Appendix for test report

1Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	ERP [dBm]	Limit [dBm]	Verdict
BAND5	LTE/TM1	1.4	LCH	RB1#0	22.44	17.8	38.5	PASS
				RB1#3	22.36	17.72	38.5	PASS
				RB1#5	22.39	17.75	38.5	PASS
				RB3#0	22.26	17.62	38.5	PASS
				RB3#2	22.38	17.74	38.5	PASS
				RB3#3	22.39	17.75	38.5	PASS
				RB6#0	21.4	16.76	38.5	PASS
			MCH	RB1#0	22.54	17.9	38.5	PASS
				RB1#3	22.46	17.82	38.5	PASS
				RB1#5	22.37	17.73	38.5	PASS
				RB3#0	22.41	17.77	38.5	PASS
				RB3#2	22.31	17.67	38.5	PASS
				RB3#3	22.26	17.62	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB6#0	21.27	16.63	38.5	PASS
			HCH	RB1#0	22.47	17.83	38.5	PASS
				RB1#3	22.54	17.9	38.5	PASS
				RB1#5	22.39	17.75	38.5	PASS
				RB3#0	22.42	17.78	38.5	PASS
				RB3#2	22.36	17.72	38.5	PASS
				RB3#3	22.55	17.91	38.5	PASS
				RB6#0	21.35	16.71	38.5	PASS
		3	LCH	RB1#0	22.54	17.9	38.5	PASS
				RB1#7	22.57	17.93	38.5	PASS
				RB1#14	22.6	17.96	38.5	PASS
				RB8#0	21.44	16.8	38.5	PASS
				RB8#4	21.36	16.72	38.5	PASS
				RB8#7	21.43	16.79	38.5	PASS
				RB15#0	21.46	16.82	38.5	PASS
			MCH	RB1#0	22.46	17.82	38.5	PASS
				RB1#7	22.48	17.84	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB1#14	22.43	17.79	38.5	PASS
				RB8#0	21.29	16.65	38.5	PASS
				RB8#4	21.27	16.63	38.5	PASS
				RB8#7	21.29	16.65	38.5	PASS
				RB15#0	21.32	16.68	38.5	PASS
			HCH	RB1#0	22.54	17.9	38.5	PASS
				RB1#7	22.54	17.9	38.5	PASS
				RB1#14	22.54	17.9	38.5	PASS
				RB8#0	21.32	16.68	38.5	PASS
				RB8#4	21.43	16.79	38.5	PASS
				RB8#7	21.36	16.72	38.5	PASS
				RB15#0	21.48	16.84	38.5	PASS
		5	LCH	RB1#0	22.48	17.84	38.5	PASS
				RB1#13	22.39	17.75	38.5	PASS
				RB1#24	22.39	17.75	38.5	PASS
				RB12#0	21.51	16.87	38.5	PASS
				RB12#6	21.42	16.78	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB12#13	21.39	16.75	38.5	PASS
				RB25#0	21.47	16.83	38.5	PASS
			MCH	RB1#0	22.69	18.05	38.5	PASS
				RB1#13	22.25	17.61	38.5	PASS
				RB1#24	22.3	17.66	38.5	PASS
				RB12#0	21.45	16.81	38.5	PASS
				RB12#6	21.31	16.67	38.5	PASS
				RB12#13	21.23	16.59	38.5	PASS
				RB25#0	21.41	16.77	38.5	PASS
			HCH	RB1#0	22.56	17.92	38.5	PASS
				RB1#13	22.36	17.72	38.5	PASS
				RB1#24	22.59	17.95	38.5	PASS
				RB12#0	21.46	16.82	38.5	PASS
				RB12#6	21.31	16.67	38.5	PASS
				RB12#13	21.41	16.77	38.5	PASS
				RB25#0	21.45	16.81	38.5	PASS
		10	LCH	RB1#0	22.52	17.88	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB1#25	22.65	18.01	38.5	PASS
				RB1#49	22.73	18.09	38.5	PASS
				RB25#0	21.48	16.84	38.5	PASS
				RB25#13	21.4	16.76	38.5	PASS
				RB25#25	21.35	16.71	38.5	PASS
				RB50#0	21.41	16.77	38.5	PASS
			MCH	RB1#0	22.63	17.99	38.5	PASS
				RB1#25	22.48	17.84	38.5	PASS
				RB1#49	22.54	17.9	38.5	PASS
				RB25#0	21.44	16.8	38.5	PASS
				RB25#13	21.28	16.64	38.5	PASS
				RB25#25	21.3	16.66	38.5	PASS
				RB50#0	21.38	16.74	38.5	PASS
			HCH	RB1#0	22.69	18.05	38.5	PASS
				RB1#25	22.56	17.92	38.5	PASS
				RB1#49	22.61	17.97	38.5	PASS
				RB25#0	21.32	16.68	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB25#13	21.4	16.76	38.5	PASS
				RB25#25	21.35	16.71	38.5	PASS
				RB50#0	21.44	16.8	38.5	PASS
	LTE/TM2	1.4	LCH	RB1#0	21.81	17.17	38.5	PASS
				RB1#3	21.87	17.23	38.5	PASS
				RB1#5	21.91	17.27	38.5	PASS
				RB3#0	21.8	17.16	38.5	PASS
				RB3#2	21.44	16.8	38.5	PASS
				RB3#3	21.43	16.79	38.5	PASS
				RB6#0	20.3	15.66	38.5	PASS
			MCH	RB1#0	21.83	17.19	38.5	PASS
				RB1#3	21.78	17.14	38.5	PASS
				RB1#5	21.79	17.15	38.5	PASS
				RB3#0	21.28	16.64	38.5	PASS
				RB3#2	20.91	16.27	38.5	PASS
				RB3#3	20.85	16.21	38.5	PASS
				RB6#0	20.26	15.62	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	ERP [dBm]	Limit [dBm]	Verdict
			HCH	RB1#0	21.95	17.31	38.5	PASS
				RB1#3	21.94	17.3	38.5	PASS
				RB1#5	21.89	17.25	38.5	PASS
				RB3#0	21.23	16.59	38.5	PASS
				RB3#2	21.34	16.7	38.5	PASS
				RB3#3	21.25	16.61	38.5	PASS
				RB6#0	20.28	15.64	38.5	PASS
		3	LCH	RB1#0	21.51	16.87	38.5	PASS
				RB1#7	21.47	16.83	38.5	PASS
				RB1#14	21.54	16.9	38.5	PASS
				RB8#0	20.45	15.81	38.5	PASS
				RB8#4	20.48	15.84	38.5	PASS
				RB8#7	20.34	15.7	38.5	PASS
				RB15#0	20.4	15.76	38.5	PASS
			MCH	RB1#0	21.6	16.96	38.5	PASS
				RB1#7	21.41	16.77	38.5	PASS
				RB1#14	21.33	16.69	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB8#0	20.25	15.61	38.5	PASS
				RB8#4	20.32	15.68	38.5	PASS
				RB8#7	20.34	15.7	38.5	PASS
				RB15#0	20.38	15.74	38.5	PASS
			HCH	RB1#0	21.54	16.9	38.5	PASS
				RB1#7	21.4	16.76	38.5	PASS
				RB1#14	21.38	16.74	38.5	PASS
				RB8#0	20.27	15.63	38.5	PASS
				RB8#4	20.28	15.64	38.5	PASS
				RB8#7	20.34	15.7	38.5	PASS
				RB15#0	20.26	15.62	38.5	PASS
		5	LCH	RB1#0	21.46	16.82	38.5	PASS
				RB1#13	21.18	16.54	38.5	PASS
				RB1#24	21.25	16.61	38.5	PASS
				RB12#0	20.17	15.53	38.5	PASS
				RB12#6	20.08	15.44	38.5	PASS
				RB12#13	20.06	15.42	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB25#0	20.47	15.83	38.5	PASS
			MCH	RB1#0	21.49	16.85	38.5	PASS
				RB1#13	21.34	16.7	38.5	PASS
				RB1#24	21.4	16.76	38.5	PASS
				RB12#0	20.13	15.49	38.5	PASS
				RB12#6	20.08	15.44	38.5	PASS
				RB12#13	20	15.36	38.5	PASS
				RB25#0	20.35	15.71	38.5	PASS
			HCH	RB1#0	21.49	16.85	38.5	PASS
				RB1#13	21.46	16.82	38.5	PASS
				RB1#24	21.11	16.47	38.5	PASS
				RB12#0	20.26	15.62	38.5	PASS
				RB12#6	20.49	15.85	38.5	PASS
				RB12#13	20.59	15.95	38.5	PASS
				RB25#0	20.56	15.92	38.5	PASS
		10	LCH	RB1#0	21.86	17.22	38.5	PASS
				RB1#25	21.59	16.95	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB1#49	21.48	16.84	38.5	PASS
				RB25#0	20.3	15.66	38.5	PASS
				RB25#13	20.34	15.7	38.5	PASS
				RB25#25	20.49	15.85	38.5	PASS
				RB50#0	20.48	15.84	38.5	PASS
			MCH	RB1#0	21.81	17.17	38.5	PASS
				RB1#25	21.45	16.81	38.5	PASS
				RB1#49	21.67	17.03	38.5	PASS
				RB25#0	20.48	15.84	38.5	PASS
				RB25#13	20.23	15.59	38.5	PASS
				RB25#25	20.25	15.61	38.5	PASS
				RB50#0	20.31	15.67	38.5	PASS
			HCH	RB1#0	21.77	17.13	38.5	PASS
				RB1#25	21.73	17.09	38.5	PASS
				RB1#49	21.72	17.08	38.5	PASS
				RB25#0	20.49	15.85	38.5	PASS
				RB25#13	20.26	15.62	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB25#25	20.21	15.57	38.5	PASS
				RB50#0	20.32	15.68	38.5	PASS

Note1:

a, For getting the ERP (Efficient Radiated Power) or EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

ERP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBd]

EIRP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBi]

SGP=Signal Generator Level

Detector: RMS

2Appendix_B: Peak-to-Average Ratio

Part I - Test Results

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
BAND5	LTE/TM1	1.4	LCH	RB1#0	4.37	13	PASS
				RB1#3	4.35	13	PASS
				RB1#5	4.41	13	PASS
				RB3#0	4.82	13	PASS
				RB3#2	4.79	13	PASS
				RB3#3	4.85	13	PASS
				RB6#0	5.62	13	PASS
			MCH	RB1#0	4.1	13	PASS
				RB1#3	4.06	13	PASS
				RB1#5	4.11	13	PASS
				RB3#0	4.5	13	PASS
				RB3#2	4.44	13	PASS
				RB3#3	4.49	13	PASS
				RB6#0	5.55	13	PASS
			HCH	RB1#0	4.08	13	PASS
				RB1#3	4.02	13	PASS
				RB1#5	4.06	13	PASS
				RB3#0	4.46	13	PASS
				RB3#2	4.42	13	PASS
				RB3#3	4.44	13	PASS
				RB6#0	5.58	13	PASS
		3	LCH	RB1#0	4.54	13	PASS
				RB1#7	4.48	13	PASS
				RB1#14	4.53	13	PASS
				RB8#0	5.14	13	PASS
				RB8#4	5.04	13	PASS
				RB8#7	5.13	13	PASS
				RB15#0	5.26	13	PASS
			MCH	RB1#0	4.18	13	PASS
				RB1#7	4.17	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
				RB1#14	4.3	13	PASS
				RB8#0	5.02	13	PASS
				RB8#4	4.91	13	PASS
				RB8#7	5.07	13	PASS
				RB15#0	5.42	13	PASS
			HCH	RB1#0	4.34	13	PASS
				RB1#7	4.17	13	PASS
				RB1#14	4.19	13	PASS
				RB8#0	4.99	13	PASS
				RB8#4	4.75	13	PASS
				RB8#7	4.9	13	PASS
				RB15#0	5.04	13	PASS
			LCH	RB1#0	4.42	13	PASS
				RB1#13	4.36	13	PASS
				RB1#24	4.29	13	PASS
				RB12#0	5.09	13	PASS
				RB12#6	4.97	13	PASS
				RB12#13	5.04	13	PASS
				RB25#0	5.42	13	PASS
			MCH	RB1#0	4.1	13	PASS
				RB1#13	4.15	13	PASS
				RB1#24	4.32	13	PASS
		5		RB12#0	4.81	13	PASS
				RB12#6	4.73	13	PASS
				RB12#13	4.87	13	PASS
				RB25#0	5.2	13	PASS
			HCH	RB1#0	4.32	13	PASS
				RB1#13	4.22	13	PASS
				RB1#24	4.12	13	PASS
				RB12#0	4.98	13	PASS
				RB12#6	4.86	13	PASS
				RB12#13	4.79	13	PASS
				RB25#0	5.4	13	PASS
		10	LCH	RB1#0	4.5	13	PASS
				RB1#25	4.25	13	PASS
				RB1#49	4.12	13	PASS
				RB25#0	5.14	13	PASS
				RB25#13	4.97	13	PASS
				RB25#25	4.95	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
				RB50#0	5.78	13	PASS
			MCH	RB1#0	4.17	13	PASS
				RB1#25	4.17	13	PASS
				RB1#49	4.34	13	PASS
				RB25#0	4.89	13	PASS
				RB25#13	4.85	13	PASS
				RB25#25	4.95	13	PASS
				RB50#0	5.4	13	PASS
			HCH	RB1#0	4.31	13	PASS
				RB1#25	4.35	13	PASS
				RB1#49	4.13	13	PASS
				RB25#0	5.05	13	PASS
				RB25#13	5.06	13	PASS
				RB25#25	4.93	13	PASS
				RB50#0	5.31	13	PASS
			LCH	RB1#0	5.37	13	PASS
				RB1#3	5.33	13	PASS
				RB1#5	5.39	13	PASS
				RB3#0	5.69	13	PASS
				RB3#2	5.61	13	PASS
				RB3#3	5.69	13	PASS
				RB6#0	6.22	13	PASS
	LTE/TM2	1.4	MCH	RB1#0	4.99	13	PASS
				RB1#3	4.93	13	PASS
				RB1#5	5.07	13	PASS
				RB3#0	5.27	13	PASS
				RB3#2	5.23	13	PASS
				RB3#3	5.34	13	PASS
				RB6#0	5.9	13	PASS
			HCH	RB1#0	4.99	13	PASS
				RB1#3	4.82	13	PASS
				RB1#5	4.78	13	PASS
				RB3#0	5.23	13	PASS
				RB3#2	5.17	13	PASS
				RB3#3	5.24	13	PASS
				RB6#0	5.89	13	PASS
		3	LCH	RB1#0	5.24	13	PASS
				RB1#7	5.21	13	PASS
				RB1#14	5.3	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
				RB8#0	6	13	PASS
				RB8#4	5.82	13	PASS
				RB8#7	5.9	13	PASS
				RB15#0	6.43	13	PASS
			MCH	RB1#0	4.9	13	PASS
				RB1#7	4.93	13	PASS
				RB1#14	5.11	13	PASS
				RB8#0	5.73	13	PASS
				RB8#4	5.63	13	PASS
				RB8#7	5.71	13	PASS
				RB15#0	6.26	13	PASS
			HCH	RB1#0	5.06	13	PASS
				RB1#7	4.93	13	PASS
				RB1#14	4.94	13	PASS
				RB8#0	5.8	13	PASS
				RB8#4	5.59	13	PASS
				RB8#7	5.59	13	PASS
				RB15#0	6.13	13	PASS
		5	LCH	RB1#0	5.39	13	PASS
				RB1#13	5.38	13	PASS
				RB1#24	5.34	13	PASS
				RB12#0	5.94	13	PASS
				RB12#6	5.88	13	PASS
				RB12#13	5.94	13	PASS
				RB25#0	6.28	13	PASS
			MCH	RB1#0	4.99	13	PASS
				RB1#13	5.08	13	PASS
				RB1#24	5.26	13	PASS
				RB12#0	5.66	13	PASS
				RB12#6	5.68	13	PASS
				RB12#13	5.79	13	PASS
				RB25#0	6.26	13	PASS
			HCH	RB1#0	5.25	13	PASS
				RB1#13	5.24	13	PASS
				RB1#24	5.06	13	PASS
				RB12#0	5.88	13	PASS
				RB12#6	5.74	13	PASS
				RB12#13	5.71	13	PASS
				RB25#0	6.34	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
		10	LCH	RB1#0	5.54	13	PASS
				RB1#25	5.24	13	PASS
				RB1#49	5.01	13	PASS
				RB25#0	6.17	13	PASS
				RB25#13	5.89	13	PASS
				RB25#25	5.99	13	PASS
				RB50#0	6.89	13	PASS
			MCH	RB1#0	5.05	13	PASS
				RB1#25	5.06	13	PASS
				RB1#49	5.28	13	PASS
				RB25#0	5.96	13	PASS
				RB25#13	5.88	13	PASS
				RB25#25	5.99	13	PASS
				RB50#0	6.43	13	PASS
			HCH	RB1#0	5.37	13	PASS
				RB1#25	5.33	13	PASS
				RB1#49	4.91	13	PASS
				RB25#0	6.07	13	PASS
				RB25#13	6	13	PASS
				RB25#25	6.06	13	PASS
				RB50#0	6.89	13	PASS

3Appendix_C: Modulation Characteristics

Part I - Test Plots

3.1 For LTE

3.1.1 Test Band = BAND5

3.1.1.1 Test Mode = LTE/TM1

3.1.1.1.1 Test Bandwidth = 1.4

3.1.1.1.1.1 Test Channel = MCH

3.1.1.1.1.1.1 Test RB = RB6#0
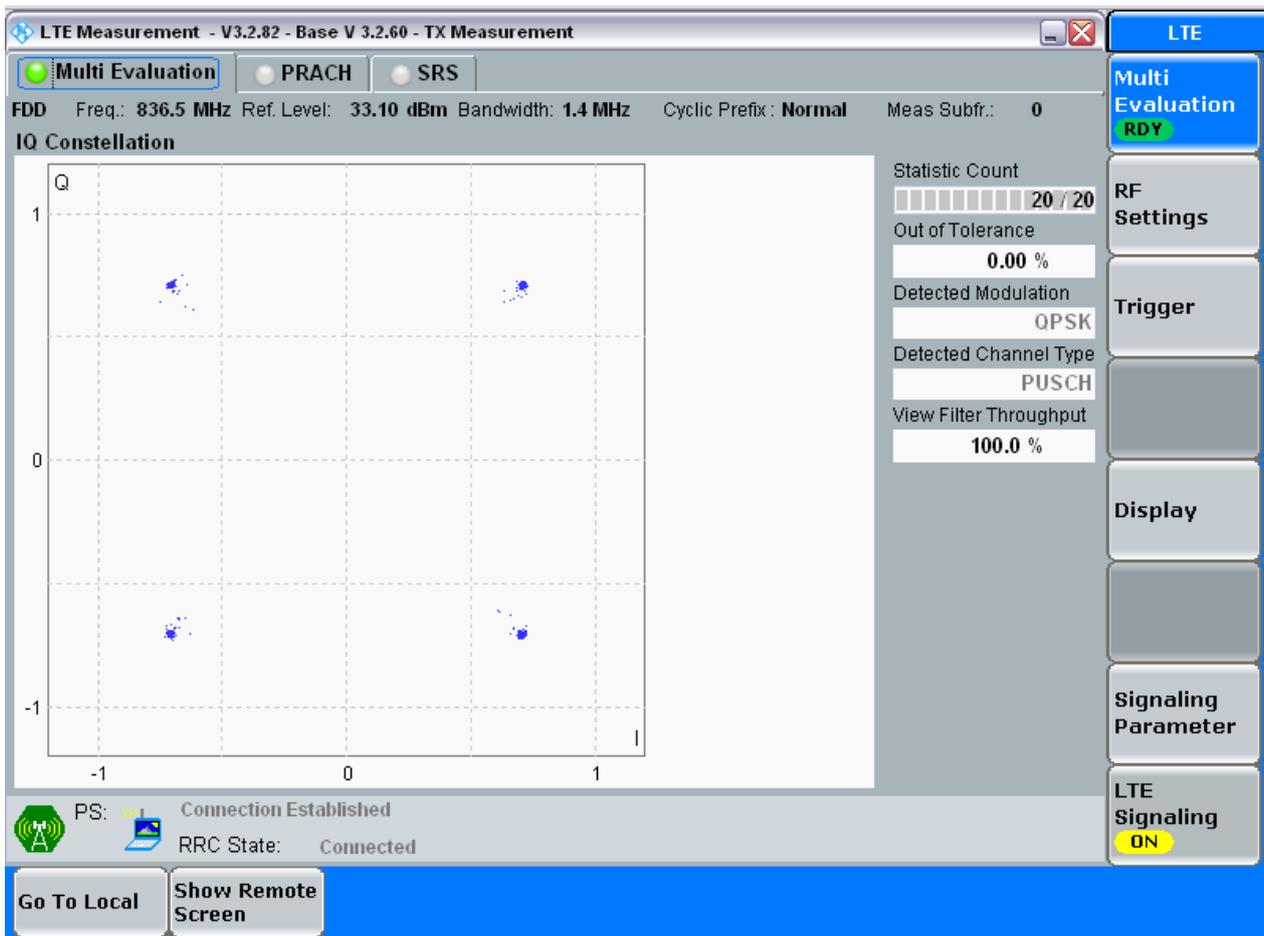
3.1.1.1.2 Test Bandwidth = 3

3.1.1.1.2.1 Test Channel = MCH

3.1.1.1.2.1.1 Test RB = RB15#0
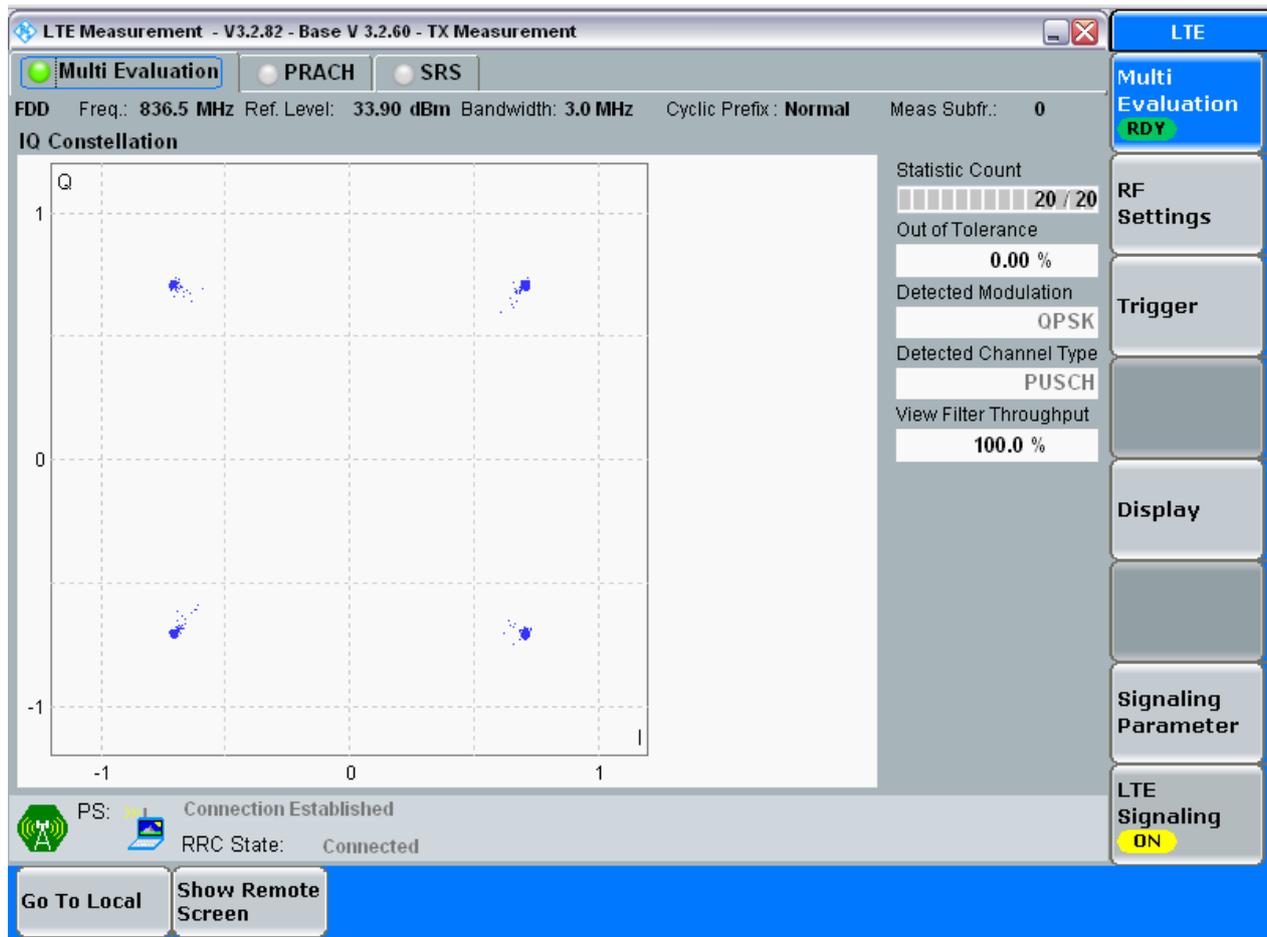
3.1.1.1.3 Test Bandwidth = 5

3.1.1.1.3.1 Test Channel = MCH

3.1.1.1.3.1.1 Test RB = RB25#0
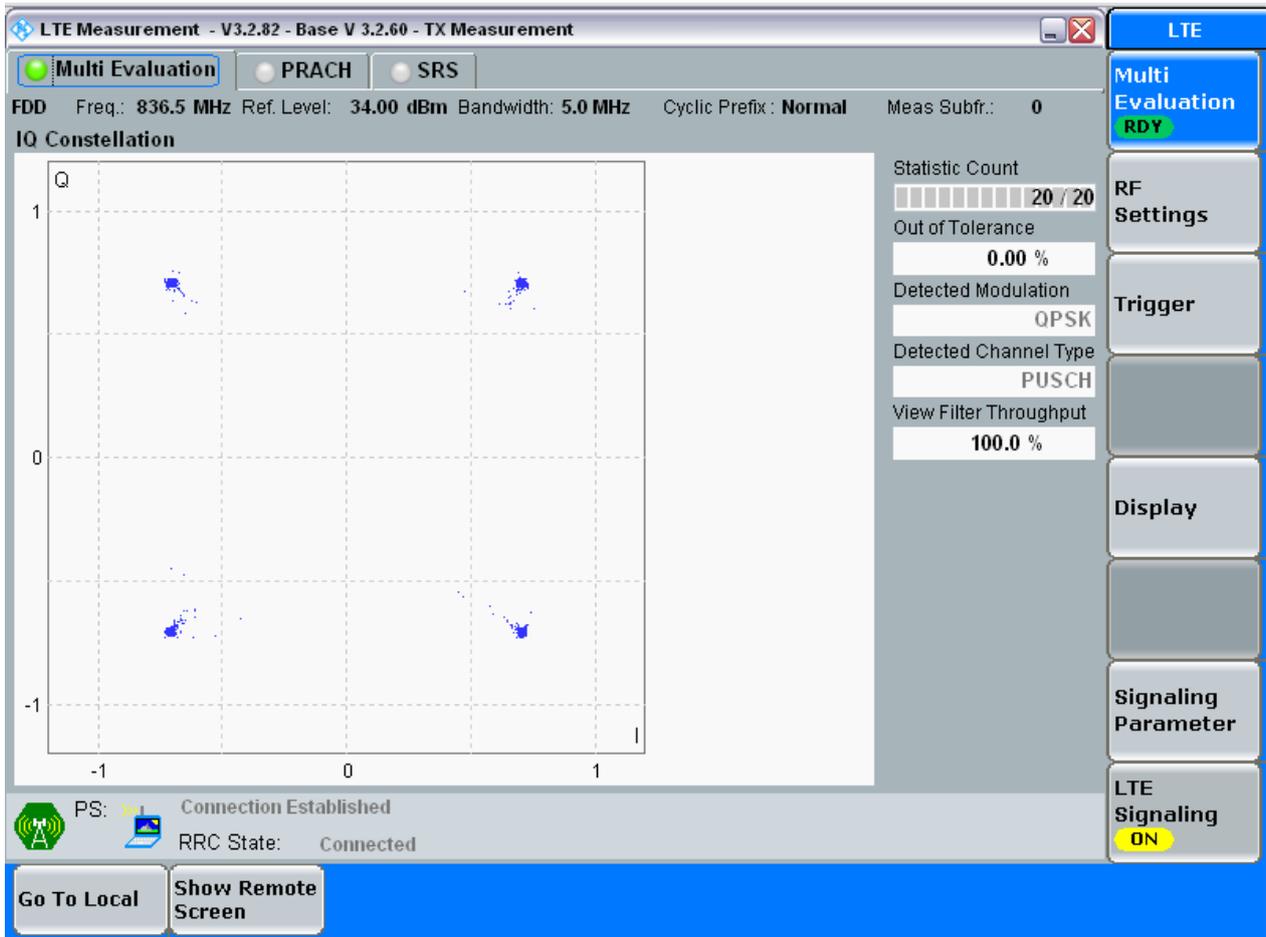
3.1.1.1.4 Test Bandwidth = 10

3.1.1.1.4.1 Test Channel = MCH

3.1.1.1.4.1.1 Test RB = RB50#0
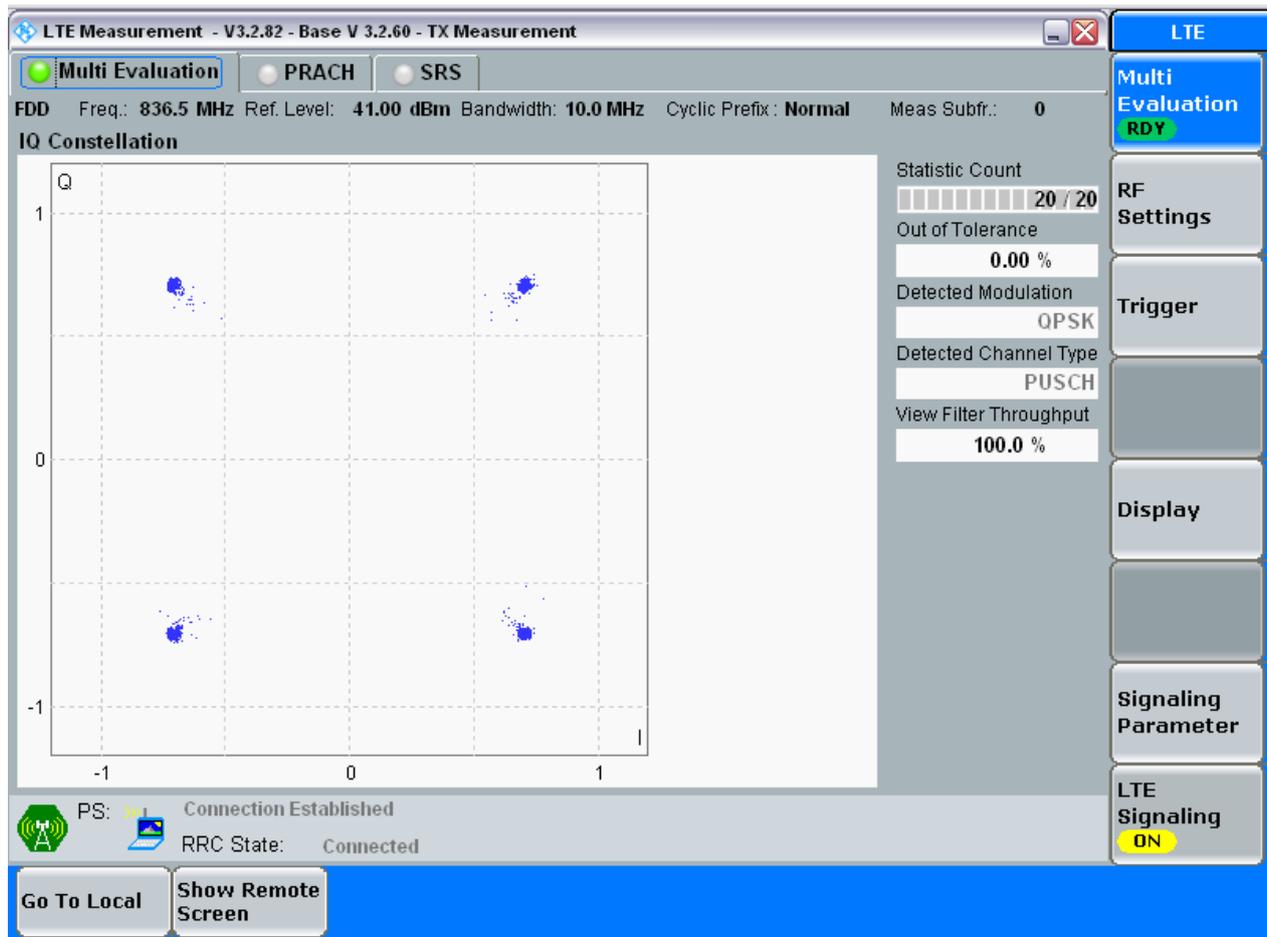
3.1.1.2 Test Mode = LTE/TM2

3.1.1.2.1 Test Bandwidth = 1.4

3.1.1.2.1.1 Test Channel = MCH

3.1.1.2.1.1.1 Test RB = RB6#0
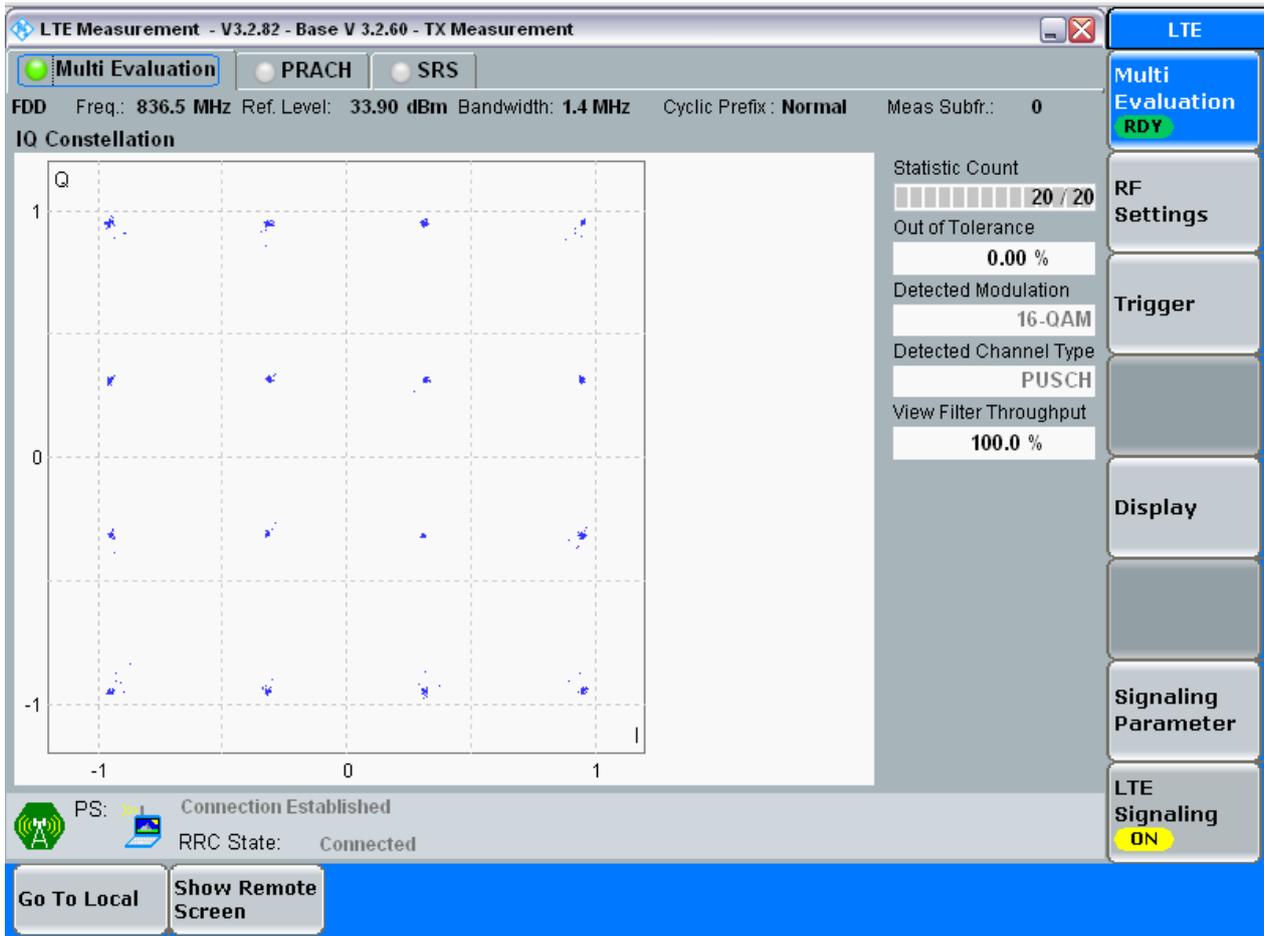
3.1.1.2.2 Test Bandwidth = 3

3.1.1.2.2.1 Test Channel = MCH

3.1.1.2.2.1.1 Test RB = RB15#0
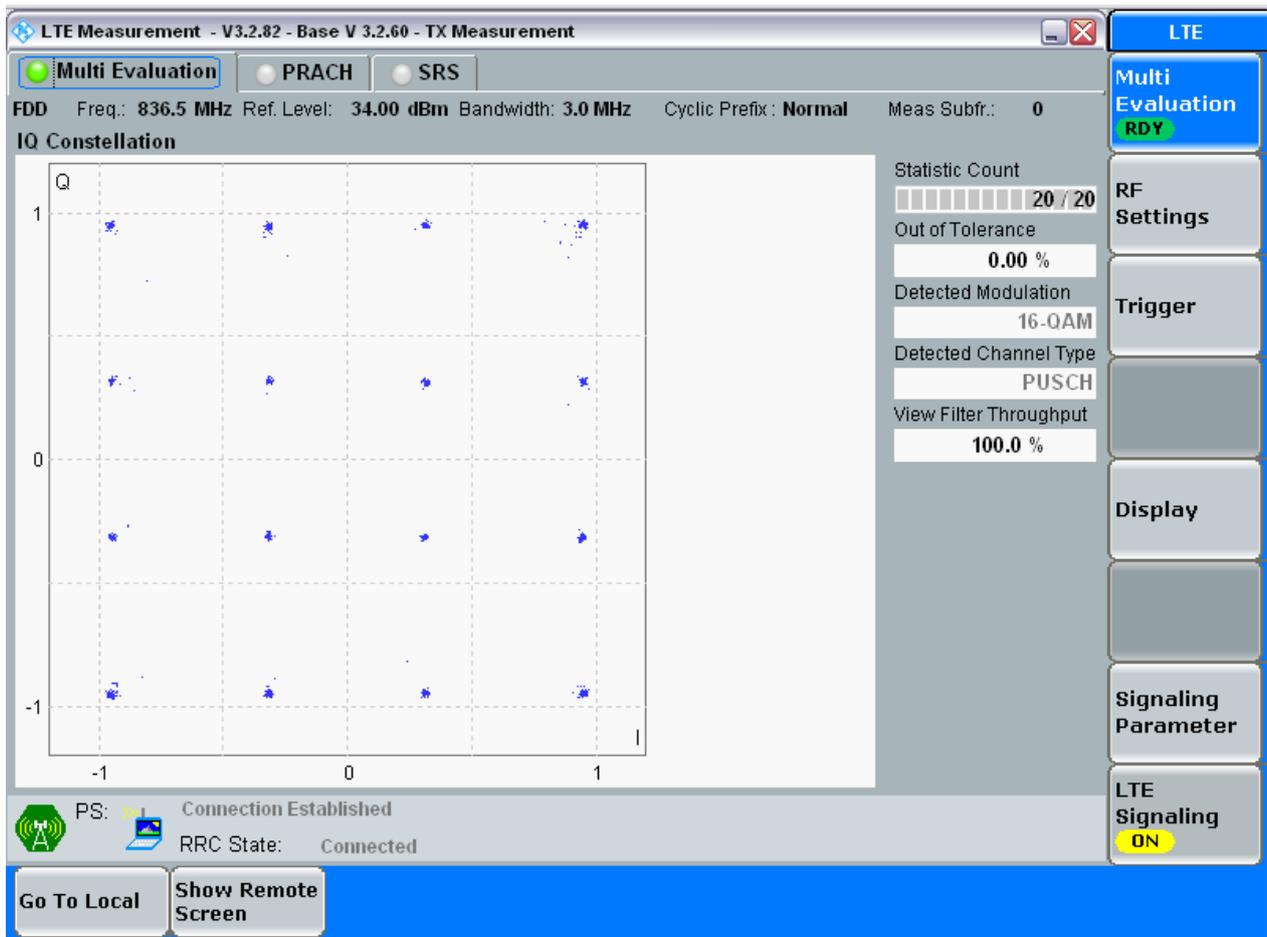
3.1.1.2.3 Test Bandwidth = 5

3.1.1.2.3.1 Test Channel = MCH

3.1.1.2.3.1.1 Test RB = RB25#0
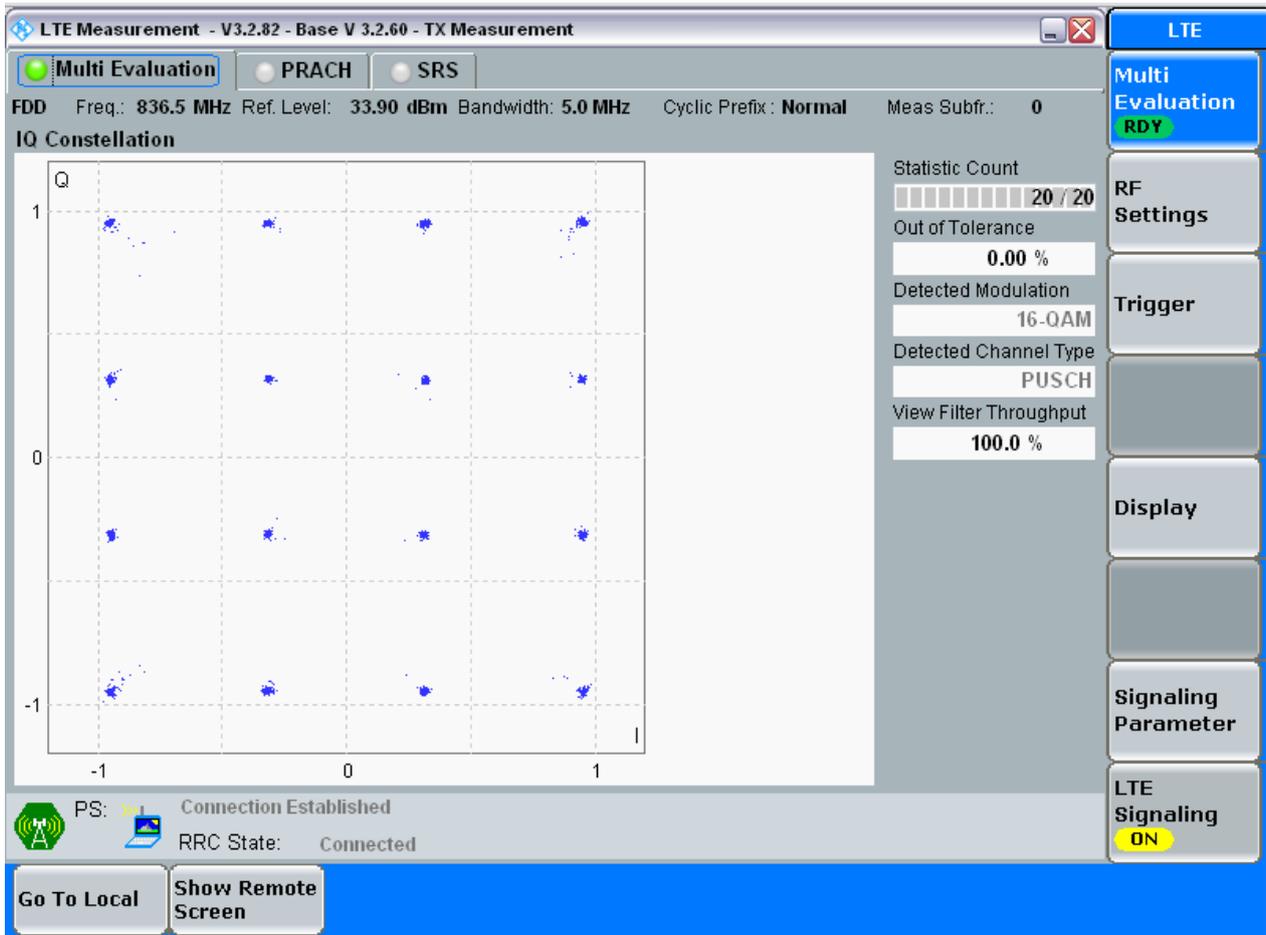
3.1.1.2.4 Test Bandwidth = 10

3.1.1.2.4.1 Test Channel = MCH

3.1.1.2.4.1.1 Test RB = RB50#0
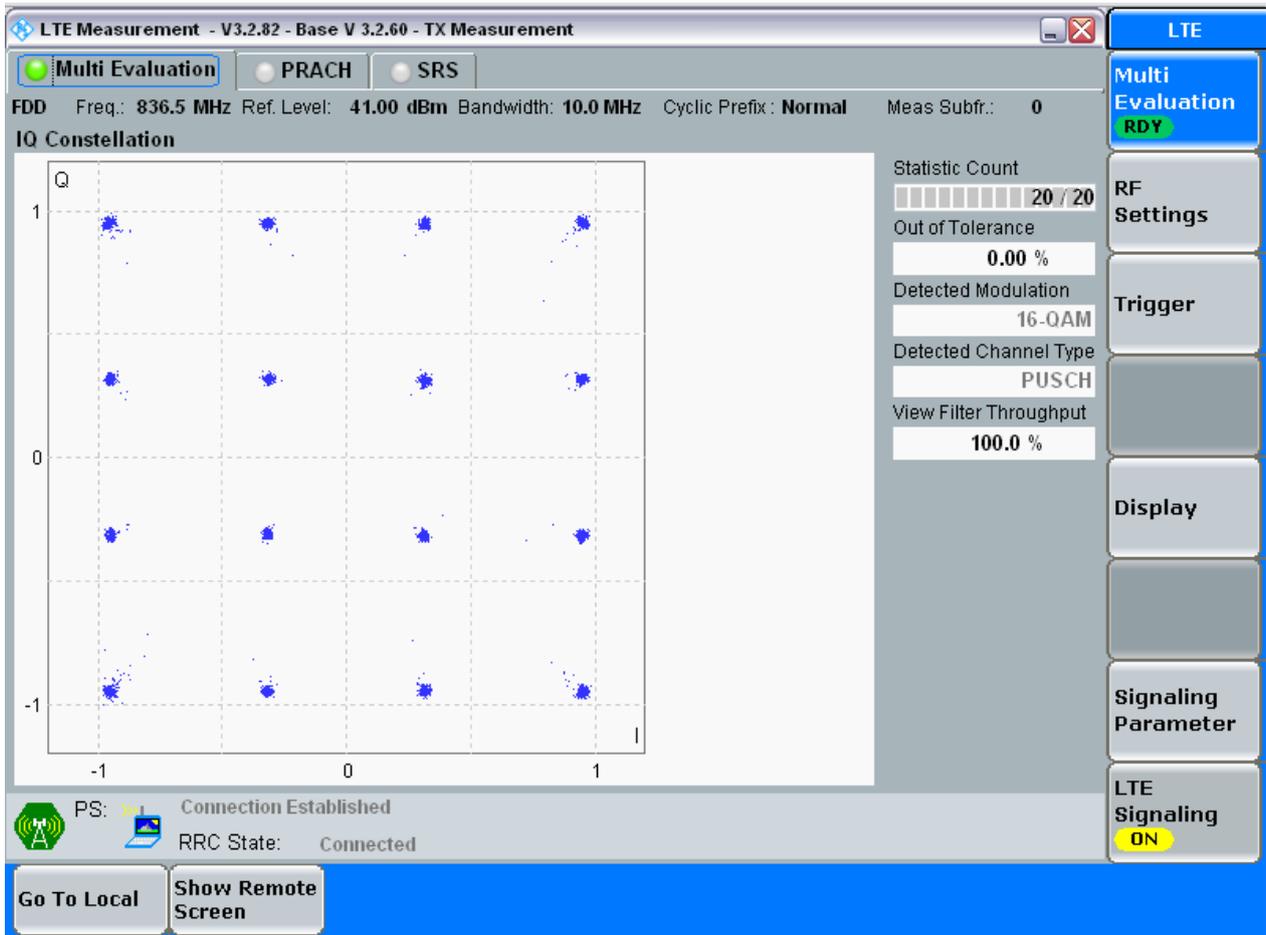
4Appendix_D: Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Bandwidth	Test Channel	Test RB	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
BAND5	LTE/TM1	1.4	LCH	RB6#0	1.09	1.25	Pass
			MCH	RB6#0	1.09	1.26	Pass
			HCH	RB6#0	1.09	1.27	Pass
		3	LCH	RB15#0	2.70	2.93	Pass
			MCH	RB15#0	2.70	2.94	Pass
			HCH	RB15#0	2.70	2.94	Pass
		5	LCH	RB25#0	4.50	4.90	Pass
			MCH	RB25#0	4.50	4.88	Pass
			HCH	RB25#0	4.50	4.91	Pass
		10	LCH	RB50#0	8.99	9.64	Pass
			MCH	RB50#0	9.00	9.63	Pass
			HCH	RB50#0	8.99	9.58	Pass
	LTE/TM2	1.4	LCH	RB6#0	1.09	1.27	Pass
			MCH	RB6#0	1.09	1.27	Pass
			HCH	RB6#0	1.09	1.27	Pass
		3	LCH	RB15#0	2.70	2.92	Pass
			MCH	RB15#0	2.70	2.94	Pass
			HCH	RB15#0	2.70	2.94	Pass
		5	LCH	RB25#0	4.51	4.87	Pass
			MCH	RB25#0	4.51	4.89	Pass
			HCH	RB25#0	4.51	4.85	Pass
		10	LCH	RB50#0	8.99	9.55	Pass
			MCH	RB50#0	9.00	9.62	Pass
			HCH	RB50#0	8.99	9.58	Pass

Part II - Test Plots

4.1 For LTE

4.1.1 Test Band = BAND5

4.1.1.1 Test Mode = LTE/TM1

4.1.1.1.1 Test Bandwidth = 1.4

4.1.1.1.1.1 Test Channel = LCH

4.1.1.1.1.1.1 Test RB = RB6#0
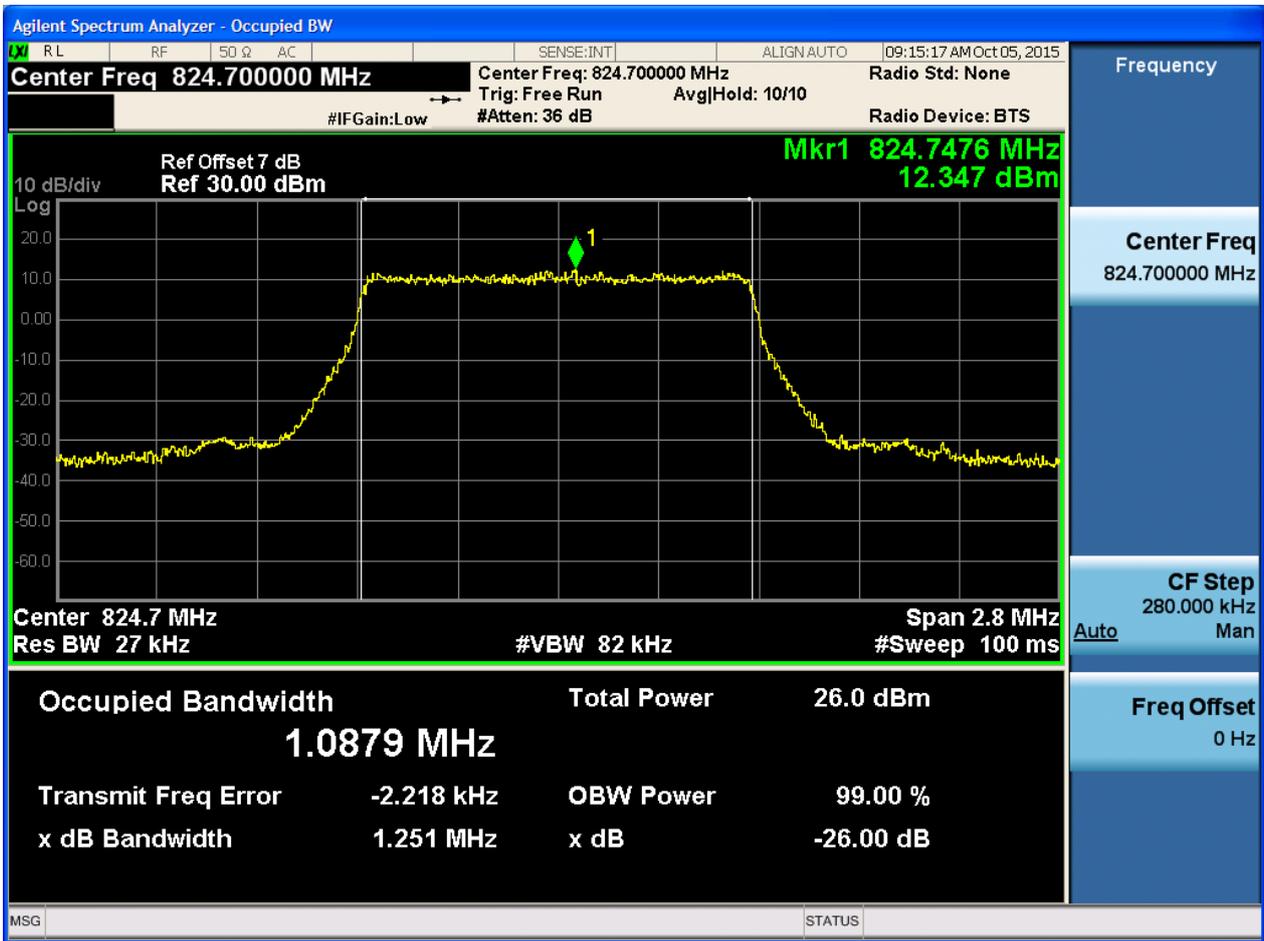
4.1.1.1.1.2 Test Channel = MCH

4.1.1.1.1.2.1 Test RB = RB6#0
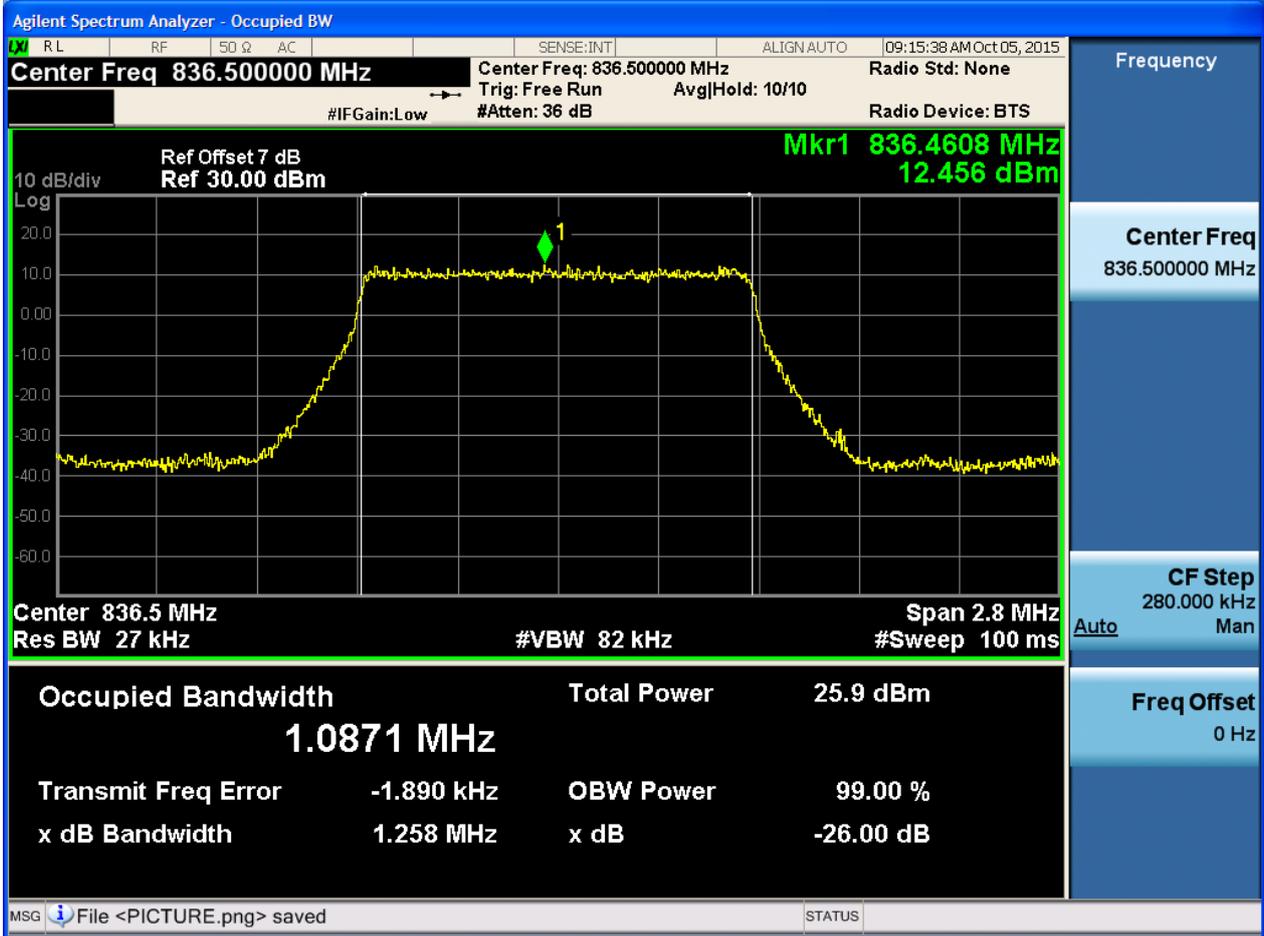
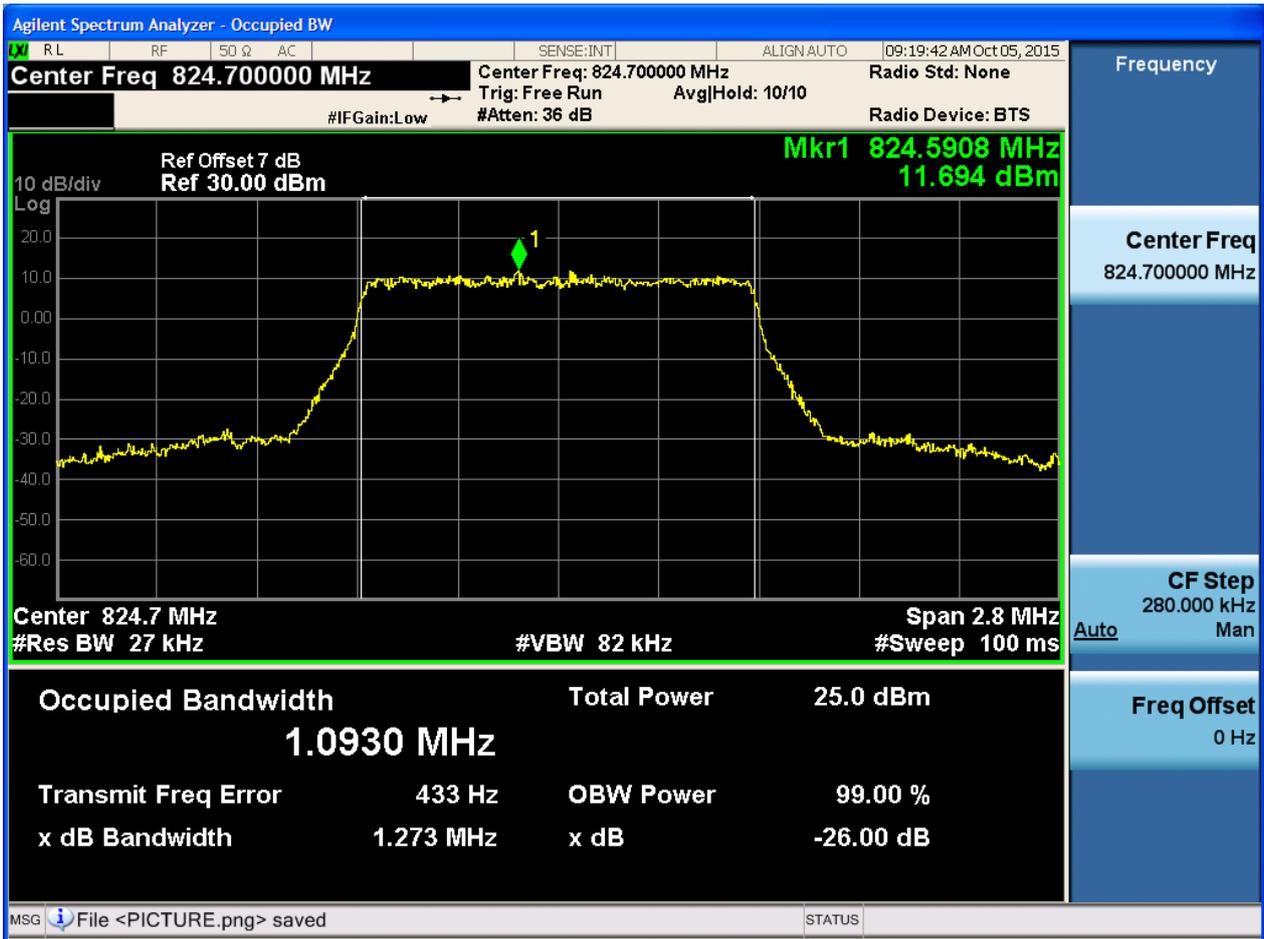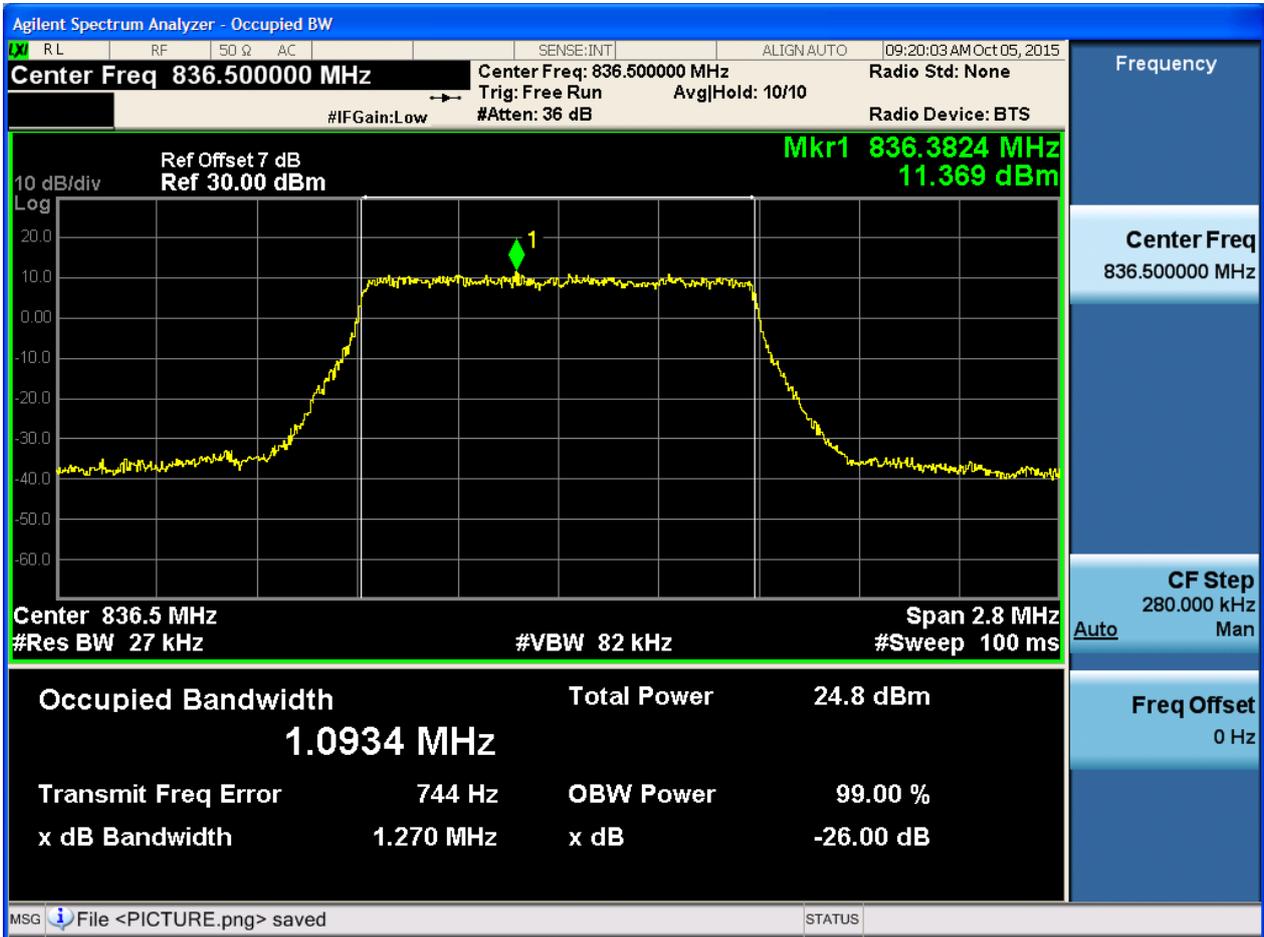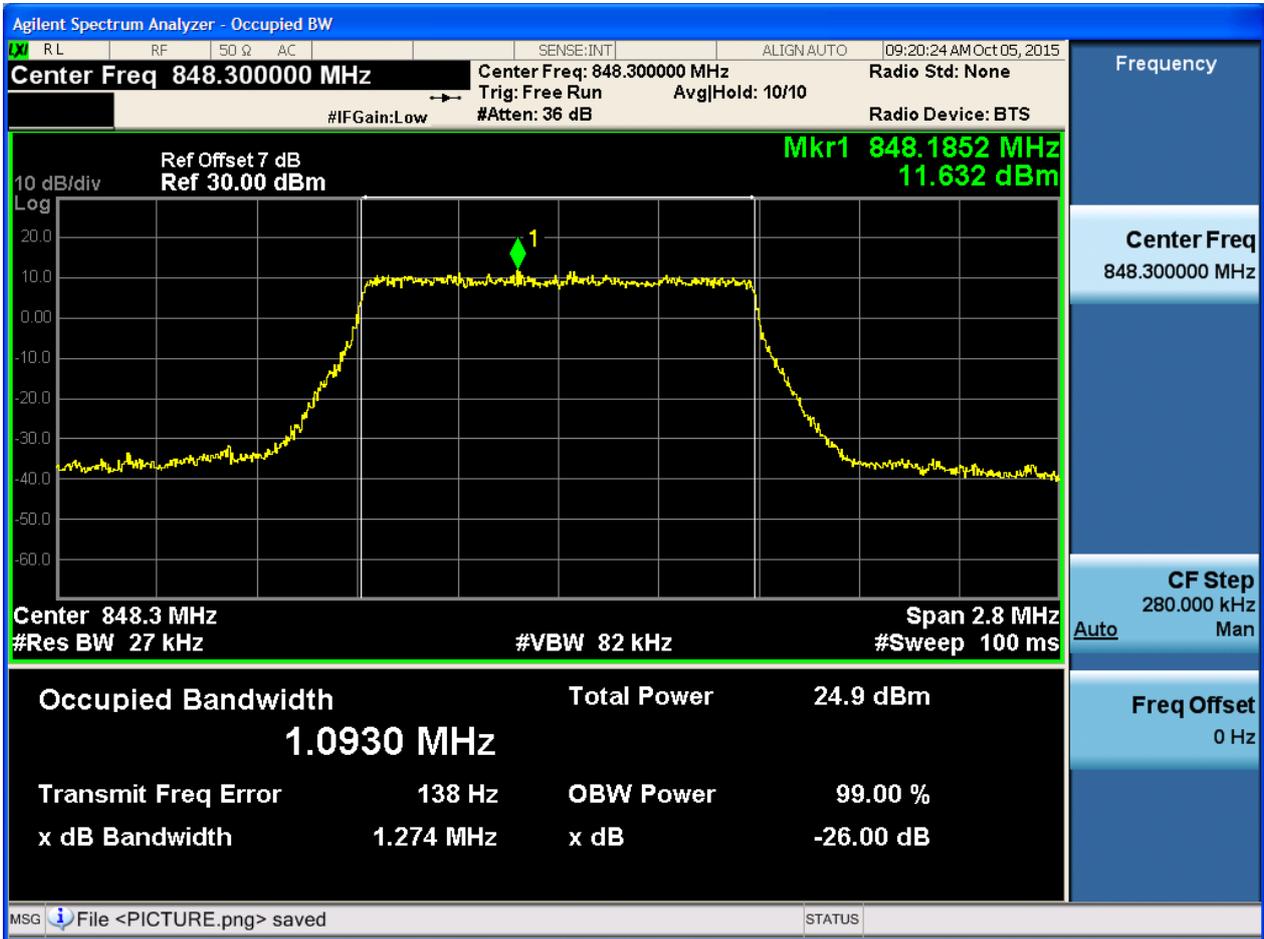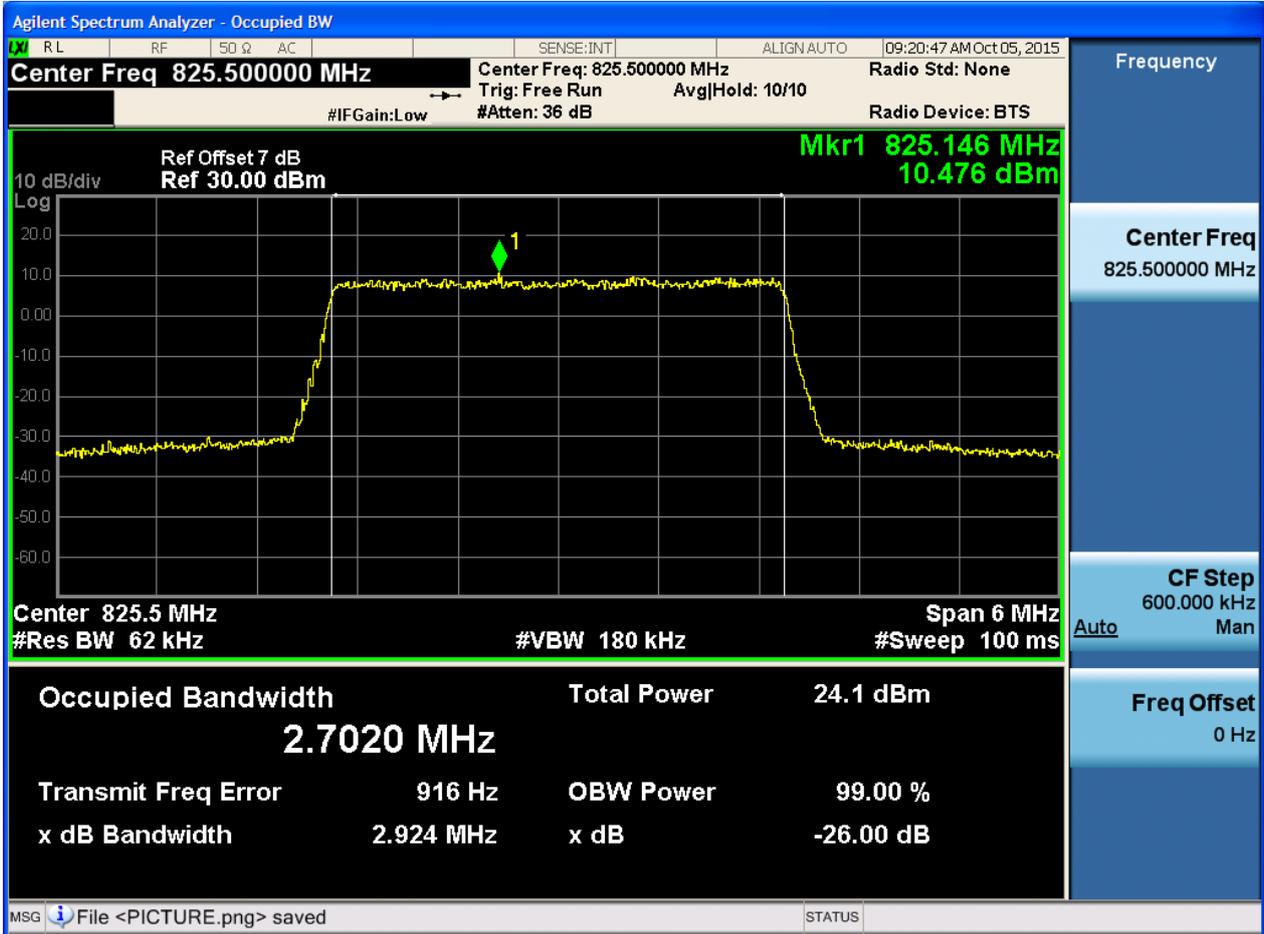## 4.1.1.1.1.3 Test Channel = HCH

4.1.1.1.1.3.1 Test RB = RB6#0
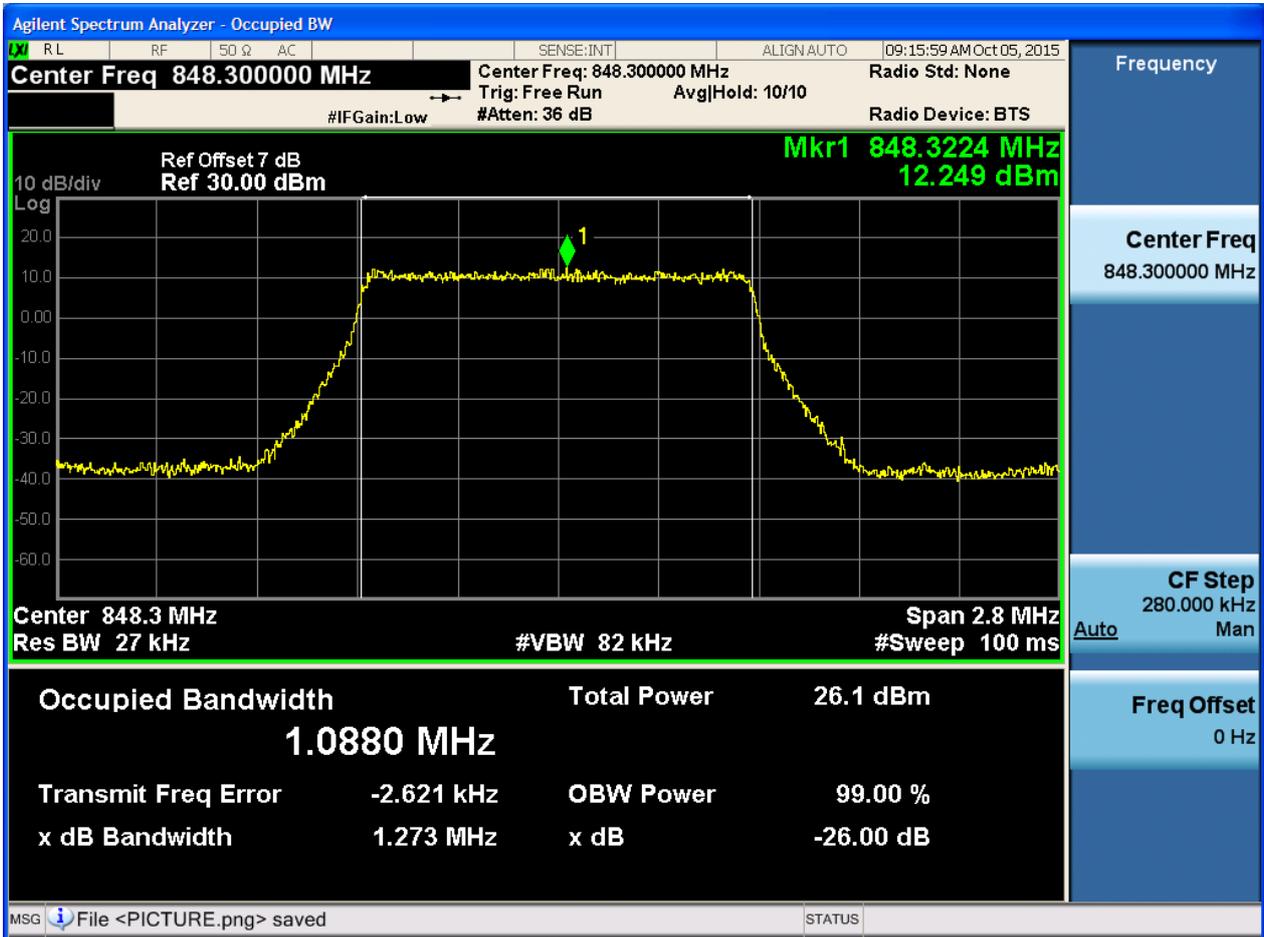
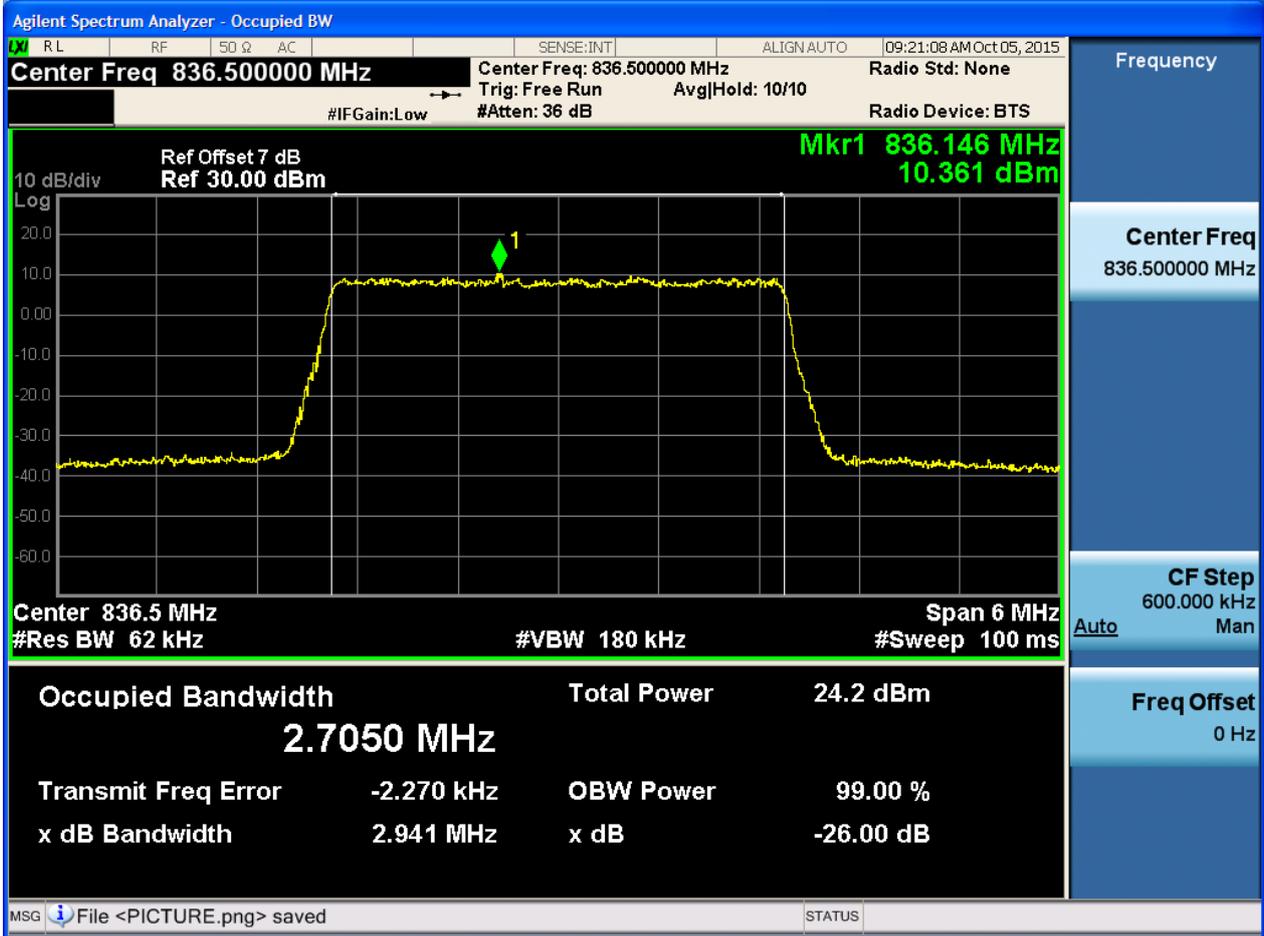### 4.1.1.1.2 Test Bandwidth = 3

4.1.1.1.2.1 Test Channel = LCH

4.1.1.1.2.1.1 Test RB = RB15#0
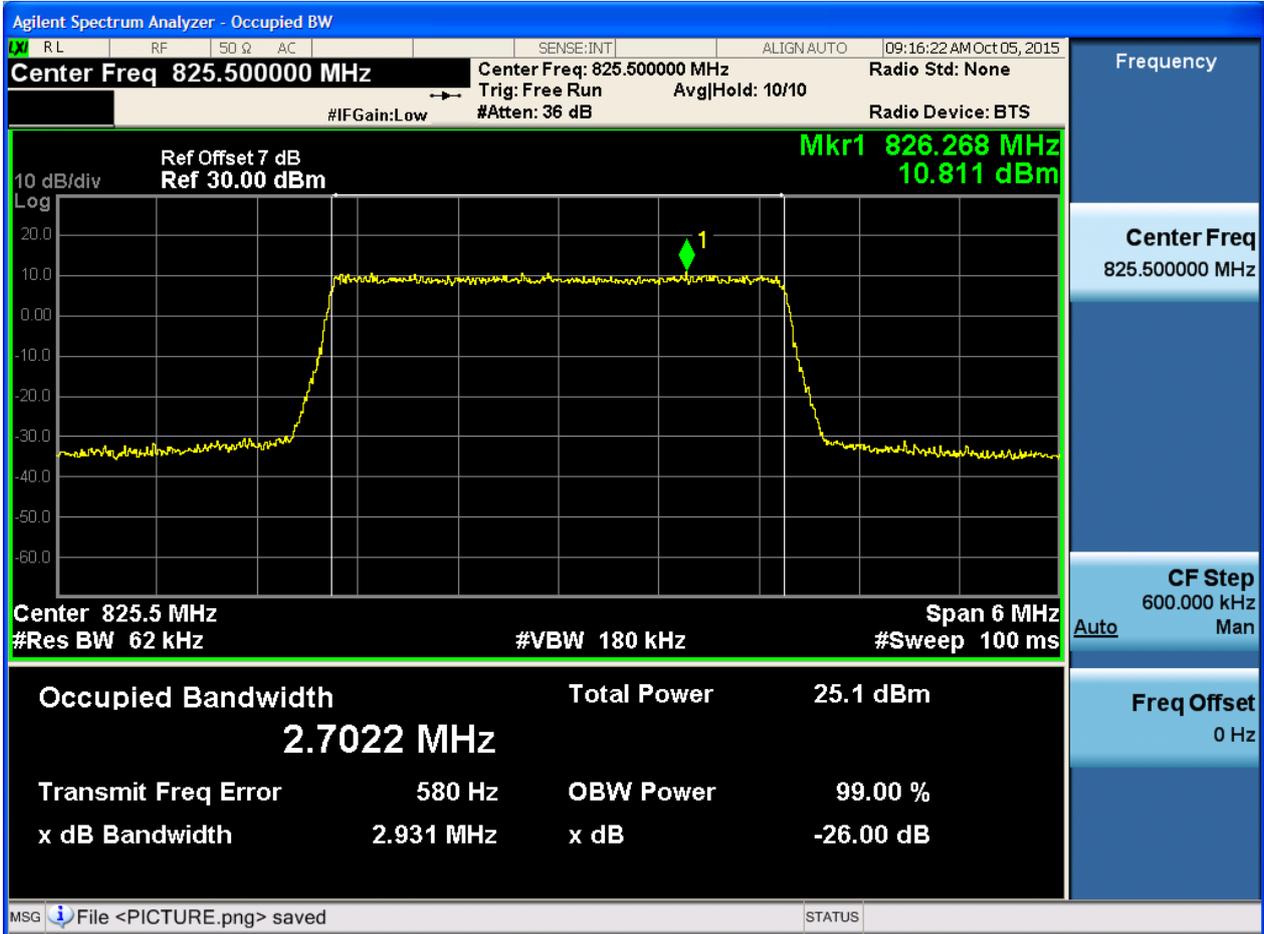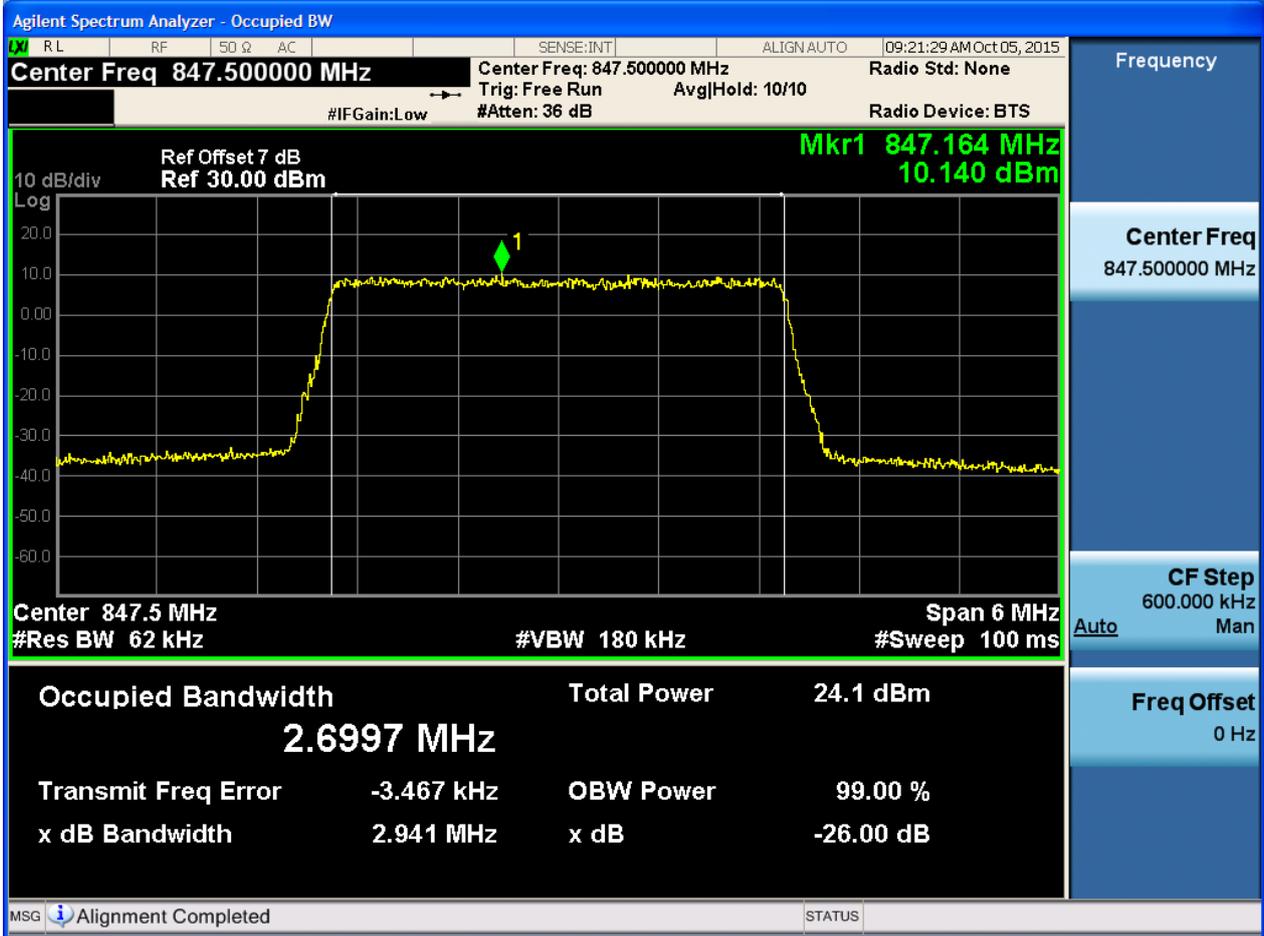
4.1.1.1.2.2 Test Channel = MCH

4.1.1.1.2.2.1 Test RB = RB15#0
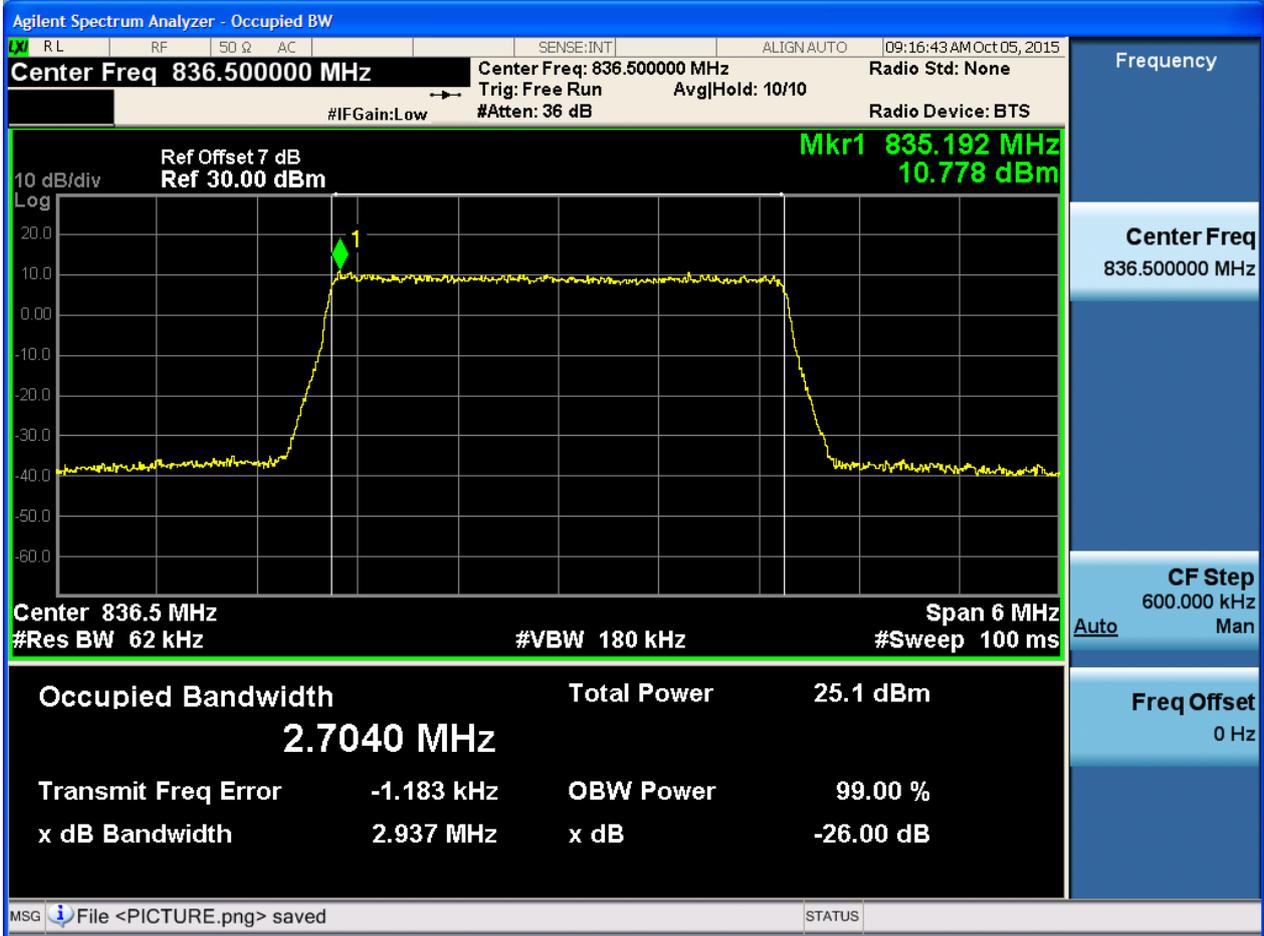
4.1.1.1.2.3 Test Channel = HCH

4.1.1.1.2.3.1 Test RB = RB15#0

Agilent Spectrum Analyzer - Occupied BW

LXI R L   RF   50 Ω   AC   SENSE:INT   ALIGN AUTO   09:17:10 AM Oct 05, 2015

Center Freq 847.500000 MHz   Center Freq: 847.500000 MHz   Radio Std: None
                                   Trig: Free Run   Avg|Hold: 10/10
                       #IFGain:Low #Atten: 36 dB   Radio Device: BTS

Ref Offset 7 dB   Mkr1 846.264 MHz
10 dB/div   Ref 30.00 dBm   10.712 dBm
Log
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0

Center 847.5 MHz   Span 6 MHz
#Res BW 62 kHz   #VBW 180 kHz   #Sweep 100 ms

Occupied Bandwidth		Total Power	25.1 dBm
2.7016 MHz			
Transmit Freq Error	-2.526 kHz	OBW Power	99.00 %
x dB Bandwidth	2.937 MHz	x dB	-26.00 dB

MSG Alignment Completed   STATUS

4.1.1.1.3 Test Bandwidth = 5

4.1.1.1.3.1 Test Channel = LCH

4.1.1.1.3.1.1 Test RB = RB25#0
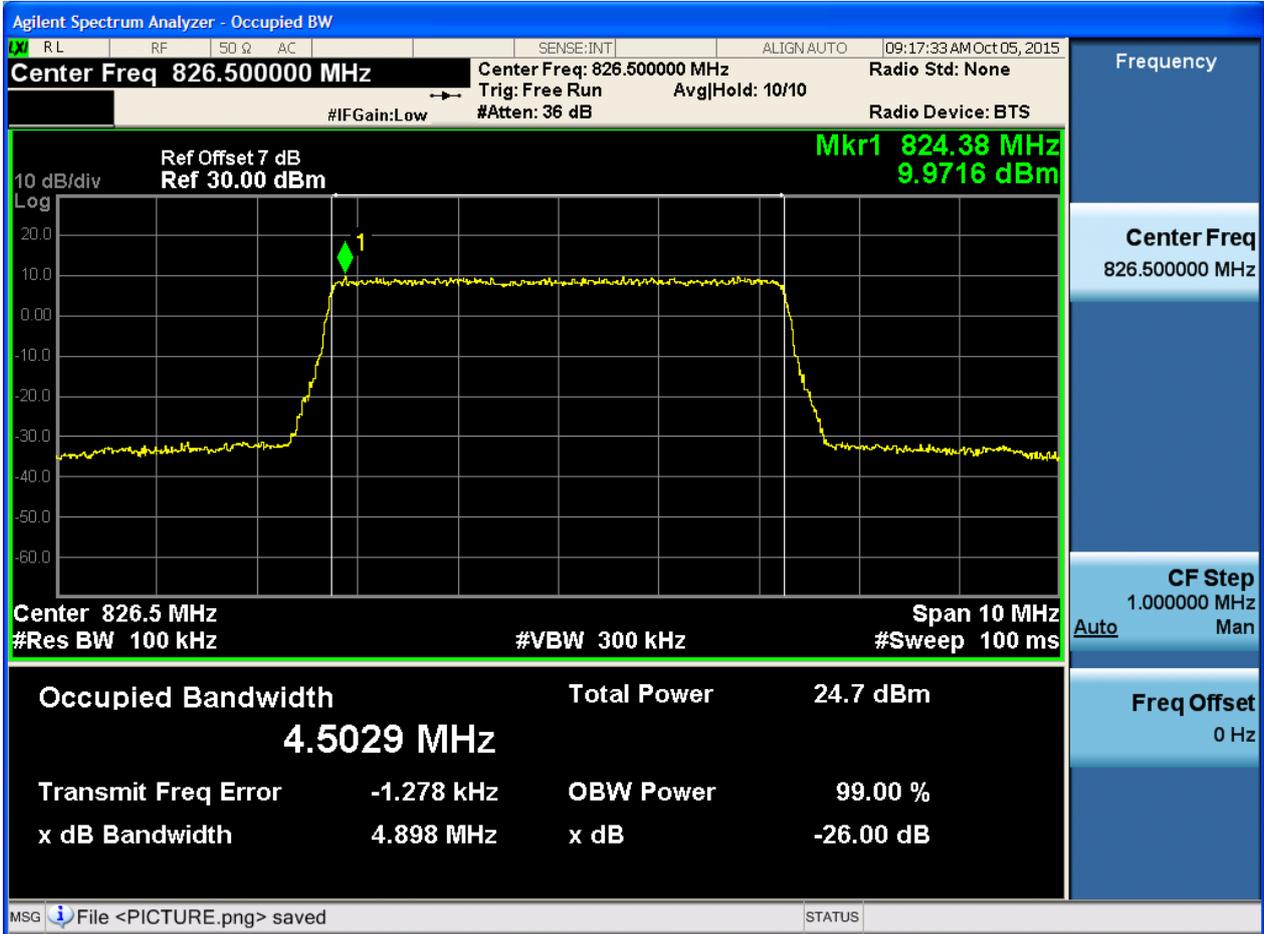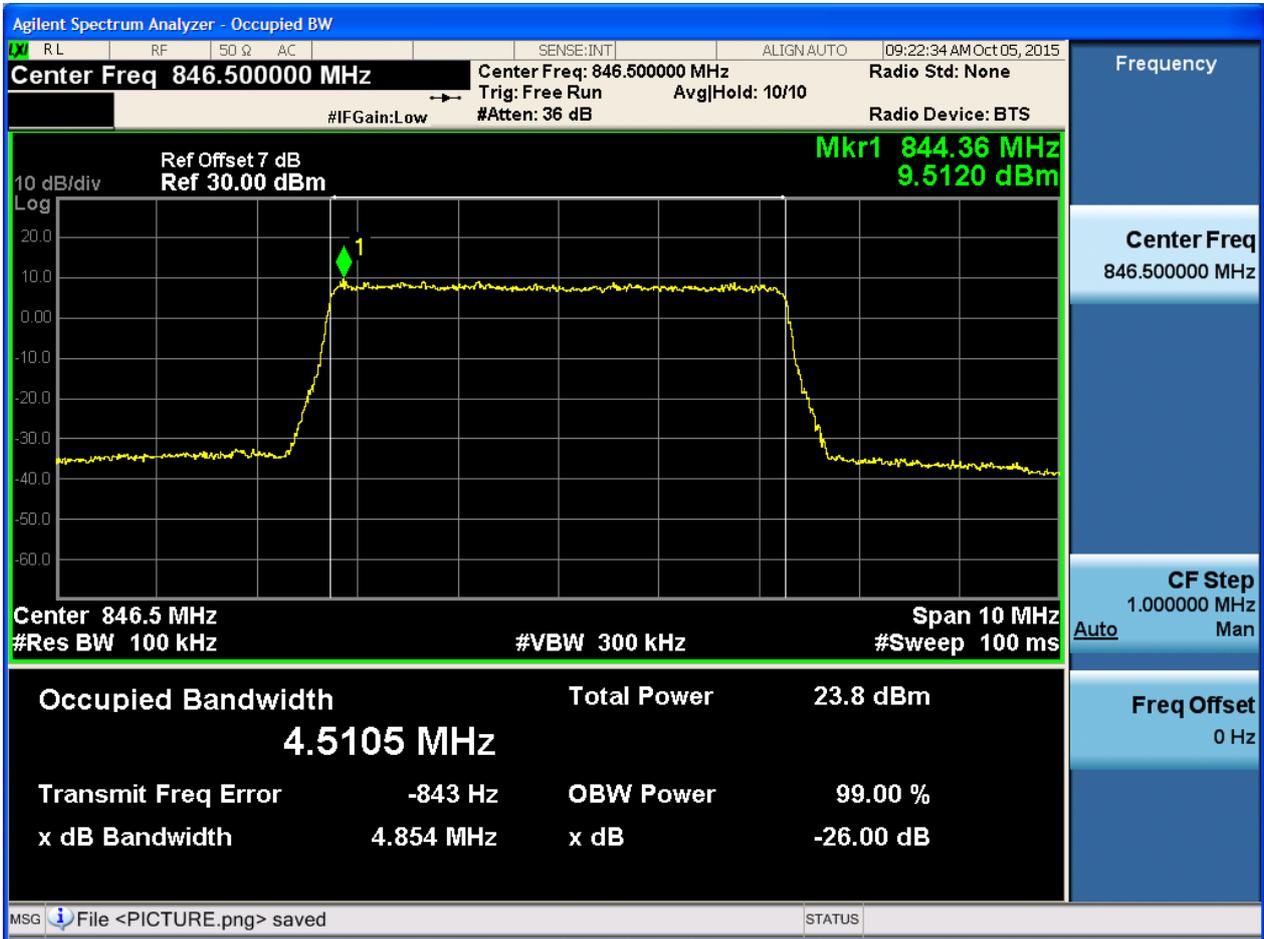
4.1.1.1.3.2 Test Channel = MCH

4.1.1.1.3.2.1 Test RB = RB25#0
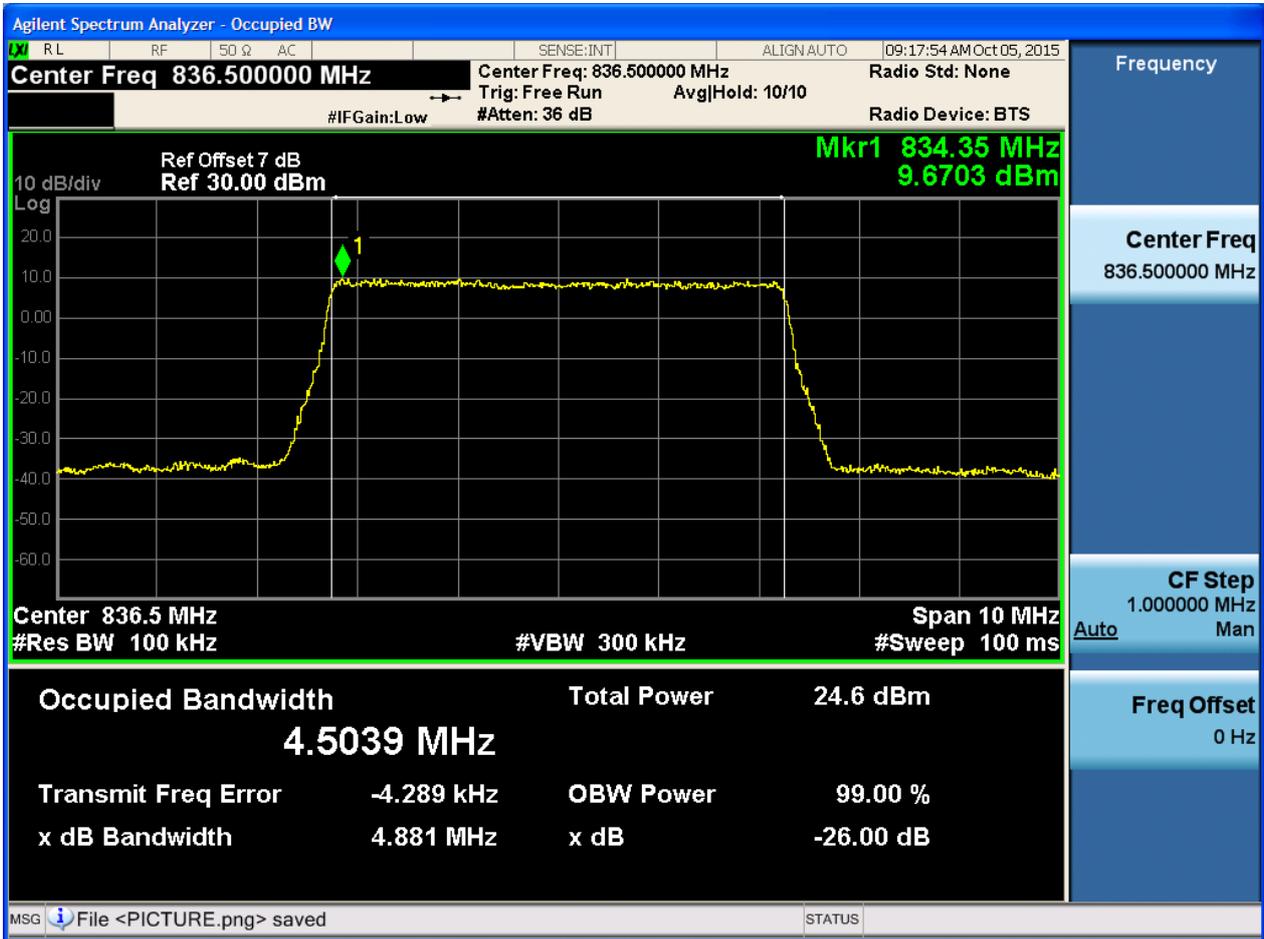
4.1.1.1.3.3 Test Channel = HCH

4.1.1.1.3.3.1 Test RB = RB25#0
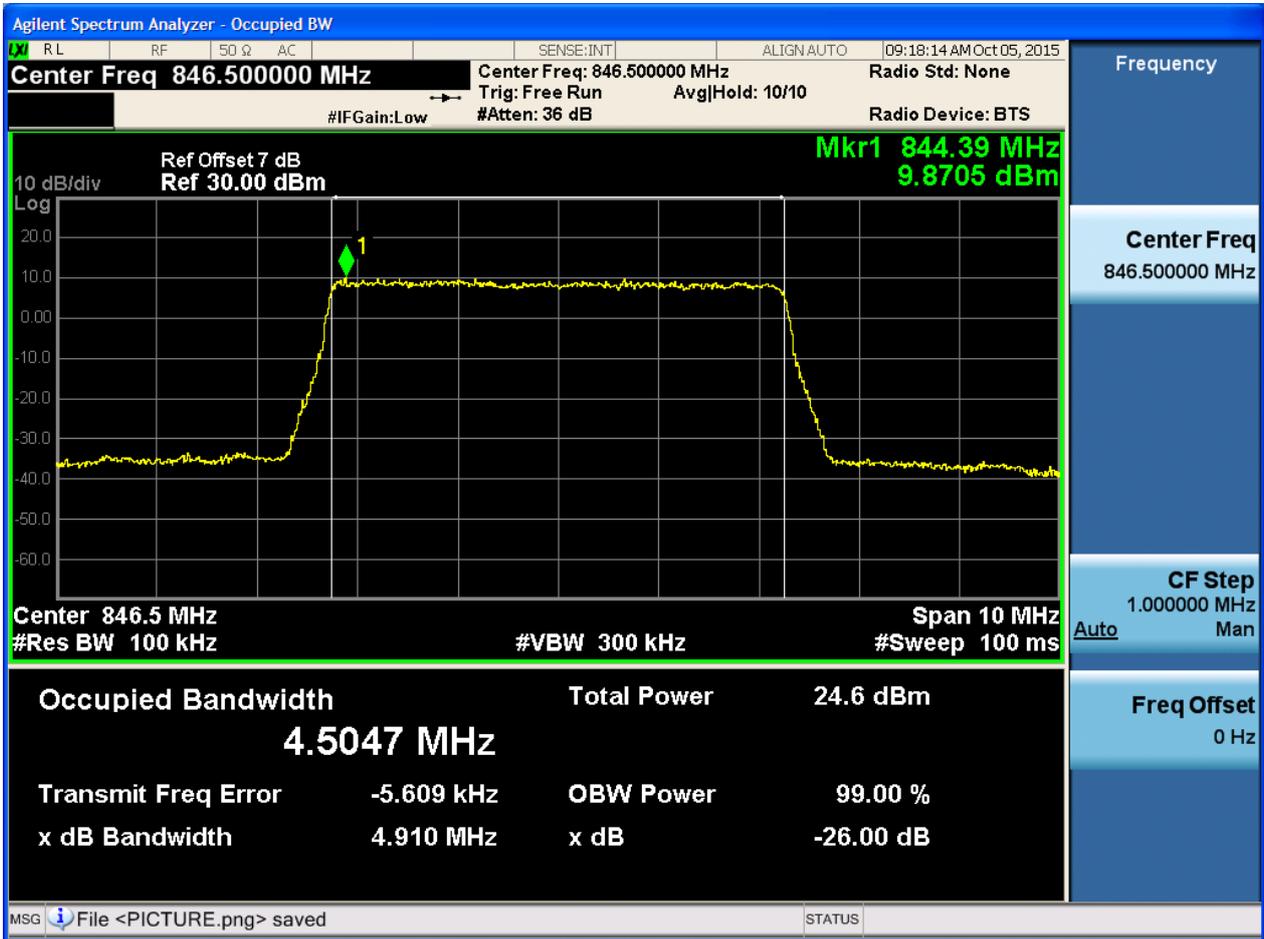
4.1.1.1.4 Test Bandwidth = 10
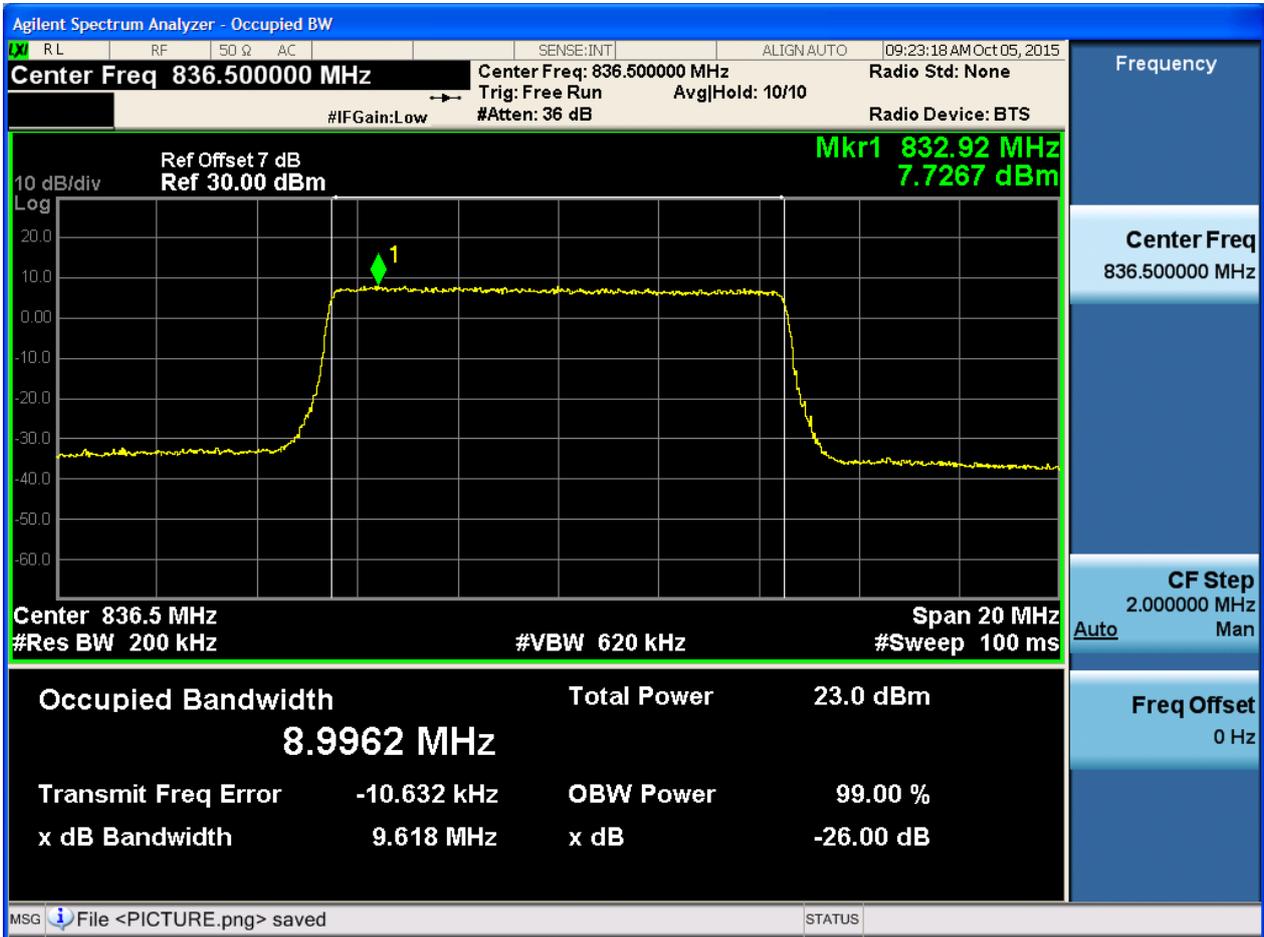
4.1.1.1.4.1 Test Channel = LCH

4.1.1.1.4.1.1 Test RB = RB50#0
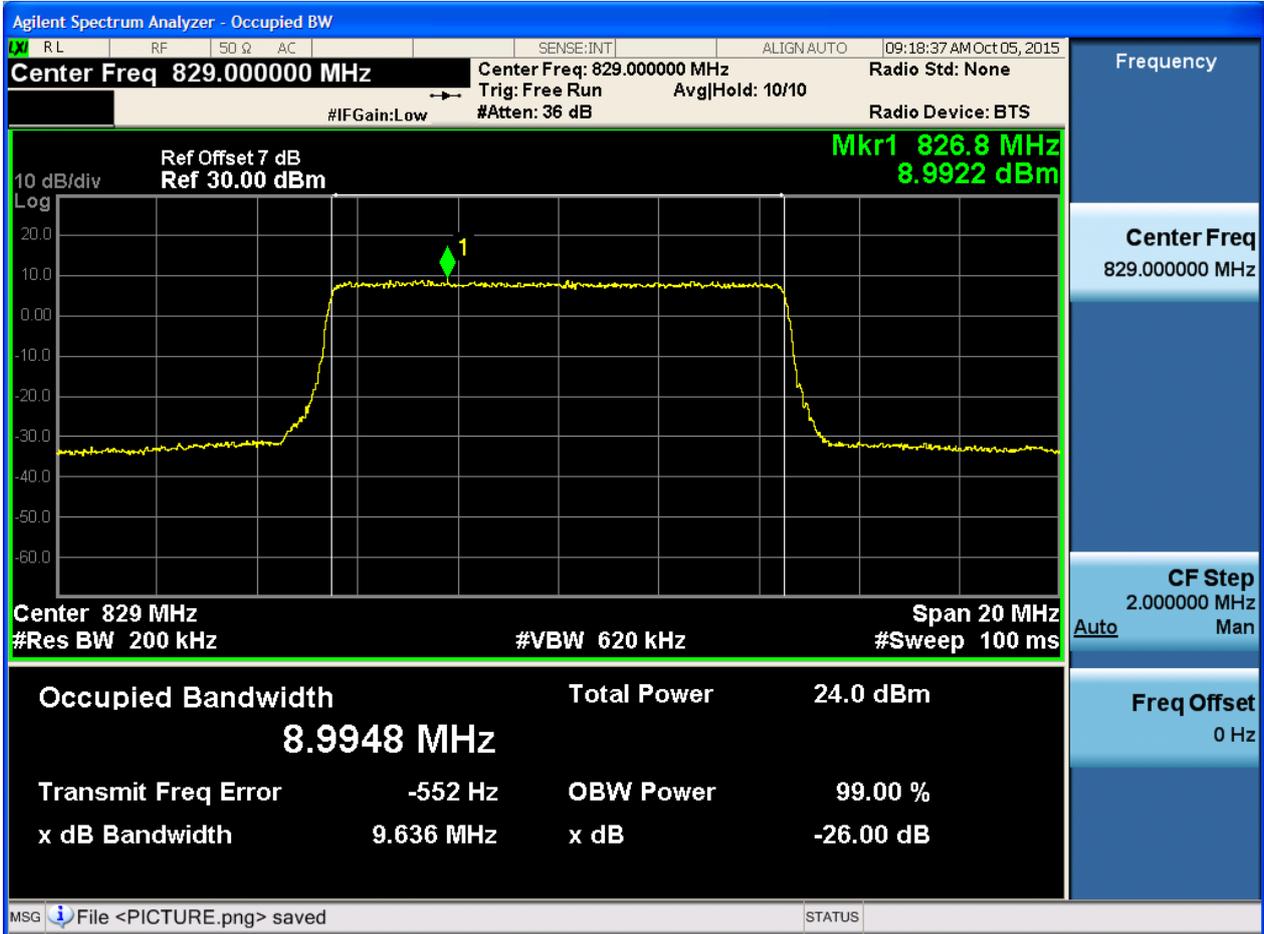
4.1.1.1.4.2 Test Channel = MCH

4.1.1.1.4.2.1 Test RB = RB50#0
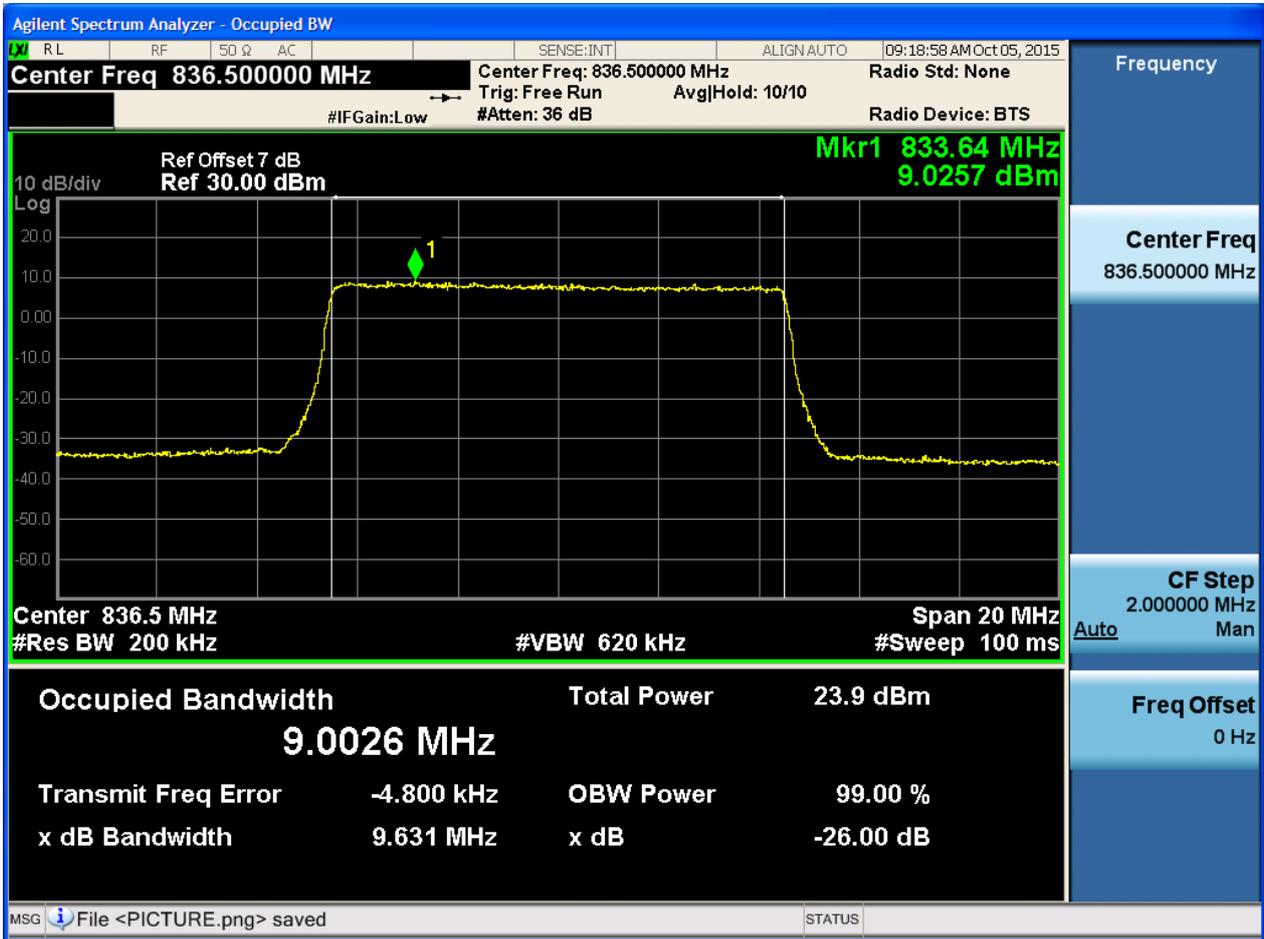
4.1.1.1.4.3 Test Channel = HCH

4.1.1.1.4.3.1 Test RB = RB50#0

Agilent Spectrum Analyzer - Occupied BW		
LXI R L	RF 50 Ω AC	SENSE:INT ALIGN AUTO 09:19:19 AM Oct 05, 2015

Center Freq 844.000000 MHz

Center Freq: 844.000000 MHz   Radio Std: None
Trig: Free Run   Avg|Hold: 10/10
#IFGain:Low   #Atten: 36 dB   Radio Device: BTS

Ref Offset 7 dB
10 dB/div   **Ref 30.00 dBm**

Mkr1 841.82 MHz
9.0919 dBm

Log
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0

Center 844 MHz   Span 20 MHz
#Res BW 200 kHz   #VBW 620 kHz   #Sweep 100 ms

Frequency

Center Freq
844.000000 MHz

CF Step
2.000000 MHz
Auto   Man

Freq Offset
0 Hz

Occupied Bandwidth		Total Power	23.9 dBm
8.9939 MHz			
Transmit Freq Error	-9.471 kHz	OBW Power	99.00 %
x dB Bandwidth	9.576 MHz	x dB	-26.00 dB

MSG ⓘ Alignment Completed   STATUS

4.1.1.2 Test Mode = LTE/TM2

4.1.1.2.1 Test Bandwidth = 1.4

4.1.1.2.1.1 Test Channel = LCH

4.1.1.2.1.1.1 Test RB = RB6#0

4.1.1.2.1.2 Test Channel = MCH

4.1.1.2.1.2.1 Test RB = RB6#0

4.1.1.2.1.3 Test Channel = HCH

4.1.1.2.1.3.1 Test RB = RB6#0

4.1.1.2.2 Test Bandwidth = 3

4.1.1.2.2.1 Test Channel = LCH

4.1.1.2.2.1.1 Test RB = RB15#0

4.1.1.2.2.2 Test Channel = MCH

4.1.1.2.2.2.1 Test RB = RB15#0

Agilent Spectrum Analyzer - Occupied BW

| | | | | | SENSE:INT | | ALIGN AUTO | 09:21:08 AM Oct 05, 2015 |
Center Freq 836.500000 MHz

Center Freq: 836.500000 MHz   Radio Std: None
Trig: Free Run   Avg|Hold: 10/10
#IFGain:Low   #Atten: 36 dB   Radio Device: BTS

Ref Offset 7 dB
10 dB/div   Ref 30.00 dBm

Mkr1 836.146 MHz
10.361 dBm

Log
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0

Center 836.5 MHz   Span 6 MHz
#Res BW 62 kHz   #VBW 180 kHz   #Sweep 100 ms

Occupied Bandwidth   Total Power   24.2 dBm
2.7050 MHz

Transmit Freq Error   -2.270 kHz   OBW Power   99.00 %
x dB Bandwidth   2.941 MHz   x dB   -26.00 dB

MSG File <PICTURE.png> saved   STATUS

Frequency

Center Freq
836.500000 MHz

CF Step
600.000 kHz
Auto   Man

Freq Offset
0 Hz

4.1.1.2.2.3 Test Channel = HCH

4.1.1.2.2.3.1 Test RB = RB15#0

4.1.1.2.3 Test Bandwidth = 5

4.1.1.2.3.1 Test Channel = LCH

4.1.1.2.3.1.1 Test RB = RB25#0
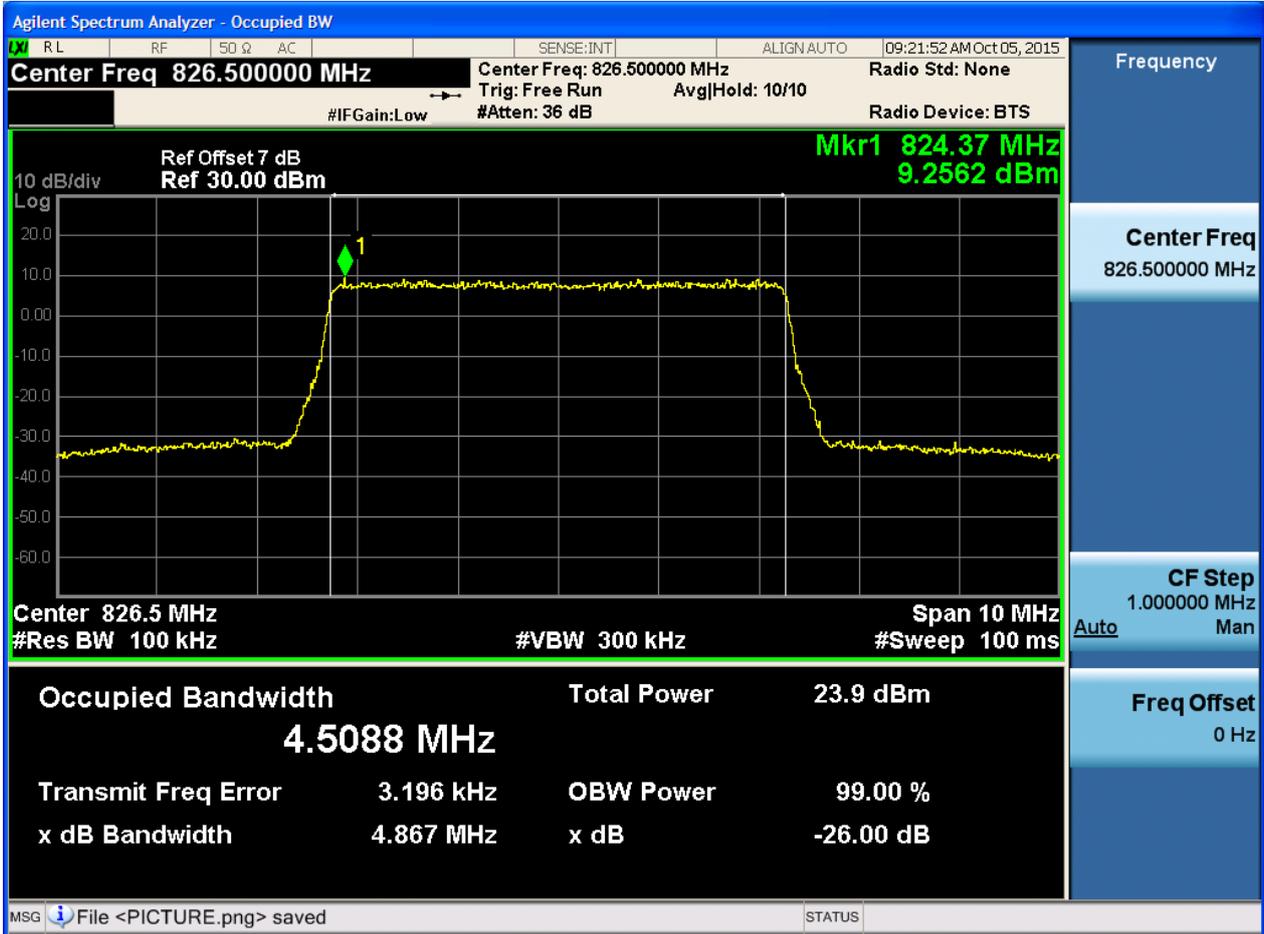
4.1.1.2.3.2 Test Channel = MCH

4.1.1.2.3.2.1 Test RB = RB25#0
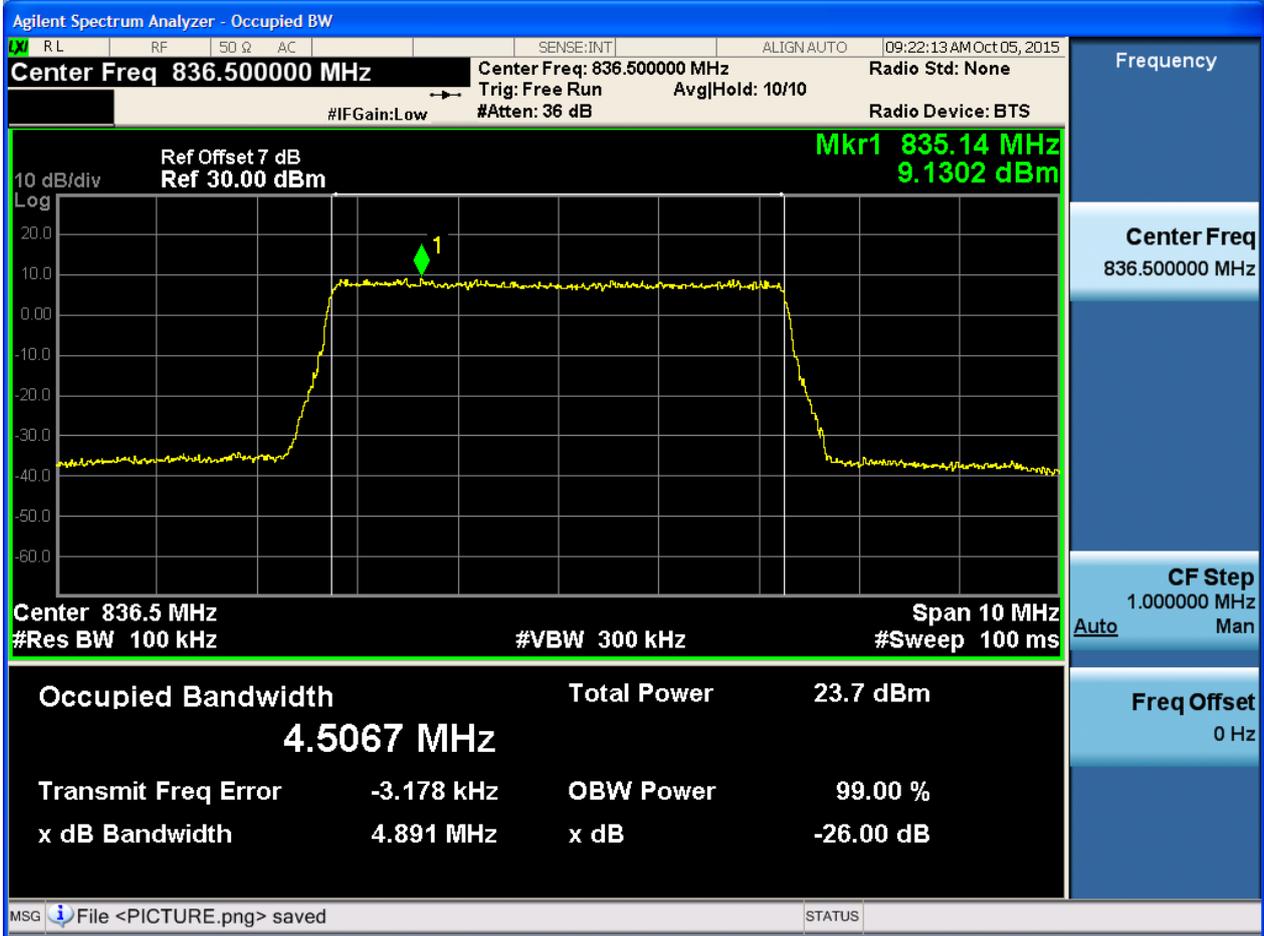
4.1.1.2.3.3 Test Channel = HCH

4.1.1.2.3.3.1 Test RB = RB25#0

4.1.1.2.4 Test Bandwidth = 10

4.1.1.2.4.1 Test Channel = LCH

4.1.1.2.4.1.1 Test RB = RB50#0

4.1.1.2.4.2 Test Channel = MCH

4.1.1.2.4.2.1 Test RB = RB50#0

4.1.1.2.4.3 Test Channel = HCH

4.1.1.2.4.3.1 Test RB = RB50#0

5Appendix_E: Band Edges Compliance

Part I - Test Plots

5.1 For LTE

5.1.1 Test Band = BAND5

5.1.1.1 Test Mode = LTE/TM1

5.1.1.1.1 Test Bandwidth = 1.4

5.1.1.1.1.1 Test Channel = LCH

5.1.1.1.1.1.1 Test RB = RB1#0

5.1.1.1.1.1.2 Test RB = RB1#5

Agilent Spectrum Analyzer - Swept SA

| LXI | R L | | RF | | 50 Ω | AC | | | SENSE:INT | | ALIGN AUTO | 09:24:12 AM Oct 05, 2015 |

Center Freq 824.000000 MHz

PNO: Far
IFGain:Low

Trig: Free Run
#Atten: 36 dB

Avg Type: Pwr(RMS)
Avg|Hold: 8/100

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

Mkr1 823.310 MHz
-51.561 dBm

Ref Offset 7 dB
10 dB/div Ref 30.00 dBm
Log

20.0

10.0

0.00

-10.0   -13.00 dBm

-20.0

-30.0

-40.0

-50.0   1

-60.0

Center 824.000 MHz
#Res BW 15 kHz   #VBW 43 kHz*

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

MSG   STATUS

Frequency

Auto Tune

Center Freq
824.000000 MHz

Start Freq
823.000000 MHz

Stop Freq
825.000000 MHz

CF Step
200.000 kHz
Auto   Man

Freq Offset
0 Hz

5.1.1.1.1.1.3 Test RB = RB3#2

5.1.1.1.1.1.4 Test RB = RB6#0

5.1.1.1.1.2 Test Channel = HCH

5.1.1.1.1.2.1 Test RB = RB1#0

5.1.1.1.1.2.2 Test RB = RB1#5
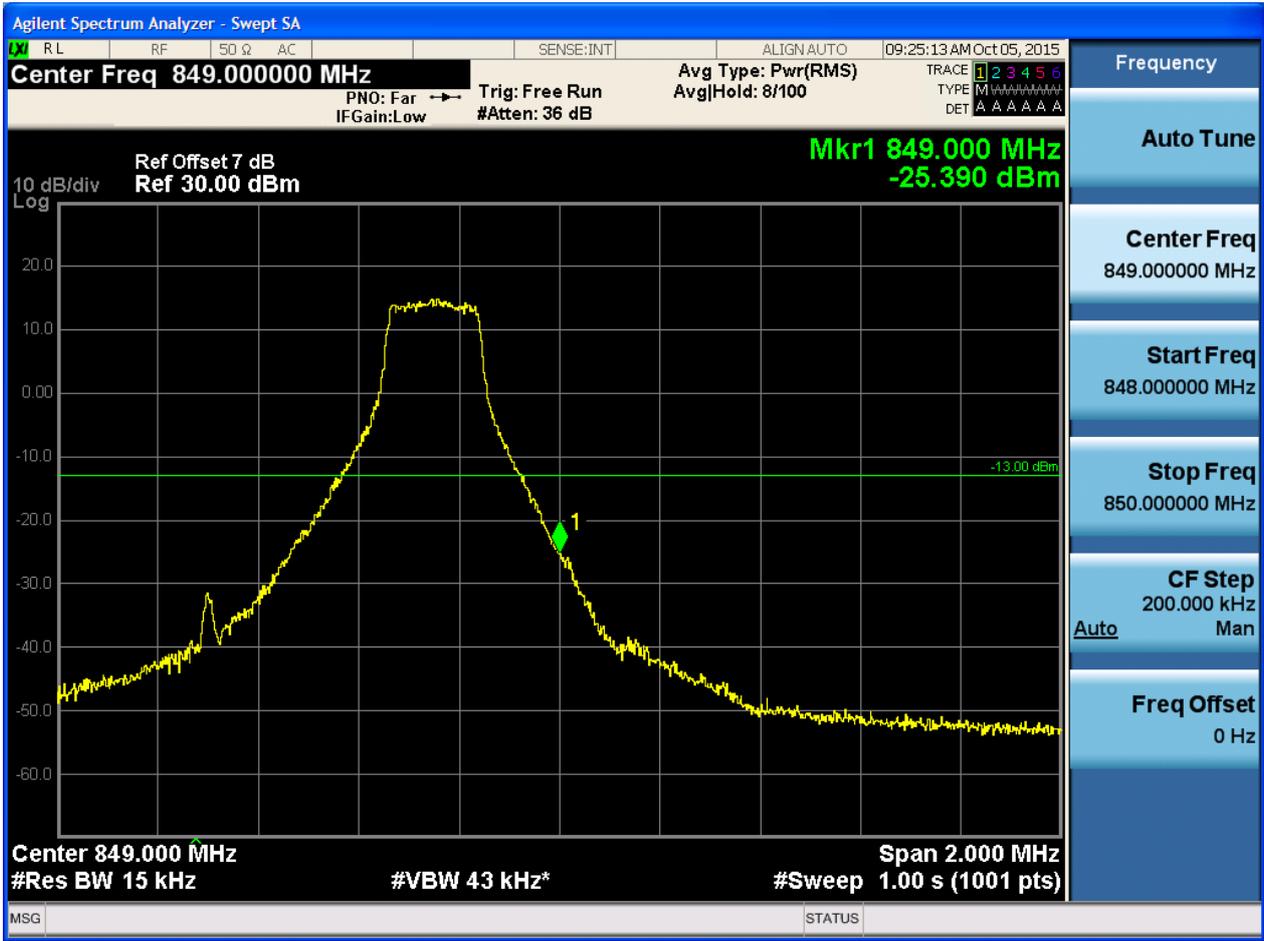
5.1.1.1.1.2.3 Test RB = RB3#2
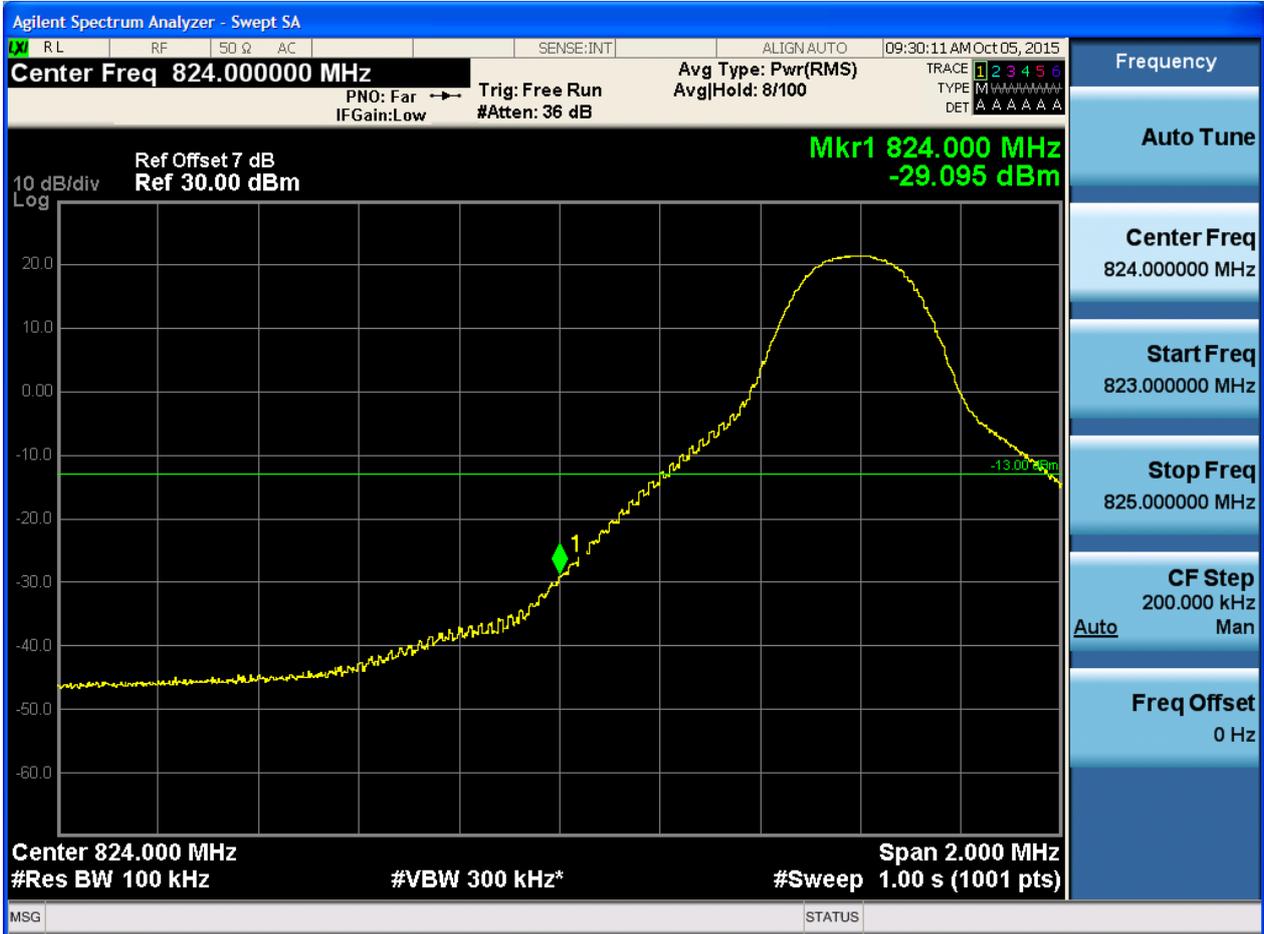
5.1.1.1.1.2.4 Test RB = RB6#0
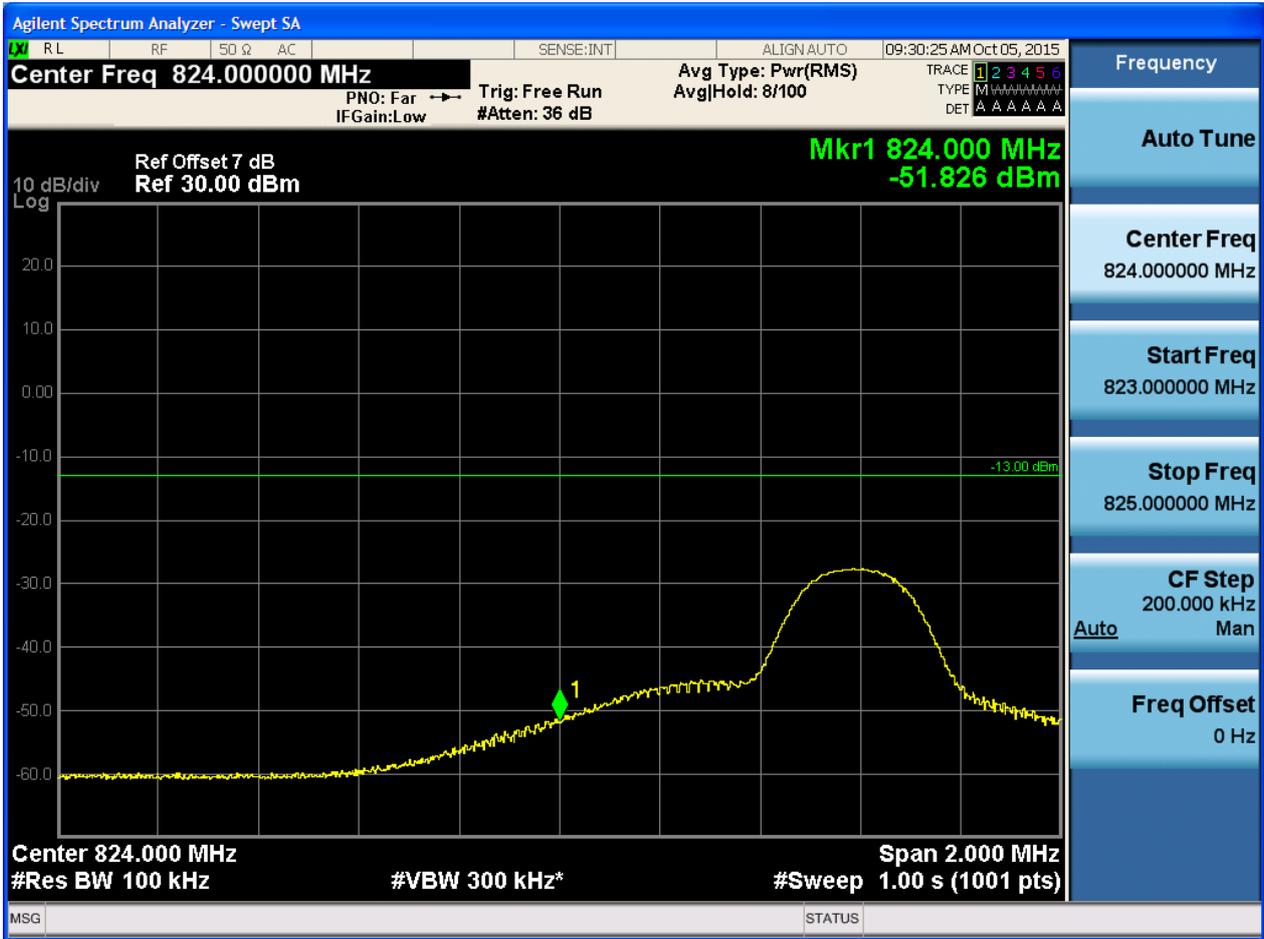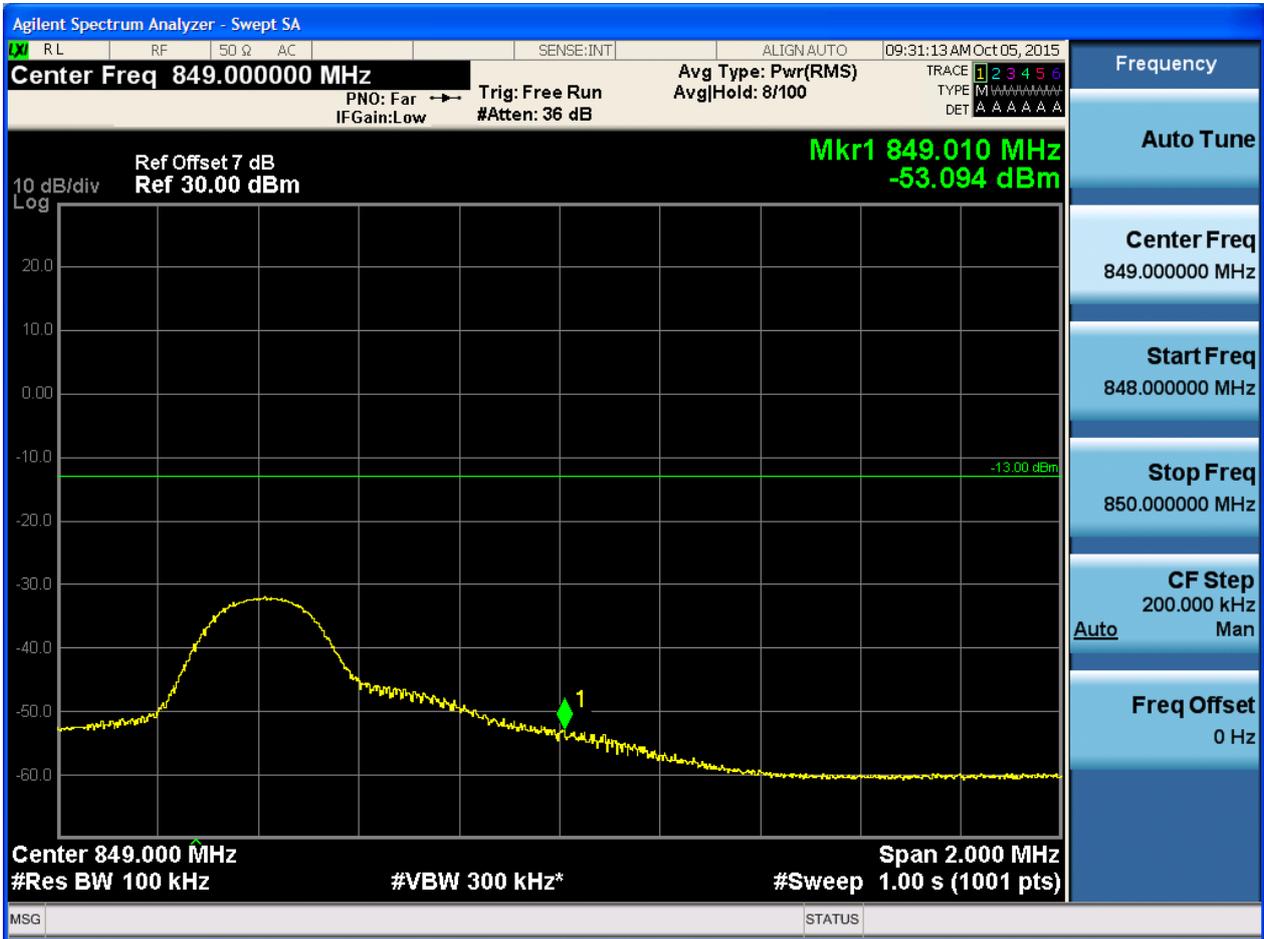
5.1.1.1.2 Test Bandwidth = 3

5.1.1.1.2.1 Test Channel = LCH

5.1.1.1.2.1.1 Test RB = RB1#0

5.1.1.1.2.1.2 Test RB = RB1#14

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Copyright © Huawei Technologies Co., Ltd.
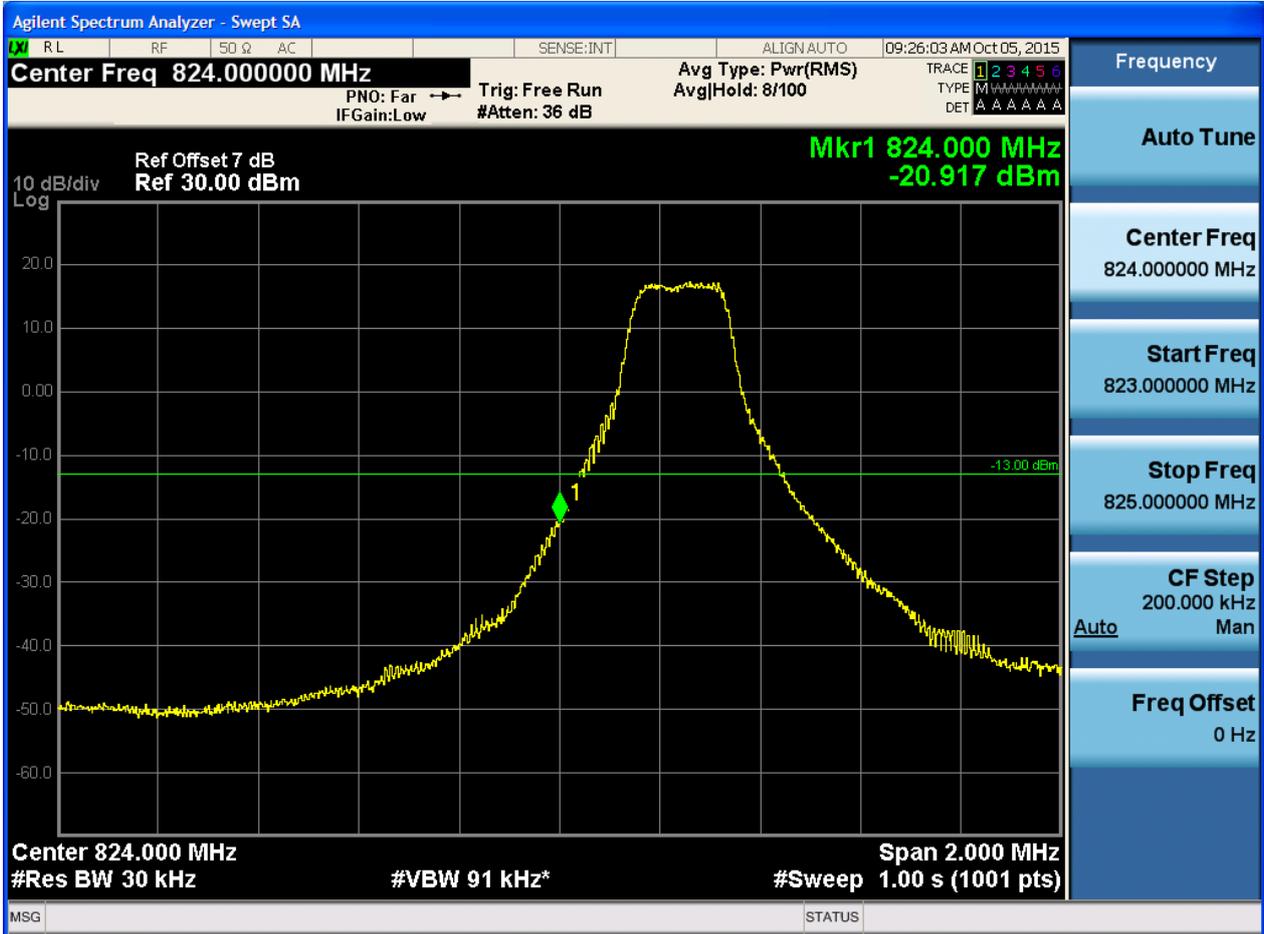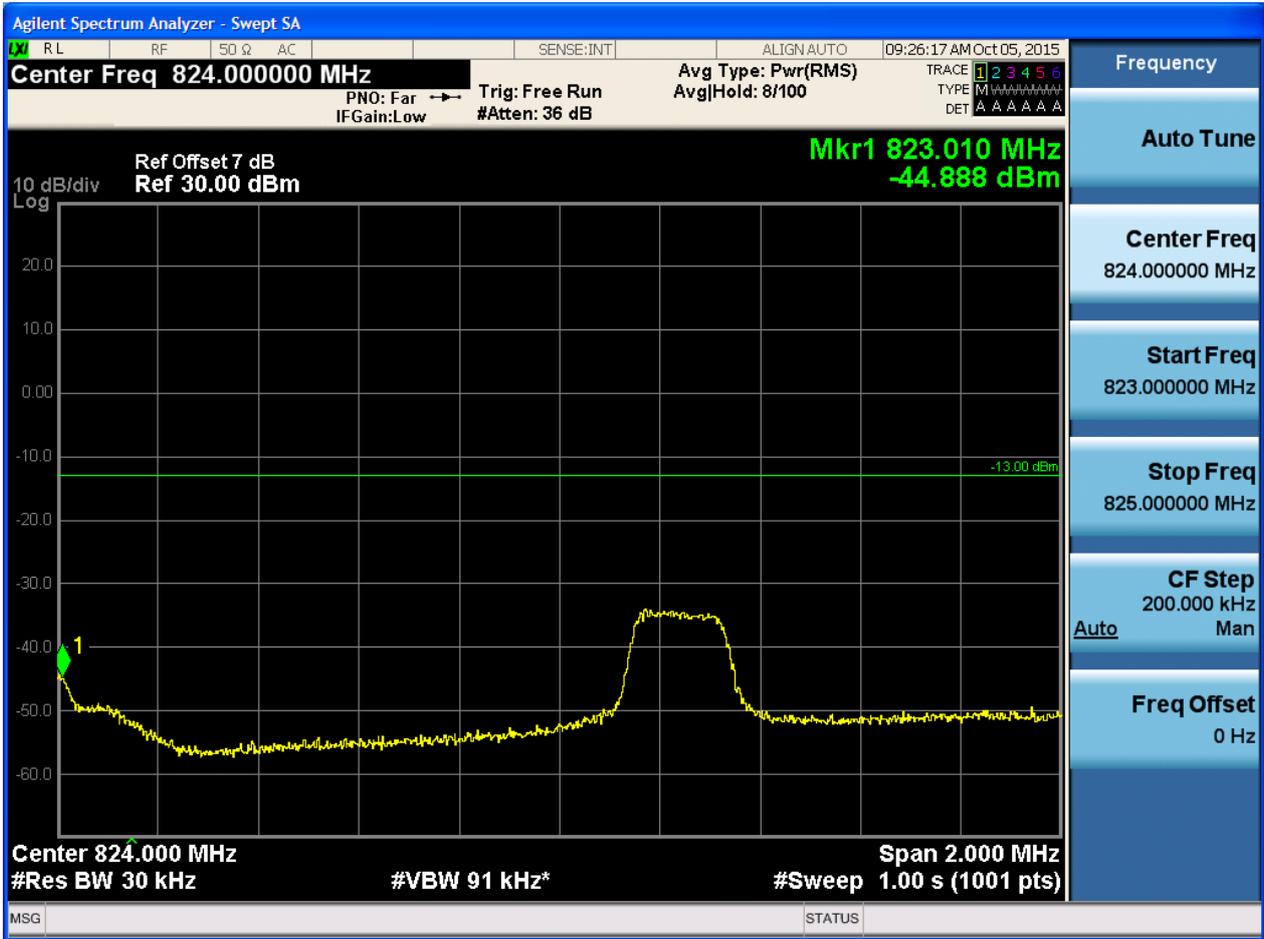
5.1.1.1.2.1.3 Test RB = RB8#4

5.1.1.1.2.1.4 Test RB = RB15#0
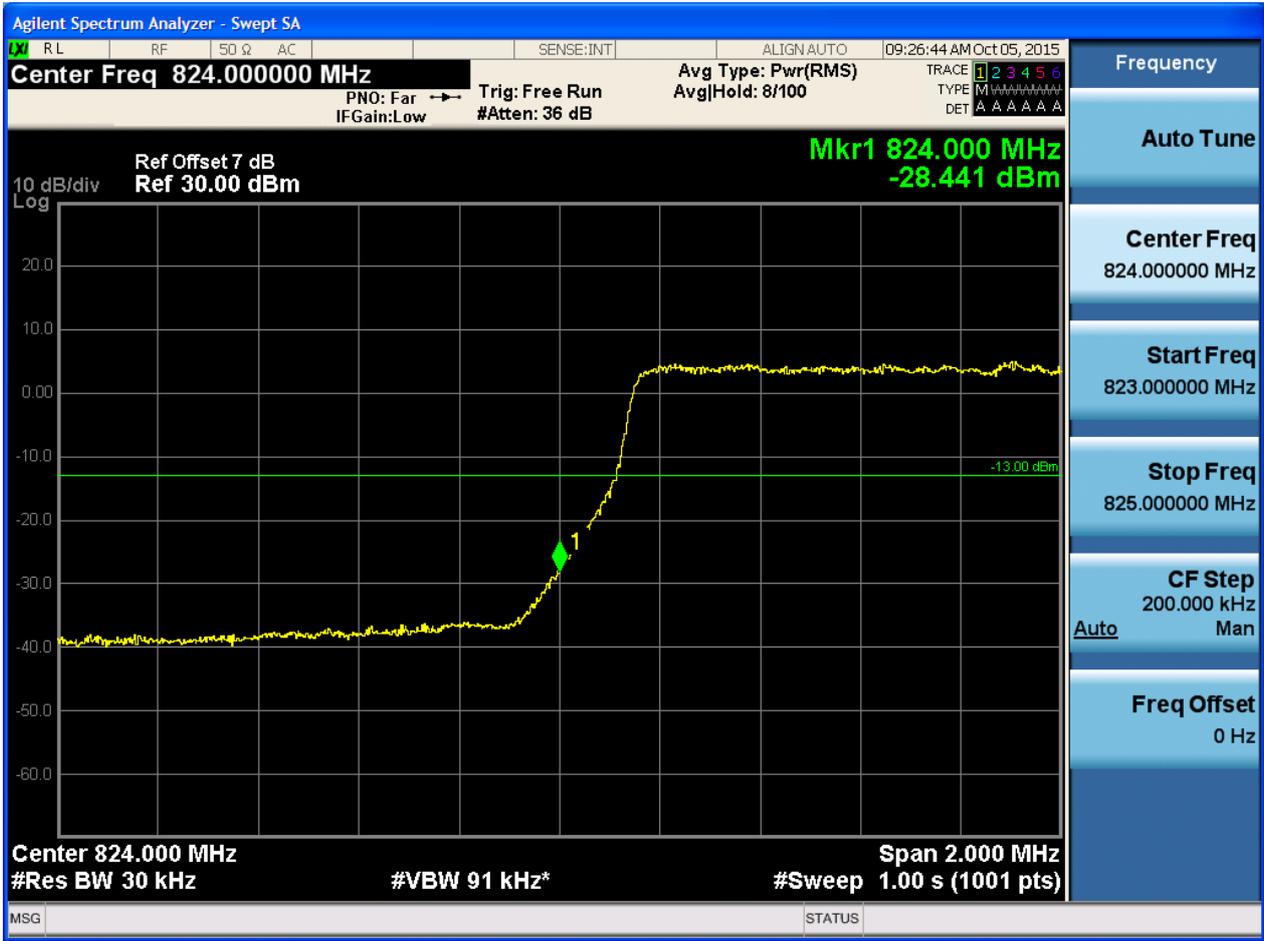
5.1.1.1.2.2 Test Channel = HCH

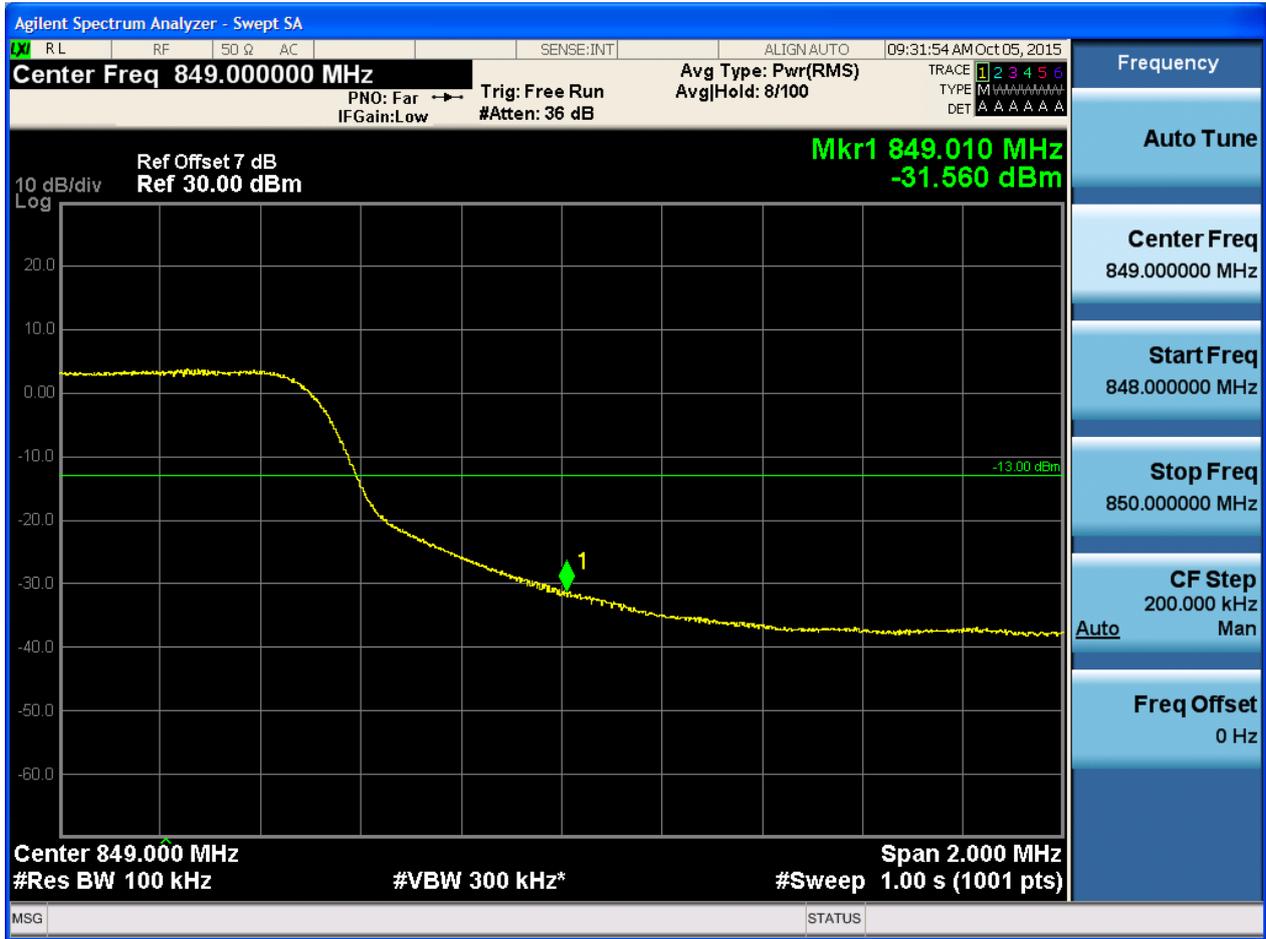### 5.1.1.1.2.2.1 Test RB = RB1#0
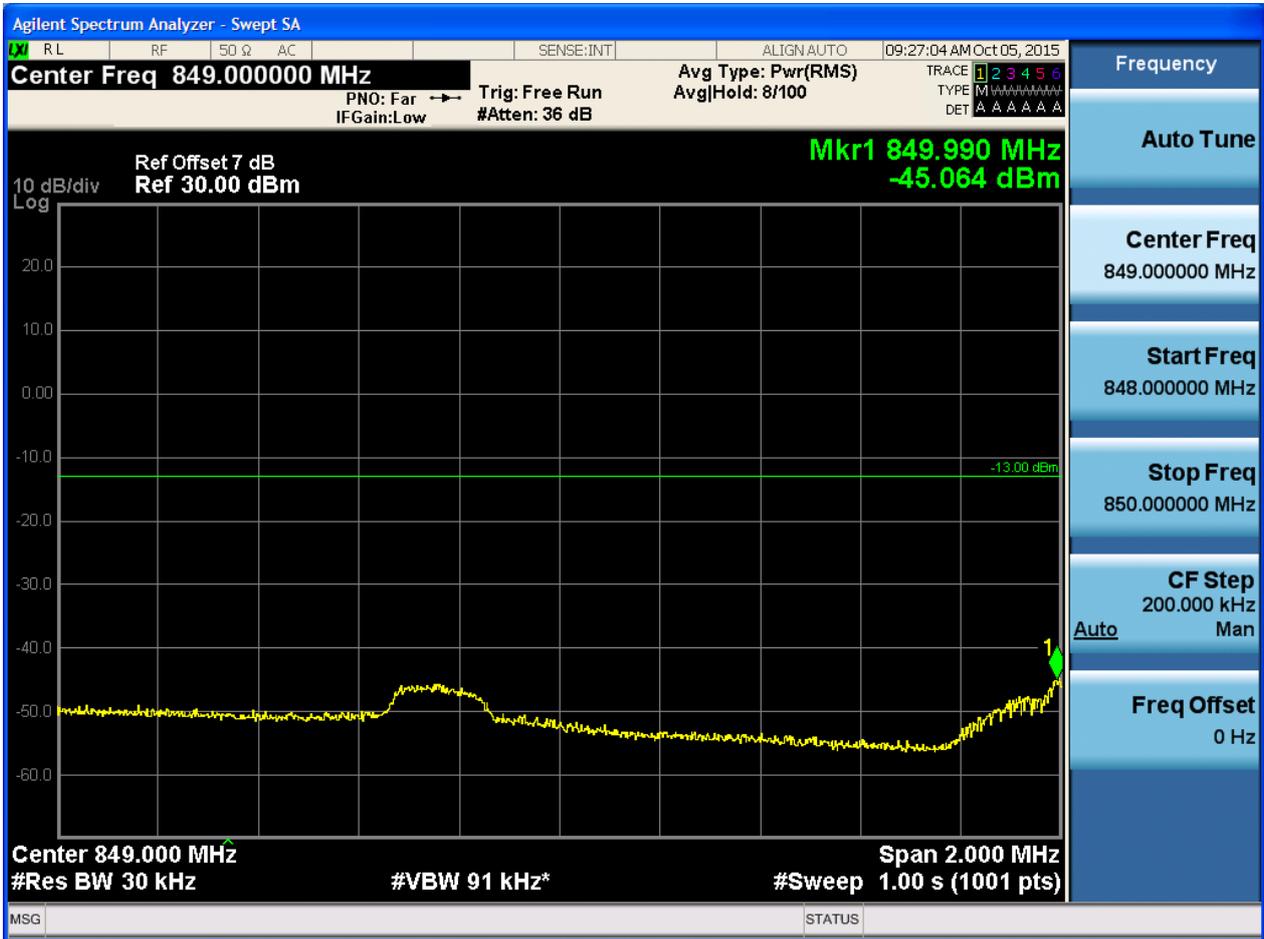
5.1.1.1.2.2.2 Test RB = RB1#14

5.1.1.1.2.2.3 Test RB = RB8#4
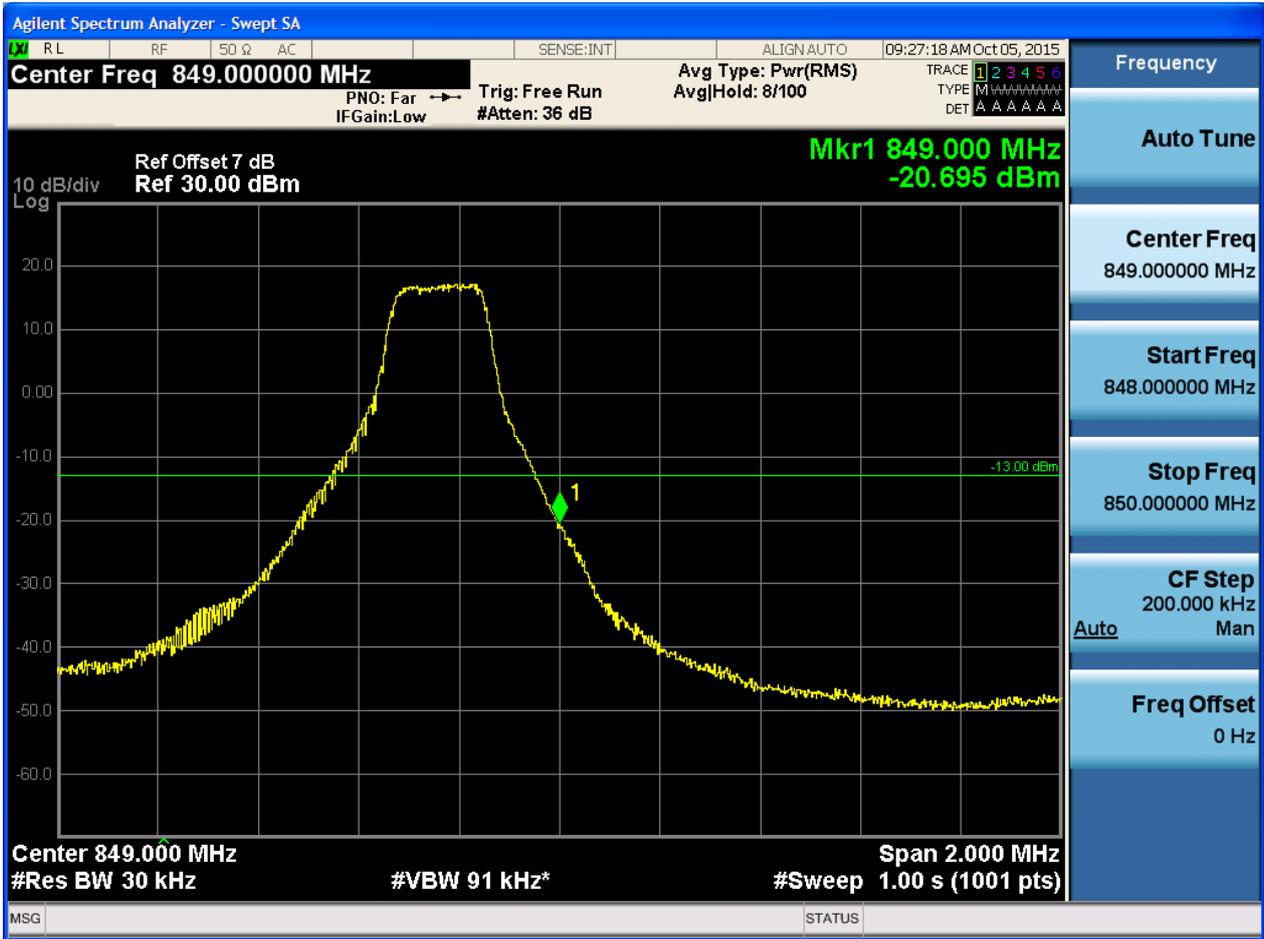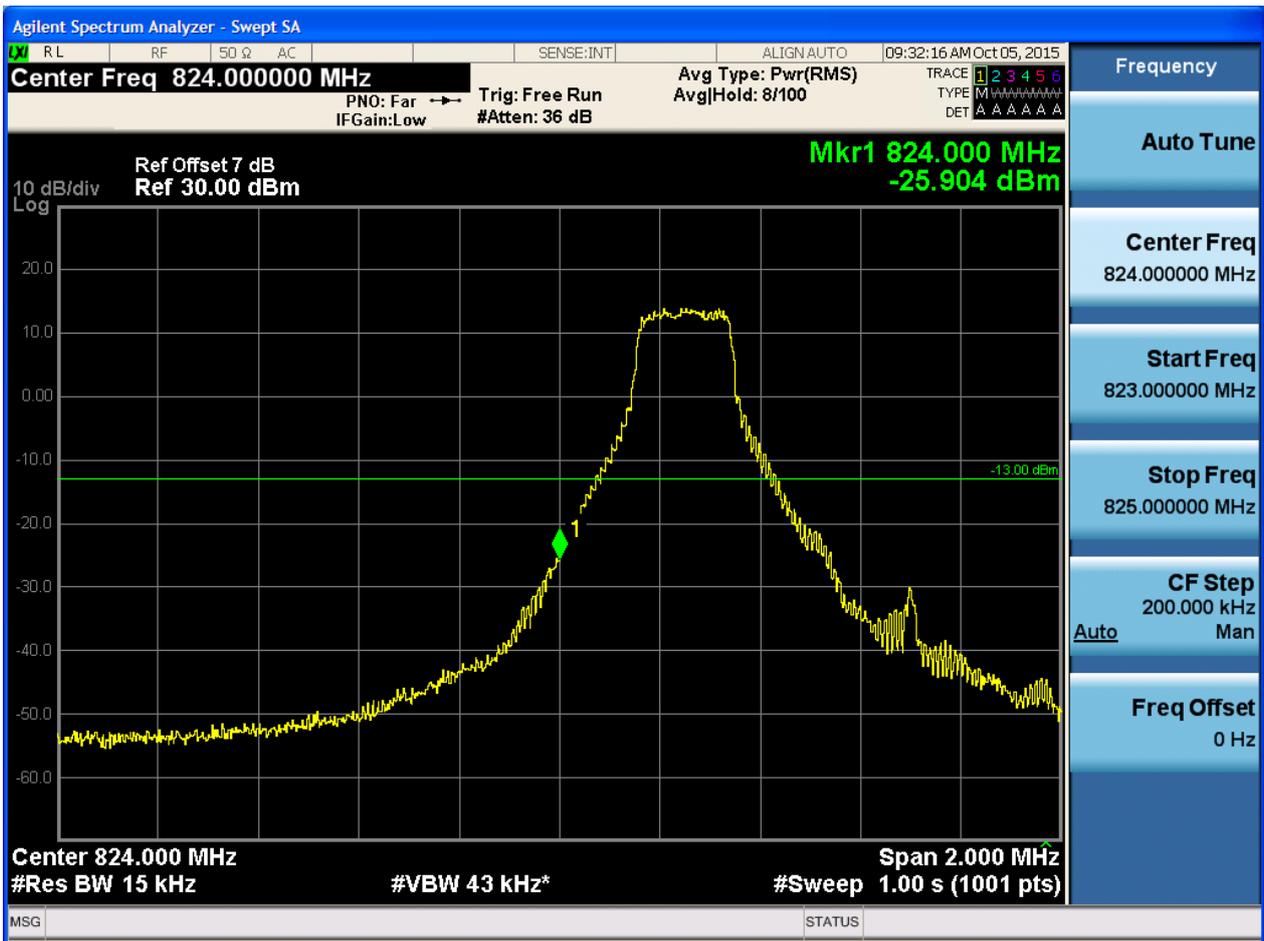
5.1.1.1.2.2.4 Test RB = RB15#0

5.1.1.1.3 Test Bandwidth = 5

5.1.1.1.3.1 Test Channel = LCH

5.1.1.1.3.1.1 Test RB = RB1#0
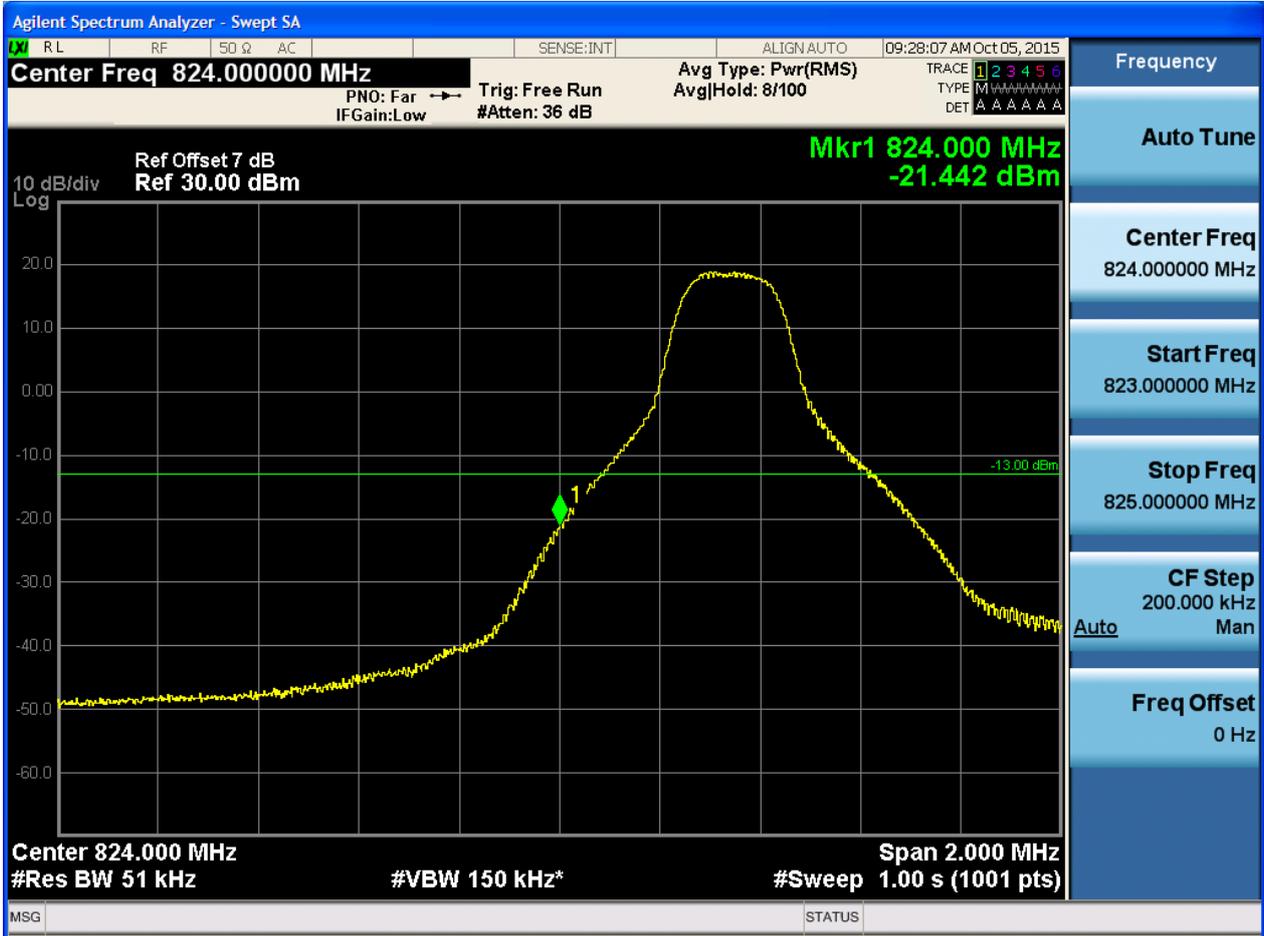
5.1.1.1.3.1.2 Test RB = RB1#24
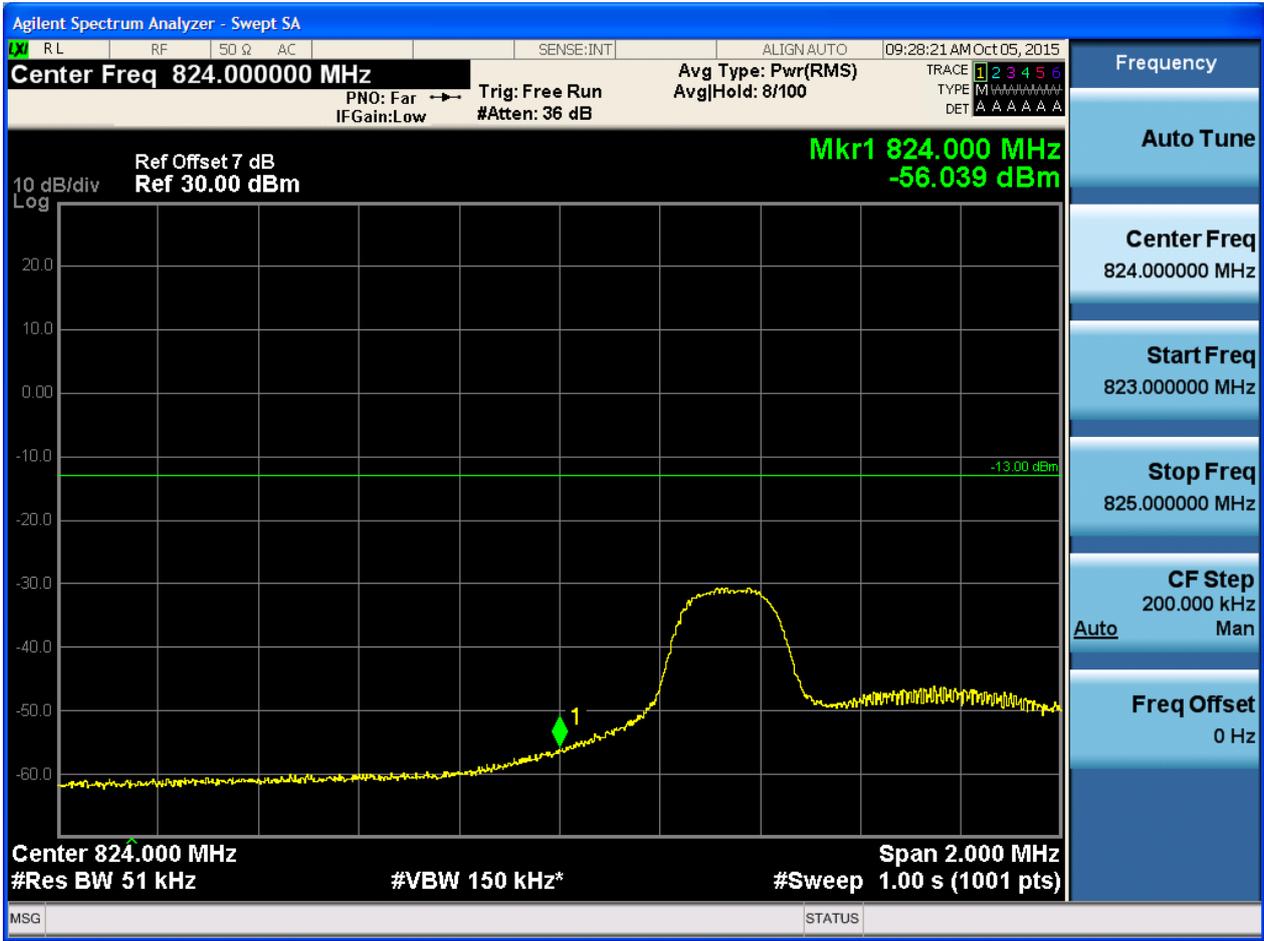
5.1.1.1.3.1.3 Test RB = RB12#6

5.1.1.1.3.1.4 Test RB = RB25#0
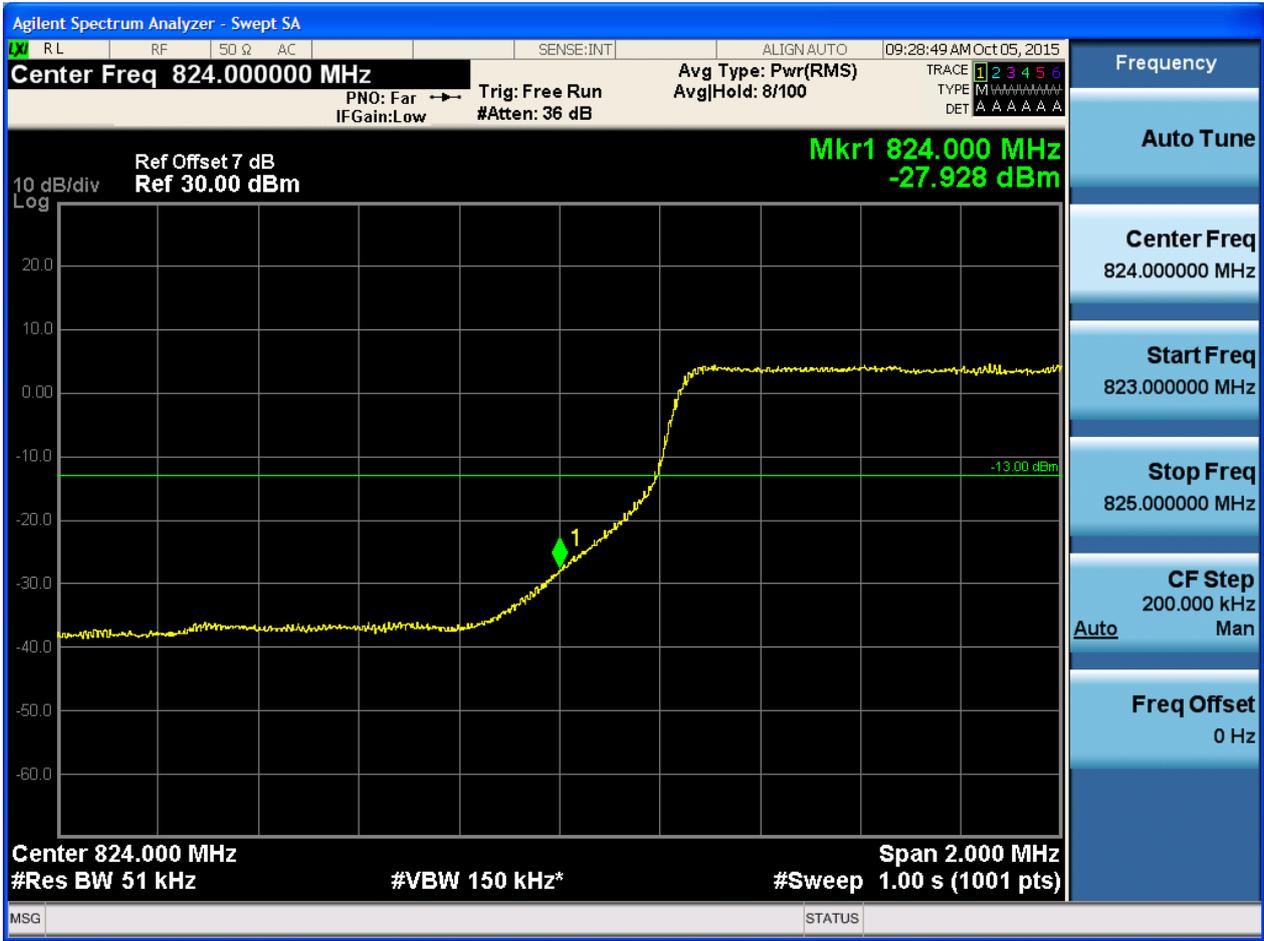
5.1.1.1.3.2 Test Channel = HCH

5.1.1.1.3.2.1 Test RB = RB1#0

5.1.1.1.3.2.2 Test RB = RB1#24
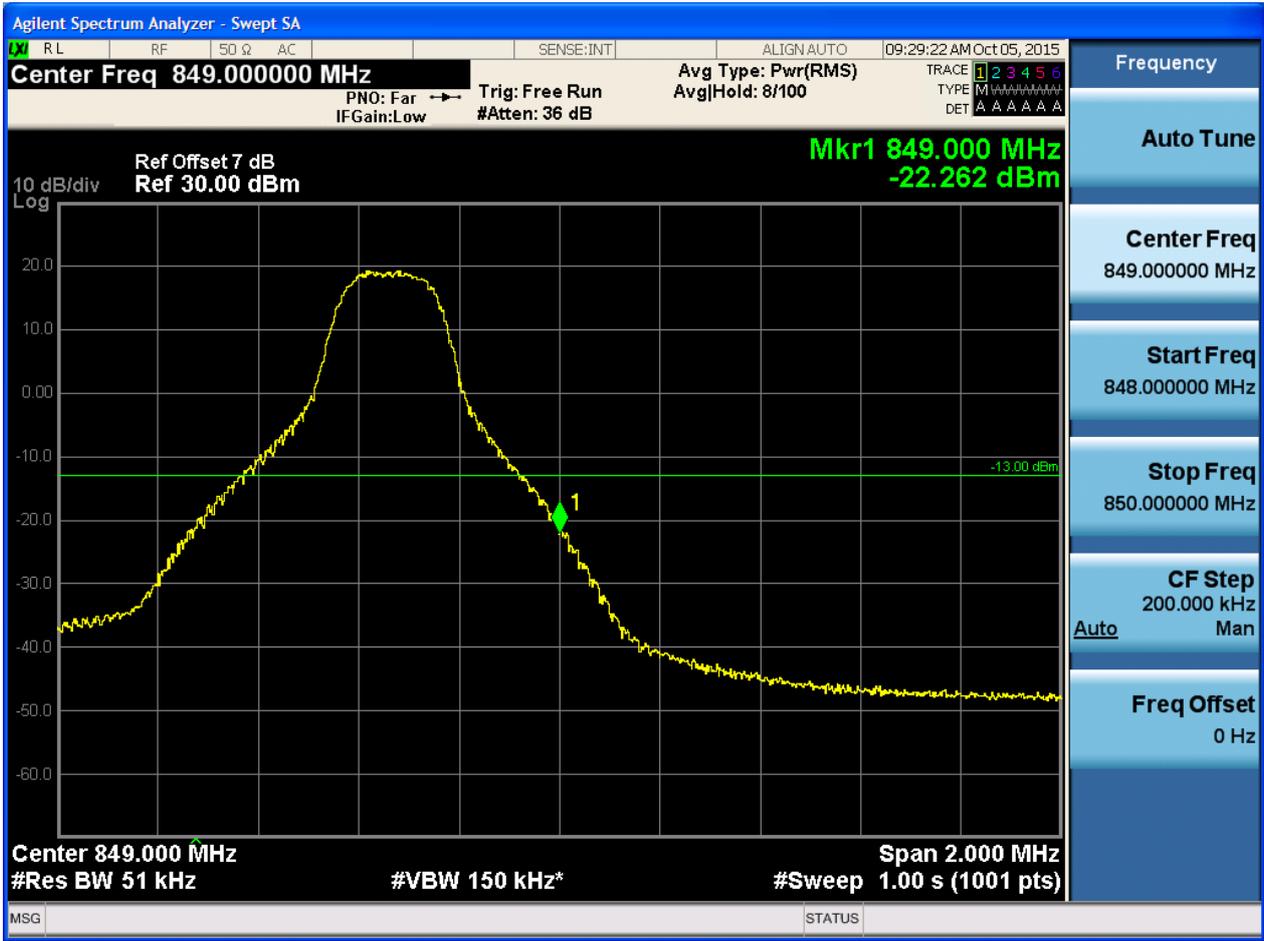
5.1.1.1.3.2.3 Test RB = RB12#6

5.1.1.1.3.2.4 Test RB = RB25#0

Agilent Spectrum Analyzer - Swept SA

RL   RF   50 Ω   AC   SENSE:INT   ALIGN AUTO   09:29:50 AM Oct 05, 2015

Center Freq 849.000000 MHz

PNO: Far →
IFGain:Low

Trig: Free Run
#Atten: 36 dB

Avg Type: Pwr(RMS)
Avg|Hold: 8/100

TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET A A A A A A

Ref Offset 7 dB
10 dB/div Ref 30.00 dBm
Log

Mkr1 849.000 MHz
-28.414 dBm

20.0
10.0
0.00
-10.0   -13.00 dBm
-20.0
-30.0
-40.0
-50.0
-60.0

Center 849.000 MHz
#Res BW 51 kHz   #VBW 150 kHz*

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

MSG   STATUS

Frequency

Auto Tune

Center Freq
849.000000 MHz

Start Freq
848.000000 MHz

Stop Freq
850.000000 MHz

CF Step
200.000 kHz
Auto   Man

Freq Offset
0 Hz

5.1.1.1.4 Test Bandwidth = 10

5.1.1.1.4.1 Test Channel = LCH

5.1.1.1.4.1.1 Test RB = RB1#0

5.1.1.1.4.1.2 Test RB = RB1#49

Agilent Spectrum Analyzer - Swept SA

R L   RF   50 Ω   AC   SENSE:INT   ALIGN AUTO   09:30:25 AM Oct 05, 2015

Center Freq 824.000000 MHz   Avg Type: Pwr(RMS)   TRACE 1 2 3 4 5 6
                          PNO: Far ⟶   Trig: Free Run   Avg|Hold: 8/100   TYPE M wwwwww
                          IFGain:Low   #Atten: 36 dB   DET A A A A A A

Ref Offset 7 dB   **Mkr1 824.000 MHz**
10 dB/div **Ref 30.00 dBm**   **-51.826 dBm**
Log

20.0

10.0

0.00

-10.0   -13.00 dBm

-20.0

-30.0

-40.0

-50.0   1

-60.0

Center 824.000 MHz   Span 2.000 MHz
#Res BW 100 kHz   #VBW 300 kHz*   #Sweep 1.00 s (1001 pts)

MSG   STATUS

Frequency

Auto Tune

Center Freq
824.000000 MHz

Start Freq
823.000000 MHz

Stop Freq
825.000000 MHz

CF Step
200.000 kHz
Auto   Man

Freq Offset
0 Hz

5.1.1.1.4.1.3 Test RB = RB25#13

5.1.1.1.4.1.4 Test RB = RB50#0

5.1.1.1.4.2 Test Channel = HCH

5.1.1.1.4.2.1 Test RB = RB1#0

5.1.1.1.4.2.2 Test RB = RB1#49

5.1.1.1.4.2.3 Test RB = RB25#13

5.1.1.1.4.2.4 Test RB = RB50#0
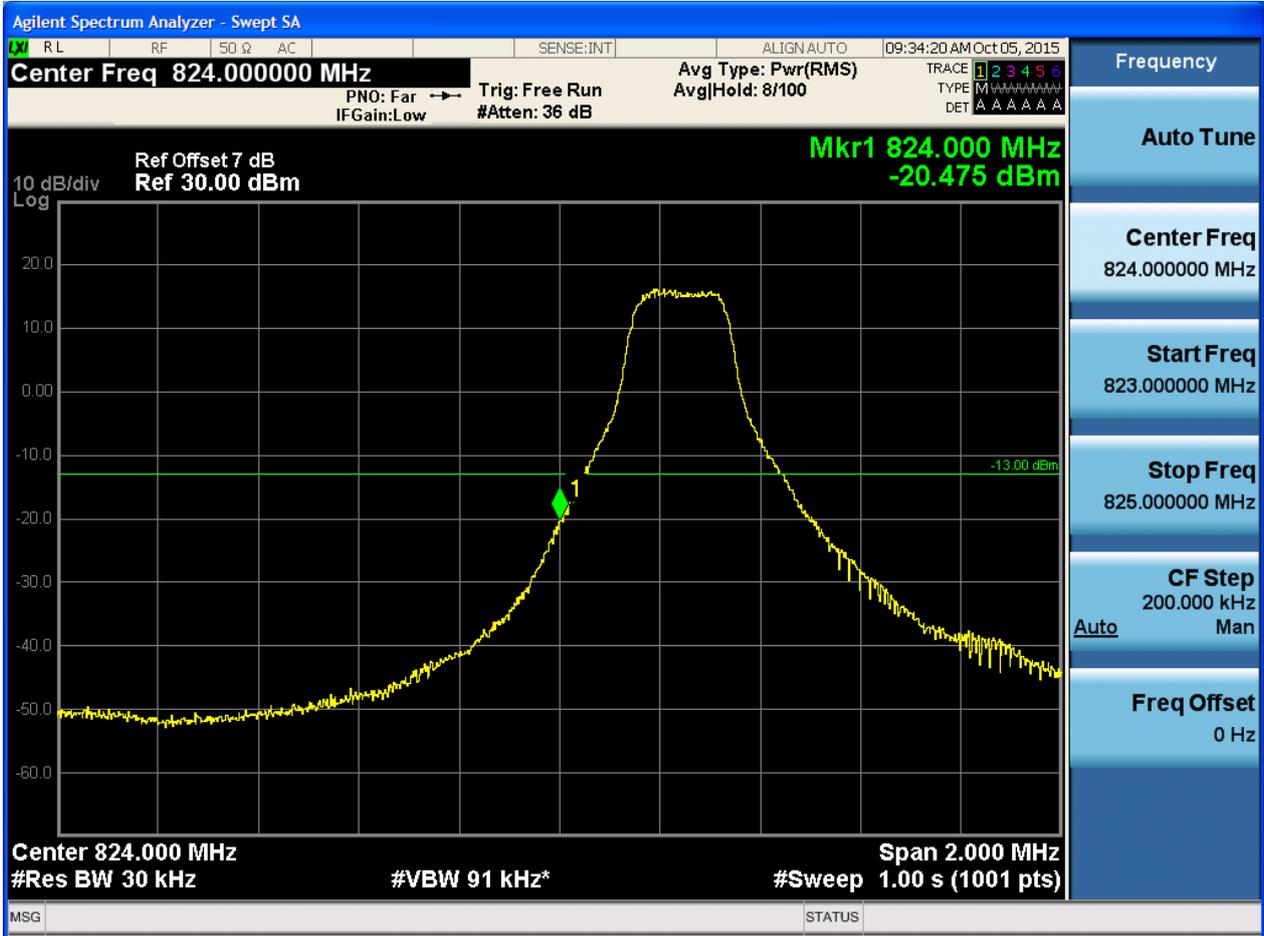
## 5.1.1.2 Test Mode = LTE/TM2

5.1.1.2.1 Test Bandwidth = 1.4

5.1.1.2.1.1 Test Channel = LCH

5.1.1.2.1.1.1 Test RB = RB1#0

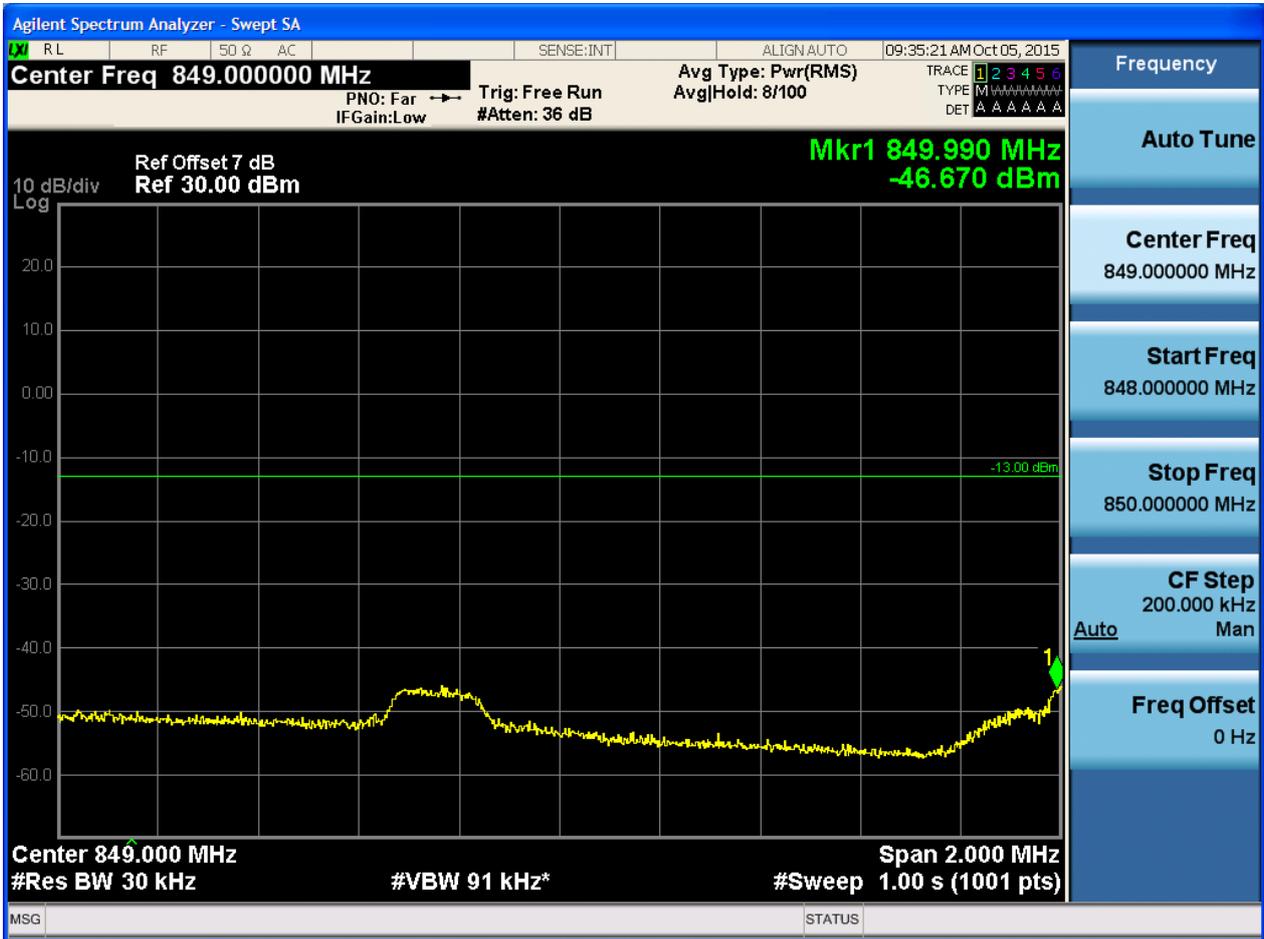## 5.1.1.2.1.1.2 Test RB = RB1#5

5.1.1.2.1.1.3 Test RB = RB3#2
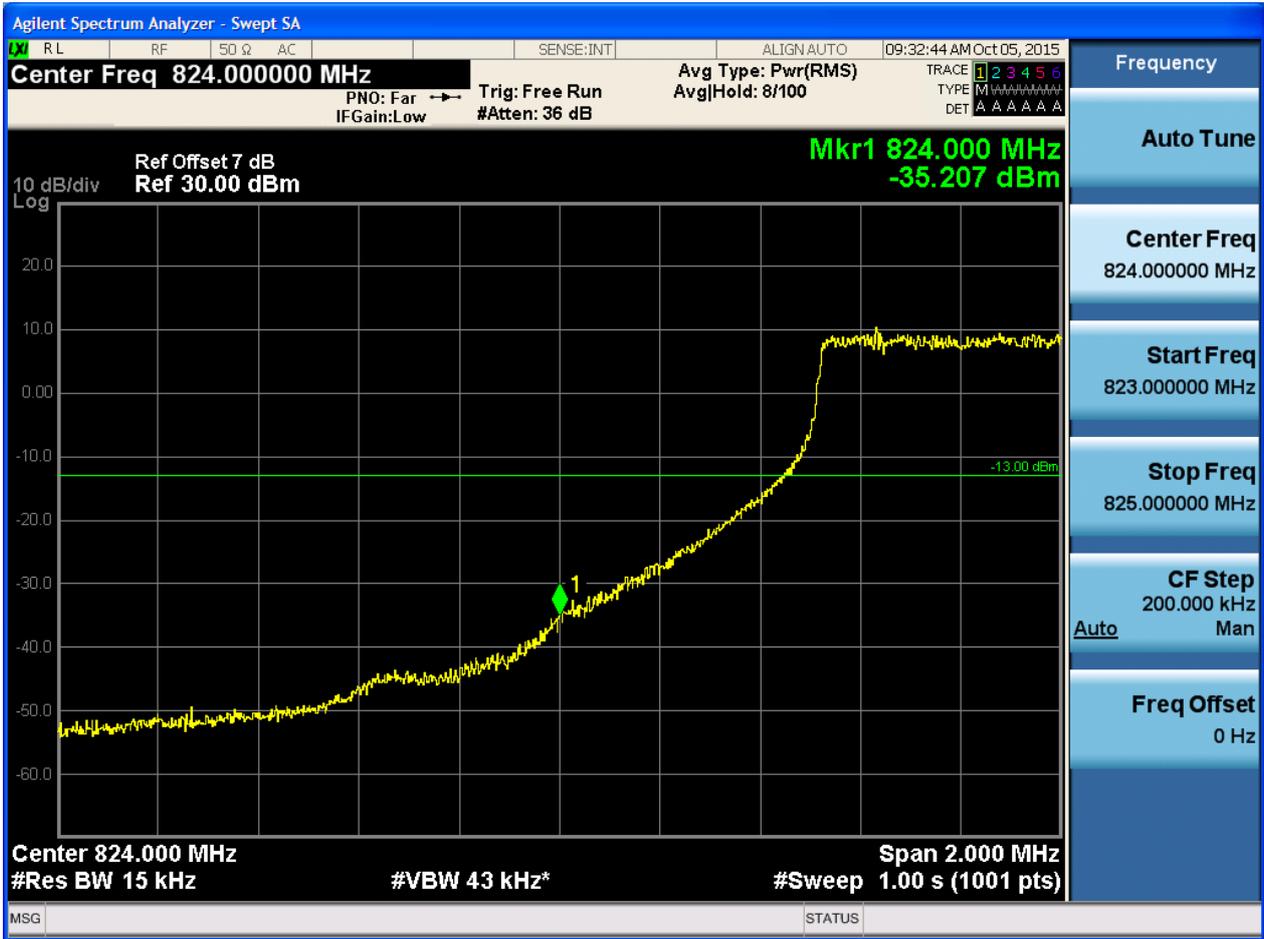
5.1.1.2.1.1.4 Test RB = RB6#0
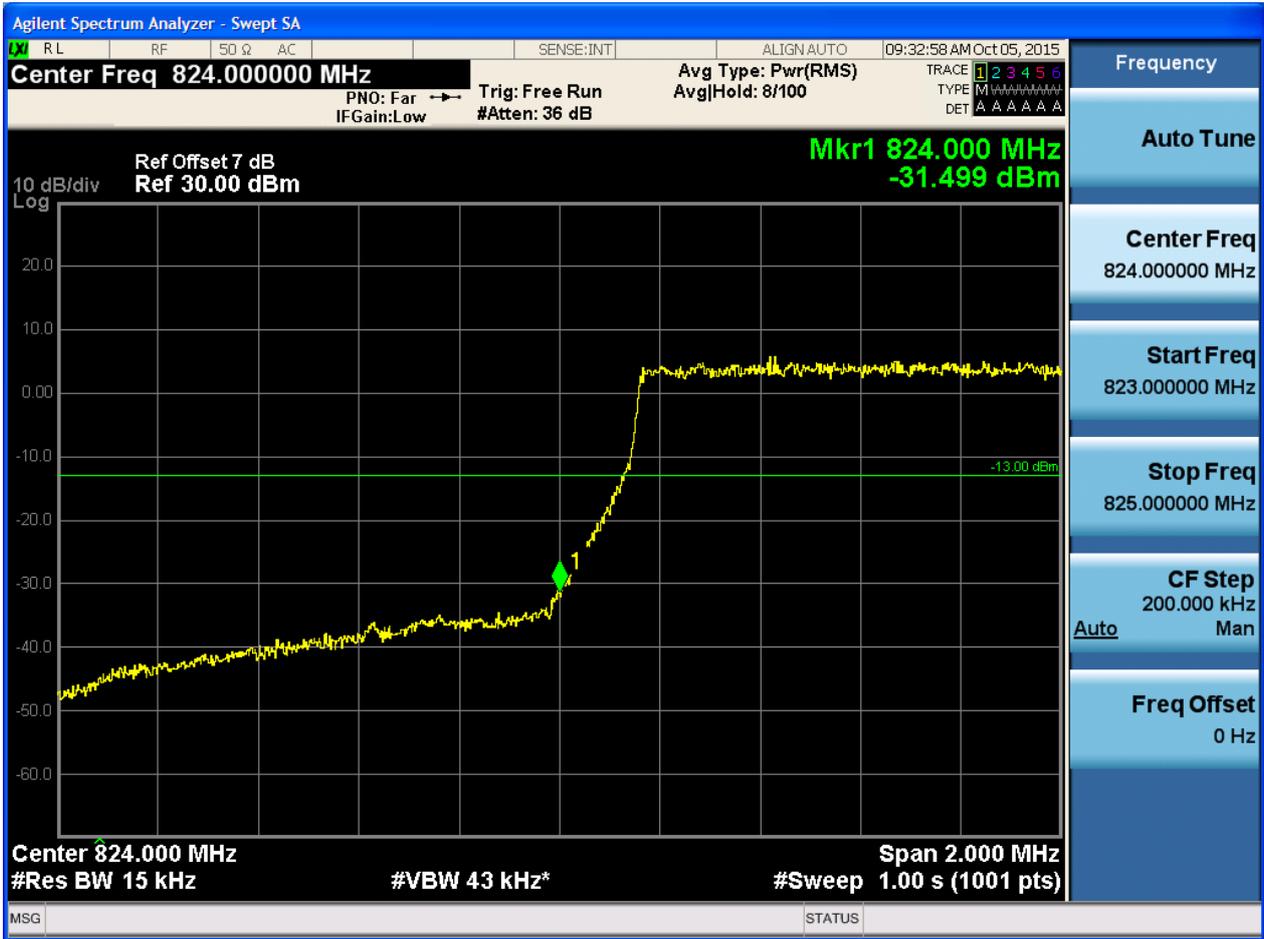
5.1.1.2.1.2 Test Channel = HCH

5.1.1.2.1.2.1 Test RB = RB1#0

5.1.1.2.1.2.2 Test RB = RB1#5
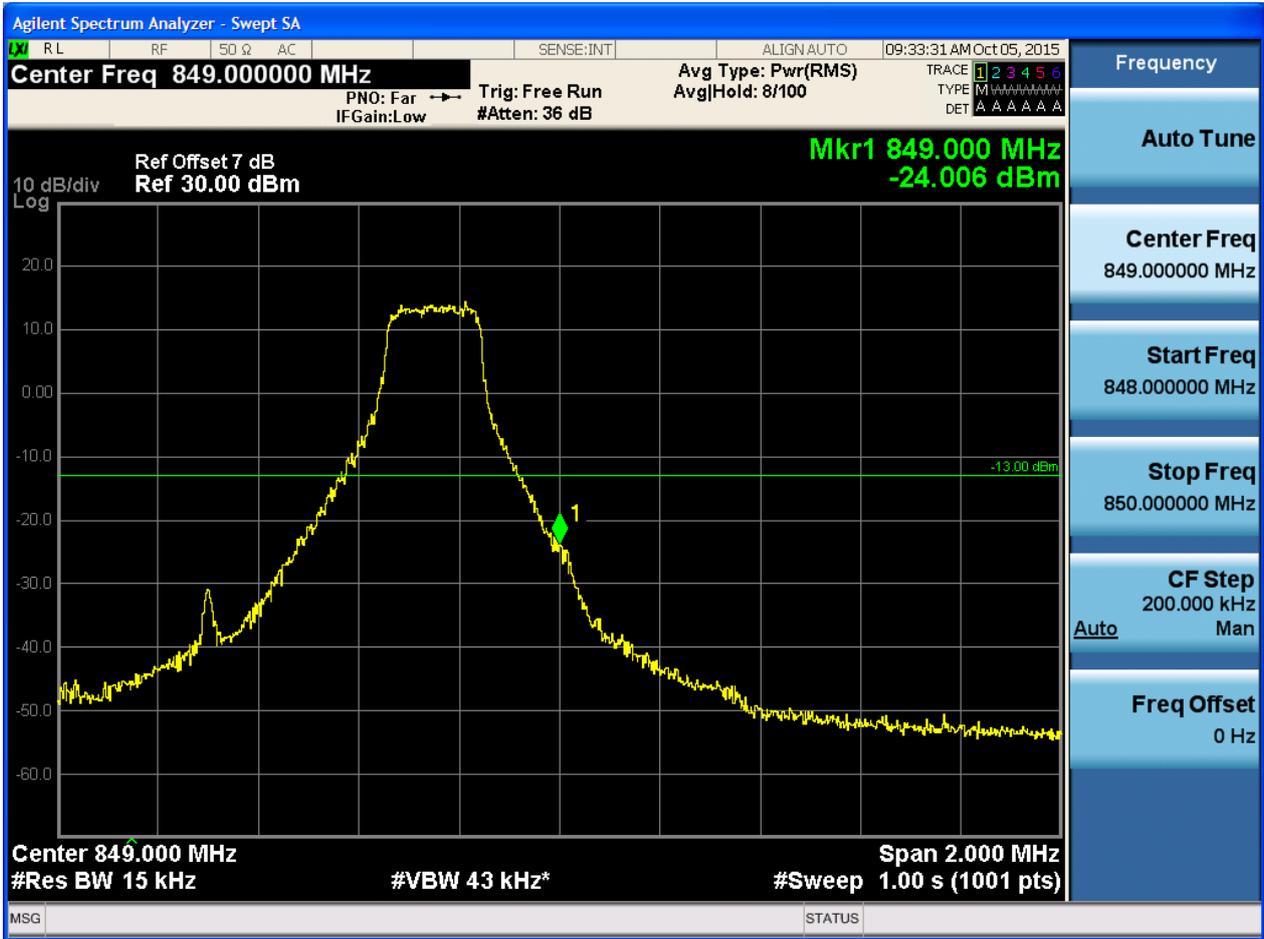
5.1.1.2.1.2.3 Test RB = RB3#2
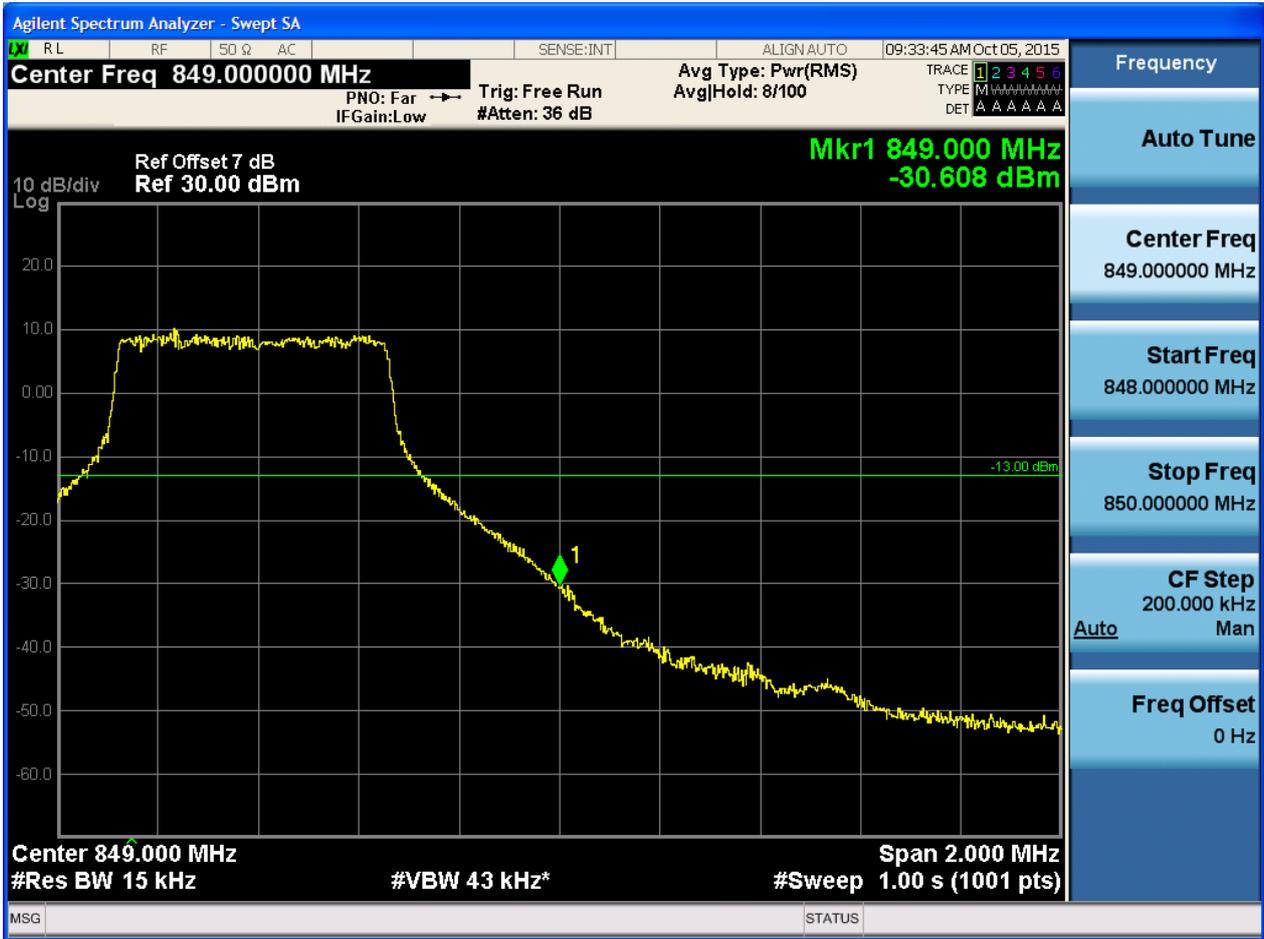
5.1.1.2.1.2.4 Test RB = RB6#0

5.1.1.2.2 Test Bandwidth = 3

5.1.1.2.2.1 Test Channel = LCH

5.1.1.2.2.1.1 Test RB = RB1#0

5.1.1.2.2.1.2 Test RB = RB1#14

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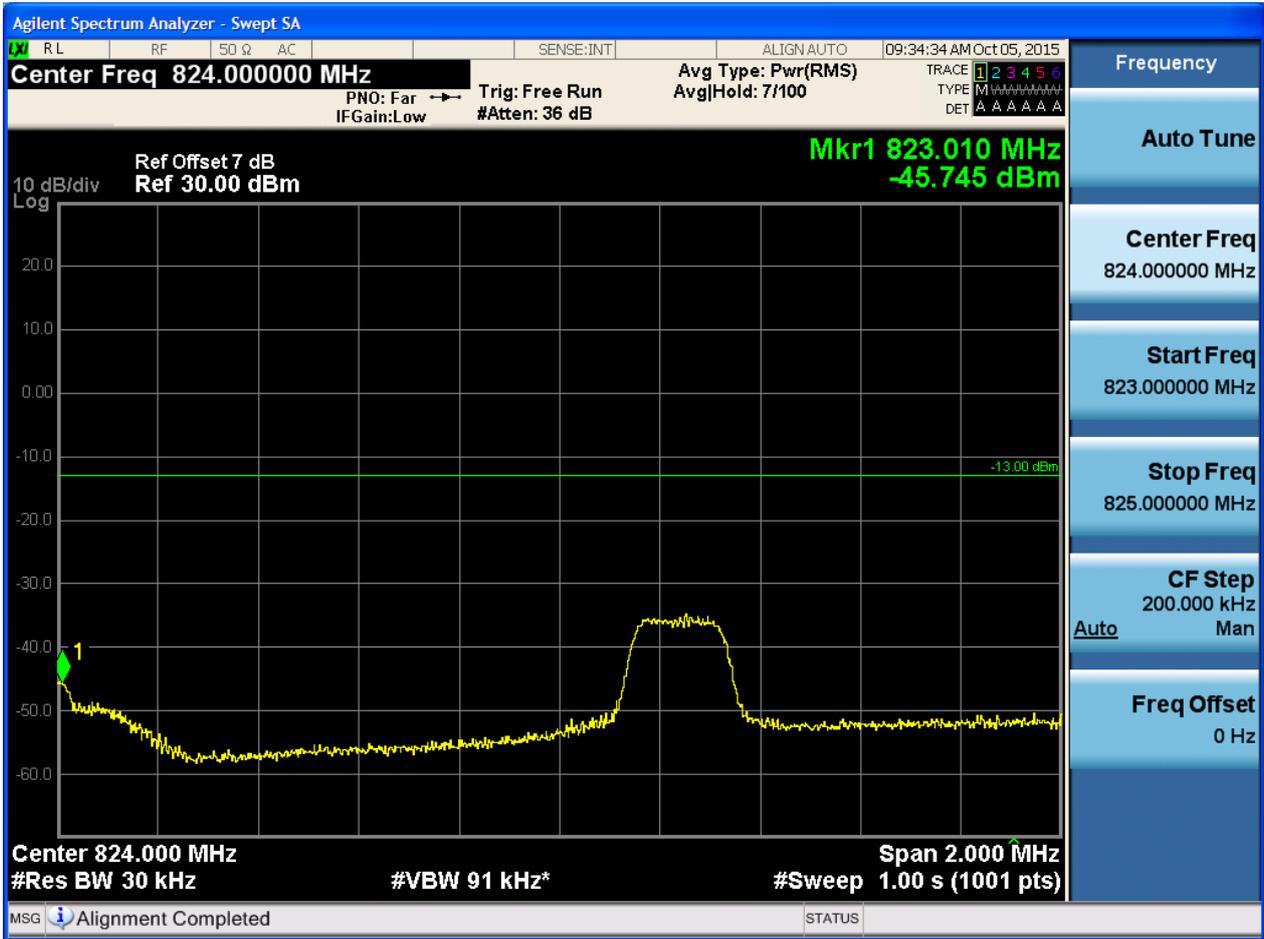
5.1.1.2.2.1.3 Test RB = RB8#4

5.1.1.2.2.1.4 Test RB = RB15#0

5.1.1.2.2.2 Test Channel = HCH

5.1.1.2.2.2.1 Test RB = RB1#0

5.1.1.2.2.2.2 Test RB = RB1#14

5.1.1.2.2.2.3 Test RB = RB8#4
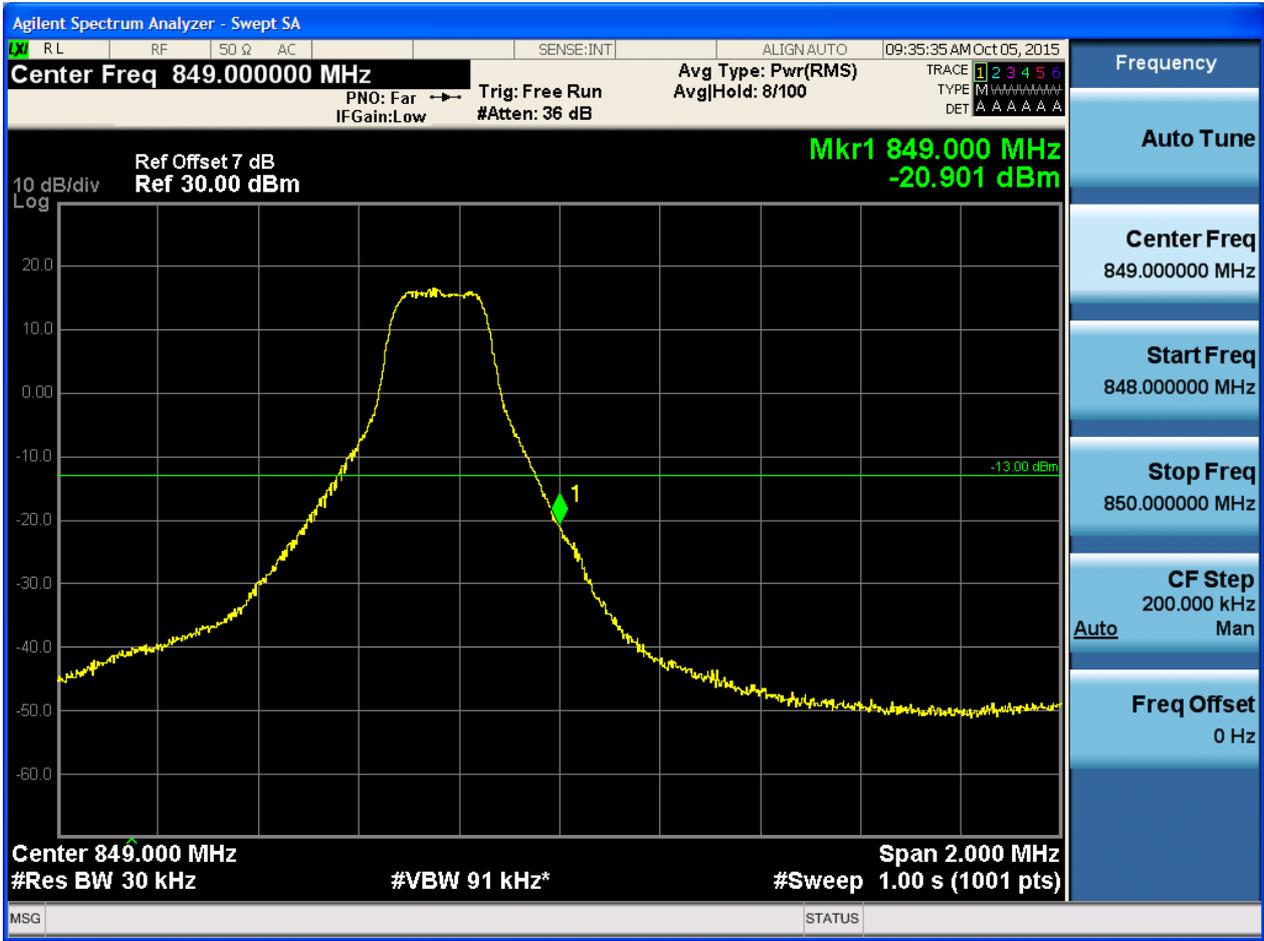
5.1.1.2.2.2.4 Test RB = RB15#0

5.1.1.2.3 Test Bandwidth = 5

5.1.1.2.3.1 Test Channel = LCH

5.1.1.2.3.1.1 Test RB = RB1#0
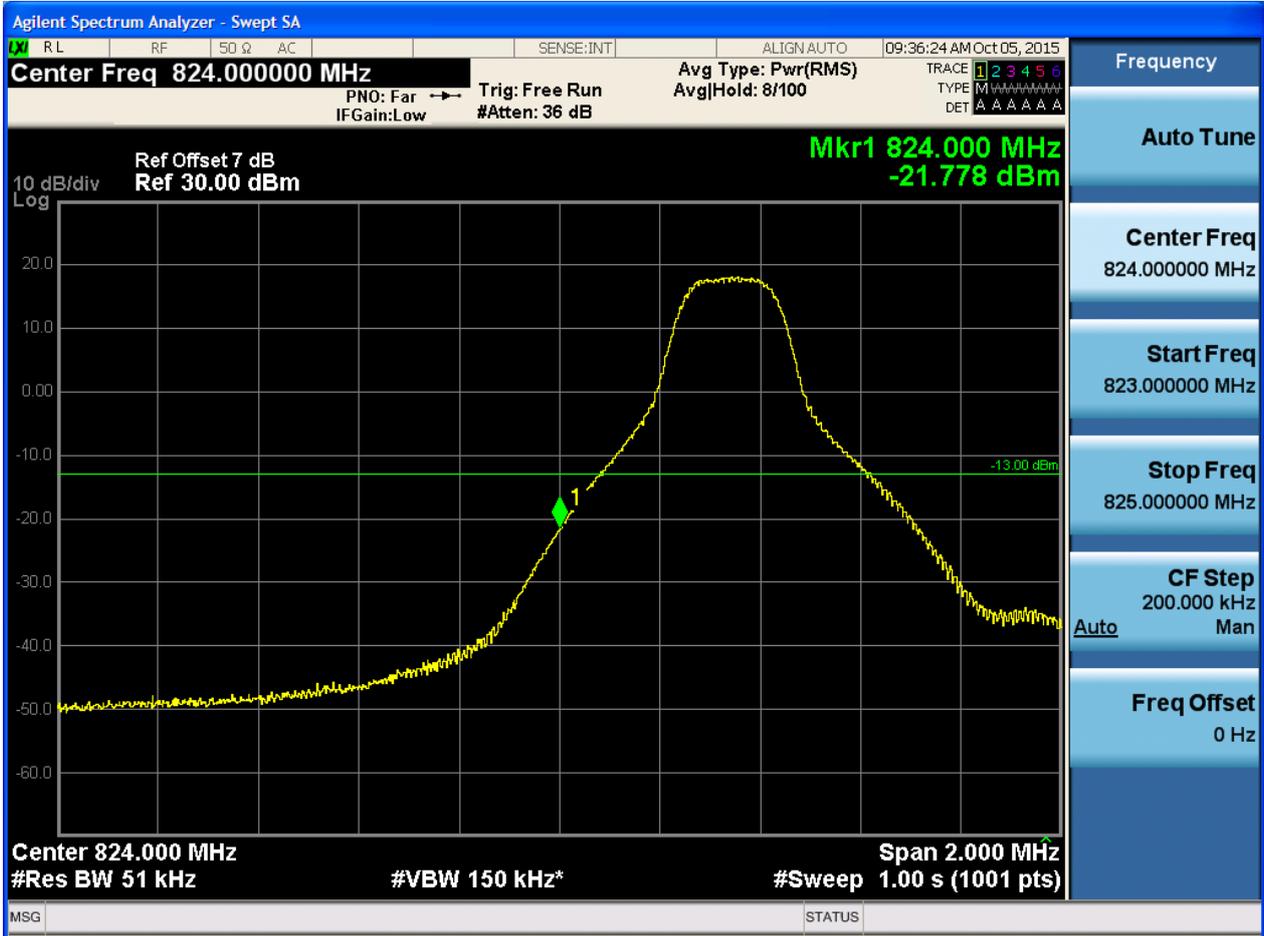
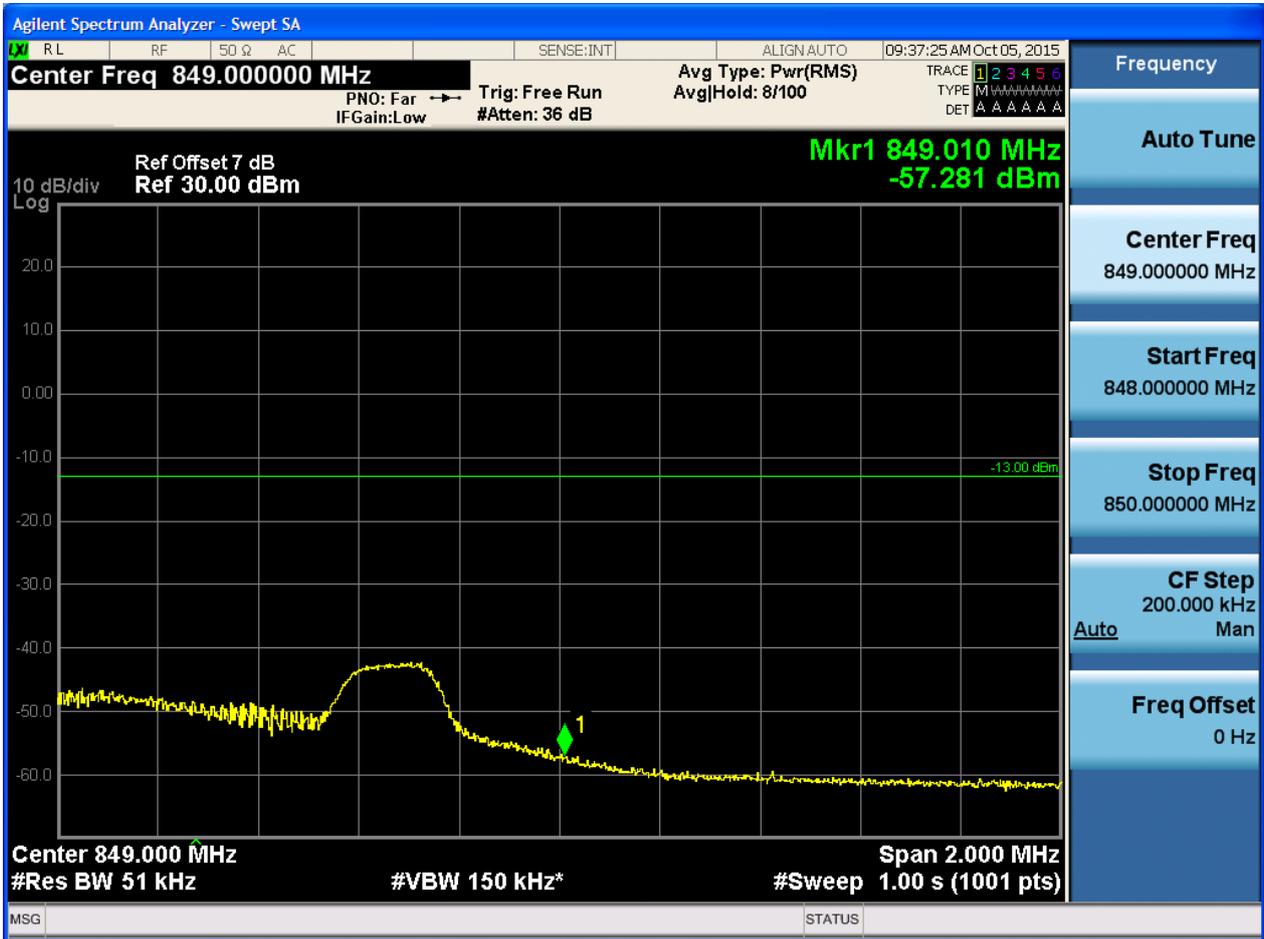## 5.1.1.2.3.1.2 Test RB = RB1#24
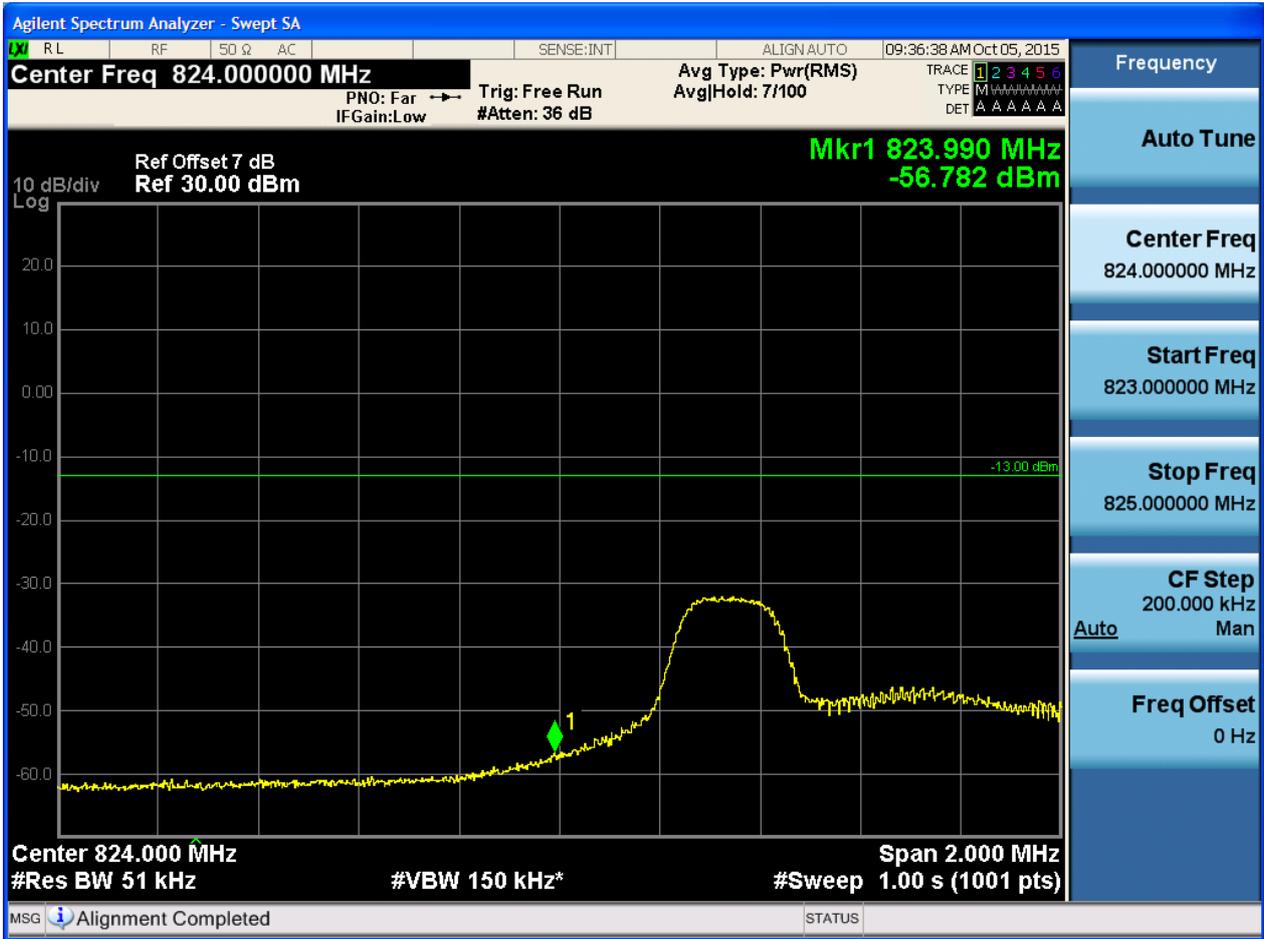
5.1.1.2.3.1.3 Test RB = RB12#6
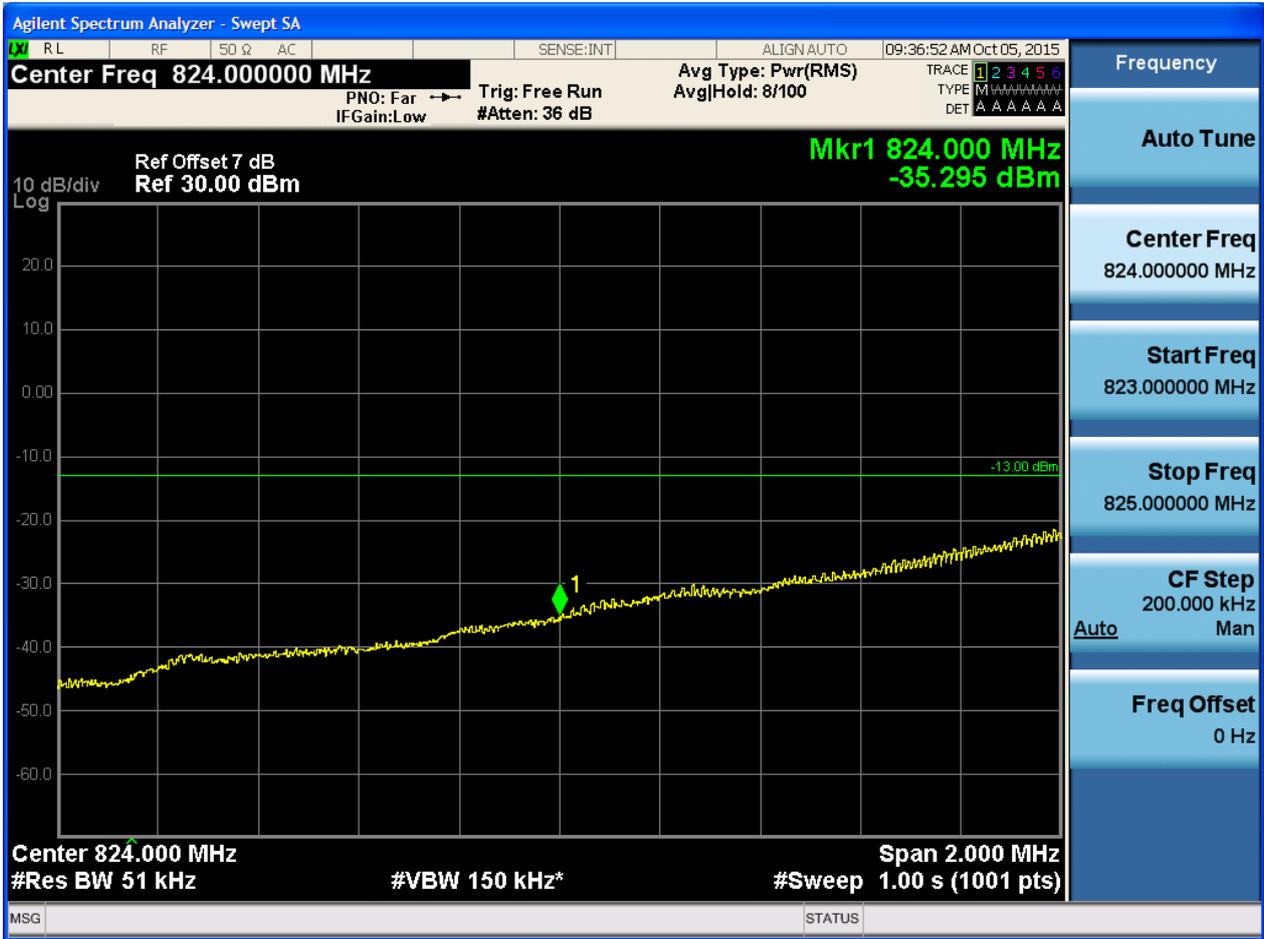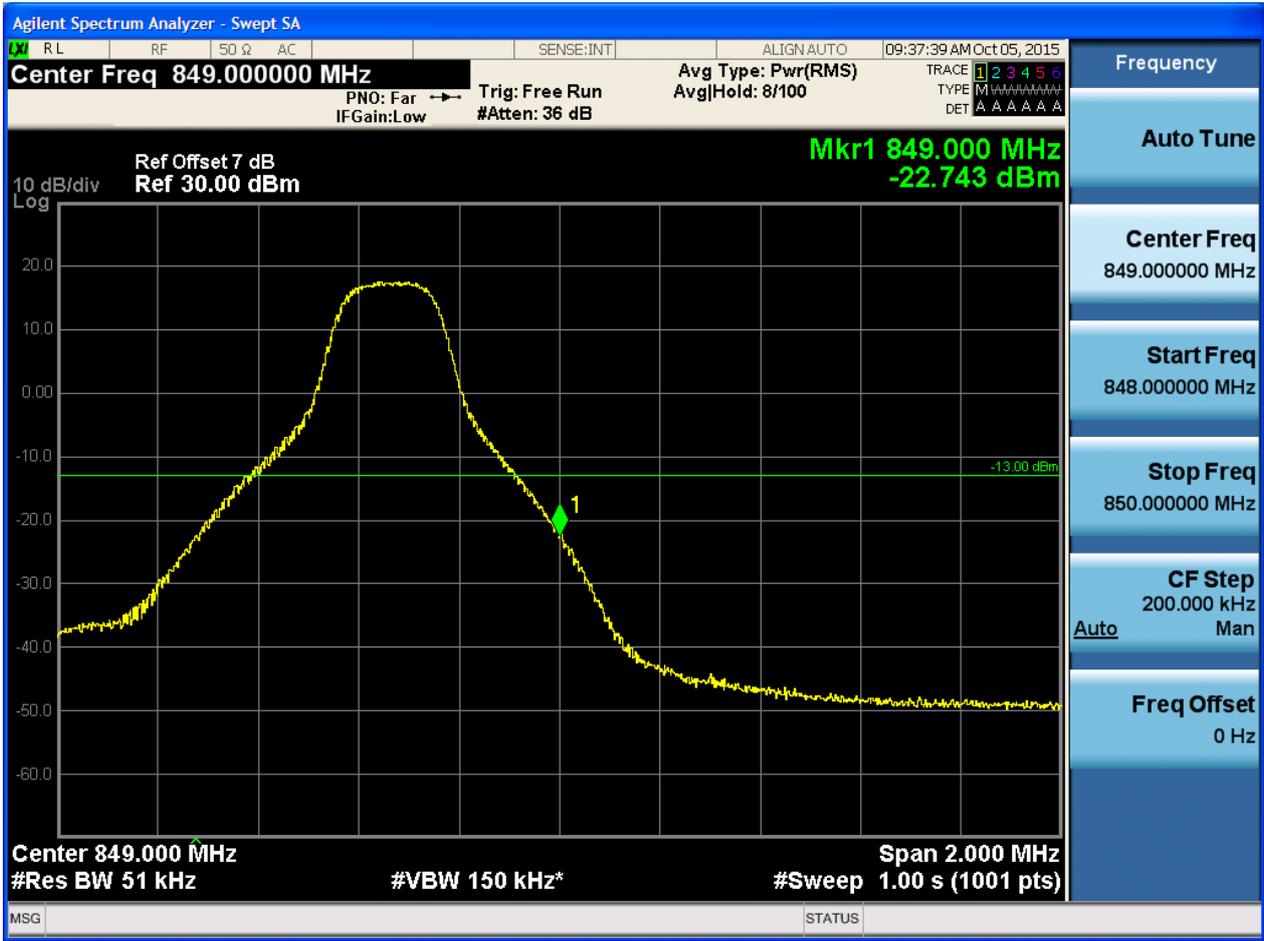
5.1.1.2.3.1.4 Test RB = RB25#0

5.1.1.2.3.2 Test Channel = HCH

5.1.1.2.3.2.1 Test RB = RB1#0

5.1.1.2.3.2.2 Test RB = RB1#24

5.1.1.2.3.2.3 Test RB = RB12#6
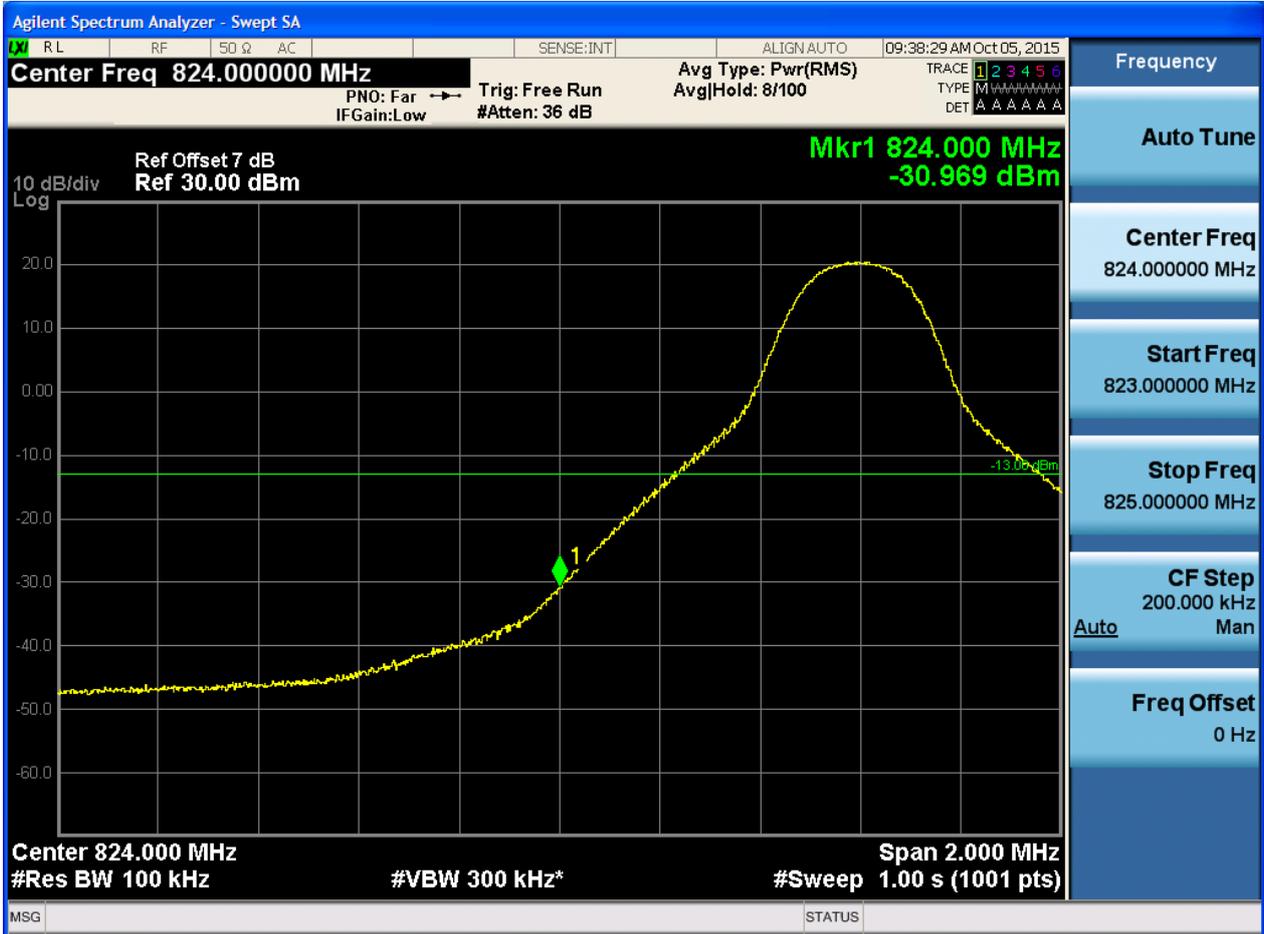
5.1.1.2.3.2.4 Test RB = RB25#0
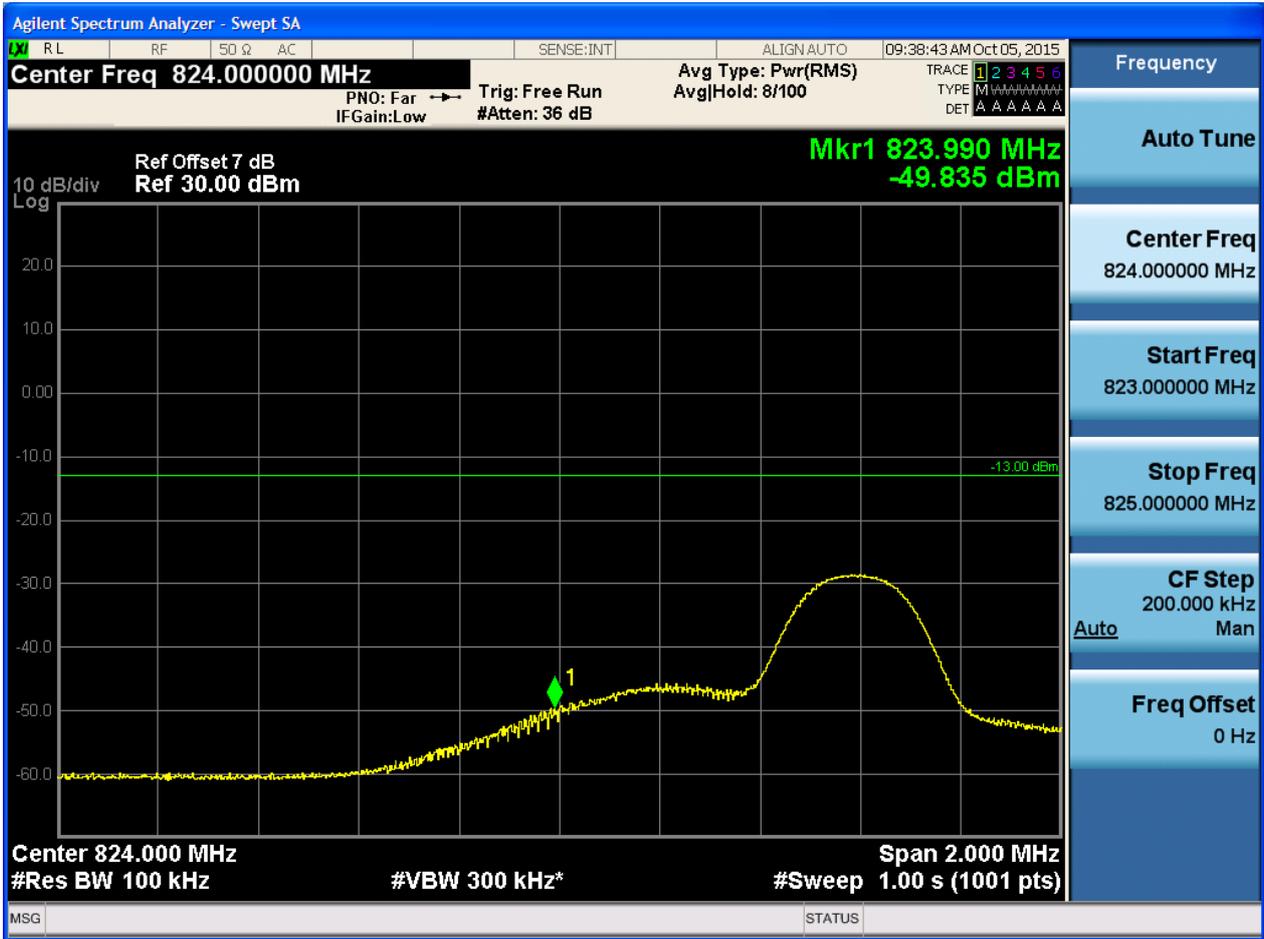
5.1.1.2.4 Test Bandwidth = 10

5.1.1.2.4.1 Test Channel = LCH

5.1.1.2.4.1.1 Test RB = RB1#0

5.1.1.2.4.1.2 Test RB = RB1#49
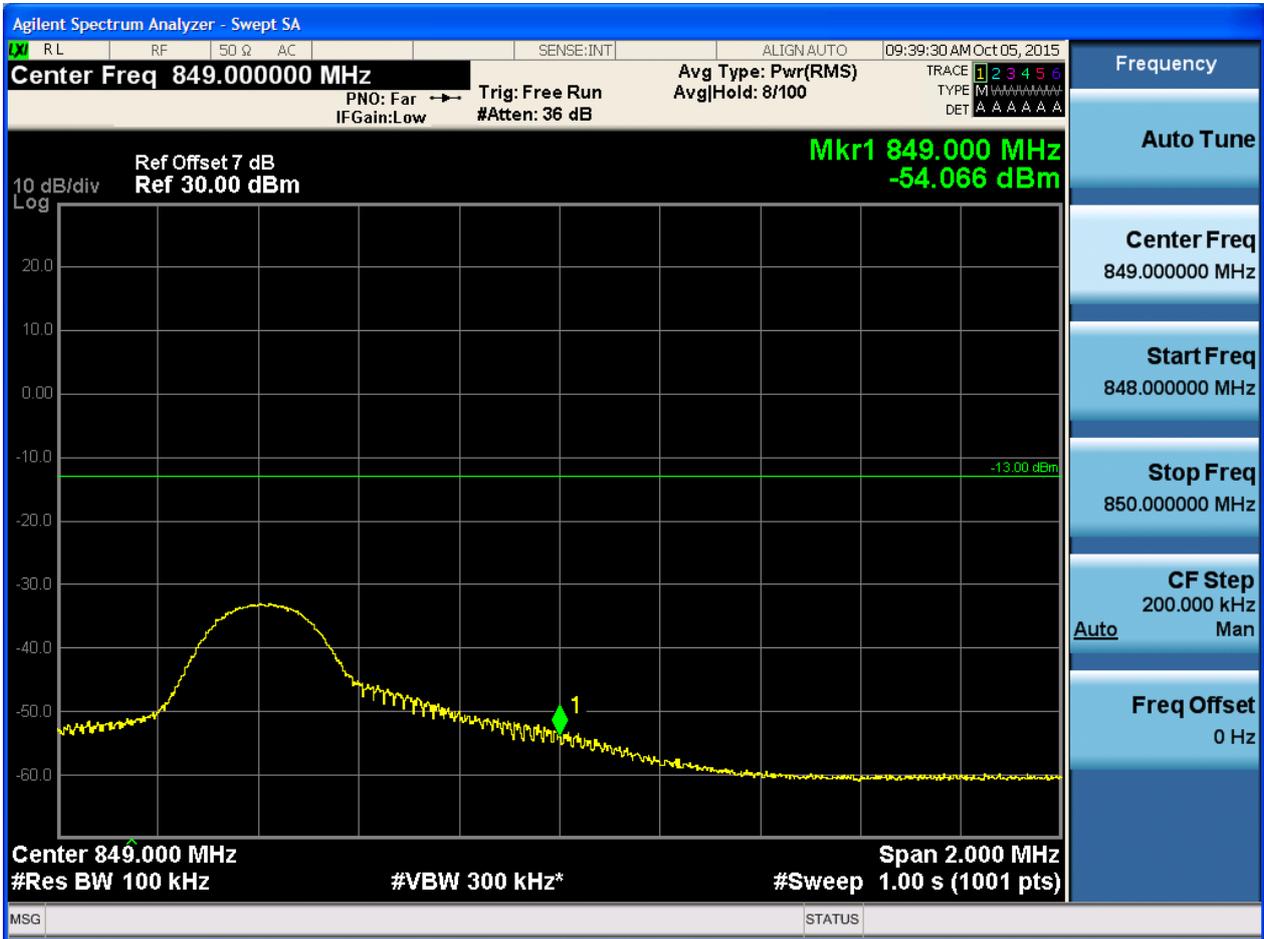
5.1.1.2.4.1.3 Test RB = RB25#13
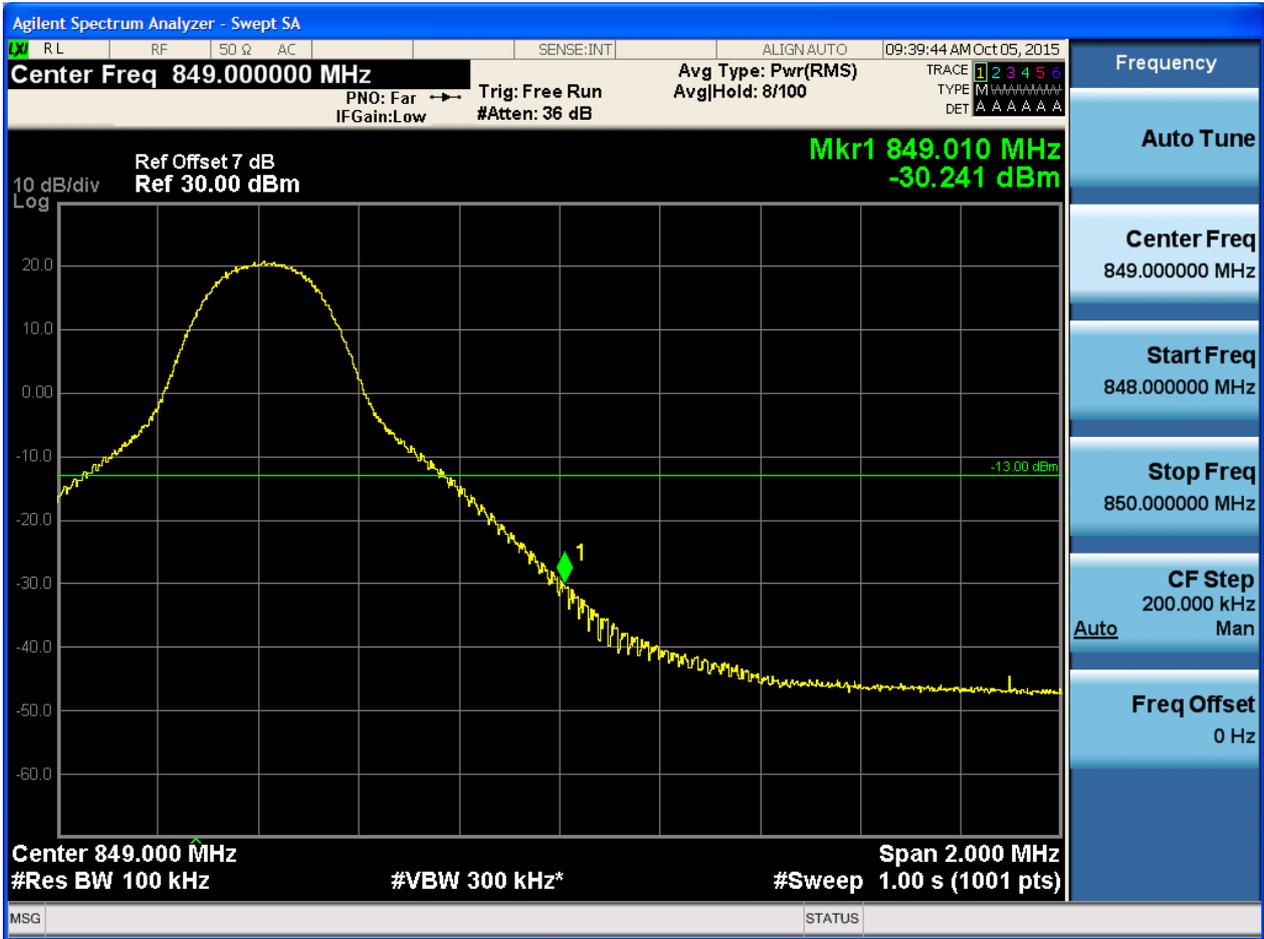
5.1.1.2.4.1.4 Test RB = RB50#0

5.1.1.2.4.2 Test Channel = HCH

5.1.1.2.4.2.1 Test RB = RB1#0

5.1.1.2.4.2.2 Test RB = RB1#49

5.1.1.2.4.2.3 Test RB = RB25#13

5.1.1.2.4.2.4 Test RB = RB50#0

6Appendix_F: Spurious Emission at Antenna Terminal

NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of < RBW/2 so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = k * (Span / RBW)" with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Part I - Test Plots

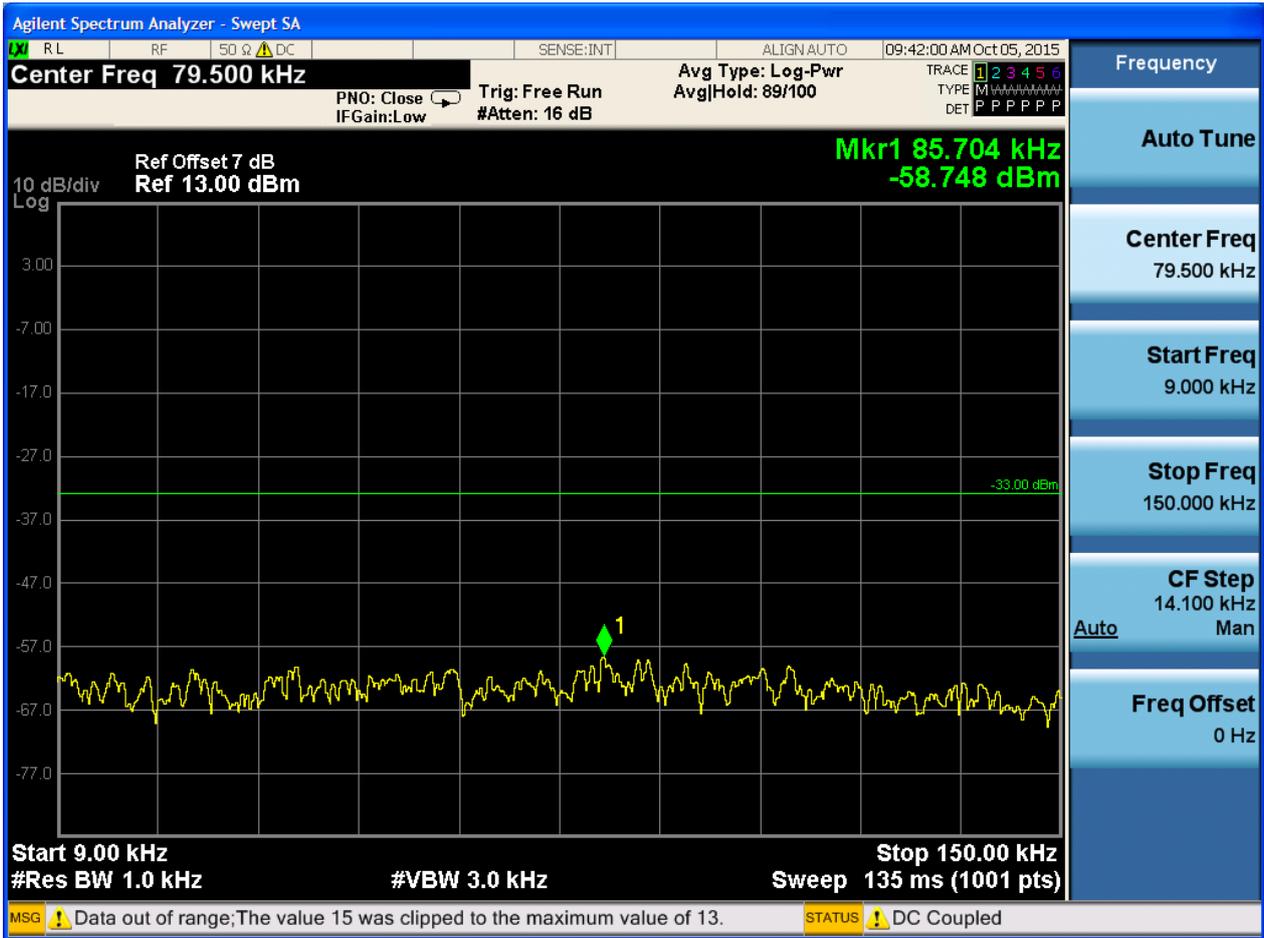**6.1 For LTE**

6.1.1 Test Band = BAND5
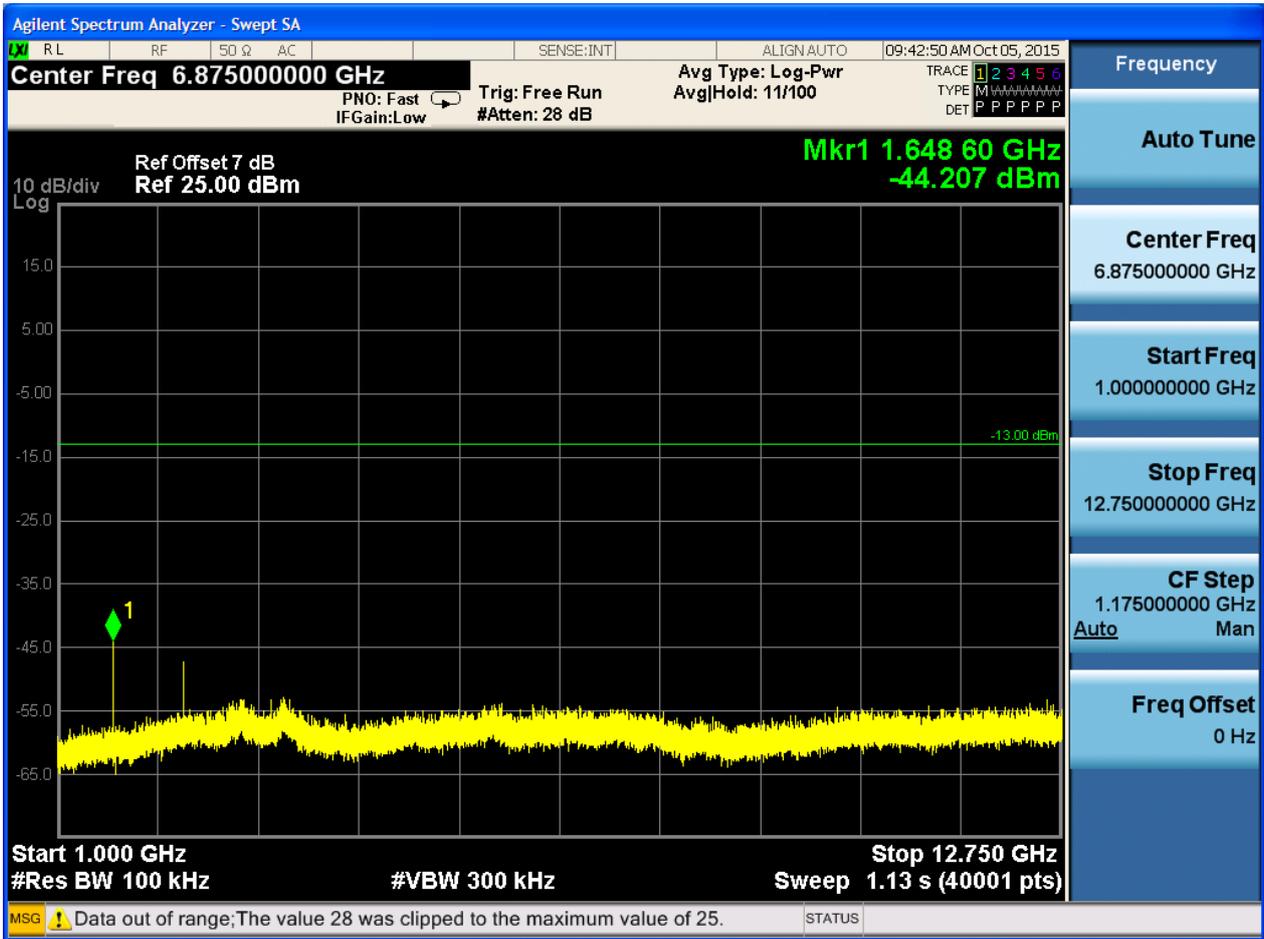
6.1.1.1 Test Mode = LTE/TM1

6.1.1.1.1 Test Bandwidth = 1.4

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0

6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0

Agilent Spectrum Analyzer - Swept SA

LXI R L   RF   50 Ω   AC   SENSE:INT   ALIGN AUTO   09:43:46 AM Oct 05, 2015

Center Freq 515.000000 MHz

PNO: Fast   Trig: Free Run   Avg Type: Log-Pwr   TRACE 1 2 3 4 5 6
IFGain:Low   #Atten: 28 dB   Avg|Hold:> 100/100   TYPE M WWWWWW   DET P P P P P

Ref Offset 7 dB

10 dB/div   **Ref 25.00 dBm**

Log

Mkr1 836.070 MHz
25.201 dBm

15.0

5.00

-5.00

-13.00 dBm

-15.0

-25.0

-35.0

-45.0

-55.0

-65.0

Start 30.0 MHz   **Stop 1.0000 GHz**
#Res BW 100 kHz   **#VBW 300 kHz**   **Sweep 93.3 ms (40001 pts)**

MSG ⓘ Points changed; all traces cleared   STATUS

Frequency

Auto Tune

Center Freq
515.000000 MHz

Start Freq
30.000000 MHz

Stop Freq
1.000000000 GHz

CF Step
97.000000 MHz
Auto   Man

Freq Offset
0 Hz

6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0

Agilent Spectrum Analyzer - Swept SA

LXI R L | RF | 50 Ω AC | | | SENSE:INT | ALIGN AUTO | 09:44:58 AM Oct 05, 2015

Center Freq 515.000000 MHz

PNO: Fast
IFGain:Low

Trig: Free Run
#Atten: 28 dB

Avg Type: Log-Pwr
Avg|Hold:> 100/100

TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P P P P P P

Ref Offset 7 dB
10 dB/div **Ref 25.00 dBm**
Log

Mkr1 847.904 MHz
25.108 dBm

15.0

5.00

-5.00

-13.00 dBm

-15.0

-25.0

-35.0

-45.0

-55.0

-65.0

Start 30.0 MHz
#Res BW 100 kHz   #VBW 300 kHz

Stop 1.0000 GHz
Sweep 93.3 ms (40001 pts)

MSG ⓘ Points changed; all traces cleared   STATUS

Frequency

Auto Tune

Center Freq
515.000000 MHz

Start Freq
30.000000 MHz

Stop Freq
1.000000000 GHz

CF Step
97.000000 MHz
Auto   Man

Freq Offset
0 Hz