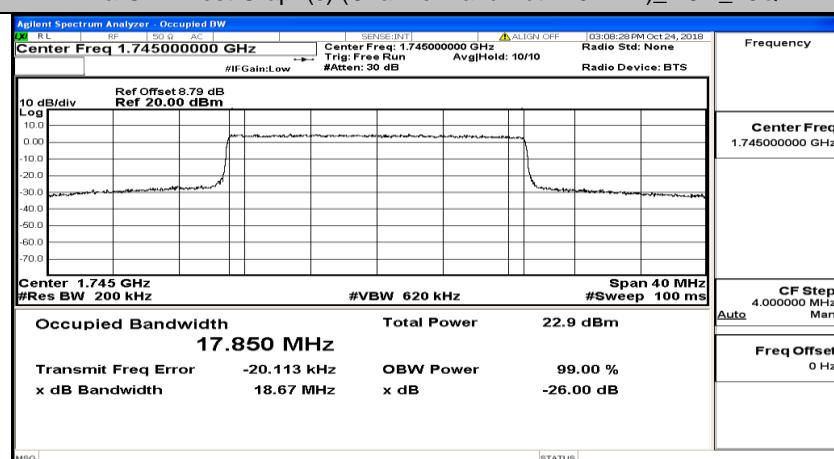
E.4 Band Edge

| Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_QPSK |
|---|
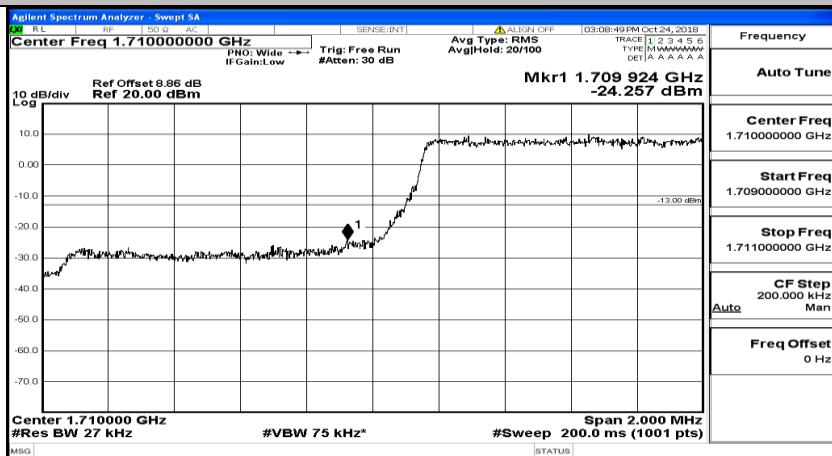
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_QPSK
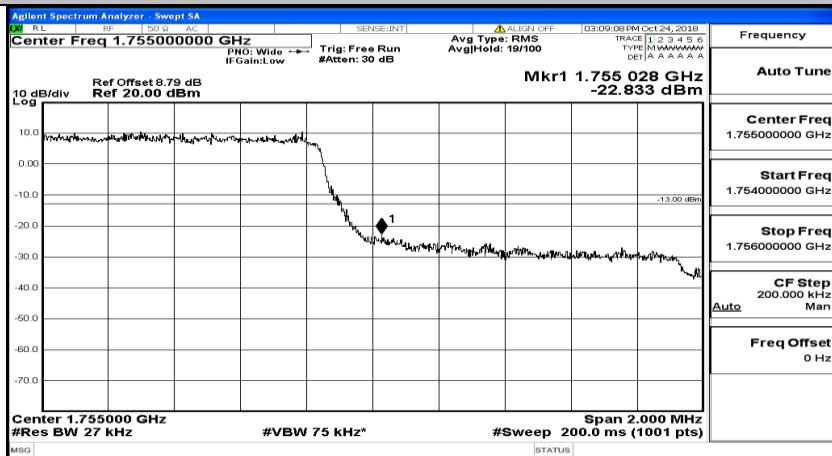
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_LCH_16QAM
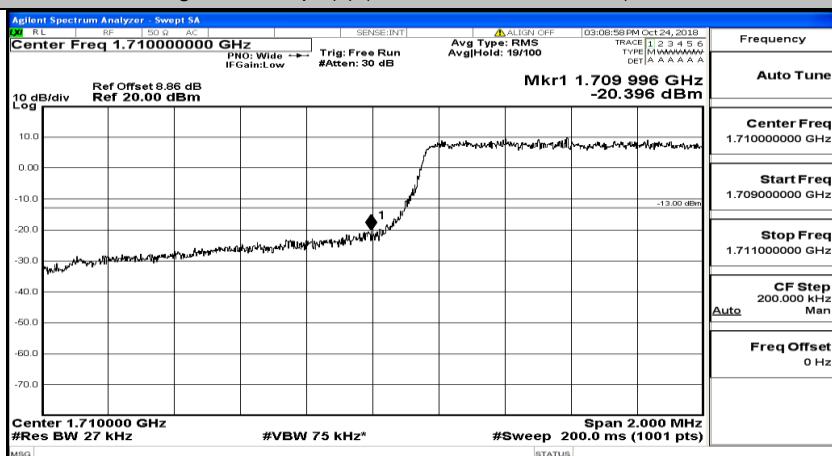
Band Edge Test Graph(s) (Channel Bandwidth: 1.4 MHz)_HCH_16QAM
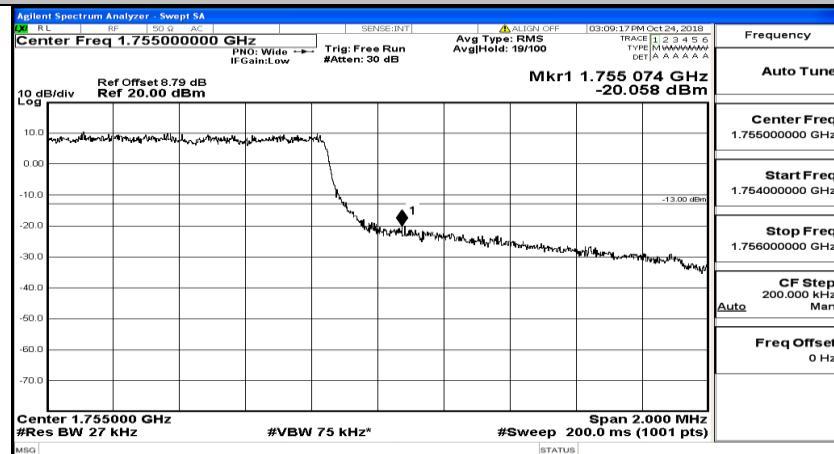
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_QPSK
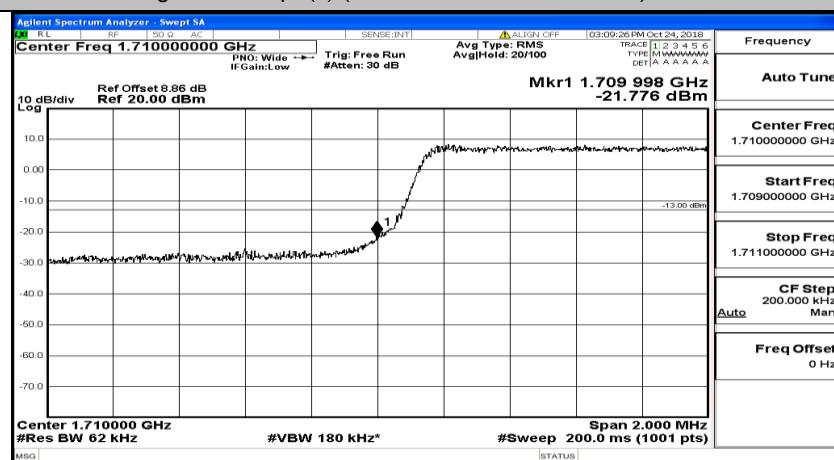
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_QPSK
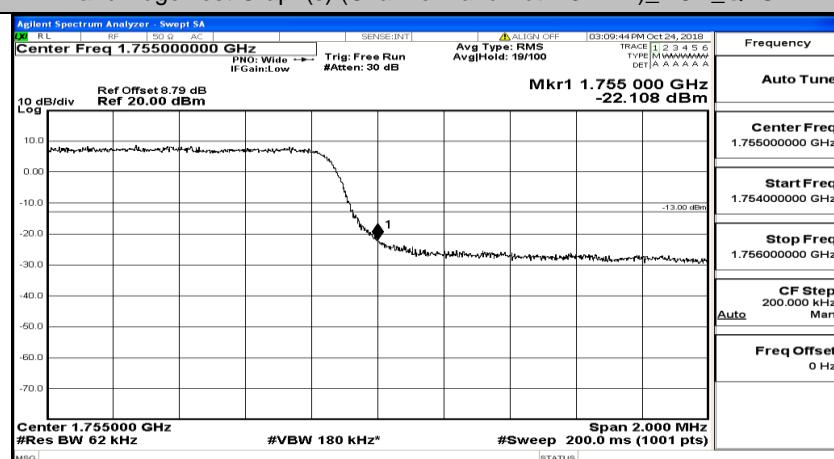
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_LCH_16QAM
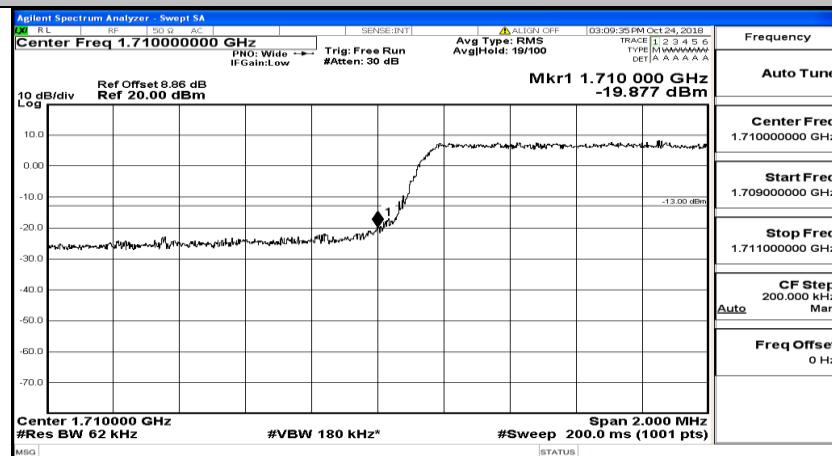
Band Edge Test Graph(s) (Channel Bandwidth: 3 MHz)_HCH_16QAM
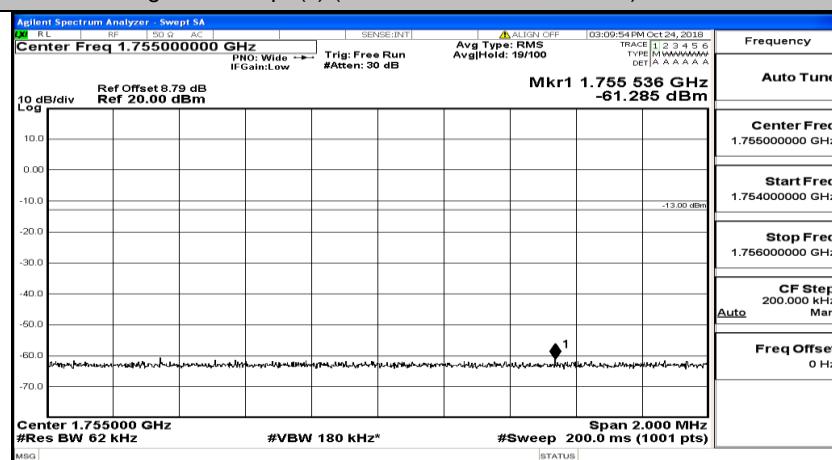
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_QPSK
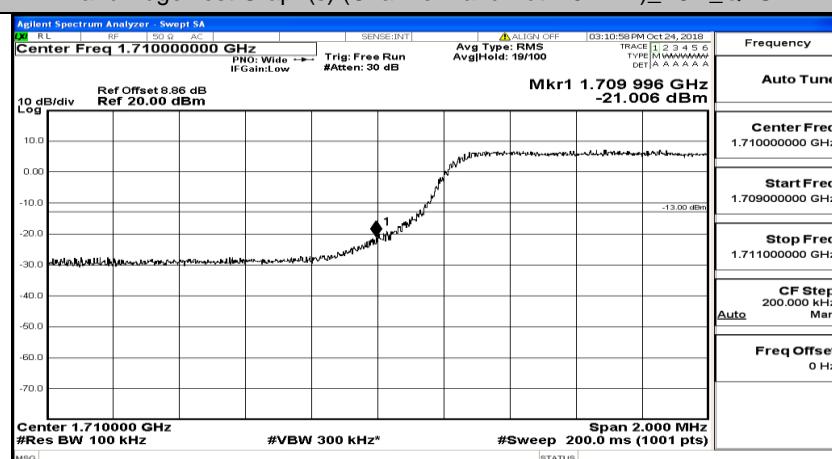
## Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_QPSK
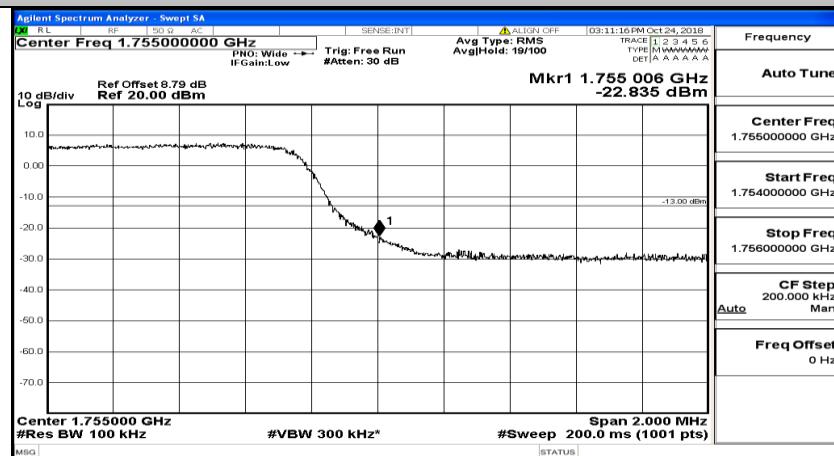
## Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_LCH_16QAM
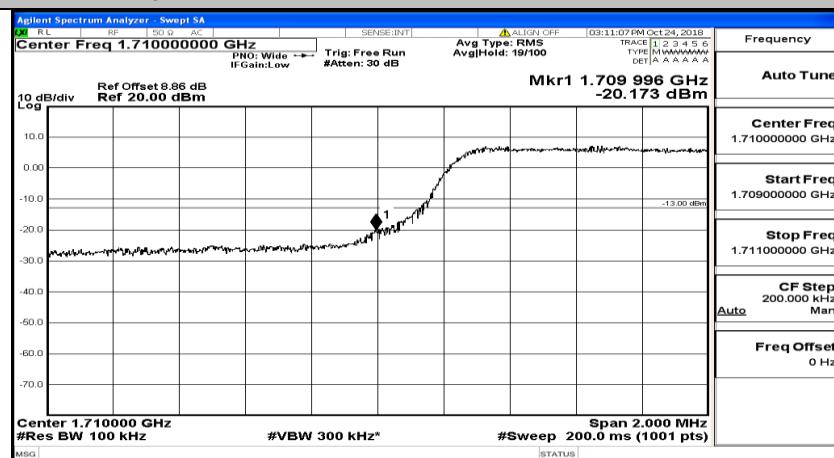
Band Edge Test Graph(s) (Channel Bandwidth: 5 MHz)_HCH_16QAM
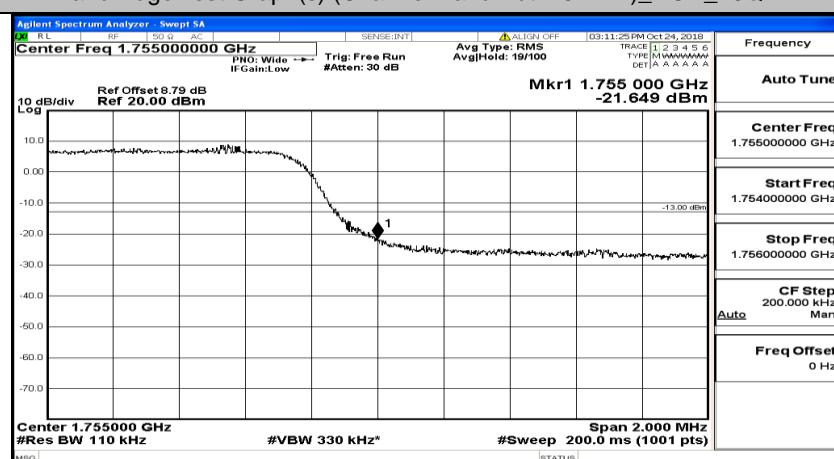
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK
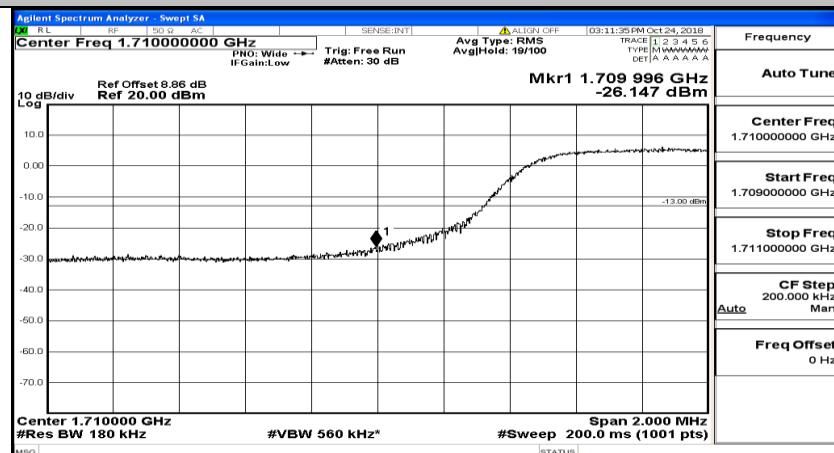
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_QPSK
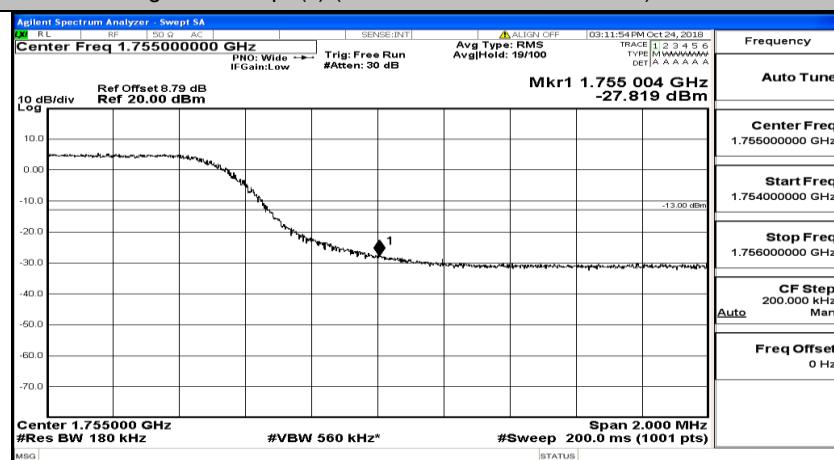
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_16QAM
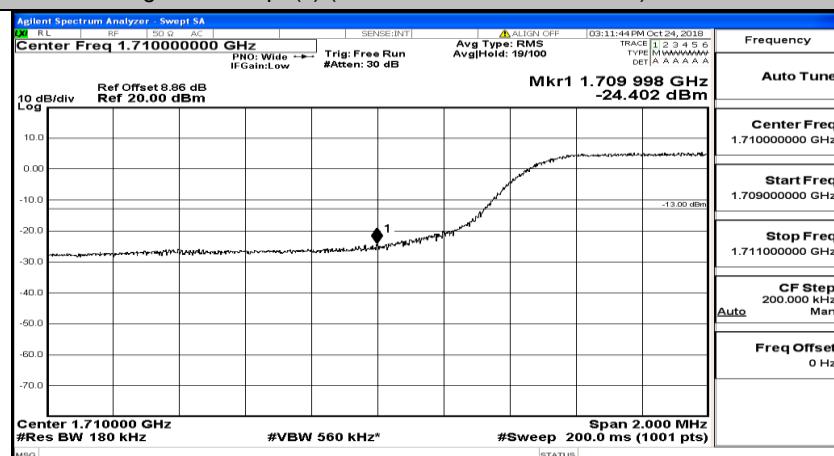
Band Edge Test Graph(s) (Channel Bandwidth: 10 MHz)_HCH_16QAM
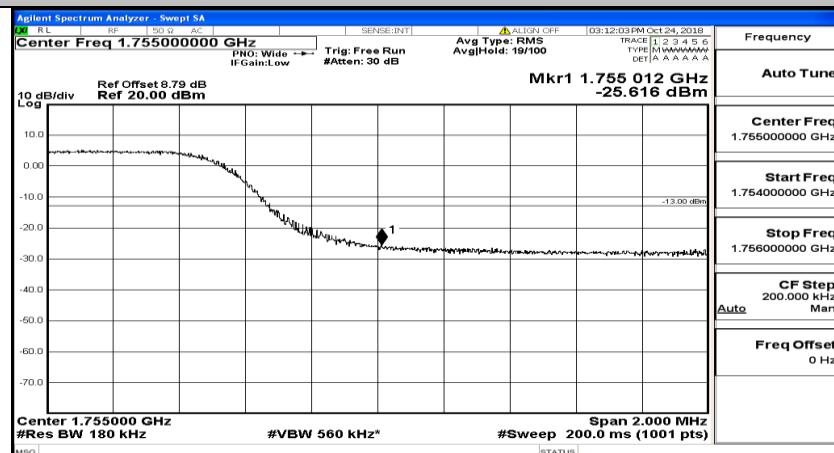
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_QPSK
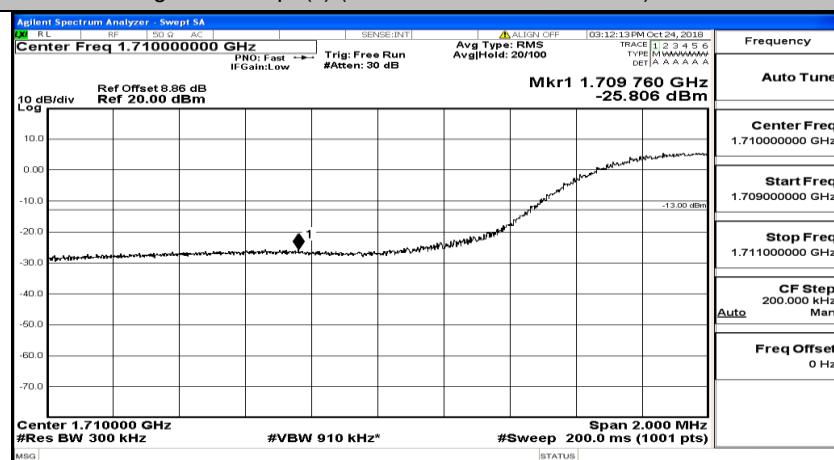
## Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK
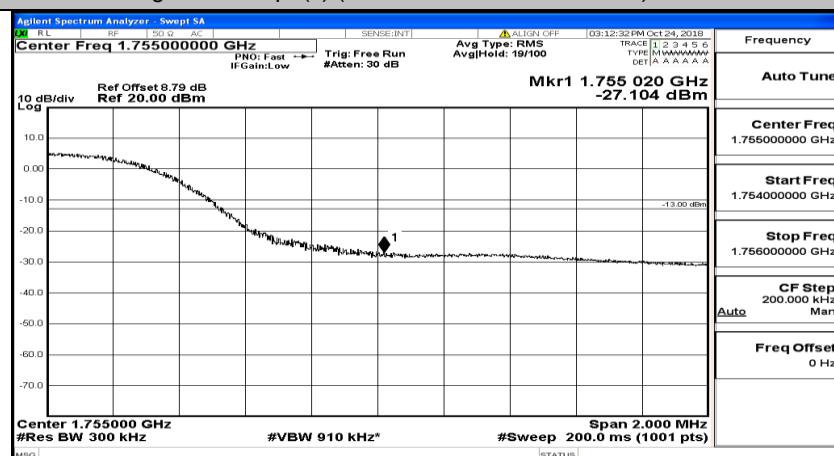
Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_LCH_16QAM
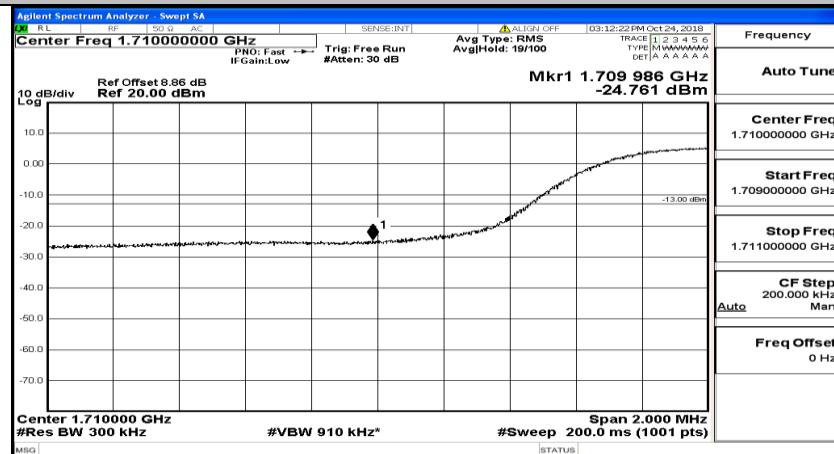

Band Edge Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_16QAM
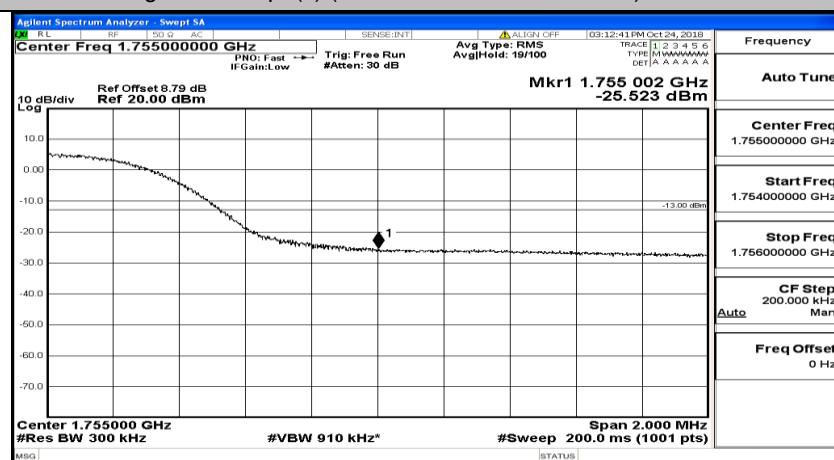
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_LCH_QPSK
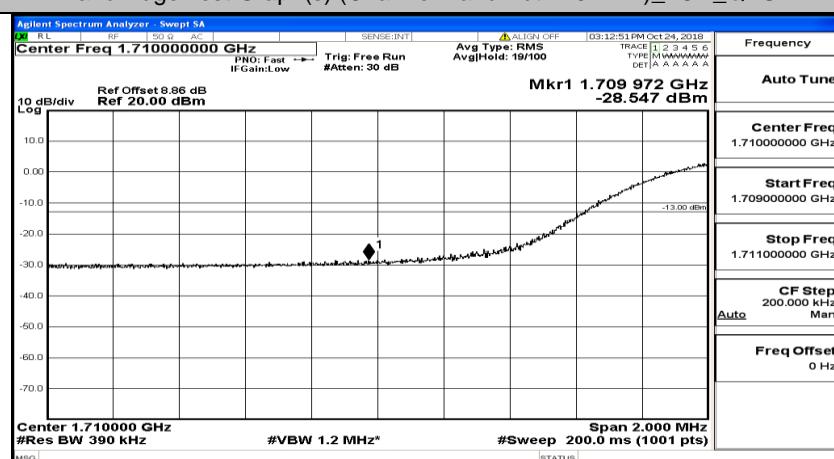
Band Edge Test Graph(s) (Channel Bandwidth:20 MHz)_HCH_QPSK

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

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