



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	22.11	23.10	33	PASS
				RB1#13	21.98	22.91	33	PASS
				RB1#24	21.99	22.97	33	PASS
				RB12#0	21.08	22.09	33	PASS
				RB12#6	21.11	22.11	33	PASS
				RB12#13	21.03	21.96	33	PASS
				RB25#0	21.05	22.14	33	PASS
			MCH	RB1#0	22.4	23.31	33	PASS
				RB1#13	22	23.08	33	PASS
				RB1#24	21.85	22.82	33	PASS
				RB12#0	21.34	22.28	33	PASS
				RB12#6	21.35	22.36	33	PASS
				RB12#13	20.85	21.86	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB25#0	20.86	21.89	33	PASS
			HCH	RB1#0	21.45	22.42	33	PASS
				RB1#13	21.63	22.58	33	PASS
				RB1#24	21.58	22.61	33	PASS
				RB12#0	20.69	21.62	33	PASS
				RB12#6	20.69	21.78	33	PASS
				RB12#13	20.68	21.69	33	PASS
				RB25#0	20.57	21.64	33	PASS
		10	LCH	RB1#0	22.05	23.08	33	PASS
				RB1#25	22.84	23.81	33	PASS
				RB1#49	22.05	23.13	33	PASS
				RB25#0	21	21.91	33	PASS
				RB25#13	21.02	22.01	33	PASS
				RB25#25	21	22.06	33	PASS
				RB50#0	20.79	21.75	33	PASS
			MCH	RB1#0	22.21	23.29	33	PASS
				RB1#25	22.81	23.91	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#49	22.26	23.32	33	PASS
				RB25#0	21.3	22.25	33	PASS
				RB25#13	21.01	21.93	33	PASS
				RB25#25	21	21.96	33	PASS
				RB50#0	21.04	22.11	33	PASS
			HCH	RB1#0	21.73	22.70	33	PASS
				RB1#25	22.64	23.74	33	PASS
				RB1#49	21.93	22.89	33	PASS
				RB25#0	20.66	21.57	33	PASS
				RB25#13	20.56	21.59	33	PASS
				RB25#25	20.46	21.43	33	PASS
				RB50#0	20.59	21.63	33	PASS
		15	LCH	RB1#0	21.97	22.90	33	PASS
				RB1#38	22.08	22.98	33	PASS
				RB1#74	21.99	23.05	33	PASS
				RB36#0	20.89	21.84	33	PASS
				RB36#18	21.04	22.10	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB36#39	21.06	22.08	33	PASS
				RB75#0	20.82	21.81	33	PASS
			MCH	RB1#0	21.94	22.99	33	PASS
				RB1#38	22.02	22.95	33	PASS
				RB1#74	21.77	22.81	33	PASS
				RB36#0	21.09	22.10	33	PASS
				RB36#18	21.07	22.10	33	PASS
				RB36#39	20.99	21.90	33	PASS
				RB75#0	21.01	22.00	33	PASS
			HCH	RB1#0	21.83	22.87	33	PASS
				RB1#38	21.42	22.32	33	PASS
				RB1#74	21.52	22.45	33	PASS
				RB36#0	20.88	21.84	33	PASS
				RB36#18	20.55	21.49	33	PASS
				RB36#39	20.53	21.55	33	PASS
				RB75#0	20.62	21.60	33	PASS
		20	LCH	RB1#0	21.71	22.67	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#50	22.07	23.11	33	PASS
				RB1#99	22.05	22.99	33	PASS
				RB50#0	21	21.94	33	PASS
				RB50#25	21.21	22.26	33	PASS
				RB50#50	20.9	21.94	33	PASS
				RB100#0	20.82	21.78	33	PASS
			MCH	RB1#0	21.95	22.90	33	PASS
				RB1#50	22.01	23.04	33	PASS
				RB1#99	22.41	23.34	33	PASS
				RB50#0	21.11	22.20	33	PASS
				RB50#25	21.11	22.14	33	PASS
				RB50#50	21.19	22.27	33	PASS
				RB100#0	21.19	22.12	33	PASS
			HCH	RB1#0	21.79	22.73	33	PASS
				RB1#50	21.58	22.58	33	PASS
				RB1#99	21.78	22.81	33	PASS
				RB50#0	20.9	21.98	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB50#25	20.72	21.63	33	PASS
				RB50#50	20.58	21.62	33	PASS
				RB100#0	20.69	21.65	33	PASS
	LTE/TM2	5	LCH	RB1#0	21.06	21.97	33	PASS
				RB1#13	21.02	22.09	33	PASS
				RB1#24	20.97	21.99	33	PASS
				RB12#0	20.03	21.10	33	PASS
				RB12#6	20.01	20.93	33	PASS
				RB12#13	19.98	21.03	33	PASS
				RB25#0	20.13	21.15	33	PASS
			MCH	RB1#0	21.4	22.42	33	PASS
				RB1#13	21.23	22.17	33	PASS
				RB1#24	21.04	21.95	33	PASS
				RB12#0	20.27	21.32	33	PASS
				RB12#6	20.29	21.20	33	PASS
				RB12#13	20.05	21.03	33	PASS
				RB25#0	20.03	20.97	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
			HCH	RB1#0	20.86	21.85	33	PASS
				RB1#13	20.96	22.02	33	PASS
				RB1#24	20.89	21.94	33	PASS
				RB12#0	20.01	21.07	33	PASS
				RB12#6	20.02	20.98	33	PASS
				RB12#13	19.92	20.85	33	PASS
				RB25#0	19.85	20.86	33	PASS
		10	LCH	RB1#0	21.21	22.22	33	PASS
				RB1#25	21.88	22.83	33	PASS
				RB1#49	21.37	22.45	33	PASS
				RB25#0	20.17	21.13	33	PASS
				RB25#13	20.11	21.03	33	PASS
				RB25#25	20.06	21.16	33	PASS
				RB50#0	19.89	20.97	33	PASS
			MCH	RB1#0	21.19	22.22	33	PASS
				RB1#25	21.86	22.79	33	PASS
				RB1#49	21.18	22.23	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB25#0	20.2	21.29	33	PASS
				RB25#13	19.97	21.06	33	PASS
				RB25#25	19.9	20.86	33	PASS
				RB50#0	19.96	20.99	33	PASS
			HCH	RB1#0	20.93	21.85	33	PASS
				RB1#25	21.42	22.33	33	PASS
				RB1#49	20.88	21.85	33	PASS
				RB25#0	19.89	20.93	33	PASS
				RB25#13	19.8	20.89	33	PASS
				RB25#25	19.7	20.63	33	PASS
				RB50#0	19.79	20.86	33	PASS
		15	LCH	RB1#0	21	21.92	33	PASS
				RB1#38	21.08	22.01	33	PASS
				RB1#74	21.01	22.07	33	PASS
				RB36#0	20.1	21.08	33	PASS
				RB36#18	20.24	21.31	33	PASS
				RB36#39	20.29	21.38	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB75#0	19.93	21.02	33	PASS
			MCH	RB1#0	21.1	22.18	33	PASS
				RB1#38	21.2	22.29	33	PASS
				RB1#74	21	21.97	33	PASS
				RB36#0	20.1	21.02	33	PASS
				RB36#18	20.02	21.03	33	PASS
				RB36#39	19.94	21.01	33	PASS
				RB75#0	19.98	21.04	33	PASS
			HCH	RB1#0	21	21.97	33	PASS
				RB1#38	20.73	21.63	33	PASS
				RB1#74	20.65	21.59	33	PASS
				RB36#0	20.22	21.15	33	PASS
				RB36#18	19.78	20.81	33	PASS
				RB36#39	19.7	20.67	33	PASS
				RB75#0	19.88	20.97	33	PASS
		20	LCH	RB1#0	21.03	22.05	33	PASS
				RB1#50	21.37	22.28	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#99	21.4	22.45	33	PASS
				RB50#0	20.13	21.06	33	PASS
				RB50#25	20.34	21.42	33	PASS
				RB50#50	20.01	21.06	33	PASS
				RB100#0	19.94	20.94	33	PASS
			MCH	RB1#0	21.13	22.19	33	PASS
				RB1#50	21.21	22.31	33	PASS
				RB1#99	21.57	22.62	33	PASS
				RB50#0	20.1	21.04	33	PASS
				RB50#25	20	20.97	33	PASS
				RB50#50	20.05	21.10	33	PASS
				RB100#0	20.07	21.17	33	PASS
			HCH	RB1#0	20.9	21.86	33	PASS
				RB1#50	20.84	21.93	33	PASS
				RB1#99	20.73	21.72	33	PASS
				RB50#0	20.19	21.15	33	PASS
				RB50#25	19.93	20.94	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB50#50	19.74	20.71	33	PASS
				RB100#0	19.96	20.93	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,

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

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

b, SGP=Signal Generator Level

Note2:

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

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

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

SET Sweep time=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	4.51	13	PASS
				RB1#13	4.53	13	PASS
				RB1#24	4.4	13	PASS
				RB12#0	5.29	13	PASS
				RB12#6	5.21	13	PASS
				RB12#13	5.23	13	PASS
				RB25#0	5.79	13	PASS
			MCH	RB1#0	4.66	13	PASS
				RB1#13	4.52	13	PASS
				RB1#24	4.52	13	PASS
				RB12#0	5.45	13	PASS
				RB12#6	5.28	13	PASS
				RB12#13	5.28	13	PASS
				RB25#0	5.61	13	PASS
			HCH	RB1#0	3.97	13	PASS
				RB1#13	3.92	13	PASS
				RB1#24	4	13	PASS
				RB12#0	4.78	13	PASS
				RB12#6	4.64	13	PASS
				RB12#13	4.89	13	PASS
				RB25#0	5.3	13	PASS
		10	LCH	RB1#0	4.12	13	PASS
				RB1#25	3.76	13	PASS
				RB1#49	3.96	13	PASS
				RB25#0	5.43	13	PASS
				RB25#13	5.24	13	PASS
				RB25#25	5.29	13	PASS
				RB50#0	5.8	13	PASS
			MCH	RB1#0	4.53	13	PASS
				RB1#25	4.08	13	PASS
				RB1#49	4.56	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
				RB25#0	5.46	13	PASS
				RB25#13	5.3	13	PASS
				RB25#25	5.37	13	PASS
				RB50#0	5.76	13	PASS
			HCH	RB1#0	3.93	13	PASS
				RB1#25	4.11	13	PASS
				RB1#49	4.6	13	PASS
				RB25#0	4.93	13	PASS
				RB25#13	4.76	13	PASS
				RB25#25	5.06	13	PASS
				RB50#0	5.5	13	PASS
		15	LCH	RB1#0	4.22	13	PASS
				RB1#38	4.02	13	PASS
				RB1#74	4.15	13	PASS
				RB36#0	5.35	13	PASS
				RB36#18	4.95	13	PASS
				RB36#39	5.13	13	PASS
				RB75#0	5.92	13	PASS
			MCH	RB1#0	4.58	13	PASS
				RB1#38	4.33	13	PASS
				RB1#74	4.39	13	PASS
				RB36#0	5.68	13	PASS
				RB36#18	5.19	13	PASS
				RB36#39	5.48	13	PASS
				RB75#0	6.06	13	PASS
			HCH	RB1#0	4.06	13	PASS
				RB1#38	3.92	13	PASS
				RB1#74	4.03	13	PASS
				RB36#0	4.97	13	PASS
				RB36#18	4.77	13	PASS
				RB36#39	5	13	PASS
				RB75#0	5.78	13	PASS
		20	LCH	RB1#0	4.5	13	PASS
				RB1#50	4.02	13	PASS
				RB1#99	4.16	13	PASS
				RB50#0	5.29	13	PASS
				RB50#25	4.89	13	PASS
				RB50#50	5.27	13	PASS
				RB100#0	5.74	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
			MCH	RB1#0	4.25	13	PASS
				RB1#50	4.19	13	PASS
				RB1#99	4.33	13	PASS
				RB50#0	5.66	13	PASS
				RB50#25	5.22	13	PASS
				RB50#50	5.28	13	PASS
				RB100#0	5.83	13	PASS
			HCH	RB1#0	4.2	13	PASS
				RB1#50	3.78	13	PASS
				RB1#99	3.92	13	PASS
				RB50#0	5.15	13	PASS
				RB50#25	4.84	13	PASS
				RB50#50	4.93	13	PASS
				RB100#0	5.6	13	PASS
	LTE/TM2	5	LCH	RB1#0	5.35	13	PASS
				RB1#13	5.17	13	PASS
				RB1#24	5.11	13	PASS
				RB12#0	6.05	13	PASS
				RB12#6	5.98	13	PASS
				RB12#13	6.14	13	PASS
				RB25#0	6.3	13	PASS
			MCH	RB1#0	4.99	13	PASS
				RB1#13	4.83	13	PASS
				RB1#24	4.94	13	PASS
				RB12#0	6.07	13	PASS
				RB12#6	5.81	13	PASS
				RB12#13	5.91	13	PASS
				RB25#0	6.31	13	PASS
		10	HCH	RB1#0	4.44	13	PASS
				RB1#13	4.24	13	PASS
				RB1#24	4.62	13	PASS
				RB12#0	5.41	13	PASS
				RB12#6	5.26	13	PASS
				RB12#13	5.48	13	PASS
				RB25#0	5.93	13	PASS
		10	LCH	RB1#0	5.15	13	PASS
				RB1#25	4.68	13	PASS
				RB1#49	4.99	13	PASS
				RB25#0	6	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
				RB25#13	5.95	13	PASS
				RB25#25	5.98	13	PASS
				RB50#0	6.38	13	PASS
			MCH	RB1#0	5.25	13	PASS
				RB1#25	4.47	13	PASS
				RB1#49	5.07	13	PASS
				RB25#0	5.95	13	PASS
				RB25#13	5.72	13	PASS
				RB25#25	5.9	13	PASS
				RB50#0	6.39	13	PASS
			HCH	RB1#0	4.39	13	PASS
				RB1#25	4.19	13	PASS
				RB1#49	4.39	13	PASS
				RB25#0	5.76	13	PASS
				RB25#13	5.56	13	PASS
				RB25#25	5.76	13	PASS
				RB50#0	6.14	13	PASS
		15	LCH	RB1#0	5.29	13	PASS
				RB1#38	5.06	13	PASS
				RB1#74	4.94	13	PASS
				RB36#0	6.22	13	PASS
				RB36#18	5.91	13	PASS
				RB36#39	6.07	13	PASS
				RB75#0	6.65	13	PASS
			MCH	RB1#0	5.75	13	PASS
				RB1#38	4.81	13	PASS
				RB1#74	4.85	13	PASS
				RB36#0	6.42	13	PASS
				RB36#18	5.72	13	PASS
				RB36#39	6.08	13	PASS
				RB75#0	6.54	13	PASS
			HCH	RB1#0	4.98	13	PASS
				RB1#38	4.79	13	PASS
				RB1#74	4.92	13	PASS
				RB36#0	5.85	13	PASS
				RB36#18	5.61	13	PASS
				RB36#39	5.88	13	PASS
				RB75#0	6.46	13	PASS
		20	LCH	RB1#0	4.93	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
				RB1#50	4.54	13	PASS
				RB1#99	4.75	13	PASS
				RB50#0	6.31	13	PASS
				RB50#25	5.86	13	PASS
				RB50#50	6.21	13	PASS
				RB100#0	6.7	13	PASS
			MCH	RB1#0	5.22	13	PASS
				RB1#50	4.68	13	PASS
				RB1#99	4.75	13	PASS
				RB50#0	6.29	13	PASS
				RB50#25	5.65	13	PASS
				RB50#50	5.81	13	PASS
				RB100#0	6.47	13	PASS
			HCH	RB1#0	5.26	13	PASS
				RB1#50	4.78	13	PASS
				RB1#99	4.77	13	PASS
				RB50#0	6.11	13	PASS
				RB50#25	5.65	13	PASS
				RB50#50	5.82	13	PASS
				RB100#0	6.49	13	PASS

3Appendix_C: Modulation Characteristics

Part I - Test Plots

3.1 For LTE

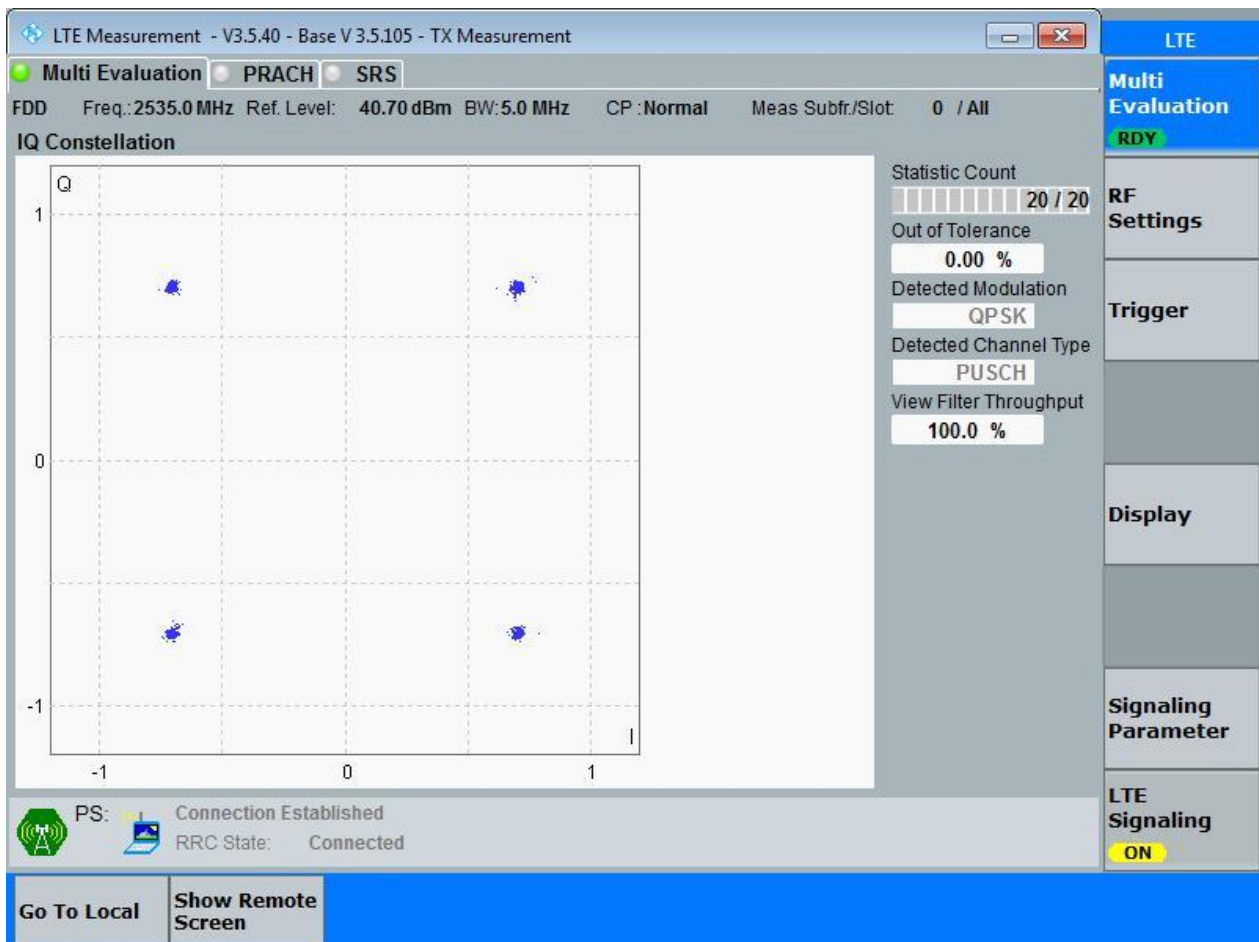
3.1.1 Test Band = BAND7

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

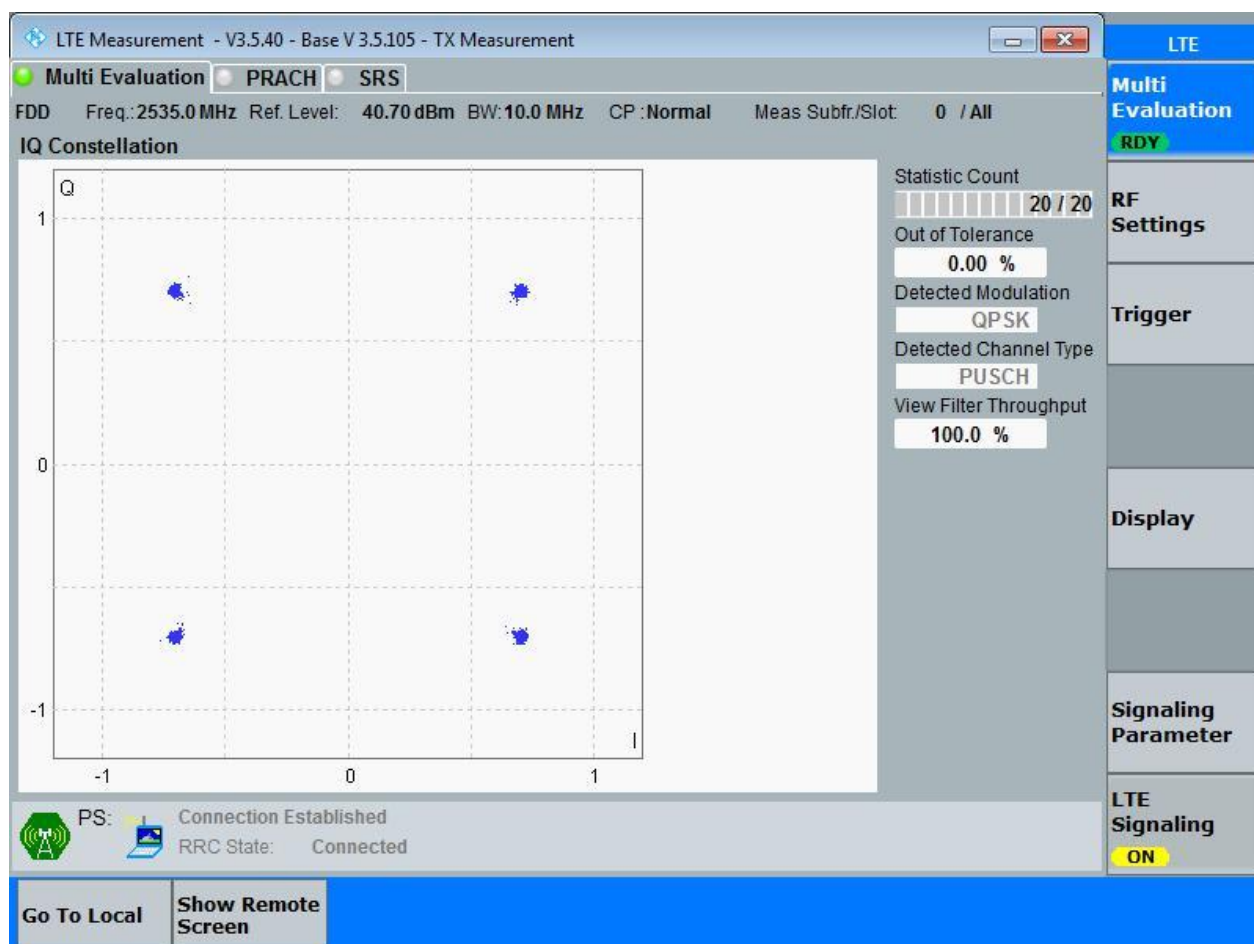
3.1.1.1.1.1.1 Test RB = RB25#0



3.1.1.1.2 Test Bandwidth = 10

3.1.1.1.2.1 Test Channel = MCH

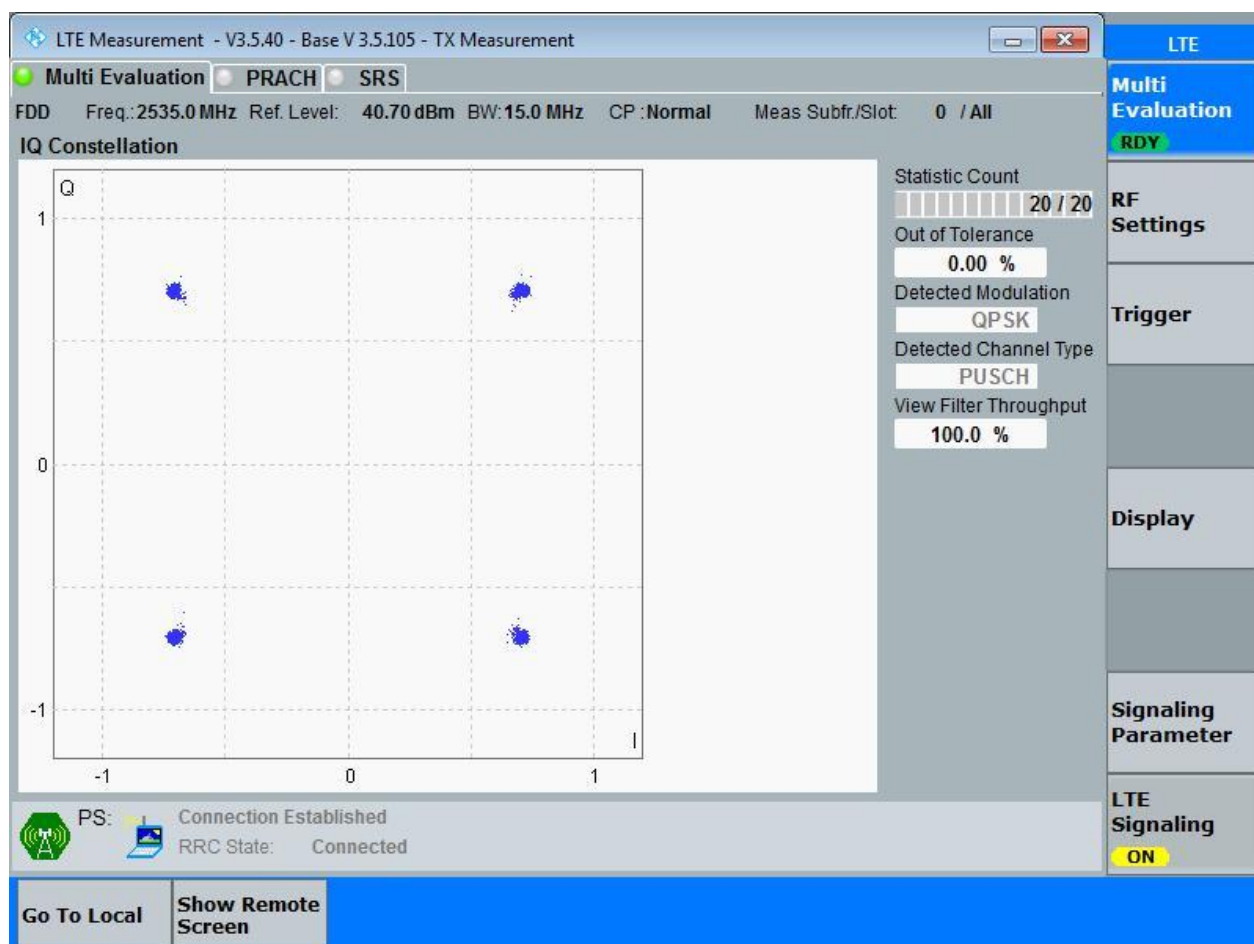
3.1.1.1.2.1.1 Test RB = RB50#0



3.1.1.1.3 Test Bandwidth = 15

3.1.1.1.3.1 Test Channel = MCH

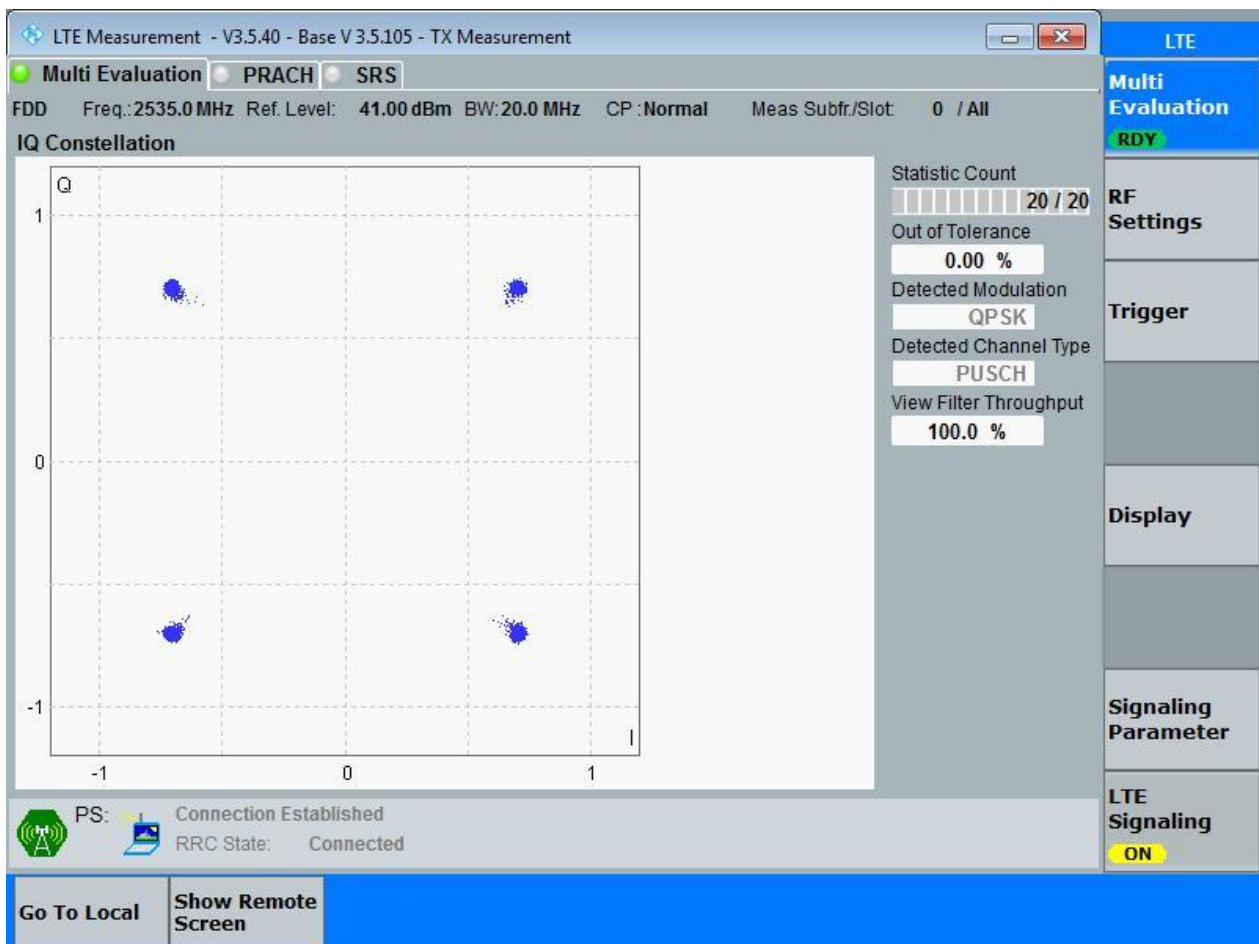
3.1.1.1.3.1.1 Test RB = RB75#0



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

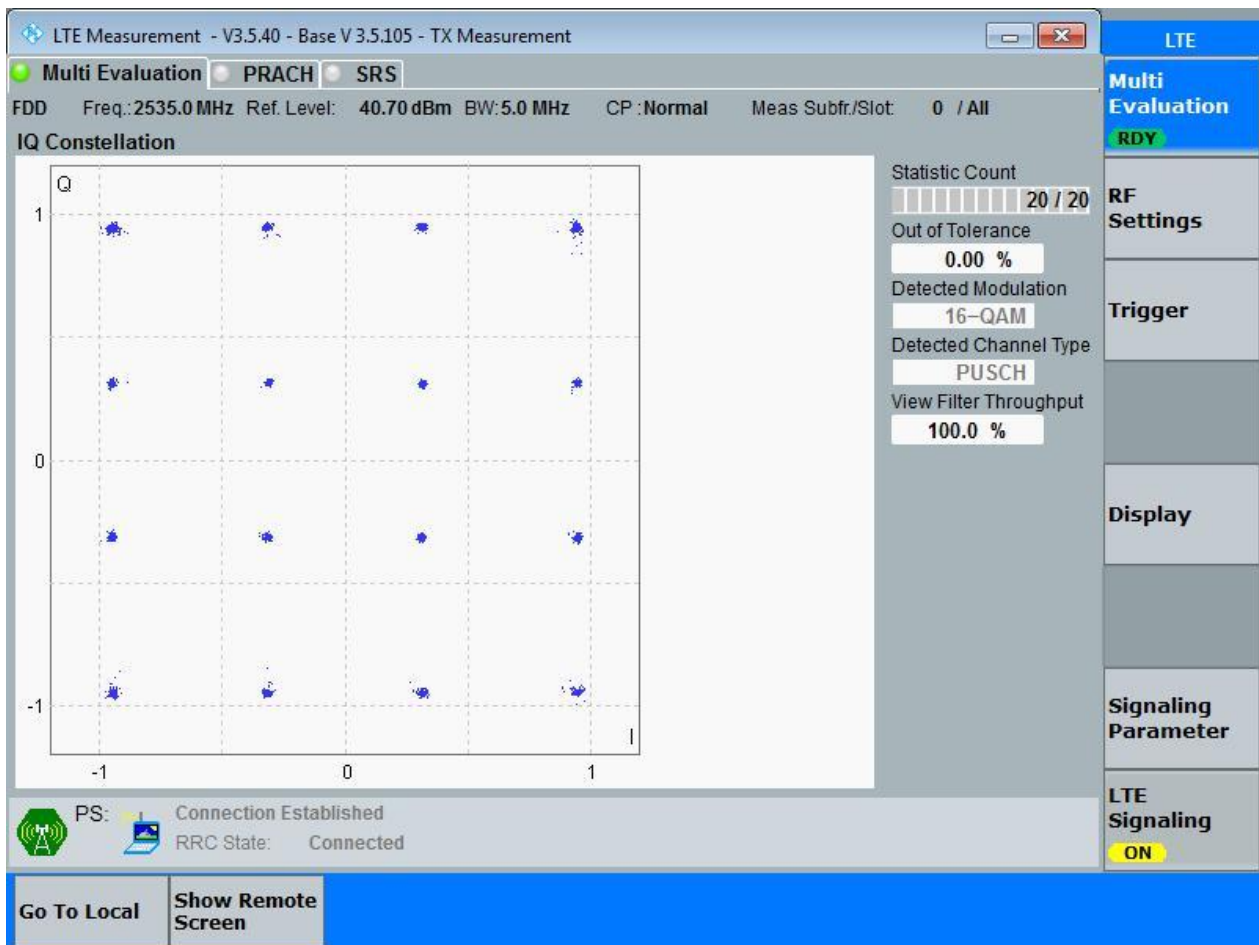


3.1.1.2 Test Mode = LTE/TM2

3.1.1.2.1 Test Bandwidth = 5

3.1.1.2.1.1 Test Channel = MCH

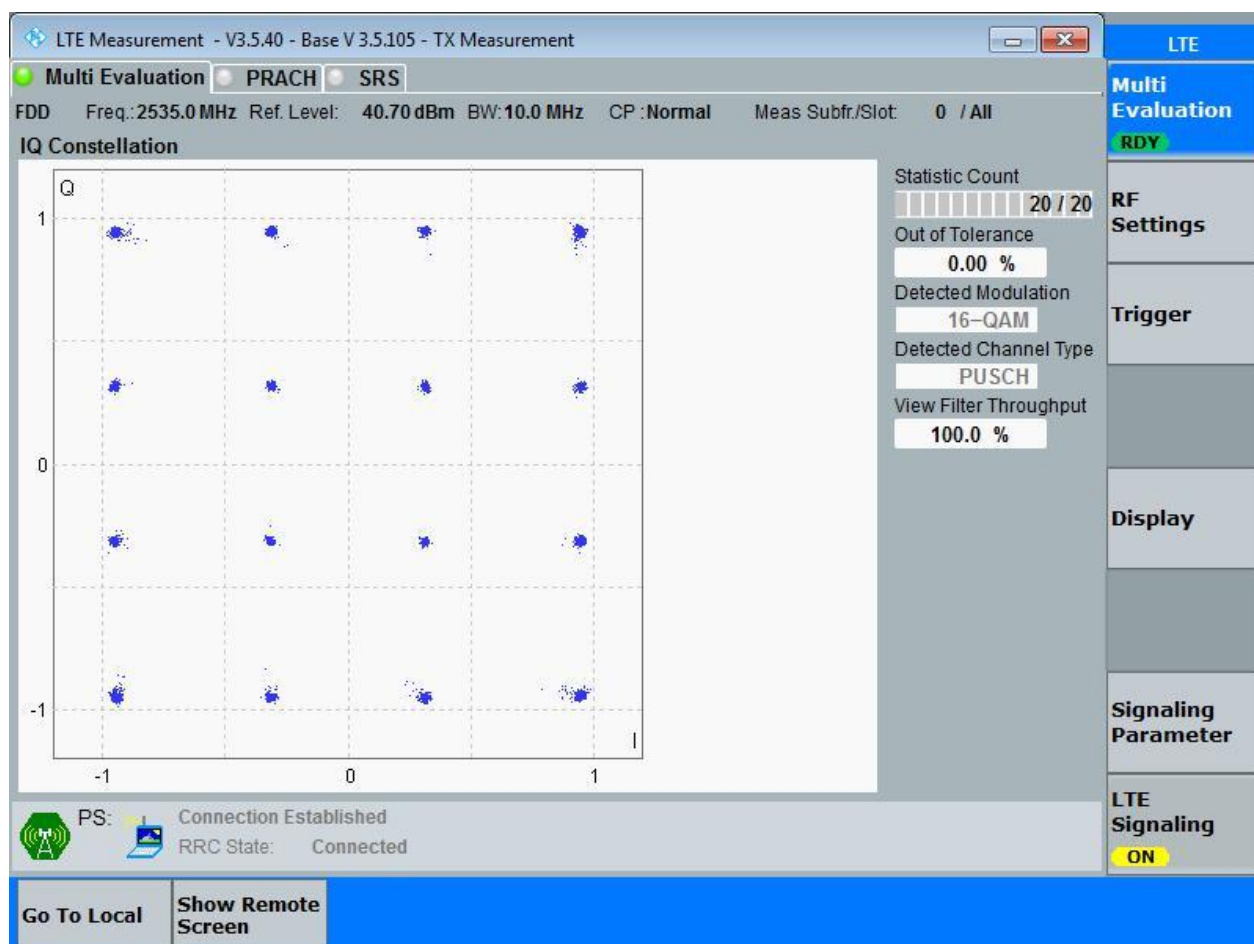
3.1.1.2.1.1.1 Test RB = RB25#0



3.1.1.2.2 Test Bandwidth = 10

3.1.1.2.2.1 Test Channel = MCH

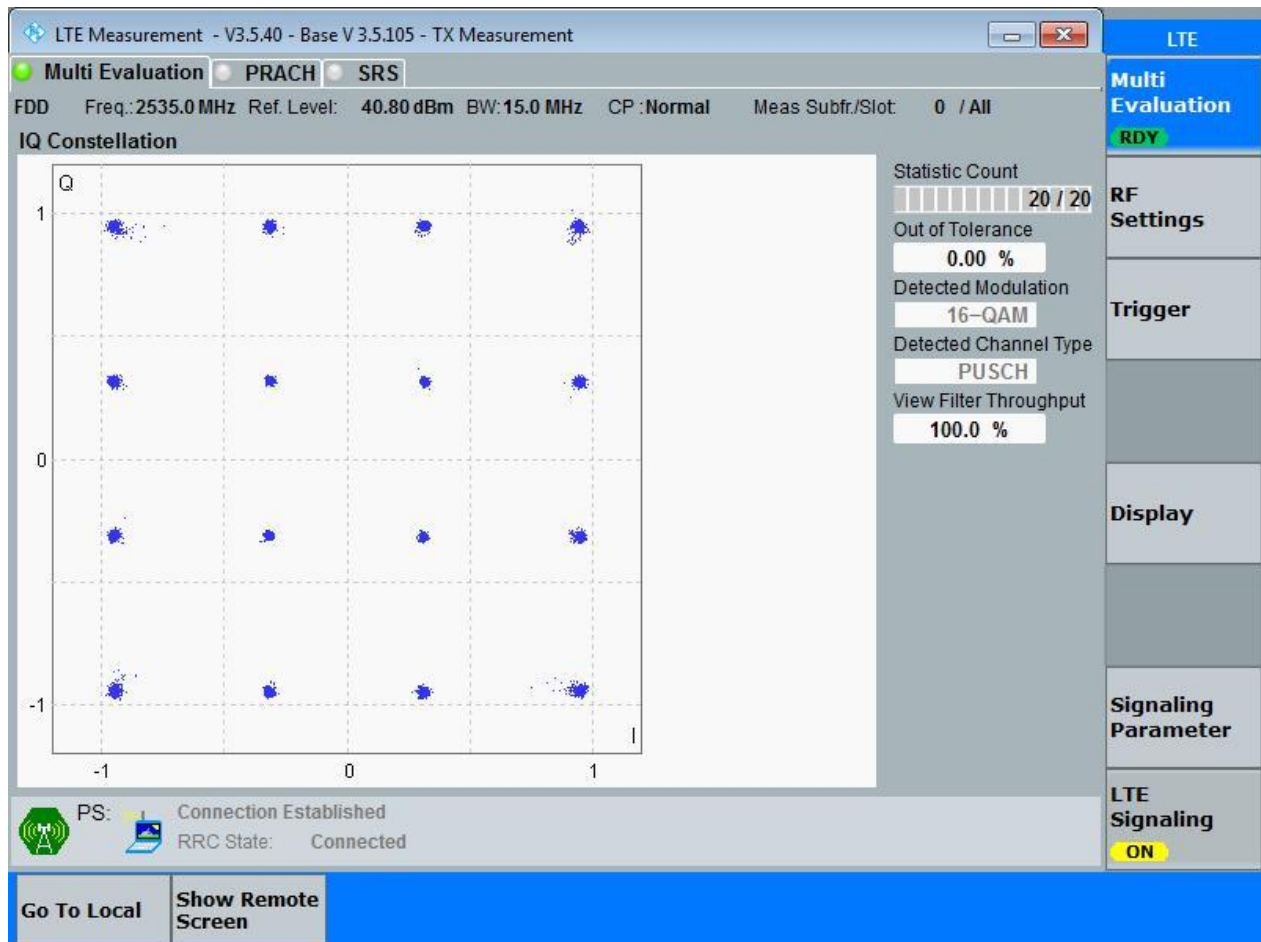
3.1.1.2.2.1.1 Test RB = RB50#0



3.1.1.2.3 Test Bandwidth = 15

3.1.1.2.3.1 Test Channel = MCH

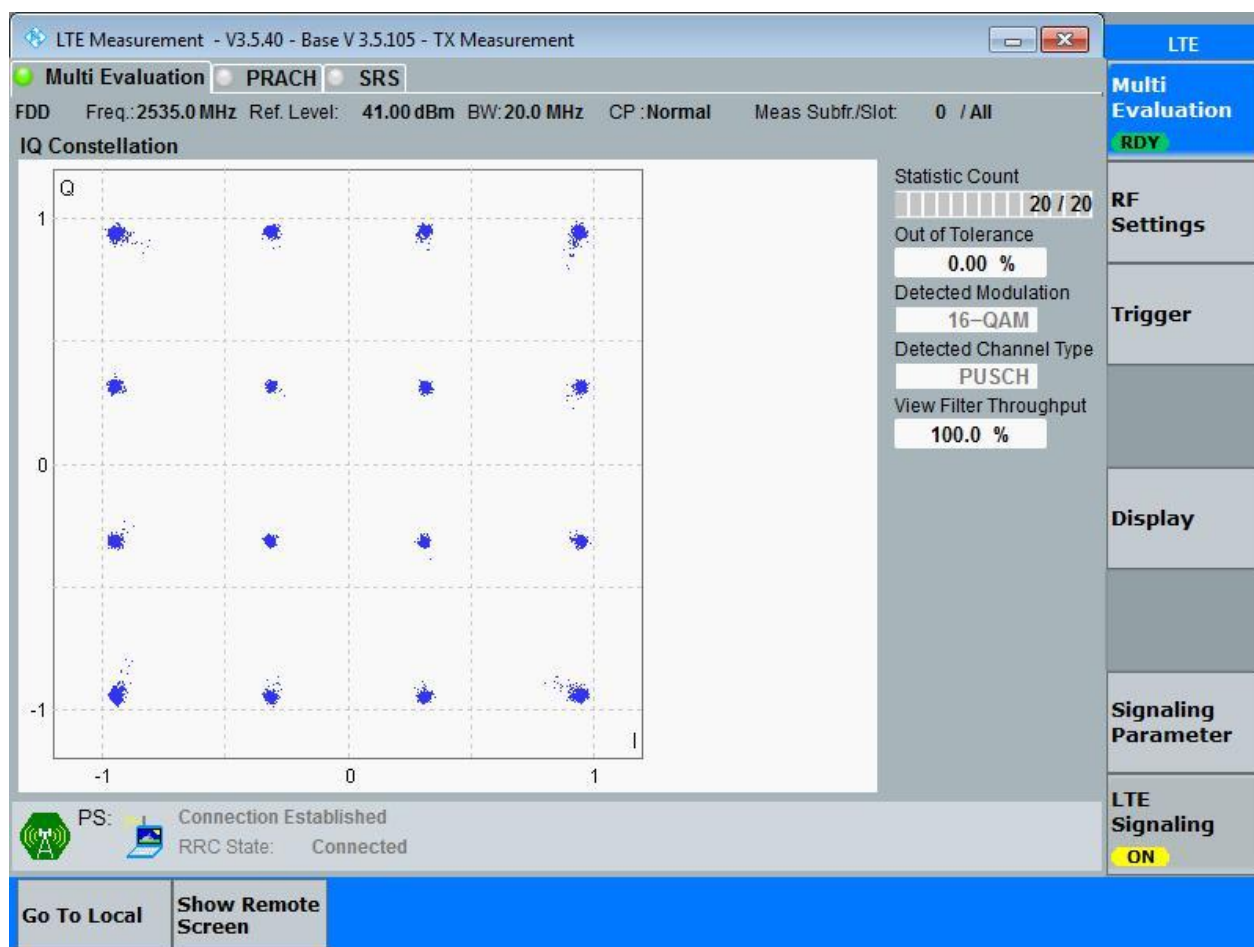
3.1.1.2.3.1.1 Test RB = RB75#0



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	4.52	4.96	Pass
			MCH	RB25#0	4.51	4.98	Pass
			HCH	RB25#0	4.51	4.98	Pass
		10	LCH	RB50#0	9.01	9.89	Pass
			MCH	RB50#0	8.99	9.92	Pass
			HCH	RB50#0	9.01	9.90	Pass
		15	LCH	RB75#0	13.53	15.10	Pass
			MCH	RB75#0	13.50	14.96	Pass
			HCH	RB75#0	13.52	15.06	Pass
		20	LCH	RB100#0	18.01	19.90	Pass
			MCH	RB100#0	17.98	19.77	Pass
			HCH	RB100#0	18.07	19.87	Pass
	LTE/TM2	5	LCH	RB25#0	4.53	4.93	Pass
			MCH	RB25#0	4.52	4.98	Pass
			HCH	RB25#0	4.52	4.97	Pass
		10	LCH	RB50#0	9.01	9.97	Pass
			MCH	RB50#0	9.02	9.93	Pass
			HCH	RB50#0	9.03	9.94	Pass
		15	LCH	RB75#0	13.51	14.98	Pass
			MCH	RB75#0	13.51	15.10	Pass
			HCH	RB75#0	13.54	14.94	Pass
		20	LCH	RB100#0	18.03	19.83	Pass
			MCH	RB100#0	18.01	19.91	Pass
			HCH	RB100#0	18.04	19.76	Pass



Part II - Test Plots

4.1 For LTE

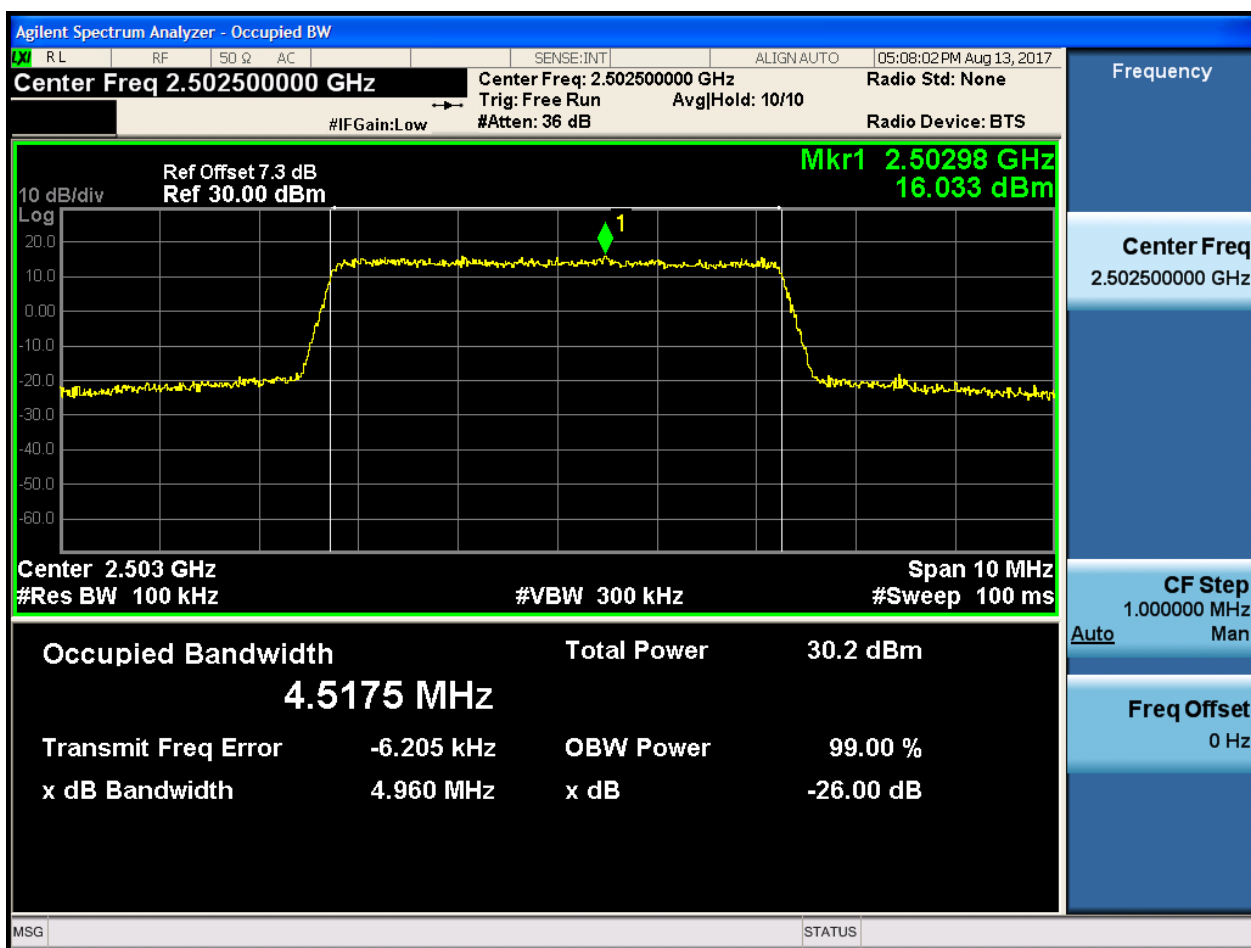
4.1.1 Test Band = BAND7

4.1.1.1 Test Mode = LTE/TM1

4.1.1.1.1 Test Bandwidth = 5

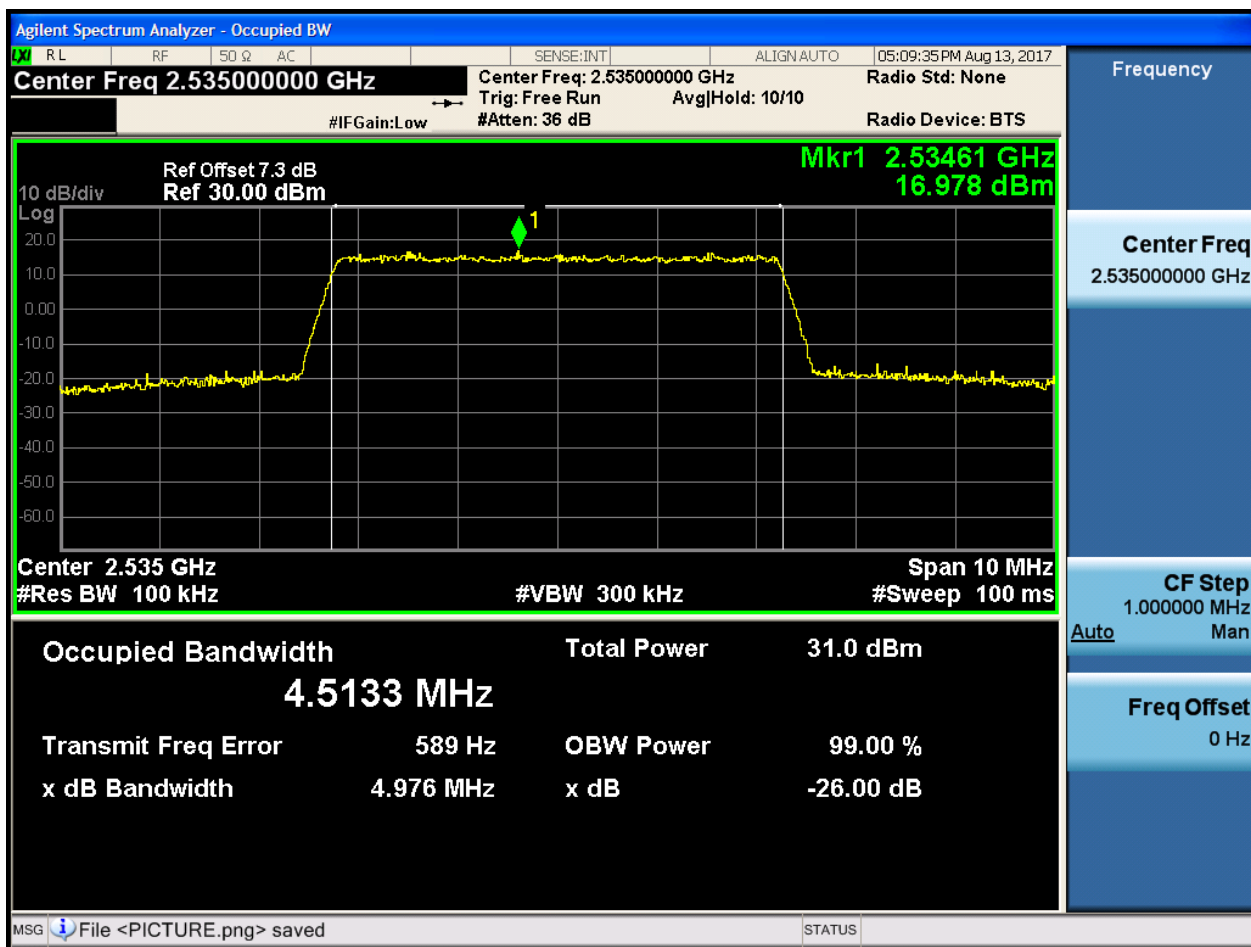
4.1.1.1.1.1 Test Channel = LCH

4.1.1.1.1.1.1 Test RB = RB25#0



4.1.1.1.1.2 Test Channel = MCH

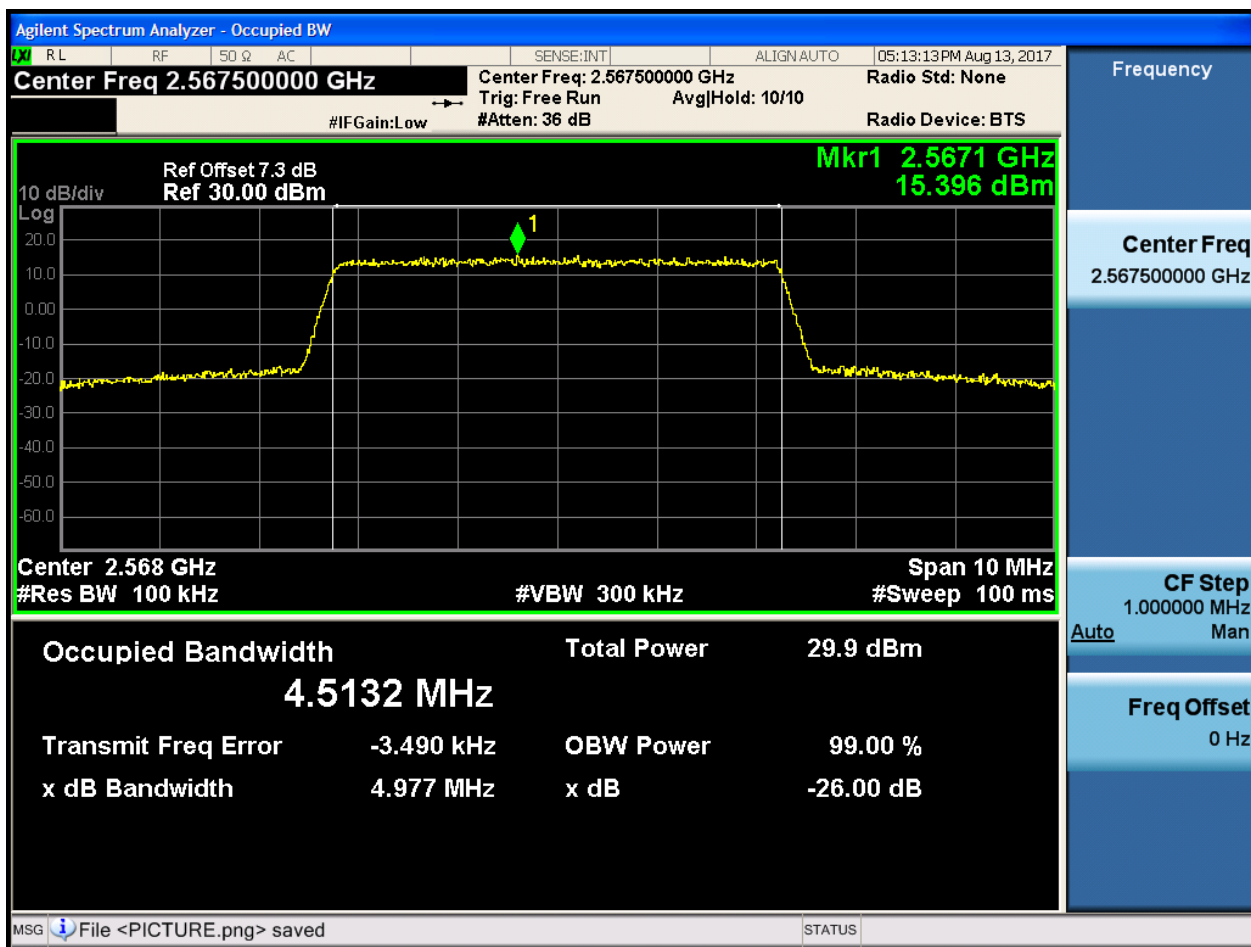
4.1.1.1.1.2.1 Test RB = RB25#0





4.1.1.1.1.3 Test Channel = HCH

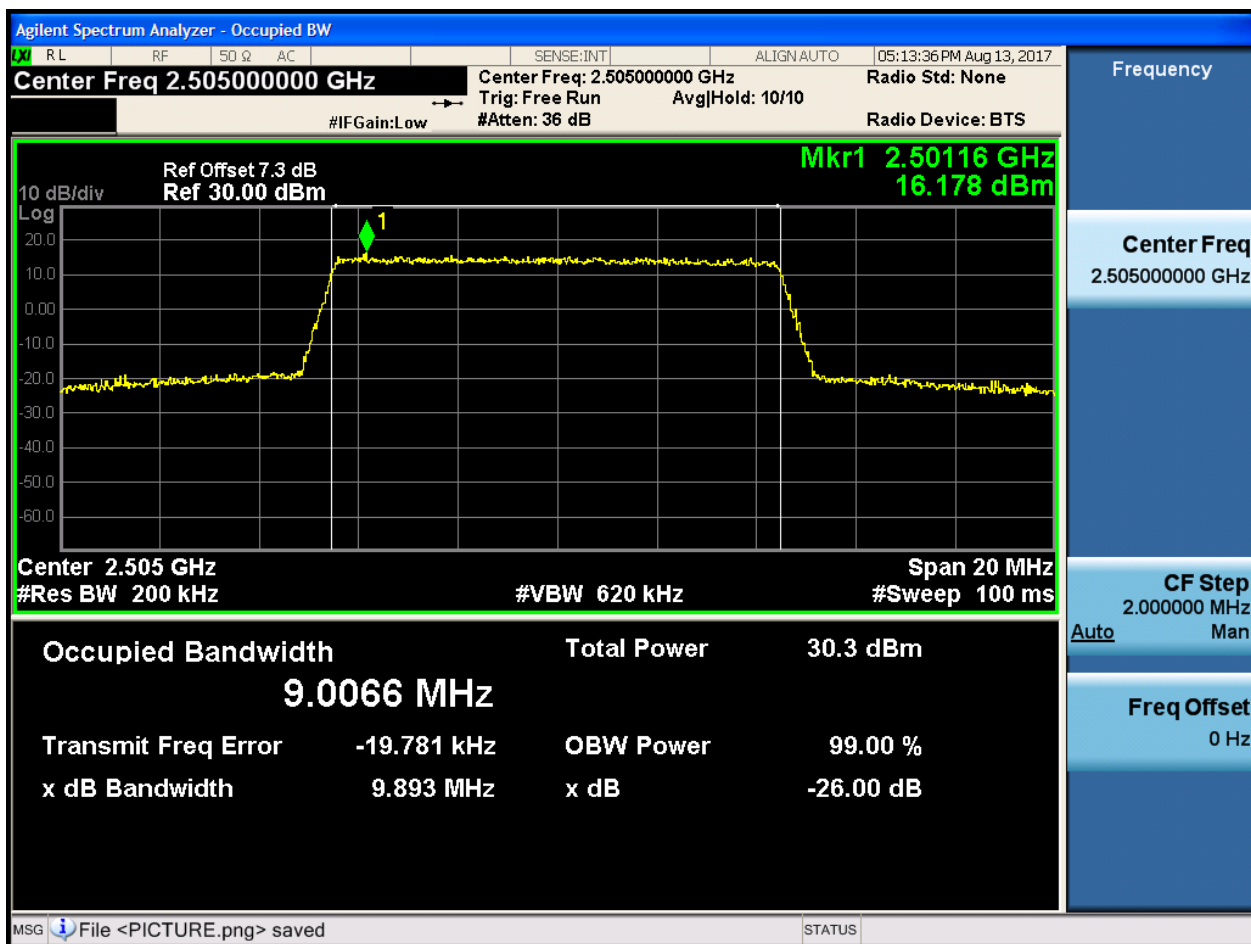
4.1.1.1.1.3.1 Test RB = RB25#0



4.1.1.1.2 Test Bandwidth = 10

4.1.1.1.2.1 Test Channel = LCH

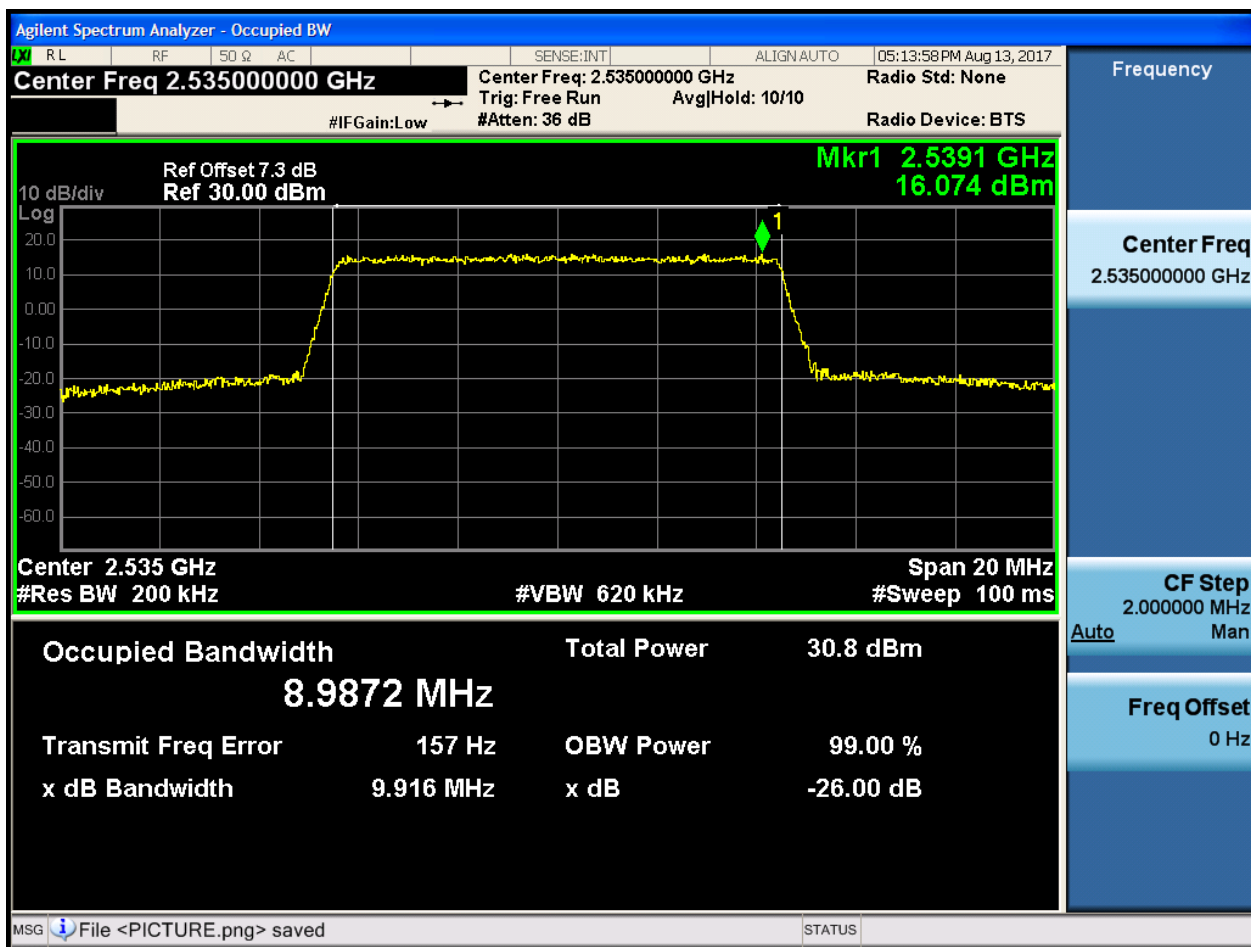
4.1.1.1.2.1.1 Test RB = RB50#0





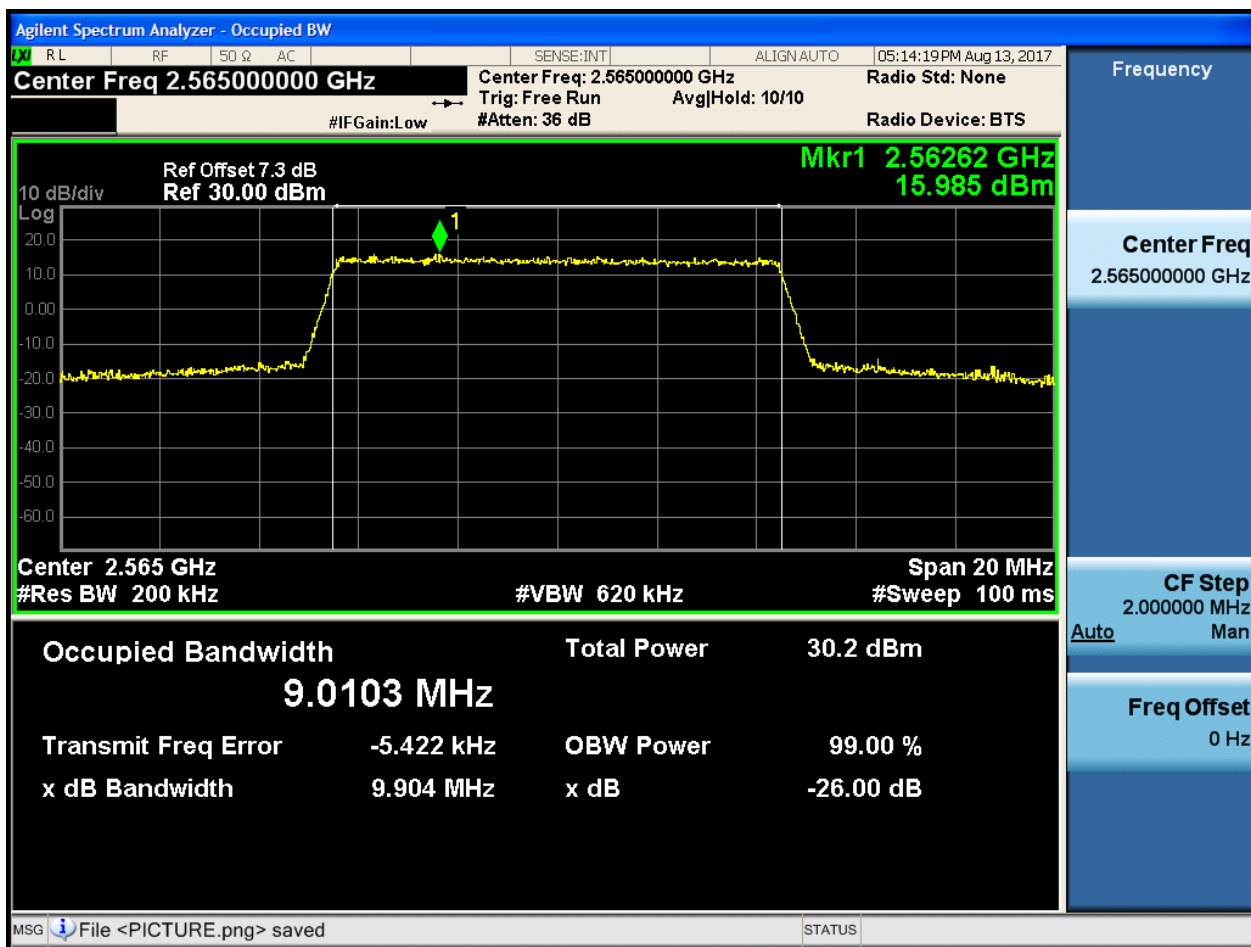
4.1.1.1.2.2 Test Channel = MCH

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

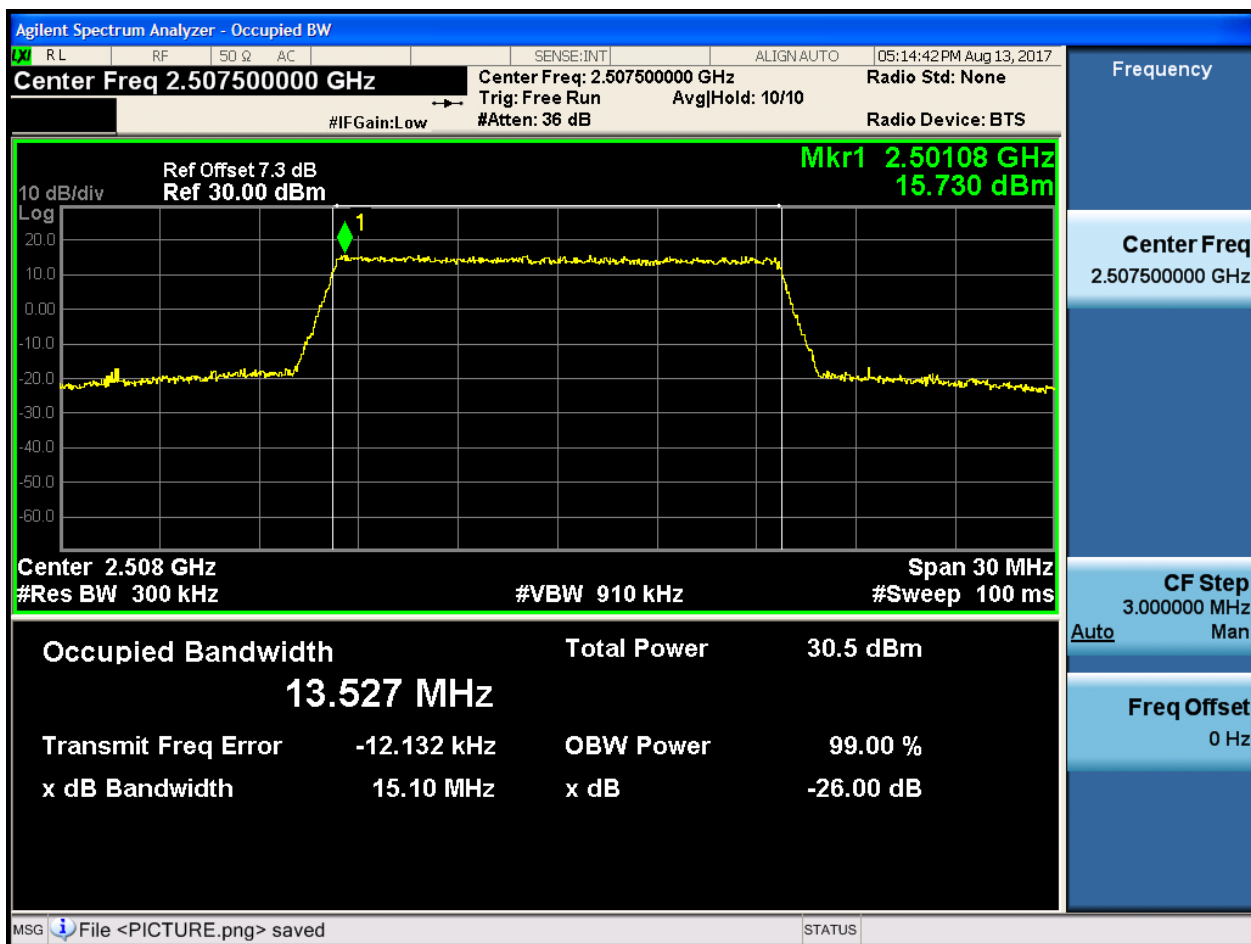




4.1.1.1.3 Test Bandwidth = 15

4.1.1.1.3.1 Test Channel = LCH

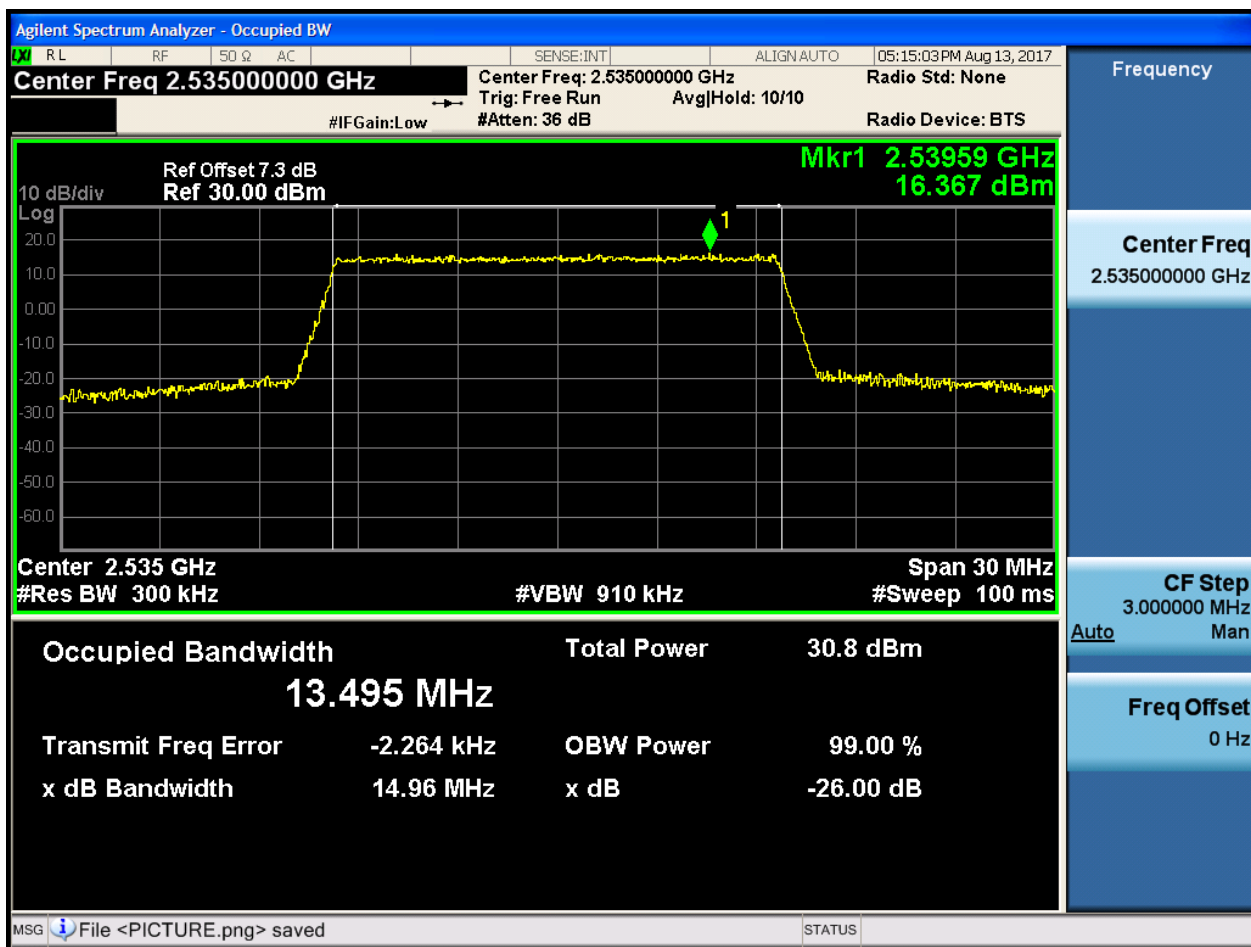
4.1.1.1.3.1.1 Test RB = RB75#0





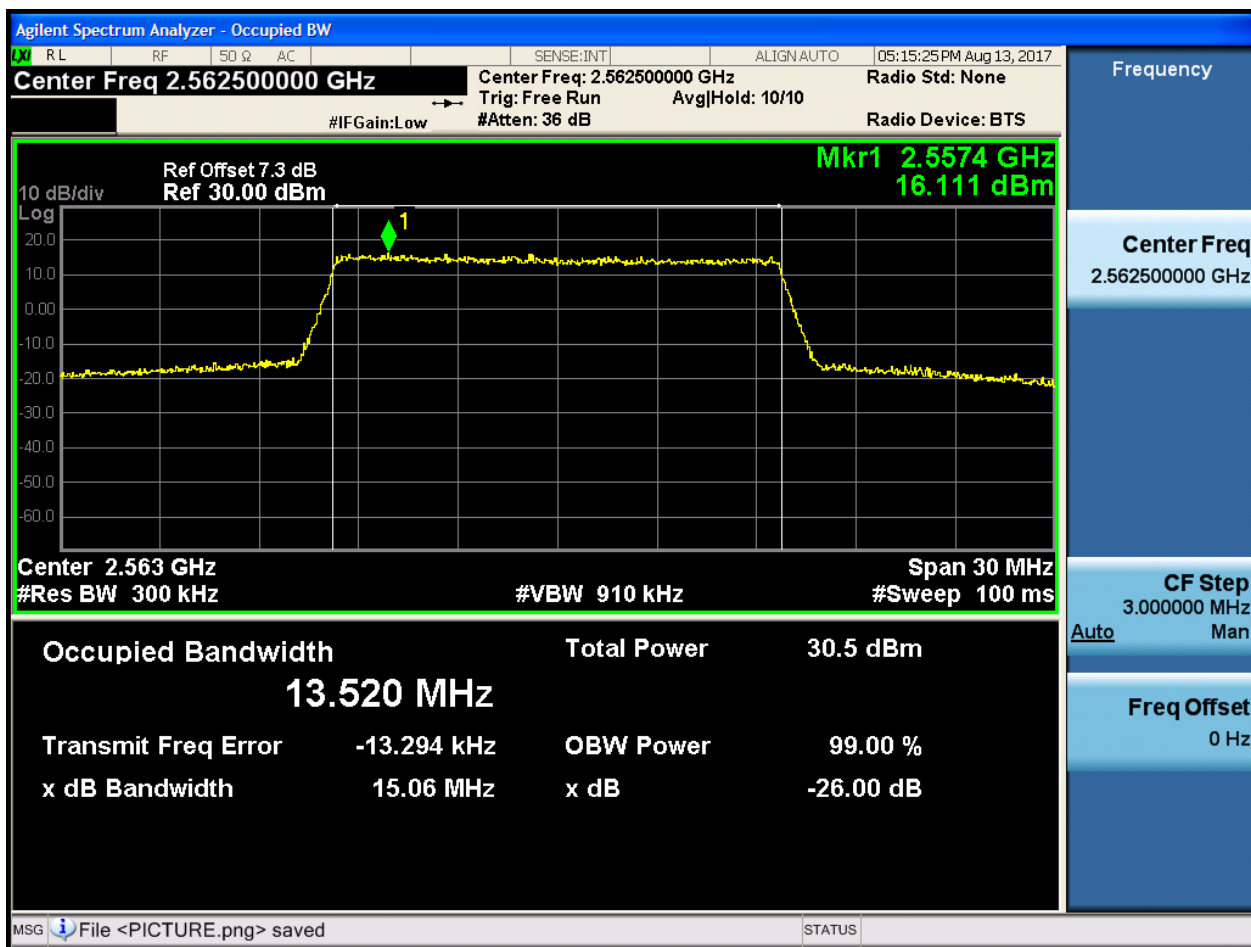
4.1.1.1.3.2 Test Channel = MCH

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

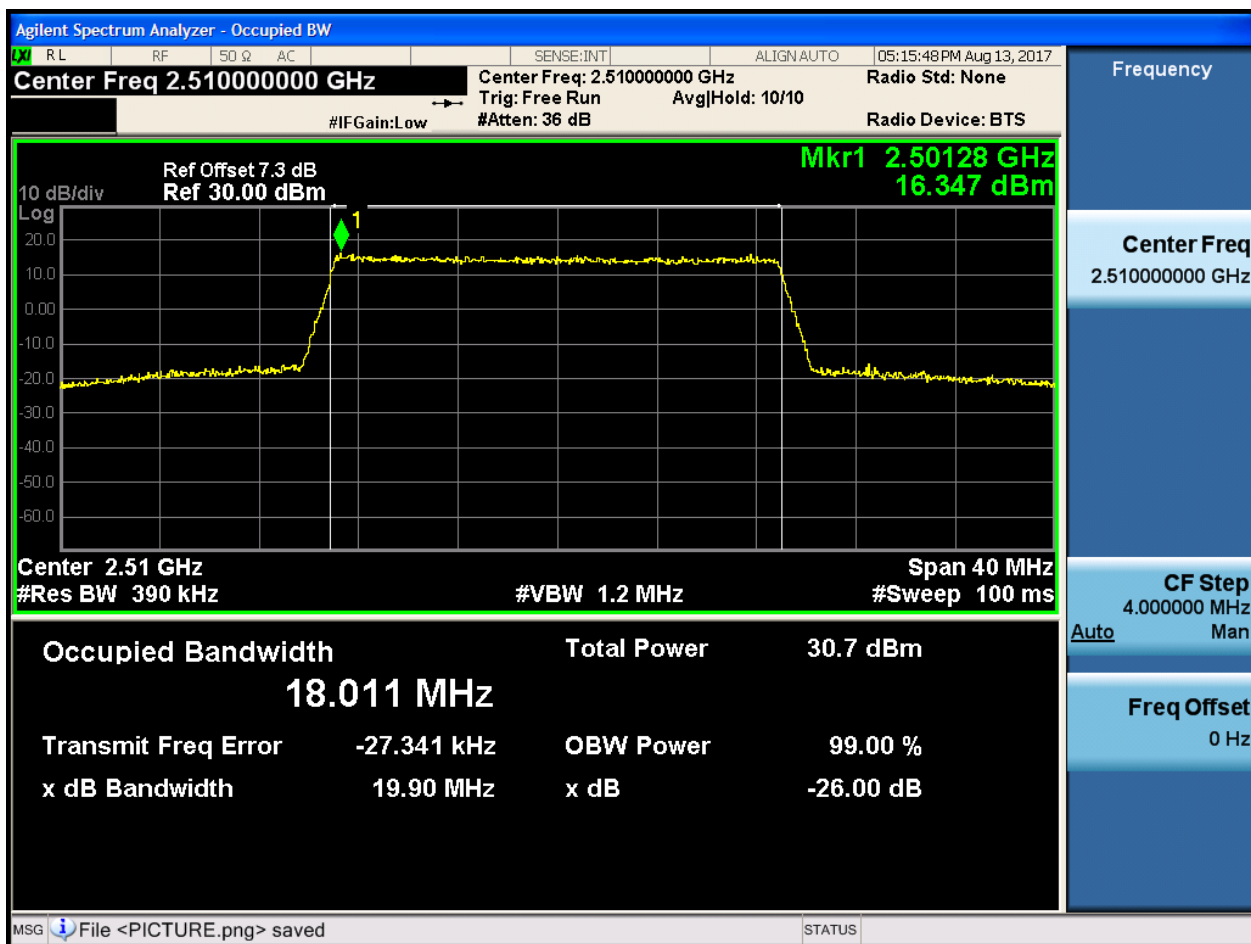




4.1.1.1.4 Test Bandwidth = 20

4.1.1.1.4.1 Test Channel = LCH

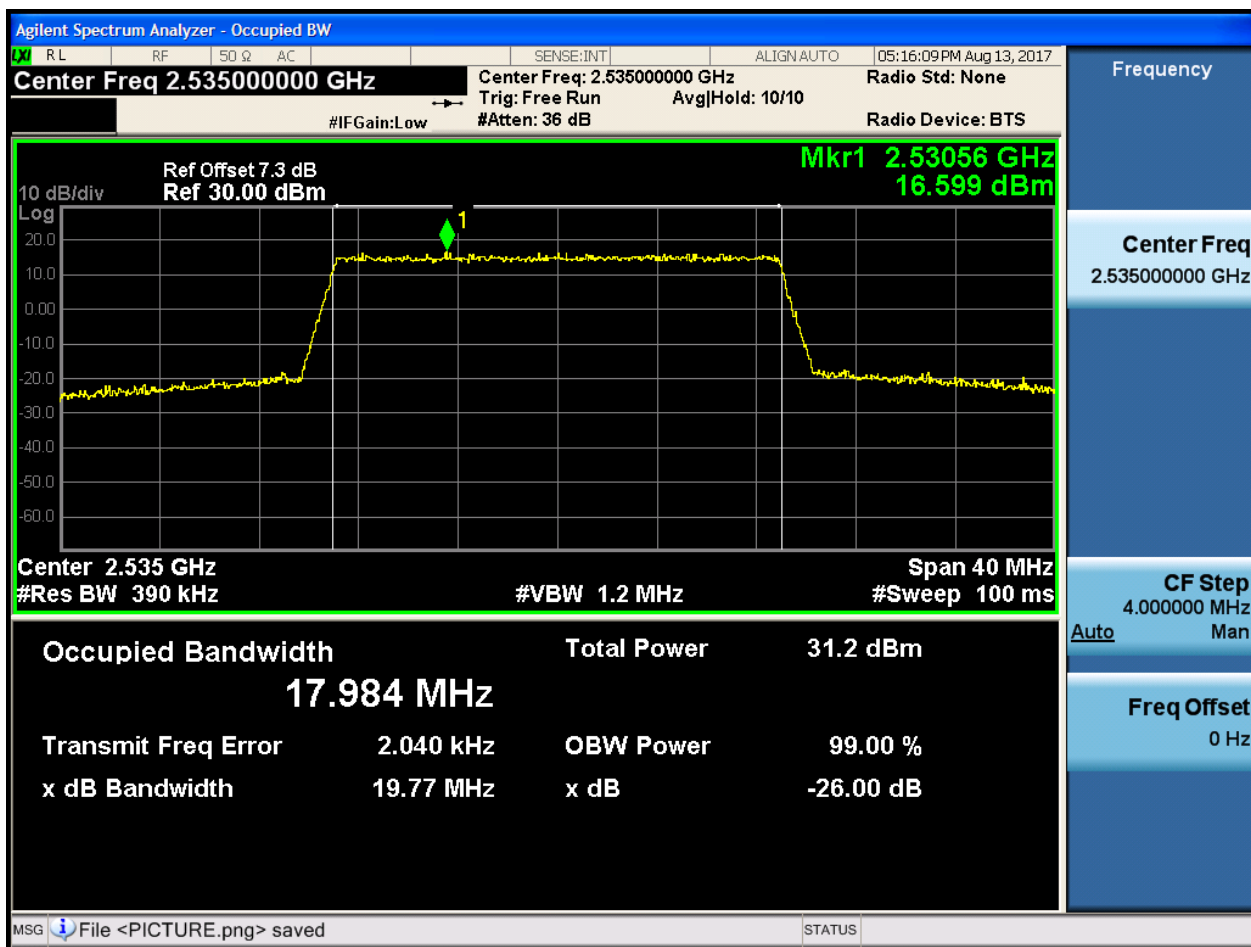
4.1.1.1.4.1.1 Test RB = RB100#0





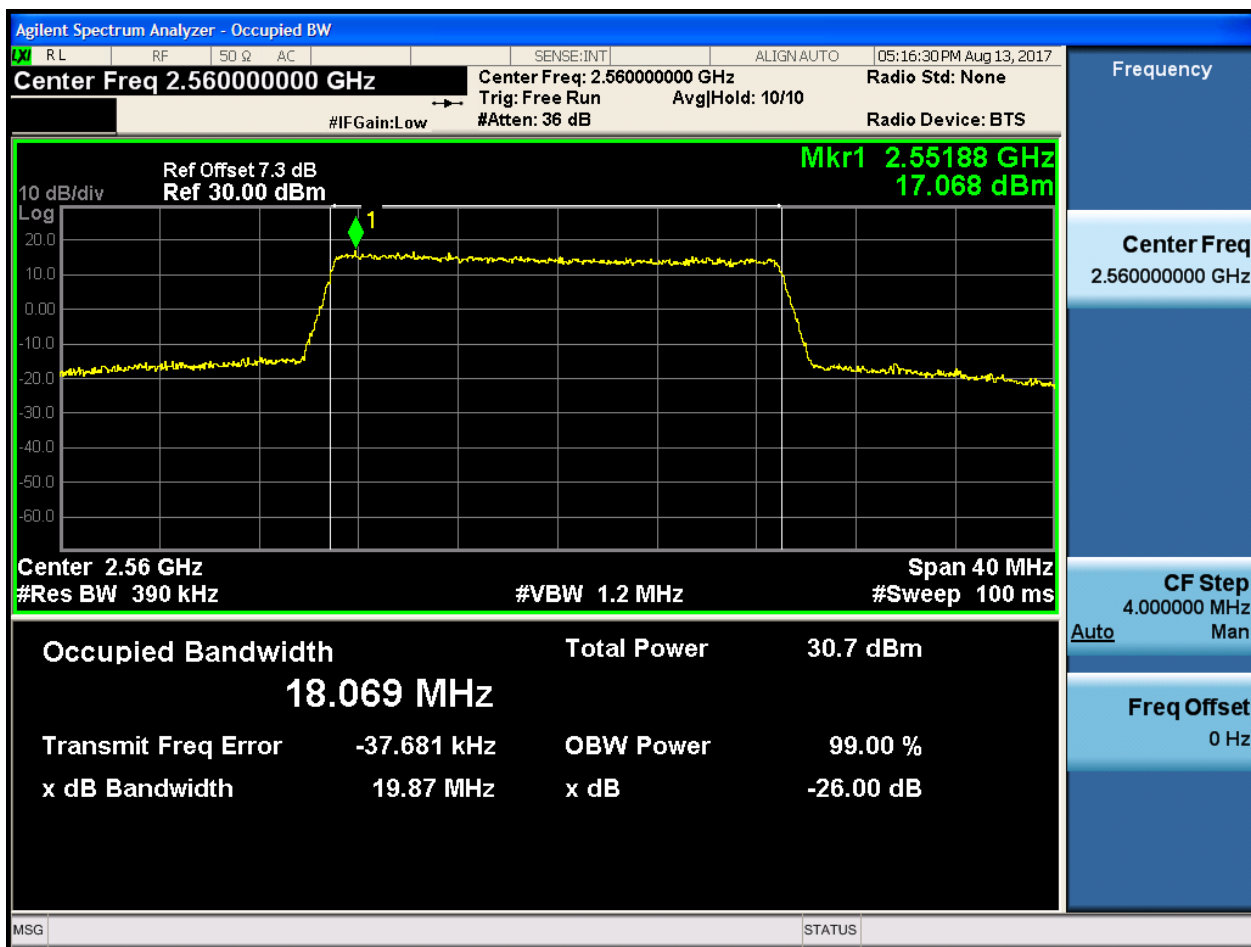
4.1.1.1.4.2 Test Channel = MCH

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



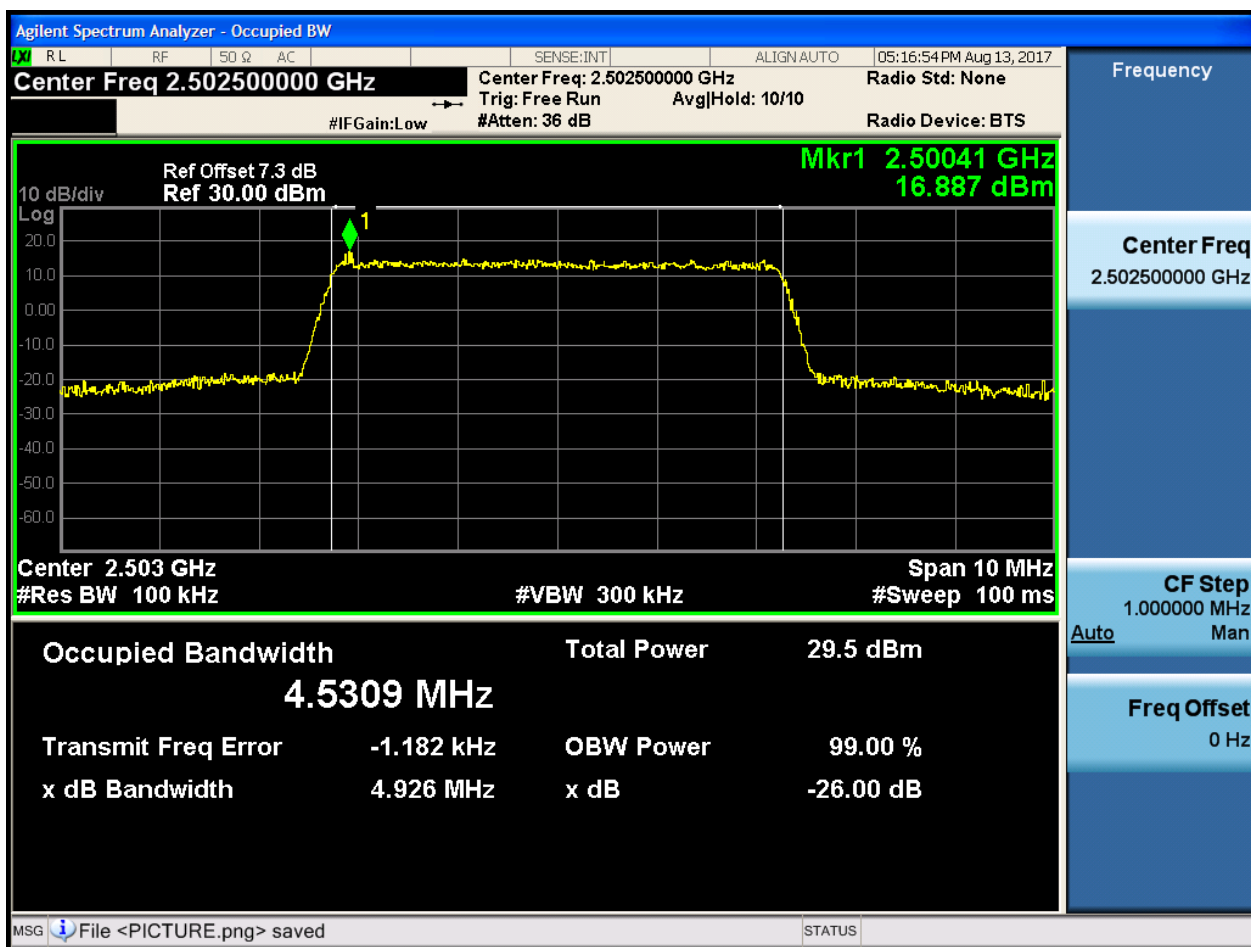


4.1.1.2 Test Mode = LTE/TM2

4.1.1.2.1 Test Bandwidth = 5

4.1.1.2.1.1 Test Channel = LCH

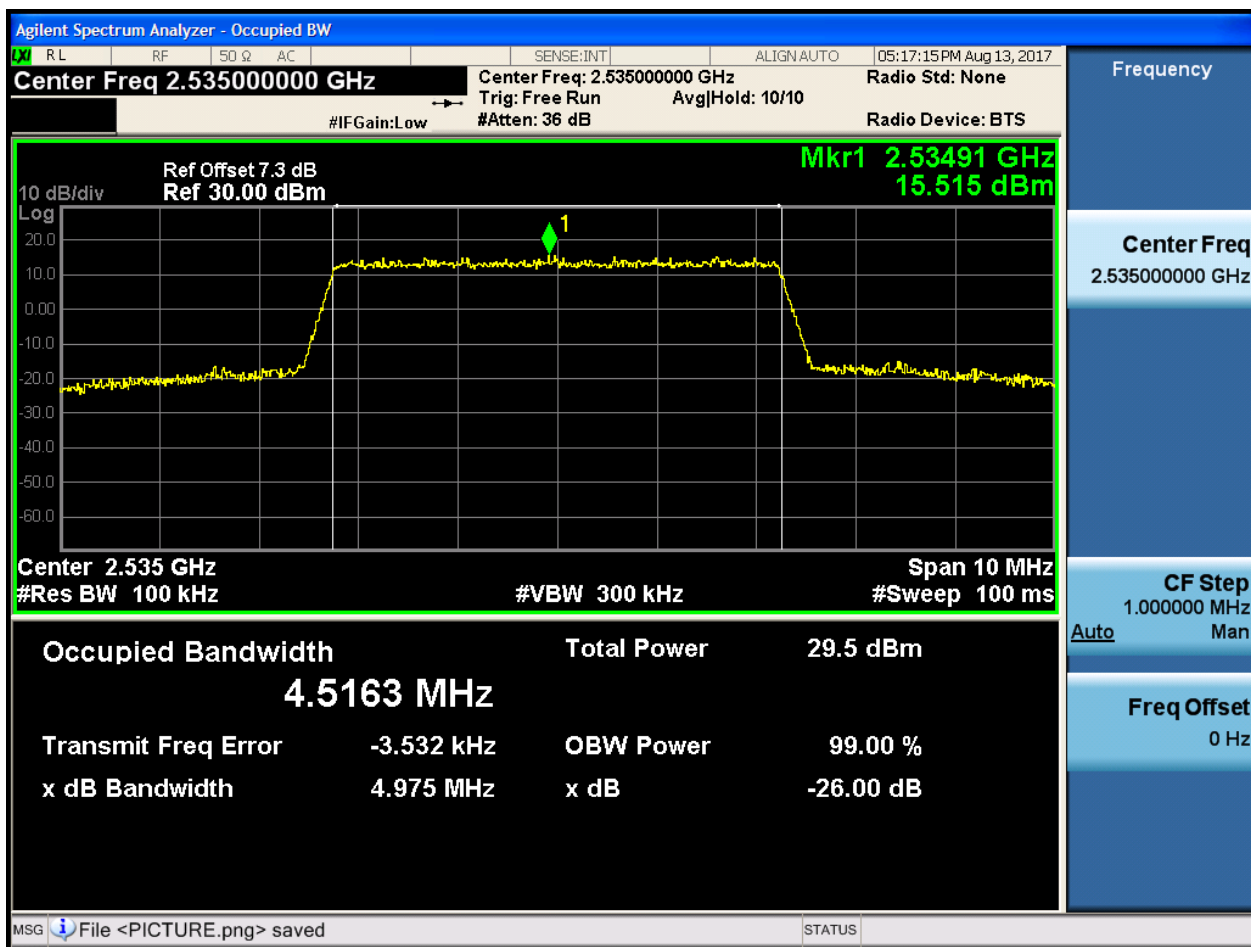
4.1.1.2.1.1.1 Test RB = RB25#0





4.1.1.2.1.2 Test Channel = MCH

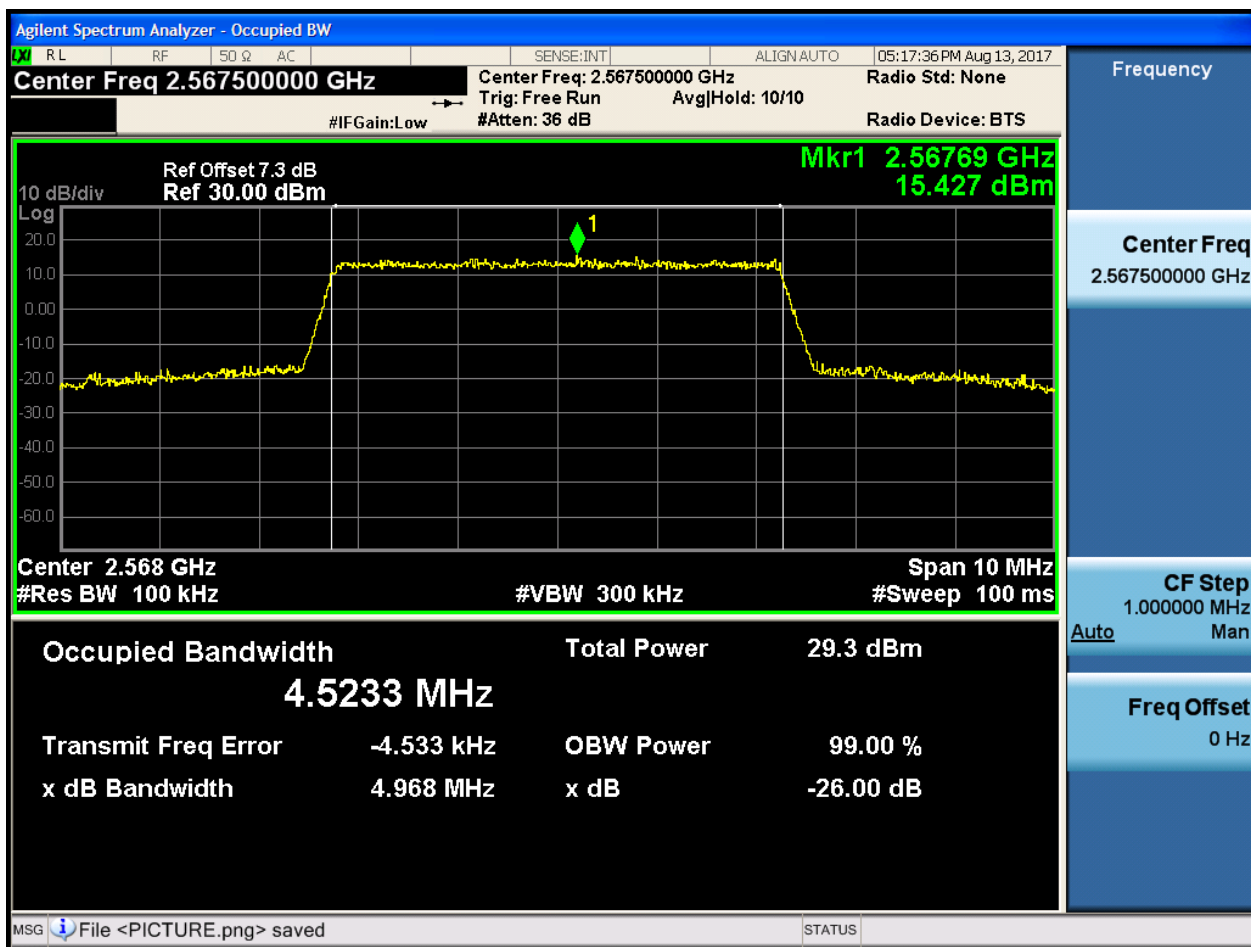
4.1.1.2.1.2.1 Test RB = RB25#0





4.1.1.2.1.3 Test Channel = HCH

4.1.1.2.1.3.1 Test RB = RB25#0

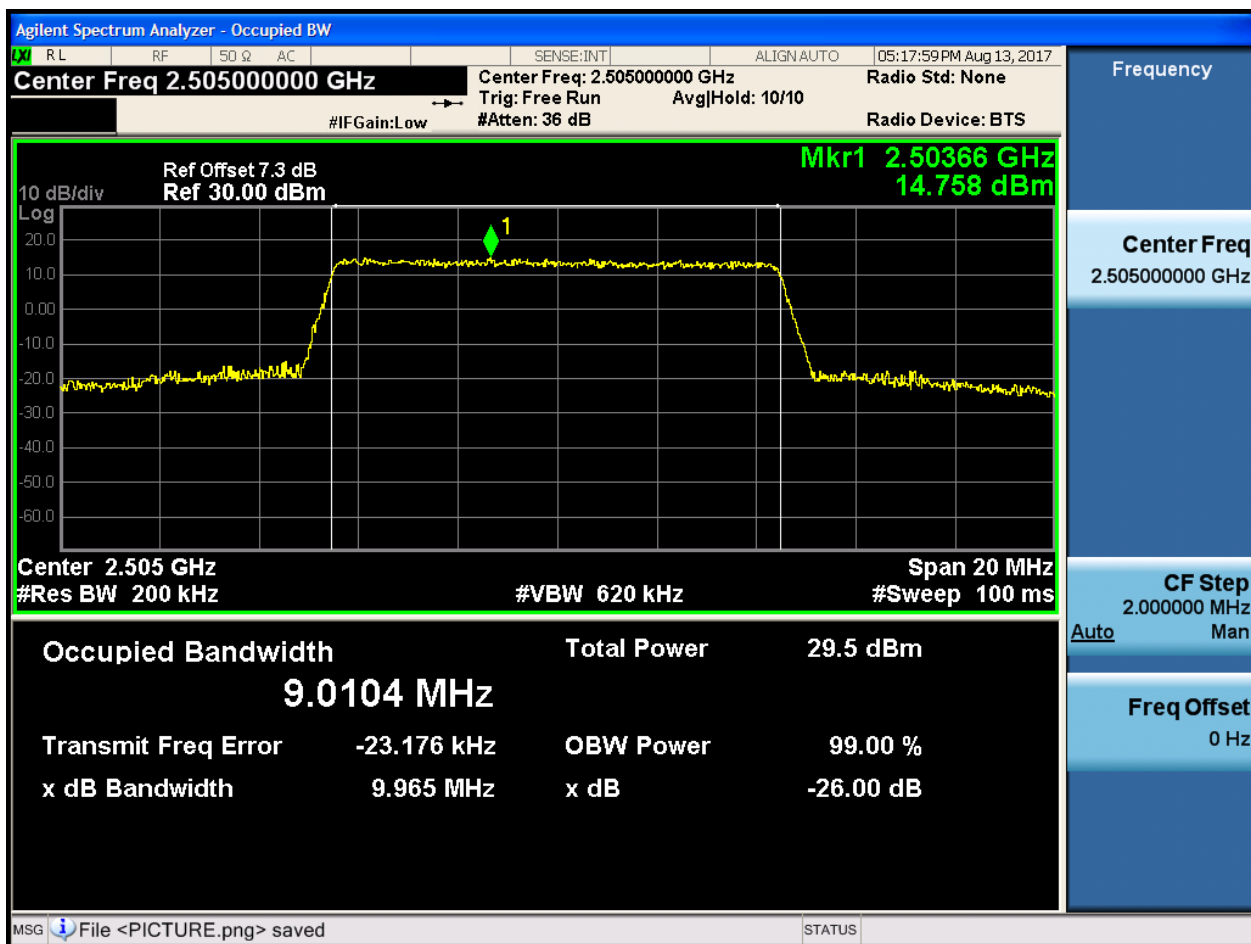




4.1.1.2.2 Test Bandwidth = 10

4.1.1.2.2.1 Test Channel = LCH

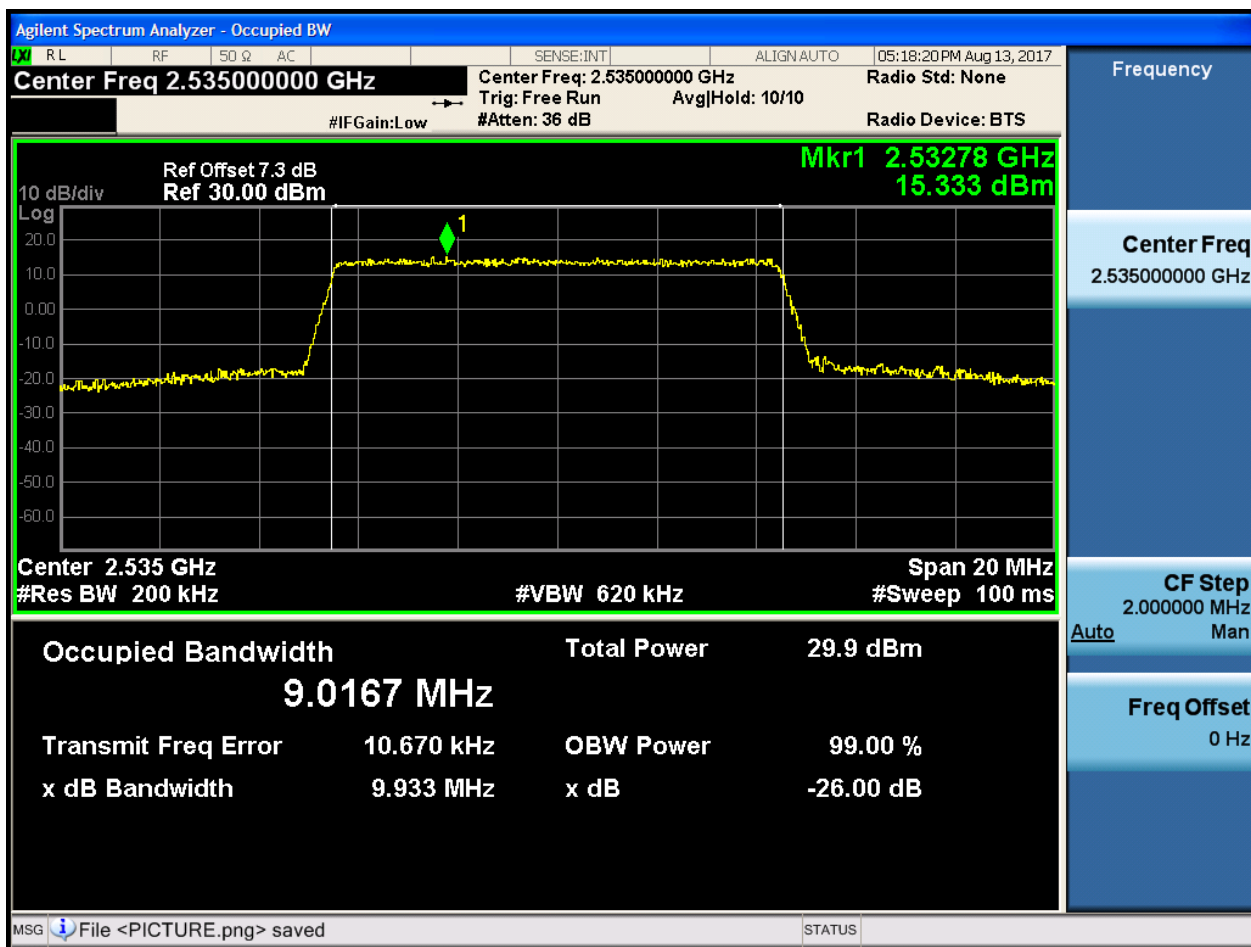
4.1.1.2.2.1.1 Test RB = RB50#0





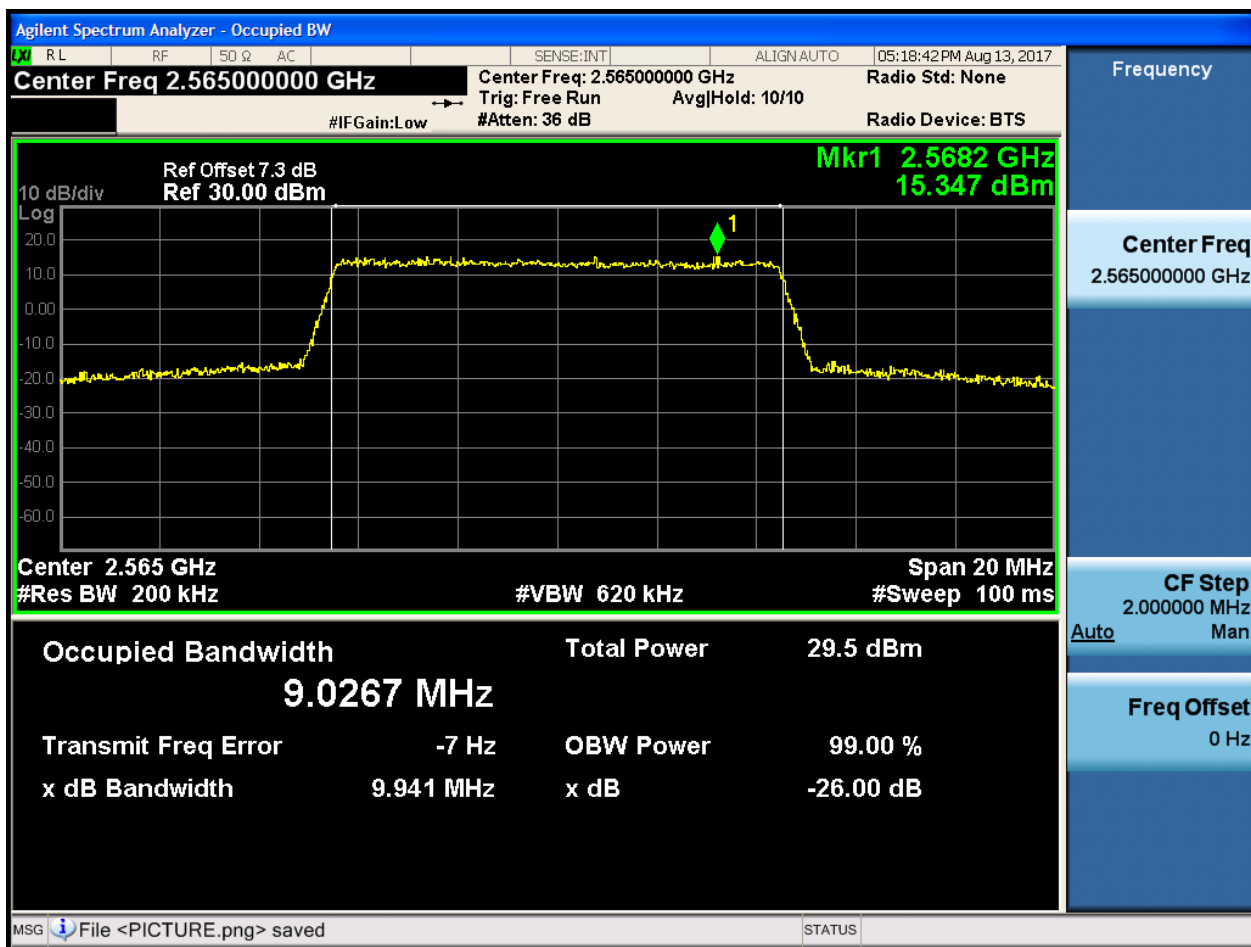
4.1.1.2.2.2 Test Channel = MCH

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

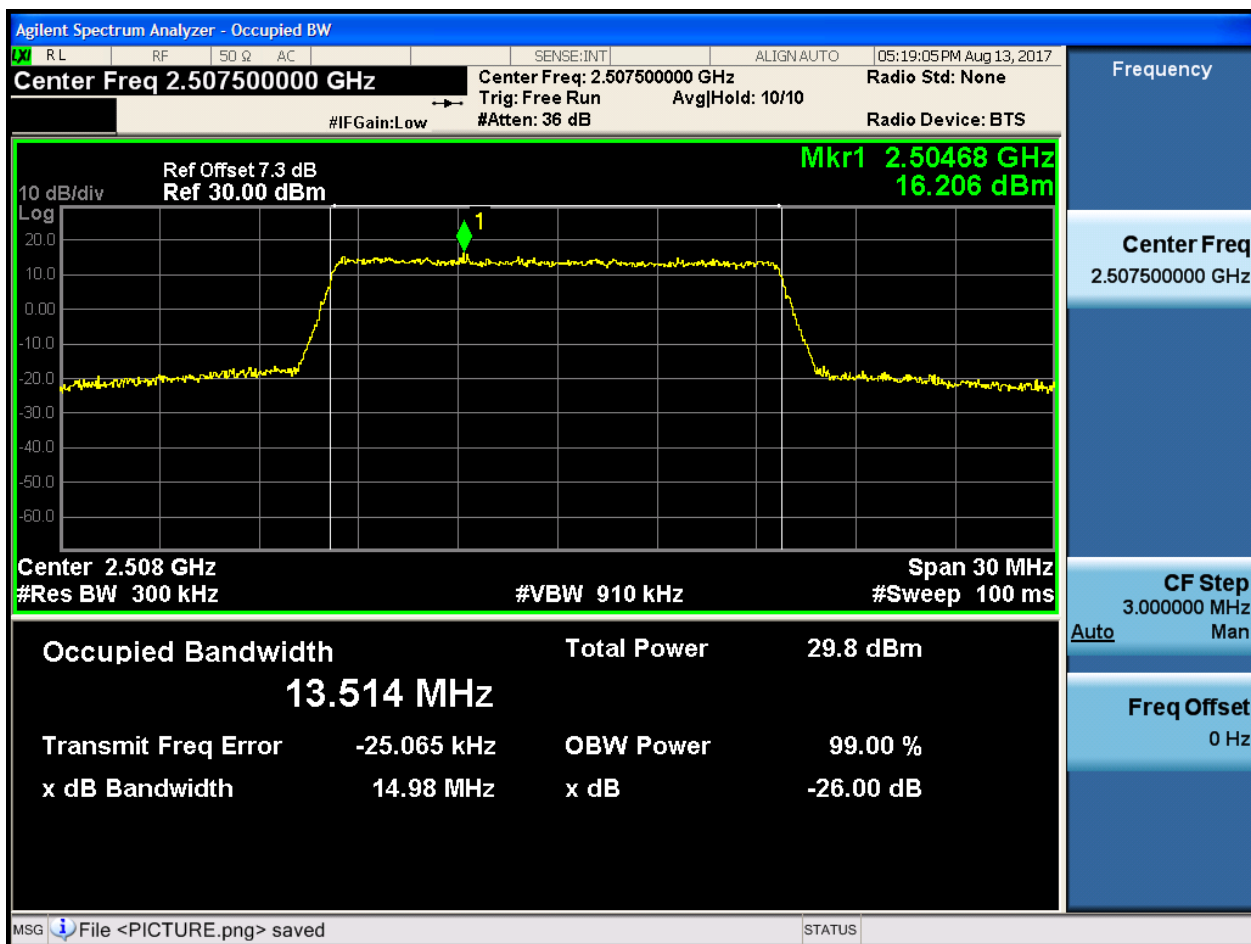




4.1.1.2.3 Test Bandwidth = 15

4.1.1.2.3.1 Test Channel = LCH

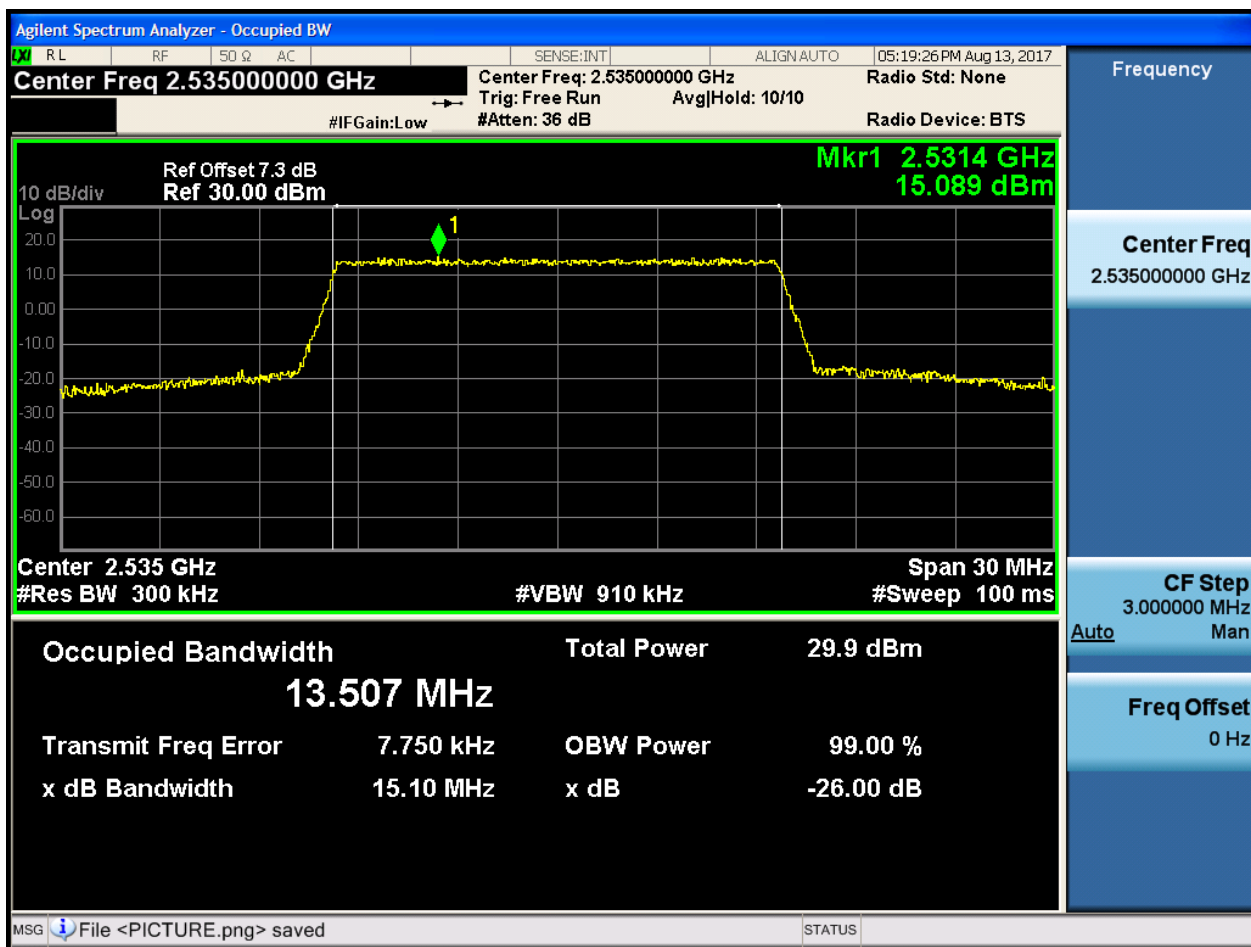
4.1.1.2.3.1.1 Test RB = RB75#0





4.1.1.2.3.2 Test Channel = MCH

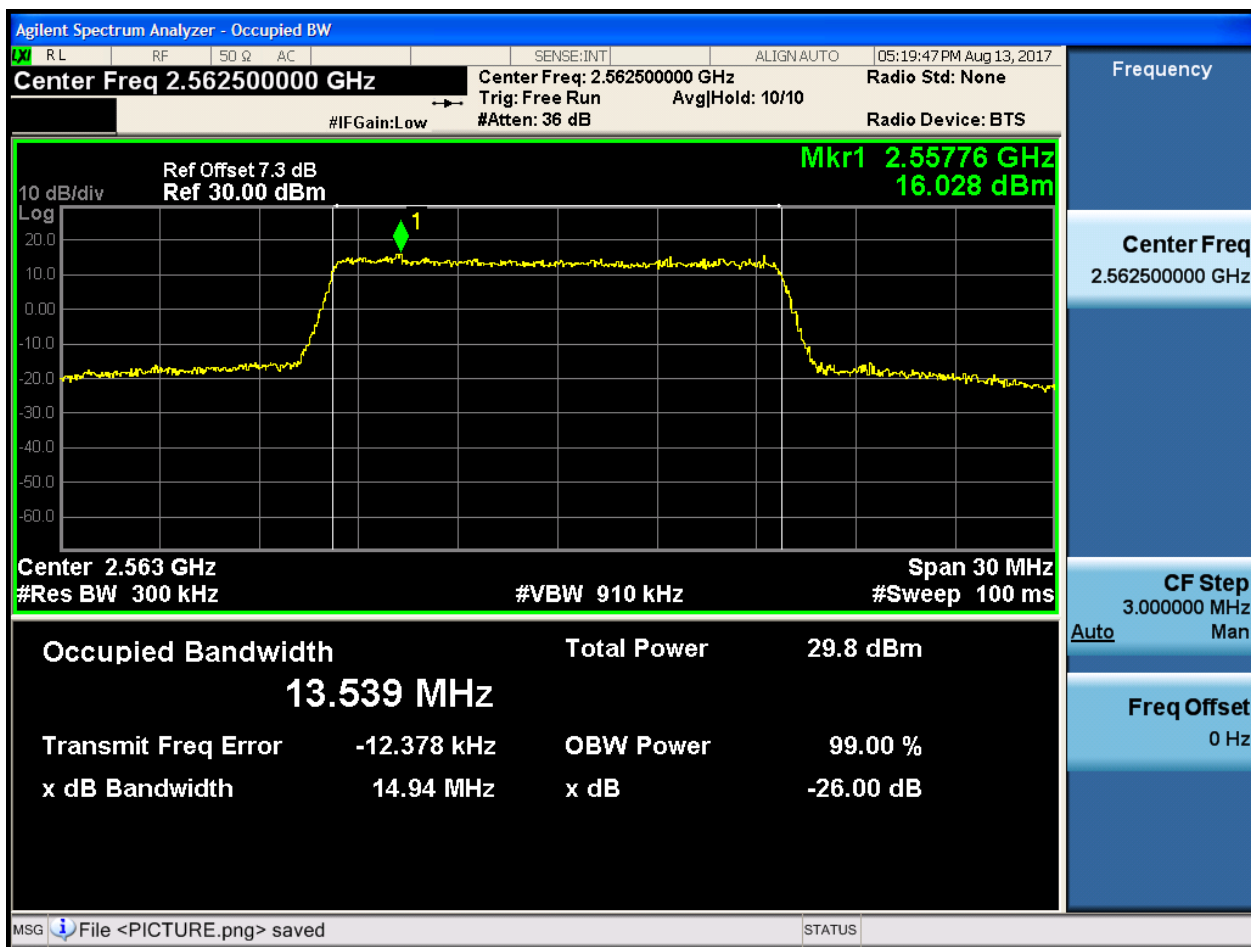
4.1.1.2.3.2.1 Test RB = RB75#0





4.1.1.2.3.3 Test Channel = HCH

4.1.1.2.3.3.1 Test RB = RB75#0

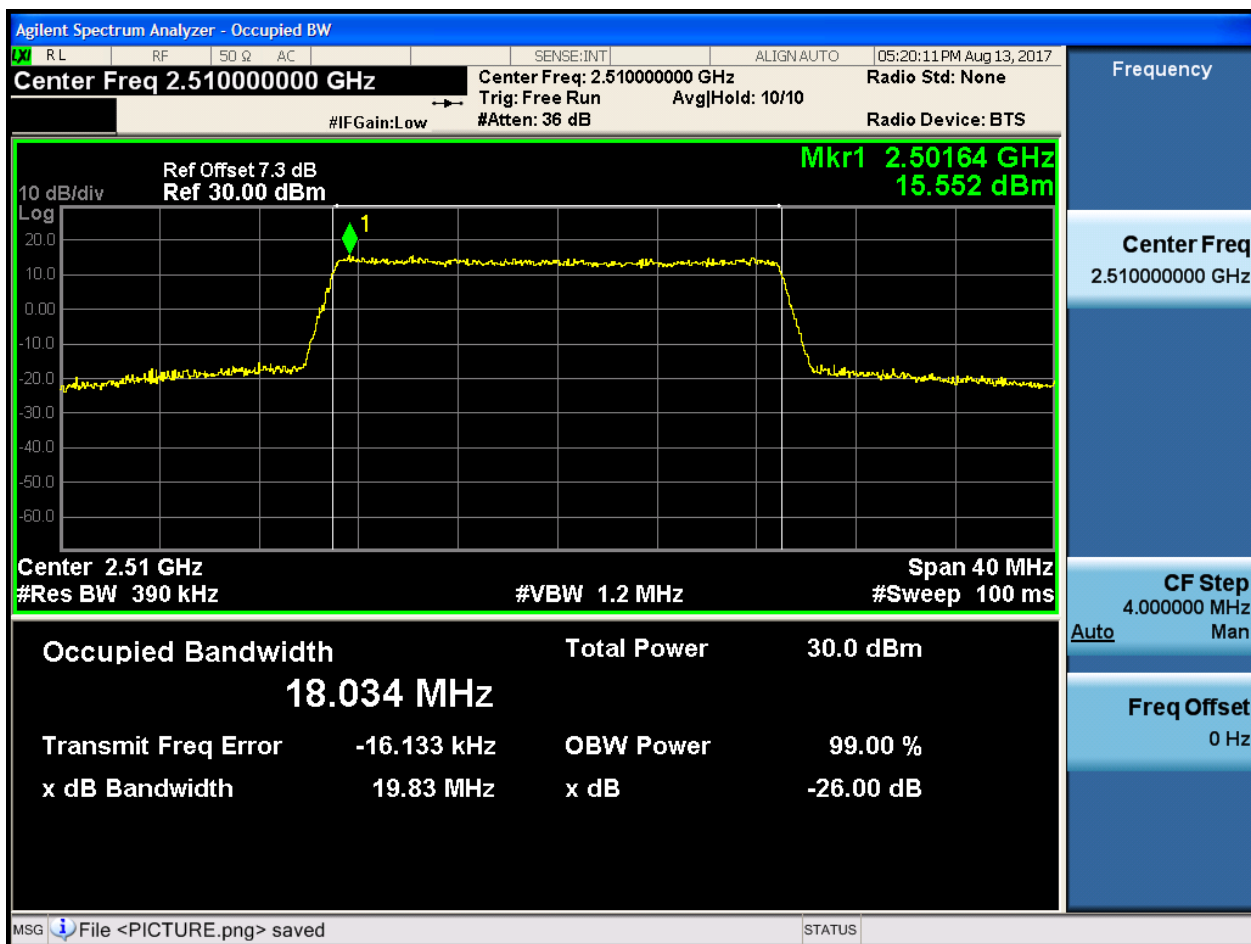




4.1.1.2.4 Test Bandwidth = 20

4.1.1.2.4.1 Test Channel = LCH

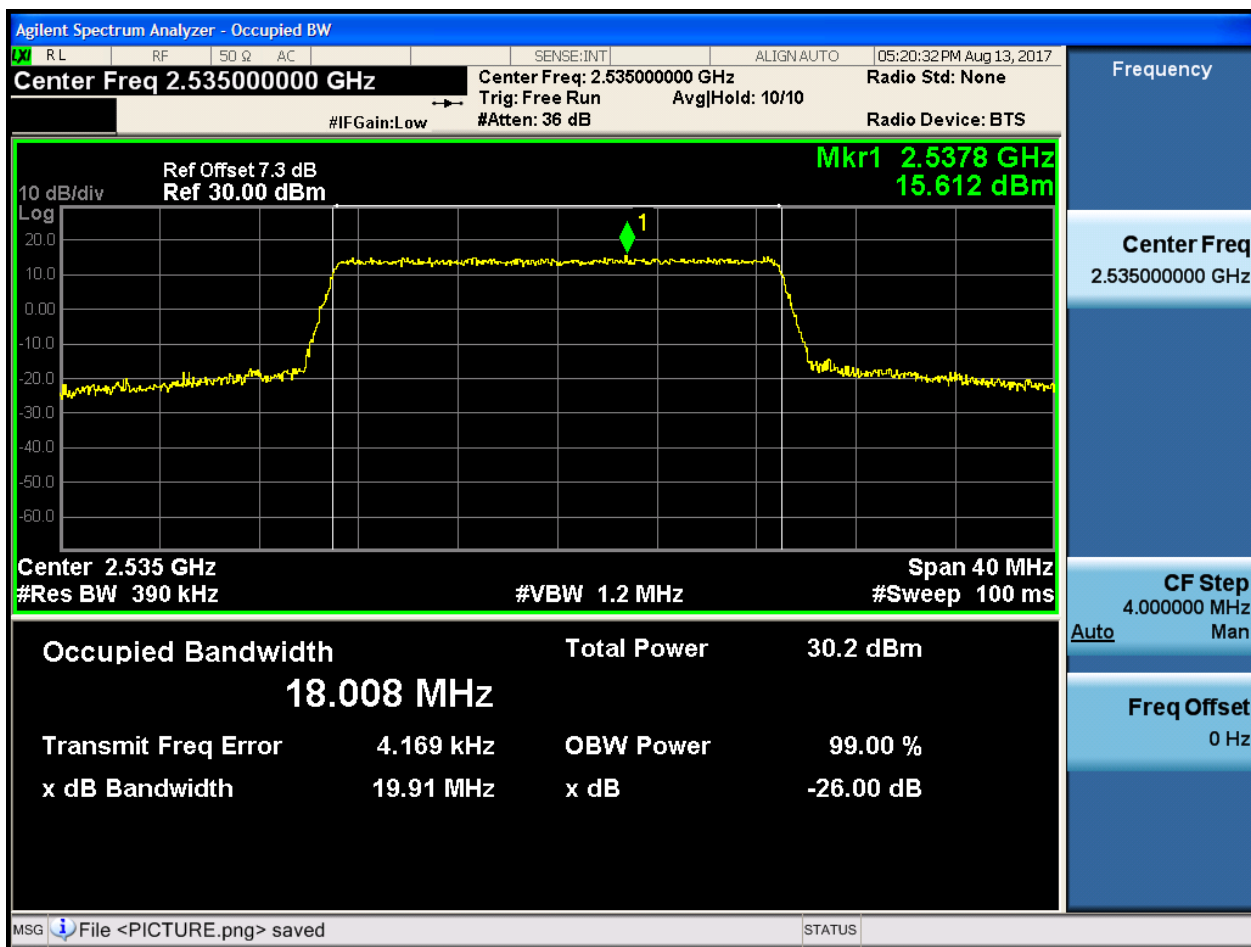
4.1.1.2.4.1.1 Test RB = RB100#0





4.1.1.2.4.2 Test Channel = MCH

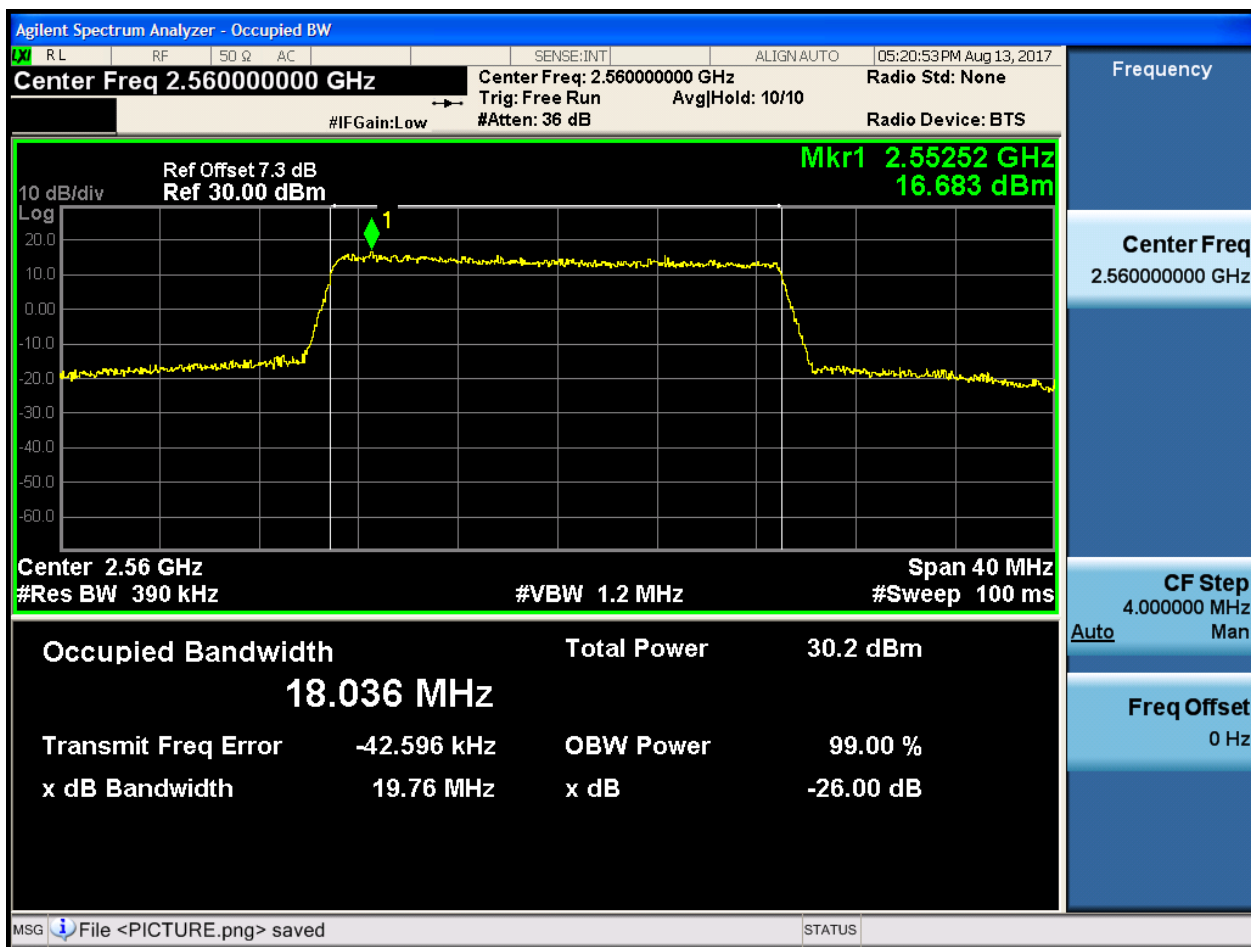
4.1.1.2.4.2.1 Test RB = RB100#0





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

5.1 For LTE

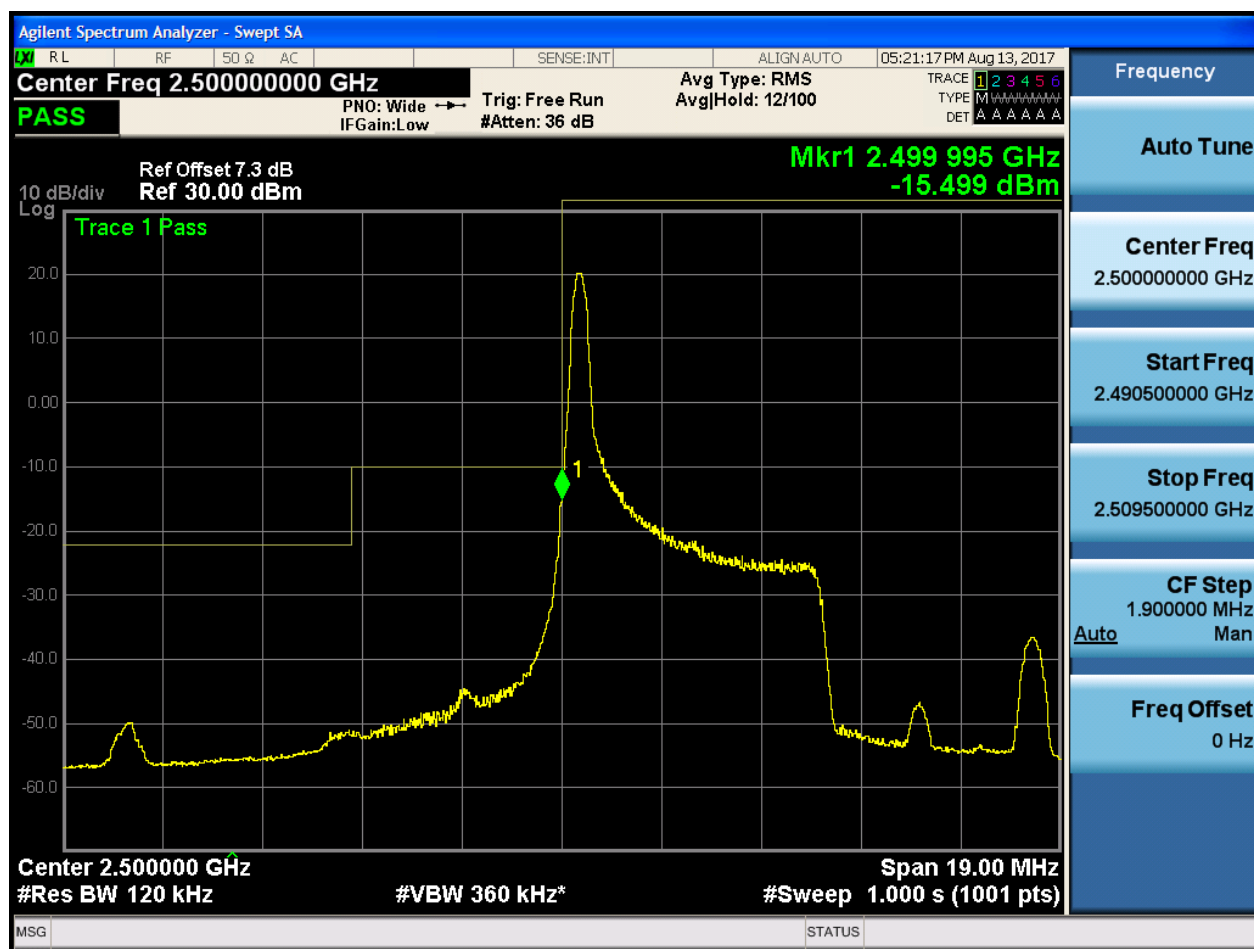
5.1.1 Test Band = BAND7

5.1.1.1 Test Mode = LTE/TM1

5.1.1.1.1 Test Bandwidth = 5

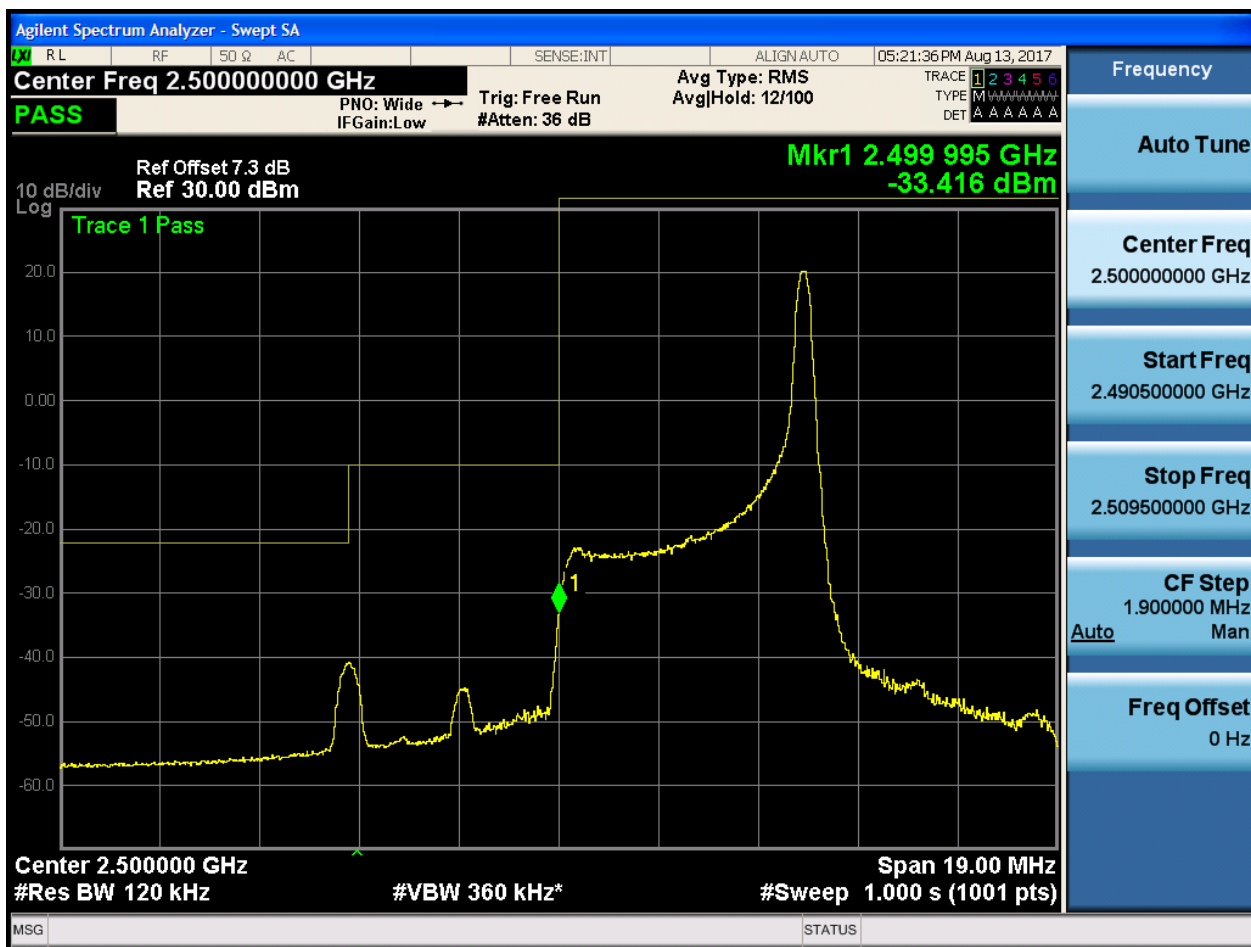
5.1.1.1.1.1 Test Channel = LCH

5.1.1.1.1.1.1 Test RB = RB1#0



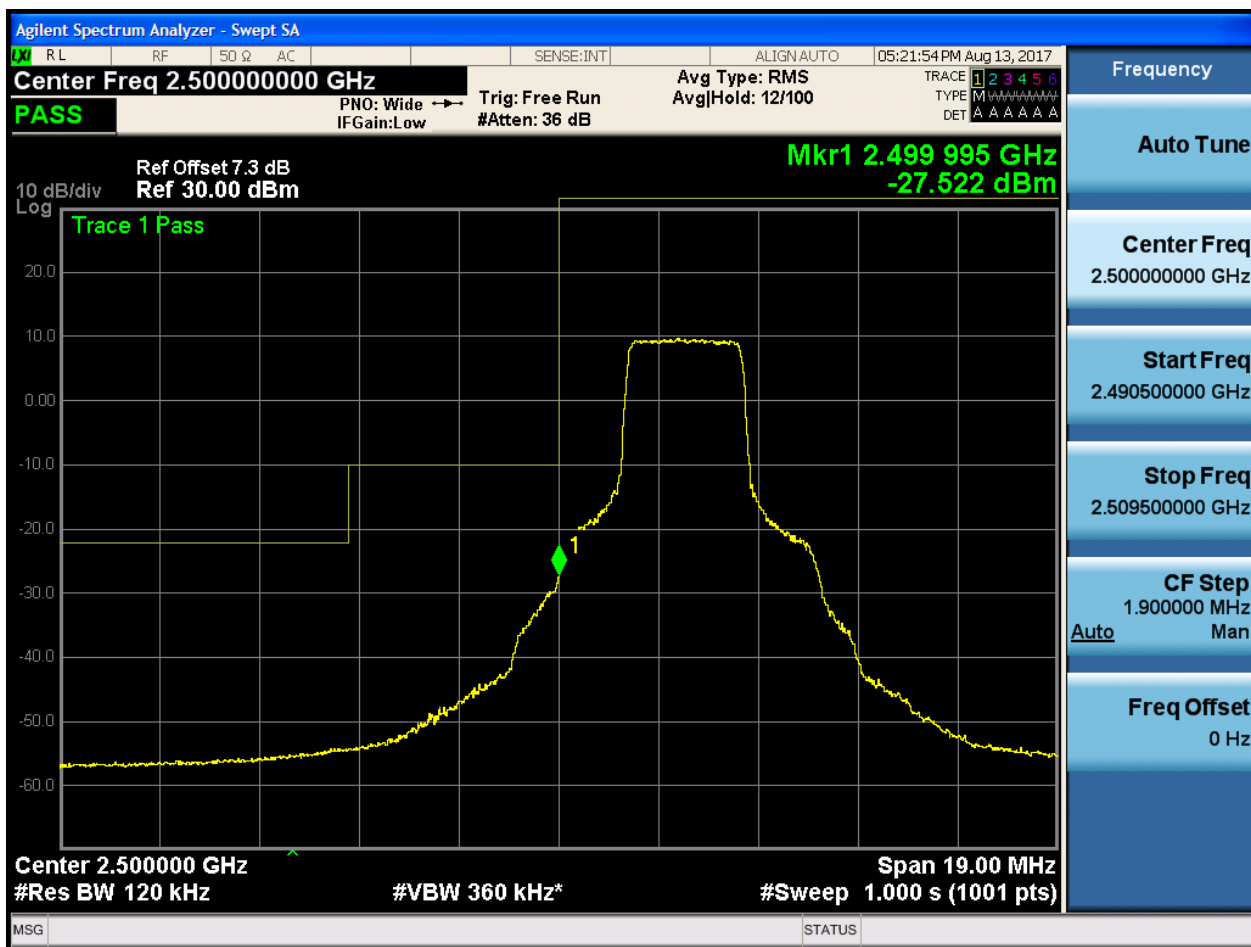


5.1.1.1.1.2 Test RB = RB1#24





5.1.1.1.1.3 Test RB = RB12#6





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:22:13 PM Aug 13, 2017

Center Freq 2.500000000 GHz Avg Type: RMS
PASS PNO: Wide Trig: 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 30.00 dBm

Mkr1 2.499 995 GHz
-24.248 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.500000 GHz Span 19.00 MHz
#Res BW 120 kHz #VBW 360 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

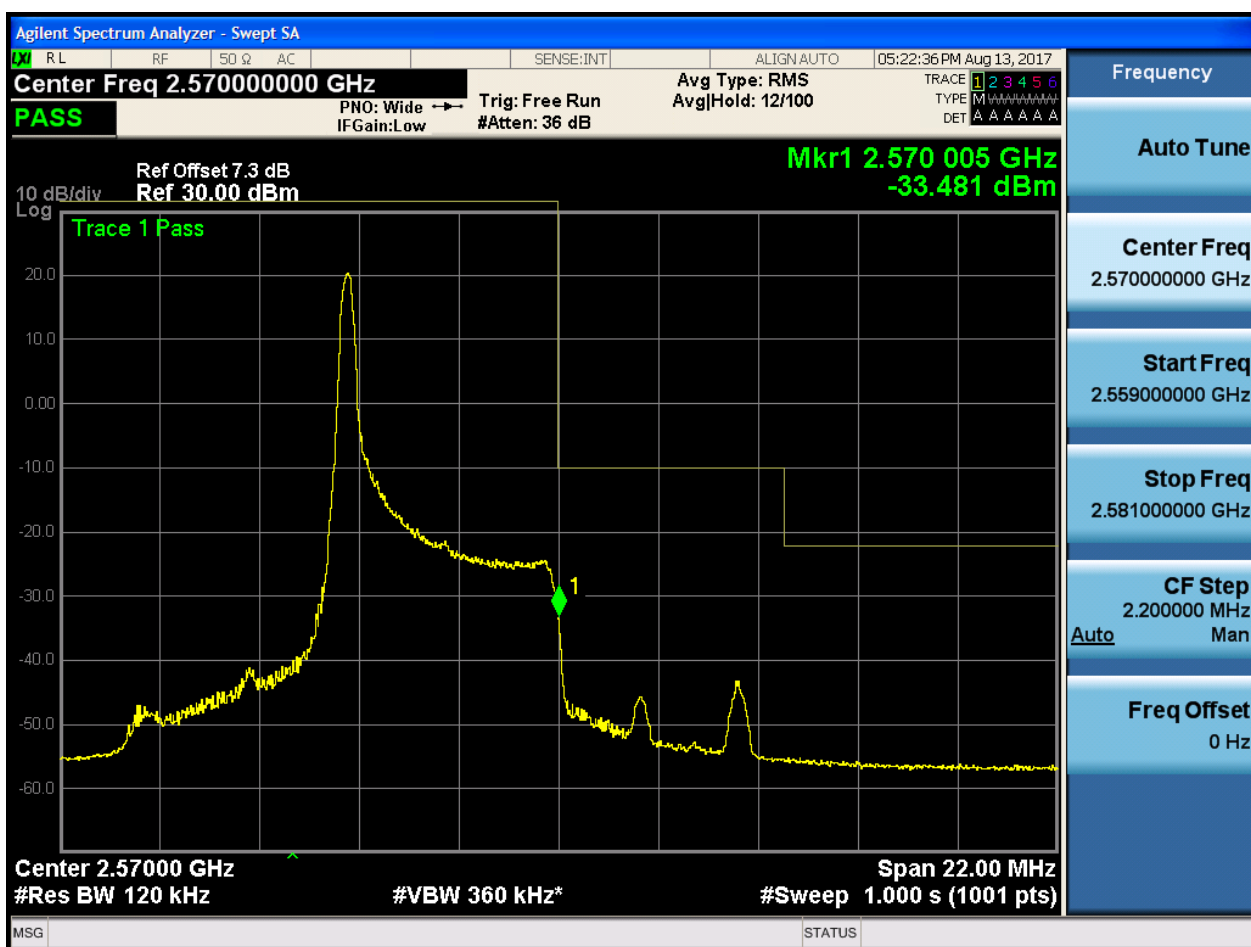
CF Step
1.900000 MHz
Auto Man

Freq Offset
0 Hz



5.1.1.1.1.2 Test Channel = HCH

5.1.1.1.1.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

Center Freq 2.57000000 GHz

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

Ref Offset 7.3 dB Ref 30.00 dBm

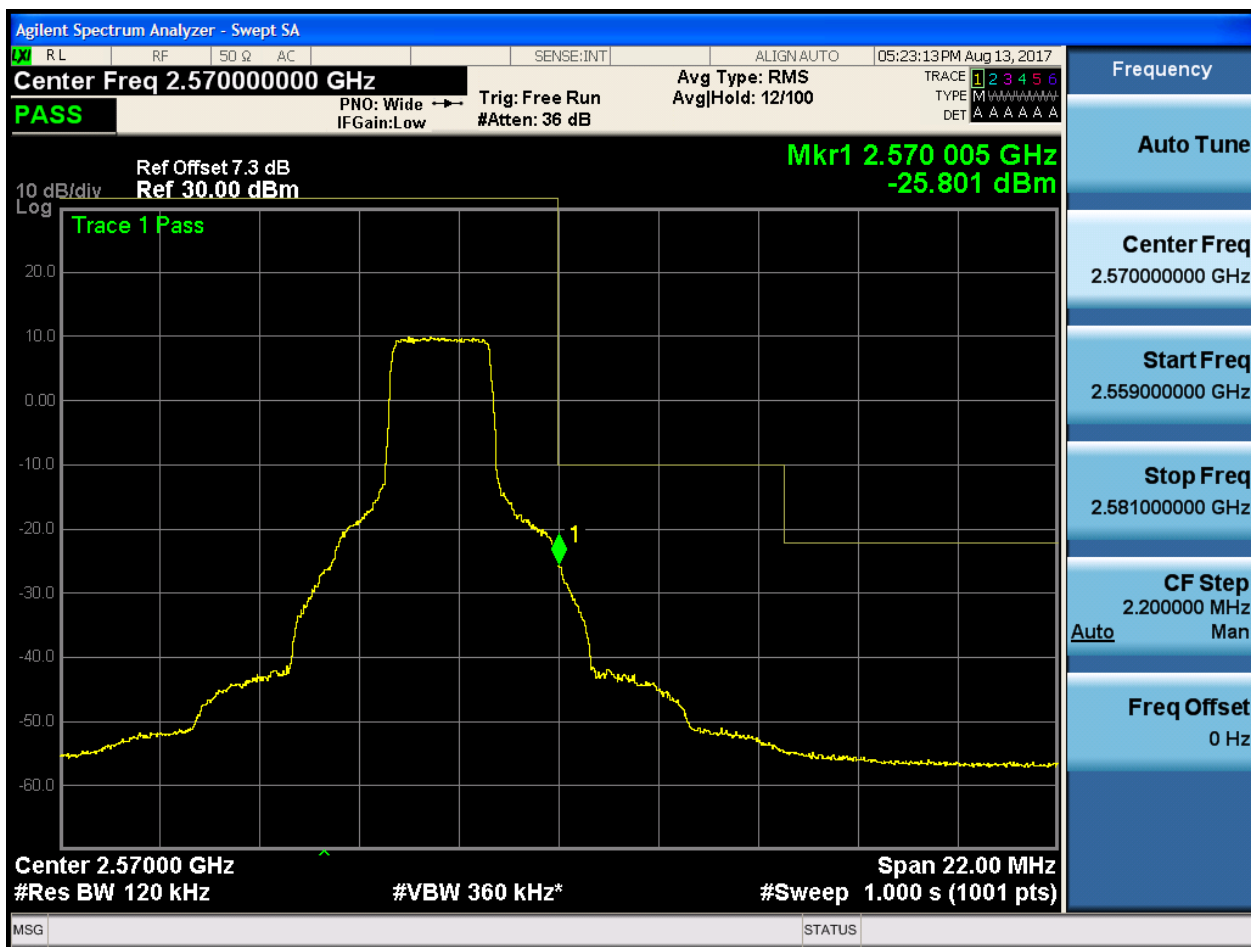
Mkr1 2.570 005 GHz -14.082 dBm

The figure displays a spectrum analyzer screen with a yellow trace on a black background. The main peak is labeled 'Mkr1' and has a frequency of 2.570 005 GHz and a power level of -14.082 dBm. The y-axis is labeled 'Log' and ranges from -60.0 to 20.0 dB/div. The x-axis shows a center frequency of 2.57000 GHz and a span of 22.00 MHz. Other parameters include #Res BW 120 kHz, #VBW 360 kHz*, and #Sweep 1.000 s (1001 pts). The status bar at the bottom indicates MSG and STATUS.

Frequency
Auto Tune
Center Freq 2.570000000 GHz
Start Freq 2.559000000 GHz
Stop Freq 2.581000000 GHz
CF Step 2.200000 MHz <u>Auto</u> Man
Freq Offset 0 Hz



5.1.1.1.2.3 Test RB = RB12#6





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:23:32 PM Aug 13, 2017

Center Freq 2.570000000 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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.570 005 GHz
-22.172 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.57000 GHz
#Res BW 120 kHz #VBW 360 kHz* Span 22.00 MHz
#Sweep 1.000 s (1001 pts)

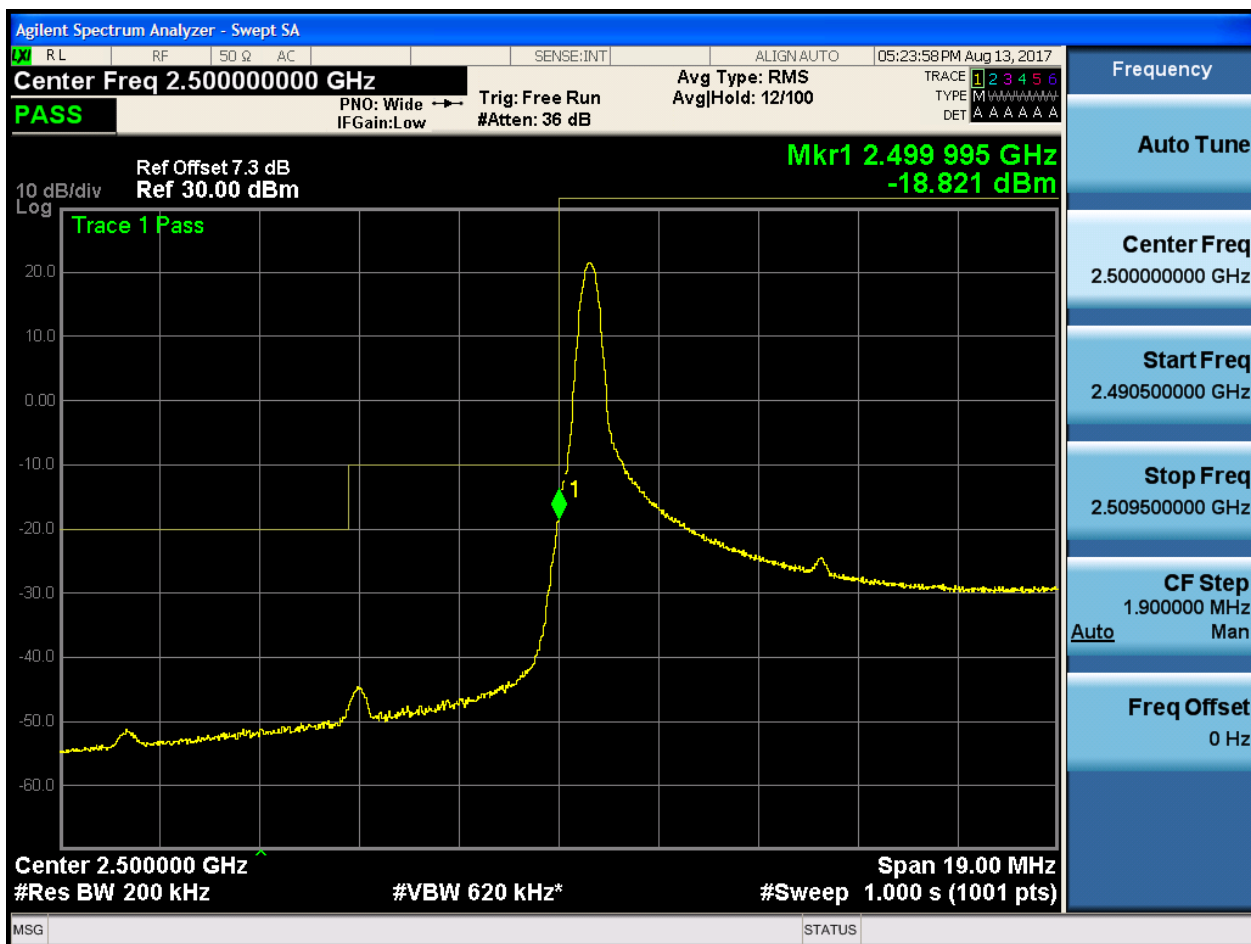
MSG STATUS



5.1.1.1.2 Test Bandwidth = 10

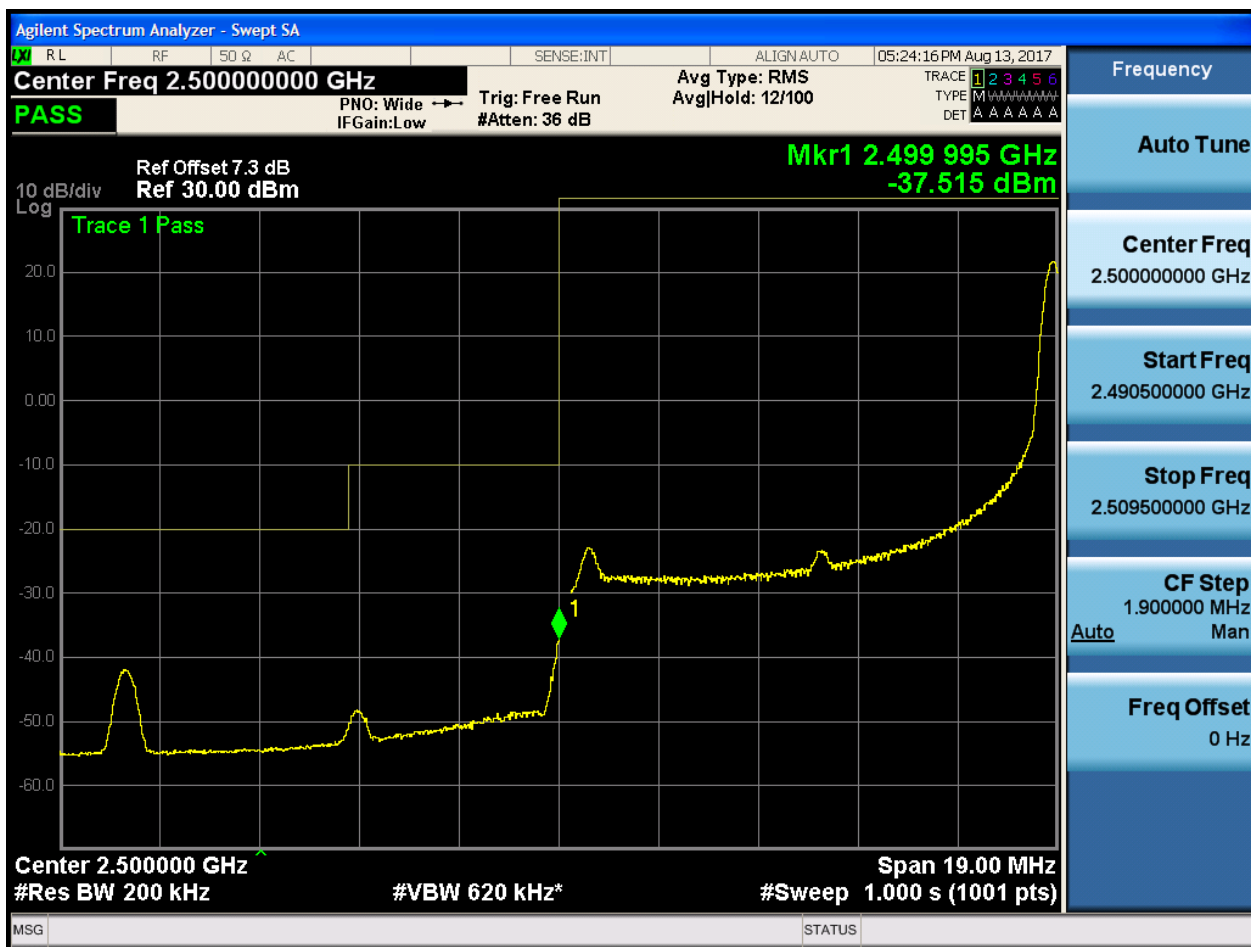
5.1.1.1.2.1 Test Channel = LCH

5.1.1.1.2.1.1 Test RB = RB1#0



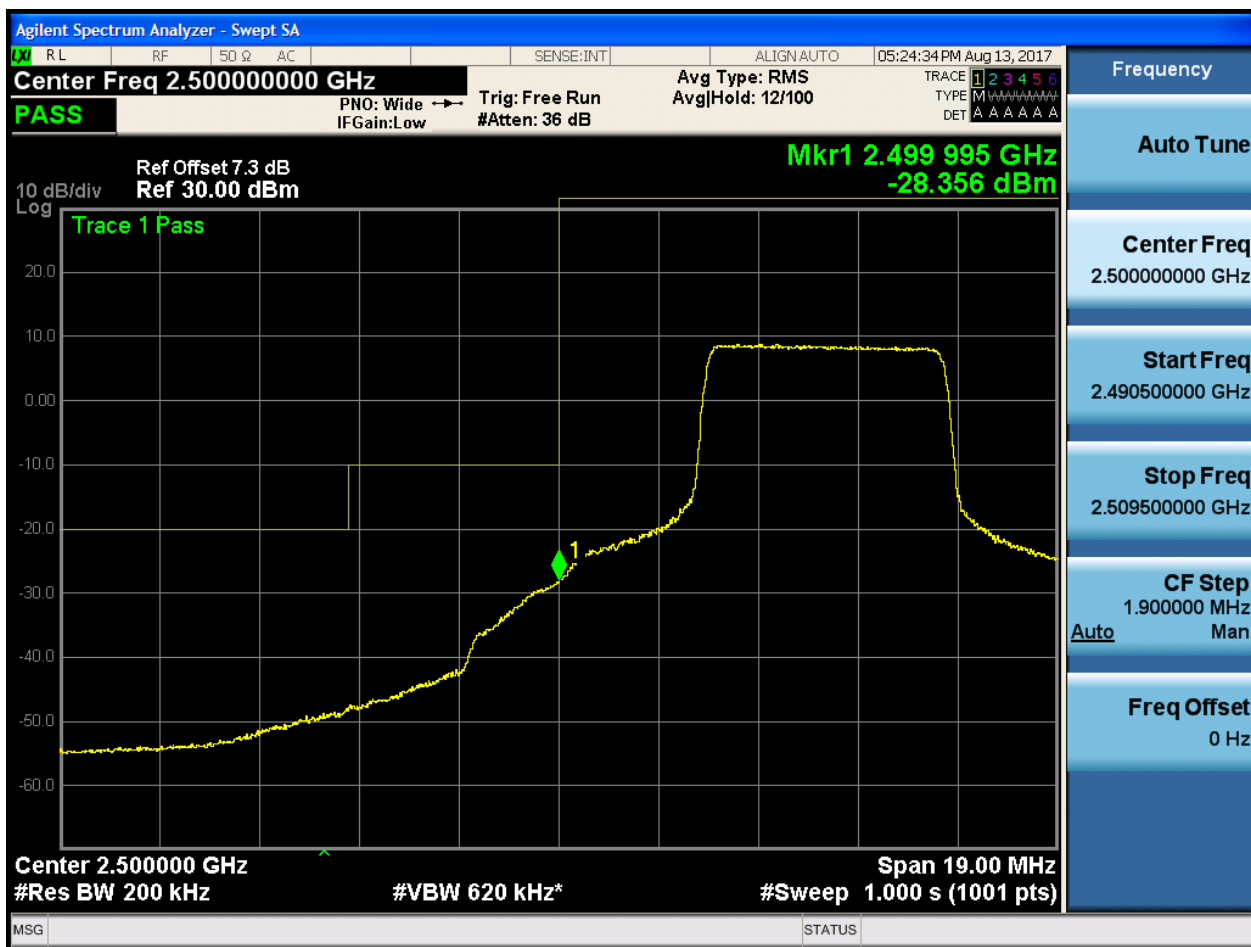


5.1.1.1.2.1.2 Test RB = RB1#49





5.1.1.1.2.1.3 Test RB = RB25#13





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:24:53 PM Aug 13, 2017

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 30.00 dBm

Mkr1 2.499 995 GHz
-27.327 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.500000 GHz Span 19.00 MHz
#Res BW 200 kHz #VBW 620 kHz* #Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.500000000 GHz

Start Freq
2.490500000 GHz

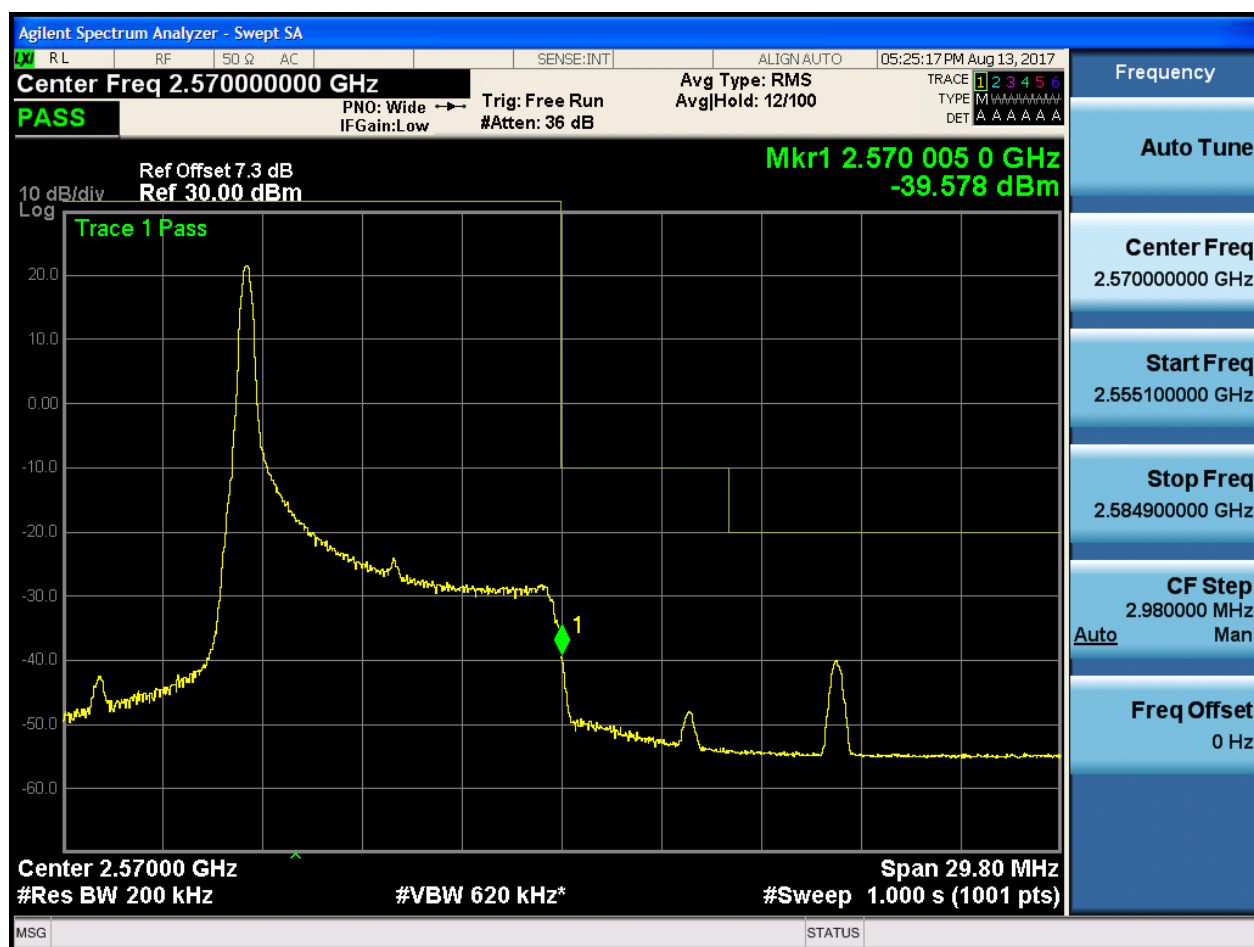
Stop Freq
2.509500000 GHz

CF Step
1.900000 MHz
Auto Man

Freq Offset
0 Hz



5.1.1.1.2.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:25:35 PM Aug 13, 2017

Center Freq 2.570000000 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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.570 005 0 GHz
-17.294 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.57000 GHz Span 29.80 MHz
#Res BW 200 kHz #VBW 620 kHz* #Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency
Auto Tune
Center Freq
2.570000000 GHz
Start Freq
2.555100000 GHz
Stop Freq
2.584900000 GHz
CF Step
2.980000 MHz
Auto Man
Freq Offset
0 Hz



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:25:54 PM Aug 13, 2017

Center Freq 2.570000000 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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.570 005 0 GHz
-26.449 dBm

10 dB/div
Log

Trace 1 Pass

The spectrum analyzer displays a signal trace on a grid. The vertical axis represents power in dBm, ranging from -60.0 to 20.0. The horizontal axis represents frequency in GHz, ranging from 2.565 to 2.575. The signal trace shows a broad peak centered at 2.570 GHz, with a maximum power level of approximately -26.449 dBm. A marker '1' is placed on the trace at the center frequency. The trace is labeled 'Trace 1 Pass'.

Center 2.57000 GHz
#Res BW 200 kHz

#VBW 620 kHz*

Span 29.80 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.570000000 GHz

Start Freq
2.555100000 GHz

Stop Freq
2.584900000 GHz

CF Step
2.980000 MHz
Auto Man

Freq Offset
0 Hz



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:26:12 PM Aug 13, 2017

Center Freq 2.570000000 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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.570 005 0 GHz
-24.088 dBm

10 dB/div
Log

Trace 1 Pass

The figure displays a spectrum analyzer trace on a grid. The vertical axis represents power in dBm, ranging from -60.0 to 20.0. The horizontal axis represents frequency in GHz, ranging from 2.565 to 2.585. A yellow trace shows a signal that is relatively flat at approximately -28 dBm from 2.565 GHz to 2.570 GHz. At 2.570 GHz, the signal rises sharply to about 5 dBm. It remains at this level until approximately 2.5849 GHz, where it drops sharply to about -25 dBm. From 2.5849 GHz to 2.585 GHz, the signal continues to drop, reaching approximately -55 dBm. A green arrow points to the peak at 2.570 GHz, and a red arrow points to the sharp drop at 2.5849 GHz. A label 'Trace 1 Pass' is in the top left corner of the plot area. A label '1' is next to the red arrow.

Center 2.57000 GHz
#Res BW 200 kHz

#VBW 620 kHz*

Span 29.80 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.570000000 GHz

Start Freq
2.555100000 GHz

Stop Freq
2.584900000 GHz

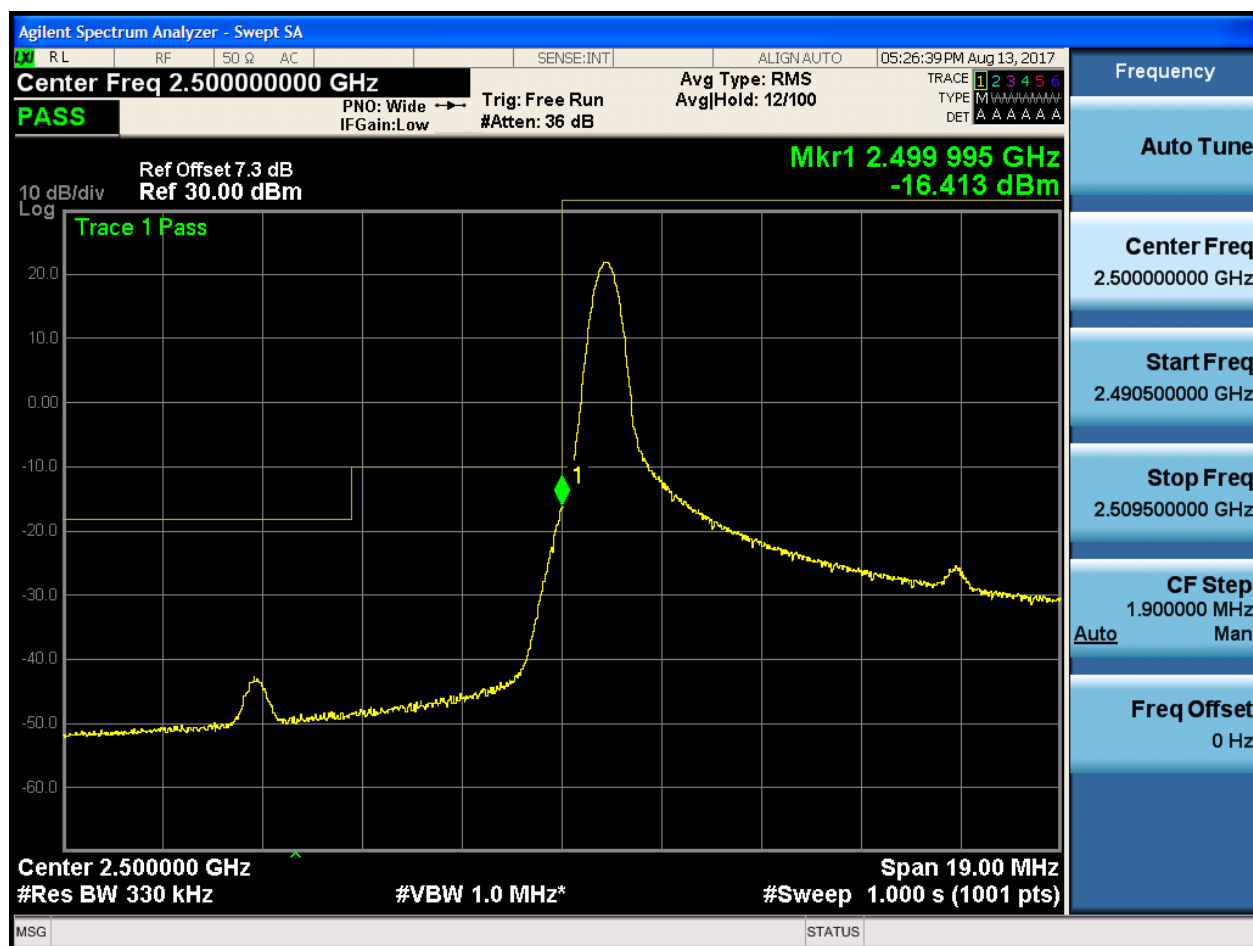
CF Step
2.980000 MHz
Auto Man

Freq Offset
0 Hz

5.1.1.1.3 Test Bandwidth = 15

5.1.1.1.3.1 Test Channel = LCH

5.1.1.1.3.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

Center Freq 2.50000000 GHz

Ref Offset 7.3 dB
Ref 30.00 dBm

10 dB/div
Log

Trace 1 Pass

Mkr1 2.499 995 GHz
-39.532 dBm

Center 2.500000 GHz
#Res BW 330 kHz
#VBW 1.0 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
Auto Man

Freq Offset
0 Hz

The image shows a screenshot of an Agilent Spectrum Analyzer in Swept SA mode. The main display area shows a frequency spectrum with a yellow trace. A green marker labeled '1' is placed on the trace at a frequency of 2.499995 GHz, with a power level of -39.532 dBm. The center frequency is set to 2.500000 GHz, and the span is 19.00 MHz. The resolution bandwidth (Res BW) is 330 kHz, and the video bandwidth (VBW) is 1.0 MHz. The sweep time is 1.000 s, resulting in 1001 points. The display also shows various settings like Ref Offset (7.3 dB), Ref (30.00 dBm), and a 'Trace 1 Pass' label. On the right side, there is a panel with 'Auto Tune' and 'Center Freq' set to 2.500000000 GHz. Below that, 'Start Freq' is 2.490500000 GHz, 'Stop Freq' is 2.509500000 GHz, 'CF Step' is 1.900000 MHz, and 'Freq Offset' is 0 Hz. The bottom status bar shows 'MSG' and 'STATUS' indicators.



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:27:17 PM Aug 13, 2017

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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.499 995 GHz
-26.753 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.500000 GHz Span 19.00 MHz
#Res BW 330 kHz #VBW 1.0 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



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 05:27:36 PM Aug 13, 2017

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 30.00 dBm

Mkr1 2.499 995 GHz
-24.547 dBm

10 dB/div
Log

Trace 1 Pass

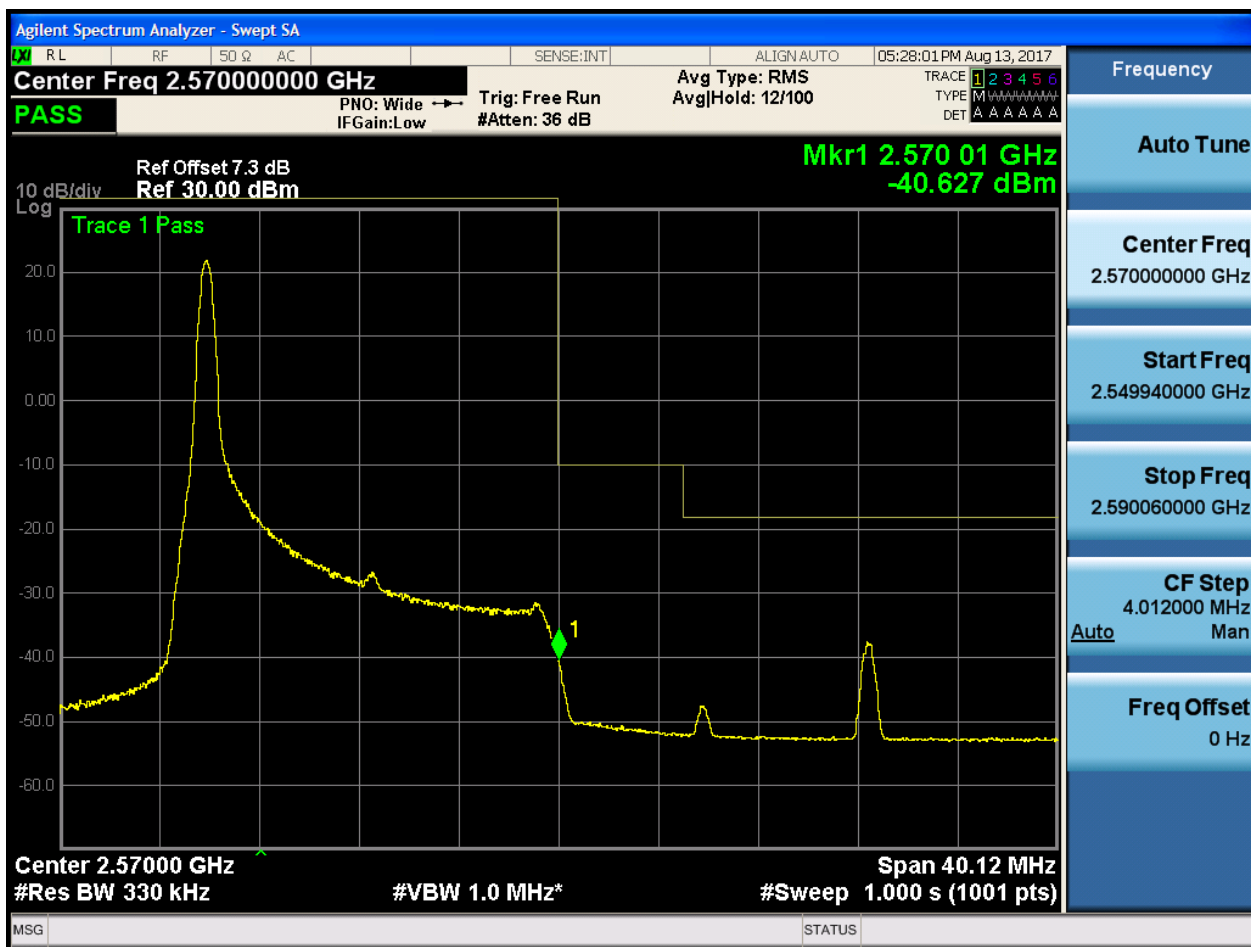
Center 2.500000 GHz Span 19.00 MHz
#Res BW 330 kHz #VBW 1.0 MHz* #Sweep 1.000 s (1001 pts)

MSG STATUS



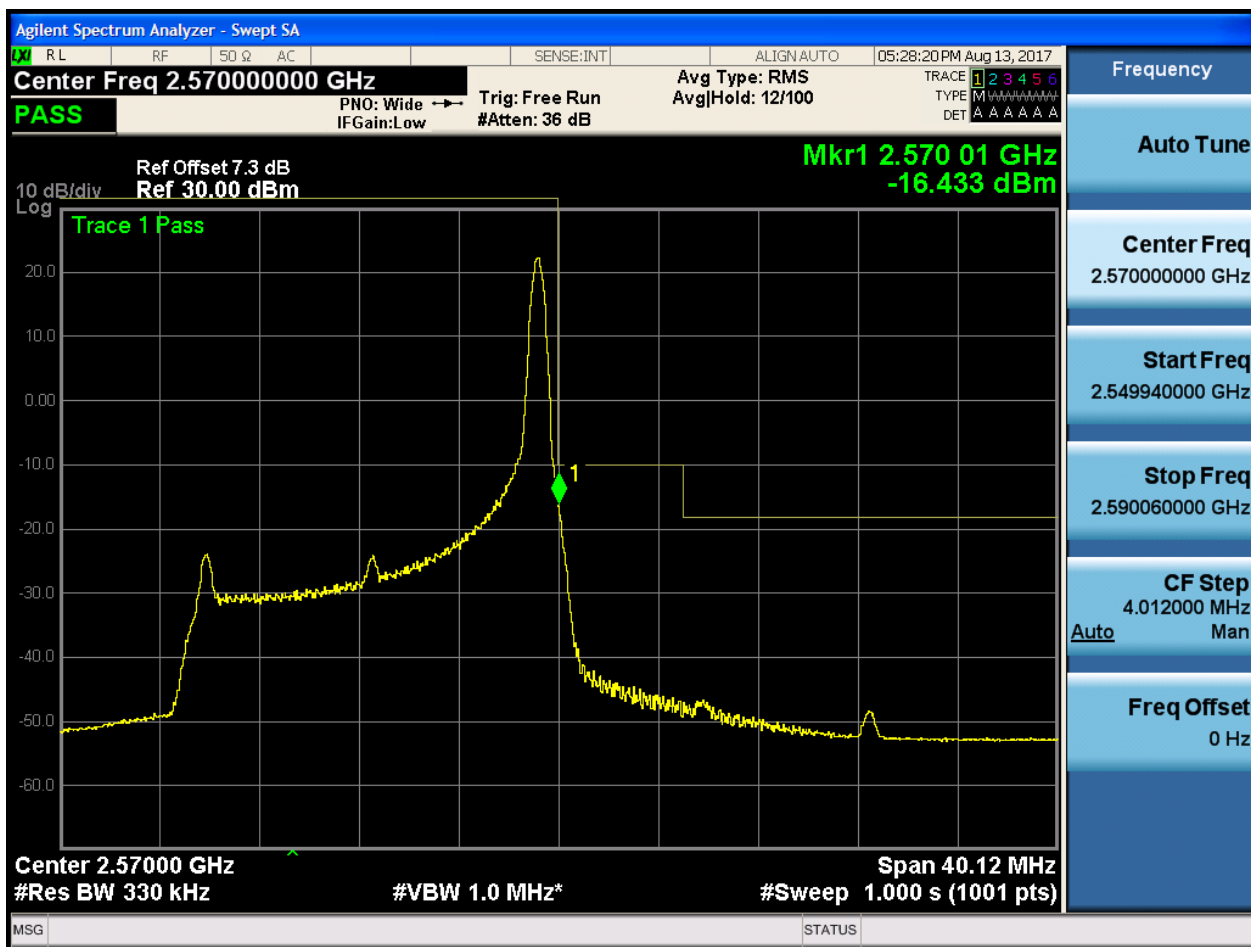
5.1.1.1.3.2 Test Channel = HCH

5.1.1.1.3.2.1 Test RB = RB1#0





5.1.1.1.3.2.2 Test RB = RB1#74





5.1.1.1.3.2.3 Test RB = RB36#18





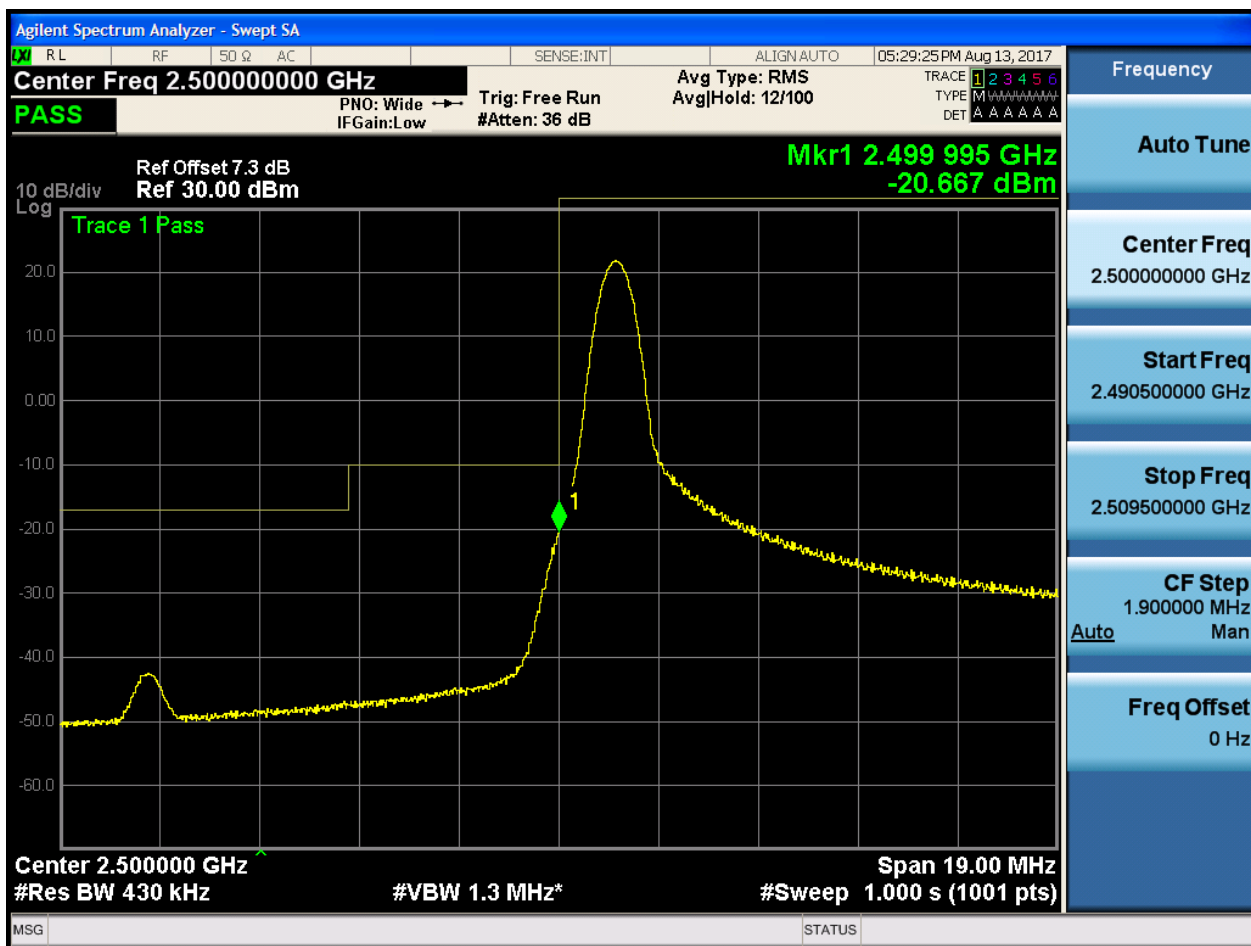
5.1.1.1.3.2.4 Test RB = RB75#0



5.1.1.1.4 Test Bandwidth = 20

5.1.1.1.4.1 Test Channel = LCH

5.1.1.1.4.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:29:45 PM Aug 13, 2017

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

Ref Offset 7.3 dB
 Ref 30.00 dBm

Mkr1 2.499 995 GHz
 -39.741 dBm

10 dB/div
 Log

Trace 1 Pass

Center 2.500000 GHz Span 19.00 MHz
 #Res BW 430 kHz #VBW 1.3 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



5.1.1.1.4.1.3 Test RB = RB50#25





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:30:24 PM Aug 13, 2017

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 30.00 dBm

Mkr1 2.499 995 GHz
-25.436 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.500000 GHz
#Res BW 430 kHz
#VBW 1.3 MHz
Span 19.00 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS



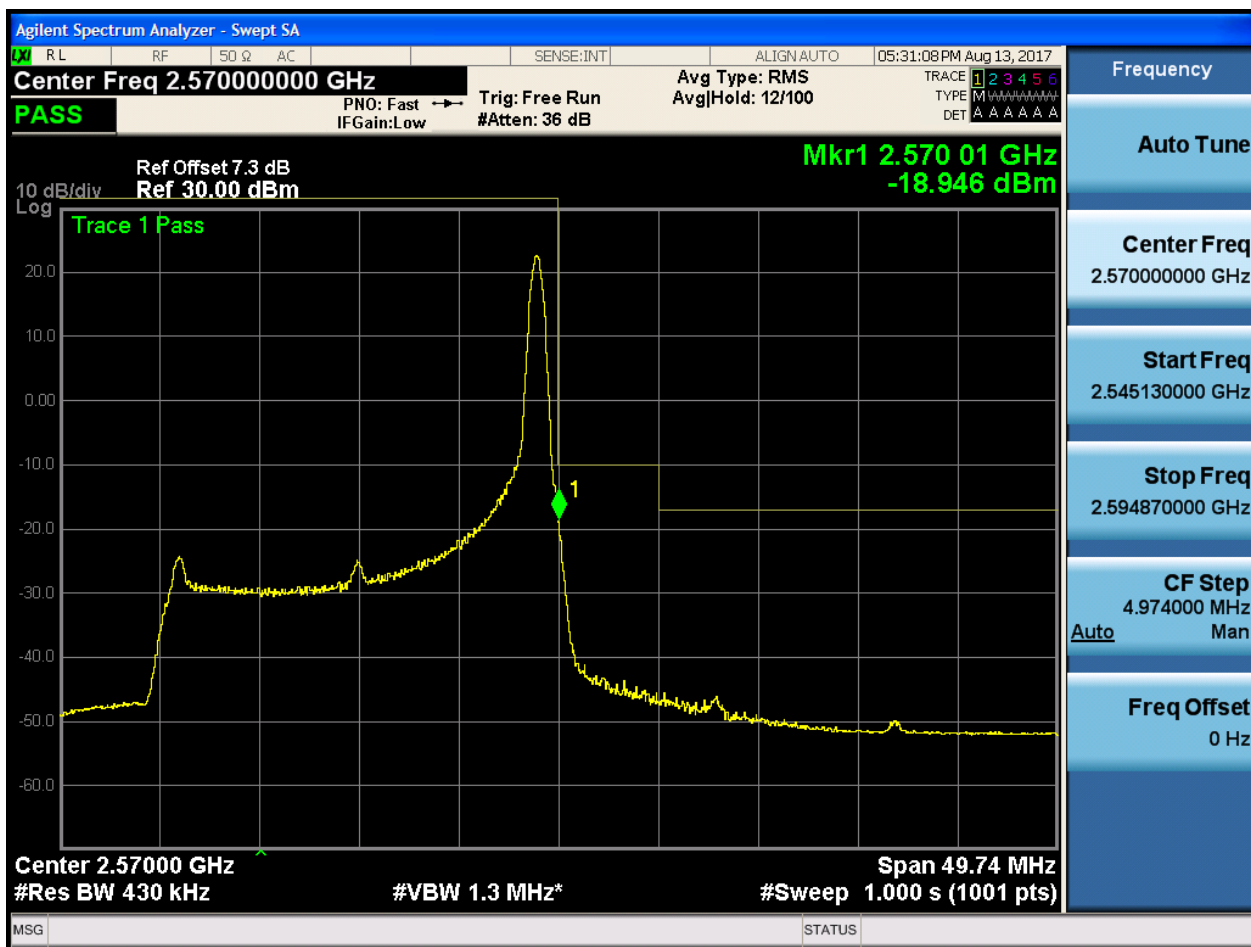
5.1.1.1.4.2 Test Channel = HCH

5.1.1.1.4.2.1 Test RB = RB1#0





5.1.1.1.4.2.2 Test RB = RB1#99





5.1.1.1.4.2.3 Test RB = RB50#25





5.1.1.1.4.2.4 Test RB = RB100#0



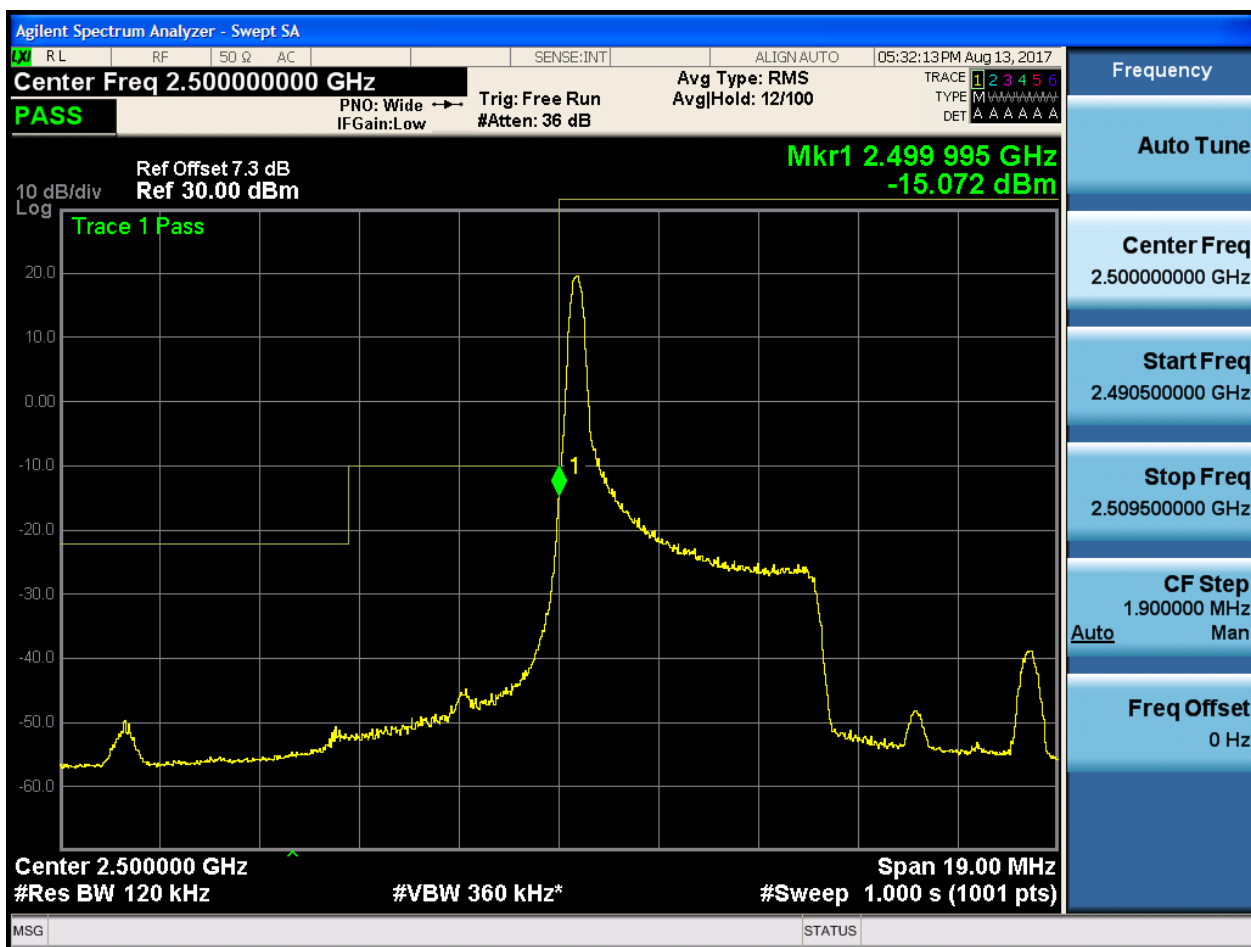


5.1.1.2 Test Mode = LTE/TM2

5.1.1.2.1 Test Bandwidth = 5

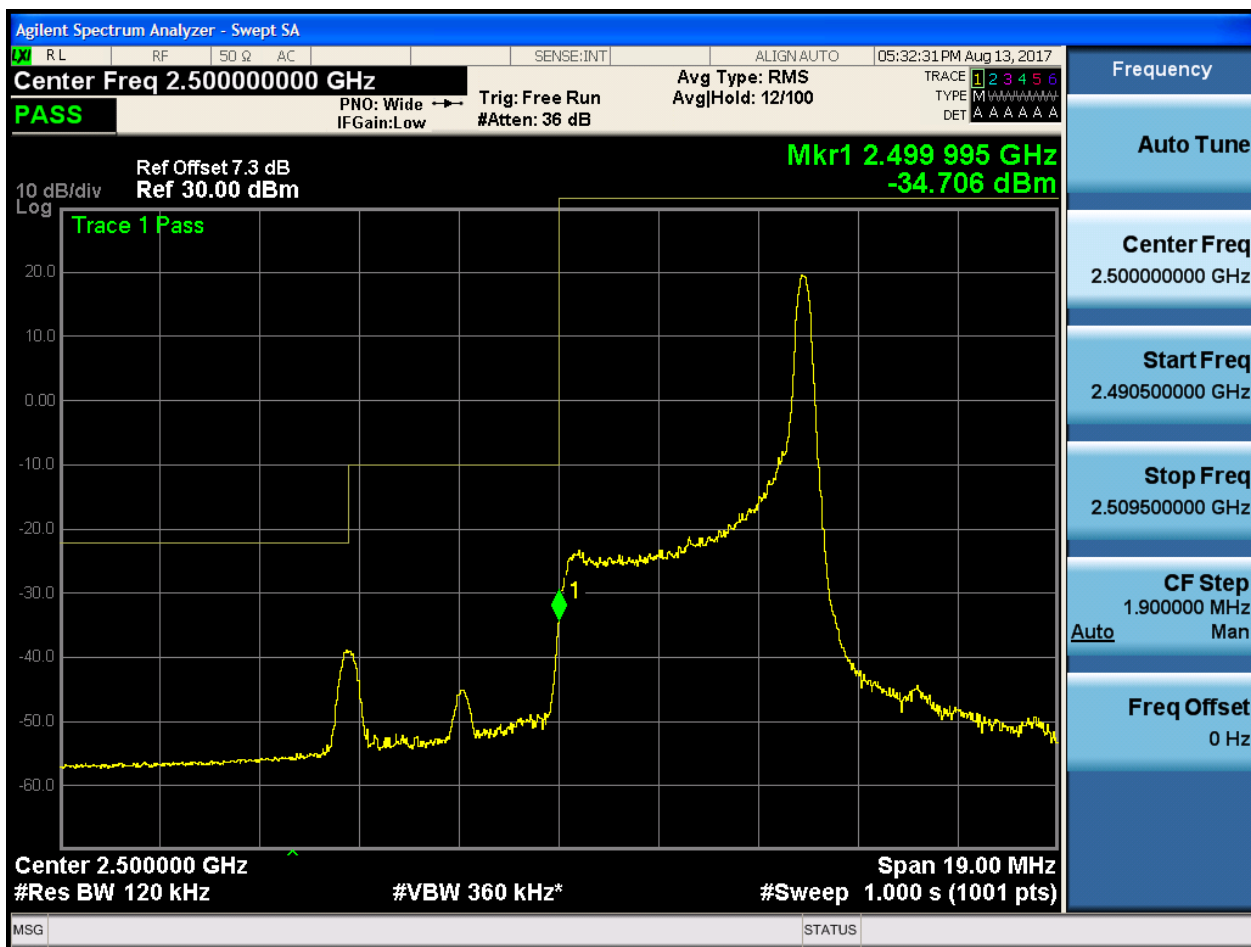
5.1.1.2.1.1 Test Channel = LCH

5.1.1.2.1.1.1 Test RB = RB1#0





5.1.1.2.1.1.2 Test RB = RB1#24





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:32:50 PM Aug 13, 2017

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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.499 995 GHz
-29.718 dBm

10 dB/div
Log

Trace 1 Pass

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

MSG STATUS

Frequency

Auto Tune

Center Freq
2.500000000 GHz

Start Freq
2.490500000 GHz

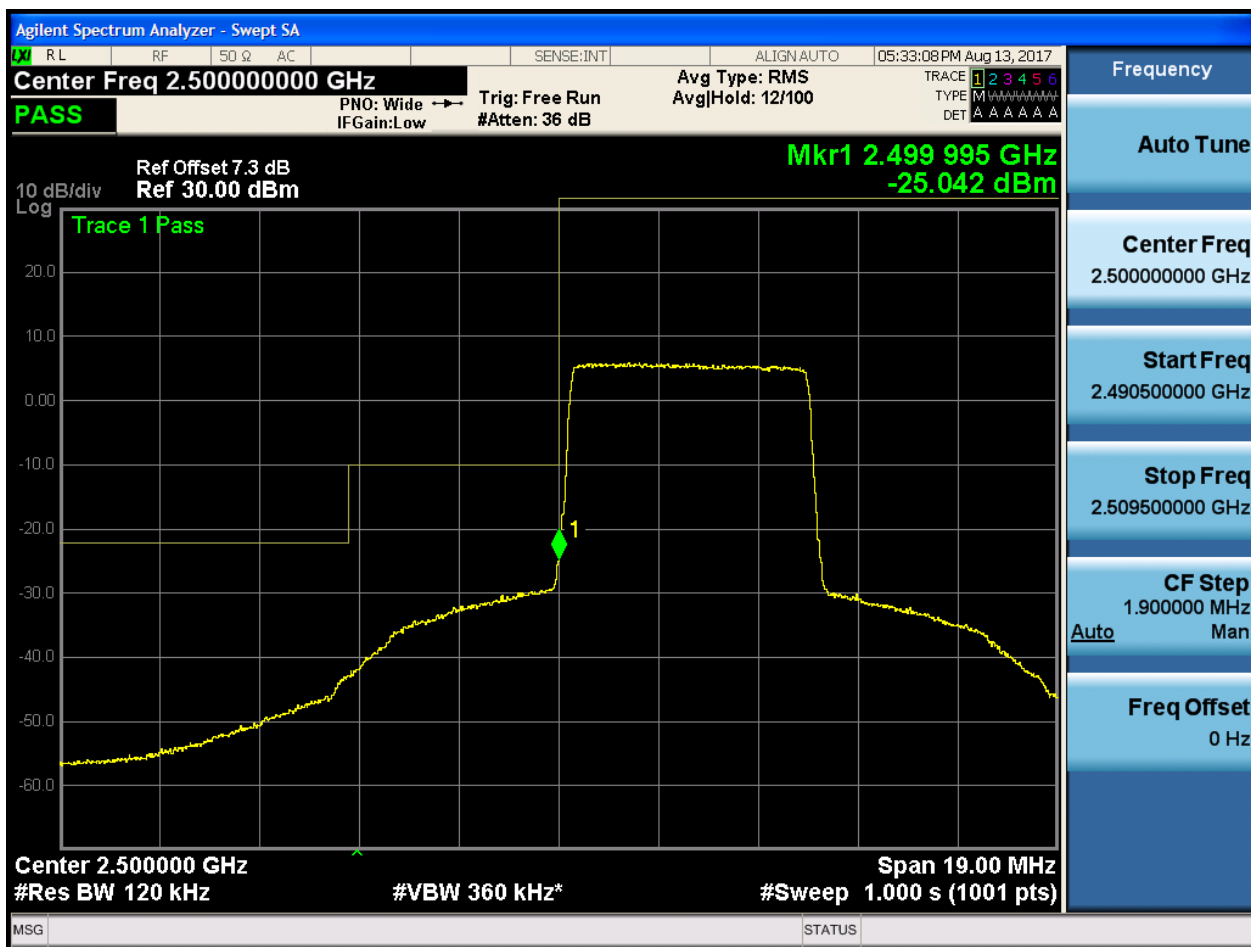
Stop Freq
2.509500000 GHz

CF Step
1.900000 MHz
Auto Man

Freq Offset
0 Hz



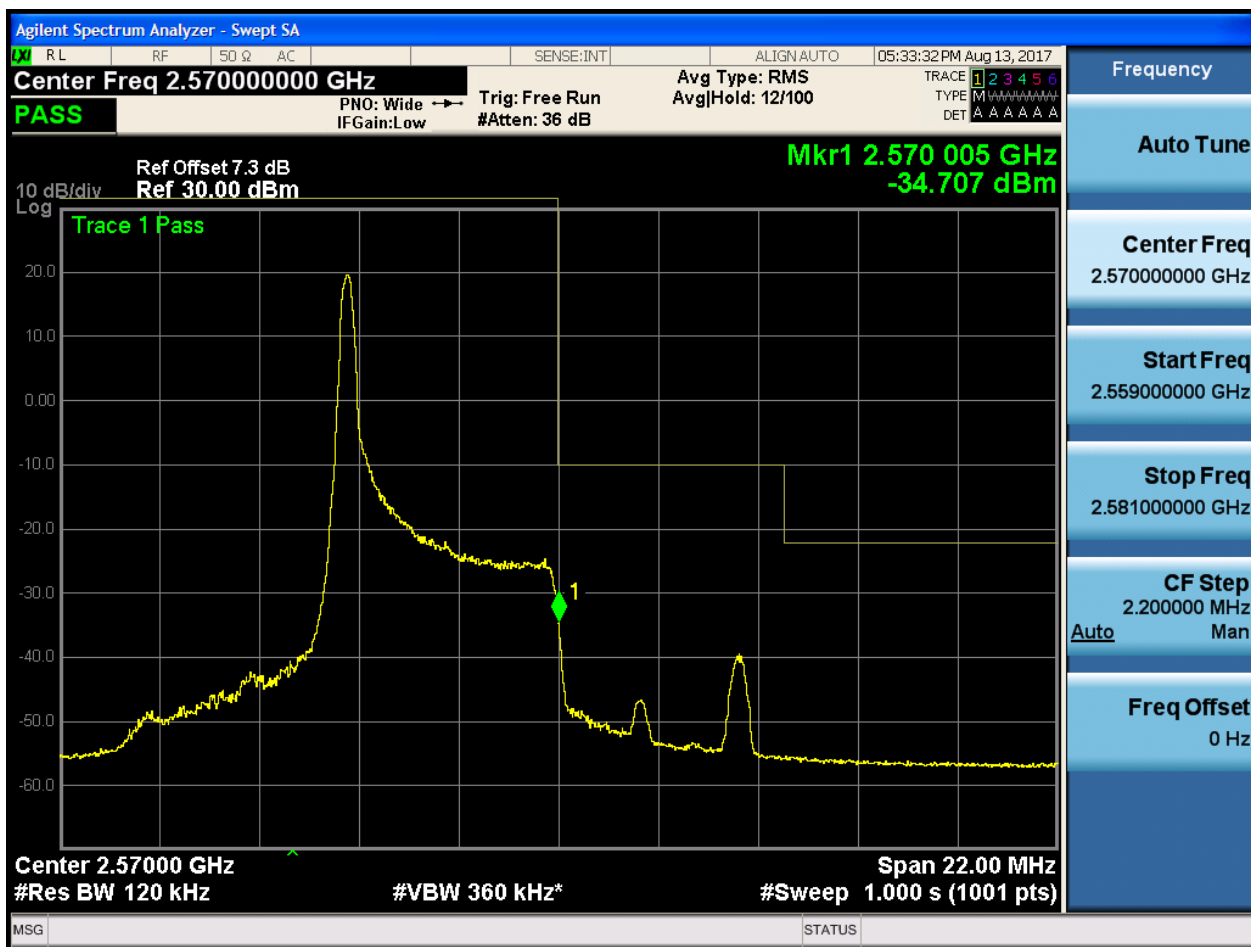
5.1.1.2.1.1.4 Test RB = RB25#0





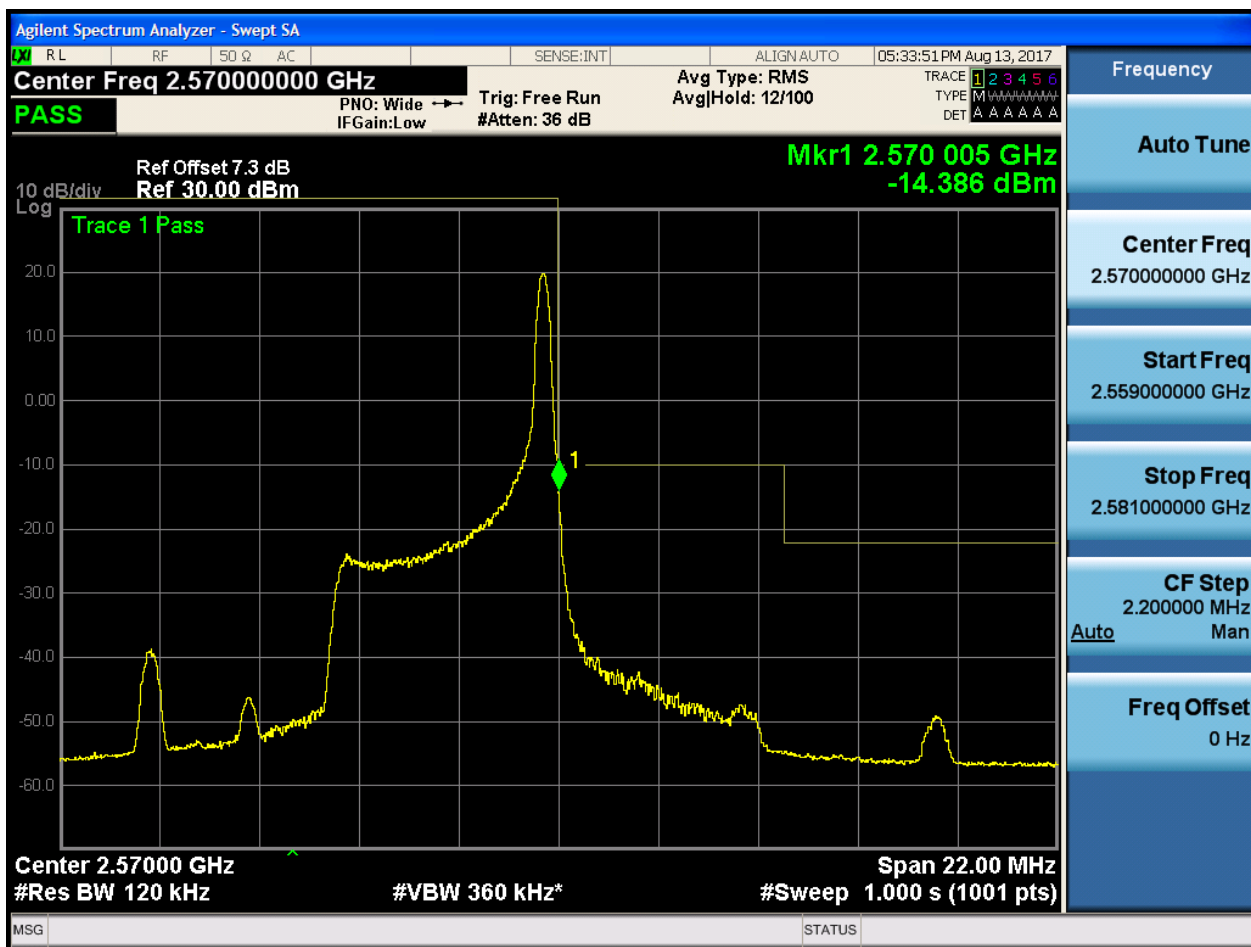
5.1.1.2.1.2 Test Channel = HCH

5.1.1.2.1.2.1 Test RB = RB1#0





5.1.1.2.1.2.2 Test RB = RB1#24





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:34:09 PM Aug 13, 2017

Center Freq 2.570000000 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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.570 005 GHz
-27.310 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.57000 GHz
#Res BW 120 kHz
#VBW 360 kHz*
Span 22.00 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.570000000 GHz

Start Freq
2.559000000 GHz

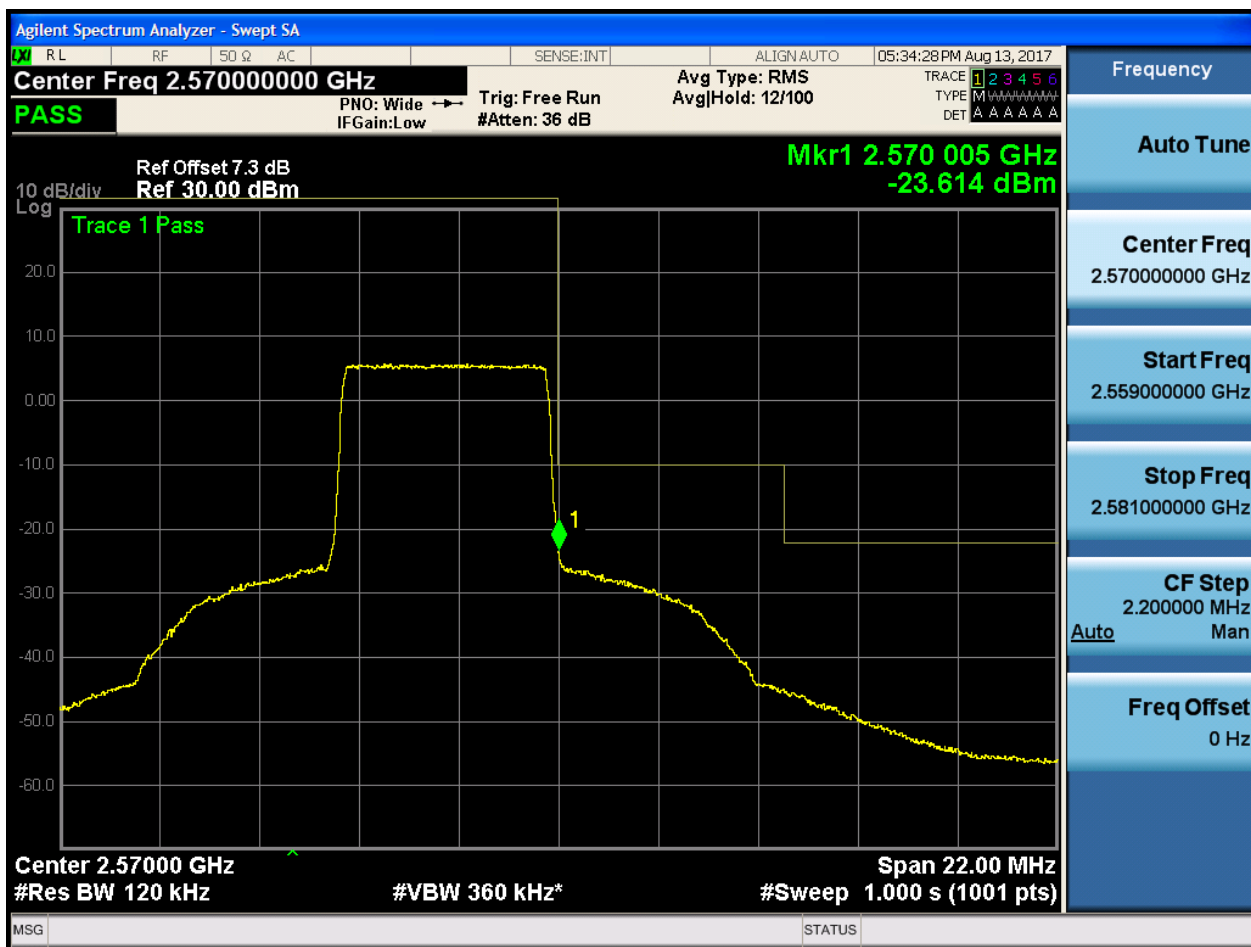
Stop Freq
2.581000000 GHz

CF Step
2.200000 MHz
Auto Man

Freq Offset
0 Hz



5.1.1.2.1.2.4 Test RB = RB25#0

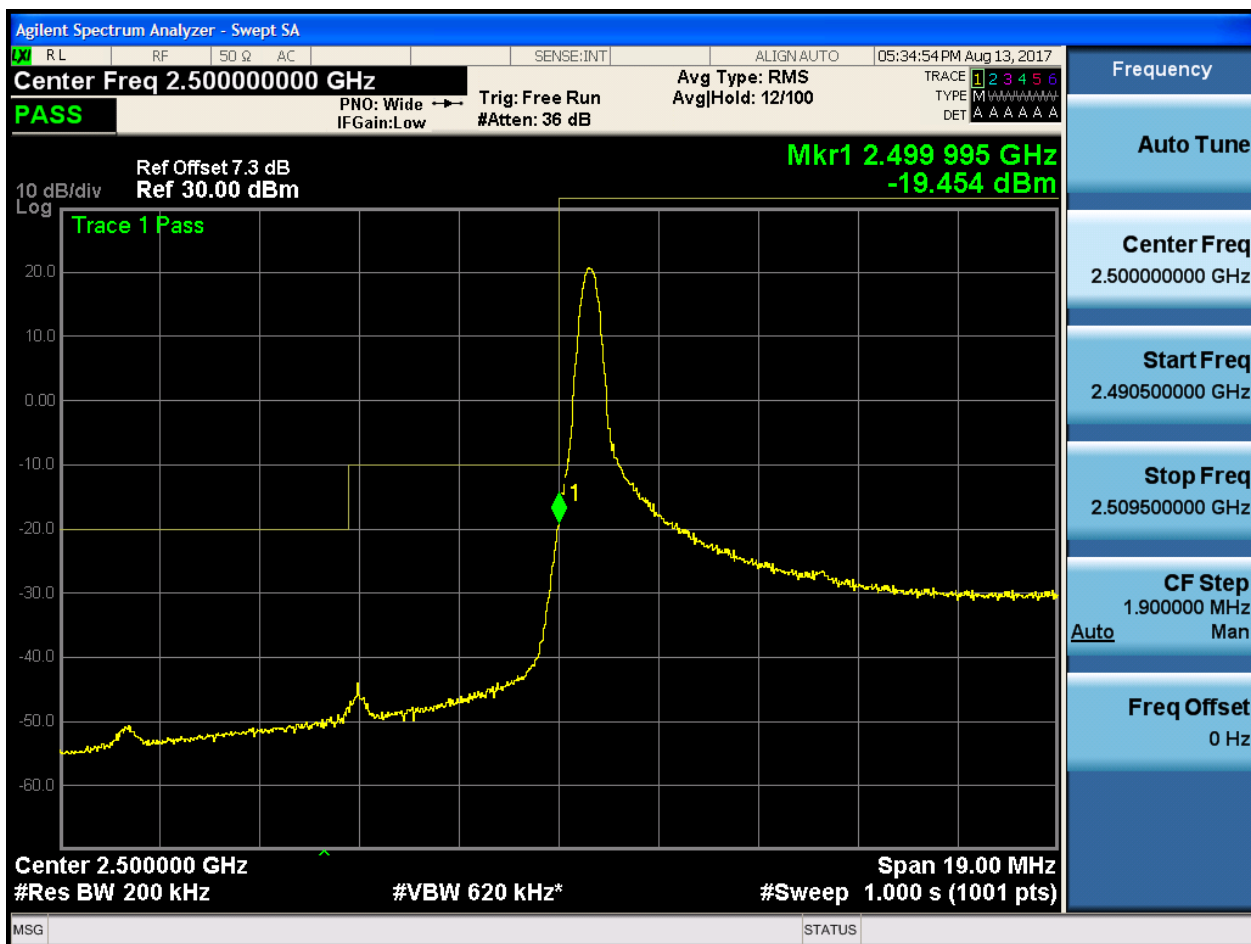




5.1.1.2.2 Test Bandwidth = 10

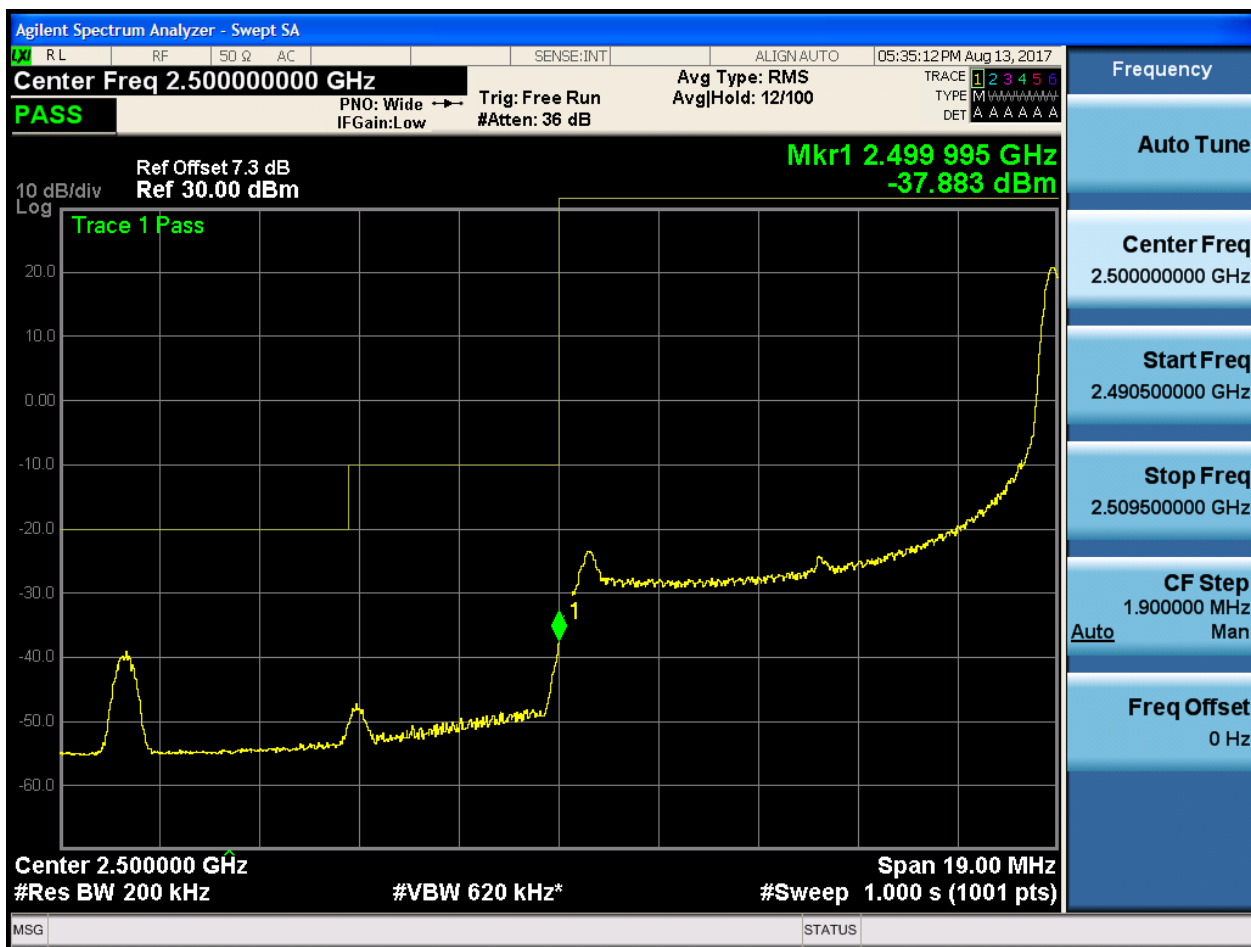
5.1.1.2.2.1 Test Channel = LCH

5.1.1.2.2.1.1 Test RB = RB1#0





5.1.1.2.2.1.2 Test RB = RB1#49





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:35:30 PM Aug 13, 2017

Center Freq 2.500000000 GHz Avg Type: RMS
#Res BW 200 kHz #VBW 620 kHz* #Sweep 1.000 s (1001 pts)

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

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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.499 995 GHz
-30.234 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.500000 GHz Span 19.00 MHz
#Res BW 200 kHz #VBW 620 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



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:35:49 PM Aug 13, 2017

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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.499 995 GHz
-28.197 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.500000 GHz Span 19.00 MHz
#Res BW 200 kHz #VBW 620 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

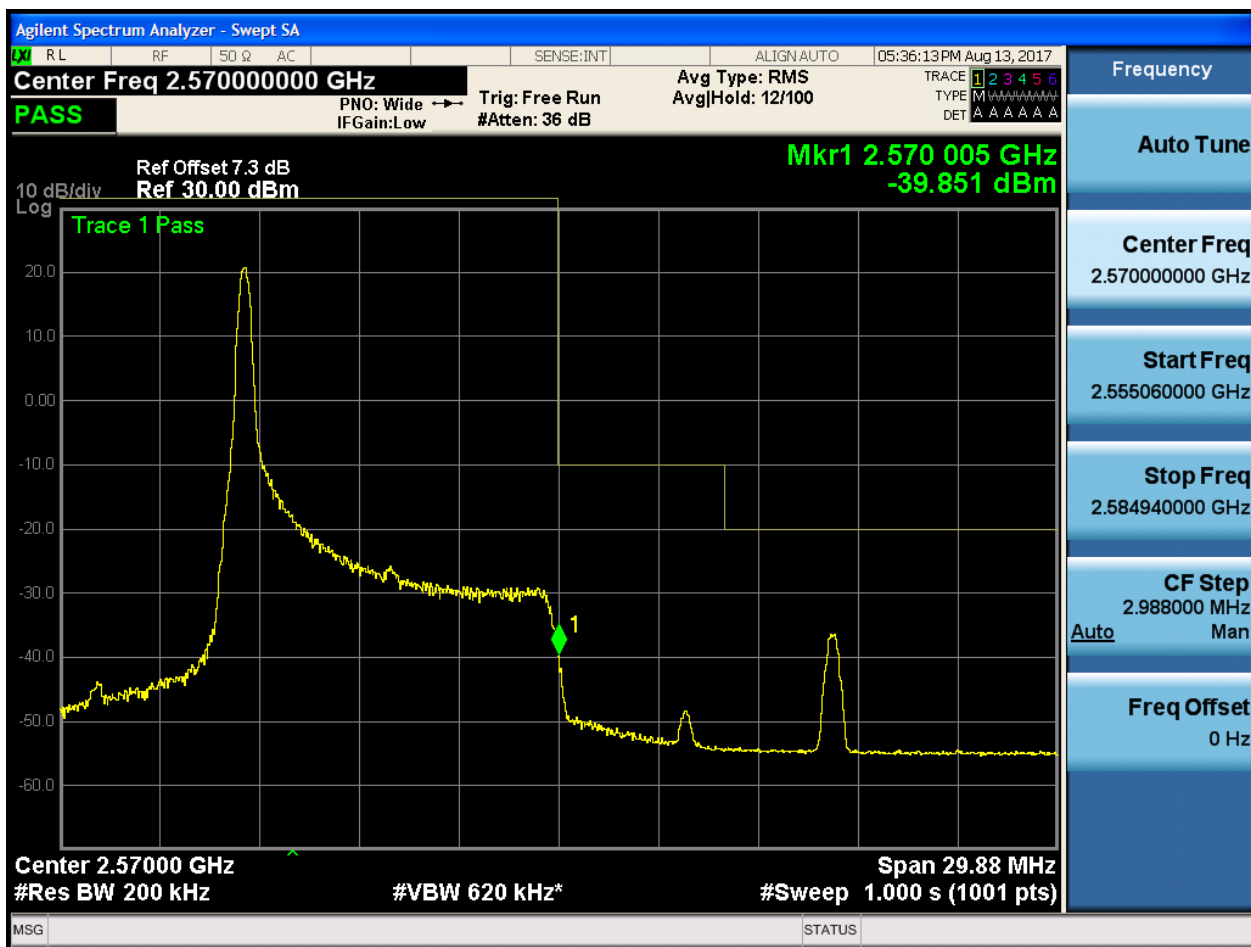
CF Step
1.900000 MHz
Auto Man

Freq Offset
0 Hz



5.1.1.2.2.2 Test Channel = HCH

5.1.1.2.2.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 05:36:31 PM Aug 13, 2017

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

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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.570 005 GHz
-18.201 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.57000 GHz Span 29.88 MHz
#Res BW 200 kHz #VBW 620 kHz* #Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency
Auto Tune
Center Freq
2.57000000 GHz
Start Freq
2.555060000 GHz
Stop Freq
2.584940000 GHz
CF Step
2.988000 MHz
Auto Man
Freq Offset
0 Hz



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:36:50 PM Aug 13, 2017

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

PASS

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.570 005 GHz
-28.587 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.57000 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 29.88 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.57000000 GHz

Start Freq
2.555060000 GHz

Stop Freq
2.584940000 GHz

CF Step
2.988000 MHz
Auto Man

Freq Offset
0 Hz



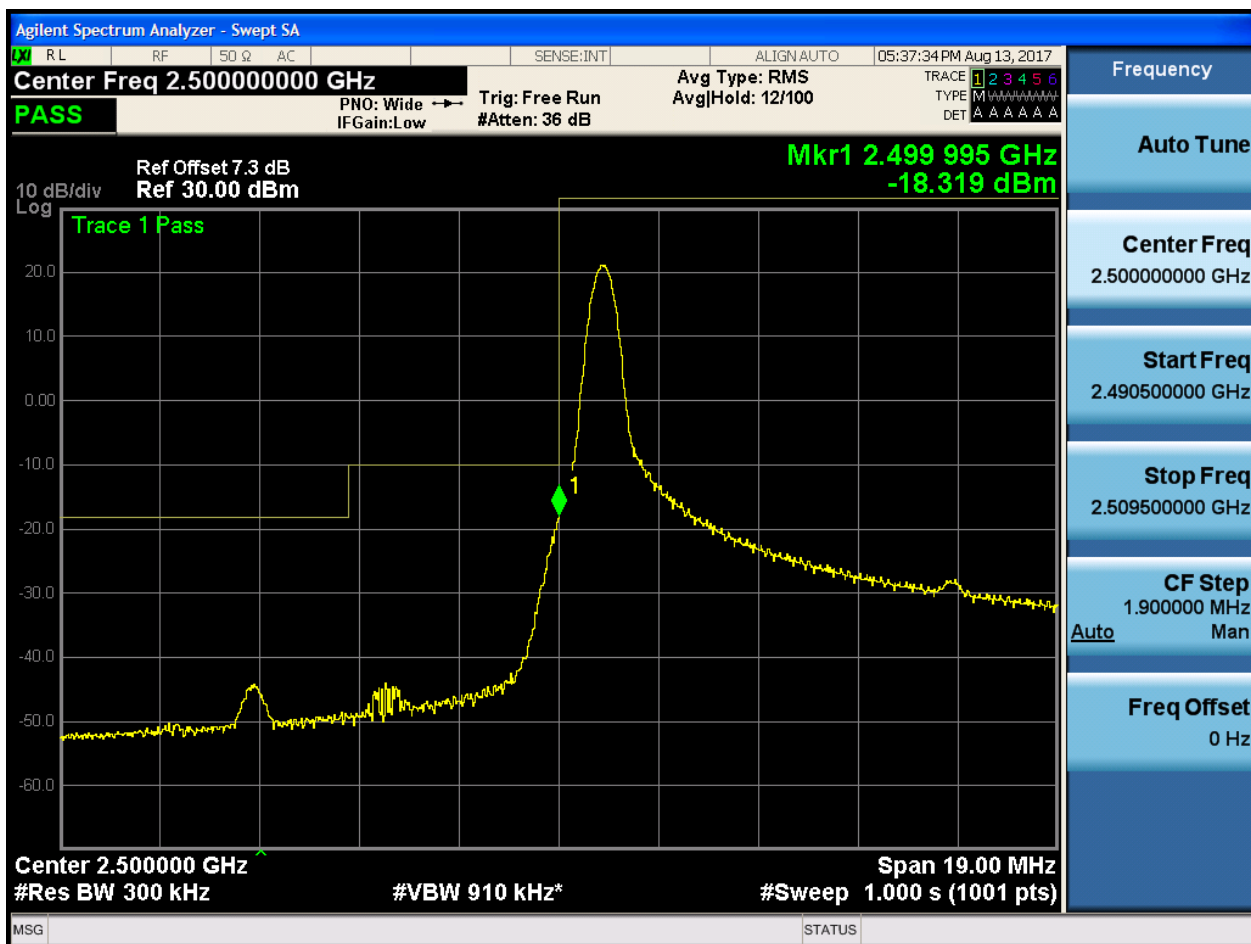
5.1.1.2.2.4 Test RB = RB50#0



5.1.1.2.3 Test Bandwidth = 15

5.1.1.2.3.1 Test Channel = LCH

5.1.1.2.3.1.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:37:52 PM Aug 13, 2017

Center Freq 2.500000000 GHz Avg Type: RMS
#Res BW 300 kHz #VBW 910 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

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 30.00 dBm

Mkr1 2.499 995 GHz
-40.167 dBm

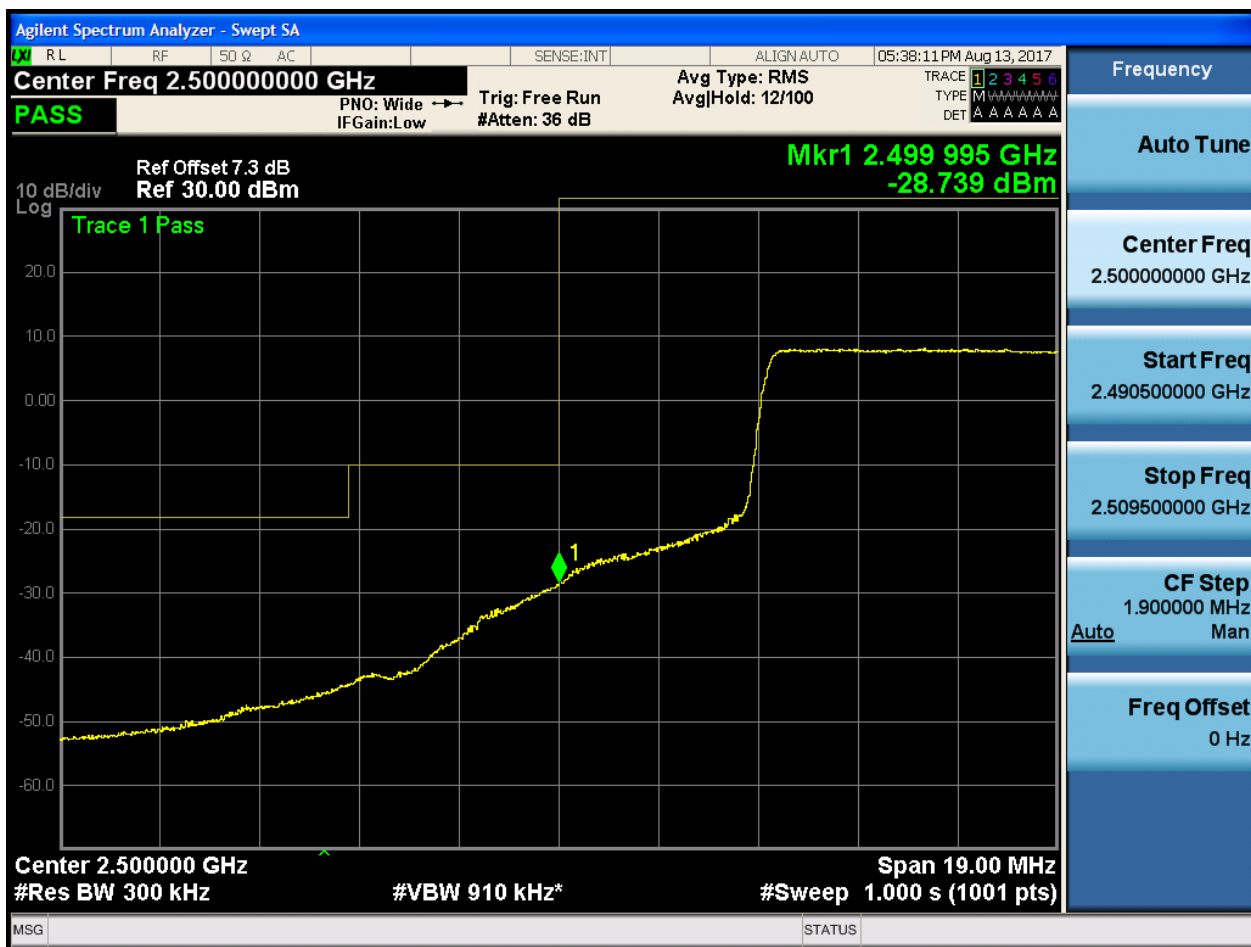
Trace 1 Pass

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

MSG STATUS



5.1.1.2.3.1.3 Test RB = RB36#18





Agilent Spectrum Analyzer - Swept SA

Center Freq 2.500000000 GHz

PASS

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.499 995 GHz
-26.633 dBm

Trace 1 Pass

Center 2.500000 GHz
#Res BW 300 kHz
#VBW 910 kHz*

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

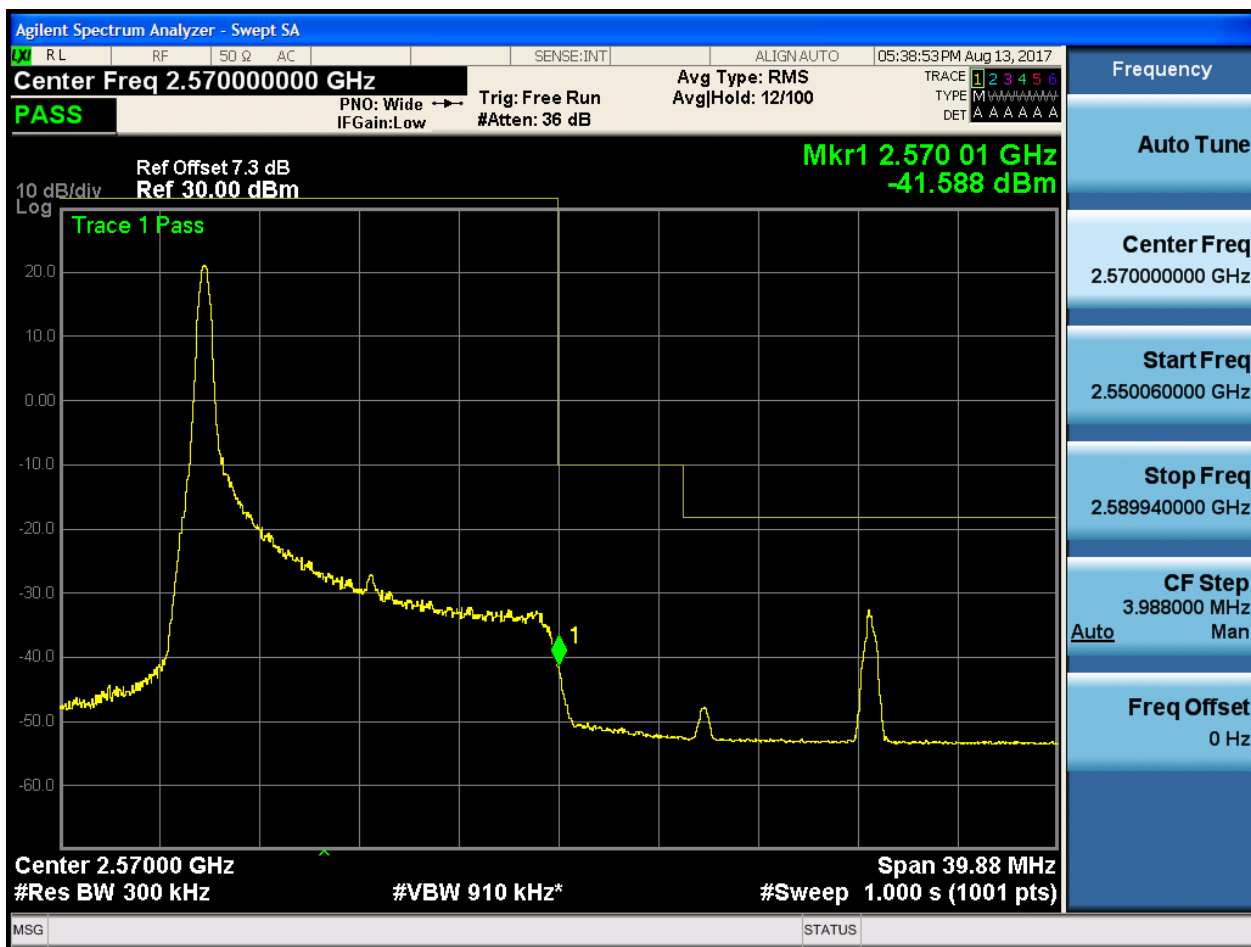
CF Step
1.900000 MHz
Auto Man

Freq Offset
0 Hz



5.1.1.2.3.2 Test Channel = HCH

5.1.1.2.3.2.1 Test RB = RB1#0





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:39:12 PM Aug 13, 2017

Center Freq 2.570000000 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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.570 01 GHz
-18.985 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.57000 GHz
#Res BW 300 kHz
#VBW 910 kHz*
Span 39.88 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.570000000 GHz

Start Freq
2.550060000 GHz

Stop Freq
2.589940000 GHz

CF Step
3.988000 MHz
Auto Man

Freq Offset
0 Hz



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:39:30 PM Aug 13, 2017

Center Freq 2.57000000 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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.570 01 GHz
-30.226 dBm

10 dB/div
Log

Trace 1 Pass

The spectrum analyzer displays a signal trace (Trace 1) with a peak at 2.57001 GHz. The trace is labeled 'Trace 1 Pass'. The peak is marked with a green diamond and the number '1'. The signal level at the peak is -30.226 dBm. The reference level is 30.00 dBm. The span is 39.88 MHz. The resolution bandwidth is 300 kHz. The video bandwidth is 910 kHz. The sweep time is 1.000 s (1001 pts). The center frequency is 2.57000 GHz. The frequency offset is 0 Hz. The CF step is 3.988000 MHz. The start frequency is 2.550060000 GHz. The stop frequency is 2.589940000 GHz. The auto tune function is active. The message status is MSG. The status is STATUS.

Center 2.57000 GHz
#Res BW 300 kHz
#VBW 910 kHz*
Span 39.88 MHz
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.570000000 GHz

Start Freq
2.550060000 GHz

Stop Freq
2.589940000 GHz

CF Step
3.988000 MHz
Auto Man

Freq Offset
0 Hz



5.1.1.2.3.2.4 Test RB = RB75#0







Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:40:35 PM Aug 13, 2017

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

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

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.499 995 GHz
-39.262 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.500000 GHz
#Res BW 430 kHz
#VBW 1.3 MHz*
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



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:40:55 PM Aug 13, 2017

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 M M M M M M M
DET A A A A A A

Ref Offset 7.3 dB
Ref 30.00 dBm

Mkr1 2.499 995 GHz
-28.819 dBm

10 dB/div
Log

Trace 1 Pass

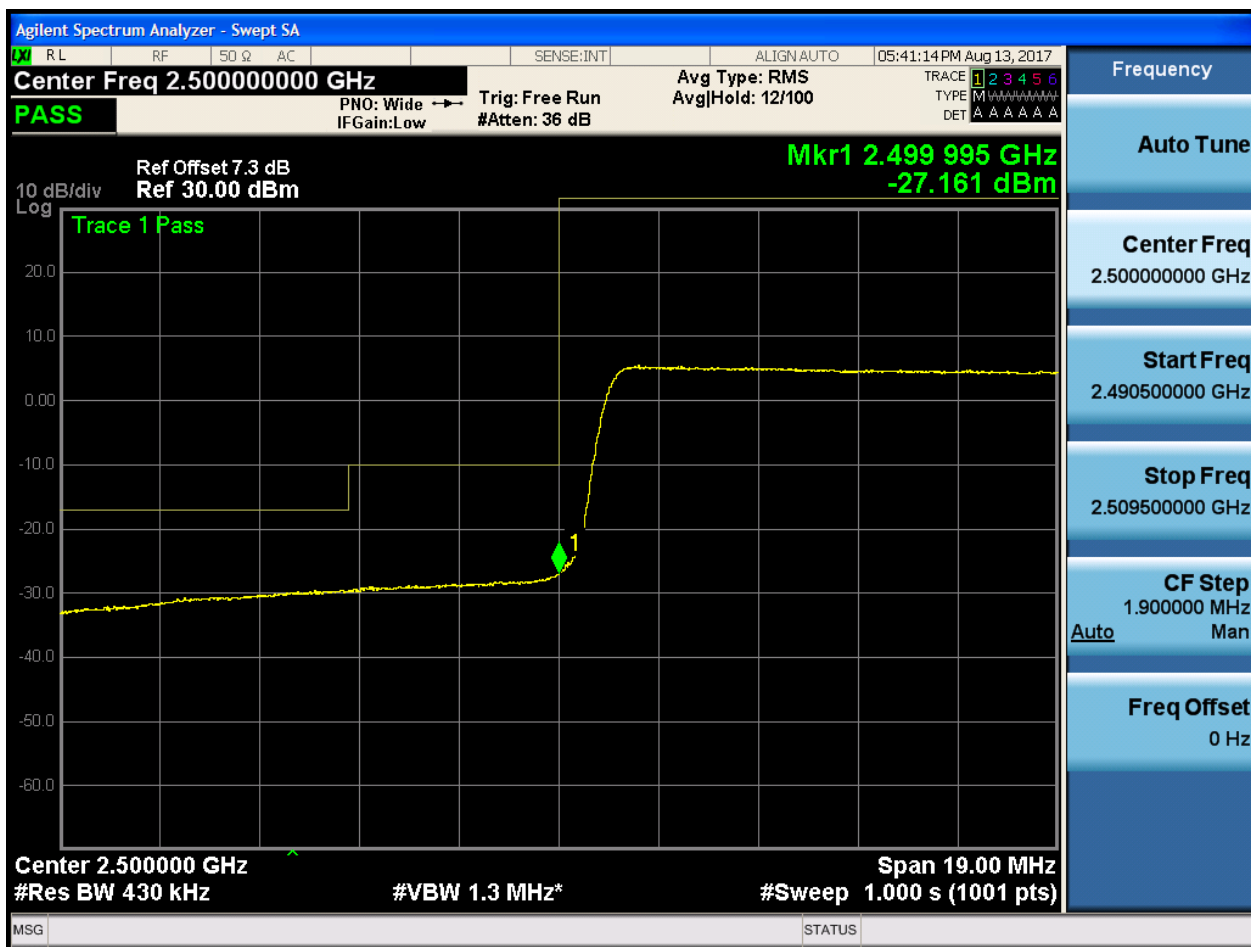
Center 2.500000 GHz Span 19.00 MHz
#Res BW 430 kHz #VBW 1.3 MHz* #Sweep 1.000 s (1001 pts)

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



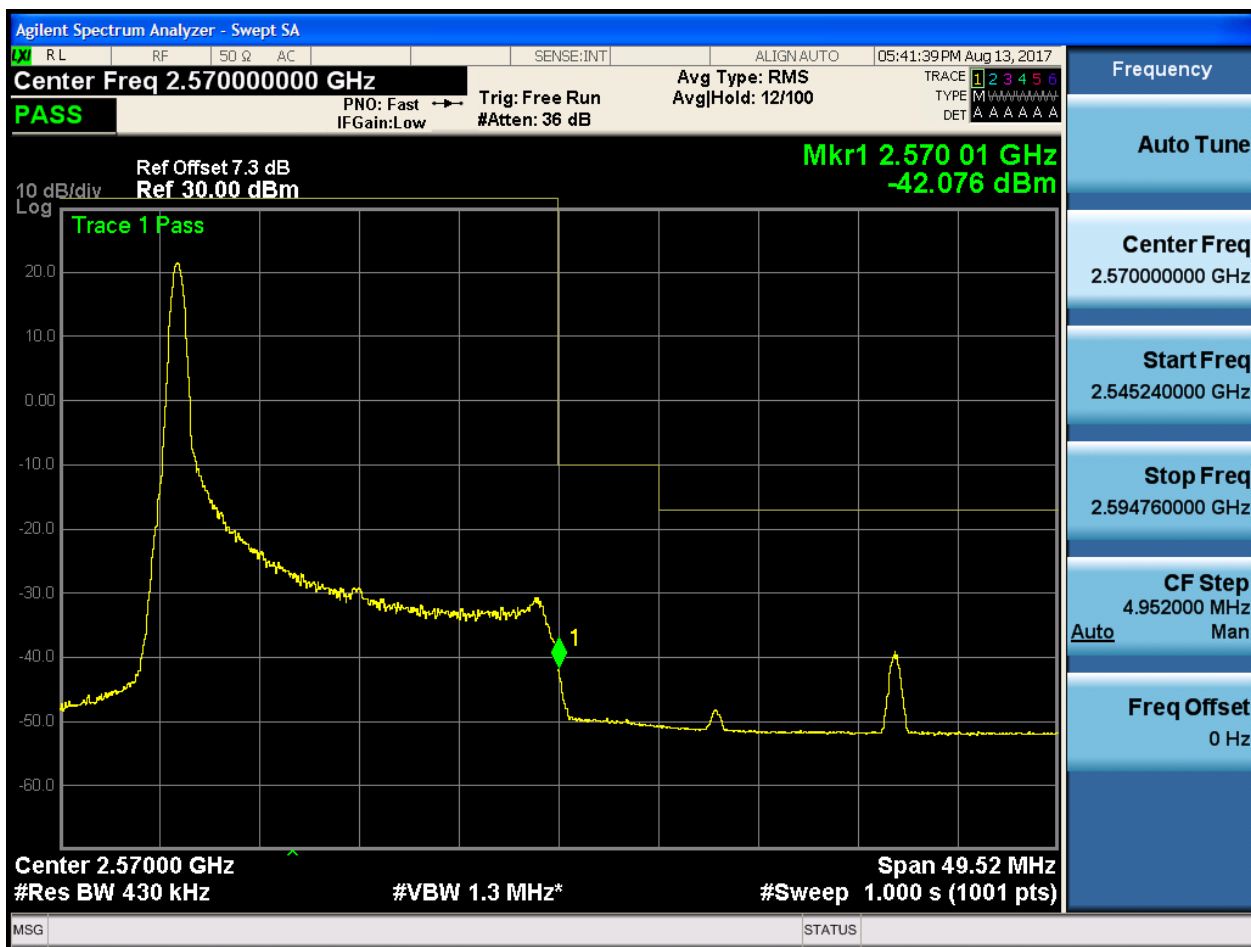
5.1.1.2.4.1.4 Test RB = RB100#0





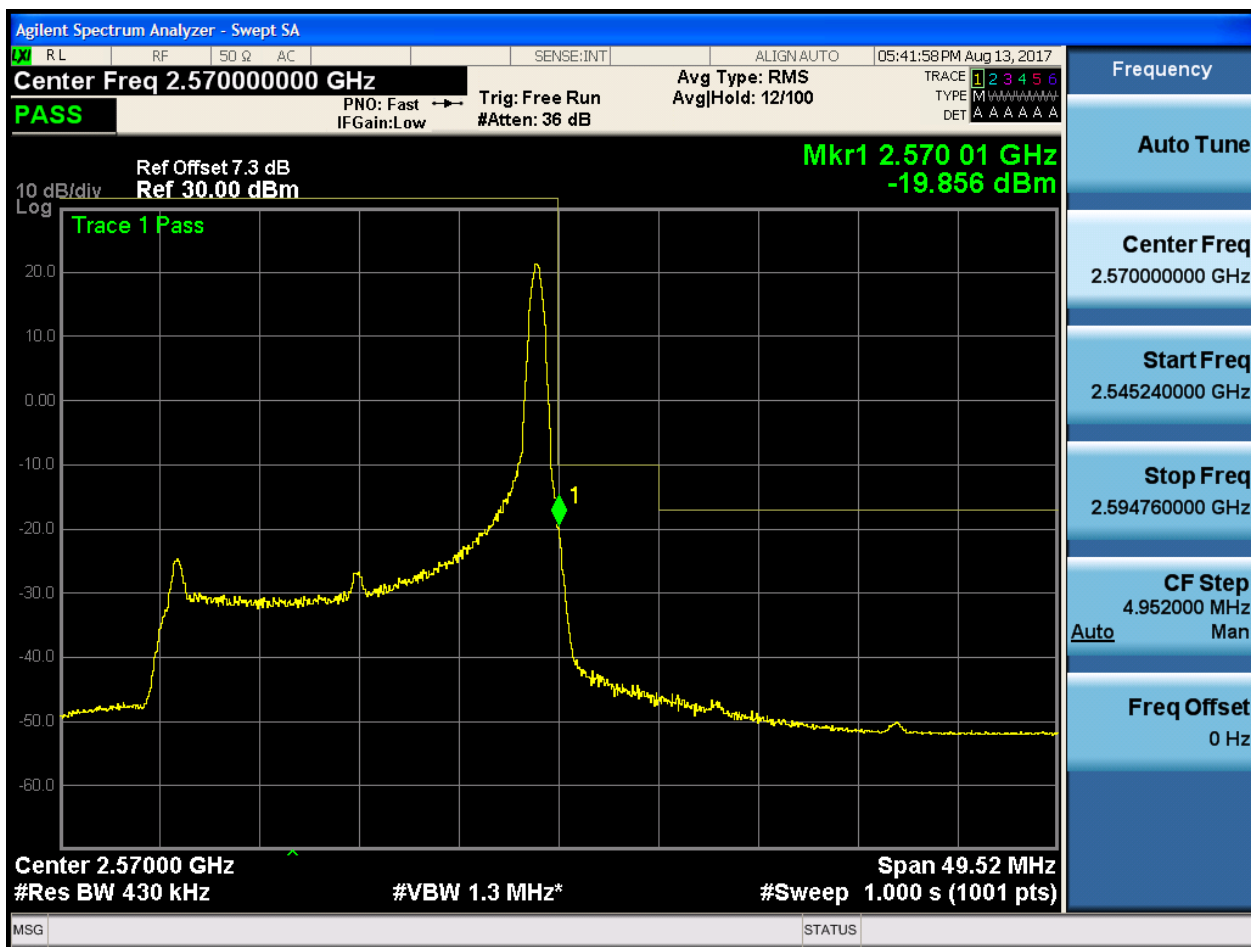
5.1.1.2.4.2 Test Channel = HCH

5.1.1.2.4.2.1 Test RB = RB1#0



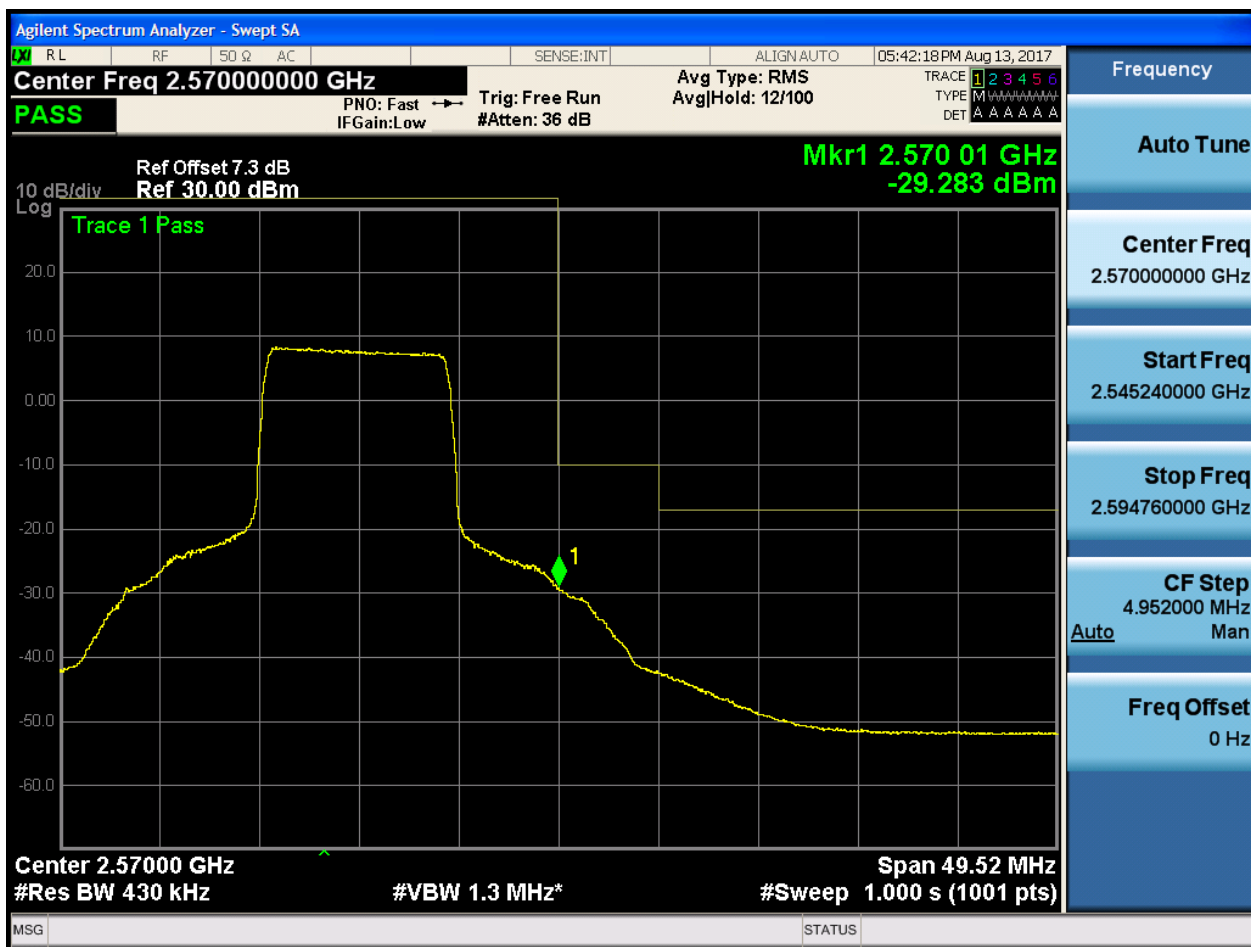


5.1.1.2.4.2.2 Test RB = RB1#99





5.1.1.2.4.2.3 Test RB = RB50#25





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 05:42:37 PM Aug 13, 2017

Center Freq 2.57000000 GHz Avg Type: RMS
PASS PNO: Fast Trig: Free Run AvgHold: 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 30.00 dBm

Mkr1 2.570 01 GHz
-27.162 dBm

10 dB/div
Log

Trace 1 Pass

Center 2.57000 GHz Span 49.52 MHz
#Res BW 430 kHz #VBW 1.3 MHz* #Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency
Auto Tune
Center Freq 2.57000000 GHz
Start Freq 2.545240000 GHz
Stop Freq 2.594760000 GHz
CF Step 4.952000 MHz Auto Man
Freq Offset 0 Hz

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

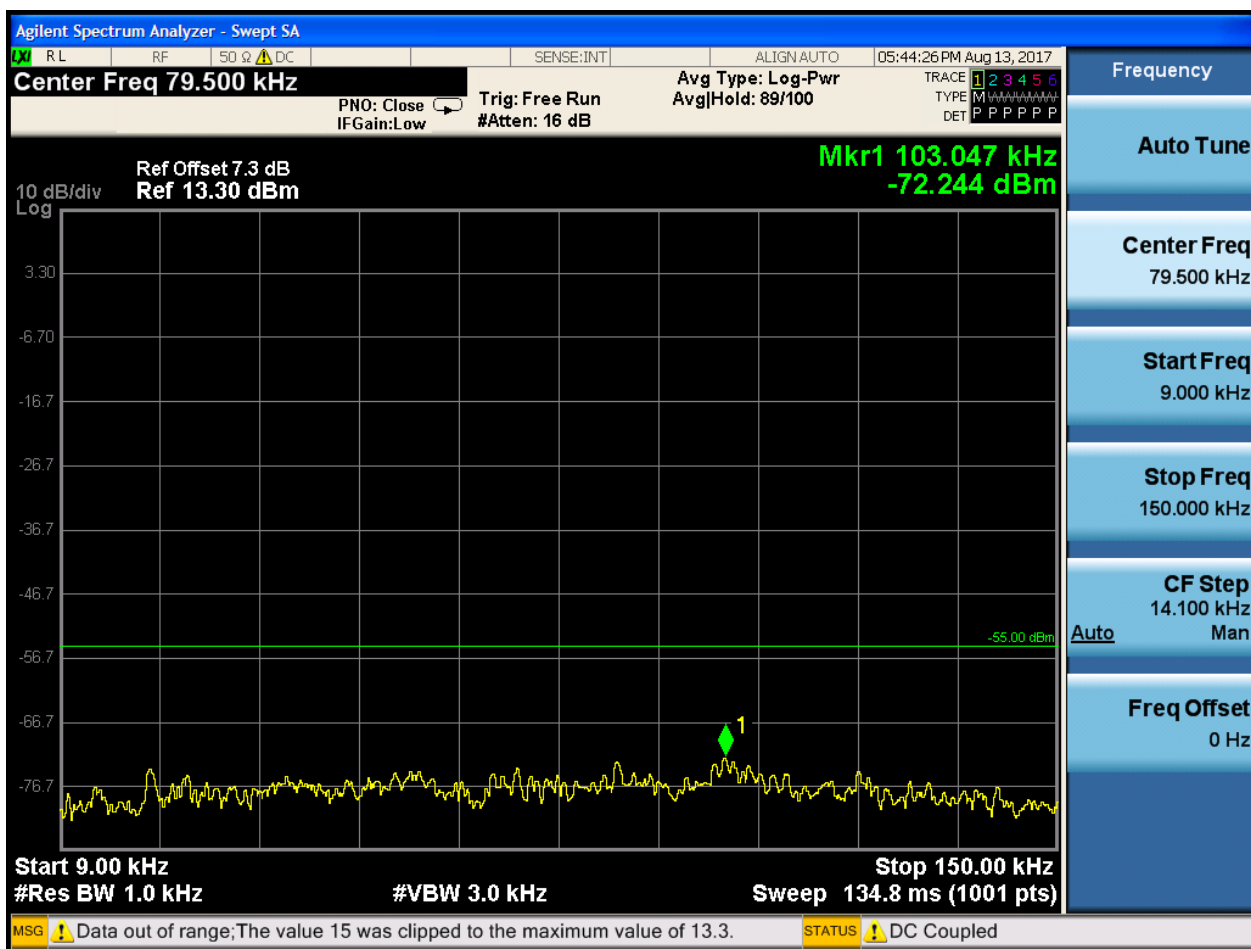
6.1.1 Test Band = BAND7

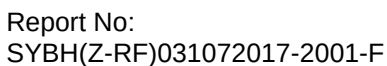
6.1.1.1 Test Mode = LTE/TM1

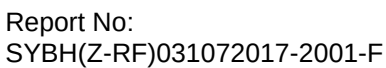
6.1.1.1.1 Test Bandwidth = 5

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0

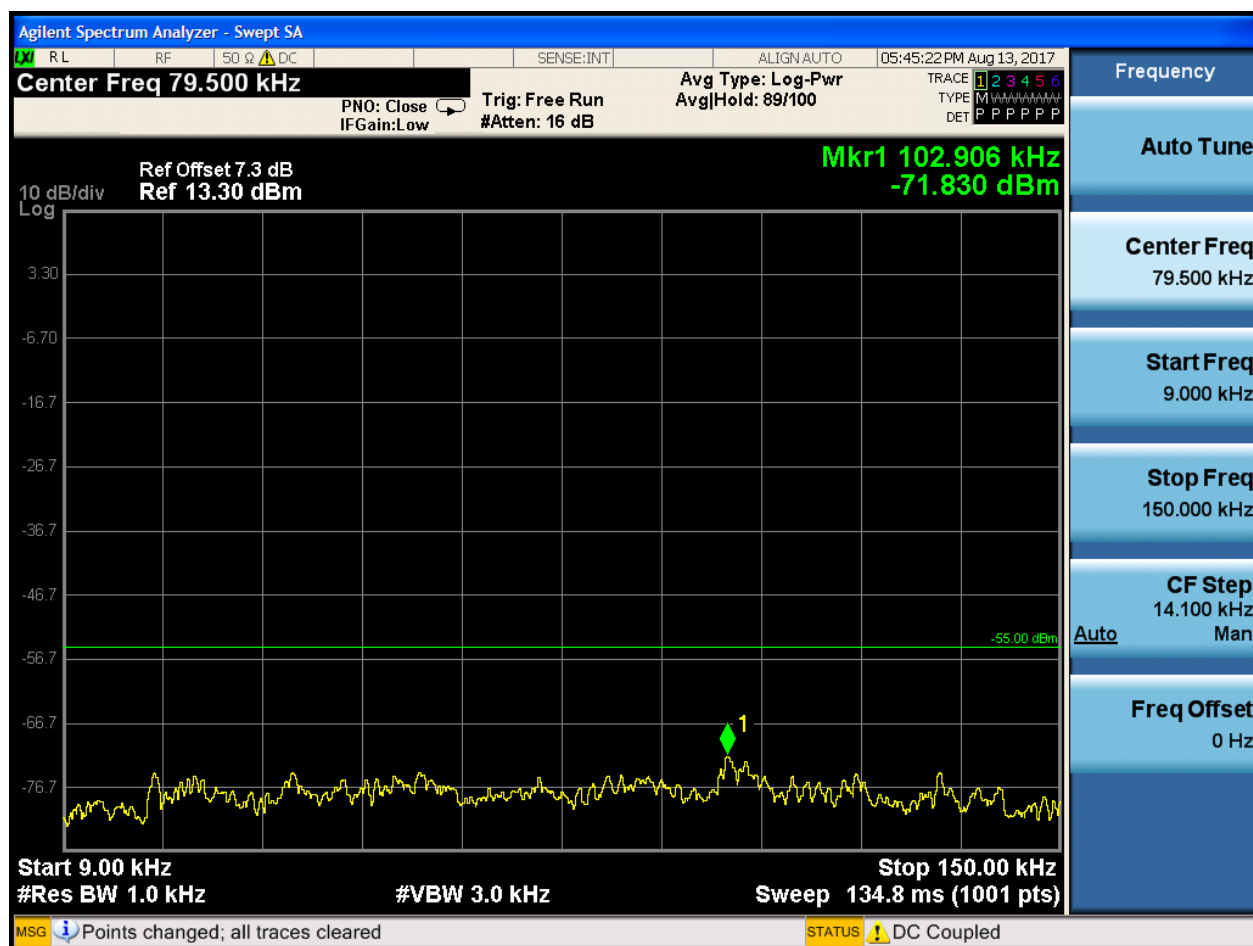


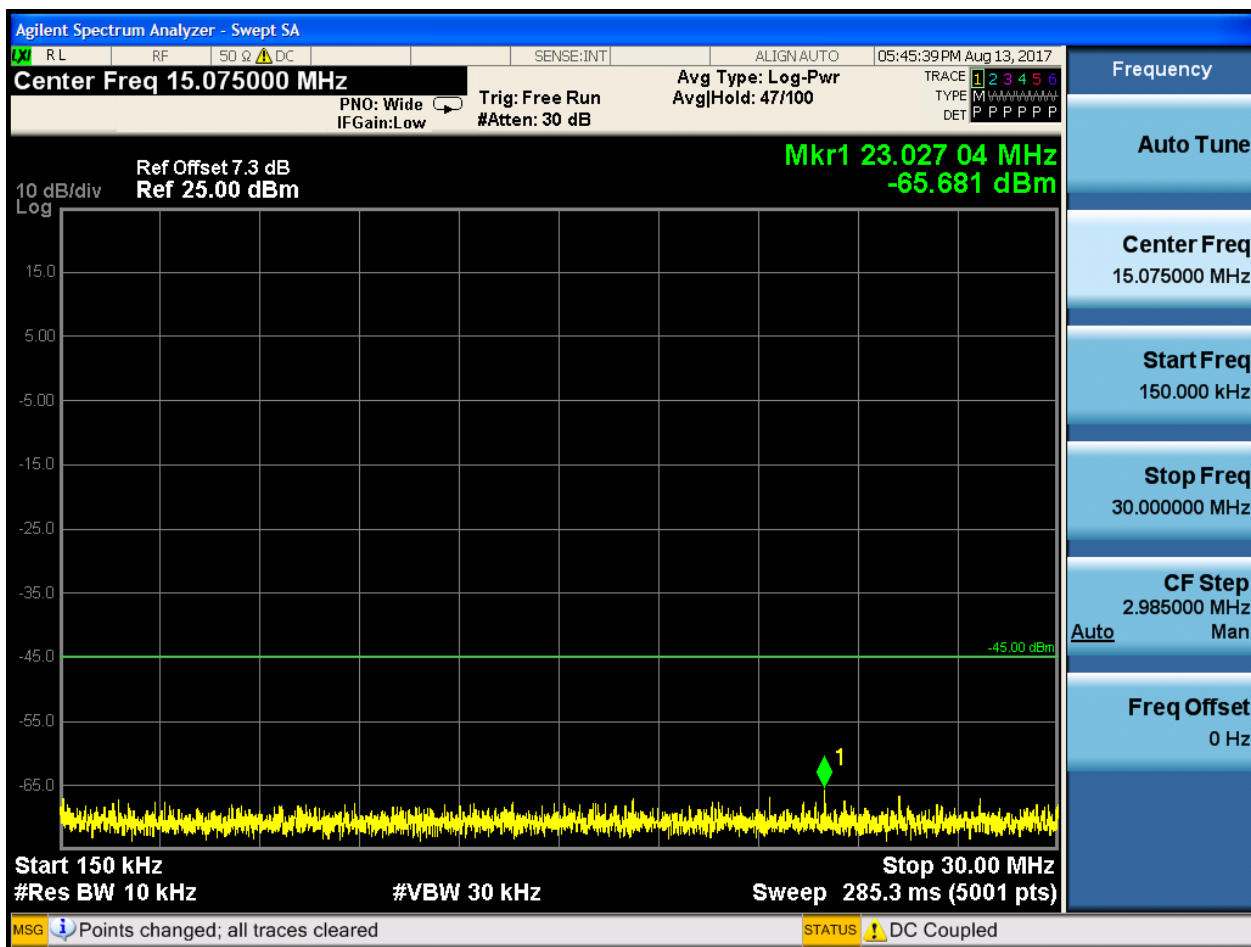


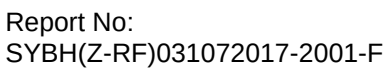


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0

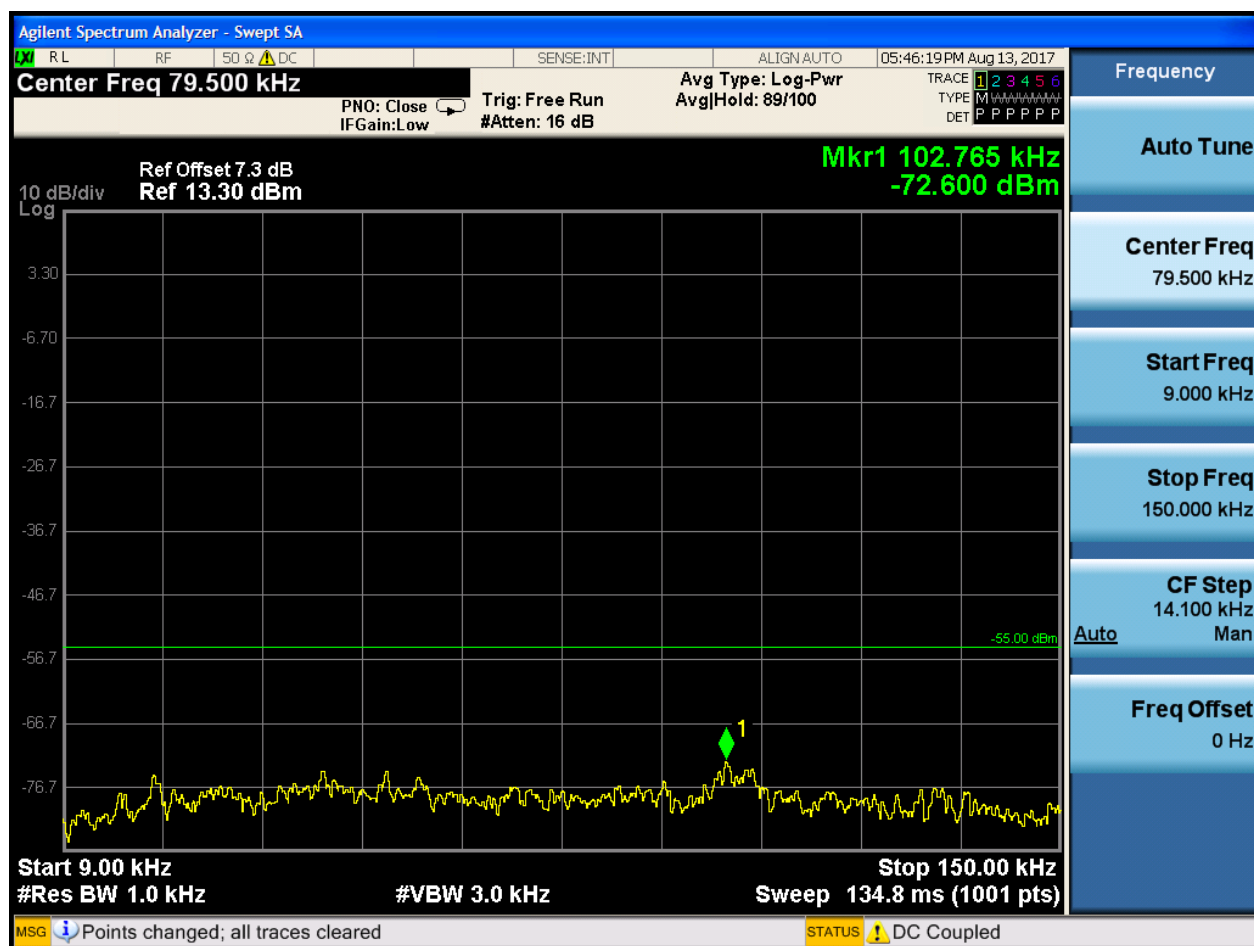


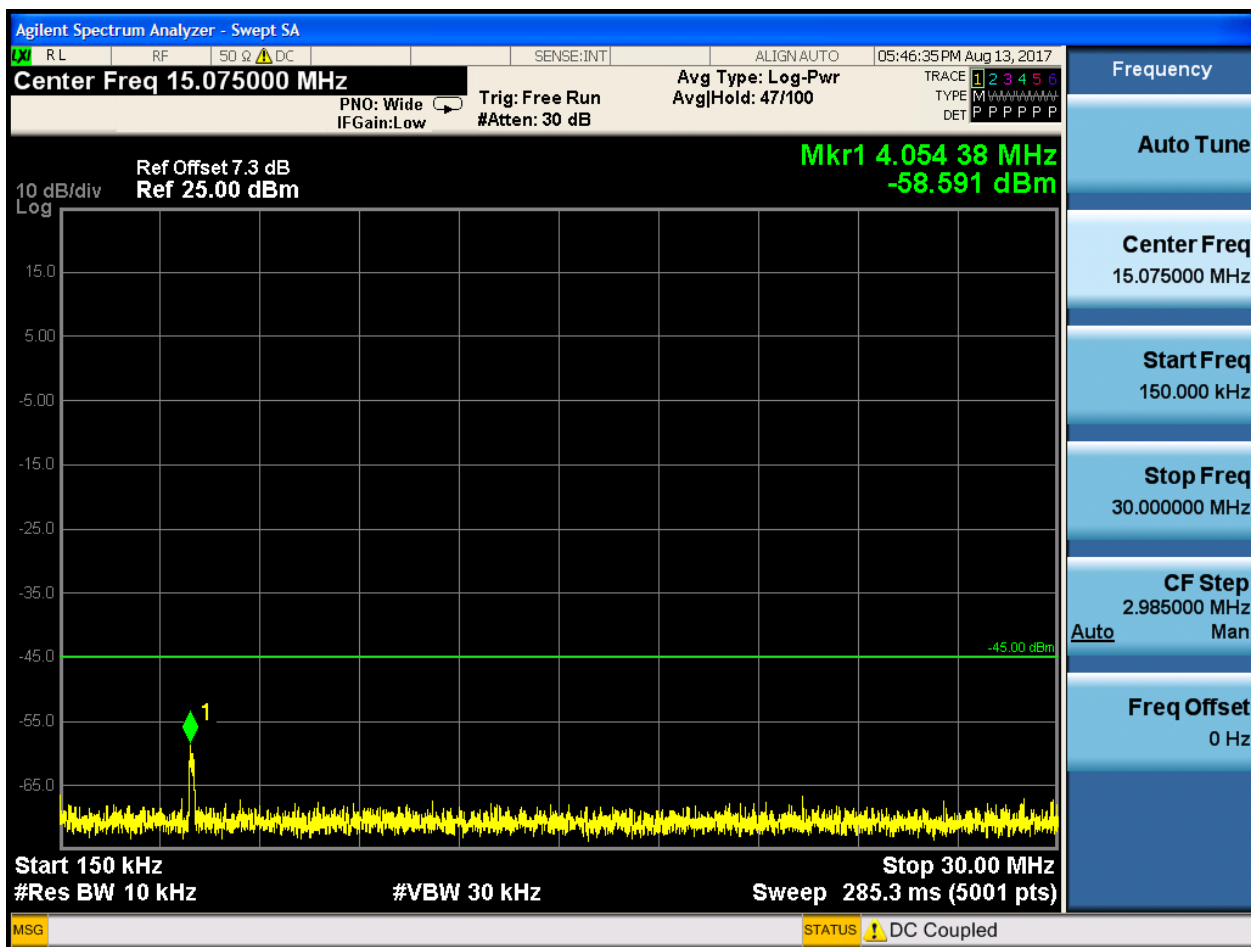


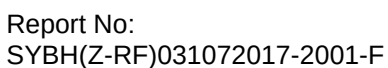


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0



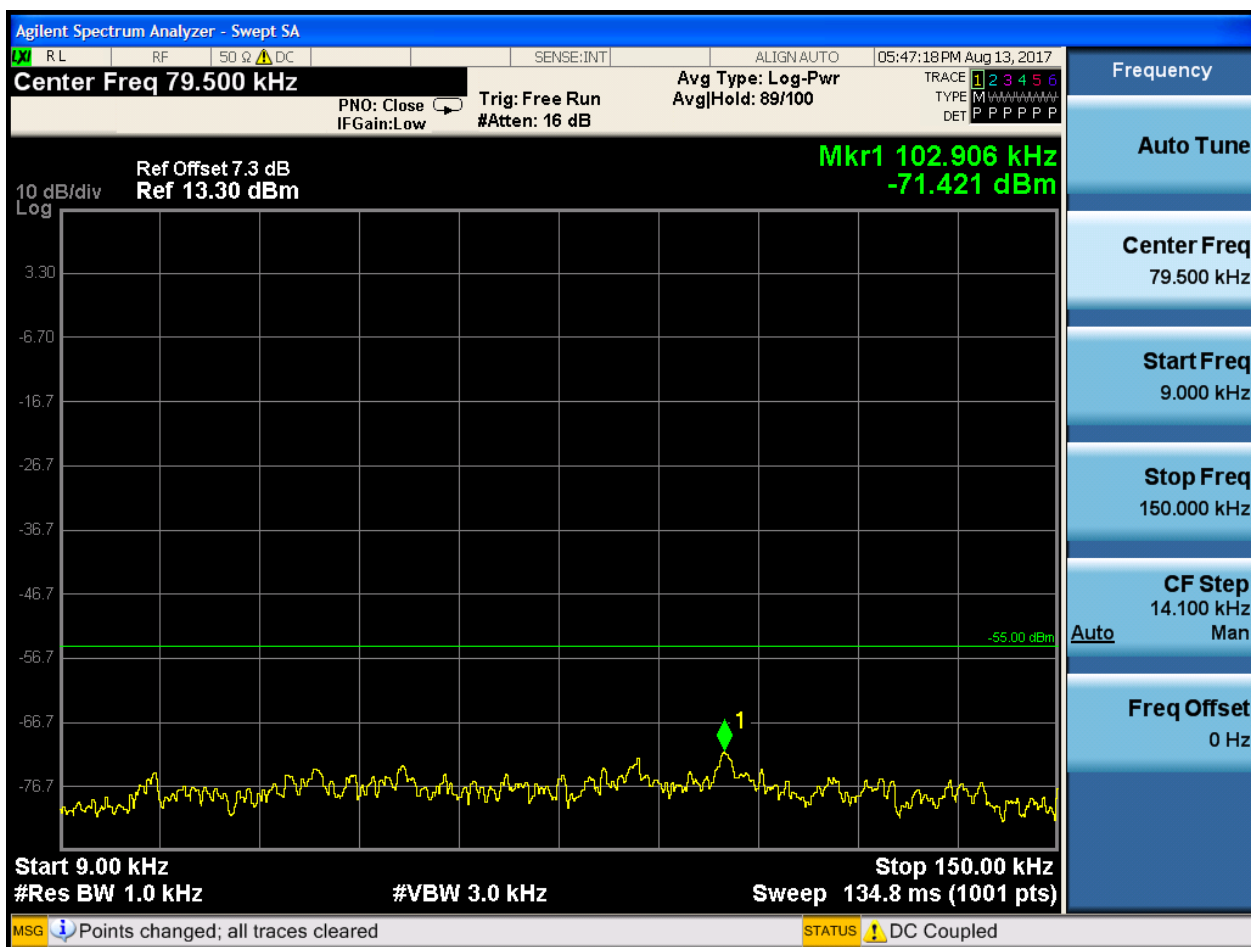




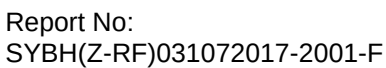
6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0



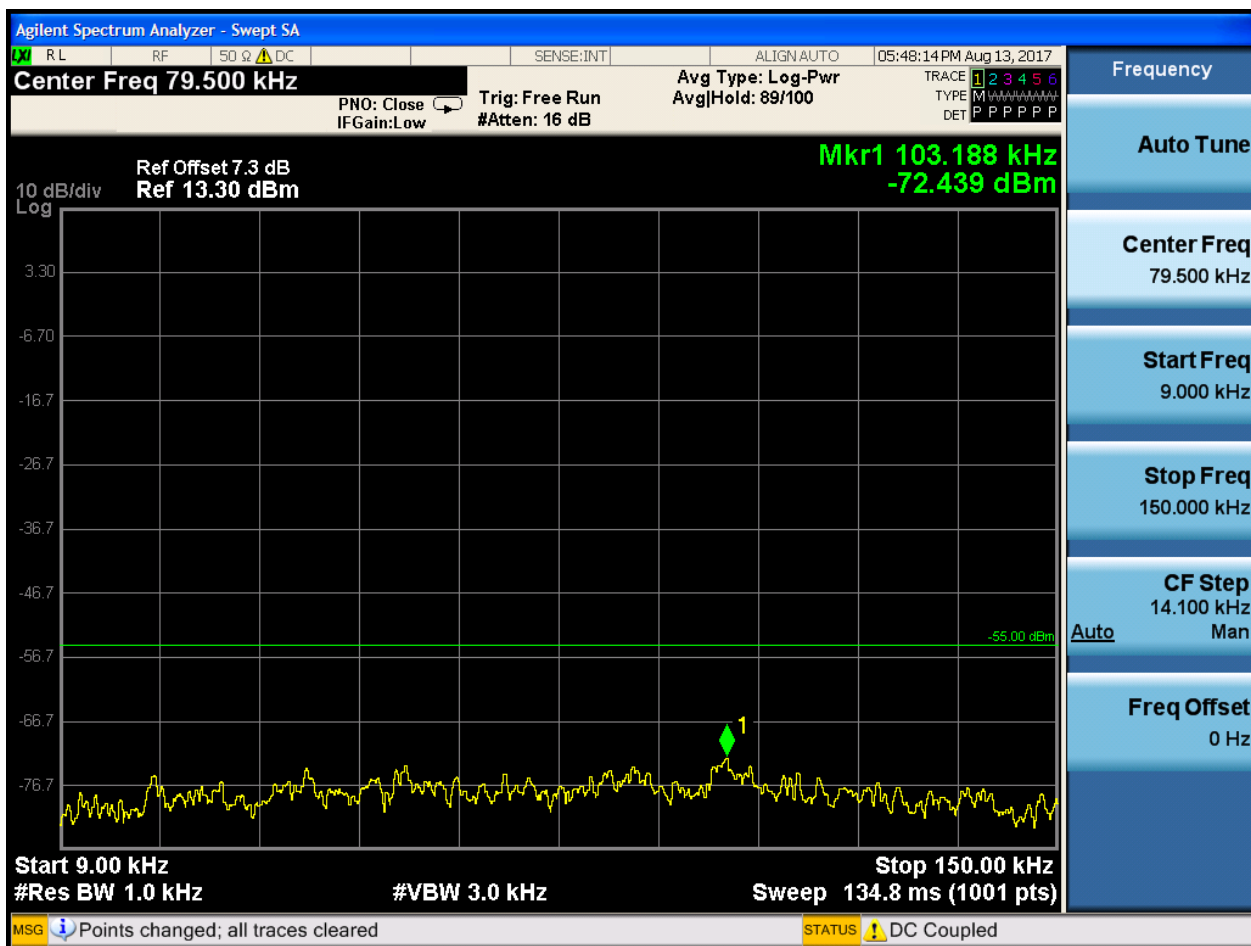




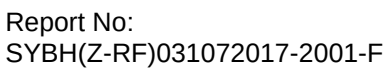


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0









6.1.1.1.2.3.1 Test RB = RB1#0

