



Agilent Spectrum Analyzer - Swept SA

RL RF 50  $\Omega$  AC SENSE:INT ALIGN: AUTO 05:35:31 PM Jan 29, 2018

Center Freq 716.000000 MHz Avg Type: RMS  
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 9/100  
#Atten: 36 dB

TRACE 1 2 3 4 5 6  
TYPE M W W W W W W W  
DET A A A A A A

Ref Offset 7 dB  
Ref 30.00 dBm

Mkr1 716.000 MHz  
-36.081 dBm

10 dB/div  
Log

Center 716.000 MHz  
#Res BW 100 kHz  
#VBW 300 kHz\*  
Span 2.000 MHz  
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq  
716.000000 MHz

Start Freq  
715.000000 MHz

Stop Freq  
717.000000 MHz

CF Step  
200.000 kHz  
Auto Man

Freq Offset  
0 Hz



Agilent Spectrum Analyzer - Swept SA

RL RF 50  $\Omega$  AC SENSE:INT ALIGN AUTO 05:35:47 PM Jan 29, 2018

Center Freq 716.000000 MHz Avg Type: RMS  
PNO: Wide IFGain:Low Trig: Free Run AvgHold: 9/100  
#Atten: 36 dB

TRACE 1 2 3 4 5 6  
TYPE M W W W W W W W  
DET A A A A A A

Ref Offset 7 dB  
Ref 30.00 dBm

Mkr1 716.010 MHz  
-32.313 dBm

10 dB/div  
Log

-13.00 dBm

Center 716.000 MHz  
#Res BW 100 kHz  
#VBW 300 kHz\*  
Span 2.000 MHz  
#Sweep 1.000 s (1001 pts)

MSG STATUS

Frequency  
Auto Tune  
Center Freq  
716.000000 MHz  
Start Freq  
715.000000 MHz  
Stop Freq  
717.000000 MHz  
CF Step  
200.000 kHz  
Auto  
Man  
Freq Offset  
0 Hz

## 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 LTE

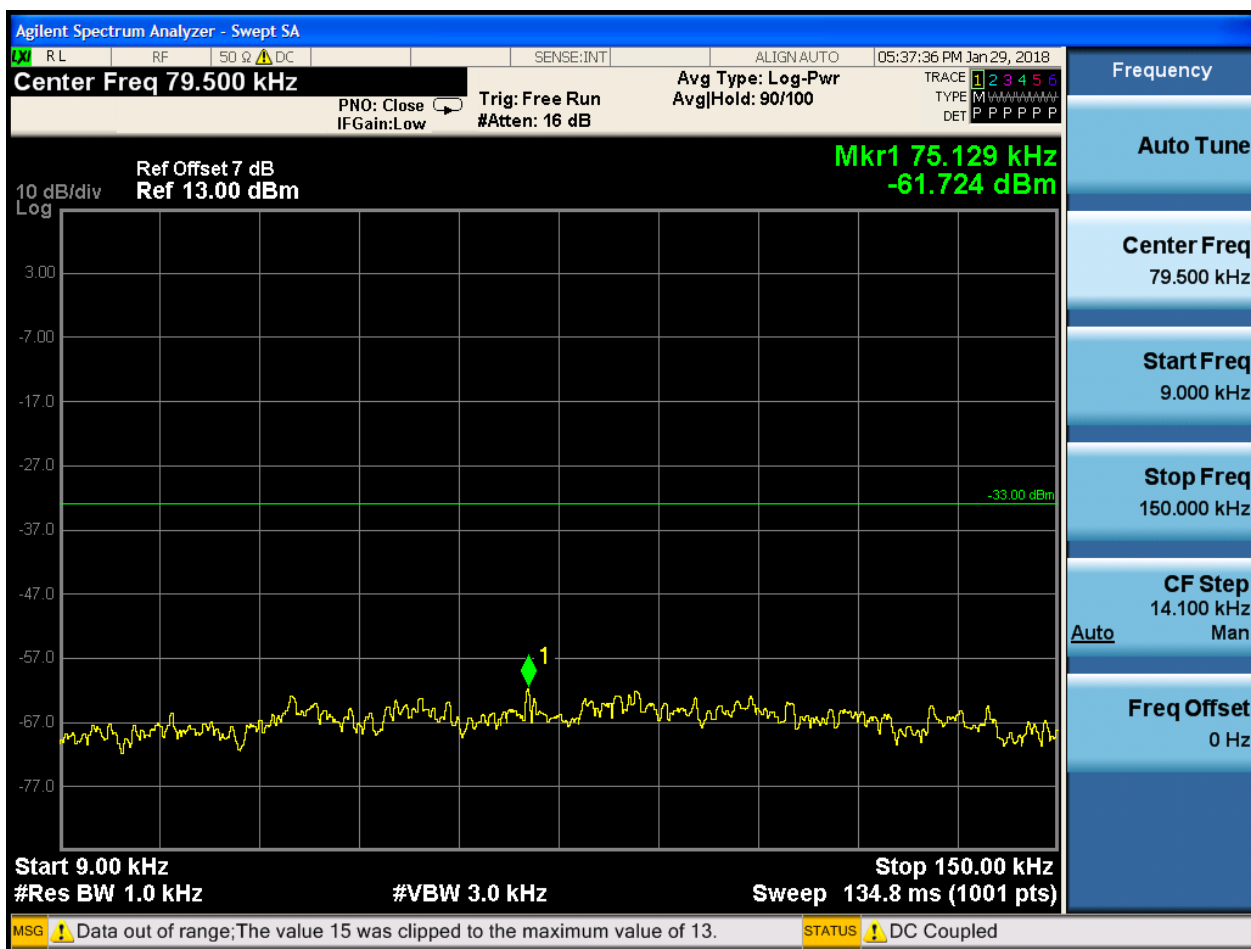
##### 6.1.1 Test Band = BAND12

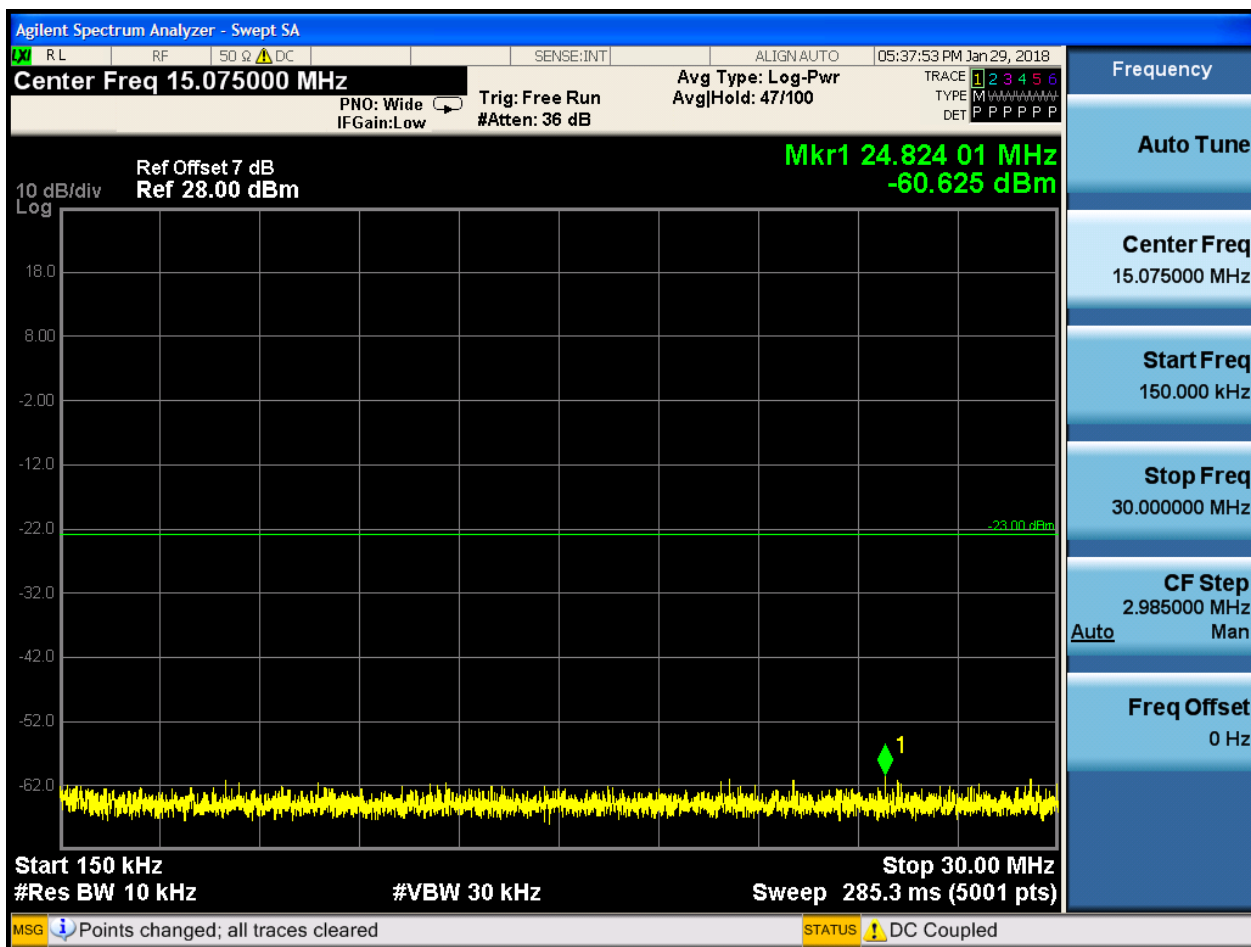
##### 6.1.1.1 Test Mode = LTE/TM1

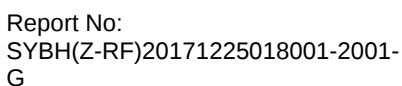
##### 6.1.1.1.1 Test Bandwidth = 1.4

##### 6.1.1.1.1.1 Test Channel = LCH

##### 6.1.1.1.1.1.1 Test RB = RB1#0

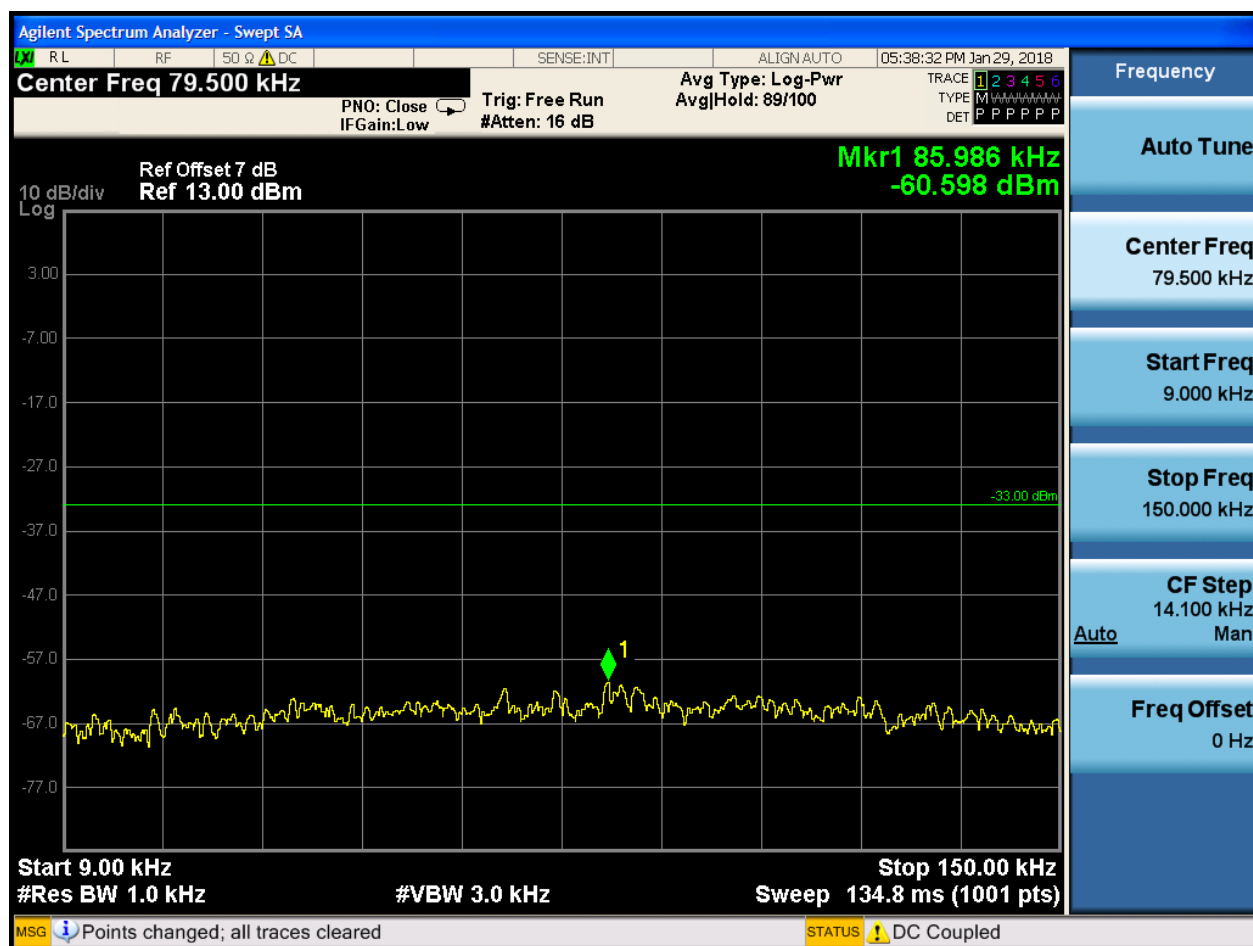




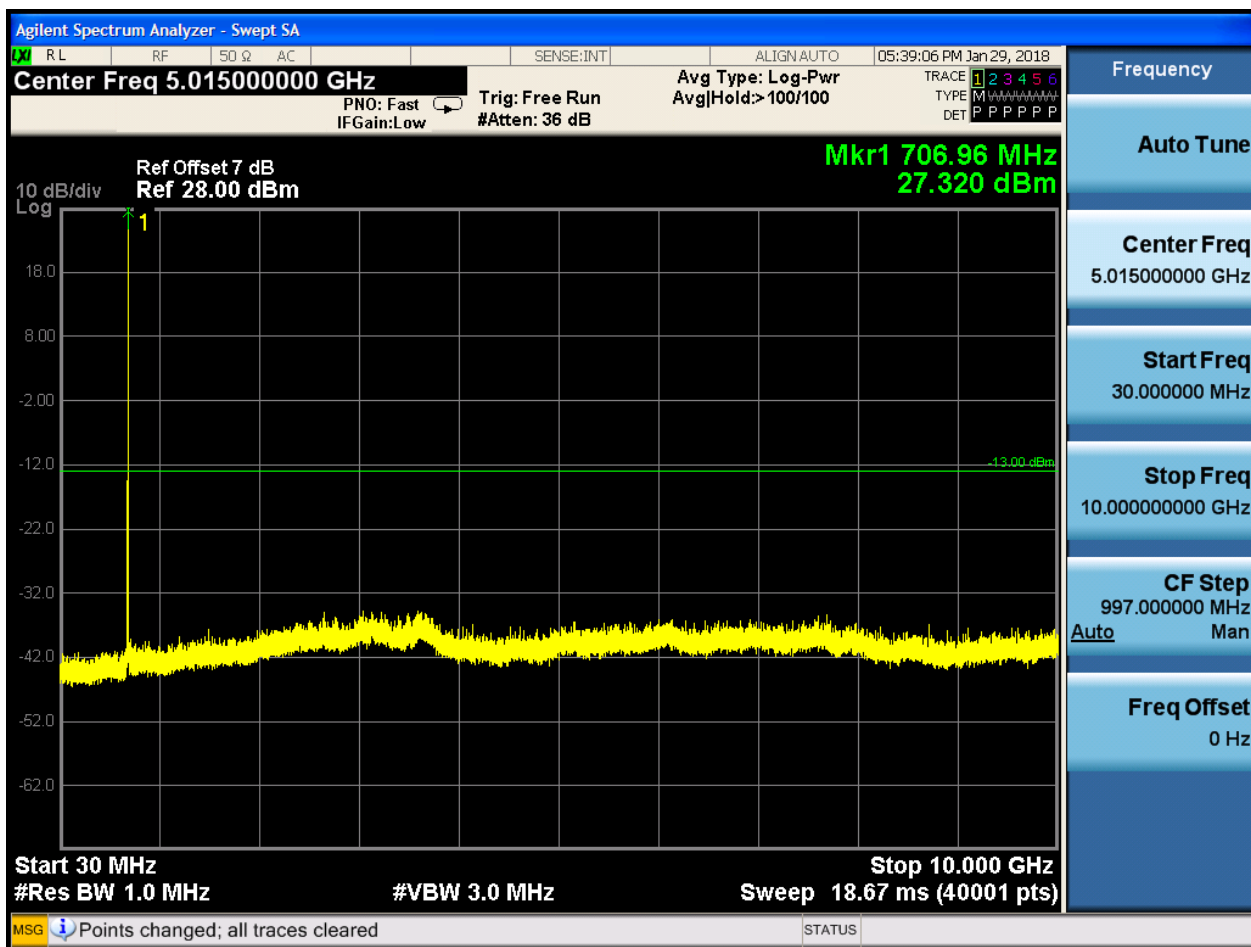


#### 6.1.1.1.1.2 Test Channel = MCH

#### 6.1.1.1.1.2.1 Test RB = RB1#0



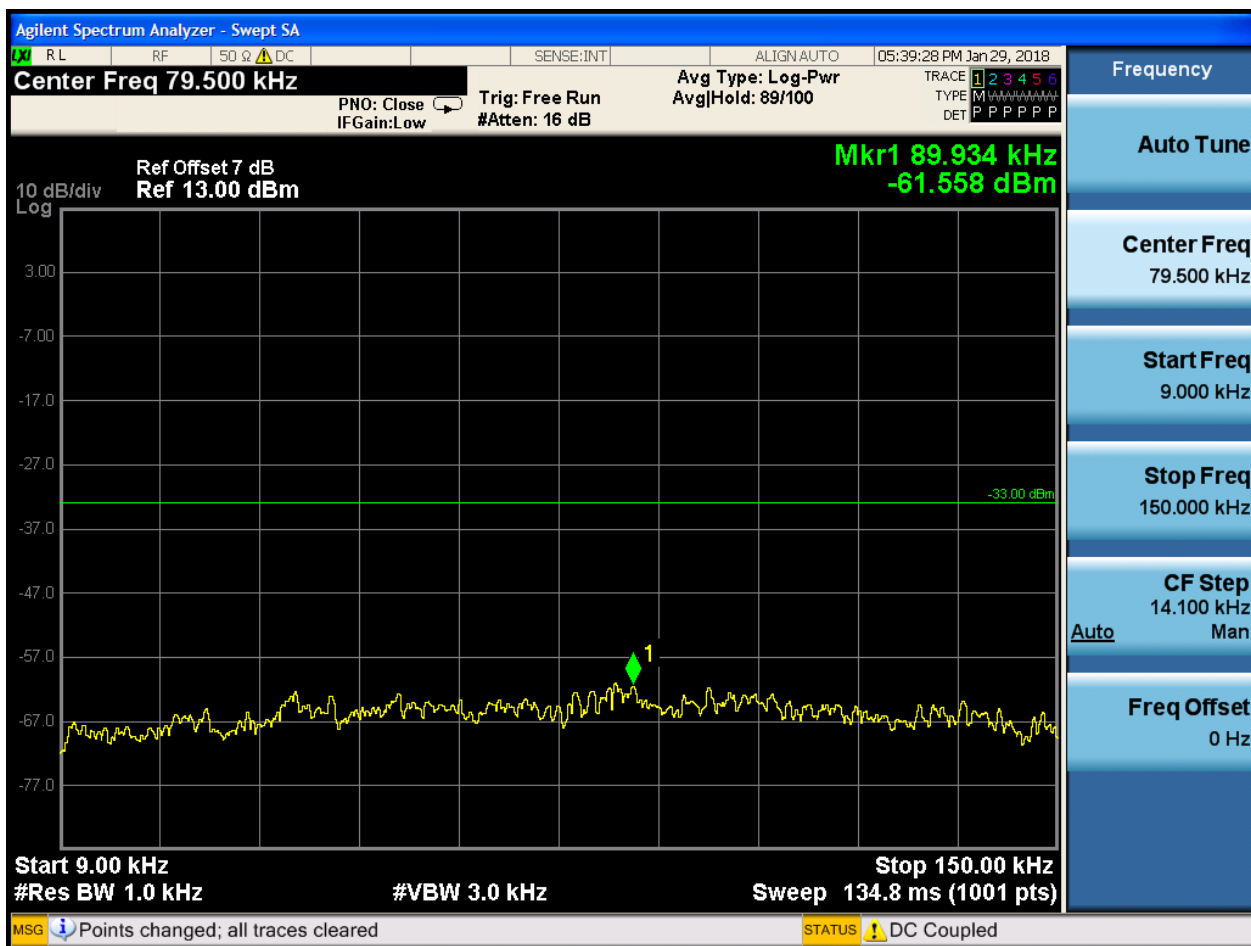


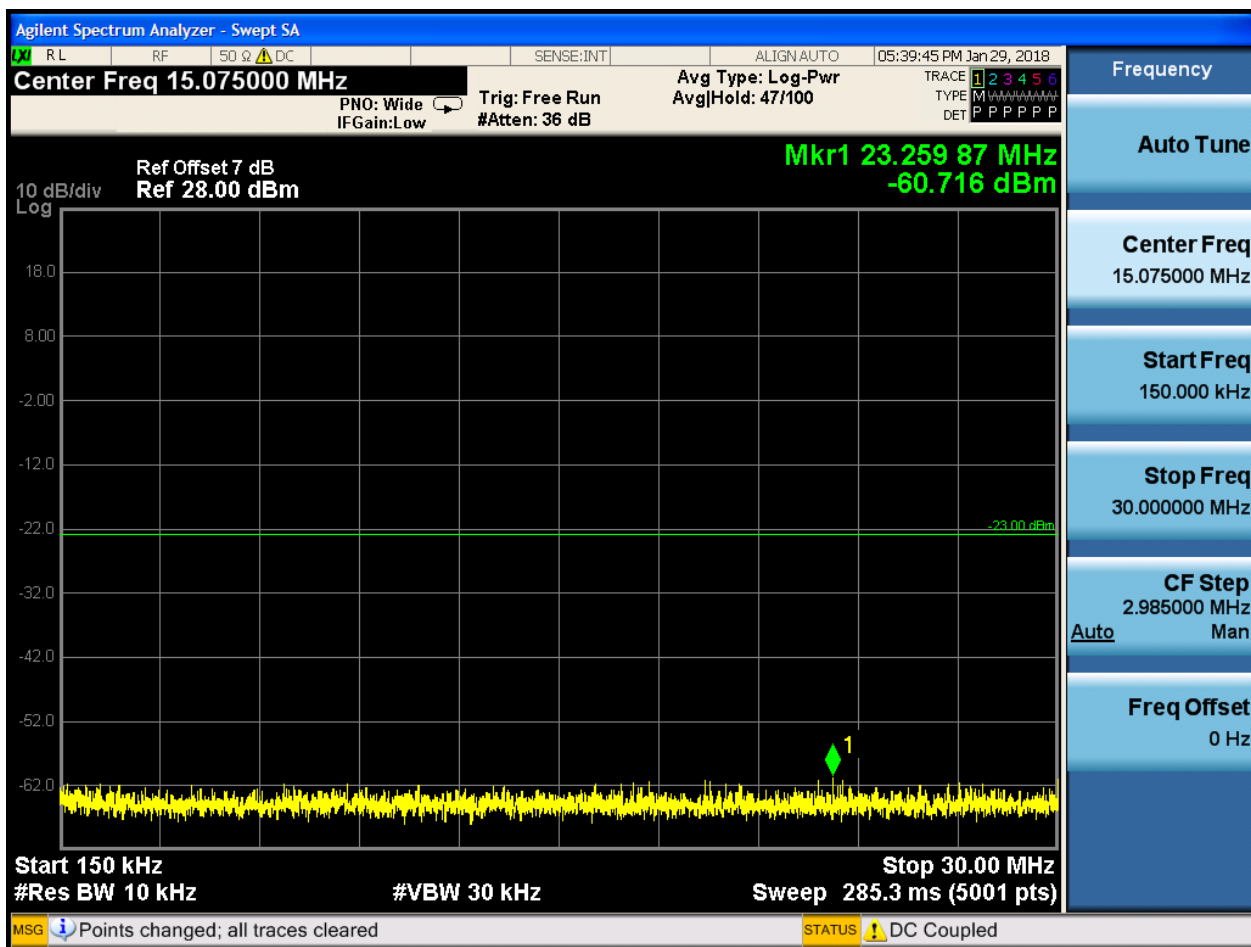


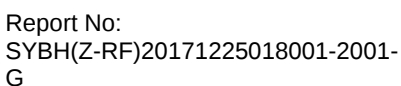


## 6.1.1.1.1.3 Test Channel = HCH

## 6.1.1.1.1.3.1 Test RB = RB1#0

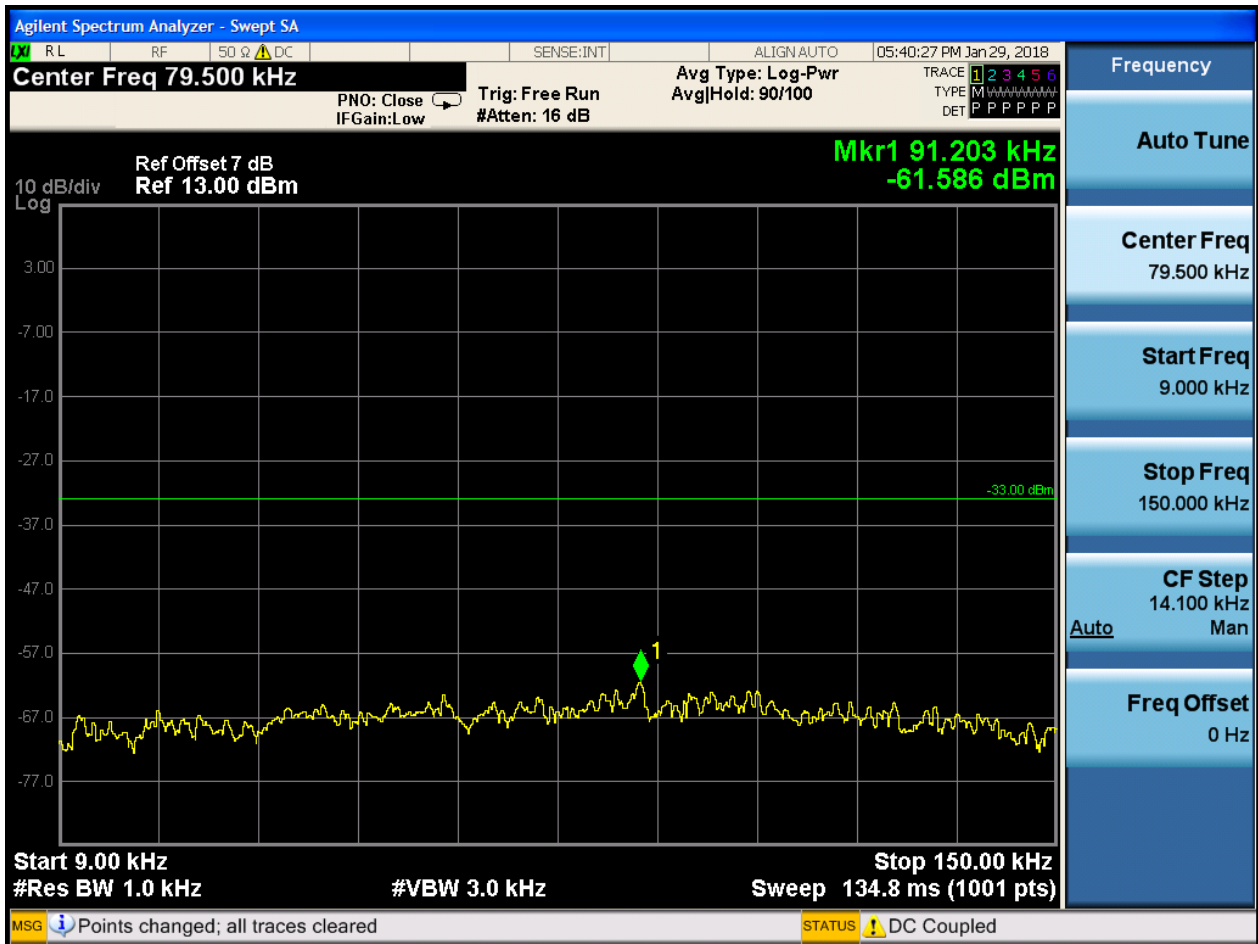


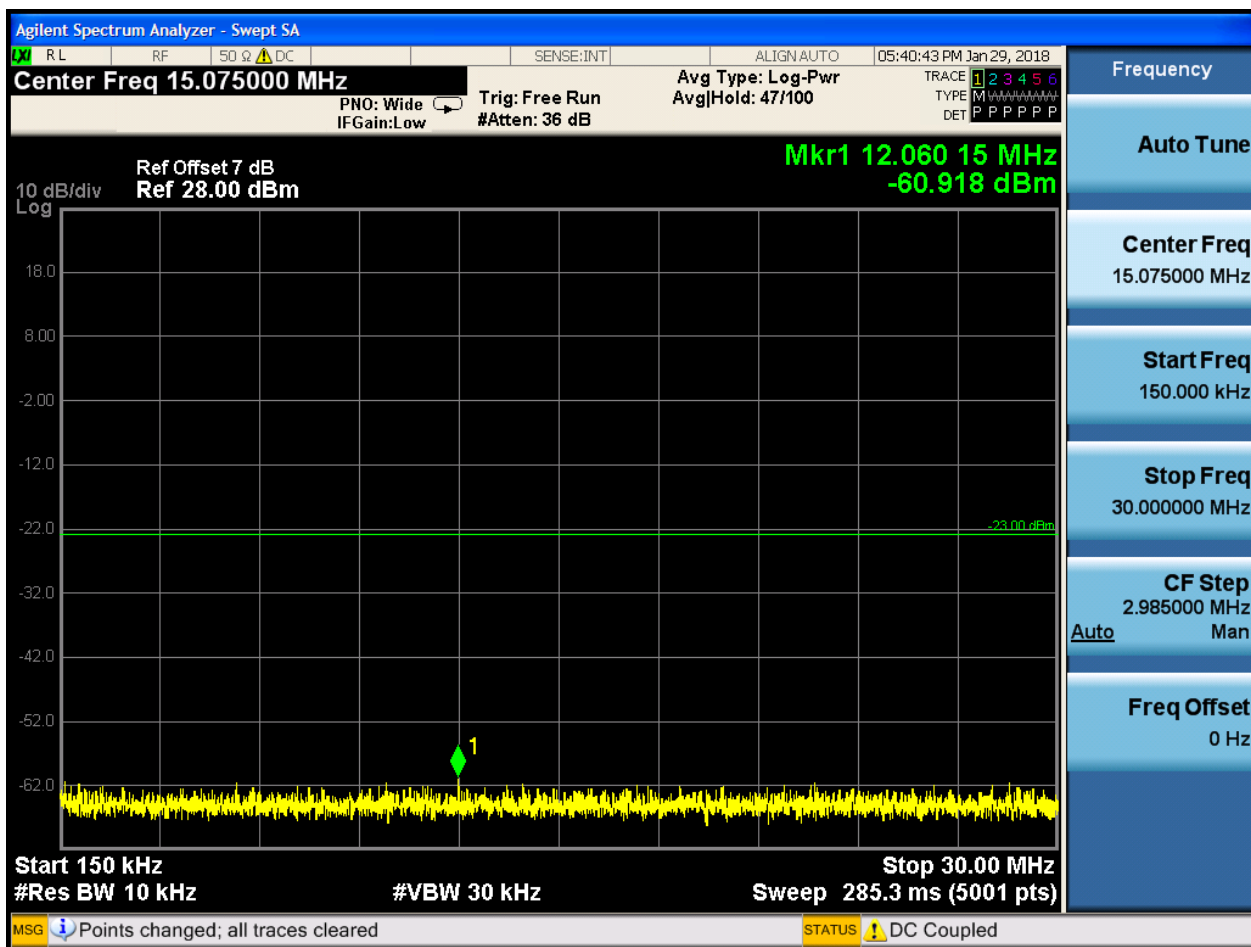


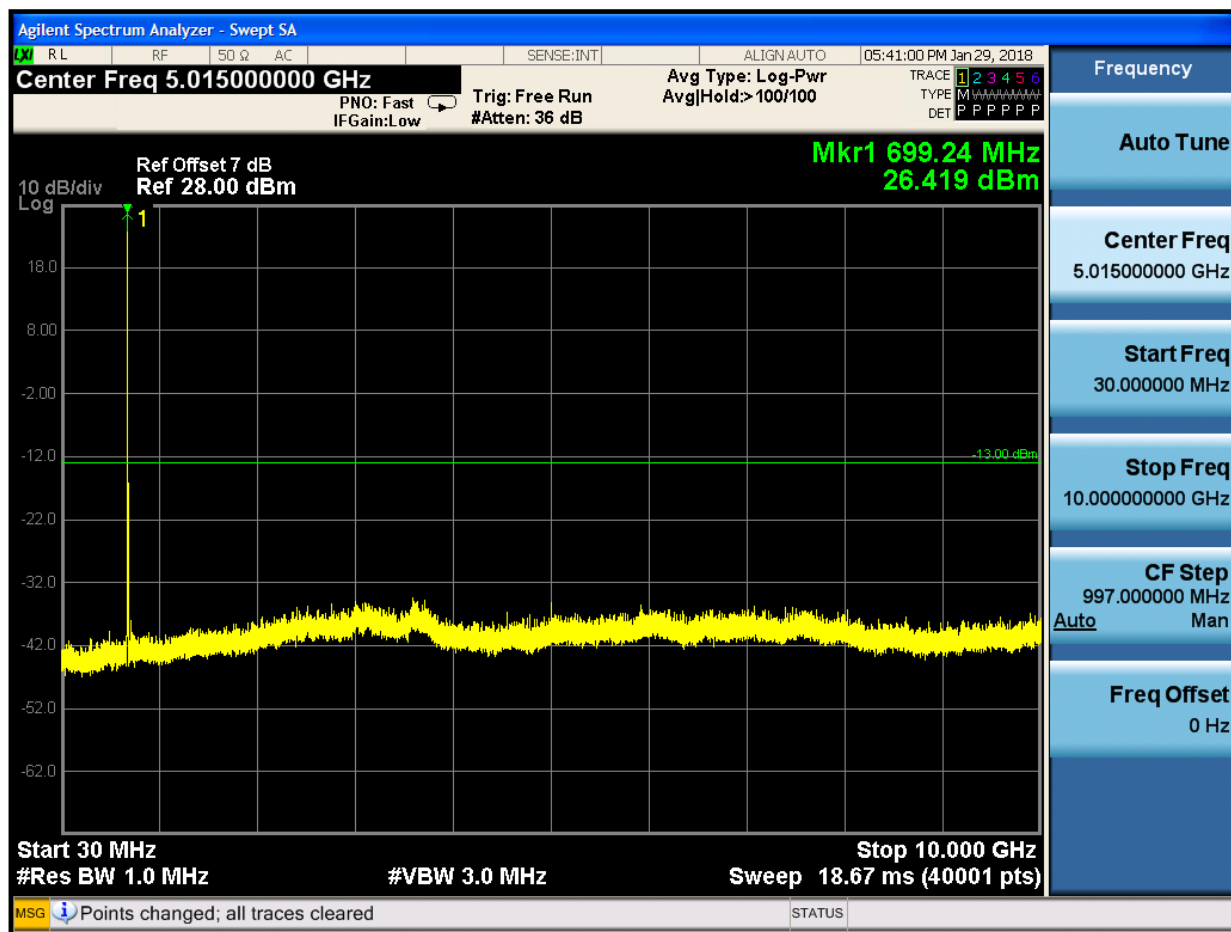




#### 6.1.1.1.2.1.1 Test RB = RB1#0



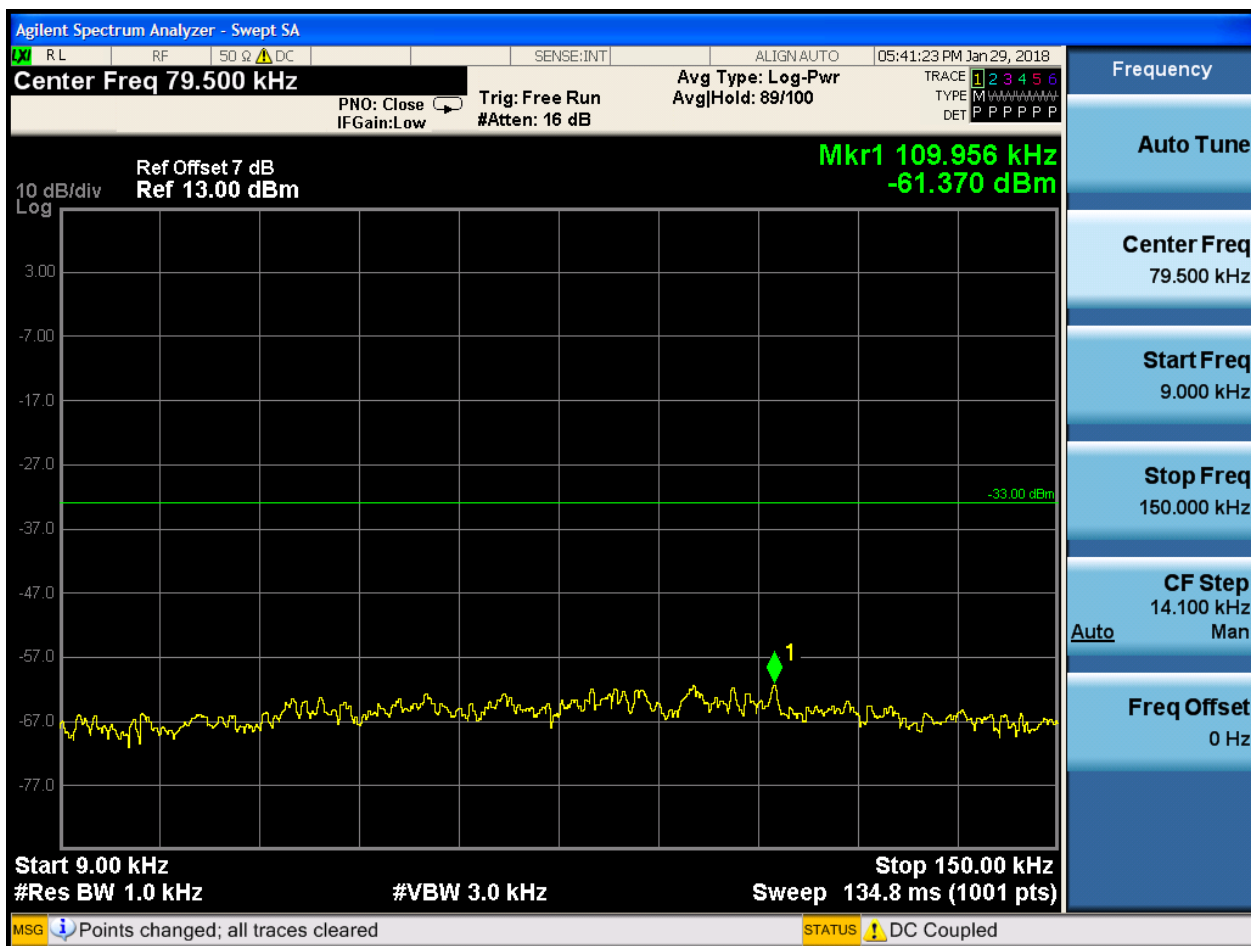


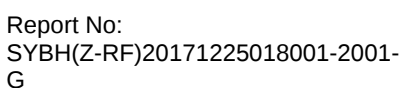


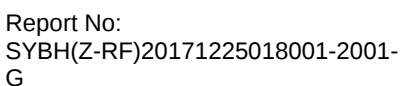


## 6.1.1.1.2.2 Test Channel = MCH

## 6.1.1.1.2.2.1 Test RB = RB1#0



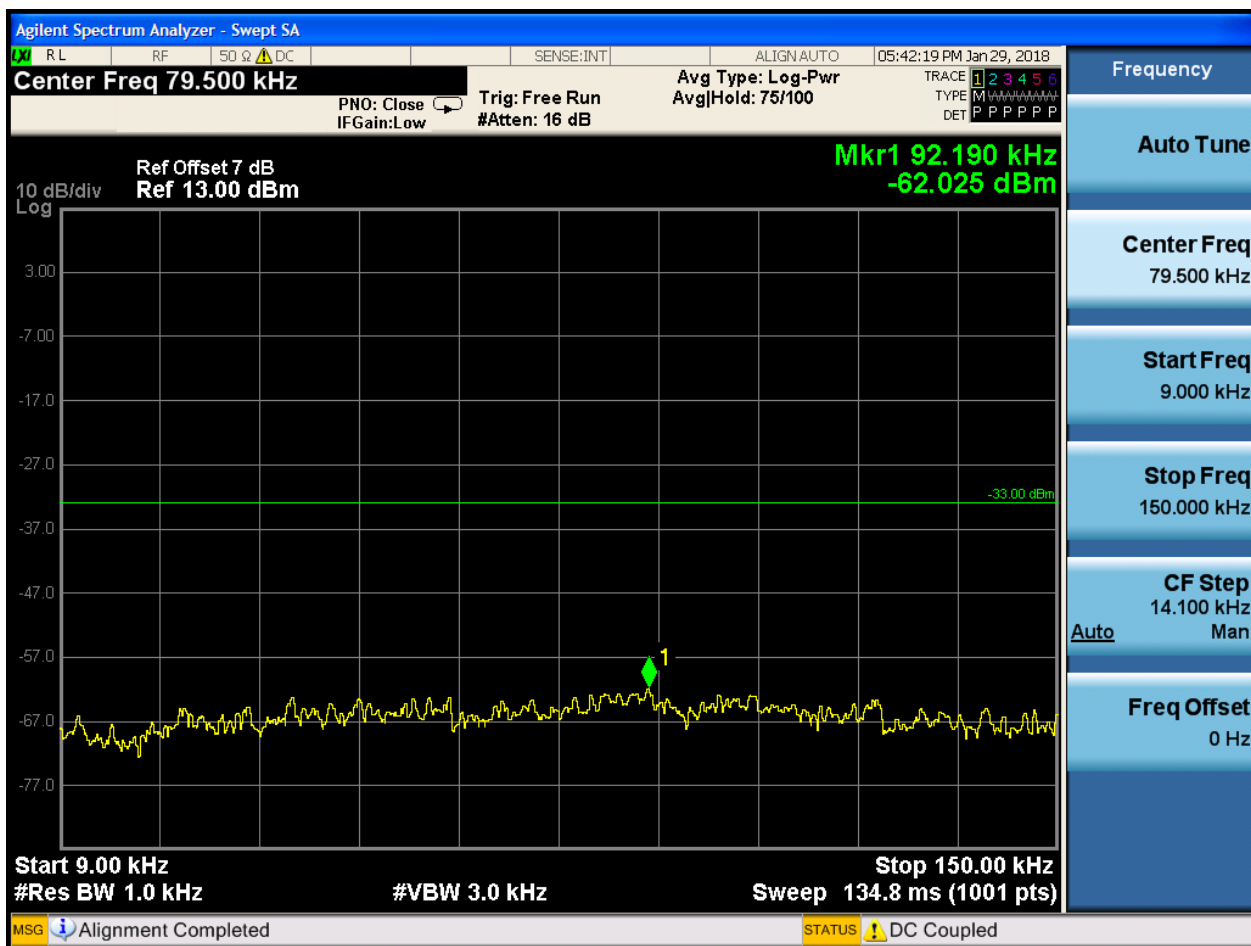


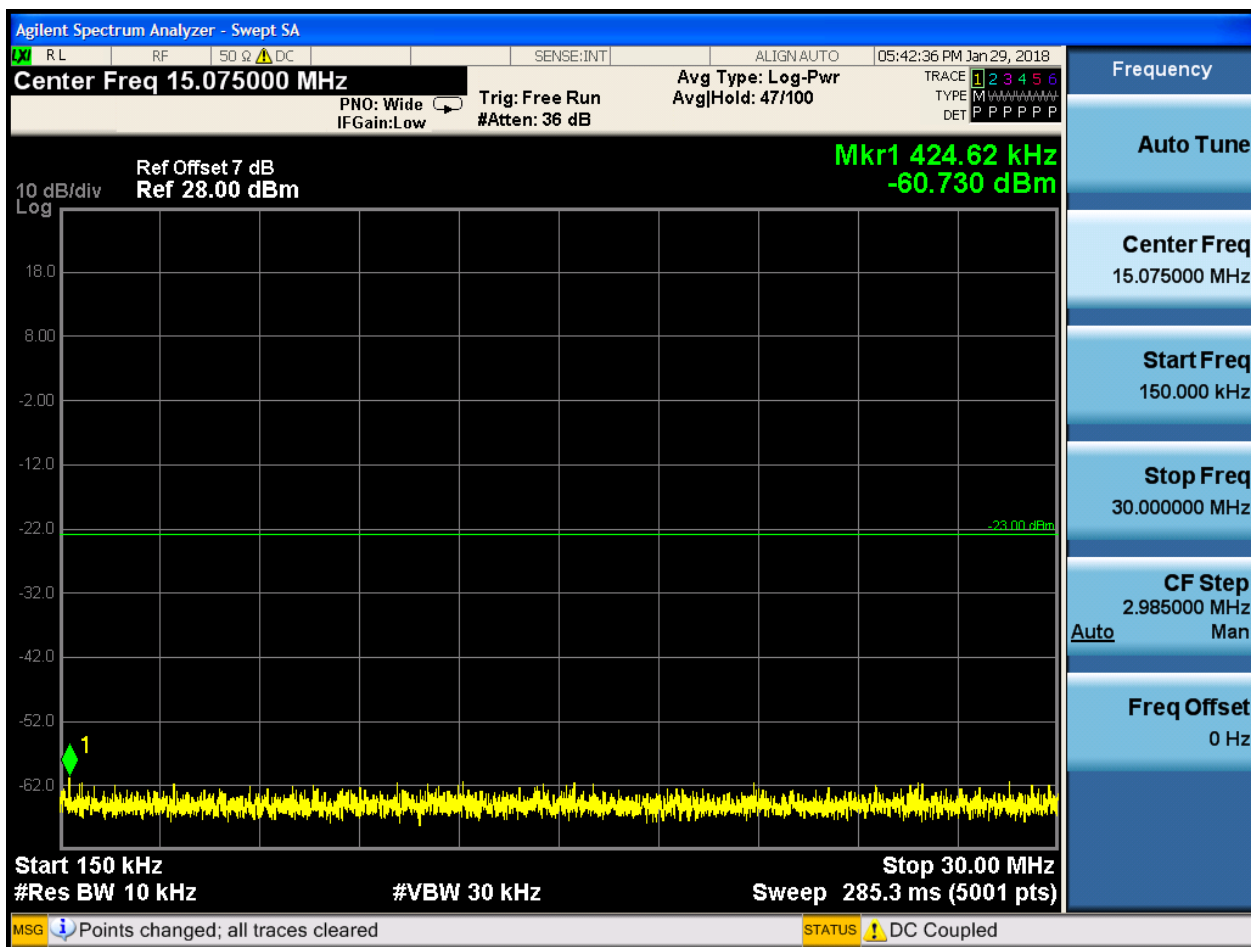


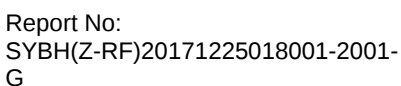


## 6.1.1.1.2.3 Test Channel = HCH

## 6.1.1.1.2.3.1 Test RB = RB1#0



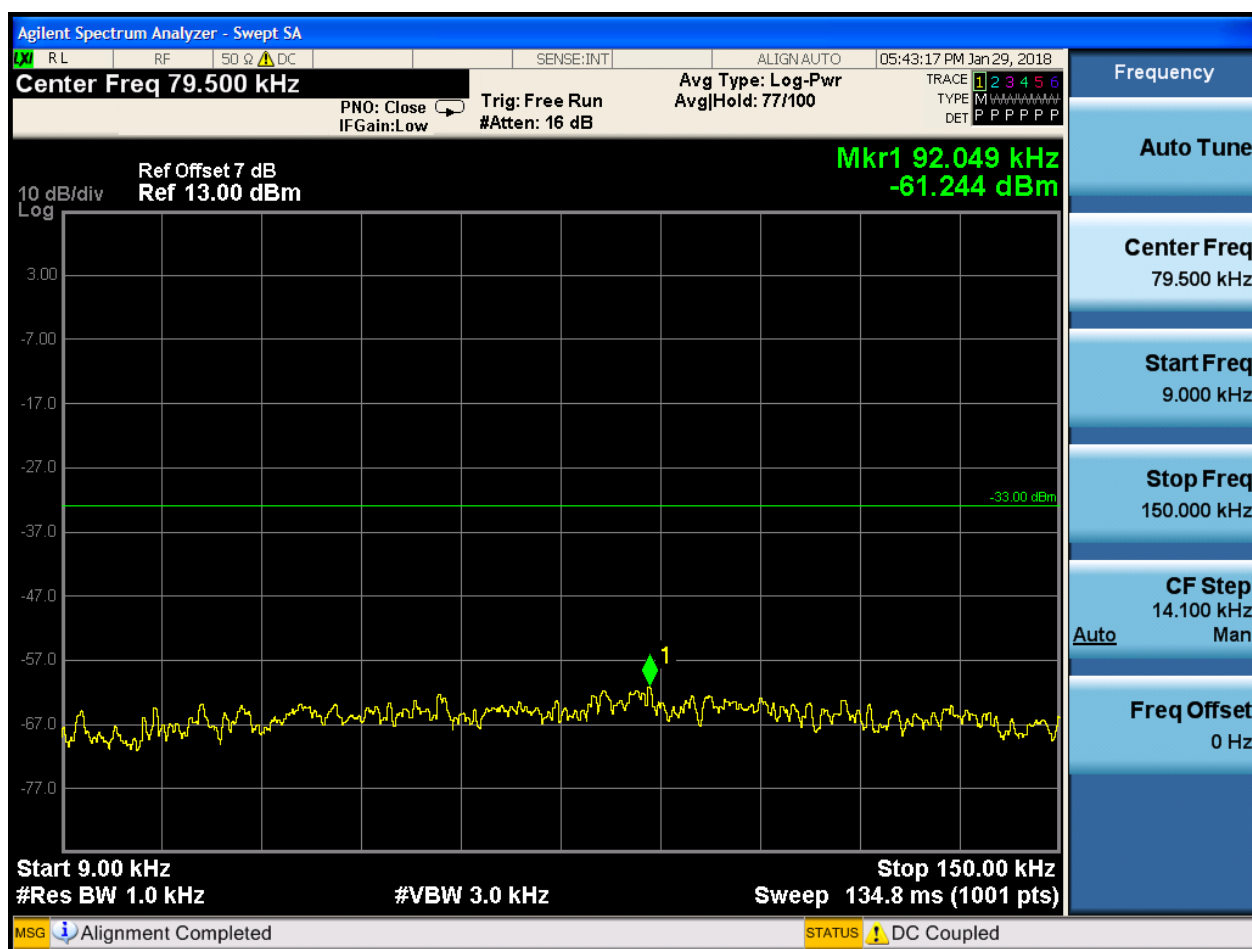


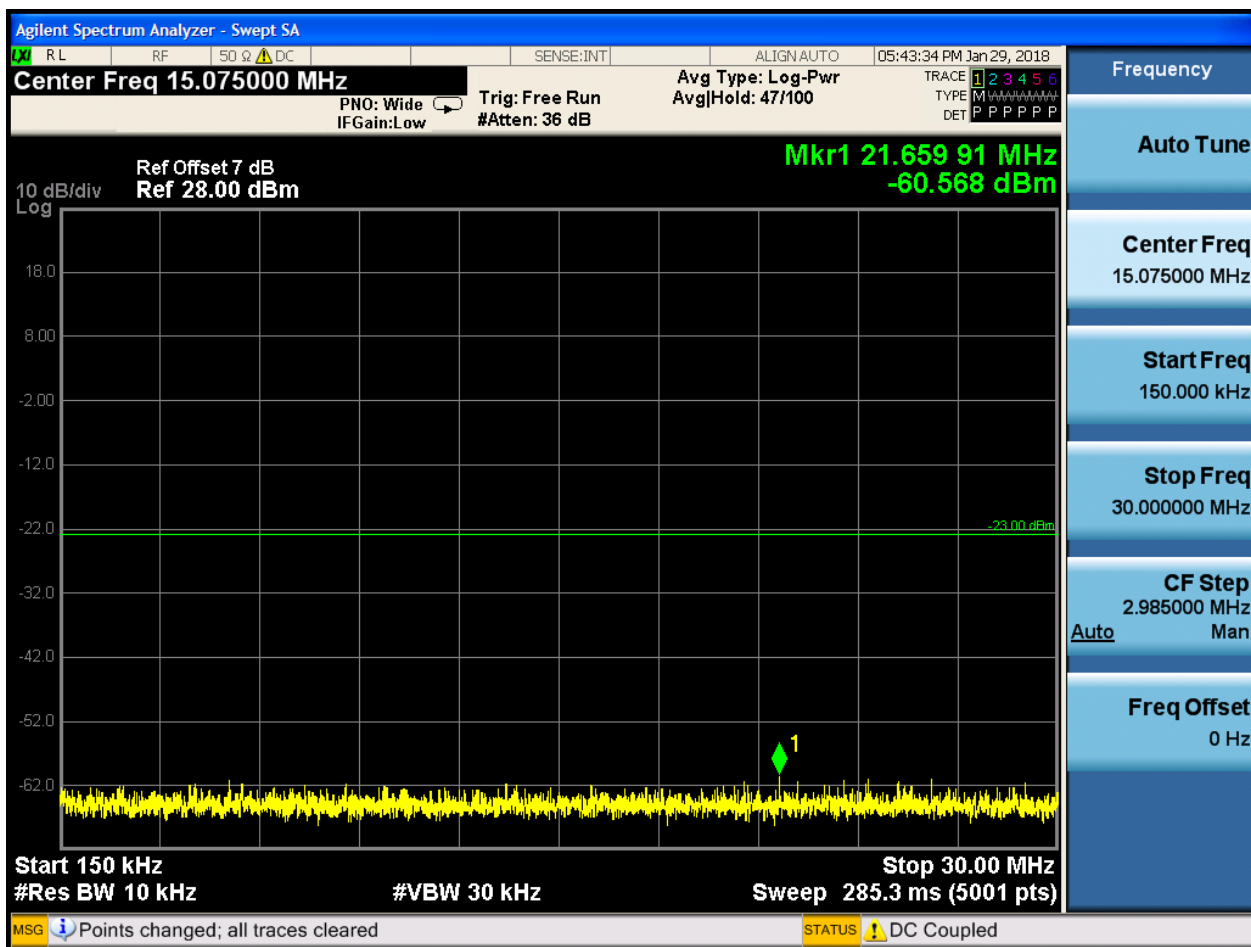


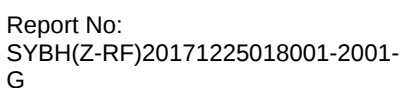
#### 6.1.1.1.3 Test Bandwidth = 5

#### 6.1.1.1.3.1 Test Channel = LCH

#### 6.1.1.1.3.1.1 Test RB = RB1#0

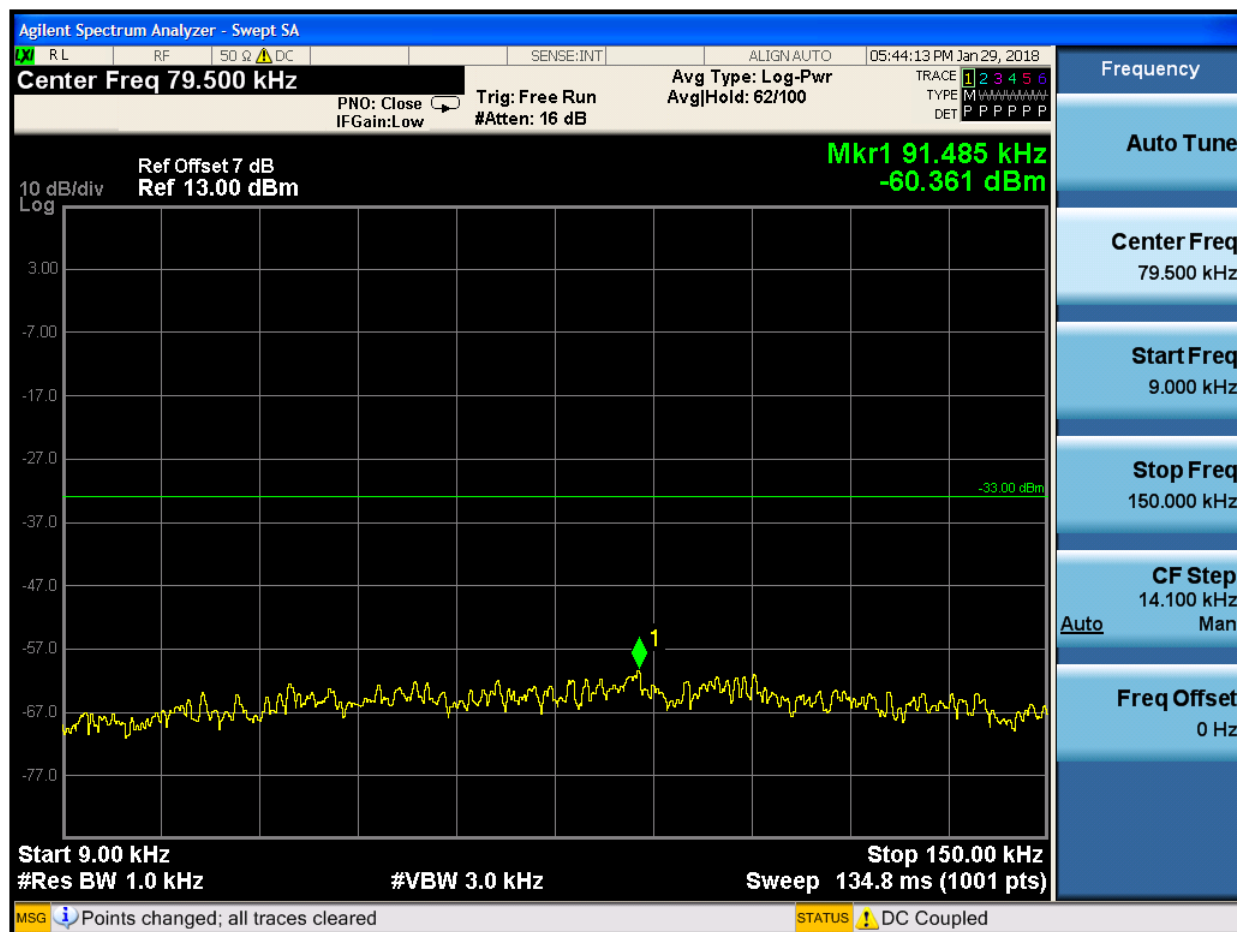


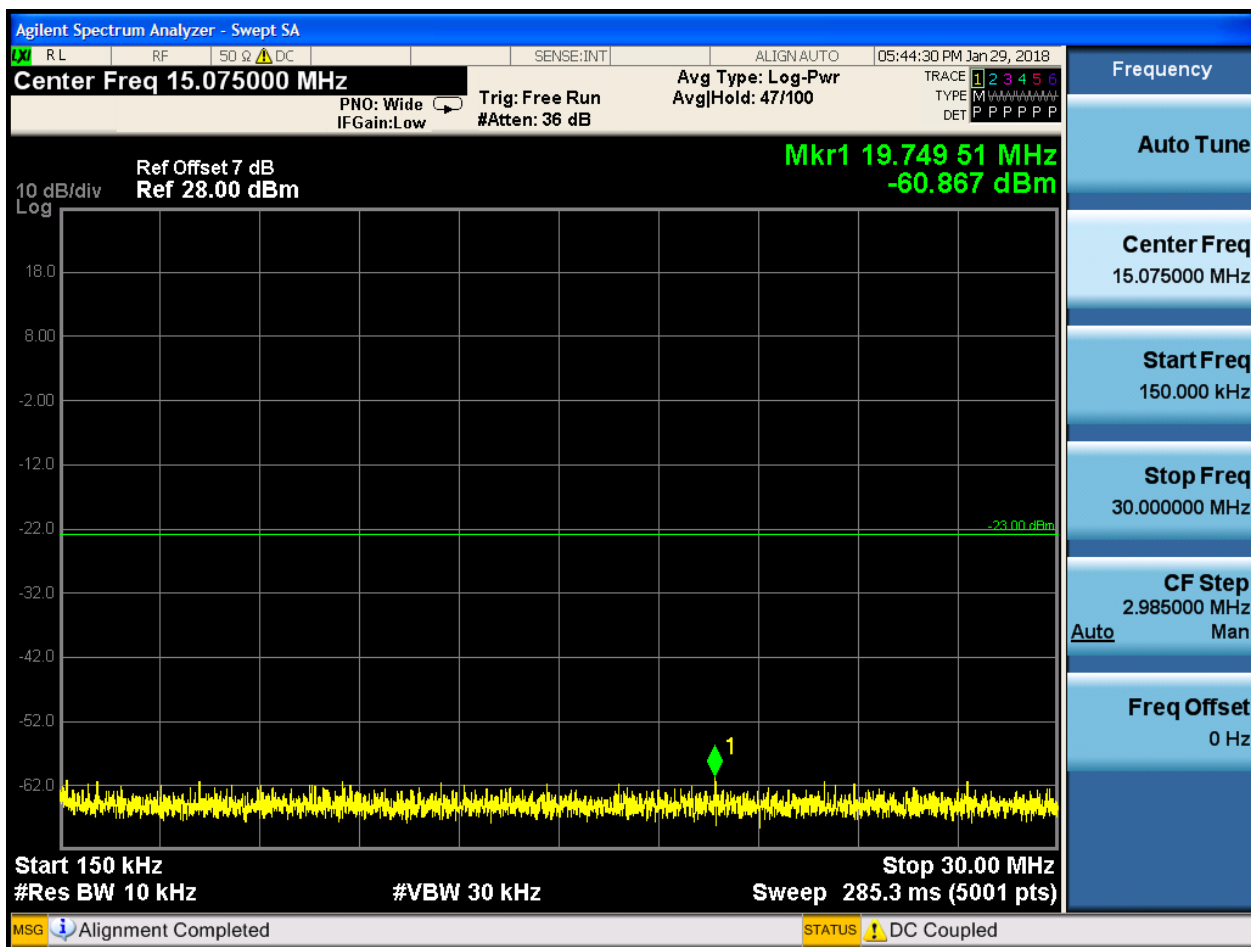


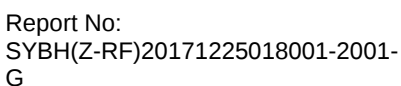


### 6.1.1.1.3.2 Test Channel = MCH

#### 6.1.1.1.3.2.1 Test RB = RB1#0



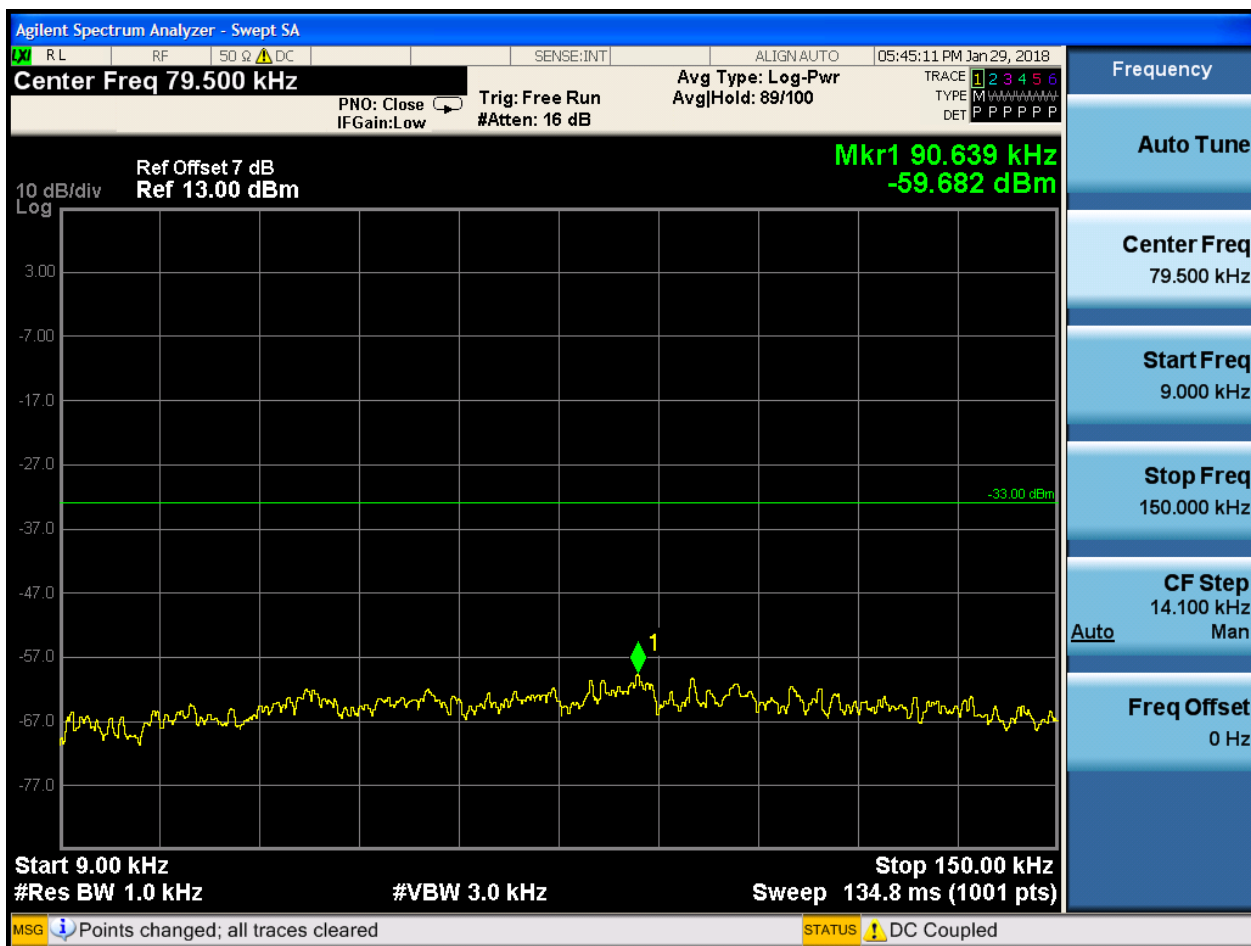


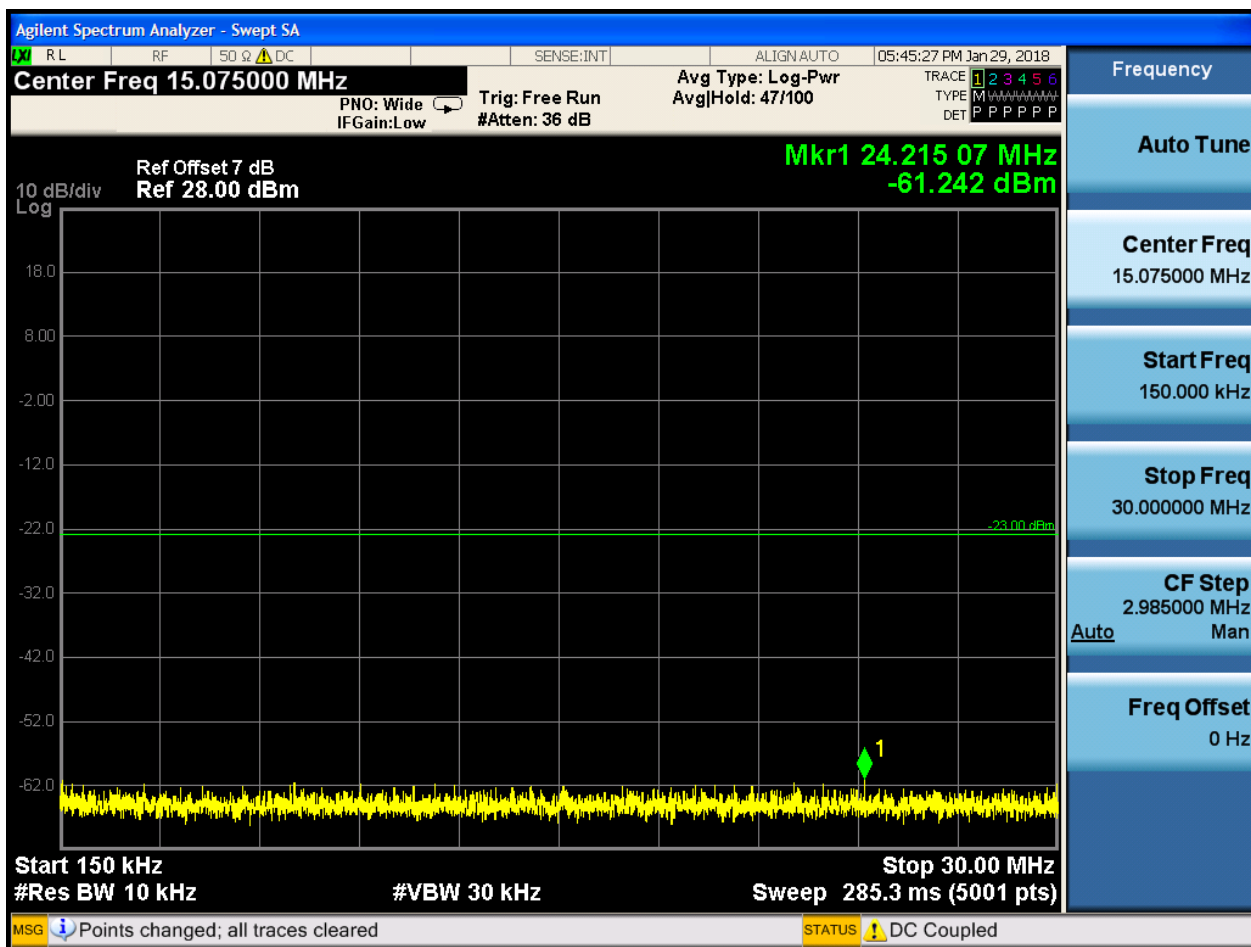




## 6.1.1.1.3.3 Test Channel = HCH

## 6.1.1.1.3.3.1 Test RB = RB1#0





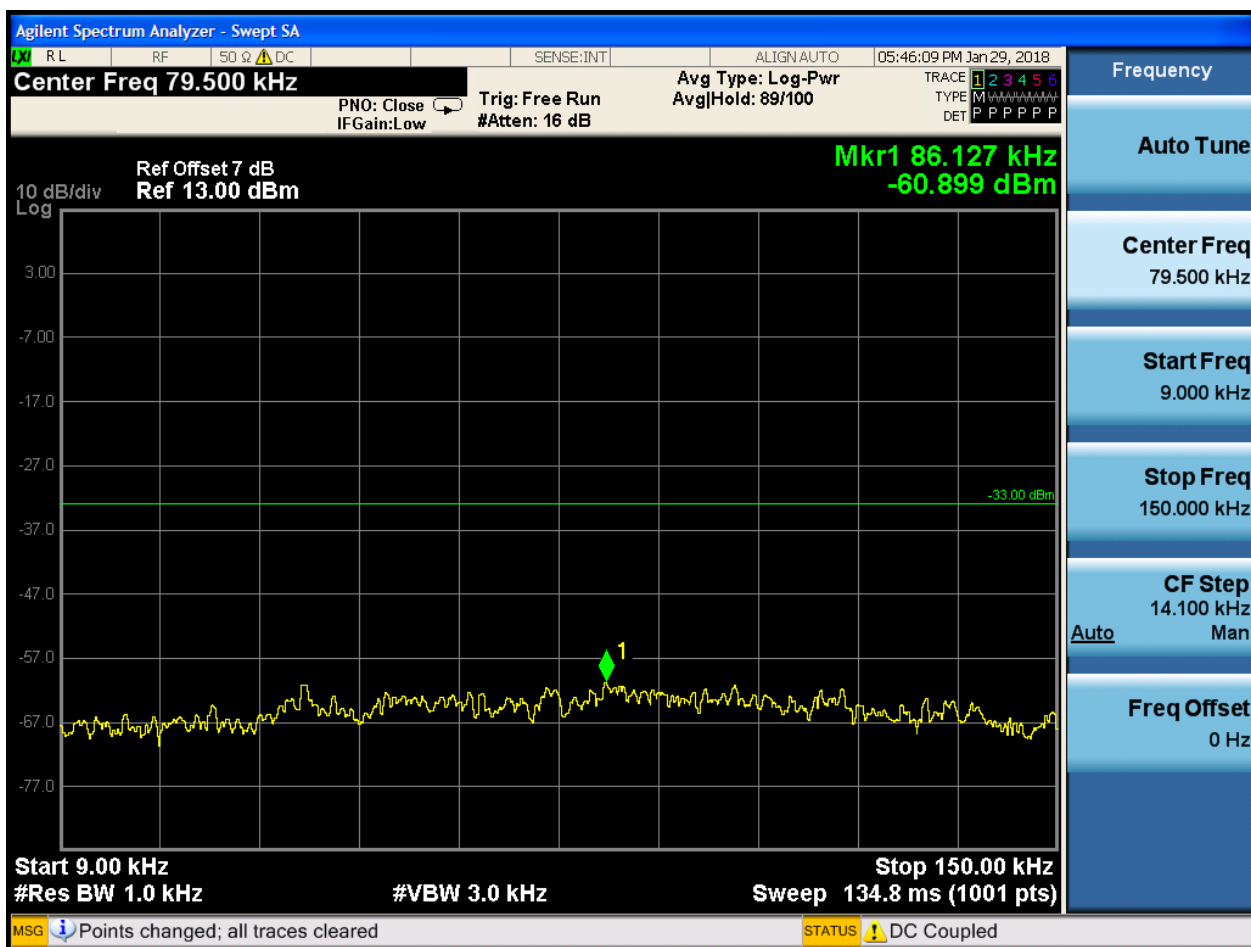


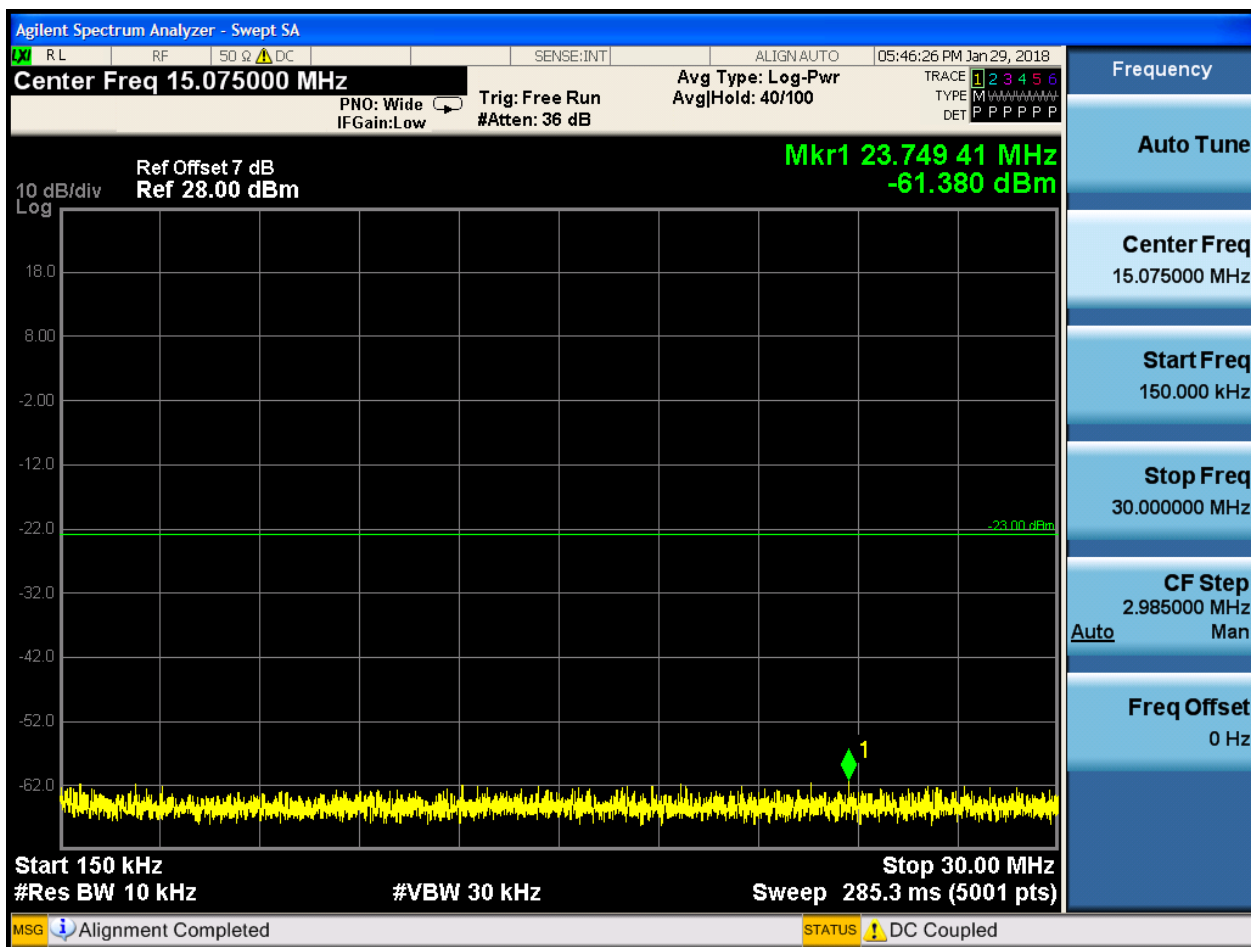


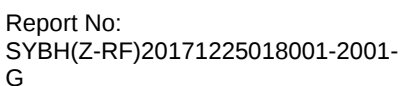
## 6.1.1.1.4 Test Bandwidth = 10

## 6.1.1.1.4.1 Test Channel = LCH

## 6.1.1.1.4.1.1 Test RB = RB1#0



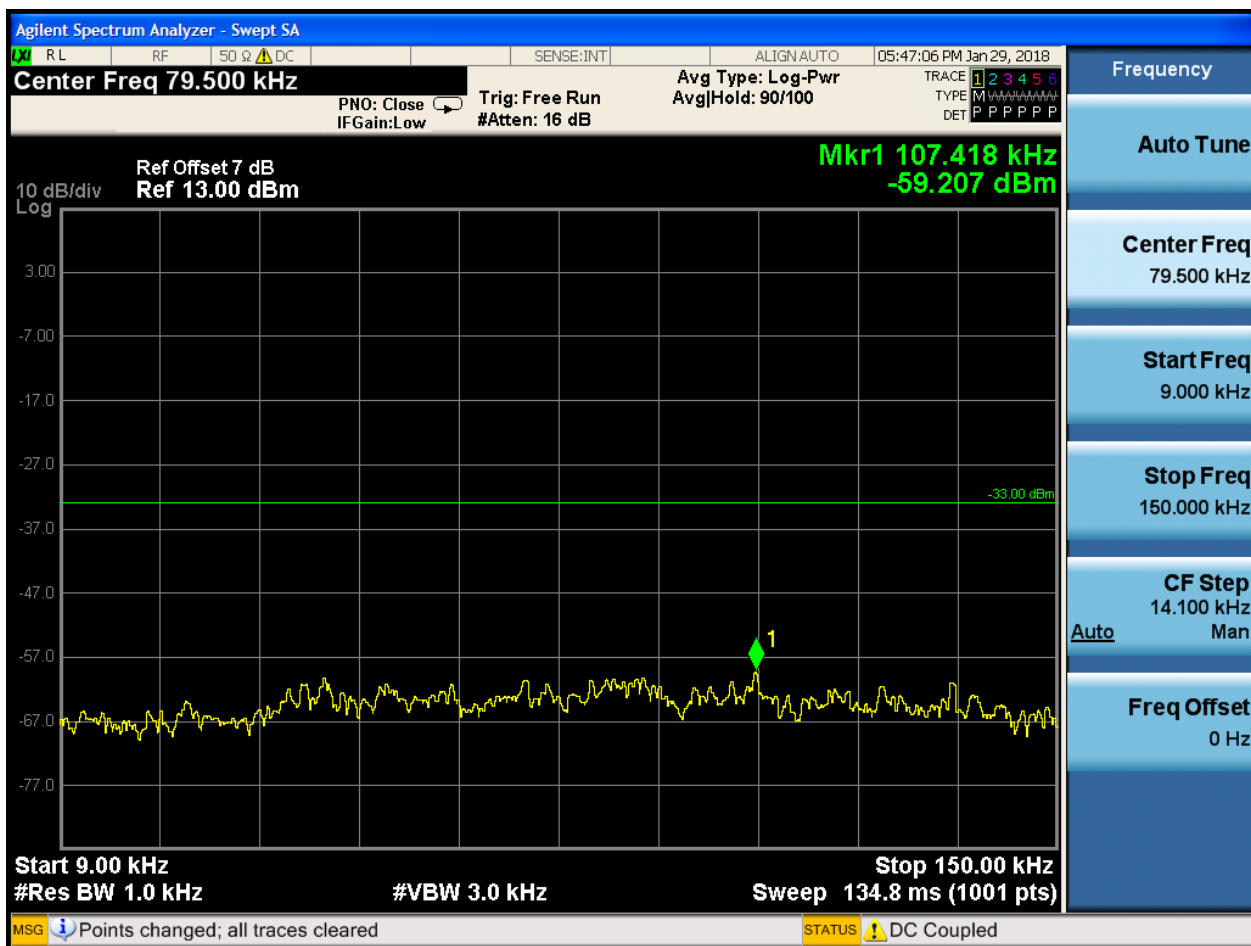


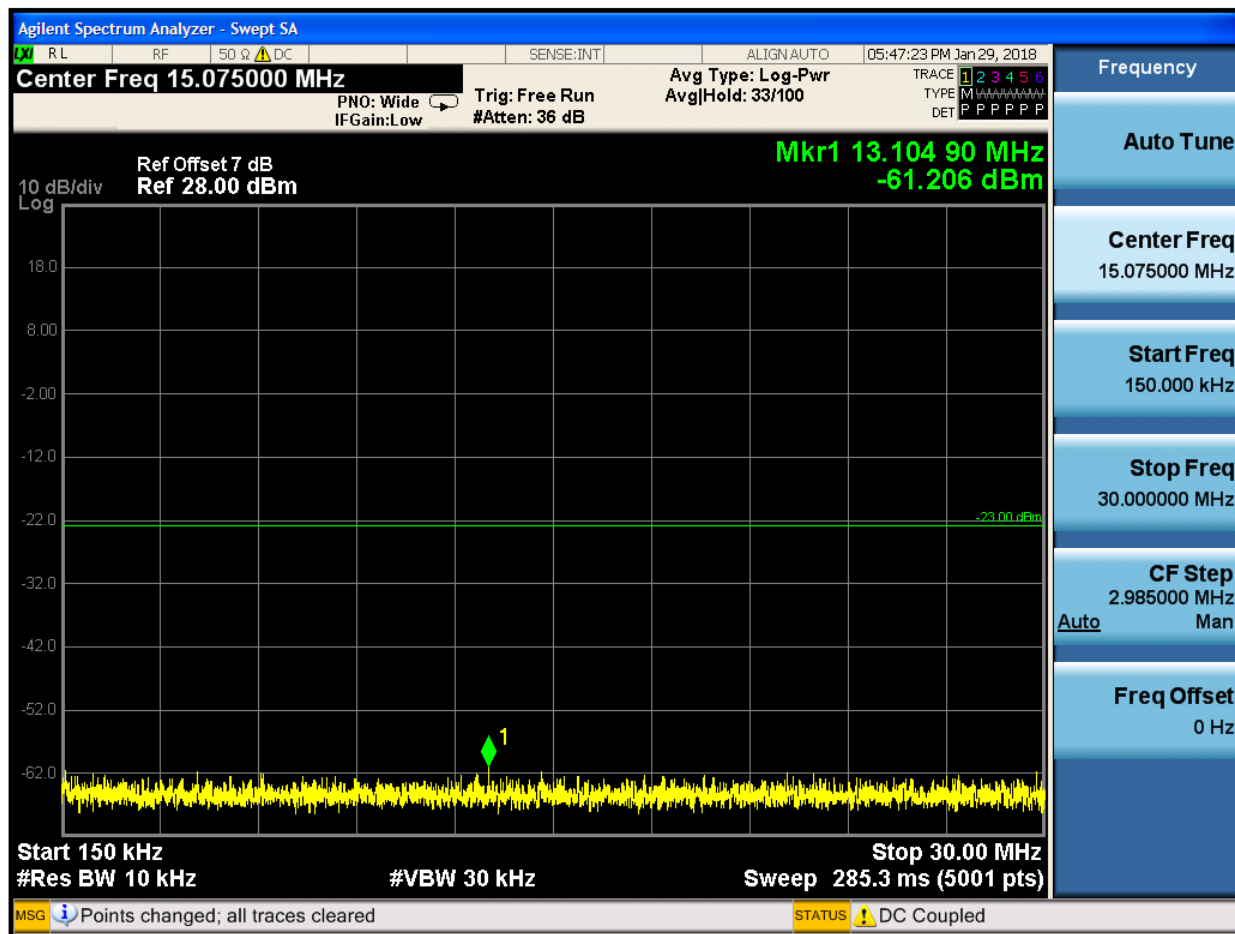


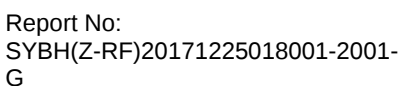


## 6.1.1.1.4.2 Test Channel = MCH

## 6.1.1.1.4.2.1 Test RB = RB1#0



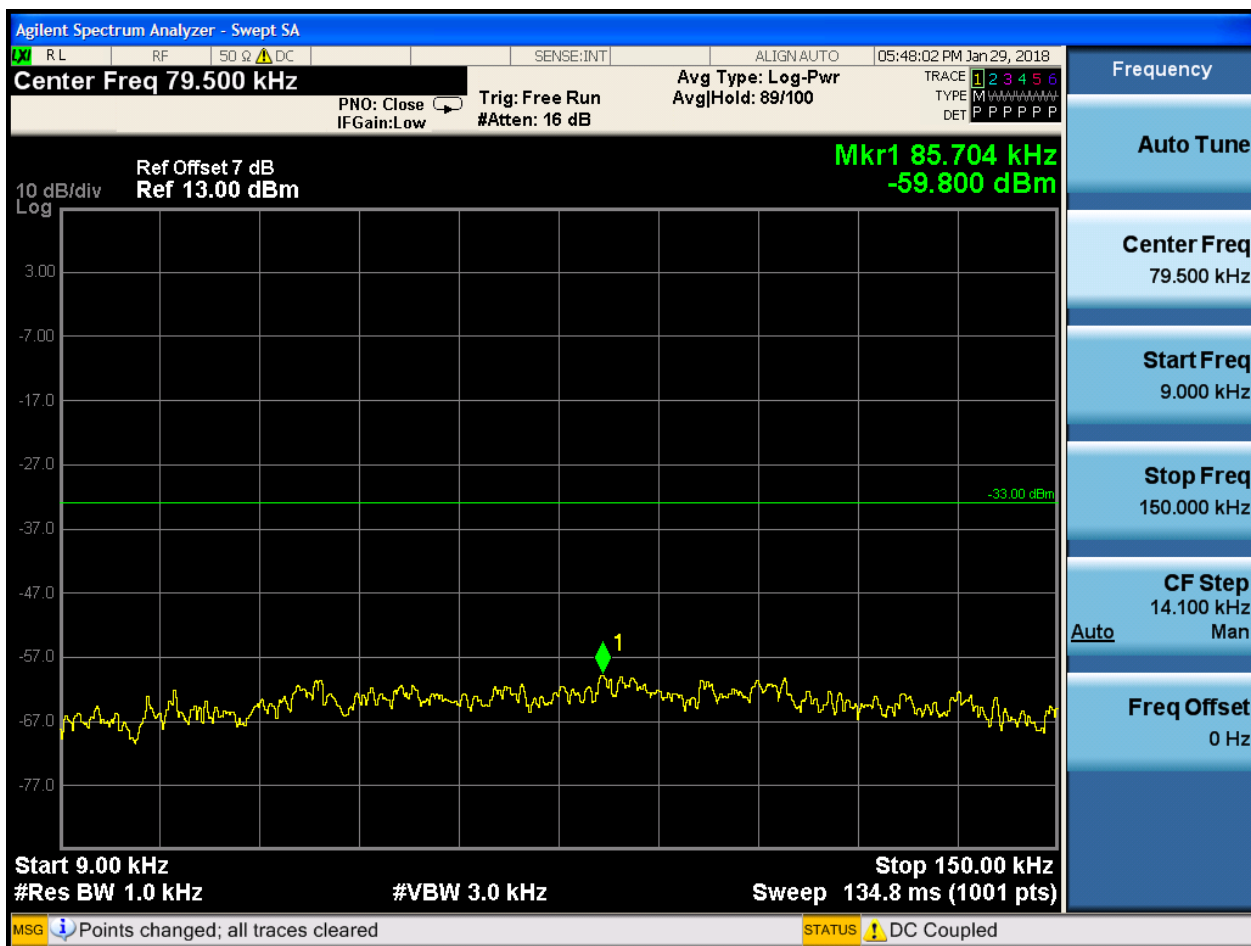


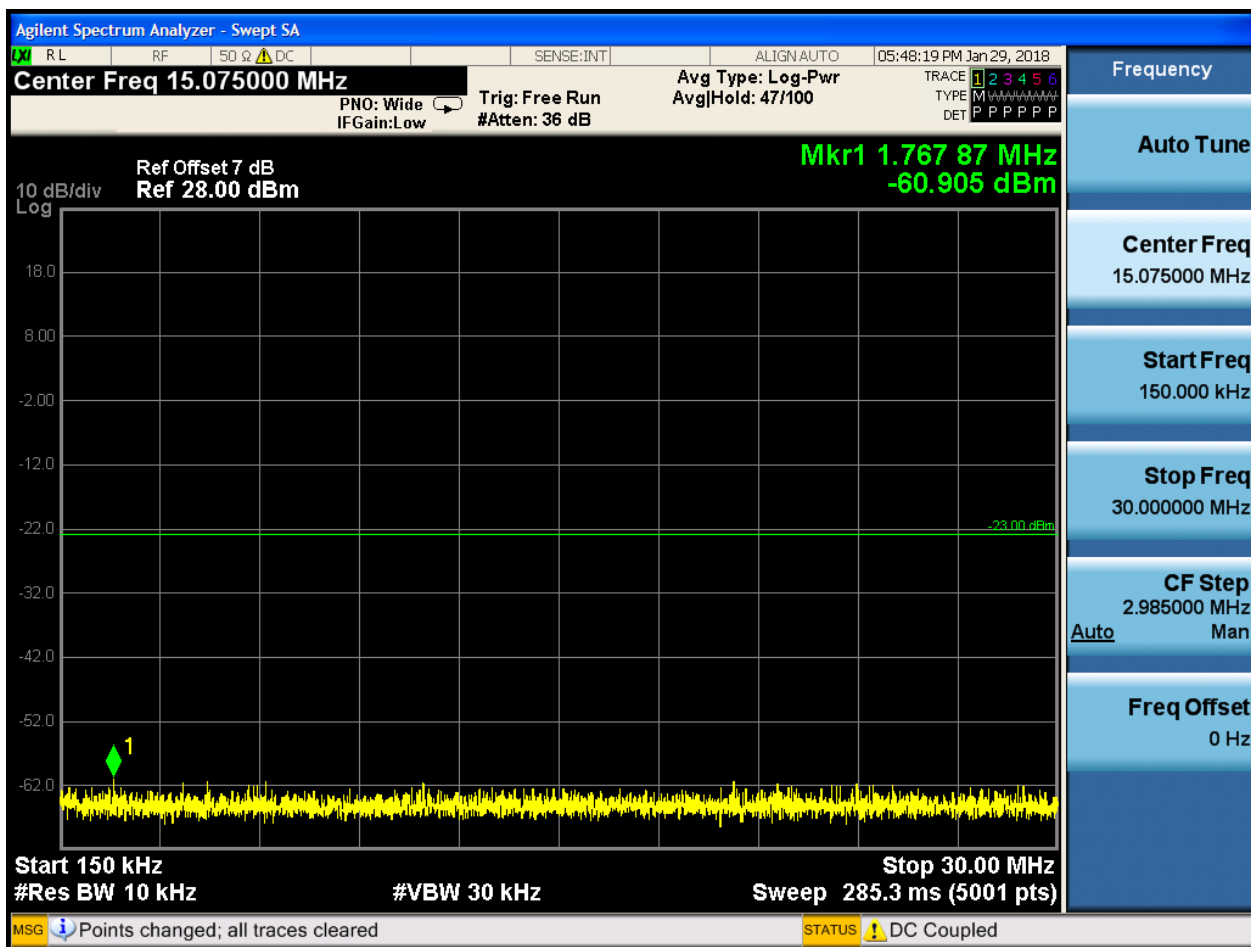




## 6.1.1.1.4.3 Test Channel = HCH

## 6.1.1.1.4.3.1 Test RB = RB1#0







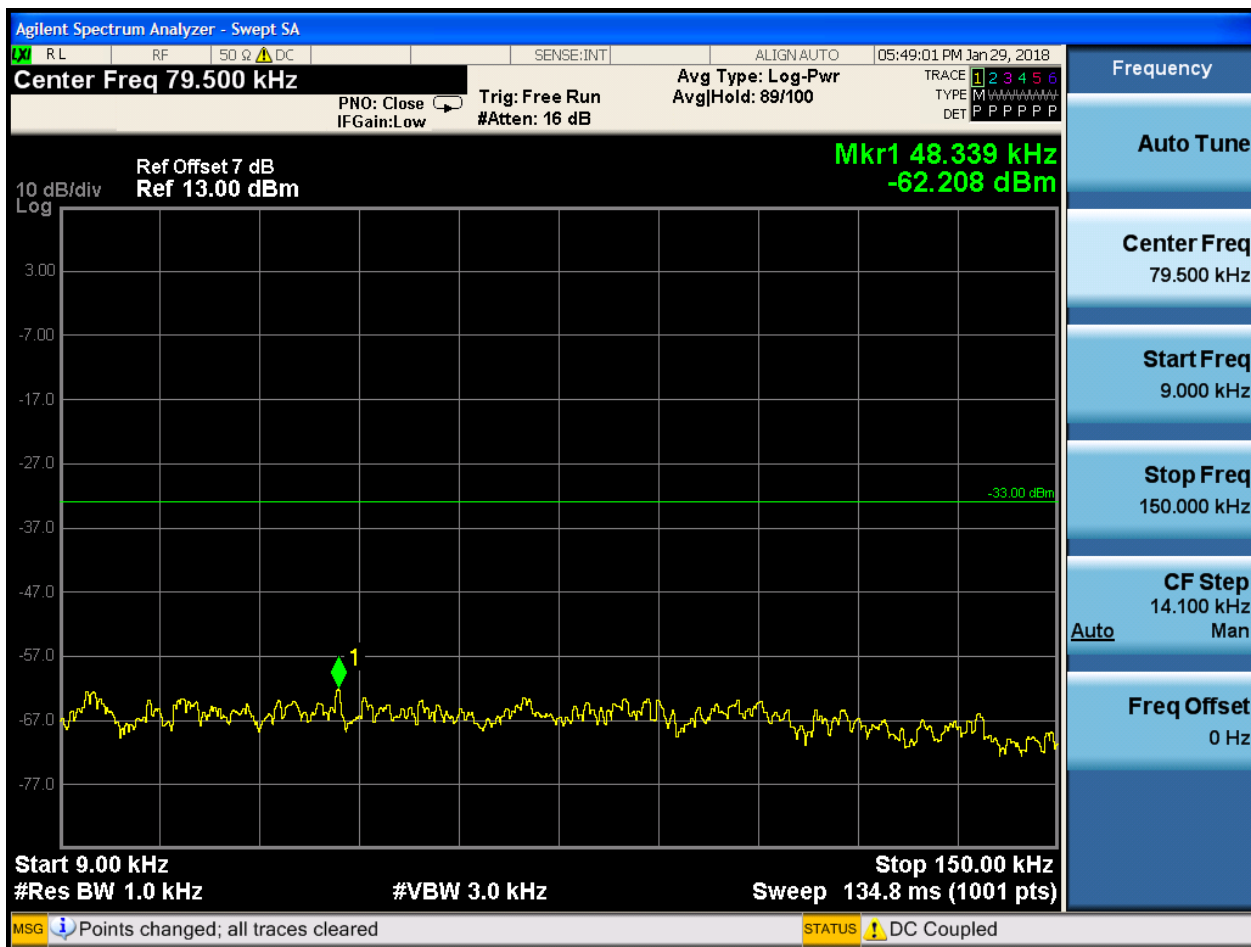


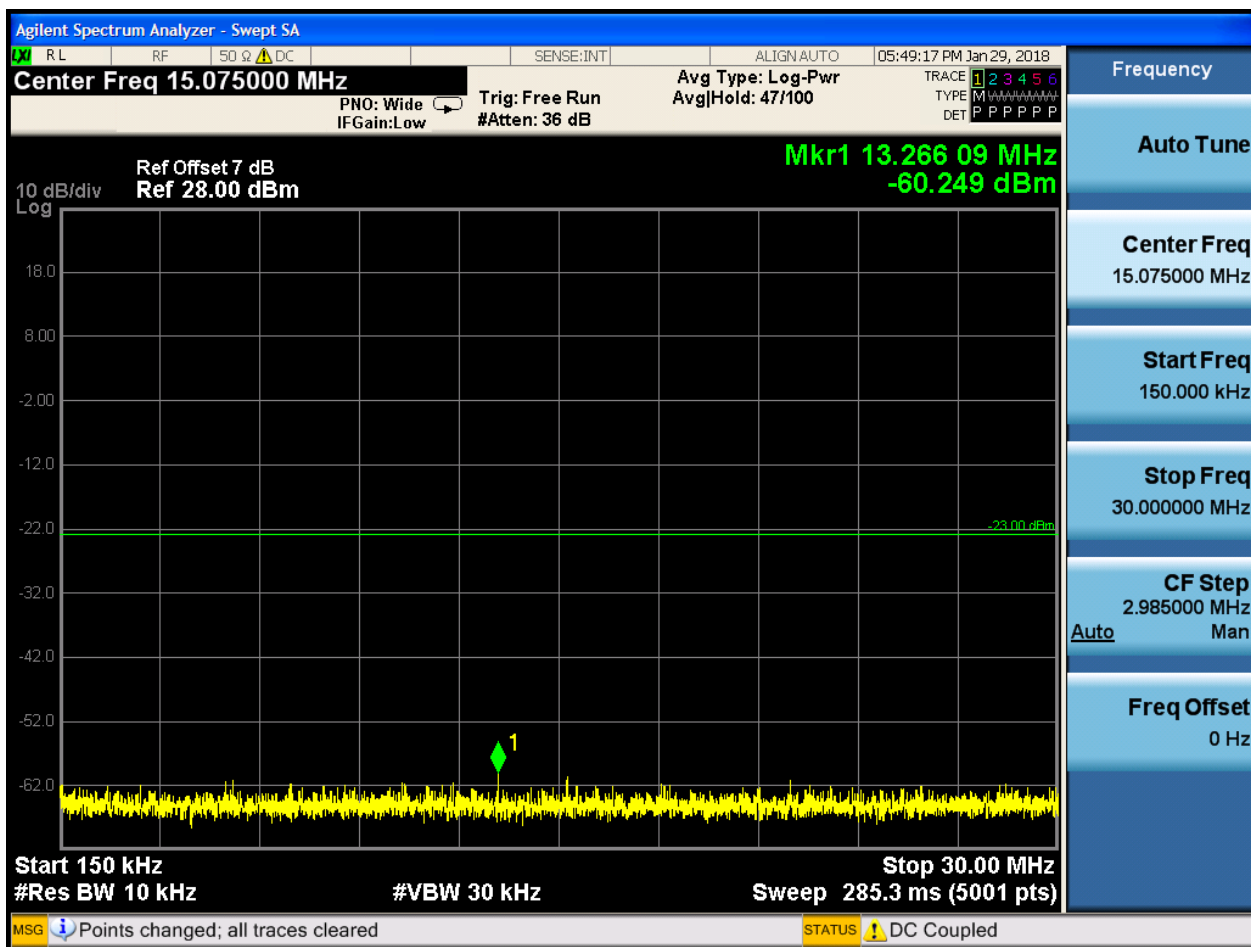
## 6.1.1.2 Test Mode = LTE/TM2

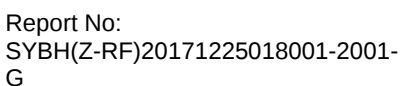
## 6.1.1.2.1 Test Bandwidth = 1.4

## 6.1.1.2.1.1 Test Channel = LCH

## 6.1.1.2.1.1.1 Test RB = RB1#0



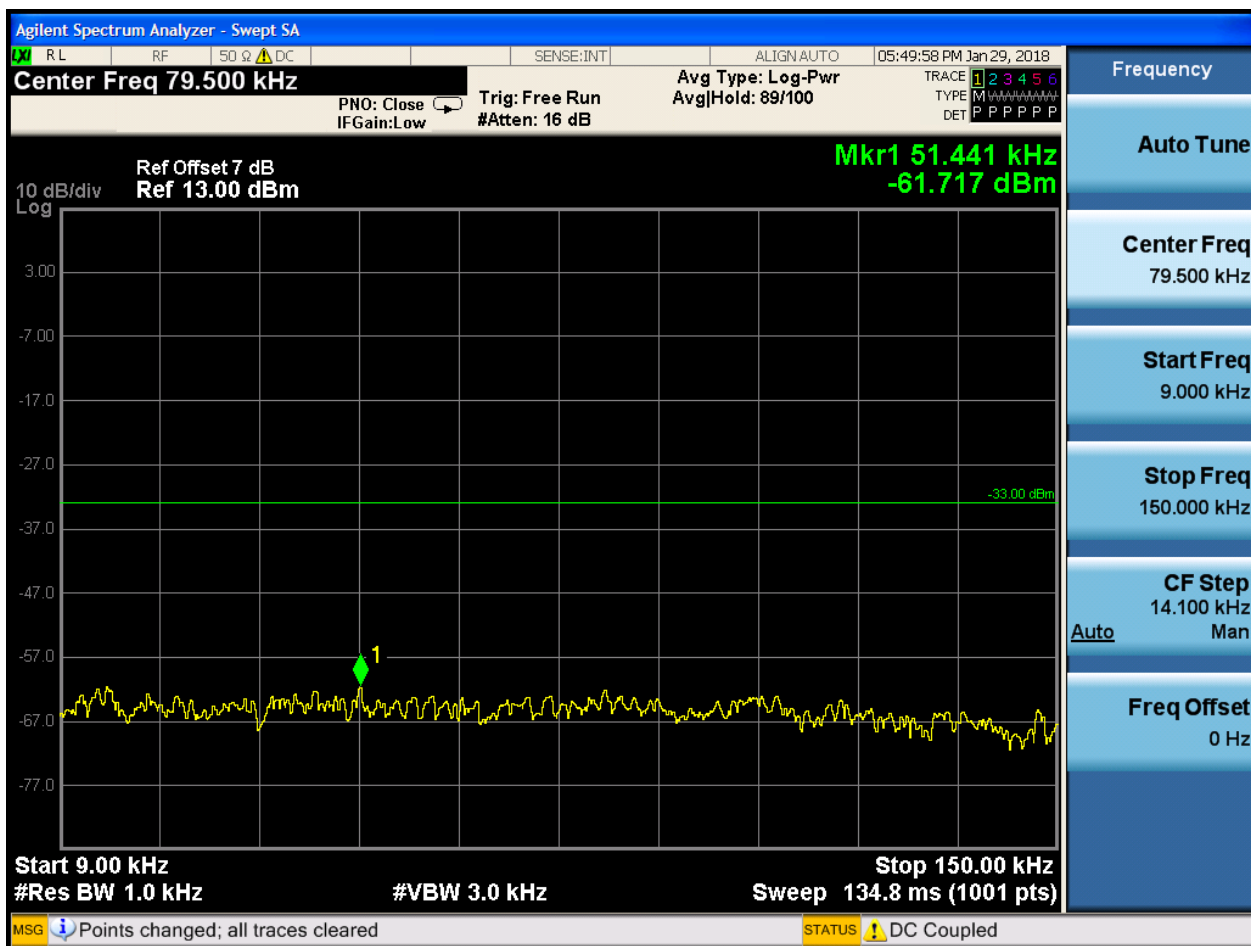




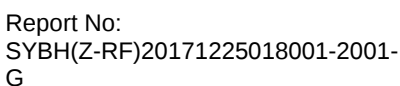


## 6.1.1.2.1.2 Test Channel = MCH

## 6.1.1.2.1.2.1 Test RB = RB1#0



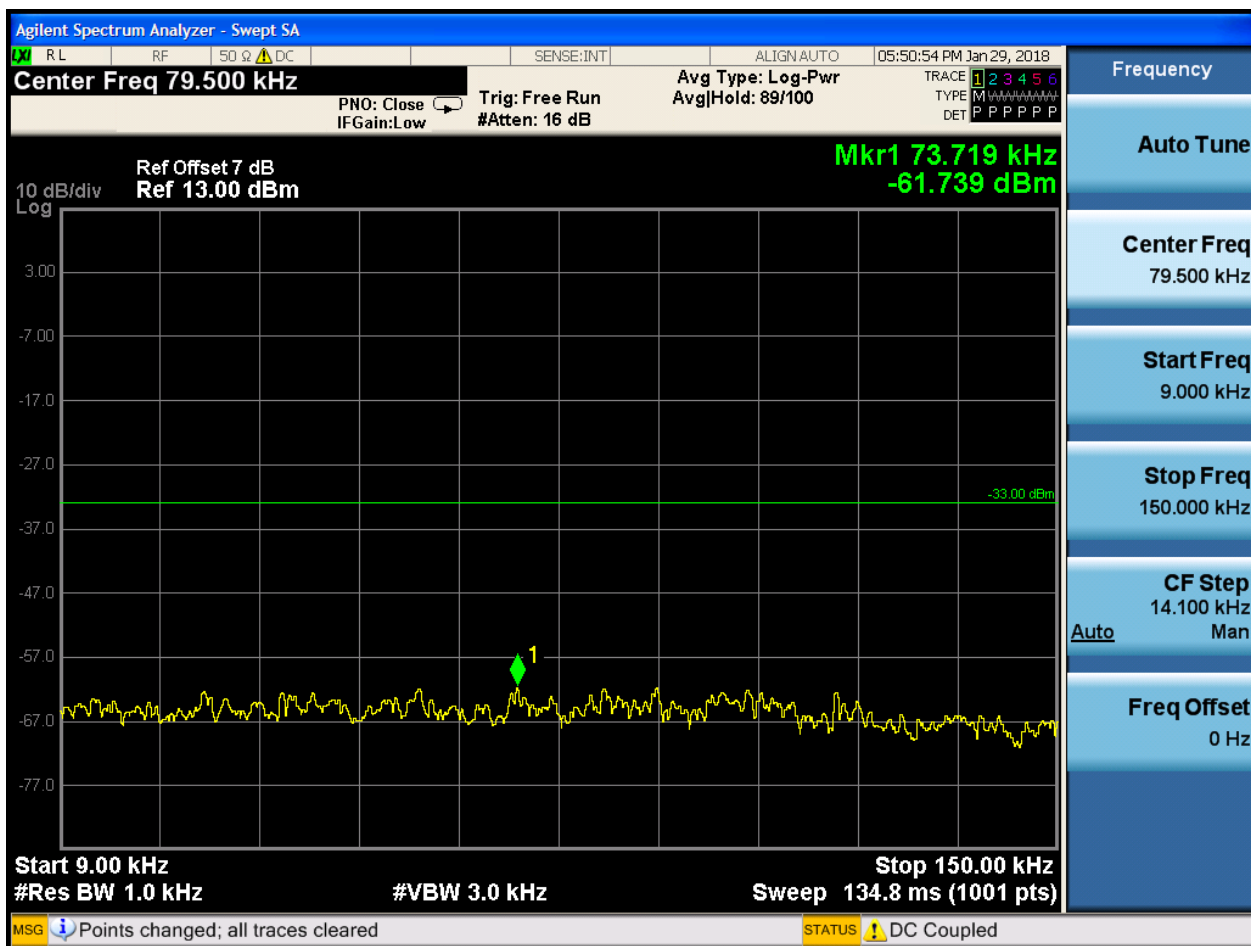


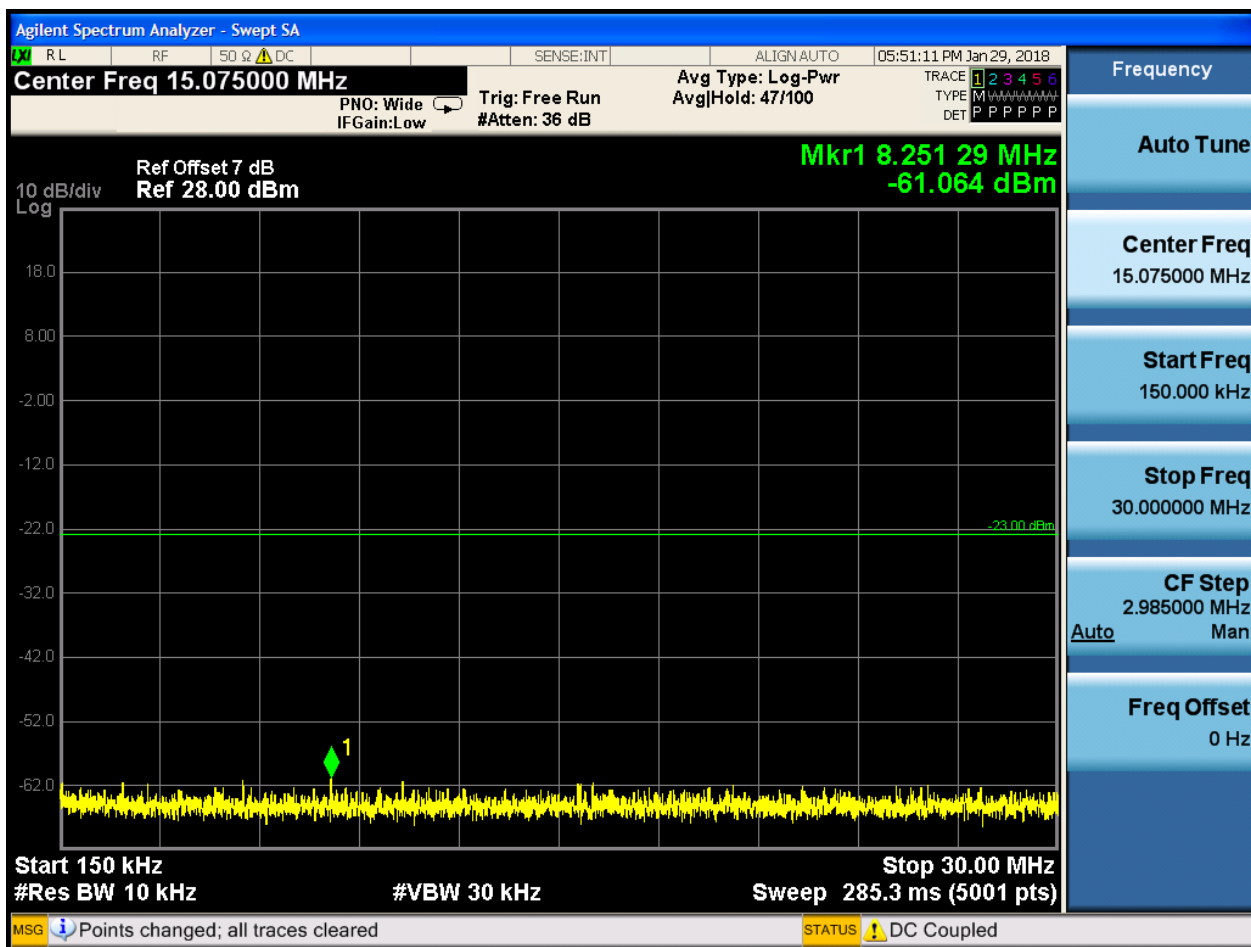


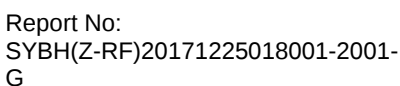


## 6.1.1.2.1.3 Test Channel = HCH

## 6.1.1.2.1.3.1 Test RB = RB1#0





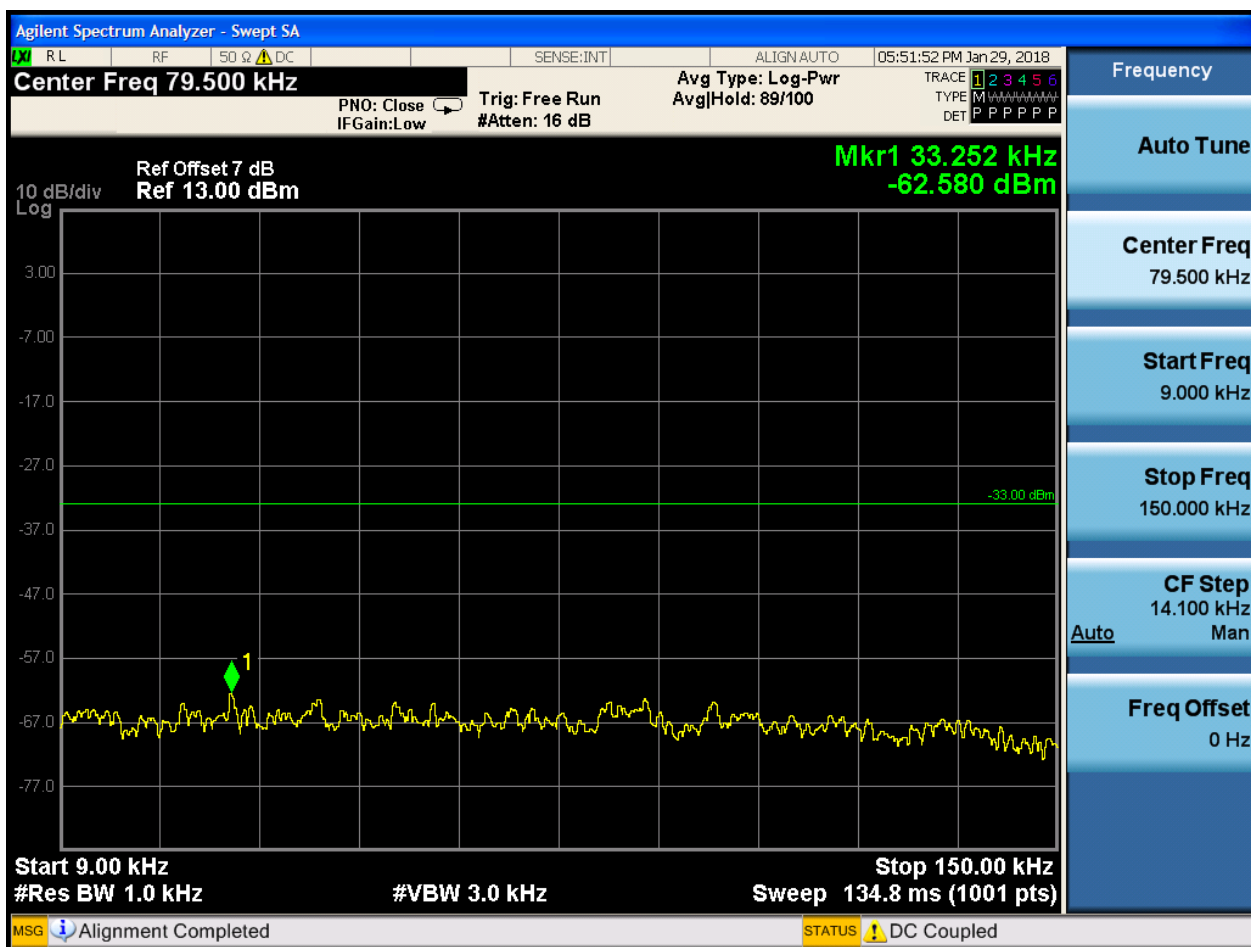


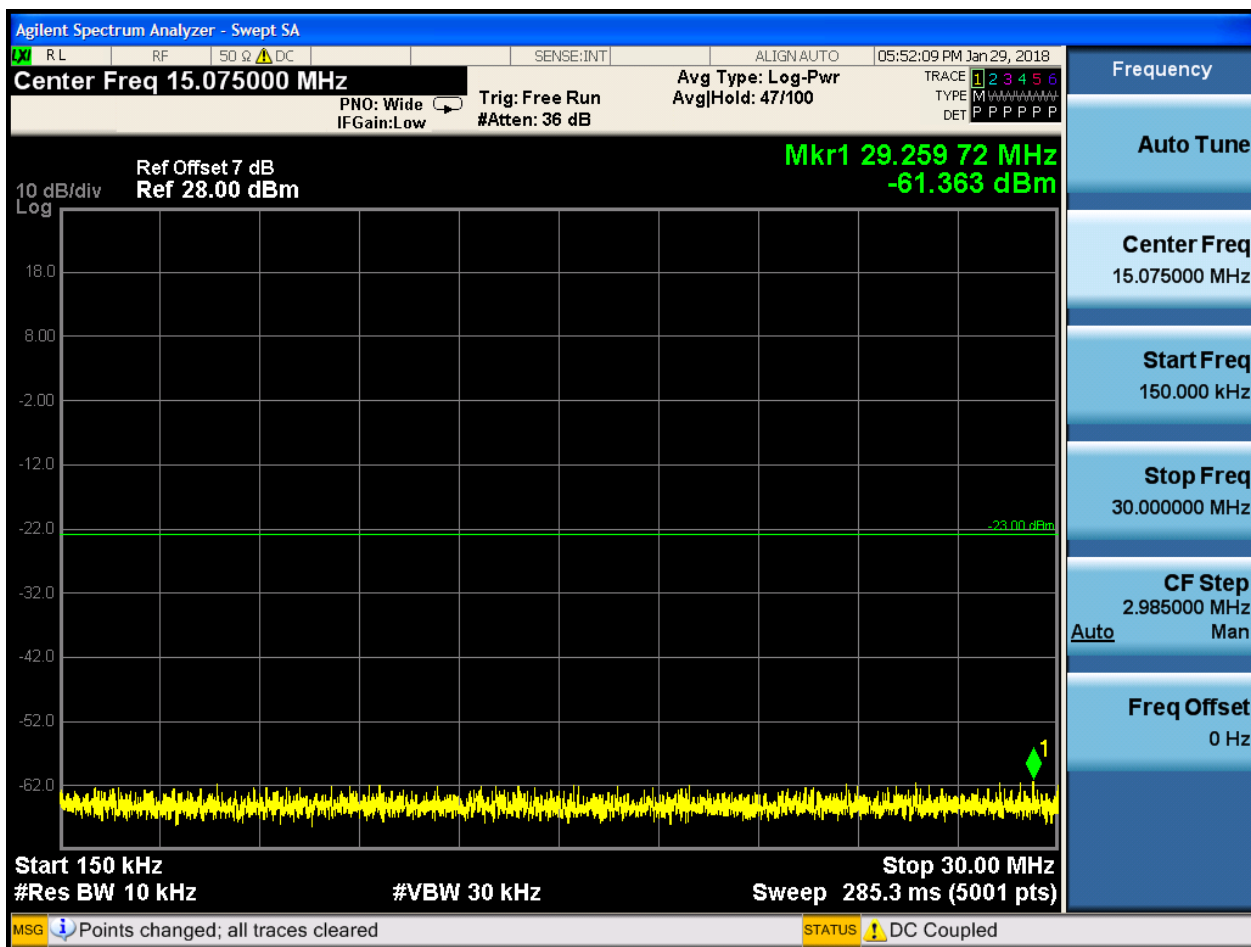


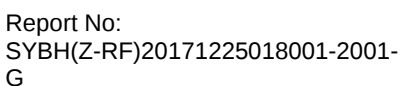
## 6.1.1.2.2 Test Bandwidth = 3

## 6.1.1.2.2.1 Test Channel = LCH

## 6.1.1.2.2.1.1 Test RB = RB1#0



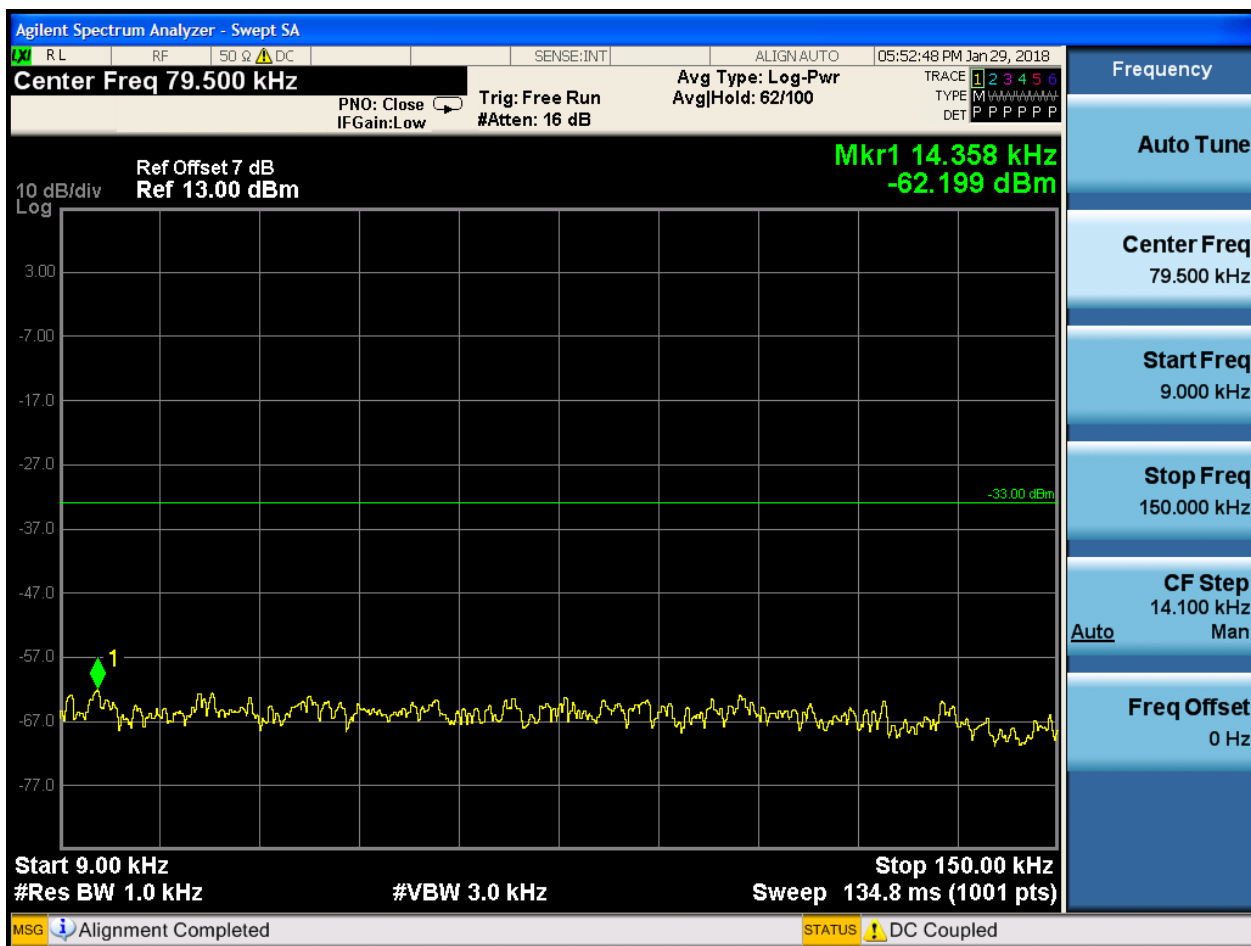


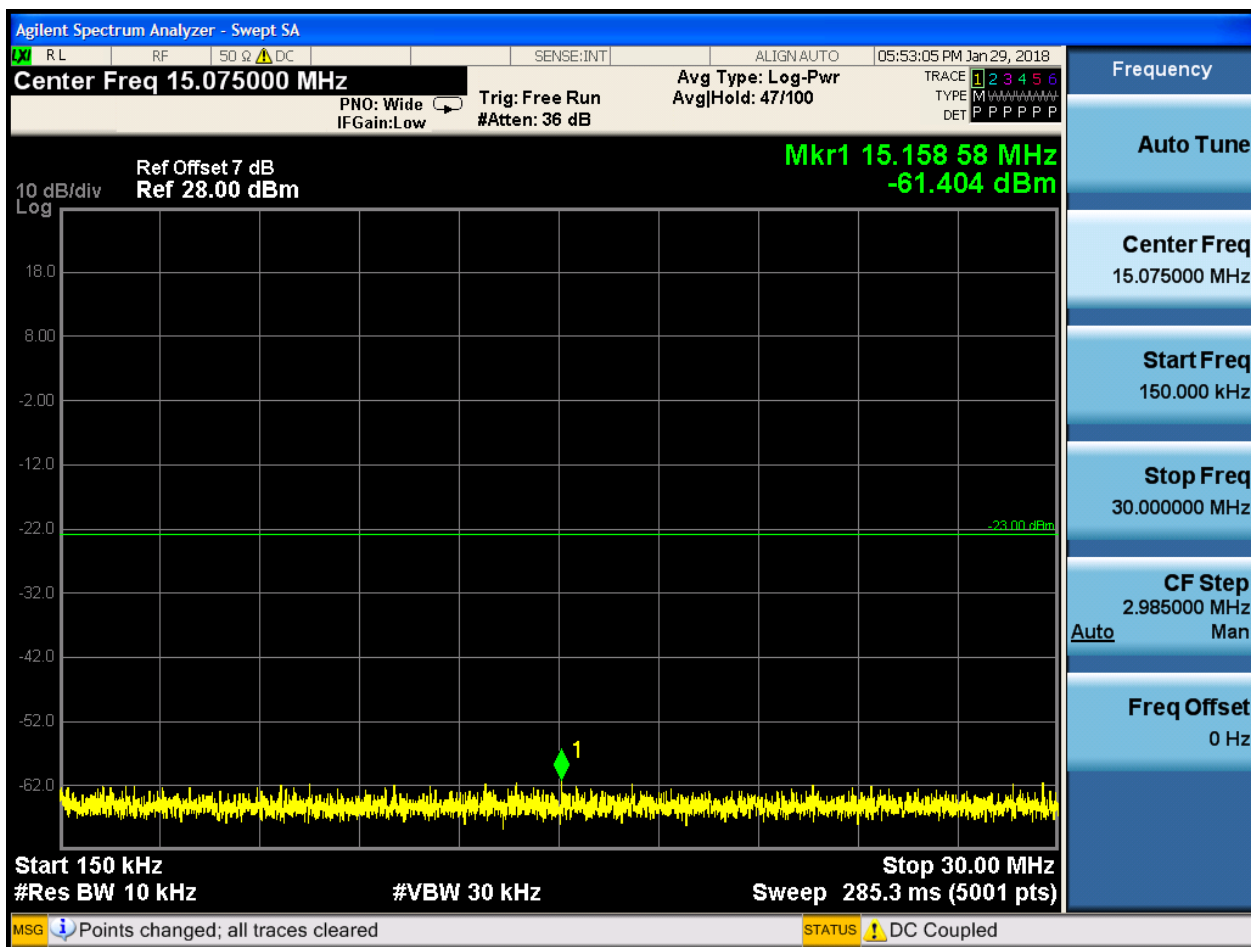


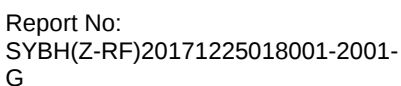


## 6.1.1.2.2.2 Test Channel = MCH

## 6.1.1.2.2.2.1 Test RB = RB1#0



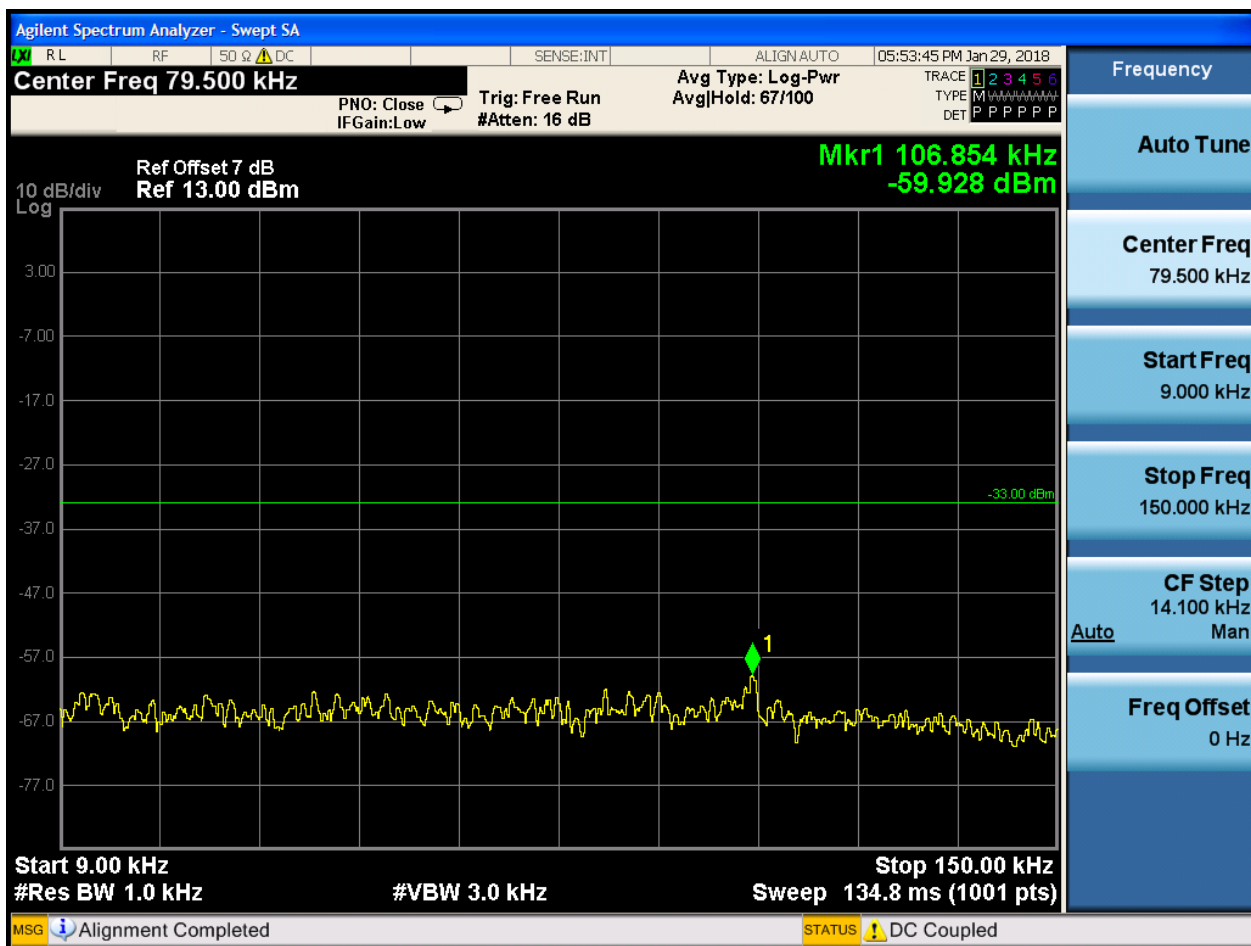


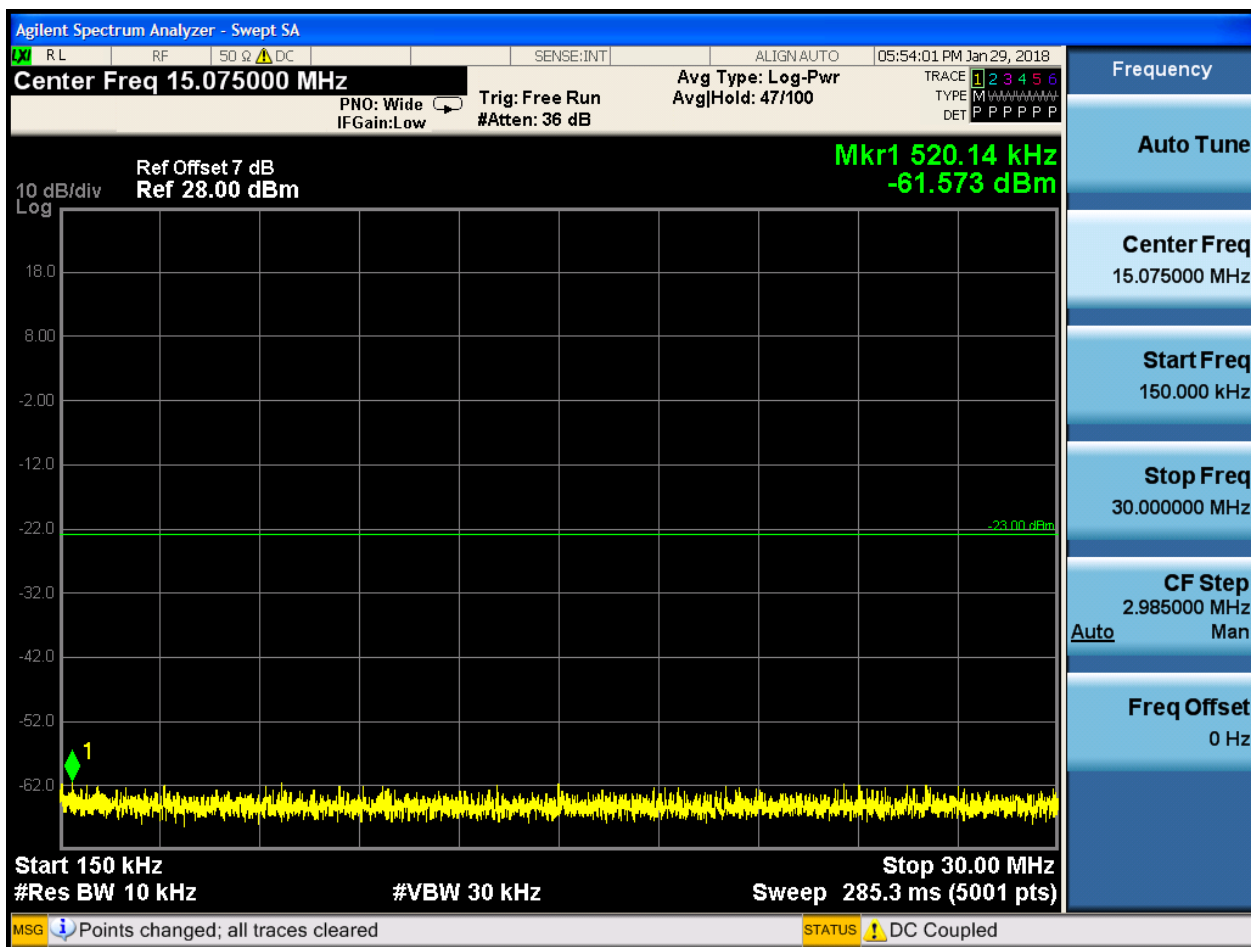


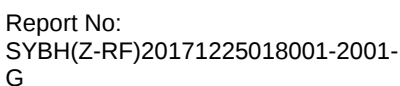


## 6.1.1.2.2.3 Test Channel = HCH

## 6.1.1.2.2.3.1 Test RB = RB1#0





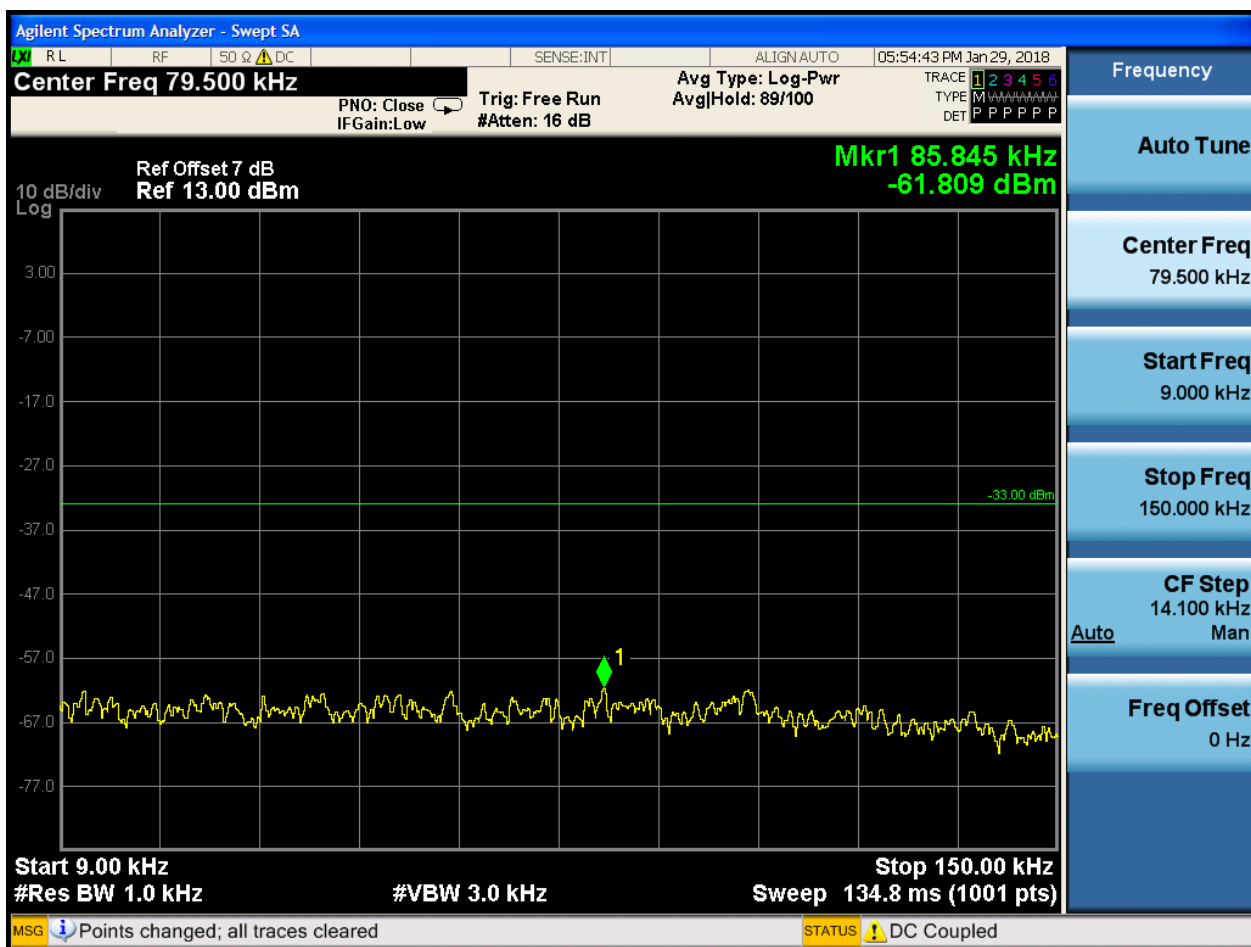




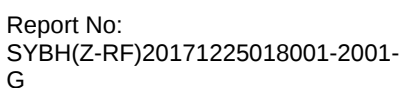
## 6.1.1.2.3 Test Bandwidth = 5

## 6.1.1.2.3.1 Test Channel = LCH

## 6.1.1.2.3.1.1 Test RB = RB1#0



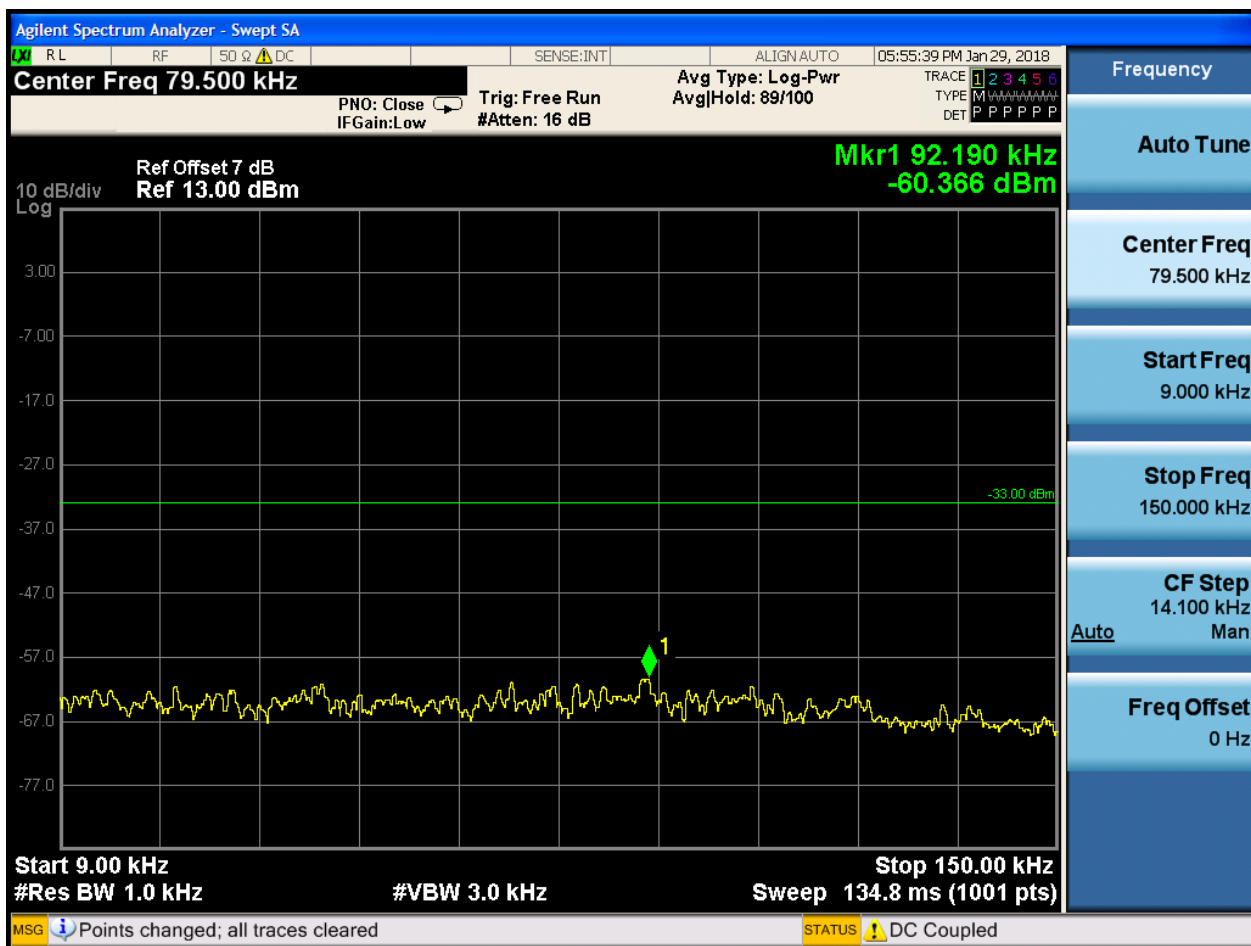


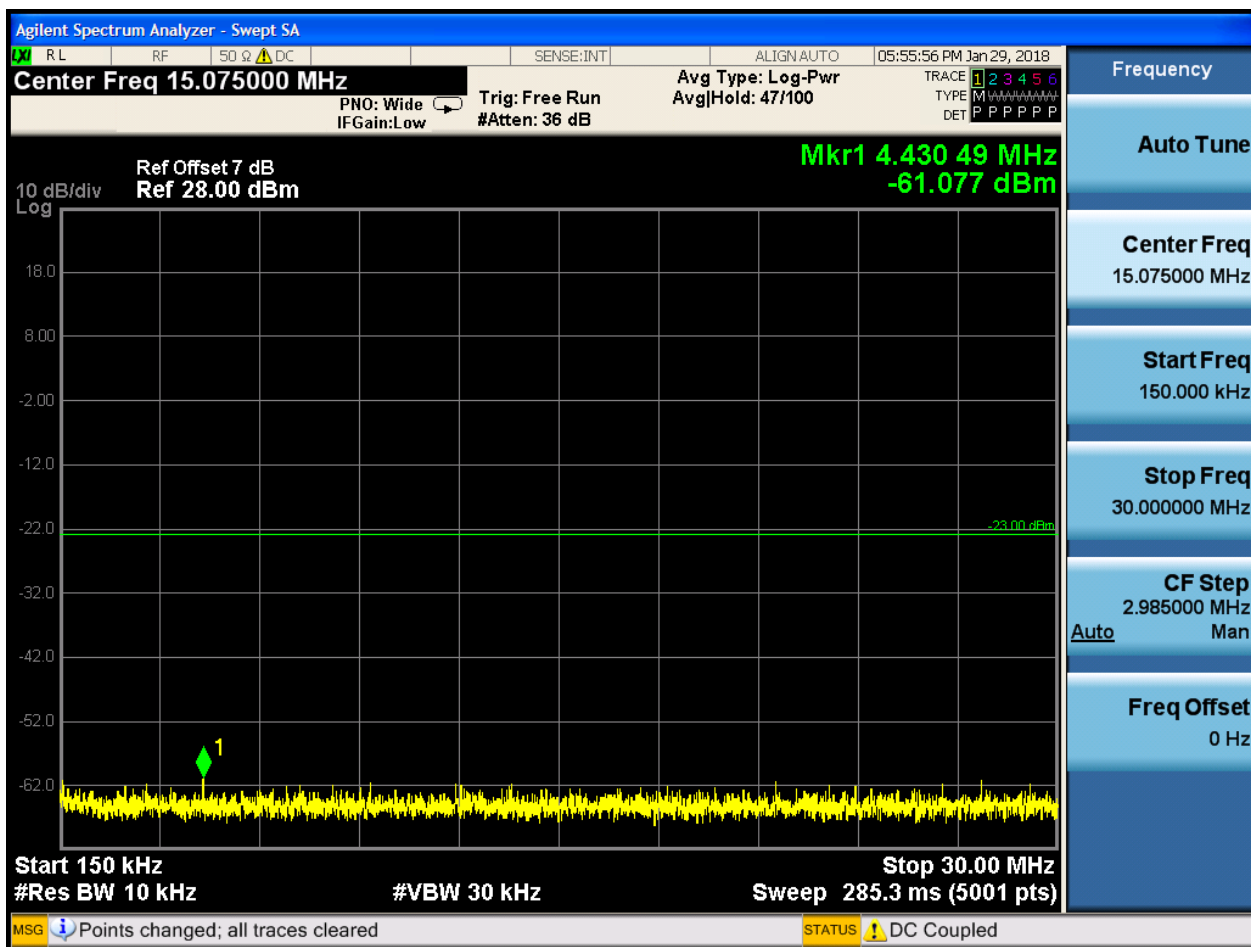




## 6.1.1.2.3.2 Test Channel = MCH

## 6.1.1.2.3.2.1 Test RB = RB1#0



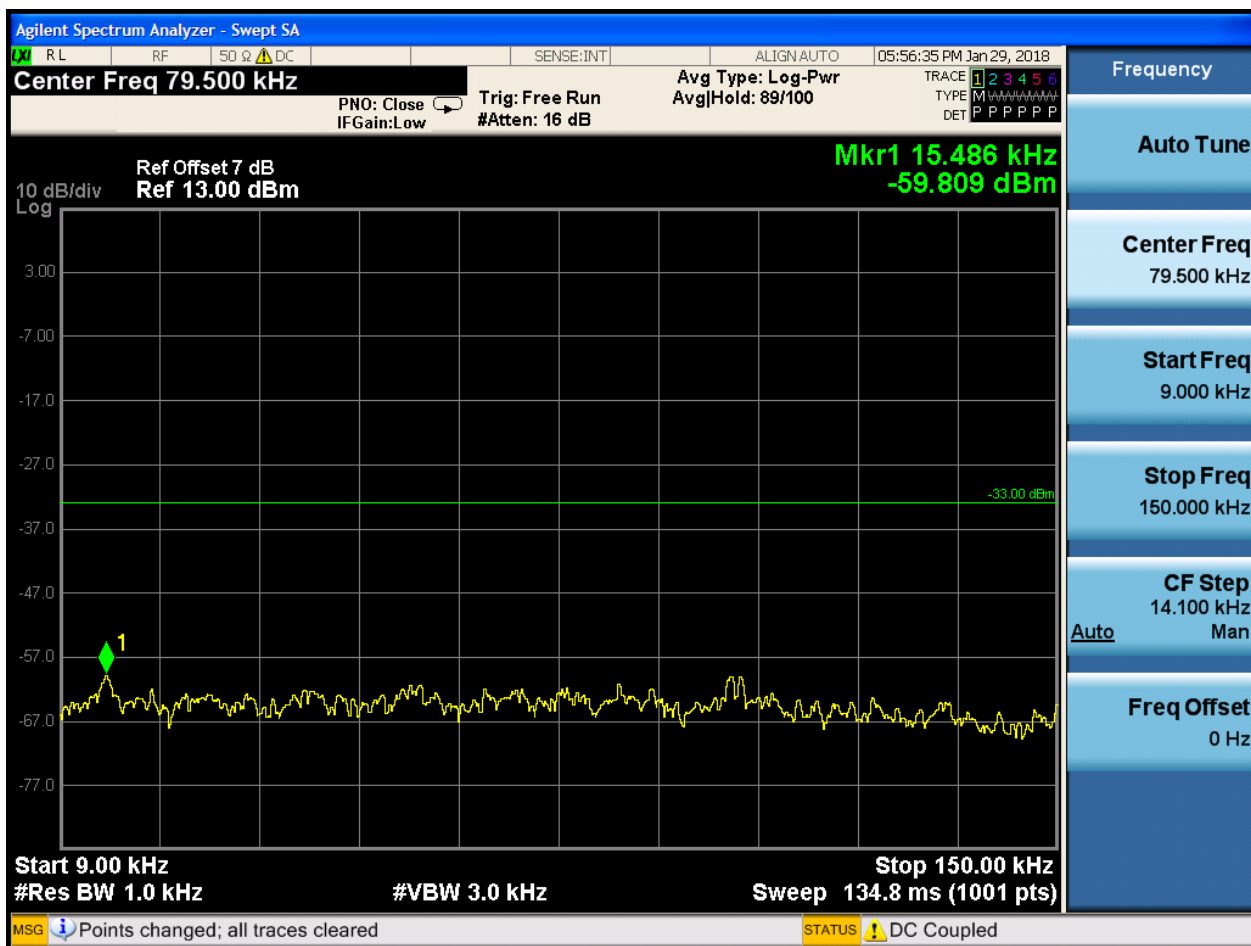


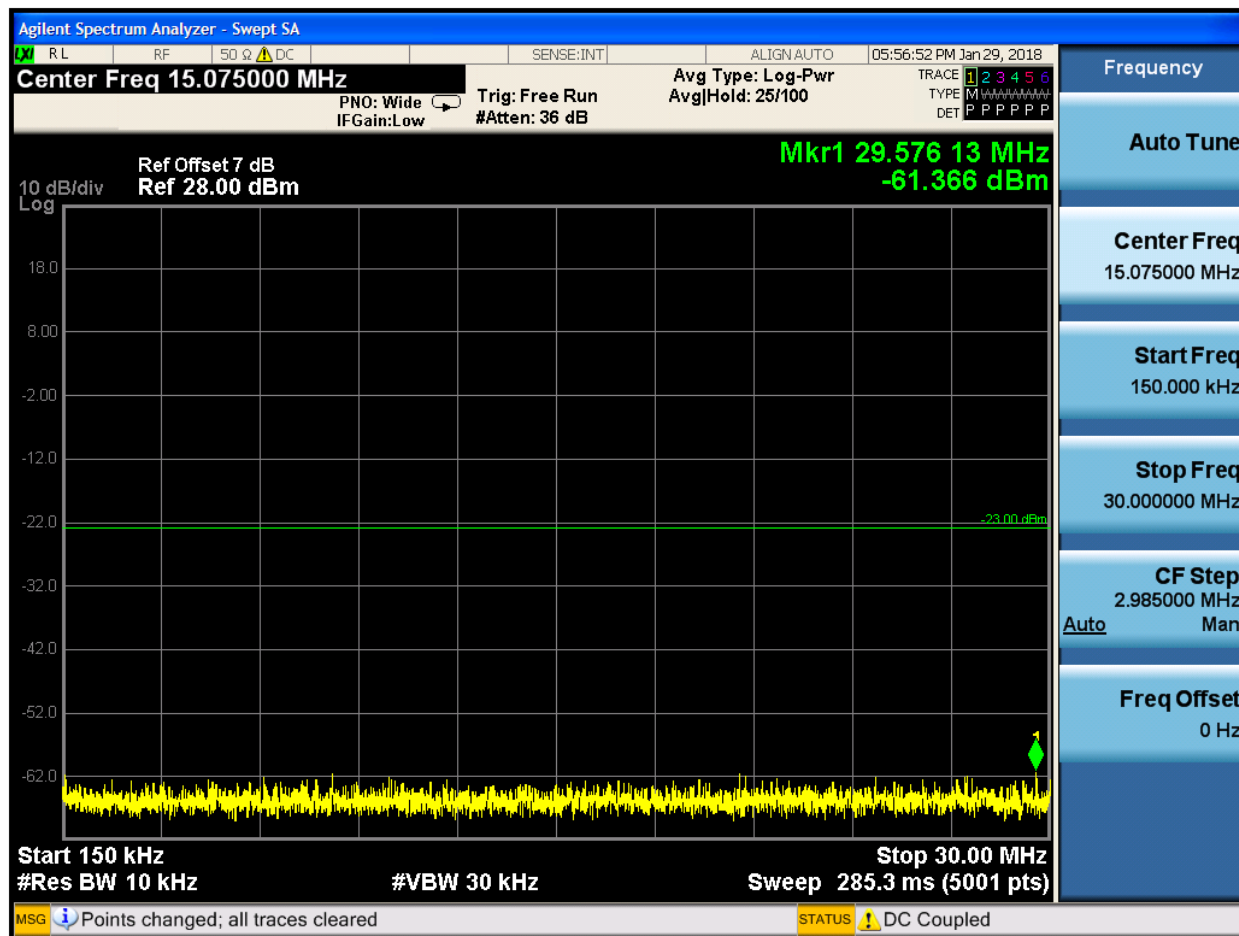


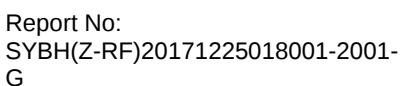


## 6.1.1.2.3.3 Test Channel = HCH

## 6.1.1.2.3.3.1 Test RB = RB1#0





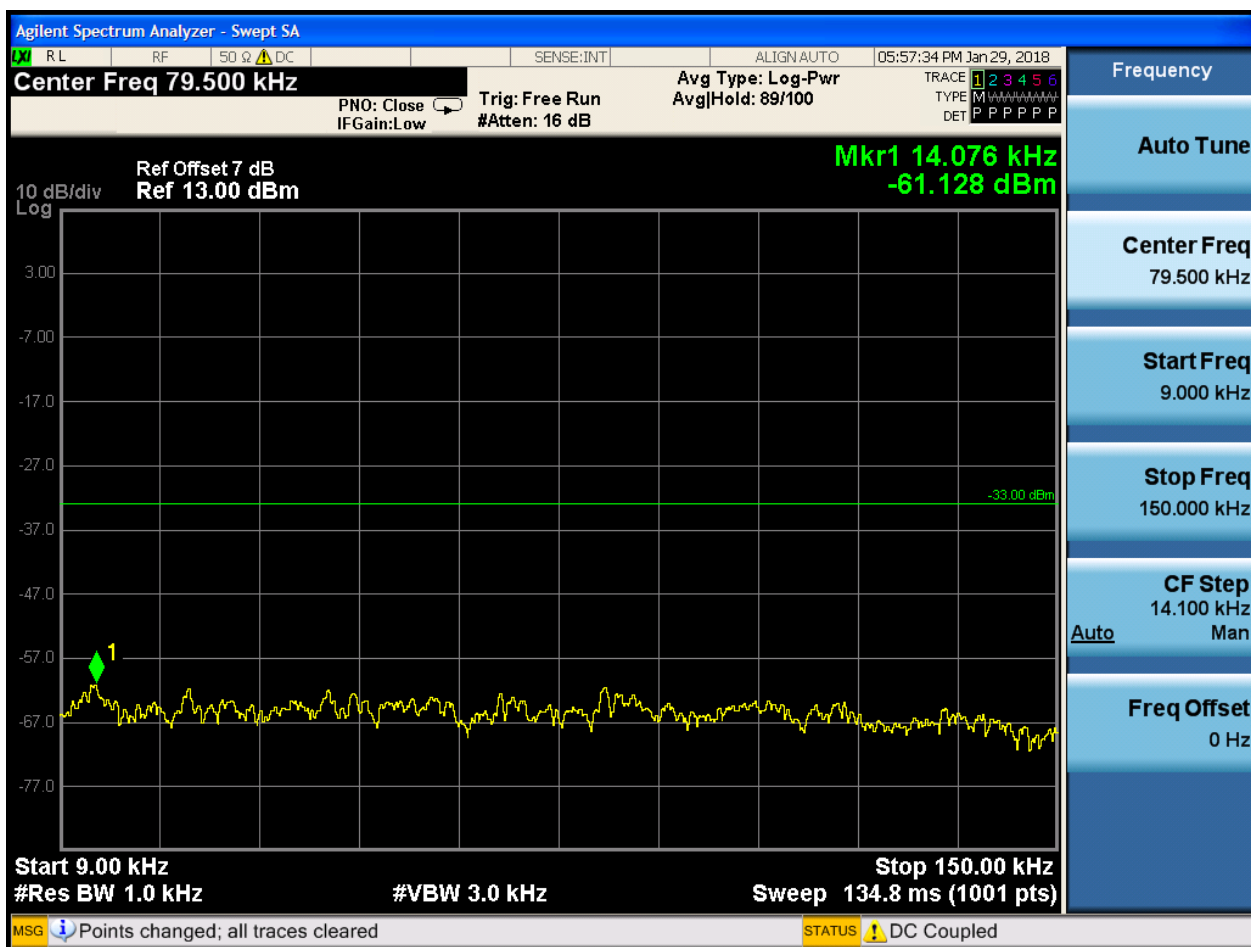


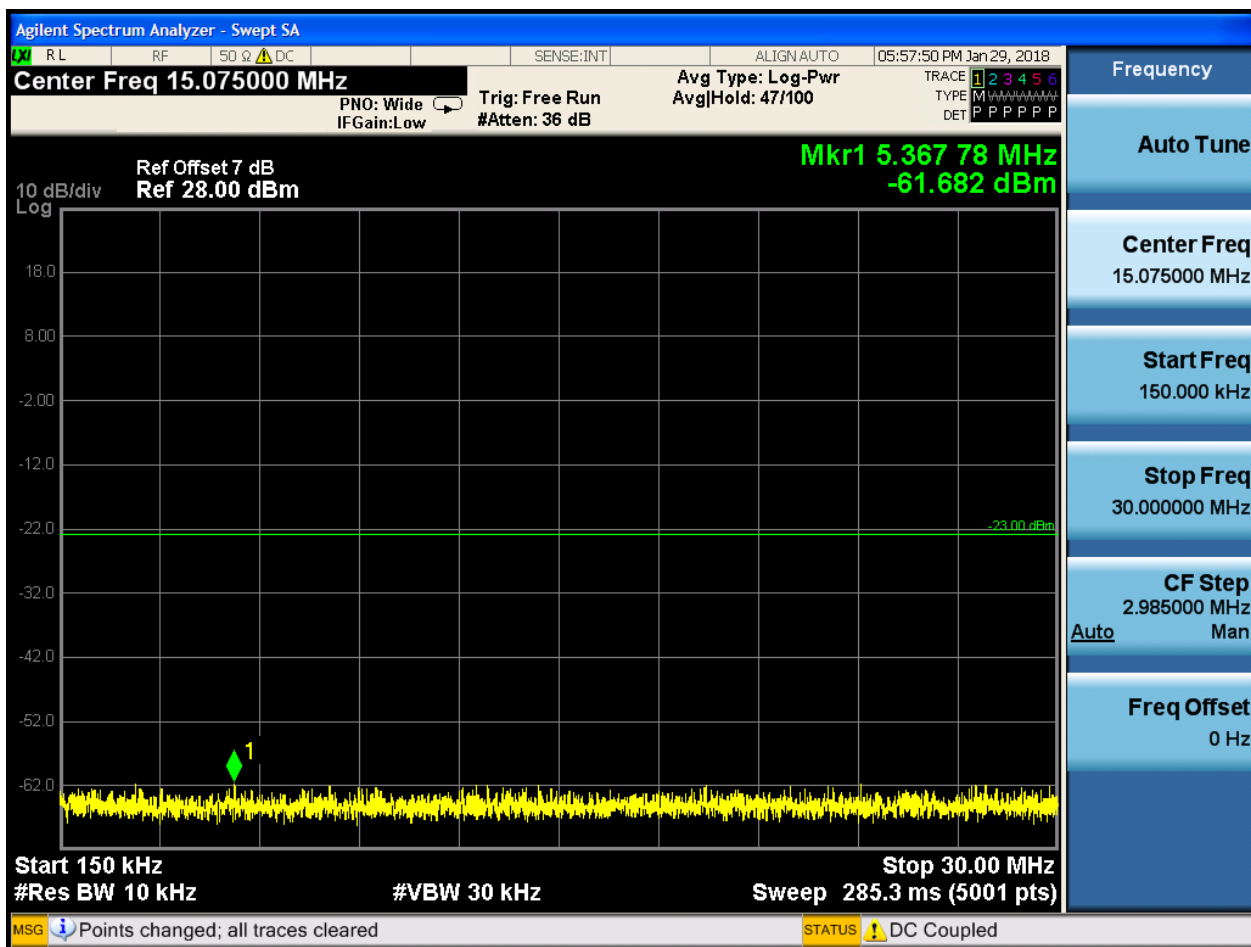


## 6.1.1.2.4 Test Bandwidth = 10

## 6.1.1.2.4.1 Test Channel = LCH

## 6.1.1.2.4.1.1 Test RB = RB1#0



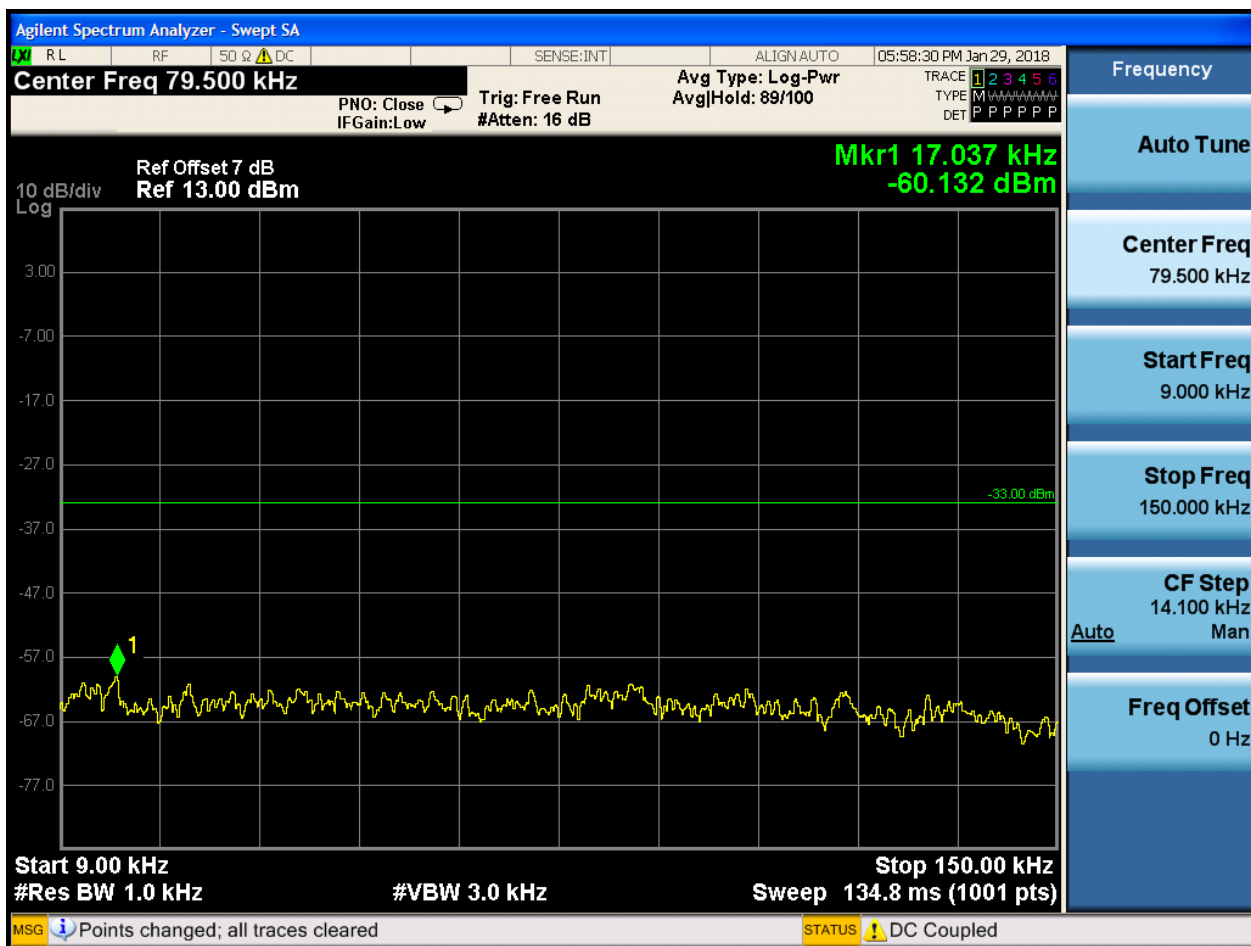


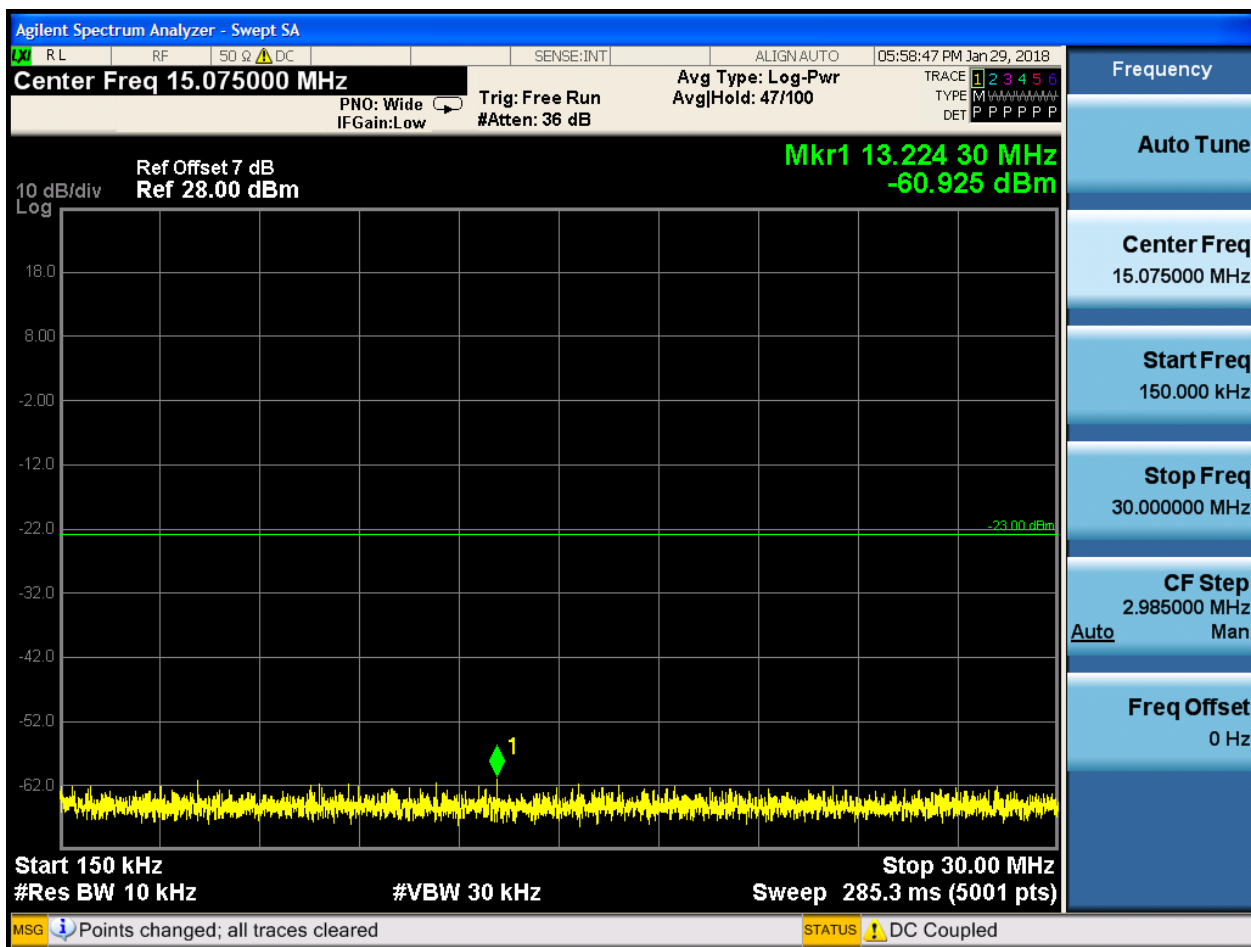


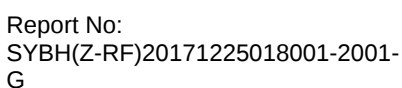


## 6.1.1.2.4.2 Test Channel = MCH

## 6.1.1.2.4.2.1 Test RB = RB1#0



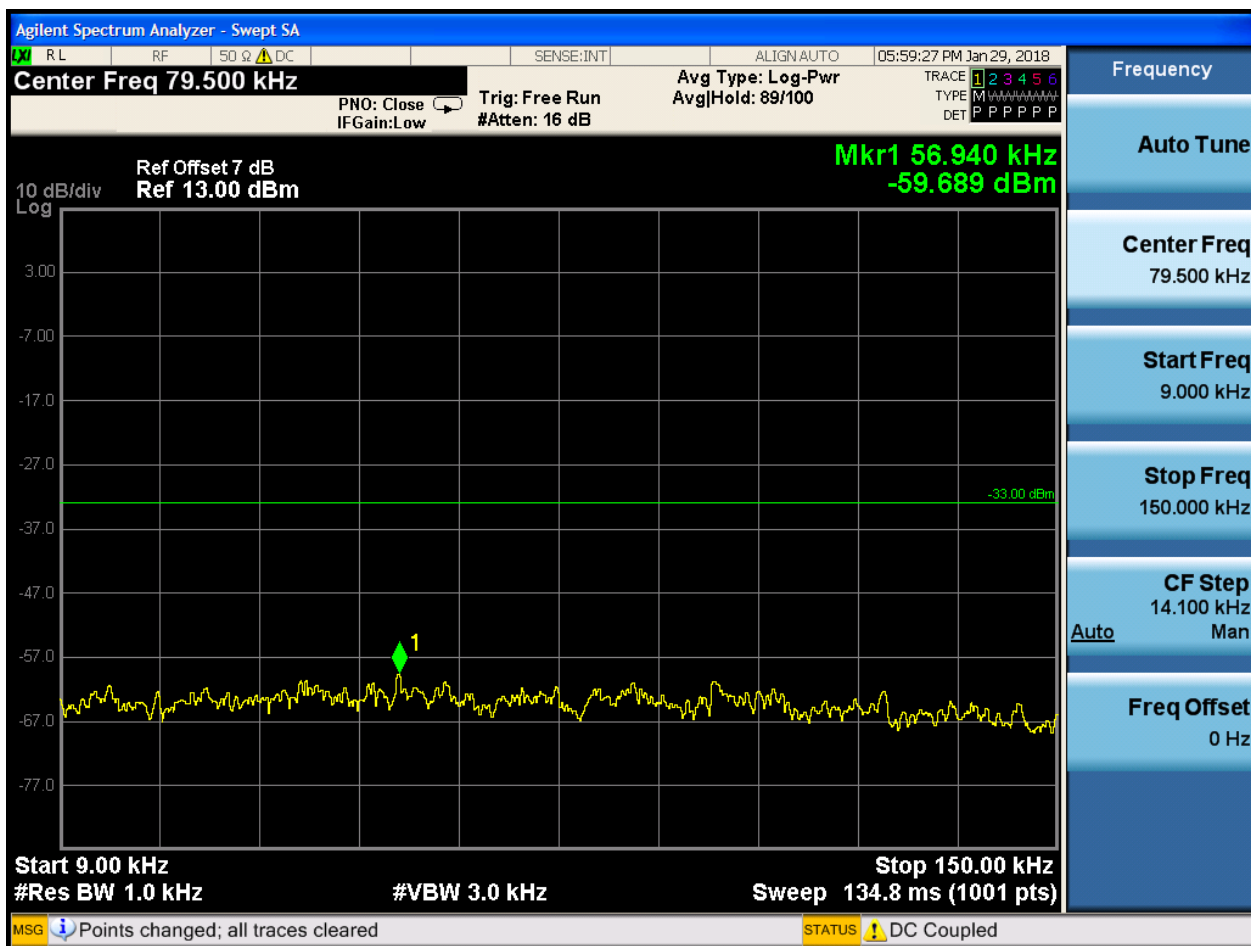


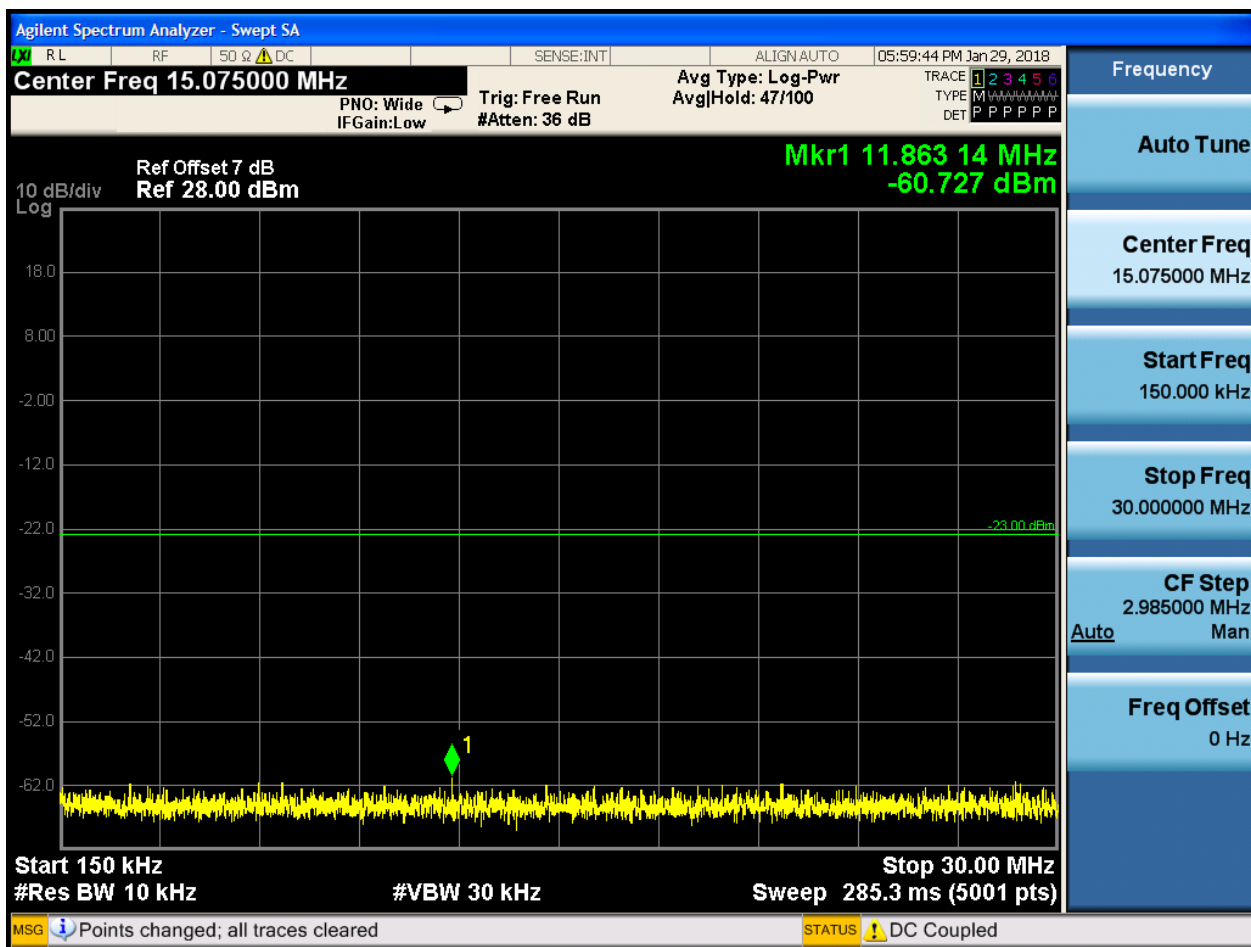


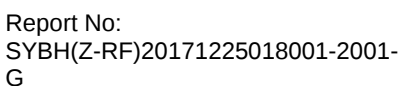


## 6.1.1.2.4.3 Test Channel = HCH

## 6.1.1.2.4.3.1 Test RB = RB1#0







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

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

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

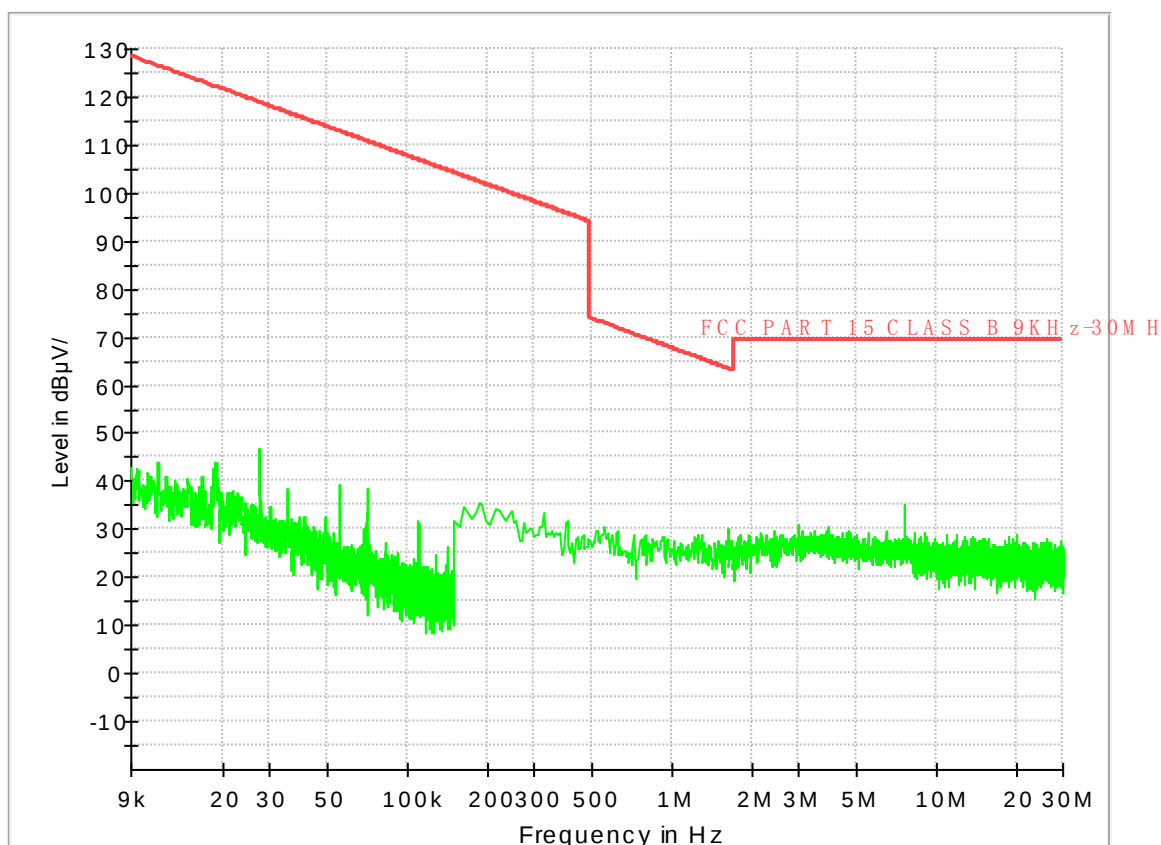
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

### Part I - Test Plots

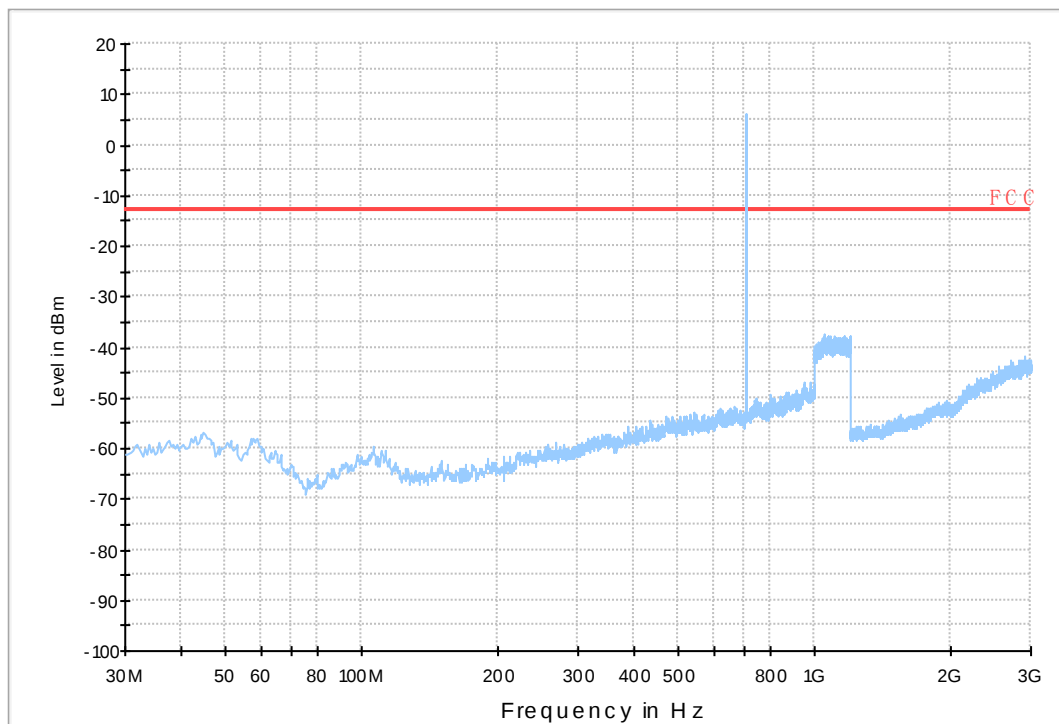
#### 7.1 For LTE

##### 7.1.1 Test Band = BAND12\_ANT1

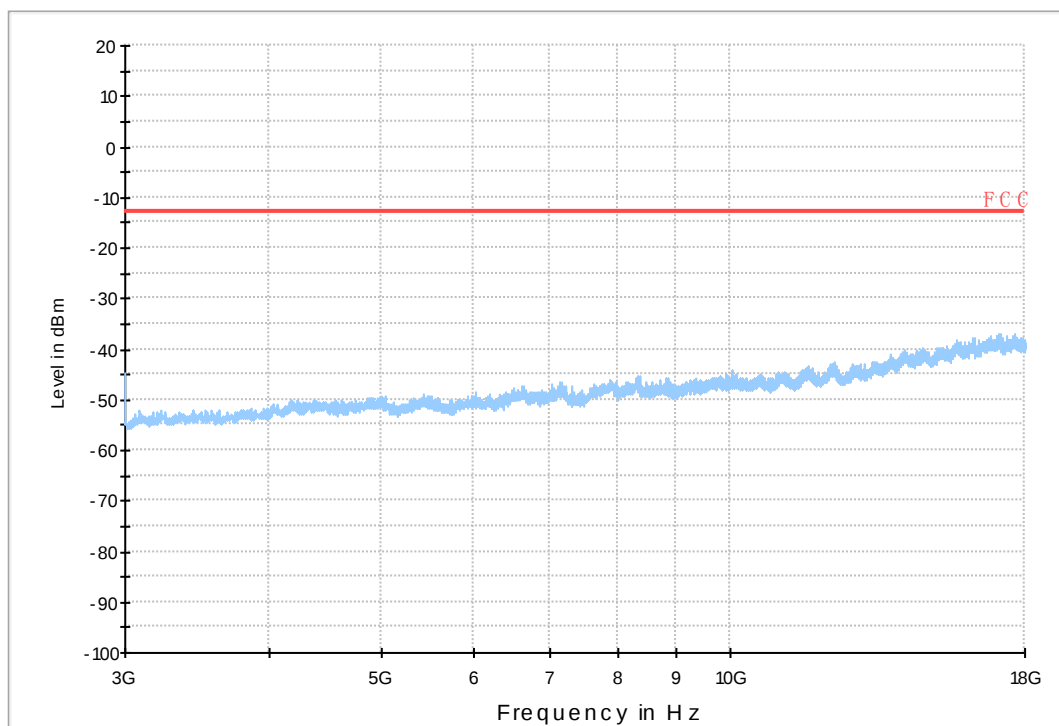
##### 7.1.1.1 Test Bandwidth = 1.4



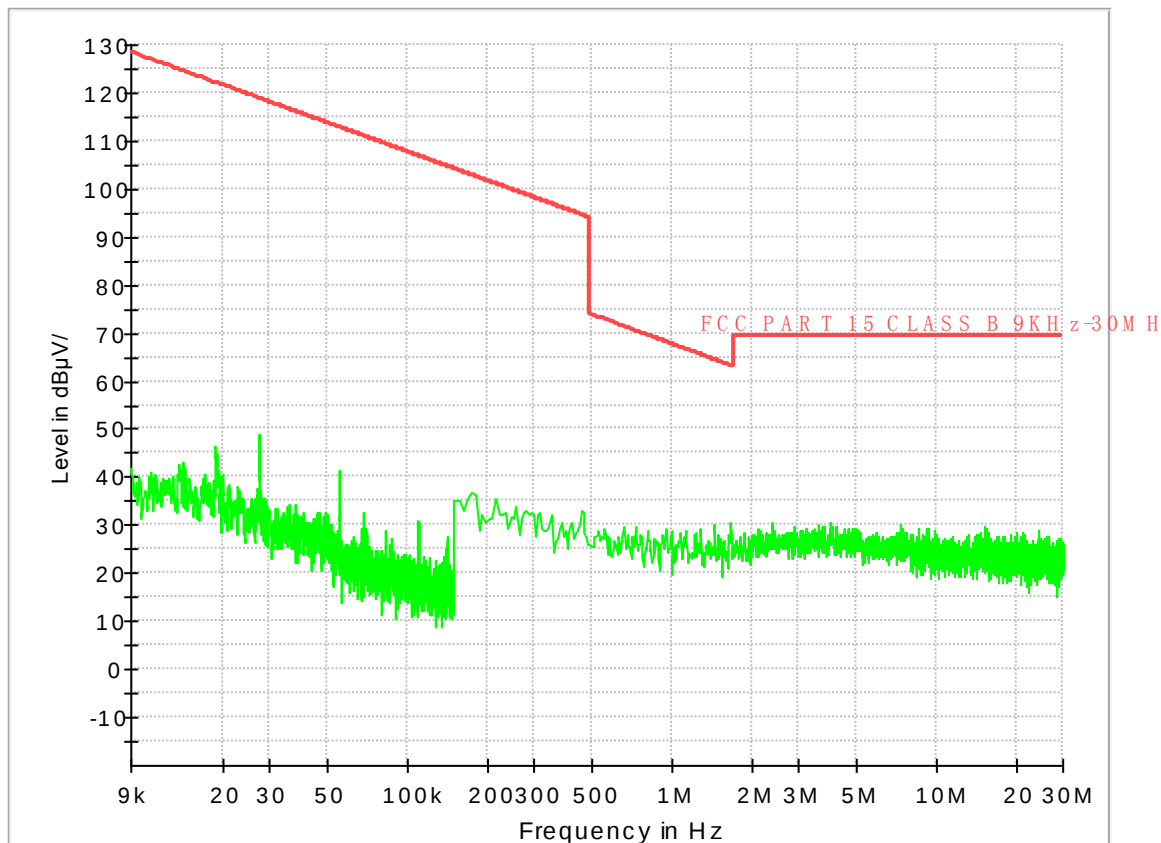
Copy of RSE-TX-DIRECTOR BELOW 1G\_L



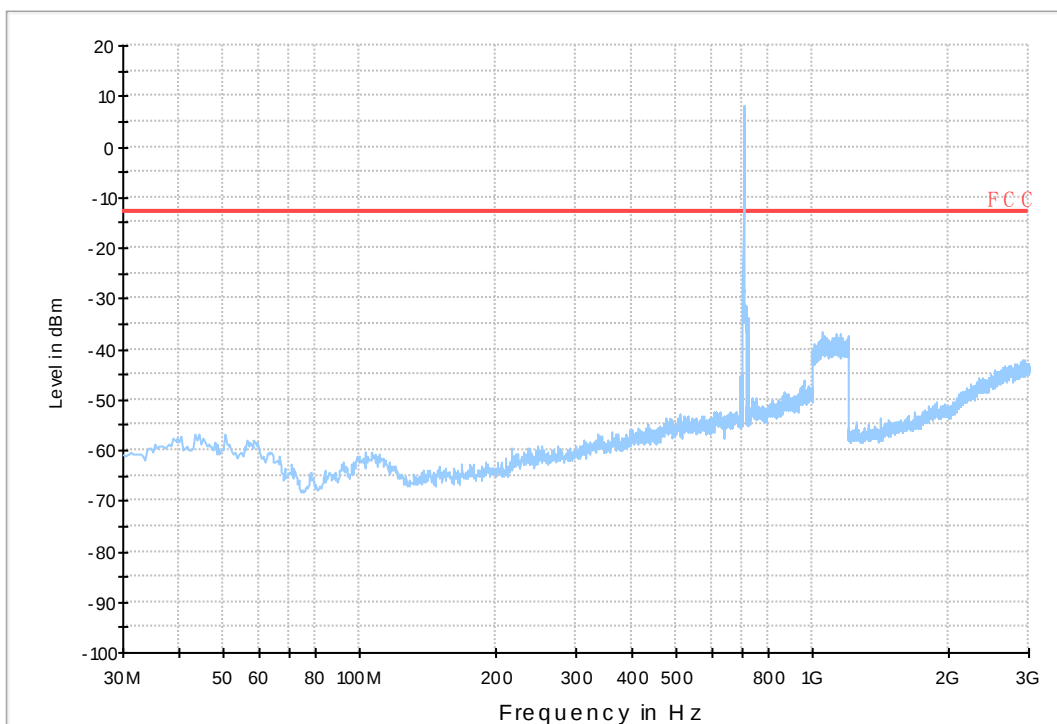
## Copy of RSE-TX-DIRECTOR BELOW 1G\_H



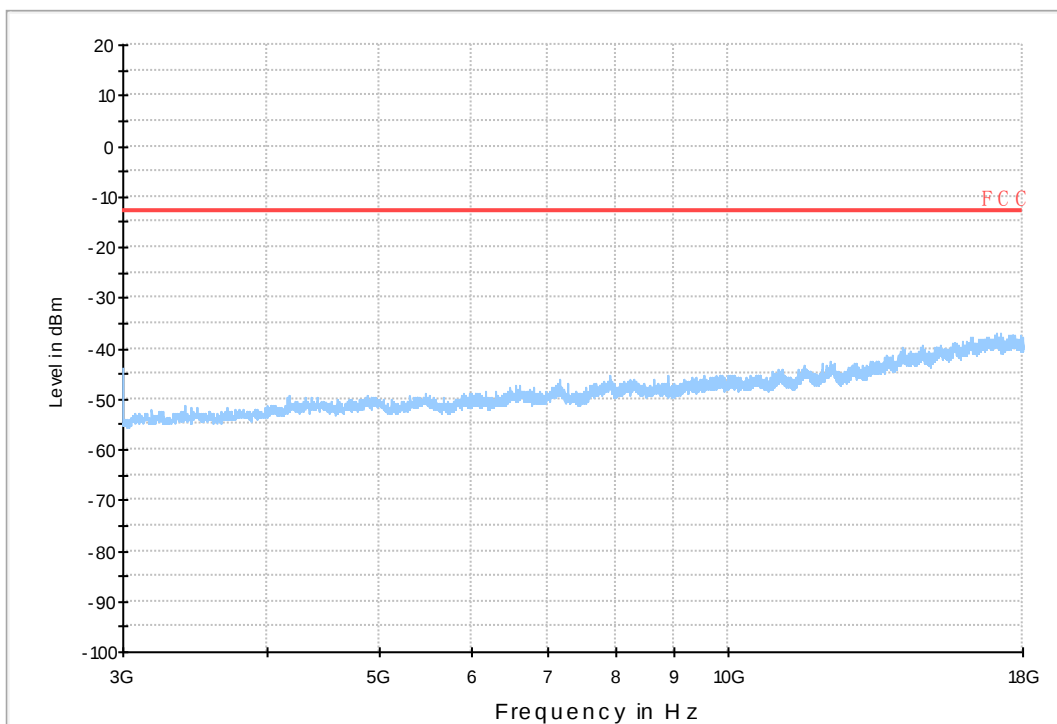
### 7.1.1.2 Test Bandwidth = 10



Copy of RSE-TX-DIRECTOR BELOW 1G\_L

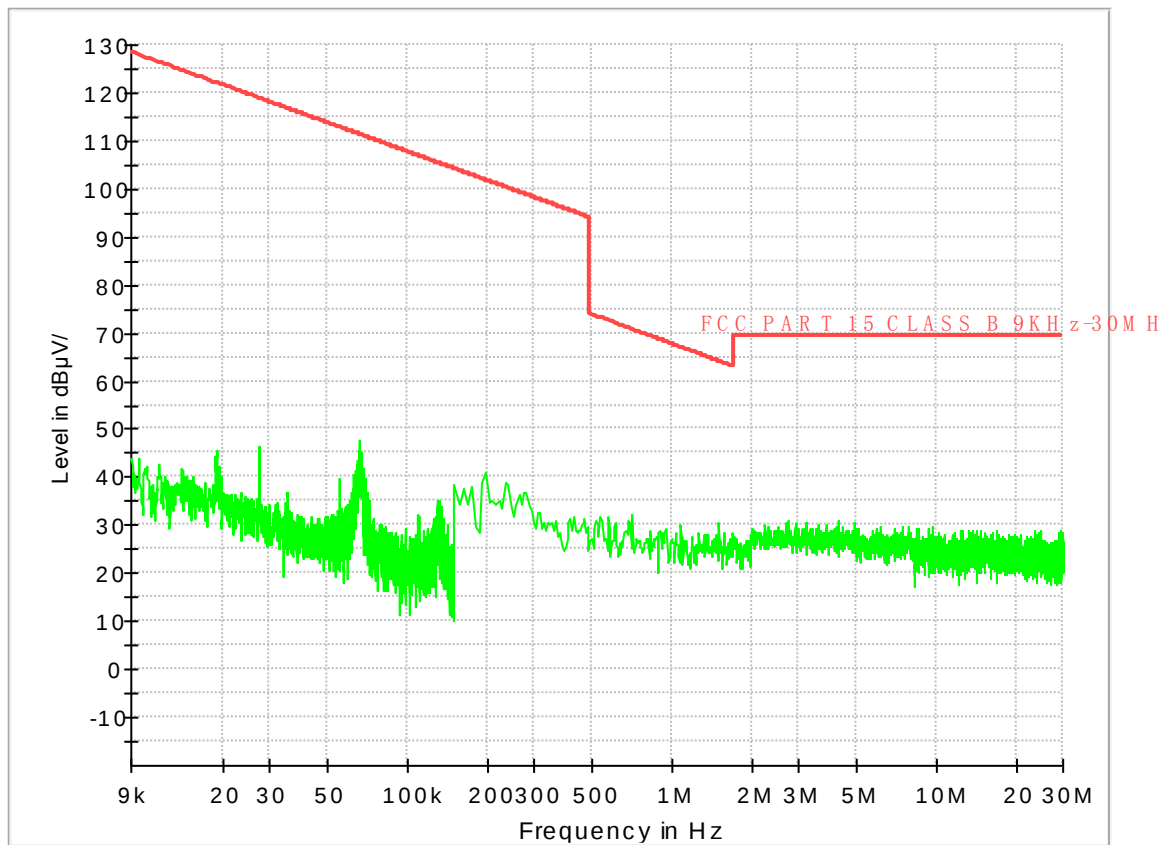


Copy of RSE-TX-DIRECTOR BELOW 1G\_H

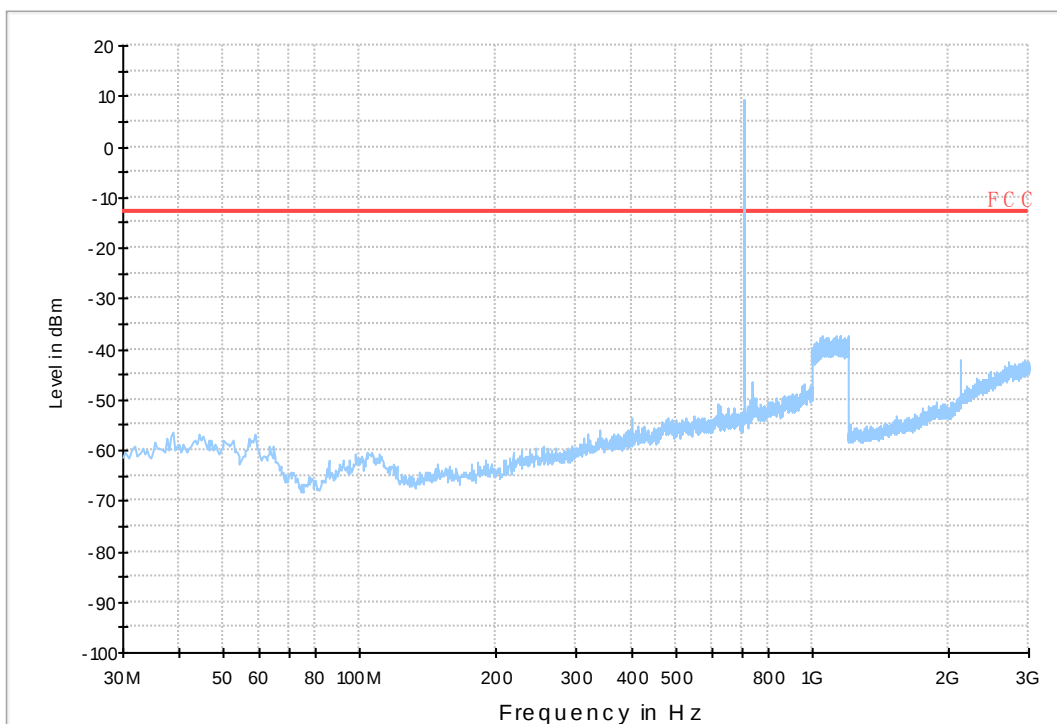


## 7.1.2 Test Band = BAND12\_ANT2

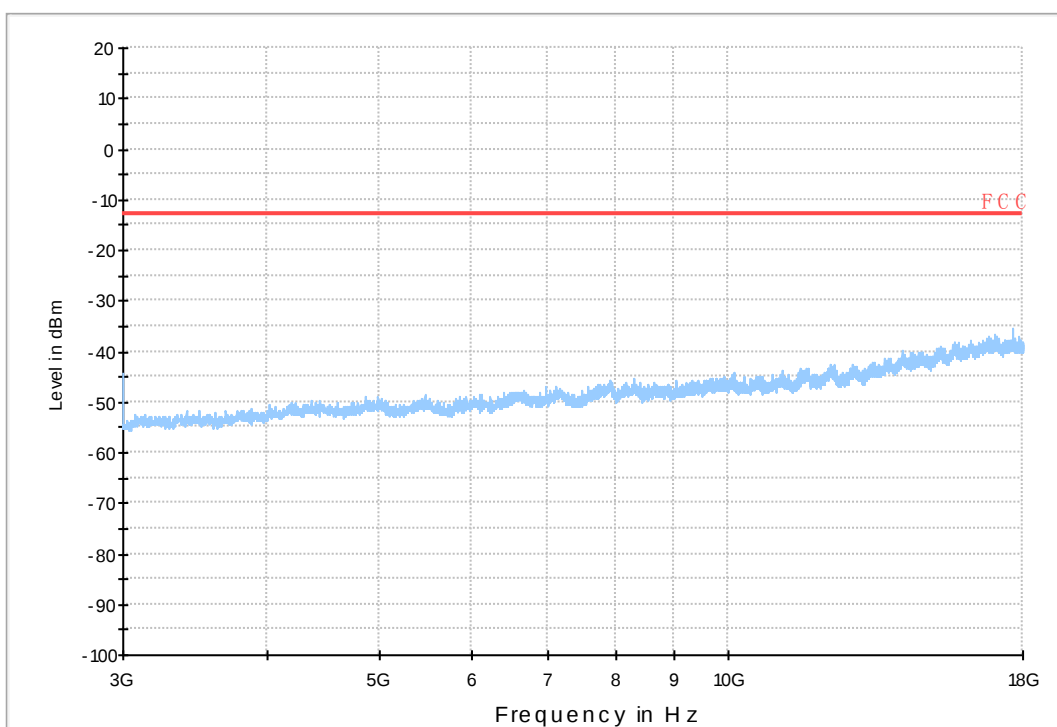
### 7.1.2.1 Test Bandwidth = 1.4



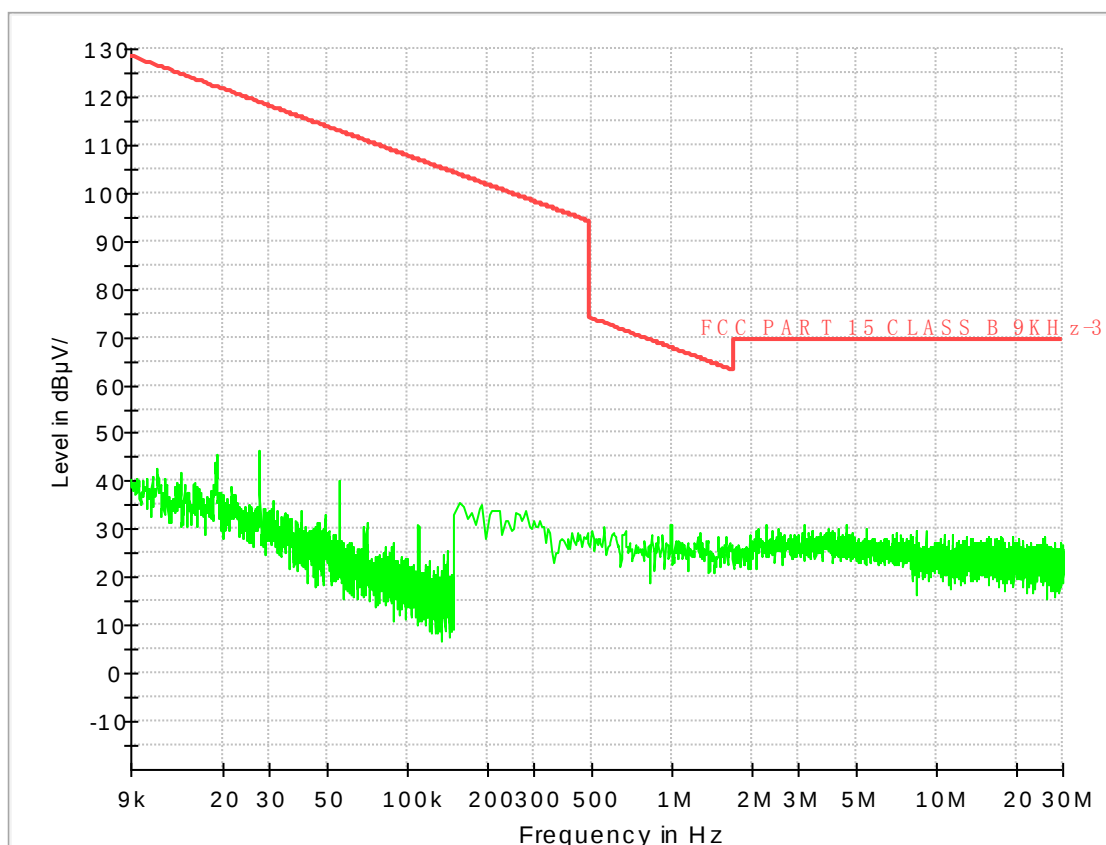
Copy of RSE-TX-DIRECTOR BELOW 1G\_L



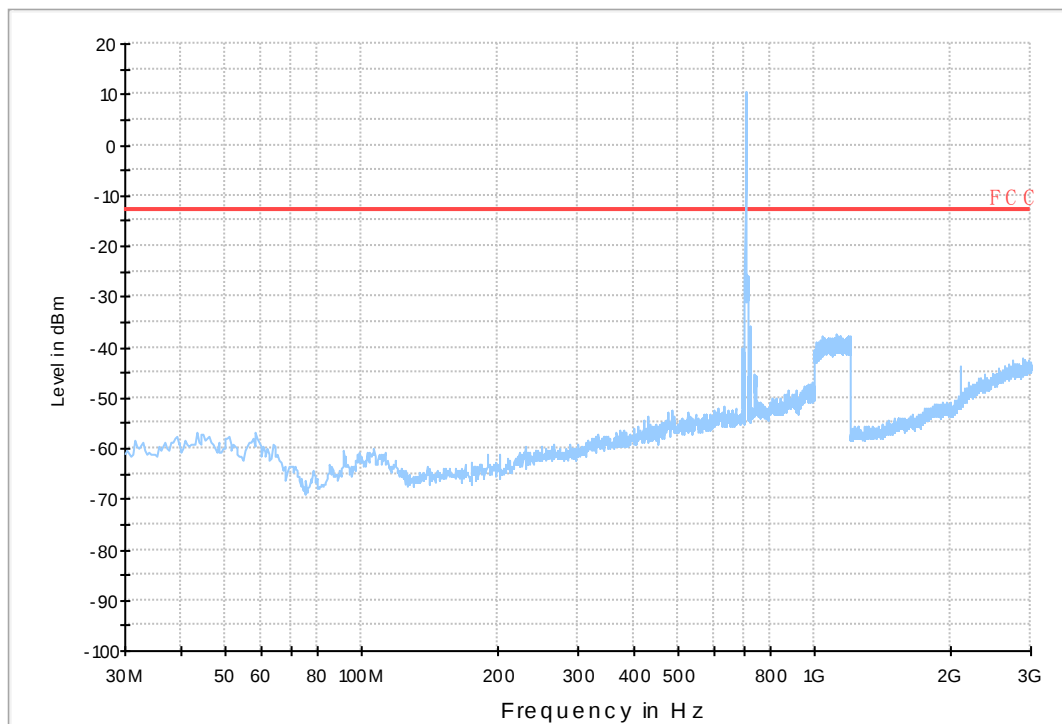
Copy of RSE-TX-DIRECTOR BELOW 1G\_H



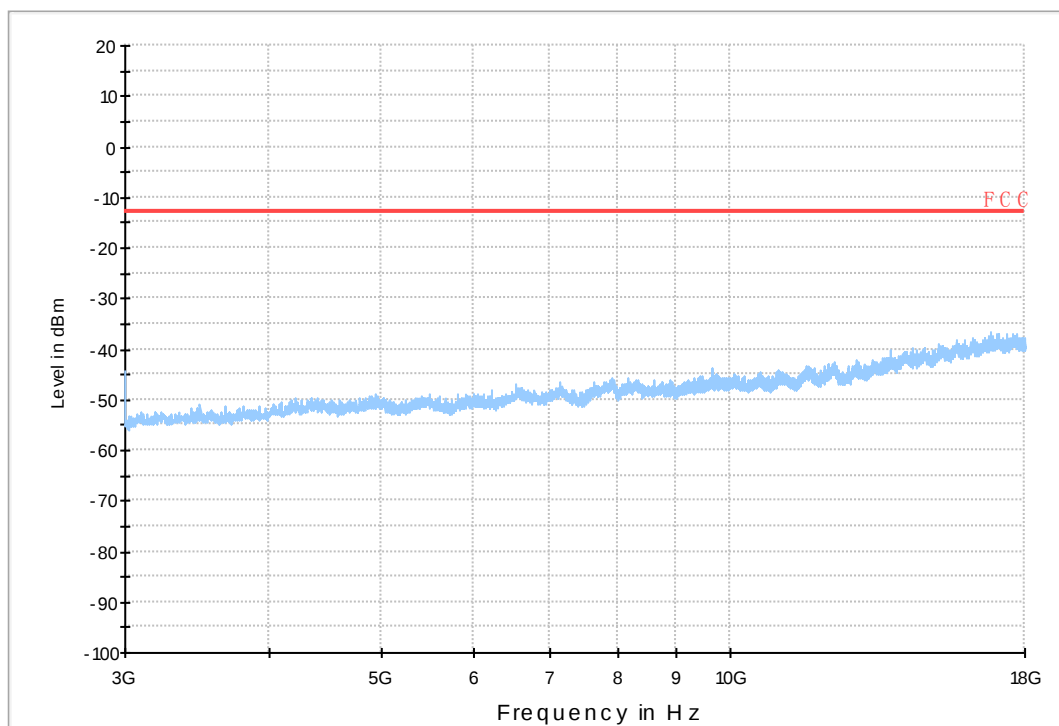
#### 7.1.2.2 Test Bandwidth = 10



Copy of RSE-TX-DIRECTOR BELOW 1G\_L



## Copy of RSE-TX-DIRECTOR BELOW 1G\_H



## 8Appendix\_H: Frequency Stability

### 8.1 For LTE

#### 8.1.1Frequency Error vs. Voltage:

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Temp. | Test Volt. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|------------|------------------|-----------------------|---------|
| BAND12    | LTE/TM1   | 1.4                  | LCH          | TN         | VL         | -11.44           | -0.01635              | PASS    |
|           |           |                      |              |            | VN         | 13.32            | 0.01904               | PASS    |
|           |           |                      |              |            | VH         | 2.70             | 0.00386               | PASS    |
|           |           |                      | MCH          | TN         | VL         | -4.91            | -0.00694              | PASS    |
|           |           |                      |              |            | VN         | -0.56            | -0.00079              | PASS    |
|           |           |                      |              |            | VH         | 14.10            | 0.01993               | PASS    |
|           |           |                      | HCH          | TN         | VL         | 12.13            | 0.01696               | PASS    |
|           |           |                      |              |            | VN         | -2.37            | -0.00331              | PASS    |
|           |           |                      |              |            | VH         | 2.35             | 0.00329               | PASS    |
|           |           | 3                    | LCH          | TN         | VL         | 2.02             | 0.00288               | PASS    |
|           |           |                      |              |            | VN         | -0.80            | -0.00114              | PASS    |
|           |           |                      |              |            | VH         | 5.49             | 0.00784               | PASS    |
|           |           |                      | MCH          | TN         | VL         | 0.83             | 0.00117               | PASS    |
|           |           |                      |              |            | VN         | 1.85             | 0.00261               | PASS    |
|           |           |                      |              |            | VH         | 2.05             | 0.0029                | PASS    |
|           |           |                      | HCH          | TN         | VL         | 1.36             | 0.0019                | PASS    |
|           |           |                      |              |            | VN         | -5.97            | -0.00836              | PASS    |
|           |           |                      |              |            | VH         | 2.05             | 0.00287               | PASS    |
|           |           | 5                    | LCH          | TN         | VL         | 4.98             | 0.0071                | PASS    |
|           |           |                      |              |            | VN         | -1.59            | -0.00227              | PASS    |
|           |           |                      |              |            | VH         | -4.26            | -0.00607              | PASS    |
|           |           |                      | MCH          | TN         | VL         | -2.99            | -0.00423              | PASS    |
|           |           |                      |              |            | VN         | 4.48             | 0.00633               | PASS    |
|           |           |                      |              |            | VH         | -7.34            | -0.01037              | PASS    |
|           |           |                      | HCH          | TN         | VL         | -0.23            | -0.00032              | PASS    |
|           |           |                      |              |            | VN         | 3.16             | 0.00443               | PASS    |
|           |           |                      |              |            | VH         | 4.89             | 0.00685               | PASS    |
|           |           | 10                   | LCH          | TN         | VL         | -0.56            | -0.0008               | PASS    |
|           |           |                      |              |            | VN         | -0.31            | -0.00044              | PASS    |

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Temp. | Test Volt. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|------------|------------------|-----------------------|---------|
|           |           |                      |              | TN         | VH         | -1.49            | -0.00212              | PASS    |
|           |           |                      |              |            | VL         | -0.84            | -0.00119              | PASS    |
|           |           |                      |              |            | VN         | -1.70            | -0.0024               | PASS    |
|           |           |                      |              |            | VH         | -0.04            | -0.00006              | PASS    |
|           |           |                      | HCH          | TN         | VL         | -0.19            | -0.00027              | PASS    |
|           |           |                      |              |            | VN         | -1.27            | -0.00179              | PASS    |
|           |           |                      |              |            | VH         | -4.23            | -0.00595              | PASS    |
|           |           | 1.4                  | LCH          | TN         | VL         | -10.33           | -0.01476              | PASS    |
|           |           |                      |              |            | VN         | 4.02             | 0.00575               | PASS    |
|           |           |                      |              |            | VH         | 10.09            | 0.01442               | PASS    |
|           |           |                      | MCH          | TN         | VL         | -6.90            | -0.00975              | PASS    |
|           |           |                      |              |            | VN         | 9.16             | 0.01295               | PASS    |
|           |           |                      |              |            | VH         | 2.76             | 0.0039                | PASS    |
|           |           |                      | HCH          | TN         | VL         | 6.42             | 0.00898               | PASS    |
|           |           |                      |              |            | VN         | 2.06             | 0.00288               | PASS    |
|           |           |                      |              |            | VH         | 10.04            | 0.01404               | PASS    |
|           | LTE/TM2   | 3                    | LCH          | TN         | VL         | -5.41            | -0.00772              | PASS    |
|           |           |                      |              |            | VN         | 1.46             | 0.00208               | PASS    |
|           |           |                      |              |            | VH         | 4.56             | 0.00651               | PASS    |
|           |           |                      | MCH          | TN         | VL         | 0.27             | 0.00038               | PASS    |
|           |           |                      |              |            | VN         | 2.12             | 0.003                 | PASS    |
|           |           |                      |              |            | VH         | -2.06            | -0.00291              | PASS    |
|           |           |                      | HCH          | TN         | VL         | -7.81            | -0.01093              | PASS    |
|           |           |                      |              |            | VN         | -8.21            | -0.01149              | PASS    |
|           |           |                      |              |            | VH         | 4.09             | 0.00572               | PASS    |
|           |           | 5                    | LCH          | TN         | VL         | 6.35             | 0.00905               | PASS    |
|           |           |                      |              |            | VN         | -4.78            | -0.00681              | PASS    |
|           |           |                      |              |            | VH         | 2.26             | 0.00322               | PASS    |
|           |           |                      | MCH          | TN         | VL         | 1.92             | 0.00271               | PASS    |
|           |           |                      |              |            | VN         | -0.14            | -0.0002               | PASS    |
|           |           |                      |              |            | VH         | -3.63            | -0.00513              | PASS    |
|           |           |                      | HCH          | TN         | VL         | 1.72             | 0.00241               | PASS    |
|           |           |                      |              |            | VN         | -5.58            | -0.00782              | PASS    |
|           |           |                      |              |            | VH         | -1.09            | -0.00153              | PASS    |
|           |           | 10                   | LCH          | TN         | VL         | 0.89             | 0.00126               | PASS    |
|           |           |                      |              |            | VN         | 0.37             | 0.00053               | PASS    |
|           |           |                      |              |            | VH         | 0.13             | 0.00018               | PASS    |
|           |           |                      | MCH          | TN         | VL         | -1.30            | -0.00184              | PASS    |

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Temp. | Test Volt. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|------------|------------------|-----------------------|---------|
|           |           |                      |              |            | VN         | 0.54             | 0.00076               | PASS    |
|           |           |                      |              |            | VH         | 0.26             | 0.00037               | PASS    |
|           |           |                      | HCH          | TN         | VL         | 0.77             | 0.00108               | PASS    |
|           |           |                      |              |            | VN         | -1.30            | -0.00183              | PASS    |
|           |           |                      |              |            | VH         | -0.17            | -0.00024              | PASS    |

### 8.1.2 Frequency Error vs. Temperature:

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Volt. | Test Temp | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|-----------|------------------|-----------------------|---------|
| BAND12    | LTE/TM1   | 1.4                  | LCH          | VN         | -30       | 6.59             | 0.00942               | PASS    |
|           |           |                      |              |            | -20       | 1.26             | 0.0018                | PASS    |
|           |           |                      |              |            | -10       | -3.78            | -0.0054               | PASS    |
|           |           |                      |              |            | 0         | 8.18             | 0.01169               | PASS    |
|           |           |                      |              |            | 10        | 5.39             | 0.0077                | PASS    |
|           |           |                      |              |            | 20        | -7.31            | -0.01045              | PASS    |
|           |           |                      |              |            | 30        | 21.17            | 0.03026               | PASS    |
|           |           |                      |              |            | 40        | 0.44             | 0.00063               | PASS    |
|           |           |                      |              |            | 50        | 6.92             | 0.00989               | PASS    |
|           |           |                      | MCH          | VN         | -30       | -0.70            | -0.00099              | PASS    |
|           |           |                      |              |            | -20       | -7.71            | -0.0109               | PASS    |
|           |           |                      |              |            | -10       | -11.67           | -0.01649              | PASS    |
|           |           |                      |              |            | 0         | 2.23             | 0.00315               | PASS    |
|           |           |                      |              |            | 10        | -4.95            | -0.007                | PASS    |
|           |           |                      |              |            | 20        | -7.52            | -0.01063              | PASS    |
|           |           |                      |              |            | 30        | 0.03             | 0.00004               | PASS    |
|           |           |                      |              |            | 40        | 8.01             | 0.01132               | PASS    |
|           |           |                      |              |            | 50        | -11.33           | -0.01601              | PASS    |
|           |           |                      | HCH          | VN         | -30       | 6.59             | 0.00921               | PASS    |
|           |           |                      |              |            | -20       | -8.44            | -0.0118               | PASS    |
|           |           |                      |              |            | -10       | 10.64            | 0.01487               | PASS    |
|           |           |                      |              |            | 0         | 2.73             | 0.00382               | PASS    |
|           |           |                      |              |            | 10        | -6.88            | -0.00962              | PASS    |
|           |           |                      |              |            | 20        | -4.52            | -0.00632              | PASS    |
|           |           |                      |              |            | 30        | -1.82            | -0.00254              | PASS    |
|           |           |                      |              |            | 40        | 2.70             | 0.00377               | PASS    |
|           |           |                      |              |            | 50        | 2.02             | 0.00282               | PASS    |
|           |           | 3                    | LCH          | VN         | -30       | -1.80            | -0.00257              | PASS    |

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Volt. | Test Temp | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|-----------|------------------|-----------------------|---------|
|           |           |                      |              |            | -20       | 3.85             | 0.0055                | PASS    |
|           |           |                      |              |            | -10       | -4.32            | -0.00617              | PASS    |
|           |           |                      |              |            | 0         | 1.79             | 0.00256               | PASS    |
|           |           |                      |              |            | 10        | -6.58            | -0.00939              | PASS    |
|           |           |                      |              |            | 20        | -4.58            | -0.00654              | PASS    |
|           |           |                      |              |            | 30        | -1.92            | -0.00274              | PASS    |
|           |           |                      |              |            | 40        | -2.02            | -0.00288              | PASS    |
|           |           |                      |              |            | 50        | 1.12             | 0.0016                | PASS    |
|           |           |                      | MCH          | VN         | -30       | -5.97            | -0.00844              | PASS    |
|           |           |                      |              |            | -20       | -7.28            | -0.01029              | PASS    |
|           |           |                      |              |            | -10       | -6.44            | -0.0091               | PASS    |
|           |           |                      |              |            | 0         | 3.88             | 0.00548               | PASS    |
|           |           |                      |              |            | 10        | -4.99            | -0.00705              | PASS    |
|           |           |                      |              |            | 20        | -3.60            | -0.00509              | PASS    |
|           |           |                      |              |            | 30        | 3.13             | 0.00442               | PASS    |
|           |           |                      |              |            | 40        | 1.29             | 0.00182               | PASS    |
|           |           |                      |              |            | 50        | 0.11             | 0.00016               | PASS    |
|           |           |                      | HCH          | VN         | -30       | 2.63             | 0.00368               | PASS    |
|           |           |                      |              |            | -20       | -4.12            | -0.00577              | PASS    |
|           |           |                      |              |            | -10       | -0.96            | -0.00134              | PASS    |
|           |           |                      |              |            | 0         | 2.29             | 0.00321               | PASS    |
|           |           |                      |              |            | 10        | 0.73             | 0.00102               | PASS    |
|           |           |                      |              |            | 20        | 2.62             | 0.00367               | PASS    |
|           |           |                      |              |            | 30        | 4.71             | 0.00659               | PASS    |
|           |           |                      |              |            | 40        | -8.10            | -0.01134              | PASS    |
|           |           |                      |              |            | 50        | 1.80             | 0.00252               | PASS    |
|           |           | 5                    | LCH          | VN         | -30       | 2.90             | 0.00413               | PASS    |
|           |           |                      |              |            | -20       | -0.49            | -0.0007               | PASS    |
|           |           |                      |              |            | -10       | 2.82             | 0.00402               | PASS    |
|           |           |                      |              |            | 0         | 1.13             | 0.00161               | PASS    |
|           |           |                      |              |            | 10        | 3.63             | 0.00517               | PASS    |
|           |           |                      |              |            | 20        | 0.56             | 0.0008                | PASS    |
|           |           |                      |              |            | 30        | -1.10            | -0.00157              | PASS    |
|           |           |                      |              |            | 40        | 0.63             | 0.0009                | PASS    |
|           |           |                      |              |            | 50        | -0.31            | -0.00044              | PASS    |
|           |           |                      | MCH          | VN         | -30       | 0.70             | 0.00099               | PASS    |
|           |           |                      |              |            | -20       | -0.44            | -0.00062              | PASS    |
|           |           |                      |              |            | -10       | 4.11             | 0.00581               | PASS    |

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Volt. | Test Temp | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|-----------|------------------|-----------------------|---------|
|           |           |                      |              |            | 0         | -3.35            | -0.00473              | PASS    |
|           |           |                      |              |            | 10        | -2.62            | -0.0037               | PASS    |
|           |           |                      |              |            | 20        | -5.41            | -0.00765              | PASS    |
|           |           |                      |              |            | 30        | 1.07             | 0.00151               | PASS    |
|           |           |                      |              |            | 40        | -0.17            | -0.00024              | PASS    |
|           |           |                      |              |            | 50        | 1.59             | 0.00225               | PASS    |
|           |           |                      | HCH          | VN         | -30       | 0.34             | 0.00048               | PASS    |
|           |           |                      |              |            | -20       | 4.81             | 0.00674               | PASS    |
|           |           |                      |              |            | -10       | -2.70            | -0.00378              | PASS    |
|           |           |                      |              |            | 0         | -0.63            | -0.00088              | PASS    |
|           |           |                      |              |            | 10        | -2.66            | -0.00373              | PASS    |
|           |           |                      |              |            | 20        | -4.63            | -0.00649              | PASS    |
|           |           |                      |              |            | 30        | -3.79            | -0.00531              | PASS    |
|           |           |                      |              |            | 40        | 3.82             | 0.00535               | PASS    |
|           |           |                      |              |            | 50        | -5.79            | -0.00811              | PASS    |
|           |           | 10                   | LCH          | VN         | -30       | 0.01             | 0.00001               | PASS    |
|           |           |                      |              |            | -20       | -2.72            | -0.00386              | PASS    |
|           |           |                      |              |            | -10       | -1.03            | -0.00146              | PASS    |
|           |           |                      |              |            | 0         | -0.46            | -0.00065              | PASS    |
|           |           |                      |              |            | 10        | 1.00             | 0.00142               | PASS    |
|           |           |                      |              |            | 20        | -1.20            | -0.0017               | PASS    |
|           |           |                      |              |            | 30        | -0.13            | -0.00018              | PASS    |
|           |           |                      |              |            | 40        | -0.49            | -0.0007               | PASS    |
|           |           |                      |              |            | 50        | -0.93            | -0.00132              | PASS    |
|           |           |                      | MCH          | VN         | -30       | -5.19            | -0.00734              | PASS    |
|           |           |                      |              |            | -20       | -0.46            | -0.00065              | PASS    |
|           |           |                      |              |            | -10       | -5.16            | -0.00729              | PASS    |
|           |           |                      |              |            | 0         | -3.18            | -0.00449              | PASS    |
|           |           |                      |              |            | 10        | -3.09            | -0.00437              | PASS    |
|           |           |                      |              |            | 20        | -2.79            | -0.00394              | PASS    |
|           |           |                      |              |            | 30        | -3.32            | -0.00469              | PASS    |
|           |           |                      |              |            | 40        | -1.59            | -0.00225              | PASS    |
|           |           |                      |              |            | 50        | -2.02            | -0.00286              | PASS    |
|           |           |                      | HCH          | VN         | -30       | 1.97             | 0.00277               | PASS    |
|           |           |                      |              |            | -20       | 1.09             | 0.00153               | PASS    |
|           |           |                      |              |            | -10       | 1.44             | 0.00203               | PASS    |
|           |           |                      |              |            | 0         | -2.07            | -0.00291              | PASS    |
|           |           |                      |              |            | 10        | -1.17            | -0.00165              | PASS    |

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Volt. | Test Temp | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|-----------|------------------|-----------------------|---------|
|           | LTE/TM2   | 1.4                  |              |            | 20        | -0.83            | -0.00117              | PASS    |
|           |           |                      |              |            | 30        | 4.58             | 0.00644               | PASS    |
|           |           |                      |              |            | 40        | -6.82            | -0.00959              | PASS    |
|           |           |                      |              |            | 50        | -1.46            | -0.00205              | PASS    |
|           |           |                      | LCH          | VN         | -30       | 2.60             | 0.00372               | PASS    |
|           |           |                      |              |            | -20       | 5.31             | 0.00759               | PASS    |
|           |           |                      |              |            | -10       | 7.95             | 0.01136               | PASS    |
|           |           |                      |              |            | 0         | 5.21             | 0.00745               | PASS    |
|           |           |                      |              |            | 10        | 1.24             | 0.00177               | PASS    |
|           |           |                      |              |            | 20        | -6.39            | -0.00913              | PASS    |
|           |           |                      |              |            | 30        | 7.35             | 0.0105                | PASS    |
|           |           |                      |              |            | 40        | -1.76            | -0.00252              | PASS    |
|           |           |                      |              |            | 50        | 9.66             | 0.01381               | PASS    |
|           |           |                      | MCH          | VN         | -30       | 12.00            | 0.01696               | PASS    |
|           |           |                      |              |            | -20       | 5.51             | 0.00779               | PASS    |
|           |           |                      |              |            | -10       | 10.26            | 0.0145                | PASS    |
|           |           |                      |              |            | 0         | -3.46            | -0.00489              | PASS    |
|           |           |                      |              |            | 10        | -3.73            | -0.00527              | PASS    |
|           |           |                      |              |            | 20        | 5.61             | 0.00793               | PASS    |
|           |           |                      |              |            | 30        | -0.72            | -0.00102              | PASS    |
|           |           |                      |              |            | 40        | 4.32             | 0.00611               | PASS    |
|           |           |                      |              |            | 50        | 8.14             | 0.01151               | PASS    |
|           |           |                      | HCH          | VN         | -30       | -11.20           | -0.01566              | PASS    |
|           |           |                      |              |            | -20       | 2.85             | 0.00398               | PASS    |
|           |           |                      |              |            | -10       | -0.51            | -0.00071              | PASS    |
|           |           |                      |              |            | 0         | 6.59             | 0.00921               | PASS    |
|           |           |                      |              |            | 10        | 3.83             | 0.00535               | PASS    |
|           |           |                      |              |            | 20        | 12.27            | 0.01715               | PASS    |
|           |           |                      |              |            | 30        | -0.79            | -0.0011               | PASS    |
|           |           |                      |              |            | 40        | -2.15            | -0.00301              | PASS    |
|           |           |                      |              |            | 50        | 10.09            | 0.01411               | PASS    |
|           |           | 3                    | LCH          | VN         | -30       | -5.39            | -0.00769              | PASS    |
|           |           |                      |              |            | -20       | -6.37            | -0.00909              | PASS    |
|           |           |                      |              |            | -10       | 5.72             | 0.00817               | PASS    |
|           |           |                      |              |            | 0         | -0.84            | -0.0012               | PASS    |
|           |           |                      |              |            | 10        | 0.34             | 0.00049               | PASS    |
|           |           |                      |              |            | 20        | -2.93            | -0.00418              | PASS    |
|           |           |                      |              |            | 30        | 0.04             | 0.00006               | PASS    |

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Volt. | Test Temp | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|-----------|------------------|-----------------------|---------|
|           |           |                      |              |            | 40        | -1.73            | -0.00247              | PASS    |
|           |           |                      |              |            | 50        | -6.95            | -0.00992              | PASS    |
|           |           |                      | MCH          | VN         | -30       | 2.89             | 0.00408               | PASS    |
|           |           |                      |              |            | -20       | 3.15             | 0.00445               | PASS    |
|           |           |                      |              |            | -10       | 2.20             | 0.00311               | PASS    |
|           |           |                      |              |            | 0         | 1.22             | 0.00172               | PASS    |
|           |           |                      |              |            | 10        | -6.94            | -0.00981              | PASS    |
|           |           |                      |              |            | 20        | 0.67             | 0.00095               | PASS    |
|           |           |                      |              |            | 30        | -3.59            | -0.00507              | PASS    |
|           |           |                      |              |            | 40        | -6.62            | -0.00936              | PASS    |
|           |           |                      |              |            | 50        | -0.60            | -0.00085              | PASS    |
|           |           |                      | HCH          | VN         | -30       | 1.70             | 0.00238               | PASS    |
|           |           |                      |              |            | -20       | 2.45             | 0.00343               | PASS    |
|           |           |                      |              |            | -10       | 2.72             | 0.00381               | PASS    |
|           |           |                      |              |            | 0         | 1.56             | 0.00218               | PASS    |
|           |           |                      |              |            | 10        | 4.88             | 0.00683               | PASS    |
|           |           |                      |              |            | 20        | -2.42            | -0.00339              | PASS    |
|           |           |                      |              |            | 30        | 5.61             | 0.00785               | PASS    |
|           |           |                      |              |            | 40        | -0.97            | -0.00136              | PASS    |
|           |           |                      |              |            | 50        | 1.32             | 0.00185               | PASS    |
|           |           | 5                    | LCH          | VN         | -30       | -1.02            | -0.00145              | PASS    |
|           |           |                      |              |            | -20       | 3.72             | 0.0053                | PASS    |
|           |           |                      |              |            | -10       | -7.71            | -0.01099              | PASS    |
|           |           |                      |              |            | 0         | -2.63            | -0.00375              | PASS    |
|           |           |                      |              |            | 10        | 3.12             | 0.00445               | PASS    |
|           |           |                      |              |            | 20        | -8.48            | -0.01209              | PASS    |
|           |           |                      |              |            | 30        | -2.53            | -0.00361              | PASS    |
|           |           |                      |              |            | 40        | 0.43             | 0.00061               | PASS    |
|           |           |                      |              |            | 50        | -1.69            | -0.00241              | PASS    |
|           |           |                      | MCH          | VN         | -30       | 3.45             | 0.00488               | PASS    |
|           |           |                      |              |            | -20       | 8.64             | 0.01221               | PASS    |
|           |           |                      |              |            | -10       | -0.92            | -0.0013               | PASS    |
|           |           |                      |              |            | 0         | -1.20            | -0.0017               | PASS    |
|           |           |                      |              |            | 10        | -0.62            | -0.00088              | PASS    |
|           |           |                      |              |            | 20        | 7.87             | 0.01112               | PASS    |
|           |           |                      |              |            | 30        | 3.95             | 0.00558               | PASS    |
|           |           |                      |              |            | 40        | -0.50            | -0.00071              | PASS    |
|           |           |                      |              |            | 50        | -1.62            | -0.00229              | PASS    |

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Volt. | Test Temp | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|-----------|------------------|-----------------------|---------|
|           |           |                      | HCH          | VN         | -30       | 0.54             | 0.00076               | PASS    |
|           |           |                      |              |            | -20       | 1.90             | 0.00266               | PASS    |
|           |           |                      |              |            | -10       | -2.00            | -0.0028               | PASS    |
|           |           |                      |              |            | 0         | -1.57            | -0.0022               | PASS    |
|           |           |                      |              |            | 10        | -7.65            | -0.01072              | PASS    |
|           |           |                      |              |            | 20        | -6.94            | -0.00973              | PASS    |
|           |           |                      |              |            | 30        | -0.60            | -0.00084              | PASS    |
|           |           |                      |              |            | 40        | -1.44            | -0.00202              | PASS    |
|           |           |                      |              |            | 50        | 5.14             | 0.0072                | PASS    |
|           |           | 10                   | LCH          | VN         | -30       | 0.69             | 0.00098               | PASS    |
|           |           |                      |              |            | -20       | 0.43             | 0.00061               | PASS    |
|           |           |                      |              |            | -10       | -0.92            | -0.00131              | PASS    |
|           |           |                      |              |            | 0         | 0.09             | 0.00013               | PASS    |
|           |           |                      |              |            | 10        | -0.13            | -0.00018              | PASS    |
|           |           |                      |              |            | 20        | -0.76            | -0.00108              | PASS    |
|           |           |                      |              |            | 30        | 0.06             | 0.00009               | PASS    |
|           |           |                      |              |            | 40        | -0.37            | -0.00053              | PASS    |
|           |           |                      |              |            | 50        | -0.46            | -0.00065              | PASS    |
|           |           |                      | MCH          | VN         | -30       | 2.22             | 0.00314               | PASS    |
|           |           |                      |              |            | -20       | 0.07             | 0.0001                | PASS    |
|           |           |                      |              |            | -10       | 1.23             | 0.00174               | PASS    |
|           |           |                      |              |            | 0         | 1.62             | 0.00229               | PASS    |
|           |           |                      |              |            | 10        | 0.56             | 0.00079               | PASS    |
|           |           |                      |              |            | 20        | 0.36             | 0.00051               | PASS    |
|           |           |                      |              |            | 30        | 1.10             | 0.00155               | PASS    |
|           |           |                      |              |            | 40        | 2.72             | 0.00384               | PASS    |
|           |           |                      |              |            | 50        | 2.50             | 0.00353               | PASS    |
|           |           |                      | HCH          | VN         | -30       | 2.90             | 0.00408               | PASS    |
|           |           |                      |              |            | -20       | 3.83             | 0.00539               | PASS    |
|           |           |                      |              |            | -10       | 0.26             | 0.00037               | PASS    |
|           |           |                      |              |            | 0         | 3.73             | 0.00525               | PASS    |
|           |           |                      |              |            | 10        | 1.43             | 0.00201               | PASS    |
|           |           |                      |              |            | 20        | 6.07             | 0.00854               | PASS    |
|           |           |                      |              |            | 30        | -0.07            | -0.0001               | PASS    |
|           |           |                      |              |            | 40        | 3.99             | 0.00561               | PASS    |
|           |           |                      |              |            | 50        | -0.49            | -0.00069              | PASS    |

END