



# Appendix for test report

## 1Appendix\_A: Effective (Isotropic) Radiated Power Output Data

### Part I - Test Results

Test Band	Test Mode	Test Channel	Conducted Power [dBm]	ERP [dBm]	Limit [dBm]	Verdict
GSM850	GSM/TM1	LCH	32.11	29.96	38.5	PASS
		MCH	32.15	30	38.5	PASS
		HCH	32.03	29.88	38.5	PASS
	GSM/TM2	LCH	24.92	22.77	38.5	PASS
		MCH	24.89	22.74	38.5	PASS
		HCH	24.88	22.73	38.5	PASS
WCDMA850	UMTS/TM1	LCH	22.31	20.16	38.5	PASS
		MCH	22.26	20.11	38.5	PASS
		HCH	22.29	20.14	38.5	PASS
Test Band	Test Mode	Test Channel	Conducted Power [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
GSM1900	GSM/TM1	LCH	29.22	30.22	33	PASS
		MCH	29.27	30.27	33	PASS
		HCH	29.23	30.23	33	PASS
	GSM/TM2	LCH	23.38	24.38	33	PASS
		MCH	23.8	24.8	33	PASS
		HCH	23.77	24.77	33	PASS
WCDMA1900	UMTS/TM1	LCH	21.87	22.87	33	PASS
		MCH	21.91	22.91	33	PASS
		HCH	22.07	23.07	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: RBW > emission bandwidth, VBW > 3 x RBW.

Detector: RMS



## 2Appendix\_B: Peak-to-Average Ratio

### Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
GSM850	GSM/TM1	LCH	0.13	13	PASS
		MCH	0.14	13	PASS
		HCH	0.12	13	PASS
	GSM/TM2	LCH	3.12	13	PASS
		MCH	3.1	13	PASS
		HCH	3.09	13	PASS
WCDMA850	UMTS/TM1	LCH	3.36	13	PASS
		MCH	3.38	13	PASS
		HCH	3.32	13	PASS
GSM1900	GSM/TM1	LCH	0.14	13	PASS
		MCH	0.14	13	PASS
		HCH	0.14	13	PASS
	GSM/TM2	LCH	3.22	13	PASS
		MCH	3.12	13	PASS
		HCH	3.21	13	PASS
WCDMA1900	UMTS/TM1	LCH	3.32	13	PASS
		MCH	3.36	13	PASS
		HCH	3.28	13	PASS

### 3Appendix\_C: Modulation Characteristics

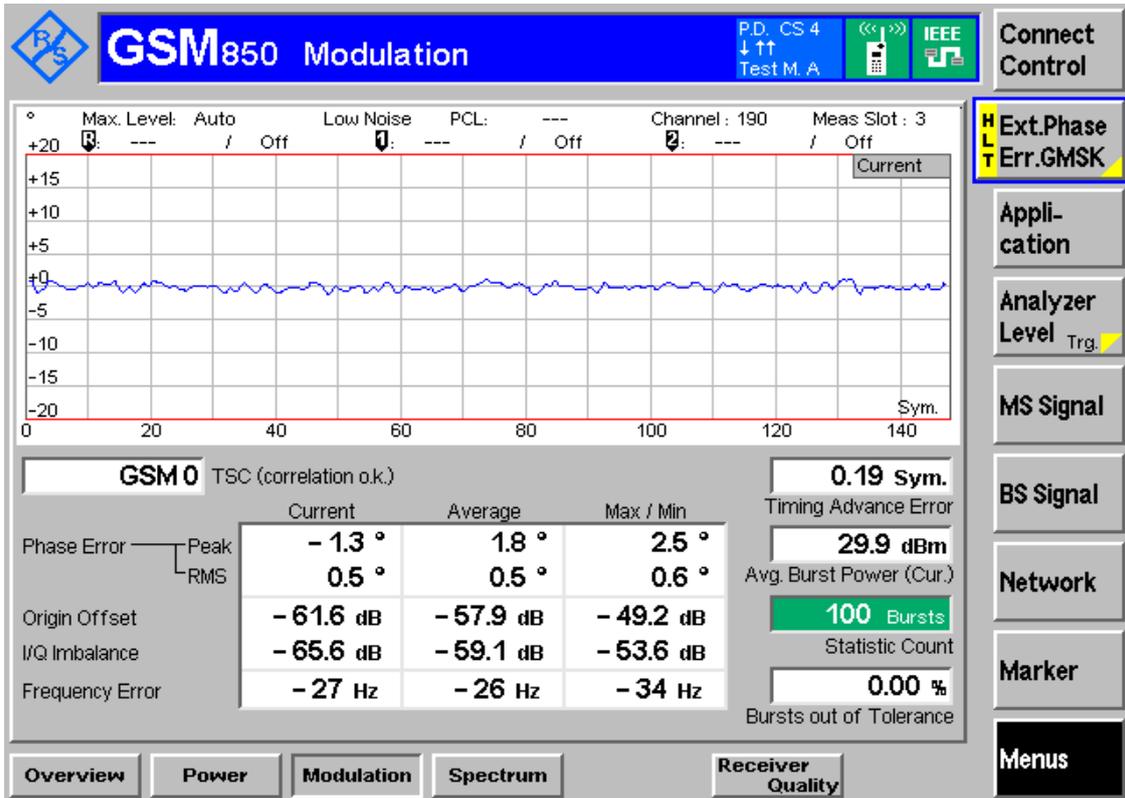
#### Part I - Test Plots

#### 3.1 For GSM

#### 3.1.1 Test Band = GSM850

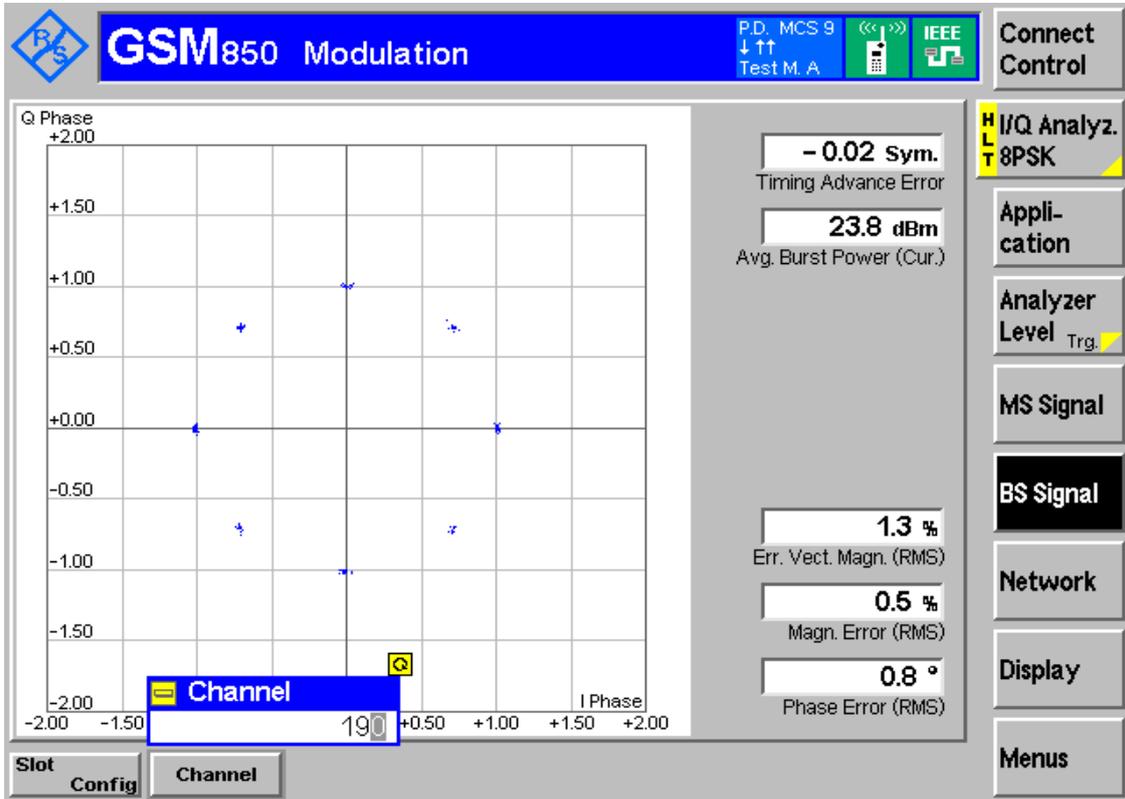
#### 3.1.1.1 Test Mode = GSM/TM1

#### 3.1.1.1.1 Test Channel = MCH



3.1.1.2 Test Mode = GSM/TM2

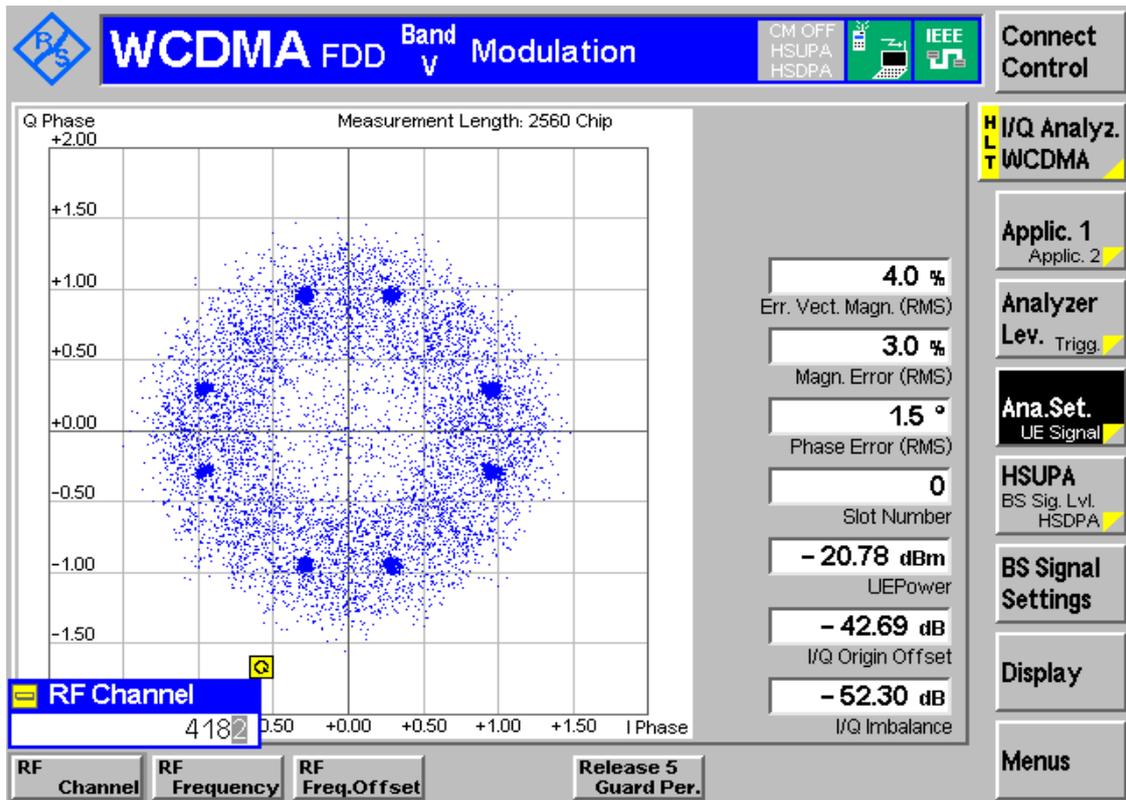
3.1.1.2.1 Test Channel = MCH



### 3.1.2 Test Band = WCDMA850

#### 3.1.2.1 Test Mode = UMTS/TM1

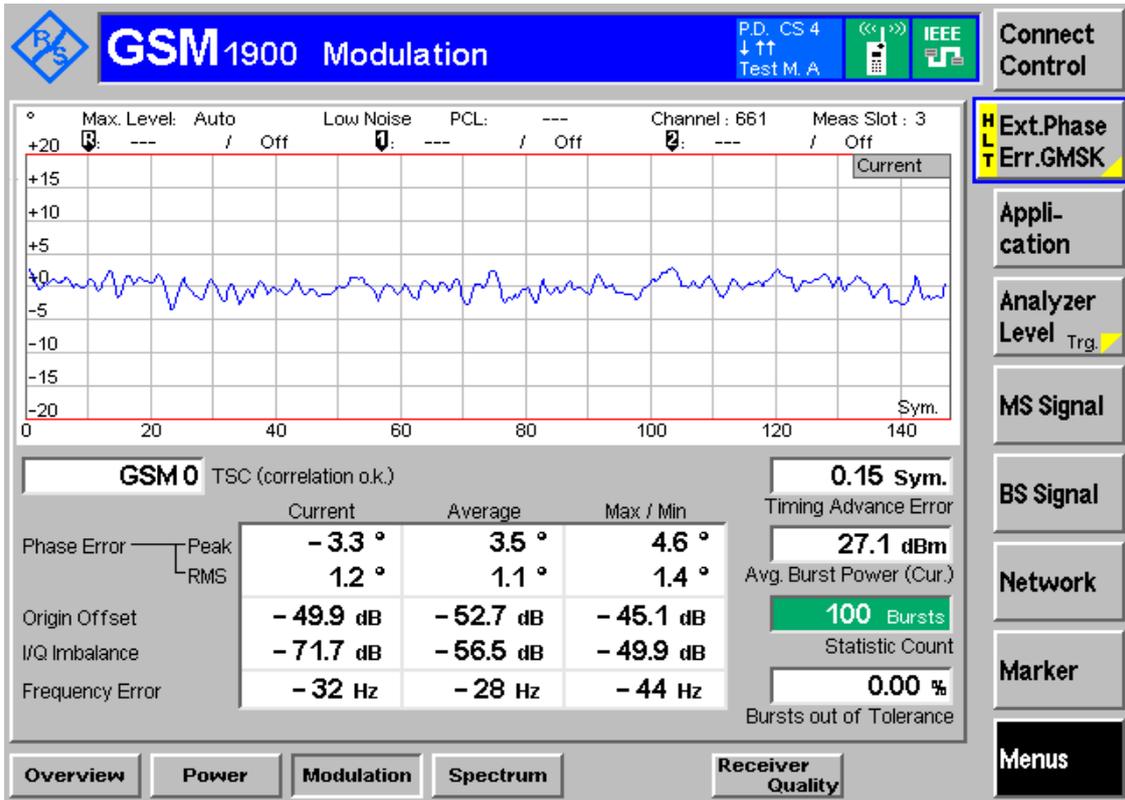
##### 3.1.2.1.1 Test Channel = MCH



**3.1.3 Test Band = GSM1900**

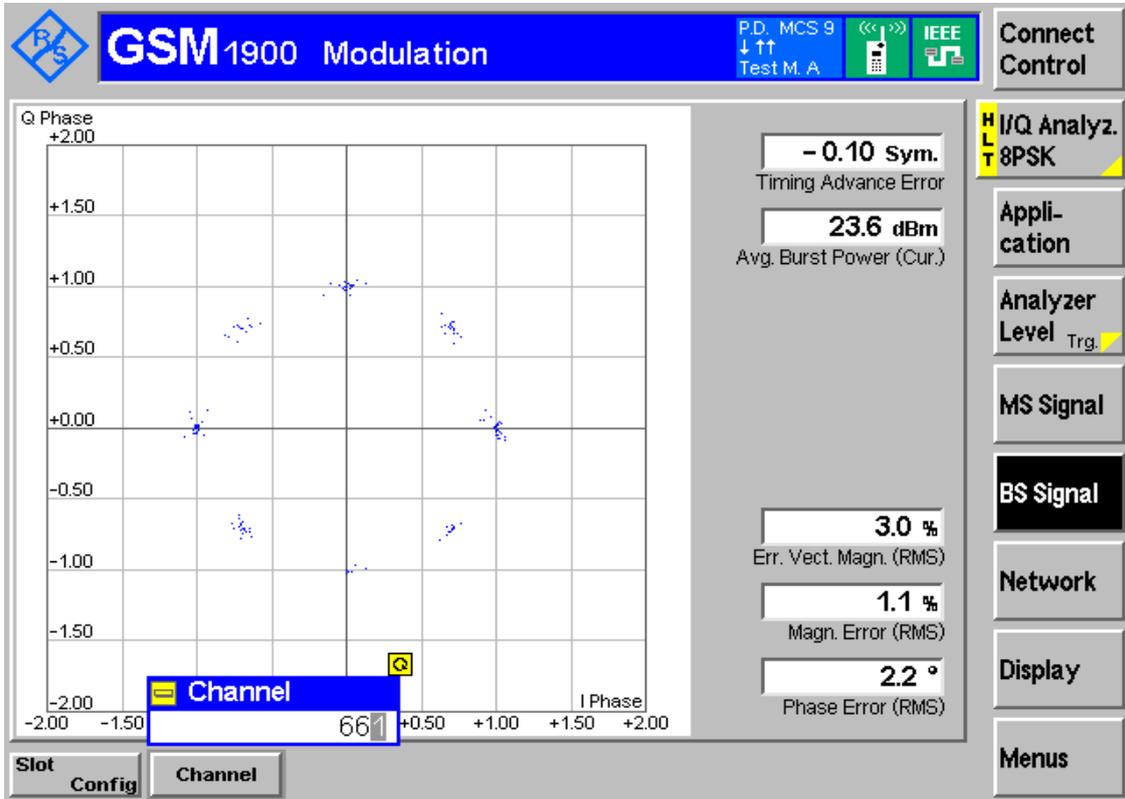
**3.1.3.1 Test Mode = GSM/TM1**

**3.1.3.1.1 Test Channel = MCH**



### 3.1.3.2 Test Mode = GSM/TM2

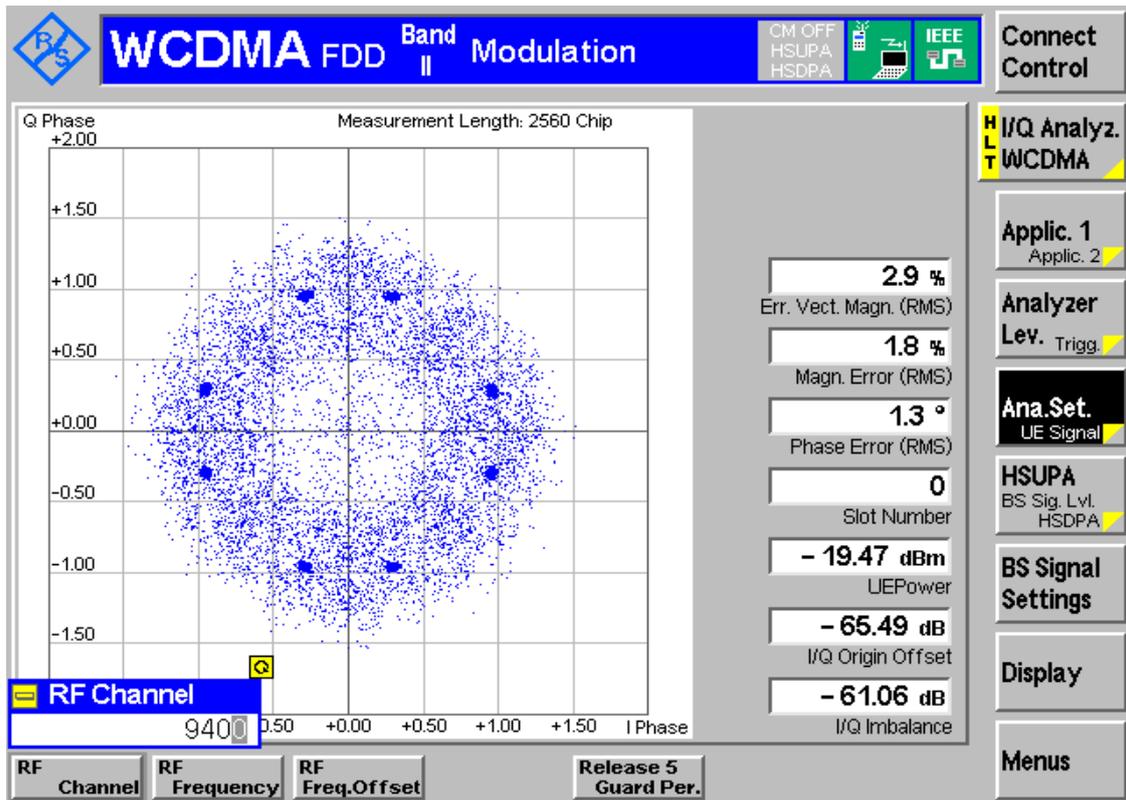
#### 3.1.3.2.1 Test Channel = MCH



### 3.1.4 Test Band = WCDMA1900

#### 3.1.4.1 Test Mode = UMTS/TM1

##### 3.1.4.1.1 Test Channel = MCH



## 4Appendix\_D: Bandwidth

### Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [kHz]	Emission Bandwidth [kHz]	Verdict
GSM850	GSM/TM1	LCH	243.54	320.32	Pass
		MCH	244.66	321.49	Pass
		HCH	245.88	320.23	Pass
	GSM/TM2	LCH	244.05	296.64	Pass
		MCH	237.70	317.69	Pass
		HCH	242.97	302.35	Pass
GSM1900	GSM/TM1	LCH	243.68	316.90	Pass
		MCH	245.35	317.64	Pass
		HCH	244.99	310.09	Pass
	GSM/TM2	LCH	238.49	311.33	Pass
		MCH	238.08	301.03	Pass
		HCH	240.41	310.97	Pass

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [kHz]	Verdict
WCDMA850	UMTS/TM1	LCH	4.16	4.68	Pass
		MCH	4.16	4.66	Pass
		HCH	4.15	4.67	Pass
WCDMA1900	UMTS/TM1	LCH	4.15	4.66	Pass
		MCH	4.16	4.67	Pass
		HCH	4.16	4.66	Pass

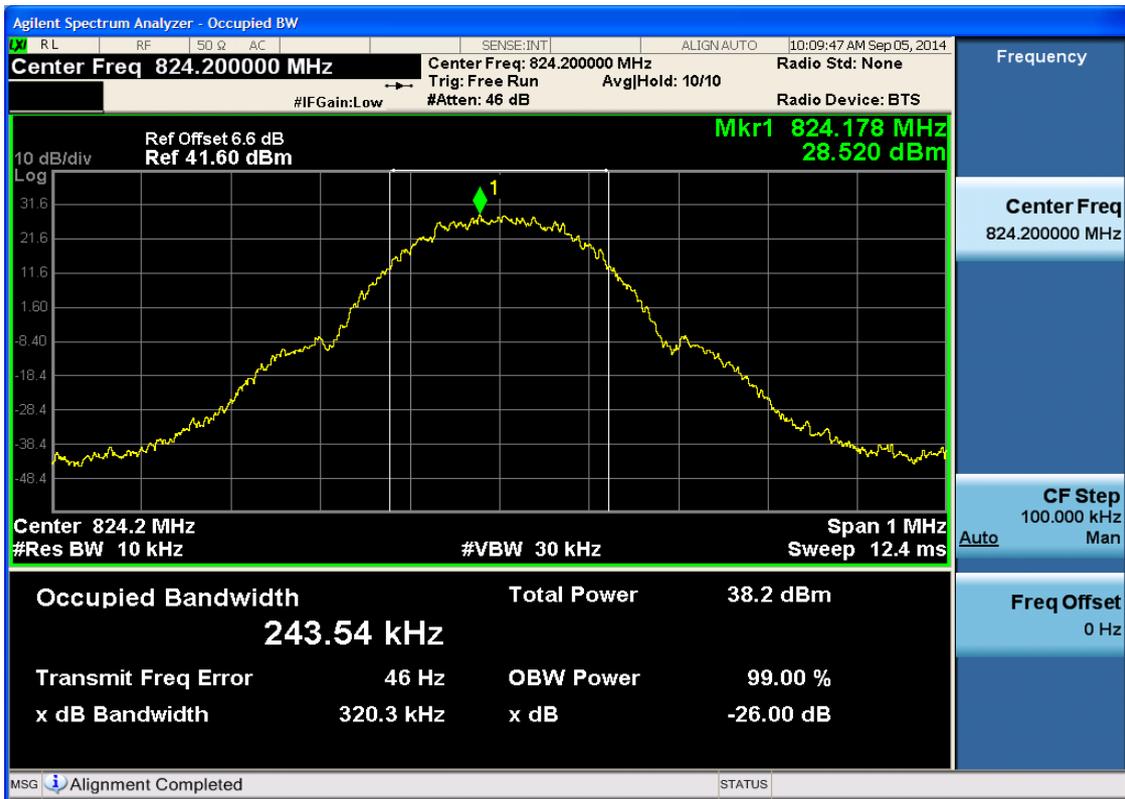
**Part II - Test Plots**

**4.1 For GSM**

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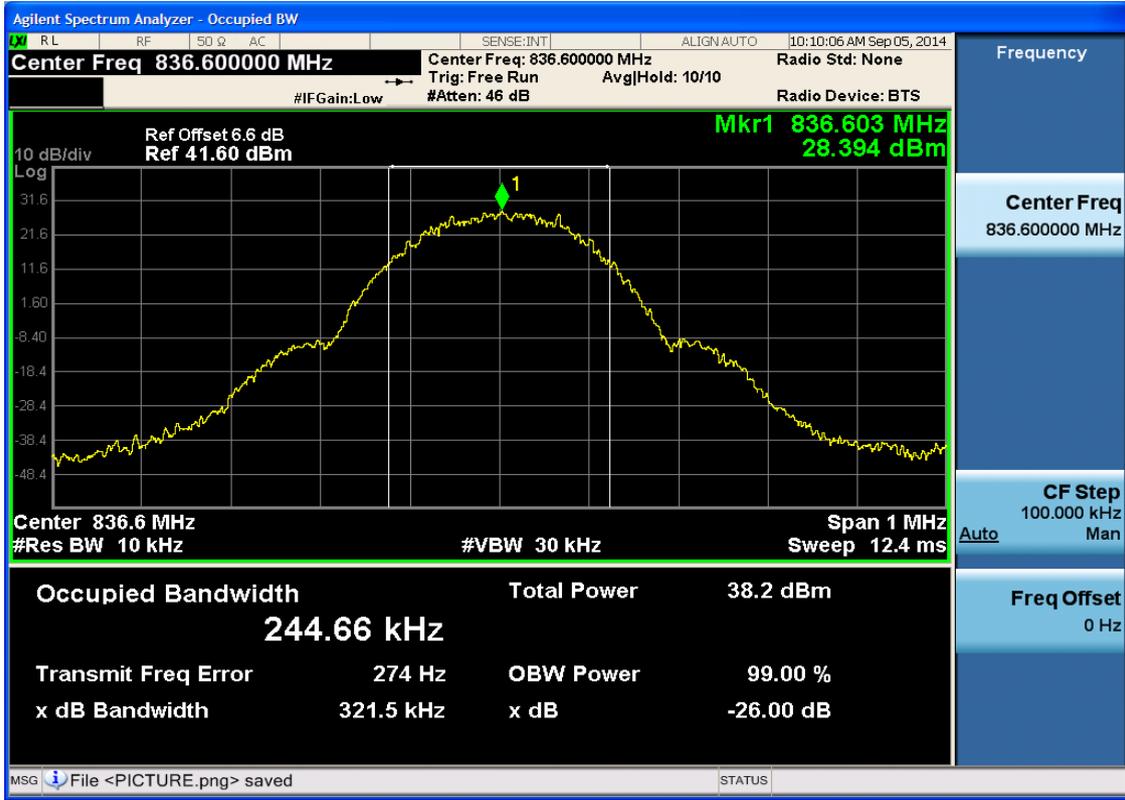
**4.1.1.1 Test Mode = GSM/TM1**

**4.1.1.1.1 Test Channel = LCH**



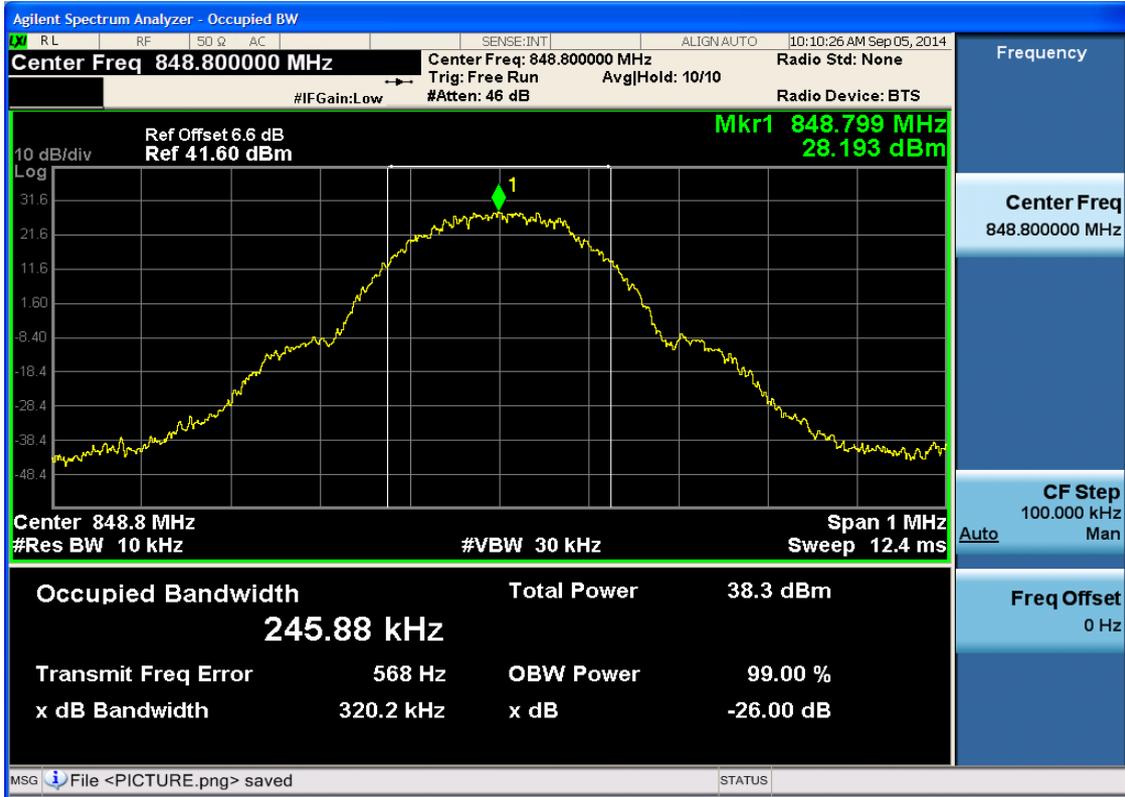


4.1.1.1.2 Test Channel = MCH





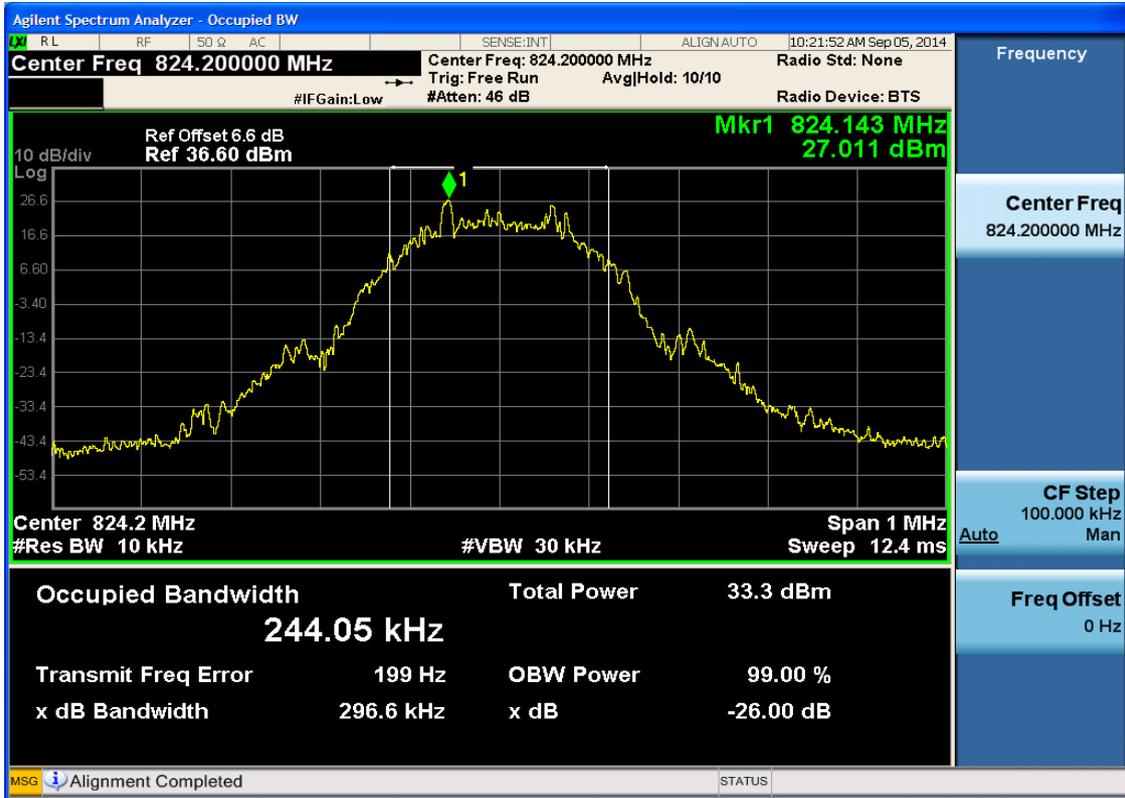
4.1.1.1.3 Test Channel = HCH





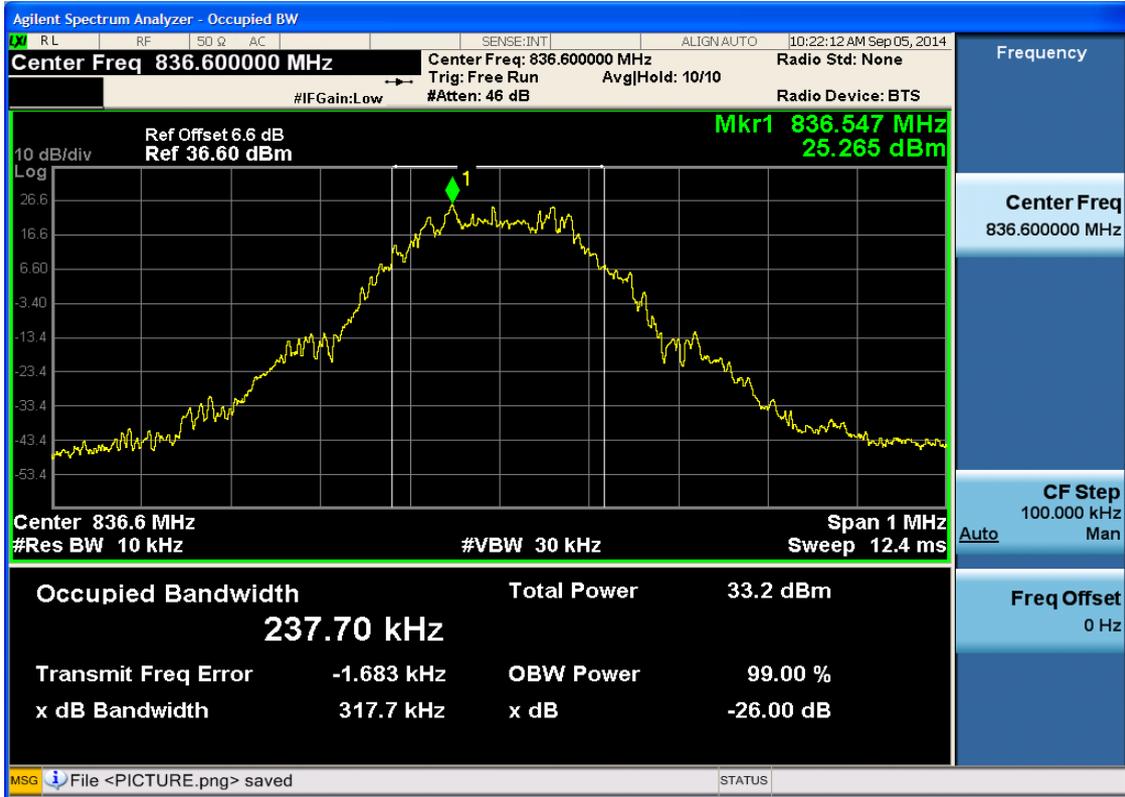
4.1.1.2 Test Mode = GSM/TM2

4.1.1.2.1 Test Channel = LCH



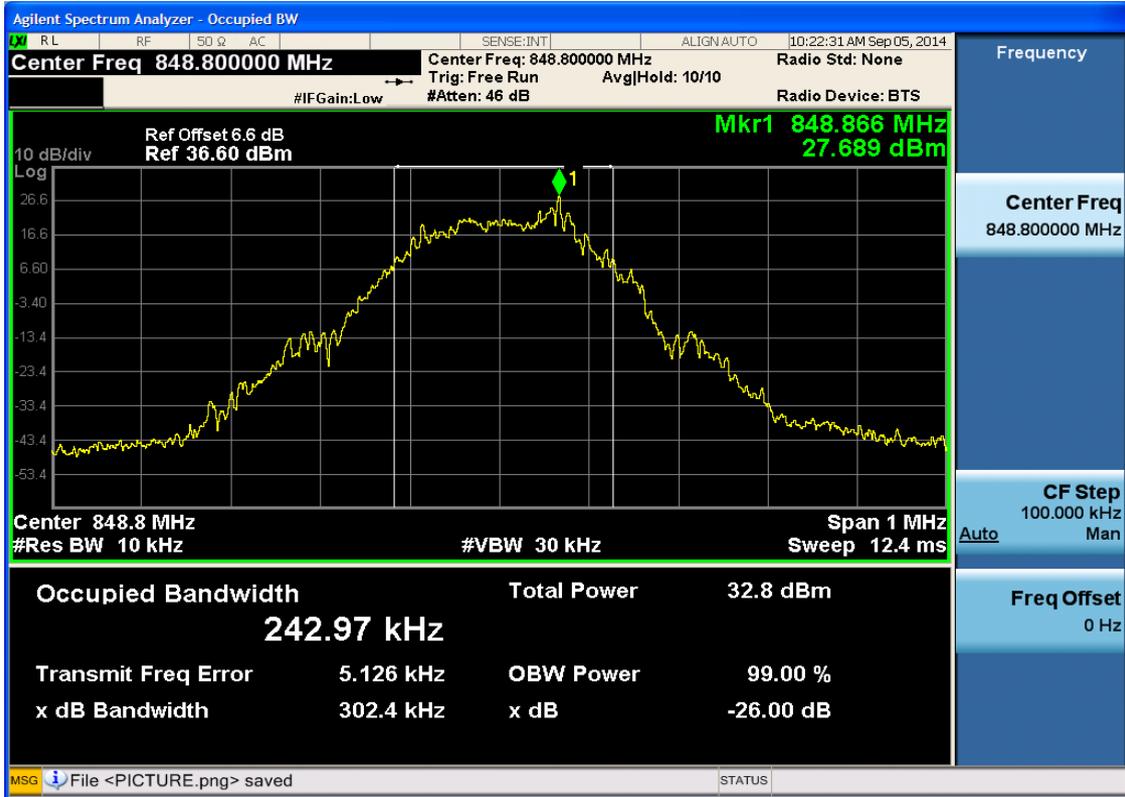


4.1.1.2.2 Test Channel = MCH





4.1.1.2.3 Test Channel = HCH

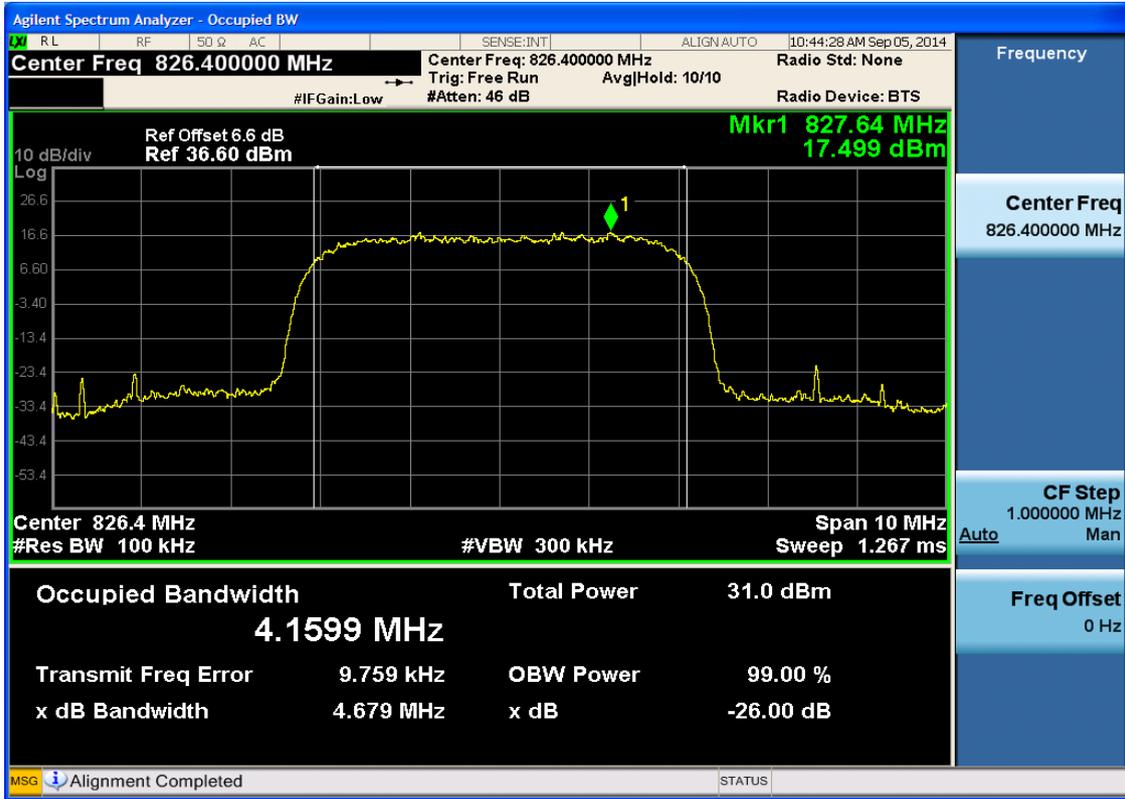




4.1.2 Test Band = WCDMA850

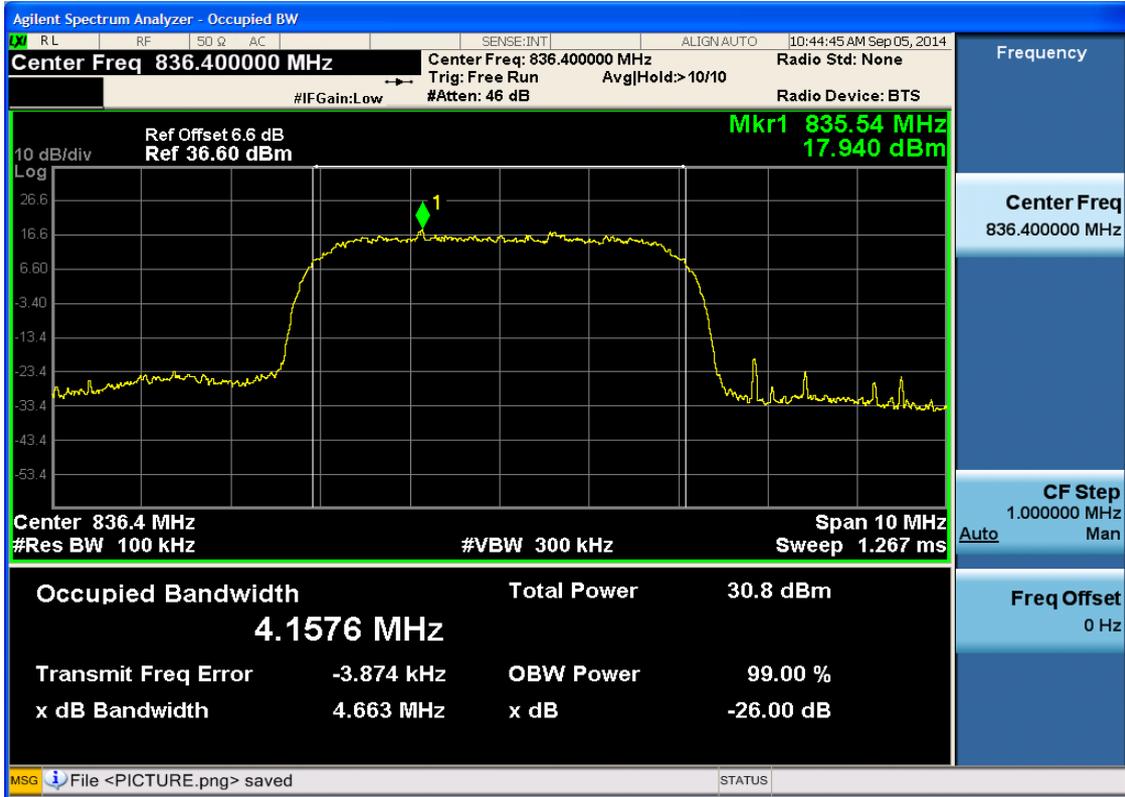
4.1.2.1 Test Mode = UMTS/TM1

4.1.2.1.1 Test Channel = LCH



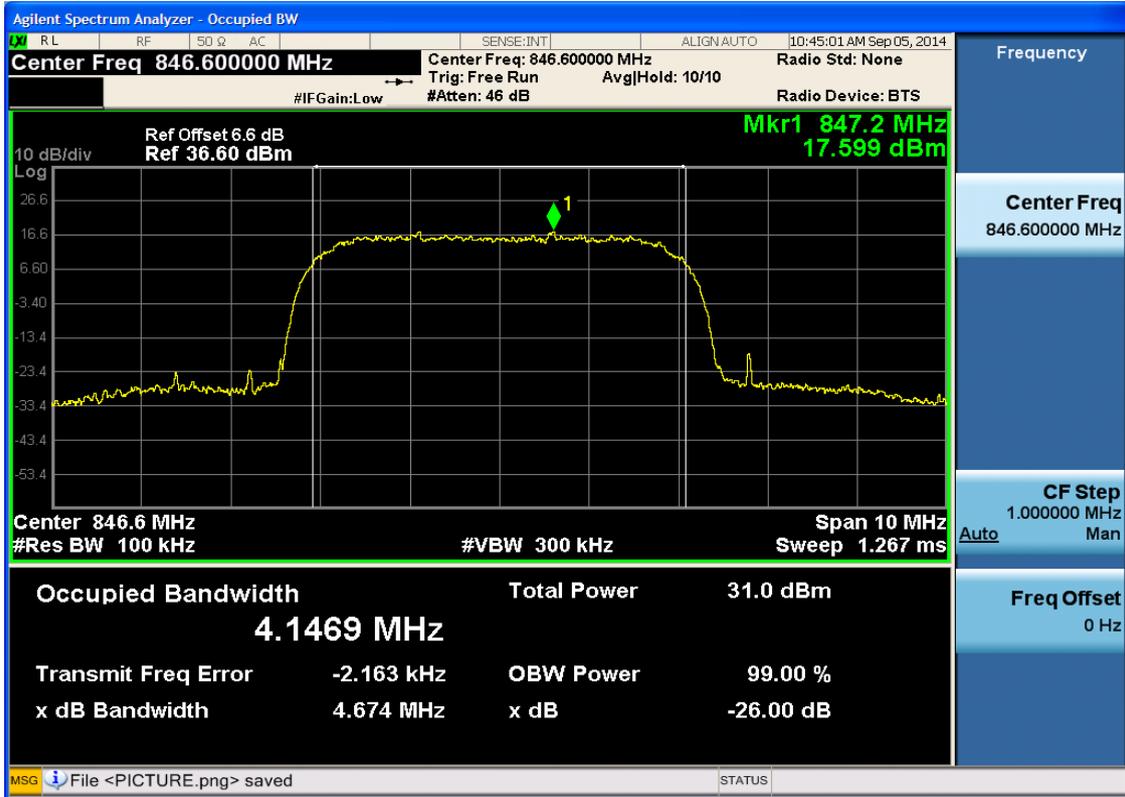


4.1.2.1.2 Test Channel = MCH





4.1.2.1.3 Test Channel = HCH

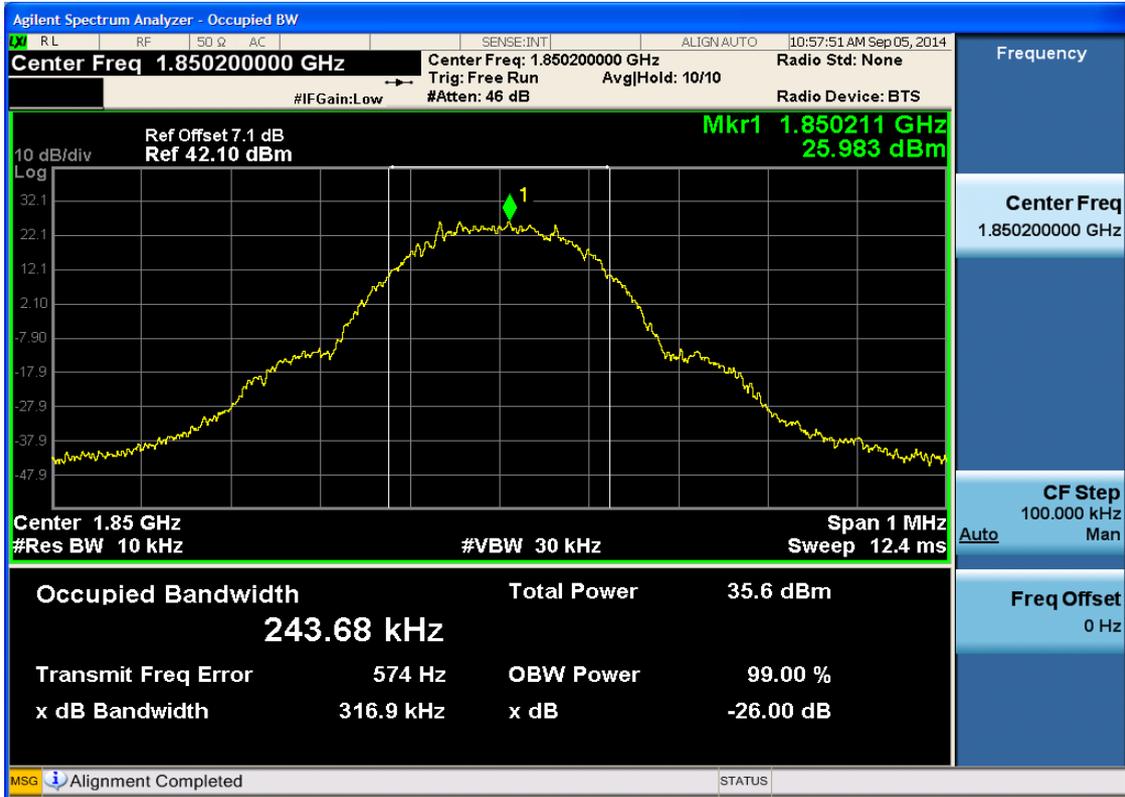




4.1.3 Test Band = GSM1900

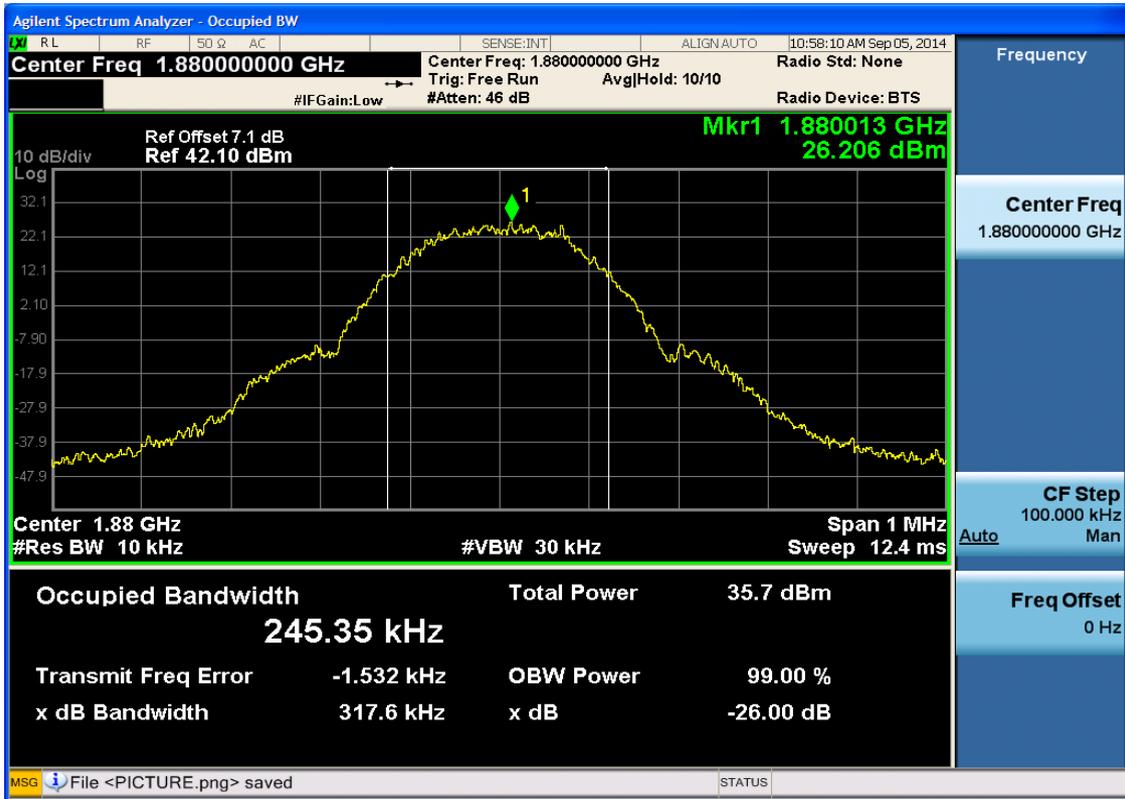
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4.1.3.1.1 Test Channel = LCH



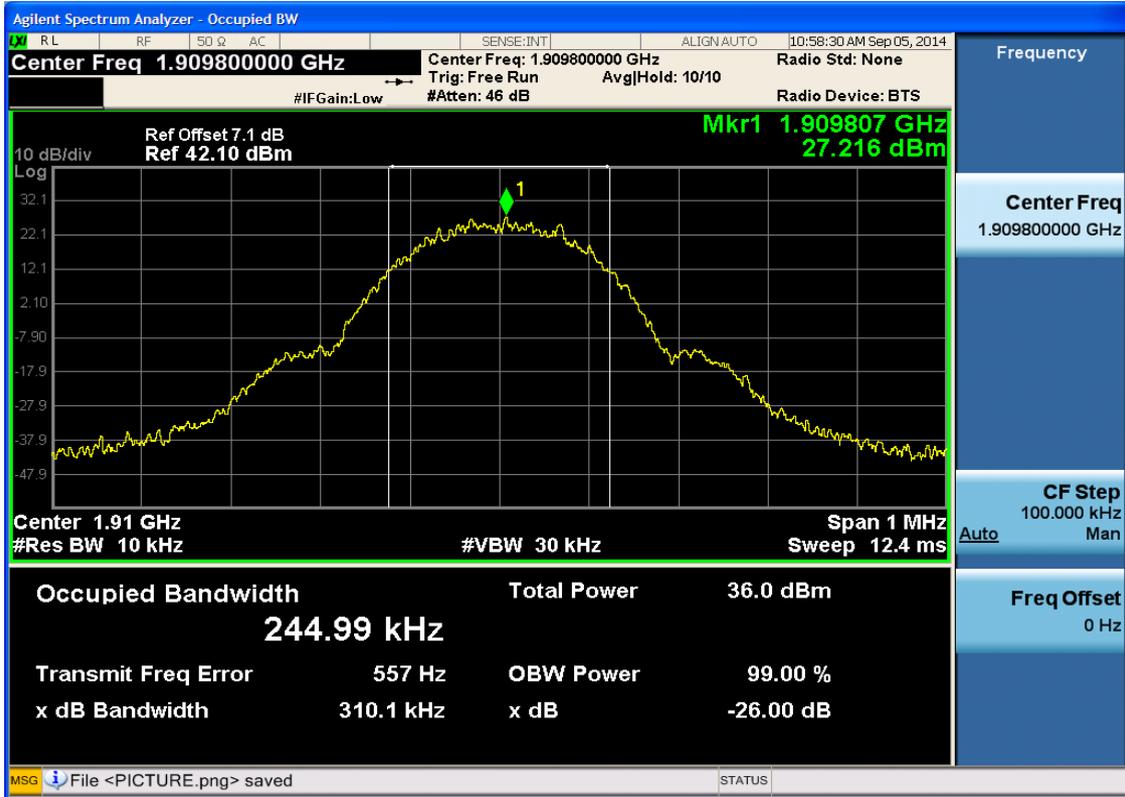


4.1.3.1.2 Test Channel = MCH





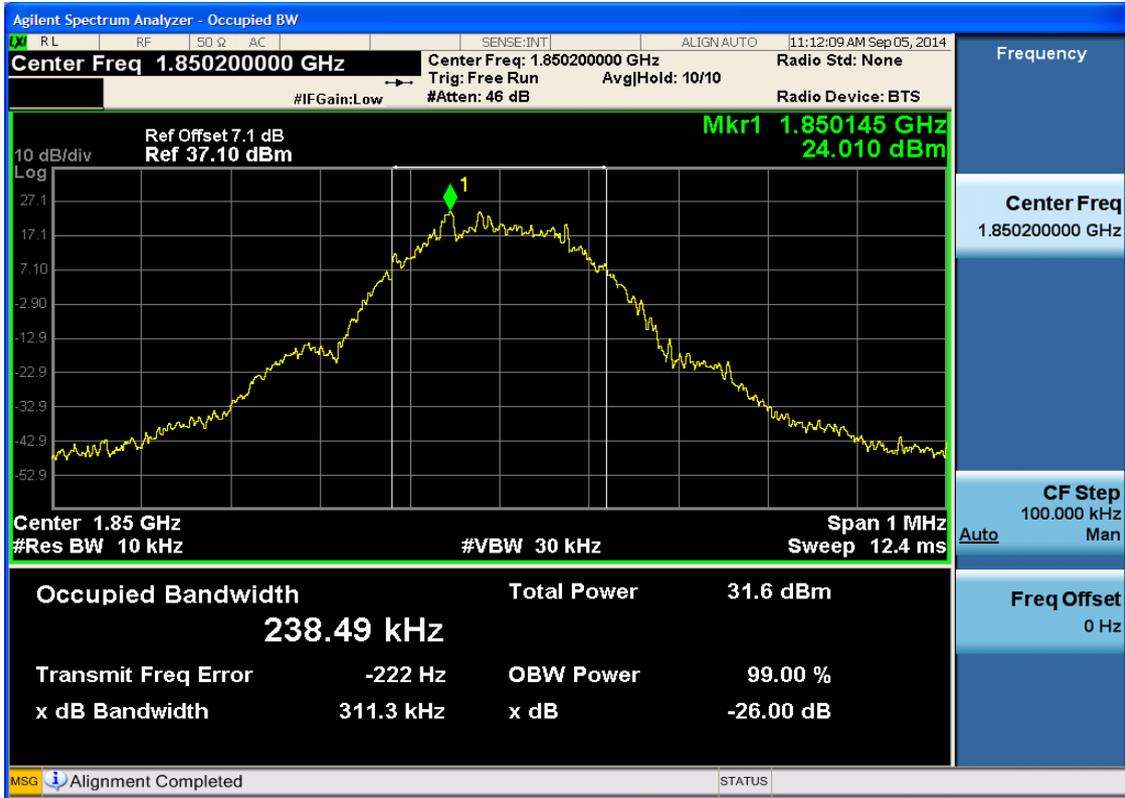
4.1.3.1.3 Test Channel = HCH





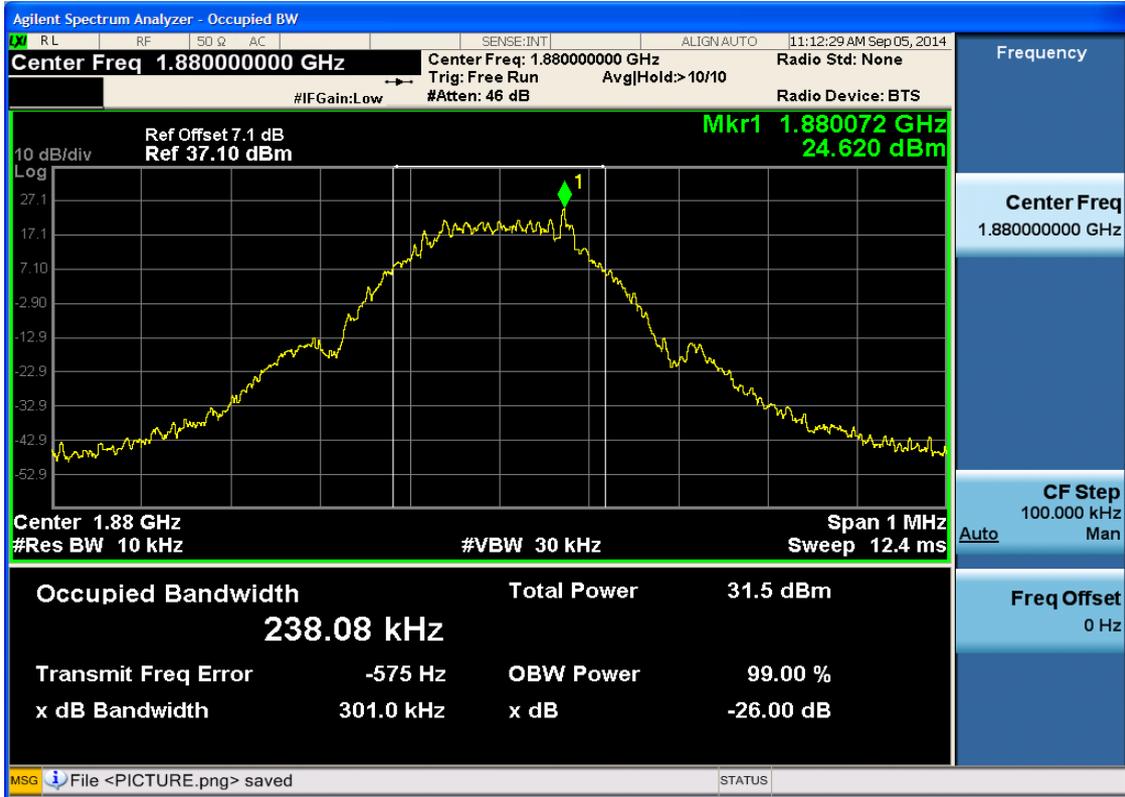
4.1.3.2 Test Mode = GSM/TM2

4.1.3.2.1 Test Channel = LCH



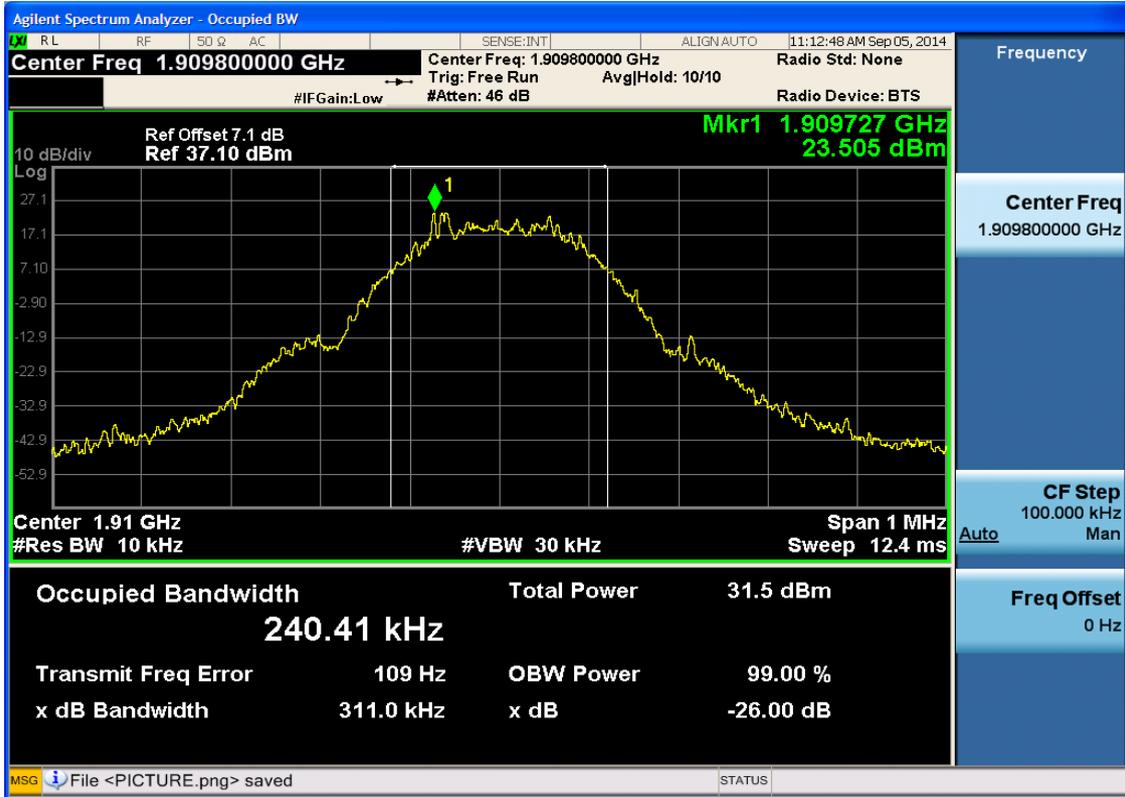


4.1.3.2.2 Test Channel = MCH





4.1.3.2.3 Test Channel = HCH

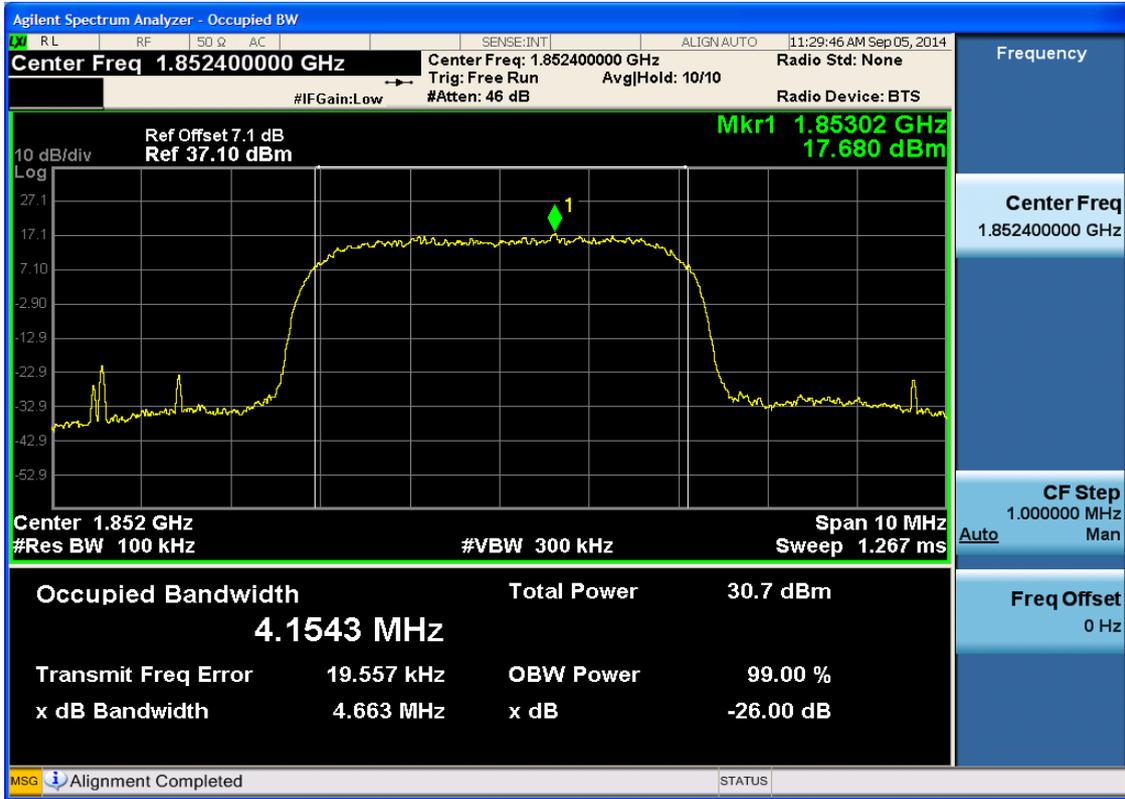




4.1.4 Test Band = WCDMA1900

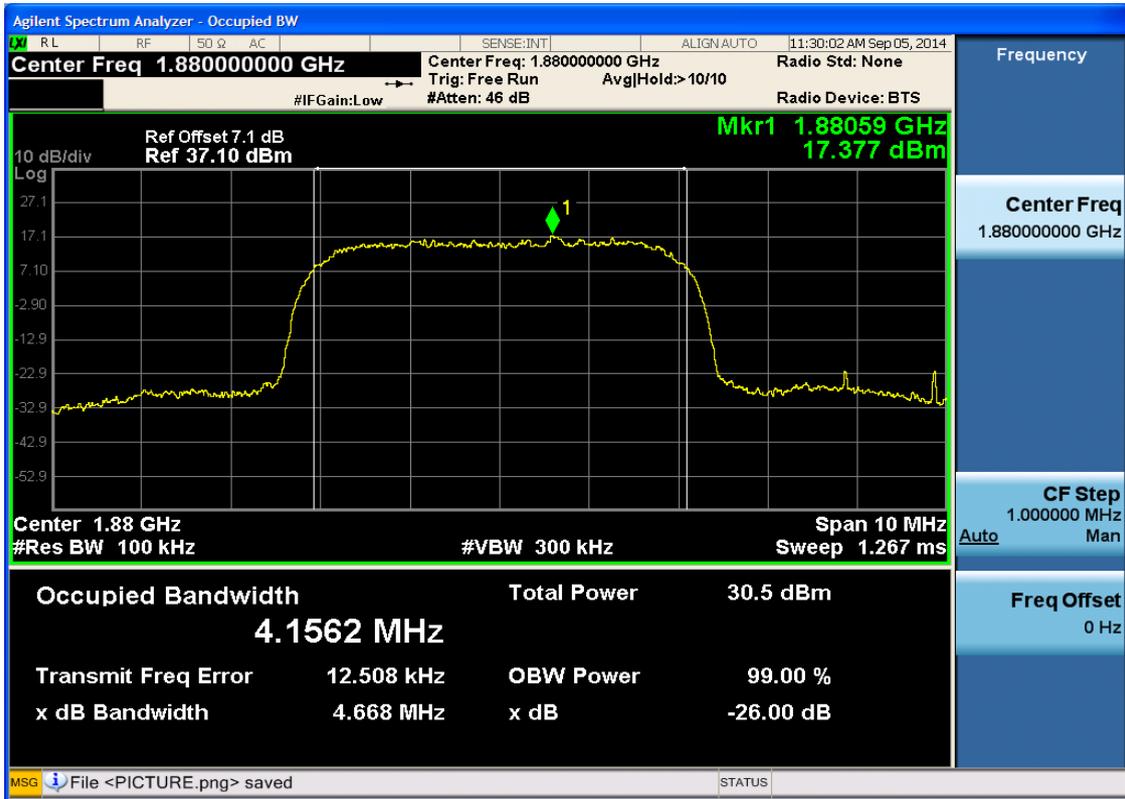
4.1.4.1 Test Mode = UMTS/TM1

4.1.4.1.1 Test Channel = LCH

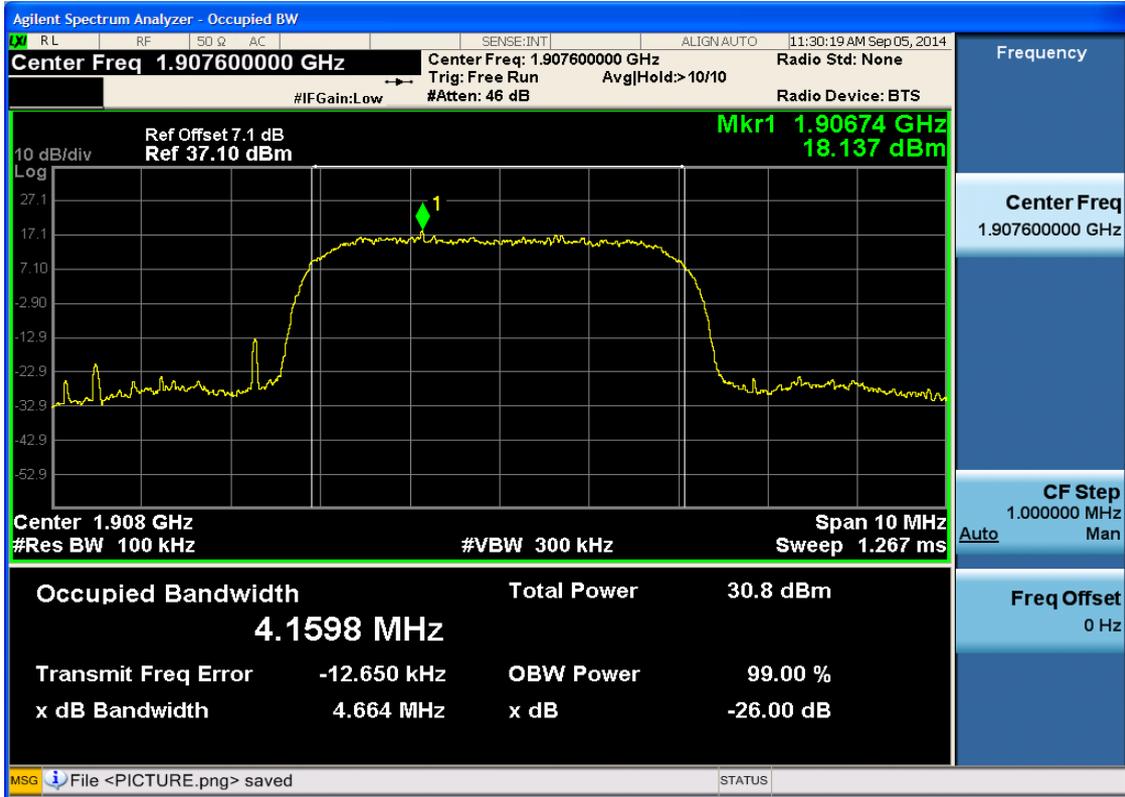




4.1.4.1.2 Test Channel = MCH



4.1.4.1.3 Test Channel = HCH





## 5Appendix\_E: Band Edges Compliance

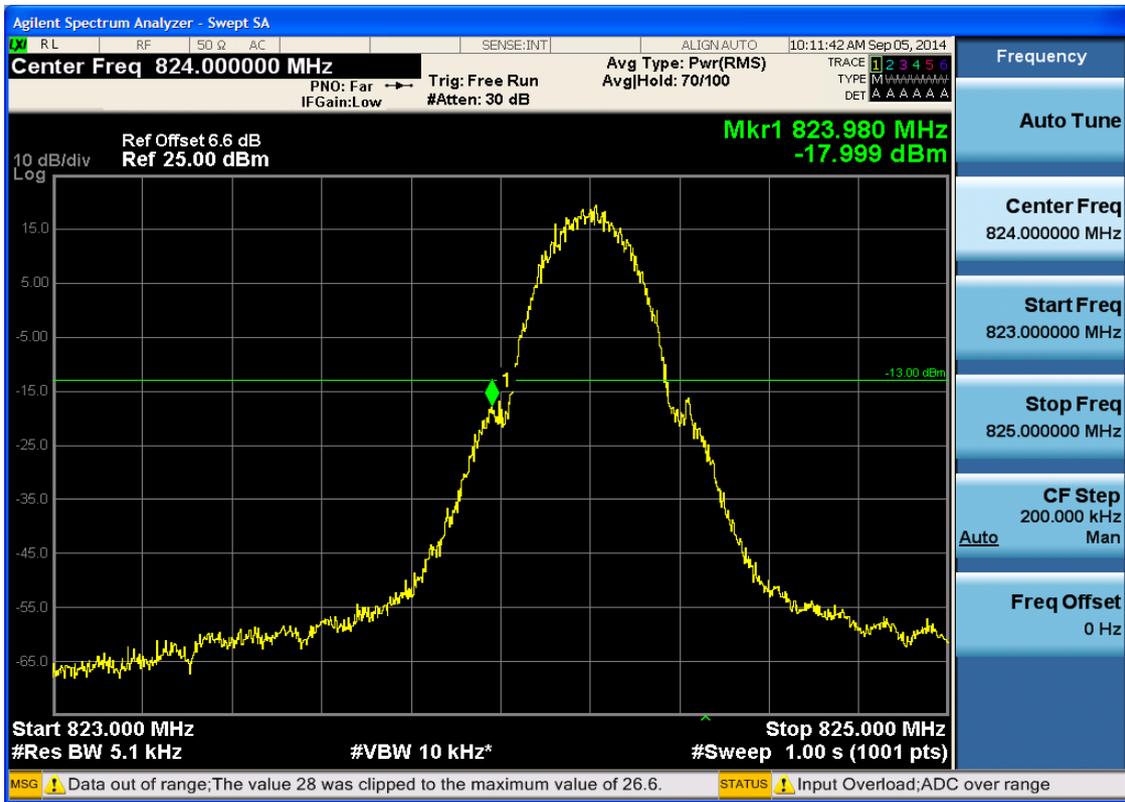
### Part I - Test Plots

#### 5.1 For GSM

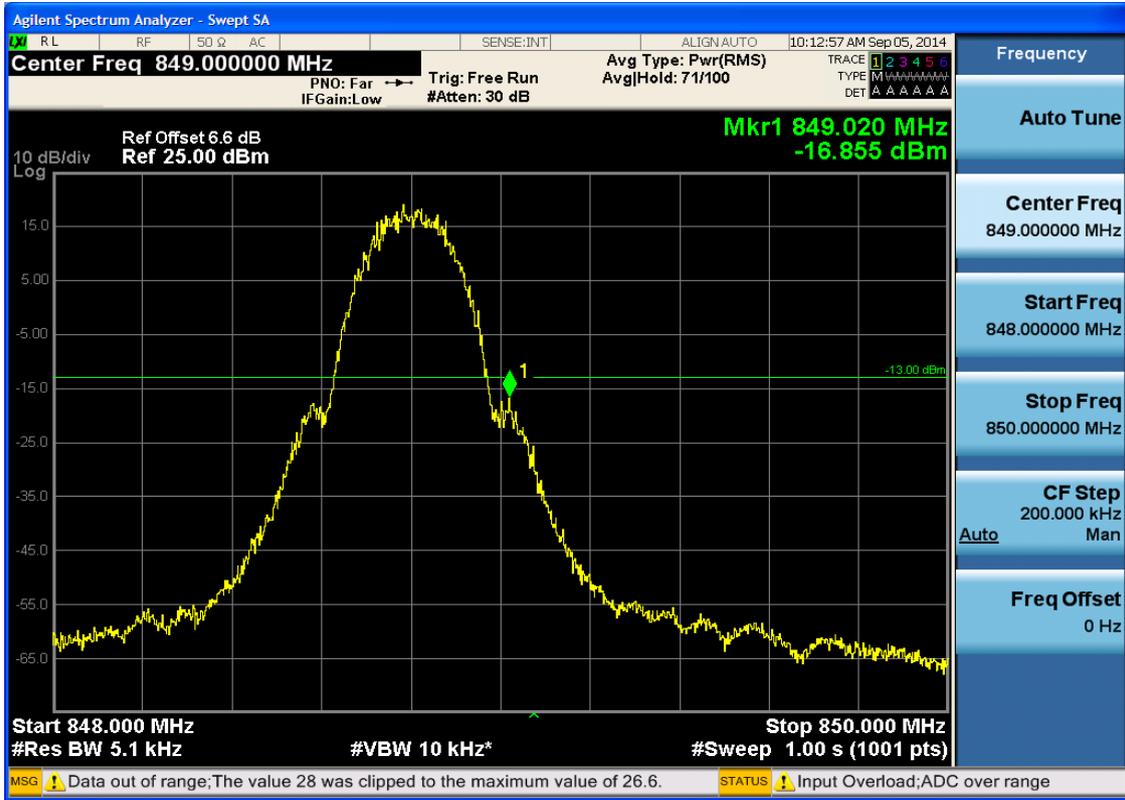
##### 5.1.1 Test Band = GSM850

##### 5.1.1.1 Test Mode = GSM/TM1

##### 5.1.1.1.1 Test Channel = LCH



5.1.1.1.2 Test Channel = HCH



5.1.1.2 Test Mode = GSM/TM2

5.1.1.2.1 Test Channel = LCH



5.1.1.2.2 Test Channel = HCH





5.1.2 Test Band = WCDMA850

5.1.2.1 Test Mode = UMTS/TM1

5.1.2.1.1 Test Channel = LCH





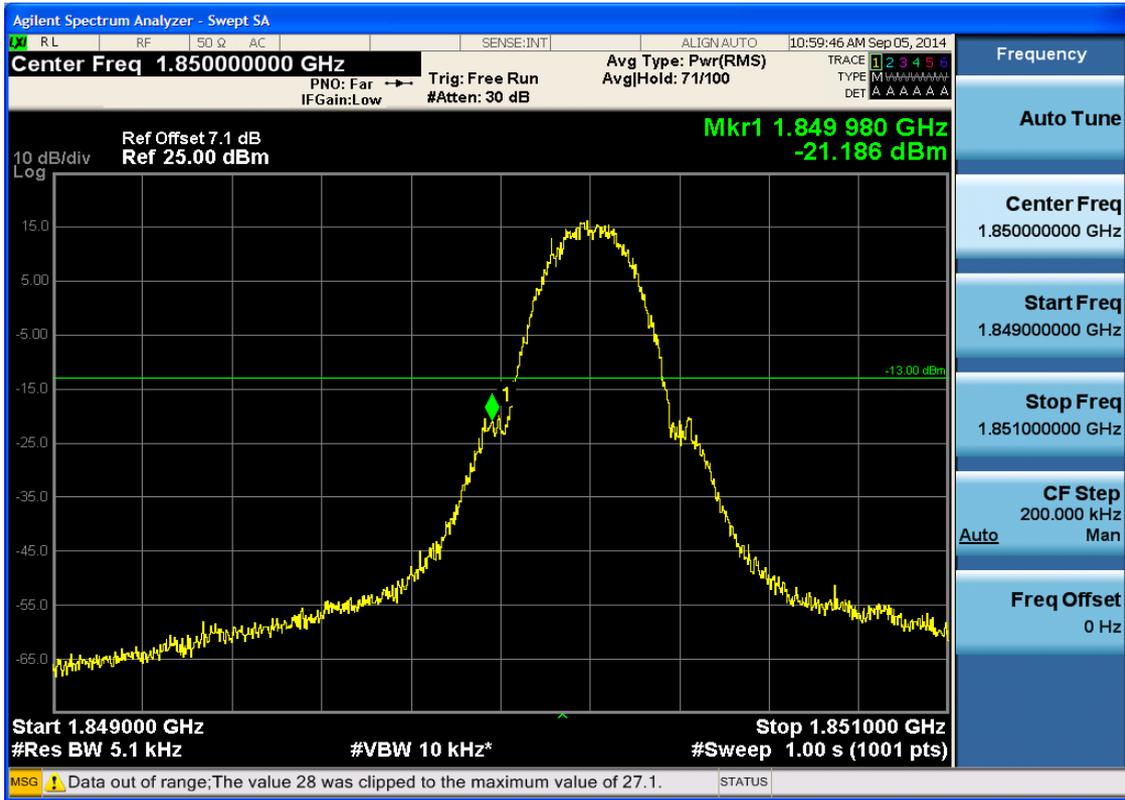
5.1.2.1.2 Test Channel = HCH



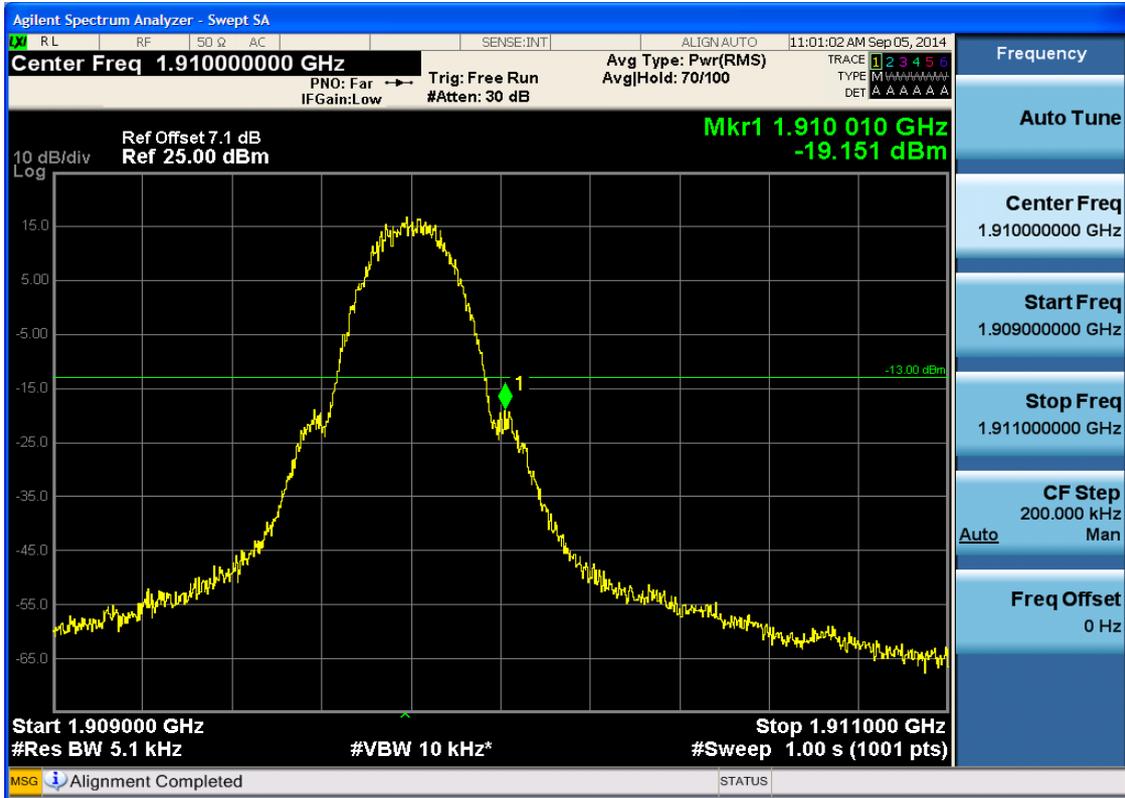
5.1.3 Test Band = GSM1900

5.1.3.1 Test Mode = GSM/TM1

5.1.3.1.1 Test Channel = LCH

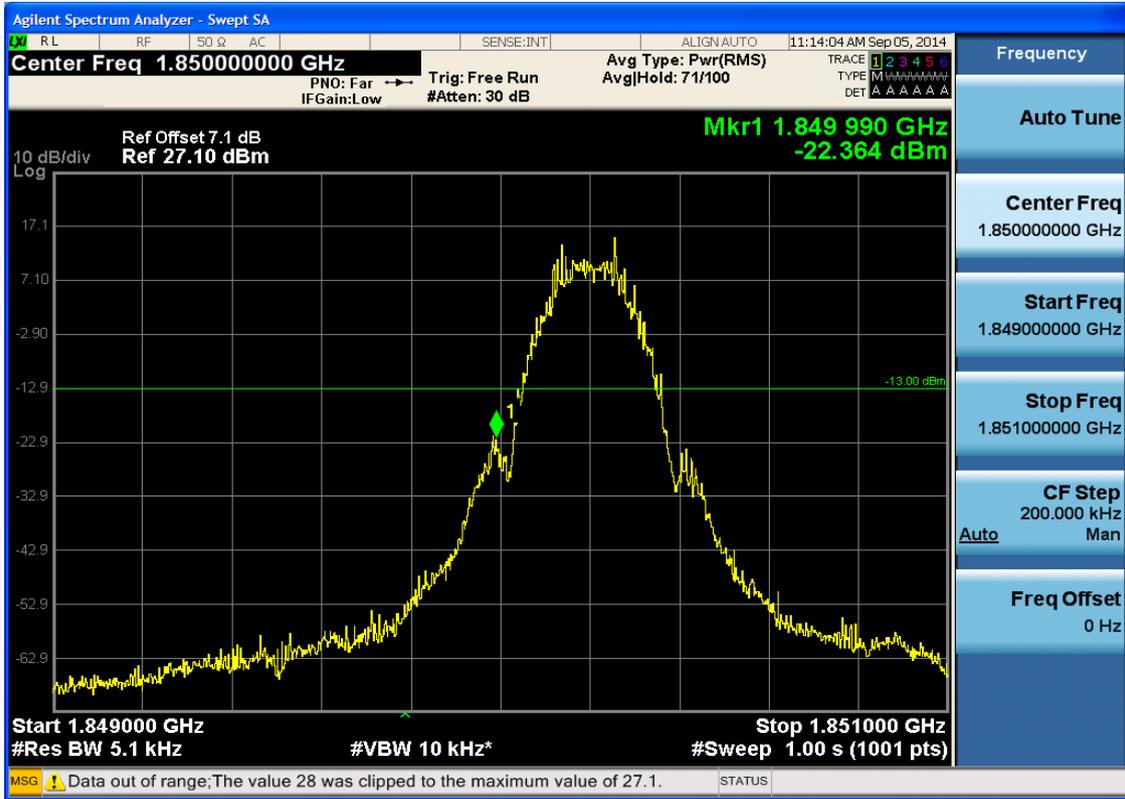


5.1.3.1.2 Test Channel = HCH



5.1.3.2 Test Mode = GSM/TM2

5.1.3.2.1 Test Channel = LCH



5.1.3.2.2 Test Channel = HCH



5.1.4 Test Band = WCDMA1900

5.1.4.1 Test Mode = UMTS/TM1

5.1.4.1.1 Test Channel = LCH



5.1.4.1.2 Test Channel = HCH



## 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.

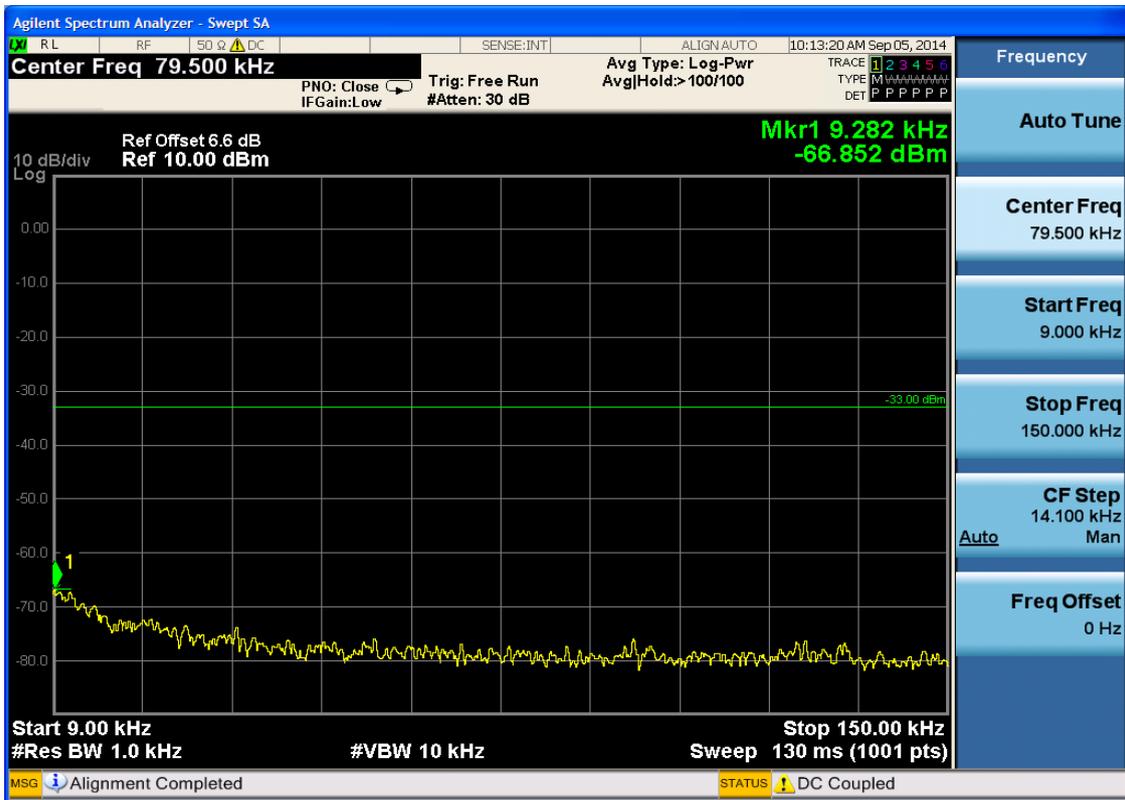
### Part I - Test Plots

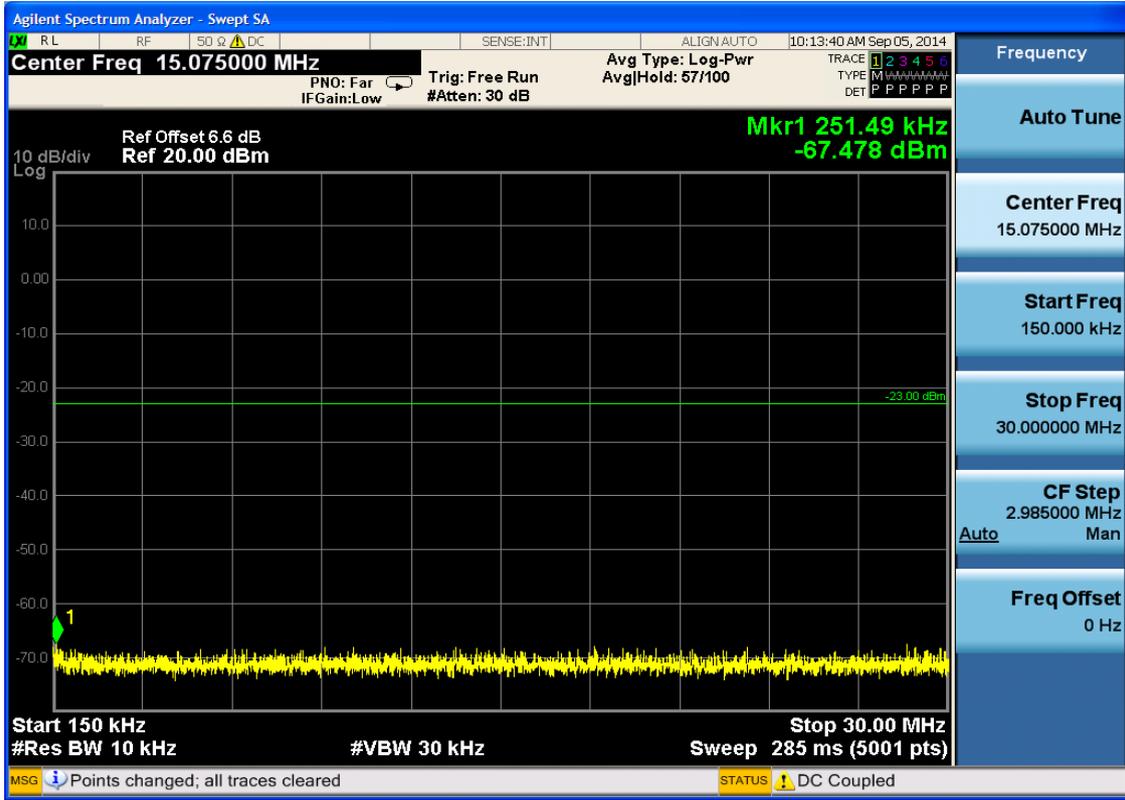
#### 6.1 For GSM

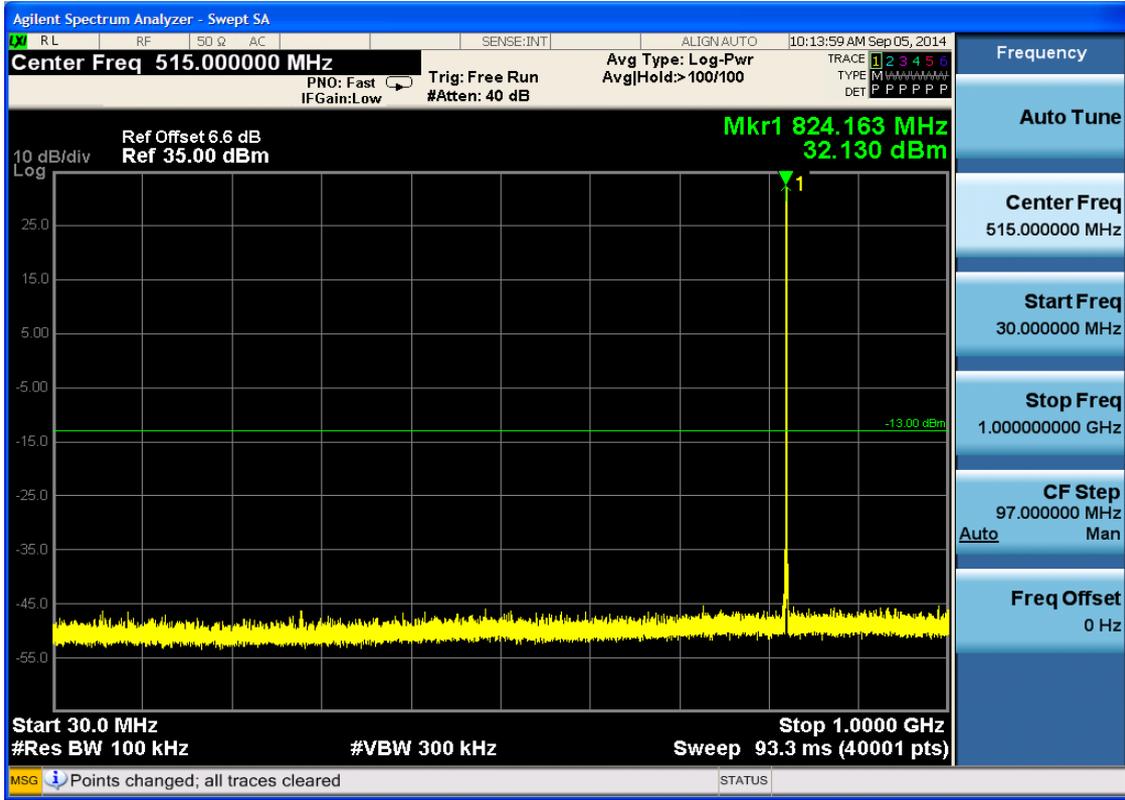
##### 6.1.1 Test Band = GSM850

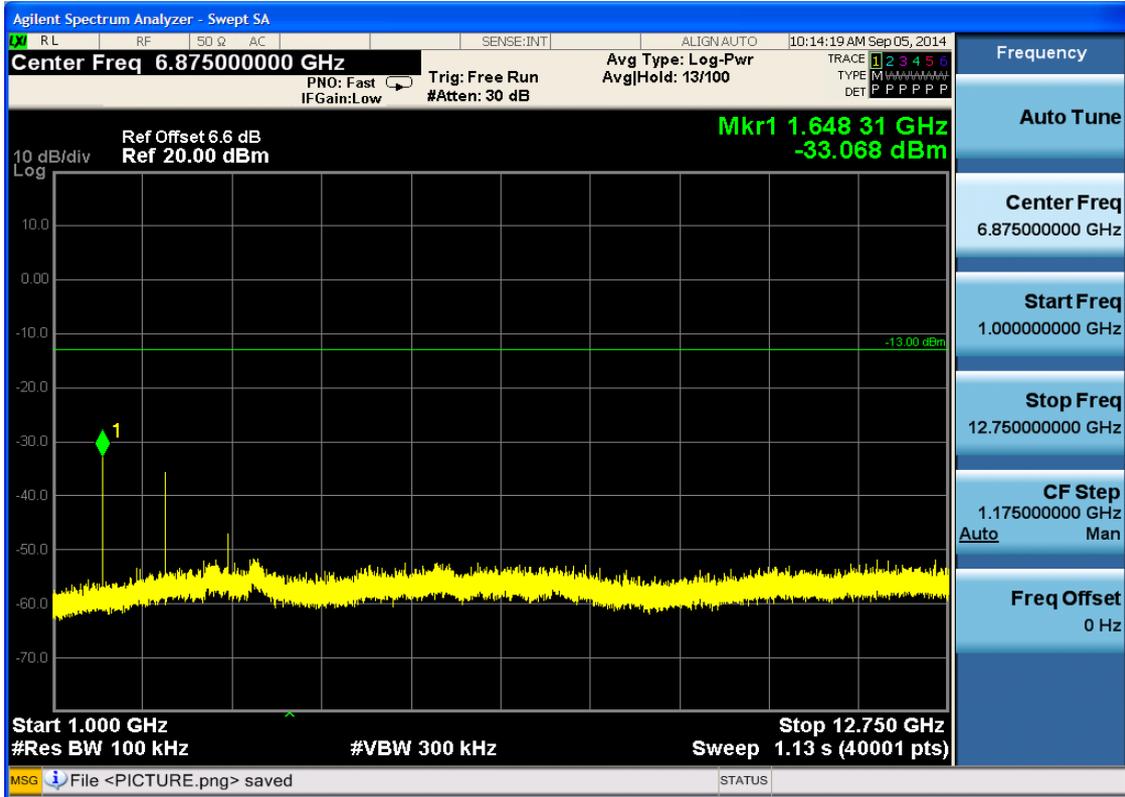
##### 6.1.1.1 Test Mode = GSM/TM1

##### 6.1.1.1.1 Test Channel = LCH



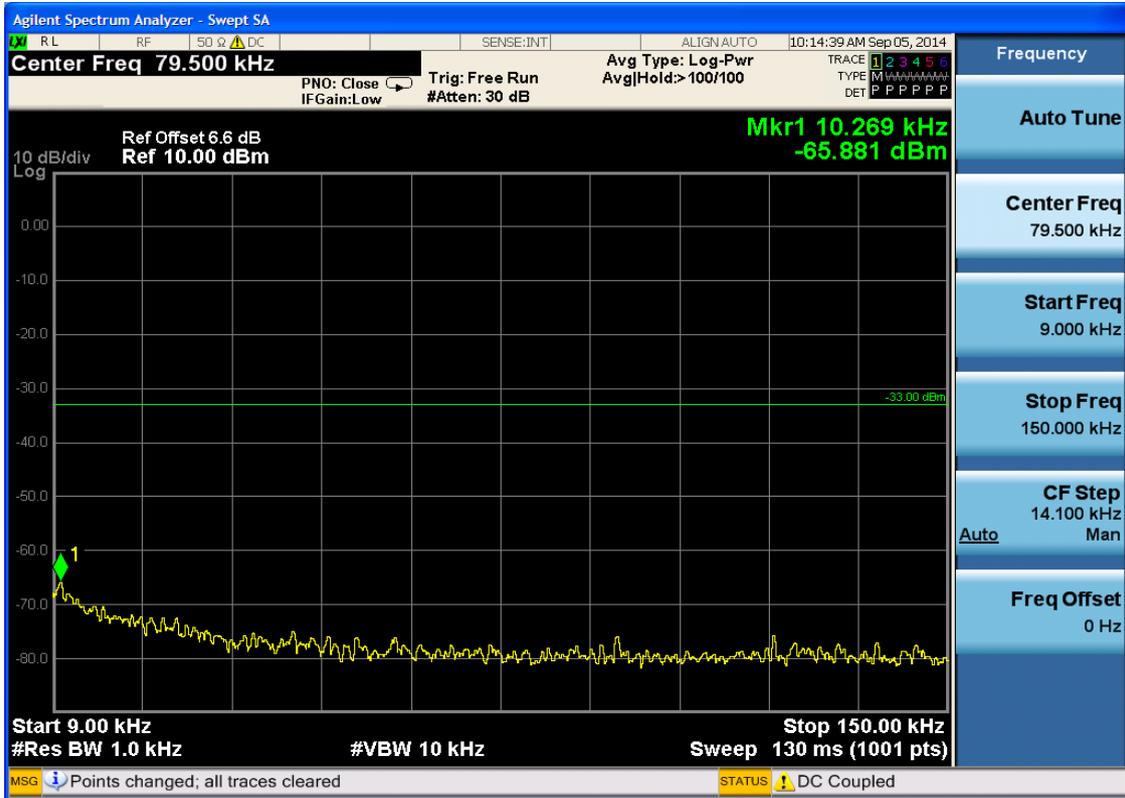


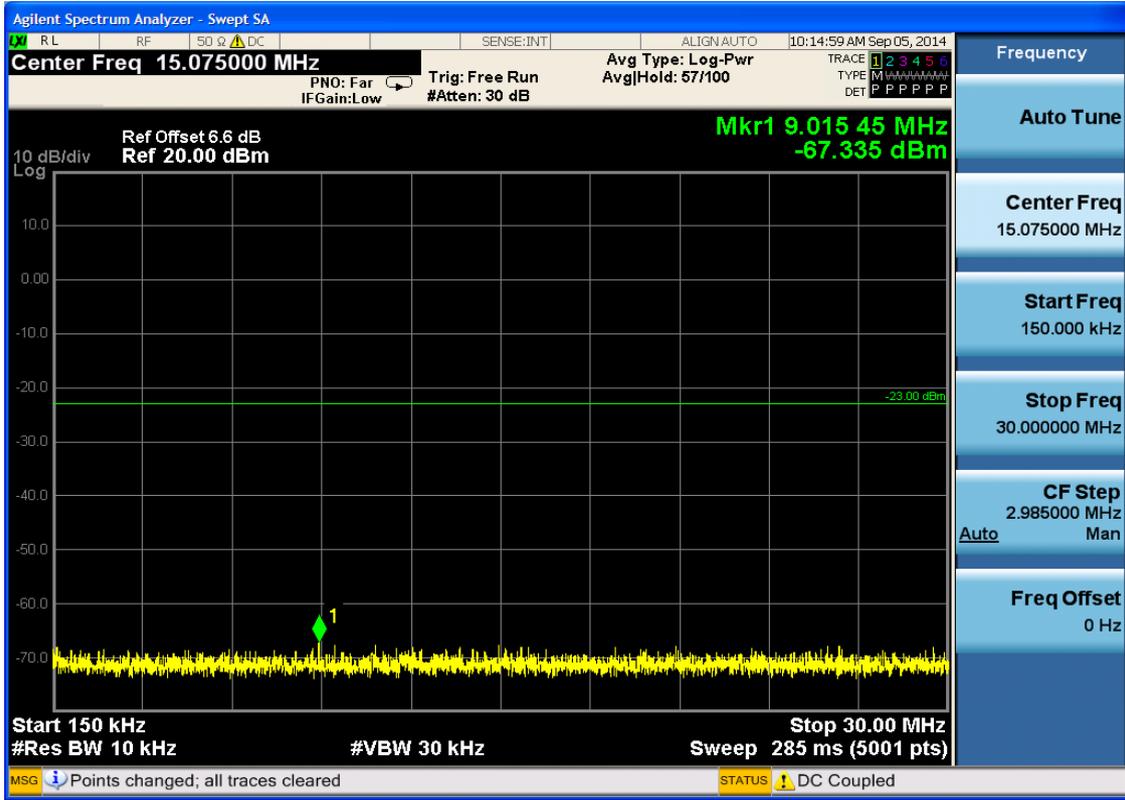


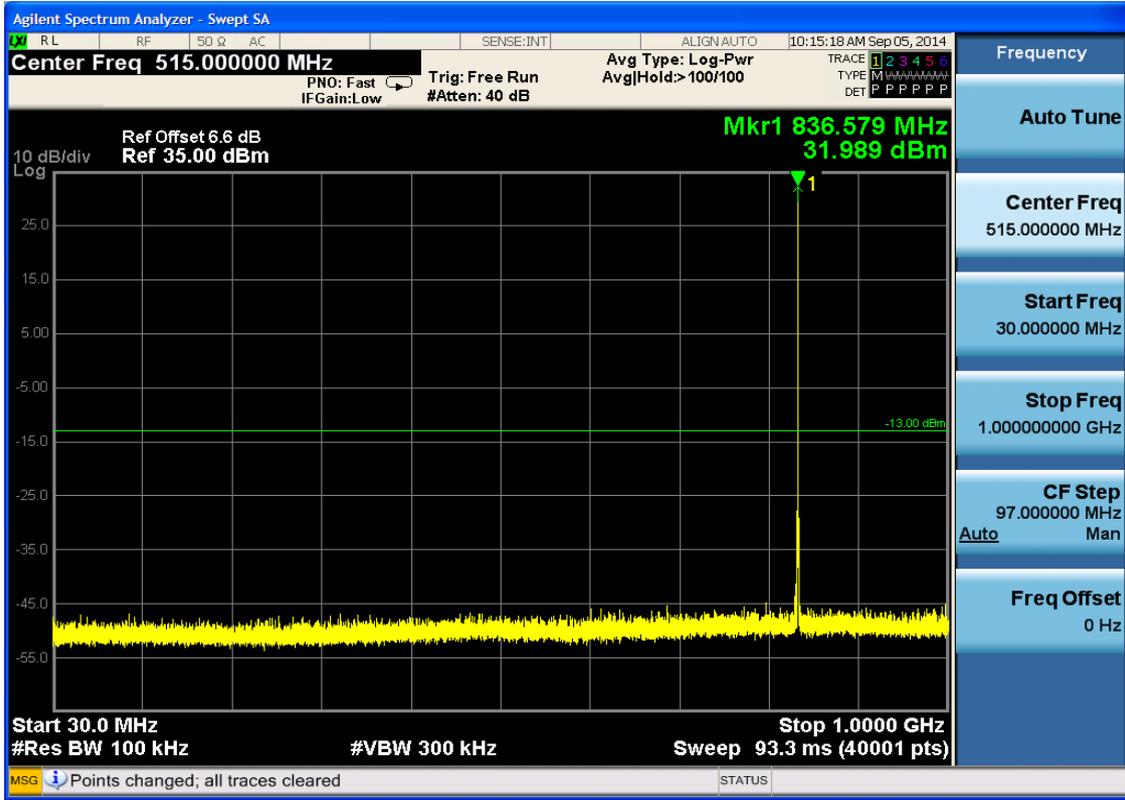


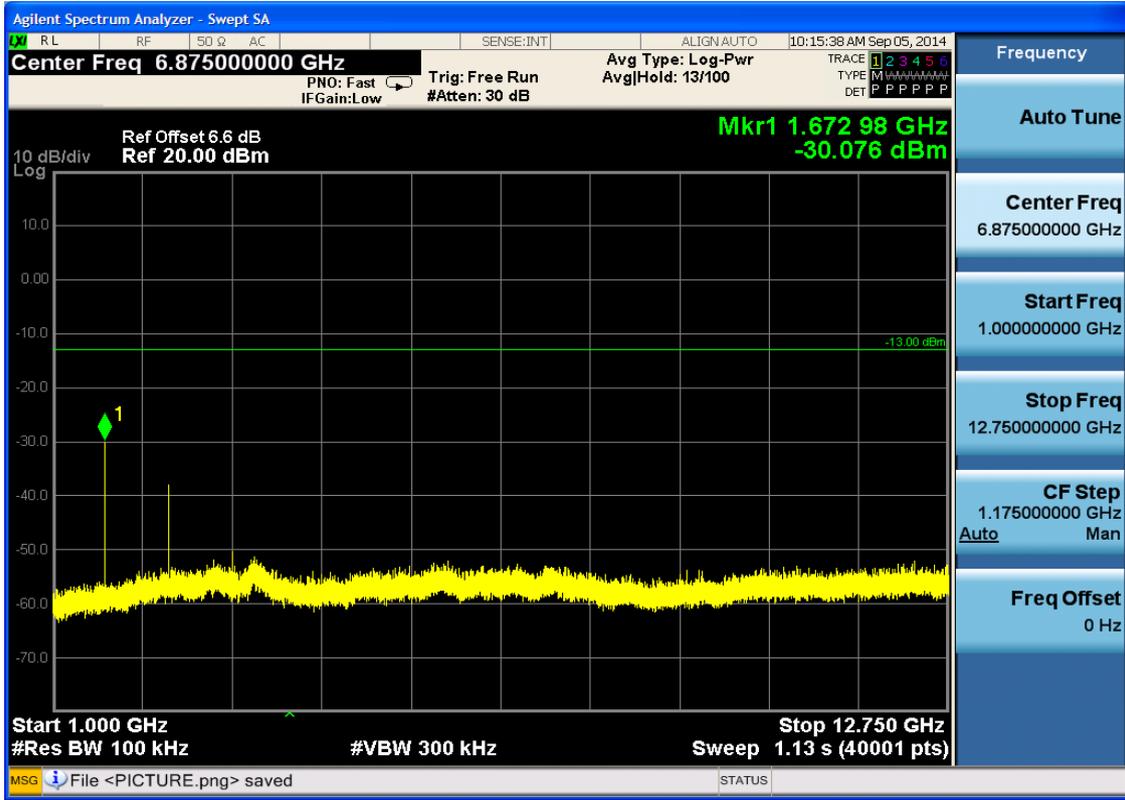


6.1.1.1.2 Test Channel = MCH



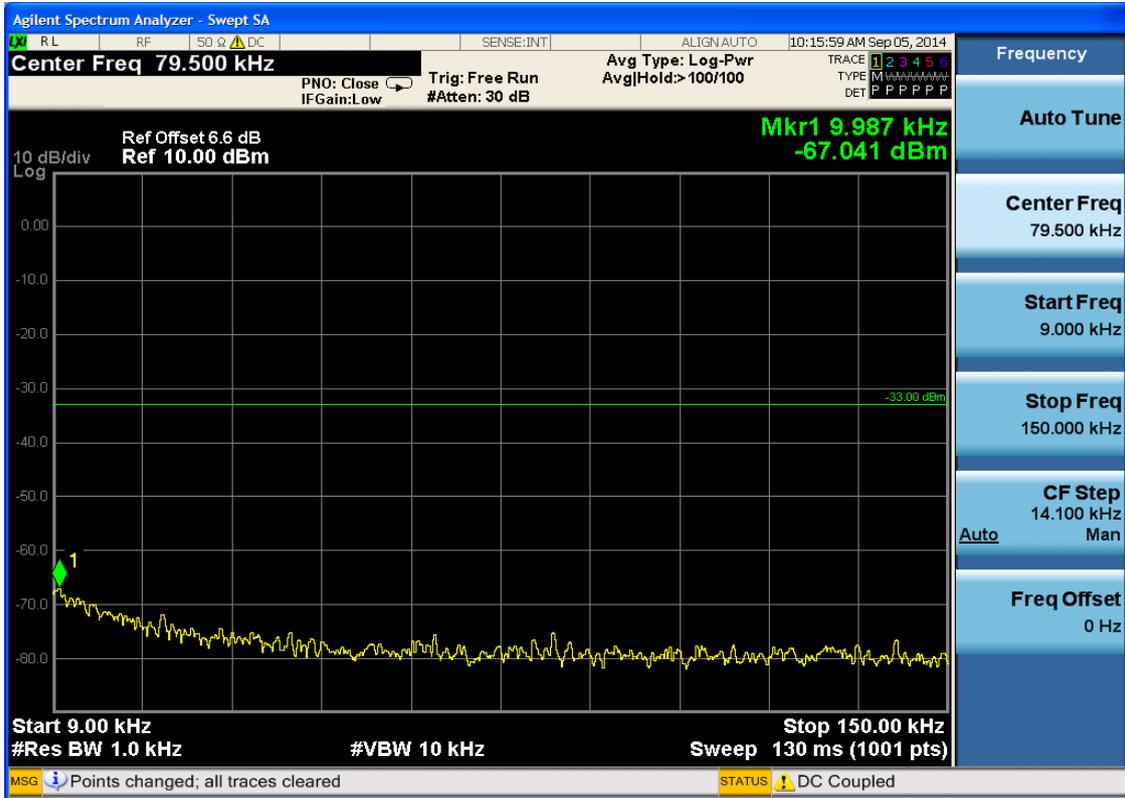


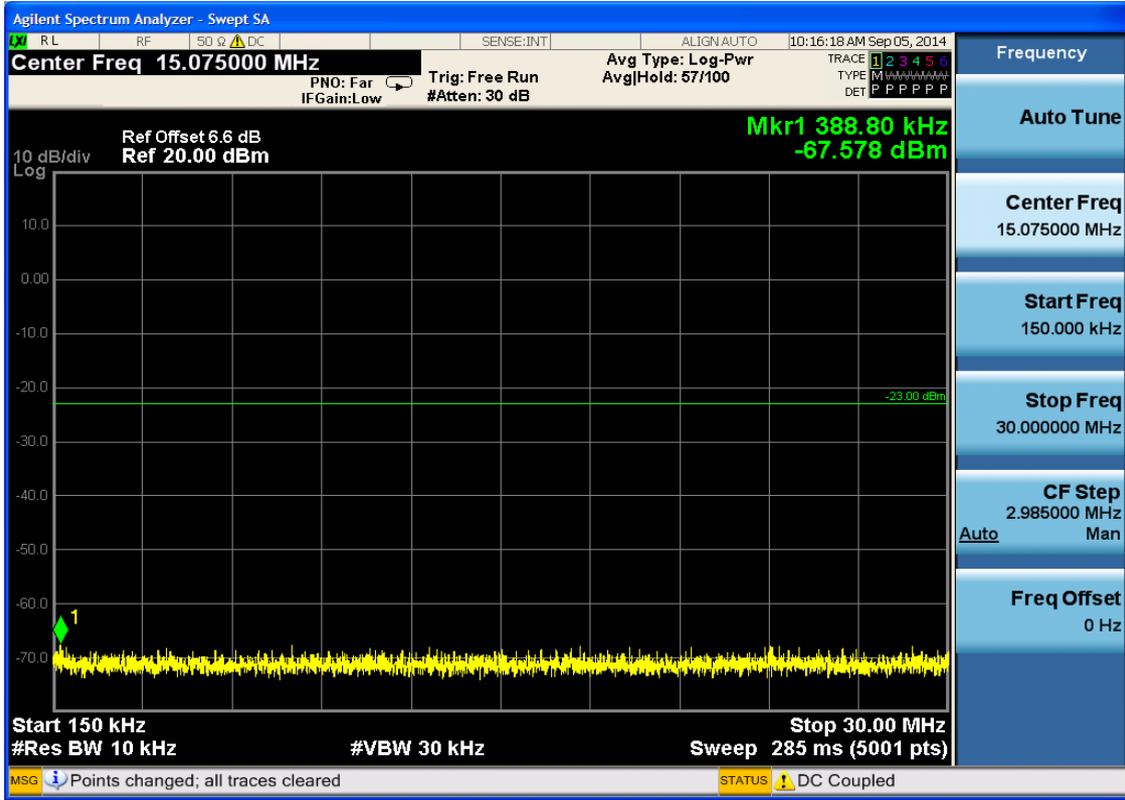


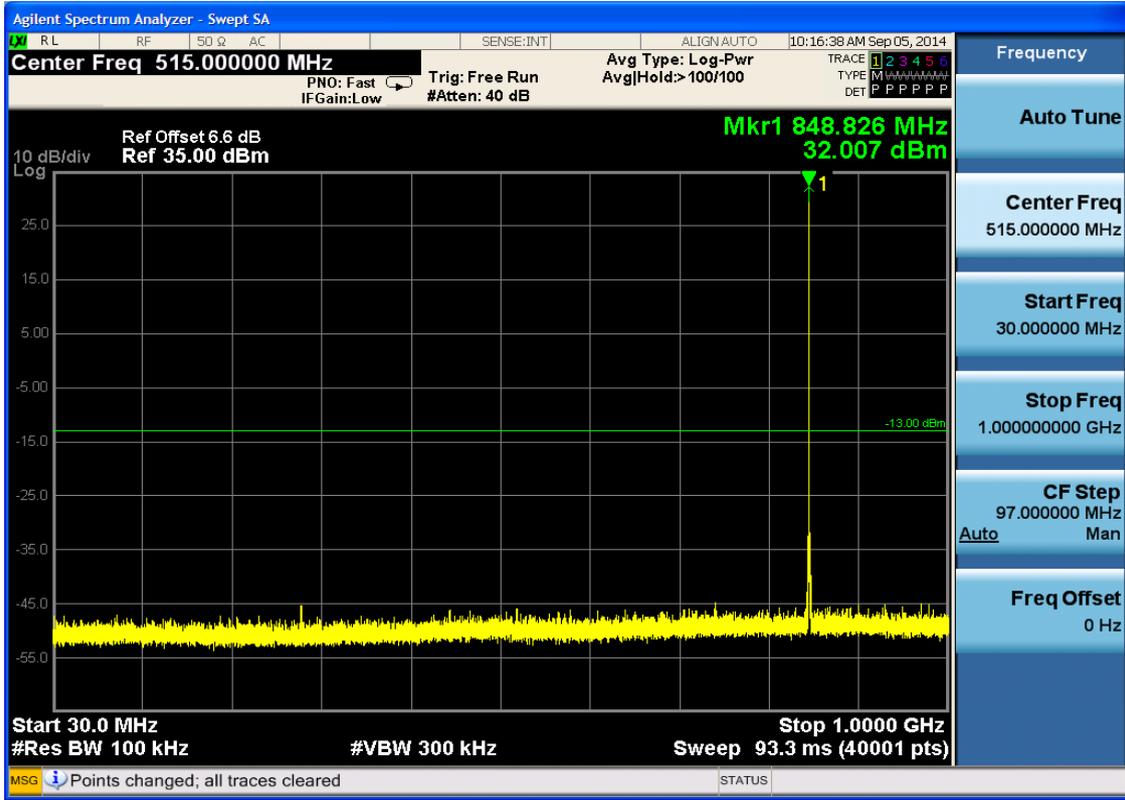


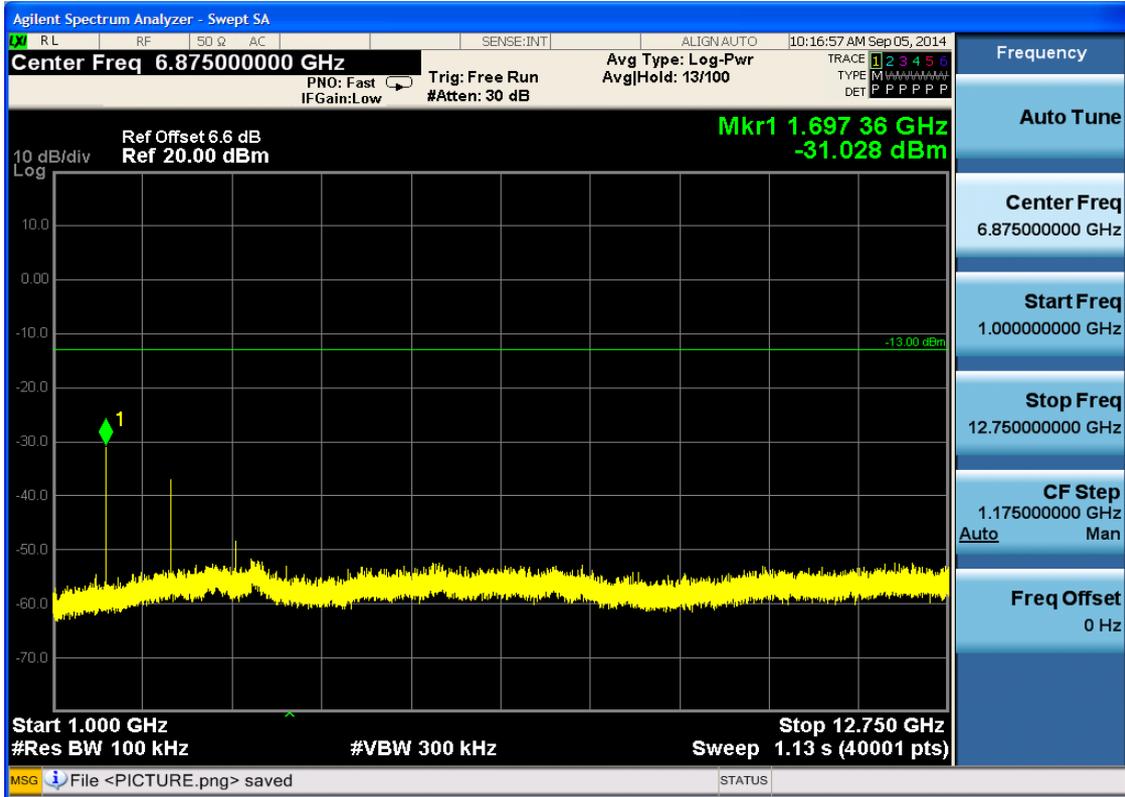


6.1.1.1.3 Test Channel = HCH





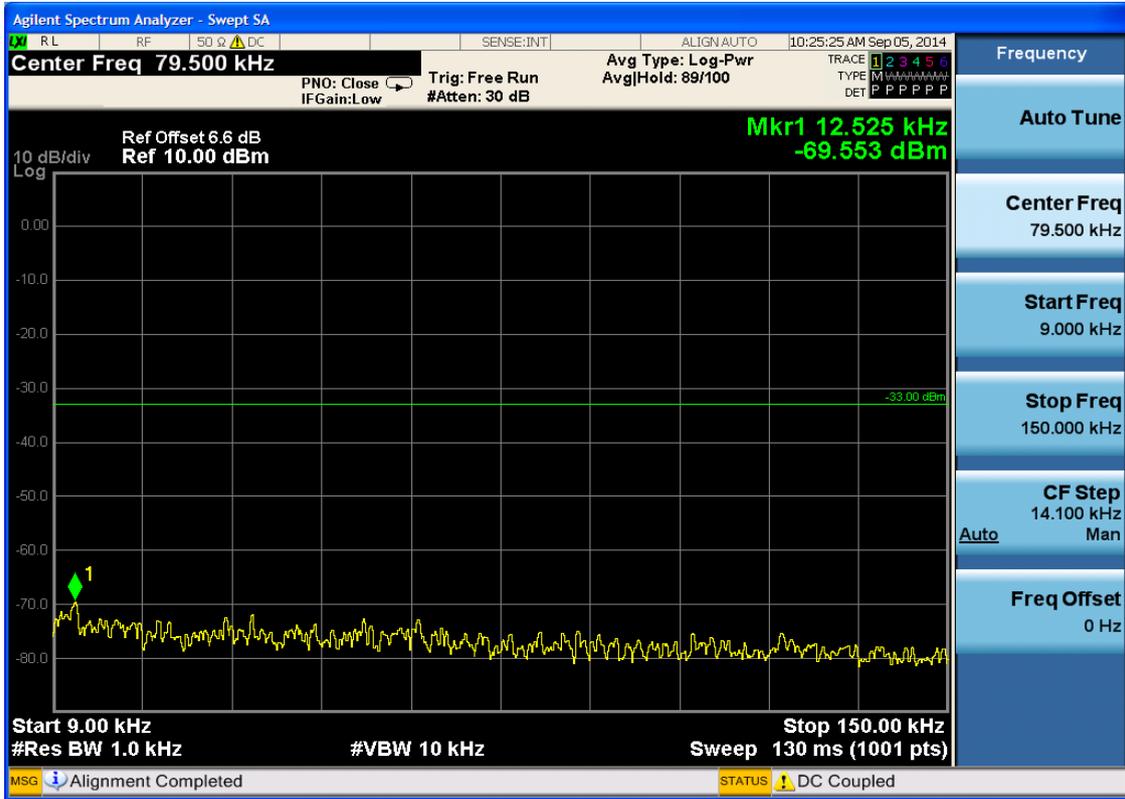


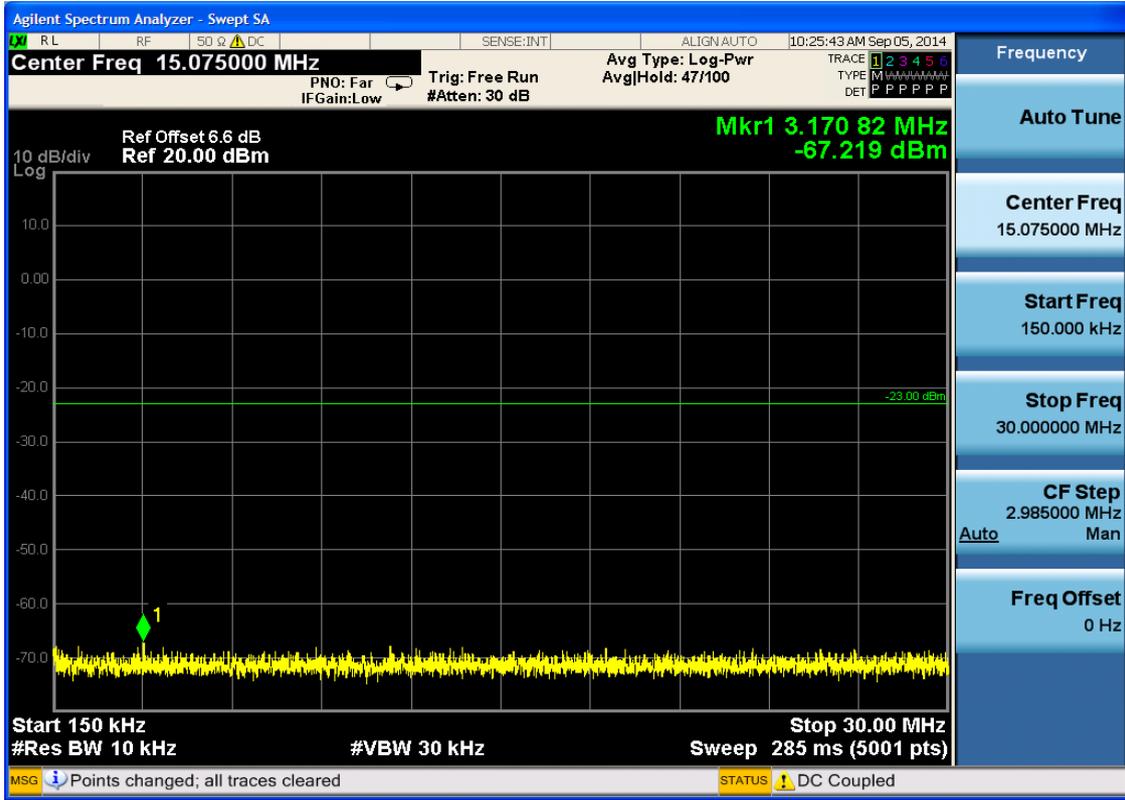


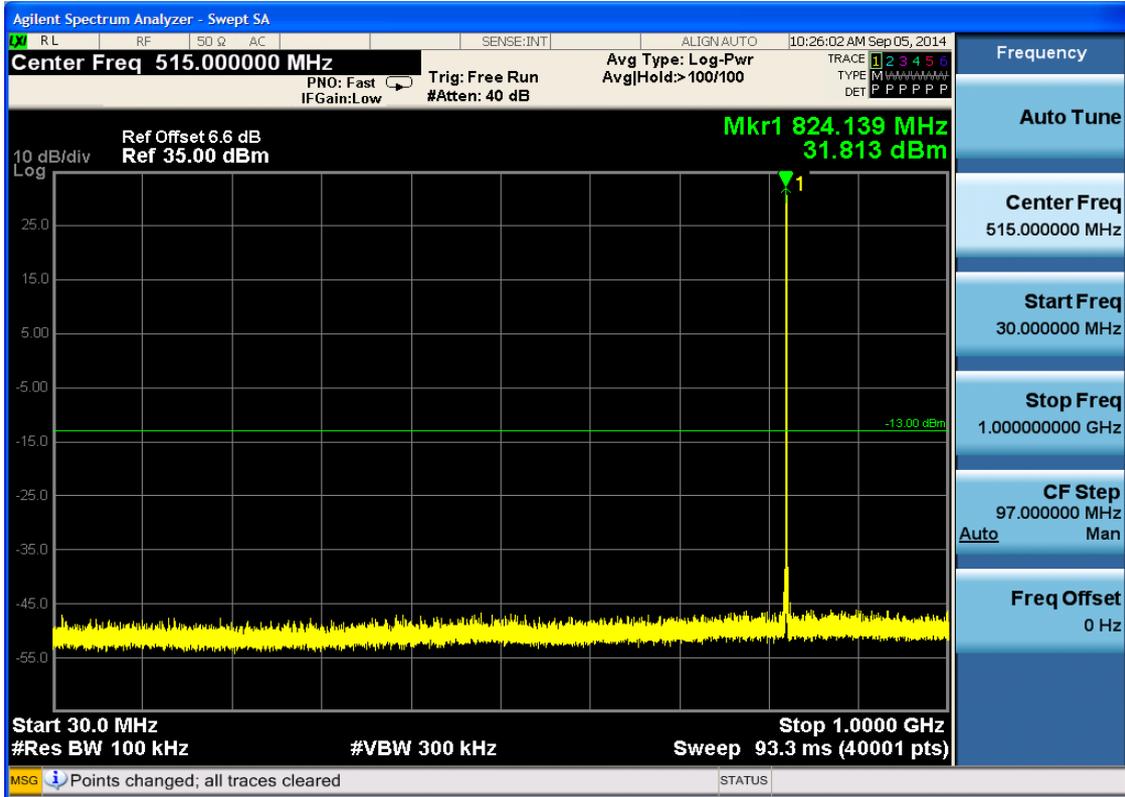


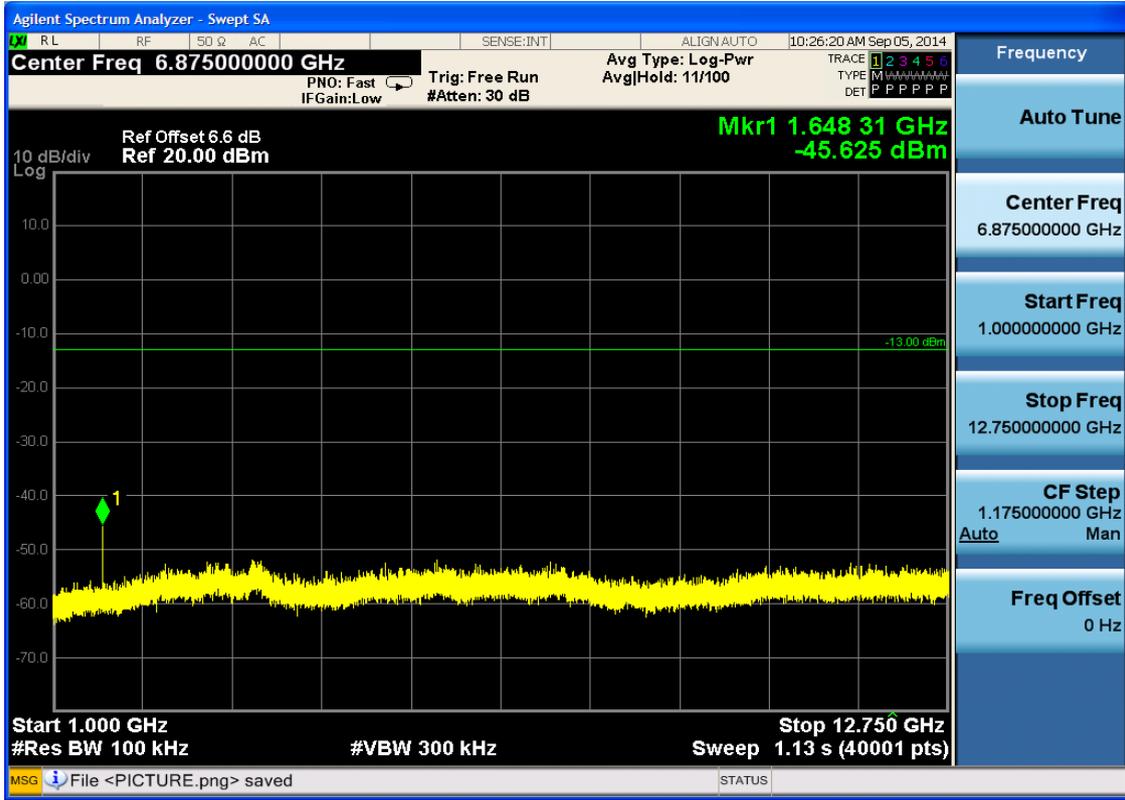
6.1.1.2 Test Mode = GSM/TM2

6.1.1.2.1 Test Channel = LCH



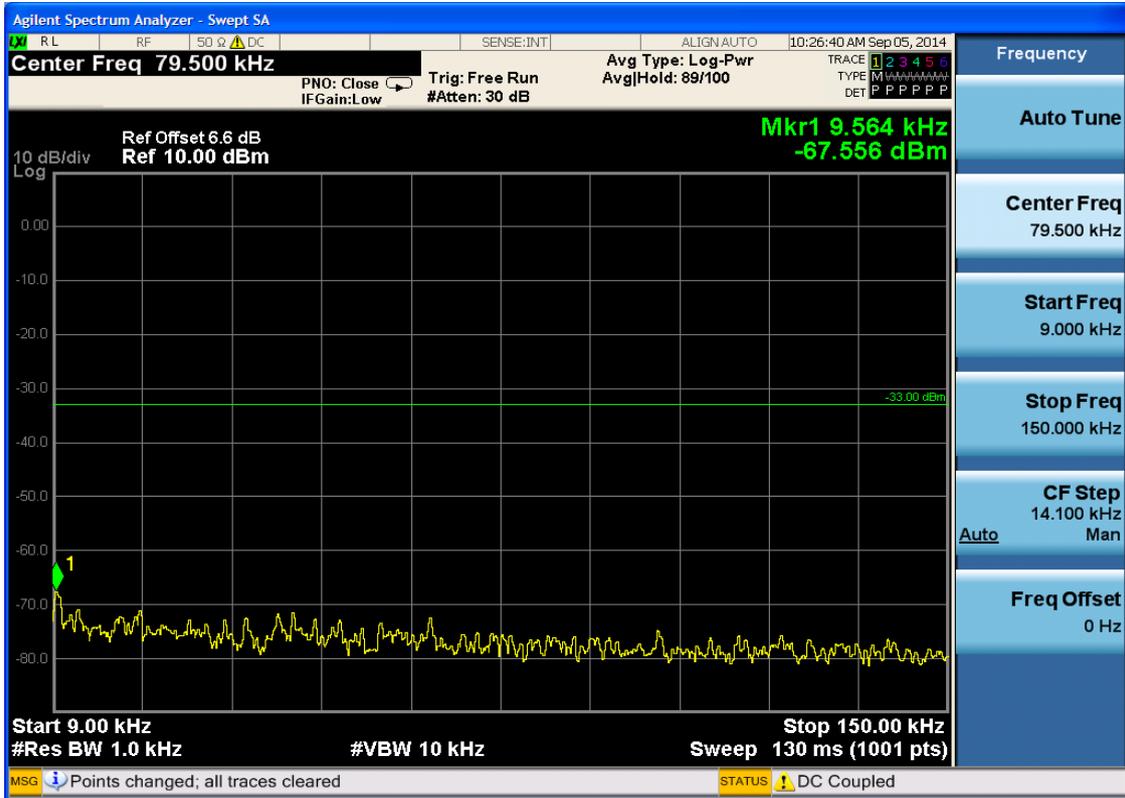


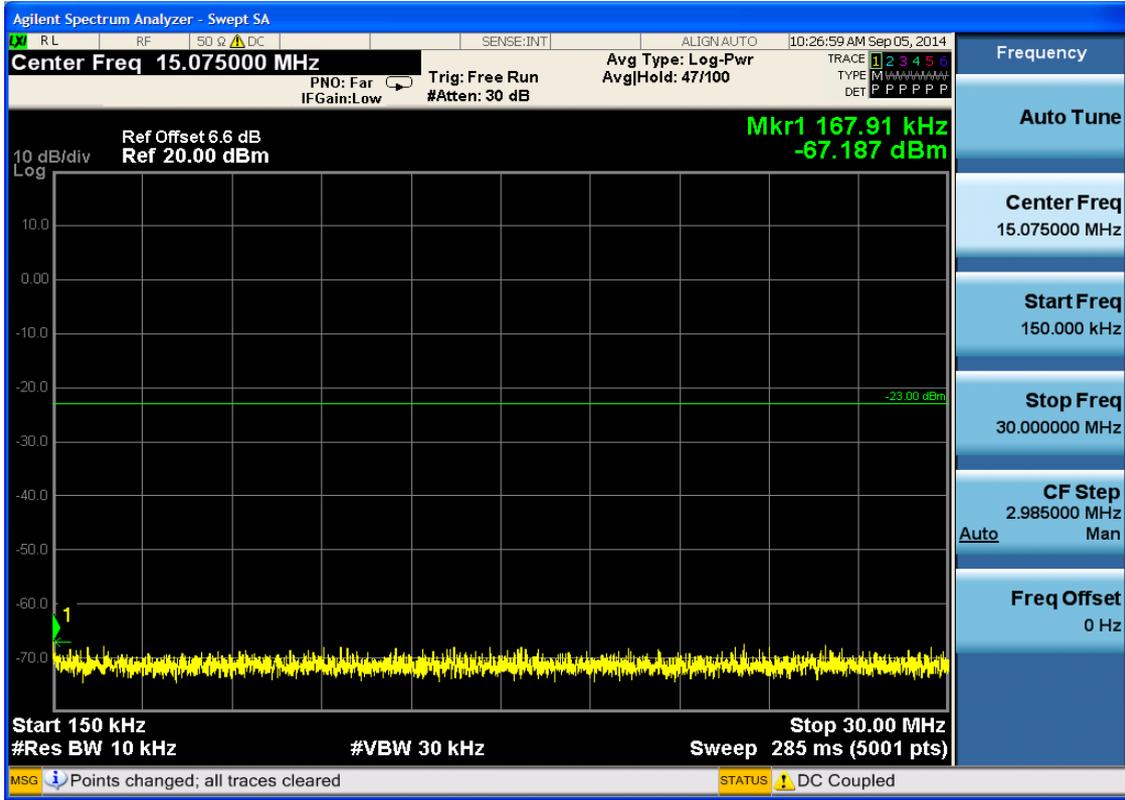


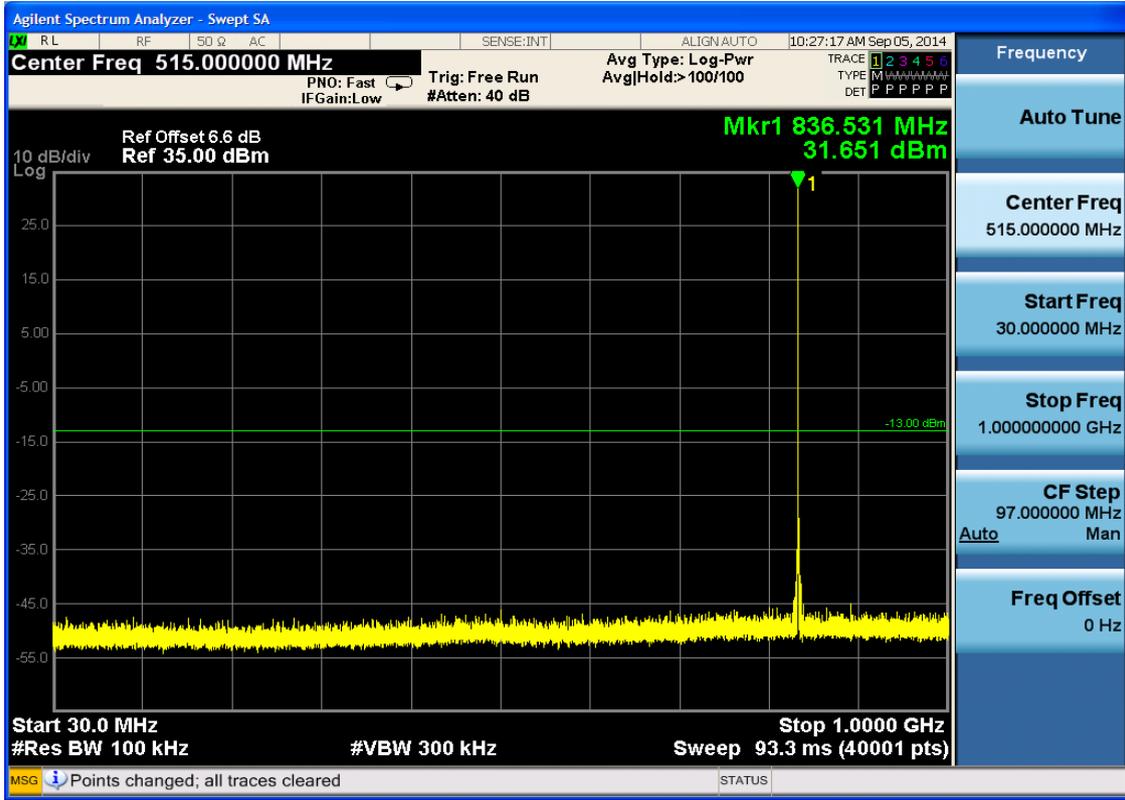


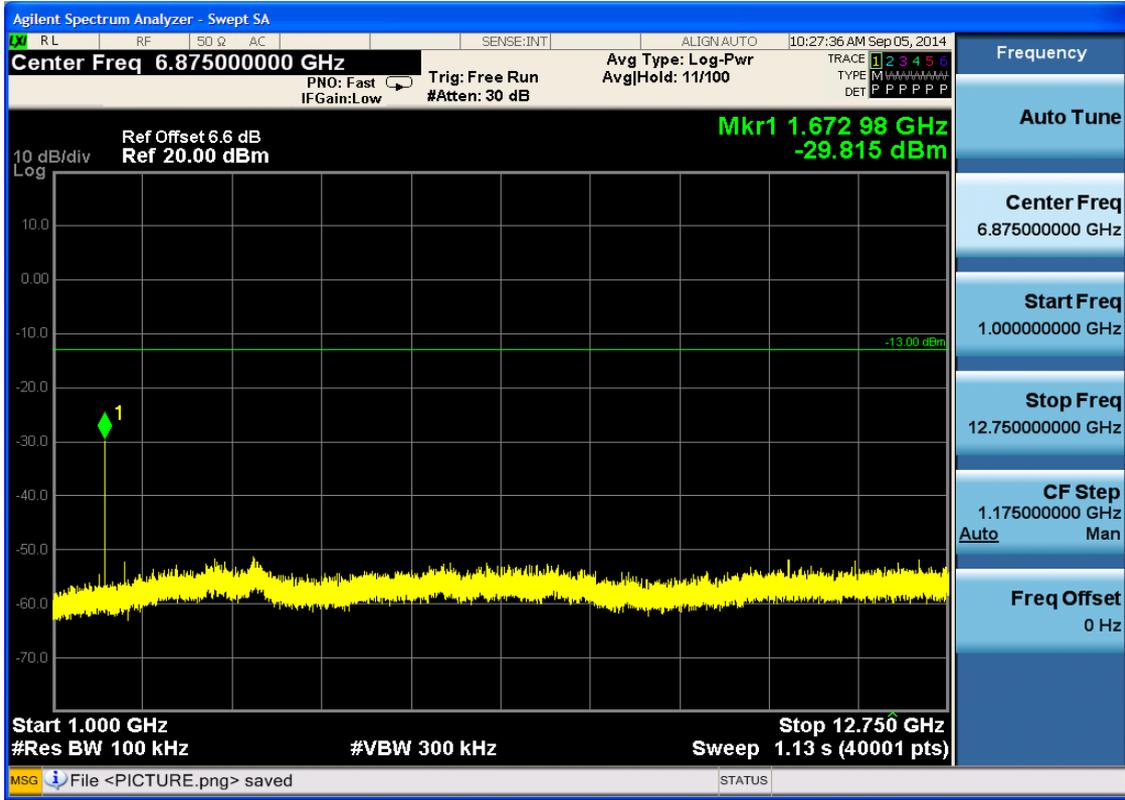


6.1.1.2.2 Test Channel = MCH



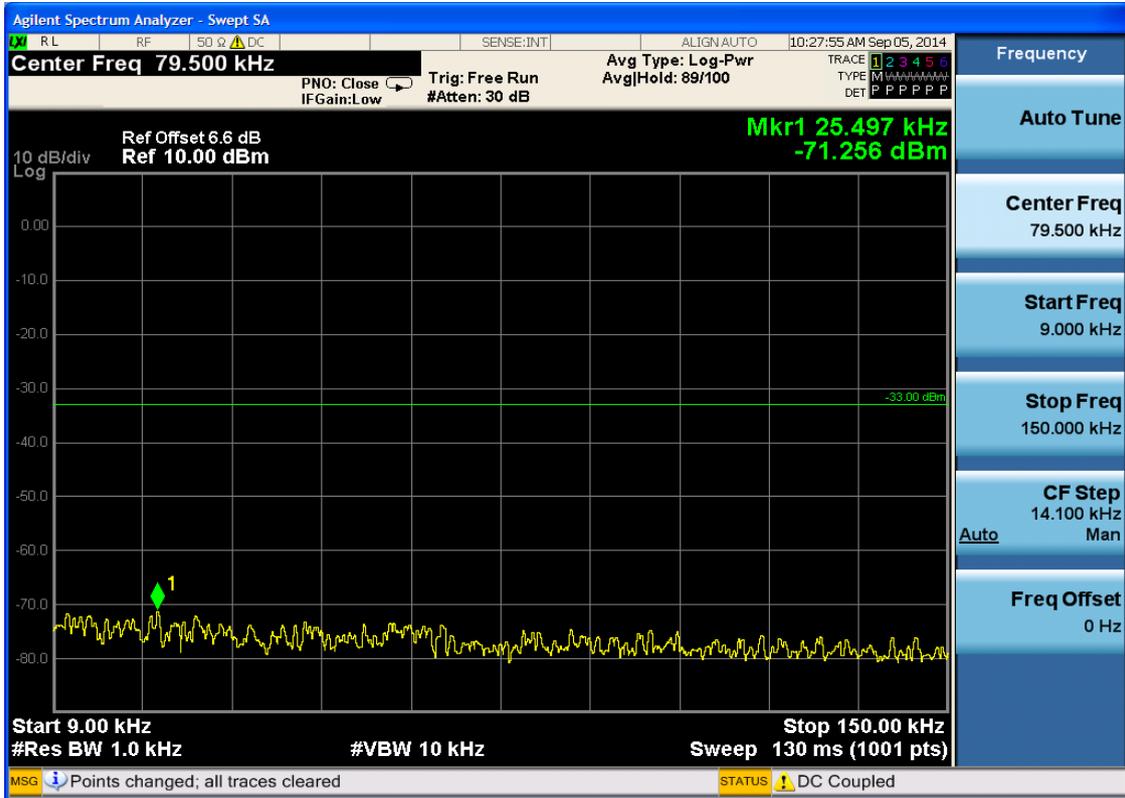


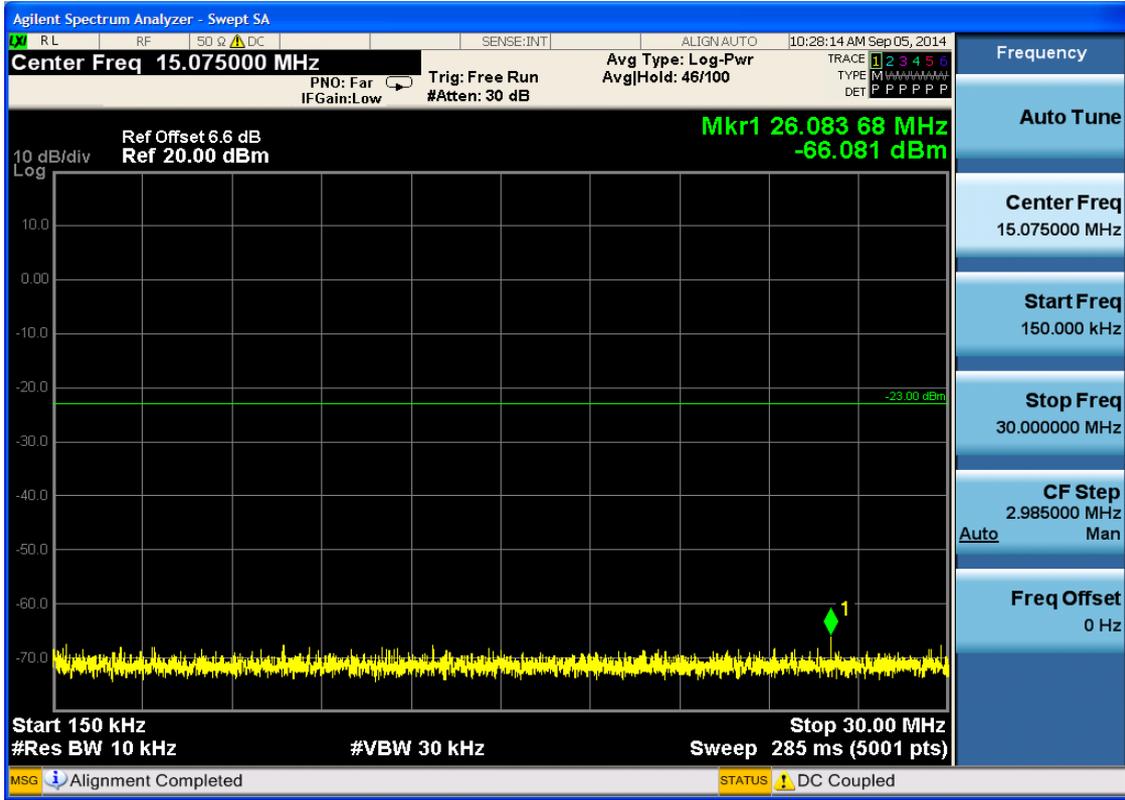


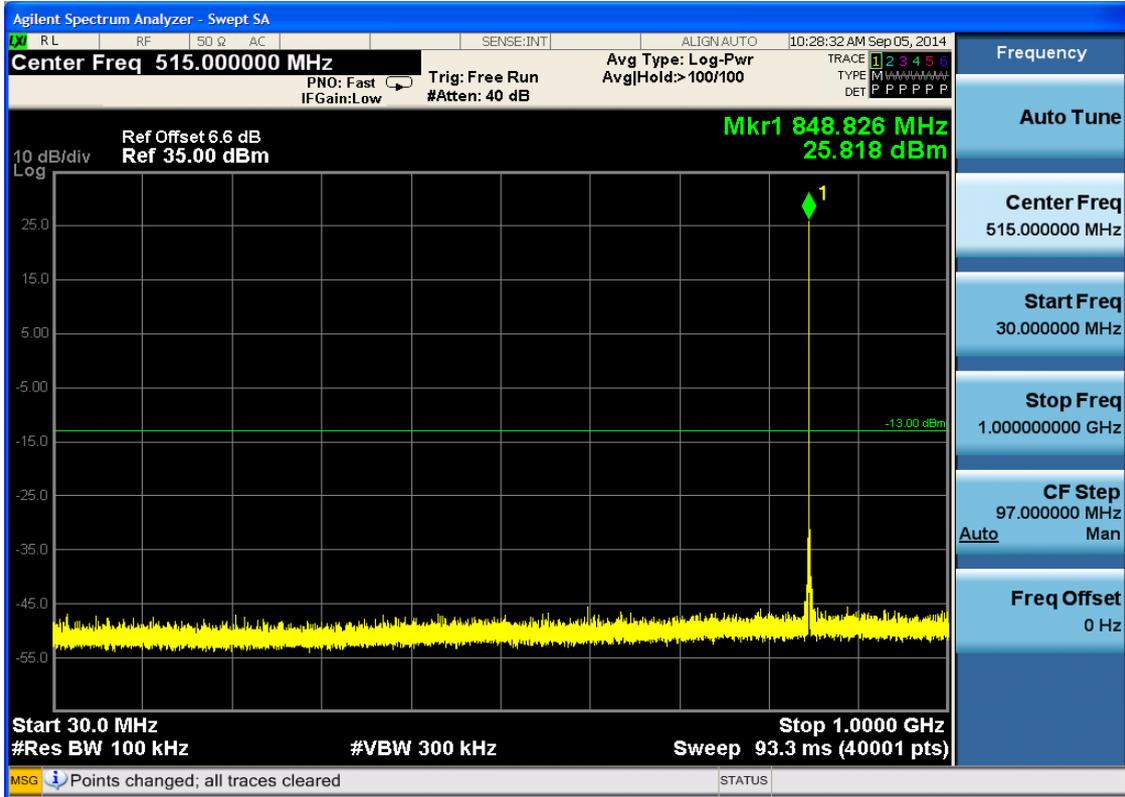


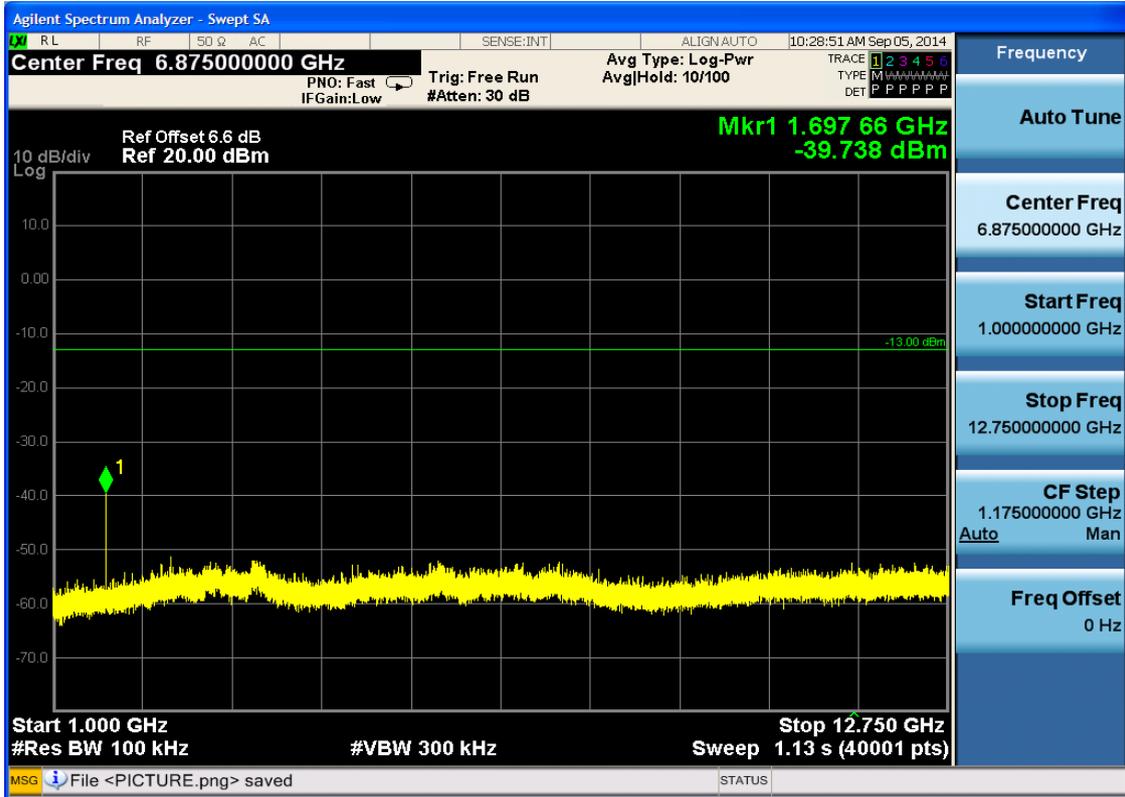


6.1.1.2.3 Test Channel = HCH









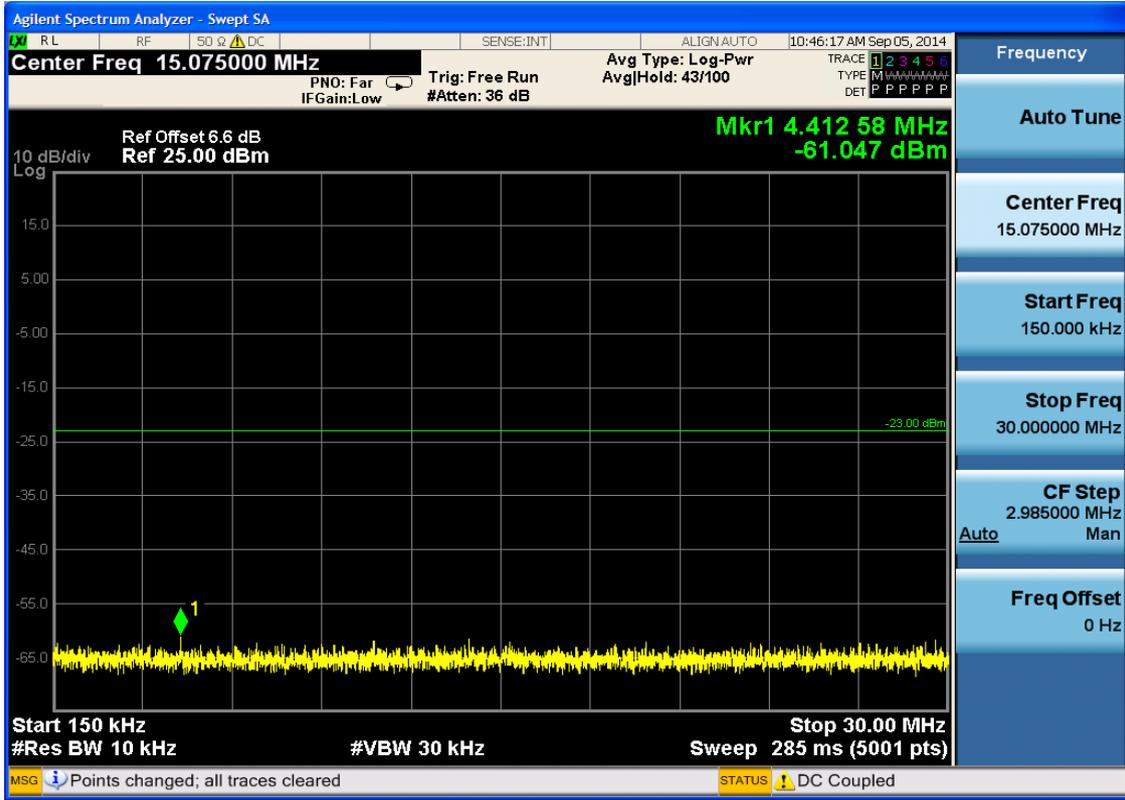


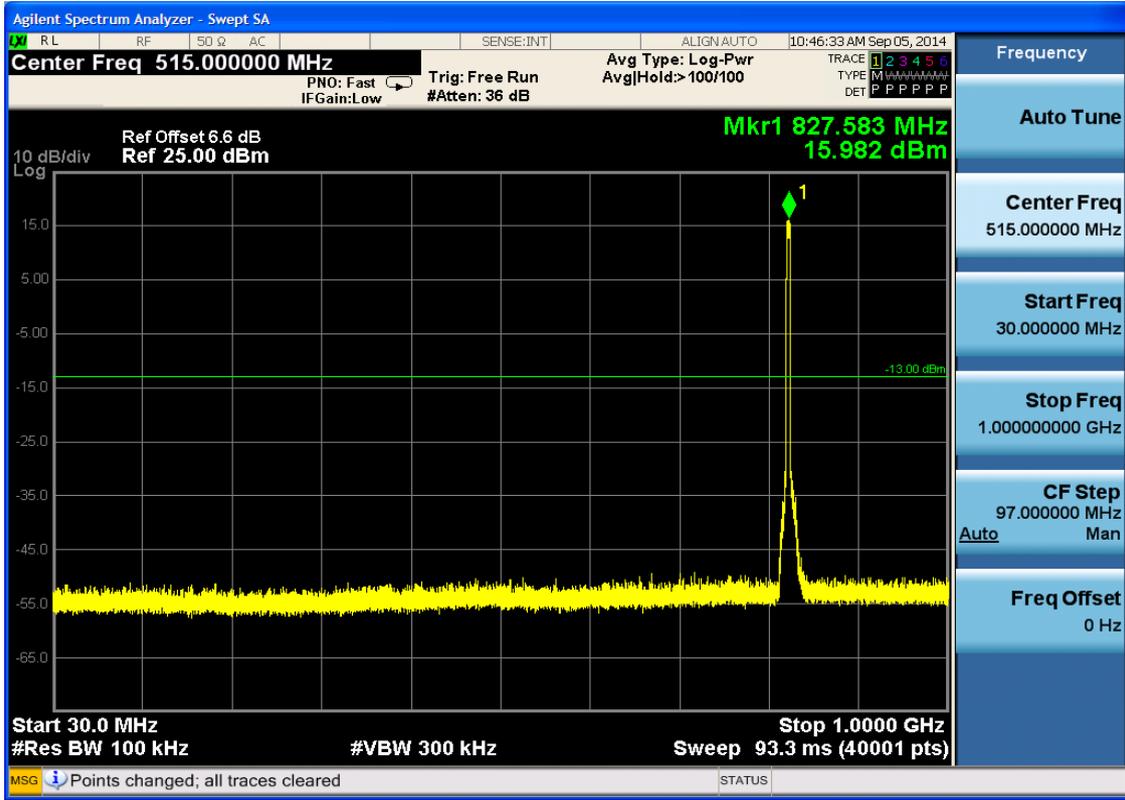
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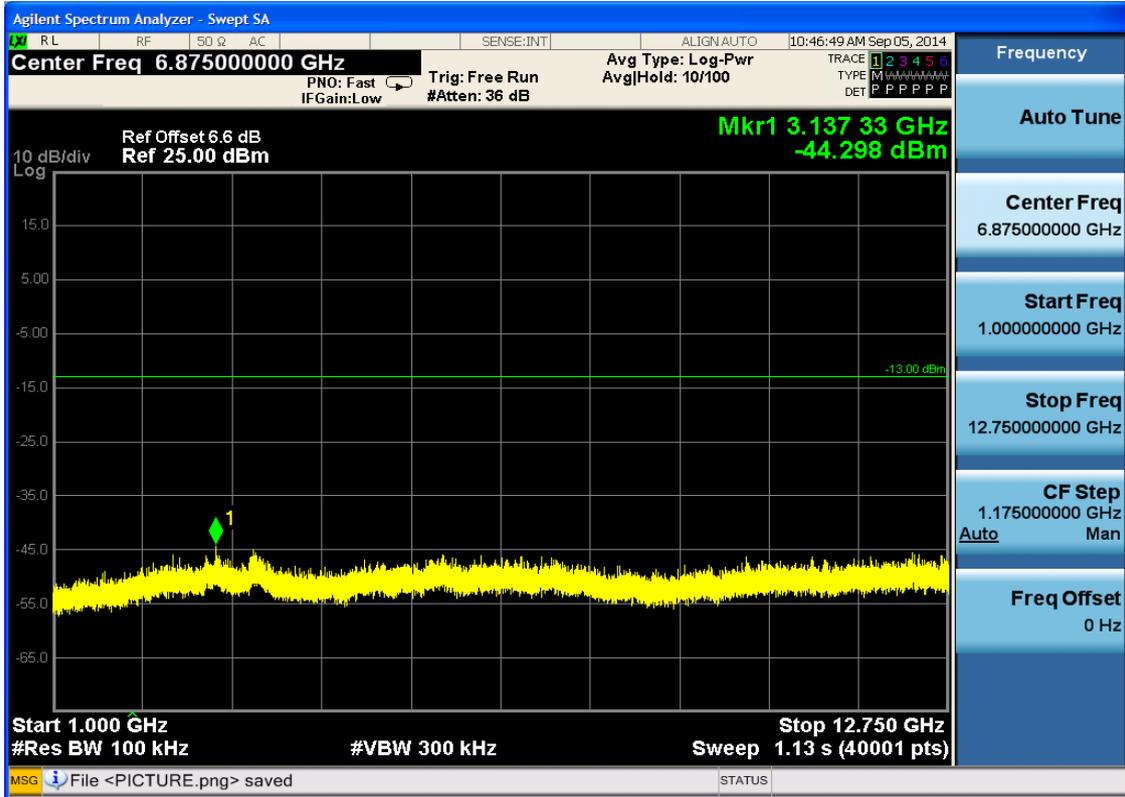
6.1.2.1 Test Mode = UMTS/TM1

6.1.2.1.1 Test Channel = LCH





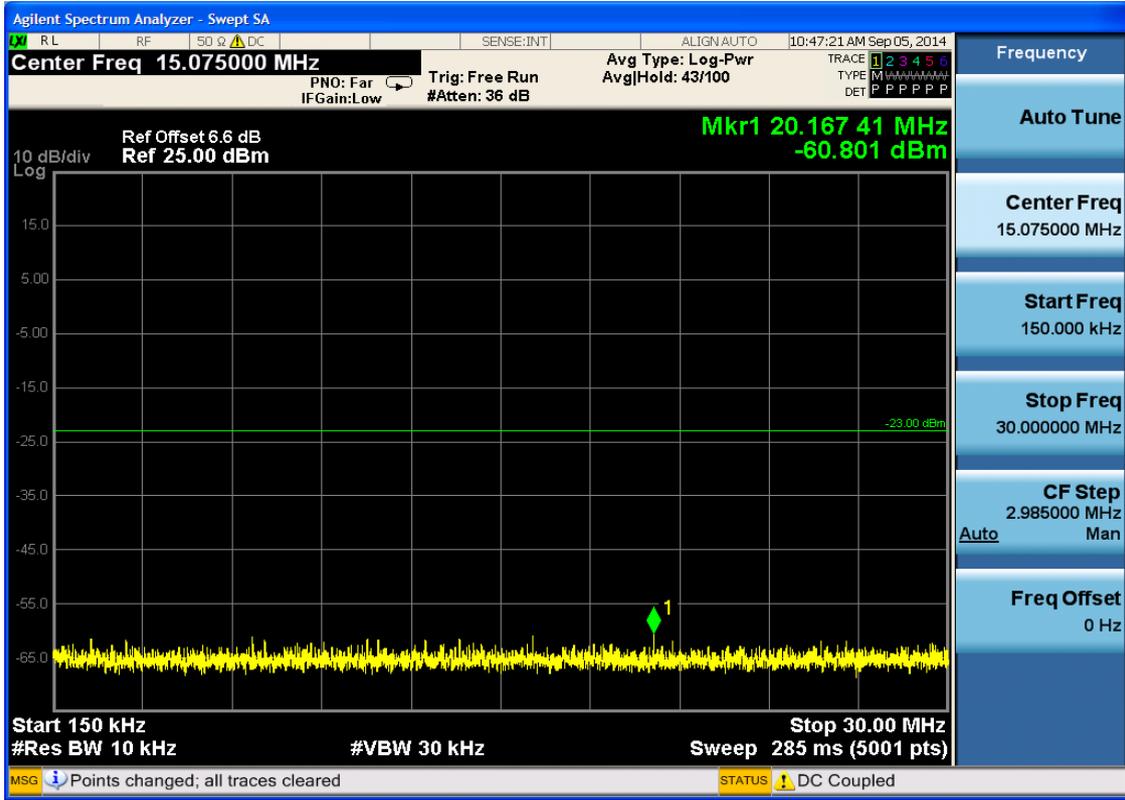


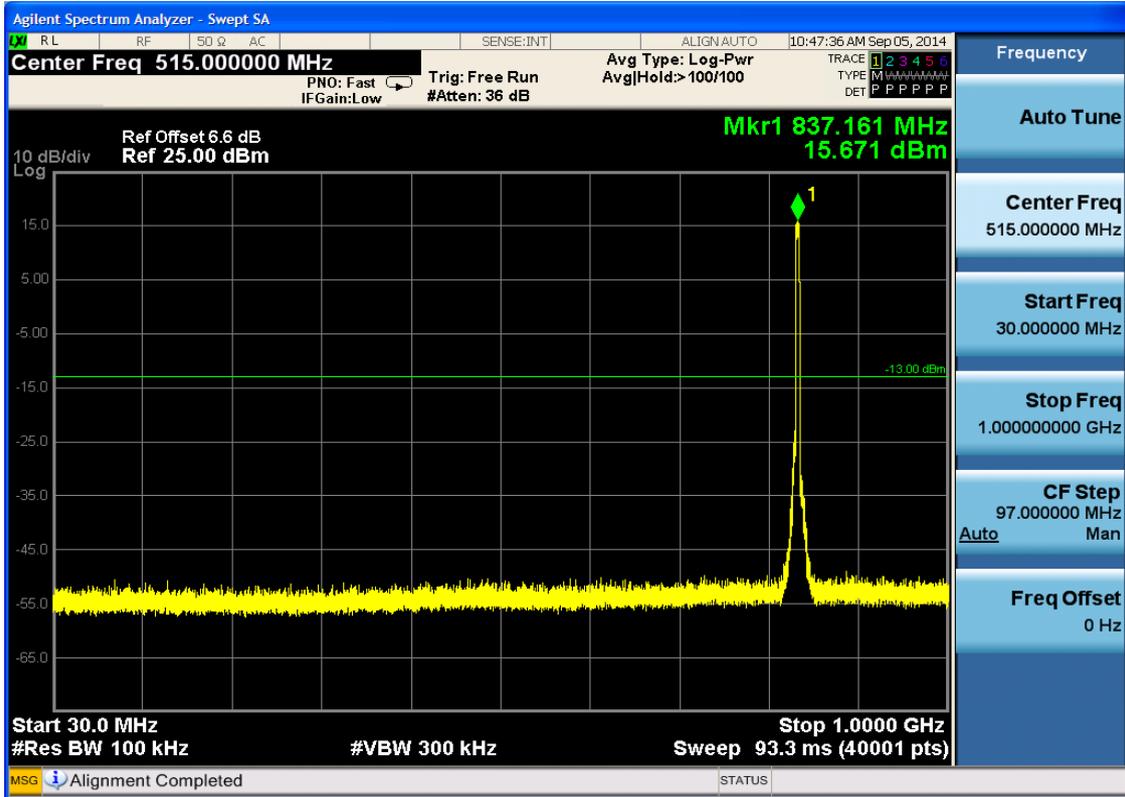


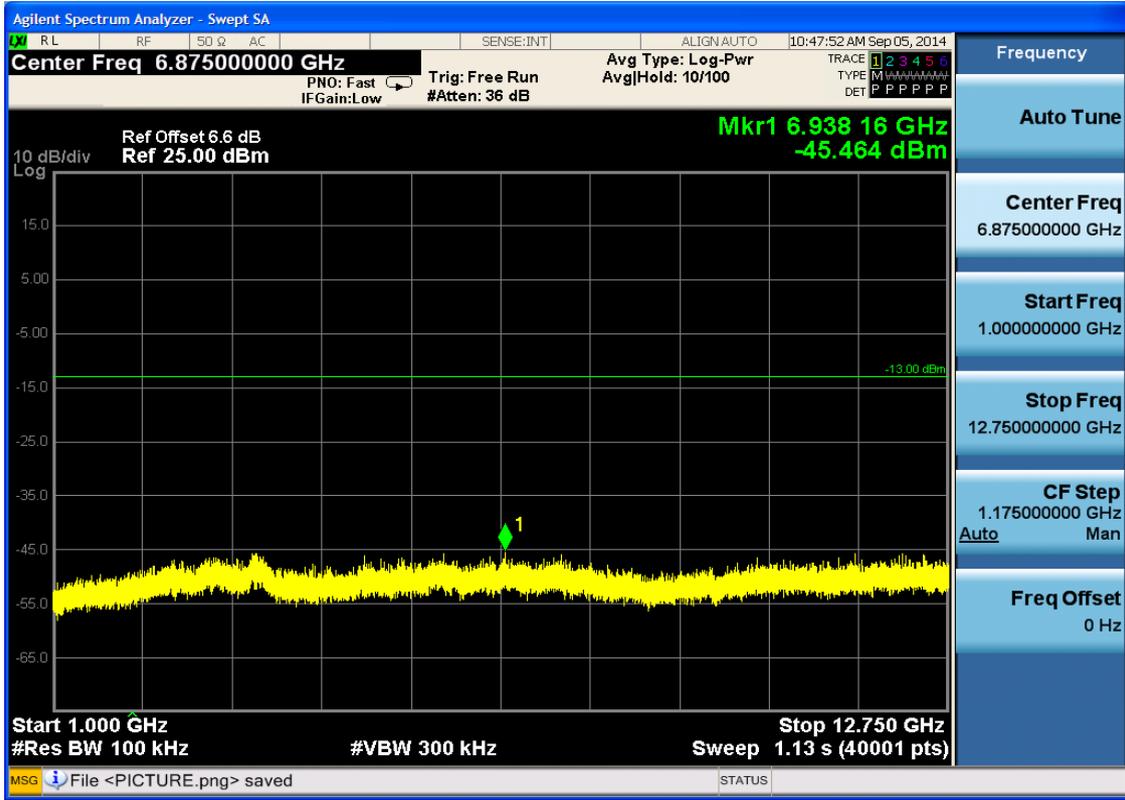


6.1.2.1.2 Test Channel = MCH



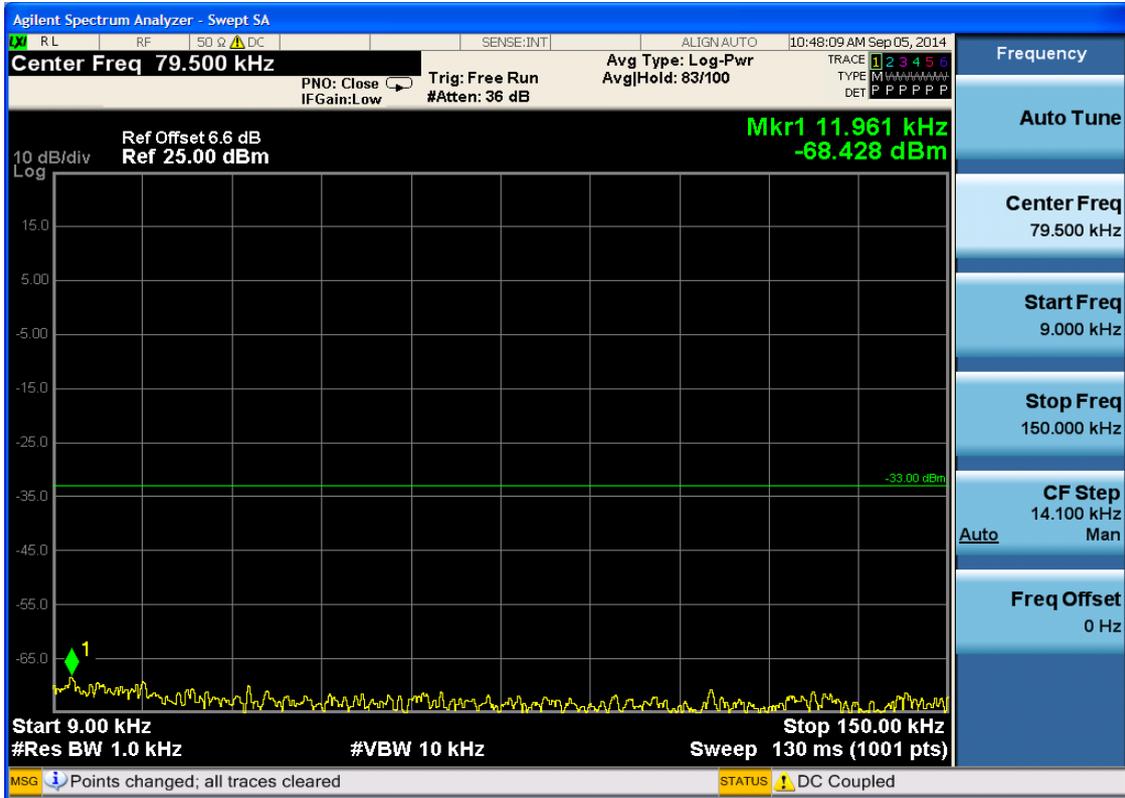


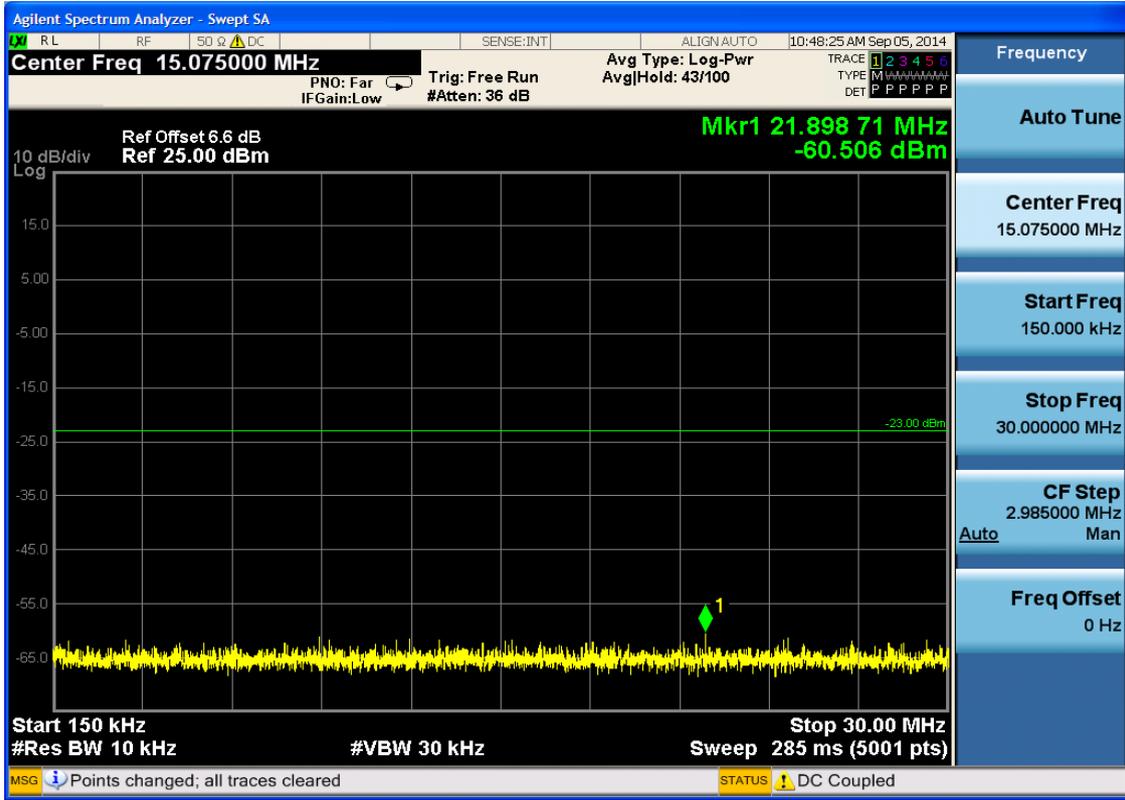


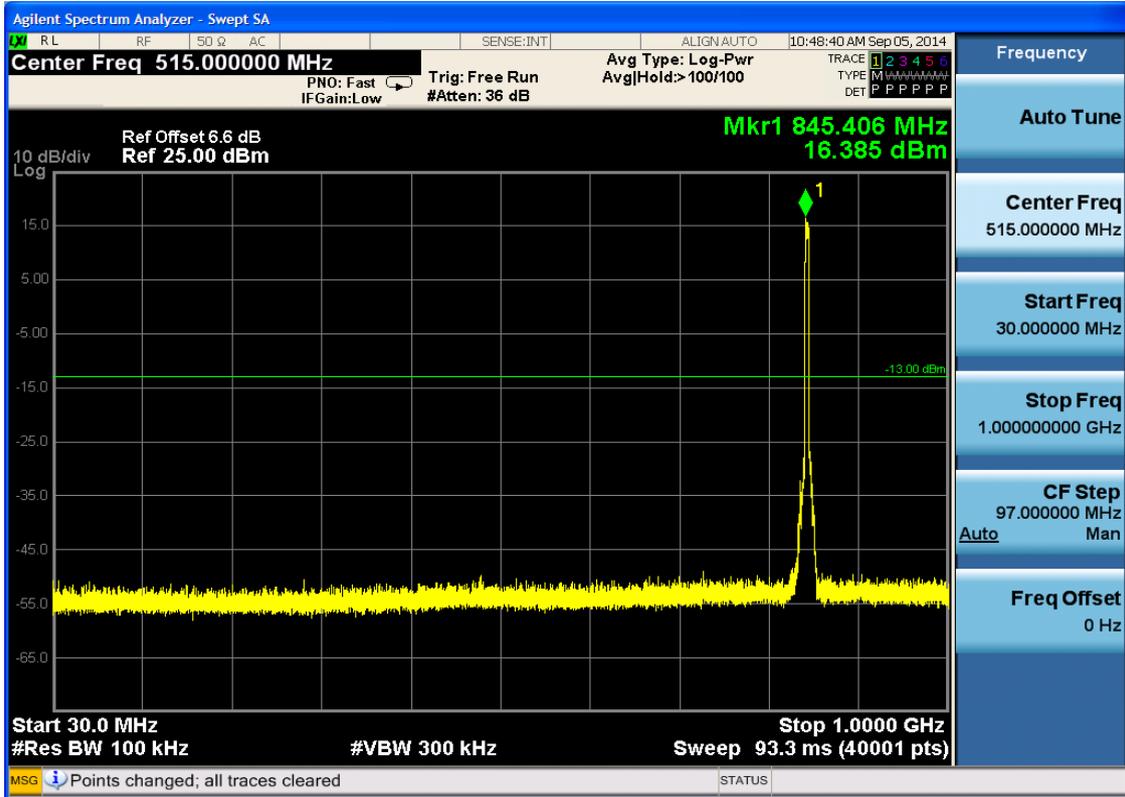


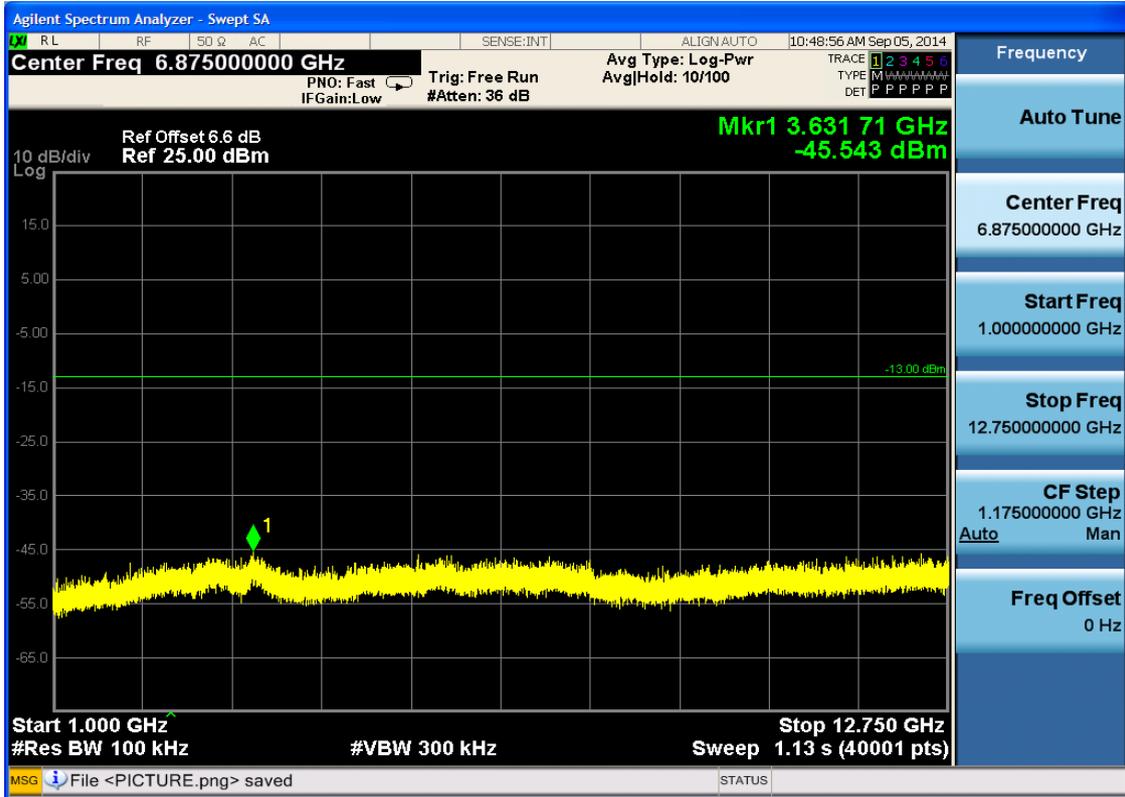


6.1.2.1.3 Test Channel = HCH









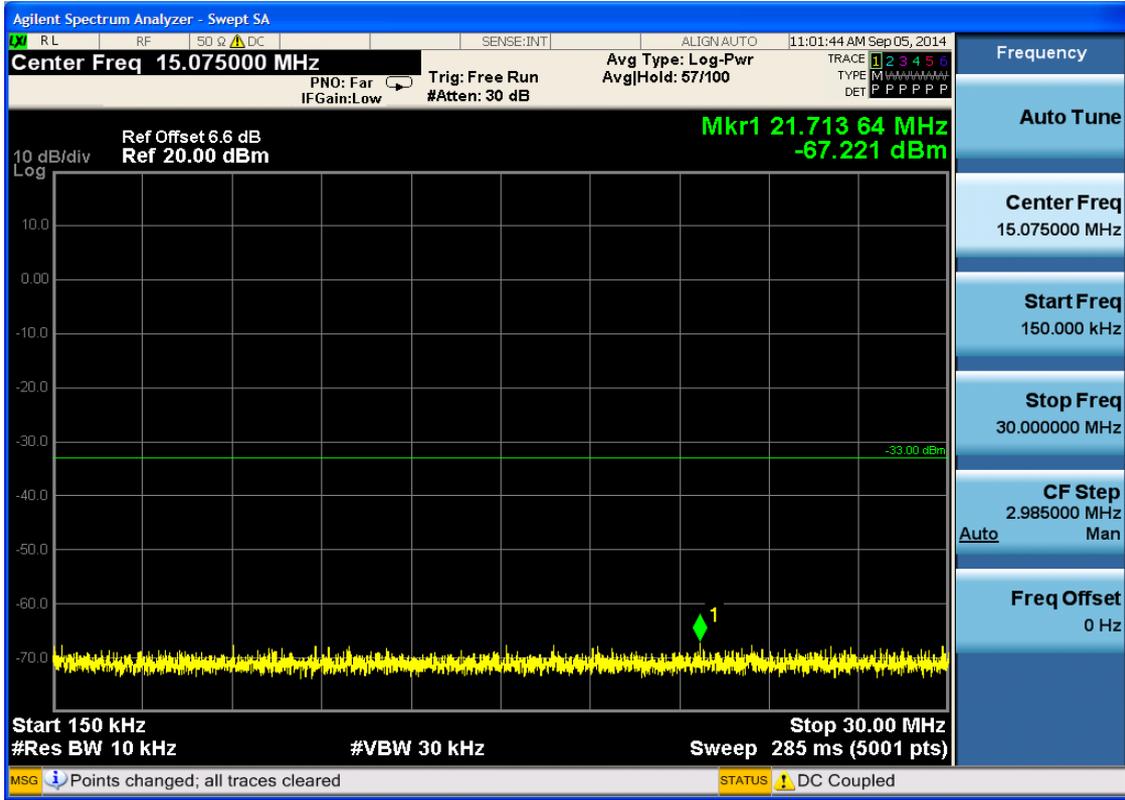


6.1.3 Test Band = GSM1900

6.1.3.1 Test Mode = GSM/TM1

6.1.3.1.1 Test Channel = LCH



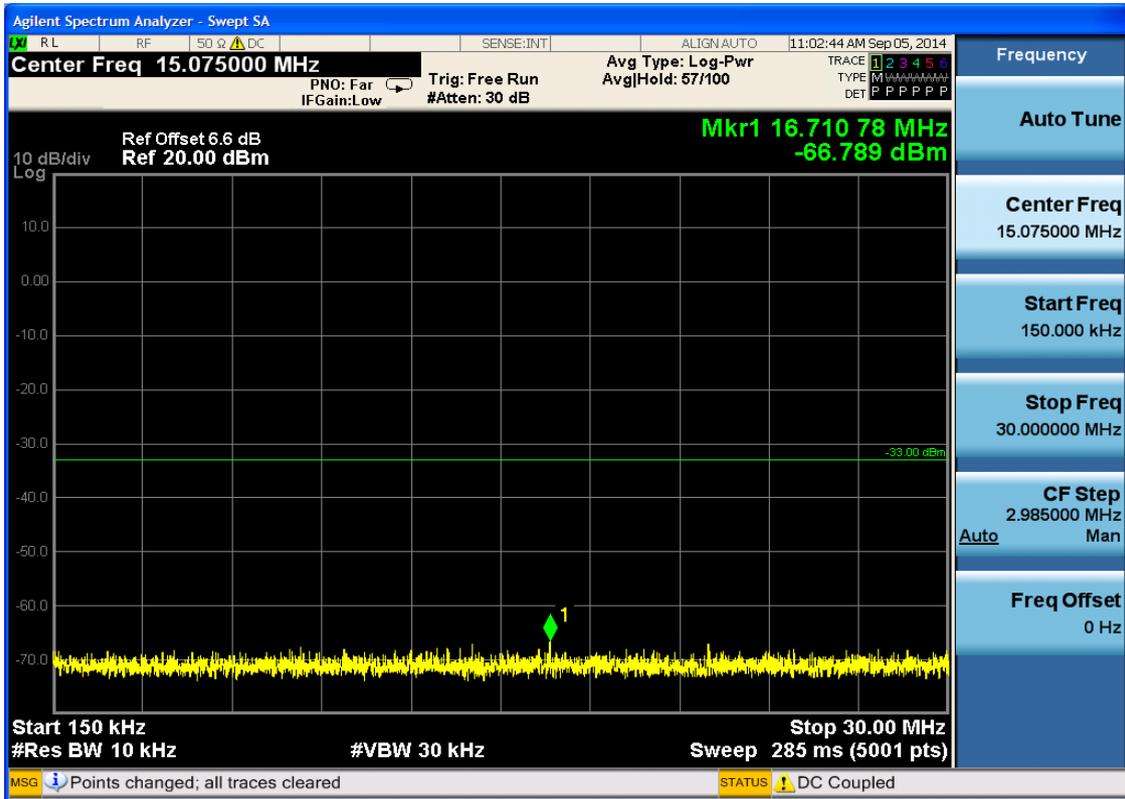


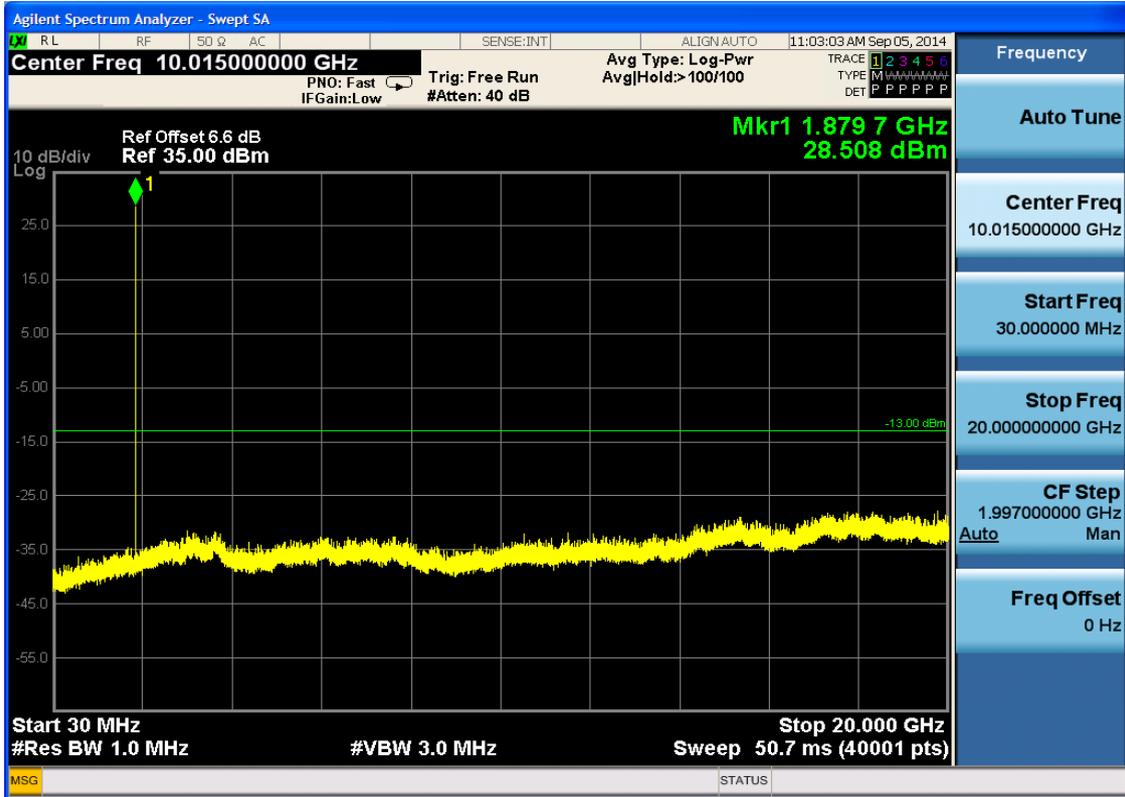




6.1.3.1.2 Test Channel = MCH



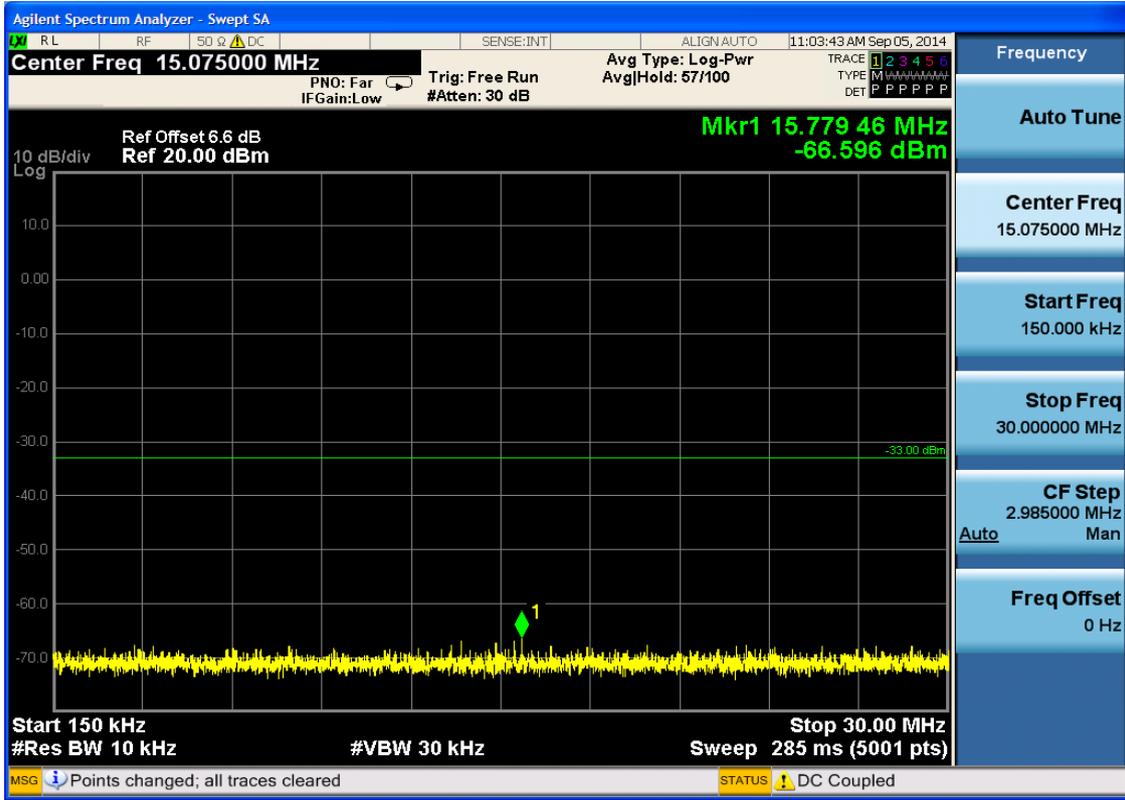






6.1.3.1.3 Test Channel = HCH

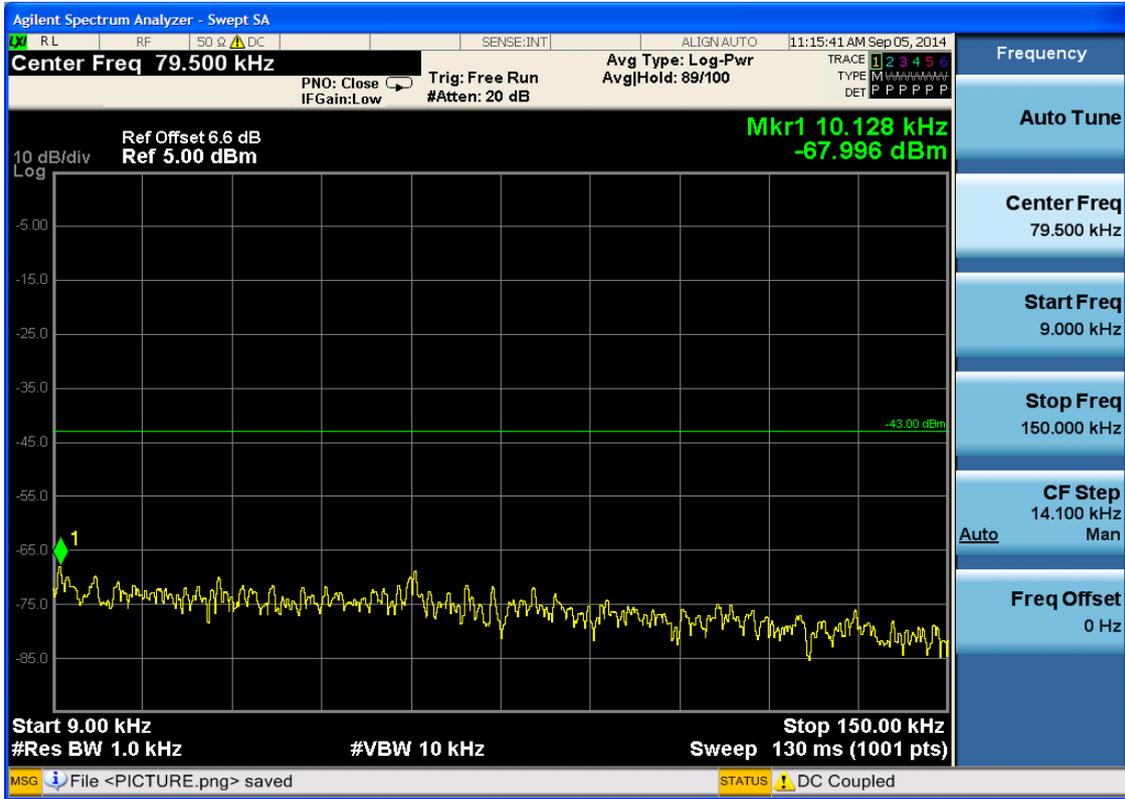


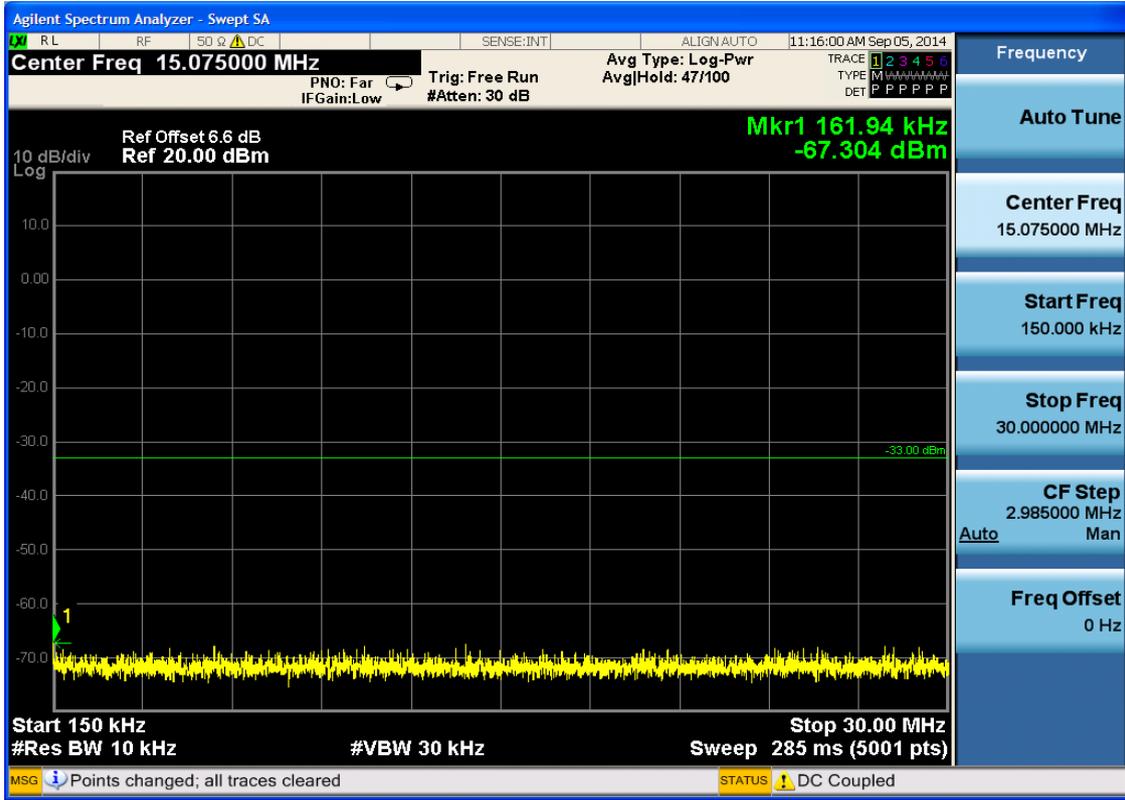




6.1.3.2 Test Mode = GSM/TM2

6.1.3.2.1 Test Channel = LCH

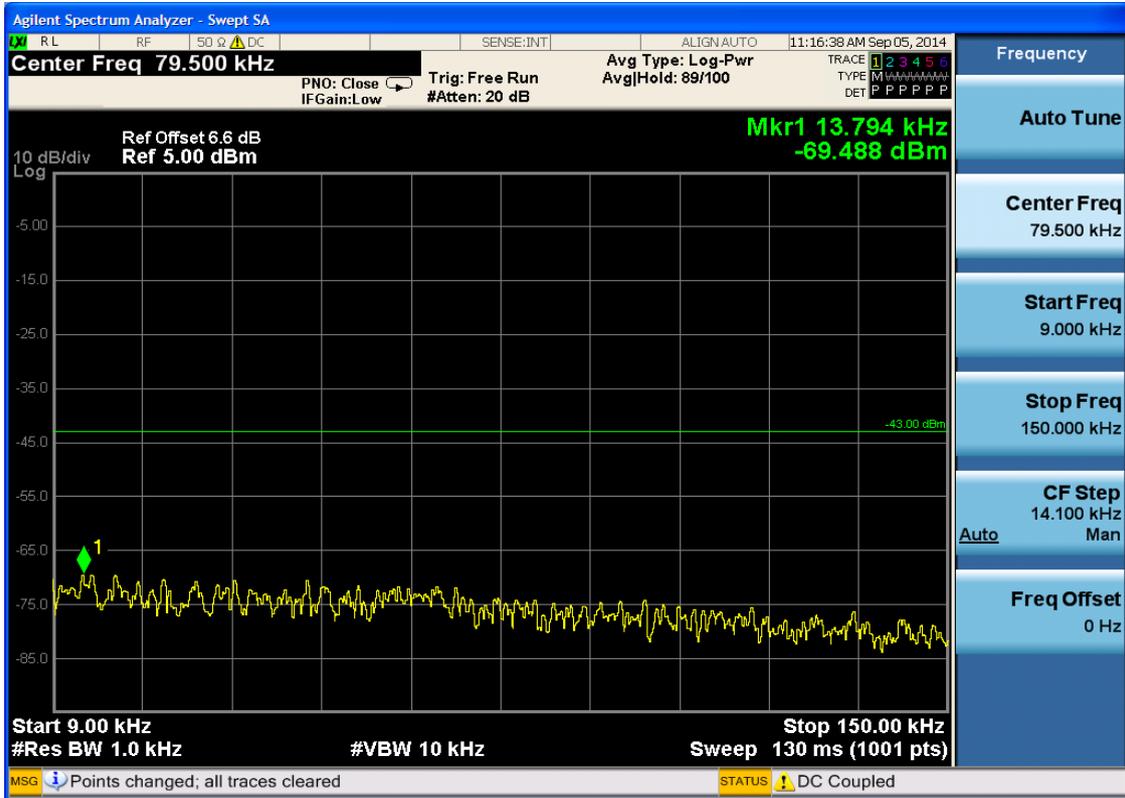


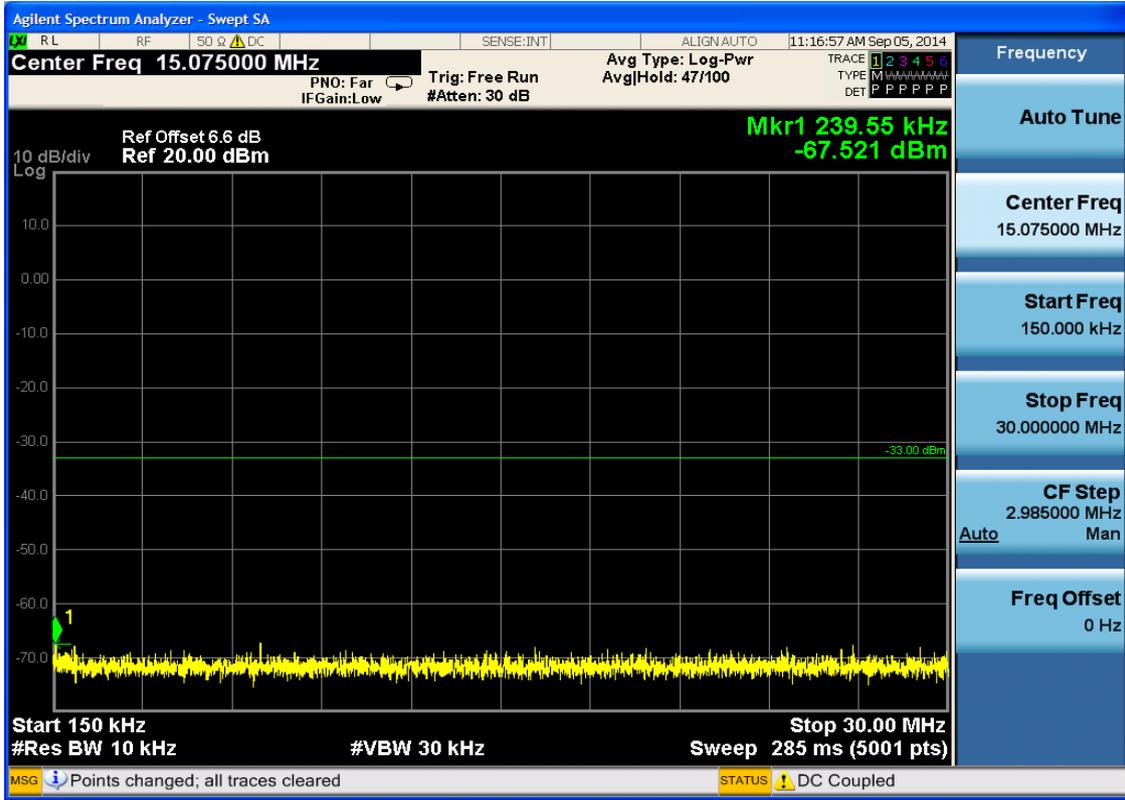






6.1.3.2.2 Test Channel = MCH

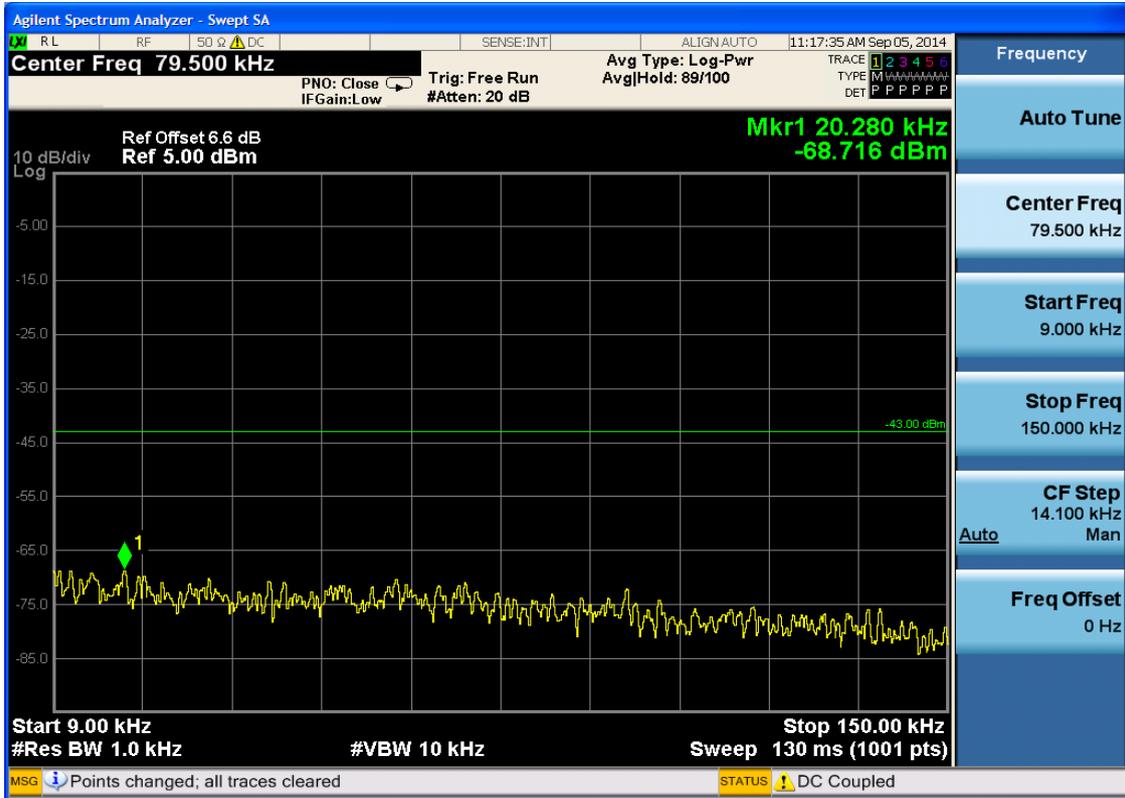


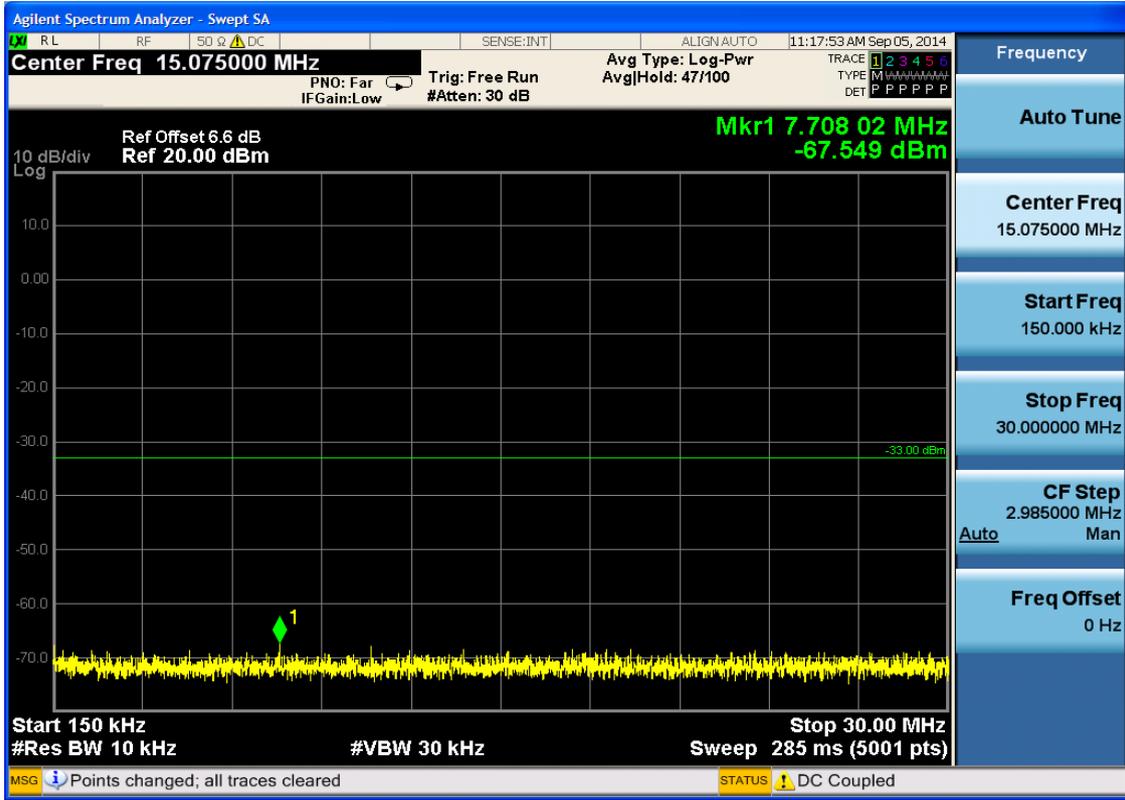






6.1.3.2.3 Test Channel = HCH









6.1.4 Test Band = WCDMA1900

6.1.4.1 Test Mode = UMTS/TM1

6.1.4.1.1 Test Channel = LCH



