



## Appendix for test report

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

### Part I - Test Results

| Test Band | Test Mode | Test Channel | Measured[dBm] | EIRP/ERP [dBm] | Limit [dBm] | Verdict |
|-----------|-----------|--------------|---------------|----------------|-------------|---------|
| GSM1900   | GSM/TM1   | LCH          | 30.23         | 32.39          | 33          | PASS    |
|           |           | MCH          | 30.03         | 32.02          | 33          | PASS    |
|           |           | HCH          | 30.06         | 32.13          | 33          | PASS    |
|           | GSM/TM2   | LCH          | 25.72         | 27.61          | 33          | PASS    |
|           |           | MCH          | 25.71         | 27.52          | 33          | PASS    |
|           |           | HCH          | 25.71         | 27.56          | 33          | PASS    |
| GSM850    | GSM/TM1   | LCH          | 32.14         | 27.17          | 38.5        | PASS    |
|           |           | MCH          | 32.29         | 27.32          | 38.5        | PASS    |
|           |           | HCH          | 32.27         | 27.08          | 38.5        | PASS    |
|           | GSM/TM2   | LCH          | 26.54         | 21.50          | 38.5        | PASS    |
|           |           | MCH          | 26.5          | 21.35          | 38.5        | PASS    |
|           |           | HCH          | 26.53         | 21.47          | 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

Note2:

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

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

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

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 |
|-----------|-----------|--------------|--------------|------------|---------|
| GSM850    | GSM/TM1   | LCH          | 0.13         | 13         | PASS    |
|           |           | MCH          | 0.12         | 13         | PASS    |
|           |           | HCH          | 0.13         | 13         | PASS    |
|           | GSM/TM2   | LCH          | 3.04         | 13         | PASS    |
|           |           | MCH          | 3.1          | 13         | PASS    |
|           |           | HCH          | 3.14         | 13         | PASS    |
| GSM1900   | GSM/TM1   | LCH          | 0.13         | 13         | PASS    |
|           |           | MCH          | 0.12         | 13         | PASS    |
|           |           | HCH          | 0.12         | 13         | PASS    |
|           | GSM/TM2   | LCH          | 2.92         | 13         | PASS    |
|           |           | MCH          | 2.95         | 13         | PASS    |
|           |           | HCH          | 2.92         | 13         | PASS    |

## 3Appendix\_C: Modulation Characteristics

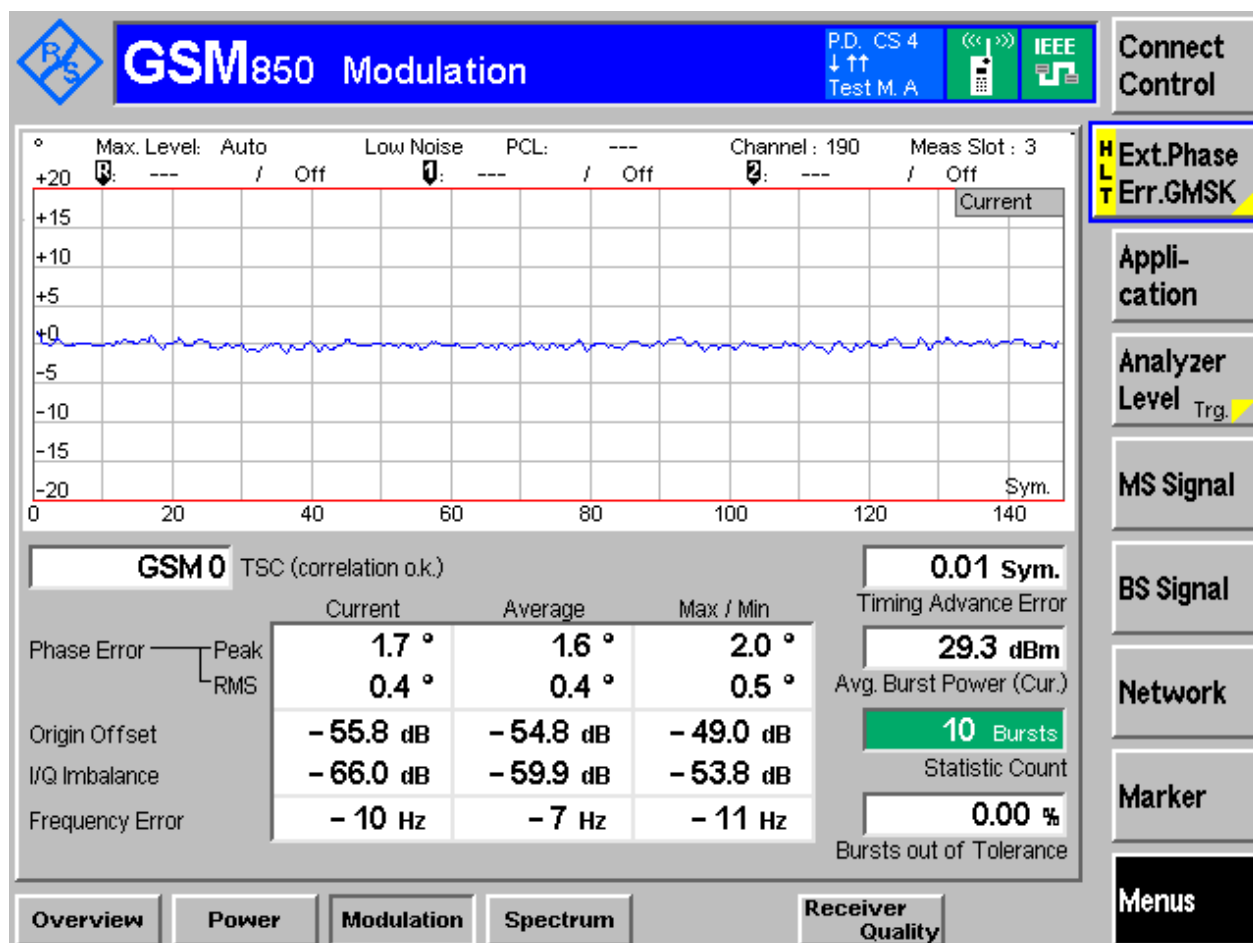
### Part I - Test Plots

#### 3.1 For GSM

##### 3.1.1 Test Band = GSM850

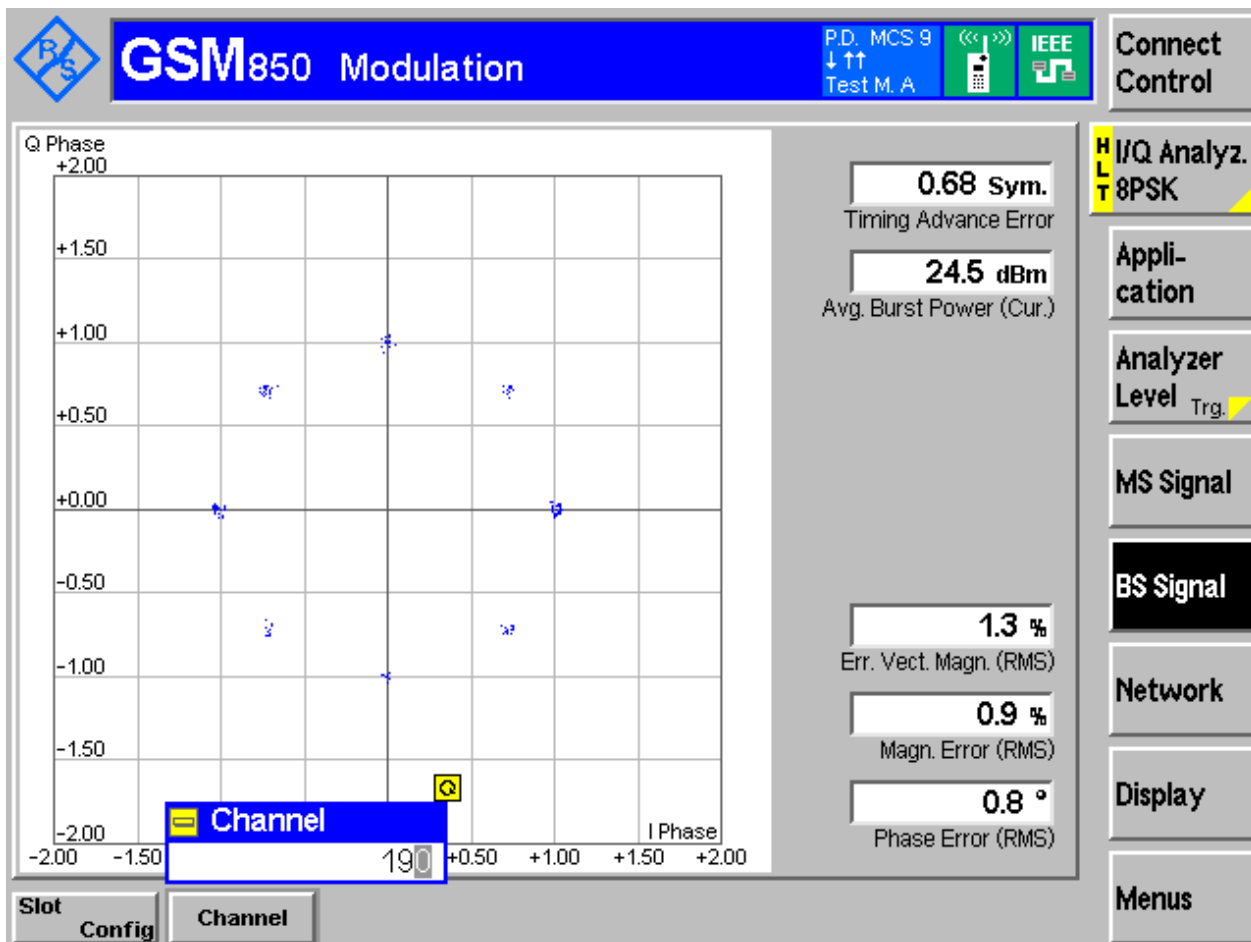
##### 3.1.1.1 Test Mode = GSM/TM1

##### 3.1.1.1.1 Test Channel = MCH



### 3.1.1.2 Test Mode = GSM/TM2

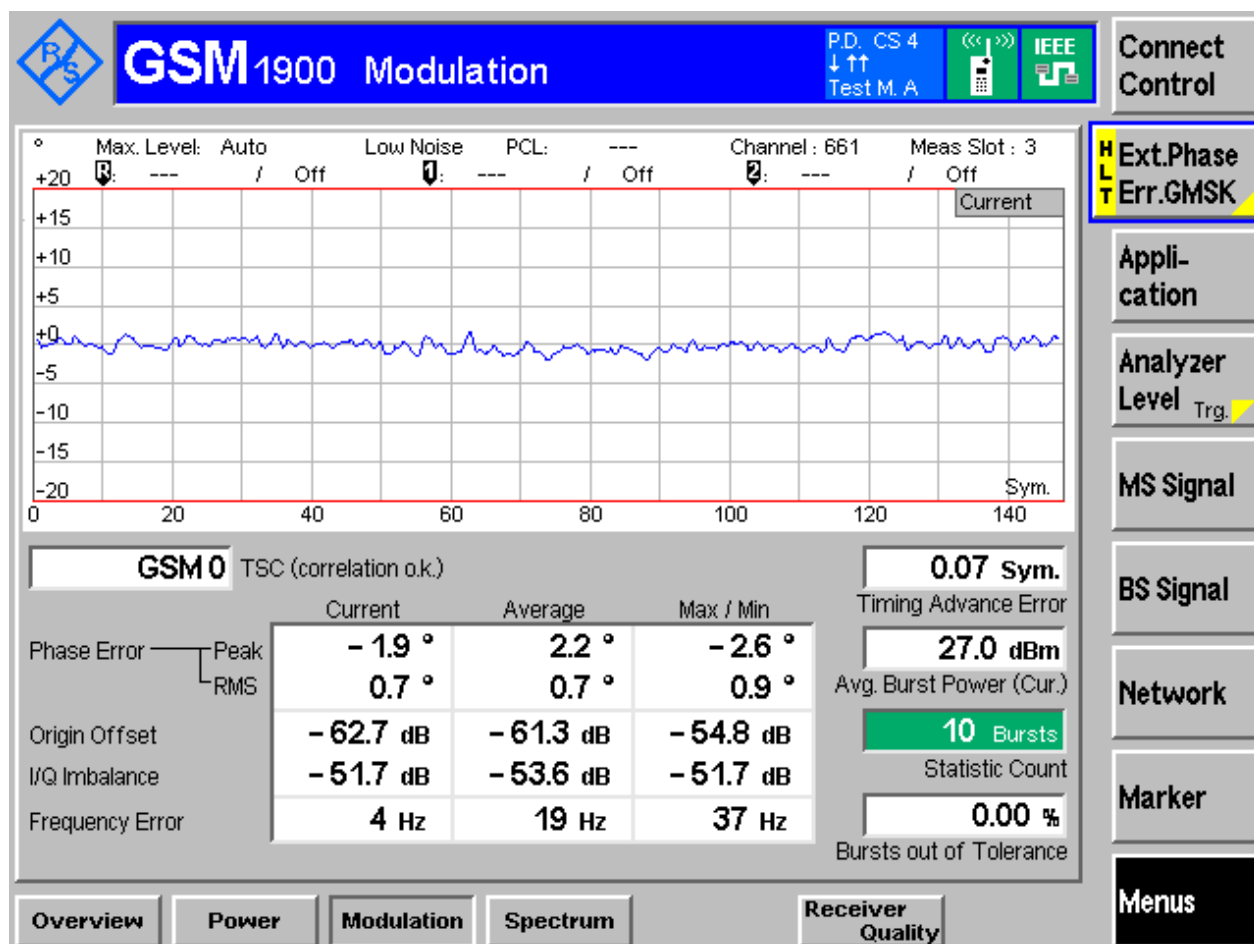
#### 3.1.1.2.1 Test Channel = MCH



### 3.1.2 Test Band = GSM1900

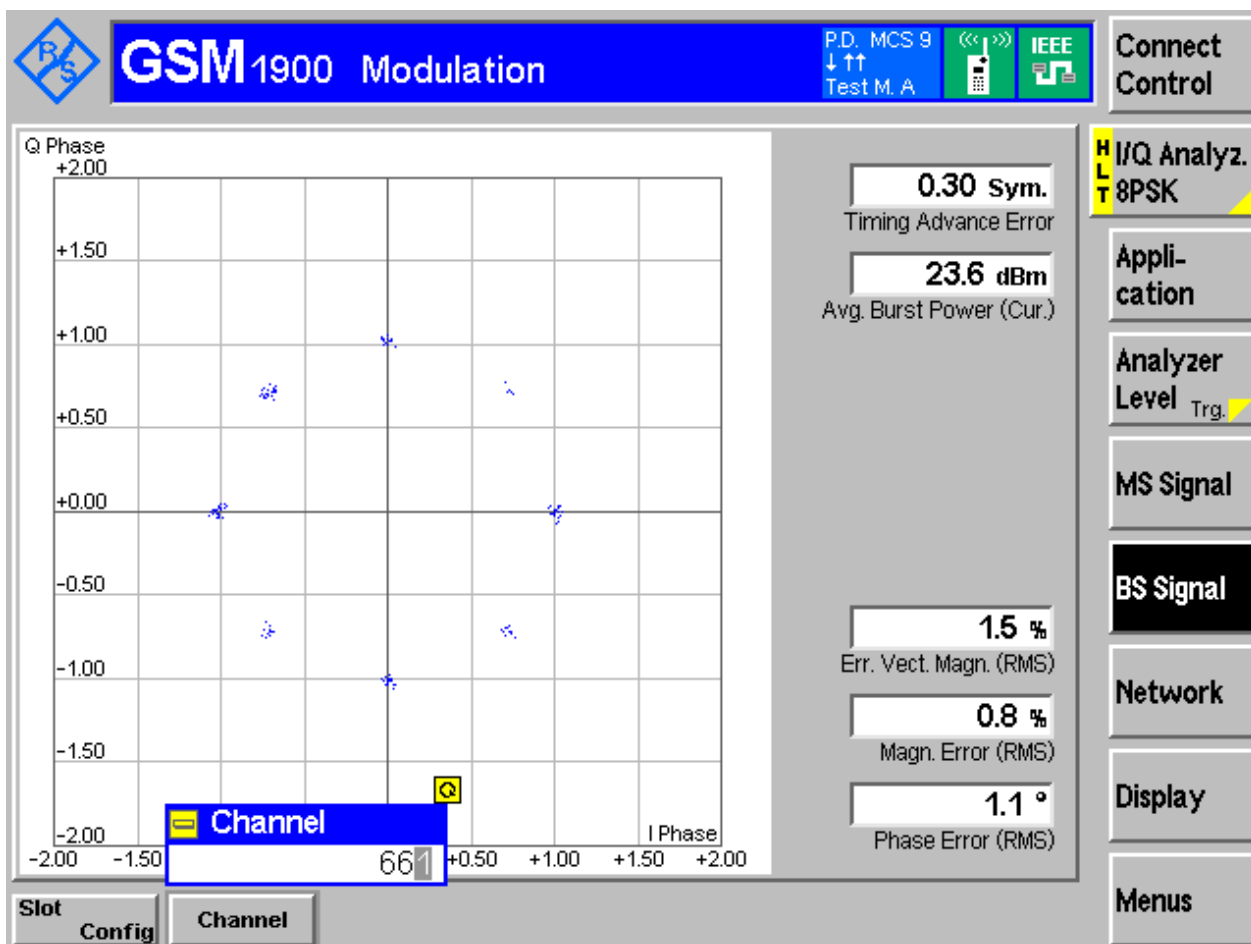
#### 3.1.2.1 Test Mode = GSM/TM1

##### 3.1.2.1.1 Test Channel = MCH



### 3.1.2.2 Test Mode = GSM/TM2

#### 3.1.2.2.1 Test Channel = MCH



## 4Appendix\_D: Bandwidth

### Part I - Test Results

| Test Band | Test Mode | Test Channel | Occupied Bandwidth [kHz] | Emission Bandwidth [kHz] | Verdict |
|-----------|-----------|--------------|--------------------------|--------------------------|---------|
| GSM850    | GSM/TM1   | LCH          | 249.78                   | 318.00                   | Pass    |
|           |           | MCH          | 244.88                   | 319.67                   | Pass    |
|           |           | HCH          | 244.29                   | 317.95                   | Pass    |
|           | GSM/TM2   | LCH          | 250.68                   | 319.55                   | Pass    |
|           |           | MCH          | 248.43                   | 315.83                   | Pass    |
|           |           | HCH          | 245.76                   | 316.90                   | Pass    |
| GSM1900   | GSM/TM1   | LCH          | 245.97                   | 318.72                   | Pass    |
|           |           | MCH          | 247.37                   | 317.93                   | Pass    |
|           |           | HCH          | 245.63                   | 313.03                   | Pass    |
|           | GSM/TM2   | LCH          | 252.18                   | 320.79                   | Pass    |
|           |           | MCH          | 244.76                   | 321.12                   | Pass    |
|           |           | HCH          | 245.31                   | 322.66                   | Pass    |



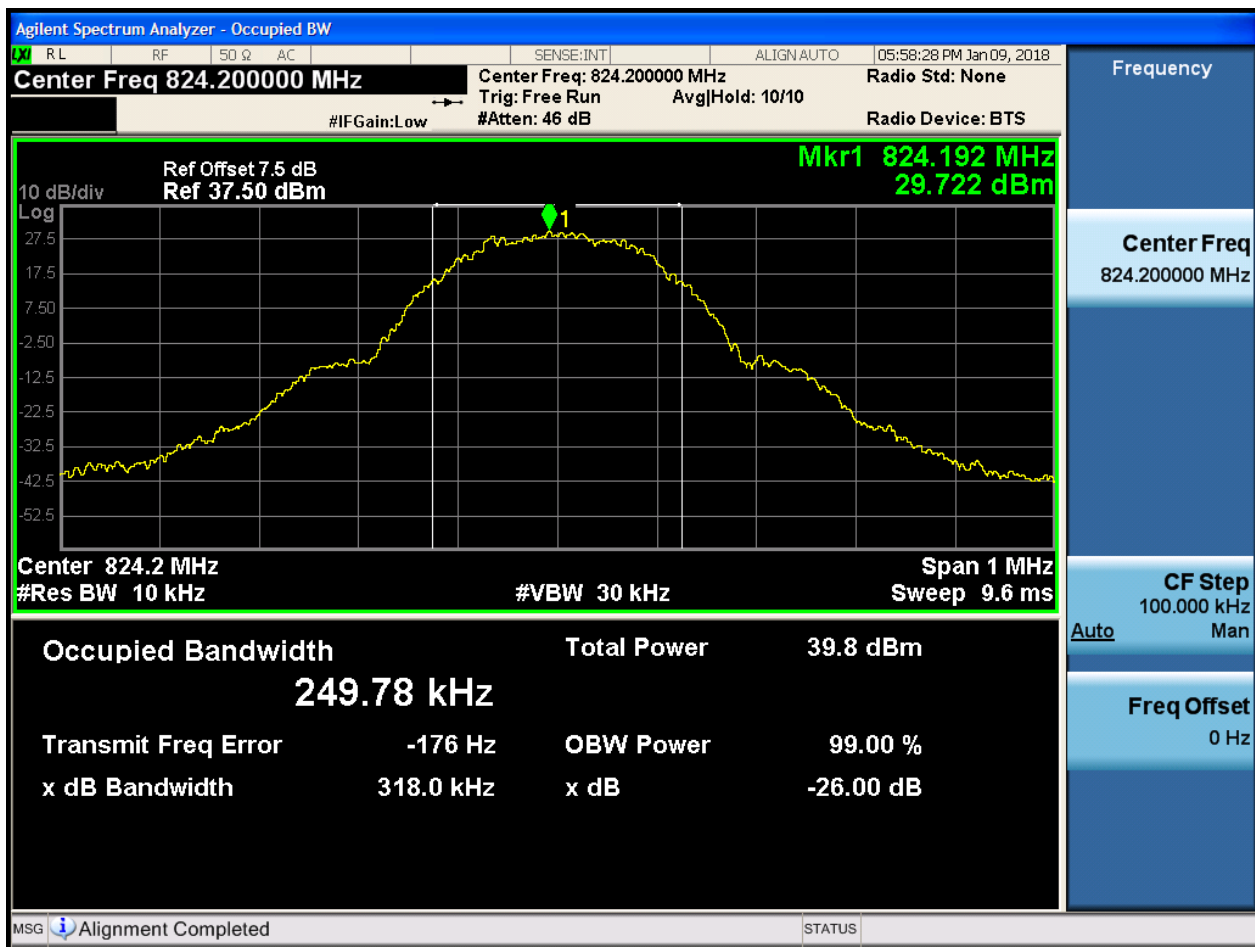
## Part II - Test Plots

### 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



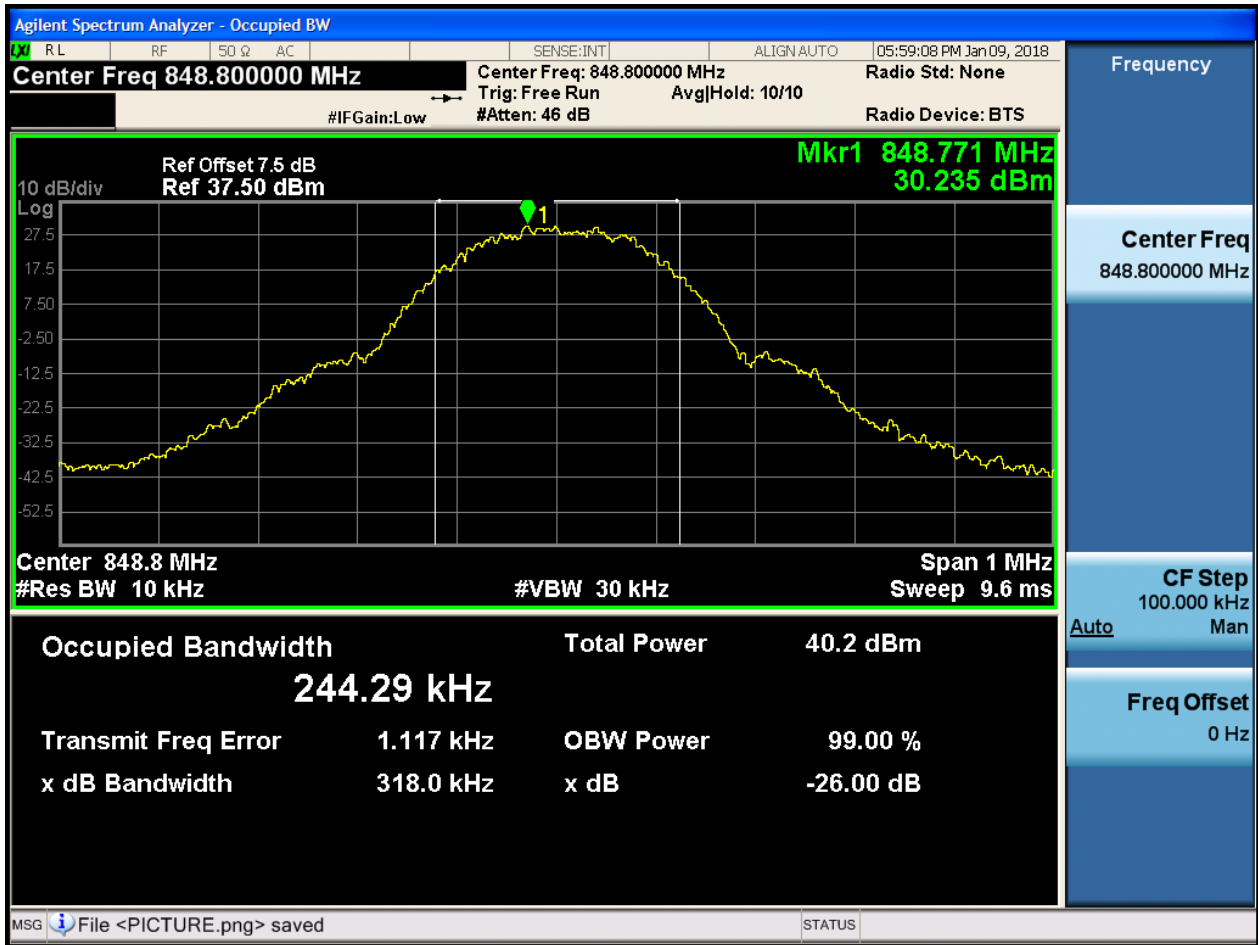


## 4.1.1.1.2 Test Channel = MCH





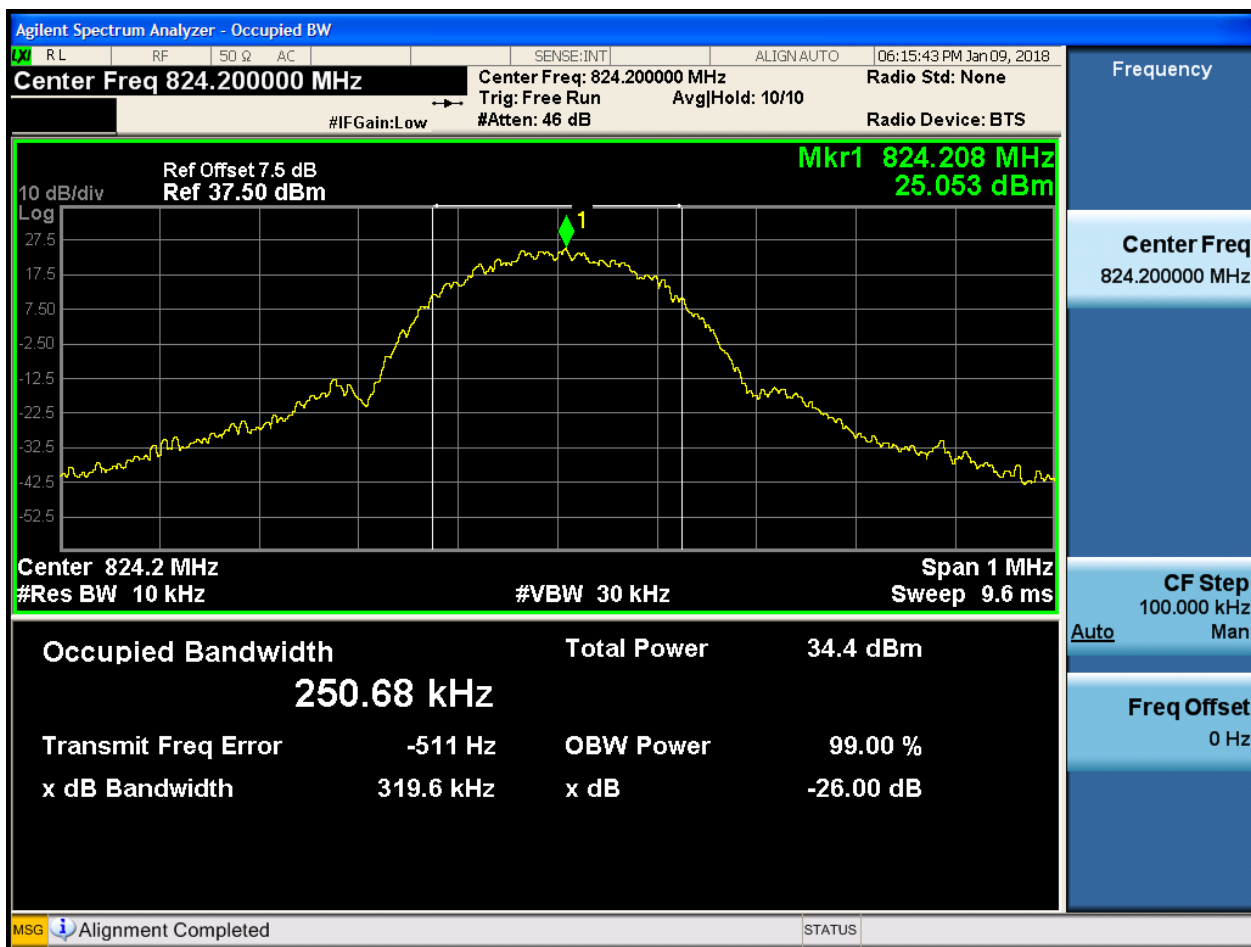
#### 4.1.1.1.3 Test Channel = HCH





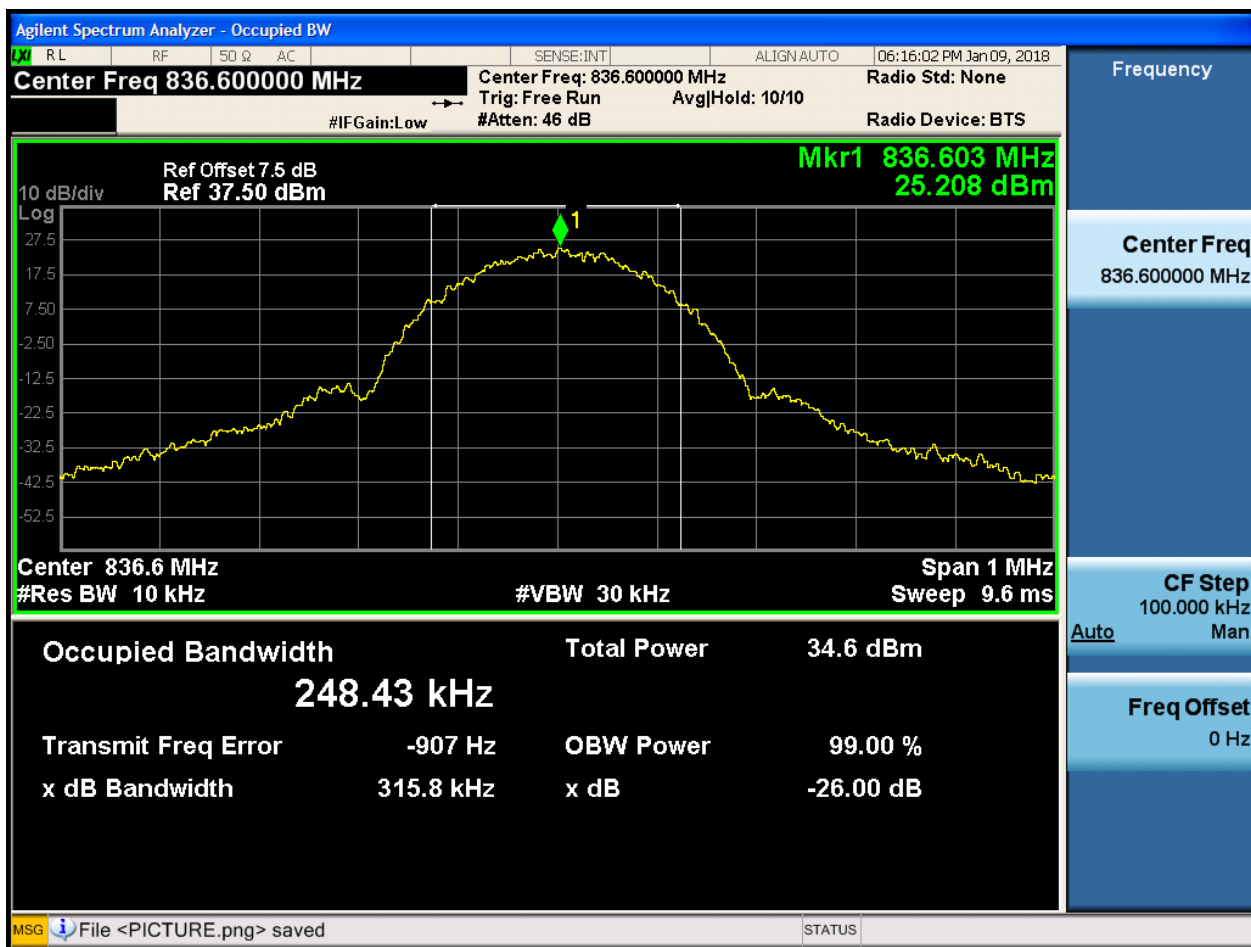
## 4.1.1.2 Test Mode = GSM/TM2

## 4.1.1.2.1 Test Channel = LCH



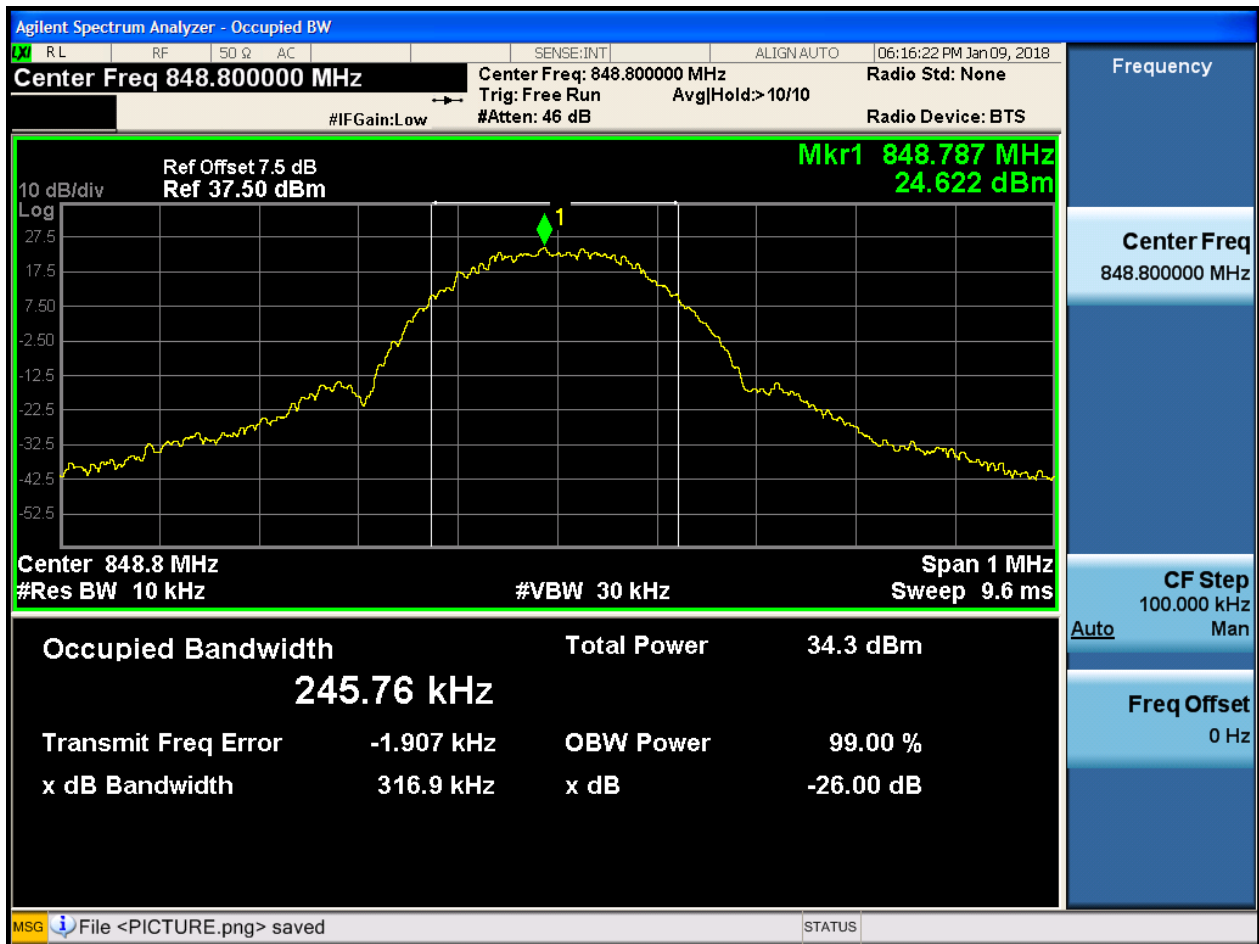


## 4.1.1.2.2 Test Channel = MCH





## 4.1.1.2.3 Test Channel = HCH





## 4.1.2 Test Band = GSM1900

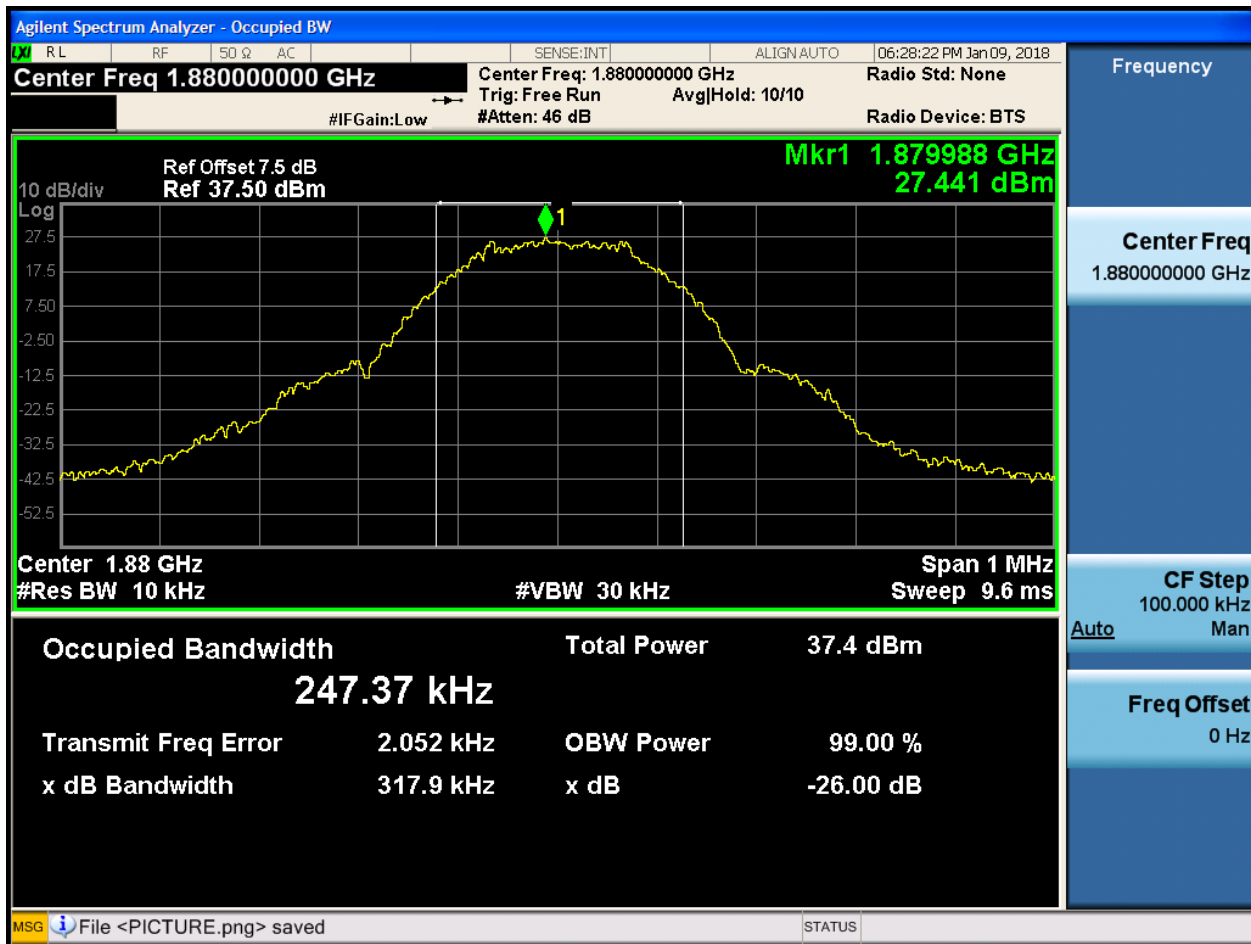
## 4.1.2.1 Test Mode = GSM/TM1

## 4.1.2.1.1 Test Channel = LCH



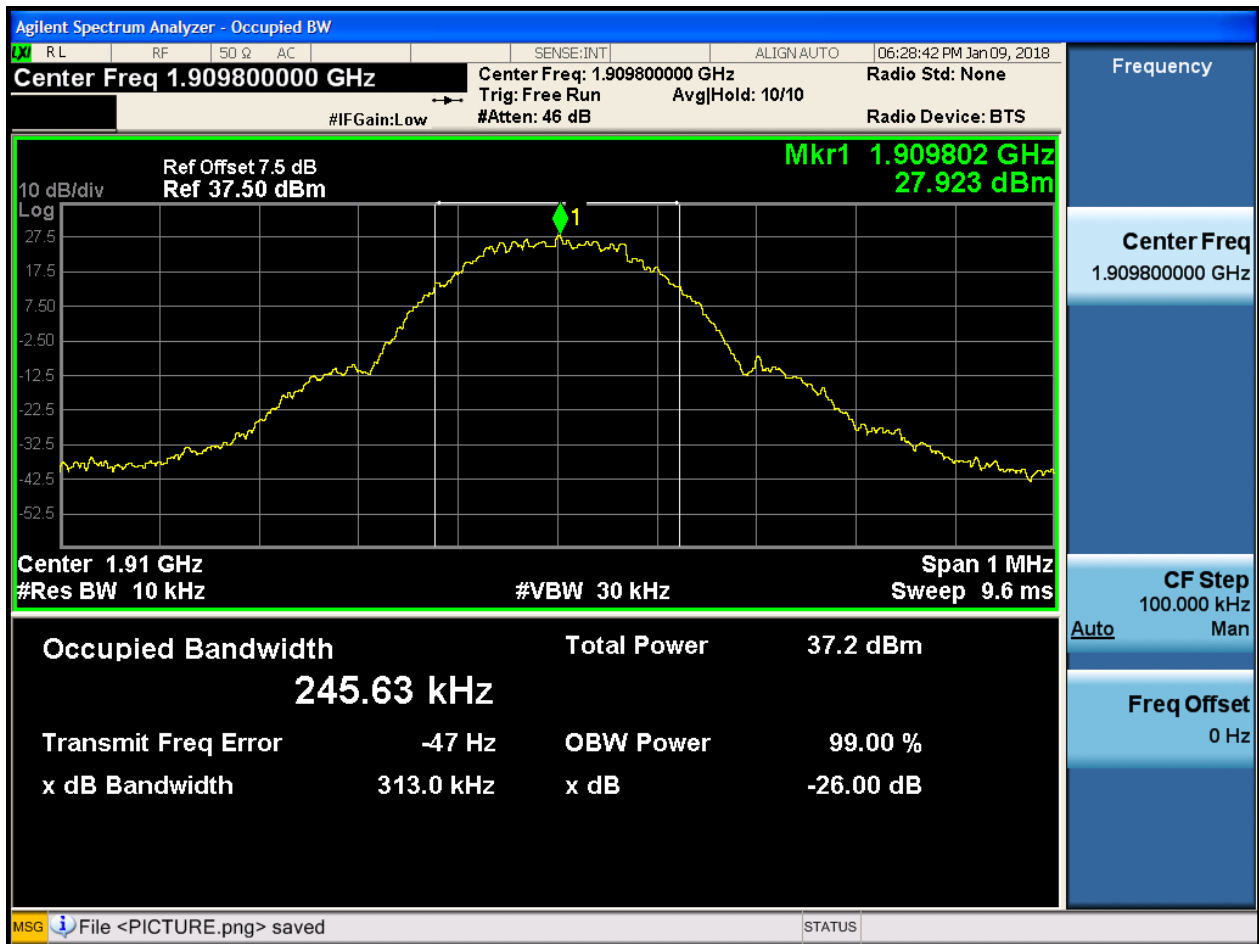


## 4.1.2.1.2 Test Channel = MCH





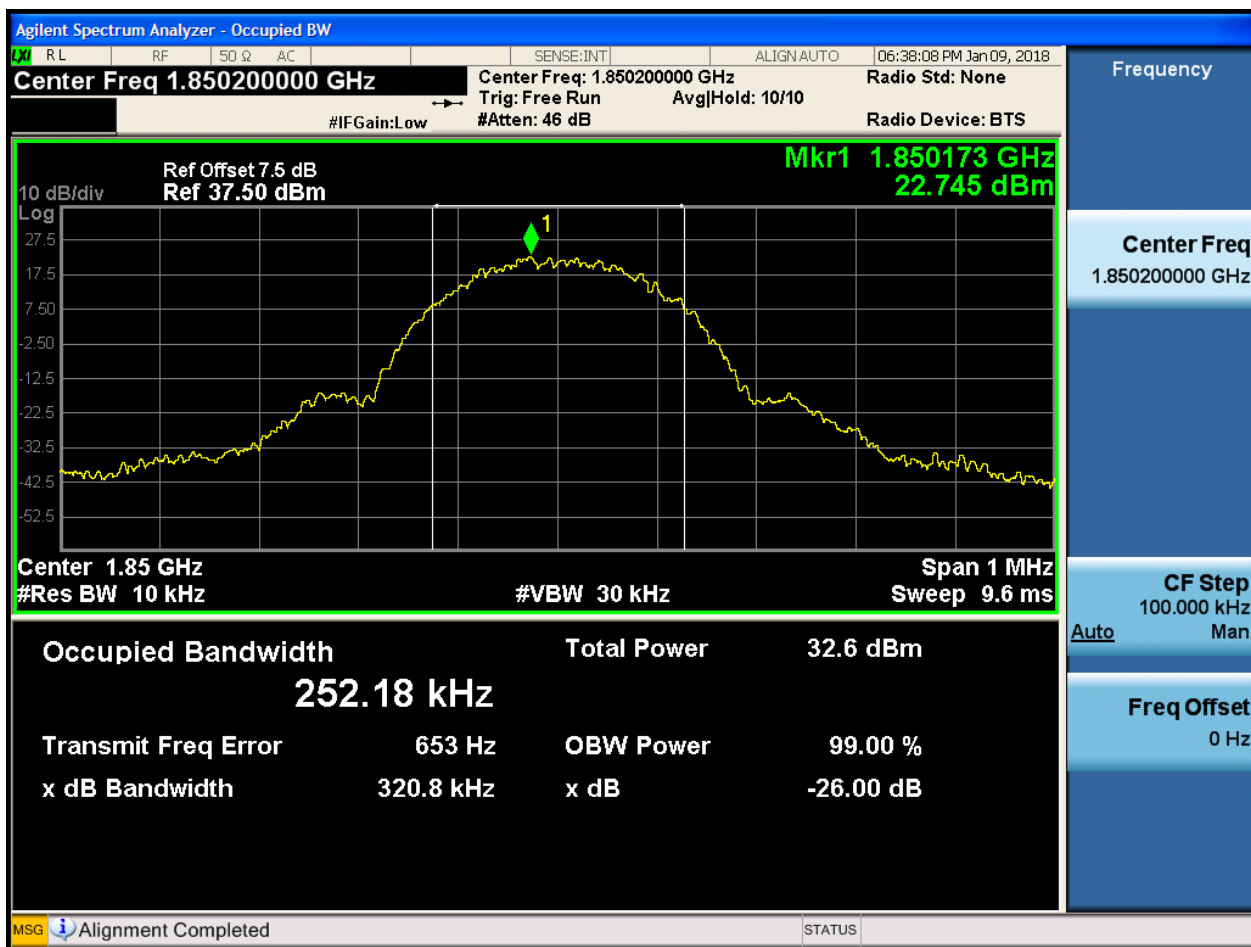
## 4.1.2.1.3 Test Channel = HCH





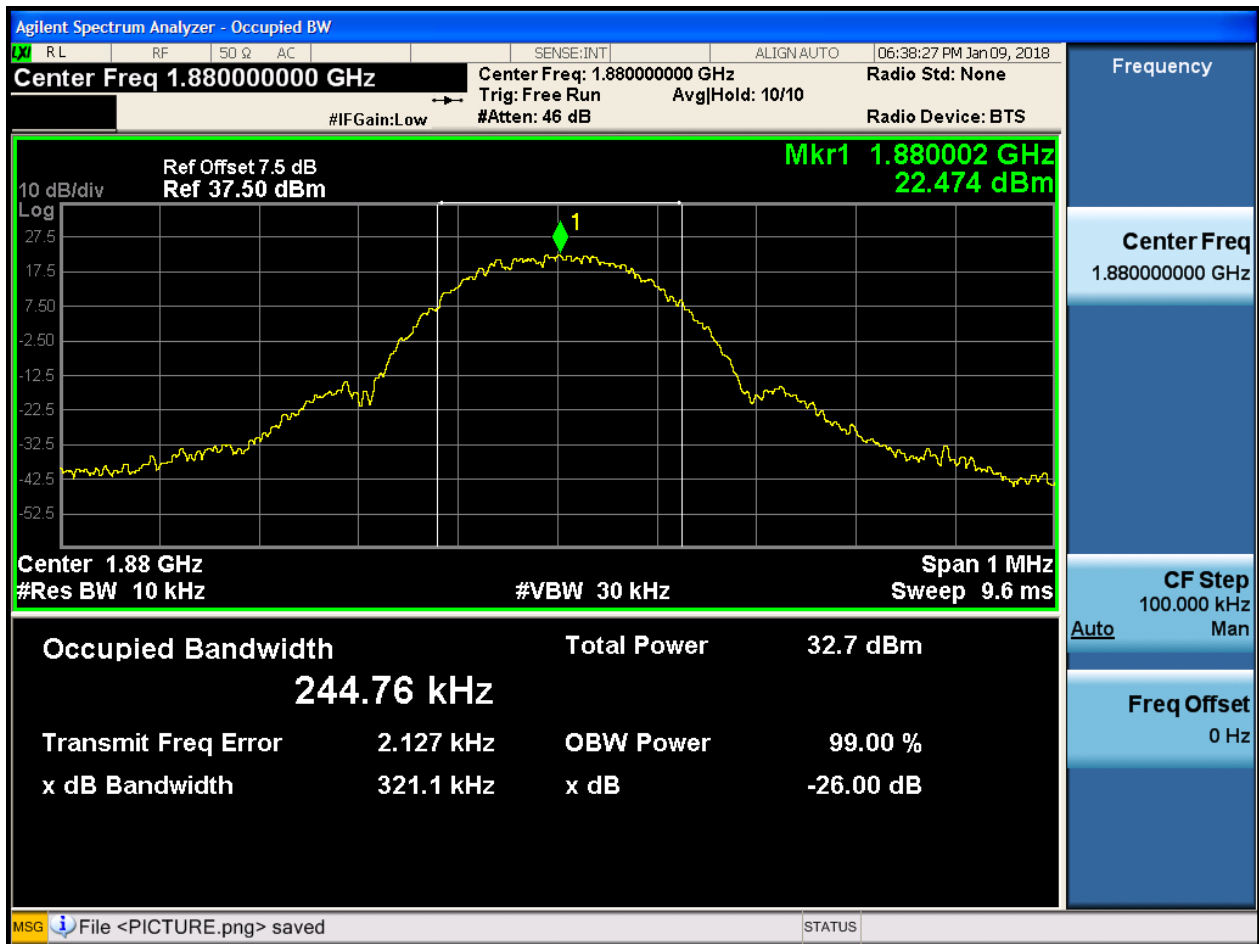
## 4.1.2.2 Test Mode = GSM/TM2

## 4.1.2.2.1 Test Channel = LCH



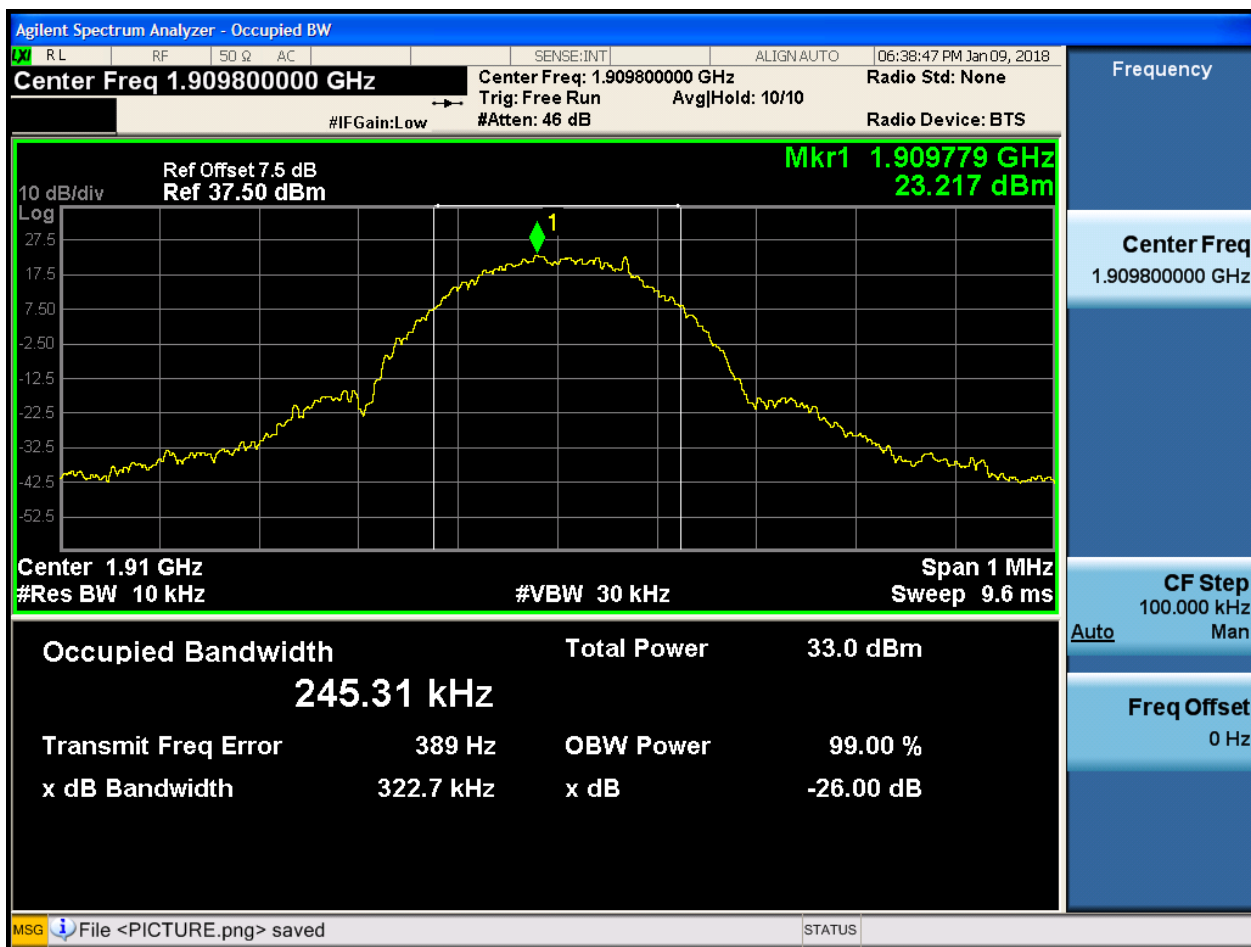


## 4.1.2.2.2 Test Channel = MCH





## 4.1.2.2.3 Test Channel = HCH





## 5Appendix\_E: Band Edges Compliance

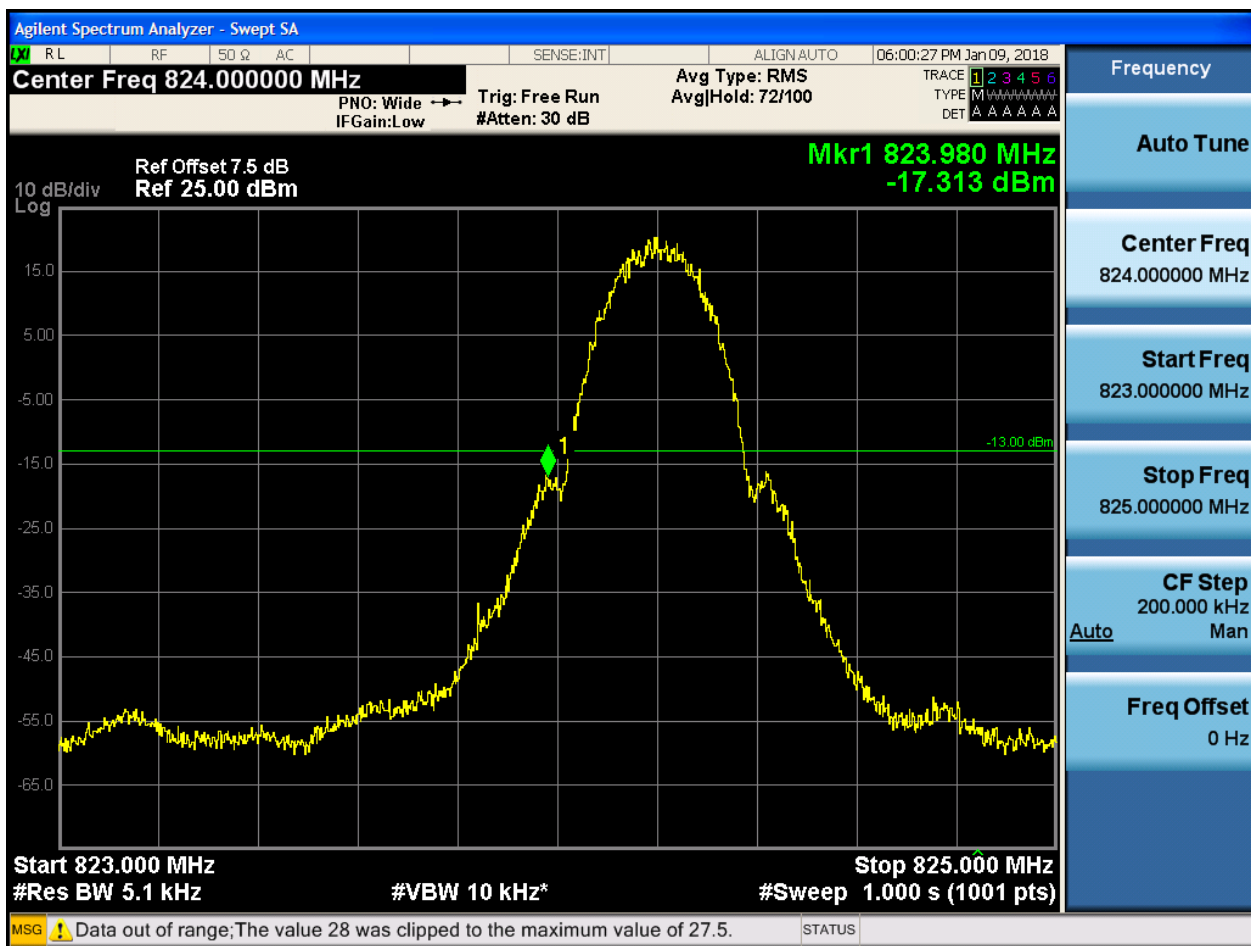
### Part I - Test Plots

#### 5.1 For GSM

##### 5.1.1 Test Band = GSM850

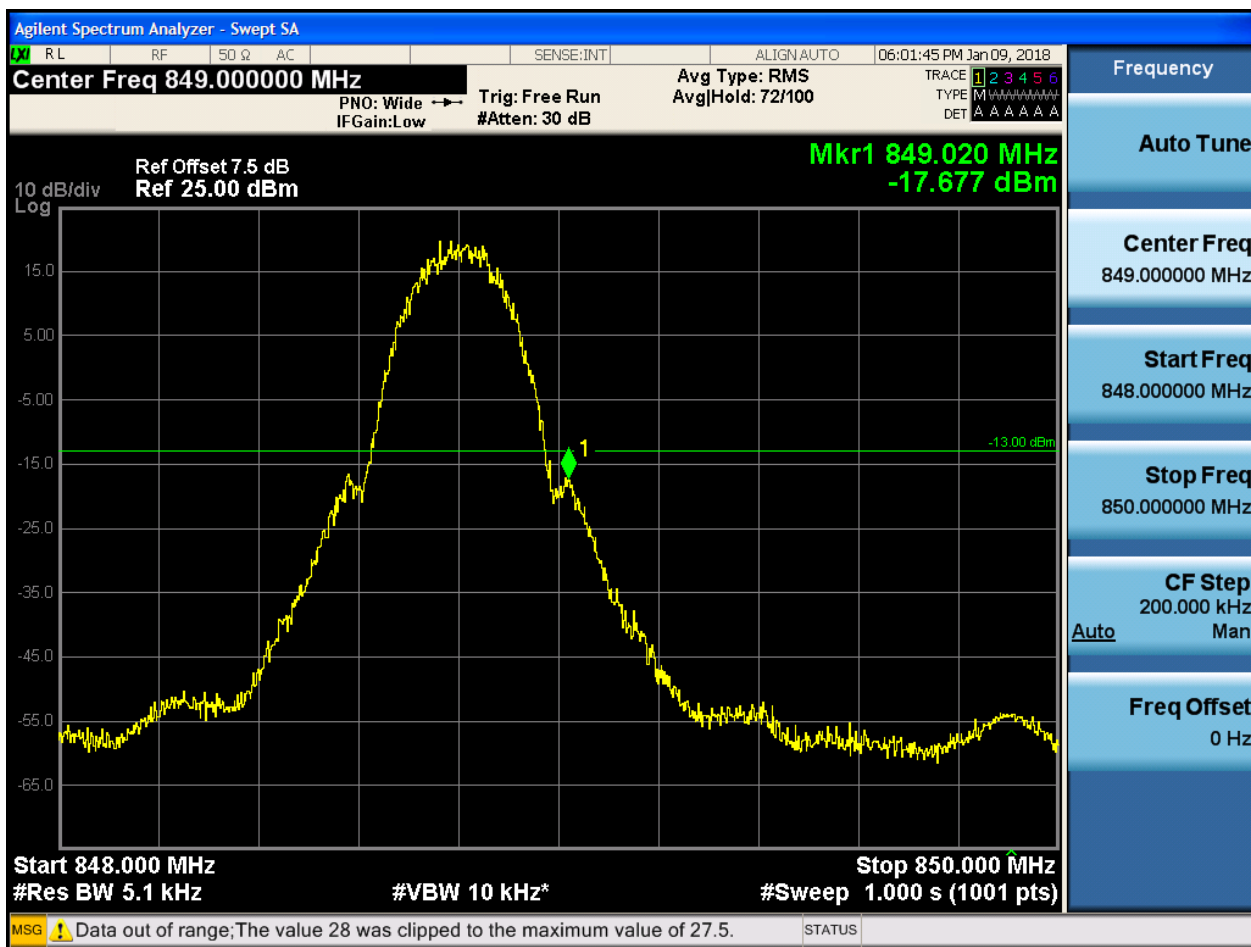
##### 5.1.1.1 Test Mode = GSM/TM1

##### 5.1.1.1.1 Test Channel = LCH





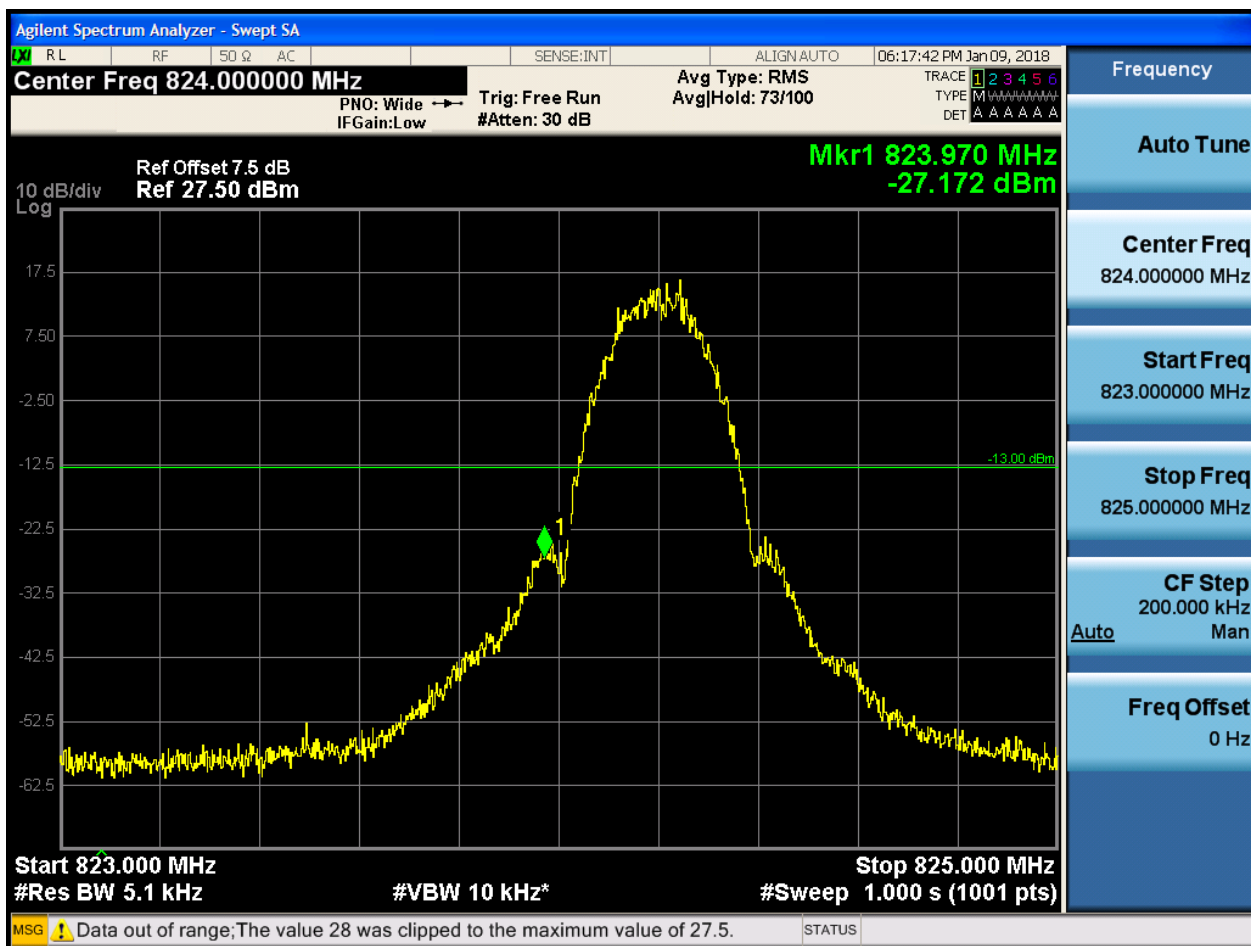
## 5.1.1.1.2 Test Channel = HCH



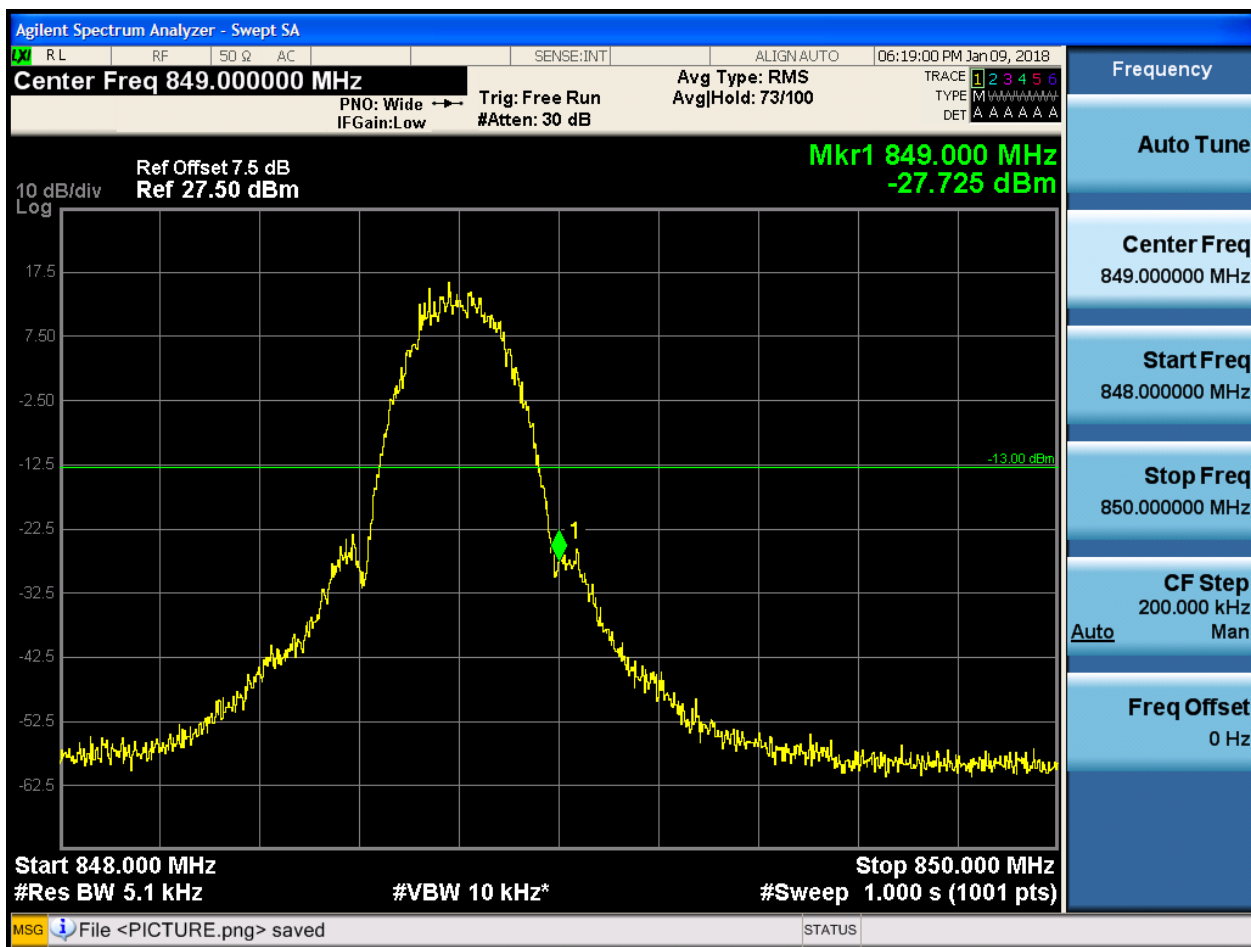


## 5.1.1.2 Test Mode = GSM/TM2

## 5.1.1.2.1 Test Channel = LCH



### 5.1.1.2.2 Test Channel = HCH

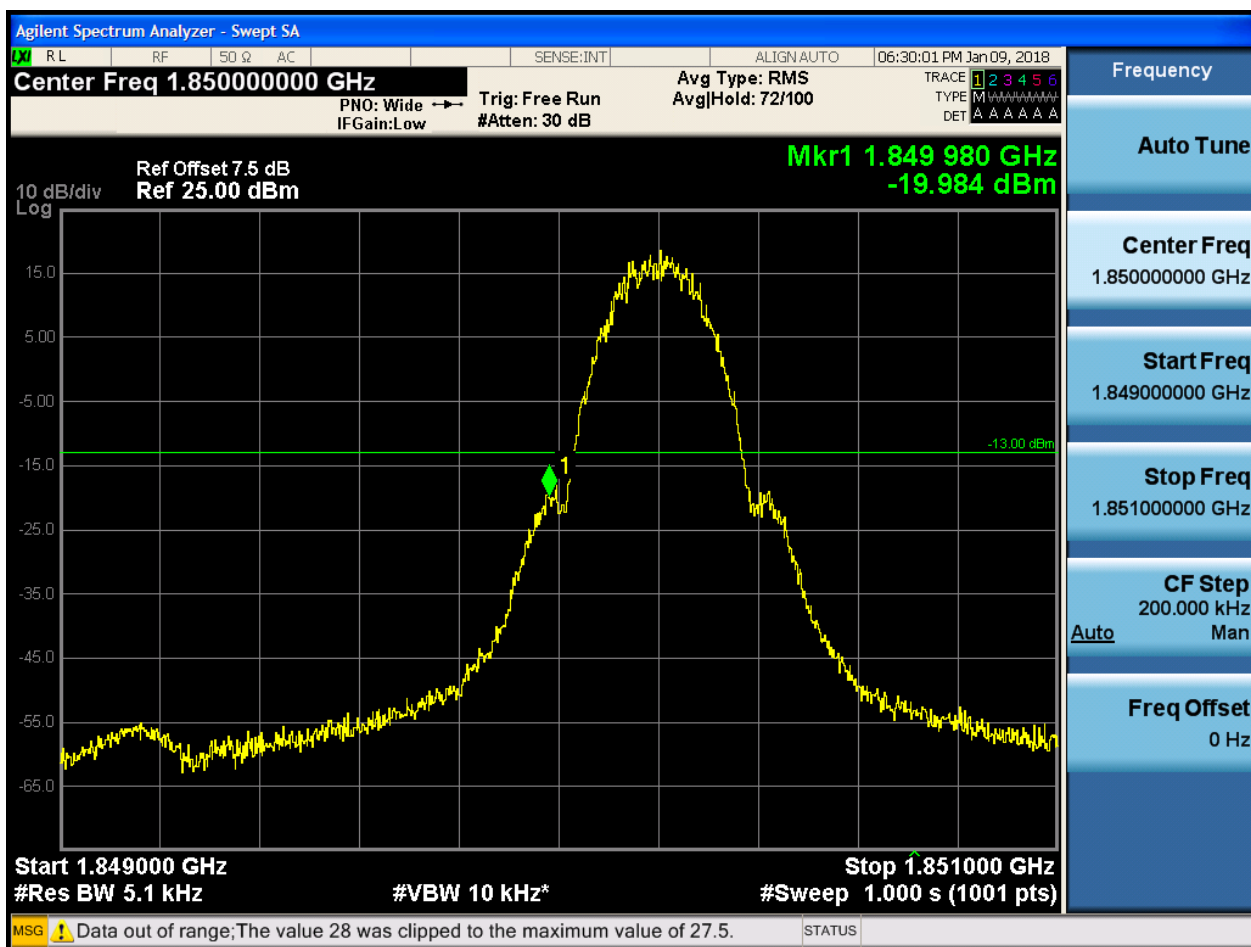




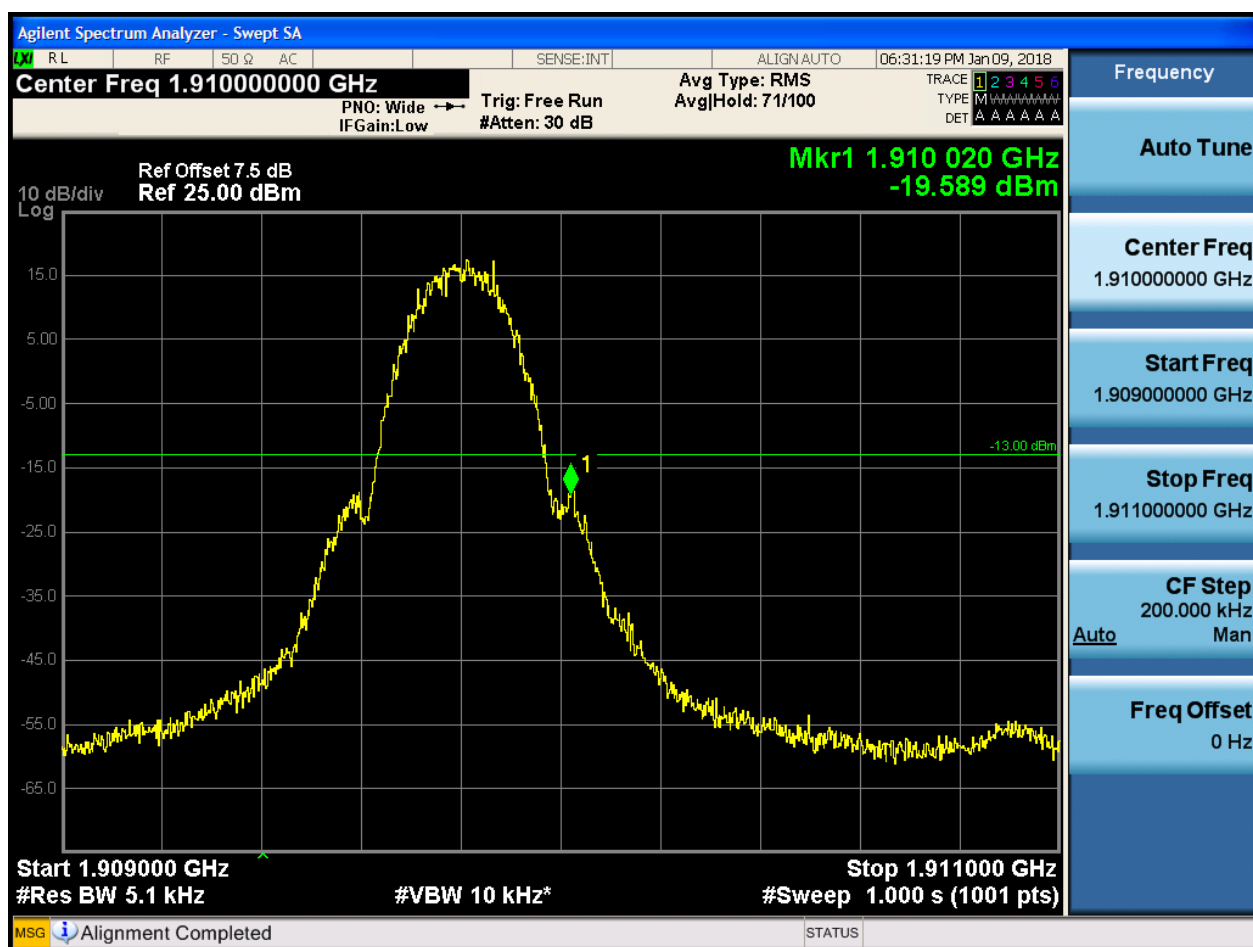
### 5.1.2 Test Band = GSM1900

#### 5.1.2.1 Test Mode = GSM/TM1

##### 5.1.2.1.1 Test Channel = LCH

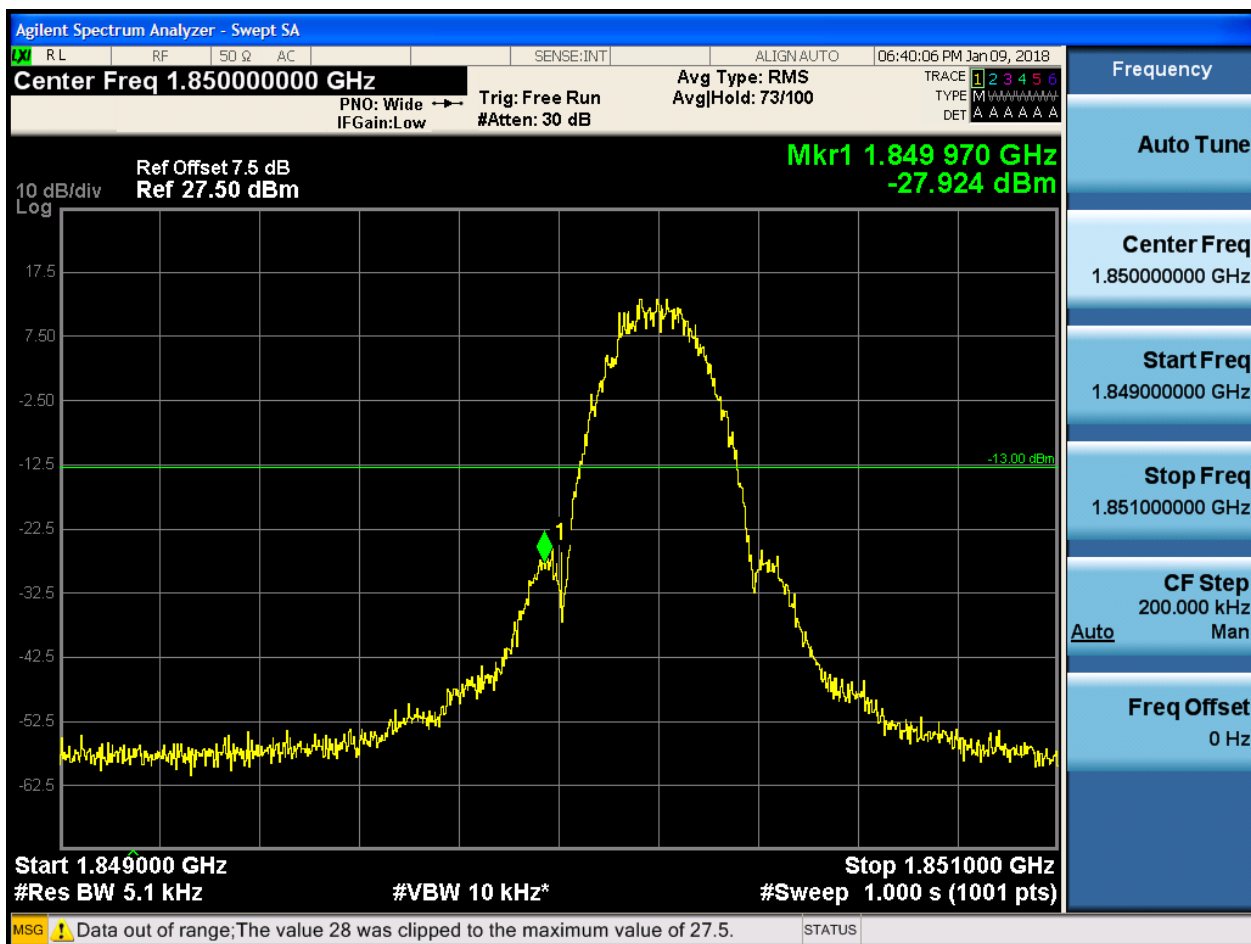


#### 5.1.2.1.2 Test Channel = HCH



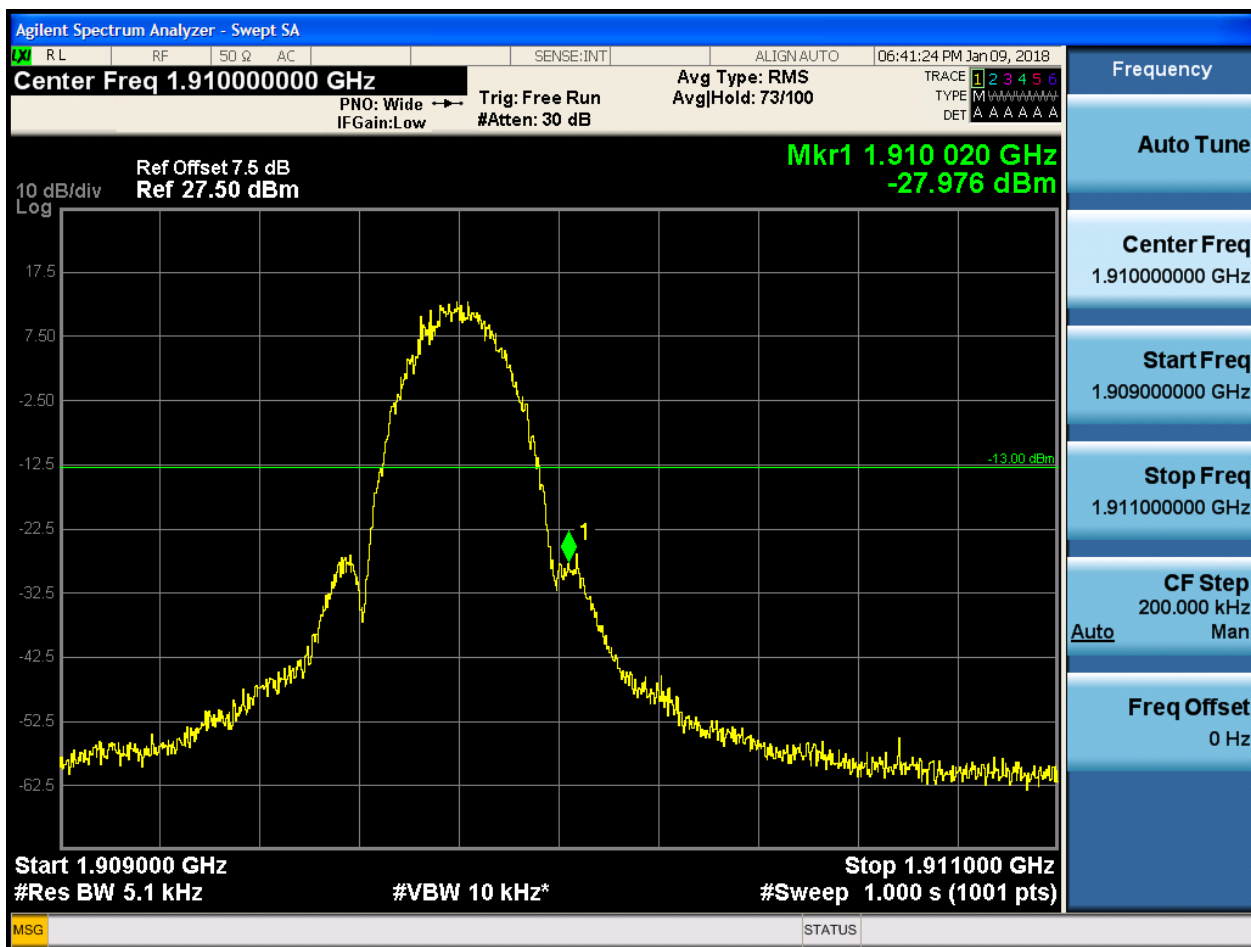
### 5.1.2.2 Test Mode = GSM/TM2

#### 5.1.2.2.1 Test Channel = LCH





## 5.1.2.2.2 Test Channel = HCH



## 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.

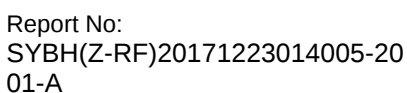
### Part I - Test Plots

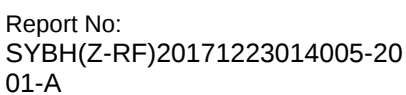
#### 6.1 For GSM

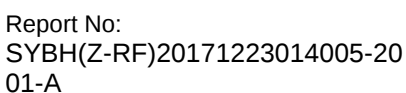
##### 6.1.1 Test Band = GSM850

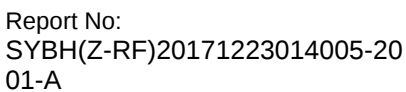
##### 6.1.1.1 Test Mode = GSM/TM1

##### 6.1.1.1.1 Test Channel = LCH



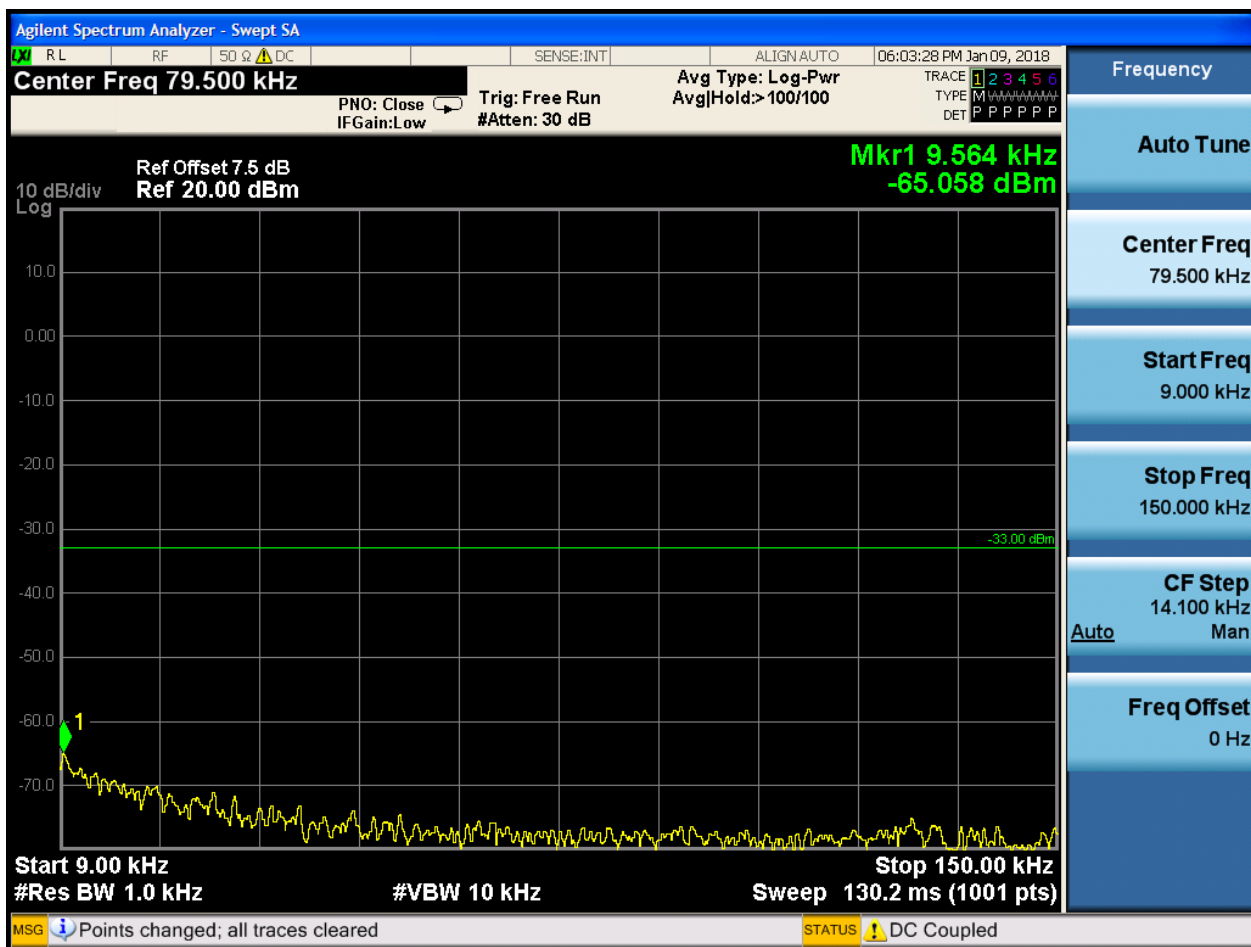


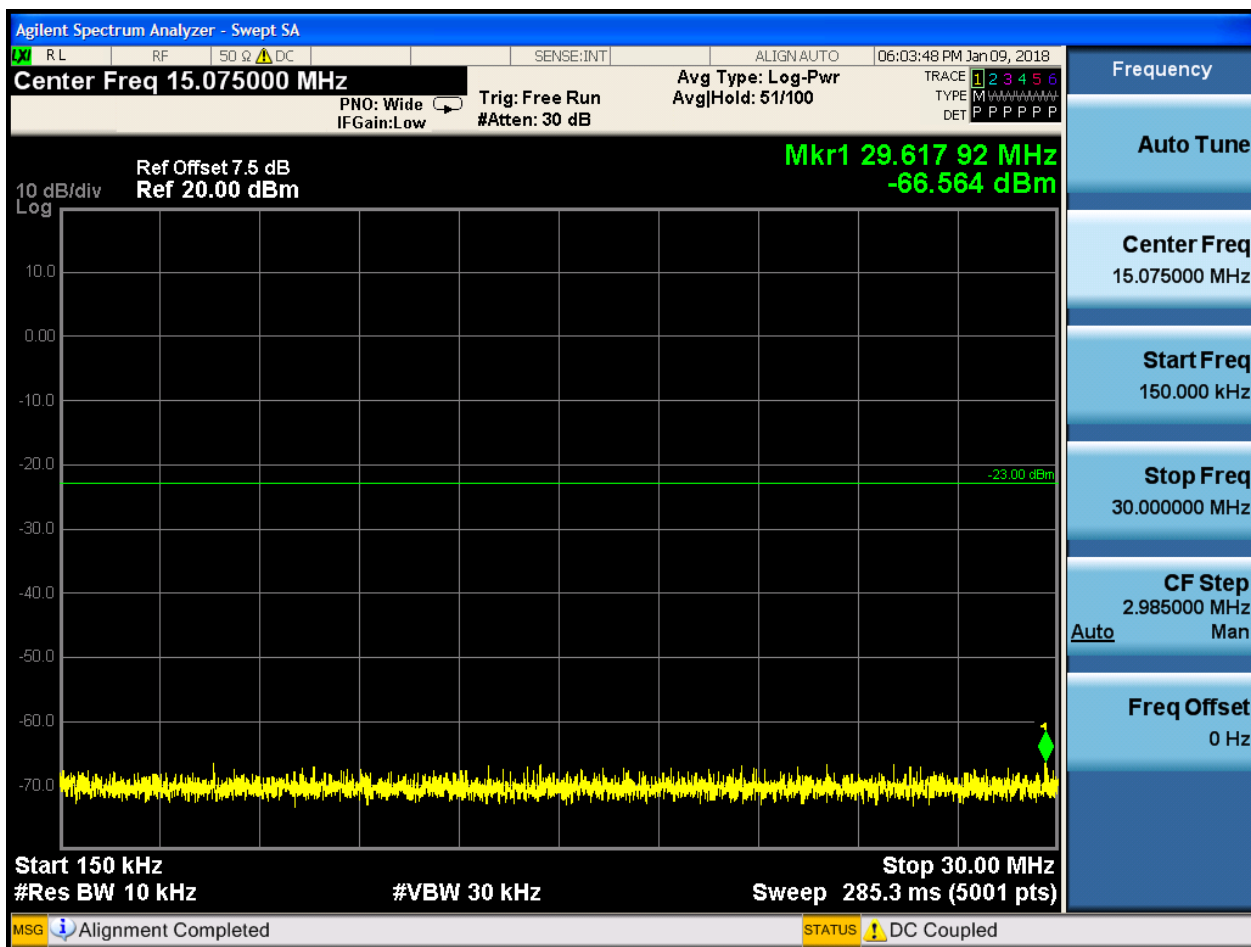


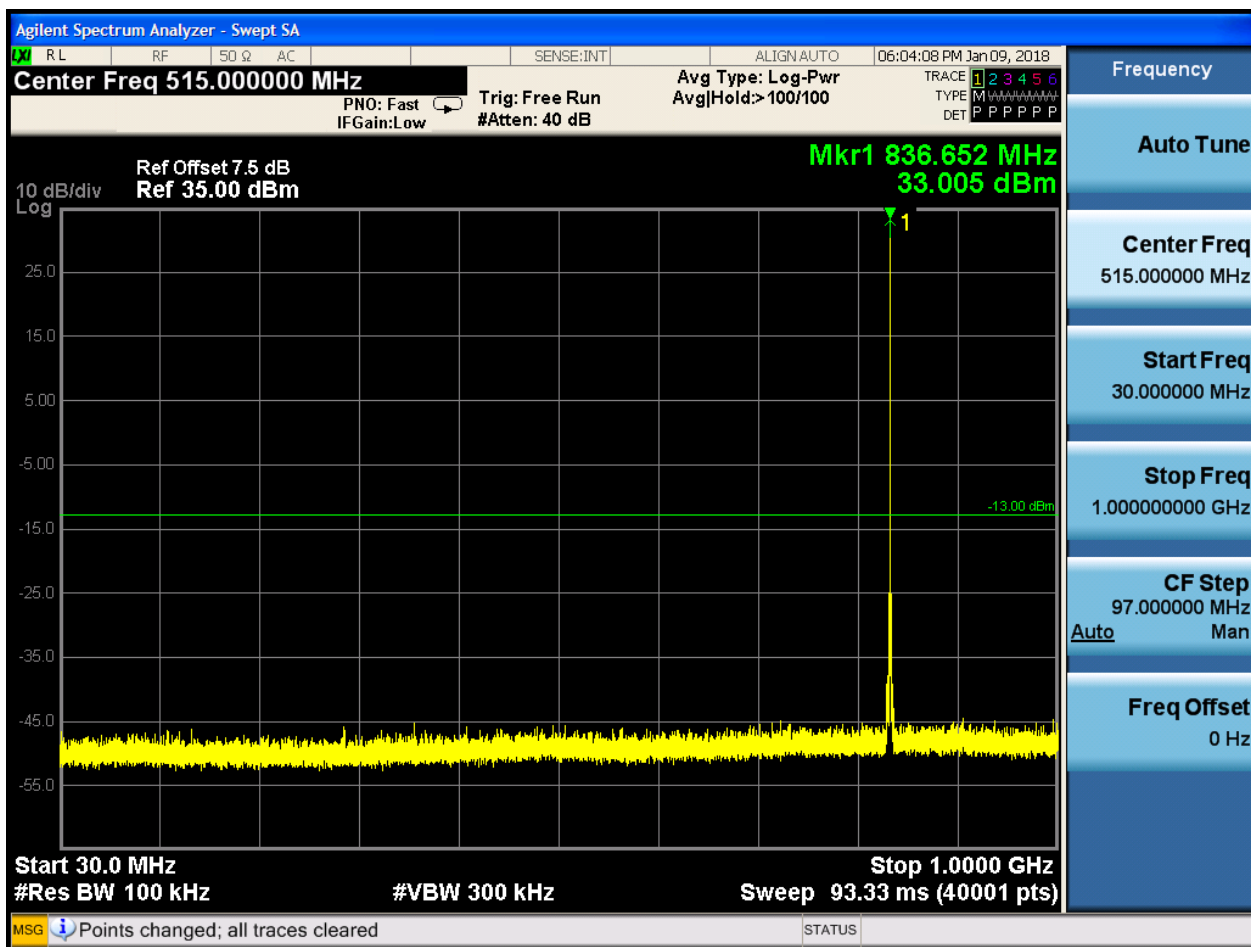


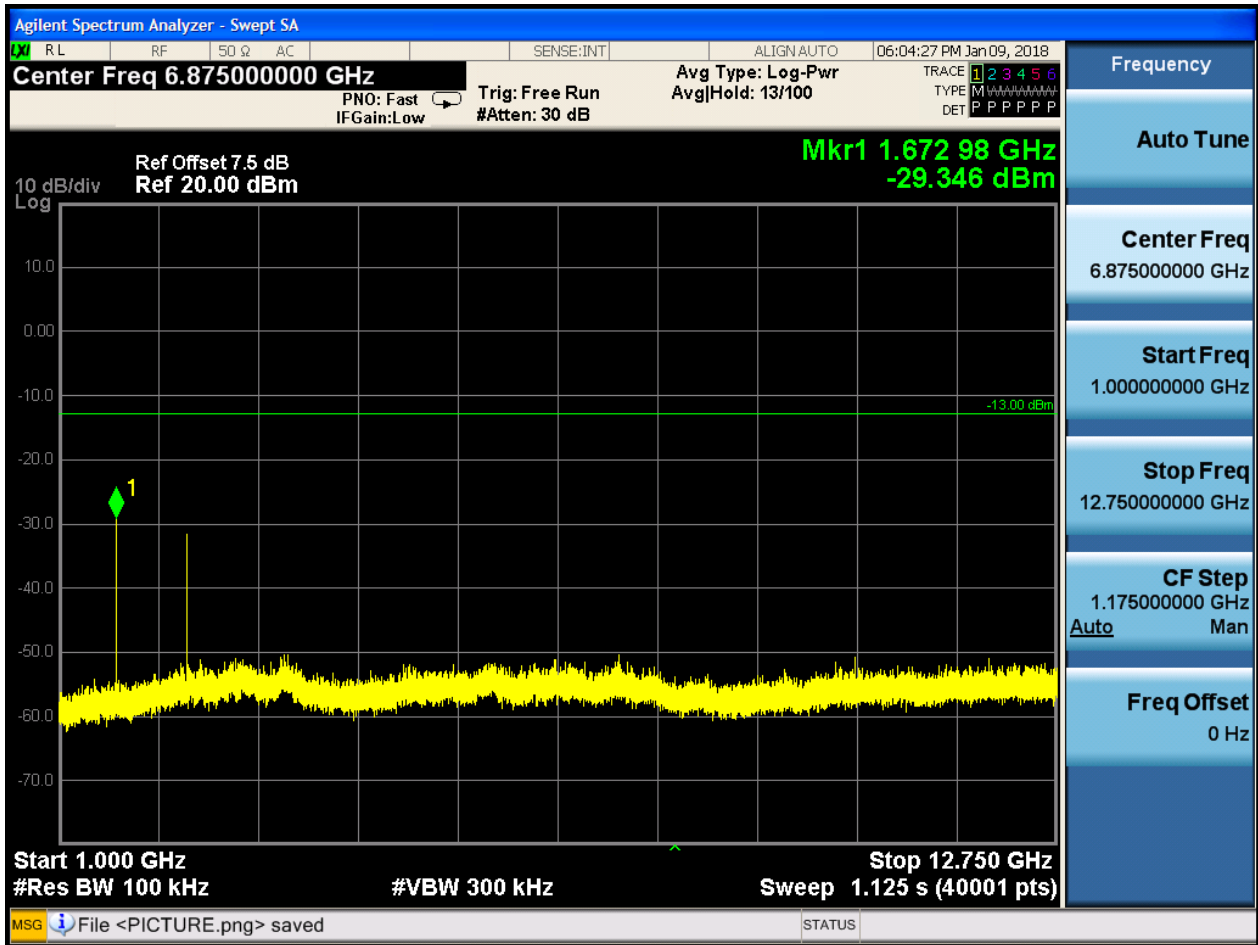


## 6.1.1.1.2 Test Channel = MCH



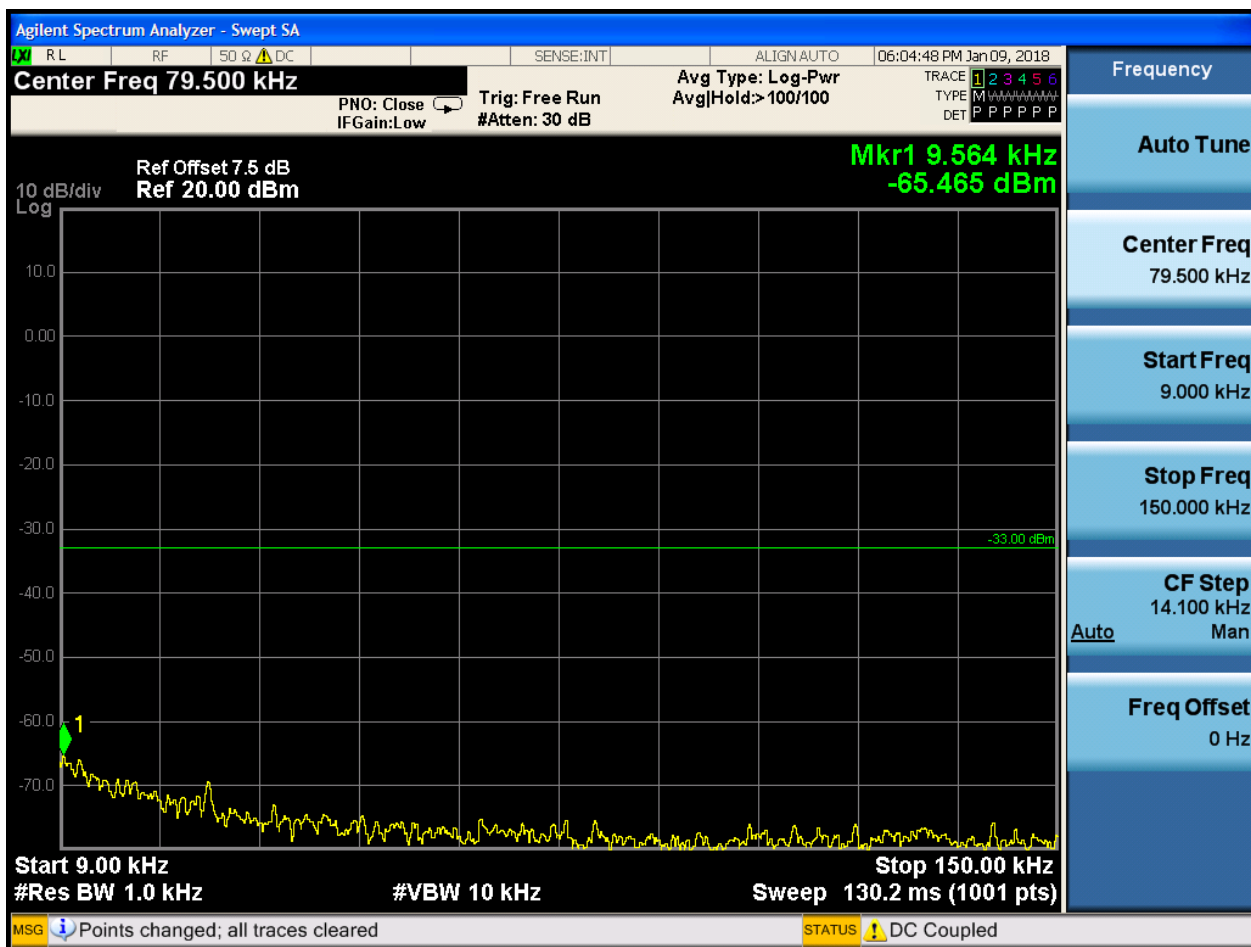


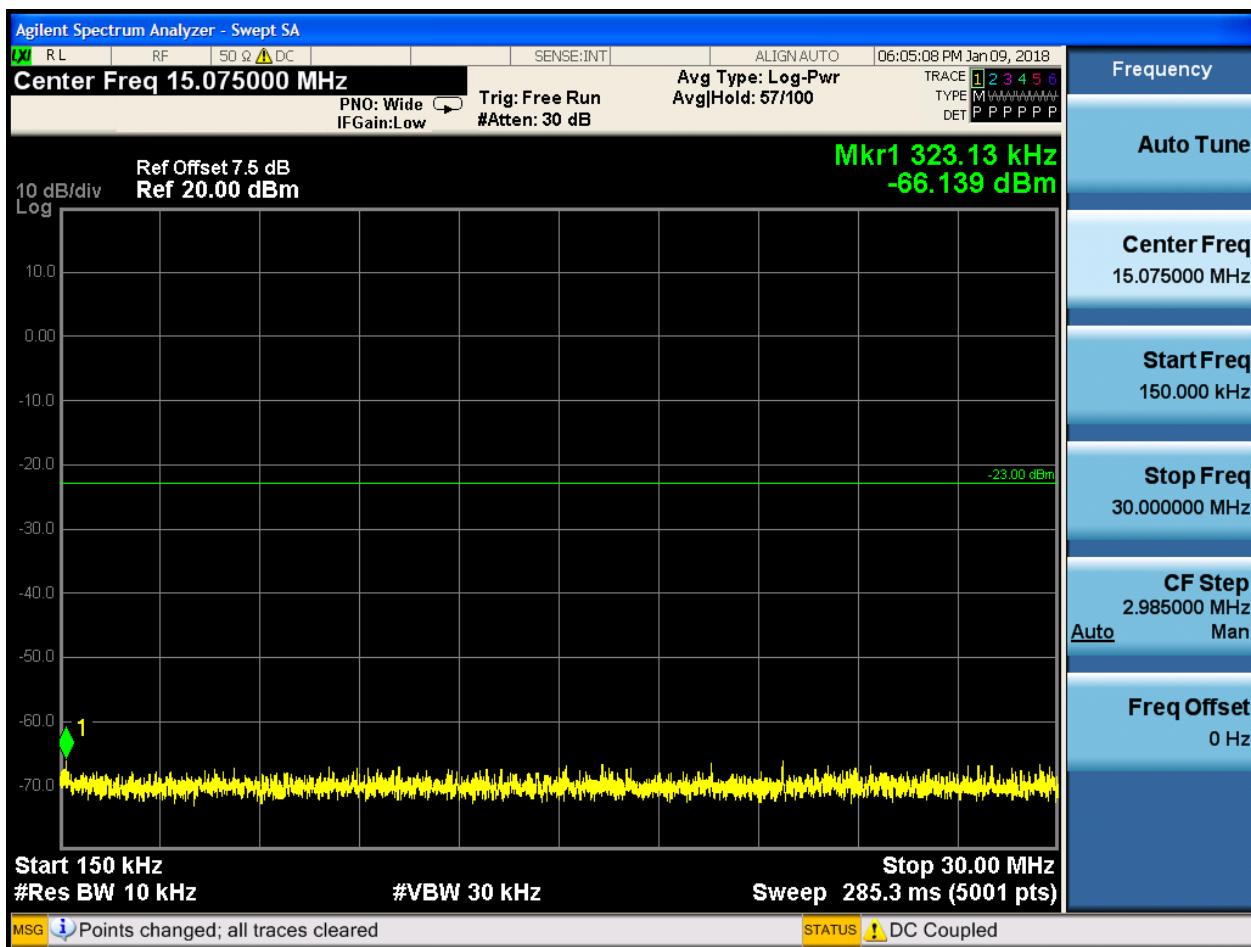


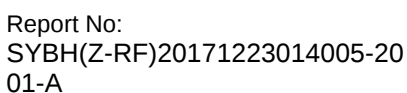


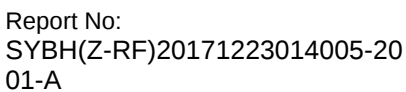


## 6.1.1.1.3 Test Channel = HCH



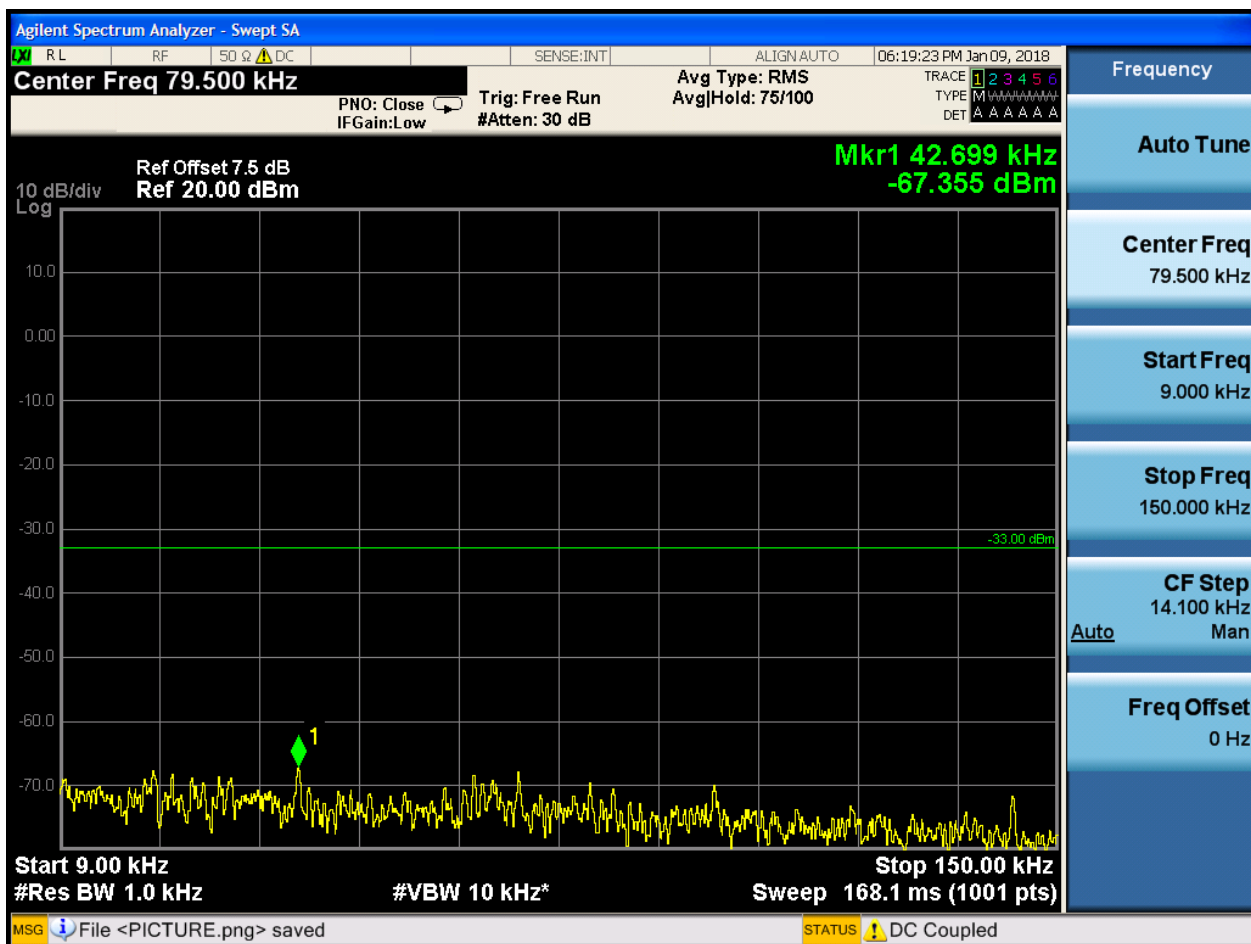


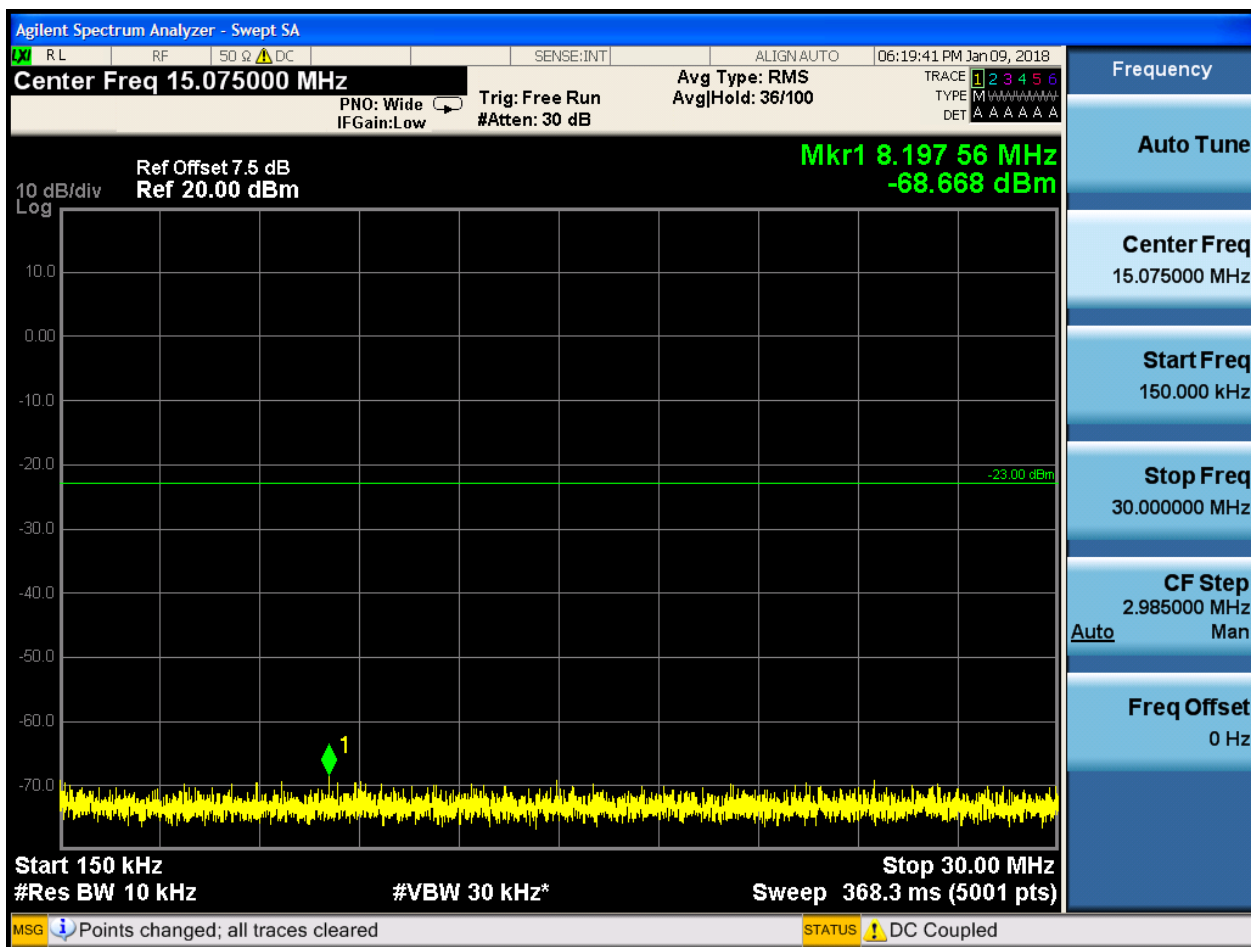


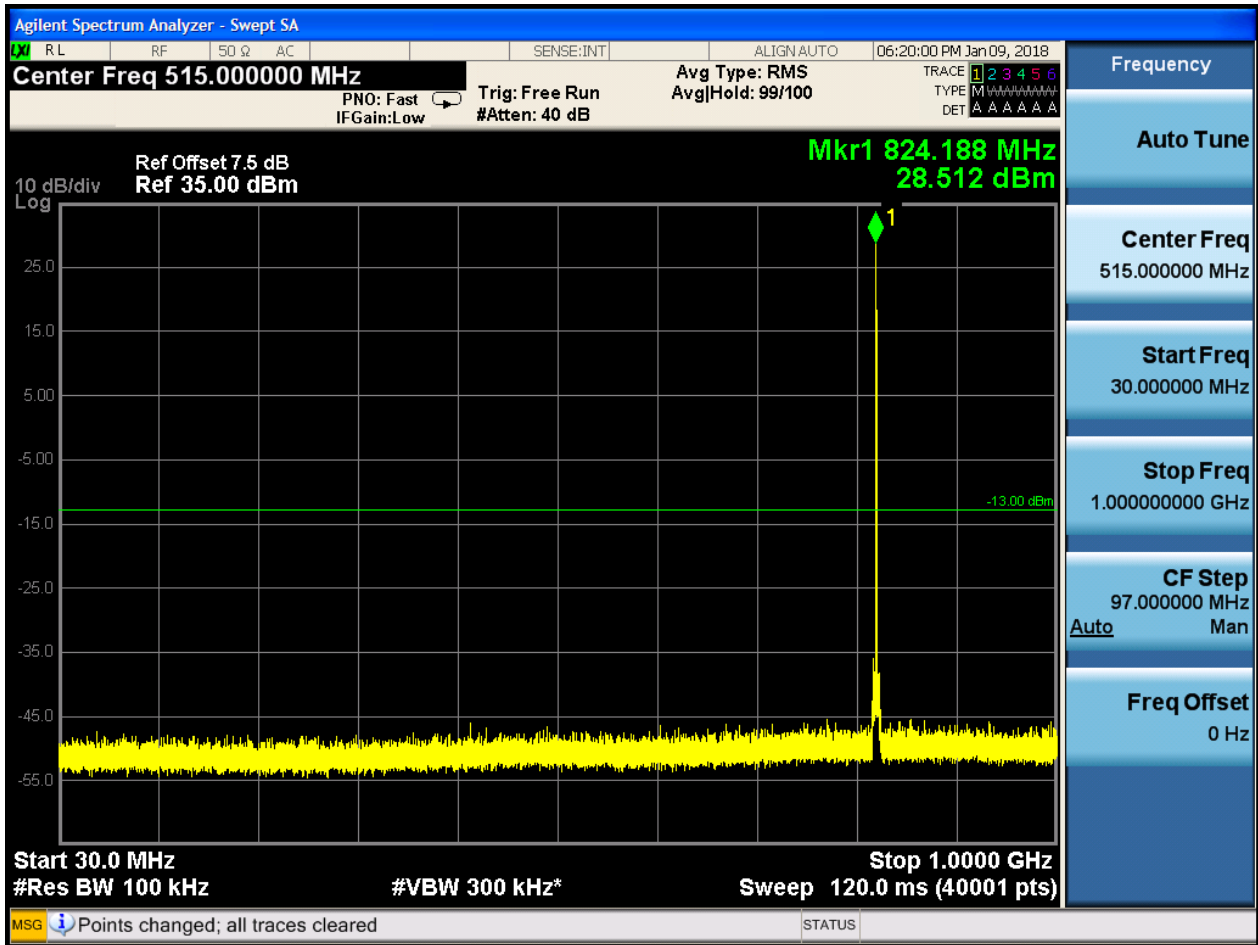


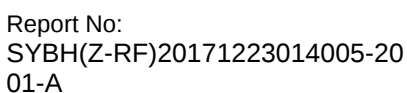
#### 6.1.1.2 Test Mode = GSM/TM2

#### 6.1.1.2.1 Test Channel = LCH

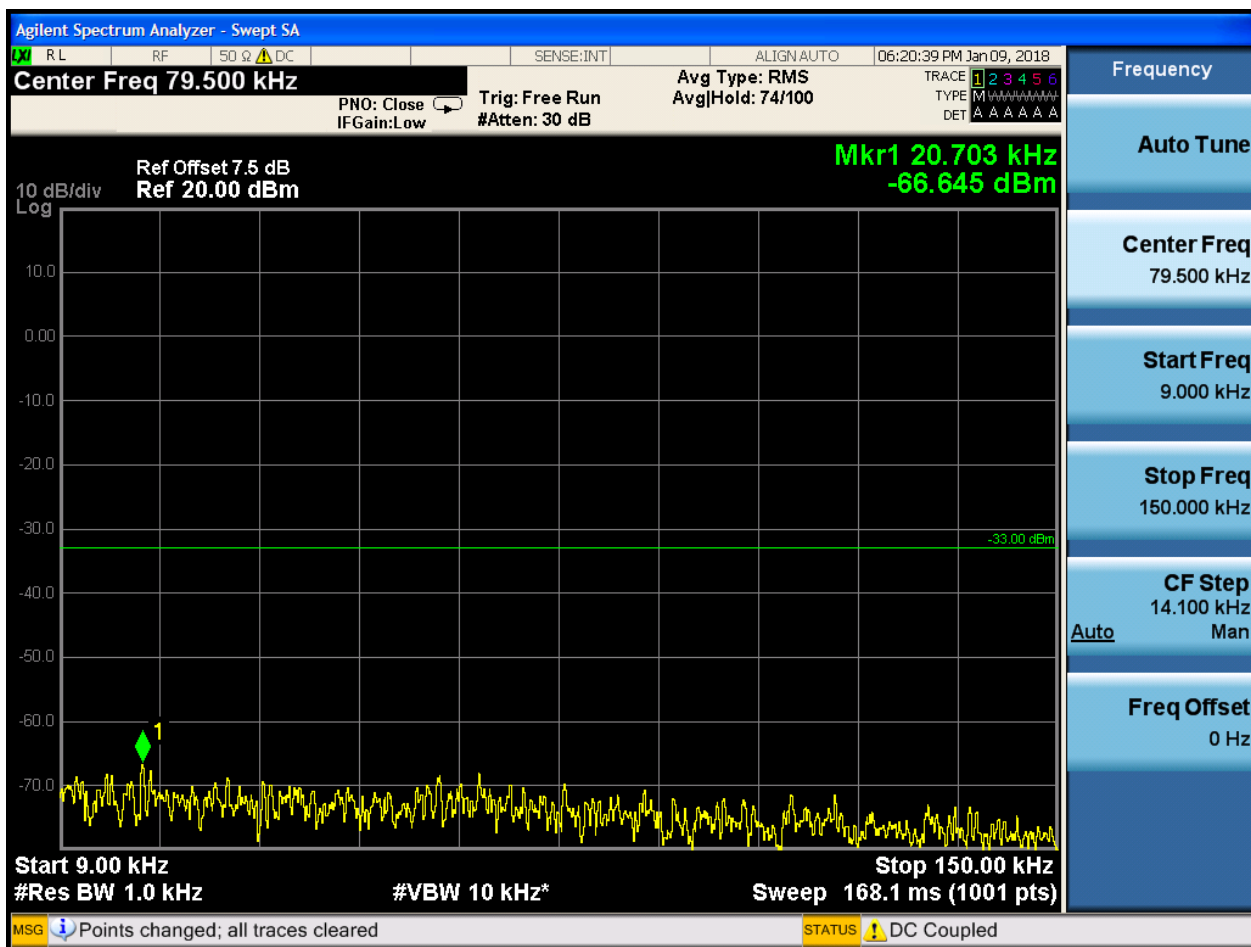


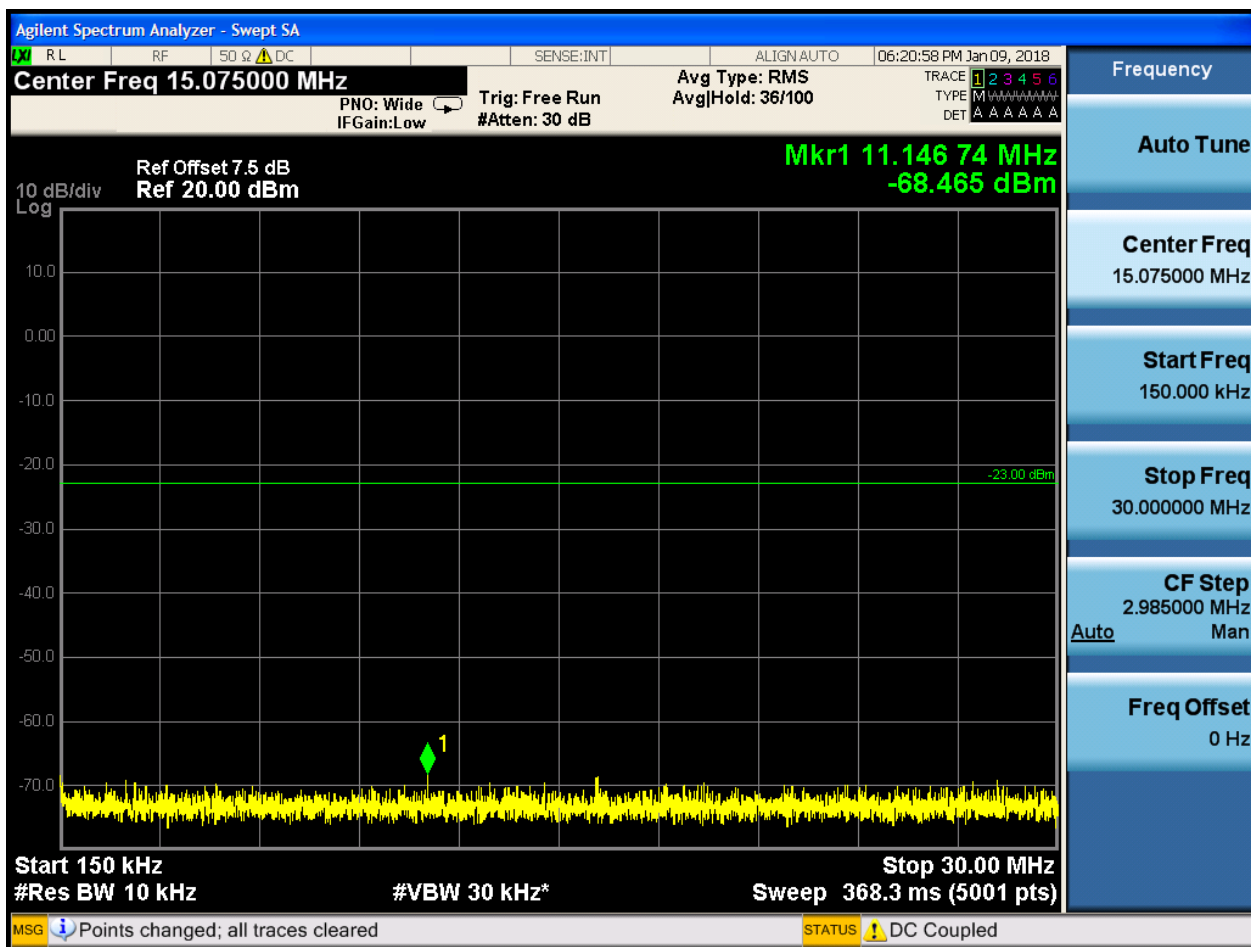


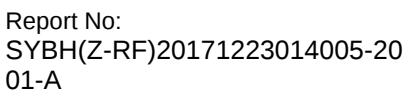


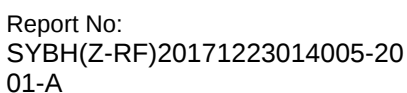


### 6.1.1.2.2 Test Channel = MCH



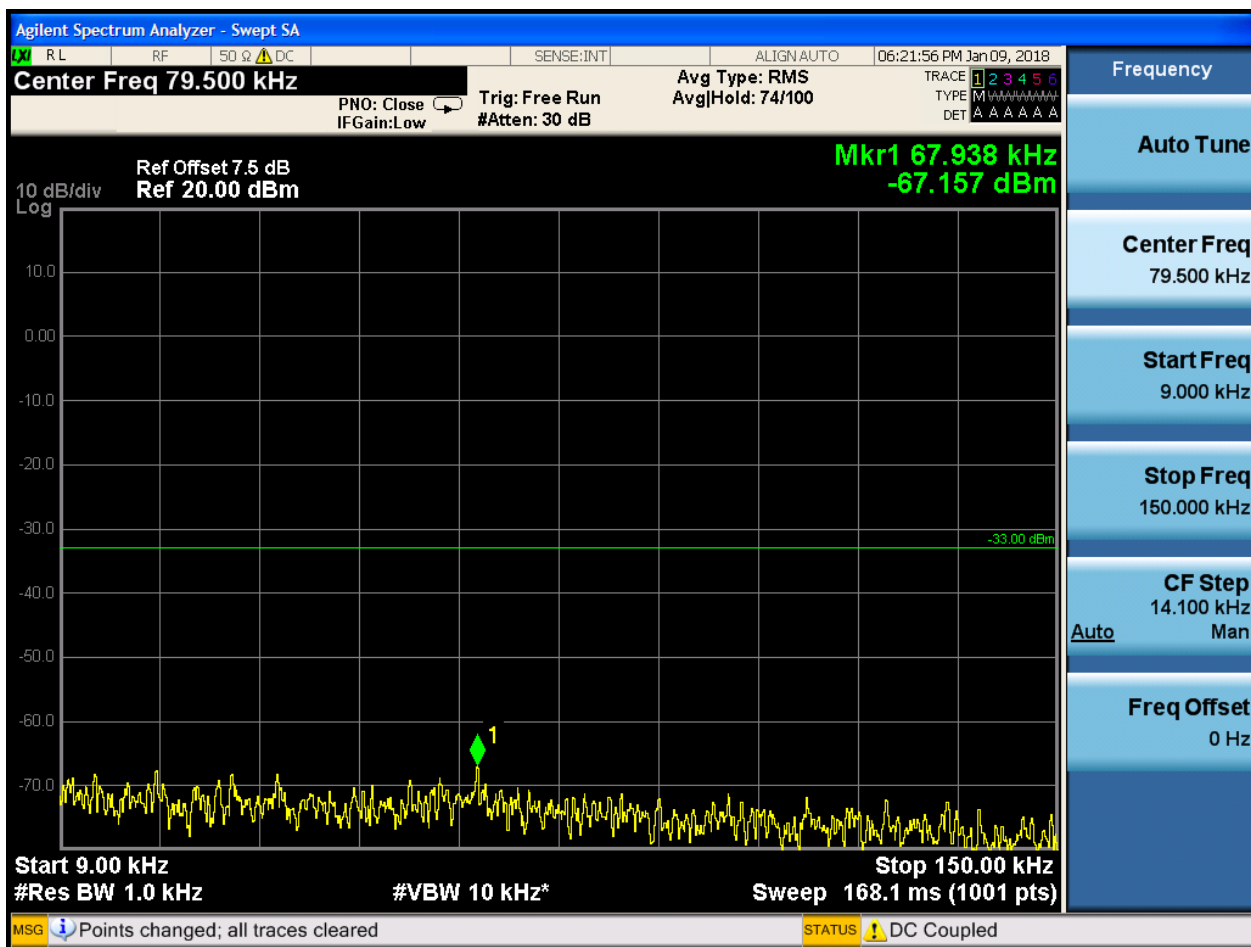


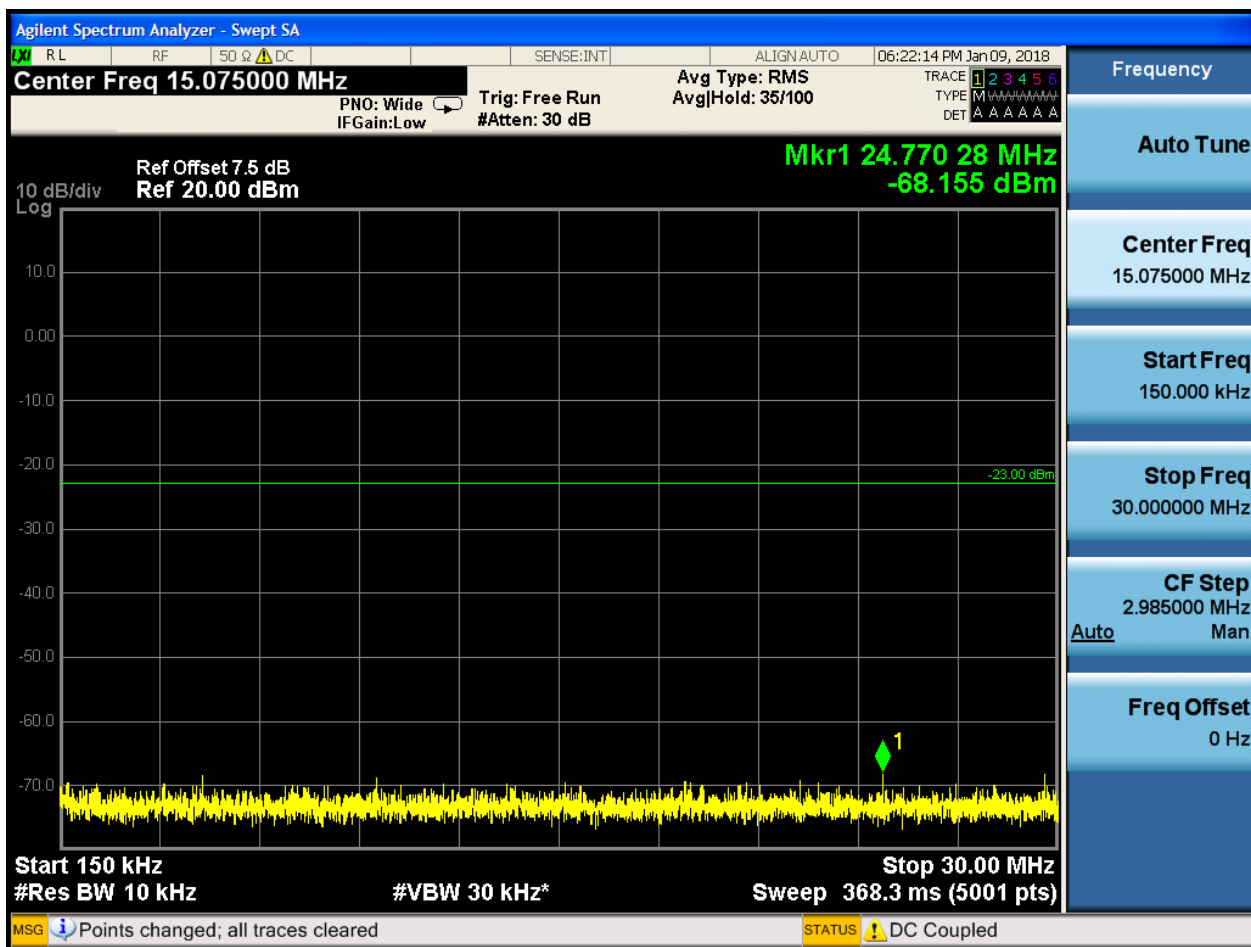


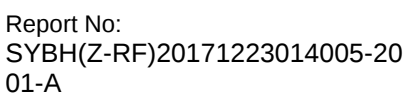


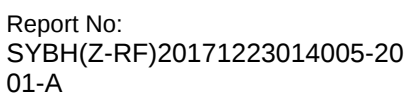


## 6.1.1.2.3 Test Channel = HCH







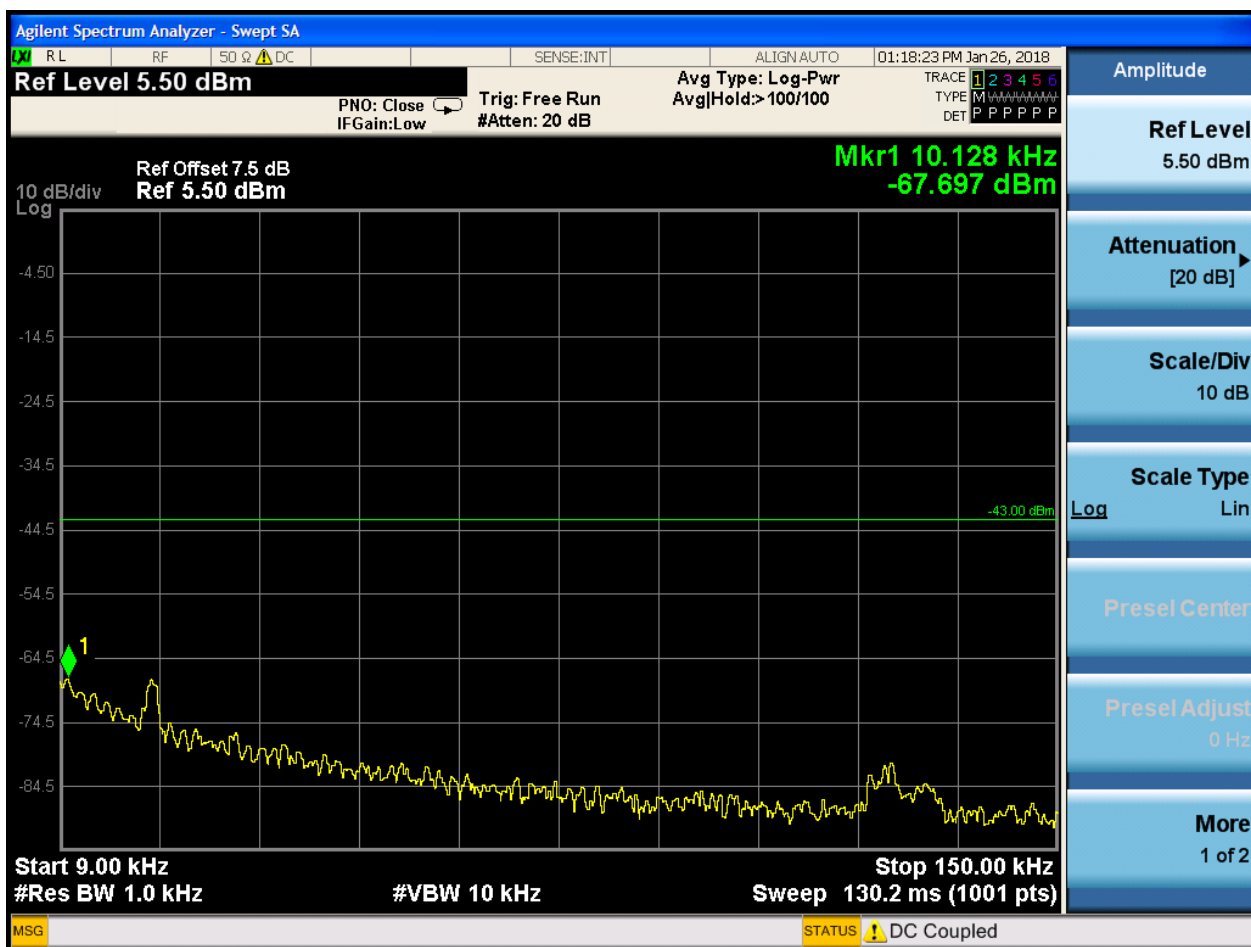


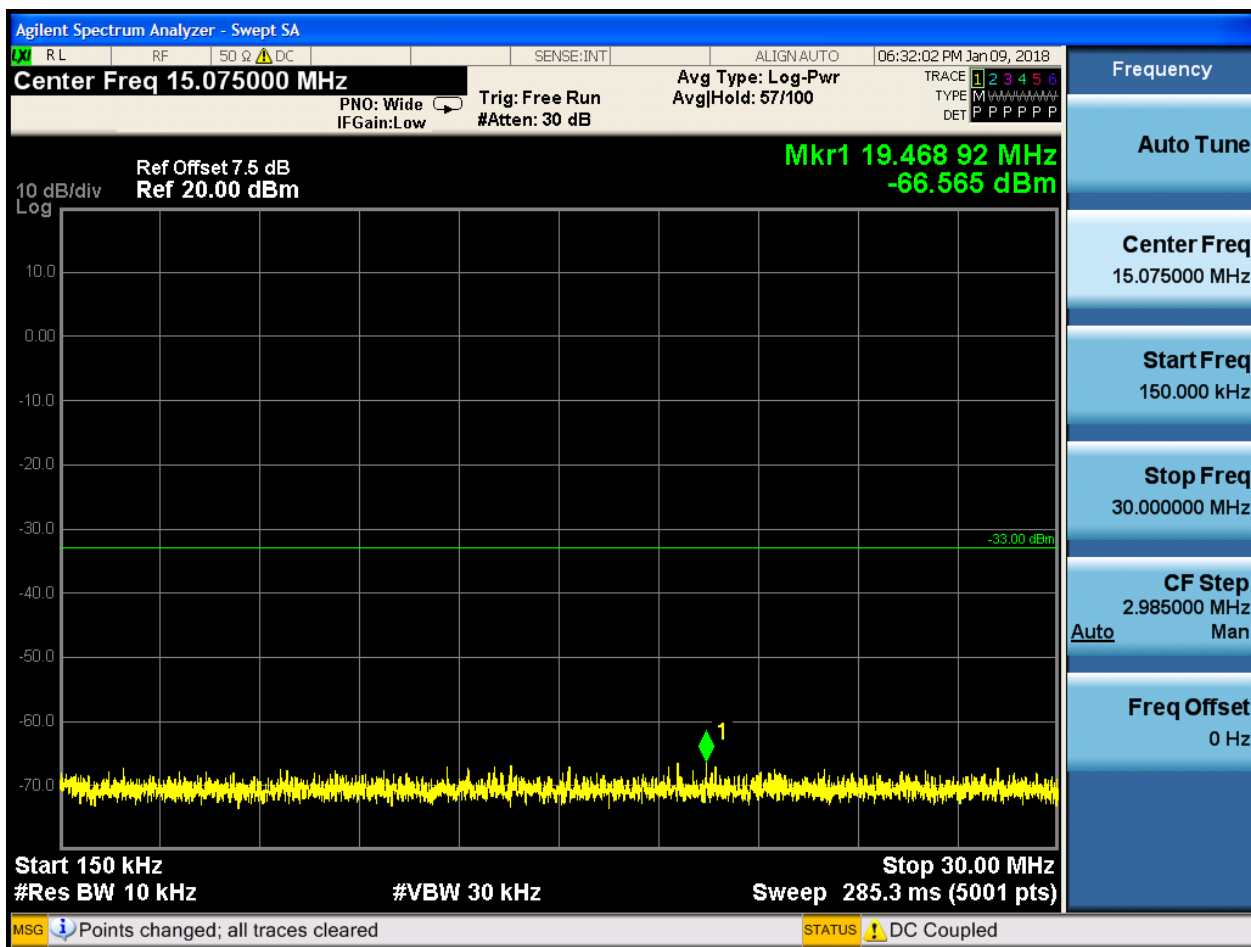


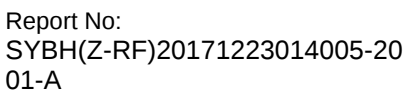
## 6.1.2 Test Band = GSM1900

### 6.1.2.1 Test Mode = GSM/TM1

#### 6.1.2.1.1 Test Channel = LCH

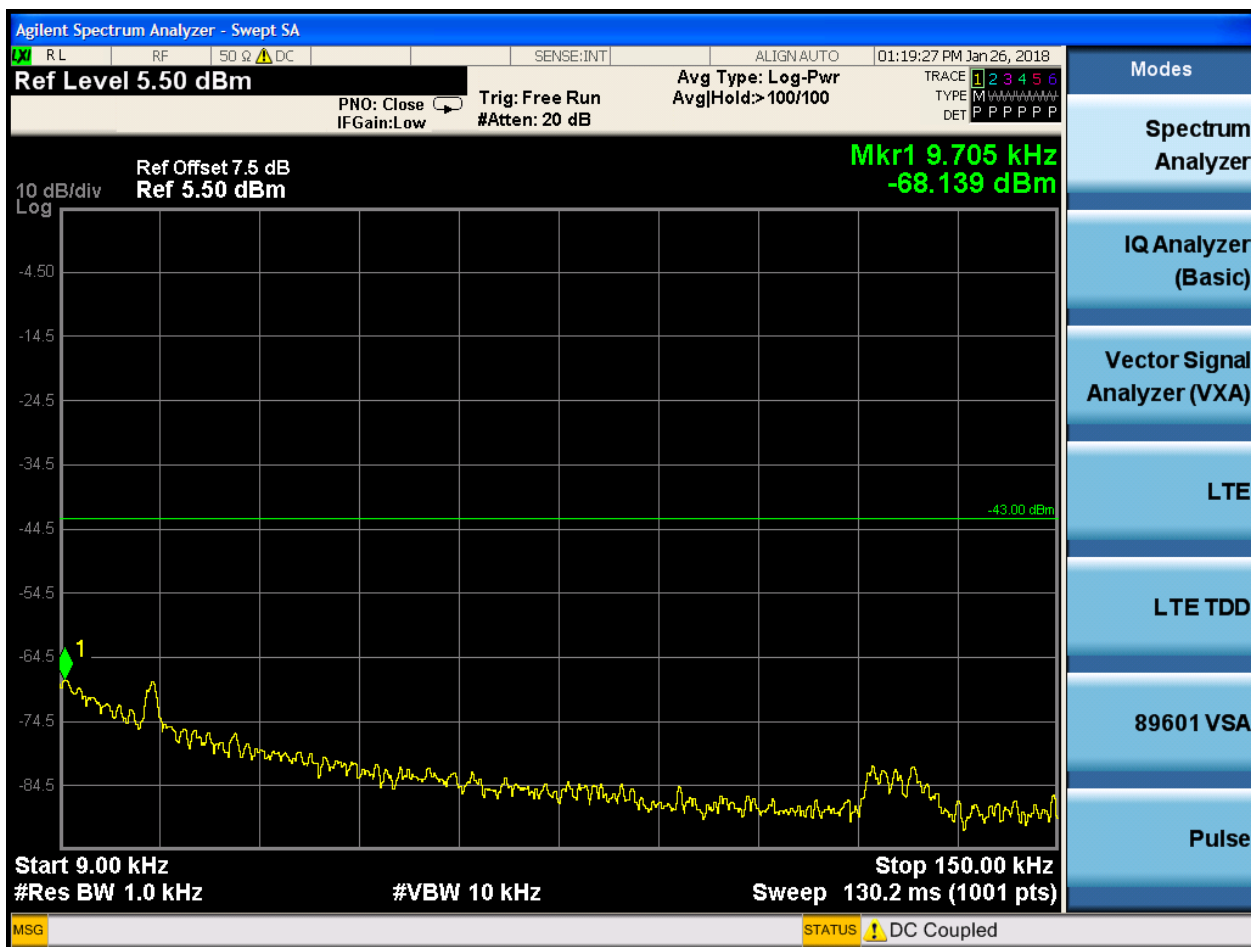


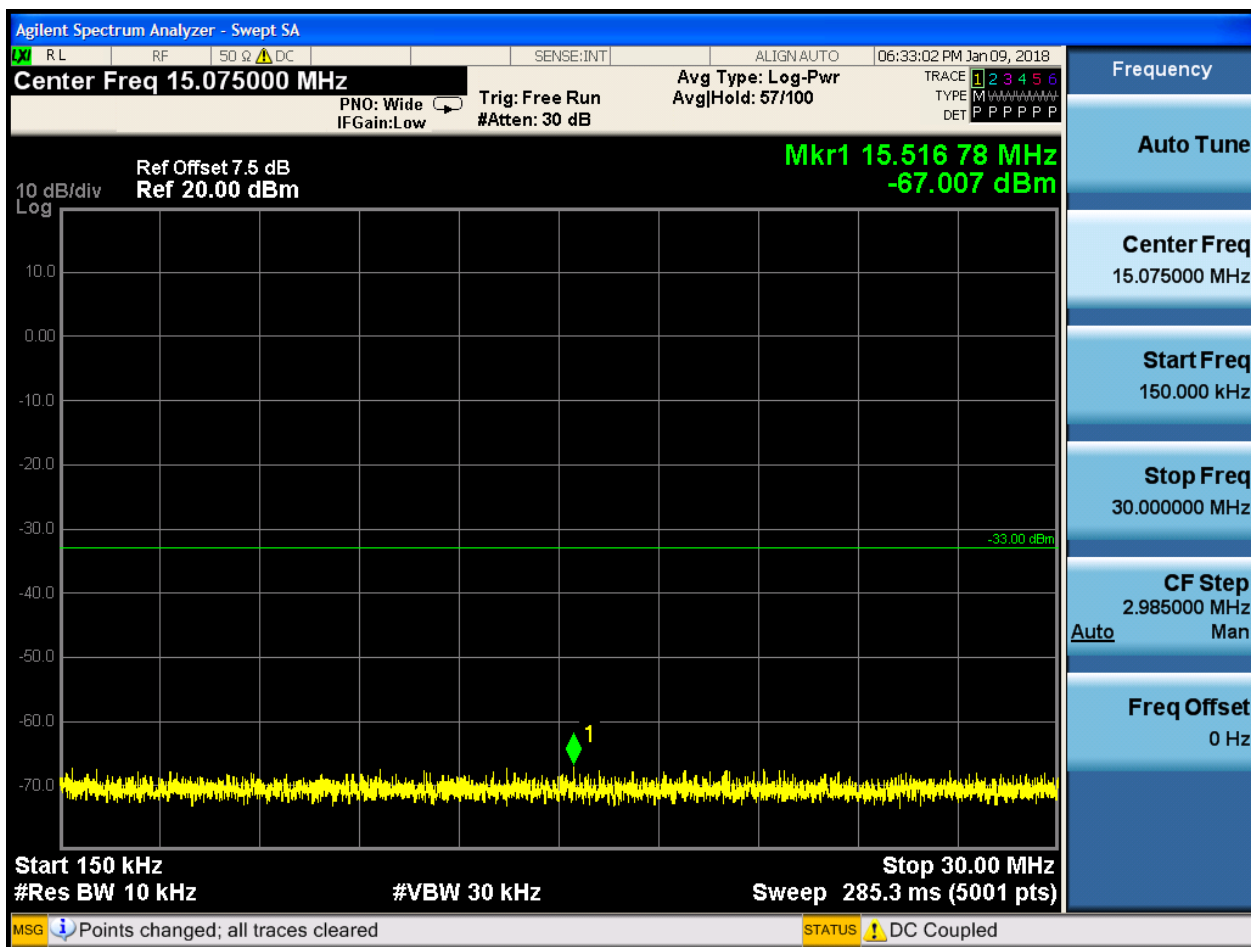


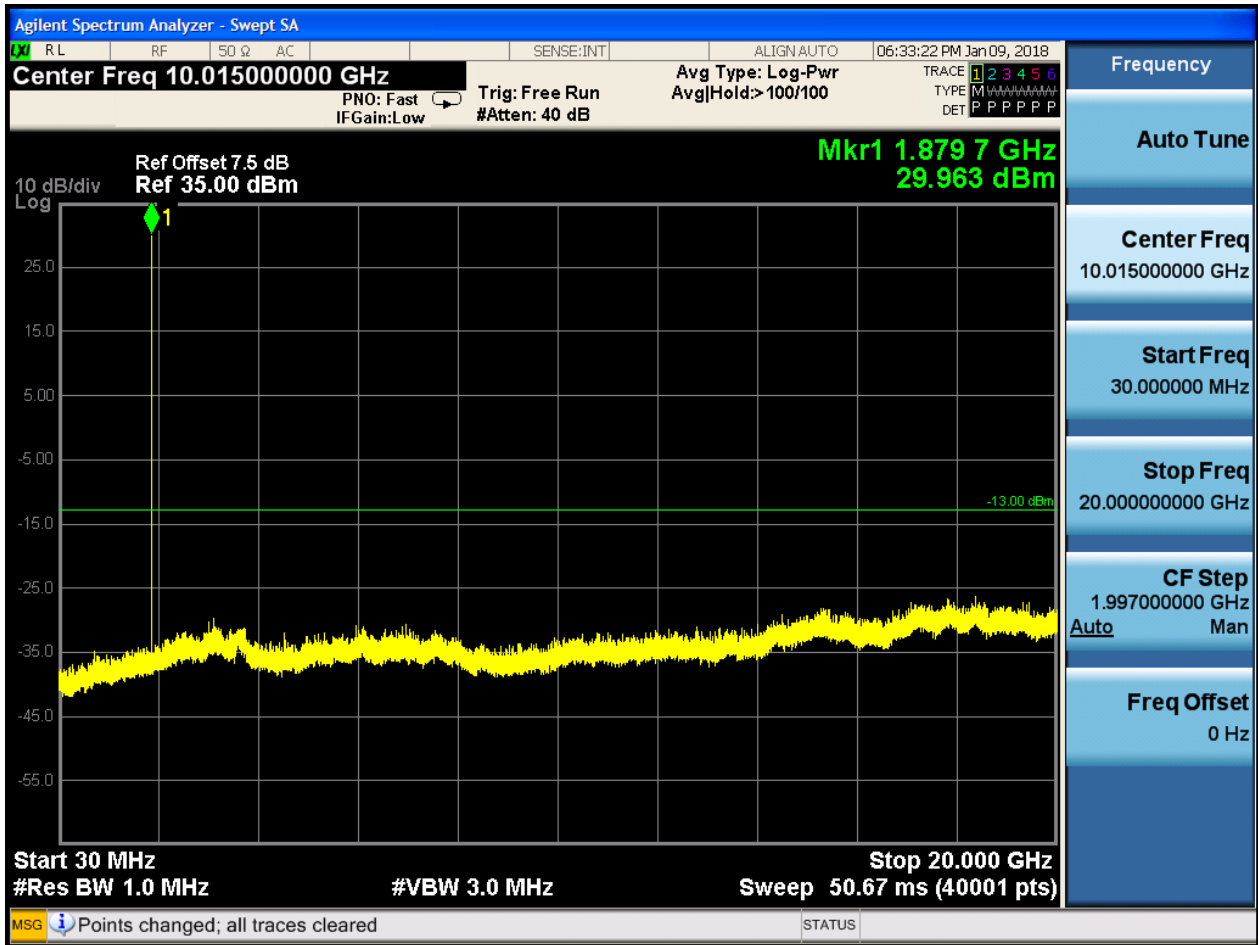




## 6.1.2.1.2 Test Channel = MCH

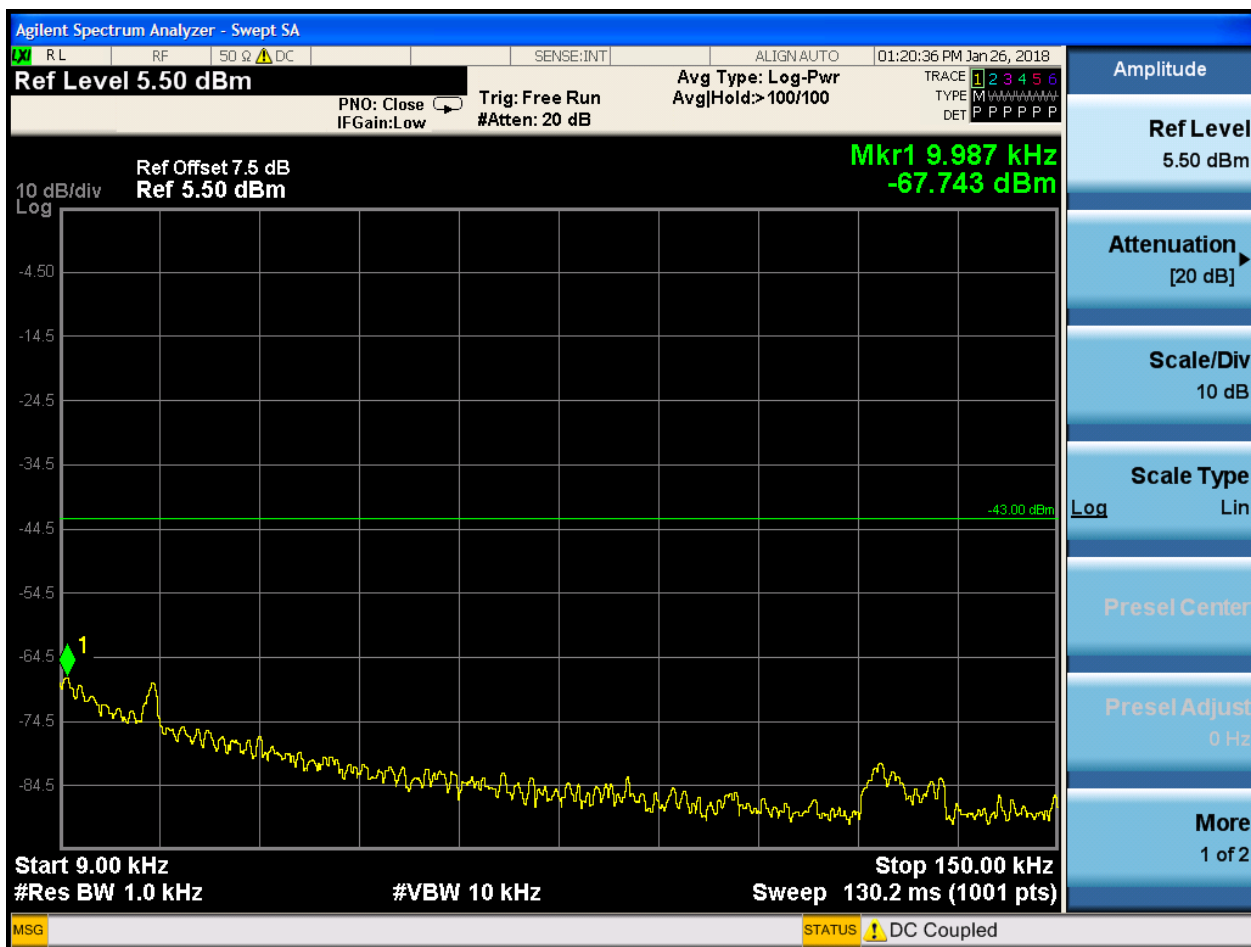


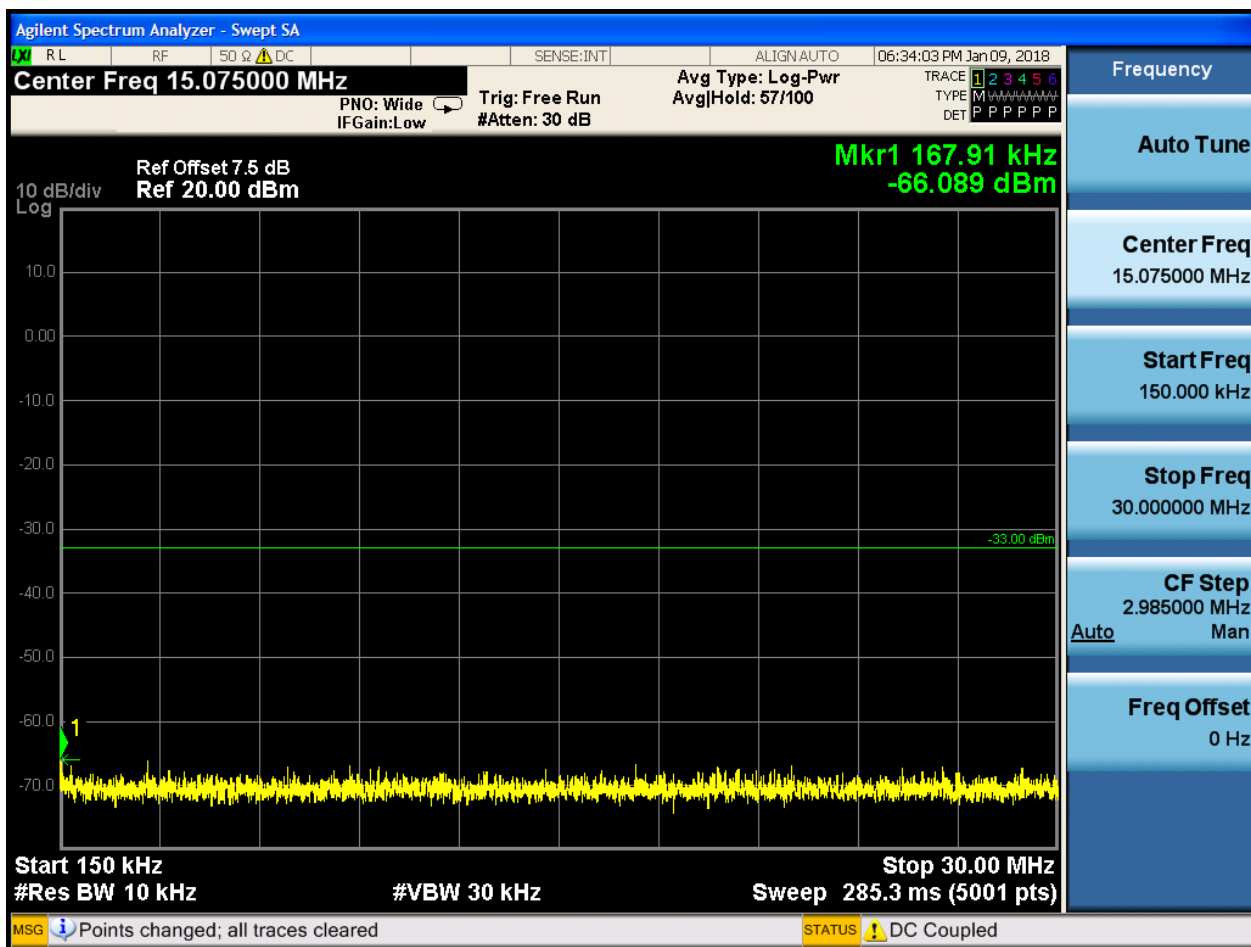






## 6.1.2.1.3 Test Channel = HCH



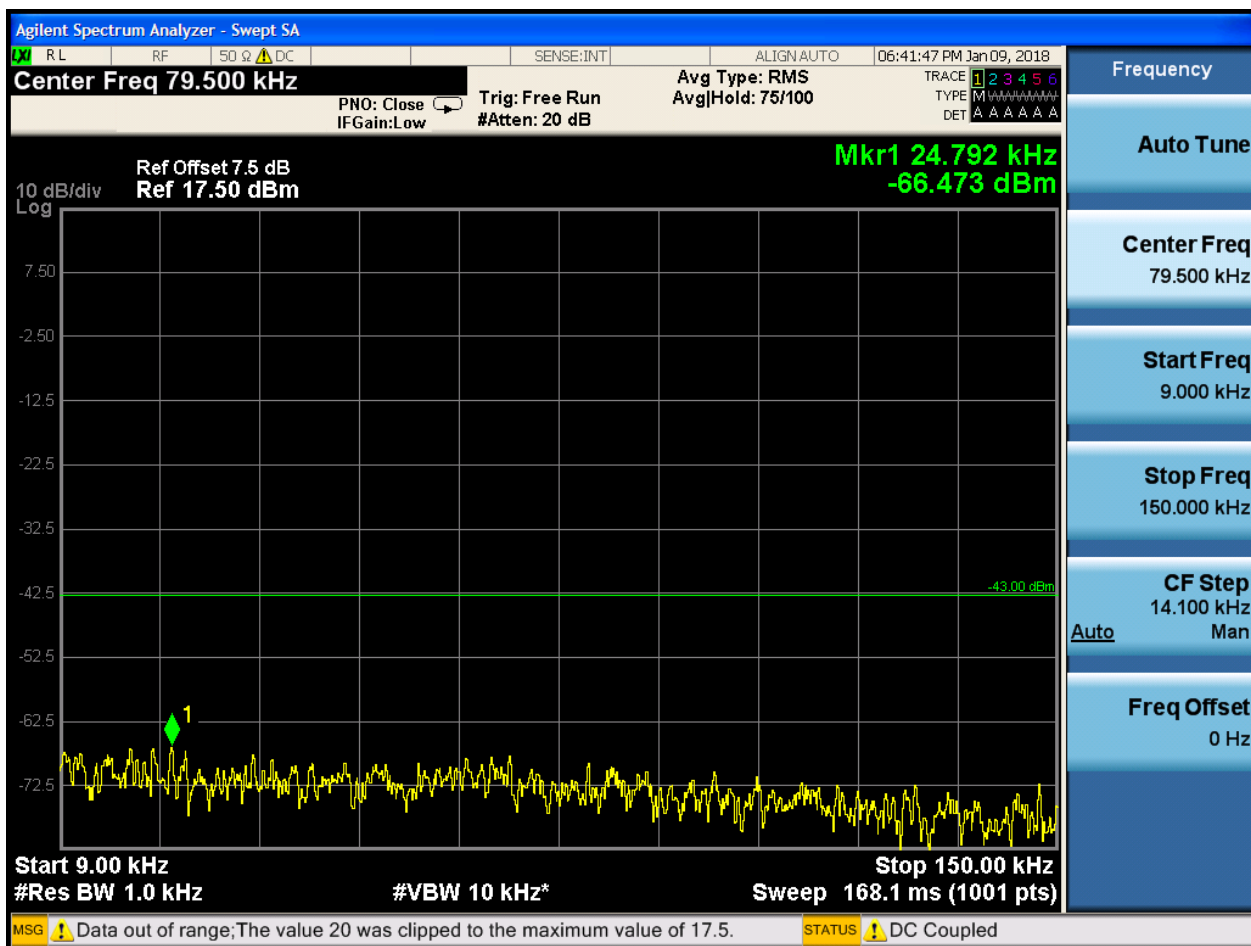


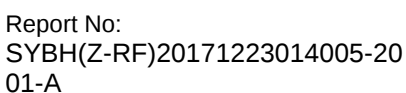


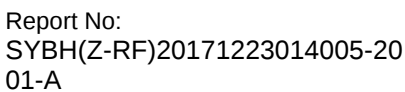


## 6.1.2.2 Test Mode = GSM/TM2

## 6.1.2.2.1 Test Channel = LCH

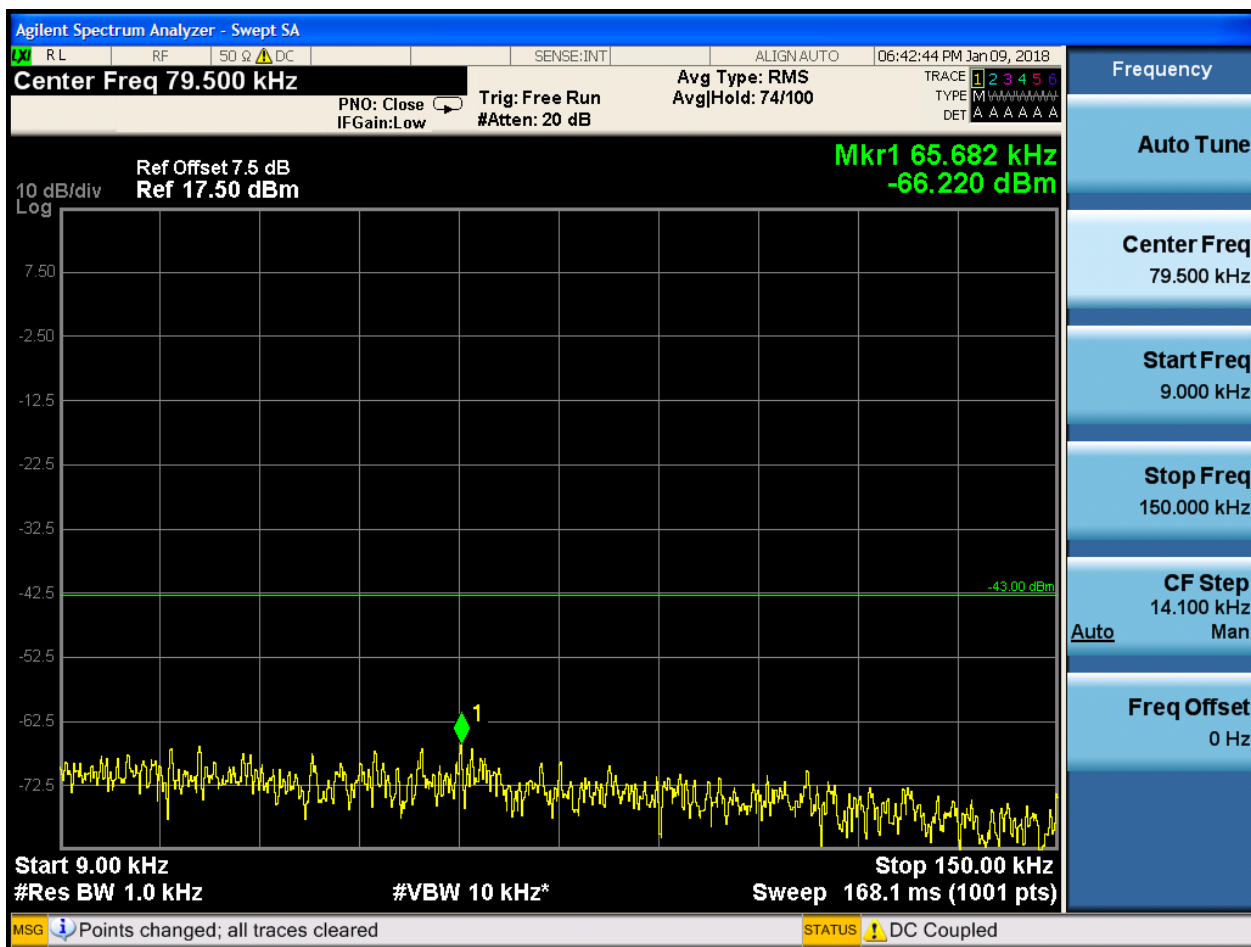


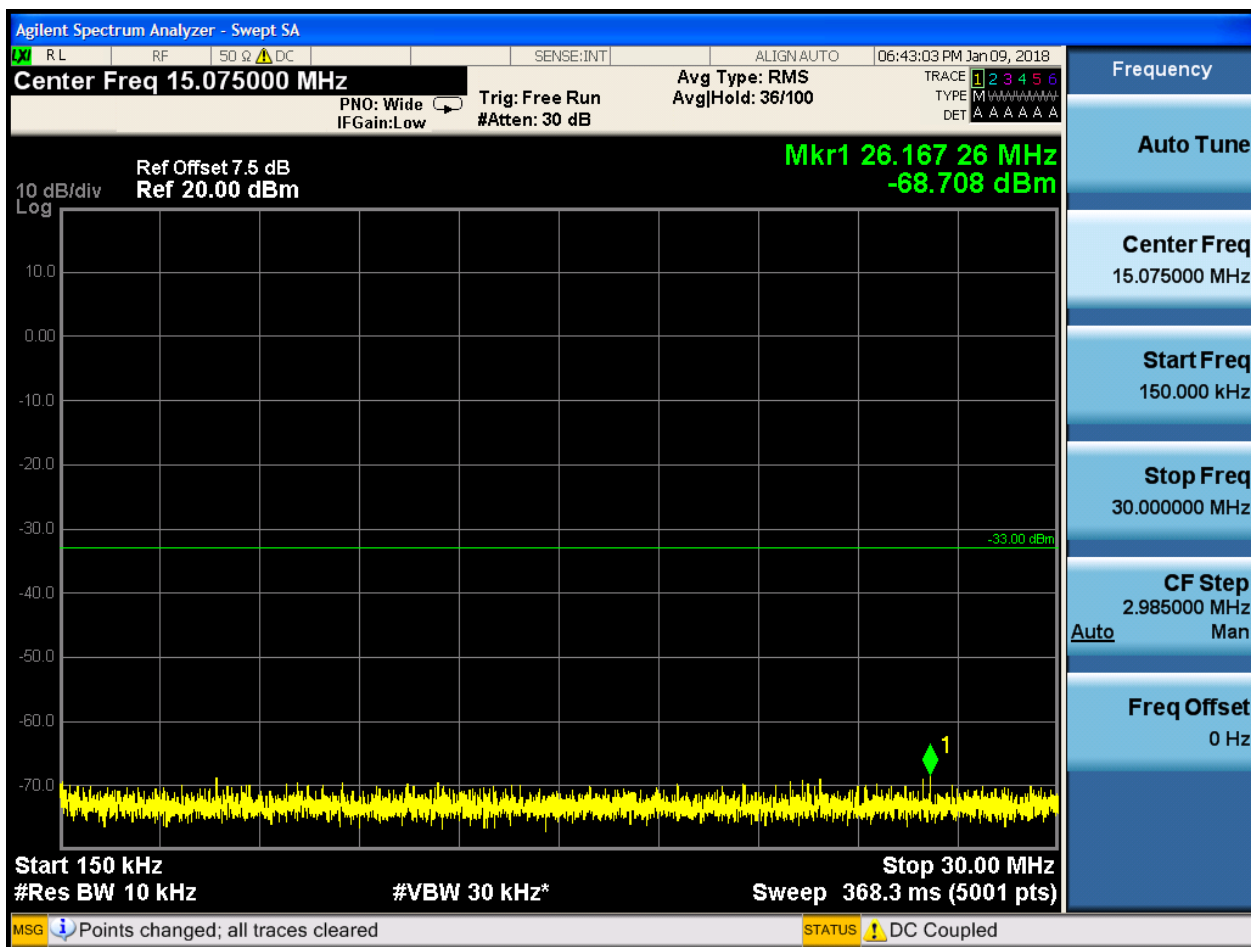


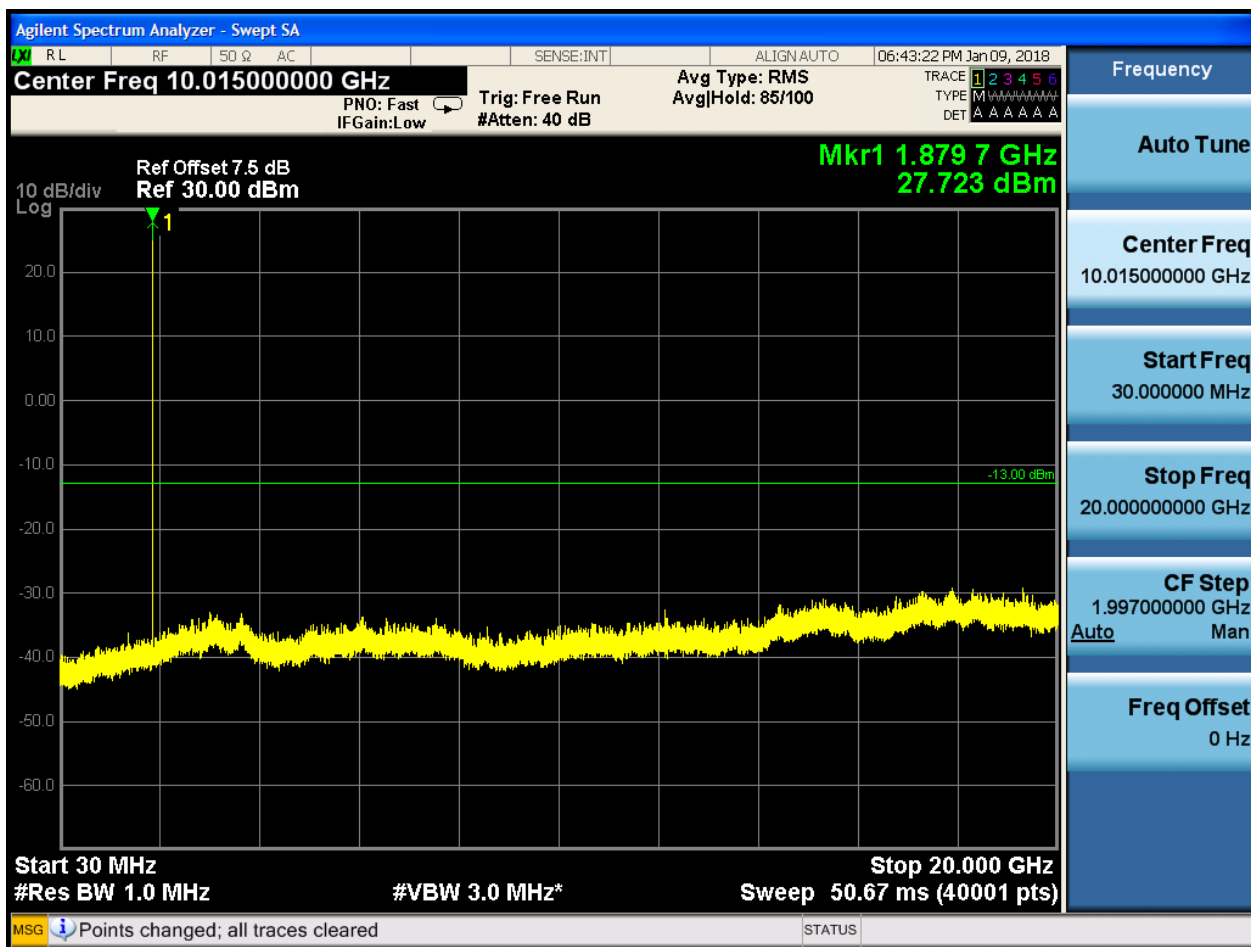




## 6.1.2.2.2 Test Channel = MCH

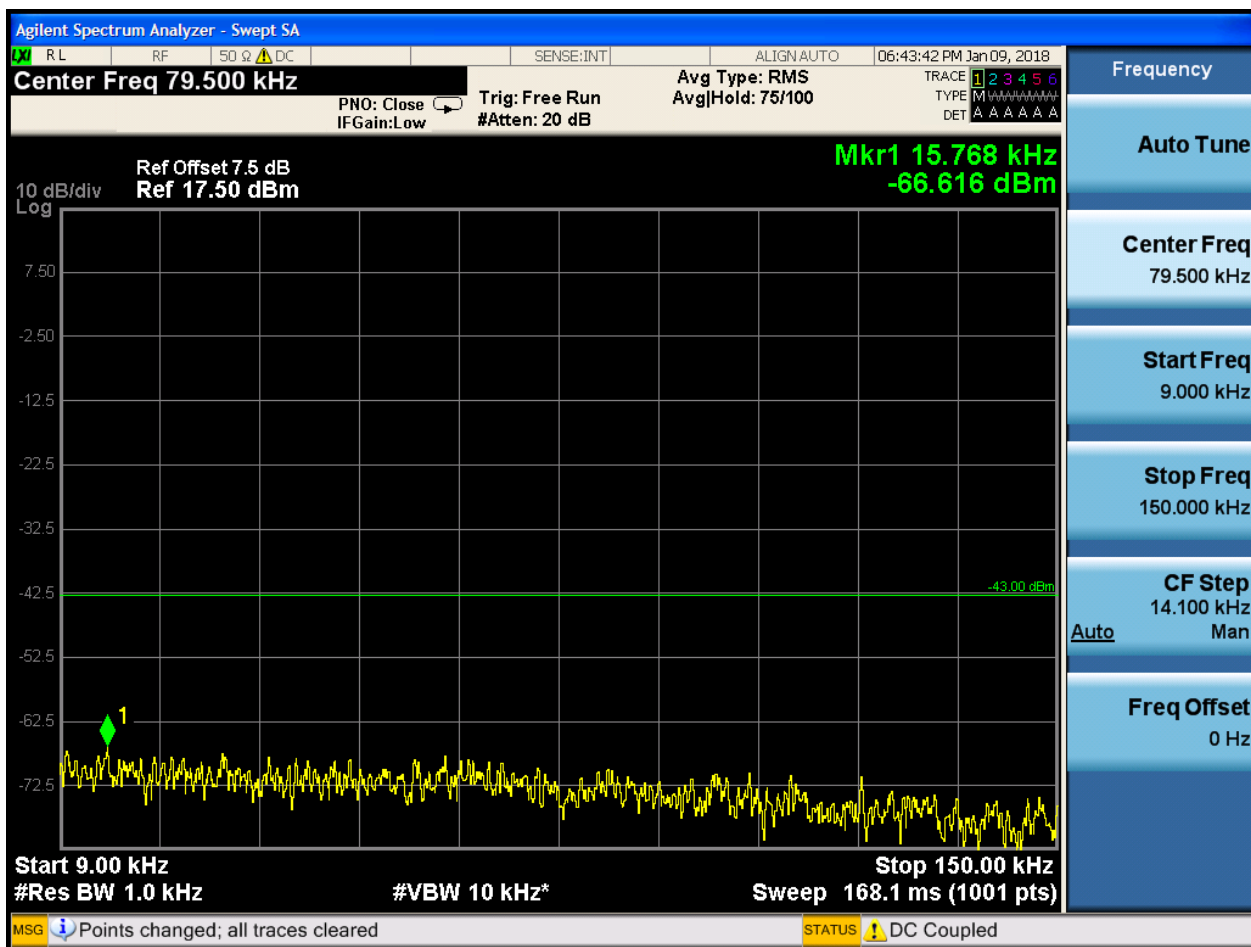


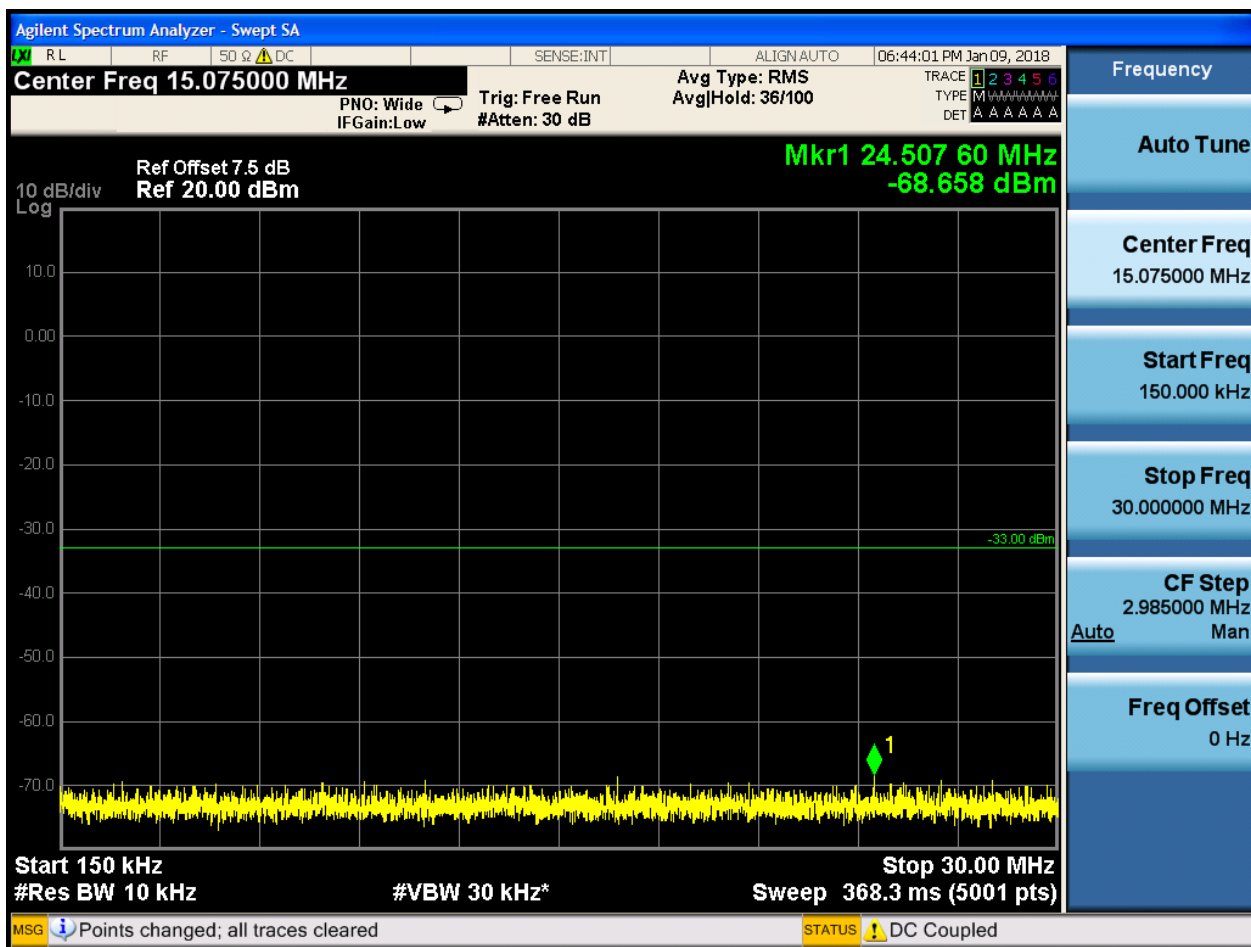


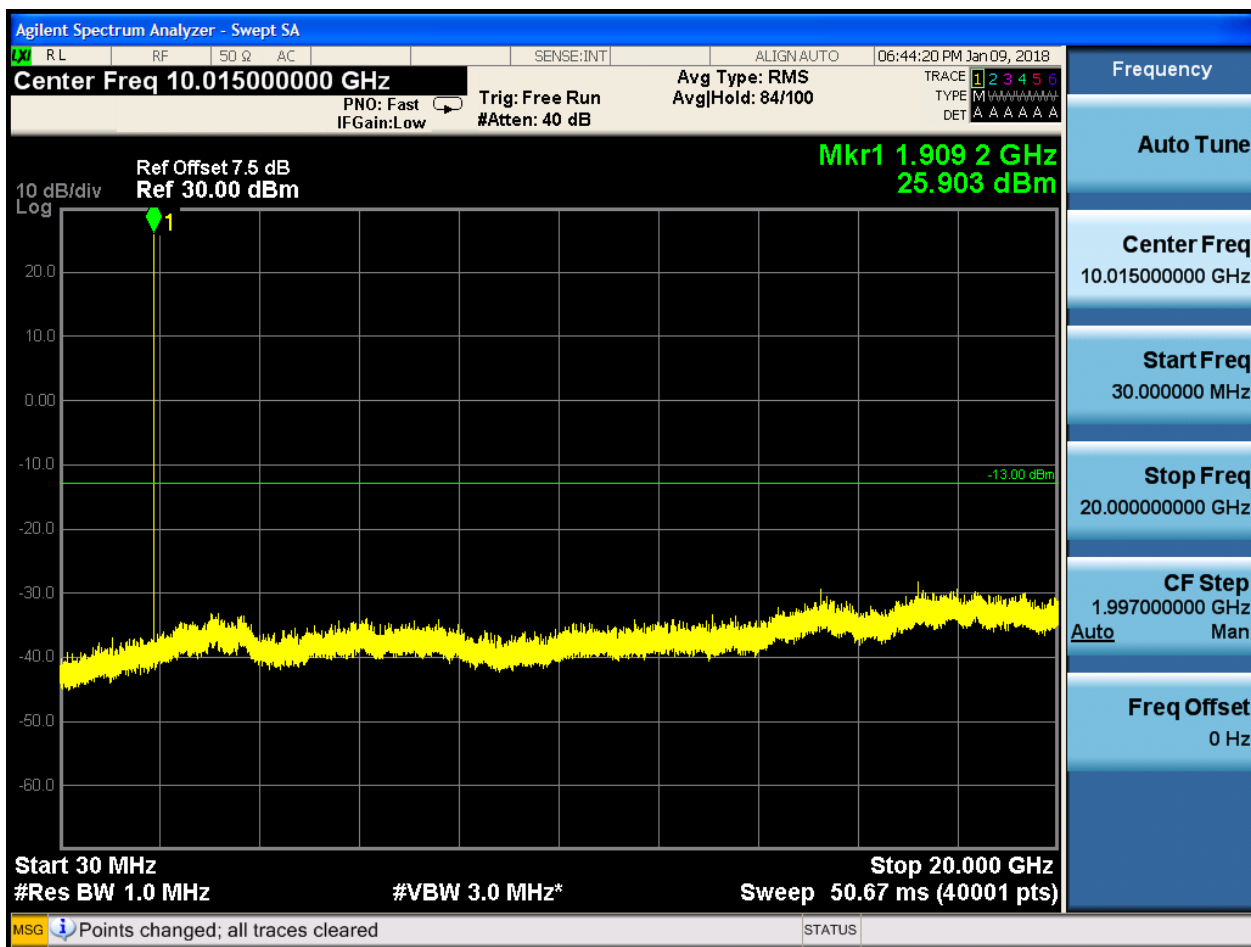




## 6.1.2.2.3 Test Channel = HCH







## 7Appendix\_G: Field Strength of Spurious Radiation

Note:

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

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

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

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

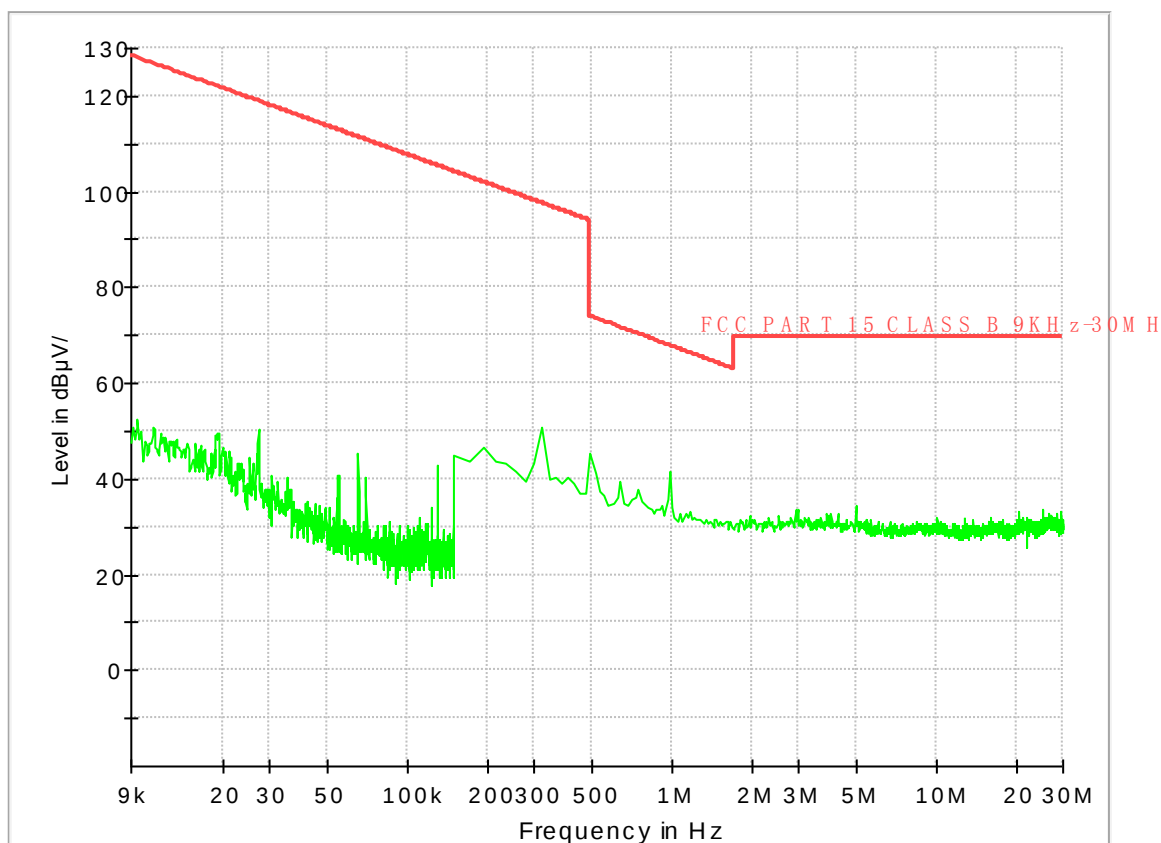
We tested all modes, but the data presented below is the worst case.

### Part I - Test Plots

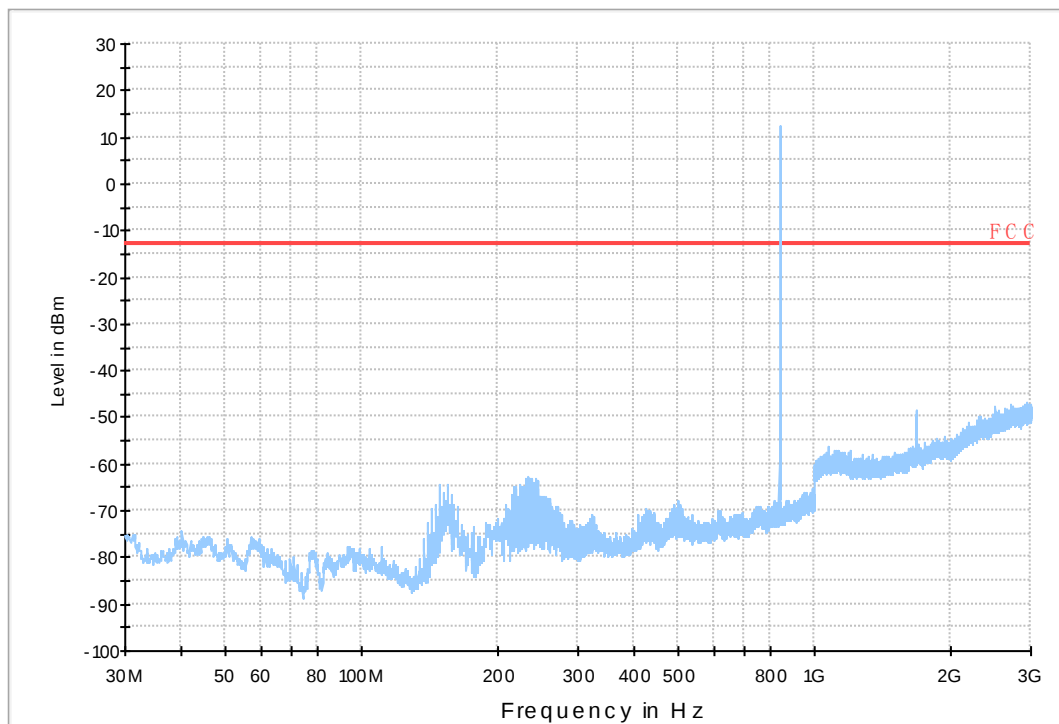
#### 7.1 For GSM

##### 7.1.1 Test Band = GSM850\_ANT1

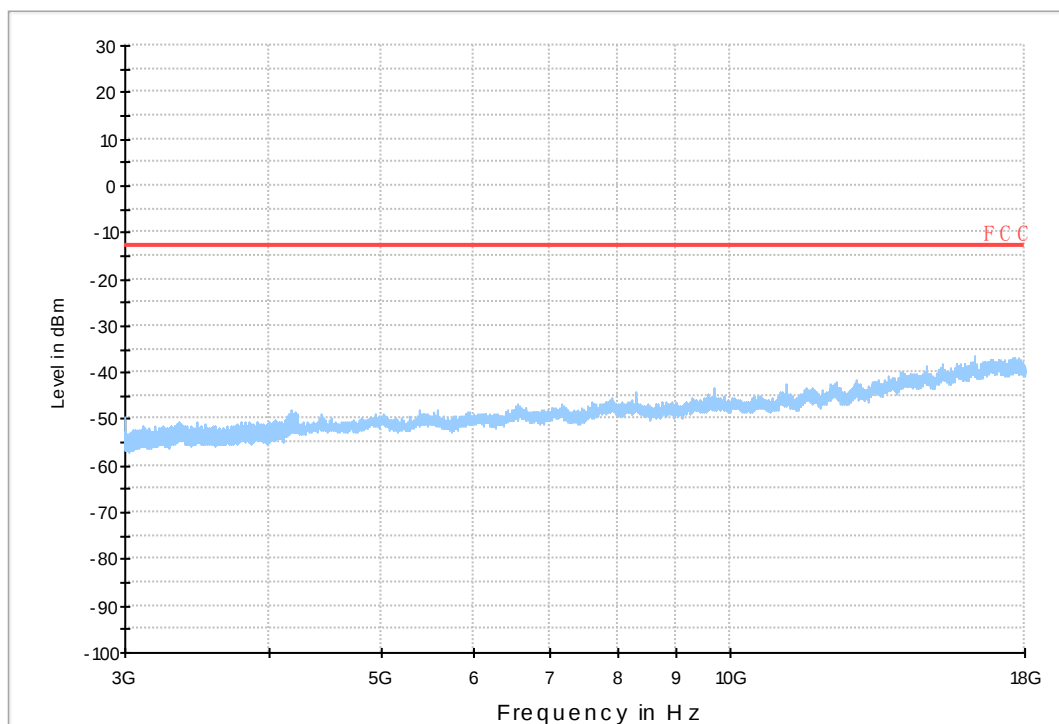
##### 7.1.1.1 Test Mode = GSM/TM1



Copy of FCC PART22 GSM850\_L

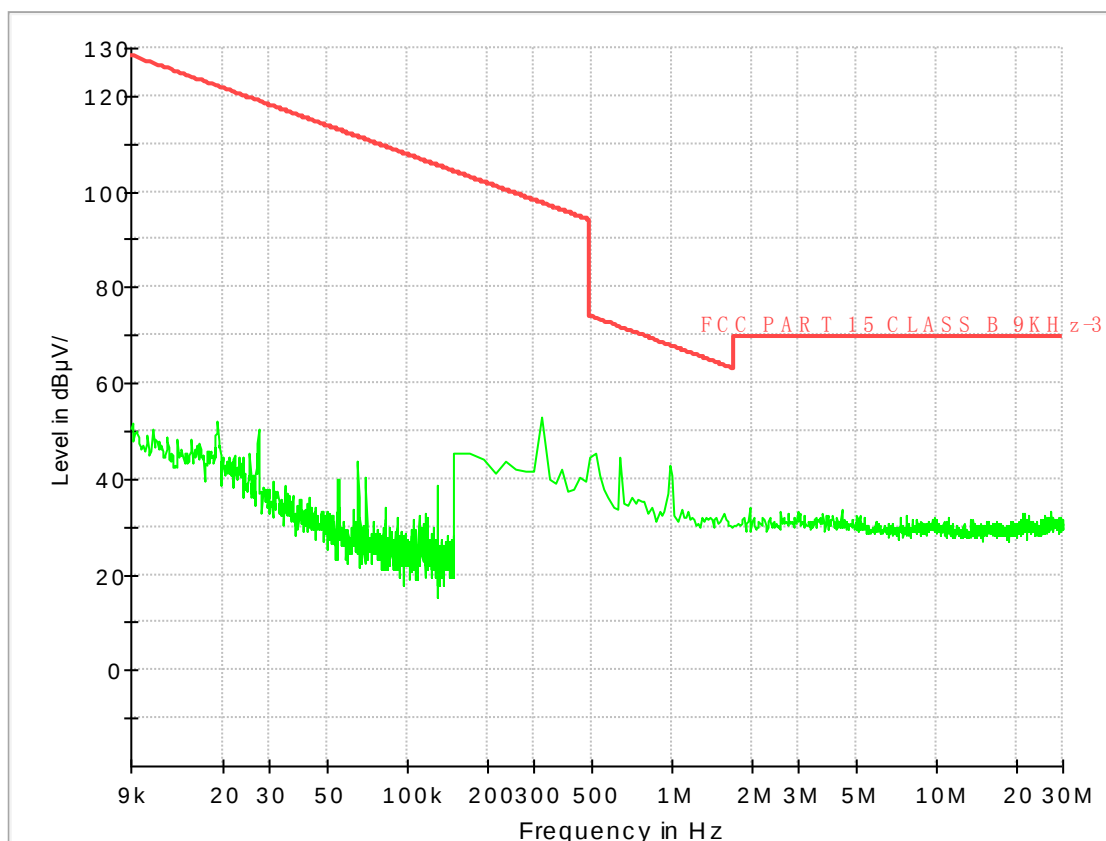


Copy of FCC PART22 GSM850\_H

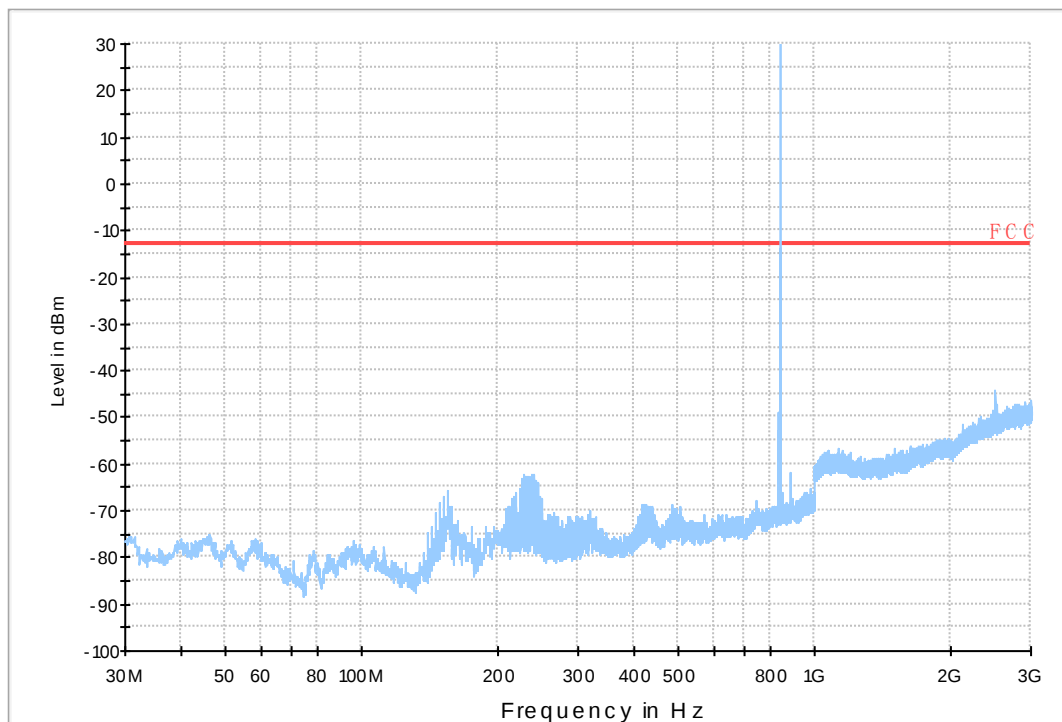


7.1.2 Test Band = GSM850\_ANT2

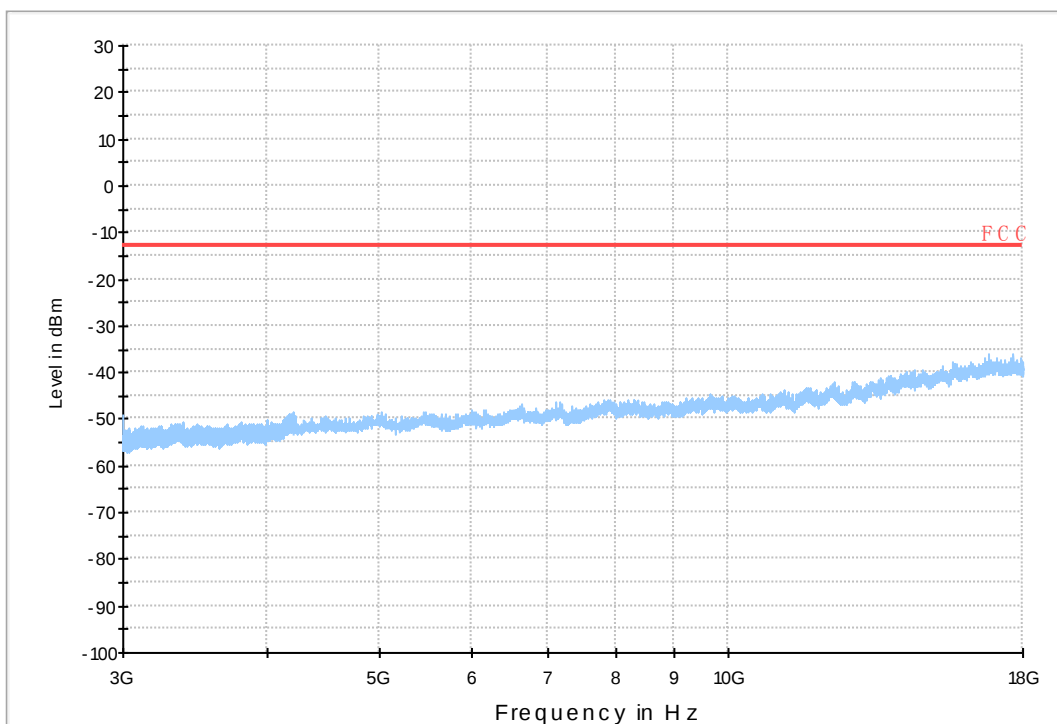
7.1.2.1 Test Mode = GSM/TM1



Copy of FCC PART22 GSM850\_L

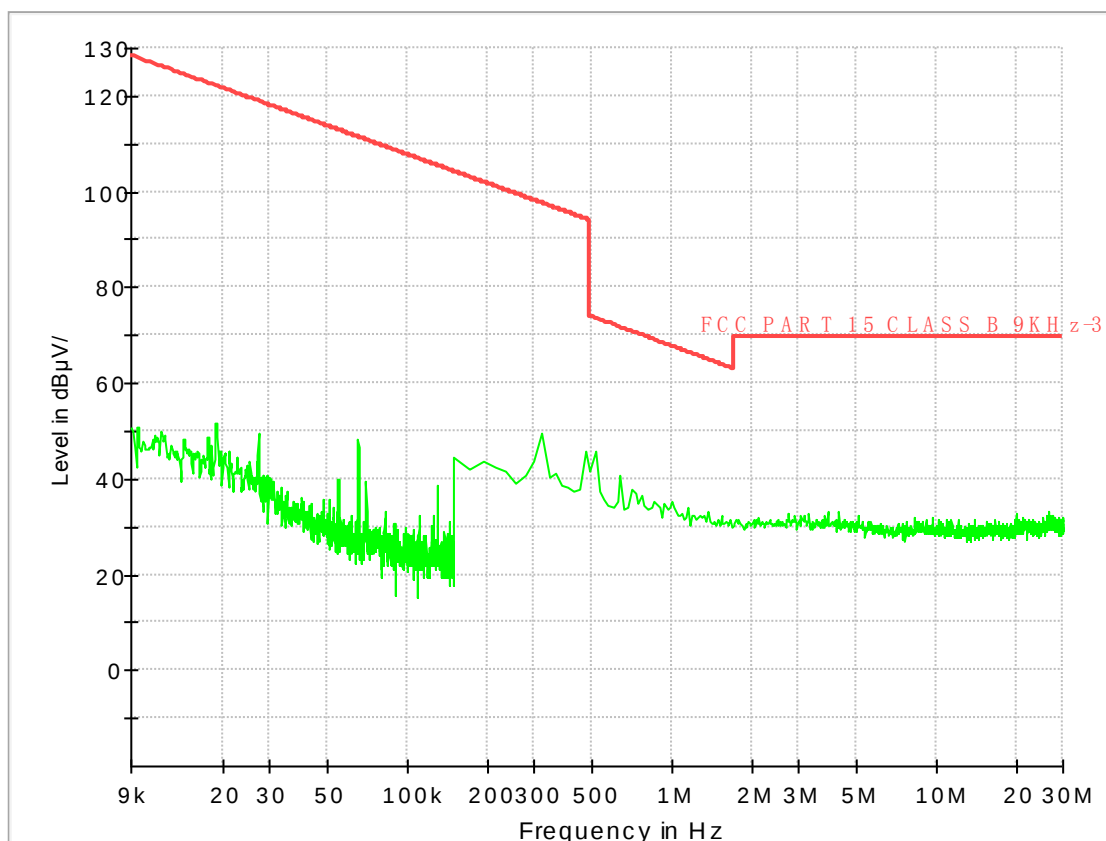


Copy of FCC PART22 GSM850\_H

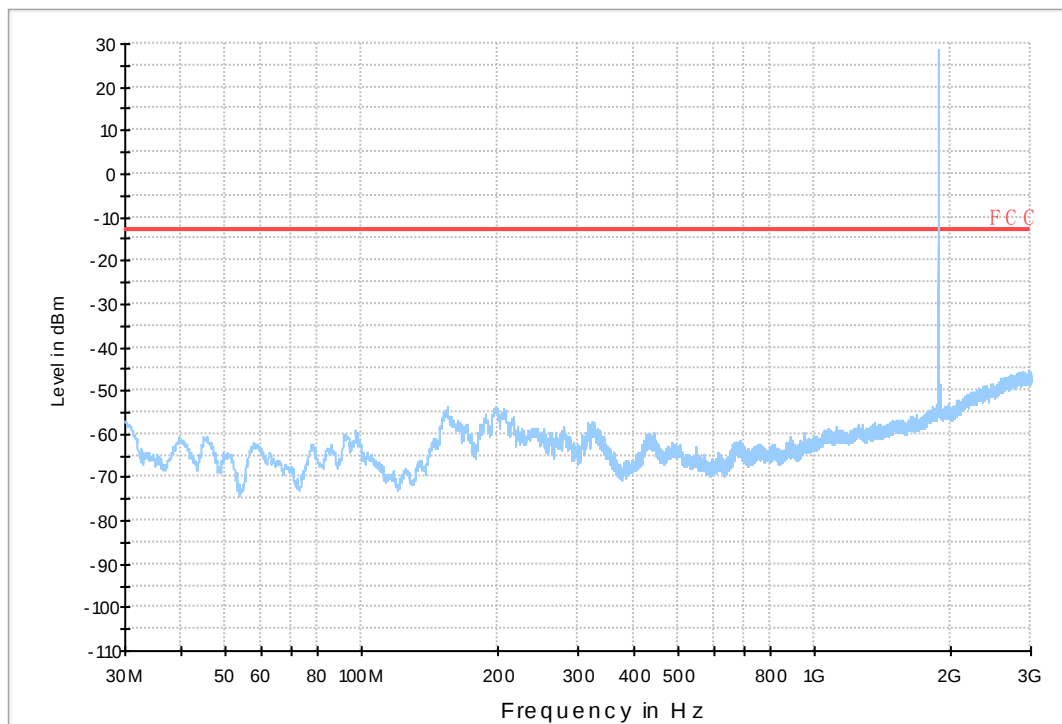


### 7.1.3 Test Band = GSM1900\_ANT1

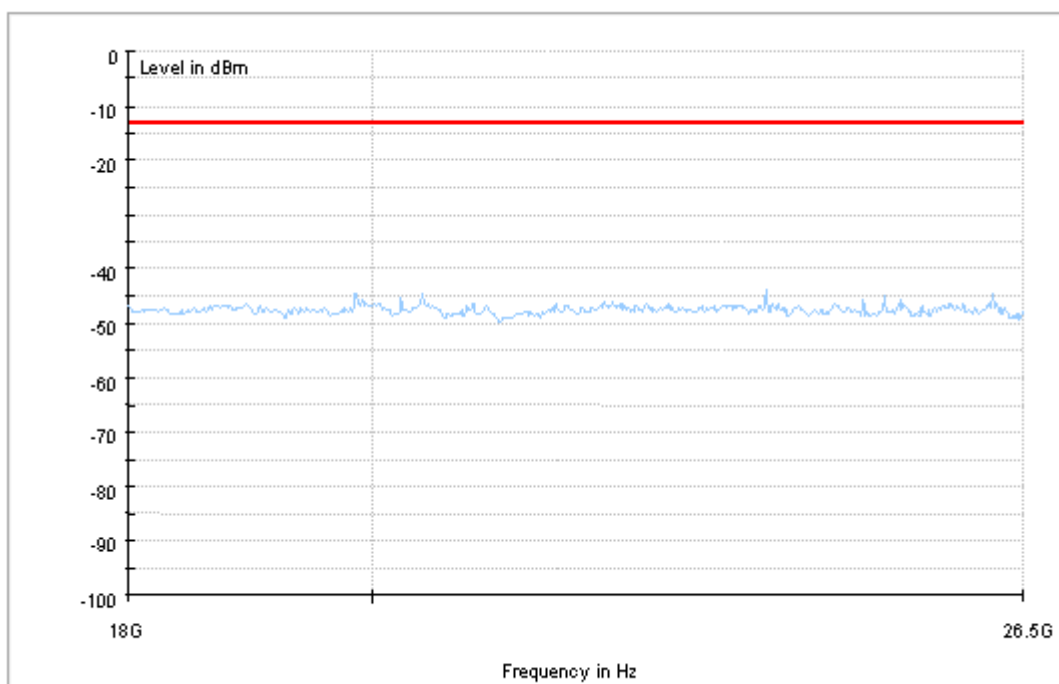
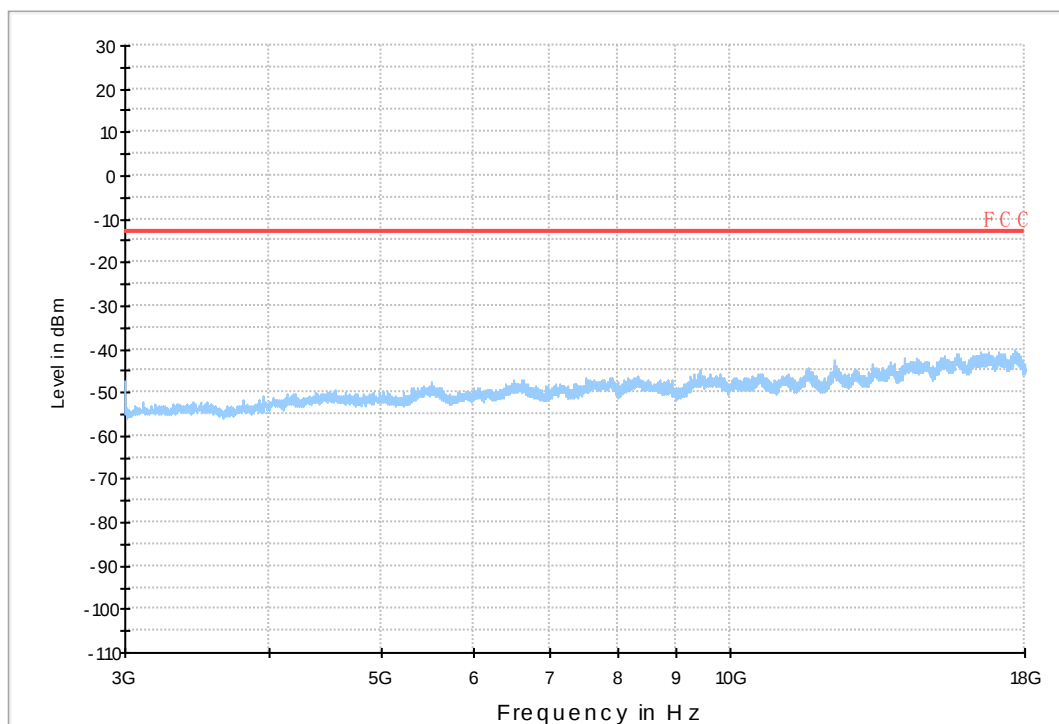
#### 7.1.3.1 Test Mode = GSM/TM1



Copy of FCC PART 24 GSM1900\_L

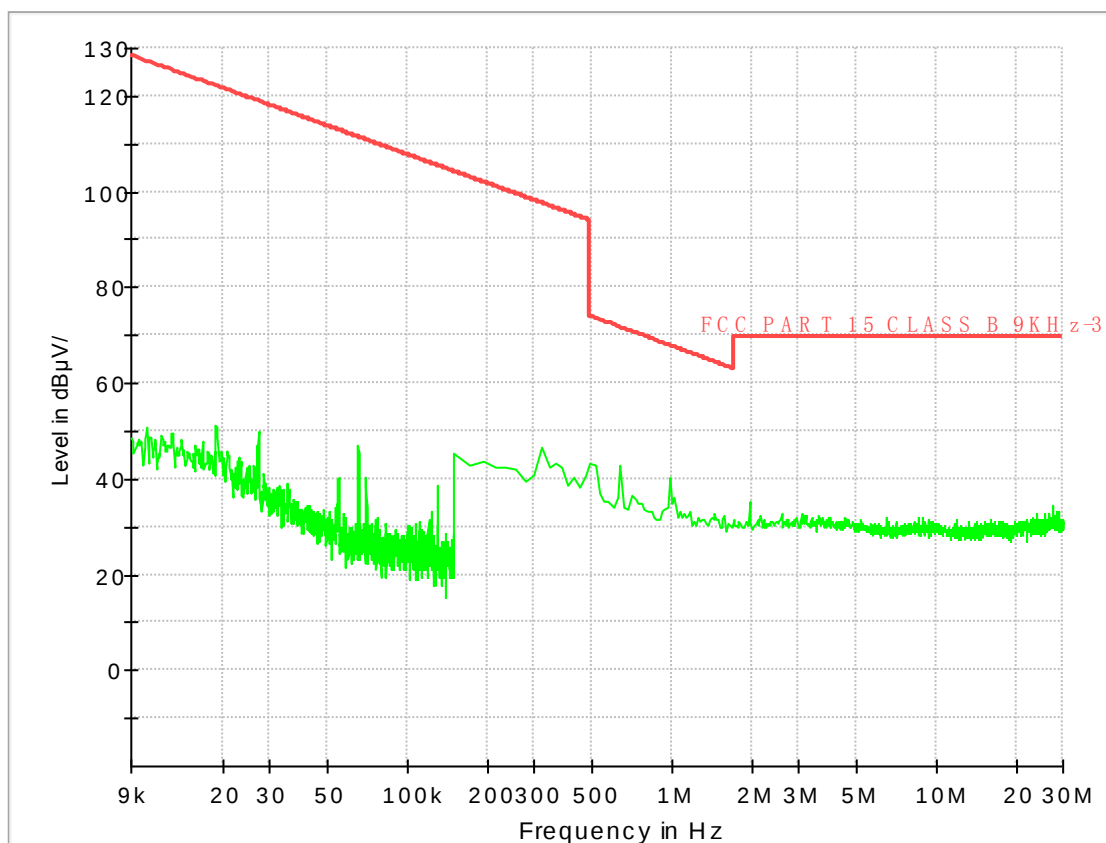


Copy of FCC PART24 GSM1900\_H

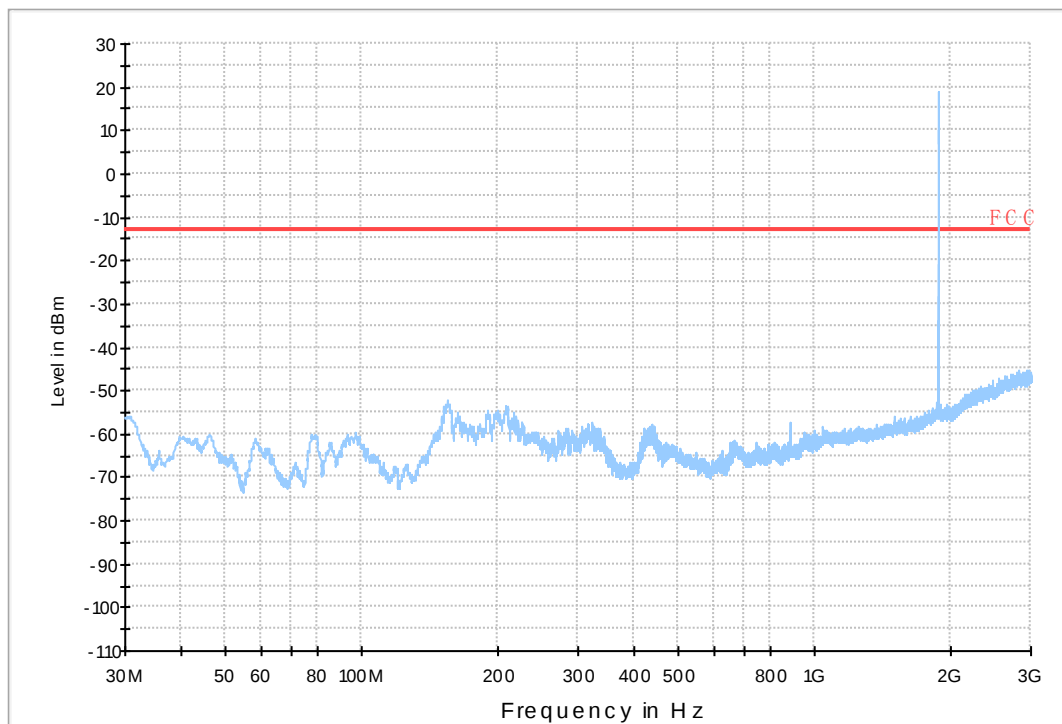


7.1.4 Test Band = GSM1900\_ANT2

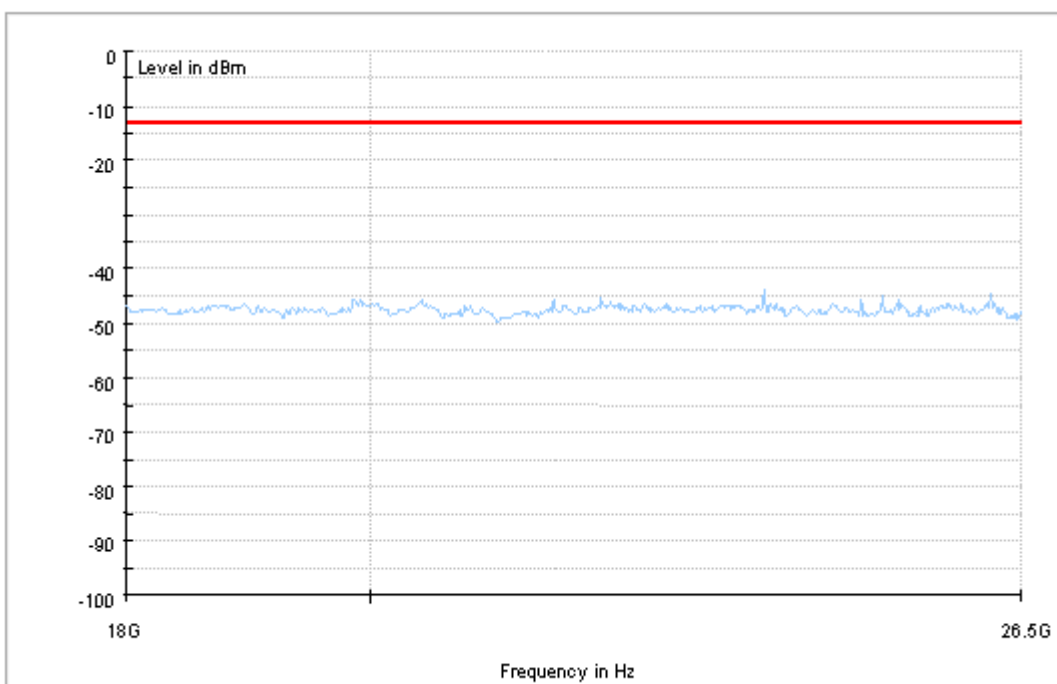
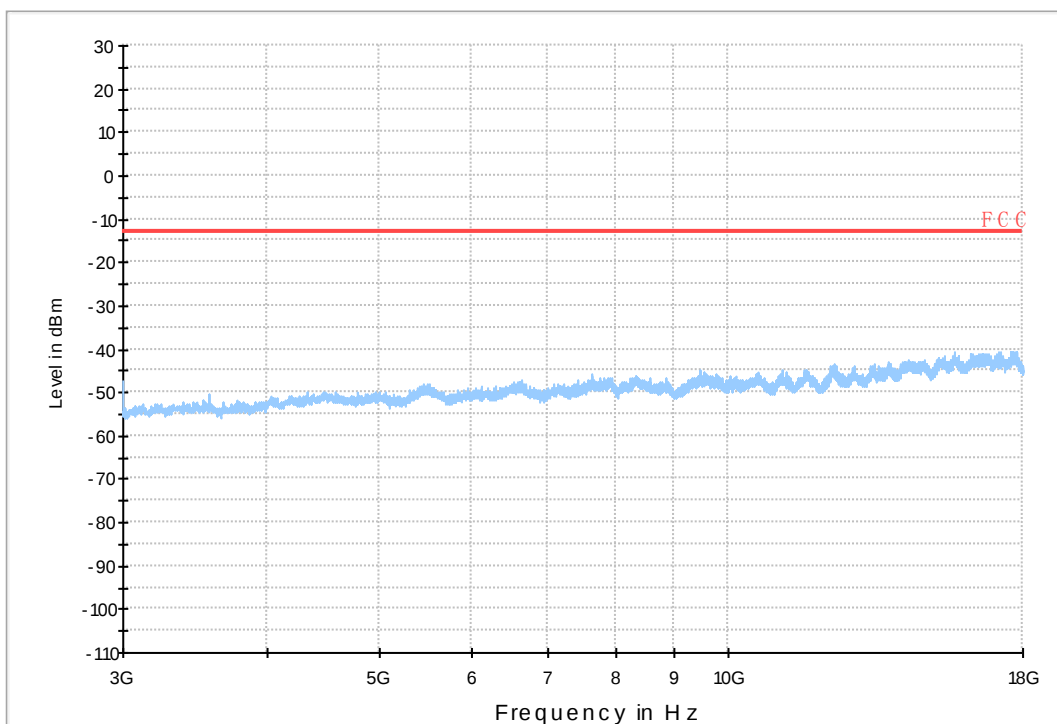
7.1.4.1 Test Mode = GSM/TM1



Copy of FCC PART 24 GSM1900\_L



Copy of FCC PART24 GSM1900\_H



## 8Appendix\_H: Frequency Stability

### 8.1 For GSM

#### 8.1.1Frequency Error vs. Voltage:

| Test Band | Test Mode | Test Channel | Test Temp. | Test Volt. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|--------------|------------|------------|------------------|-----------------------|---------|
| GSM850    | GSM/TM1   | LCH          | TN         | VL         | -15.69           | -0.01904              | PASS    |
|           |           |              |            | VN         | -14.33           | -0.01739              | PASS    |
|           |           |              |            | VH         | -9.36            | -0.01136              | PASS    |
|           |           | MCH          | TN         | VL         | -9.43            | -0.01127              | PASS    |
|           |           |              |            | VN         | -13.17           | -0.01574              | PASS    |
|           |           |              |            | VH         | -10.46           | -0.0125               | PASS    |
|           |           | HCH          | TN         | VL         | -14.33           | -0.01688              | PASS    |
|           |           |              |            | VN         | -11.56           | -0.01362              | PASS    |
|           |           |              |            | VH         | -12.91           | -0.01521              | PASS    |
|           | GSM/TM2   | LCH          | TN         | VL         | -13.24           | -0.01606              | PASS    |
|           |           |              |            | VN         | -18.34           | -0.02225              | PASS    |
|           |           |              |            | VH         | -15.66           | -0.019                | PASS    |
|           |           | MCH          | TN         | VL         | -15.59           | -0.01863              | PASS    |
|           |           |              |            | VN         | -5.26            | -0.00629              | PASS    |
|           |           |              |            | VH         | -16.5            | -0.01972              | PASS    |
|           |           | HCH          | TN         | VL         | -14.98           | -0.01765              | PASS    |
|           |           |              |            | VN         | -15.08           | -0.01777              | PASS    |
|           |           |              |            | VH         | -12.88           | -0.01517              | PASS    |
| GSM1900   | GSM/TM1   | LCH          | TN         | VL         | 18.53            | 0.01002               | PASS    |
|           |           |              |            | VN         | 33.71            | 0.01822               | PASS    |
|           |           |              |            | VH         | 24.21            | 0.01309               | PASS    |
|           |           | MCH          | TN         | VL         | 35.26            | 0.01876               | PASS    |
|           |           |              |            | VN         | 23.96            | 0.01274               | PASS    |
|           |           |              |            | VH         | 17.82            | 0.00948               | PASS    |
|           |           | HCH          | TN         | VL         | 33.64            | 0.01761               | PASS    |
|           |           |              |            | VN         | 28.86            | 0.01511               | PASS    |
|           |           |              |            | VH         | 39.58            | 0.02072               | PASS    |
|           | GSM/TM2   | LCH          | TN         | VL         | 26.6             | 0.01438               | PASS    |
|           |           |              |            | VN         | 36.94            | 0.01997               | PASS    |
|           |           |              |            | VH         | 29.38            | 0.01588               | PASS    |
|           |           | MCH          | TN         | VL         | 16.72            | 0.00889               | PASS    |

| Test Band | Test Mode | Test Channel | Test Temp. | Test Volt. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|--------------|------------|------------|------------------|-----------------------|---------|
|           |           | HCH          | TN         | VN         | 20.6             | 0.01096               | PASS    |
|           |           |              |            | VH         | 29.86            | 0.01588               | PASS    |
|           |           |              |            | VL         | 25.76            | 0.01349               | PASS    |
|           |           |              |            | VN         | 14.46            | 0.00757               | PASS    |
|           |           |              |            | VH         | 45.59            | 0.02387               | PASS    |

### 8.1.2 Frequency Error vs. Temperature:

| Test Band | Test Mode | Test Channel | Test Volt. | Test Temp. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|--------------|------------|------------|------------------|-----------------------|---------|
| GSM850    | GSM/TM1   | LCH          | VN         | -30        | -14.21           | -0.01724              | PASS    |
|           |           |              |            | -20        | -15.5            | -0.01881              | PASS    |
|           |           |              |            | -10        | -14.92           | -0.0181               | PASS    |
|           |           |              |            | 0          | -12.85           | -0.01559              | PASS    |
|           |           |              |            | 10         | -15.17           | -0.01841              | PASS    |
|           |           |              |            | 20         | -13.75           | -0.01668              | PASS    |
|           |           |              |            | 30         | -13.24           | -0.01606              | PASS    |
|           |           |              |            | 40         | -17.69           | -0.02146              | PASS    |
|           |           |              |            | 50         | -14.66           | -0.01779              | PASS    |
|           |           | MCH          | VN         | -30        | -12.46           | -0.01489              | PASS    |
|           |           |              |            | -20        | -15.69           | -0.01875              | PASS    |
|           |           |              |            | -10        | -14.85           | -0.01775              | PASS    |
|           |           |              |            | 0          | -12.4            | -0.01482              | PASS    |
|           |           |              |            | 10         | -12.01           | -0.01436              | PASS    |
|           |           |              |            | 20         | -12.46           | -0.01489              | PASS    |
|           |           |              |            | 30         | -15.63           | -0.01868              | PASS    |
|           |           |              |            | 40         | -16.21           | -0.01938              | PASS    |
|           |           |              |            | 50         | -14.66           | -0.01752              | PASS    |
|           |           | HCH          | VN         | -30        | -8.01            | -0.00944              | PASS    |
|           |           |              |            | -20        | -11.56           | -0.01362              | PASS    |
|           |           |              |            | -10        | -14.66           | -0.01727              | PASS    |
|           |           |              |            | 0          | -13.62           | -0.01605              | PASS    |
|           |           |              |            | 10         | -8.98            | -0.01058              | PASS    |
|           |           |              |            | 20         | -11.88           | -0.014                | PASS    |
|           |           |              |            | 30         | -14.85           | -0.0175               | PASS    |
|           |           |              |            | 40         | -12.14           | -0.0143               | PASS    |
|           |           |              |            | 50         | -9.43            | -0.01111              | PASS    |
|           | GSM/TM2   | LCH          | VN         | -30        | -18.24           | -0.02213              | PASS    |
|           |           |              |            | -20        | -13.3            | -0.01614              | PASS    |
|           |           |              |            | -10        | -19.44           | -0.02359              | PASS    |

| Test Band | Test Mode | Test Channel | Test Volt. | Test Temp. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|--------------|------------|------------|------------------|-----------------------|---------|
|           |           |              |            | 0          | -14.21           | -0.01724              | PASS    |
|           |           |              |            | 10         | -22.57           | -0.02738              | PASS    |
|           |           |              |            | 20         | -17.27           | -0.02095              | PASS    |
|           |           |              |            | 30         | -17.01           | -0.02064              | PASS    |
|           |           |              |            | 40         | -12.11           | -0.01469              | PASS    |
|           |           |              |            | 50         | -13.2            | -0.01602              | PASS    |
|           |           | MCH          | VN         | -30        | -11.78           | -0.01408              | PASS    |
|           |           |              |            | -20        | -17.79           | -0.02126              | PASS    |
|           |           |              |            | -10        | -8.33            | -0.00996              | PASS    |
|           |           |              |            | 0          | -20.18           | -0.02412              | PASS    |
|           |           |              |            | 10         | -18.69           | -0.02234              | PASS    |
|           |           |              |            | 20         | -11.62           | -0.01389              | PASS    |
|           |           |              |            | 30         | -11.01           | -0.01316              | PASS    |
|           |           |              |            | 40         | -12.75           | -0.01524              | PASS    |
|           |           |              |            | 50         | -10.53           | -0.01259              | PASS    |
|           |           | HCH          | VN         | -30        | -7.81            | -0.0092               | PASS    |
|           |           |              |            | -20        | -10.53           | -0.01241              | PASS    |
|           |           |              |            | -10        | -15.79           | -0.0186               | PASS    |
|           |           |              |            | 0          | -9.69            | -0.01142              | PASS    |
|           |           |              |            | 10         | -4.16            | -0.0049               | PASS    |
|           |           |              |            | 20         | -15.4            | -0.01814              | PASS    |
|           |           |              |            | 30         | -8.49            | -0.01                 | PASS    |
|           |           |              |            | 40         | -8.46            | -0.00997              | PASS    |
|           |           |              |            | 50         | -8.3             | -0.00978              | PASS    |
| GSM1900   | GSM/TM1   | LCH          | VN         | -30        | 26.67            | 0.01441               | PASS    |
|           |           |              |            | -20        | 24.8             | 0.0134                | PASS    |
|           |           |              |            | -10        | 29.9             | 0.01616               | PASS    |
|           |           |              |            | 0          | 27.89            | 0.01507               | PASS    |
|           |           |              |            | 10         | 28.99            | 0.01567               | PASS    |
|           |           |              |            | 20         | 33.58            | 0.01815               | PASS    |
|           |           |              |            | 30         | 34.8             | 0.01881               | PASS    |
|           |           |              |            | 40         | 35.71            | 0.0193                | PASS    |
|           |           |              |            | 50         | 28.61            | 0.01546               | PASS    |
|           |           | MCH          | VN         | -30        | 12.98            | 0.0069                | PASS    |
|           |           |              |            | -20        | 29.96            | 0.01594               | PASS    |
|           |           |              |            | -10        | 22.92            | 0.01219               | PASS    |
|           |           |              |            | 0          | 27.57            | 0.01466               | PASS    |
|           |           |              |            | 10         | 20.86            | 0.0111                | PASS    |
|           |           |              |            | 20         | 30.03            | 0.01597               | PASS    |

| Test Band | Test Mode | Test Channel | Test Volt. | Test Temp. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|--------------|------------|------------|------------------|-----------------------|---------|
|           |           |              |            | 30         | 11.43            | 0.00608               | PASS    |
|           |           |              |            | 40         | 21.63            | 0.01151               | PASS    |
|           |           |              |            | 50         | 18.14            | 0.00965               | PASS    |
|           |           | HCH          | VN         | -30        | 17.37            | 0.0091                | PASS    |
|           |           |              |            | -20        | 33.84            | 0.01772               | PASS    |
|           |           |              |            | -10        | 36.16            | 0.01893               | PASS    |
|           |           |              |            | 0          | 33.45            | 0.01751               | PASS    |
|           |           |              |            | 10         | 27.77            | 0.01454               | PASS    |
|           |           |              |            | 20         | 36.55            | 0.01914               | PASS    |
|           |           |              |            | 30         | 28.67            | 0.01501               | PASS    |
|           |           |              |            | 40         | 43.2             | 0.02262               | PASS    |
|           |           |              |            | 50         | 39.52            | 0.02069               | PASS    |
|           | GSM/TM2   | LCH          | VN         | -30        | 20.76            | 0.01122               | PASS    |
|           |           |              |            | -20        | 33.77            | 0.01825               | PASS    |
|           |           |              |            | -10        | 28.06            | 0.01517               | PASS    |
|           |           |              |            | 0          | 21.31            | 0.01152               | PASS    |
|           |           |              |            | 10         | 14.82            | 0.00801               | PASS    |
|           |           |              |            | 20         | 27.41            | 0.01481               | PASS    |
|           |           |              |            | 30         | 25.7             | 0.01389               | PASS    |
|           |           |              |            | 40         | 19.69            | 0.01064               | PASS    |
|           |           |              |            | 50         | 26.41            | 0.01427               | PASS    |
|           |           | MCH          | VN         | -30        | 20.34            | 0.01082               | PASS    |
|           |           |              |            | -20        | 4.04             | 0.00215               | PASS    |
|           |           |              |            | -10        | 31.09            | 0.01654               | PASS    |
|           |           |              |            | 0          | 24.8             | 0.01319               | PASS    |
|           |           |              |            | 10         | 18.73            | 0.00996               | PASS    |
|           |           |              |            | 20         | 42.62            | 0.02267               | PASS    |
|           |           |              |            | 30         | 18.4             | 0.00979               | PASS    |
|           |           |              |            | 40         | 19.98            | 0.01063               | PASS    |
|           |           |              |            | 50         | 34.71            | 0.01846               | PASS    |
|           |           | HCH          | VN         | -30        | 18.53            | 0.0097                | PASS    |
|           |           |              |            | -20        | 10.01            | 0.00524               | PASS    |
|           |           |              |            | -10        | 34.29            | 0.01795               | PASS    |
|           |           |              |            | 0          | 22.12            | 0.01158               | PASS    |
|           |           |              |            | 10         | 29.06            | 0.01522               | PASS    |
|           |           |              |            | 20         | 37.1             | 0.01943               | PASS    |
|           |           |              |            | 30         | 23.7             | 0.01241               | PASS    |
|           |           |              |            | 40         | 28.96            | 0.01516               | PASS    |
|           |           |              |            | 50         | 30.28            | 0.01586               | PASS    |



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END