



## Appendix for Test report



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

### Part I - Test Results

| Test Band | Test Mode | Test Bandwidth | Test Channel | Test RB | Measured [dBm] | ERP [dBm] | Limit [dBm] | Verdict |
|-----------|-----------|----------------|--------------|---------|----------------|-----------|-------------|---------|
| BAND13    | LTE/TM1   | 5              | LCH          | RB1#0   | 22.64          | 22.12     | 34.8        | PASS    |
|           |           |                |              | RB1#13  | 22.81          | 22.24     | 34.8        | PASS    |
|           |           |                |              | RB1#24  | 22.42          | 21.71     | 34.8        | PASS    |
|           |           |                |              | RB12#0  | 22.6           | 22        | 34.8        | PASS    |
|           |           |                |              | RB12#6  | 22.63          | 22.12     | 34.8        | PASS    |
|           |           |                |              | RB12#13 | 22.51          | 21.98     | 34.8        | PASS    |
|           |           |                |              | RB25#0  | 22.61          | 21.93     | 34.8        | PASS    |
|           |           |                | MCH          | RB1#0   | 22.48          | 21.72     | 34.8        | PASS    |
|           |           |                |              | RB1#13  | 22.69          | 21.98     | 34.8        | PASS    |
|           |           |                |              | RB1#24  | 22.51          | 22.1      | 34.8        | PASS    |
|           |           |                |              | RB12#0  | 22.57          | 21.86     | 34.8        | PASS    |
|           |           |                |              | RB12#6  | 22.72          | 22.04     | 34.8        | PASS    |
|           |           |                |              | RB12#13 | 22.59          | 22.01     | 34.8        | PASS    |
|           |           |                |              | RB25#0  | 22.61          | 22.13     | 34.8        | PASS    |



| Test Band | Test Mode | Test Bandwidth | Test Channel | Test RB | Measured [dBm] | ERP [dBm] | Limit [dBm] | Verdict |      |
|-----------|-----------|----------------|--------------|---------|----------------|-----------|-------------|---------|------|
|           |           |                | HCH          | RB1#0   | 22.39          | 21.83     | 34.8        | PASS    |      |
|           |           |                |              | RB1#13  | 22.83          | 22.35     | 34.8        | PASS    |      |
|           |           |                |              | RB1#24  | 22.21          | 21.82     | 34.8        | PASS    |      |
|           |           |                |              | RB12#0  | 22.71          | 21.88     | 34.8        | PASS    |      |
|           |           |                |              | RB12#6  | 22.85          | 21.99     | 34.8        | PASS    |      |
|           |           |                |              | RB12#13 | 22.62          | 22.31     | 34.8        | PASS    |      |
|           |           |                |              | RB25#0  | 22.65          | 22.18     | 34.8        | PASS    |      |
|           |           | 10             | LCH          | RB1#0   | 22.45          | 21.76     | 34.8        | PASS    |      |
|           |           |                |              | RB1#25  | 22.71          | 22.22     | 34.8        | PASS    |      |
|           |           |                |              | RB1#49  | 22.43          | 21.7      | 34.8        | PASS    |      |
|           |           |                |              | RB25#0  | 22.52          | 22.11     | 34.8        | PASS    |      |
|           |           |                |              | RB25#13 | 22.79          | 22.26     | 34.8        | PASS    |      |
|           |           |                |              | RB25#25 | 22.51          | 22.12     | 34.8        | PASS    |      |
|           |           |                |              | RB50#0  | 22.49          | 21.69     | 34.8        | PASS    |      |
|           |           |                |              | MCH     | RB1#0          | 22.47     | 21.56       | 34.8    | PASS |
|           |           |                |              |         | RB1#25         | 22.75     | 22.45       | 34.8    | PASS |
|           |           | RB1#49         | 22.46        |         | 21.66          | 34.8      | PASS        |         |      |



| Test Band | Test Mode | Test Bandwidth | Test Channel | Test RB | Measured [dBm] | ERP [dBm] | Limit [dBm] | Verdict |       |      |      |
|-----------|-----------|----------------|--------------|---------|----------------|-----------|-------------|---------|-------|------|------|
|           |           |                |              | RB25#0  | 22.44          | 21.75     | 34.8        | PASS    |       |      |      |
|           |           |                |              | RB25#13 | 22.71          | 22.21     | 34.8        | PASS    |       |      |      |
|           |           |                |              | RB25#25 | 22.44          | 21.84     | 34.8        | PASS    |       |      |      |
|           |           |                |              | RB50#0  | 22.42          | 21.6      | 34.8        | PASS    |       |      |      |
|           |           |                | HCH          | RB1#0   | 22.42          | 21.75     | 34.8        | PASS    |       |      |      |
|           |           |                |              | RB1#25  | 22.82          | 22.01     | 34.8        | PASS    |       |      |      |
|           |           |                |              | RB1#49  | 22.52          | 22.26     | 34.8        | PASS    |       |      |      |
|           |           |                |              | RB25#0  | 22.51          | 22        | 34.8        | PASS    |       |      |      |
|           |           |                | LCH          | RB25#13 | 22.78          | 21.9      | 34.8        | PASS    |       |      |      |
|           |           |                |              | RB25#25 | 22.51          | 22.14     | 34.8        | PASS    |       |      |      |
|           |           |                |              | RB50#0  | 22.5           | 21.99     | 34.8        | PASS    |       |      |      |
|           |           |                |              | RB1#0   | 22.5           | 22.16     | 34.8        | PASS    |       |      |      |
|           |           |                | LTE/TM2      | 5       |                | LCH       | RB1#13      | 22.77   | 21.92 | 34.8 | PASS |
|           |           |                |              |         |                |           | RB1#24      | 22.35   | 21.49 | 34.8 | PASS |
|           | RB12#0    | 21.67          |              |         |                |           | 21.19       | 34.8    | PASS  |      |      |
|           | RB12#6    | 21.74          |              |         |                |           | 21.36       | 34.8    | PASS  |      |      |
|           | RB12#13   | 21.63          |              |         |                |           | 20.94       | 34.8    | PASS  |      |      |
|           |           |                |              |         |                |           |             |         |       |      |      |



| Test Band | Test Mode | Test Bandwidth | Test Channel | Test RB | Measured [dBm] | ERP [dBm] | Limit [dBm] | Verdict |
|-----------|-----------|----------------|--------------|---------|----------------|-----------|-------------|---------|
|           |           |                |              | RB25#0  | 21.68          | 21.08     | 34.8        | PASS    |
|           |           |                | MCH          | RB1#0   | 22.53          | 22.03     | 34.8        | PASS    |
|           |           |                |              | RB1#13  | 22.76          | 21.86     | 34.8        | PASS    |
|           |           |                |              | RB1#24  | 22.58          | 21.85     | 34.8        | PASS    |
|           |           |                |              | RB12#0  | 21.62          | 21.21     | 34.8        | PASS    |
|           |           |                |              | RB12#6  | 21.8           | 21.09     | 34.8        | PASS    |
|           |           |                |              | RB12#13 | 21.68          | 21.16     | 34.8        | PASS    |
|           |           |                |              | RB25#0  | 21.69          | 21.3      | 34.8        | PASS    |
|           |           |                |              | HCH     | RB1#0          | 22.46     | 21.54       | 34.8    |
|           |           |                | RB1#13       |         | 22.9           | 22.06     | 34.8        | PASS    |
|           |           |                | RB1#24       |         | 22.37          | 21.58     | 34.8        | PASS    |
|           |           |                | RB12#0       |         | 21.81          | 21.02     | 34.8        | PASS    |
|           |           |                | RB12#6       |         | 21.86          | 21.1      | 34.8        | PASS    |
|           |           |                | RB12#13      |         | 21.73          | 21.21     | 34.8        | PASS    |
|           |           |                | RB25#0       |         | 21.76          | 20.94     | 34.8        | PASS    |
|           |           | 10             | LCH          | RB1#0   | 22.68          | 22.16     | 34.8        | PASS    |
|           |           |                |              | RB1#25  | 22.85          | 21.94     | 34.8        | PASS    |



| Test Band | Test Mode | Test Bandwidth | Test Channel | Test RB | Measured [dBm] | ERP [dBm] | Limit [dBm] | Verdict |
|-----------|-----------|----------------|--------------|---------|----------------|-----------|-------------|---------|
|           |           |                |              | RB1#49  | 22.88          | 22        | 34.8        | PASS    |
|           |           |                |              | RB25#0  | 21.61          | 21.19     | 34.8        | PASS    |
|           |           |                |              | RB25#13 | 21.89          | 21.33     | 34.8        | PASS    |
|           |           |                |              | RB25#25 | 21.62          | 21.16     | 34.8        | PASS    |
|           |           |                |              | RB50#0  | 21.54          | 21.04     | 34.8        | PASS    |
|           |           |                | MCH          | RB1#0   | 22.78          | 21.91     | 34.8        | PASS    |
|           |           |                | MCH          | RB1#25  | 22.69          | 22.09     | 34.8        | PASS    |
|           |           |                | MCH          | RB1#49  | 22.78          | 22.18     | 34.8        | PASS    |
|           |           |                | MCH          | RB25#0  | 21.51          | 21.06     | 34.8        | PASS    |
|           |           |                | MCH          | RB25#13 | 21.8           | 21.24     | 34.8        | PASS    |
|           |           |                | MCH          | RB25#25 | 21.54          | 20.86     | 34.8        | PASS    |
|           |           |                | MCH          | RB50#0  | 21.48          | 20.72     | 34.8        | PASS    |
|           |           |                | HCH          | RB1#0   | 22.8           | 22.07     | 34.8        | PASS    |
|           |           |                | HCH          | RB1#25  | 22.79          | 22.19     | 34.8        | PASS    |
|           |           |                | HCH          | RB1#49  | 22.83          | 21.93     | 34.8        | PASS    |
|           |           |                | HCH          | RB25#0  | 21.58          | 21.09     | 34.8        | PASS    |
|           |           |                | HCH          | RB25#13 | 21.87          | 21.34     | 34.8        | PASS    |



| Test Band | Test Mode | Test Bandwidth | Test Channel | Test RB | Measured [dBm] | ERP [dBm] | Limit [dBm] | Verdict |
|-----------|-----------|----------------|--------------|---------|----------------|-----------|-------------|---------|
|           |           |                |              | RB25#25 | 21.61          | 21.2      | 34.8        | PASS    |
|           |           |                |              | RB50#0  | 21.53          | 21.13     | 34.8        | 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:  $\text{RBW} > \text{emission bandwidth}$ ,  $\text{VBW} > 3 \times \text{RBW}$ .

Detector: RMS

## 2Appendix\_B: Modulation Characteristics

### Part I - Test Plots

#### 2.1 For LTE

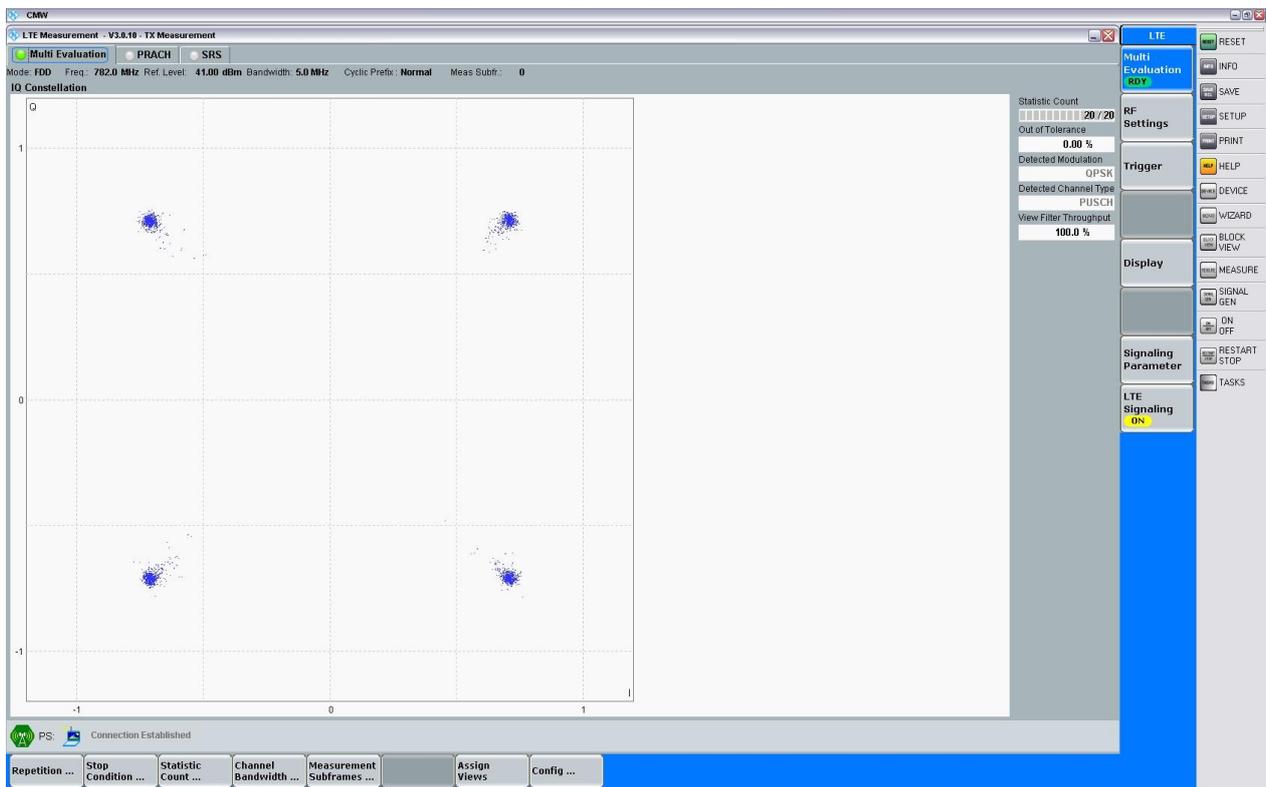
##### 2.1.1 Test Band = BAND13

##### 2.1.1.1 Test Mode = LTE/TM1

##### 2.1.1.1.1 Test Bandwidth = 5

##### 2.1.1.1.1.1 Test Channel = MCH

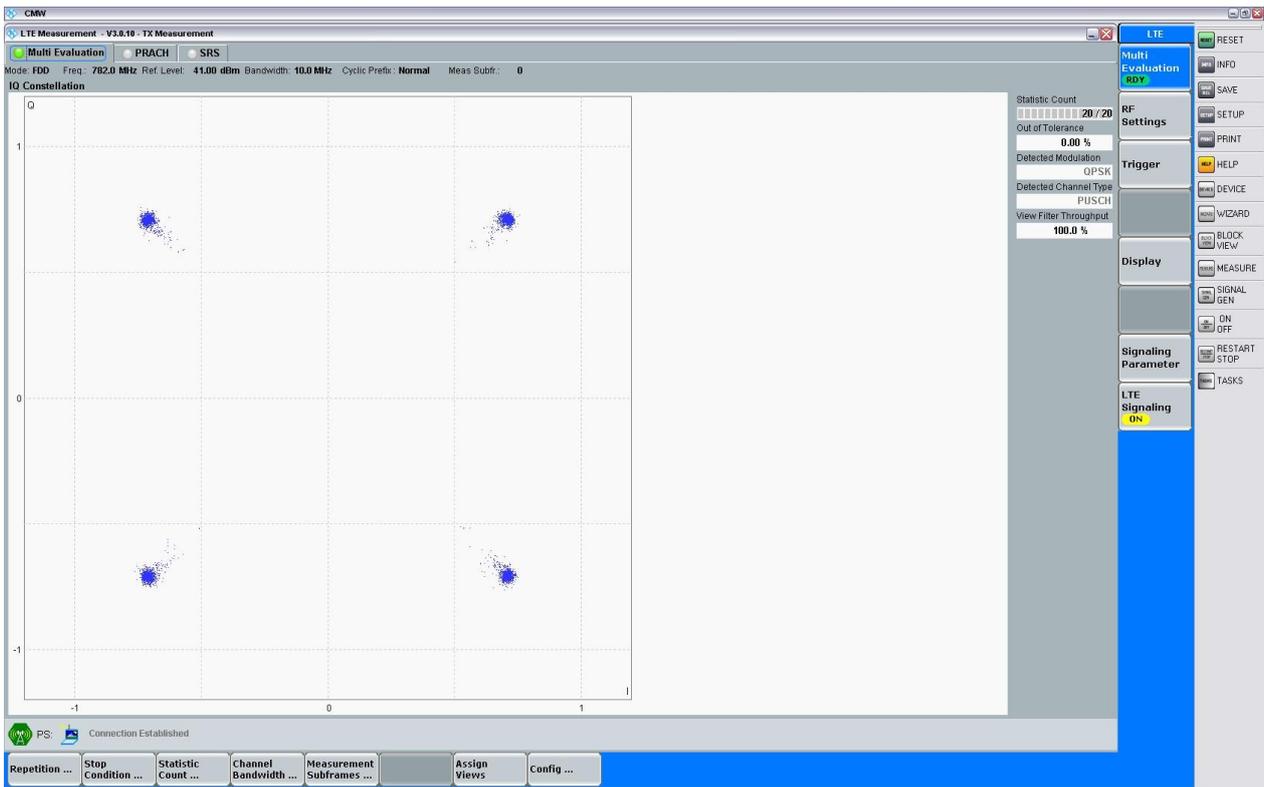
##### 2.1.1.1.1.1.1 Test RB = RB25#0



### 2.1.1.1.2 Test Bandwidth = 10

#### 2.1.1.1.2.1 Test Channel = MCH

##### 2.1.1.1.2.1.1 Test RB = RB50#0

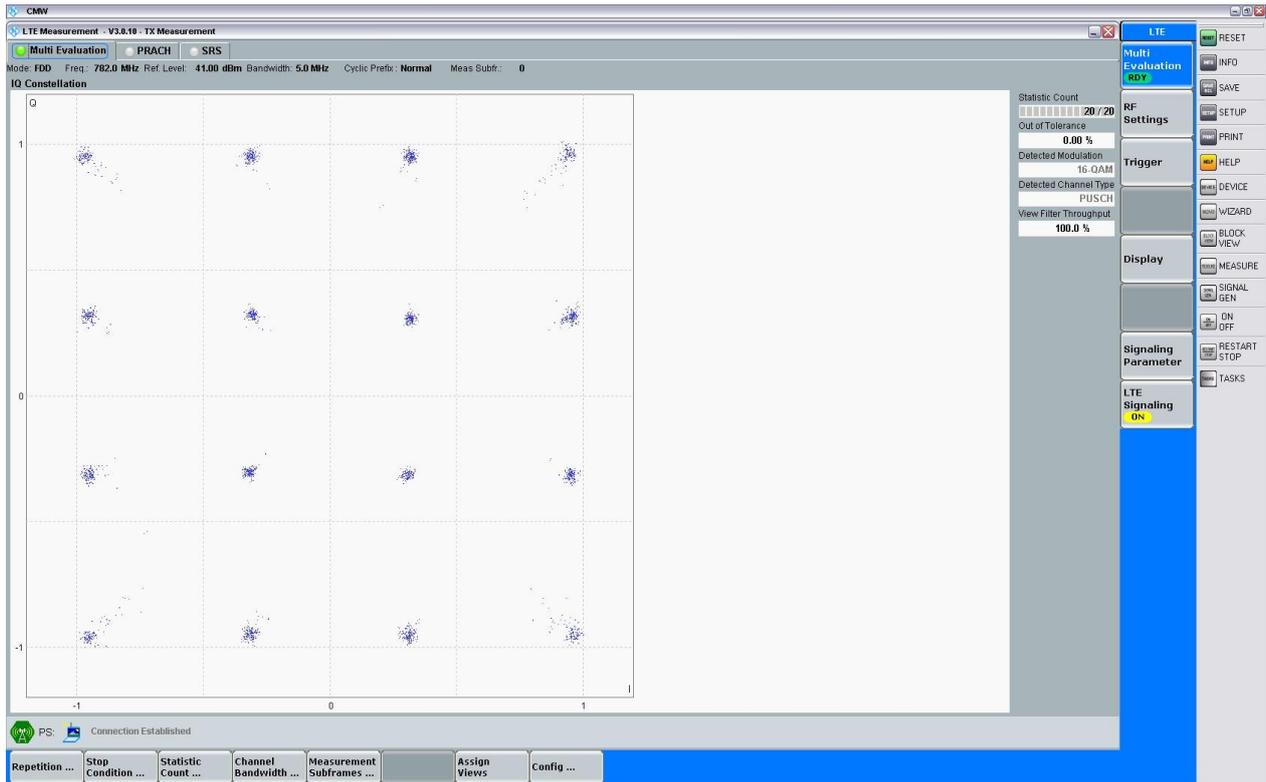


### 2.1.1.2 Test Mode = LTE/TM2

#### 2.1.1.2.1 Test Bandwidth = 5

##### 2.1.1.2.1.1 Test Channel = MCH

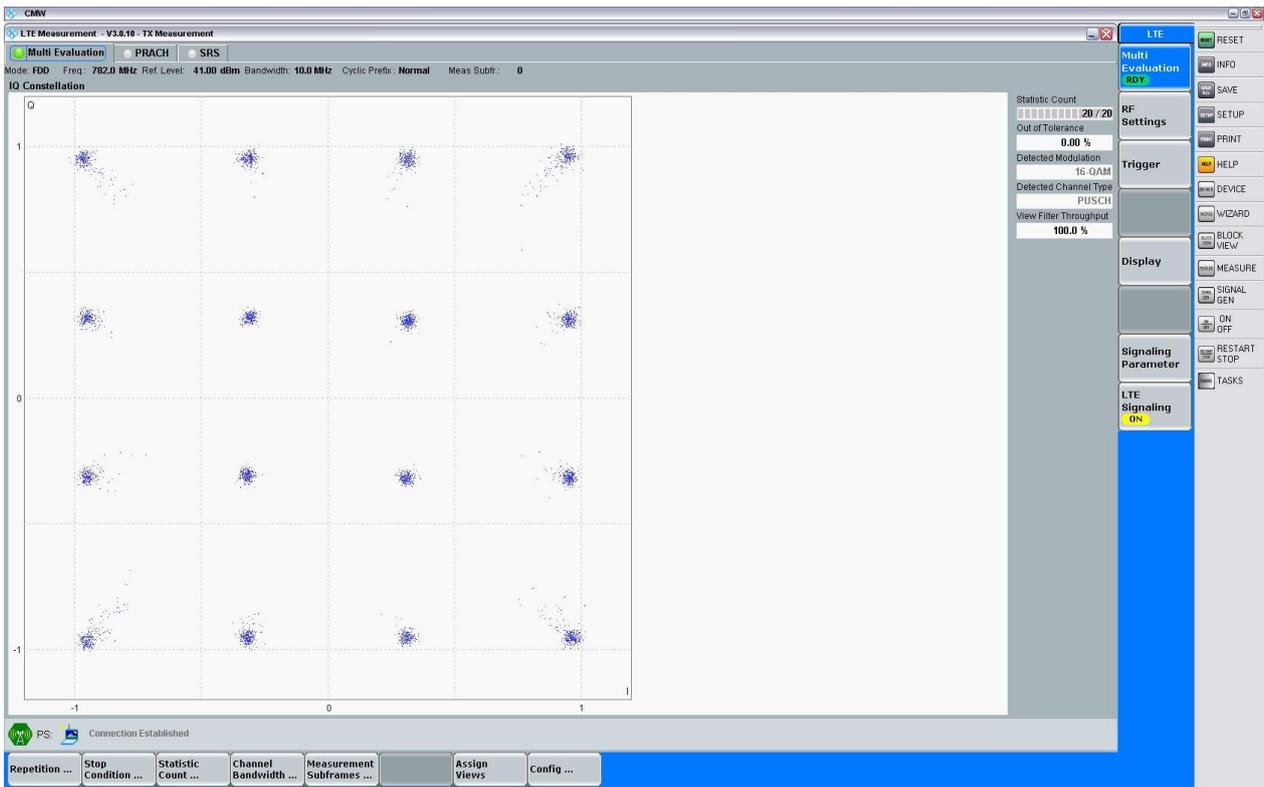
##### 2.1.1.2.1.1.1 Test RB = RB25#0



### 2.1.1.2.2 Test Bandwidth = 10

#### 2.1.1.2.2.1 Test Channel = MCH

##### 2.1.1.2.2.1.1 Test RB = RB50#0





### 3Appendix\_C: Bandwidth

#### Part I - Test Results

| Test Band | Test Mode | Test Bandwidth | Test Channel | Test RB | Occupied Bandwidth [MHz] | Emission Bandwidth [MHz] | Verdict |
|-----------|-----------|----------------|--------------|---------|--------------------------|--------------------------|---------|
| BAND13    | LTE/TM1   | 5              | LCH          | RB25#0  | 4.50                     | 4.86                     | Pass    |
|           |           |                | MCH          | RB25#0  | 4.50                     | 4.86                     | Pass    |
|           |           |                | HCH          | RB25#0  | 4.49                     | 4.87                     | Pass    |
|           |           | 10             | LCH          | RB50#0  | 8.96                     | 9.60                     | Pass    |
|           |           |                | MCH          | RB50#0  | 8.96                     | 9.60                     | Pass    |
|           |           |                | HCH          | RB50#0  | 8.96                     | 9.62                     | Pass    |
|           | LTE/TM2   | 5              | LCH          | RB25#0  | 4.50                     | 4.88                     | Pass    |
|           |           |                | MCH          | RB25#0  | 4.50                     | 4.88                     | Pass    |
|           |           |                | HCH          | RB25#0  | 4.50                     | 4.89                     | Pass    |
|           |           | 10             | LCH          | RB50#0  | 8.96                     | 9.62                     | Pass    |
|           |           |                | MCH          | RB50#0  | 8.96                     | 9.63                     | Pass    |
|           |           |                | HCH          | RB50#0  | 8.96                     | 9.62                     | Pass    |



Part II - Test Plots

3.1 For LTE

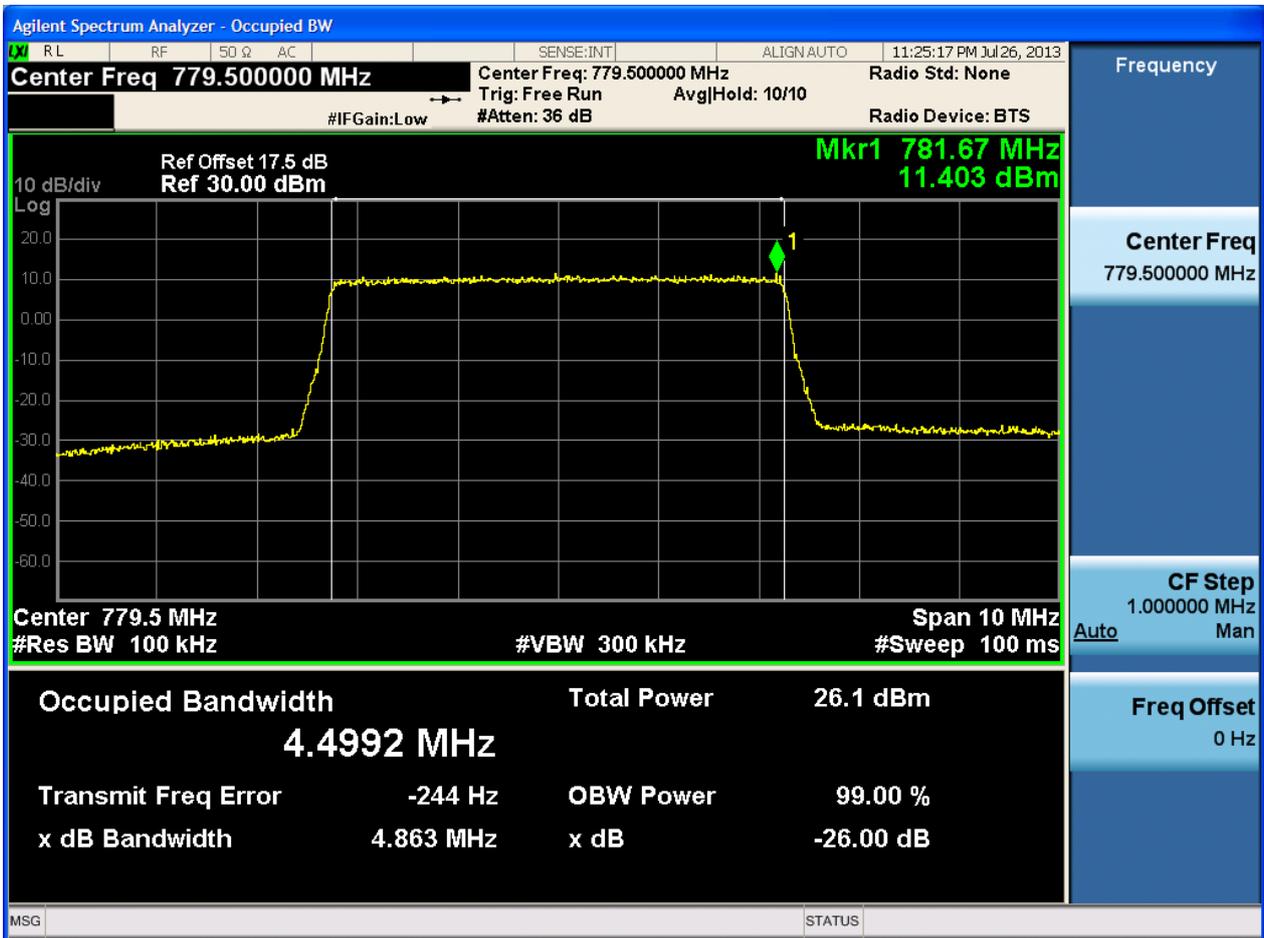
3.1.1 Test Band = BAND13

3.1.1.1 Test Mode = LTE/TM1

3.1.1.1.1 Test Bandwidth = 5

3.1.1.1.1.1 Test Channel = LCH

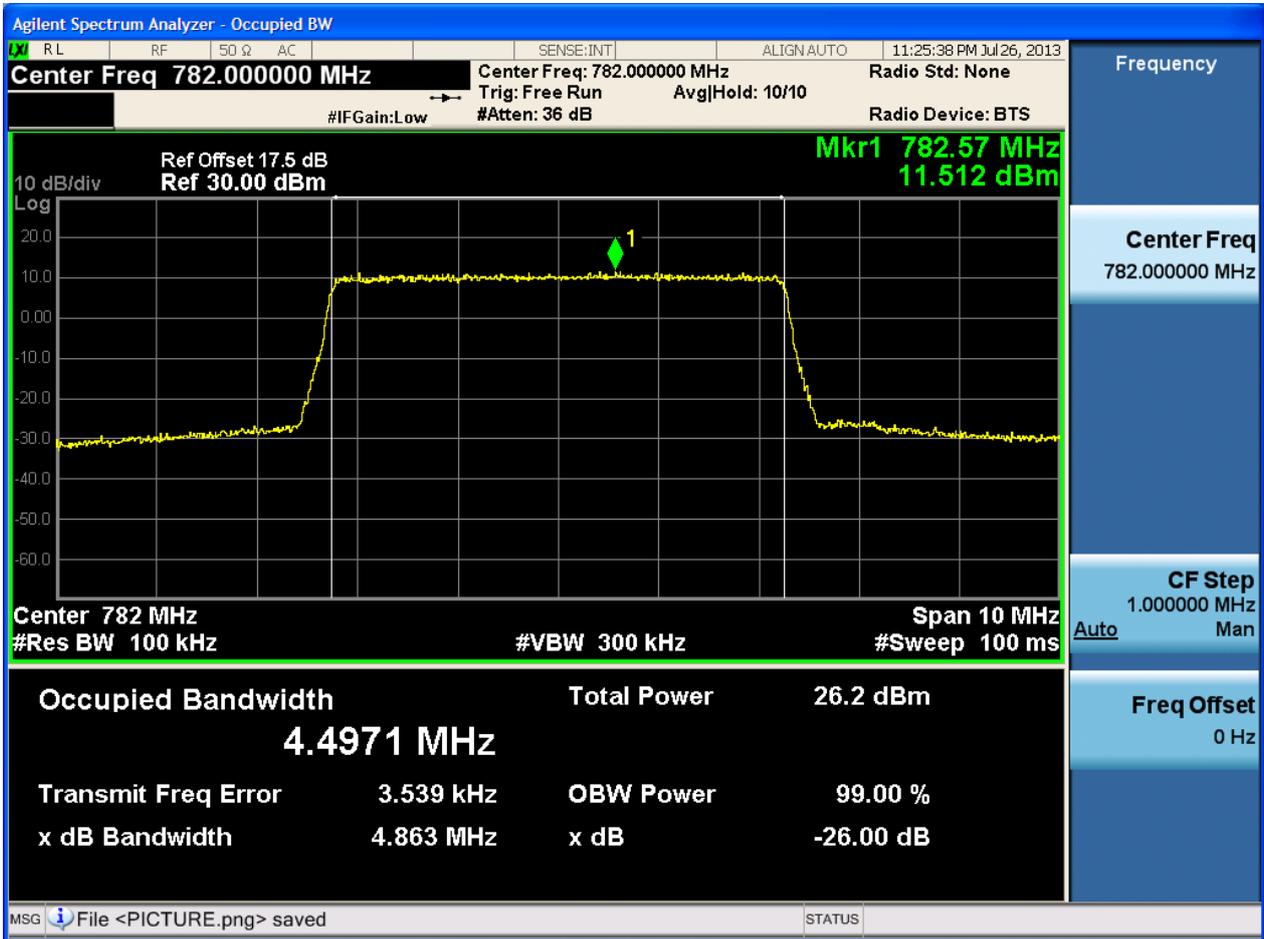
3.1.1.1.1.1.1 Test RB = RB25#0





### 3.1.1.1.1.2 Test Channel = MCH

#### 3.1.1.1.1.2.1 Test RB = RB25#0





3.1.1.1.1.3 Test Channel = HCH

3.1.1.1.1.3.1 Test RB = RB25#0





3.1.1.1.2 Test Bandwidth = 10

3.1.1.1.2.1 Test Channel = LCH

3.1.1.1.2.1.1 Test RB = RB50#0





3.1.1.1.2.2 Test Channel = MCH

3.1.1.1.2.2.1 Test RB = RB50#0





3.1.1.1.2.3 Test Channel = HCH

3.1.1.1.2.3.1 Test RB = RB50#0



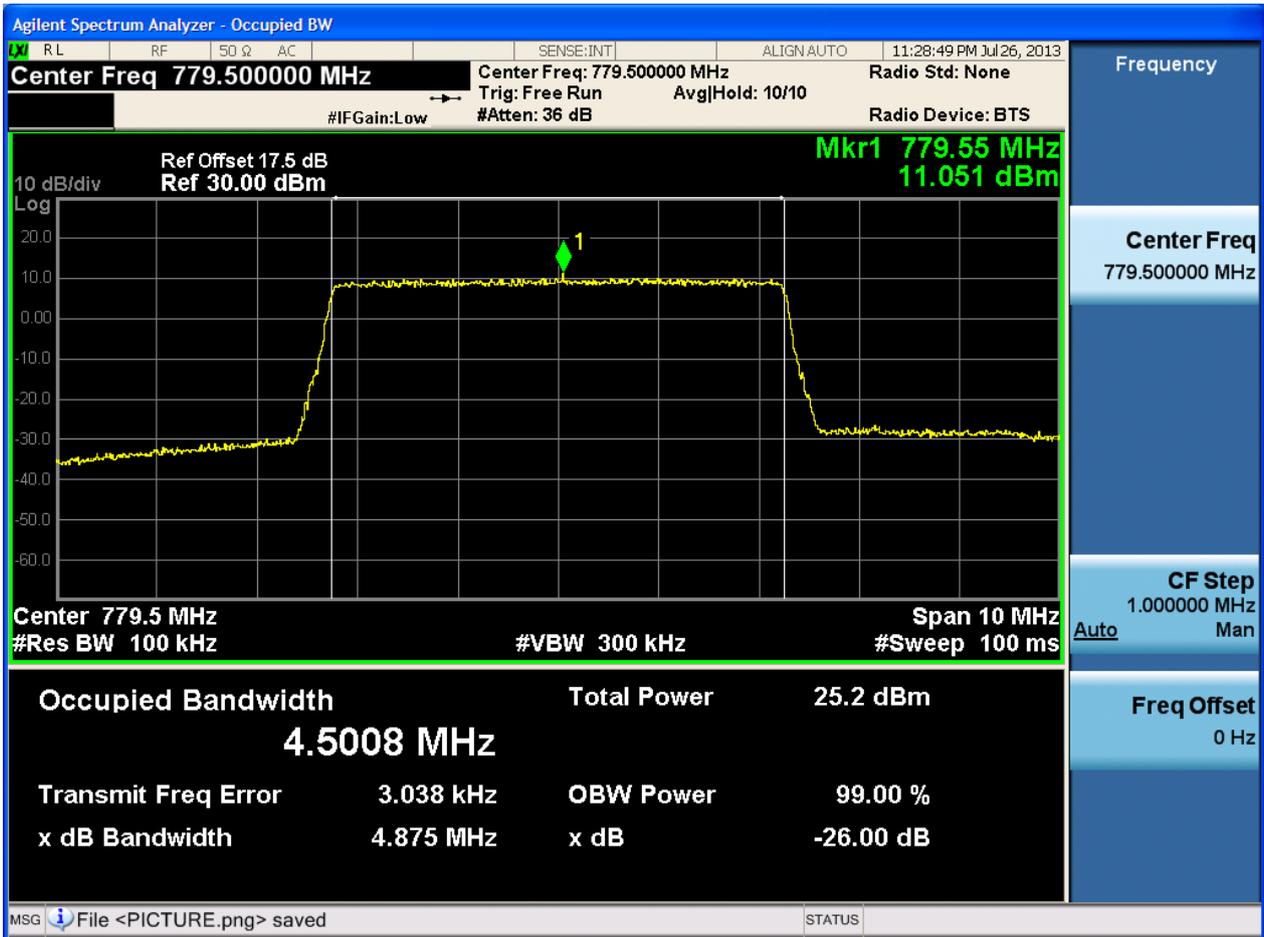


3.1.1.2 Test Mode = LTE/TM2

3.1.1.2.1 Test Bandwidth = 5

3.1.1.2.1.1 Test Channel = LCH

3.1.1.2.1.1.1 Test RB = RB25#0





3.1.1.2.1.2 Test Channel = MCH

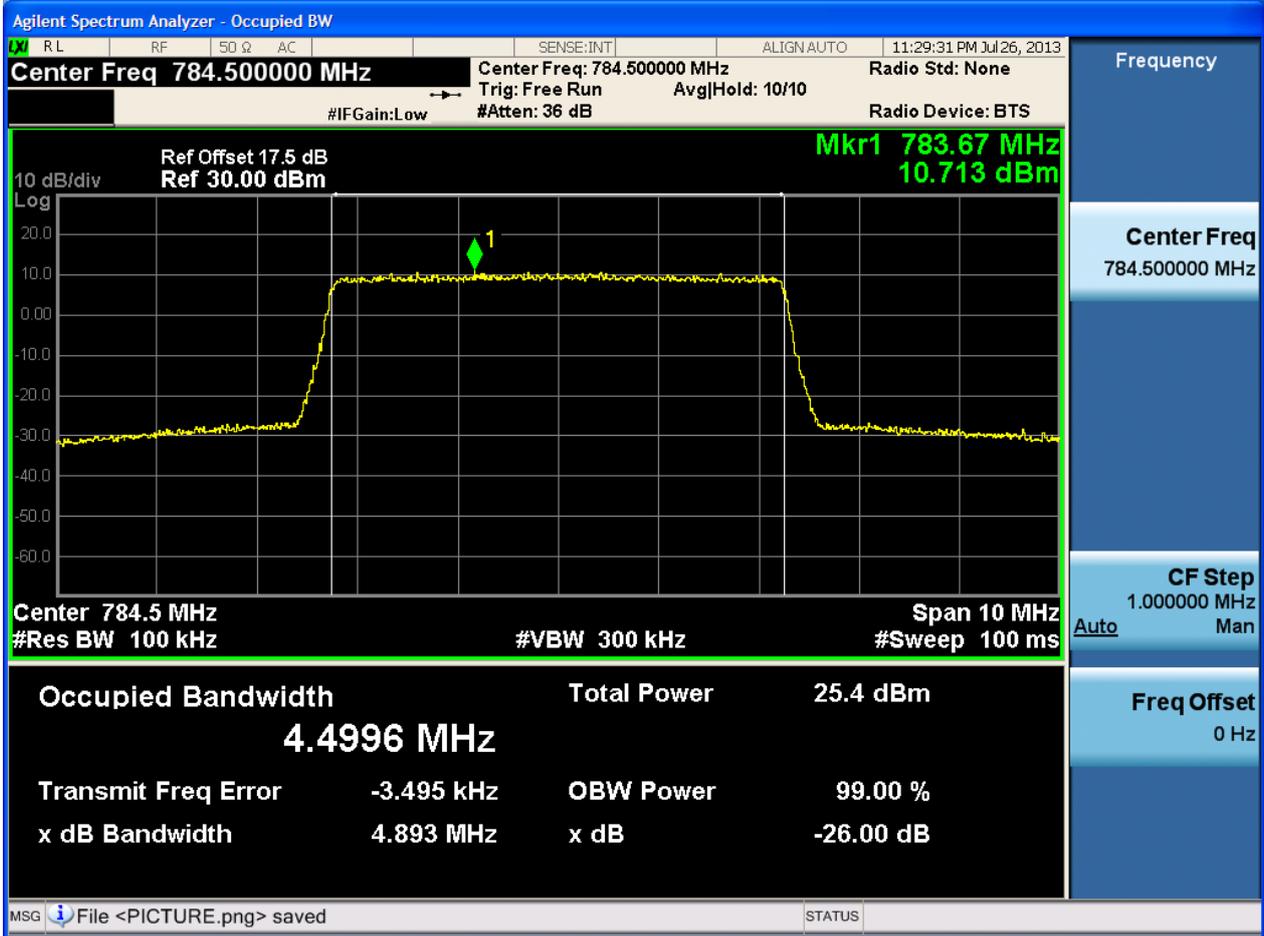
3.1.1.2.1.2.1 Test RB = RB25#0





3.1.1.2.1.3 Test Channel = HCH

3.1.1.2.1.3.1 Test RB = RB25#0





3.1.1.2.2 Test Bandwidth = 10

3.1.1.2.2.1 Test Channel = LCH

3.1.1.2.2.1.1 Test RB = RB50#0





3.1.1.2.2.2 Test Channel = MCH

3.1.1.2.2.1 Test RB = RB50#0





3.1.1.2.2.3 Test Channel = HCH

3.1.1.2.2.3.1 Test RB = RB50#0





## 4Appendix\_D: Band Edges Compliance

### Part I - Test Plots

#### 4.1 For LTE

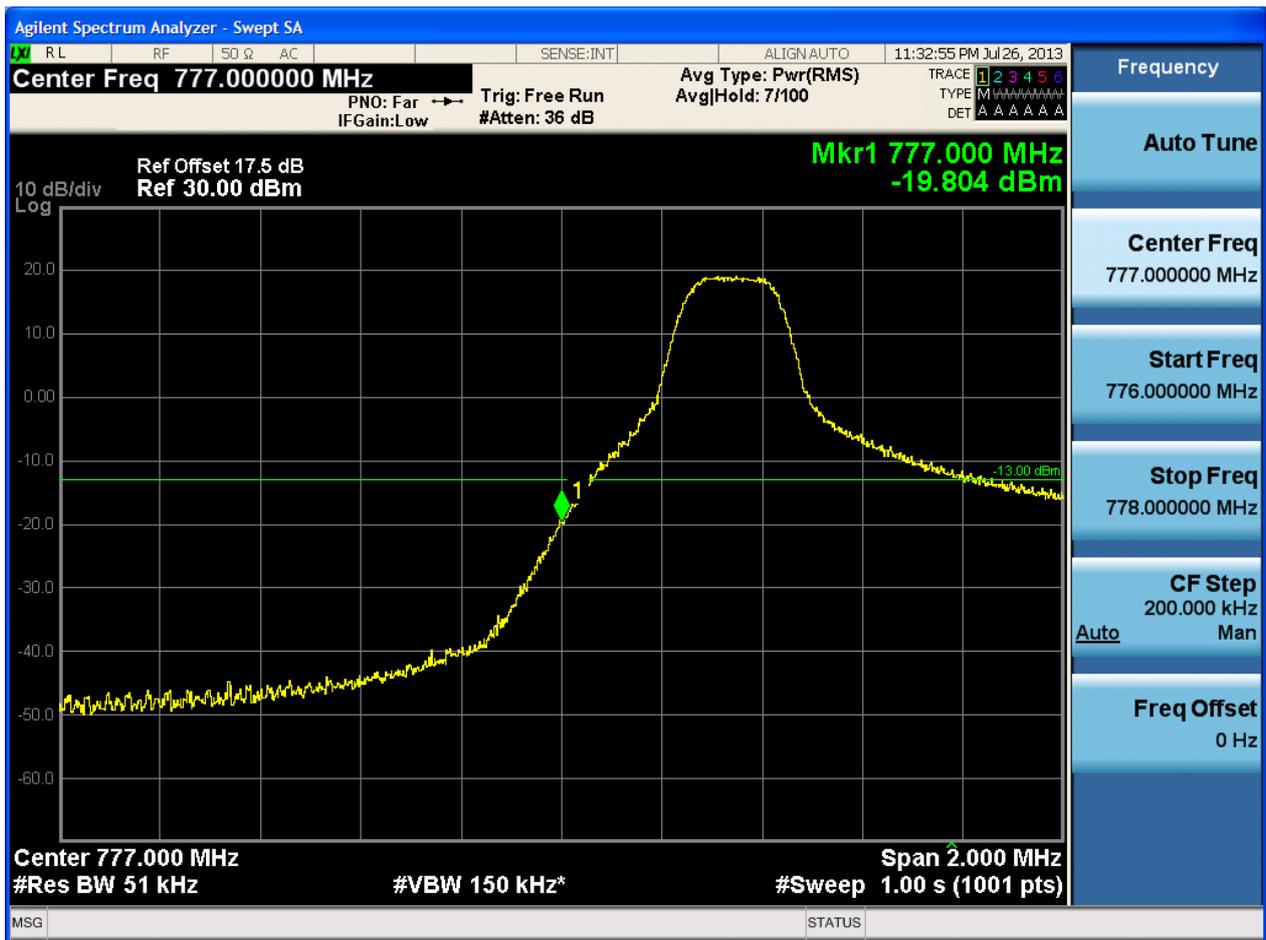
##### 4.1.1 Test Band = BAND13

##### 4.1.1.1 Test Mode = LTE/TM1

##### 4.1.1.1.1 Test Bandwidth = 5

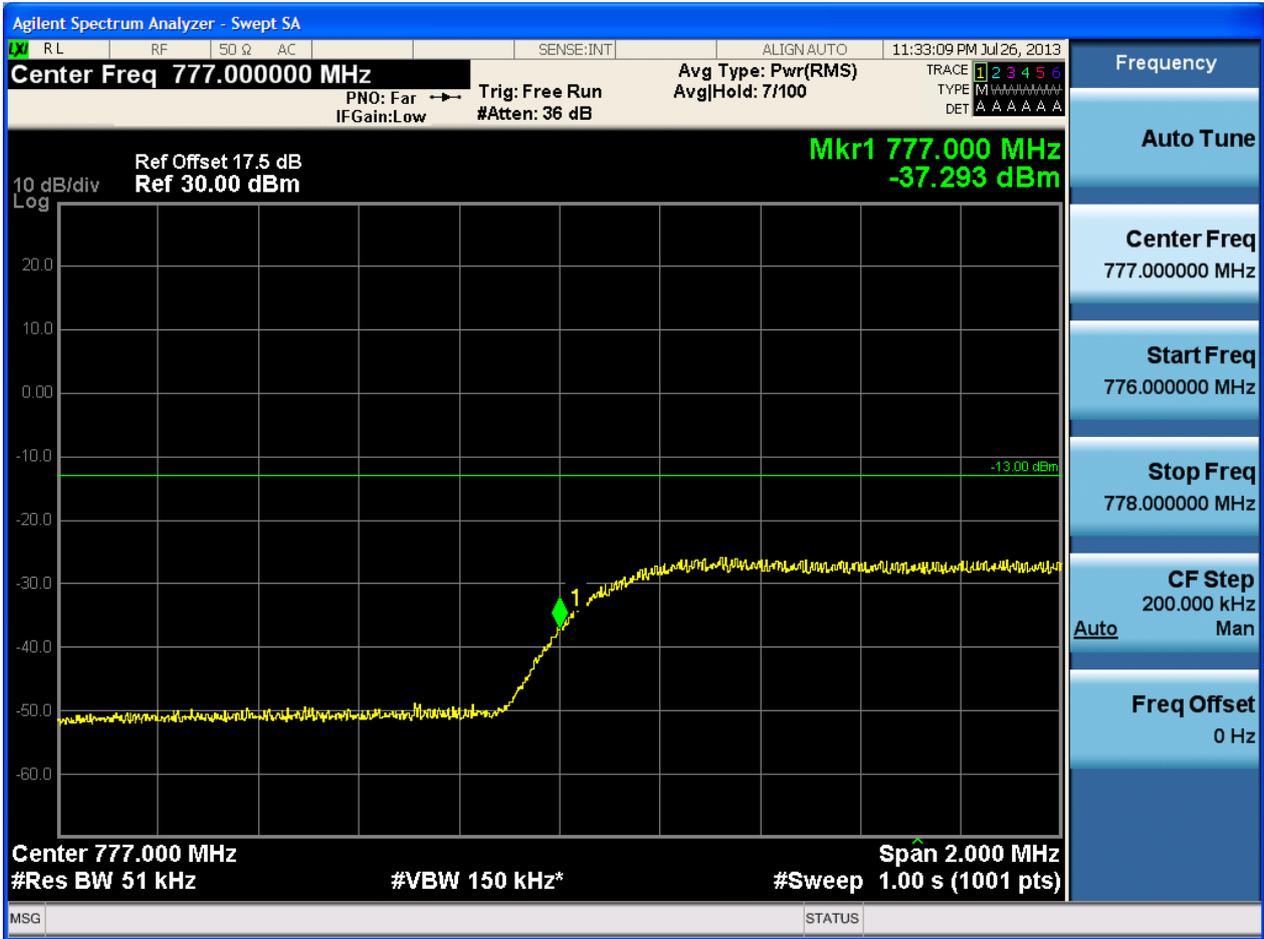
##### 4.1.1.1.1.1 Test Channel = LCH

##### 4.1.1.1.1.1.1 Test RB = RB1#0



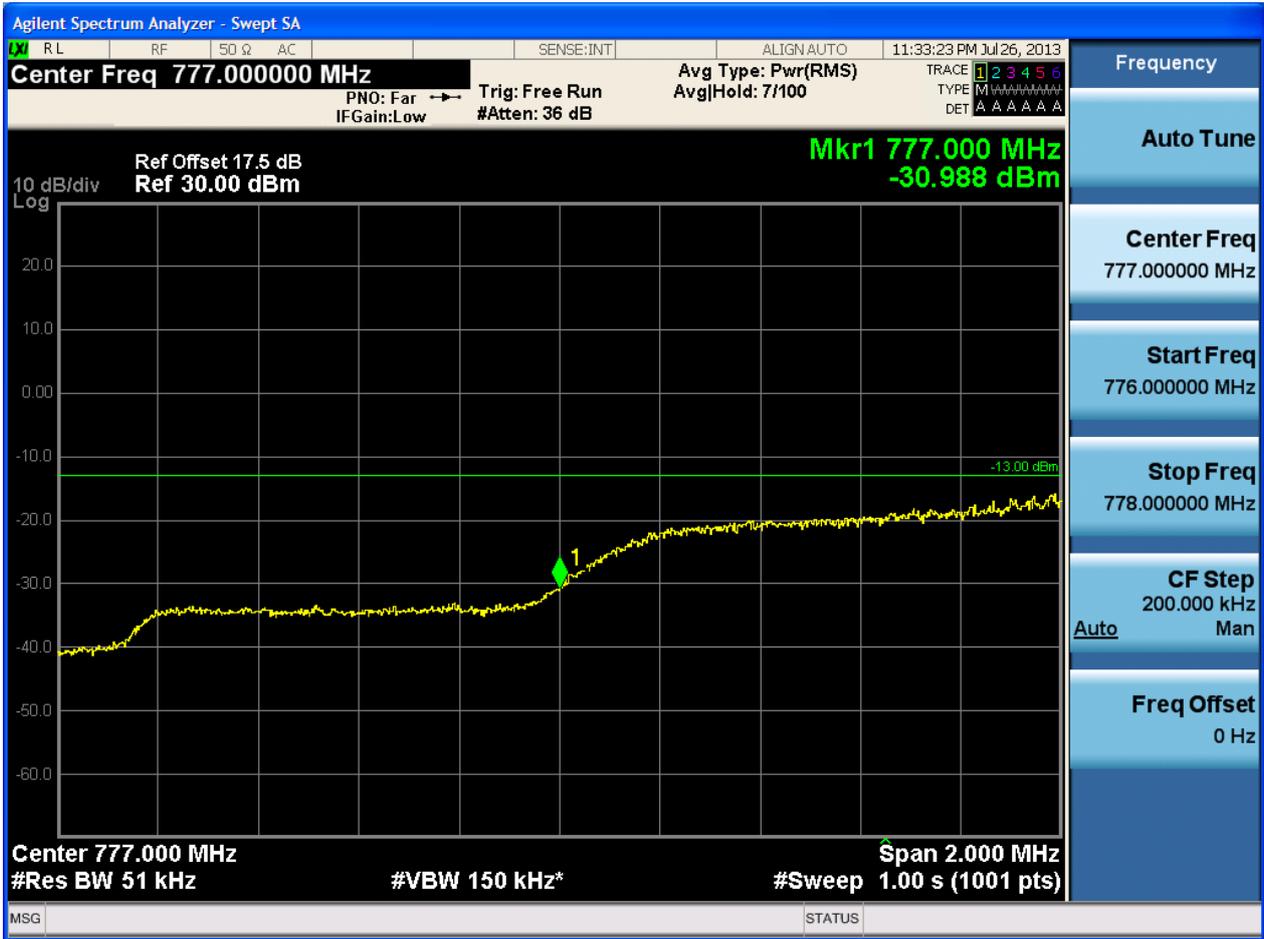


4.1.1.1.1.2 Test RB = RB1#24





4.1.1.1.1.3 Test RB = RB12#6





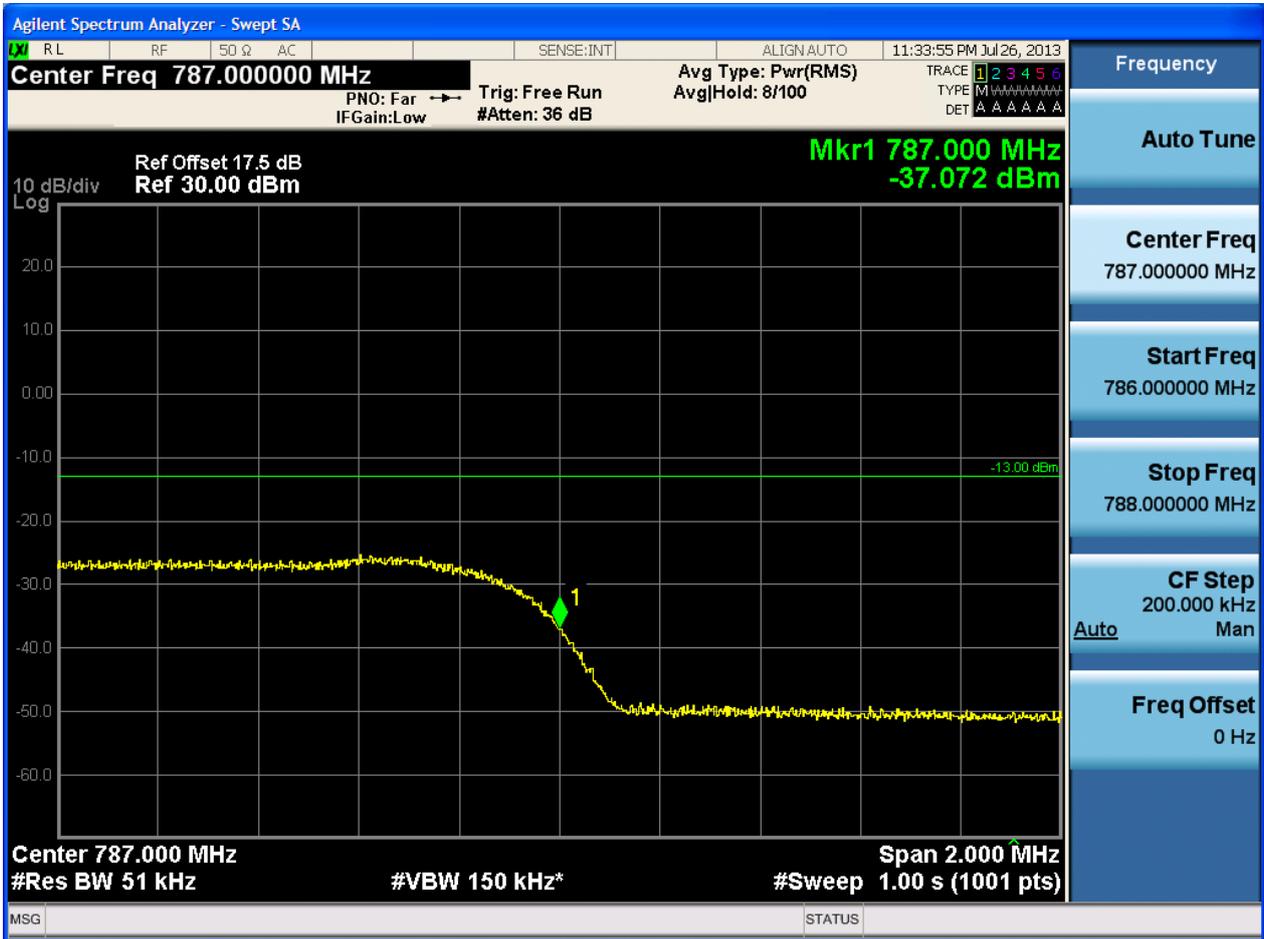
4.1.1.1.1.4 Test RB = RB25#0





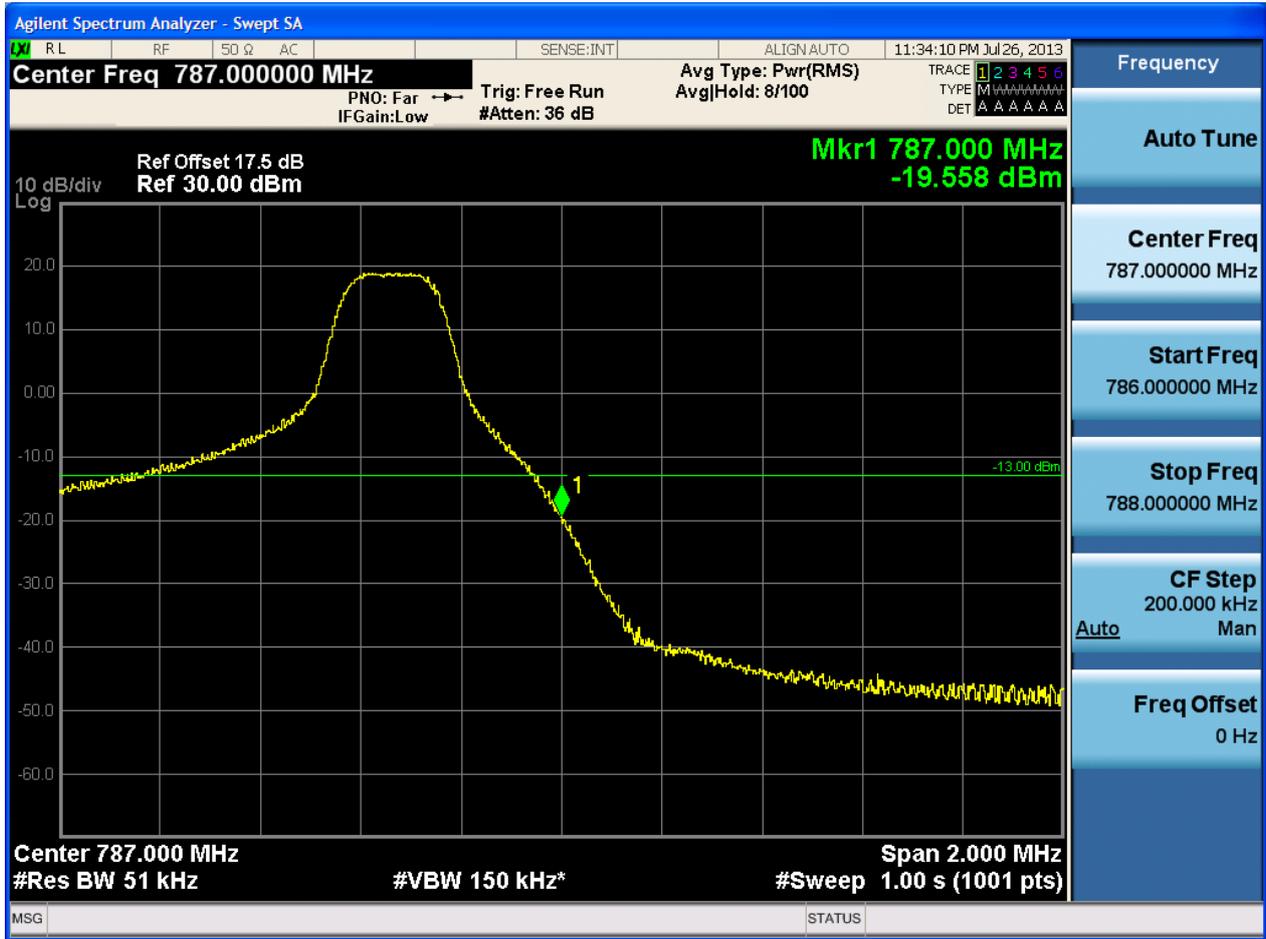
4.1.1.1.1.2 Test Channel = HCH

4.1.1.1.1.2.1 Test RB = RB1#0





4.1.1.1.2.2 Test RB = RB1#24





4.1.1.1.1.2.3 Test RB = RB12#6





4.1.1.1.2.4 Test RB = RB25#0

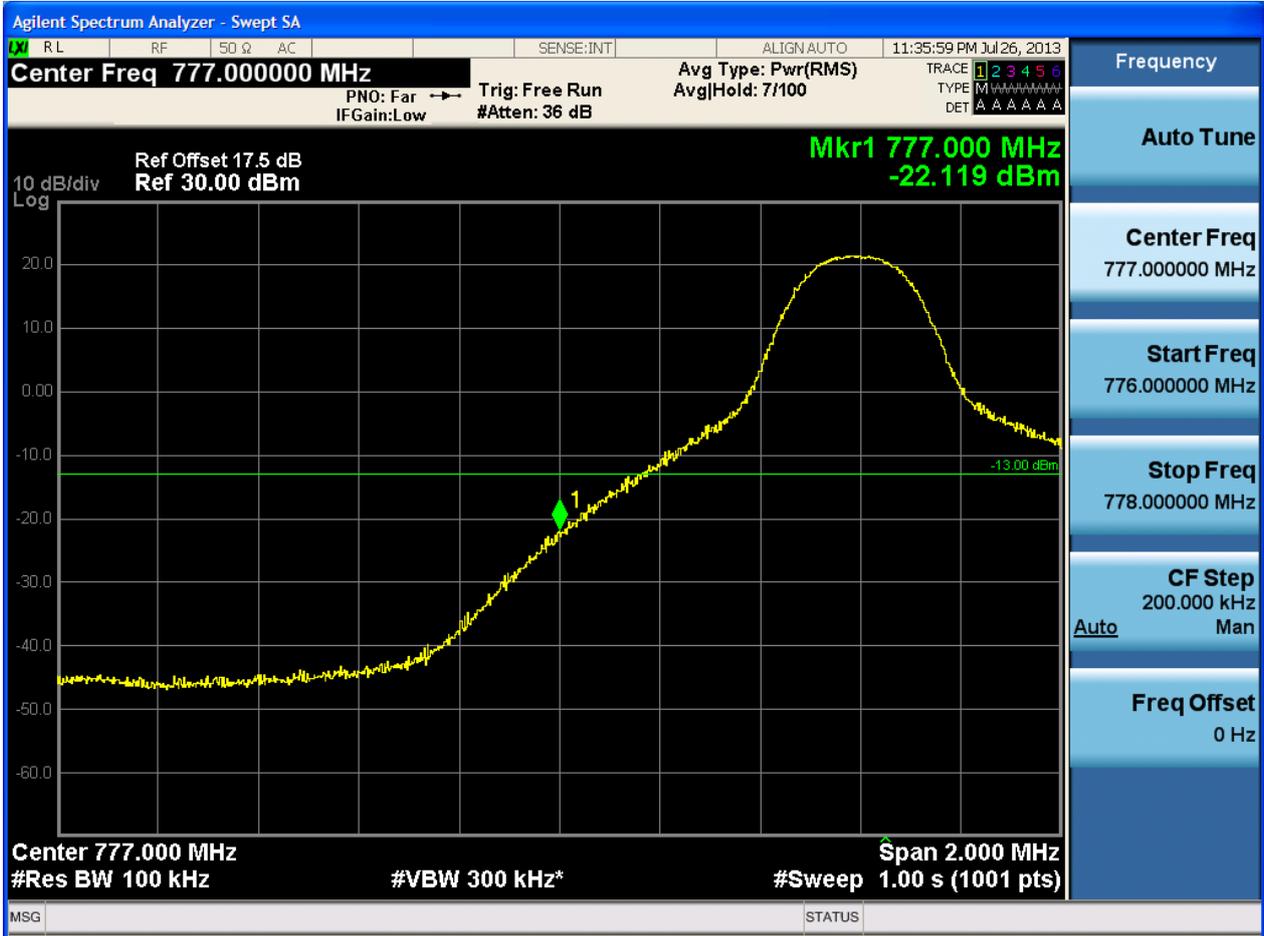




4.1.1.1.2 Test Bandwidth = 10

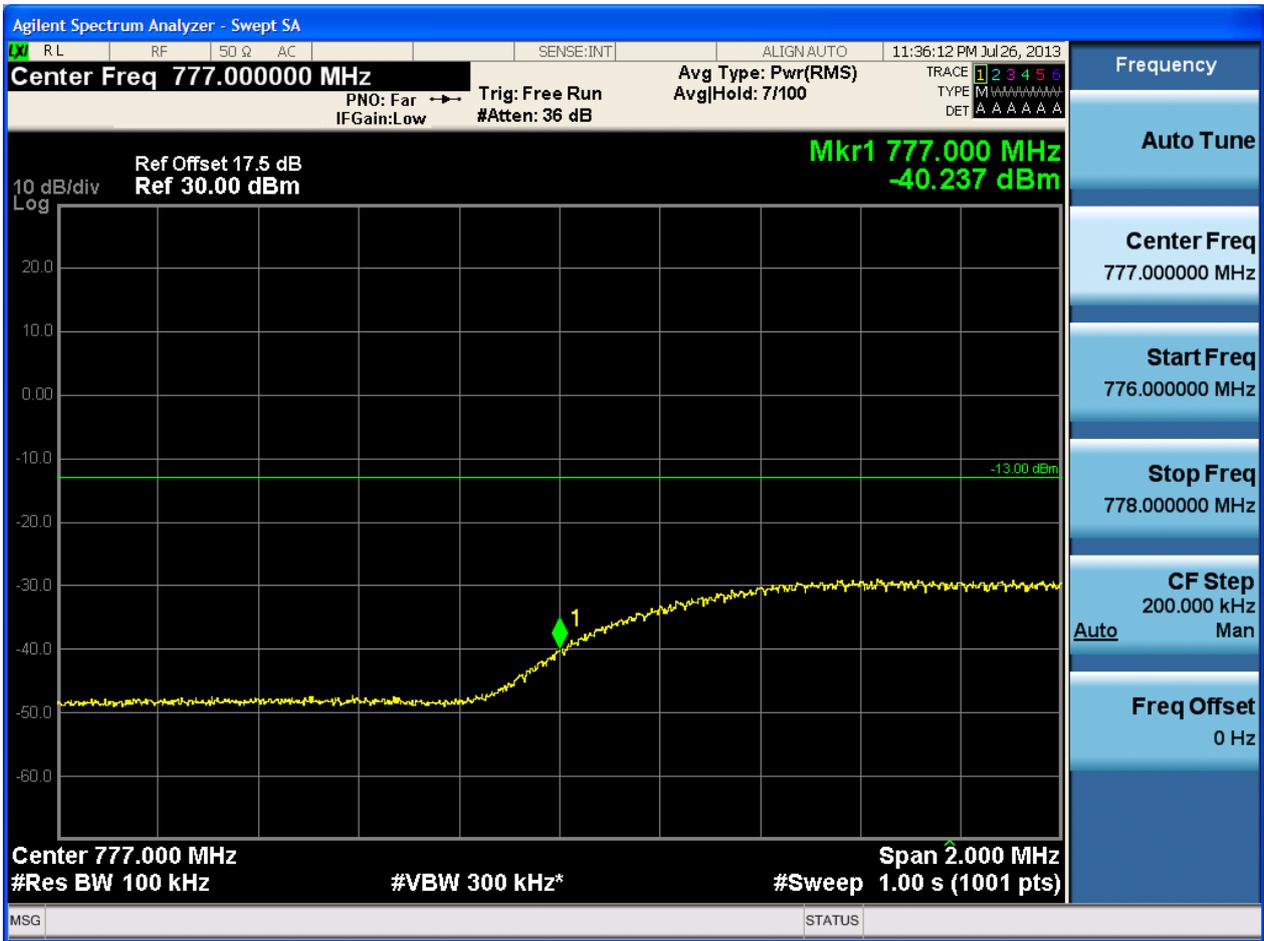
4.1.1.1.2.1 Test Channel = LCH

4.1.1.1.2.1.1 Test RB = RB1#0





4.1.1.1.2.1.2 Test RB = RB1#49





4.1.1.1.2.1.3 Test RB = RB25#13





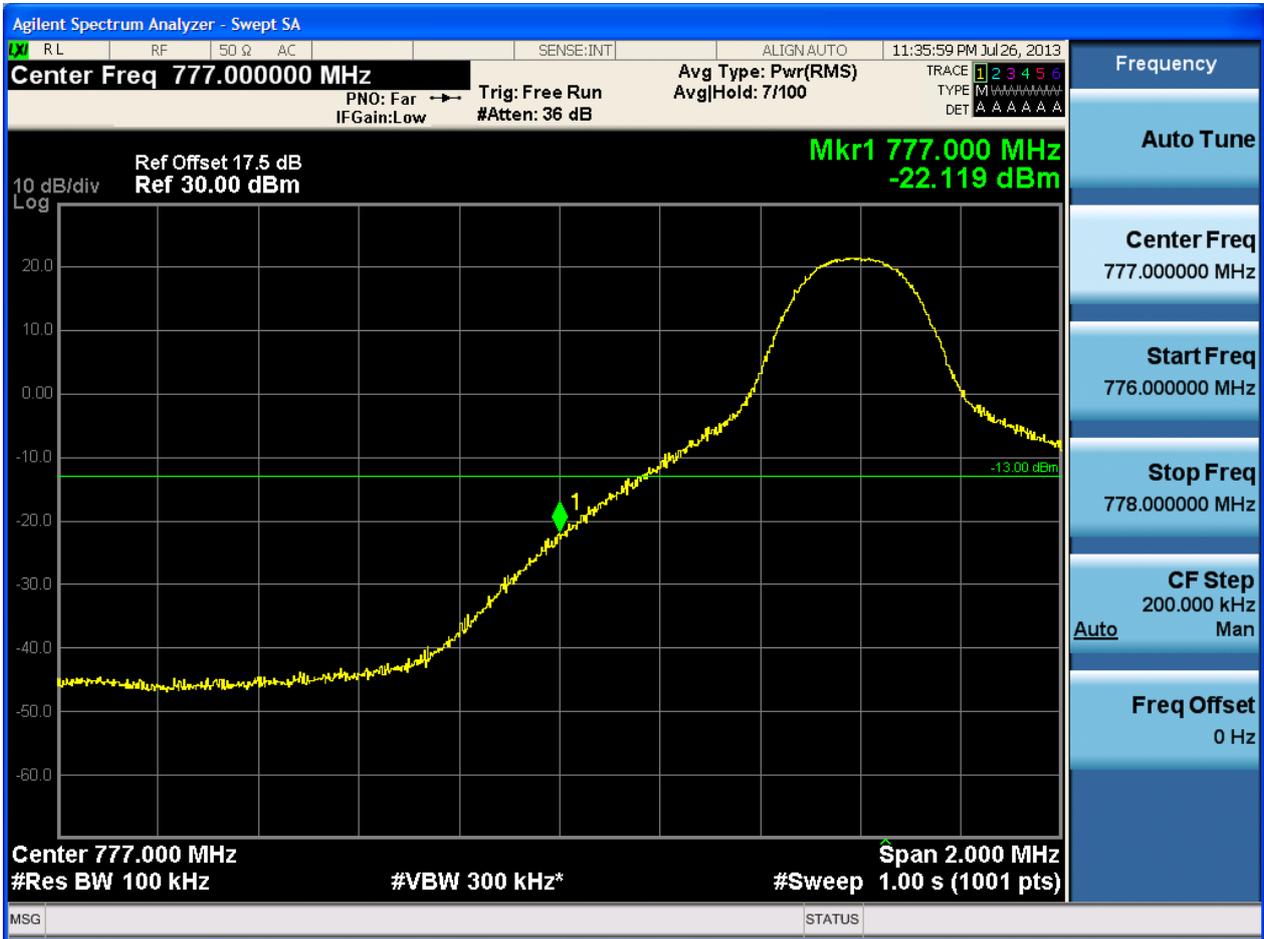
4.1.1.1.2.1.4 Test RB = RB50#0





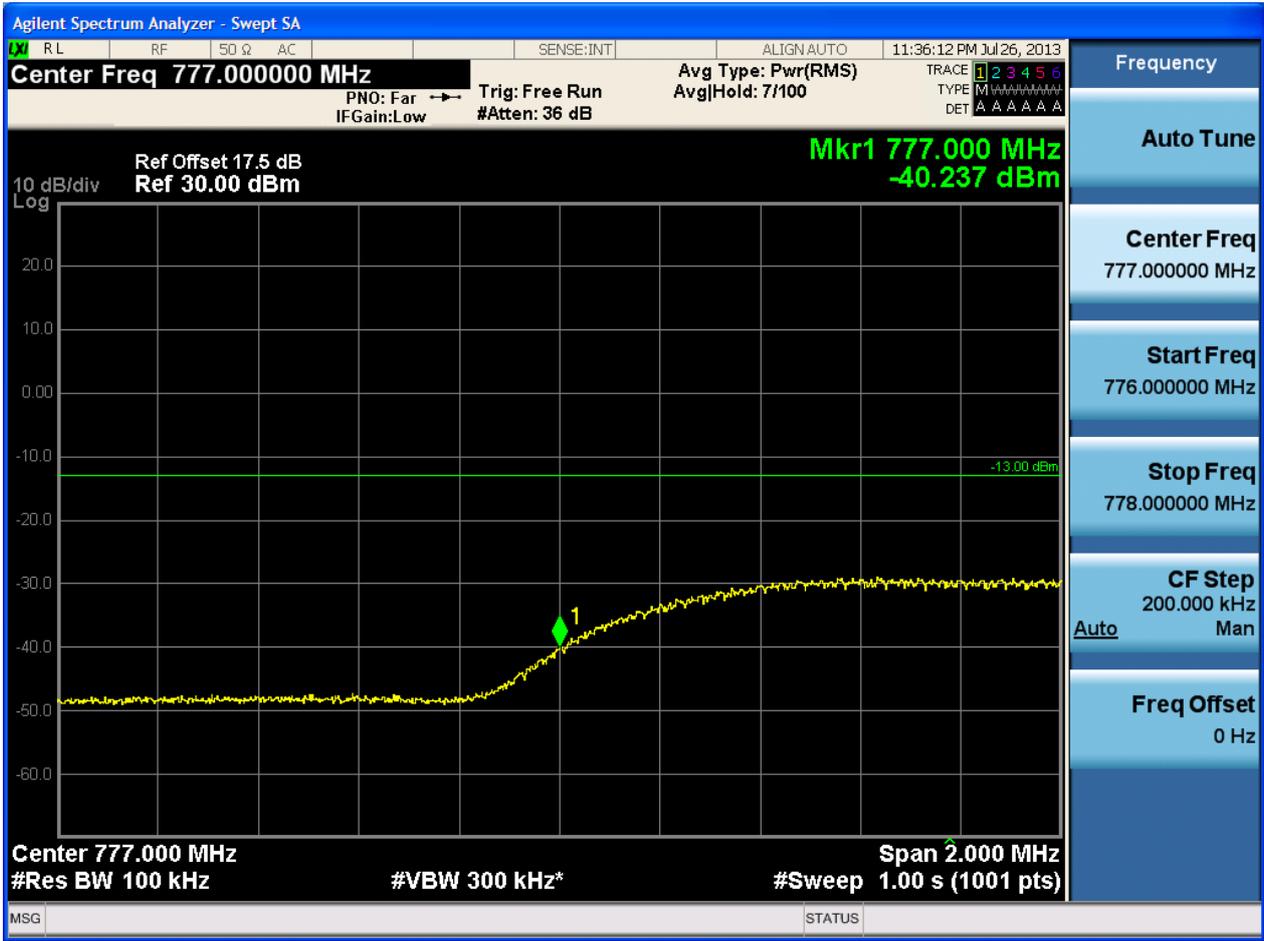
4.1.1.1.2.2 Test Channel = HCH

4.1.1.1.2.2.1 Test RB = RB1#0





4.1.1.1.2.2 Test RB = RB1#49



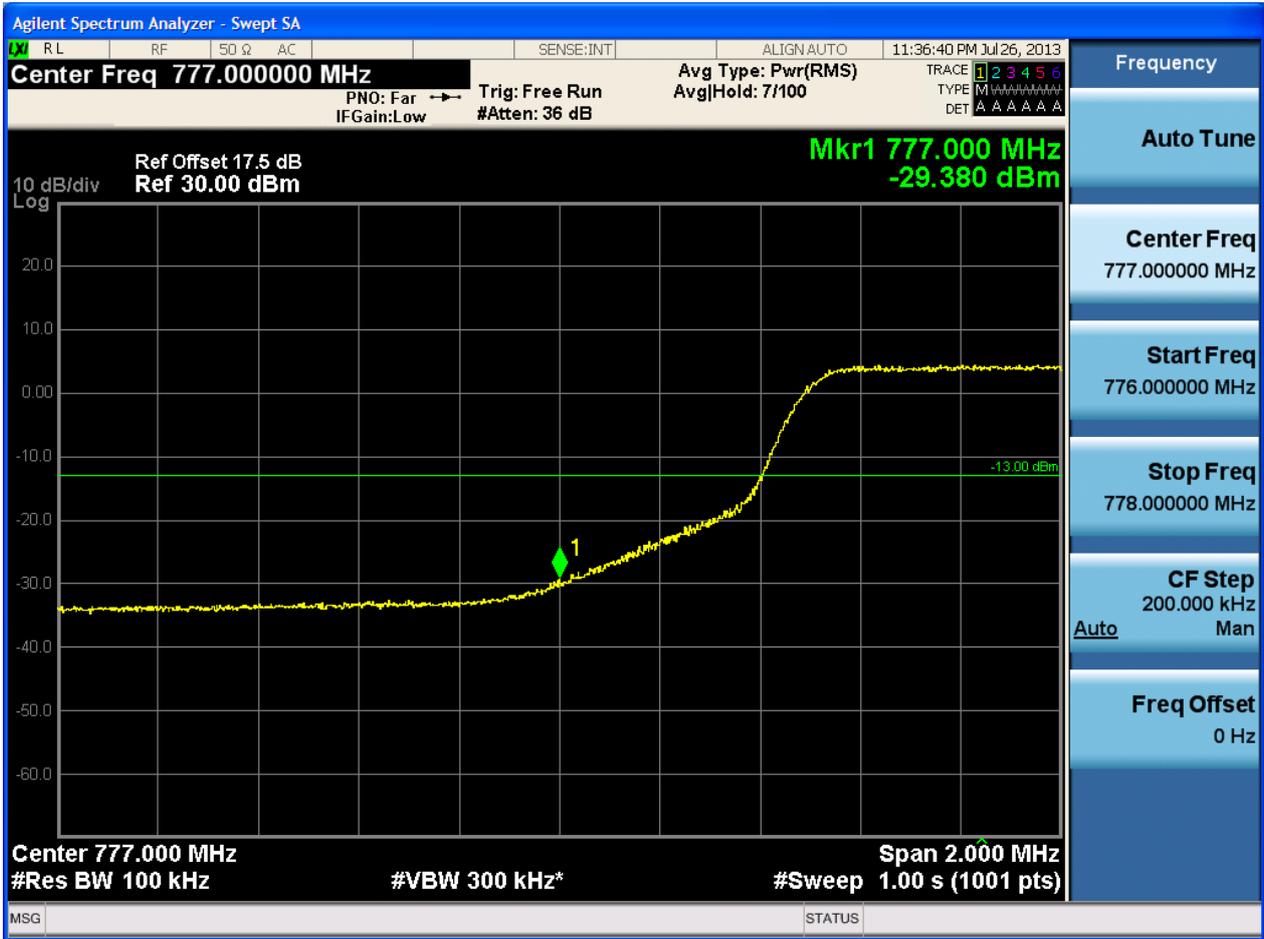


4.1.1.1.2.2.3 Test RB = RB25#13





4.1.1.1.2.2.4 Test RB = RB50#0



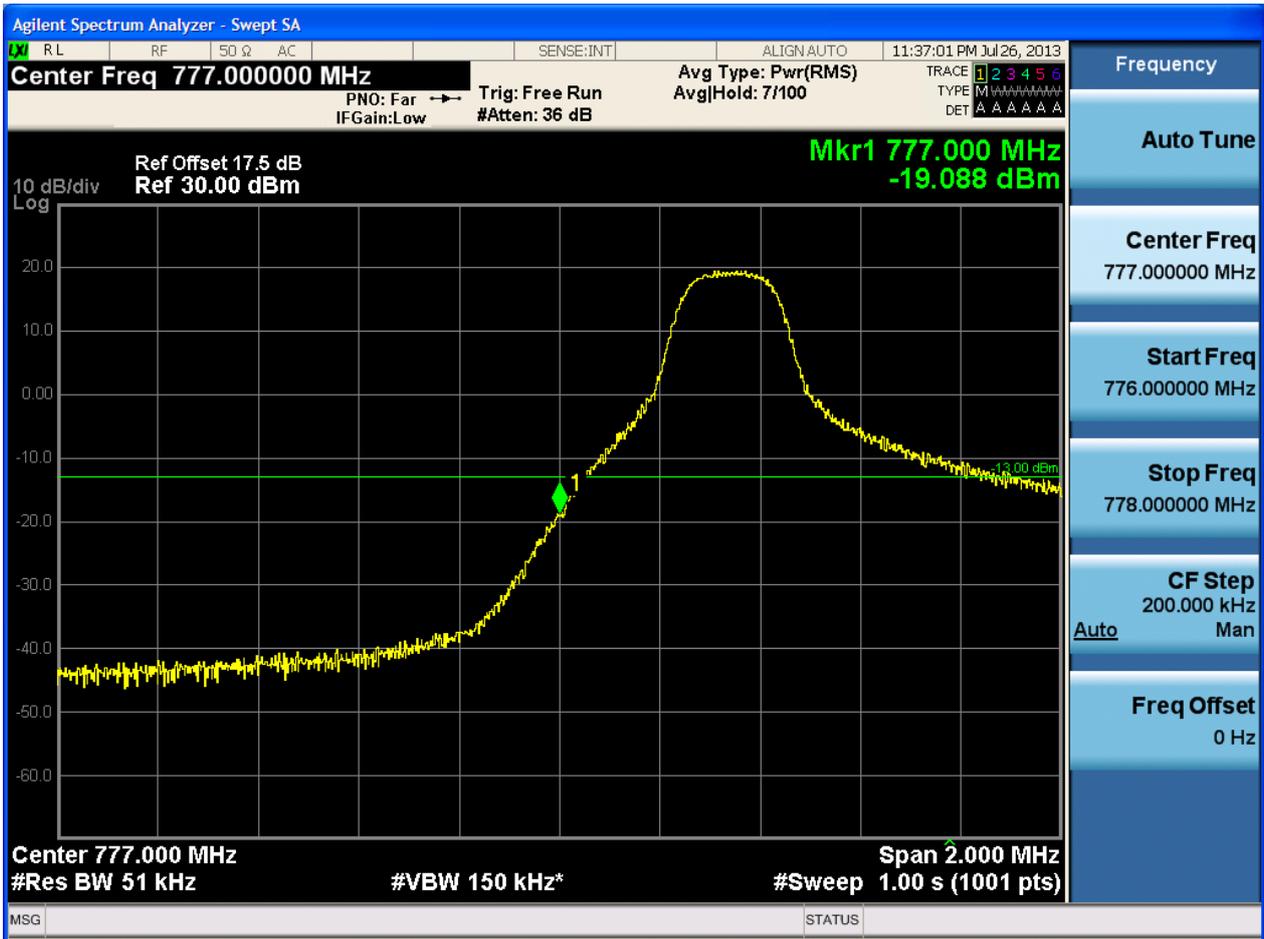


4.1.1.2 Test Mode = LTE/TM2

4.1.1.2.1 Test Bandwidth = 5

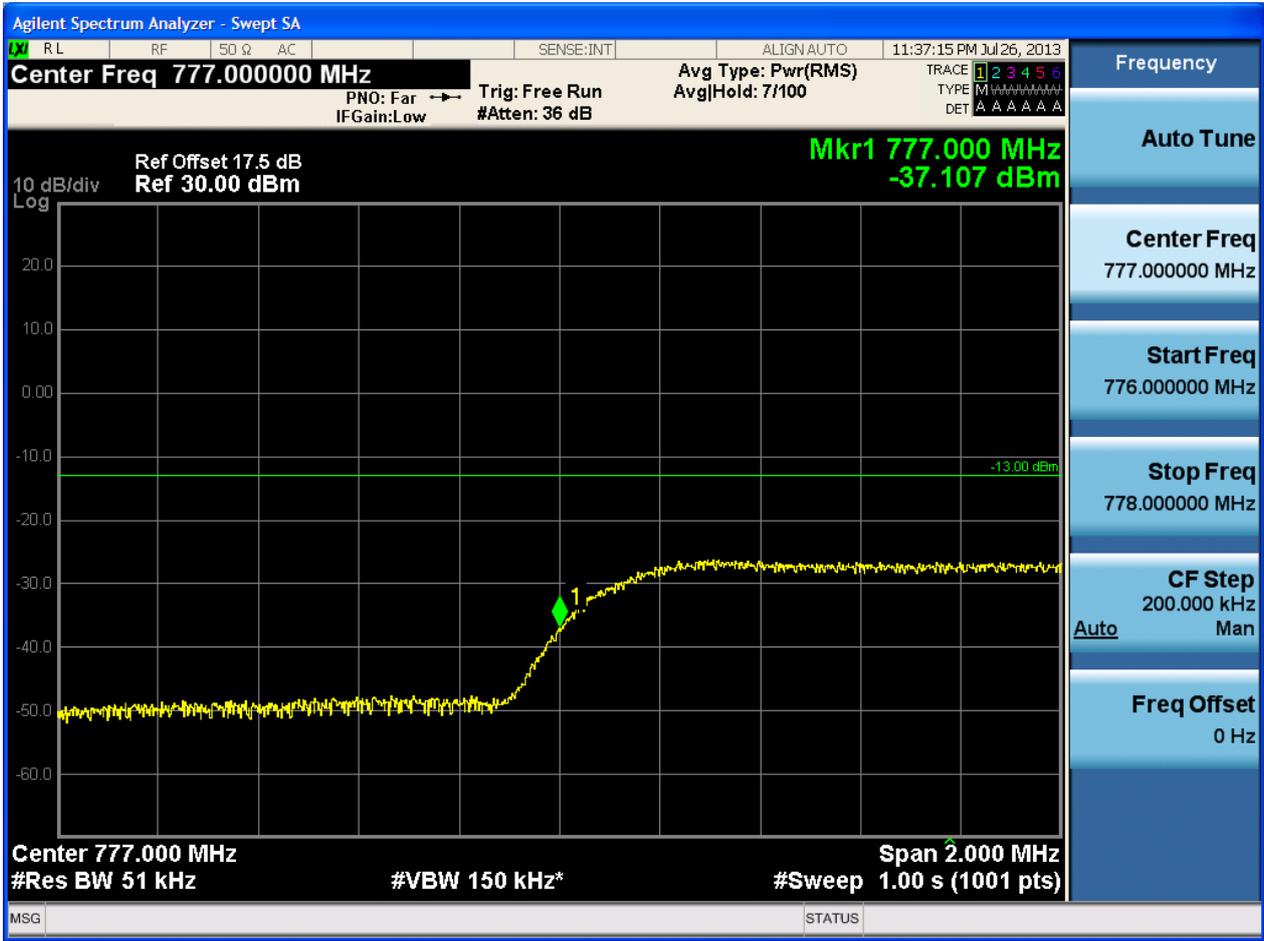
4.1.1.2.1.1 Test Channel = LCH

4.1.1.2.1.1.1 Test RB = RB1#0





4.1.1.2.1.1.2 Test RB = RB1#24



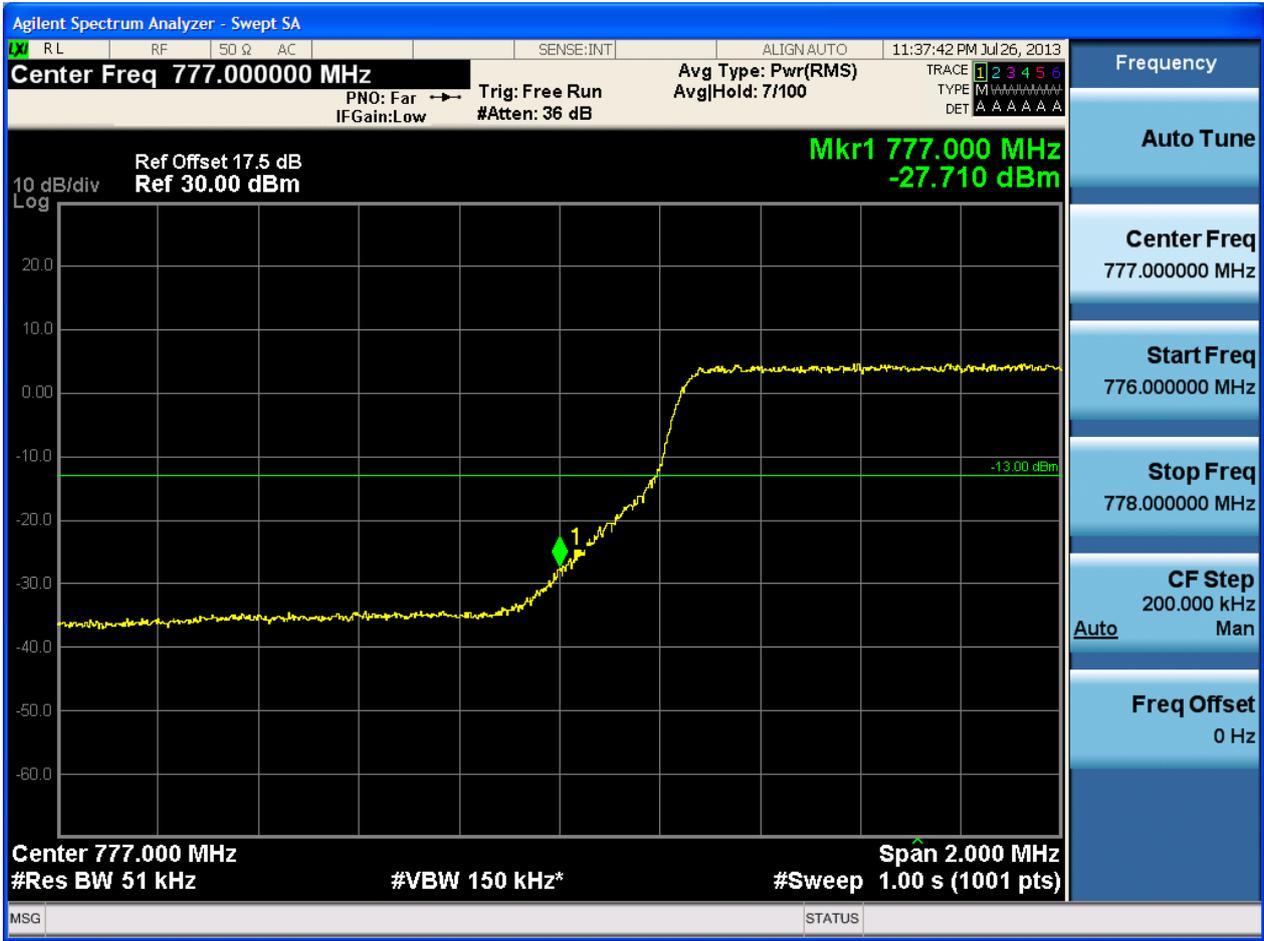


4.1.1.2.1.1.3 Test RB = RB12#6





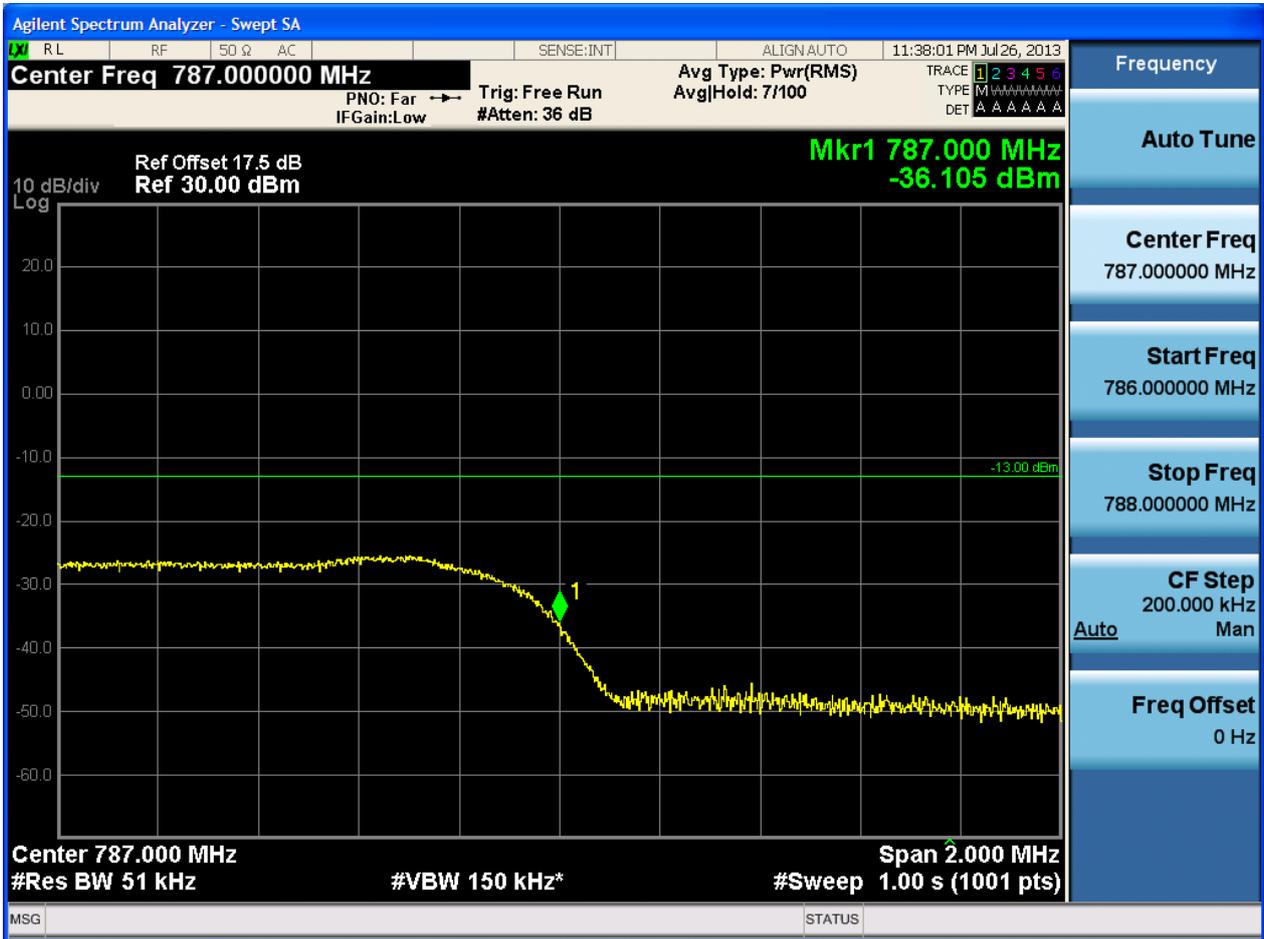
4.1.1.2.1.1.4 Test RB = RB25#0





4.1.1.2.1.2 Test Channel = HCH

4.1.1.2.1.2.1 Test RB = RB1#0





4.1.1.2.1.2.2 Test RB = RB1#24





4.1.1.2.1.2.3 Test RB = RB12#6





4.1.1.2.1.2.4 Test RB = RB25#0

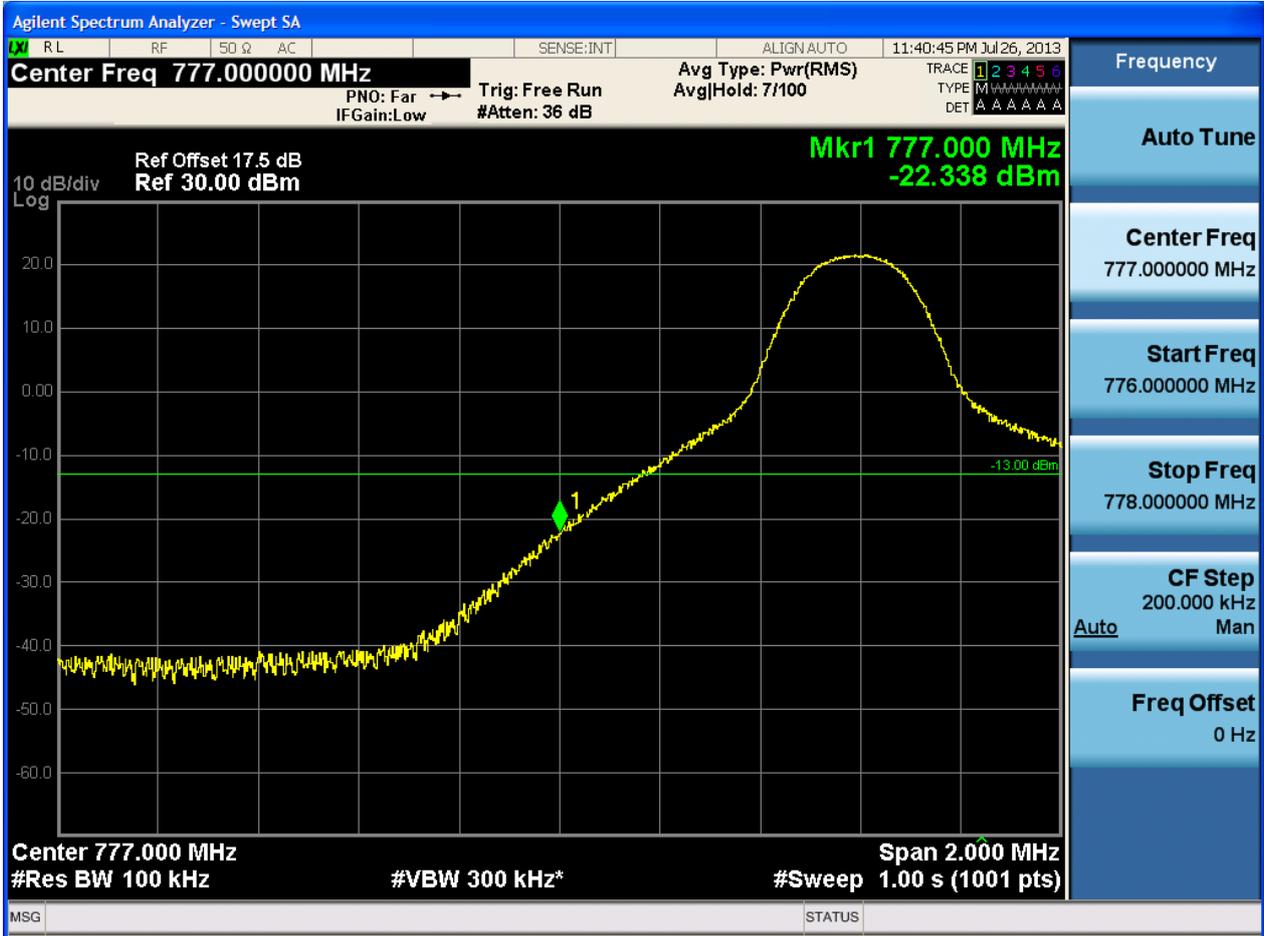




4.1.1.2.2 Test Bandwidth = 10

4.1.1.2.2.1 Test Channel = LCH

4.1.1.2.2.1.1 Test RB = RB1#0





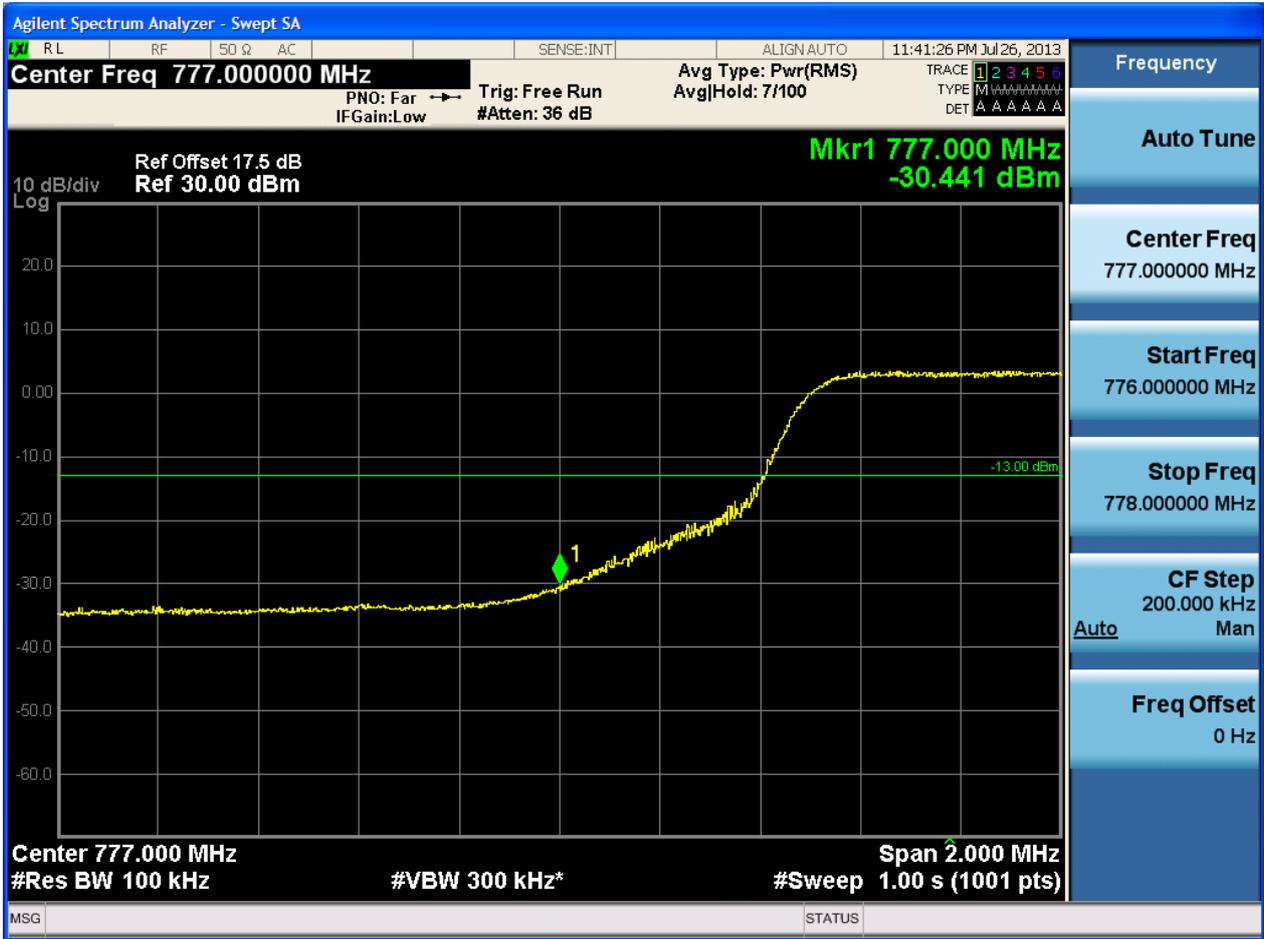
4.1.1.2.2.1.2 Test RB = RB1#49







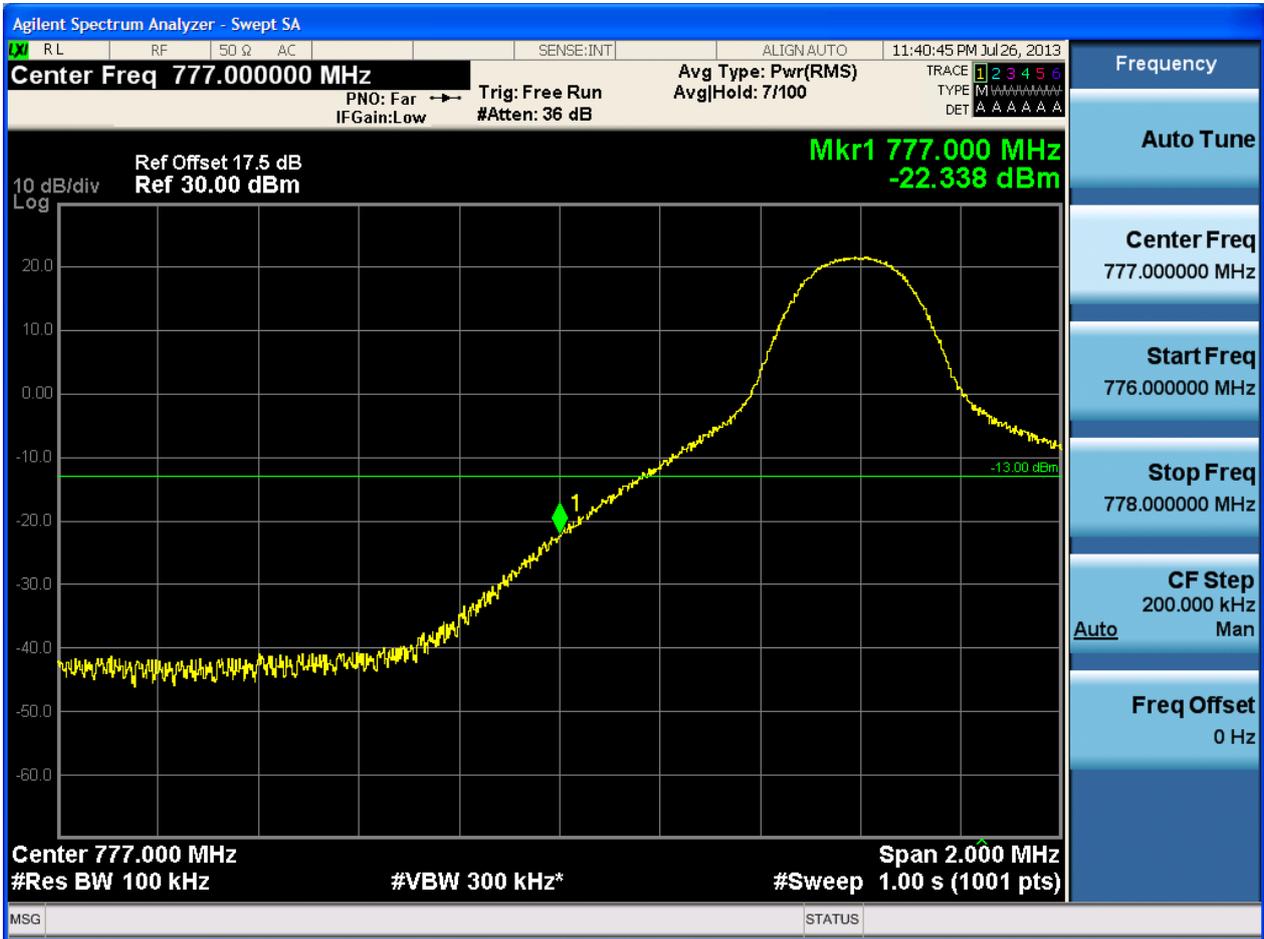
4.1.1.2.2.1.4 Test RB = RB50#0





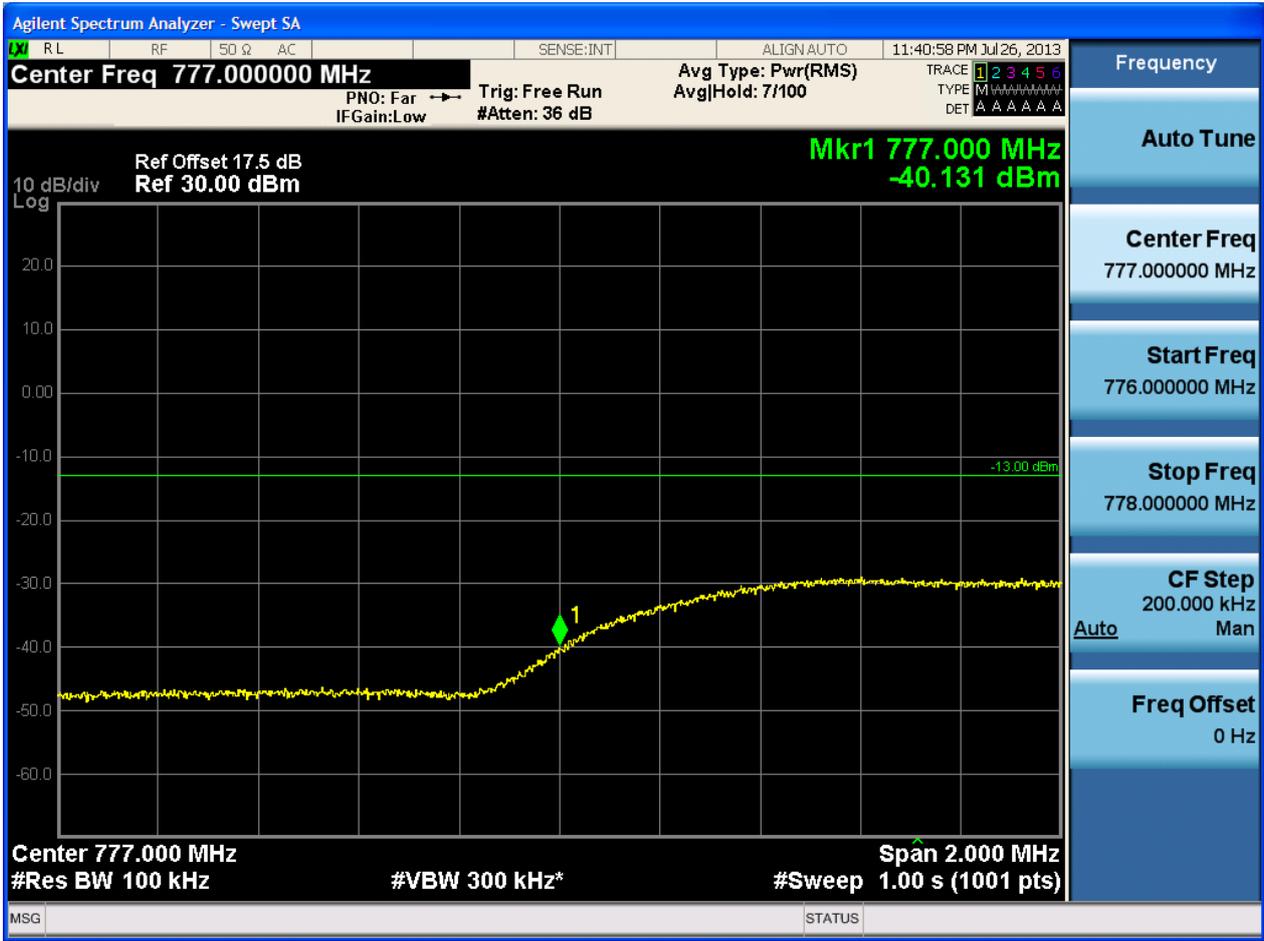
4.1.1.2.2.2 Test Channel = HCH

4.1.1.2.2.2.1 Test RB = RB1#0





4.1.1.2.2.2 Test RB = RB1#49



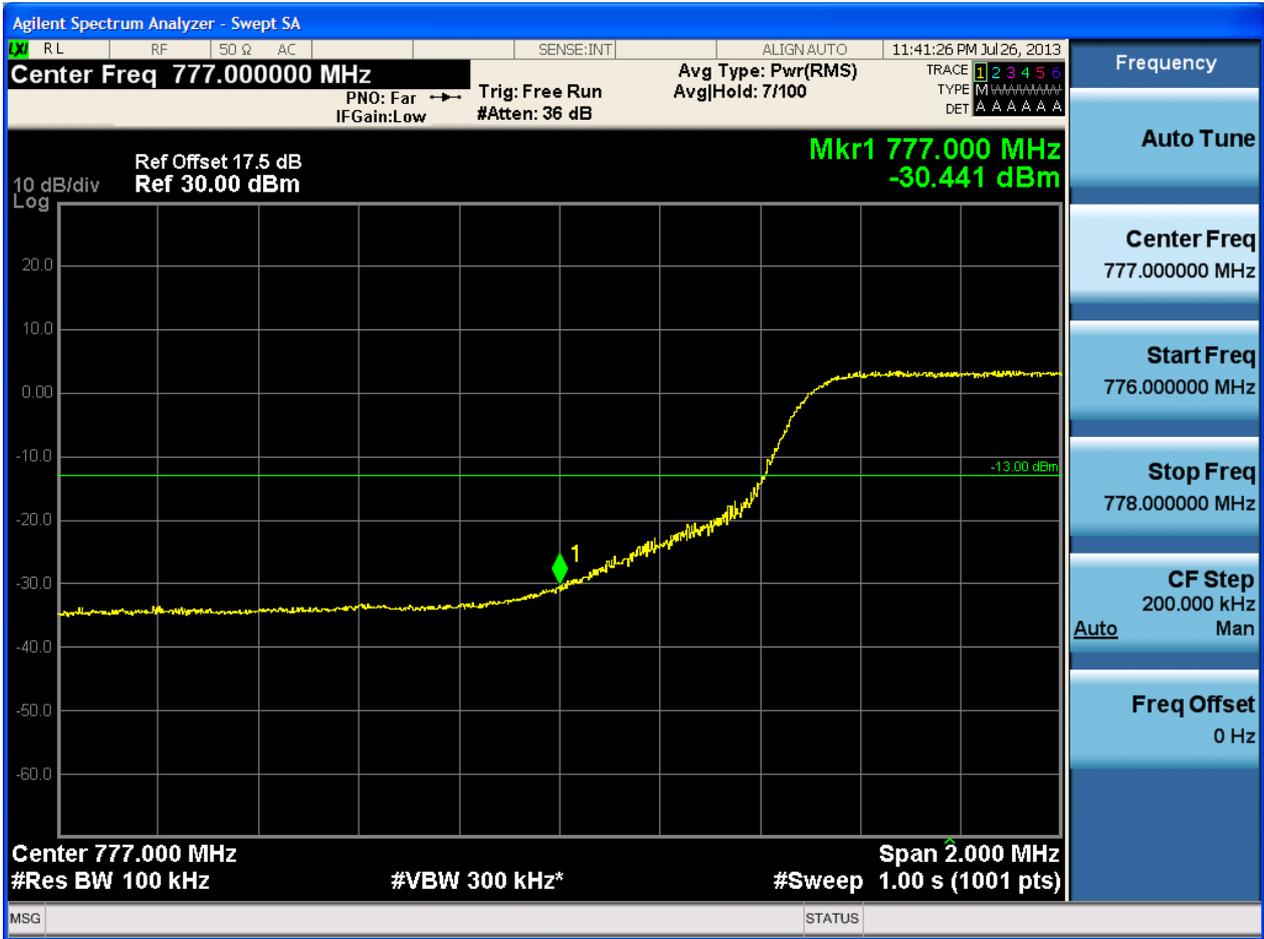


4.1.1.2.2.3 Test RB = RB25#13





4.1.1.2.2.4 Test RB = RB50#0





## 5Appendix\_E: 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

#### 5.1 For LTE

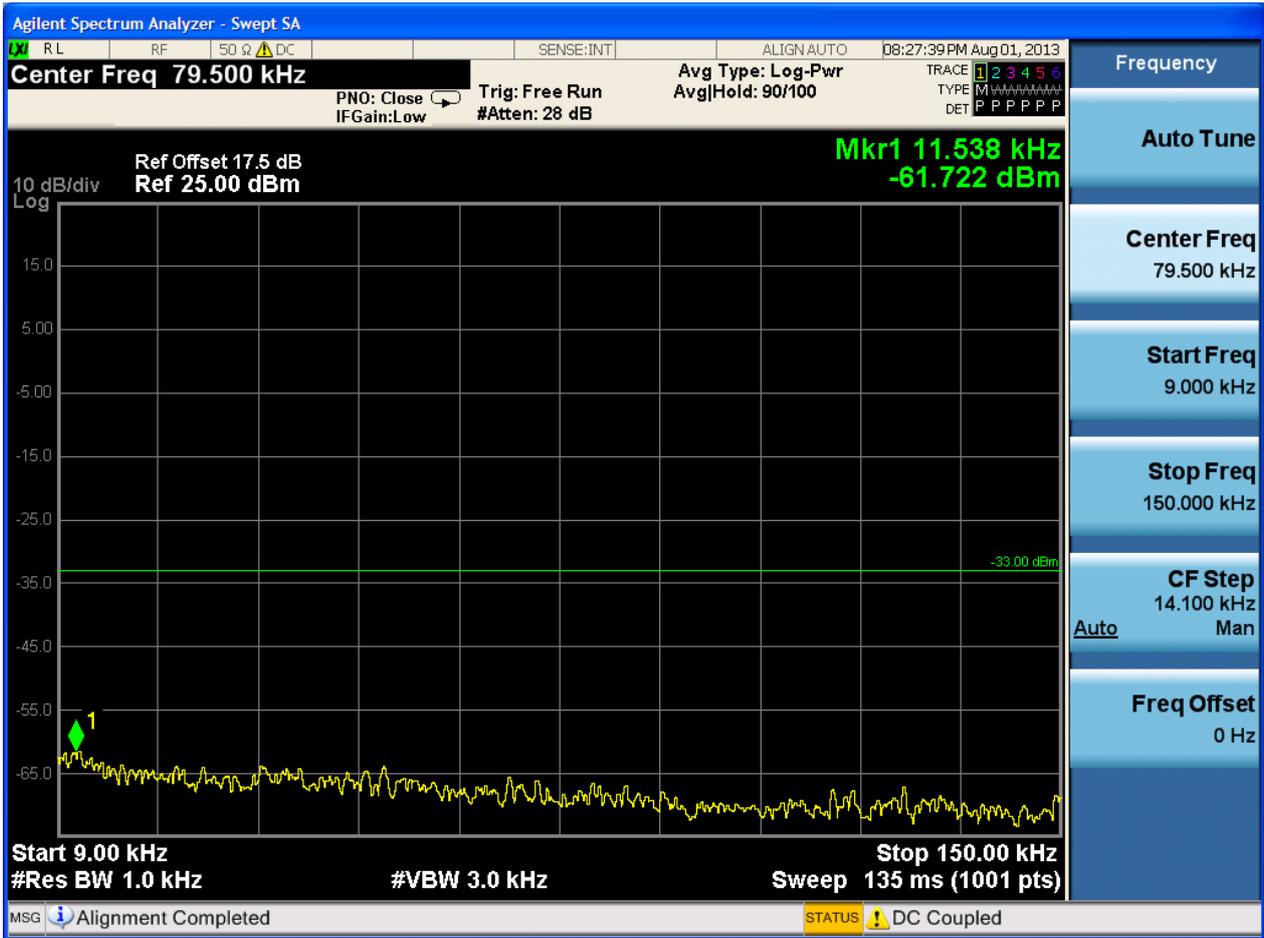
##### 5.1.1 Test Band = BAND13

##### 5.1.1.1 Test Mode = LTE/TM1

##### 5.1.1.1.1 Test Bandwidth = 5

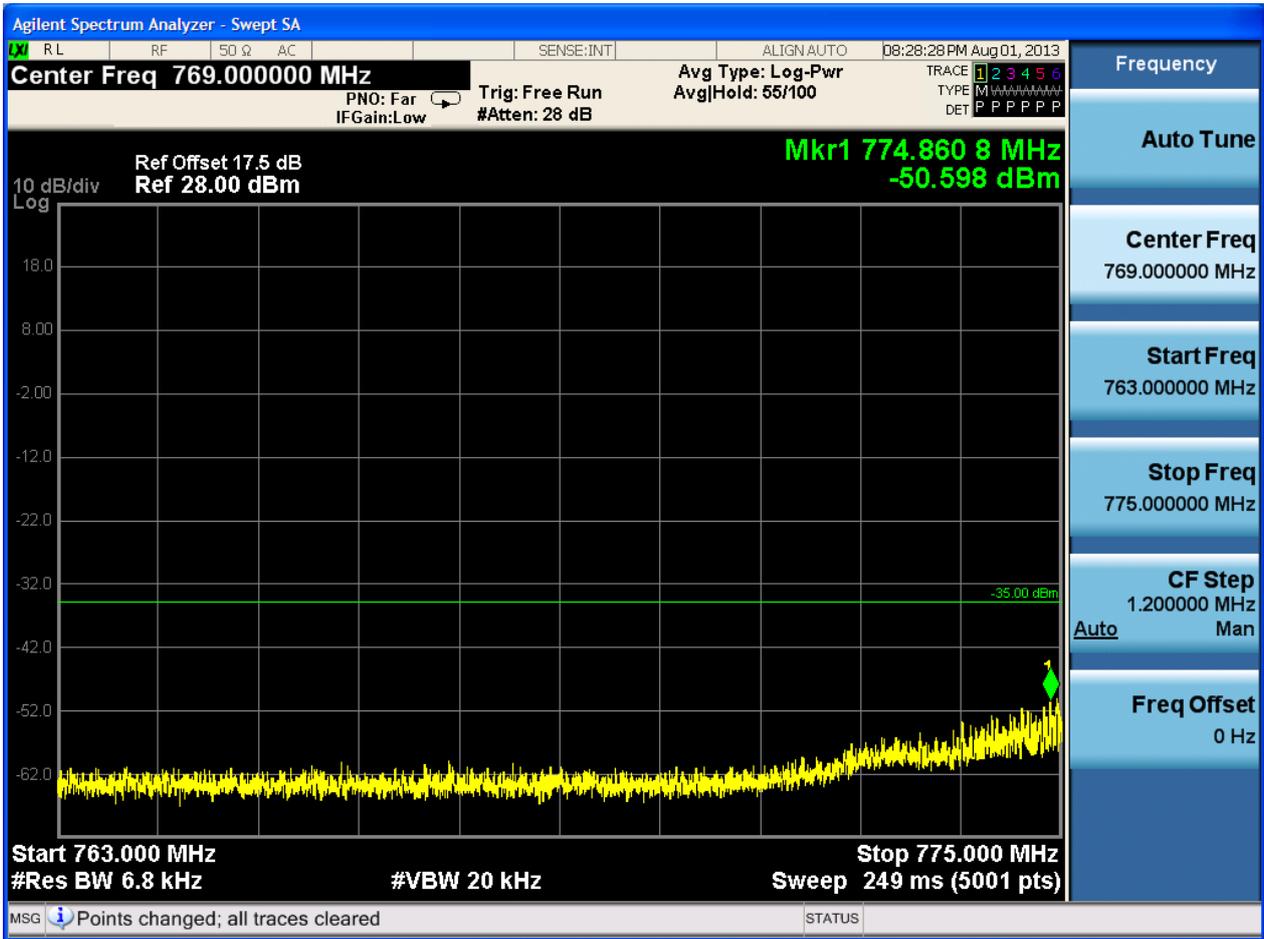
##### 5.1.1.1.1.1 Test Channel = LCH

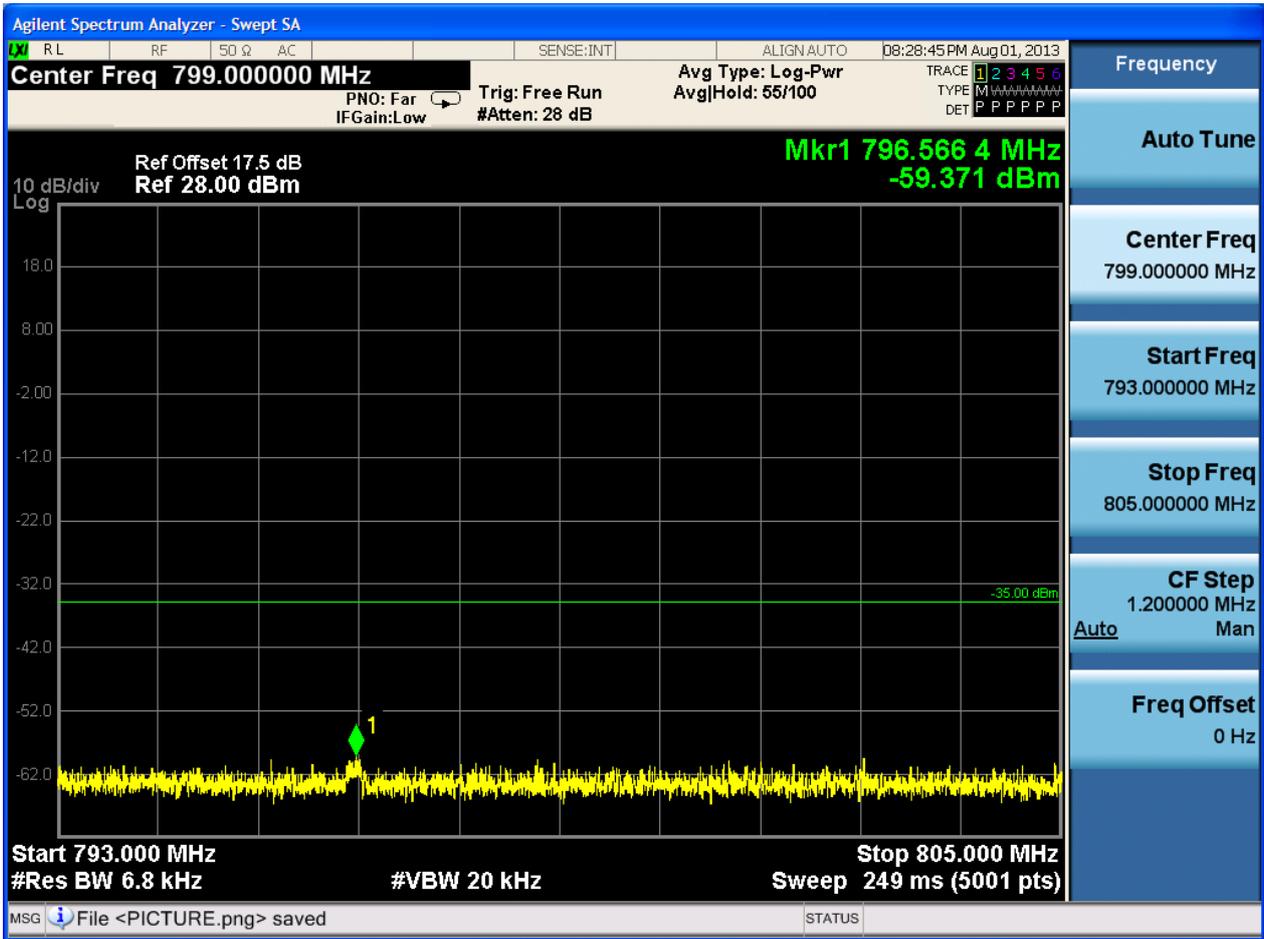
##### 5.1.1.1.1.1.1 Test RB = RB1#0







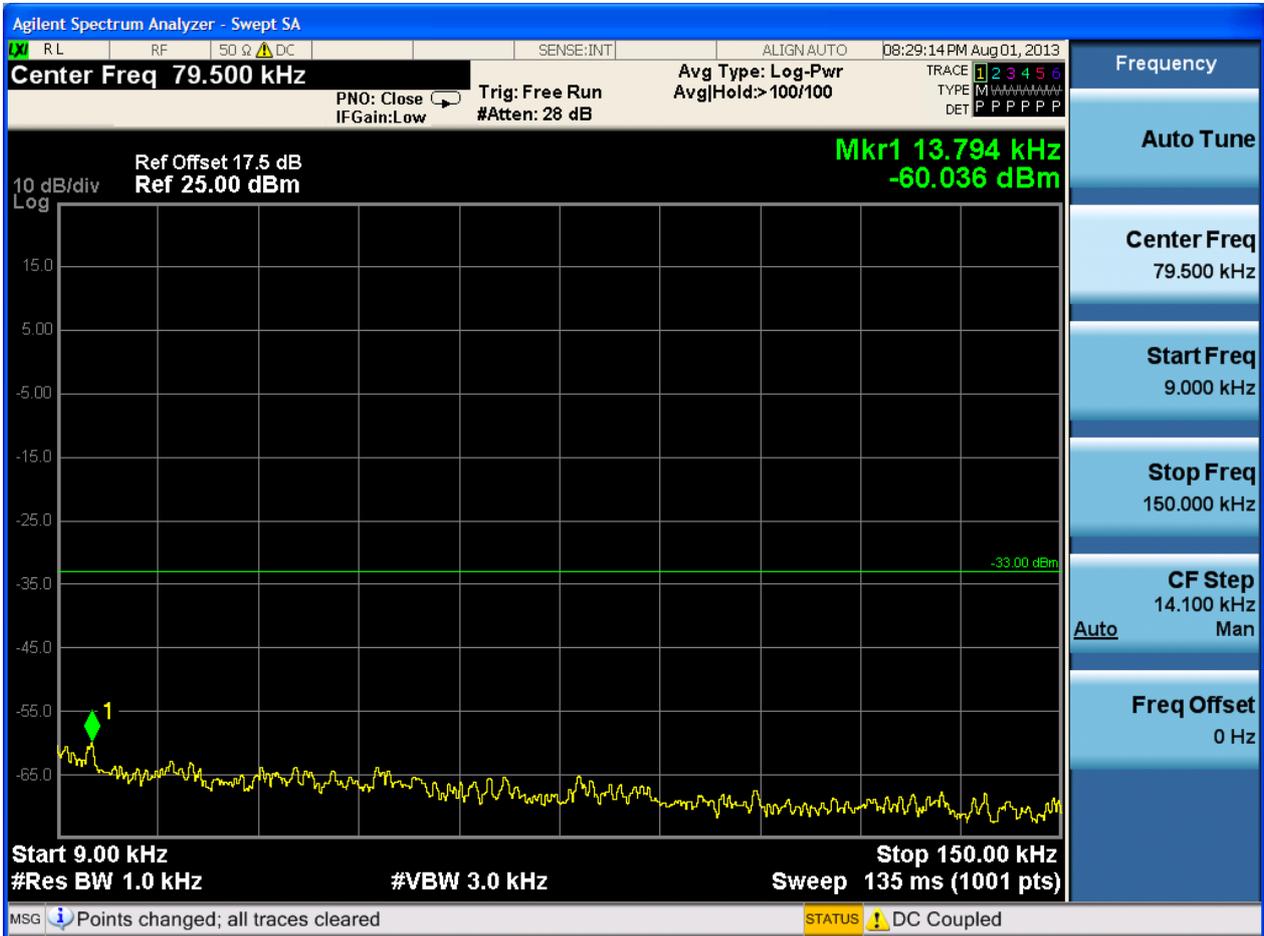


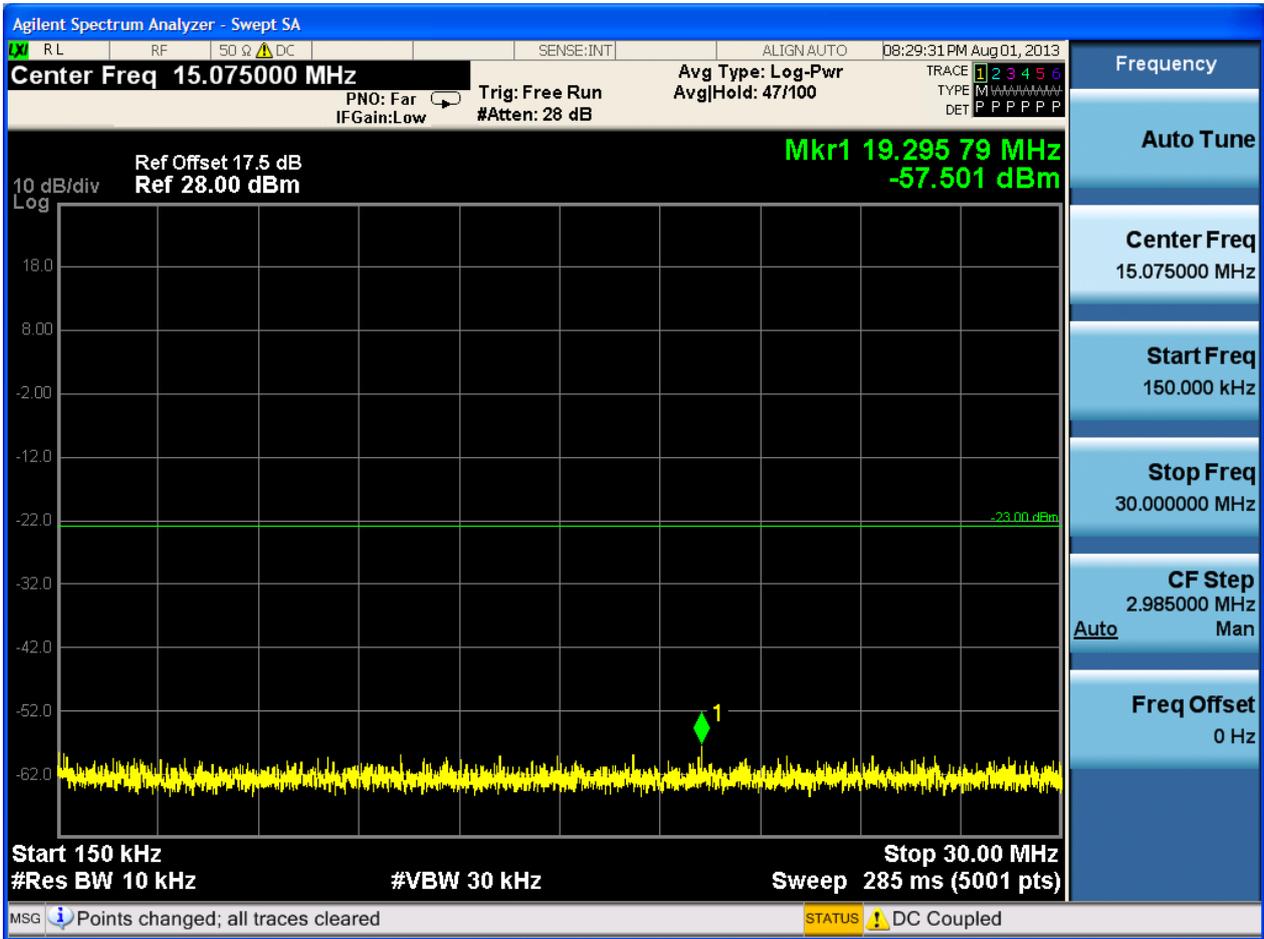


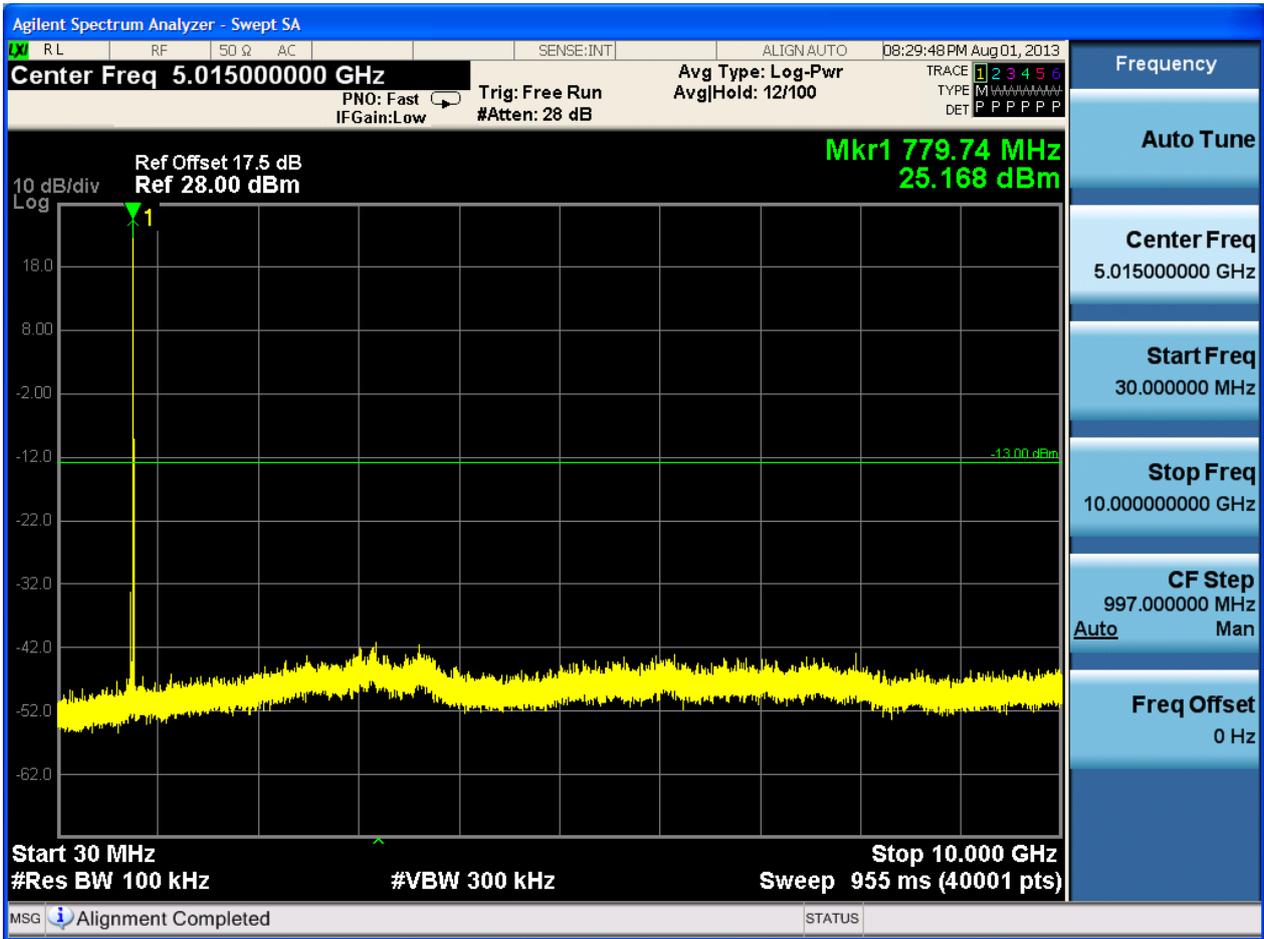


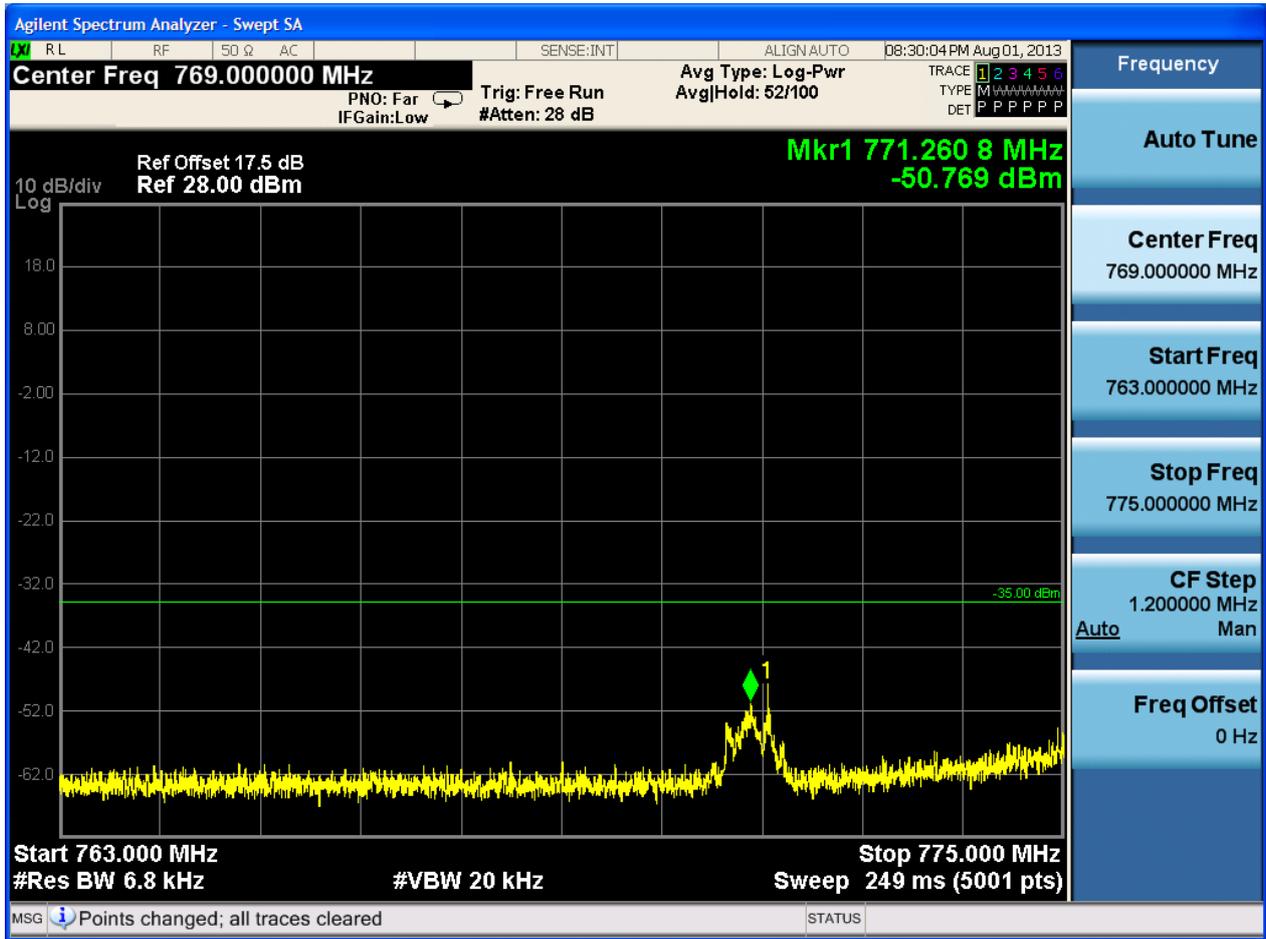
5.1.1.1.1.2 Test Channel = MCH

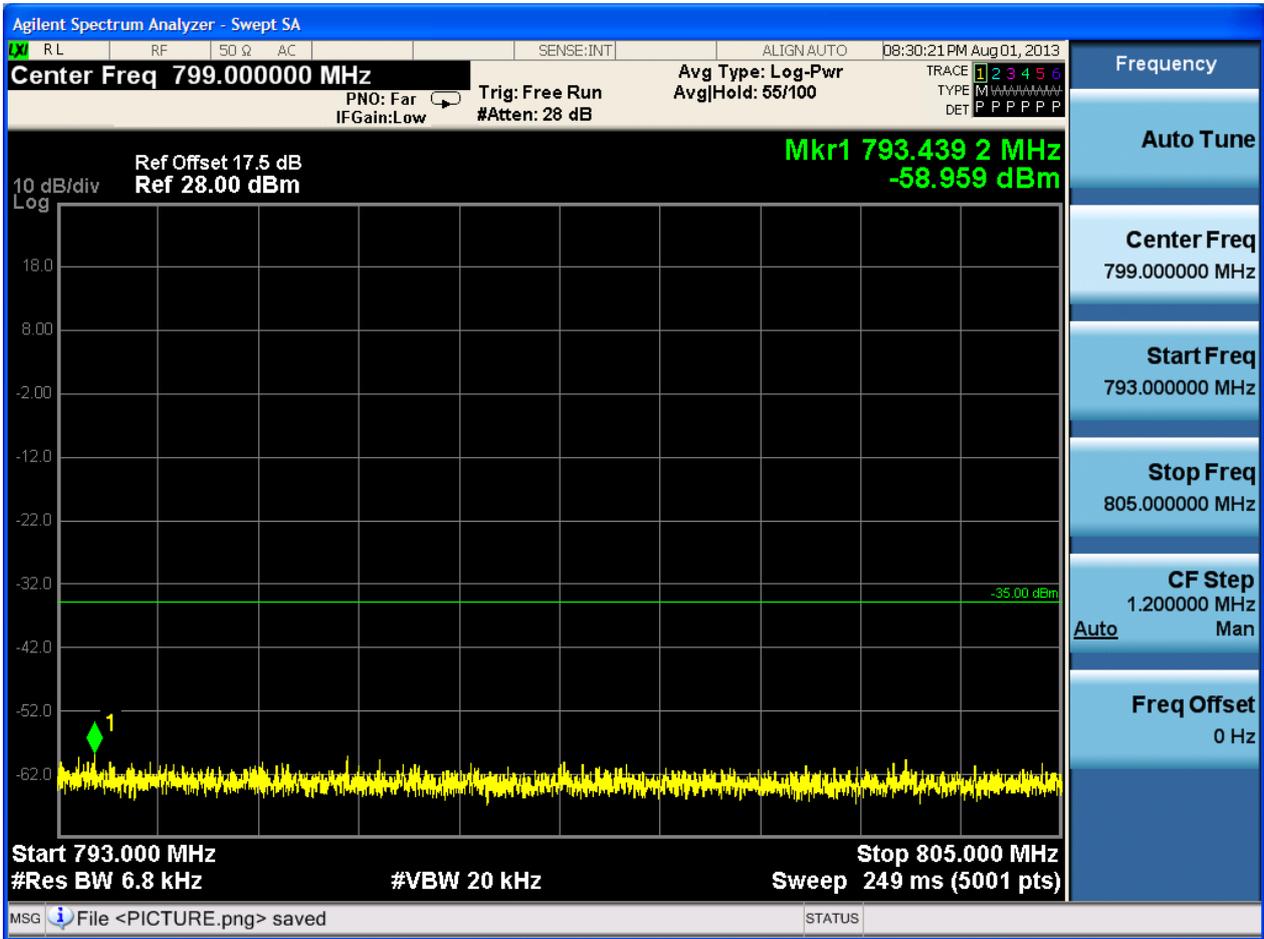
5.1.1.1.1.2.1 Test RB = RB1#0



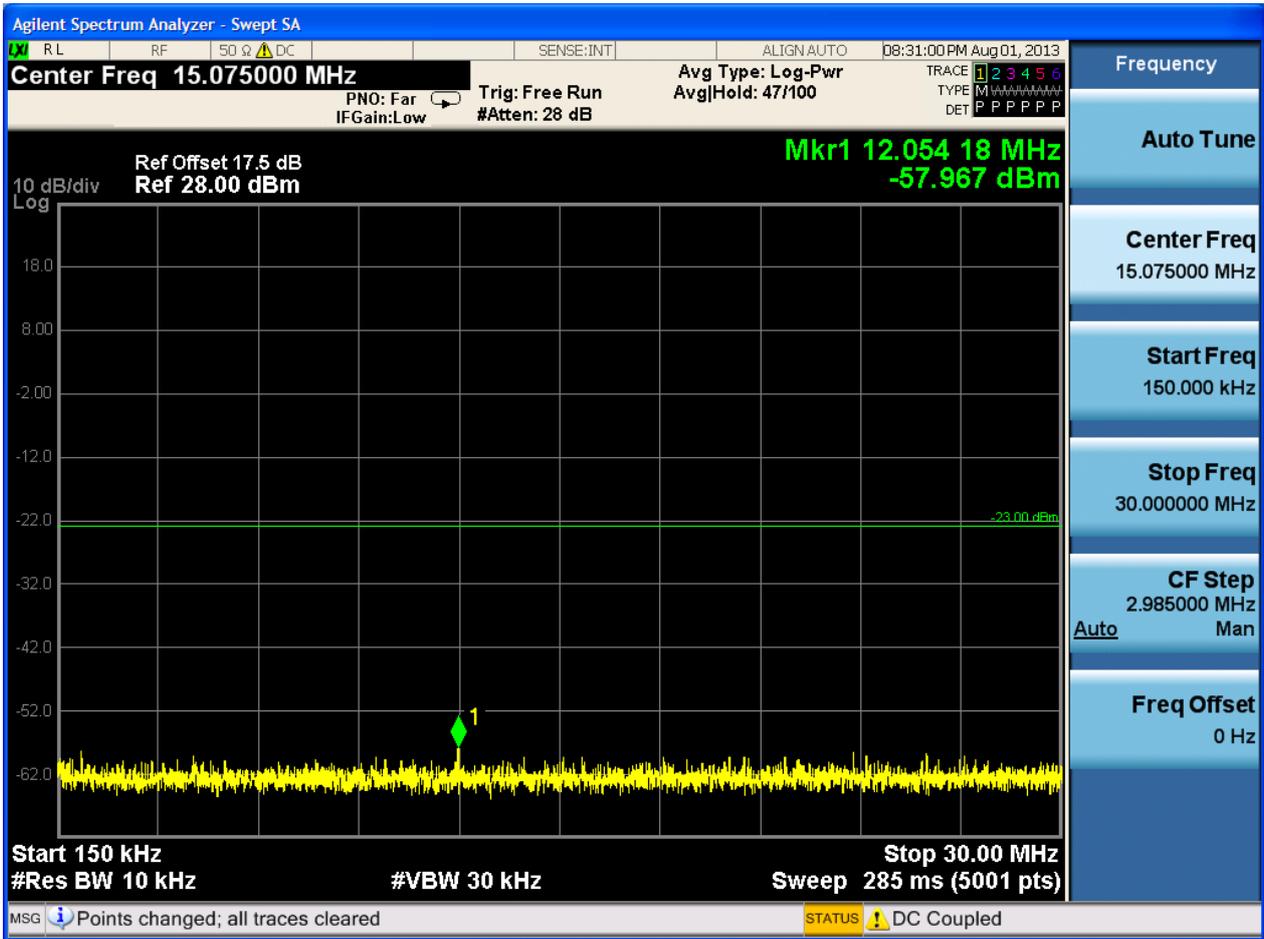


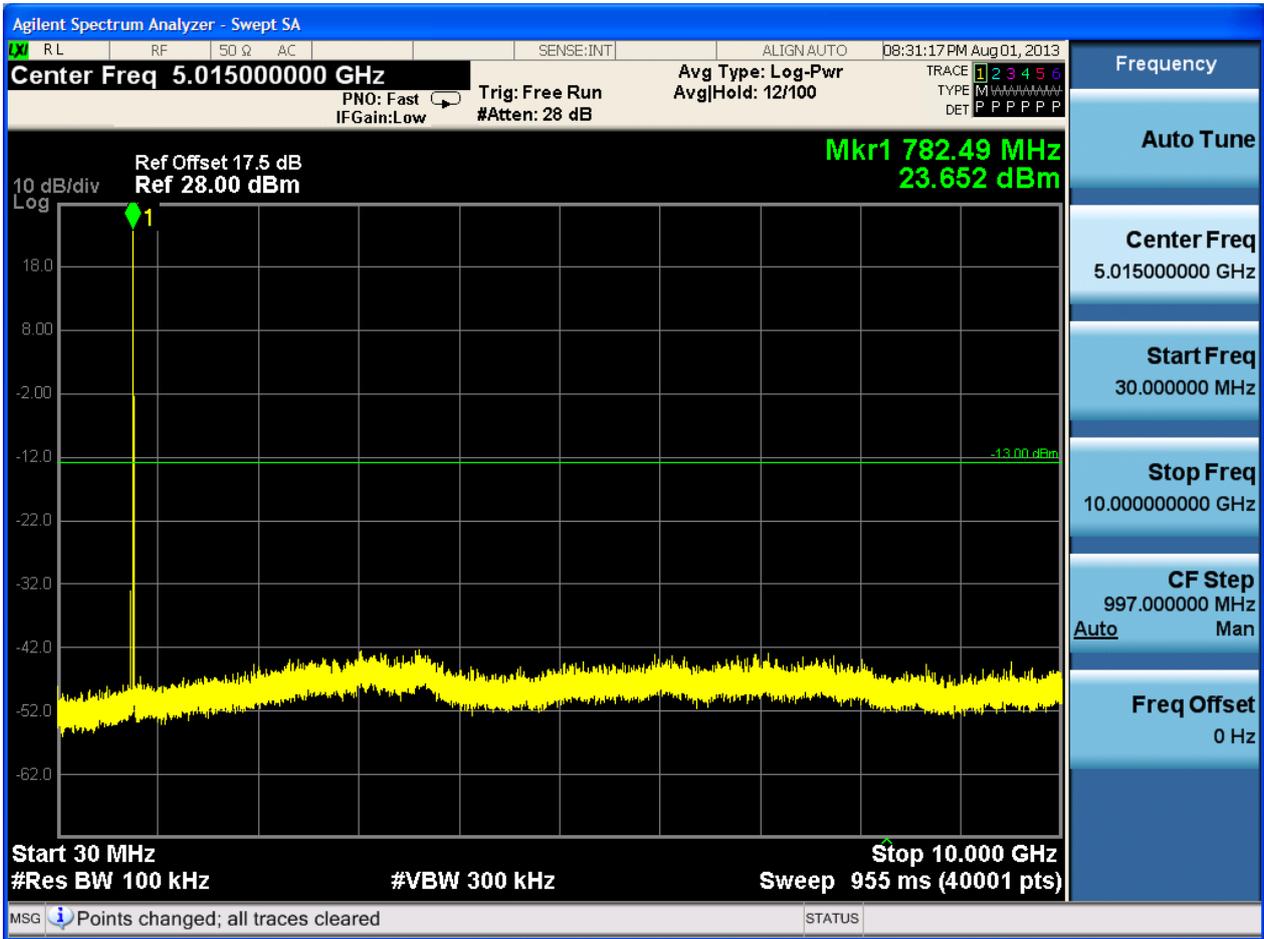


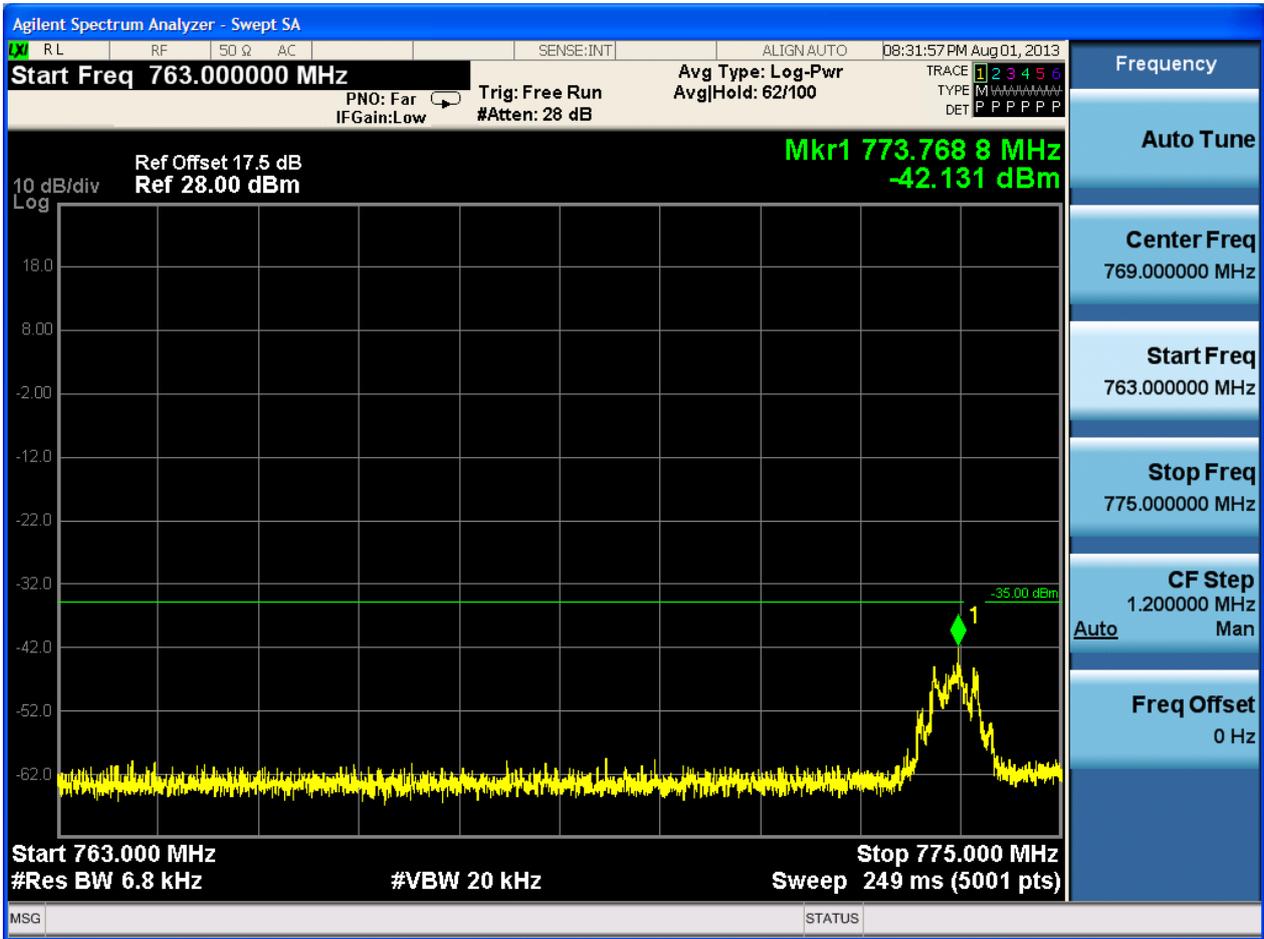












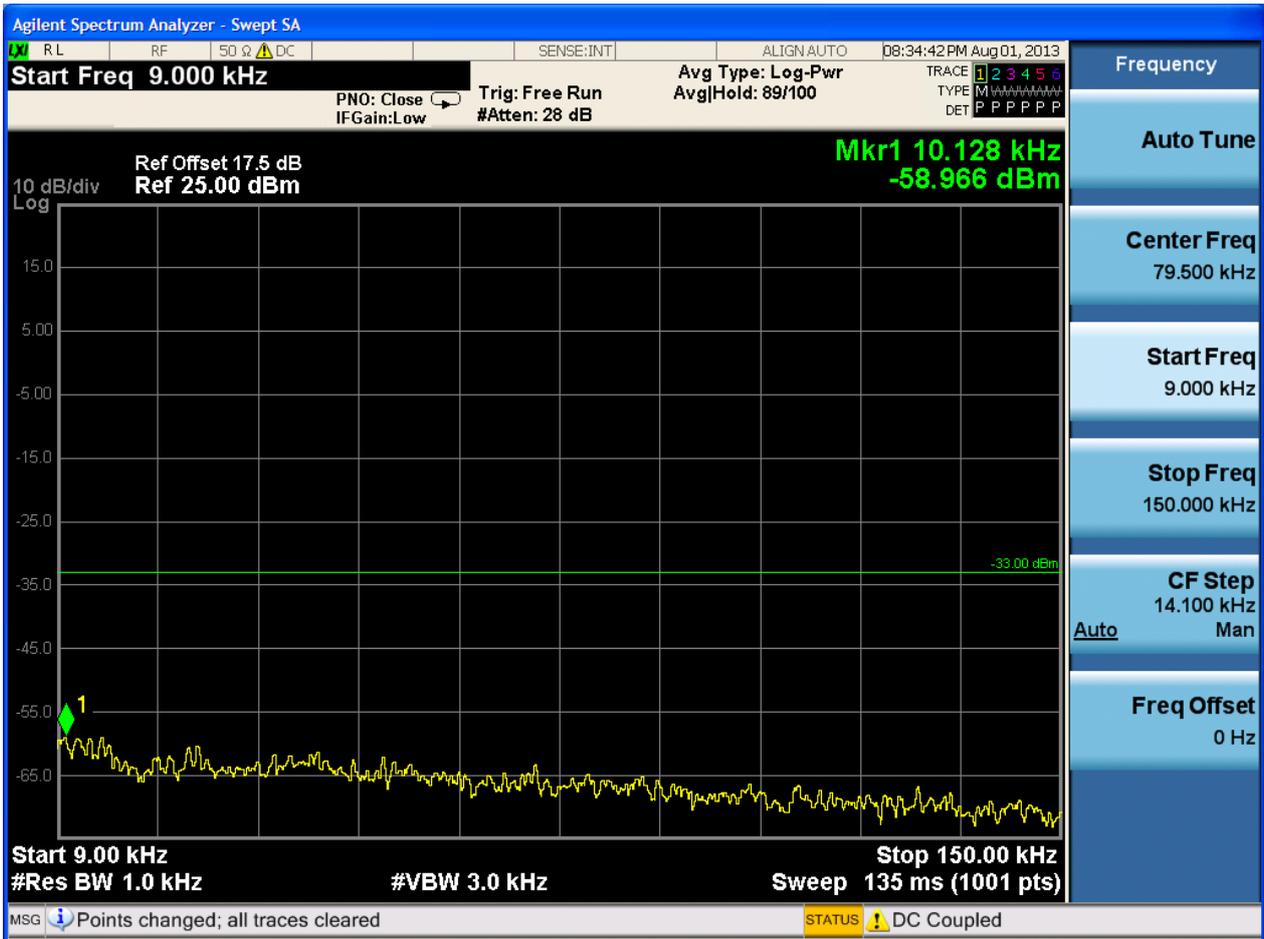




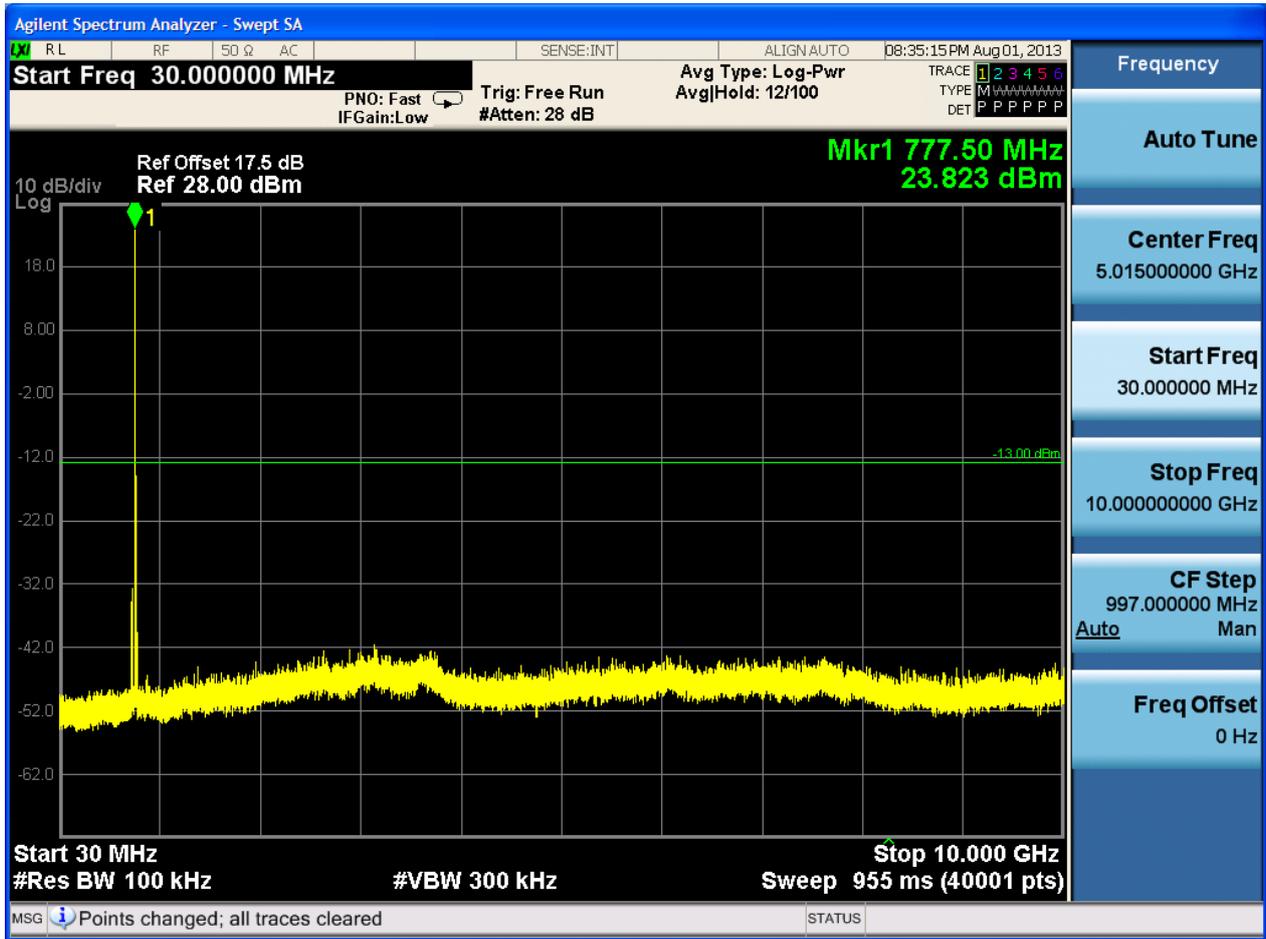
5.1.1.1.2 Test Bandwidth = 10

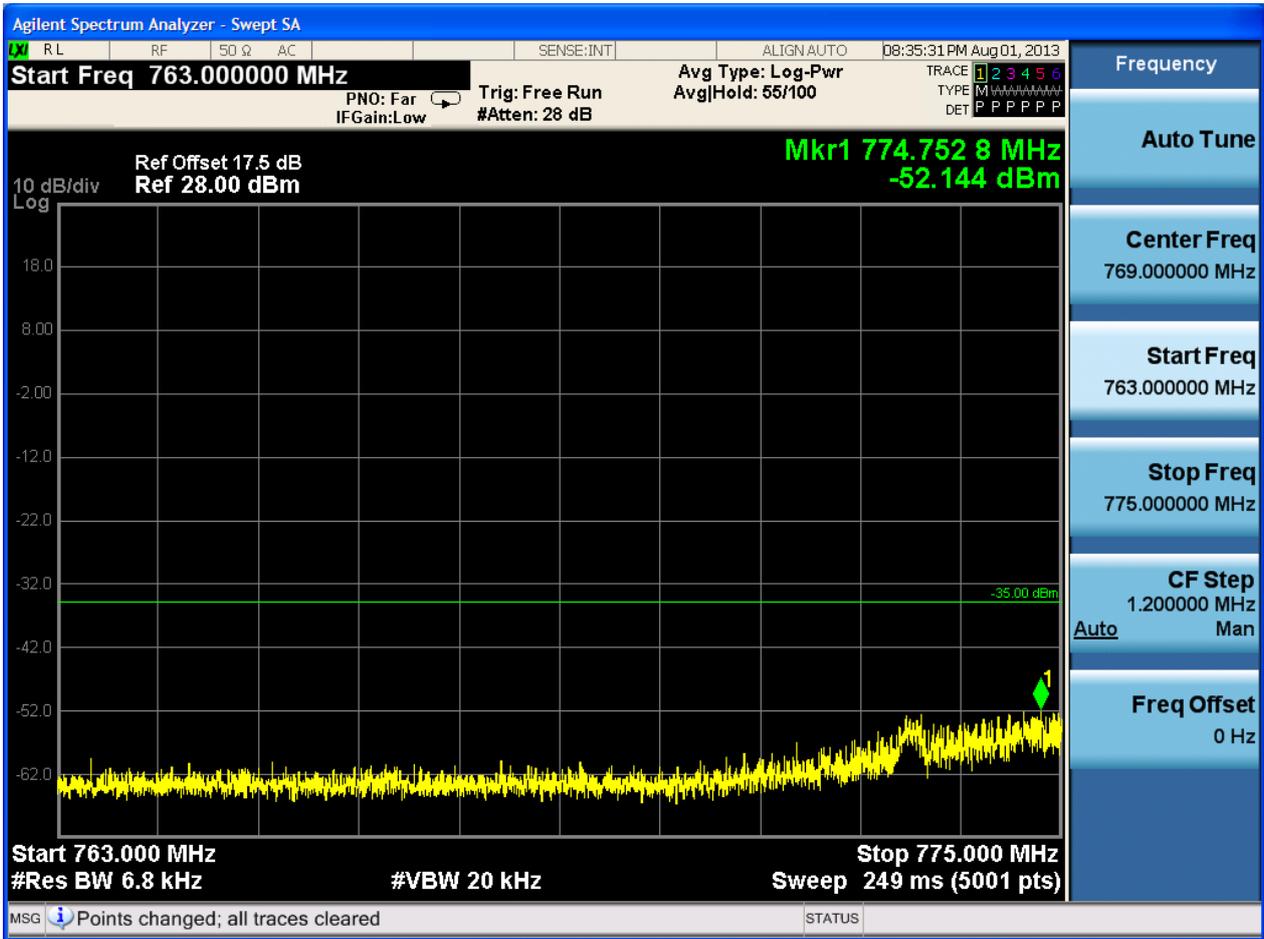
5.1.1.1.2.1 Test Channel = LCH

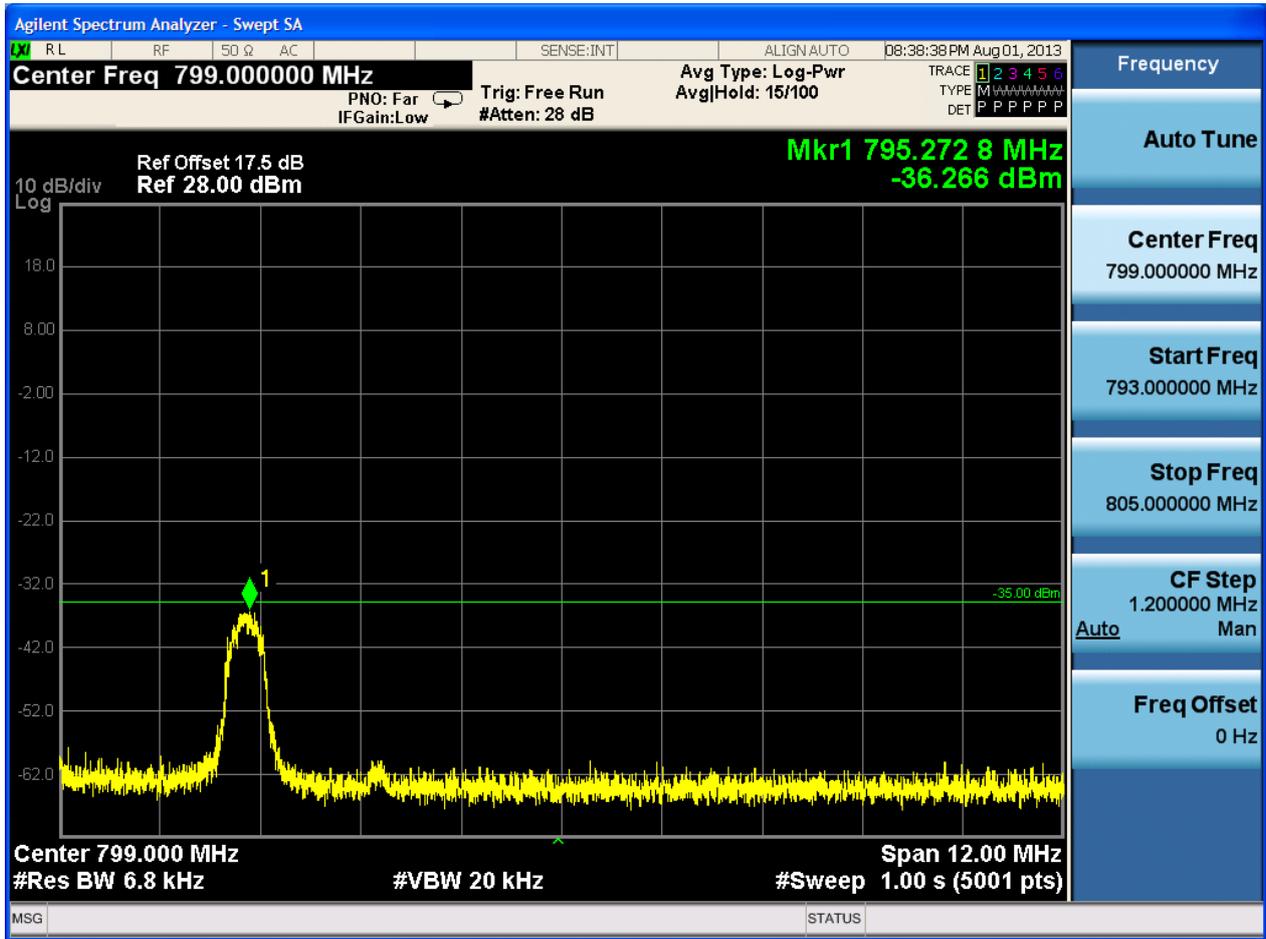
5.1.1.1.2.1.1 Test RB = RB1#0







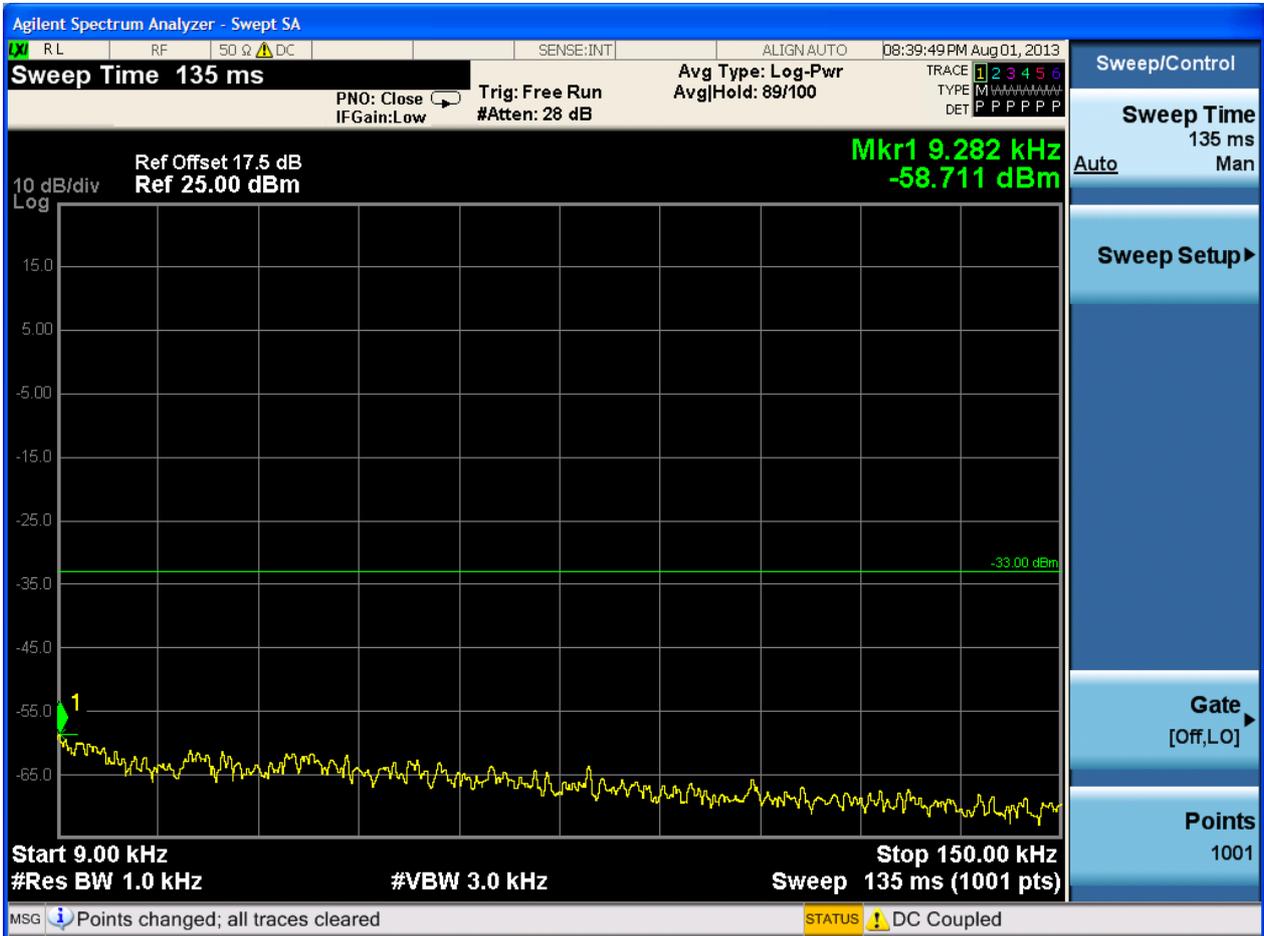






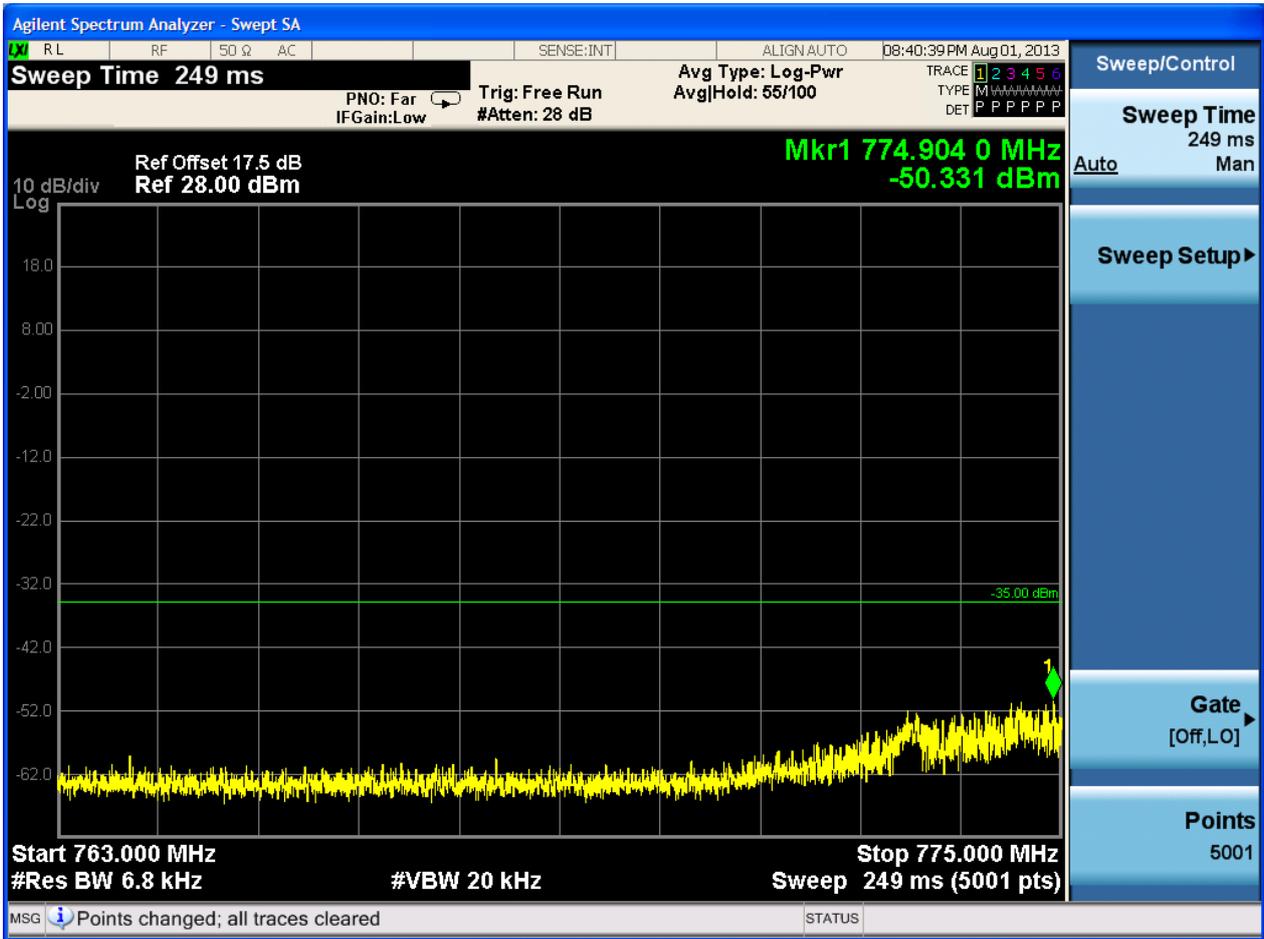
5.1.1.1.2.2 Test Channel = MCH

5.1.1.1.2.2.1 Test RB = RB1#0



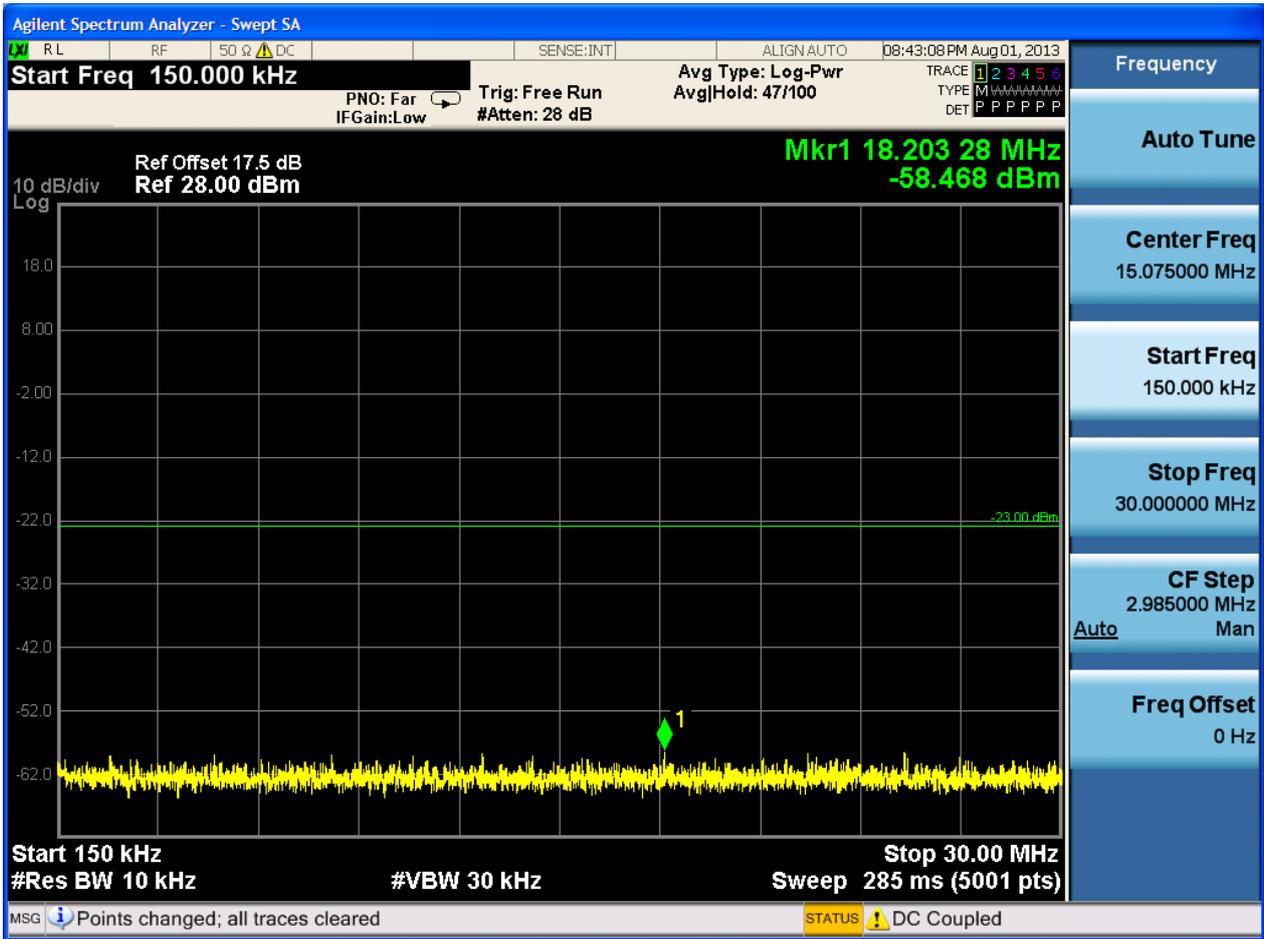


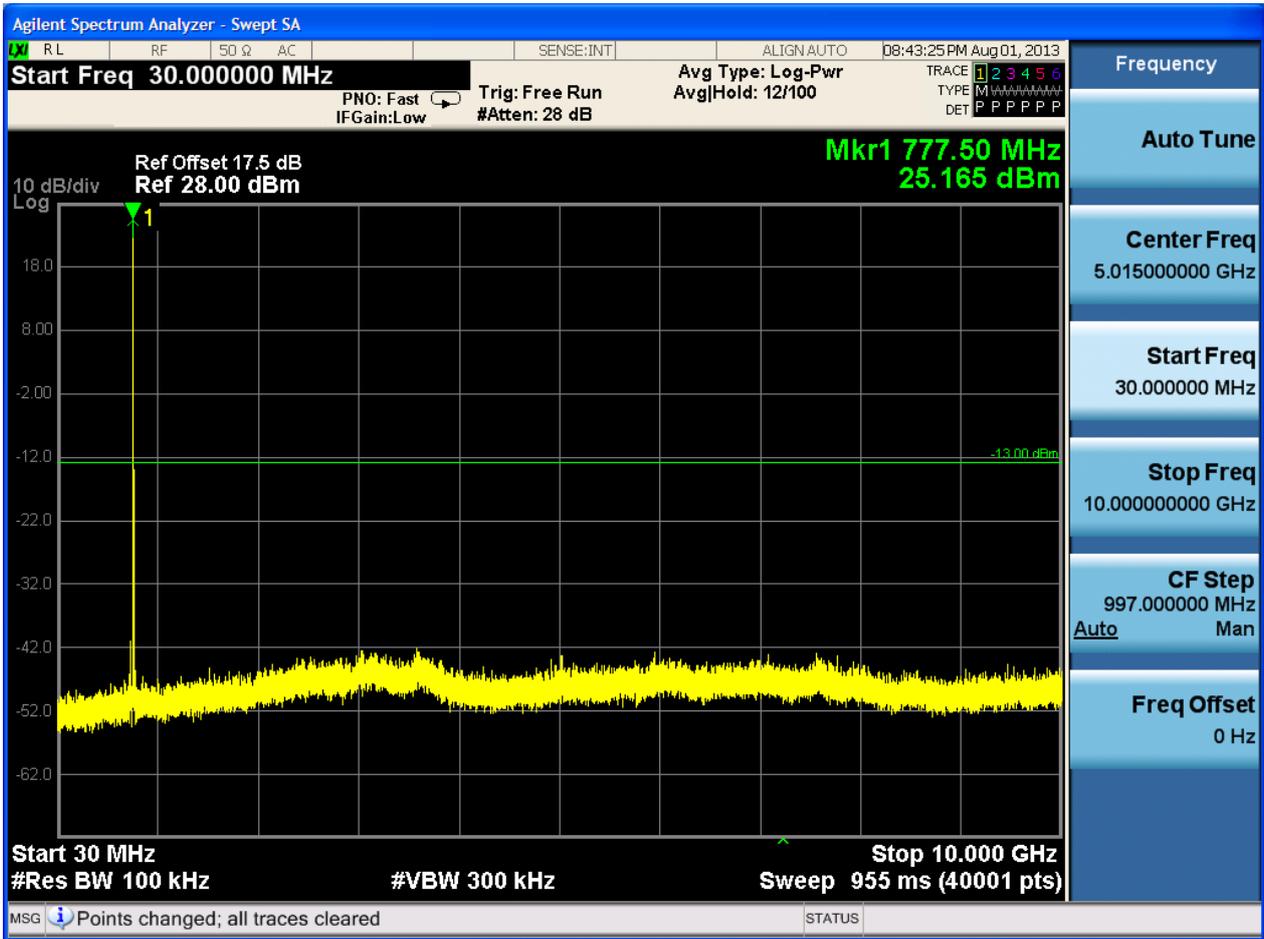




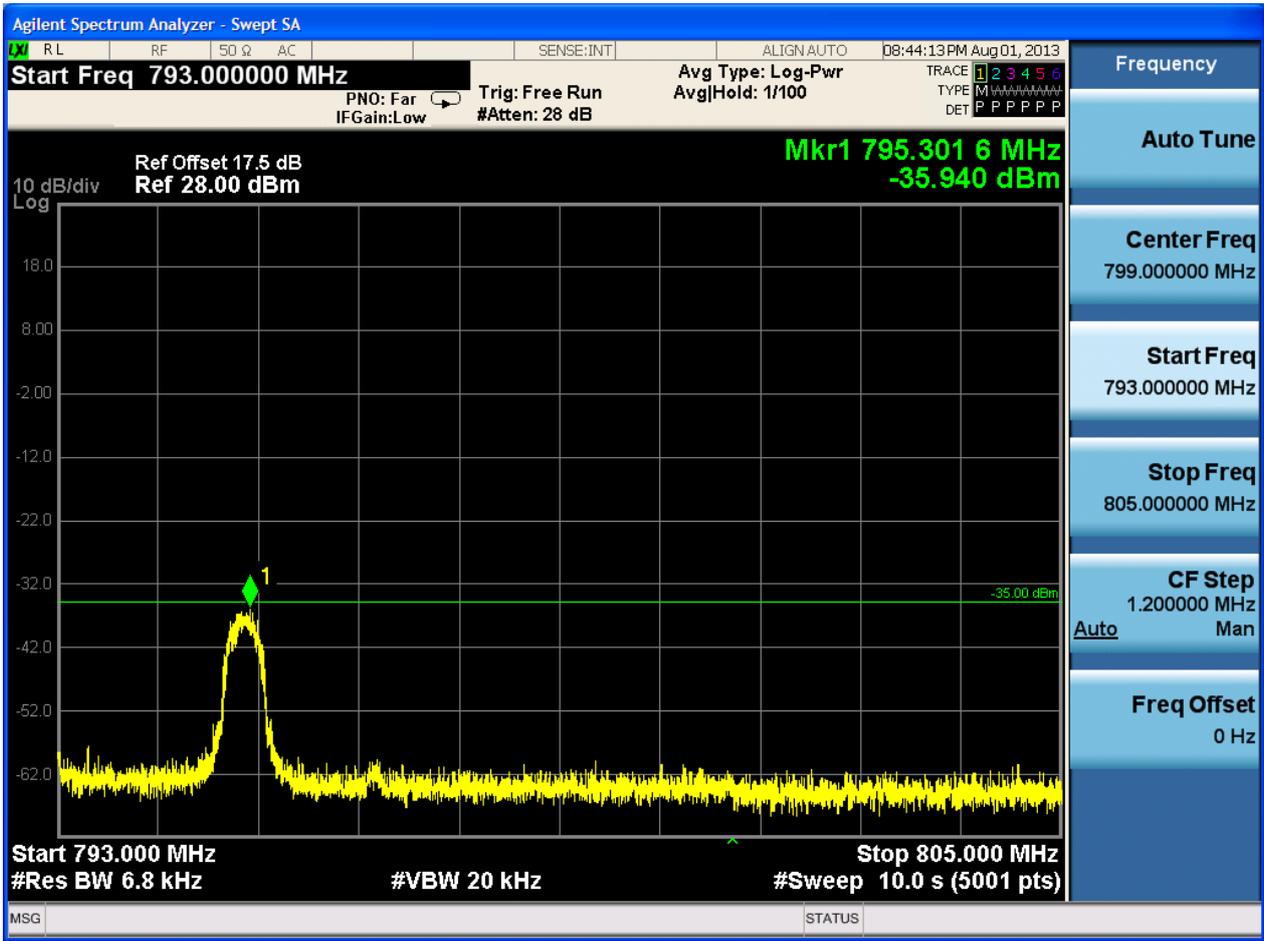












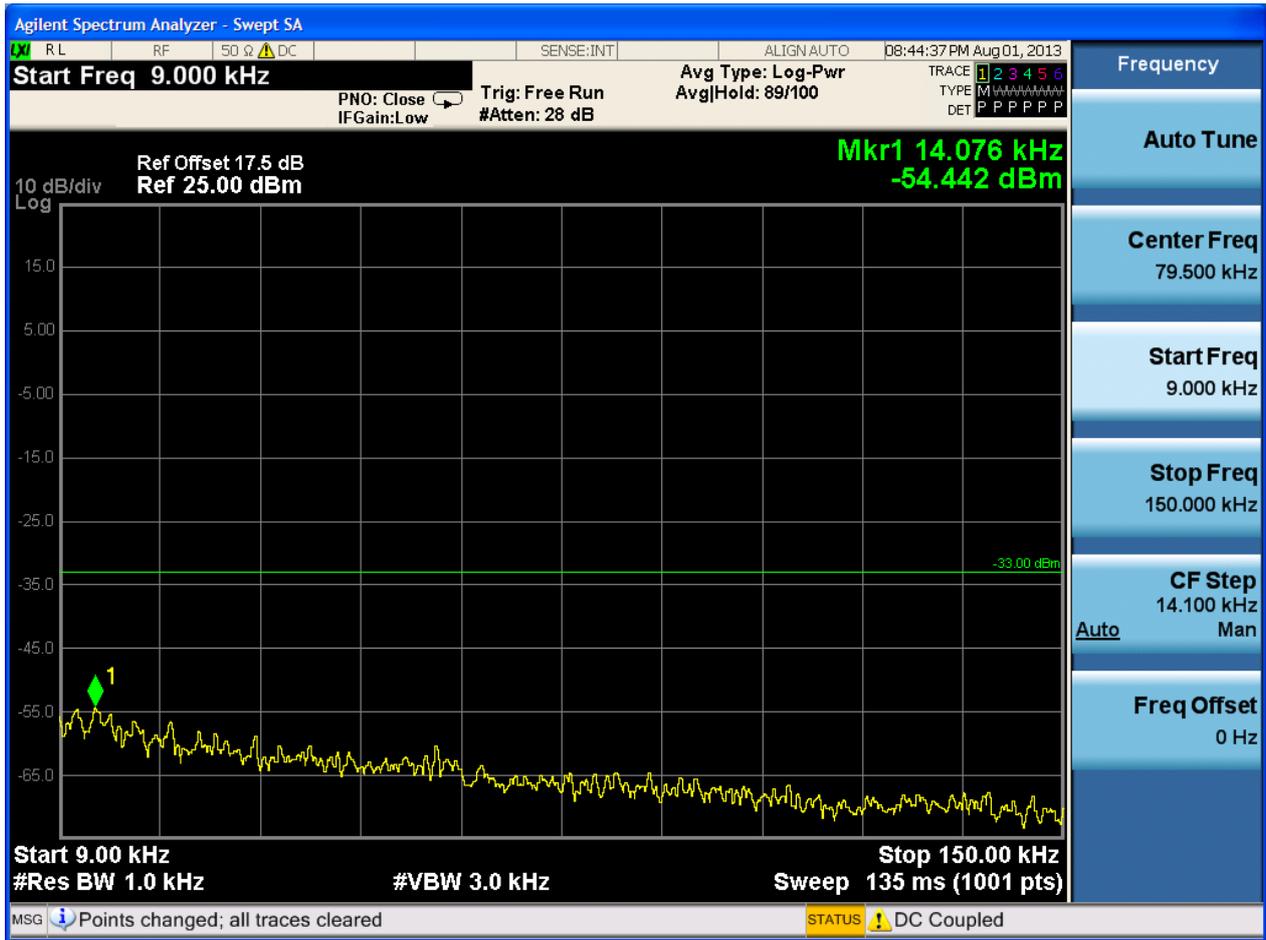


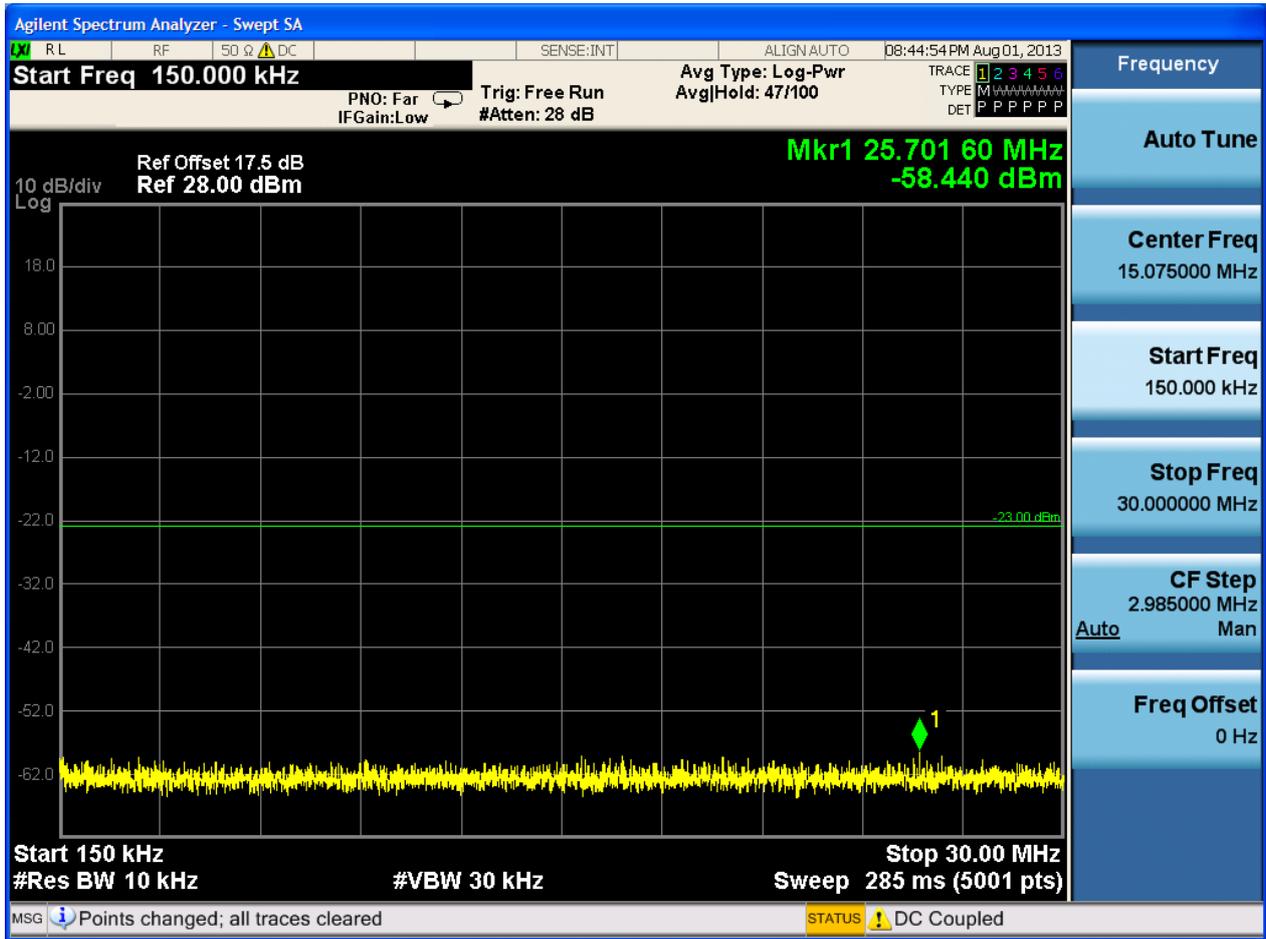
5.1.1.2 Test Mode = LTE/TM2

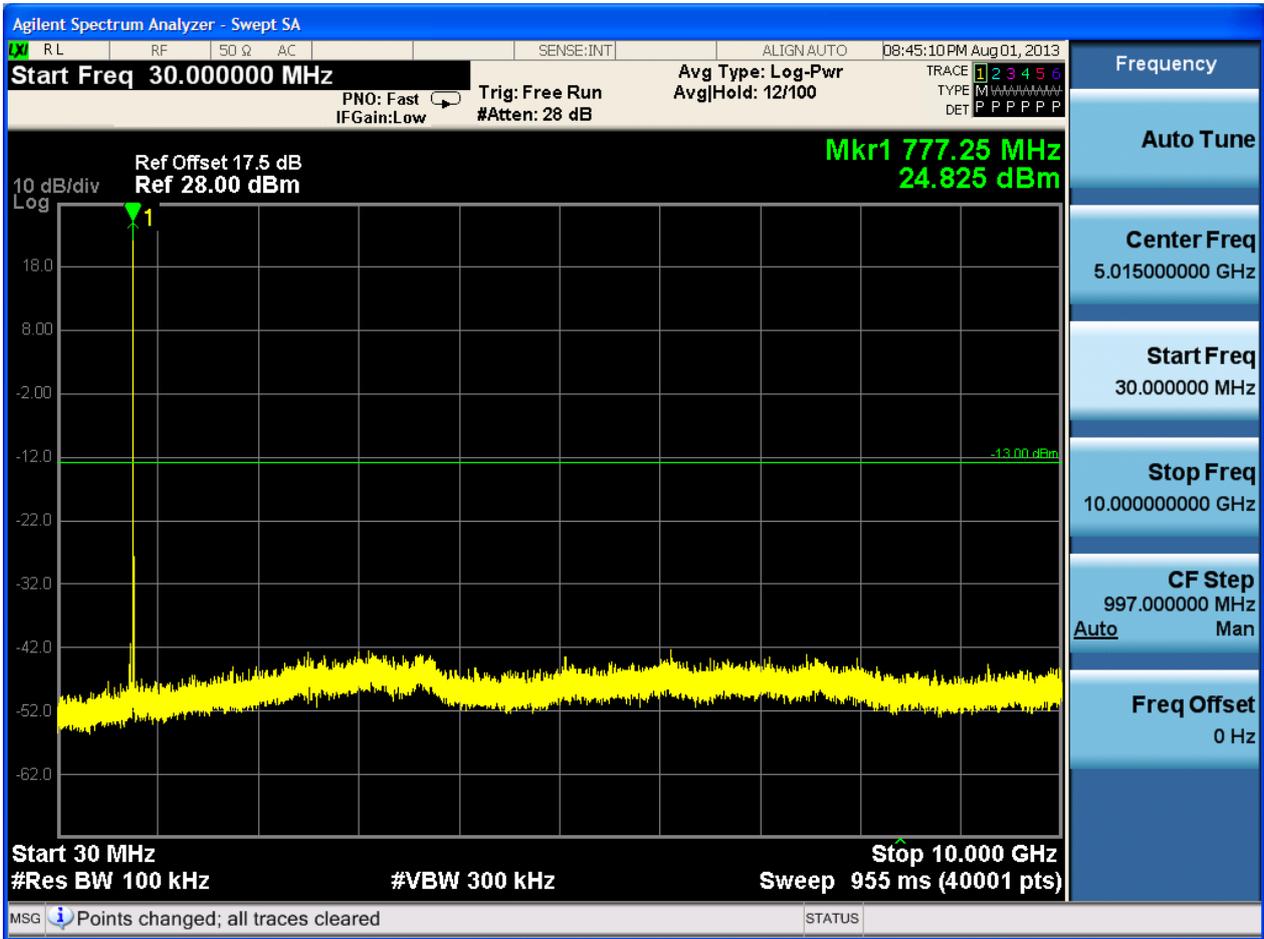
5.1.1.2.1 Test Bandwidth = 5

5.1.1.2.1.1 Test Channel = LCH

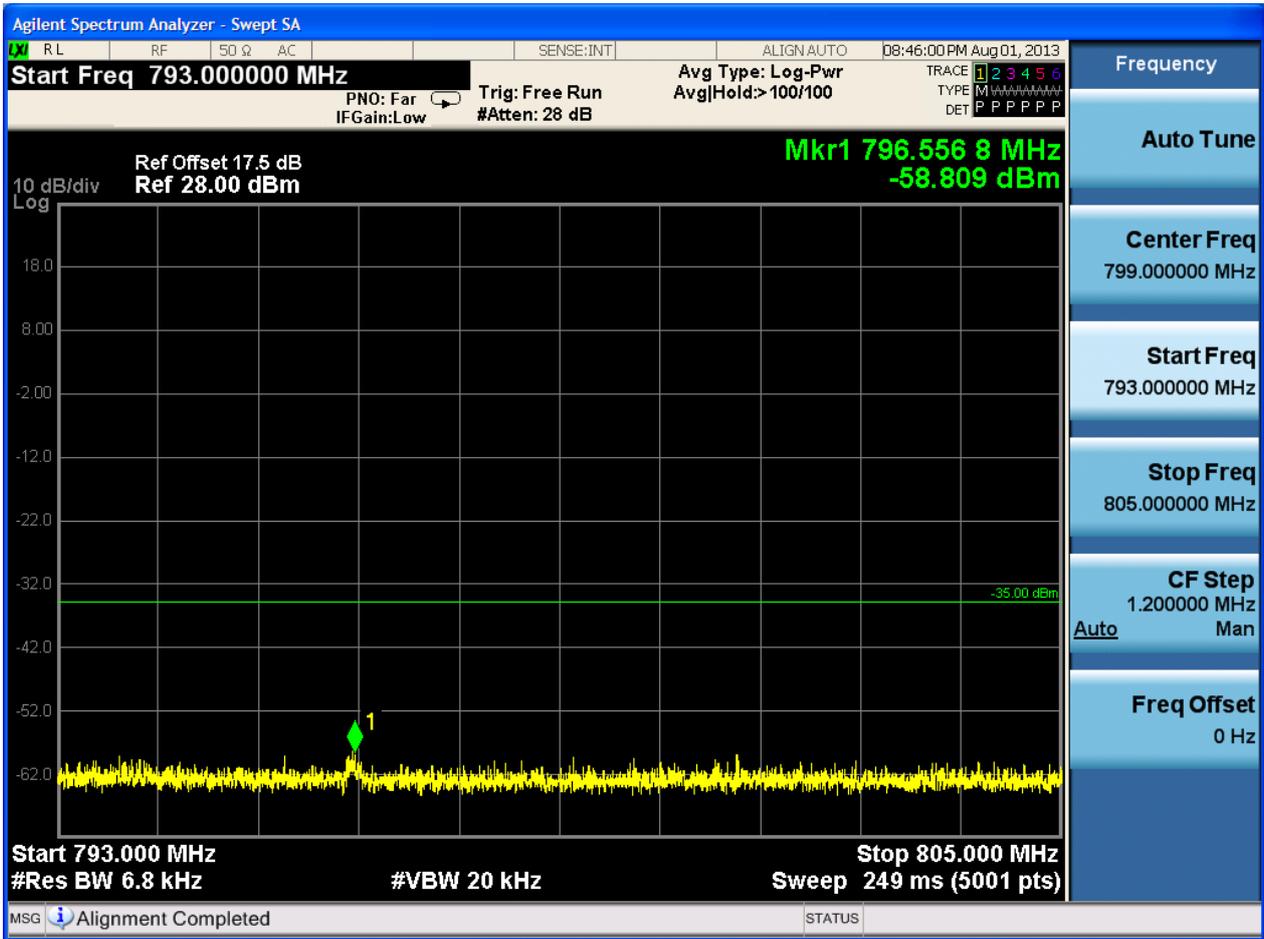
5.1.1.2.1.1.1 Test RB = RB1#0



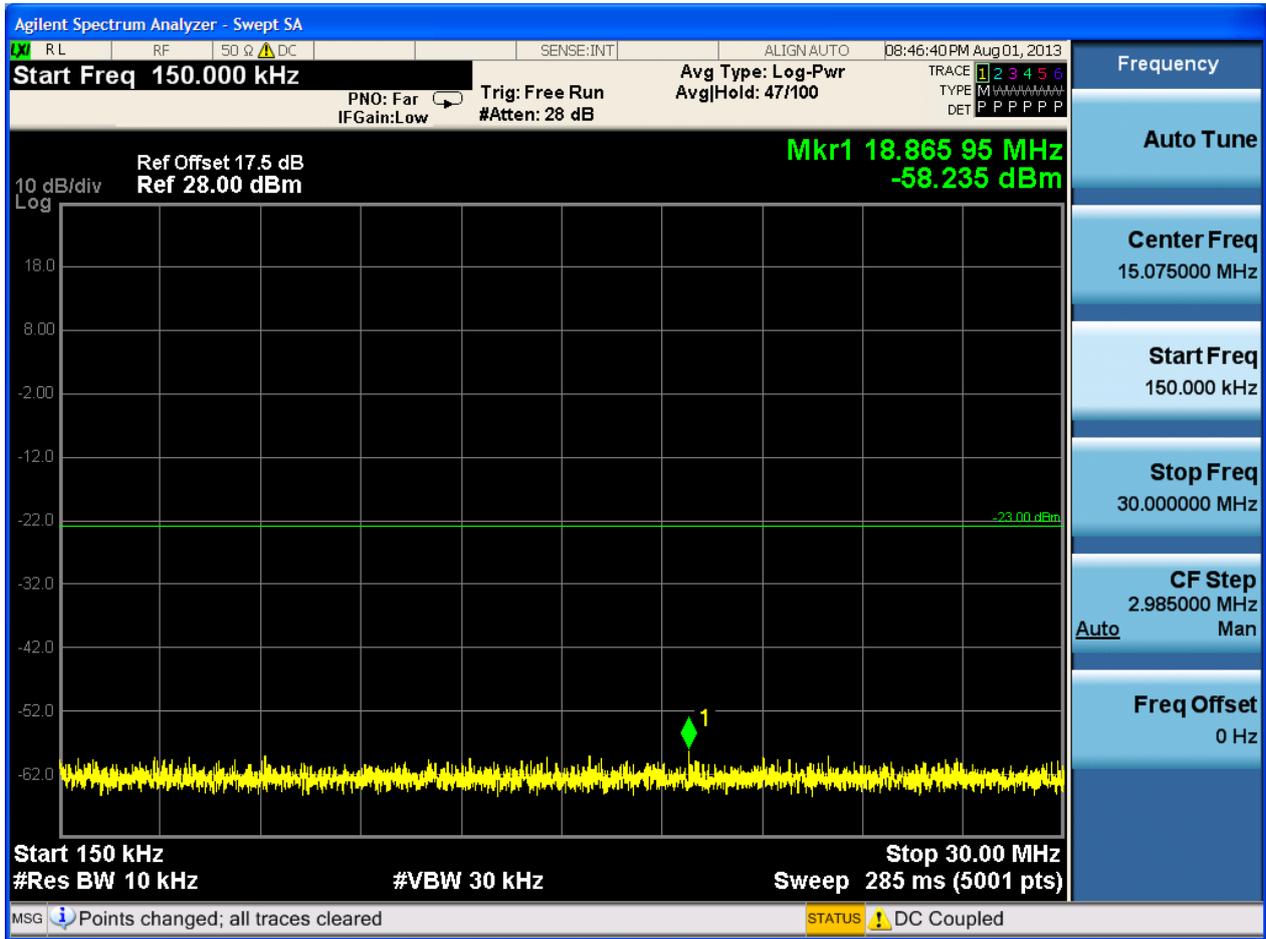


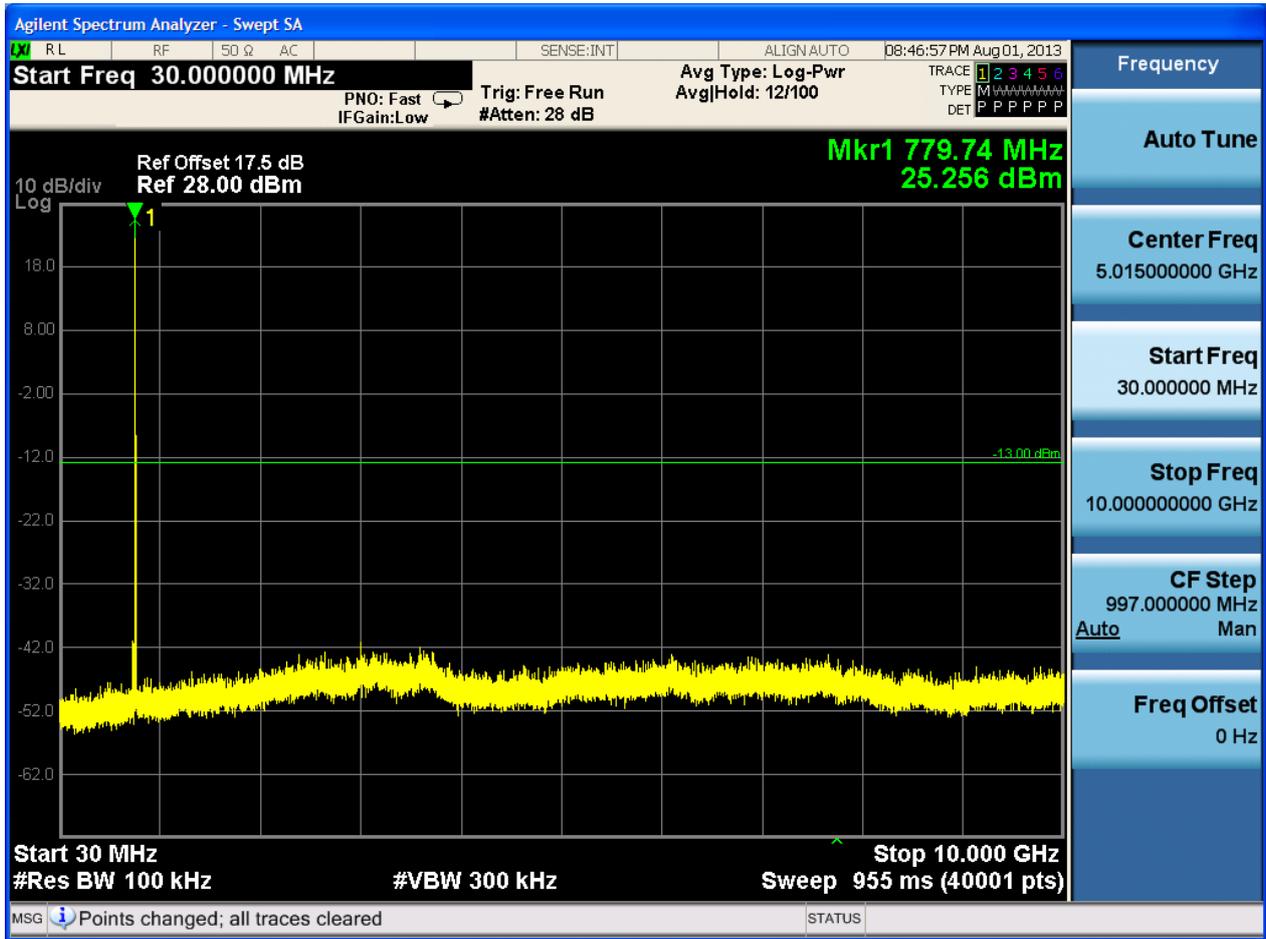


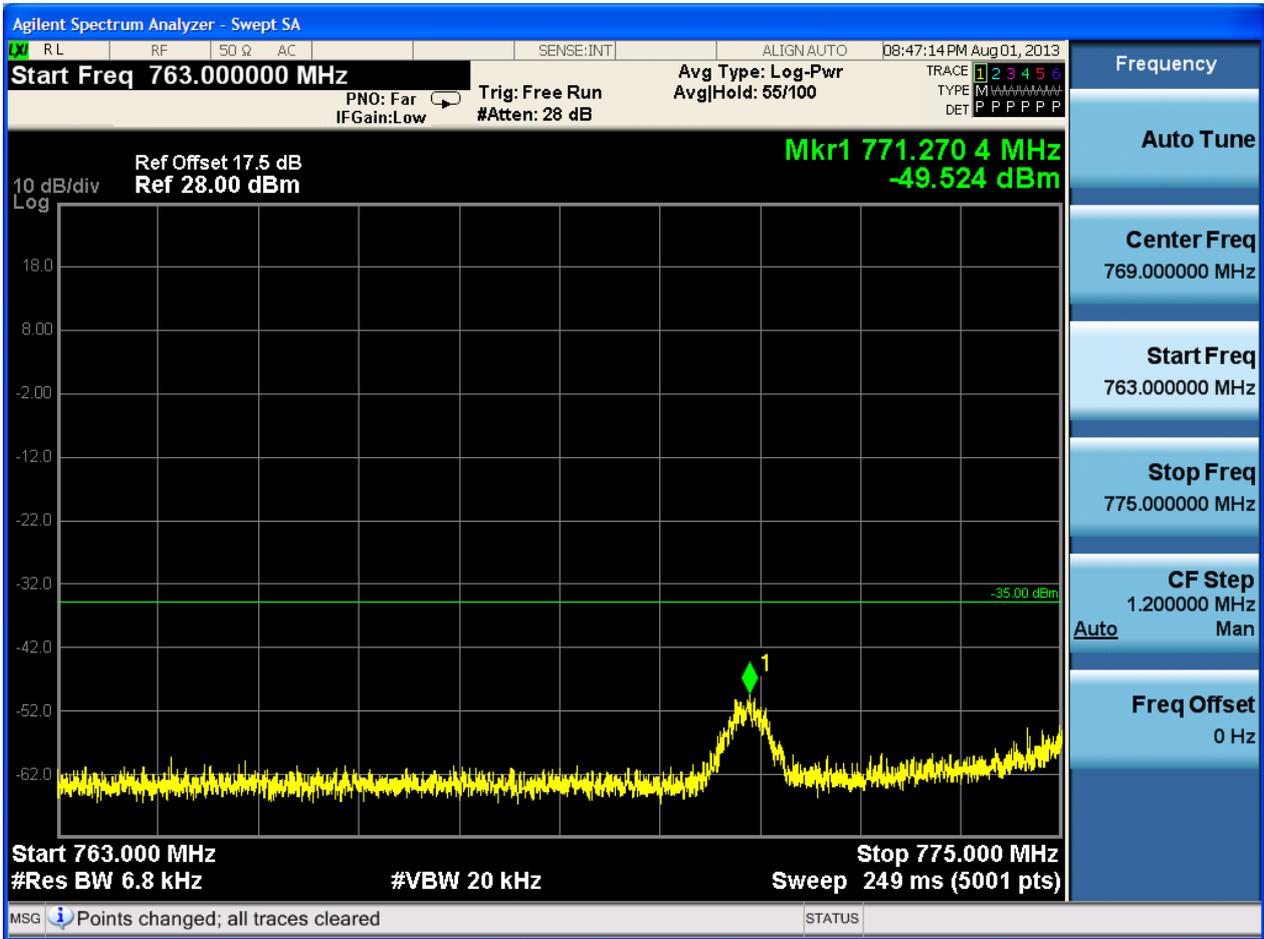


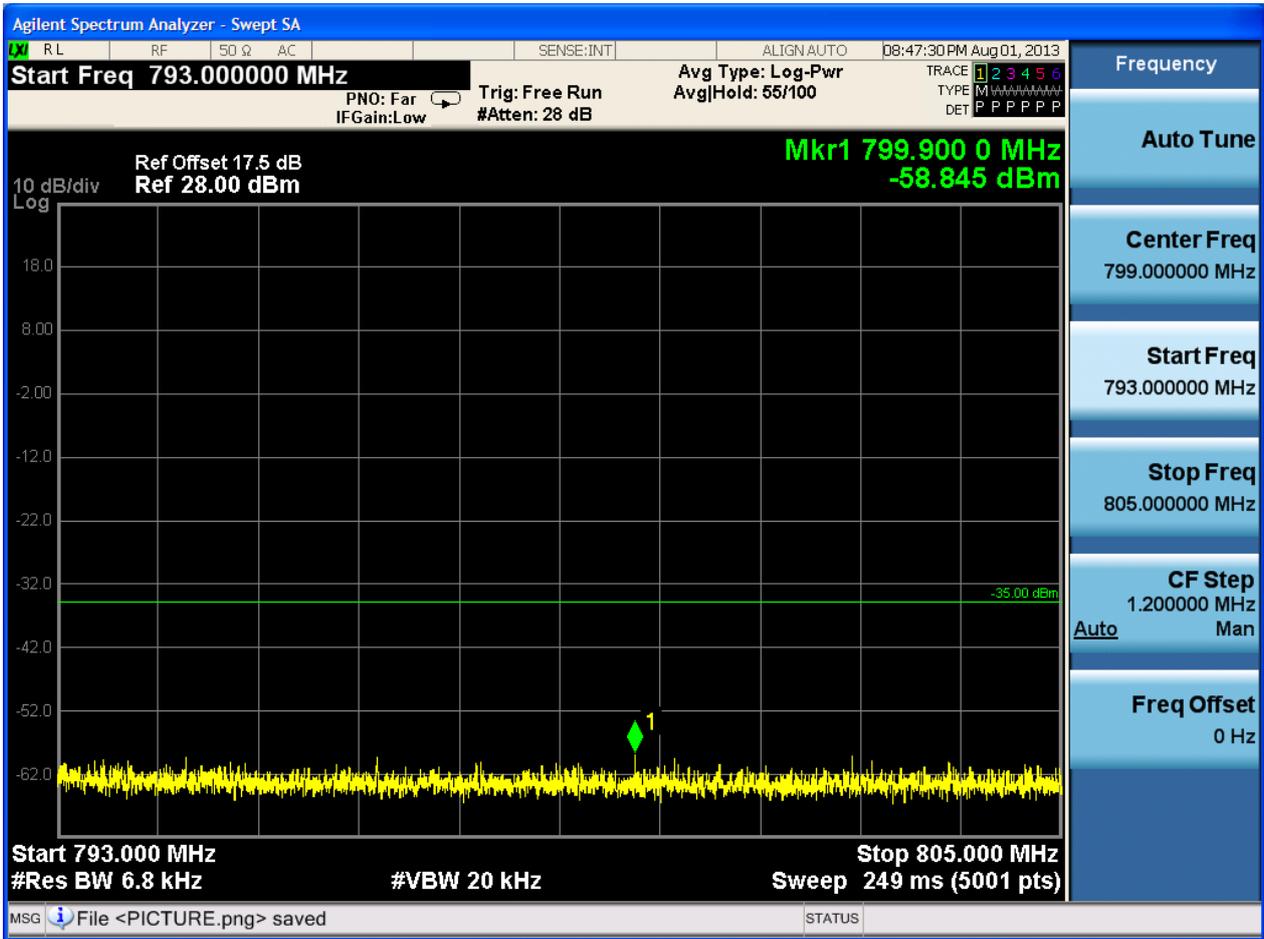








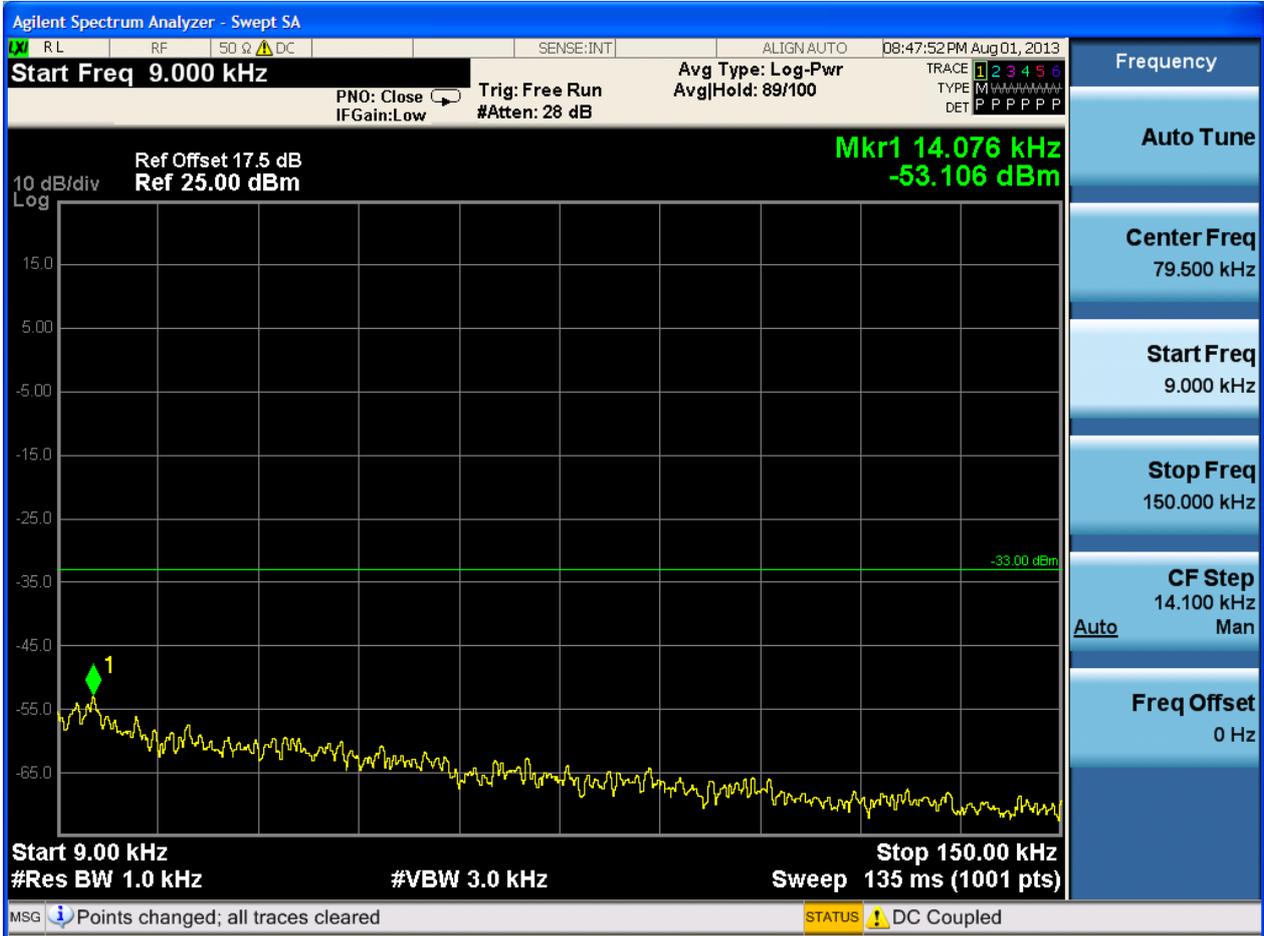


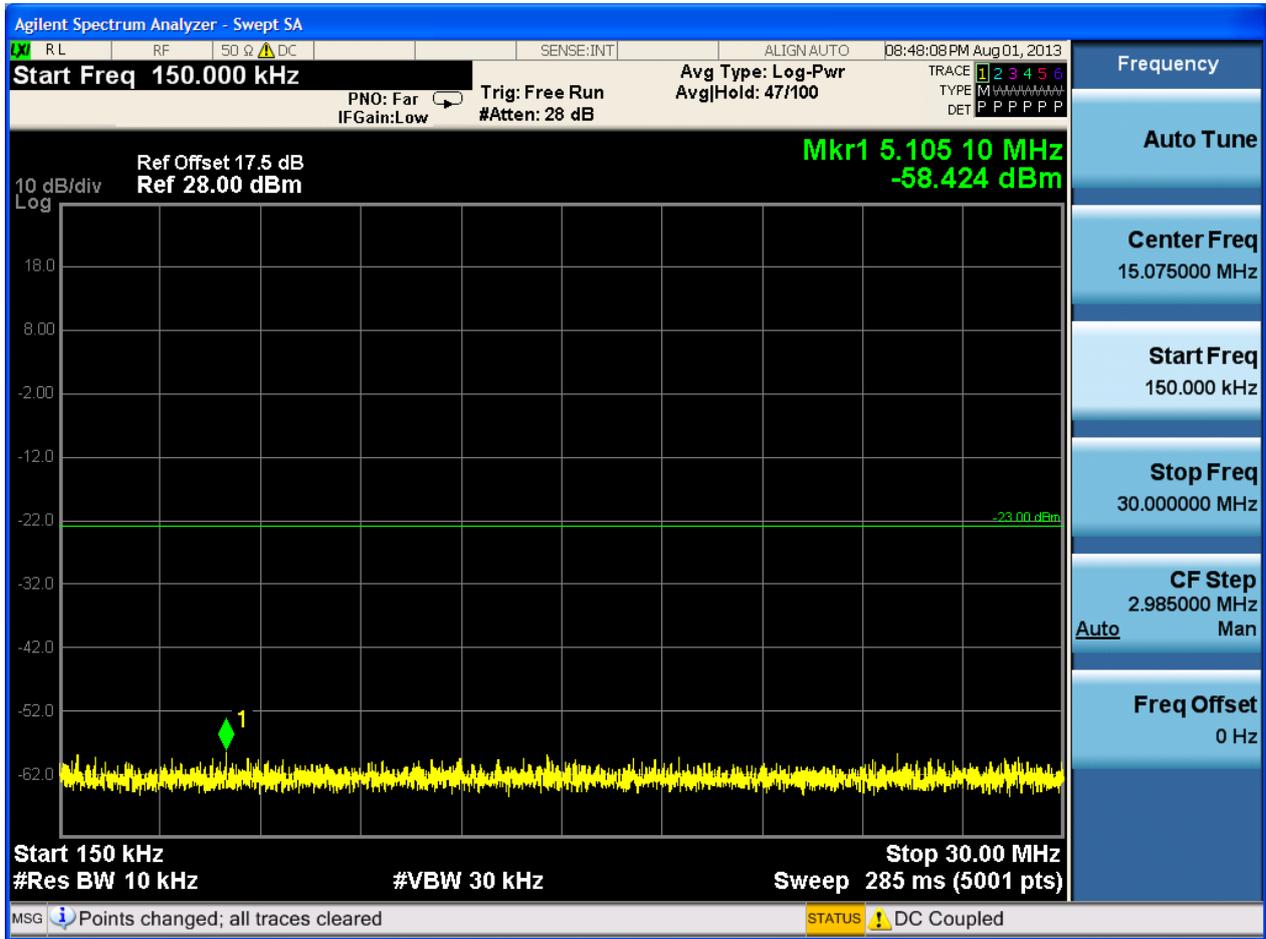


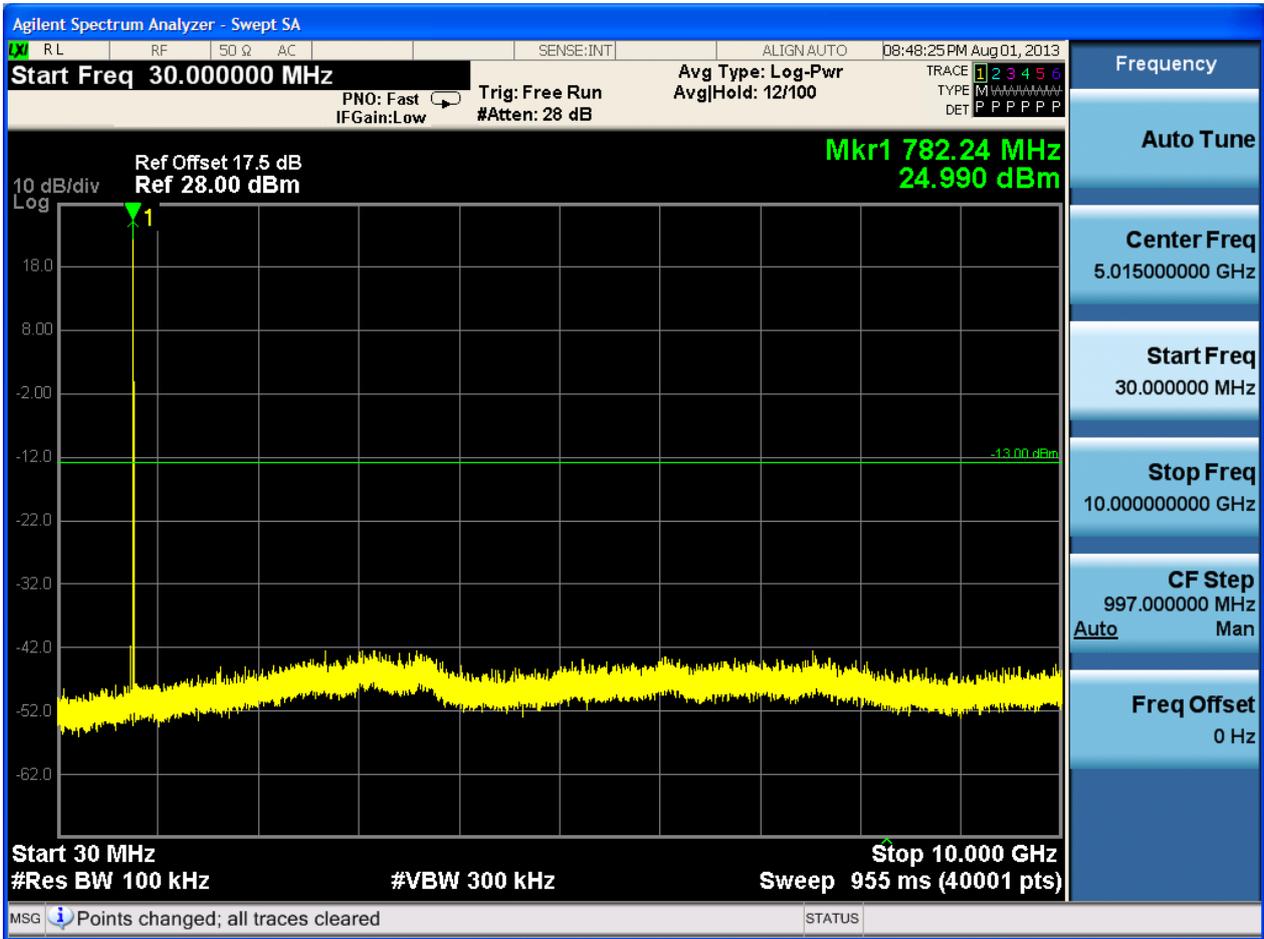


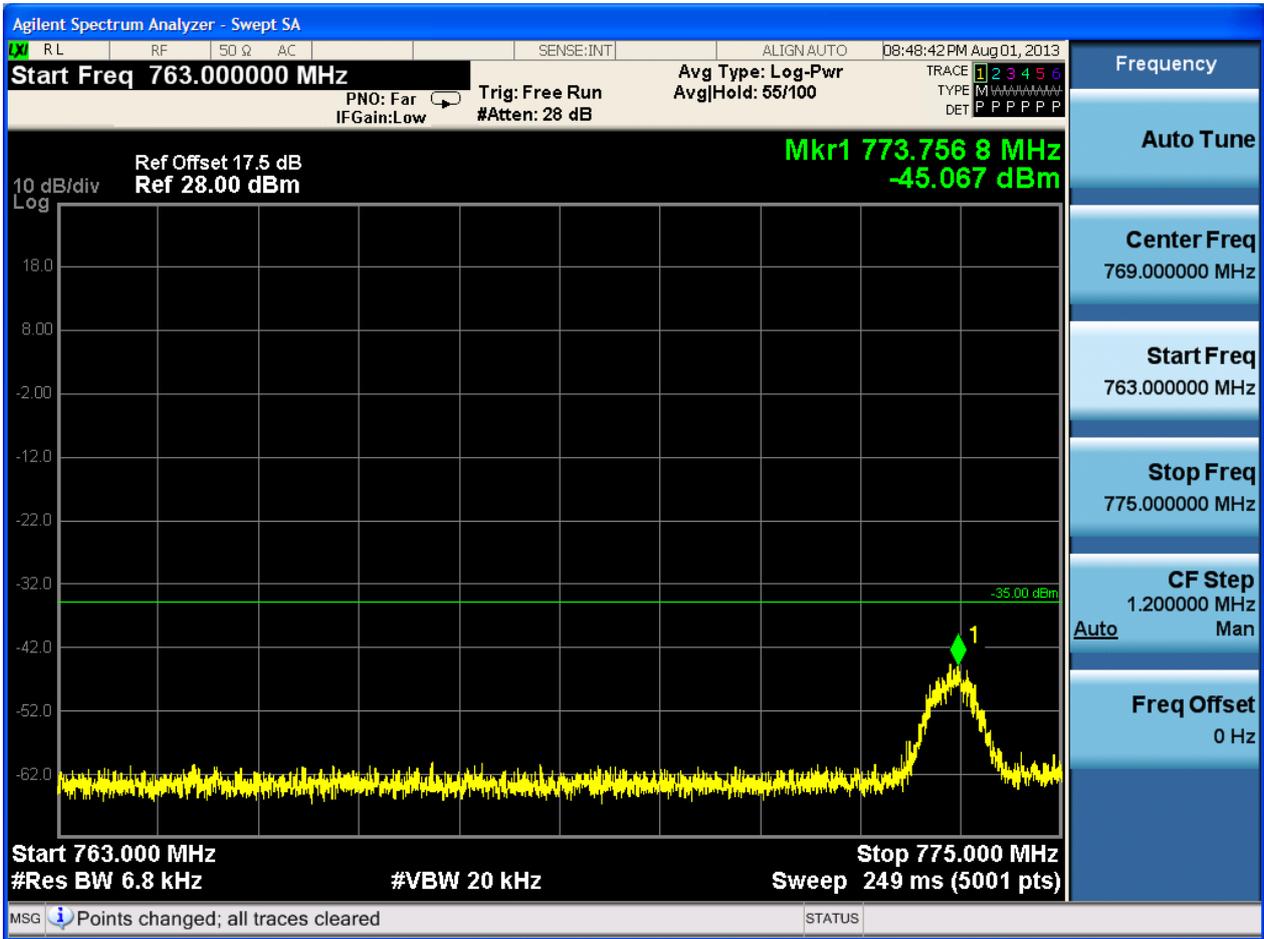
5.1.1.2.1.3 Test Channel = HCH

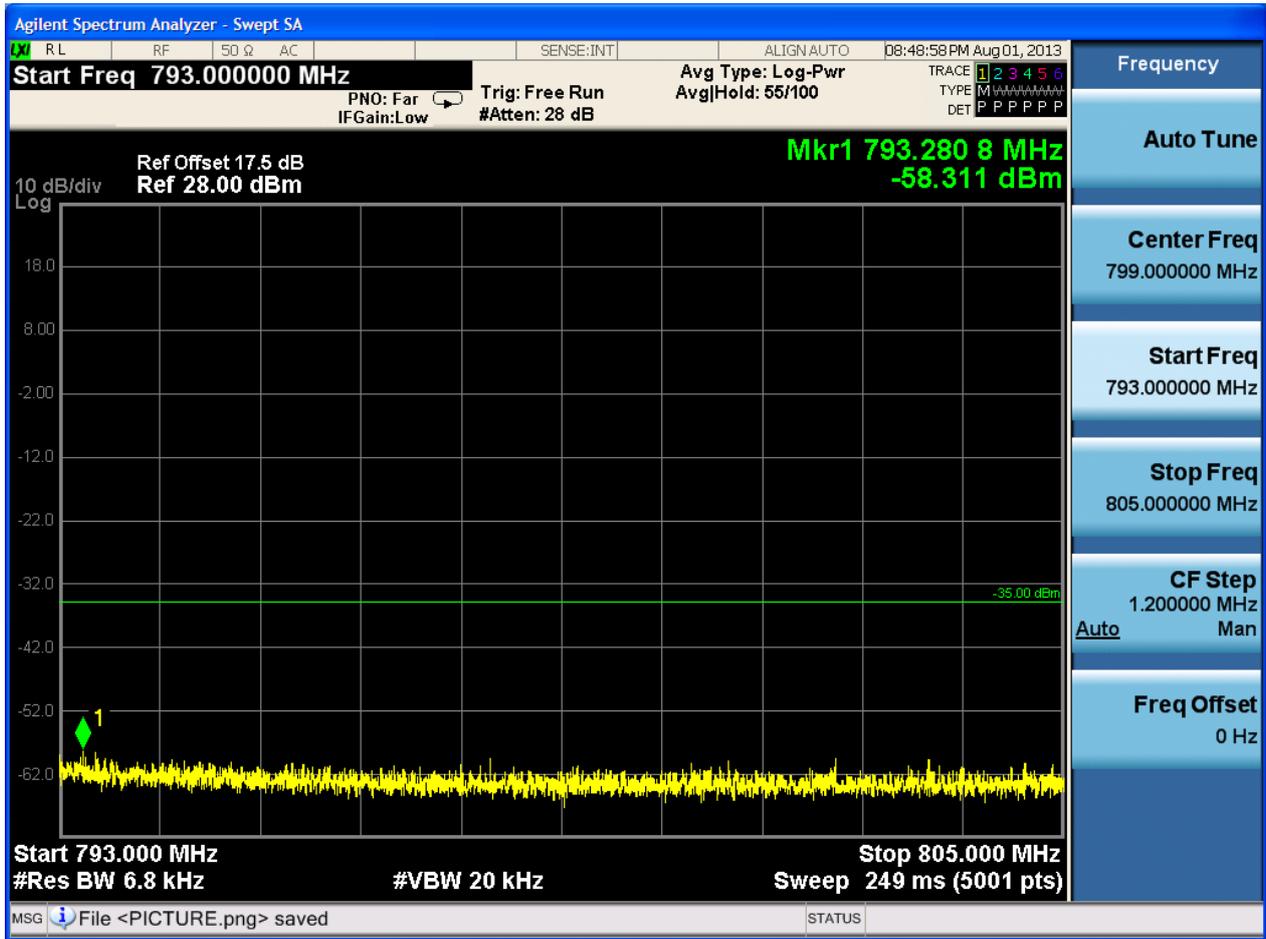
5.1.1.2.1.3.1 Test RB = RB1#0









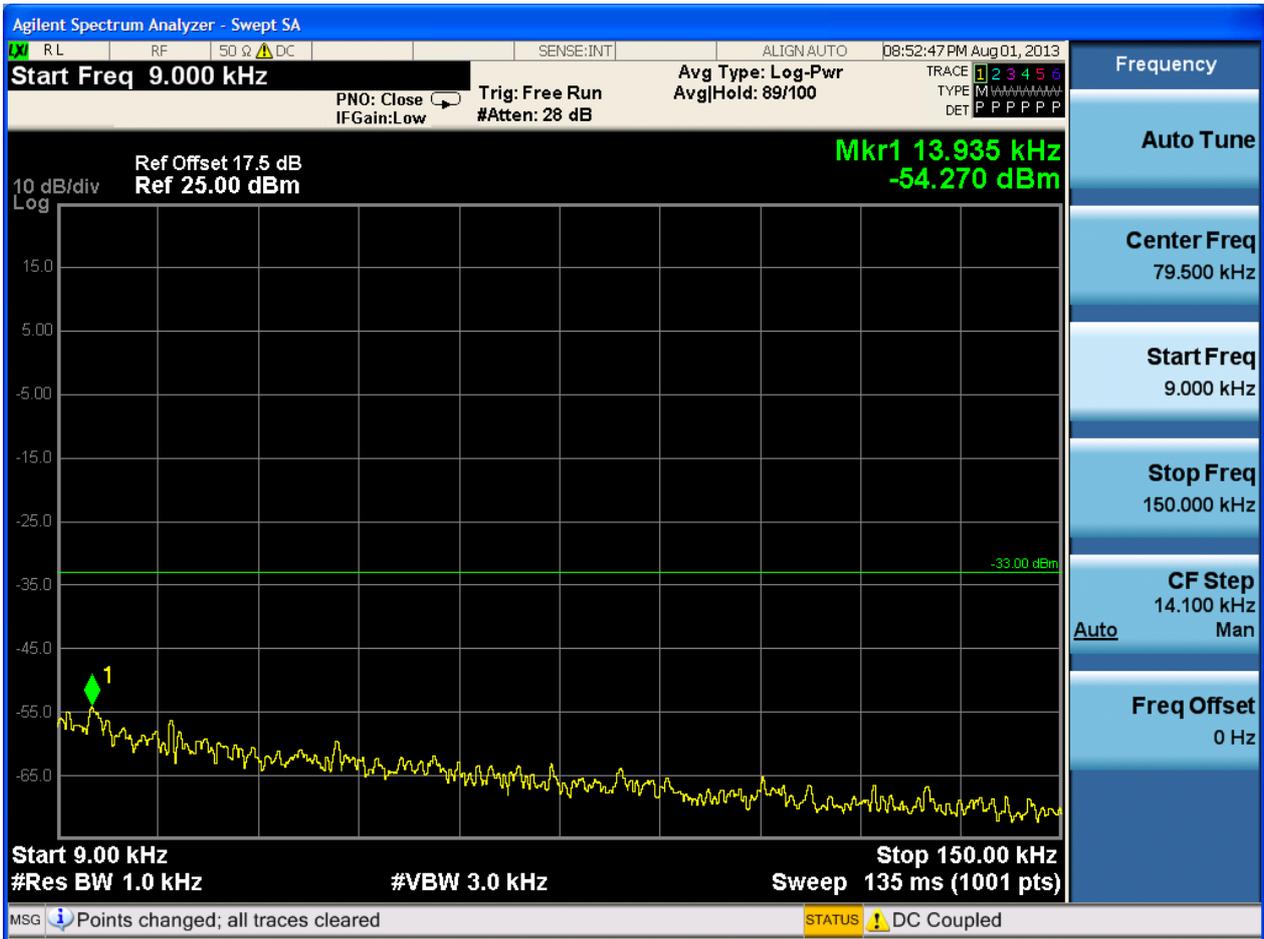


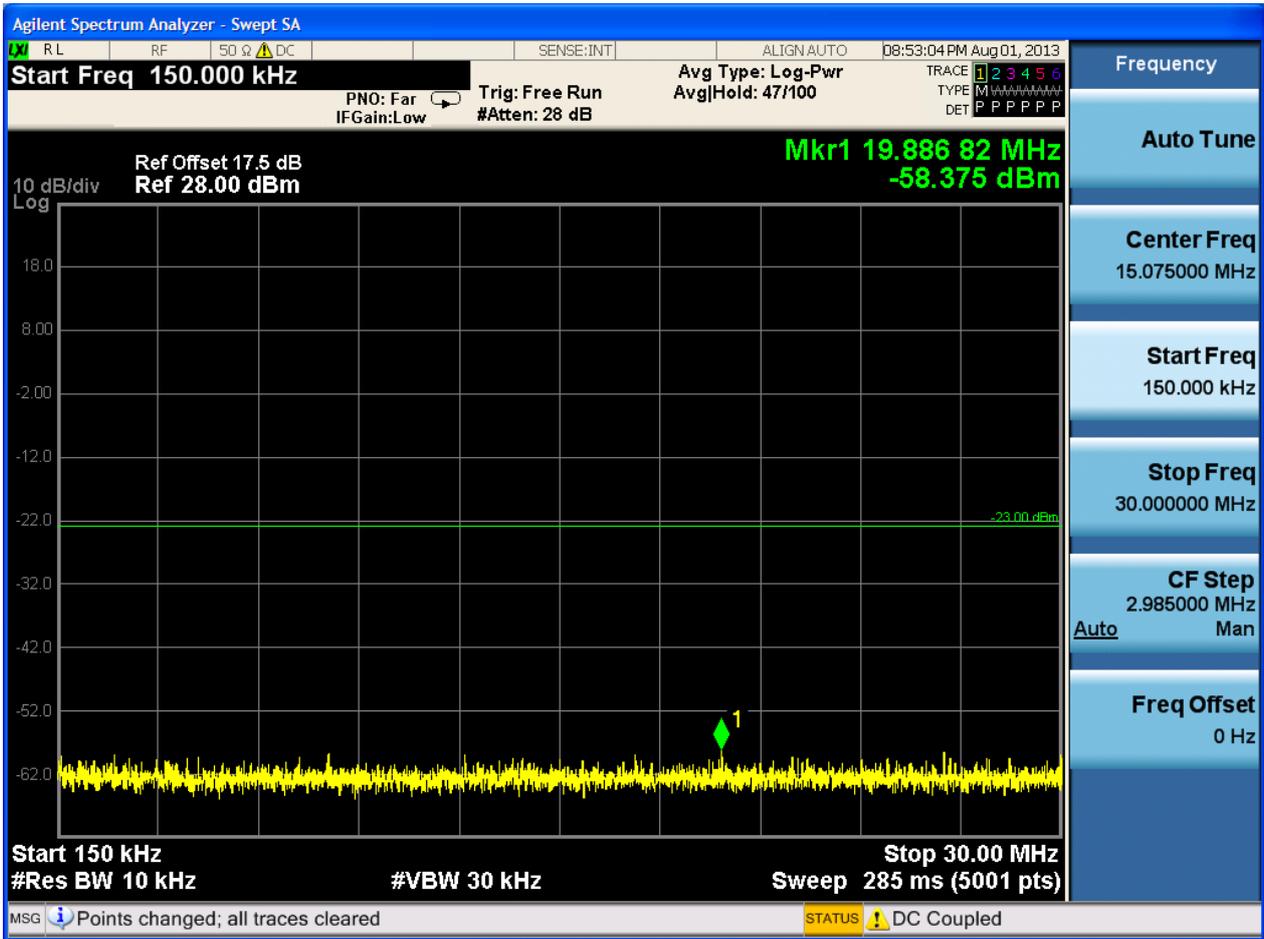


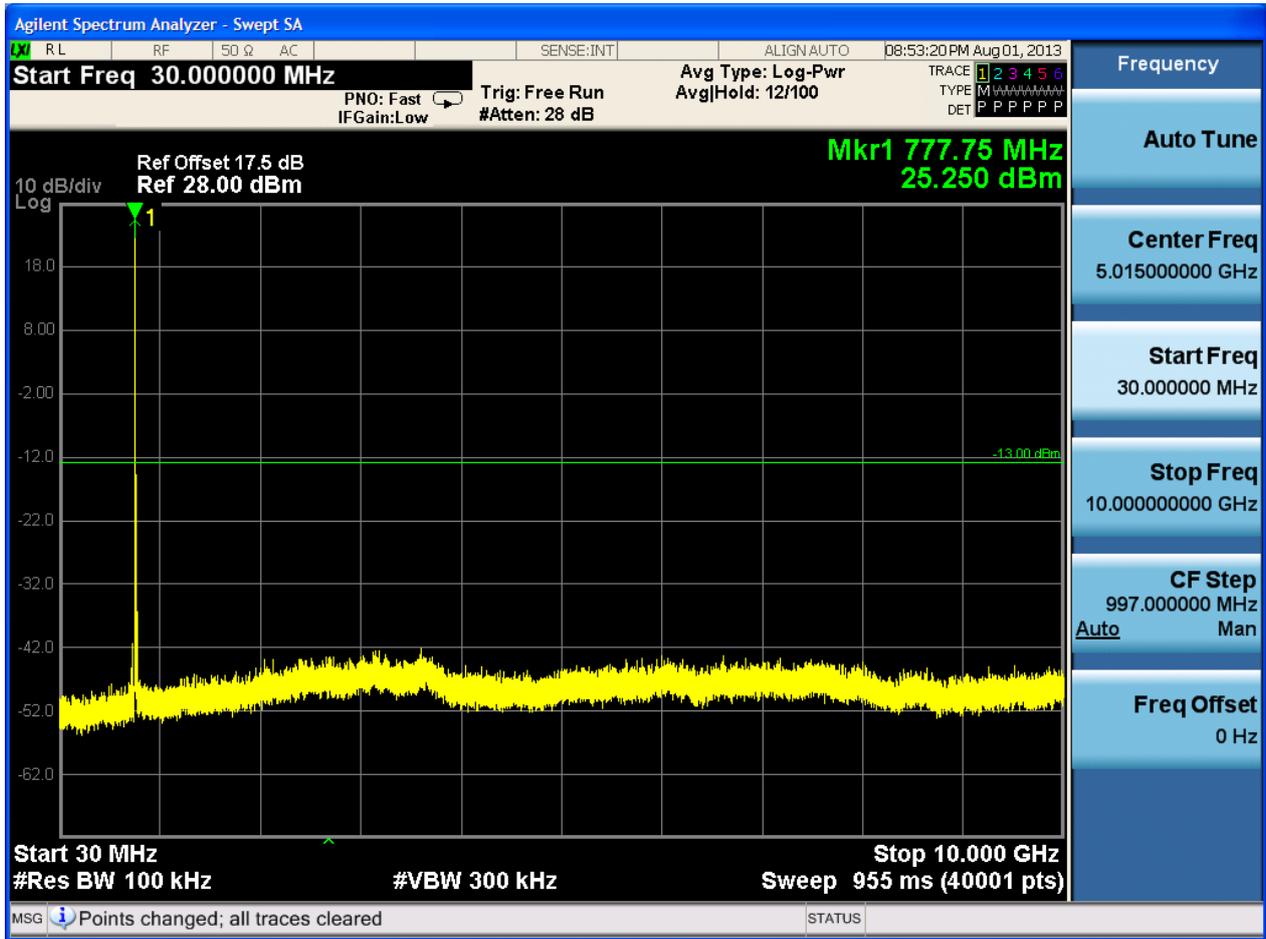
5.1.1.2.2 Test Bandwidth = 10

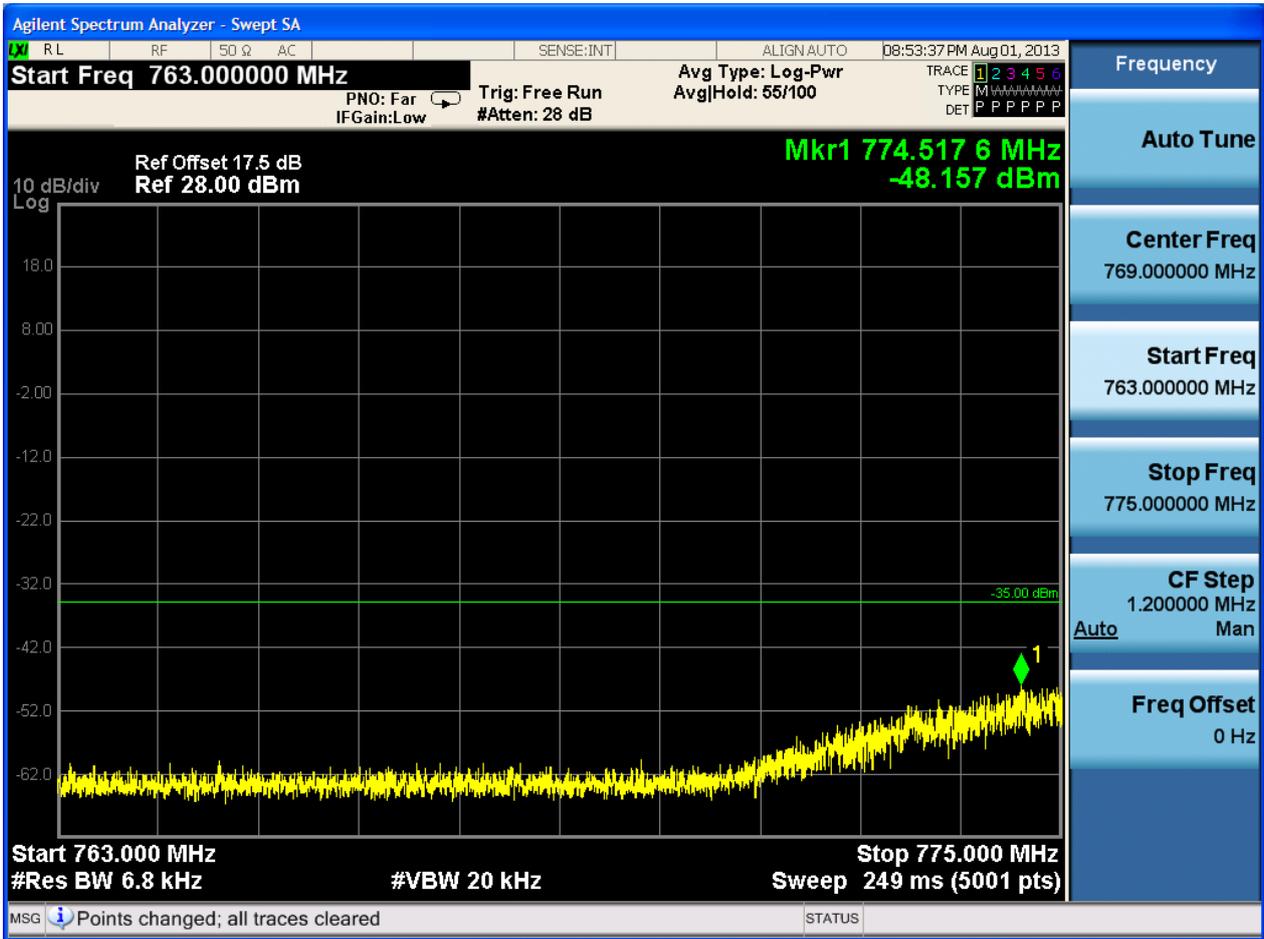
5.1.1.2.2.1 Test Channel = LCH

5.1.1.2.2.1.1 Test RB = RB1#0







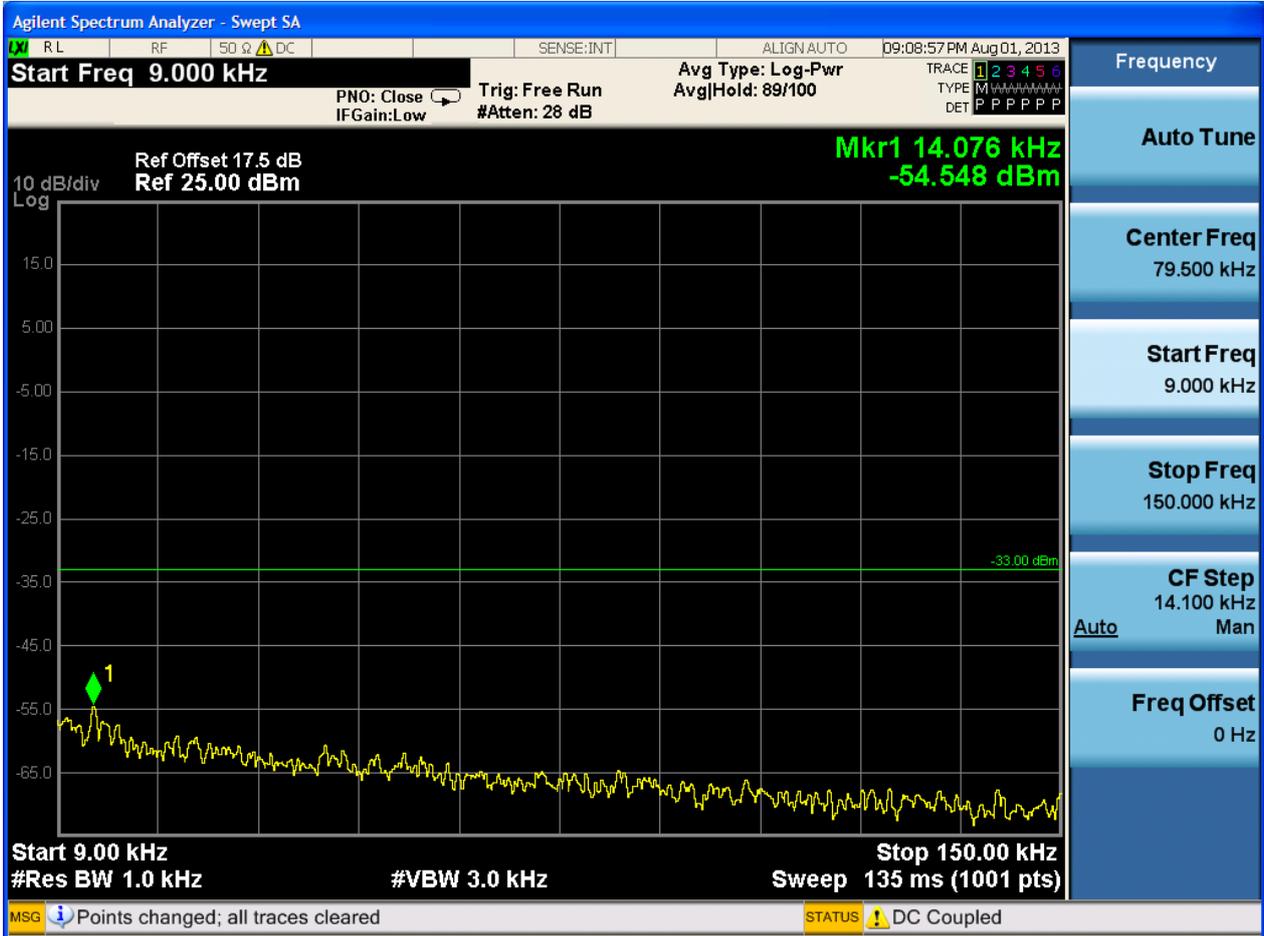


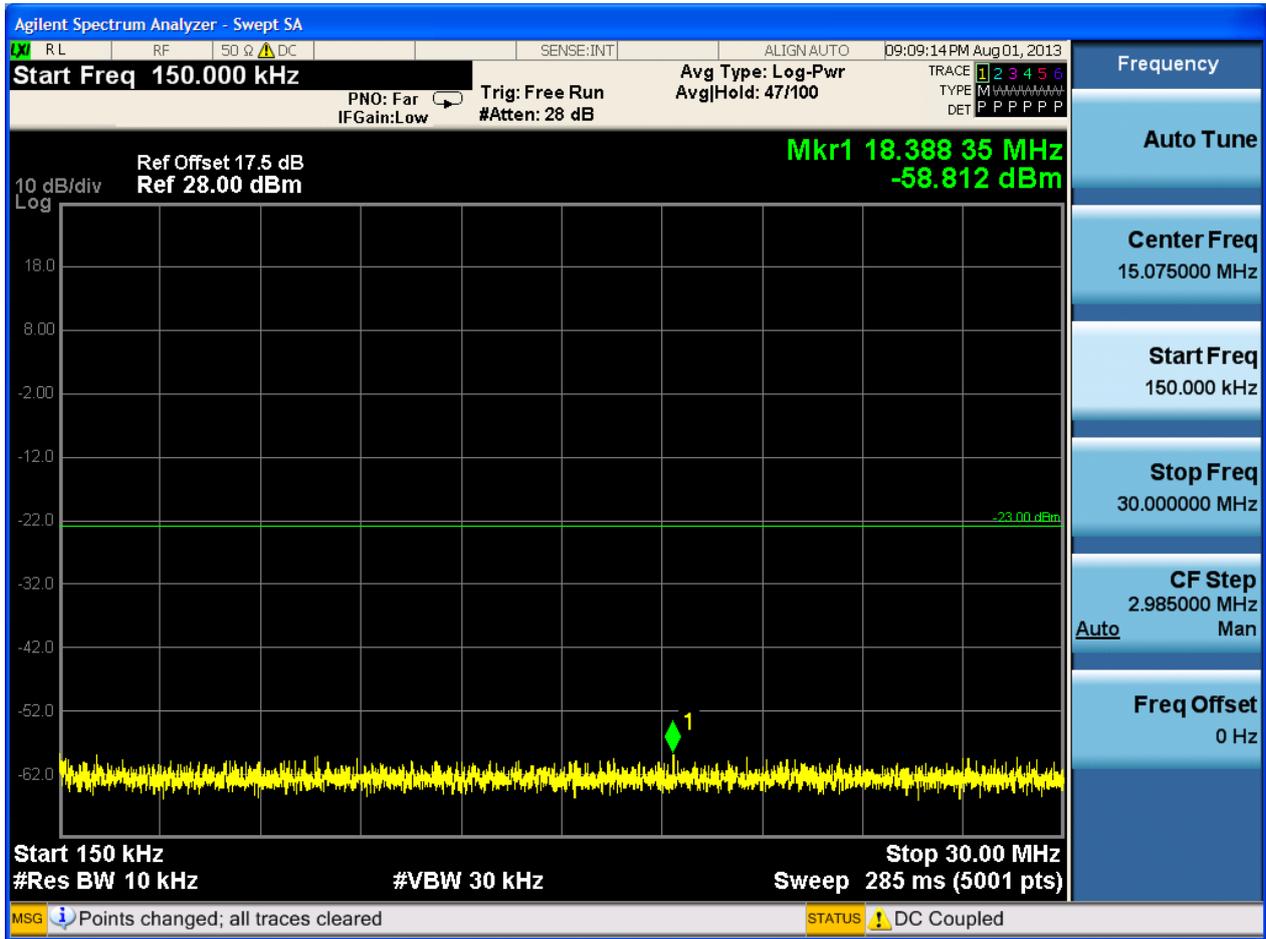


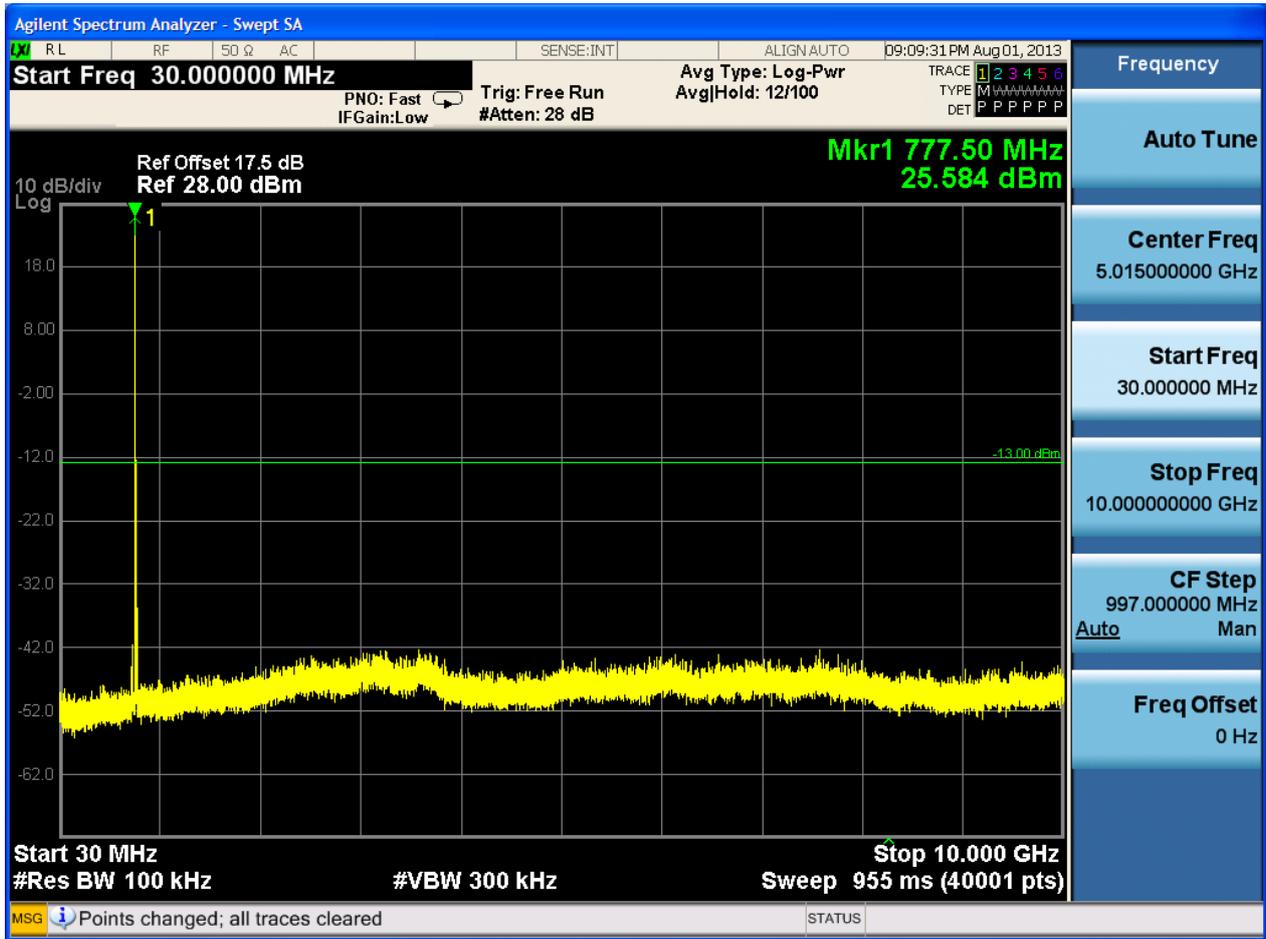


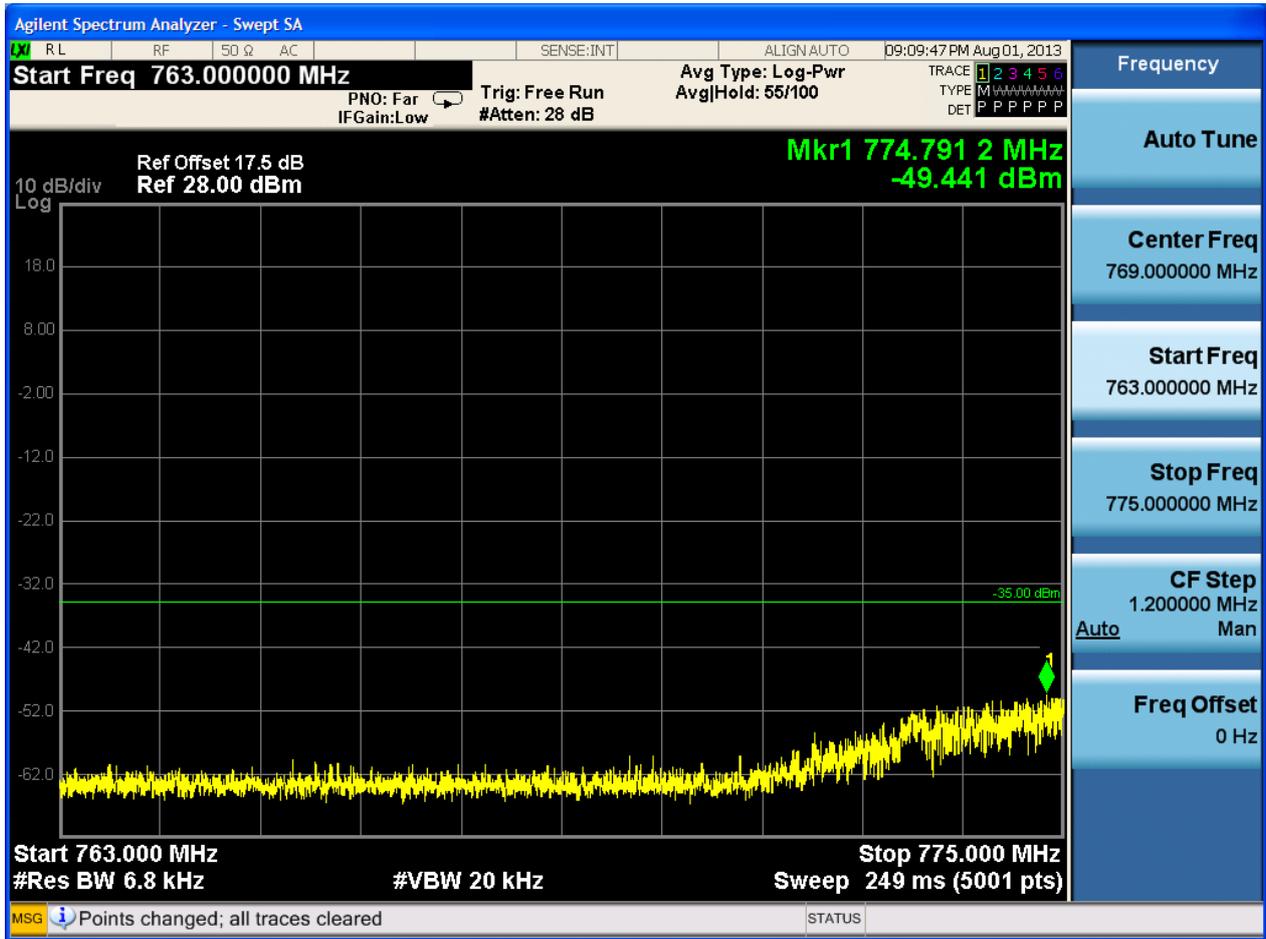
5.1.1.2.2.2 Test Channel = MCH

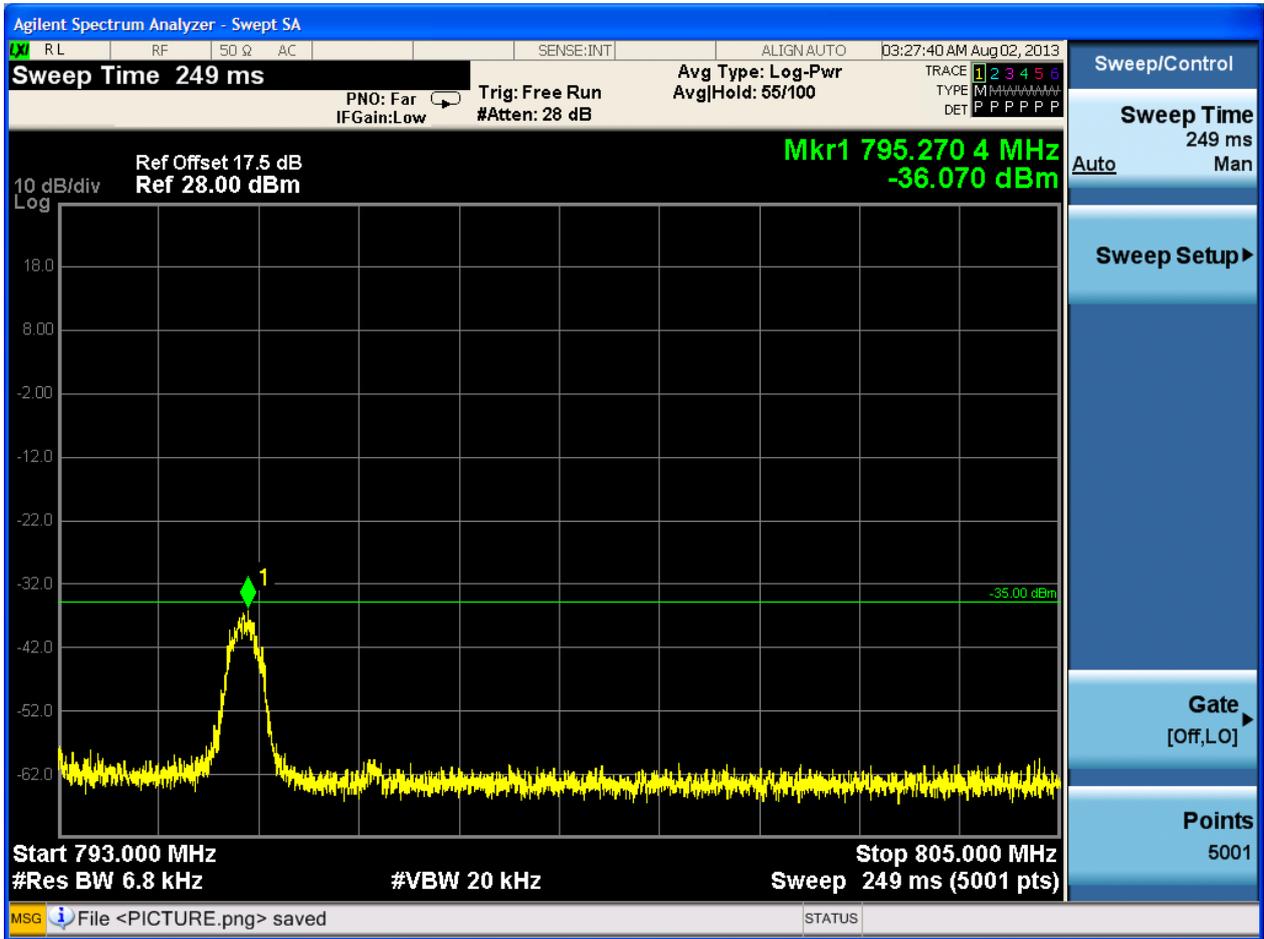
5.1.1.2.2.2.1 Test RB = RB1#0





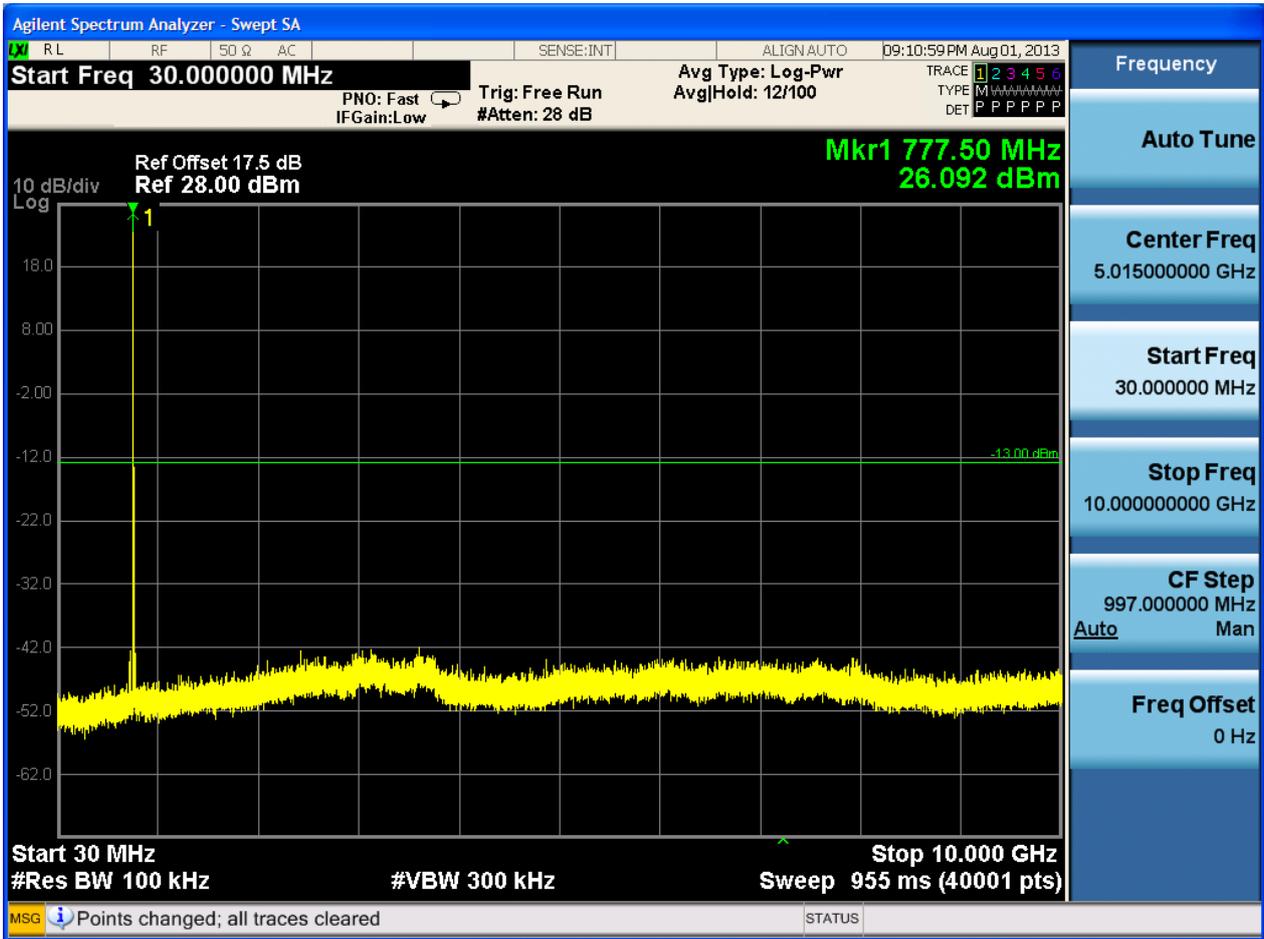


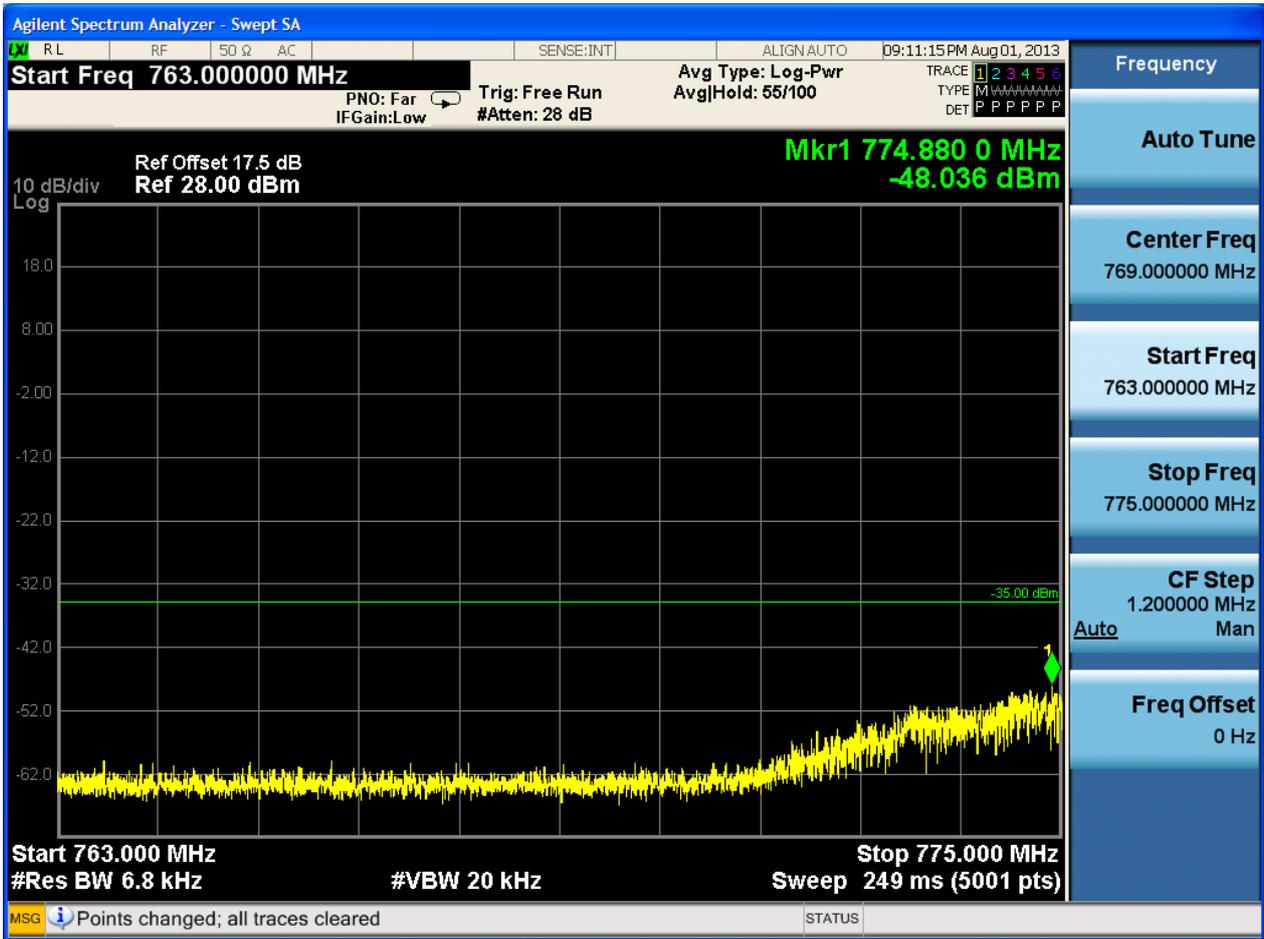


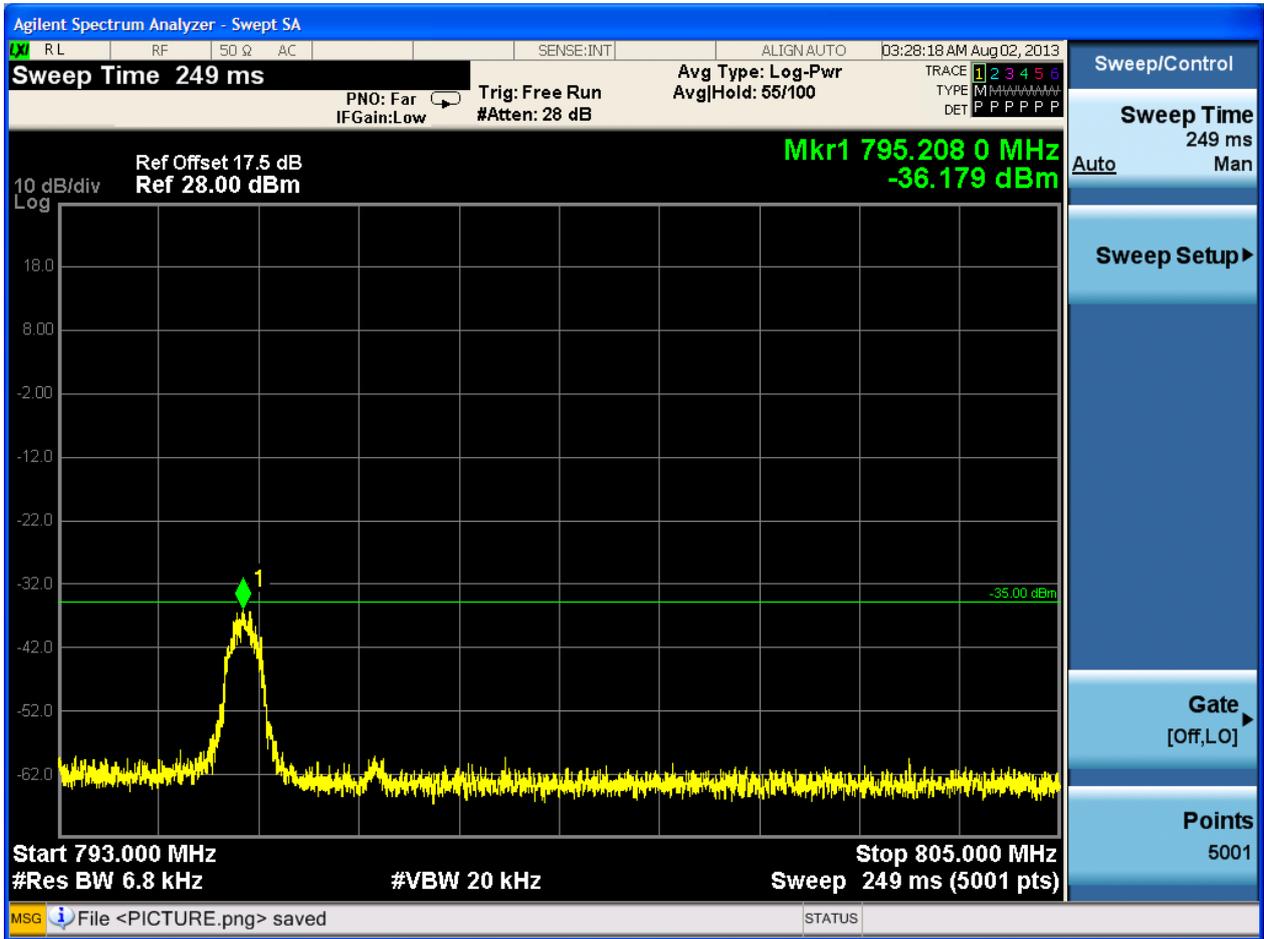














## 6Appendix\_F: Field Strength of Spurious Radiation

Note:

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

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

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

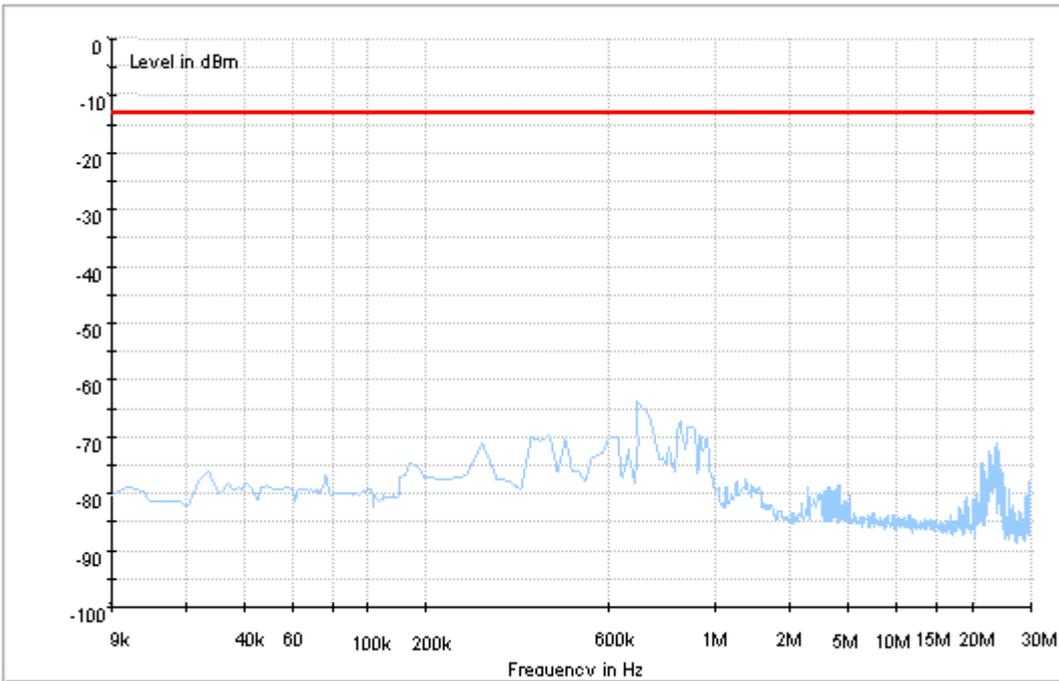
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

## Part I - Test Plots

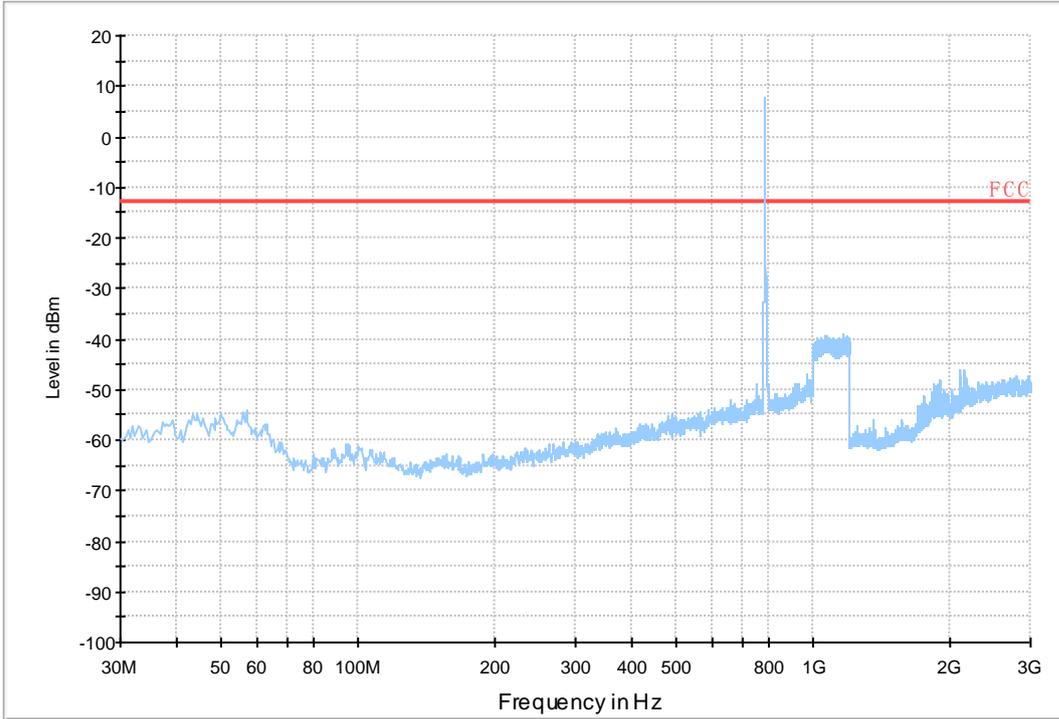
### 6.1 For LTE

#### 6.1.1 Test Band = BAND13

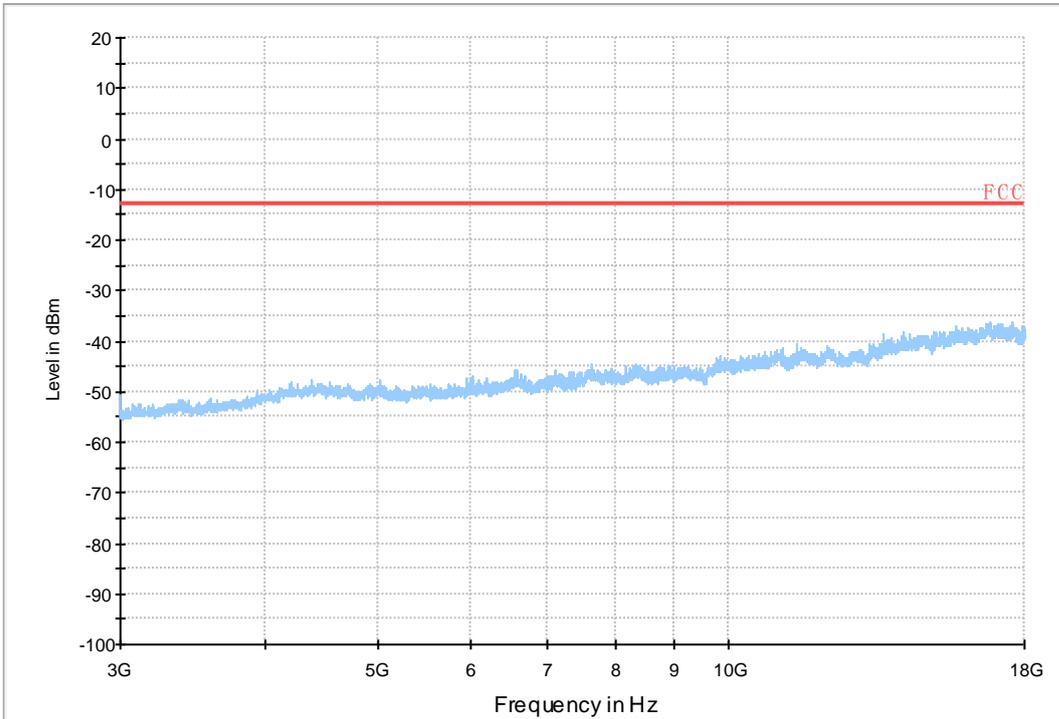
##### 6.1.1.1 Test Bandwidth = 5



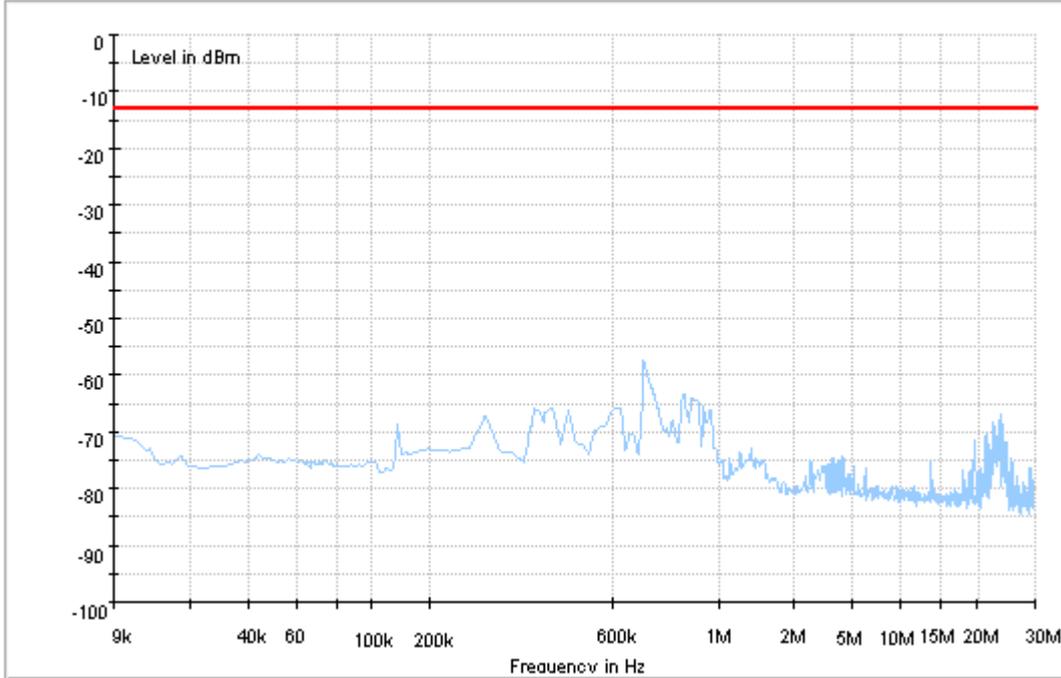
Copy of RSE-TX-DIRECTOR BELOW 1G\_L



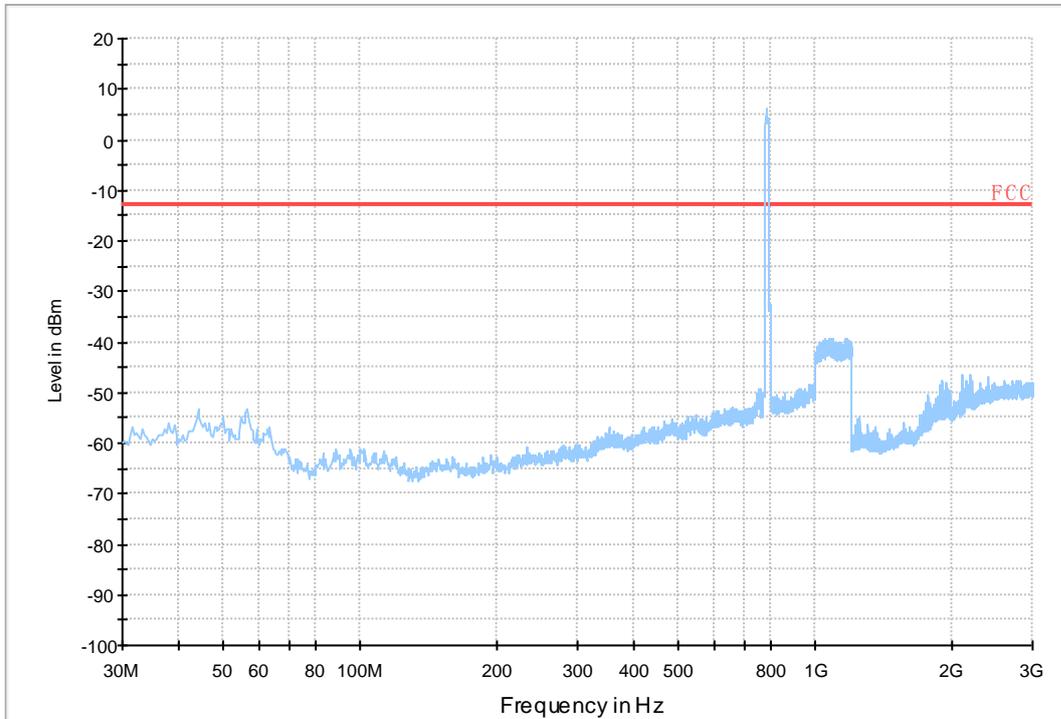
Copy of RSE-TX-DIRECTOR BELOW 1G\_H



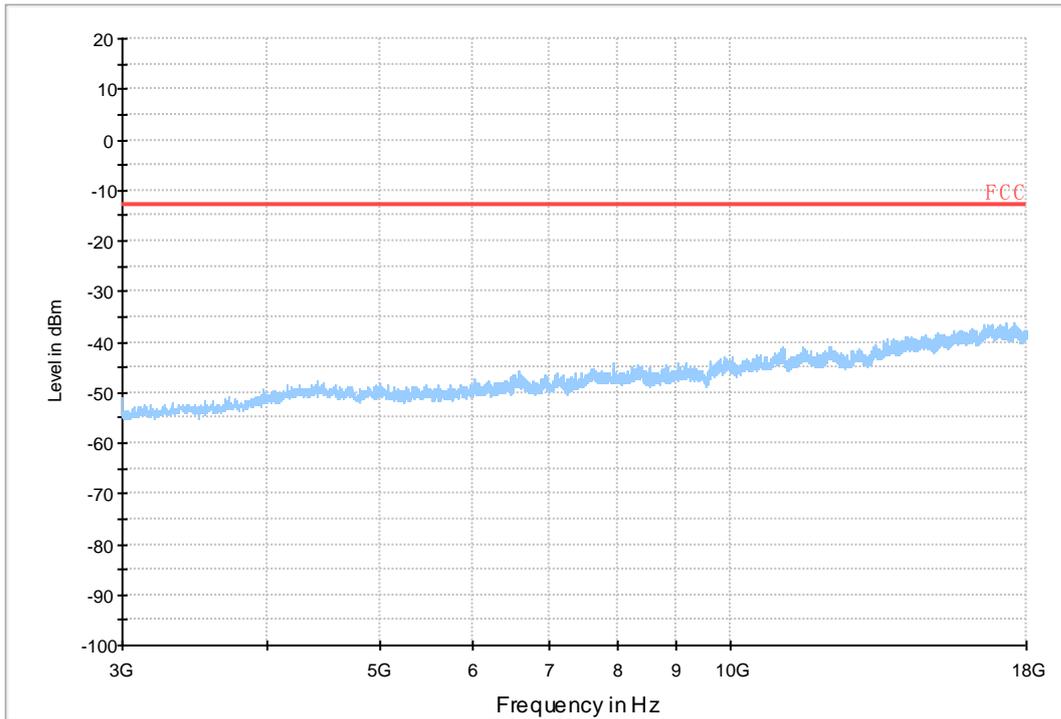
### 6.1.1.2 Test Bandwidth = 10



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



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





## 7Appendix\_G: Frequency Stability

### 7.1 For LTE

#### 7.1.1 Frequency Error vs. Voltage:

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Temp. | Test Volt. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|------------|------------------|-----------------------|---------|
| BAND13    | LTE/TM1   | 5                    | LCH          | TN         | VL         | 3.78             | 0.00485               | PASS    |
|           |           |                      |              |            | VN         | 3.56             | 0.00457               | PASS    |
|           |           |                      |              |            | VH         | 2.42             | 0.0031                | PASS    |
|           |           |                      | MCH          | TN         | VL         | 3.95             | 0.00505               | PASS    |
|           |           |                      |              |            | VN         | 1.76             | 0.00225               | PASS    |
|           |           |                      |              |            | VH         | 3.39             | 0.00434               | PASS    |
|           |           | HCH                  | TN           | VL         | 2.86       | 0.00365          | PASS                  |         |
|           |           |                      |              | VN         | 3.58       | 0.00456          | PASS                  |         |
|           |           |                      |              | VH         | 5.34       | 0.00681          | PASS                  |         |
|           |           | 10                   | LCH          | TN         | VL         | 3.12             | 0.00399               | PASS    |
|           |           |                      |              |            | VN         | 1.75             | 0.00224               | PASS    |
|           |           |                      |              |            | VH         | -0.16            | -0.0002               | PASS    |
|           | MCH       |                      | TN           | VL         | 3.25       | 0.00416          | PASS                  |         |
|           |           |                      |              | VN         | 2.96       | 0.00379          | PASS                  |         |
|           |           |                      |              | VH         | 3.28       | 0.00419          | PASS                  |         |
|           | HCH       | TN                   | VL           | 1.65       | 0.00211    | PASS             |                       |         |
|           |           |                      | VN           | 2.36       | 0.00302    | PASS             |                       |         |
|           |           |                      | VH           | 3.20       | 0.00409    | PASS             |                       |         |
|           | LTE/TM2   | 5                    | LCH          | TN         | VL         | 0.94             | 0.00121               | PASS    |
|           |           |                      |              |            | VN         | 4.01             | 0.00514               | PASS    |
|           |           |                      |              |            | VH         | 2.23             | 0.00286               | PASS    |
|           |           |                      | MCH          | TN         | VL         | 1.69             | 0.00216               | PASS    |
|           |           |                      |              |            | VN         | 3.89             | 0.00497               | PASS    |
|           |           |                      |              |            | VH         | 1.50             | 0.00192               | PASS    |
| HCH       |           | TN                   | VL           | 3.58       | 0.00456    | PASS             |                       |         |
|           |           |                      | VN           | 3.06       | 0.0039     | PASS             |                       |         |
|           |           |                      | VH           | 3.05       | 0.00389    | PASS             |                       |         |
| 10        |           | LCH                  | TN           | VL         | -0.56      | -0.00072         | PASS                  |         |
|           |           |                      |              | VN         | 1.56       | 0.00199          | PASS                  |         |
|           |           |                      |              | VH         | 1.20       | 0.00153          | PASS                  |         |
|           | MCH       | TN                   | VL           | 2.30       | 0.00294    | PASS             |                       |         |



| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Temp. | Test Volt. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|------------|------------------|-----------------------|---------|
|           |           |                      |              |            | VN         | -0.34            | -0.00043              | PASS    |
|           |           |                      |              |            | VH         | -0.46            | -0.00059              | PASS    |
|           |           |                      | HCH          | TN         | VL         | 0.69             | 0.00088               | PASS    |
|           |           |                      |              |            | VN         | 1.39             | 0.00178               | PASS    |
|           |           |                      |              |            | VH         | 2.89             | 0.0037                | PASS    |
|           |           |                      |              |            |            |                  |                       |         |

**7.1.2 Frequency Error vs. Voltage:**

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Temp. | Test Volt. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|------------|------------------|-----------------------|---------|
| BAND13    | LTE/TM1   | 5                    | LCH          | VN         | -30        | 1.92             | 0.00246               | PASS    |
|           |           |                      |              |            | -20        | 2.93             | 0.00376               | PASS    |
|           |           |                      |              |            | -10        | 3.91             | 0.00502               | PASS    |
|           |           |                      |              |            | 0          | 2.15             | 0.00276               | PASS    |
|           |           |                      |              |            | 10         | 4.63             | 0.00594               | PASS    |
|           |           |                      |              |            | 20         | 2.00             | 0.00257               | PASS    |
|           |           |                      |              |            | 30         | 2.60             | 0.00334               | PASS    |
|           |           |                      |              |            | 40         | 1.60             | 0.00205               | PASS    |
|           |           |                      | 50           | 1.75       | 0.00225    | PASS             |                       |         |
|           |           |                      | MCH          | VN         | -30        | 3.12             | 0.00399               | PASS    |
|           |           |                      |              |            | -20        | 2.57             | 0.00329               | PASS    |
|           |           |                      |              |            | -10        | 4.15             | 0.00531               | PASS    |
|           |           |                      |              |            | 0          | 4.29             | 0.00549               | PASS    |
|           |           |                      |              |            | 10         | 2.40             | 0.00307               | PASS    |
|           |           |                      |              |            | 20         | 2.20             | 0.00281               | PASS    |
|           |           |                      |              |            | 30         | 1.27             | 0.00162               | PASS    |
|           |           |                      |              |            | 40         | 4.61             | 0.0059                | PASS    |
|           |           |                      | HCH          | VN         | -30        | 3.20             | 0.00408               | PASS    |
|           |           |                      |              |            | -20        | 3.73             | 0.00475               | PASS    |
|           |           |                      |              |            | -10        | 2.72             | 0.00347               | PASS    |
|           |           |                      |              |            | 0          | 4.72             | 0.00602               | PASS    |
|           |           |                      |              |            | 10         | 4.46             | 0.00569               | PASS    |
|           |           |                      |              |            | 20         | 2.55             | 0.00325               | PASS    |
|           |           |                      |              |            | 30         | 2.66             | 0.00339               | PASS    |
|           |           | 40                   |              |            | 2.22       | 0.00283          | PASS                  |         |
|           |           | 10                   | LCH          | VN         | -30        | 1.23             | 0.00157               | PASS    |
|           |           |                      |              |            | -20        | 5.29             | 0.00676               | PASS    |
|           |           |                      |              |            | -10        | -1.56            | -0.00199              | PASS    |
|           |           |                      |              |            | 0          | -0.21            | -0.00027              | PASS    |
|           |           |                      |              |            | 10         | -0.16            | -0.0002               | PASS    |
|           |           |                      |              |            | 20         | 4.16             | 0.00532               | PASS    |
|           |           |                      |              |            | 30         | 1.59             | 0.00203               | PASS    |
| 40        | 1.13      |                      |              |            | 0.00145    | PASS             |                       |         |

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Temp. | Test Volt. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|-----------|-----------|----------------------|--------------|------------|------------|------------------|-----------------------|---------|
|           |           |                      | MCH          | VN         | 50         | 3.58             | 0.00458               | PASS    |
|           |           |                      |              |            | -30        | 2.95             | 0.00377               | PASS    |
|           |           |                      |              |            | -20        | -0.31            | -0.0004               | PASS    |
|           |           |                      |              |            | -10        | 0.24             | 0.00031               | PASS    |
|           |           |                      |              |            | 0          | 2.09             | 0.00267               | PASS    |
|           |           |                      |              |            | 10         | 1.44             | 0.00184               | PASS    |
|           |           |                      |              |            | 20         | 2.66             | 0.0034                | PASS    |
|           |           |                      |              |            | 30         | 2.16             | 0.00276               | PASS    |
|           |           |                      | 40           | 0.13       | 0.00017    | PASS             |                       |         |
|           |           |                      | 50           | 0.41       | 0.00052    | PASS             |                       |         |
|           |           |                      | HCH          | VN         | -30        | 2.96             | 0.00379               | PASS    |
|           |           |                      |              |            | -20        | -0.20            | -0.00026              | PASS    |
|           |           |                      |              |            | -10        | 4.68             | 0.00598               | PASS    |
|           |           |                      |              |            | 0          | 1.46             | 0.00187               | PASS    |
|           |           |                      |              |            | 10         | 2.93             | 0.00375               | PASS    |
|           |           |                      |              |            | 20         | 3.16             | 0.00404               | PASS    |
|           | 30        | 0.77                 |              |            | 0.00098    | PASS             |                       |         |
|           | 40        | -0.31                |              |            | -0.0004    | PASS             |                       |         |
|           | 50        | 4.31                 | 0.00551      | PASS       |            |                  |                       |         |
|           | LTE/TM2   | 5                    | LCH          | VN         | -30        | 2.13             | 0.00273               | PASS    |
|           |           |                      |              |            | -20        | 3.96             | 0.00508               | PASS    |
|           |           |                      |              |            | -10        | 3.10             | 0.00398               | PASS    |
|           |           |                      |              |            | 0          | 0.93             | 0.00119               | PASS    |
|           |           |                      |              |            | 10         | 2.92             | 0.00375               | PASS    |
|           |           |                      |              |            | 20         | 3.22             | 0.00413               | PASS    |
|           |           |                      |              |            | 30         | 2.42             | 0.0031                | PASS    |
|           |           |                      |              |            | 40         | 3.06             | 0.00393               | PASS    |
|           |           |                      | 50           | 0.47       | 0.0006     | PASS             |                       |         |
|           |           |                      | MCH          | VN         | -30        | 2.89             | 0.0037                | PASS    |
|           |           |                      |              |            | -20        | 2.83             | 0.00362               | PASS    |
|           |           |                      |              |            | -10        | 2.59             | 0.00331               | PASS    |
|           |           |                      |              |            | 0          | 3.42             | 0.00437               | PASS    |
| 10        |           |                      |              |            | 0.21       | 0.00027          | PASS                  |         |
| 20        |           |                      |              |            | 4.45       | 0.00569          | PASS                  |         |
| 30        |           |                      |              |            | 3.71       | 0.00474          | PASS                  |         |
| 40        | 2.73      | 0.00349              |              |            | PASS       |                  |                       |         |
| 50        | 2.63      | 0.00336              | PASS         |            |            |                  |                       |         |
| HCH       | VN        | -30                  | 1.95         | 0.00249    | PASS       |                  |                       |         |
|           |           | -20                  | 2.03         | 0.00259    | PASS       |                  |                       |         |

| Test Band | Test Mode | Test Bandwidth (MHz) | Test Channel | Test Temp. | Test Volt. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |       |          |      |
|-----------|-----------|----------------------|--------------|------------|------------|------------------|-----------------------|---------|-------|----------|------|
|           |           |                      |              |            | -10        | 2.46             | 0.00314               | PASS    |       |          |      |
|           |           |                      |              |            | 0          | 3.53             | 0.0045                | PASS    |       |          |      |
|           |           |                      |              |            | 10         | 2.93             | 0.00373               | PASS    |       |          |      |
|           |           |                      |              |            | 20         | 0.36             | 0.00046               | PASS    |       |          |      |
|           |           |                      |              |            | 30         | 2.00             | 0.00255               | PASS    |       |          |      |
|           |           |                      |              |            | 40         | 1.27             | 0.00162               | PASS    |       |          |      |
|           |           |                      |              |            | 50         | 4.65             | 0.00593               | PASS    |       |          |      |
|           |           |                      |              |            | 10         | LCH              | VN                    | -30     | 1.37  | 0.00175  | PASS |
|           |           |                      |              |            |            |                  |                       | -20     | 4.42  | 0.00565  | PASS |
|           |           |                      |              |            |            |                  |                       | -10     | 0.04  | 0.00005  | PASS |
|           |           |                      |              |            |            |                  |                       | 0       | -1.77 | -0.00226 | PASS |
|           |           |                      |              |            |            |                  |                       | 10      | 2.89  | 0.0037   | PASS |
|           |           |                      |              |            |            |                  |                       | 20      | 2.70  | 0.00345  | PASS |
|           |           |                      |              |            |            |                  |                       | 30      | 3.19  | 0.00408  | PASS |
|           |           |                      |              |            |            |                  |                       | 40      | 1.26  | 0.00161  | PASS |
|           |           | 50                   | -0.56        | -0.00072   |            |                  |                       | PASS    |       |          |      |
|           |           | 10                   | MCH          | VN         |            |                  |                       | -30     | 1.95  | 0.00249  | PASS |
|           |           |                      |              |            |            |                  |                       | -20     | -0.83 | -0.00106 | PASS |
|           |           |                      |              |            |            |                  |                       | -10     | 2.22  | 0.00284  | PASS |
|           |           |                      |              |            |            |                  |                       | 0       | 3.79  | 0.00485  | PASS |
|           |           |                      |              |            |            |                  |                       | 10      | 3.29  | 0.00421  | PASS |
|           |           |                      |              |            |            |                  |                       | 20      | 0.84  | 0.00107  | PASS |
|           |           |                      |              |            | 30         | -0.31            | -0.0004               | PASS    |       |          |      |
|           |           |                      |              |            | 40         | 5.35             | 0.00684               | PASS    |       |          |      |
|           |           | 10                   | HCH          | VN         | -30        | 2.37             | 0.00303               | PASS    |       |          |      |
|           |           |                      |              |            | -20        | 5.98             | 0.00765               | PASS    |       |          |      |
|           |           |                      |              |            | -10        | 1.90             | 0.00243               | PASS    |       |          |      |
|           |           |                      |              |            | 0          | 1.40             | 0.00179               | PASS    |       |          |      |
|           |           |                      |              |            | 10         | 5.01             | 0.00641               | PASS    |       |          |      |
|           |           |                      |              |            | 20         | 1.96             | 0.00251               | PASS    |       |          |      |
| 30        | 2.60      |                      |              |            | 0.00332    | PASS             |                       |         |       |          |      |
| 40        | 2.16      |                      |              |            | 0.00276    | PASS             |                       |         |       |          |      |
| 50        | 1.07      | 0.00137              | PASS         |            |            |                  |                       |         |       |          |      |

END