



**Compliance Testing, LLC**

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## Test Report

Prepared for: Wilson Electronics, Inc.

Model: 460020

Description: Quint Band Signal Booster

FCC ID: PWO460020

To

FCC Part 20

Date of Issue: November 24, 2014

On the behalf of the applicant: Wilson Electronics, Inc.  
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Attention of: Patrick Cook, Sr Research & Development Engineer  
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Project No: p1460015

**Mike Graffeo**  
**Project Test Engineer**

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All results contained herein relate only to the sample tested.

### Test Report Revision History

| Revision | Date              | Revised By   | Reason for Revision                          |
|----------|-------------------|--------------|----------------------------------------------|
| 1.0      | October 31, 2014  | Mike Graffeo | Original Document                            |
| 2.0      | November 11, 2014 | Mike Graffeo | Corrected 1930 - 1995 MHz AWGN power         |
| 3.0      | November 20, 2014 | Mike Graffeo | Corrected type on 1930 - 1995 MHz AWGN power |

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## ILAC / A2LA

Compliance Testing, LLC, has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to the joint ISO-ILAC-IAF Communiqué dated January 2009).

The tests results contained within this test report all fall within our scope of accreditation, unless noted below.

Please refer to <http://www.compliancetesting.com/labscope.html> for current scope of accreditation.

Testing Certificate Number: **2152.01**



FCC Site Reg. #349717

IC Site Reg. #2044A-2

**Non-accredited tests contained in this report:**

**N/A**

## Test and Measurement Data

Sub-part

2.1033(c)(14):

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Part 2, Subpart J and the following individual Parts: 20.21 in conjunction with latest version of KDB 935210.

## Standard Test Conditions and Engineering Practices

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with ANSI/C63.4-2009, and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104°F), unless the particular equipment requirements specified testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

| Environmental Conditions |              |                 |
|--------------------------|--------------|-----------------|
| Temp (°C)                | Humidity (%) | Pressure (mbar) |
| 24.9 – 31.0              | 33.5 – 63.0  | 985.5 - 943.0   |

Measurement results, unless otherwise noted, are worst-case measurements.

## EUT Description

**Model:** 460020

**Description:** Quint Band Signal Booster

**Firmware:** N/A

**Software:** N/A

**Serial Number:** N/A

## Additional Information:

The EUT is a Fixed Install, bi-directional amplifier for the boosting of cellular phone signals and data communication devices.

The following frequency bands and emission types are utilized.

| Frequency Band (MHz) |           |           |                                  |             |                             |
|----------------------|-----------|-----------|----------------------------------|-------------|-----------------------------|
| Uplink               | 698 - 716 | 776 - 787 | 824 - 849                        | 1850 - 1915 | 1710 – 1755                 |
| Downlink             | 728 - 746 | 746 - 757 | 869 - 894                        | 1930 - 1995 | 2110 - 2155                 |
| Modulation Type      | LTE       |           | GSM, CDMA, EDGE, HSPA, EVDO, LTE |             | CDMA, HSPA, LTE, EDGE, EVDO |

| Emission Designators |      |     |      |      |     |
|----------------------|------|-----|------|------|-----|
| CDMA                 | HSPA | LTE | EVDO | EDGE | GSM |
| F9W                  | F9W  | G7D | F9W  | G7W  | GXW |

The modulation types and emission designators listed in the tables represent the modulations that the cell phone providers use for each frequency band. GSM, CDMA, and WCDMA represent all the modulation types (phase and amplitude or a combination thereof) utilized within the industry. EDGE, HSPA, LTE etc. are all protocols or multiplexing techniques using the base modulations.

## EUT Operation during Tests

The EUT was in a normal operating condition.

## Test Result Summary

| Specification                                                                           | Test Name                    | Pass, Fail, N/A | Comments                                                        |
|-----------------------------------------------------------------------------------------|------------------------------|-----------------|-----------------------------------------------------------------|
| 20.21(e)(3)                                                                             | Authorized Frequency Band    | Pass            |                                                                 |
| 20.21(e)(8)(i)(B)<br>20.21(e)(8)(i)(C)<br>20.21(e)(8)(i)(D)                             | Maximum Power and Gain       | Pass            |                                                                 |
| 20.21(e)(8)(i)(F)                                                                       | Intermodulation              | Pass            |                                                                 |
| 20.21(e)(8)(i)(E)                                                                       | Out-of-Band Emissions        | Pass            |                                                                 |
| 2.1051<br>22.917(a)<br>24.238(a)<br>27.53(c)<br>27.53(e)<br>27.53(f)<br>27.53(g)        | Conducted Spurious Emissions | Pass            |                                                                 |
| 20.21(e)(8)(i)(A)                                                                       | Noise Limits                 | Pass            |                                                                 |
| 20.21(e)(8)(i)(I)                                                                       | Uplink Inactivity            | Pass            |                                                                 |
| 20.21(e)(8)(i)(C)(1)<br>20.21(e)(8)(i)(H)<br>Choose:<br>20.21(e)(8)(i)(C)(2)(i) (Fixed) | Variable Gain                | Pass            |                                                                 |
| 2.1049                                                                                  | Occupied Bandwidth           | Pass            |                                                                 |
| 20.21(e)(8)(ii)(A)                                                                      | Oscillation Detection        | Pass            |                                                                 |
| 2.1053                                                                                  | Radiated Spurious            | Pass            |                                                                 |
| 20.21(e)(8)(i)(B)                                                                       | Spectrum Block Filtering     | N/A             | This only applies to devices utilizing spectrum block filtering |

**Authorized Frequency Band**

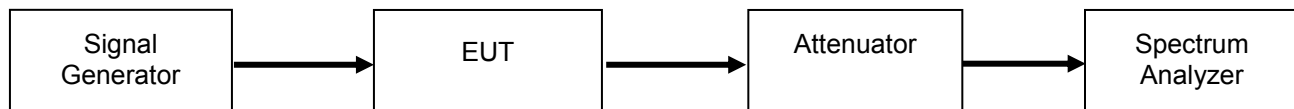
**Engineer:** Mike Graffeo

**Test Date:** 10/15/14

**Test Procedure**

The EUT was connected to a spectrum analyzer through an attenuator with the losses being input into the spectrum analyzer as a combination of reference level offset and correction factor as needed to ensure accurate readings. A signal generator was utilized to produce a CW input signal tuned to the center channel of the operational band. The RF input level was increased to a point just prior to the AGC being in control of the power. The Signal generator was set to sweep across 2X the operational band of the EUT while the spectrum analyzer was set to MAX HOLD. Two markers were placed at the edges of the operational band and a third marker was placed at the highest point within the band no closer than 2.5 MHz from the band edge.

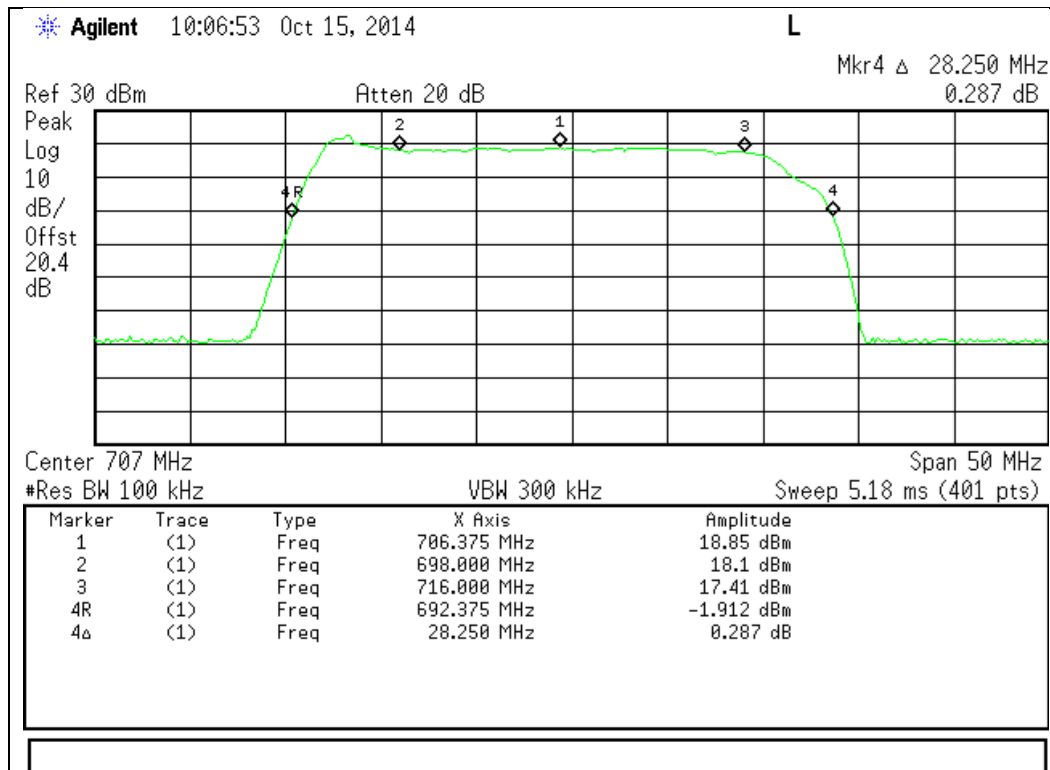
**Test Setup**



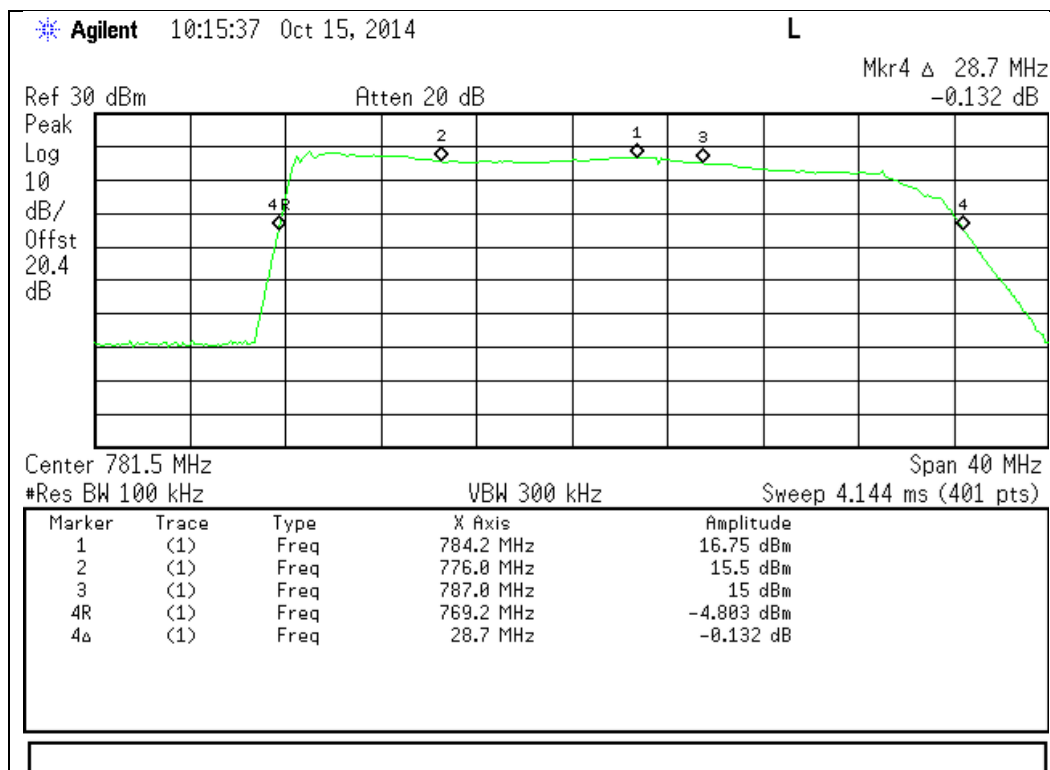


## Uplink Test Results

### 698 - 716 MHz Band

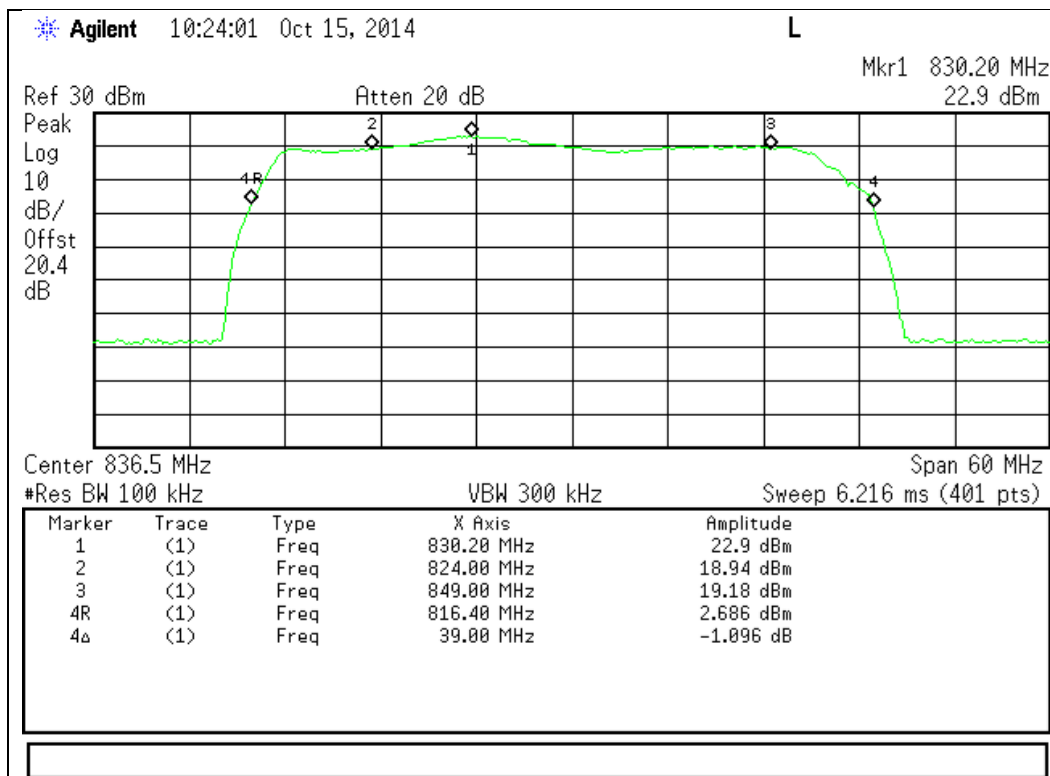


### 776 - 787 MHz Band

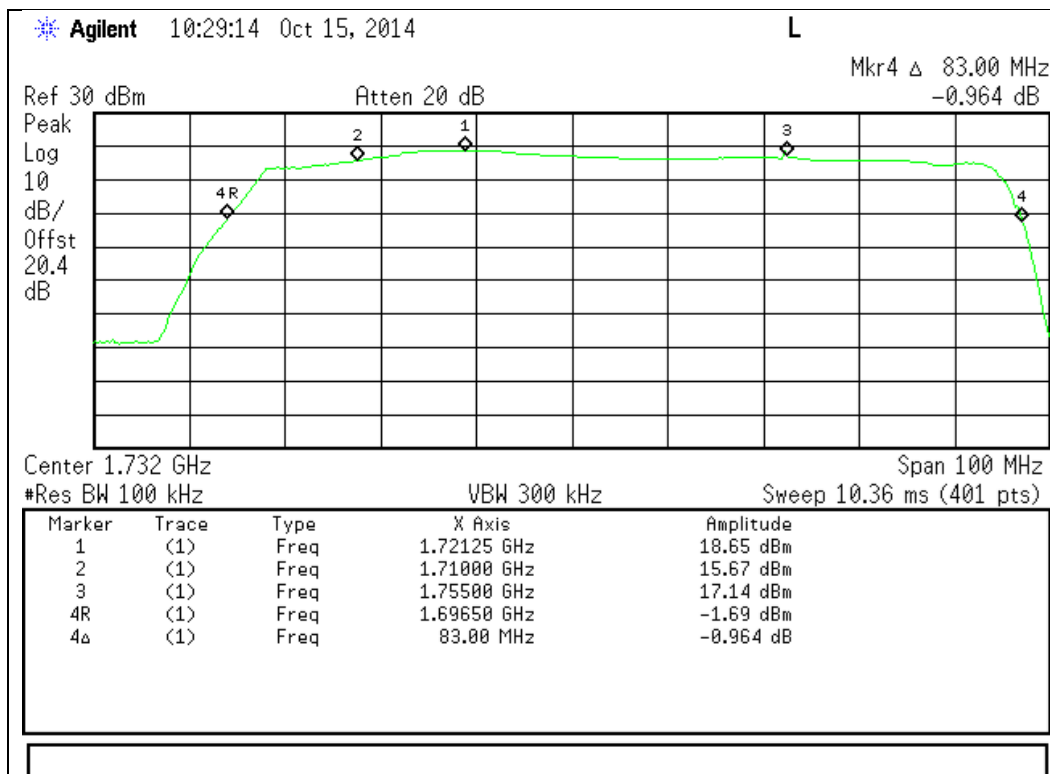




### 824 - 849 MHz Band

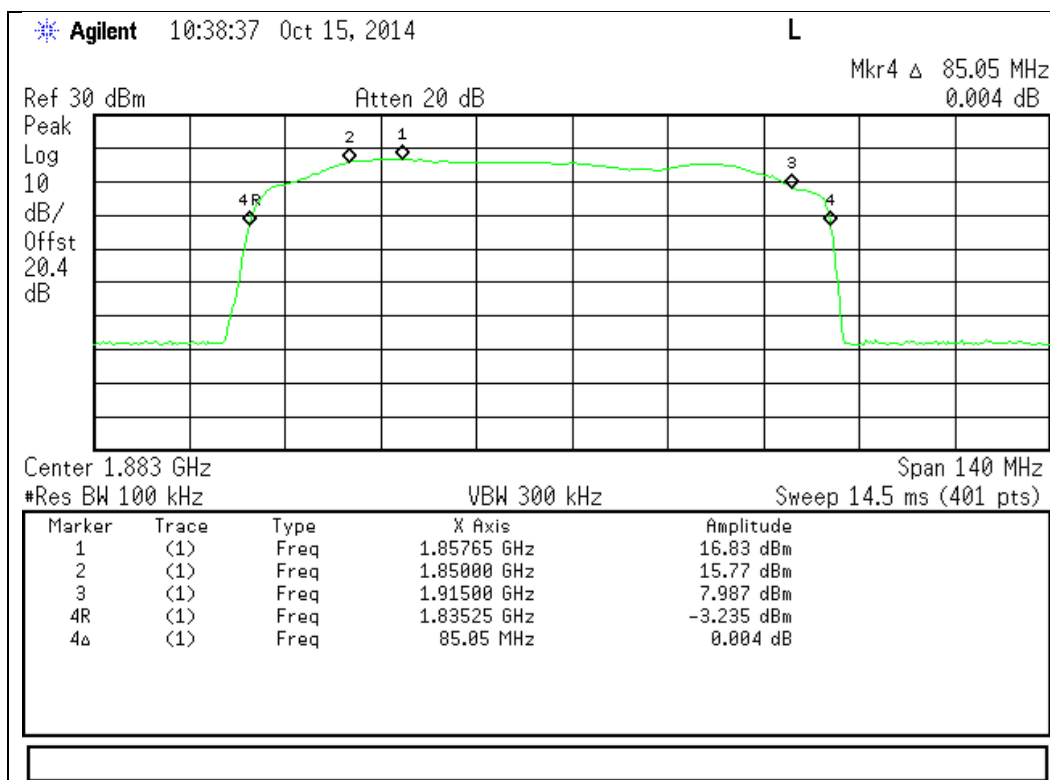


### 1710 - 1755 MHz Band



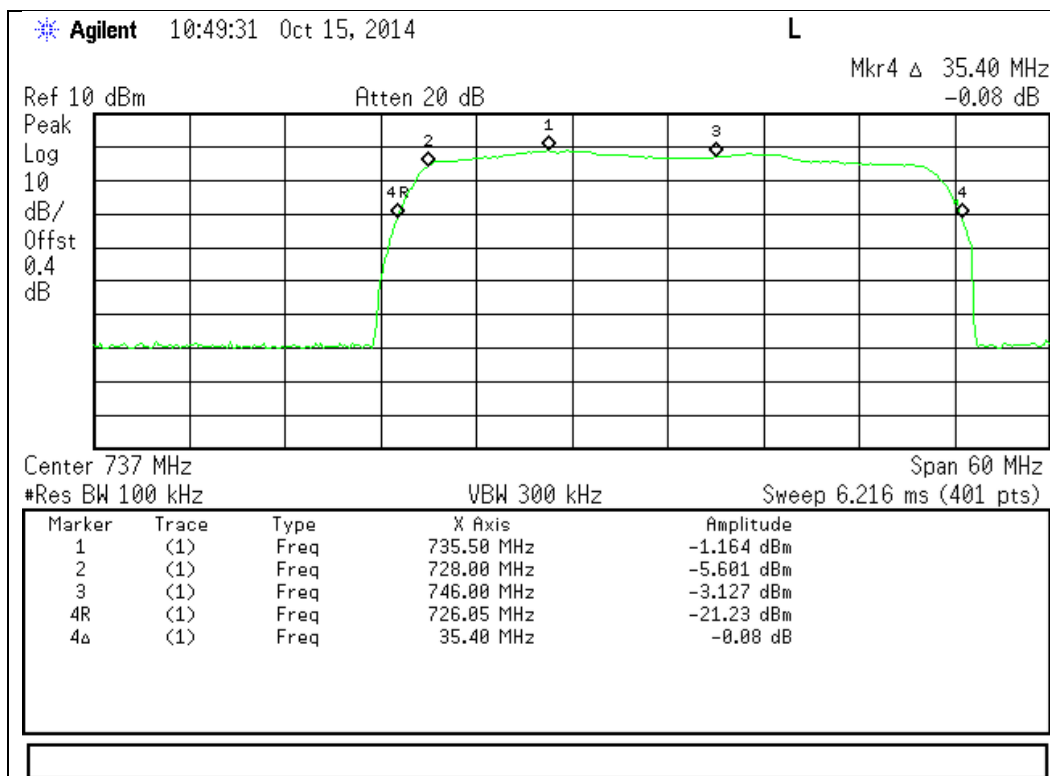


### 1850 - 1915 MHz Band



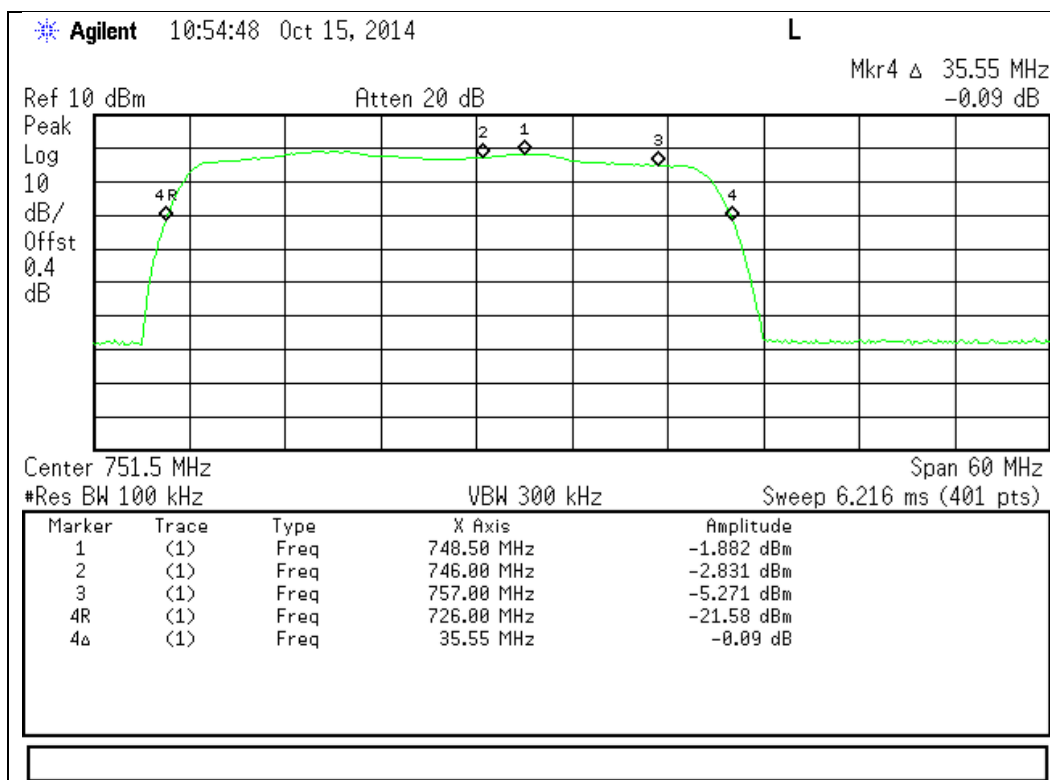
### Downlink Test Results

### 728 - 746 MHz Band

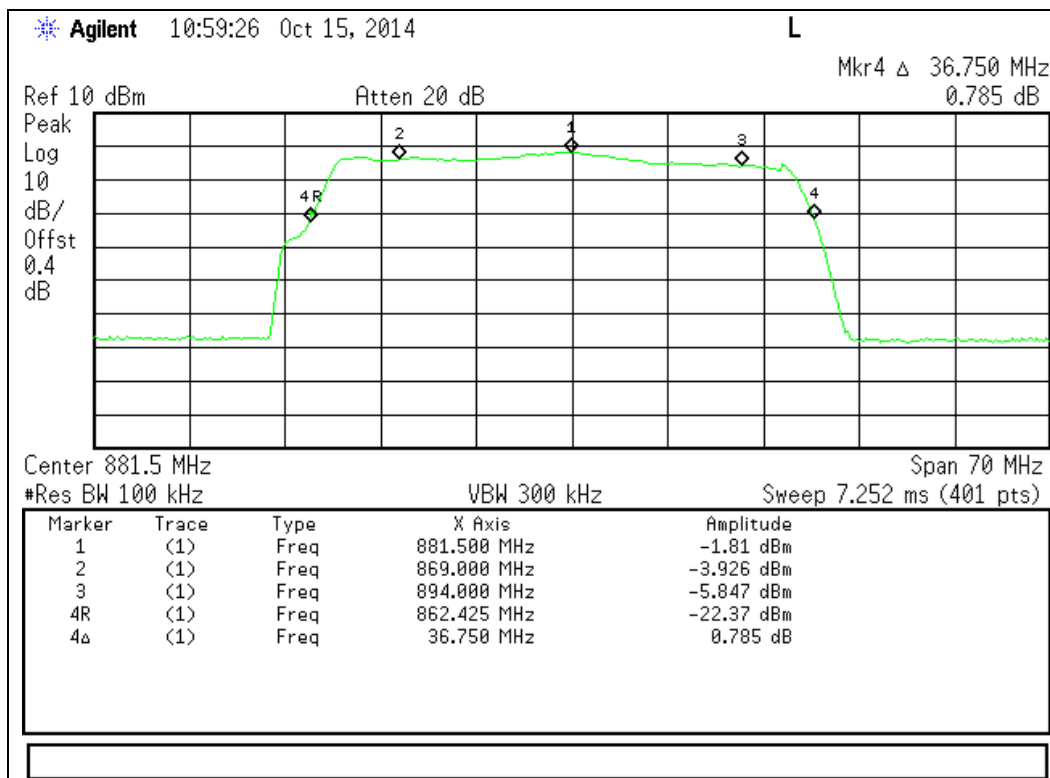




### 746 - 757 MHz Band

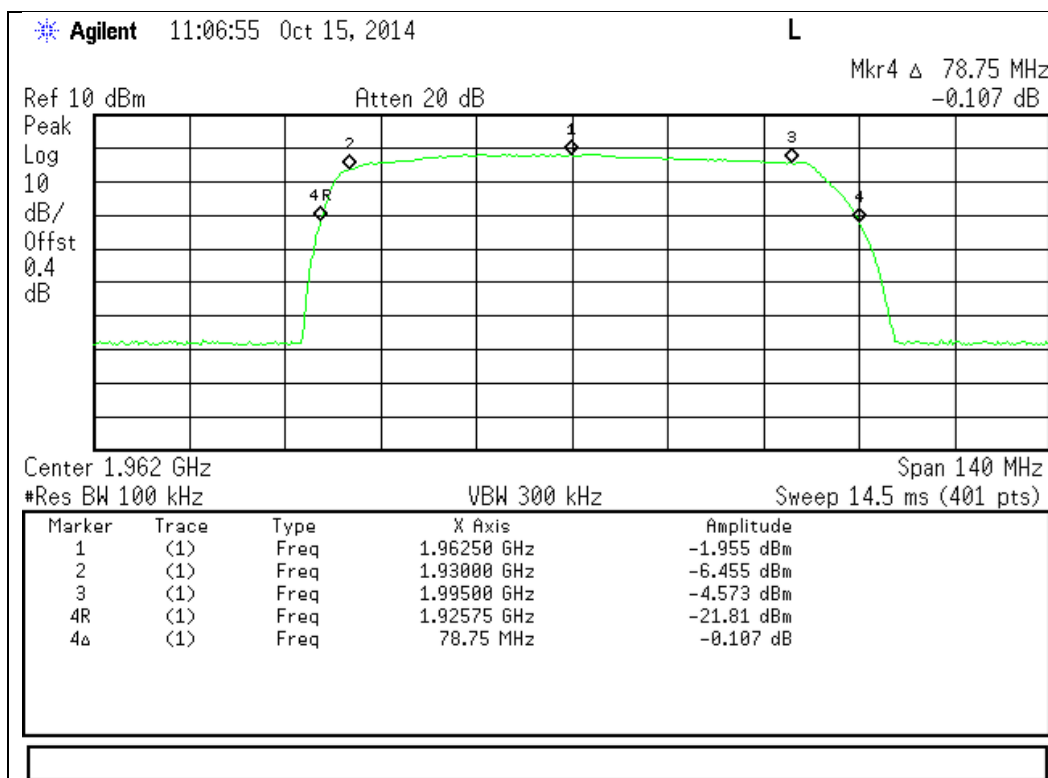


### 869 - 894 MHz Band

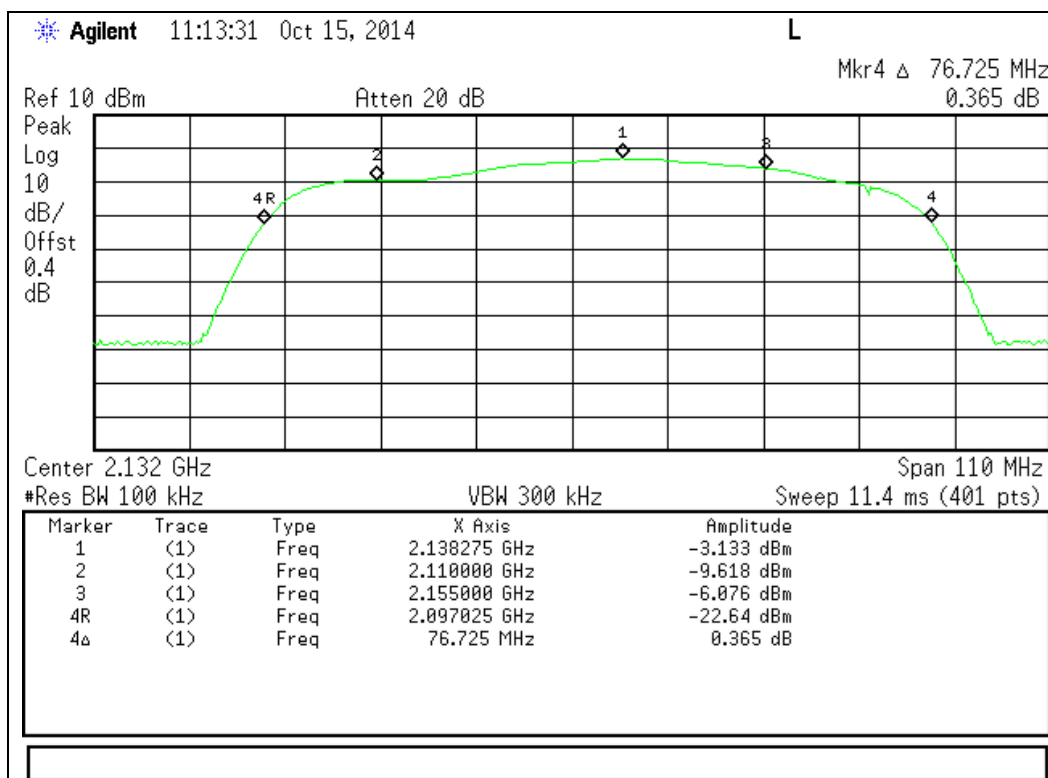




### 1930 - 1995 MHz Band



### 2110 - 2155 MHz Band



## Maximum Power and Gain

**Engineer:** Mike Graffeo

**Test Date:** 9/25/14

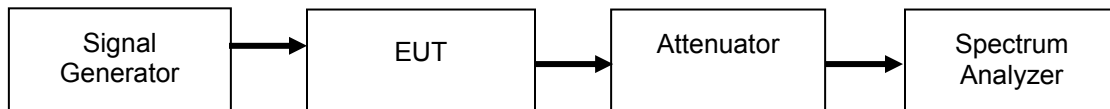
### Test Procedure

The EUT was connected to a spectrum analyzer through an attenuator with the losses being input into the spectrum analyzer as a combination of reference level offset and correction factor as needed to ensure accurate readings. The spectrum analyzer and signal generator were tuned to the frequency with the highest power level in the band, as determined by the Authorized Frequency Band test. The RF input level was increased to a point just prior to the AGC being in control of the power for both pulsed single time slot GSM modulation and 4.1 MHz AWGN modulation. The maximum power was measured and verified to meet the minimum and maximum levels allowed, with the maximum gain being computed from these values. The uplink and downlink gain under each condition were verified to be within 9 dB of each other.

Gain limit:  $6.5\text{dB} + 20 \cdot \text{LOG}_{10}(\text{midband of UL freq})$

$F_{\text{MHz}}$  is the uplink mid-band frequency with the downlink gain limit being equivalent to the paired Uplink band gain limit.

### Test Setup



### Uplink Power Test Results

| Frequency Band (MHz)      | Input Level (dBm) | Output Power (dBm) | Lower Limit (dBm) | Upper Limit (dBm) | Result |
|---------------------------|-------------------|--------------------|-------------------|-------------------|--------|
| 698 - 716 MHz Pulsed CW   | -36.7             | 23.94              | 17                | 30                | Pass   |
| 698 - 716 MHz AWGN        | -41.4             | 20.20              | 17                | 30                | Pass   |
| 776 - 787 MHz Pulsed CW   | -36.7             | 24.19              | 17                | 30                | Pass   |
| 776 - 787 MHz AWGN        | -39.8             | 20.16              | 17                | 30                | Pass   |
| 824 - 849 MHz Pulsed CW   | -37.7             | 23.42              | 17                | 30                | Pass   |
| 824 - 849 MHz AWGN        | -37.6             | 23.49              | 17                | 30                | Pass   |
| 1710 - 1755 MHz Pulsed CW | -38.7             | 24.55              | 17                | 30                | Pass   |
| 1710 - 1755 MHz AWGN      | -39.6             | 22.15              | 17                | 30                | Pass   |
| 1850 - 1915 MHz Pulsed CW | -40.3             | 23.61              | 17                | 30                | Pass   |
| 1850 - 1915 MHz AWGN      | -45.0             | 20.62              | 17                | 30                | Pass   |

### Downlink Power Test Results

| Frequency Band (MHz)      | Input Level (dBm) | Output Power (dBm) | Upper Limit (dBm) | Result |
|---------------------------|-------------------|--------------------|-------------------|--------|
| 728 - 746 MHz Pulsed CW   | -51.0             | 9.43               | 17                | Pass   |
| 728 - 746 MHz AWGN        | -50.0             | 11.64              | 17                | Pass   |
| 746 - 757 MHz Pulsed CW   | -51.0             | 10.88              | 17                | Pass   |
| 746 - 757 MHz AWGN        | -50.9             | 11.92              | 17                | Pass   |
| 869 - 894 MHz Pulsed CW   | -54.4             | 10.12              | 17                | Pass   |
| 869 - 894 MHz AWGN        | -52.6             | 12.08              | 17                | Pass   |
| 1930 - 1995 MHz Pulsed CW | -57.9             | 9.46               | 17                | Pass   |
| 1930 - 1995 MHz AWGN      | -59.2             | 9.50               | 17                | Pass   |
| 2110 - 2155 MHz Pulsed CW | -56.9             | 9.89               | 17                | Pass   |
| 2110 - 2155 MHz AWGN      | -55.2             | 11.93              | 17                | Pass   |

### Uplink and Downlink Gain Test Results

| Modulation | Uplink Frequency (MHz) | Downlink Frequency (MHz) | Uplink Gain (dB) | Uplink Limit (dB) | Downlink Gain (dB) | Downlink Limit (dB) | Delta (dB) | Limit (dB) | Margin (dB) |
|------------|------------------------|--------------------------|------------------|-------------------|--------------------|---------------------|------------|------------|-------------|
| Pulsed CW  | 706.4                  | 735.5                    | 60.64            | 63.5              | 60.4               | 63.5                | 0.21       | 9          | -8.79       |
| AWGN       | 706.4                  | 735.5                    | 61.60            | 63.5              | 61.6               | 63.5                | 0.04       | 9          | -8.96       |
| Pulsed CW  | 784.2                  | 748.5                    | 60.89            | 64.4              | 61.9               | 64.4                | 0.99       | 9          | -8.01       |
| AWGN       | 784.2                  | 748.5                    | 59.96            | 64.4              | 62.8               | 64.4                | 2.86       | 9          | -6.14       |
| Pulsed CW  | 830.2                  | 881.5                    | 61.12            | 64.9              | 64.5               | 64.9                | 3.4        | 9          | -5.6        |
| AWGN       | 830.2                  | 881.5                    | 61.09            | 64.9              | 64.7               | 64.9                | 3.59       | 9          | -5.41       |
| Pulsed CW  | 1721.3                 | 2138.3                   | 63.25            | 71                | 66.8               | 71                  | 3.54       | 9          | -5.46       |
| AWGN       | 1721.3                 | 2138.3                   | 61.75            | 71                | 67.1               | 71                  | 5.38       | 9          | -3.62       |
| Pulsed CW  | 1857.7                 | 1962.5                   | 63.93            | 72                | 67.4               | 72                  | 3.43       | 9          | -5.57       |
| AWGN       | 1857.7                 | 1962.5                   | 65.62            | 72                | 68.7               | 72                  | 3.08       | 9          | -5.92       |

## Intermodulation

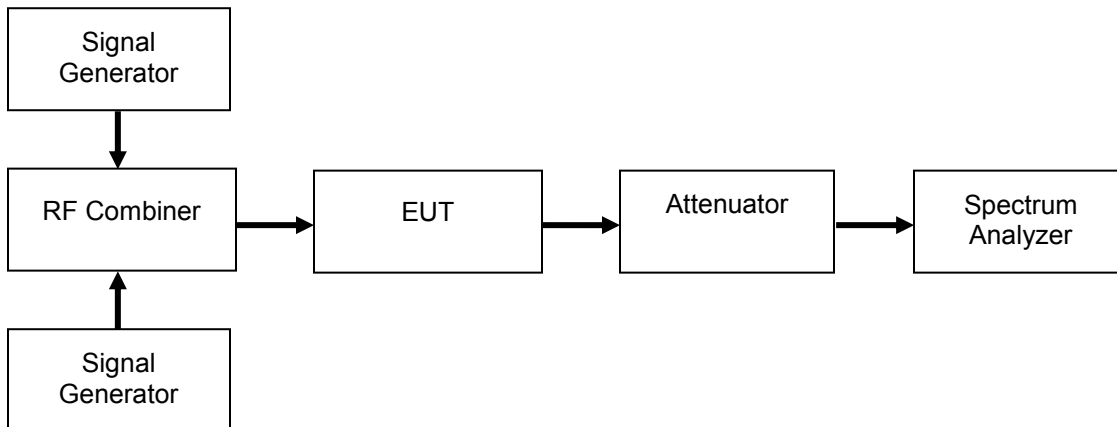
**Engineer:** Mike Graffeo

**Test Date:** 9/23/14

### Test Procedure

The EUT was connected to a spectrum analyzer through an attenuator. Two signal generators were utilized to produce two CW signals 600 kHz apart and centered in the operational band. Attenuator and cable insertion loss correction factors were input to either the signal generator or the spectrum analyzer as required to ensure that accurate measurements were recorded. The input power was set at the maximum allowable power and the RMS intermodulation products were measured to ensure they were less than -19 dBm in a 3 kHz RBW. The uplink and downlink intermodulation products were plotted, with the levels being listed in the summary tables.

### Test Setup



### Uplink Test Results

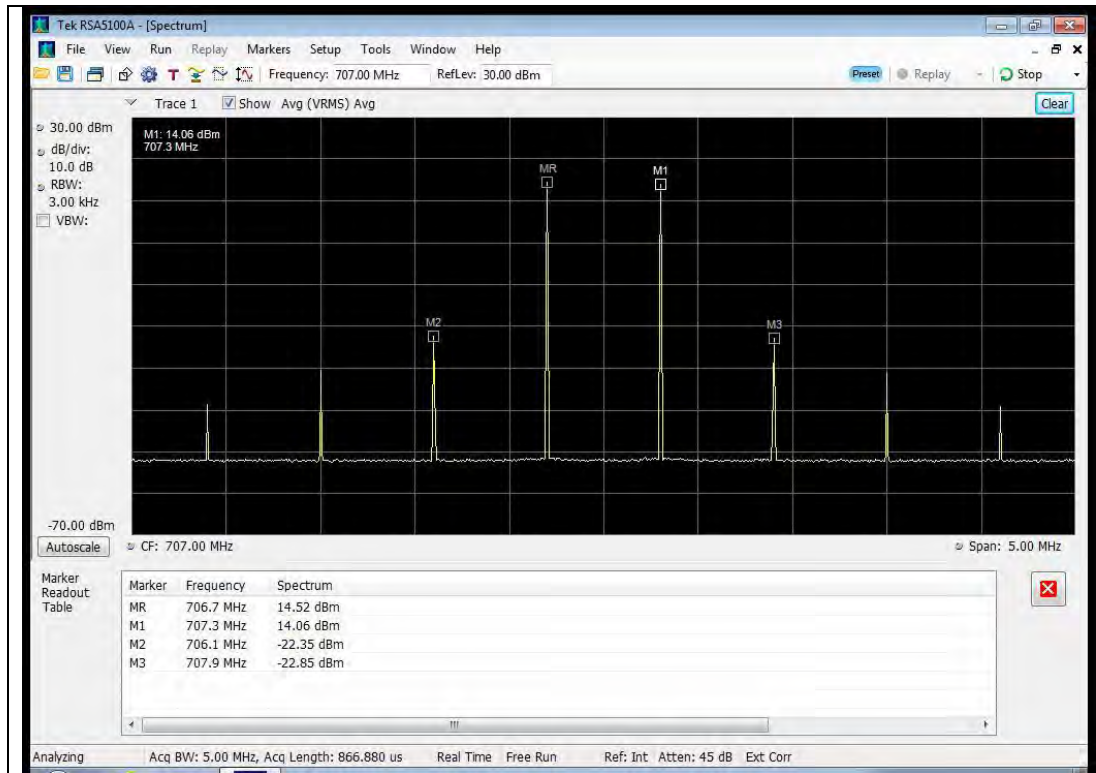
| Frequency Band (MHz) | Intermodulation Level (dBm) | Limit (dBm) | Result |
|----------------------|-----------------------------|-------------|--------|
| 698 - 716 MHz        | -22.35                      | -19         | Pass   |
| 776 - 787 MHz        | -21.29                      | -19         | Pass   |
| 824 - 849 MHz        | -19.42                      | -19         | Pass   |
| 1710 - 1755 MHz      | -22.13                      | -19         | Pass   |
| 1850 - 1915 MHz      | -20.09                      | -19         | Pass   |

### Downlink Test Results

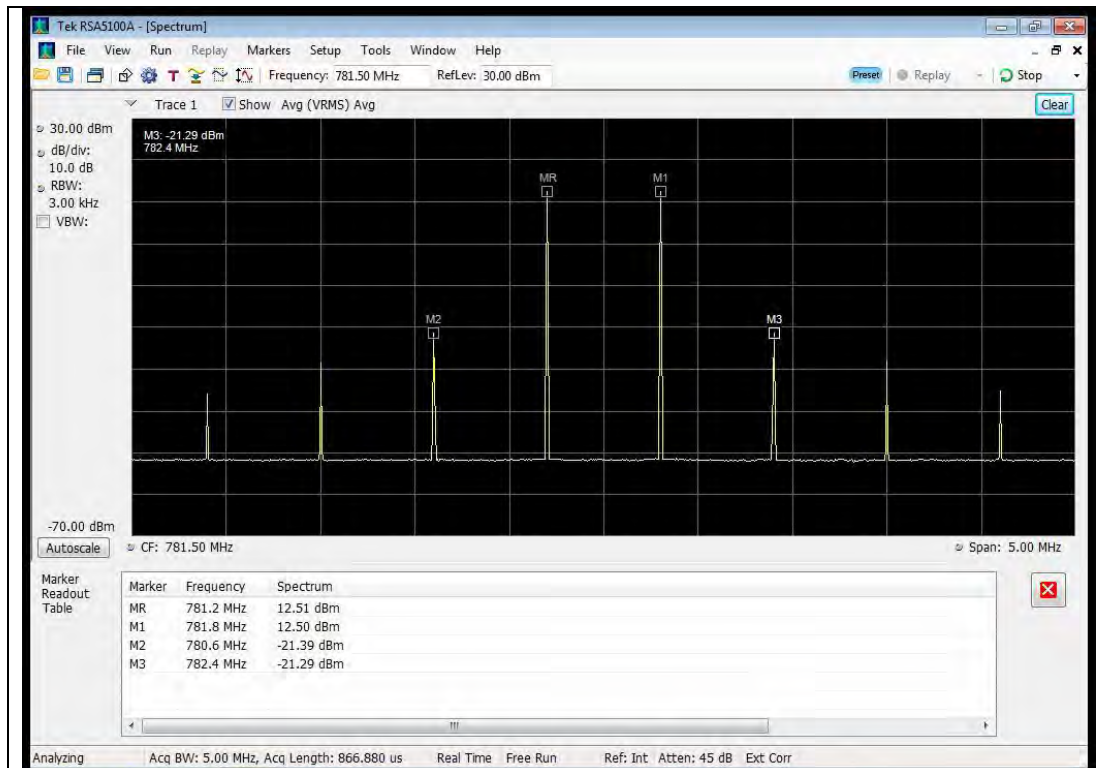
| Frequency Band (MHz) | Intermodulation Level (dBm) | Limit (dBm) | Result |
|----------------------|-----------------------------|-------------|--------|
| 728 - 746 MHz        | -37.73                      | -19         | Pass   |
| 746 - 757 MHz        | -36.55                      | -19         | Pass   |
| 869 - 894 MHz        | -33.63                      | -19         | Pass   |
| 1930 - 1995 MHz      | -36.44                      | -19         | Pass   |
| 2110 - 2155 MHz      | -34.64                      | -19         | Pass   |

## Uplink Test Results

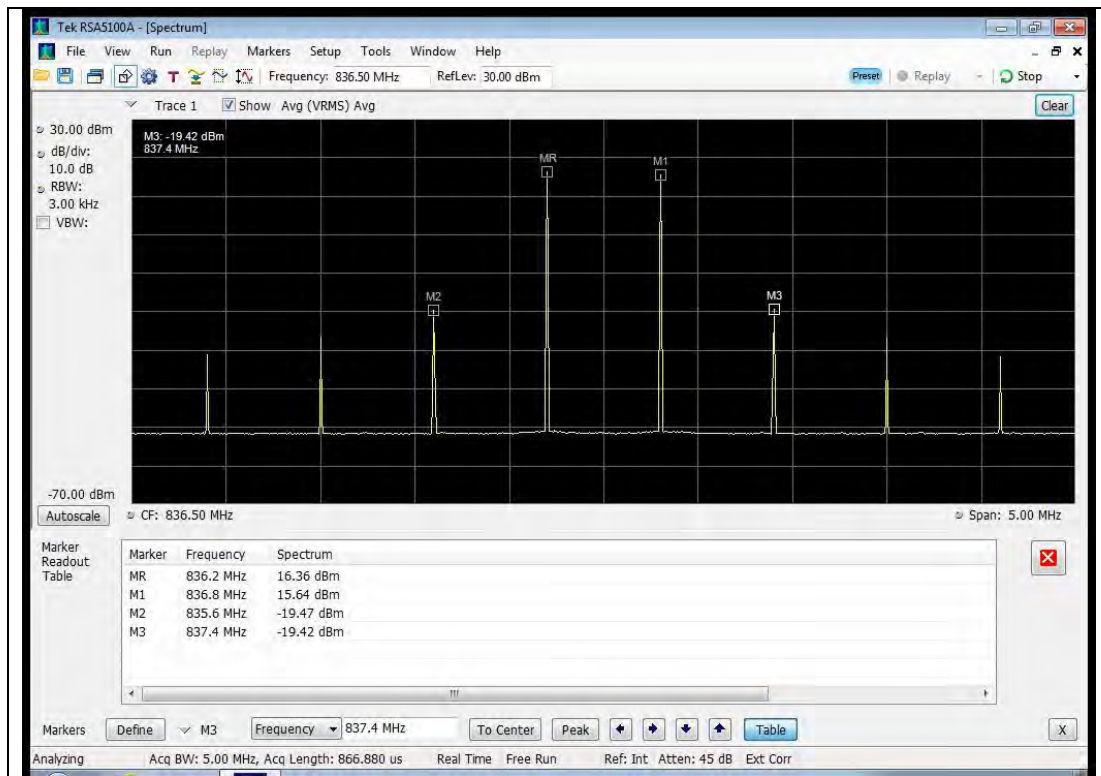
### 698 - 716 MHz Band



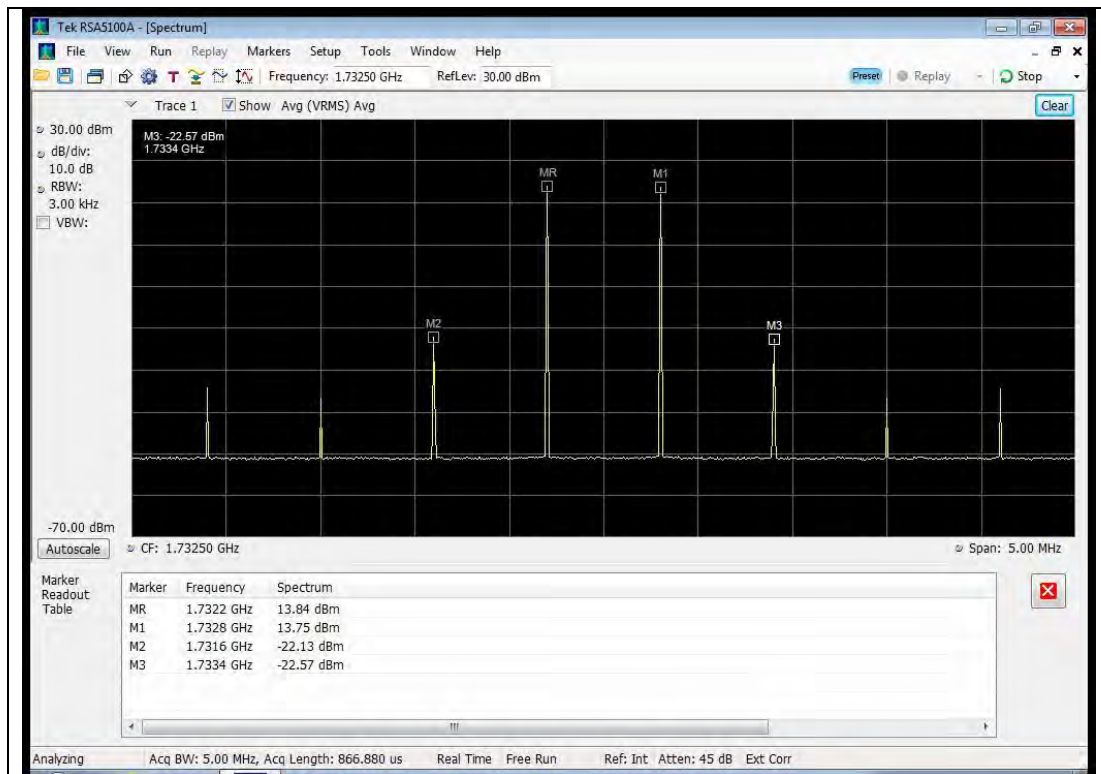
### 776 - 787 MHz Band



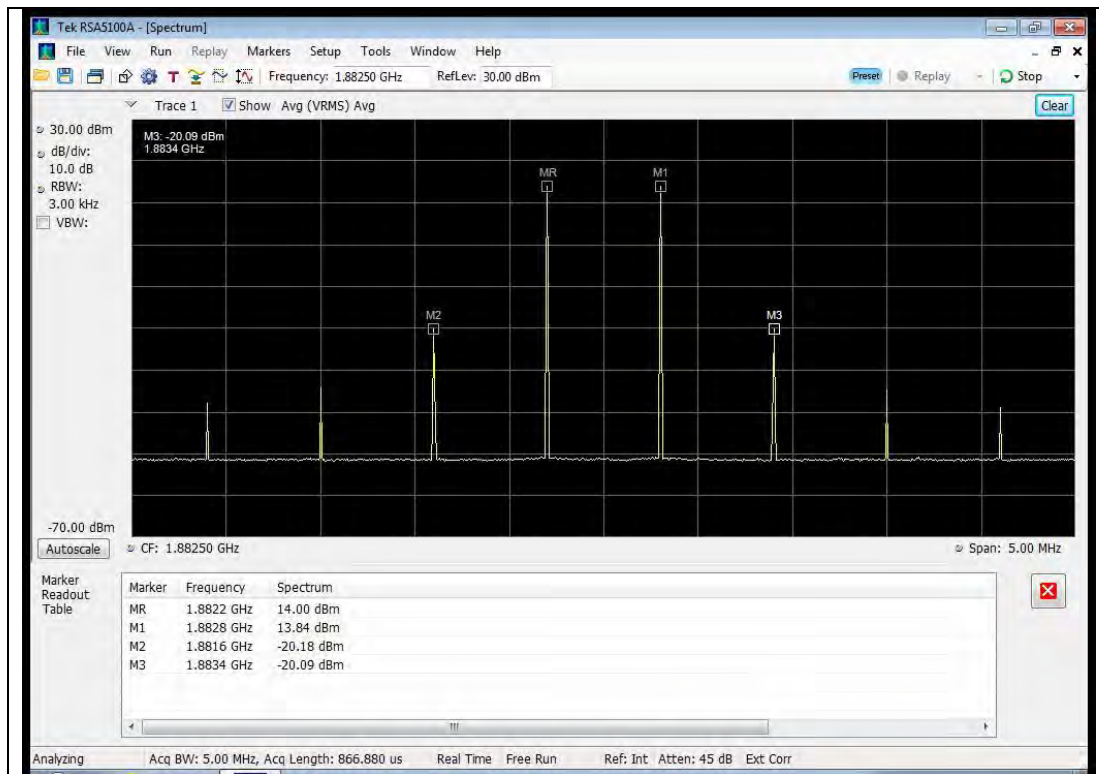
## 824 - 849 MHz Band



## 1710 - 1755 MHz Band

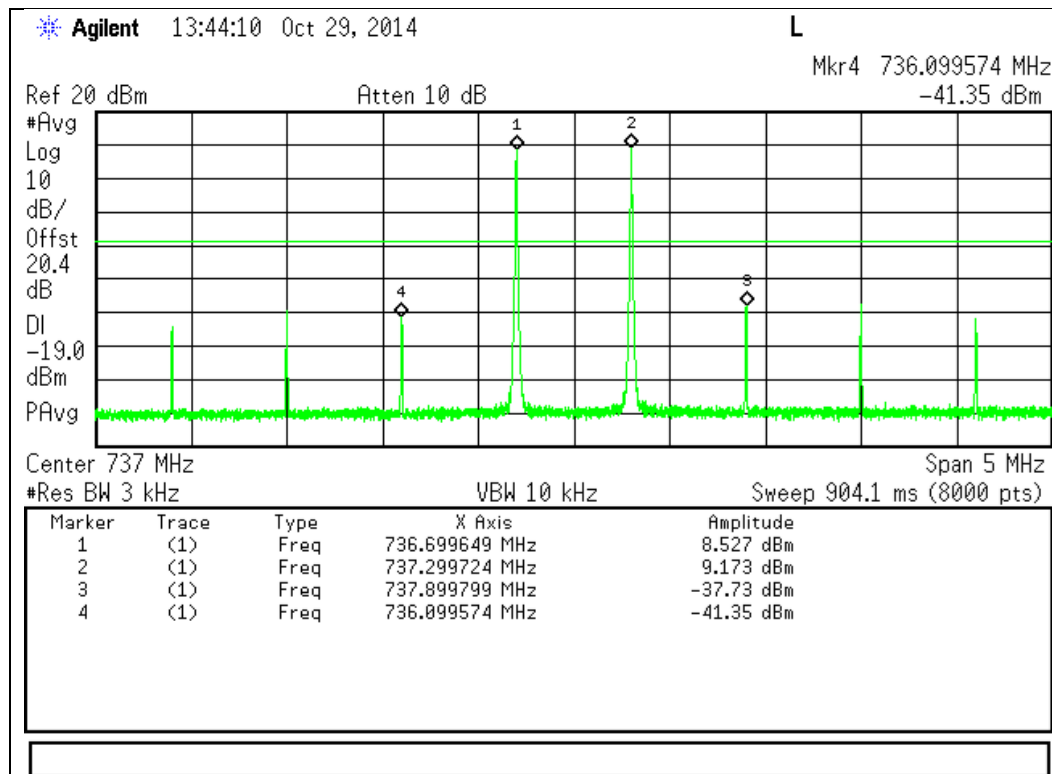


## 1850 - 1915 MHz Band



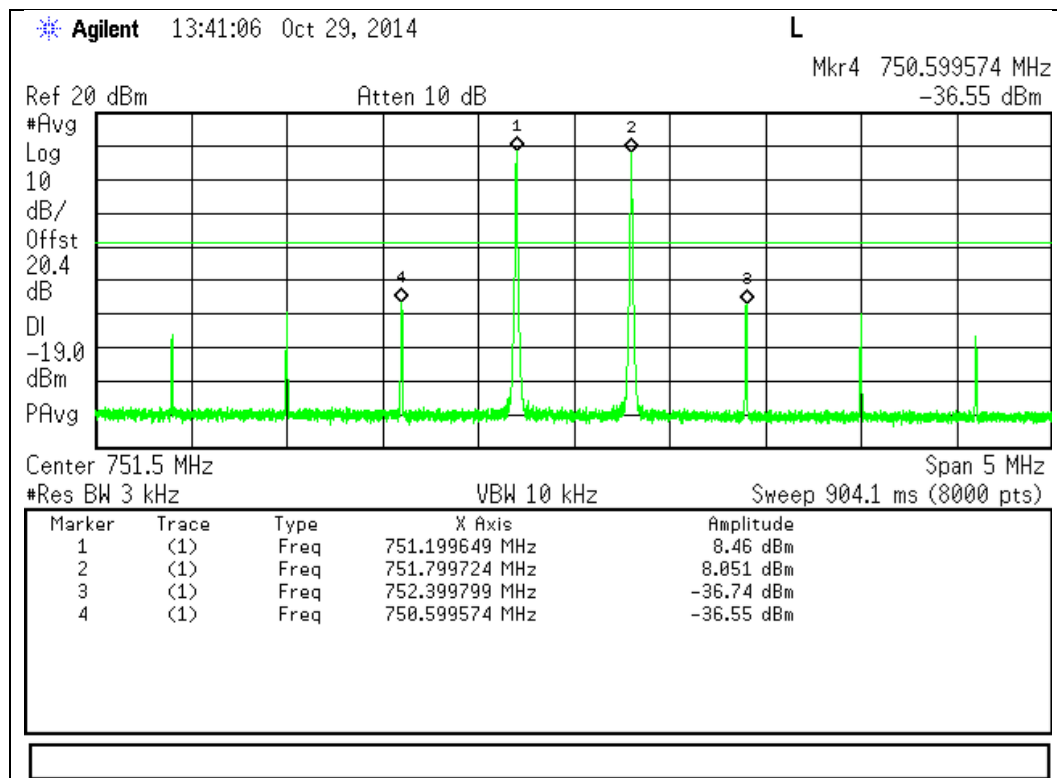
## Downlink Test Results

## 728 - 746 MHz Band

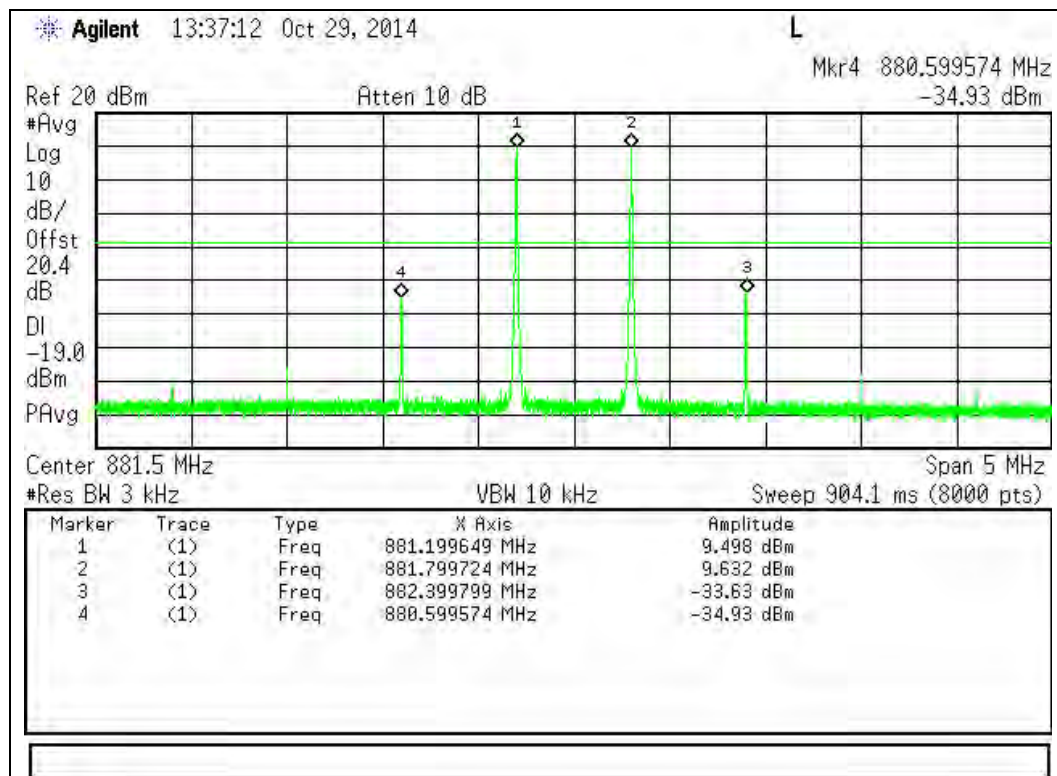




### 746 - 757 MHz Band

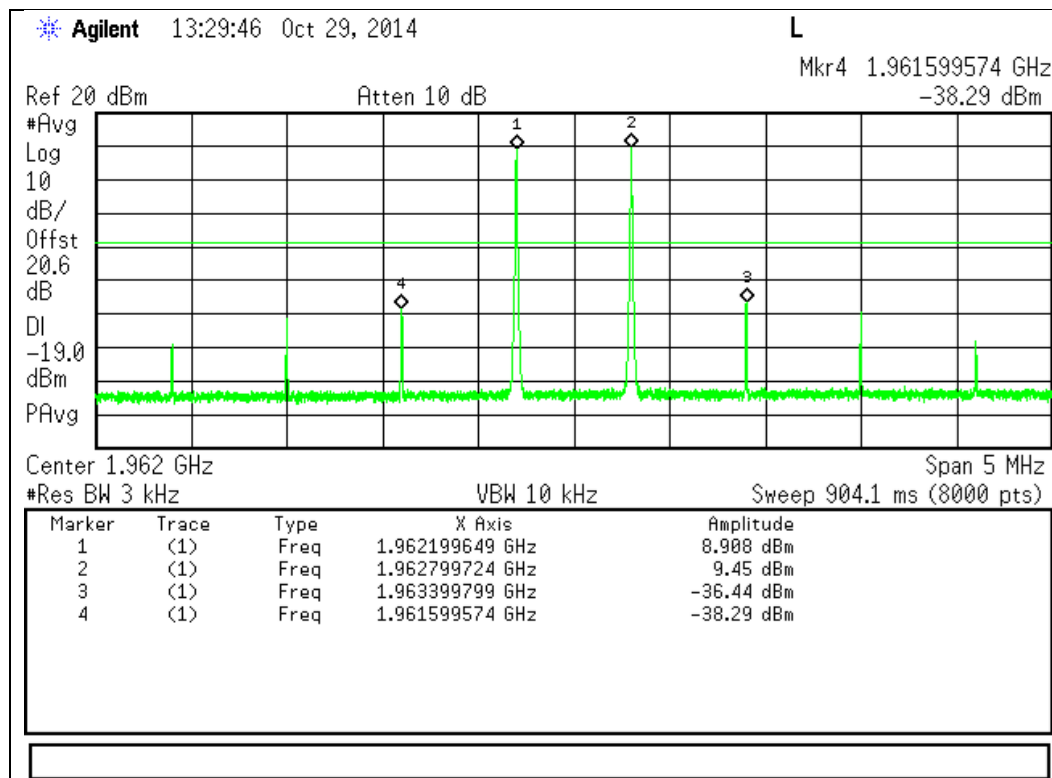


### 869 - 894 MHz Band

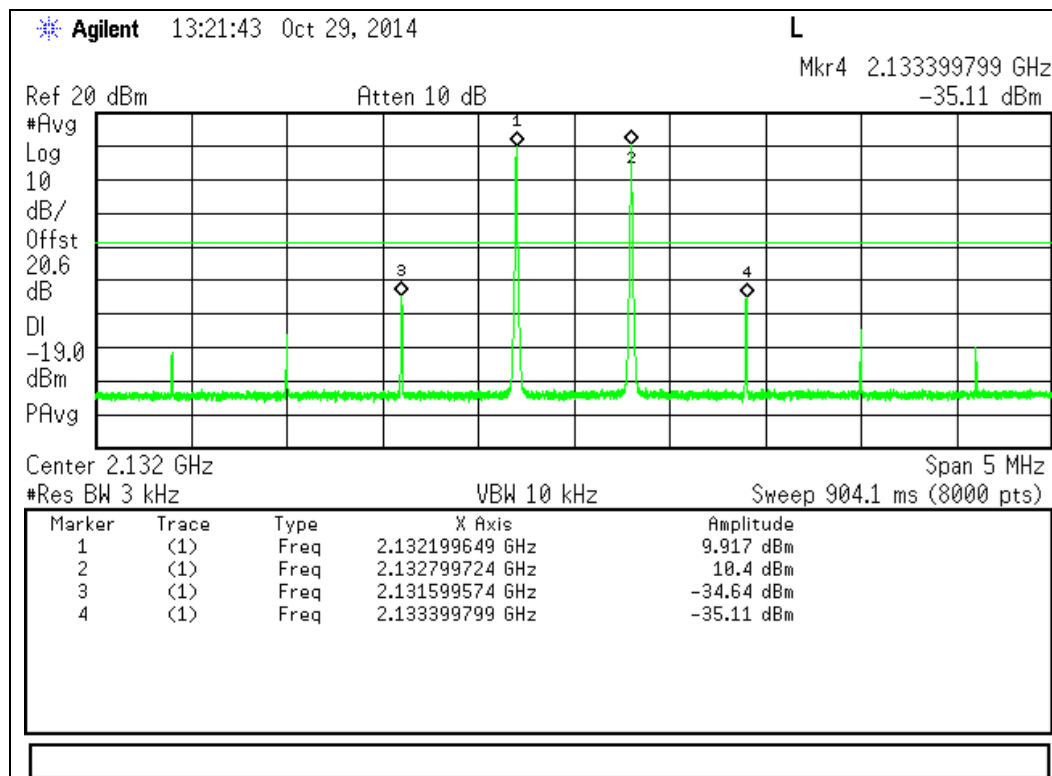




### 1930 - 1995 MHz Band



### 2110 - 2155 MHz Band



## Out-of-Band Emissions

**Engineer:** Mike Graffeo

**Test Date:** 9/30/14

### Test Procedure

The EUT was connected to a spectrum analyzer through an attenuator with the losses being input into the spectrum analyzer as a combination of reference level offset and correction factor in order to ensure accurate readings. A signal generator was utilized to produce the following signals: GSM, CDMA, and WCDMA. The signal generator was tuned to the lowest allowable upper and lower channel within the EUT operational band for each respective modulation type. The RF input level was increased to a point just prior to the AGC being in control of the power. For each modulation type the Out of Band Emissions were measured to ensure they met the limits

The following formula was used for calculating the limits:

$$\text{Limit} = P1 - 6 - (43 + 10\log(P2)) = -19\text{dBm}$$

P1 = power in dBm

P2 = power in Watts

### Test Setup



### GSM Uplink Test Results

| Frequency Band (MHz) | Band Edge | Measured Level (dBm) | Limit (dBm) | Result |
|----------------------|-----------|----------------------|-------------|--------|
| 698 - 716            | Lower     | -27.71               | -19         | Pass   |
| 698 - 716            | Upper     | -29.04               | -19         | Pass   |
| 776 - 787            | Lower     | -28.40               | -19         | Pass   |
| 776 - 787            | Upper     | -29.12               | -19         | Pass   |
| 824 - 849            | Lower     | -37.24               | -19         | Pass   |
| 824 - 849            | Upper     | -34.92               | -19         | Pass   |
| 1710 - 1755          | Lower     | -37.68               | -19         | Pass   |
| 1710 - 1755          | Upper     | -38.29               | -19         | Pass   |
| 1850 - 1915          | Lower     | -40.09               | -19         | Pass   |
| 1850 - 1915          | Upper     | -48.63               | -19         | Pass   |

### CDMA Uplink Test Results

| Frequency Band (MHz) | Band Edge | Measured Level (dBm) | Limit (dBm) | Result |
|----------------------|-----------|----------------------|-------------|--------|
| 698 - 716            | Lower     | -43.68               | -19         | Pass   |
| 698 - 716            | Upper     | -42.35               | -19         | Pass   |
| 776 - 787            | Lower     | -40.54               | -19         | Pass   |
| 776 - 787            | Upper     | -39.45               | -19         | Pass   |
| 824 - 849            | Lower     | -33.60               | -19         | Pass   |
| 824 - 849            | Upper     | -34.29               | -19         | Pass   |
| 1710 - 1755          | Lower     | -40.62               | -19         | Pass   |
| 1710 - 1755          | Upper     | -41.26               | -19         | Pass   |
| 1850 - 1915          | Lower     | -40.87               | -19         | Pass   |
| 1850 - 1915          | Upper     | -42.16               | -19         | Pass   |

### WCDMA Uplink Test Results

| Frequency Band (MHz) | Band Edge | Measured Level (dBm) | Limit (dBm) | Result |
|----------------------|-----------|----------------------|-------------|--------|
| 698 - 716            | Lower     | -56.14               | -19         | Pass   |
| 698 - 716            | Upper     | -54.89               | -19         | Pass   |
| 776 - 787            | Lower     | -40.16               | -19         | Pass   |
| 776 - 787            | Upper     | -40.85               | -19         | Pass   |
| 824 - 849            | Lower     | -33.67               | -19         | Pass   |
| 824 - 849            | Upper     | -36.44               | -19         | Pass   |
| 1710 - 1755          | Lower     | -37.40               | -19         | Pass   |
| 1710 - 1755          | Upper     | -38.96               | -19         | Pass   |
| 1850 - 1915          | Lower     | -45.01               | -19         | Pass   |
| 1850 - 1915          | Upper     | -49.58               | -19         | Pass   |

### GSM Downlink Test Results

| Frequency Band (MHz) | Band Edge | Measured Level (dBm) | Limit (dBm) | Result |
|----------------------|-----------|----------------------|-------------|--------|
| 728 - 746            | Lower     | -39.73               | -19         | Pass   |
| 728 - 746            | Upper     | -32.47               | -19         | Pass   |
| 746 - 757            | Lower     | -31.83               | -19         | Pass   |
| 746 - 757            | Upper     | -40.54               | -19         | Pass   |
| 869 - 894            | Lower     | -50.02               | -19         | Pass   |
| 869 - 894            | Upper     | -47.37               | -19         | Pass   |
| 1930 - 1995          | Lower     | -55.37               | -19         | Pass   |
| 1930 - 1995          | Upper     | -52.86               | -19         | Pass   |
| 2110 - 2155          | Lower     | -48.30               | -19         | Pass   |
| 2110 - 2155          | Upper     | -45.81               | -19         | Pass   |

### CDMA Downlink Test Results

| Frequency Band (MHz) | Band Edge | Measured Level (dBm) | Limit (dBm) | Result |
|----------------------|-----------|----------------------|-------------|--------|
| 728 - 746            | Lower     | -59.52               | -19         | Pass   |
| 728 - 746            | Upper     | -53.38               | -19         | Pass   |
| 746 - 757            | Lower     | -54.27               | -19         | Pass   |
| 746 - 757            | Upper     | -63.89               | -19         | Pass   |
| 869 - 894            | Lower     | -61.51               | -19         | Pass   |
| 869 - 894            | Upper     | -61.38               | -19         | Pass   |
| 1930 - 1995          | Lower     | -64.40               | -19         | Pass   |
| 1930 - 1995          | Upper     | -61.48               | -19         | Pass   |
| 2110 - 2155          | Lower     | -59.78               | -19         | Pass   |
| 2110 - 2155          | Upper     | -54.59               | -19         | Pass   |

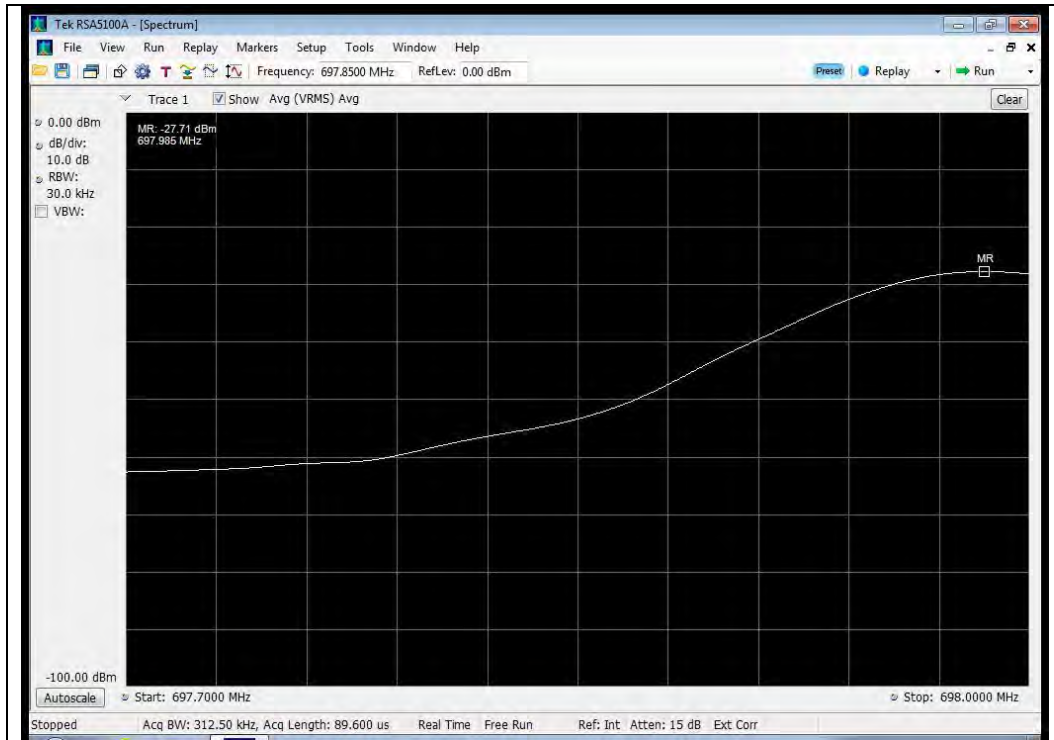
### WCDMA Downlink Test Results

| Frequency Band (MHz) | Band Edge | Measured Level (dBm) | Limit (dBm) | Result |
|----------------------|-----------|----------------------|-------------|--------|
| 728 - 746            | Lower     | -60.27               | -19         | Pass   |
| 728 - 746            | Upper     | -56.35               | -19         | Pass   |
| 746 - 757            | Lower     | -54.24               | -19         | Pass   |
| 746 - 757            | Upper     | -63.14               | -19         | Pass   |
| 869 - 894            | Lower     | -53.80               | -19         | Pass   |
| 869 - 894            | Upper     | -51.63               | -19         | Pass   |
| 1930 - 1995          | Lower     | -57.56               | -19         | Pass   |
| 1930 - 1995          | Upper     | -54.32               | -19         | Pass   |
| 2110 - 2155          | Lower     | -51.76               | -19         | Pass   |
| 2110 - 2155          | Upper     | -47.39               | -19         | Pass   |

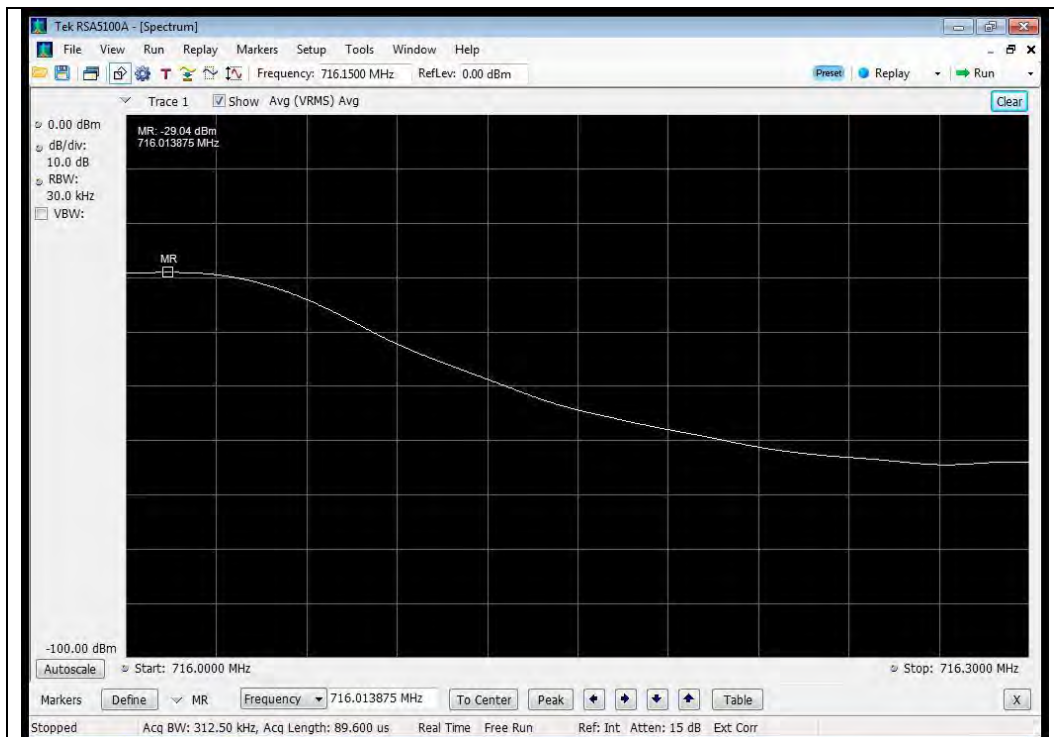
## GSM Uplink Test Plots

698 - 716 MHz Band

Lower Band Edge

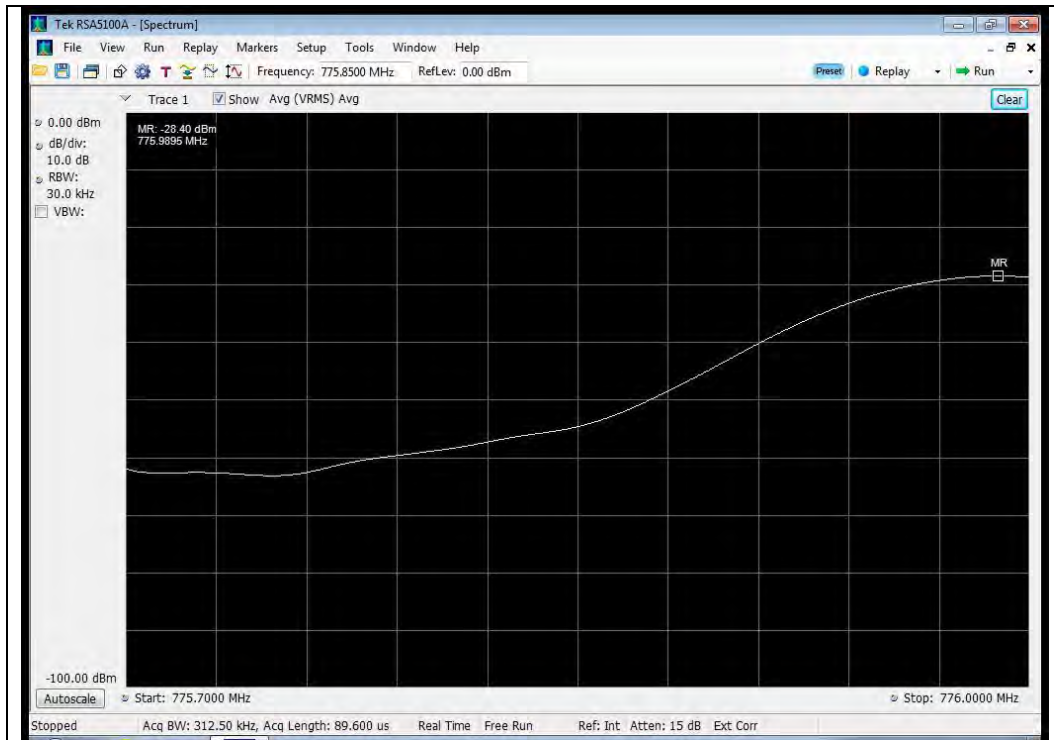


Upper Band Edge

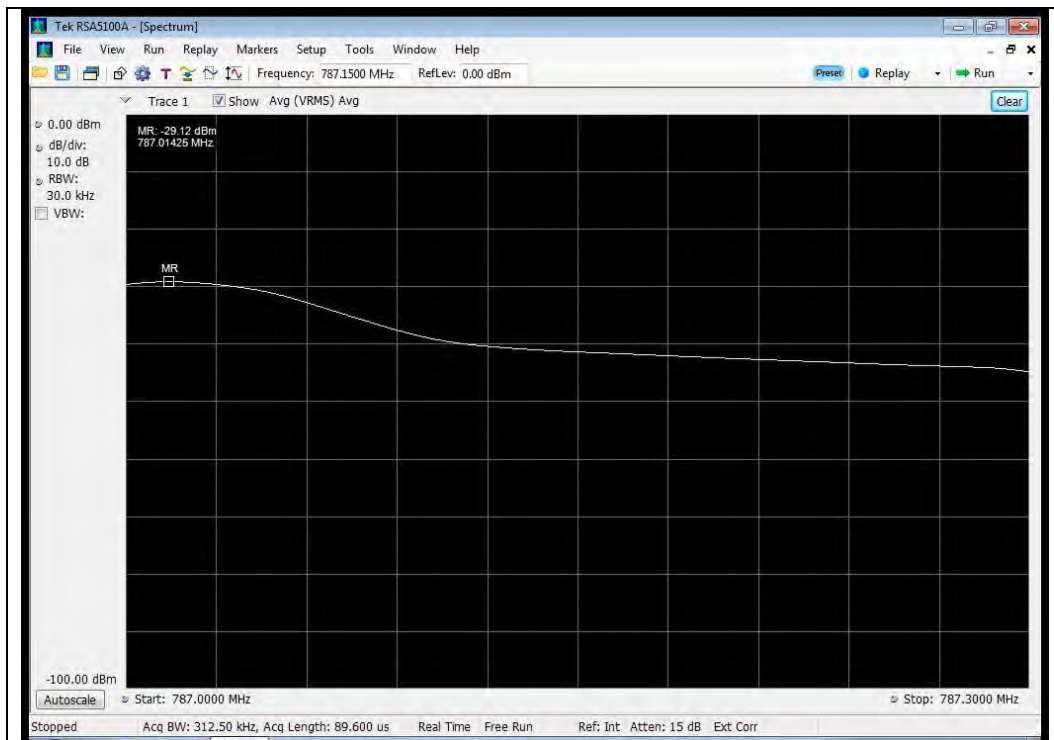


## 776 - 787 MHz Band

### Lower Band Edge

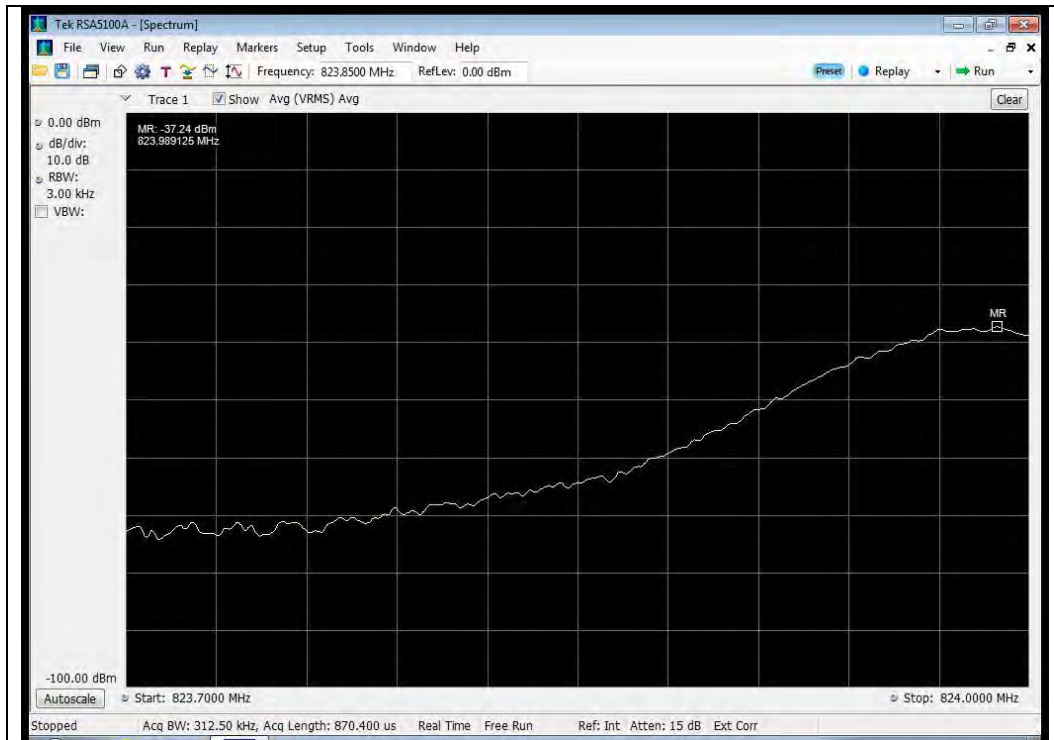


### Upper Band Edge



## 824 - 849 MHz Band

### Lower Band Edge

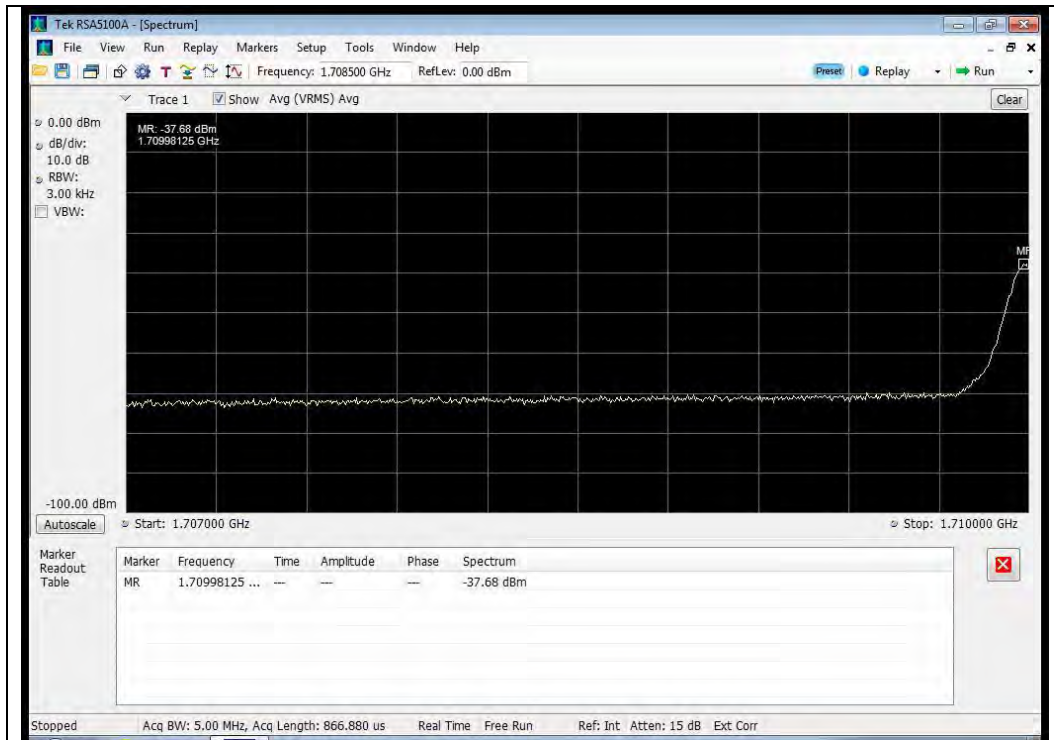


### Upper Band Edge

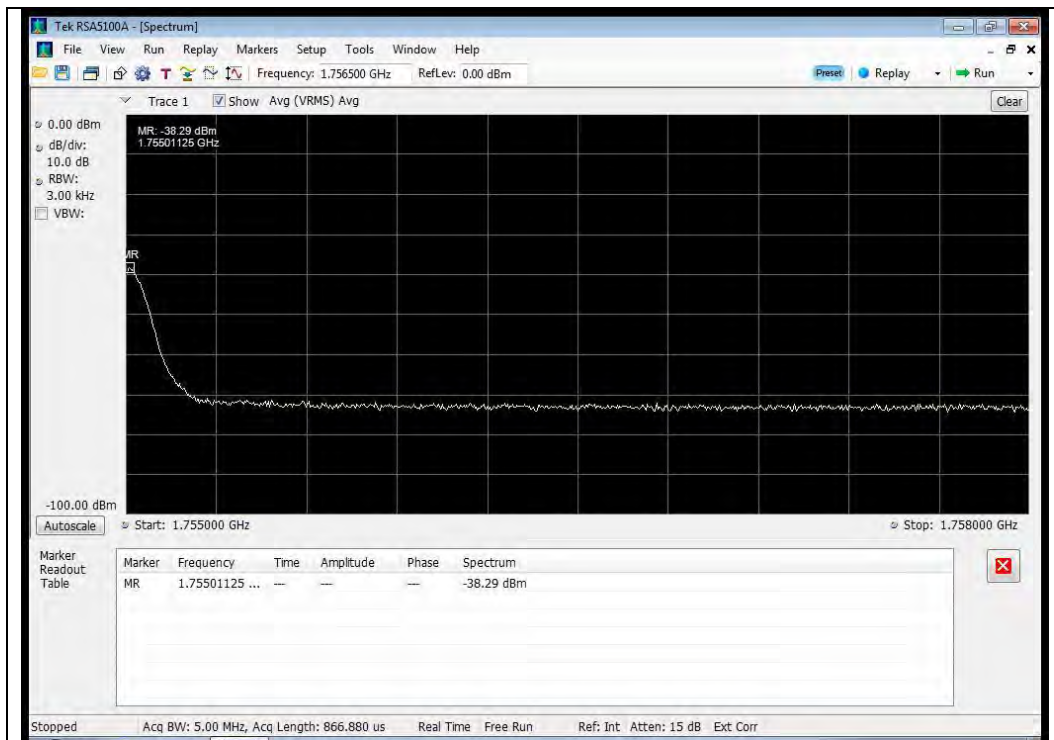


## 1710 - 1755 MHz Band

### Lower Band Edge

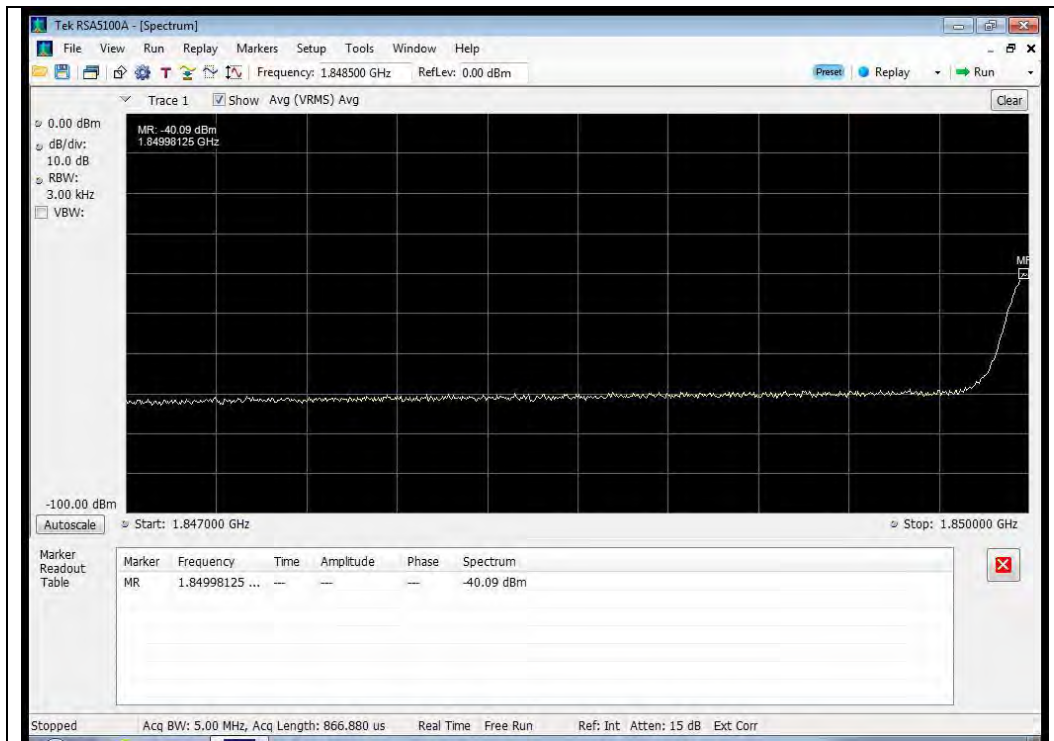


### Upper Band Edge

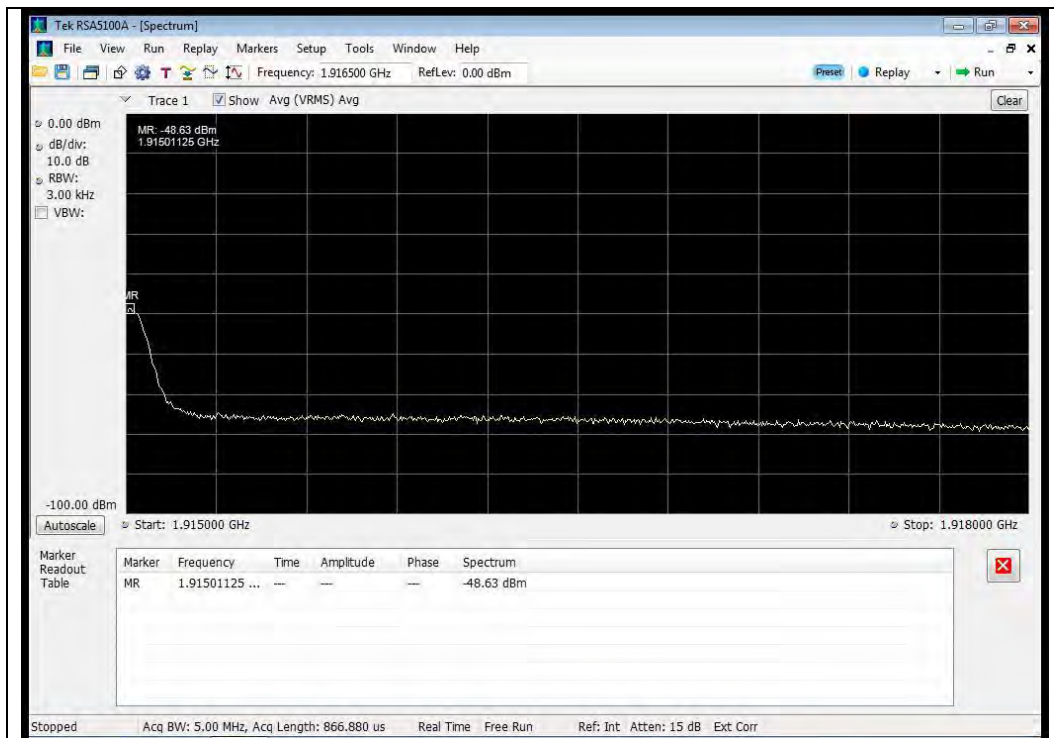


## 1850 - 1915 MHz Band

### Lower Band Edge



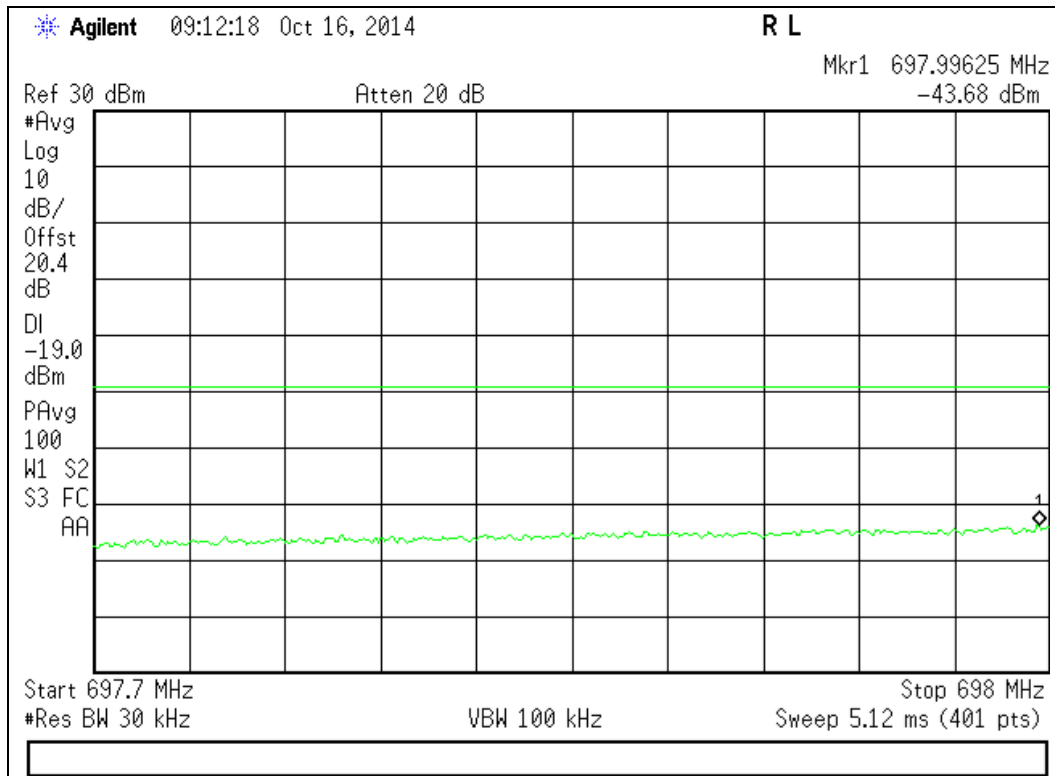
### Upper Band Edge



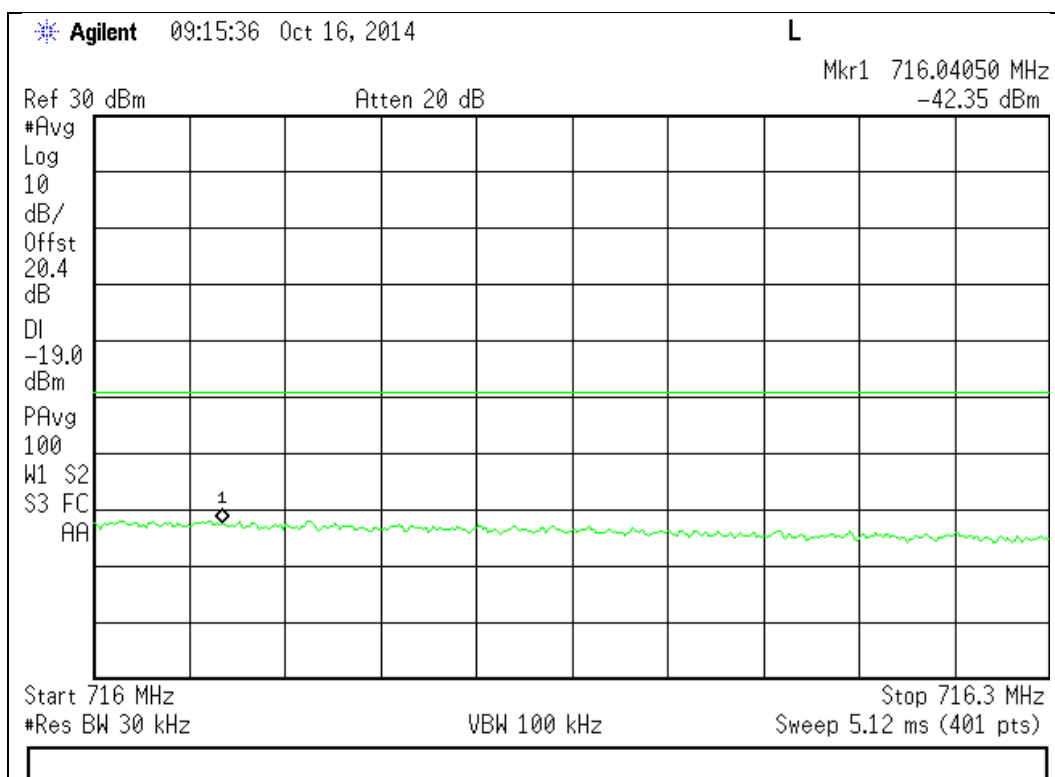
## CDMA Uplink Test Plots

**698 - 716 MHz Band**

**Lower Band Edge**



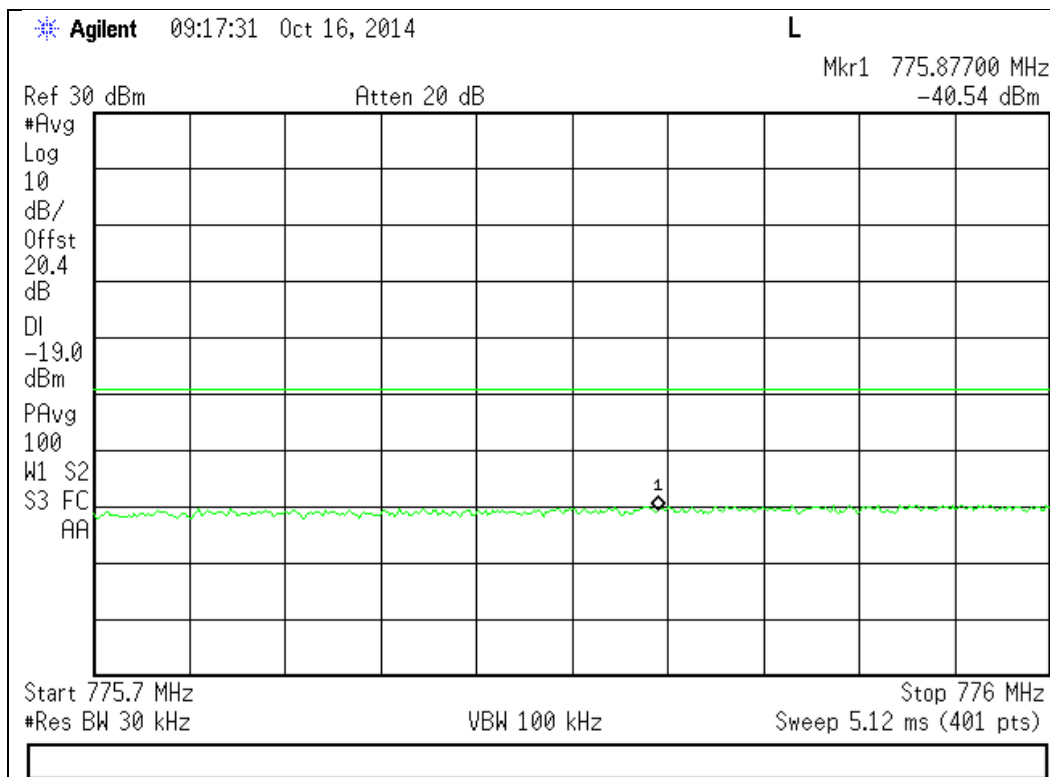
**Upper Band Edge**



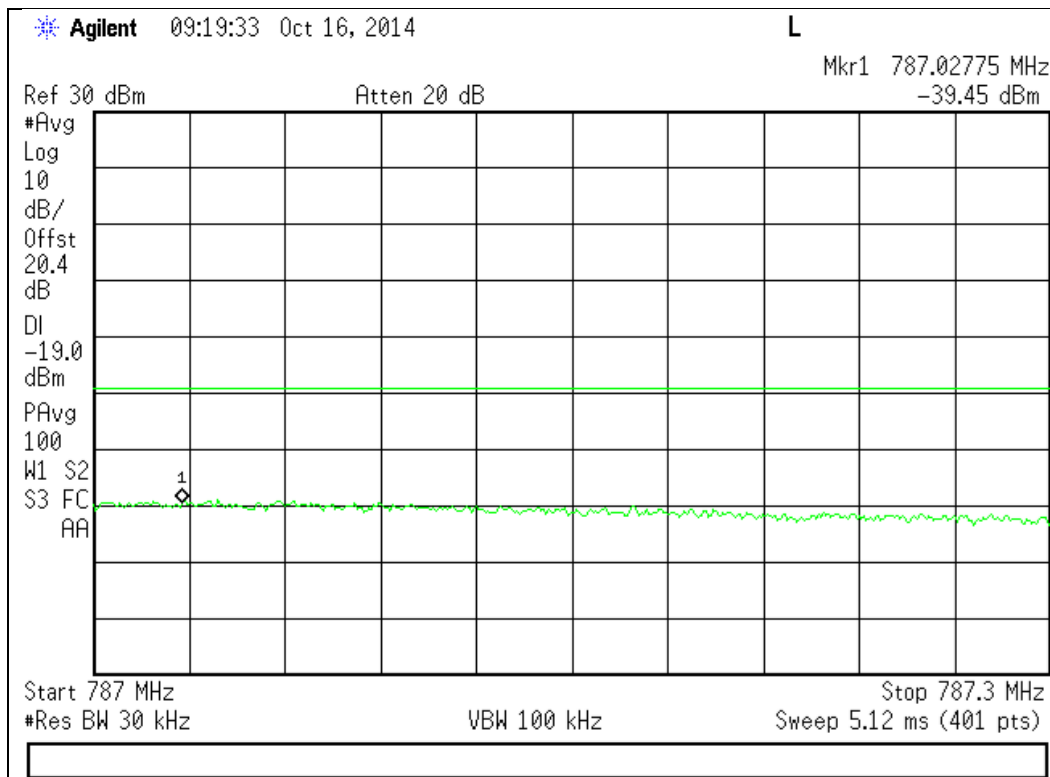


## 776 - 787 MHz Band

### Lower Band Edge

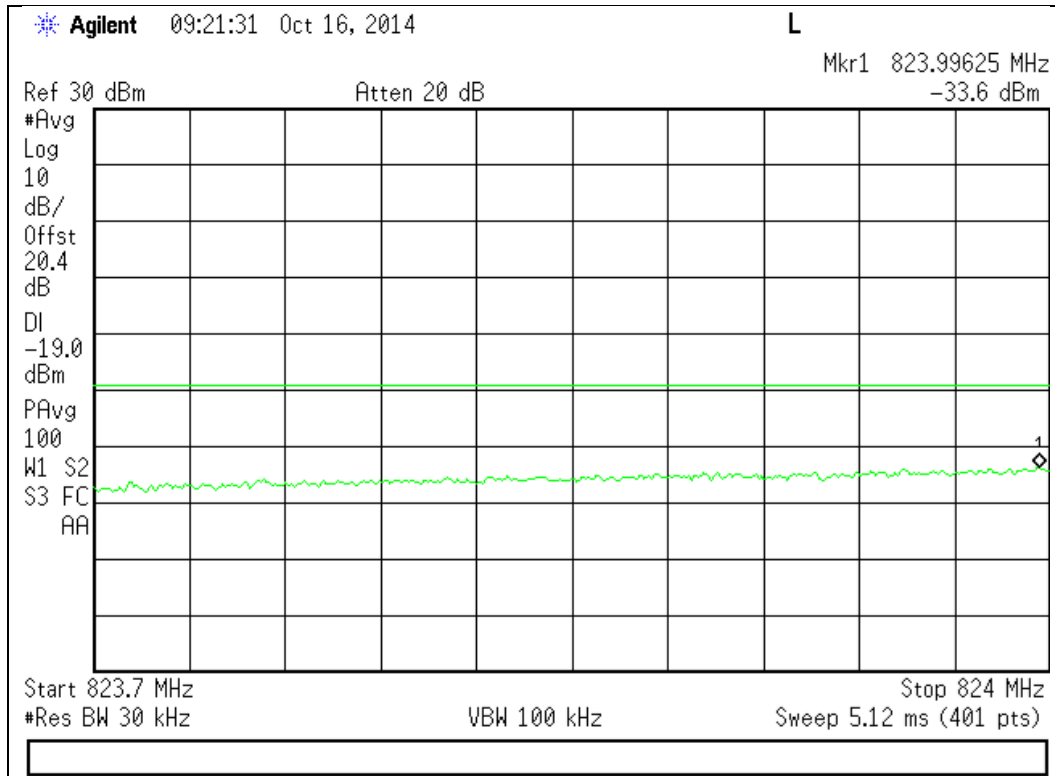


### Upper Band Edge

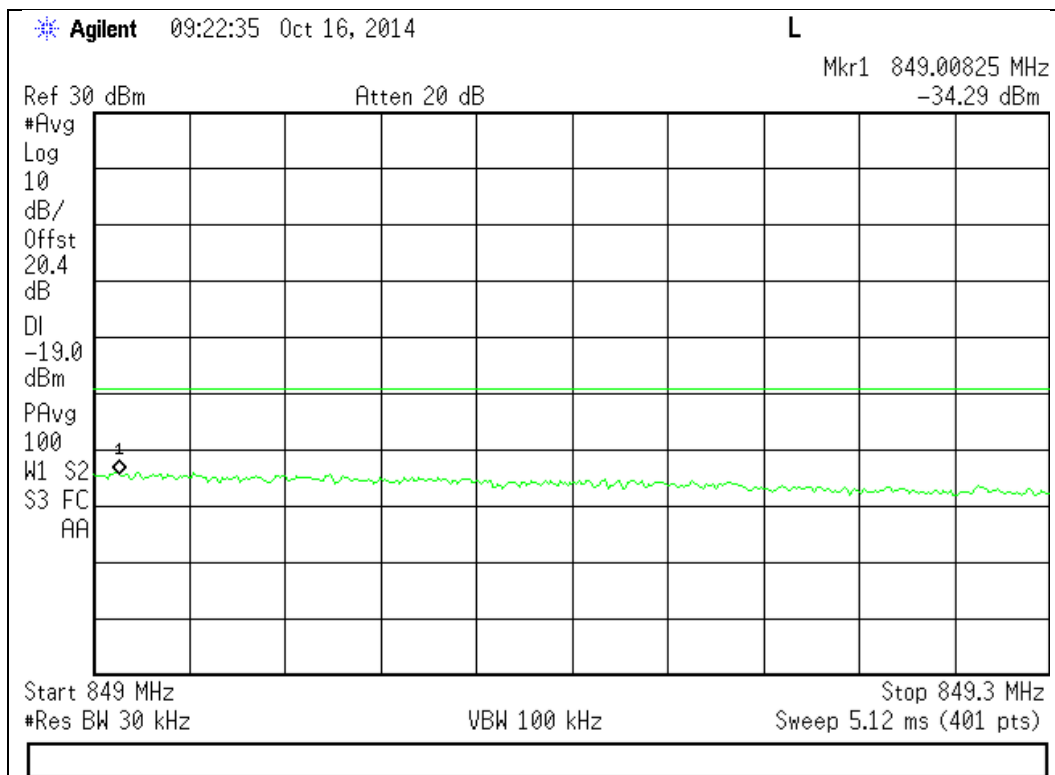


## 824 - 849 MHz Band

### Lower Band Edge



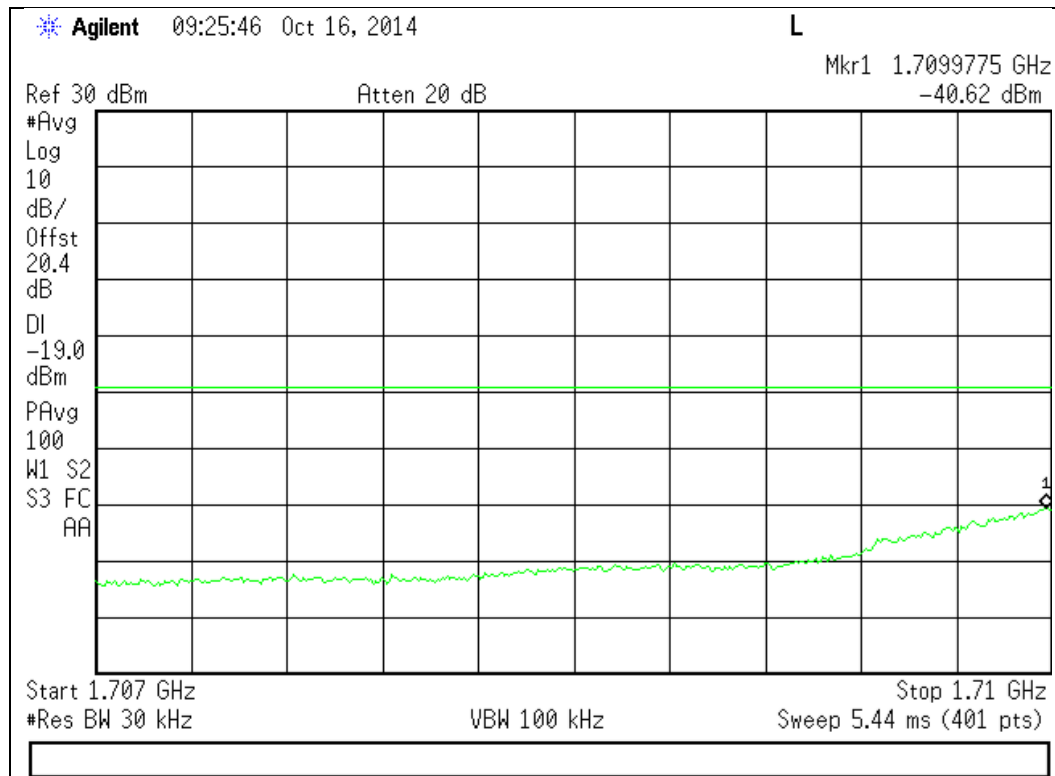
### Upper Band Edge



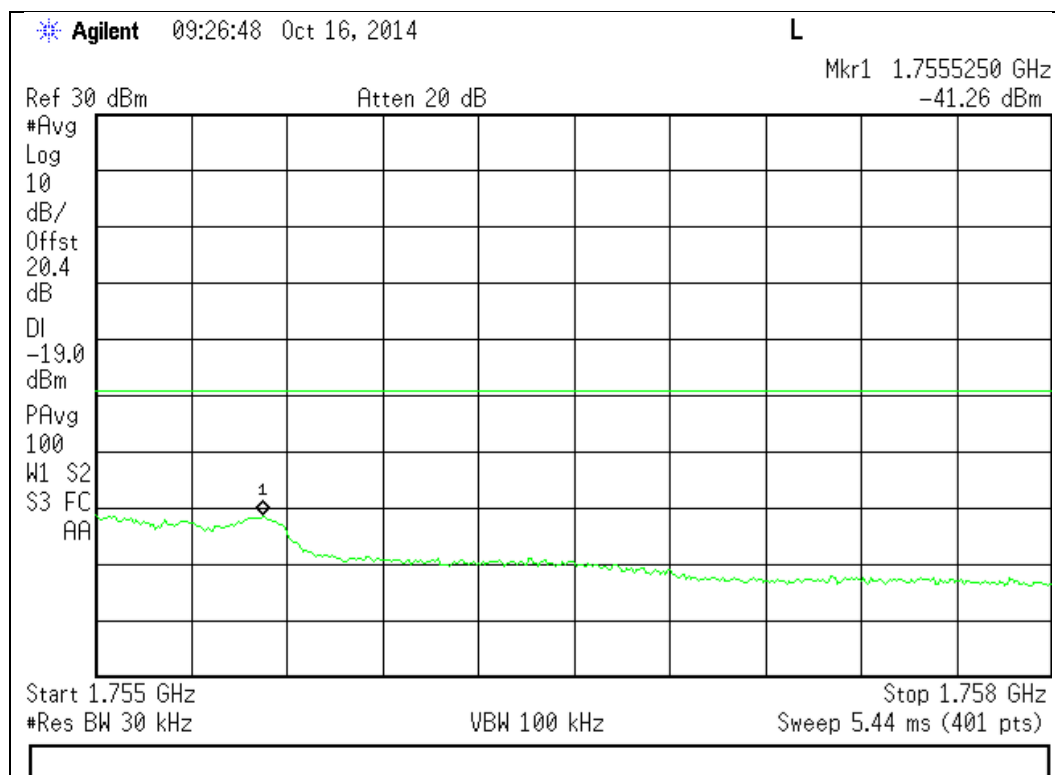


## 1710 - 1755 MHz Band

### Lower Band Edge

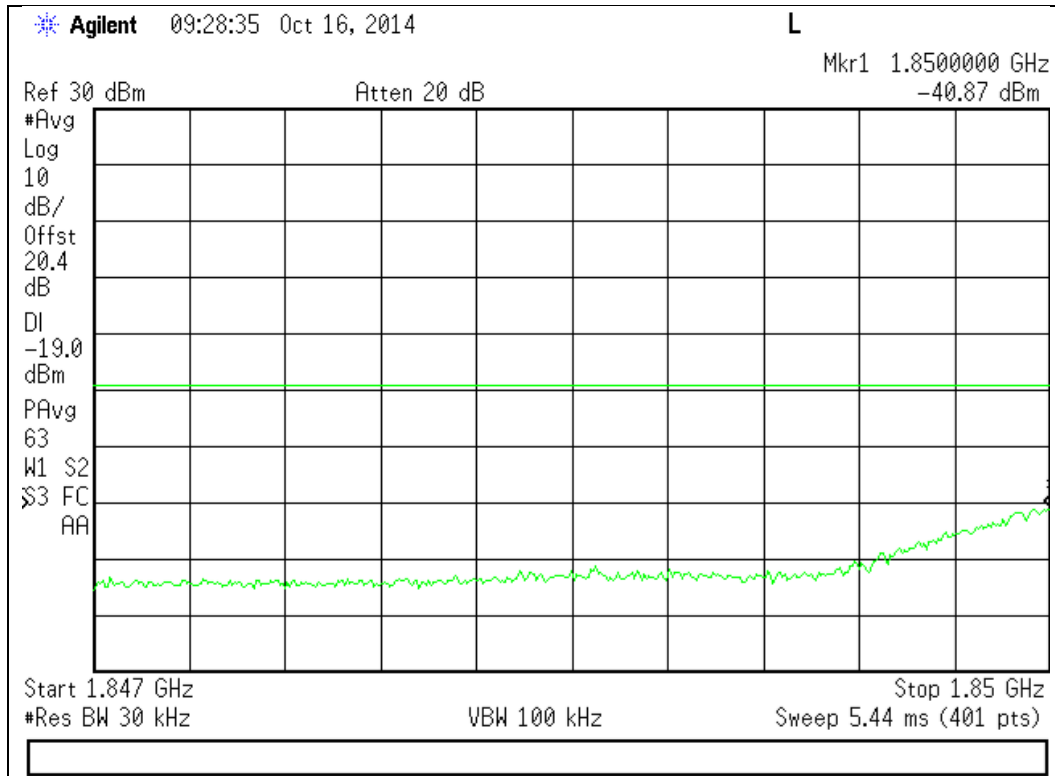


### Upper Band Edge

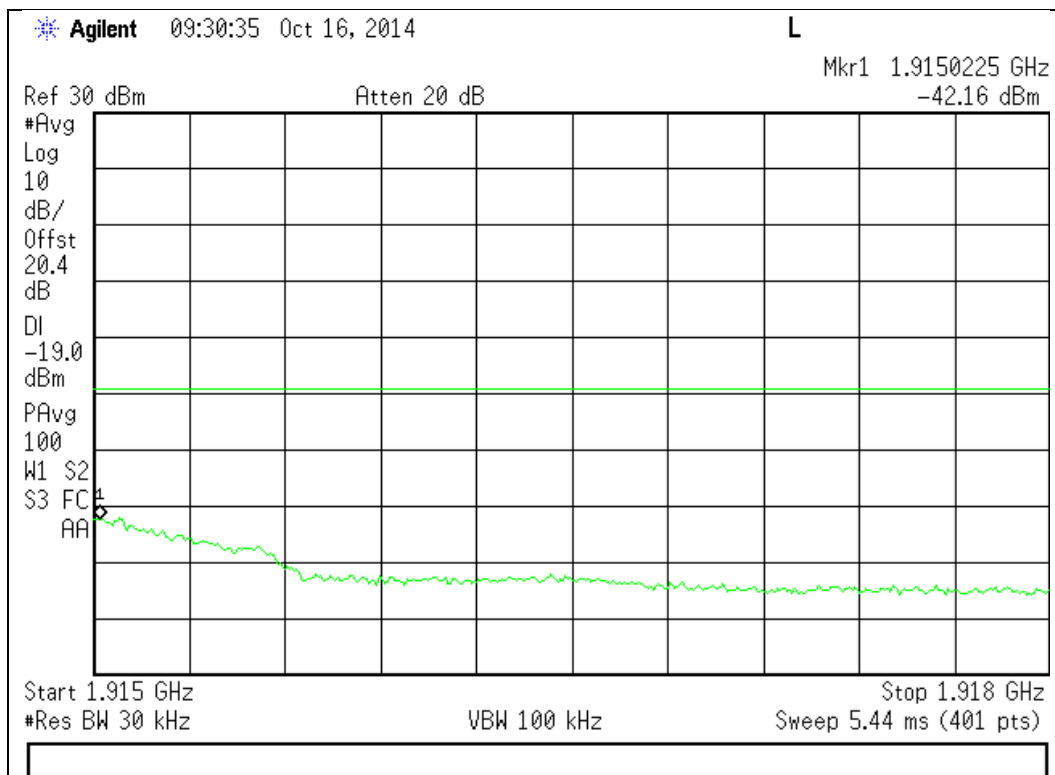


## 1850 - 1915 MHz Band

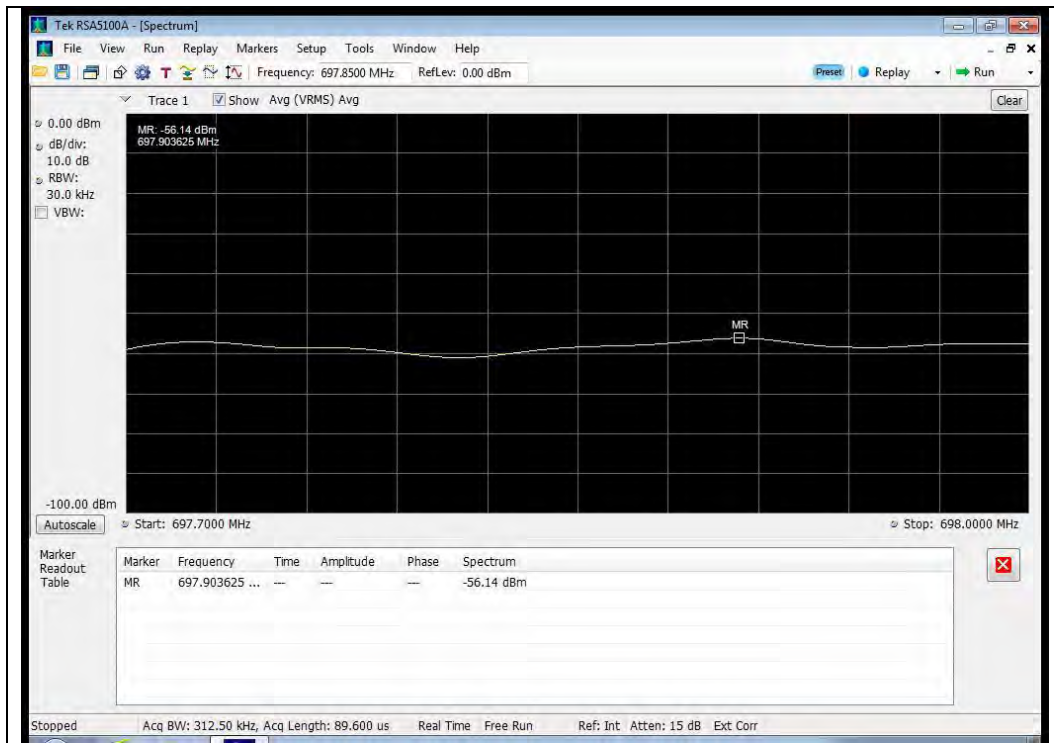
### Lower Band Edge



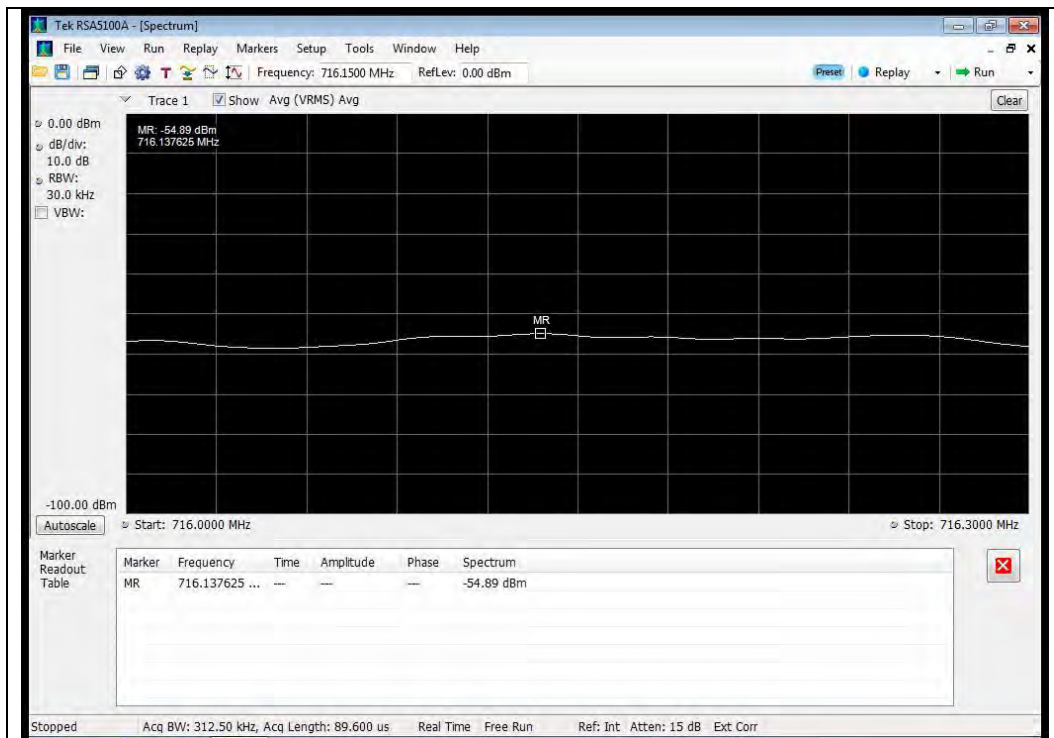
### Upper Band Edge



## WCDMA Uplink Test Plots 698 - 716 MHz Band Lower Band Edge

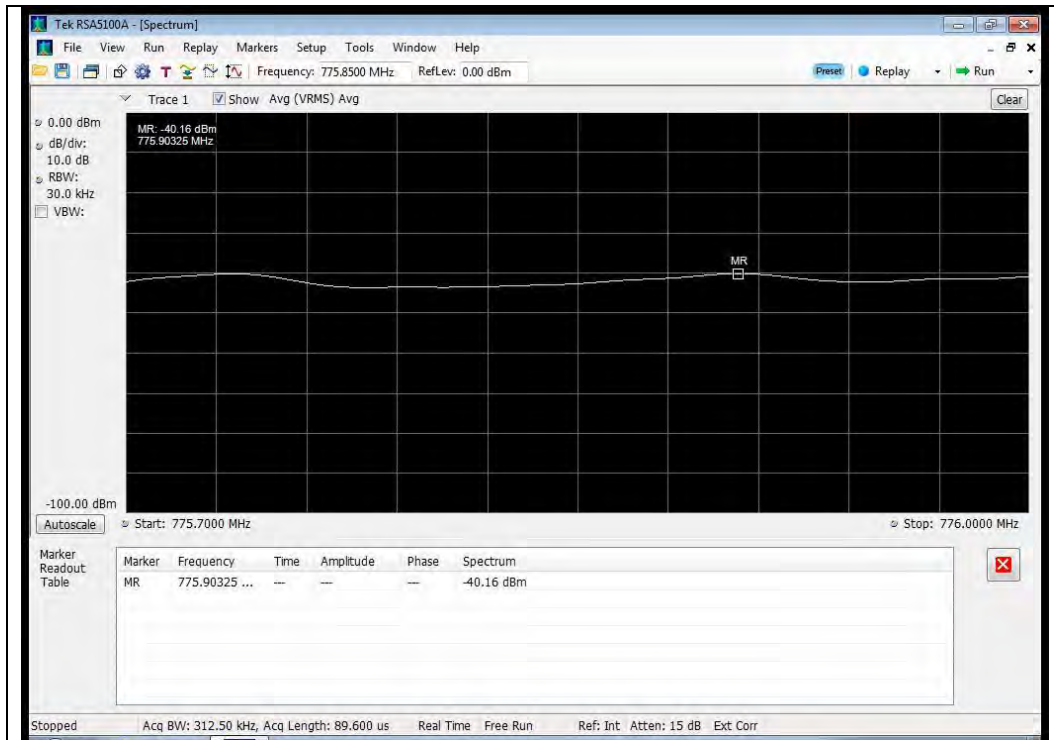


## Upper Band Edge

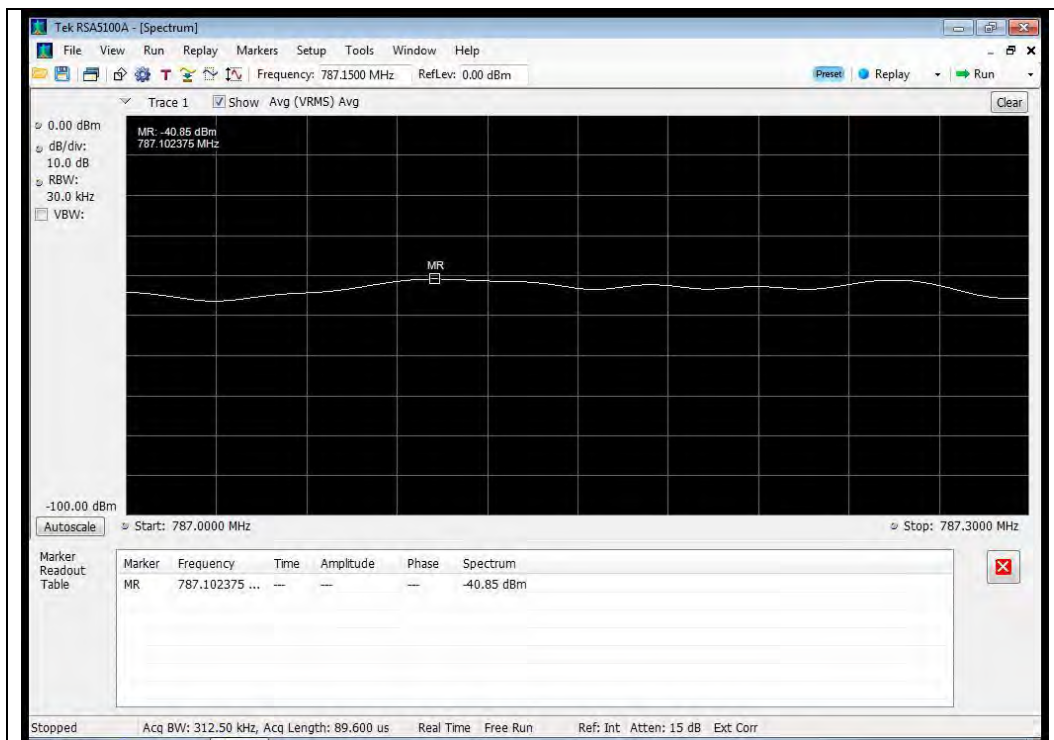


## 776 - 787 MHz Band

### Lower Band Edge

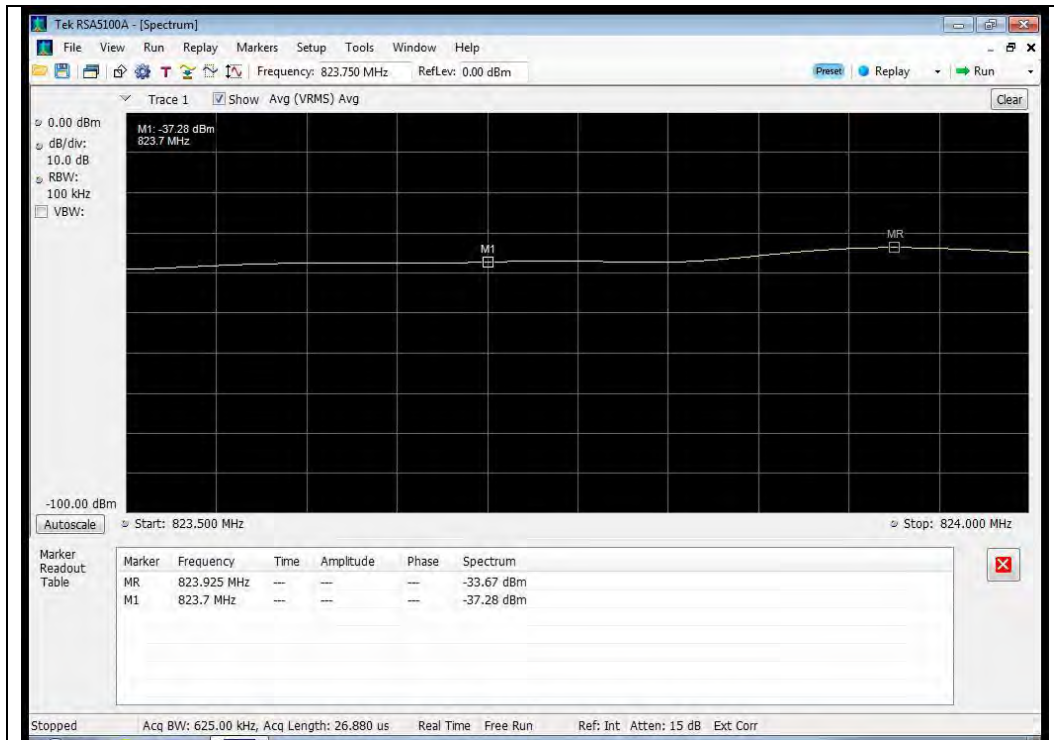


### Upper Band Edge

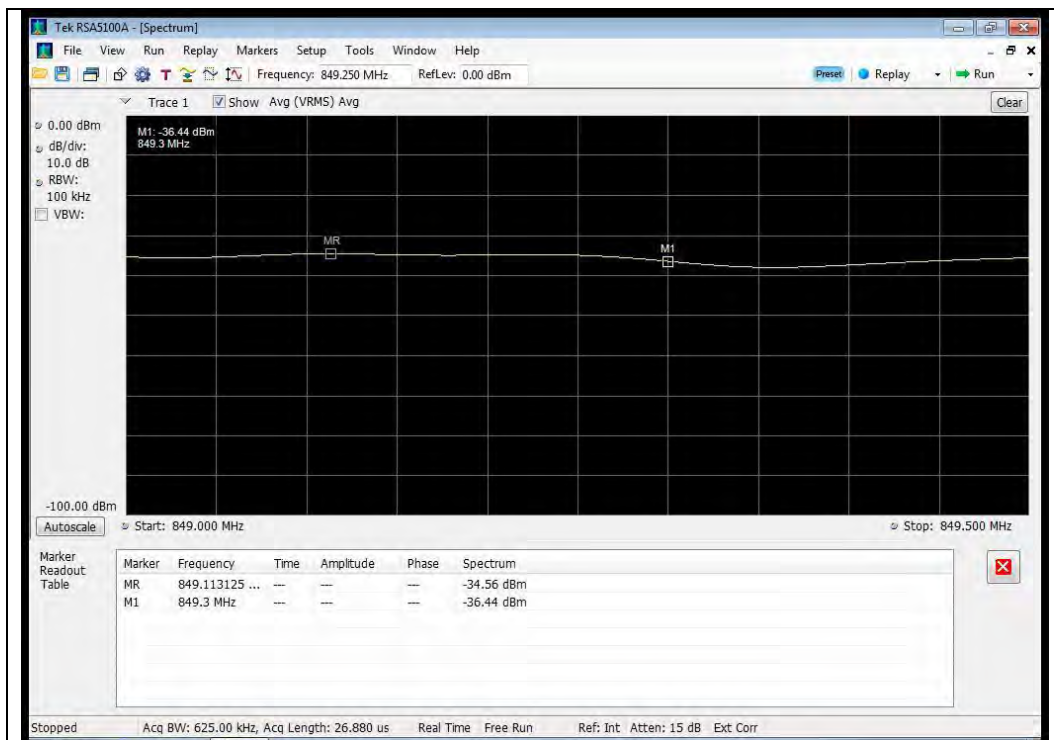


## 824 - 849 MHz Band

### Lower Band Edge

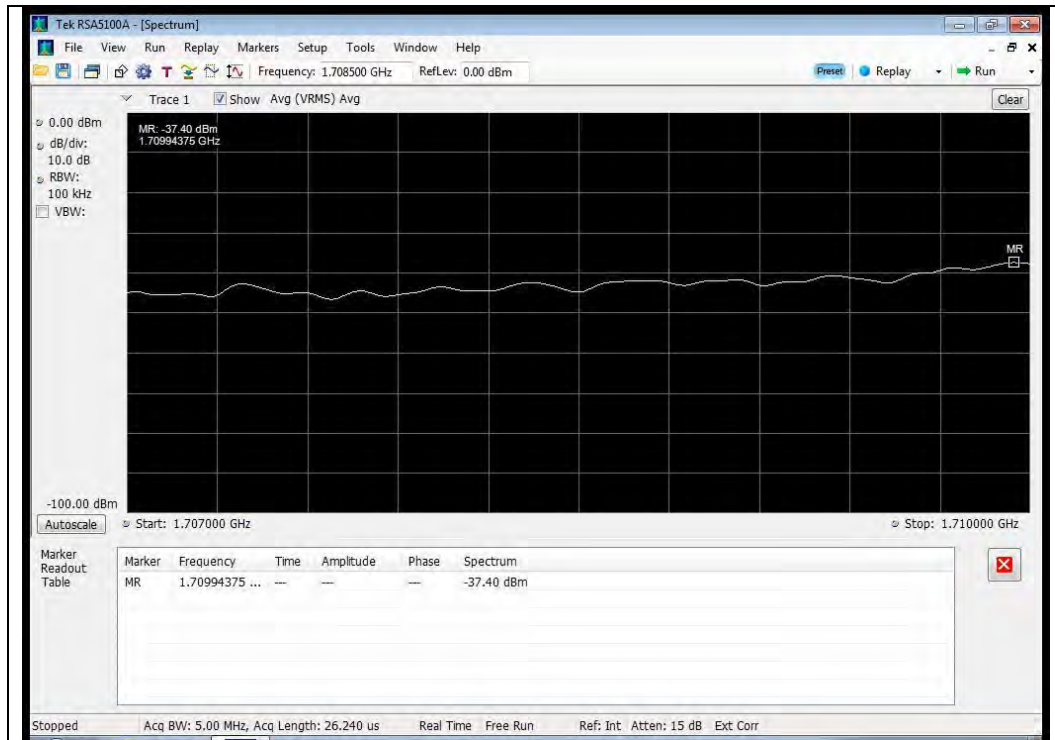


### Upper Band Edge

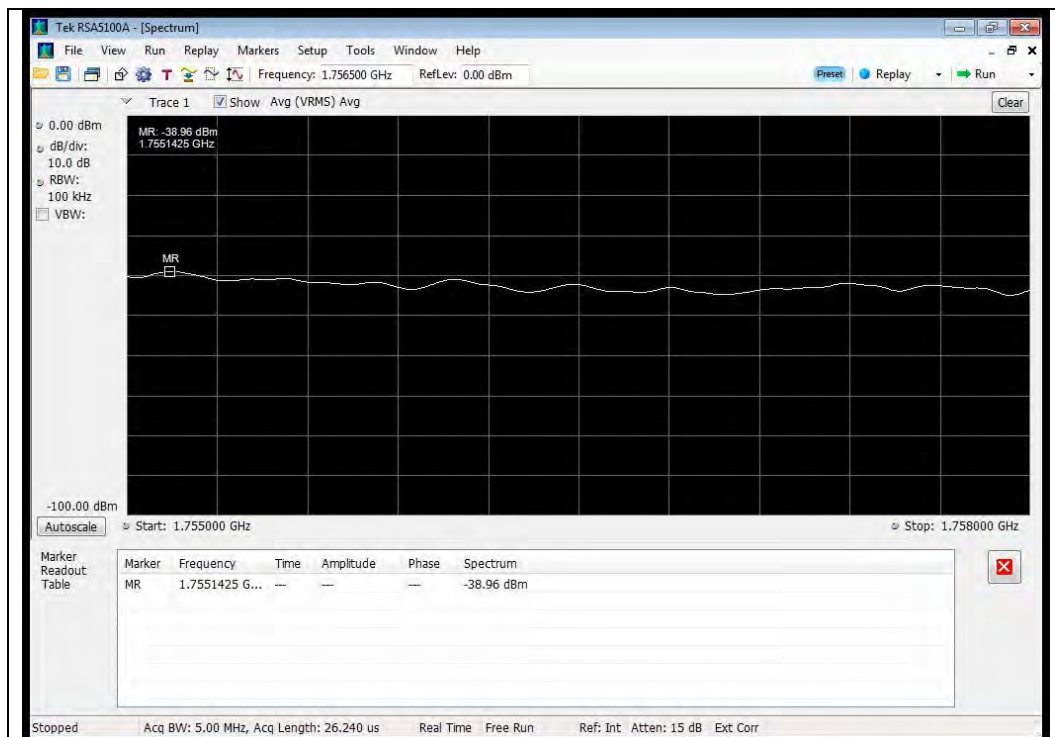


## 1710 - 1755 MHz Band

### Lower Band Edge

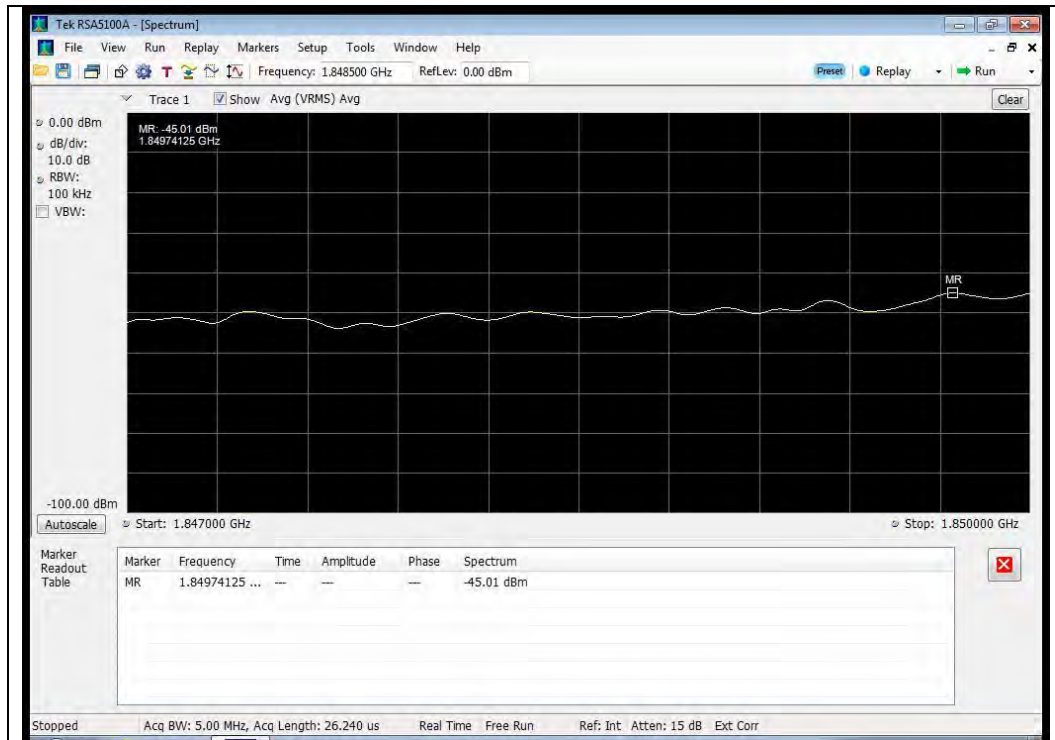


### Upper Band Edge

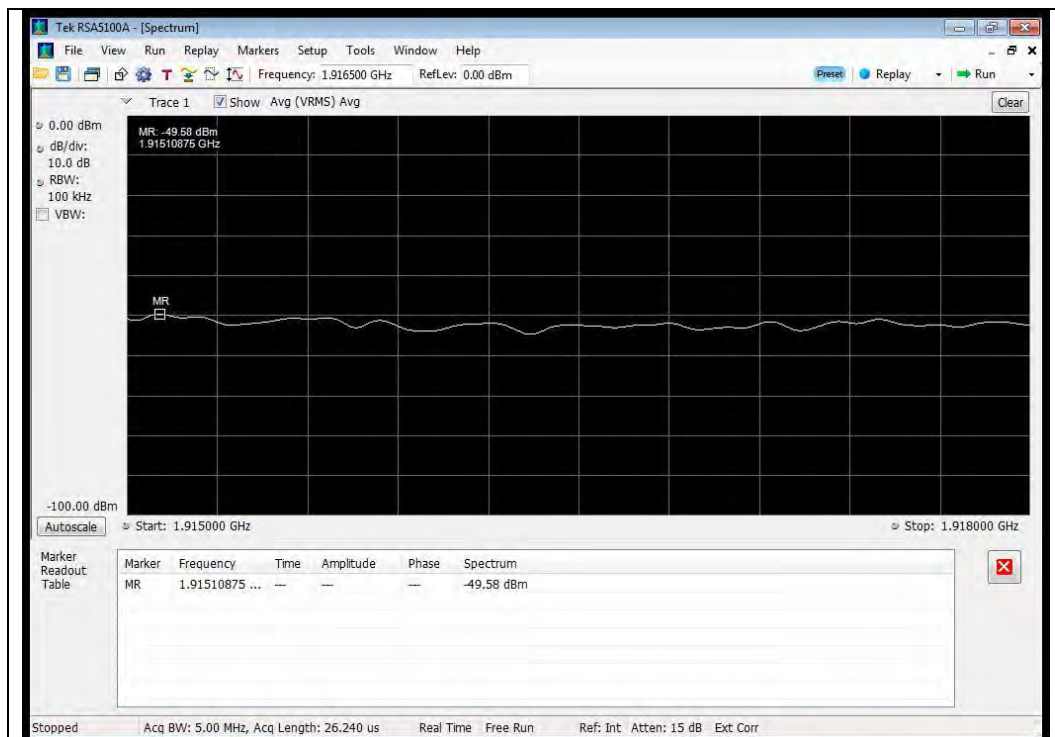


## 1850 - 1915 MHz Band

### Lower Band Edge

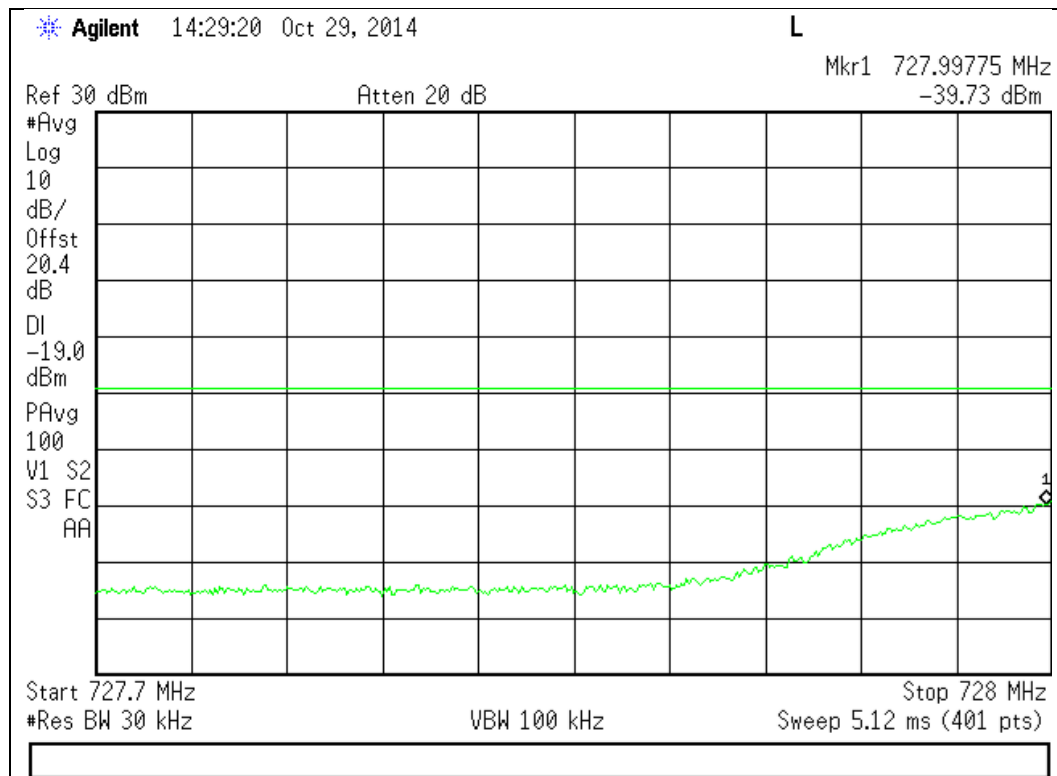


### Upper Band Edge

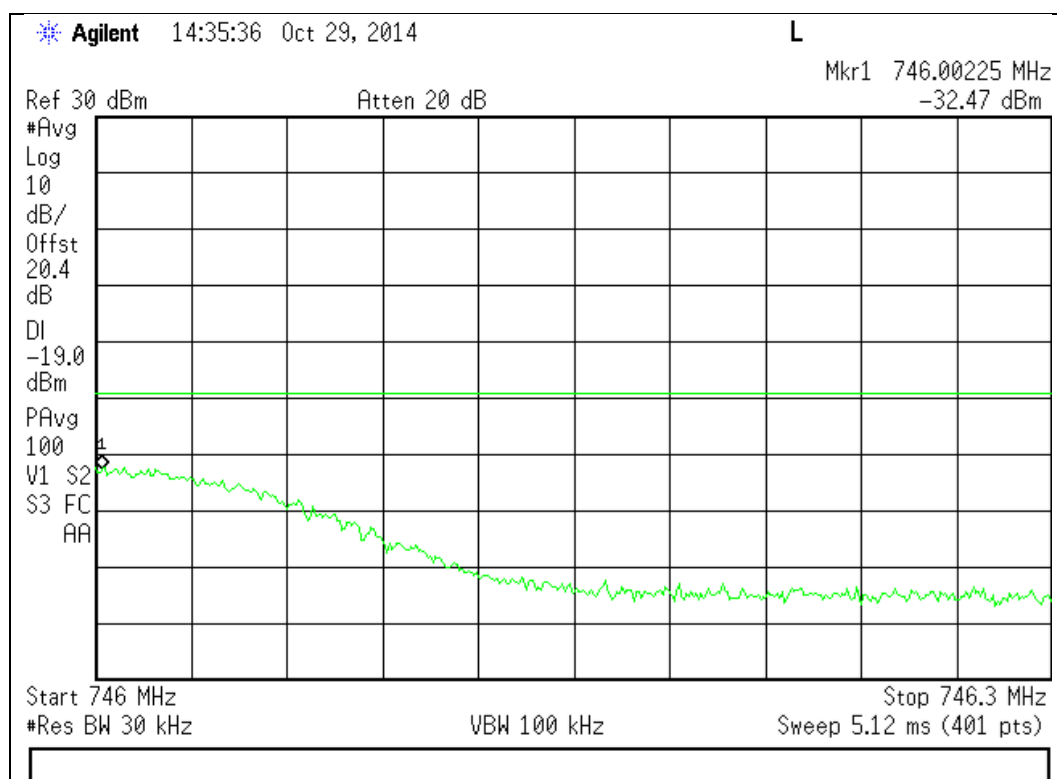




**GSM Downlink Test Plots**  
**728 - 746 MHz Band**  
**Lower Band Edge**



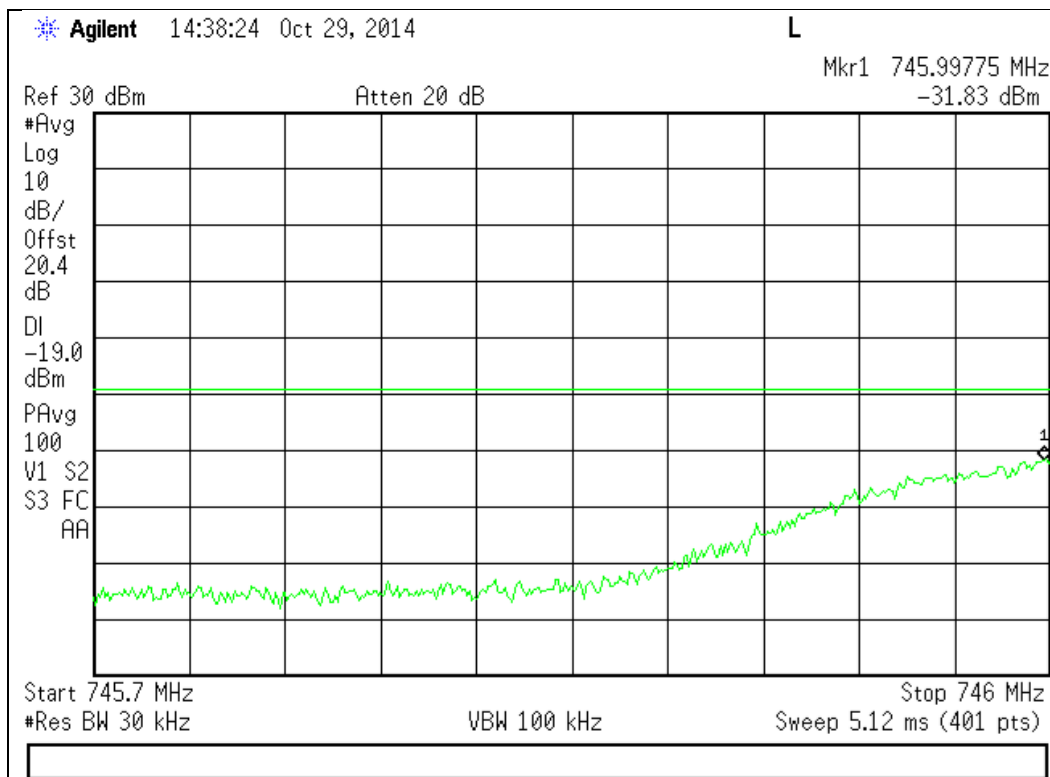
**Upper Band Edge**



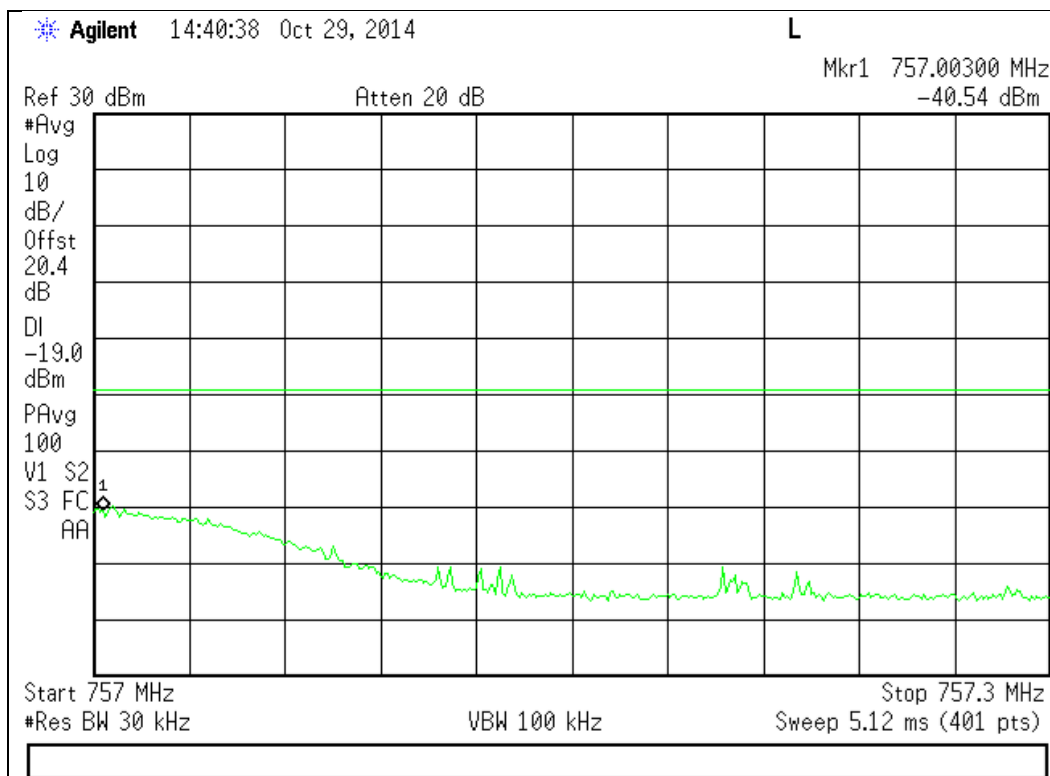


## 746 - 757 MHz Band

### Lower Band Edge

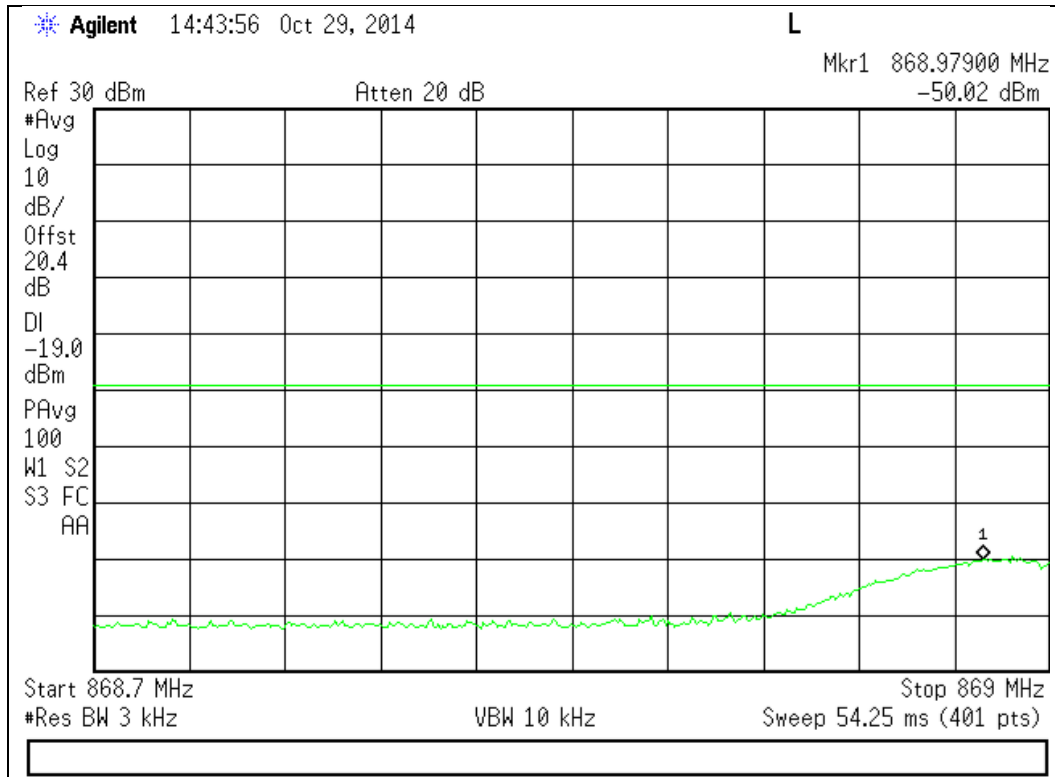


### Upper Band Edge

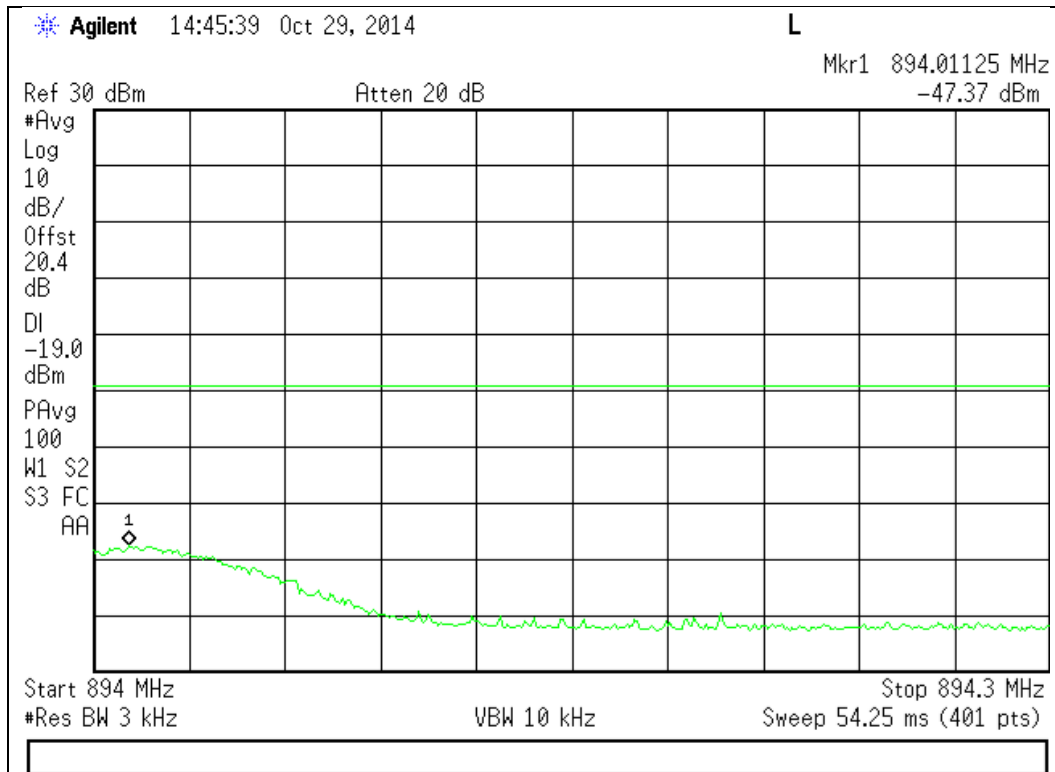


## 869 - 894 MHz Band

### Lower Band Edge



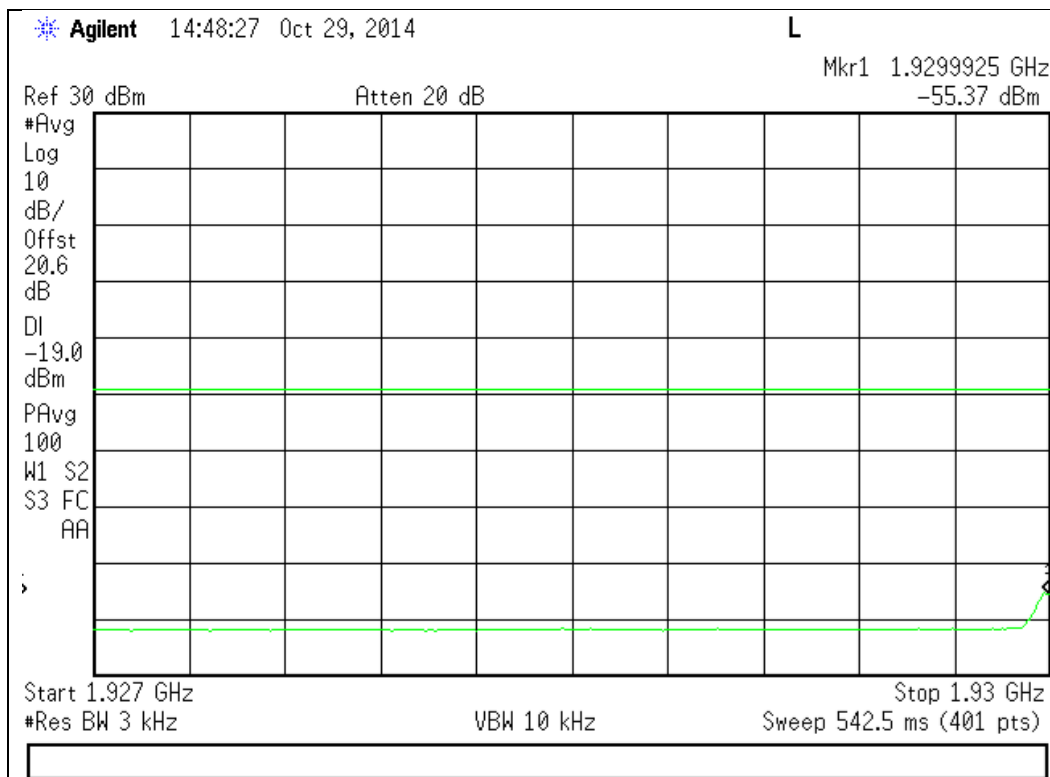
### Upper Band Edge



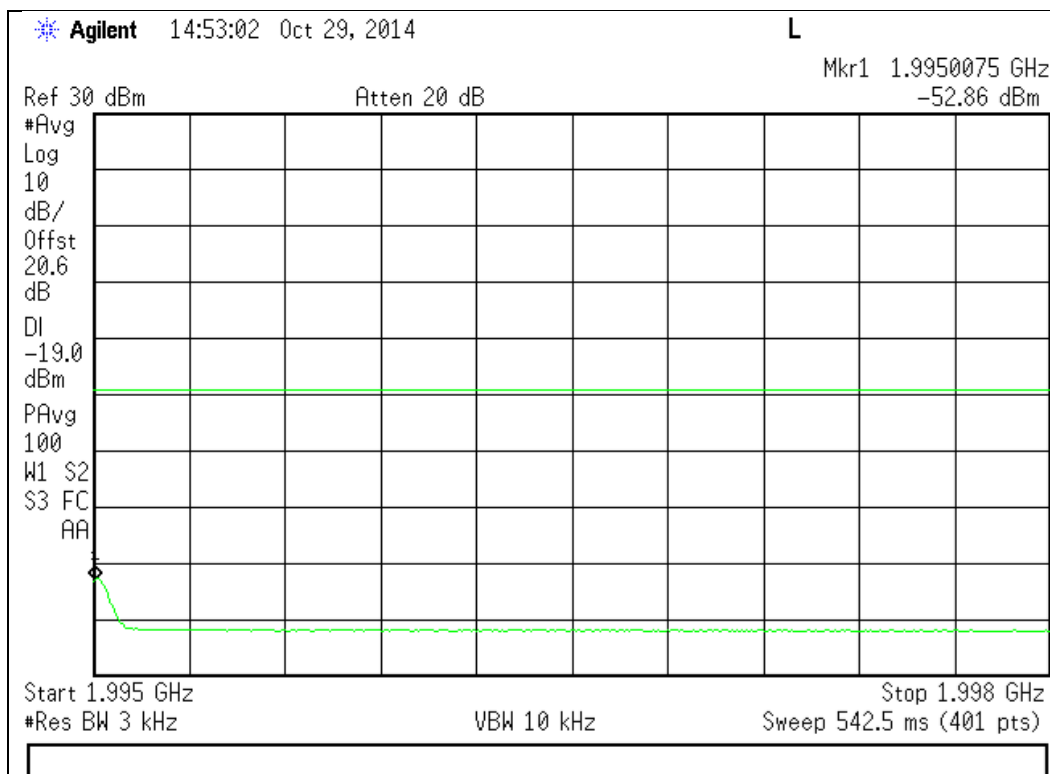


## 1930 - 1995 MHz Band

### Lower Band Edge

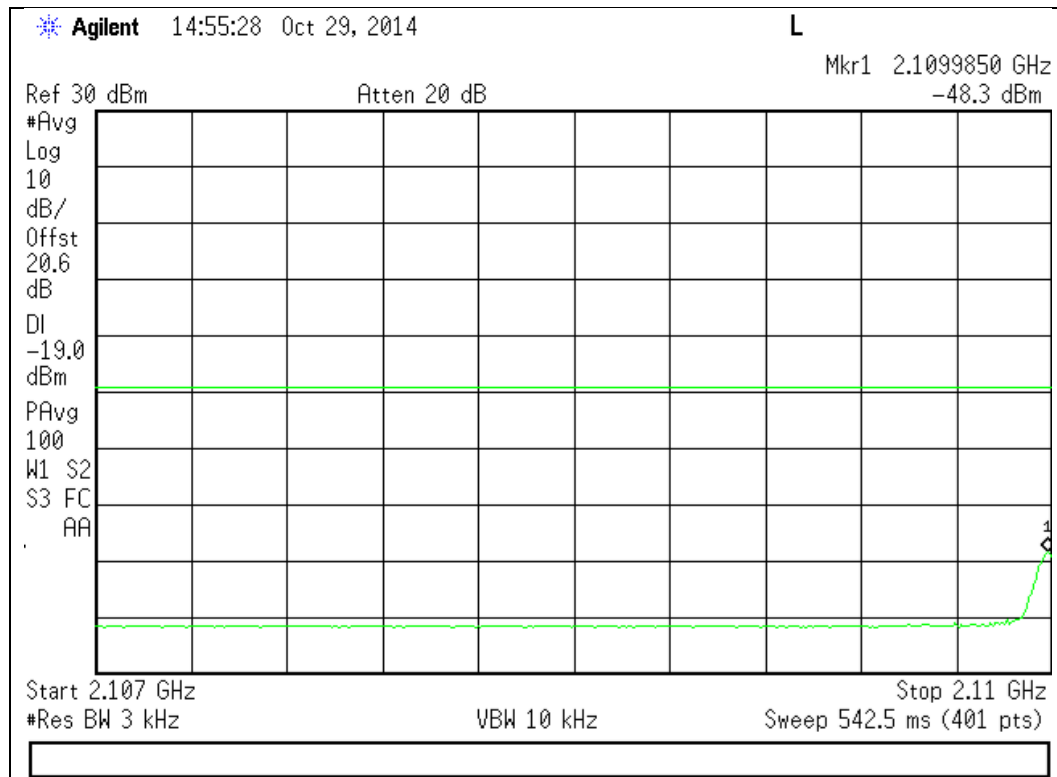


### Upper Band Edge

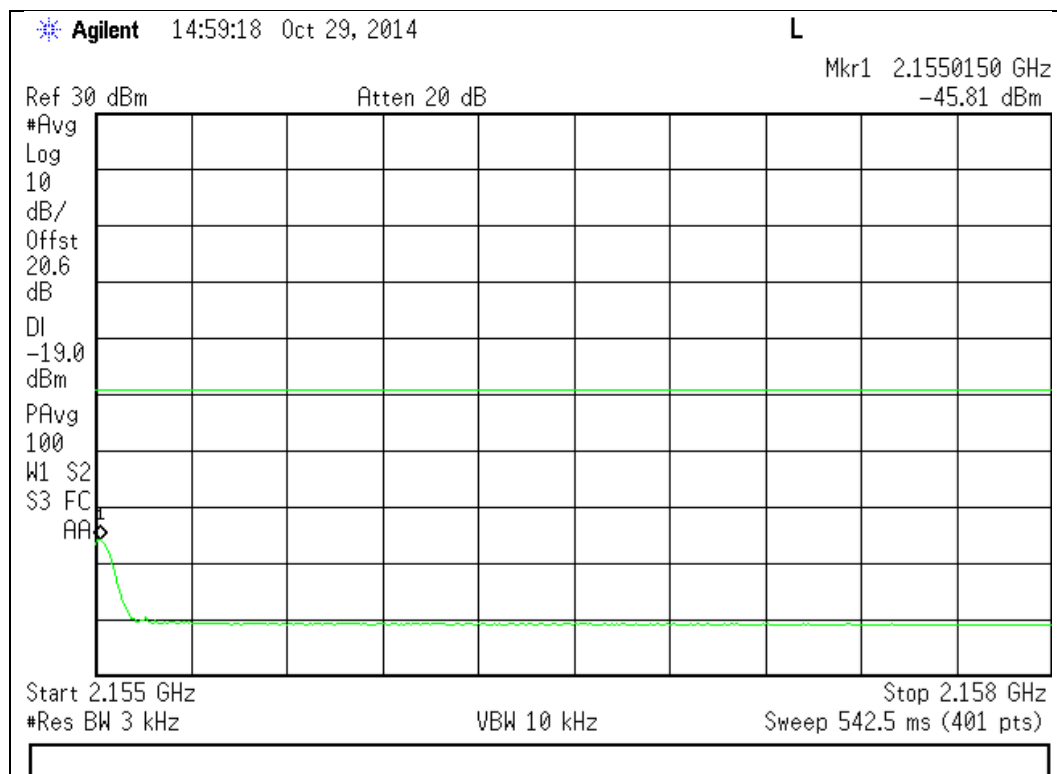


## 2110 - 2155 MHz Band

### Lower Band Edge



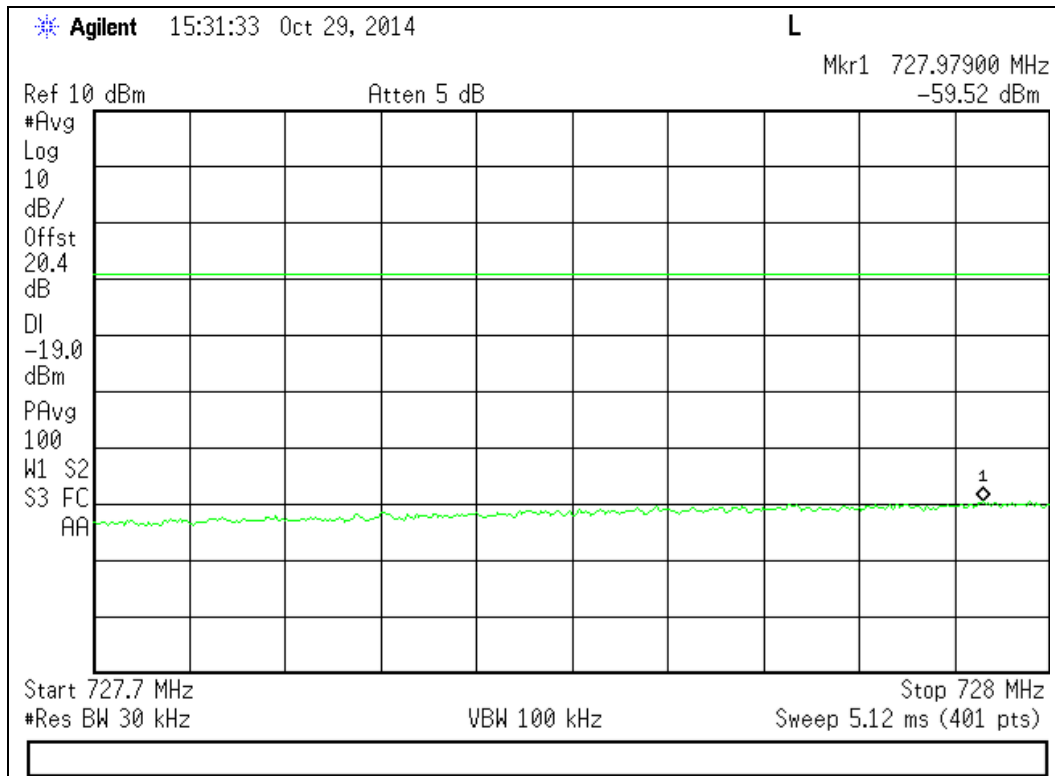
### Upper Band Edge



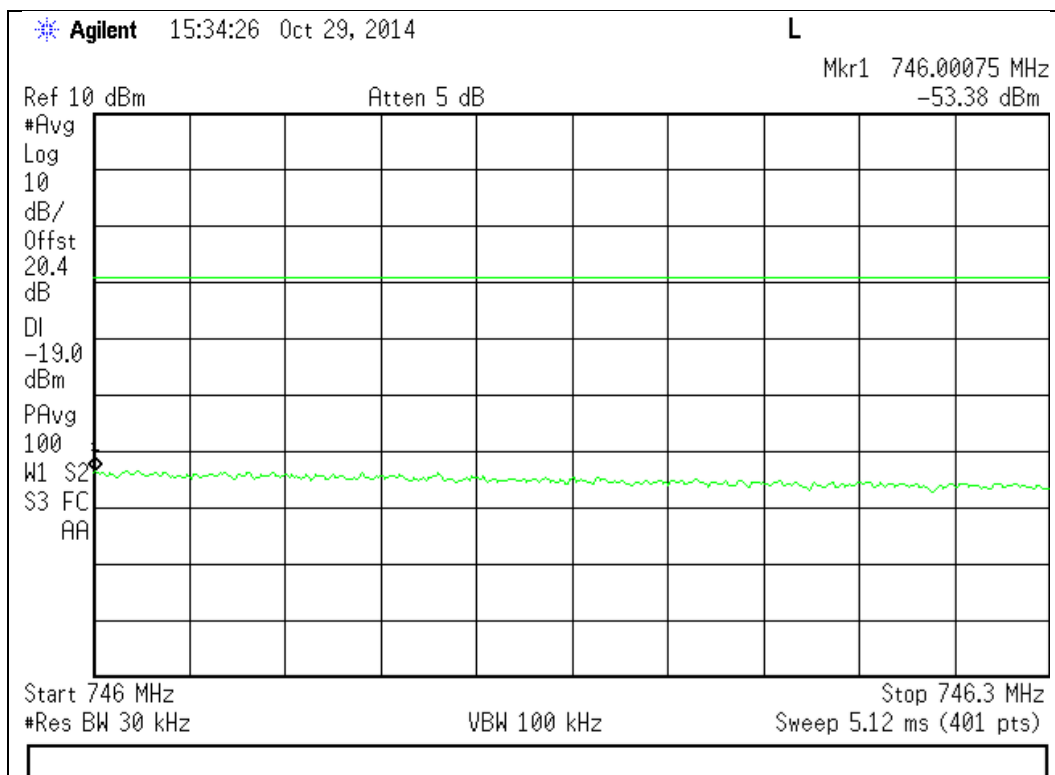
## CDMA Downlink Test Plots

728 - 746 MHz Band

Lower Band Edge



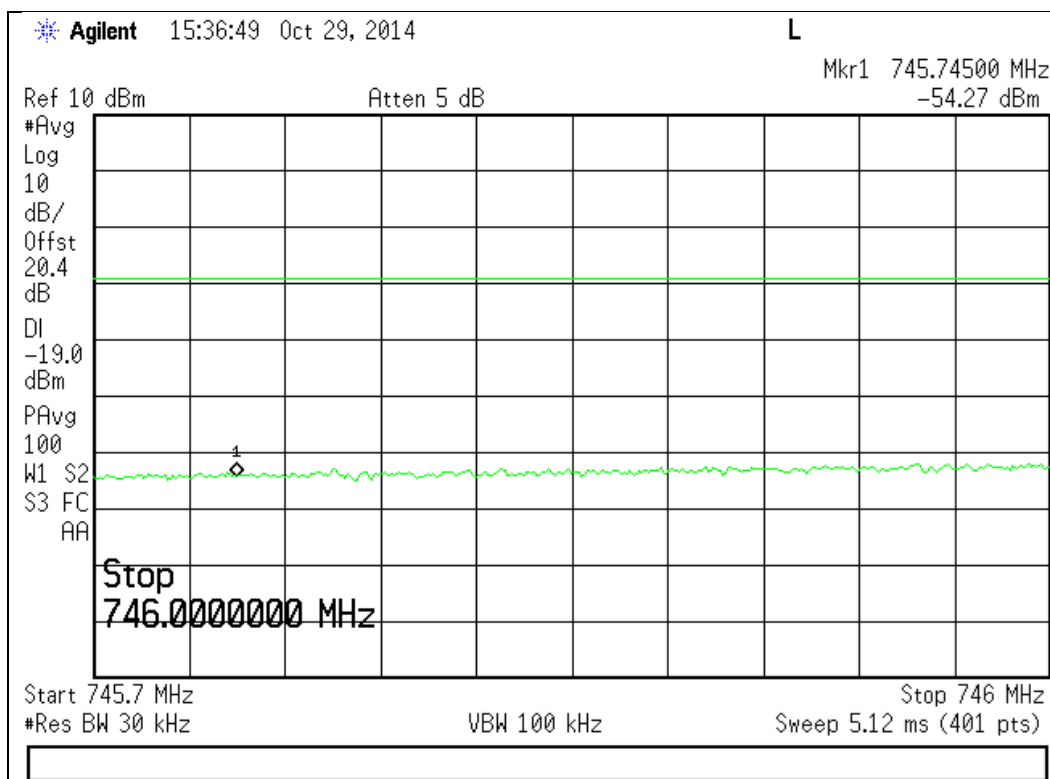
Upper Band Edge



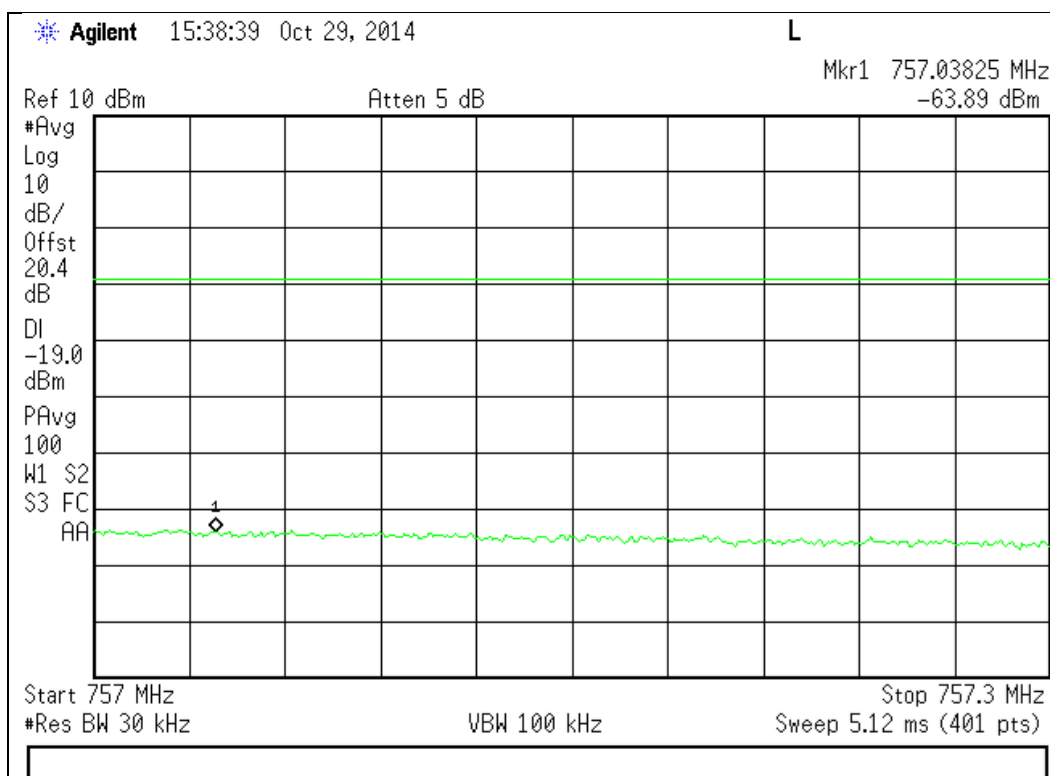


## 746 - 757 MHz Band

### Lower Band Edge



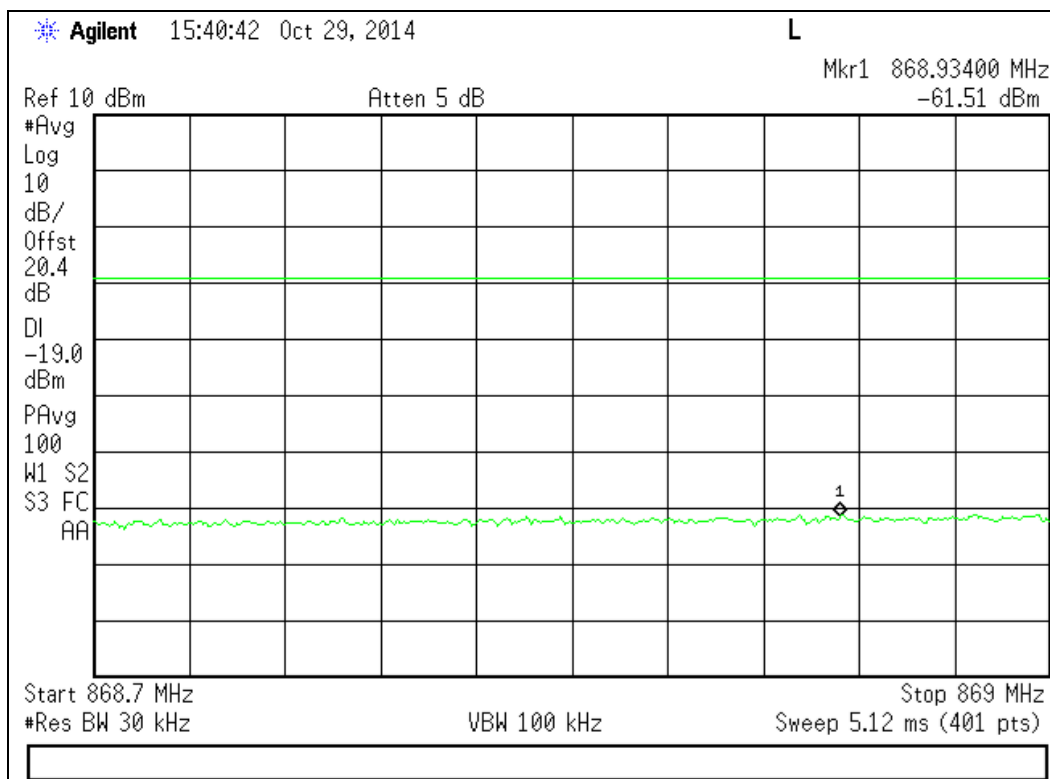
### Upper Band Edge



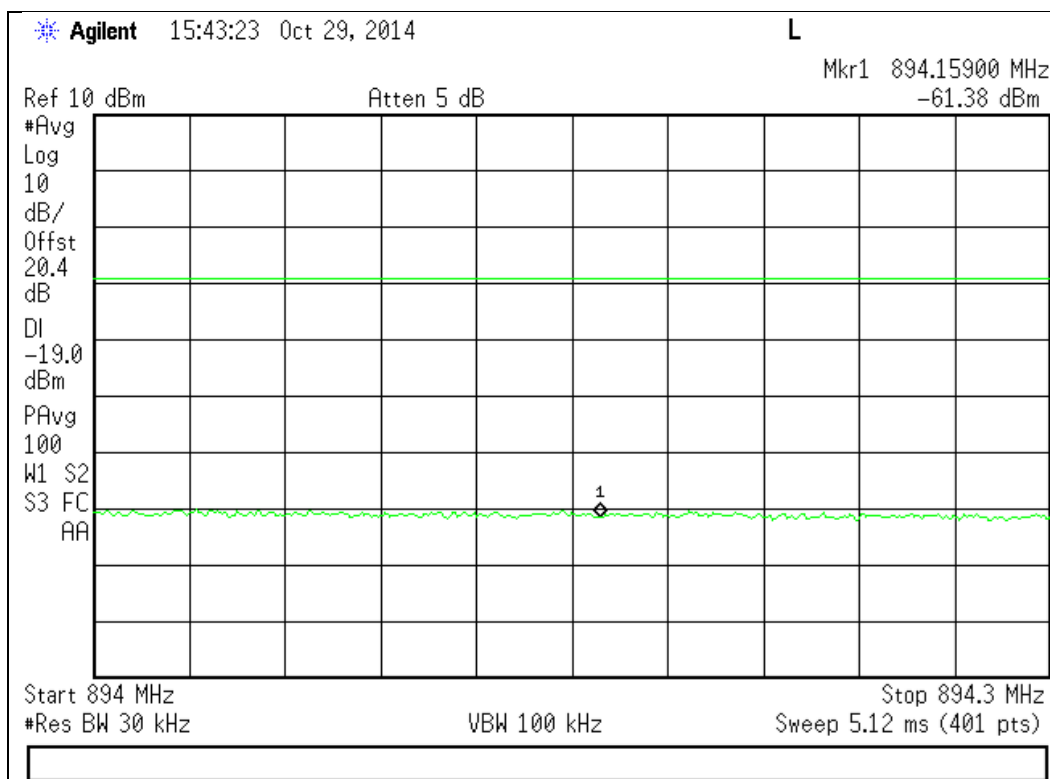


## 869 - 894 MHz Band

### Lower Band Edge

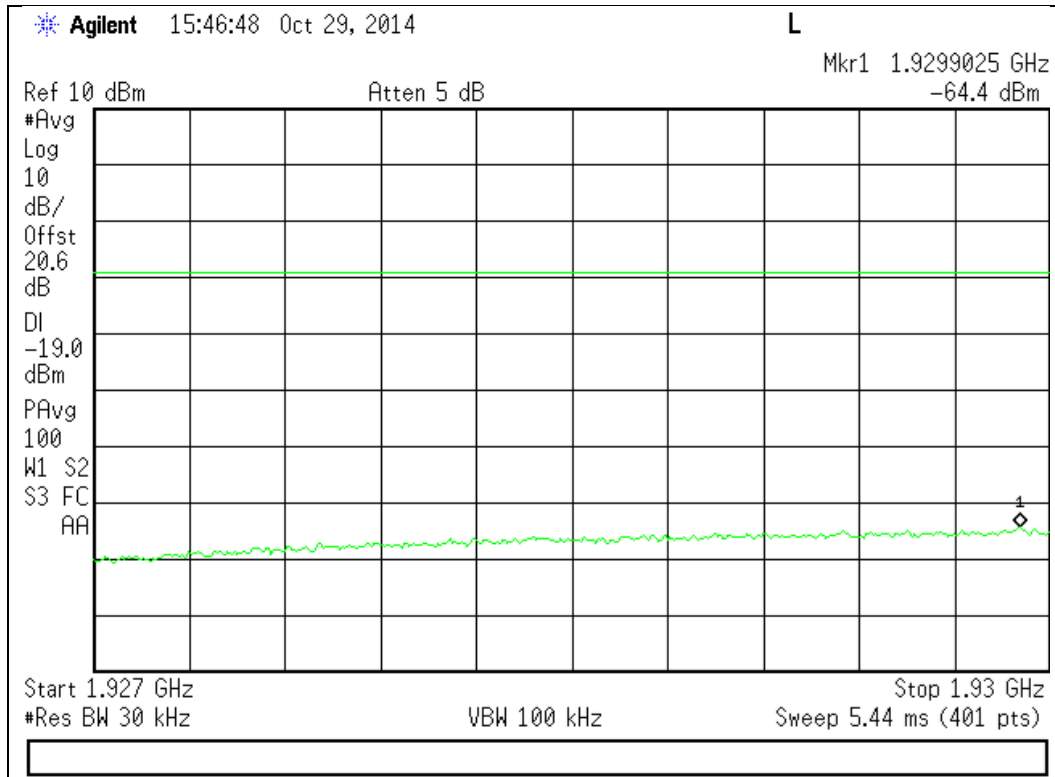


### Upper Band Edge

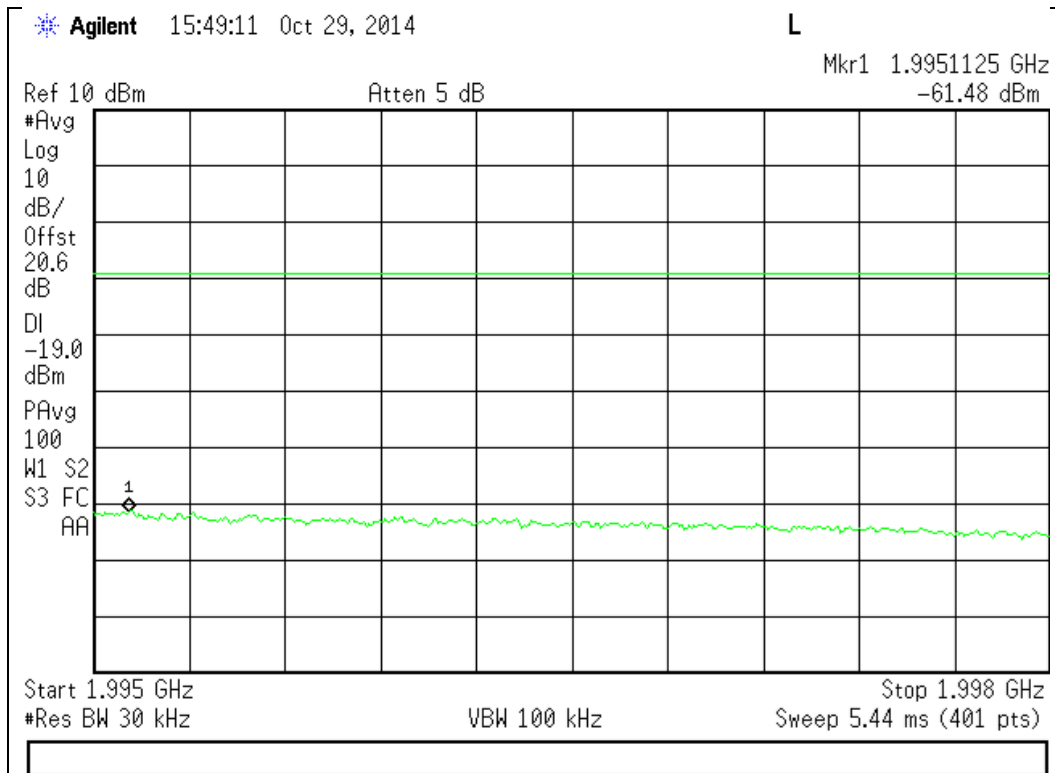


## 1930 - 1995 MHz Band

### Lower Band Edge



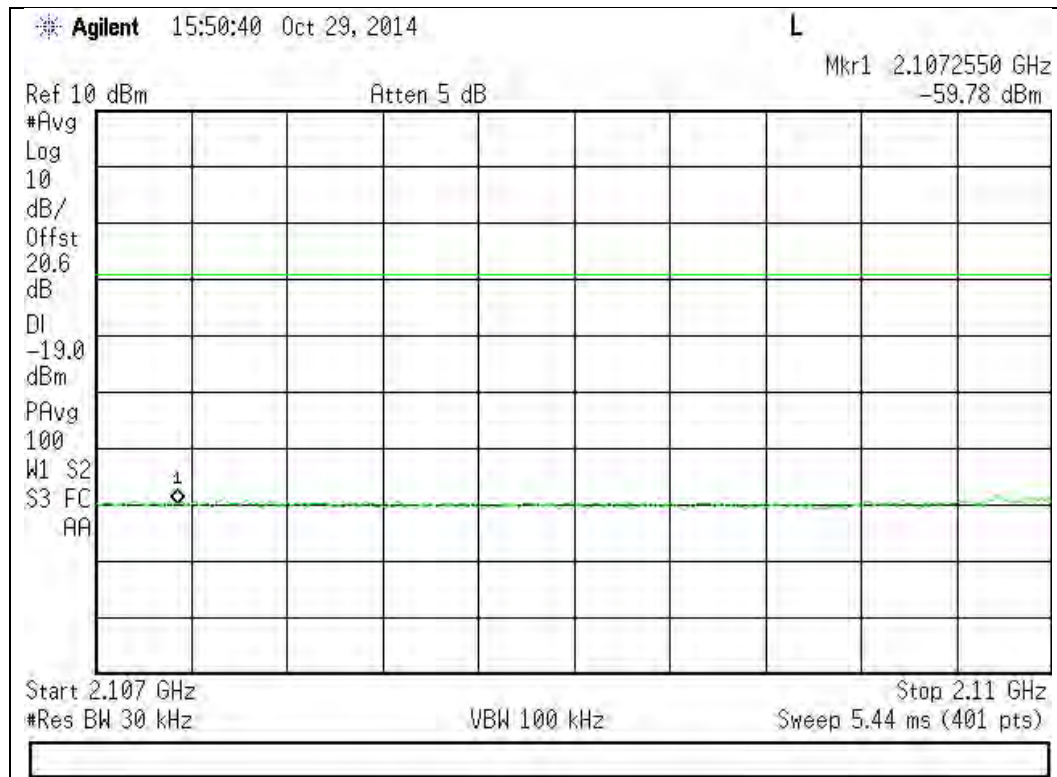
### Upper Band Edge





## 2110 - 2155 MHz Band

### Lower Band Edge



### Upper Band Edge

