



## 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          | 32.68         | 27.91          | 38.5        | PASS    |
|           |           | MCH          | 32.8          | 28.03          | 38.5        | PASS    |
|           |           | HCH          | 32.86         | 28.09          | 38.5        | PASS    |
|           | GSM/TM2   | LCH          | 26.71         | 21.94          | 38.5        | PASS    |
|           |           | MCH          | 26.67         | 21.9           | 38.5        | PASS    |
|           |           | HCH          | 26.67         | 21.9           | 38.5        | PASS    |
| GSM1900   | GSM/TM1   | LCH          | 30.05         | 28.15          | 33          | PASS    |
|           |           | MCH          | 30.02         | 28.12          | 33          | PASS    |
|           |           | HCH          | 30.09         | 28.19          | 33          | PASS    |
|           | GSM/TM2   | LCH          | 25.68         | 23.78          | 33          | PASS    |
|           |           | MCH          | 25.68         | 23.78          | 33          | PASS    |
|           |           | HCH          | 25.71         | 23.81          | 33          | PASS    |

| Test Band | Test Mode | Test Channel | Conducted Power [dBm] | ERP/EIRP [dBm] | Limit [dBm] | Verdict |
|-----------|-----------|--------------|-----------------------|----------------|-------------|---------|
| WCDMA1900 | UMTS/TM1  | LCH          | 23.57                 | 21.67          | 33          | PASS    |
|           |           | MCH          | 23.52                 | 21.62          | 33          | PASS    |
|           |           | HCH          | 23.71                 | 21.81          | 33          | PASS    |
| WCDMA1700 | UMTS/TM1  | LCH          | 23.4                  | 20.6           | 30          | PASS    |
|           |           | MCH          | 23.31                 | 20.51          | 30          | PASS    |
|           |           | HCH          | 23.26                 | 20.46          | 30          | PASS    |
| WCDMA850  | UMTS/TM1  | LCH          | 23.38                 | 18.61          | 38.5        | PASS    |
|           |           | MCH          | 23.42                 | 18.65          | 38.5        | PASS    |
|           |           | HCH          | 23.39                 | 18.62          | 38.5        | 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

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          | 0.19         | 13         | PASS    |
|           |           | MCH          | 0.18         | 13         | PASS    |
|           |           | HCH          | 0.19         | 13         | PASS    |
|           | GSM/TM2   | LCH          | 3.08         | 13         | PASS    |
|           |           | MCH          | 3.19         | 13         | PASS    |
|           |           | HCH          | 3.15         | 13         | PASS    |
| Test Band | Test Mode | Test Channel | Measured[dB] | Limit [dB] | Verdict |
| WCDMA1900 | UMTS/TM1  | LCH          | 9.8          | 13         | PASS    |
|           |           | MCH          | 9.71         | 13         | PASS    |
|           |           | HCH          | 9.65         | 13         | PASS    |
| WCDMA1700 | UMTS/TM1  | LCH          | 2.56         | 13         | PASS    |
|           |           | MCH          | 2.75         | 13         | PASS    |
|           |           | HCH          | 2.52         | 13         | PASS    |

## 3Appendix\_C: Modulation Characteristics

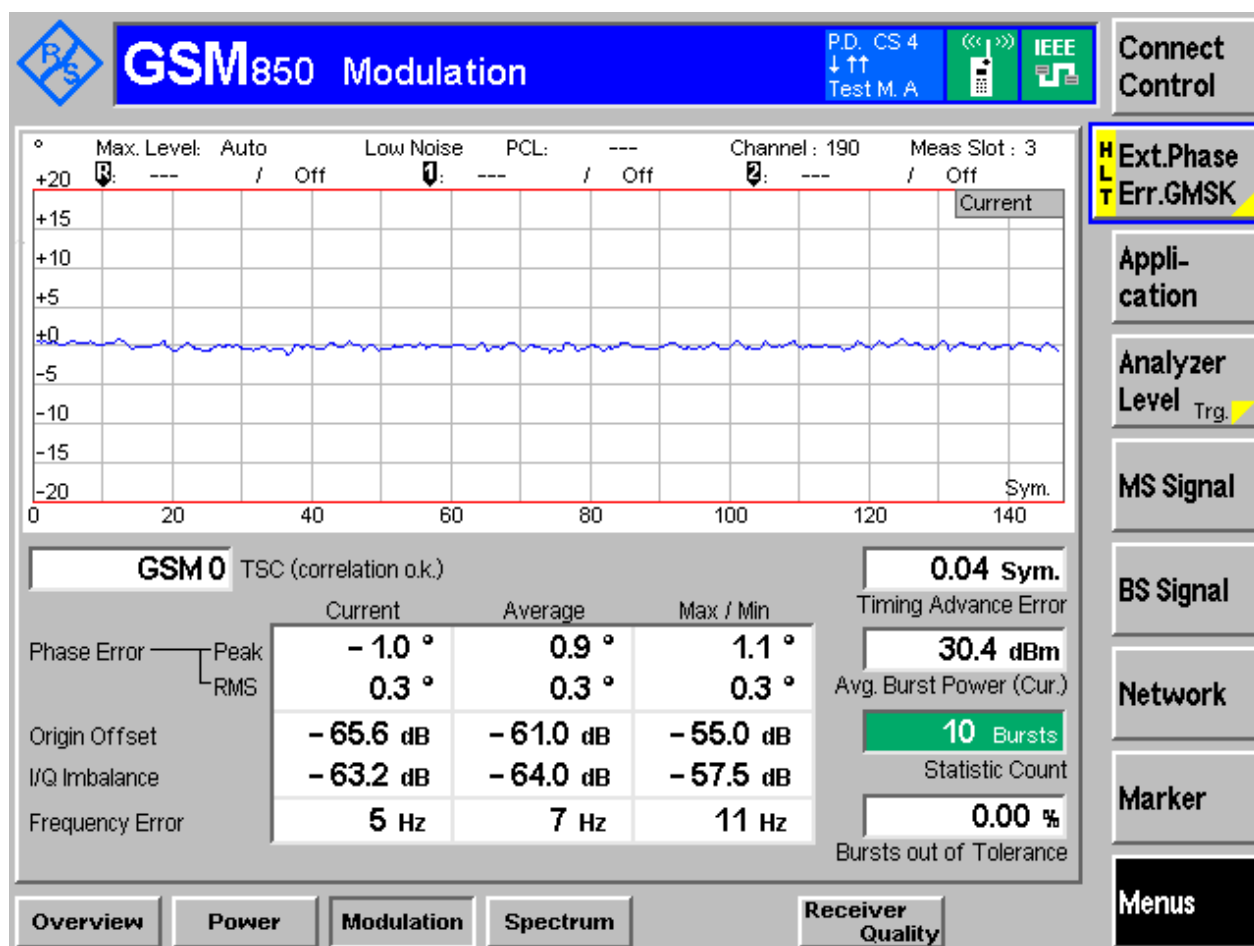
### Part I - Test Plots

#### 3.1 For GSM

##### 3.1.1 Test Band = GSM850

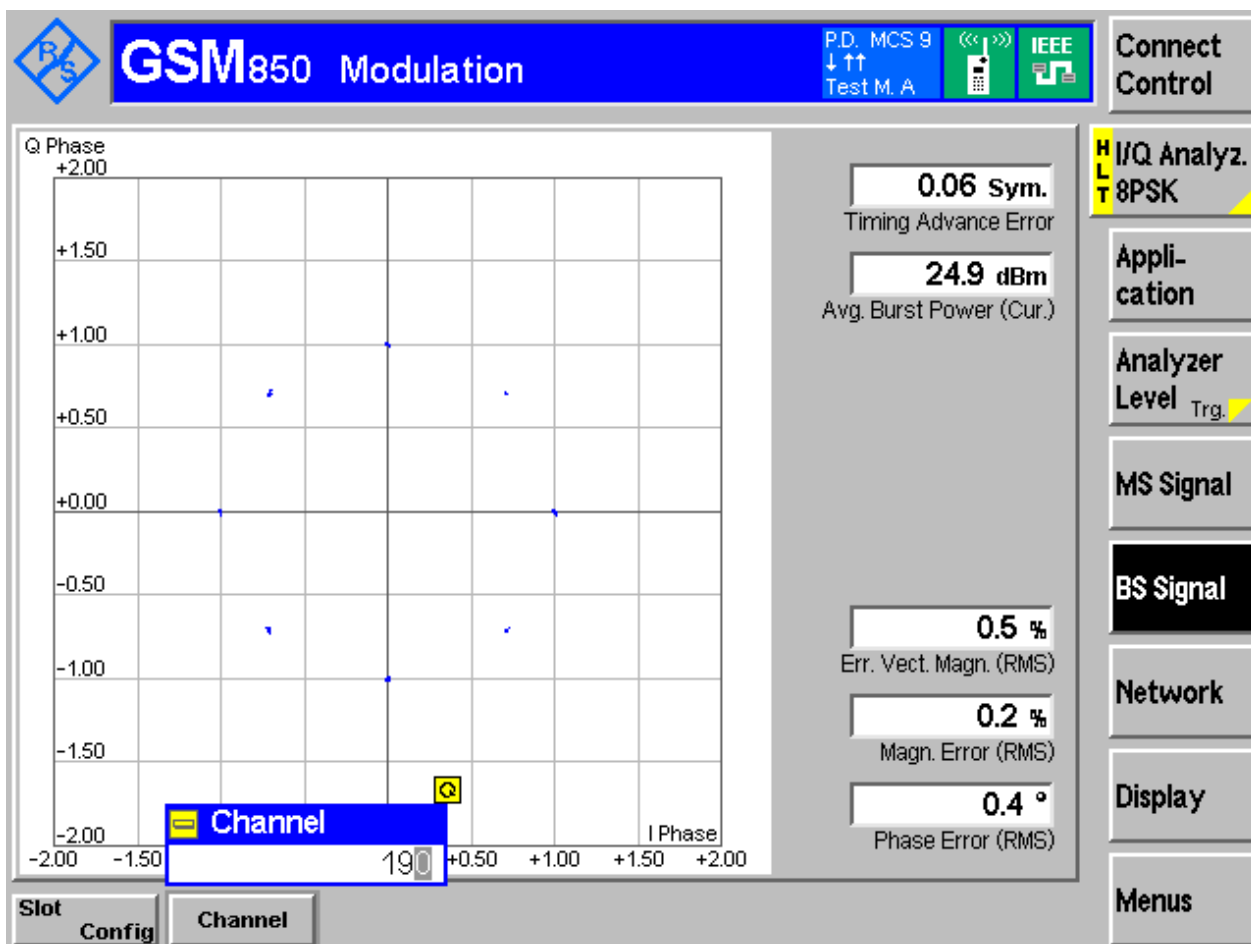
##### 3.1.1.1 Test Mode = GSM/TM1

##### 3.1.1.1.1 Test Channel = MCH



### 3.1.1.2 Test Mode = GSM/TM2

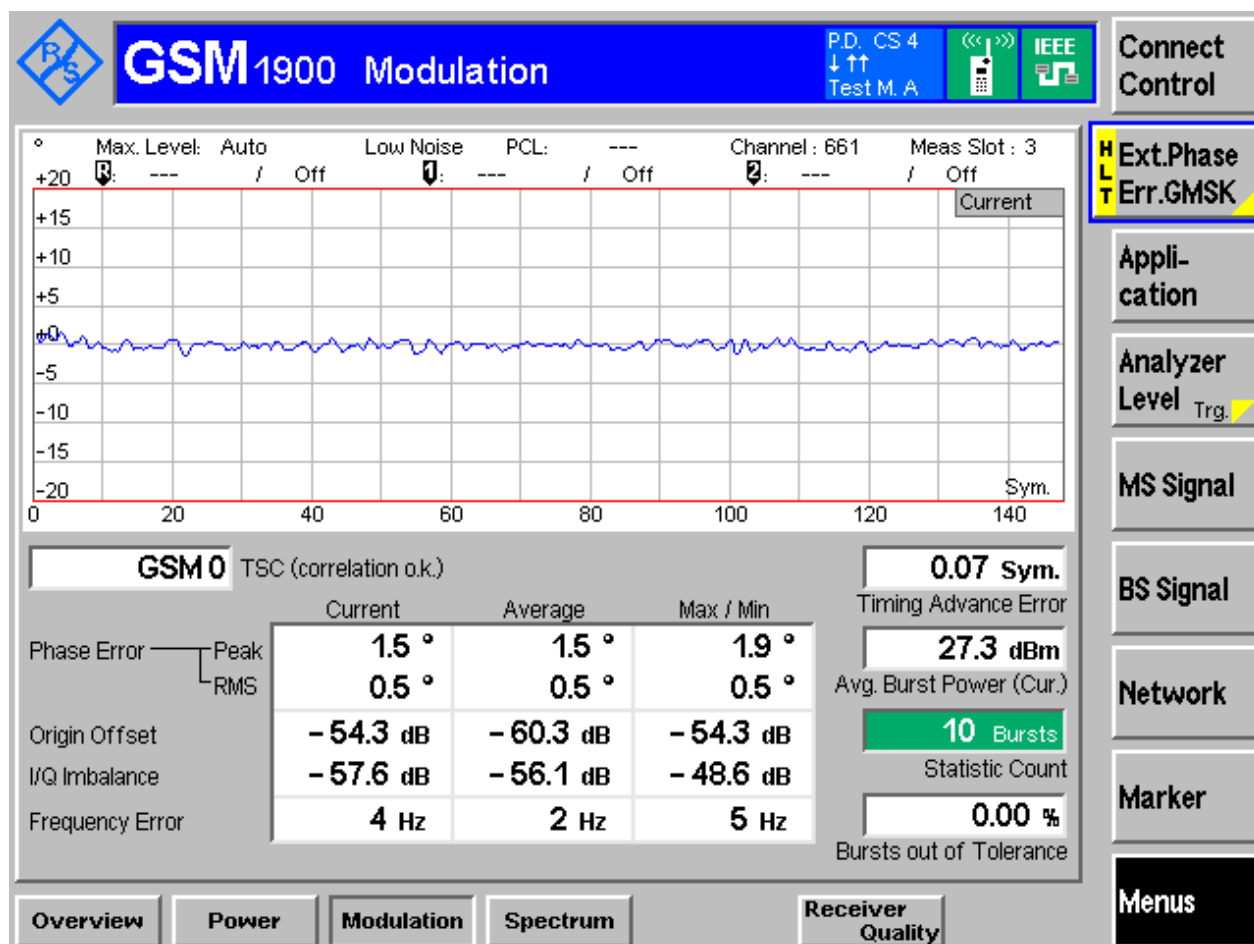
#### 3.1.1.2.1 Test Channel = MCH



### 3.1.2 Test Band = GSM1900

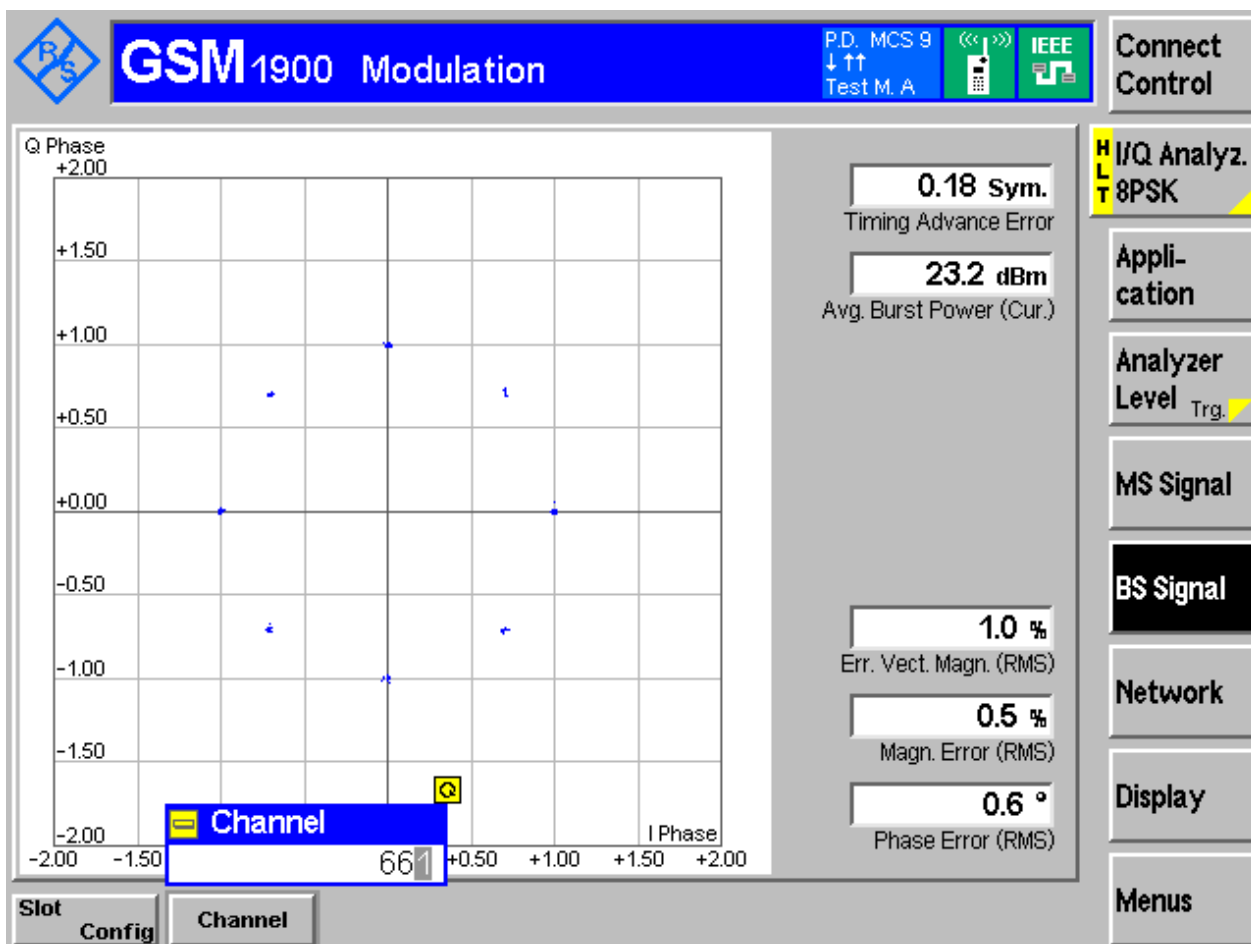
#### 3.1.2.1 Test Mode = GSM/TM1

##### 3.1.2.1.1 Test Channel = MCH



### 3.1.2.2 Test Mode = GSM/TM2

#### 3.1.2.2.1 Test Channel = MCH

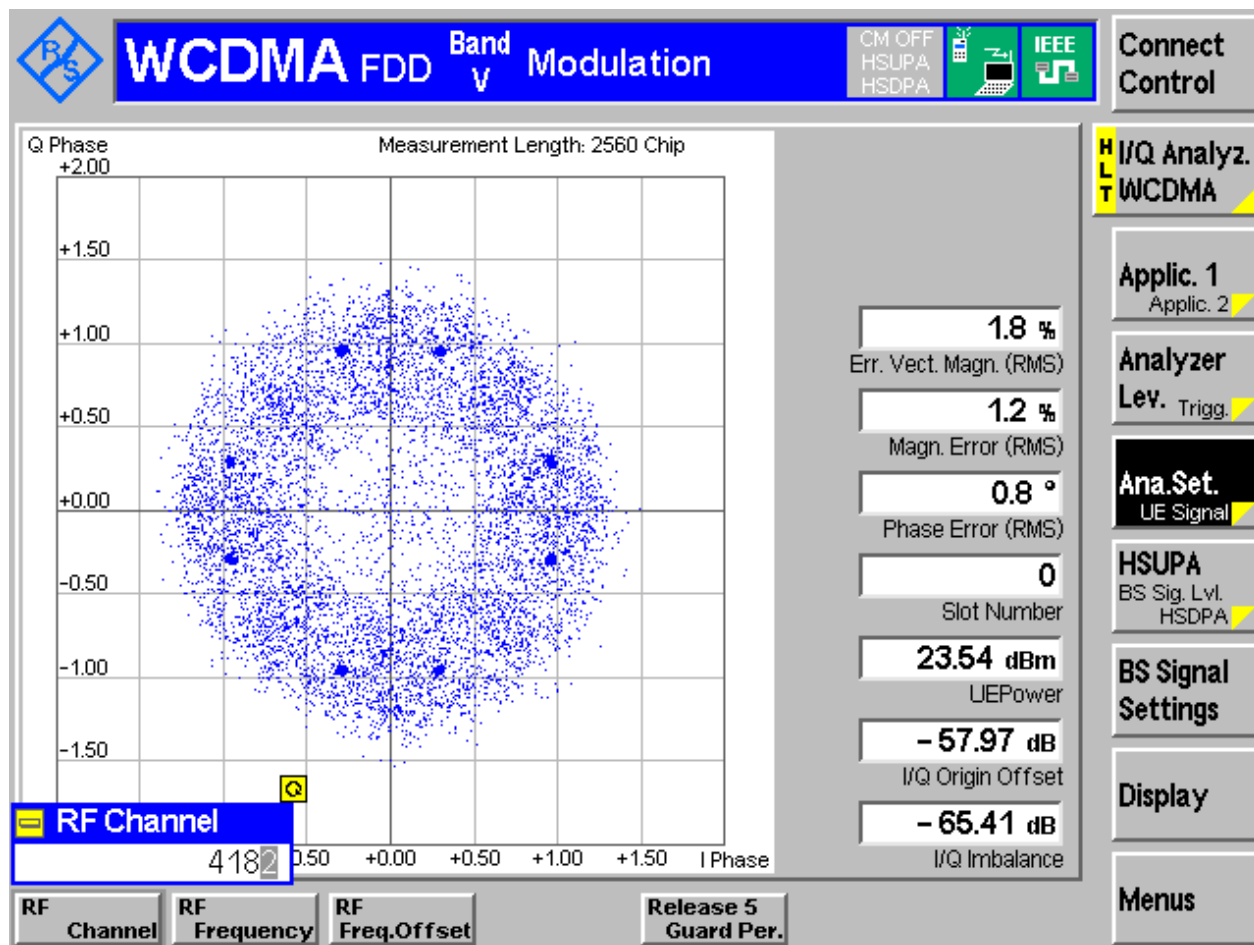


### 3.2 For UMTS

#### 3.2.1 Test Band = WCDMA850

##### 3.2.1.1 Test Mode = UMTS/TM1

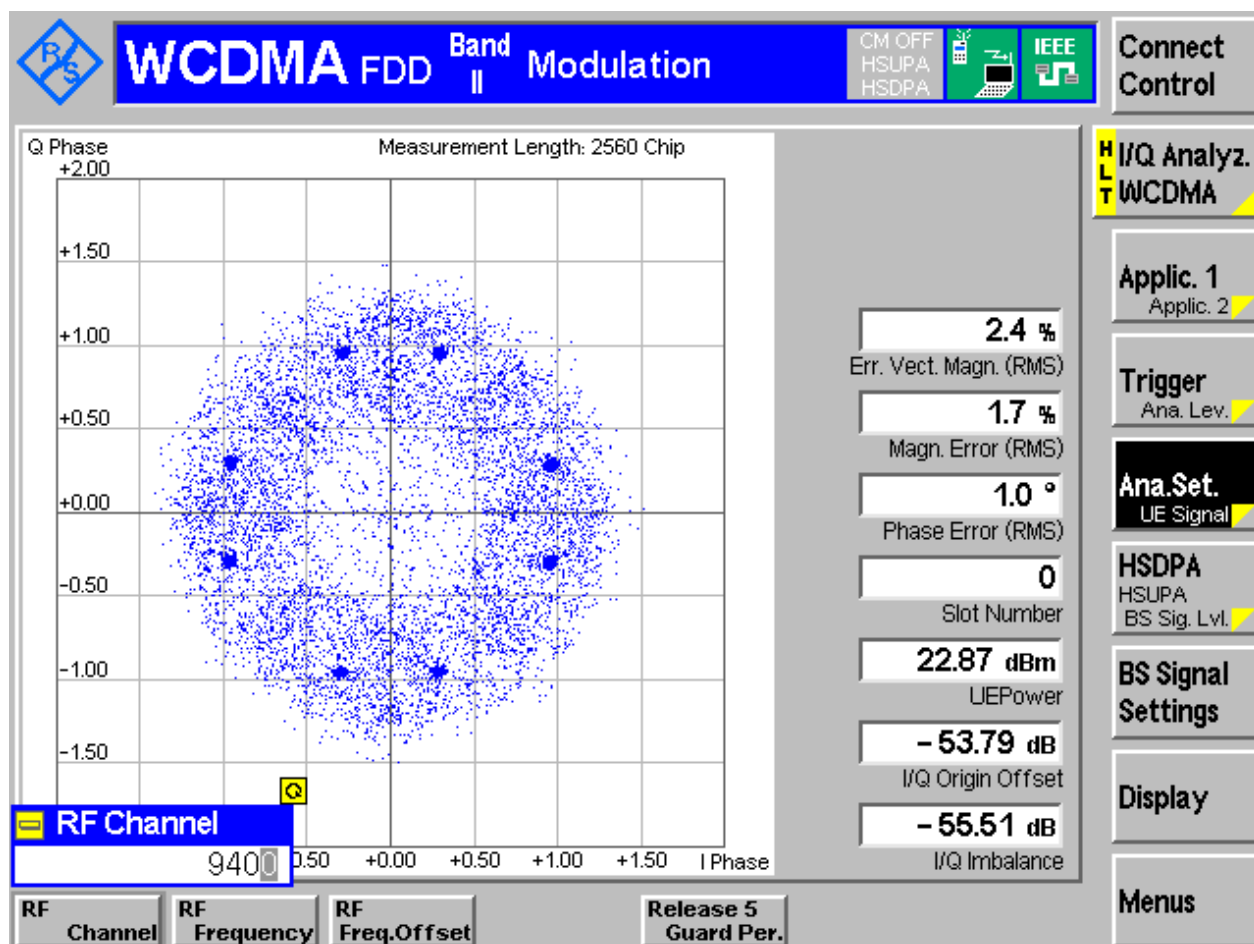
##### 3.2.1.1.1 Test Channel = MCH



### 3.2.2 Test Band = WCDMA1900

#### 3.2.2.1 Test Mode = UMTS/TM1

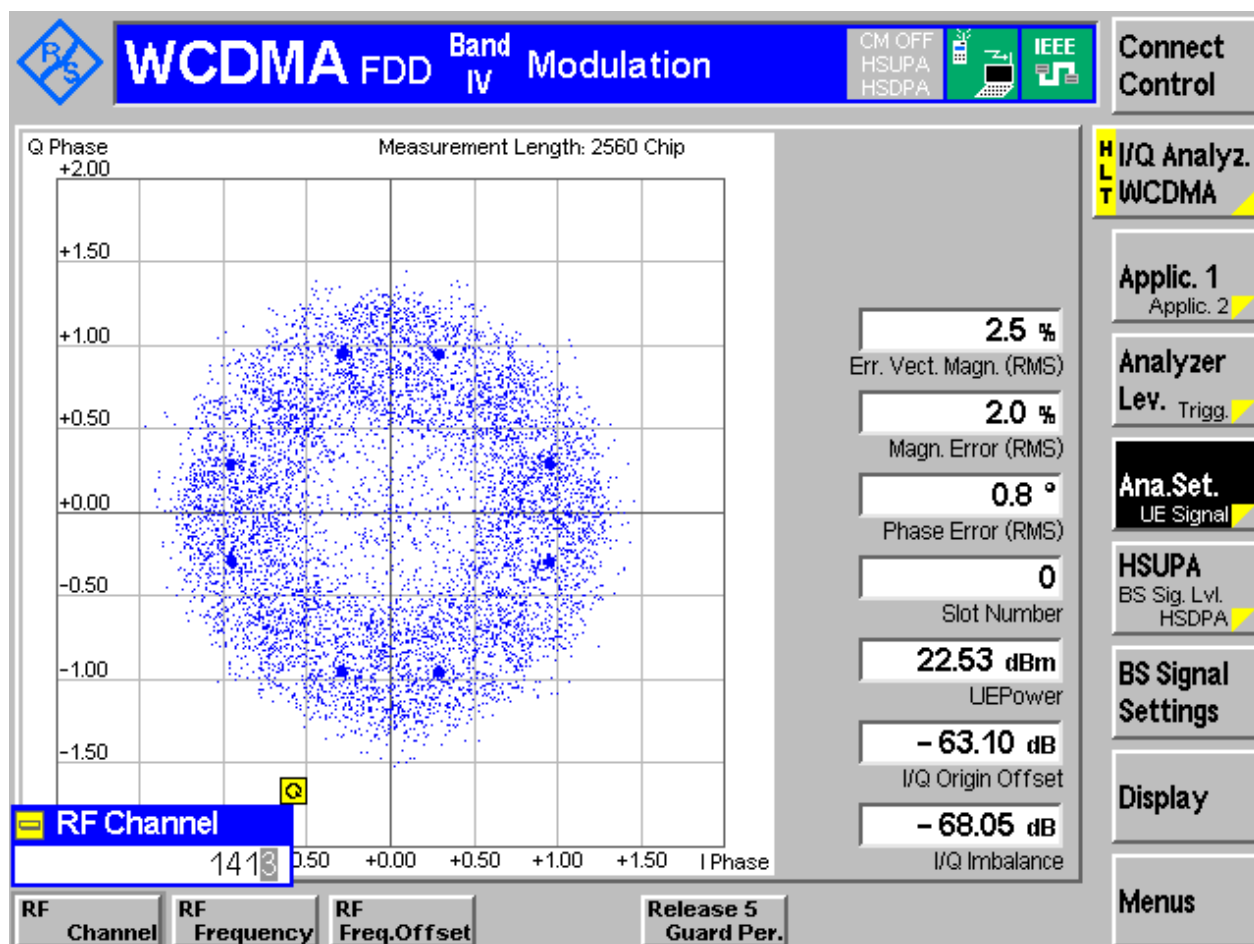
##### 3.2.2.1.1 Test Channel = MCH



### 3.2.3 Test Band = WCDMA1700

#### 3.2.3.1 Test Mode = UMTS/TM1

##### 3.2.3.1.1 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          | 242.13                   | 317.93                   | Pass    |
|           |           | MCH          | 242.64                   | 318.22                   | Pass    |
|           |           | HCH          | 242.81                   | 321.83                   | Pass    |
|           | GSM/TM2   | LCH          | 242.93                   | 312.98                   | Pass    |
|           |           | MCH          | 244.64                   | 310.62                   | Pass    |
|           |           | HCH          | 241.59                   | 310.03                   | Pass    |
| GSM1900   | GSM/TM1   | LCH          | 245.96                   | 321.96                   | Pass    |
|           |           | MCH          | 245.16                   | 315.40                   | Pass    |
|           |           | HCH          | 245.83                   | 321.28                   | Pass    |
|           | GSM/TM2   | LCH          | 245.26                   | 313.42                   | Pass    |
|           |           | MCH          | 242.06                   | 306.31                   | Pass    |
|           |           | HCH          | 246.35                   | 315.08                   | Pass    |
| Test Band | Test Mode | Test Channel | Occupied Bandwidth [MHz] | Emission Bandwidth [MHz] | Verdict |
| WCDMA850  | UMTS/TM1  | LCH          | 4.14                     | 4.66                     | Pass    |
|           |           | MCH          | 4.15                     | 4.67                     | Pass    |
|           |           | HCH          | 4.15                     | 4.66                     | Pass    |
| WCDMA1900 | UMTS/TM1  | LCH          | 4.16                     | 4.67                     | Pass    |
|           |           | MCH          | 4.18                     | 4.68                     | Pass    |
|           |           | HCH          | 4.17                     | 4.67                     | Pass    |
| WCDMA1700 | UMTS/TM1  | LCH          | 4.19                     | 4.69                     | Pass    |
|           |           | MCH          | 4.18                     | 4.69                     | Pass    |
|           |           | HCH          | 4.18                     | 4.70                     | Pass    |

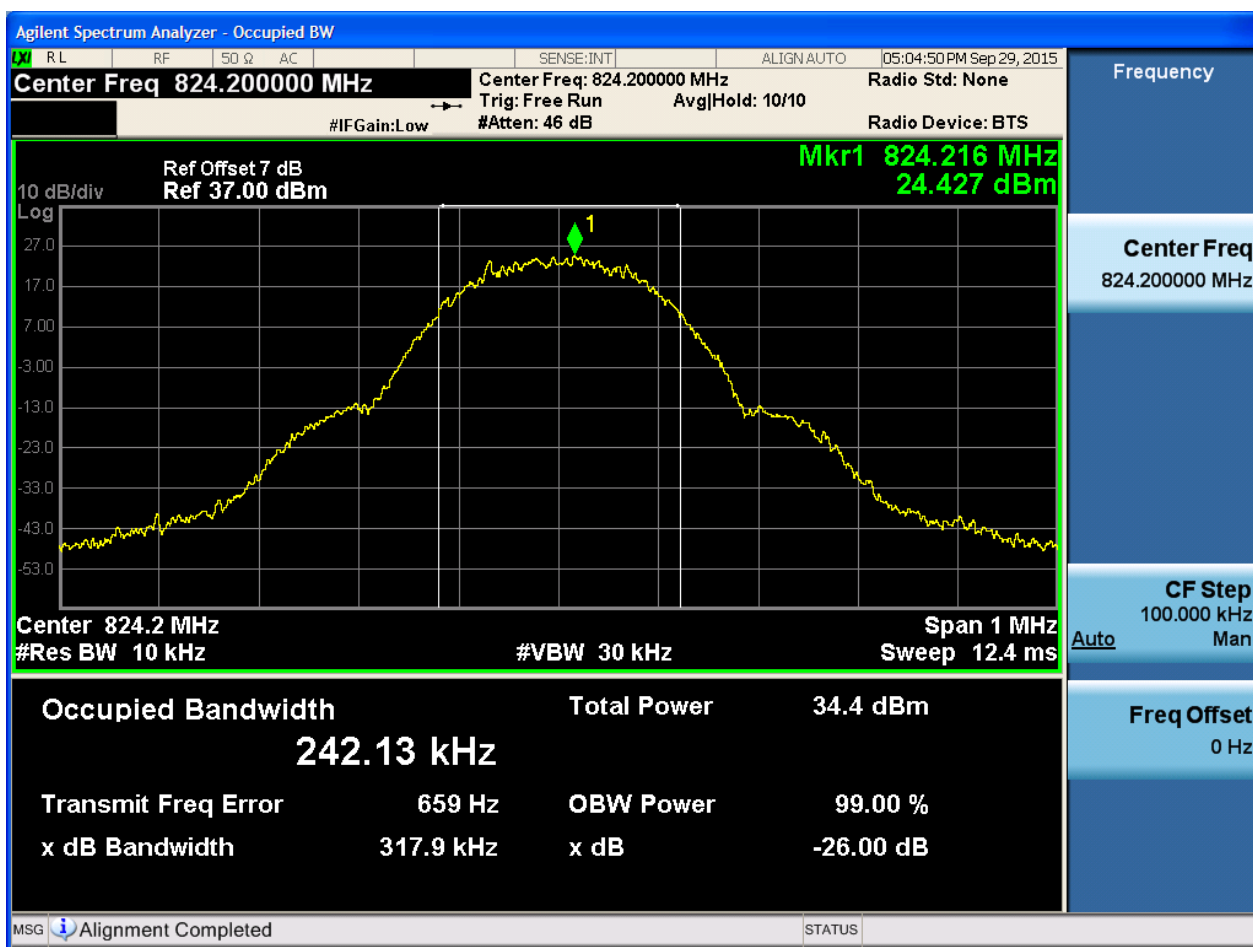
## Part II - Test Plots

### 4.1 For GSM

#### 4.1.1 Test Band = GSM850

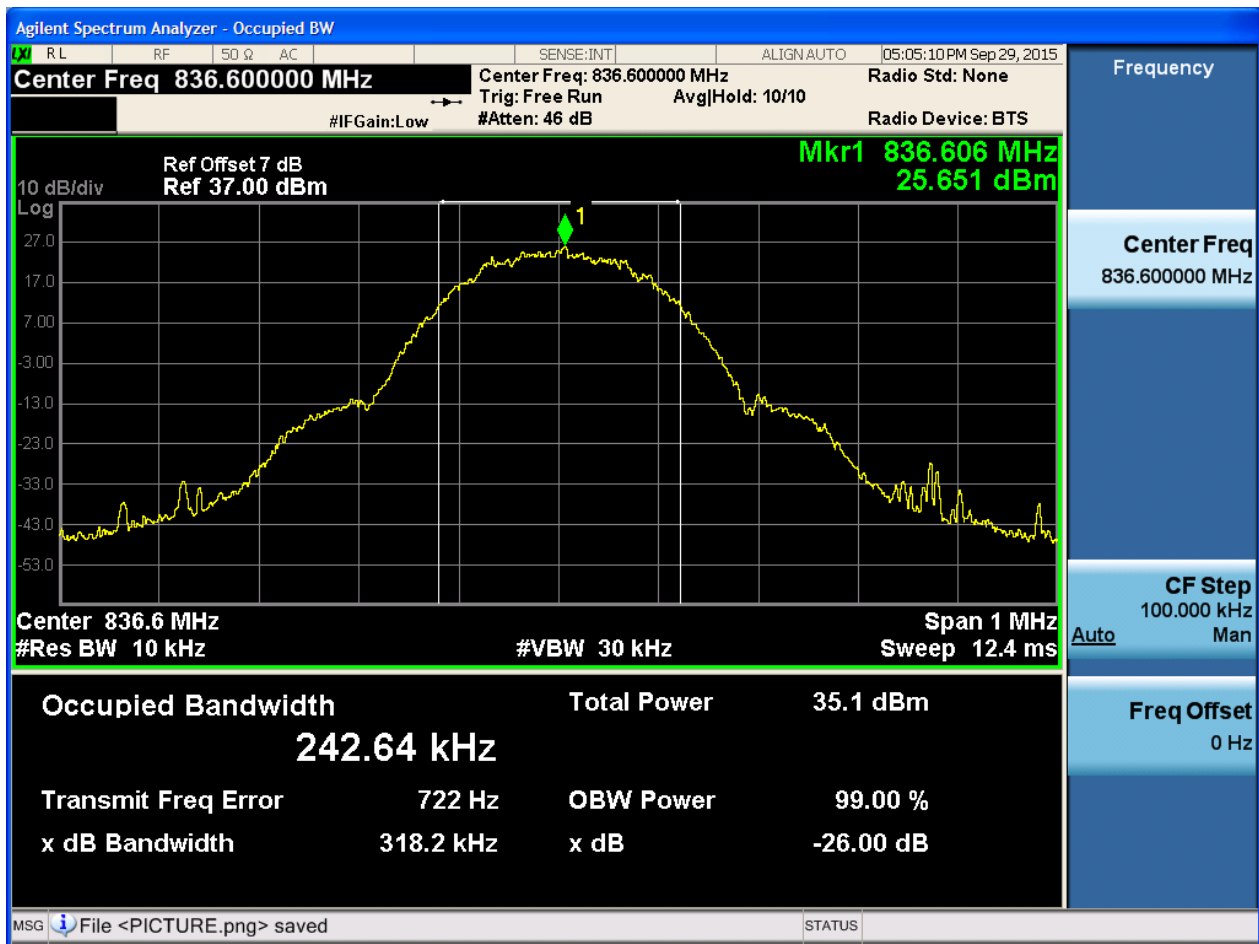
##### 4.1.1.1 Test Mode = GSM/TM1

##### 4.1.1.1.1 Test Channel = LCH



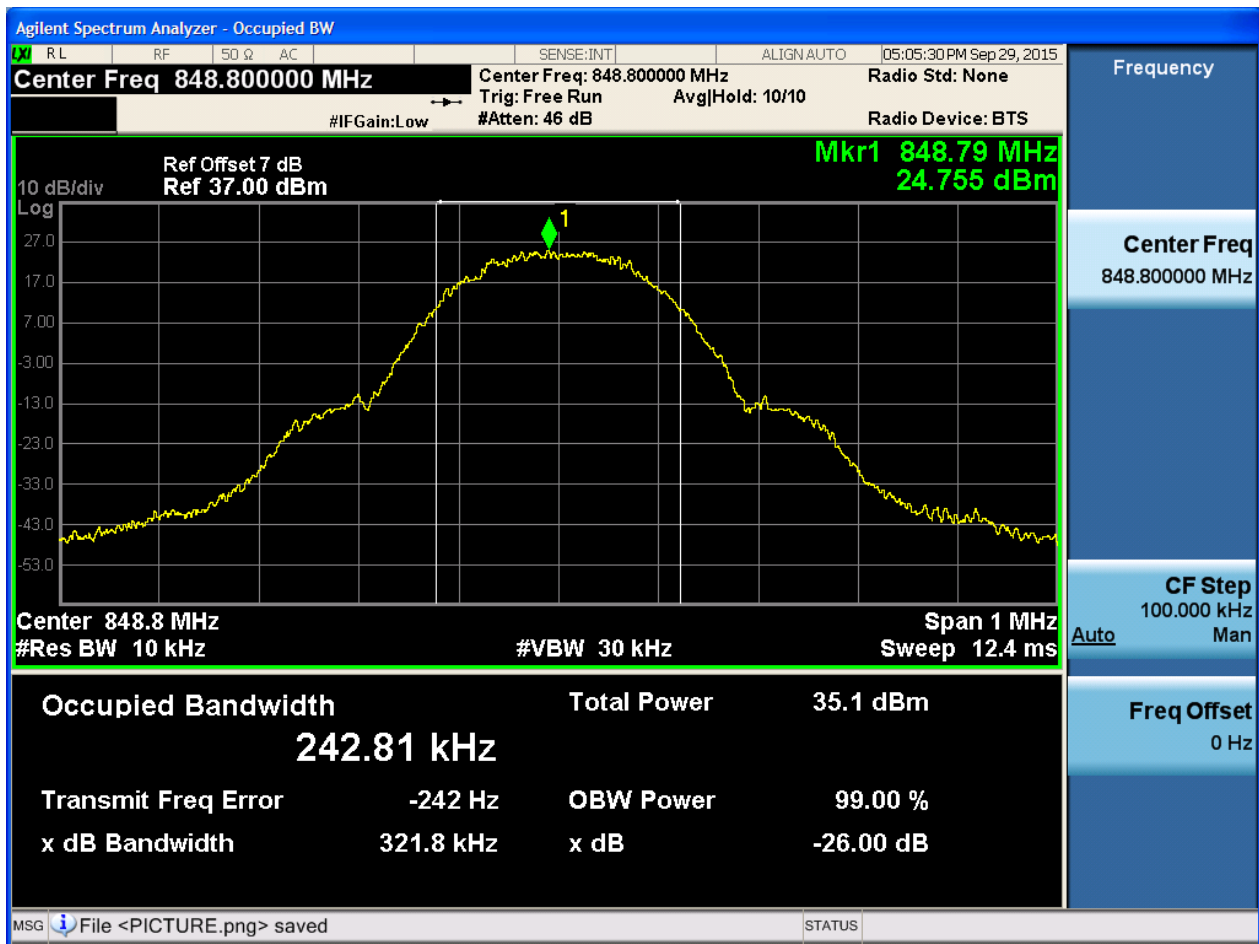


## 4.1.1.1.2 Test Channel = MCH





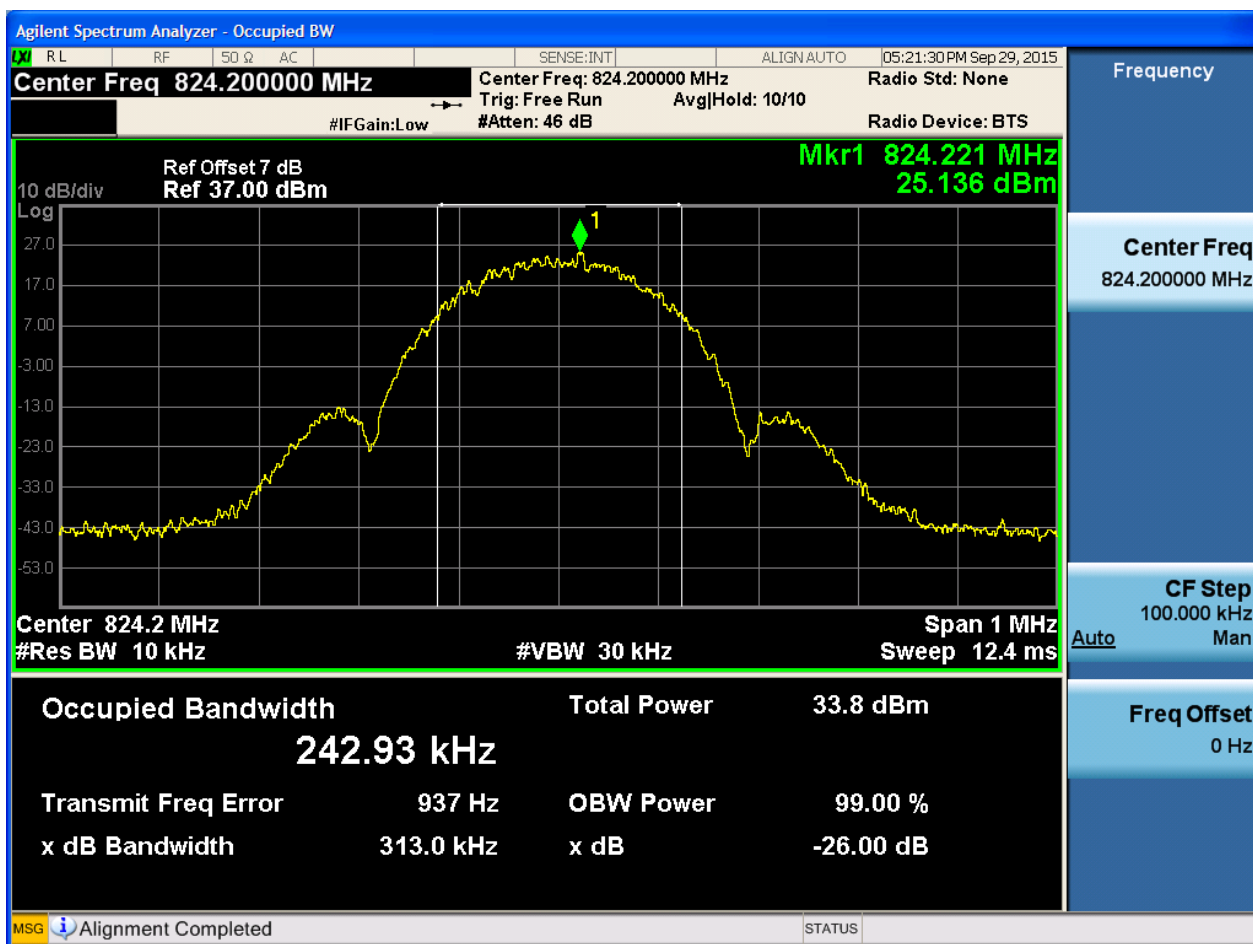
## 4.1.1.1.3 Test Channel = HCH





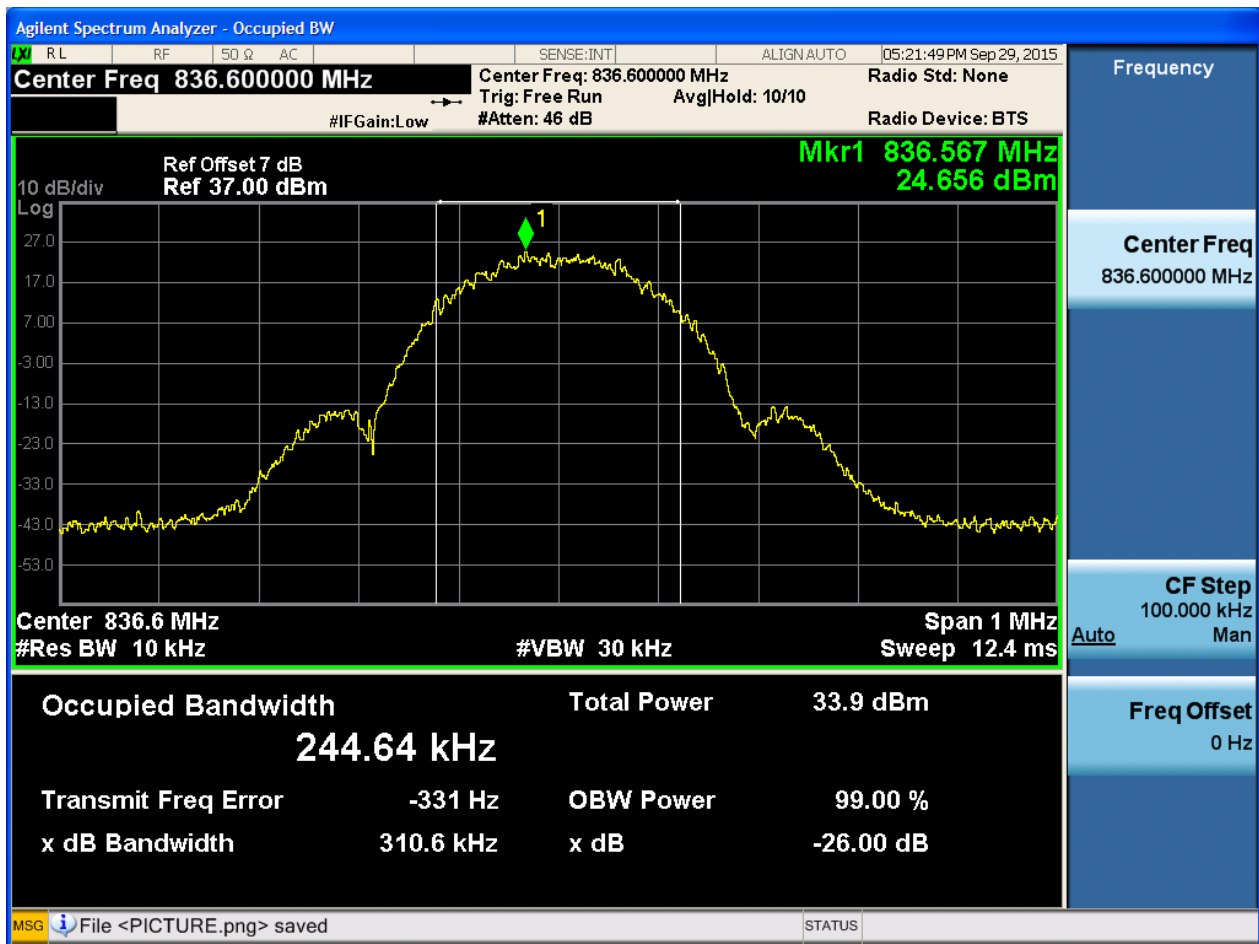
## 4.1.1.2 Test Mode = GSM/TM2

## 4.1.1.2.1 Test Channel = LCH



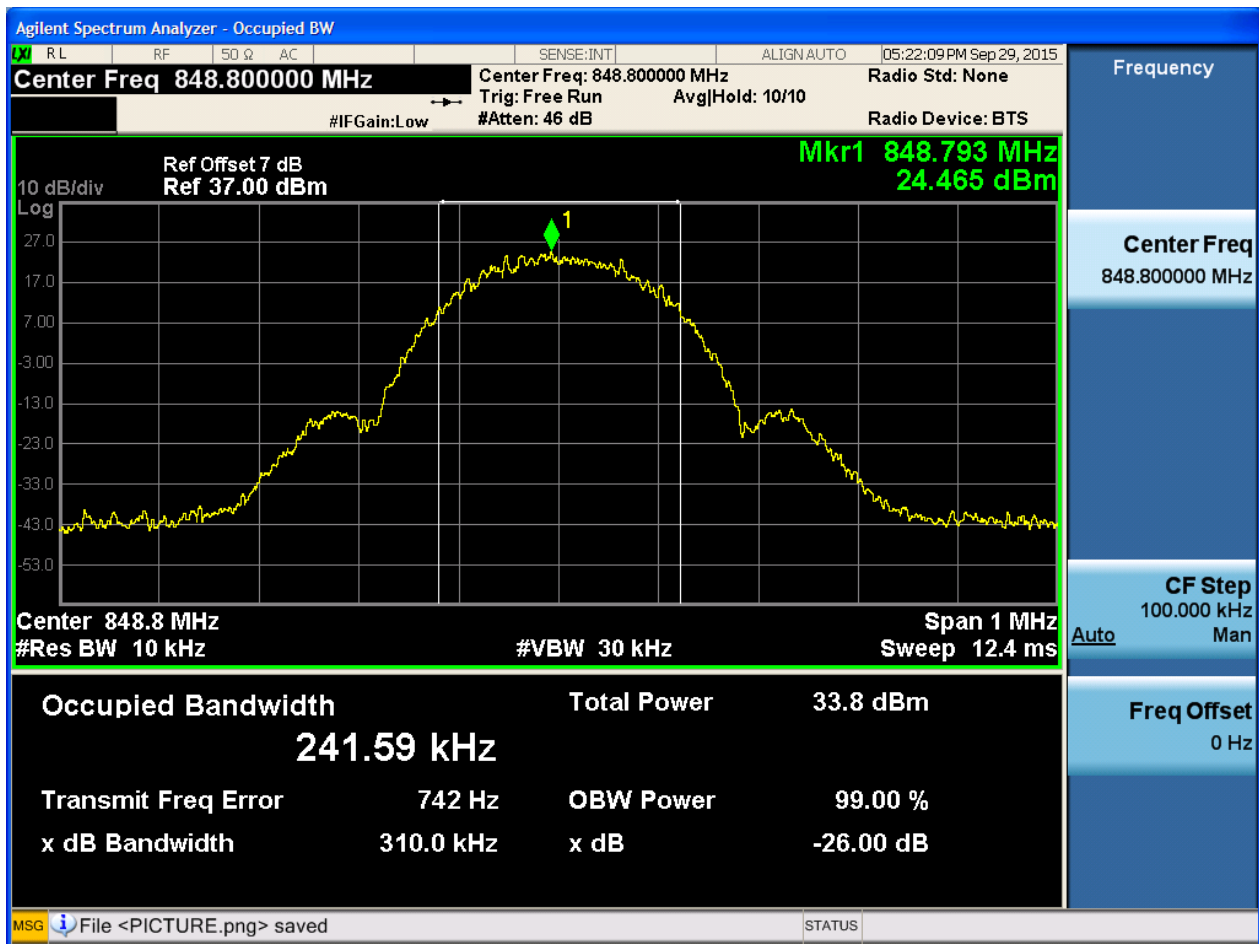


## 4.1.1.2.2 Test Channel = MCH





## 4.1.1.2.3 Test Channel = HCH

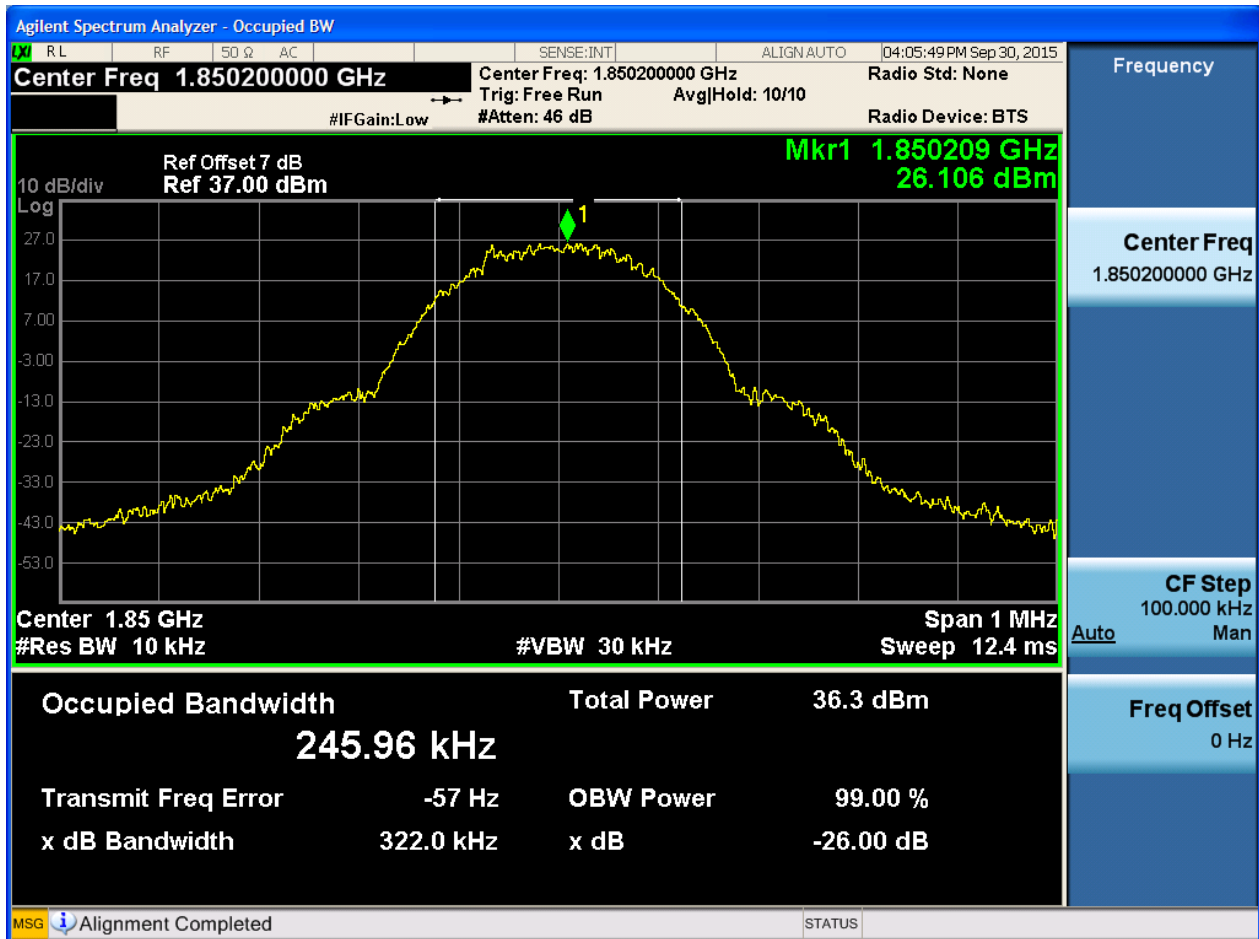




## 4.1.2 Test Band = GSM1900

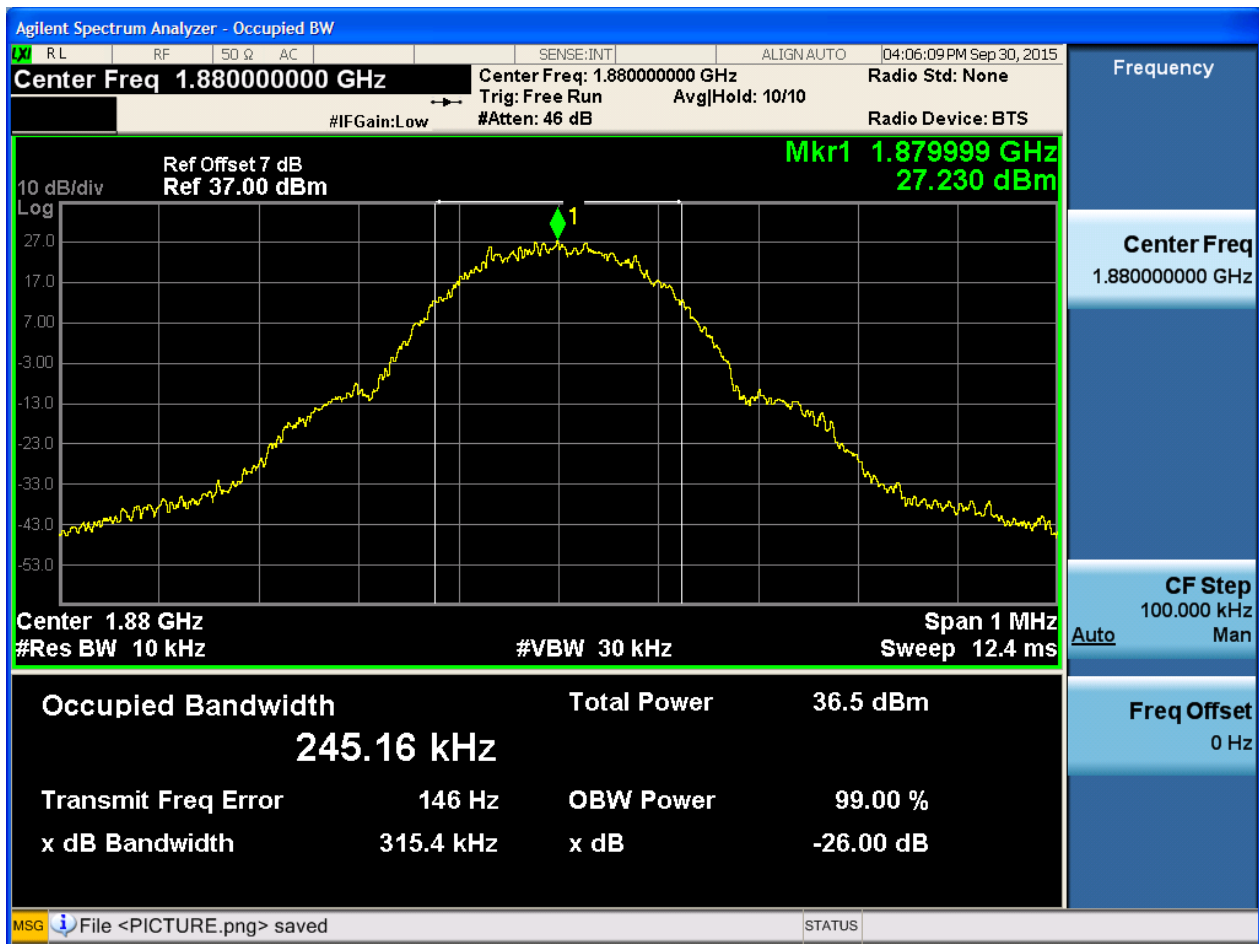
## 4.1.2.1 Test Mode = GSM/TM1

## 4.1.2.1.1 Test Channel = LCH



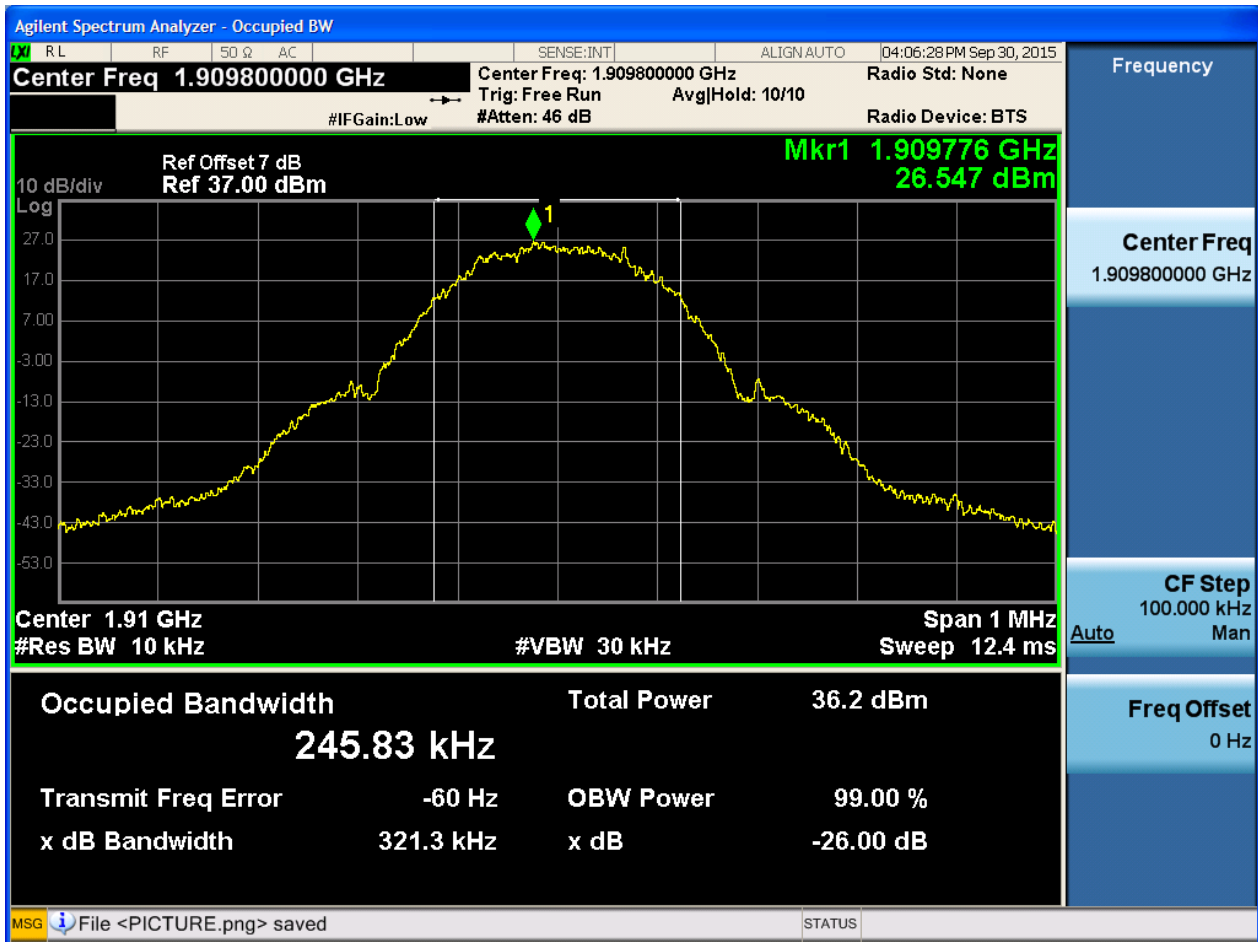


## 4.1.2.1.2 Test Channel = MCH





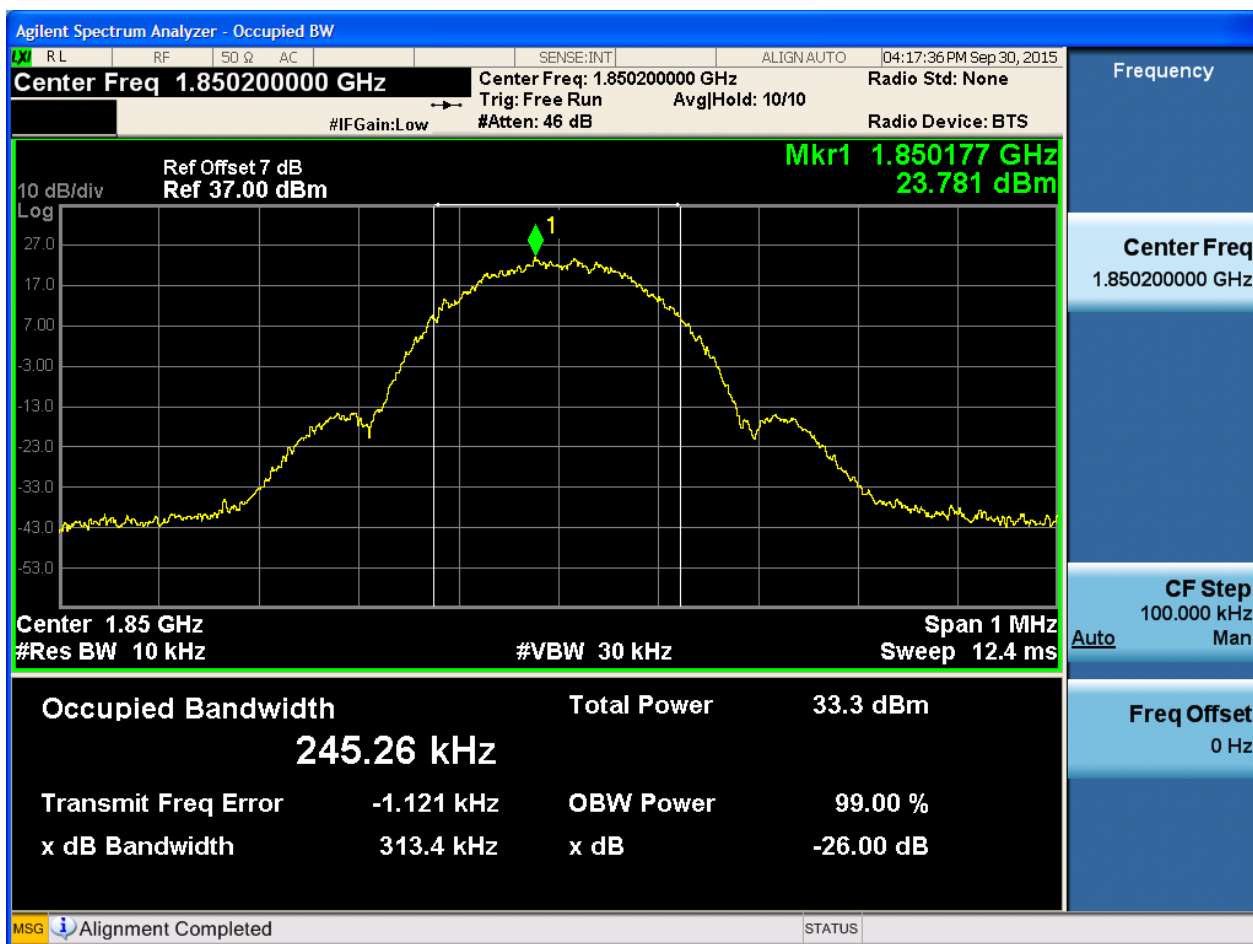
## 4.1.2.1.3 Test Channel = HCH





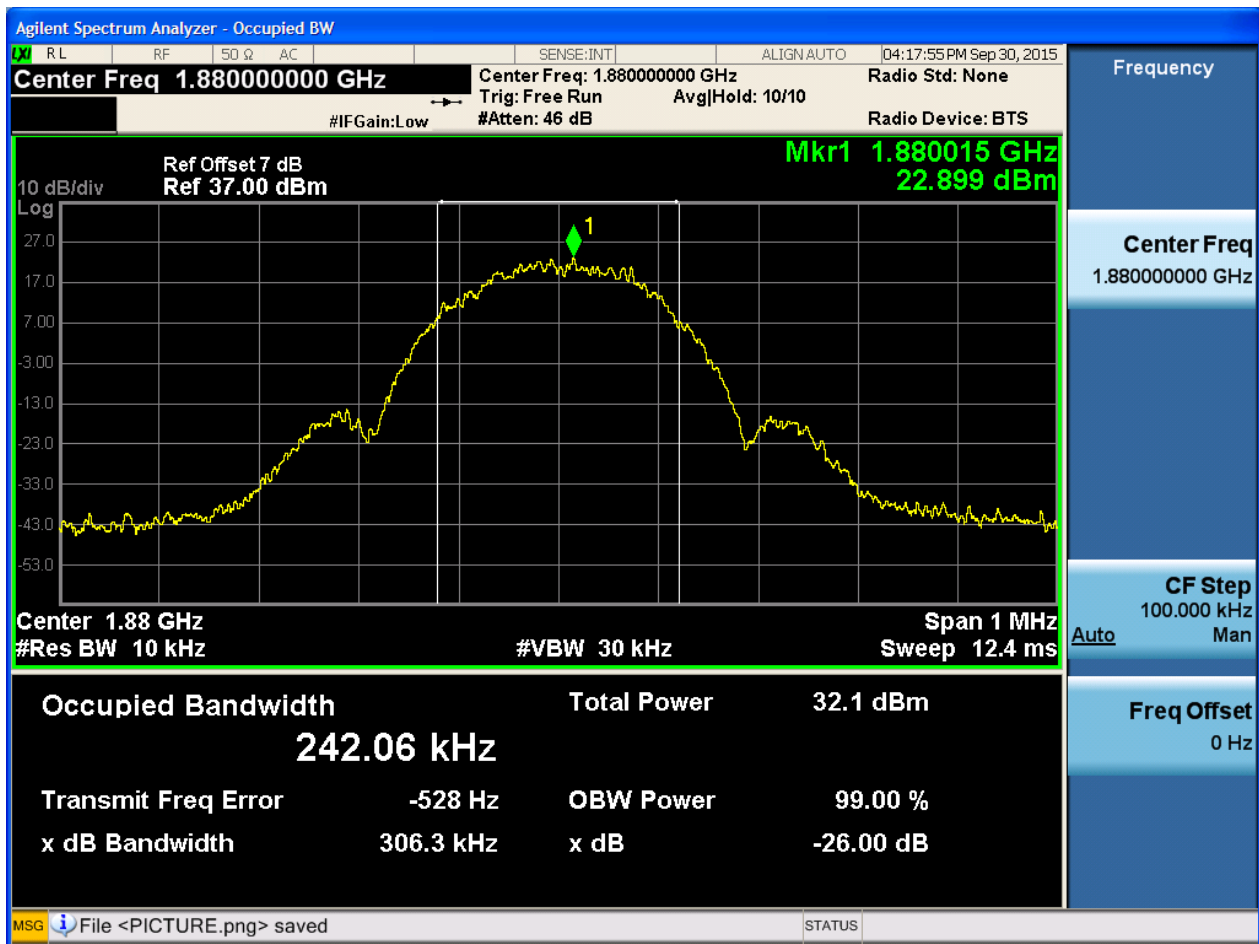
## 4.1.2.2 Test Mode = GSM/TM2

## 4.1.2.2.1 Test Channel = LCH



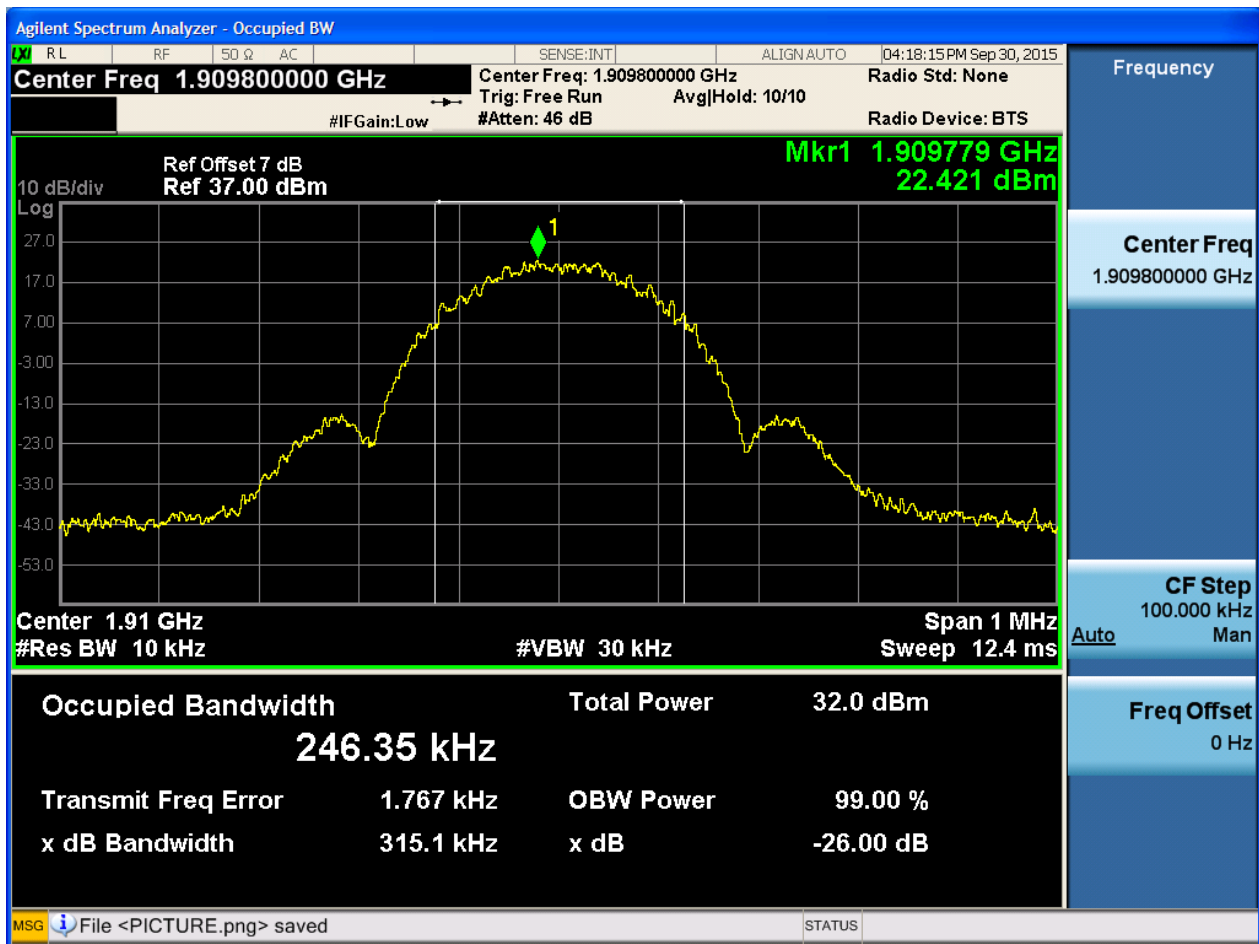


## 4.1.2.2.2 Test Channel = MCH





## 4.1.2.2.3 Test Channel = HCH



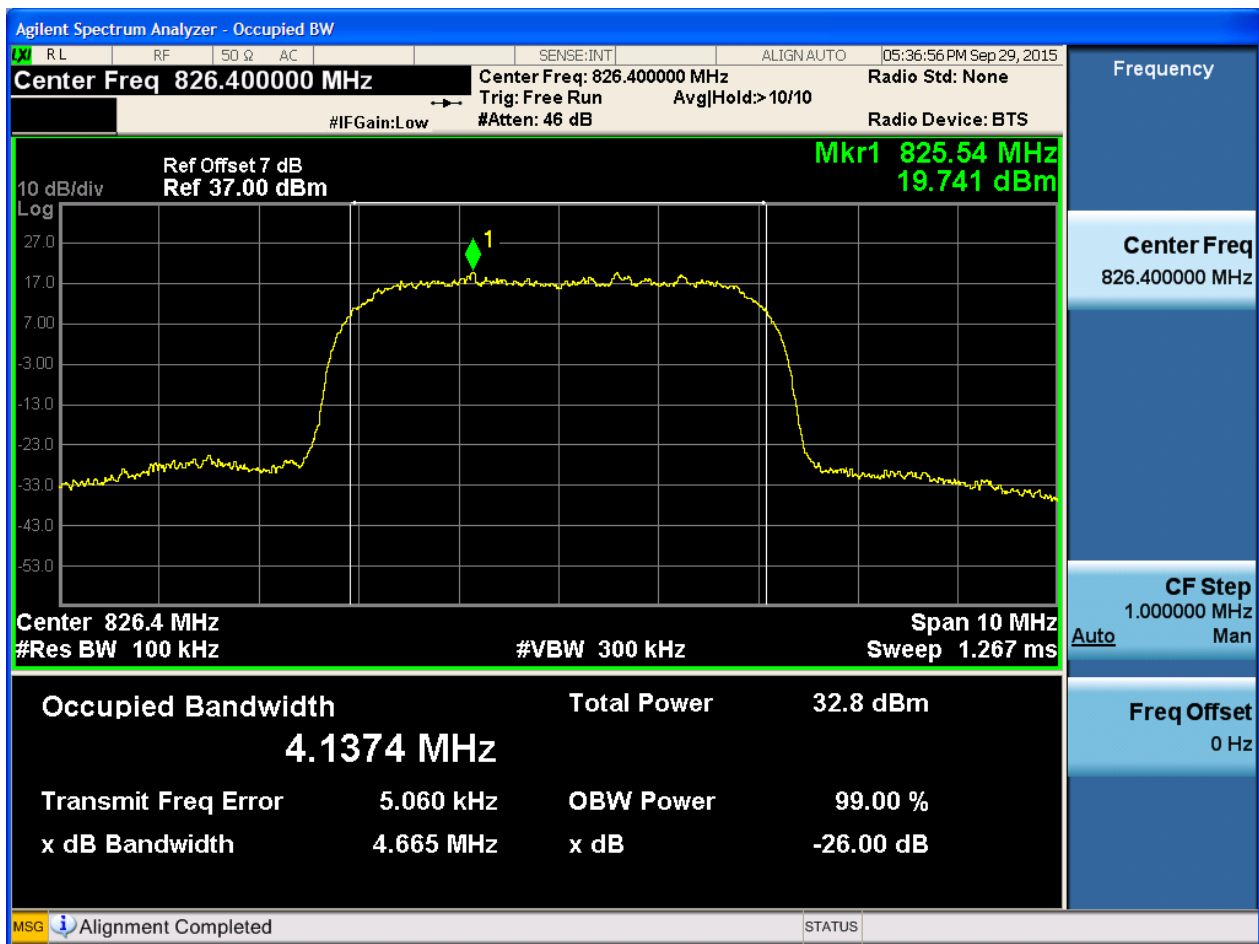


## 4.2 For UMTS

### 4.2.1 Test Band = WCDMA850

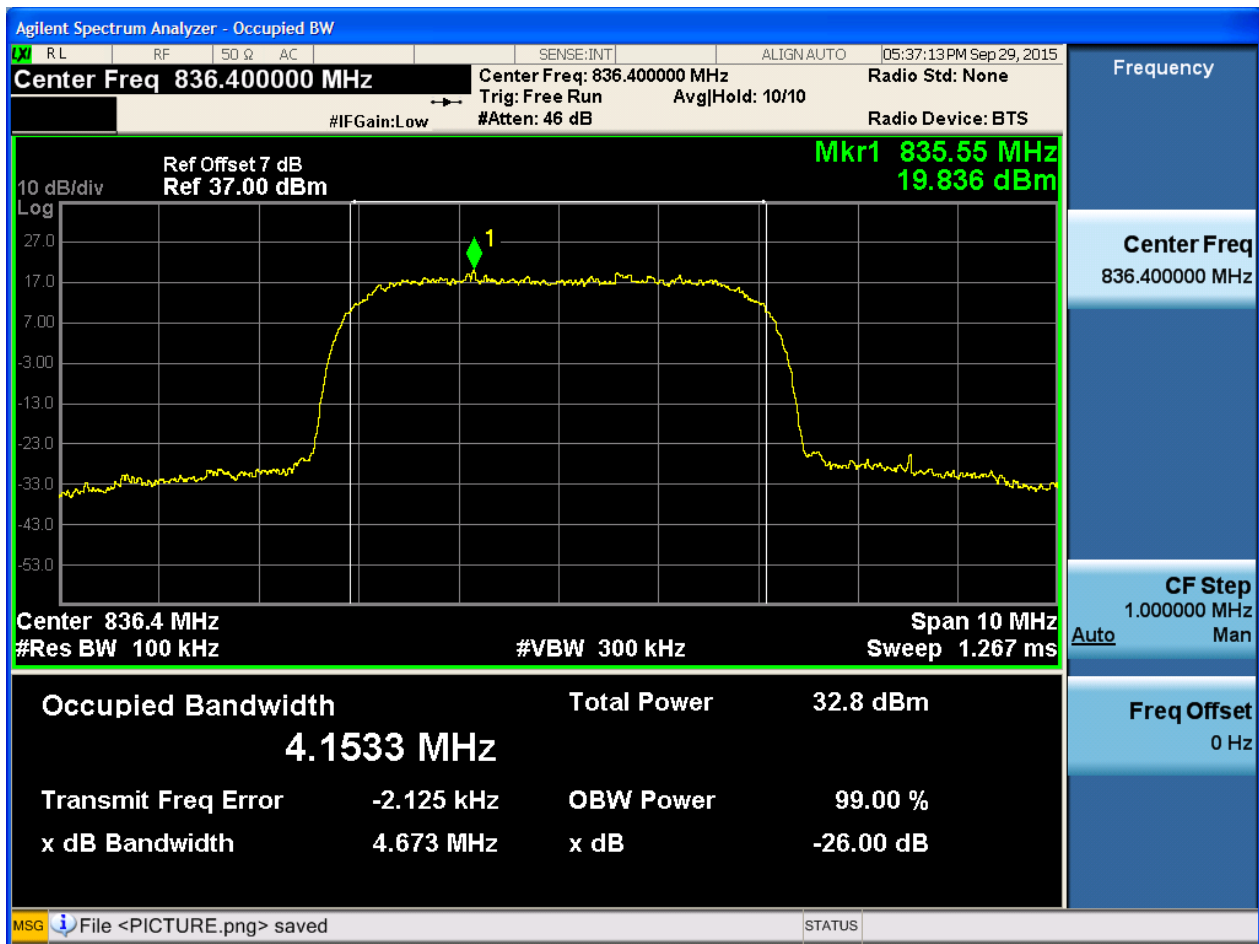
#### 4.2.1.1 Test Mode = UMTS/TM1

##### 4.2.1.1.1 Test Channel = LCH



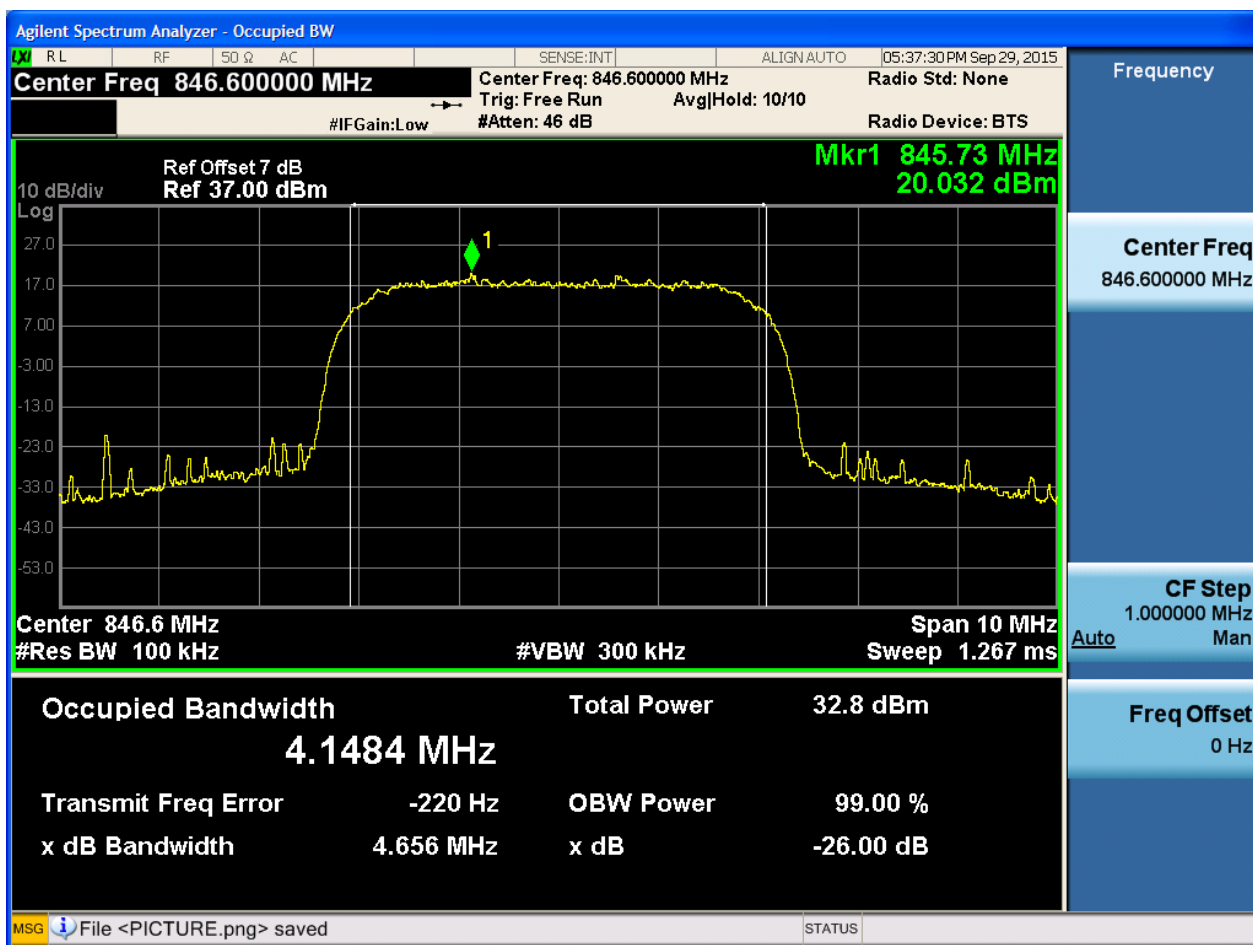


## 4.2.1.1.2 Test Channel = MCH





## 4.2.1.1.3 Test Channel = HCH

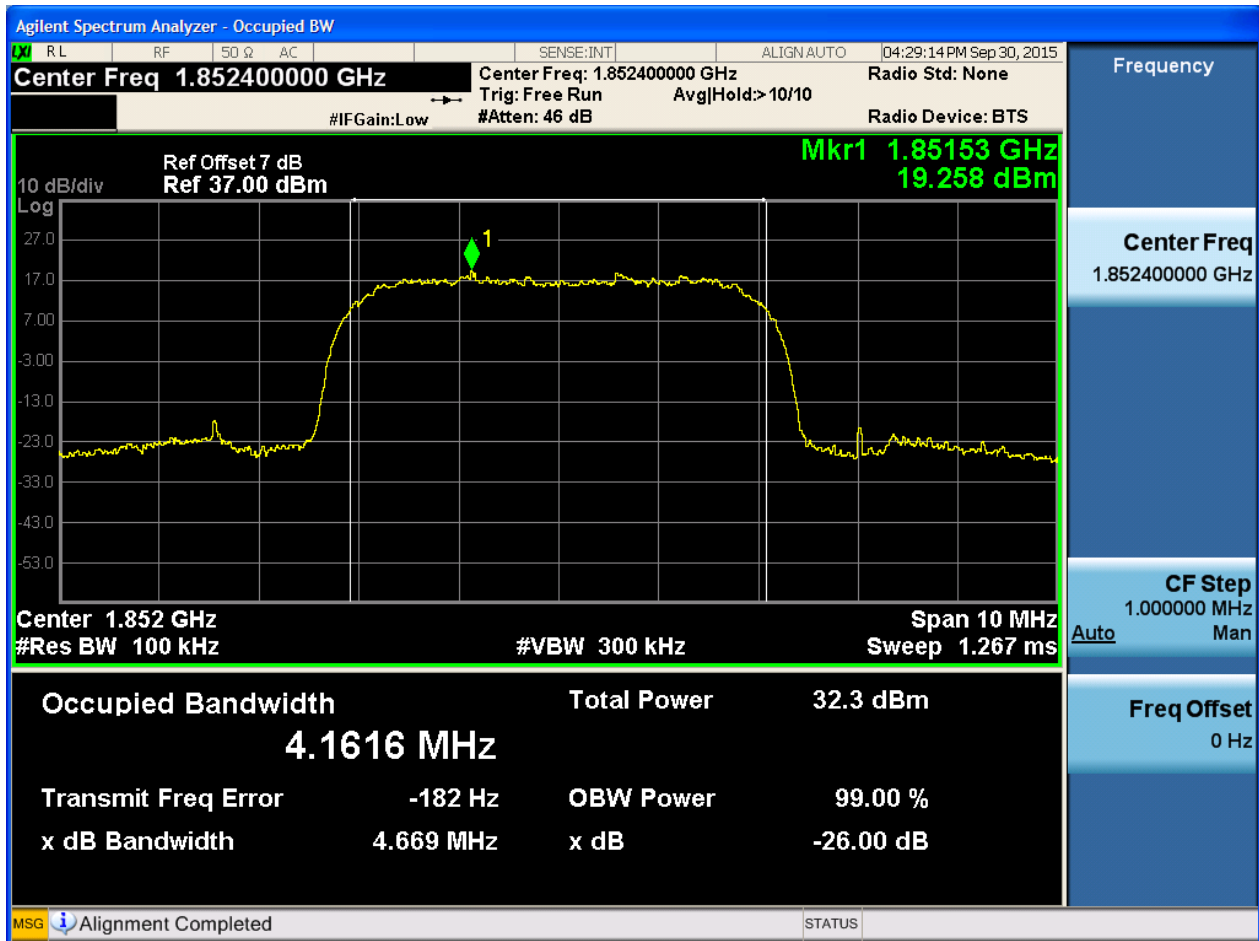




## 4.2.2 Test Band = WCDMA1900

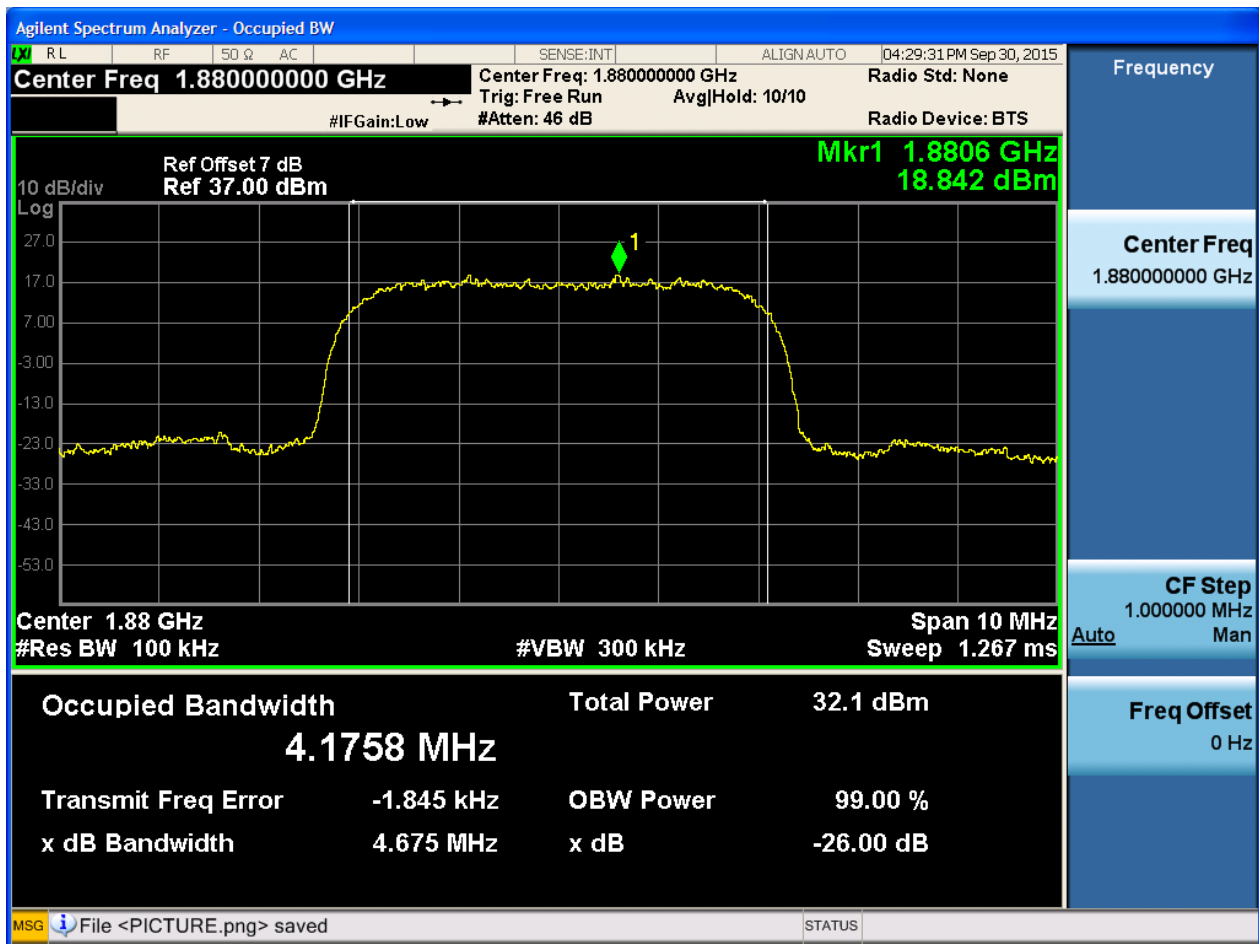
## 4.2.2.1 Test Mode = UMTS/TM1

## 4.2.2.1.1 Test Channel = LCH



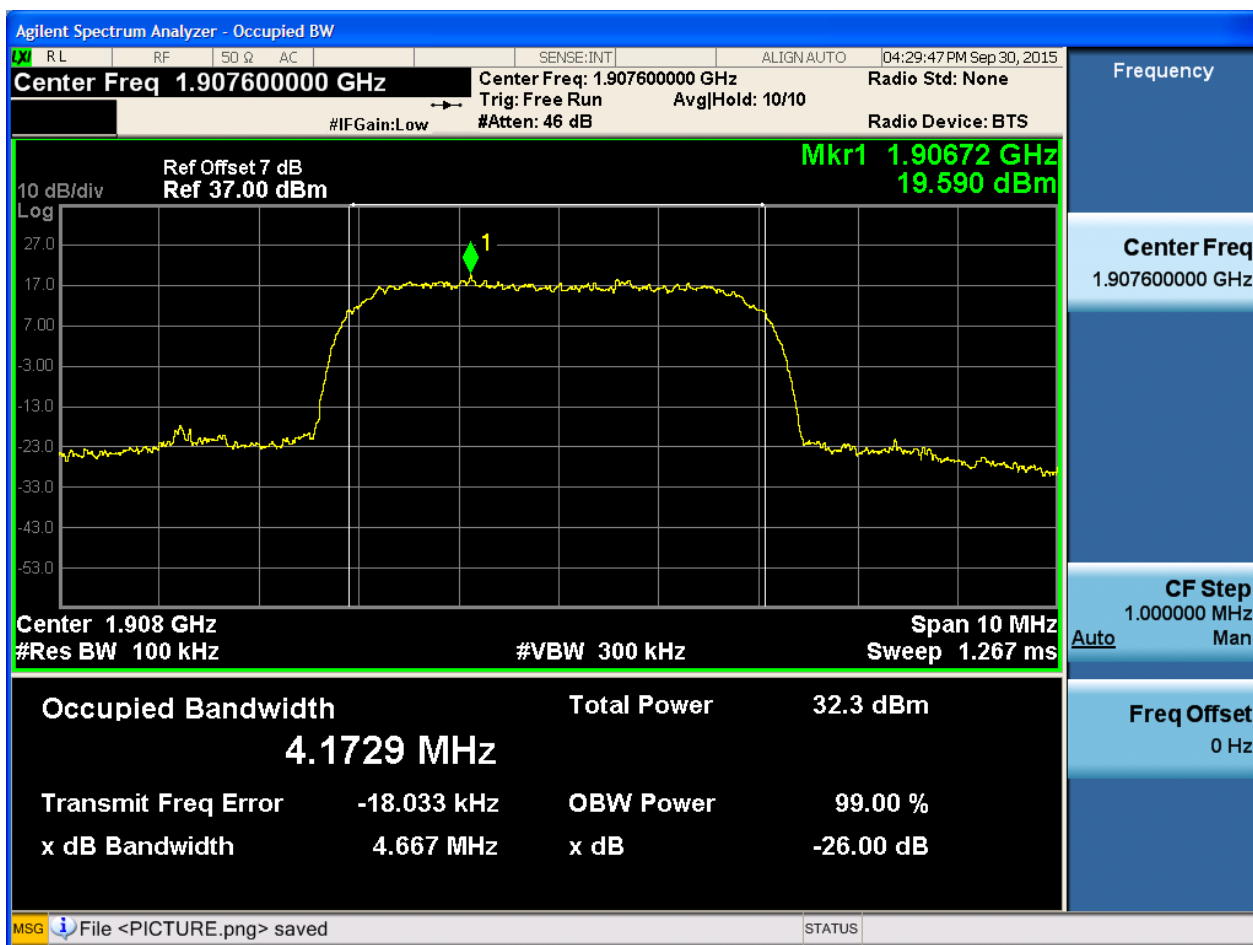


## 4.2.2.1.2 Test Channel = MCH





## 4.2.2.1.3 Test Channel = HCH

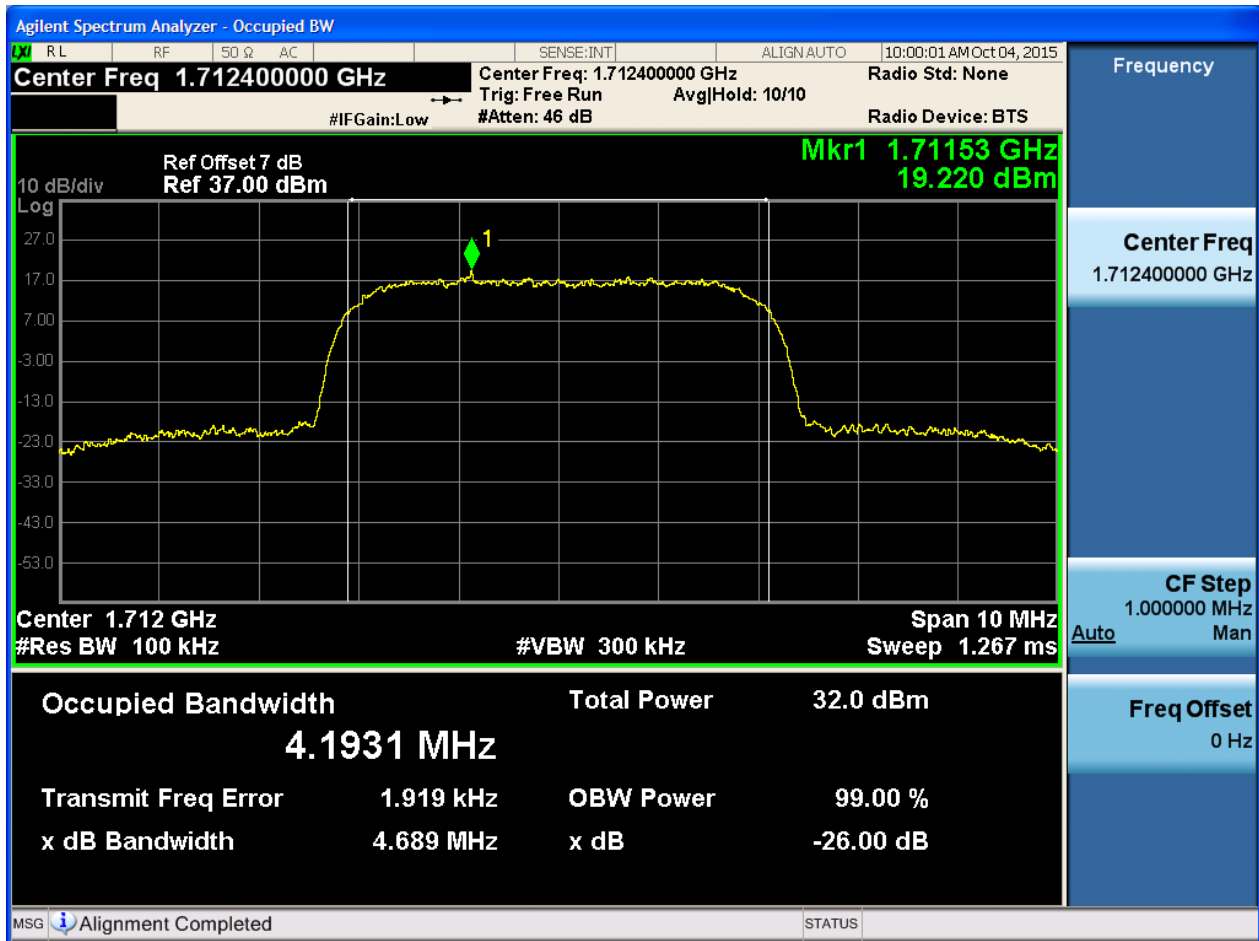




## 4.2.3 Test Band = WCDMA1700

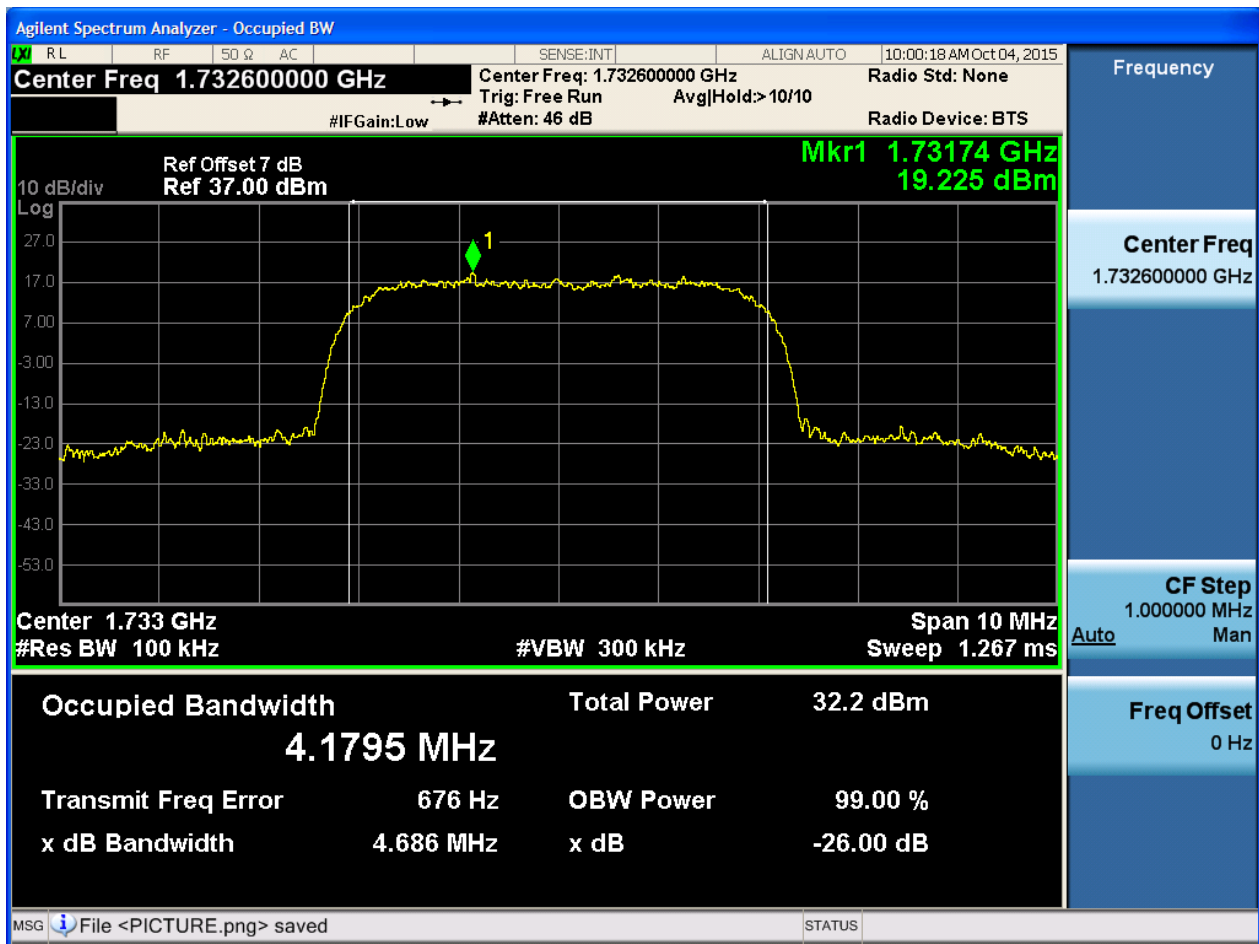
## 4.2.3.1 Test Mode = UMTS/TM1

## 4.2.3.1.1 Test Channel = LCH

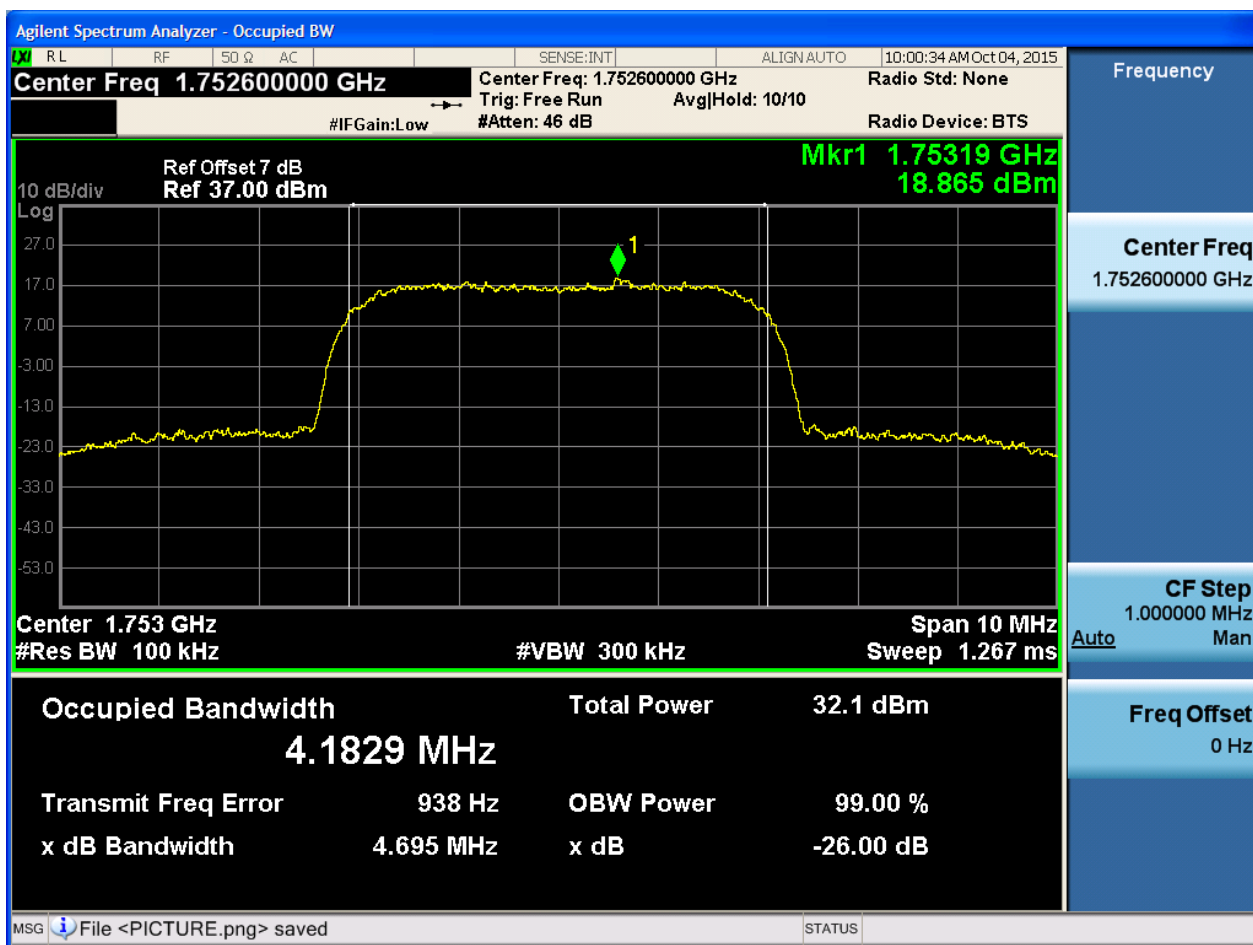




## 4.2.3.1.2 Test Channel = MCH



#### 4.2.3.1.3 Test Channel = HCH



## 5Appendix\_E: Band Edges Compliance

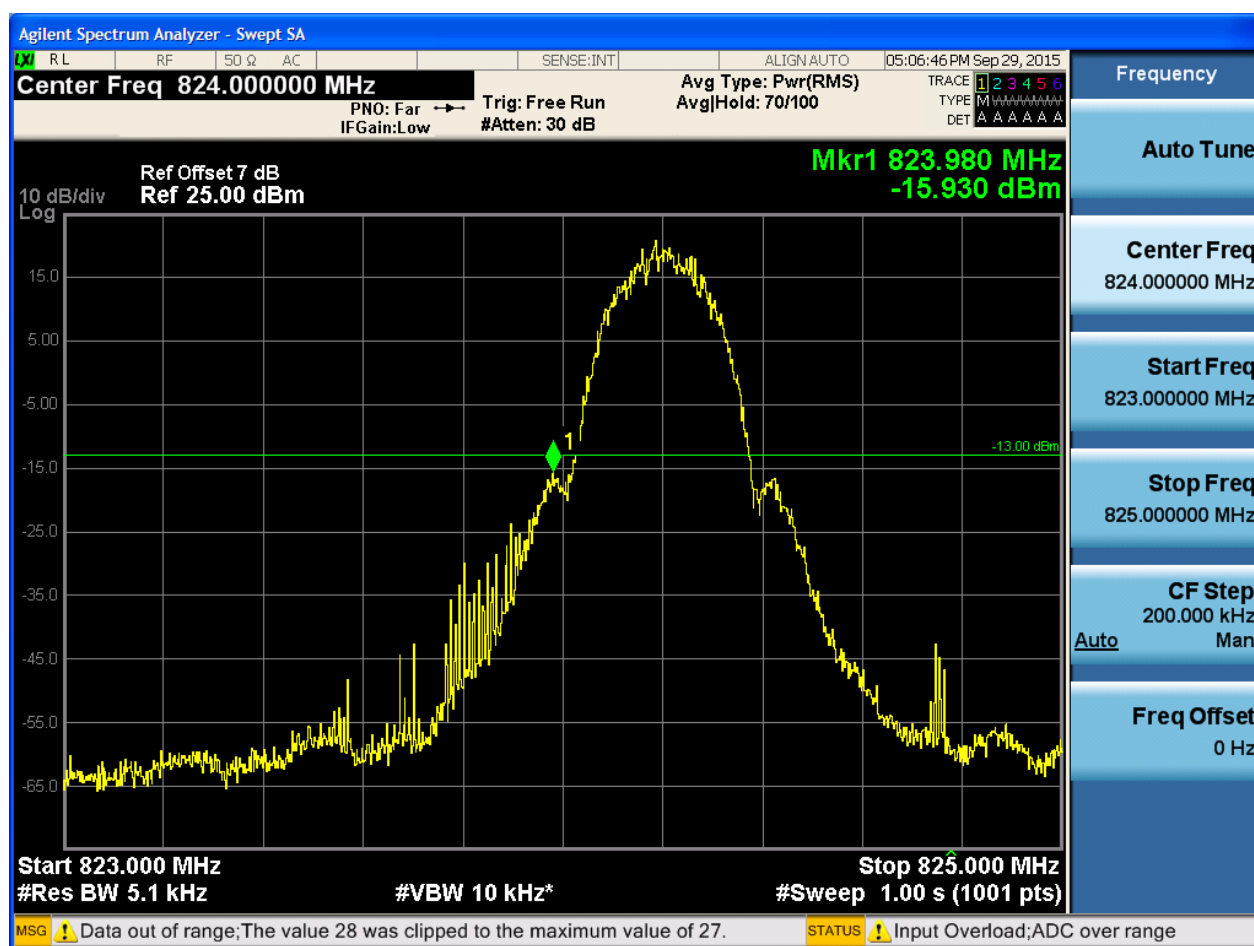
## Part I - Test Plots

### 5.1 For GSM

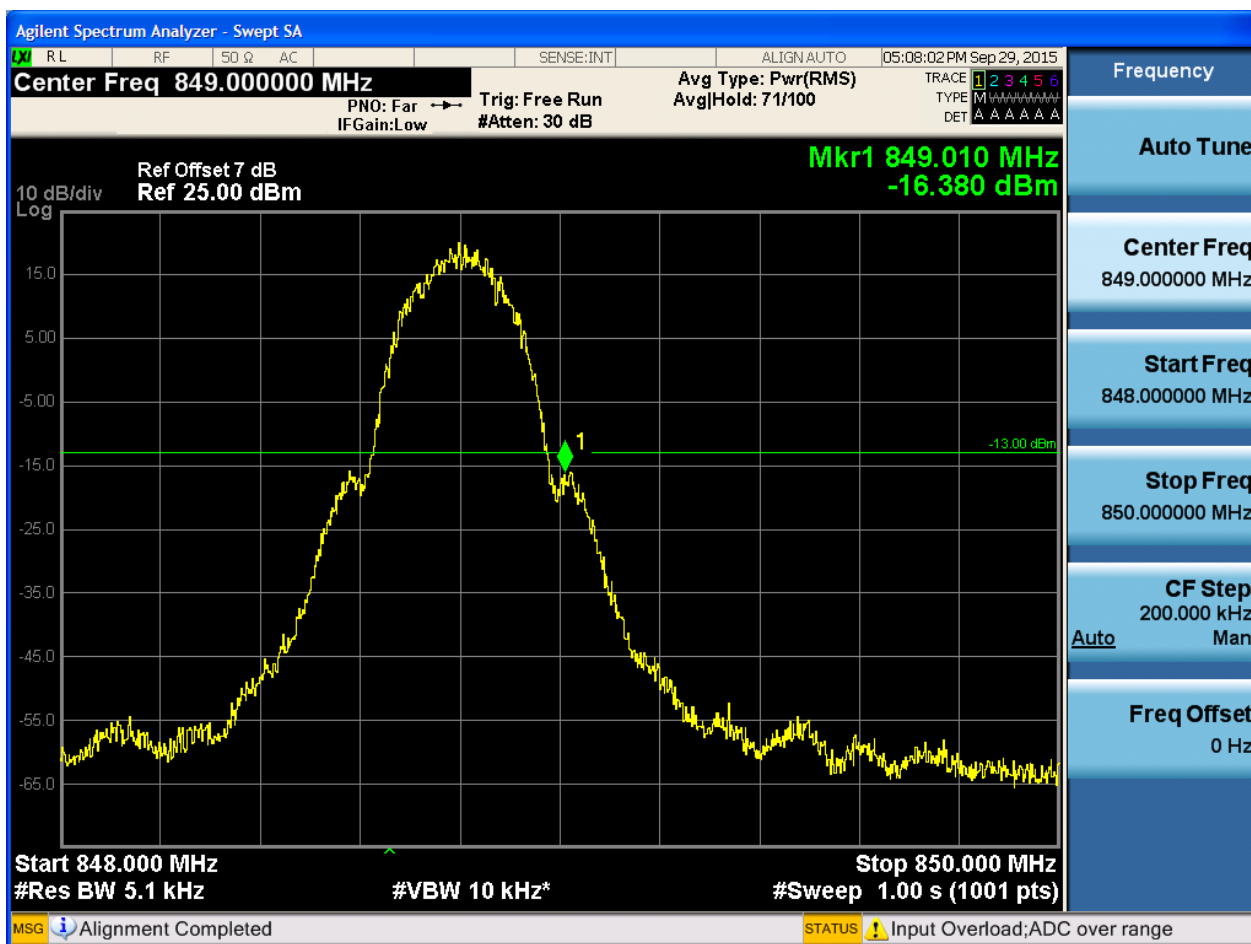
### 5.1.1 Test Band = GSM850

#### 5.1.1.1 Test Mode = GSM/TM1

#### 5.1.1.1.1 Test Channel = LCH

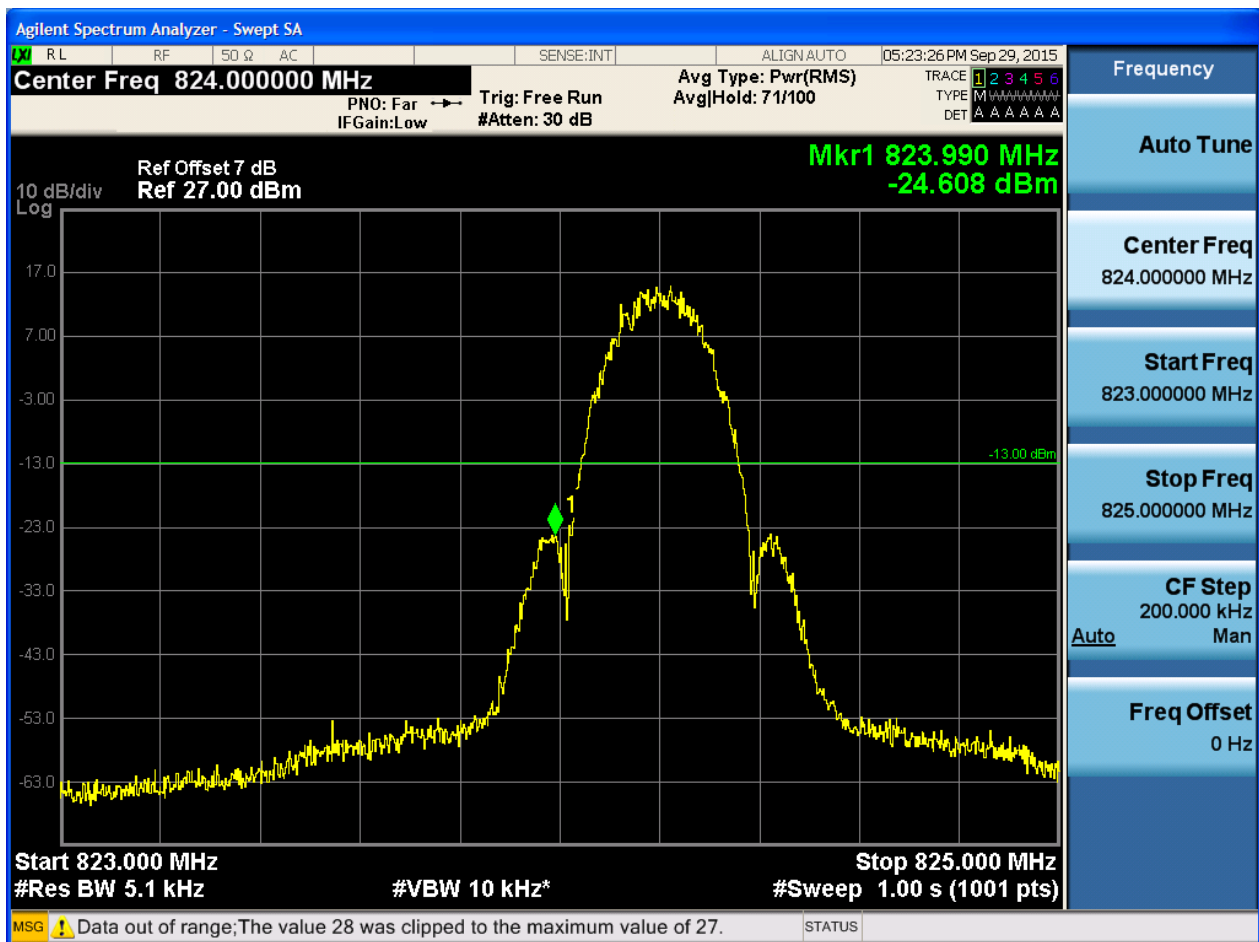


### 5.1.1.1.2 Test Channel = HCH

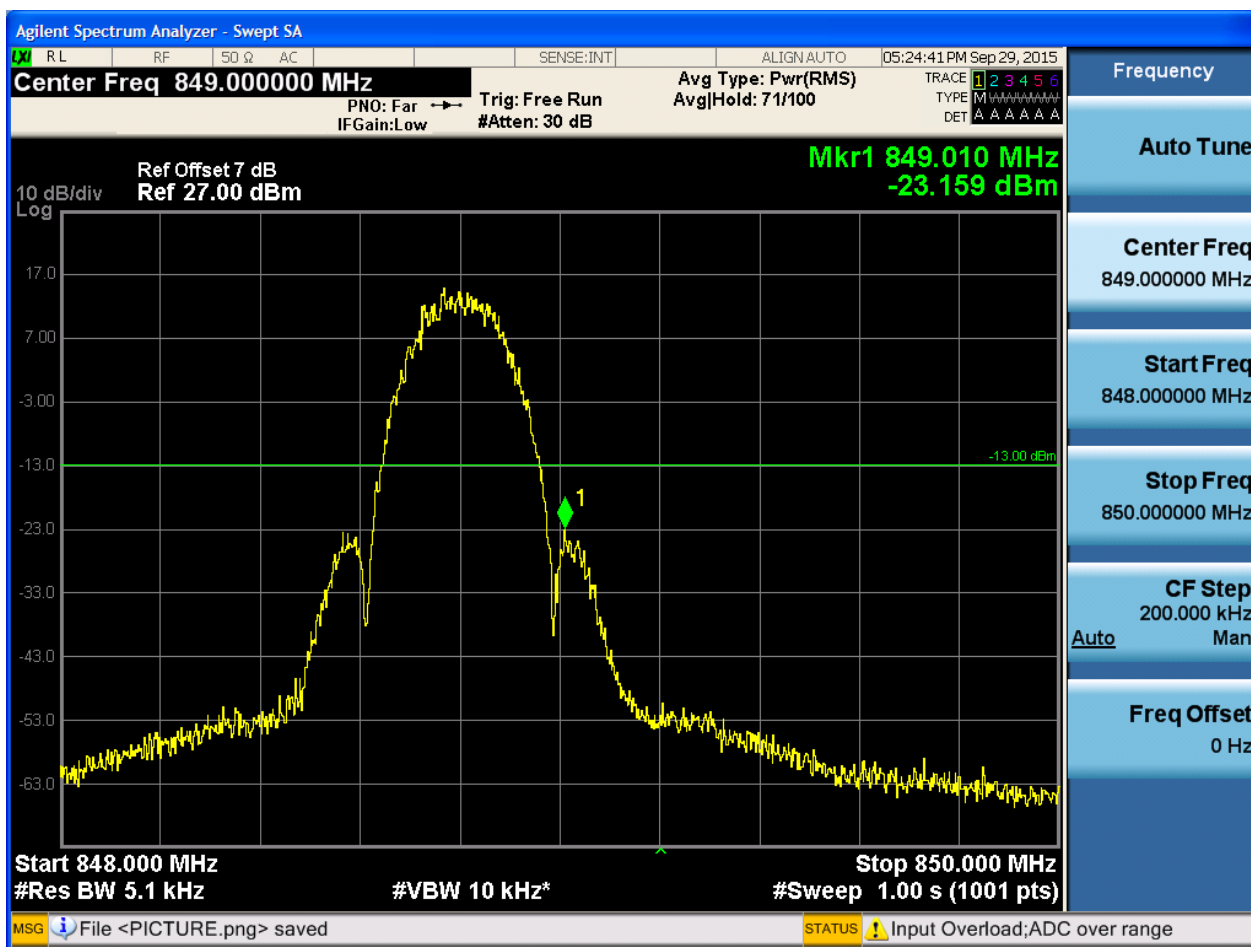


#### 5.1.1.2 Test Mode = GSM/TM2

#### 5.1.1.2.1 Test Channel = LCH



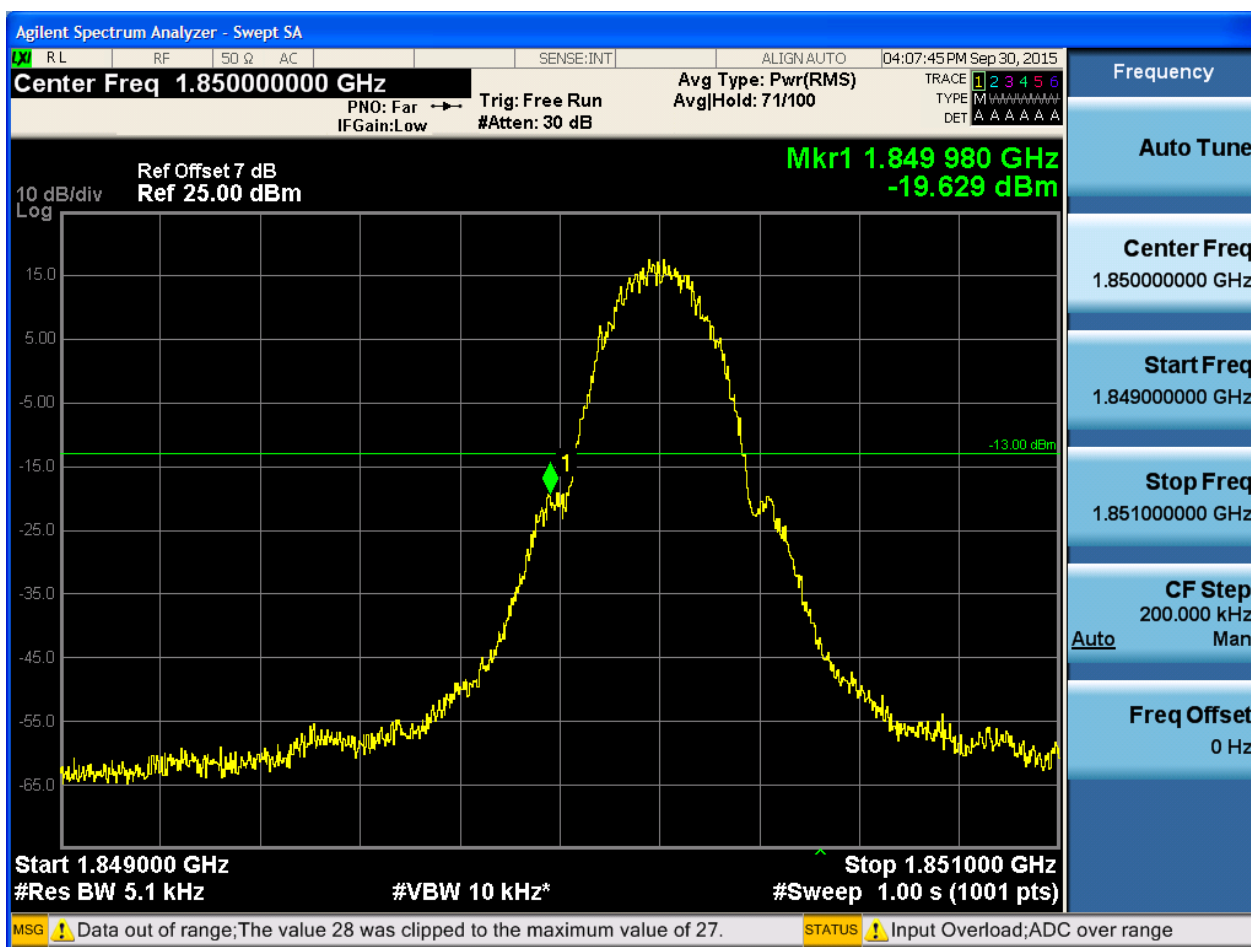
### 5.1.1.2.2 Test Channel = HCH



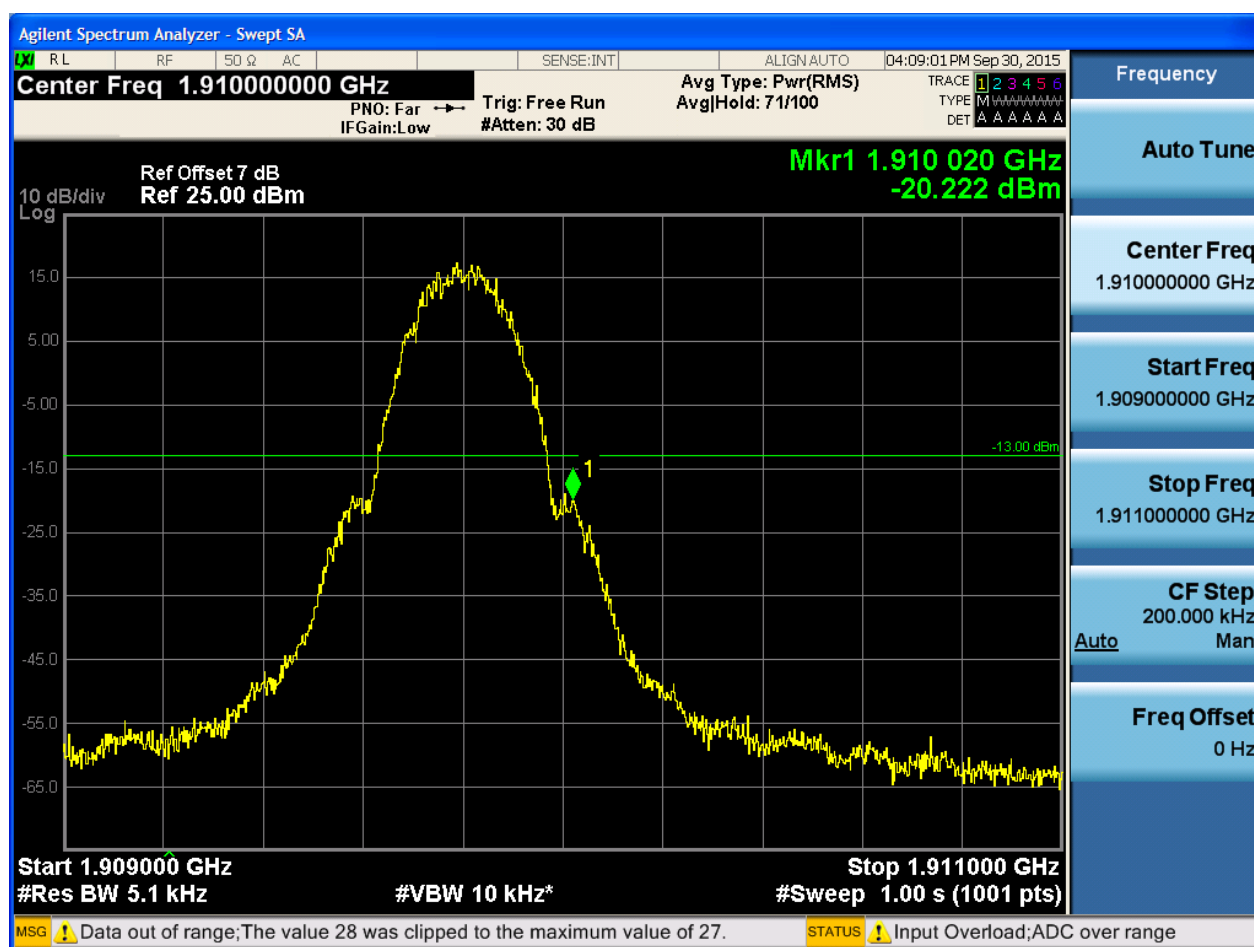
## 5.1.2 Test Band = GSM1900

### 5.1.2.1 Test Mode = GSM/TM1

#### 5.1.2.1.1 Test Channel = LCH

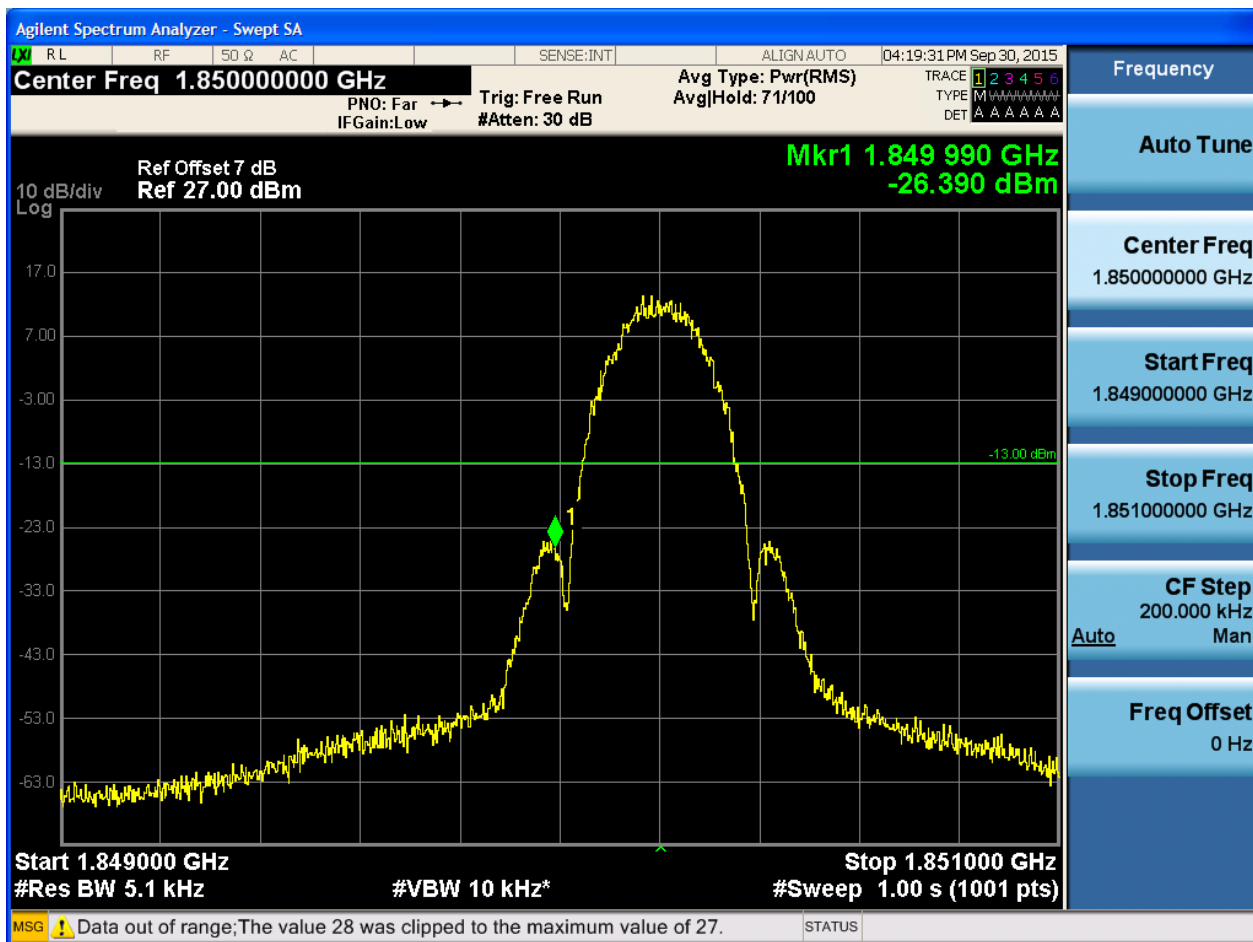


#### 5.1.2.1.2 Test Channel = HCH

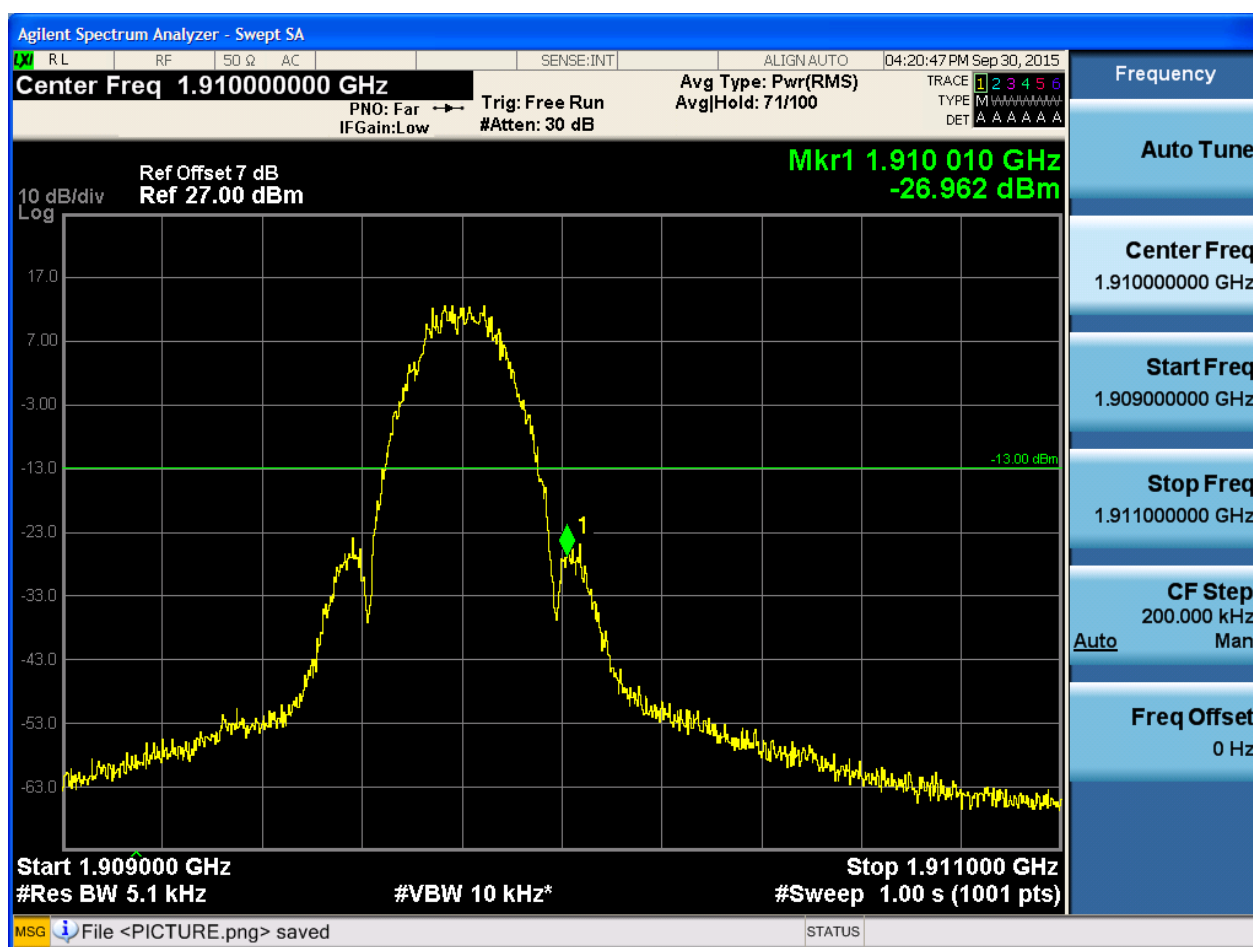


### 5.1.2.2 Test Mode = GSM/TM2

#### 5.1.2.2.1 Test Channel = LCH



#### 5.1.2.2.2 Test Channel = HCH

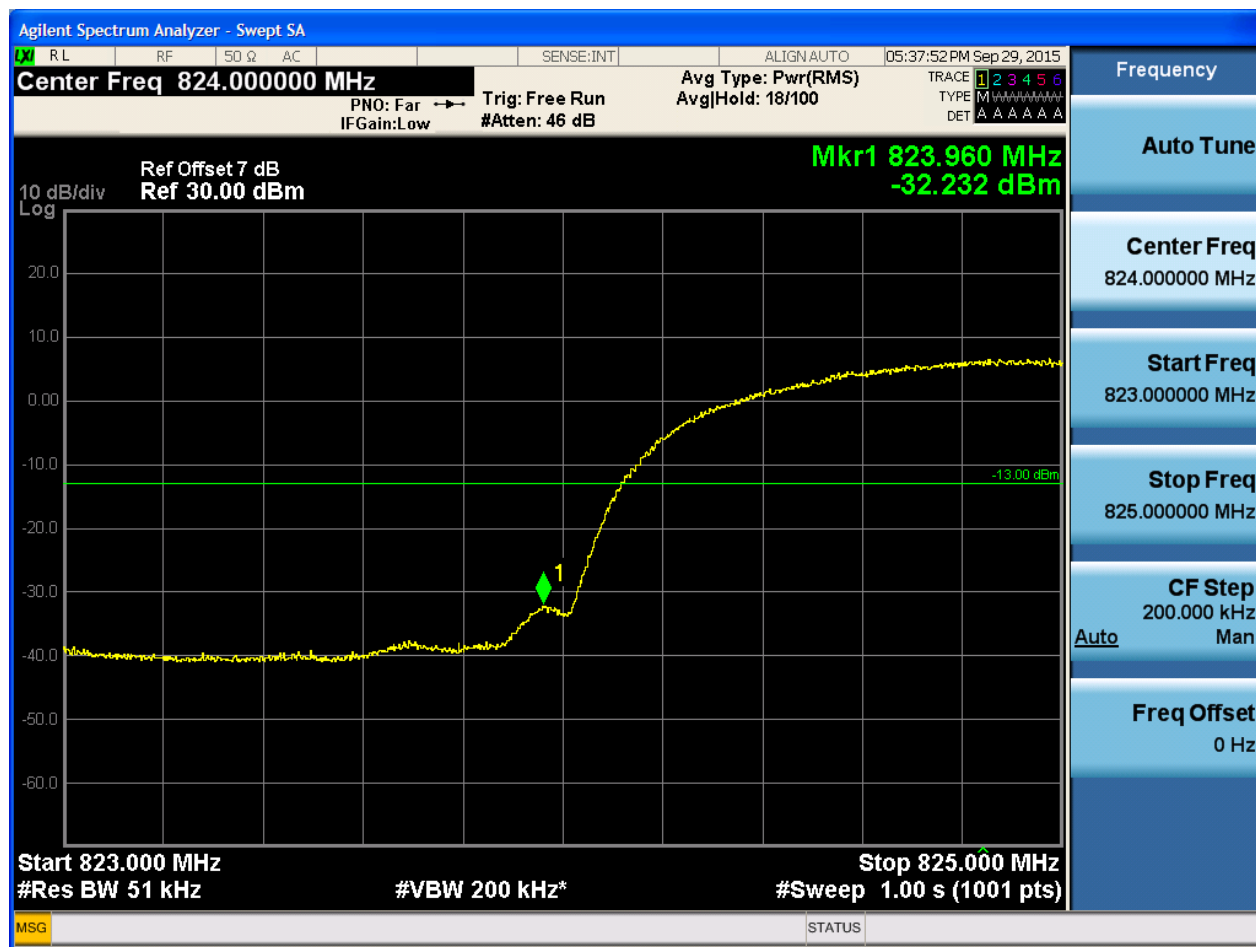


## 5.2 For UMTS

### 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





## 5.2.3 Test Band = WCDMA1700

## 5.2.3.1 Test Mode = UMTS/TM1

## 5.2.3.1.1 Test Channel = LCH



### 5.2.3.1.2 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

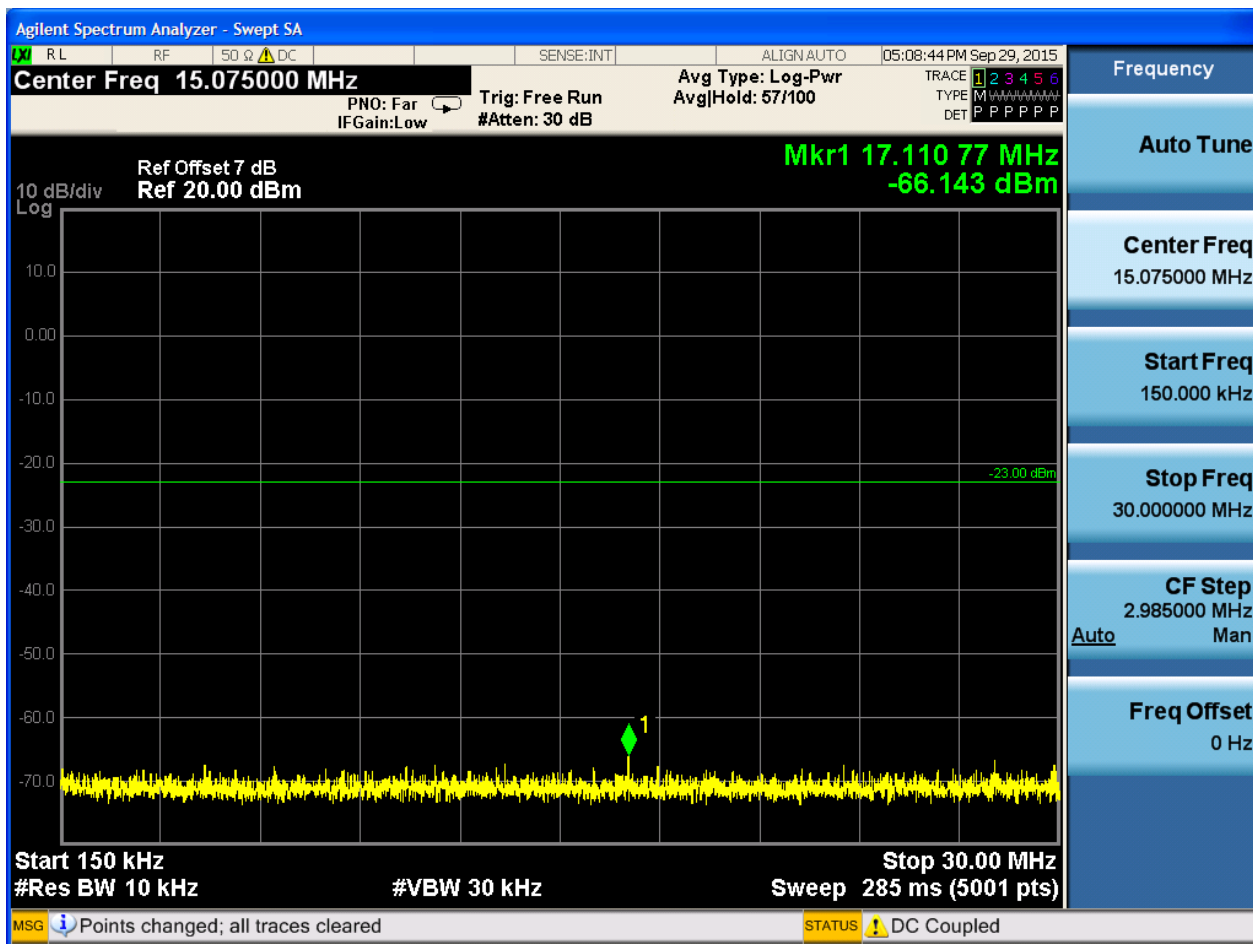
#### 6.1 For GSM

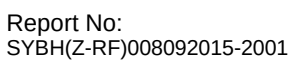
##### 6.1.1 Test Band = GSM850

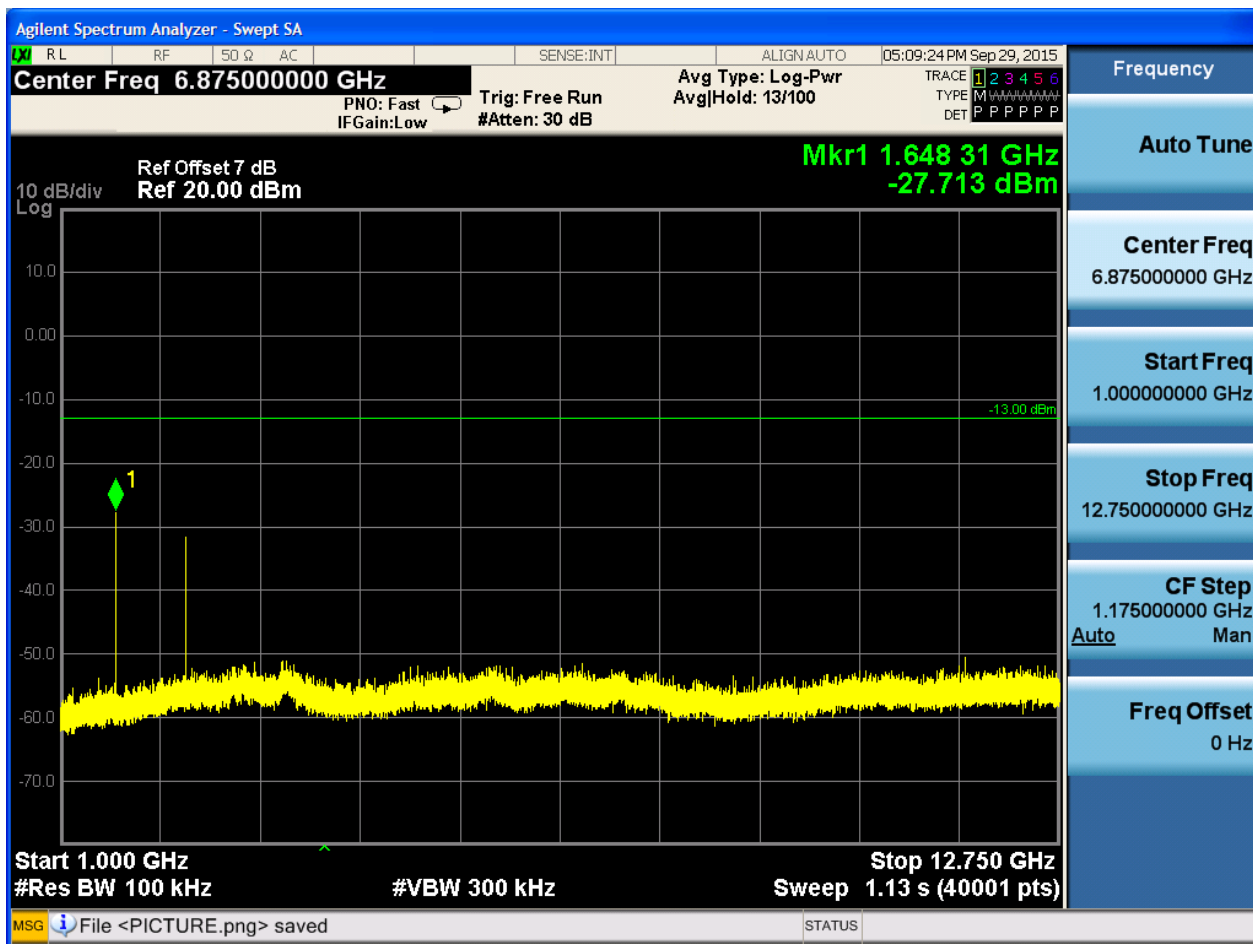
##### 6.1.1.1 Test Mode = GSM/TM1

##### 6.1.1.1.1 Test Channel = LCH

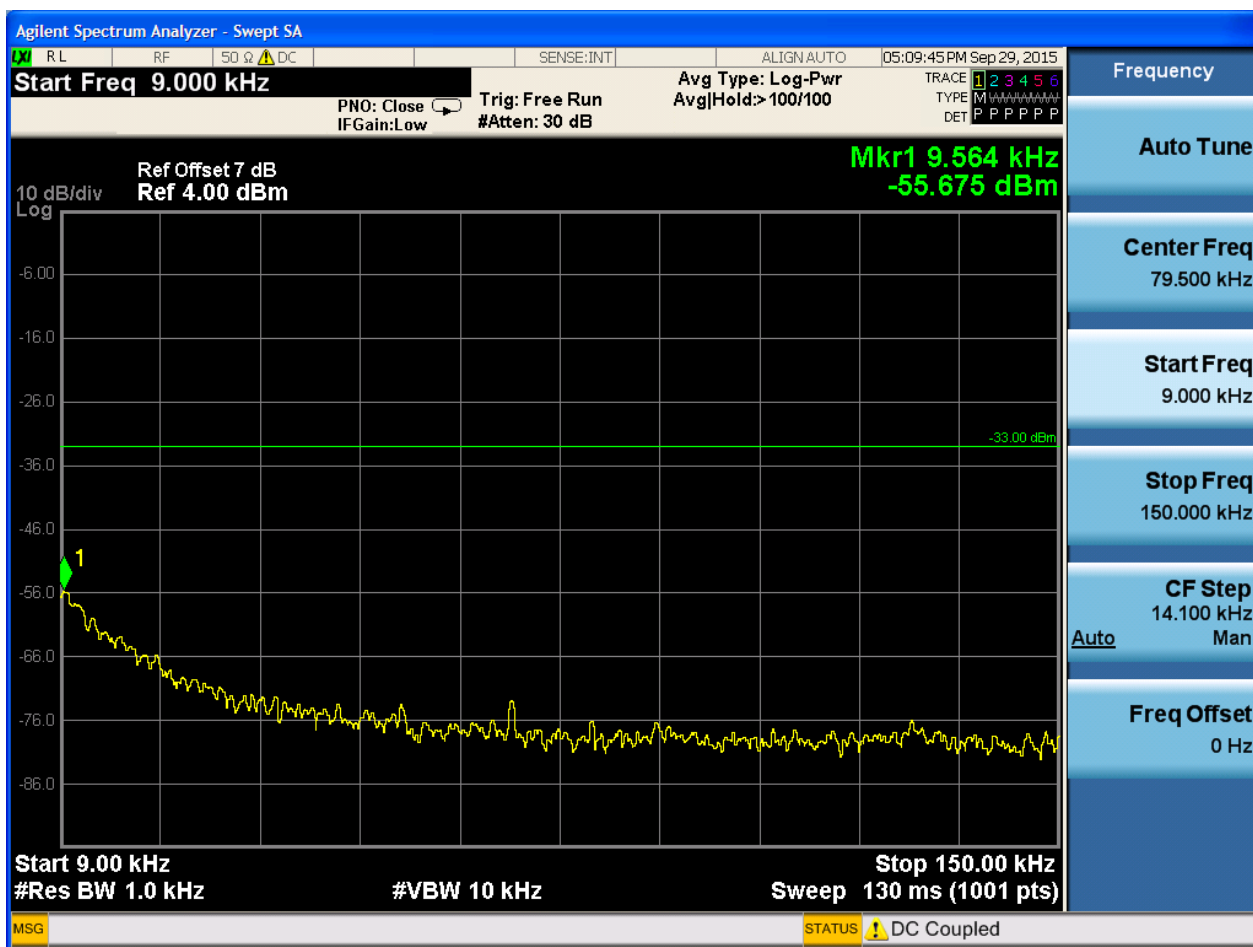


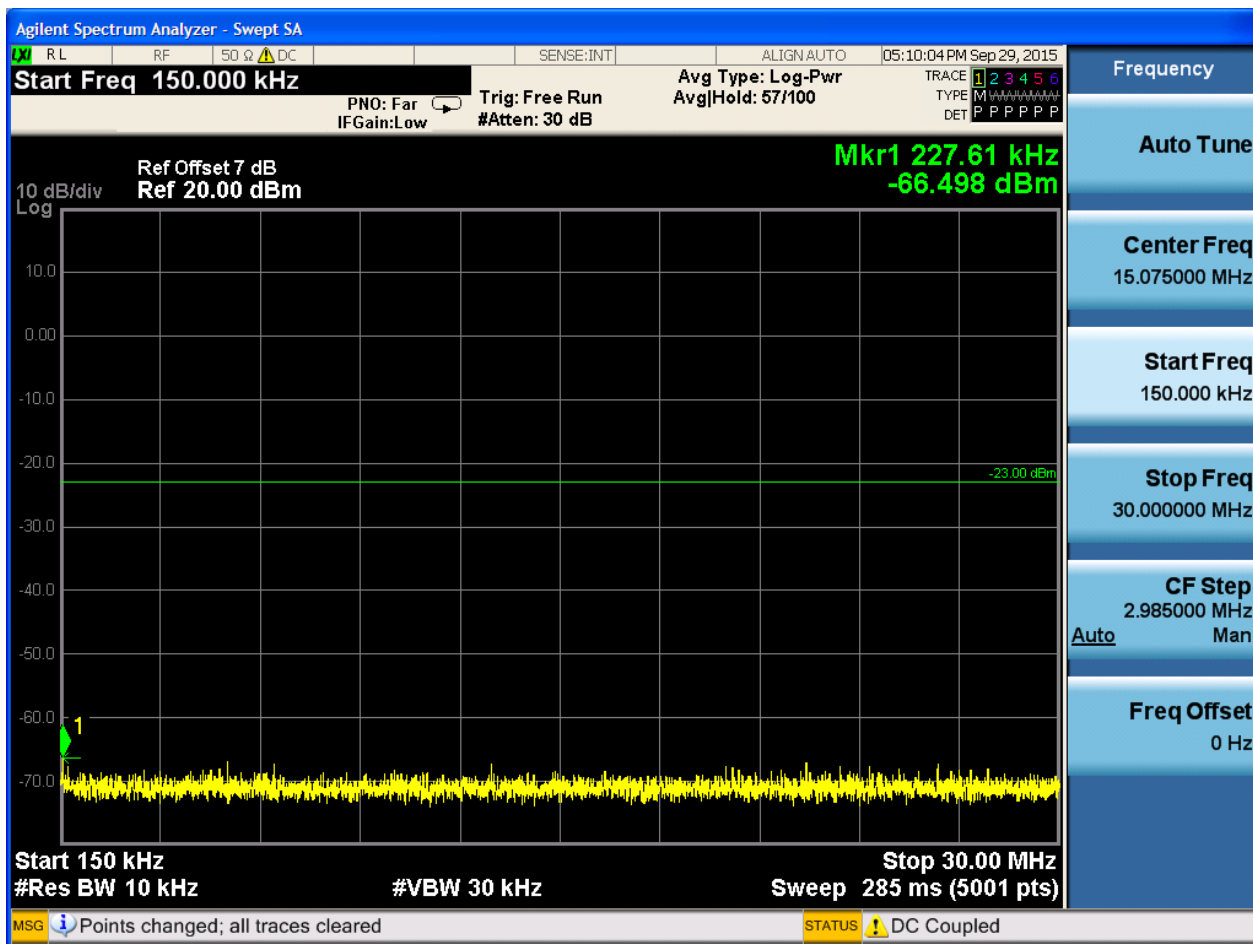


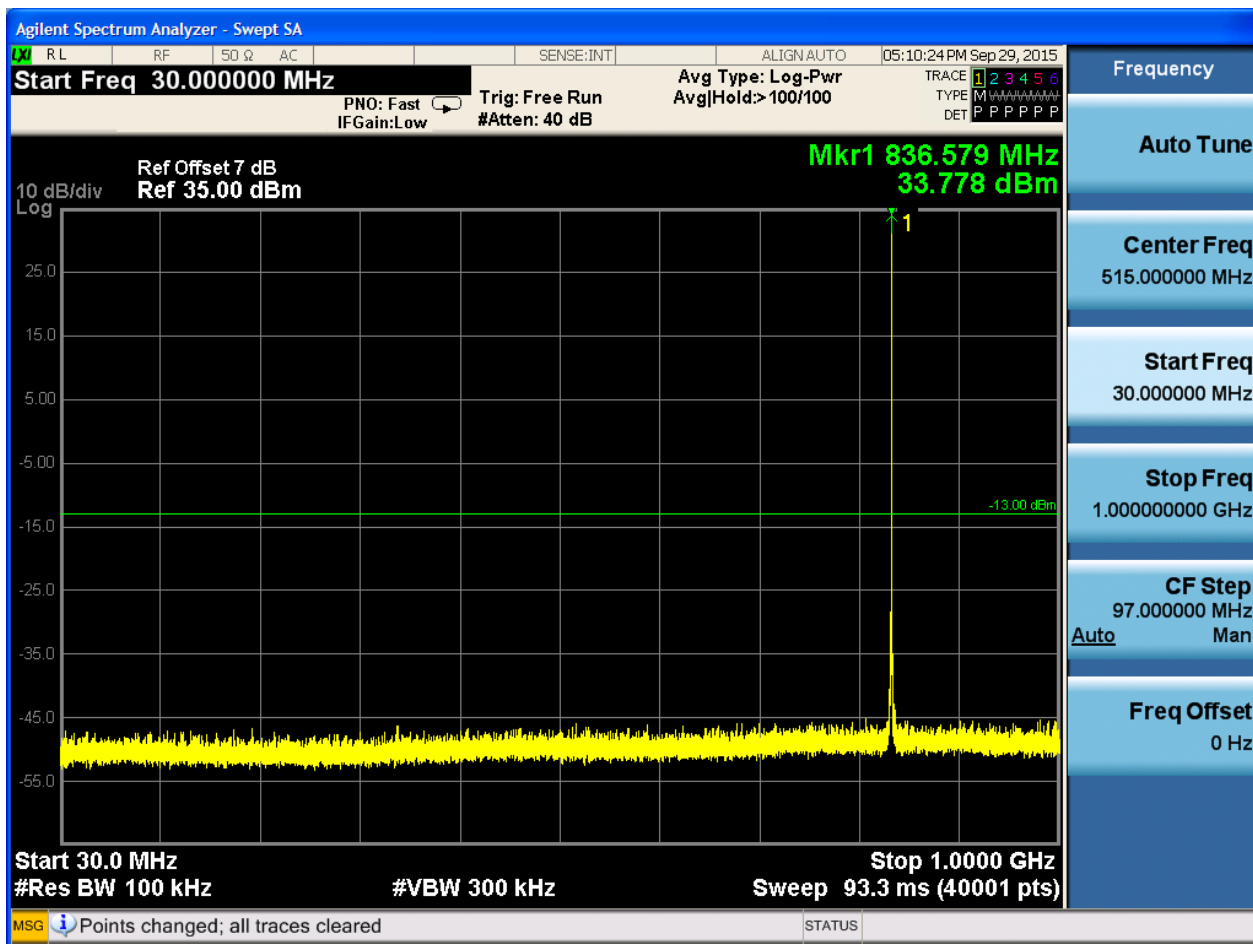


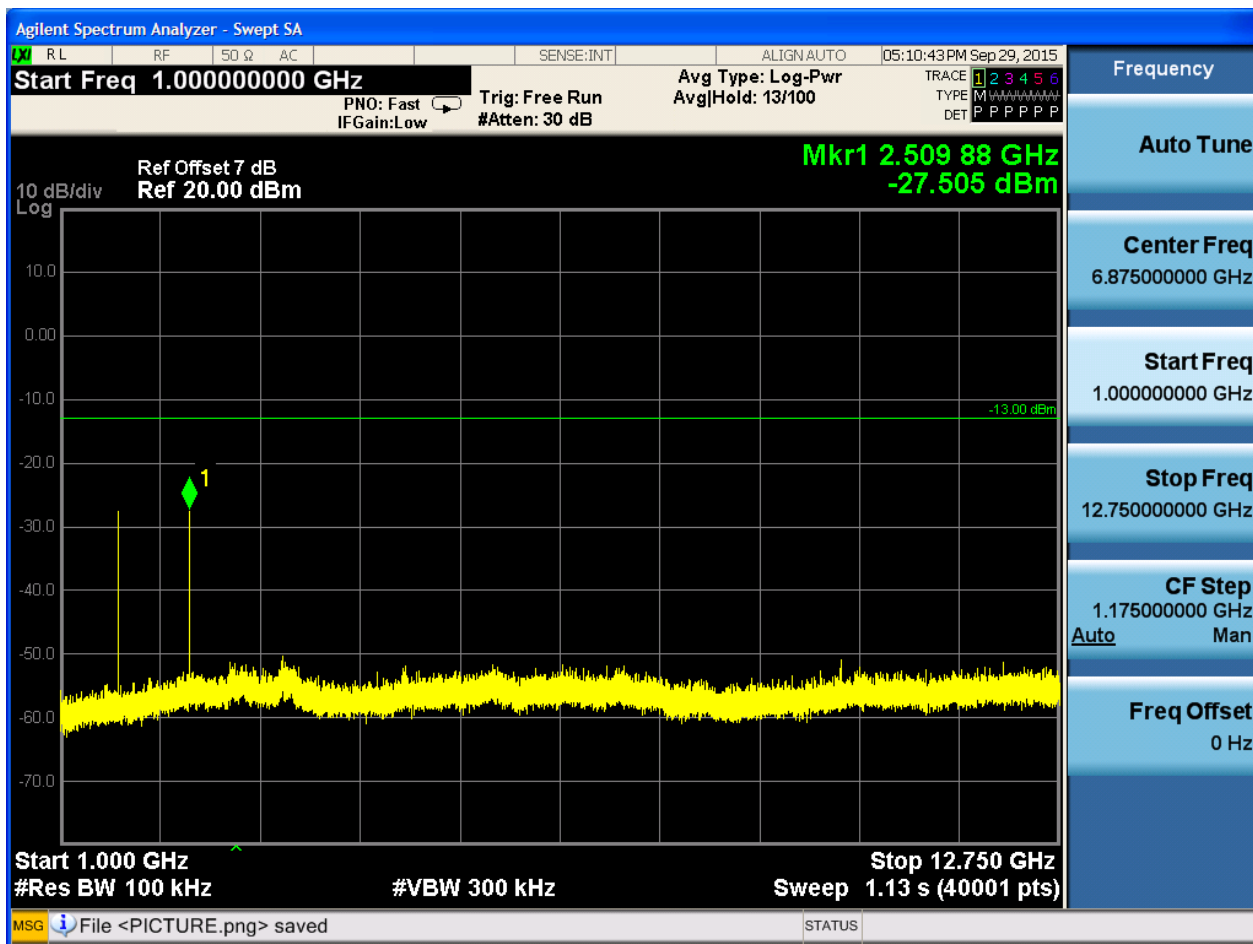


### 6.1.1.1.2 Test Channel = MCH



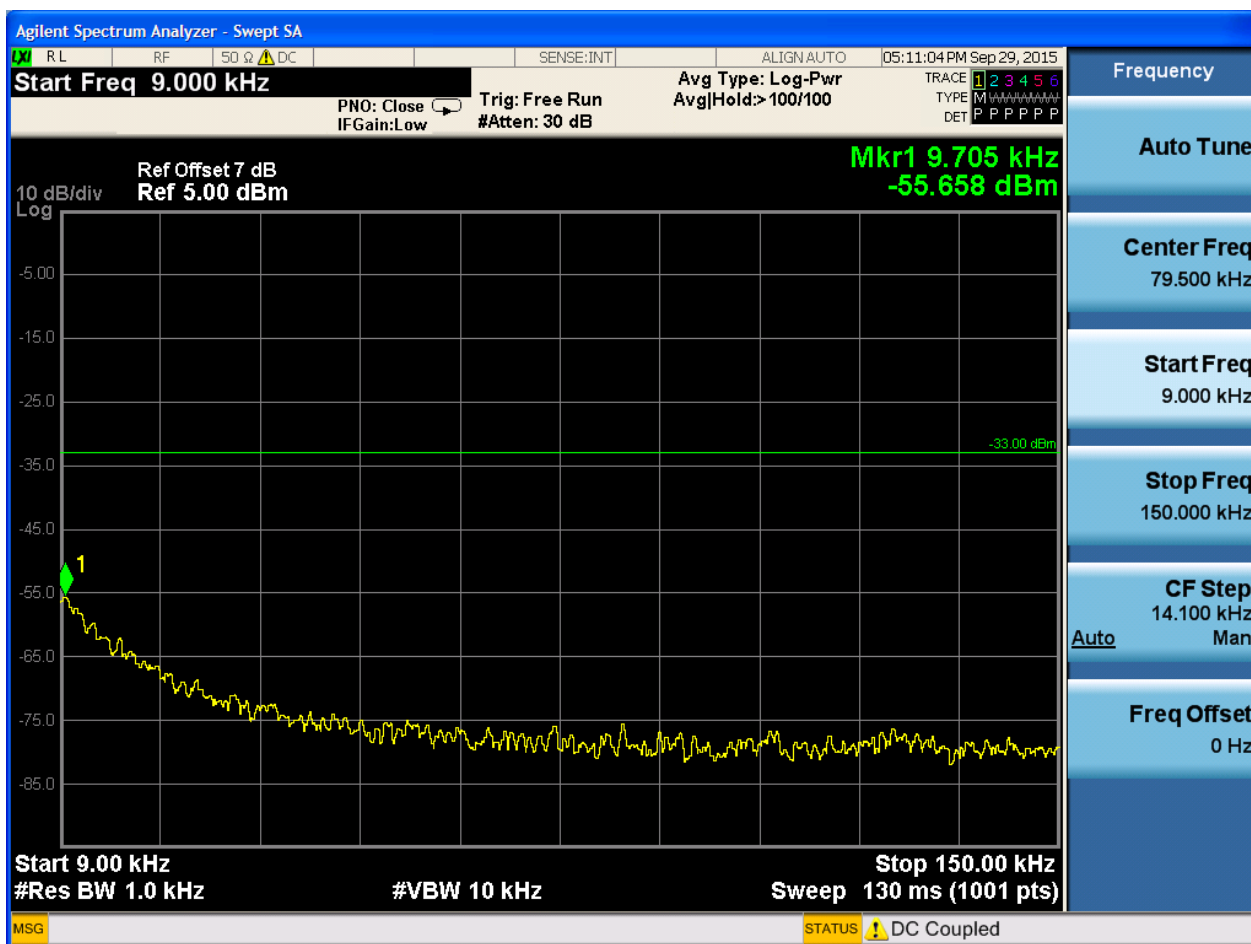


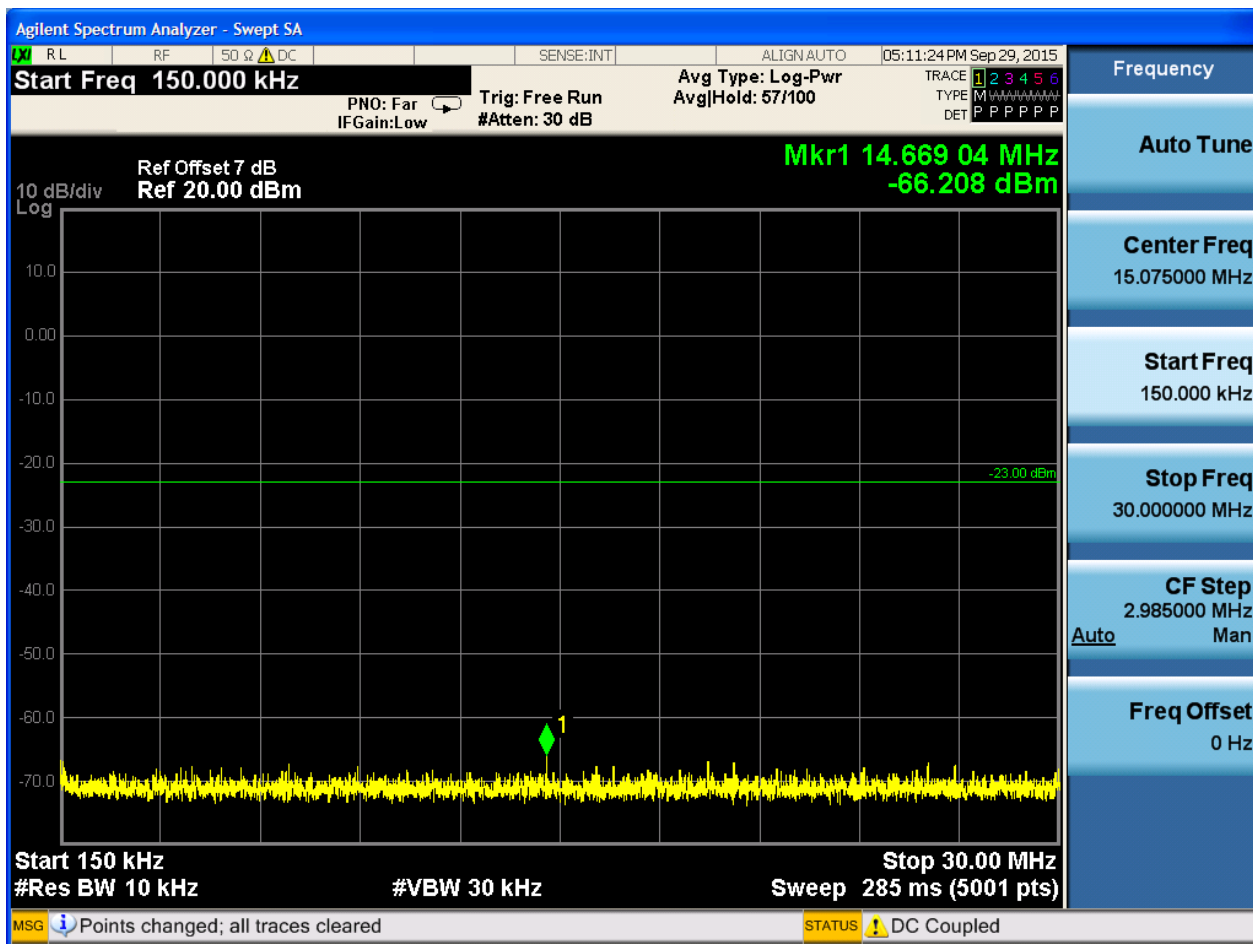


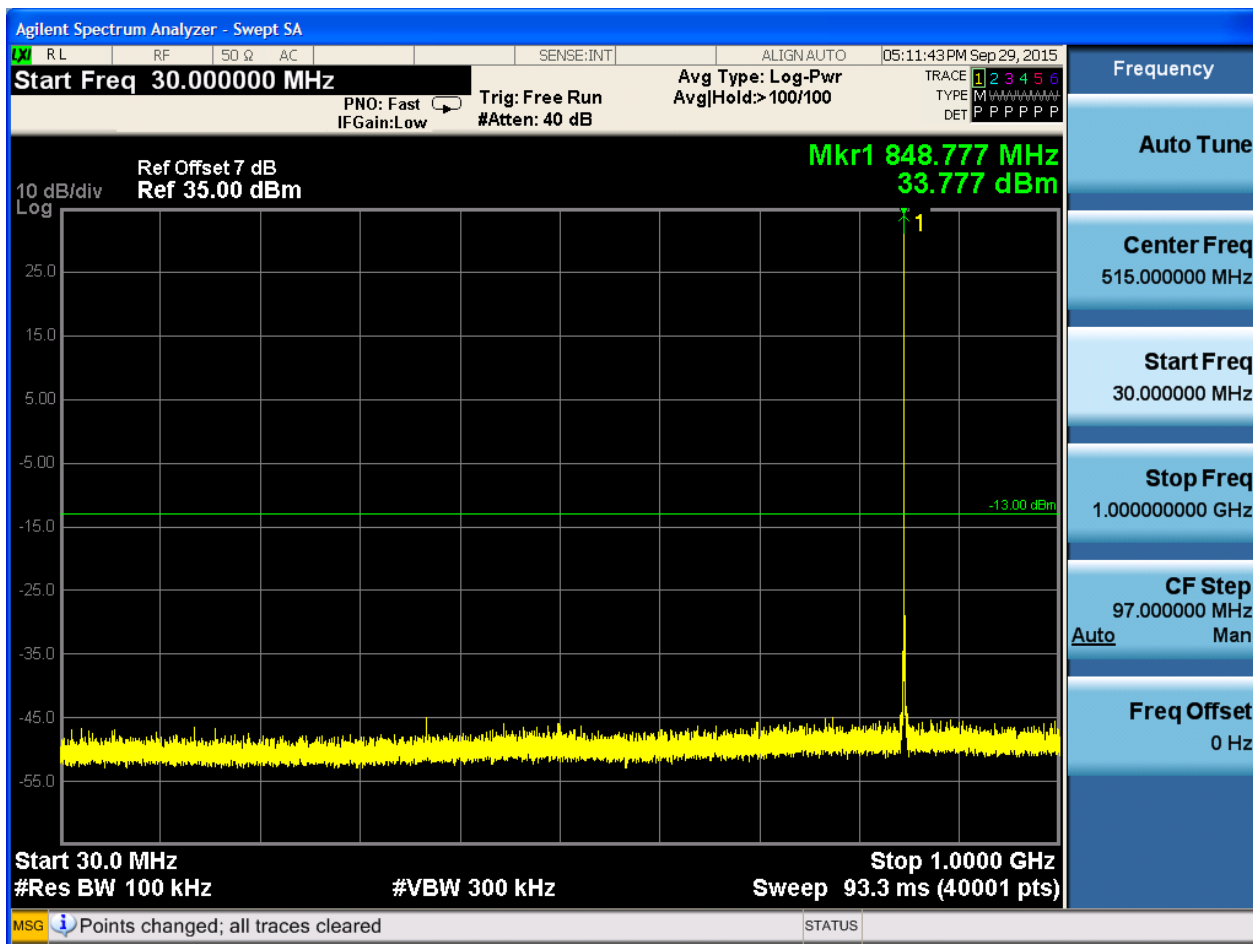


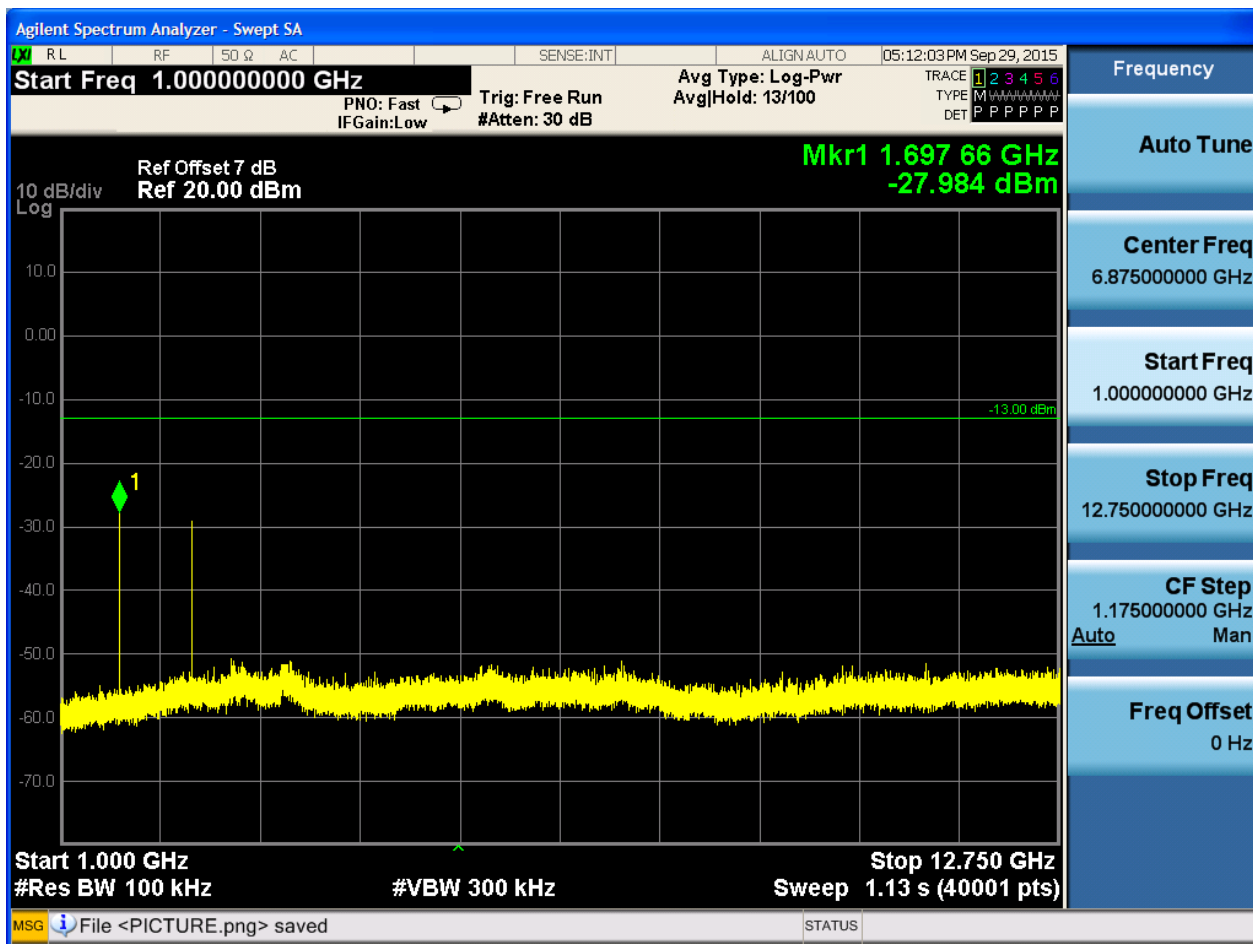


## 6.1.1.1.3 Test Channel = HCH





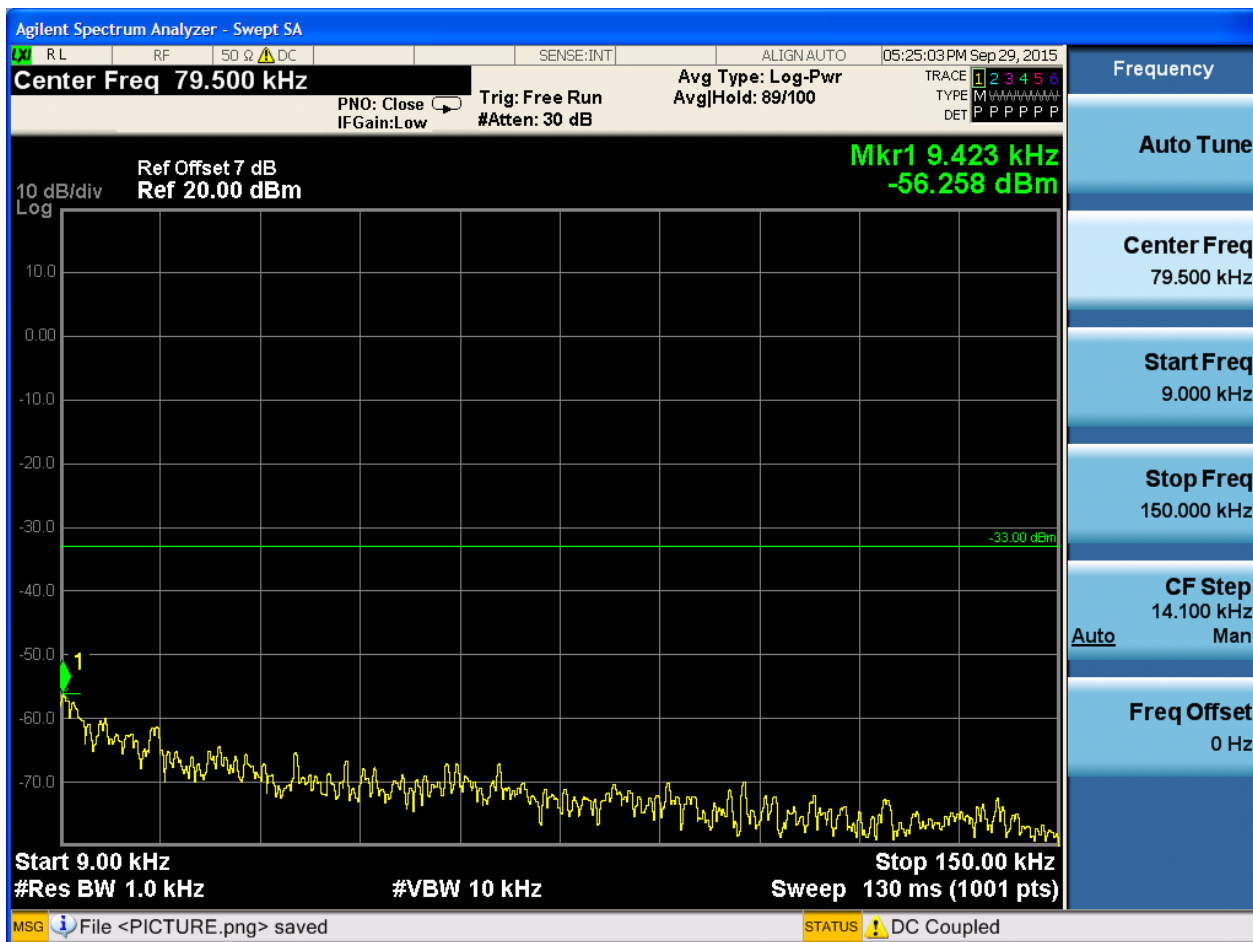


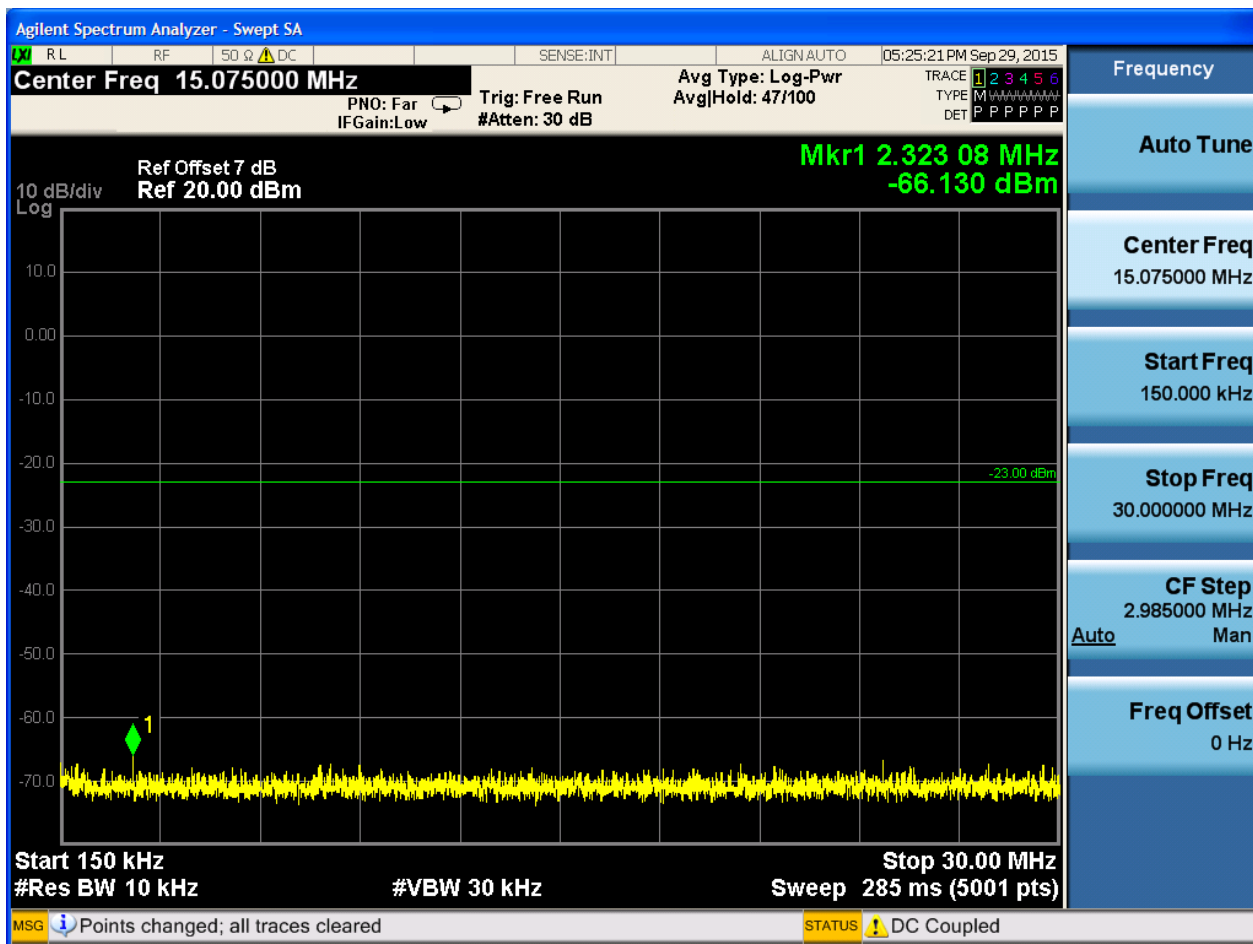


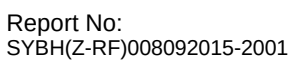


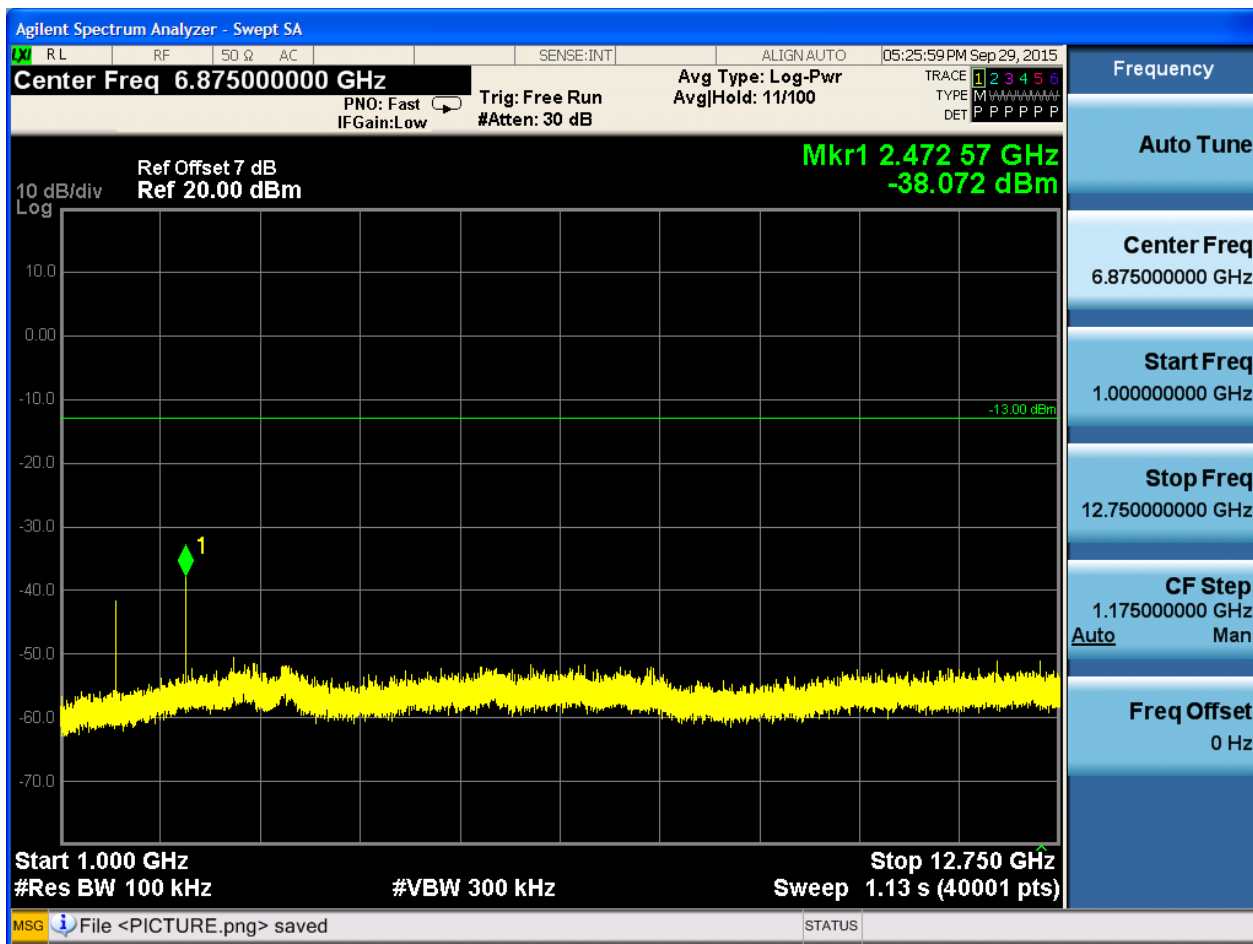
## 6.1.1.2 Test Mode = GSM/TM2

## 6.1.1.2.1 Test Channel = LCH

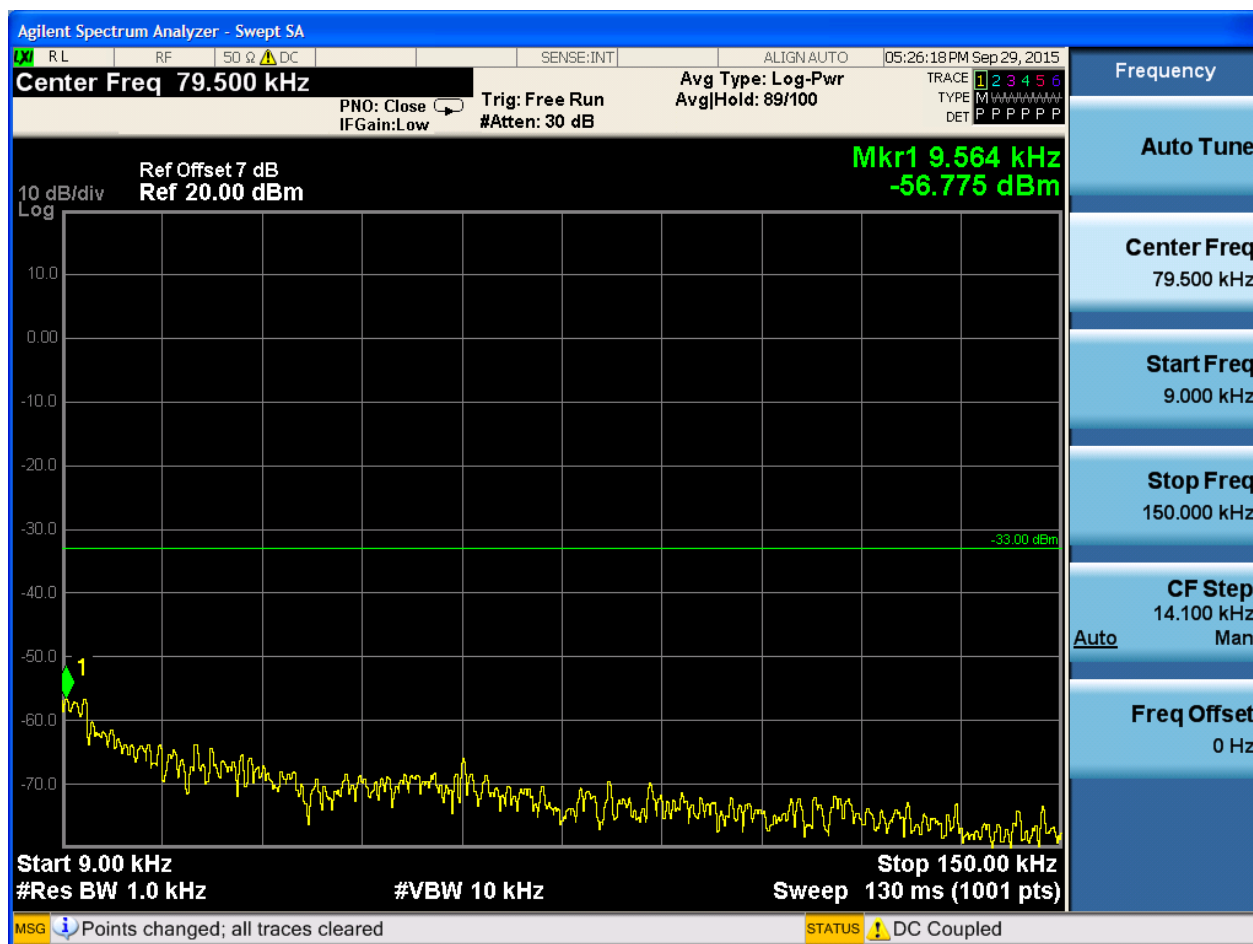


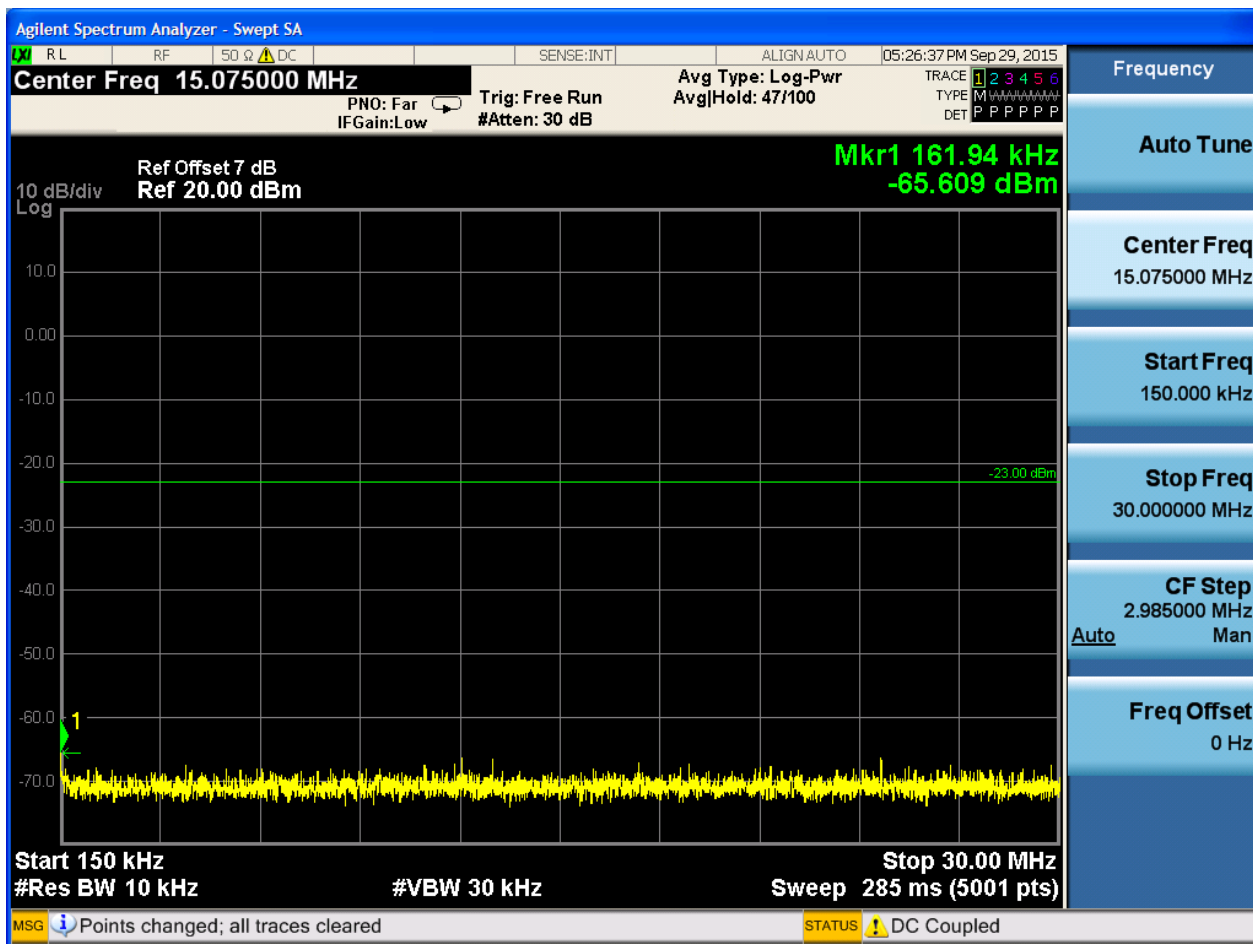


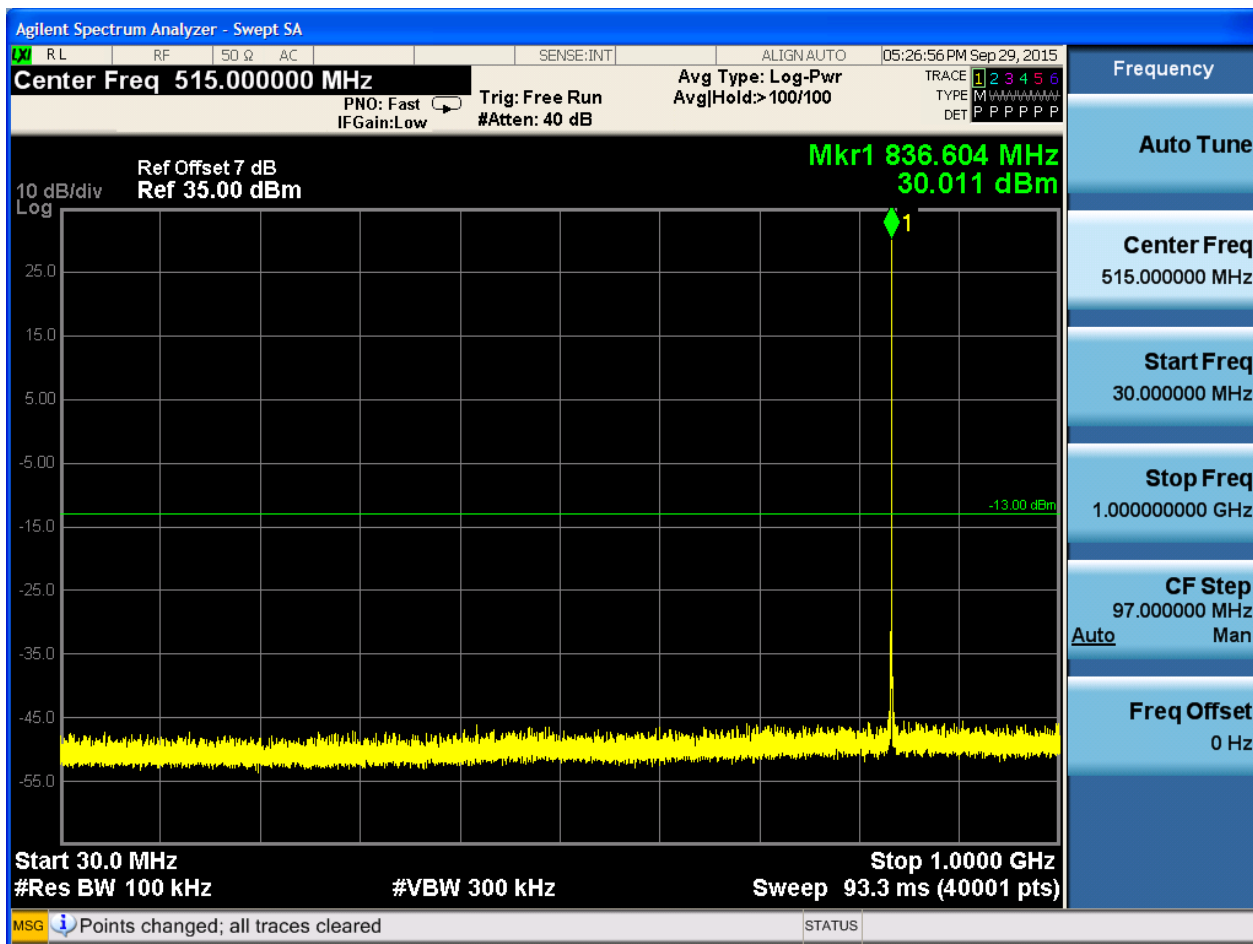


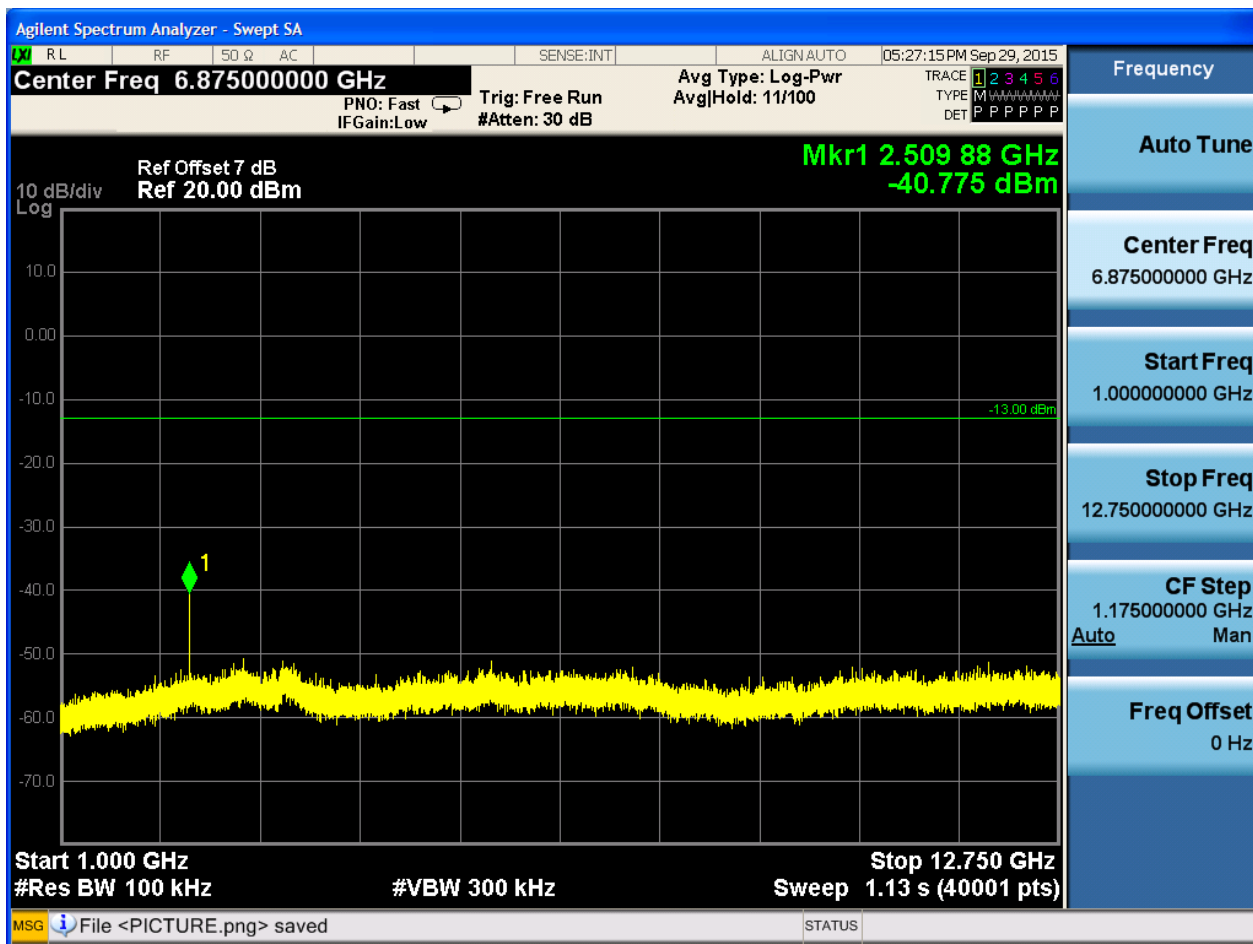


#### 6.1.1.2.2 Test Channel = MCH

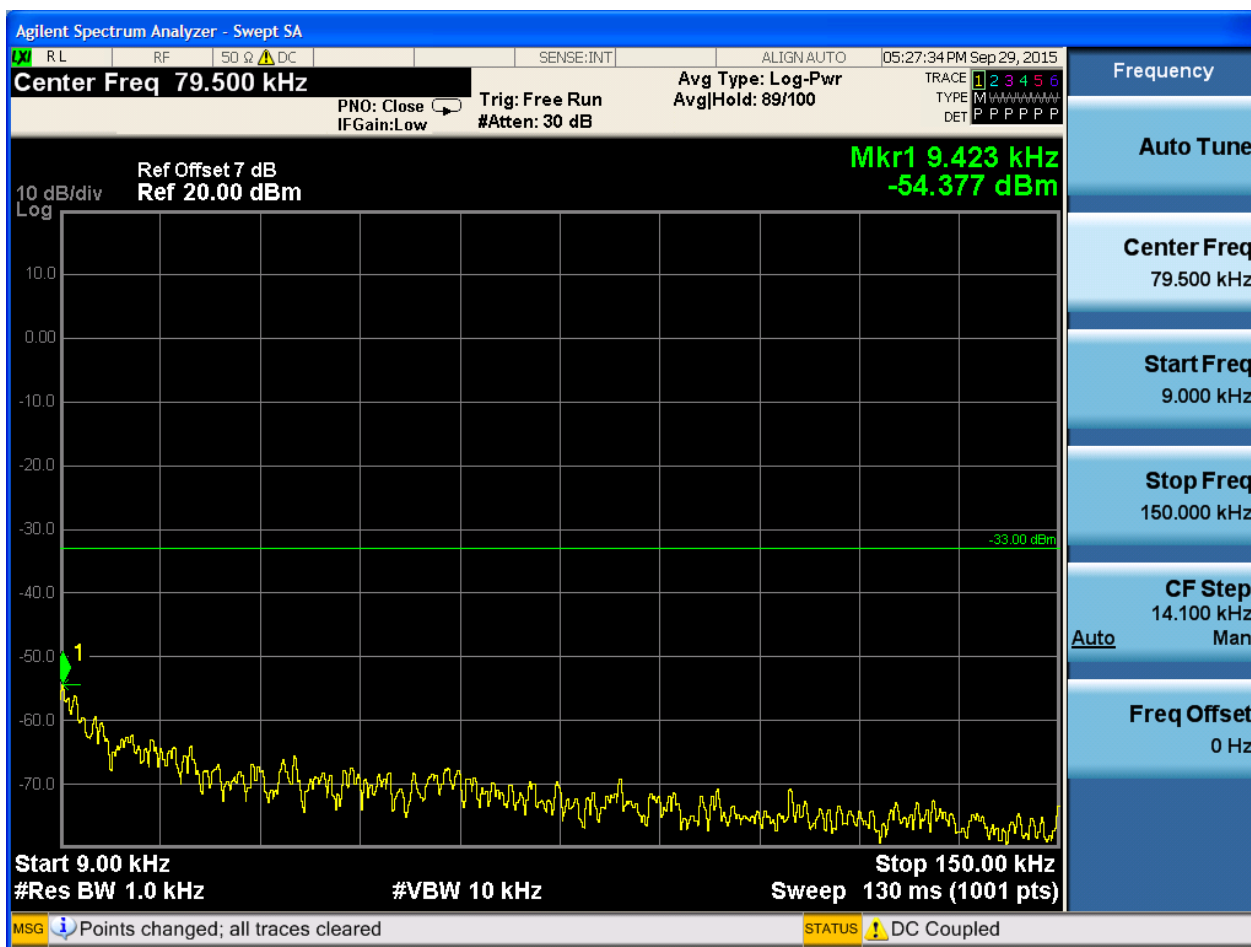


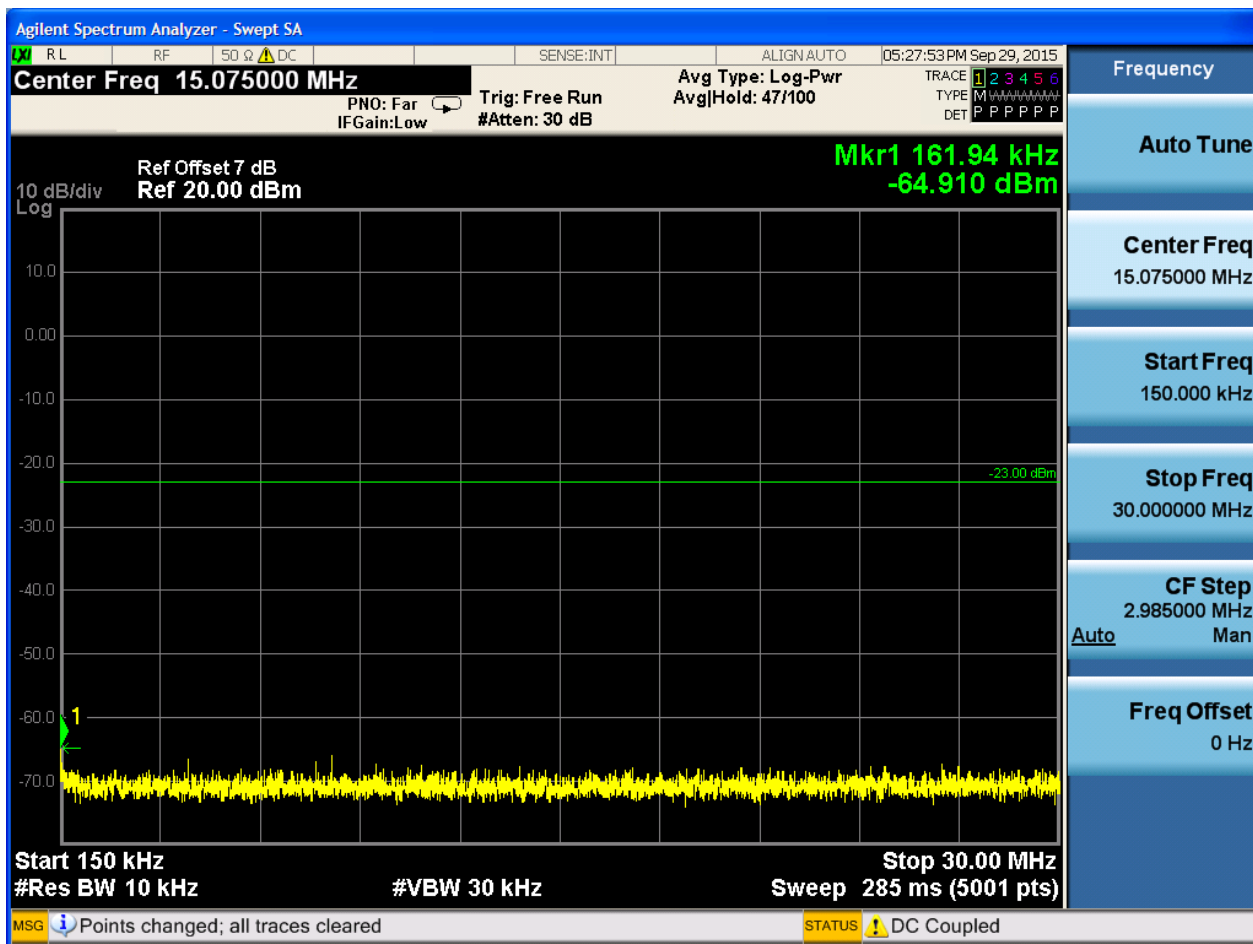


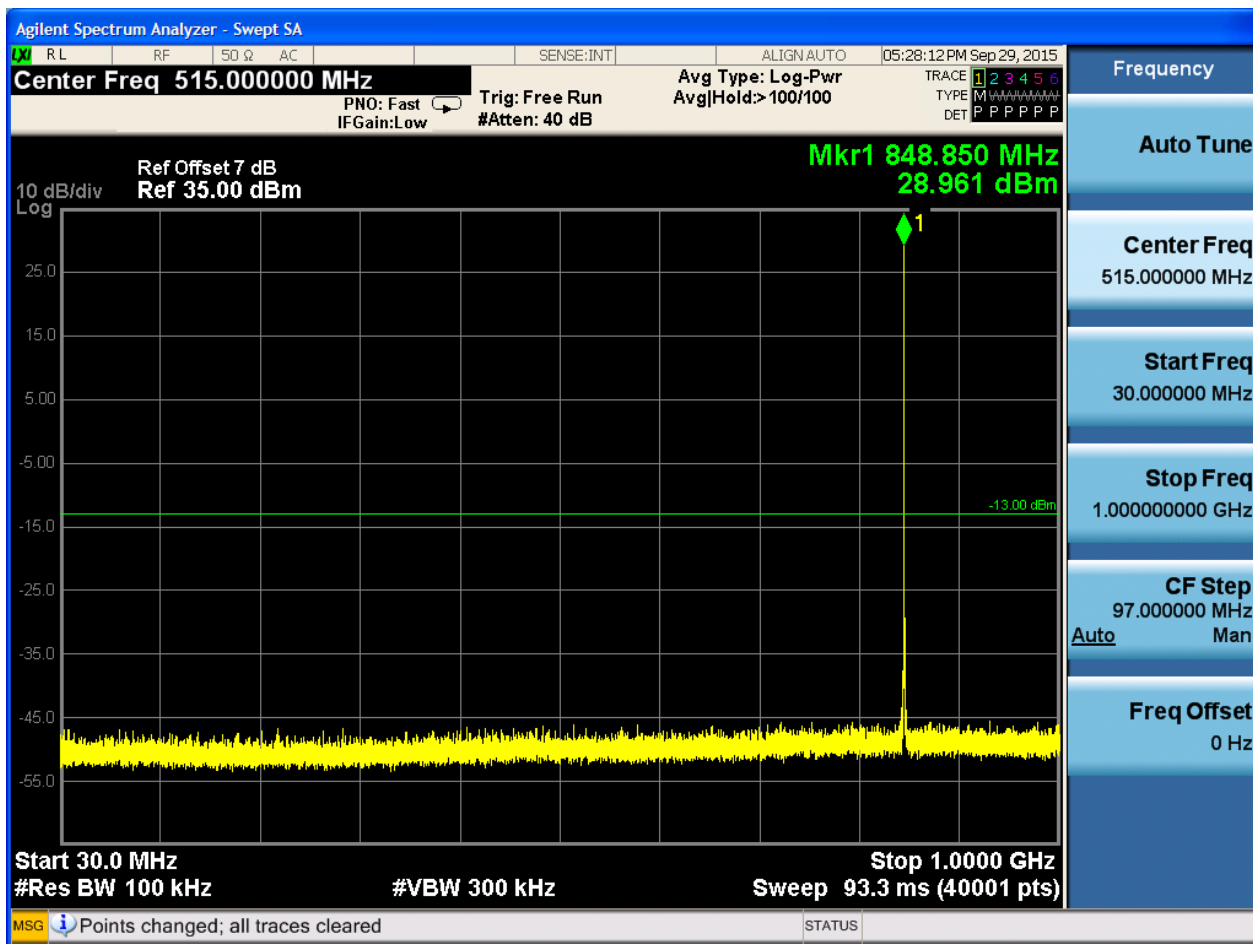


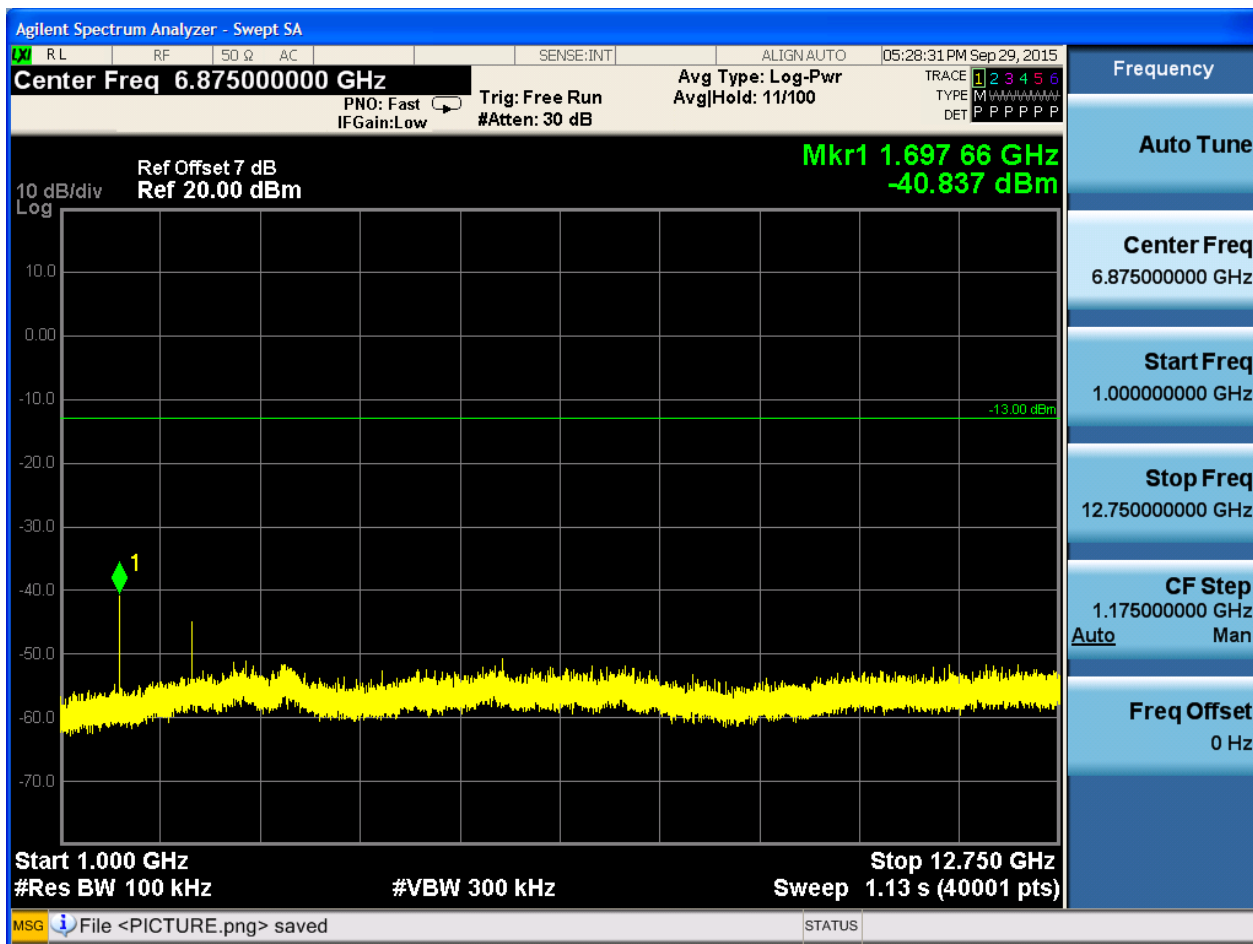


### 6.1.1.2.3 Test Channel = HCH







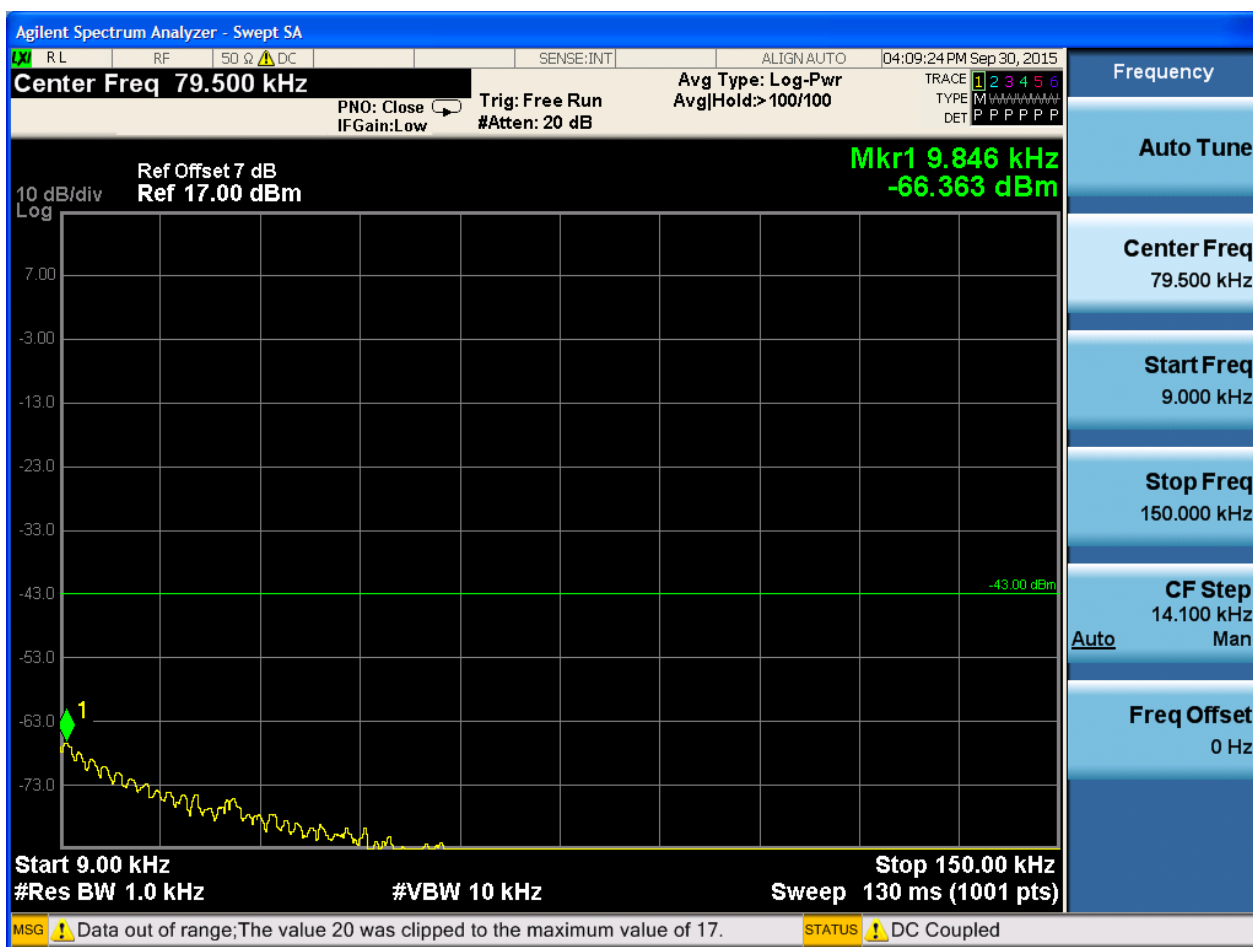


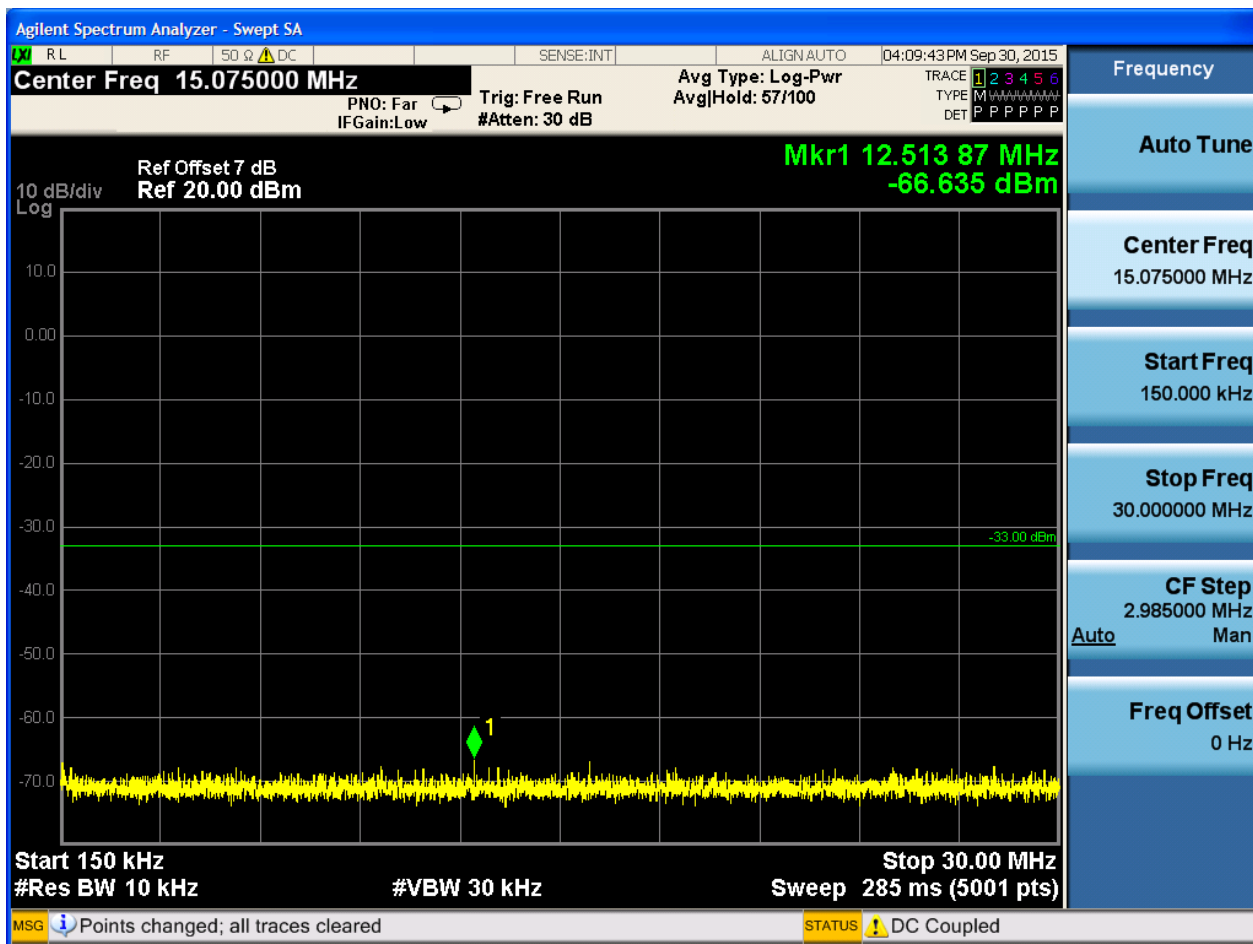


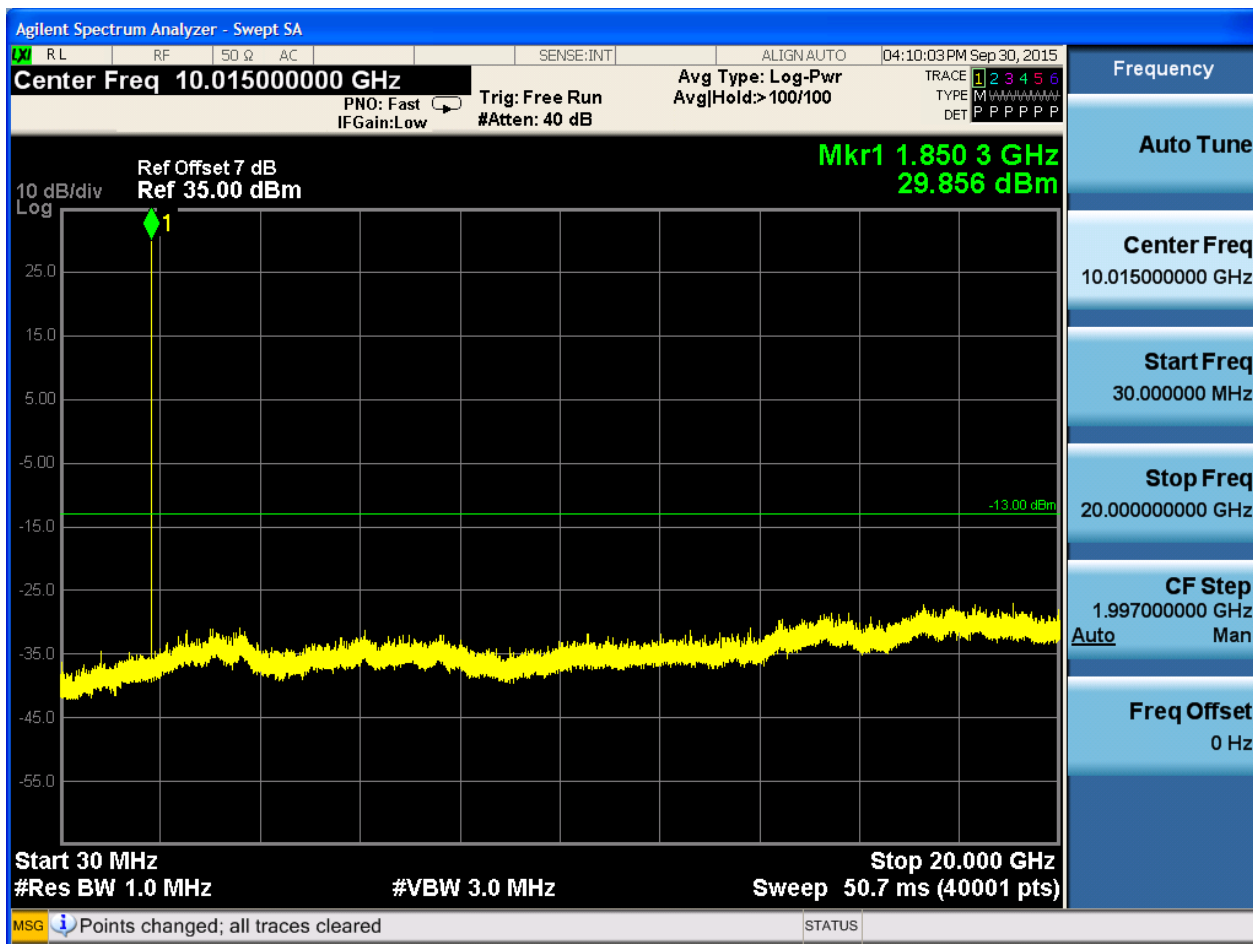
## 6.1.2 Test Band = GSM1900

## 6.1.2.1 Test Mode = GSM/TM1

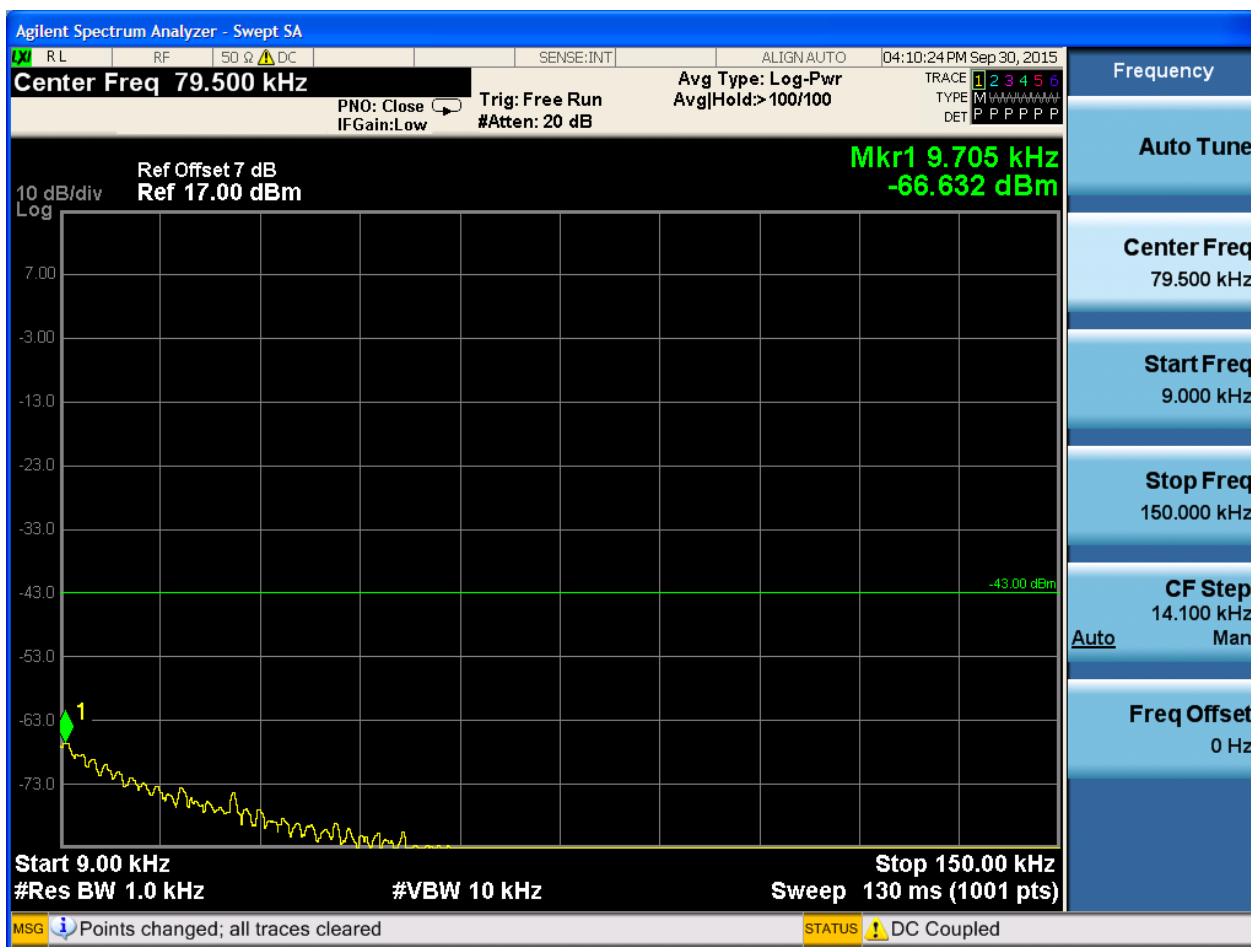
## 6.1.2.1.1 Test Channel = LCH

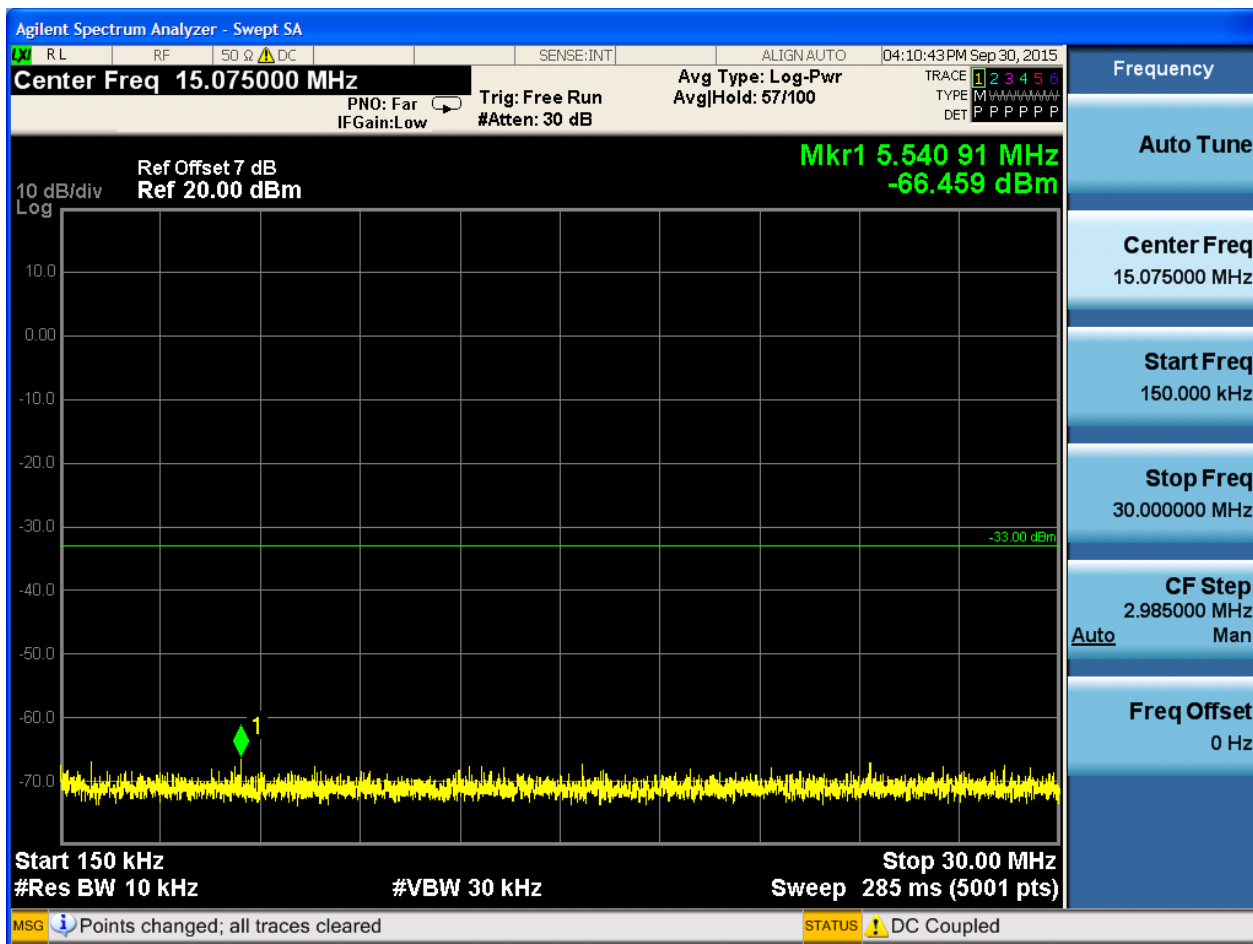


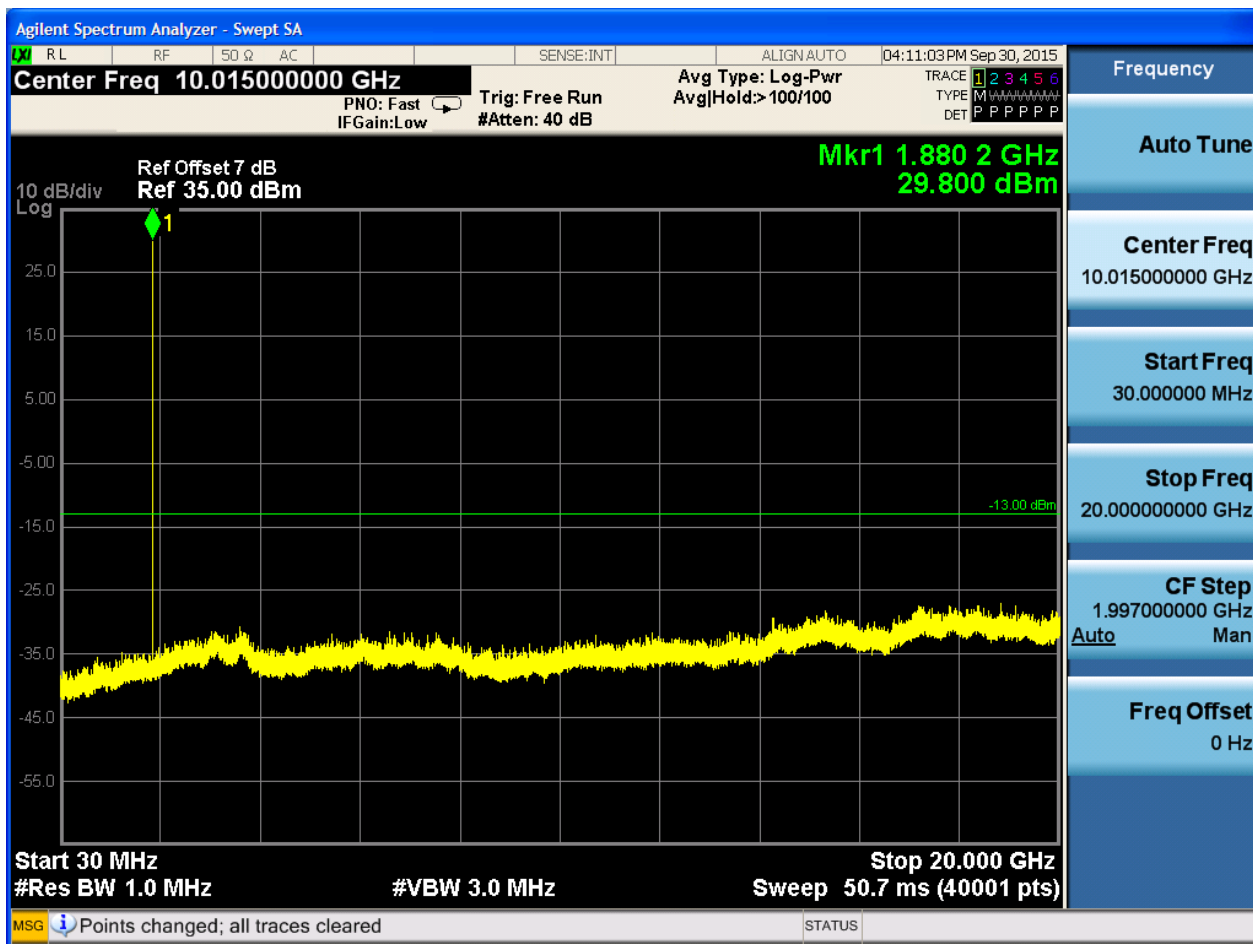




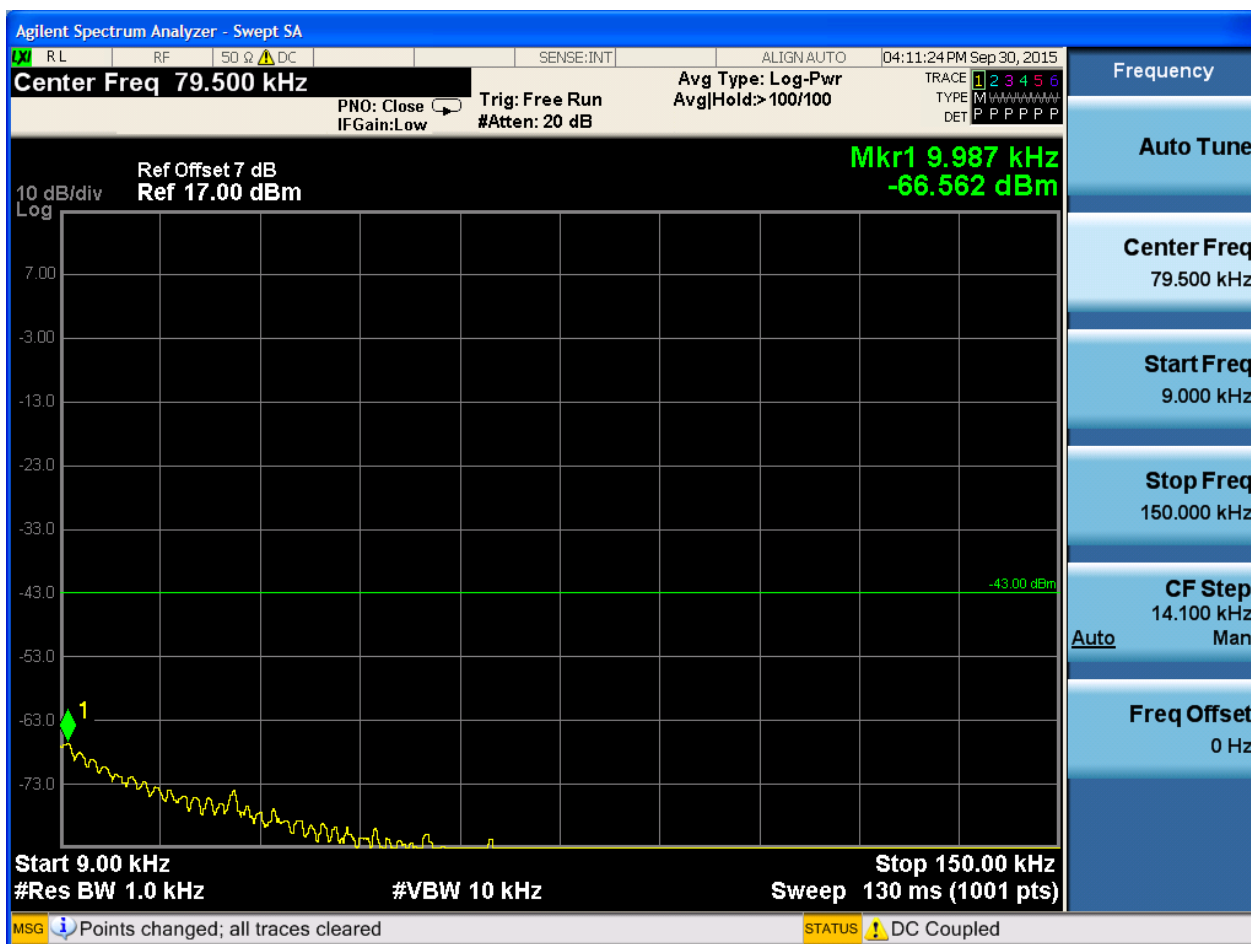
### 6.1.2.1.2 Test Channel = MCH

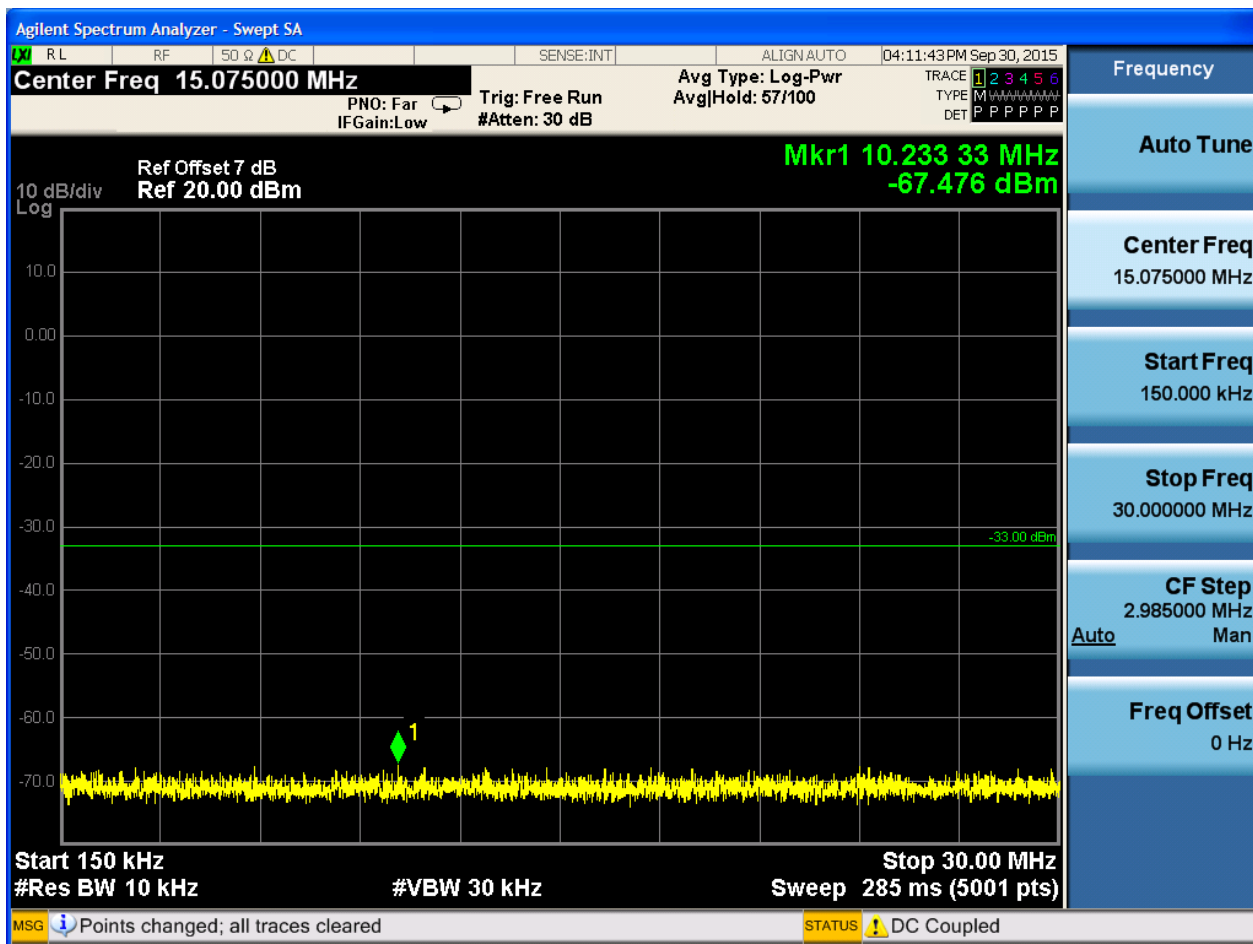


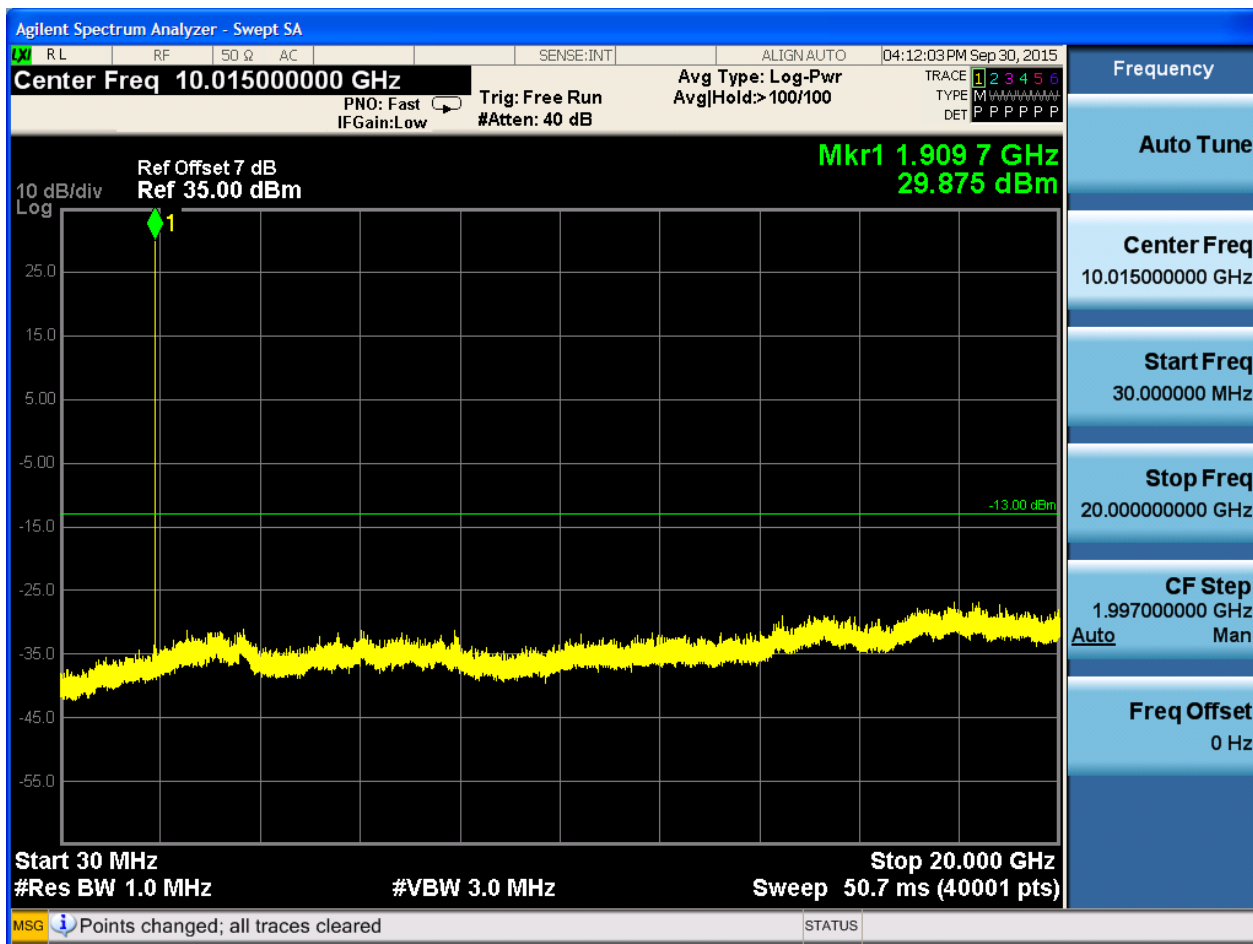




### 6.1.2.1.3 Test Channel = HCH

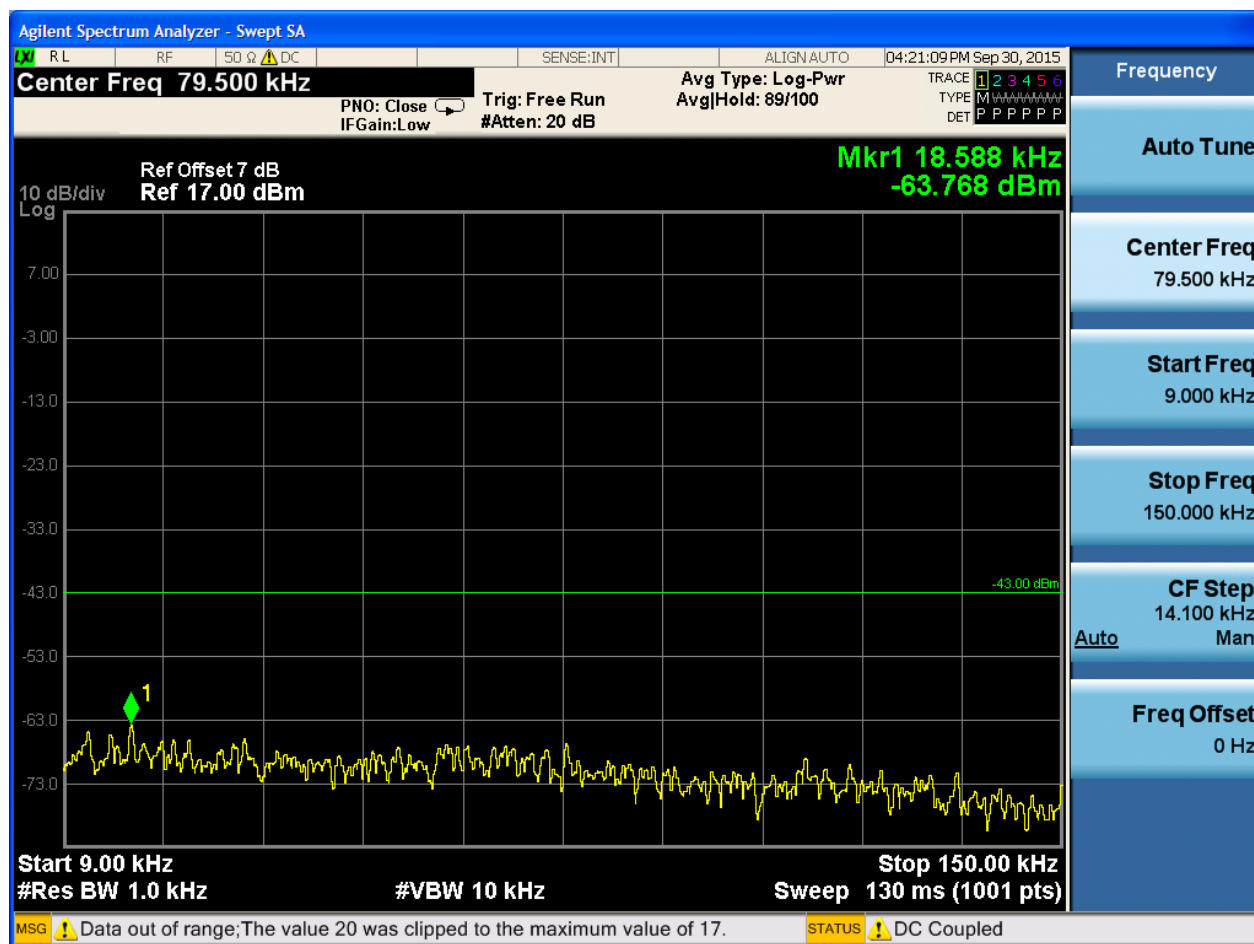


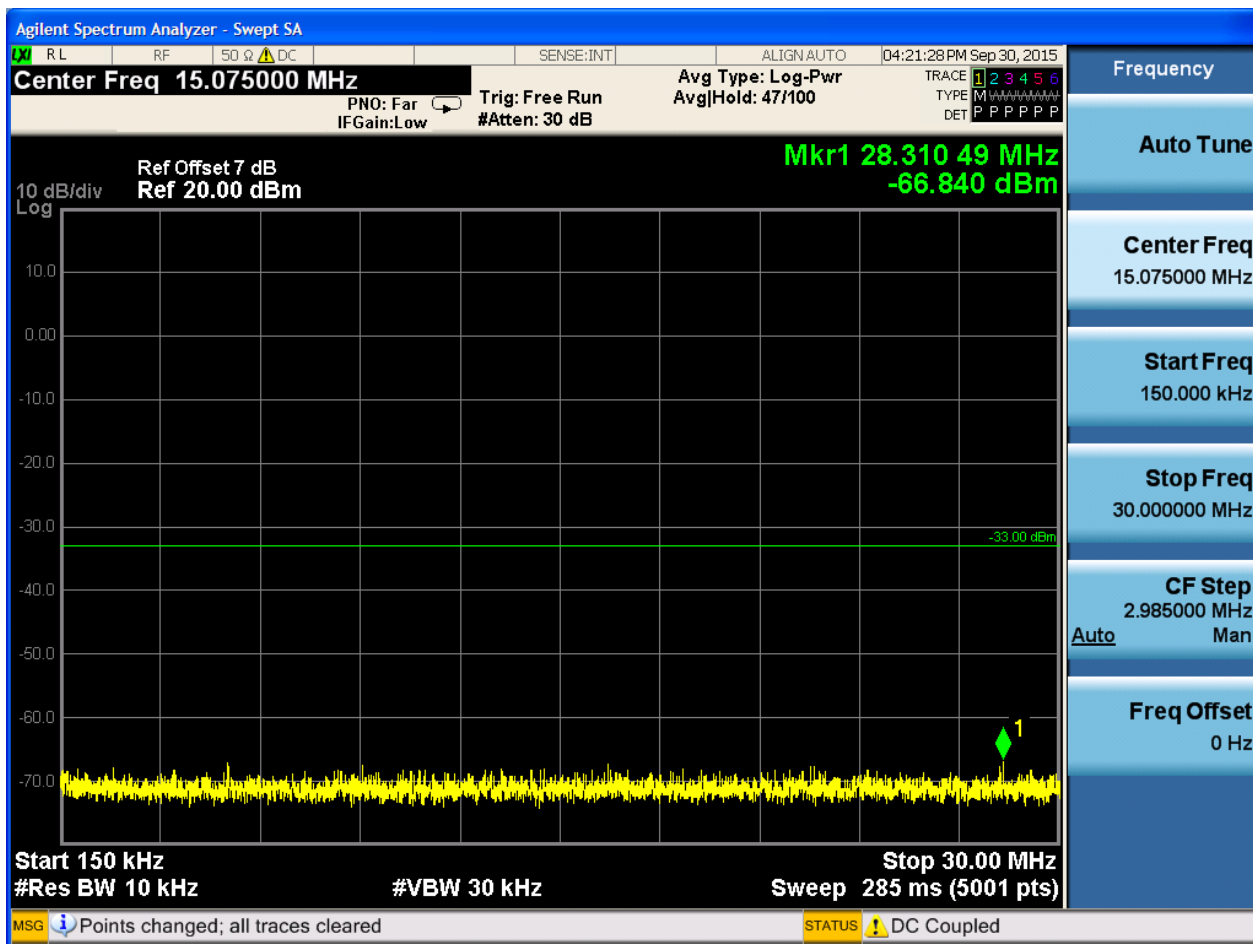


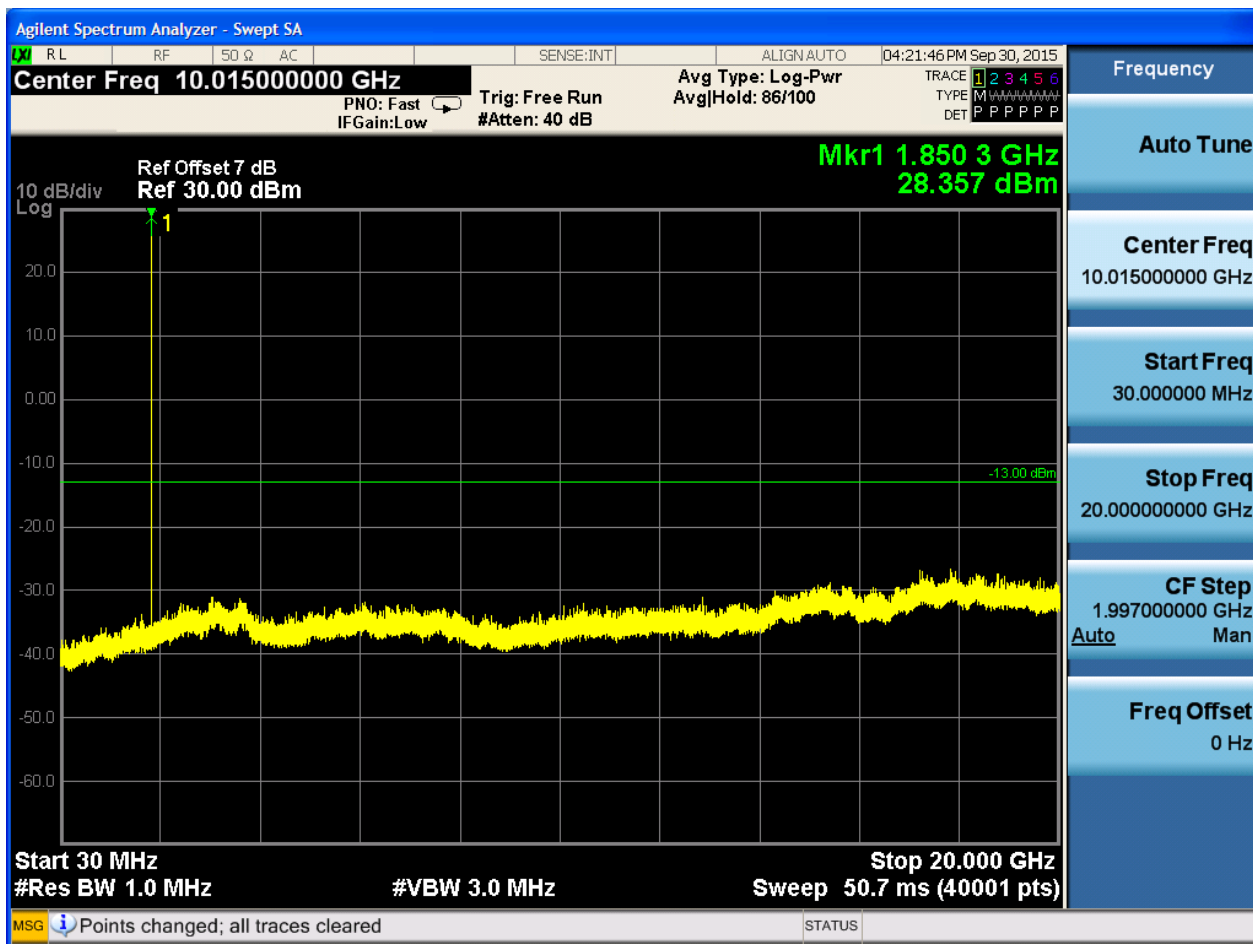


### 6.1.2.2 Test Mode = GSM/TM2

#### 6.1.2.2.1 Test Channel = LCH

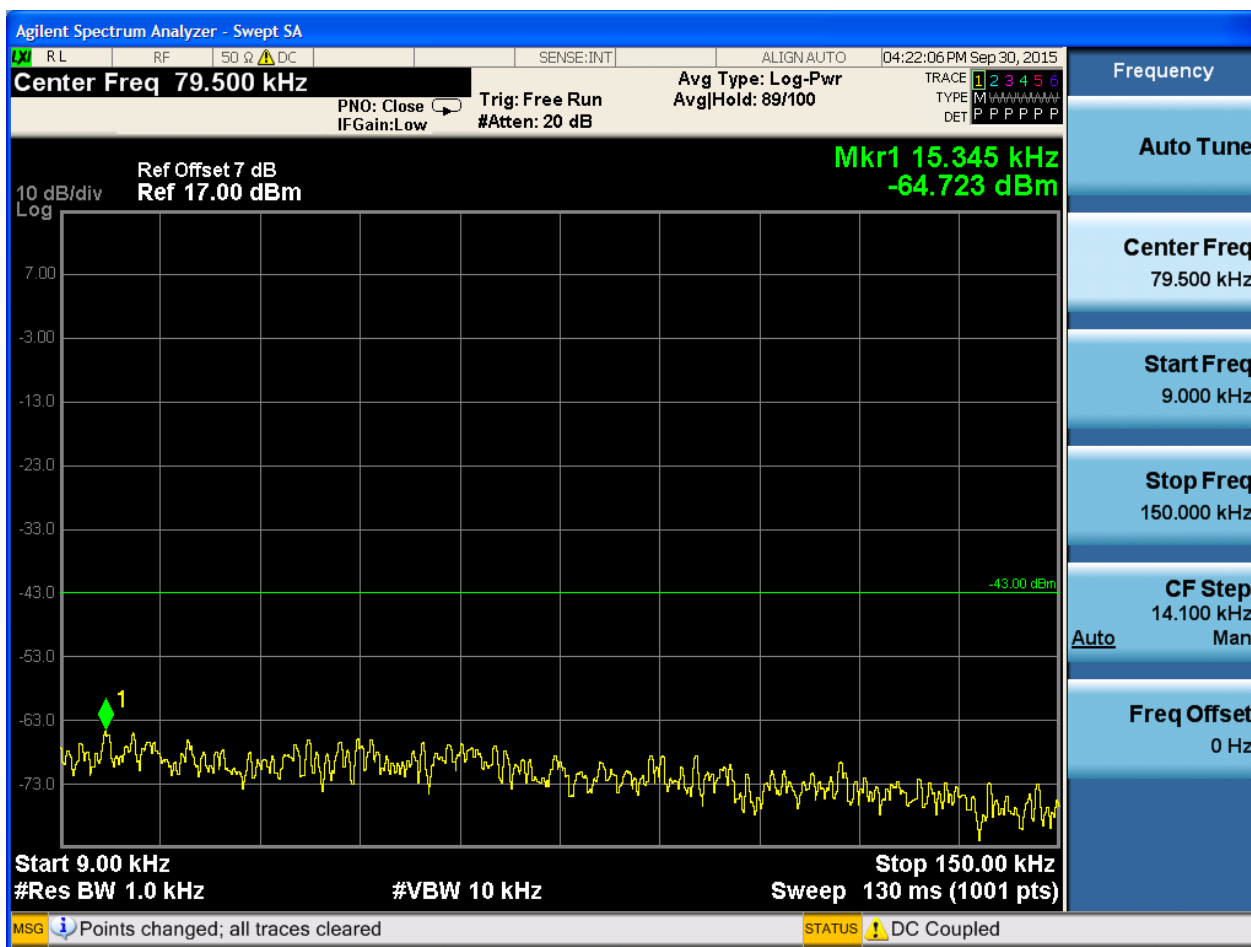


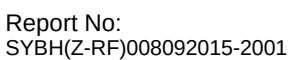


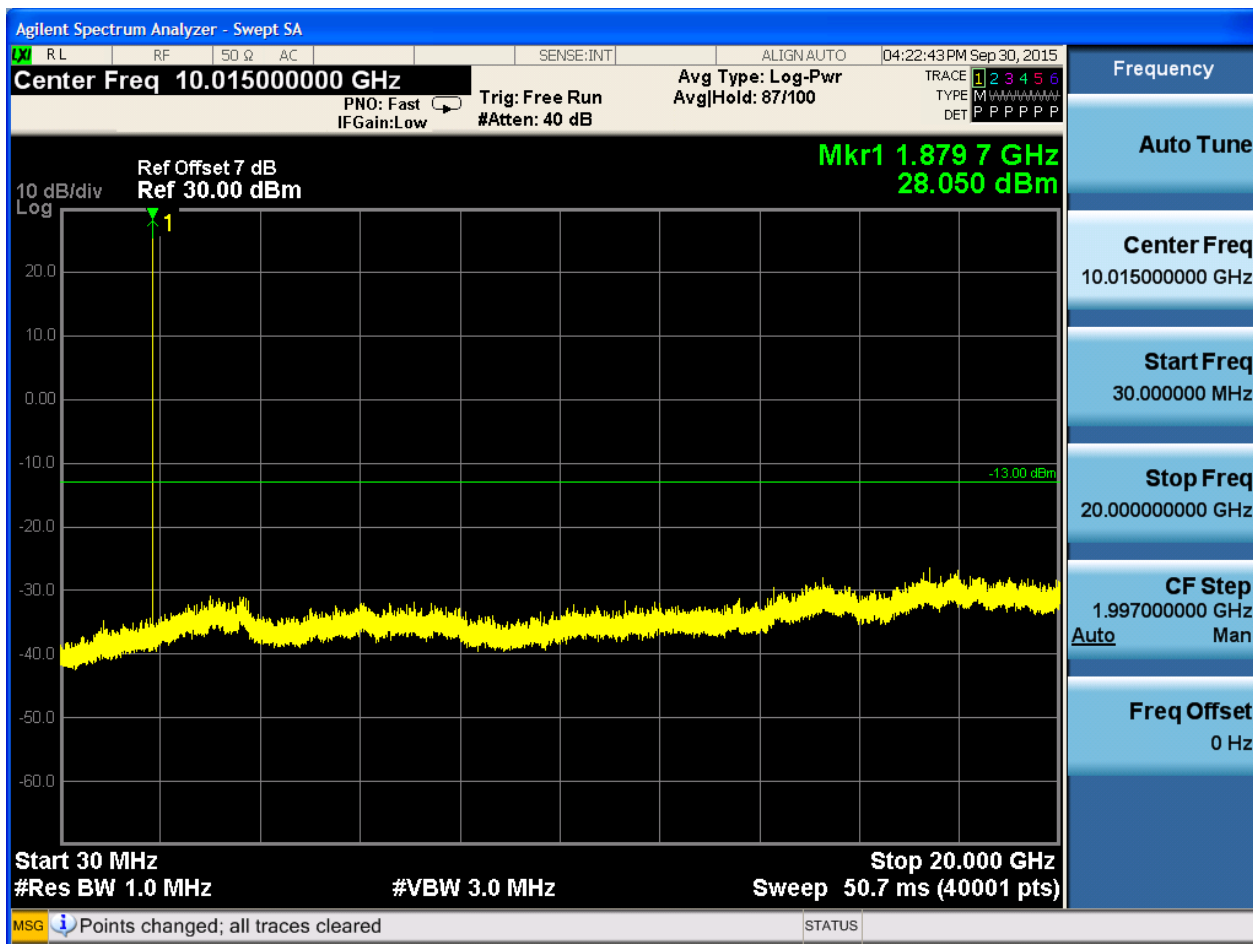




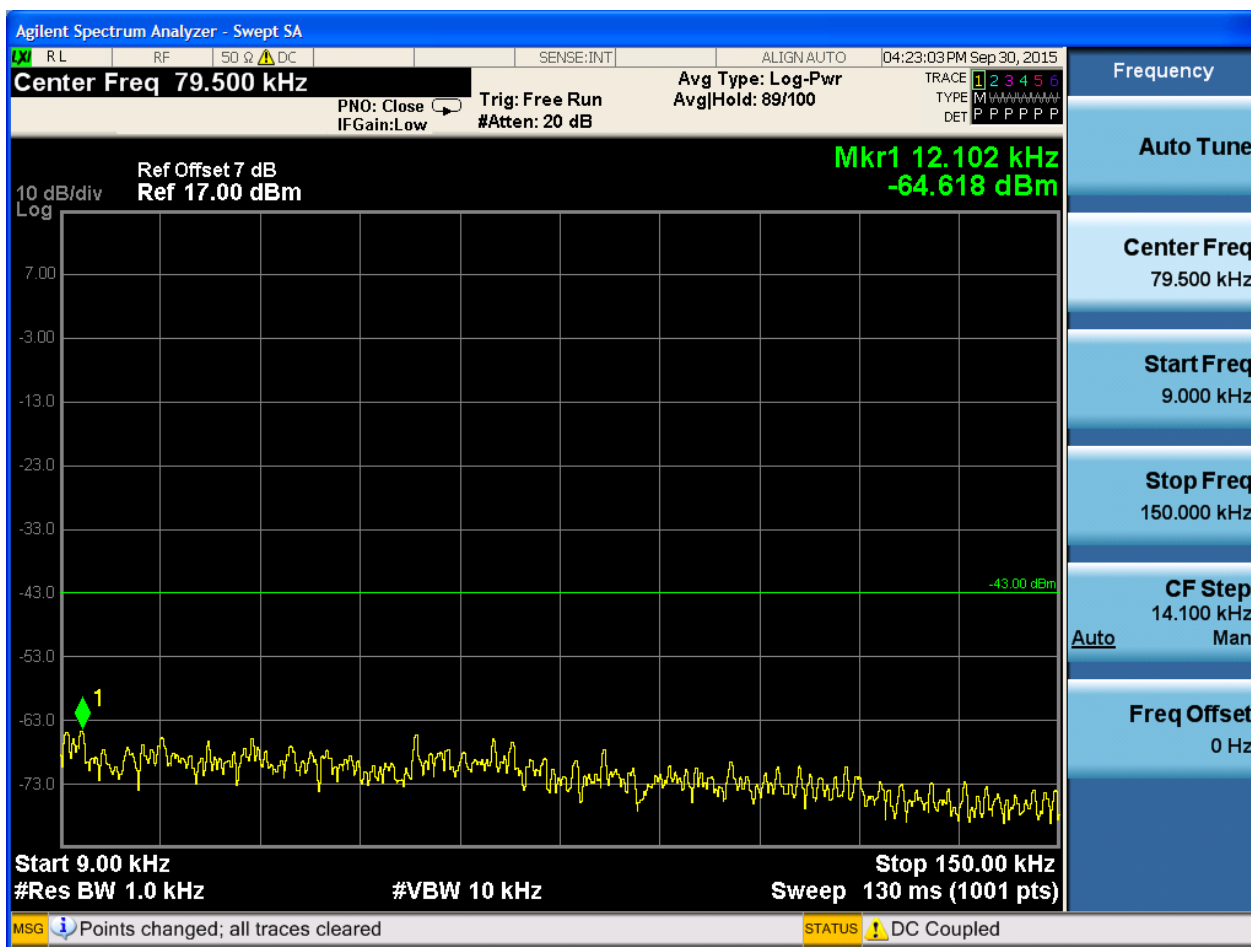
## 6.1.2.2.2 Test Channel = MCH

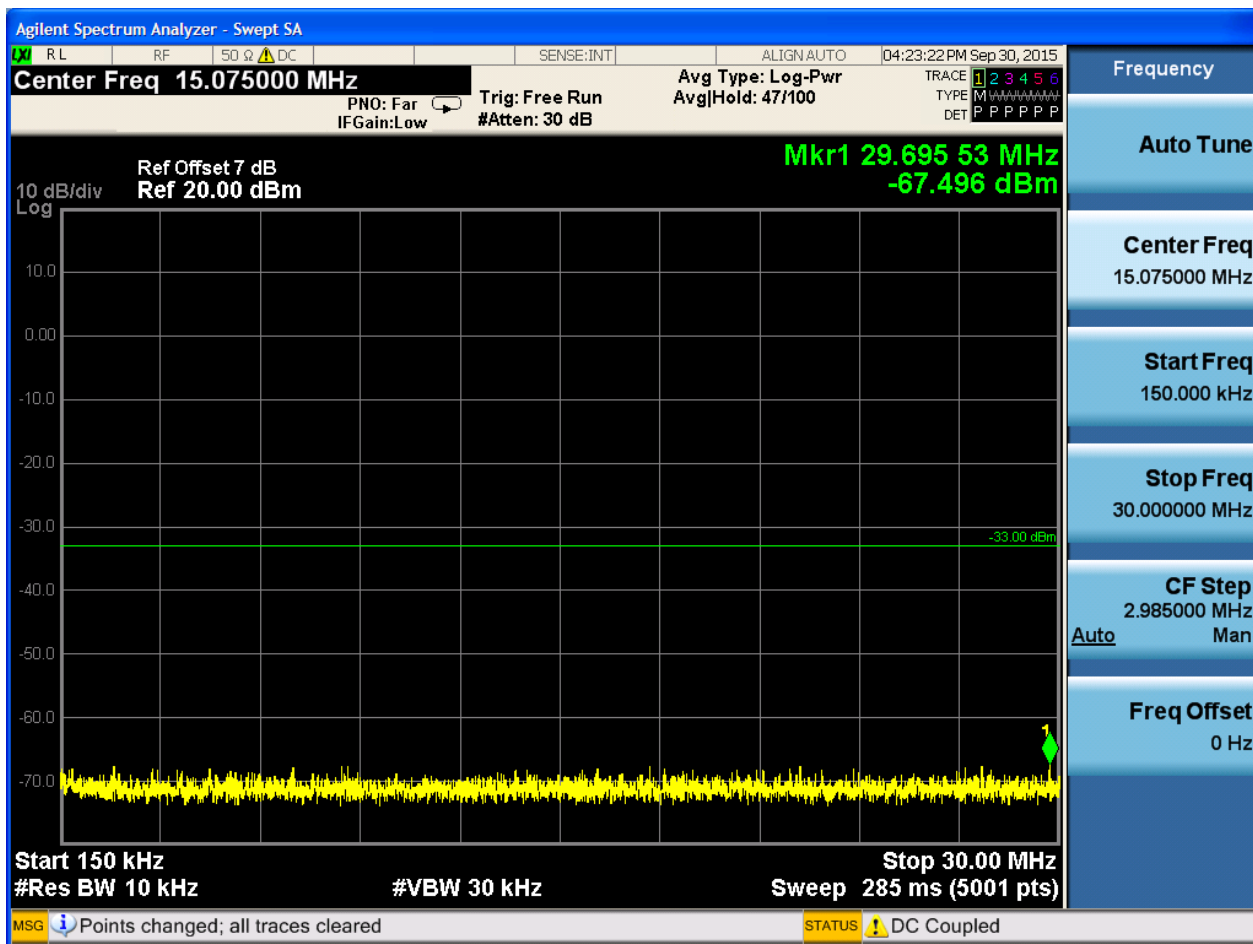


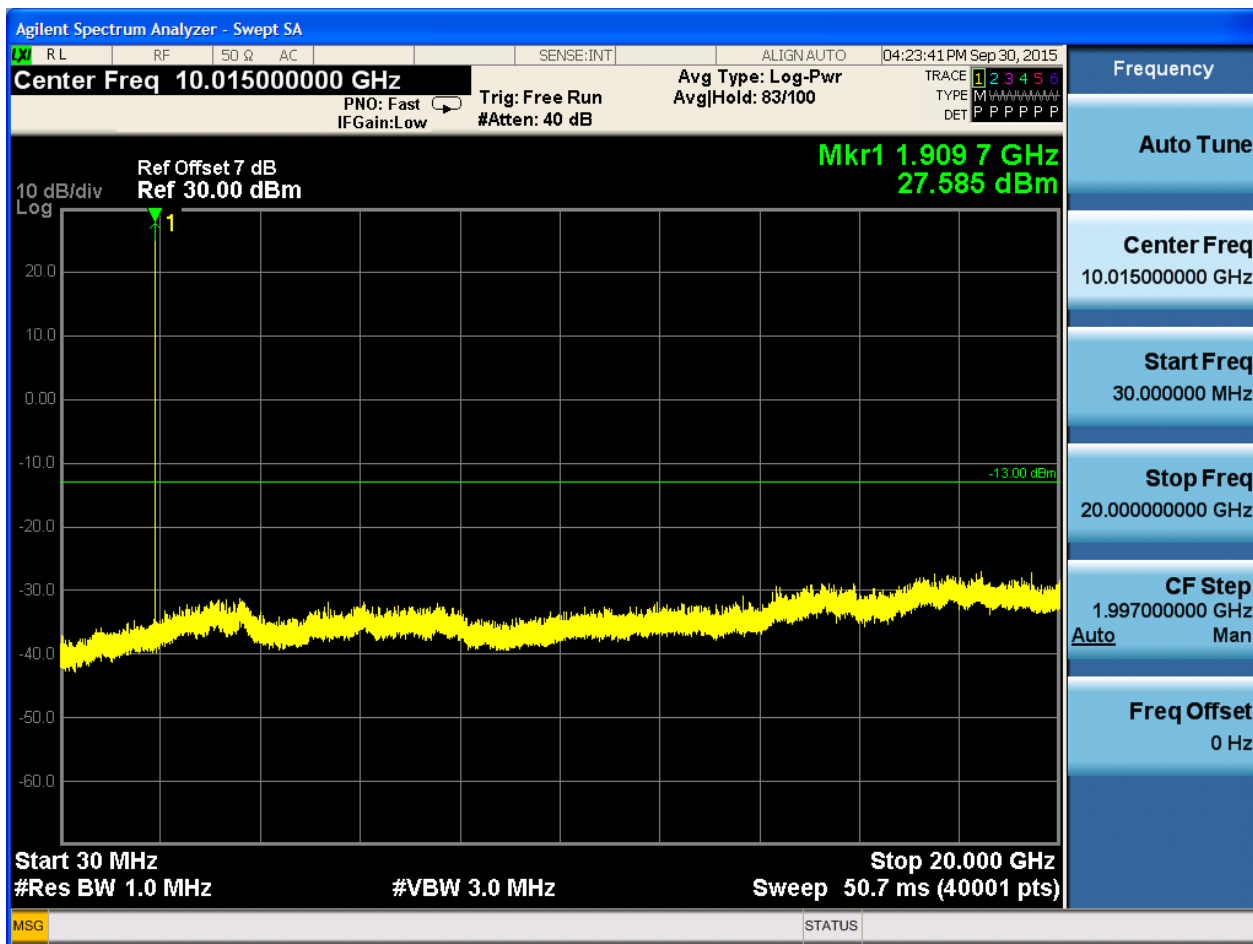




### 6.1.2.2.3 Test Channel = HCH





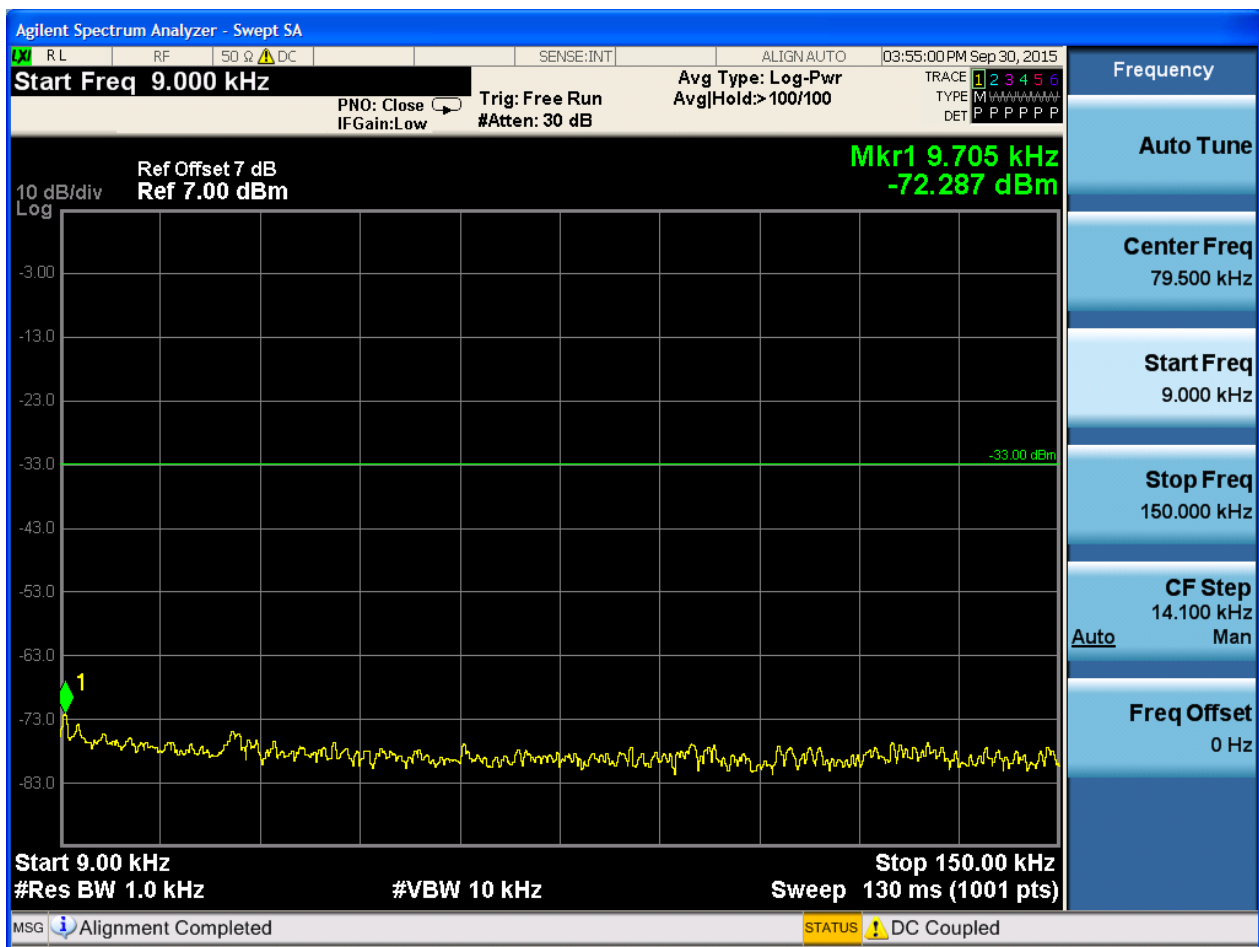


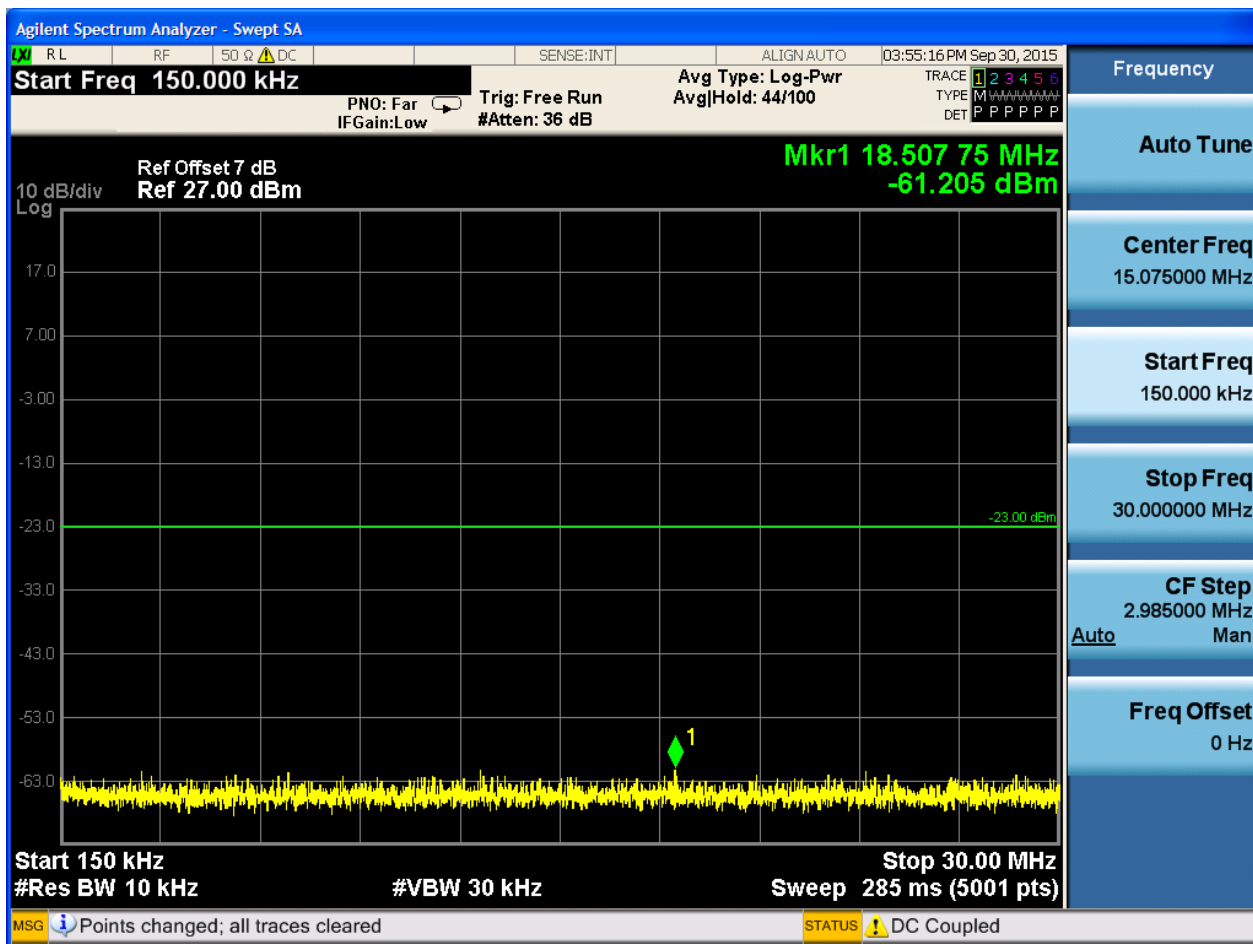
## 6.2 For UMTS

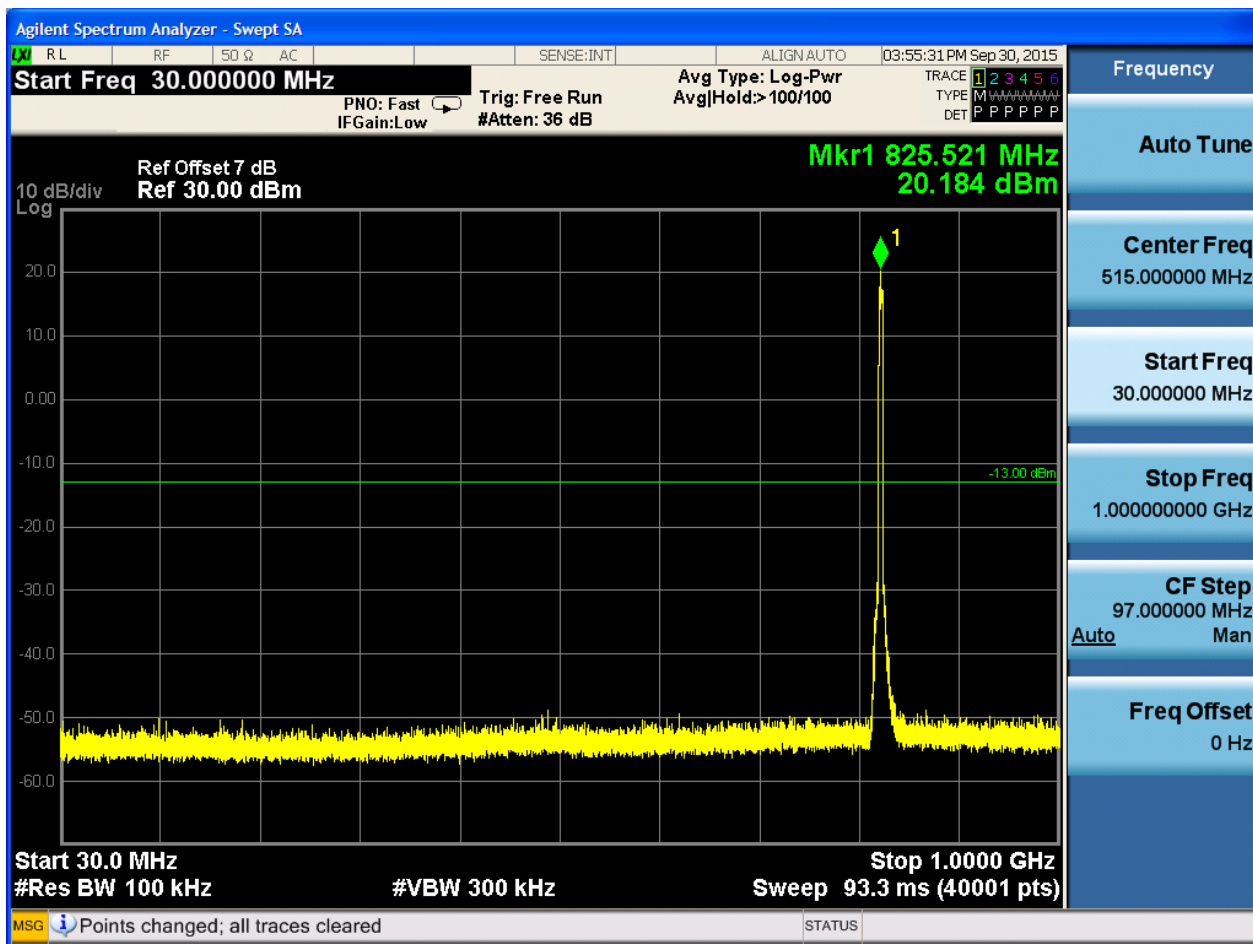
### 6.2.1 Test Band = WCDMA850

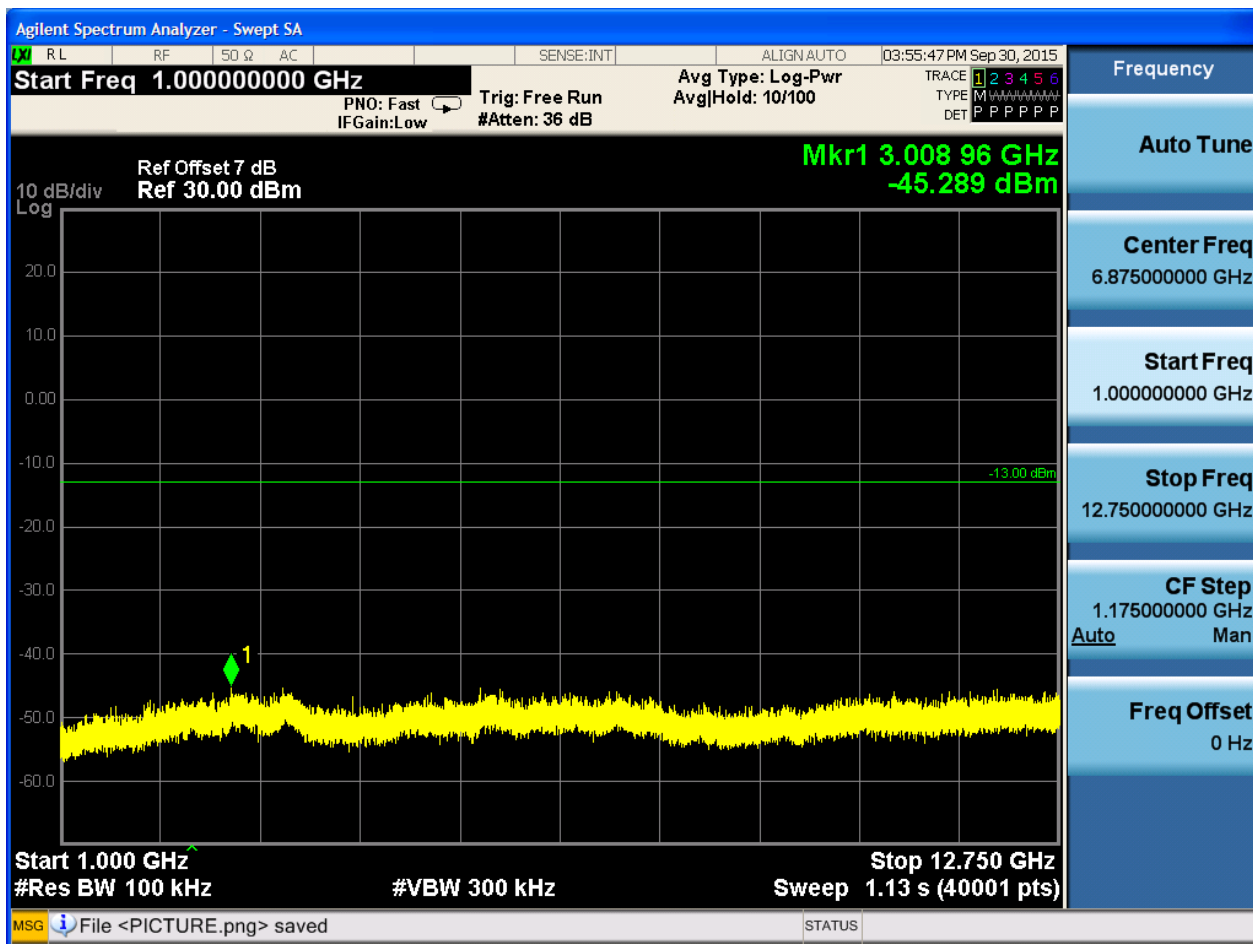
#### 6.2.1.1 Test Mode = UMTS/TM1

#### 6.2.1.1.1 Test Channel = LCH

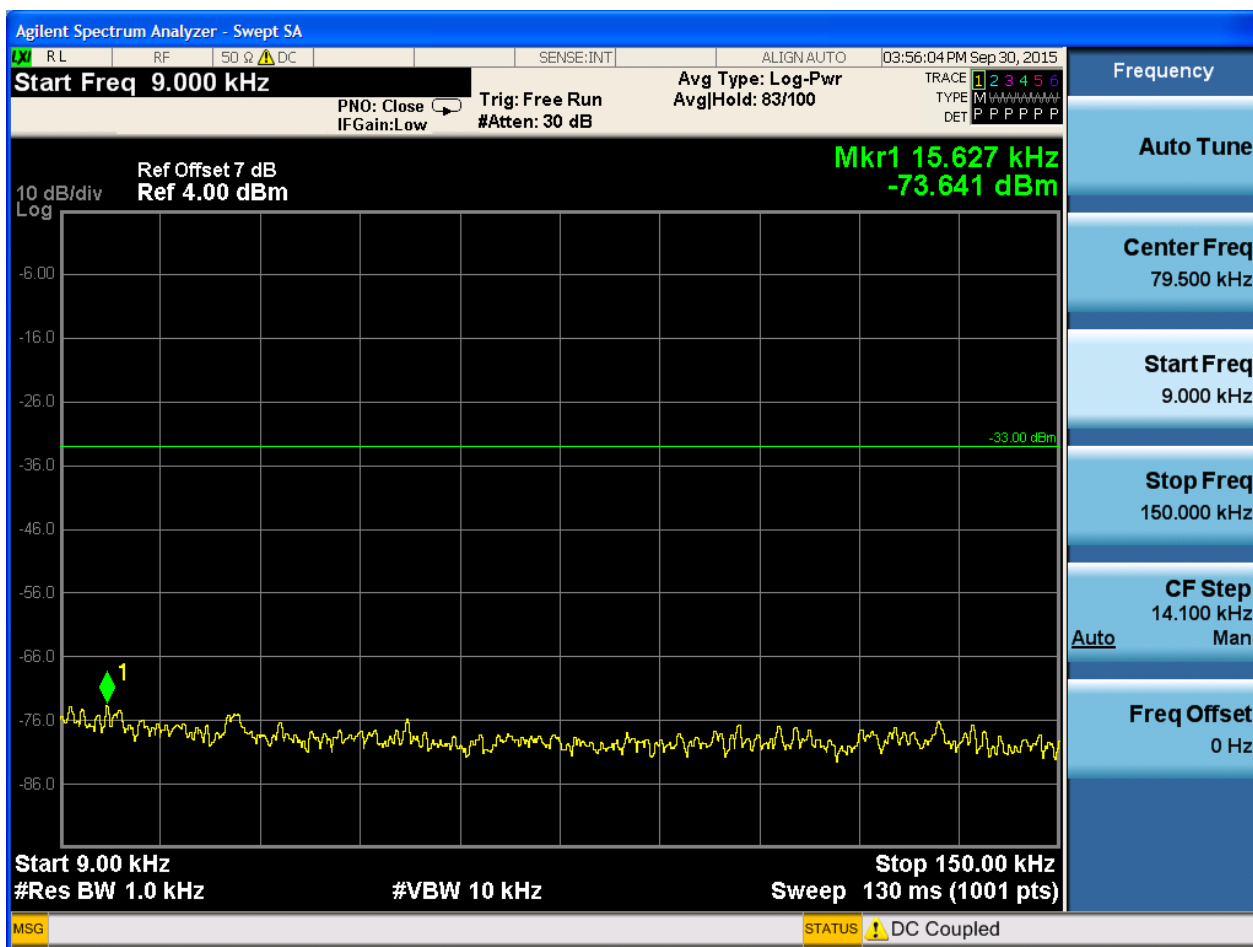


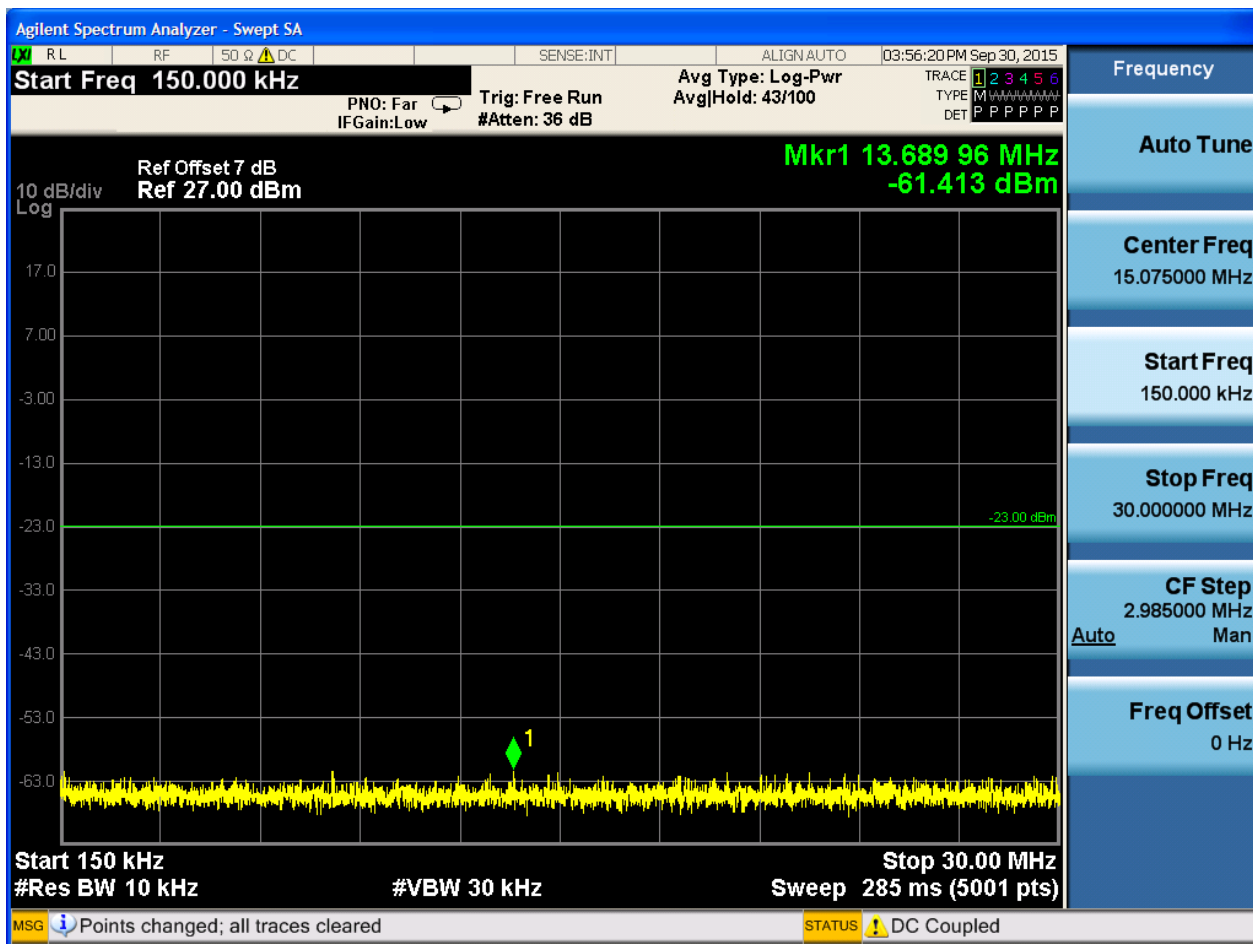


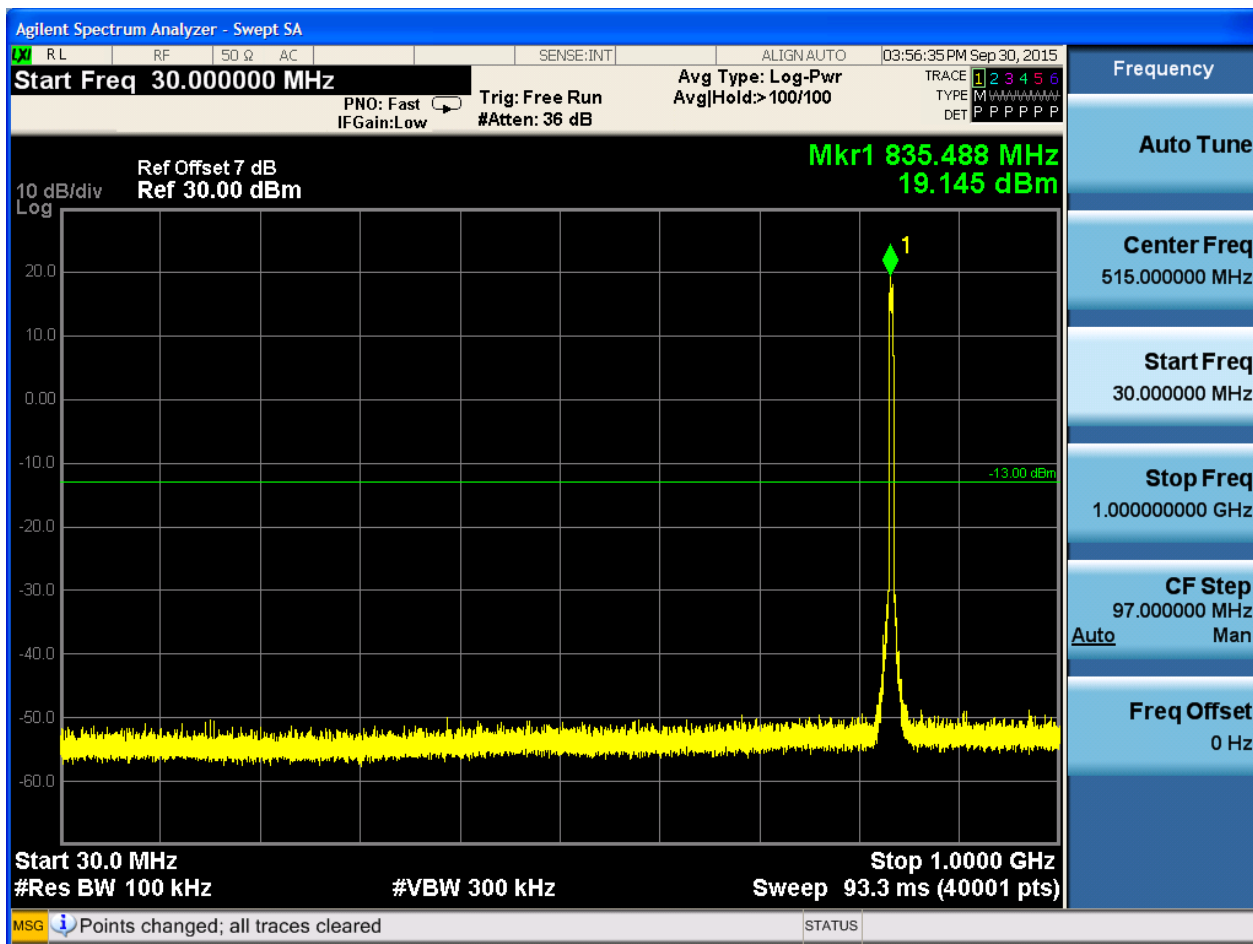


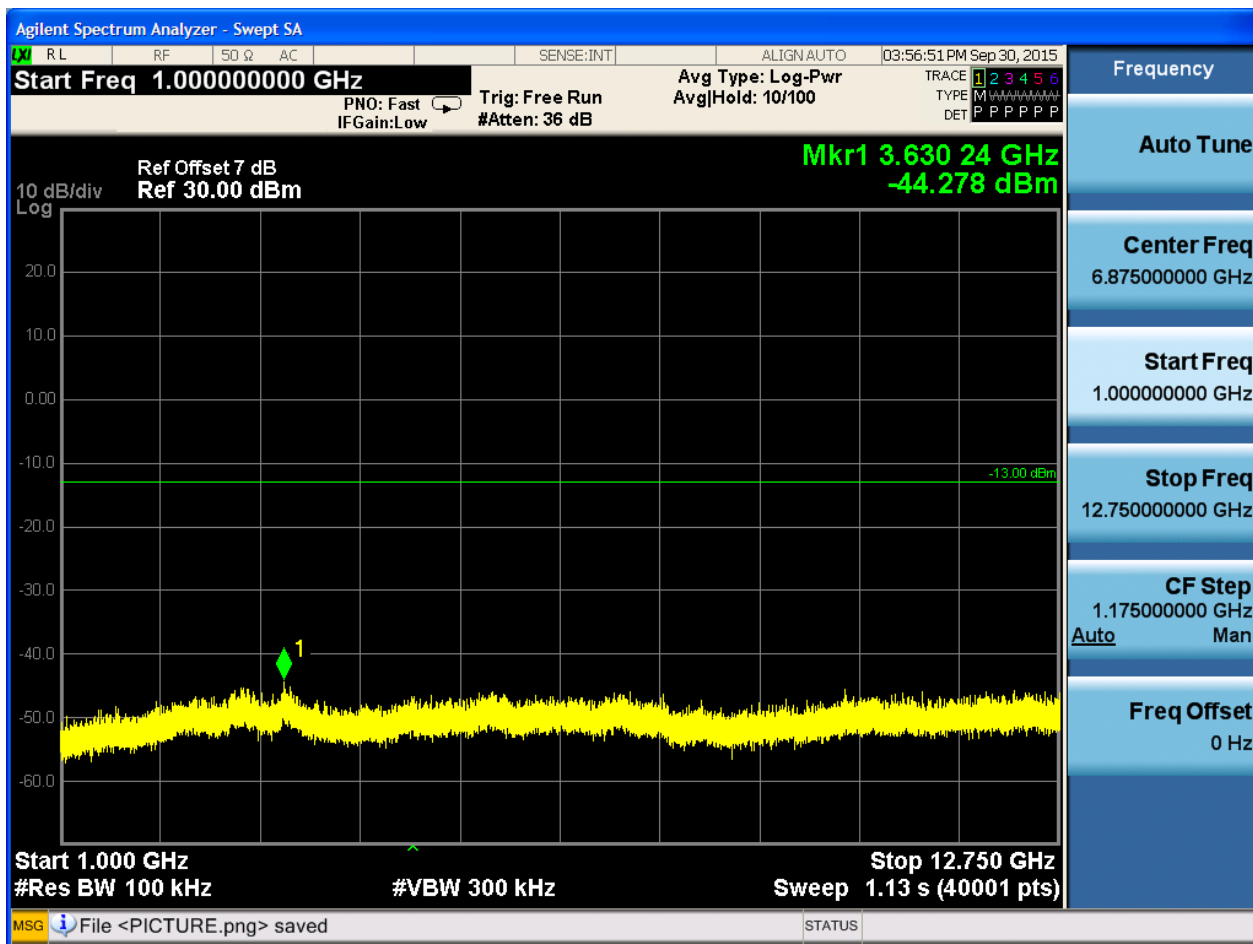


### 6.2.1.1.2 Test Channel = MCH

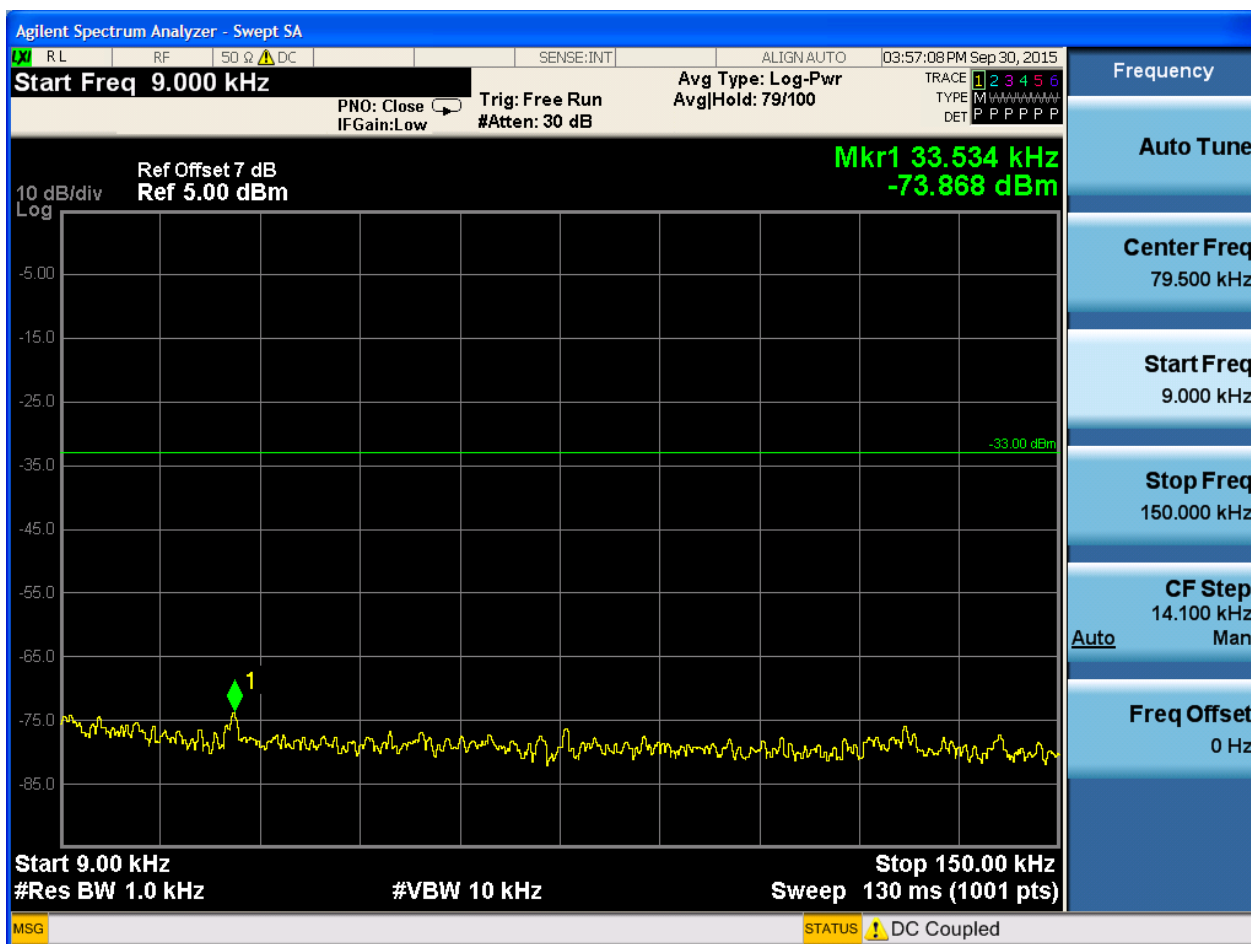


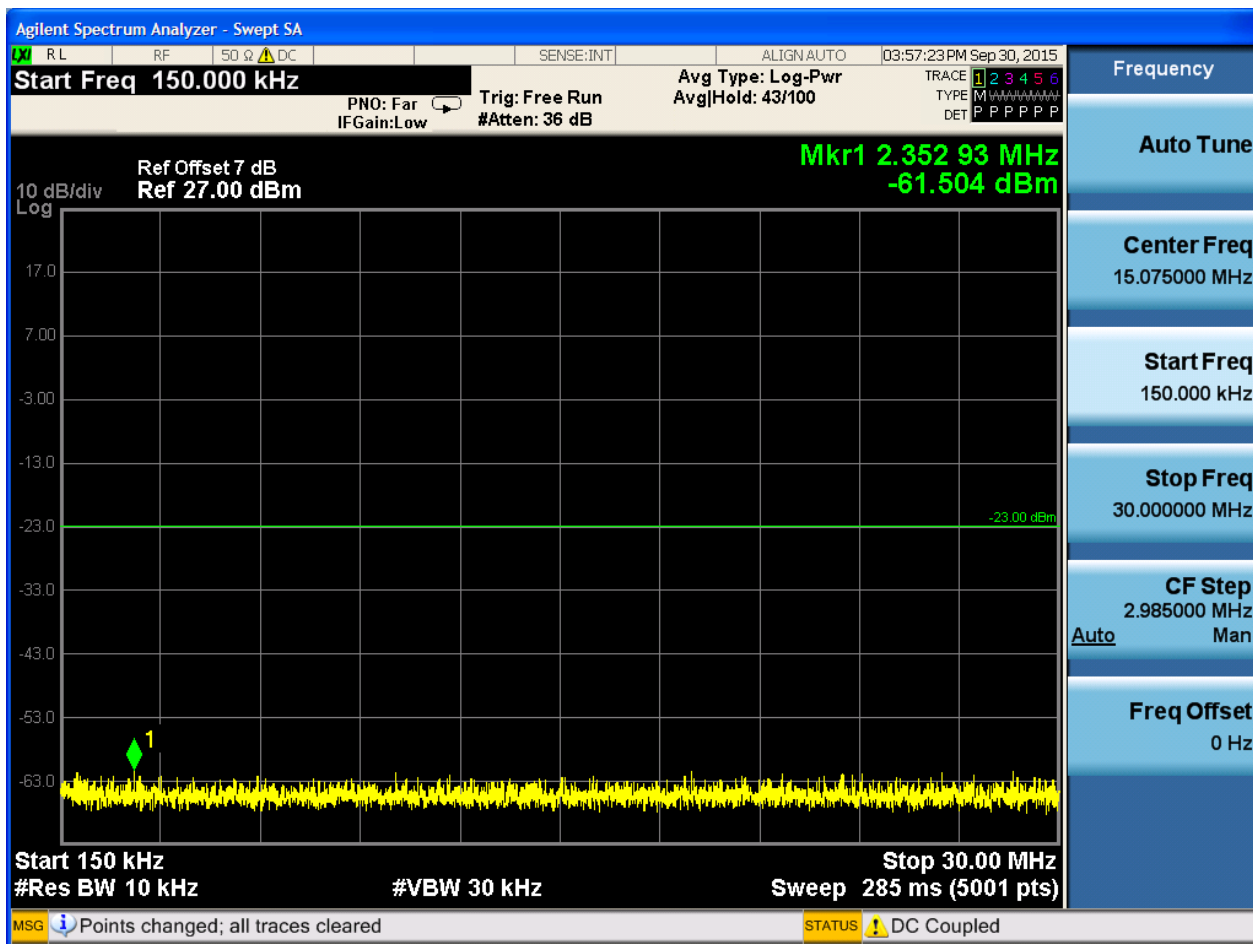


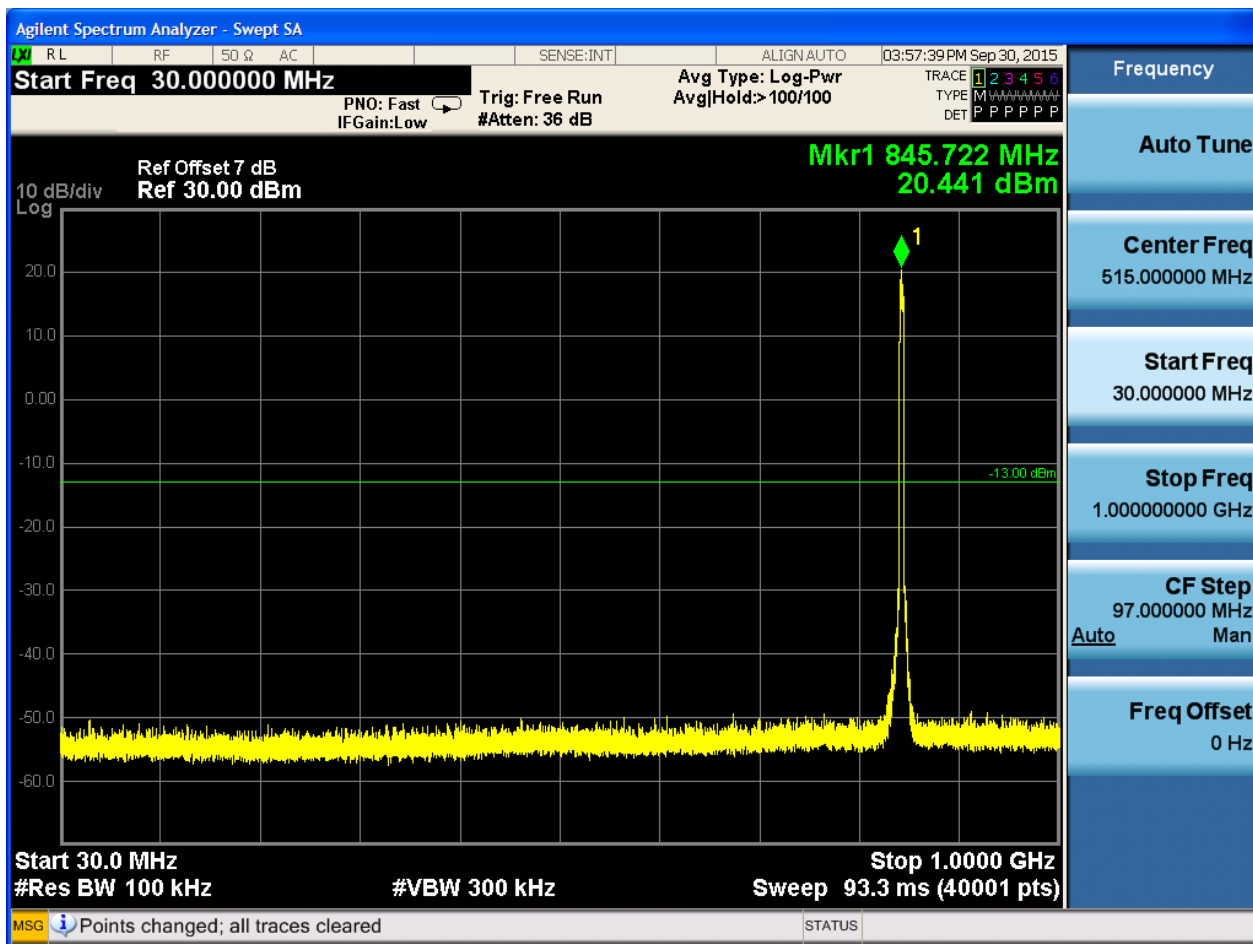


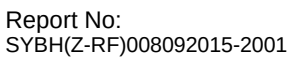


### 6.2.1.1.3 Test Channel = HCH





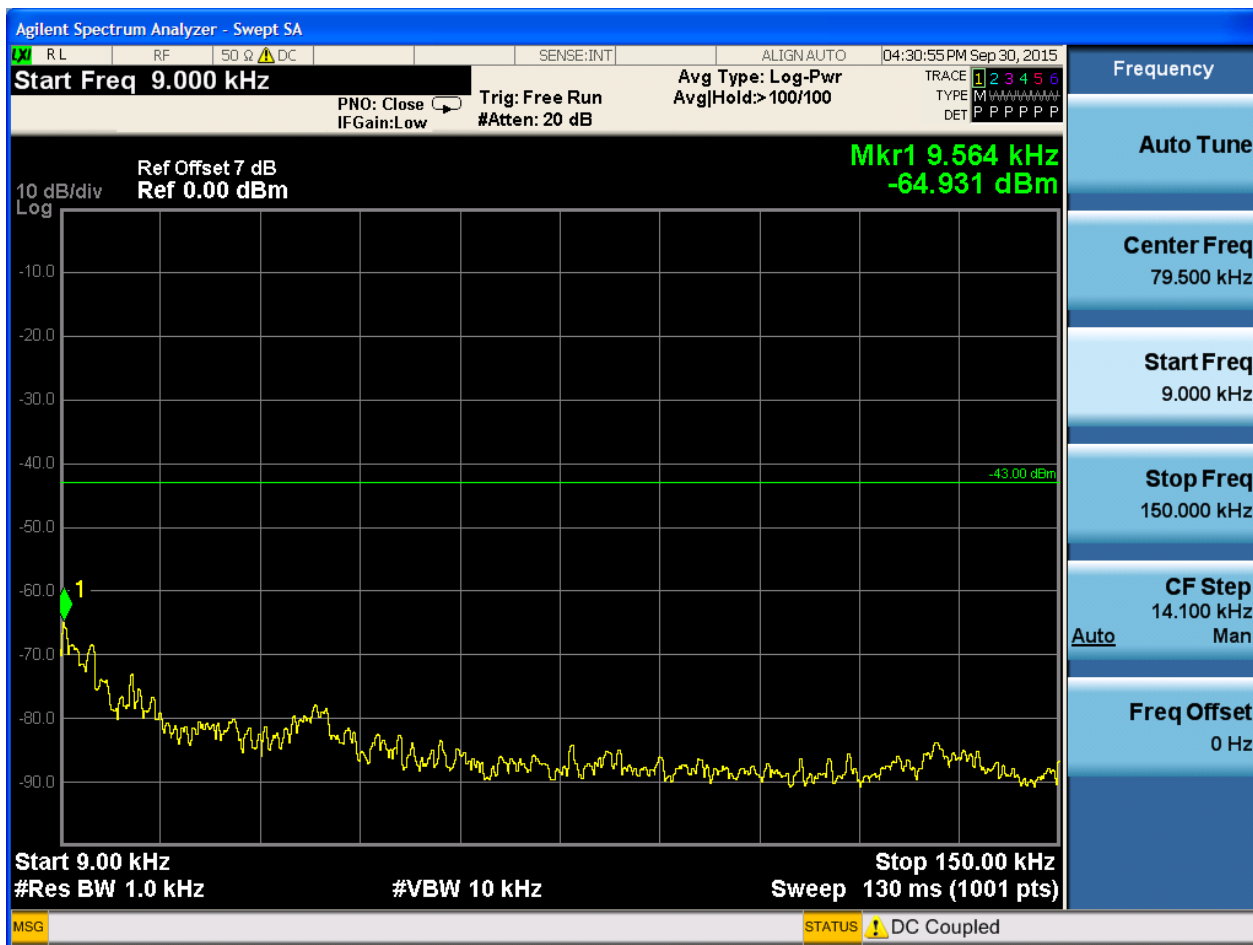


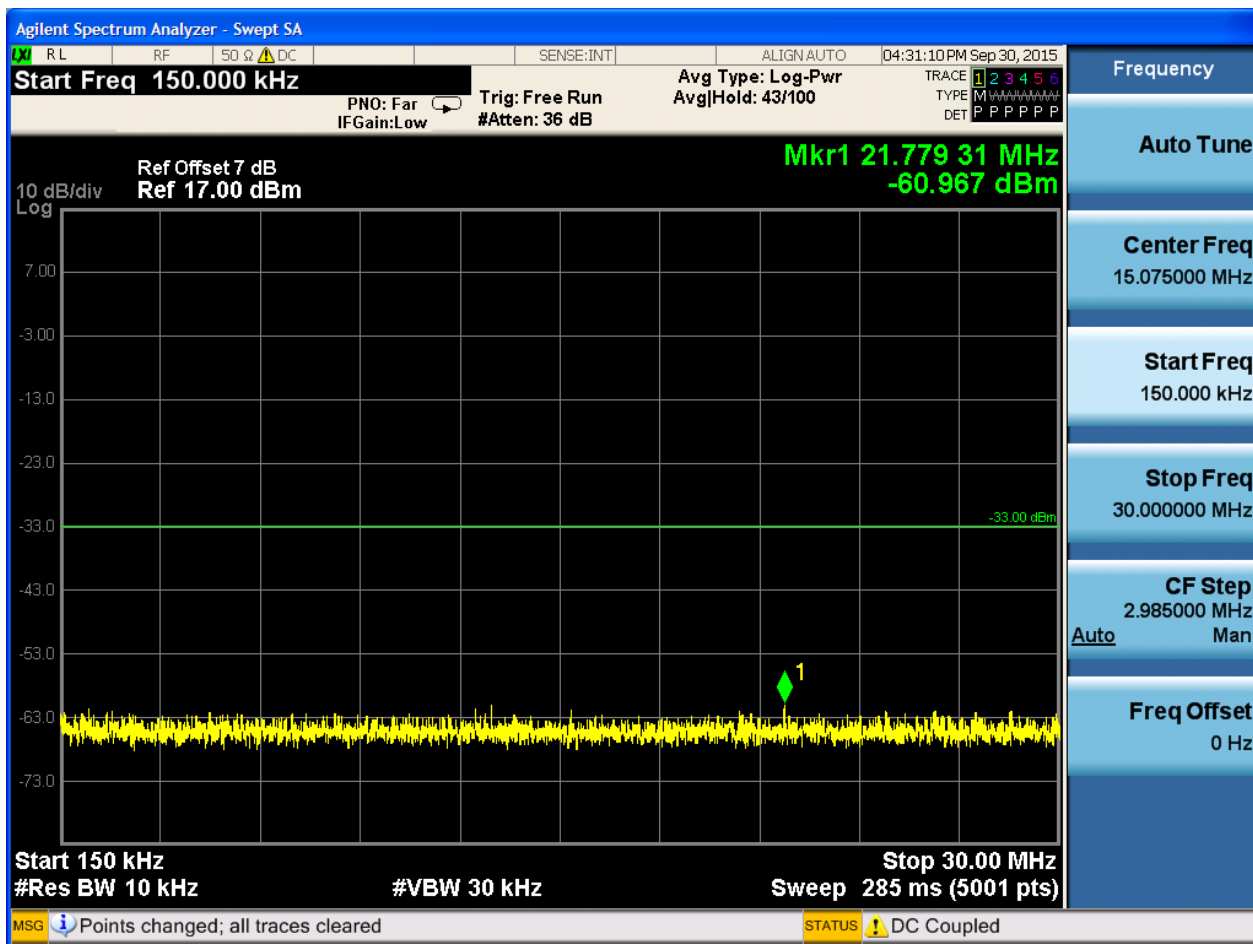


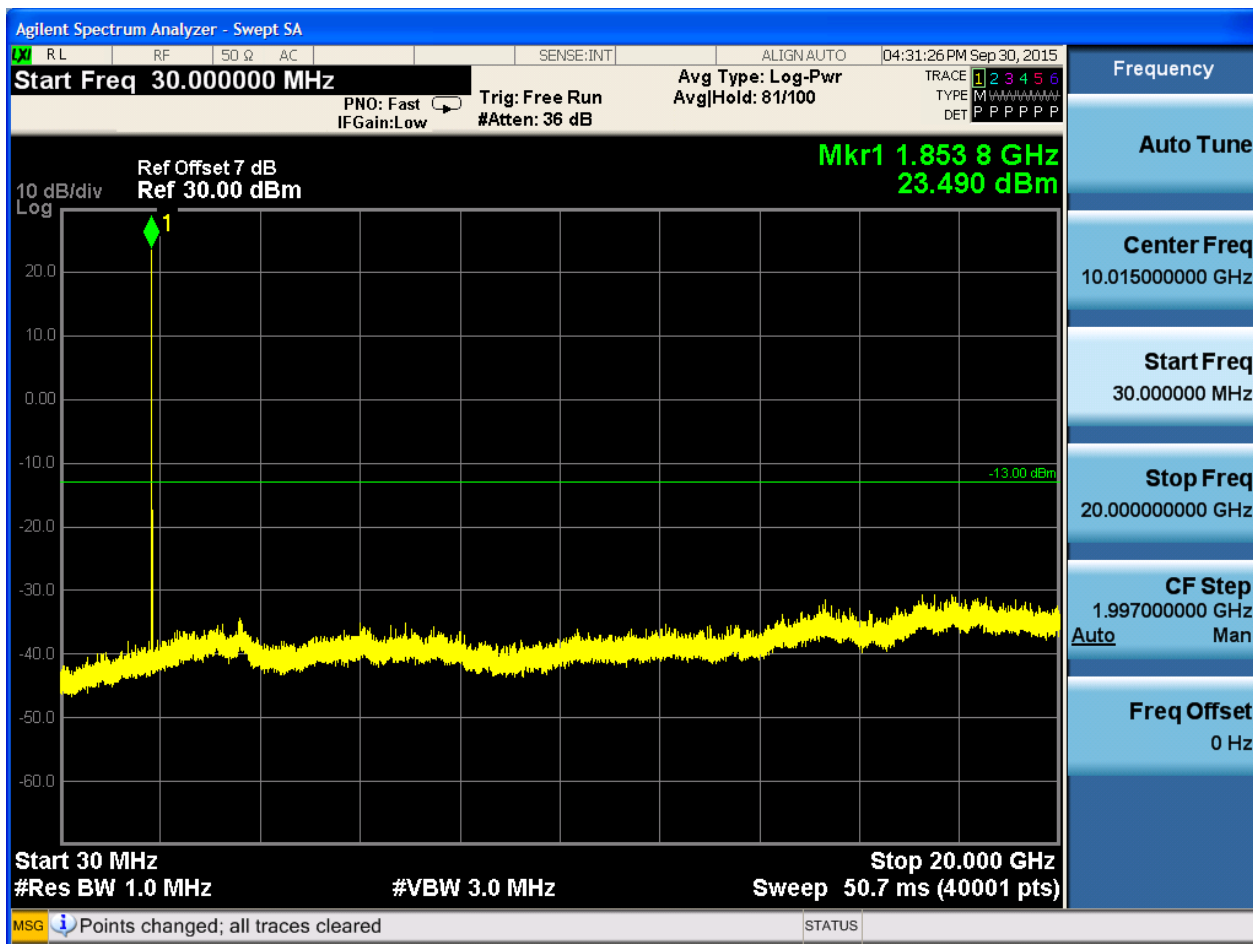
## 6.2.3 Test Band = WCDMA1900

### 6.2.3.1 Test Mode = UMTS/TM1

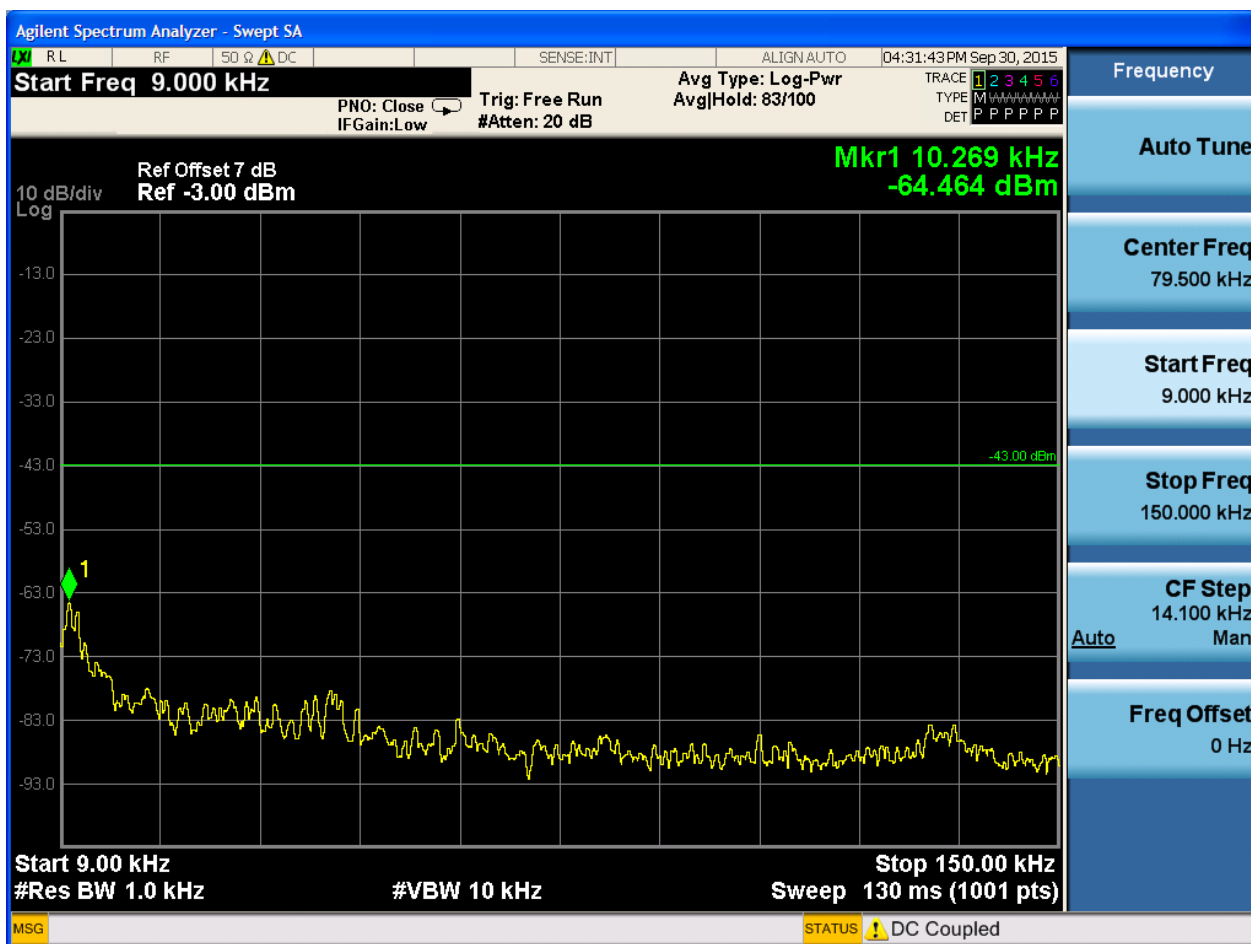
#### 6.2.3.1.1 Test Channel = LCH

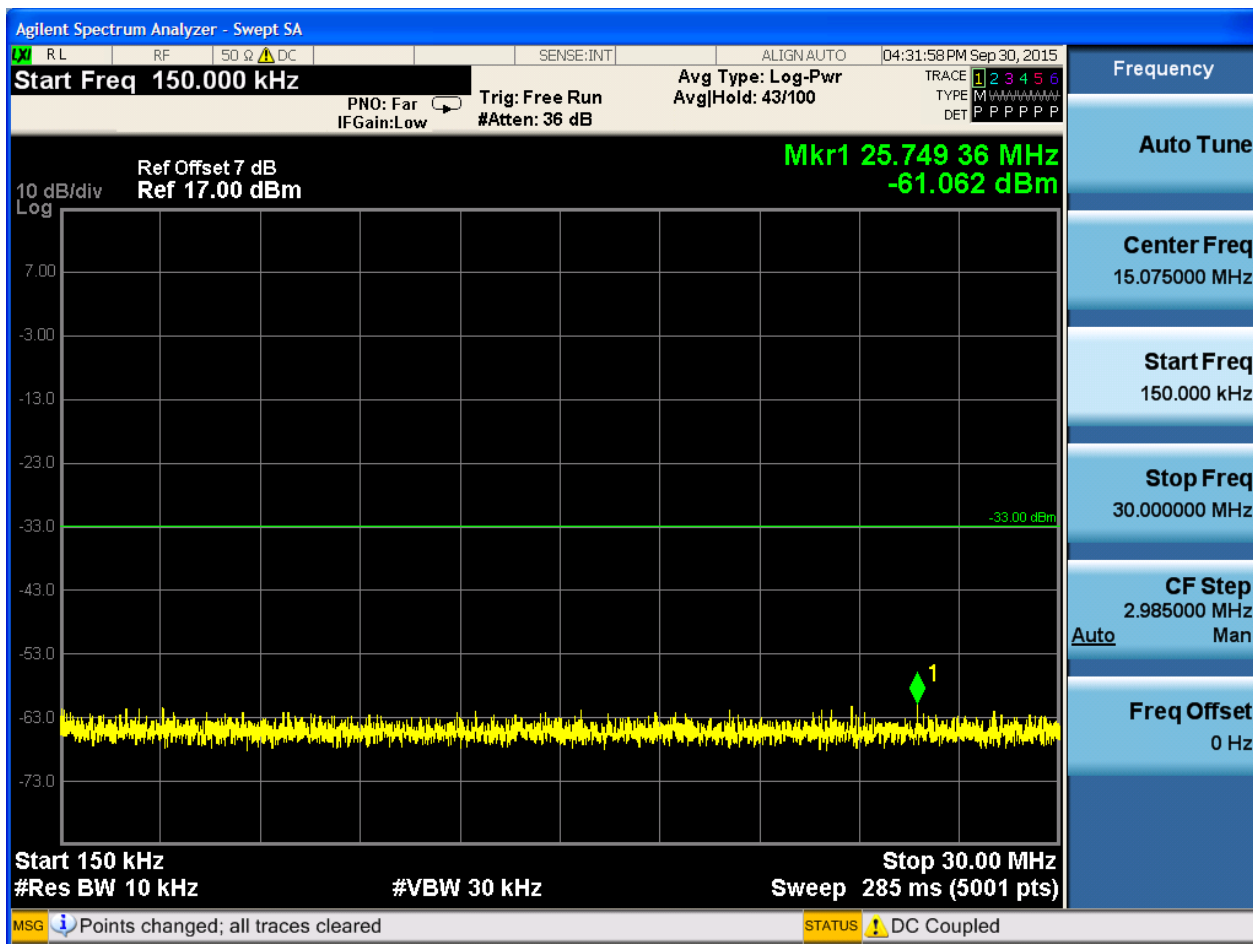


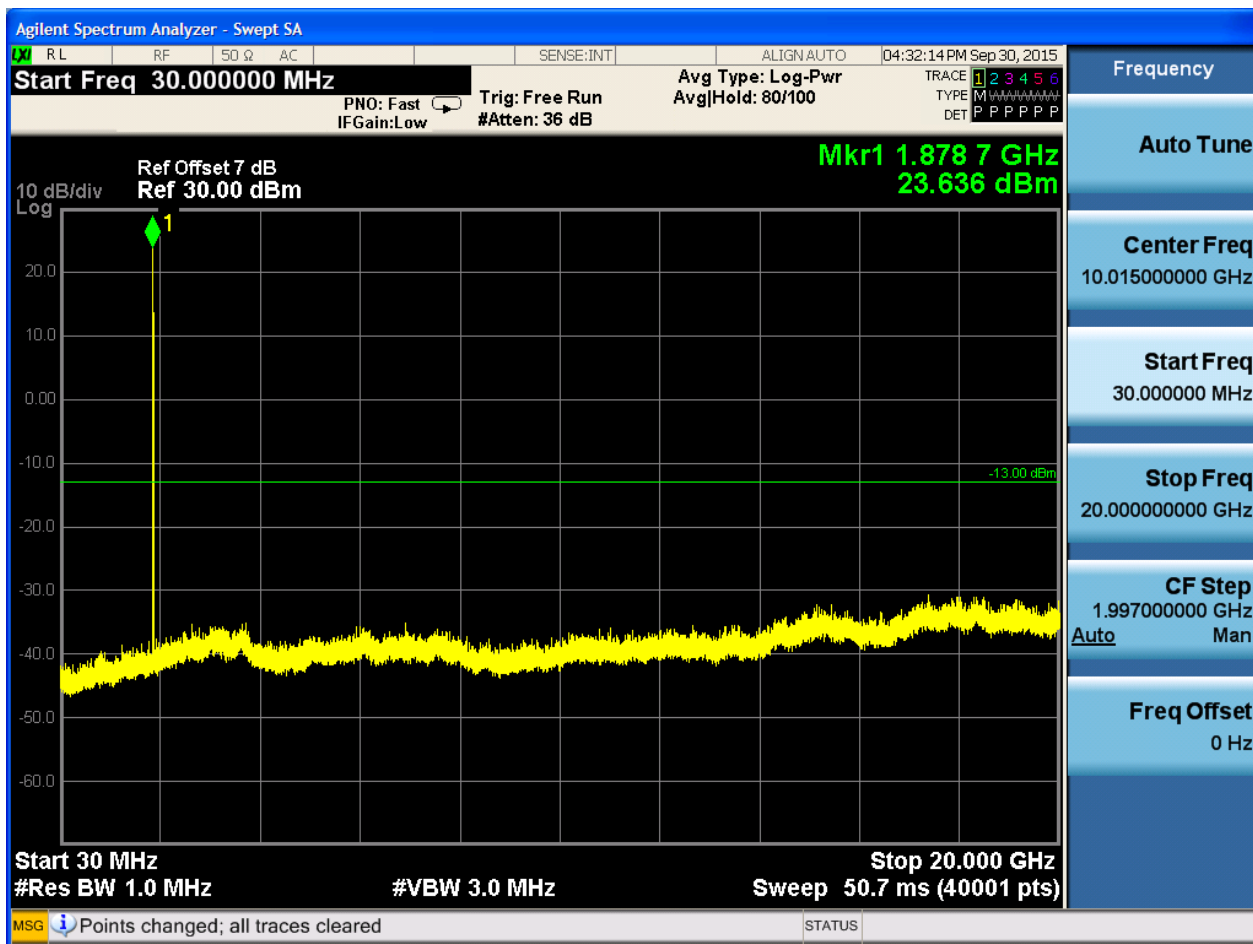




### 6.2.3.1.2 Test Channel = MCH

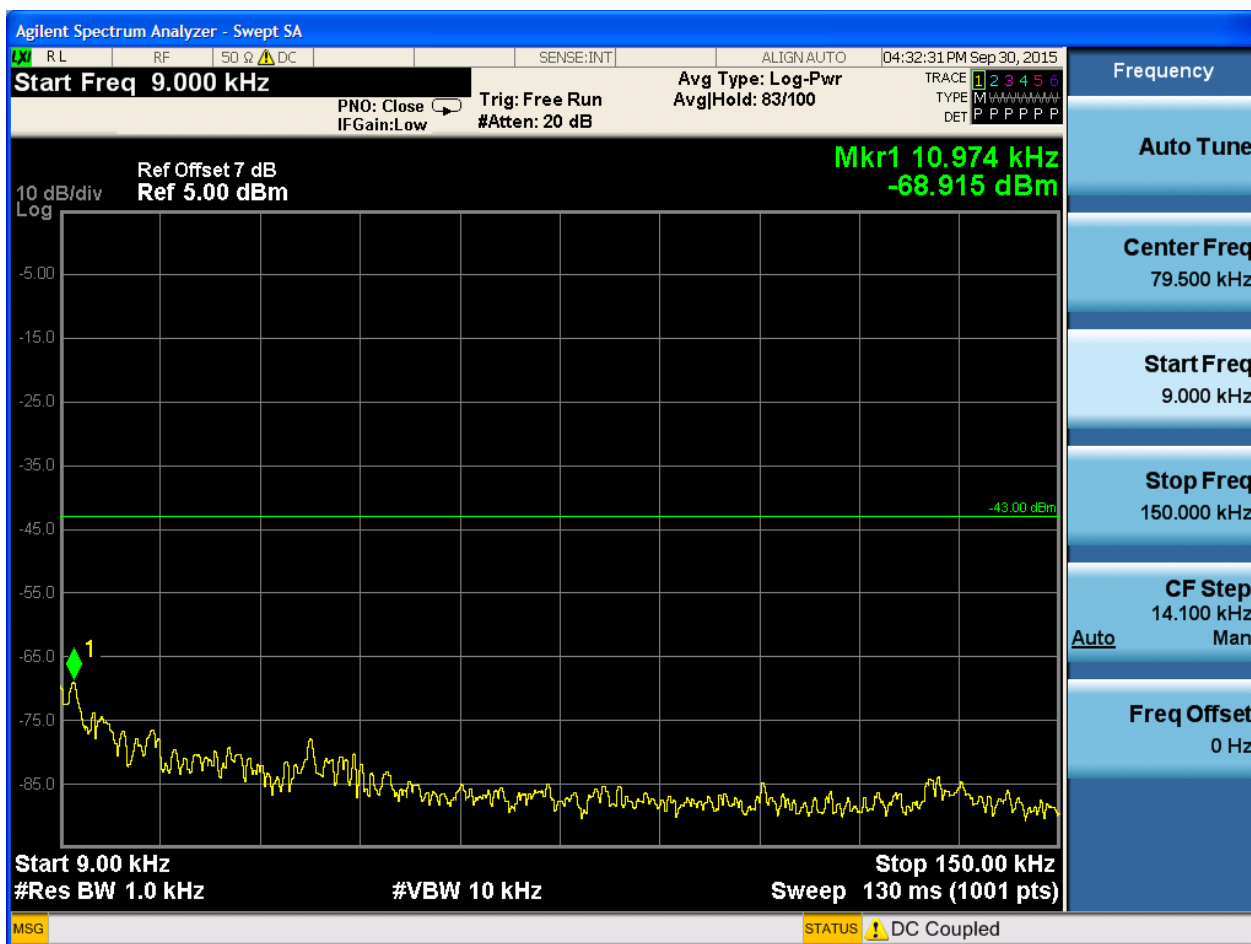


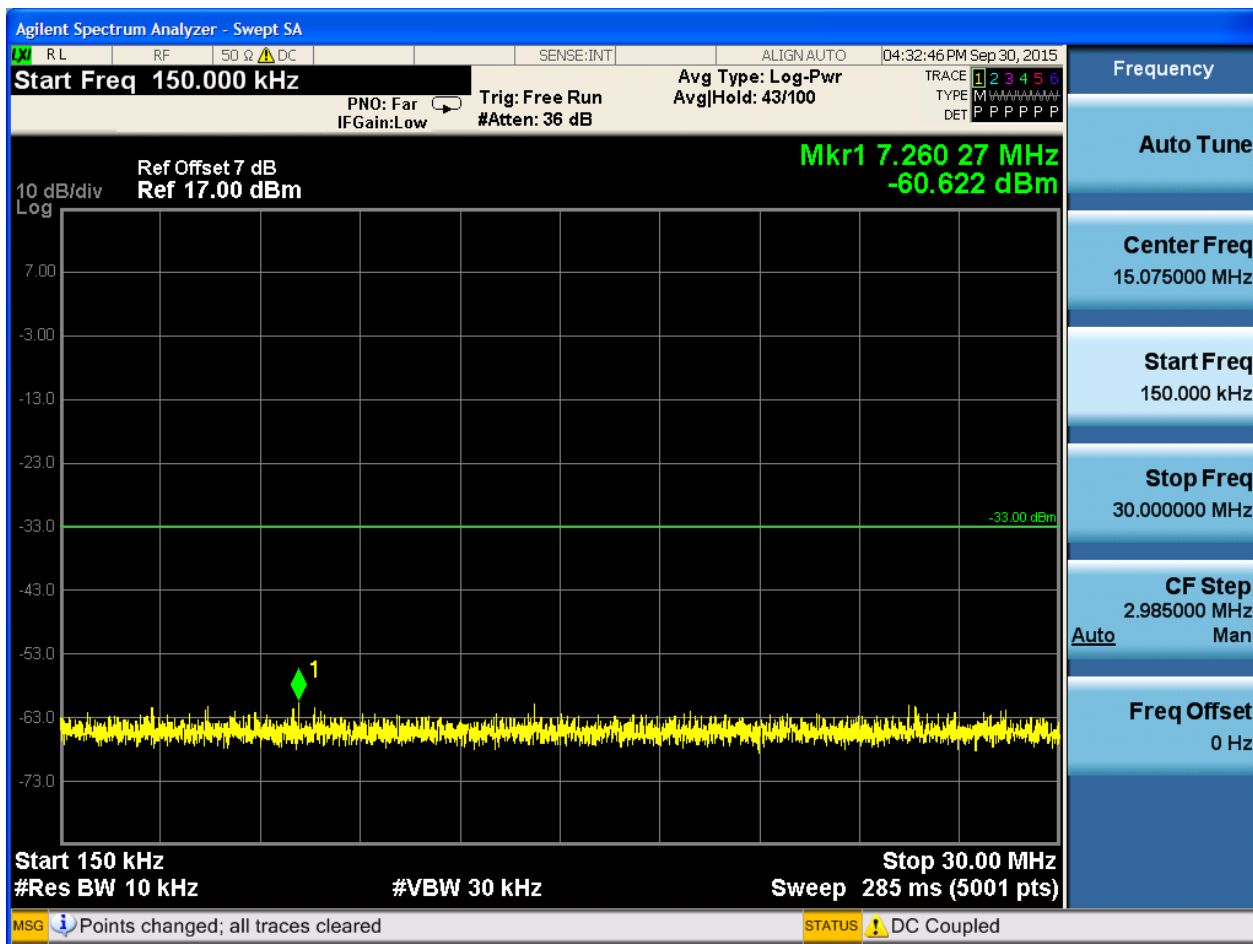


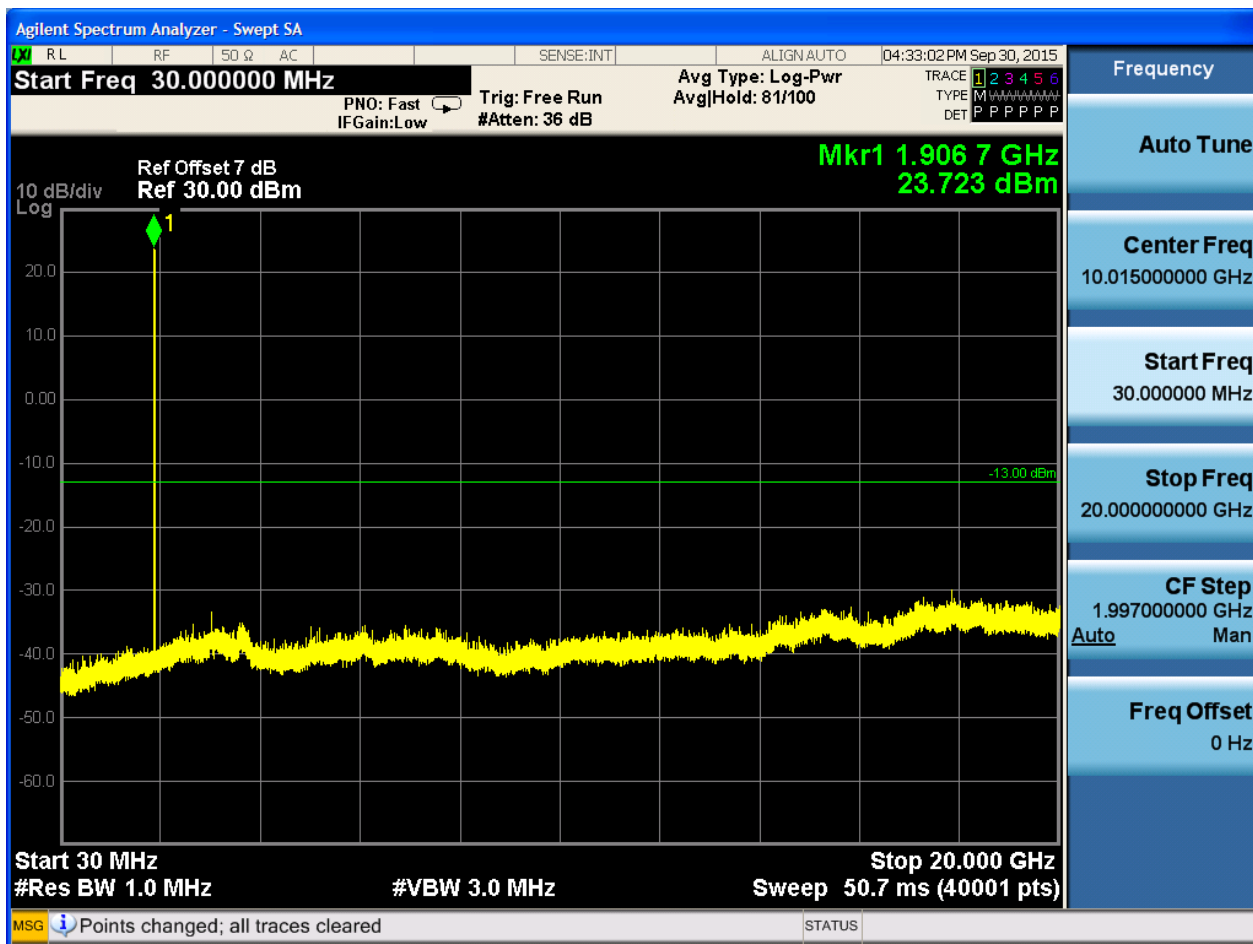




## 6.2.3.1.3 Test Channel = HCH





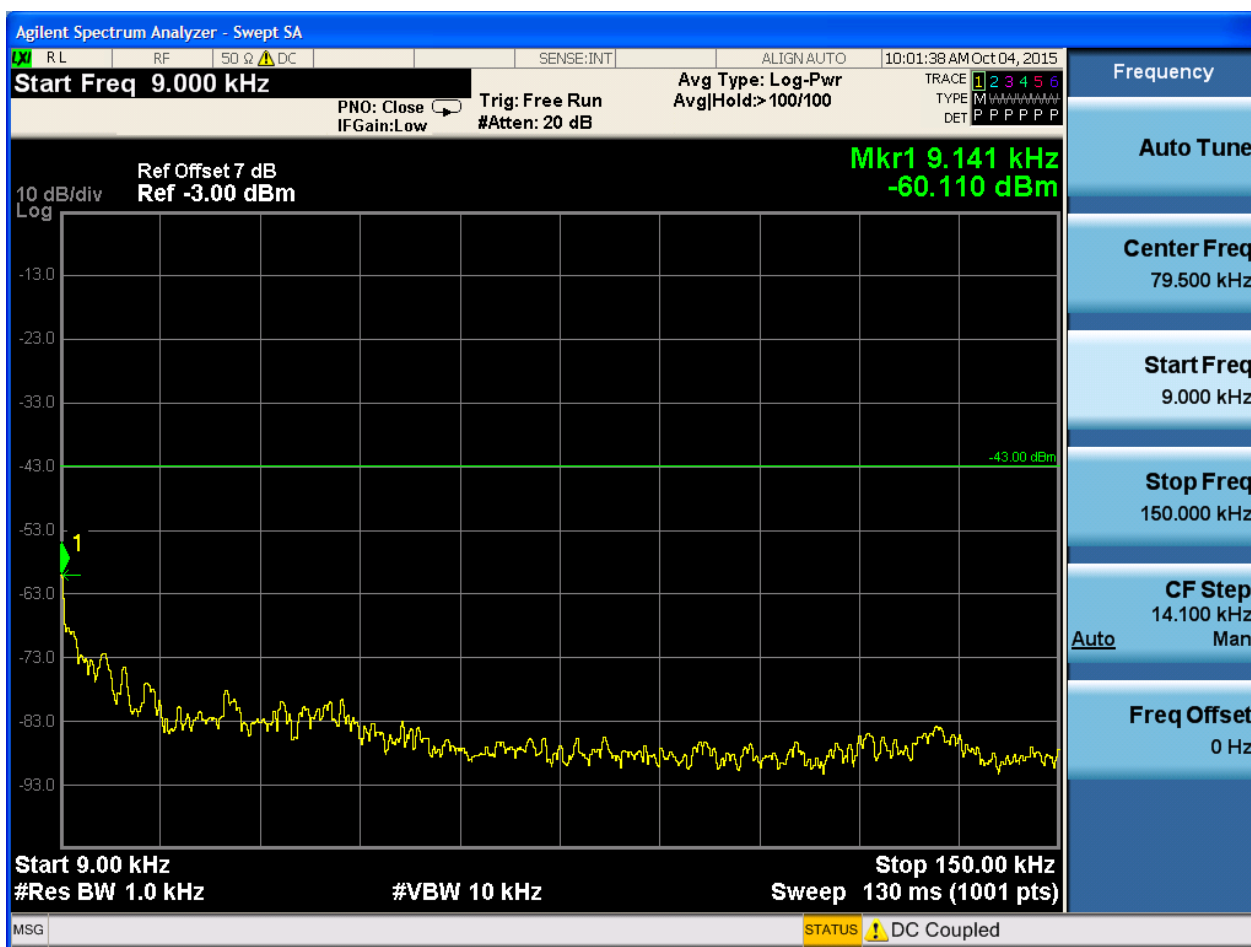


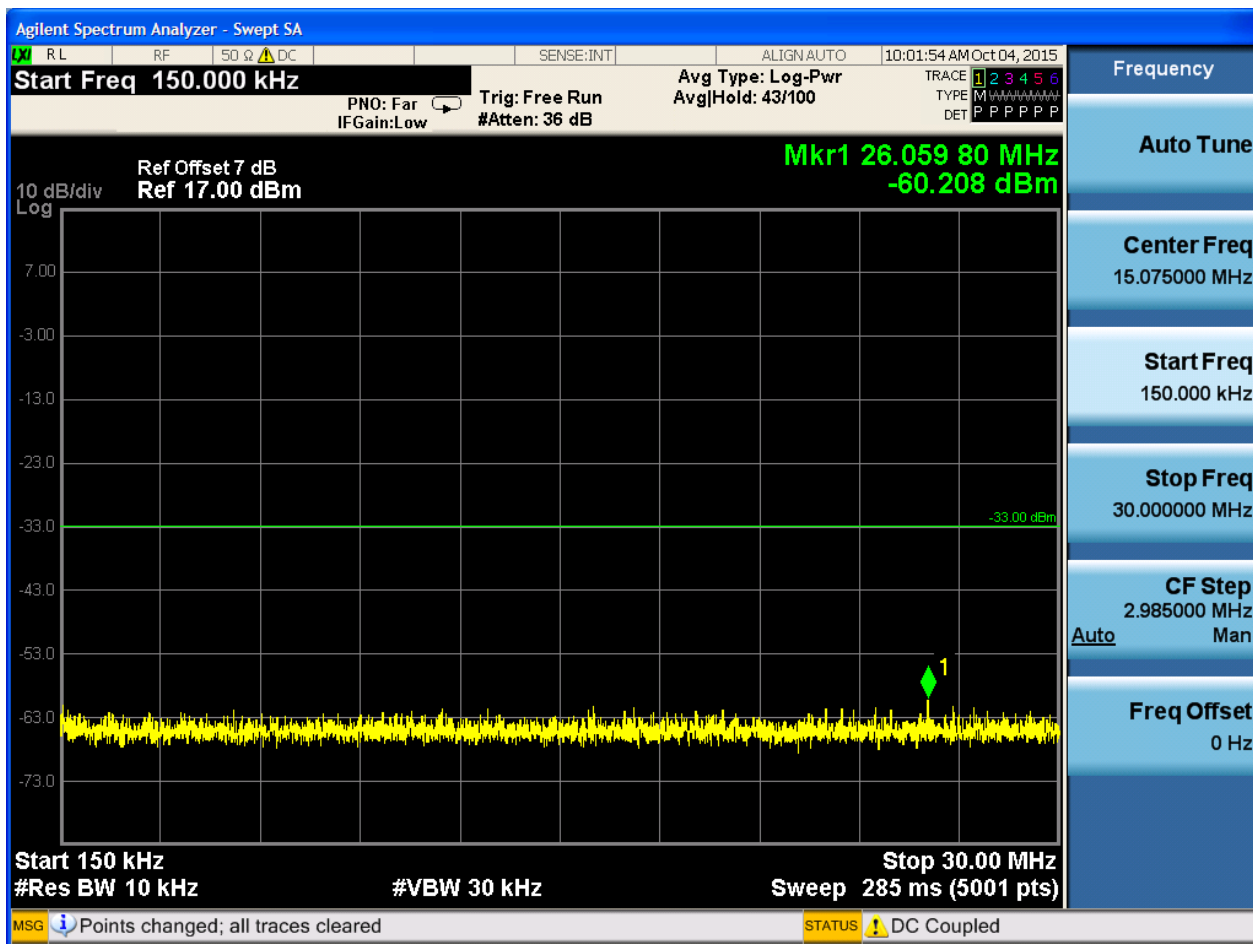


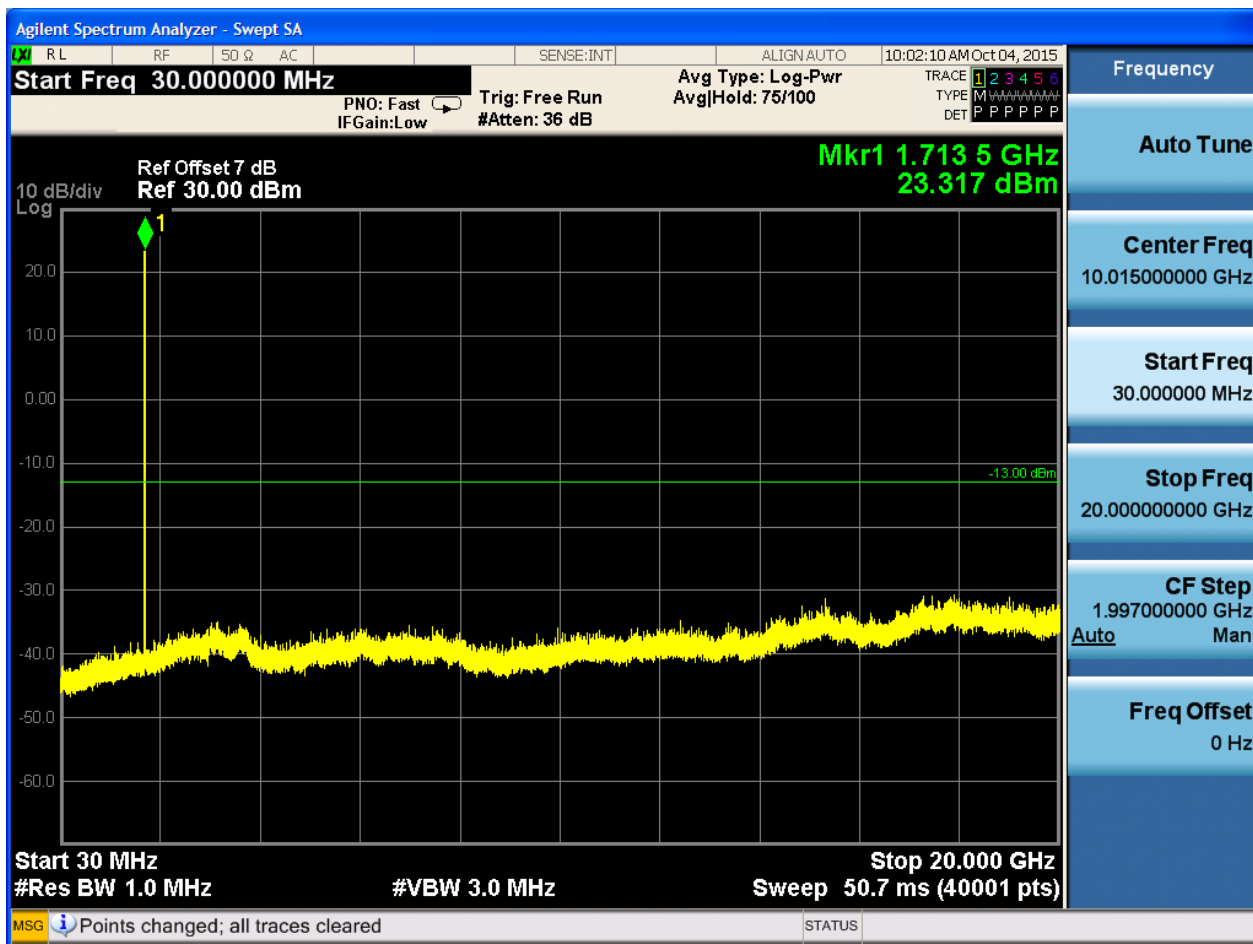
## 6.2.4 Test Band = WCDMA1700

## 6.2.4.1 Test Mode = UMTS/TM1

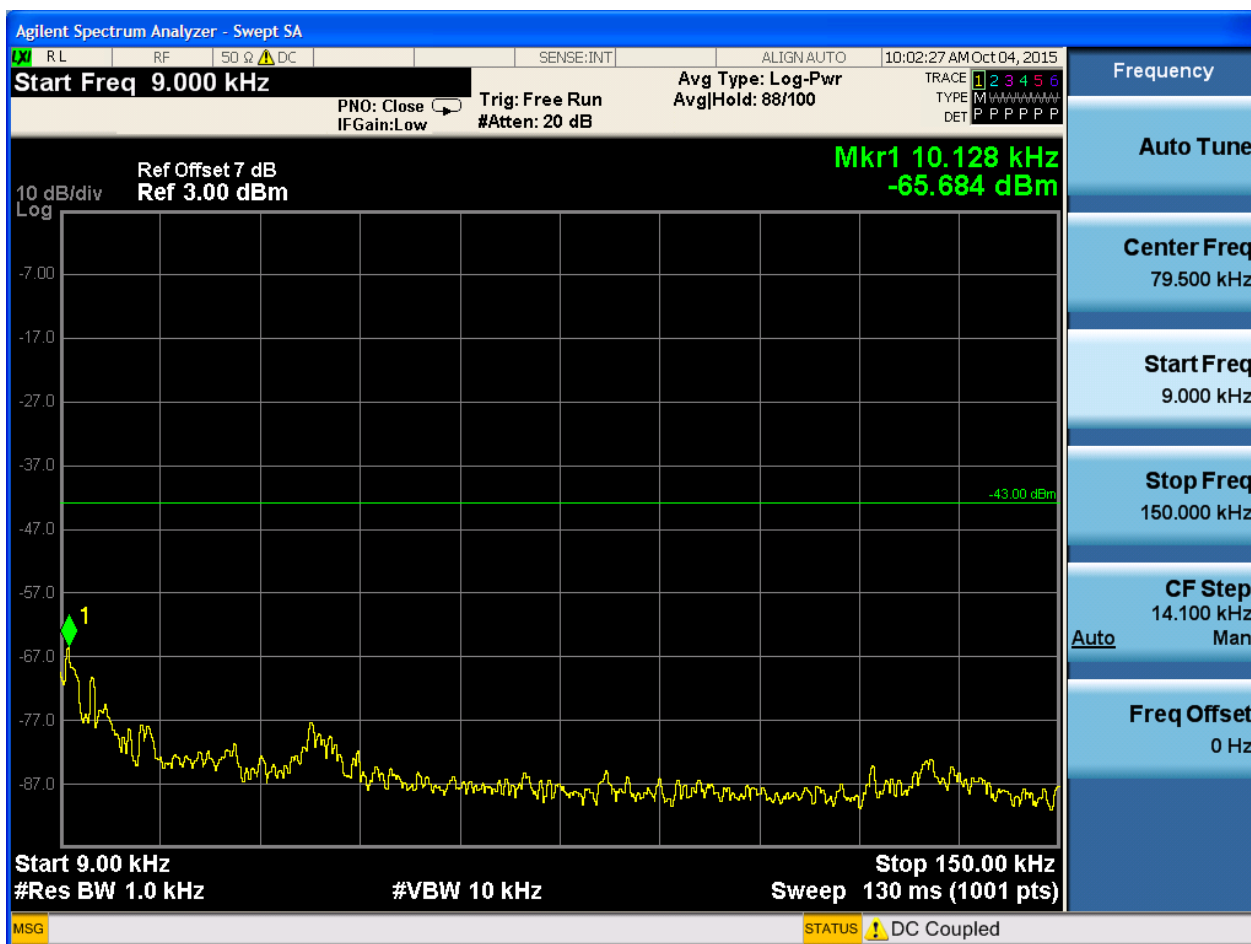
## 6.2.4.1.1 Test Channel = LCH

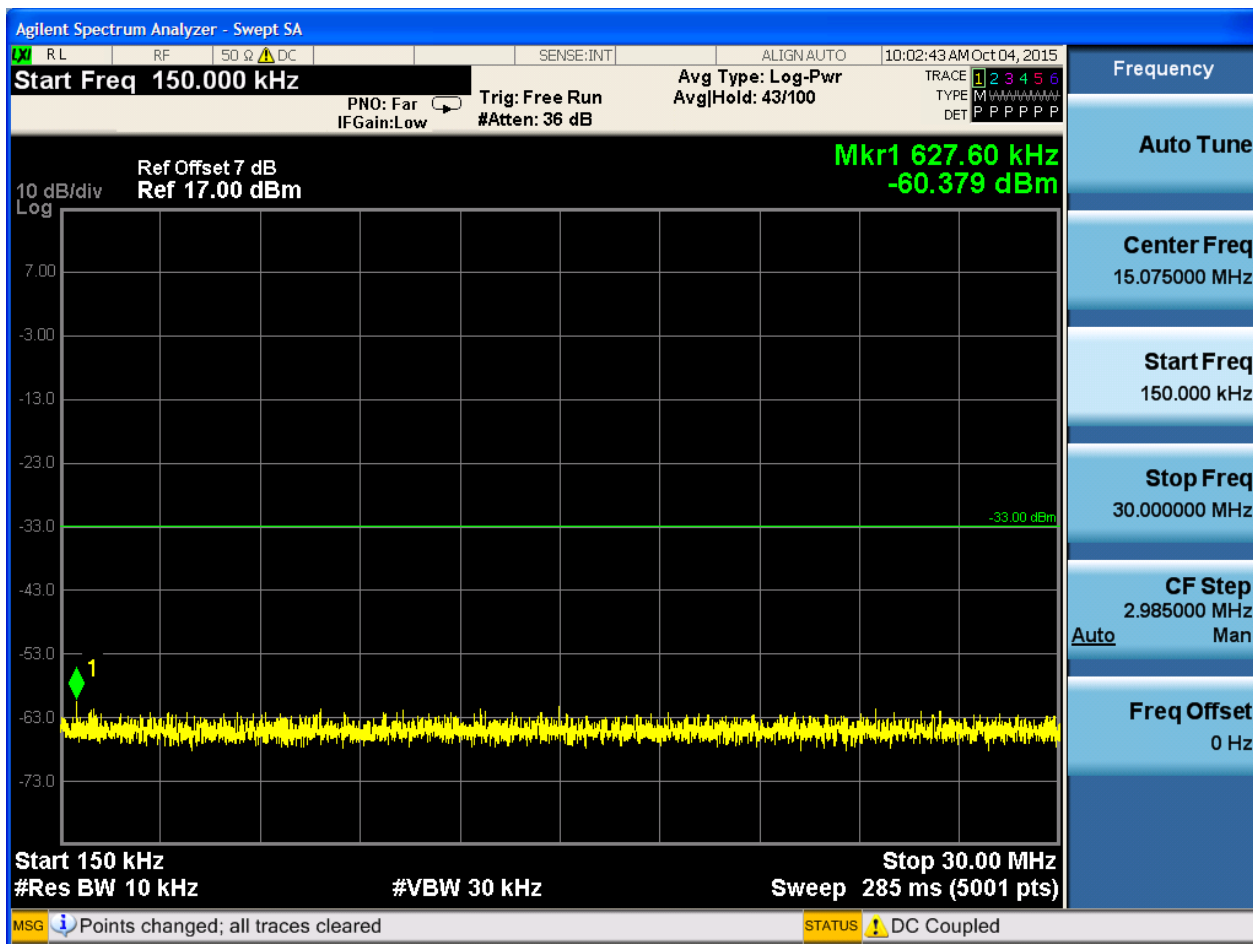


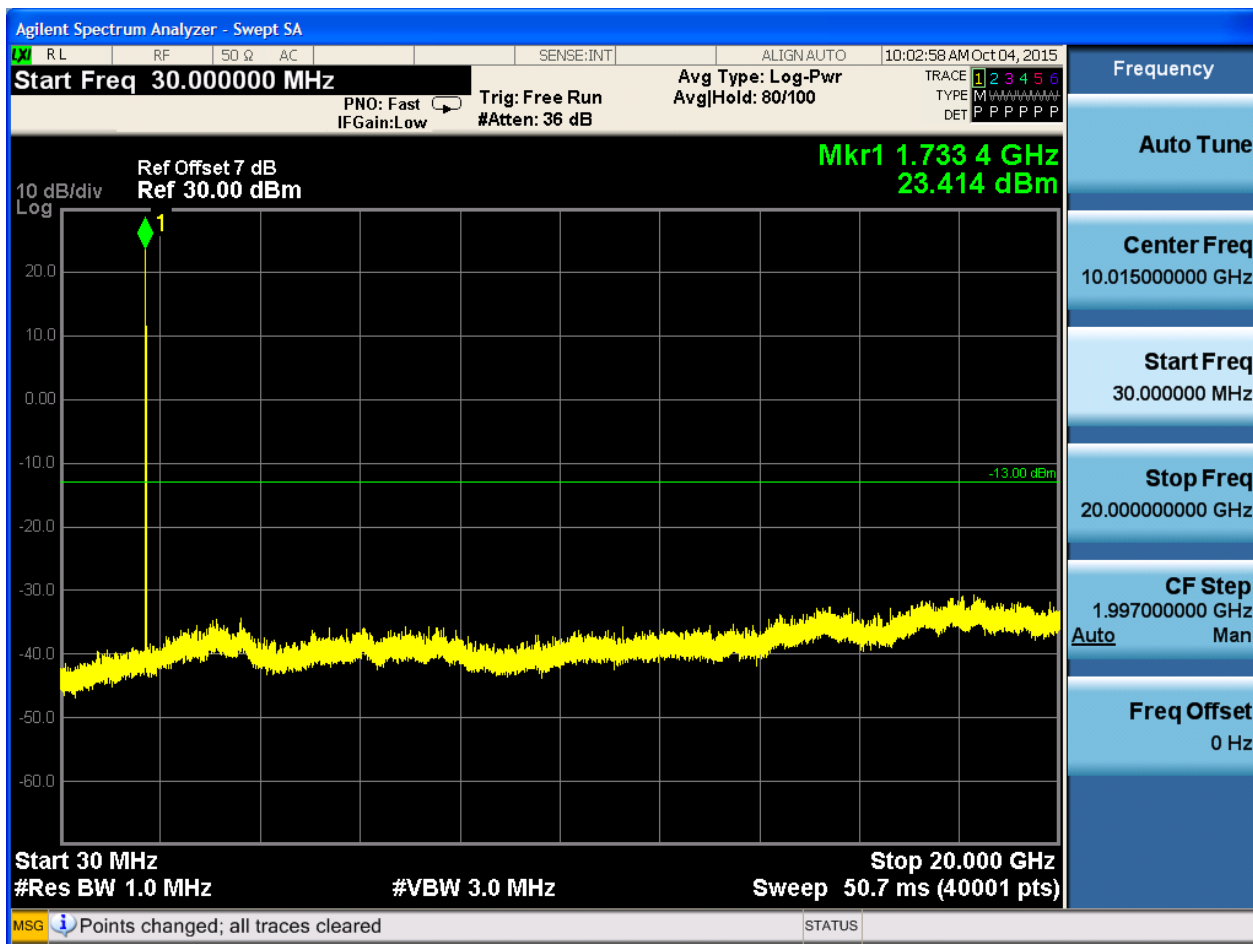




### 6.2.4.1.2 Test Channel = MCH









## 6.2.4.1.3 Test Channel = HCH

