



# Appendix for test report



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

### Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dBm]	ERP/EIRP [dBm]	Limit [dBm]	Verdict
GSM850	GSM/TM1	LCH	32.51	27.76	38.5	PASS
		MCH	32.7	27.95	38.5	PASS
		HCH	32.8	28.05	38.5	PASS
	GSM/TM2	LCH	26.25	21.5	38.5	PASS
		MCH	26.27	21.52	38.5	PASS
		HCH	26.27	21.52	38.5	PASS
GSM1900	GSM/TM1	LCH	29.87	28.67	33	PASS
		MCH	29.68	28.48	33	PASS
		HCH	29.73	28.53	33	PASS
	GSM/TM2	LCH	25.22	24.02	33	PASS
		MCH	25.2	24	33	PASS
		HCH	25.4	24.2	33	PASS



Test Band	Test Mode	Test Channel	Measured[dBm]	ERP [dBm]	Limit [dBm]	Verdict
WCDMA850	UMTS/TM1	LCH	24.51	19.76	38.5	PASS
		MCH	24.56	19.81	38.5	PASS
		HCH	24.55	19.8	38.5	PASS
WCDMA1900	UMTS/TM1	LCH	24.60	23.4	33	PASS
		MCH	24.68	23.48	33	PASS
		HCH	24.54	23.34	33	PASS
WCDMA1700	UMTS/TM1	LCH	24.86	23.46	30	PASS
		MCH	24.70	23.3	30	PASS
		HCH	24.61	23.21	30	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:

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

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

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

SET Sweep time=auto-couple.

Detector:RMS



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

### Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
GSM1900	GSM/TM1	LCH	0.26	13	PASS
		MCH	0.26	13	PASS
		HCH	0.26	13	PASS
	GSM/TM2	LCH	2.79	13	PASS
		MCH	2.88	13	PASS
		HCH	2.93	13	PASS
WCDMA1900	UMTS/TM1	LCH	3.26	13	PASS
		MCH	3.31	13	PASS
		HCH	3.28	13	PASS
WCDMA1700	UMTS/TM1	LCH	3.1	13	PASS
		MCH	3.17	13	PASS
		HCH	2.82	13	PASS

### 3Appendix\_C: Modulation Characteristics

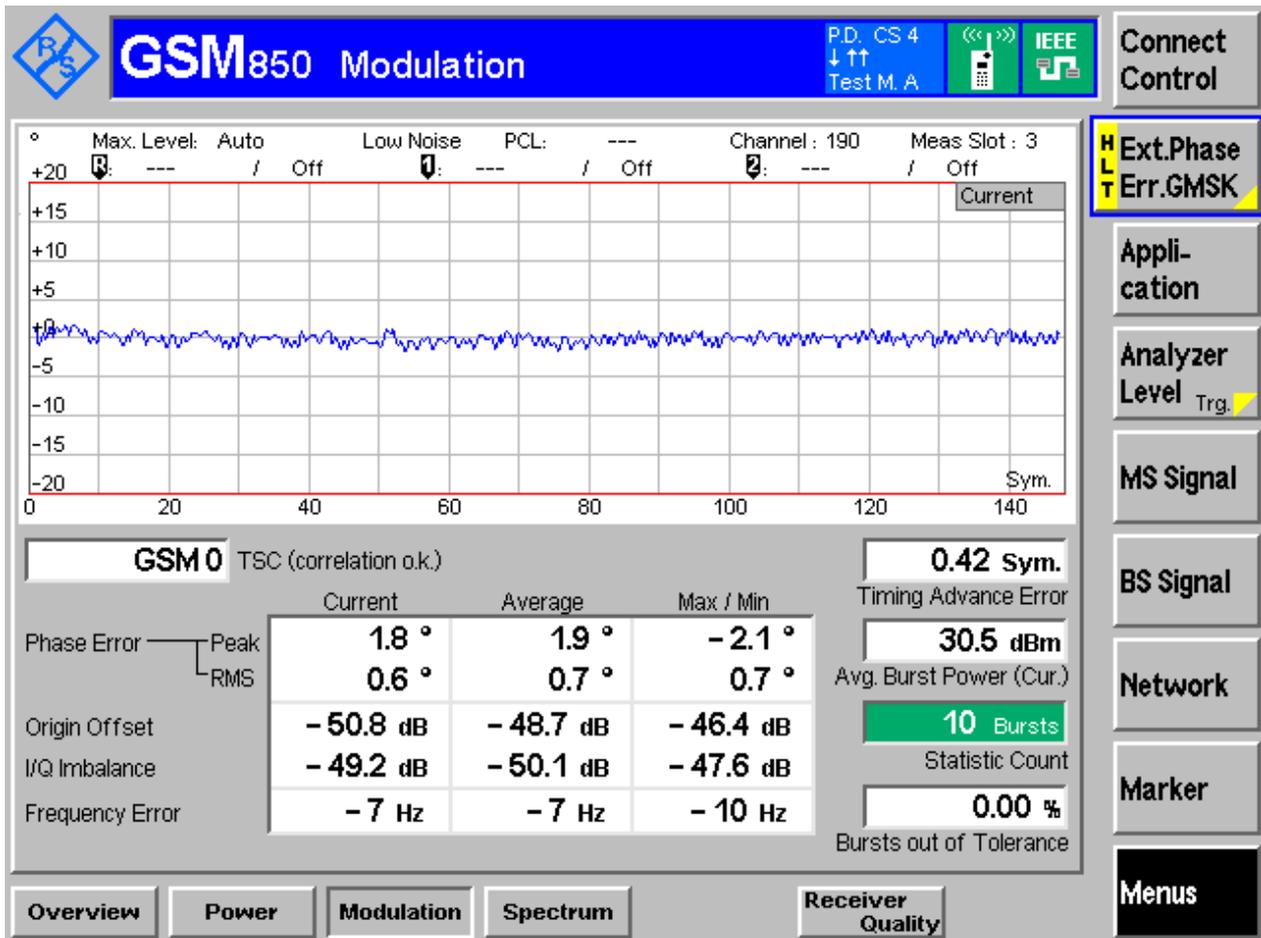
#### Part I - Test Plots

#### 3.1 For GSM

#### 3.1.1 Test Band = GSM850

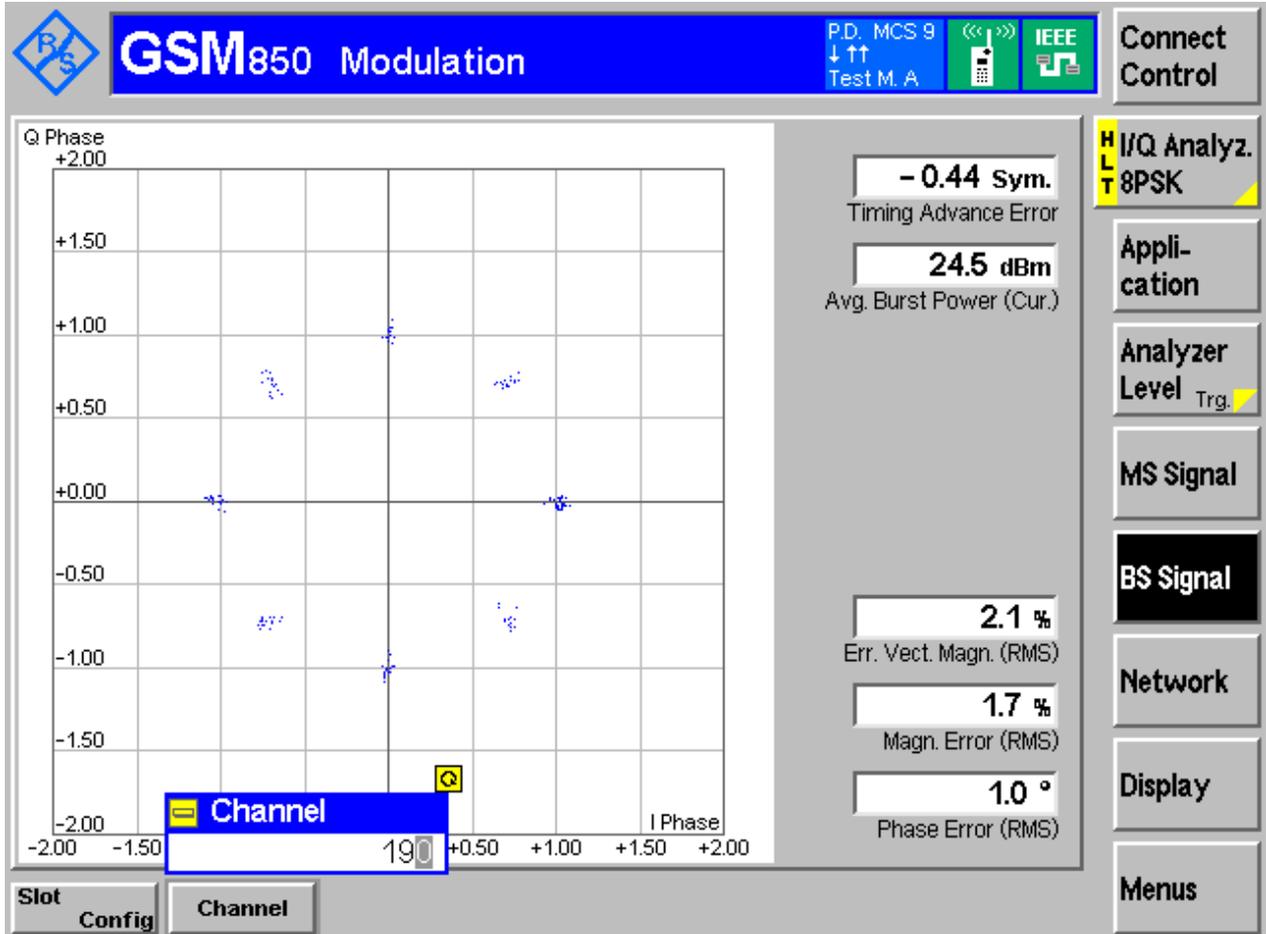
#### 3.1.1.1 Test Mode = GSM/TM1

#### 3.1.1.1.1 Test Channel = MCH



3.1.1.2 Test Mode = GSM/TM2

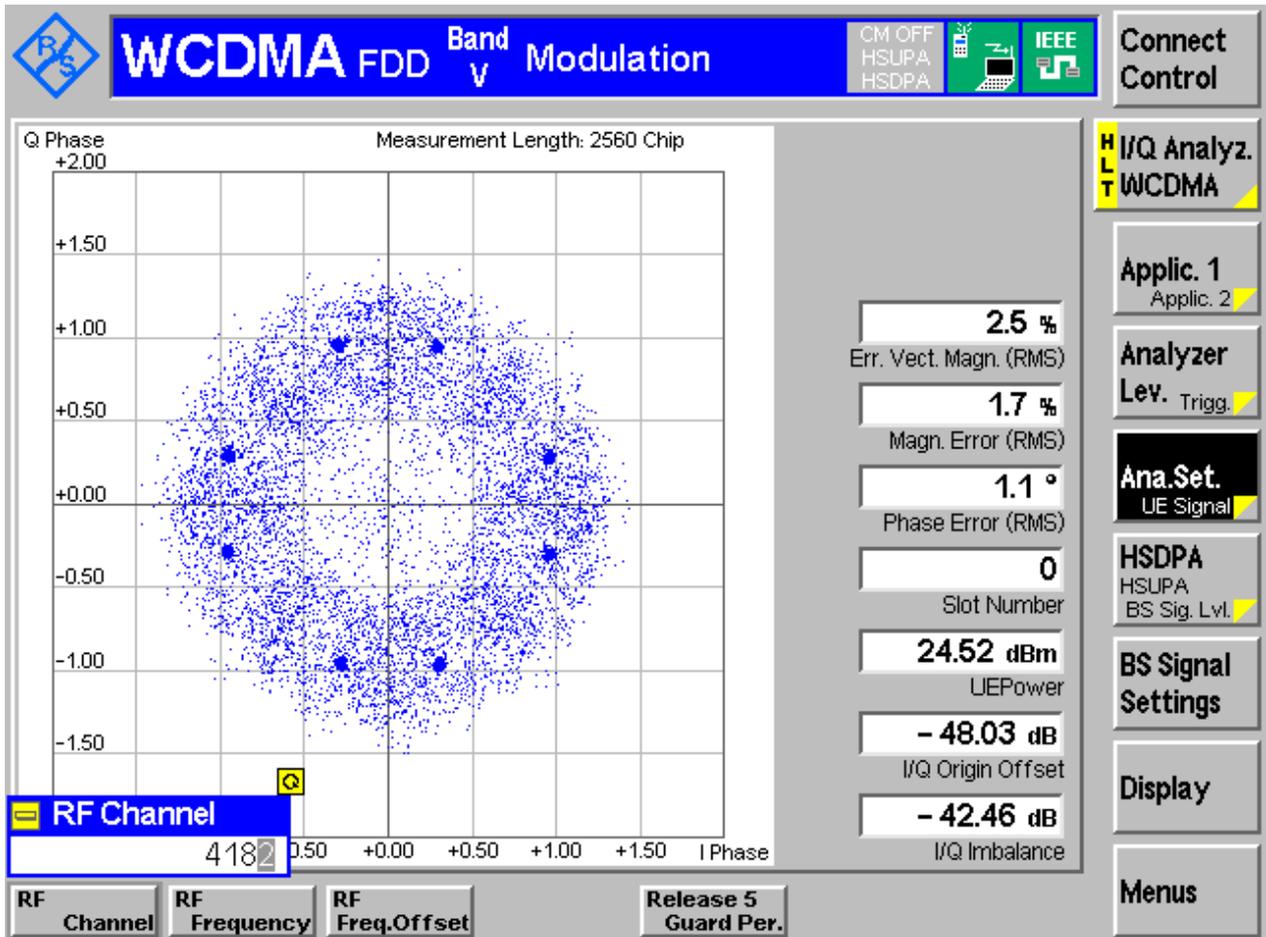
3.1.1.2.1 Test Channel = MCH



3.1.2 Test Band = WCDMA850

3.1.2.1 Test Mode = UMTS/TM1

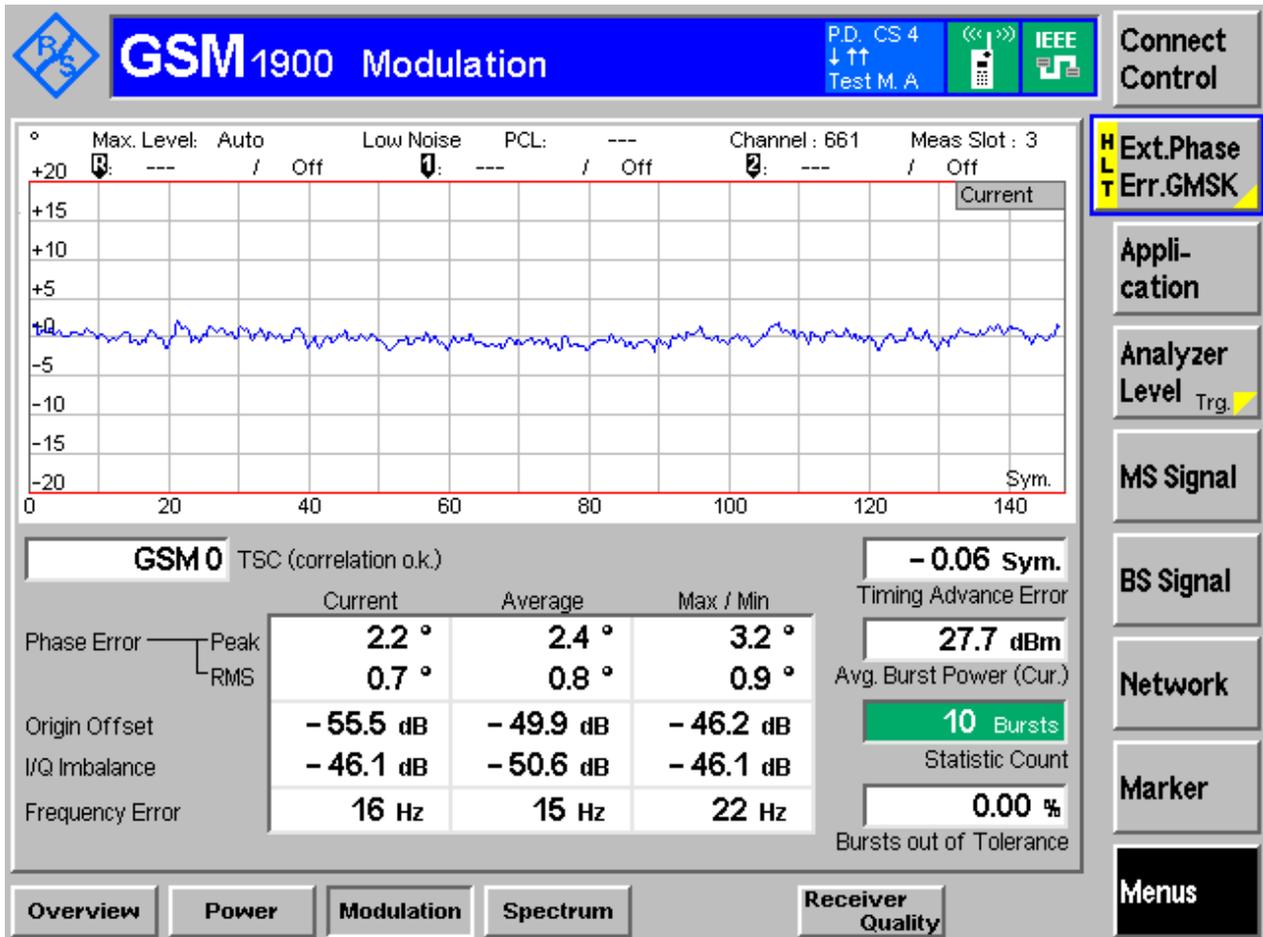
3.1.2.1.1 Test Channel = MCH



3.1.3 Test Band = GSM1900

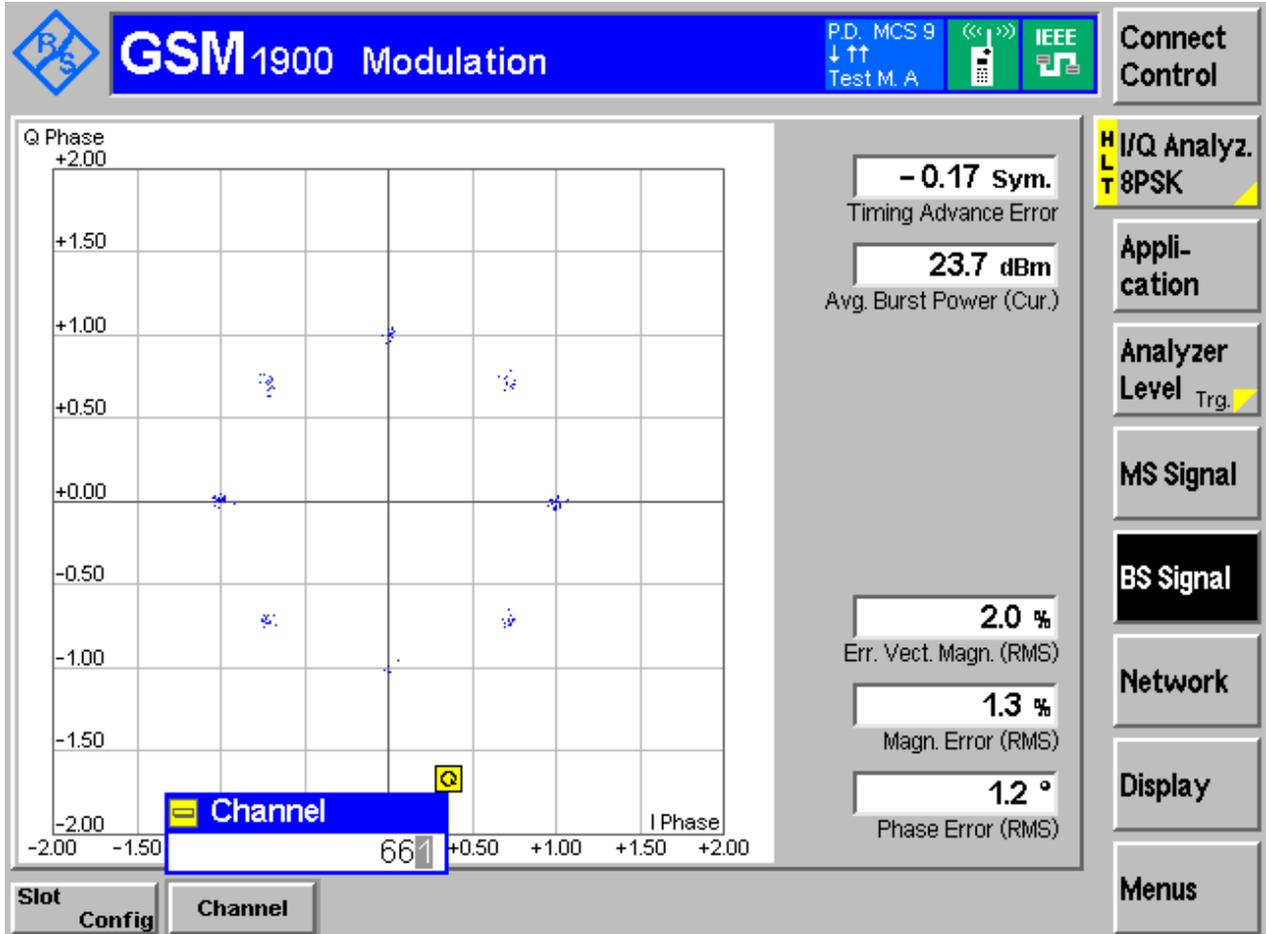
3.1.3.1 Test Mode = GSM/TM1

3.1.3.1.1 Test Channel = MCH



3.1.3.2 Test Mode = GSM/TM2

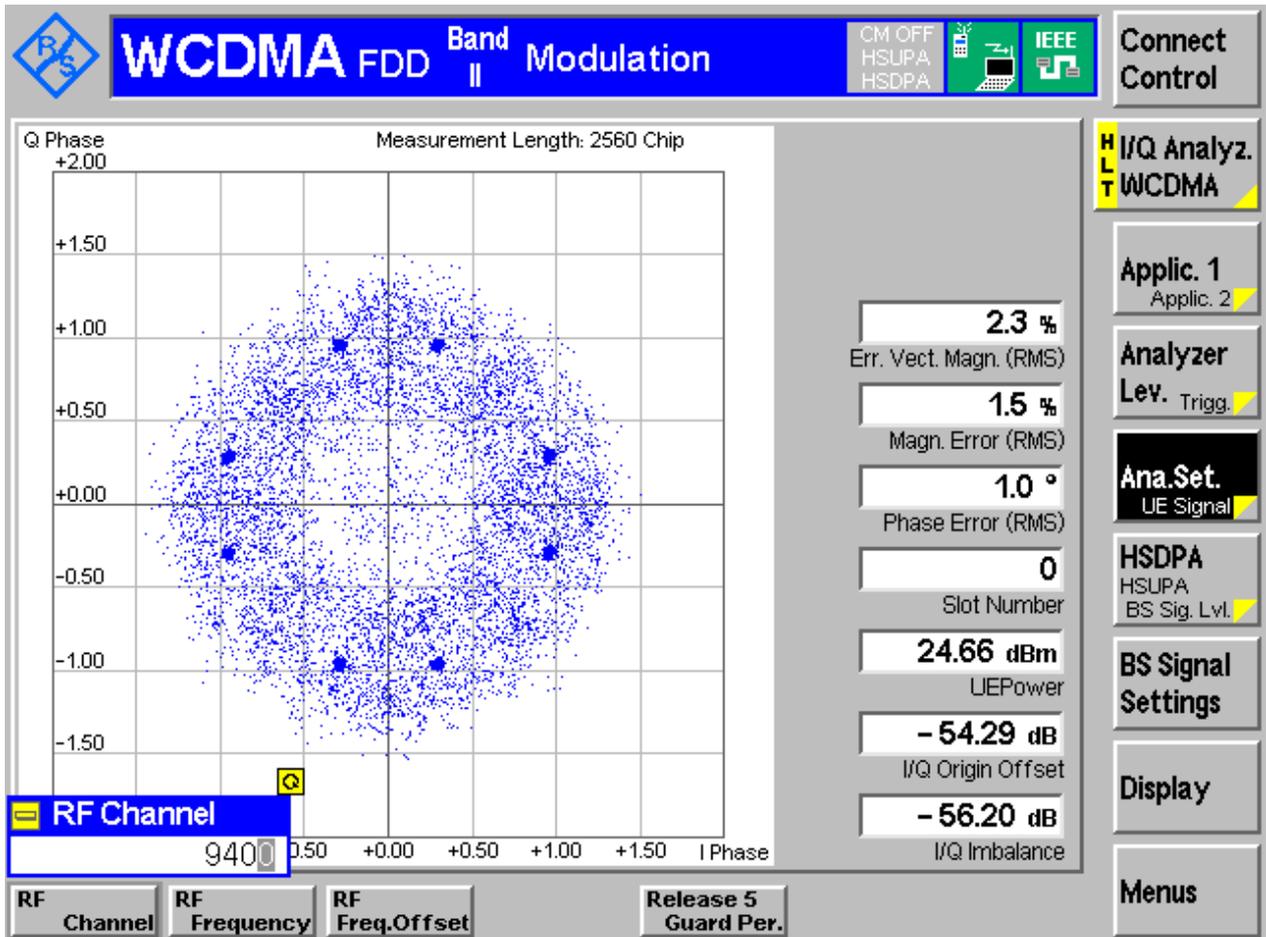
3.1.3.2.1 Test Channel = MCH



3.1.4 Test Band = WCDMA1900

3.1.4.1 Test Mode = UMTS/TM1

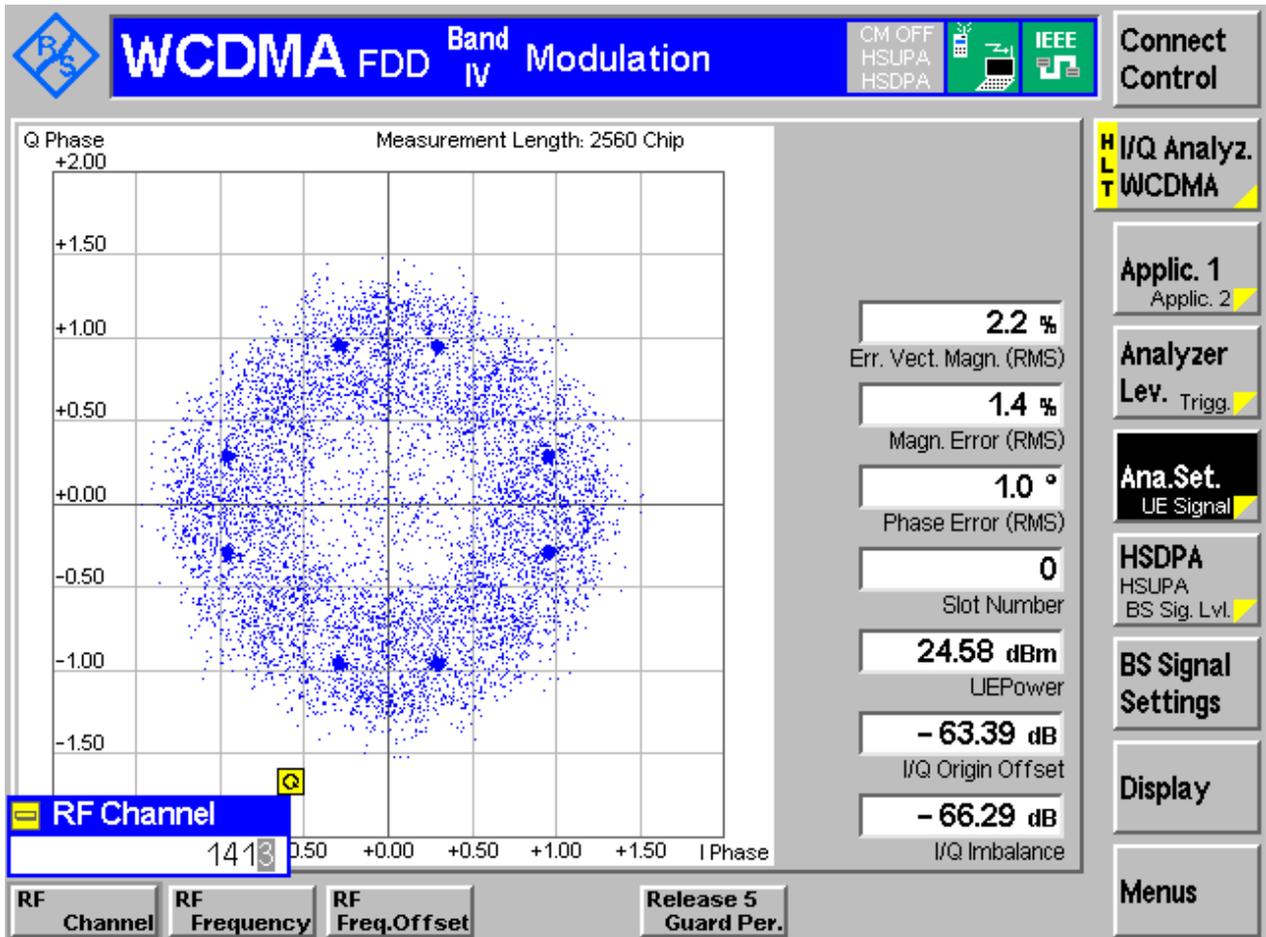
3.1.4.1.1 Test Channel = MCH



3.1.5 Test Band = WCDMA1700

3.1.5.1 Test Mode = UMTS/TM1

3.1.5.1.1 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	242.92	313.54	Pass
		MCH	242.17	315.78	Pass
		HCH	244.25	314.14	Pass
	GSM/TM2	LCH	251.36	319.87	Pass
		MCH	252.71	322.82	Pass
		HCH	251.52	328.74	Pass
WCDMA850	UMTS/TM1	LCH	4.16	4.73	Pass
		MCH	4.16	4.73	Pass
		HCH	4.15	4.72	Pass
GSM1900	GSM/TM1	LCH	243.95	311.33	Pass
		MCH	243.41	317.37	Pass
		HCH	243.48	312.90	Pass
	GSM/TM2	LCH	254.06	330.41	Pass
		MCH	250.54	320.15	Pass
		HCH	251.46	320.16	Pass
WCDMA1900	UMTS/TM1	LCH	4.14	4.71	Pass
		MCH	4.14	4.70	Pass
		HCH	4.14	4.69	Pass
WCDMA1700	UMTS/TM1	LCH	4.15	4.71	Pass
		MCH	4.15	4.73	Pass
		HCH	4.15	4.71	Pass



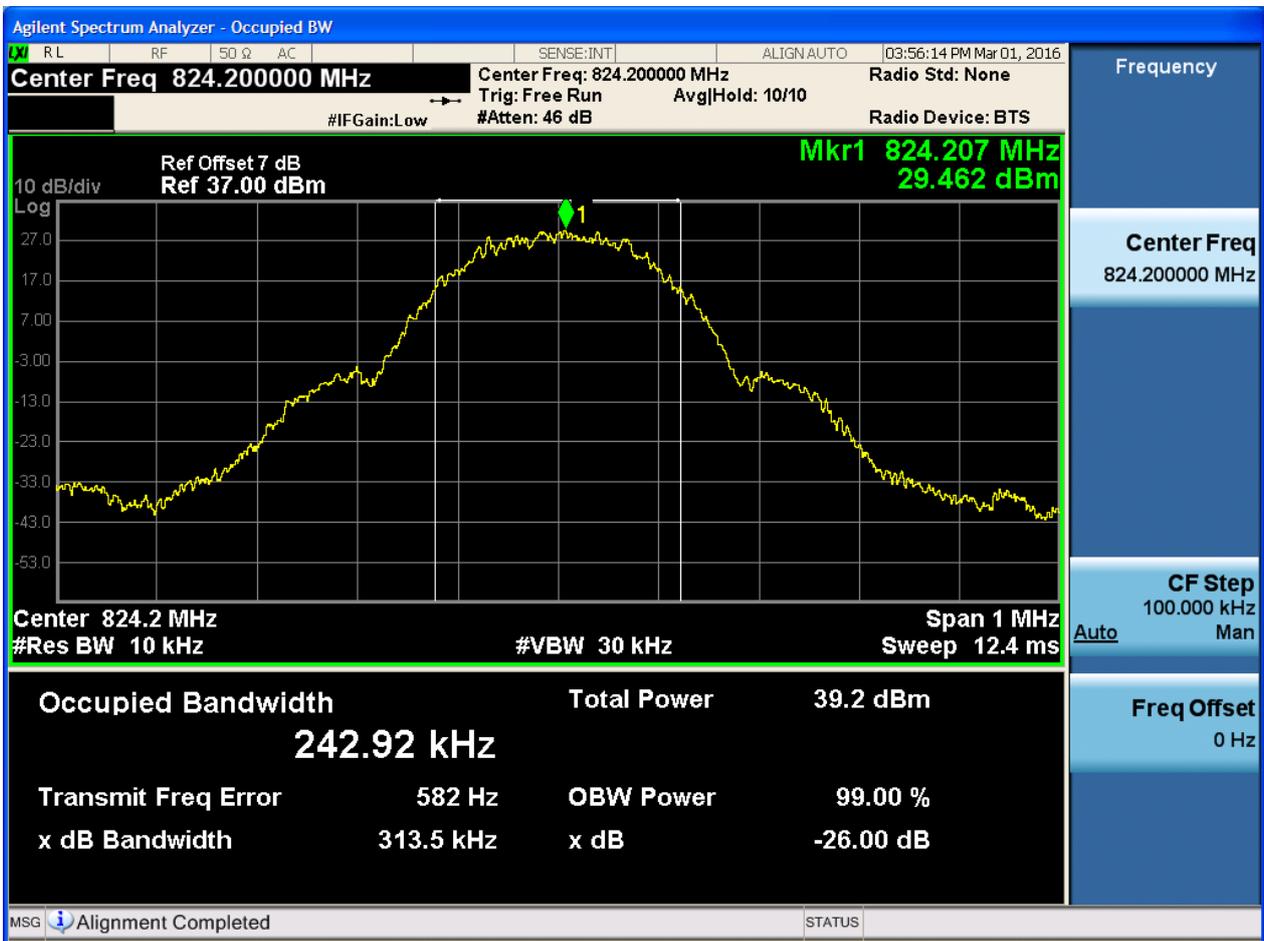
## Part II - Test Plots

### 4.1 For GSM

#### 4.1.1 Test Band = GSM850

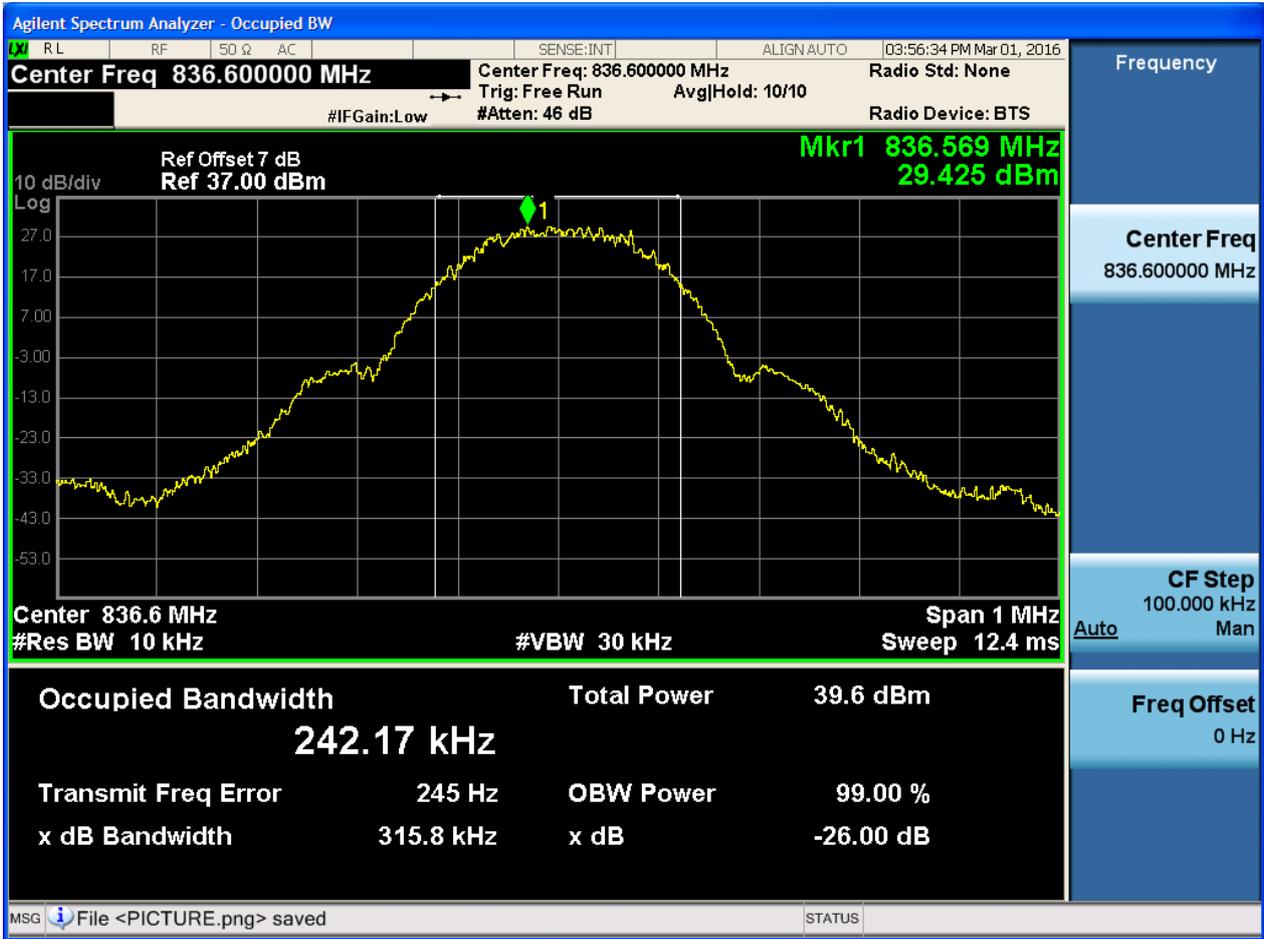
##### 4.1.1.1 Test Mode = GSM/TM1

##### 4.1.1.1.1 Test Channel = LCH





4.1.1.1.2 Test Channel = MCH





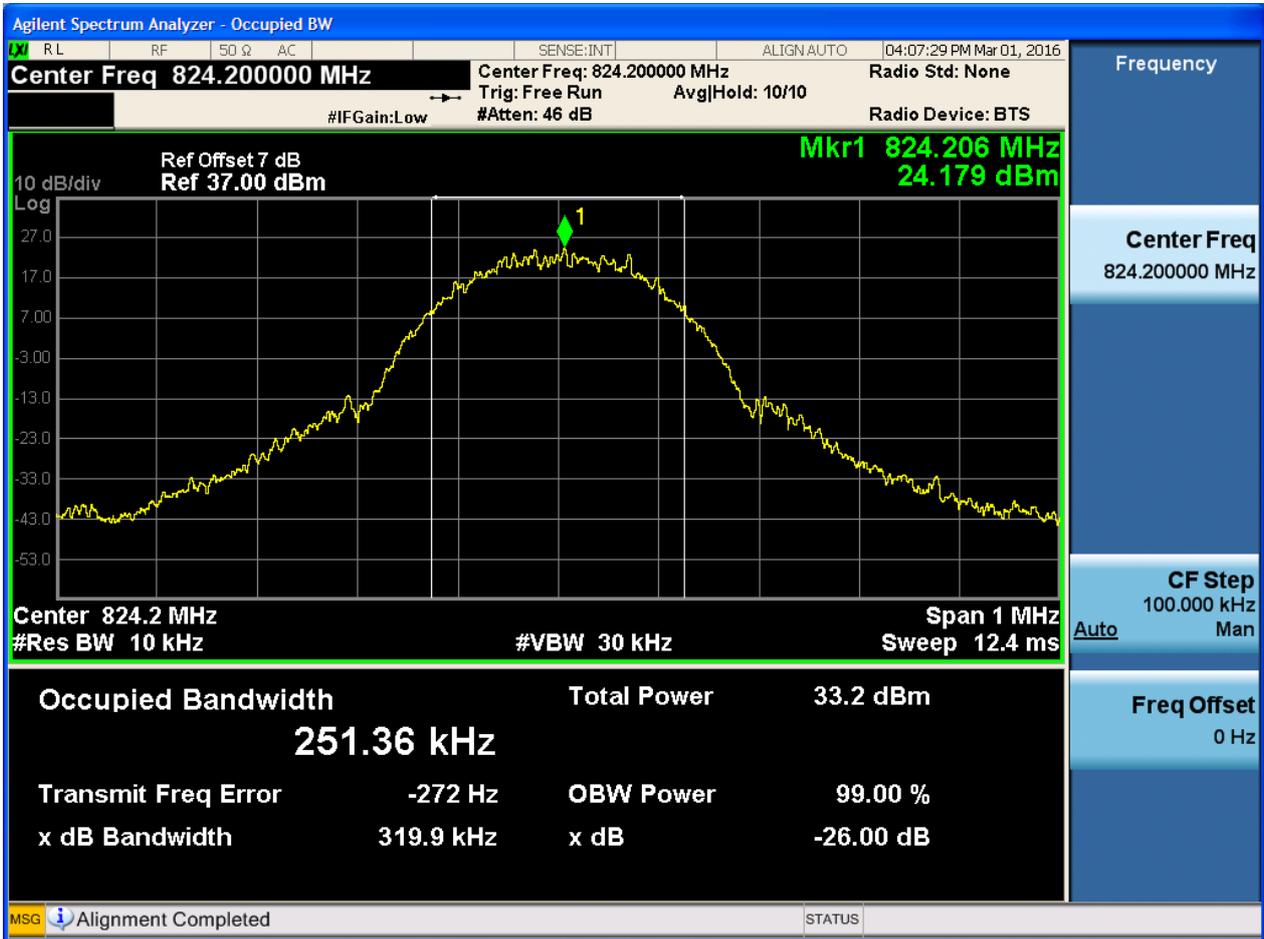
4.1.1.1.3 Test Channel = HCH





4.1.1.2 Test Mode = GSM/TM2

4.1.1.2.1 Test Channel = LCH



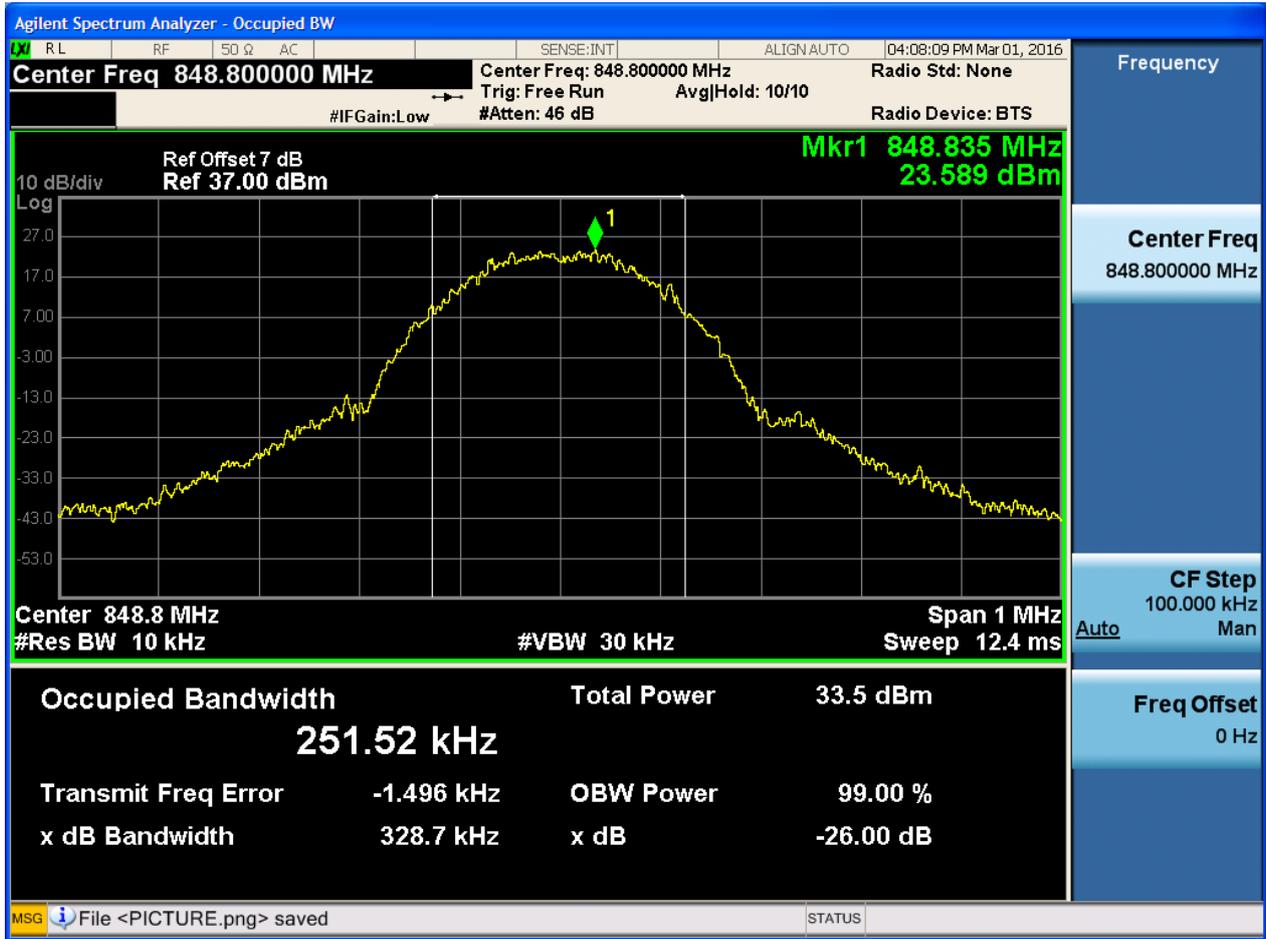


4.1.1.2.2 Test Channel = MCH





4.1.1.2.3 Test Channel = HCH

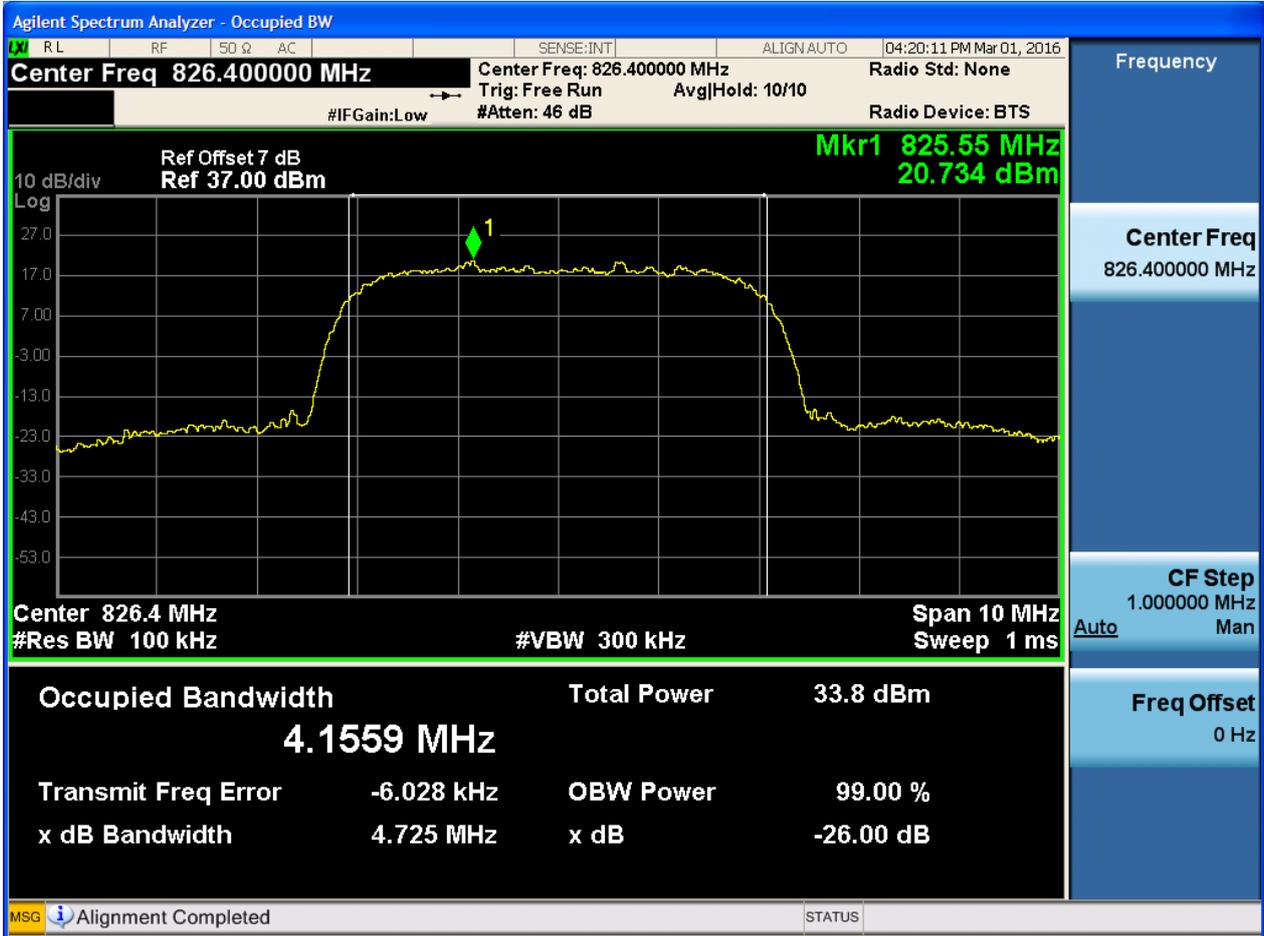




4.1.2 Test Band = WCDMA850

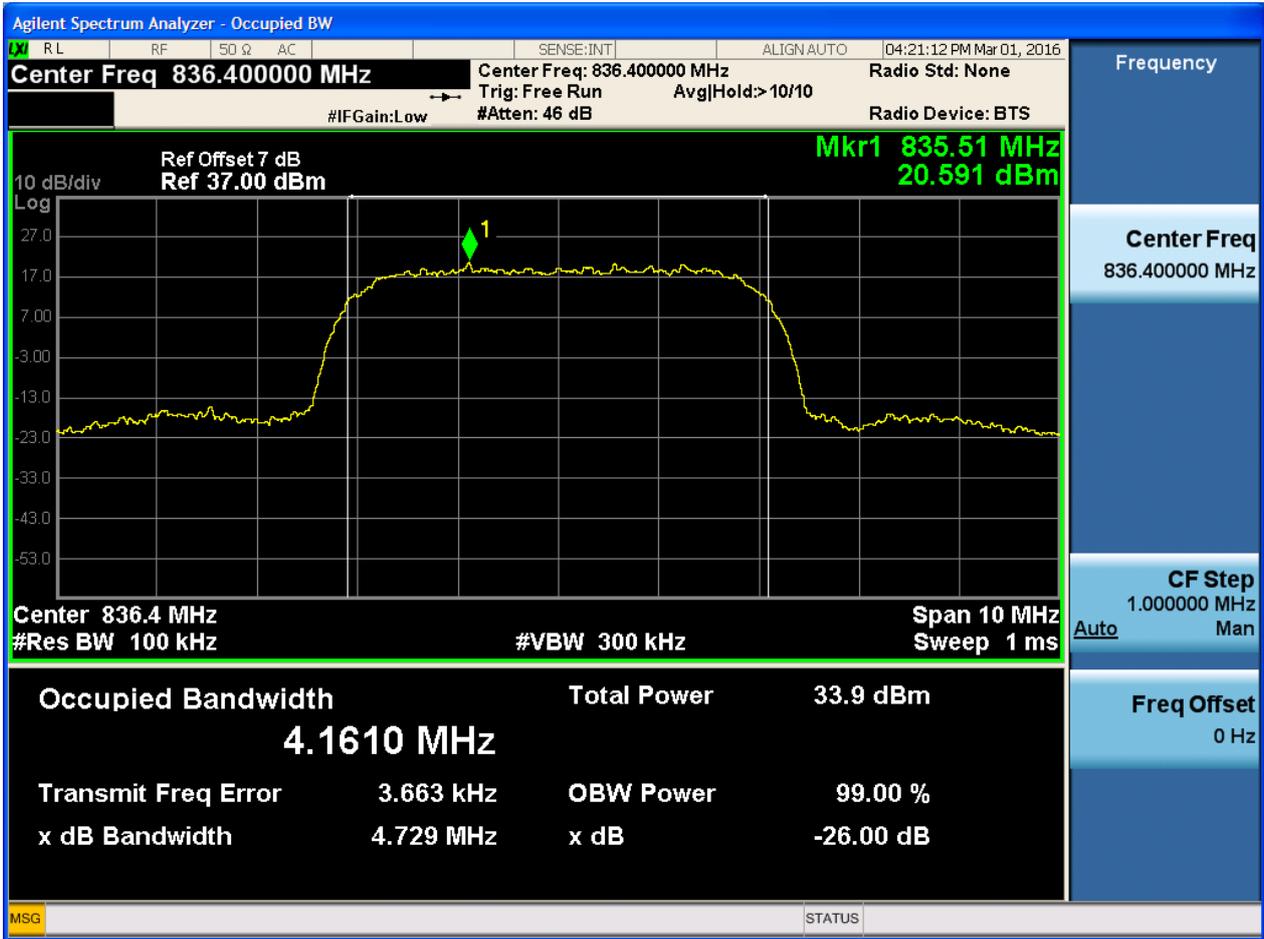
4.1.2.1 Test Mode = UMTS/TM1

4.1.2.1.1 Test Channel = LCH



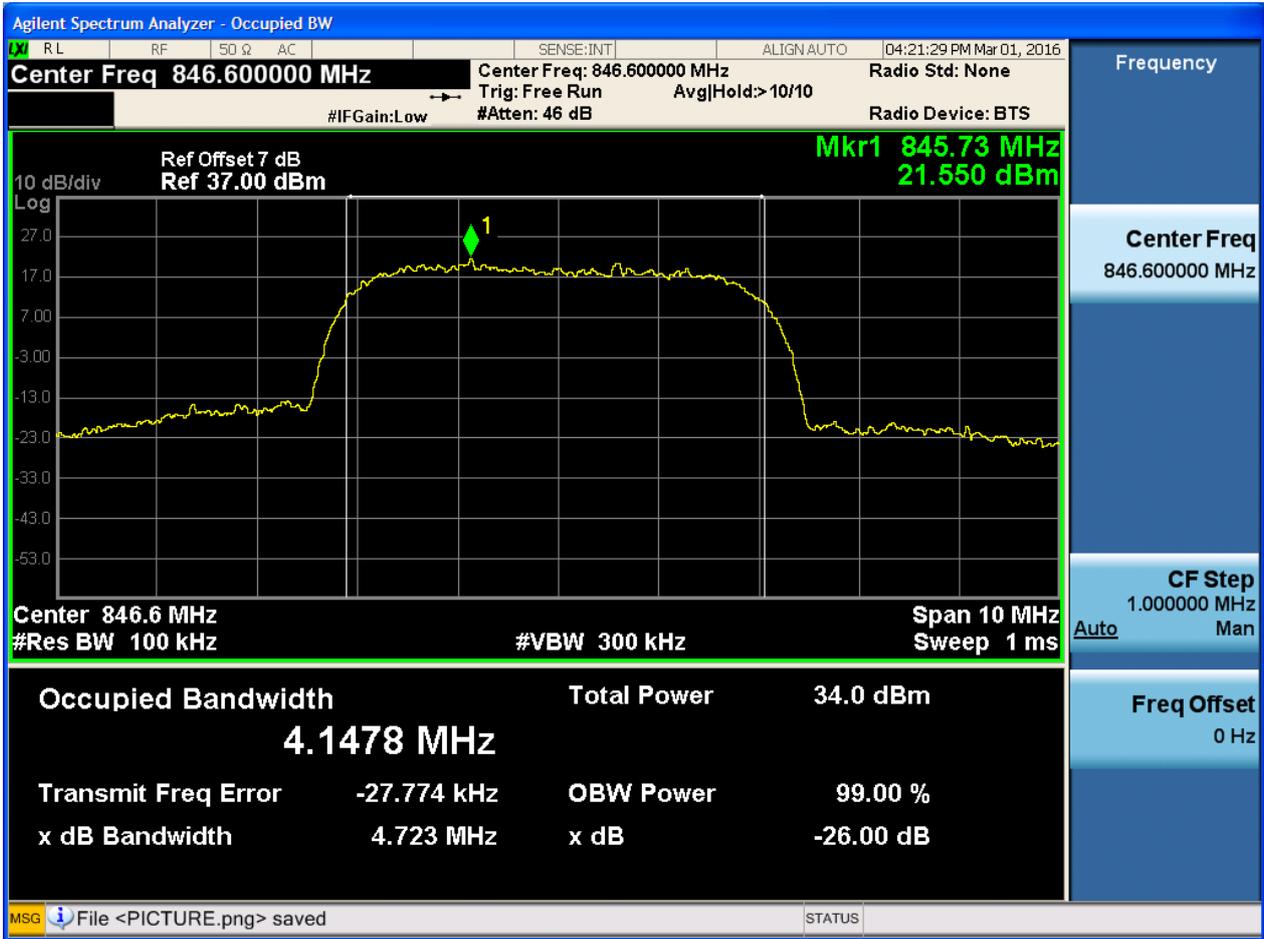


4.1.2.1.2 Test Channel = MCH





4.1.2.1.3 Test Channel = HCH





4.1.3 Test Band = GSM1900

4.1.3.1 Test Mode = GSM/TM1

4.1.3.1.1 Test Channel = LCH



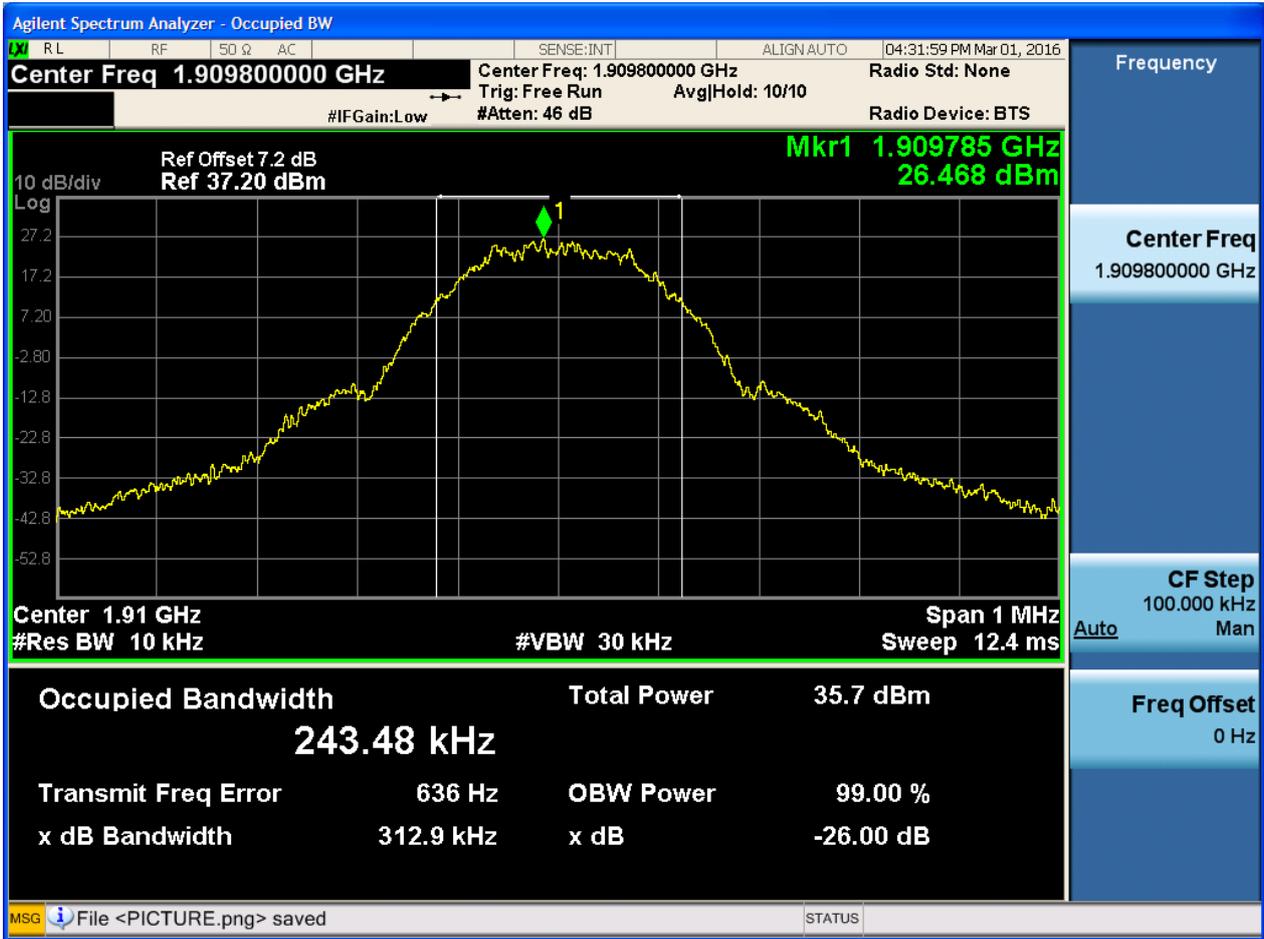


4.1.3.1.2 Test Channel = MCH





4.1.3.1.3 Test Channel = HCH





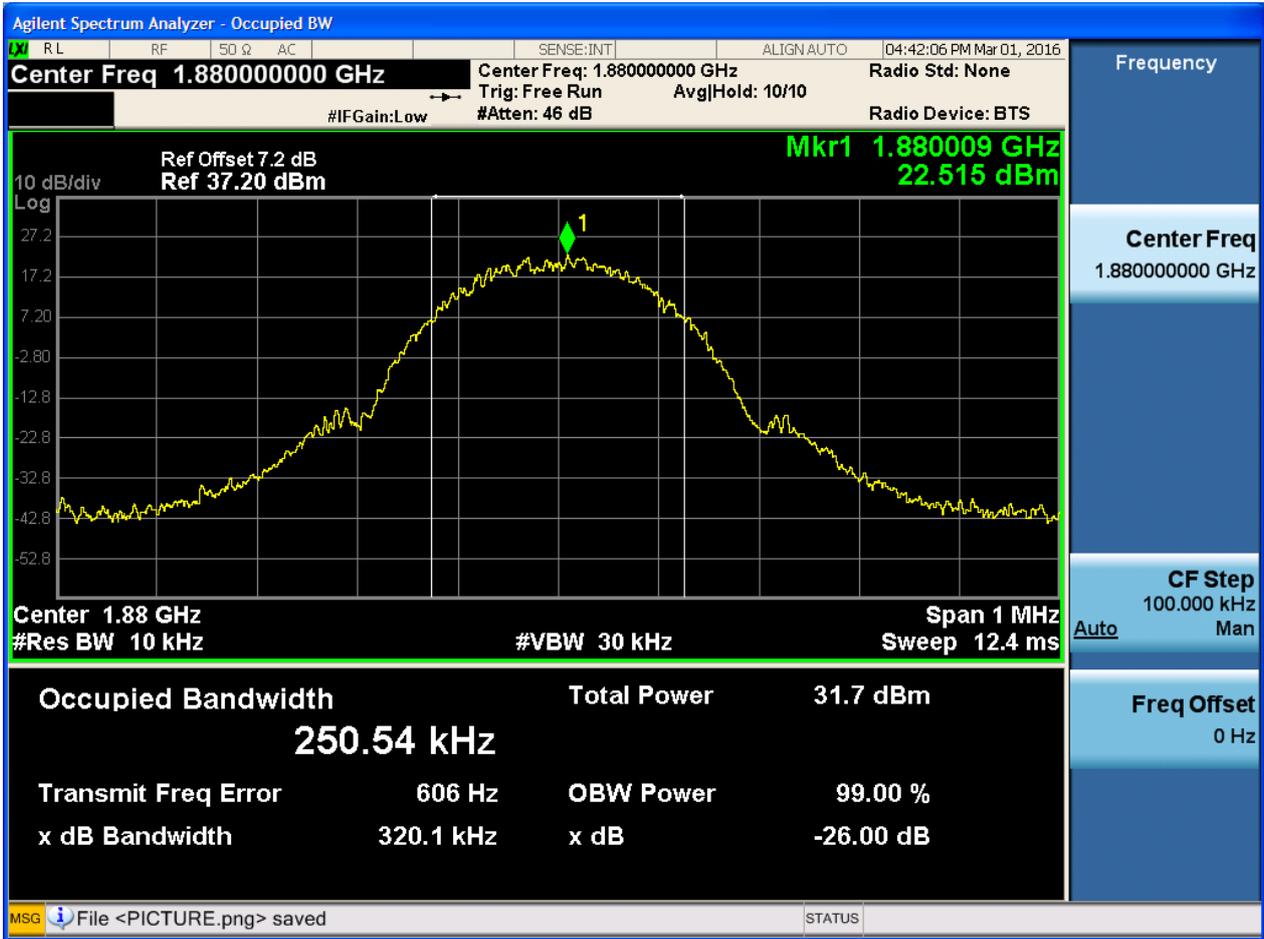
### 4.1.3.2 Test Mode = GSM/TM2

#### 4.1.3.2.1 Test Channel = LCH



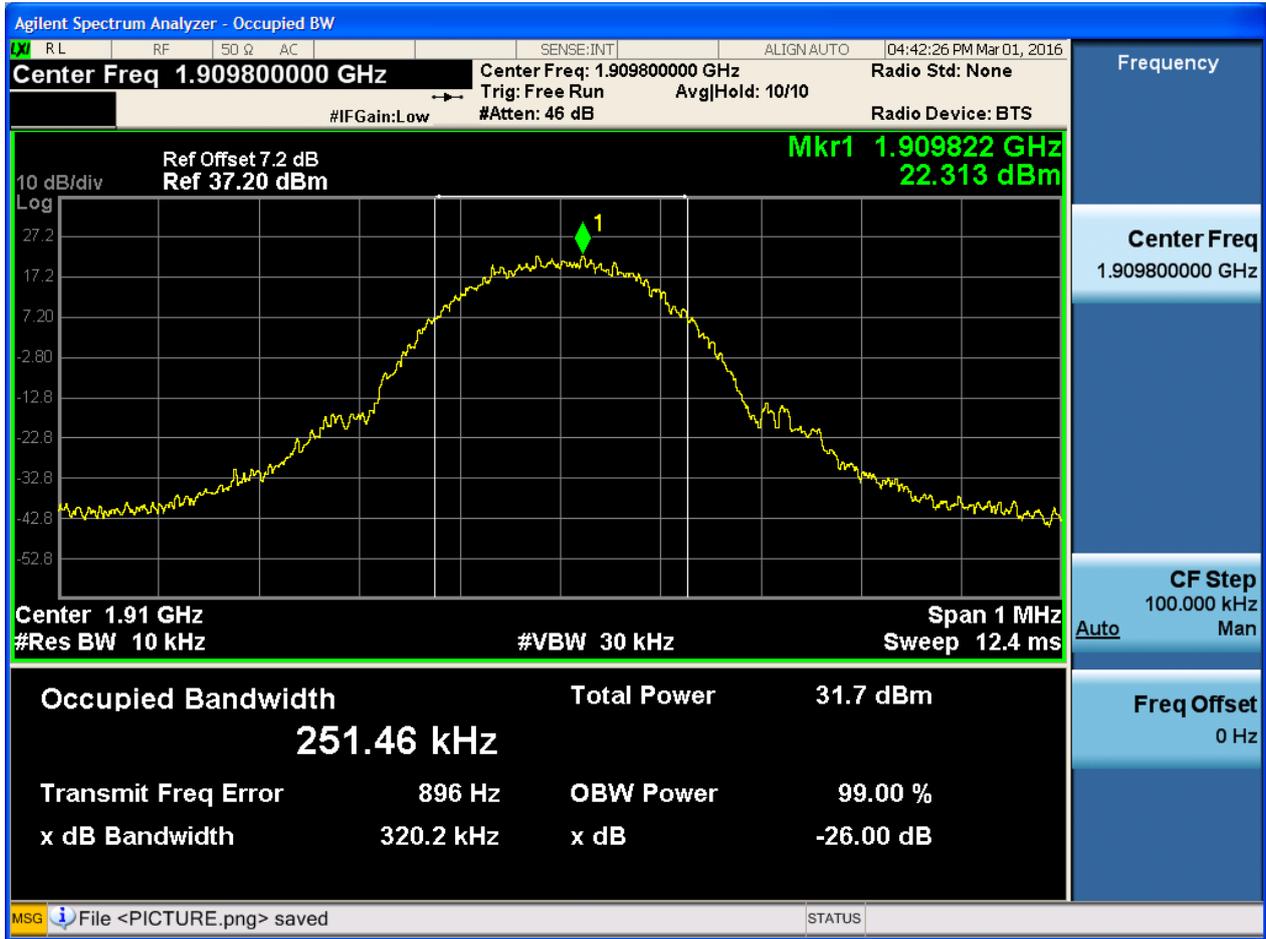


4.1.3.2.2 Test Channel = MCH





4.1.3.2.3 Test Channel = HCH

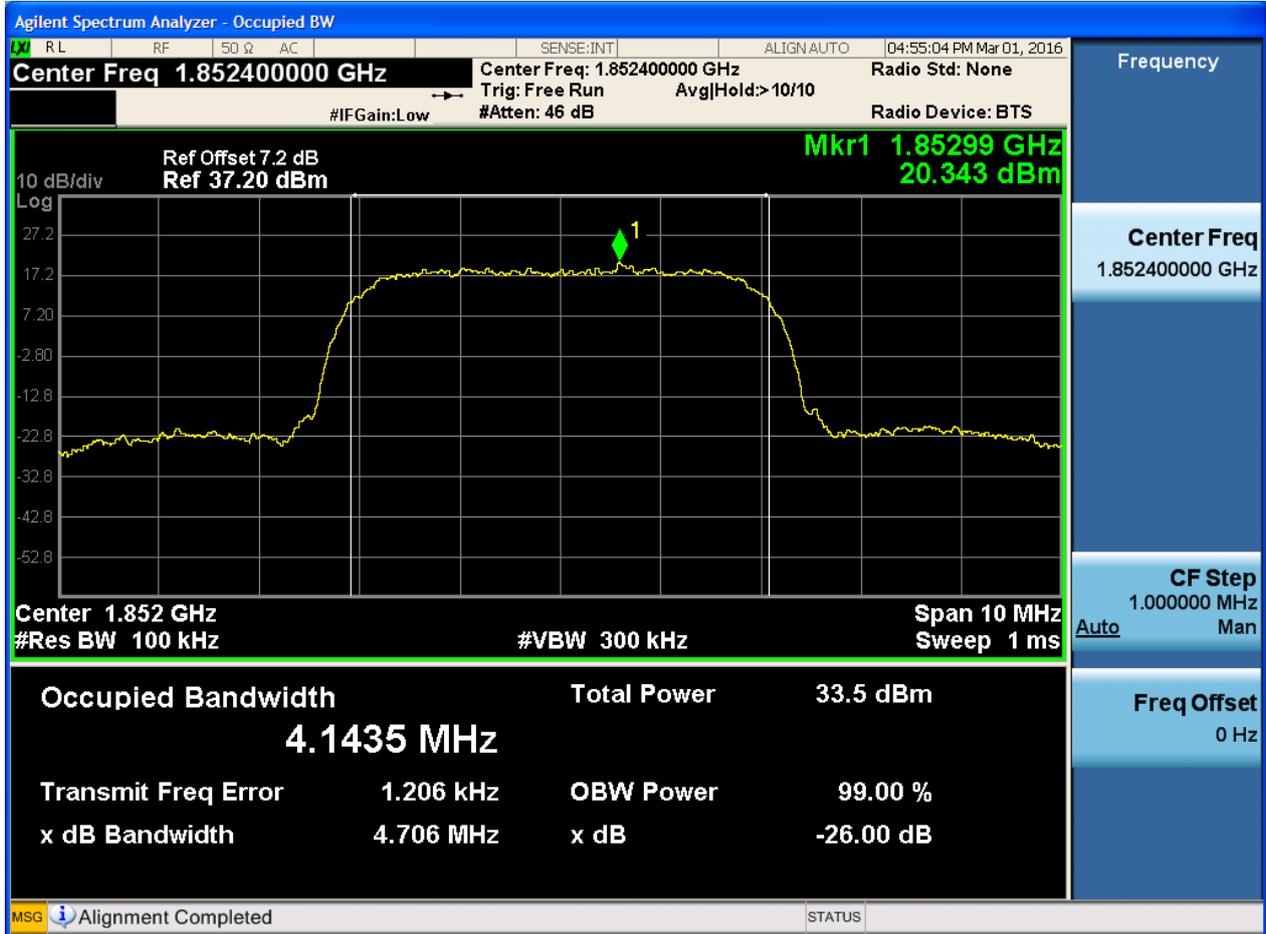




4.1.4 Test Band = WCDMA1900

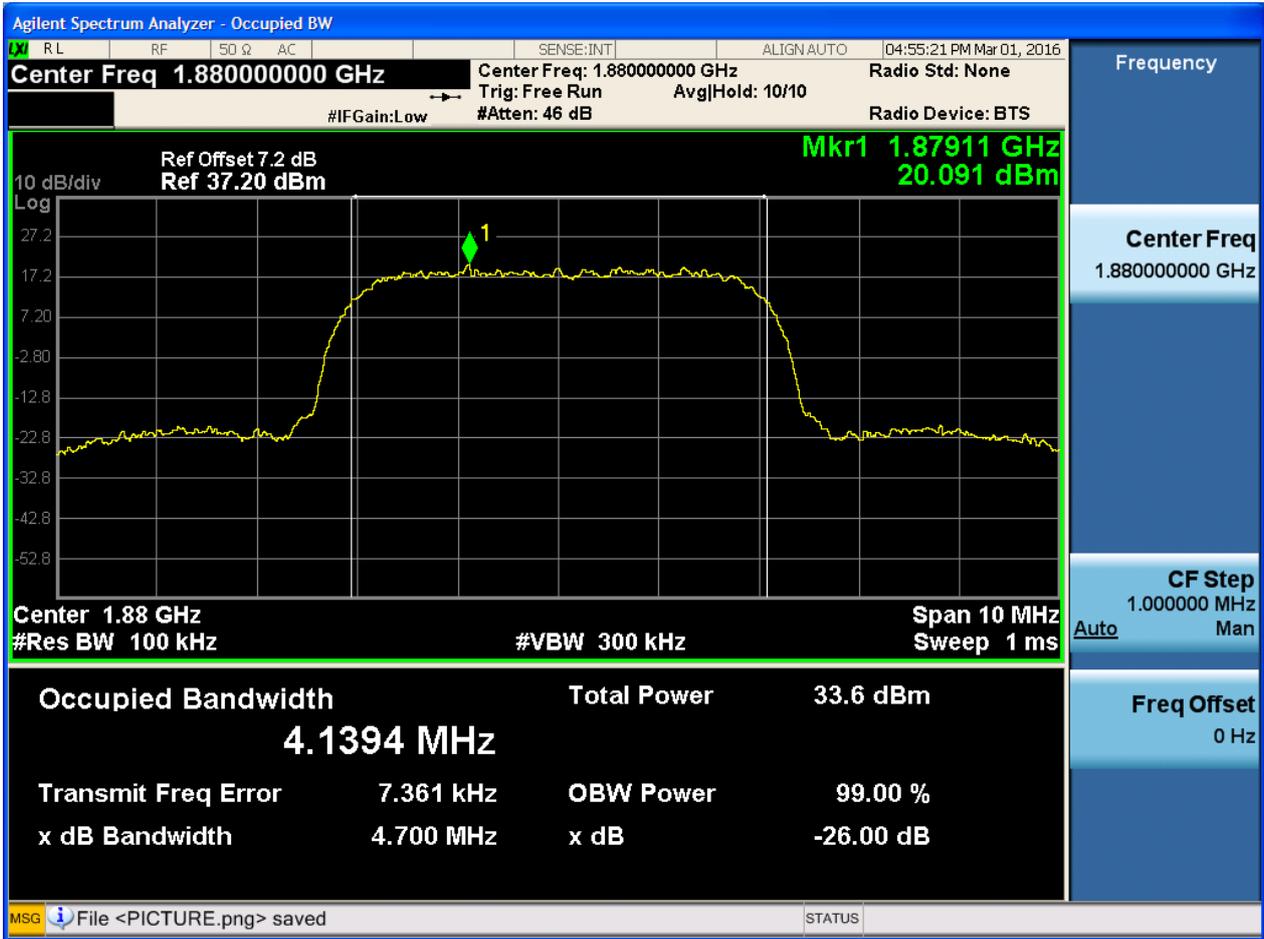
4.1.4.1 Test Mode = UMTS/TM1

4.1.4.1.1 Test Channel = LCH



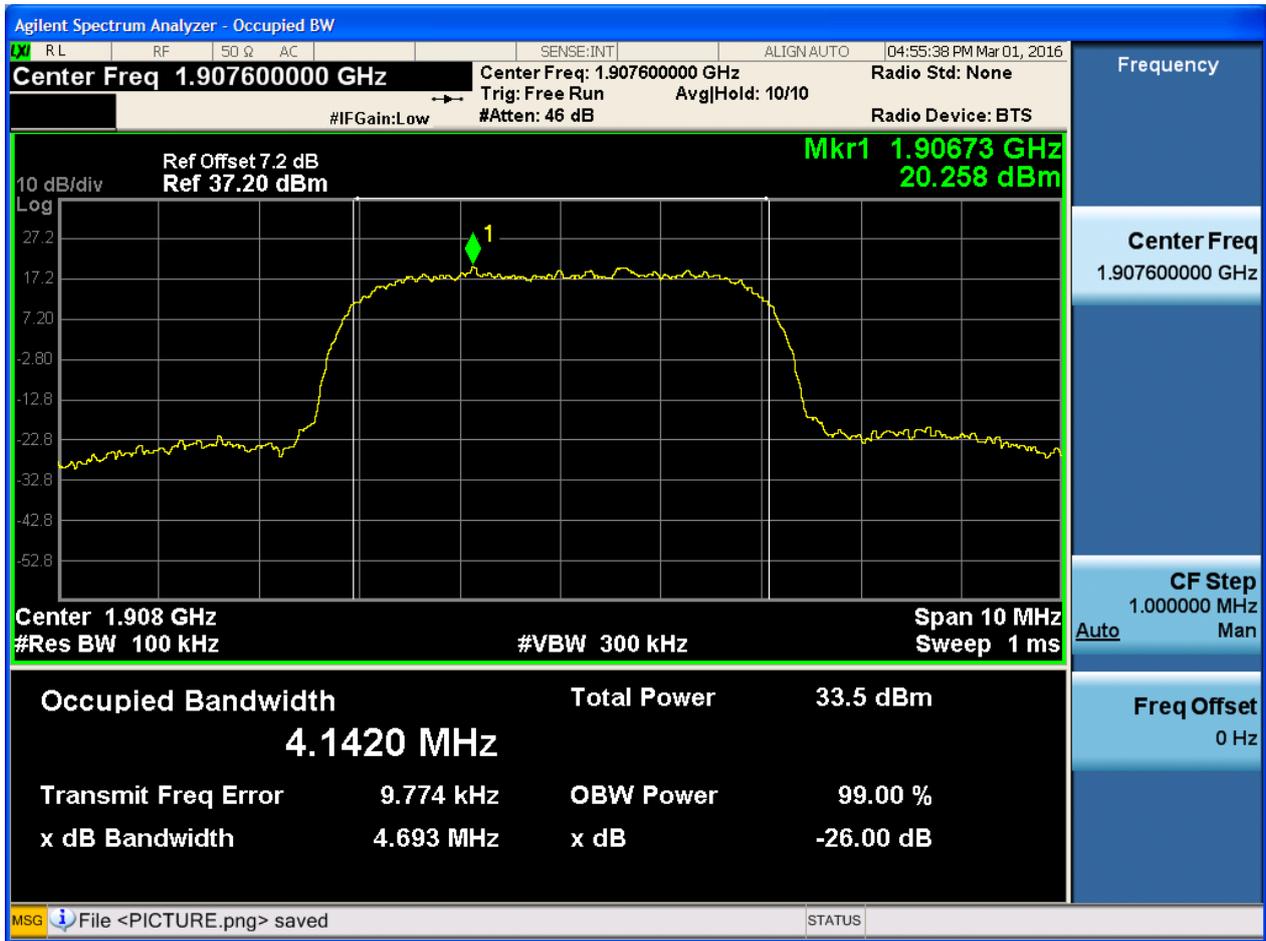


4.1.4.1.2 Test Channel = MCH





### 4.1.4.1.3 Test Channel = HCH

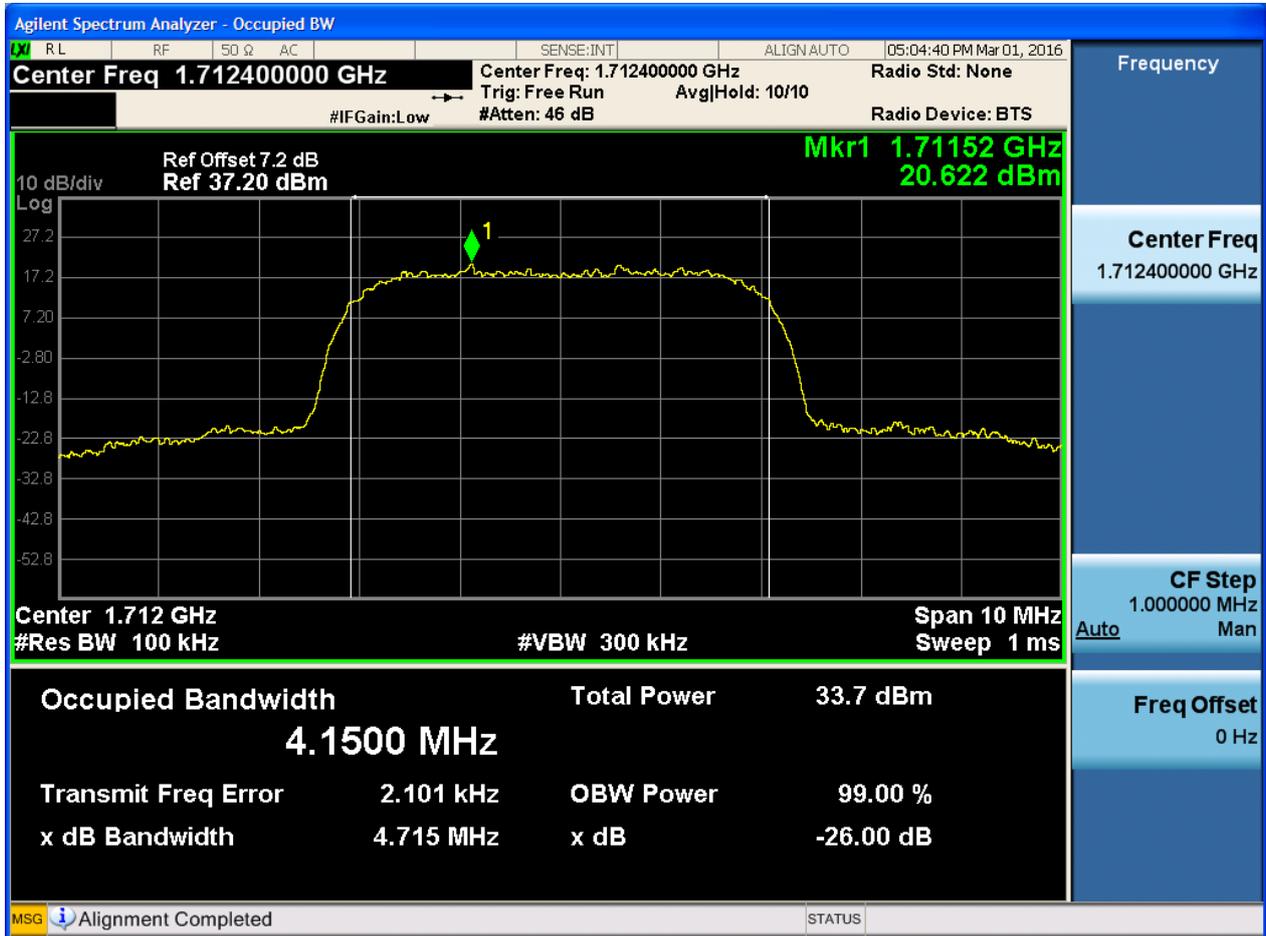




4.1.5 Test Band = WCDMA1700

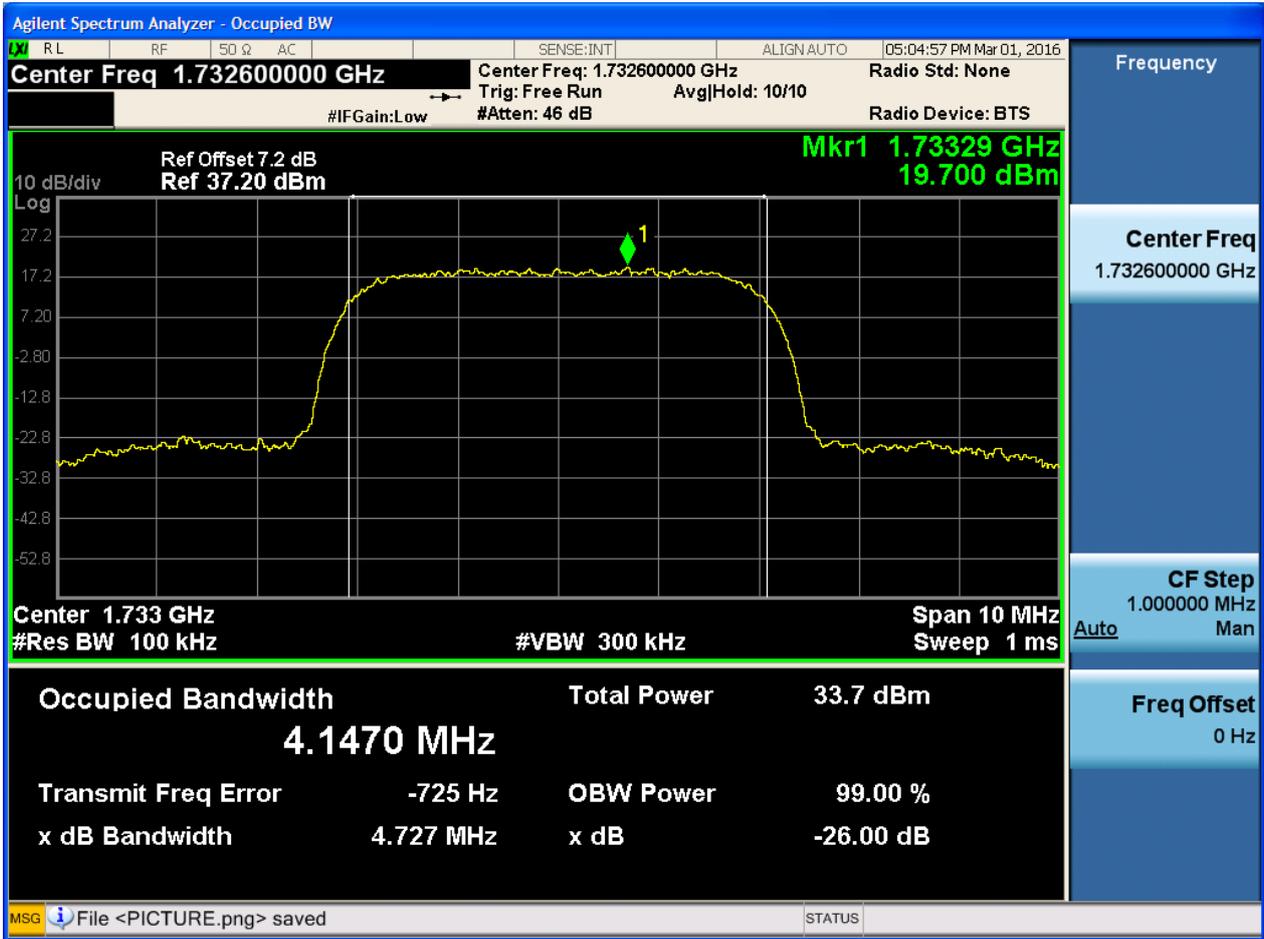
4.1.5.1 Test Mode = UMTS/TM1

4.1.5.1.1 Test Channel = LCH



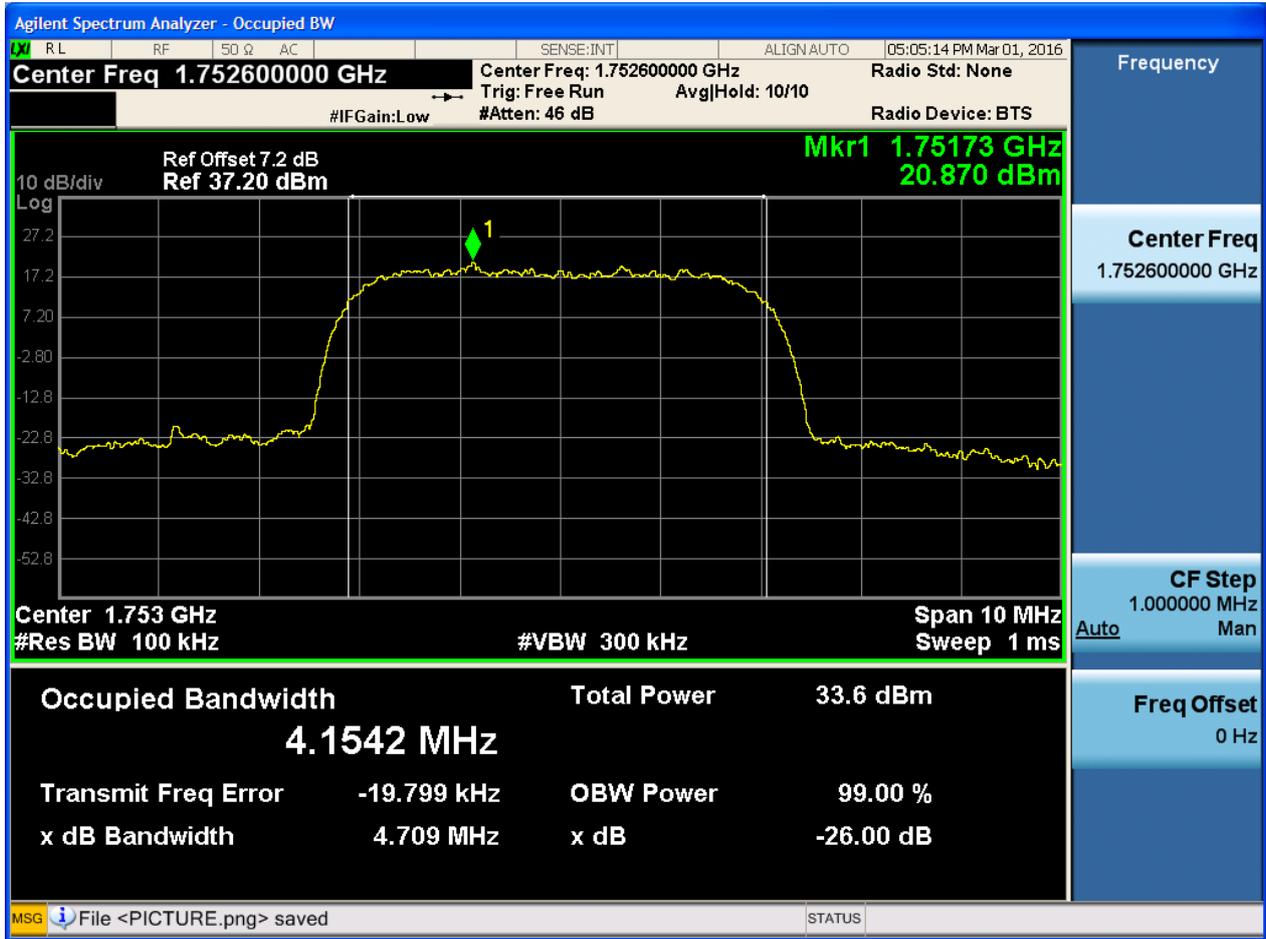


4.1.5.1.2 Test Channel = MCH





4.1.5.1.3 Test Channel = HCH





## 5Appendix\_E: Band Edges Compliance

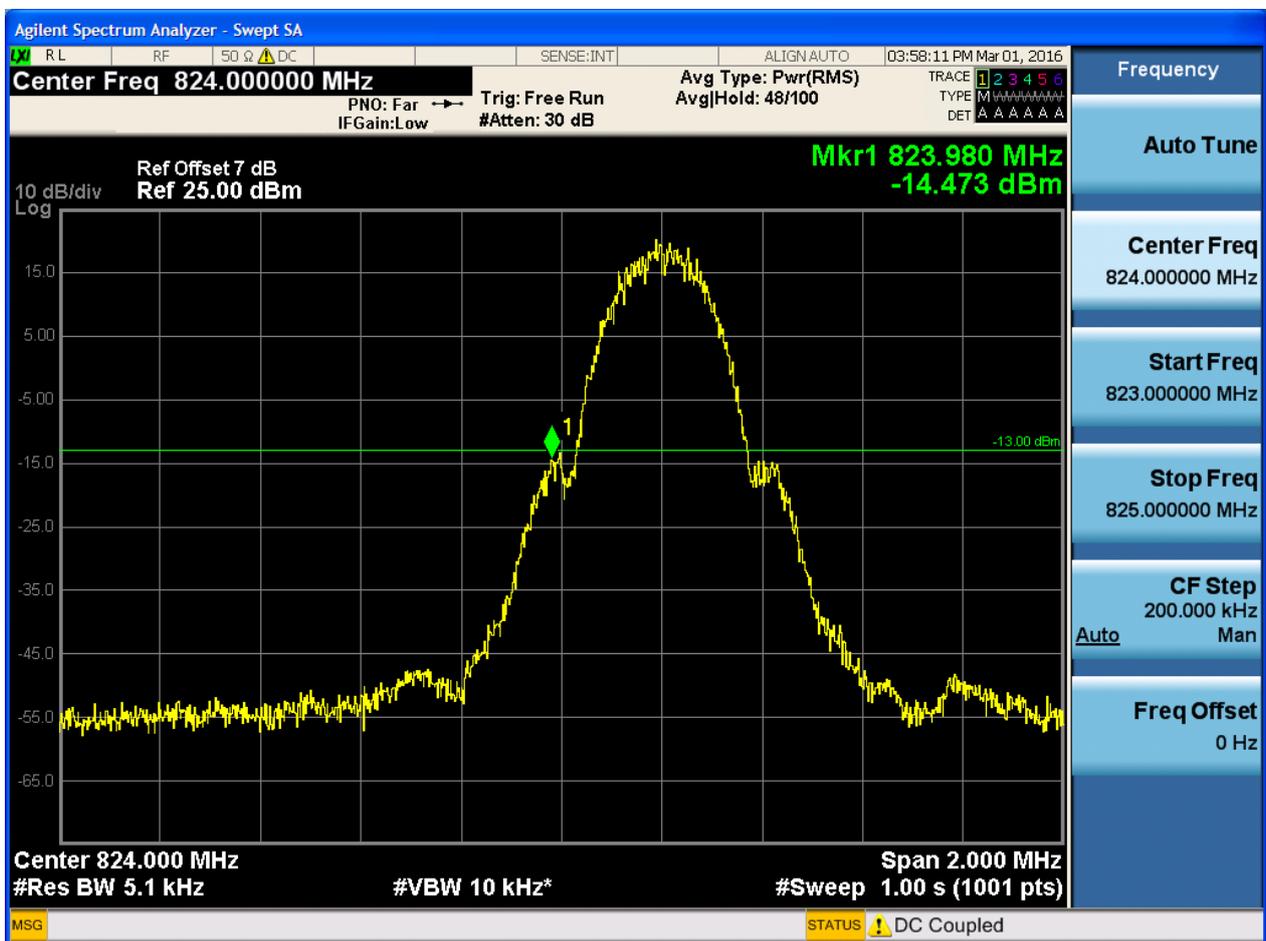
### Part I - Test Plots

#### 5.1 For GSM

##### 5.1.1 Test Band = GSM850

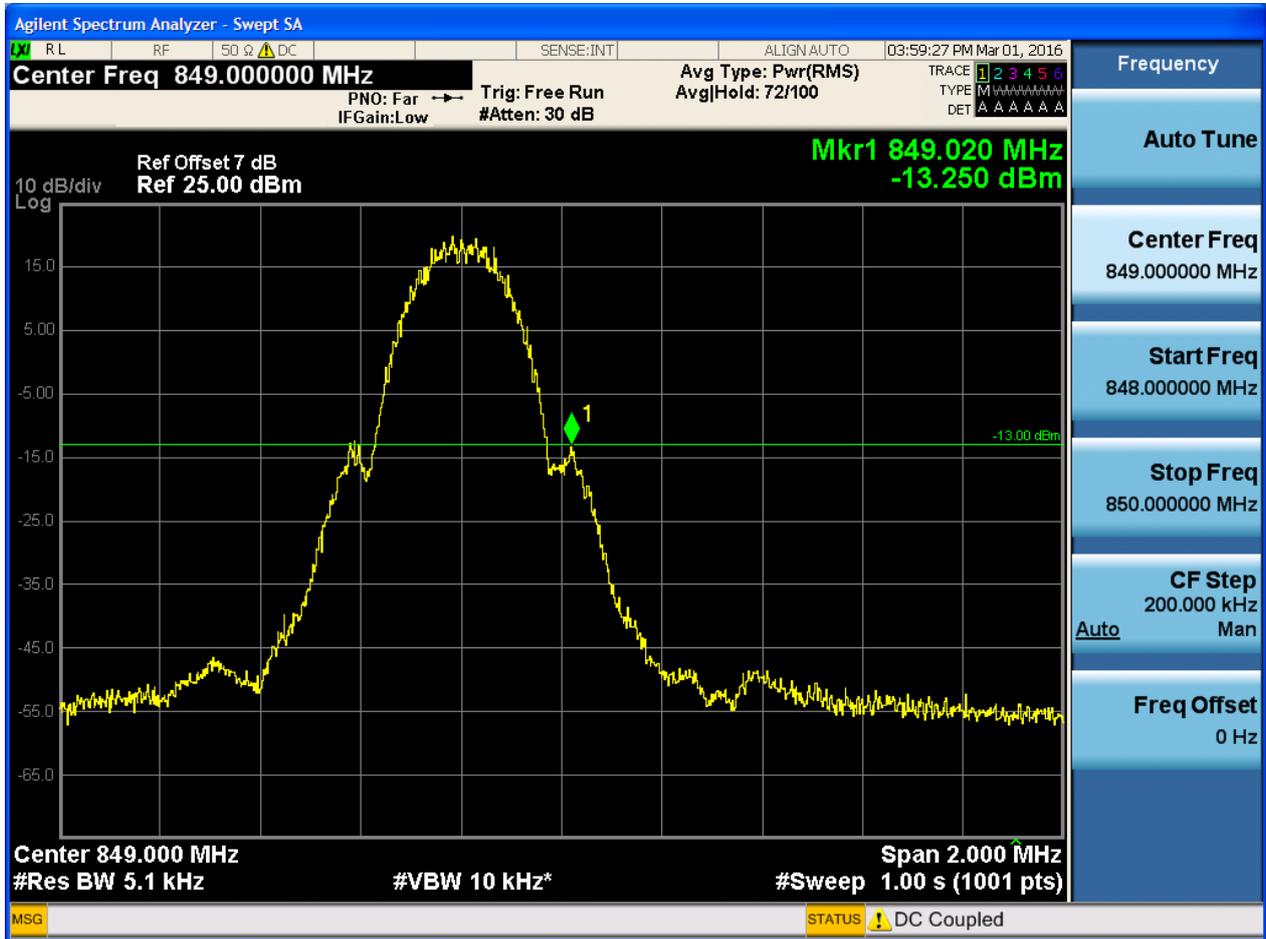
##### 5.1.1.1 Test Mode = GSM/TM1

##### 5.1.1.1.1 Test Channel = LCH





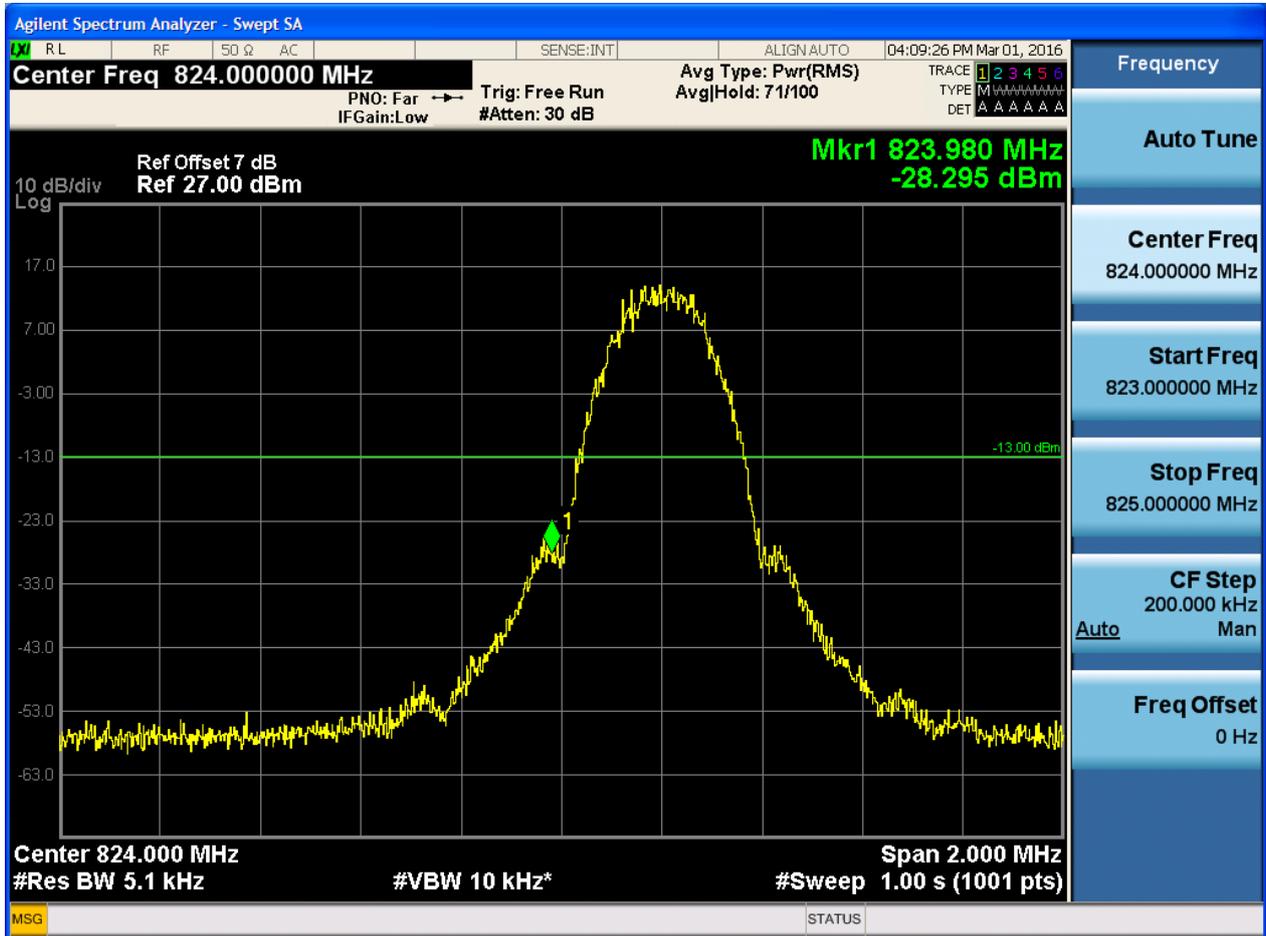
5.1.1.1.2 Test Channel = HCH





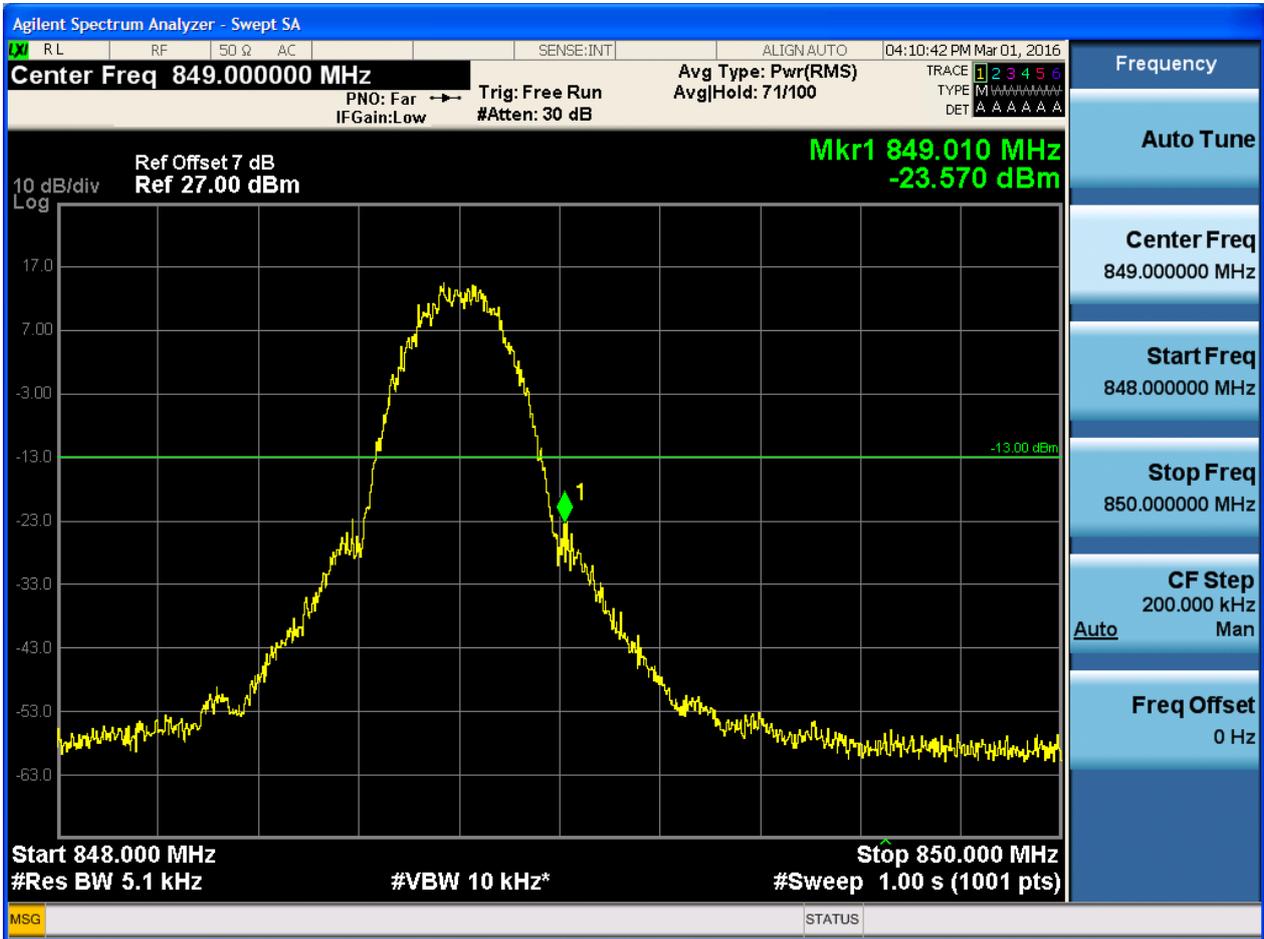
5.1.1.2 Test Mode = GSM/TM2

5.1.1.2.1 Test Channel = LCH





5.1.1.2.2 Test Channel = HCH

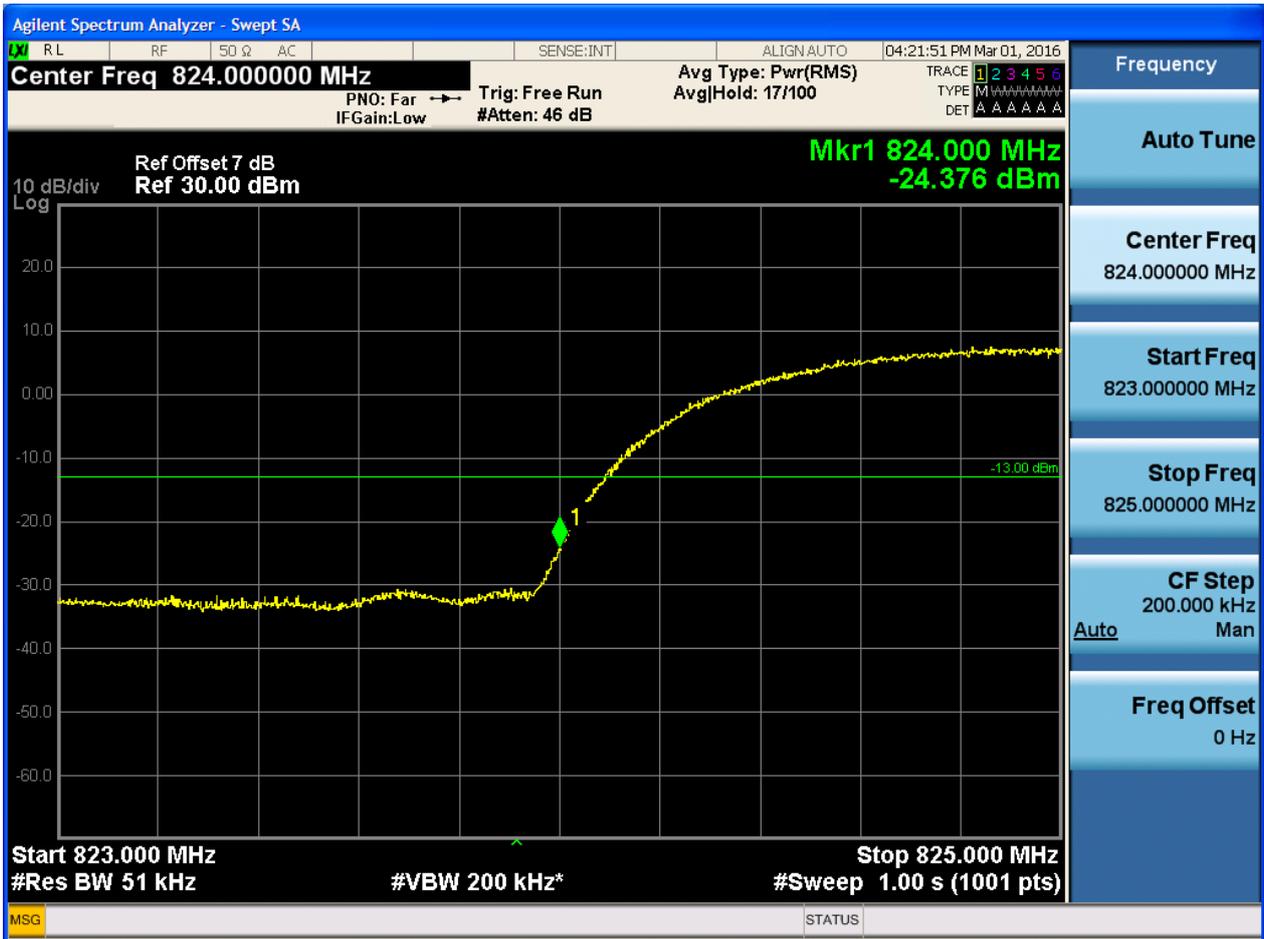




5.1.2 Test Band = WCDMA850

5.1.2.1 Test Mode = UMTS/TM1

5.1.2.1.1 Test Channel = LCH





5.1.2.1.2 Test Channel = HCH

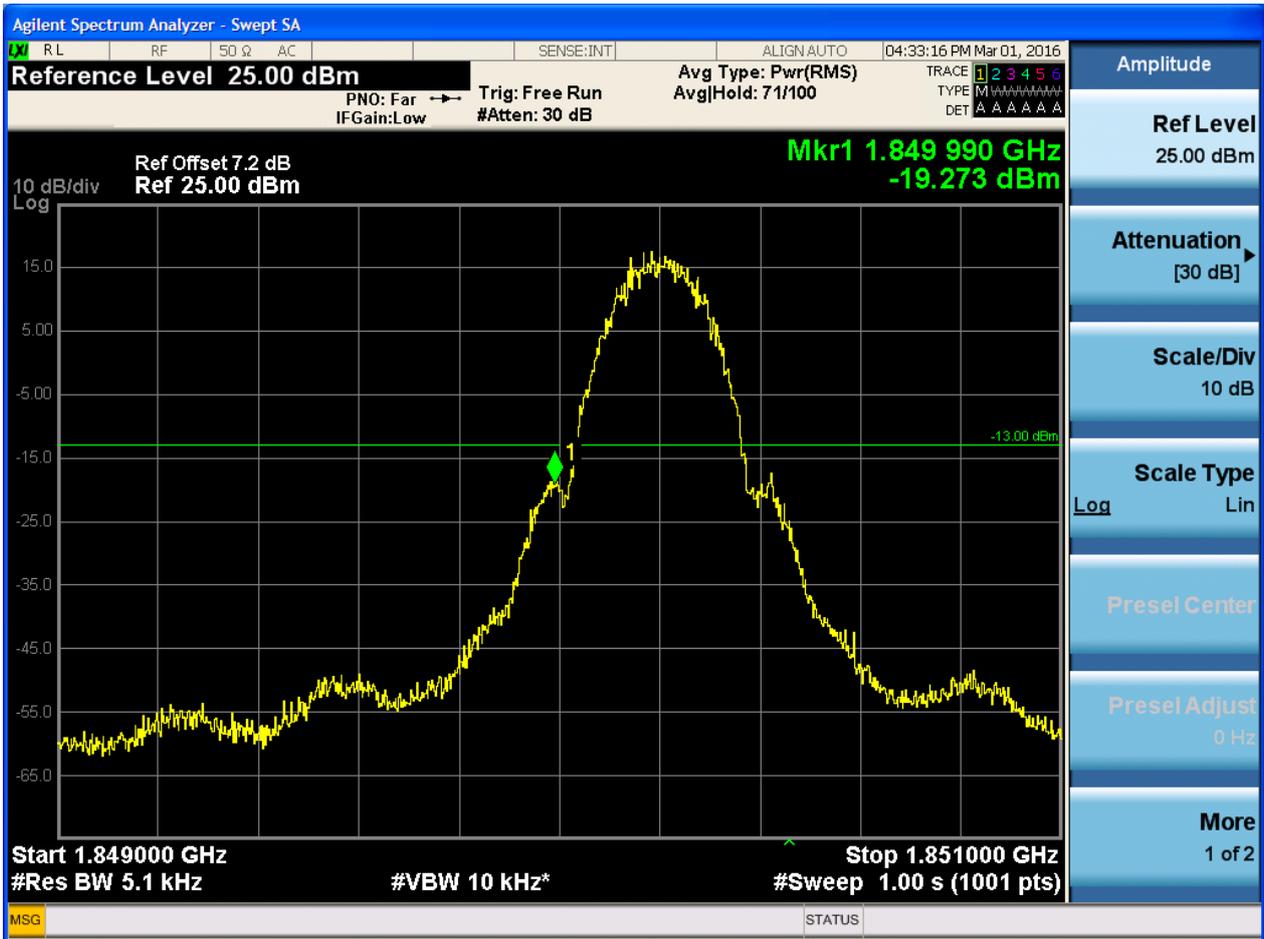




5.1.3 Test Band = GSM1900

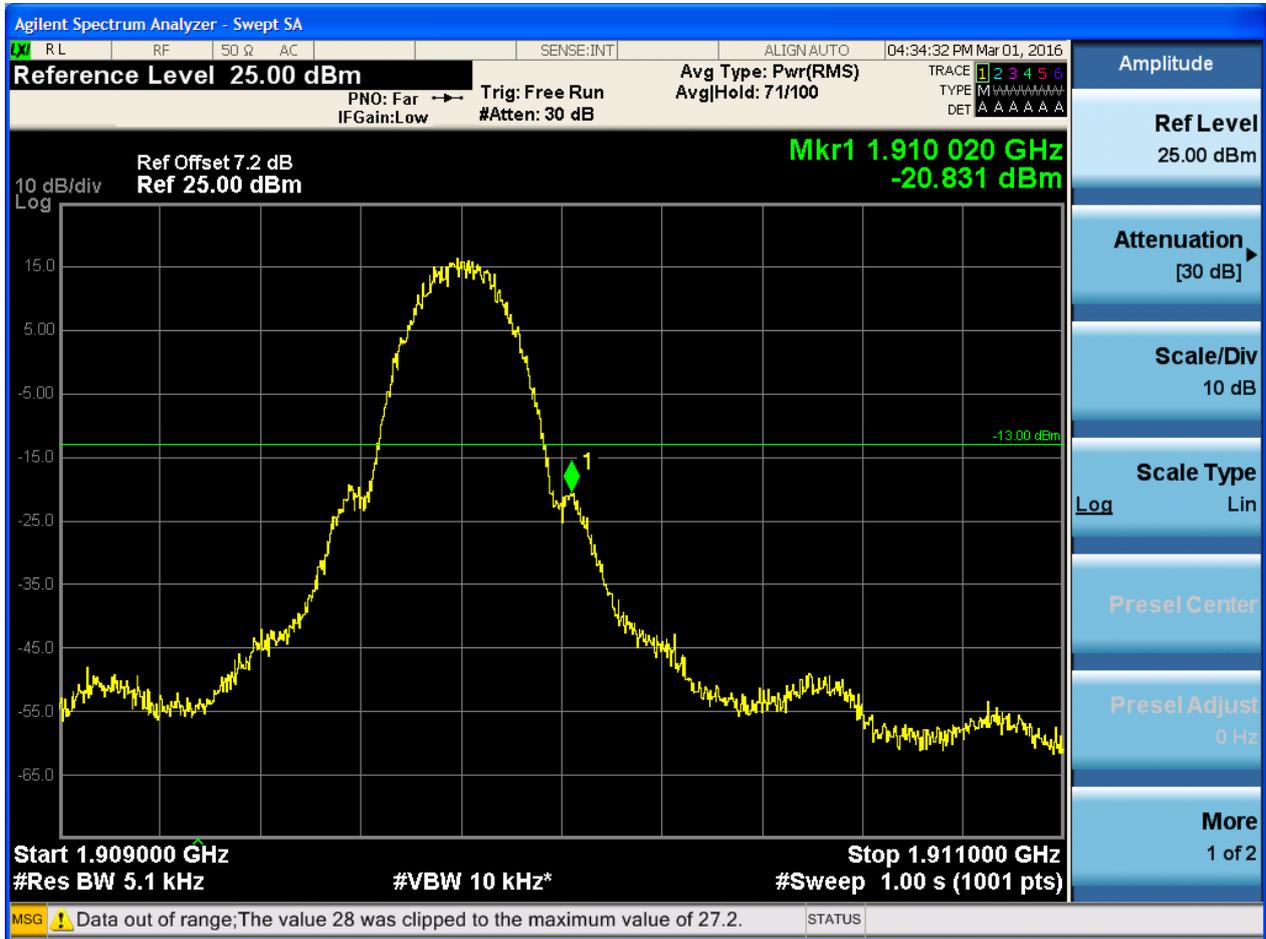
5.1.3.1 Test Mode = GSM/TM1

5.1.3.1.1 Test Channel = LCH





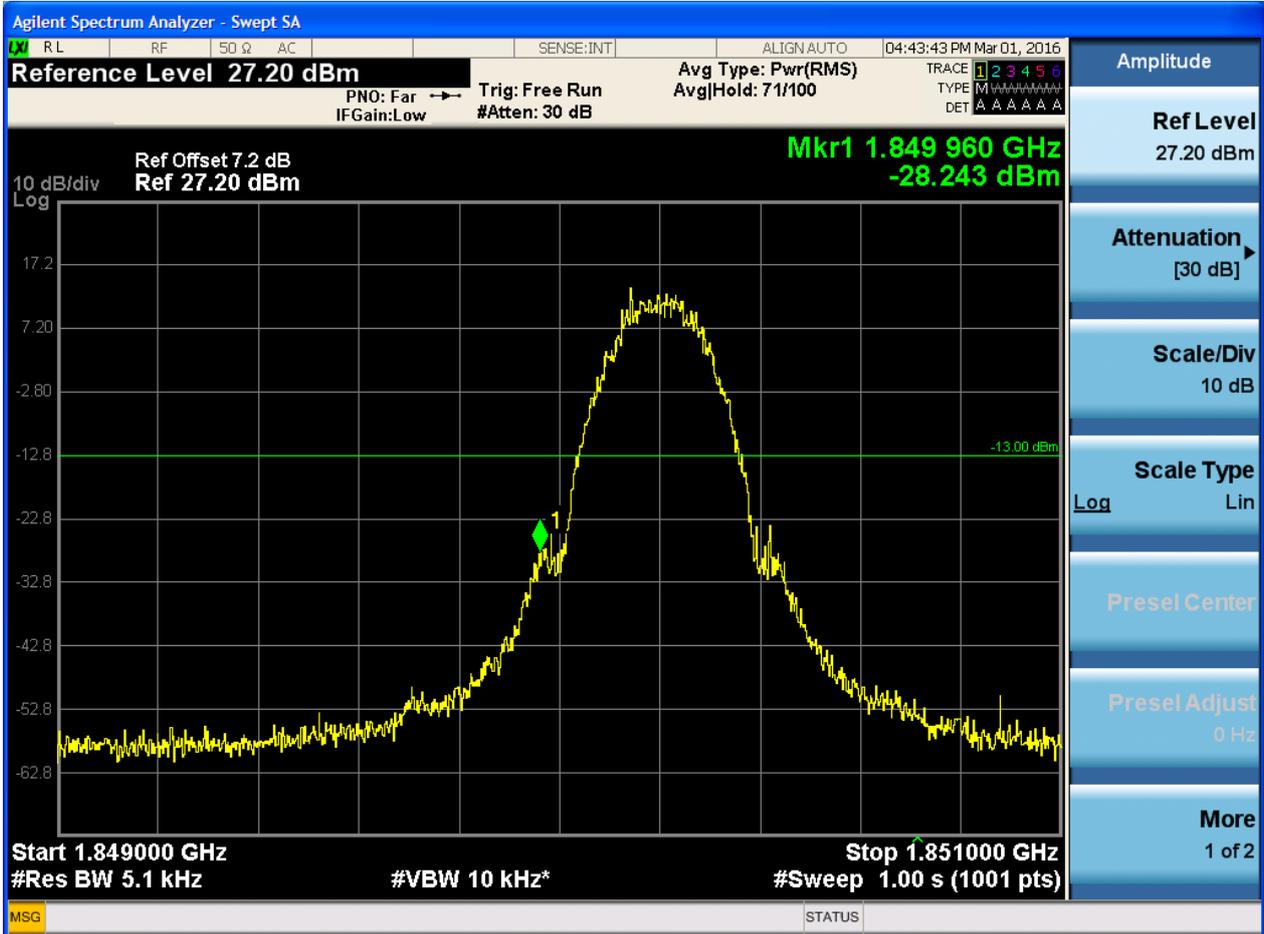
### 5.1.3.1.2 Test Channel = HCH



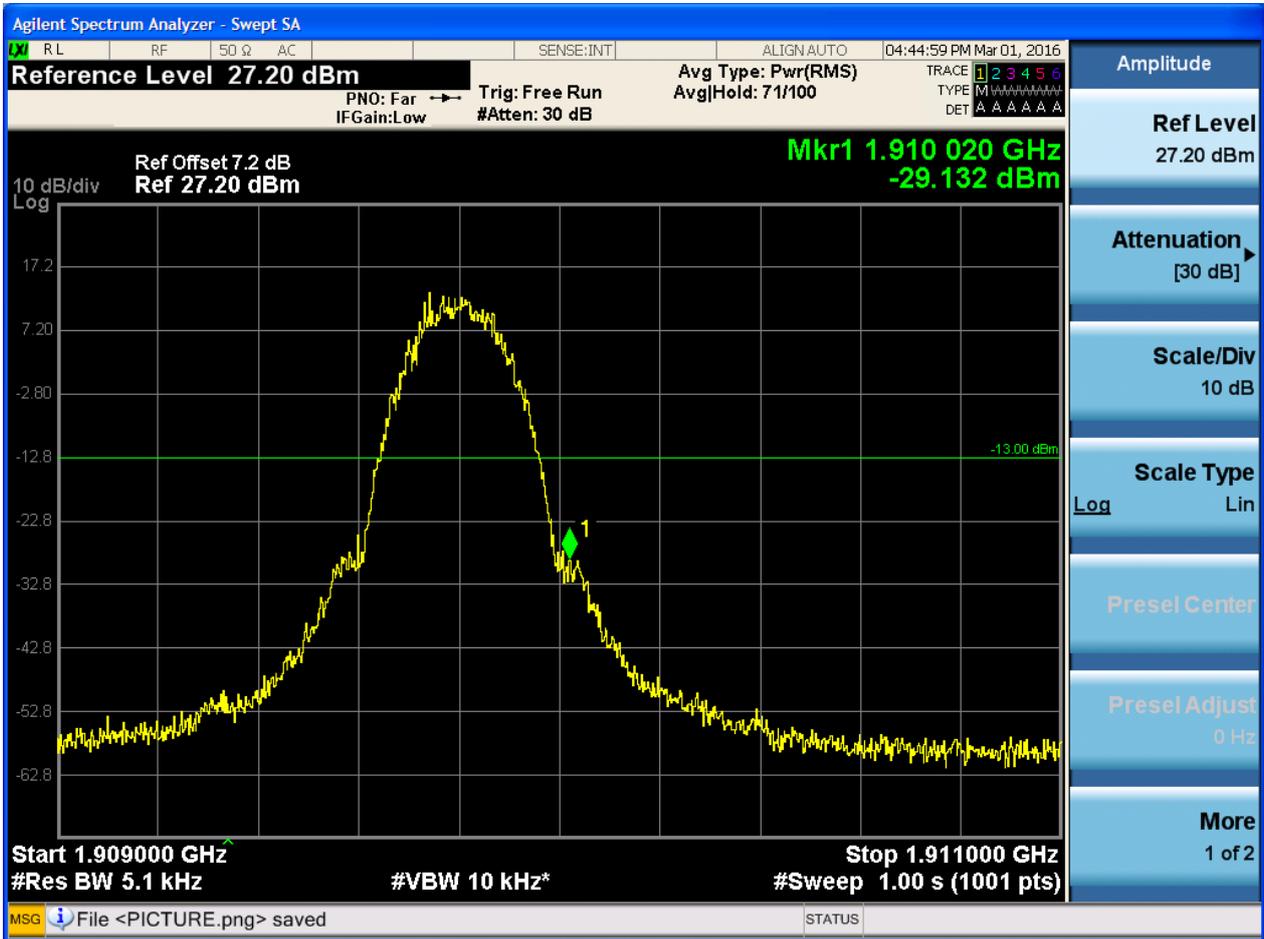


### 5.1.3.2 Test Mode = GSM/TM2

#### 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





5.1.5 Test Band = WCDMA1700

5.1.5.1 Test Mode = UMTS/TM1

5.1.5.1.1 Test Channel = LCH



5.1.5.1.2 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.

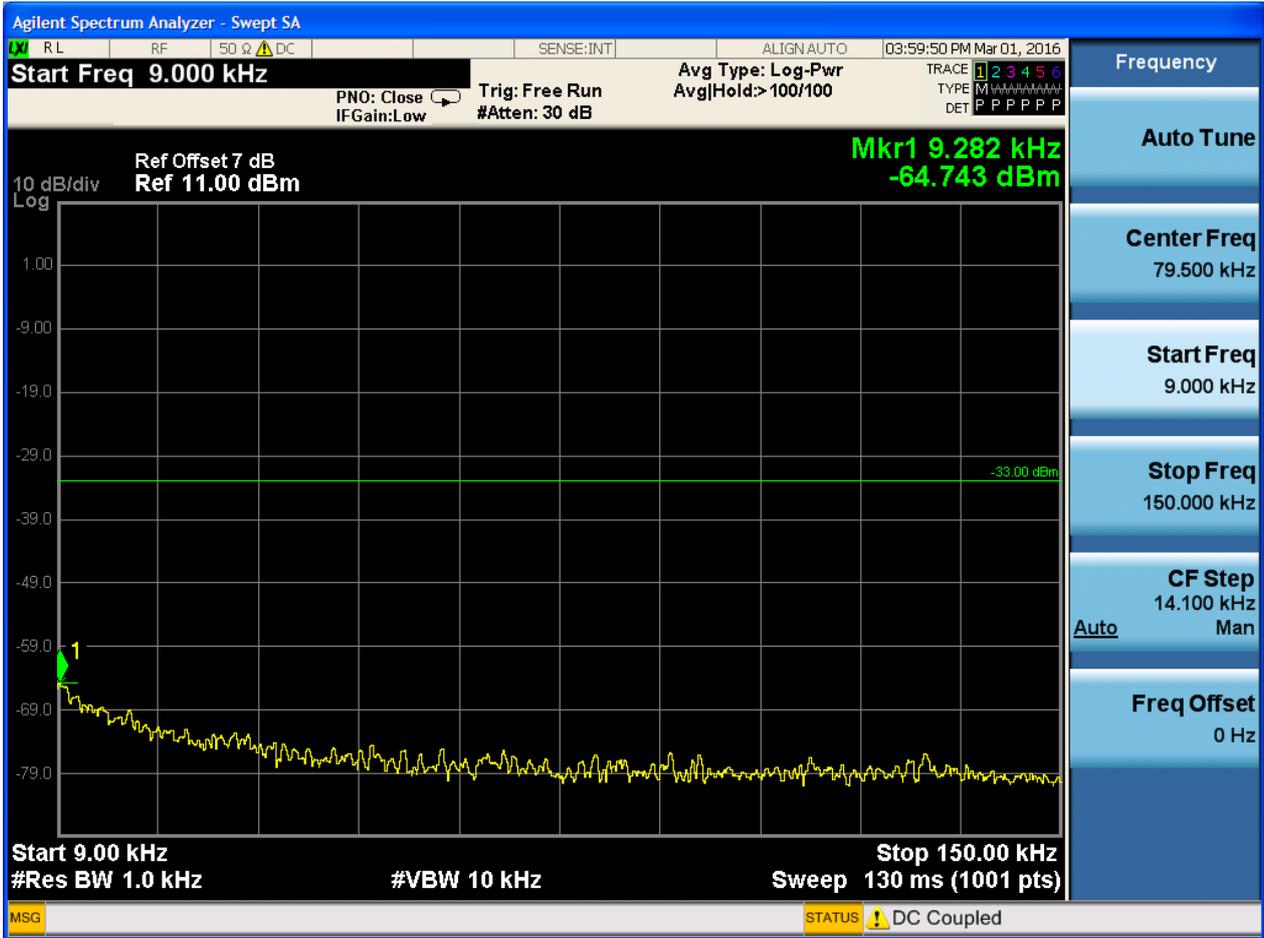
### Part I - Test Plots

#### 6.1 For GSM

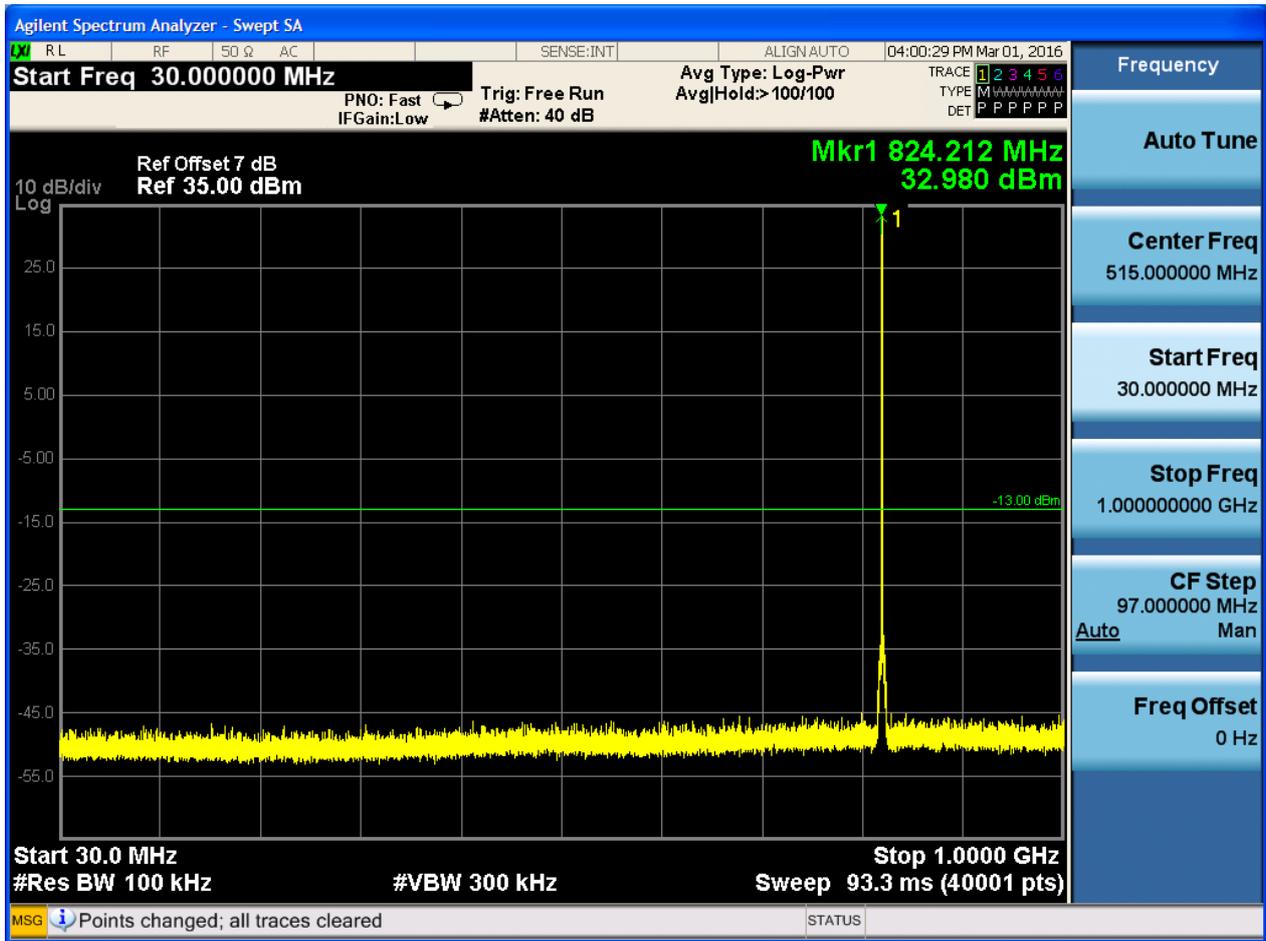
##### 6.1.1 Test Band = GSM850

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

##### 6.1.1.1.1 Test Channel = LCH



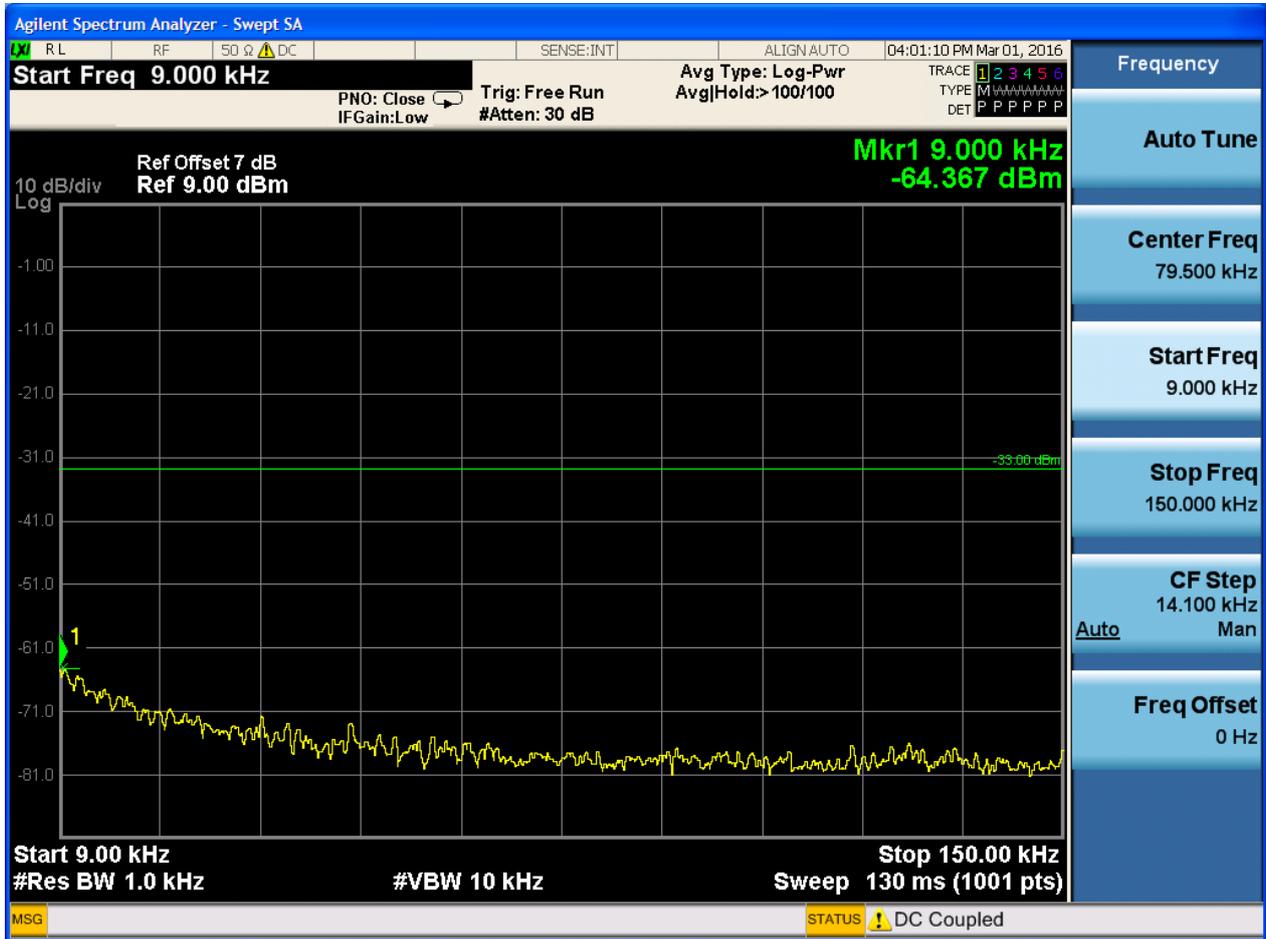




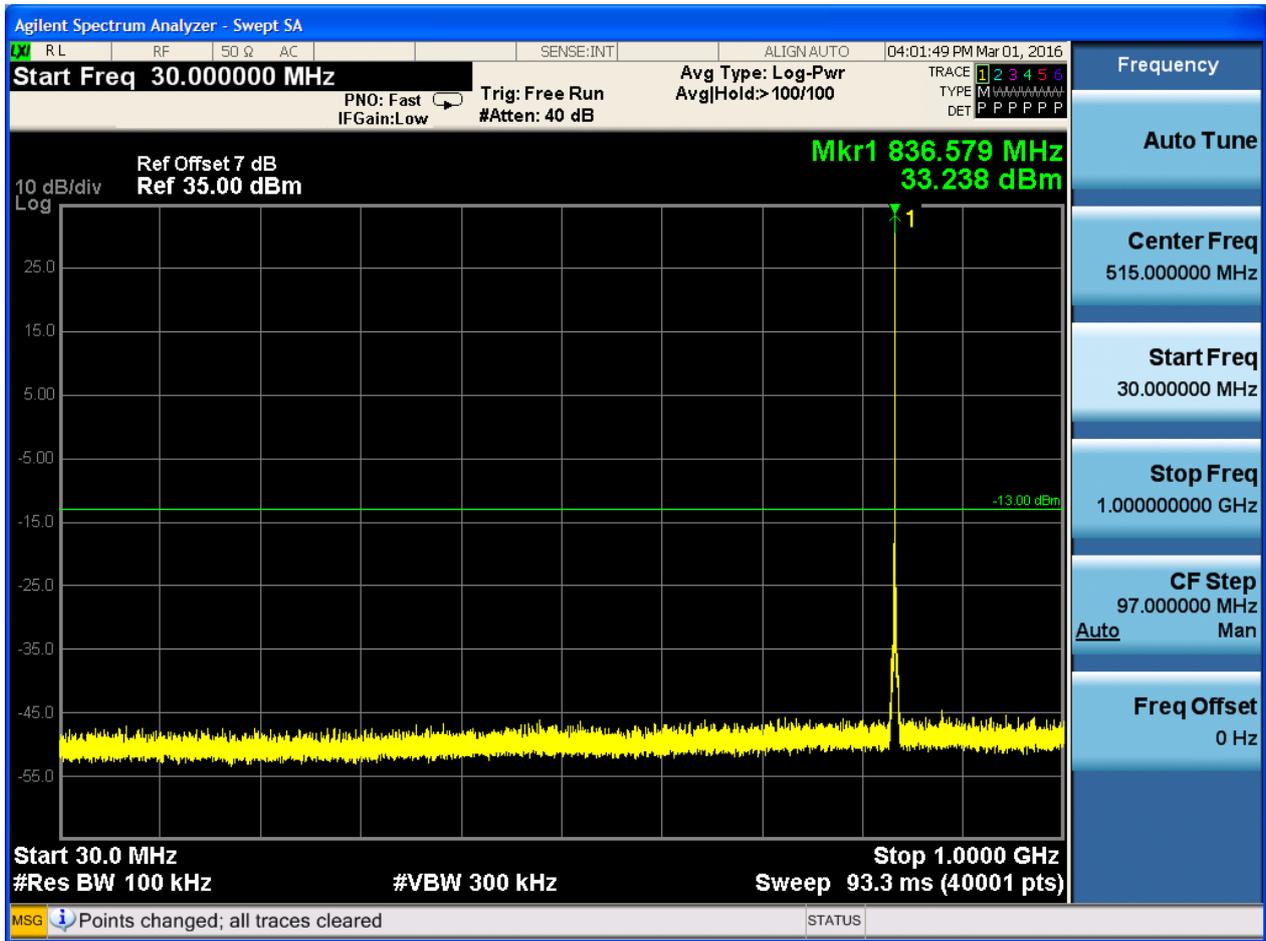


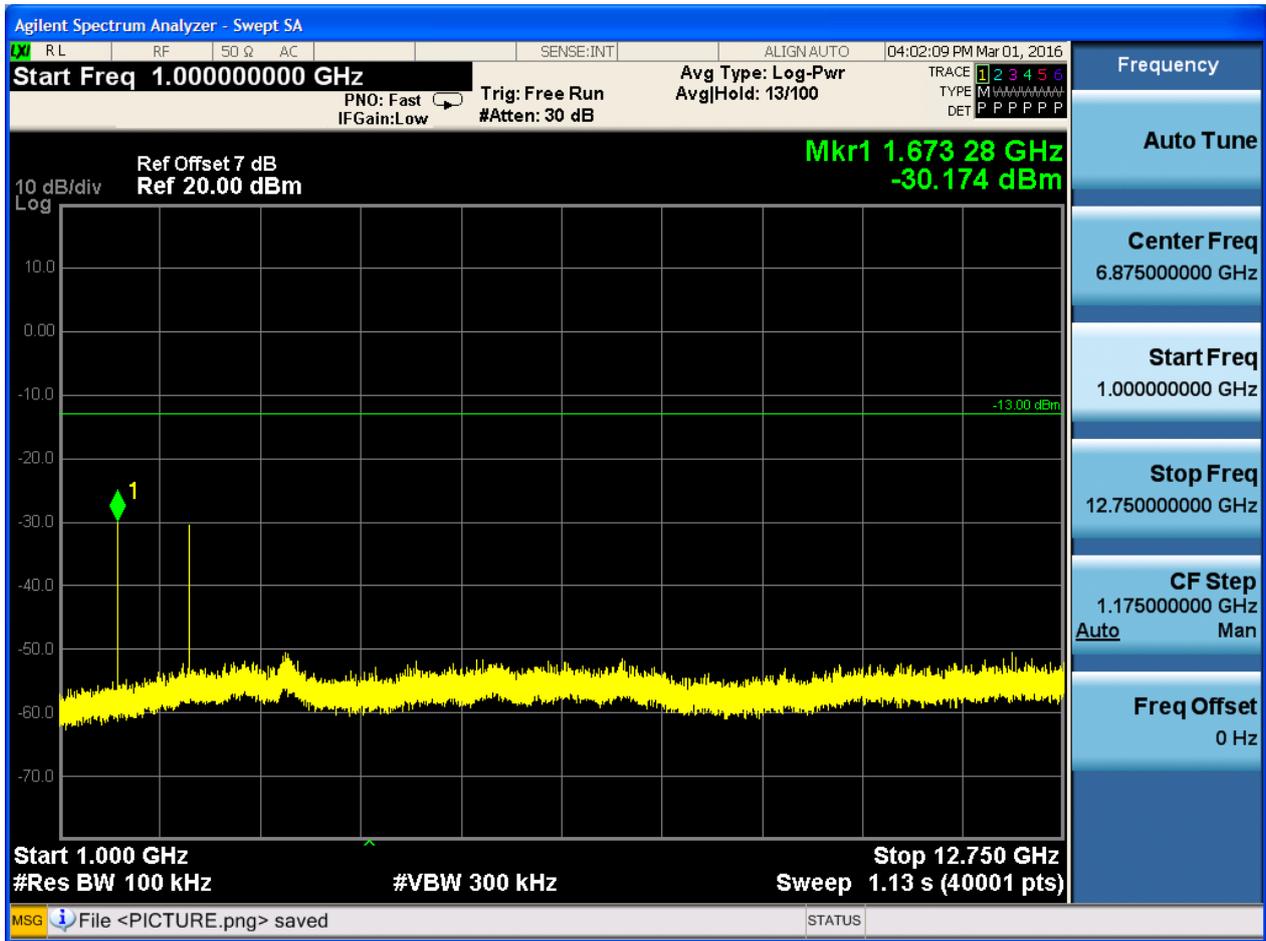


### 6.1.1.1.2 Test Channel = MCH



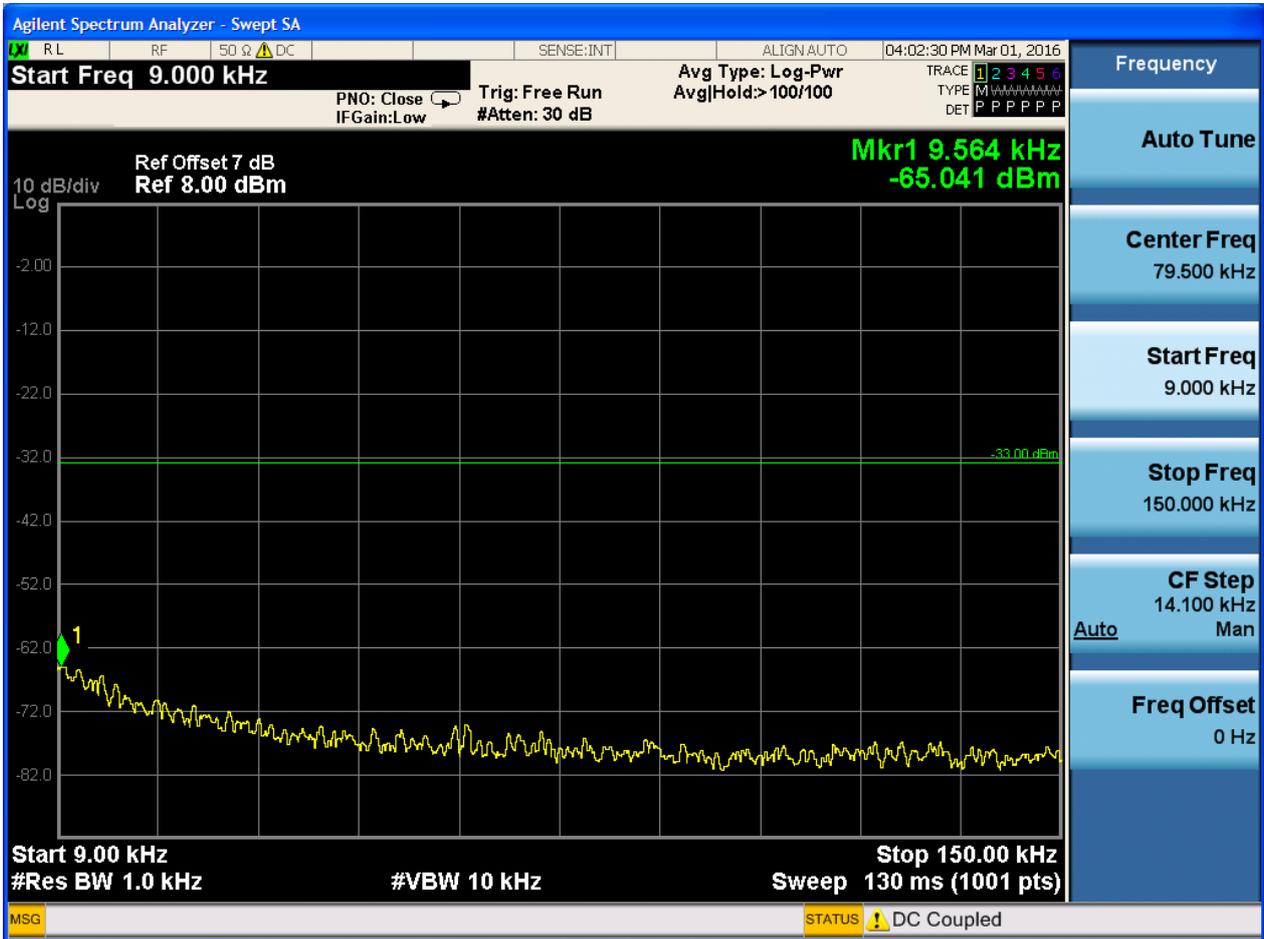




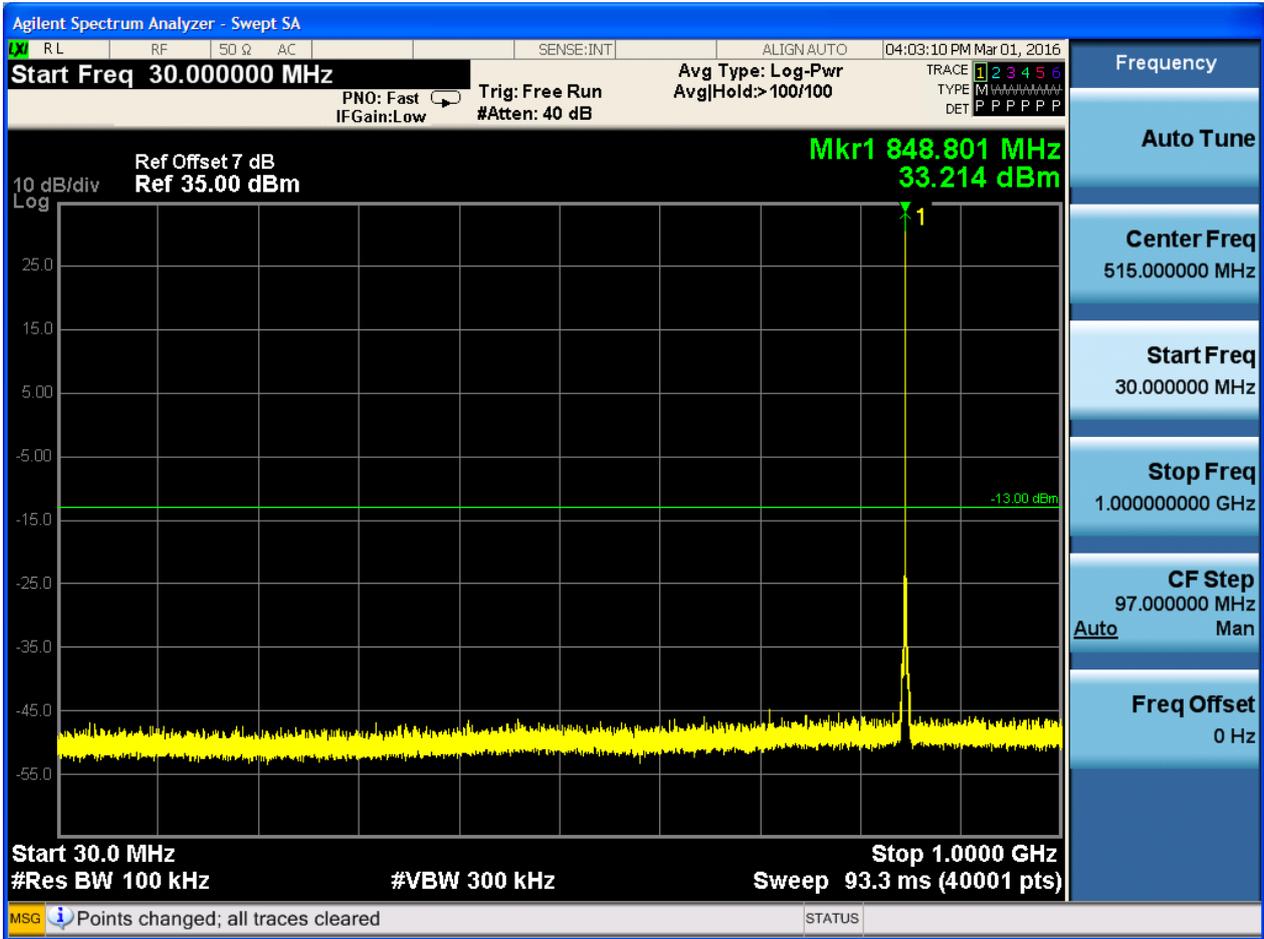


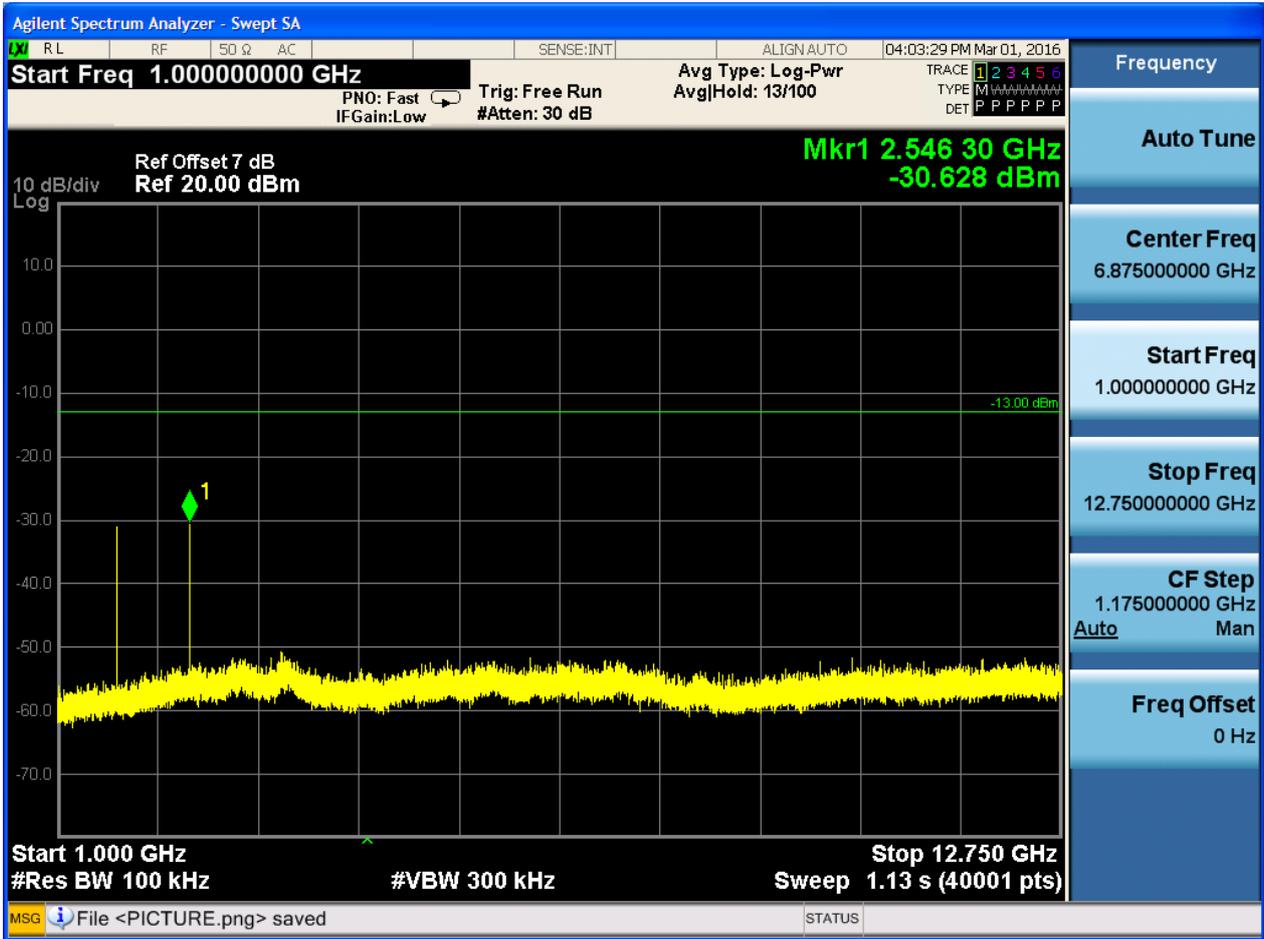


### 6.1.1.1.3 Test Channel = HCH





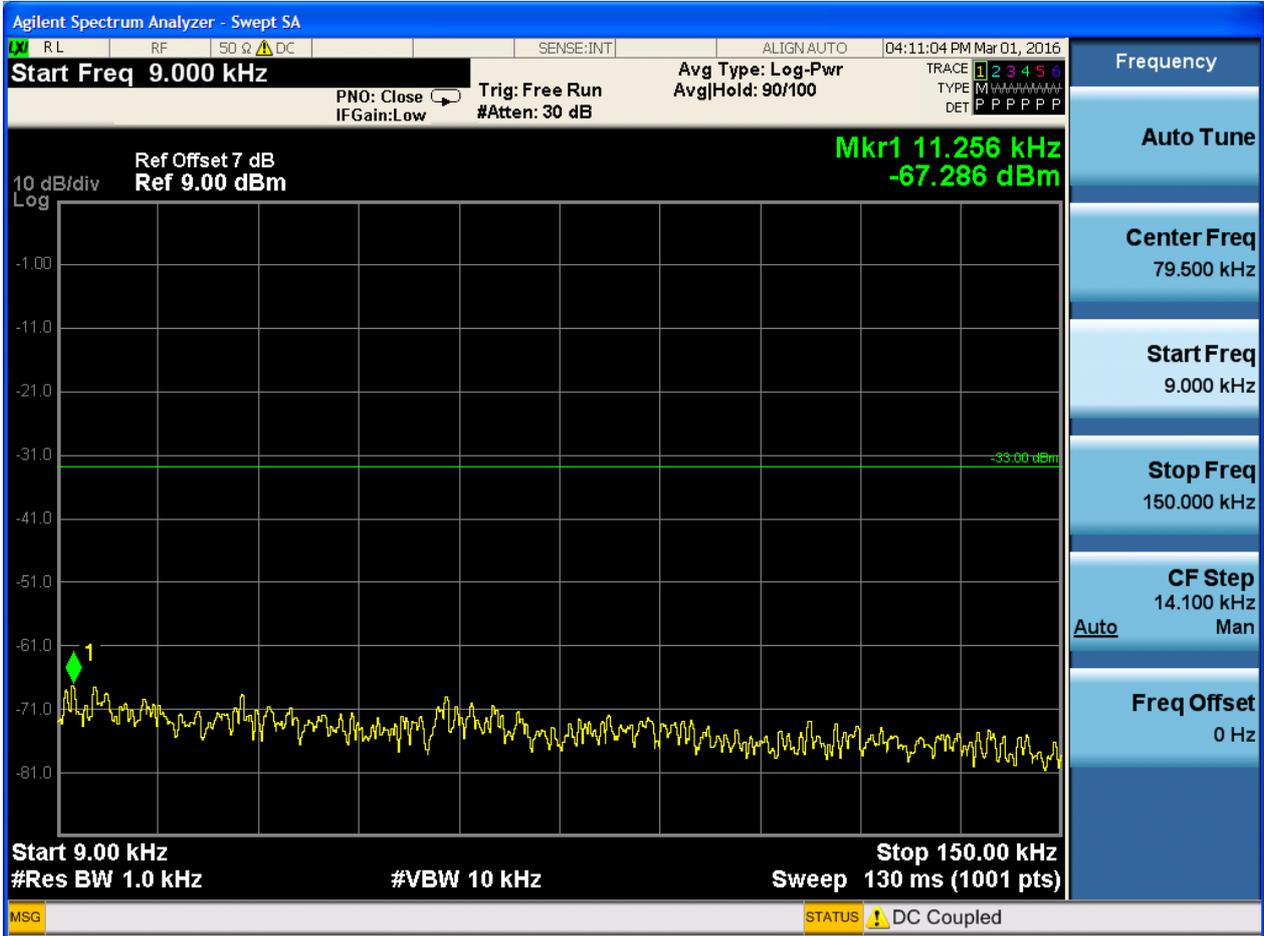


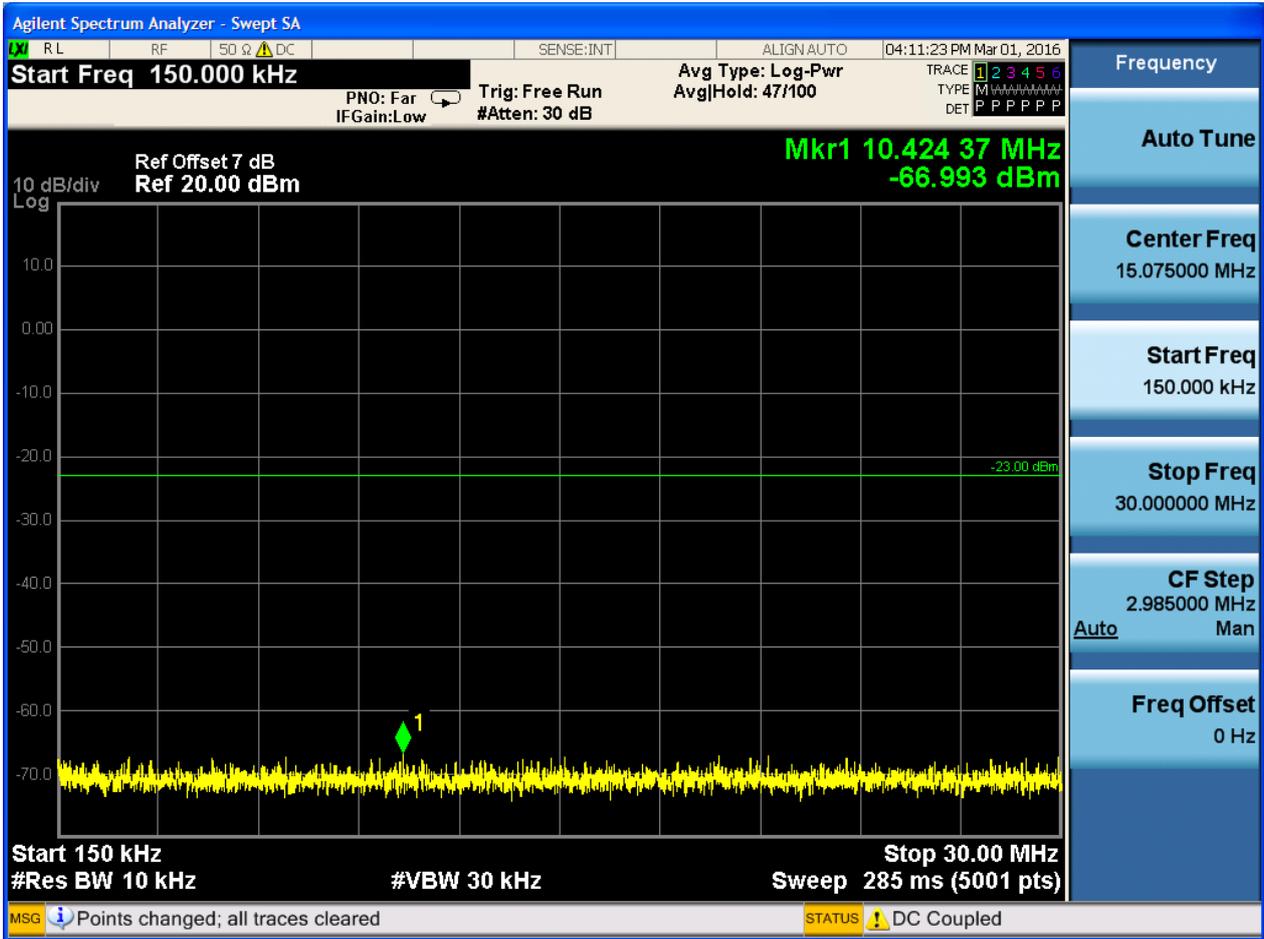


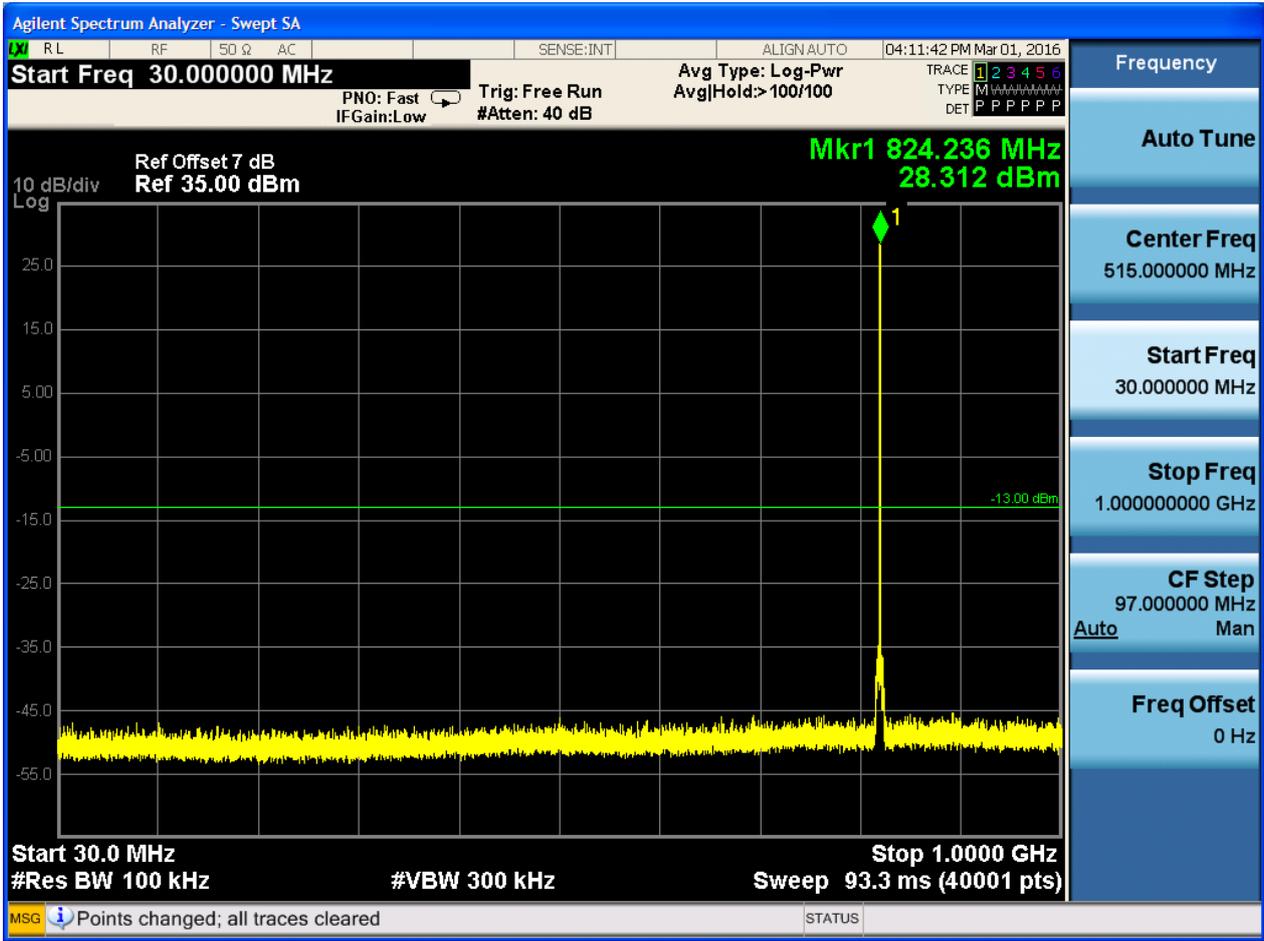


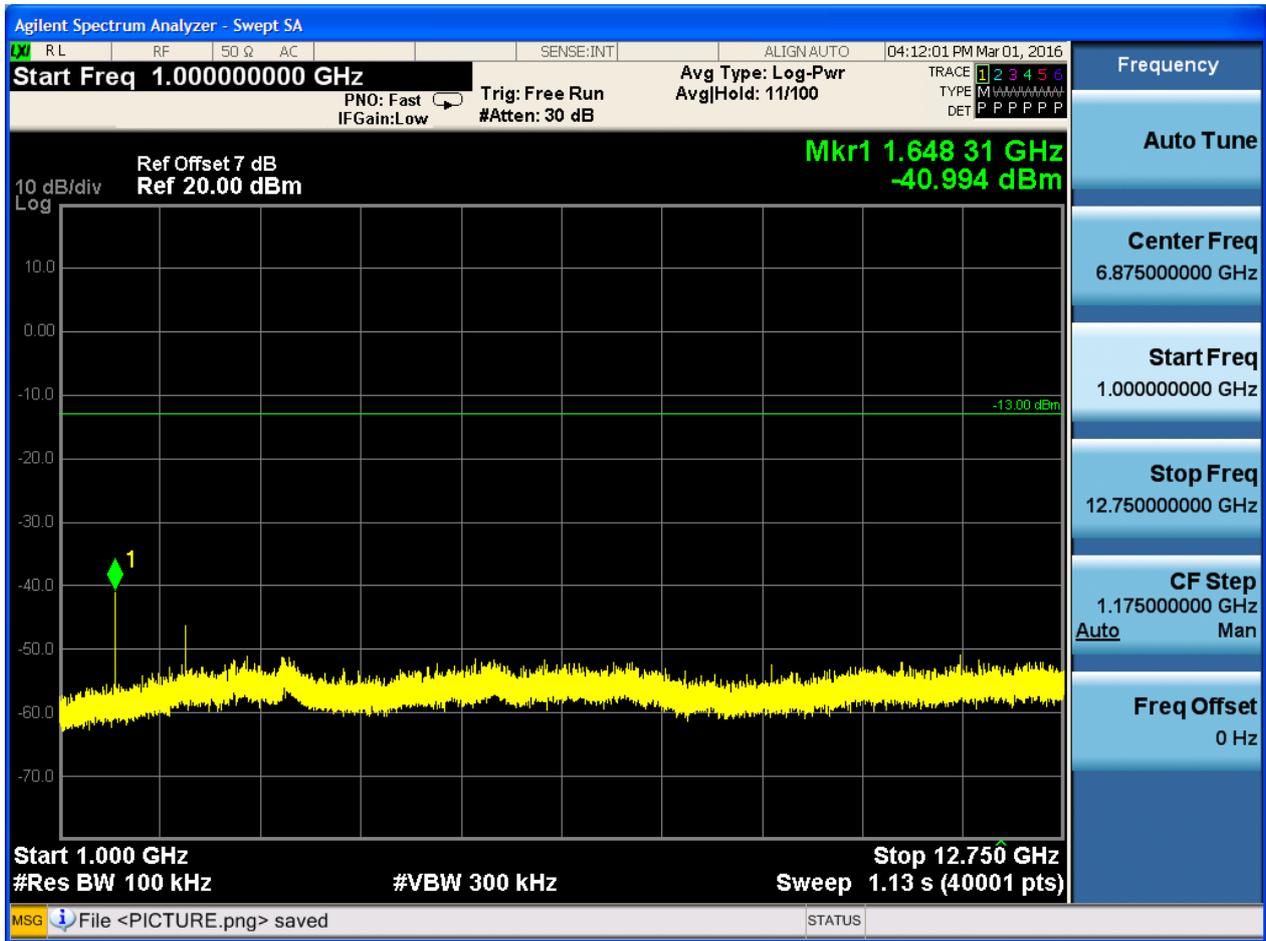
### 6.1.1.2 Test Mode = GSM/TM2

#### 6.1.1.2.1 Test Channel = LCH



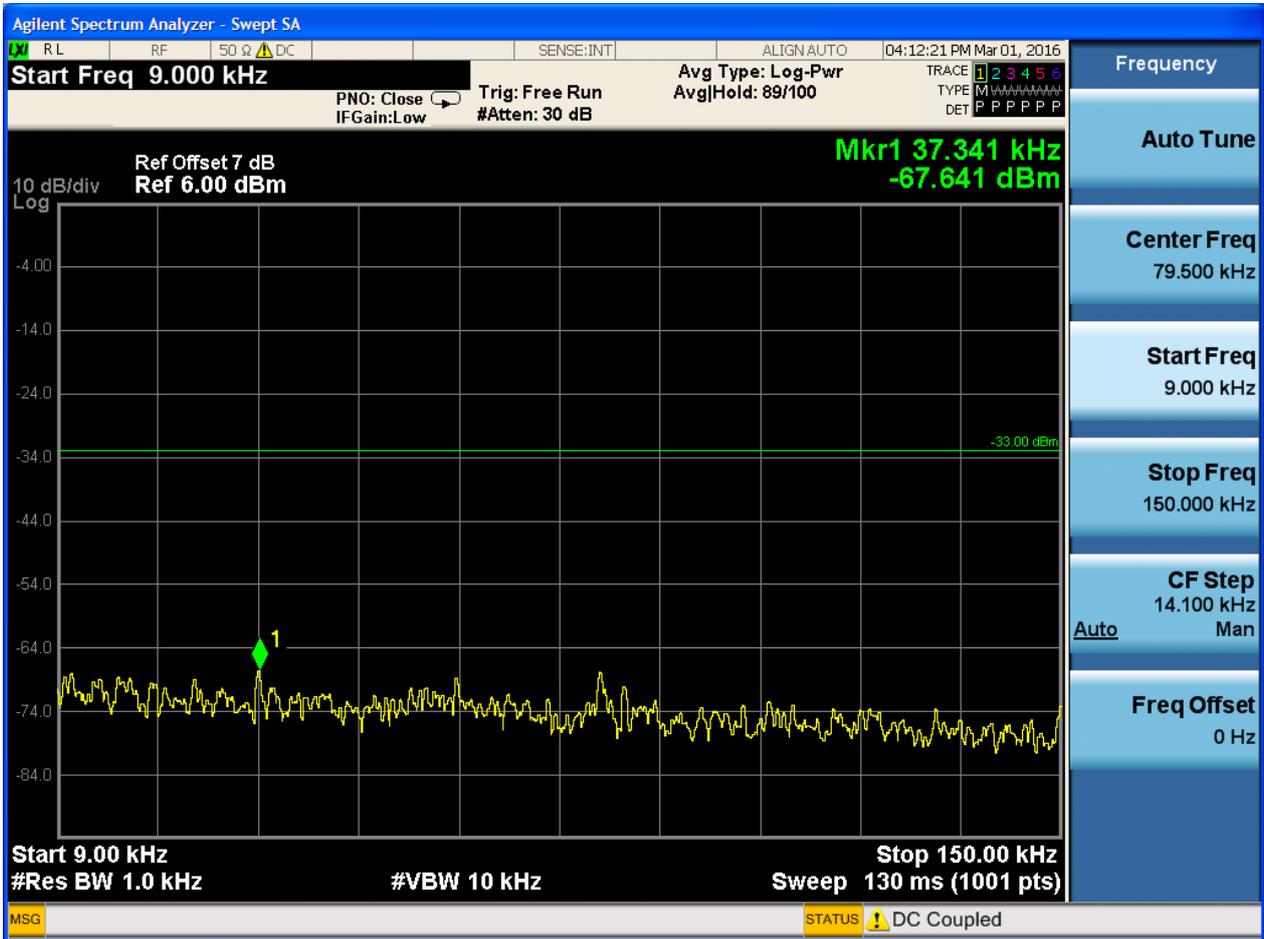




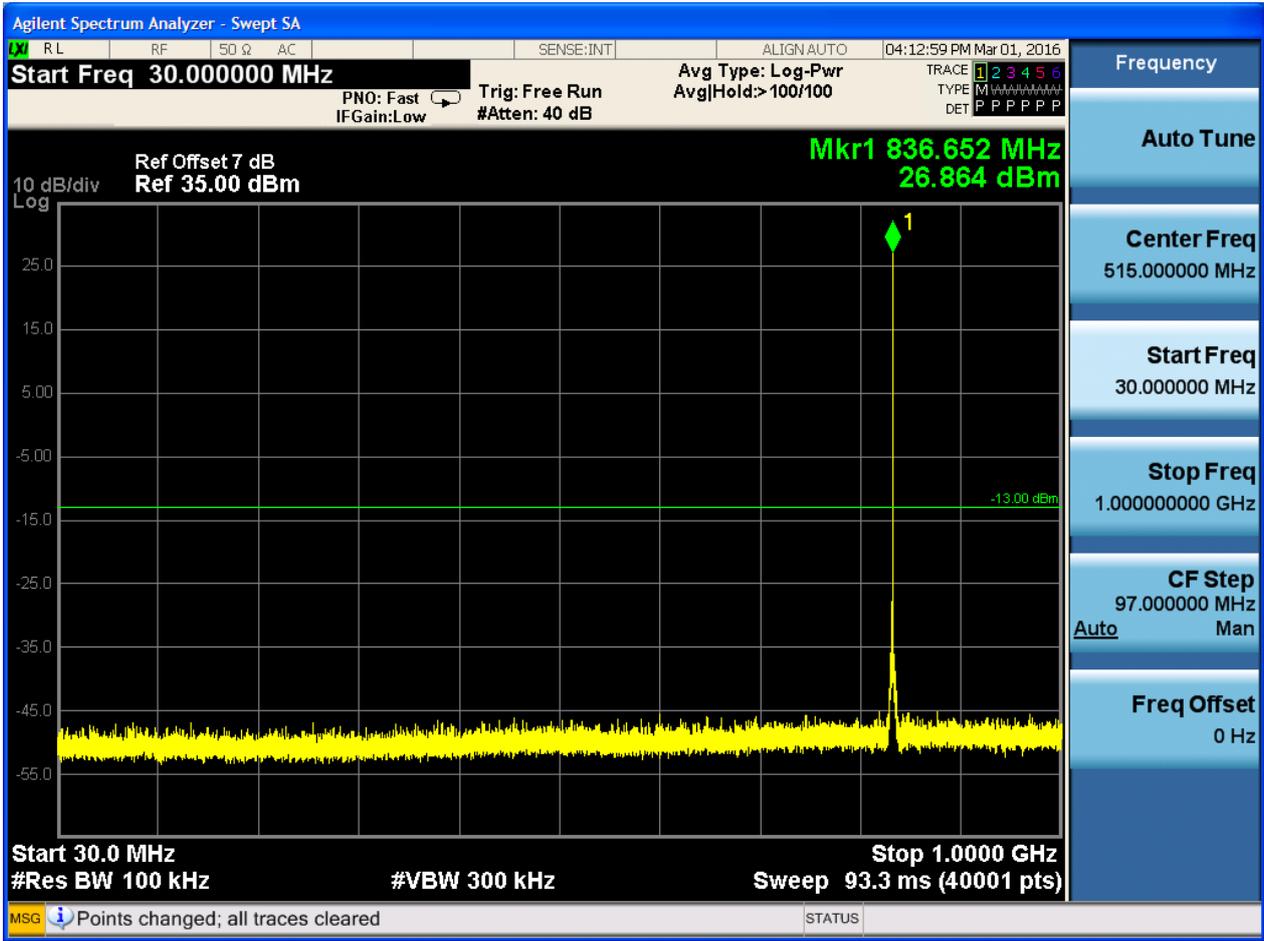


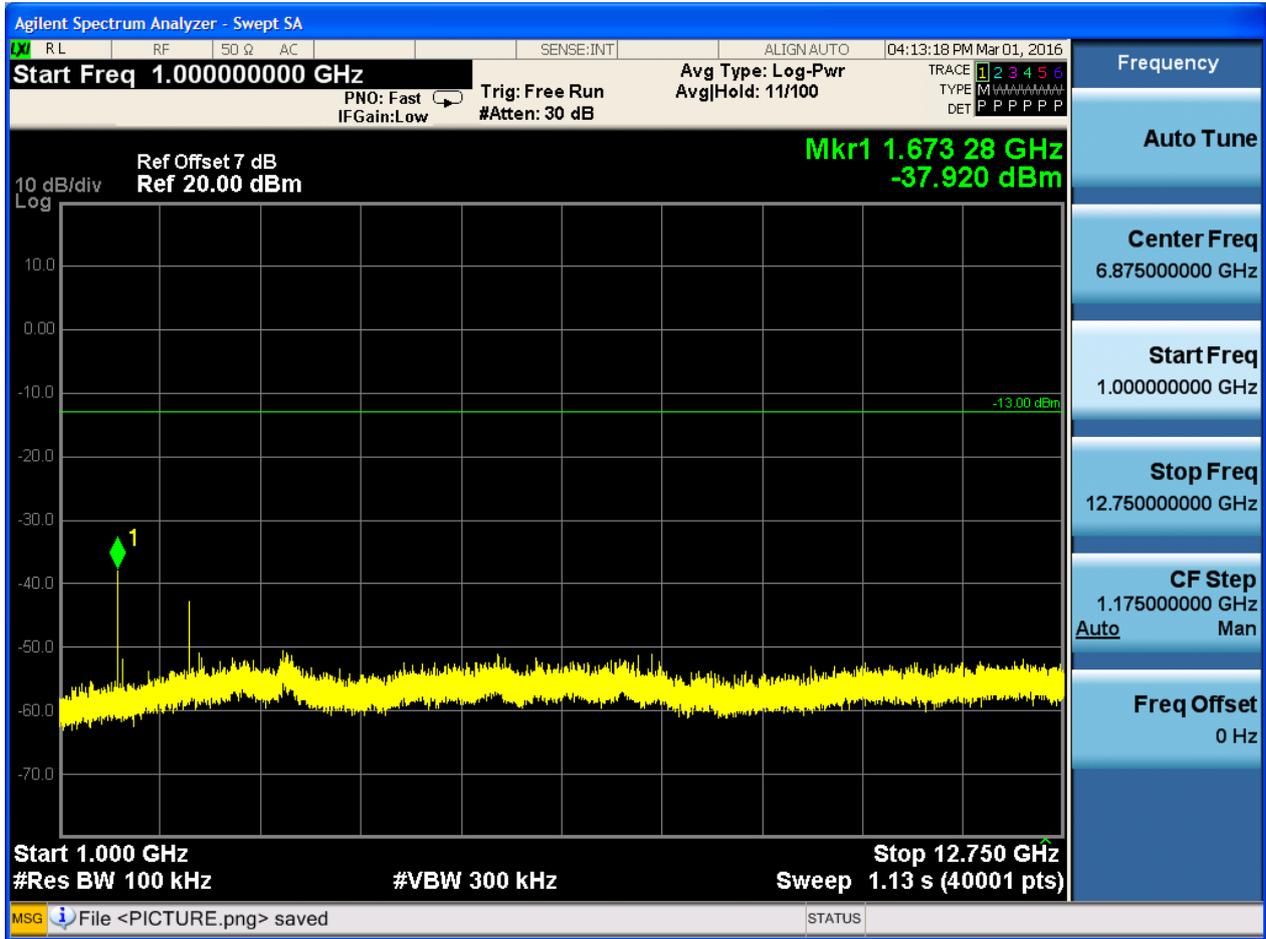


### 6.1.1.2.2 Test Channel = MCH

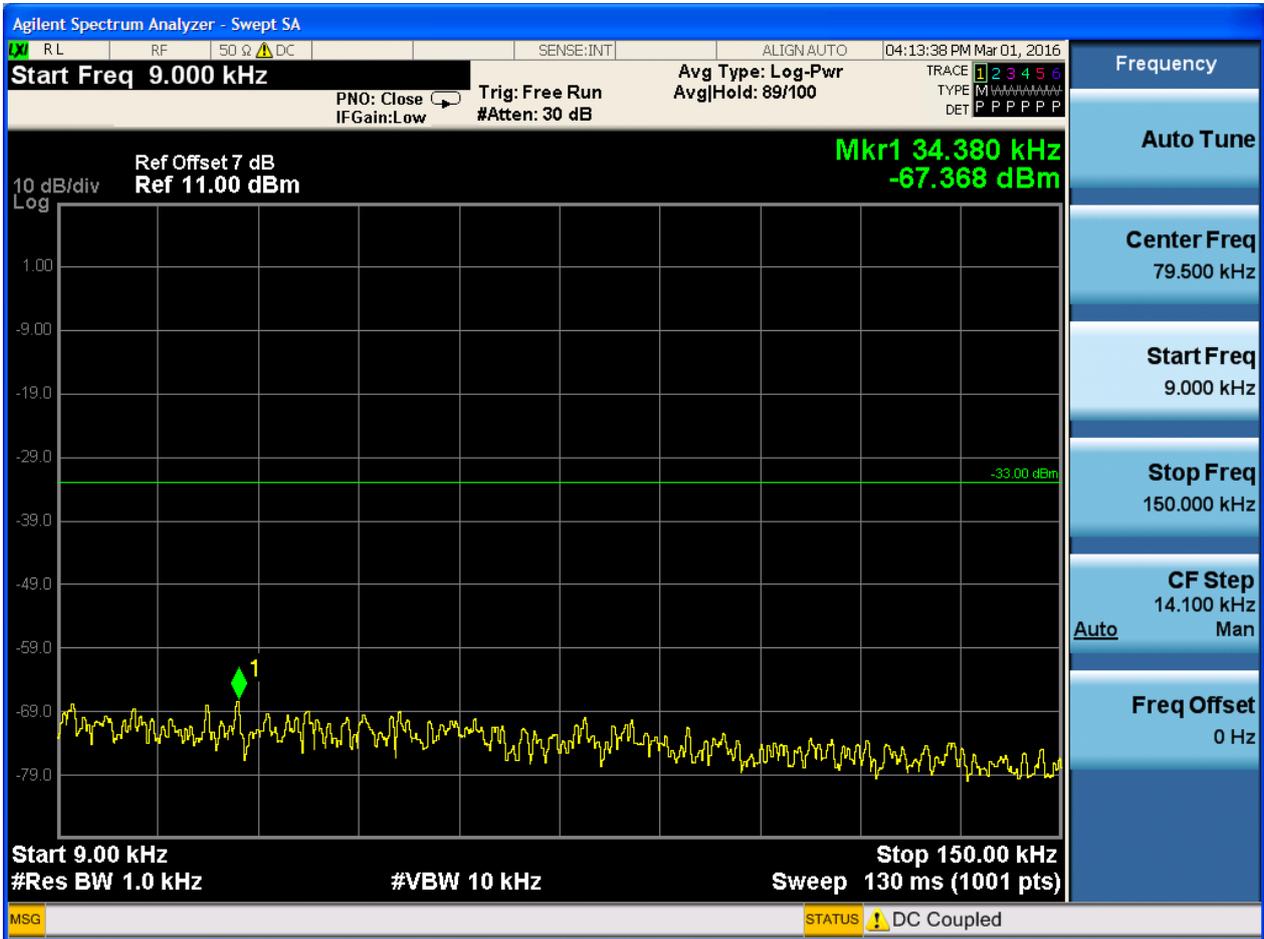




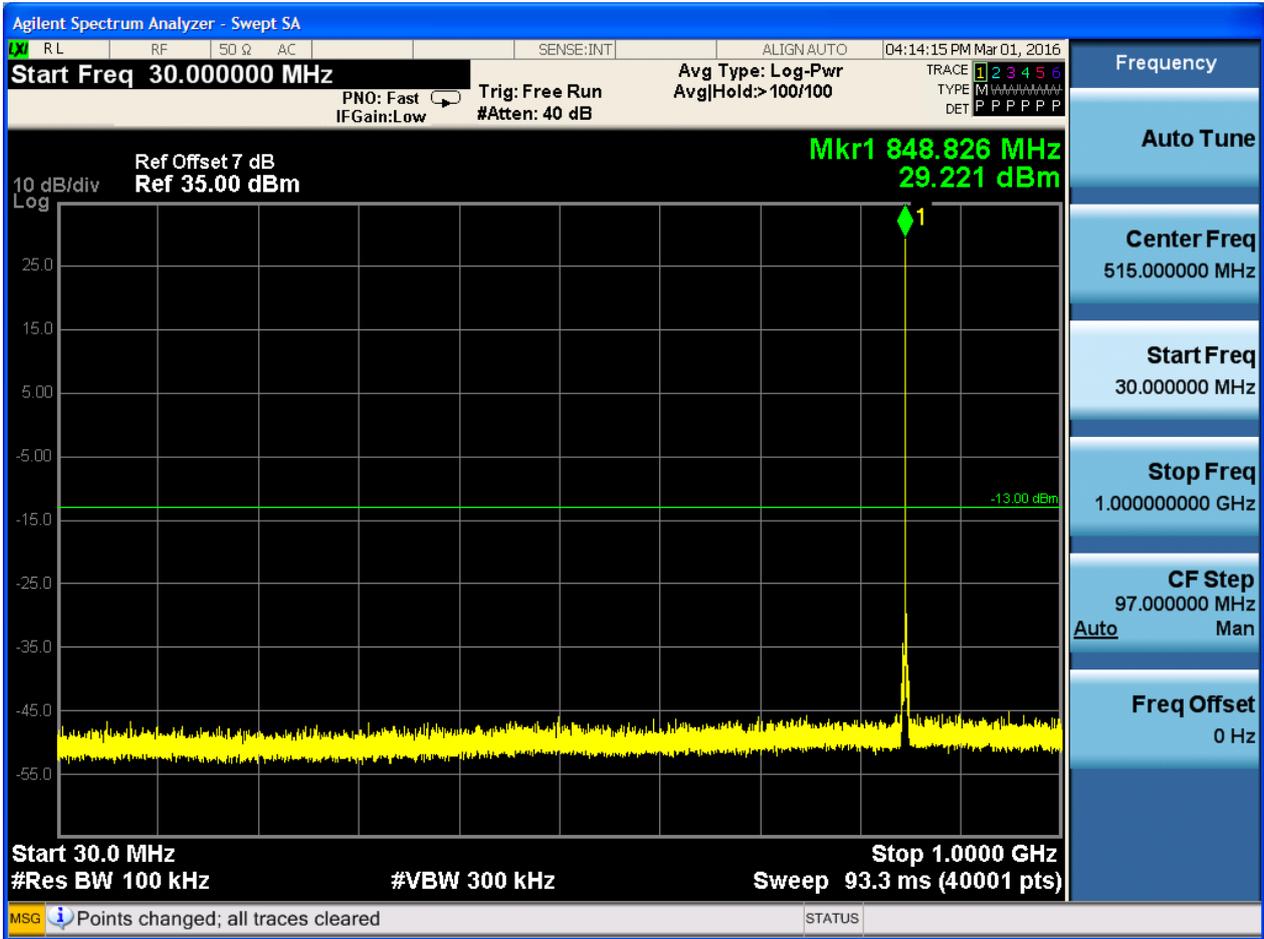


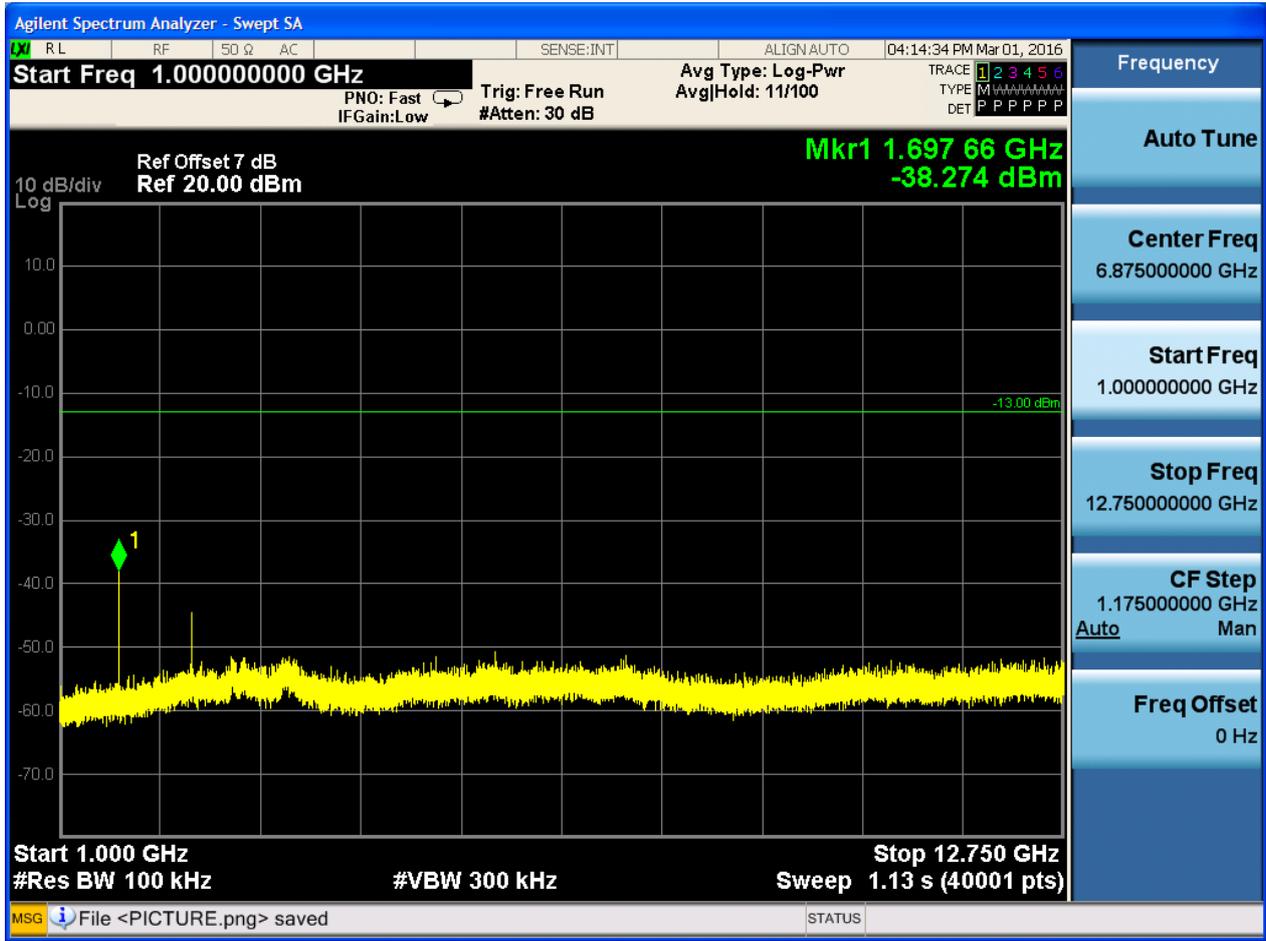


6.1.1.2.3 Test Channel = HCH











6.1.2 Test Band = WCDMA850

6.1.2.1 Test Mode = UMTS/TM1

6.1.2.1.1 Test Channel = LCH

