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
BAND17	LTE/TM1	5	LCH	RB1#0	22.95	14.05	34.7	PASS
				RB1#13	23.63	14.73	34.7	PASS
				RB1#24	22.93	14.03	34.7	PASS
				RB12#0	21.86	12.96	34.7	PASS
				RB12#6	21.8	12.9	34.7	PASS
				RB12#13	21.46	12.56	34.7	PASS
				RB25#0	21.44	12.54	34.7	PASS
			MCH	RB1#0	22.91	14.01	34.7	PASS
				RB1#13	23.69	14.79	34.7	PASS
				RB1#24	23.19	14.29	34.7	PASS
				RB12#0	21.68	12.78	34.7	PASS
				RB12#6	21.95	13.05	34.7	PASS
				RB12#13	21.95	13.05	34.7	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB25#0	21.7	12.8	34.7	PASS
			HCH	RB1#0	23.16	14.26	34.7	PASS
				RB1#13	23.71	14.81	34.7	PASS
				RB1#24	20.83	11.93	34.7	PASS
				RB12#0	22.25	13.35	34.7	PASS
				RB12#6	22.43	13.53	34.7	PASS
				RB12#13	22.26	13.36	34.7	PASS
				RB25#0	22.52	13.62	34.7	PASS
		10	LCH	RB1#0	23.25	14.35	34.7	PASS
				RB1#25	23.81	14.91	34.7	PASS
				RB1#49	23.66	14.76	34.7	PASS
				RB25#0	21.55	12.65	34.7	PASS
				RB25#13	22.17	13.27	34.7	PASS
				RB25#25	22.45	13.55	34.7	PASS
				RB50#0	22.29	13.39	34.7	PASS
			MCH	RB1#0	23.46	14.56	34.7	PASS
				RB1#25	23.82	14.92	34.7	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB1#49	23.65	14.75	34.7	PASS
				RB25#0	22.29	13.39	34.7	PASS
				RB25#13	22.13	13.23	34.7	PASS
				RB25#25	22.55	13.65	34.7	PASS
				RB50#0	22.23	13.33	34.7	PASS
			HCH	RB1#0	23.49	14.59	34.7	PASS
				RB1#25	23.89	14.99	34.7	PASS
				RB1#49	23.56	14.66	34.7	PASS
				RB25#0	21.91	13.01	34.7	PASS
				RB25#13	22.6	13.7	34.7	PASS
				RB25#25	22.73	13.83	34.7	PASS
				RB50#0	22.38	13.48	34.7	PASS
	LTE/TM2	5	LCH	RB1#0	21.89	12.99	34.7	PASS
				RB1#13	22.6	13.7	34.7	PASS
				RB1#24	21.61	12.71	34.7	PASS
				RB12#0	20.89	11.99	34.7	PASS
				RB12#6	21.17	12.27	34.7	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured.[dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB12#13	20.85	11.95	34.7	PASS
				RB25#0	20.8	11.9	34.7	PASS
			MCH	RB1#0	21.57	12.67	34.7	PASS
				RB1#13	22.44	13.54	34.7	PASS
				RB1#24	22.25	13.35	34.7	PASS
				RB12#0	21.04	12.14	34.7	PASS
				RB12#6	21.3	12.4	34.7	PASS
				RB12#13	21.3	12.4	34.7	PASS
				RB25#0	21.07	12.17	34.7	PASS
			HCH	RB1#0	22.1	13.2	34.7	PASS
				RB1#13	22.68	13.78	34.7	PASS
				RB1#24	19.5	10.6	34.7	PASS
				RB12#0	21.26	12.36	34.7	PASS
				RB12#6	21.78	12.88	34.7	PASS
				RB12#13	21.35	12.45	34.7	PASS
				RB25#0	21.66	12.76	34.7	PASS
		10	LCH	RB1#0	22.39	13.49	34.7	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB1#25	22.62	13.72	34.7	PASS
				RB1#49	22.8	13.9	34.7	PASS
				RB25#0	20.95	12.05	34.7	PASS
				RB25#13	21.29	12.39	34.7	PASS
				RB25#25	21.23	12.33	34.7	PASS
				RB50#0	21.08	12.18	34.7	PASS
			MCH	RB1#0	22.38	13.48	34.7	PASS
				RB1#25	22.72	13.82	34.7	PASS
				RB1#49	22.64	13.74	34.7	PASS
				RB25#0	21.12	12.22	34.7	PASS
				RB25#13	21.28	12.38	34.7	PASS
				RB25#25	21.34	12.44	34.7	PASS
				RB50#0	21.04	12.14	34.7	PASS
			HCH	RB1#0	22.46	13.56	34.7	PASS
				RB1#25	22.37	13.47	34.7	PASS
				RB1#49	22.6	13.7	34.7	PASS
				RB25#0	21.07	12.17	34.7	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	ERP [dBm]	Limit [dBm]	Verdict
				RB25#13	21.44	12.54	34.7	PASS
				RB25#25	21.88	12.98	34.7	PASS
				RB50#0	21.19	12.29	34.7	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]

b, SGP=Signal Generator Level

Note2: RBW > emission bandwidth, VBW > 3 x RBW.

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
BAND17	LTE/TM1	5	LCH	RB1#0	4.78	13	PASS
				RB1#13	4.5	13	PASS
				RB1#24	4.59	13	PASS
				RB12#0	6.14	13	PASS
				RB12#6	5.82	13	PASS
				RB12#13	5.75	13	PASS
				RB25#0	5.83	13	PASS
			MCH	RB1#0	4.73	13	PASS
				RB1#13	4.02	13	PASS
				RB1#24	4.5	13	PASS
				RB12#0	5.63	13	PASS
				RB12#6	5.45	13	PASS
				RB12#13	5.5	13	PASS
				RB25#0	6.05	13	PASS
			HCH	RB1#0	4.42	13	PASS
				RB1#13	4.28	13	PASS
				RB1#24	5.2	13	PASS
				RB12#0	5.9	13	PASS
				RB12#6	5.82	13	PASS
				RB12#13	5.96	13	PASS
				RB25#0	6.27	13	PASS
		10	LCH	RB1#0	4.63	13	PASS
				RB1#25	3.92	13	PASS
				RB1#49	4.36	13	PASS
				RB25#0	6.04	13	PASS
				RB25#13	5.47	13	PASS
				RB25#25	5.78	13	PASS
				RB50#0	6.02	13	PASS
			MCH	RB1#0	4.59	13	PASS
				RB1#25	3.85	13	PASS
				RB1#49	4.47	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
				RB25#0	6.08	13	PASS
				RB25#13	5.62	13	PASS
				RB25#25	5.91	13	PASS
				RB50#0	5.84	13	PASS
			HCH	RB1#0	4.6	13	PASS
				RB1#25	3.97	13	PASS
				RB1#49	4.56	13	PASS
				RB25#0	5.91	13	PASS
				RB25#13	5.74	13	PASS
				RB25#25	5.97	13	PASS
				RB50#0	5.91	13	PASS
	LTE/TM2	5	LCH	RB1#0	6.05	13	PASS
				RB1#13	5.58	13	PASS
				RB1#24	5.61	13	PASS
				RB12#0	6.38	13	PASS
				RB12#6	6.36	13	PASS
				RB12#13	6.47	13	PASS
				RB25#0	6.86	13	PASS
			MCH	RB1#0	5.83	13	PASS
				RB1#13	5.36	13	PASS
				RB1#24	5.81	13	PASS
				RB12#0	6.36	13	PASS
				RB12#6	6.04	13	PASS
				RB12#13	6.21	13	PASS
				RB25#0	6.4	13	PASS
			HCH	RB1#0	5.66	13	PASS
				RB1#13	5.5	13	PASS
				RB1#24	6.19	13	PASS
				RB12#0	6.23	13	PASS
				RB12#6	6.38	13	PASS
				RB12#13	6.61	13	PASS
				RB25#0	6.66	13	PASS
		10	LCH	RB1#0	6.25	13	PASS
				RB1#25	5.41	13	PASS
				RB1#49	5.78	13	PASS
				RB25#0	6.56	13	PASS
				RB25#13	6.14	13	PASS
				RB25#25	6.19	13	PASS
				RB50#0	6.63	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
			MCH	RB1#0	6.1	13	PASS
				RB1#25	5.24	13	PASS
				RB1#49	5.94	13	PASS
				RB25#0	6.54	13	PASS
				RB25#13	6.23	13	PASS
				RB25#25	6.31	13	PASS
				RB50#0	6.63	13	PASS
			HCH	RB1#0	5.84	13	PASS
				RB1#25	5.08	13	PASS
				RB1#49	5.68	13	PASS
				RB25#0	6.45	13	PASS
				RB25#13	6.06	13	PASS
				RB25#25	6.31	13	PASS
				RB50#0	6.61	13	PASS

3Appendix_C: Modulation Characteristics

Part I - Test Plots

3.1 For LTE

3.1.1 Test Band = BAND17

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
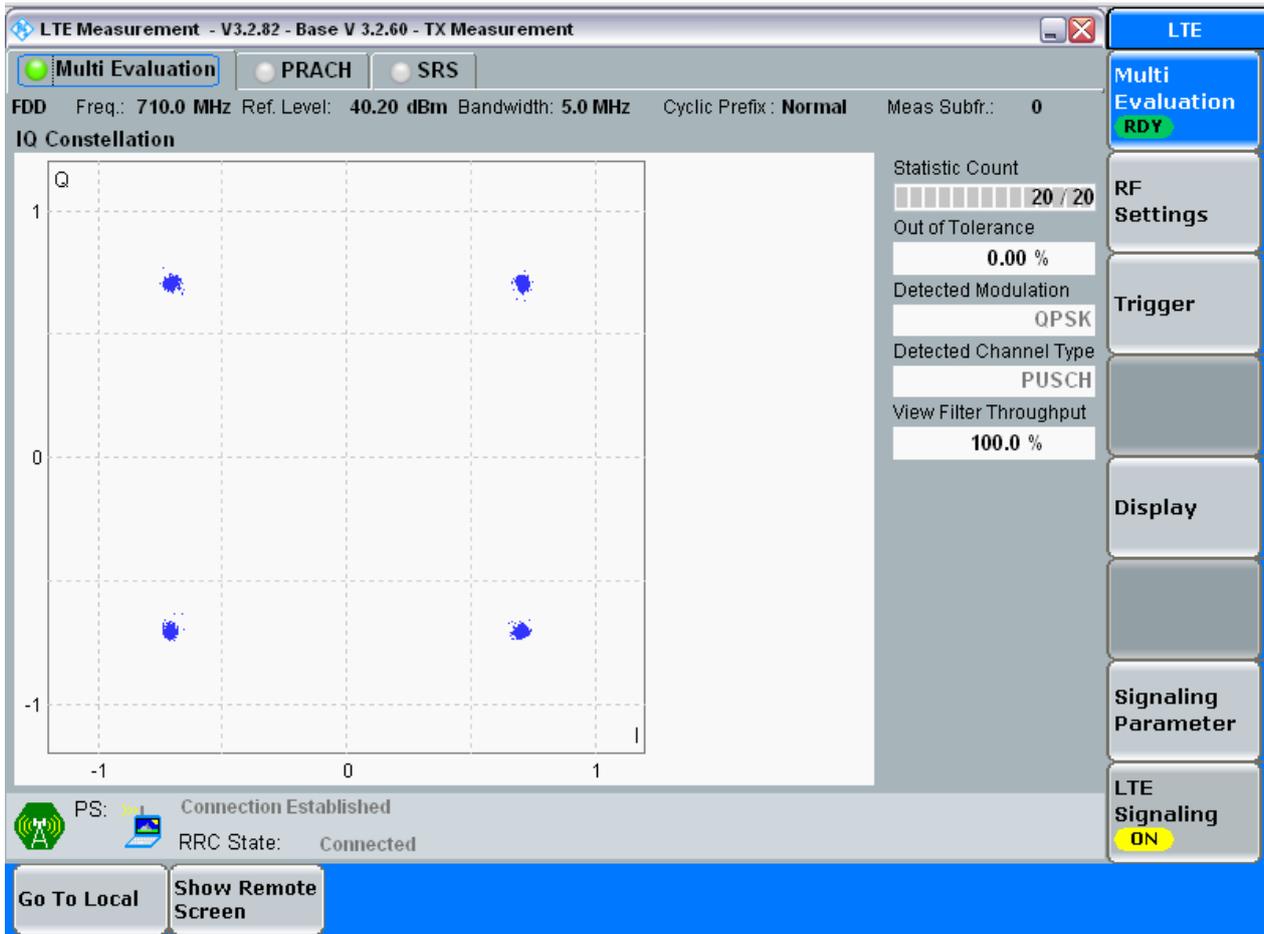
3.1.1.1.2 Test Bandwidth = 10

3.1.1.1.2.1 Test Channel = MCH

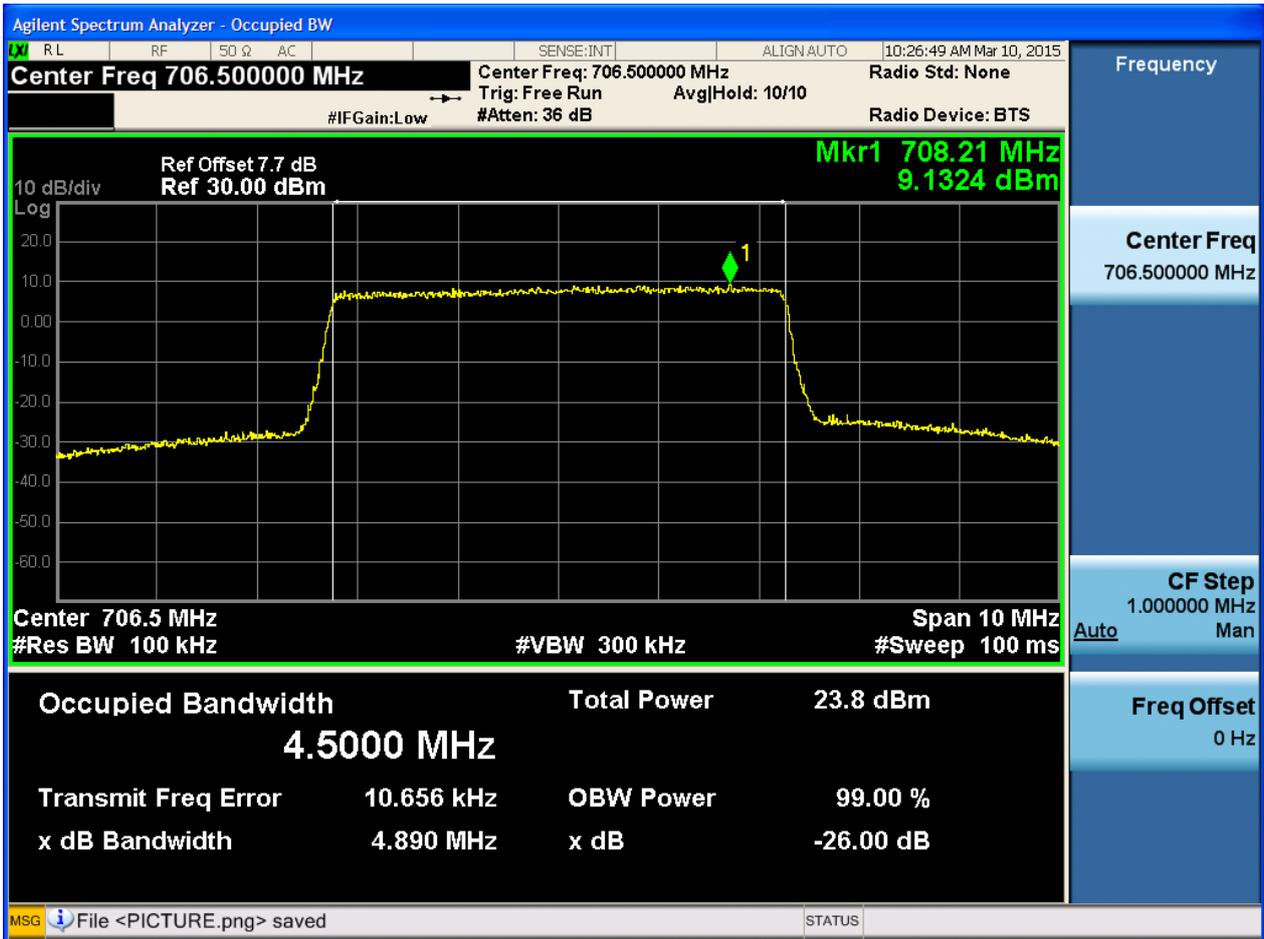### 3.1.1.1.2.1.1 Test RB = RB50#0
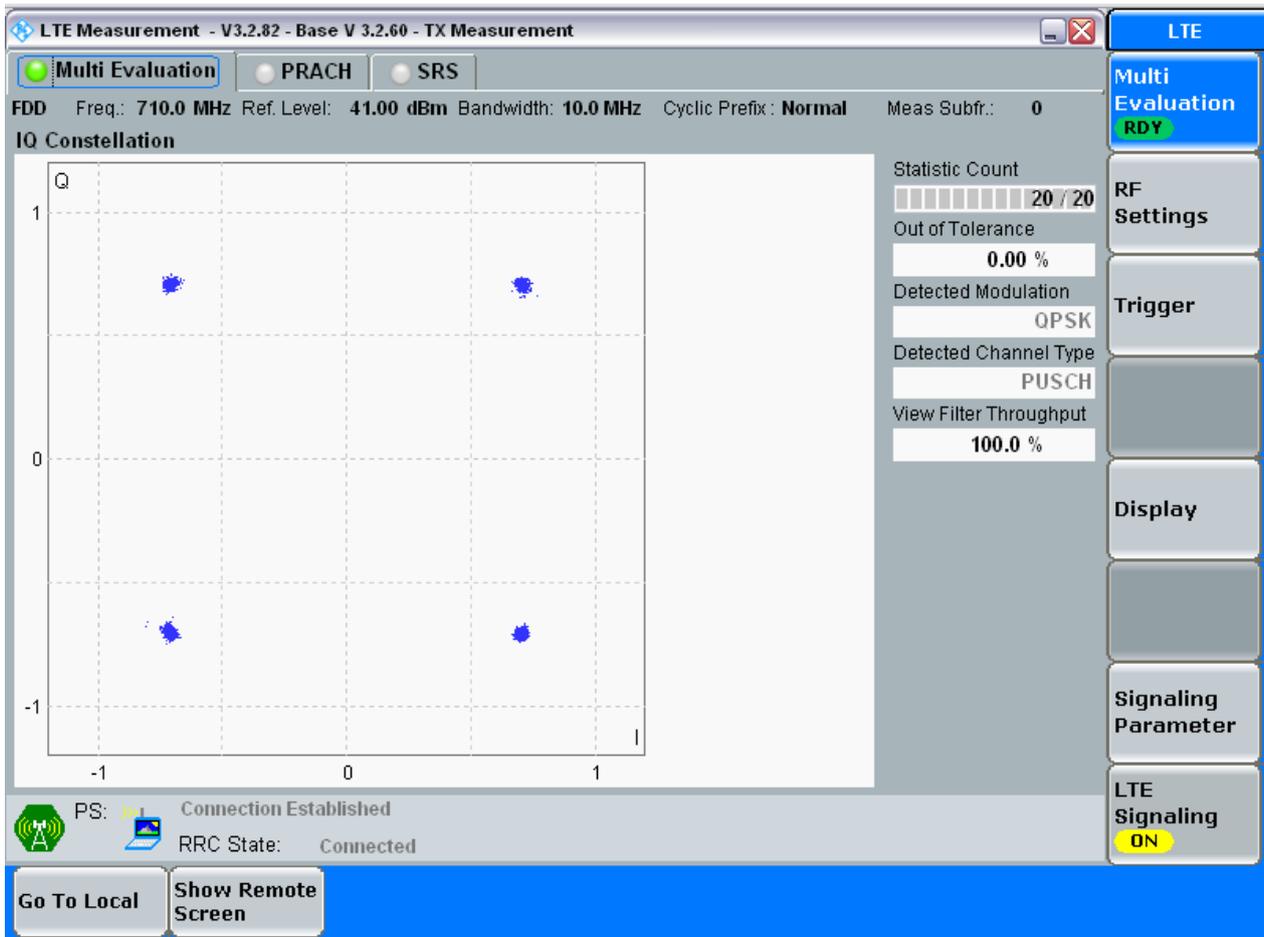
3.1.1.2 Test Mode = LTE/TM2

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
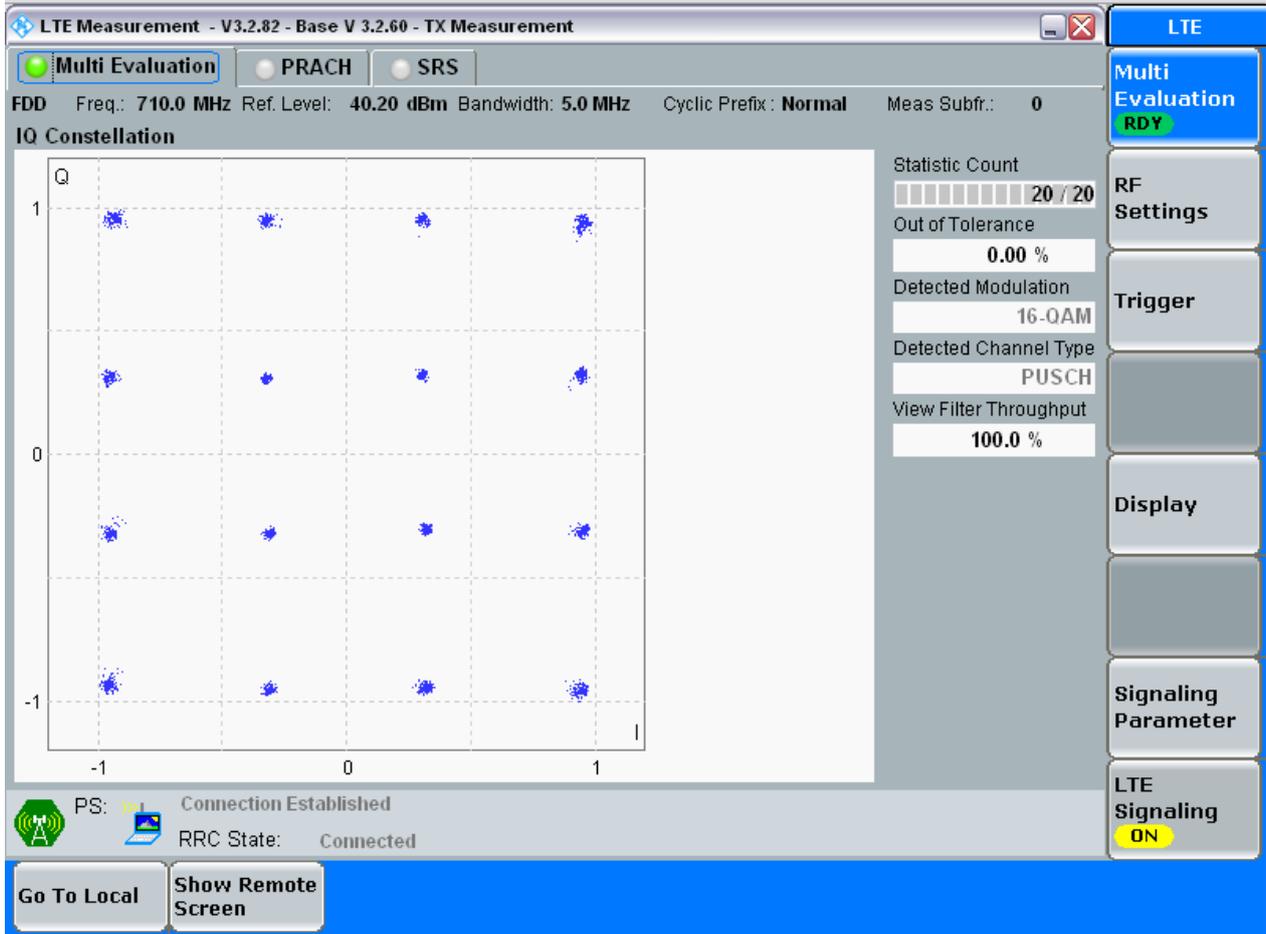
3.1.1.2.2 Test Bandwidth = 10

3.1.1.2.2.1 Test Channel = MCH

3.1.1.2.2.1.1 Test RB = RB50#0
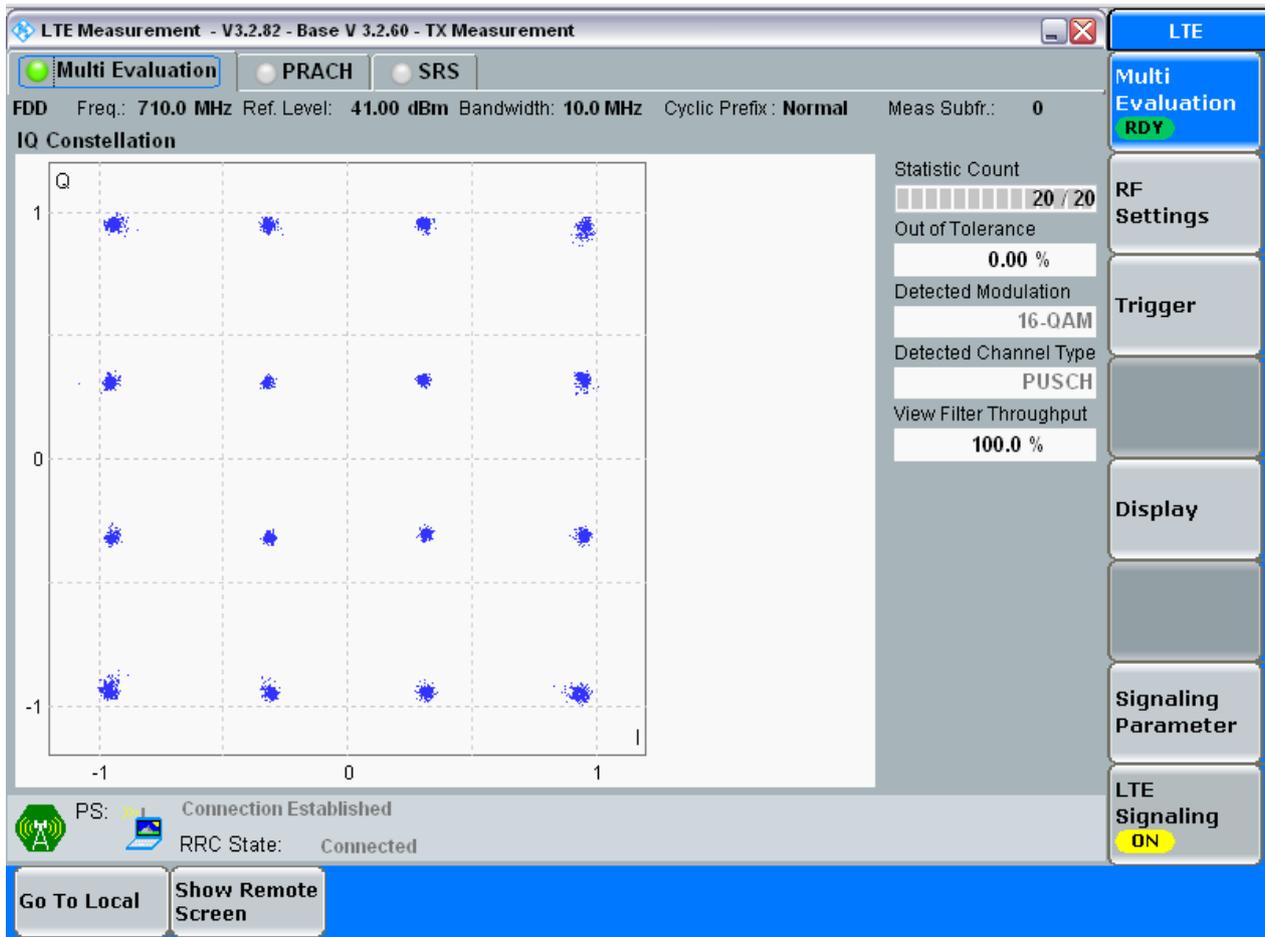
4Appendix_D: Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Bandwidth	Test Channel	Test RB	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
BAND17	LTE/TM1	5	LCH	RB25#0	4.50	4.87	Pass
			MCH	RB25#0	4.49	4.85	Pass
			HCH	RB25#0	4.49	4.87	Pass
		10	LCH	RB50#0	8.97	9.57	Pass
			MCH	RB50#0	8.96	9.58	Pass
			HCH	RB50#0	8.98	9.62	Pass
	LTE/TM2	5	LCH	RB25#0	4.50	4.89	Pass
			MCH	RB25#0	4.49	4.86	Pass
			HCH	RB25#0	4.50	4.86	Pass
		10	LCH	RB50#0	8.96	9.57	Pass
			MCH	RB50#0	8.95	9.55	Pass
			HCH	RB50#0	8.97	9.56	Pass

Part II - Test Plots

4.1 For LTE

4.1.1 Test Band = BAND17

4.1.1.1 Test Mode = LTE/TM1

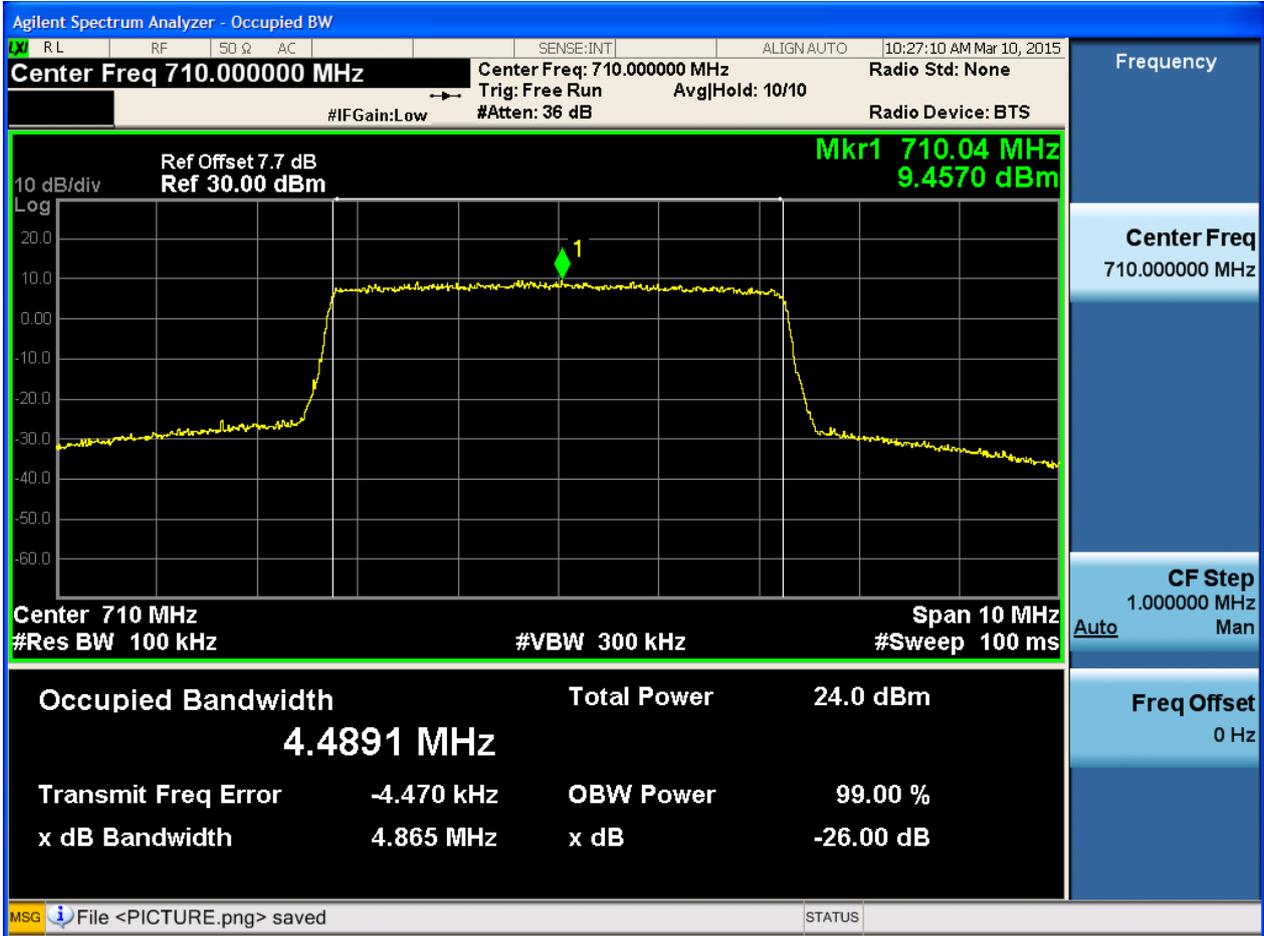**4.1.1.1.1 Test Bandwidth = 5**

4.1.1.1.1.1 Test Channel = LCH

4.1.1.1.1.1.1 Test RB = RB25#0
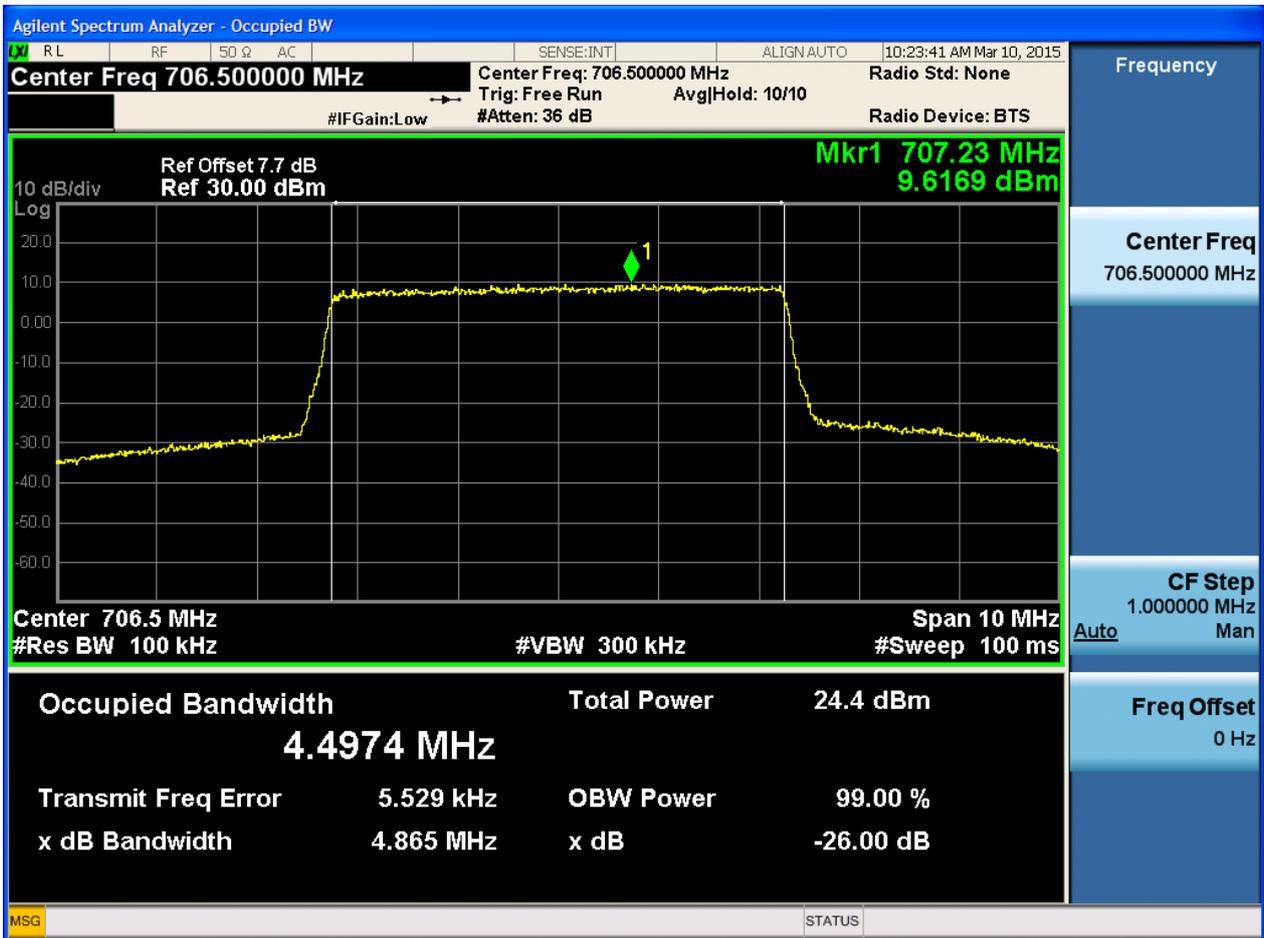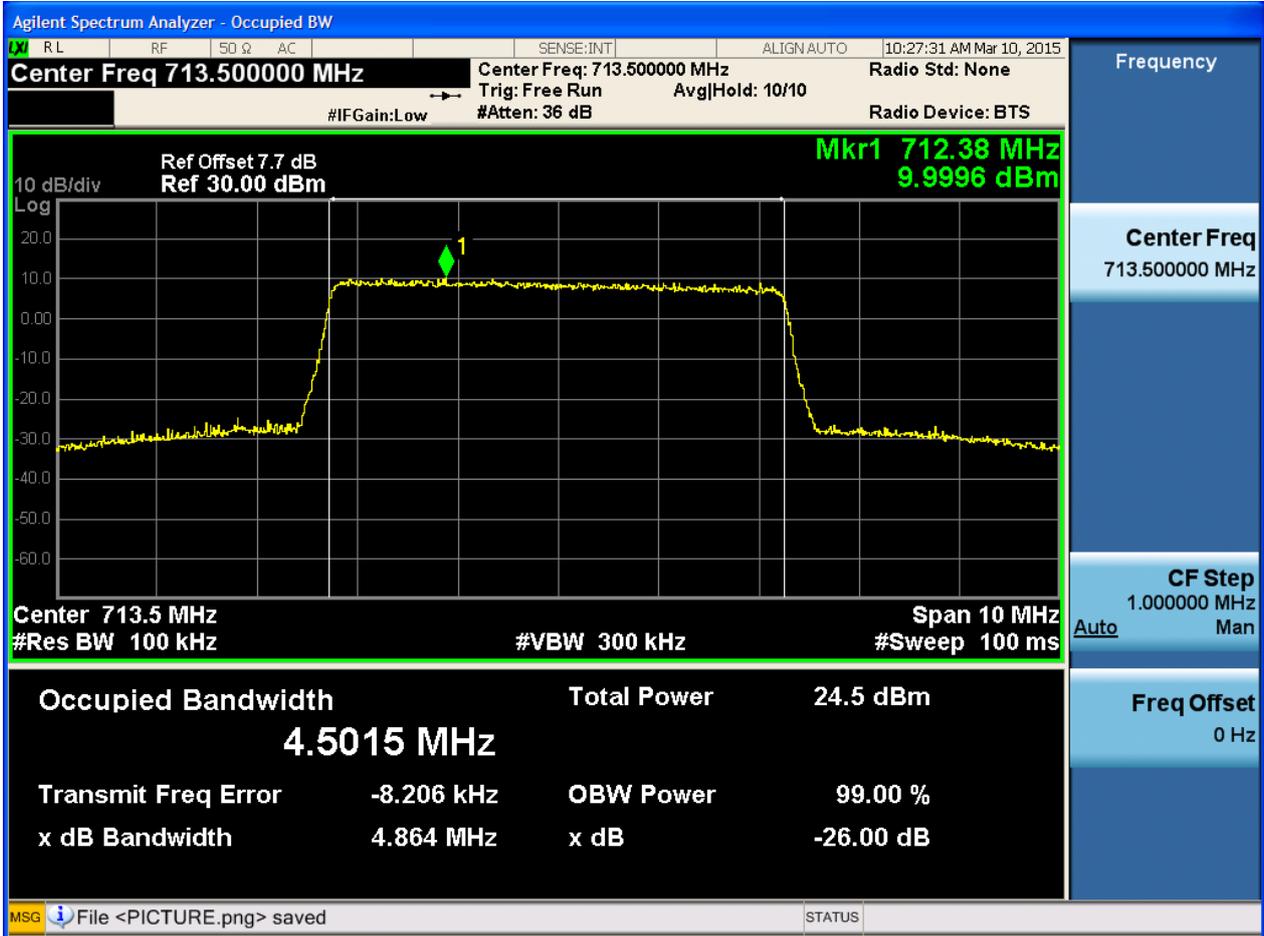
4.1.1.1.1.2 Test Channel = MCH

4.1.1.1.1.2.1 Test RB = RB25#0
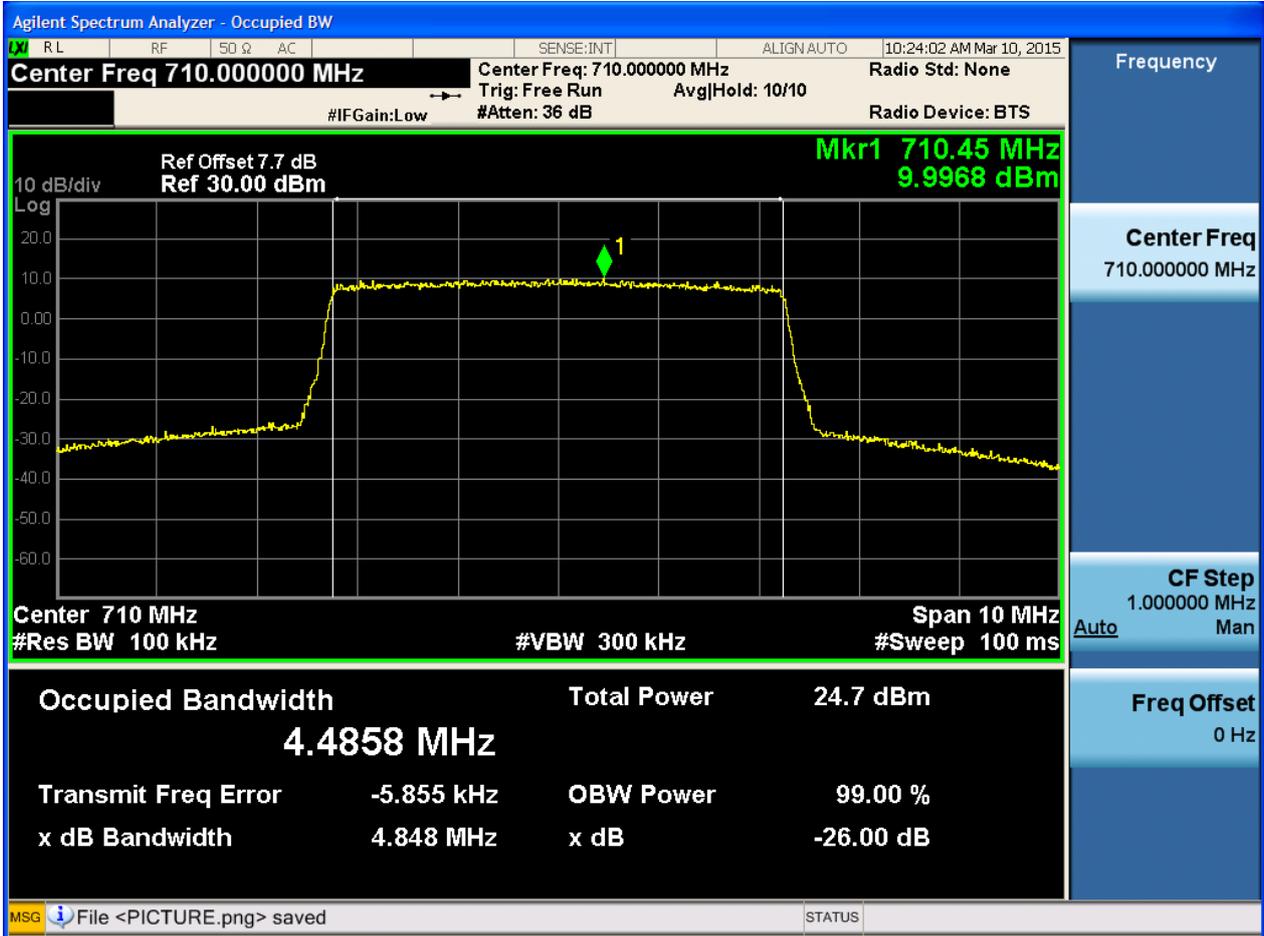
4.1.1.1.1.3 Test Channel = HCH
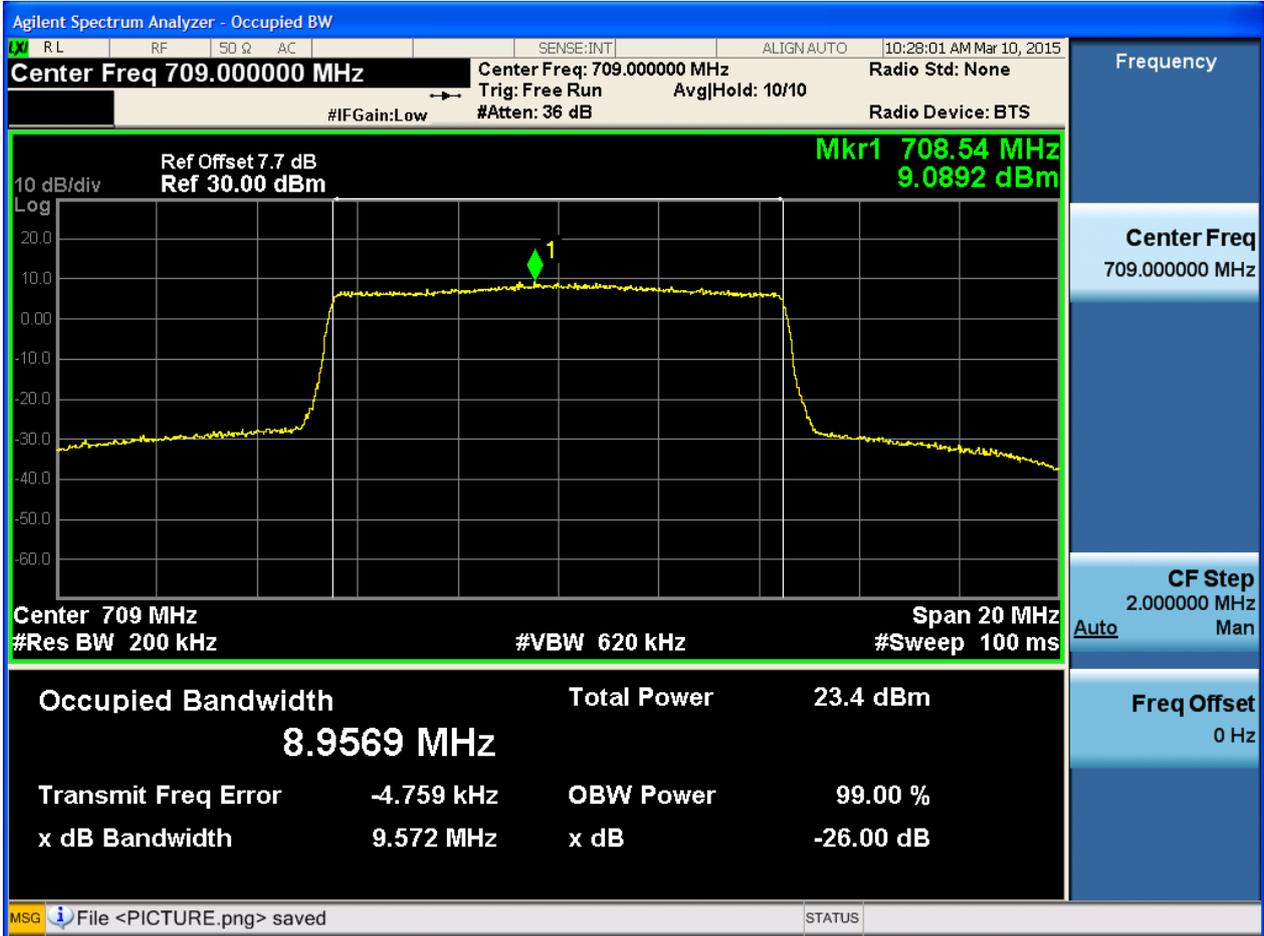
4.1.1.1.1.3.1 Test RB = RB25#0
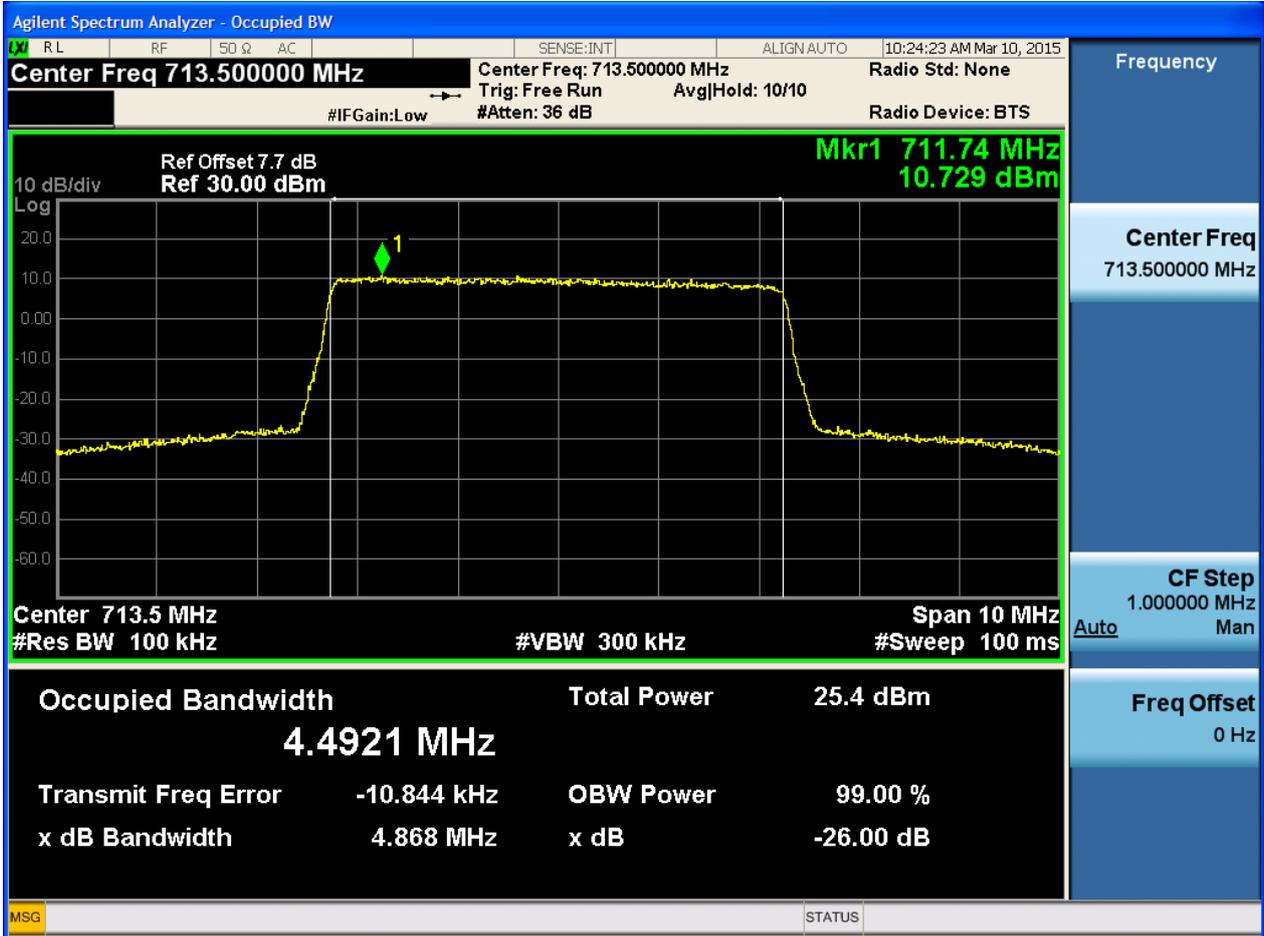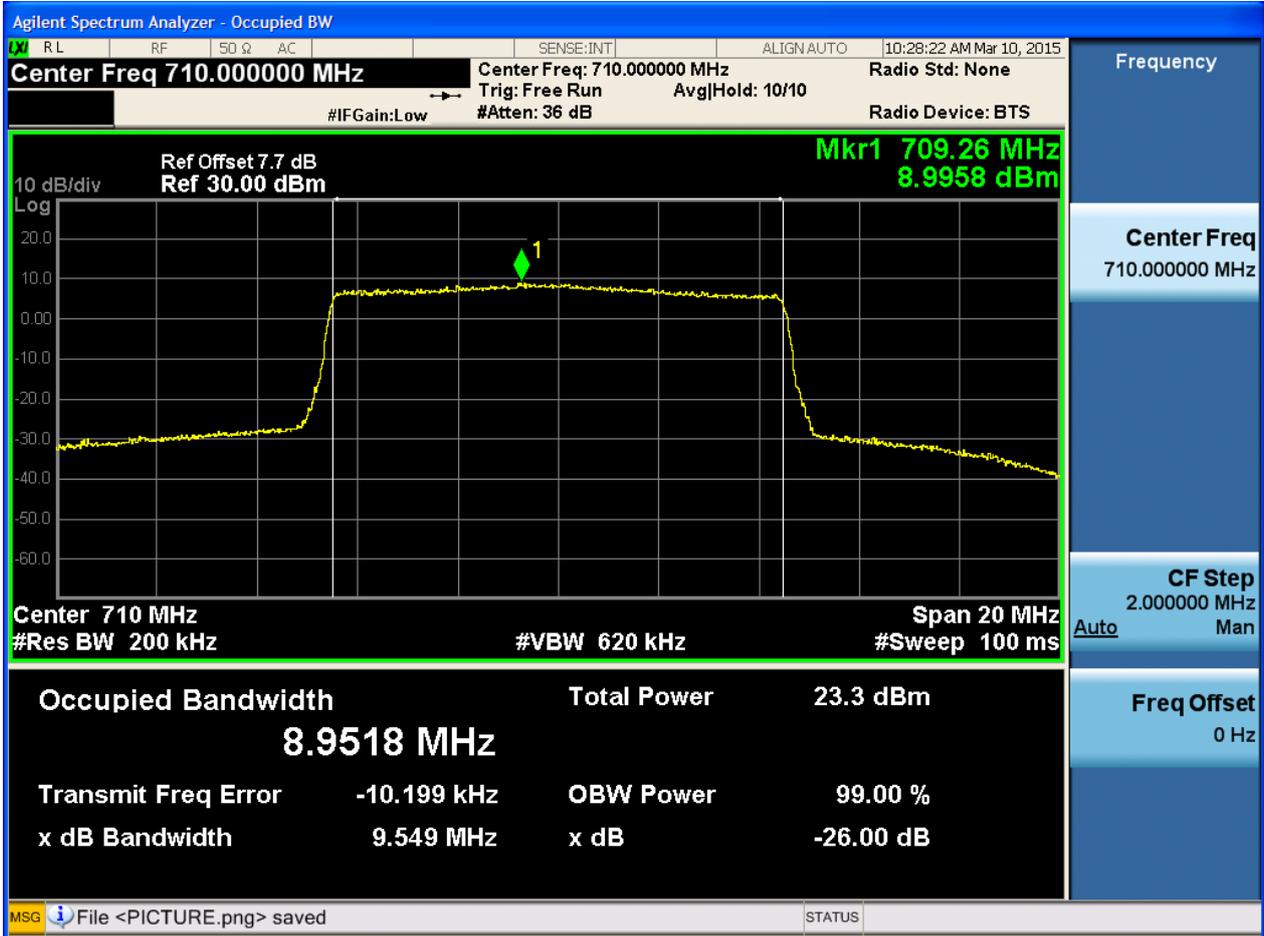
4.1.1.1.2 Test Bandwidth = 10

4.1.1.1.2.1 Test Channel = LCH

4.1.1.1.2.1.1 Test RB = RB50#0

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4.1.1.1.2.2 Test Channel = MCH

4.1.1.1.2.2.1 Test RB = RB50#0
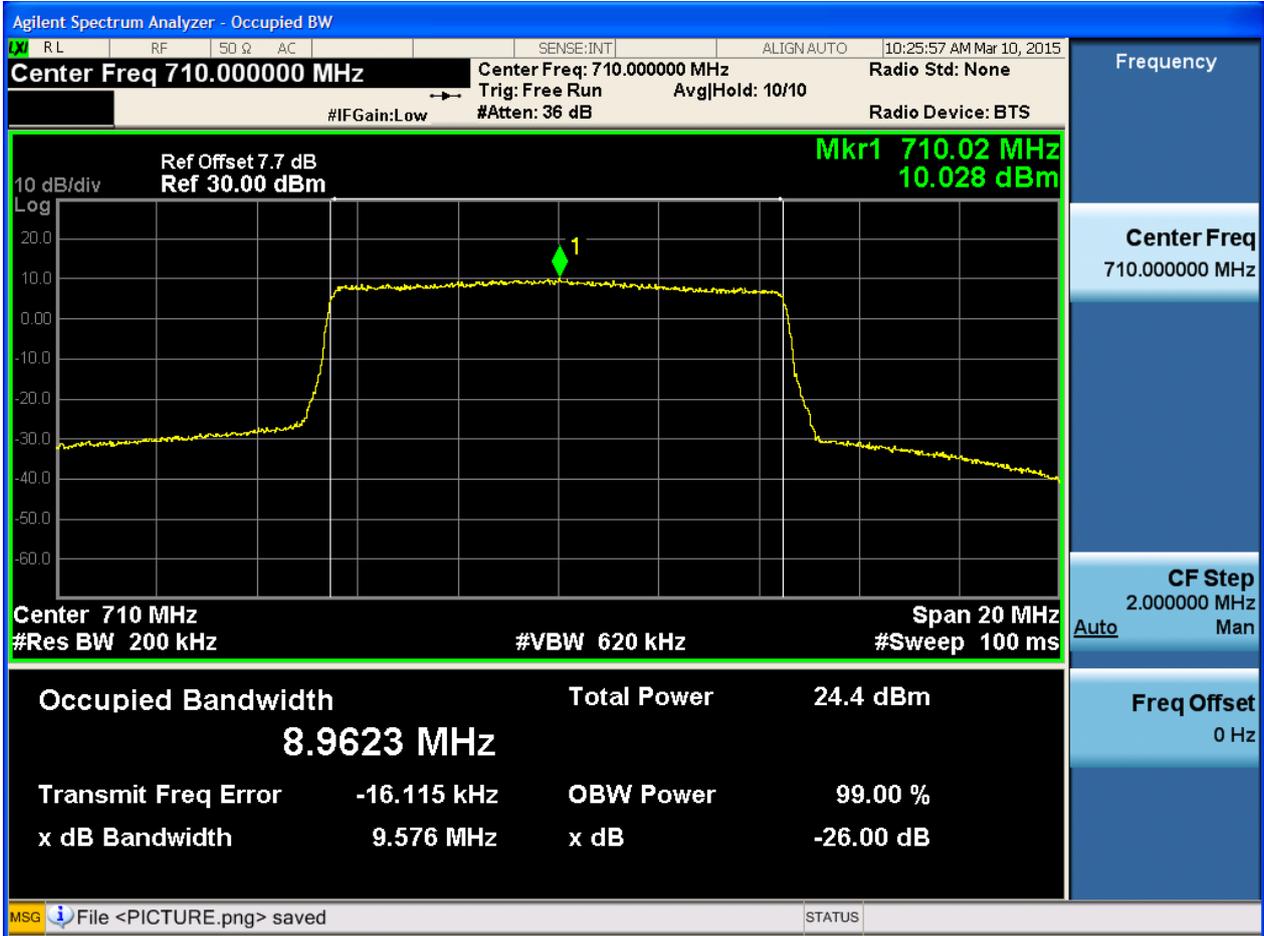
4.1.1.1.2.3 Test Channel = HCH

4.1.1.1.2.3.1 Test RB = RB50#0
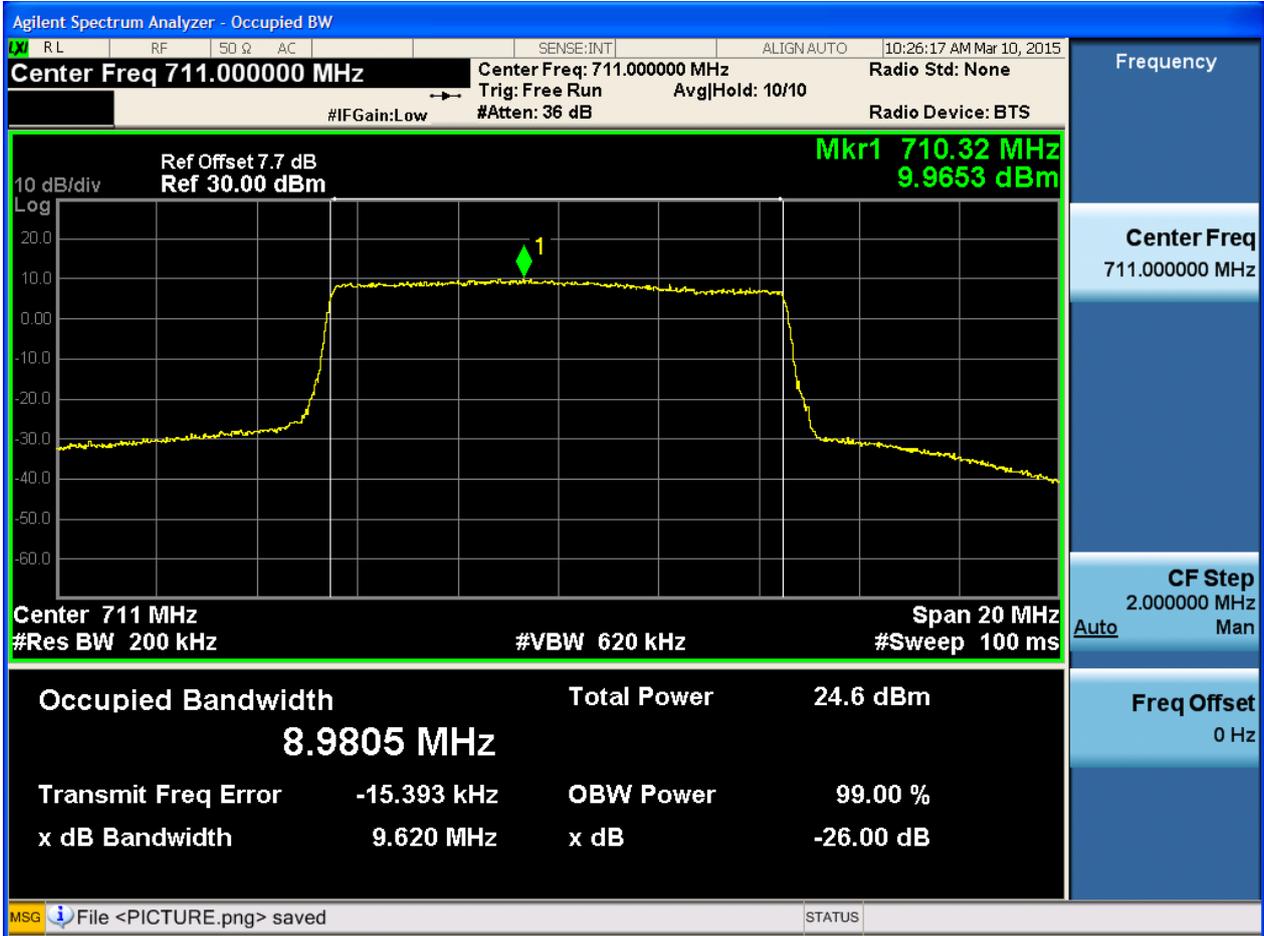
4.1.1.2 Test Mode = LTE/TM2

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

Agilent Spectrum Analyzer - Occupied BW

| | | | | | SENSE:INT | | ALIGN AUTO | 10:27:31 AM Mar 10, 2015 |
| RL | | RF | 50 Ω | AC | | | | |

Center Freq 713.500000 MHz
Center Freq: 713.500000 MHz   Radio Std: None
Trig: Free Run   Avg|Hold: 10/10
#IFGain:Low   #Atten: 36 dB   Radio Device: BTS

Ref Offset 7.7 dB
Ref 30.00 dBm
10 dB/div

Mkr1 712.38 MHz
9.9996 dBm

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

Center 713.5 MHz   Span 10 MHz
#Res BW 100 kHz   #VBW 300 kHz   #Sweep 100 ms

Occupied Bandwidth		Total Power	24.5 dBm
4.5015 MHz			
Transmit Freq Error	-8.206 kHz	OBW Power	99.00 %
x dB Bandwidth	4.864 MHz	x dB	-26.00 dB

MSG ⓘ File <PICTURE.png> saved   STATUS

Frequency

Center Freq
713.500000 MHz

CF Step
1.000000 MHz
Auto   Man

Freq Offset
0 Hz

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

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4.1.1.2.2.3 Test Channel = HCH

4.1.1.2.2.3.1 Test RB = RB50#0

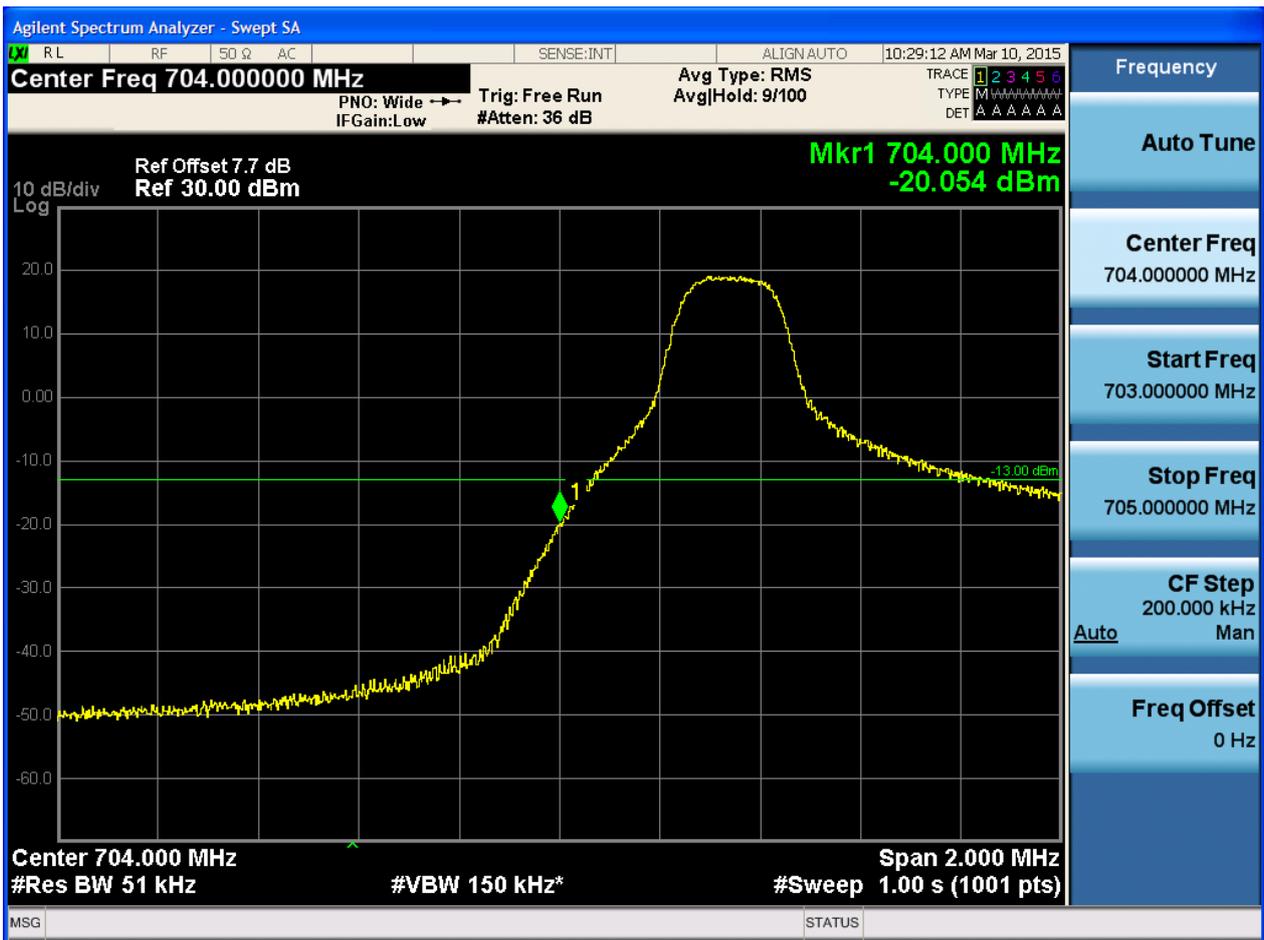# 5Appendix_E: Band Edges Compliance

Part I - Test Plots

5.1 For LTE

5.1.1 Test Band = BAND17

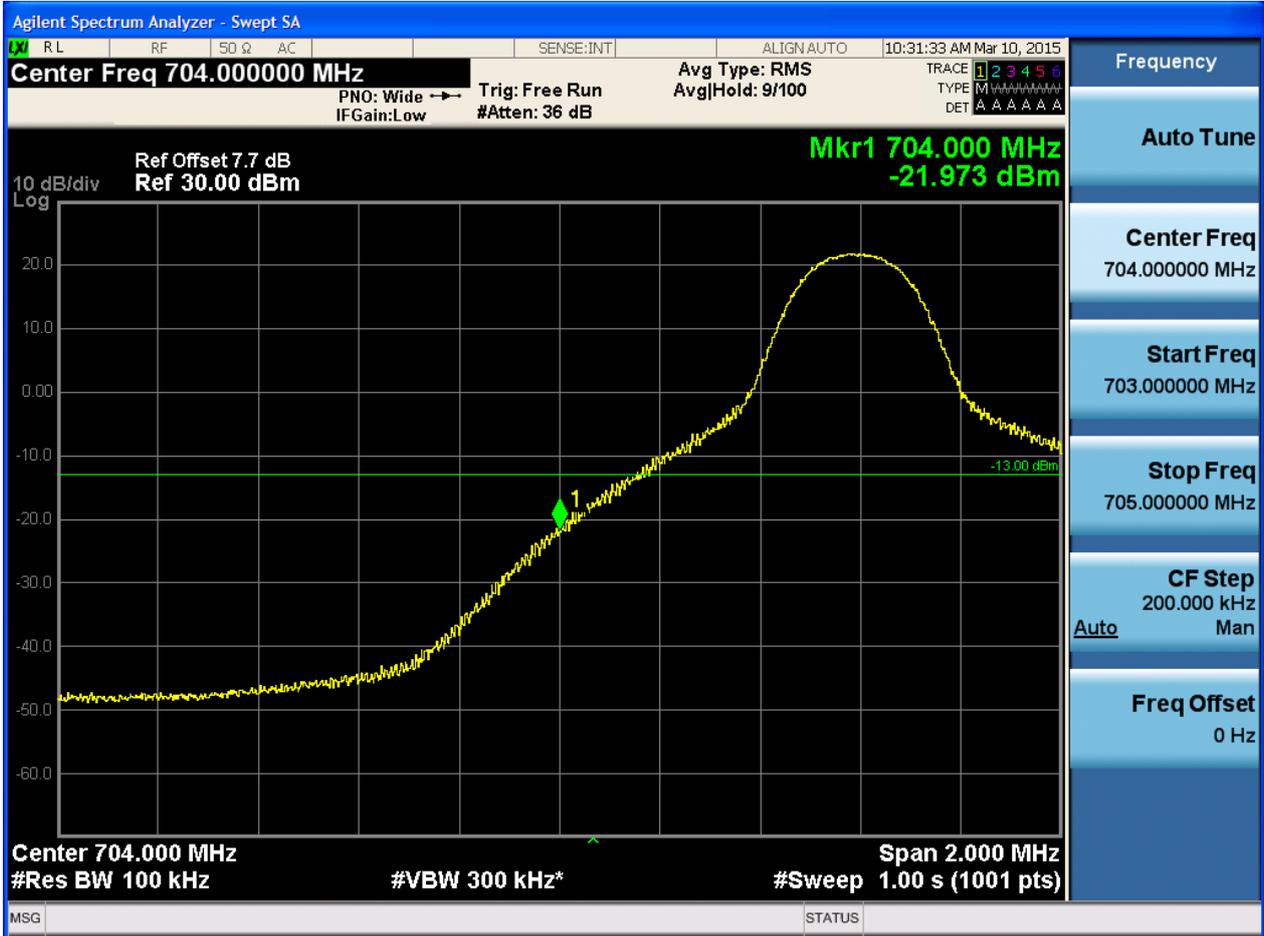**5.1.1.1 Test Mode = LTE/TM1**

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

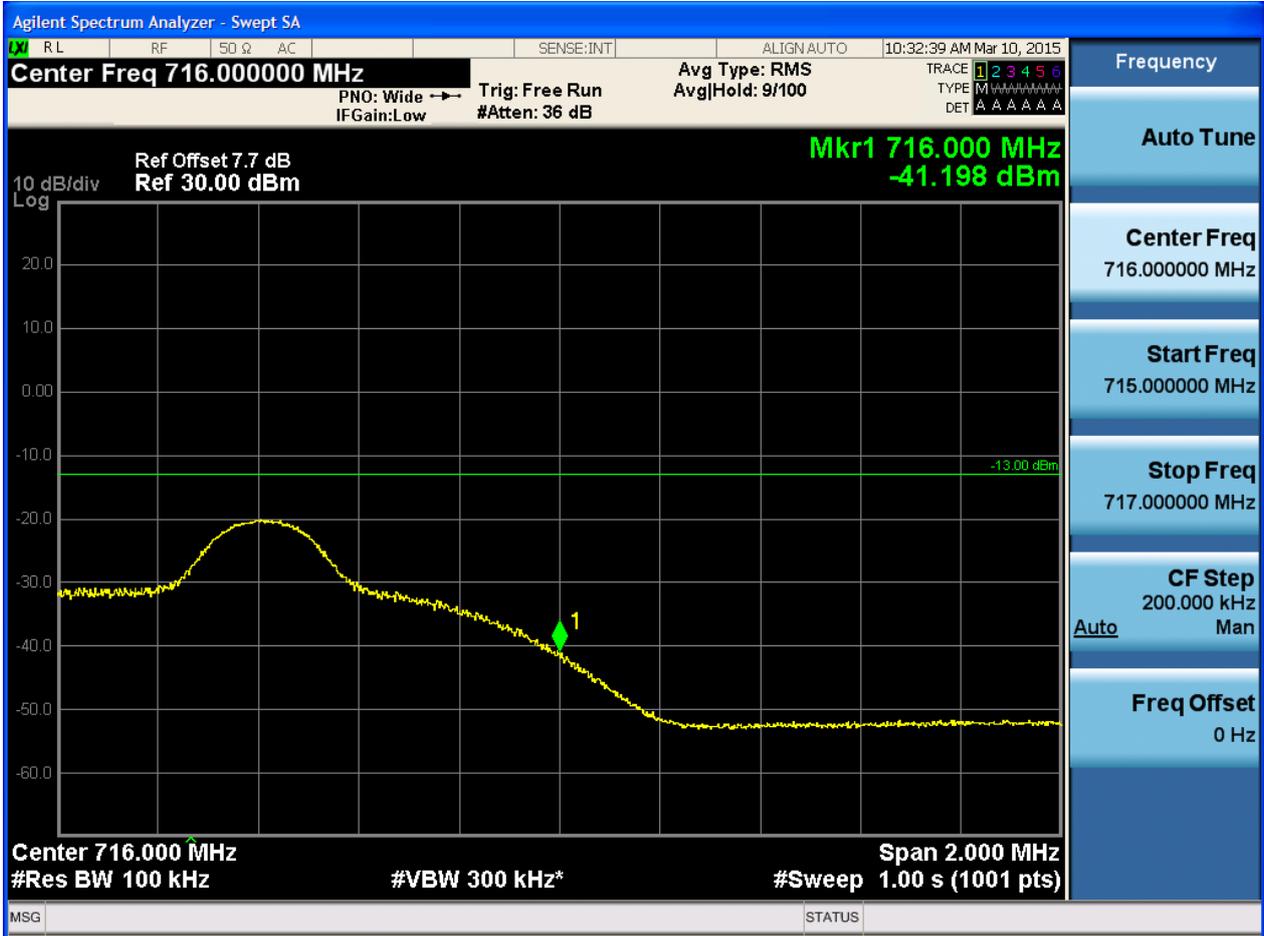## 5.1.1.1.1.1.2 Test RB = RB1#24

5.1.1.1.1.1.3 Test RB = RB12#6

5.1.1.1.1.1.4 Test RB = RB25#0

Agilent Spectrum Analyzer - Swept SA

LXI R L	RF	50 Ω AC

Center Freq 704.000000 MHz

SENSE:INT — ALIGN AUTO — 10:29:58 AM Mar 10, 2015

Avg Type: RMS
Avg|Hold: 9/100

PNO: Wide →
IFGain:Low

Trig: Free Run
#Atten: 36 dB

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

Frequency

Auto Tune

Center Freq
704.000000 MHz

Start Freq
703.000000 MHz

Stop Freq
705.000000 MHz

CF Step
200.000 kHz
Auto   Man

Freq Offset
0 Hz

Ref Offset 7.7 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 704.000 MHz
-30.159 dBm

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

Center 704.000 MHz
#Res BW 51 kHz   #VBW 150 kHz*

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

MSG   STATUS

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#24

5.1.1.1.1.2.3 Test RB = RB12#6

Agilent Spectrum Analyzer - Swept SA

| R L | RF | 50 Ω | AC | | | SENSE:INT | | ALIGN AUTO | 10:30:49 AM Mar 10, 2015 |

Center Freq 716.000000 MHz

PNO: Wide →→
IFGain:Low

Trig: Free Run
#Atten: 36 dB

Avg Type: RMS
Avg|Hold: 9/100

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

Ref Offset 7.7 dB
Ref 30.00 dBm

10 dB/div
Log

Mkr1 716.000 MHz
-33.610 dBm

20.0

10.0

0.00

-10.0 ———————————————————————————— -13.00 dBm

-20.0

-30.0   1

-40.0

-50.0

-60.0

Center 716.000 MHz   Span 2.000 MHz
#Res BW 51 kHz   #VBW 150 kHz*   #Sweep 1.00 s (1001 pts)

MSG   STATUS

Frequency

Auto Tune

Center Freq
716.000000 MHz

Start Freq
715.000000 MHz

Stop Freq
717.000000 MHz

CF Step
200.000 kHz
Auto   Man

Freq Offset
0 Hz

5.1.1.1.1.2.4 Test RB = RB25#0

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

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5.1.1.1.2.1.2 Test RB = RB1#49

5.1.1.1.2.1.3 Test RB = RB25#13
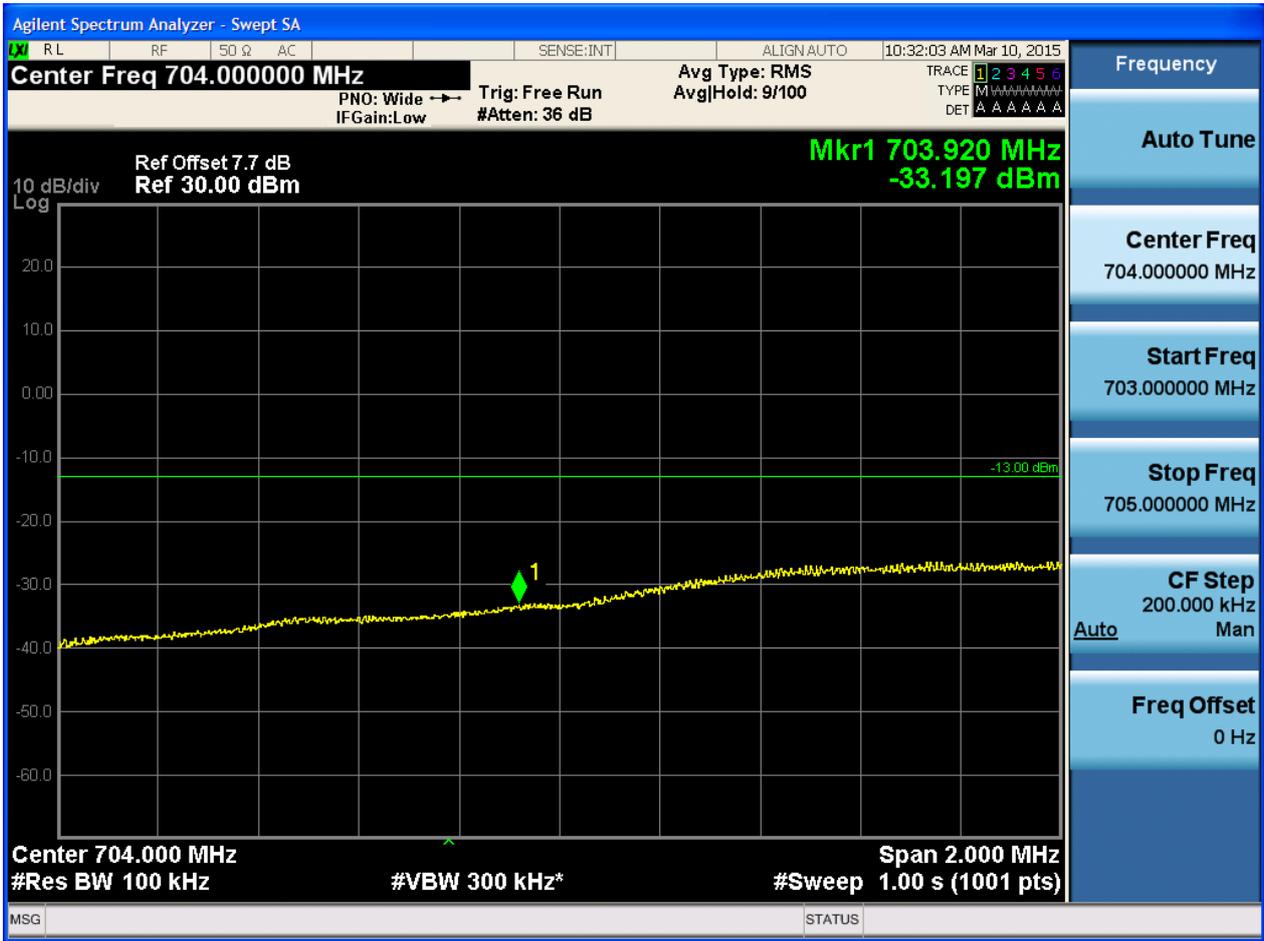
5.1.1.1.2.1.4 Test RB = RB50#0
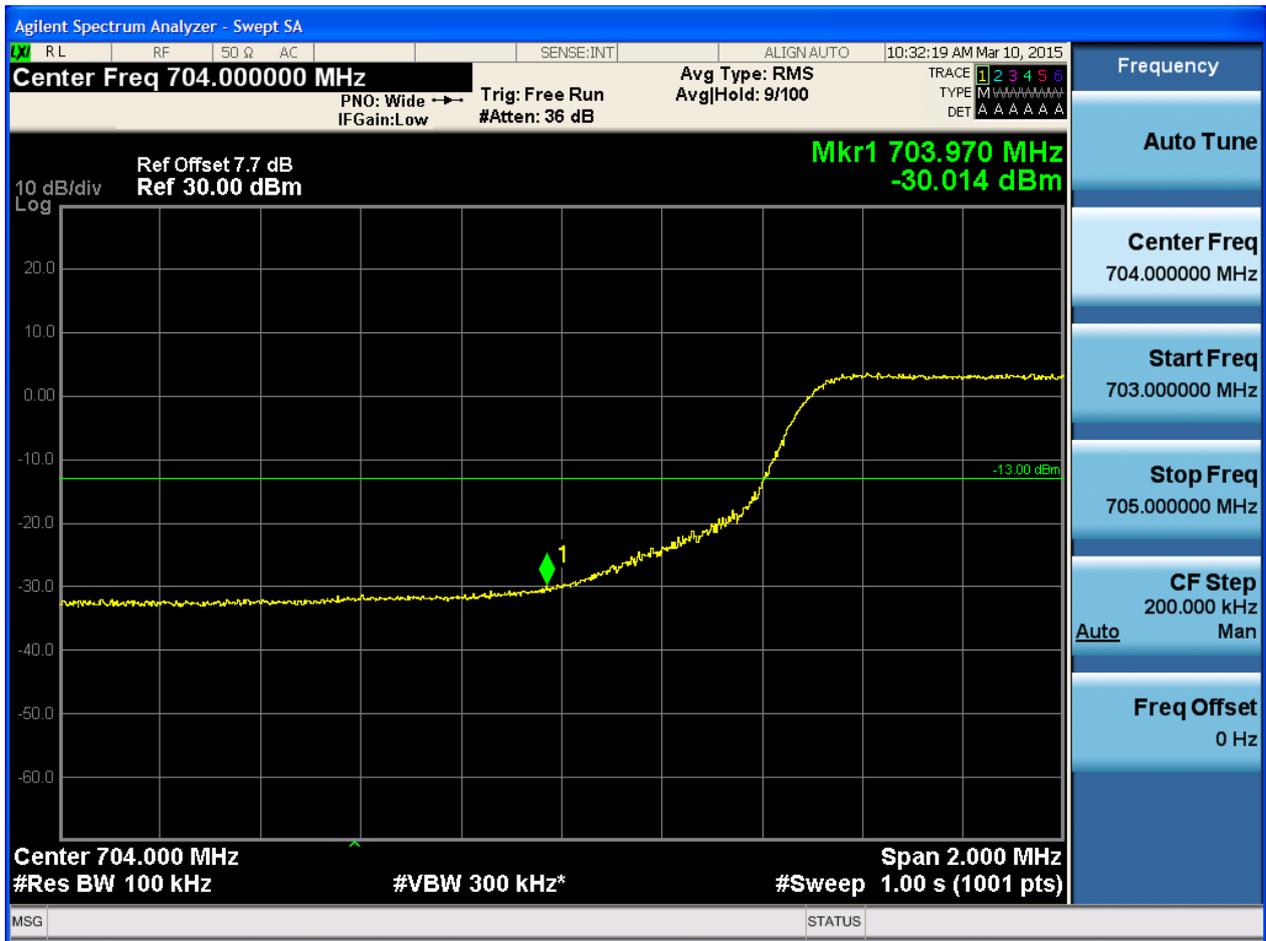
5.1.1.1.2.2 Test Channel = HCH

5.1.1.1.2.2.1 Test RB = RB1#0
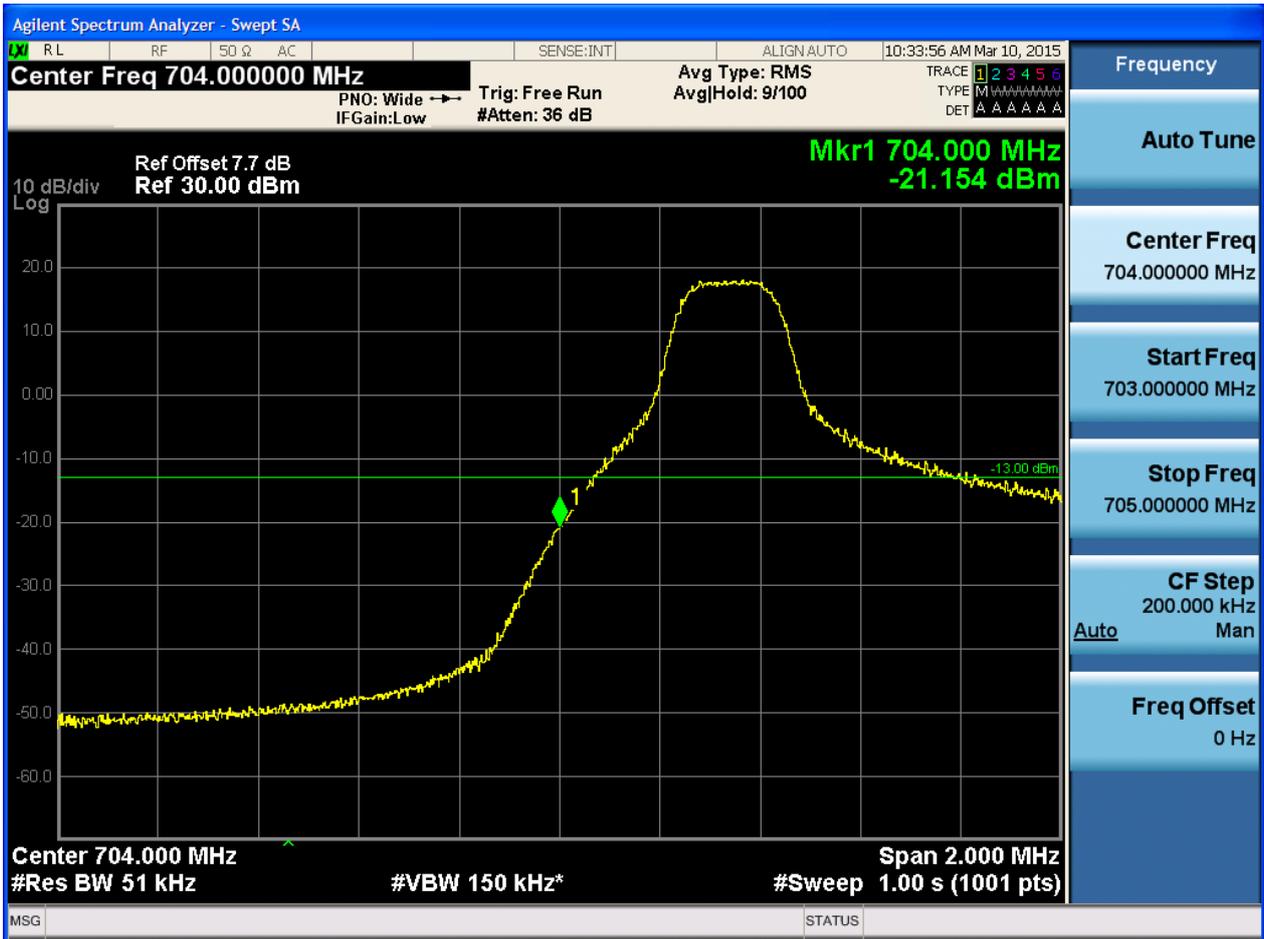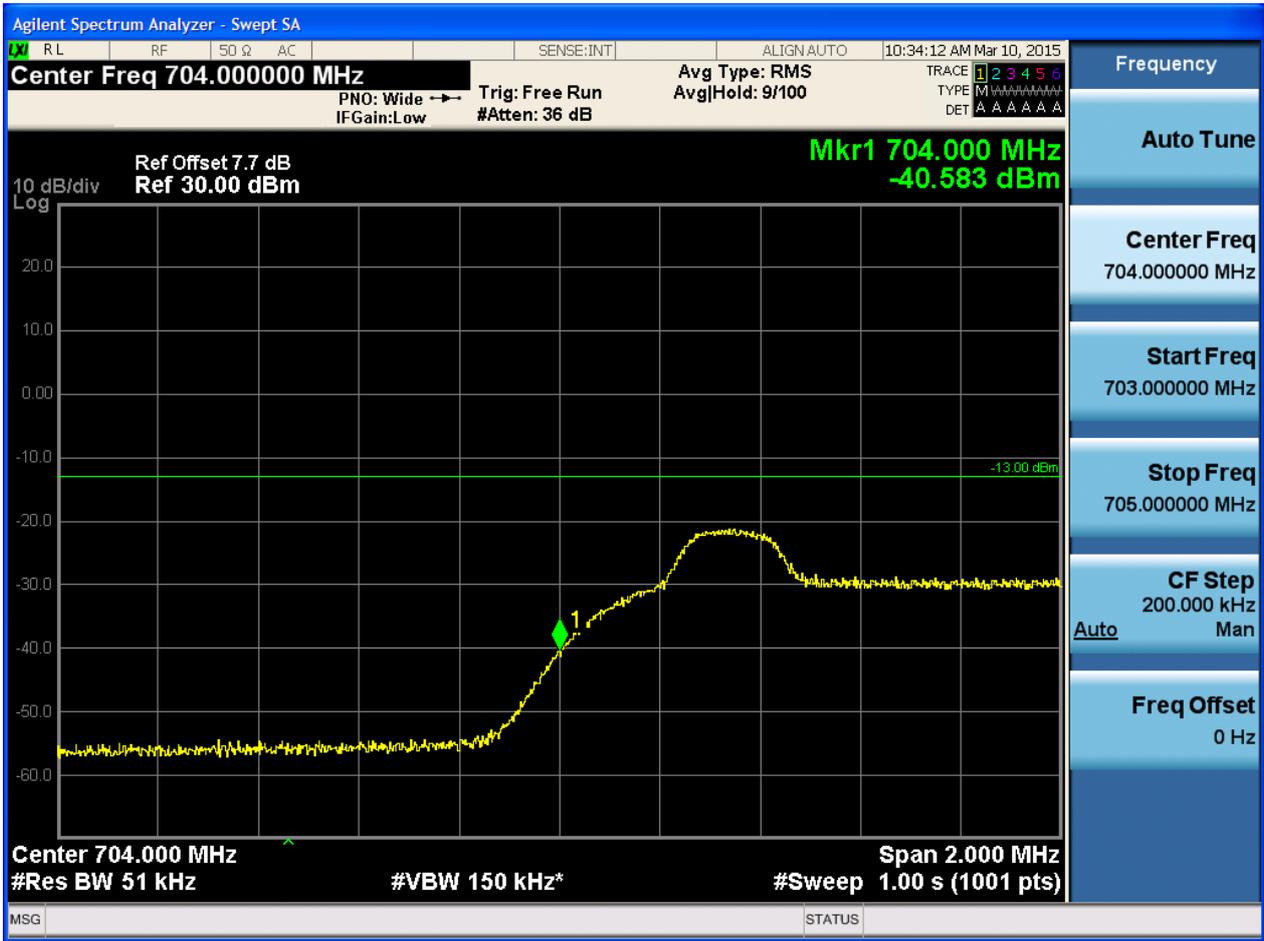
5.1.1.1.2.2.2 Test RB = RB1#49

5.1.1.1.2.2.3 Test RB = RB25#13

5.1.1.1.2.2.4 Test RB = RB50#0

Agilent Spectrum Analyzer - Swept SA

| | | | | | | | SENSE:INT | | ALIGN AUTO | 10:33:25 AM Mar 10, 2015 | Frequency |

R L | RF | 50 Ω | AC

Center Freq 716.000000 MHz

PNO: Wide →
IFGain:Low

Trig: Free Run
#Atten: 36 dB

Avg Type: RMS
Avg|Hold: 9/100

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

Auto Tune

Mkr1 716.000 MHz
-32.098 dBm

Ref Offset 7.7 dB
Ref 30.00 dBm

10 dB/div
Log

20.0

10.0

0.00

-10.0   -13.00 dBm

-20.0

-30.0   1

-40.0

-50.0

-60.0

Center 716.000 MHz
#Res BW 100 kHz   #VBW 300 kHz*

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

MSG   STATUS

Center Freq
716.000000 MHz

Start Freq
715.000000 MHz

Stop Freq
717.000000 MHz

CF Step
200.000 kHz
Auto   Man

Freq Offset
0 Hz

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

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5.1.1.2.1.1.2 Test RB = RB1#24

5.1.1.2.1.1.3 Test RB = RB12#6

5.1.1.2.1.1.4 Test RB = RB25#0
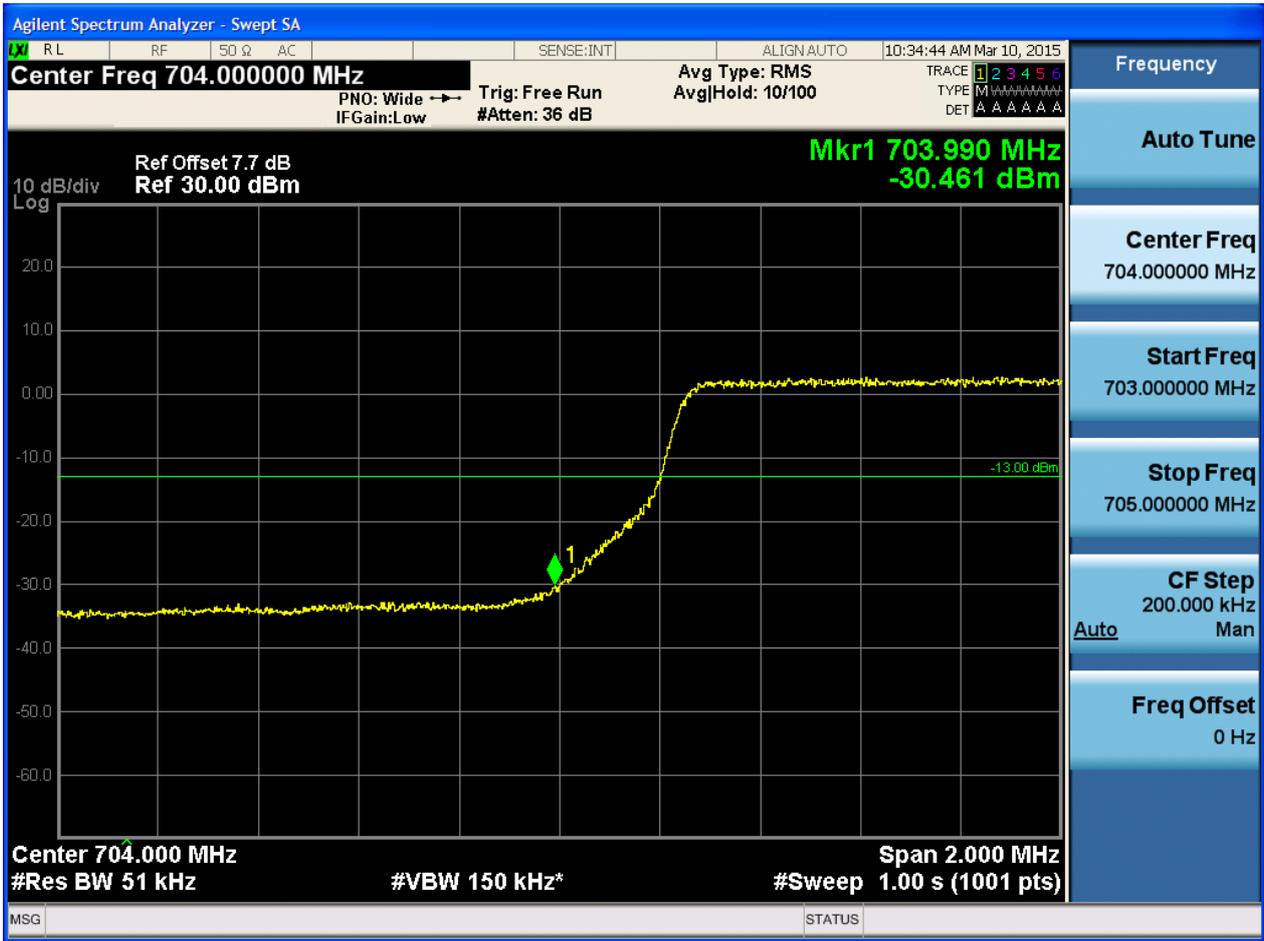
5.1.1.2.1.2 Test Channel = HCH

5.1.1.2.1.2.1 Test RB = RB1#0

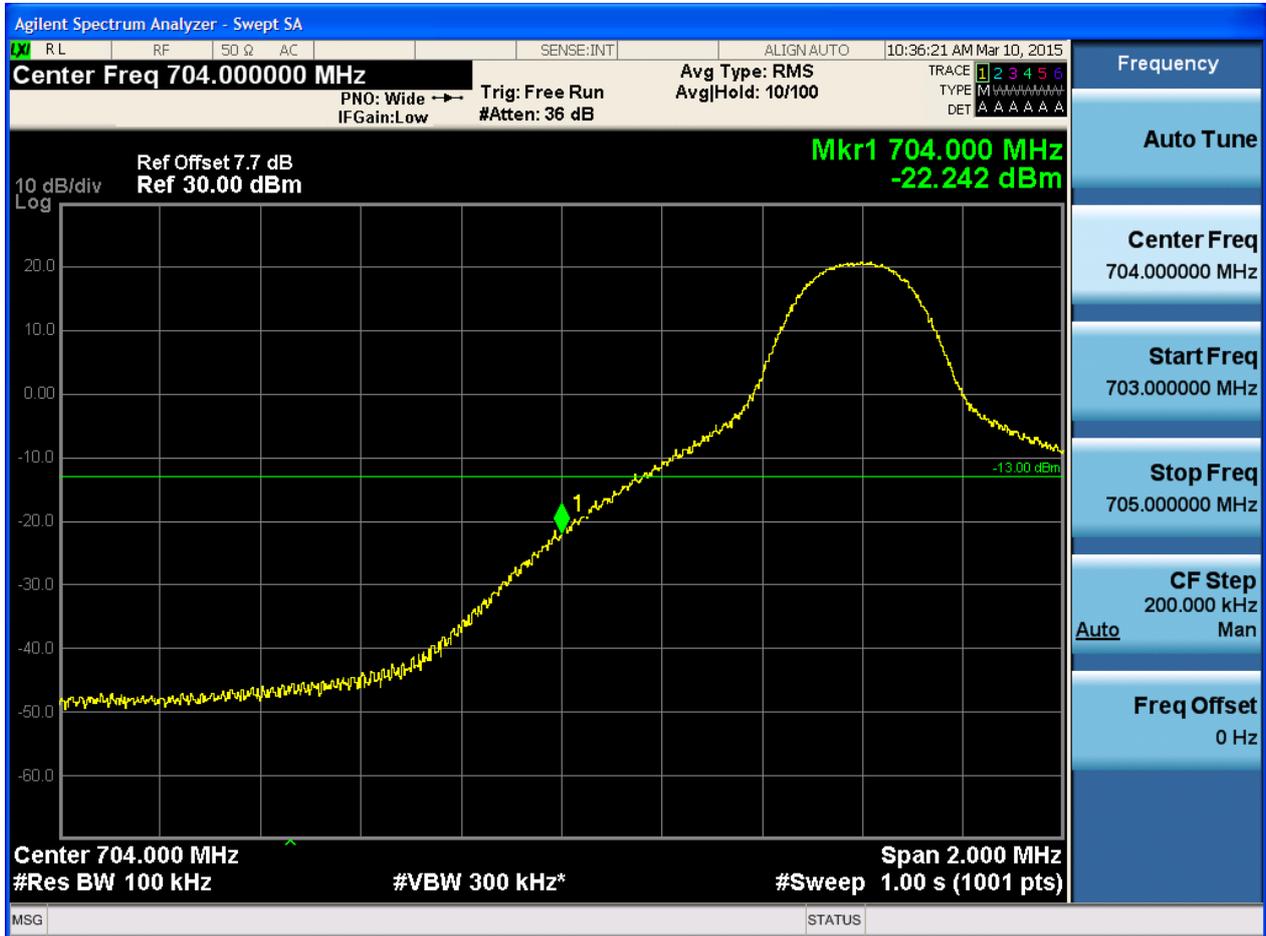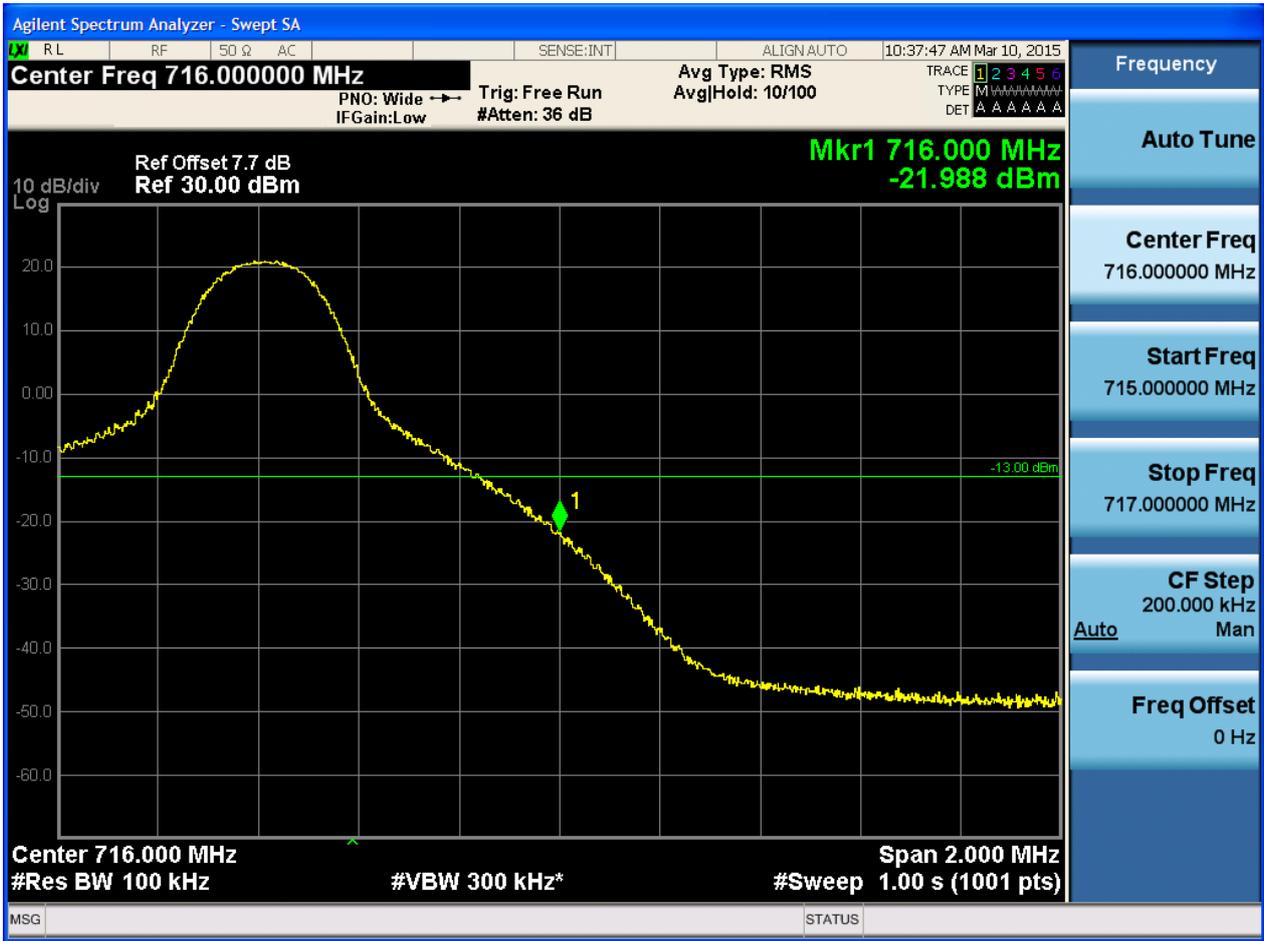## 5.1.1.2.1.2.2 Test RB = RB1#24
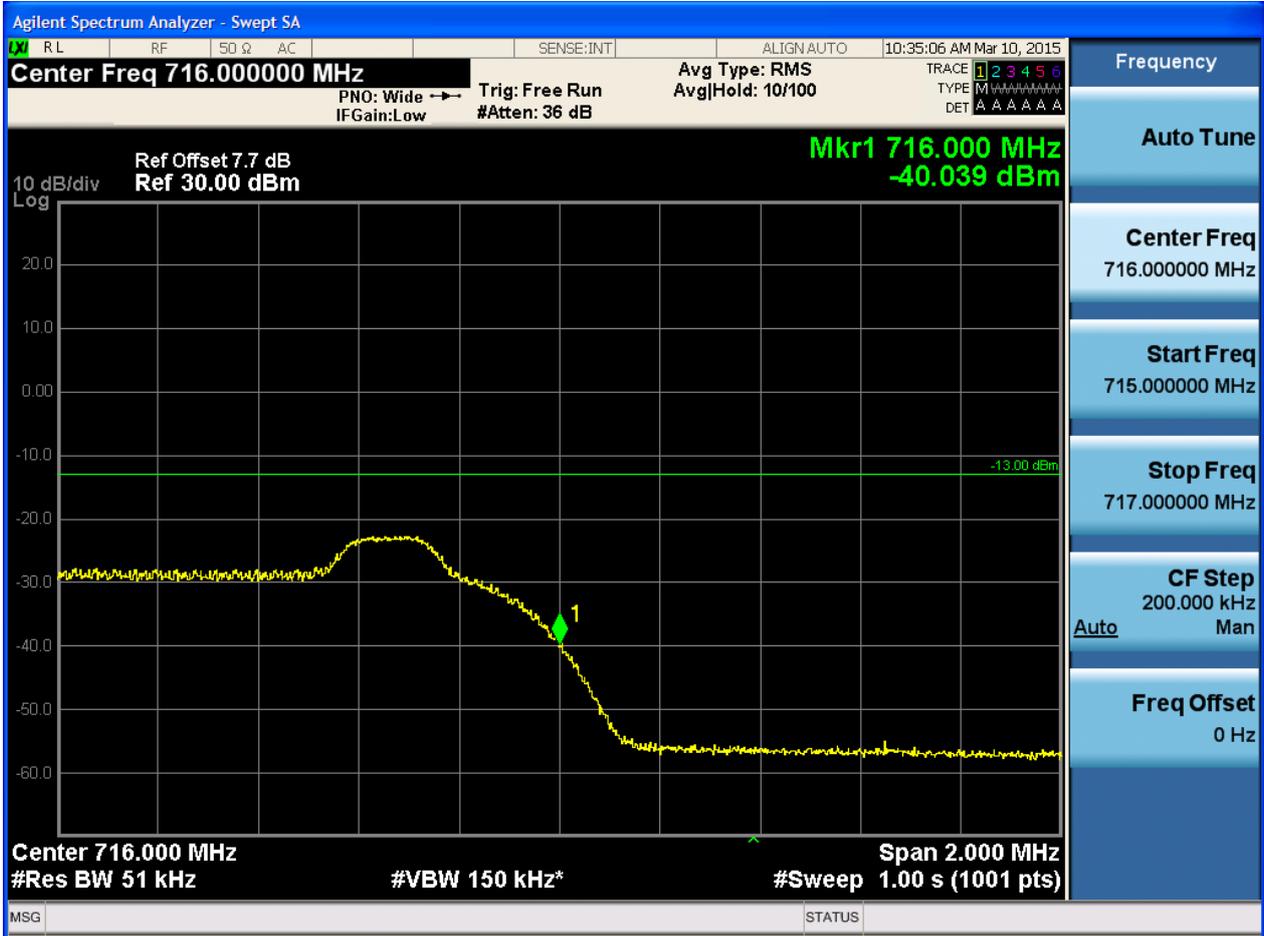
5.1.1.2.1.2.3 Test RB = RB12#6

5.1.1.2.1.2.4 Test RB = RB25#0

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Copyright © Huawei Technologies Co., Ltd.
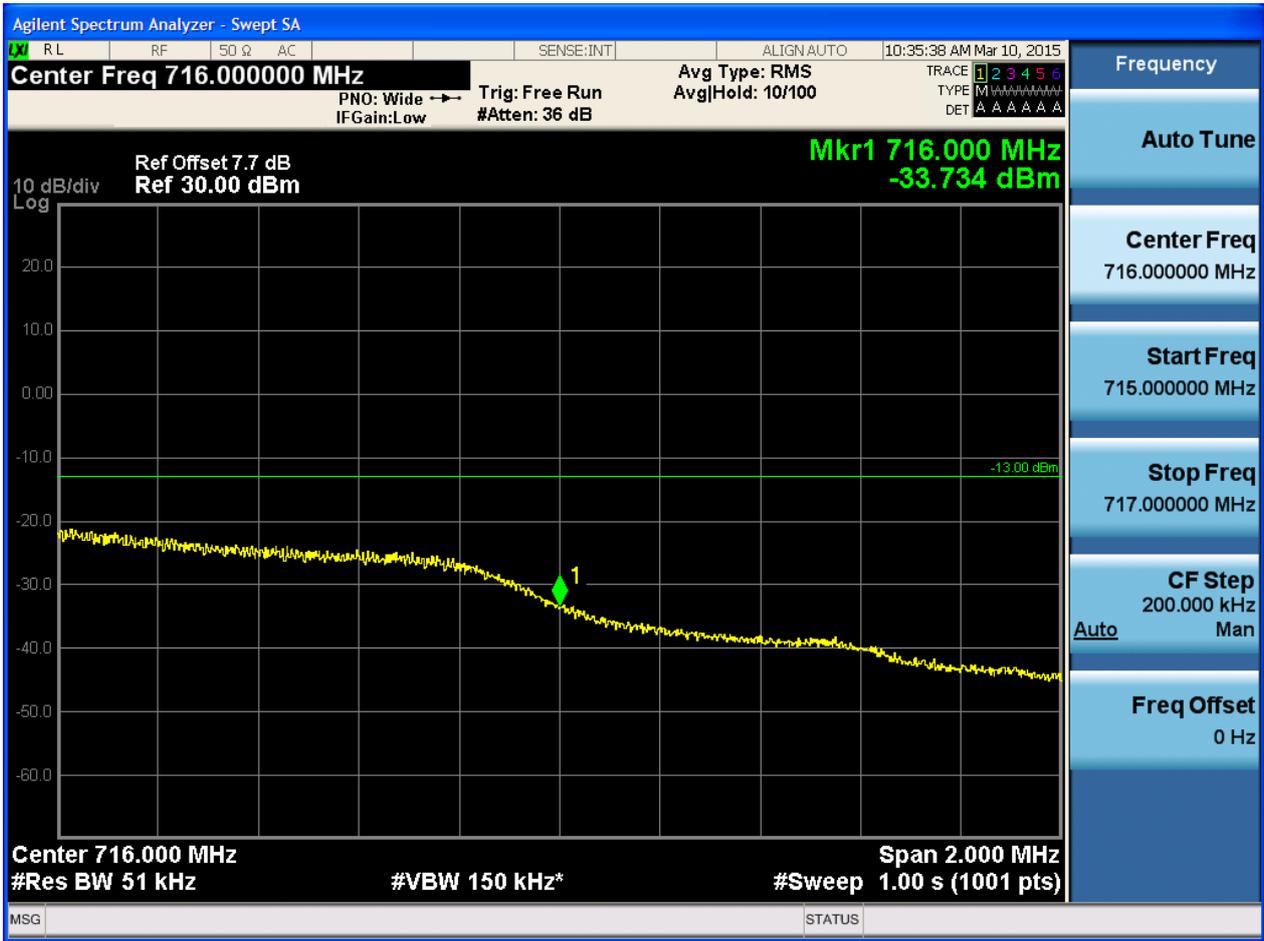
5.1.1.2.2 Test Bandwidth = 10

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

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5.1.1.2.2.1.3 Test RB = RB25#13

5.1.1.2.2.1.4 Test RB = RB50#0

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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#49

5.1.1.2.2.2.3 Test RB = RB25#13

5.1.1.2.2.2.4 Test RB = RB50#0

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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 = BAND17

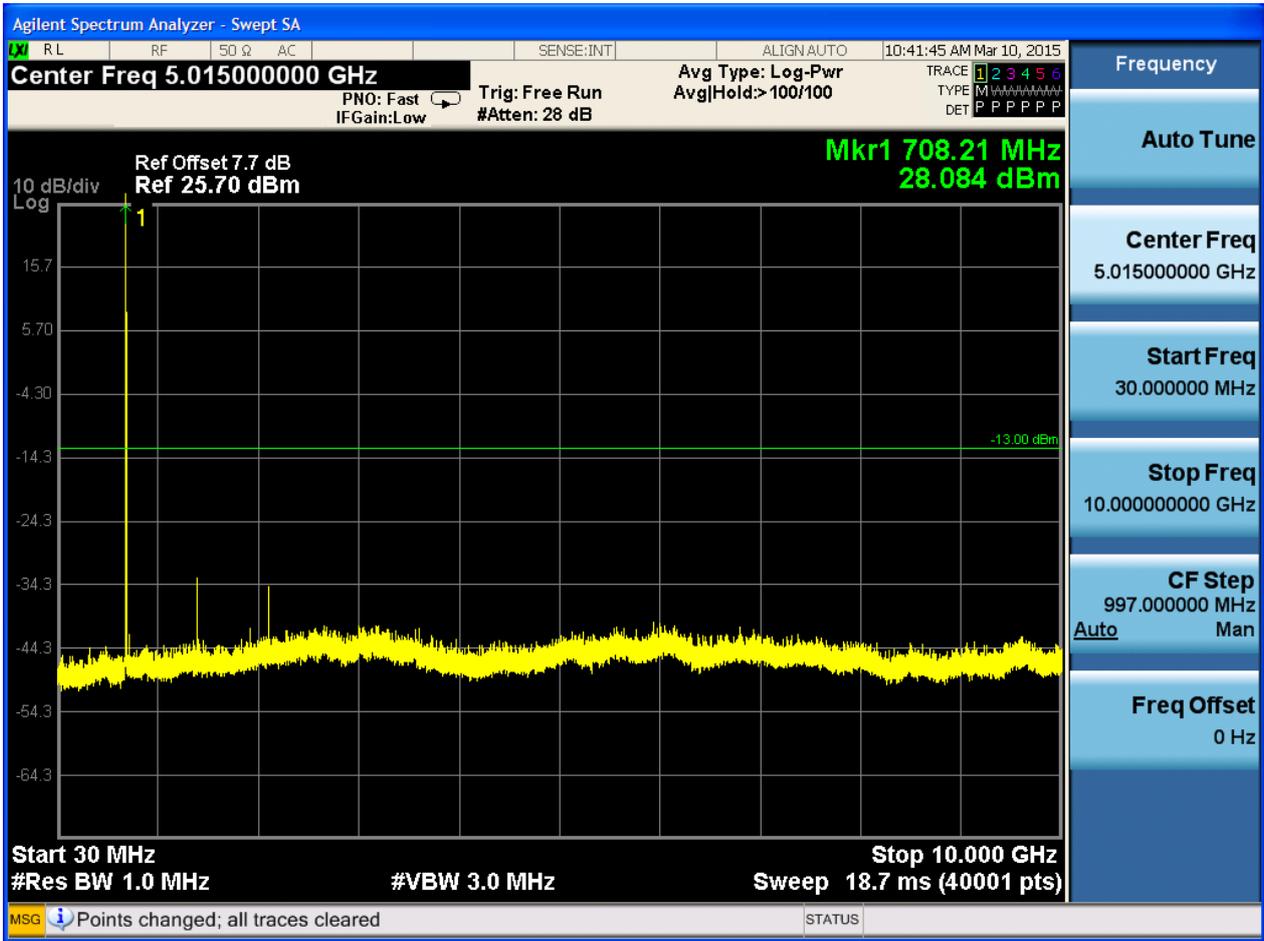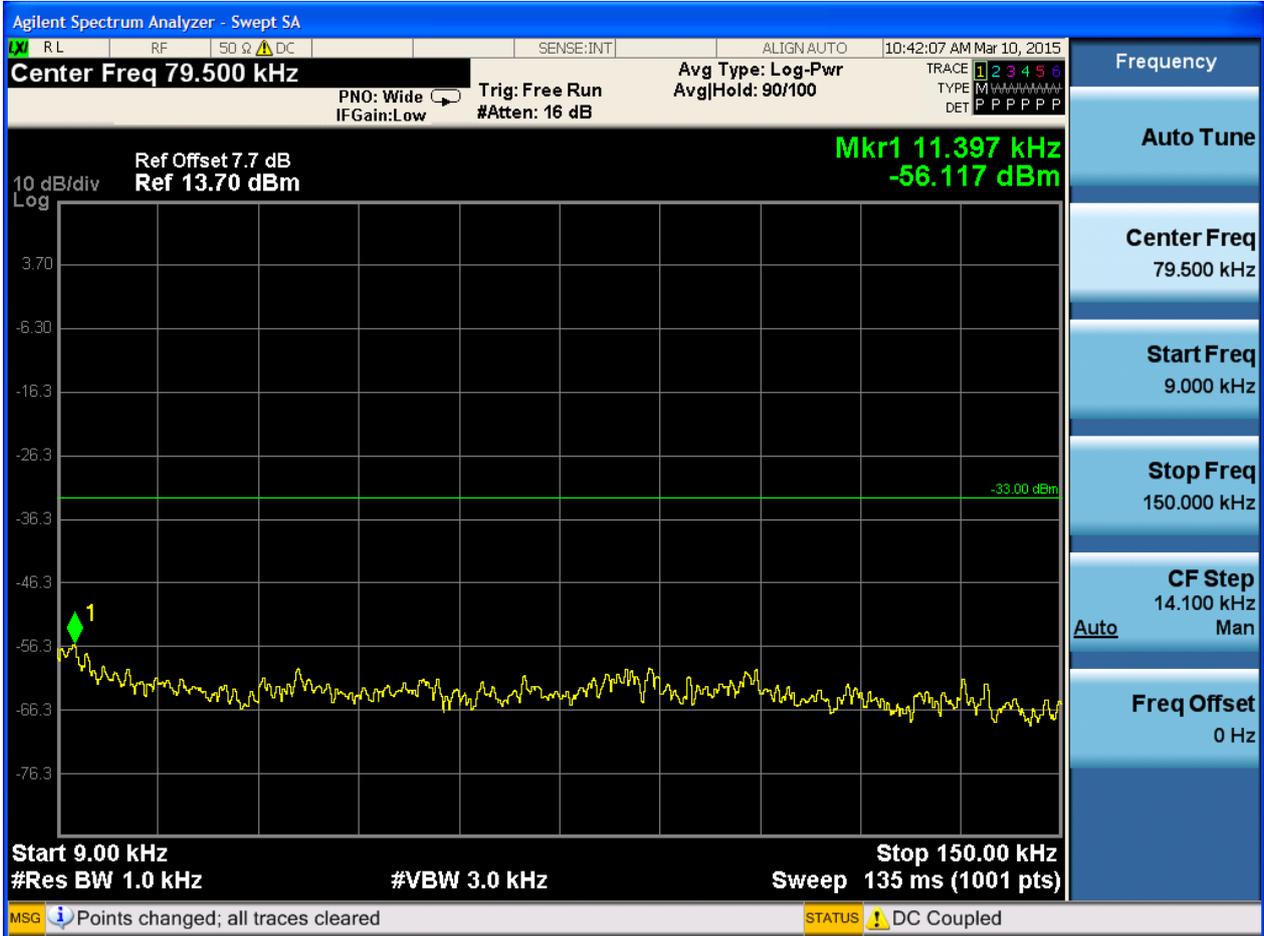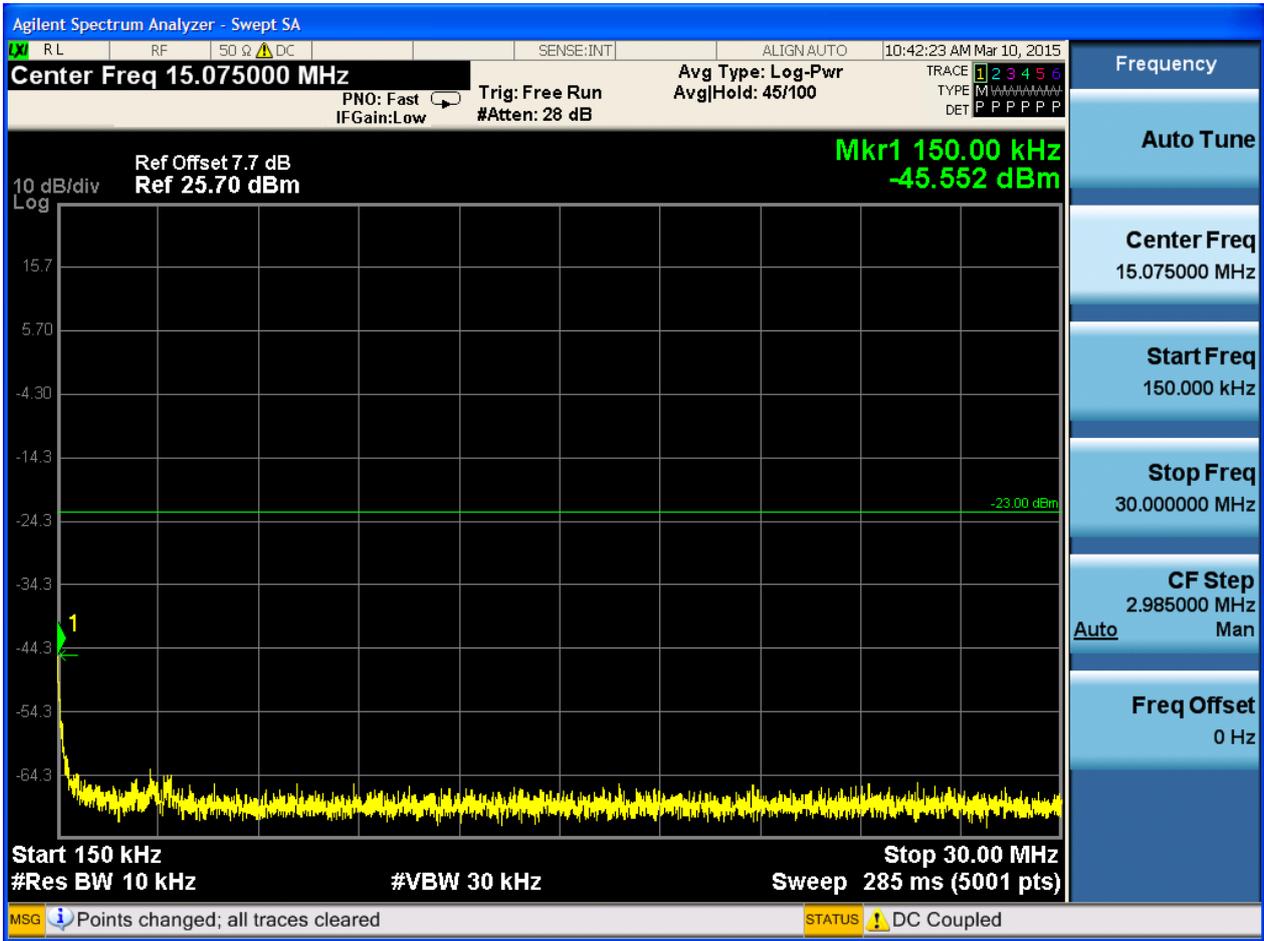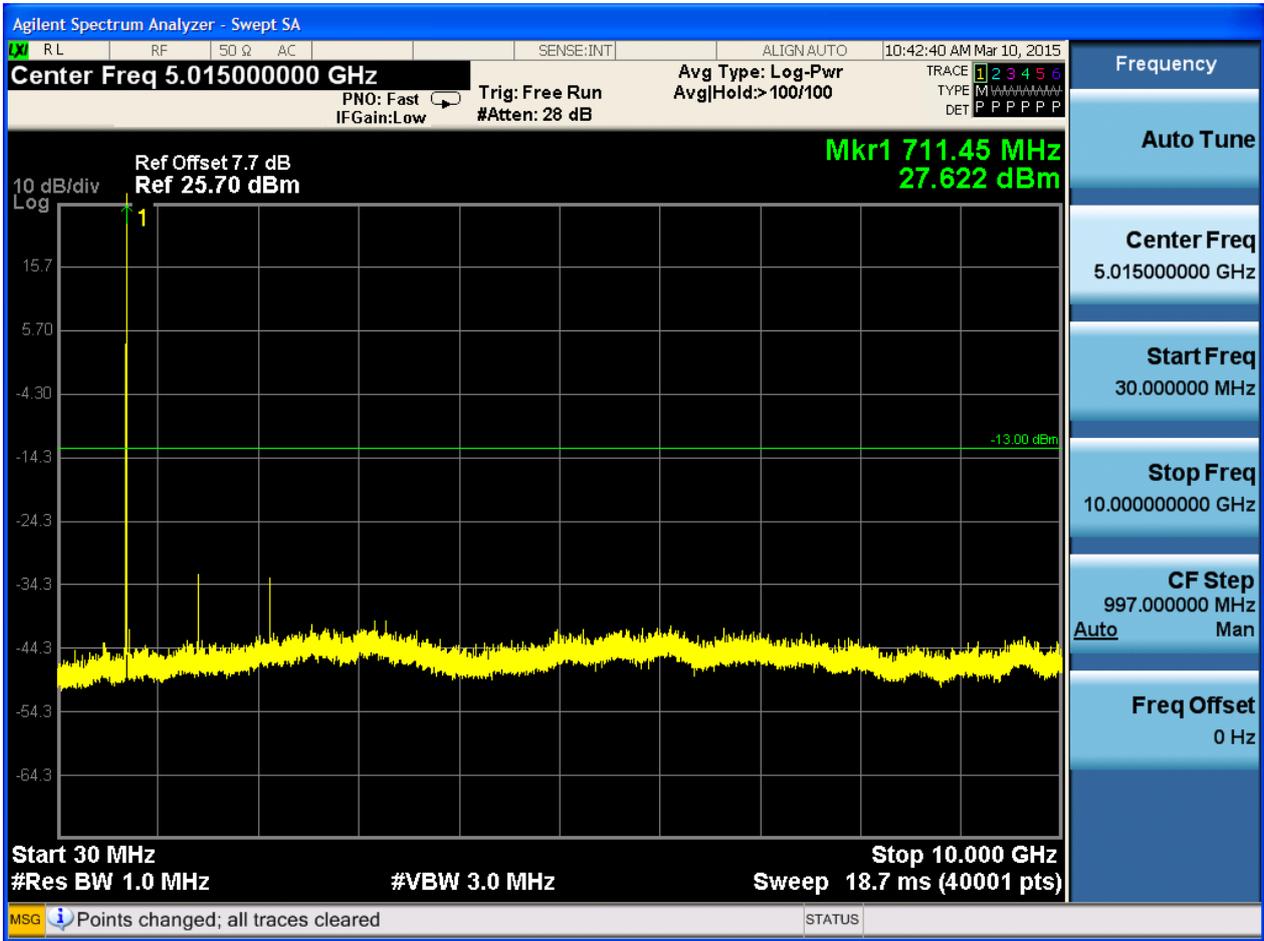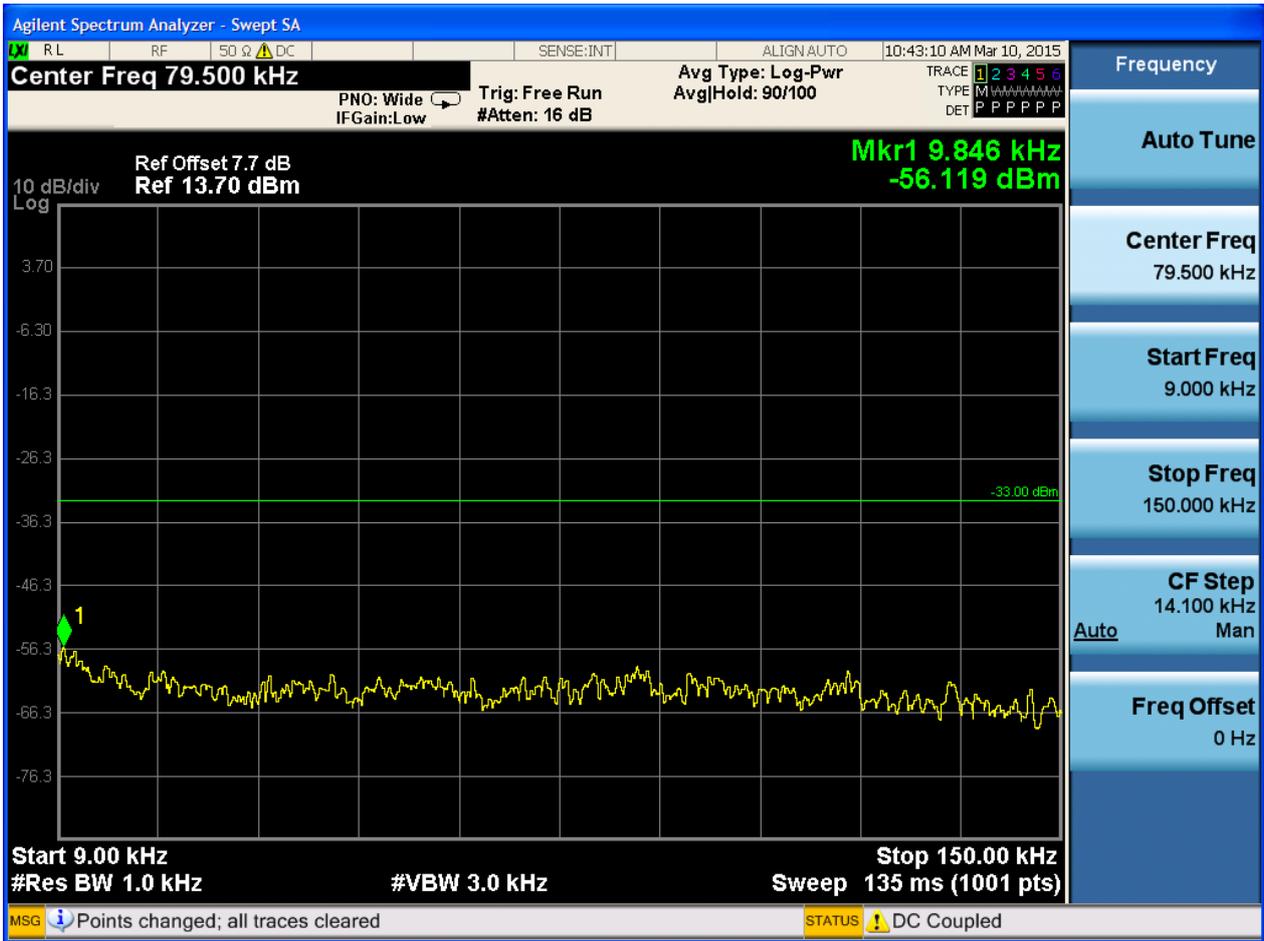**6.1.1.1 Test Mode = LTE/TM1**

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

Agilent Spectrum Analyzer - Swept SA

| LXI | R L | | RF | 50 Ω | DC | | SENSE:INT | | ALIGN AUTO | 10:40:16 AM Mar 10, 2015 |

Center Freq 79.500 kHz

PNO: Wide
IFGain:Low

Trig: Free Run
#Atten: 16 dB

Avg Type: Log-Pwr
Avg|Hold: 90/100

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

Ref Offset 7.7 dB
10 dB/div Ref 13.70 dBm
Log

Mkr1 9.141 kHz
-55.073 dBm

3.70

-6.30

-16.3

-26.3

-33.00 dBm

-36.3

-46.3

1

-56.3

-66.3

-76.3

Start 9.00 kHz   Stop 150.00 kHz
#Res BW 1.0 kHz   #VBW 3.0 kHz   Sweep 135 ms (1001 pts)

MSG Data out of range;The value 15 was clipped to the maximum value of 13.7.   STATUS DC Coupled

Frequency

Auto Tune

Center Freq
79.500 kHz

Start Freq
9.000 kHz

Stop Freq
150.000 kHz

CF Step
14.100 kHz
Auto   Man

Freq Offset
0 Hz

6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0
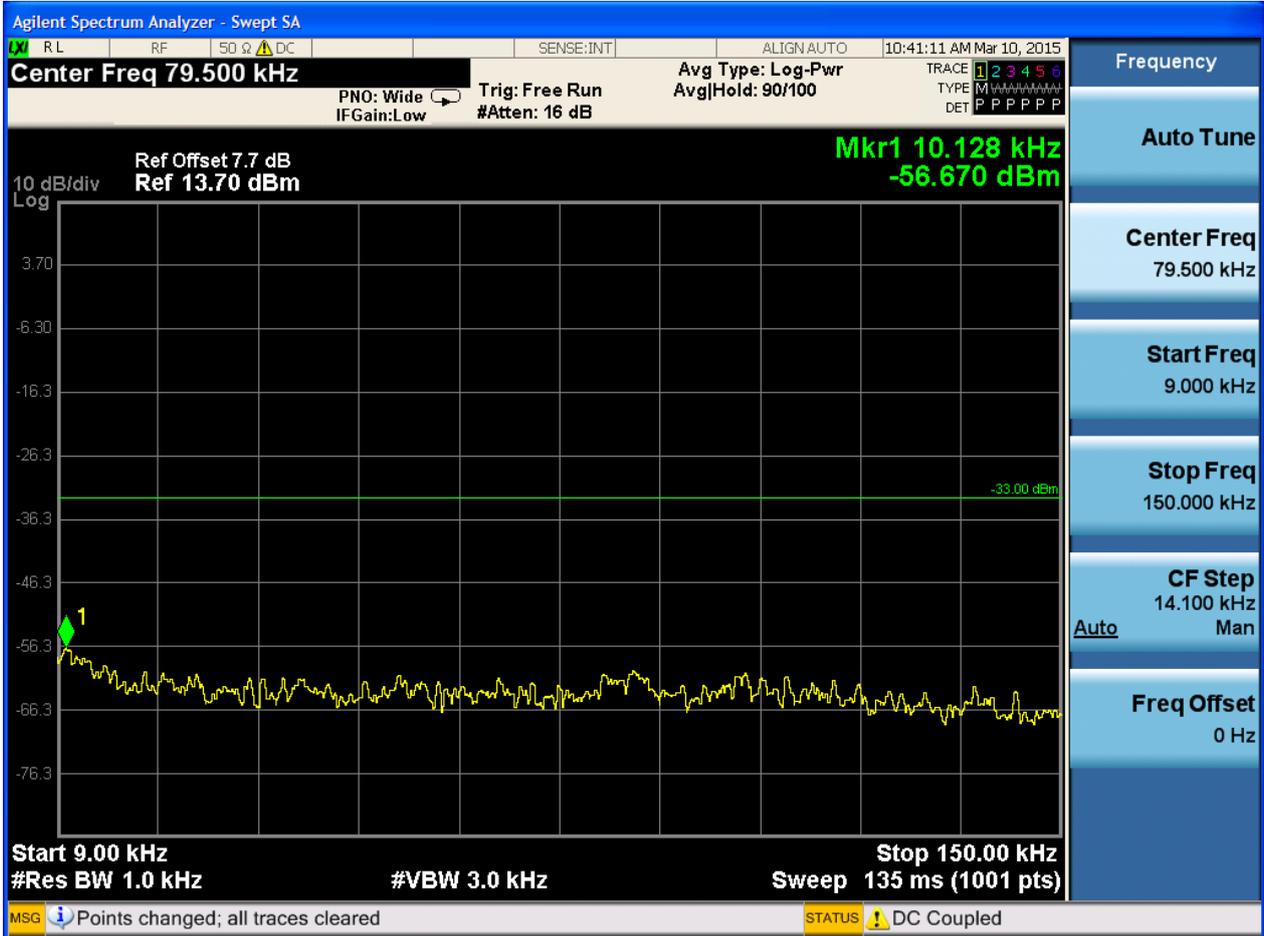
6.1.1.1.1.3 Test Channel = HCH

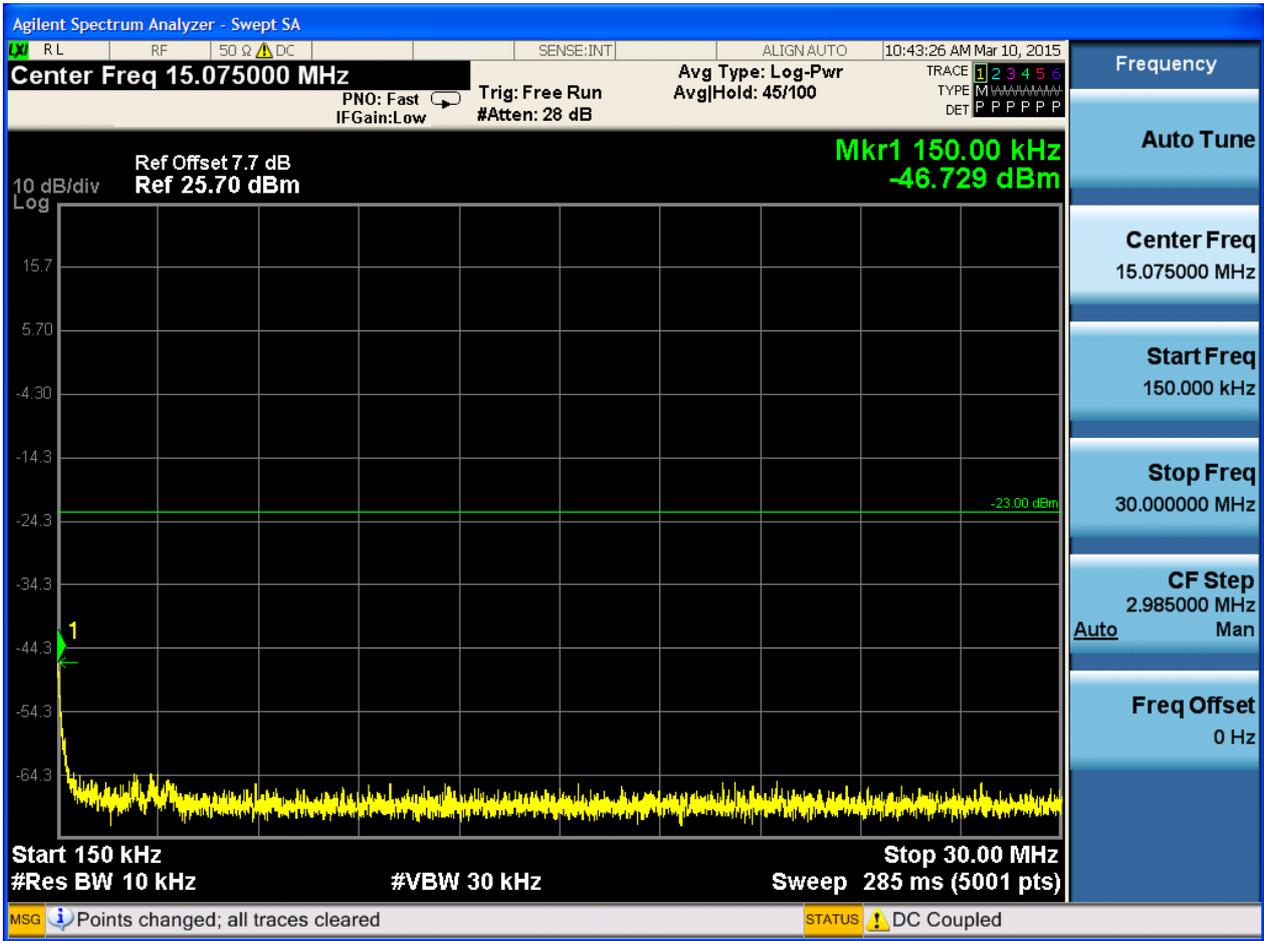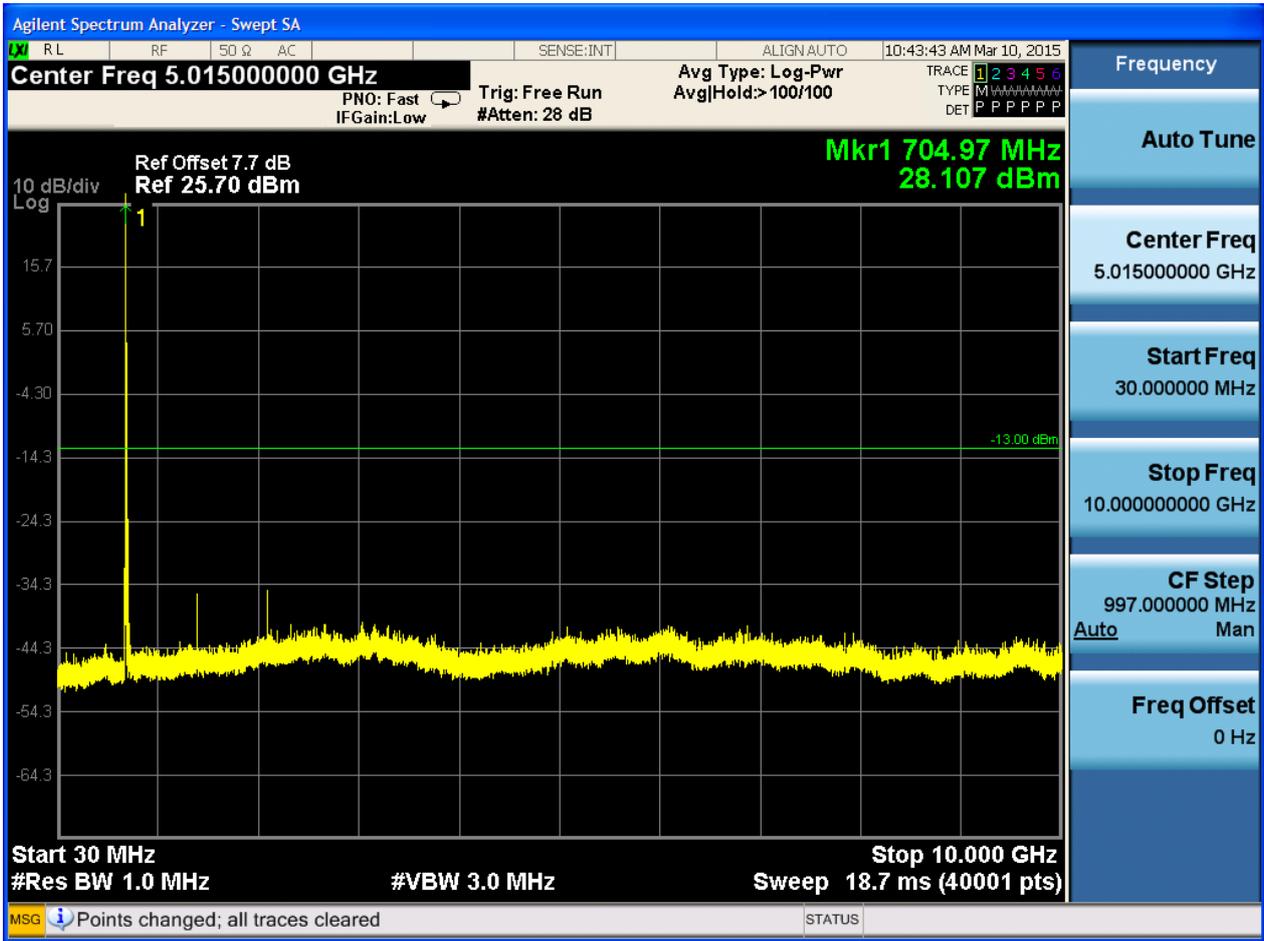### 6.1.1.1.1.3.1 Test RB = RB1#0

6.1.1.1.2 Test Bandwidth = 10

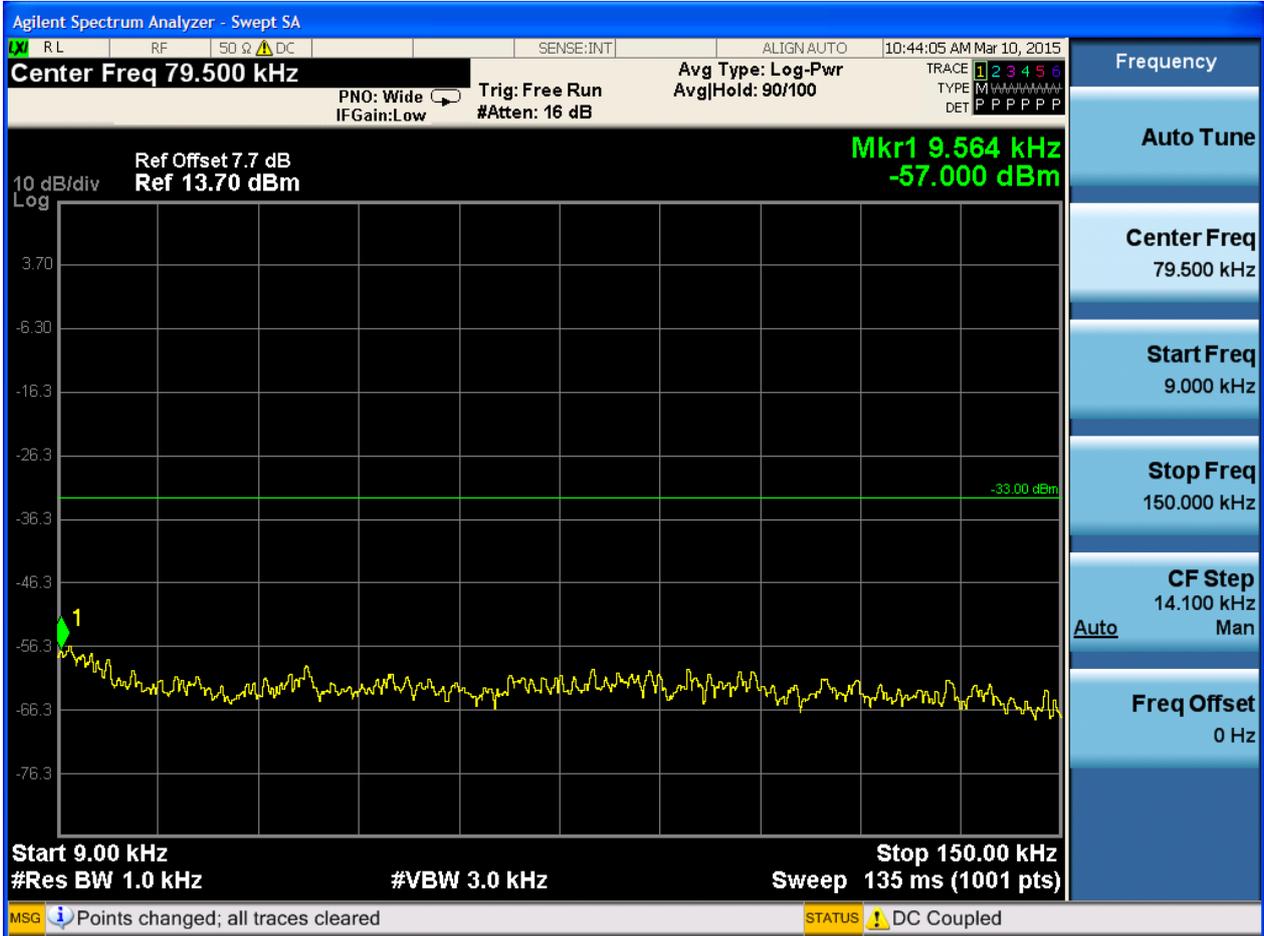### 6.1.1.1.2.1 Test Channel = LCH
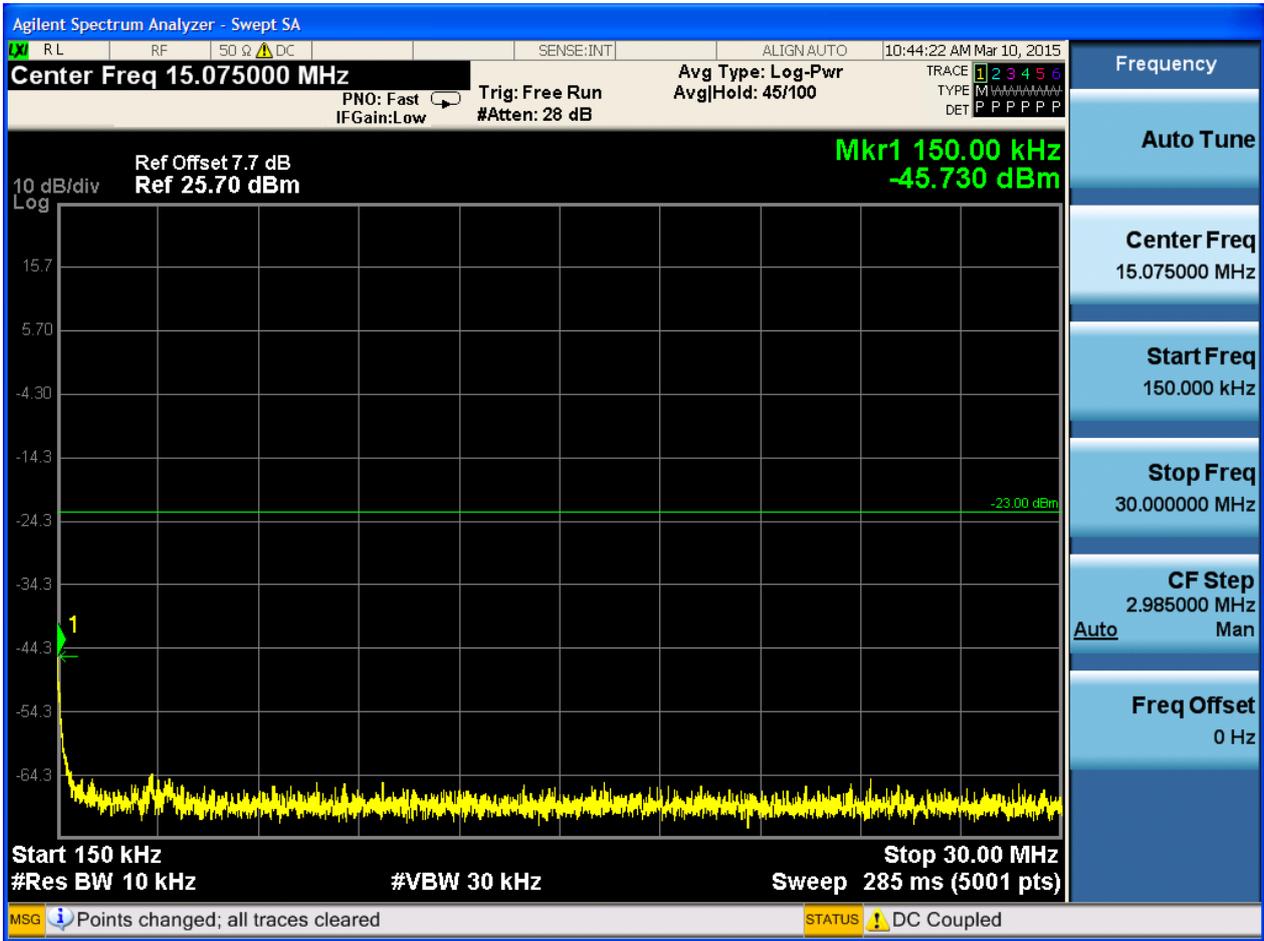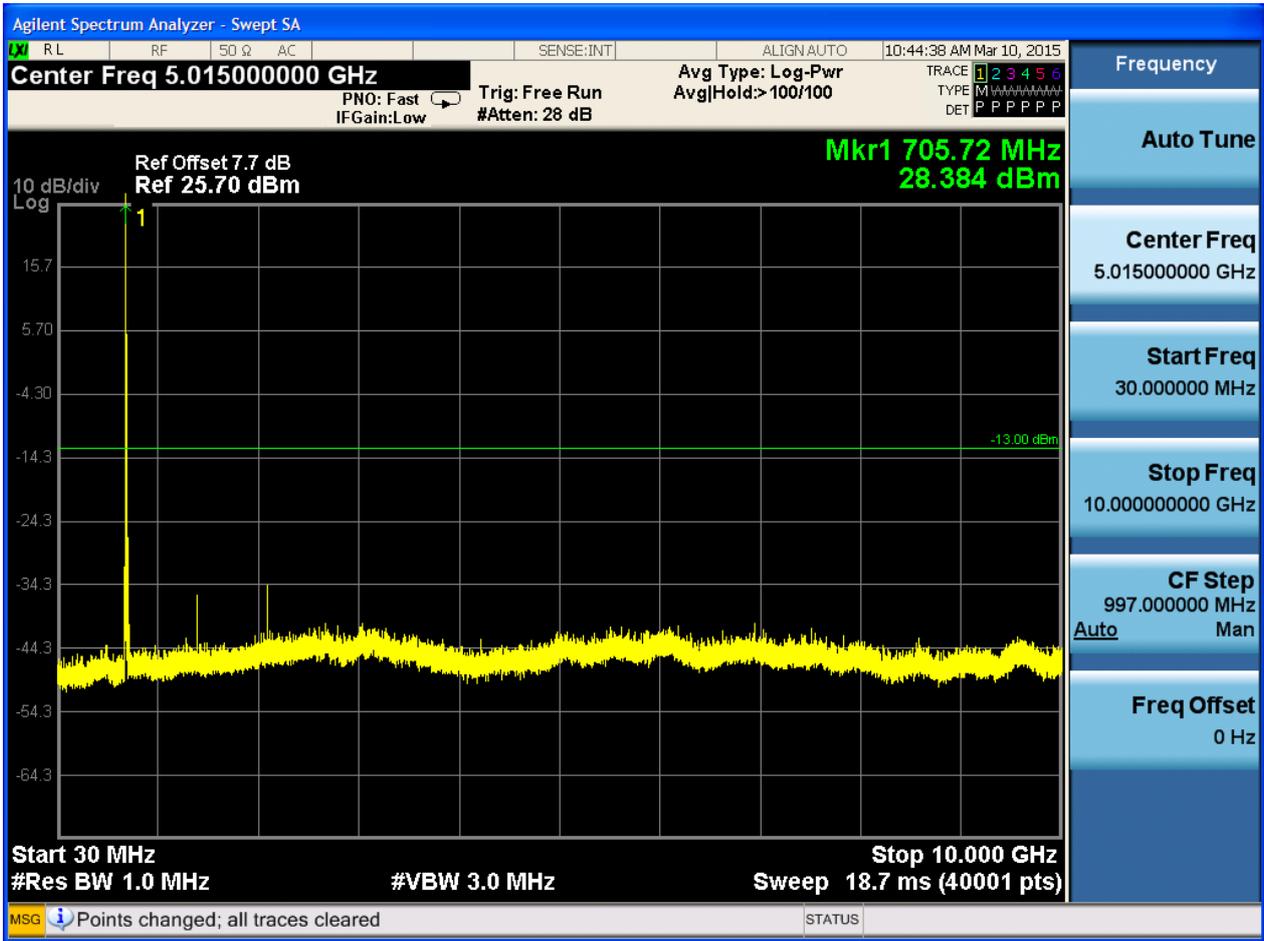
6.1.1.1.2.1.1 Test RB = RB1#0

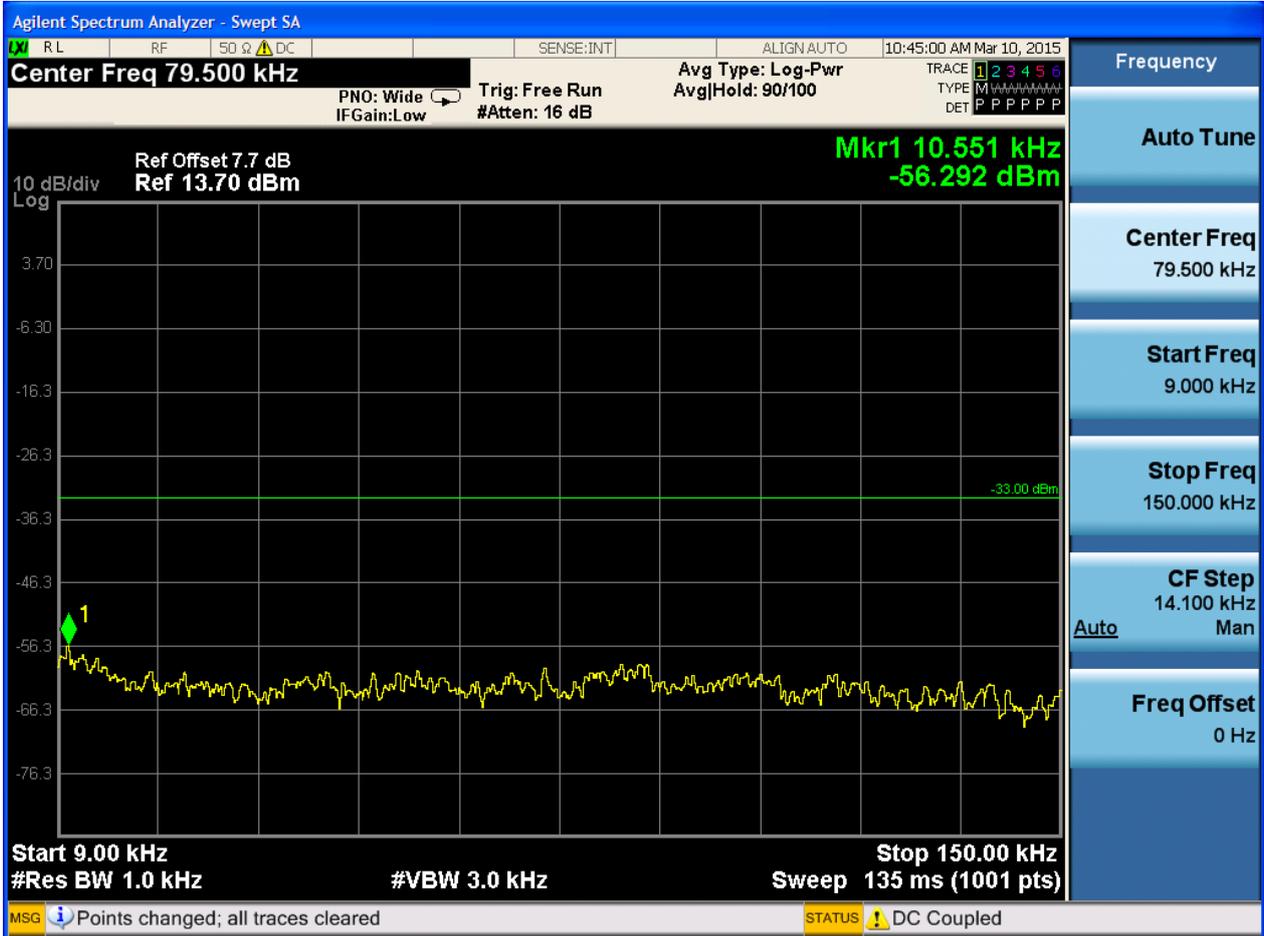## 6.1.1.1.2.2 Test Channel = MCH

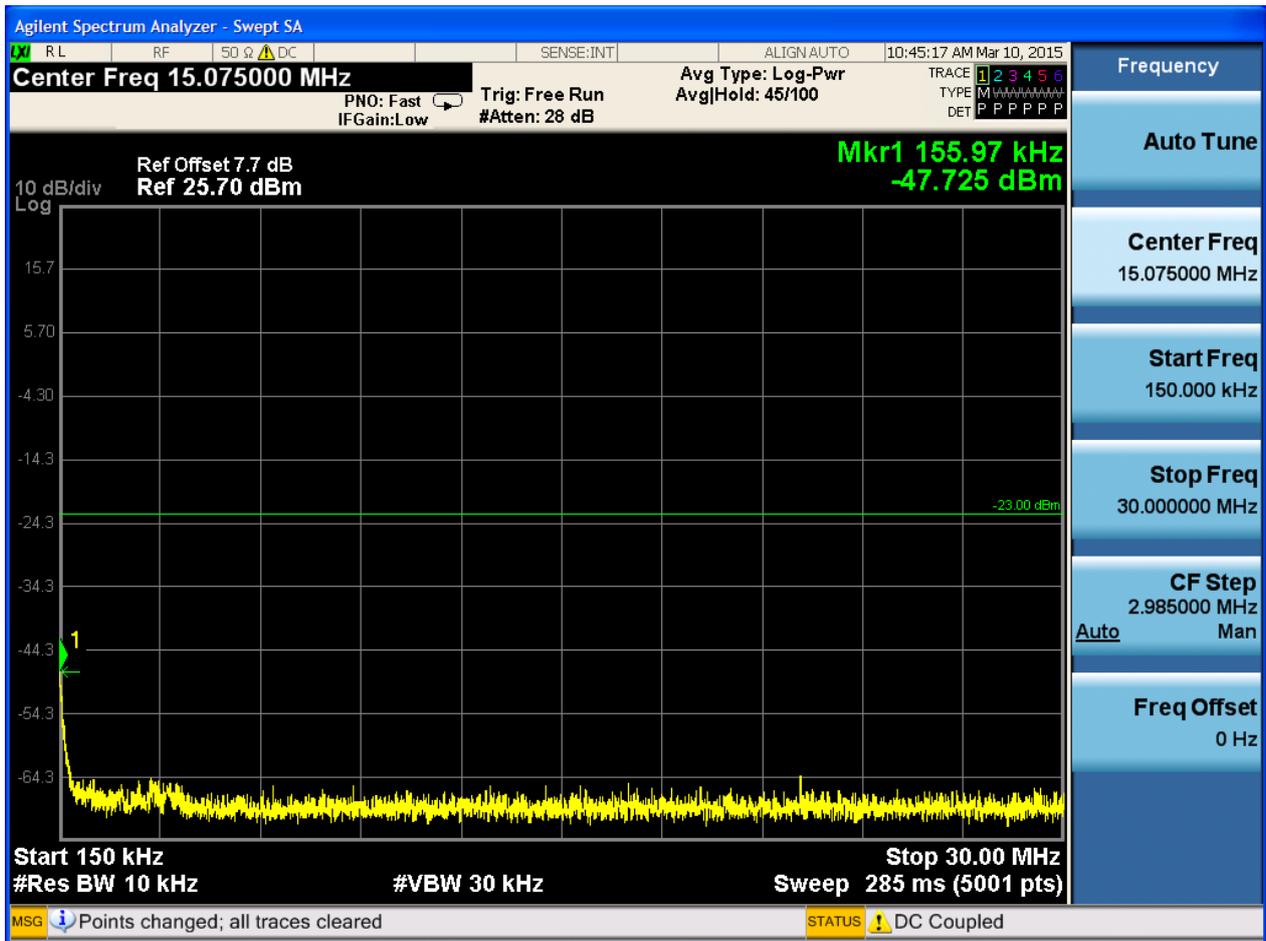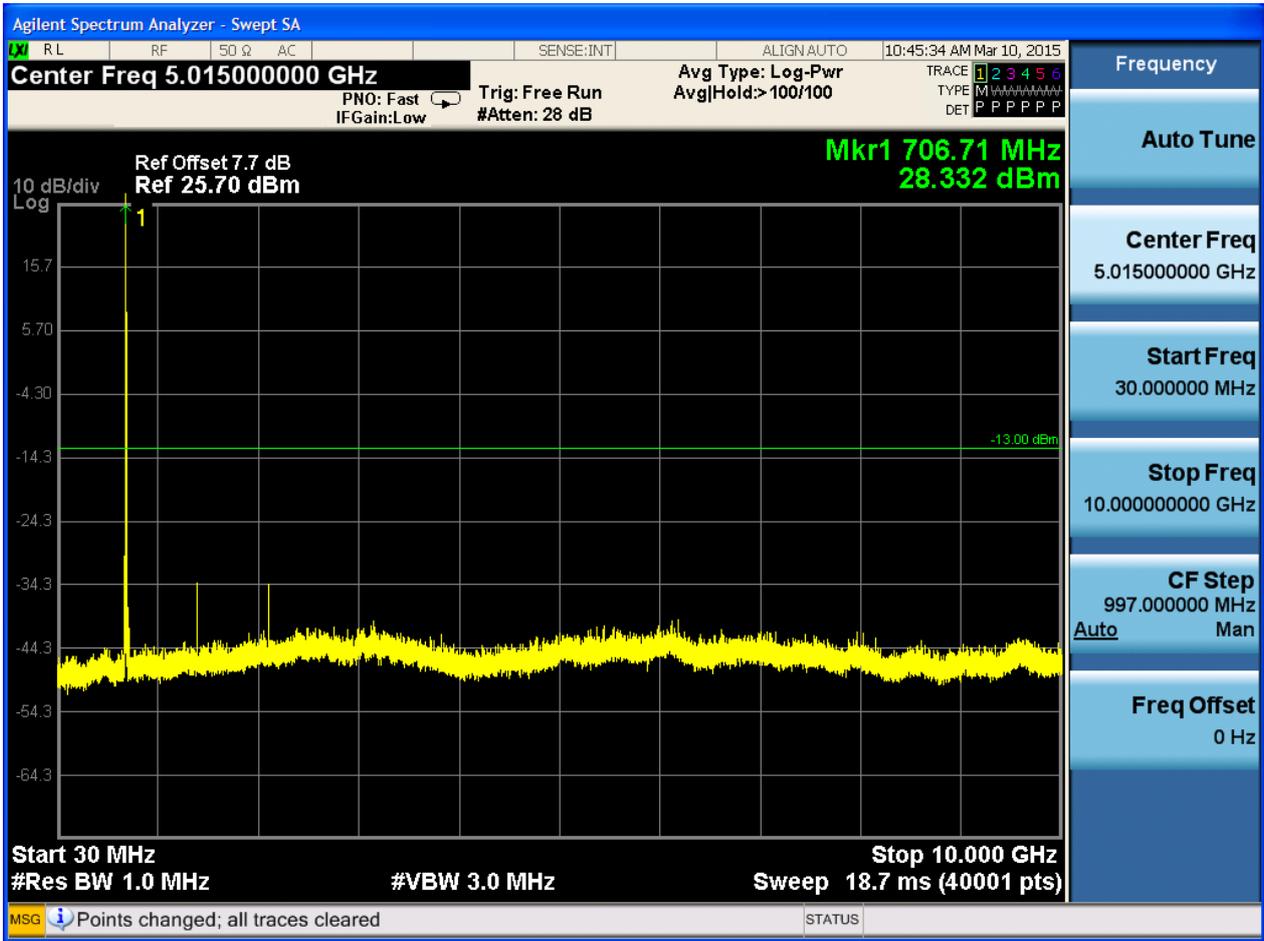### 6.1.1.1.2.2.1 Test RB = RB1#0

6.1.1.1.2.3 Test Channel = HCH
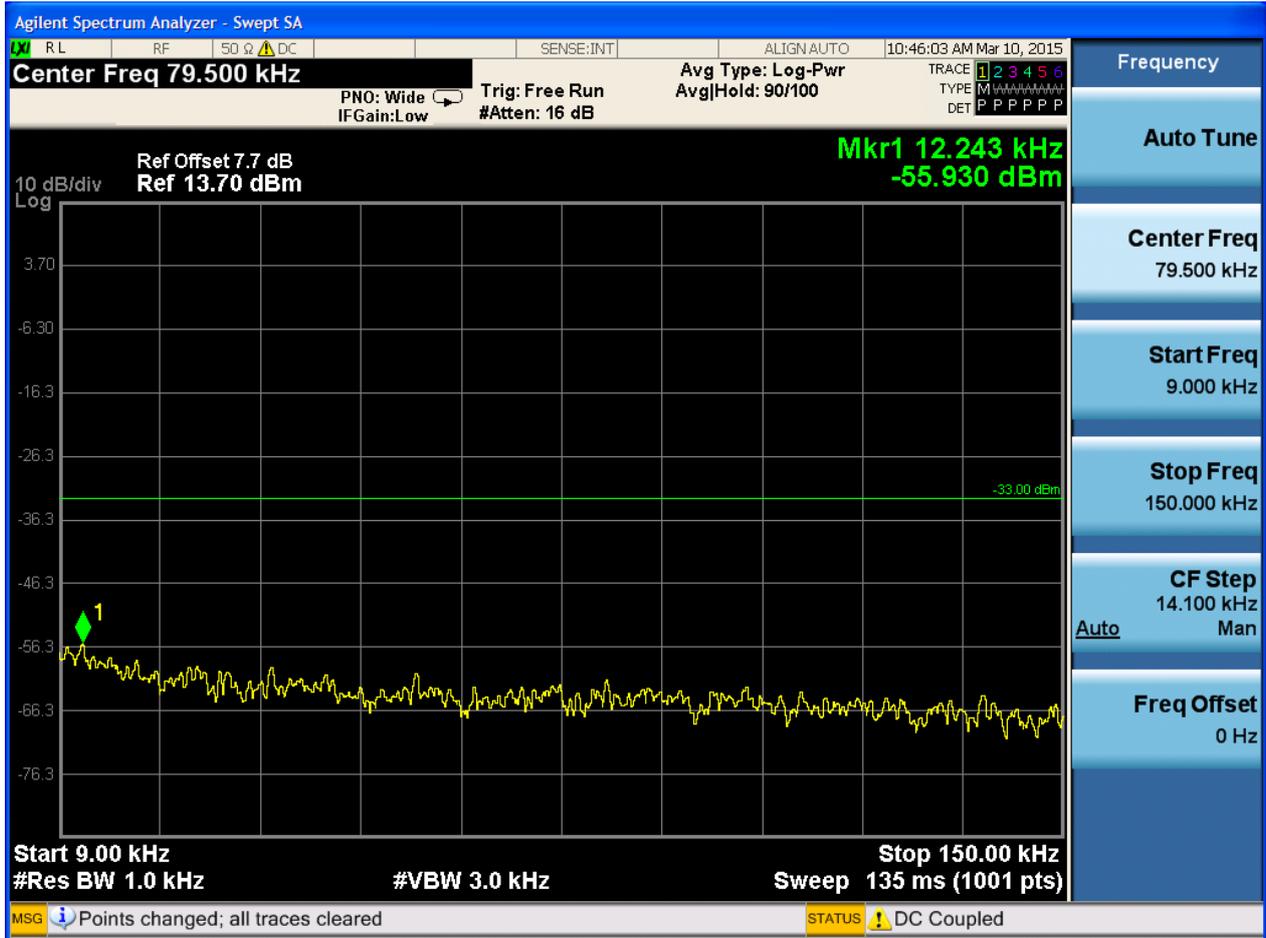
6.1.1.1.2.3.1 Test RB = RB1#0

6.1.1.2 Test Mode = LTE/TM2

6.1.1.2.1 Test Bandwidth = 5

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0

6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0

Agilent Spectrum Analyzer - Swept SA

LXI   R L   RF   50 Ω   AC   SENSE:INT   ALIGN AUTO   10:47:31 AM Mar 10, 2015

Center Freq 5.015000000 GHz

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

Mkr1 707.96 MHz
26.539 dBm

Ref Offset 7.7 dB
10 dB/div   **Ref 25.70 dBm**
Log

1

15.7

5.70

-4.30

-13.00 dBm

-14.3

-24.3

-34.3

-44.3

-54.3

-64.3

Start 30 MHz   **Stop 10.000 GHz**
#Res BW 1.0 MHz   **#VBW 3.0 MHz**   **Sweep 18.7 ms (40001 pts)**

MSG ⓘ Points changed; all traces cleared   STATUS

Frequency

Auto Tune

Center Freq
5.015000000 GHz

Start Freq
30.000000 MHz

Stop Freq
10.000000000 GHz

CF Step
997.000000 MHz
Auto   Man

Freq Offset
0 Hz

6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0

Agilent Spectrum Analyzer - Swept SA

LXI | R L | RF | 50 Ω | AC | | | SENSE:INT | | ALIGN AUTO | 10:48:27 AM Mar 10, 2015

Center Freq 5.015000000 GHz

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 wwwww
DET P P P P P

Ref Offset 7.7 dB
Ref 25.70 dBm

10 dB/div
Log

**Mkr1 711.45 MHz
28.097 dBm**

15.7

5.70

-4.30

-14.3   -13.00 dBm

-24.3

-34.3

-44.3

-54.3

-64.3

Start 30 MHz   **Stop 10.000 GHz**
#Res BW 1.0 MHz   **#VBW 3.0 MHz**   **Sweep 18.7 ms (40001 pts)**

MSG (i) Points changed; all traces cleared   STATUS

Frequency

Auto Tune

Center Freq
5.015000000 GHz

Start Freq
30.000000 MHz

Stop Freq
10.000000000 GHz

CF Step
997.000000 MHz
Auto   Man

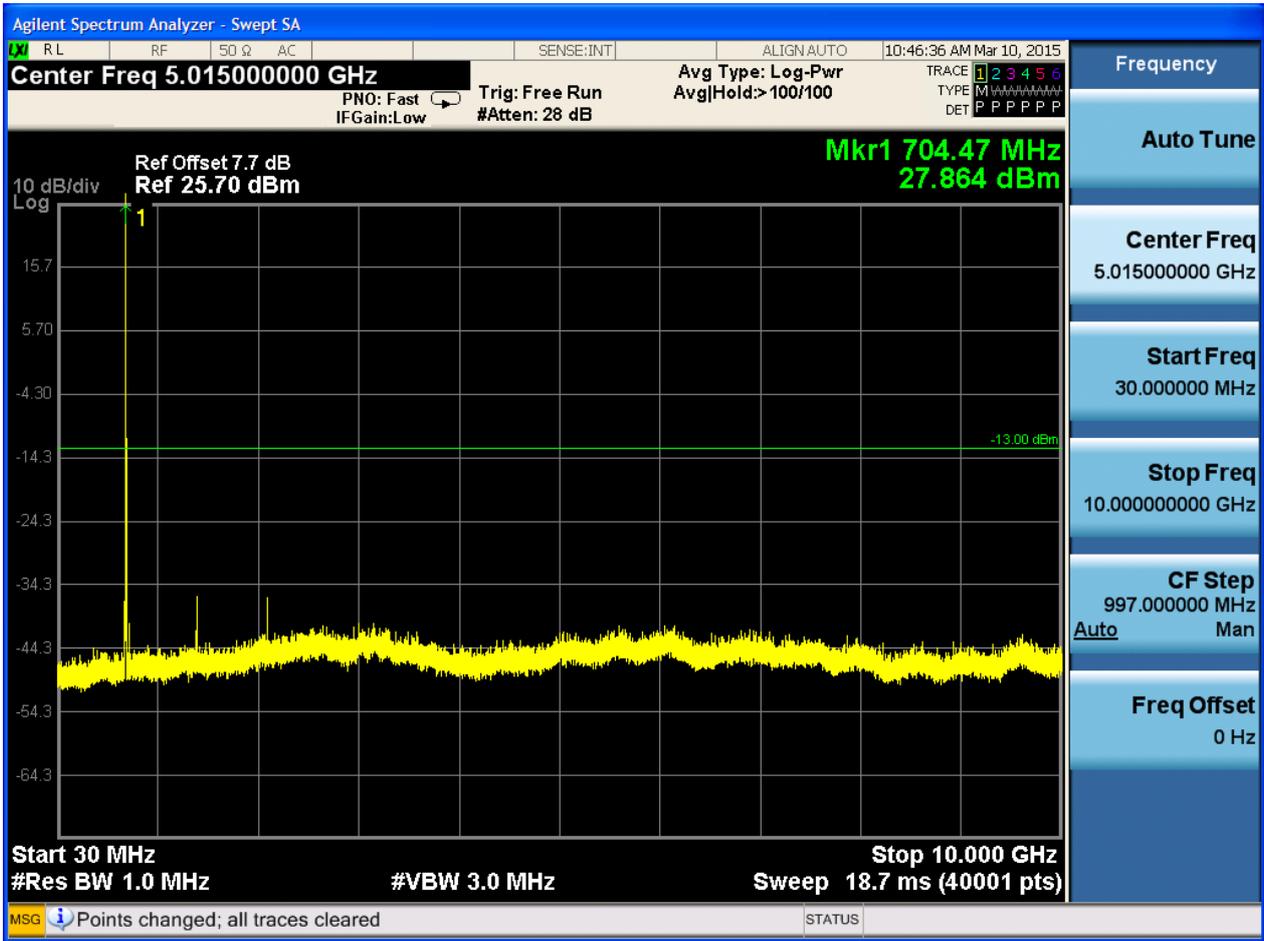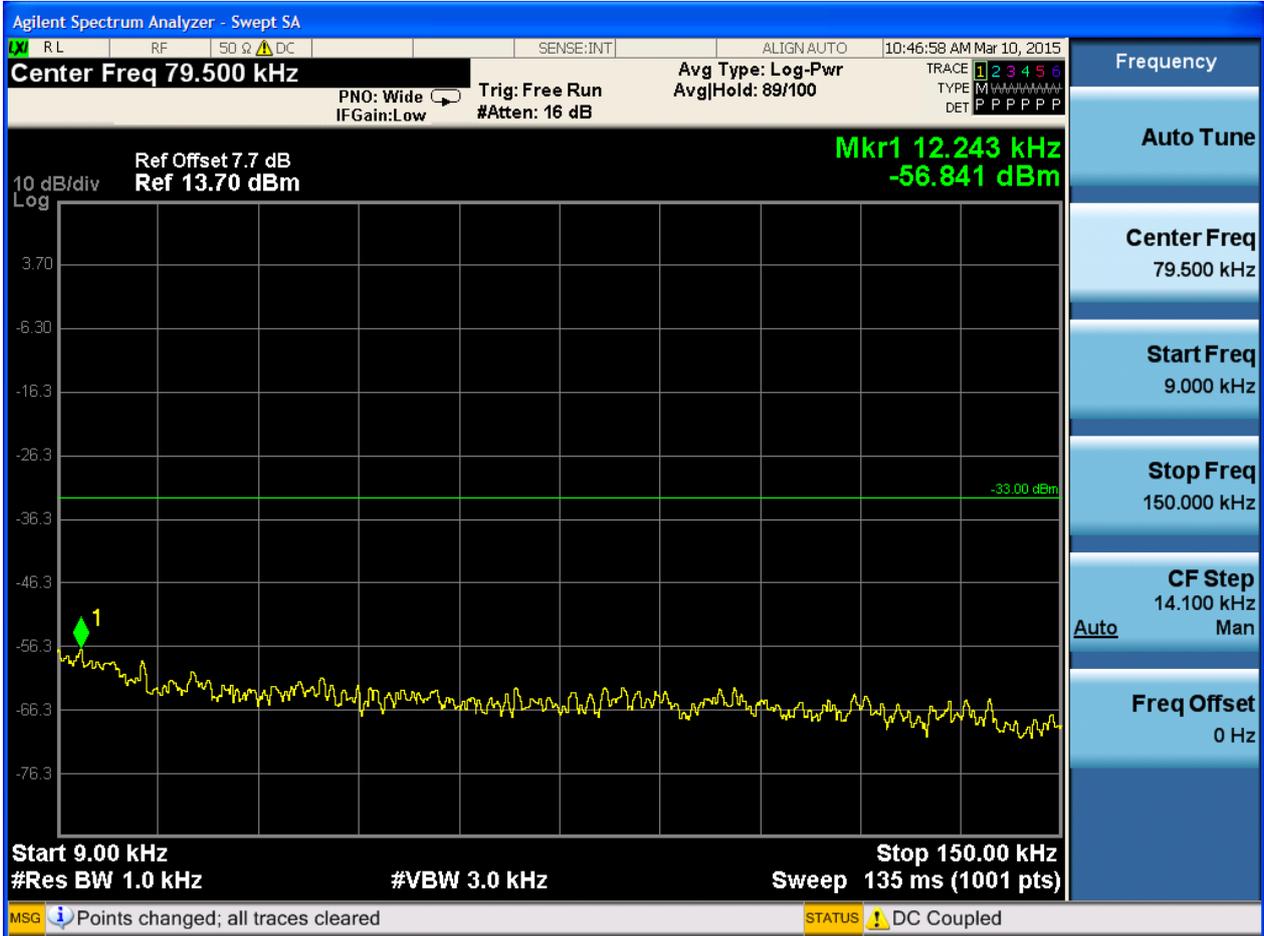**Freq Offset**
0 Hz

6.1.1.2.2 Test Bandwidth = 10

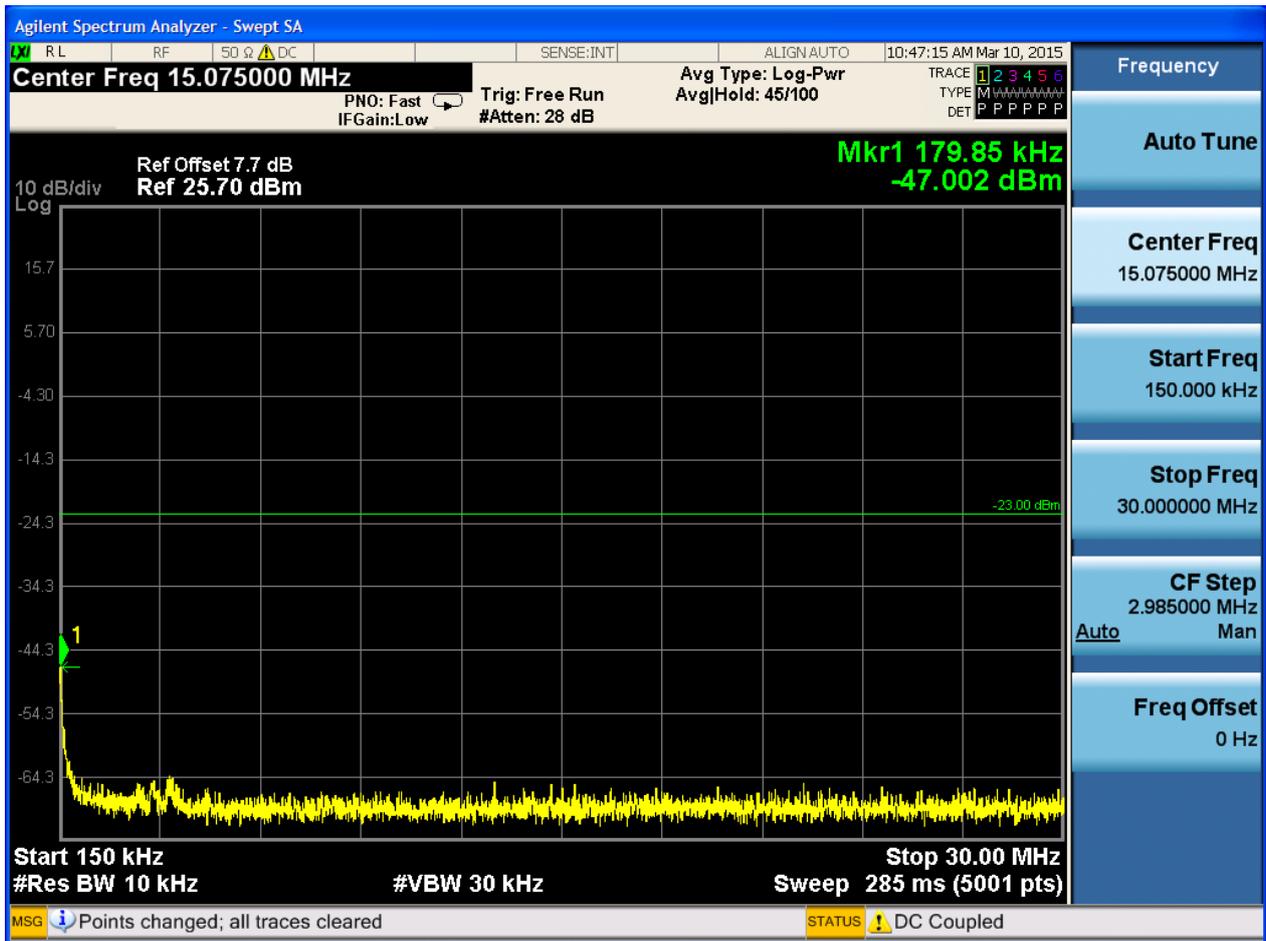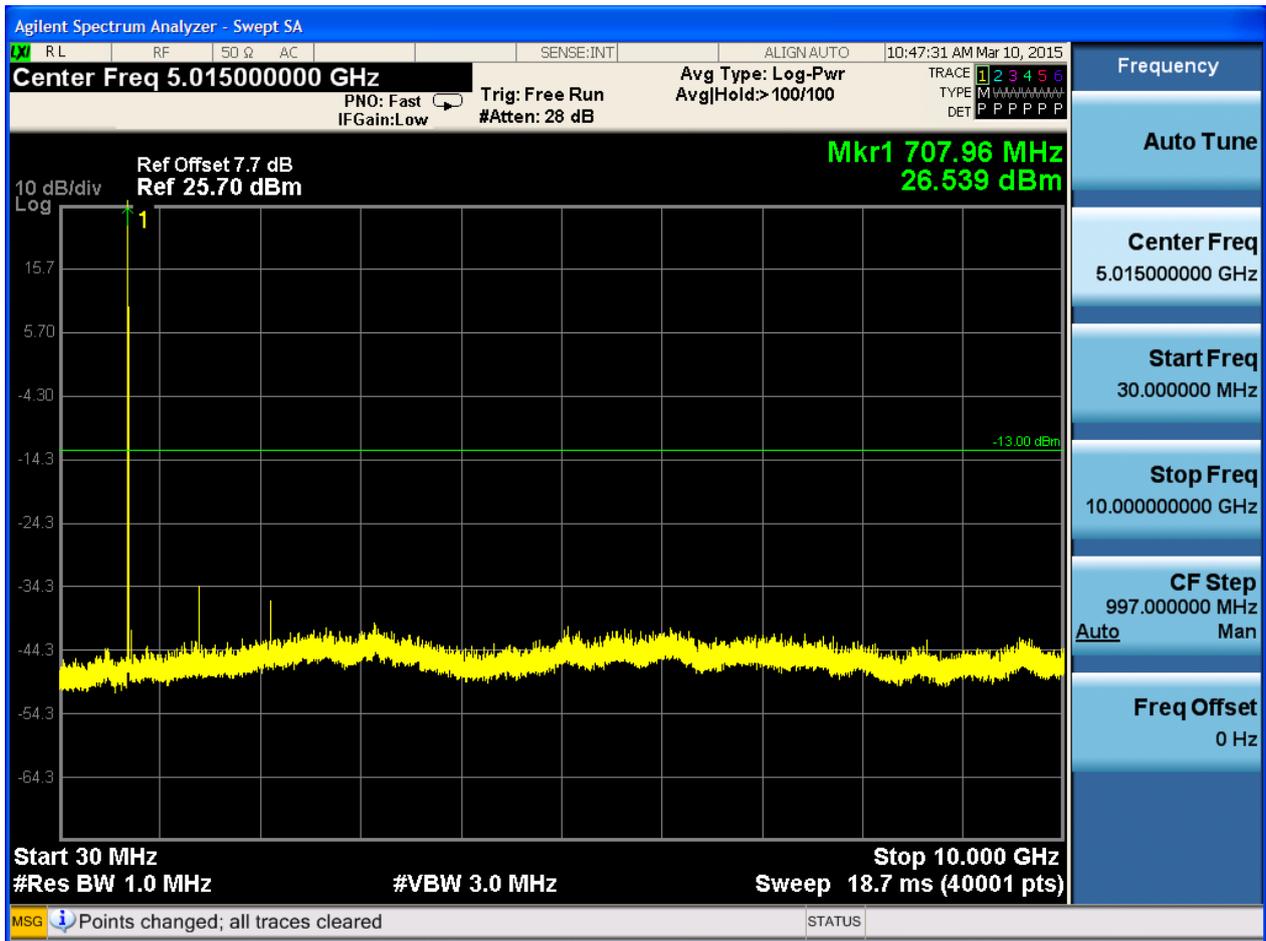### 6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0
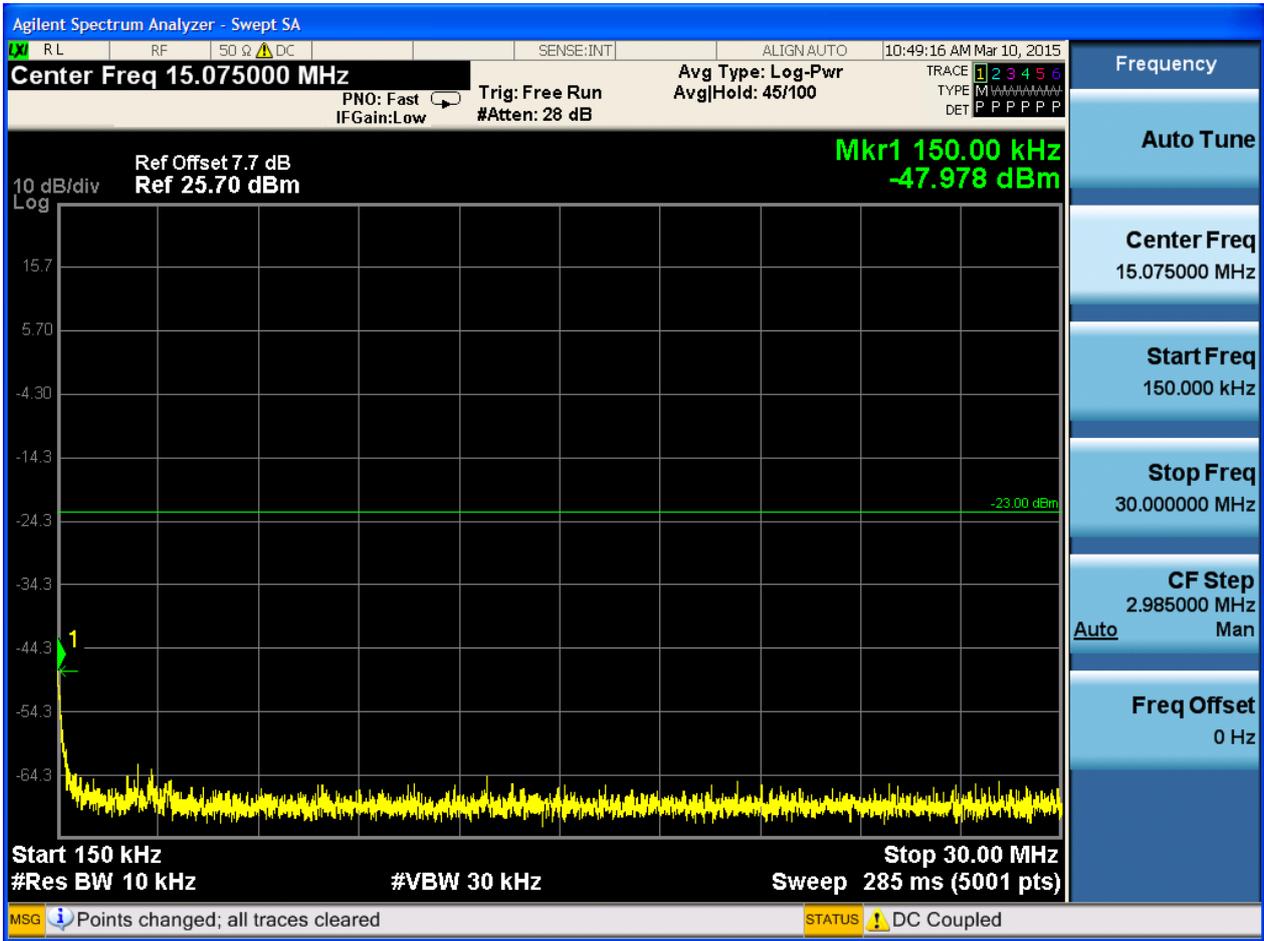
6.1.1.2.2.2 Test Channel = MCH
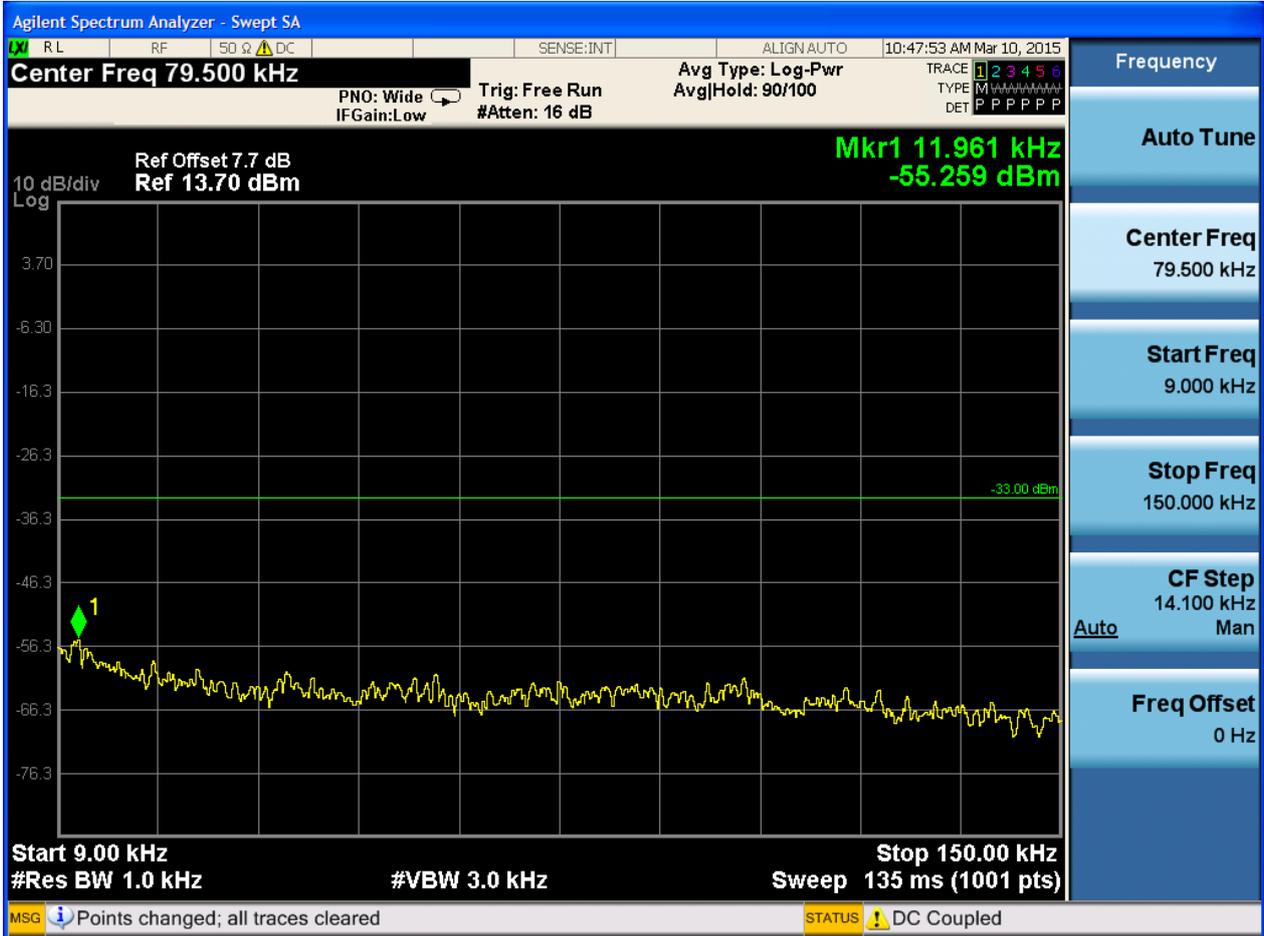
6.1.1.2.2.2.1 Test RB = RB1#0
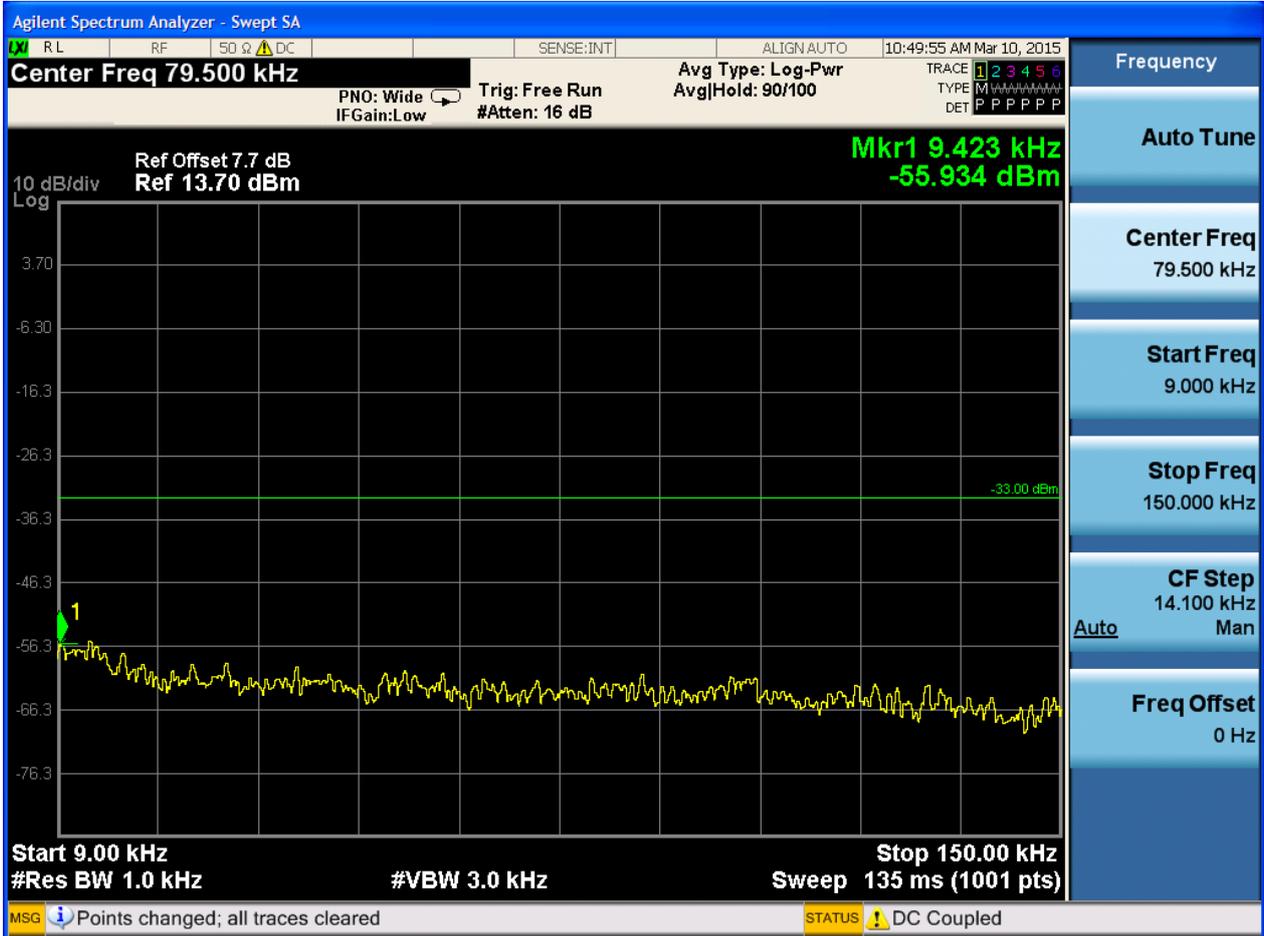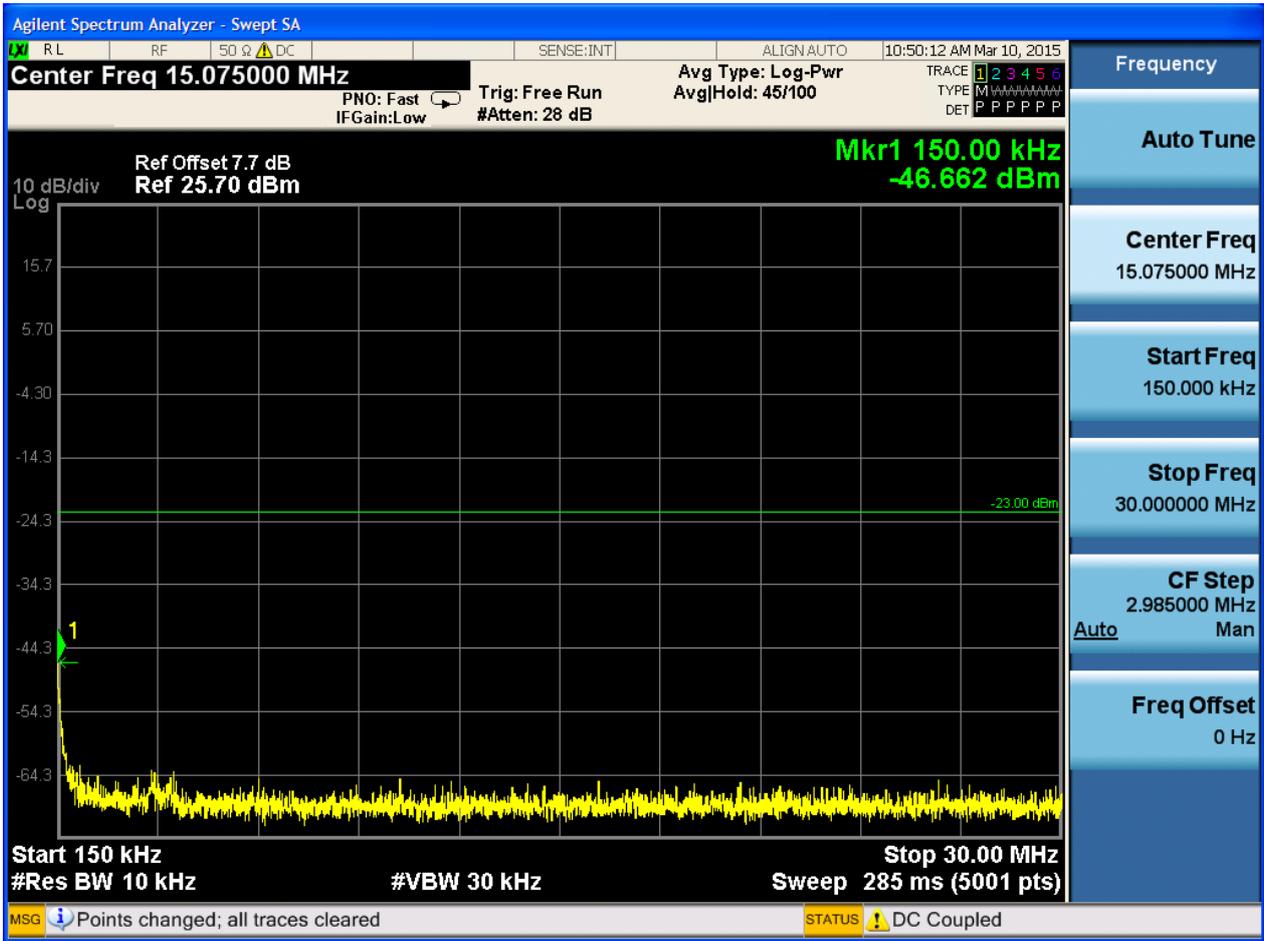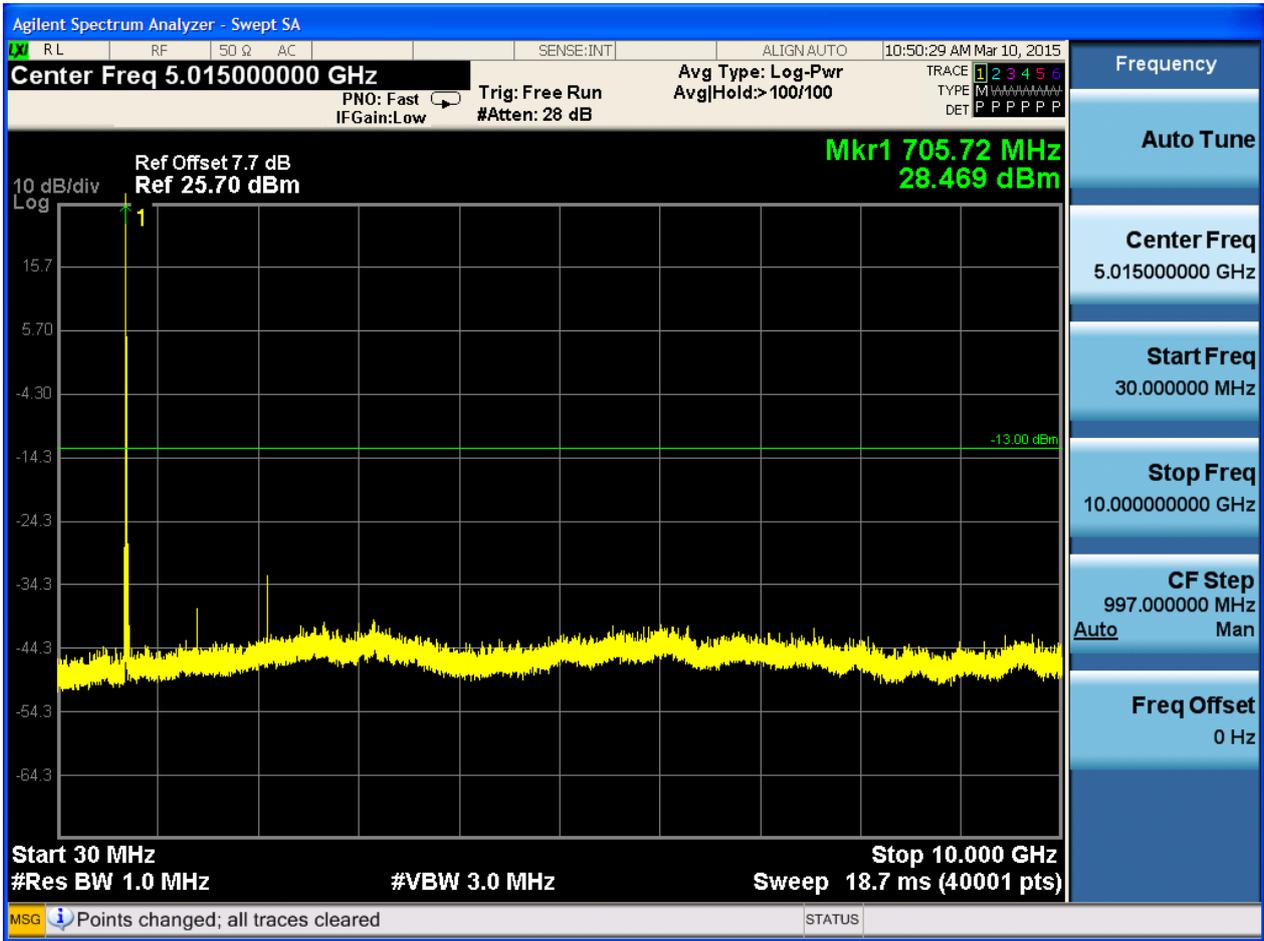
6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.015000000 GHz

Mkr1 706.71 MHz
27.600 dBm

Ref Offset 7.7 dB
Ref 25.70 dBm
10 dB/div
Log

Start 30 MHz
#Res BW 1.0 MHz   #VBW 3.0 MHz   Stop 10.000 GHz
                                                Sweep 18.7 ms (40001 pts)

MSG (i) Points changed; all traces cleared   STATUS

Frequency

Auto Tune

Center Freq
5.015000000 GHz

Start Freq
30.000000 MHz

Stop Freq
10.000000000 GHz

CF Step
997.000000 MHz
Auto   Man

Freq Offset
0 Hz

7Appendix_G: Field Strength of Spurious Radiation

Note:

9kHz~150kHz, VBW = 200Hz, VBW = 600 Hz, Detector: PK

150kHz~30MHz, VBW = 9kHz, VBW = 30k Hz, Detector: PK

30MHz~1GHz, RBW = 100 kHz, VBW = 300 kHz. Detector: PK

Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

We tested all modes, but the data presented below is the worst case.

Part I - Test Plots

7.1 For LTE

7.1.1 Test Band = BAND17

7.1.1.1 Test Bandwidth = 5

Copy of R SE-T X-D IR EC T O R BELOW 1G_L

Copy of R SE-T X-D IR EC T O R BELOW 1G_H
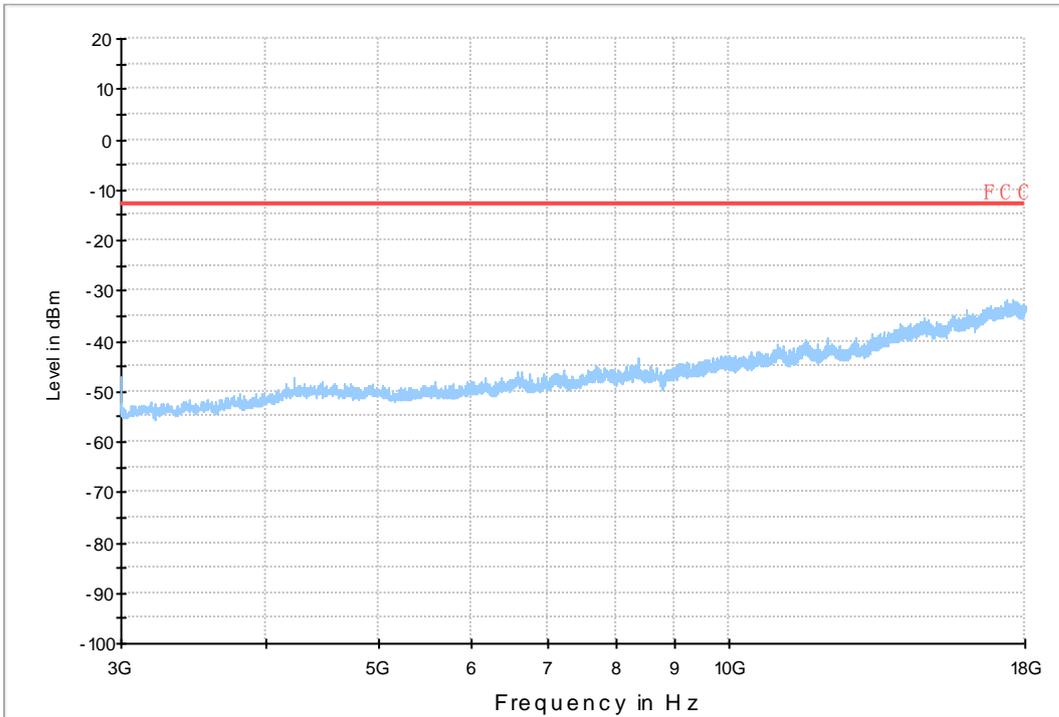
7.1.1.2 Test Bandwidth = 10
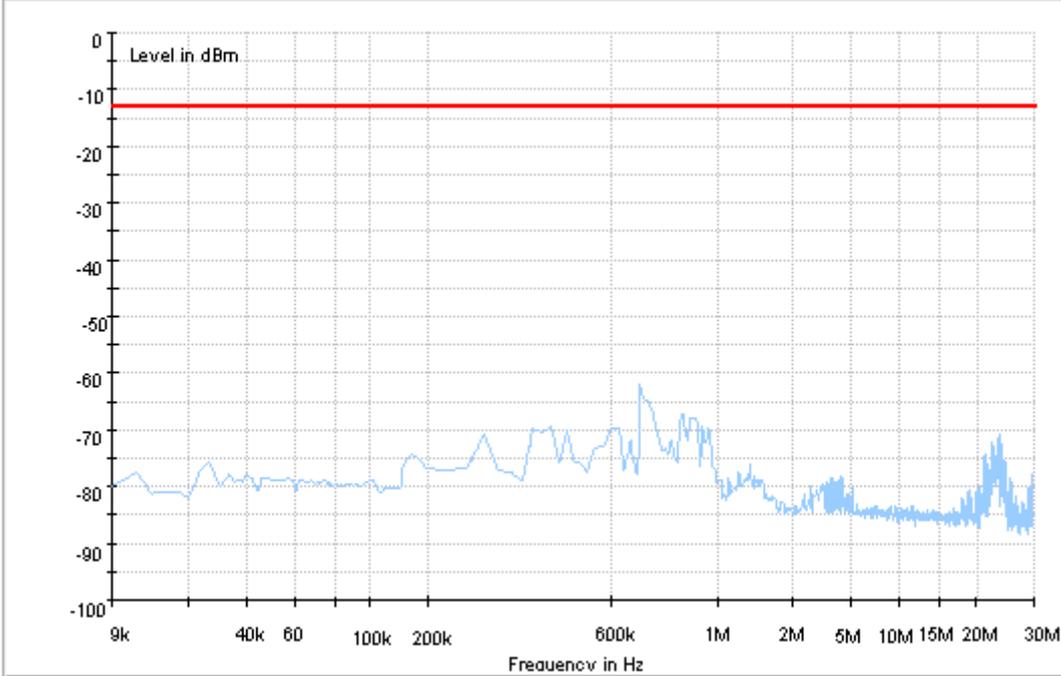
Copy of R SE-T X-D IRECTOR BELOW 1G_L
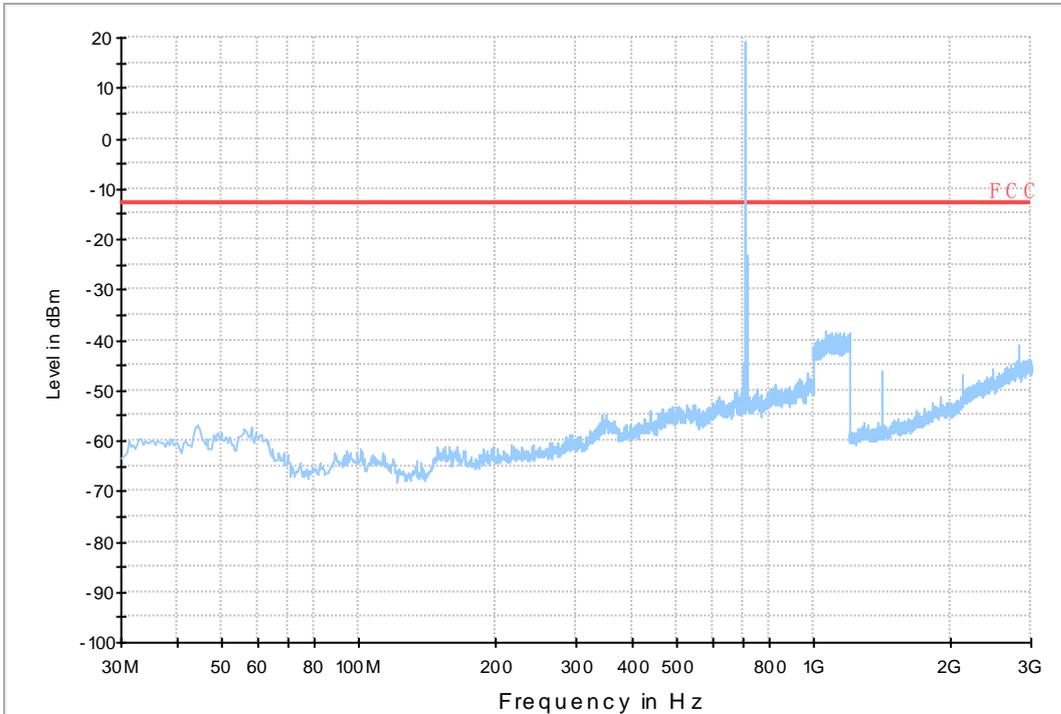
Copy of R SE-T X-D IRE CT OR BELOW 1G_H
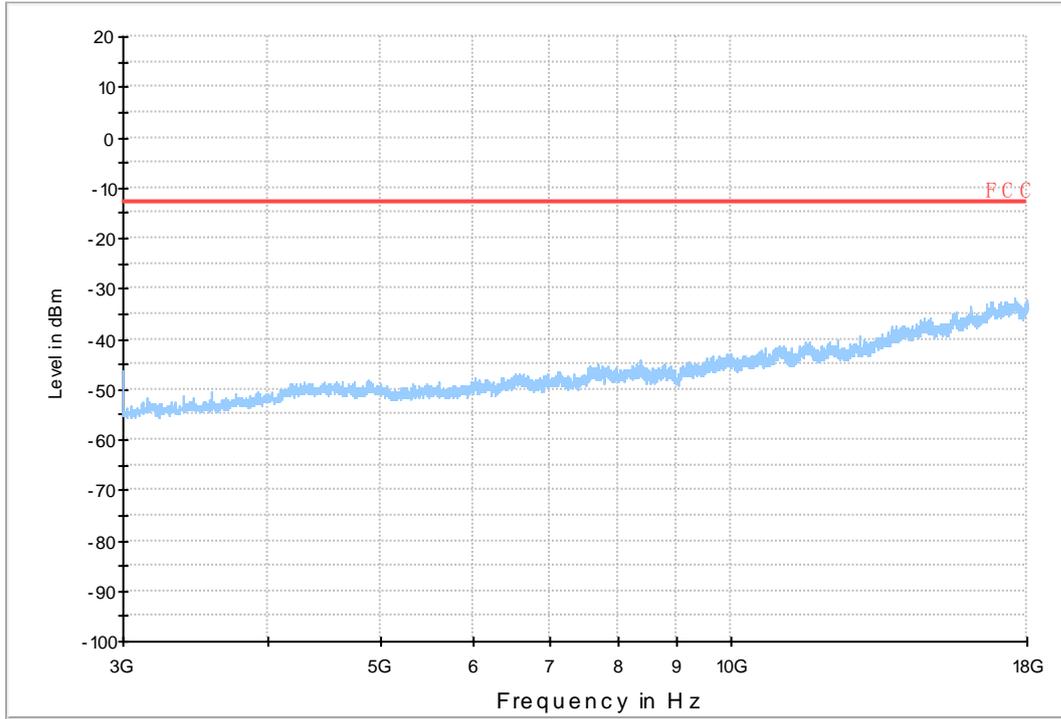
8Appendix_H: Frequency Stability

8.1 For LTE

8.1.1Frequency Error vs. Voltage:

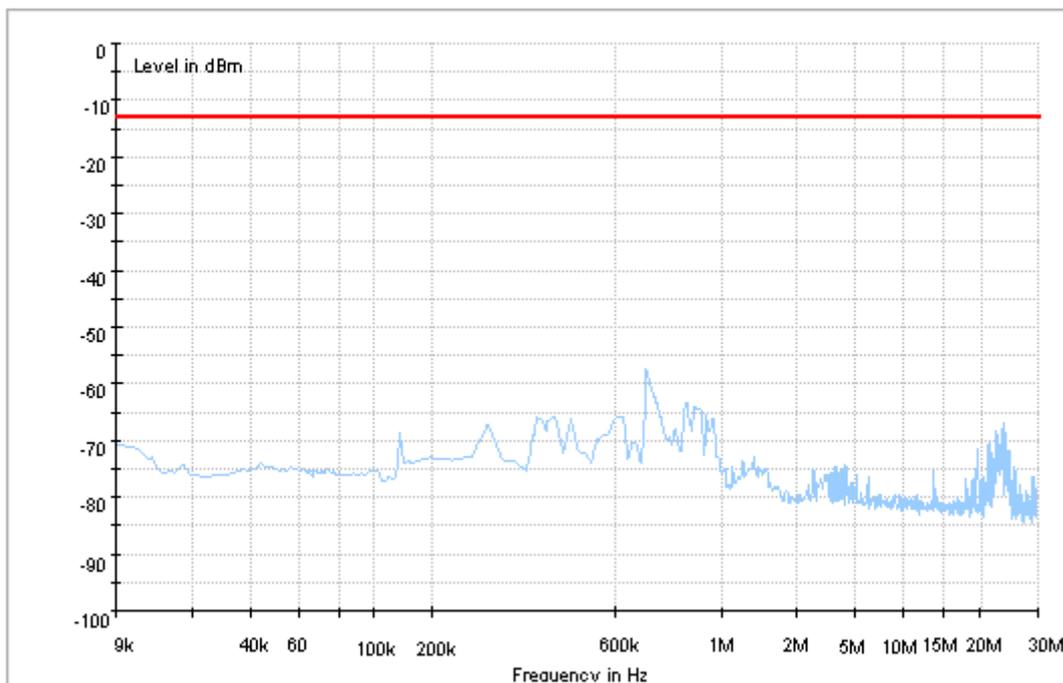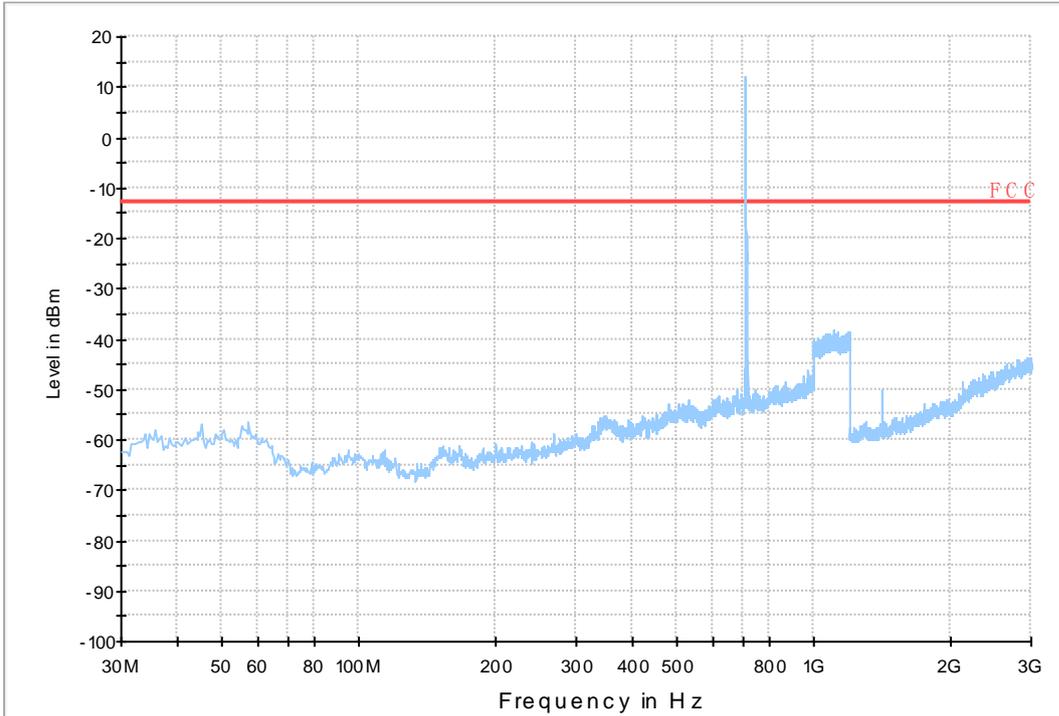| Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND17	LTE/TM1	5	LCH	TN	VL	-3.6	-0.0051	PASS
					VN	1.34	0.0019	PASS
					VH	0.7	0.00099	PASS
			MCH	TN	VL	-4.75	-0.00669	PASS
					VN	4.88	0.00687	PASS
					VH	-3.33	-0.00469	PASS
			HCH	TN	VL	-1.43	-0.002	PASS
					VN	1.29	0.00181	PASS
					VH	4.68	0.00656	PASS
		10	LCH	TN	VL	0.14	0.0002	PASS
					VN	-3.1	-0.00437	PASS
					VH	0.4	0.00056	PASS
			MCH	TN	VL	-1.59	-0.00224	PASS
					VN	-1.46	-0.00206	PASS
					VH	-1.27	-0.00179	PASS
			HCH	TN	VL	3.63	0.00511	PASS
					VN	1.1	0.00155	PASS
					VH	-1.9	-0.00267	PASS
	LTE/TM2	5	LCH	TN	VL	-1.37	-0.00194	PASS
					VN	-1.44	-0.00204	PASS
					VH	4.38	0.0062	PASS
			MCH	TN	VL	-1.82	-0.00256	PASS
					VN	-8.23	-0.01159	PASS
					VH	1.9	0.00268	PASS
			HCH	TN	VL	-0.79	-0.00111	PASS
					VN	-3.12	-0.00437	PASS
					VH	-3.19	-0.00447	PASS
		10	LCH	TN	VL	0.36	0.00051	PASS
					VN	-0.06	-0.00008	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					VH	0.72	0.00102	PASS
			MCH	TN	VL	4.25	0.00599	PASS
					VN	-2	-0.00282	PASS
					VH	2.25	0.00317	PASS
			HCH	TN	VL	1.04	0.00146	PASS
					VN	0.23	0.00032	PASS
					VH	-0.77	-0.00108	PASS

8.1.2 Frequency Error vs. Voltage:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND17	LTE/TM1	5	LCH	VN	-30	5.22	0.00739	PASS
					-20	1.75	0.00248	PASS
					-10	0.82	0.00116	PASS
					0	3.02	0.00427	PASS
					10	-1.24	-0.00176	PASS
					20	10.93	0.01547	PASS
					30	-7.14	-0.01011	PASS
					40	4.25	0.00602	PASS
					50	2.79	0.00395	PASS
			MCH	VN	-30	-2.35	-0.00331	PASS
					-20	-6.19	-0.00872	PASS
					-10	0.74	0.00104	PASS
					0	-4.78	-0.00673	PASS
					10	0.47	0.00066	PASS
					20	-1.27	-0.00179	PASS
					30	5.75	0.0081	PASS
					40	3.26	0.00459	PASS
					50	-3.38	-0.00476	PASS
			HCH	VN	-30	1.13	0.00158	PASS
					-20	-6.17	-0.00865	PASS
					-10	4.23	0.00593	PASS
					0	1.12	0.00157	PASS
					10	-2.92	-0.00409	PASS
					20	-1.36	-0.00191	PASS
					30	0.31	0.00043	PASS
					40	-1.89	-0.00265	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					50	-0.9	-0.00126	PASS
			LCH	VN	-30	-1.37	-0.00193	PASS
					-20	-0.56	-0.00079	PASS
					-10	-0.06	-0.00008	PASS
					0	-1.77	-0.0025	PASS
					10	0.47	0.00066	PASS
					20	-0.94	-0.00133	PASS
					30	-2.15	-0.00303	PASS
					40	0.67	0.00094	PASS
					50	-3.13	-0.00441	PASS
		10	MCH	VN	-30	-1.54	-0.00217	PASS
					-20	2.76	0.00389	PASS
					-10	0.13	0.00018	PASS
					0	1	0.00141	PASS
					10	4.79	0.00675	PASS
					20	-1.04	-0.00146	PASS
					30	-0.8	-0.00113	PASS
					40	0.77	0.00108	PASS
					50	0.72	0.00101	PASS
			HCH	VN	-30	-2.45	-0.00345	PASS
					-20	-4.35	-0.00612	PASS
					-10	-1.79	-0.00252	PASS
					0	3.02	0.00425	PASS
					10	5.15	0.00724	PASS
					20	0.03	0.00004	PASS
					30	-2.57	-0.00361	PASS
					40	-0.3	-0.00042	PASS
					50	1.16	0.00163	PASS
	LTE/TM2	5	LCH	VN	-30	-10.17	-0.01439	PASS
					-20	4.85	0.00686	PASS
					-10	3	0.00425	PASS
					0	0.19	0.00027	PASS
					10	0.23	0.00033	PASS
					20	0.36	0.00051	PASS
					30	1.52	0.00215	PASS
					40	1.13	0.0016	PASS
					50	-1.97	-0.00279	PASS
			MCH	VN	-30	1.13	0.00159	PASS
					-20	-1.39	-0.00196	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					-10	-11.72	-0.01651	PASS
					0	3.71	0.00523	PASS
					10	2.5	0.00352	PASS
					20	-10.17	-0.01432	PASS
					30	4.43	0.00624	PASS
					40	2.98	0.0042	PASS
					50	-0.31	-0.00044	PASS
			HCH	VN	-30	2.39	0.00335	PASS
					-20	-8.27	-0.01159	PASS
					-10	1.44	0.00202	PASS
					0	-10.74	-0.01505	PASS
					10	5.78	0.0081	PASS
					20	2.6	0.00364	PASS
					30	-0.17	-0.00024	PASS
					40	3.83	0.00537	PASS
					50	-1.17	-0.00164	PASS
			LCH	VN	-30	3.03	0.00427	PASS
					-20	-3.05	-0.0043	PASS
					-10	-2.68	-0.00378	PASS
					0	-0.77	-0.00109	PASS
					10	0.41	0.00058	PASS
					20	1.23	0.00173	PASS
					30	0.04	0.00006	PASS
					40	-3.96	-0.00559	PASS
					50	0.76	0.00107	PASS
		10	MCH	VN	-30	-2.13	-0.003	PASS
					-20	0.1	0.00014	PASS
					-10	-0.7	-0.00099	PASS
					0	2.69	0.00379	PASS
					10	1.93	0.00272	PASS
					20	2.52	0.00355	PASS
					30	3	0.00423	PASS
					40	-2.02	-0.00285	PASS
					50	-1.5	-0.00211	PASS
			HCH	VN	-30	-5.49	-0.00772	PASS
					-20	1.23	0.00173	PASS
					-10	-1.62	-0.00228	PASS
					0	1.56	0.00219	PASS
					10	0.47	0.00066	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					20	-2.52	-0.00354	PASS
					30	-1.56	-0.00219	PASS
					40	-0.24	-0.00034	PASS
					50	-0.99	-0.00139	PASS

END