



# 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	31.56	30.41	38.5	PASS
		MCH	31.74	30.59	38.5	PASS
		HCH	31.75	30.6	38.5	PASS
	GSM/TM2	LCH	25.68	24.53	38.5	PASS
		MCH	25.71	24.56	38.5	PASS
		HCH	25.58	24.43	38.5	PASS
GSM1900	GSM/TM1	LCH	29.83	30.83	33	PASS
		MCH	29.58	30.58	33	PASS
		HCH	30.3	31.3	33	PASS
	GSM/TM2	LCH	26.85	27.85	33	PASS
		MCH	26.8	27.8	33	PASS
		HCH	26.76	27.76	33	PASS



Test Band	Test Mode	Test Channel	Measured[dBm]	ERP [dBm]	Limit [dBm]	Verdict
WCDMA850	UMTS/TM1	LCH	23.17	22.02	38.5	PASS
		MCH	23.19	22.04	38.5	PASS
		HCH	23.22	22.07	38.5	PASS
WCDMA1900	UMTS/TM1	LCH	23.51	24.51	33	PASS
		MCH	23.29	24.29	33	PASS
		HCH	23.52	24.52	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:

SET Span=1.5\*OBW

SET RBW=1%of the OBW,not to exceed 1MHz

SET VBW>= 3\*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	0.22	13	PASS
		MCH	0.22	13	PASS
		HCH	0.23	13	PASS
	GSM/TM2	LCH	2.62	13	PASS
		MCH	2.82	13	PASS
		HCH	2.73	13	PASS
Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
WCDMA1900	UMTS/TM1	LCH	2.85	13	PASS
		MCH	2.96	13	PASS
		HCH	2.51	13	PASS

### 3Appendix\_C: Modulation Characteristics

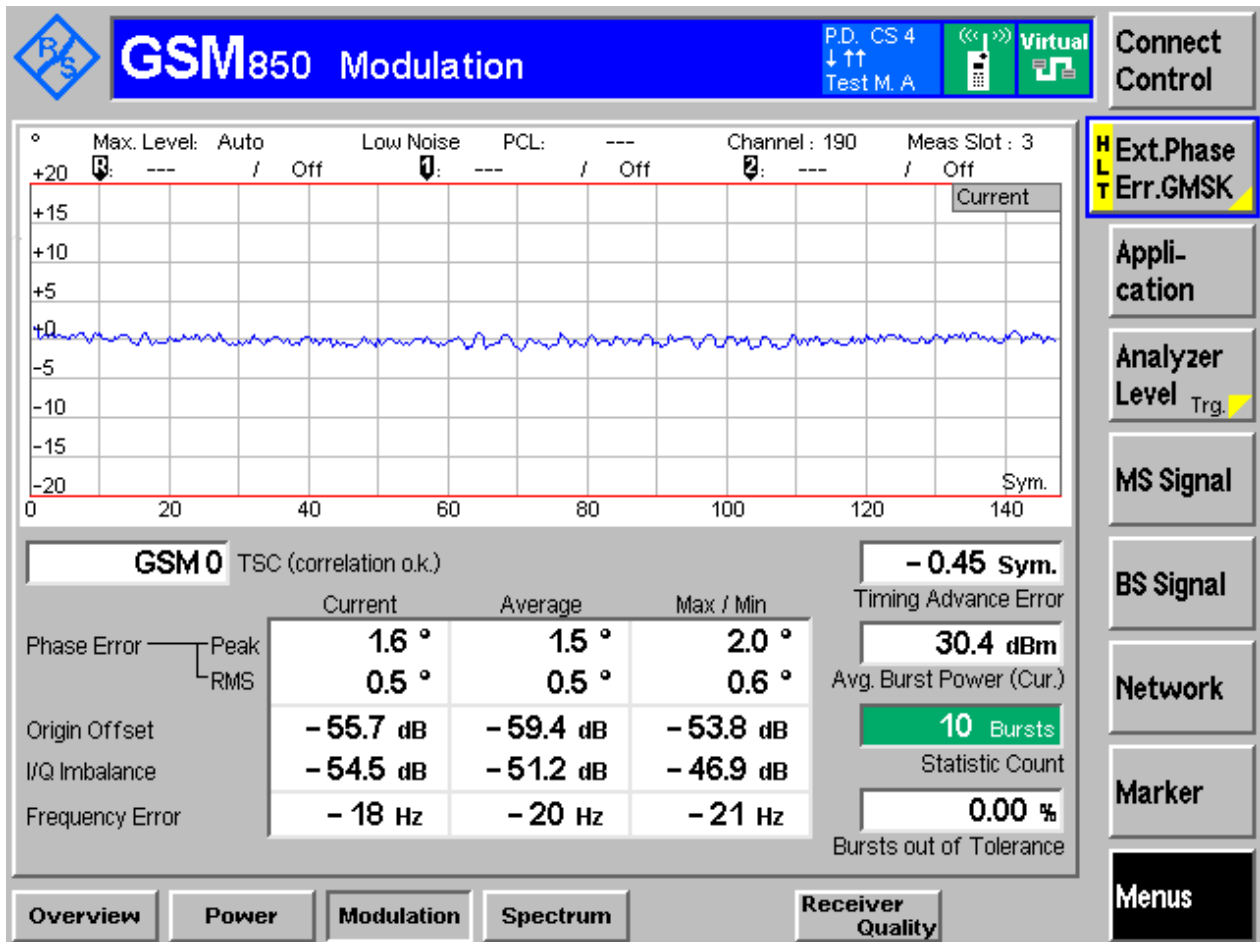
#### Part I - Test Plots

#### 3.1 For GSM

#### 3.1.1 Test Band = GSM850

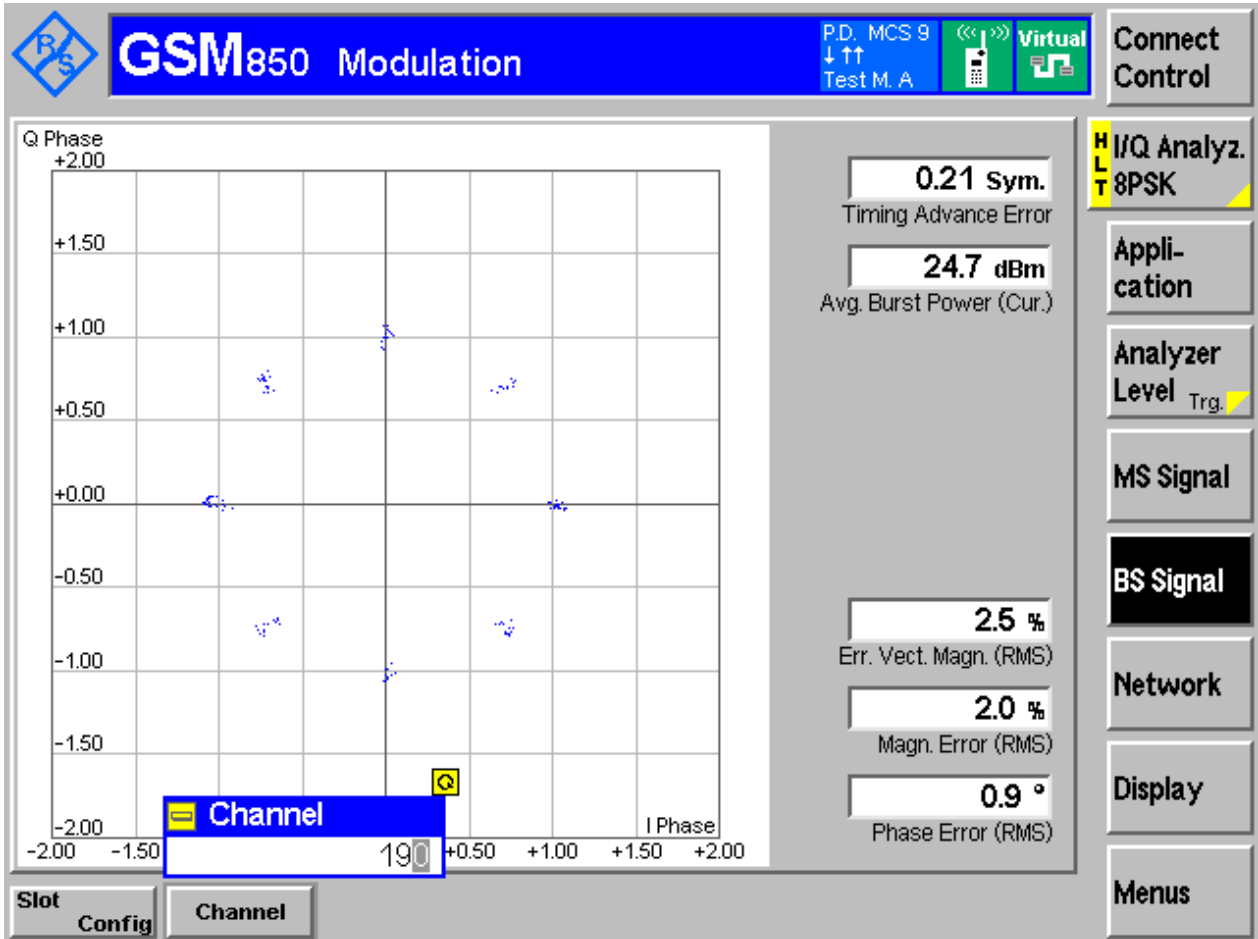
#### 3.1.1.1 Test Mode = GSM/TM1

#### 3.1.1.1.1 Test Channel = MCH



### 3.1.1.2 Test Mode = GSM/TM2

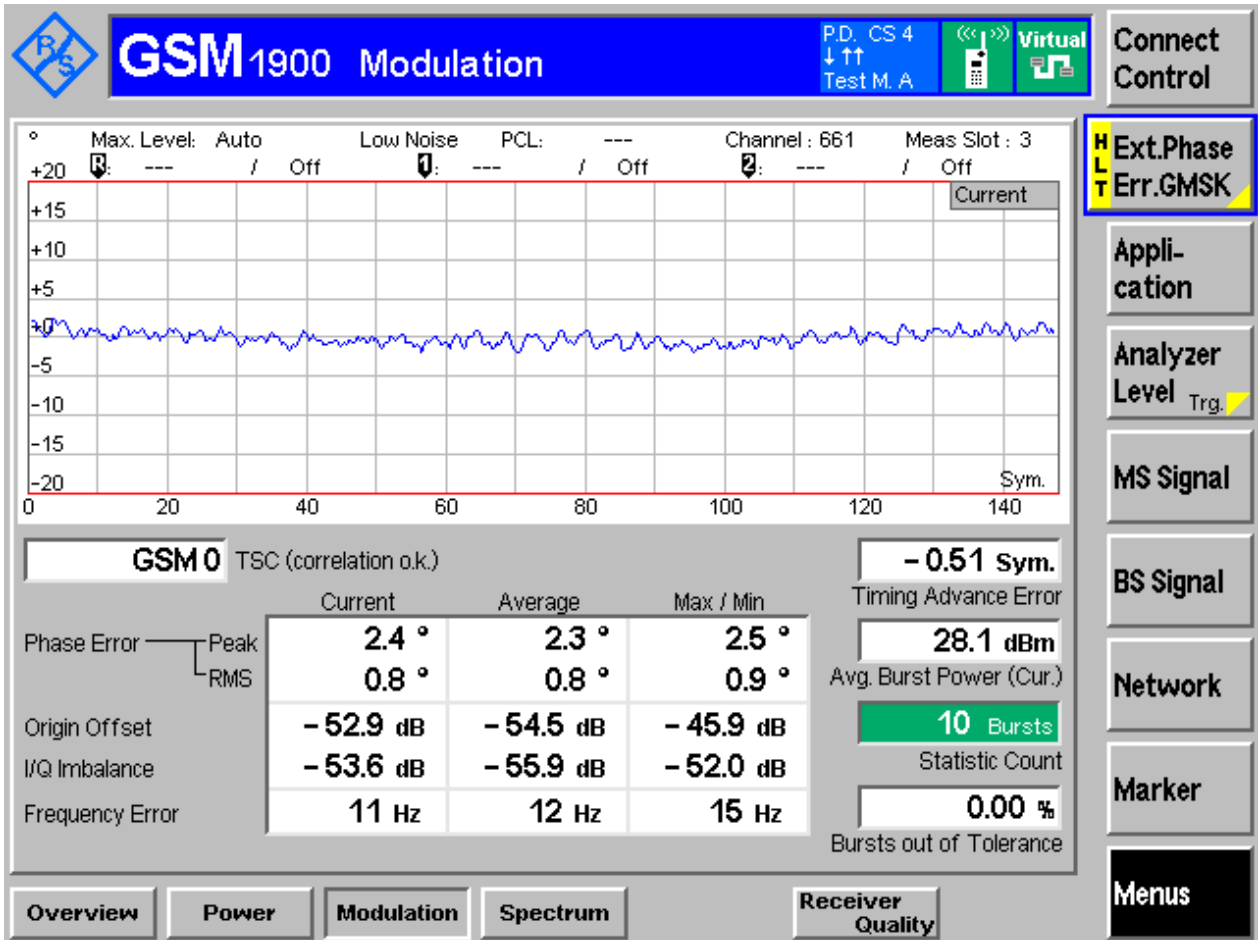
#### 3.1.1.2.1 Test Channel = MCH



3.1.2 Test Band = GSM1900

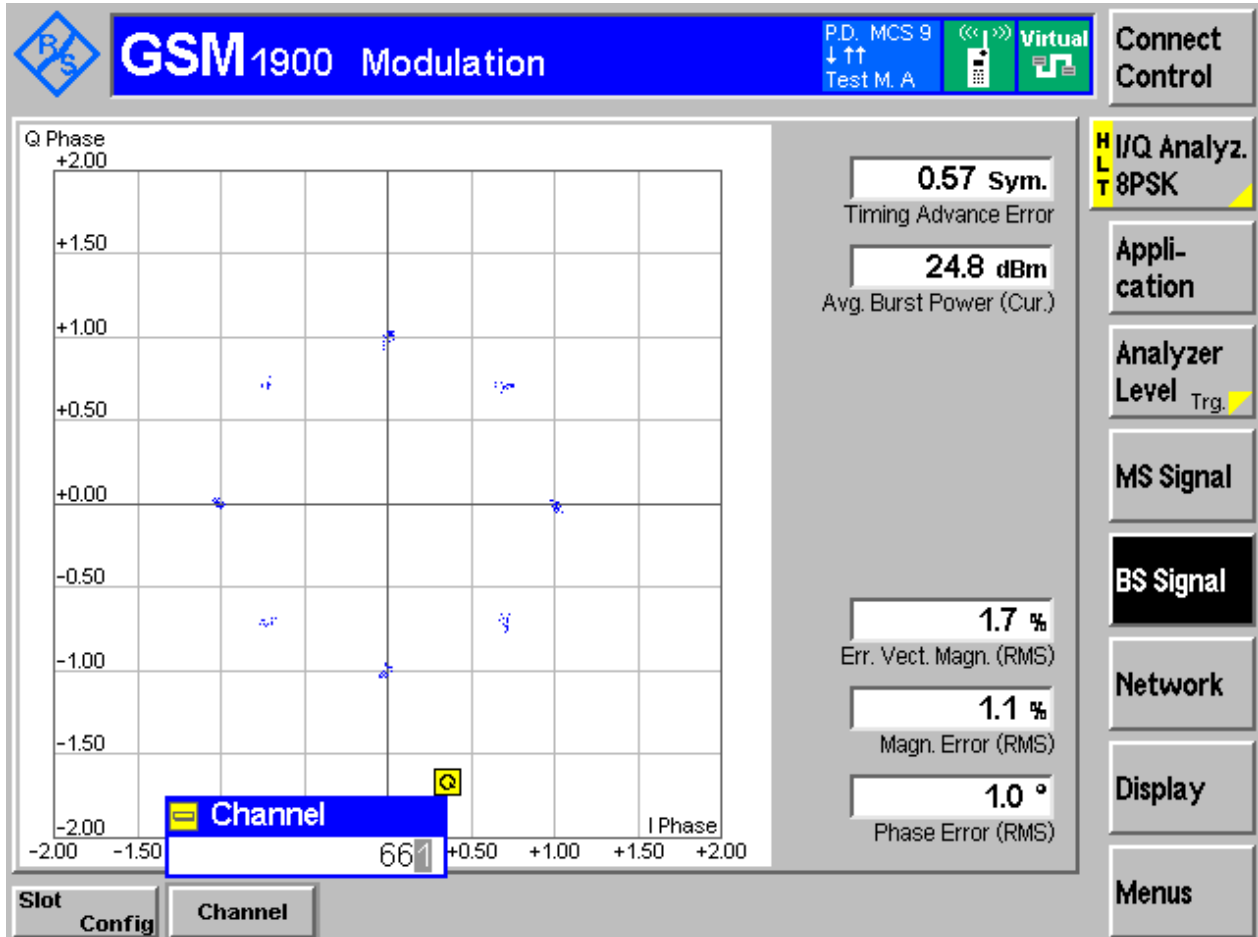
3.1.2.1 Test Mode = GSM/TM1

3.1.2.1.1 Test Channel = MCH



### 3.1.2.2 Test Mode = GSM/TM2

#### 3.1.2.2.1 Test Channel = MCH



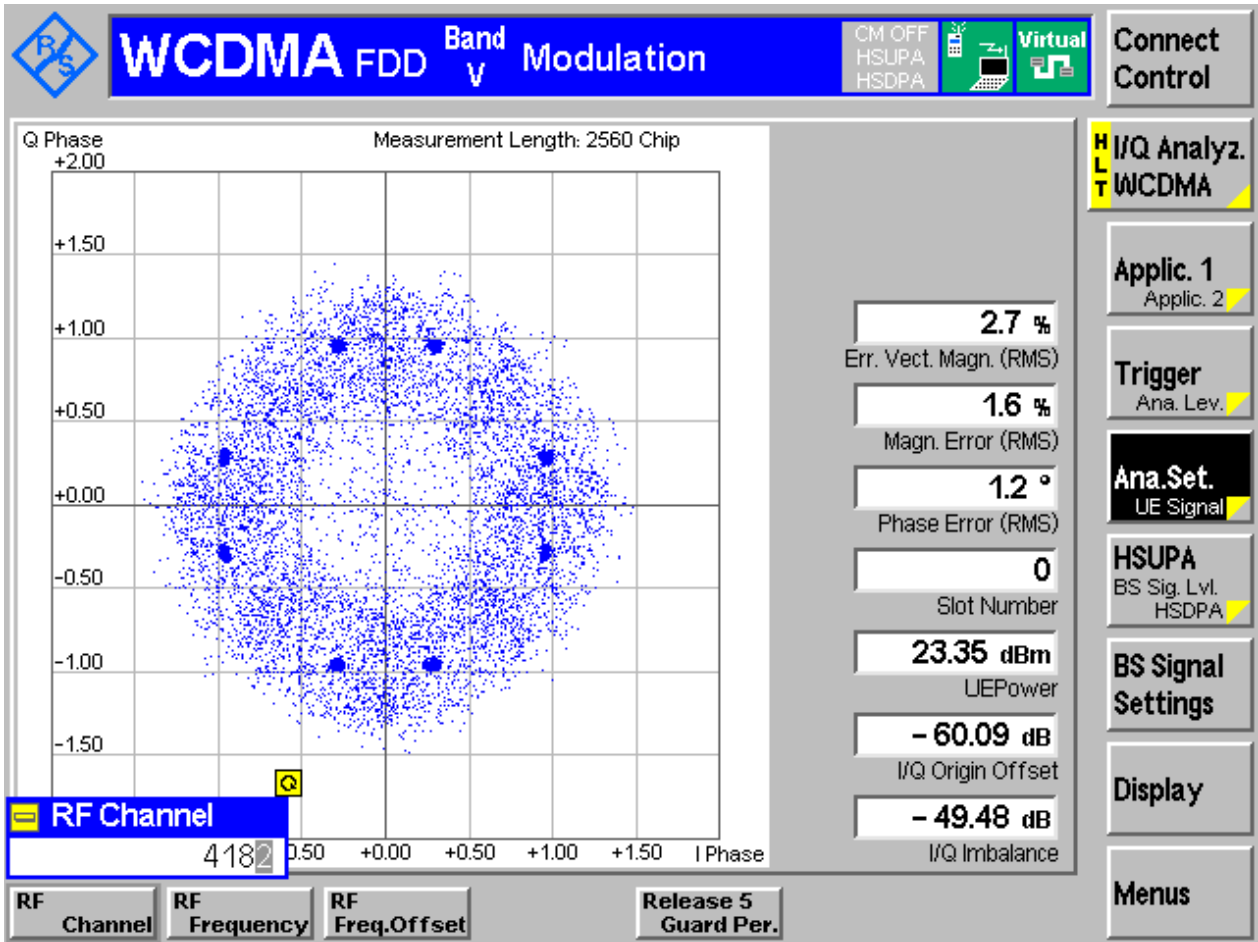


3.2 For UMTS

3.2.1 Test Band = WCDMA850

3.2.1.1 Test Mode = UMTS/TM1

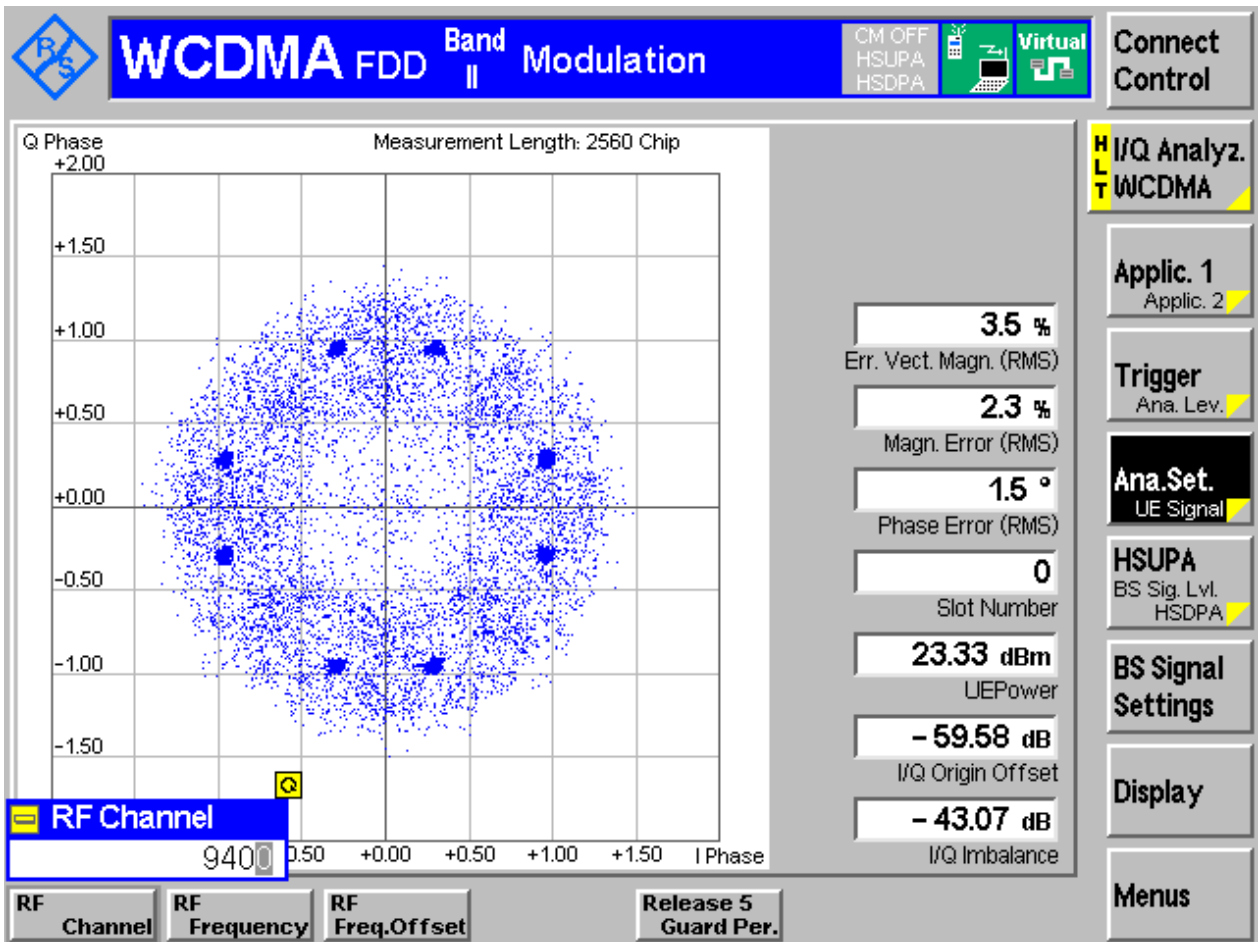
3.2.1.1.1 Test Channel = MCH



3.2.2 Test Band = WCDMA1900

3.2.2.1 Test Mode = UMTS/TM1

3.2.2.1.1 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	240.06	312.81	Pass
		MCH	242.65	315.25	Pass
		HCH	241.95	319.50	Pass
	GSM/TM2	LCH	247.58	321.41	Pass
		MCH	243.64	311.10	Pass
		HCH	245.62	317.82	Pass
GSM1900	GSM/TM1	LCH	242.92	315.33	Pass
		MCH	241.59	311.11	Pass
		HCH	240.48	314.16	Pass
	GSM/TM2	LCH	255.75	325.97	Pass
		MCH	248.46	318.33	Pass
		HCH	252.06	319.50	Pass
Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
WCDMA850	UMTS/TM1	LCH	4.16	4.73	Pass
		MCH	4.17	4.73	Pass
		HCH	4.16	4.73	Pass
WCDMA1900	UMTS/TM1	LCH	4.17	4.73	Pass
		MCH	4.14	4.70	Pass
		HCH	4.16	4.73	Pass



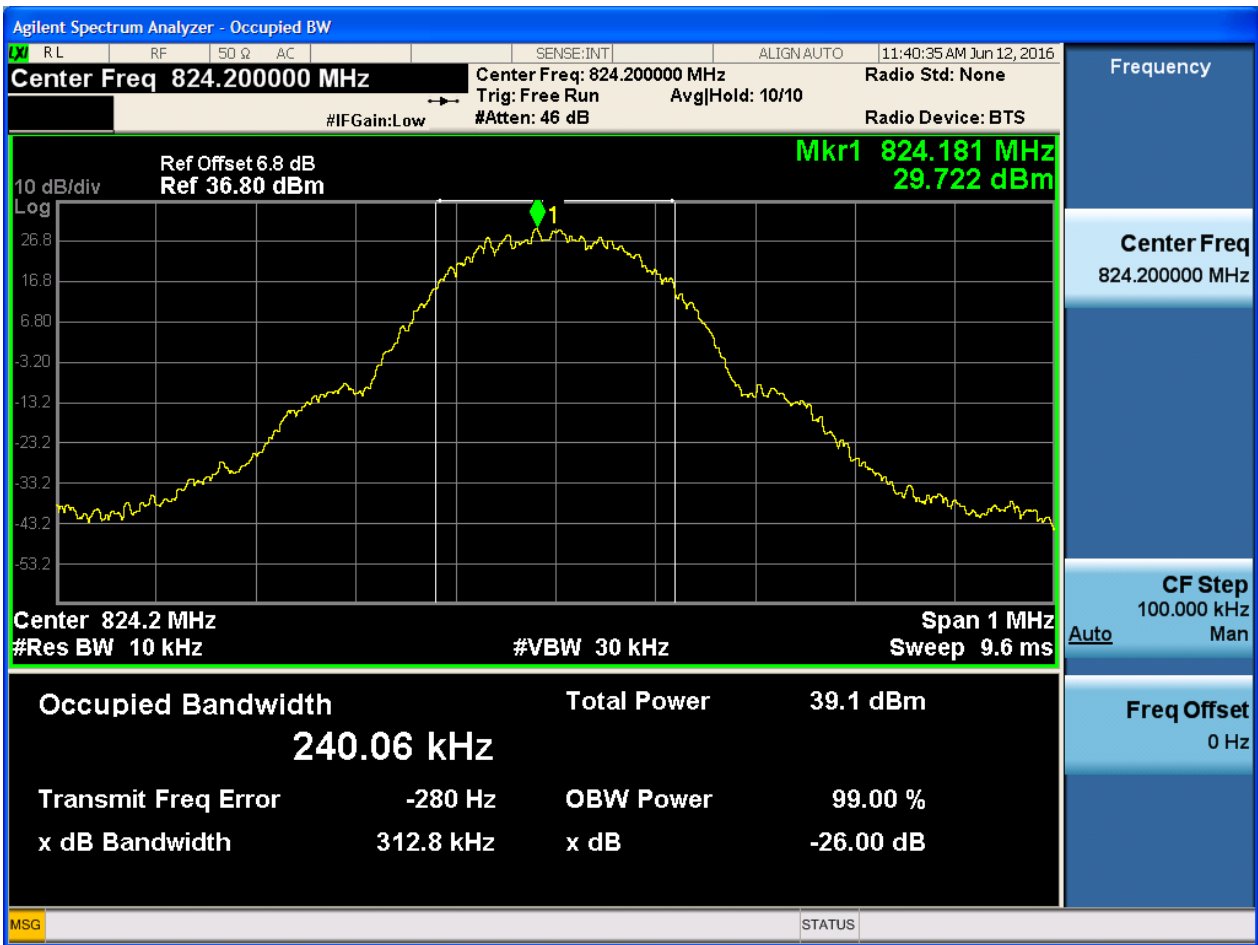
### Part II - Test Plots

#### 4.1 For GSM

##### 4.1.1 Test Band = GSM850

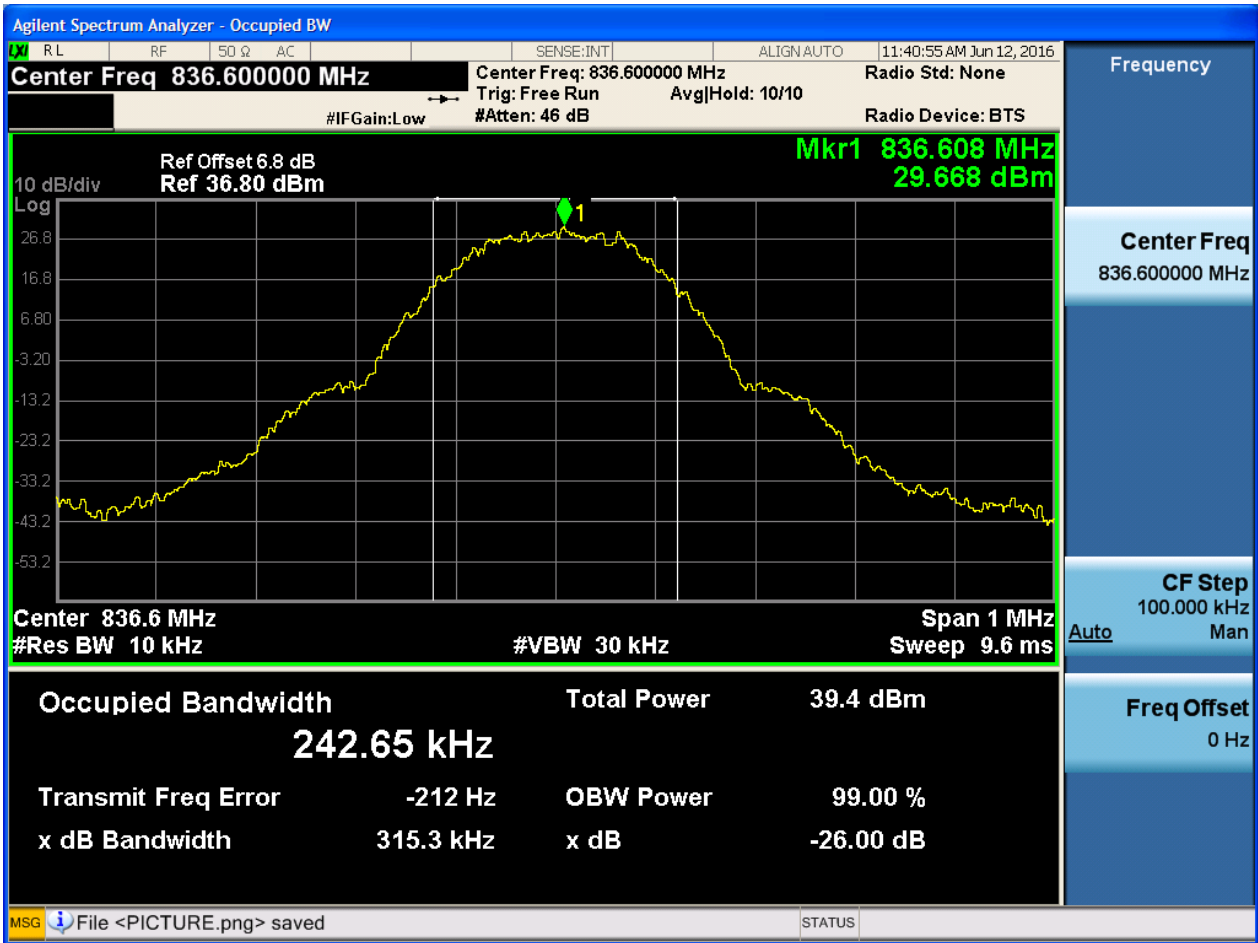
##### 4.1.1.1 Test Mode = GSM/TM1

##### 4.1.1.1.1 Test Channel = LCH



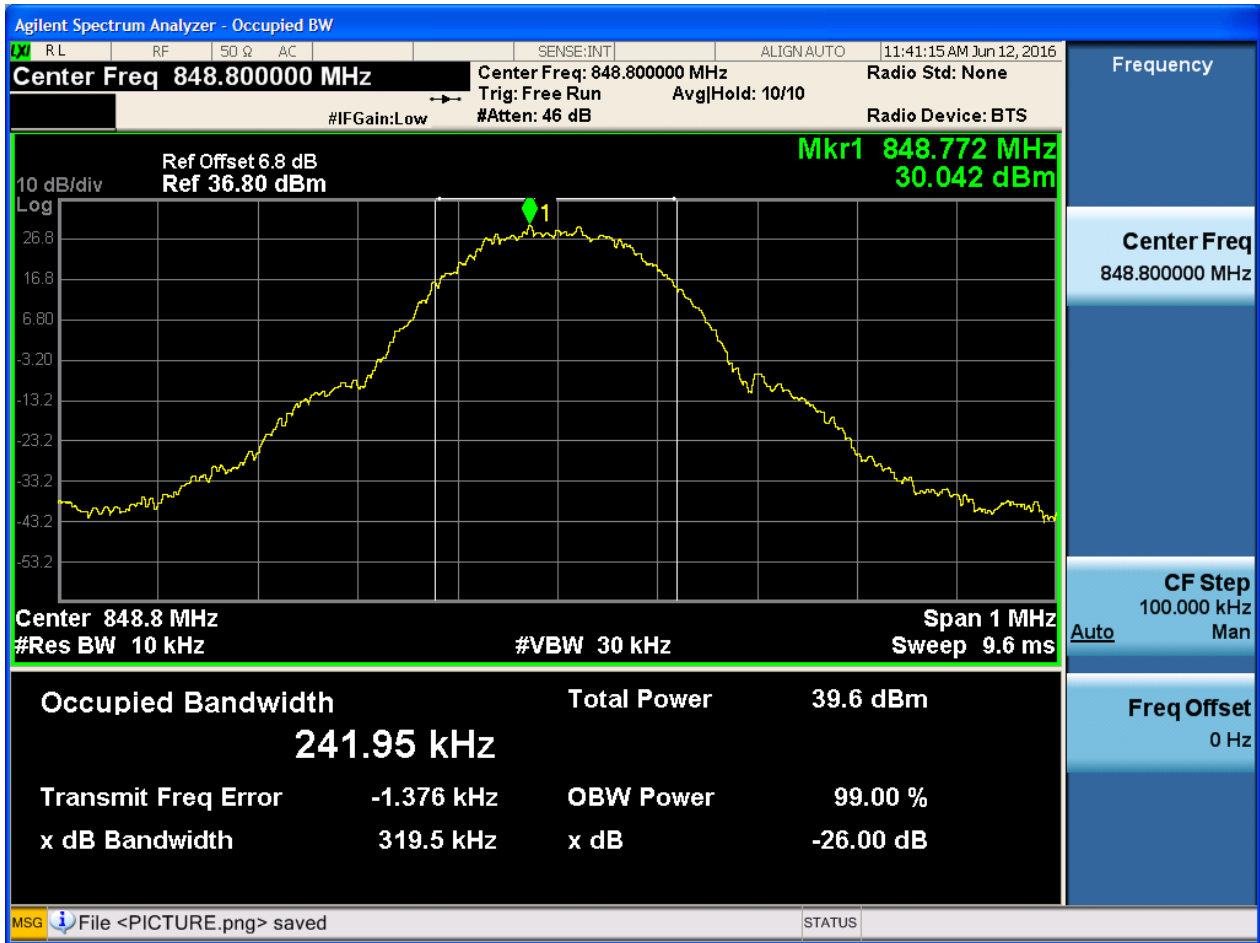


4.1.1.1.2 Test Channel = MCH





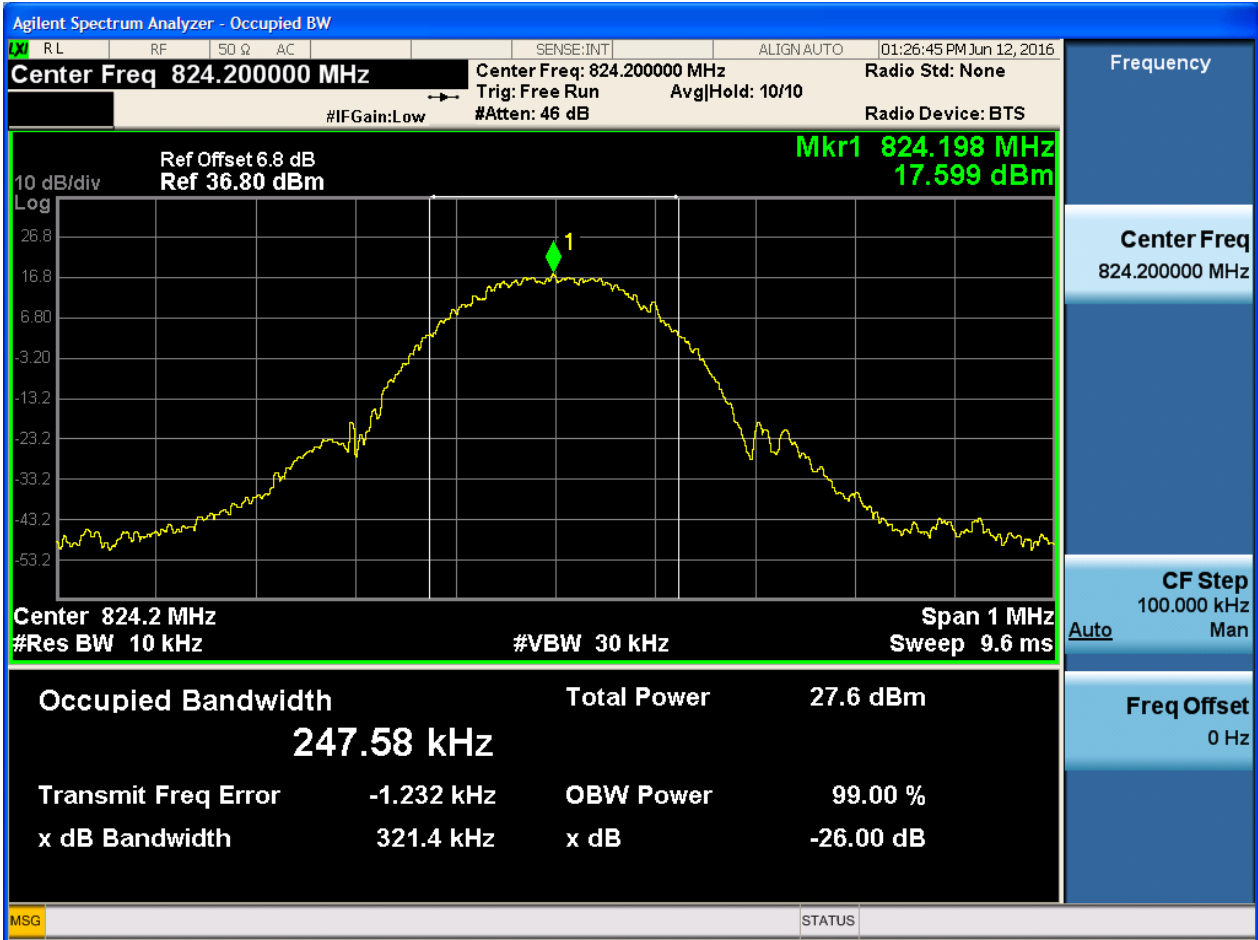
### 4.1.1.1.3 Test Channel = HCH





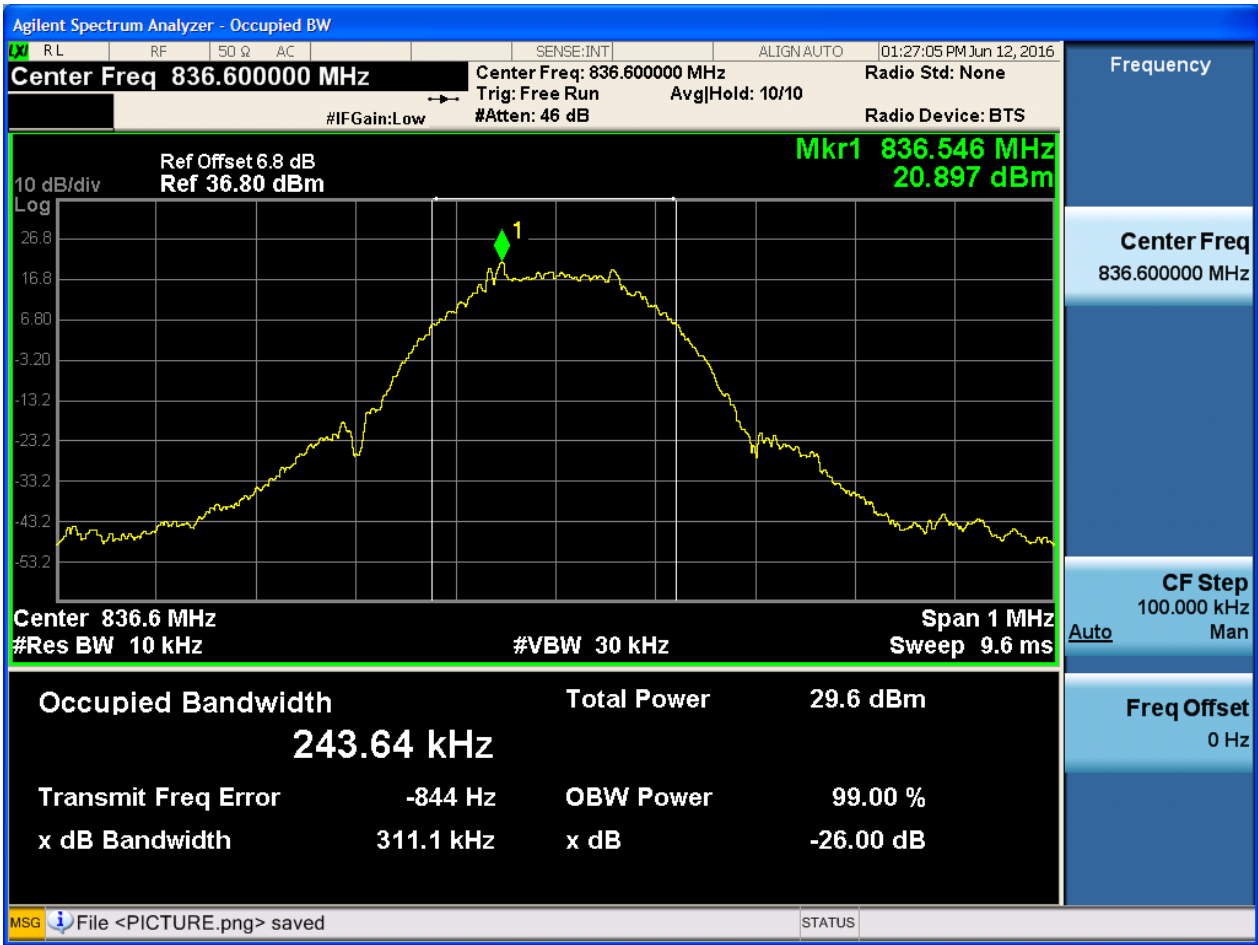
### 4.1.1.2 Test Mode = GSM/TM2

#### 4.1.1.2.1 Test Channel = LCH





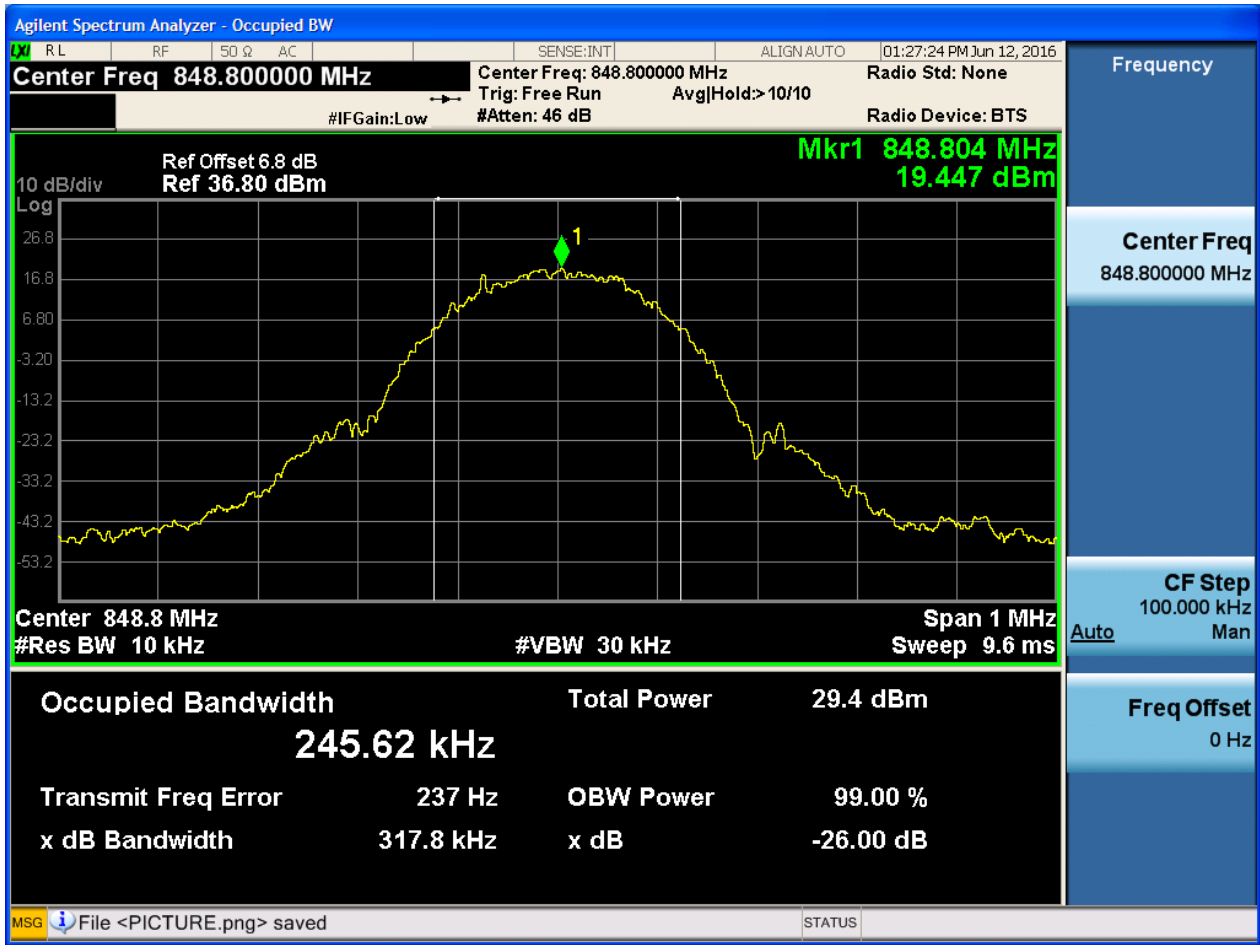
4.1.1.2.2 Test Channel = MCH







### 4.1.1.2.3 Test Channel = HCH

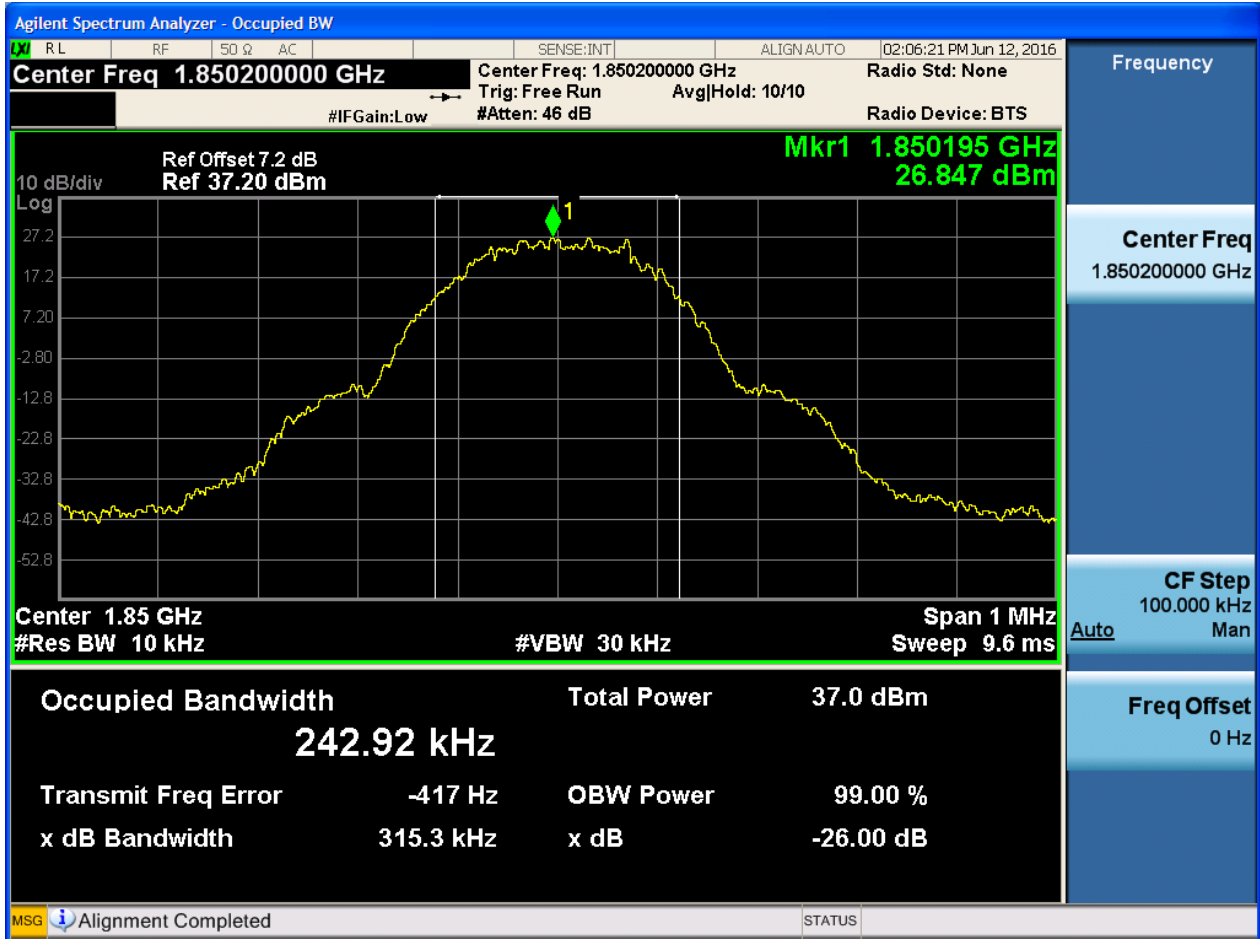




4.1.2 Test Band = GSM1900

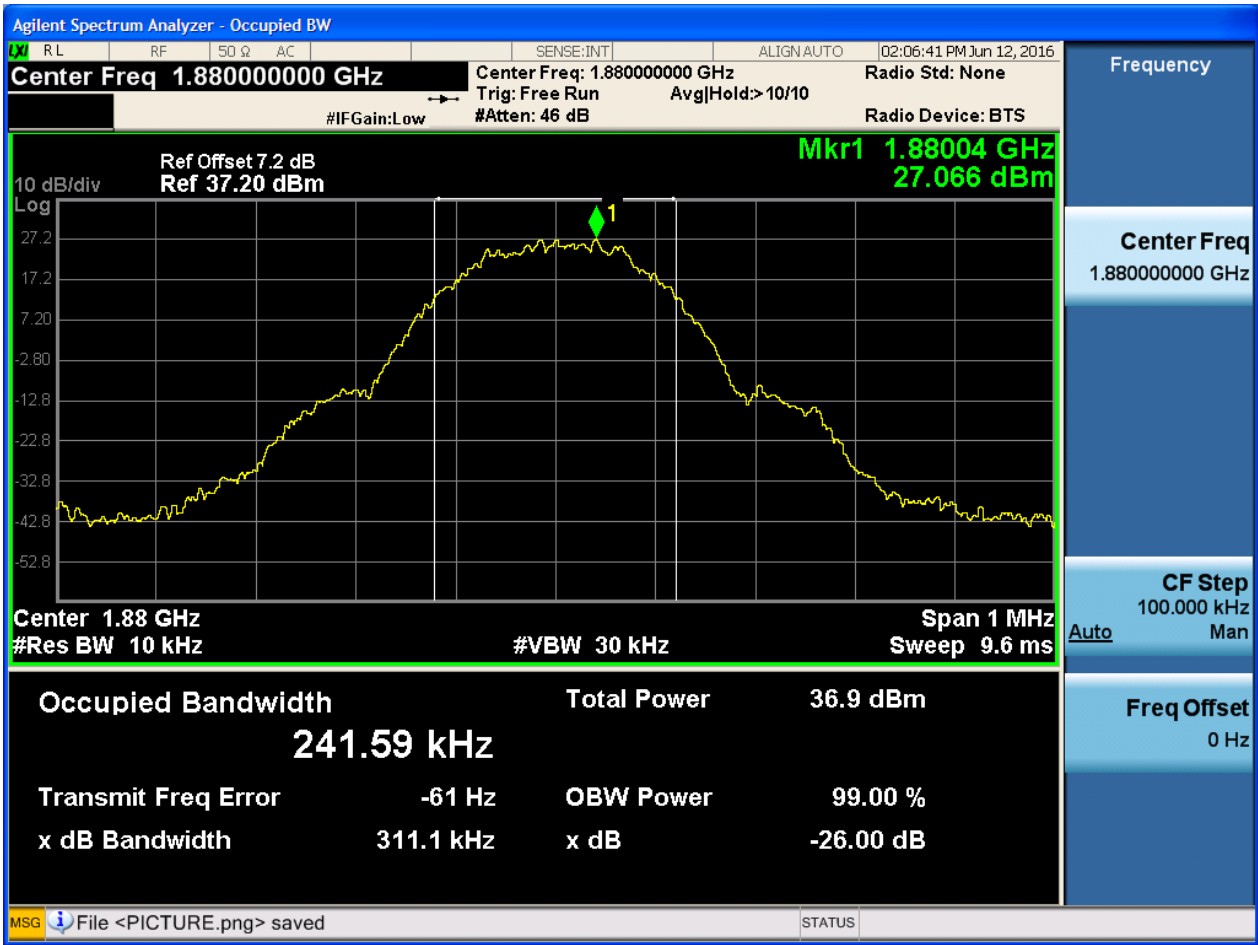
4.1.2.1 Test Mode = GSM/TM1

4.1.2.1.1 Test Channel = LCH



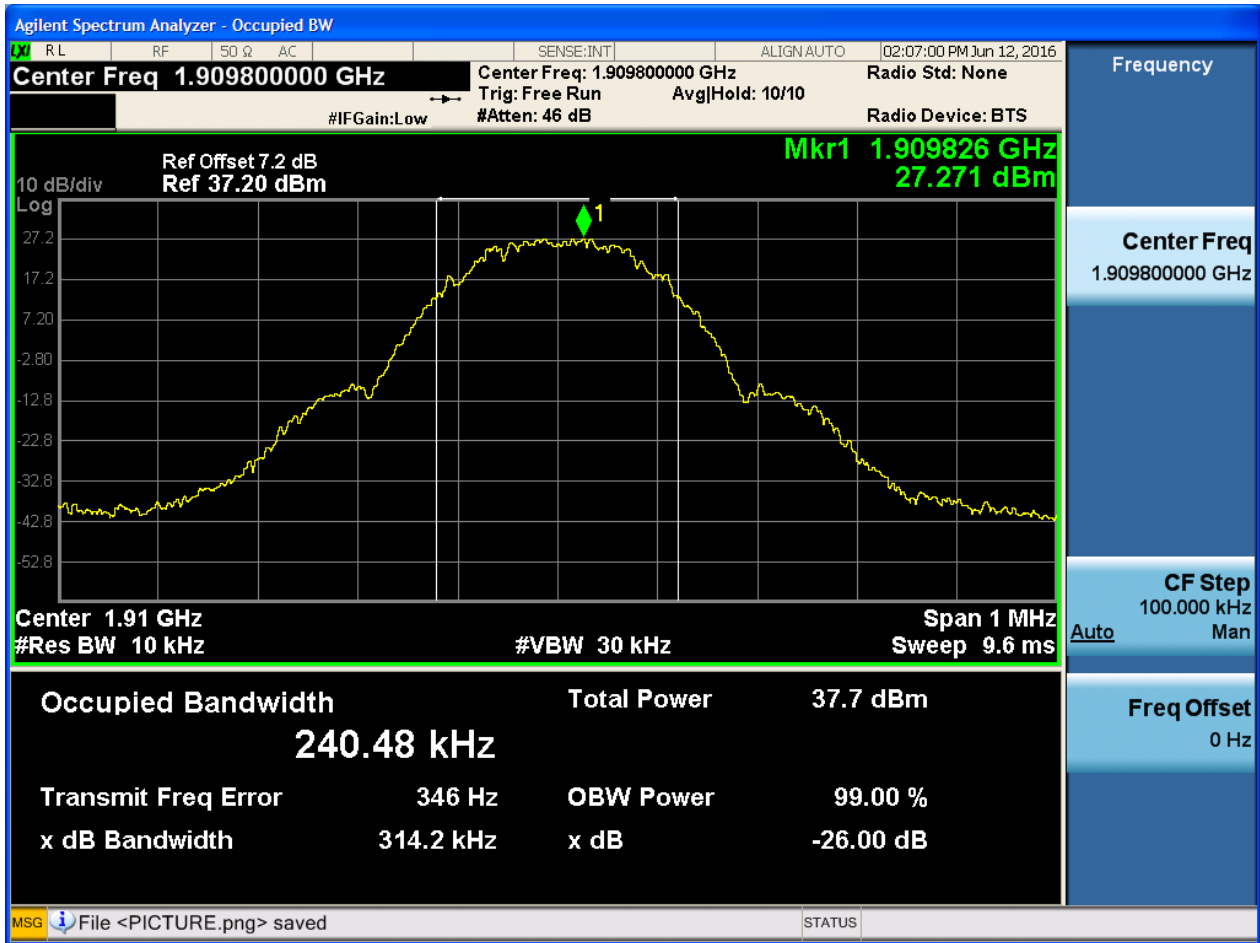


4.1.2.1.2 Test Channel = MCH





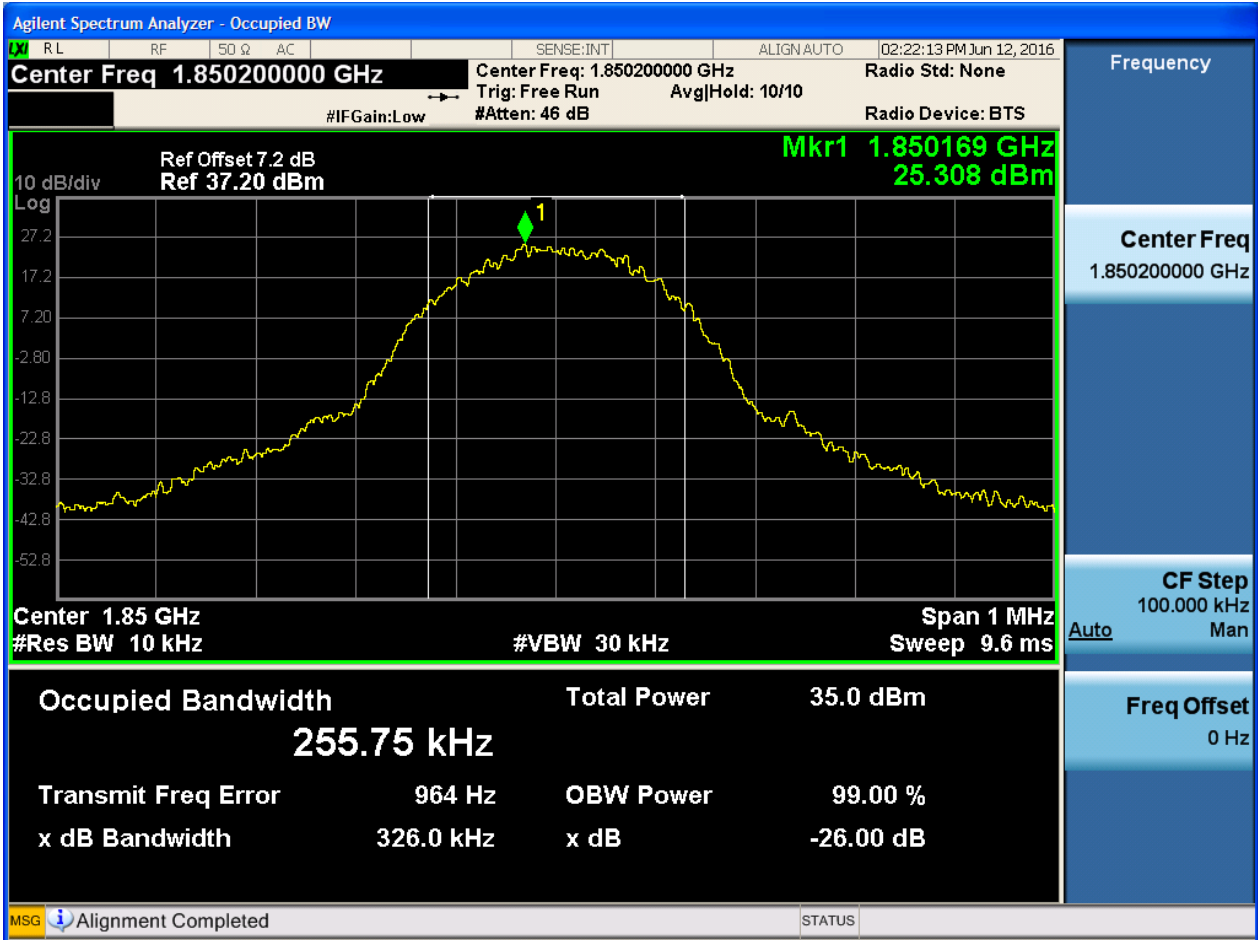
4.1.2.1.3 Test Channel = HCH





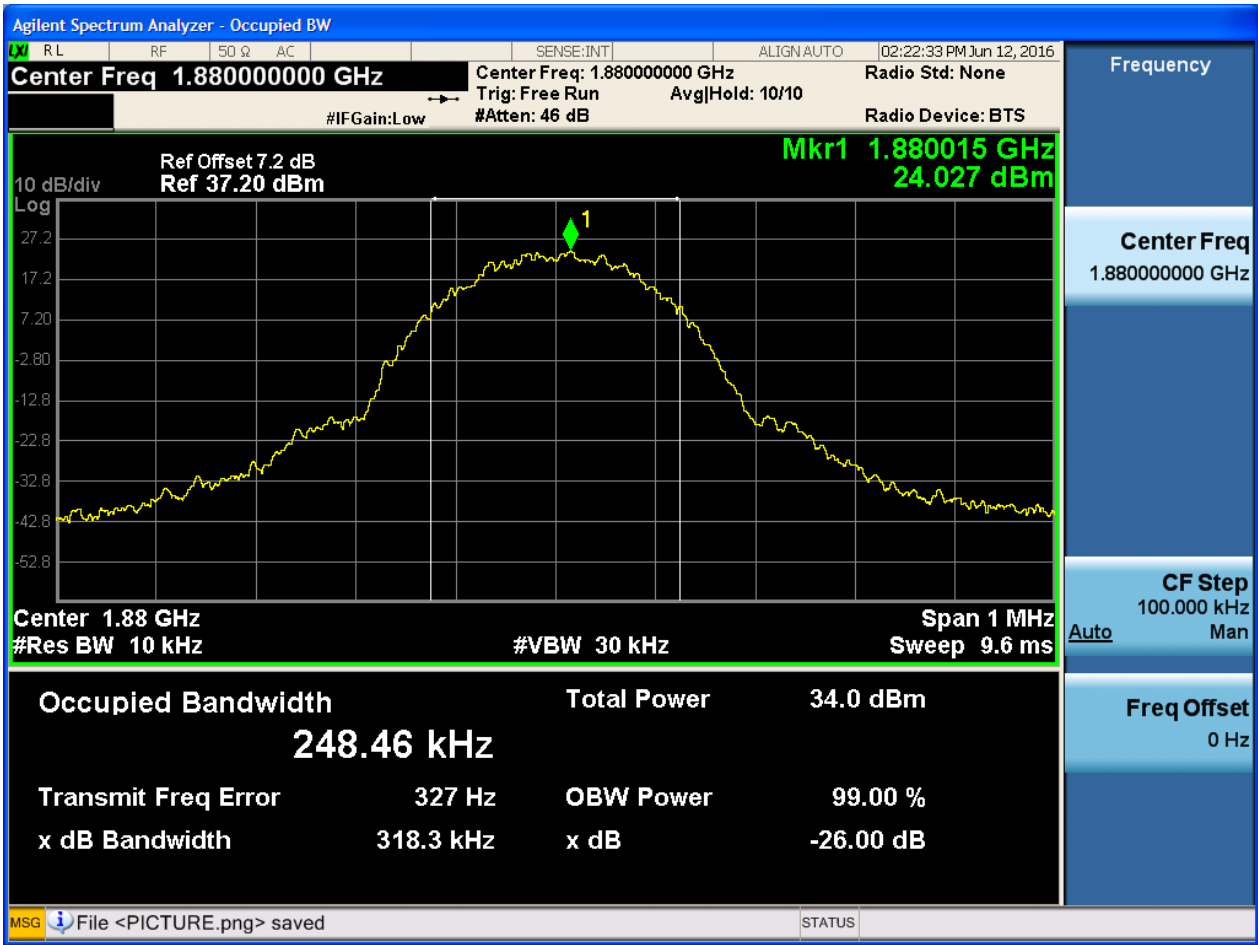
### 4.1.2.2 Test Mode = GSM/TM2

#### 4.1.2.2.1 Test Channel = LCH



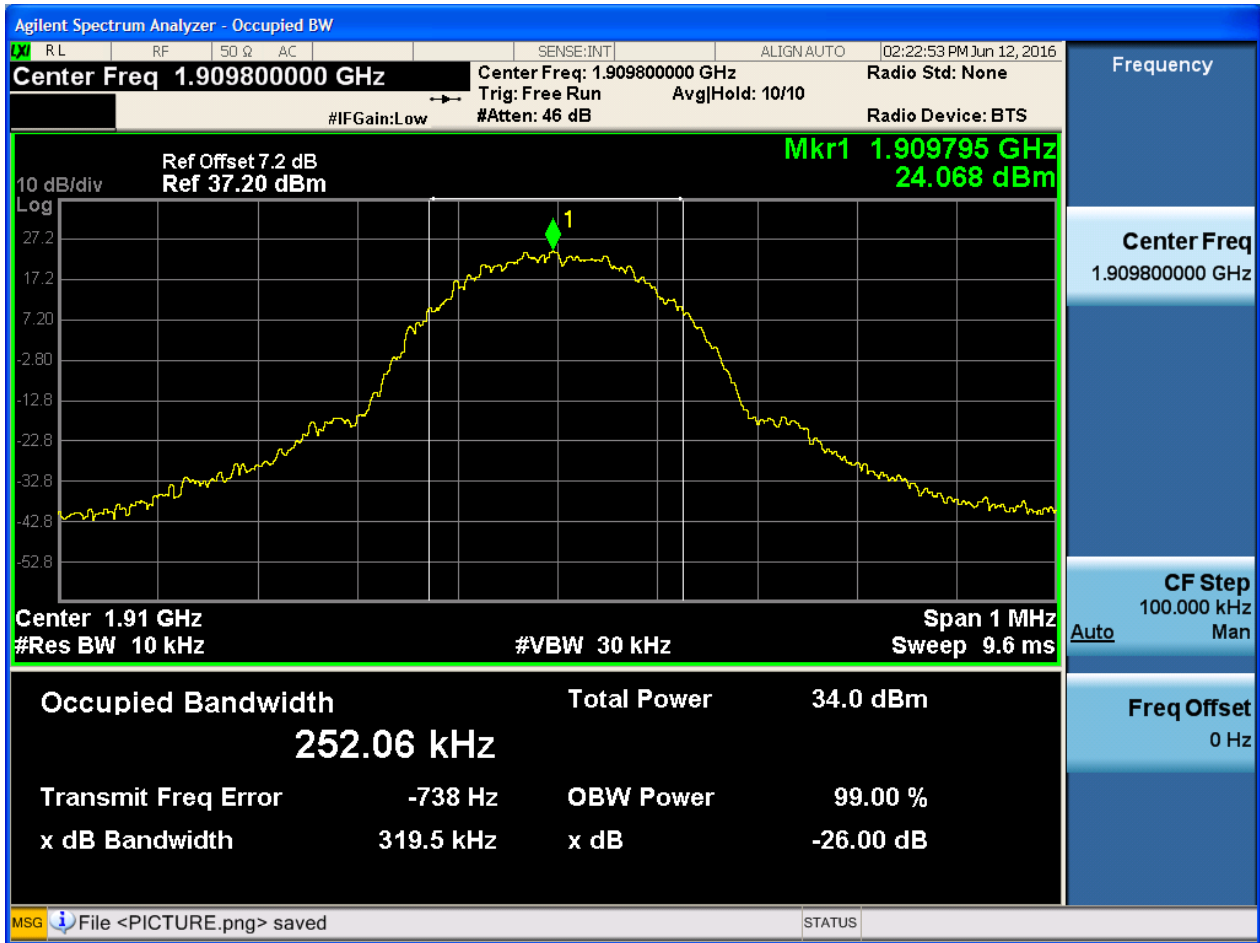


4.1.2.2.2 Test Channel = MCH





4.1.2.2.3 Test Channel = HCH



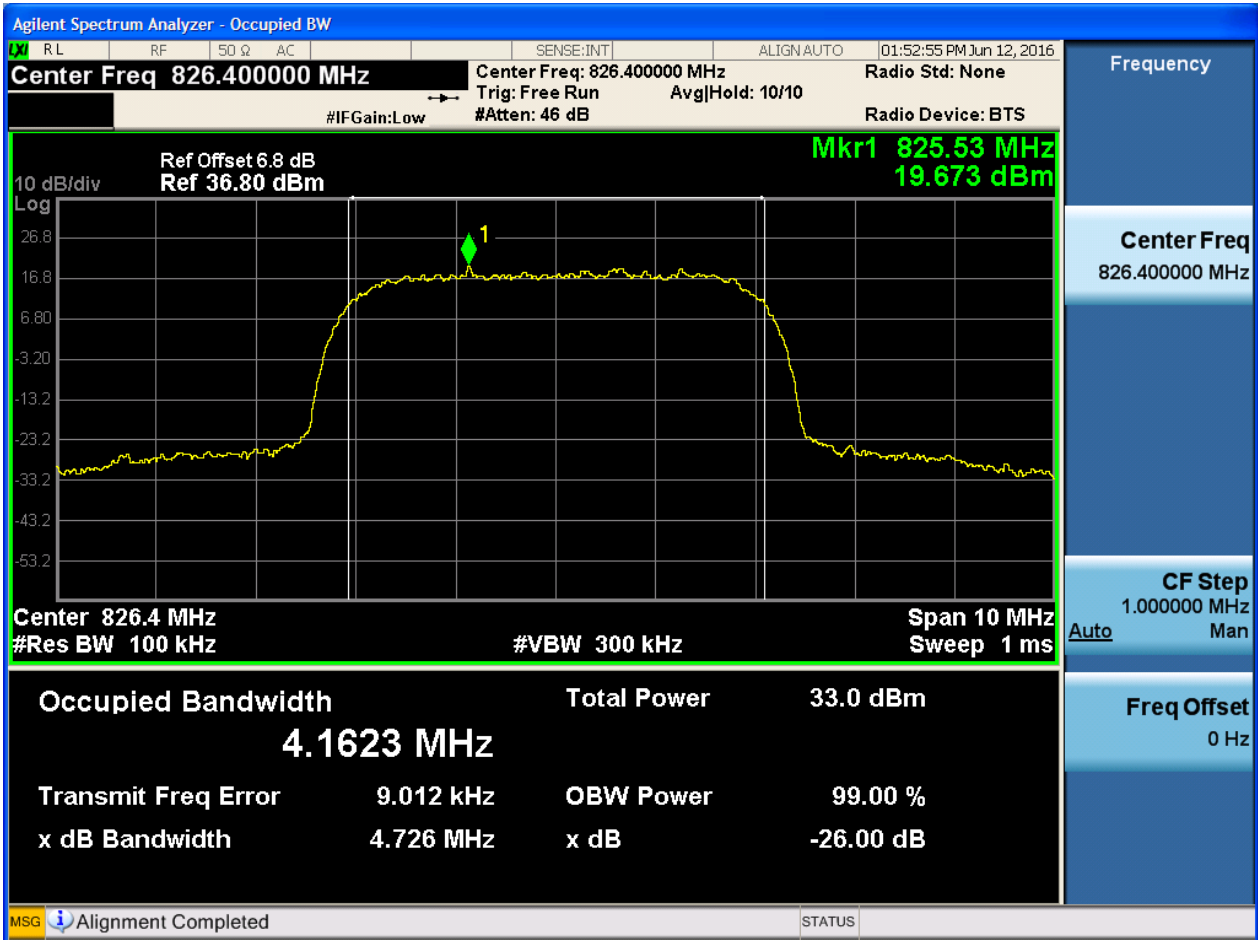


### 4.2 For UMTS

#### 4.2.1 Test Band = WCDMA850

##### 4.2.1.1 Test Mode = UMTS/TM1

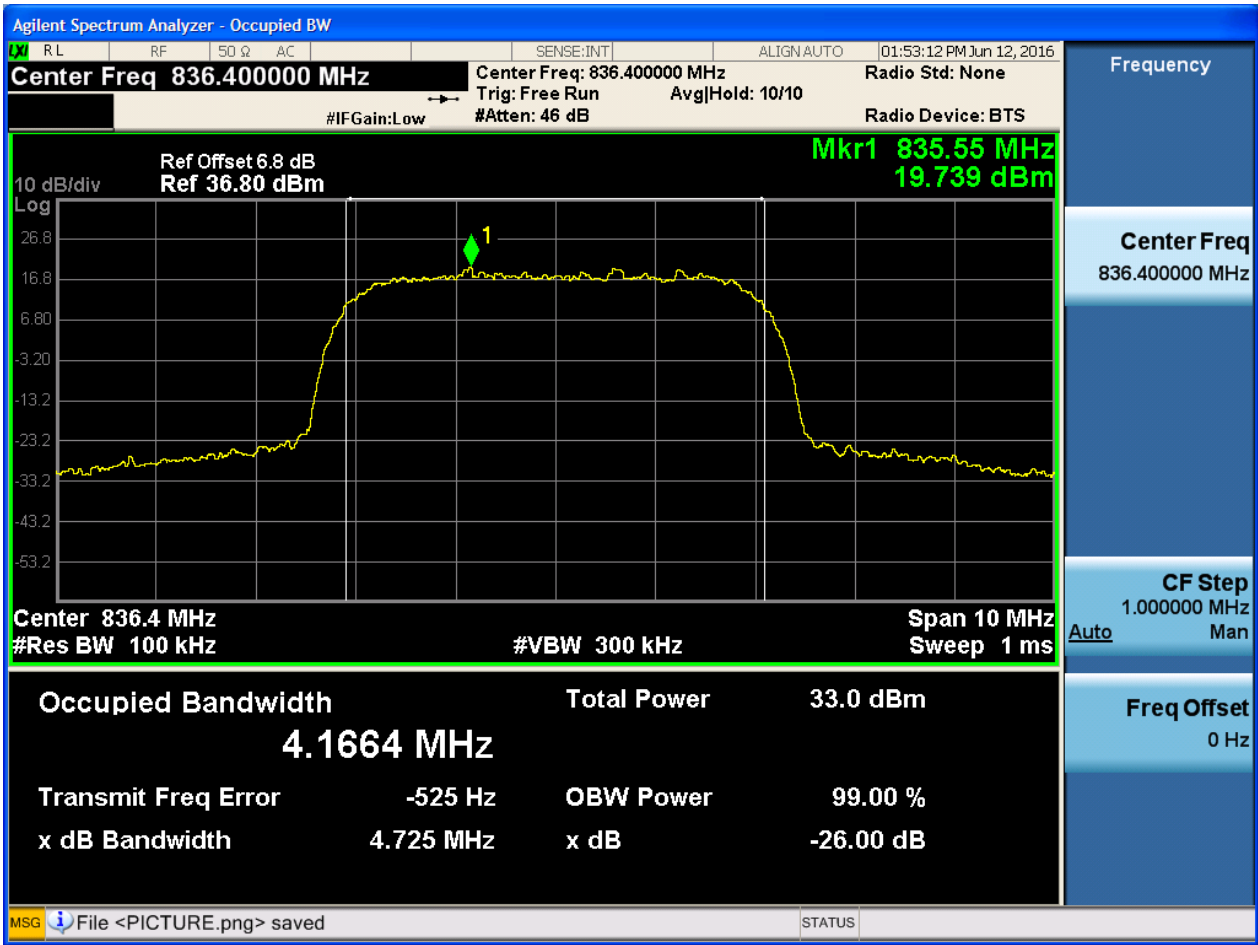
##### 4.2.1.1.1 Test Channel = LCH





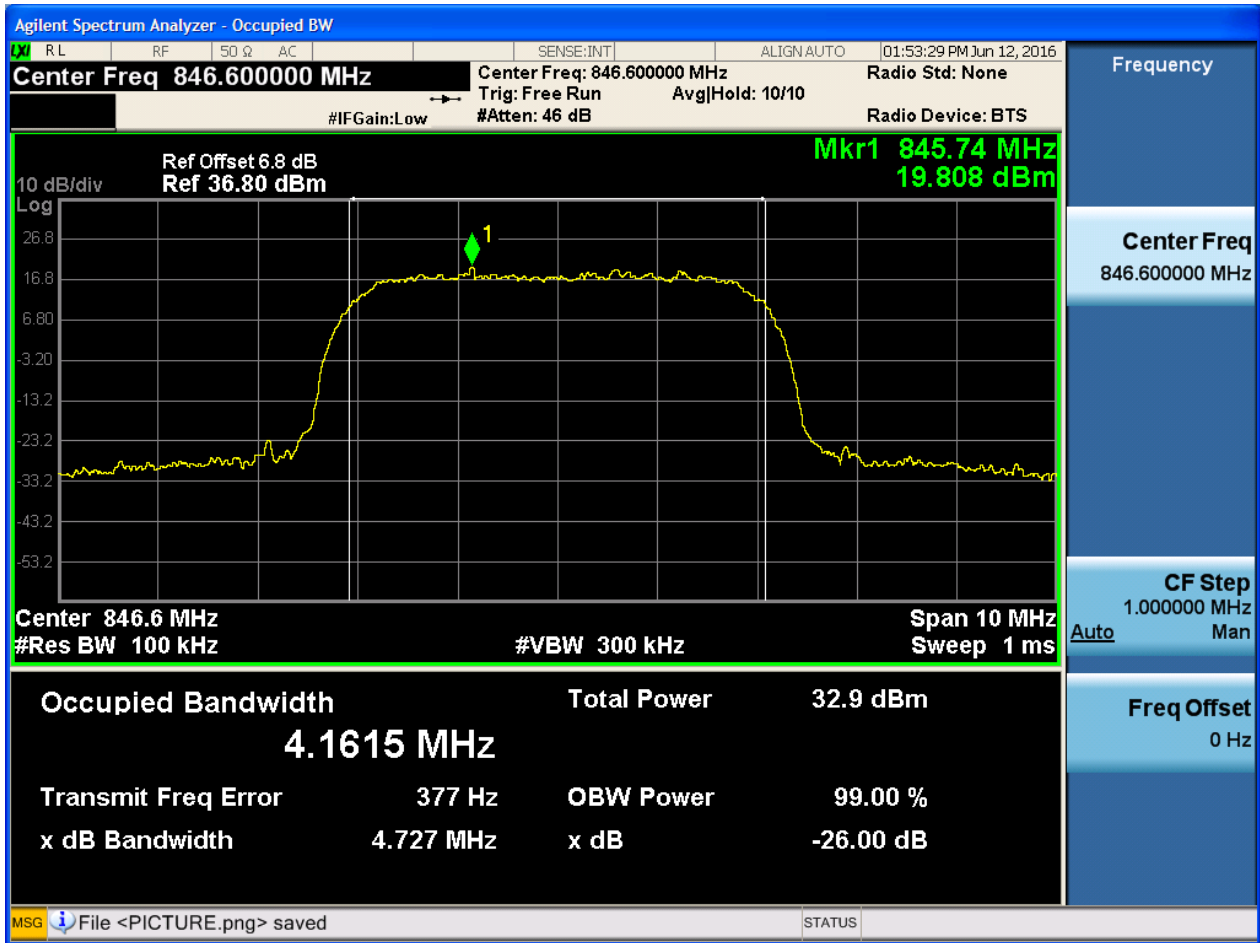


4.2.1.1.2 Test Channel = MCH





### 4.2.1.1.3 Test Channel = HCH

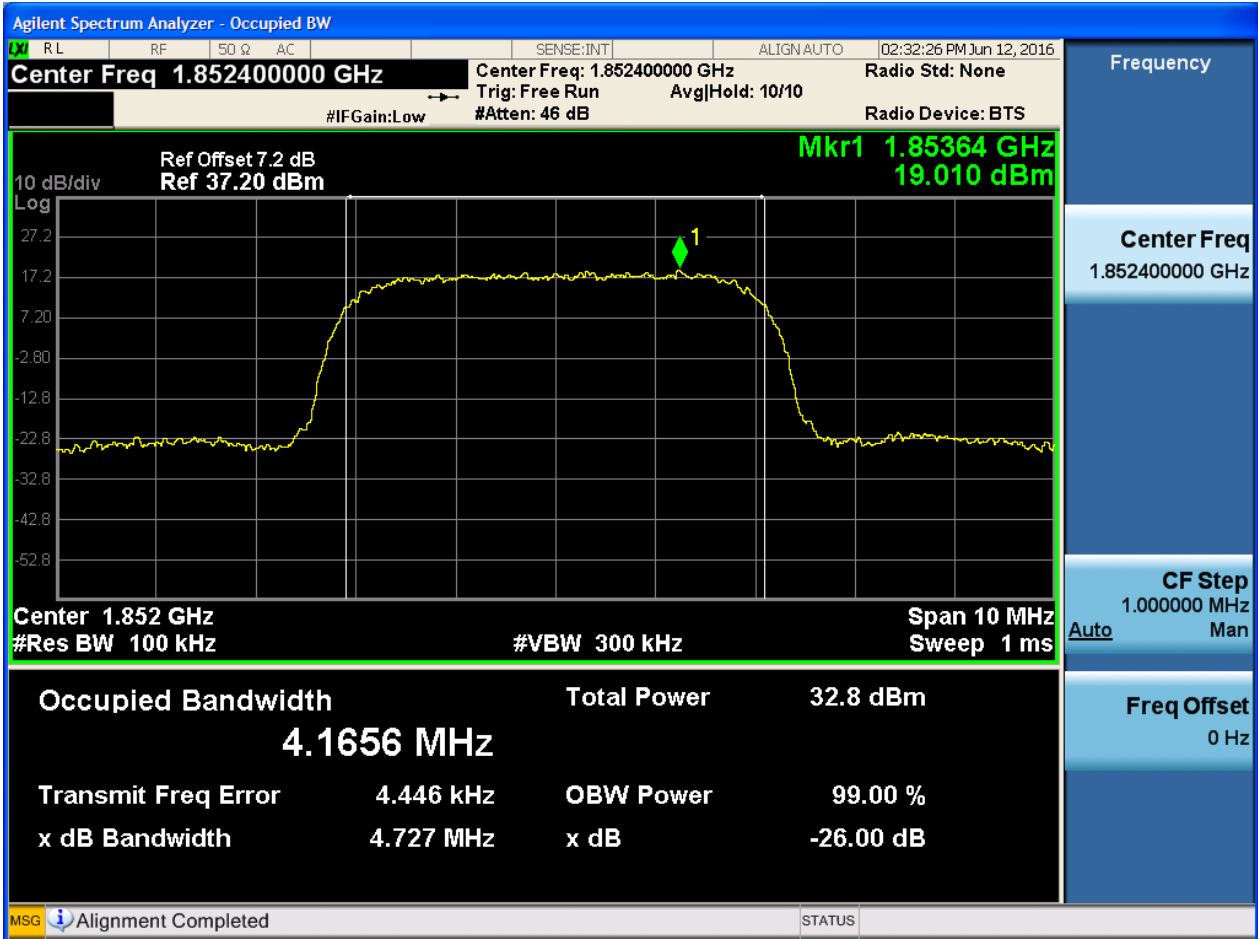




4.2.2 Test Band = WCDMA1900

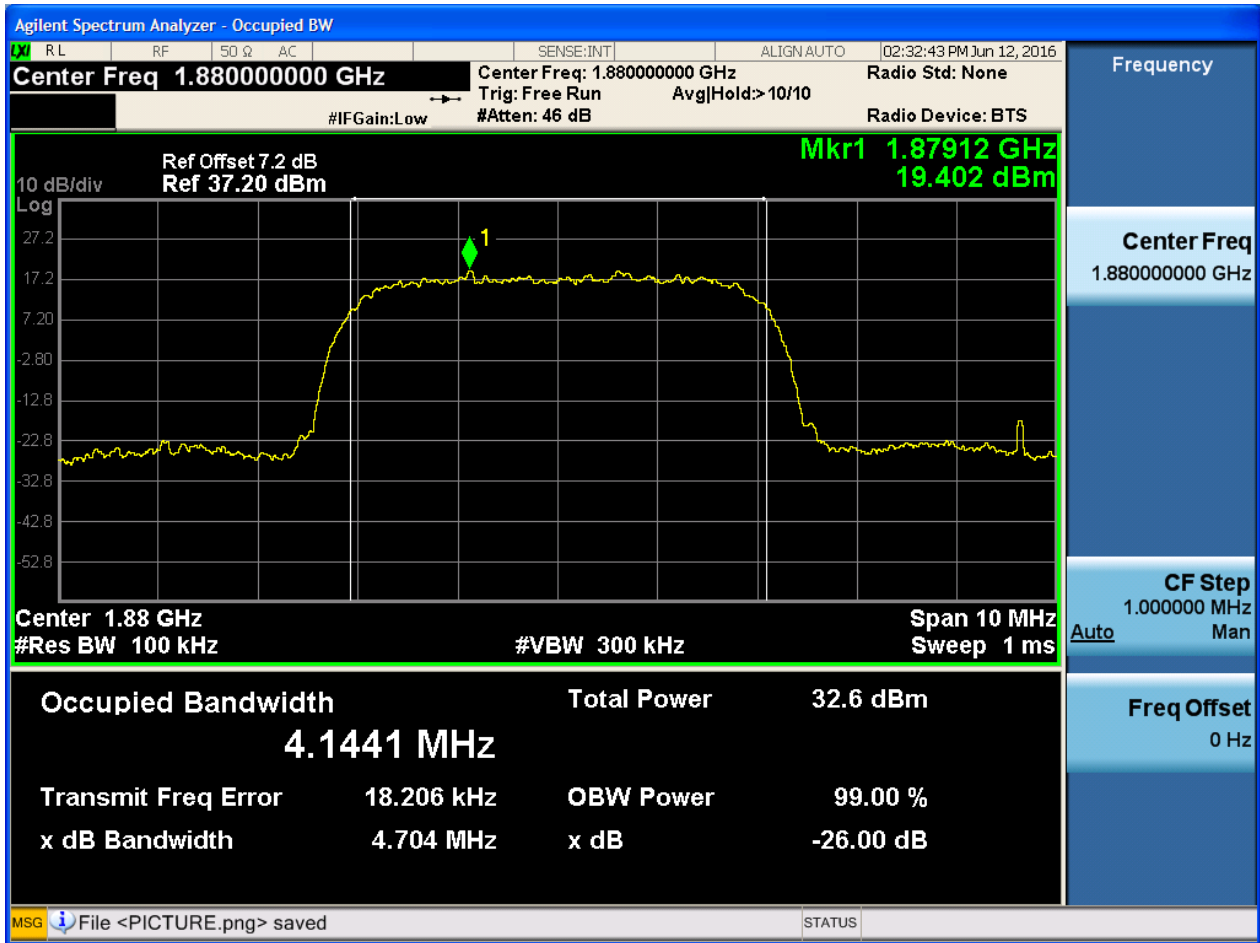
4.2.2.1 Test Mode = UMTS/TM1

4.2.2.1.1 Test Channel = LCH



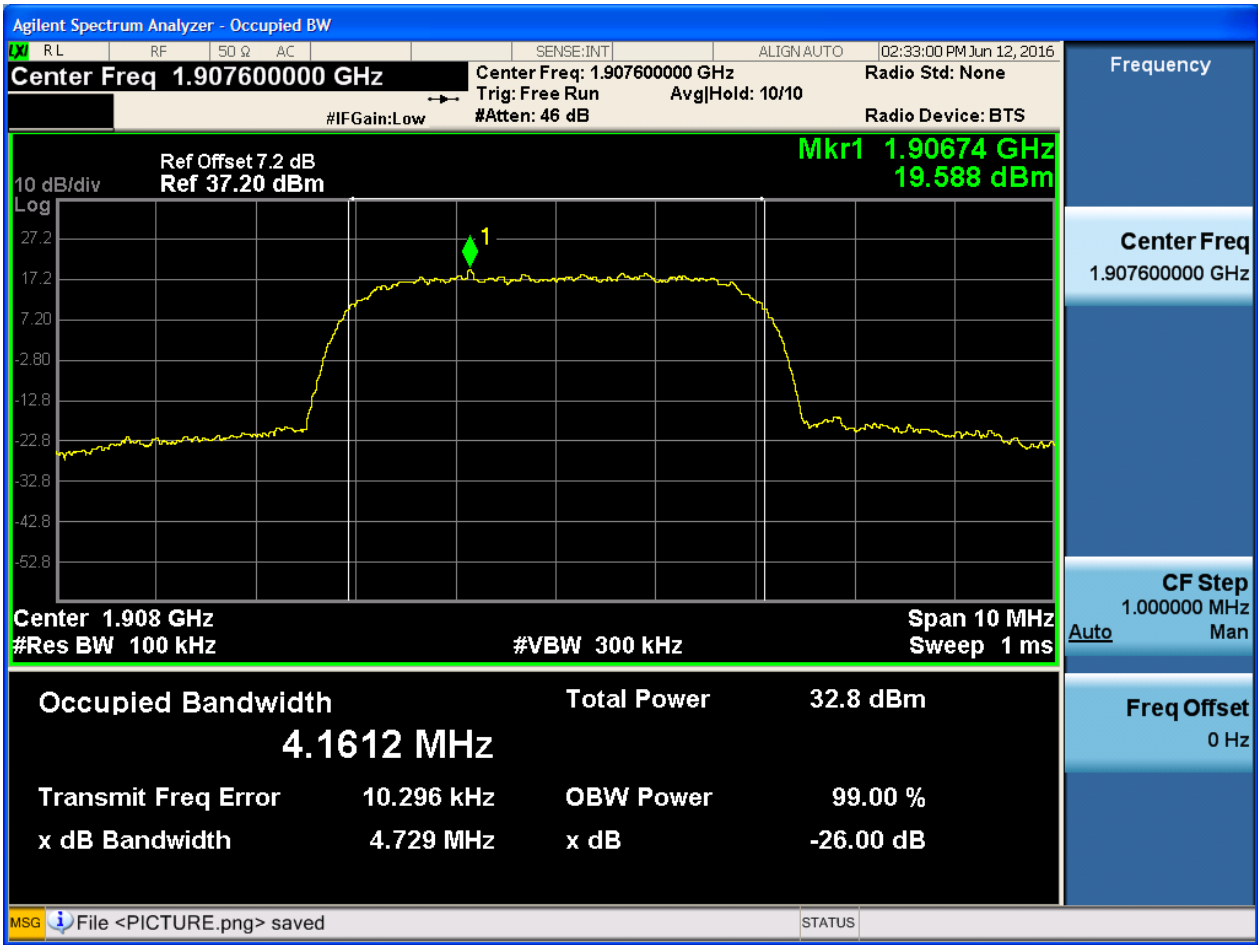


### 4.2.2.1.2 Test Channel = MCH





### 4.2.2.1.3 Test Channel = HCH





# 5Appendix\_E: Band Edges Compliance

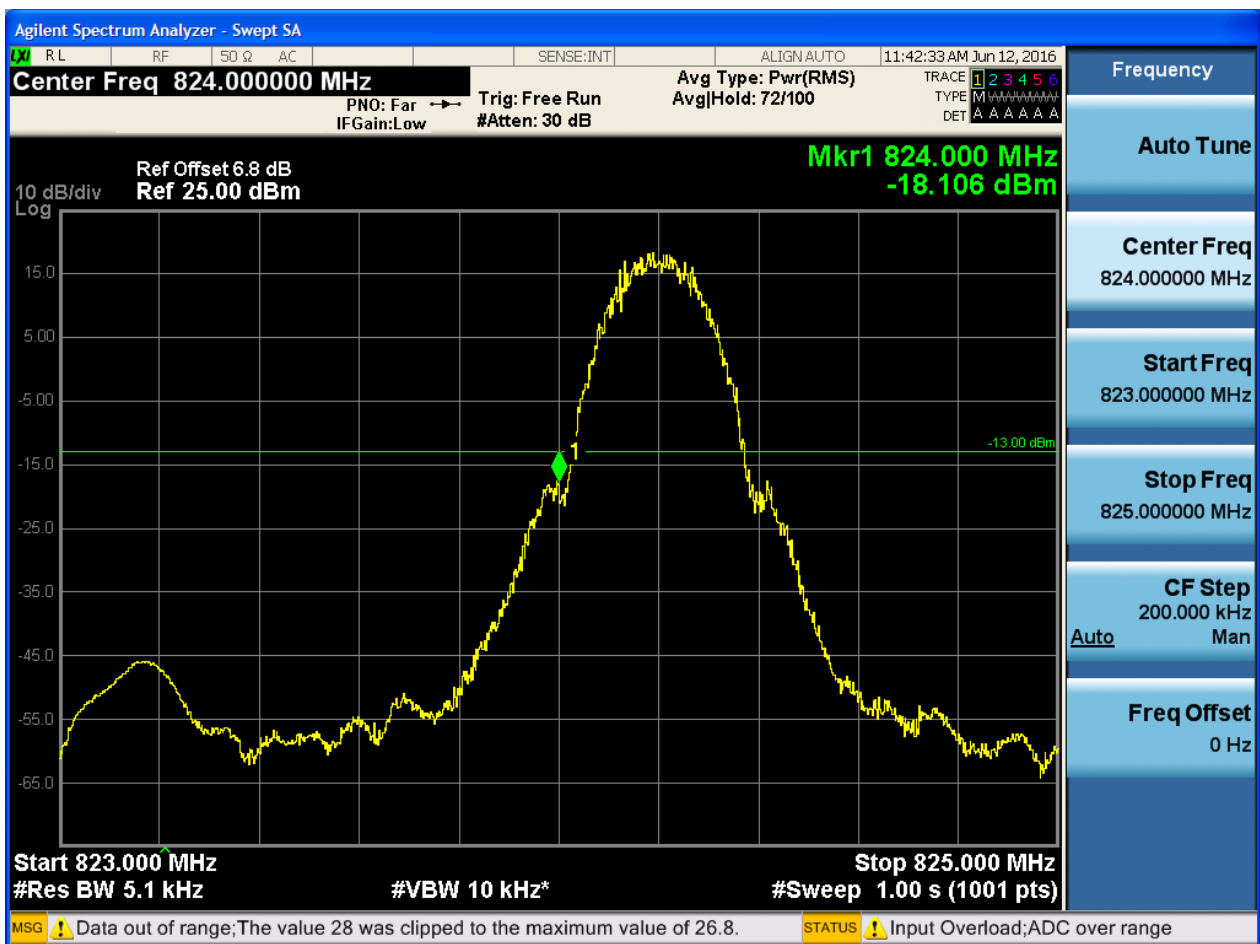
## Part I - Test Plots

### 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

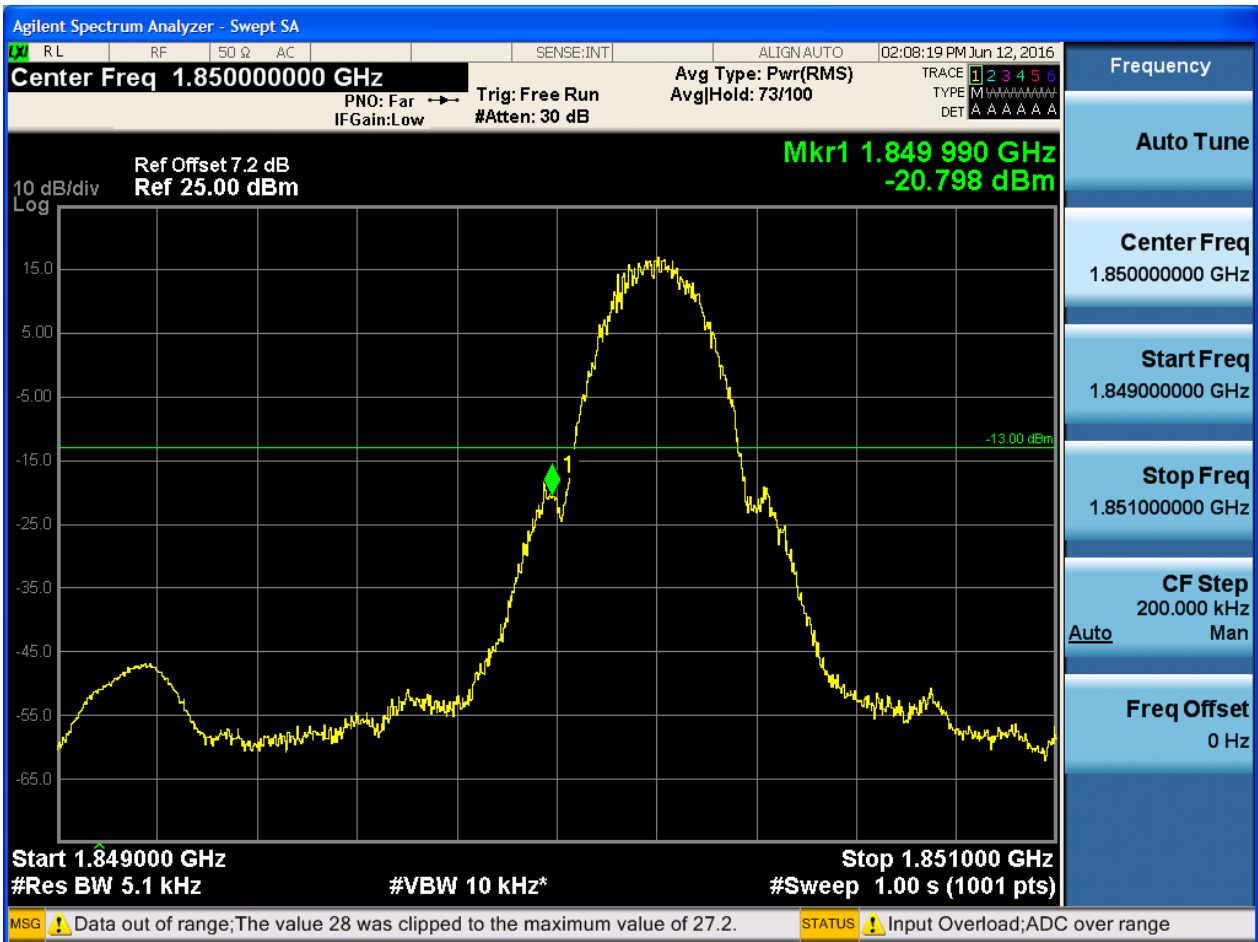




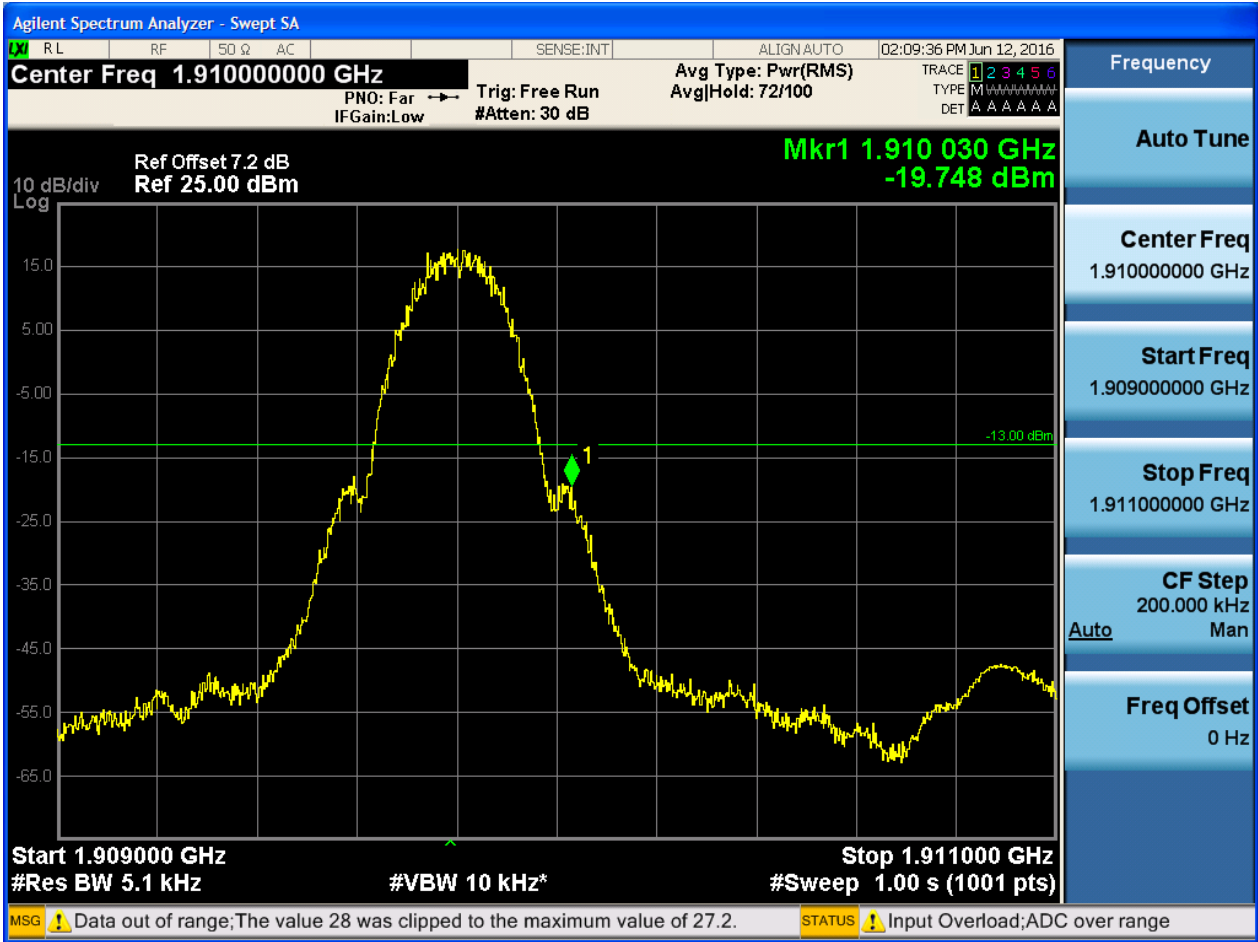
5.1.2 Test Band = GSM1900

5.1.2.1 Test Mode = GSM/TM1

5.1.2.1.1 Test Channel = LCH

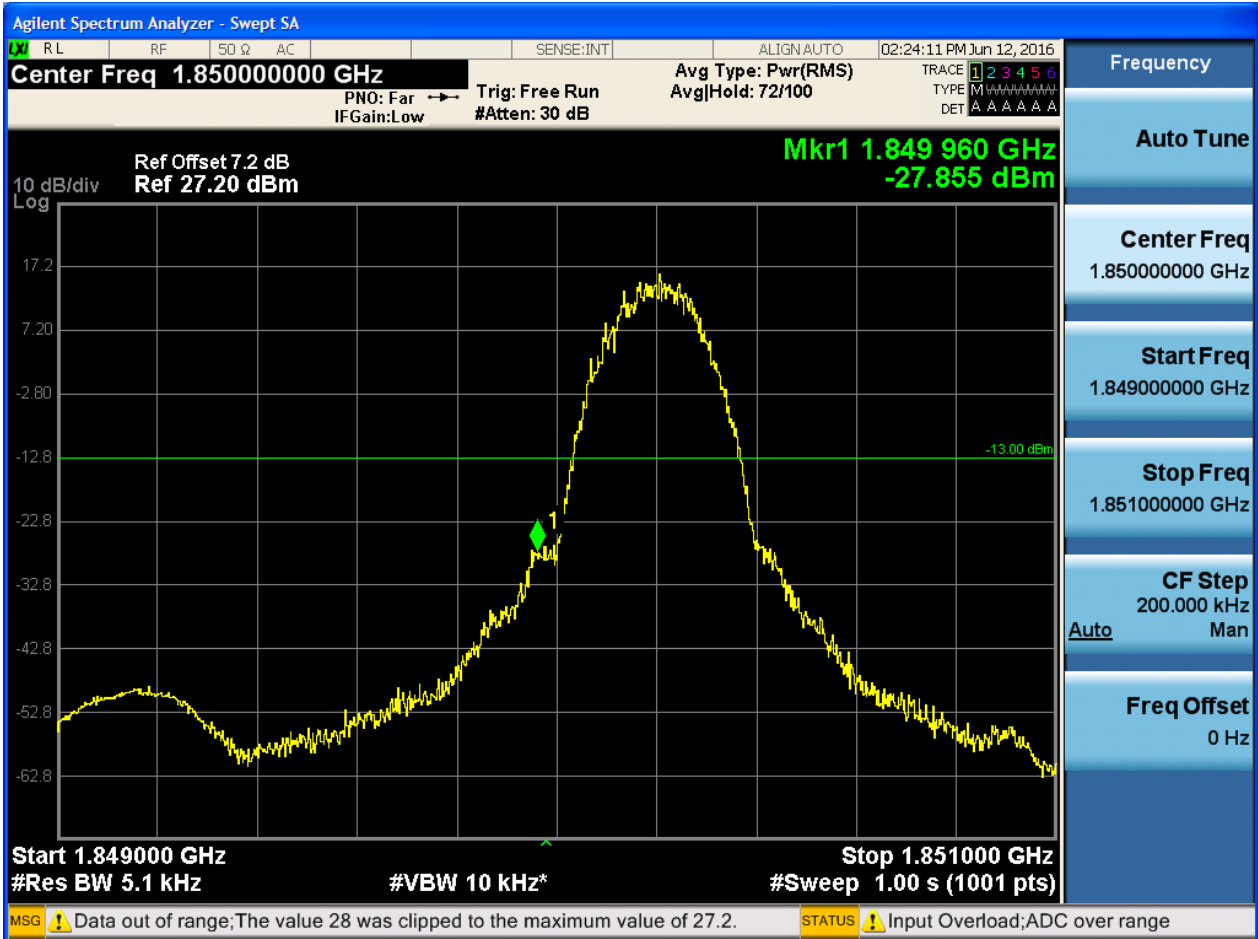


5.1.2.1.2 Test Channel = HCH



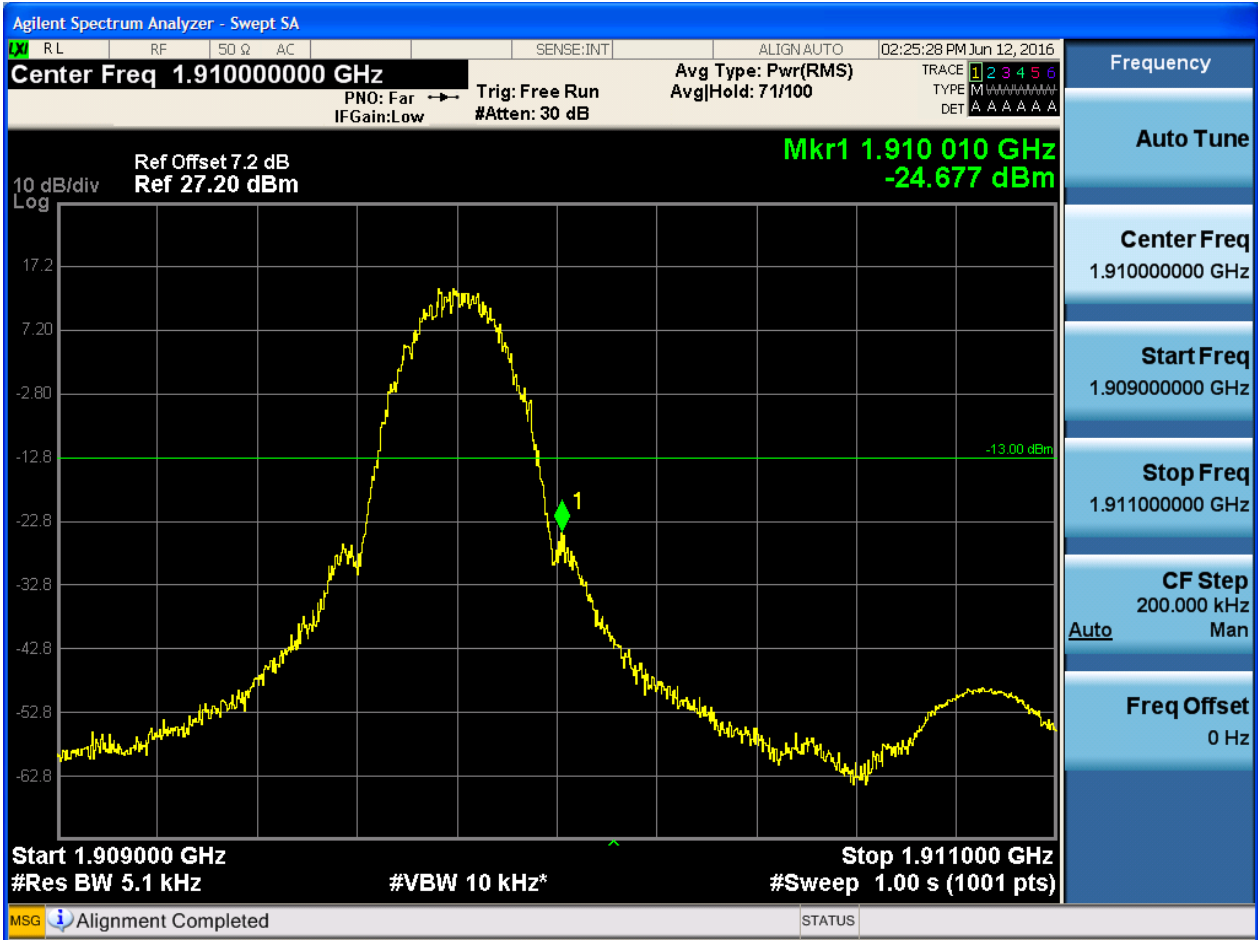
5.1.2.2 Test Mode = GSM/TM2

5.1.2.2.1 Test Channel = LCH





5.1.2.2.2 Test Channel = HCH



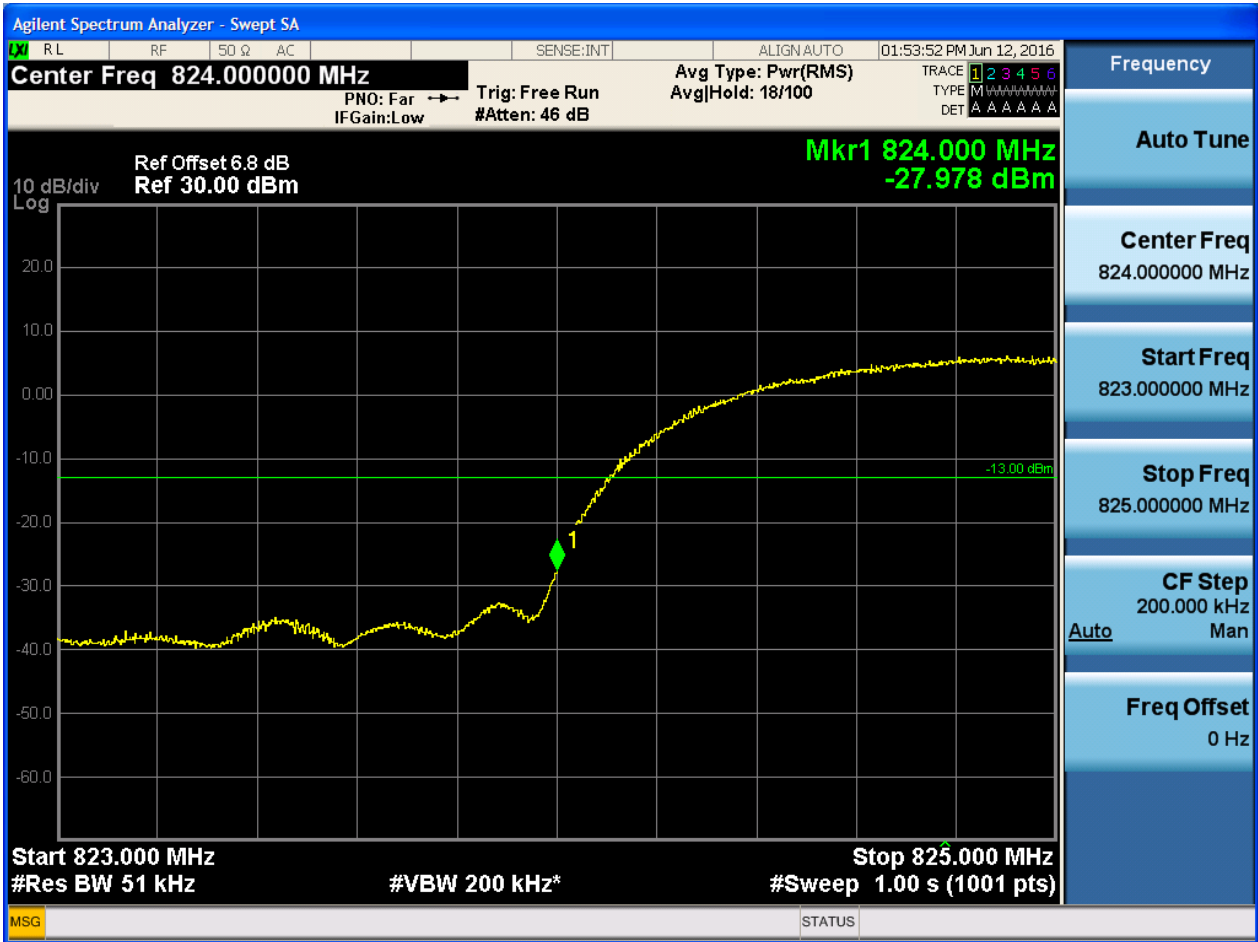


## 5.2 For UMTS

### 5.2.1 Test Band = WCDMA850

#### 5.2.1.1 Test Mode = UMTS/TM1

##### 5.2.1.1.1 Test Channel = LCH



5.2.1.1.2 Test Channel = HCH





5.2.2 Test Band = WCDMA1900

5.2.2.1 Test Mode = UMTS/TM1

5.2.2.1.1 Test Channel = LCH







### 5.2.2.1.2 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.

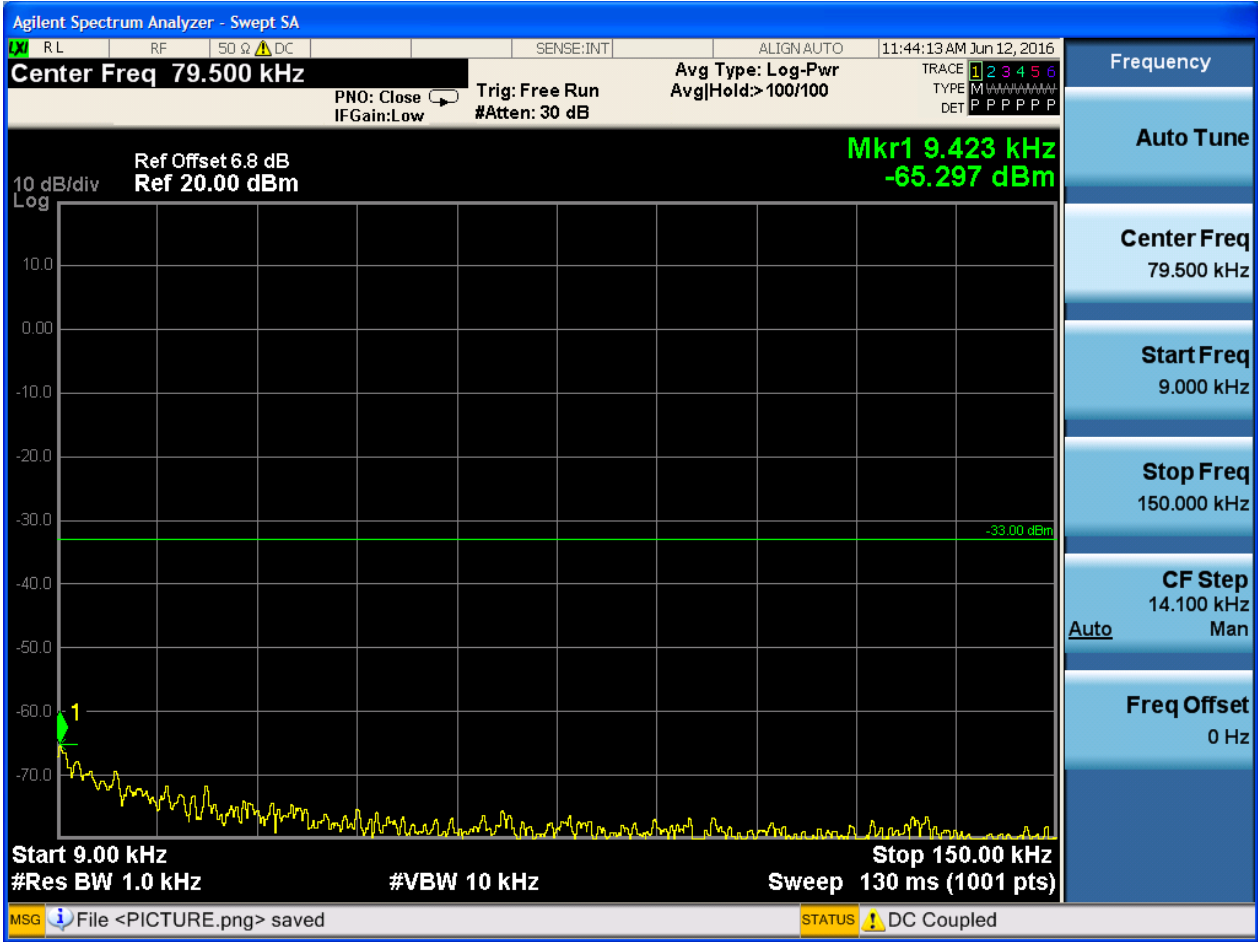
### Part I - Test Plots

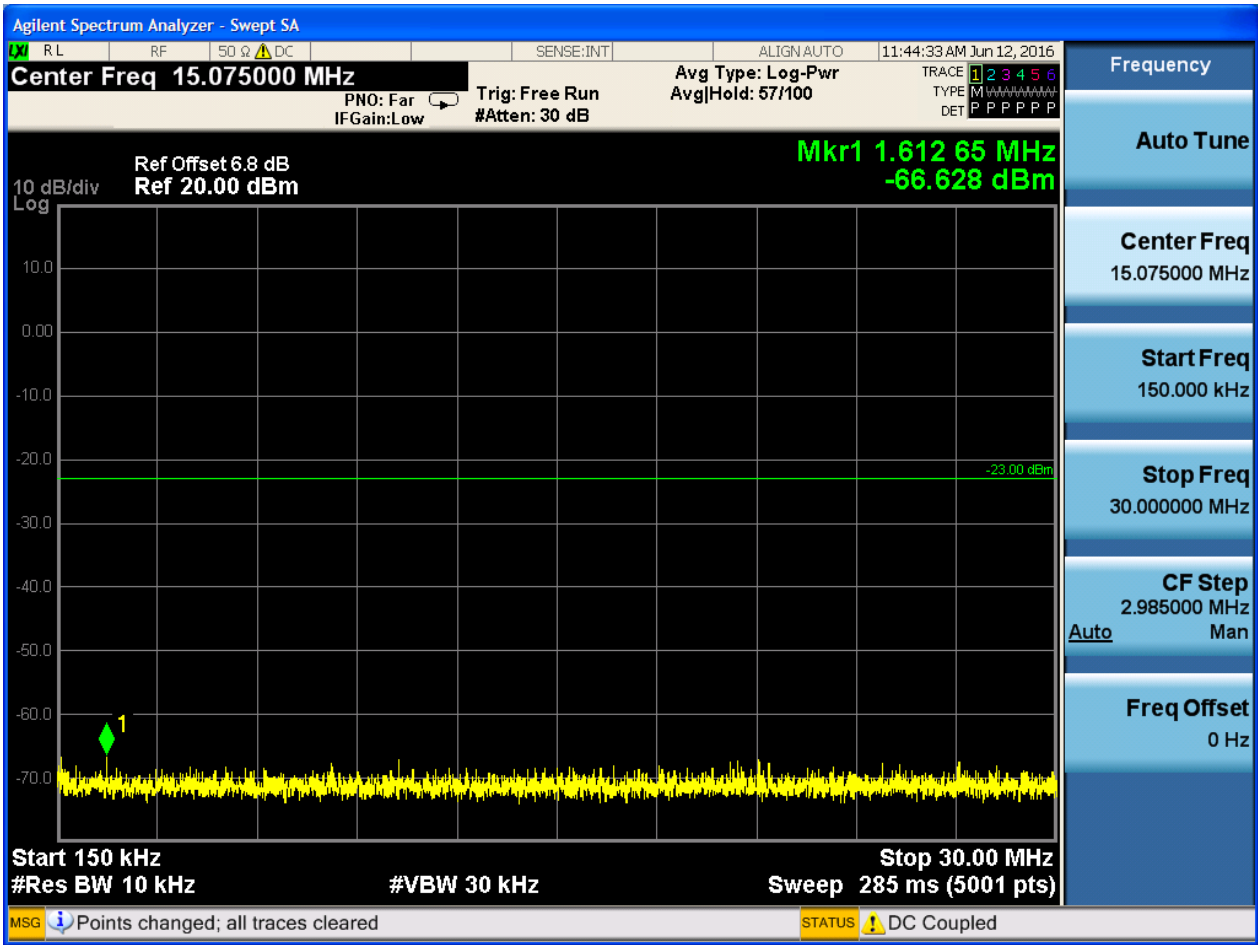
#### 6.1 For GSM

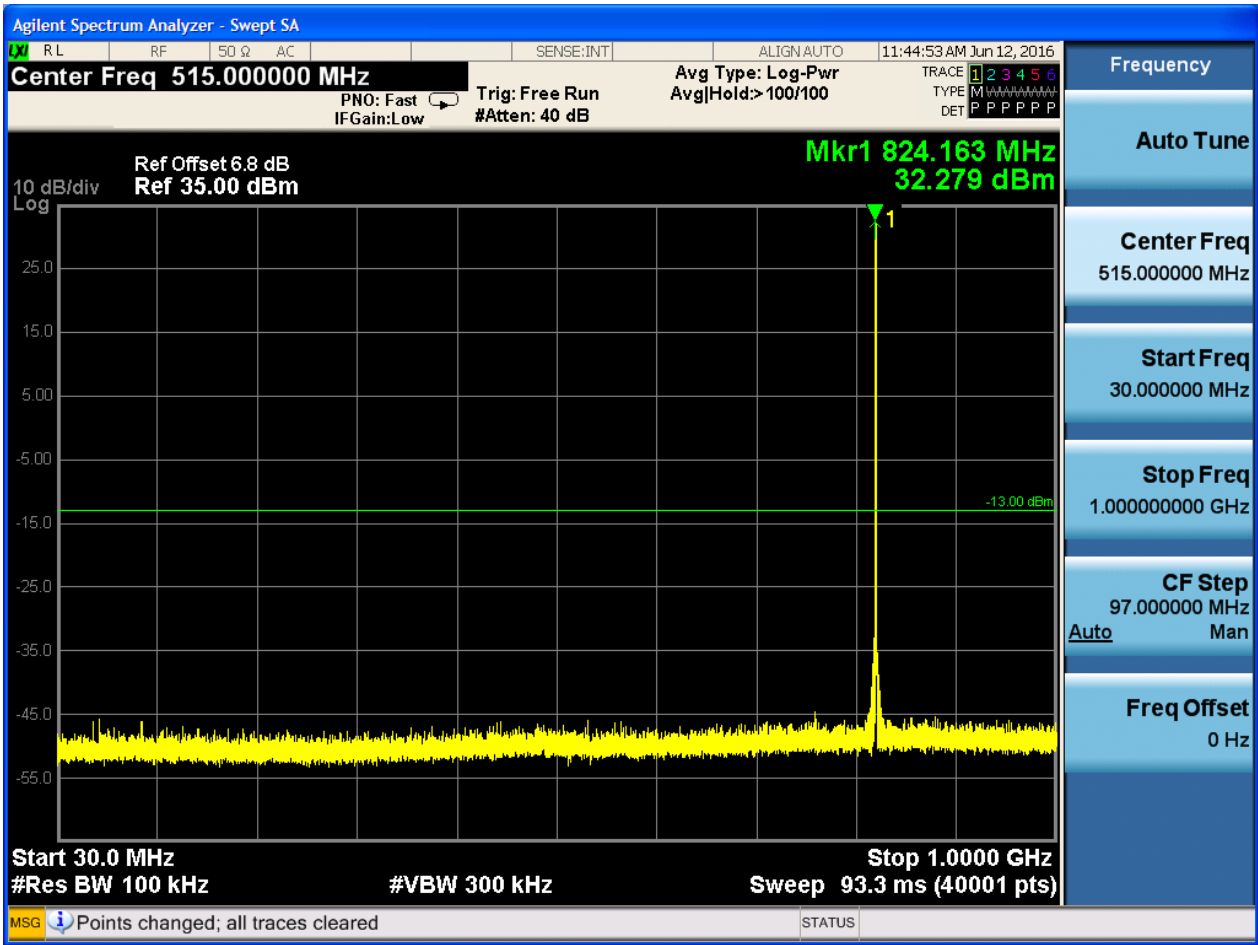
##### 6.1.1 Test Band = GSM850

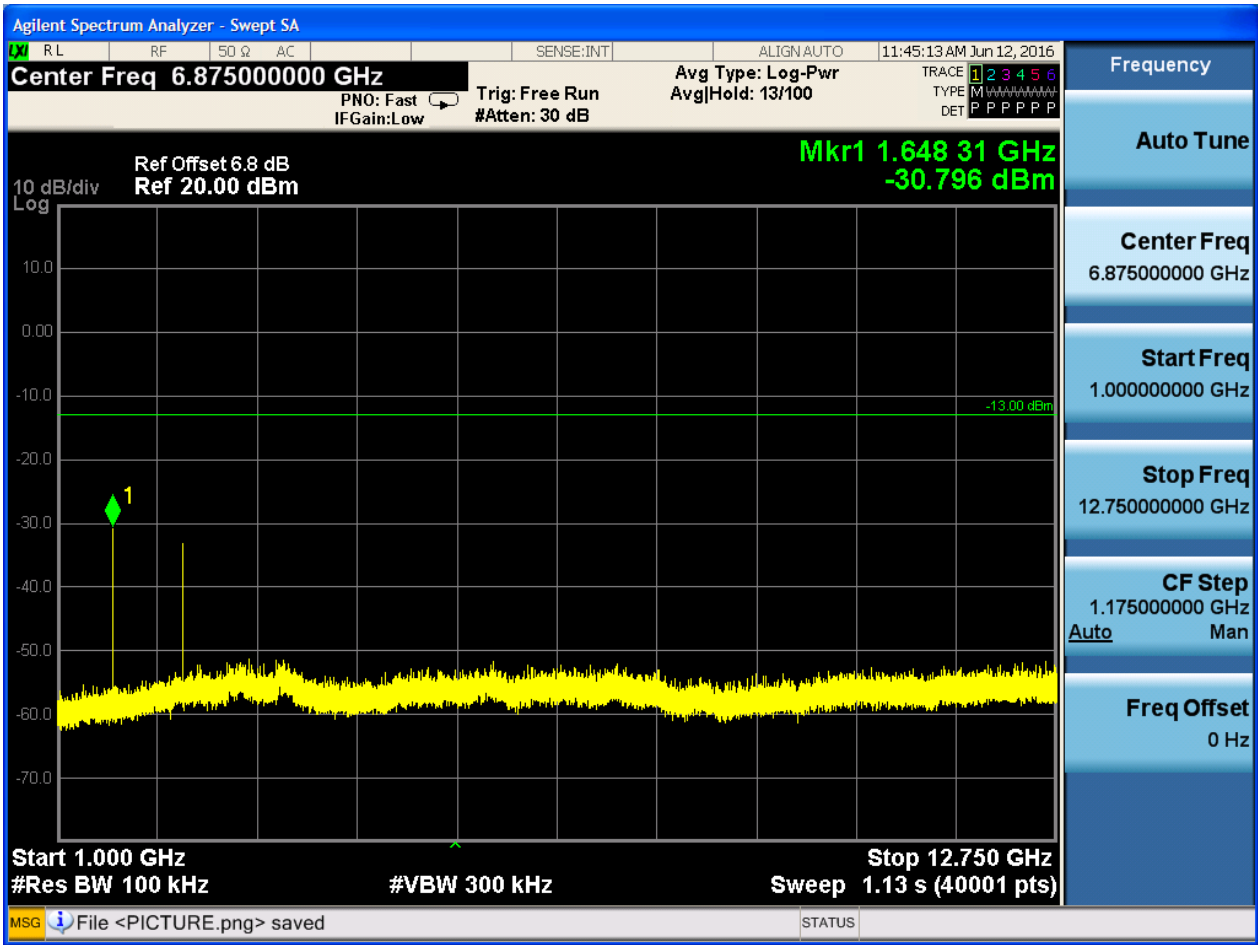
##### 6.1.1.1 Test Mode = GSM/TM1

##### 6.1.1.1.1 Test Channel = LCH



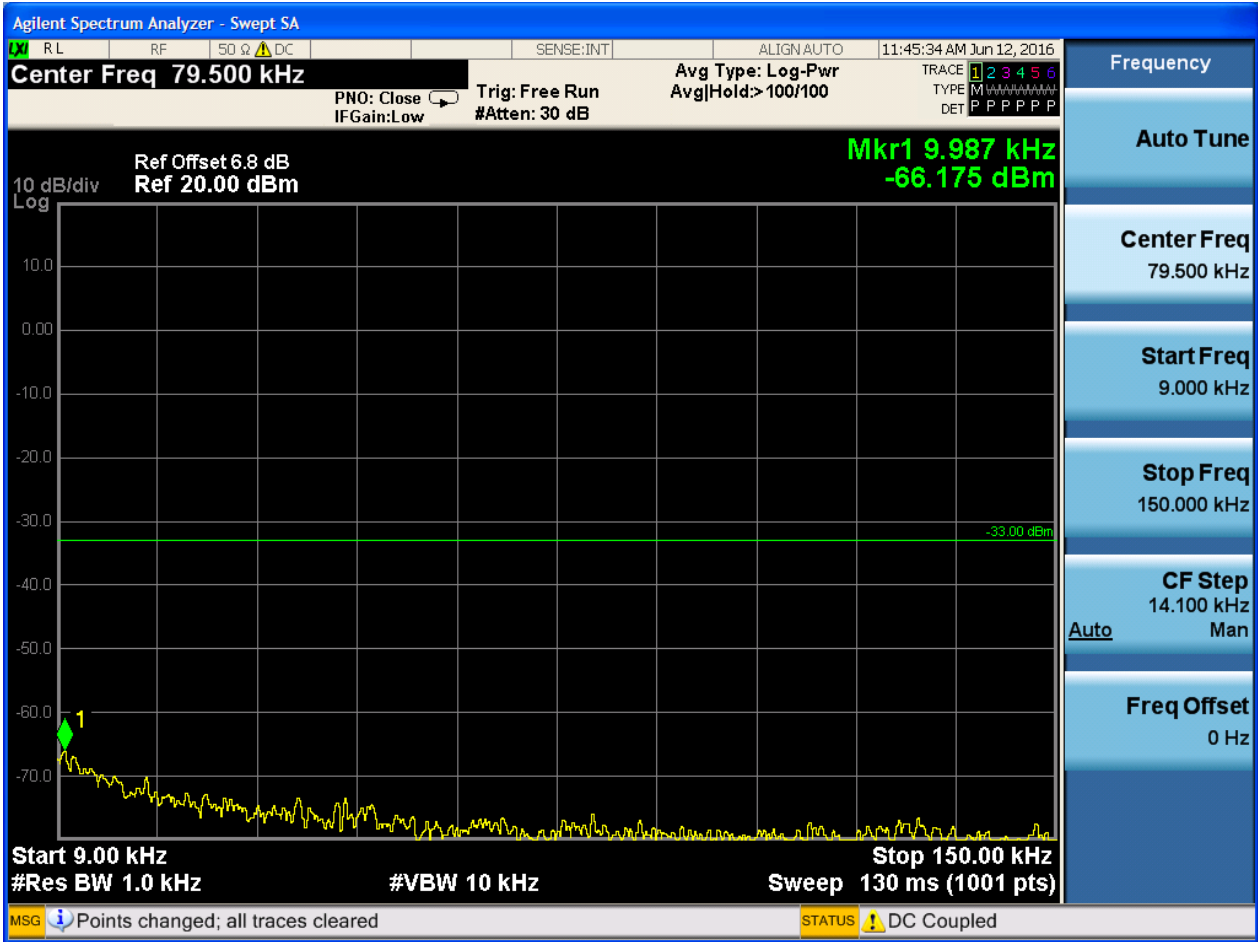


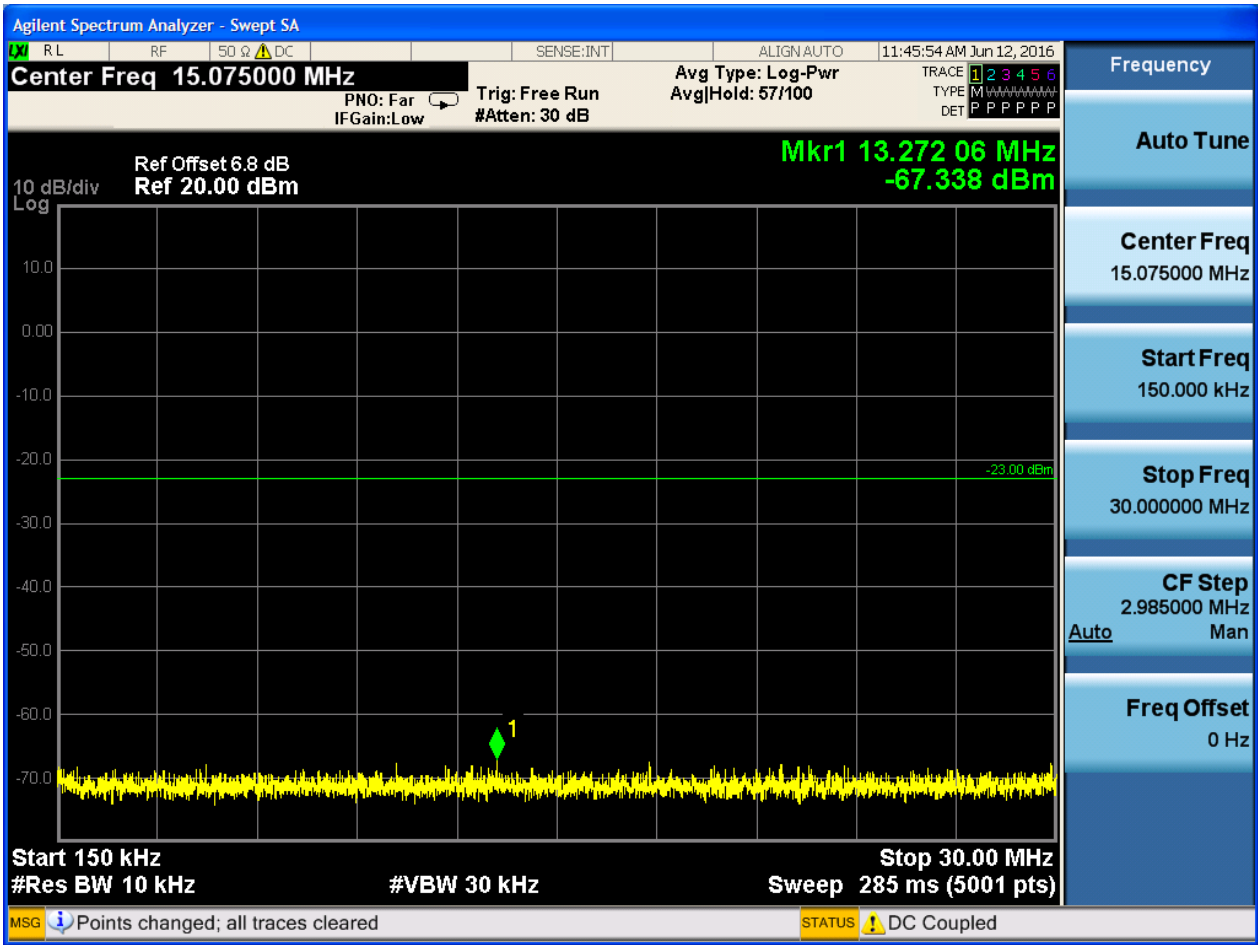




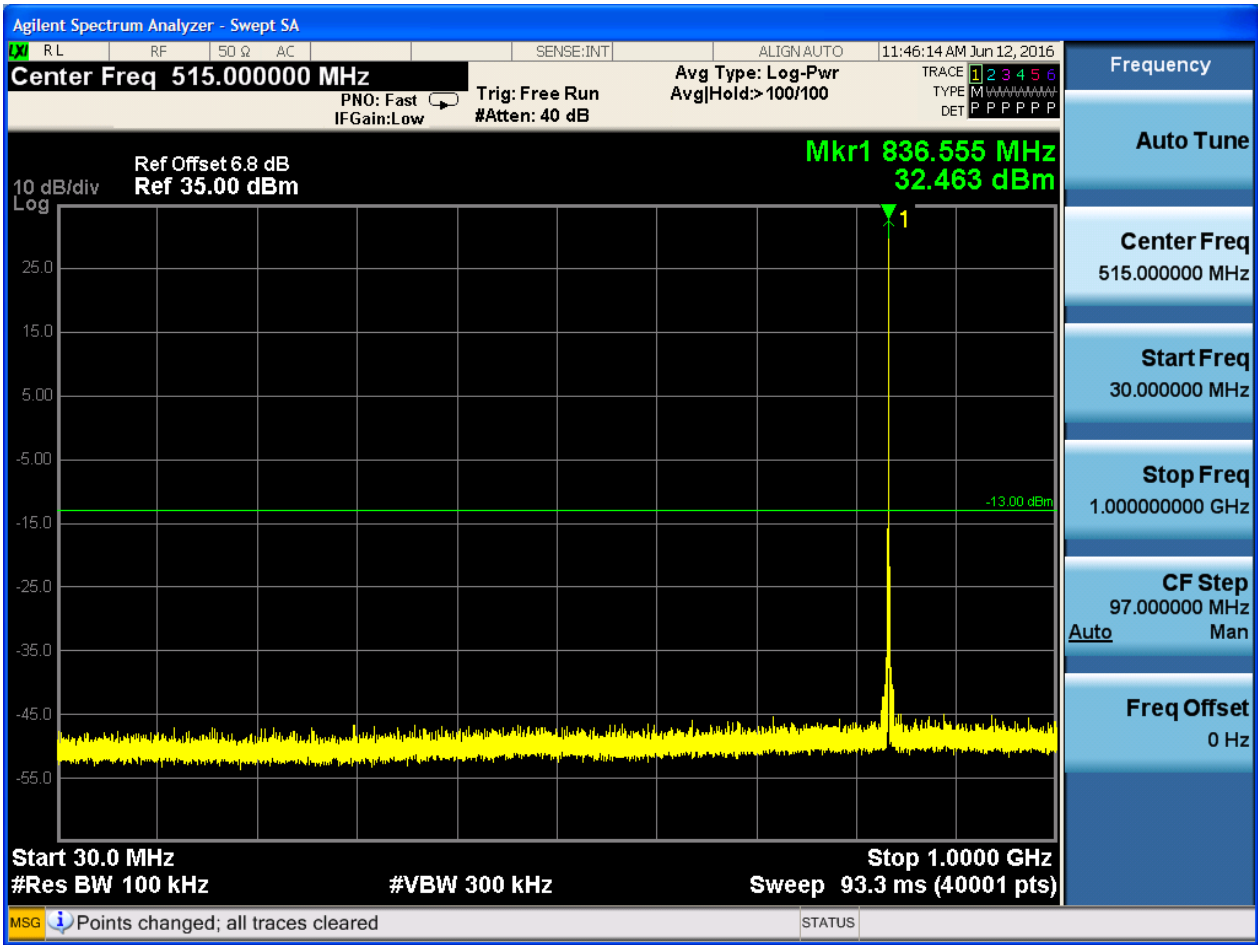


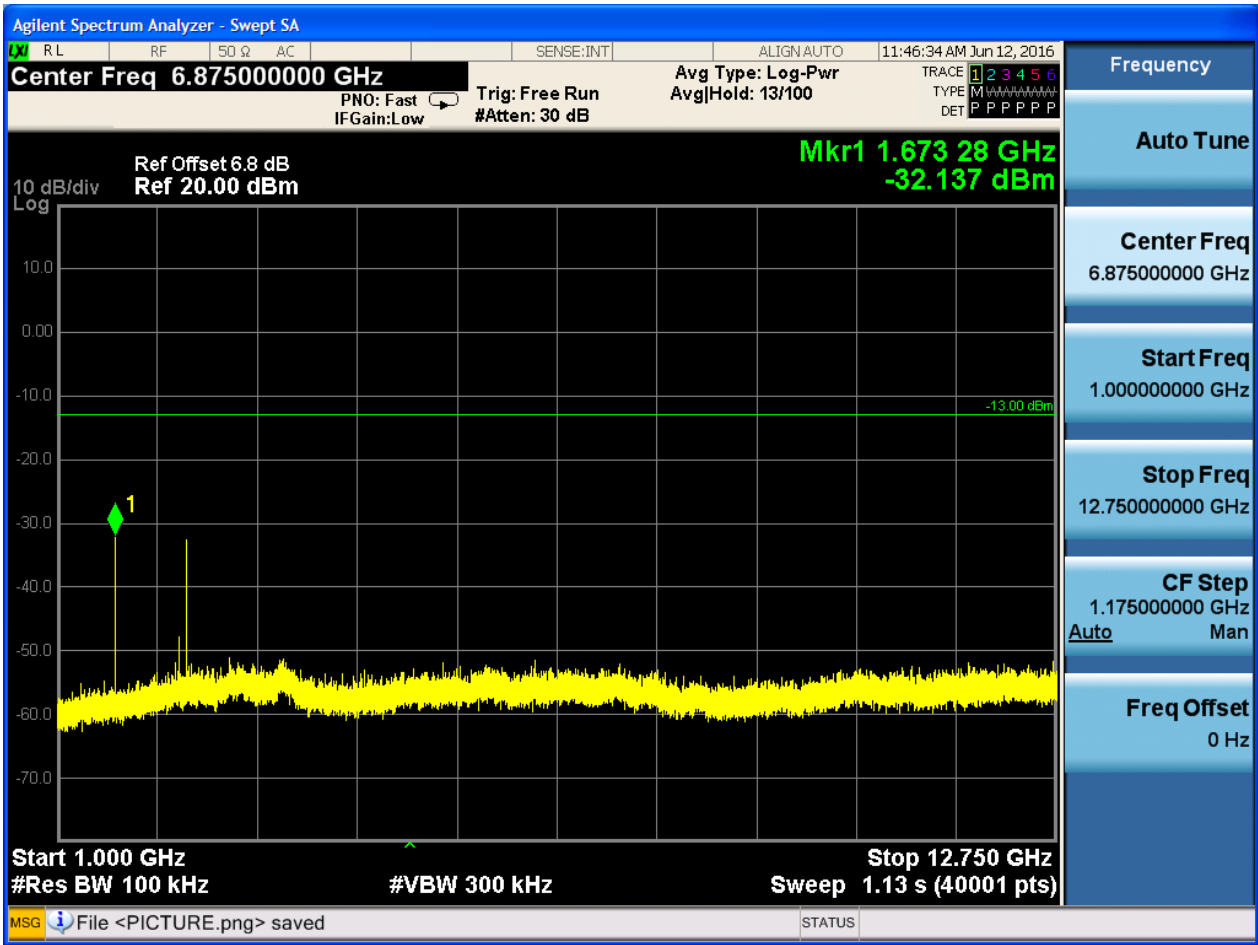
### 6.1.1.1.2 Test Channel = MCH



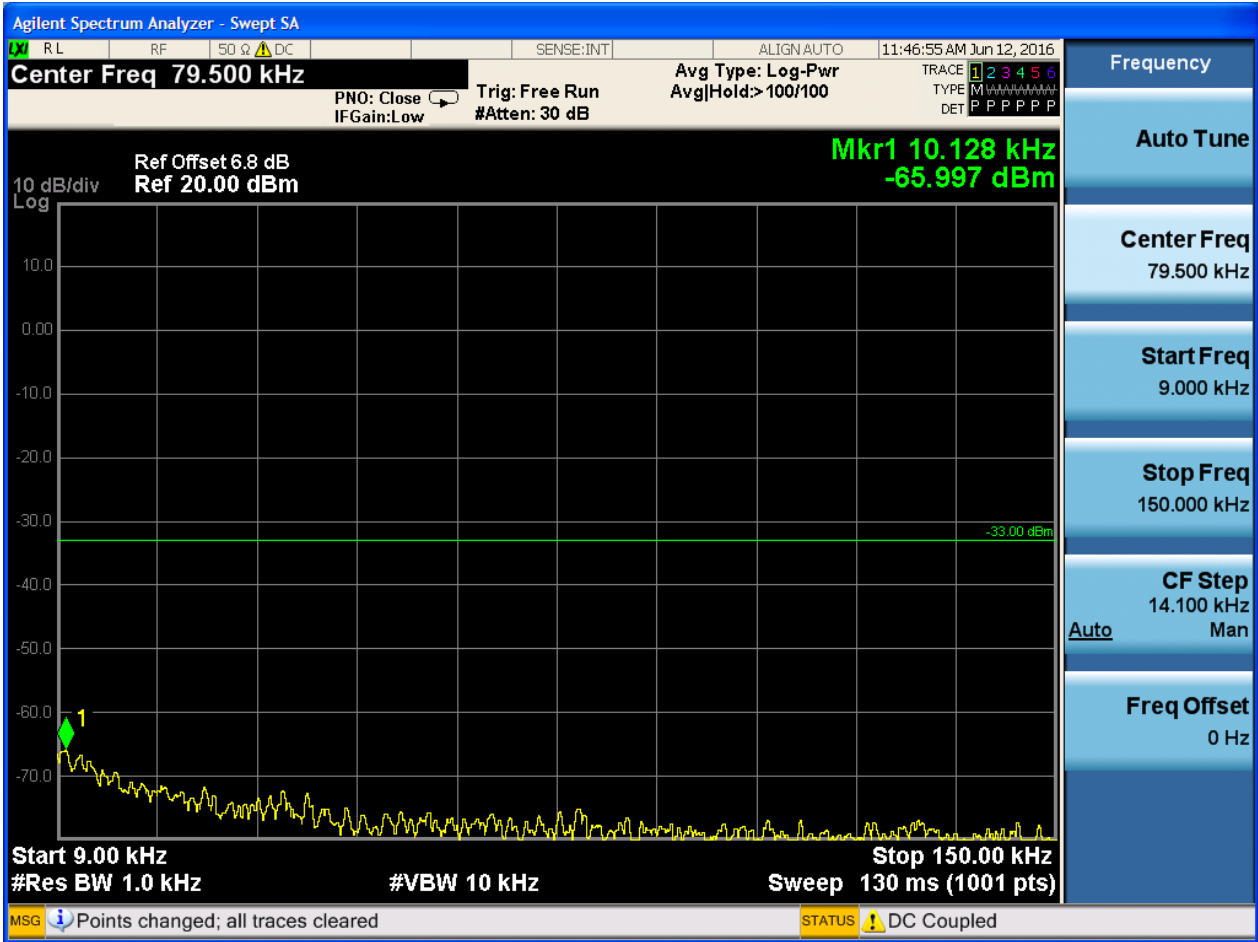


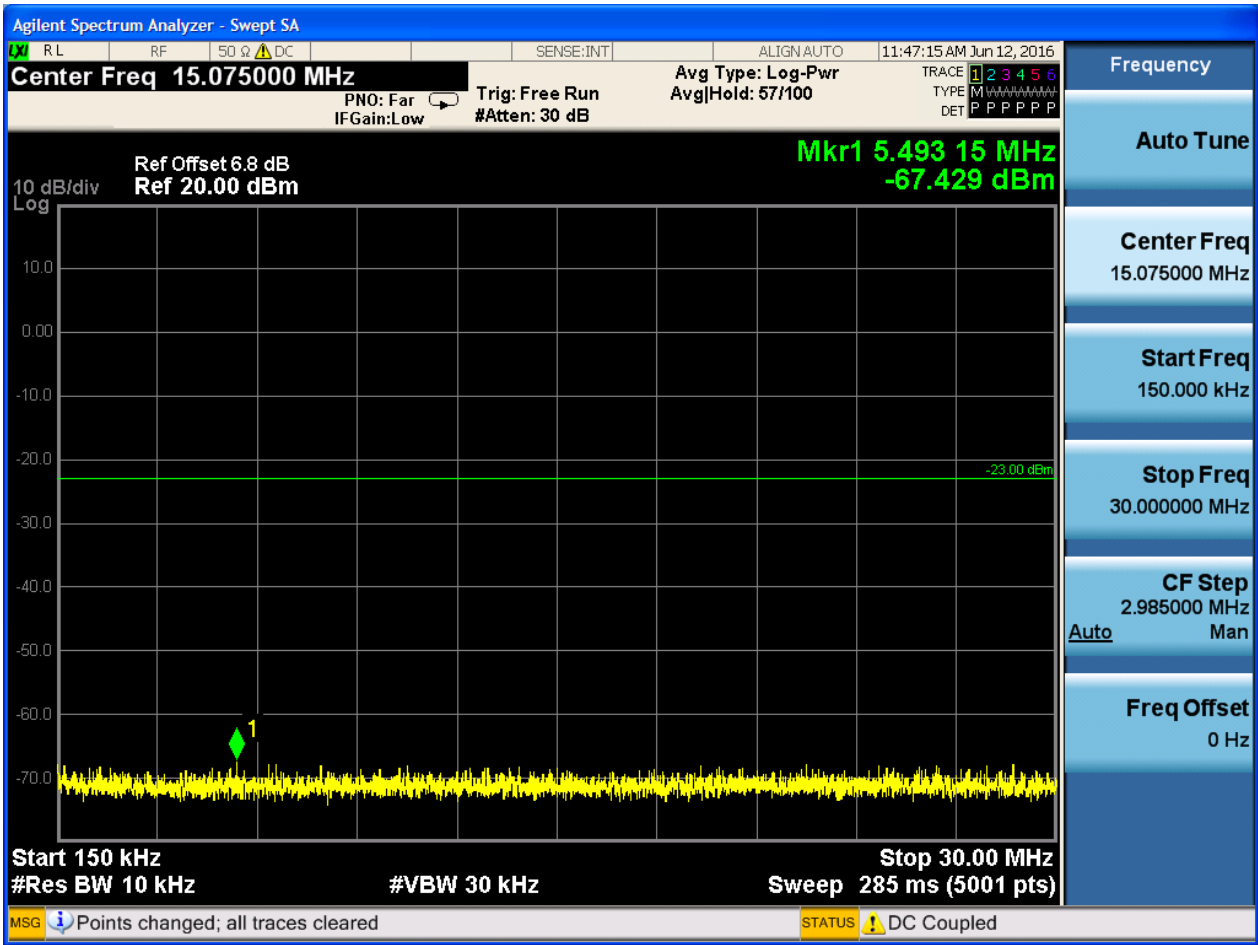


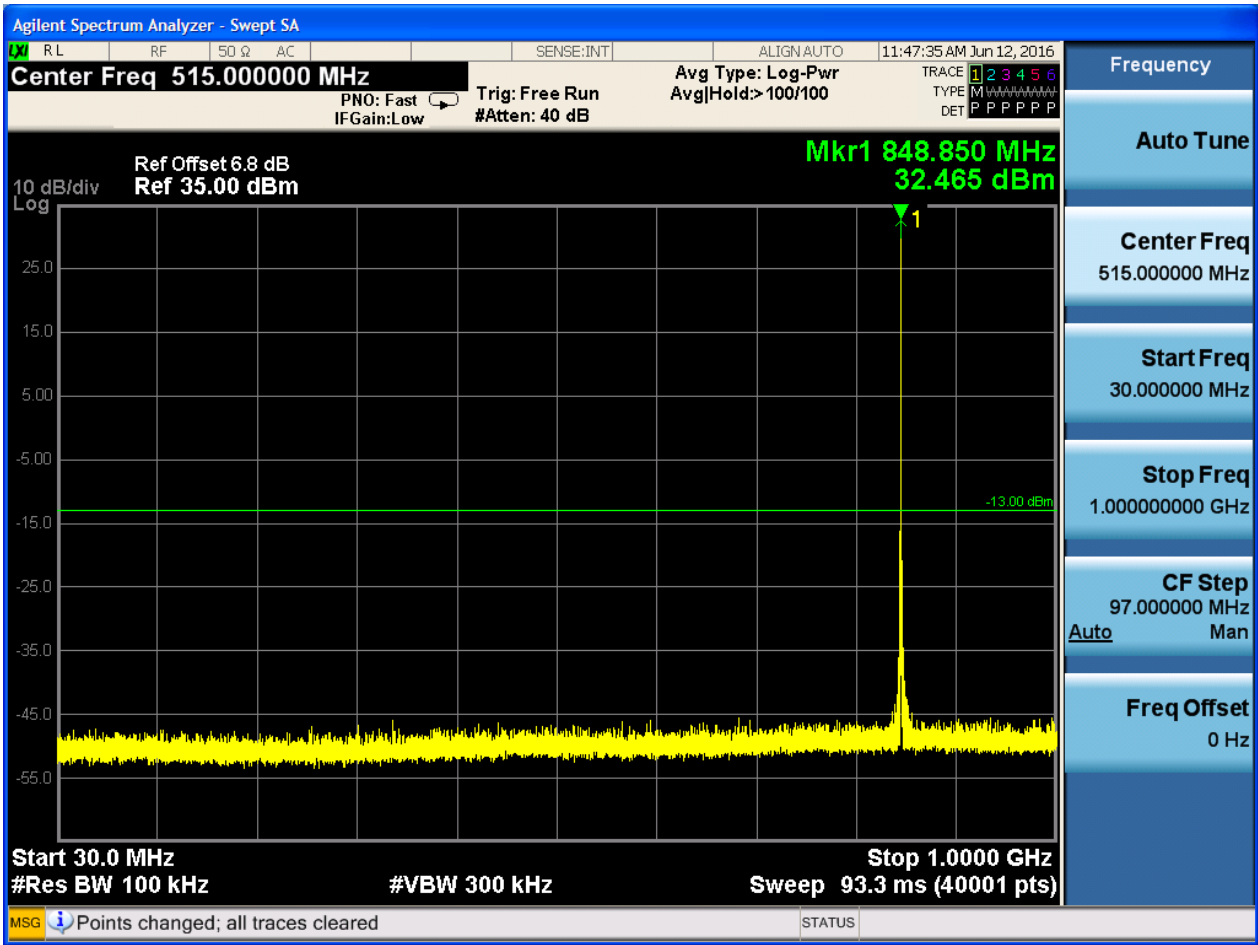


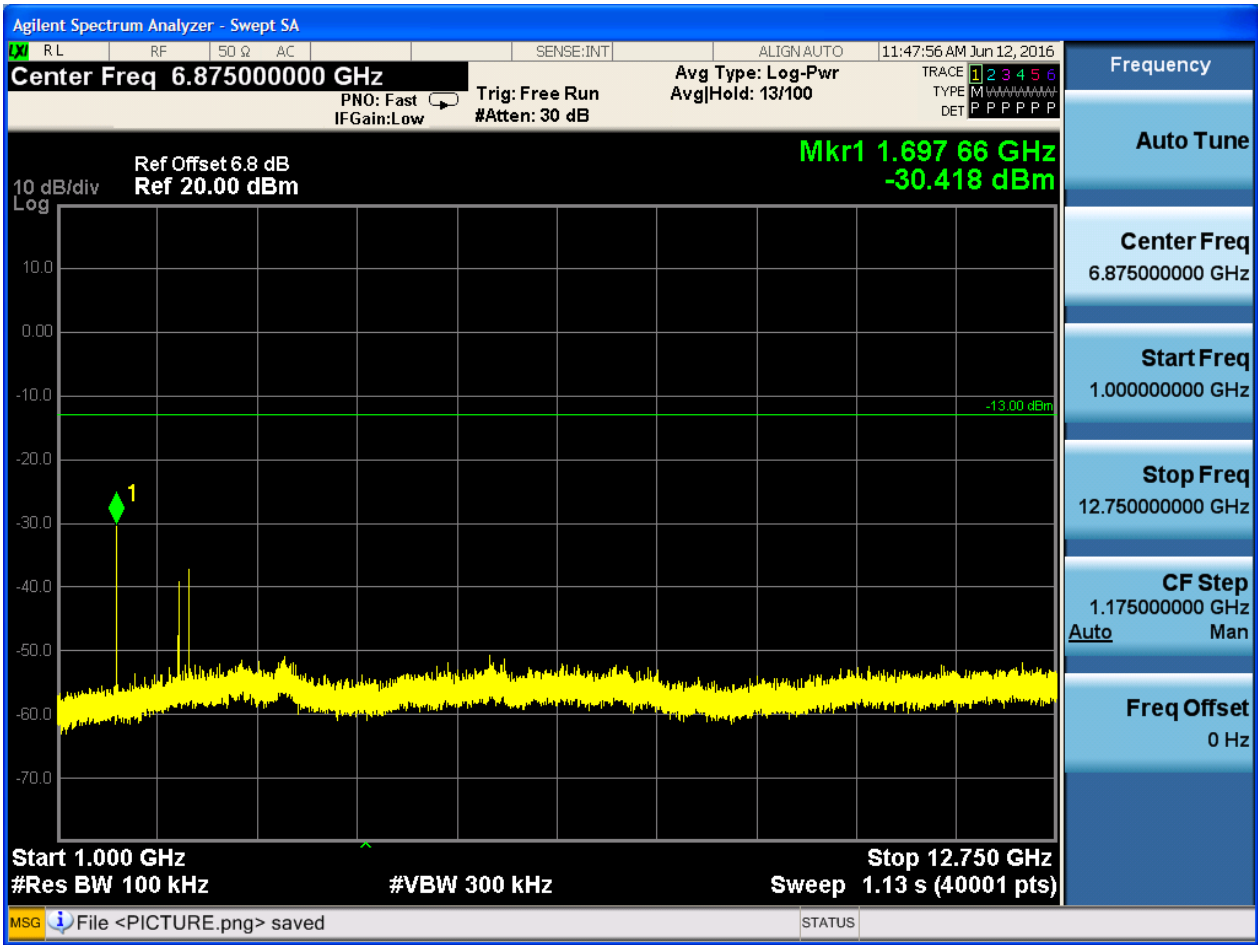


## 6.1.1.1.3 Test Channel = HCH





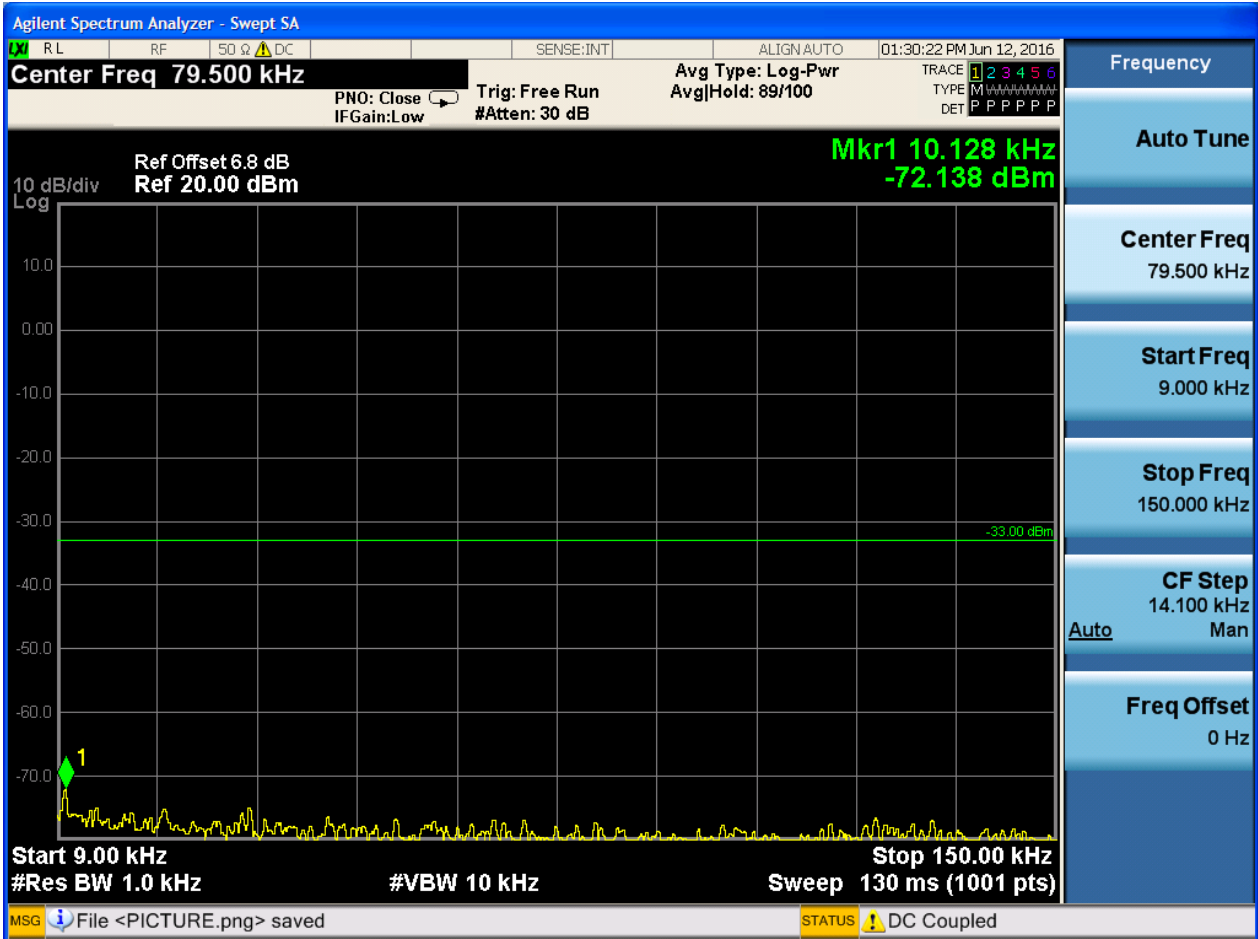


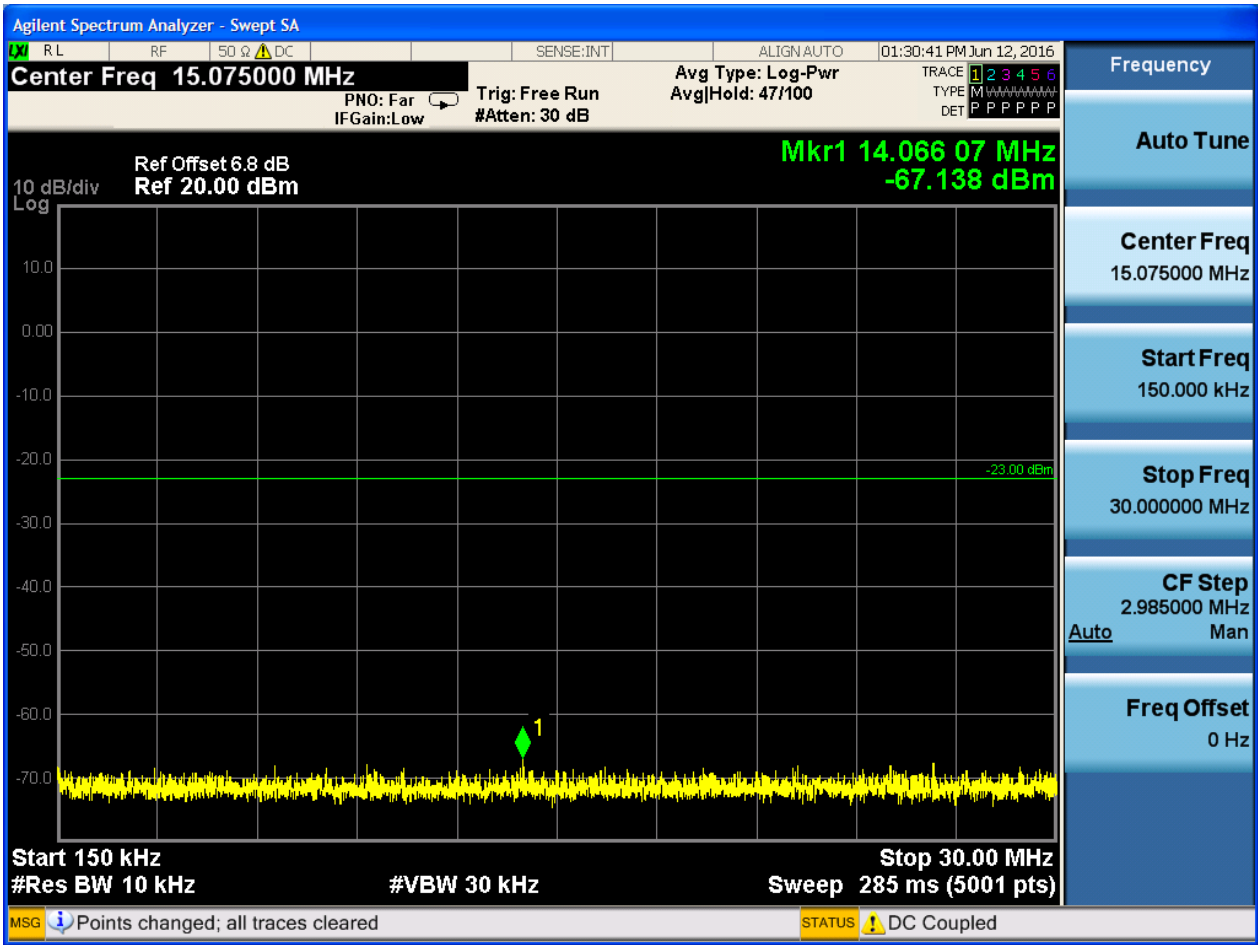




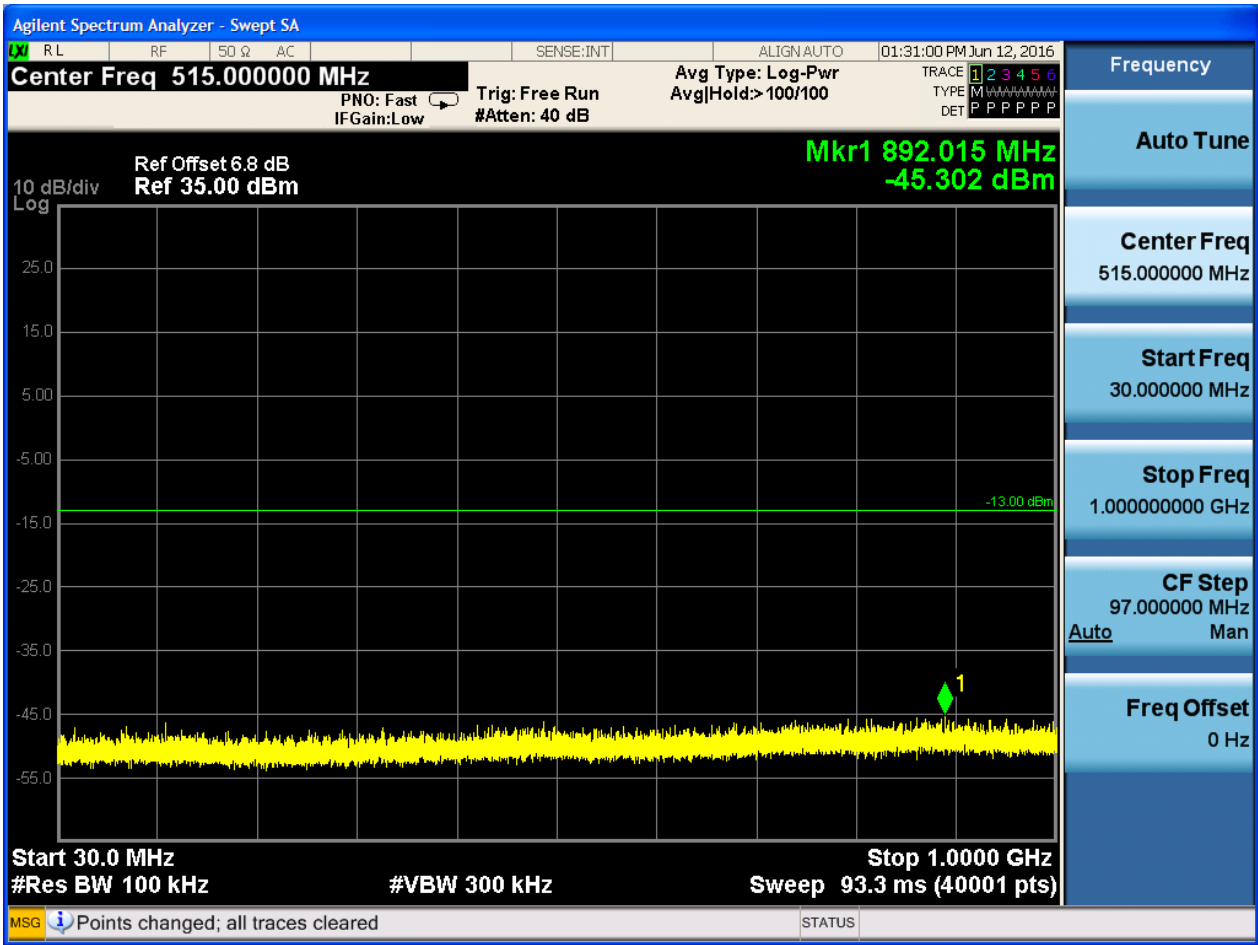
6.1.1.2 Test Mode = GSM/TM2

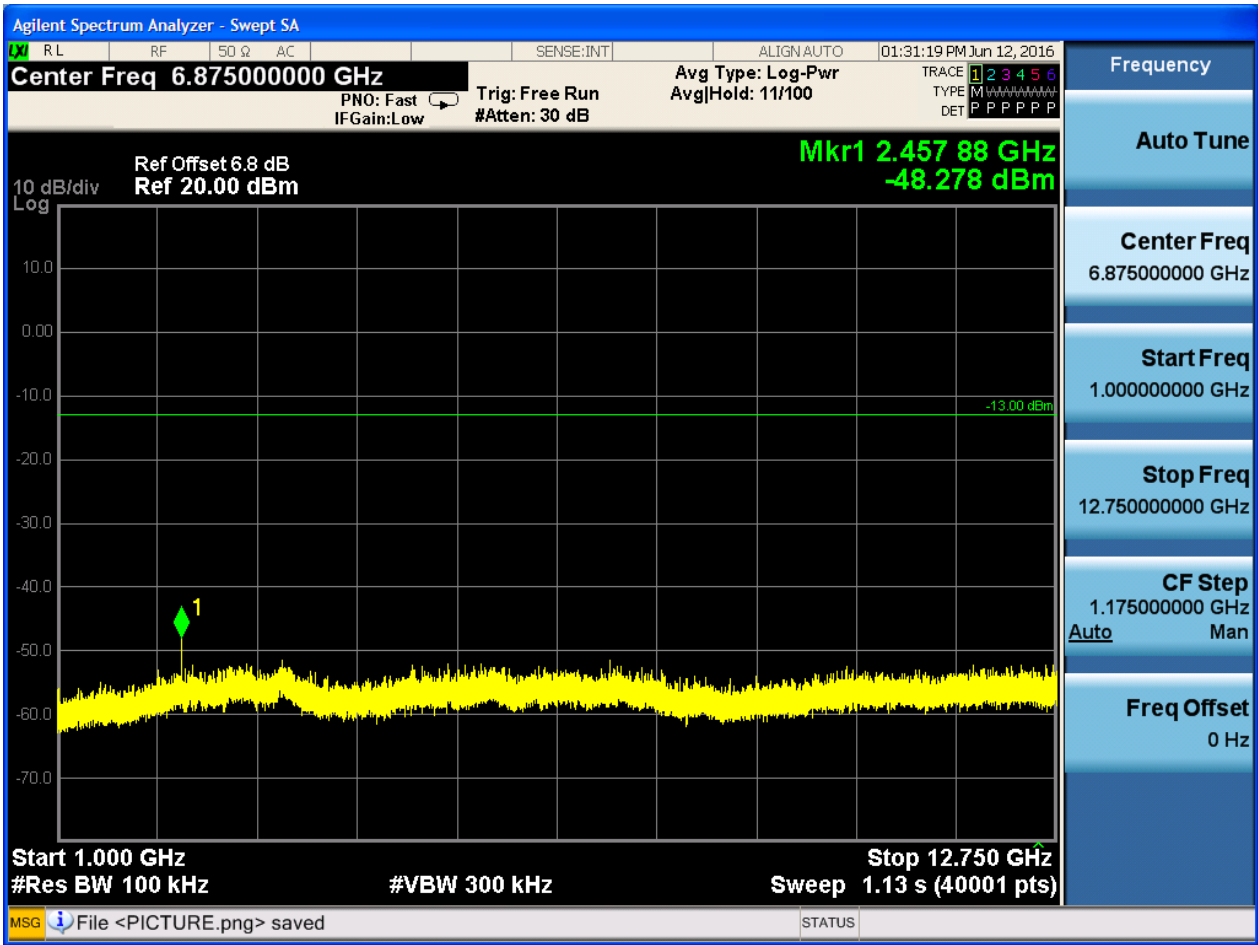
6.1.1.2.1 Test Channel = LCH





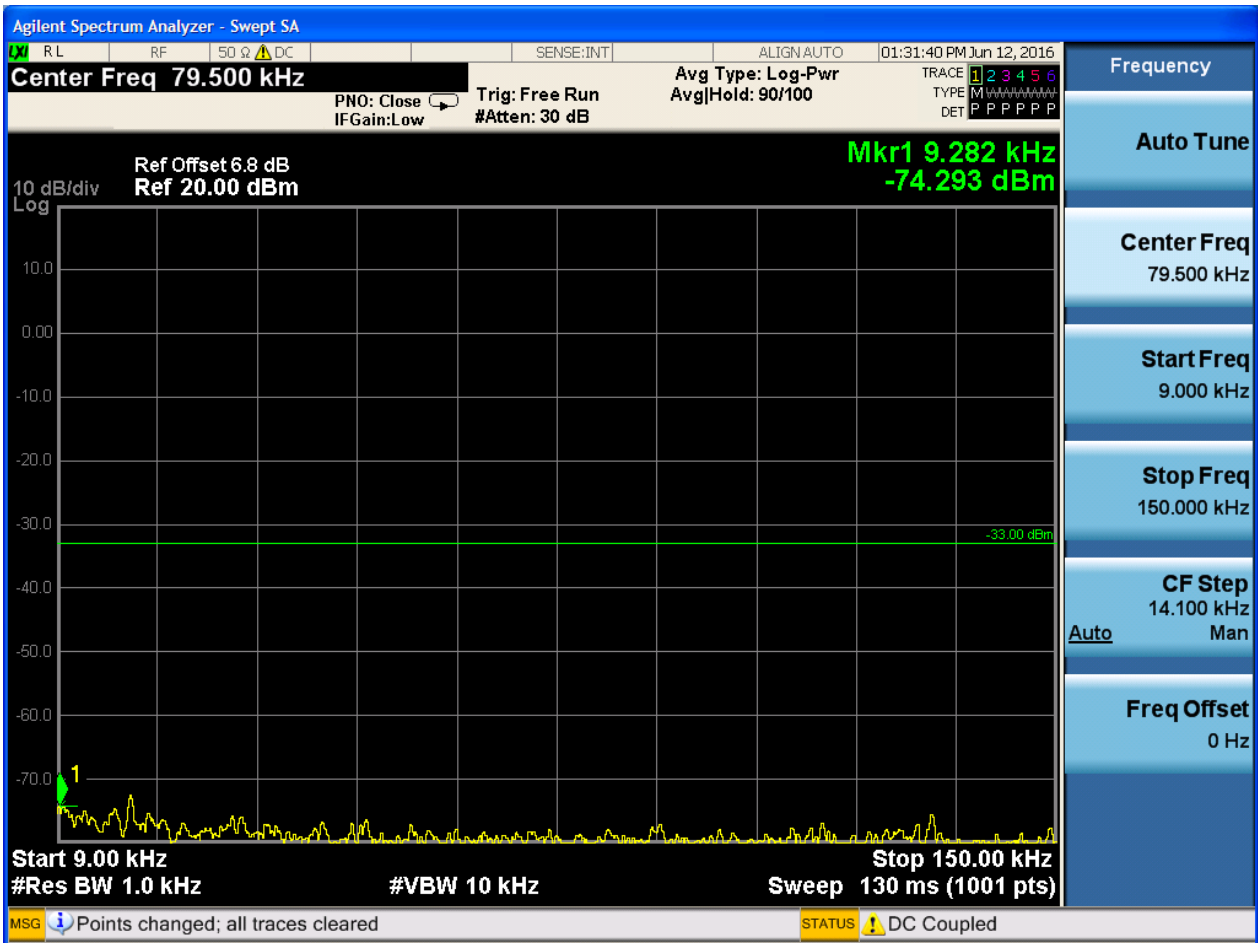


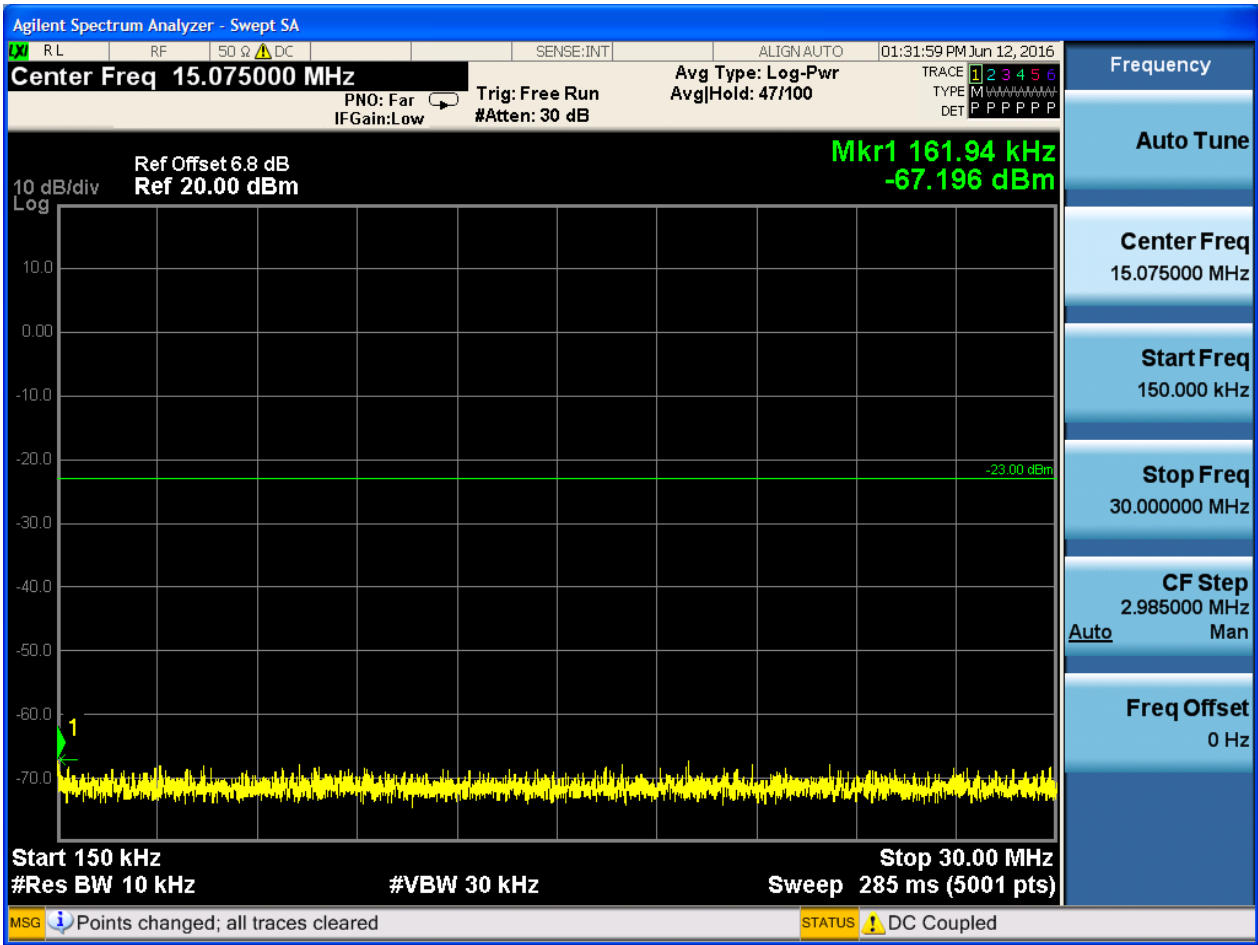


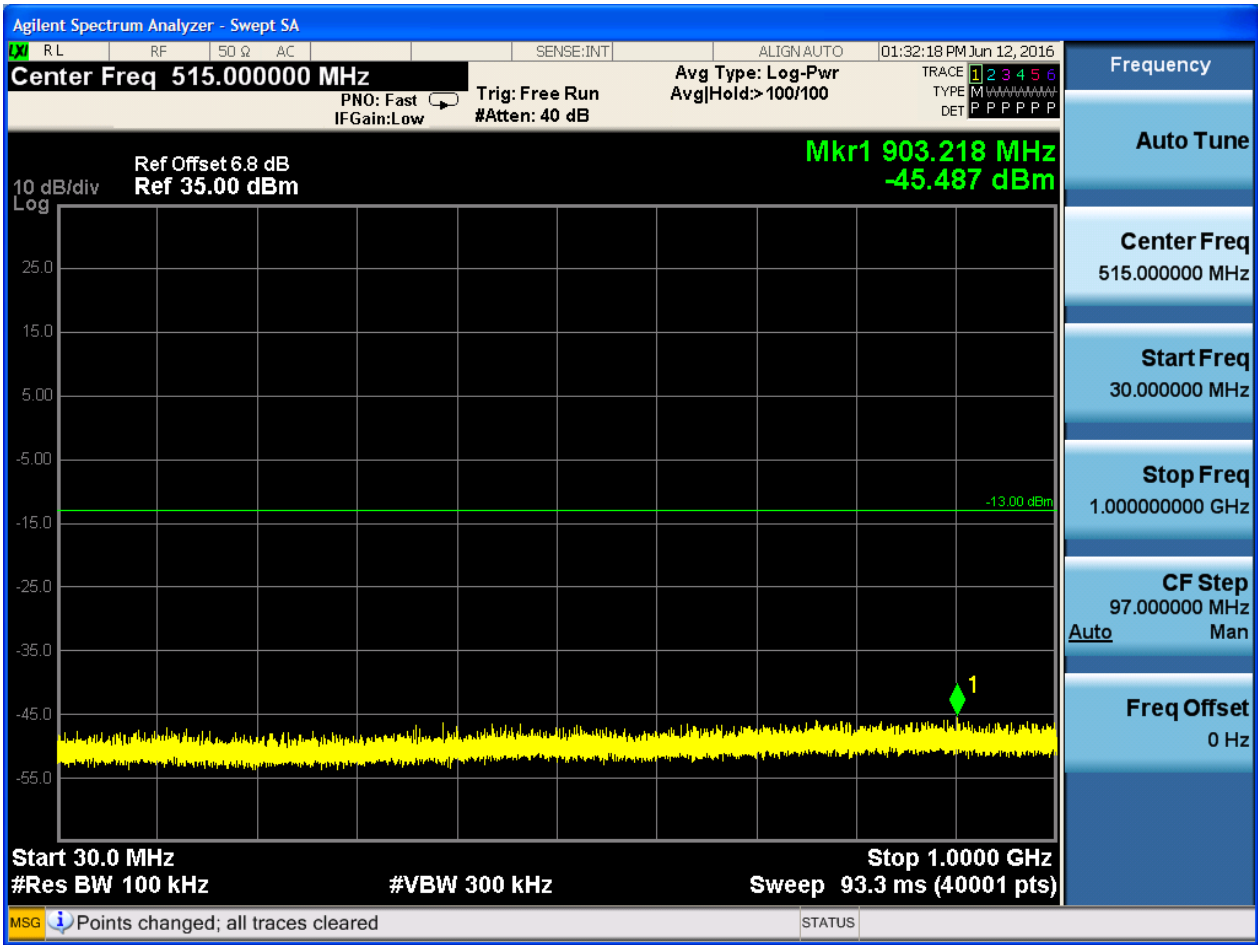


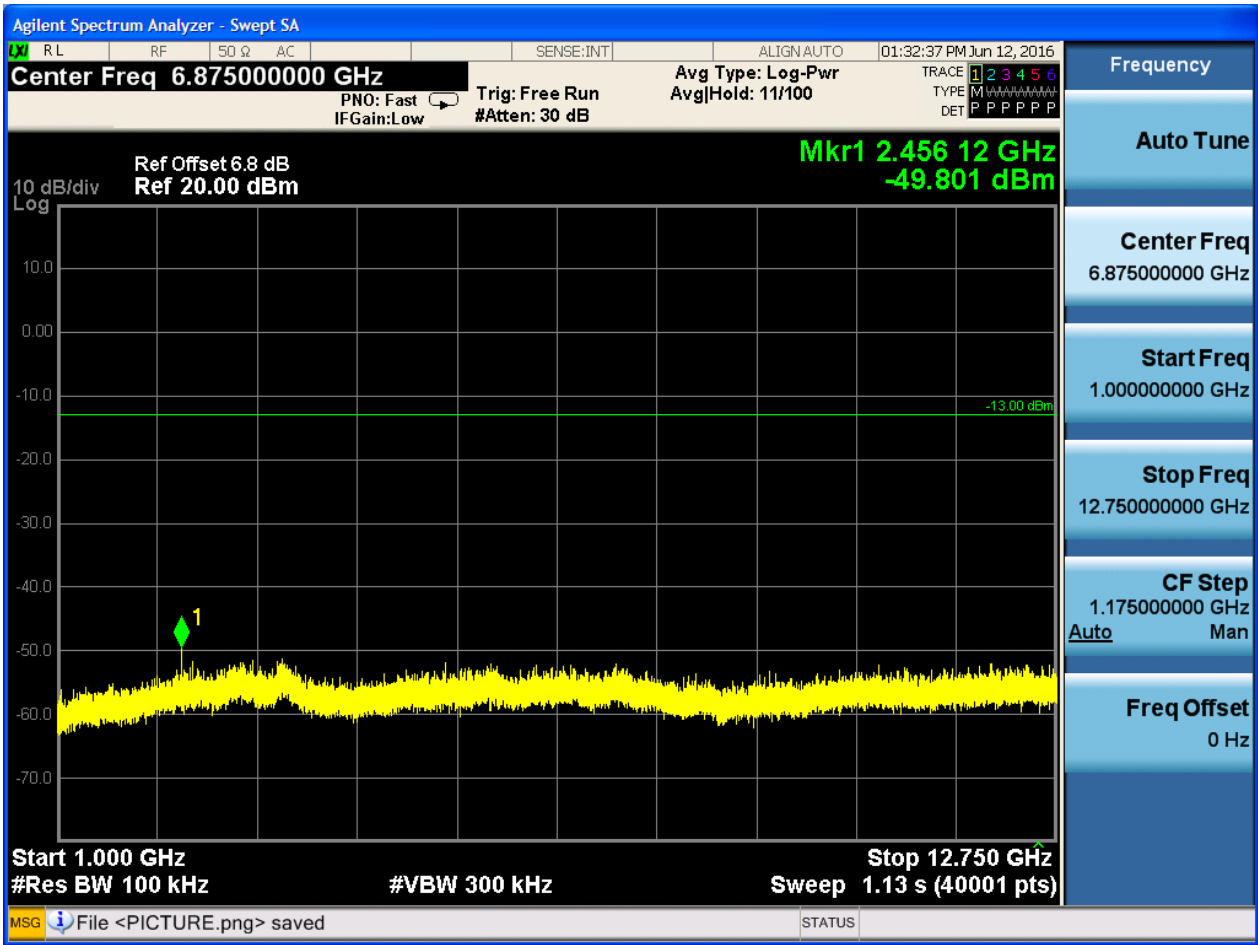


### 6.1.1.2.2 Test Channel = MCH



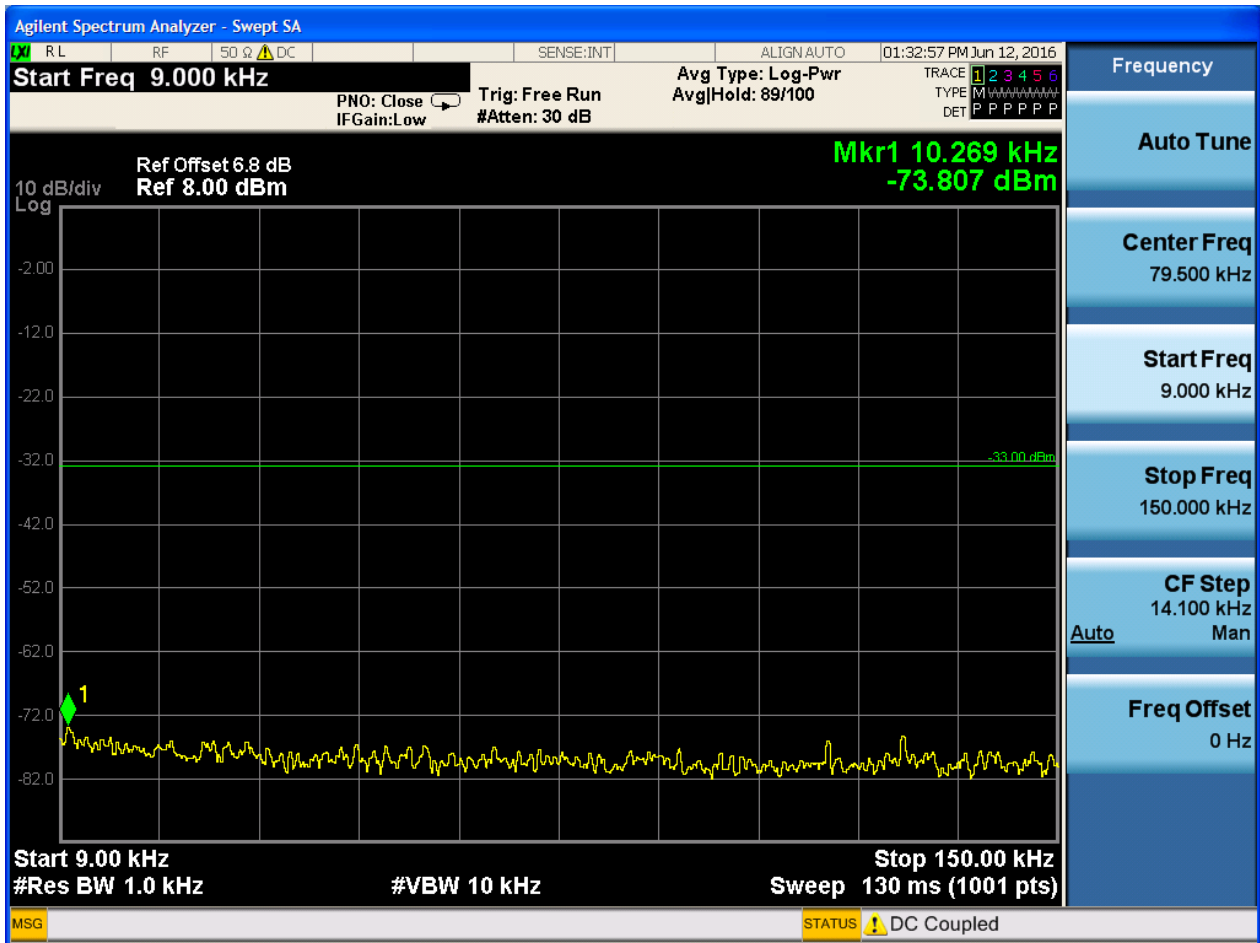






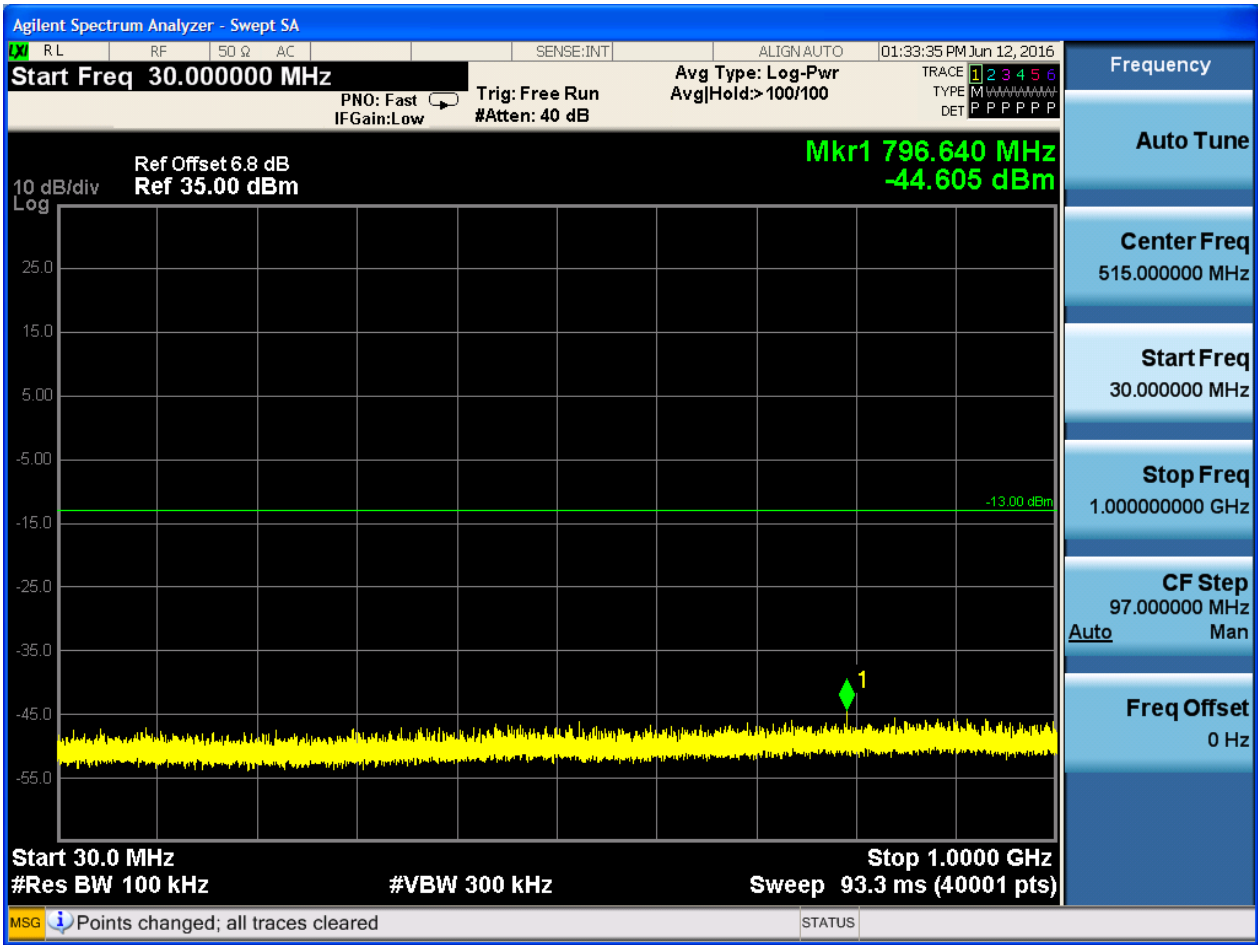


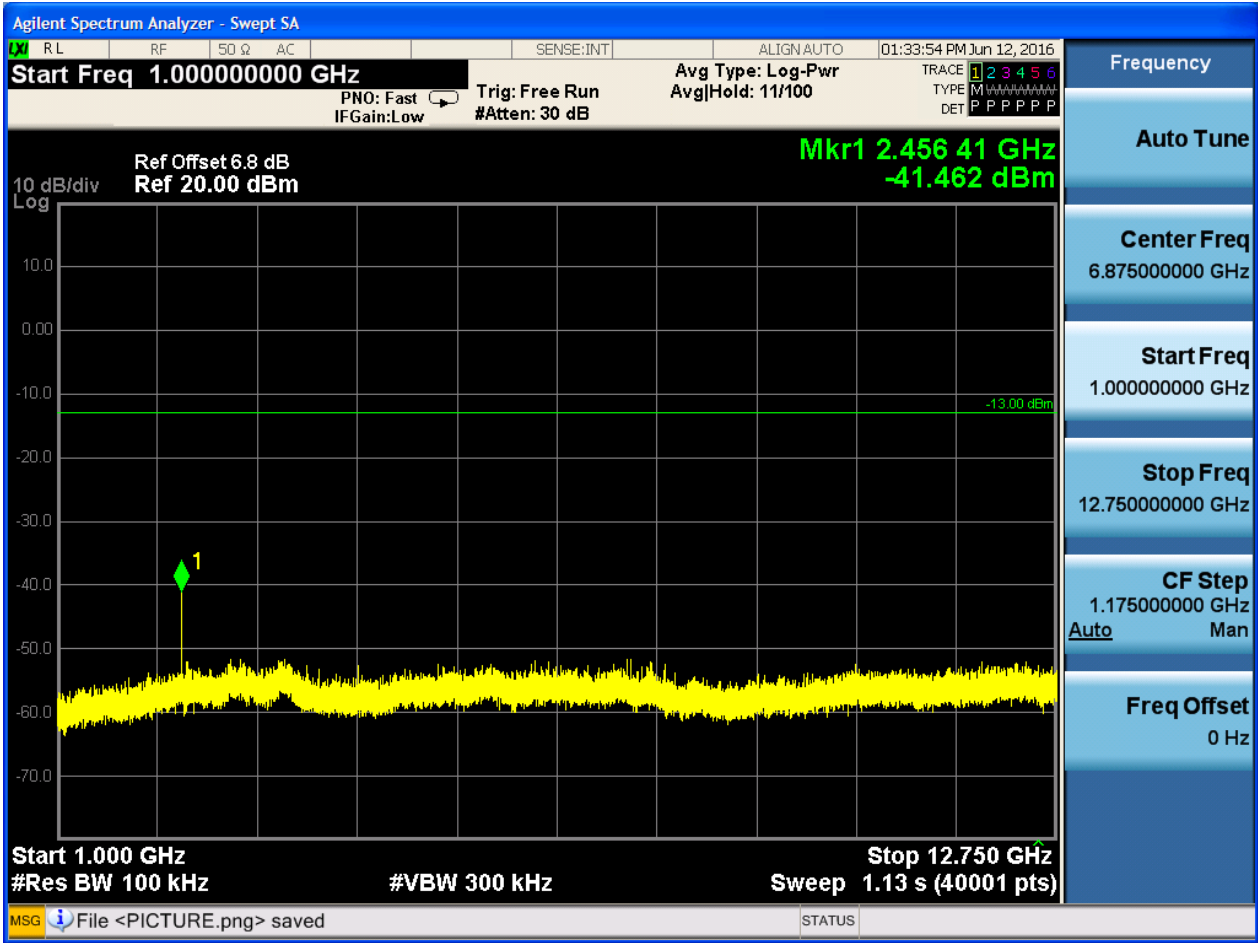
### 6.1.1.2.3 Test Channel = HCH









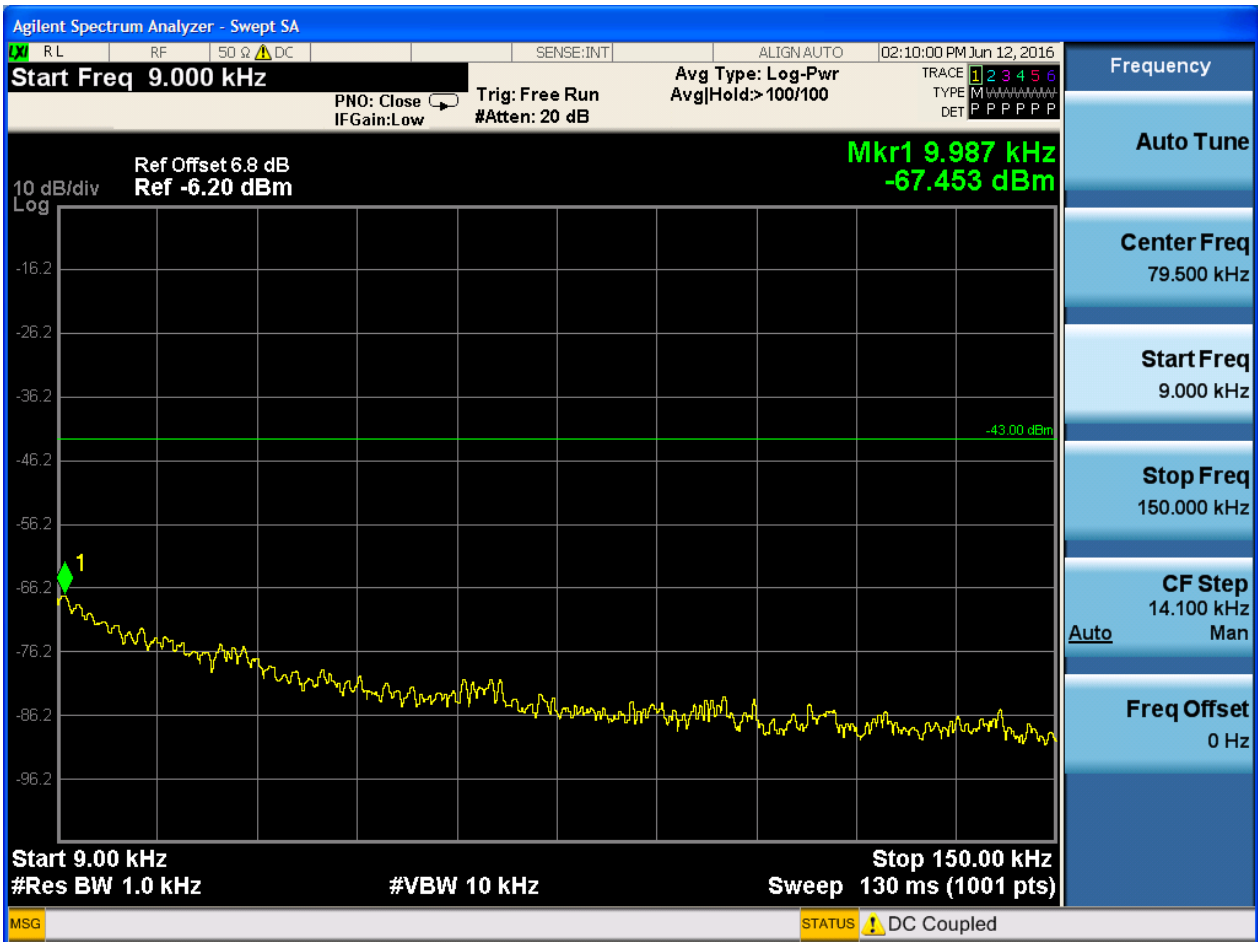




6.1.2 Test Band = GSM1900

6.1.2.1 Test Mode = GSM/TM1

6.1.2.1.1 Test Channel = LCH

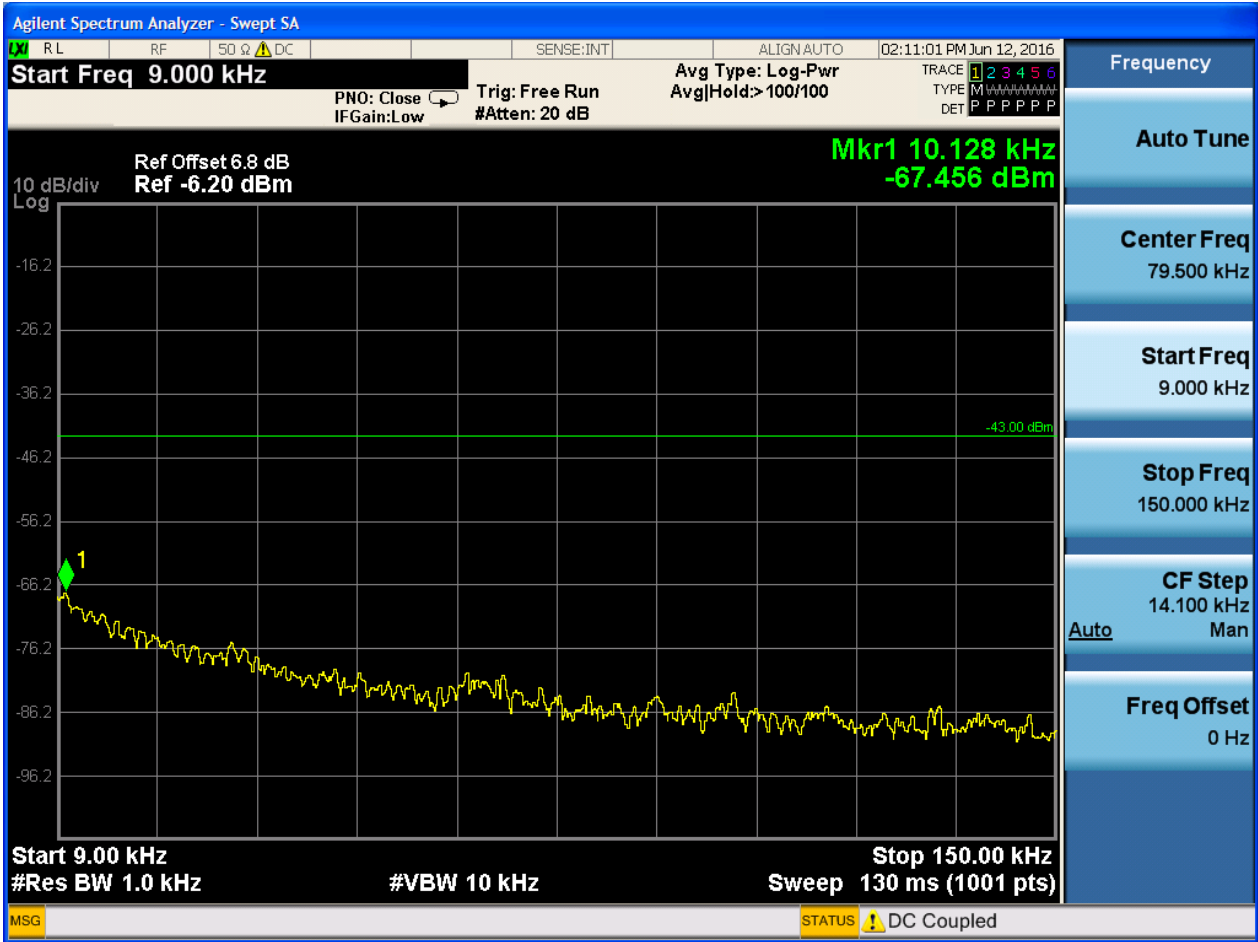








### 6.1.2.1.2 Test Channel = MCH



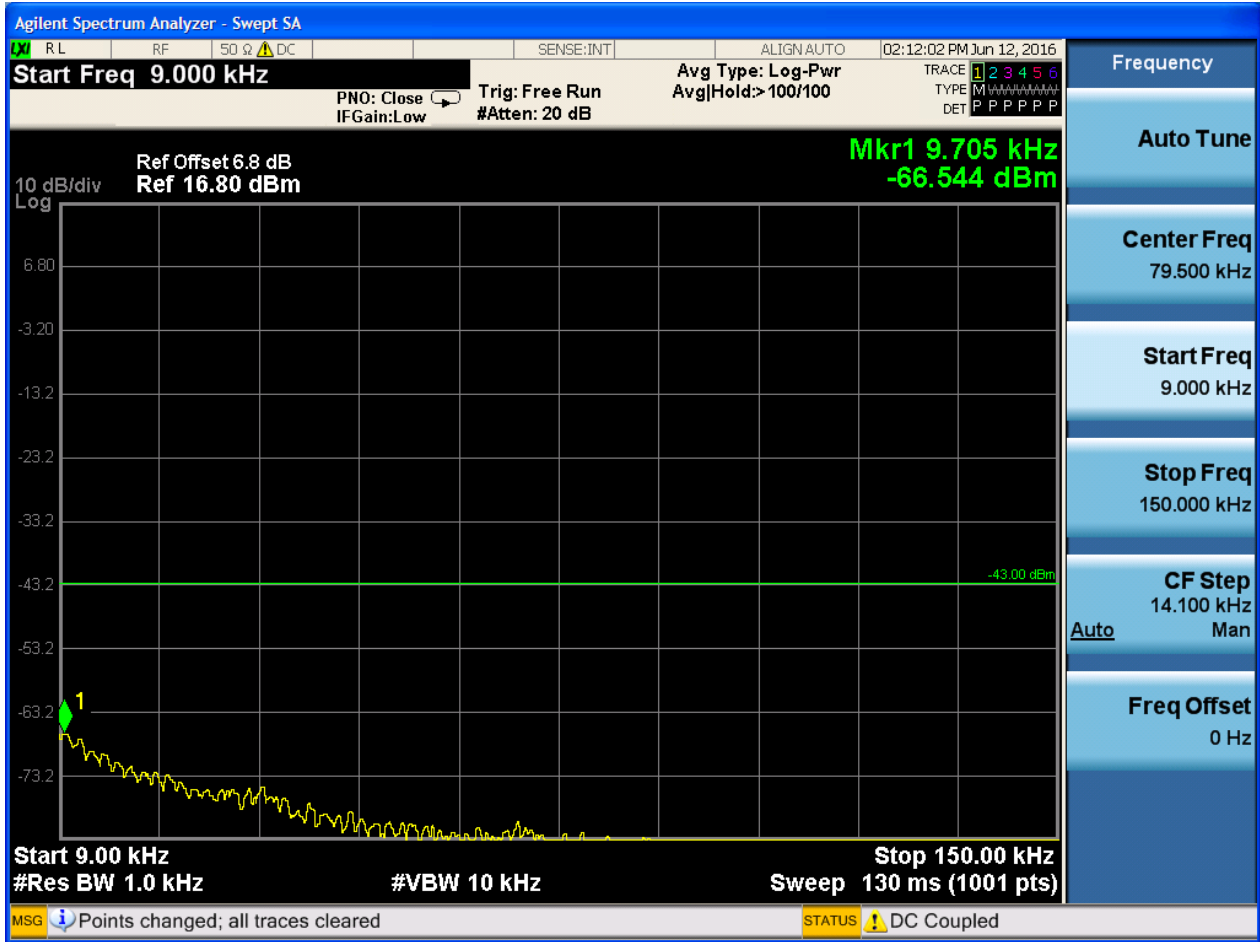








### 6.1.2.1.3 Test Channel = HCH









### 6.1.2.2 Test Mode = GSM/TM2

#### 6.1.2.2.1 Test Channel = LCH

