



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]	EIRP [dBm]	Limit [dBm]	Verdict
BAND7	LTE/TM1	5	LCH	RB1#0	21.79	21.79	33	PASS
				RB1#13	22.33	22.33	33	PASS
				RB1#24	21.48	21.48	33	PASS
				RB12#0	21.28	21.28	33	PASS
				RB12#6	21.4	21.4	33	PASS
				RB12#13	21.32	21.32	33	PASS
				RB25#0	21.27	21.27	33	PASS
			MCH	RB1#0	21.42	21.42	33	PASS
				RB1#13	22.74	22.74	33	PASS
				RB1#24	21.8	21.8	33	PASS
				RB12#0	21.9	21.9	33	PASS
				RB12#6	21.79	21.79	33	PASS
				RB12#13	21.57	21.57	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB25#0	21.67	21.67	33	PASS
			HCH	RB1#0	22.08	22.08	33	PASS
				RB1#13	22.75	22.75	33	PASS
				RB1#24	22.23	22.23	33	PASS
				RB12#0	22.04	22.04	33	PASS
				RB12#6	22.04	22.04	33	PASS
				RB12#13	21.87	21.87	33	PASS
				RB25#0	21.94	21.94	33	PASS
		10	LCH	RB1#0	22.25	22.25	33	PASS
				RB1#25	22.26	22.26	33	PASS
				RB1#49	22.03	22.03	33	PASS
				RB25#0	21.32	21.32	33	PASS
				RB25#13	21.38	21.38	33	PASS
				RB25#25	21.6	21.6	33	PASS
				RB50#0	21.54	21.54	33	PASS
			MCH	RB1#0	22.54	22.54	33	PASS
				RB1#25	22.72	22.72	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#49	21.9	21.9	33	PASS
				RB25#0	21.81	21.81	33	PASS
				RB25#13	21.72	21.72	33	PASS
				RB25#25	21.58	21.58	33	PASS
				RB50#0	21.7	21.7	33	PASS
			HCH	RB1#0	22.58	22.58	33	PASS
				RB1#25	22.74	22.74	33	PASS
				RB1#49	22.28	22.28	33	PASS
				RB25#0	21.97	21.97	33	PASS
				RB25#13	21.93	21.93	33	PASS
				RB25#25	21.9	21.9	33	PASS
				RB50#0	22.06	22.06	33	PASS
		15	LCH	RB1#0	21.61	21.61	33	PASS
				RB1#38	22.53	22.53	33	PASS
				RB1#74	22.51	22.51	33	PASS
				RB36#0	21.36	21.36	33	PASS
				RB36#18	21.68	21.68	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB36#39	21.82	21.82	33	PASS
				RB75#0	21.45	21.45	33	PASS
			MCH	RB1#0	22.1	22.1	33	PASS
				RB1#38	22.66	22.66	33	PASS
				RB1#74	22.1	22.1	33	PASS
				RB36#0	21.83	21.83	33	PASS
				RB36#18	21.85	21.85	33	PASS
				RB36#39	21.57	21.57	33	PASS
				RB75#0	21.66	21.66	33	PASS
			HCH	RB1#0	22.15	22.15	33	PASS
				RB1#38	22.8	22.8	33	PASS
				RB1#74	22.42	22.42	33	PASS
				RB36#0	21.86	21.86	33	PASS
				RB36#18	21.95	21.95	33	PASS
				RB36#39	21.91	21.91	33	PASS
				RB75#0	22.3	22.3	33	PASS
		20	LCH	RB1#0	22.01	22.01	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#50	22.75	22.75	33	PASS
				RB1#99	22.61	22.61	33	PASS
				RB50#0	21.56	21.56	33	PASS
				RB50#25	21.72	21.72	33	PASS
				RB50#50	21.72	21.72	33	PASS
				RB100#0	21.63	21.63	33	PASS
			MCH	RB1#0	22.33	22.33	33	PASS
				RB1#50	22.64	22.64	33	PASS
				RB1#99	21.98	21.98	33	PASS
				RB50#0	21.67	21.67	33	PASS
				RB50#25	21.82	21.82	33	PASS
				RB50#50	21.95	21.95	33	PASS
				RB100#0	21.9	21.9	33	PASS
			HCH	RB1#0	22.2	22.2	33	PASS
				RB1#50	22.88	22.88	33	PASS
				RB1#99	22.42	22.42	33	PASS
				RB50#0	22.19	22.19	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB50#25	22.44	22.44	33	PASS
				RB50#50	21.96	21.96	33	PASS
				RB100#0	22.49	22.49	33	PASS
	LTE/TM2	5	LCH	RB1#0	21.14	21.14	33	PASS
				RB1#13	21.58	21.58	33	PASS
				RB1#24	20.78	20.78	33	PASS
				RB12#0	20.52	20.52	33	PASS
				RB12#6	20.59	20.59	33	PASS
				RB12#13	20.33	20.33	33	PASS
				RB25#0	20.43	20.43	33	PASS
			MCH	RB1#0	21.31	21.31	33	PASS
				RB1#13	21.98	21.98	33	PASS
				RB1#24	21.12	21.12	33	PASS
				RB12#0	20.93	20.93	33	PASS
				RB12#6	20.94	20.94	33	PASS
				RB12#13	20.74	20.74	33	PASS
				RB25#0	20.79	20.79	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
			HCH	RB1#0	22.43	22.43	33	PASS
				RB1#13	22.38	22.38	33	PASS
				RB1#24	21.82	21.82	33	PASS
				RB12#0	21.31	21.31	33	PASS
				RB12#6	21.26	21.26	33	PASS
				RB12#13	21.15	21.15	33	PASS
				RB25#0	21.21	21.21	33	PASS
		10	LCH	RB1#0	21.23	21.23	33	PASS
				RB1#25	21.57	21.57	33	PASS
				RB1#49	21.28	21.28	33	PASS
				RB25#0	20.41	20.41	33	PASS
				RB25#13	20.33	20.33	33	PASS
				RB25#25	20.79	20.79	33	PASS
				RB50#0	20.66	20.66	33	PASS
			MCH	RB1#0	21.67	21.67	33	PASS
				RB1#25	21.87	21.87	33	PASS
				RB1#49	20.94	20.94	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB25#0	20.93	20.93	33	PASS
				RB25#13	20.87	20.87	33	PASS
				RB25#25	20.79	20.79	33	PASS
				RB50#0	20.85	20.85	33	PASS
			HCH	RB1#0	21.95	21.95	33	PASS
				RB1#25	22.31	22.31	33	PASS
				RB1#49	21.66	21.66	33	PASS
				RB25#0	21.28	21.28	33	PASS
				RB25#13	21.28	21.28	33	PASS
				RB25#25	21.28	21.28	33	PASS
				RB50#0	21.47	21.47	33	PASS
		15	LCH	RB1#0	21.04	21.04	33	PASS
				RB1#38	21.99	21.99	33	PASS
				RB1#74	22.02	22.02	33	PASS
				RB36#0	20.66	20.66	33	PASS
				RB36#18	20.95	20.95	33	PASS
				RB36#39	21.16	21.16	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB75#0	20.75	20.75	33	PASS
			MCH	RB1#0	21.7	21.7	33	PASS
				RB1#38	21.99	21.99	33	PASS
				RB1#74	21.43	21.43	33	PASS
				RB36#0	20.98	20.98	33	PASS
				RB36#18	20.97	20.97	33	PASS
				RB36#39	20.75	20.75	33	PASS
				RB75#0	20.89	20.89	33	PASS
			HCH	RB1#0	21.54	21.54	33	PASS
				RB1#38	22.38	22.38	33	PASS
				RB1#74	21.94	21.94	33	PASS
				RB36#0	21.08	21.08	33	PASS
				RB36#18	21.17	21.17	33	PASS
				RB36#39	21.31	21.31	33	PASS
				RB75#0	21.61	21.61	33	PASS
		20	LCH	RB1#0	21.46	21.46	33	PASS
				RB1#50	22.32	22.32	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#99	22.21	22.21	33	PASS
				RB50#0	20.84	20.84	33	PASS
				RB50#25	20.99	20.99	33	PASS
				RB50#50	21.05	21.05	33	PASS
				RB100#0	20.92	20.92	33	PASS
			MCH	RB1#0	21.7	21.7	33	PASS
				RB1#50	21.8	21.8	33	PASS
				RB1#99	21.23	21.23	33	PASS
				RB50#0	20.89	20.89	33	PASS
				RB50#25	20.98	20.98	33	PASS
				RB50#50	21.16	21.16	33	PASS
				RB100#0	21.04	21.04	33	PASS
			HCH	RB1#0	21.79	21.79	33	PASS
				RB1#50	22.51	22.51	33	PASS
				RB1#99	22.17	22.17	33	PASS
				RB50#0	21.51	21.51	33	PASS
				RB50#25	21.66	21.66	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB50#50	21.3	21.3	33	PASS
				RB100#0	21.71	21.71	33	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,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

Note2:

$$\text{SET Span} = 1.5 * \text{OBW}$$

$$\text{SET RBW} = 1\% \text{ of the OBW, not to exceed 1MHz}$$

$$\text{SET VBW} \geq 3 * \text{RBW}$$

$$\text{SET Sweep time} = \text{auto-couple.}$$

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
BAND7	LTE/TM1	5	LCH	RB1#0	4.59	13	PASS
				RB1#13	4.03	13	PASS
				RB1#24	4.71	13	PASS
				RB12#0	5.44	13	PASS
				RB12#6	5.24	13	PASS
				RB12#13	5.49	13	PASS
				RB25#0	5.54	13	PASS
			MCH	RB1#0	5.19	13	PASS
				RB1#13	4.08	13	PASS
				RB1#24	4.68	13	PASS
				RB12#0	5.56	13	PASS
				RB12#6	5.15	13	PASS
				RB12#13	5.29	13	PASS
				RB25#0	5.67	13	PASS
			HCH	RB1#0	5.36	13	PASS
				RB1#13	4.26	13	PASS
				RB1#24	4.49	13	PASS
				RB12#0	5.45	13	PASS
				RB12#6	5.36	13	PASS
				RB12#13	5.42	13	PASS
				RB25#0	5.68	13	PASS
		10	LCH	RB1#0	4.34	13	PASS
				RB1#25	4.05	13	PASS
				RB1#49	4.5	13	PASS
				RB25#0	5.28	13	PASS
				RB25#13	5.21	13	PASS
				RB25#25	5.17	13	PASS
				RB50#0	5.78	13	PASS
			MCH	RB1#0	4.36	13	PASS
				RB1#25	3.93	13	PASS
				RB1#49	4.21	13	PASS
				RB25#0	5.57	13	PASS
				RB25#13	5.23	13	PASS
				RB25#25	5.32	13	PASS
				RB50#0	5.61	13	PASS
			HCH	RB1#0	4.51	13	PASS
				RB1#25	4.2	13	PASS
				RB1#49	4.32	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
				RB25#0	5.42	13	PASS
				RB25#13	5.28	13	PASS
				RB25#25	5.23	13	PASS
				RB50#0	5.72	13	PASS
		15	LCH	RB1#0	4.62	13	PASS
				RB1#38	3.81	13	PASS
				RB1#74	4.32	13	PASS
				RB36#0	5.35	13	PASS
				RB36#18	5.14	13	PASS
				RB36#39	5.43	13	PASS
				RB75#0	5.83	13	PASS
			MCH	RB1#0	5	13	PASS
				RB1#38	4.17	13	PASS
				RB1#74	3.97	13	PASS
				RB36#0	5.83	13	PASS
				RB36#18	5.45	13	PASS
				RB36#39	5.38	13	PASS
				RB75#0	5.88	13	PASS
			HCH	RB1#0	4.34	13	PASS
				RB1#38	4.26	13	PASS
				RB1#74	4.36	13	PASS
				RB36#0	5.75	13	PASS
				RB36#18	5.67	13	PASS
				RB36#39	5.74	13	PASS
				RB75#0	5.94	13	PASS
		20	LCH	RB1#0	4.59	13	PASS
				RB1#50	3.99	13	PASS
				RB1#99	4.86	13	PASS
				RB50#0	5.21	13	PASS
				RB50#25	5.29	13	PASS
				RB50#50	5.7	13	PASS
				RB100#0	5.8	13	PASS
			MCH	RB1#0	5.09	13	PASS
				RB1#50	4.16	13	PASS
				RB1#99	3.97	13	PASS
				RB50#0	5.96	13	PASS
				RB50#25	5.28	13	PASS
				RB50#50	5.08	13	PASS
				RB100#0	5.85	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
	LTE/TM2		HCH	RB1#0	4.1	13	PASS
				RB1#50	4.36	13	PASS
				RB1#99	4.72	13	PASS
				RB50#0	4.83	13	PASS
				RB50#25	5.13	13	PASS
				RB50#50	5.37	13	PASS
				RB100#0	5.67	13	PASS
		5	LCH	RB1#0	5.46	13	PASS
				RB1#13	4.82	13	PASS
				RB1#24	5.42	13	PASS
				RB12#0	6.11	13	PASS
				RB12#6	6.06	13	PASS
				RB12#13	6.25	13	PASS
				RB25#0	6.41	13	PASS
			MCH	RB1#0	5.23	13	PASS
				RB1#13	4.45	13	PASS
				RB1#24	4.95	13	PASS
				RB12#0	6.04	13	PASS
				RB12#6	5.93	13	PASS
				RB12#13	5.95	13	PASS
				RB25#0	6.53	13	PASS
			HCH	RB1#0	5.36	13	PASS
				RB1#13	4.7	13	PASS
				RB1#24	5	13	PASS
				RB12#0	6.02	13	PASS
				RB12#6	5.86	13	PASS
				RB12#13	5.96	13	PASS
				RB25#0	6.47	13	PASS
		10	LCH	RB1#0	5.01	13	PASS
				RB1#25	4.62	13	PASS
				RB1#49	4.89	13	PASS
				RB25#0	6.15	13	PASS
				RB25#13	6	13	PASS
				RB25#25	5.98	13	PASS
				RB50#0	6.45	13	PASS
			MCH	RB1#0	5.4	13	PASS
				RB1#25	4.73	13	PASS
				RB1#49	5.1	13	PASS
				RB25#0	6.35	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
				RB25#13	6.16	13	PASS
				RB25#25	6.22	13	PASS
				RB50#0	6.54	13	PASS
			HCH	RB1#0	5.12	13	PASS
				RB1#25	4.7	13	PASS
				RB1#49	5.2	13	PASS
				RB25#0	6.3	13	PASS
				RB25#13	6.31	13	PASS
				RB25#25	6.16	13	PASS
				RB50#0	6.61	13	PASS
		15	LCH	RB1#0	5.62	13	PASS
				RB1#38	4.69	13	PASS
				RB1#74	5.08	13	PASS
				RB36#0	6.19	13	PASS
				RB36#18	5.86	13	PASS
				RB36#39	6.09	13	PASS
				RB75#0	6.73	13	PASS
			MCH	RB1#0	5.84	13	PASS
				RB1#38	4.8	13	PASS
				RB1#74	4.58	13	PASS
				RB36#0	6.16	13	PASS
				RB36#18	6.12	13	PASS
				RB36#39	6.2	13	PASS
				RB75#0	6.84	13	PASS
			HCH	RB1#0	4.96	13	PASS
				RB1#38	4.74	13	PASS
				RB1#74	5.03	13	PASS
				RB36#0	6.14	13	PASS
				RB36#18	5.97	13	PASS
				RB36#39	6.37	13	PASS
		20	LCH	RB1#0	5.09	13	PASS
				RB1#50	4.44	13	PASS
				RB1#99	5.35	13	PASS
				RB50#0	6.02	13	PASS
				RB50#25	6.01	13	PASS
				RB50#50	6.25	13	PASS
				RB100#0	6.59	13	PASS
			MCH	RB1#0	5.56	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
				RB1#50	4.72	13	PASS
				RB1#99	4.68	13	PASS
				RB50#0	6.18	13	PASS
				RB50#25	6.1	13	PASS
				RB50#50	5.83	13	PASS
				RB100#0	6.77	13	PASS
			HCH	RB1#0	4.69	13	PASS
				RB1#50	5.06	13	PASS
				RB1#99	5.54	13	PASS
				RB50#0	5.64	13	PASS
				RB50#25	5.71	13	PASS
				RB50#50	6.3	13	PASS
				RB100#0	6.26	13	PASS

3Appendix_C: Modulation Characteristics

Part I - Test Plots

3.1 For LTE

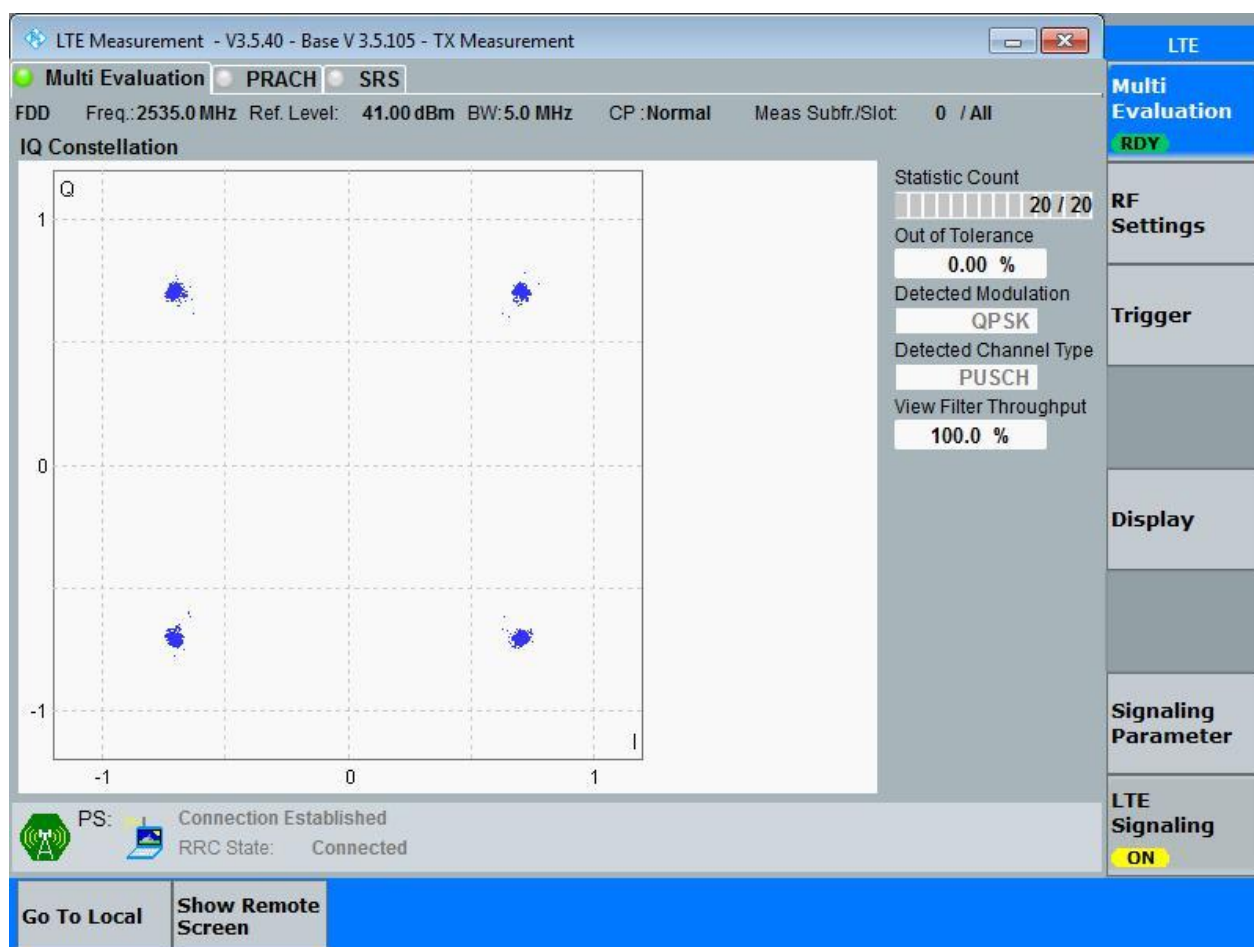
3.1.1 Test Band = BAND7

3.1.1.1 Test Mode = LTE/TM1

3.1.1.1.1 Test Bandwidth = 5

3.1.1.1.1.1 Test Channel = MCH

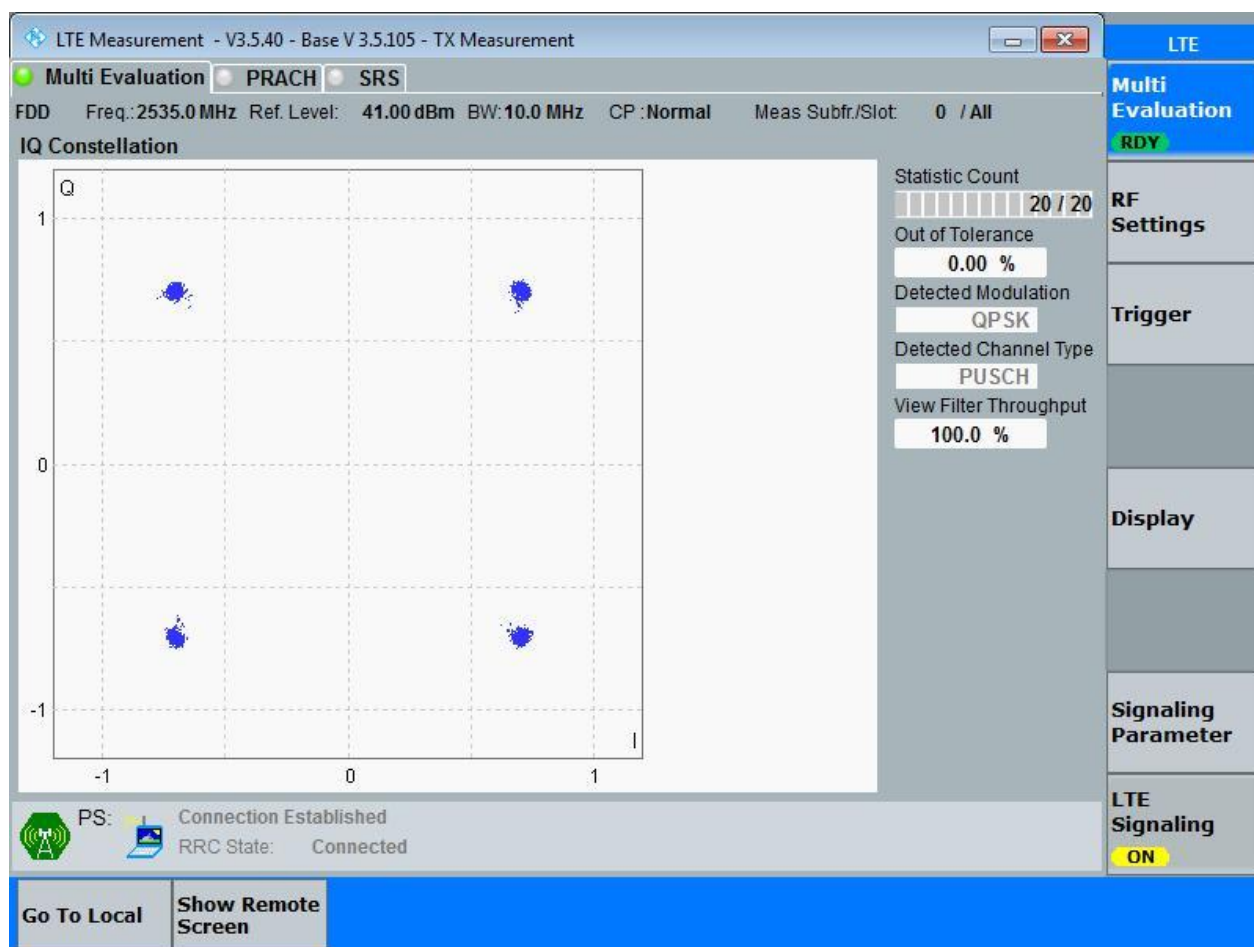
3.1.1.1.1.1.1 Test RB = RB25#0



3.1.1.1.2 Test Bandwidth = 10

3.1.1.1.2.1 Test Channel = MCH

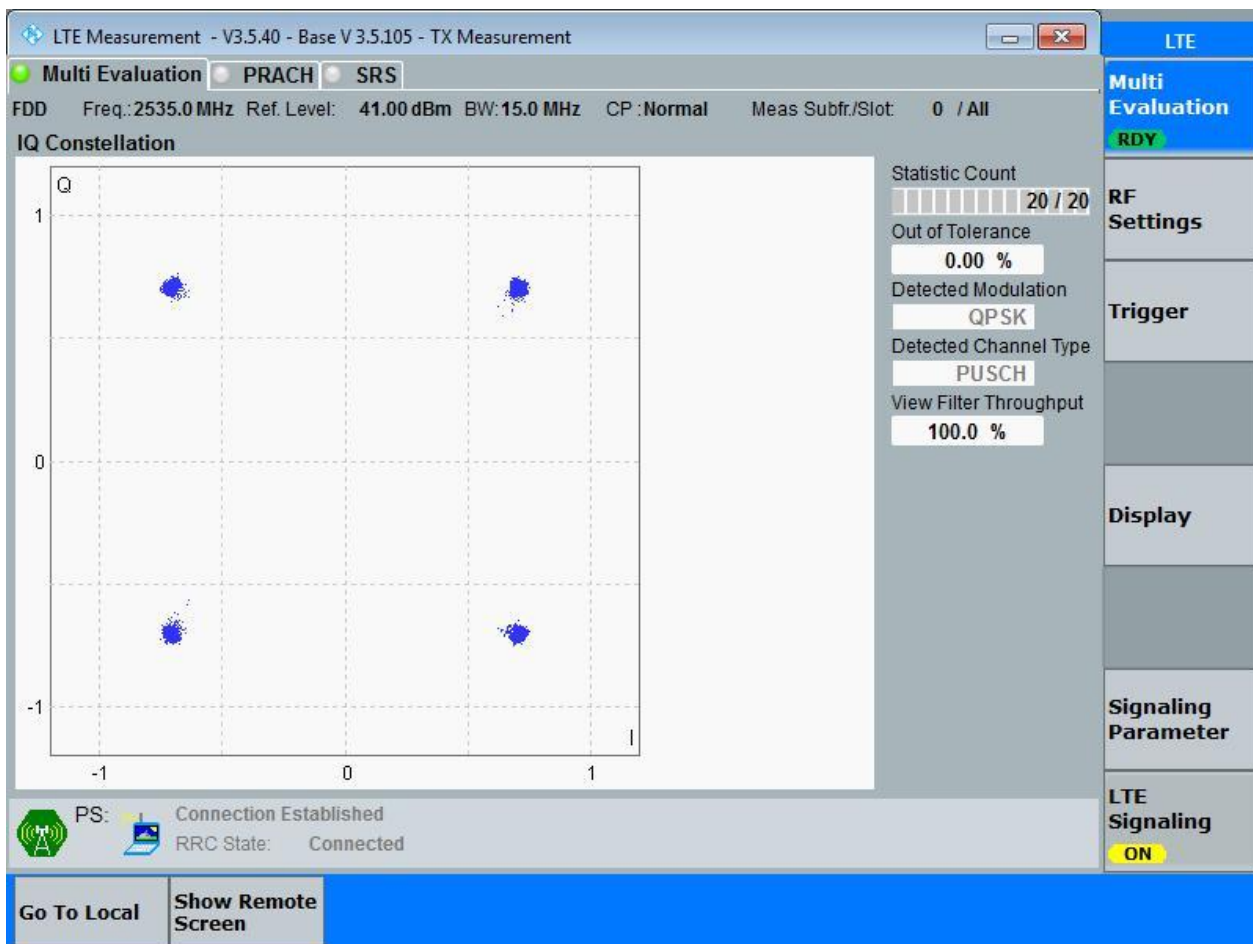
3.1.1.1.2.1.1 Test RB = RB50#0



3.1.1.1.3 Test Bandwidth = 15

3.1.1.1.3.1 Test Channel = MCH

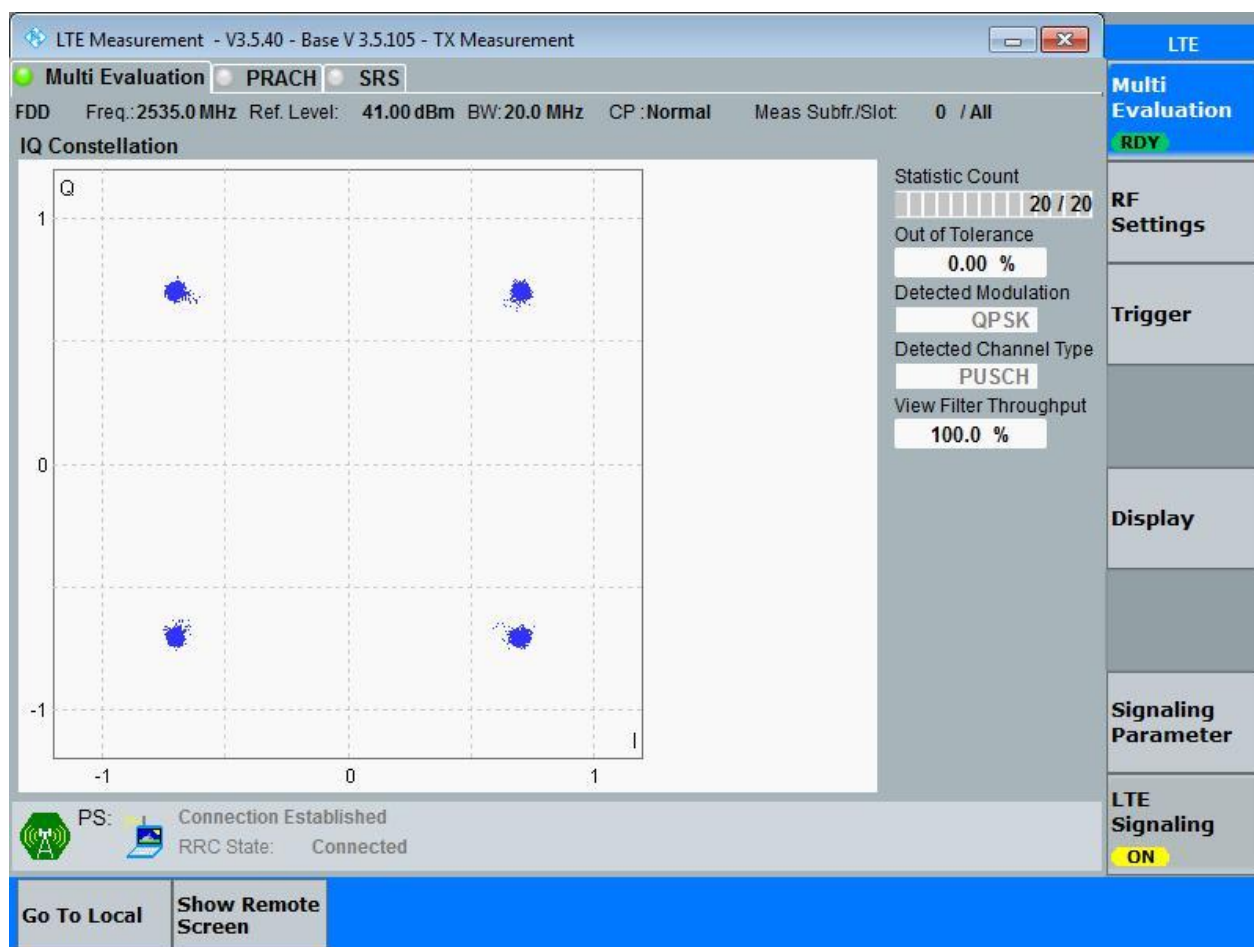
3.1.1.1.3.1.1 Test RB = RB75#0



3.1.1.1.4 Test Bandwidth = 20

3.1.1.1.4.1 Test Channel = MCH

3.1.1.1.4.1.1 Test RB = RB100#0

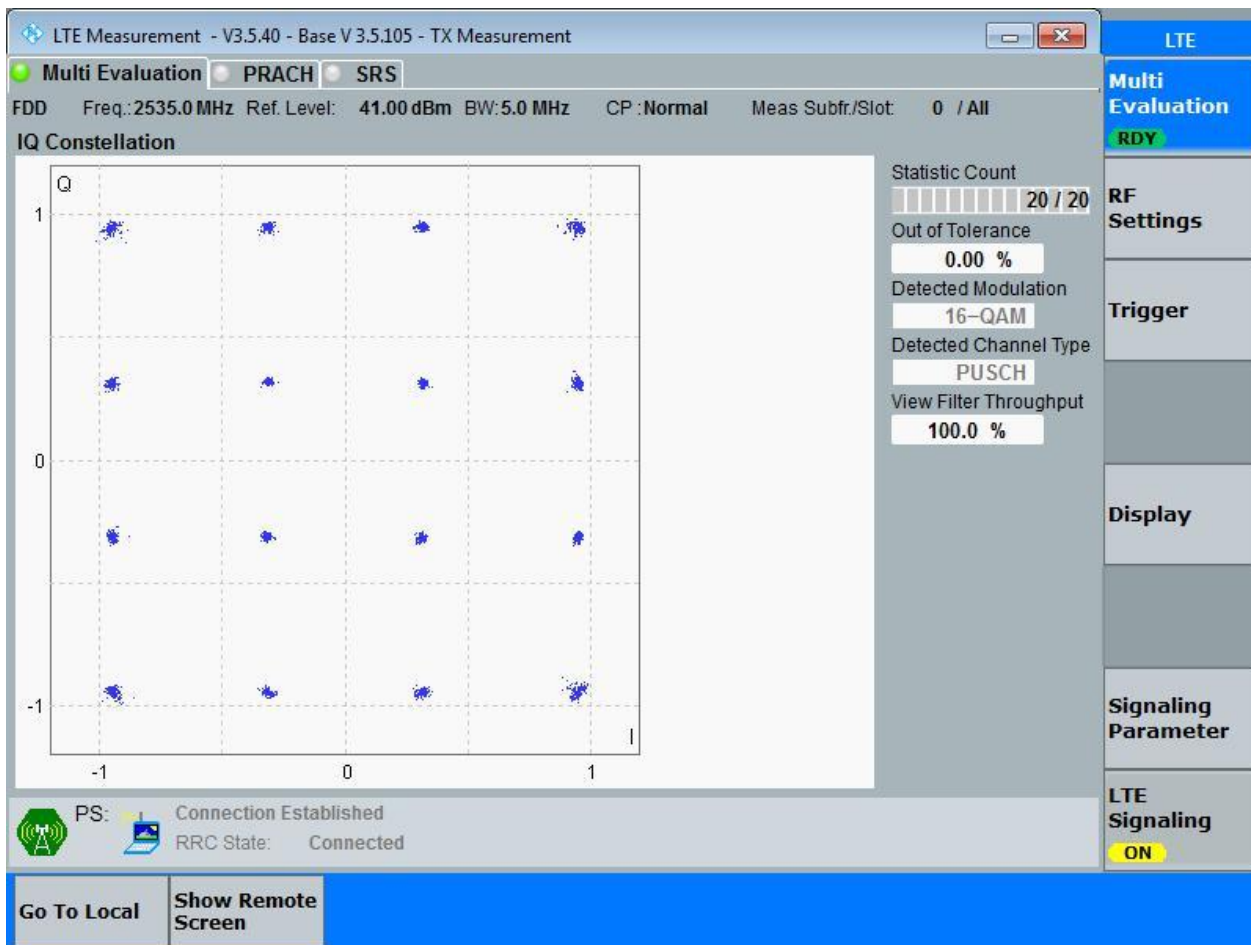


3.1.1.2 Test Mode = LTE/TM2

3.1.1.2.1 Test Bandwidth = 5

3.1.1.2.1.1 Test Channel = MCH

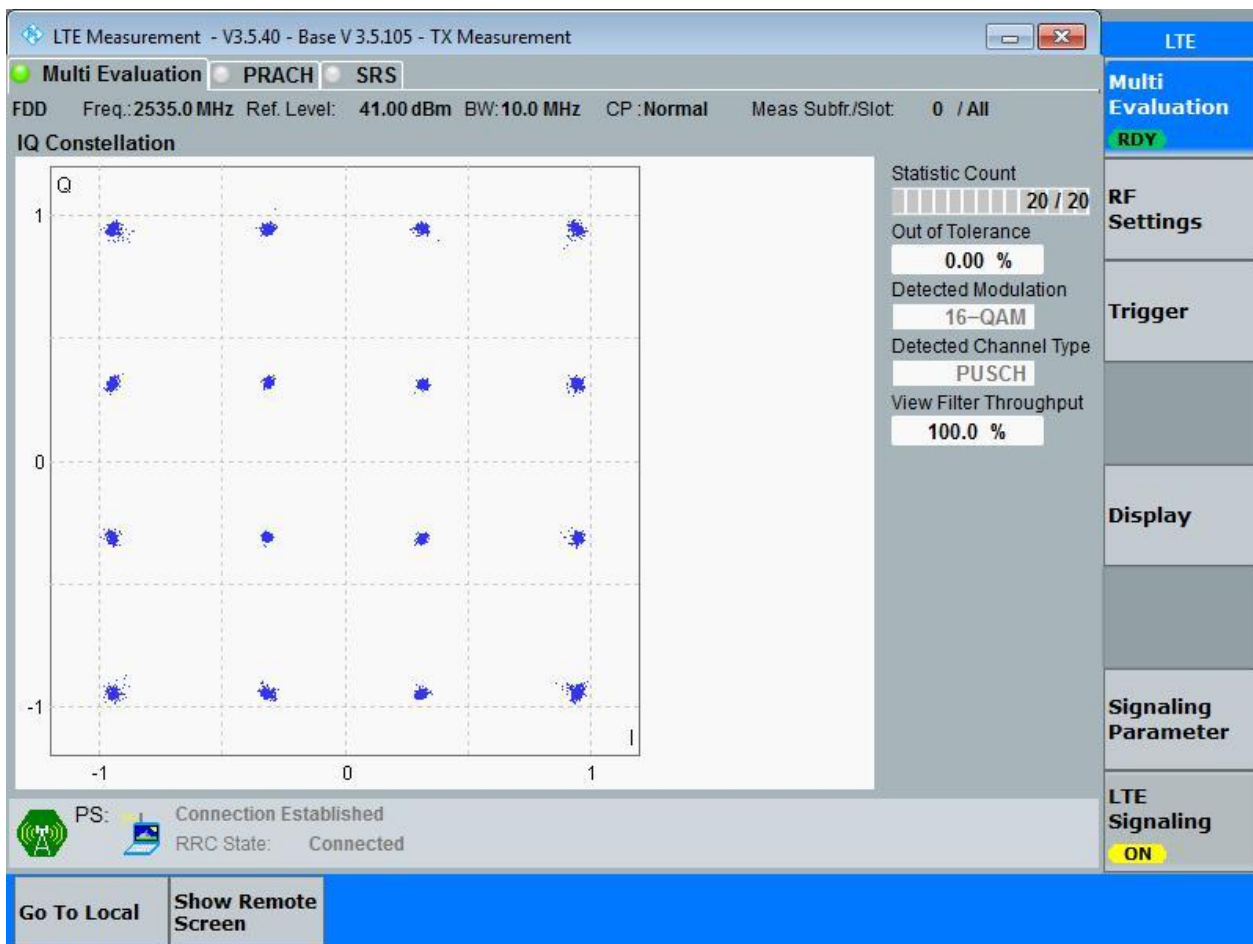
3.1.1.2.1.1.1 Test RB = RB25#0



3.1.1.2.2 Test Bandwidth = 10

3.1.1.2.2.1 Test Channel = MCH

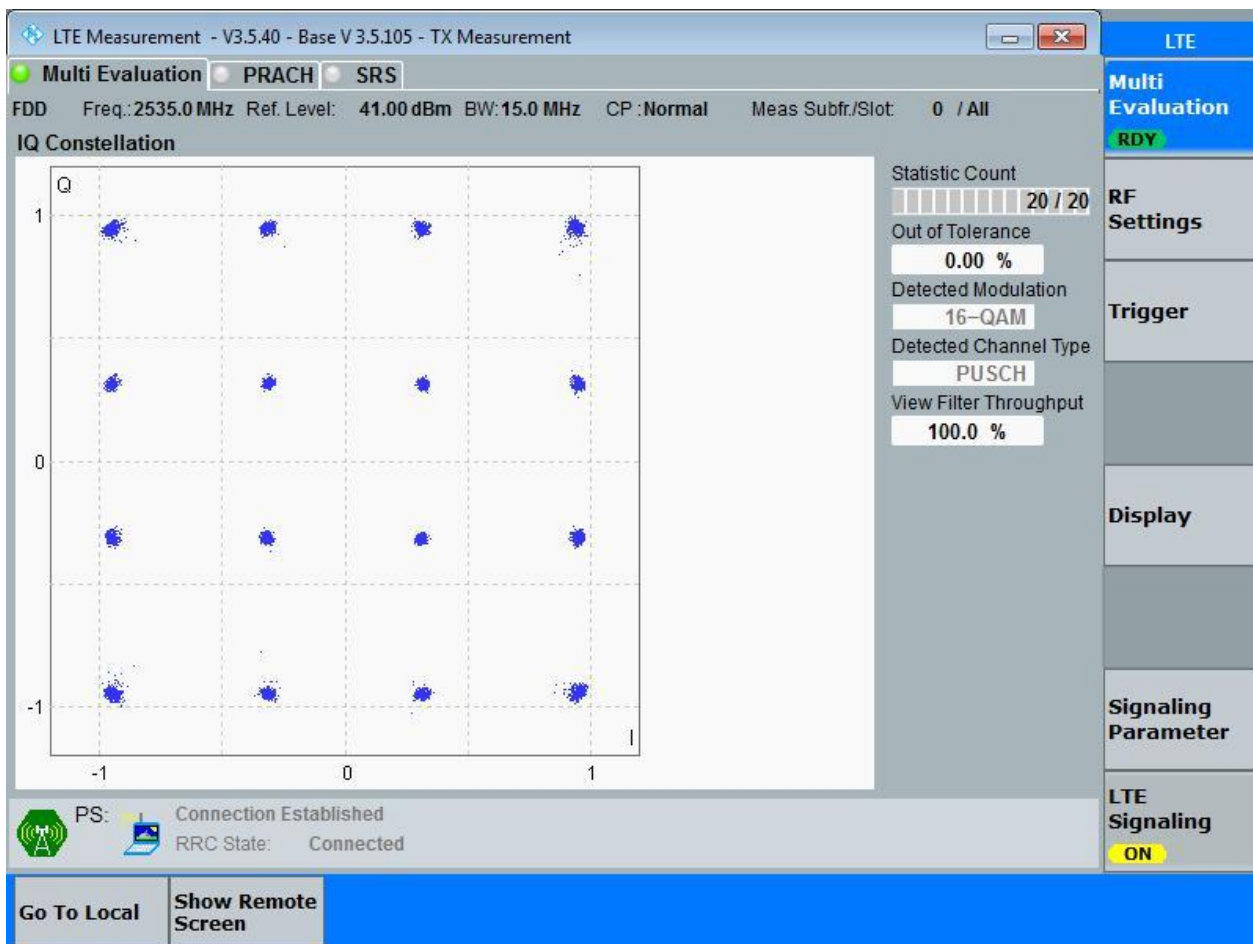
3.1.1.2.2.1.1 Test RB = RB50#0



3.1.1.2.3 Test Bandwidth = 15

3.1.1.2.3.1 Test Channel = MCH

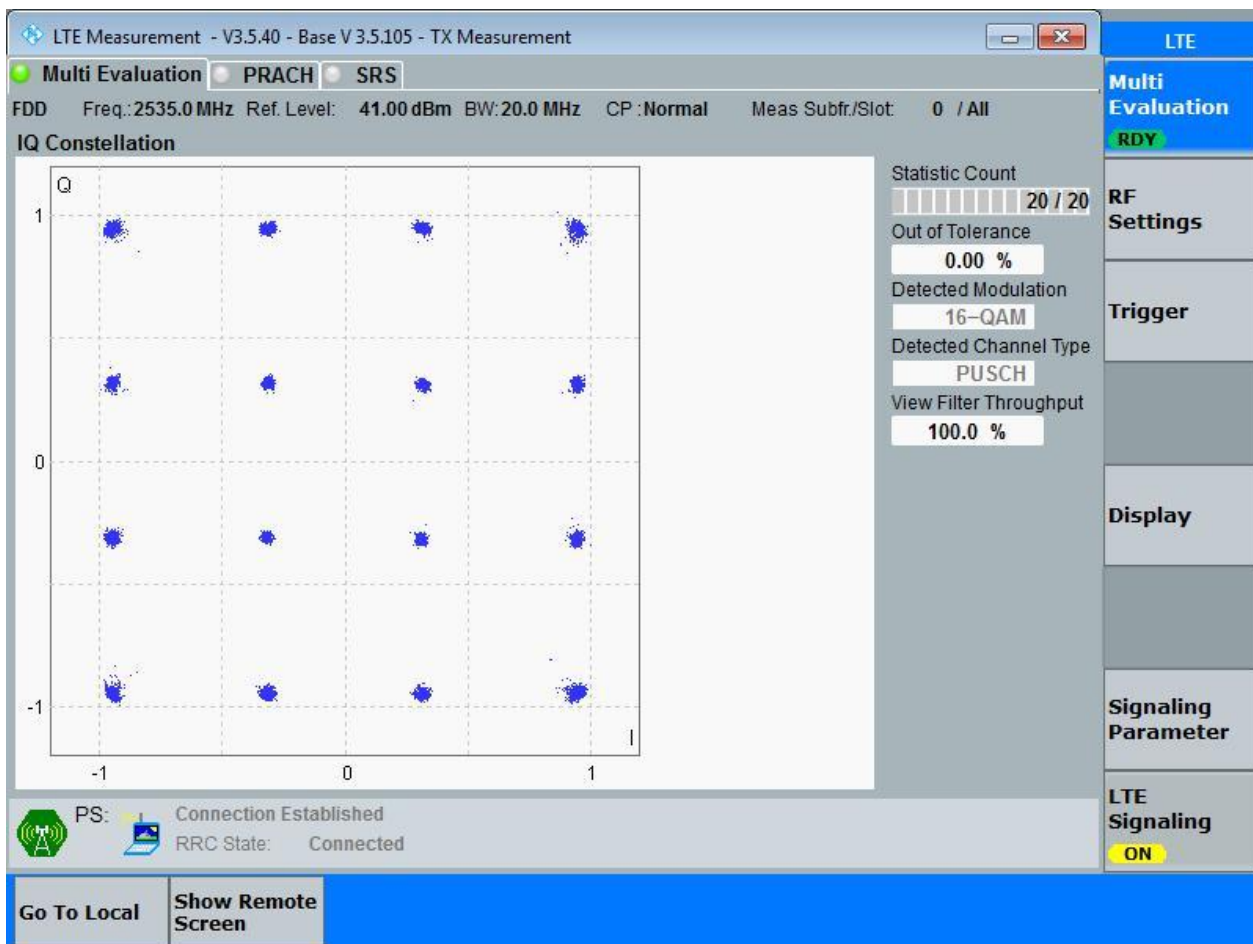
3.1.1.2.3.1.1 Test RB = RB75#0



3.1.1.2.4 Test Bandwidth = 20

3.1.1.2.4.1 Test Channel = MCH

3.1.1.2.4.1.1 Test RB = RB100#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
BAND7	LTE/TM1	5	LCH	RB25#0	4.50	4.87	Pass
			MCH	RB25#0	4.49	4.89	Pass
			HCH	RB25#0	4.50	4.87	Pass
		10	LCH	RB50#0	8.99	9.64	Pass
			MCH	RB50#0	8.99	9.61	Pass
			HCH	RB50#0	8.99	9.60	Pass
		15	LCH	RB75#0	13.45	14.30	Pass
			MCH	RB75#0	13.47	14.45	Pass
			HCH	RB75#0	13.47	14.35	Pass
		20	LCH	RB100#0	17.91	19.05	Pass
			MCH	RB100#0	17.98	19.10	Pass
			HCH	RB100#0	17.94	19.09	Pass
	LTE/TM2	5	LCH	RB25#0	4.50	4.86	Pass
			MCH	RB25#0	4.50	4.87	Pass
			HCH	RB25#0	4.51	4.87	Pass
		10	LCH	RB50#0	8.98	9.59	Pass
			MCH	RB50#0	8.99	9.62	Pass
			HCH	RB50#0	9.00	9.69	Pass
		15	LCH	RB75#0	13.44	14.41	Pass
			MCH	RB75#0	13.48	14.45	Pass
			HCH	RB75#0	13.47	14.35	Pass
		20	LCH	RB100#0	17.91	19.05	Pass
			MCH	RB100#0	17.98	19.13	Pass
			HCH	RB100#0	17.94	19.04	Pass



Part II - Test Plots

4.1 For LTE

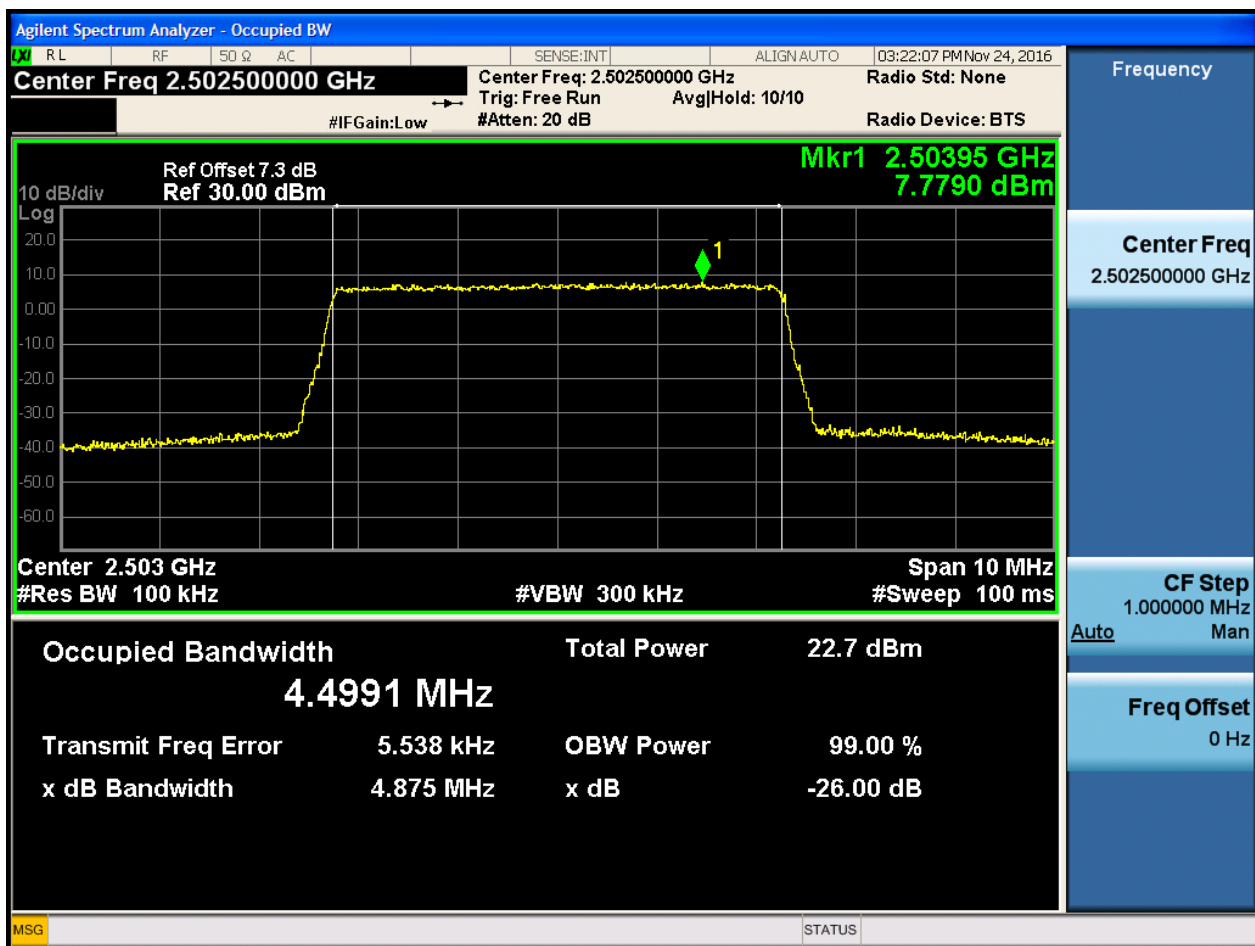
4.1.1 Test Band = BAND7

4.1.1.1 Test Mode = LTE/TM1

4.1.1.1.1 Test Bandwidth = 5

4.1.1.1.1.1 Test Channel = LCH

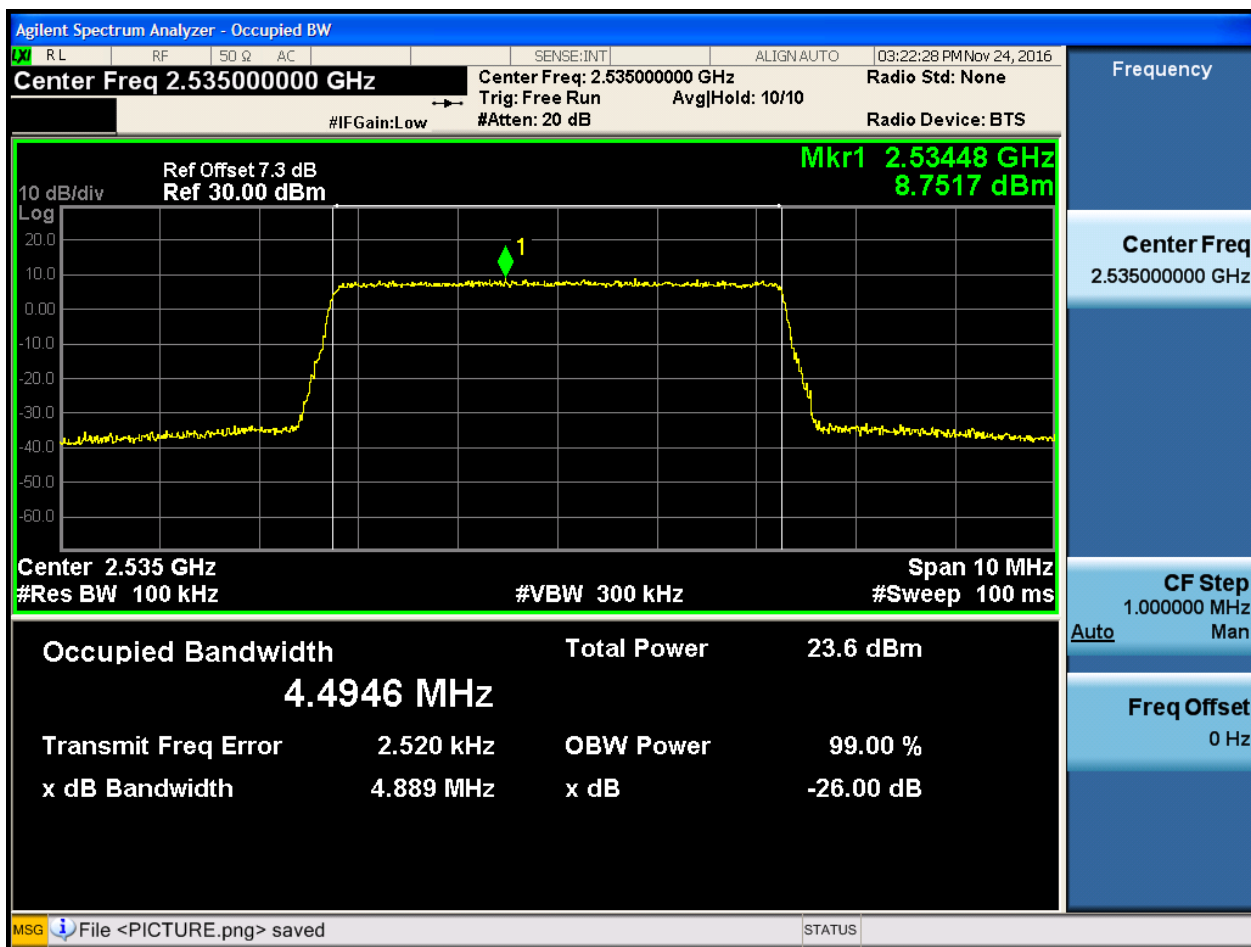
4.1.1.1.1.1.1 Test RB = RB25#0





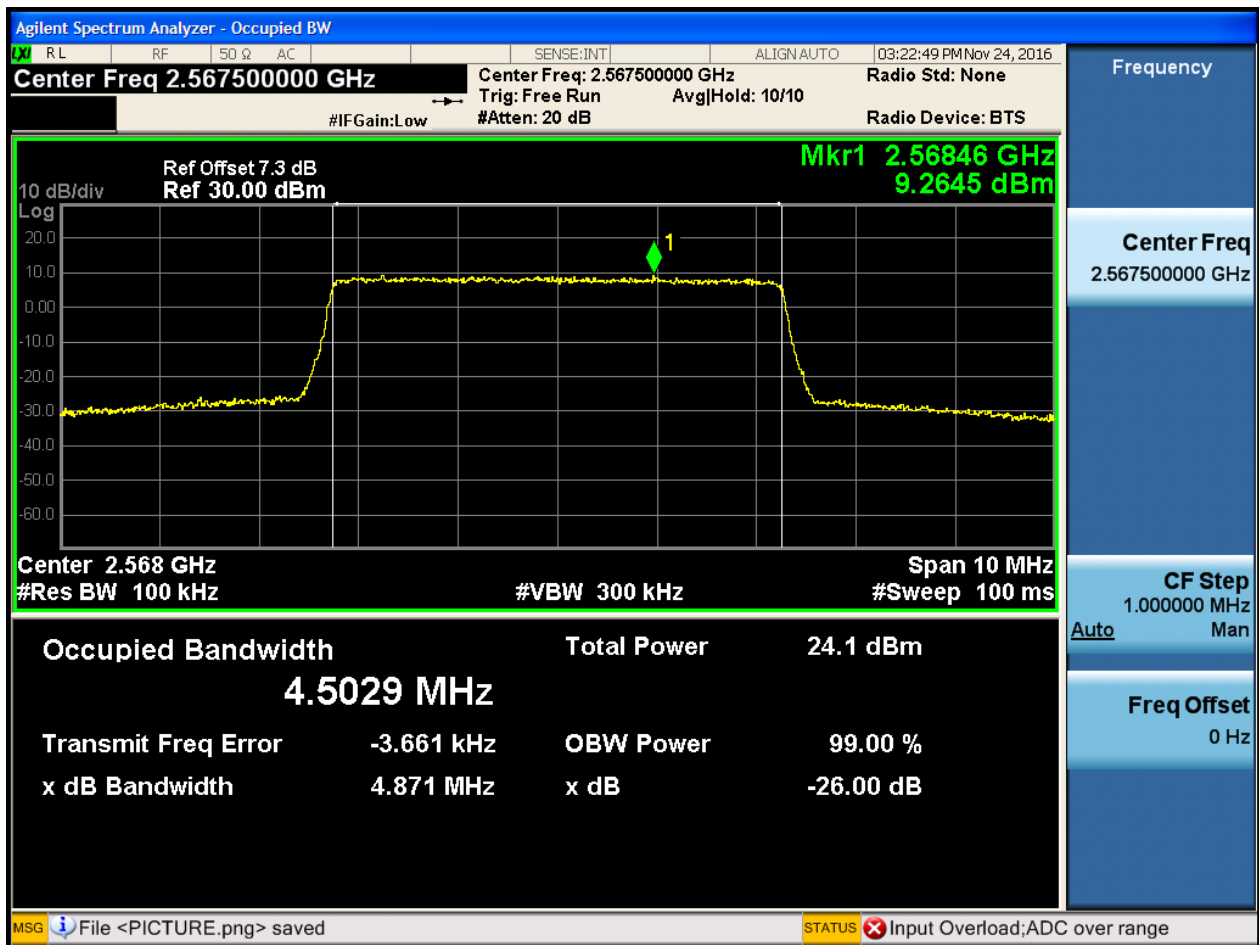
4.1.1.1.1.2 Test Channel = MCH

4.1.1.1.1.2.1 Test RB = RB25#0



4.1.1.1.1.3 Test Channel = HCH

4.1.1.1.1.3.1 Test RB = RB25#0

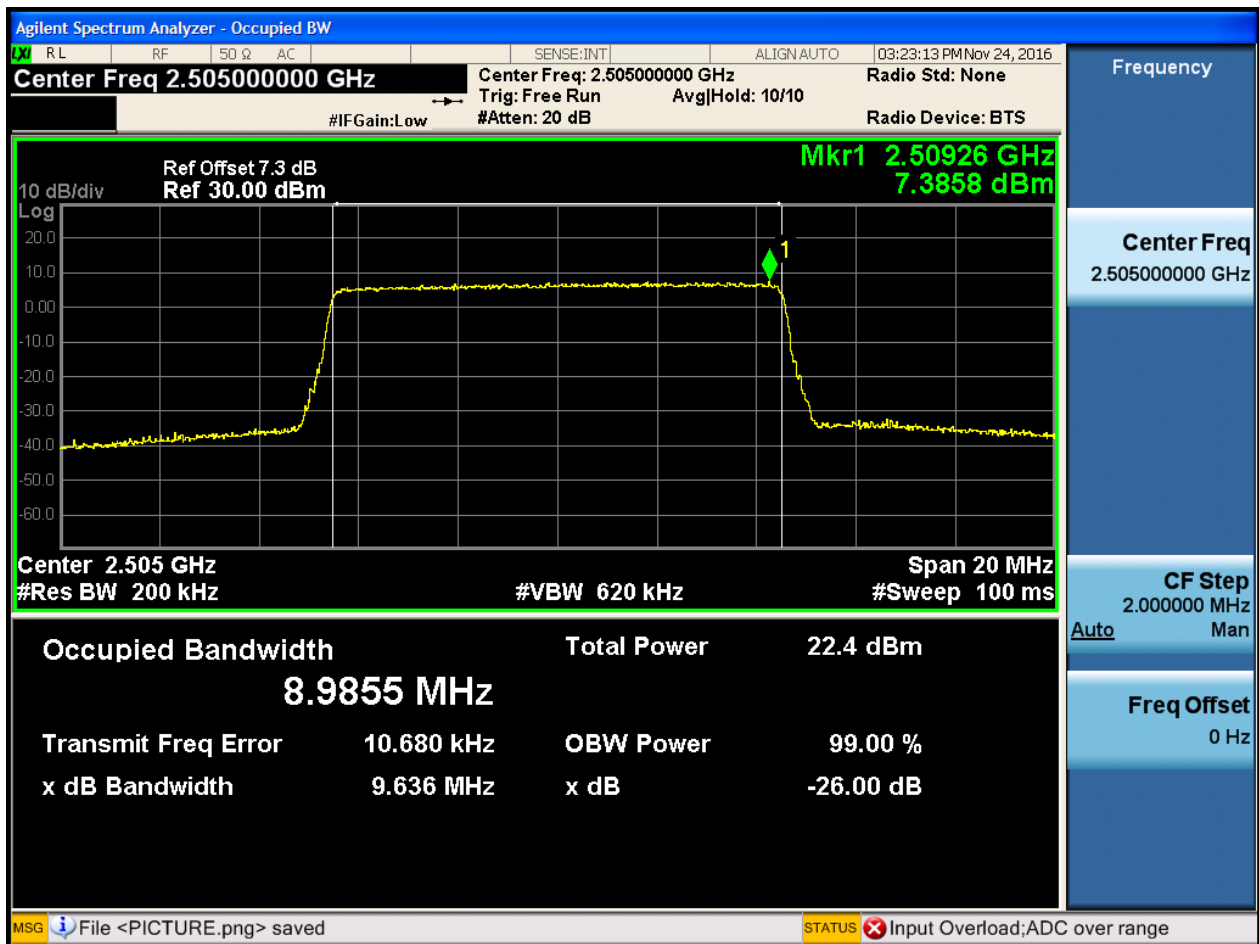




4.1.1.1.2 Test Bandwidth = 10

4.1.1.1.2.1 Test Channel = LCH

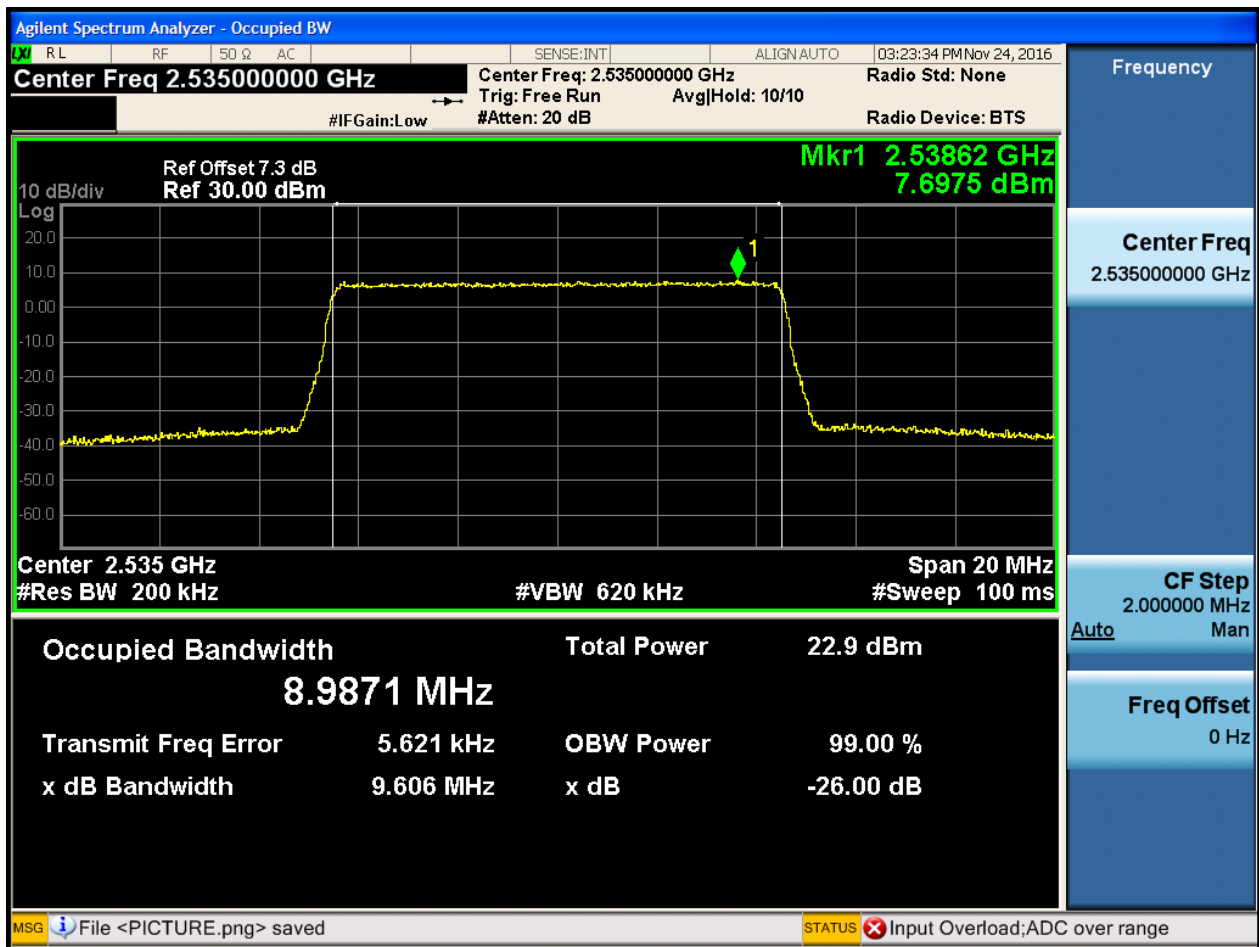
4.1.1.1.2.1.1 Test RB = RB50#0





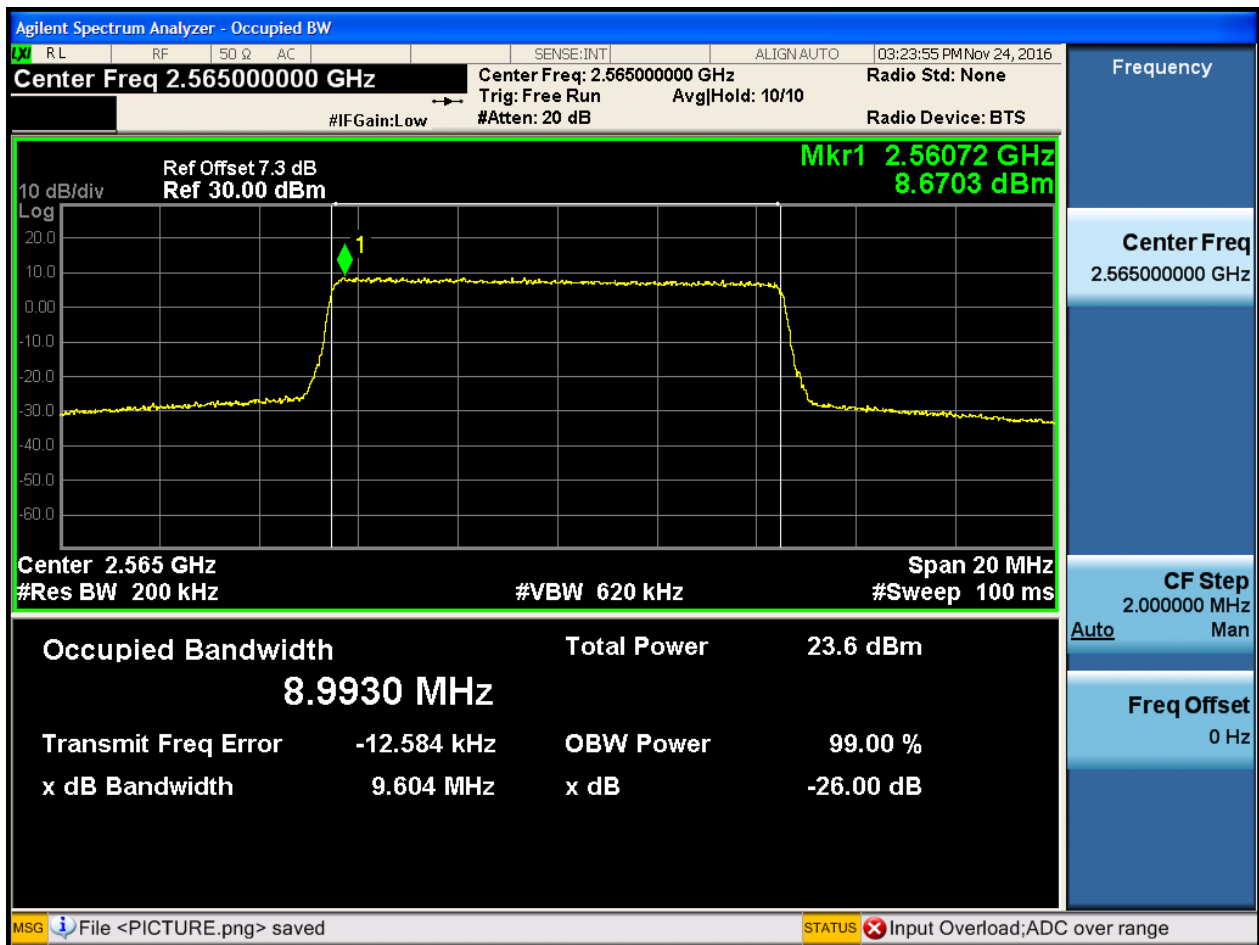
4.1.1.1.2.2 Test Channel = MCH

4.1.1.1.2.2.1 Test RB = RB50#0



4.1.1.1.2.3 Test Channel = HCH

4.1.1.1.2.3.1 Test RB = RB50#0

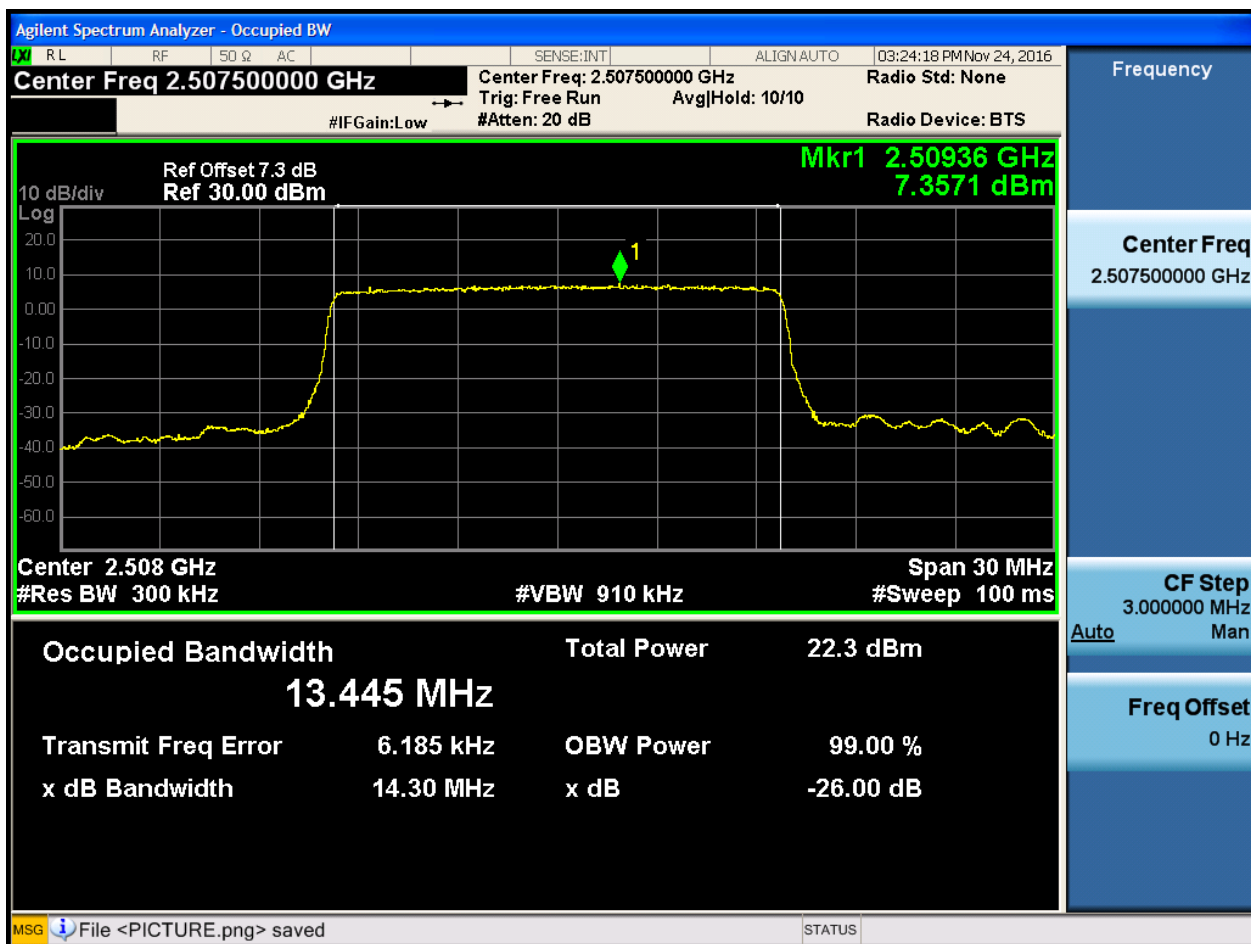




4.1.1.1.3 Test Bandwidth = 15

4.1.1.1.3.1 Test Channel = LCH

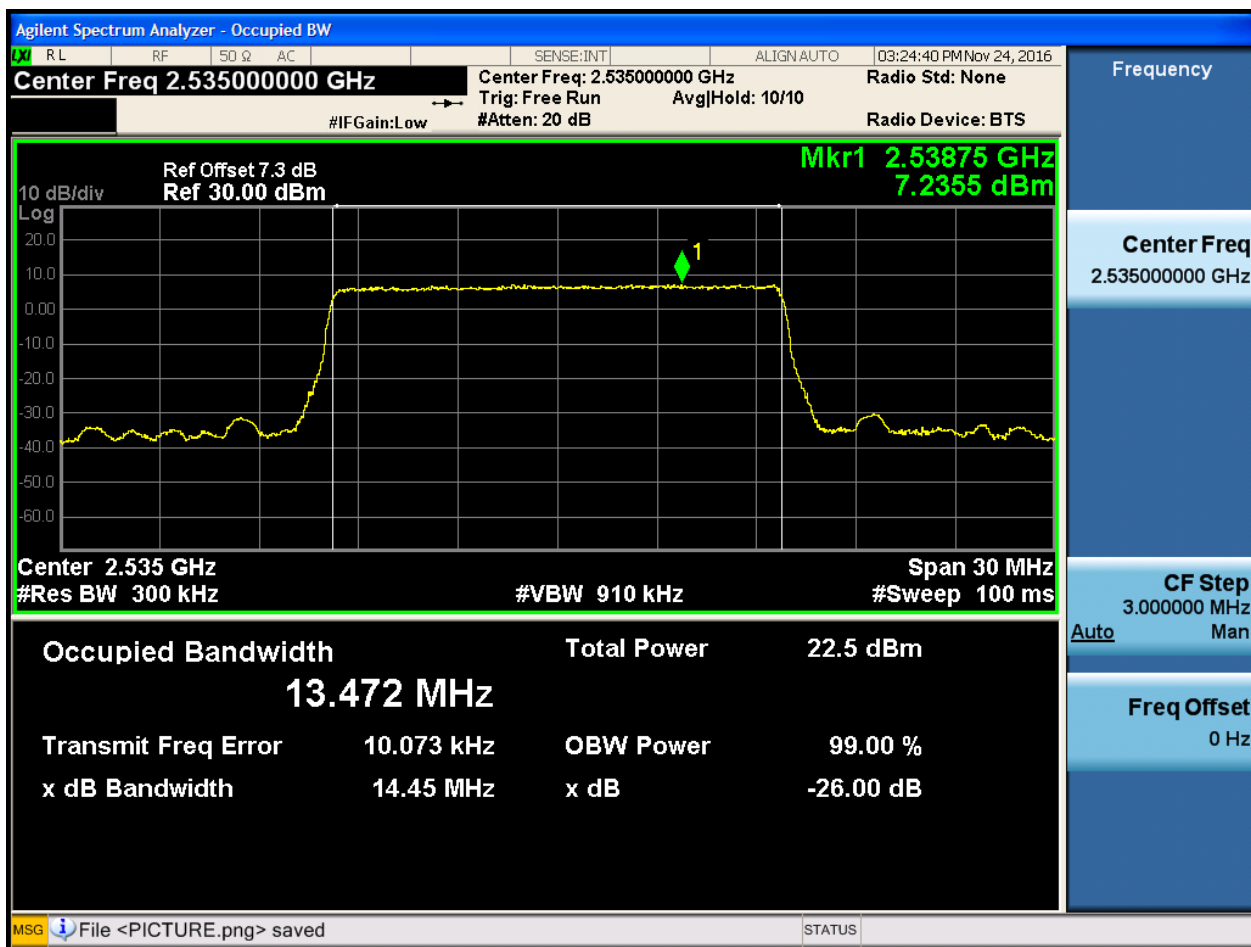
4.1.1.1.3.1.1 Test RB = RB75#0





4.1.1.1.3.2 Test Channel = MCH

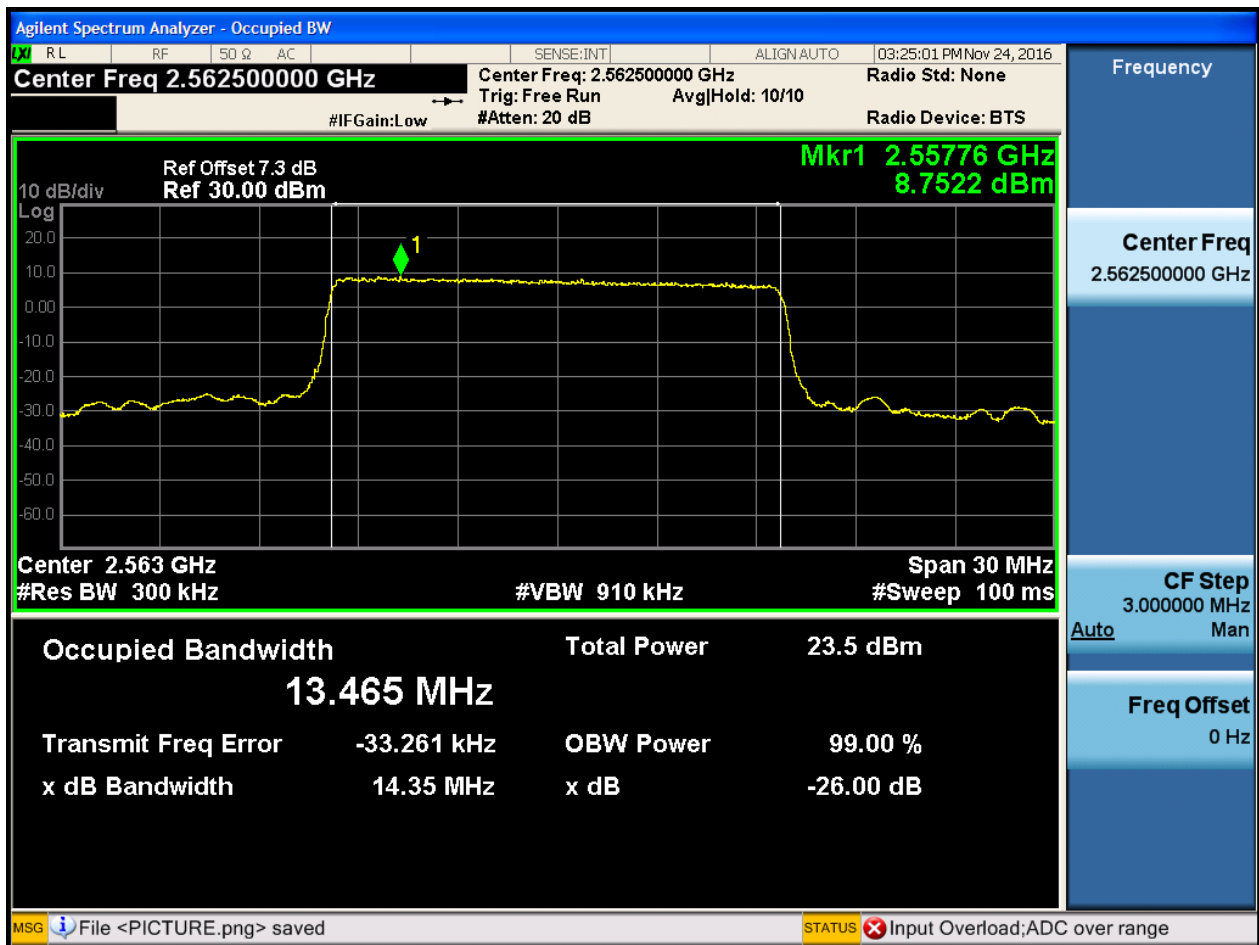
4.1.1.1.3.2.1 Test RB = RB75#0





4.1.1.1.3.3 Test Channel = HCH

4.1.1.1.3.3.1 Test RB = RB75#0

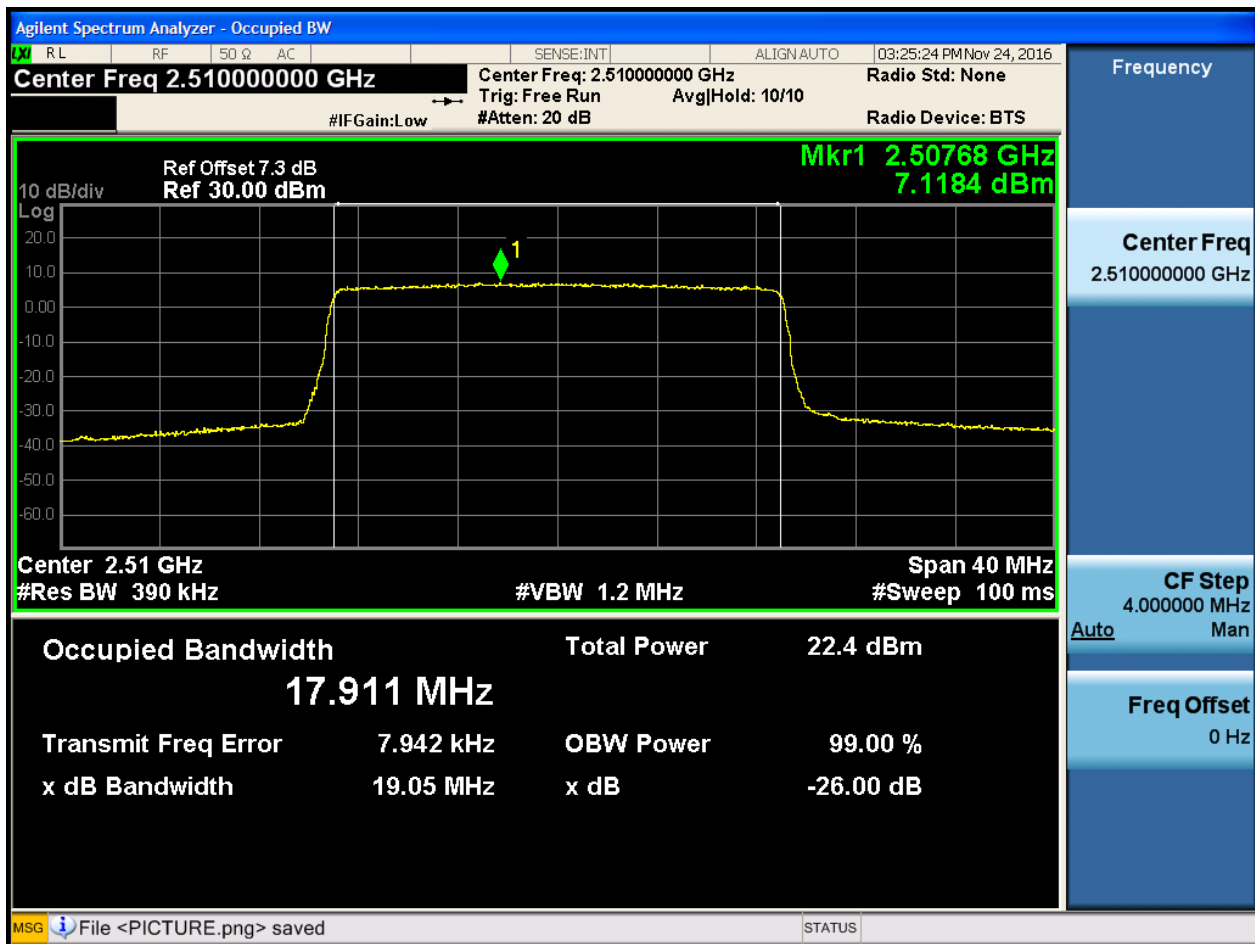




4.1.1.1.4 Test Bandwidth = 20

4.1.1.1.4.1 Test Channel = LCH

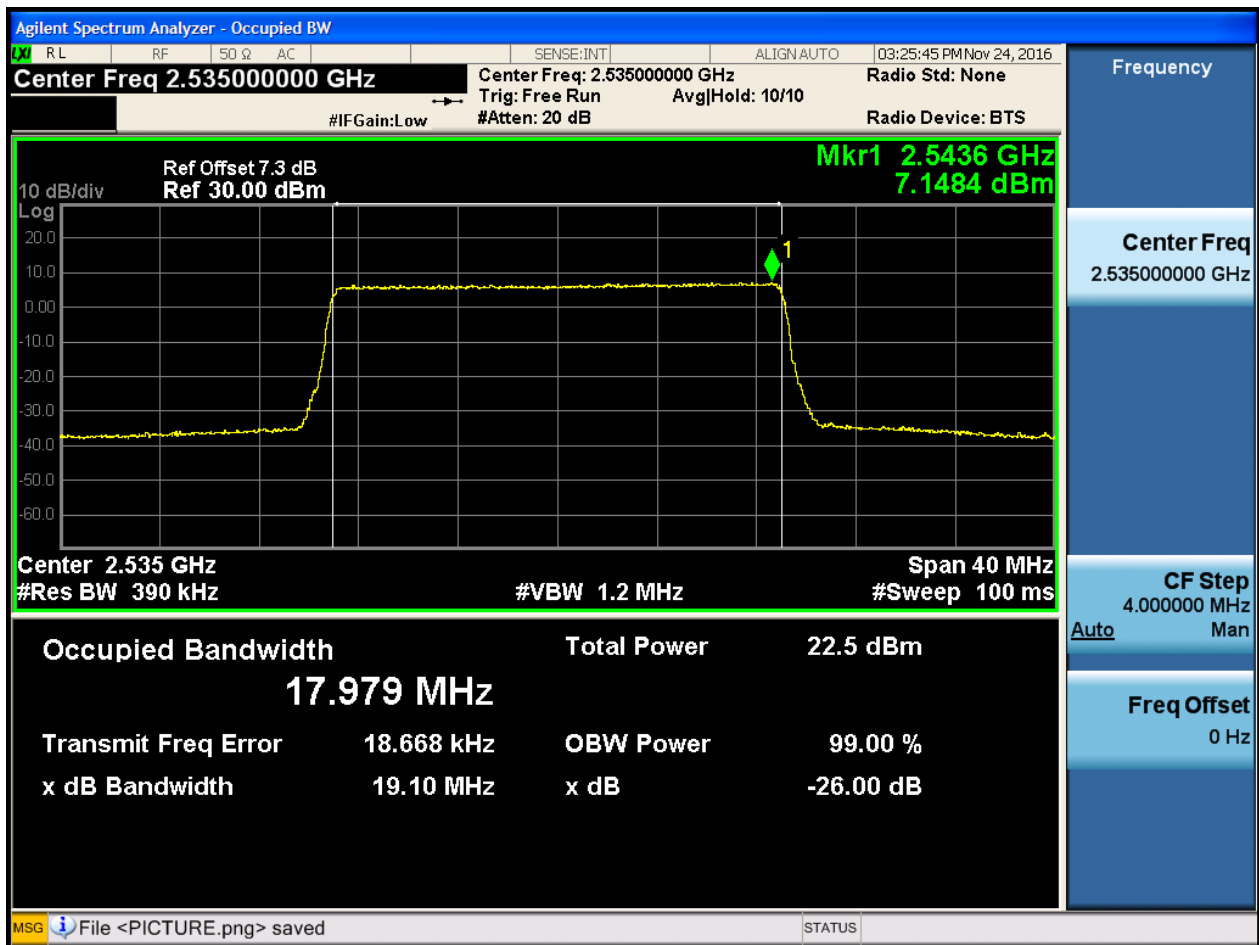
4.1.1.1.4.1.1 Test RB = RB100#0





4.1.1.1.4.2 Test Channel = MCH

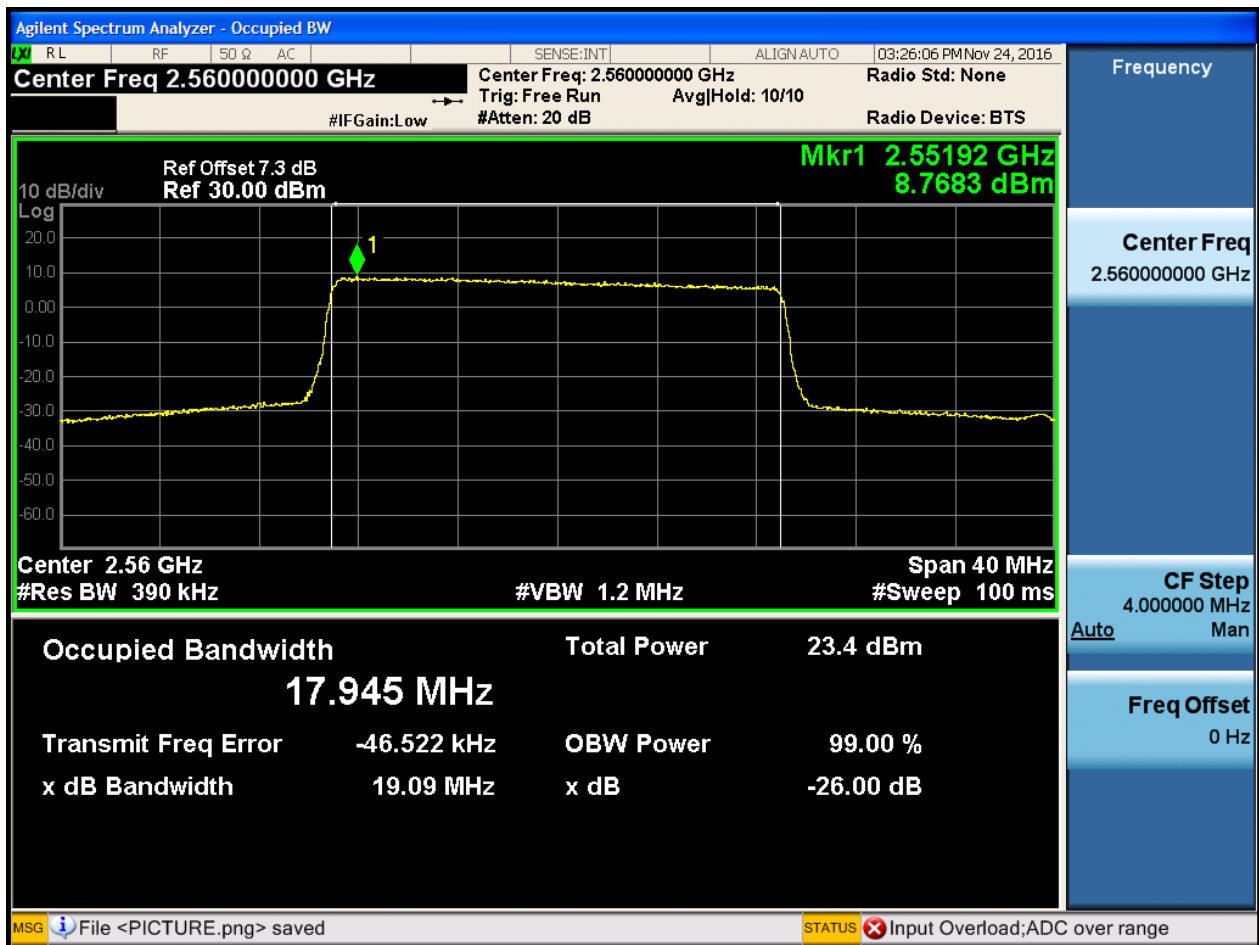
4.1.1.1.4.2.1 Test RB = RB100#0





4.1.1.1.4.3 Test Channel = HCH

4.1.1.1.4.3.1 Test RB = RB100#0



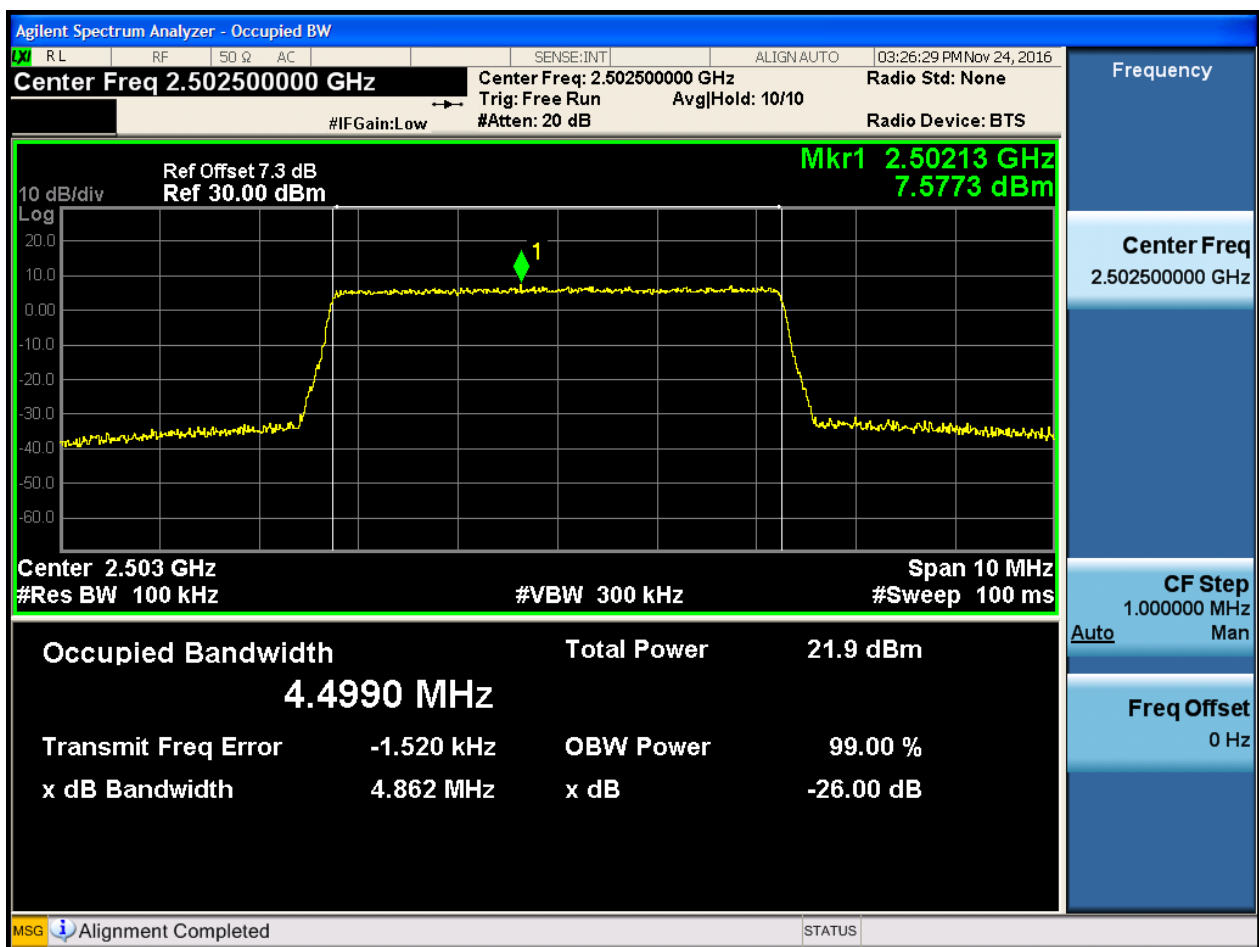


4.1.1.2 Test Mode = LTE/TM2

4.1.1.2.1 Test Bandwidth = 5

4.1.1.2.1.1 Test Channel = LCH

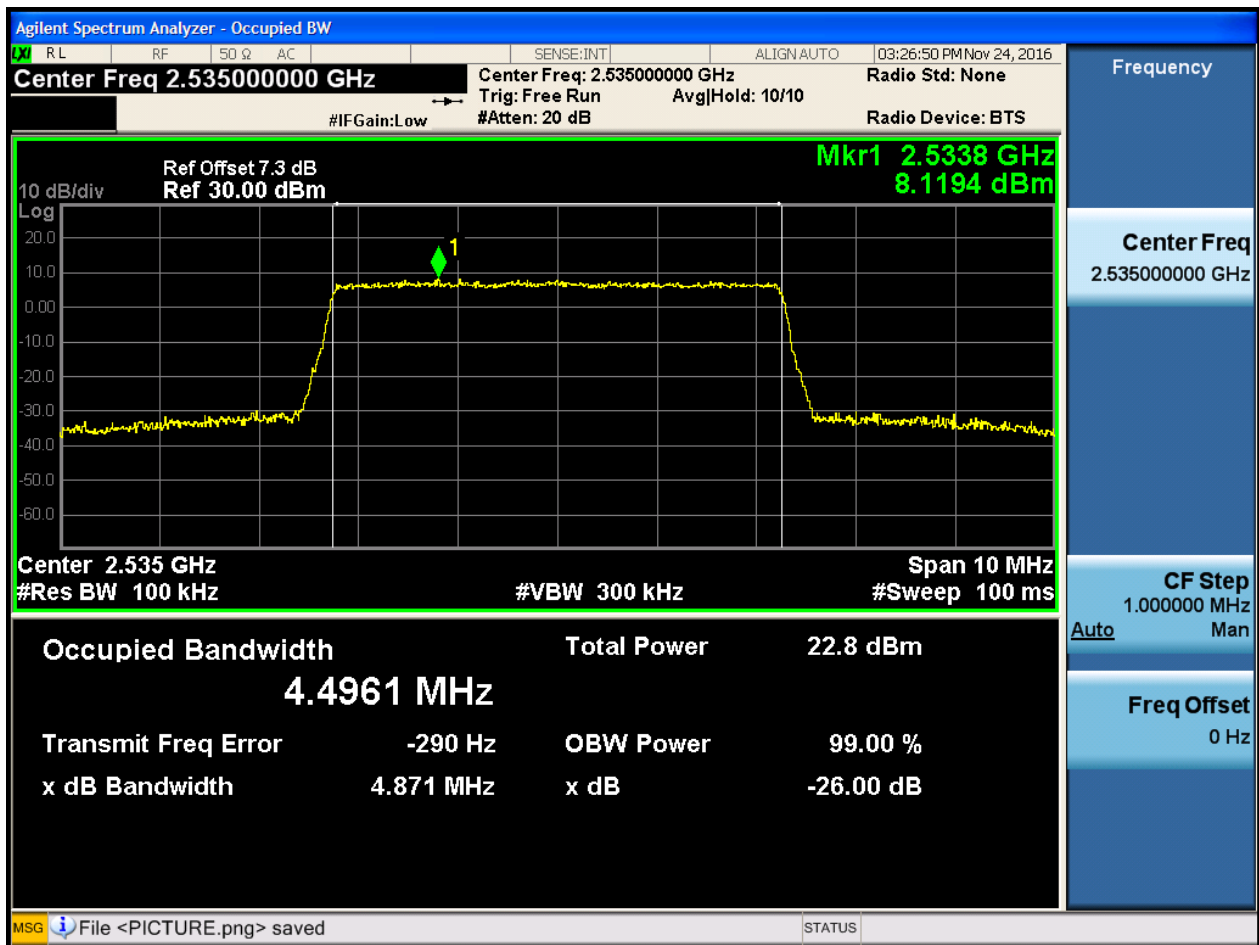
4.1.1.2.1.1.1 Test RB = RB25#0





4.1.1.2.1.2 Test Channel = MCH

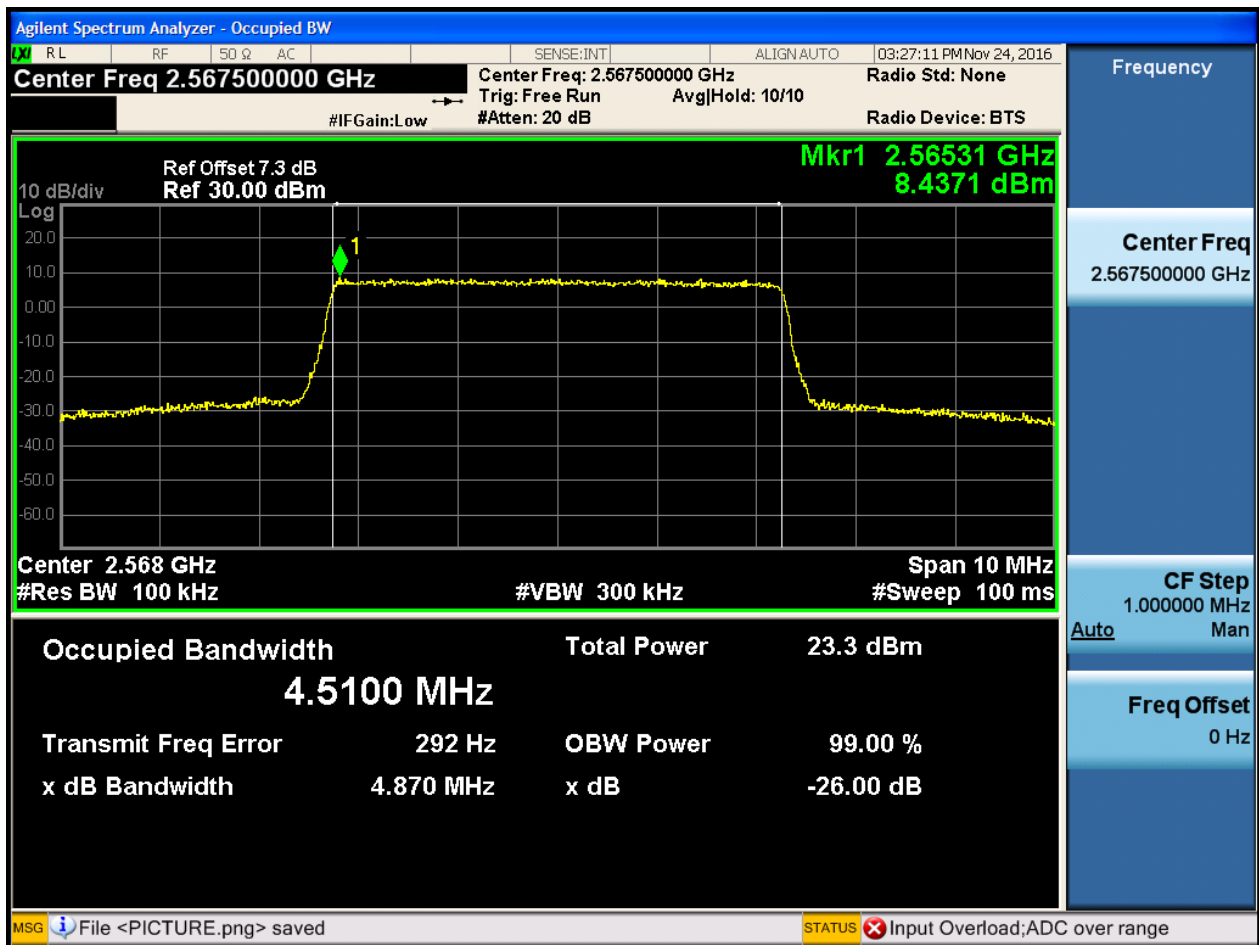
4.1.1.2.1.2.1 Test RB = RB25#0





4.1.1.2.1.3 Test Channel = HCH

4.1.1.2.1.3.1 Test RB = RB25#0

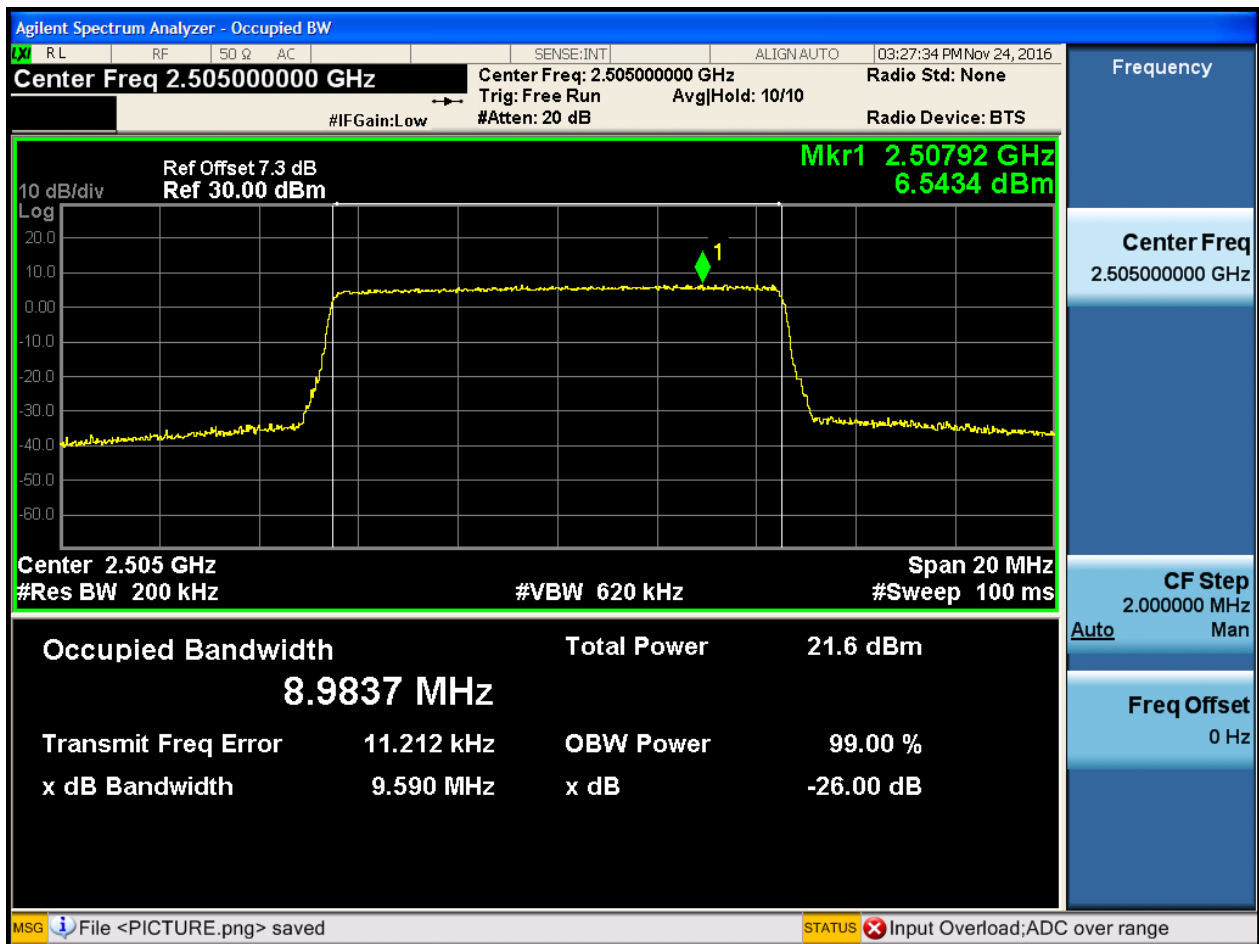




4.1.1.2.2 Test Bandwidth = 10

4.1.1.2.2.1 Test Channel = LCH

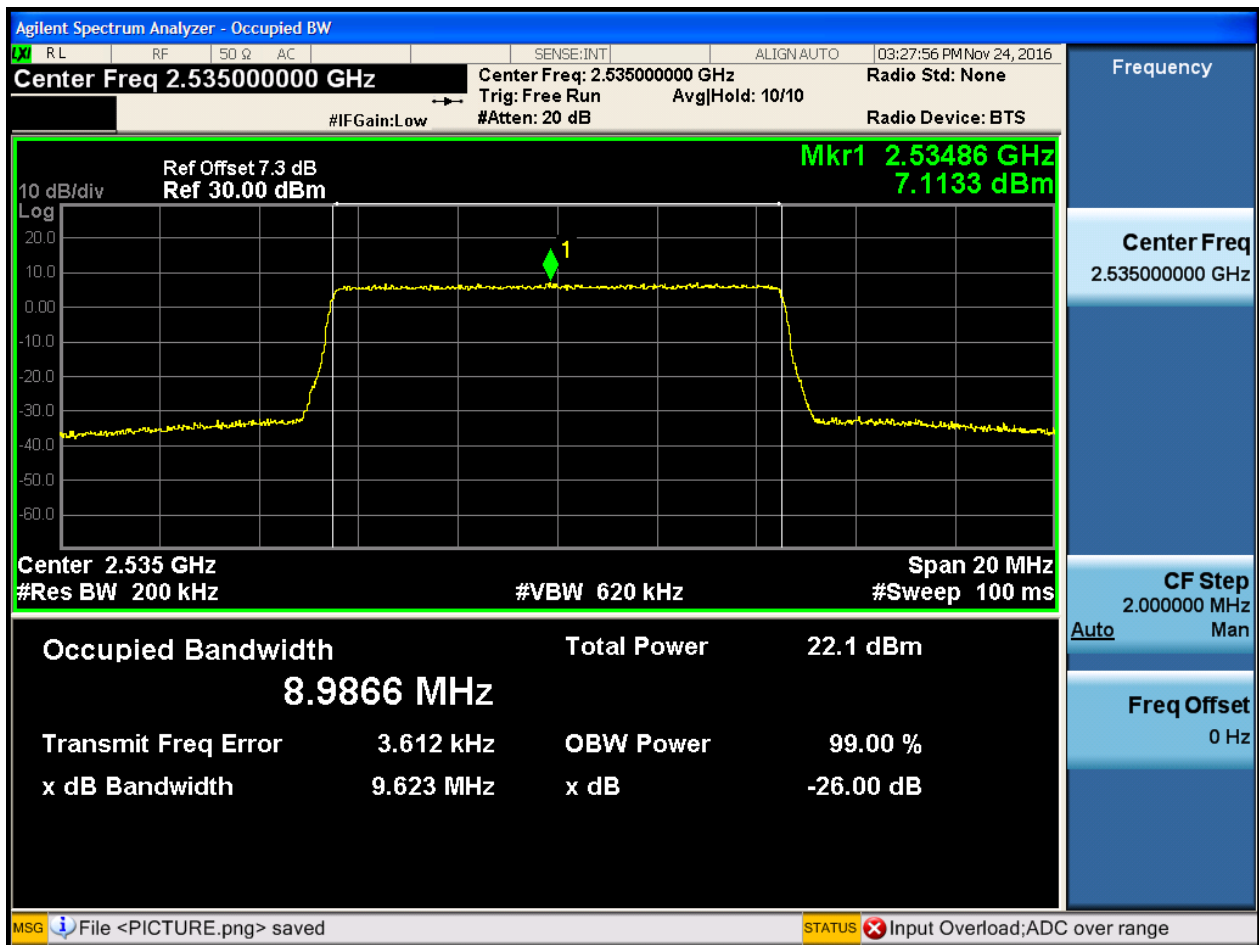
4.1.1.2.2.1.1 Test RB = RB50#0





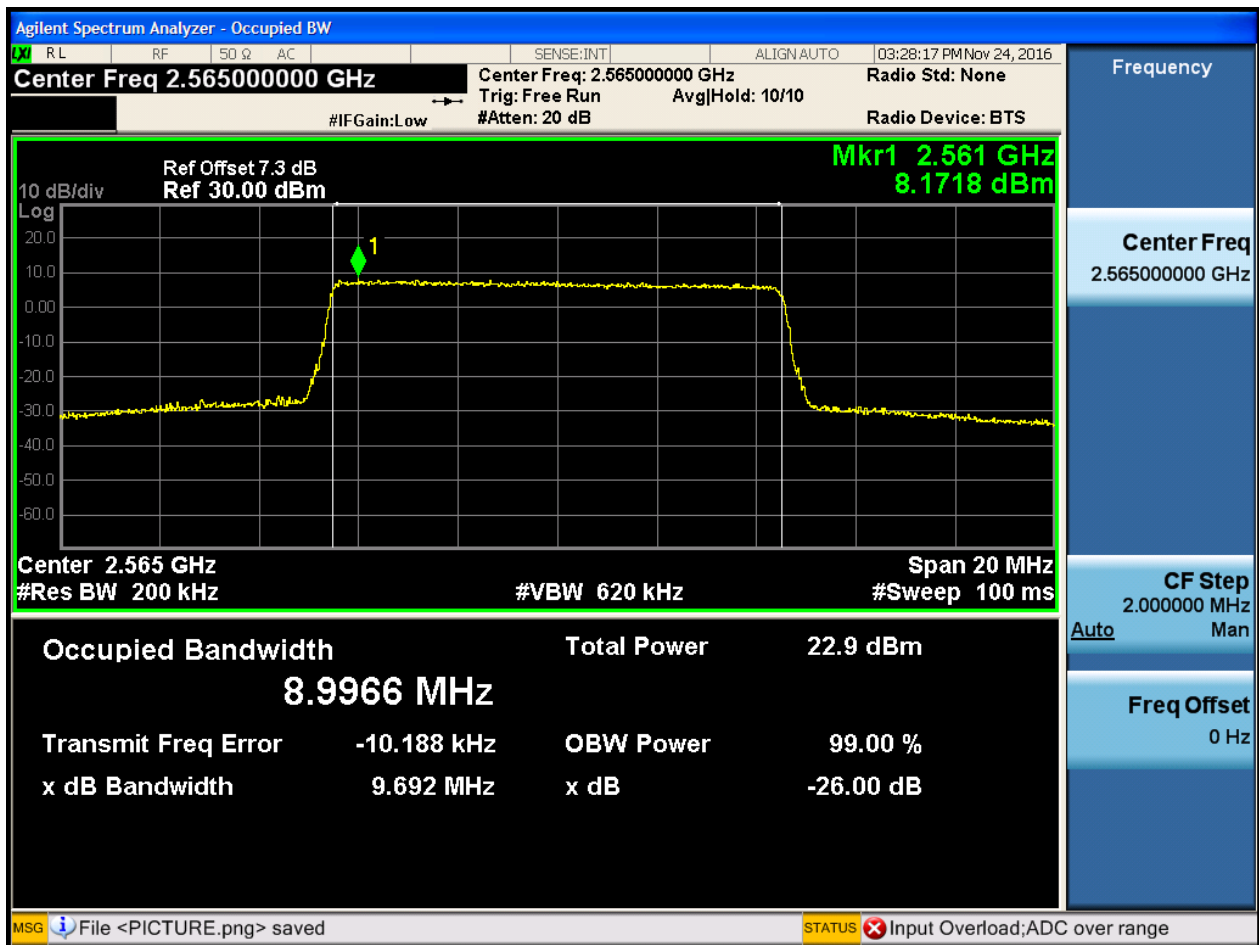
4.1.1.2.2.2 Test Channel = MCH

4.1.1.2.2.2.1 Test RB = RB50#0



4.1.1.2.2.3 Test Channel = HCH

4.1.1.2.2.3.1 Test RB = RB50#0

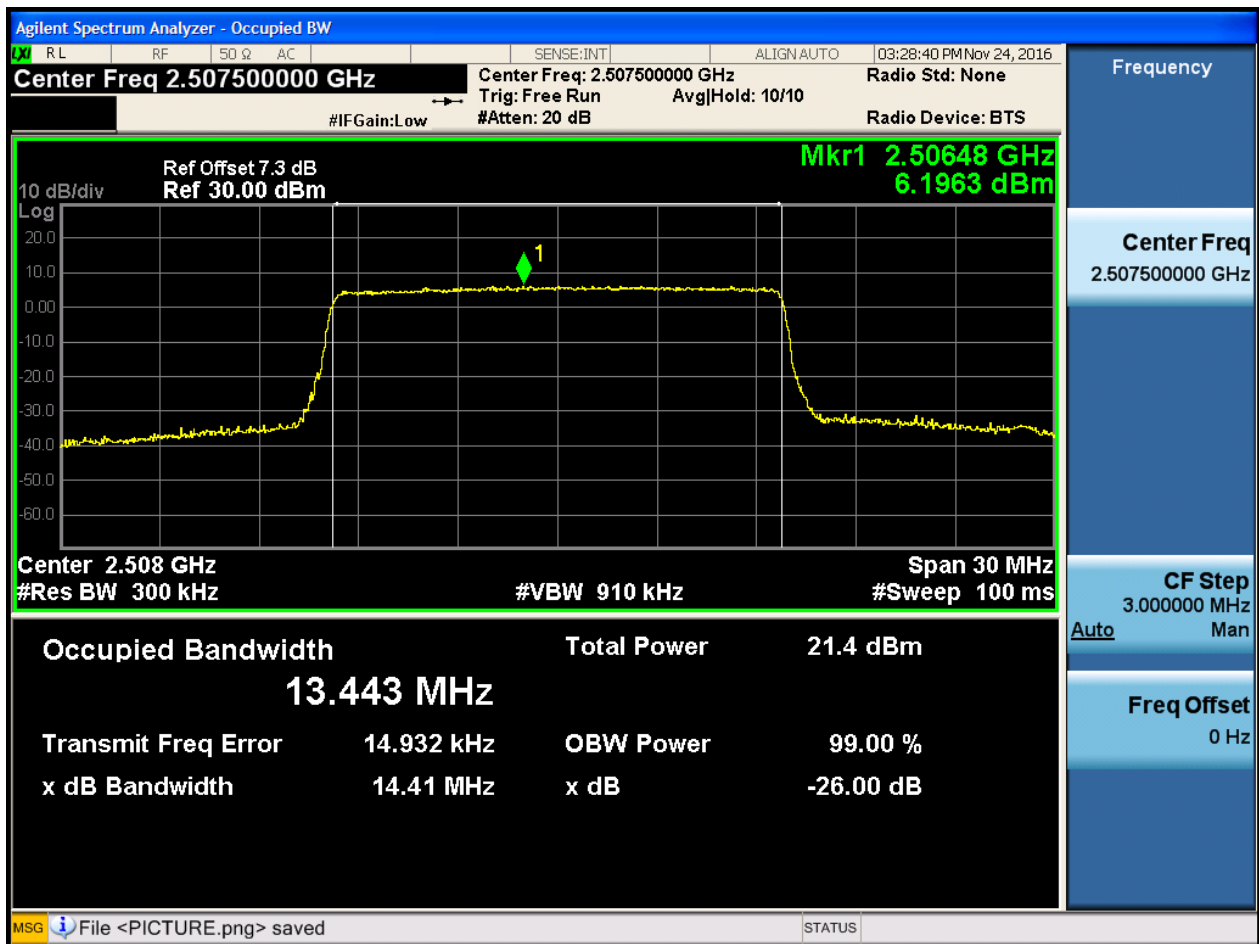




4.1.1.2.3 Test Bandwidth = 15

4.1.1.2.3.1 Test Channel = LCH

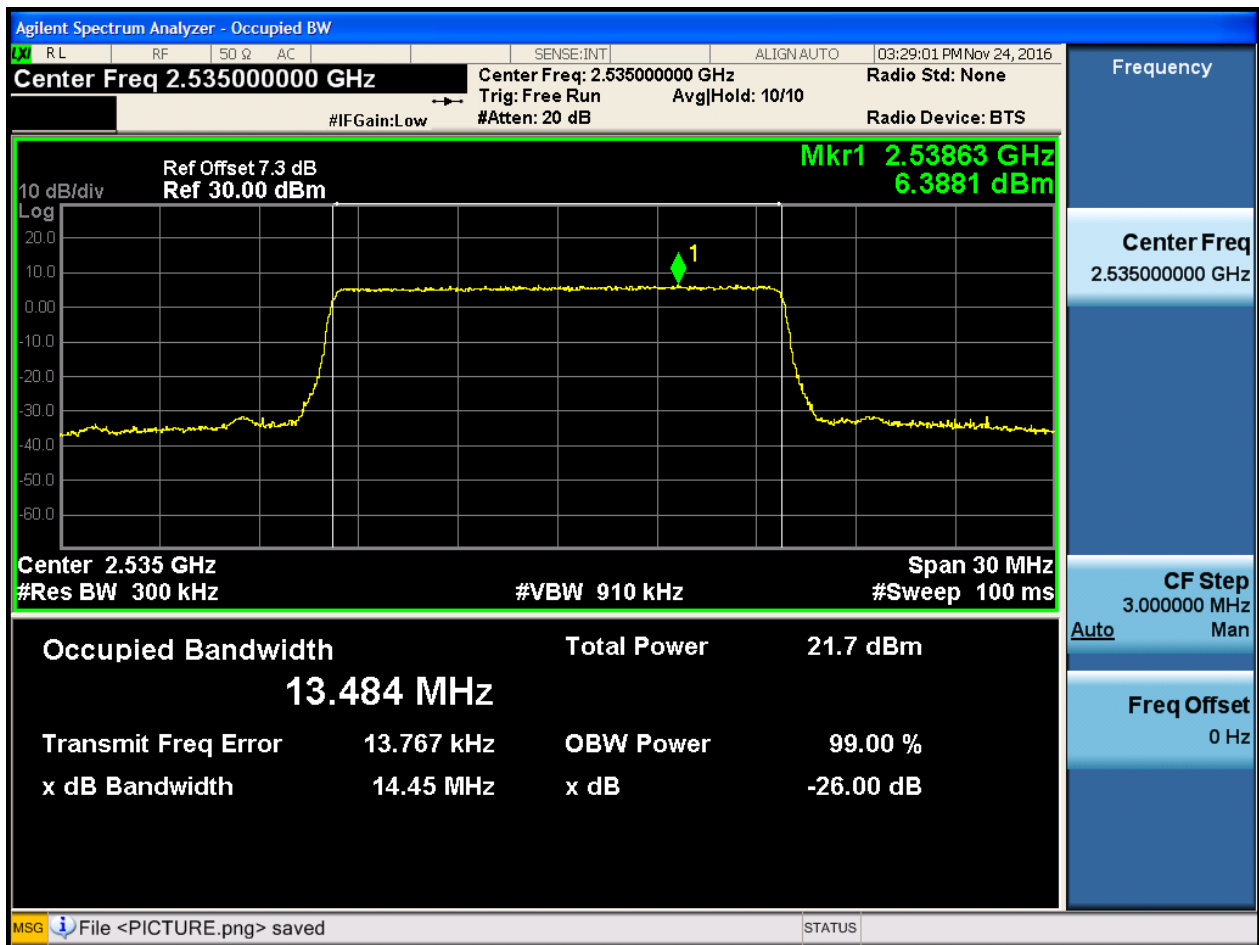
4.1.1.2.3.1.1 Test RB = RB75#0





4.1.1.2.3.2 Test Channel = MCH

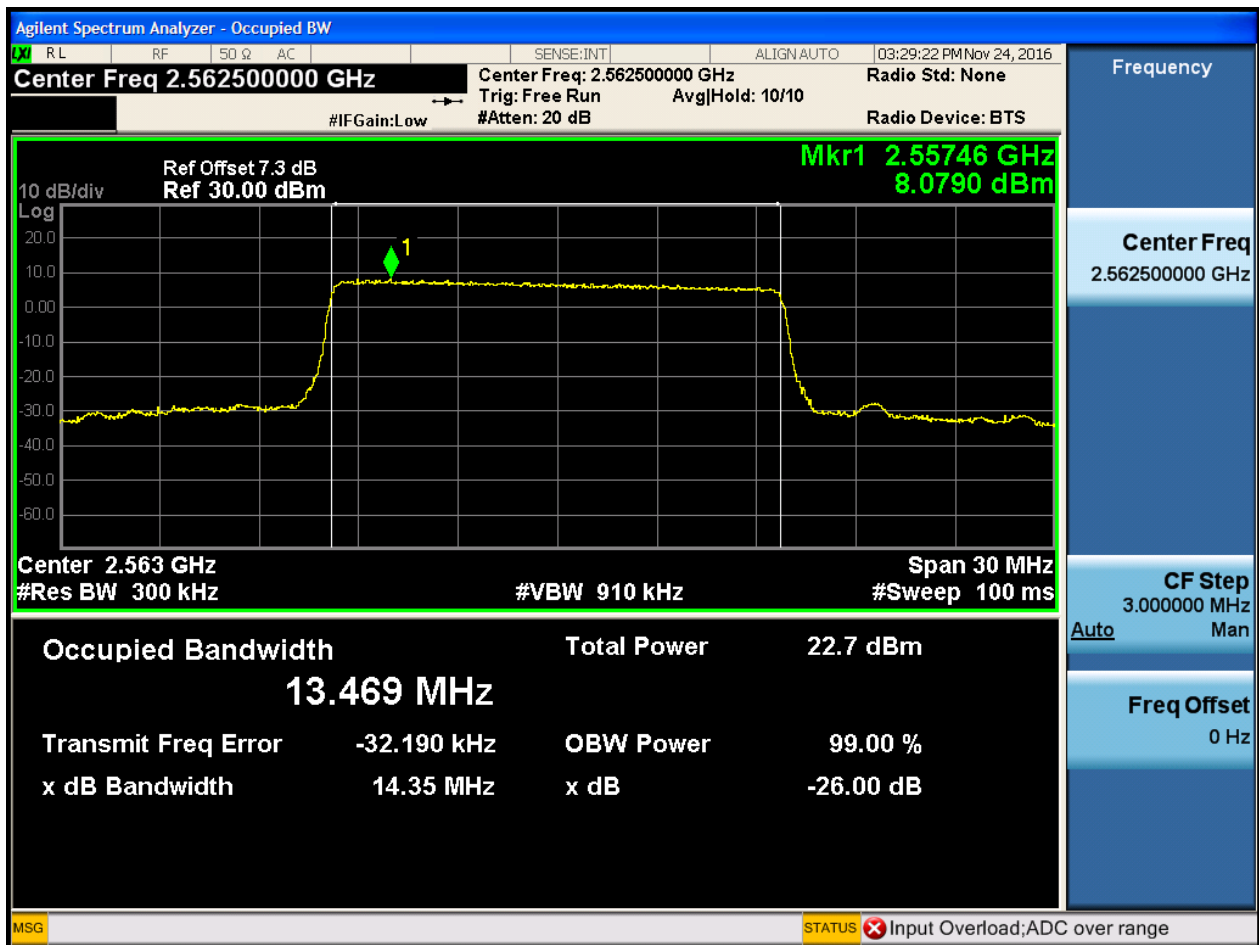
4.1.1.2.3.2.1 Test RB = RB75#0





4.1.1.2.3.3 Test Channel = HCH

4.1.1.2.3.3.1 Test RB = RB75#0

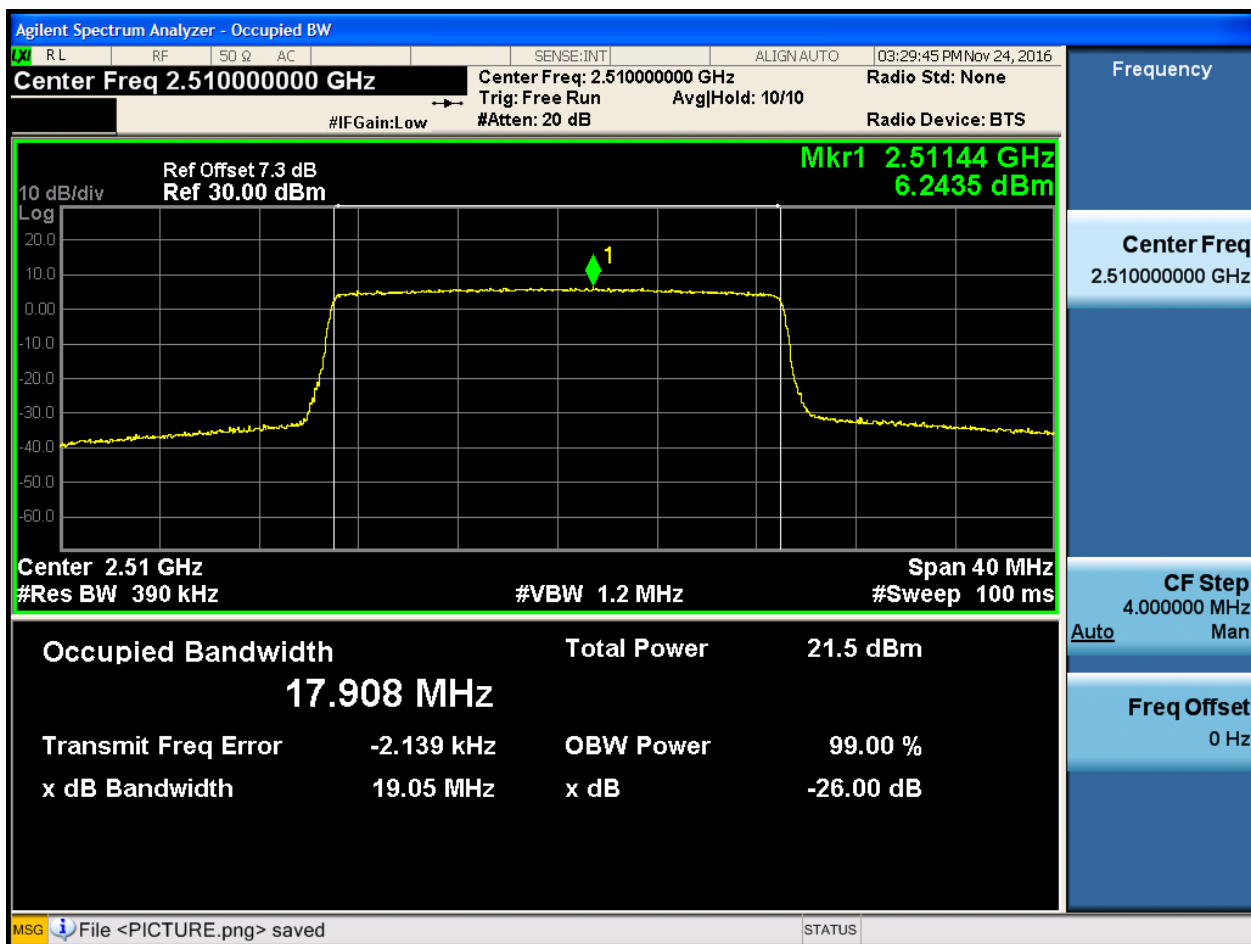




4.1.1.2.4 Test Bandwidth = 20

4.1.1.2.4.1 Test Channel = LCH

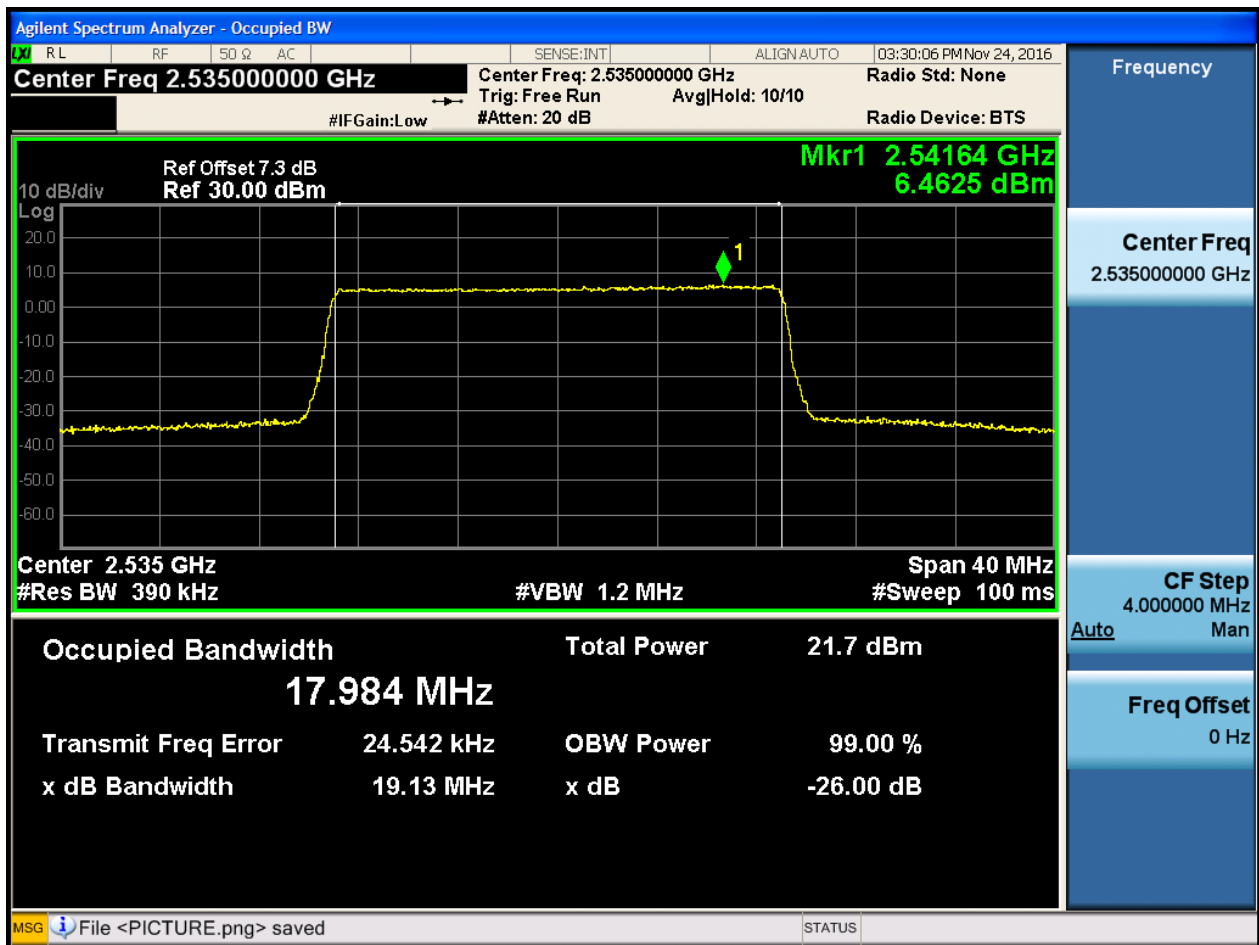
4.1.1.2.4.1.1 Test RB = RB100#0





4.1.1.2.4.2 Test Channel = MCH

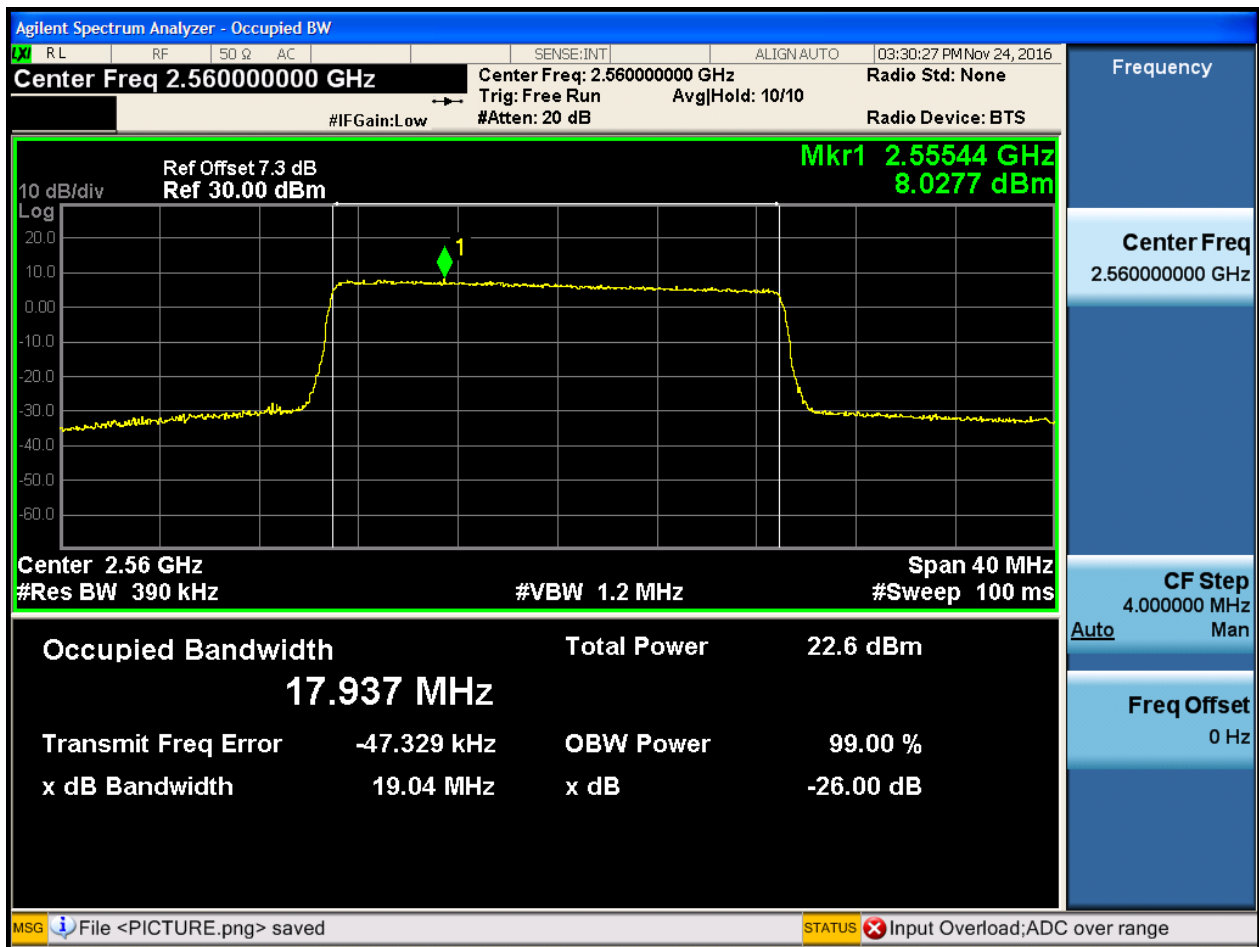
4.1.1.2.4.2.1 Test RB = RB100#0





4.1.1.2.4.3 Test Channel = HCH

4.1.1.2.4.3.1 Test RB = RB100#0



5Appendix_E: Band Edges Compliance

Part I - Test Plots

5.2 For LTE

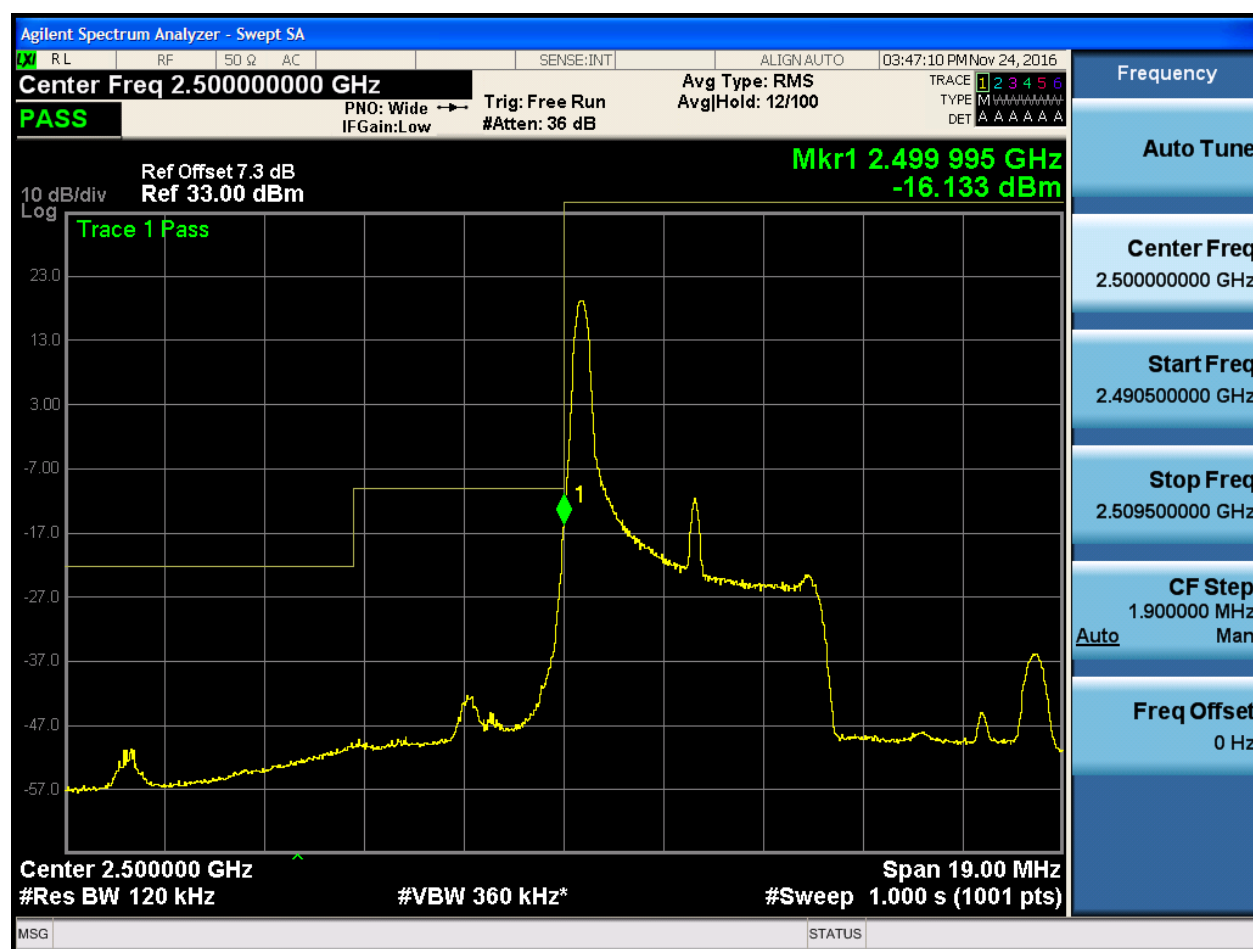
5.2.1 Test Band = BAND7

5.2.1.1 Test Mode = LTE/TM1

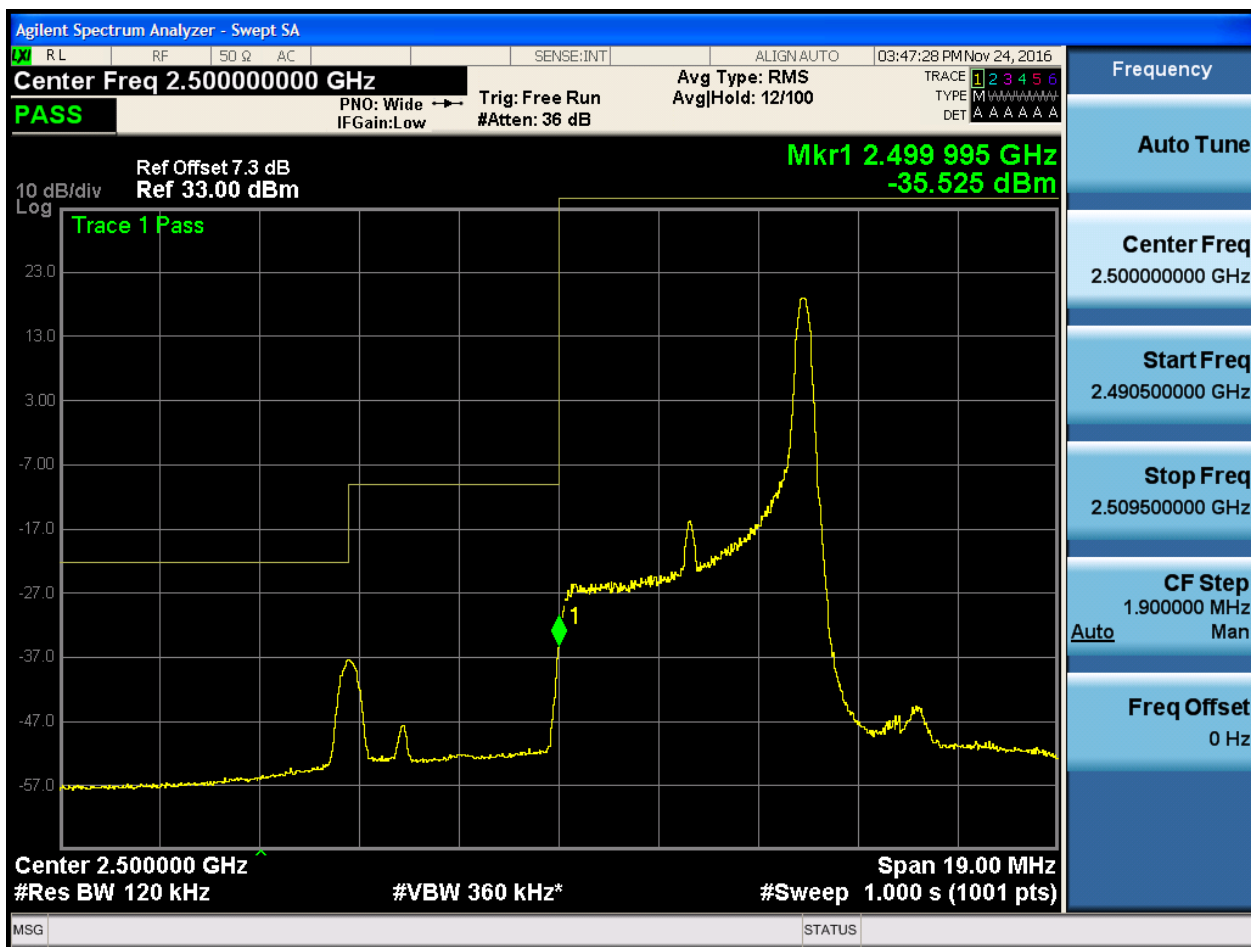
5.2.1.1.1 Test Bandwidth = 5

5.2.1.1.1.1 Test Channel = LCH

5.2.1.1.1.1.1 Test RB = RB1#0

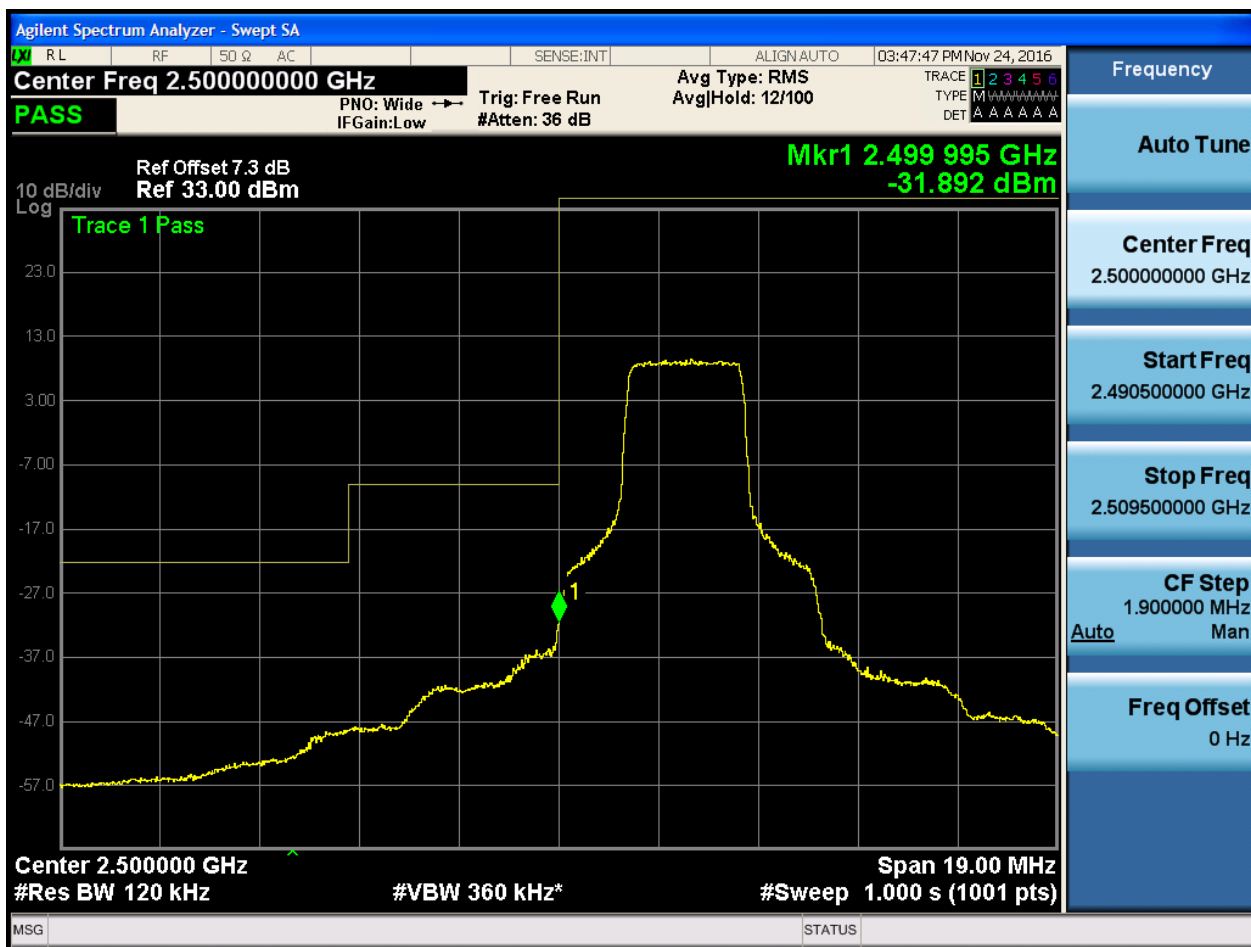


5.2.1.1.1.1.2 Test RB = RB1#24



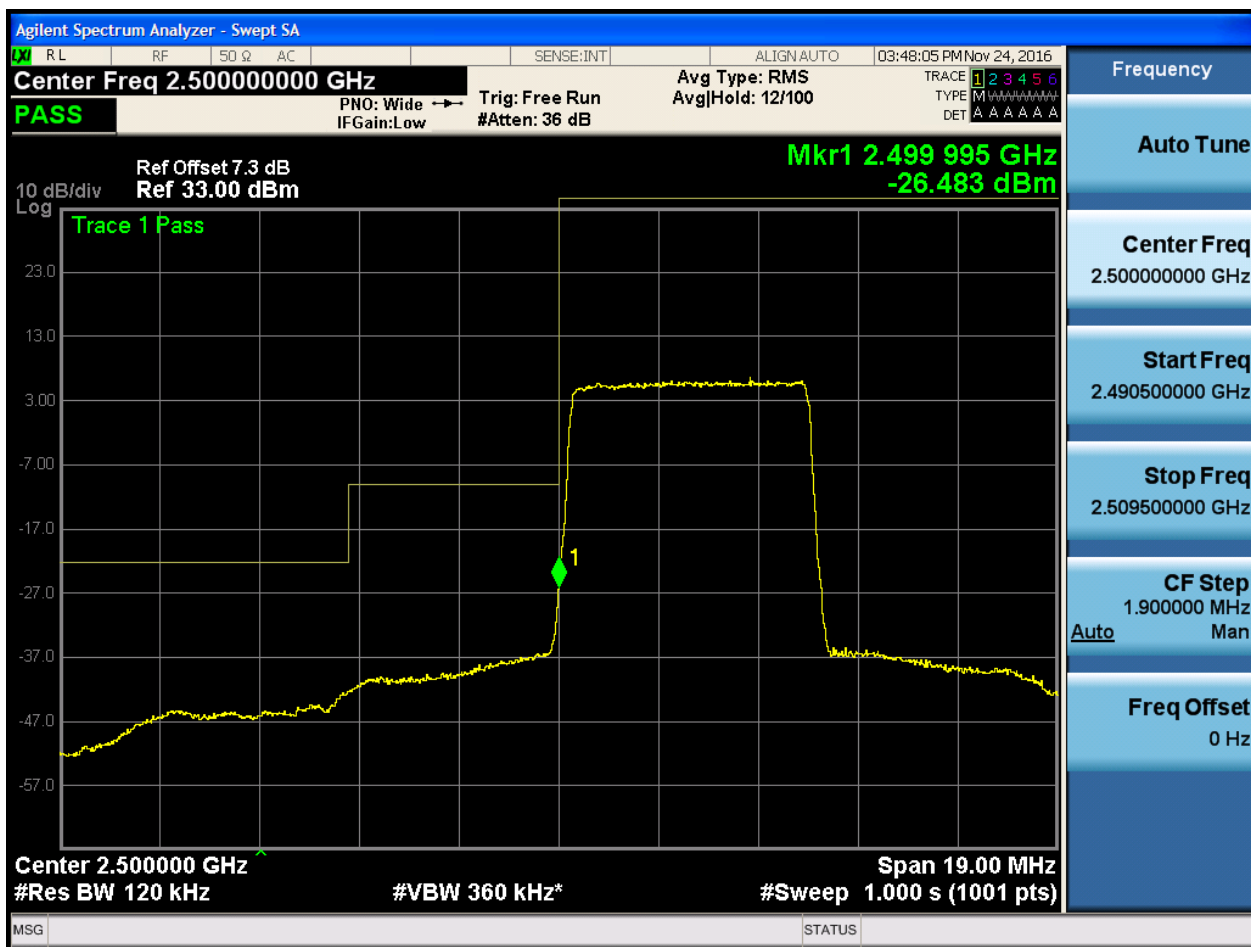


5.2.1.1.1.3 Test RB = RB12#6





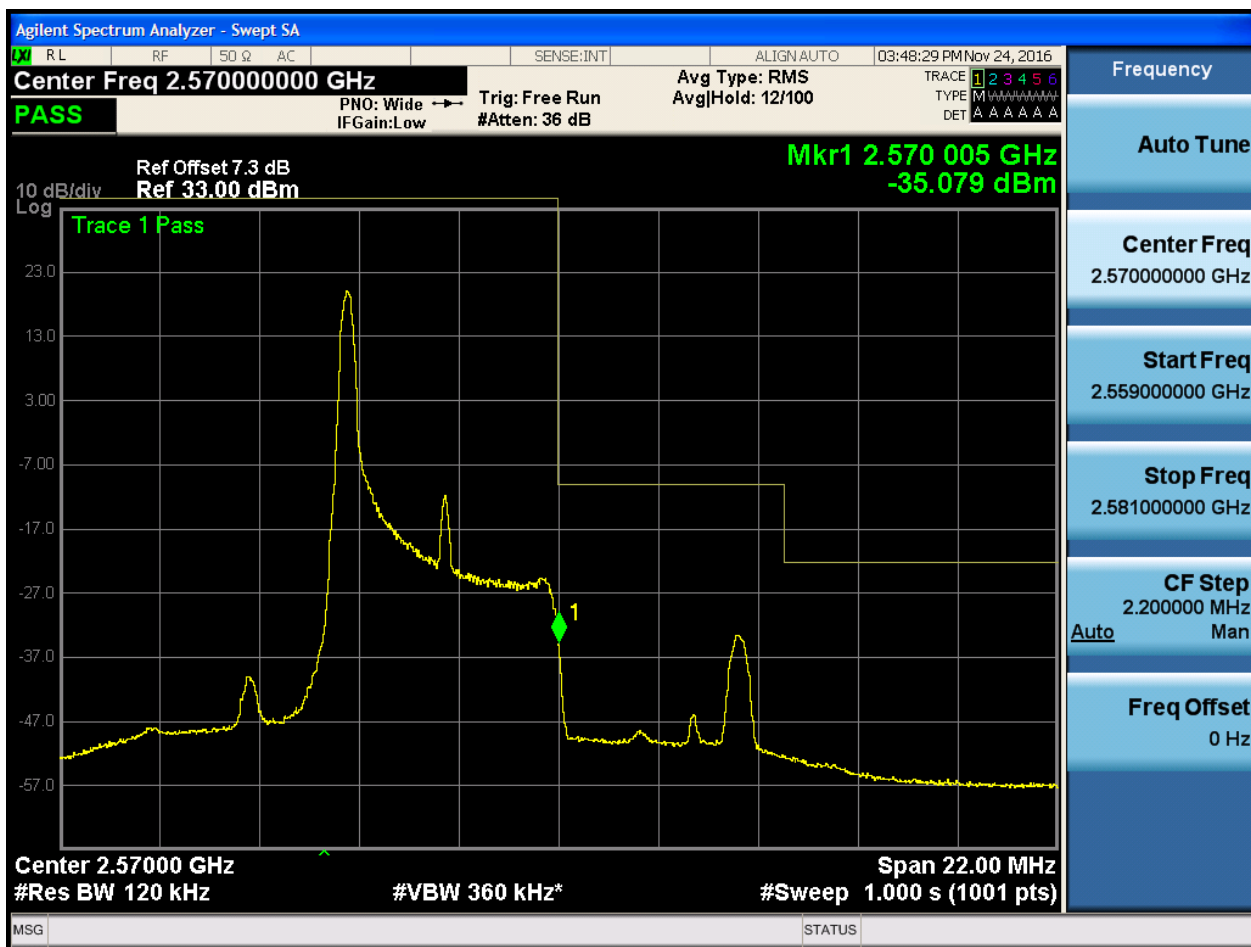
5.2.1.1.1.4 Test RB = RB25#0





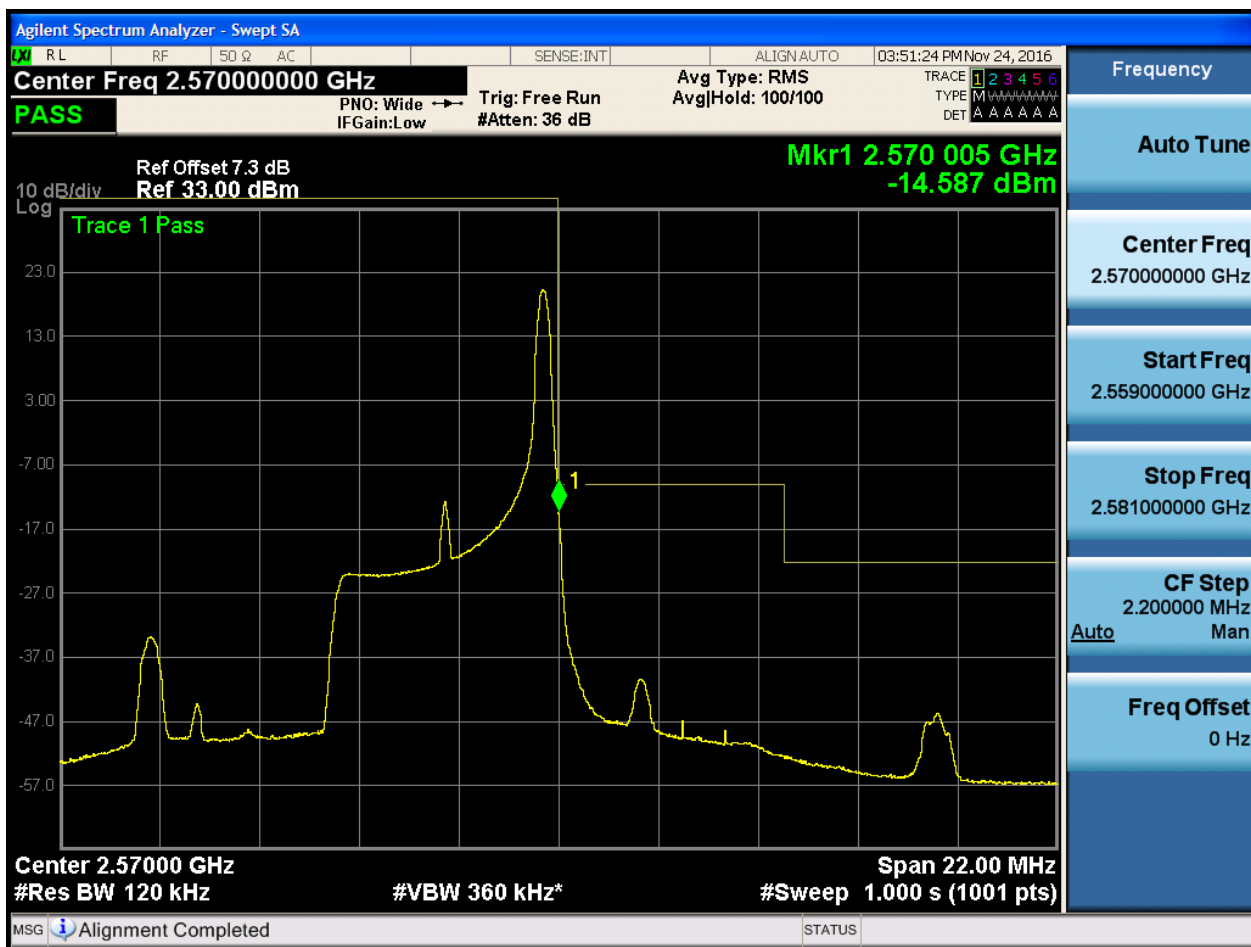
5.2.1.1.1.2 Test Channel = HCH

5.2.1.1.1.2.1 Test RB = RB1#0



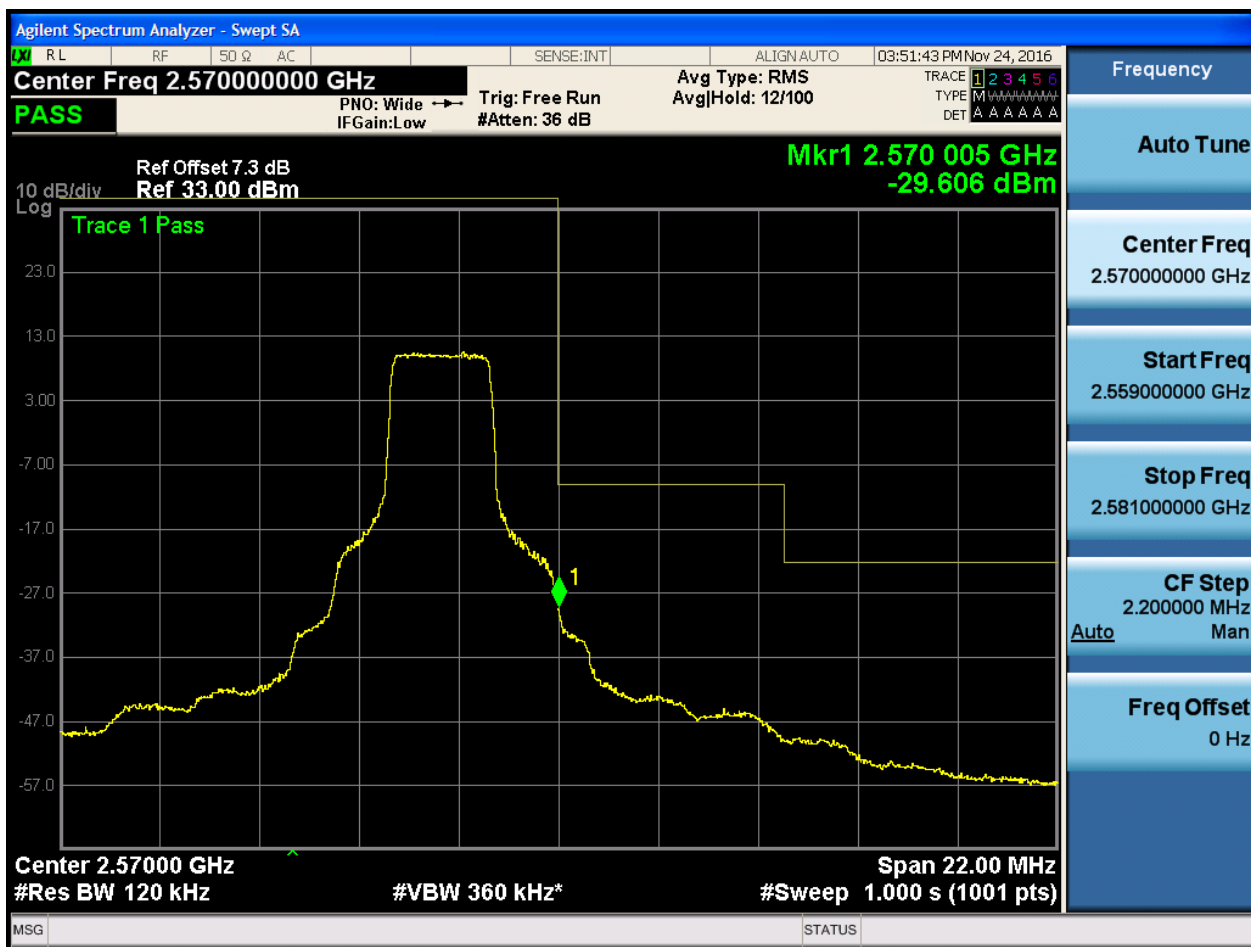


5.2.1.1.1.2.2 Test RB = RB1#24





5.2.1.1.1.2.3 Test RB = RB12#6





5.2.1.1.1.2.4 Test RB = RB25#0

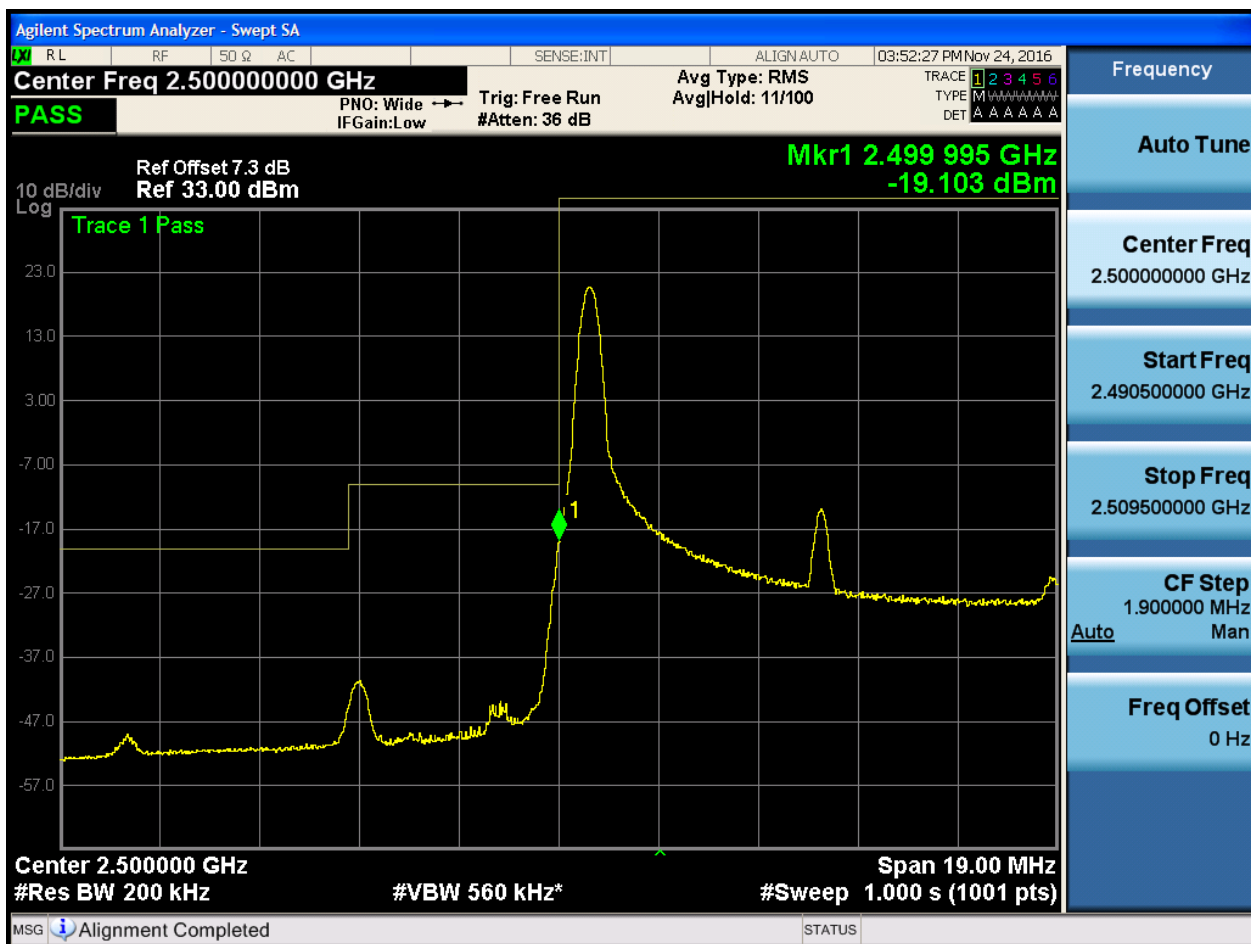




5.2.1.1.2 Test Bandwidth = 10

5.2.1.1.2.1 Test Channel = LCH

5.2.1.1.2.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:52:45 PM Nov 24, 2016

Center Freq 2.500000000 GHz Avg Type: RMS
PASS PNO: Wide IFGain:Low Trig: Free Run AvgHold: 12/100
TRACE 1 2 3 4 5 6
TYPE M W W W W W W W W W
DET A A A A A A

Ref Offset 7.3 dB
Ref 33.00 dBm

Mkr1 2.499 995 GHz
-39.792 dBm

10 dB/div
Log

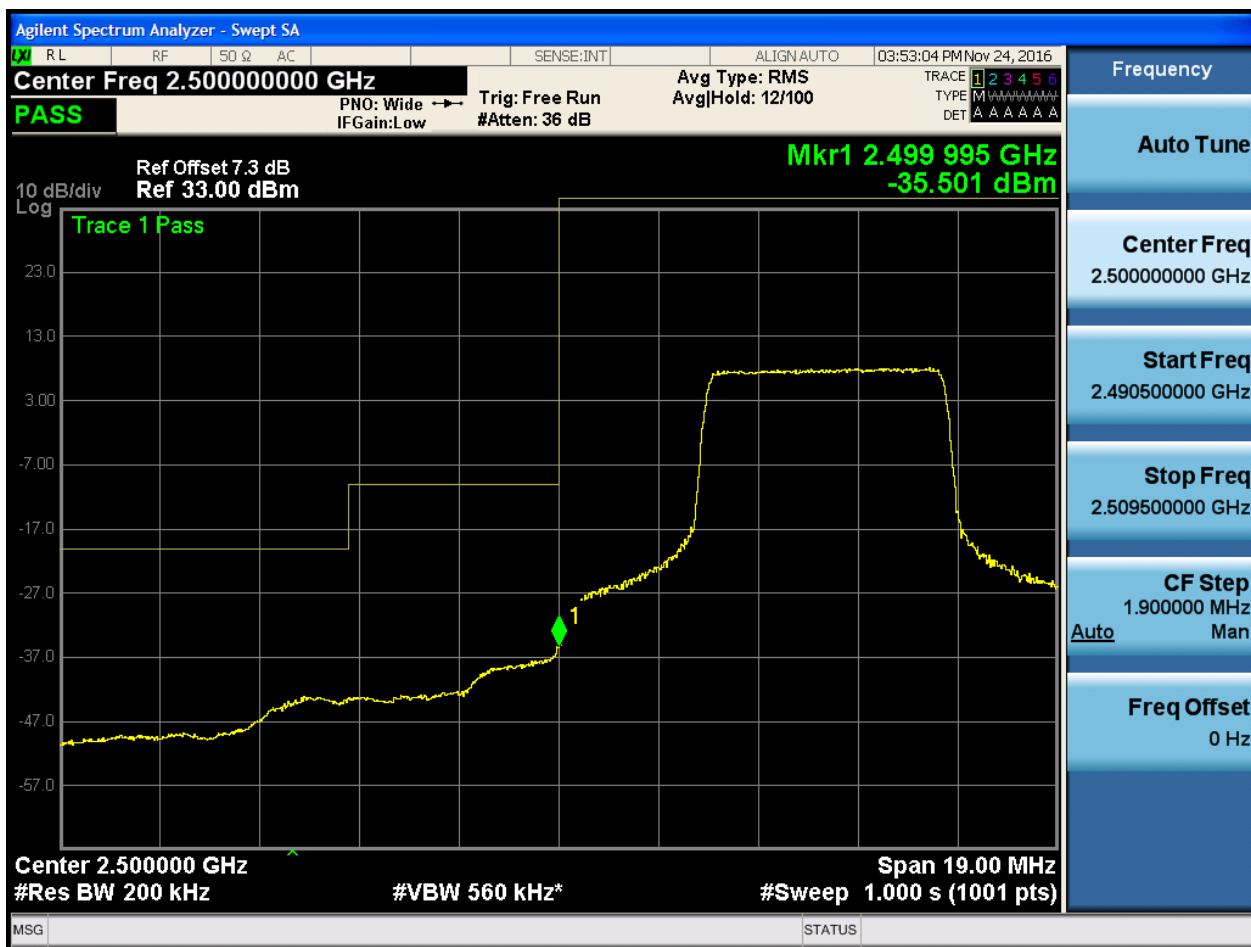
Trace 1 Pass

Center 2.500000 GHz
#Res BW 200 kHz
#VBW 560 kHz
Span 19.00 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS



5.2.1.1.2.1.3 Test RB = RB25#13





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:53:22 PM Nov 24, 2016

Center Freq 2.500000000 GHz Avg Type: RMS
PASS PNO: Wide IFGain:Low Trig: Free Run AvgHold: 12/100
#Atten: 36 dB

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

Frequency

Auto Tune

Center Freq
2.500000000 GHz

Start Freq
2.490500000 GHz

Stop Freq
2.509500000 GHz

CF Step
1.900000 MHz
Auto Man

Freq Offset
0 Hz

10 dB/div
Log

Ref Offset 7.3 dB
Ref 33.00 dBm

Mkr1 2.499 995 GHz
-31.505 dBm

Trace 1 Pass

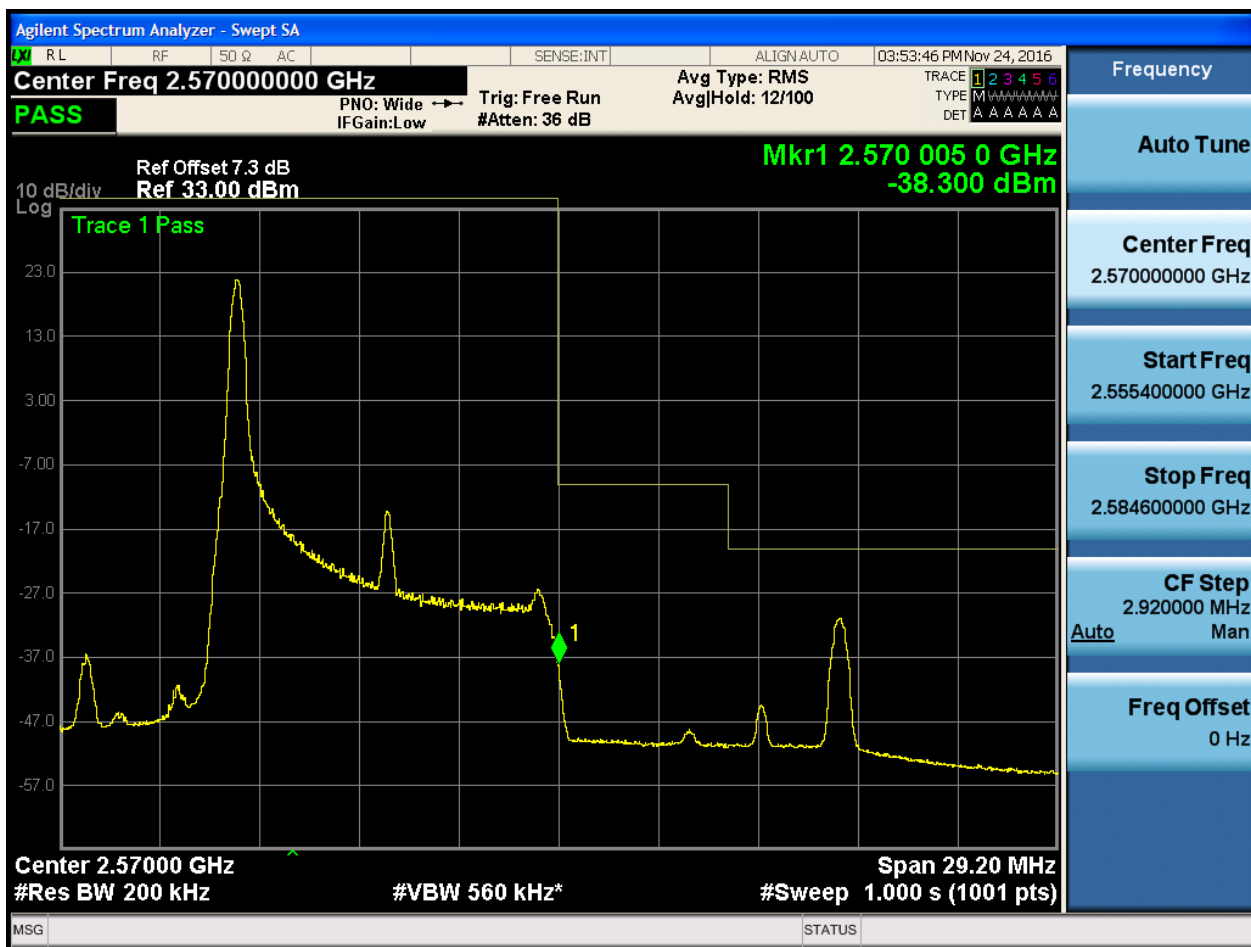
Center 2.500000 GHz
#Res BW 200 kHz #VBW 560 kHz* #Sweep 1.000 s (1001 pts)

MSG STATUS



5.2.1.1.2.2 Test Channel = HCH

5.2.1.1.2.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:54:04 PM Nov 24, 2016

Center Freq 2.570000000 GHz Avg Type: RMS
#Res BW 200 kHz #VBW 560 kHz* #Sweep 1.000 s (1001 pts)

PASS PNO: Wide IFGain:Low Trig: Free Run #Atten: 36 dB

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

Ref Offset 7.3 dB
Ref 33.00 dBm

Mkr1 2.570 005 0 GHz
-18.811 dBm

10 dB/div
Log

Trace 1 Pass

The figure is a screenshot of an Agilent Spectrum Analyzer. The main display is a plot of signal power in dBm versus frequency in GHz. The y-axis is labeled '10 dB/div Log' and ranges from -57.0 to 23.0 dBm. The x-axis is labeled 'Center 2.57000 GHz' and ranges from 2.55540 to 2.58460 GHz. A yellow trace shows the signal spectrum. A prominent peak is visible at 2.570005 GHz, marked with a green diamond and labeled '1'. The peak power is -18.811 dBm. The trace is labeled 'Trace 1 Pass'. The background is black with a white grid. The top of the screen shows various settings: 'RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:54:04 PM Nov 24, 2016'. The bottom of the screen shows 'MSG' and 'STATUS' indicators.

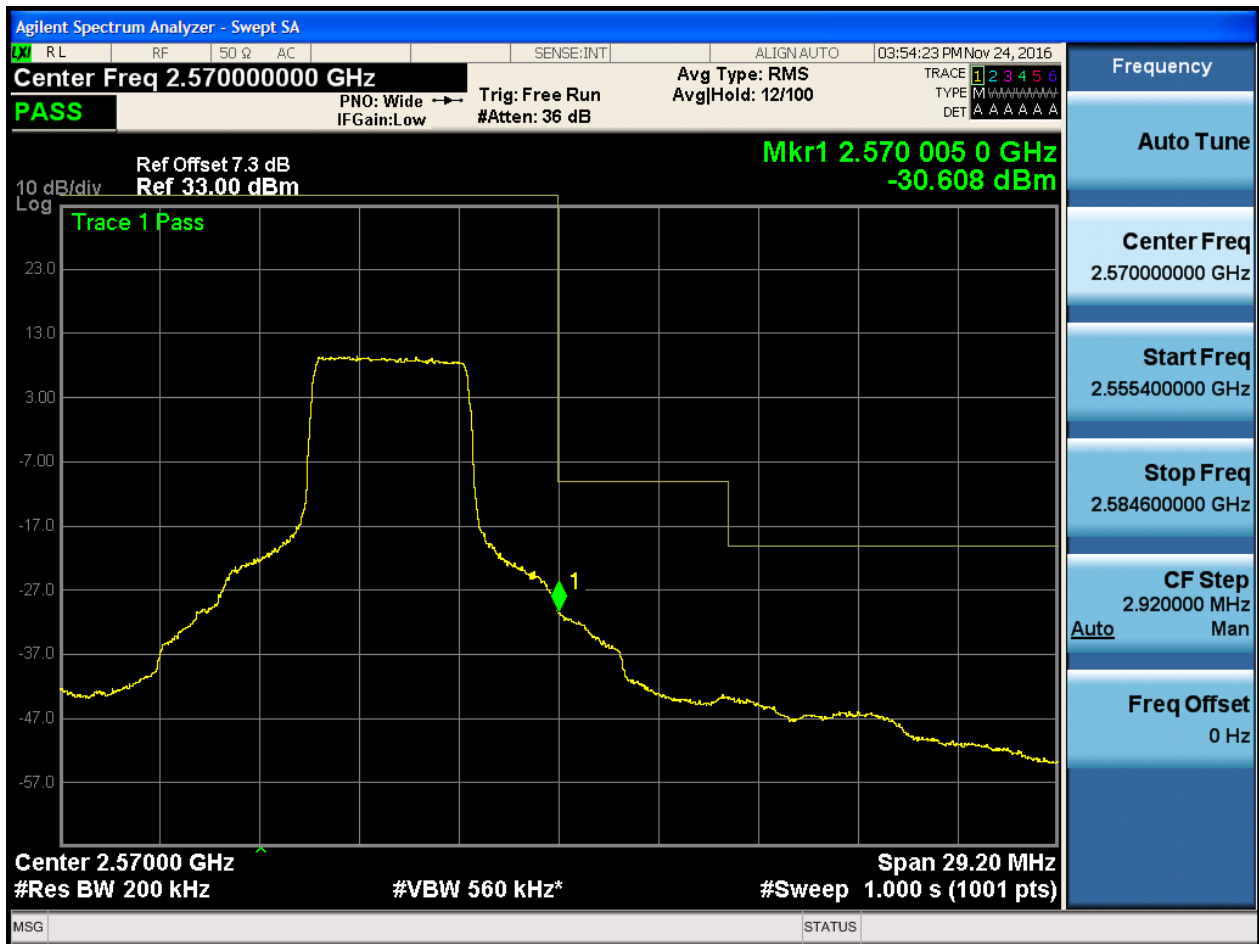
Center Freq 2.570000000 GHz
Start Freq 2.555400000 GHz
Stop Freq 2.584600000 GHz
CF Step 2.920000 MHz
Auto Man
Freq Offset 0 Hz

Center 2.57000 GHz
#Res BW 200 kHz
#VBW 560 kHz*
Span 29.20 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS



5.2.1.1.2.2.3 Test RB = RB25#13





5.2.1.1.2.2.4 Test RB = RB50#0

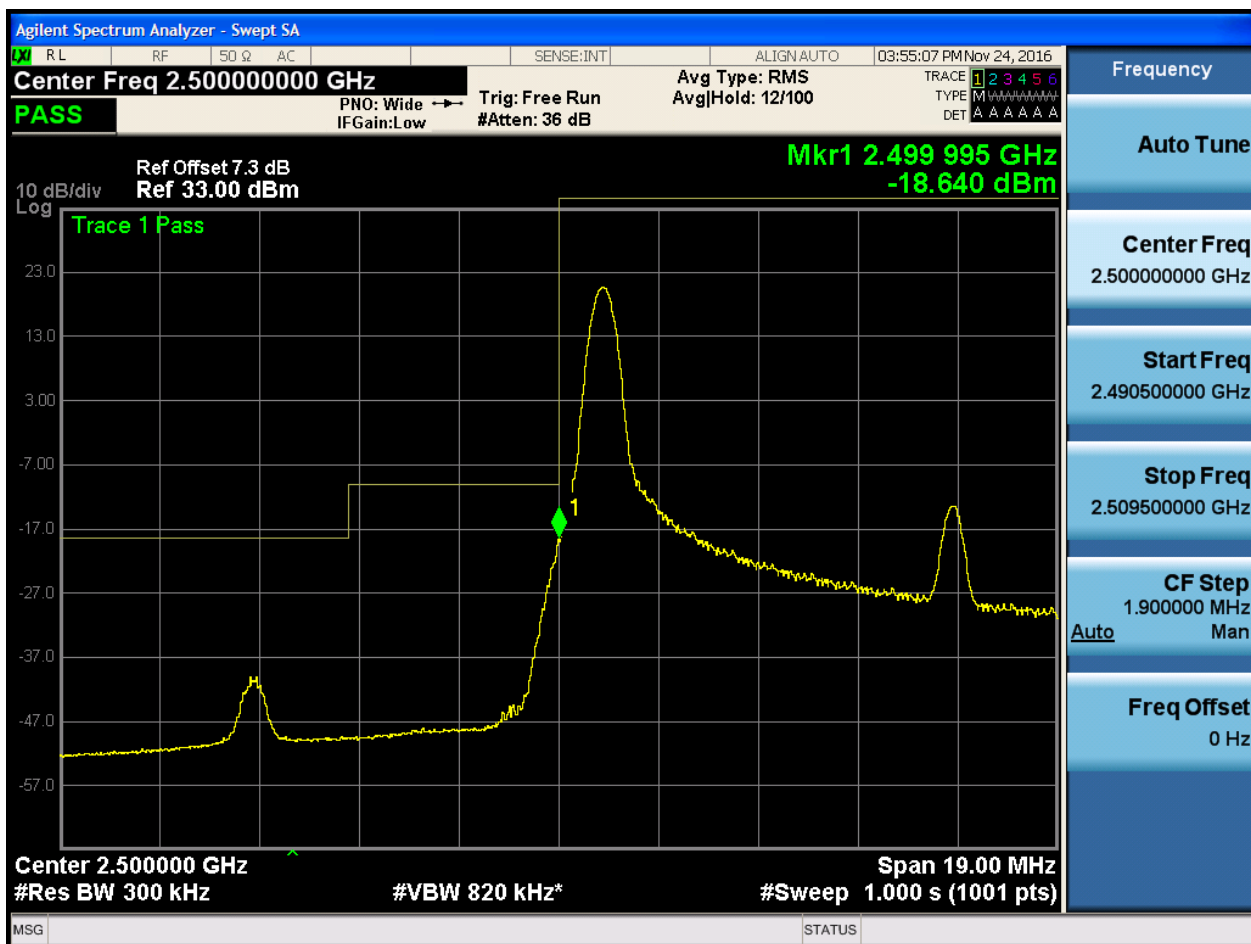




5.2.1.1.3 Test Bandwidth = 15

5.2.1.1.3.1 Test Channel = LCH

5.2.1.1.3.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:55:25 PM Nov 24, 2016

Center Freq 2.50000000 GHz Avg Type: RMS Trg: Free Run

PASS PNO: Wide IF Gain: Low #Atten: 36 dB

Ref Offset 7.3 dB Mkr1 2.499 995 GHz

Ref 33.00 dBm -41.080 dBm

10 dB/div Log

Trace 1 Pass

Center 2.500000 GHz Span 19.00 MHz

#Res BW 300 kHz #VBW 820 kHz* #Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq 2.500000000 GHz

Start Freq 2.490500000 GHz

Stop Freq 2.509500000 GHz

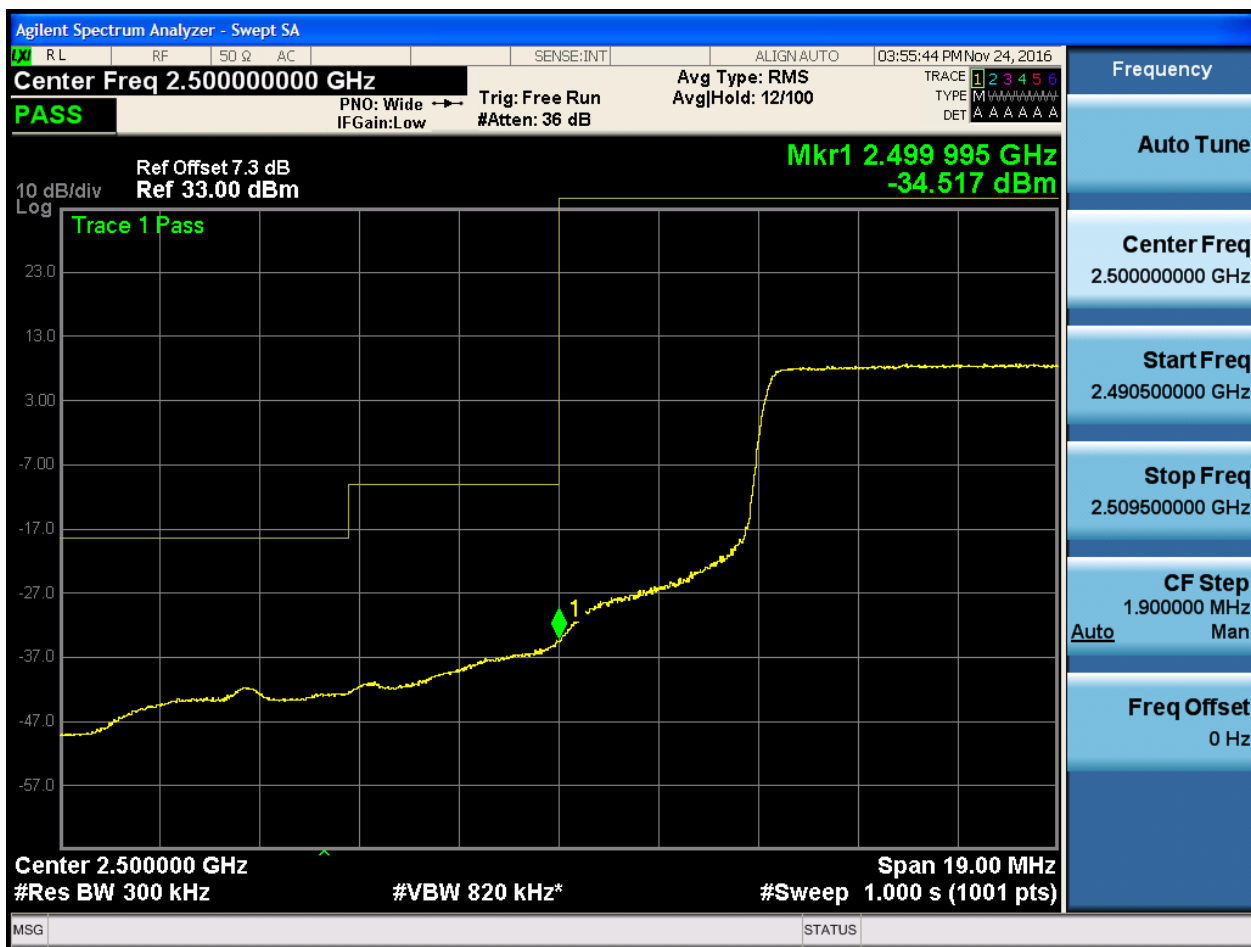
CF Step 1.900000 MHz

Auto Man

Freq Offset 0 Hz



5.2.1.1.3.1.3 Test RB = RB36#18





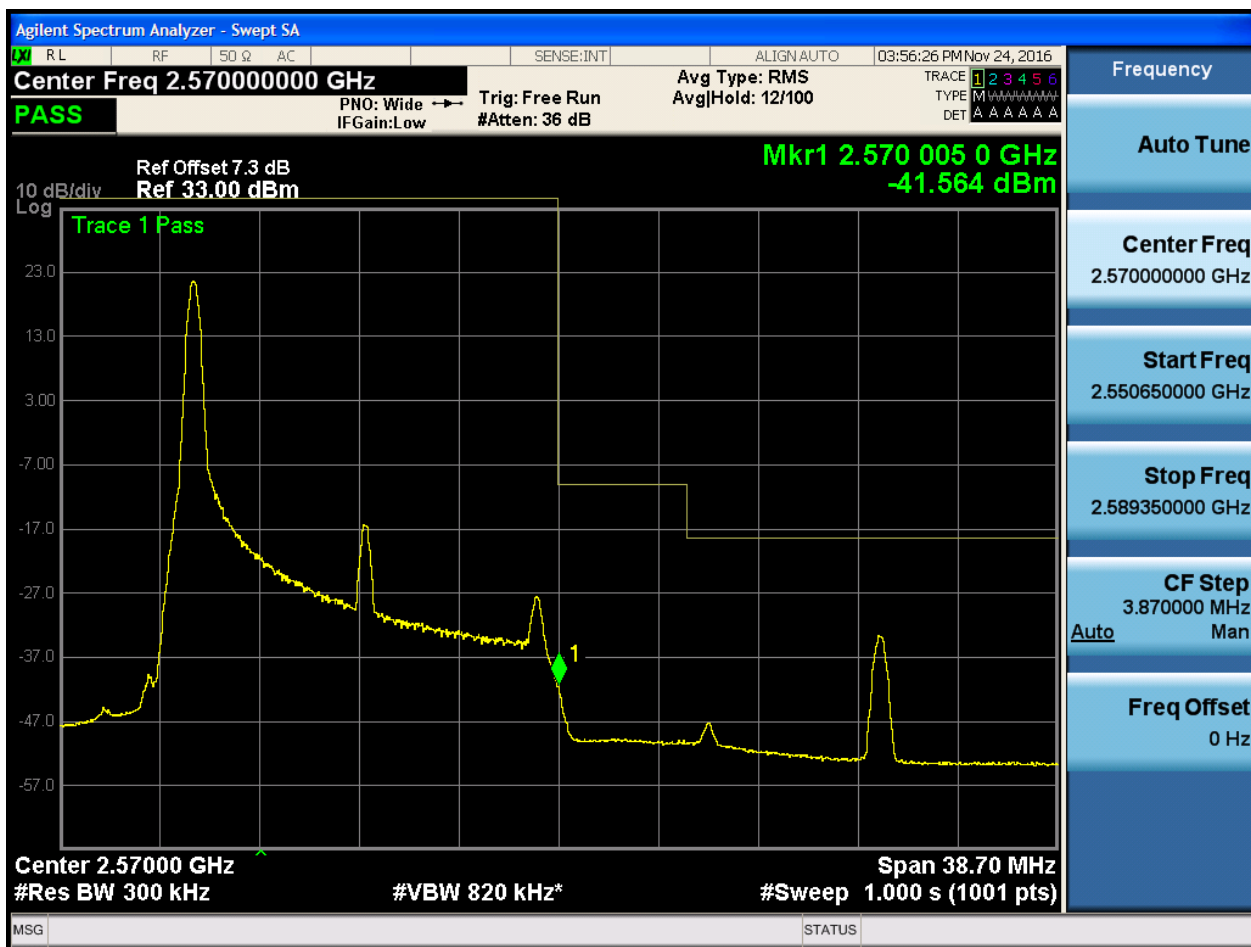
5.2.1.1.3.1.4 Test RB = RB75#0





5.2.1.1.3.2 Test Channel = HCH

5.2.1.1.3.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:56:44 PM Nov 24, 2016

Center Freq 2.57000000 GHz Avg Type: RMS
PASS PNO: Wide IFGain:Low Trig: Free Run AvgHold: 12/100
TRACE 1 2 3 4 5 6
TYPE M W W W W W W W W W
DET A A A A A A A

Ref Offset 7.3 dB
Ref 33.00 dBm

Mkr1 2.570 005 0 GHz
-17.564 dBm

10 dB/div
Log

Trace 1 Pass

The spectrum analyzer trace shows a signal centered at 2.570 GHz. The main peak is at -17.564 dBm. There are smaller peaks at approximately 2.568 GHz and 2.572 GHz. The trace is labeled 'Trace 1 Pass'.

Center 2.57000 GHz
#Res BW 300 kHz
#VBW 820 kHz*
Span 38.70 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.57000000 GHz

Start Freq
2.550650000 GHz

Stop Freq
2.589350000 GHz

CF Step
3.870000 MHz
Auto Man

Freq Offset
0 Hz



5.2.1.1.3.2.3 Test RB = RB36#18





5.2.1.1.3.2.4 Test RB = RB75#0

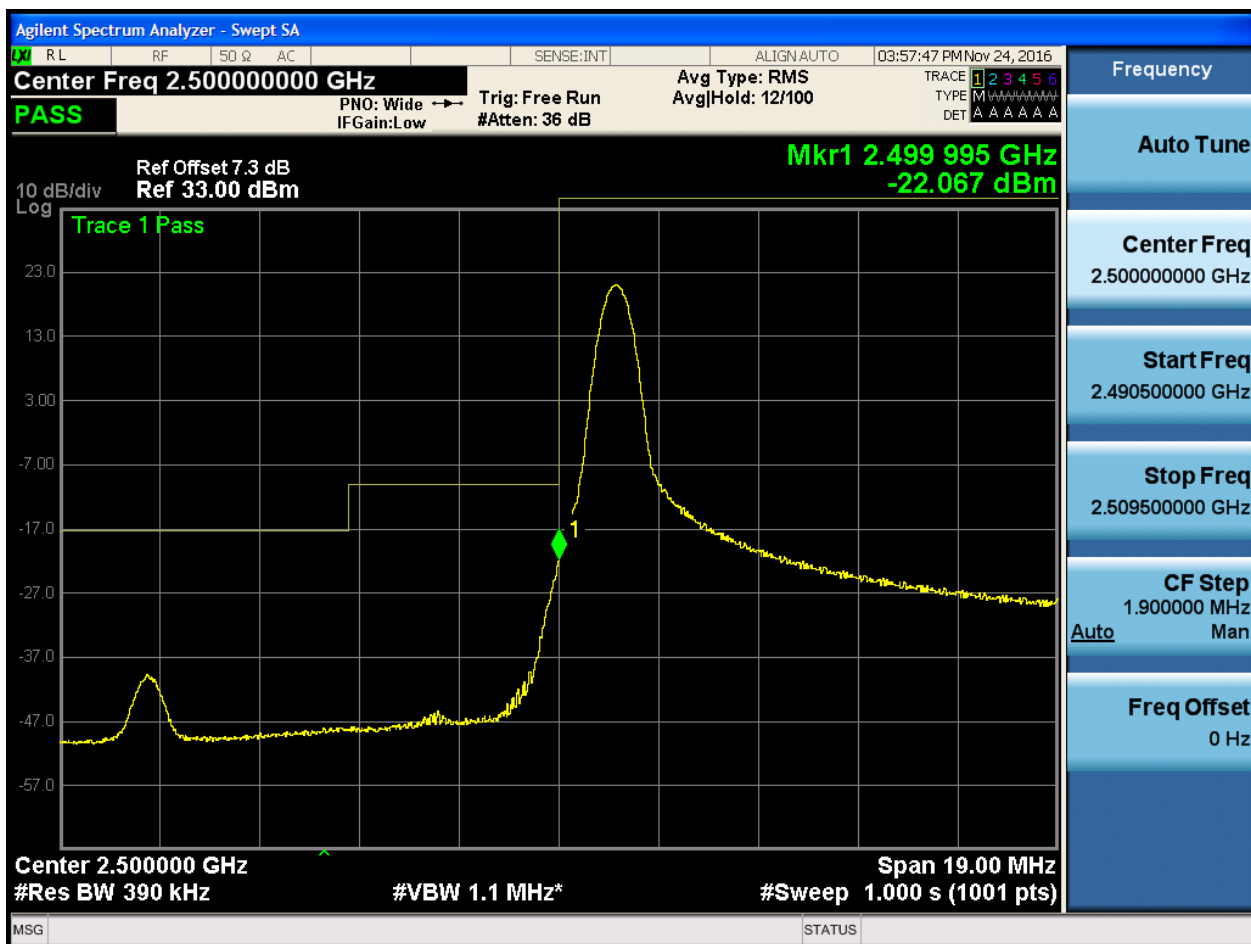




5.2.1.1.4 Test Bandwidth = 20

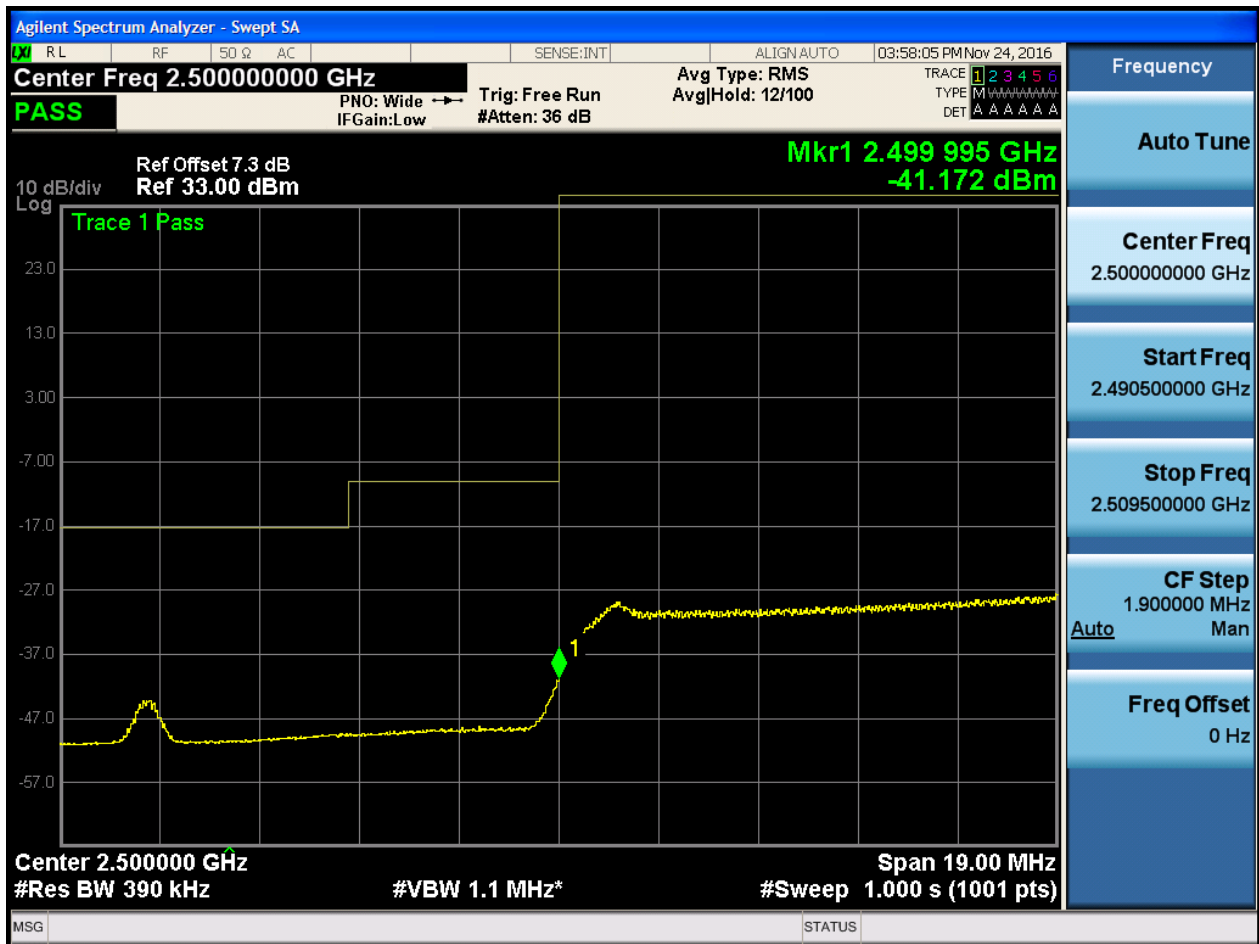
5.2.1.1.4.1 Test Channel = LCH

5.2.1.1.4.1.1 Test RB = RB1#0



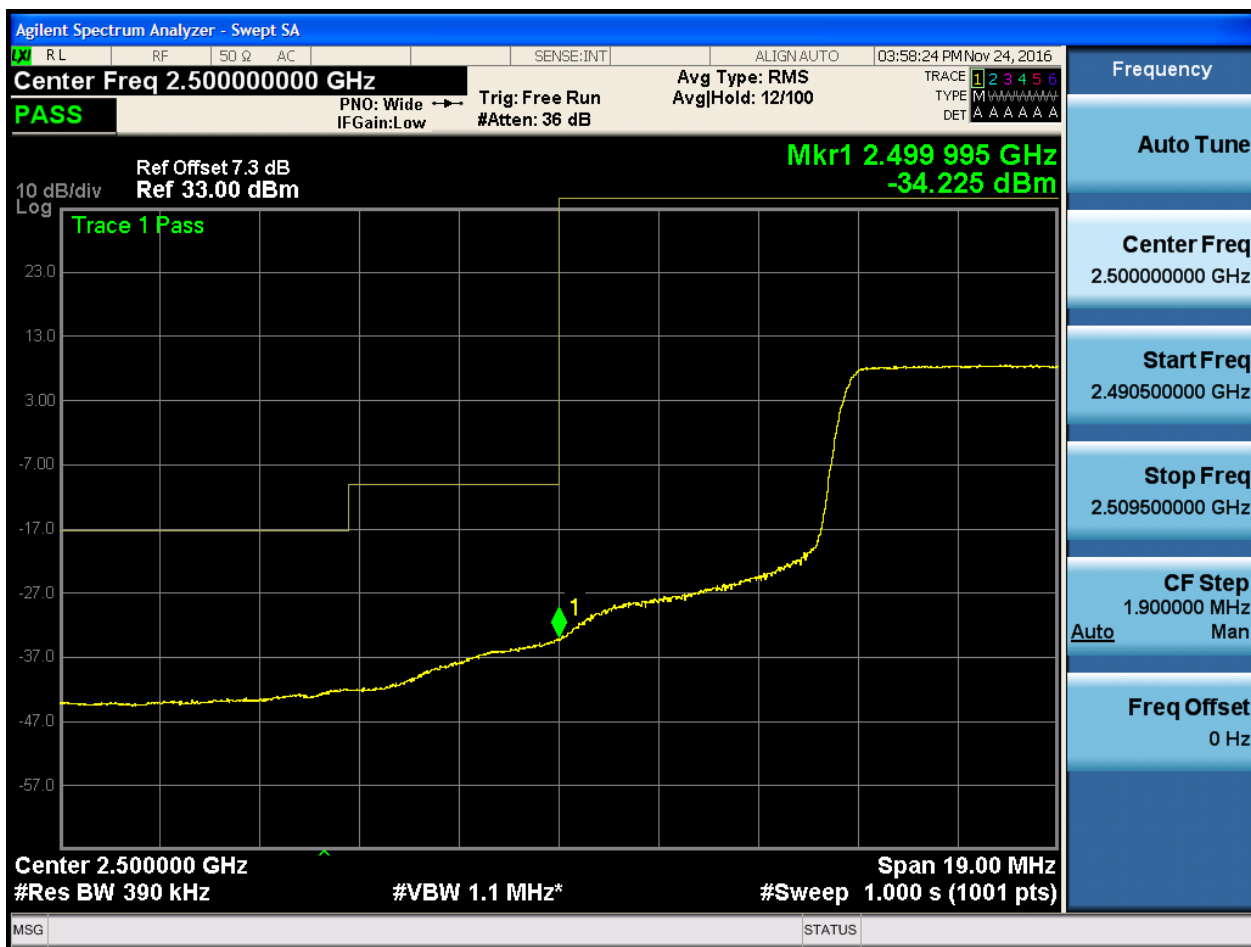


5.2.1.1.4.1.2 Test RB = RB1#99





5.2.1.1.4.1.3 Test RB = RB50#25





5.2.1.1.4.1.4 Test RB = RB100#0



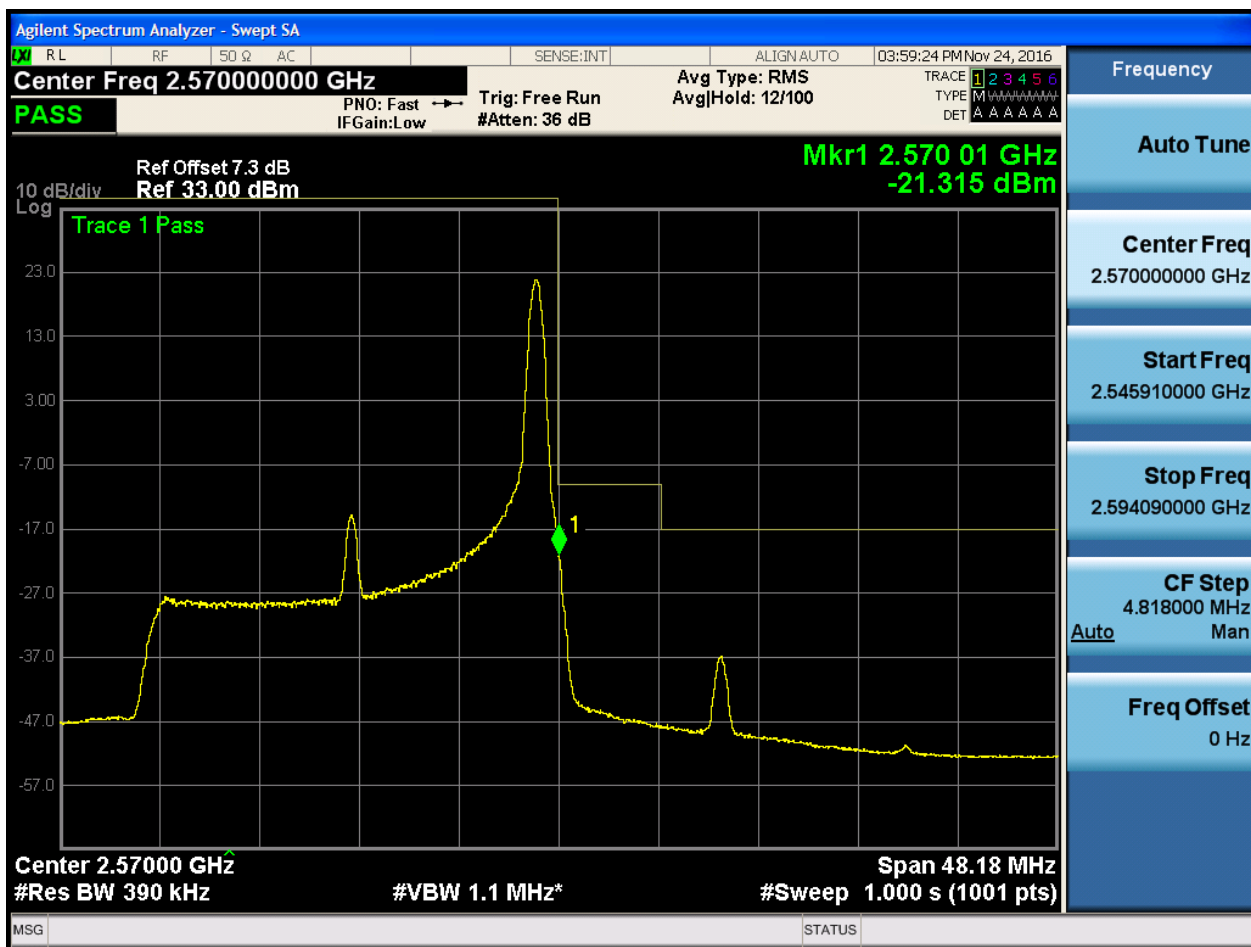
5.2.1.1.4.2 Test Channel = HCH

5.2.1.1.4.2.1 Test RB = RB1#0





5.2.1.1.4.2.2 Test RB = RB1#99





5.2.1.1.4.2.3 Test RB = RB50#25





5.2.1.1.4.2.4 Test RB = RB100#0



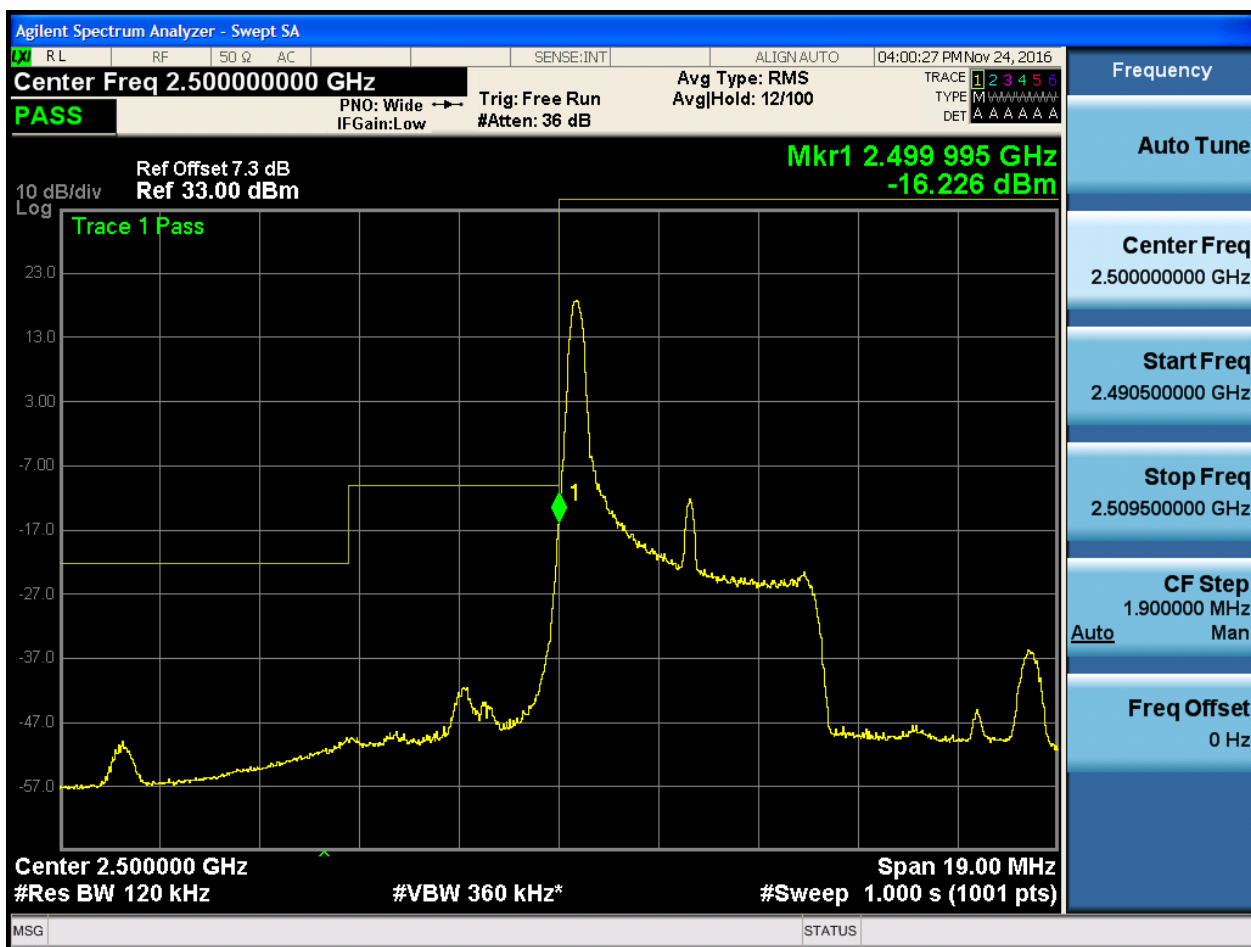


5.2.1.2 Test Mode = LTE/TM2

5.2.1.2.1 Test Bandwidth = 5

5.2.1.2.1.1 Test Channel = LCH

5.2.1.2.1.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 04:00:46 PM Nov 24, 2016

Center Freq 2.500000000 GHz Avg Type: RMS
PASS PNO: Wide IFGain:Low Trig: Free Run AvgHold: 12/100
#Atten: 36 dB

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

Ref Offset 7.3 dB
Ref 33.00 dBm

Mkr1 2.499 995 GHz
-36.280 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.500000 GHz
#Res BW 120 kHz #VBW 360 kHz* Span 19.00 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.500000000 GHz

Start Freq
2.490500000 GHz

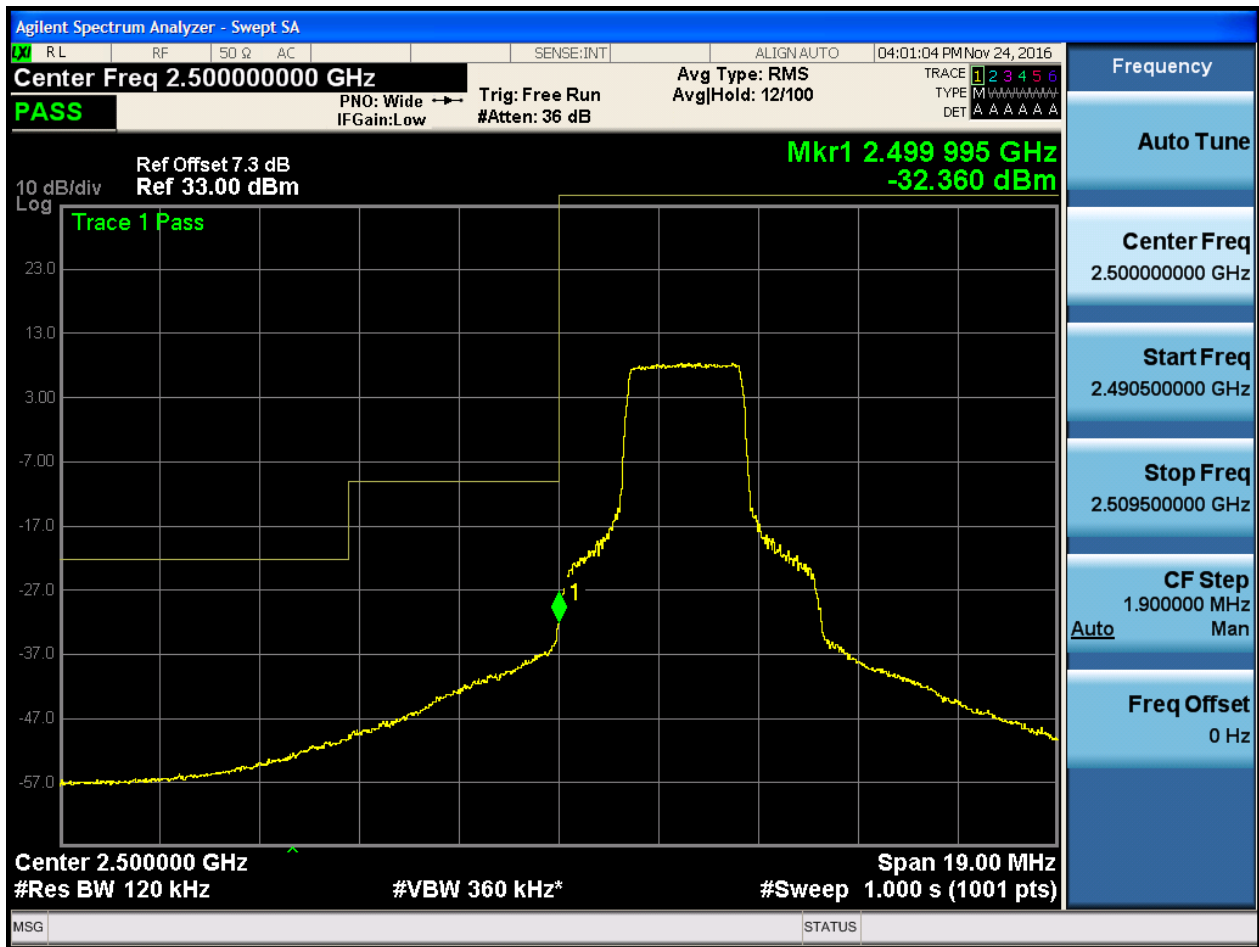
Stop Freq
2.509500000 GHz

CF Step
1.900000 MHz
Auto Man

Freq Offset
0 Hz



5.2.1.2.1.1.3 Test RB = RB12#6





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 04:01:23 PM Nov 24, 2016

Center Freq 2.500000000 GHz Avg Type: RMS
PASS PNO: Wide IFGain:Low Trig: Free Run AvgHold: 12/100
TRACE 1 2 3 4 5 6
TYPE M W W W W W W W W W
DET A A A A A A

Ref Offset 7.3 dB
Ref 33.00 dBm

Mkr1 2.499 995 GHz
-27.032 dBm

10 dB/div
Log

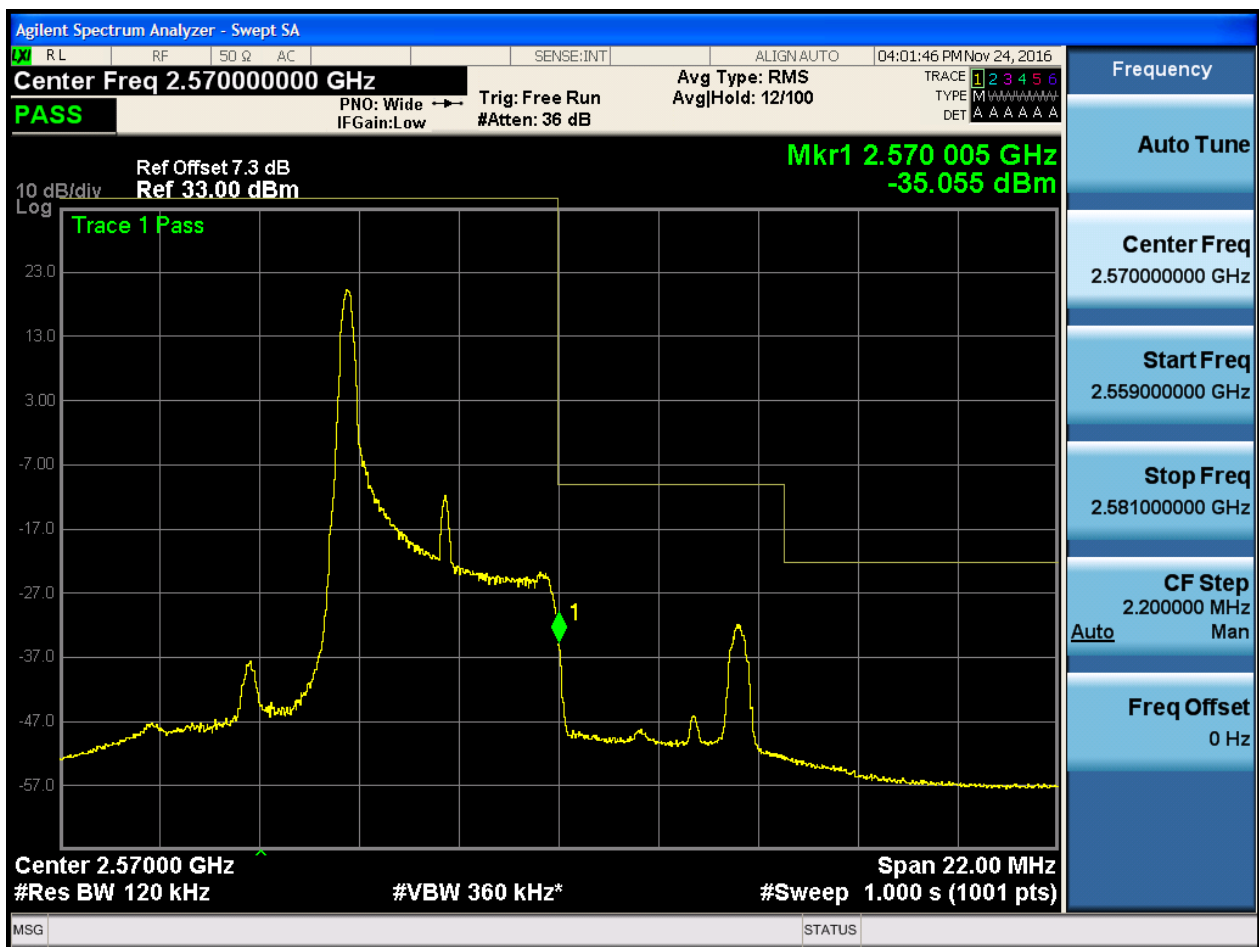
Trace 1 Pass

Center 2.500000 GHz
#Res BW 120 kHz #VBW 360 kHz* Span 19.00 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

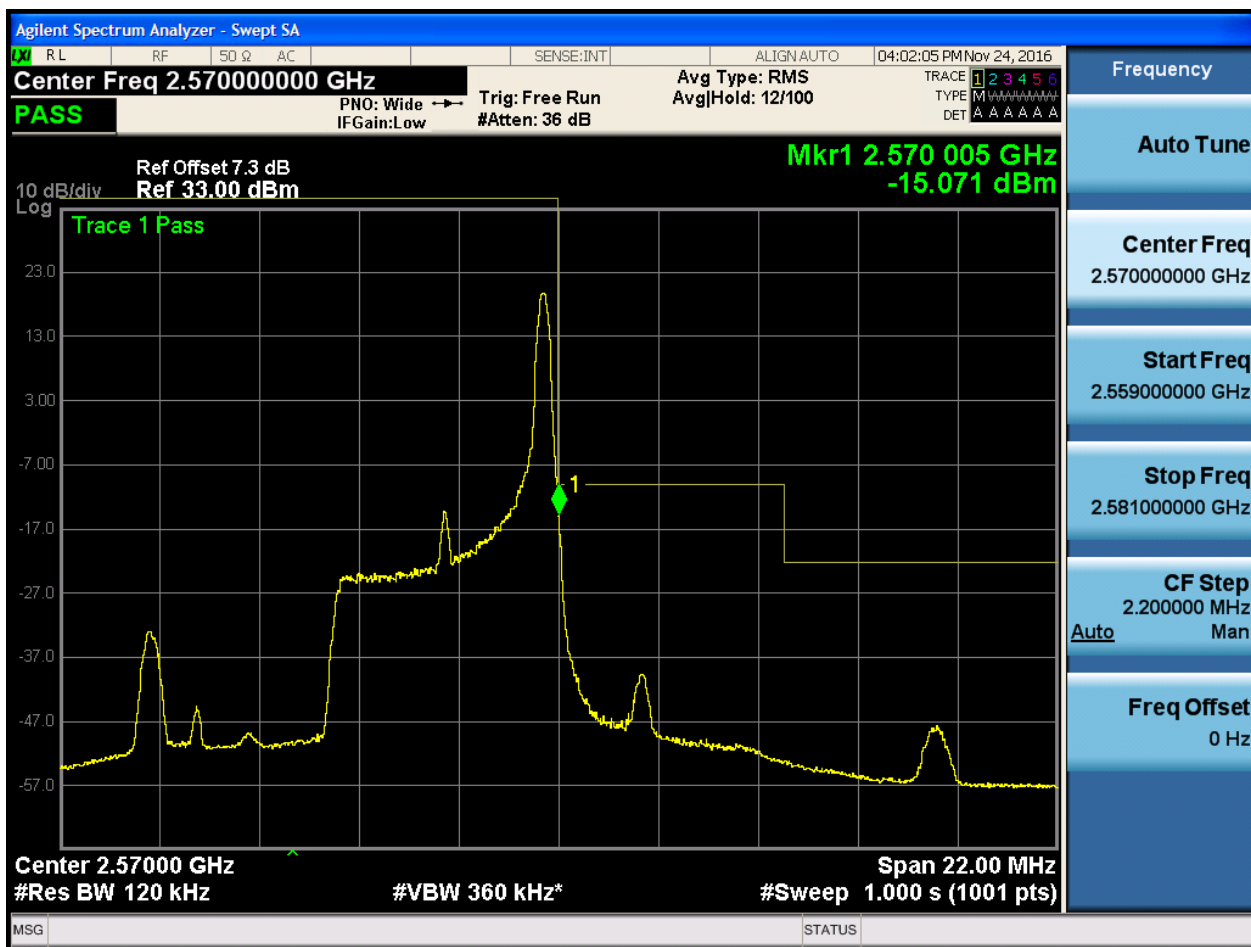
5.2.1.2.1.2 Test Channel = HCH

5.2.1.2.1.2.1 Test RB = RB1#0



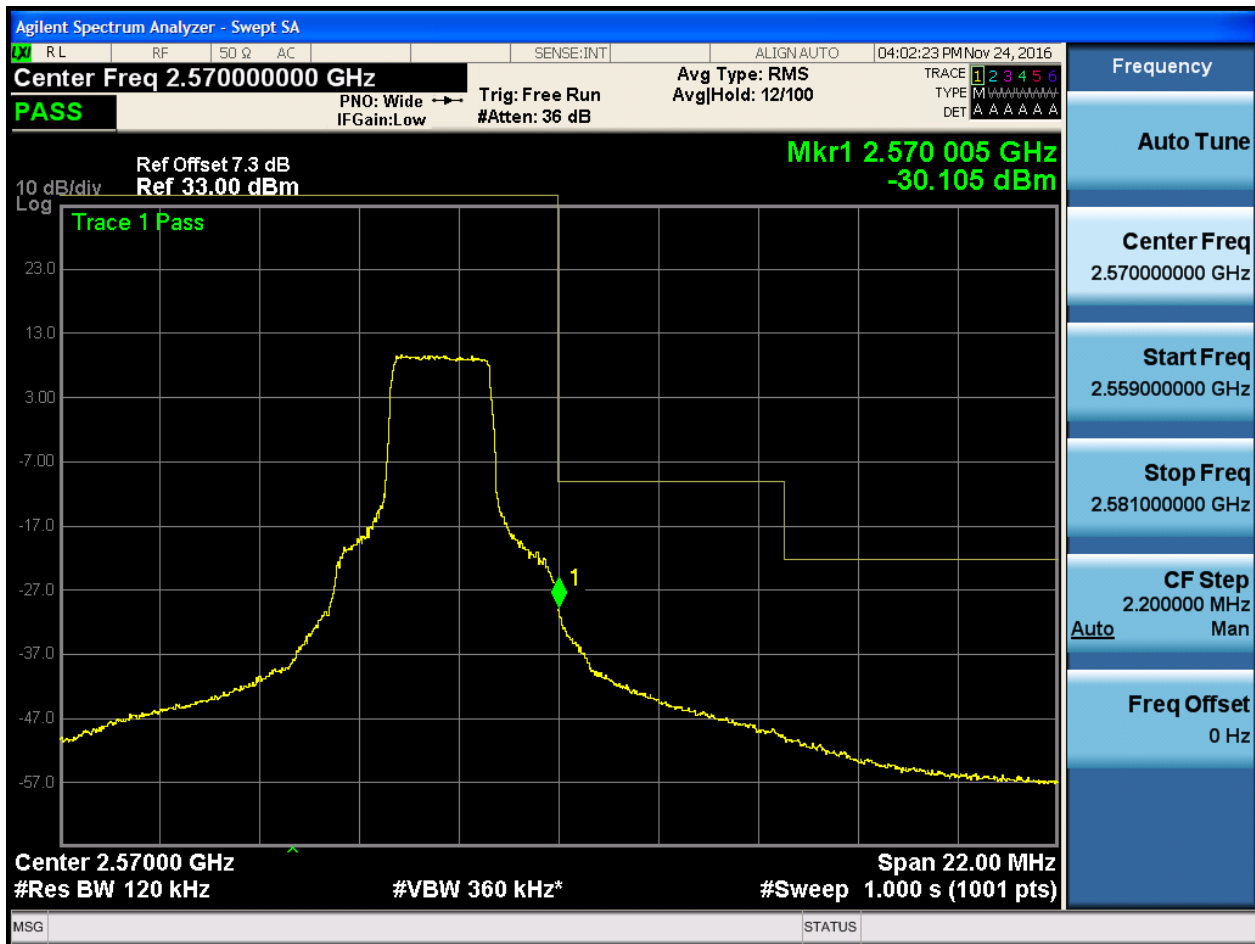


5.2.1.2.1.2.2 Test RB = RB1#24



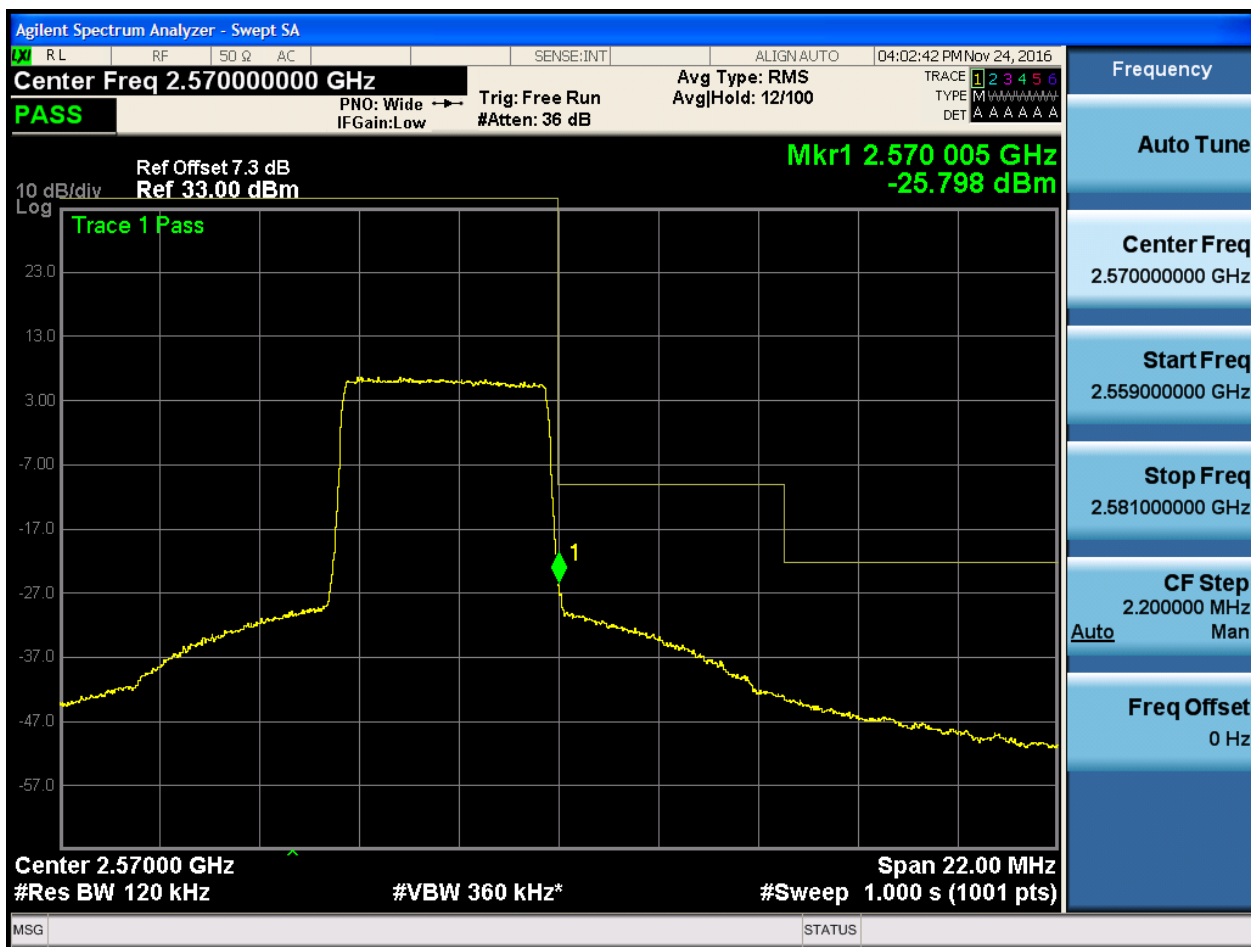


5.2.1.2.1.2.3 Test RB = RB12#6





5.2.1.2.1.2.4 Test RB = RB25#0

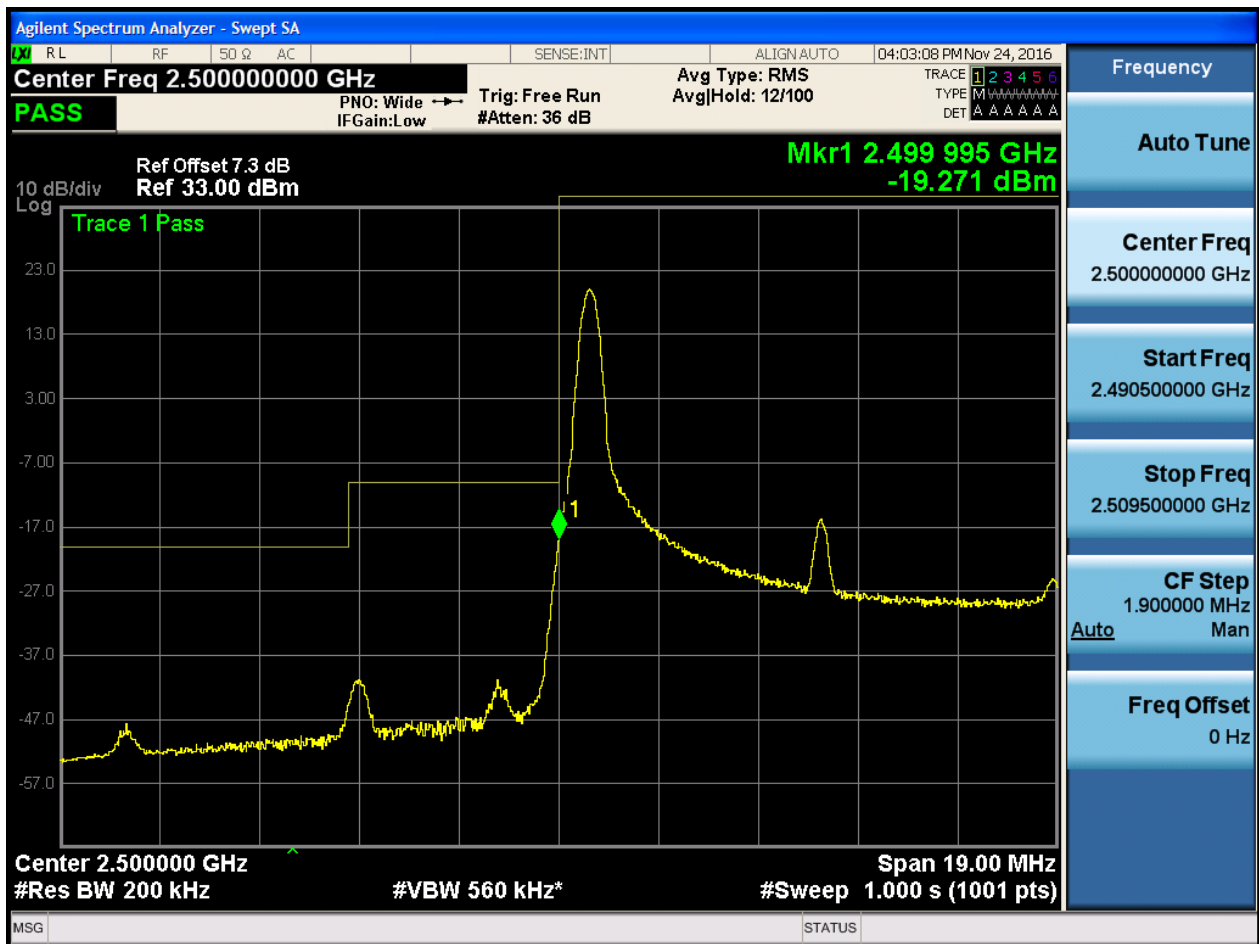




5.2.1.2.2 Test Bandwidth = 10

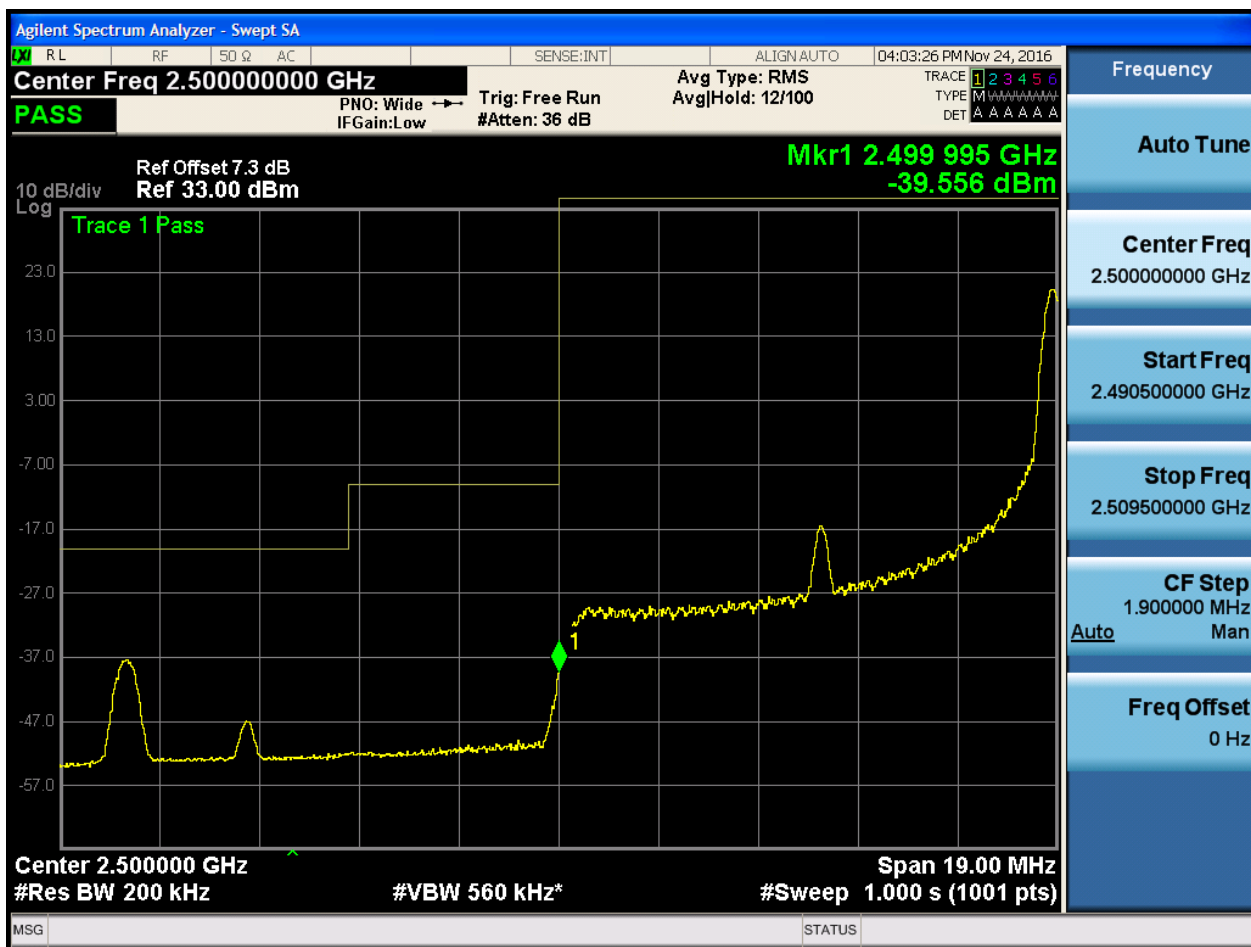
5.2.1.2.2.1 Test Channel = LCH

5.2.1.2.2.1.1 Test RB = RB1#0



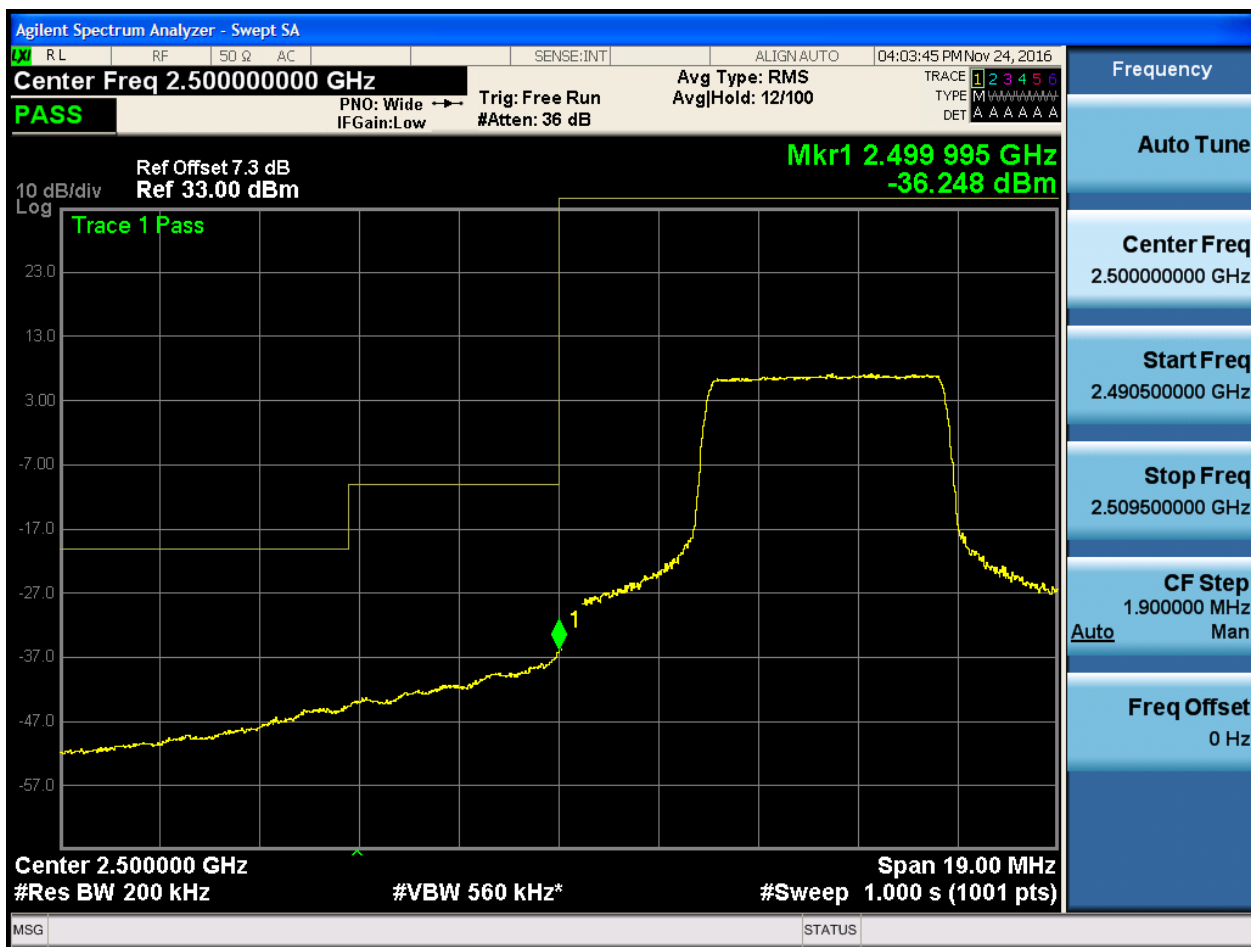


5.2.1.2.2.1.2 Test RB = RB1#49



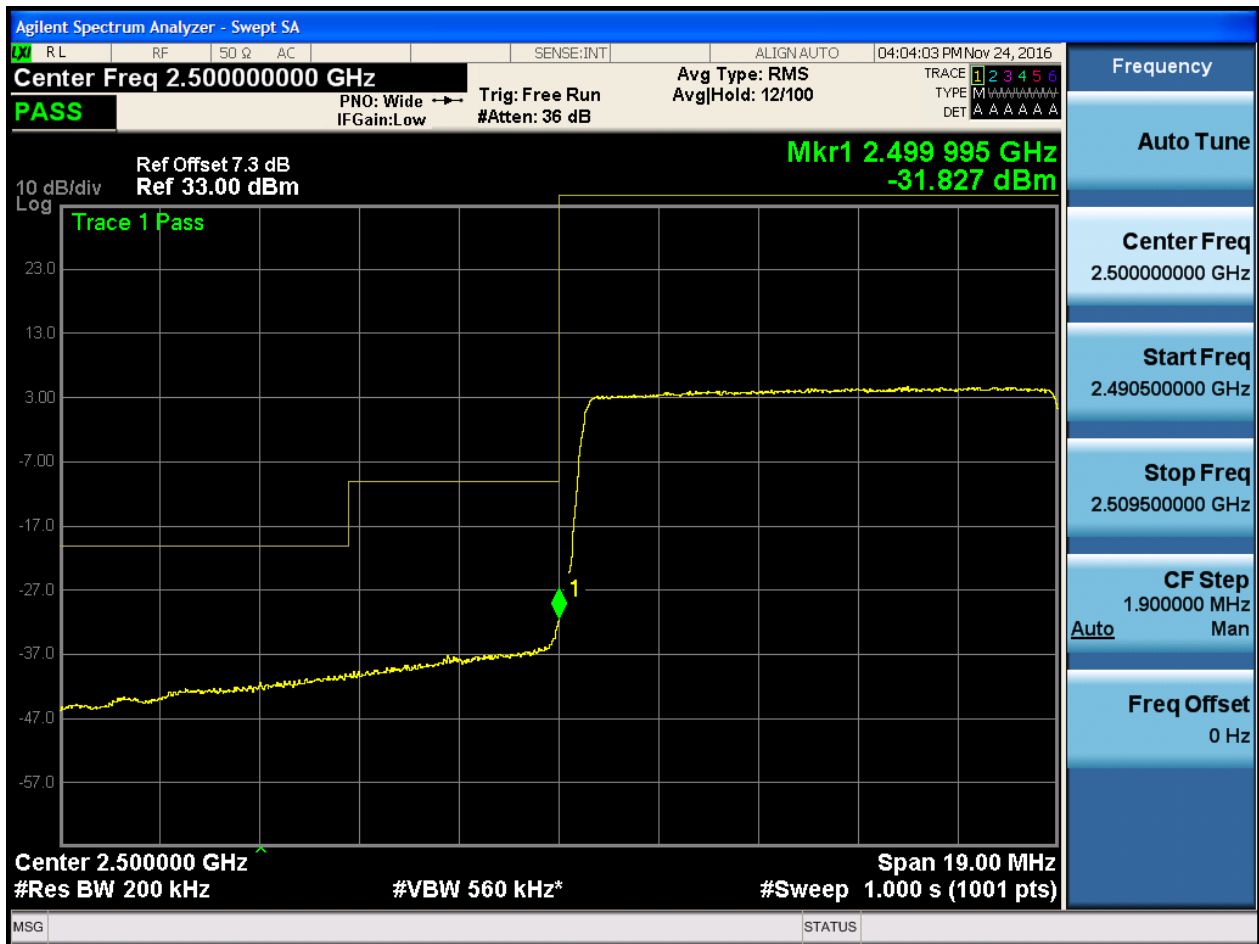


5.2.1.2.2.1.3 Test RB = RB25#13





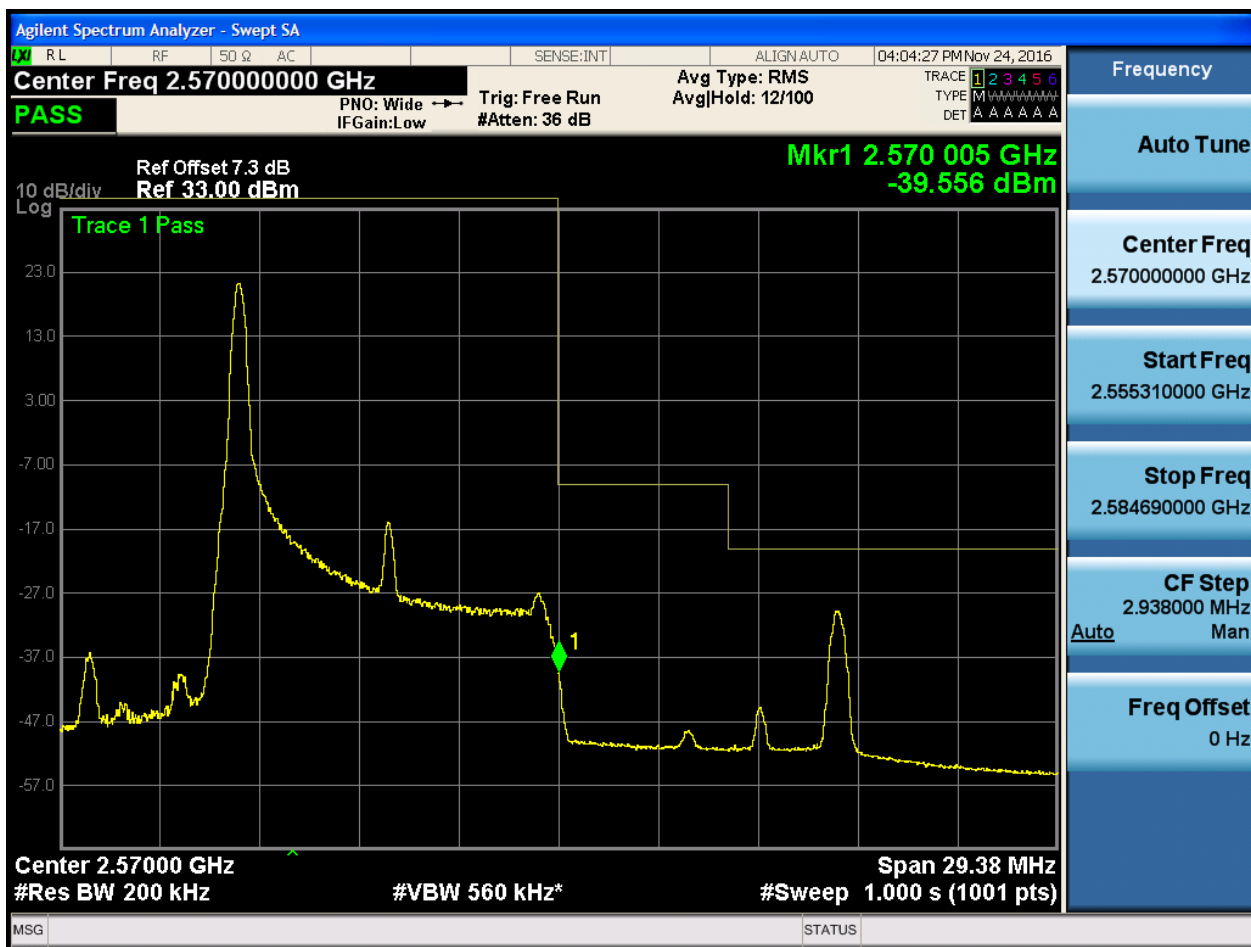
5.2.1.2.2.1.4 Test RB = RB50#0



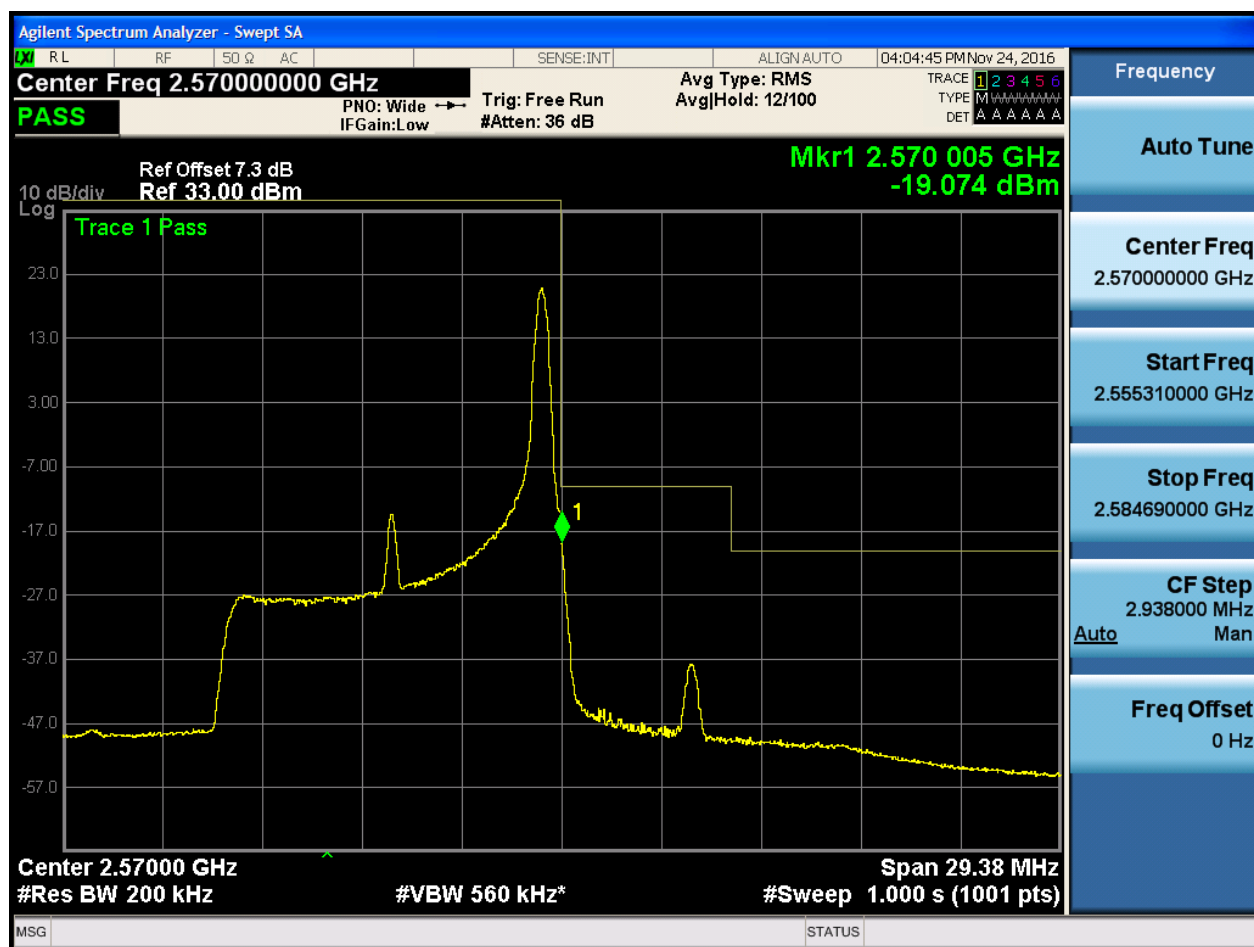


5.2.1.2.2.2 Test Channel = HCH

5.2.1.2.2.2.1 Test RB = RB1#0

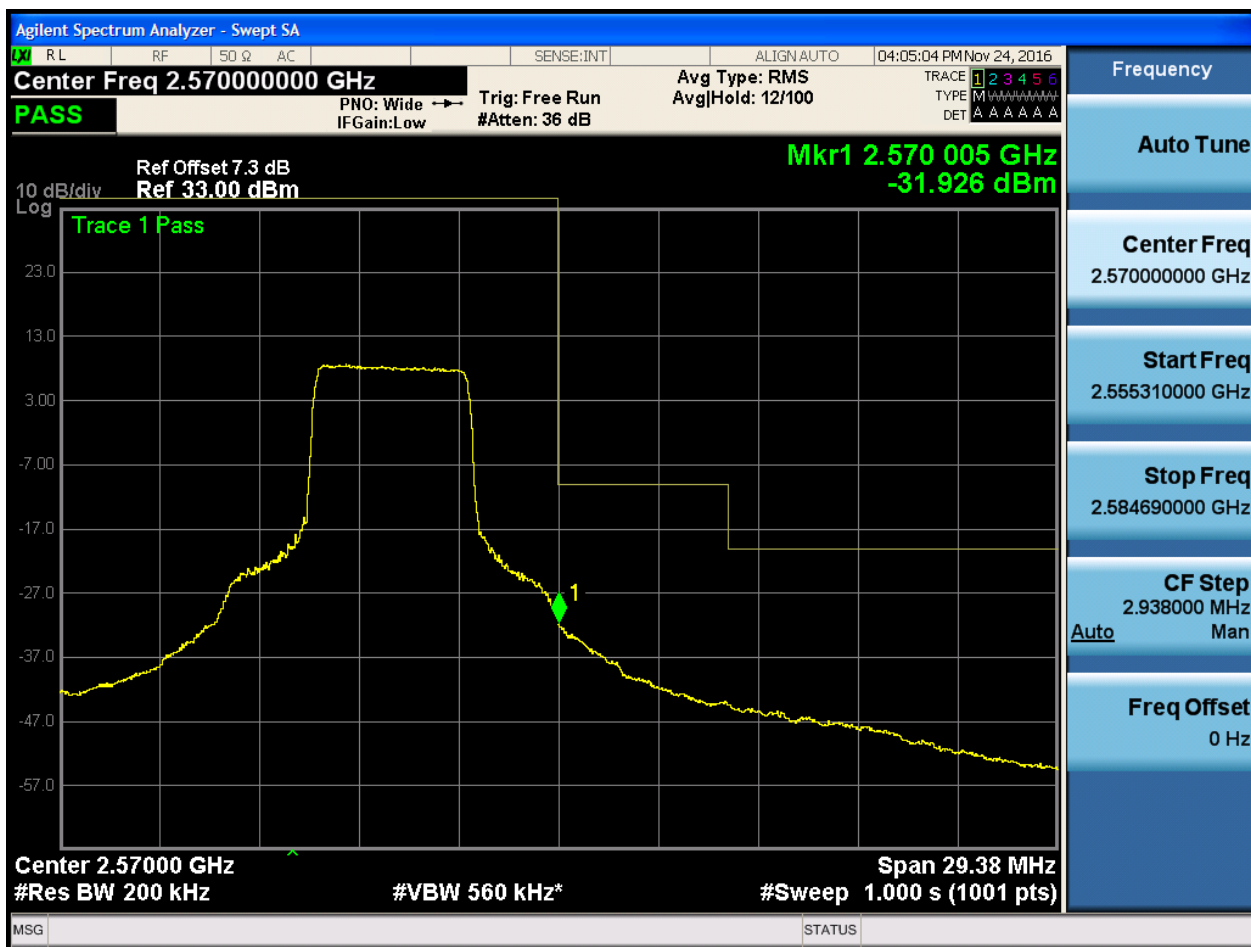


5.2.1.2.2.2.2 Test RB = RB1#49





5.2.1.2.2.3 Test RB = RB25#13





5.2.1.2.2.4 Test RB = RB50#0

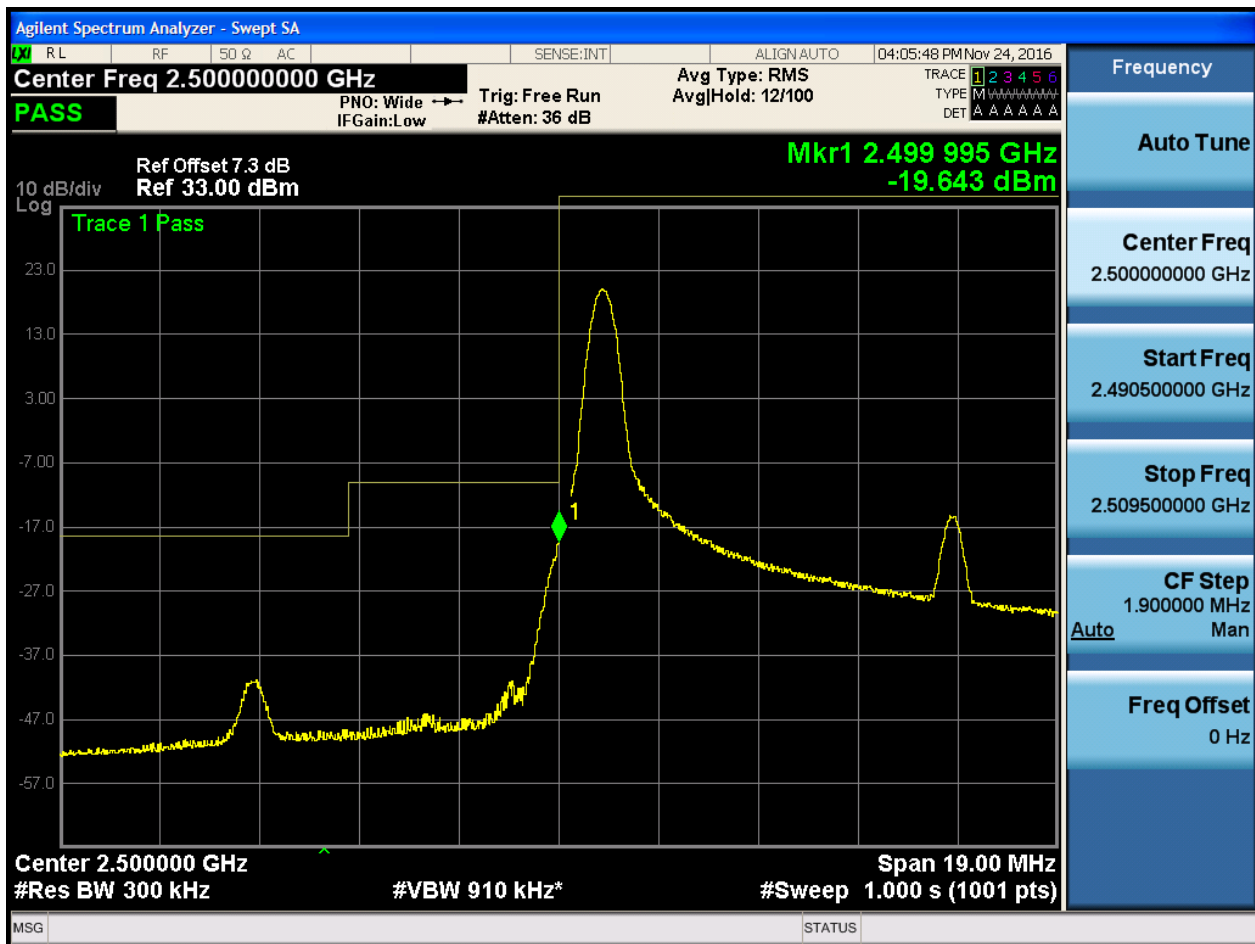




5.2.1.2.3 Test Bandwidth = 15

5.2.1.2.3.1 Test Channel = LCH

5.2.1.2.3.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 04:06:06 PM Nov 24, 2016

Center Freq 2.500000000 GHz Avg Type: RMS
#Res BW 300 kHz IF Gain: Low Trig: Free Run Avg Hold: 12/100
PNO: Wide IF Gain: Low #Atten: 36 dB

PASS

Ref Offset 7.3 dB Ref 33.00 dBm

Mkr1 2.499 995 GHz -39.900 dBm

10 dB/div Log

Trace 1 Pass

The spectrum analyzer display shows a signal at 2.5 GHz. The frequency scale ranges from 2.495 GHz to 2.505 GHz. The power scale ranges from -57.0 dBm to 23.0 dBm. A signal is visible at 2.500 GHz, and a peak is marked at 2.499995 GHz with a power of -39.900 dBm. The signal is identified as 'Trace 1 Pass'.

Center 2.500000 GHz Span 19.00 MHz
#Res BW 300 kHz #VBW 910 kHz* #Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.500000000 GHz

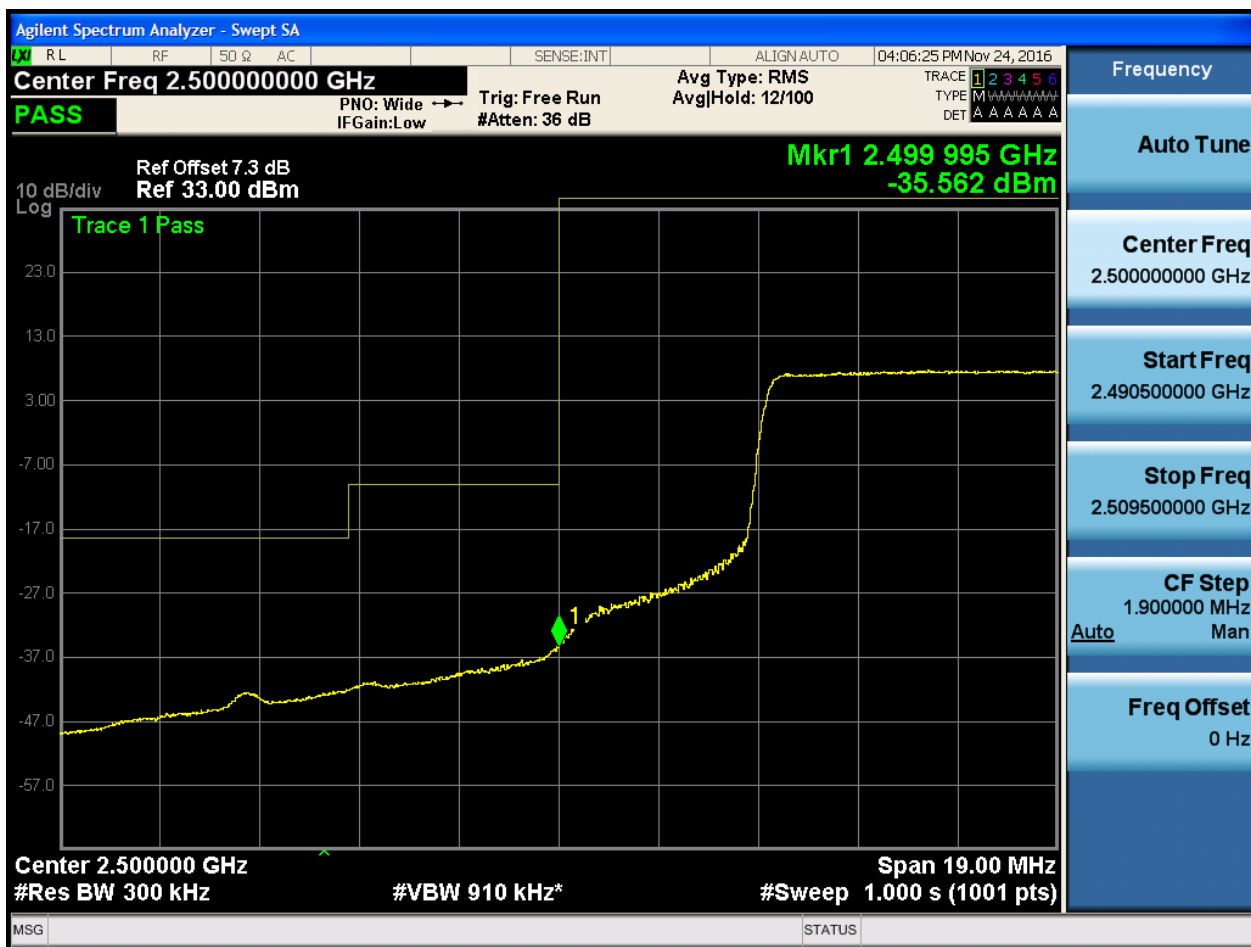
Start Freq
2.490500000 GHz

Stop Freq
2.509500000 GHz

CF Step
1.900000 MHz
Auto Man

Freq Offset
0 Hz

5.2.1.2.3.1.3 Test RB = RB36#18





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 04:06:43 PM Nov 24, 2016

Center Freq 2.500000000 GHz Avg Type: RMS
PASS PNO: Wide IFGain:Low Trig: Free Run AvgHold: 12/100
TRACE 1 2 3 4 5 6
TYPE M W W W W W W W W W
DET A A A A A A

Ref Offset 7.3 dB
Ref 33.00 dBm

Mkr1 2.499 995 GHz
-32.192 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.500000 GHz Span 19.00 MHz
#Res BW 300 kHz #VBW 910 kHz* #Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.500000000 GHz

Start Freq
2.490500000 GHz

Stop Freq
2.509500000 GHz

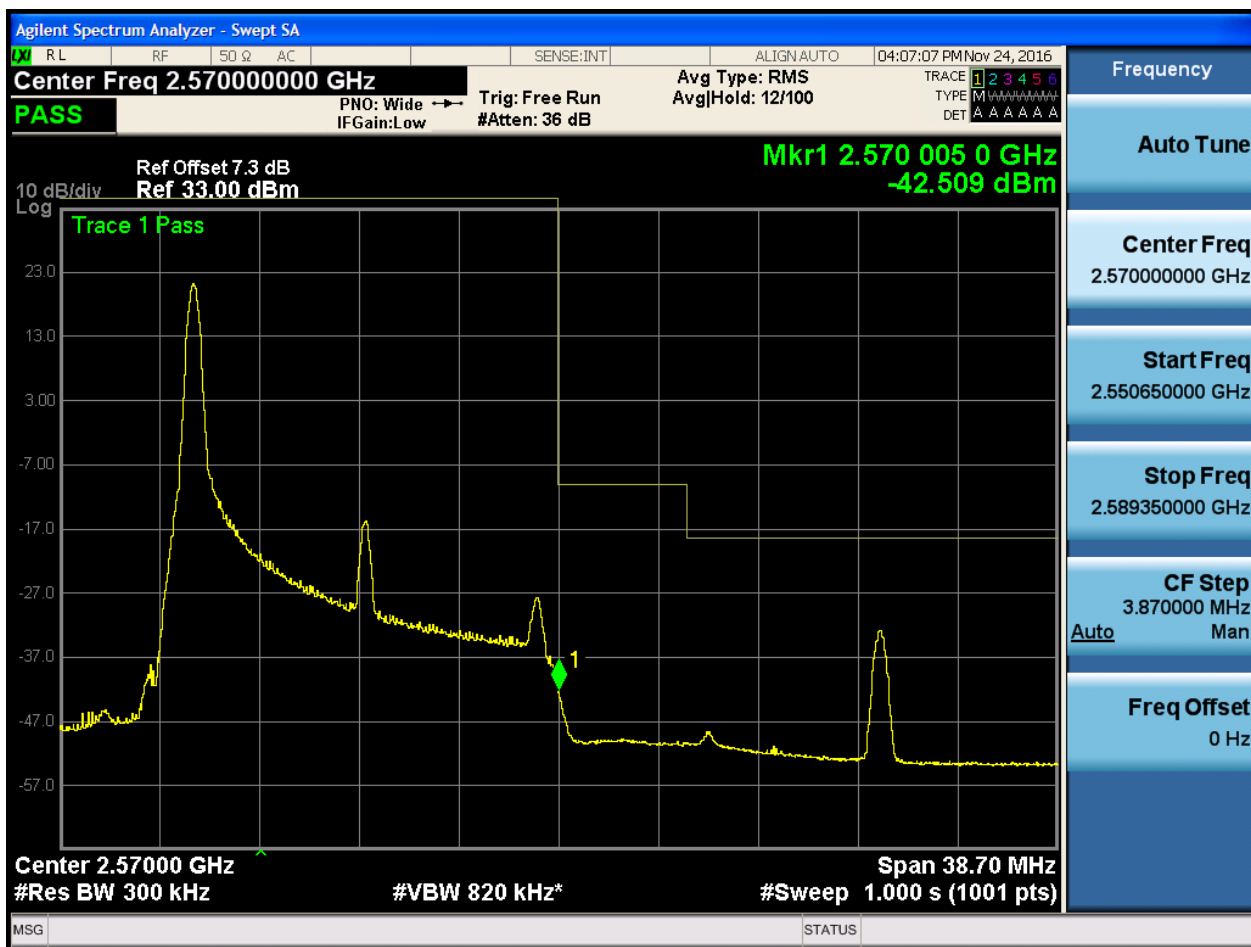
CF Step
1.900000 MHz
Auto Man

Freq Offset
0 Hz



5.2.1.2.3.2 Test Channel = HCH

5.2.1.2.3.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 04:07:26 PM Nov 24, 2016

Center Freq 2.57000000 GHz Avg Type: RMS
PASS PNO: Wide Trg: Free Run Avg/Hold: 12/100
IFGain:Low #Atten: 36 dB

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

Ref Offset 7.3 dB
Ref 33.00 dBm

Mkr1 2.570 005 0 GHz
-18.313 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.57000 GHz
#Res BW 300 kHz
#VBW 820 kHz*
Span 38.70 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.570000000 GHz

Start Freq
2.550650000 GHz

Stop Freq
2.589350000 GHz

CF Step
3.870000 MHz
Auto Man

Freq Offset
0 Hz



5.2.1.2.3.2.3 Test RB = RB36#18





5.2.1.2.3.2.4 Test RB = RB75#0

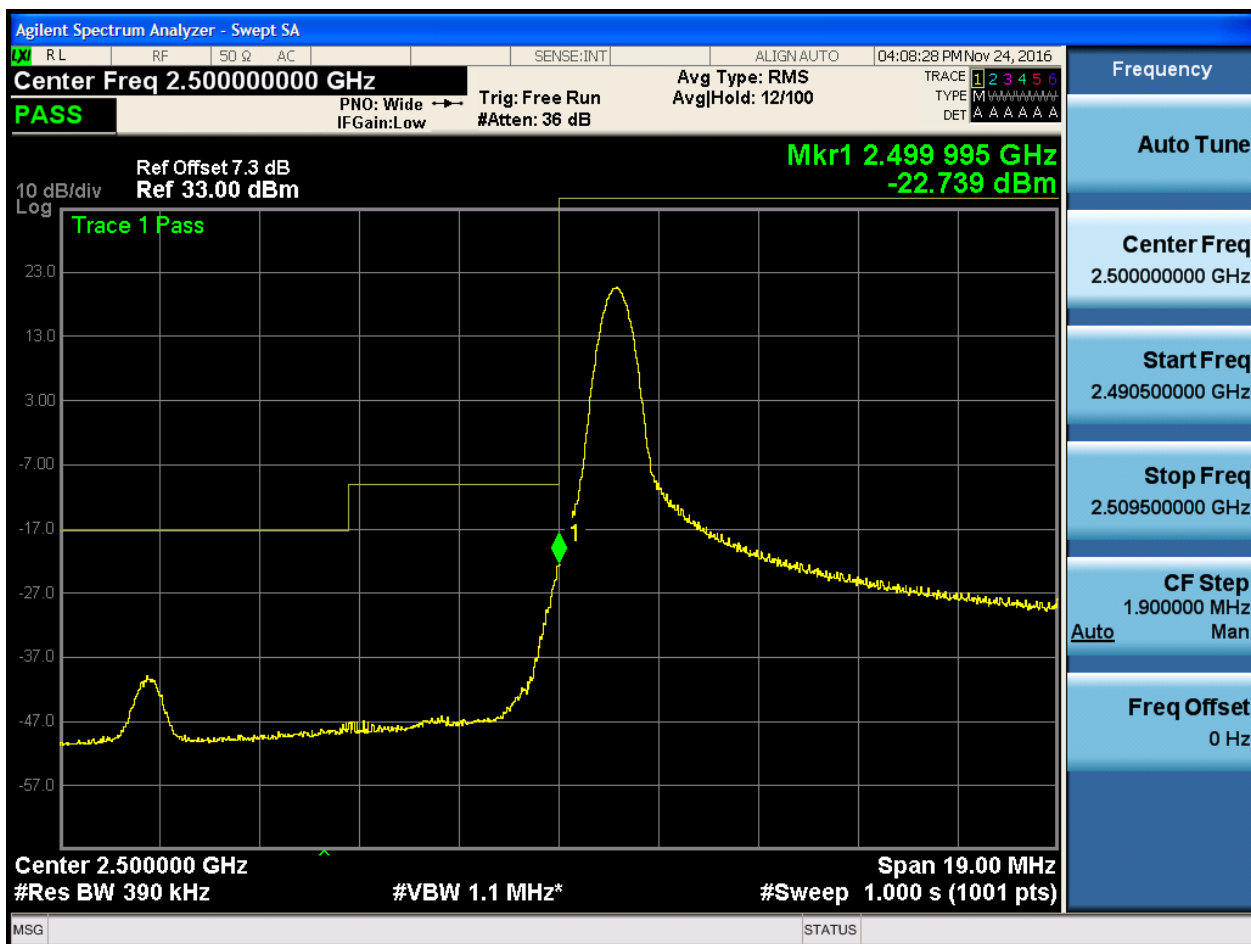




5.2.1.2.4 Test Bandwidth = 20

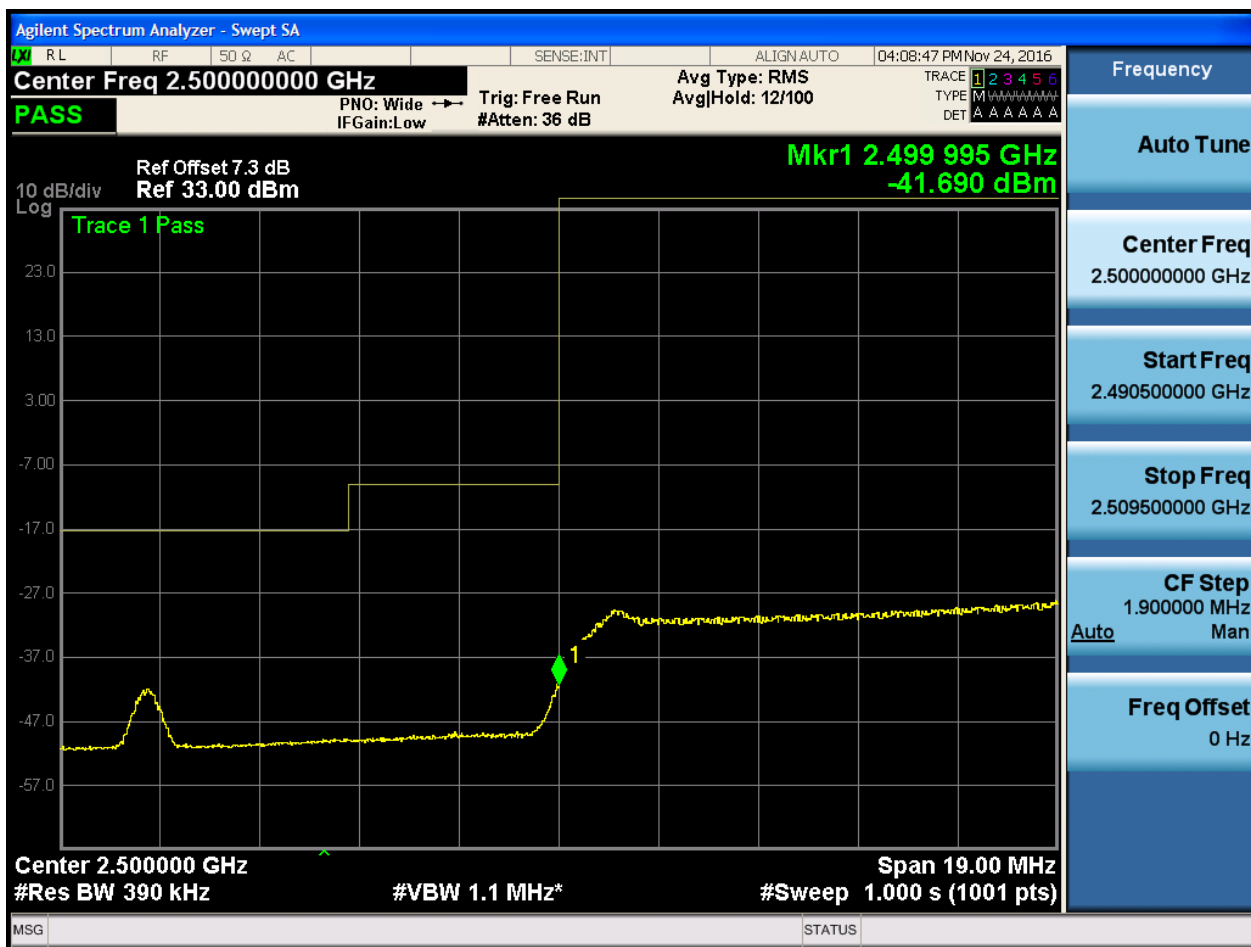
5.2.1.2.4.1 Test Channel = LCH

5.2.1.2.4.1.1 Test RB = RB1#0





5.2.1.2.4.1.2 Test RB = RB1#99





Agilent Spectrum Analyzer - Swept SA

Center Freq 2.500000000 GHz

PASS

Ref Offset 7.3 dB
Ref 33.00 dBm

Mkr1 2.499 995 GHz
-35.150 dBm

Trace 1 Pass

Center 2.500000 GHz
#Res BW 390 kHz
#VBW 1.1 MHz*

Span 19.00 MHz
#Sweep 1.000 s (1001 pts)

Frequency

Auto Tune

Center Freq
2.500000000 GHz

Start Freq
2.490500000 GHz

Stop Freq
2.509500000 GHz

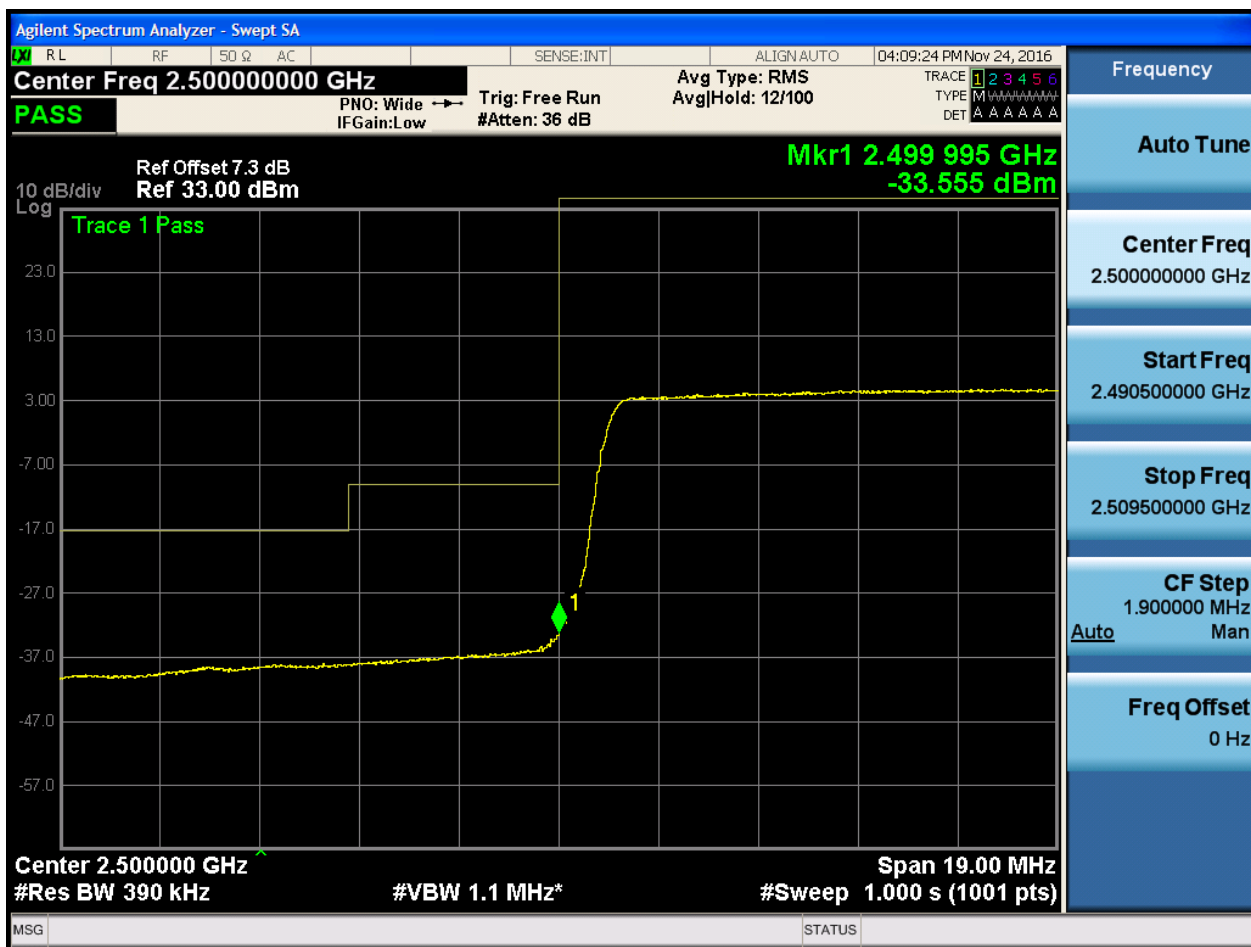
CF Step
1.900000 MHz
Man

Auto

Freq Offset
0 Hz



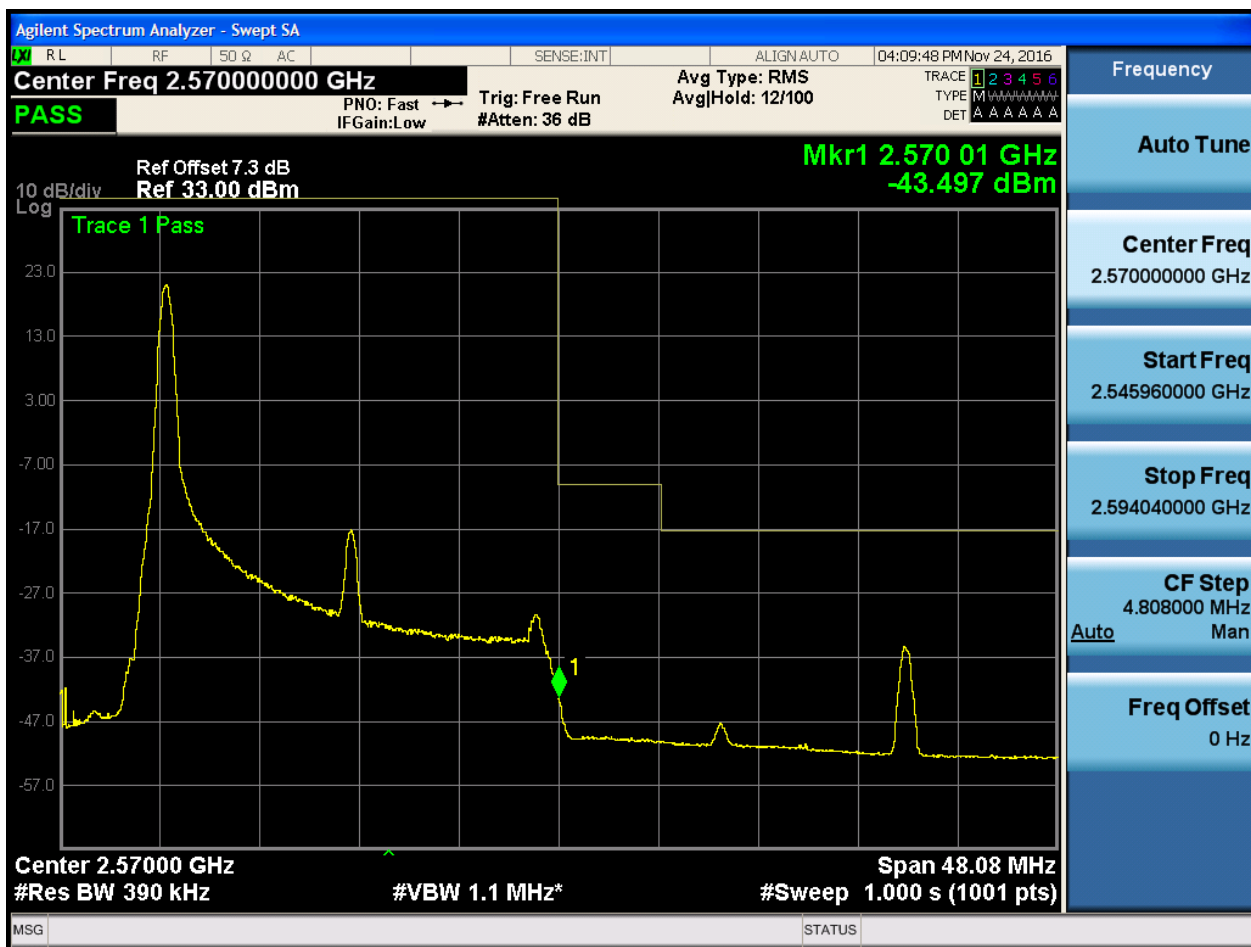
5.2.1.2.4.1.4 Test RB = RB100#0





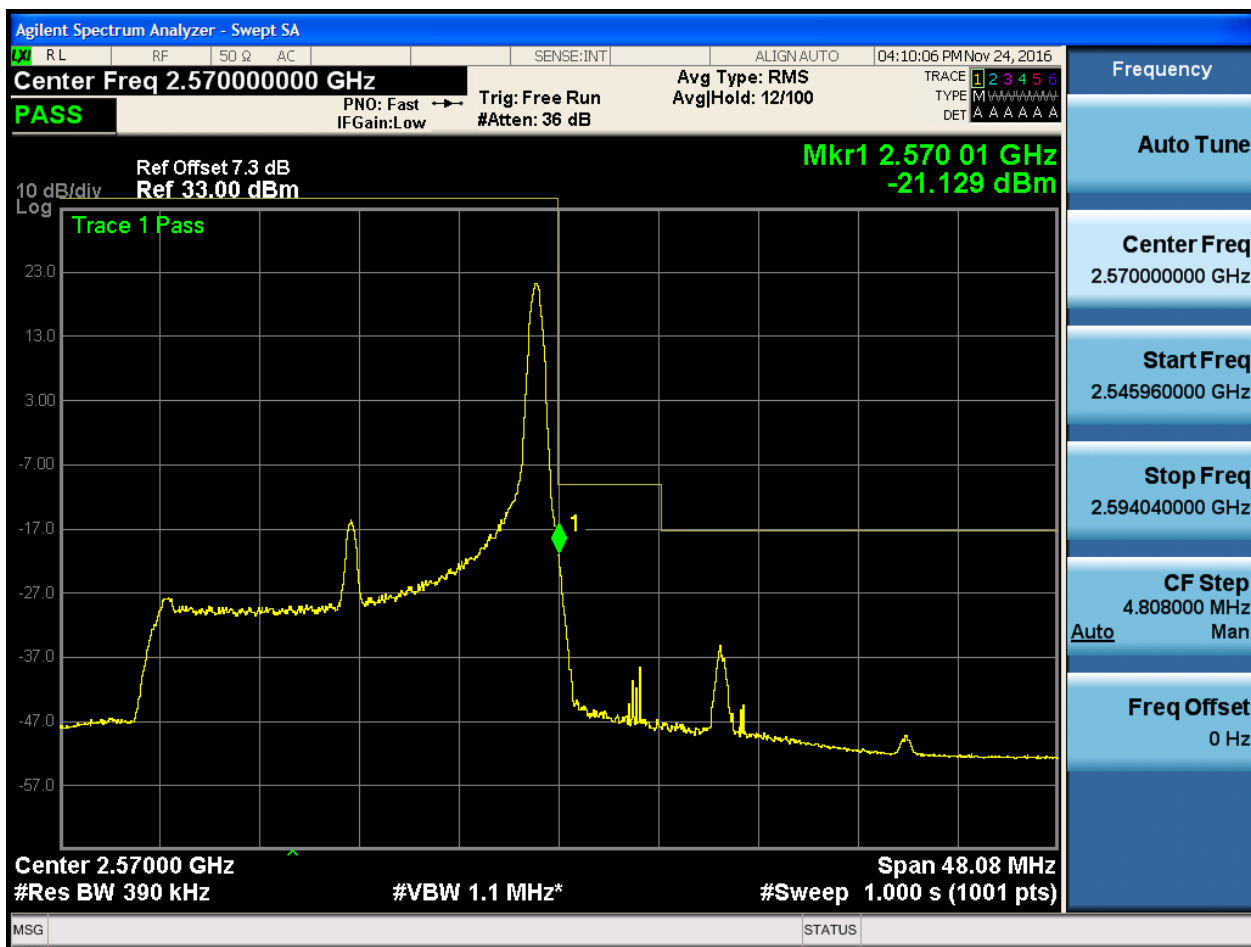
5.2.1.2.4.2 Test Channel = HCH

5.2.1.2.4.2.1 Test RB = RB1#0



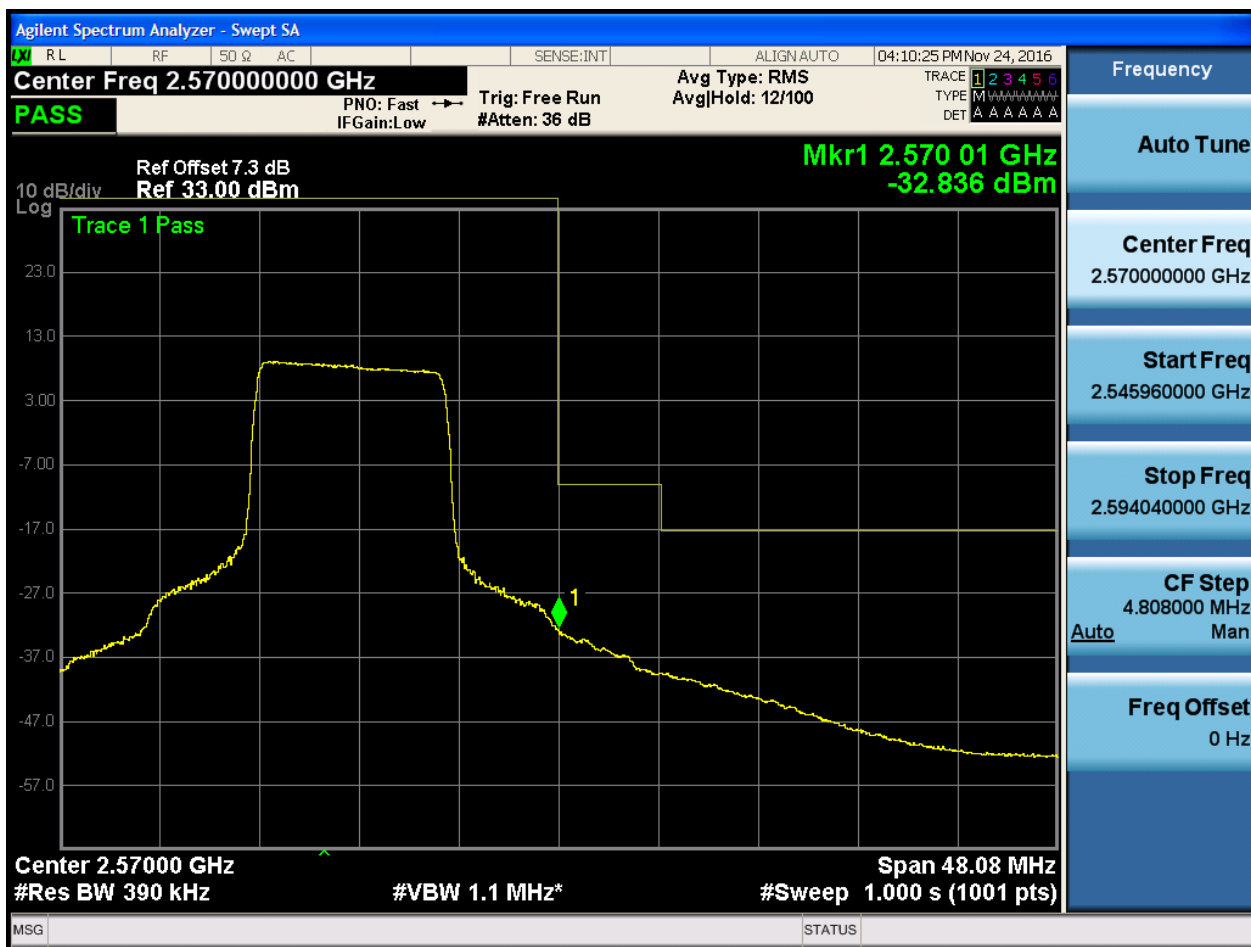


5.2.1.2.4.2.2 Test RB = RB1#99





5.2.1.2.4.2.3 Test RB = RB50#25





5.2.1.2.4.2.4 Test RB = RB100#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

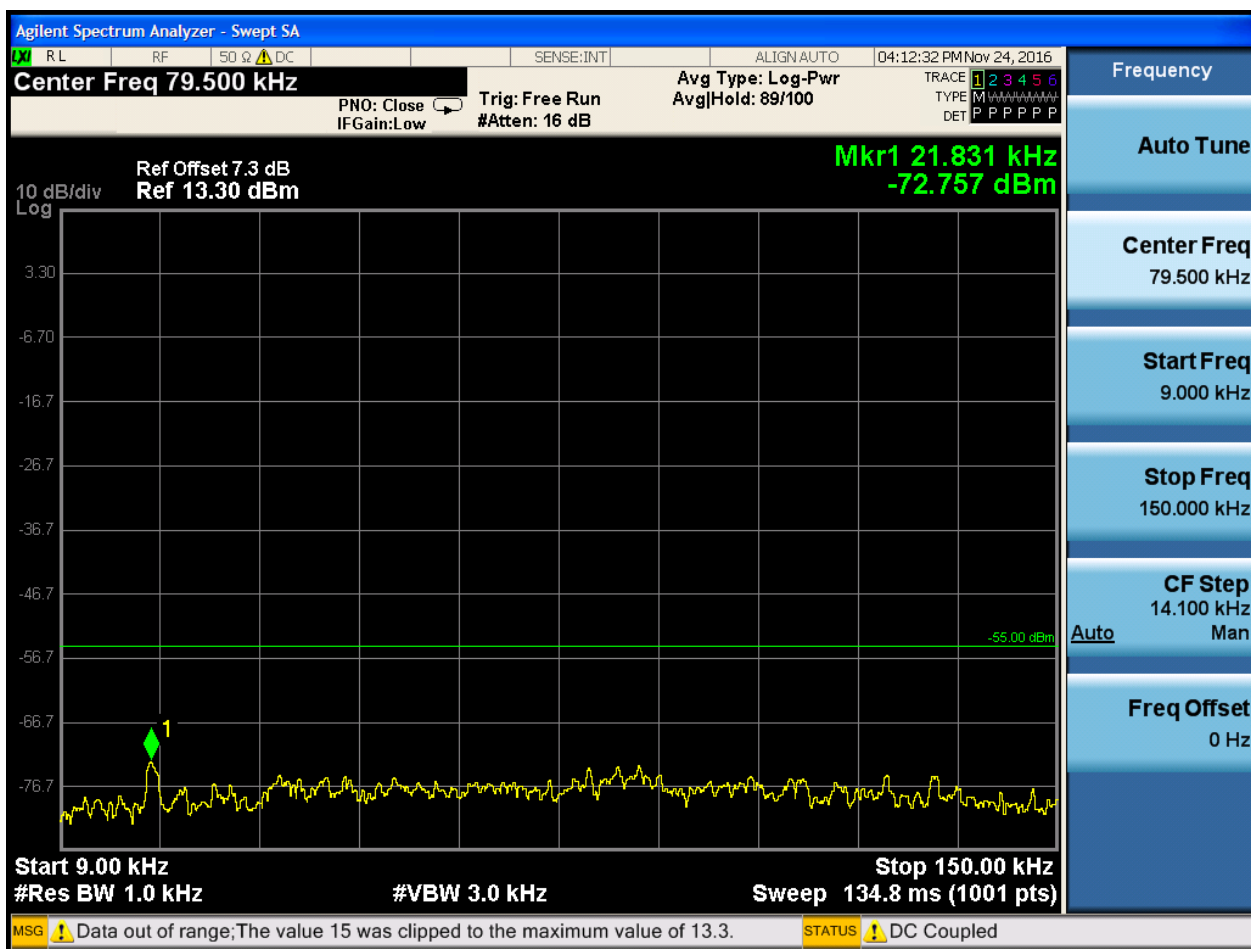
6.1.1 Test Band = BAND7

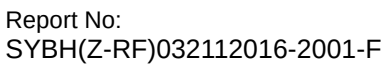
6.1.1.1 Test Mode = LTE/TM1

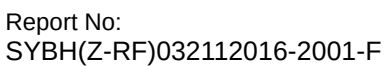
6.1.1.1.1 Test Bandwidth = 5

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0

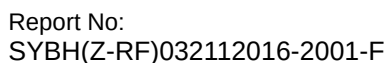


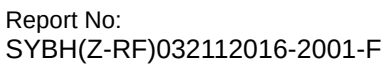


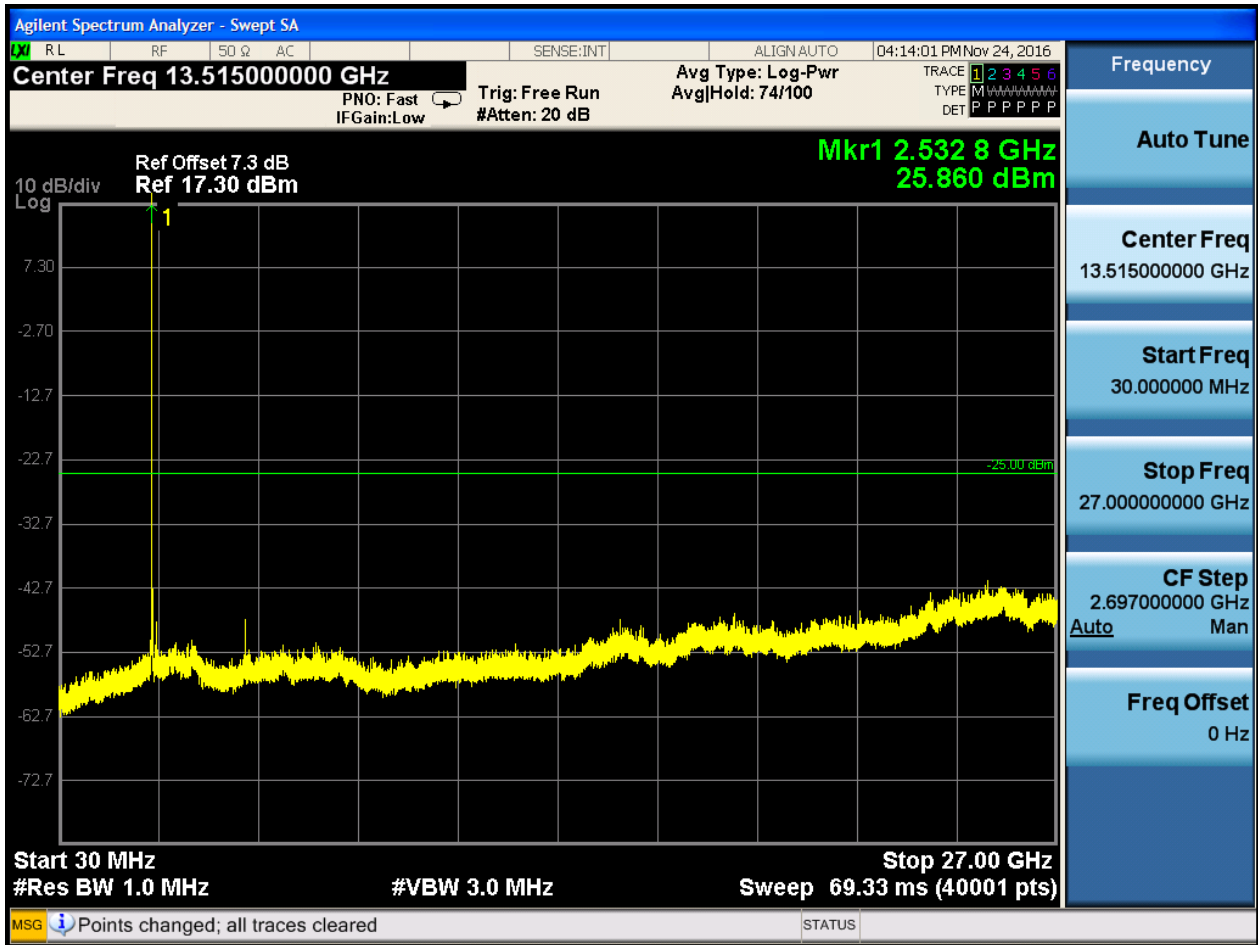




6.1.1.1.1.2.1 Test RB = RB1#0

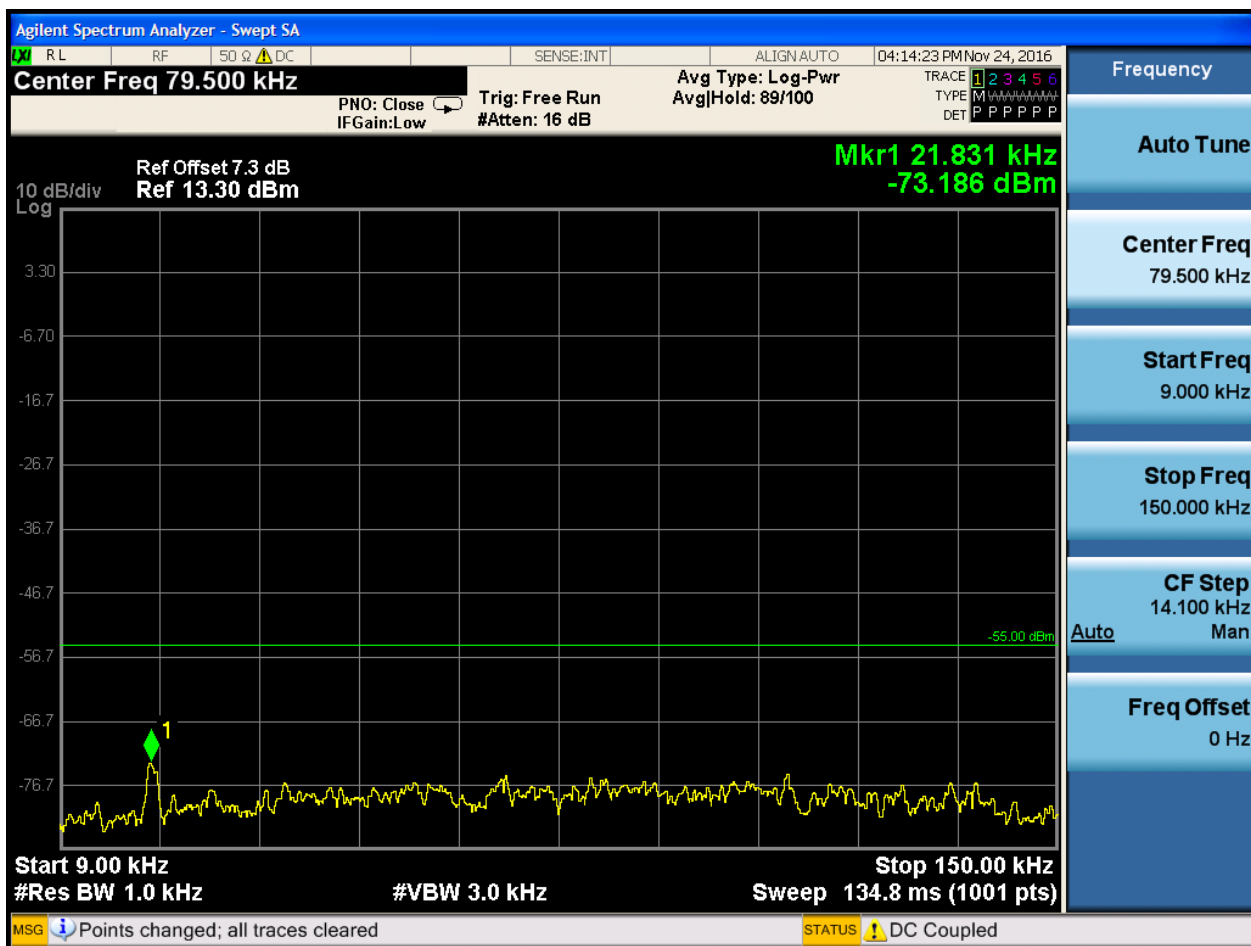


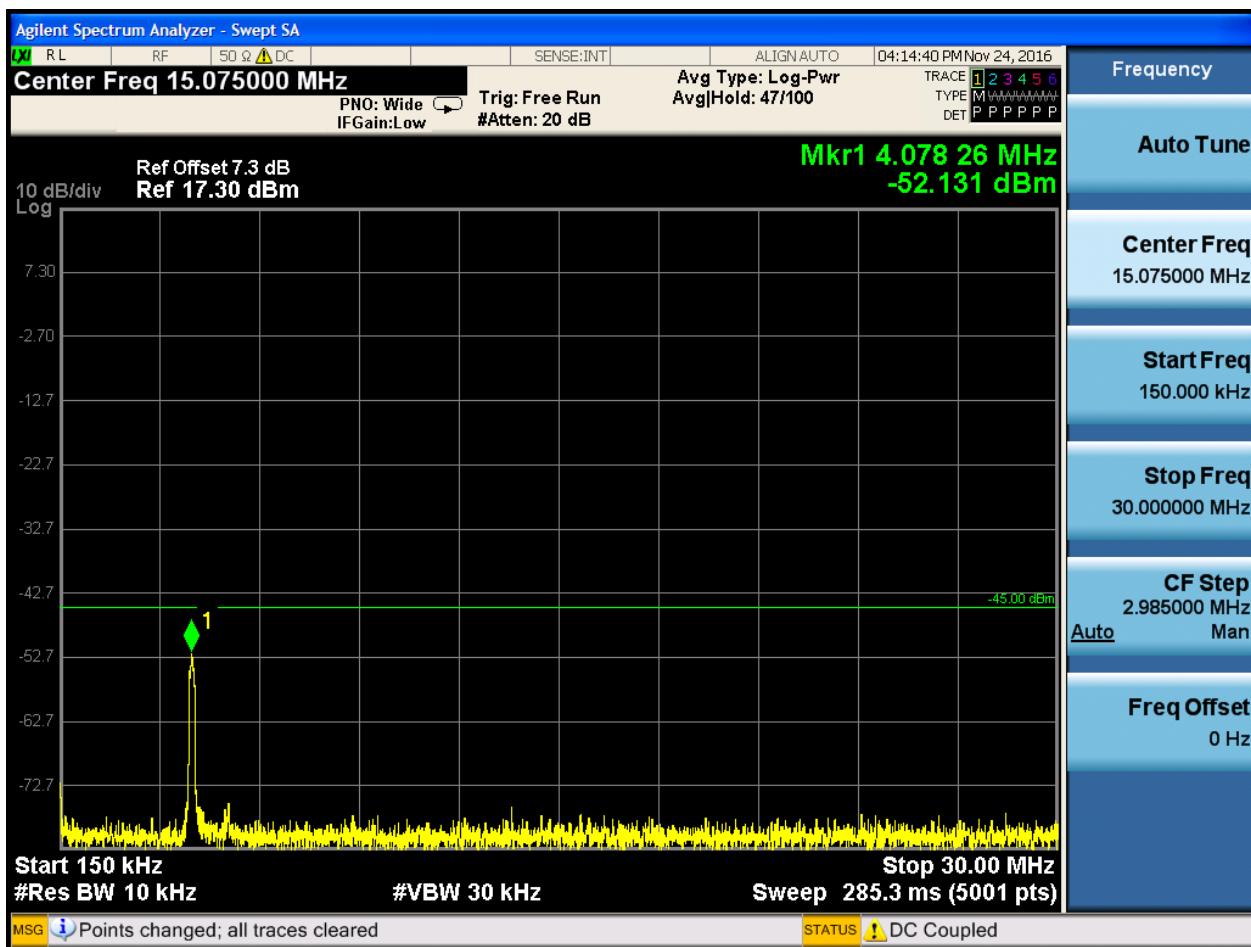


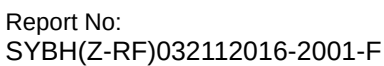


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0



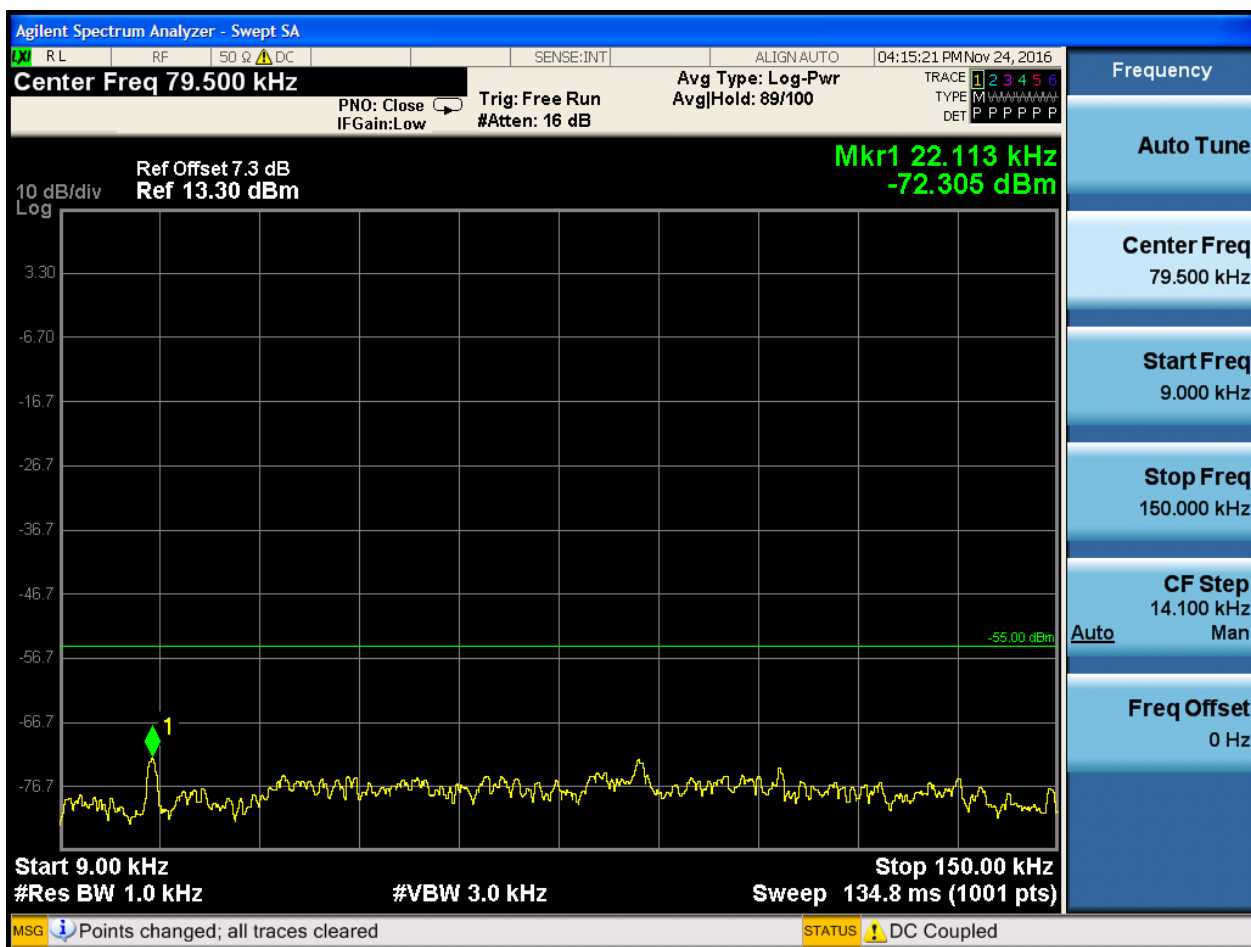


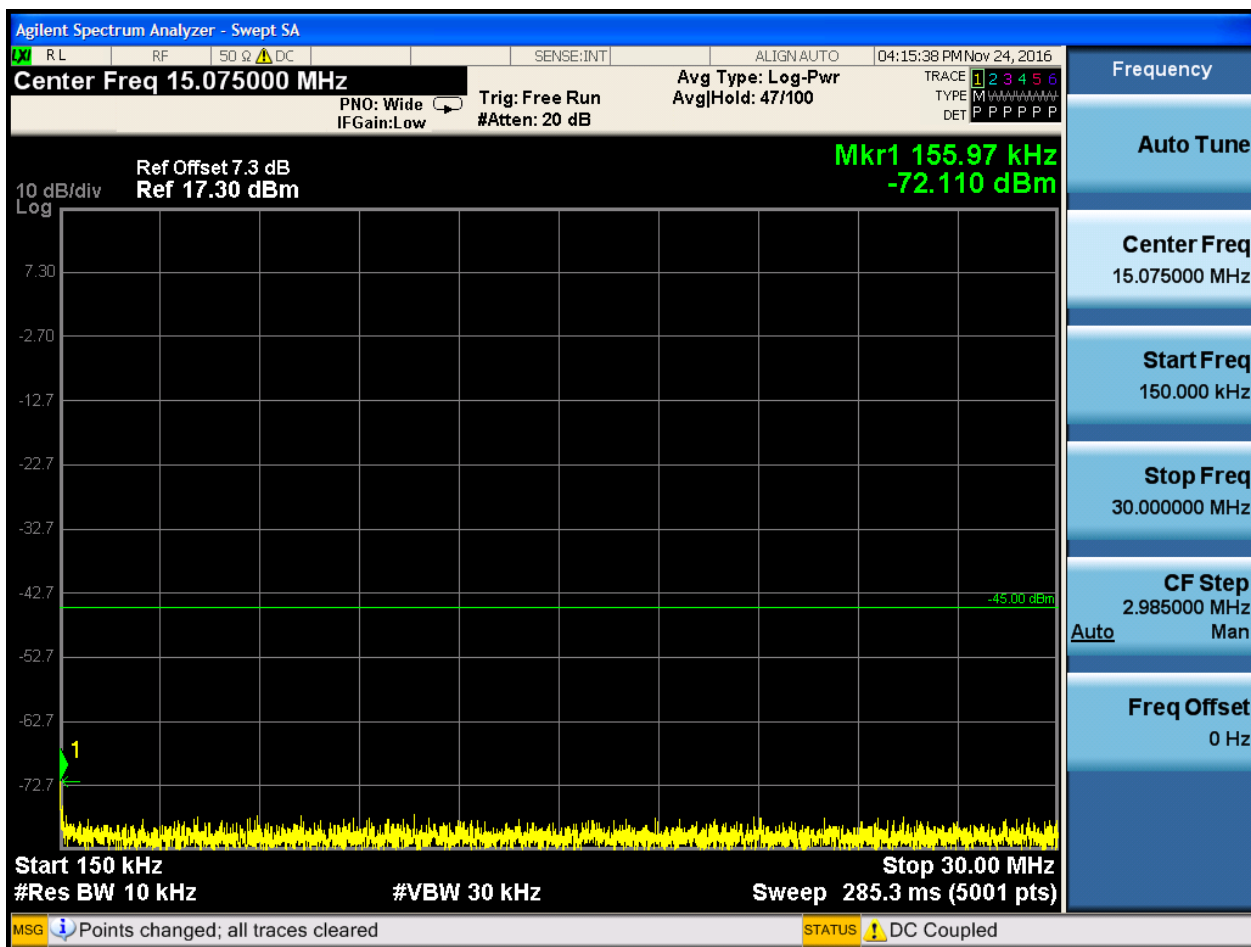


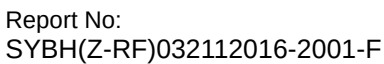
6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0



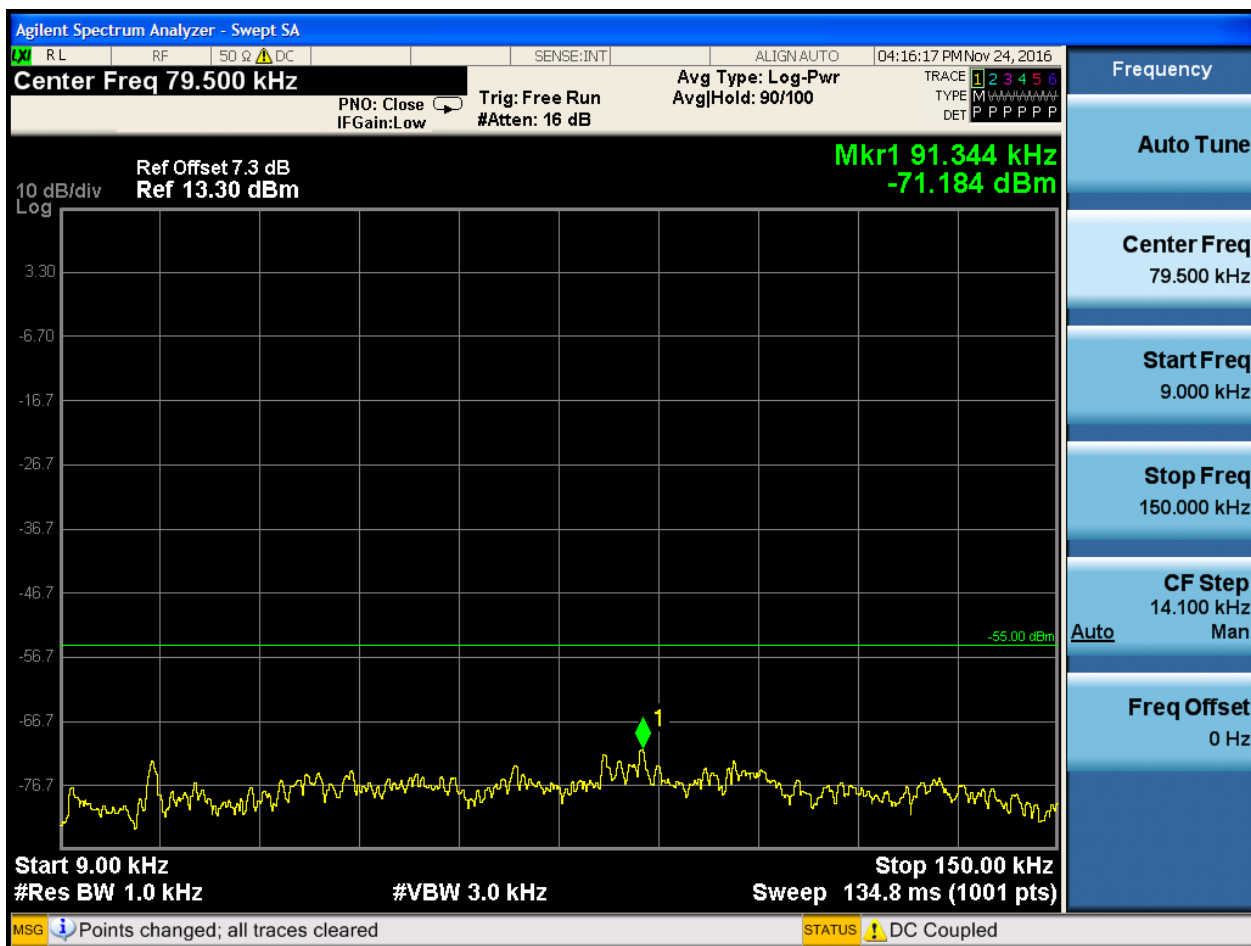


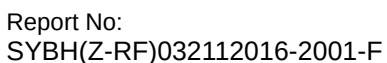


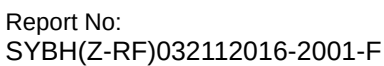


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0







6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0

