



Compliance Testing, LLC

Previously Flom Test Lab

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toll-free: (866) 311-3268

fax: (480) 926-3598

<http://www.ComplianceTesting.com>

info@ComplianceTesting.com

Test Report

Prepared for: Cellphone-Mate, Inc.

Model: Force 5

Description: 5 Band / Inline

FCC ID: RSNFORCE-5INLINE

To

FCC Parts 22, 24, 27

Date of Issue: October 8, 2014

On the behalf of the applicant:

Cellphone-Mate Inc.
48346 Millmont Drive
Fremont, CA 94538

Attention of:

Hongtao Zhan, CEO
Ph: (510) 770-0469
Email: hzhan@cellphone-mate.com

Prepared By
Compliance Testing, LLC
1724 S. Nevada Way
Mesa, AZ 85204
(480) 926-3100 phone / (480) 926-3598 fax
www.compliancetesting.com
Project No: p1440012

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	August 20, 2014	Mike Graffeo	Original Document
2.0	September 2, 2014	Amanda Reed & Mike Graffeo	Updated FCC ID & model description, fixed Table of Contents. Retested Frequency plots for the G-Block
3.0	October 7, 2014	Mike Graffeo	Added emission designators

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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 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

The Applicant has been cautioned as to the following:

15.21: Information to the User

The user's manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a): Special Accessories

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without an additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

Test and Measurement Data

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations Part 90.219, KDB 935210 D03 Booster, and FCC Part 2, Part 20.21, Part 22, Part 24, Part 27 and C63-26 D11 4-3-14v2 where appropriate.

Standard Test Conditions and Engineering Practices

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

In accordance with ANSI/TIA 603C, 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 specify 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)
23.0 – 29.4	23.3 – 38.1	960.8 – 968.5

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

EUT Description

Model: Force 5

Description: 5 Band / Inline

Firmware: N/A

Software: N/A

Additional Information: N/A

The signal booster uses the following frequency bands.

The emission designators listed are representative emission designators used by transmitters whose signal is amplified by this booster.

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		

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

EUT Operation during Tests

The output power was set to the maximum level available for all the tests, when applicable.

AGC Threshold

Several tests reference the AGC Threshold level.

The AGC Threshold was measured as follows:

- Connect a signal generator to the input of the EUT.
- Connect a spectrum analyzer to the output of the EUT using appropriate attenuation.
- Use a CW signal.
- While monitoring the output of the EUT, increase the input level until the output stops increasing or drops a few 10th's of a dB.
- This is the AGC threshold level of the EUT.
- When the procedure calls out to set the RF Input to just below the AGC Threshold, The AGC Threshold is measured using the procedure listed above, and then the RF Input is backed off 0.2 dB below this threshold level.



Accessories: None
Modifications: None

Cables:

Qty	Description	Length (M)	Shielding Y/N	Shielded Hood Y/N	Termination
1	Power Cord Adapter	2.44	N	N	N/A



Test Result Summary

Specification	Test Name	Pass, Fail, N/A	Comments
KDB 935210-D03	Authorized Frequency Band	Pass	
2.1046	Output Power (Conducted)	Pass	
2.1051 27.53	Spurious Emissions (Transmitter Conducted)	Pass	
2.1053	Radiated Spurious Emissions	Pass	
90.210 2.1049	Occupied Bandwidth	Pass	
KDB 935210-D03	Intermodulation	Pass	
90.219(e)(2)	Noise Figure	Pass	
90.213	Frequency Stability (Temperature Variation)	N/A	The EUT does not perform frequency translation
90.213	Frequency Stability (Voltage Variation)	N/A	The EUT does not perform frequency translation

Authorized Frequency Band

Name of Test: Authorized Frequency Band

Test Equipment Utilized: i00405, i00331

Engineer: Mike Graffeo

Test Date: 8/6/14

Test Procedure

The EUT was connected to a spectrum analyzer through a power attenuator. A signal generator was utilized to produce a swept CW signal with the RF input level set to 3 dB below the AGC Threshold level. The Uplink and Downlink filter response and the -20 dB bandwidth were measured. The marker table function of the spectrum analyzer was used to show the peak amplitude in the passband and the -20 dB bandwidth of the pass band filter.

RBW = 100 KHz

Video BW = 3x RBW

Test Setup



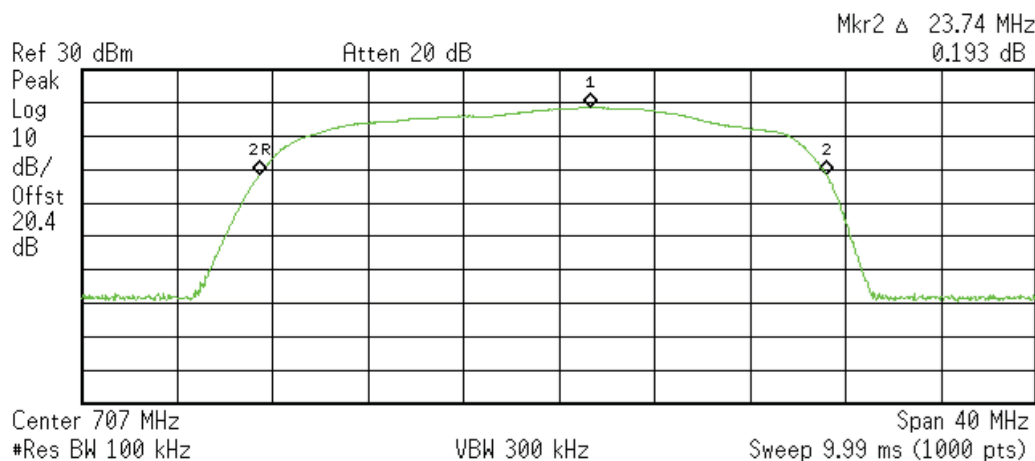


Authorized Frequency Band Test Results

698 - 716 MHz Band

Agilent 19:29:24 Aug 6, 2014

L

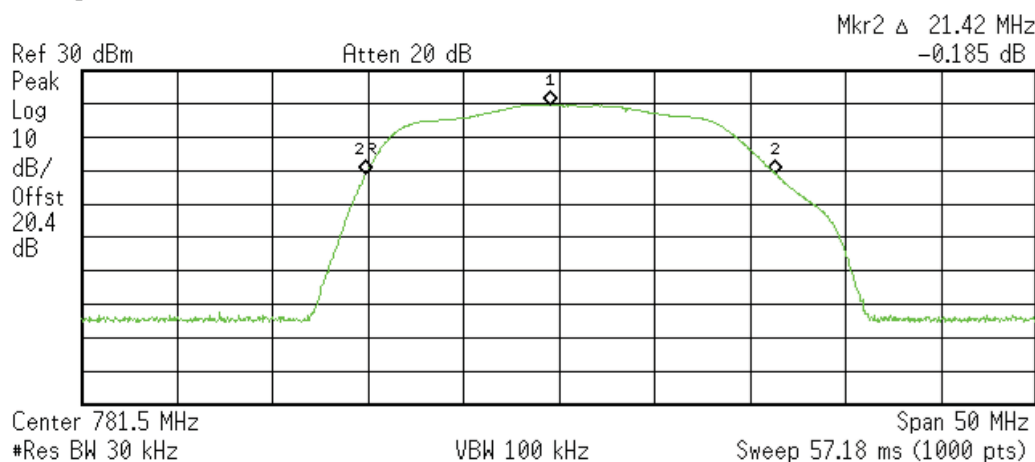


Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	708.34 MHz	18.57 dBm
2R	(1)	Freq	694.45 MHz	-1.679 dBm
2a	(1)	Freq	23.74 MHz	0.193 dB

776-787 MHz Band

Agilent 19:45:06 Aug 6, 2014

L



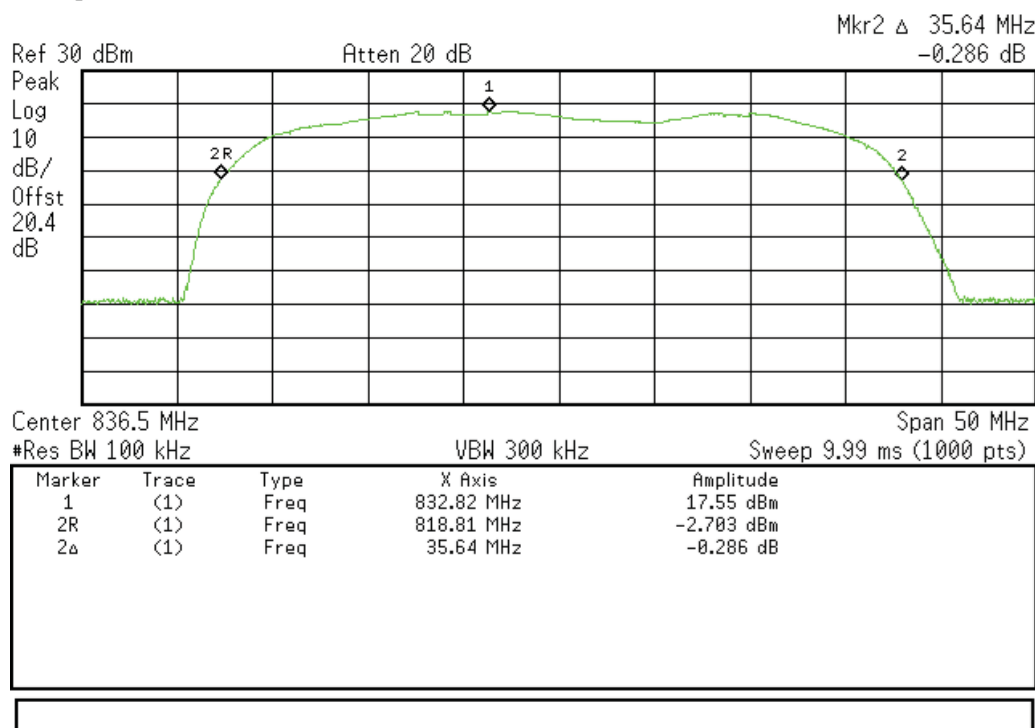
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	781.02 MHz	19.56 dBm
2R	(1)	Freq	771.41 MHz	-0.894 dBm
2a	(1)	Freq	21.42 MHz	-0.185 dB



824-849 MHz Band

Agilent 19:32:11 Aug 6, 2014

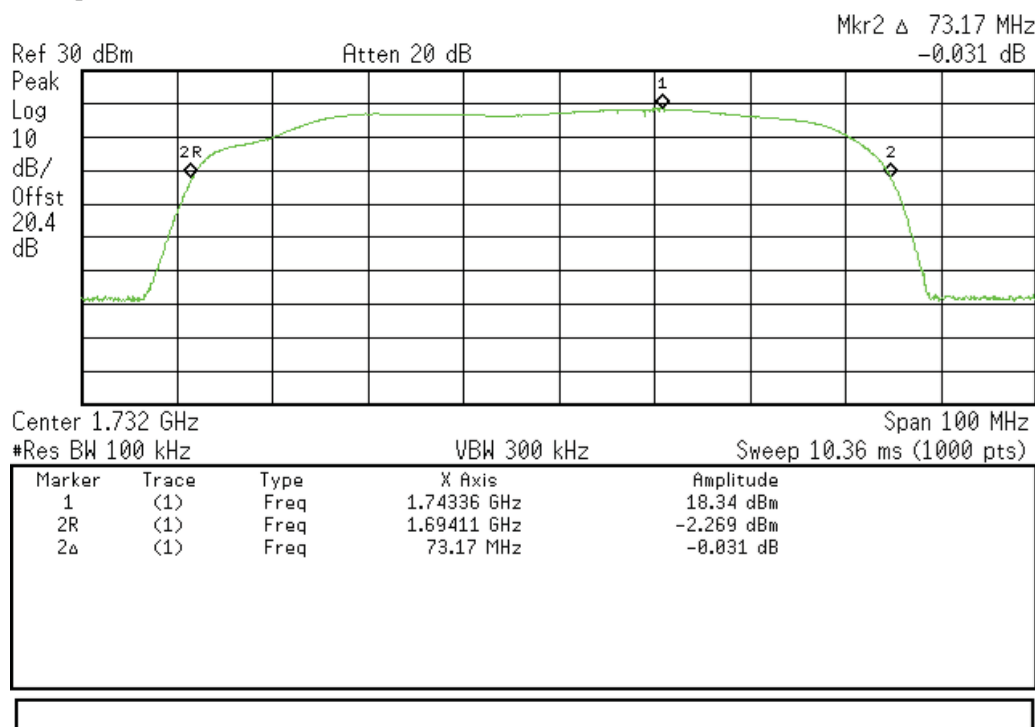
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1710-1755 MHz Band

Agilent 19:24:53 Aug 6, 2014

L

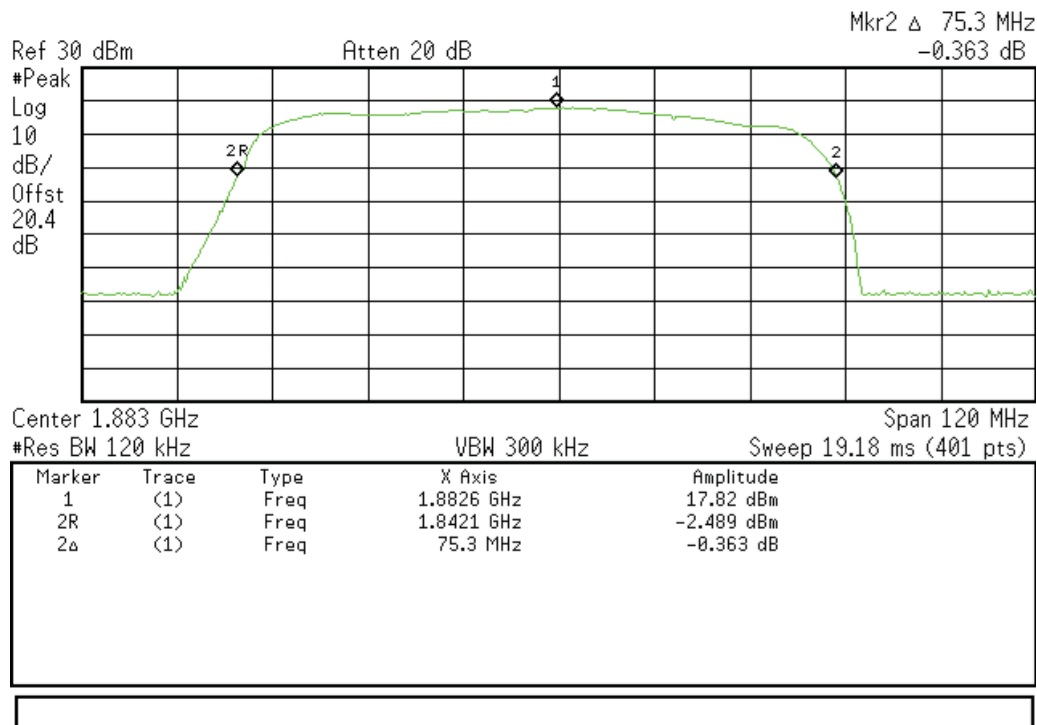




1850-1915 MHz Band

Agilent 11:47:43 Sep 8, 2014

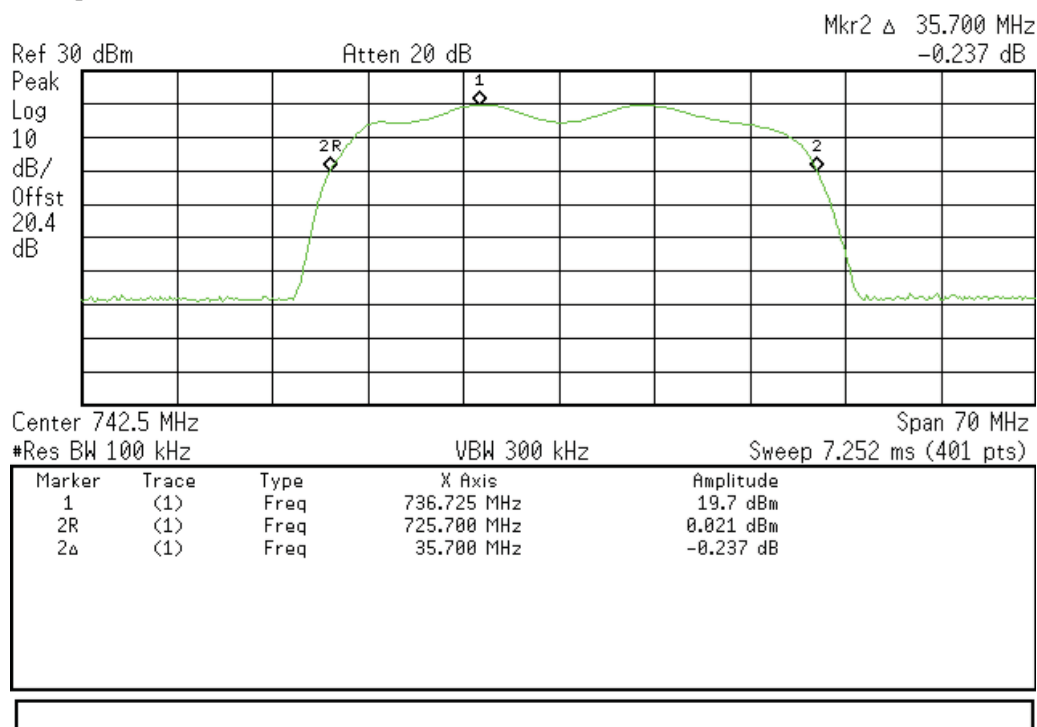
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Downlink 728-746 MHz Band

Agilent 16:29:04 Aug 7, 2014

L





746-757 MHz Band

Agilent 16:37:21 Aug 8, 2014

L

Mkr2 Δ 35.700 MHz
-0.165 dB

Ref 30 dBm

Atten 20 dB

Peak
Log
10
dB/
Offst
20.4
dB



Center 742.5 MHz

Span 70 MHz

#Res BW 100 kHz

VBW 300 kHz

Sweep 7.252 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	748.625 MHz	18.5 dBm
2R	(1)	Freq	725.700 MHz	-1.794 dBm
2 Δ	(1)	Freq	35.700 MHz	-0.165 dB

869-894 MHz Band

Agilent 16:33:28 Aug 7, 2014

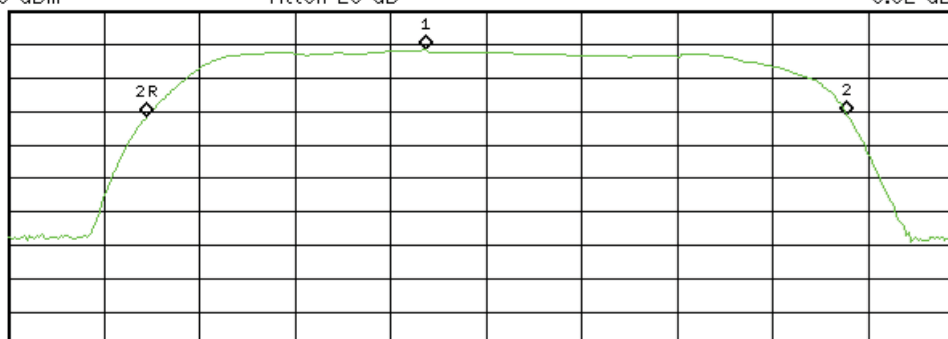
L

Mkr2 Δ 36.625 MHz
0.62 dB

Ref 30 dBm

Atten 20 dB

Peak
Log
10
dB/
Offst
20.4
dB



Center 881.5 MHz

Span 50 MHz

#Res BW 100 kHz

VBW 300 kHz

Sweep 5.18 ms (401 pts)

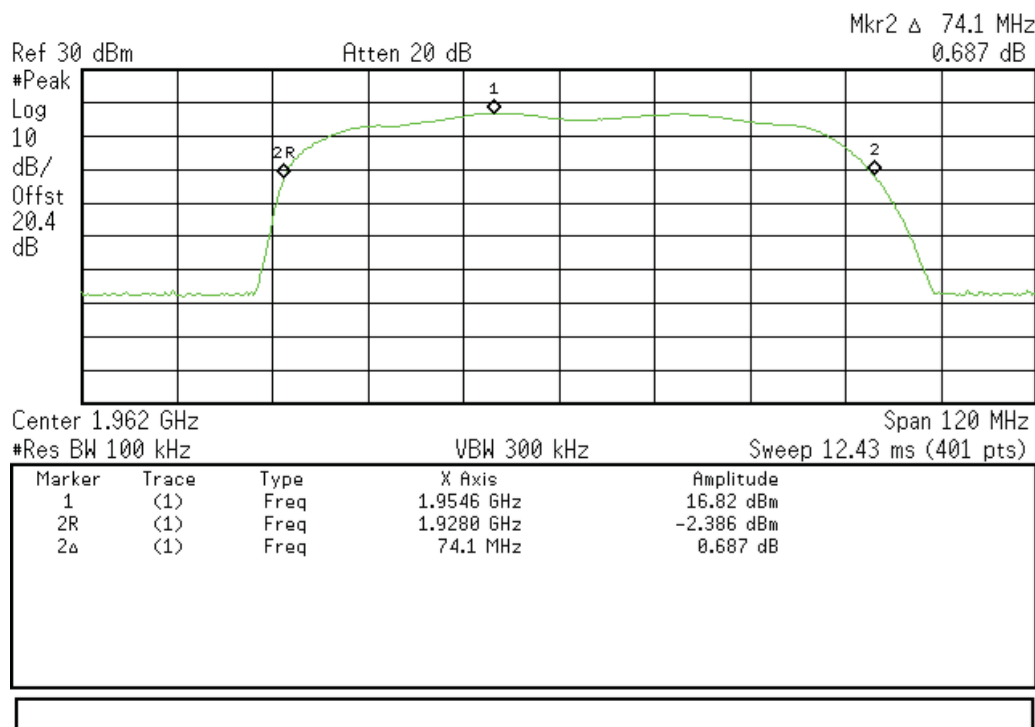
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	878.375 MHz	18.45 dBm
2R	(1)	Freq	863.750 MHz	-1.574 dBm
2 Δ	(1)	Freq	36.625 MHz	0.62 dB



1930-1995 MHz Band

Agilent 12:13:44 Sep 8, 2014

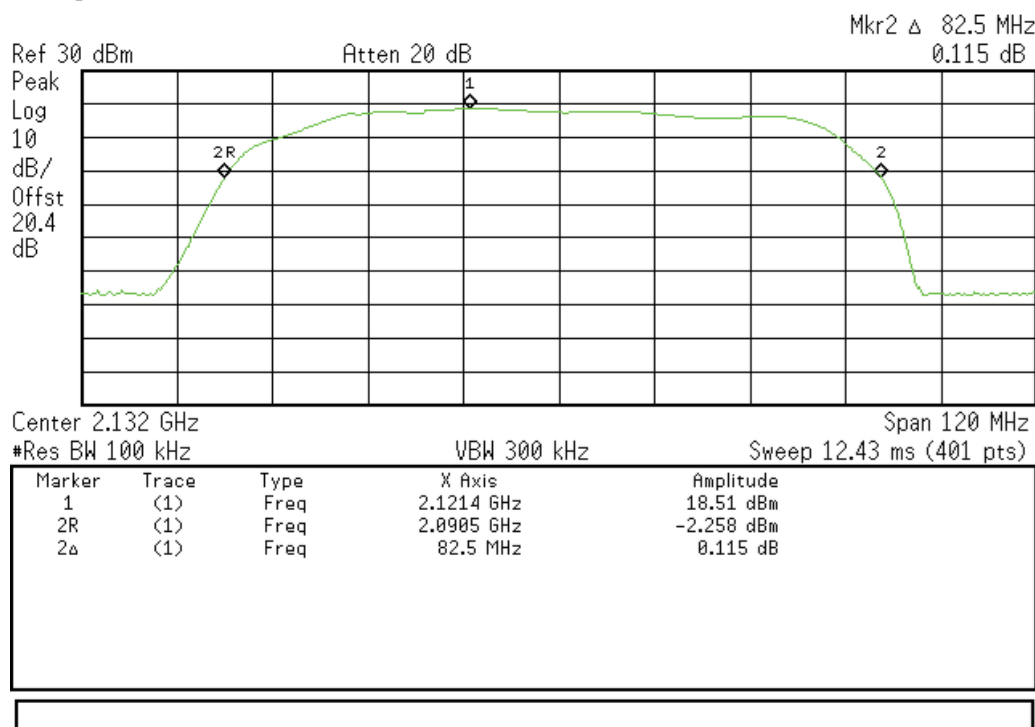
L



2110-2155 MHz Band

Agilent 16:59:58 Aug 7, 2014

L



Conducted Output Power and Amplifier Gain

Name of Test: Conducted Output Power and Amplifier Gain
Test Equipment Utilized: i00405, i00331

Engineer: Mike Graffeo
Test Date: 8/8/14

Test Procedure

The Equipment Under Test (EUT) was connected to a spectrum analyzer through a power attenuator. All cable and attenuator losses were input into the spectrum analyzer as a reference level offset to ensure accurate readings were obtained. A CW signal was utilized, set to the frequency of the peak amplitude measured in the Authorized Frequency Band test. Both narrow band (GSM 250 KHz) and wide band (WCDMA 4.1MHz) signals were utilized. The RF input signal level was set to 0.2 dB below the AGC Threshold, and then repeated for 3dBm above the AGC and then at 3dBm above the AGC

The Input and Output power levels were recorded and the gain was calculated using the following formula:

$$\text{Gain (dB)} = \text{Output Power (dBm)} - \text{Input Power (dBm)}$$

Test Setup

Uplink Output Power and Gain

698 - 716 MHz Band GSM

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	708.34	-29.2	19.47	48.7
3 dBm above the AGC	708.34	-26.2	20.39	46.6
6 dBm above the AGC	708.34	-23.2	20.46	43.7

776-787 MHz Band GSM

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	781.02	-29.3	18.64	47.9
3 dBm above the AGC	781.02	-26.3	19.24	45.5
6 dBm above the AGC	781.02	-23.3	19.09	42.4

824-849 MHz Band GSM

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	832.82	-30.6	17.26	47.9
3 dBm above the AGC	832.82	-27.6	17.12	44.7
6 dBm above the AGC	832.82	-24.6	16.76	41.4

1710-1755 MHz Band GSM

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	1743.40	-29.4	17.61	47.0
3 dBm above the AGC	1743.40	-26.4	18.43	44.8
6 dBm above the AGC	1743.40	-23.4	18.64	42.0

1850-1915 MHz Band GSM

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	1882.60	-28.9	17.74	46.6
3 dBm above the AGC	1882.60	-25.9	17.62	43.5
6 dBm above the AGC	1882.60	-22.9	17.37	40.3

**Uplink Output Power and Gain
698 - 716 MHz Band
WCDMA**

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	708.34	-29.5	19.86	49.4
3 dBm above the AGC	708.34	-26.5	19.81	46.3
6 dBm above the AGC	708.34	-23.5	19.77	43.3

**776-787 MHz Band
WCDMA**

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	781.02	-29.1	19.93	49.0
3 dBm above the AGC	781.02	-26.1	20.00	46.1
6 dBm above the AGC	781.02	-23.1	19.80	42.9

**824-849 MHz Band
WCDMA**

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	832.82	-31.5	17.51	49.0
3 dBm above the AGC	832.82	-28.5	17.37	45.9
6 dBm above the AGC	832.82	-25.5	17.48	43.0

**1710-1755 MHz Band
WCDMA**

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	1743.40	-28.5	17.05	45.6
3 dBm above the AGC	1743.40	-25.5	17.06	42.6
6 dBm above the AGC	1743.40	-22.5	17.10	39.6

**1850-1915 MHz Band
WCDMA**

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	1882.60	-28.6	17.43	46.0
3 dBm above the AGC	1882.60	-25.6	17.59	43.2
6 dBm above the AGC	1882.60	-22.6	17.50	40.1

Downlink Output Power and Gain

728-746 MHz Band GSM

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	736.73	-29.0	20.32	49.3
3 dBm above the AGC	736.73	-26.0	20.86	46.9
6 dBm above the AGC	736.73	-23.0	20.94	43.9

746-757 MHz Band GSM

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	748.63	-29.0	20.41	49.4
3 dBm above the AGC	748.63	-26.0	21.47	47.5
6 dBm above the AGC	748.63	-23.0	21.68	44.7

869-894 MHz Band GSM

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	878.38	-29.5	17.50	47.0
3 dBm above the AGC	878.38	-26.5	17.30	43.8
6 dBm above the AGC	878.38	-23.5	17.12	40.6

1930-1995 MHz Band GSM

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	1954.60	-29.9	19.49	49.4
3 dBm above the AGC	1954.60	-26.9	19.43	46.3
6 dBm above the AGC	1954.60	-23.9	19.86	43.8

2110-2155 MHz Band GSM

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	2121.40	-29.0	18.79	47.8
3 dBm above the AGC	2121.40	-26.0	17.96	44.0
6 dBm above the AGC	2121.40	-23.0	17.45	40.5

Downlink Output Power and Gain

728-746 MHz Band WCDMA

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	736.73	-29.8	19.15	49.0
3 dBm above the AGC	736.73	-26.8	19.96	46.8
6 dBm above the AGC	736.73	-23.8	21.23	45.0

746-757 MHz Band WCDMA

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	748.63	-28.9	20.01	48.9
3 dBm above the AGC	748.63	-25.9	20.18	46.1
6 dBm above the AGC	748.63	-22.9	20.79	43.7

869-894 MHz Band WCDMA

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	878.38	-30.2	17.38	47.6
3 dBm above the AGC	878.38	-27.2	18.51	45.7
6 dBm above the AGC	878.38	-24.2	18.48	42.7

1930-1995 MHz Band WCDMA

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	1954.60	-28.4	19.70	48.1
3 dBm above the AGC	1954.60	-25.4	20.67	46.1
6 dBm above the AGC	1954.60	-22.4	20.52	42.9

2110-2155 MHz Band WCDMA

Mode	Tuned Frequency (MHz)	Input Power (dBm)	Output Power (dBm)	Gain (dB)
0.2dBm below AGC	2121.40	-28.4	20.36	48.8
3 dBm above the AGC	2121.40	-25.4	19.29	44.7
6 dBm above the AGC	2121.40	-22.4	19.16	41.6

Conducted Spurious Emissions**Name of Test:**

Conducted Spurious Emissions

Engineer: Mike Graffeo**Test Equipment Utilized:**

i00405, i00331

Test Date: 8/12/14**Test Procedure**

The Equipment Under Test (EUT) was connected to a spectrum analyzer through a power attenuator. All cable and attenuator losses were input into the spectrum analyzer as a combination of reference level offset and correction factor as needed to ensure accurate readings were obtained.

A CW signal was utilized, set to the center frequency of the passband.

The RF input signal level was set to 0.2 dB below the AGC Threshold.

The RBW was set to 100 kHz for measurements below 1 GHz and 1 MHz for measurements above 1 GHz.

The VBW was set to 3 times the RBW.

The frequency range from 30 MHz to the 10th harmonic of the passband frequency was observed and plotted.

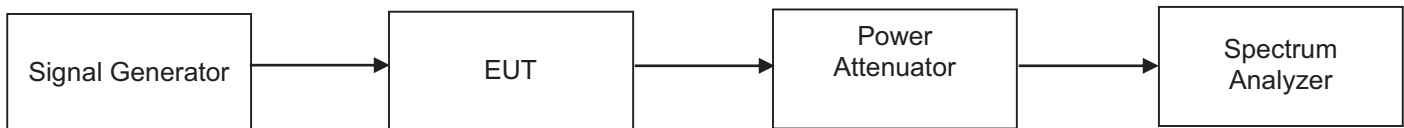
The following formula was used for calculating the limits.

Conducted Spurious Emissions Limit = $P1 - (43 + 10\log(P2)) = -13 \text{ dBm}$

P1 = power in dBm

P2 = power in Watts

Tests were performed at low, mid and high frequencies and with both narrow band (GSM 250 KHz) and wide band (WCDMA 4.1MHz) signals

Test Setup

**Uplink Test Results (GSM)
698 - 716 MHz Band**

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
698	-37.55	-13	-24.55	Pass
707	-35.03	-13	-22.03	Pass
716	-38.09	-13	-25.09	Pass

776-787 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
776	-37.66	-13	-24.66	Pass
781.5	-32.03	-13	-19.03	Pass
787	-37.88	-13	-24.88	Pass

824-849 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
824	-37.79	-13	-24.79	Pass
836.5	-37.50	-13	-24.50	Pass
849	-38.90	-13	-25.90	Pass

1710-1755 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
1710	-38.57	-13	-25.57	Pass
1732.5	-38.28	-13	-25.28	Pass
1755	-39.14	-13	-26.14	Pass

1850-1915 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
1850	-40.47	-13	-27.47	Pass
1880	-40.20	-13	-27.20	Pass
1915	-40.53	-13	-27.53	Pass

**Uplink Test Results (WCDMA)
698-716 MHz Band**

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
698	-37.66	-13	-24.66	Pass
707	-37.36	-13	-24.36	Pass
716	-37.97	-13	-24.97	Pass

776-787 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
776	-37.55	-13	-24.55	Pass
781.5	-22.22	-13	-9.22	Pass
787	-37.61	-13	-24.61	Pass

824-849 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
824	-38.41	-13	-25.41	Pass
836.5	-38.68	-13	-25.68	Pass
849	-38.62	-13	-25.62	Pass

1710-1755 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
1710	-38.87	-13	-25.87	Pass
1732.5	-39.30	-13	-26.30	Pass
1755	-38.96	-13	-25.96	Pass

1850-1915 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
1850	-39.99	-13	-26.99	Pass
1880	-39.76	-13	-26.76	Pass
1915	-40.26	-13	-27.26	Pass

Downlink Test Results (GSM) 728-746 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
728	-39.04	-13	-26.04	Pass
737	-38.39	-13	-25.39	Pass
746	-38.8	-13	-25.8	Pass

746-757 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
746	-40.24	-13	-27.24	Pass
751.5	-40.16	-13	-27.16	Pass
757	-39.57	-13	-26.57	Pass

869-894 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
869	-38.69	-13	-25.69	Pass
881.5	-39.10	-13	-26.10	Pass
894	-39.49	-13	-26.49	Pass

1930-1995 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
1930	-40.19	-13	-27.19	Pass
1960	-40.19	-13	-27.19	Pass
1995	-40.52	-13	-27.52	Pass

2110-2155 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
2110	-40.11	-13	-27.11	Pass
2132.5	-40.15	-13	-27.15	Pass
2155	-40.07	-13	-27.07	Pass



**Downlink Test Results (WCDMA)
728-746 MHz Band**

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
728	-39.27	-13	-26.27	Pass
737	-39.45	-13	-26.45	Pass
746	-39.51	-13	-26.51	Pass

746-757 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
746	-39.18	-13	-26.18	Pass
751.5	-38.95	-13	-25.95	Pass
757	-39.95	-13	-26.95	Pass

869-894 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
869	-38.67	-13	-25.67	Pass
881.5	-38.36	-13	-25.36	Pass
894	-37.73	-13	-24.73	Pass

1930-1995 MHz Band

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
1930	-40.85	-13	-27.85	Pass
1960	-40.24	-13	-27.24	Pass
1995	-41.13	-13	-28.13	Pass

2110-2155 MHz Band

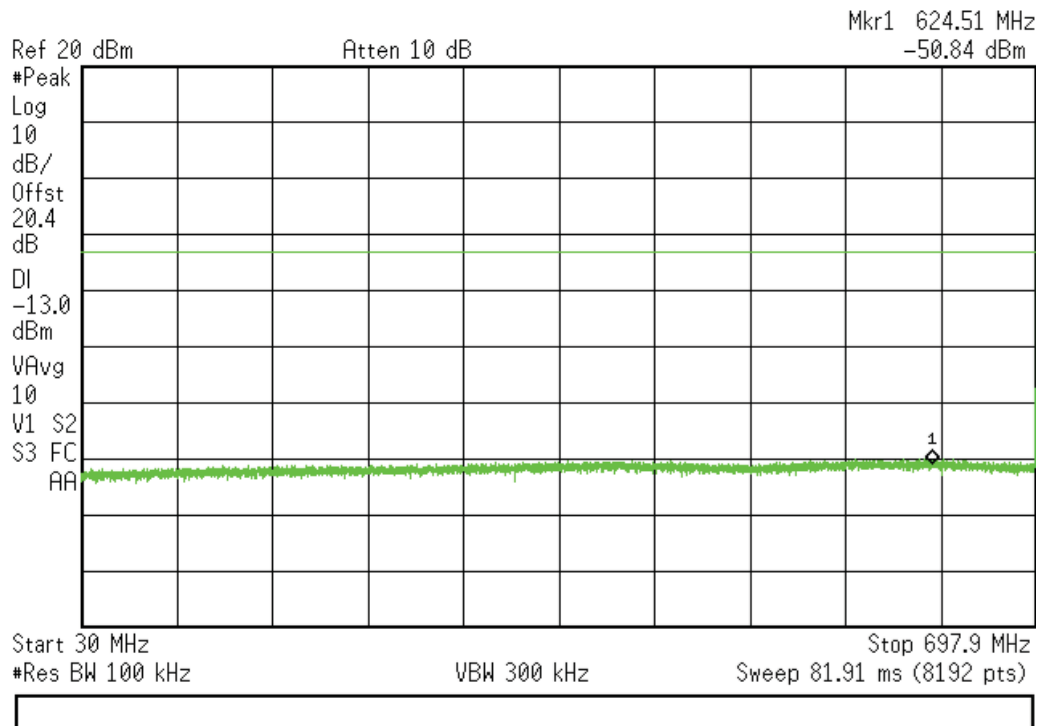
Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)	Result
2110	-39.83	-13	-26.83	Pass
2132.5	-39.97	-13	-26.97	Pass
2155	-39.93	-13	-26.93	Pass



Uplink GSM Signal 698 - 716 MHz Band (Low Frequency)

Agilent 16:41:11 Aug 11, 2014

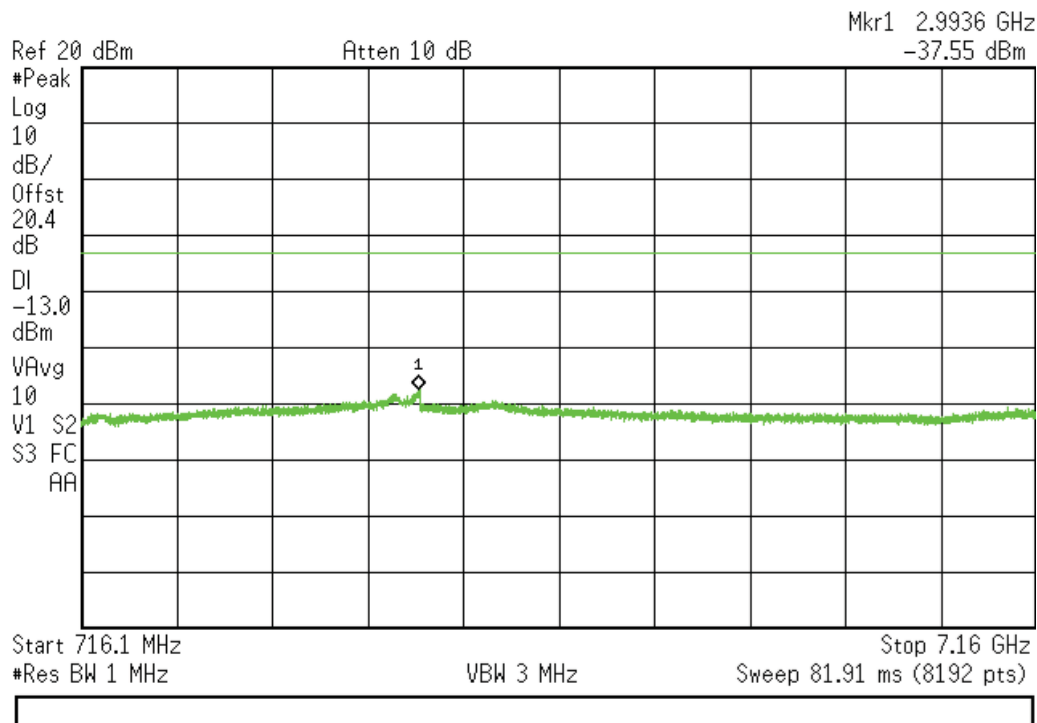
L



698 - 716 MHz Band (Low Frequency) (Cont)

Agilent 16:44:15 Aug 11, 2014

L

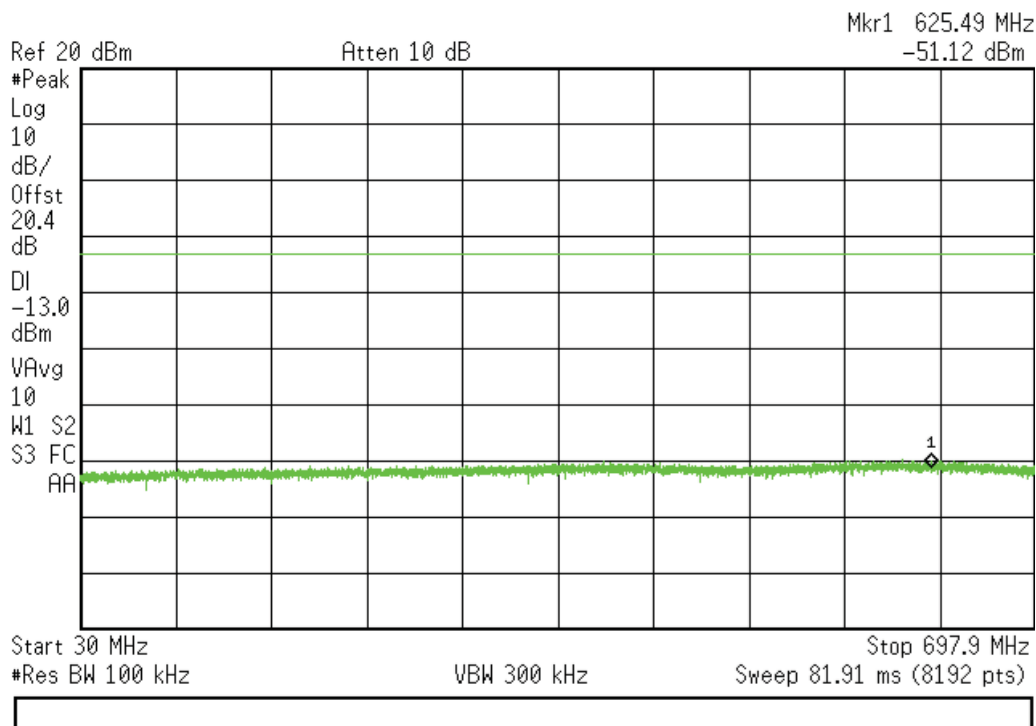




698 - 716 MHz Band (Mid Frequency)

Agilent 16:40:03 Aug 11, 2014

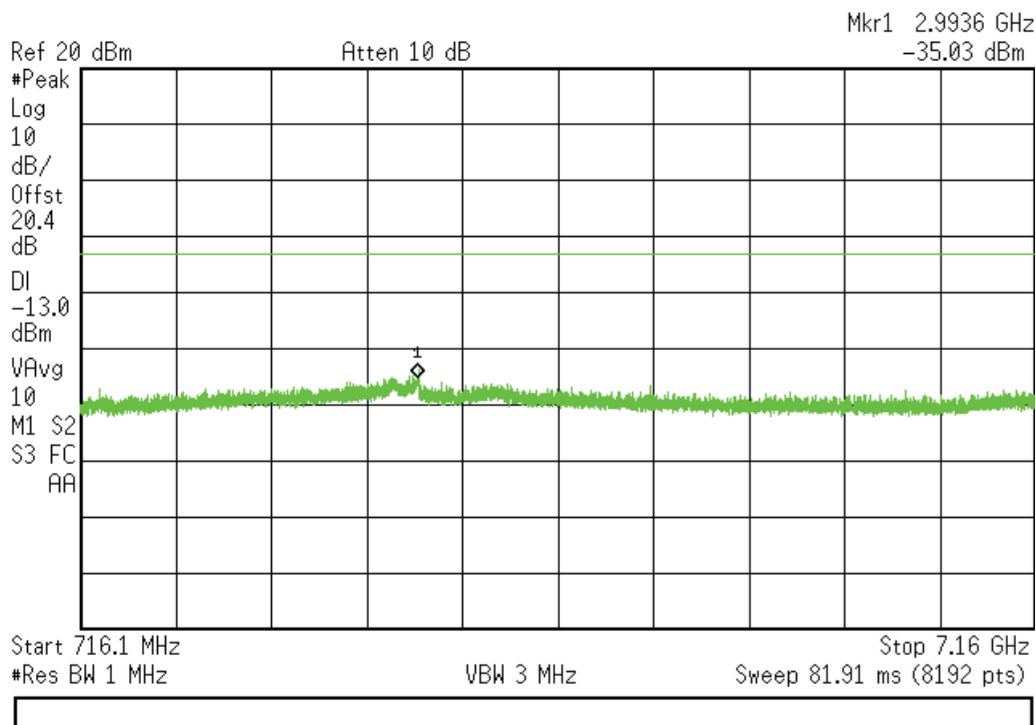
L



698 - 716 MHz Band (Mid Frequency) (Cont)

Agilent 16:45:21 Aug 11, 2014

L

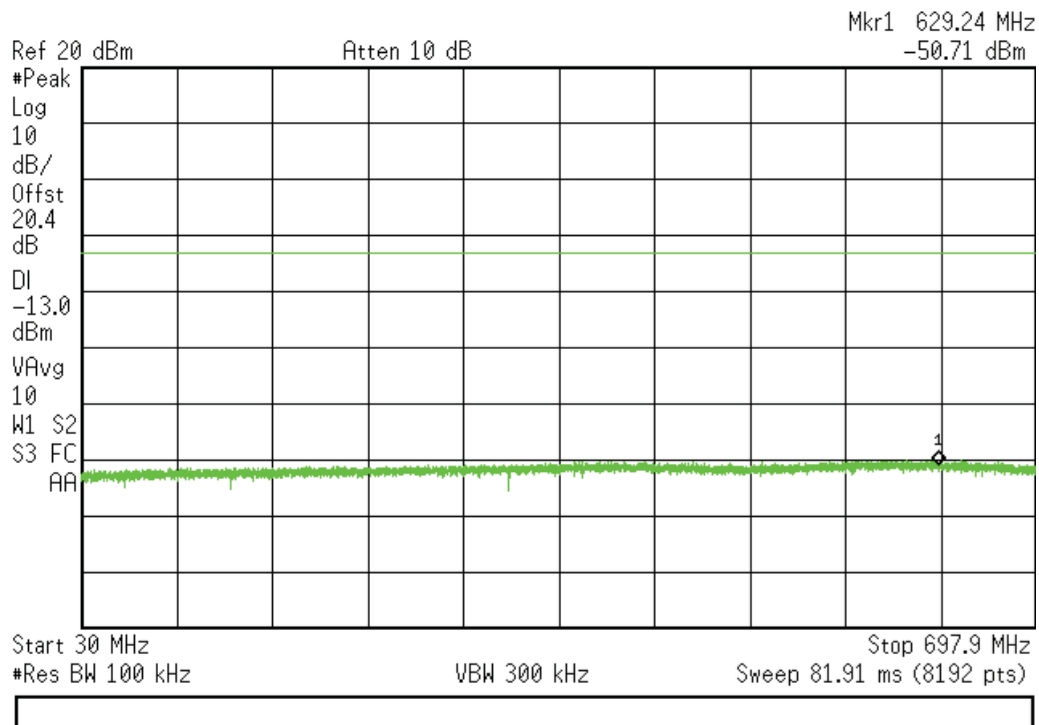




698 - 716 MHz Band (High Frequency)

Agilent 16:38:57 Aug 11, 2014

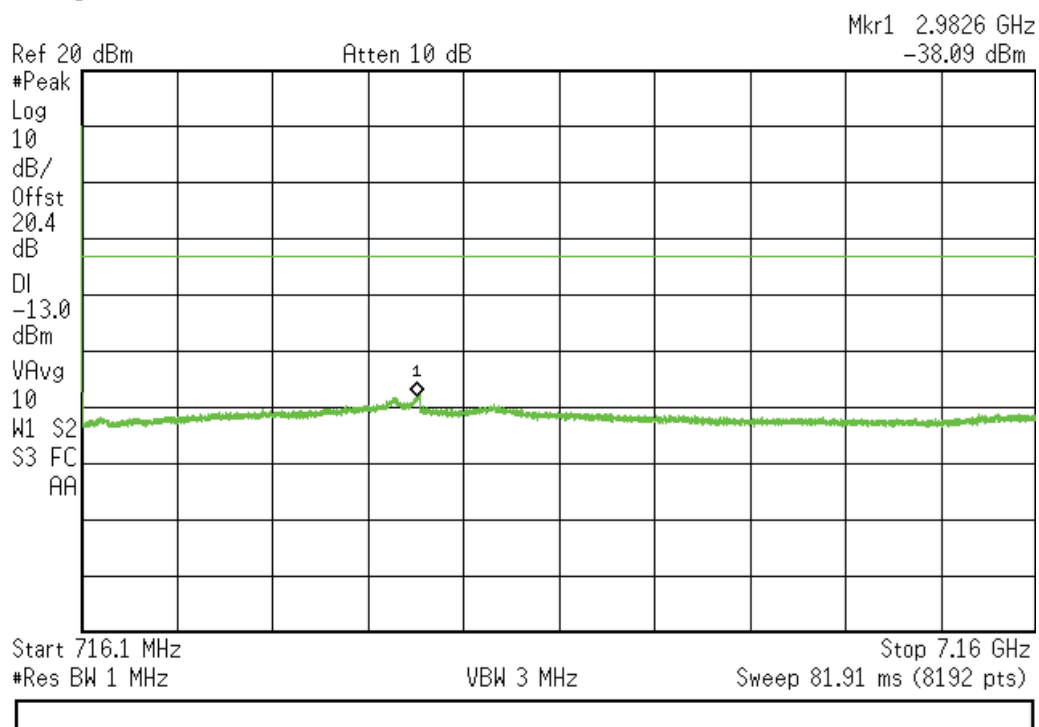
L



698 - 716 MHz Band (High Frequency) (Cont)

Agilent 16:47:04 Aug 11, 2014

L

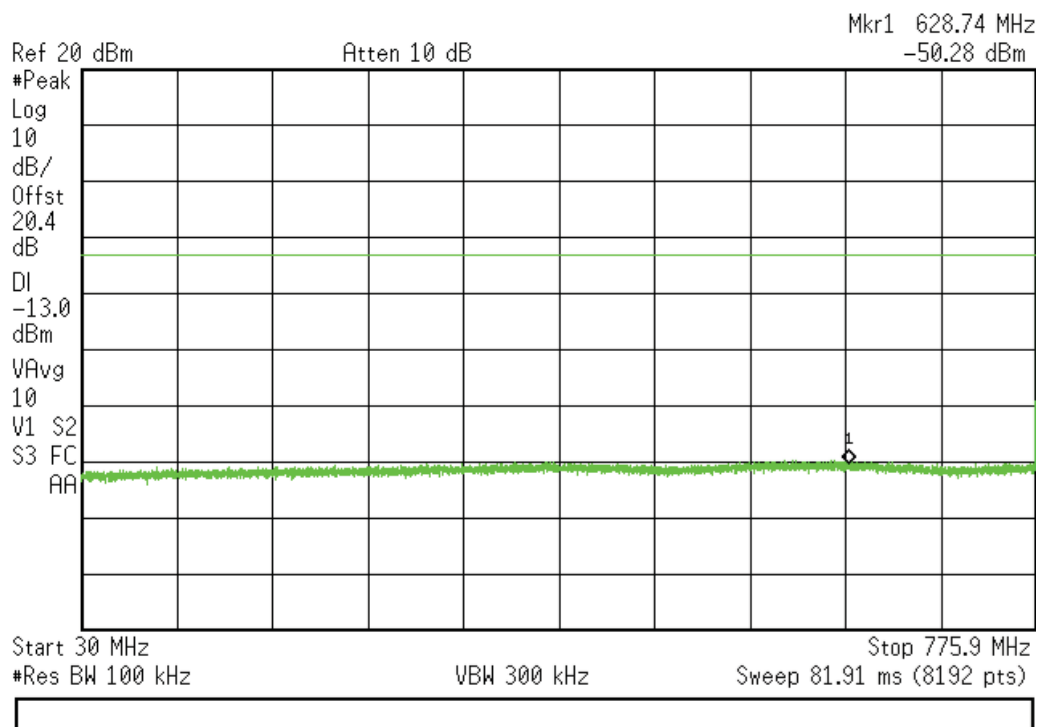




776-787 MHz Band (Low Frequency)

Agilent 17:04:22 Aug 11, 2014

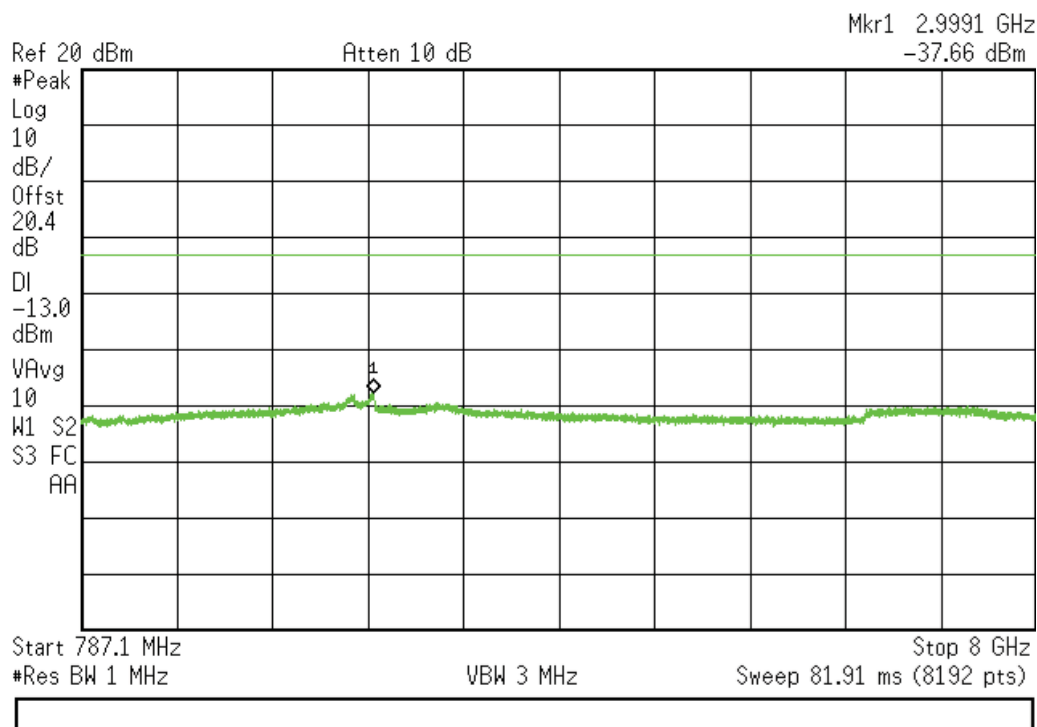
L



776-787 MHz Band (Low Frequency) (Cont)

Agilent 17:05:37 Aug 11, 2014

L

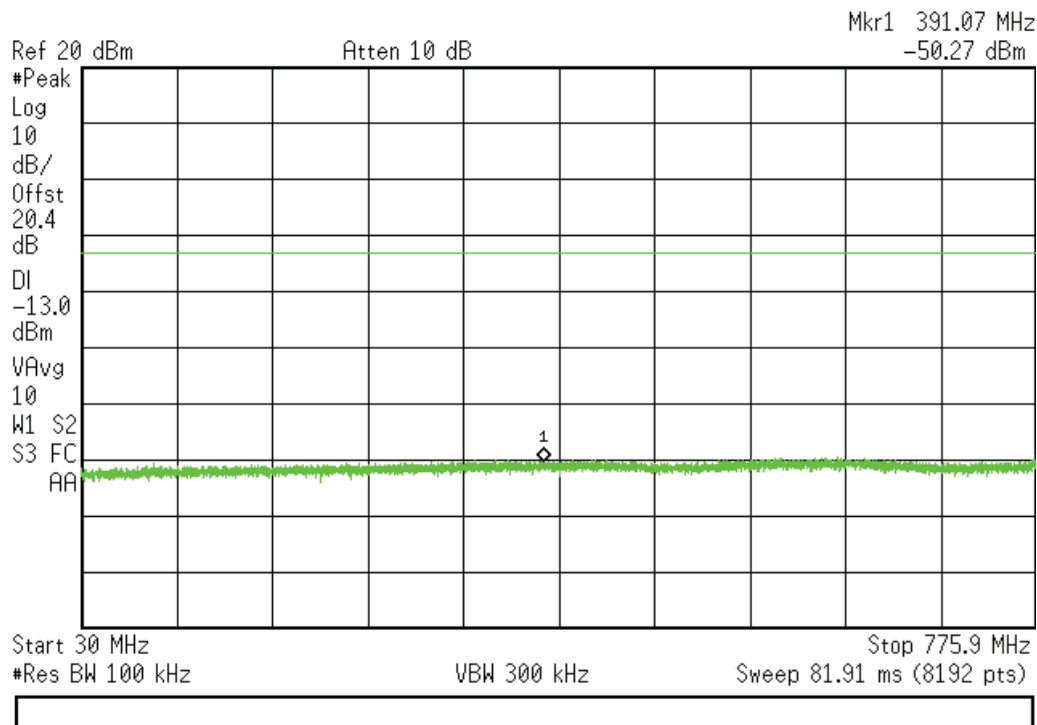




776-787 MHz Band (Mid Frequency)

Agilent 17:03:02 Aug 11, 2014

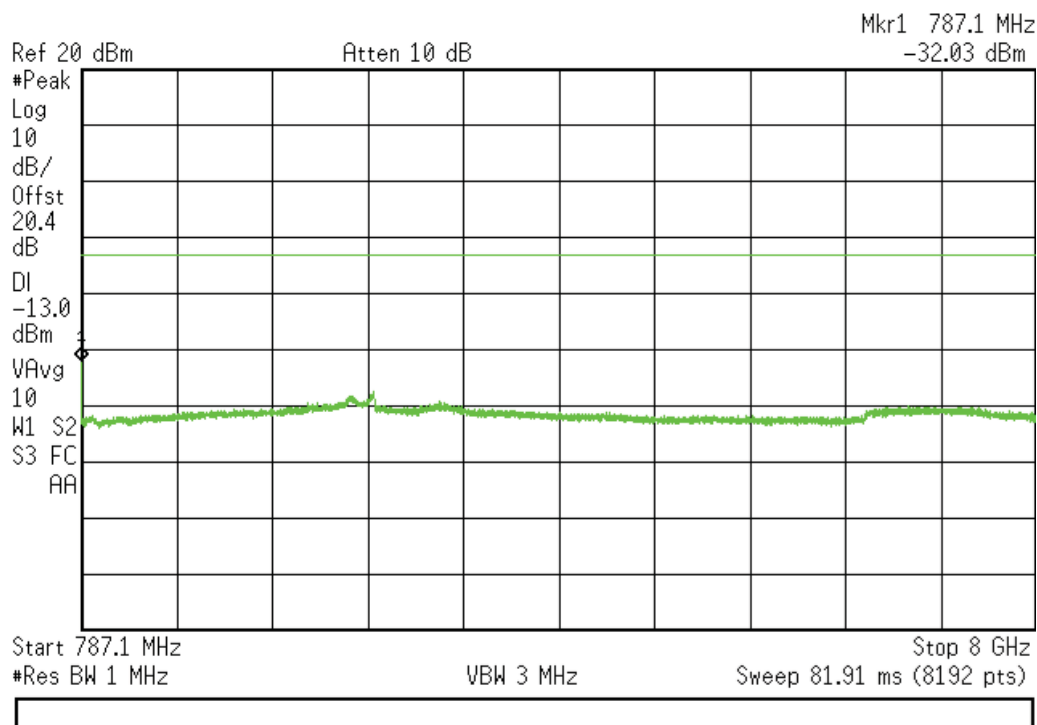
L



776-787 MHz Band (Mid Frequency) (Cont)

Agilent 17:06:35 Aug 11, 2014

L

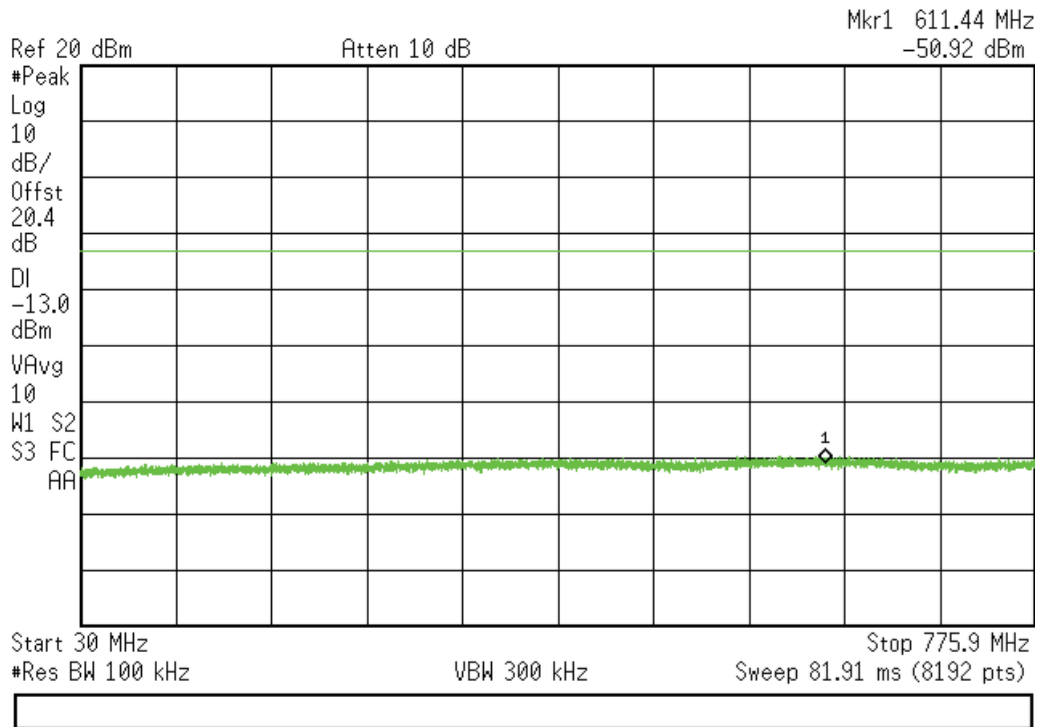




776-787 MHz Band (High Frequency)

Agilent 17:02:14 Aug 11, 2014

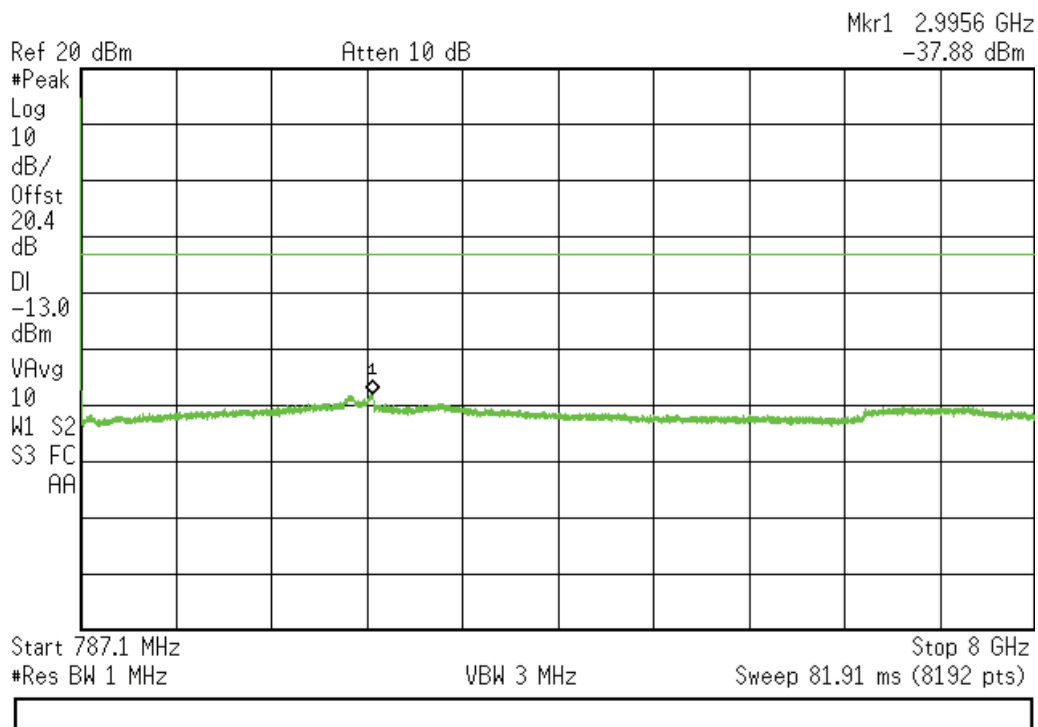
L



776-787 MHz Band (High Frequency) (Cont)

Agilent 17:08:06 Aug 11, 2014

L

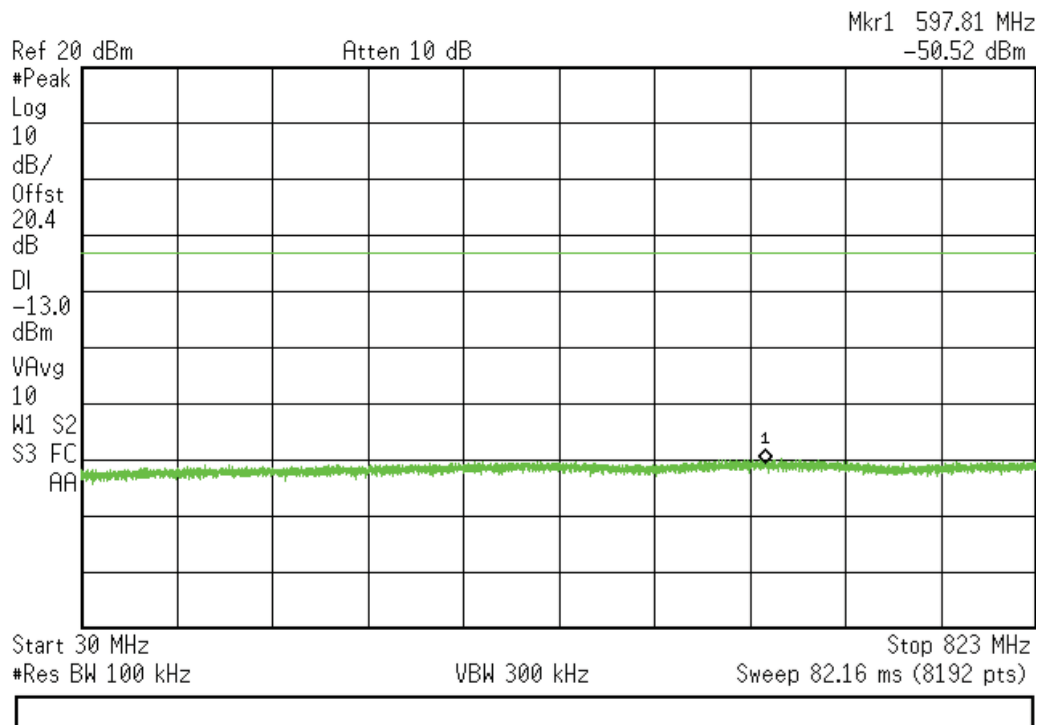




824-849 MHz Band (Low Frequency)

Agilent 17:21:25 Aug 11, 2014

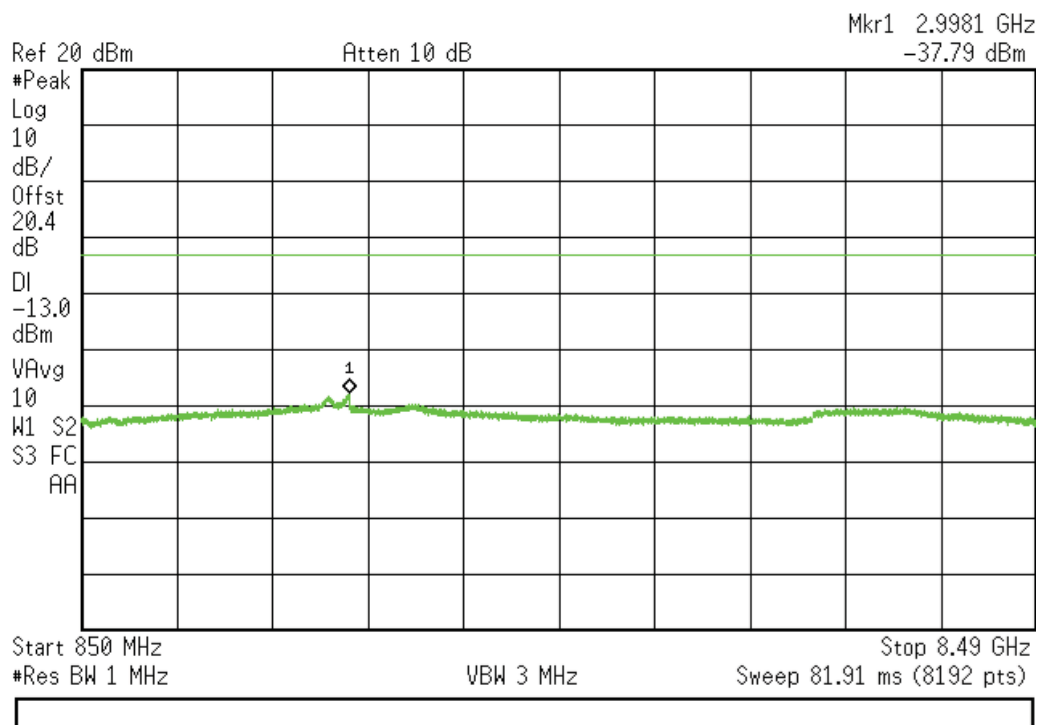
L



824-849 MHz Band (Low Frequency) (Cont)

Agilent 17:22:48 Aug 11, 2014

L

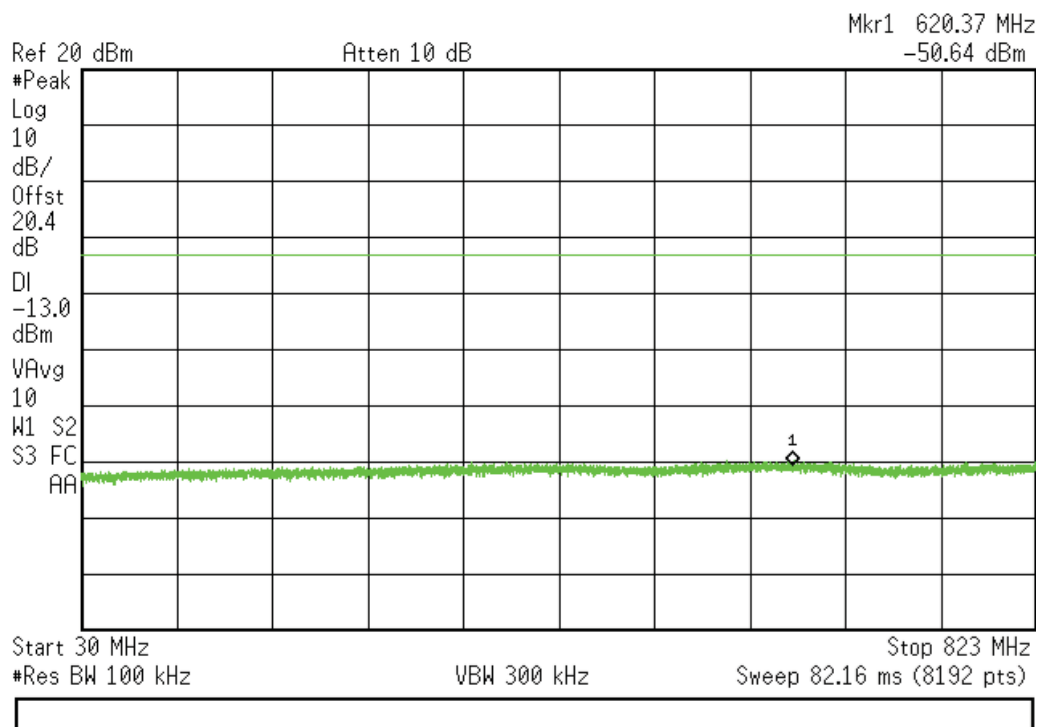




824-849 MHz Band (Mid Frequency)

Agilent 17:20:17 Aug 11, 2014

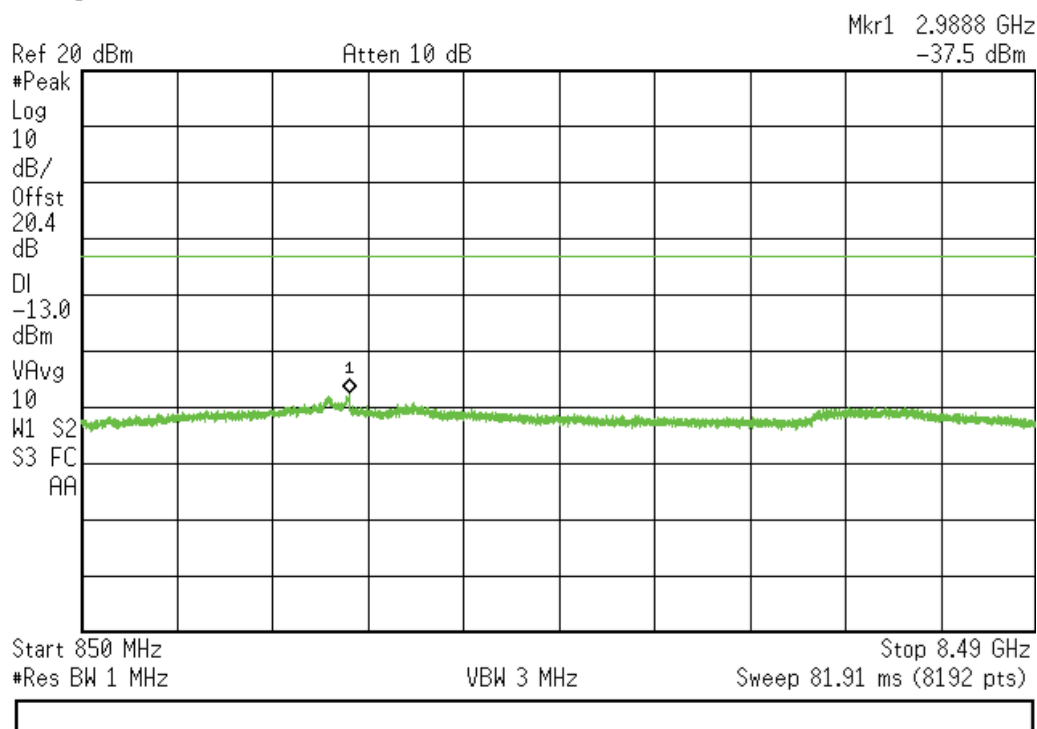
L



824-849 MHz Band (Mid Frequency) (Cont)

Agilent 17:23:39 Aug 11, 2014

L

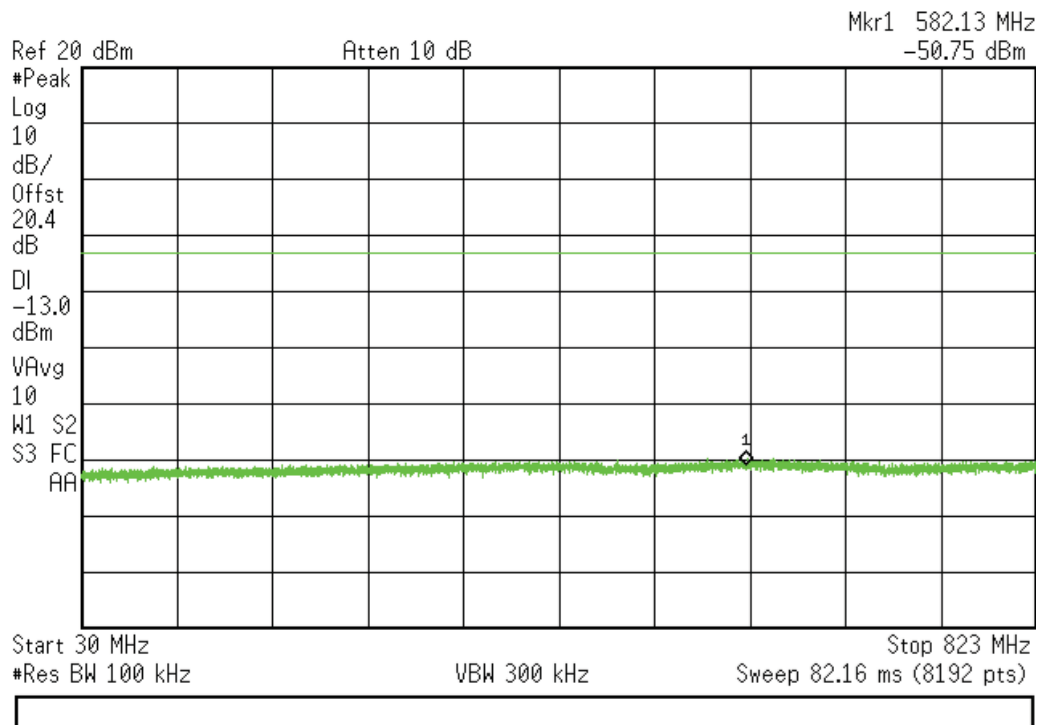




824-849 MHz Band (High Frequency)

Agilent 17:19:07 Aug 11, 2014

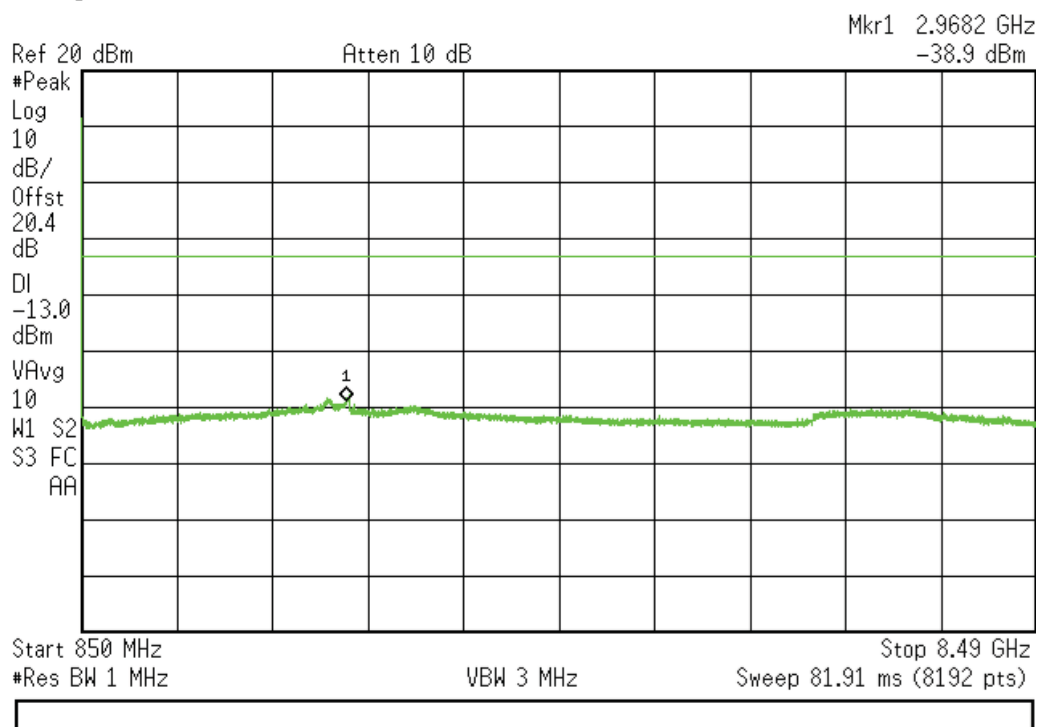
L



824-849 MHz Band (High Frequency) (Cont)

Agilent 17:24:51 Aug 11, 2014

L

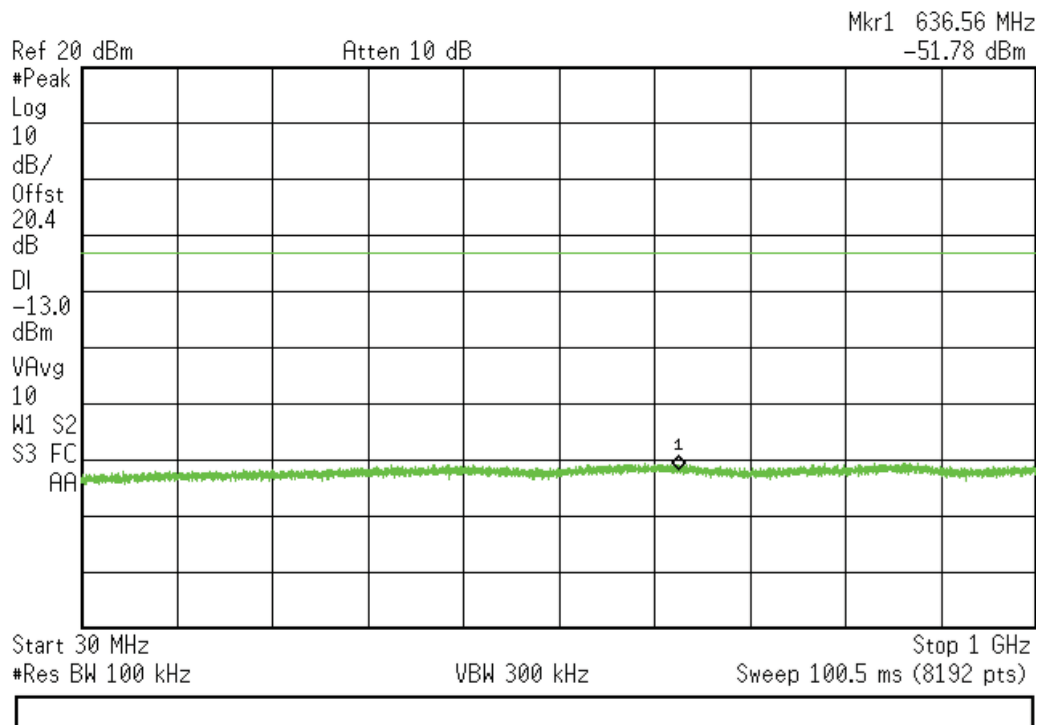




1710-1755 MHz Band (Low Frequency)

Agilent 17:54:05 Aug 11, 2014

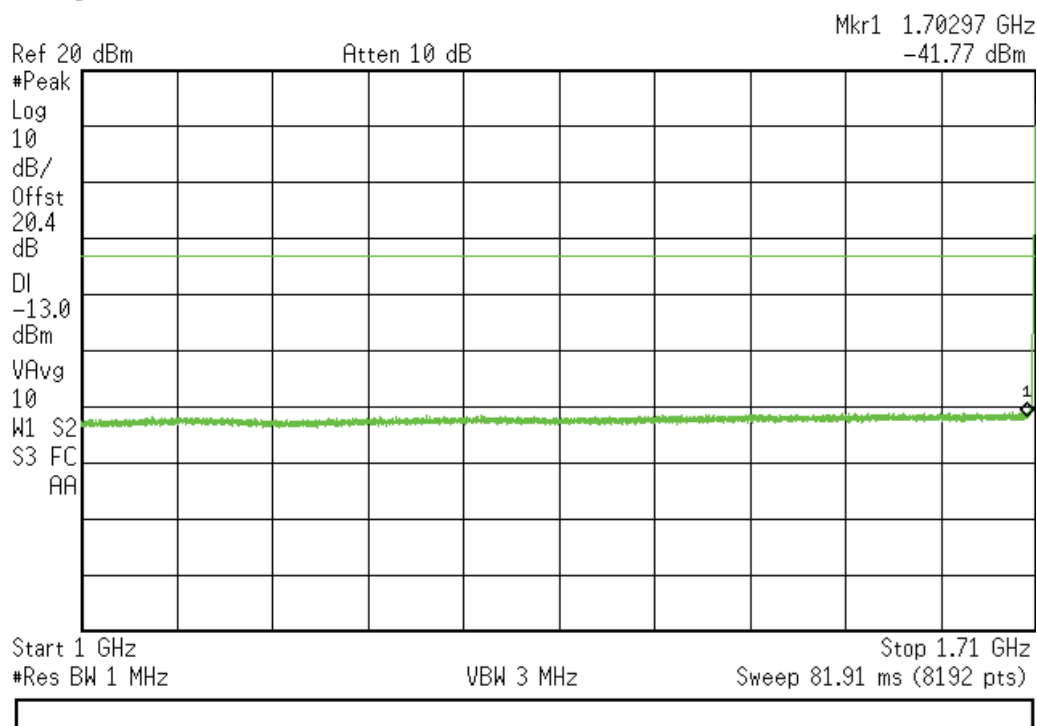
L



1710-1755 MHz Band (Low Frequency) (Cont)

Agilent 17:59:31 Aug 11, 2014

L

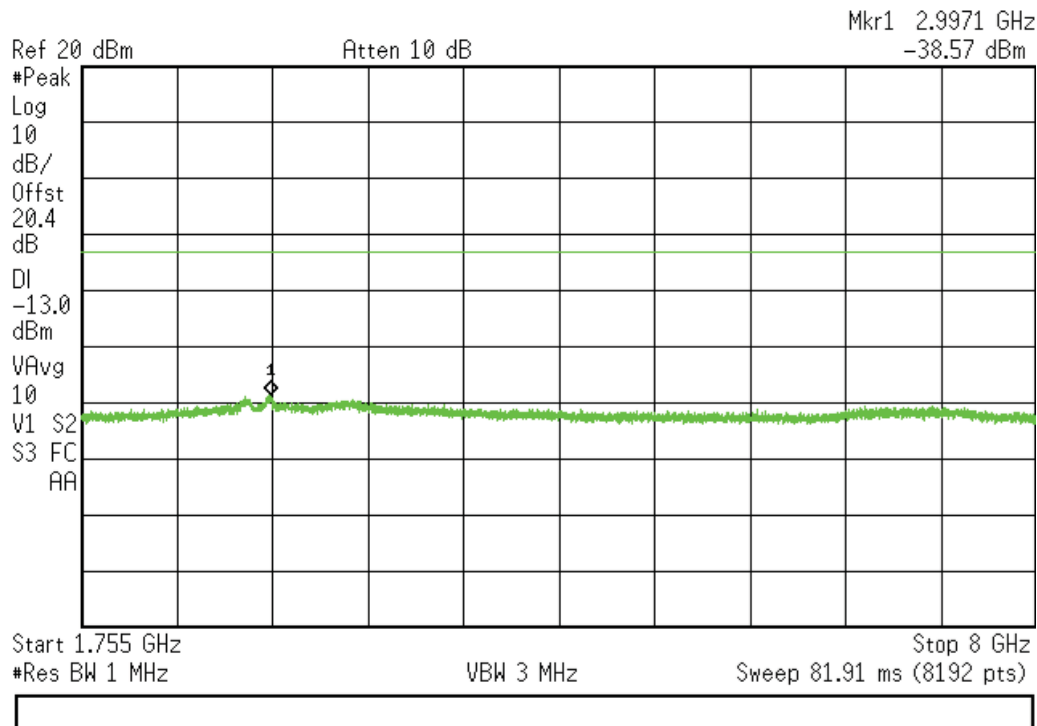




1710-1755 MHz Band (Low Frequency) (Cont)

Agilent 18:00:57 Aug 11, 2014

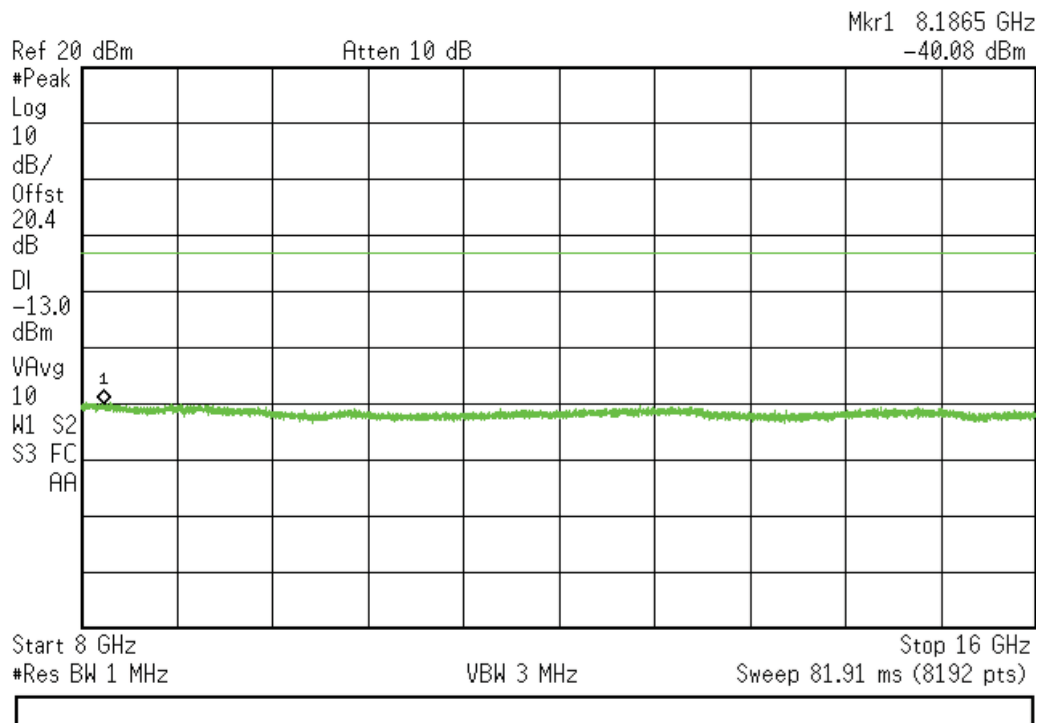
L



1710-1755 MHz Band (Low Frequency) (Cont)

Agilent 18:01:32 Aug 11, 2014

L

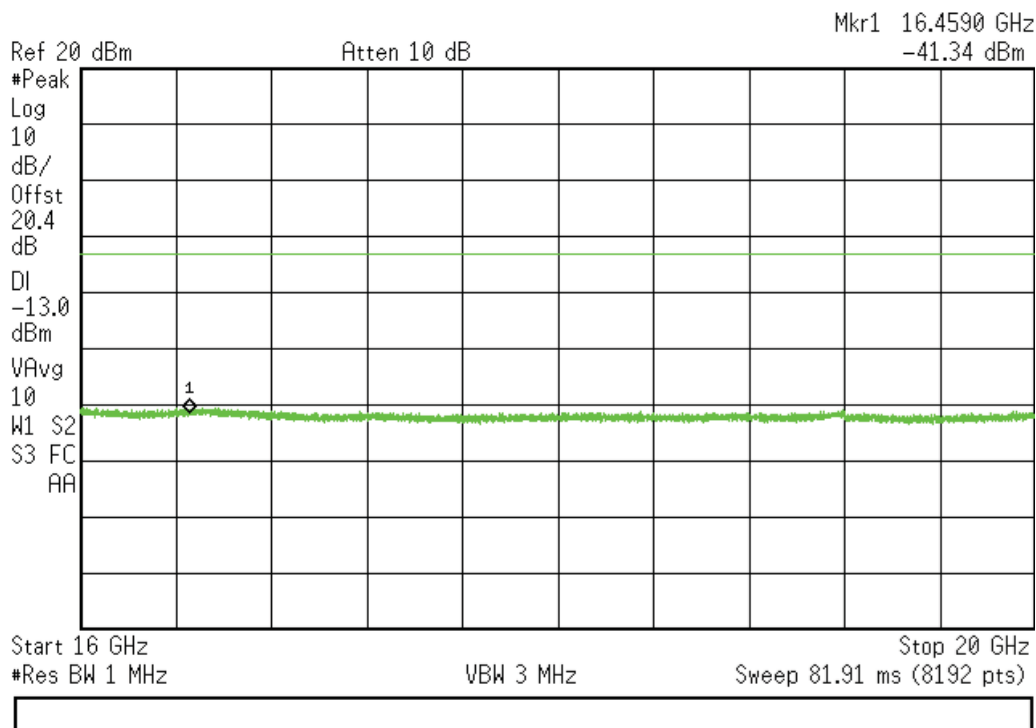




1710-1755 MHz Band (Low Frequency) (Cont)

Agilent 18:02:13 Aug 11, 2014

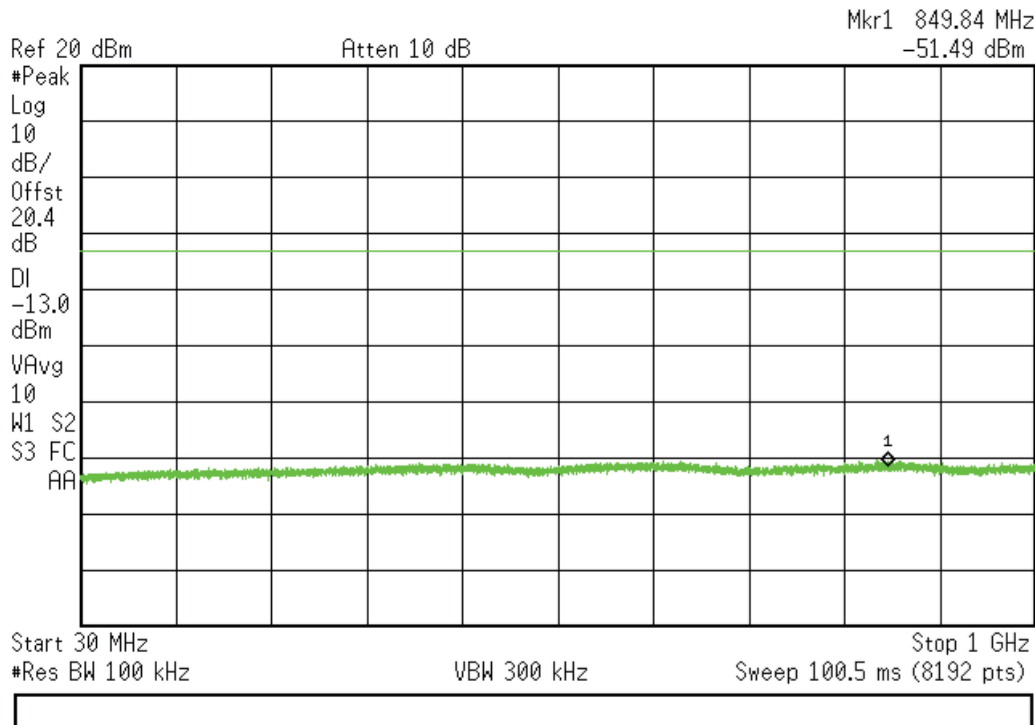
L



1710-1755 MHz Band (Mid Frequency)

Agilent 18:04:58 Aug 11, 2014

L

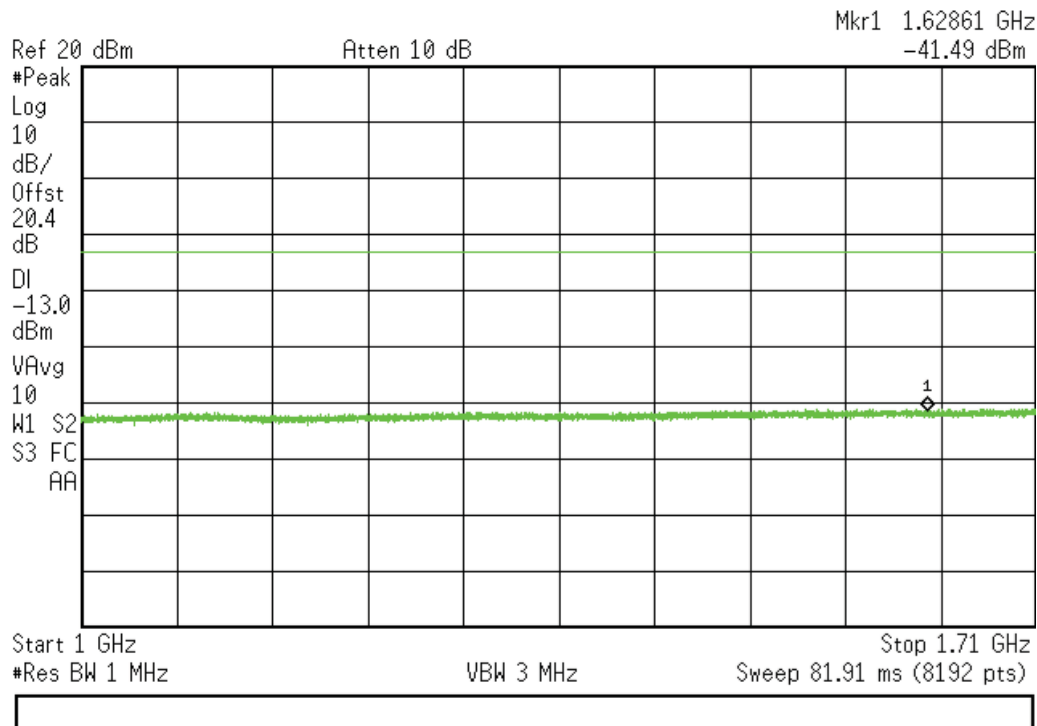




1710-1755 MHz Band (Mid Frequency) (Cont)

Agilent 18:05:55 Aug 11, 2014

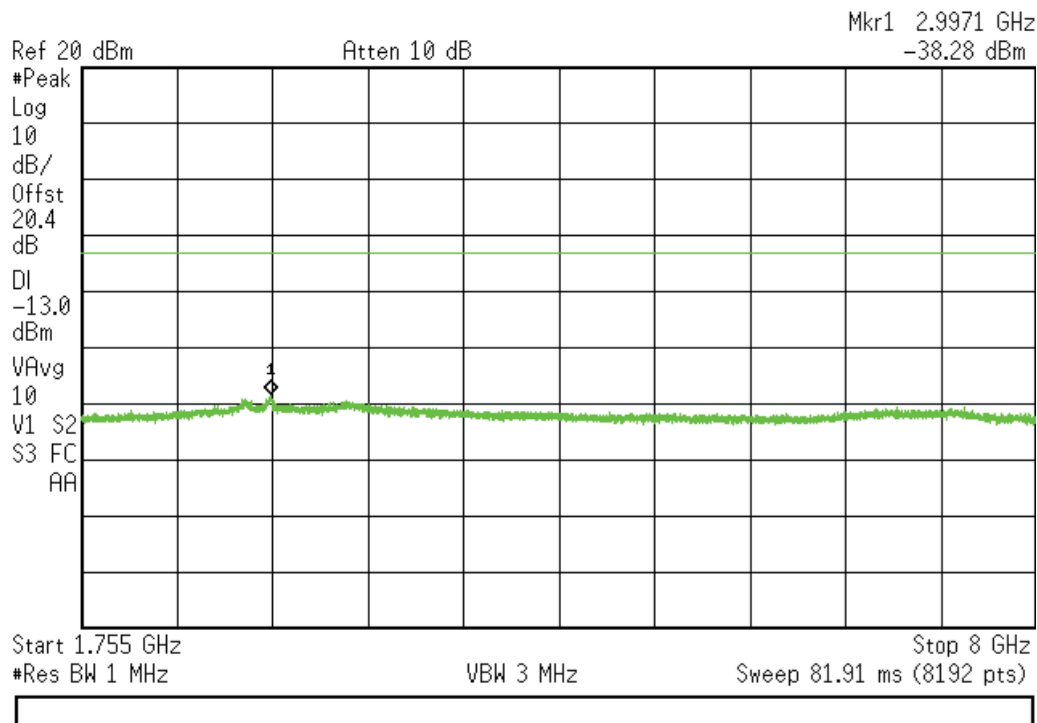
L



1710-1755 MHz Band (Mid Frequency) (Cont)

Agilent 18:06:59 Aug 11, 2014

L



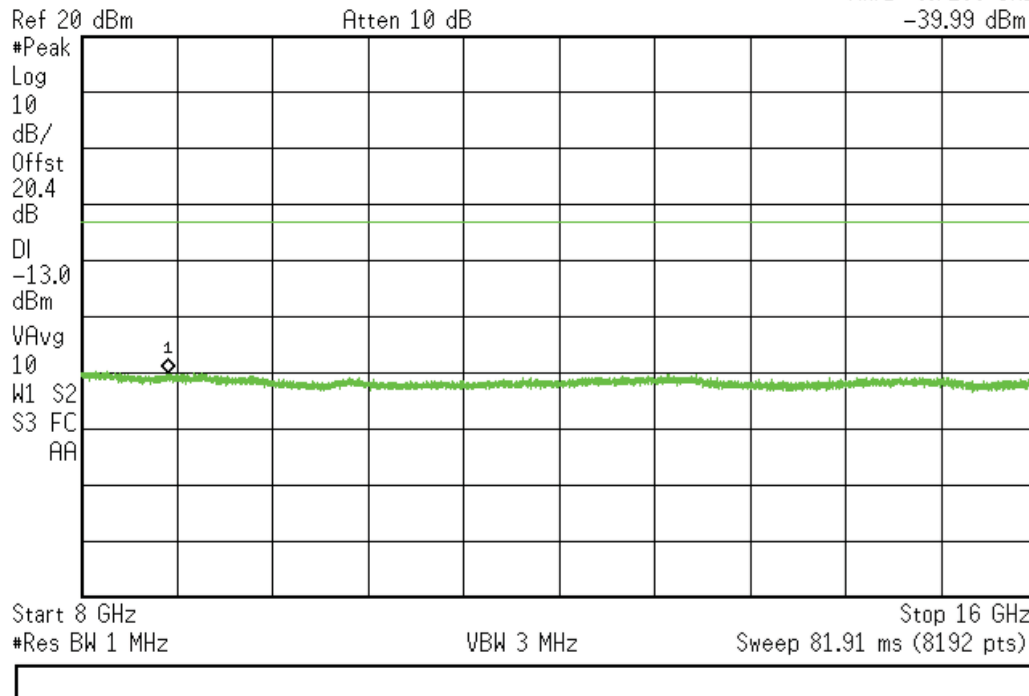


1710-1755 MHz Band (Mid Frequency) (Cont)

Agilent 18:03:44 Aug 11, 2014

L

Mkr1 8.7286 GHz
-39.99 dBm

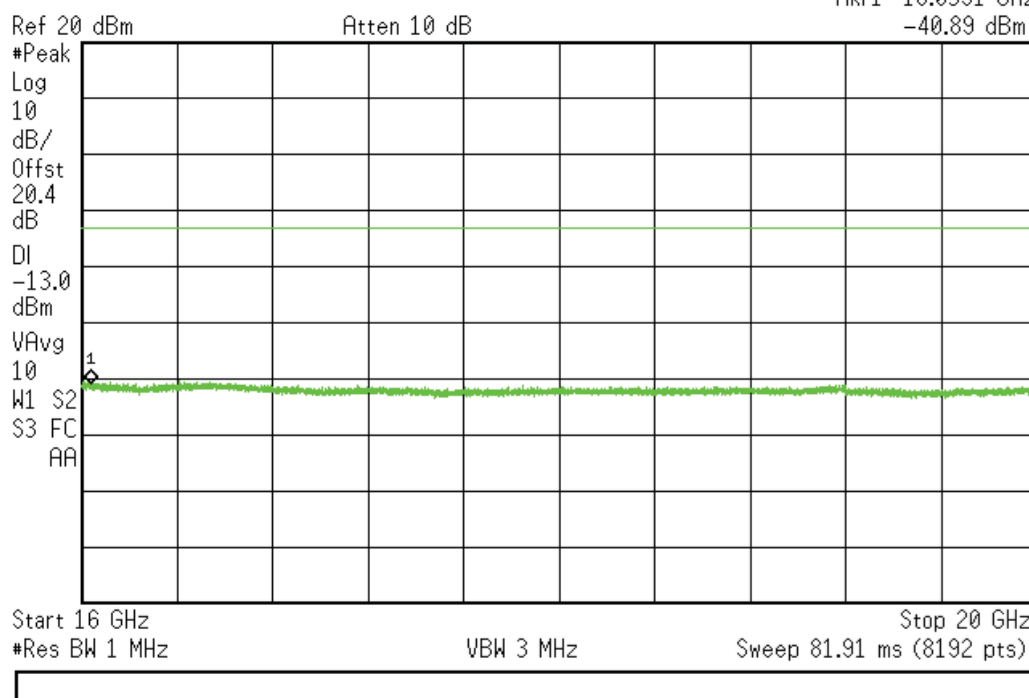


1710-1755 MHz Band (Mid Frequency) (Cont)

Agilent 18:03:06 Aug 11, 2014

L

Mkr1 16.0391 GHz
-40.89 dBm

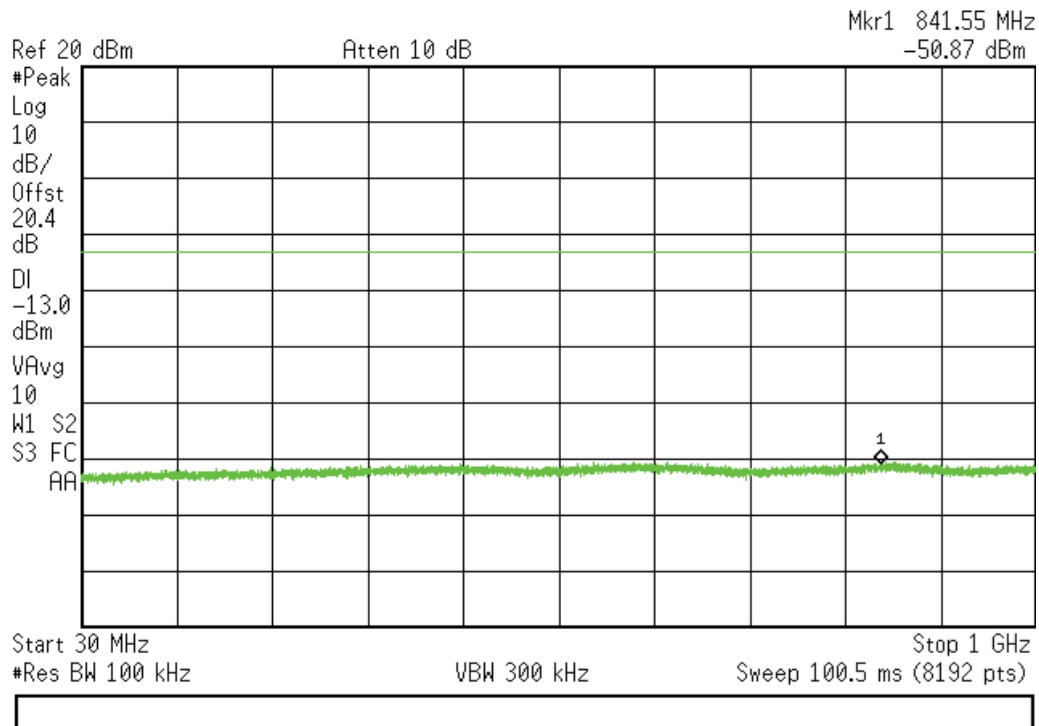




1710-1755 MHz Band (High Frequency)

Agilent 18:08:19 Aug 11, 2014

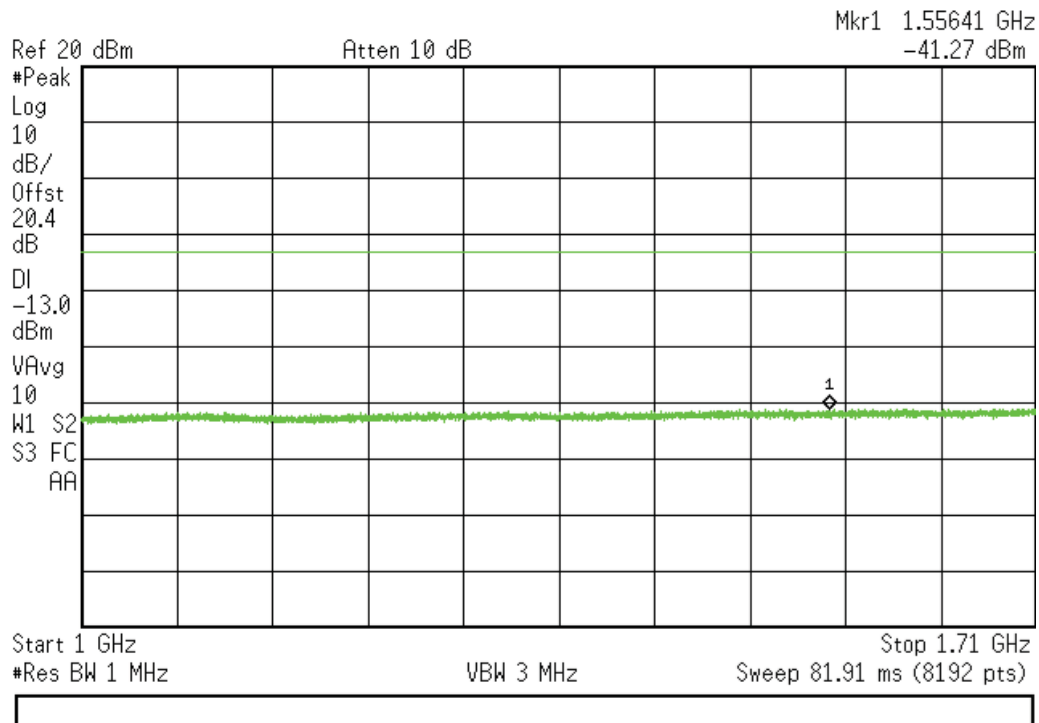
L



1710-1755 MHz Band (High Frequency) (Cont)

Agilent 18:09:22 Aug 11, 2014

L

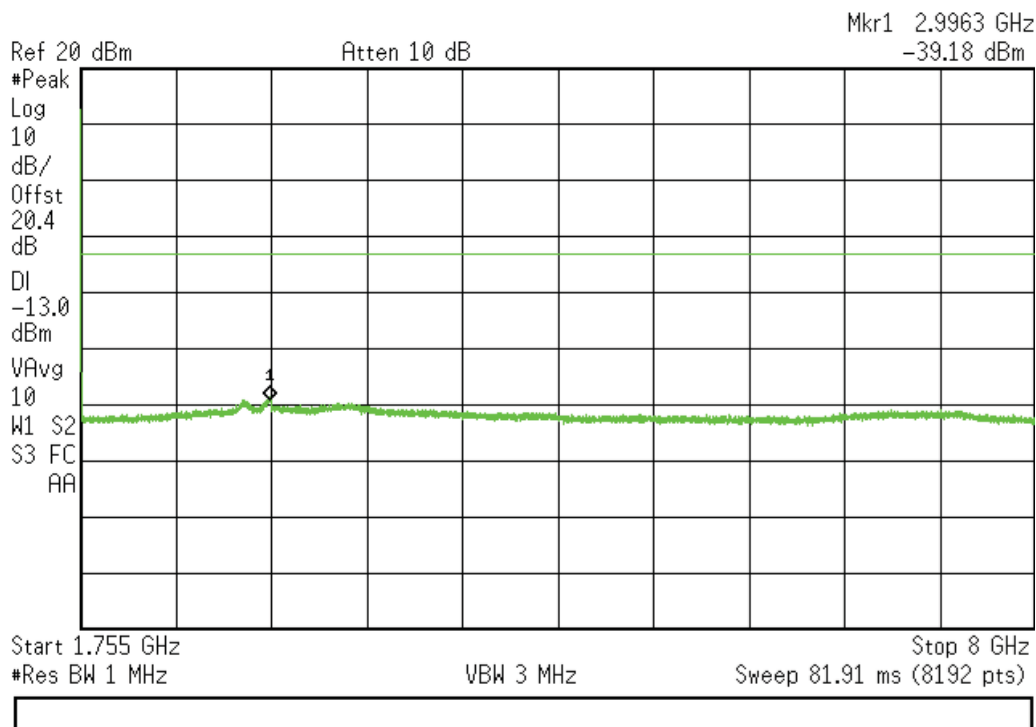




1710-1755 MHz Band (High Frequency) (Cont)

Agilent 18:10:35 Aug 11, 2014

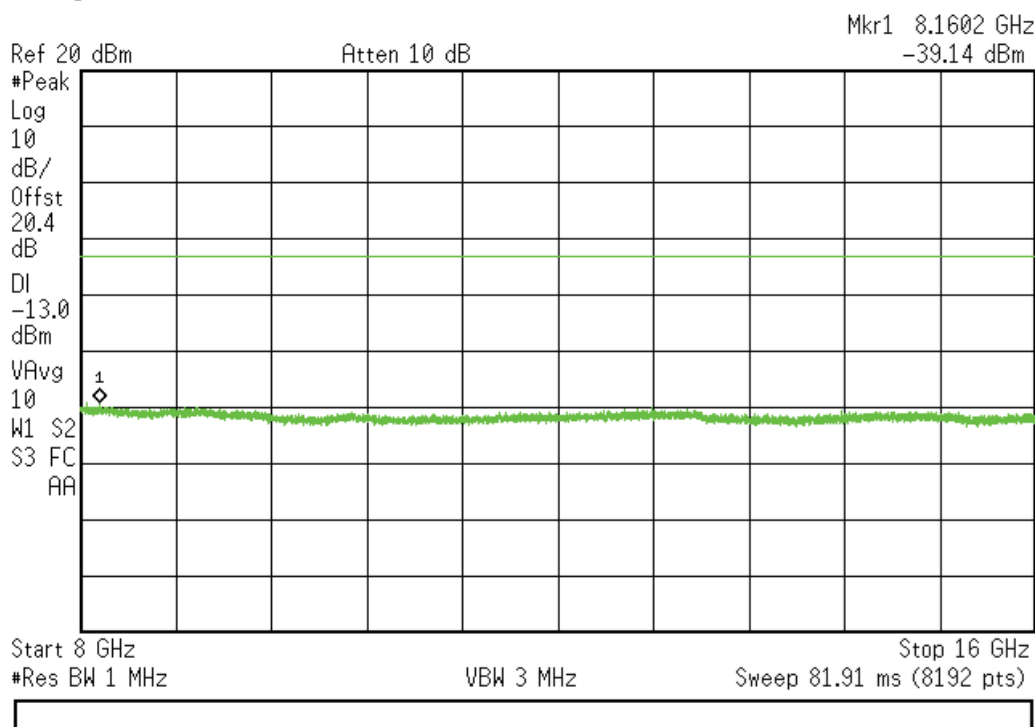
L



1710-1755 MHz Band (High Frequency) (Cont)

Agilent 18:11:13 Aug 11, 2014

L

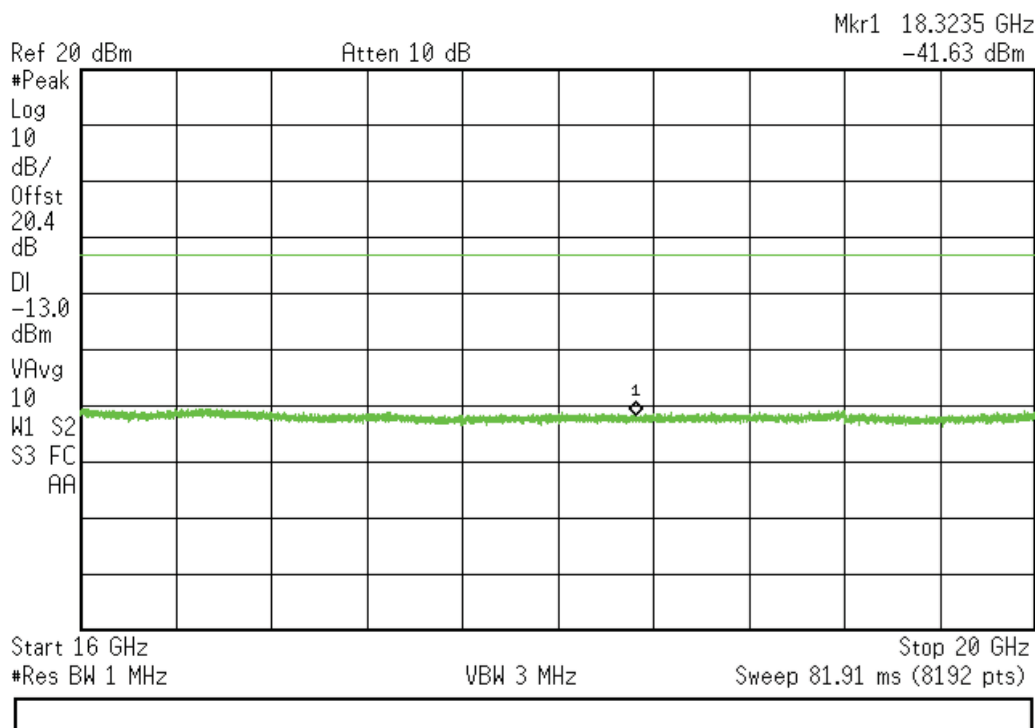




1710-1755 MHz Band (High Frequency) (Cont)

Agilent 18:11:52 Aug 11, 2014

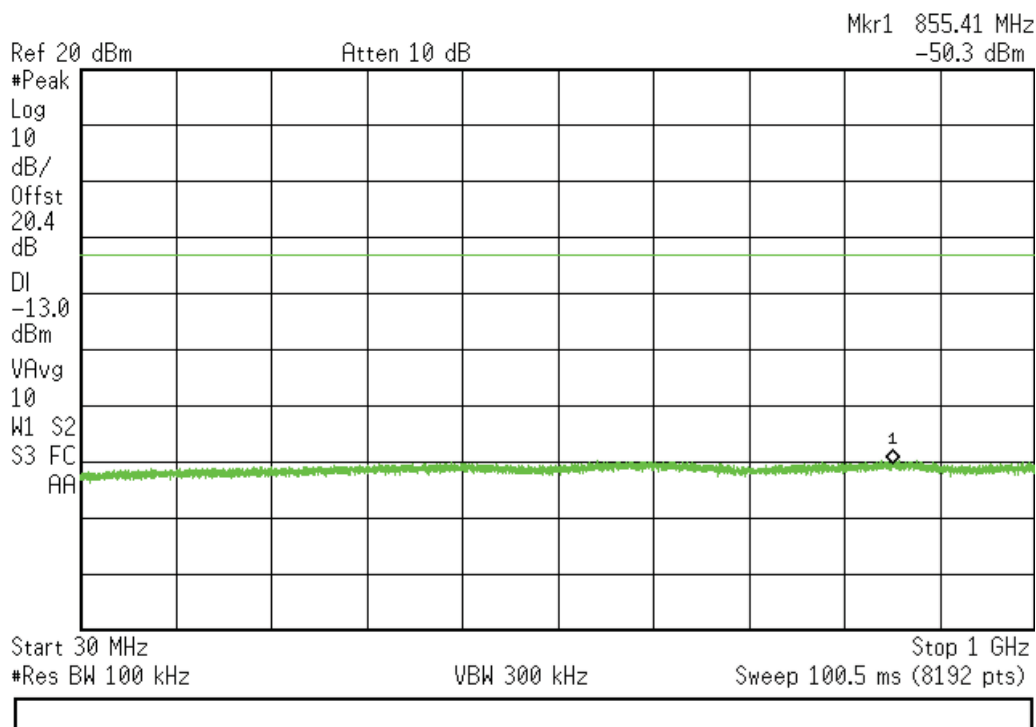
L



1850-1915 MHz Band (Low Frequency)

Agilent 18:17:24 Aug 11, 2014

L

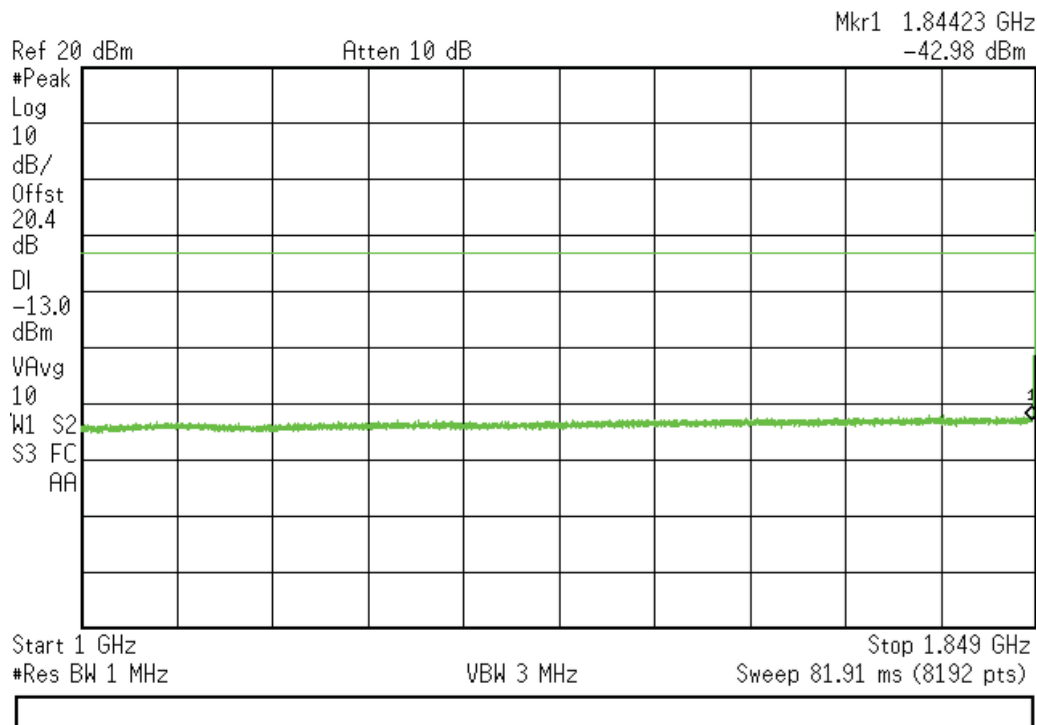




1850-1915 MHz Band (Low Frequency) (Cont)

Agilent 18:22:33 Aug 11, 2014

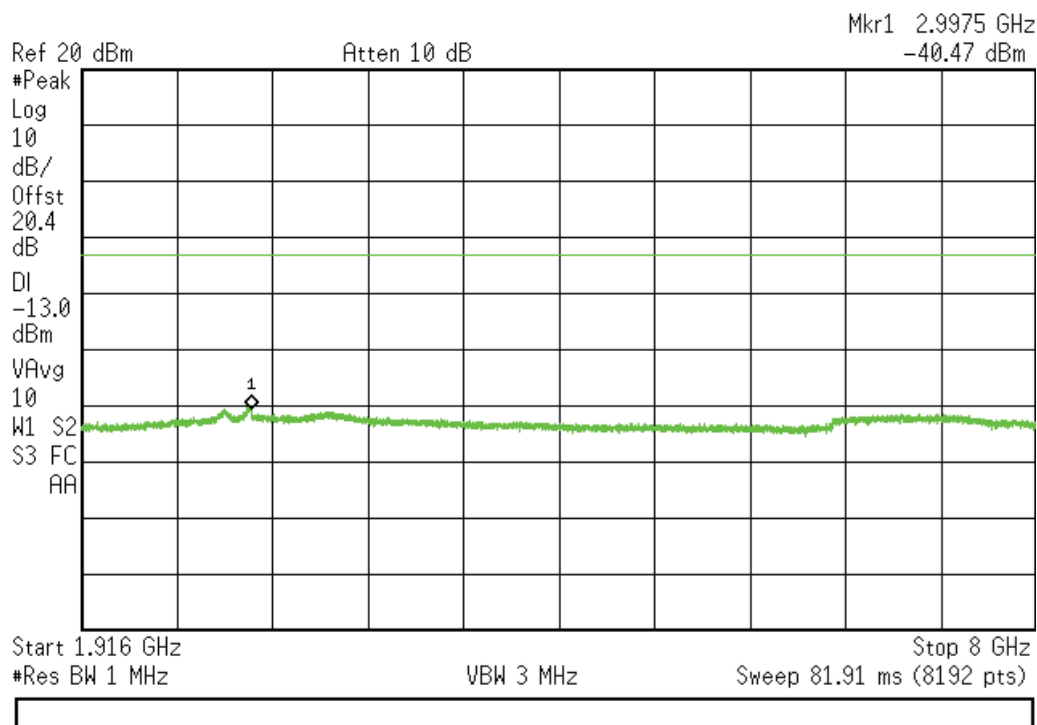
L



1850-1915 MHz Band (Low Frequency) (Cont)

Agilent 18:24:29 Aug 11, 2014

L

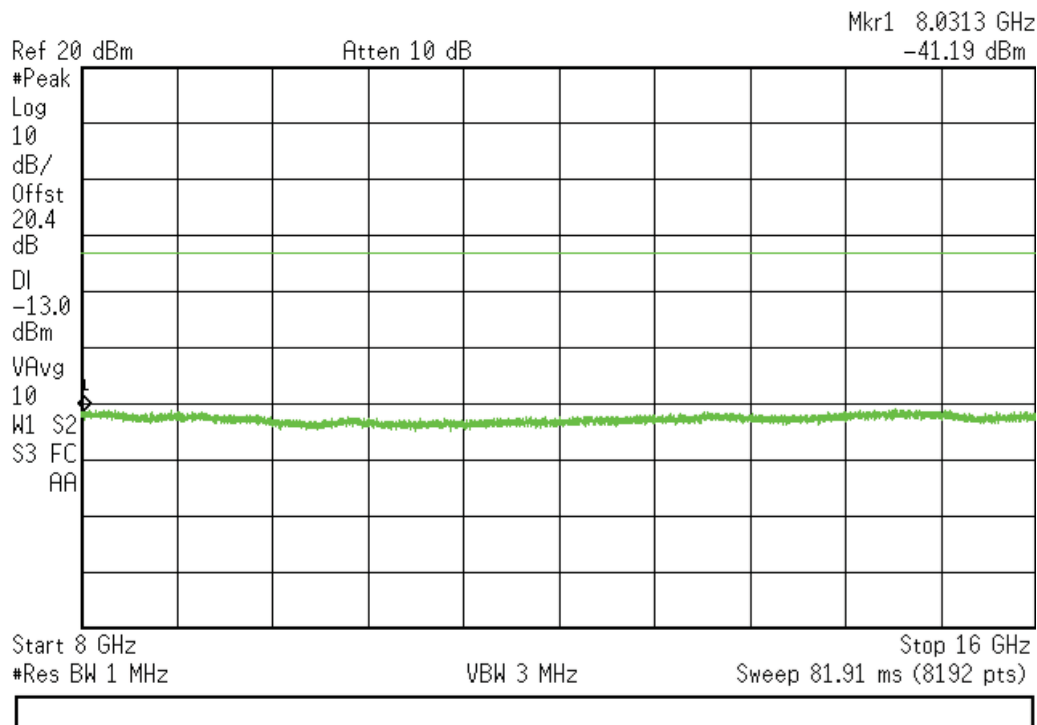




1850-1915 MHz Band (Low Frequency) (Cont)

Agilent 18:27:58 Aug 11, 2014

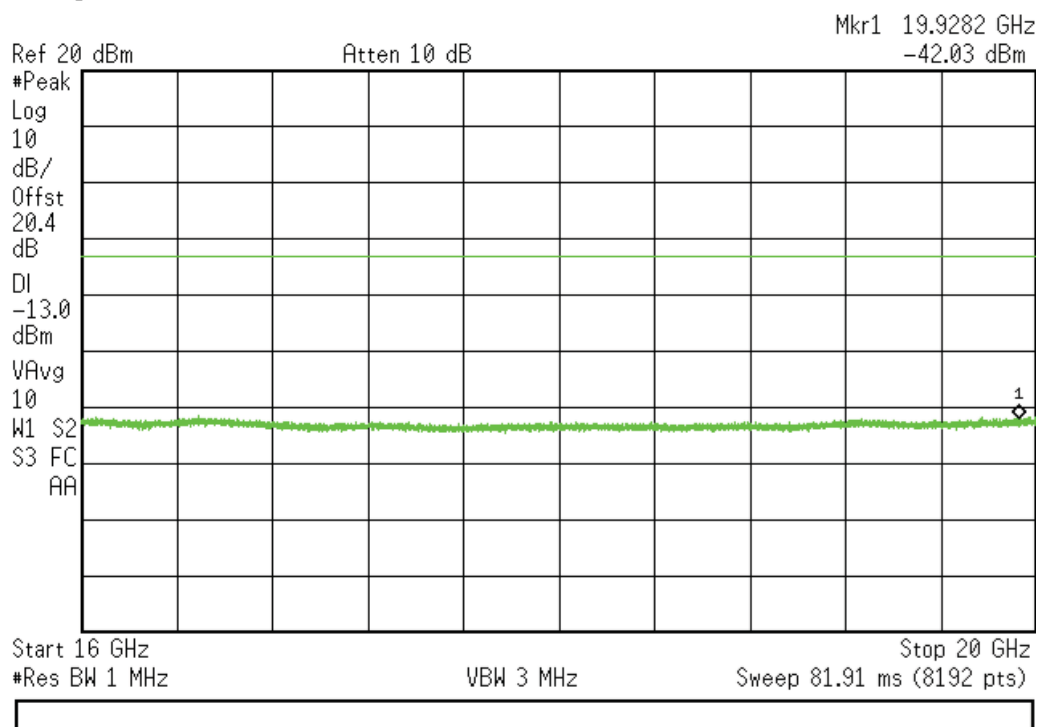
L



1850-1915 MHz Band (Low Frequency) (Cont)

Agilent 18:28:43 Aug 11, 2014

L



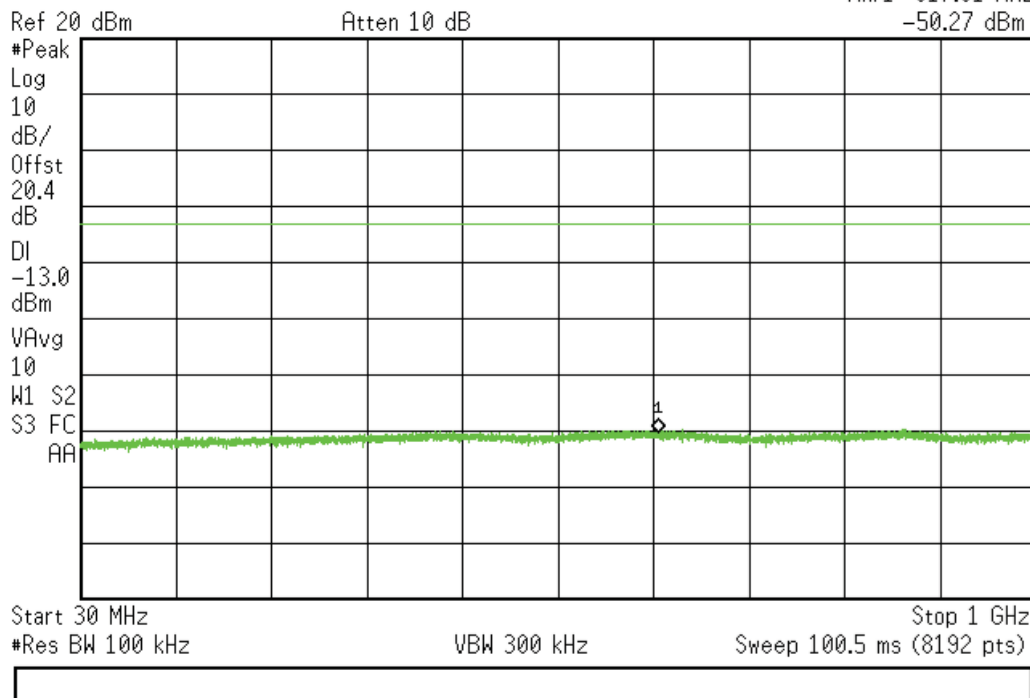


1850-1915 MHz Band (Mid Frequency)

Agilent 18:19:01 Aug 11, 2014

L

Mkr1 617.61 MHz
-50.27 dBm

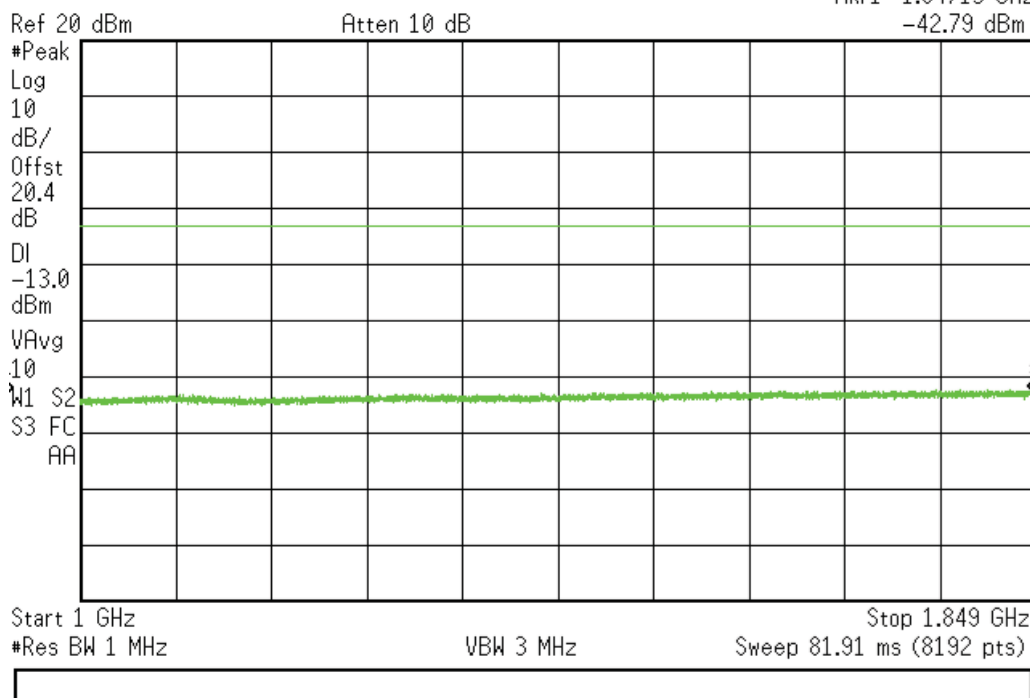


1850-1915 MHz Band (Mid Frequency) (Cont)

Agilent 18:21:39 Aug 11, 2014

L

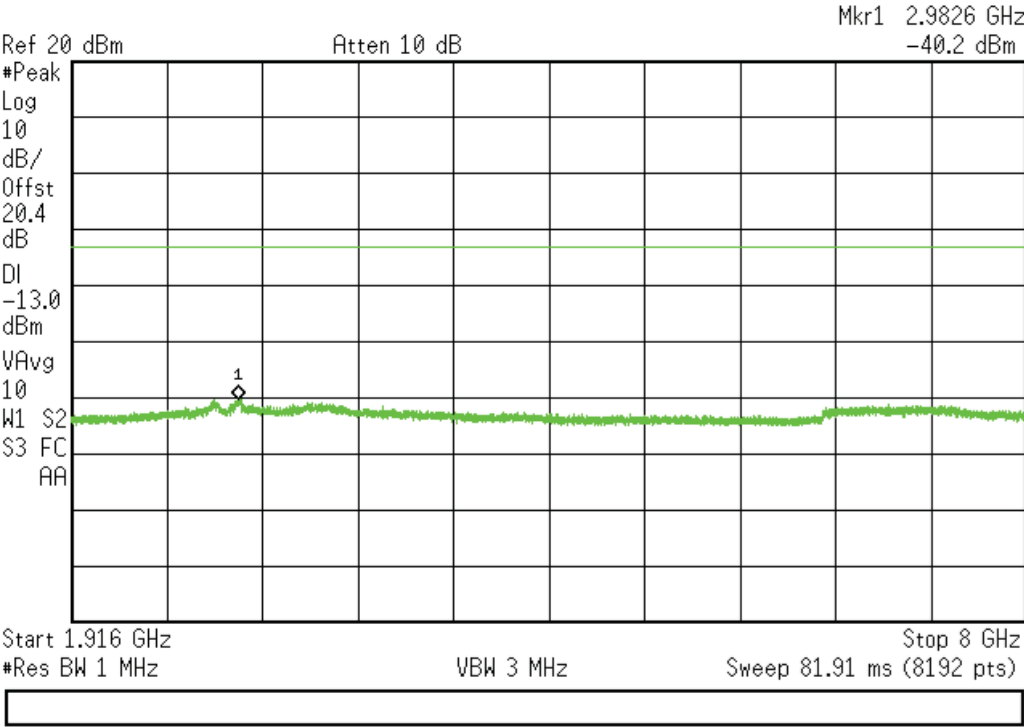
Mkr1 1.84713 GHz
-42.79 dBm



1850-1915 MHz Band (Mid Frequency) (Cont)

Agilent 18:25:28 Aug 11, 2014

L

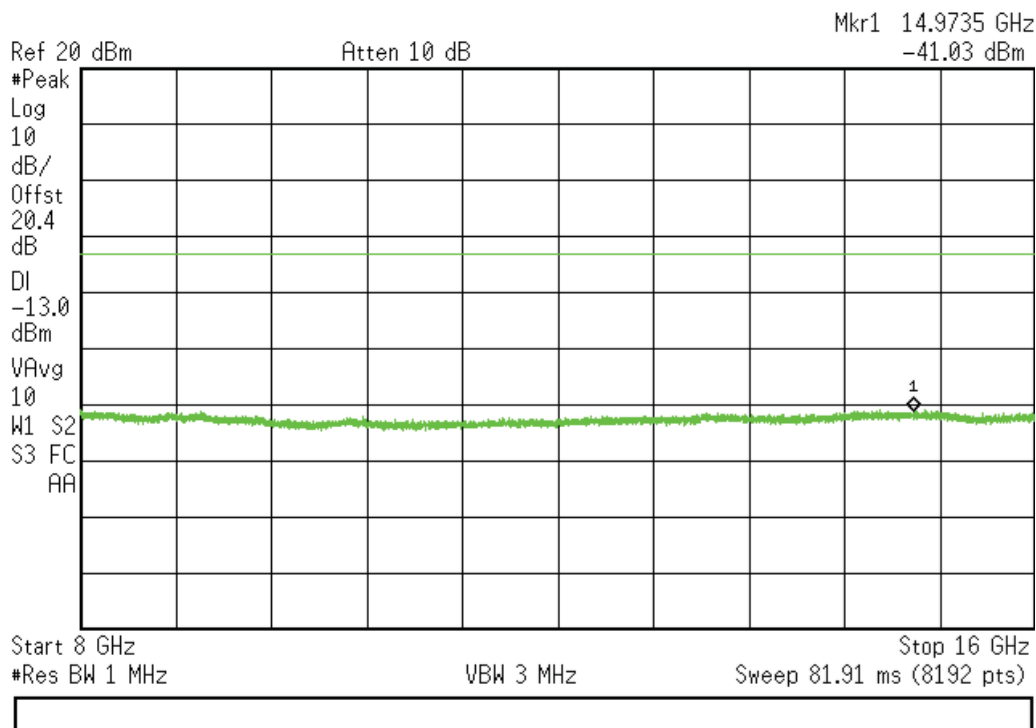




1850-1915 MHz Band (Mid Frequency) (Cont)

Agilent 18:27:25 Aug 11, 2014

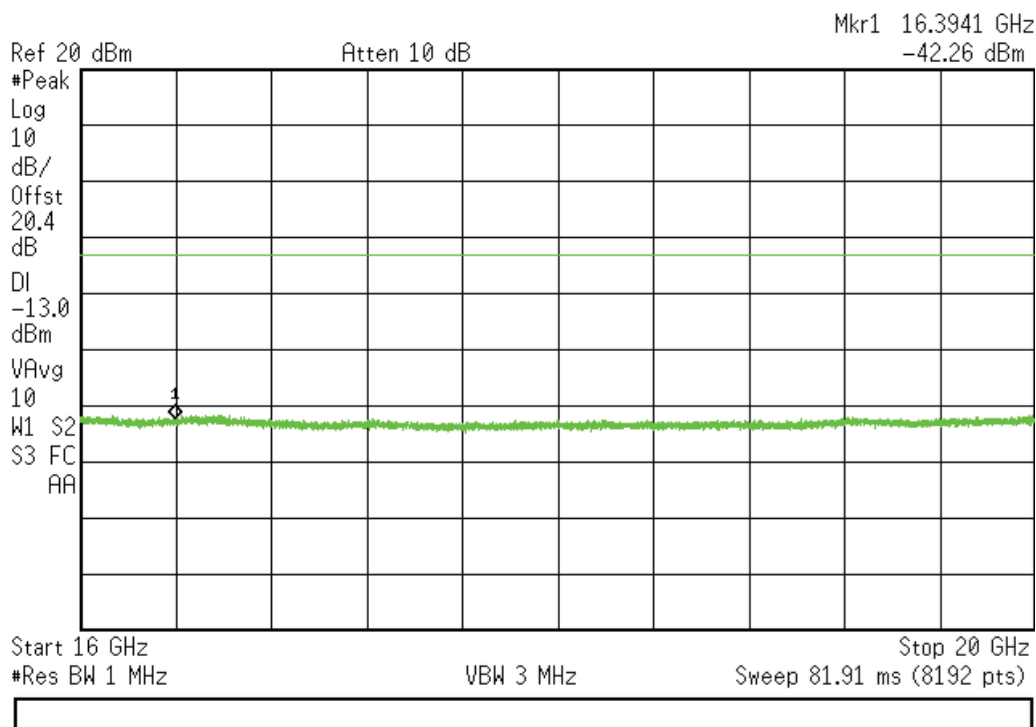
L



1850-1915 MHz Band (Mid Frequency) (Cont)

Agilent 18:29:18 Aug 11, 2014

L

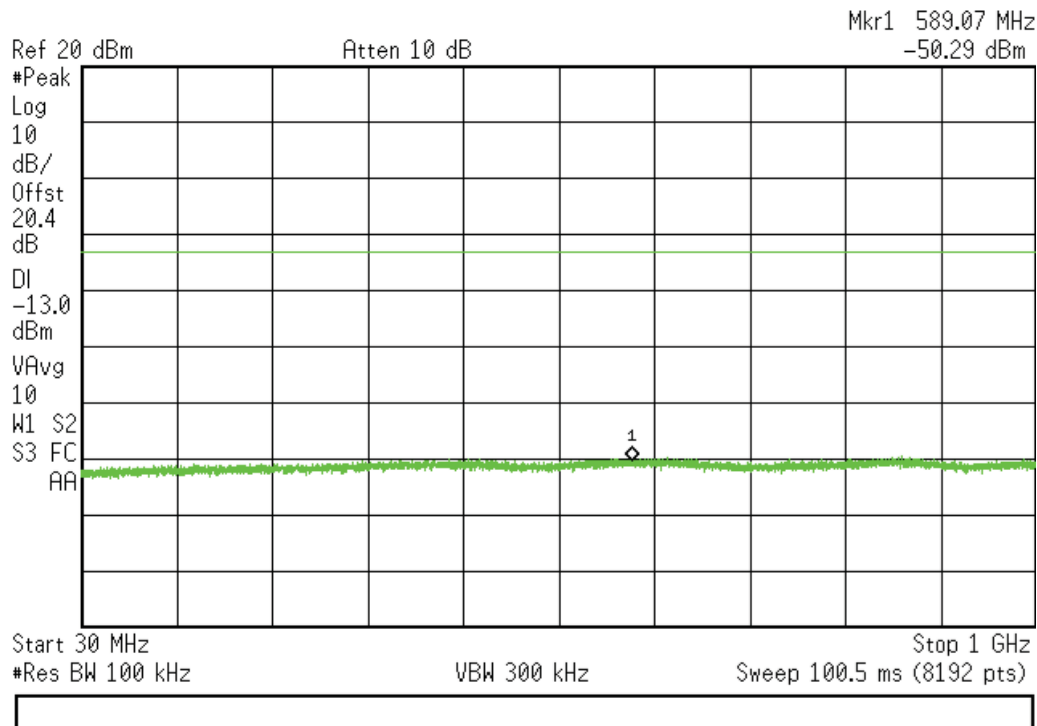




1850-1915 MHz Band (High Frequency)

Agilent 18:19:38 Aug 11, 2014

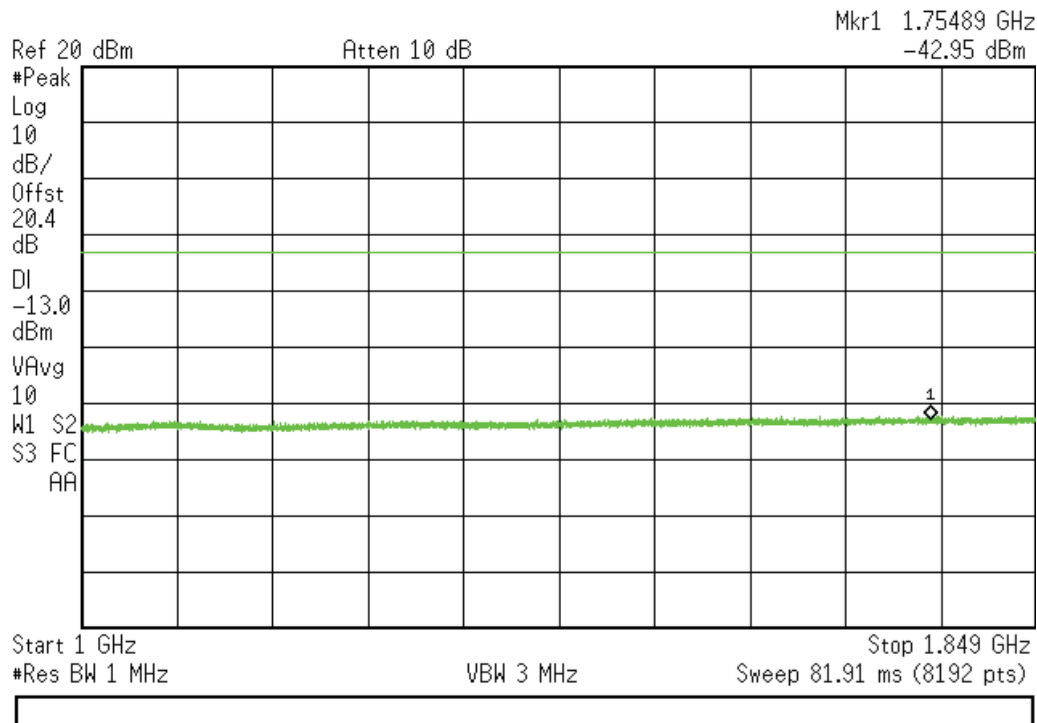
L



1850-1915 MHz Band (High Frequency) (Cont)

Agilent 18:20:51 Aug 11, 2014

L

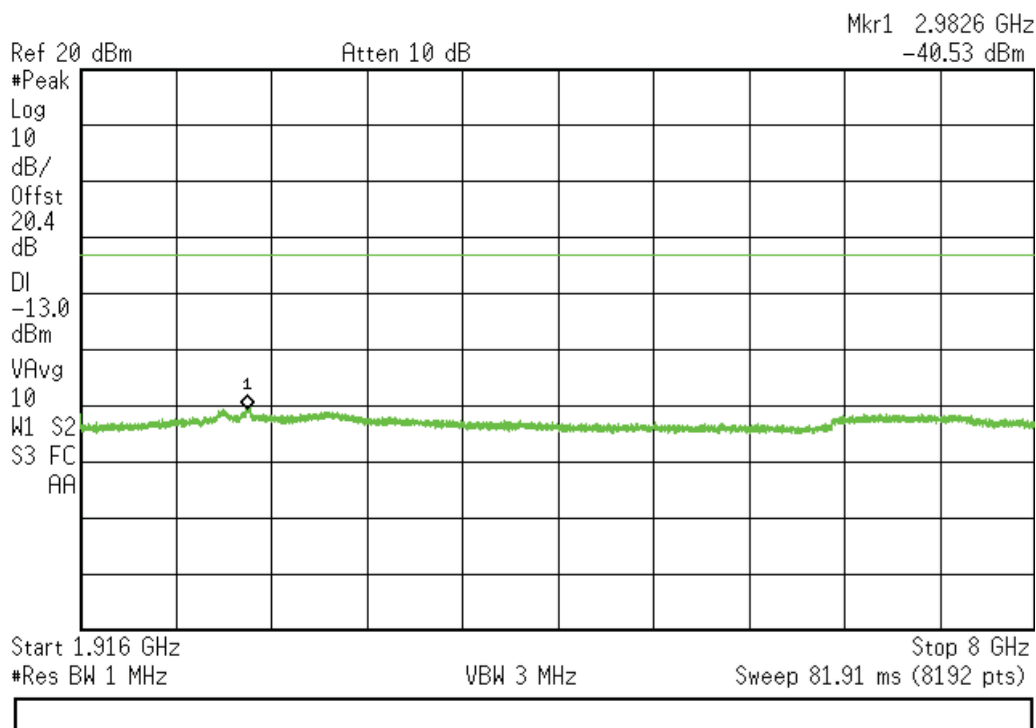




1850-1915 MHz Band (High Frequency) (Cont)

Agilent 18:26:07 Aug 11, 2014

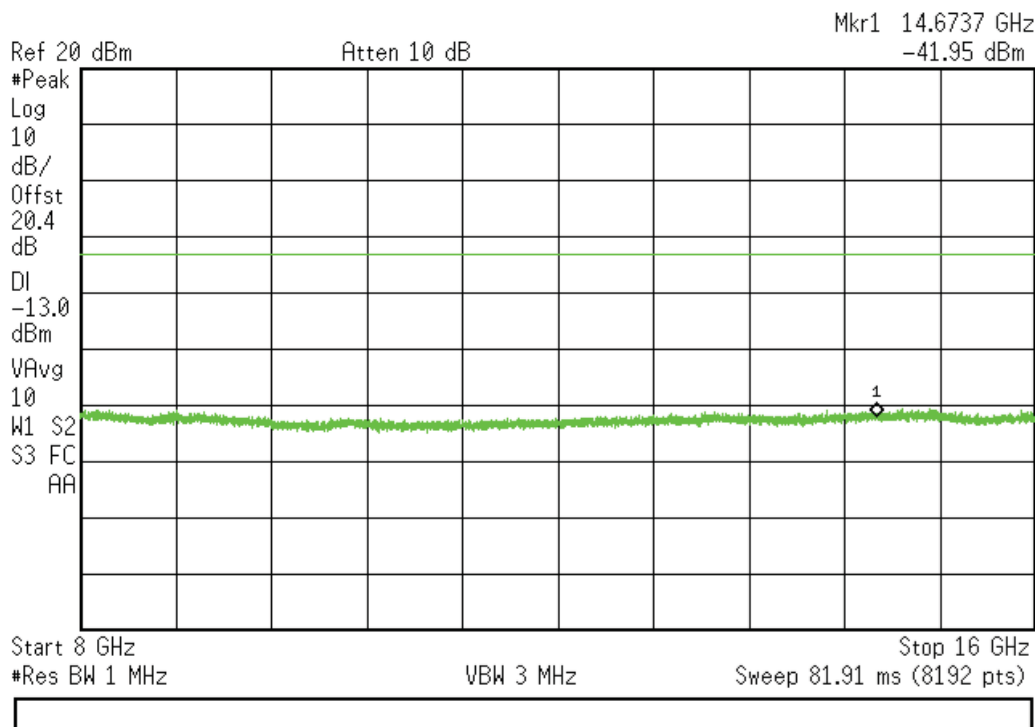
L



1850-1915 MHz Band (High Frequency) (Cont)

Agilent 18:26:49 Aug 11, 2014

L



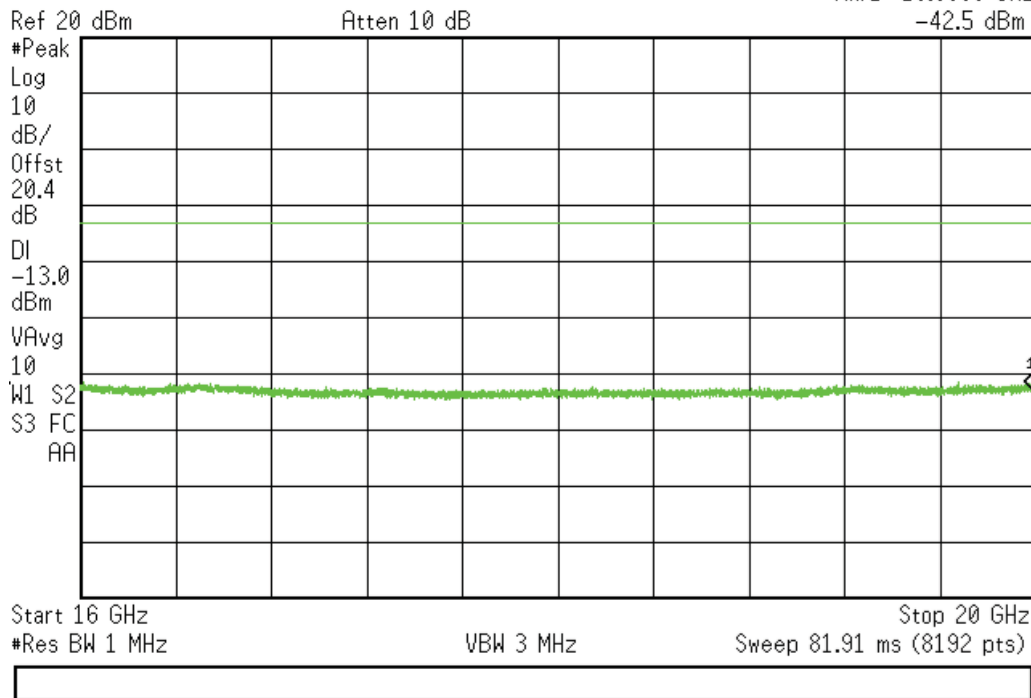


1850-1915 MHz Band (High Frequency) (Cont)

Agilent 18:29:45 Aug 11, 2014

L

Mkr1 19.9800 GHz
-42.5 dBm

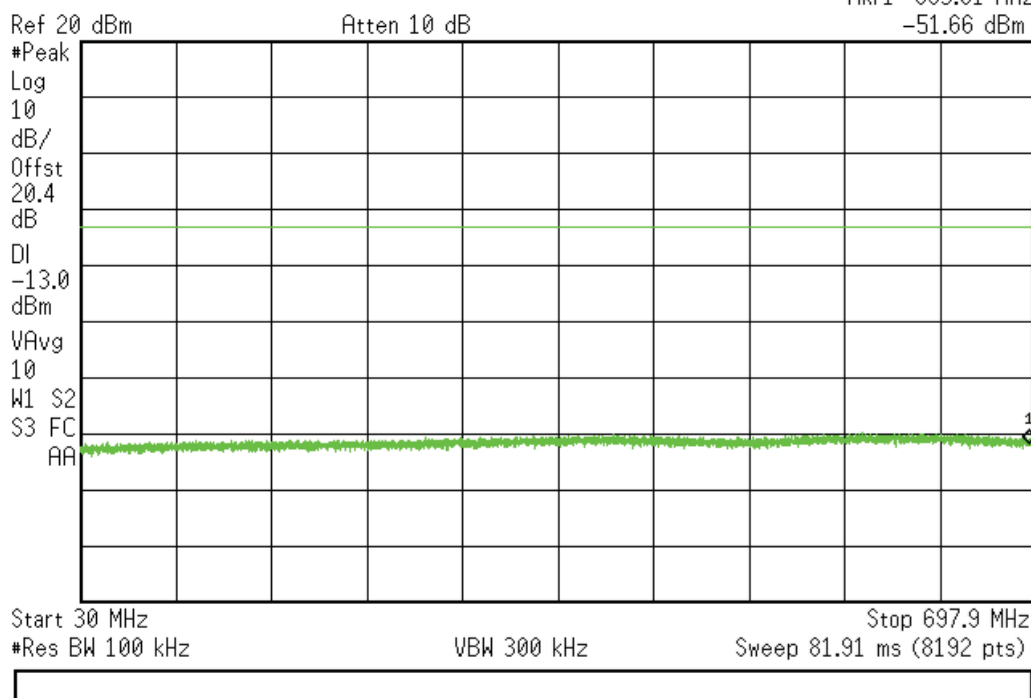


Uplink WCDMA Signal 698 - 716 MHz Band (Low Frequency)

Agilent 16:25:43 Aug 11, 2014

L

Mkr1 693.01 MHz
-51.66 dBm

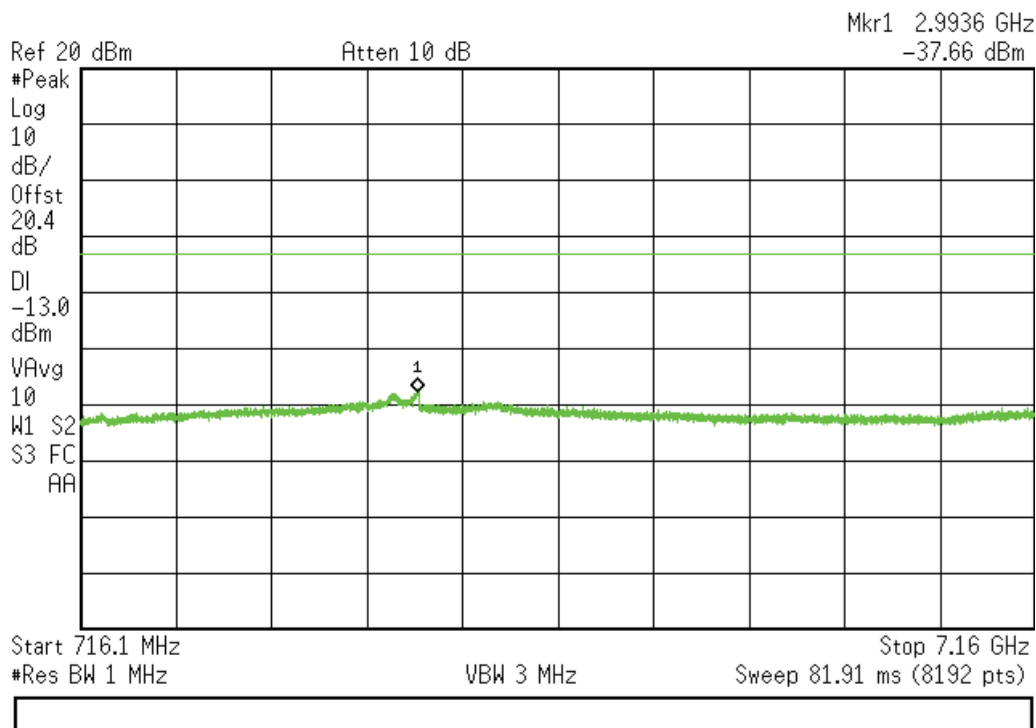




698 - 716 MHz Band (Low Frequency) (Cont)

Agilent 16:50:16 Aug 11, 2014

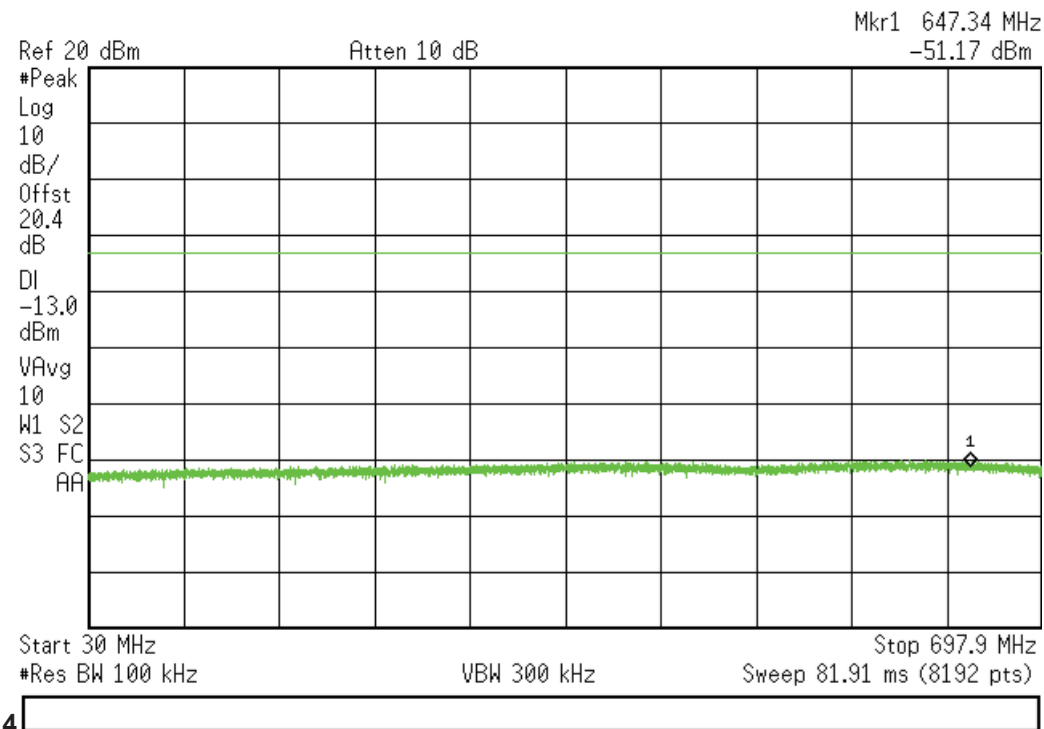
L



698 - 716 MHz Band (Mid Frequency)

Agilent 16:36:40 Aug 11, 2014

L



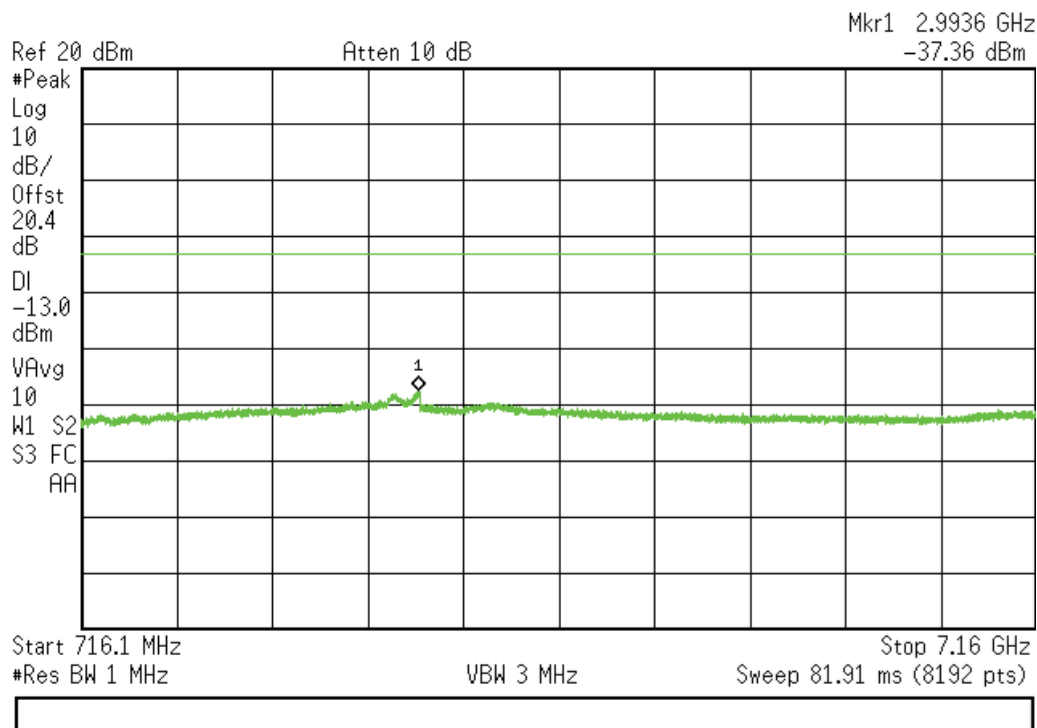
4



698 - 716 MHz Band (Mid Frequency) (Cont)

Agilent 16:49:31 Aug 11, 2014

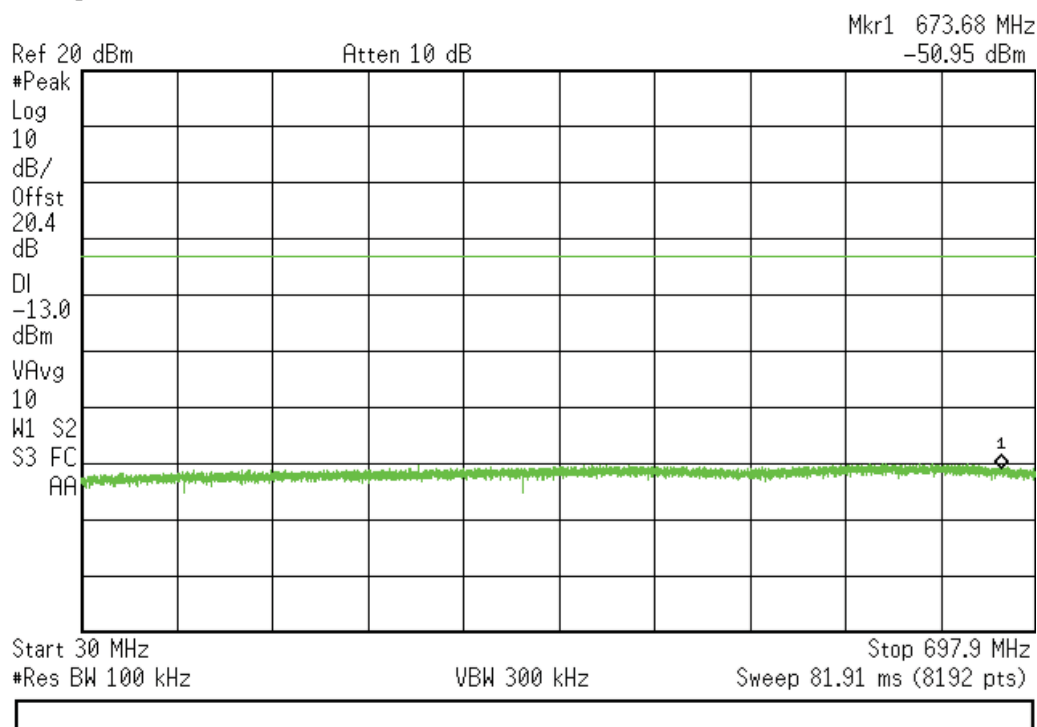
L



698 - 716 MHz Band (High Frequency)

Agilent 16:38:06 Aug 11, 2014

L

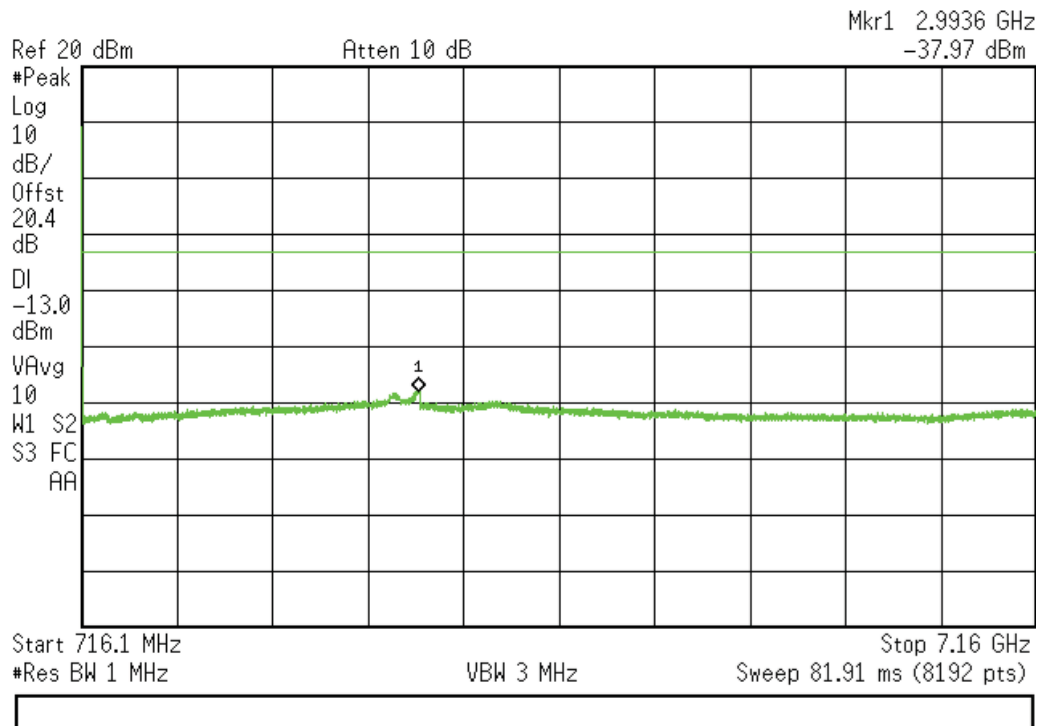




698 - 716 MHz Band (High Frequency) (Cont)

Agilent 16:48:42 Aug 11, 2014

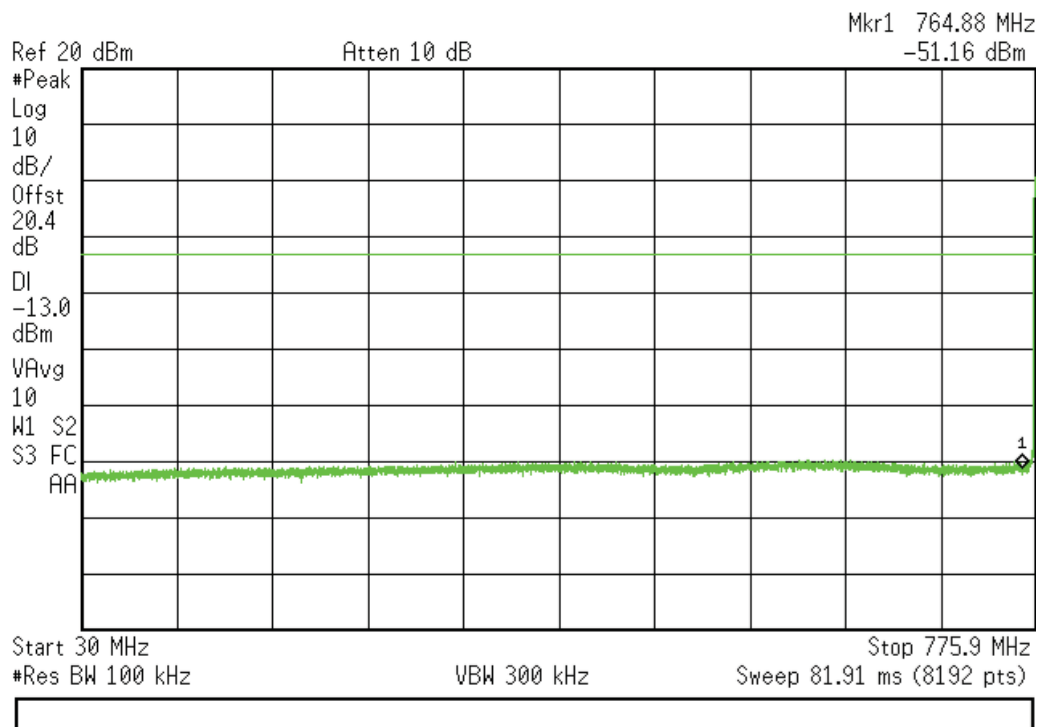
L



76-787 MHz Band (Low Frequency)

Agilent 16:59:03 Aug 11, 2014

L

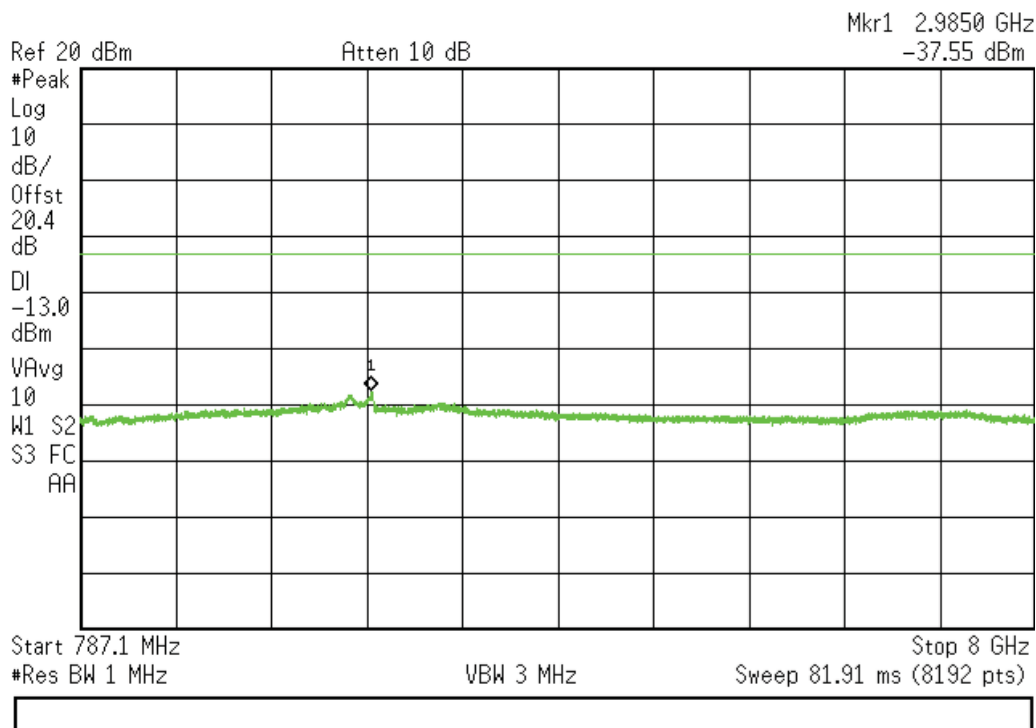




776-787 MHz Band (Low Frequency) (Cont)

Agilent 17:12:59 Aug 11, 2014

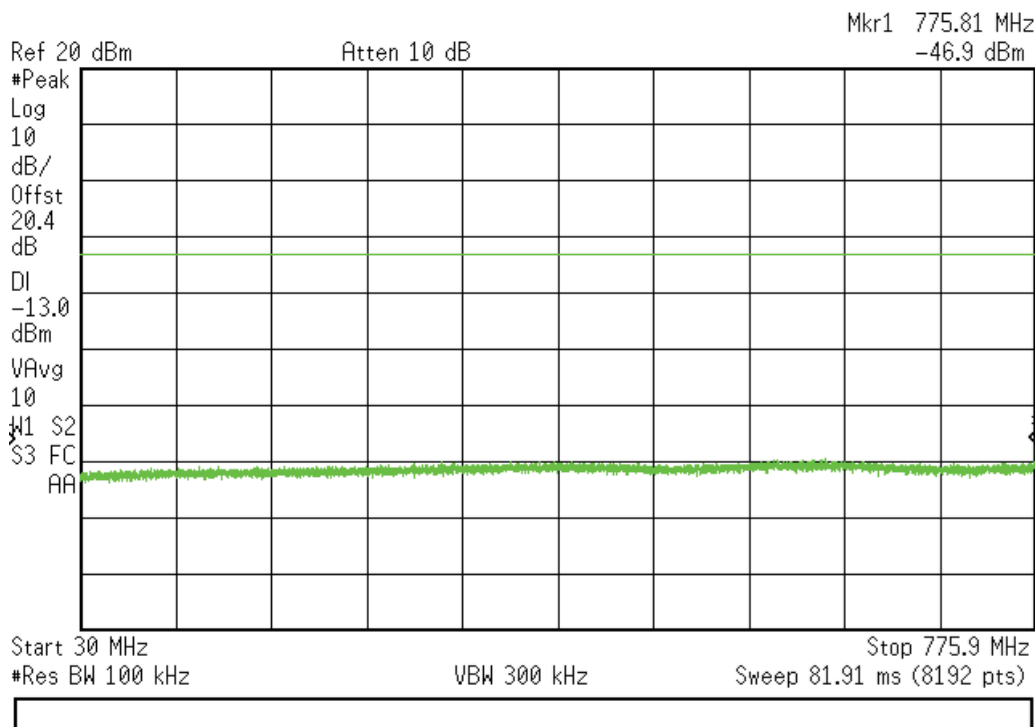
L



776-787 MHz Band (Mid Frequency)

Agilent 16:59:57 Aug 11, 2014

L

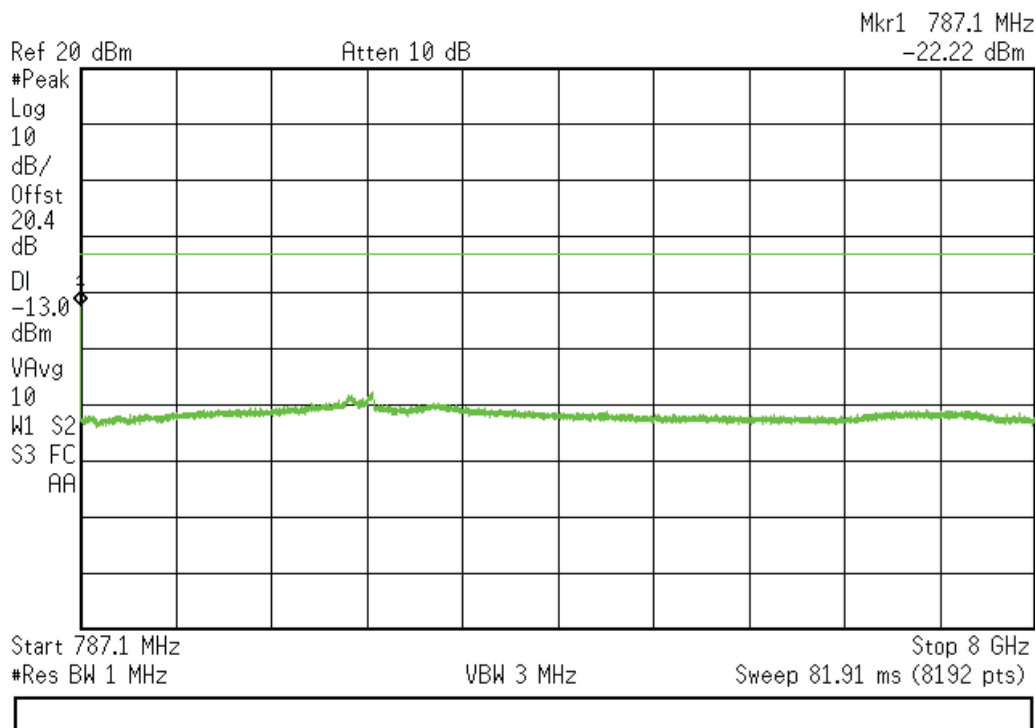




776-787 MHz Band (Mid Frequency) (Cont)

Agilent 17:11:29 Aug 11, 2014

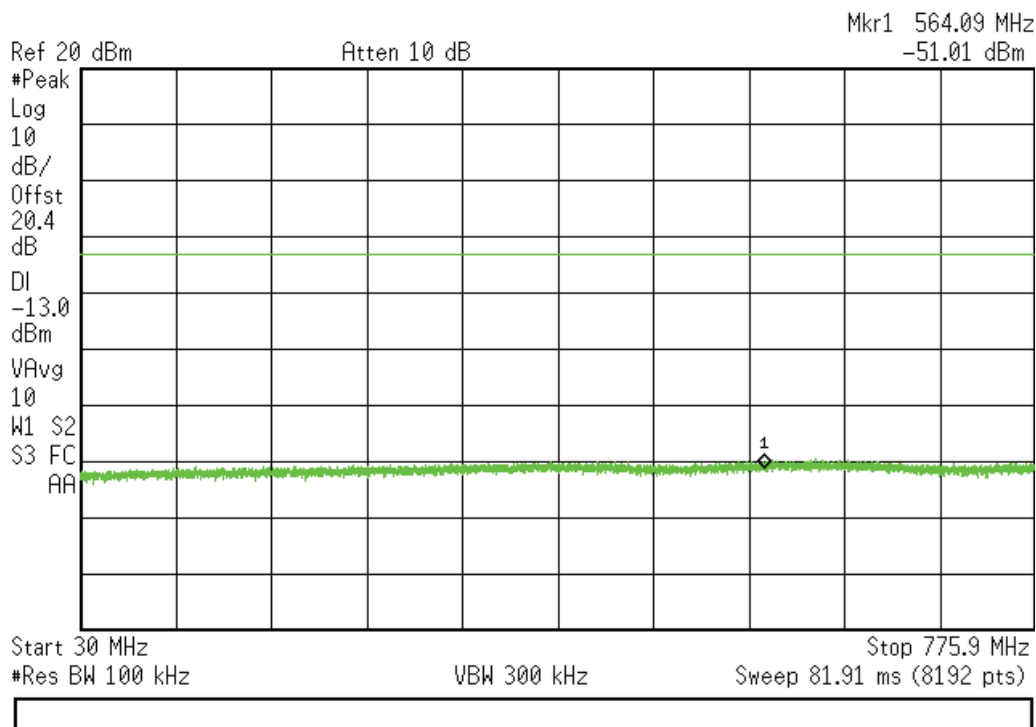
L



776-787 MHz Band (High Frequency)

Agilent 17:00:44 Aug 11, 2014

L

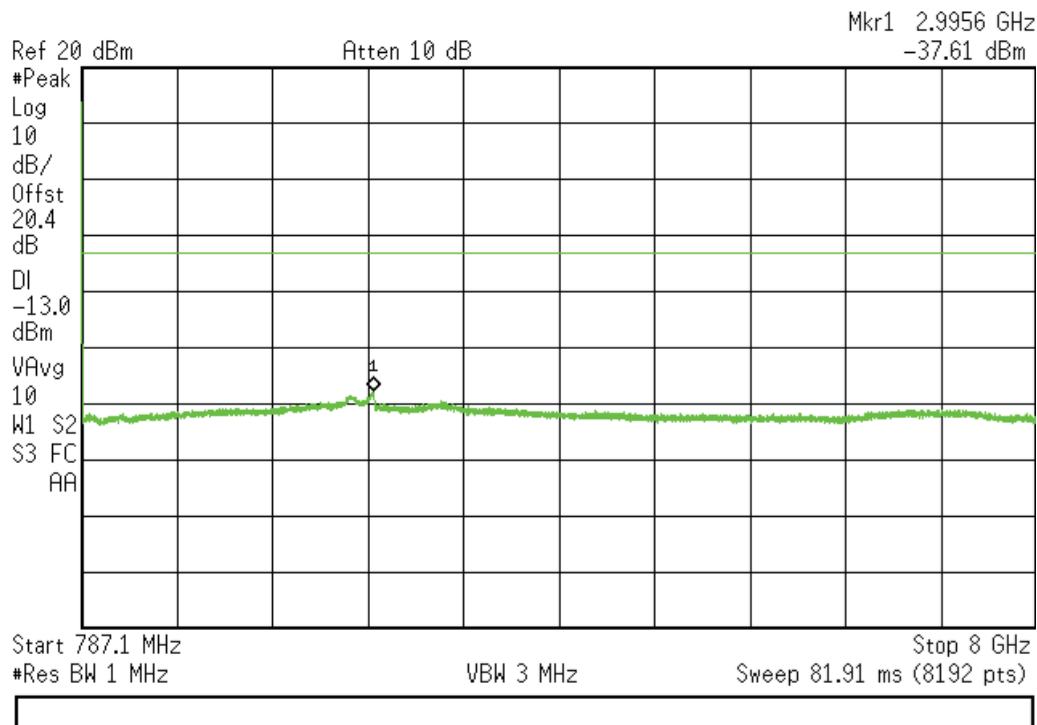




776-787 MHz Band (High Frequency) (Cont)

Agilent 17:10:21 Aug 11, 2014

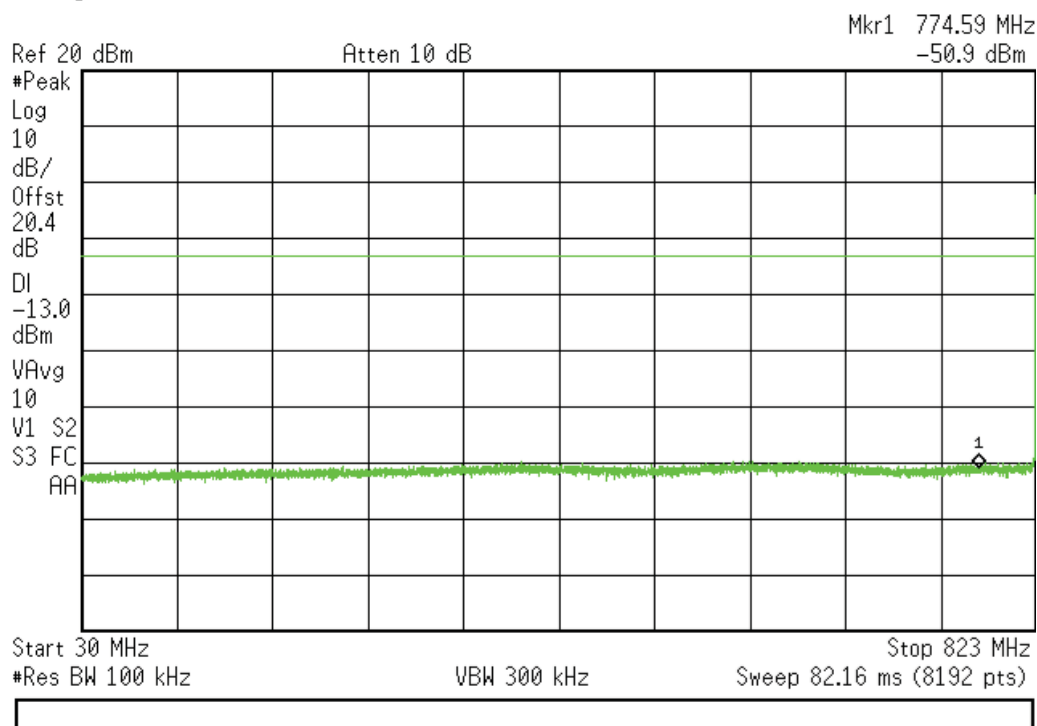
L



824-849 MHz Band (Low Frequency)

Agilent 17:15:36 Aug 11, 2014

L

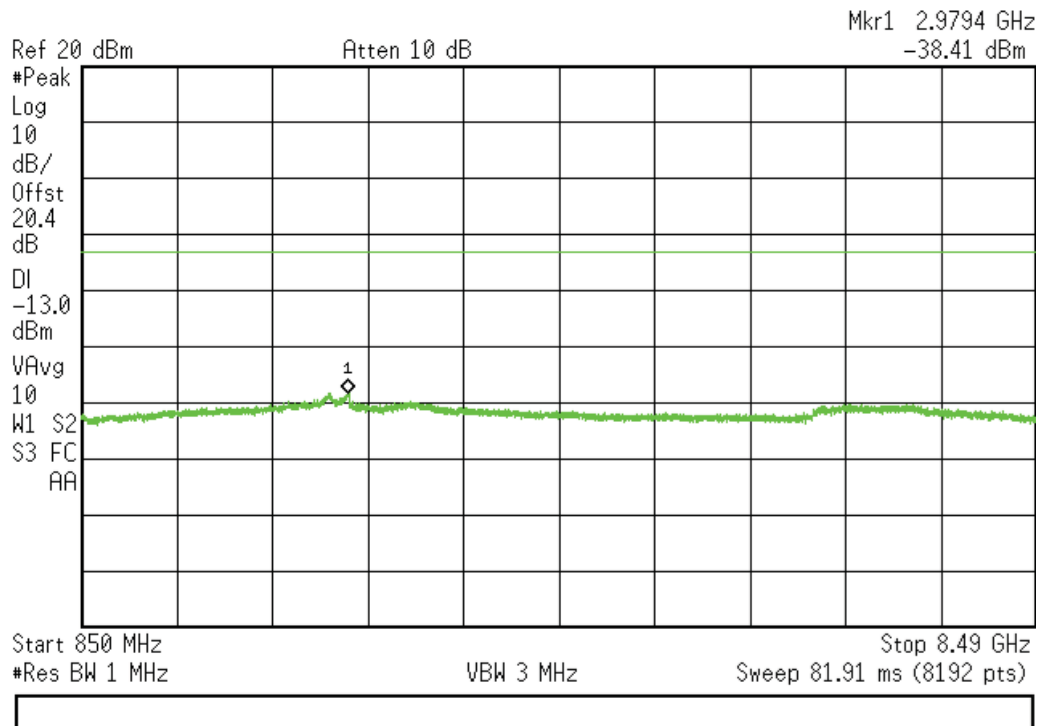




824-849 MHz Band (Low Frequency) (Cont)

Agilent 17:28:01 Aug 11, 2014

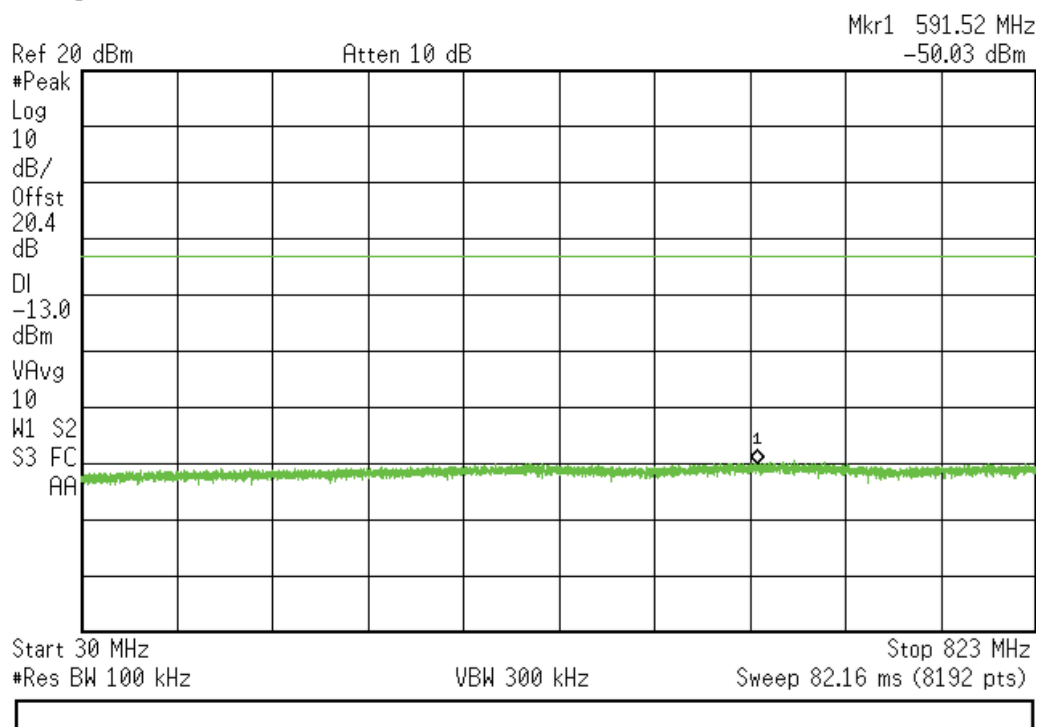
L



824-849 MHz Band (Mid Frequency)

Agilent 17:17:00 Aug 11, 2014

L

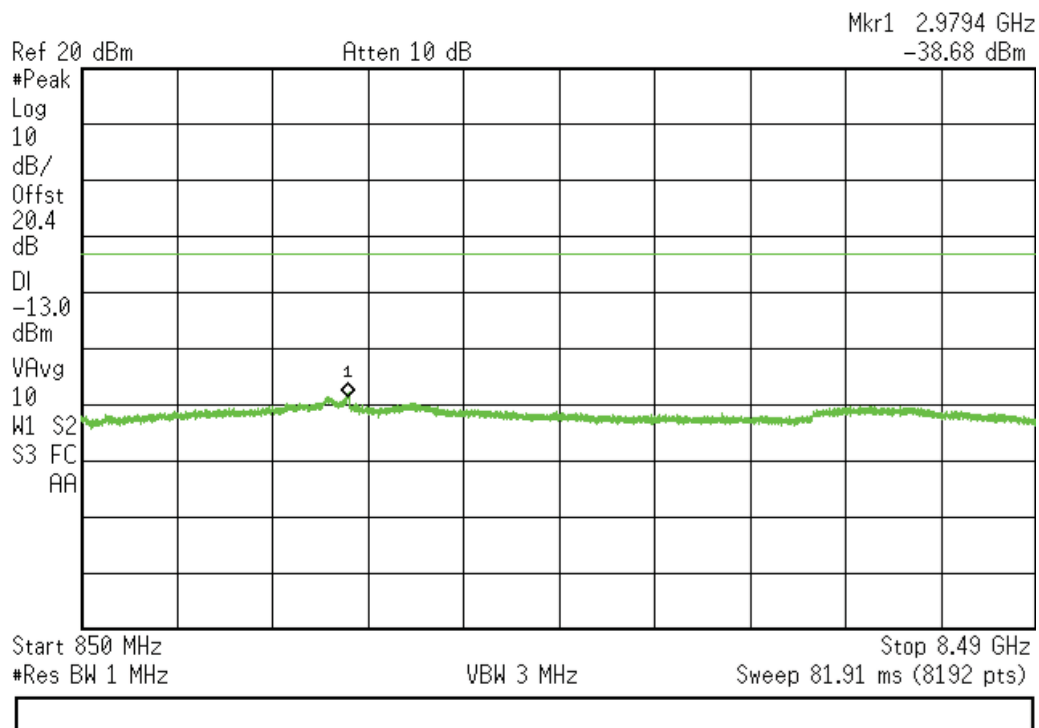




824-849 MHz Band (Mid Frequency) (Cont)

Agilent 17:27:09 Aug 11, 2014

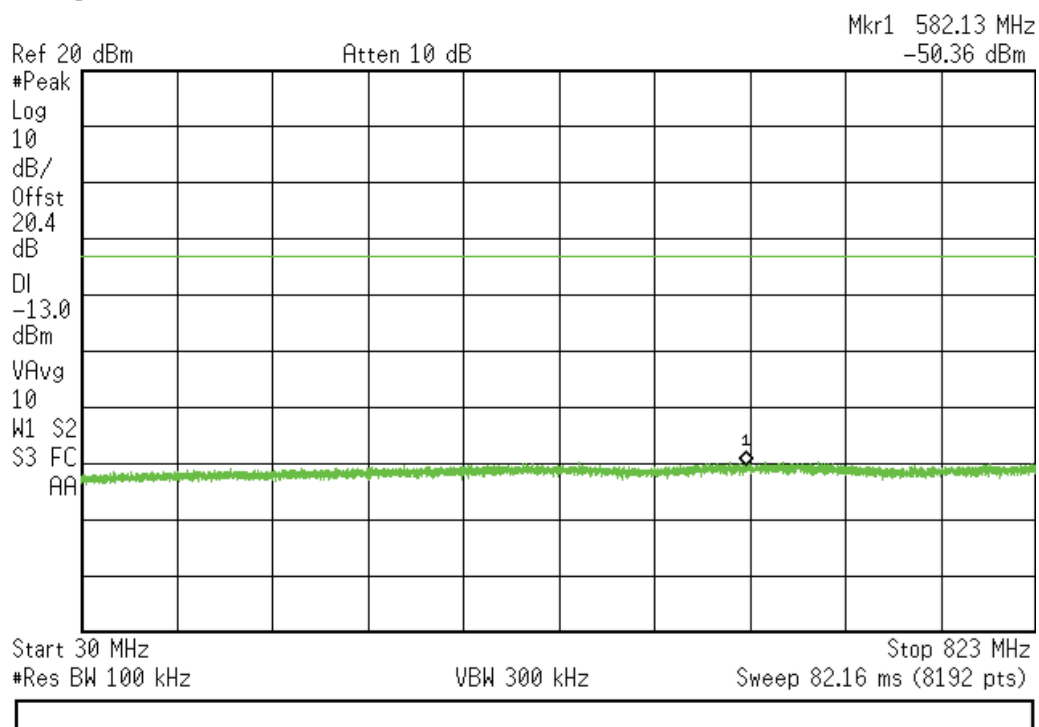
L



824-849 MHz Band (High Frequency)

Agilent 17:18:07 Aug 11, 2014

L

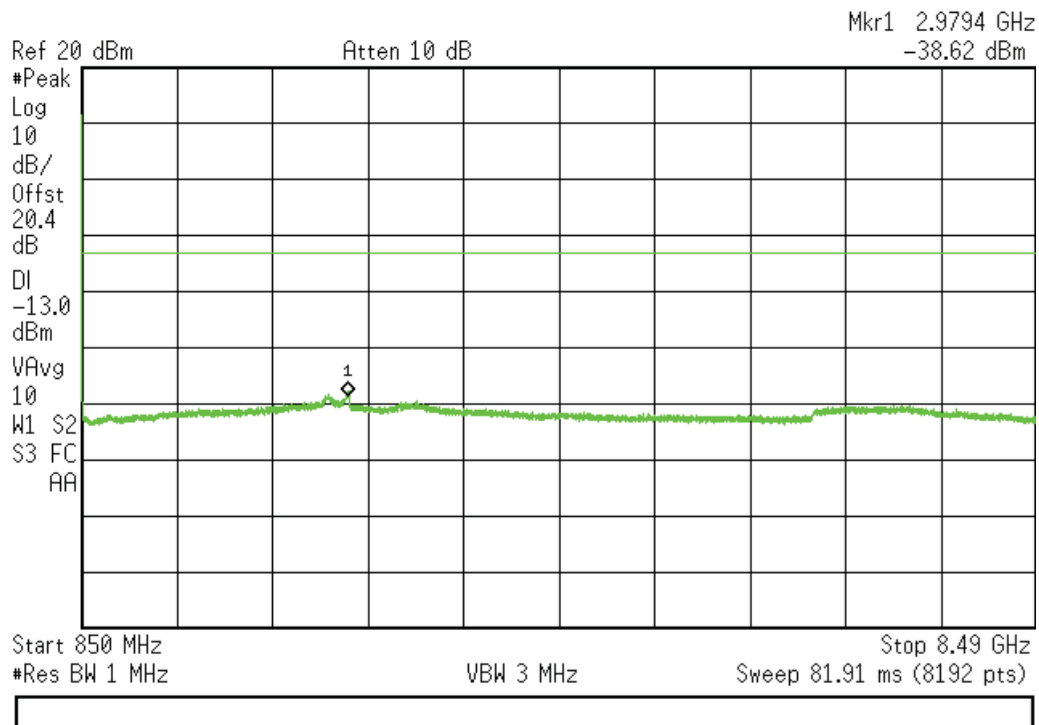




824-849 MHz Band (High Frequency) (Cont)

Agilent 17:26:10 Aug 11, 2014

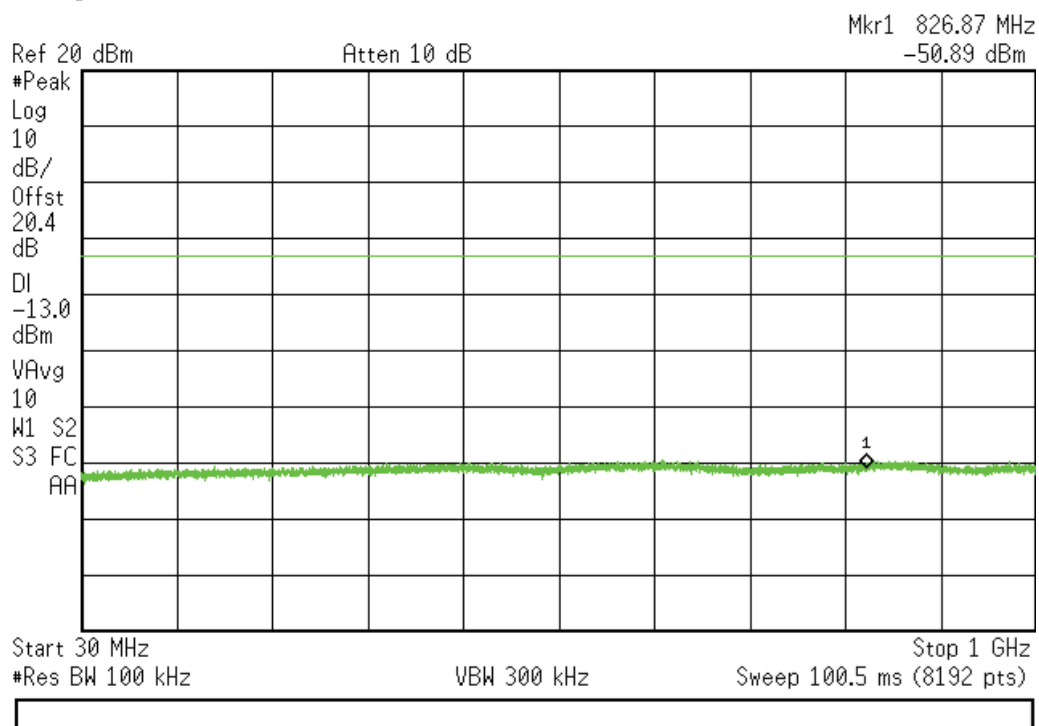
L



1710-1755 MHz Band (Low Frequency)

Agilent 17:34:19 Aug 11, 2014

L

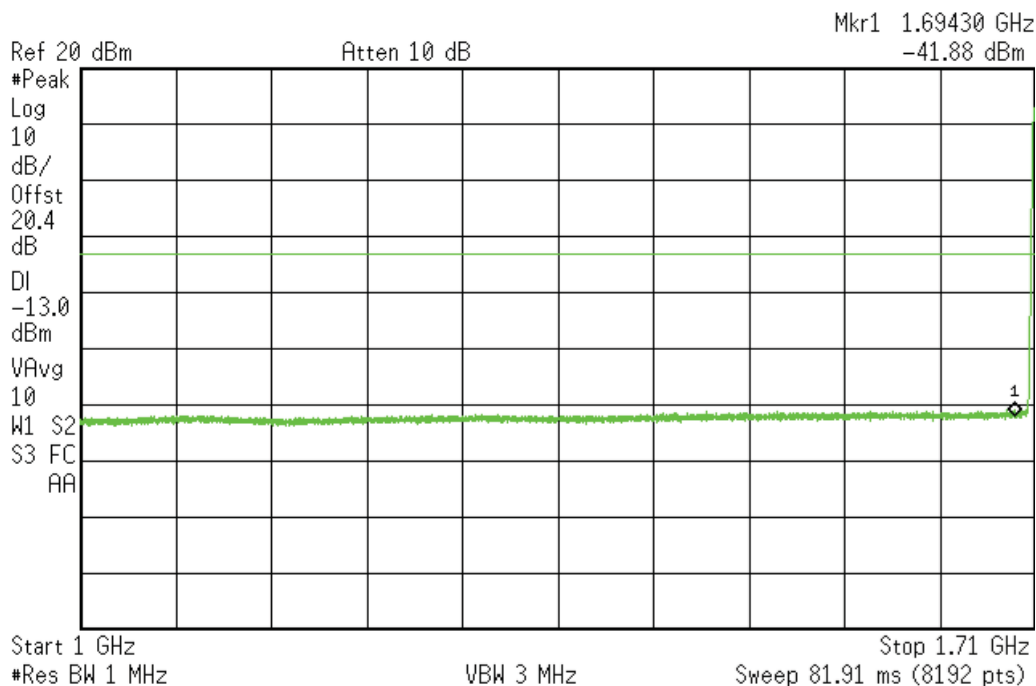




1710-1755 MHz Band (Low Frequency) (Cont)

Agilent 17:35:48 Aug 11, 2014

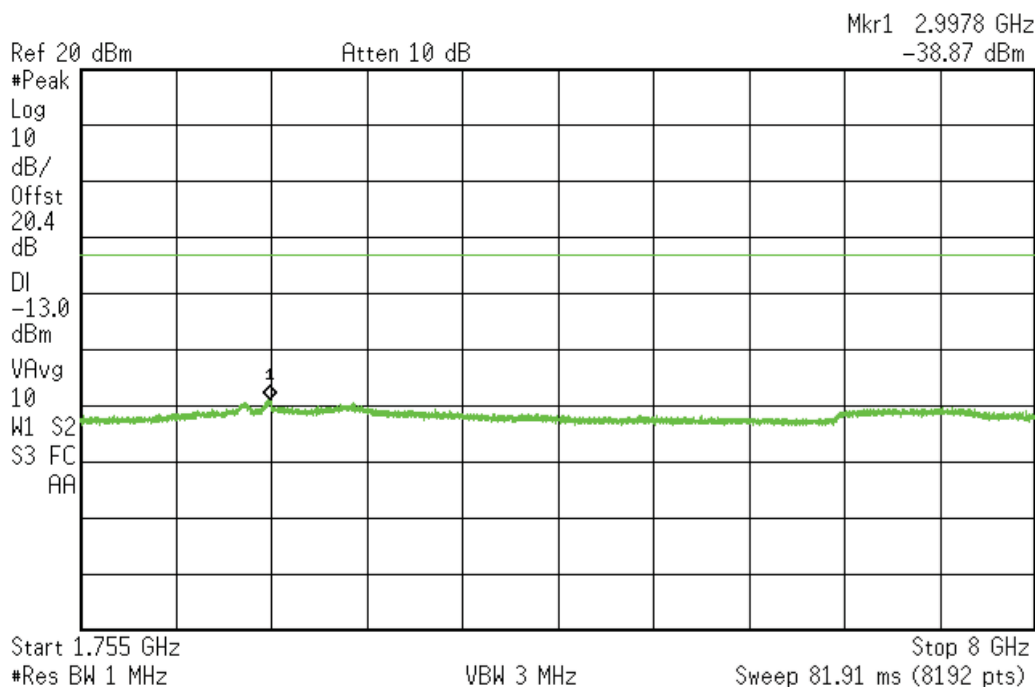
L



1710-1755 MHz Band (Low Frequency) (Cont)

Agilent 17:37:10 Aug 11, 2014

L

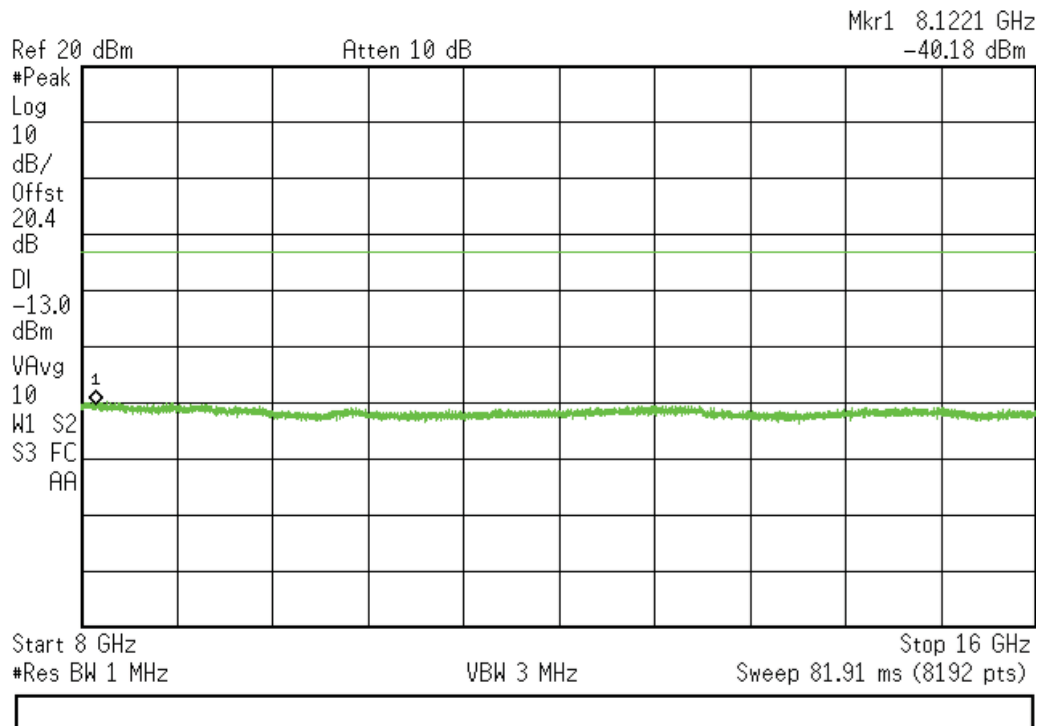




1710-1755 MHz Band (Low Frequency) (Cont)

Agilent 17:38:02 Aug 11, 2014

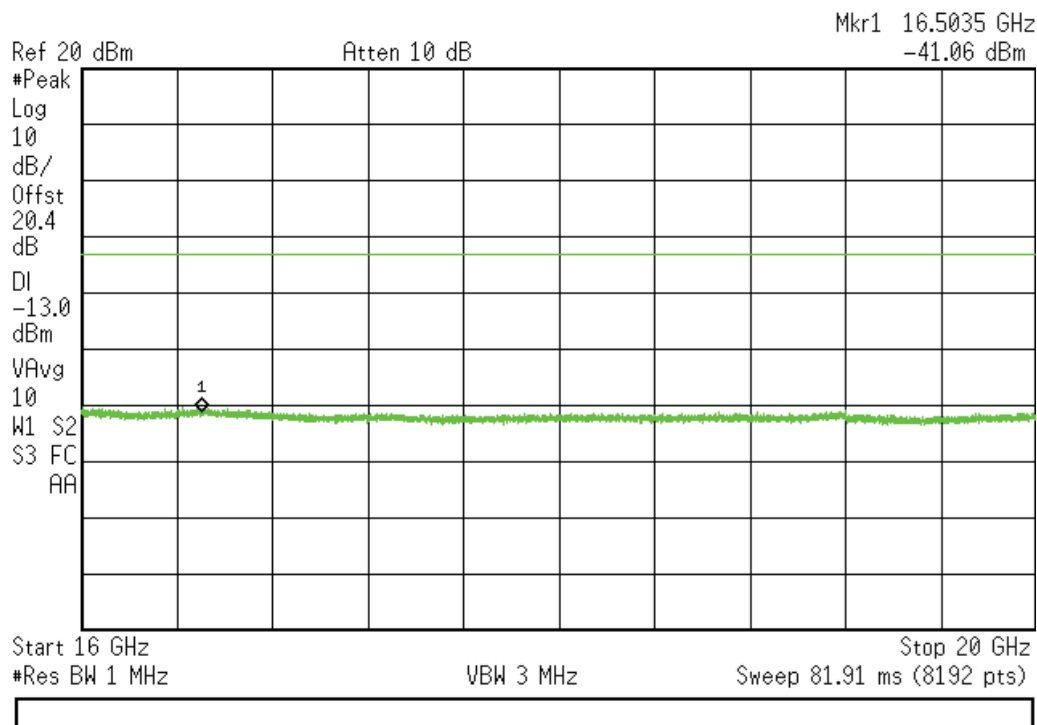
L



1710-1755 MHz Band (Low Frequency) (Cont)

Agilent 17:38:42 Aug 11, 2014

L

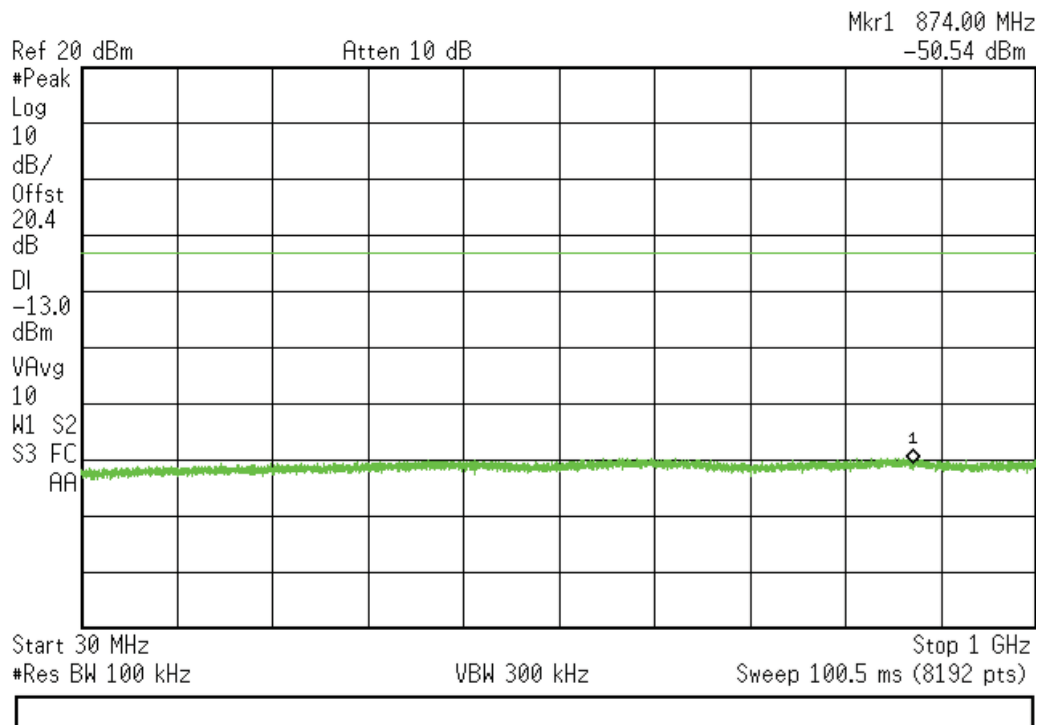




1710-1755 MHz Band (Mid Frequency)

Agilent 17:42:41 Aug 11, 2014

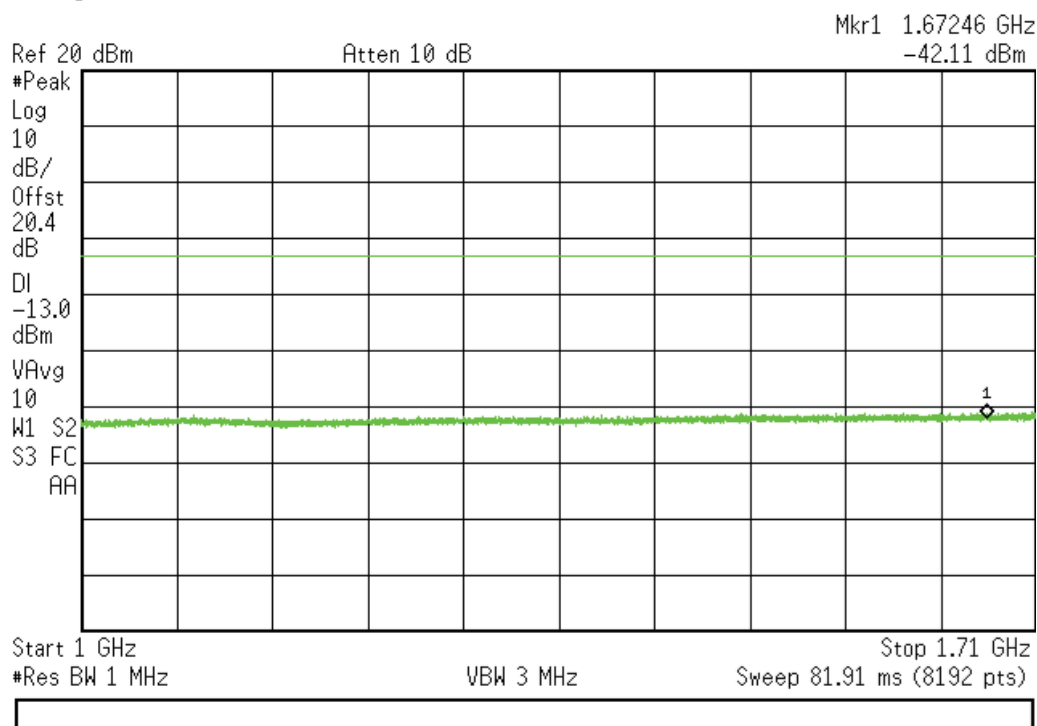
L



1710-1755 MHz Band (Mid Frequency) (Cont)

Agilent 17:43:46 Aug 11, 2014

L



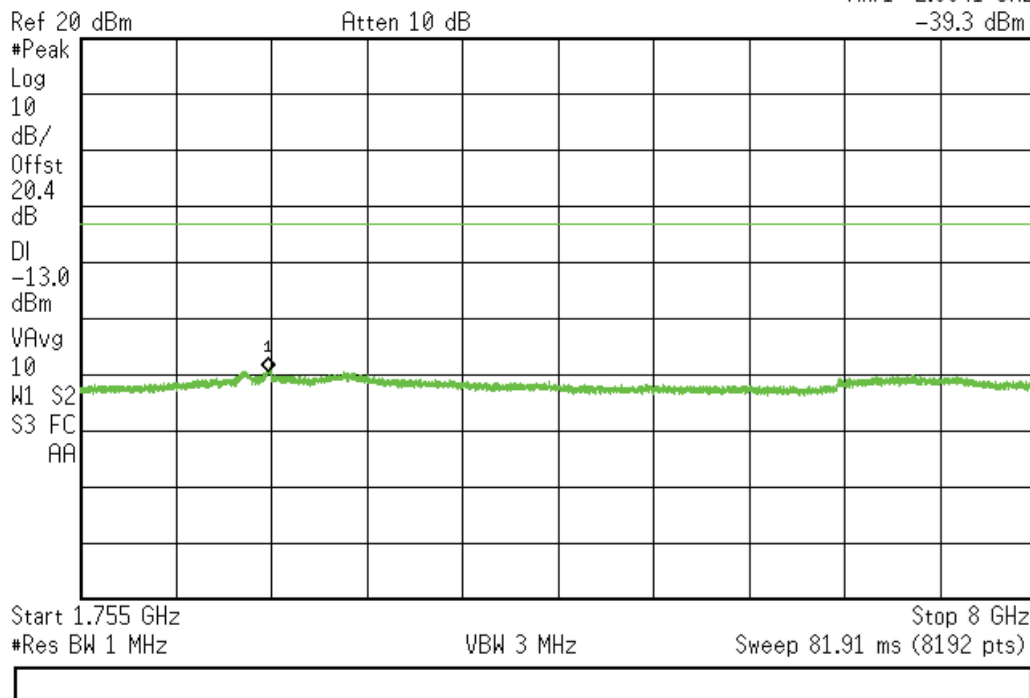


1710-1755 MHz Band (Mid Frequency) (Cont)

Agilent 17:44:39 Aug 11, 2014

L

Mkr1 2.9841 GHz
-39.3 dBm

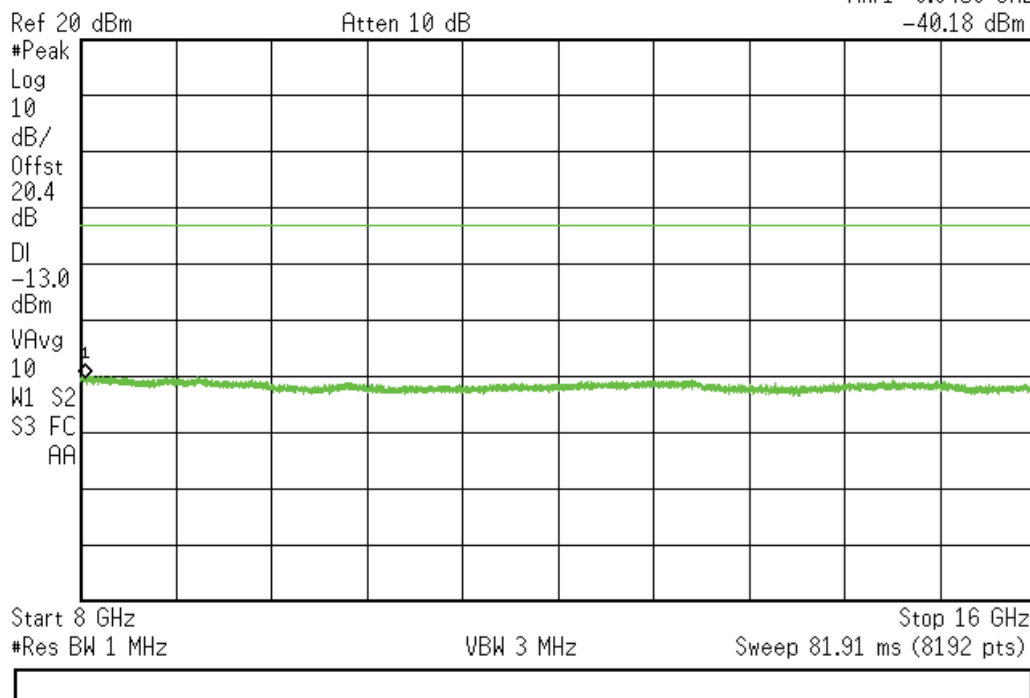


1710-1755 MHz Band (Mid Frequency) (Cont)

Agilent 17:45:22 Aug 11, 2014

L

Mkr1 8.0459 GHz
-40.18 dBm

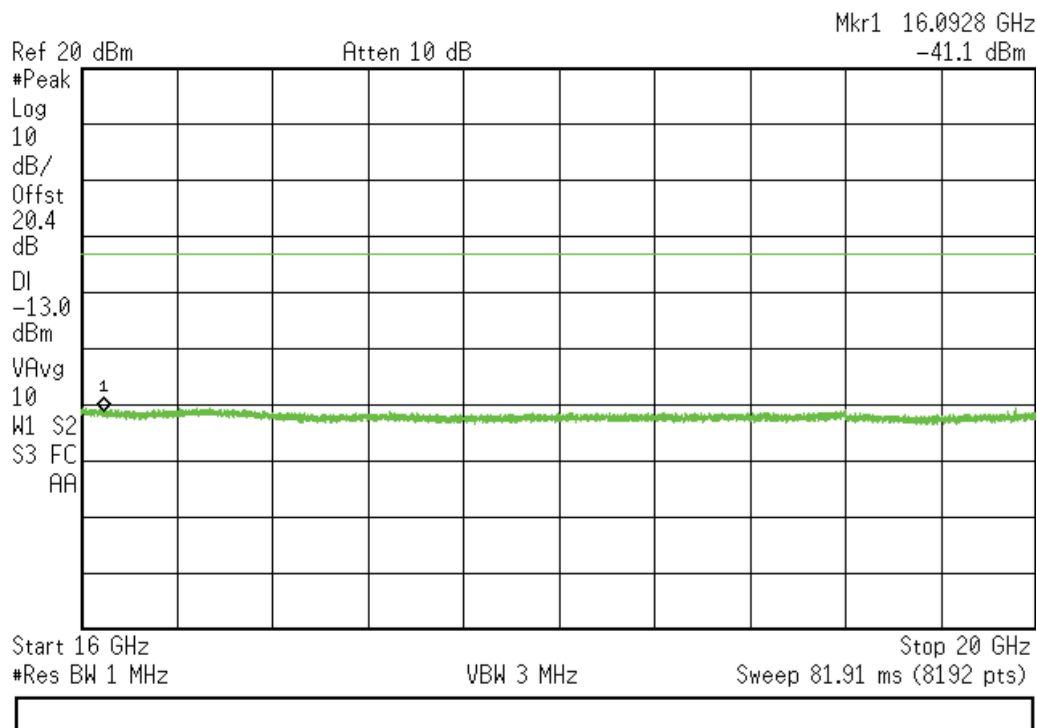




1710-1755 MHz Band (Mid Frequency) (Cont)

Agilent 17:46:02 Aug 11, 2014

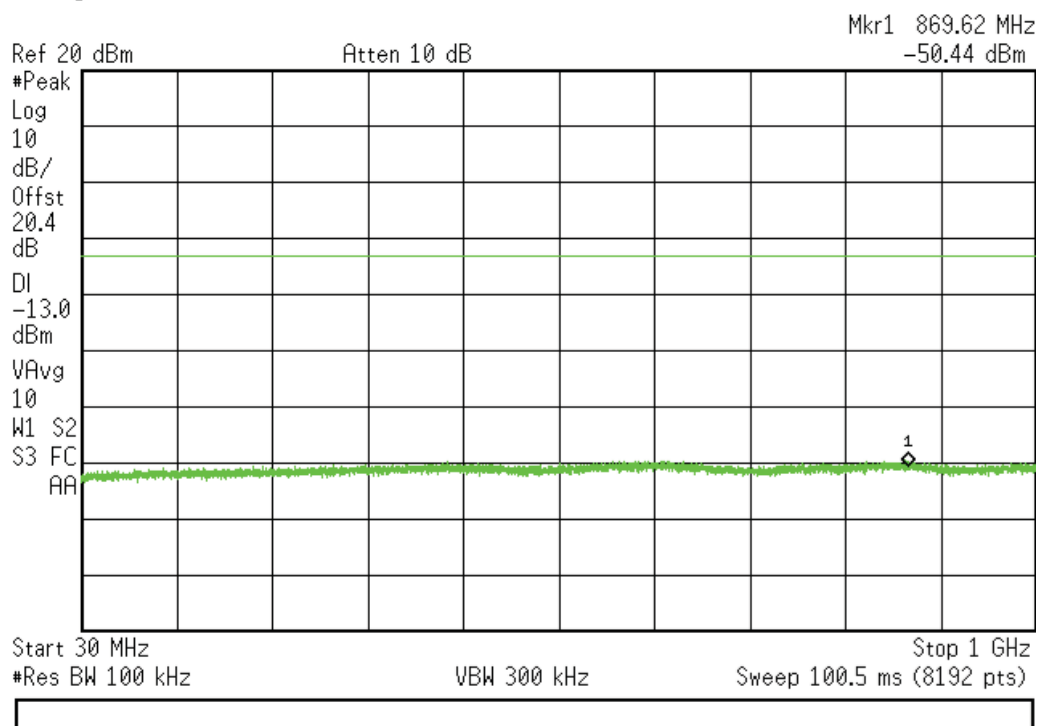
L



1710-1755 MHz Band (High Frequency)

Agilent 17:47:26 Aug 11, 2014

L

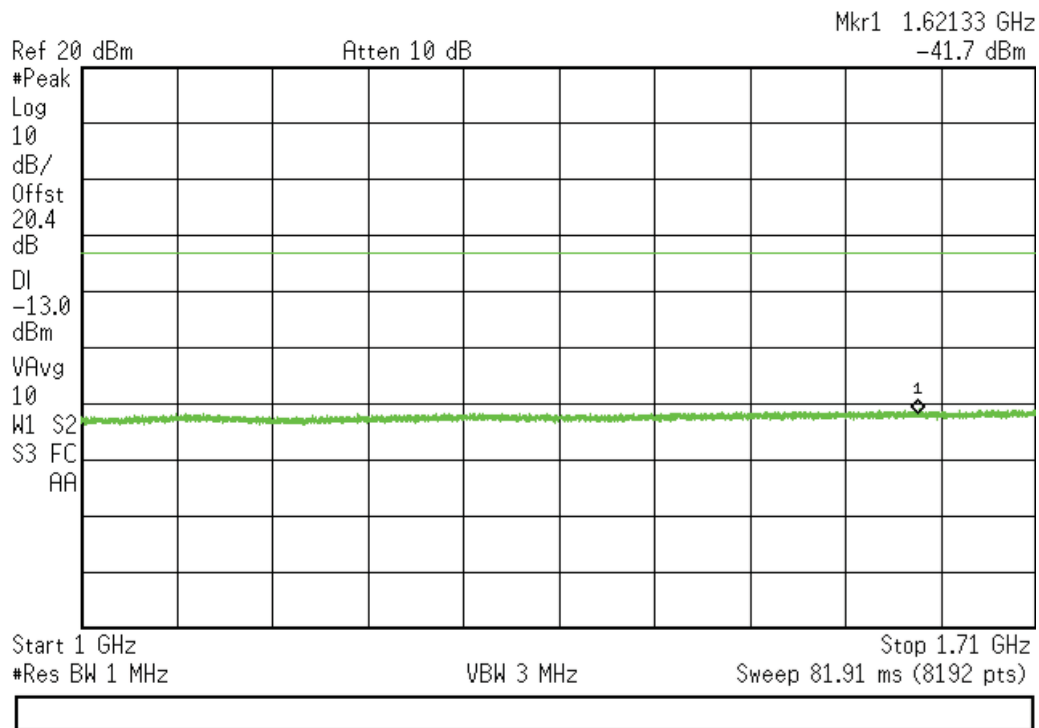




1710-1755 MHz Band (High Frequency) (Cont)

Agilent 17:48:43 Aug 11, 2014

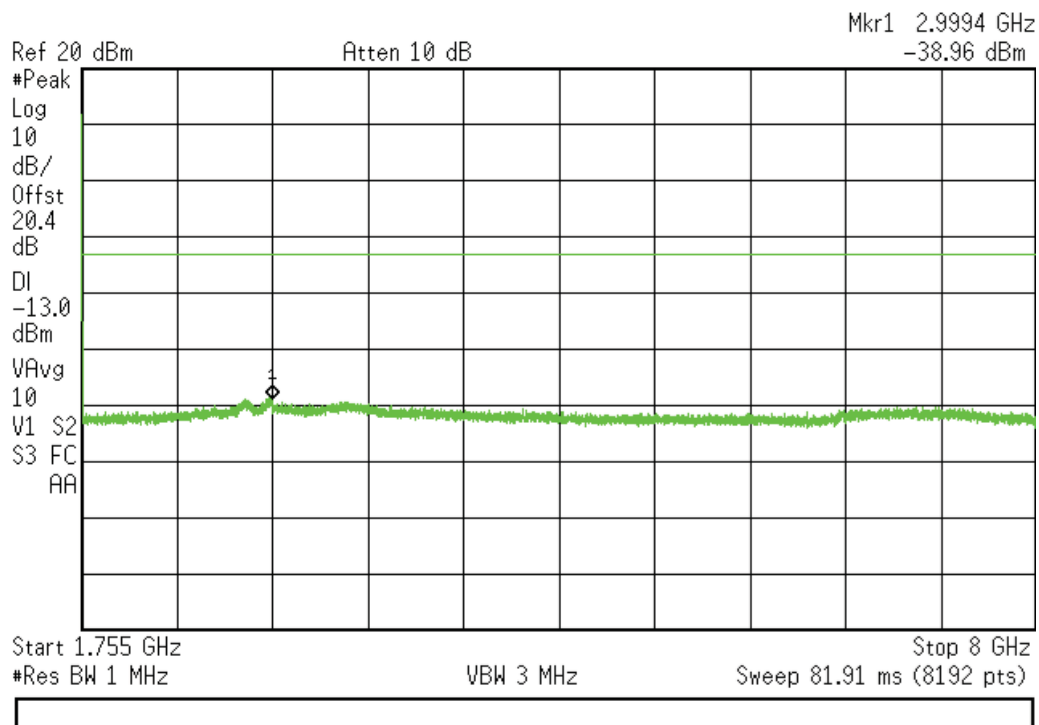
L



1710-1755 MHz Band (High Frequency) (Cont)

Agilent 17:49:59 Aug 11, 2014

L

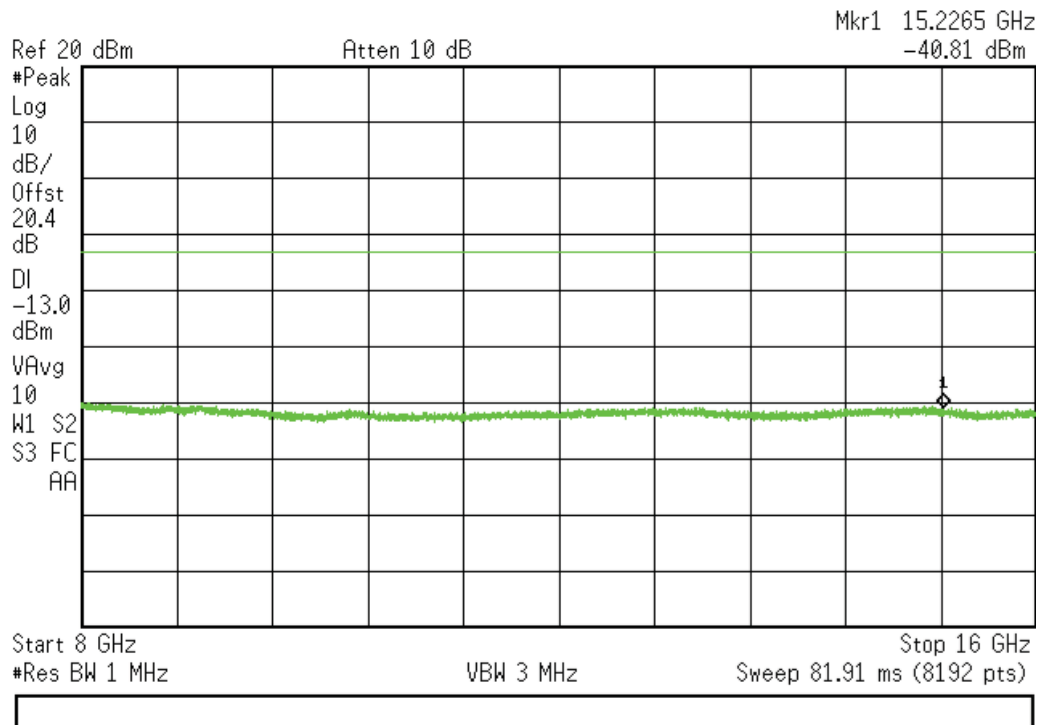




1710-1755 MHz Band (High Frequency) (Cont)

Agilent 17:50:52 Aug 11, 2014

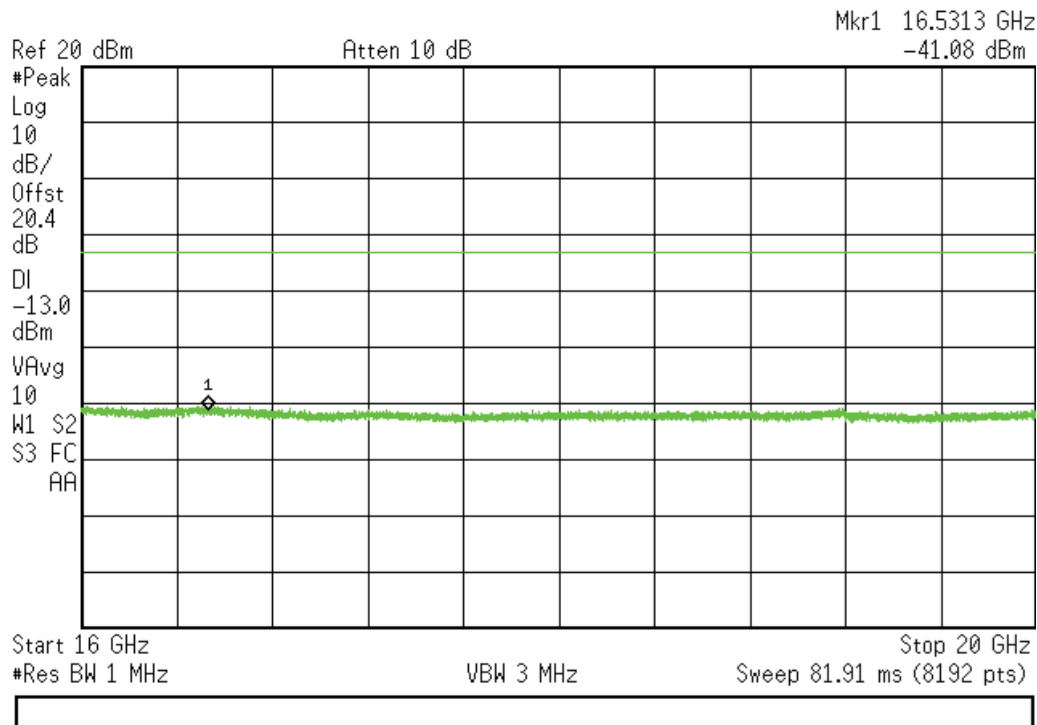
L



1710-1755 MHz Band (High Frequency) (Cont)

Agilent 17:51:29 Aug 11, 2014

L

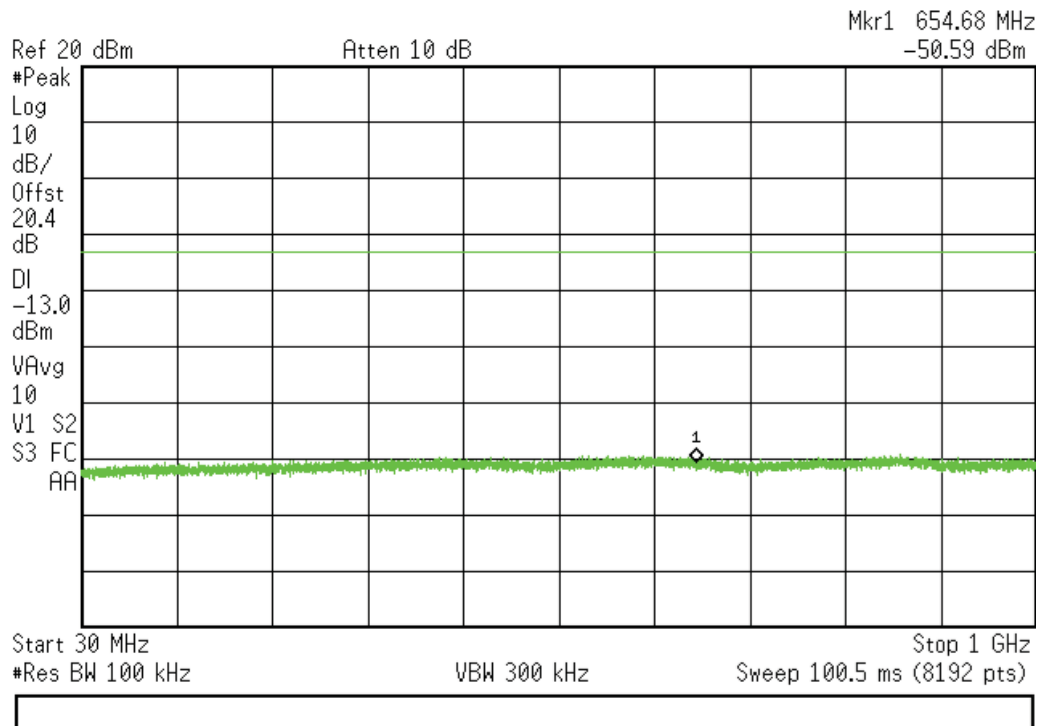




1850-1915 MHz Band (Low Frequency)

Agilent 18:33:38 Aug 11, 2014

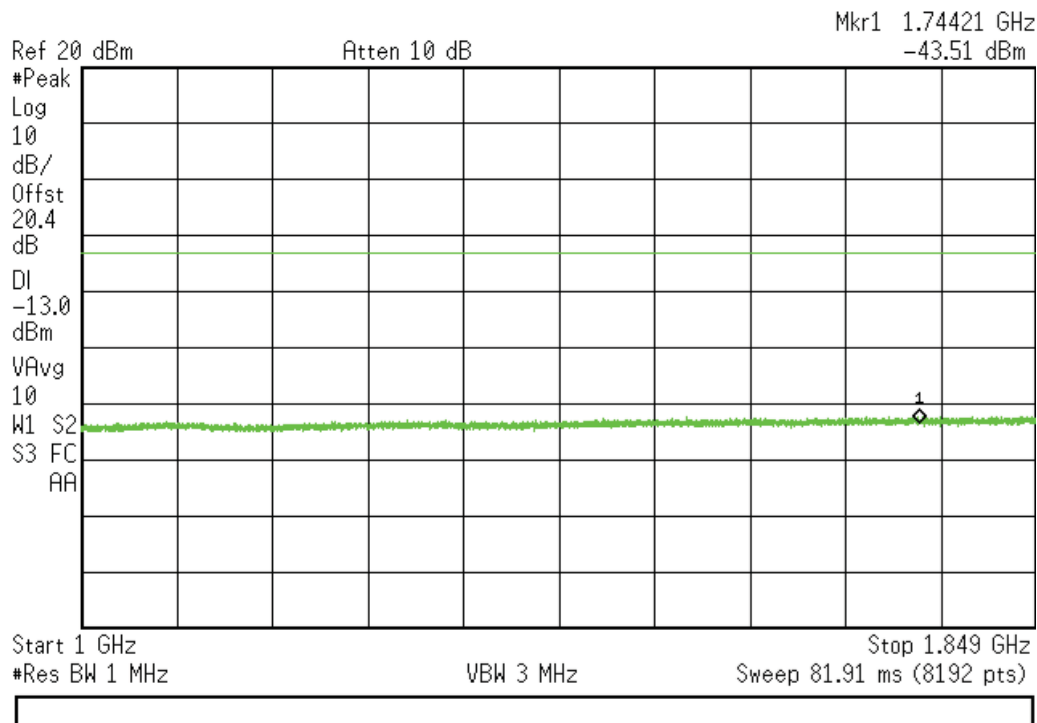
L



1850-1915 MHz Band (Low Frequency) (Cont)

Agilent 18:36:06 Aug 11, 2014

L

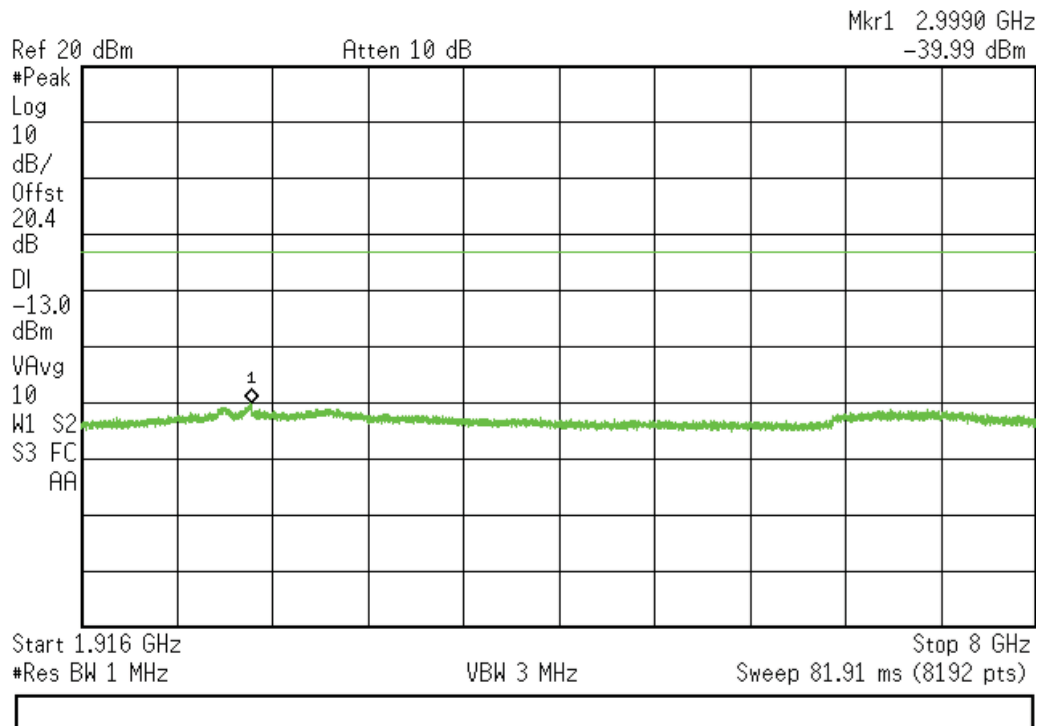




1850-1915 MHz Band (Low Frequency) (Cont)

Agilent 18:38:35 Aug 11, 2014

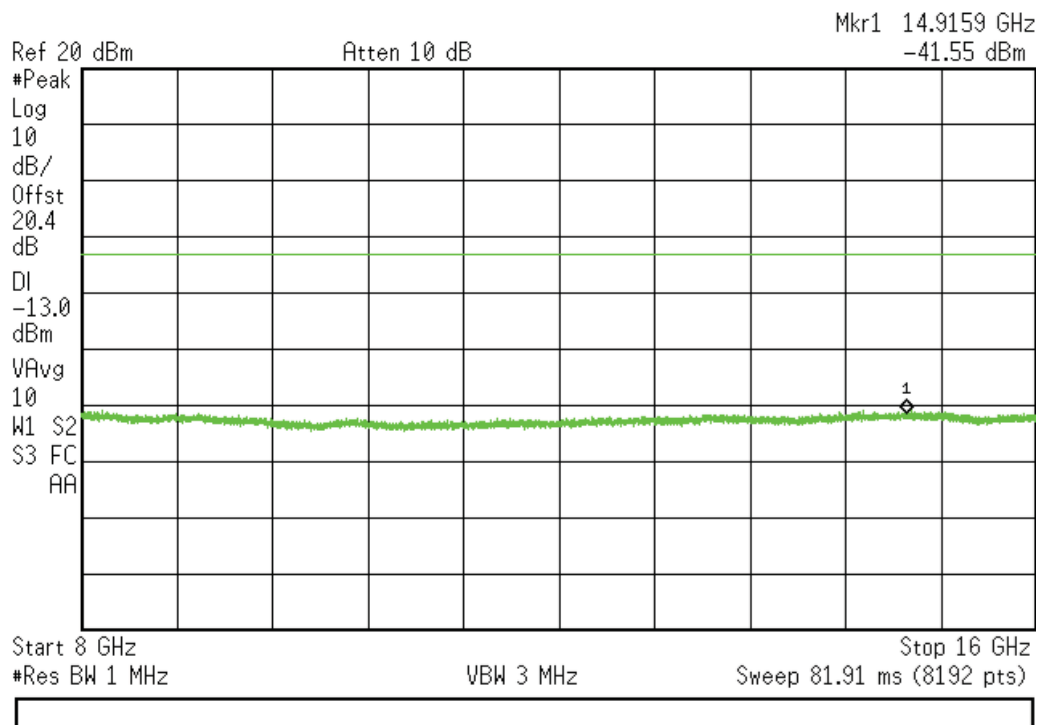
L



1850-1915 MHz Band (Low Frequency) (Cont)

Agilent 18:39:26 Aug 11, 2014

L

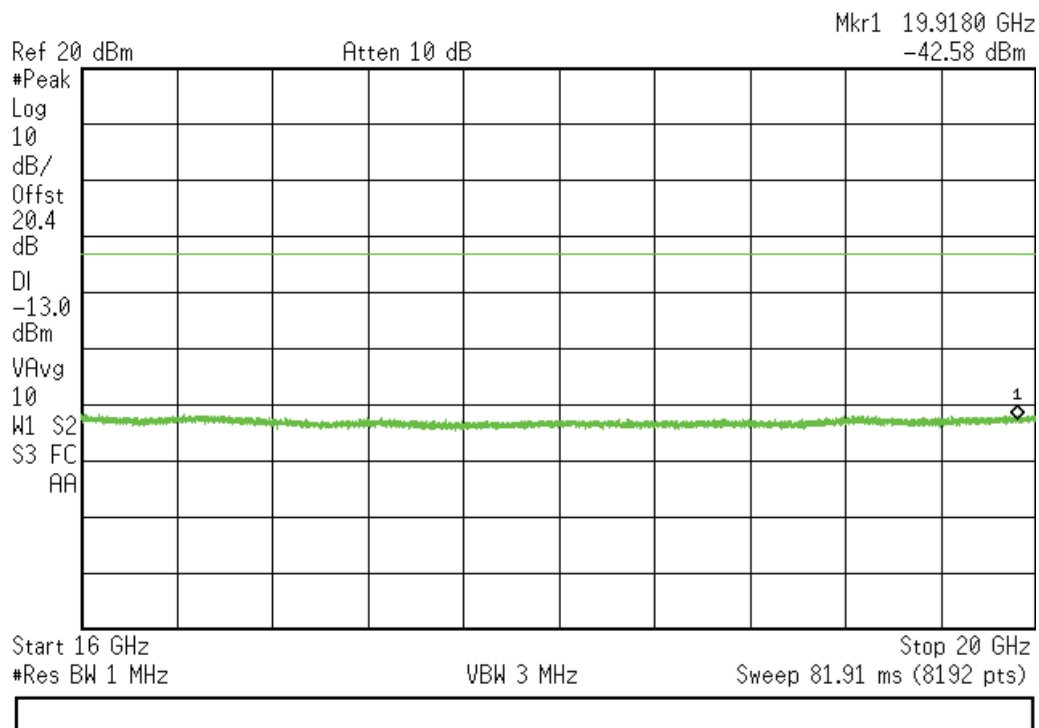




1850-1915 MHz Band (Low Frequency) (Cont)

Agilent 18:42:22 Aug 11, 2014

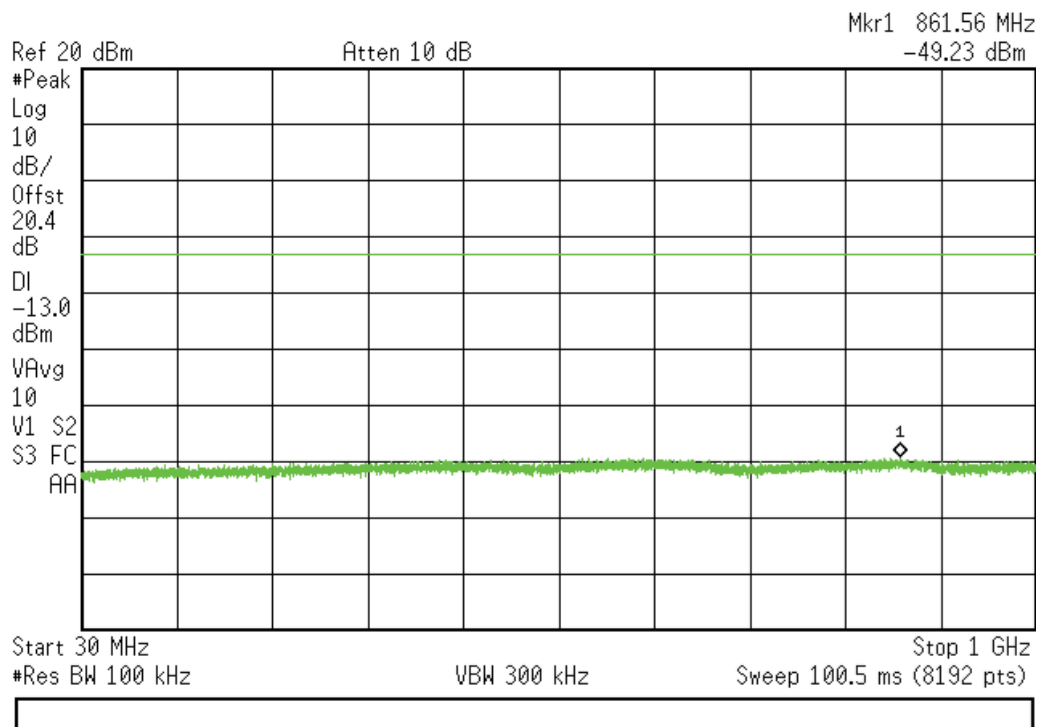
L



1850-1915 MHz Band (Mid Frequency)

Agilent 18:32:46 Aug 11, 2014

L



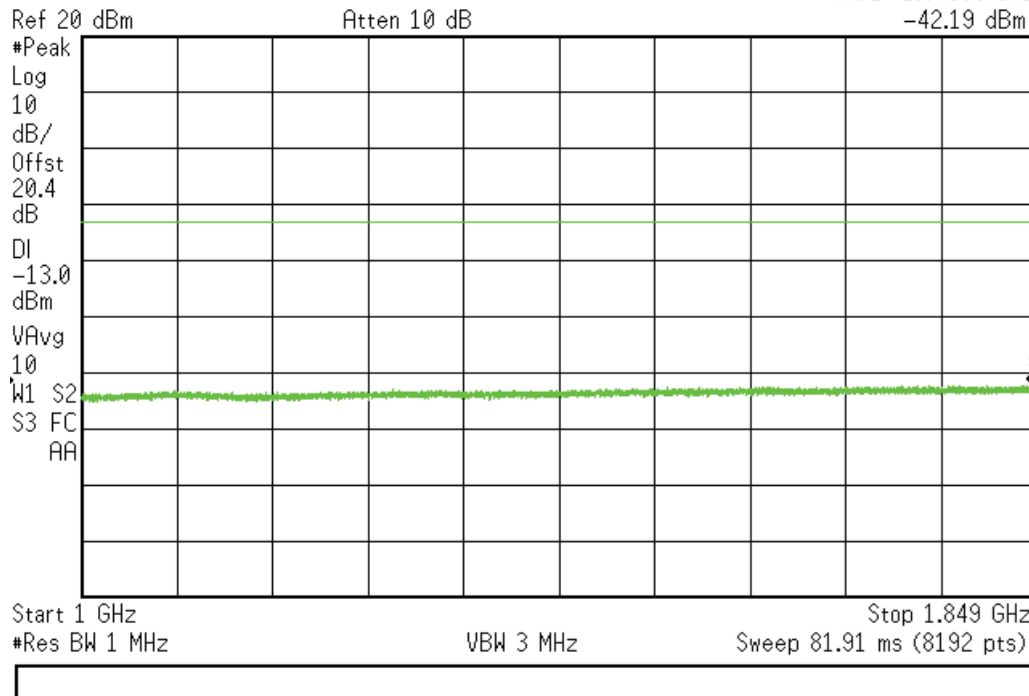


1850-1915 MHz Band (Mid Frequency) (Cont)

Agilent 18:34:39 Aug 11, 2014

L

Mkr1 1.84599 GHz
-42.19 dBm

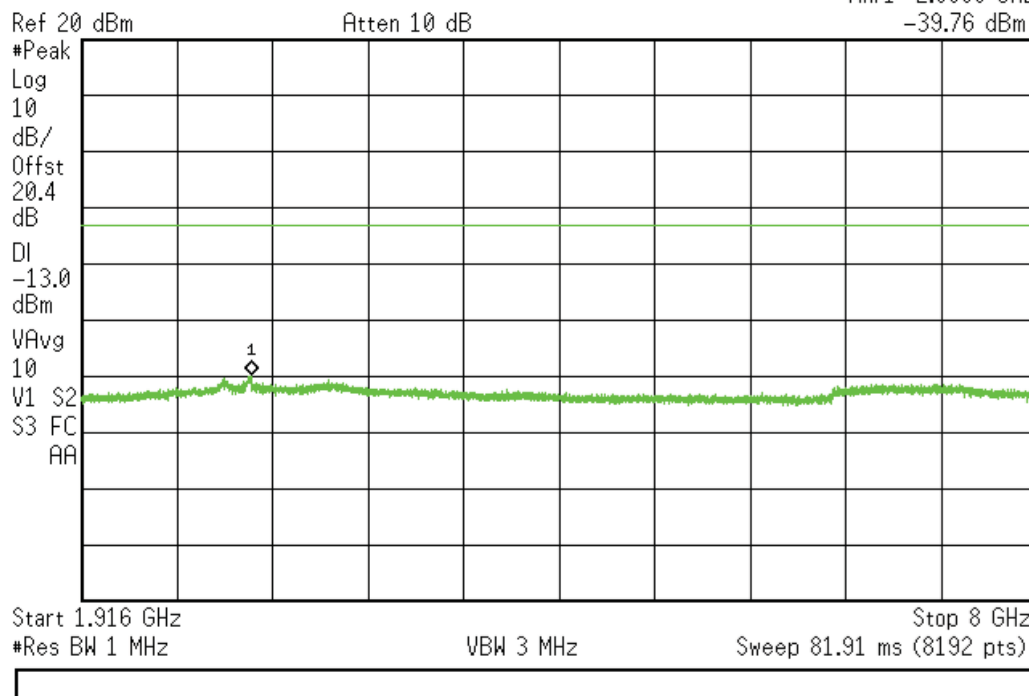


1850-1915 MHz Band (Mid Frequency) (Cont)

Agilent 18:37:55 Aug 11, 2014

L

Mkr1 2.9960 GHz
-39.76 dBm

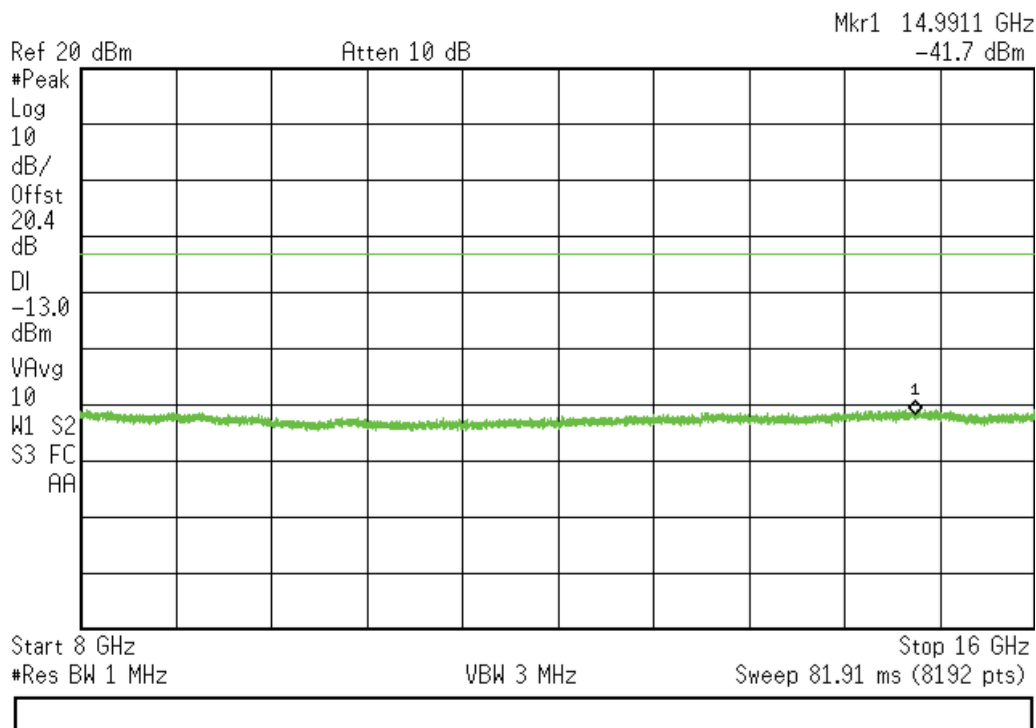




1850-1915 MHz Band (Mid Frequency) (Cont)

Agilent 18:39:58 Aug 11, 2014

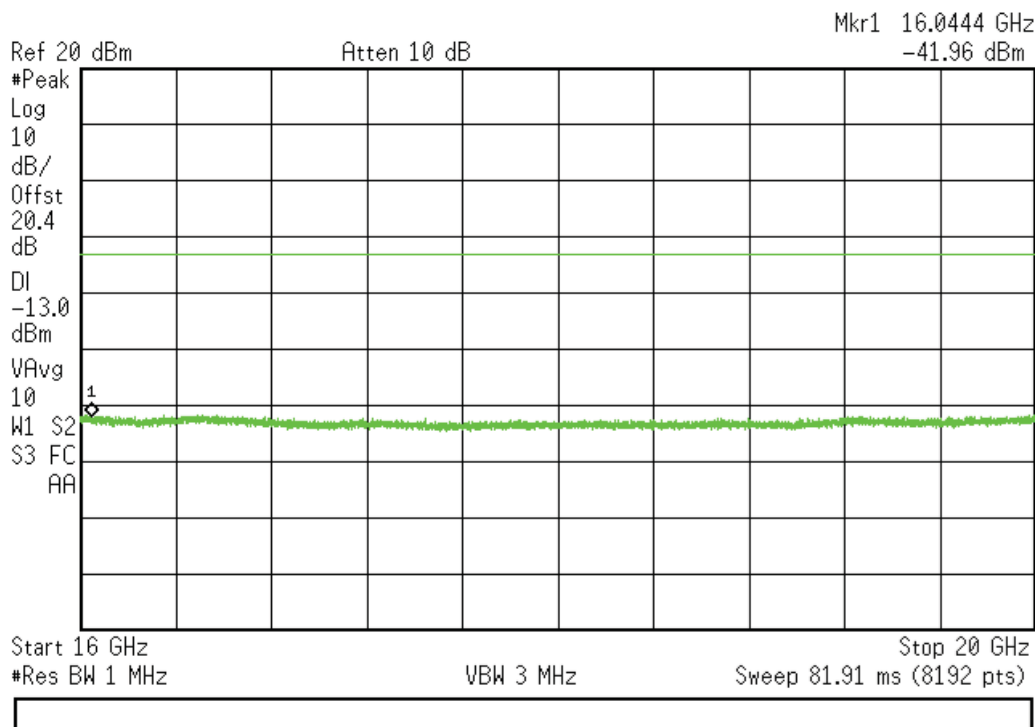
L



1850-1915 MHz Band (Mid Frequency) (Cont)

Agilent 18:41:45 Aug 11, 2014

L

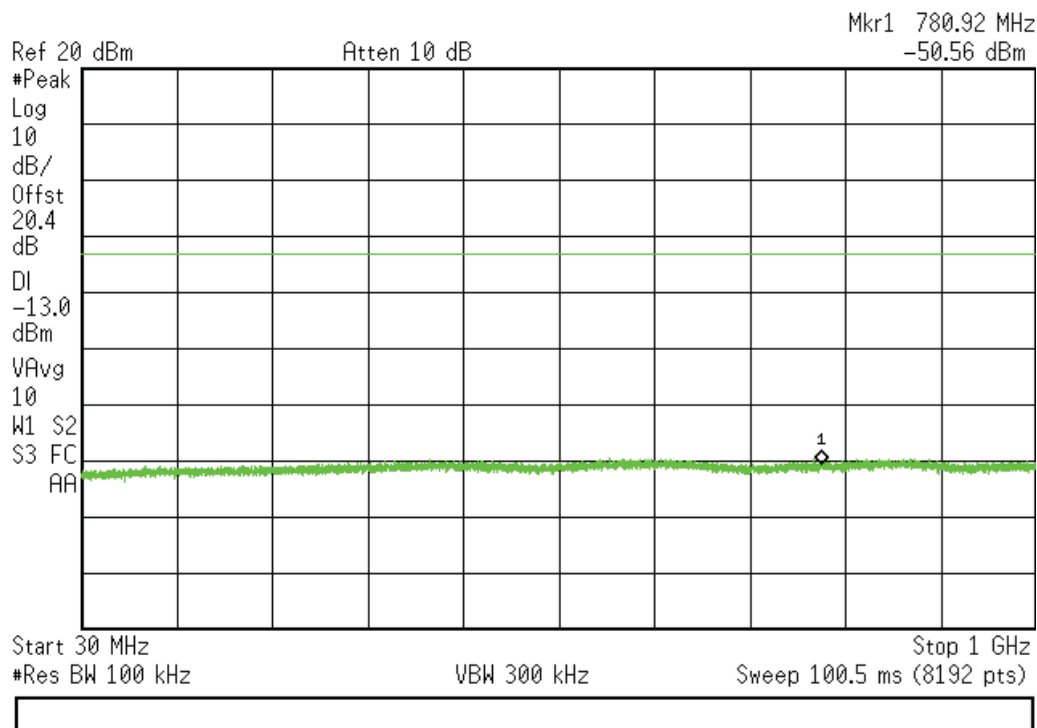




1850-1915 MHz Band (High Frequency)

Agilent 18:31:40 Aug 11, 2014

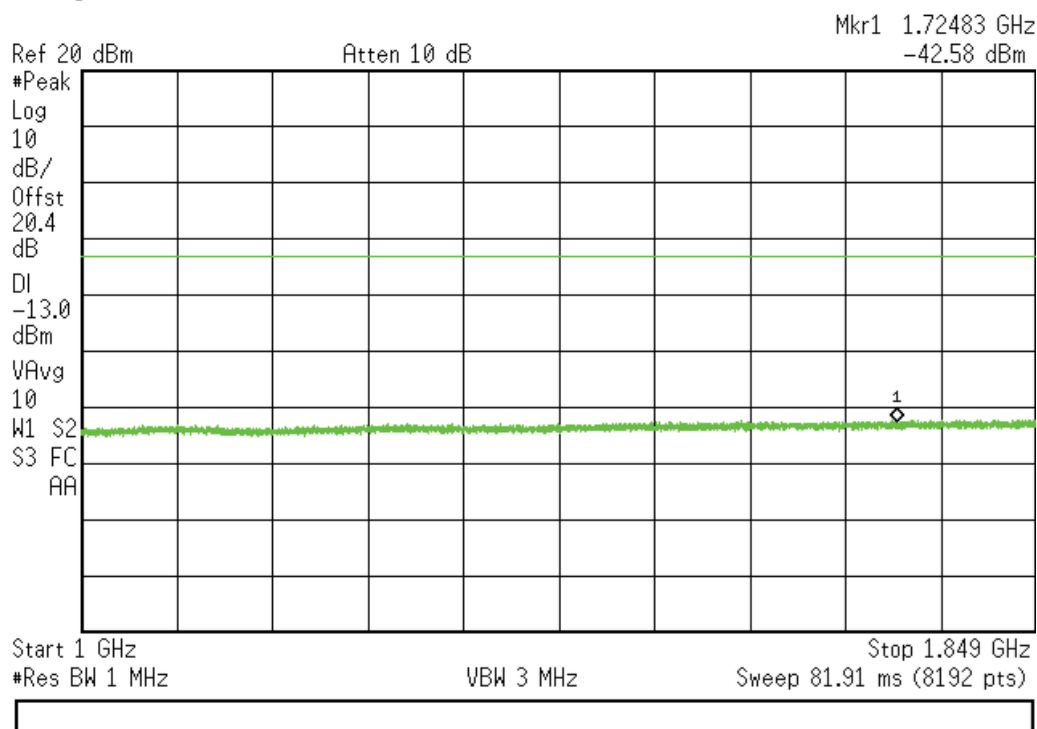
L



1850-1915 MHz Band (High Frequency) (Cont)

Agilent 18:35:29 Aug 11, 2014

L

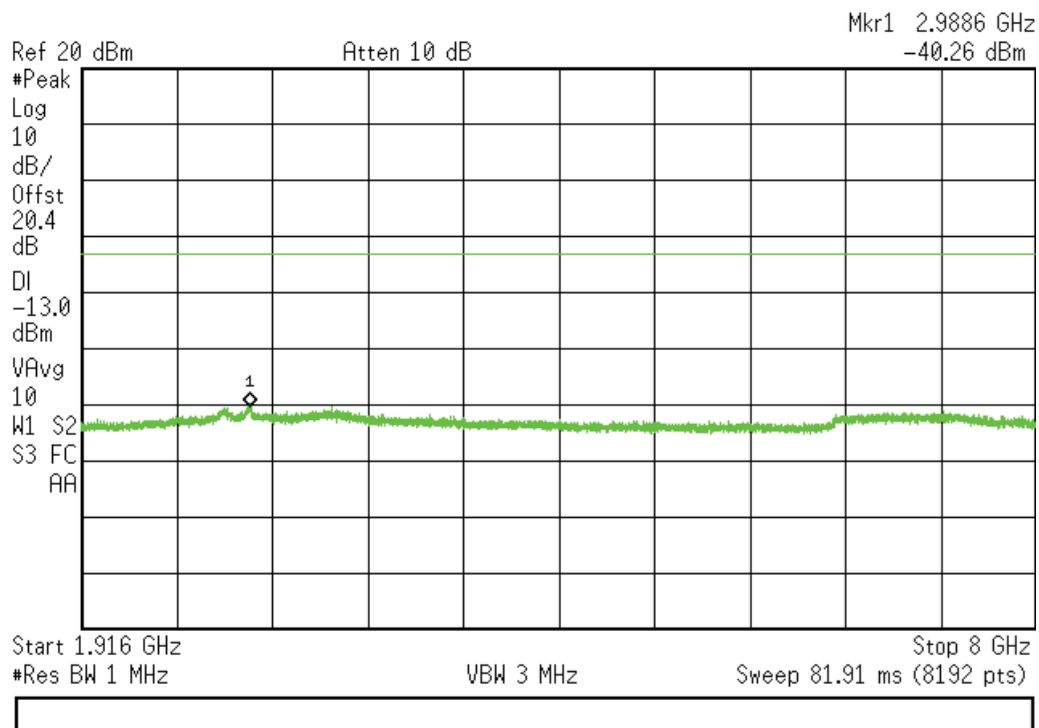




1850-1915 MHz Band (High Frequency) (Cont)

Agilent 18:37:11 Aug 11, 2014

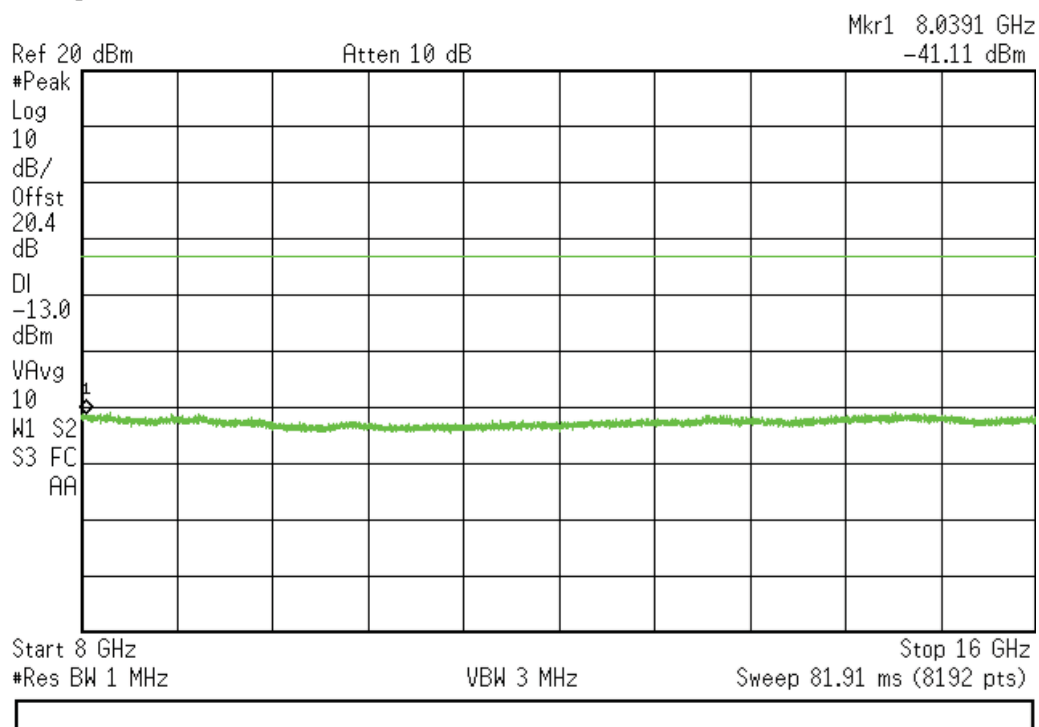
L



1850-1915 MHz Band (High Frequency) (Cont)

Agilent 18:40:29 Aug 11, 2014

L

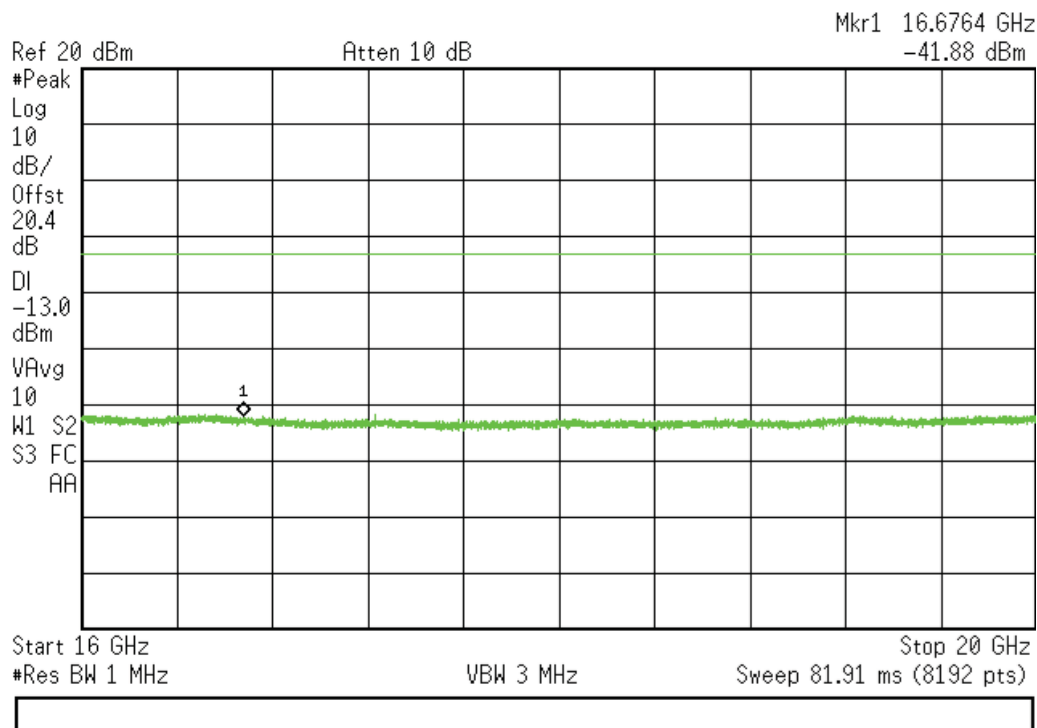




1850-1915 MHz Band (High Frequency) (Cont)

Agilent 18:41:11 Aug 11, 2014

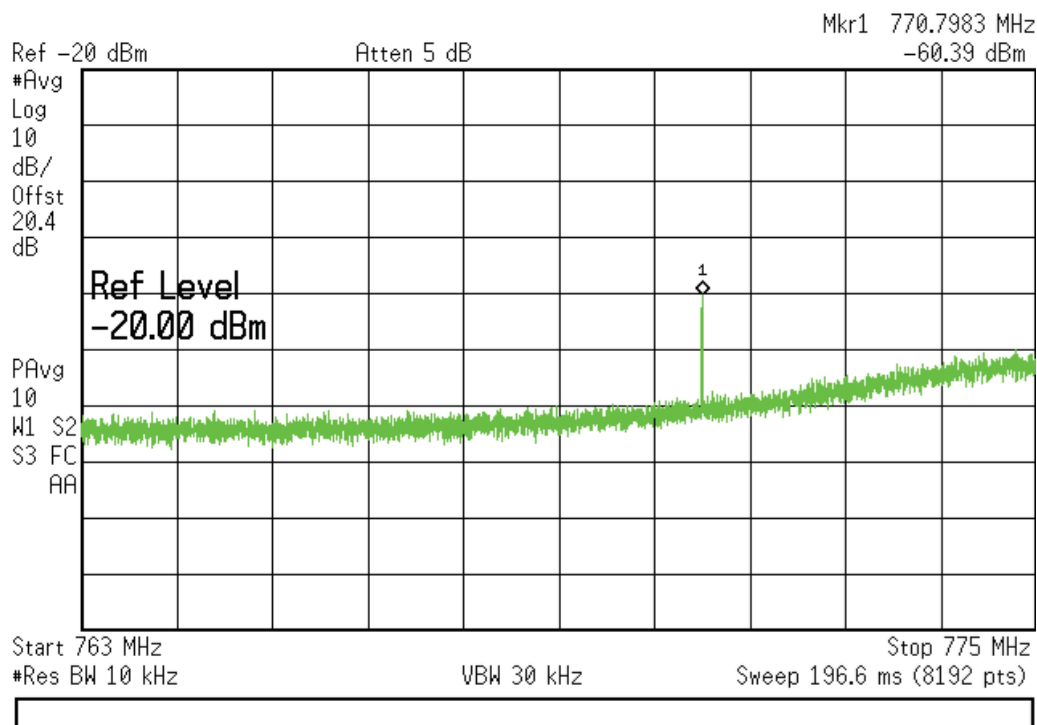
L



Additional testing 763 - 775 MHz (Narrowband)

Agilent 15:21:32 Aug 14, 2014

L

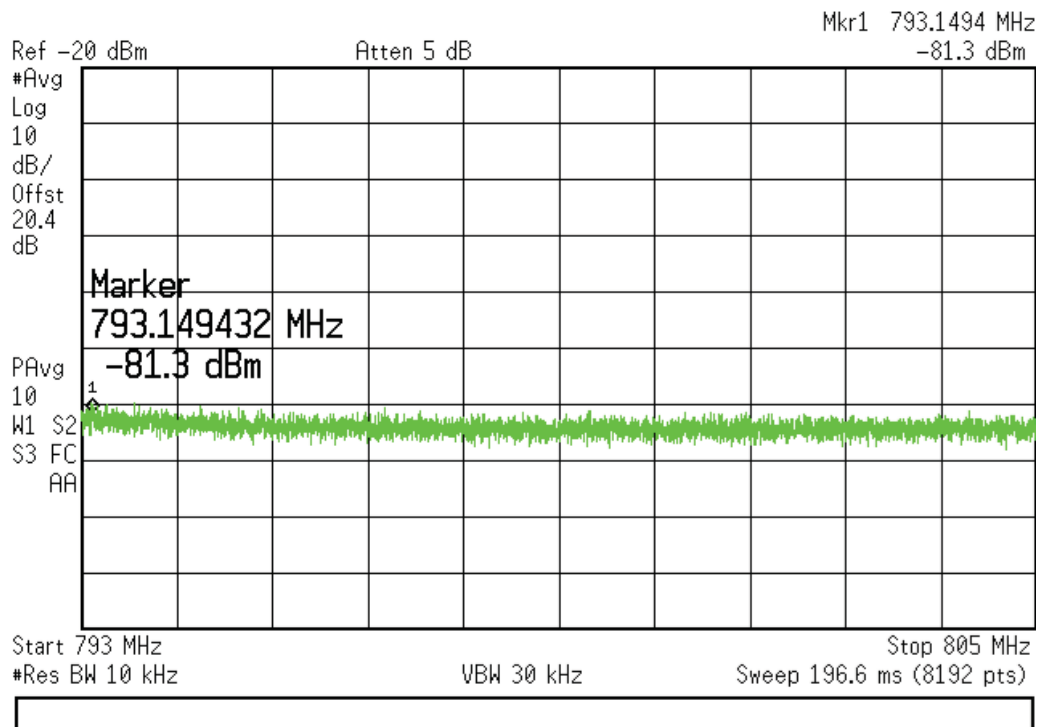




Additional testing 793 - 805 MHz (Narrowband)

Agilent 15:26:10 Aug 14, 2014

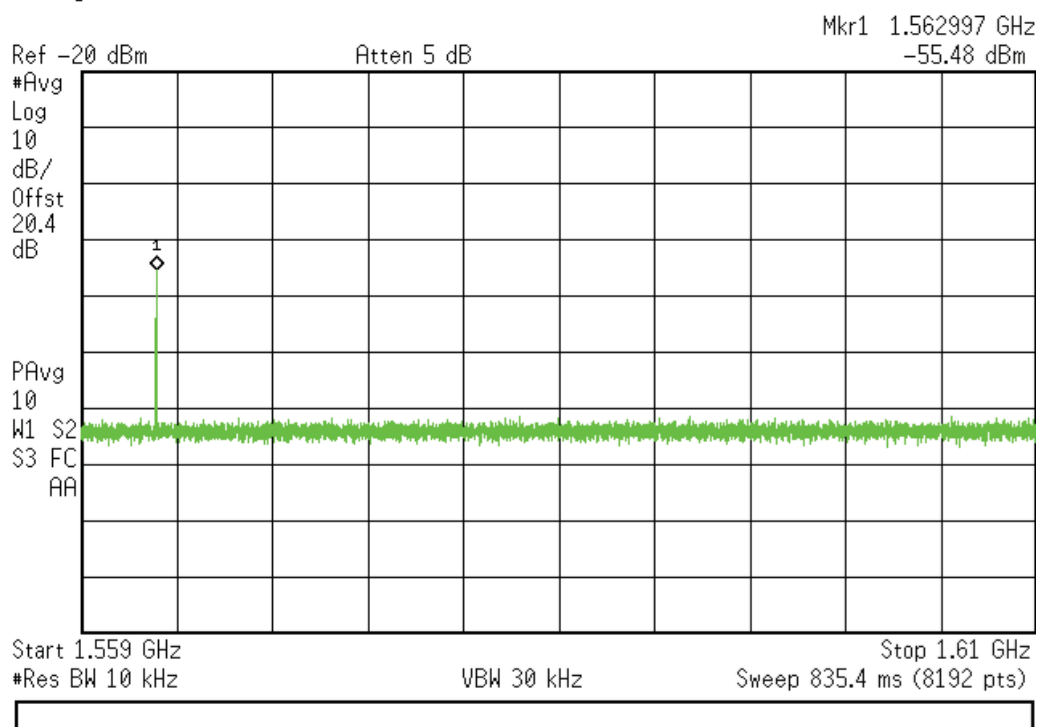
L



Additional testing 1559 - 1610 MHz (Narrowband)

Agilent 15:31:16 Aug 14, 2014

L



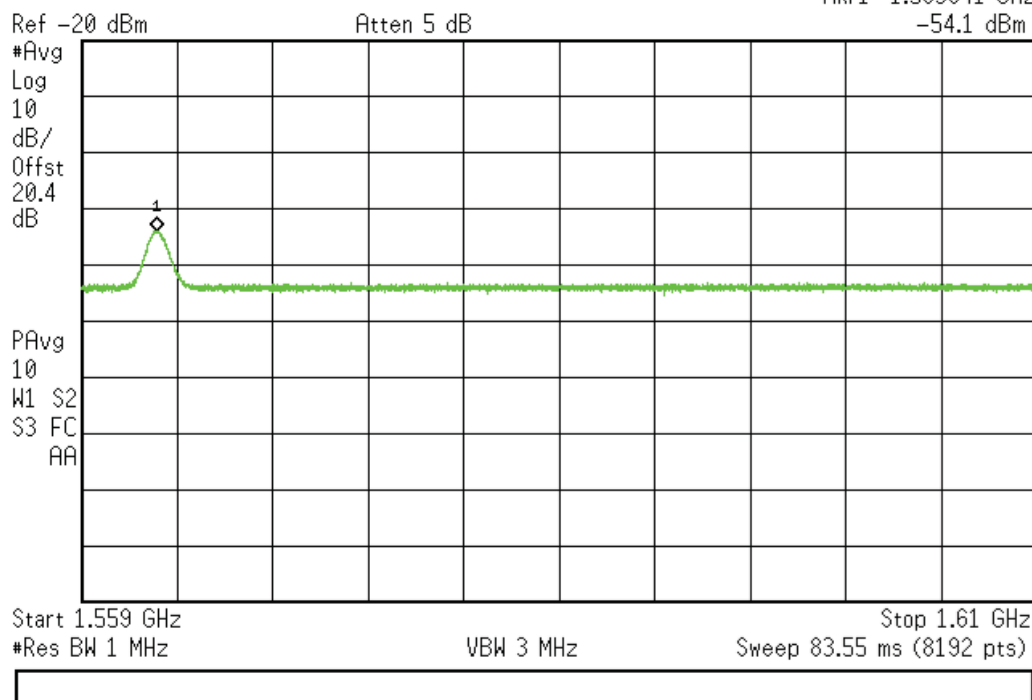


Additional testing 1559 - 1610 MHz (Wideband)

Agilent 15:28:45 Aug 14, 2014

L

Mkr1 1.563041 GHz
-54.1 dBm

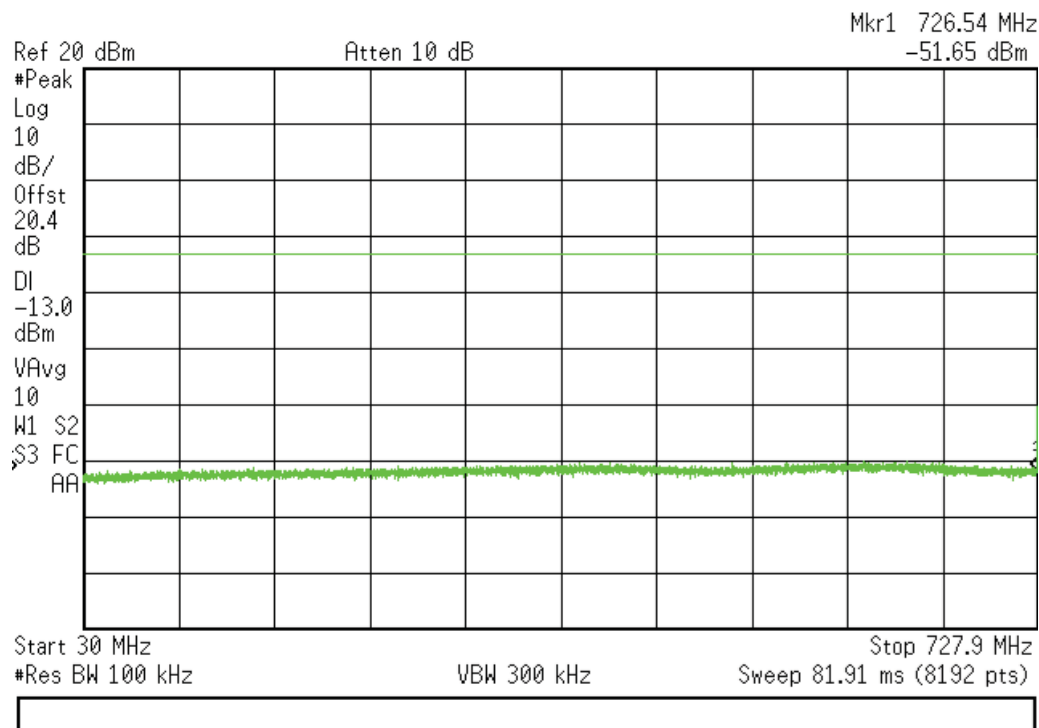




Downlink GSM Signal 728-746 MHz Band (Low Frequency)

Agilent 07:29:58 Aug 12, 2014

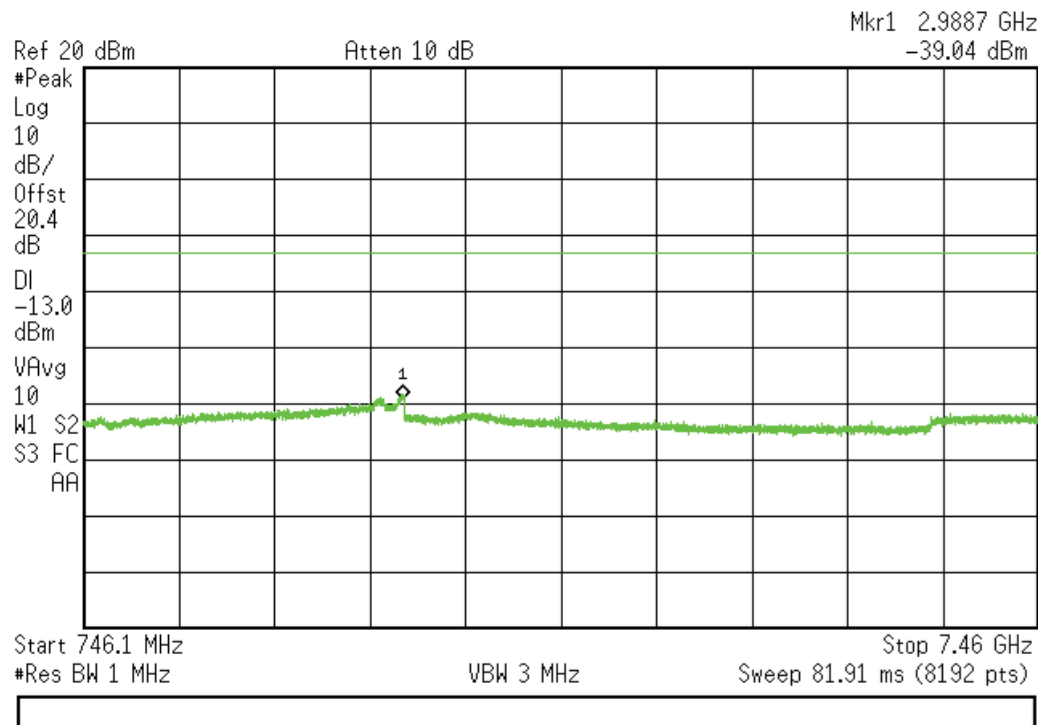
L



728-746 MHz Band (Low Frequency) (Cont)

Agilent 07:34:19 Aug 12, 2014

L

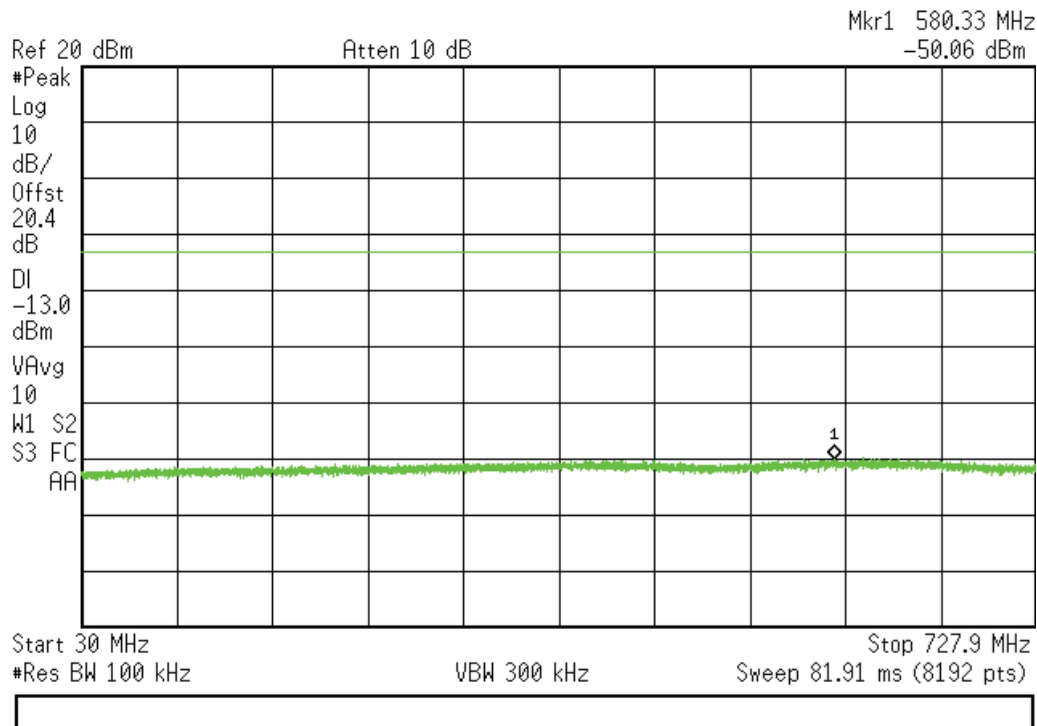




728-746 MHz Band (Mid Frequency)

Agilent 07:30:58 Aug 12, 2014

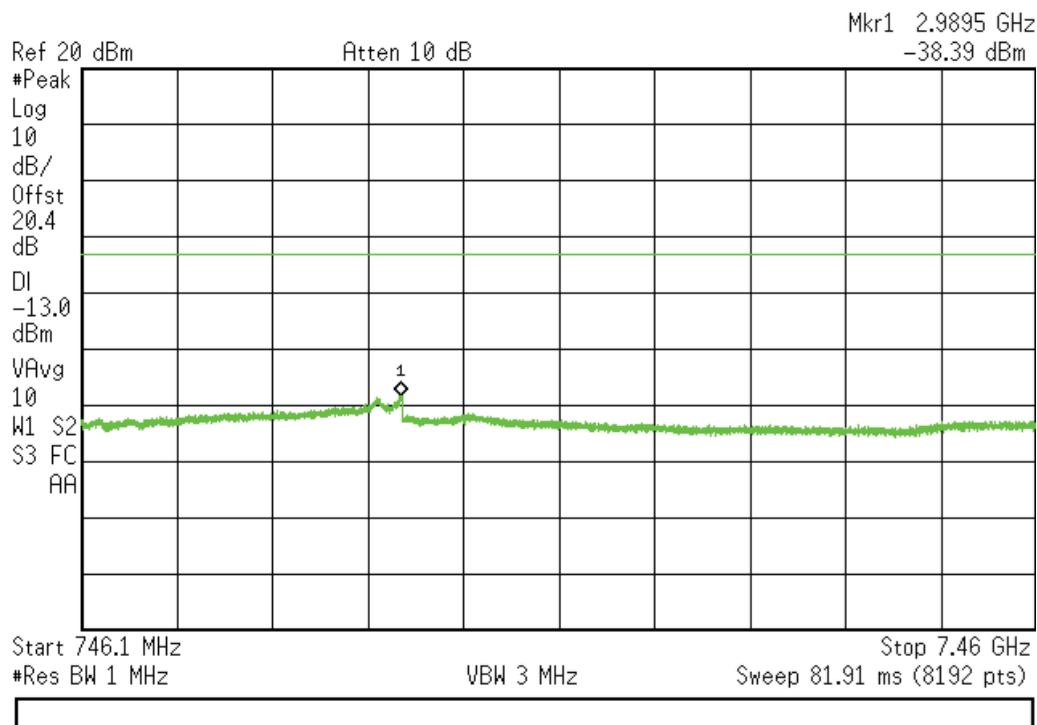
L



728-746 MHz Band (Mid Frequency) (Cont)

Agilent 07:33:37 Aug 12, 2014

L

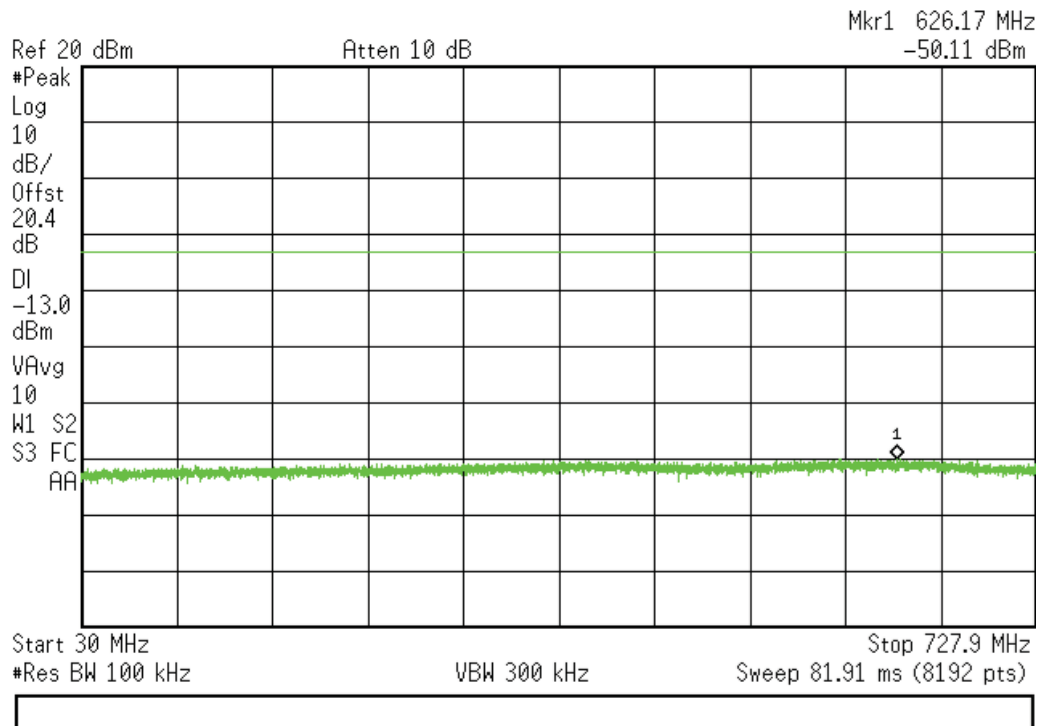




728-746 MHz Band (High Frequency)

Agilent 07:31:49 Aug 12, 2014

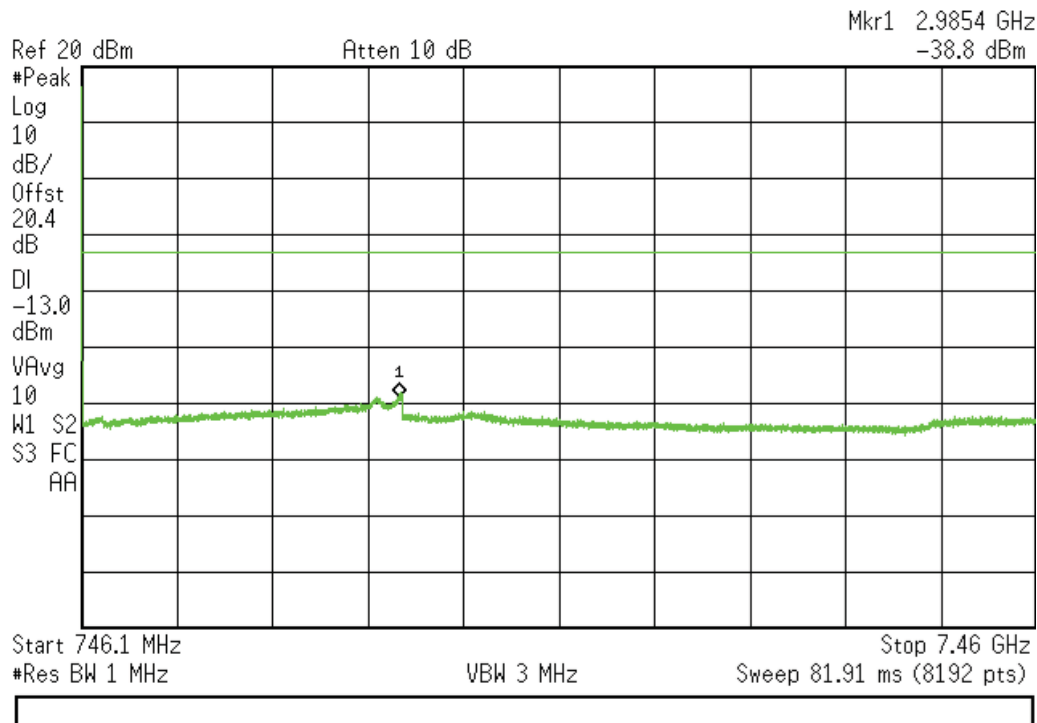
L



728-746 MHz Band (High Frequency) (Cont)

Agilent 07:32:58 Aug 12, 2014

L

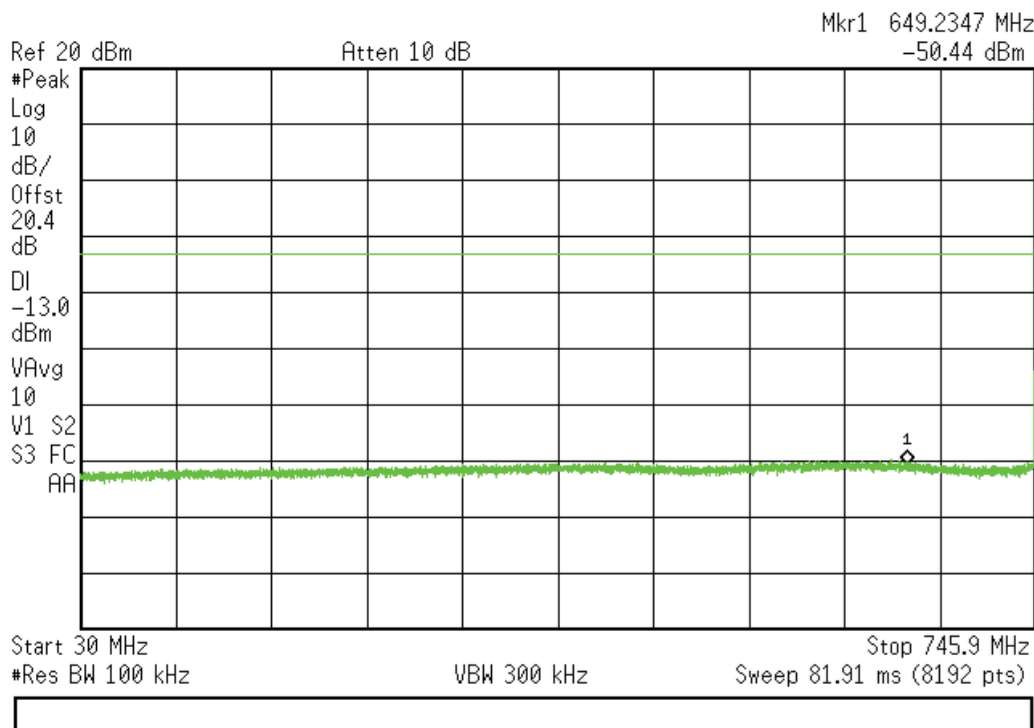




746-757 MHz Band (Low Frequency)

Agilent 07:38:35 Aug 12, 2014

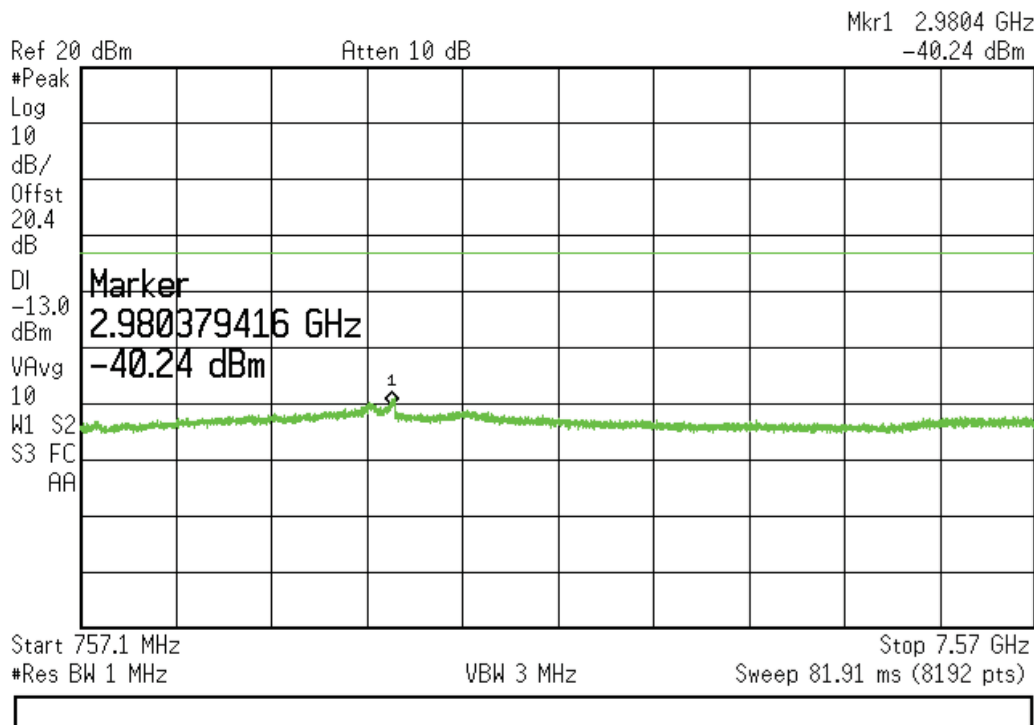
L



728-746 MHz Band (Low Frequency) (Cont)

Agilent 07:46:07 Aug 12, 2014

L

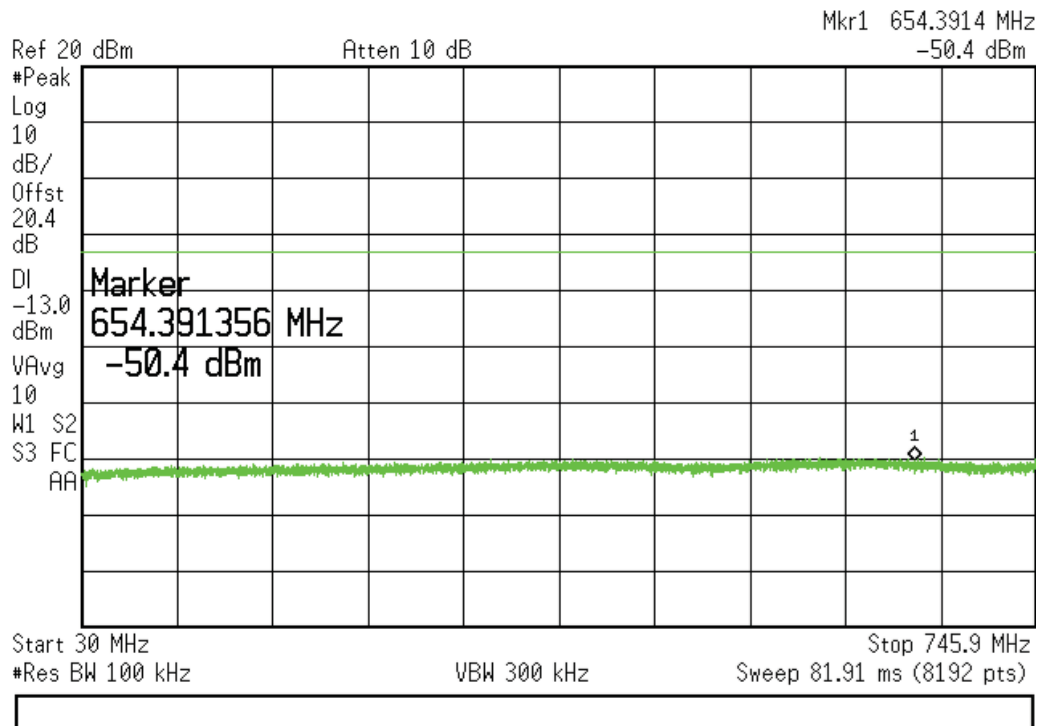




746-757 MHz Band (Mid Frequency)

Agilent 07:40:46 Aug 12, 2014

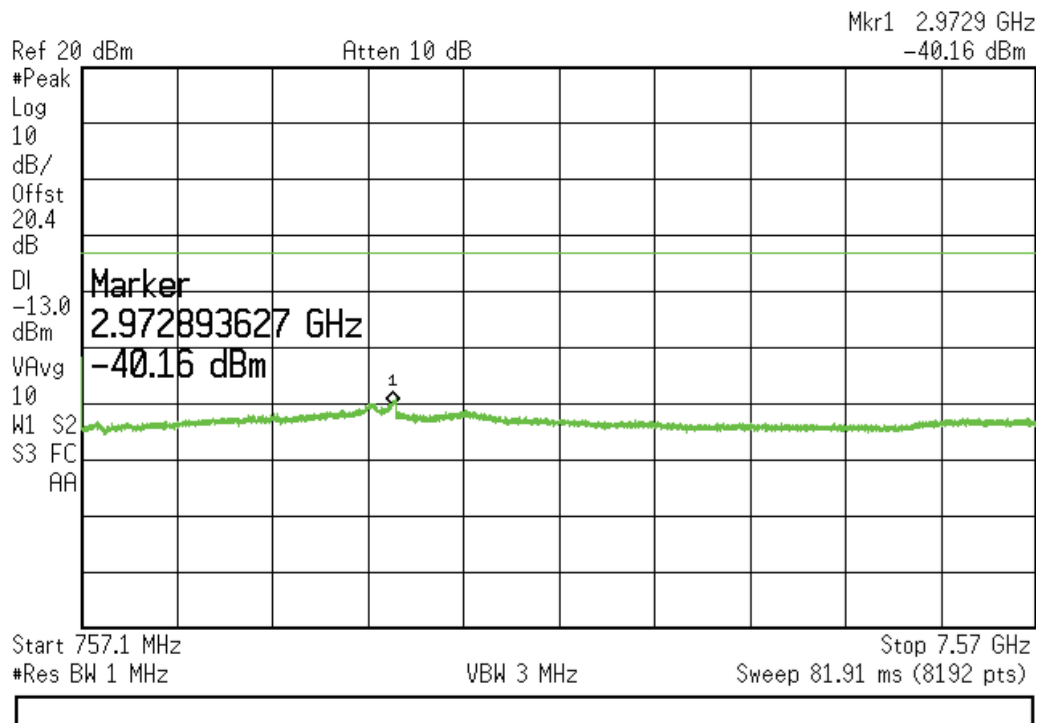
L



746-757 MHz Band (Mid Frequency) (Cont)

Agilent 07:44:41 Aug 12, 2014

L

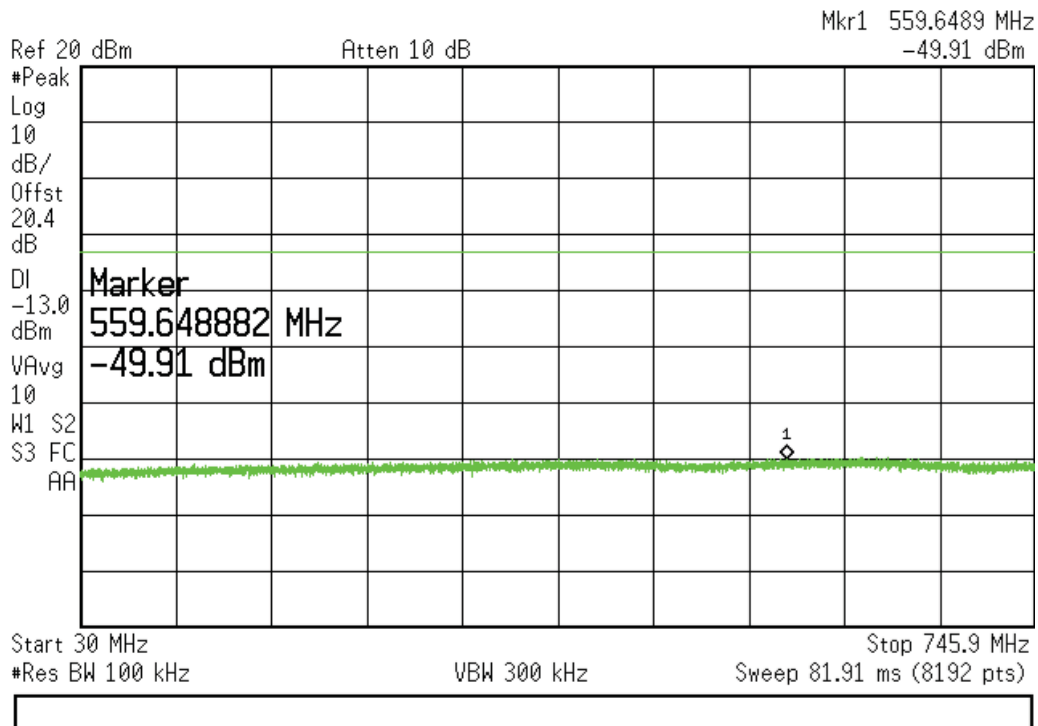




746-757 MHz Band (High Frequency)

Agilent 07:42:07 Aug 12, 2014

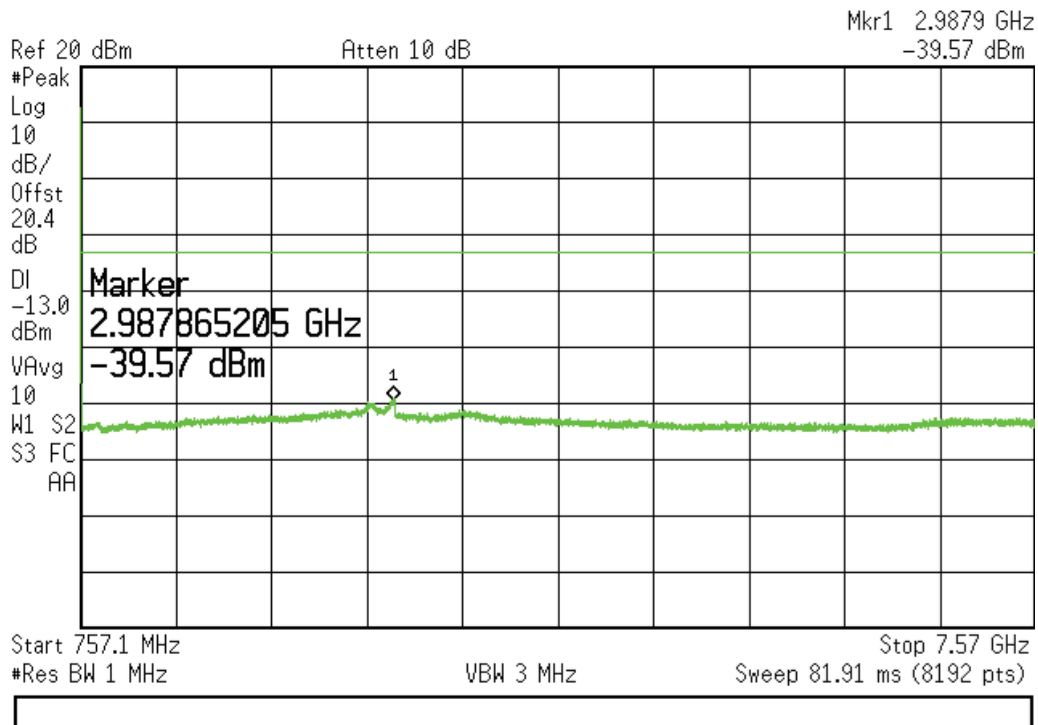
L



746-757 MHz Band (High Frequency) (Cont)

Agilent 07:43:25 Aug 12, 2014

L

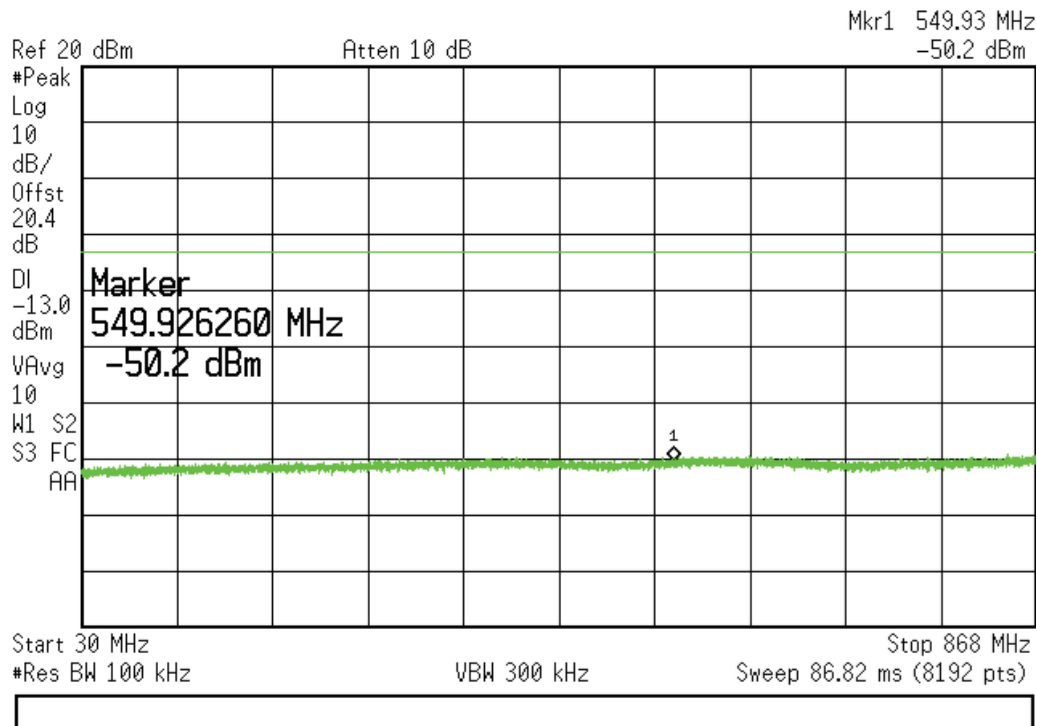




869-894 MHz Band (Low Frequency)

Agilent 08:02:06 Aug 12, 2014

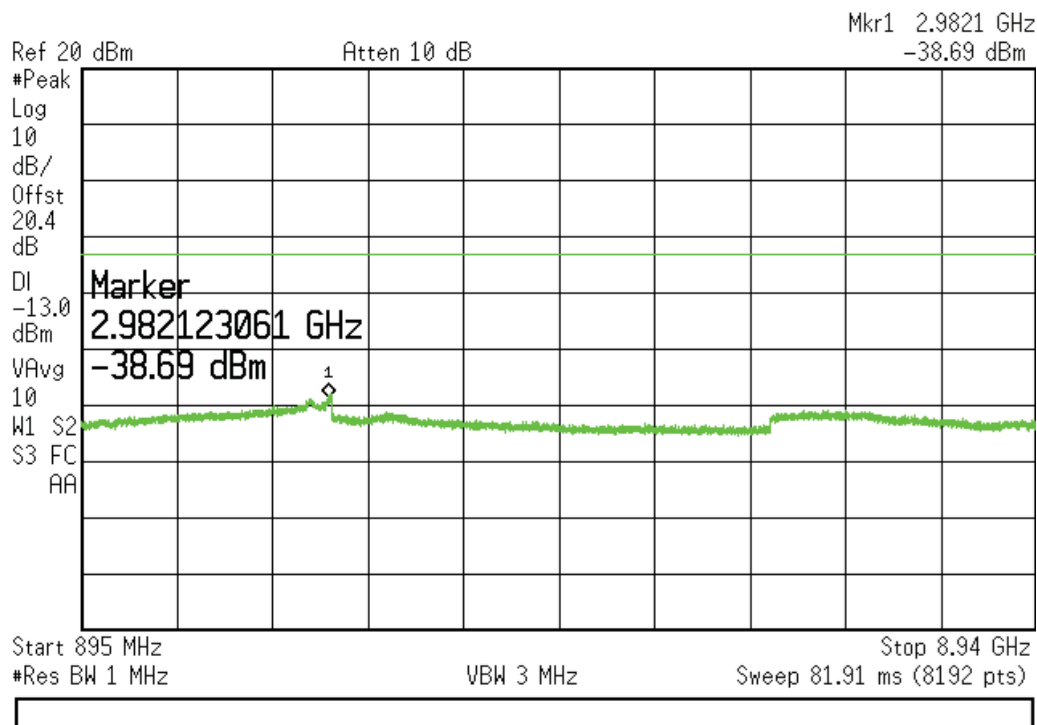
L



869-894 MHz Band (Low Frequency) (Cont)

Agilent 08:03:08 Aug 12, 2014

L

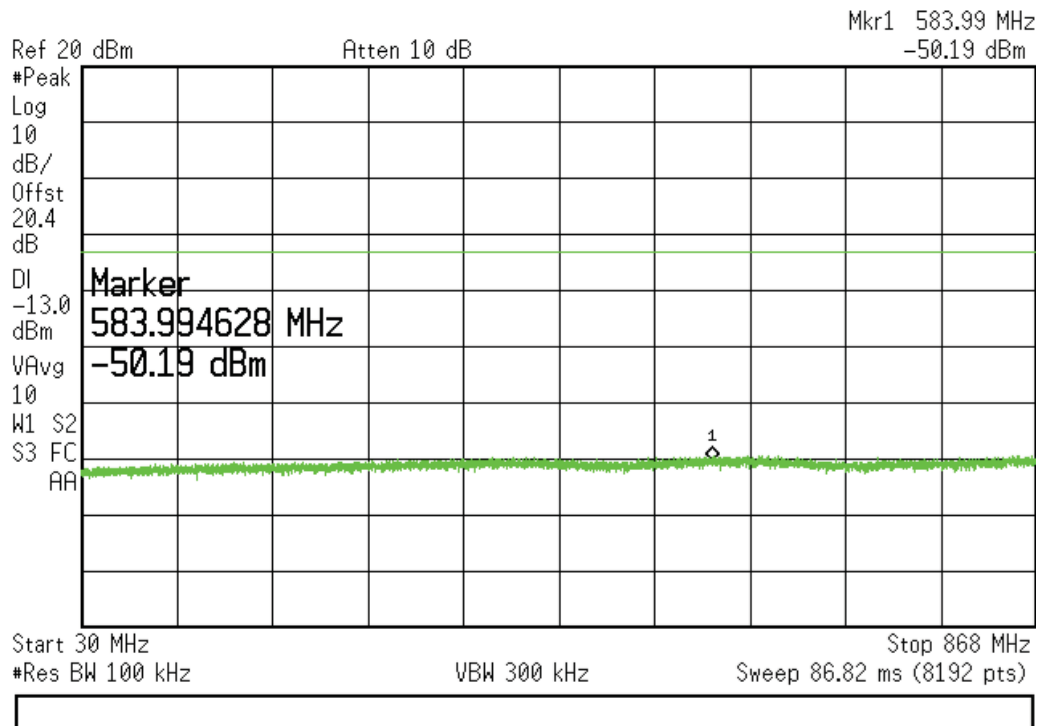




869-894 MHz Band (Mid Frequency)

Agilent 08:01:24 Aug 12, 2014

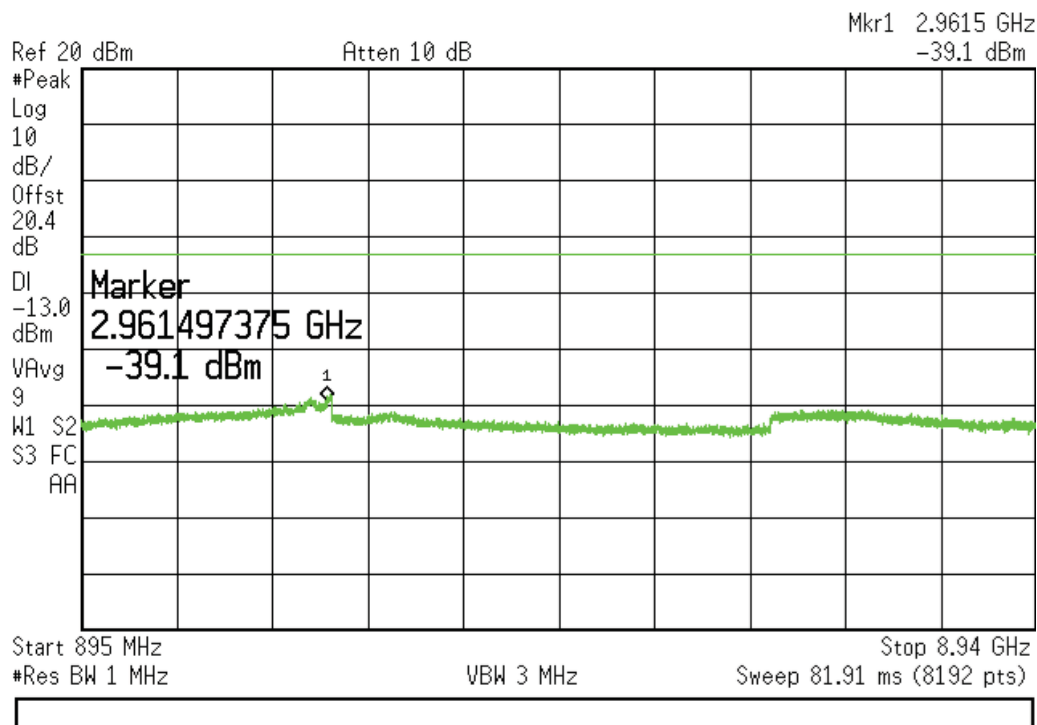
L



869-894 MHz Band (Mid Frequency) (Cont)

Agilent 08:03:46 Aug 12, 2014

L

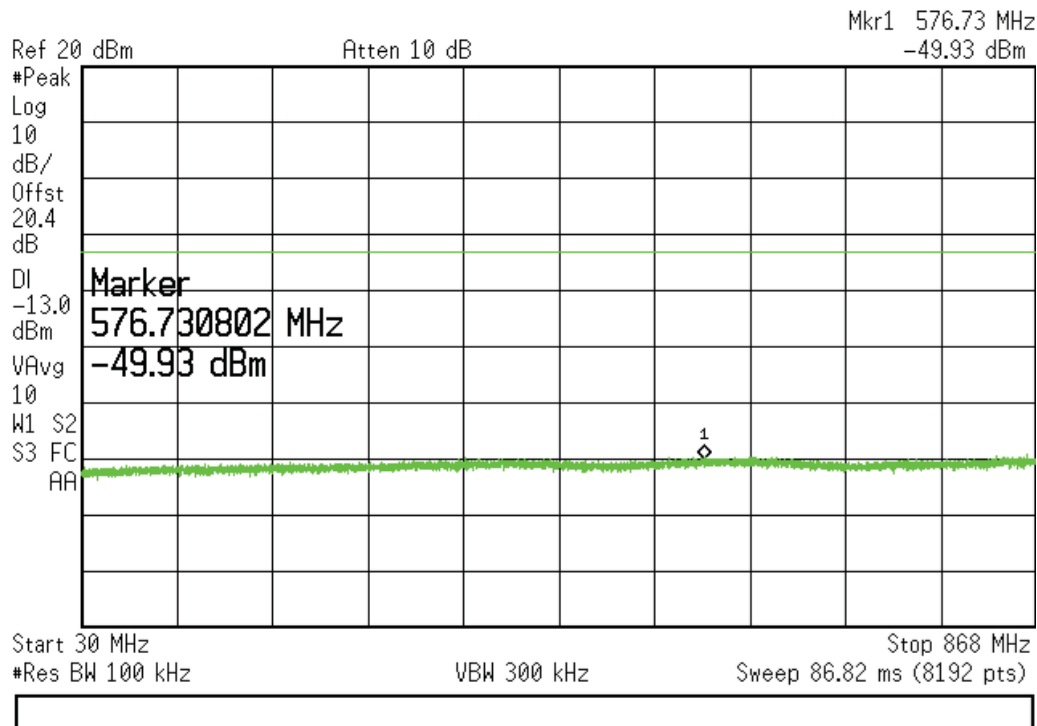




869-894 MHz Band (High Frequency)

Agilent 08:00:23 Aug 12, 2014

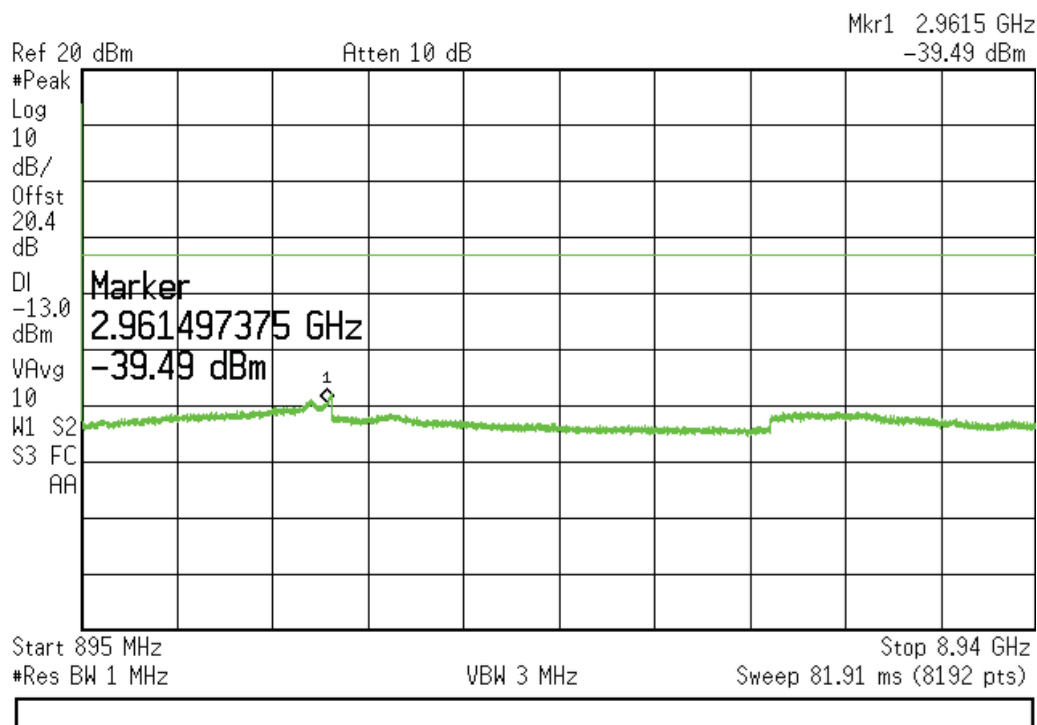
L



869-894 MHz Band (High Frequency) (Cont)

Agilent 08:04:29 Aug 12, 2014

L

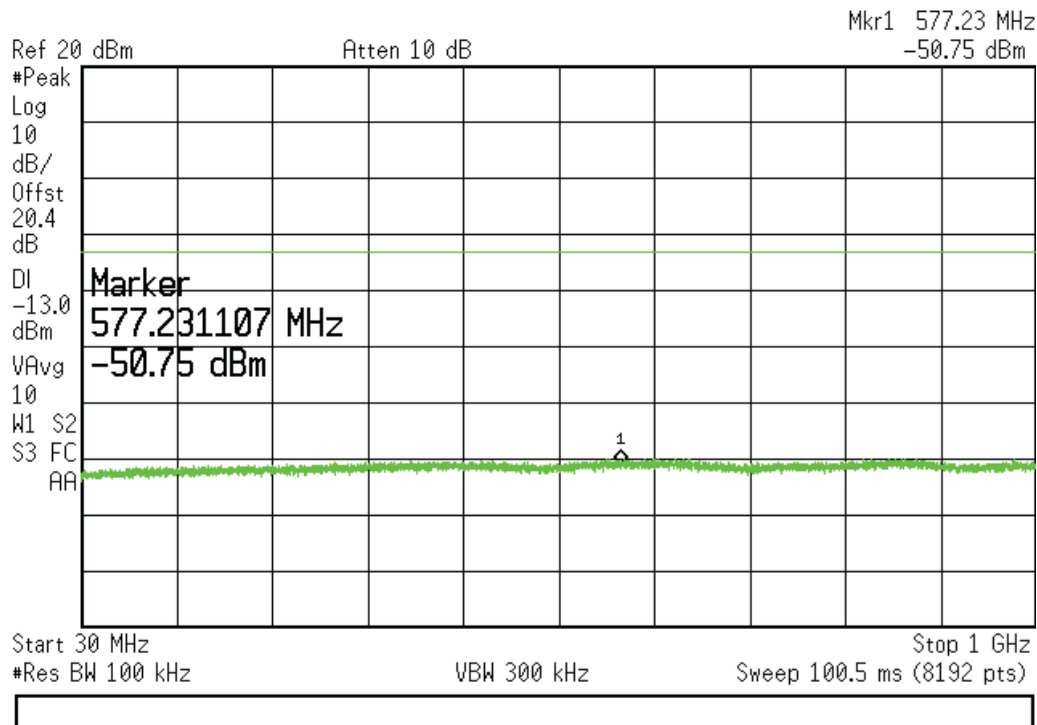




1930-1995 MHz Band (Low Frequency)

Agilent 08:13:05 Aug 12, 2014

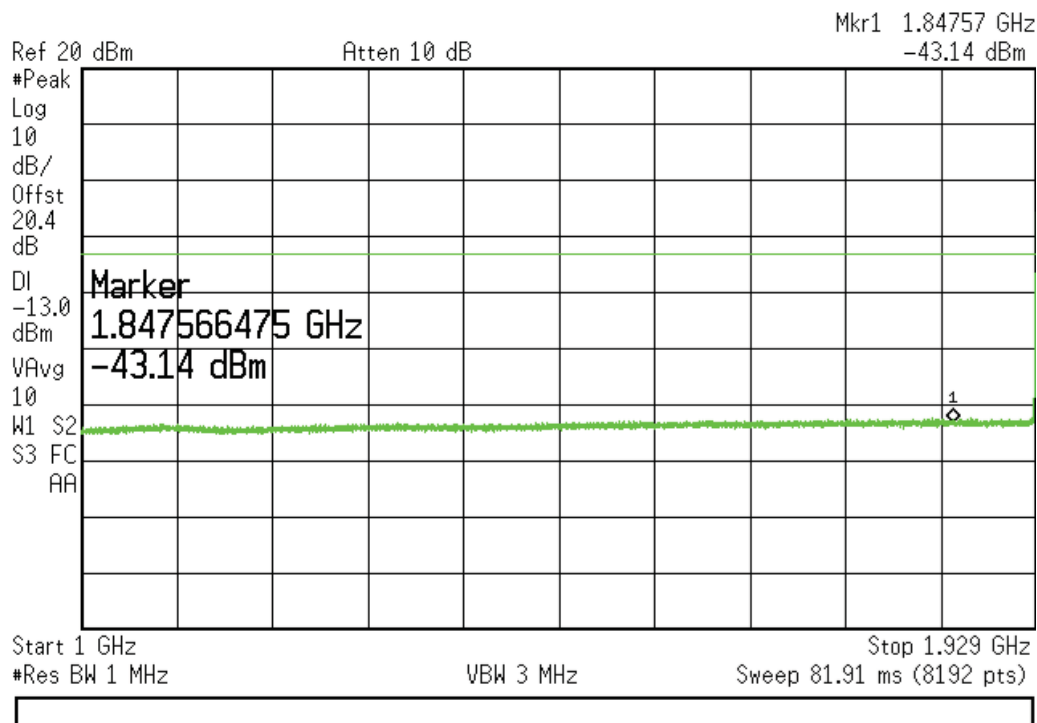
L



1930-1995 MHz Band (Low Frequency) (Cont)

Agilent 08:14:21 Aug 12, 2014

L

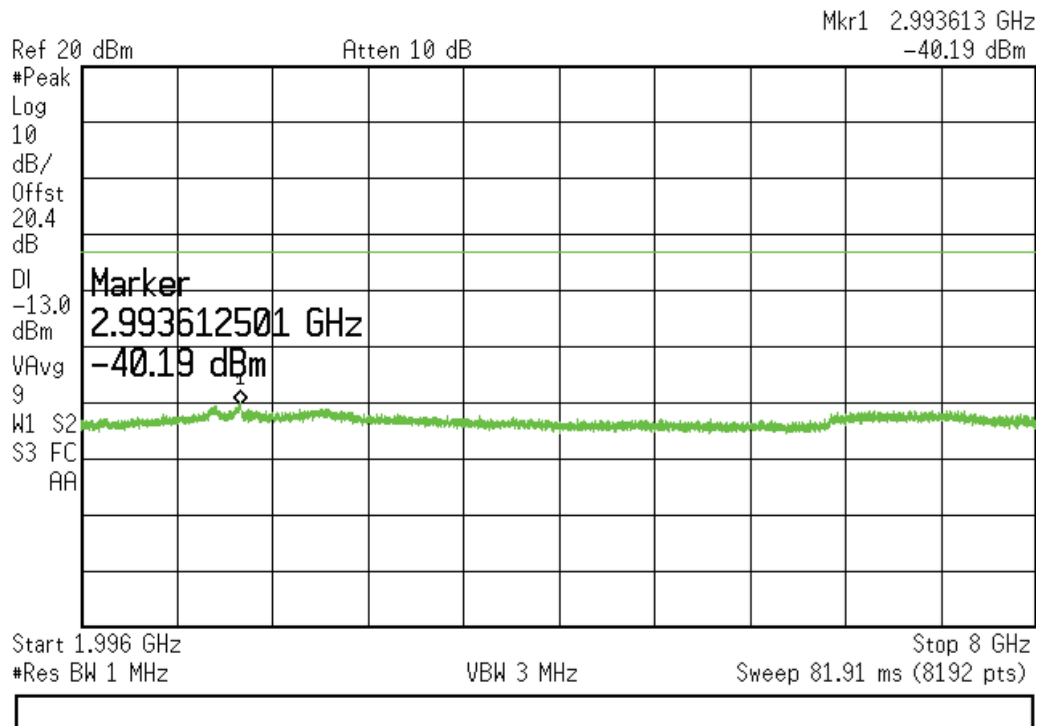




1930-1995 MHz Band (Low Frequency) (Cont)

Agilent 08:22:21 Aug 12, 2014

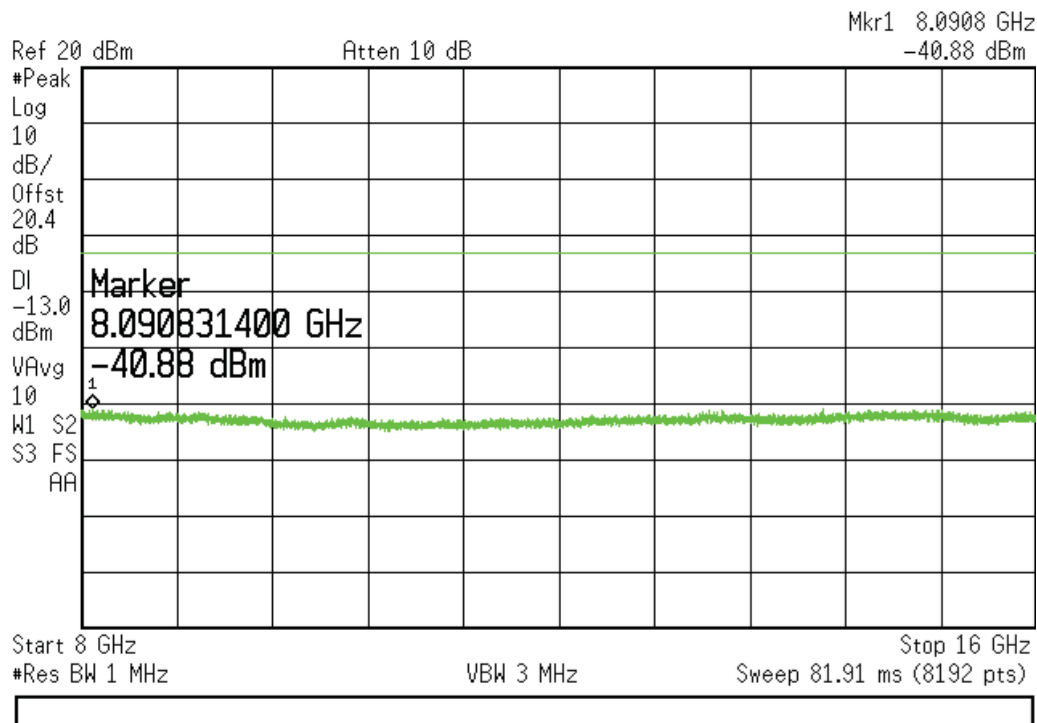
L



1930-1995 MHz Band (Low Frequency) (Cont)

Agilent 08:25:37 Aug 12, 2014

L

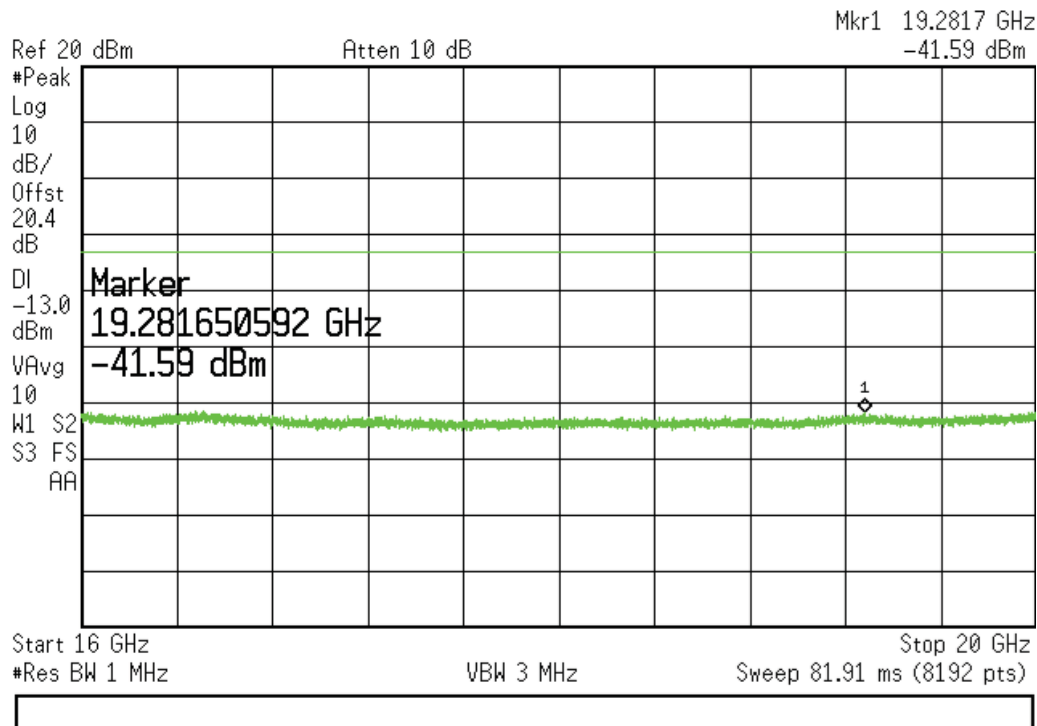




1930-1995 MHz Band (Low Frequency) (Cont)

Agilent 08:28:54 Aug 12, 2014

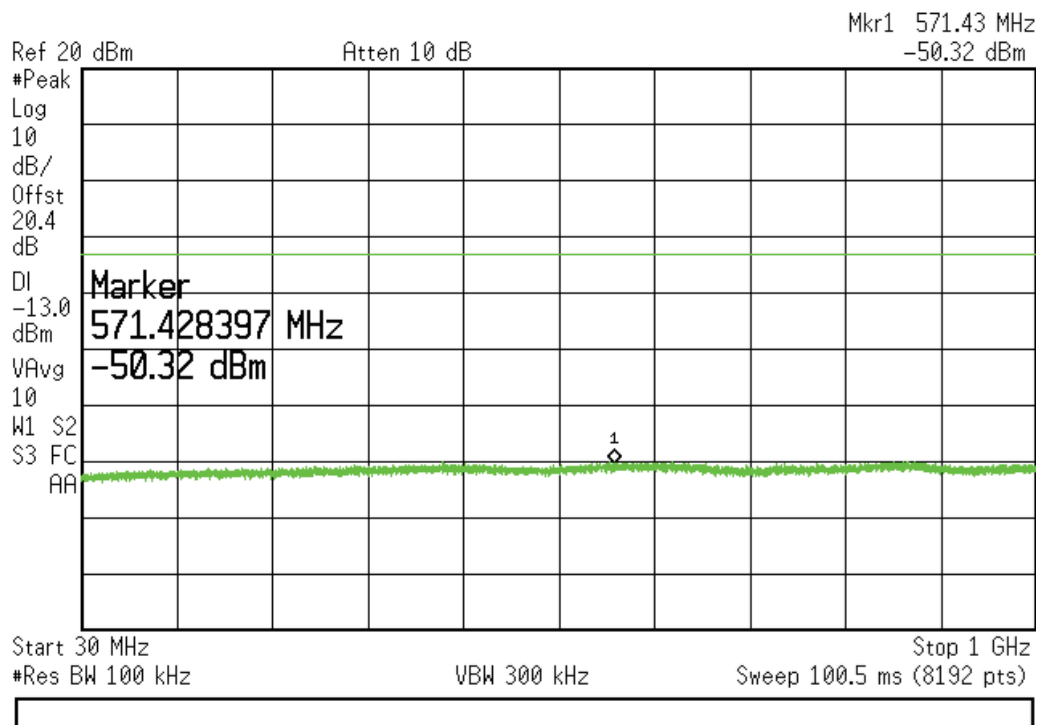
L



1930-1995 MHz Band (Mid Frequency)

Agilent 08:12:06 Aug 12, 2014

L

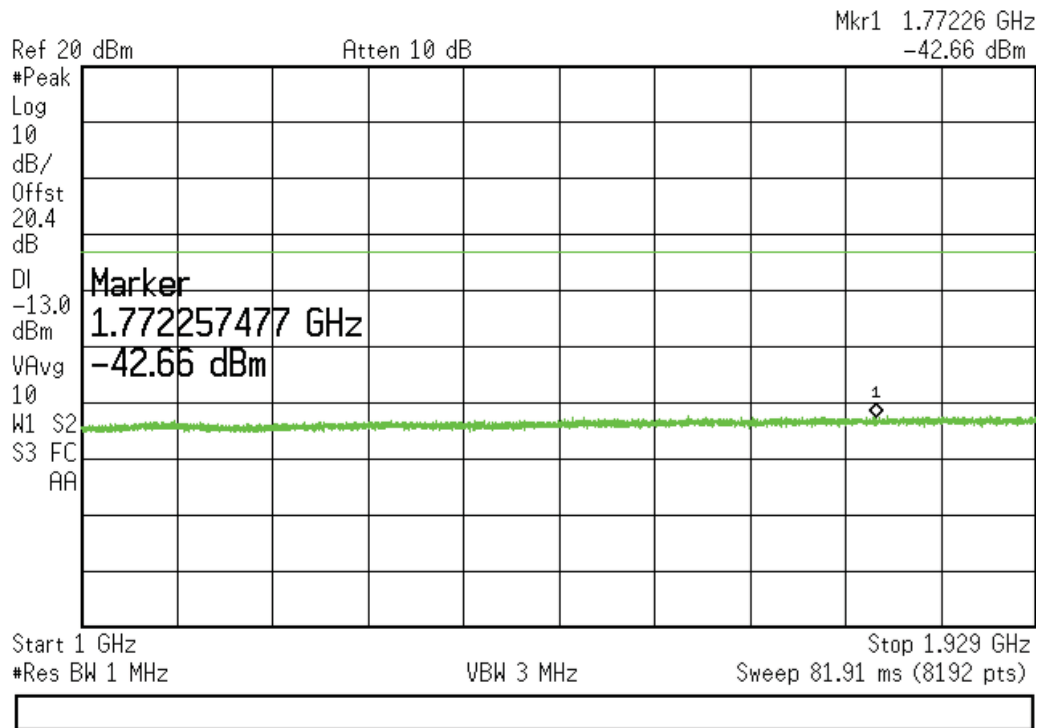




1930-1995 MHz Band (Mid Frequency) (Cont)

Agilent 08:15:26 Aug 12, 2014

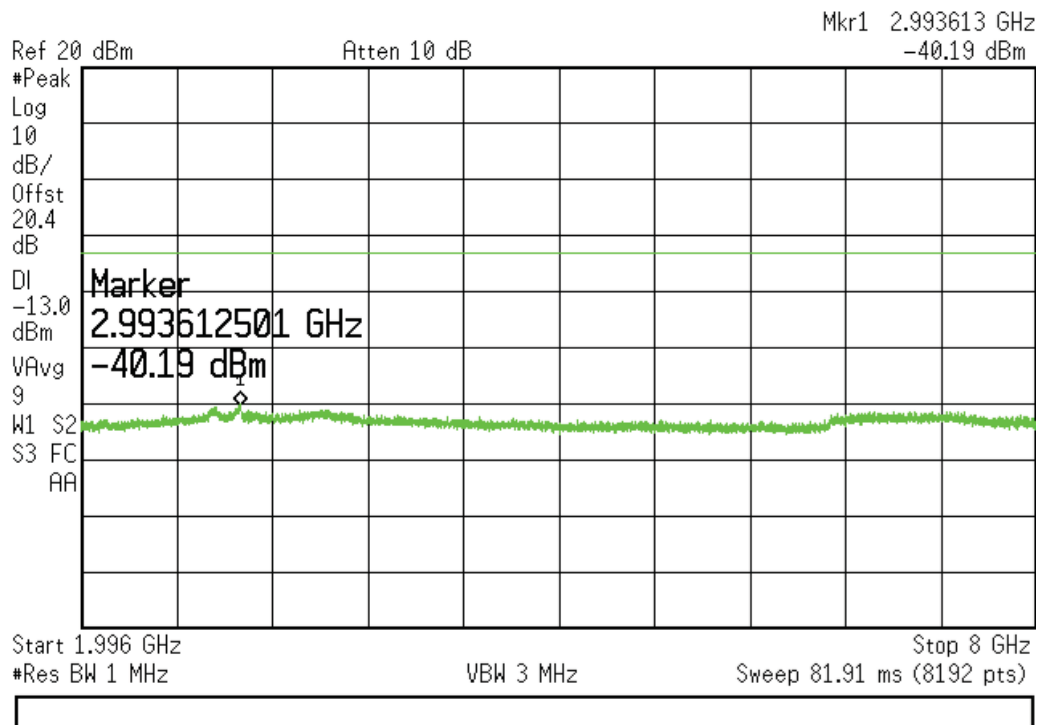
L



1930-1995 MHz Band (Mid Frequency) (Cont)

Agilent 08:22:21 Aug 12, 2014

L

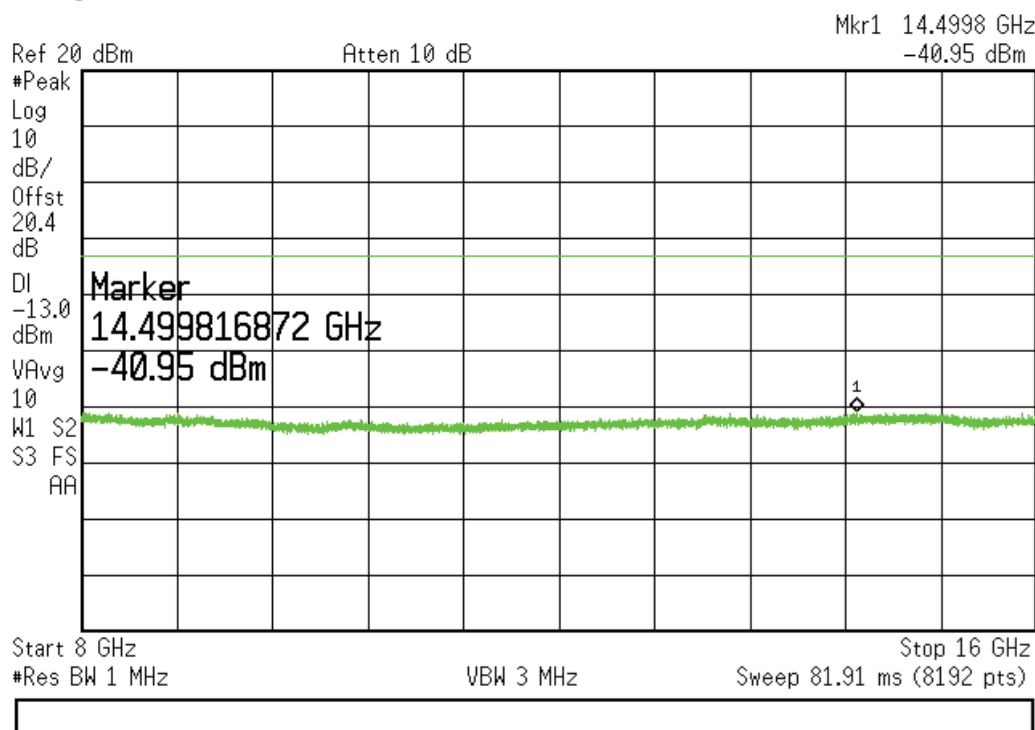




1930-1995 MHz Band (Mid Frequency) (Cont)

Agilent 08:26:17 Aug 12, 2014

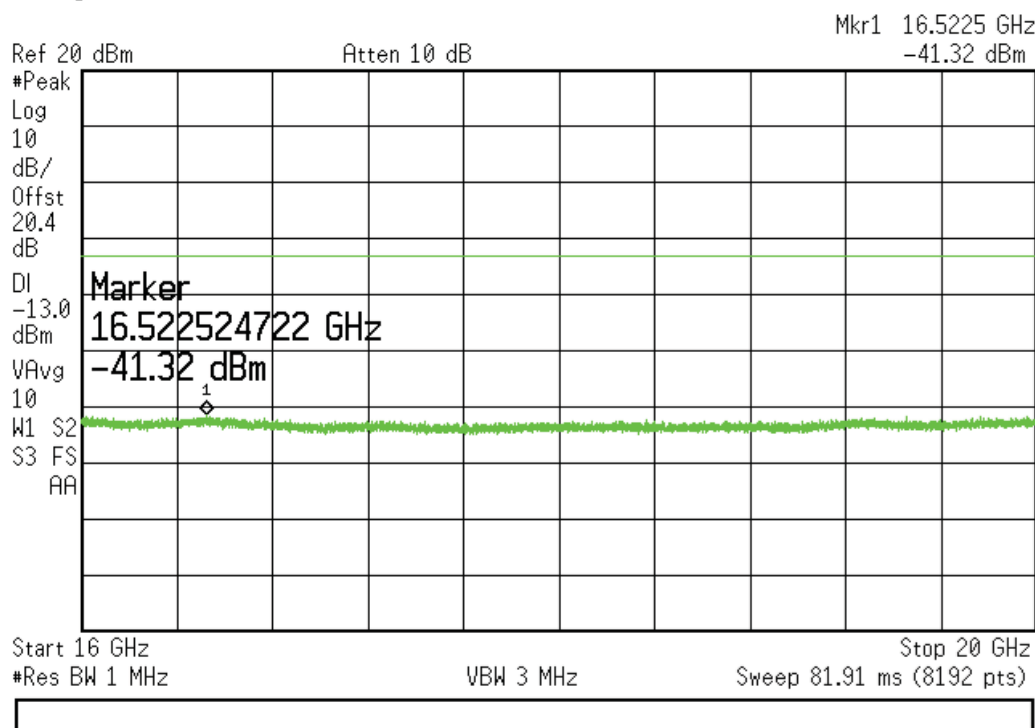
L



1930-1995 MHz Band (Mid Frequency) (Cont)

Agilent 08:28:22 Aug 12, 2014

L

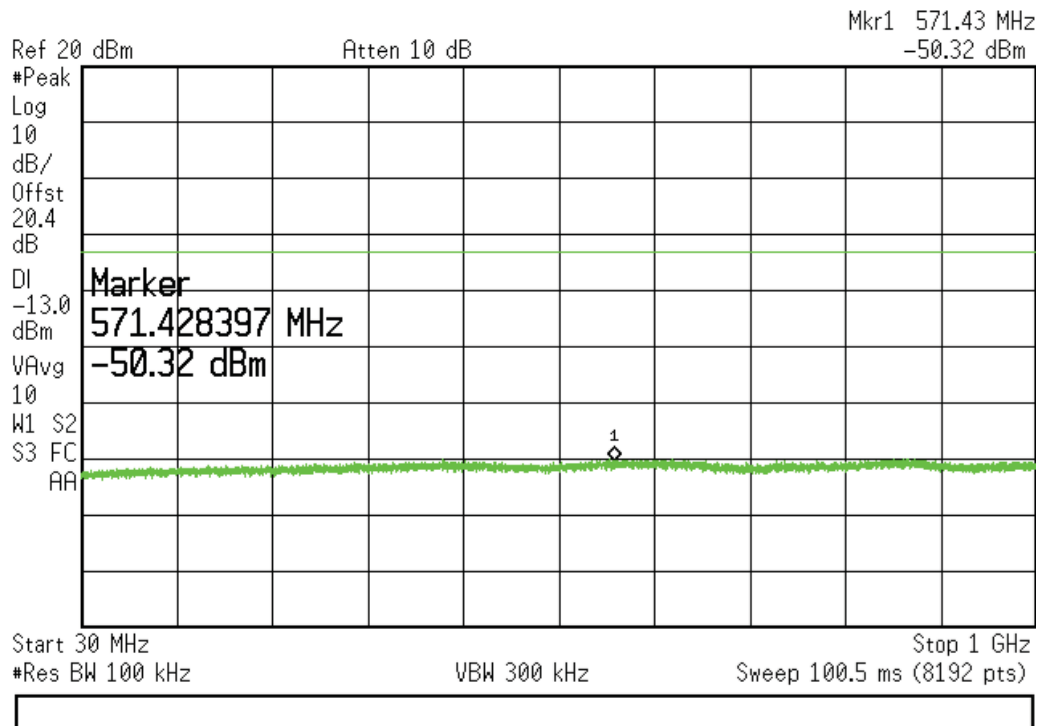




1930-1995 MHz Band (High Frequency)

Agilent 08:12:06 Aug 12, 2014

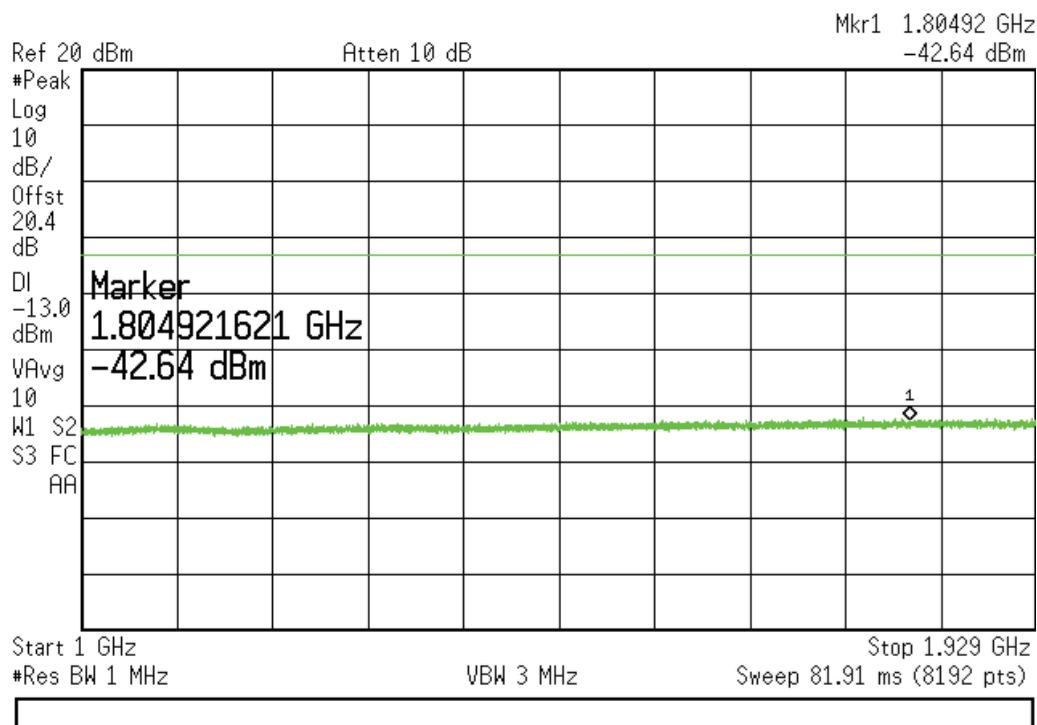
L



1930-1995 MHz Band (High Frequency) (Cont)

Agilent 08:16:08 Aug 12, 2014

L

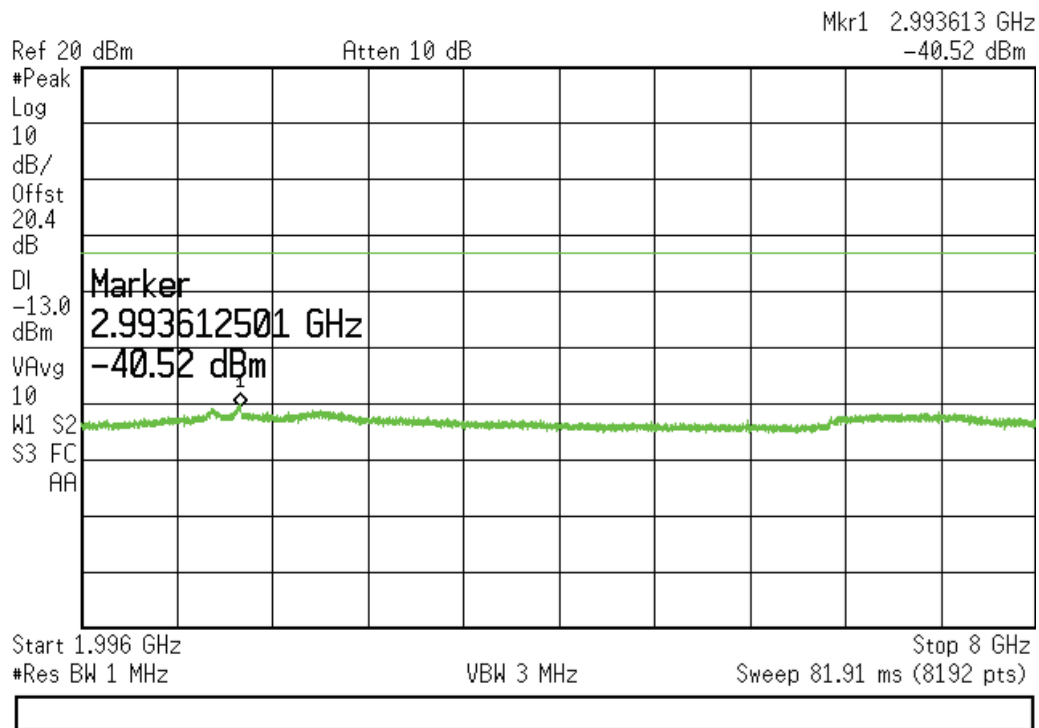




1930-1995 MHz Band (High Frequency) (Cont)

Agilent 08:23:48 Aug 12, 2014

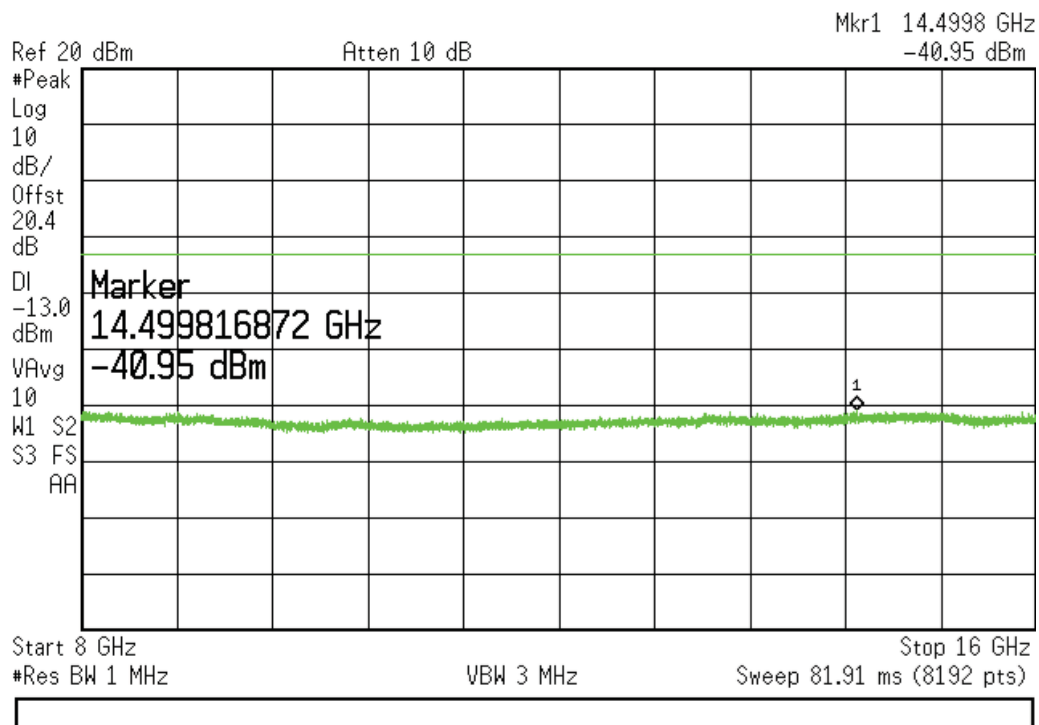
L



1930-1995 MHz Band (High Frequency) (Cont)

Agilent 08:26:17 Aug 12, 2014

L





1930-1995 MHz Band (High Frequency) (Cont)

Agilent 08:27:51 Aug 12, 2014

L

Mkr1 19.9707 GHz
-41.56 dBm

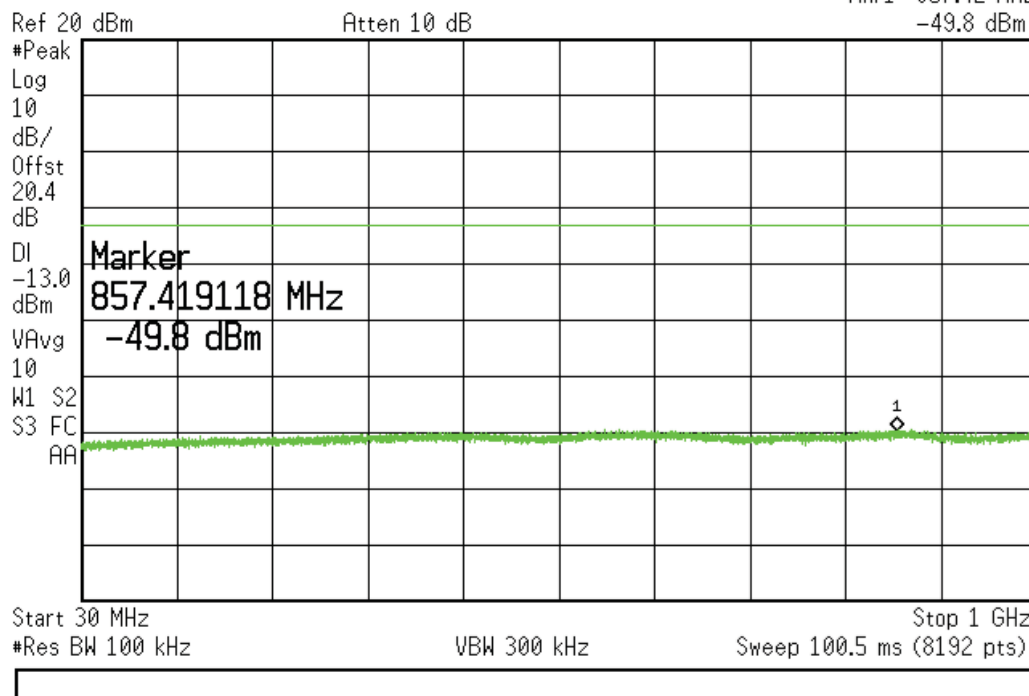


2110-2155 MHz Band (Low Frequency)

Agilent 08:41:10 Aug 12, 2014

L

Mkr1 857.42 MHz
-49.8 dBm

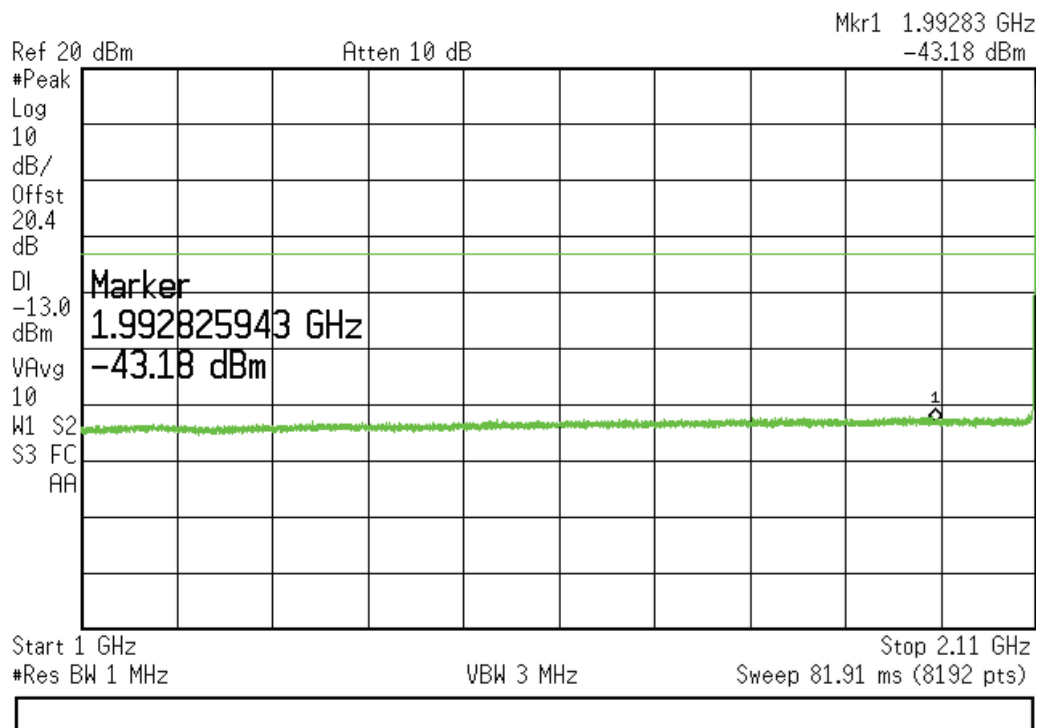




2110-2155 MHz Band (Low Frequency) (Cont)

Agilent 08:43:23 Aug 12, 2014

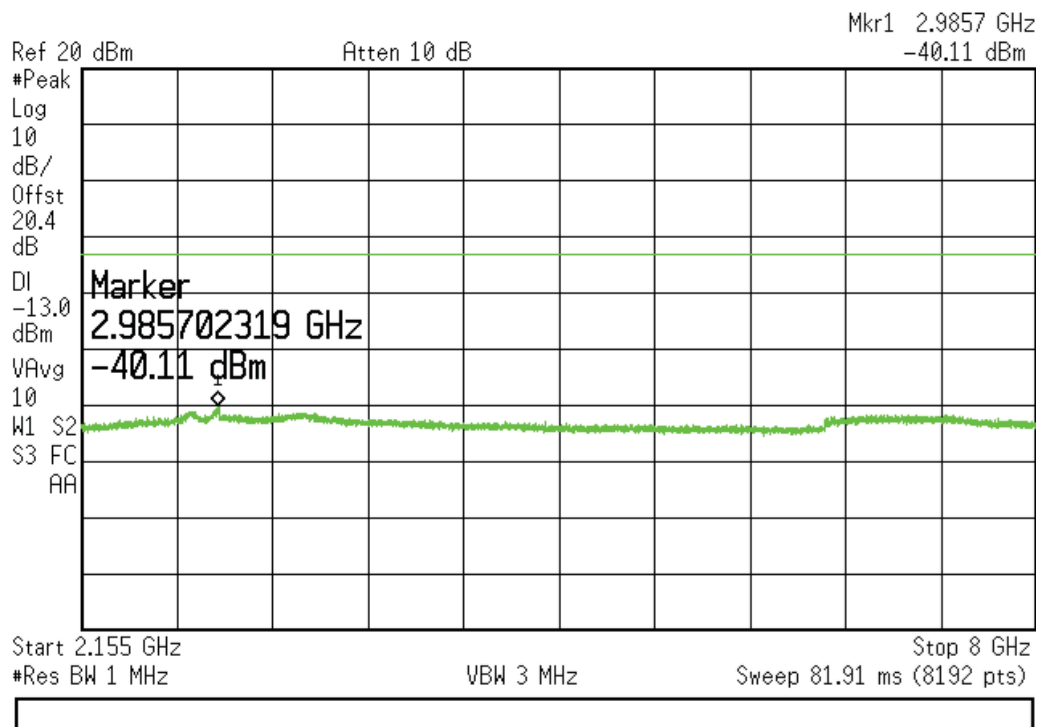
L



2110-2155 MHz Band (Low Frequency) (Cont)

Agilent 08:54:28 Aug 12, 2014

L

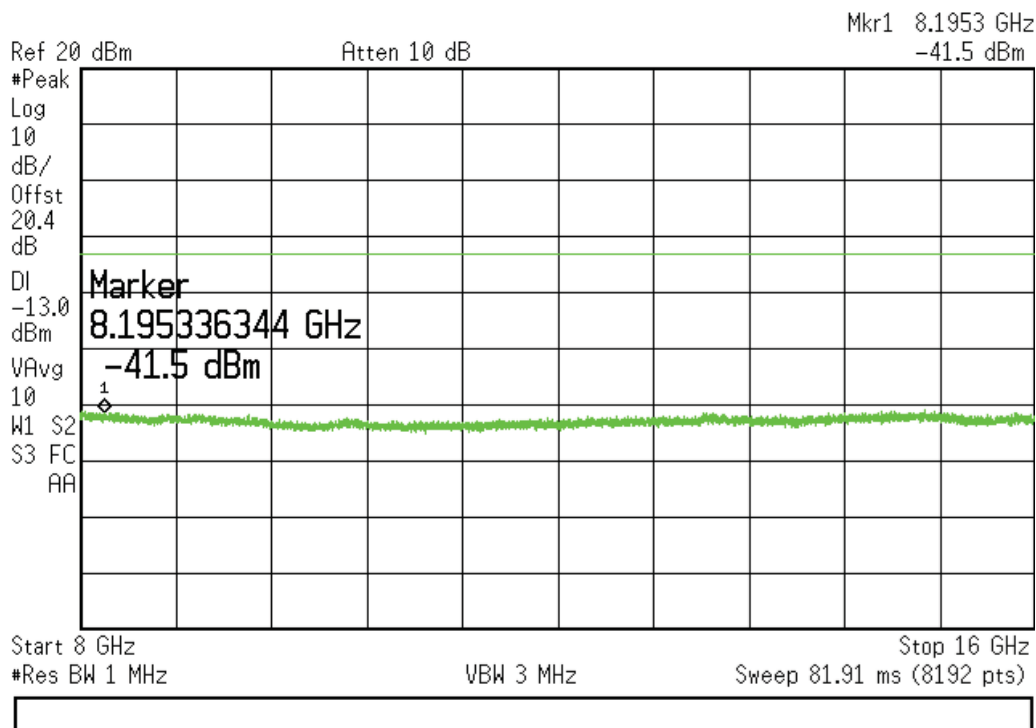




2110-2155 MHz Band (Low Frequency) (Cont)

Agilent 08:58:57 Aug 12, 2014

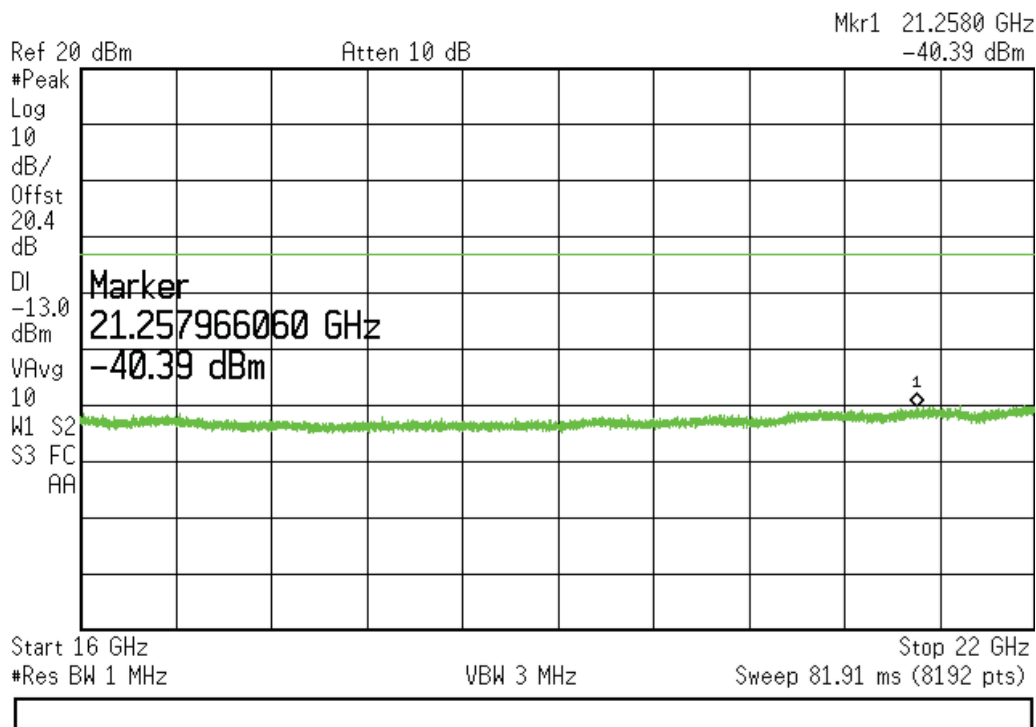
L



2110-2155 MHz Band (Low Frequency) (Cont)

Agilent 09:05:29 Aug 12, 2014

L

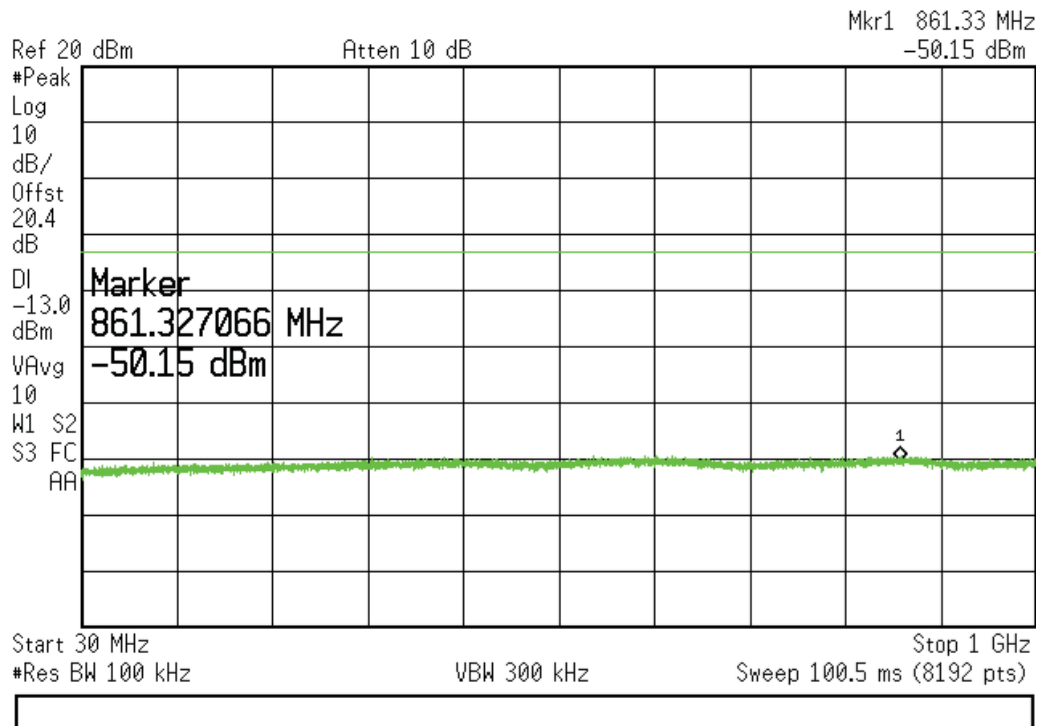




2110-2155 MHz Band (Mid Frequency)

Agilent 08:40:26 Aug 12, 2014

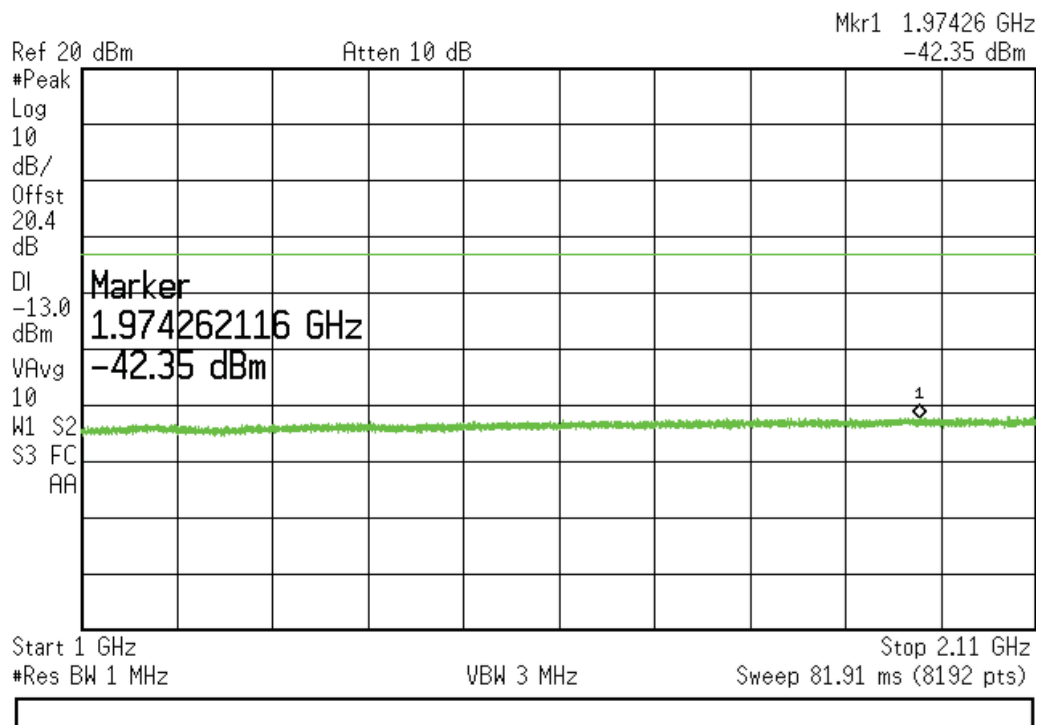
L



2110-2155 MHz Band (Mid Frequency) (Cont)

Agilent 08:44:12 Aug 12, 2014

L

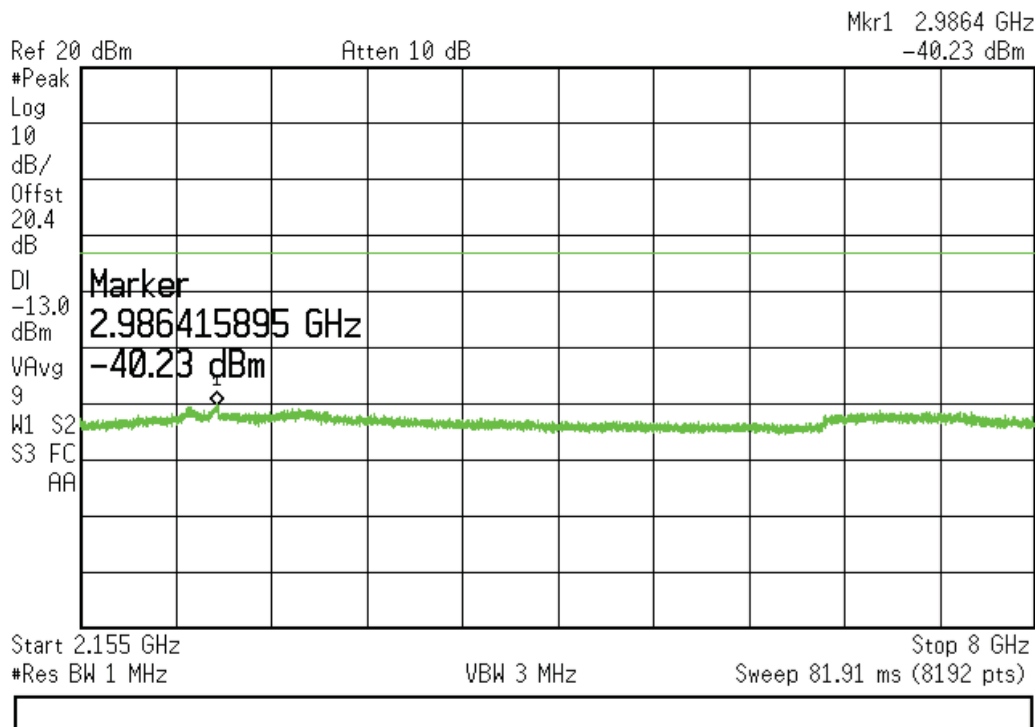




2110-2155 MHz Band (Mid Frequency) (Cont)

Agilent 08:55:22 Aug 12, 2014

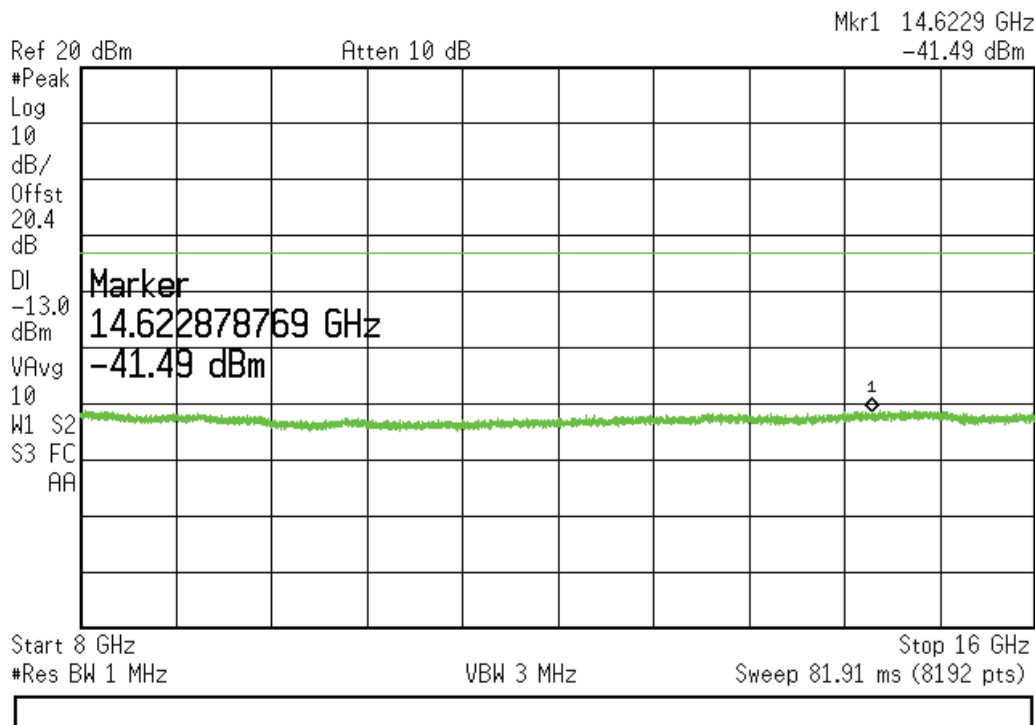
L



2110-2155 MHz Band (Mid Frequency) (Cont)

Agilent 08:58:21 Aug 12, 2014

L

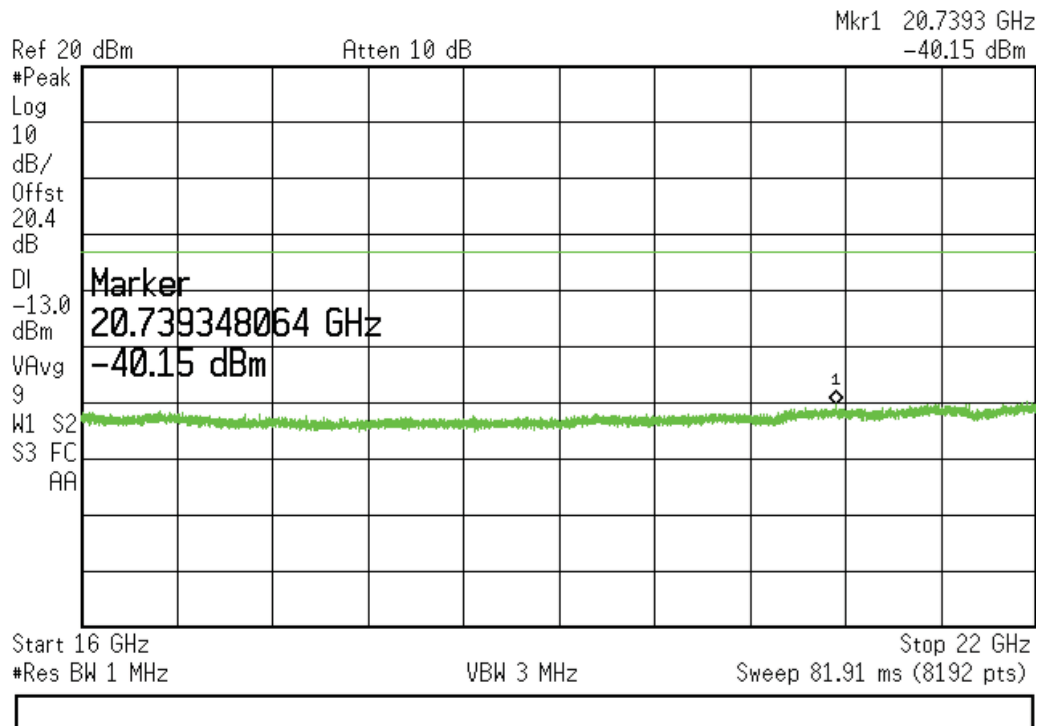




2110-2155 MHz Band (Mid Frequency) (Cont)

Agilent 09:06:26 Aug 12, 2014

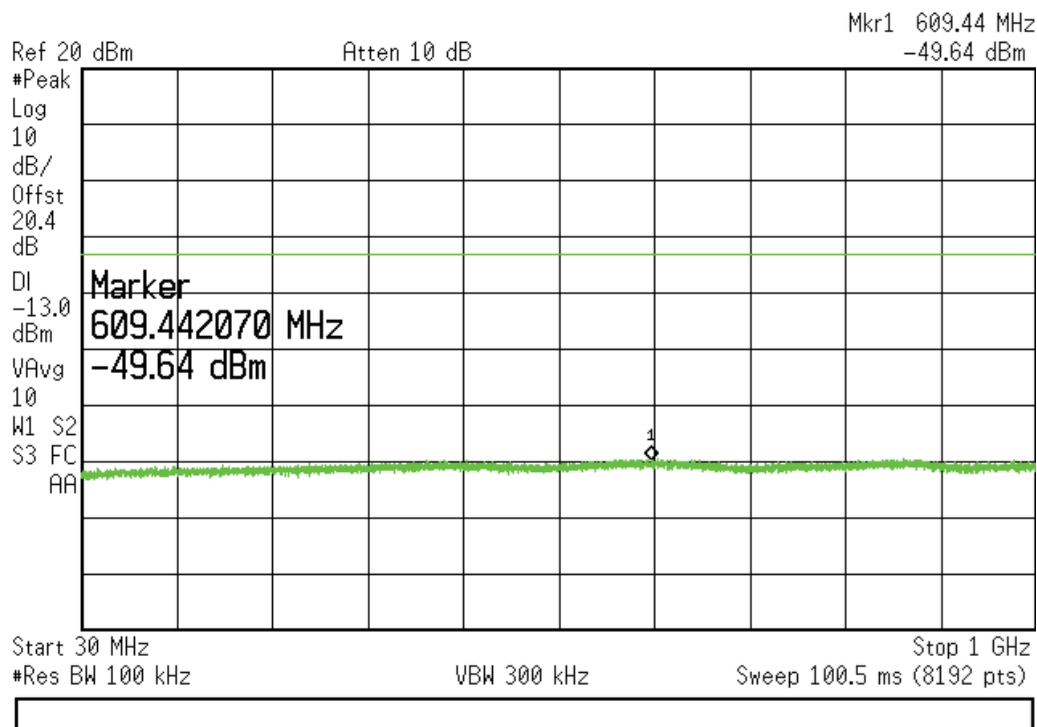
L



2110-2155 MHz Band (High Frequency)

Agilent 08:39:19 Aug 12, 2014

L

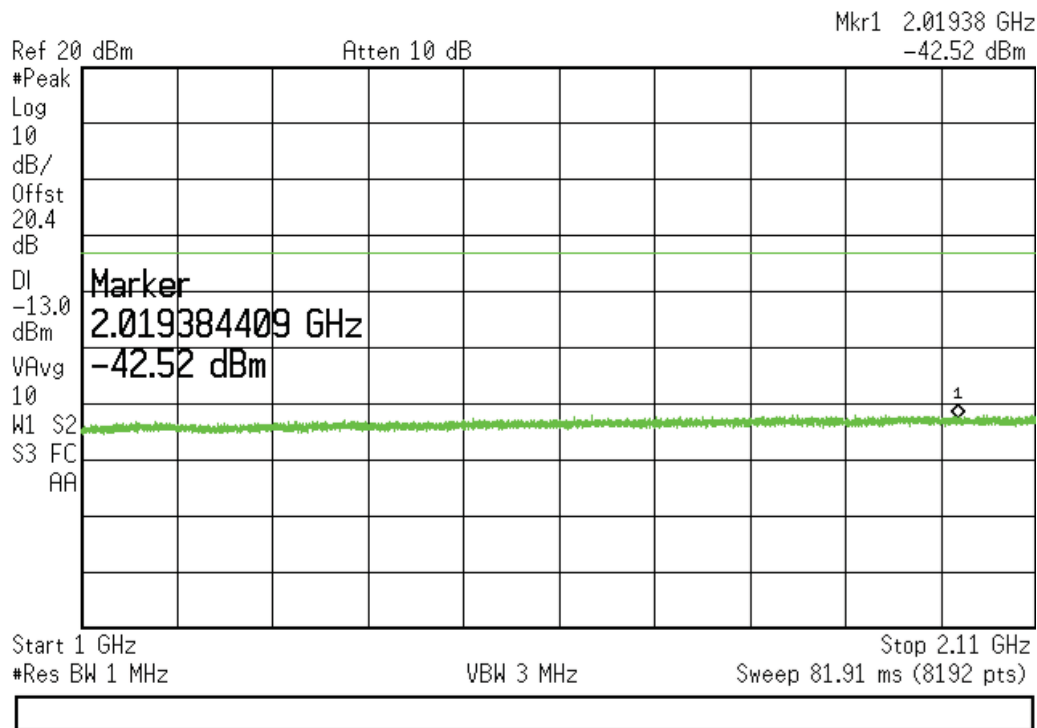




2110-2155 MHz Band (High Frequency) (Cont)

Agilent 08:45:05 Aug 12, 2014

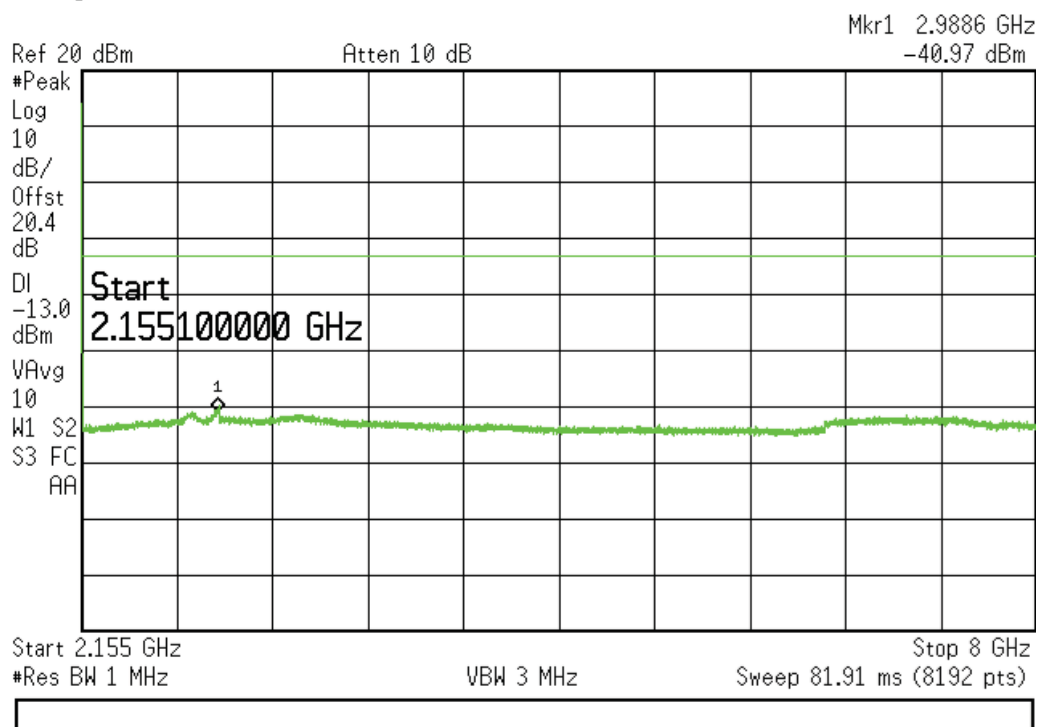
L



2110-2155 MHz Band (High Frequency) (Cont)

Agilent 08:56:28 Aug 12, 2014

L

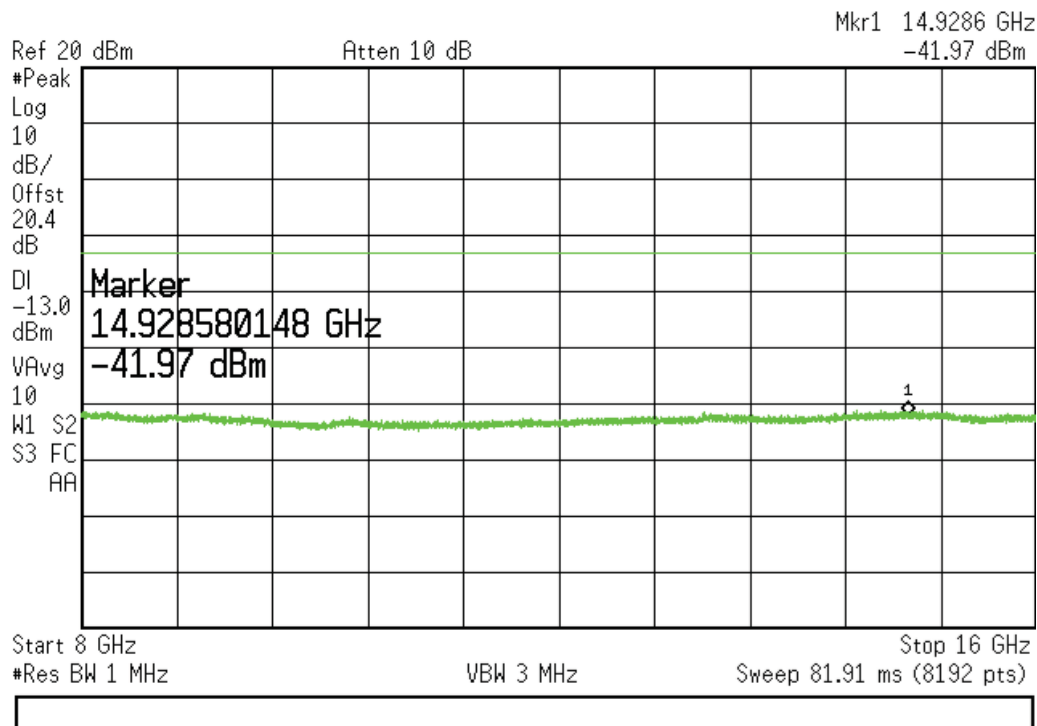




2110-2155 MHz Band (High Frequency) (Cont)

Agilent 08:57:36 Aug 12, 2014

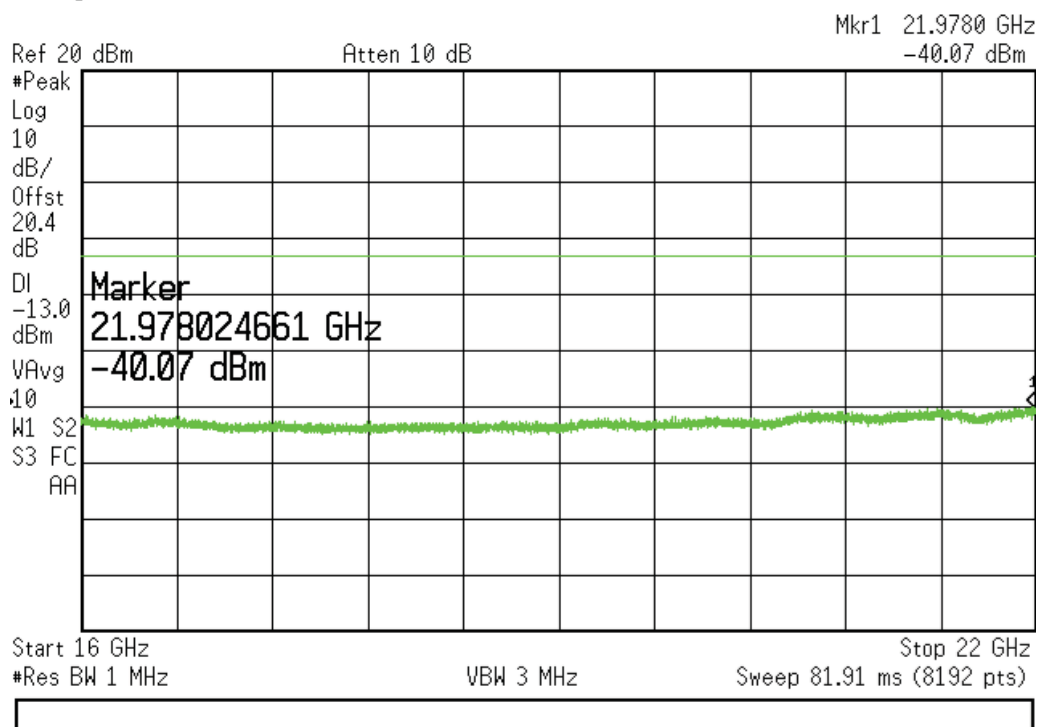
L



2110-2155 MHz Band (High Frequency) (Cont)

Agilent 09:06:58 Aug 12, 2014

L

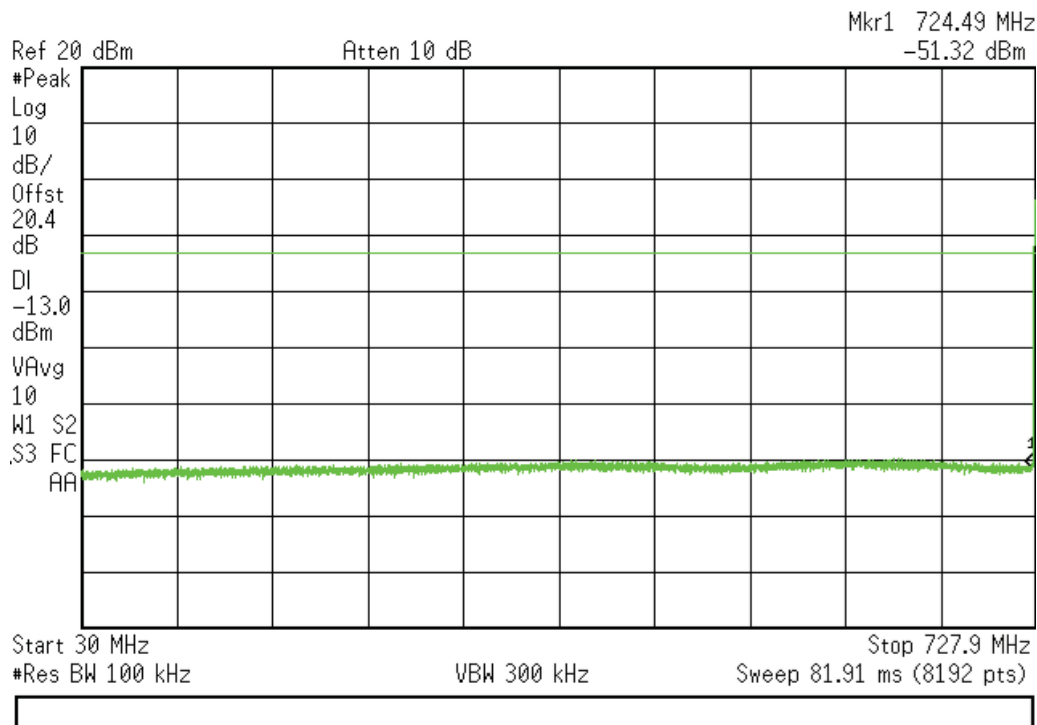




Downlink WCDMA Signal 728-746 MHz Band (Low Frequency)

Agilent 07:22:21 Aug 12, 2014

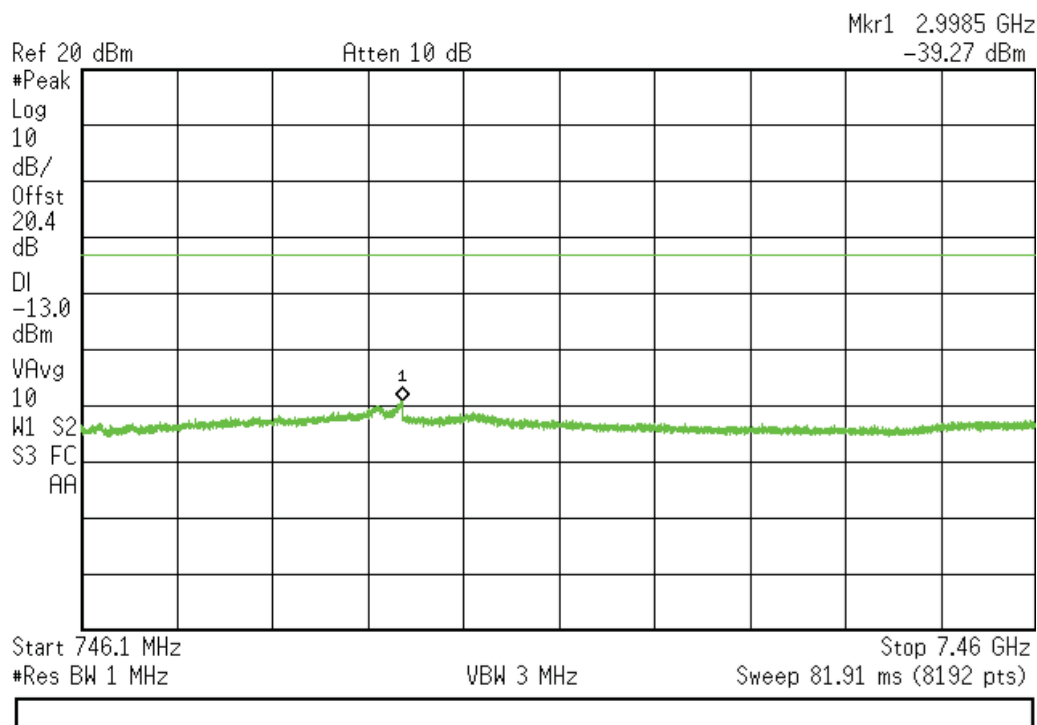
L



728-746 MHz Band (Low Frequency) (Cont)

Agilent 07:27:25 Aug 12, 2014

L

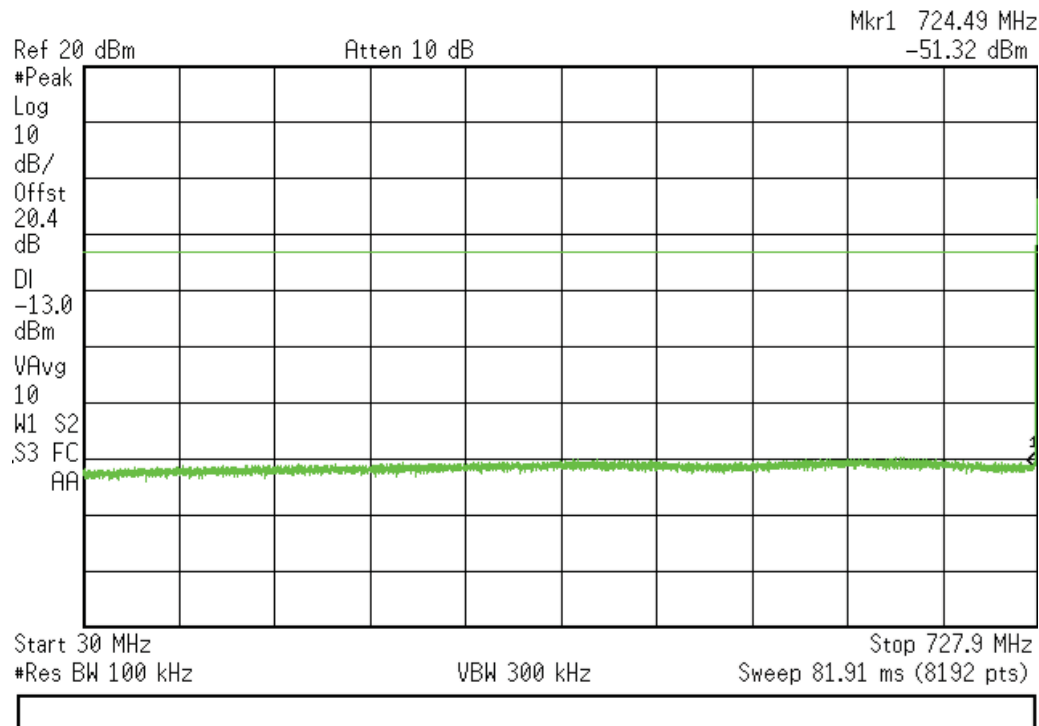




728-746 MHz Band (Mid Frequency)

Agilent 07:22:21 Aug 12, 2014

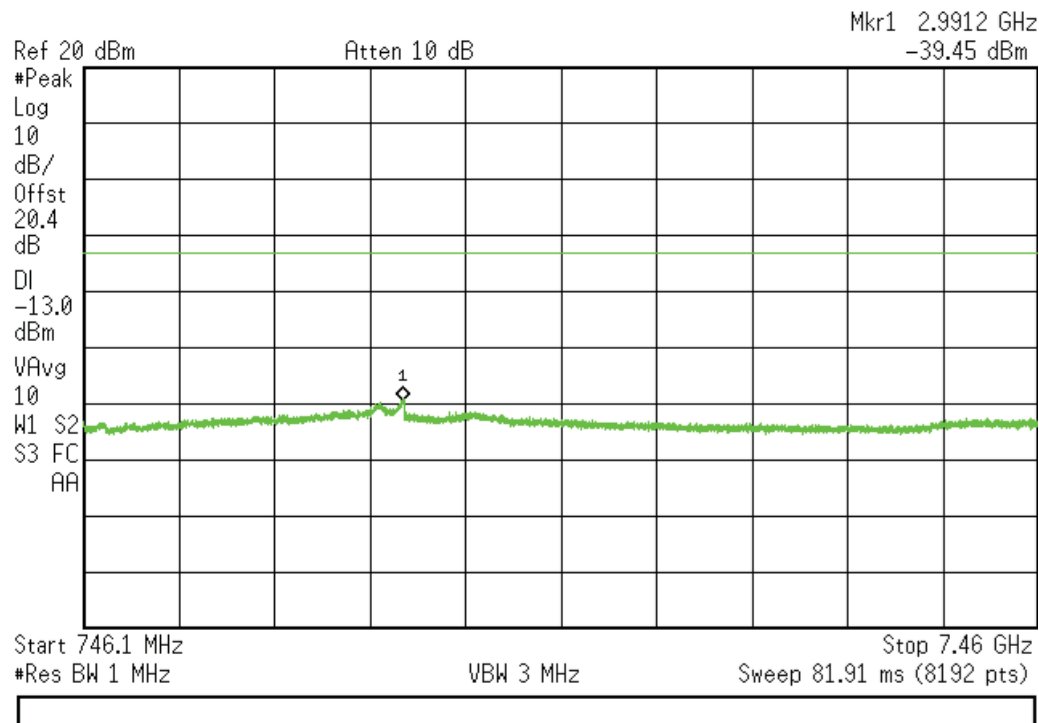
L



728-746 MHz Band (Mid Frequency) (Cont)

Agilent 07:26:50 Aug 12, 2014

L

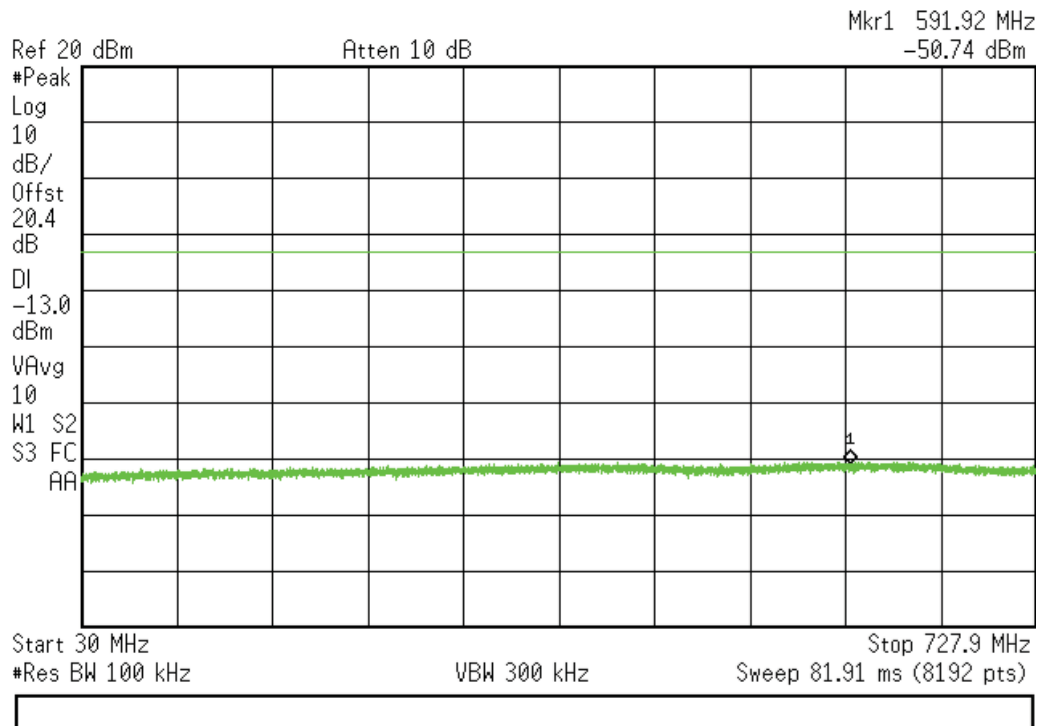




728-746 MHz Band (High Frequency)

Agilent 07:24:37 Aug 12, 2014

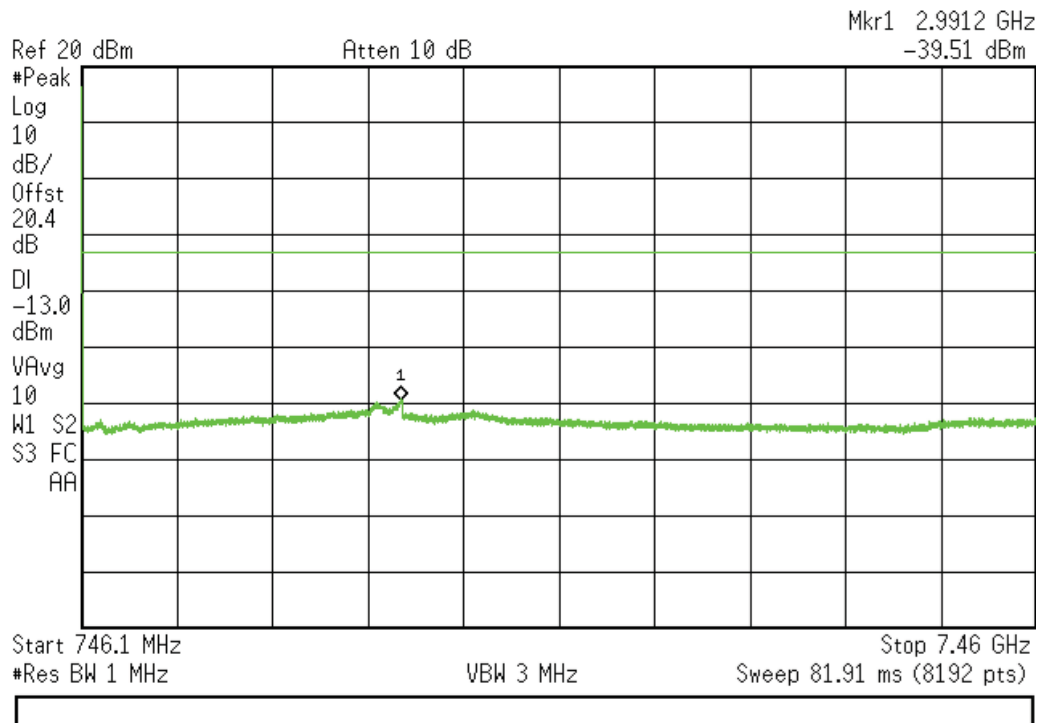
L



728-746 MHz Band (High Frequency) (Cont)

Agilent 07:26:01 Aug 12, 2014

L

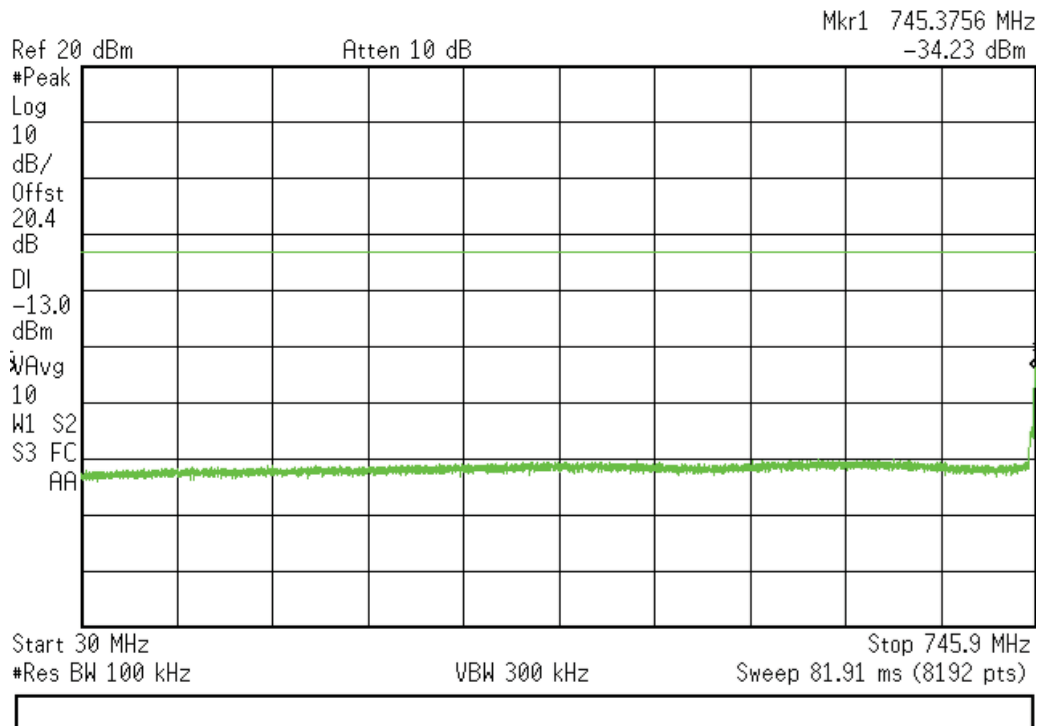




746-757 MHz Band (Low Frequency)

Agilent 15:19:56 Aug 26, 2014

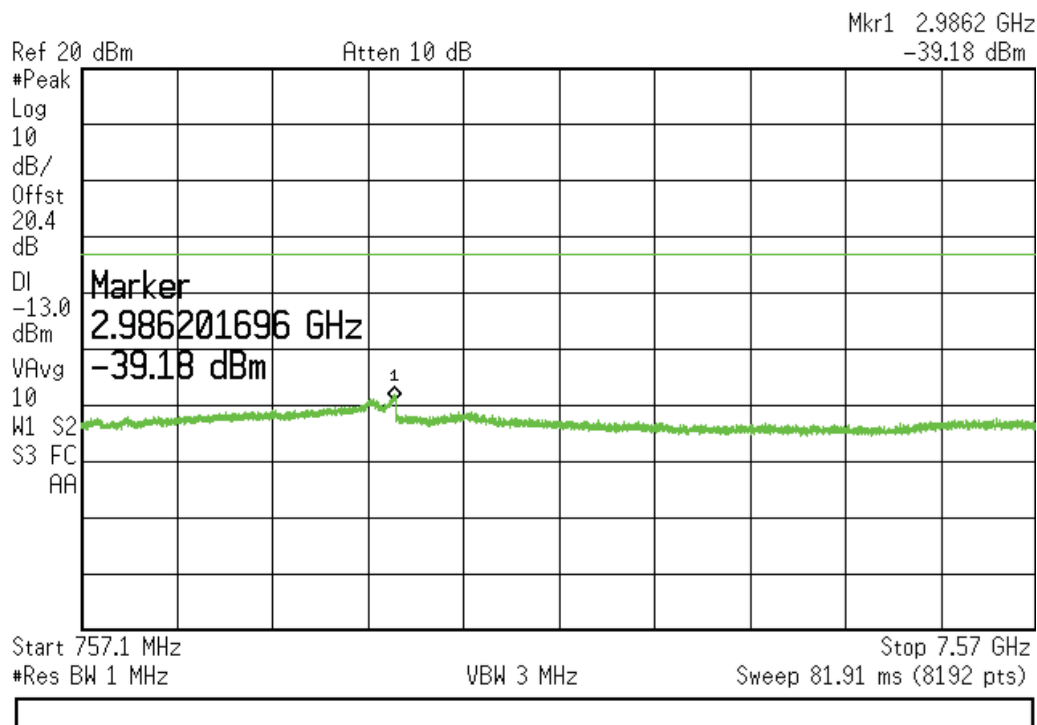
L



728-746 MHz Band (Low Frequency) (Cont)

Agilent 07:51:42 Aug 12, 2014

L

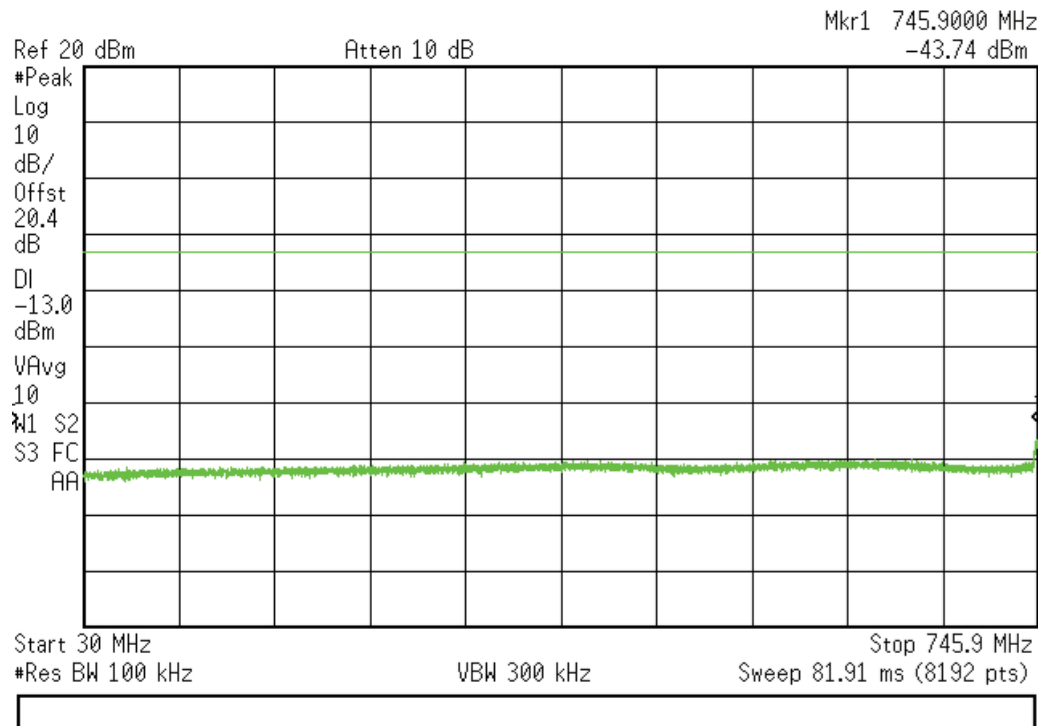




746-757 MHz Band (Mid Frequency)

Agilent 15:20:58 Aug 26, 2014

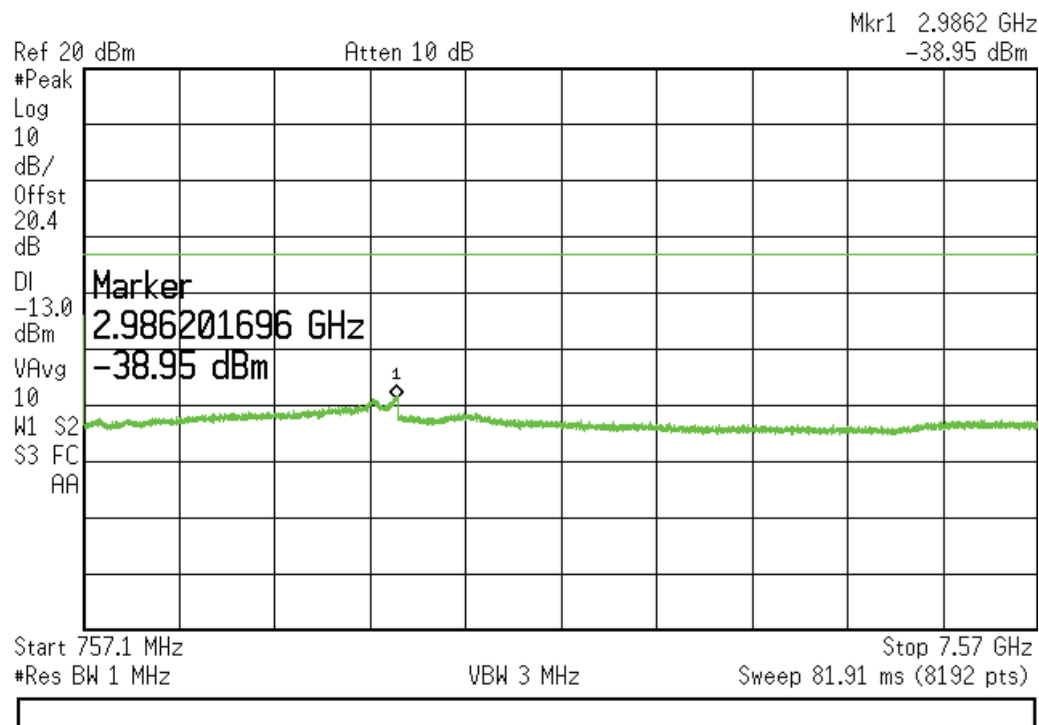
L



746-757 MHz Band (Mid Frequency) (Cont)

Agilent 07:51:04 Aug 12, 2014

L

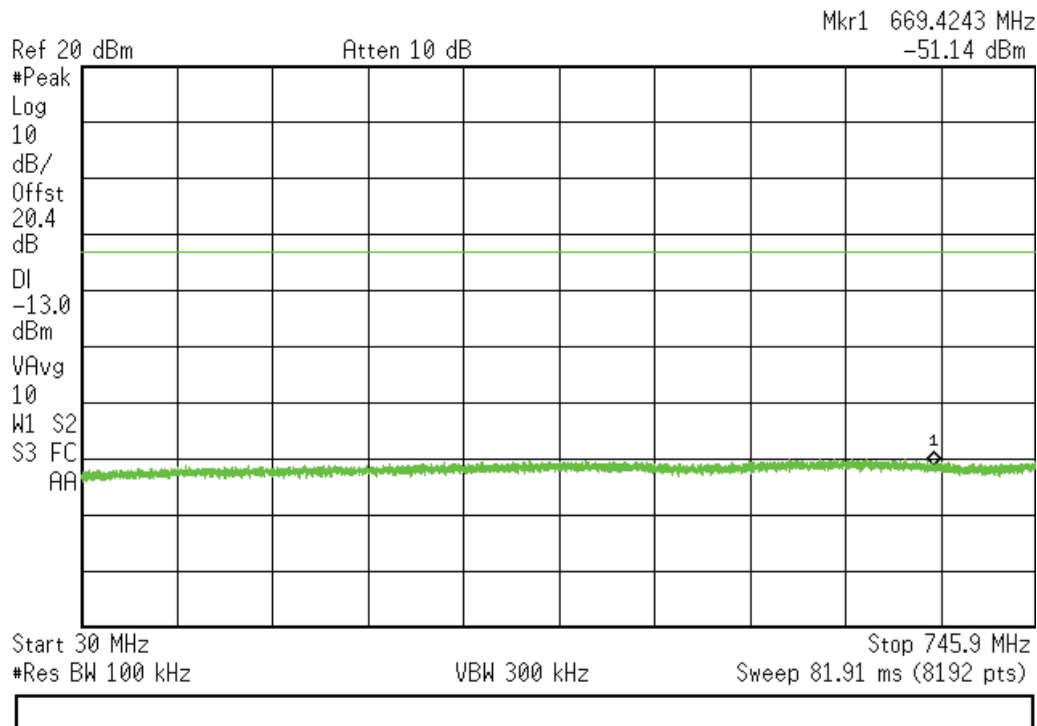




746-757 MHz Band (High Frequency)

Agilent 15:21:50 Aug 26, 2014

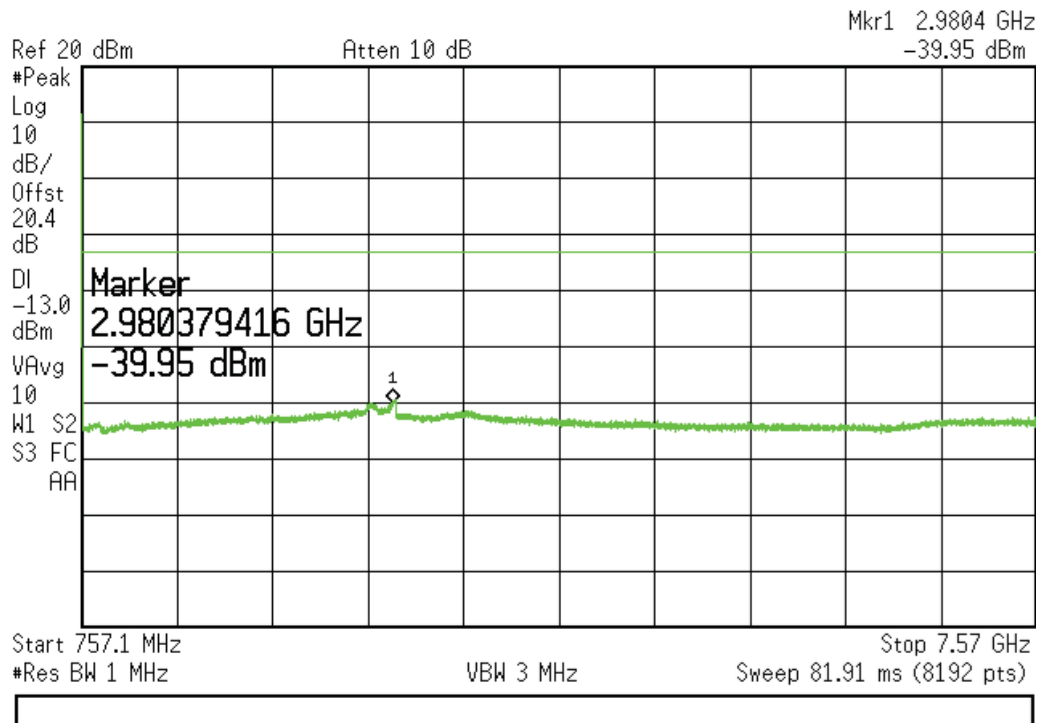
L



746-757 MHz Band (High Frequency) (Cont)

Agilent 07:49:21 Aug 12, 2014

L

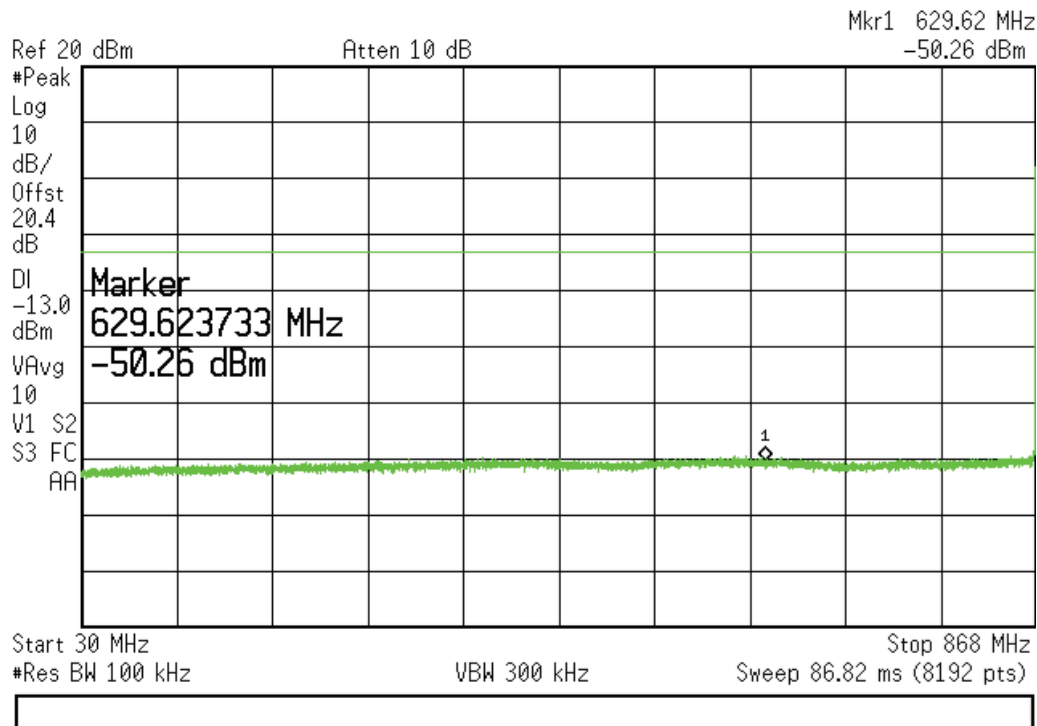




869-894 MHz Band (Low Frequency)

Agilent 07:55:34 Aug 12, 2014

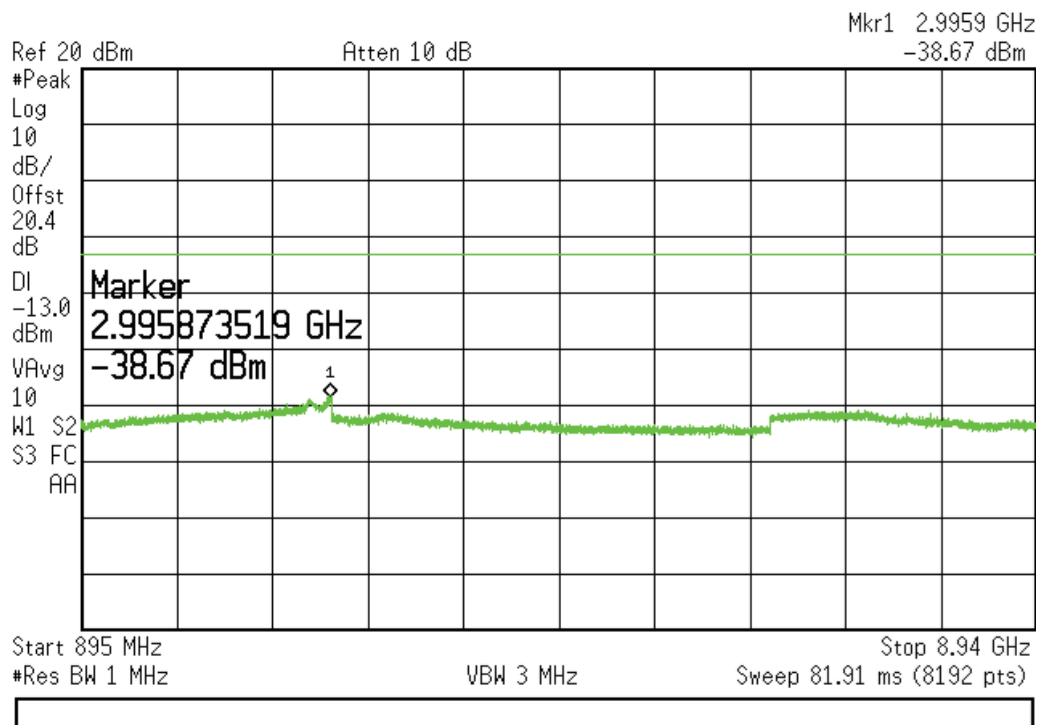
L



869-894 MHz Band (Low Frequency) (Cont)

Agilent 08:07:23 Aug 12, 2014

L

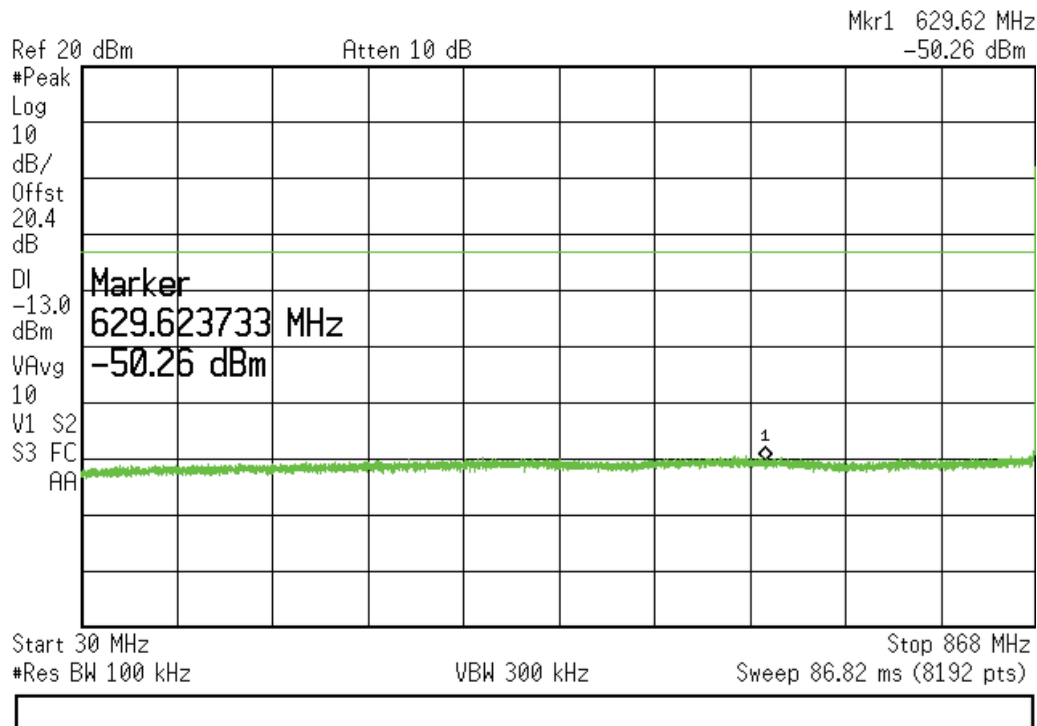




869-894 MHz Band (Mid Frequency)

Agilent 07:57:57 Aug 12, 2014

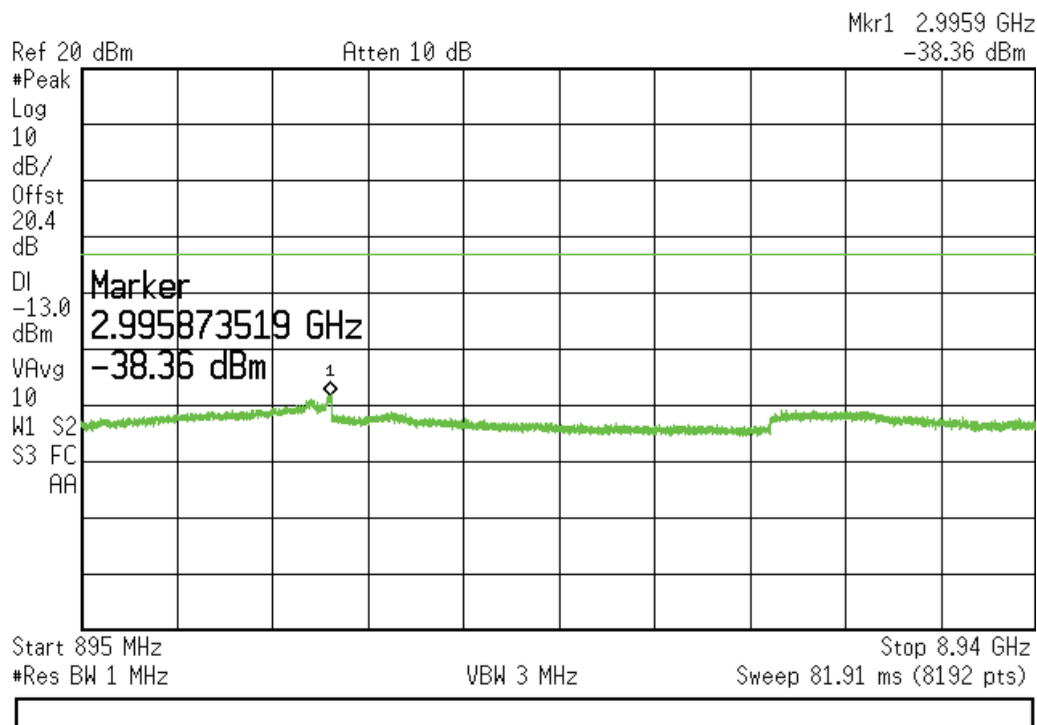
L



869-894 MHz Band (Mid Frequency) (Cont)

Agilent 08:06:39 Aug 12, 2014

L

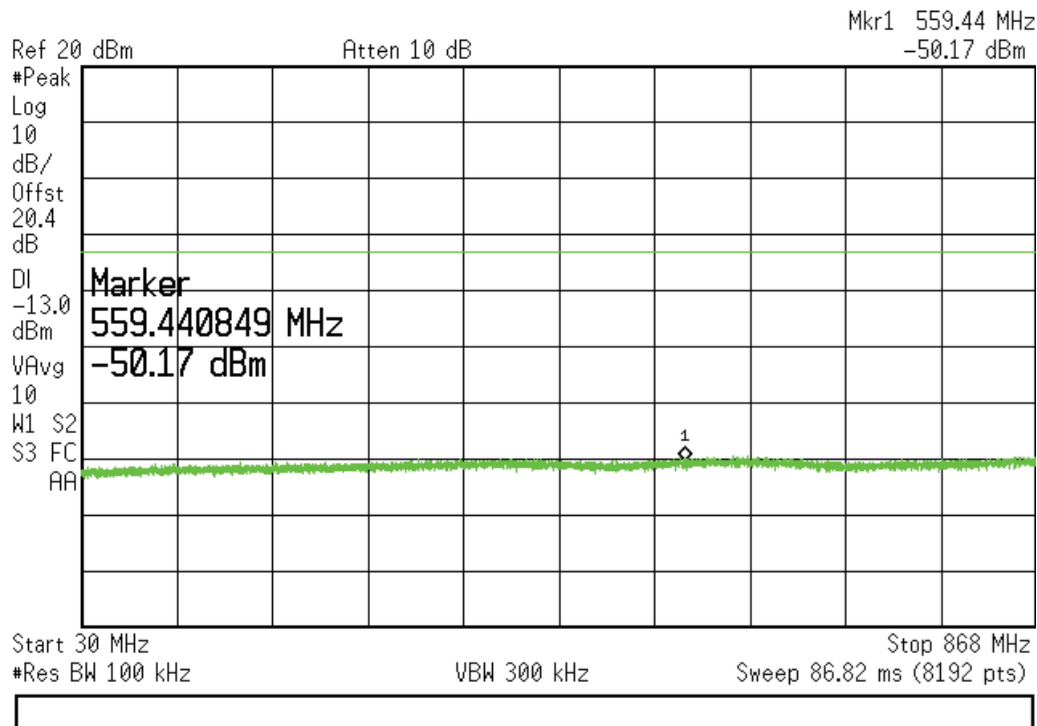




869-894 MHz Band (High Frequency)

Agilent 07:59:05 Aug 12, 2014

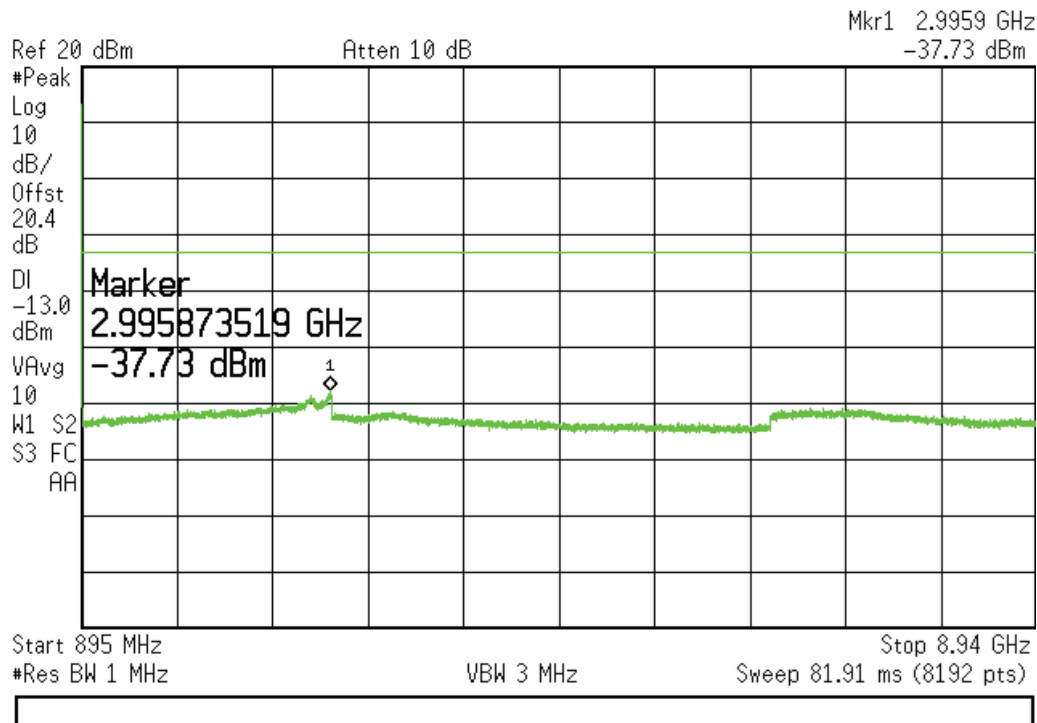
L



869-894 MHz Band (High Frequency) (Cont)

Agilent 08:05:36 Aug 12, 2014

L

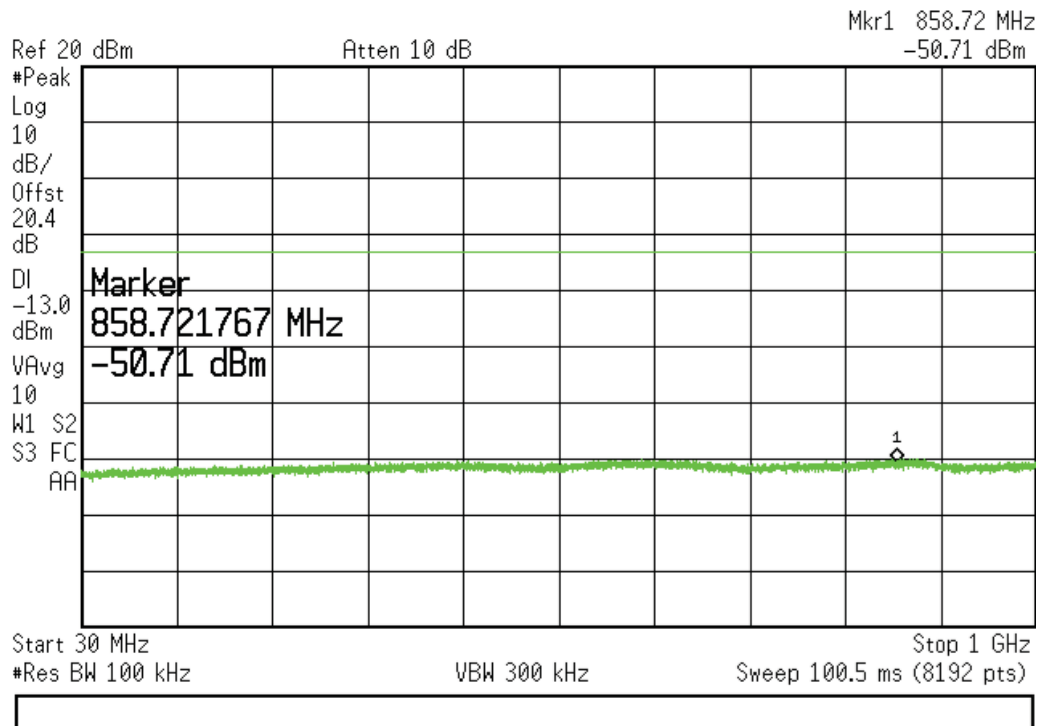




1930-1995 MHz Band (Low Frequency)

Agilent 08:09:07 Aug 12, 2014

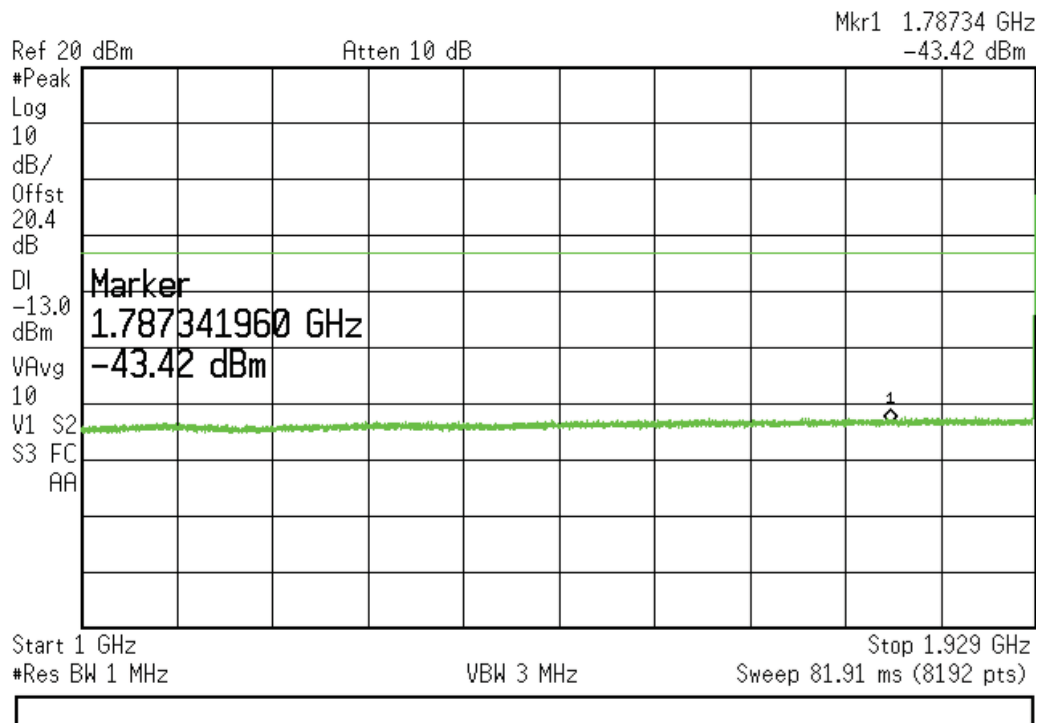
L



1930-1995 MHz Band (Low Frequency)

Agilent 08:19:08 Aug 12, 2014

L

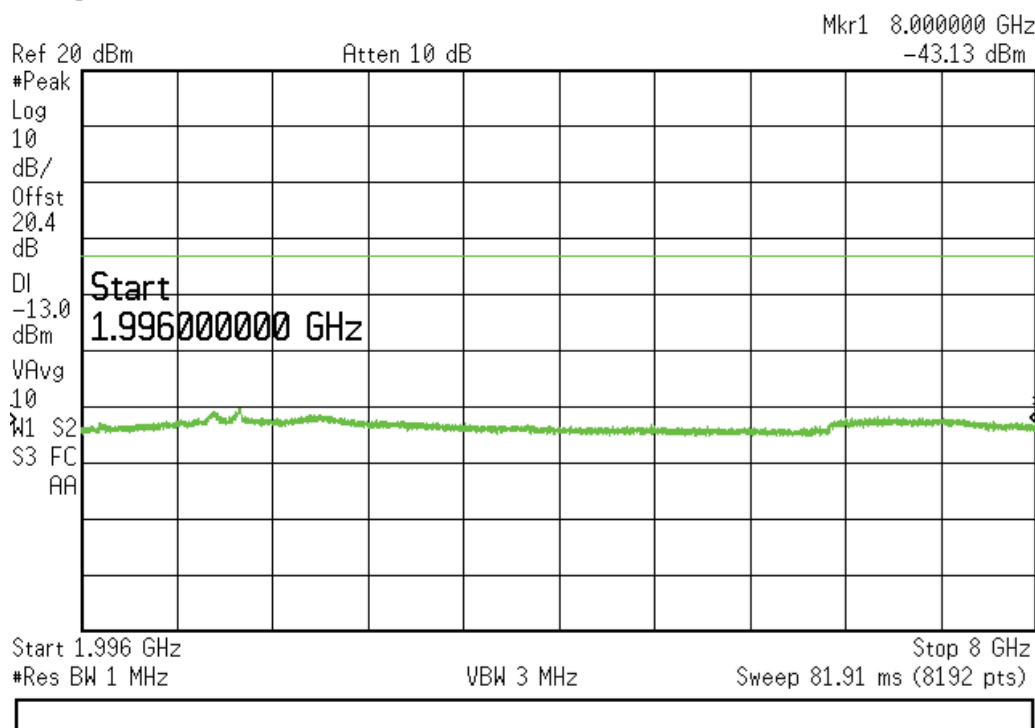




1930-1995 MHz Band (Low Frequency) (Cont)

Agilent 08:20:20 Aug 12, 2014

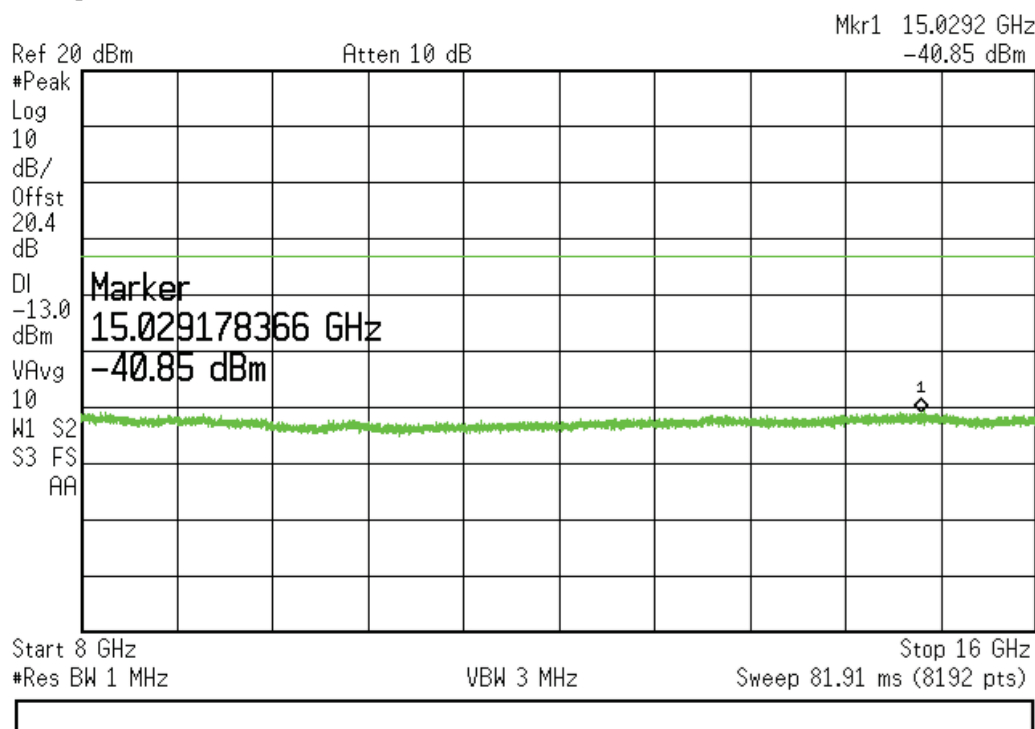
L



1930-1995 MHz Band (Low Frequency)

Agilent 08:30:32 Aug 12, 2014

L

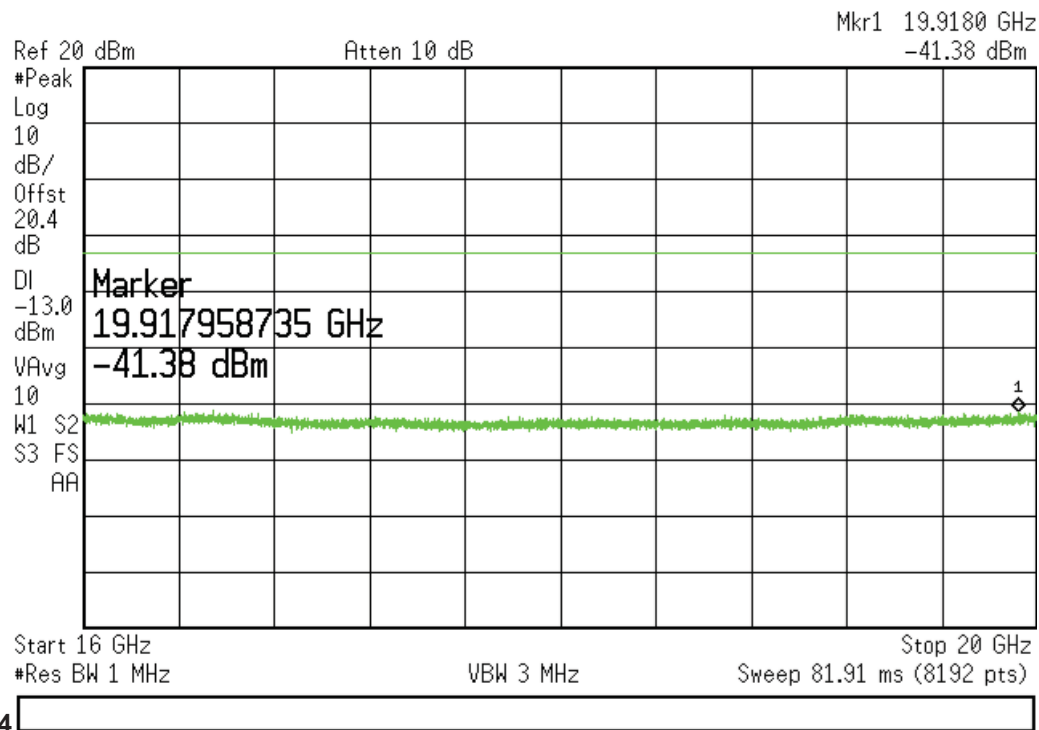




1930-1995 MHz Band (Low Frequency) (Cont)

Agilent 08:34:29 Aug 12, 2014

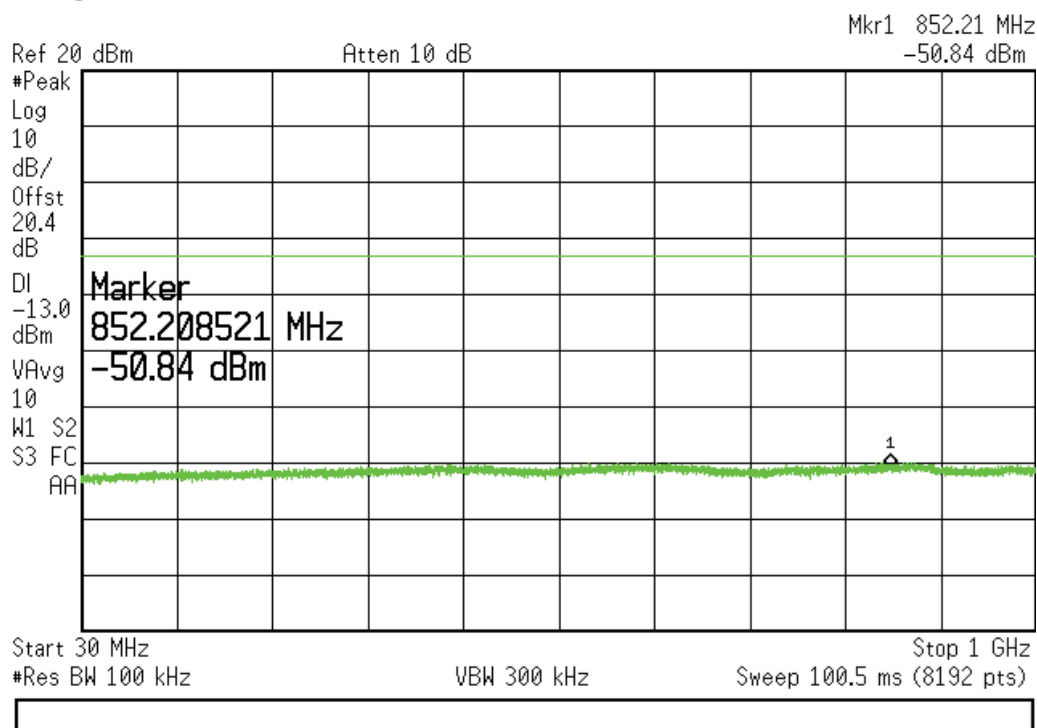
L



1930-1995 MHz Band (Mid Frequency)

Agilent 08:10:24 Aug 12, 2014

L

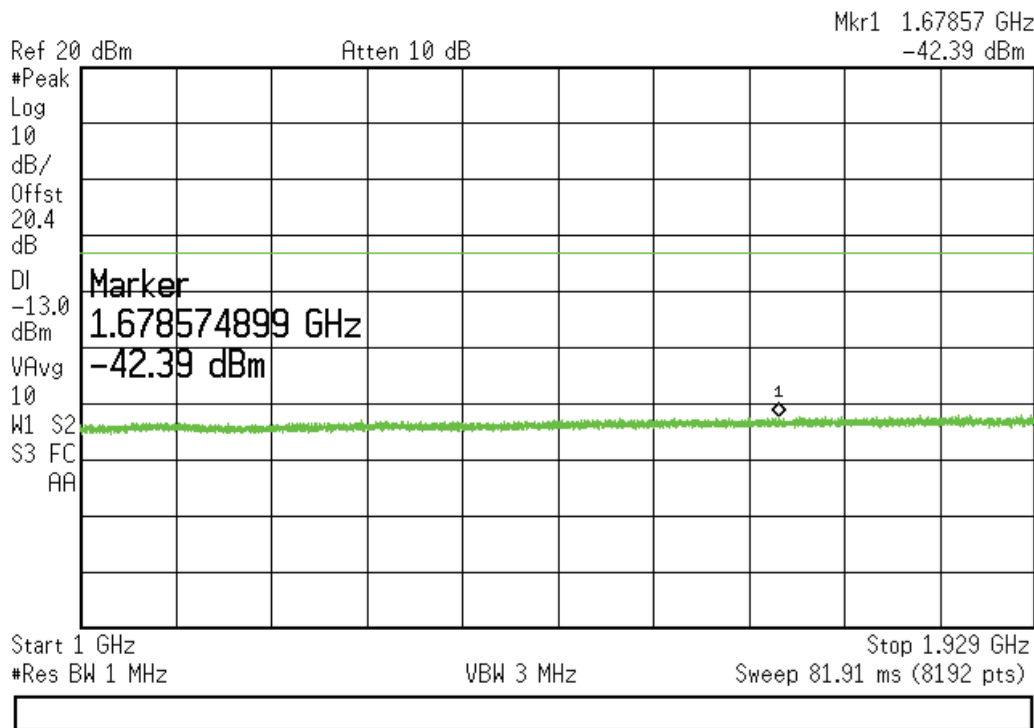




1930-1995 MHz Band (Mid Frequency) (Cont)

Agilent 08:17:52 Aug 12, 2014

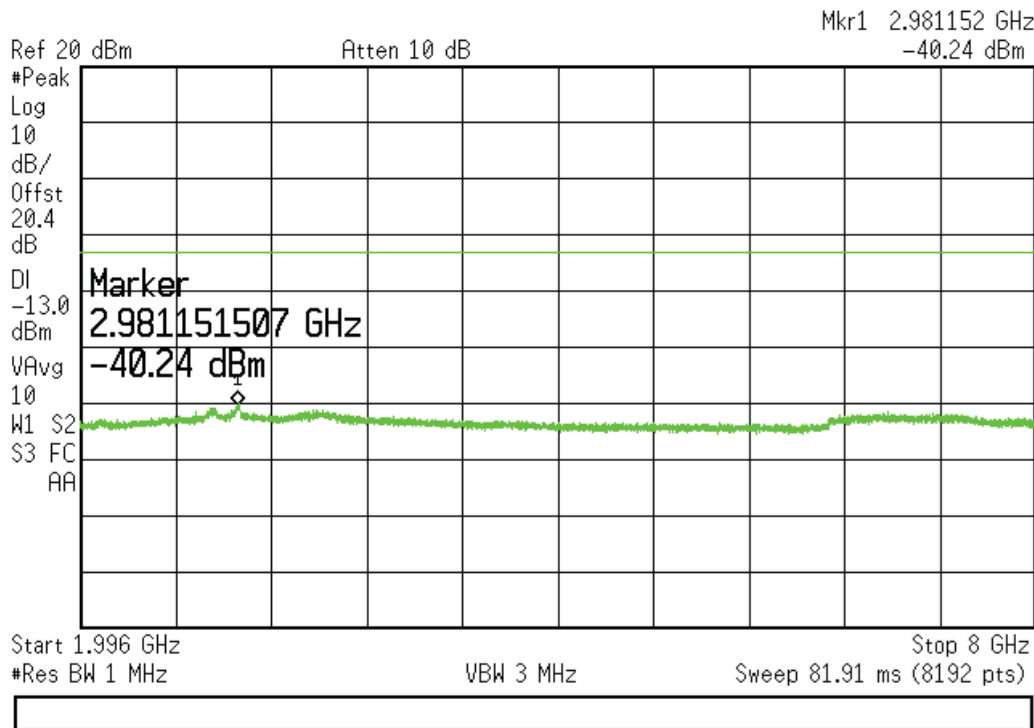
L



1930-1995 MHz Band (Mid Frequency) (Cont)

Agilent 08:21:02 Aug 12, 2014

L

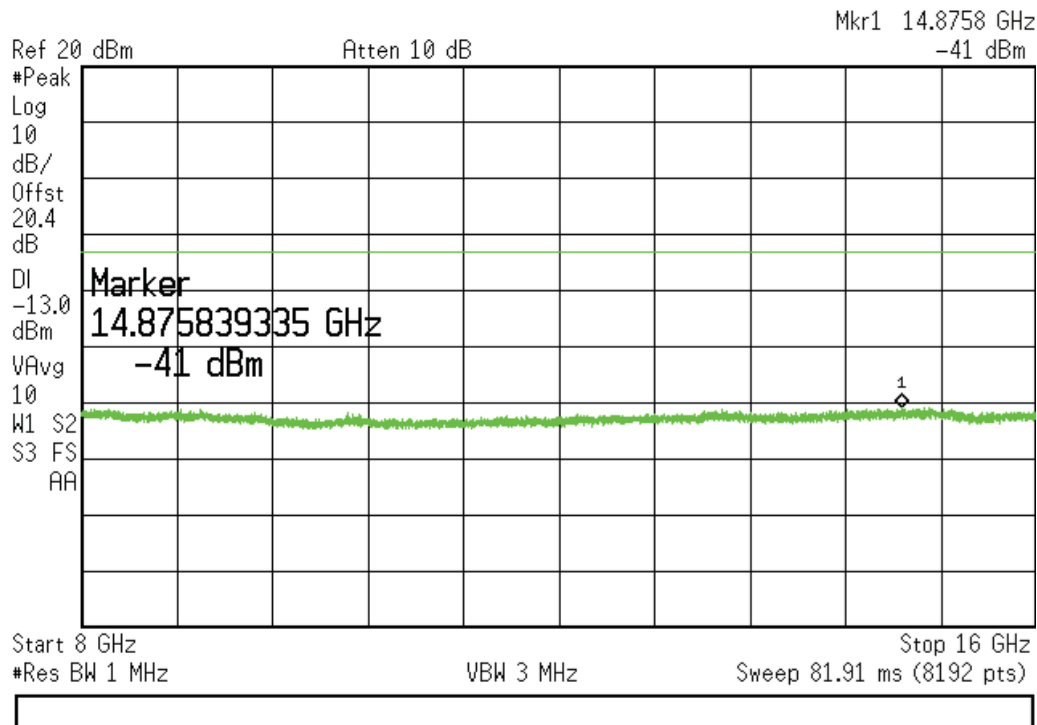




1930-1995 MHz Band (Mid Frequency) (Cont)

Agilent 08:31:30 Aug 12, 2014

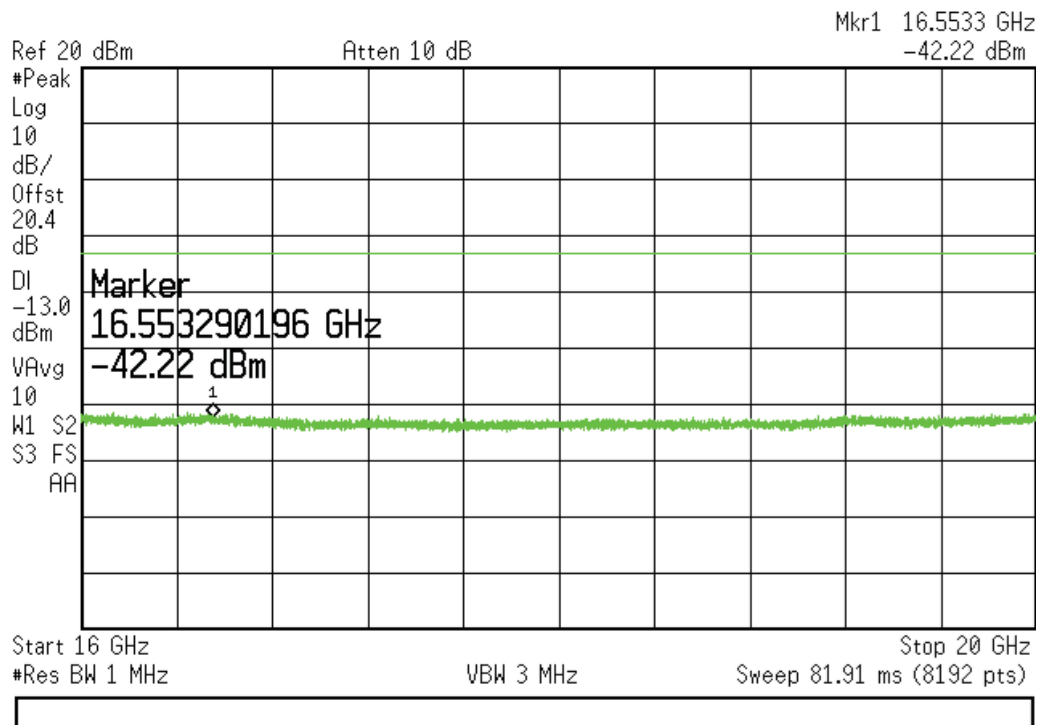
L



1930-1995 MHz Band (Mid Frequency) (Cont)

Agilent 08:33:46 Aug 12, 2014

L

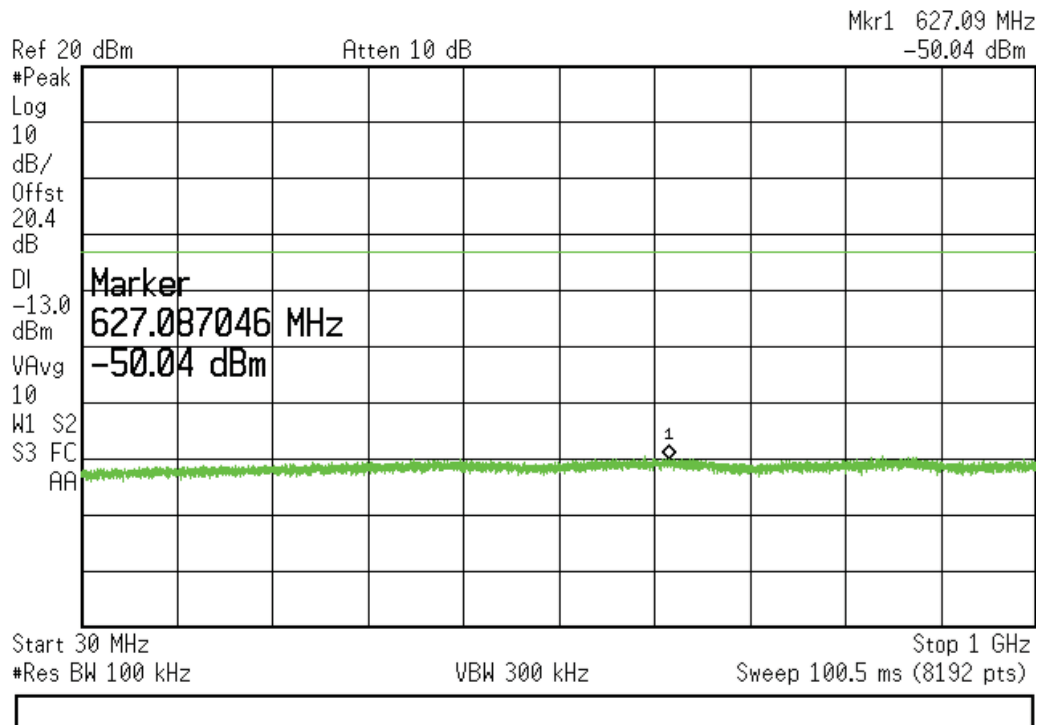




1930-1995 MHz Band (High Frequency)

Agilent 08:11:09 Aug 12, 2014

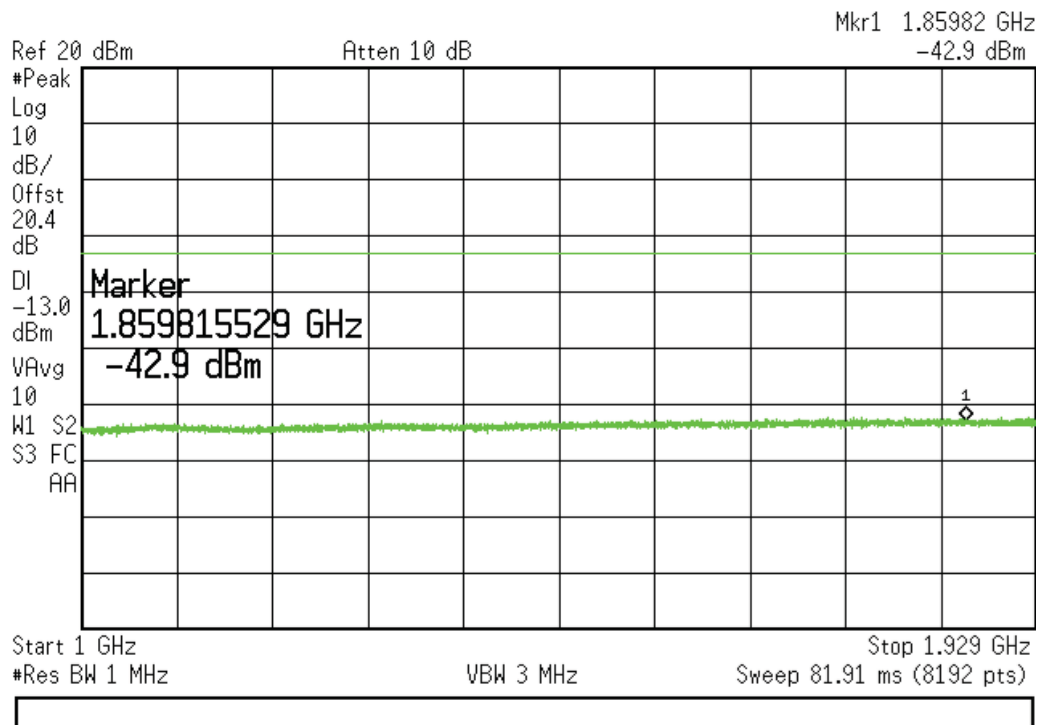
L



1930-1995 MHz Band (High Frequency) (Cont)

Agilent 08:17:03 Aug 12, 2014

L

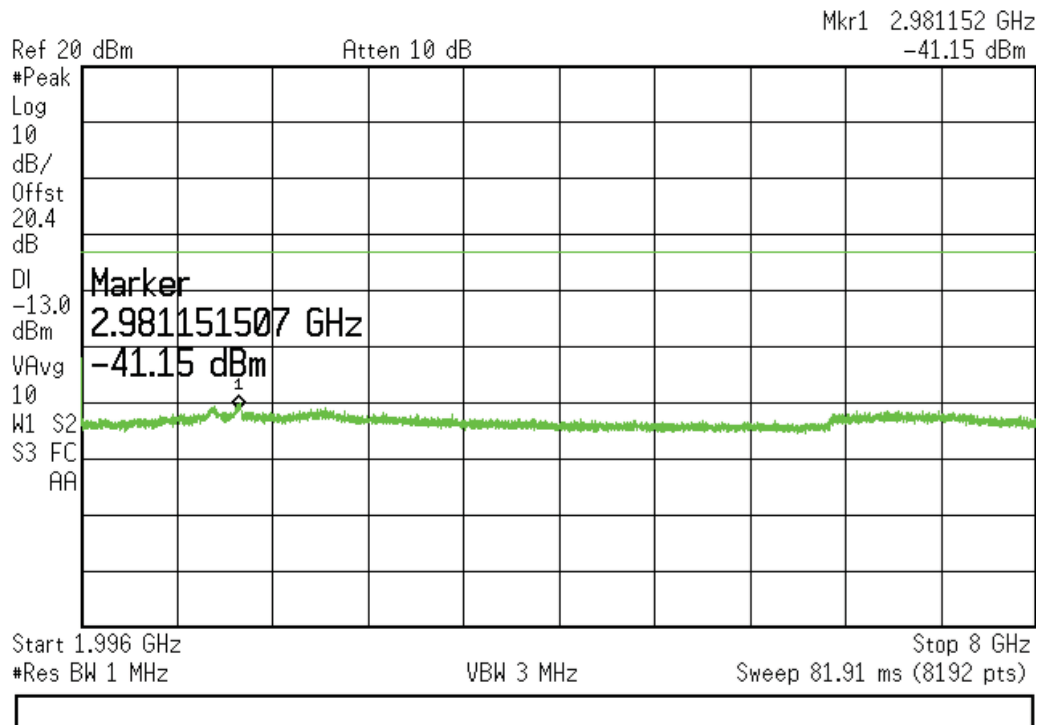




1930-1995 MHz Band (High Frequency) (Cont)

Agilent 08:21:32 Aug 12, 2014

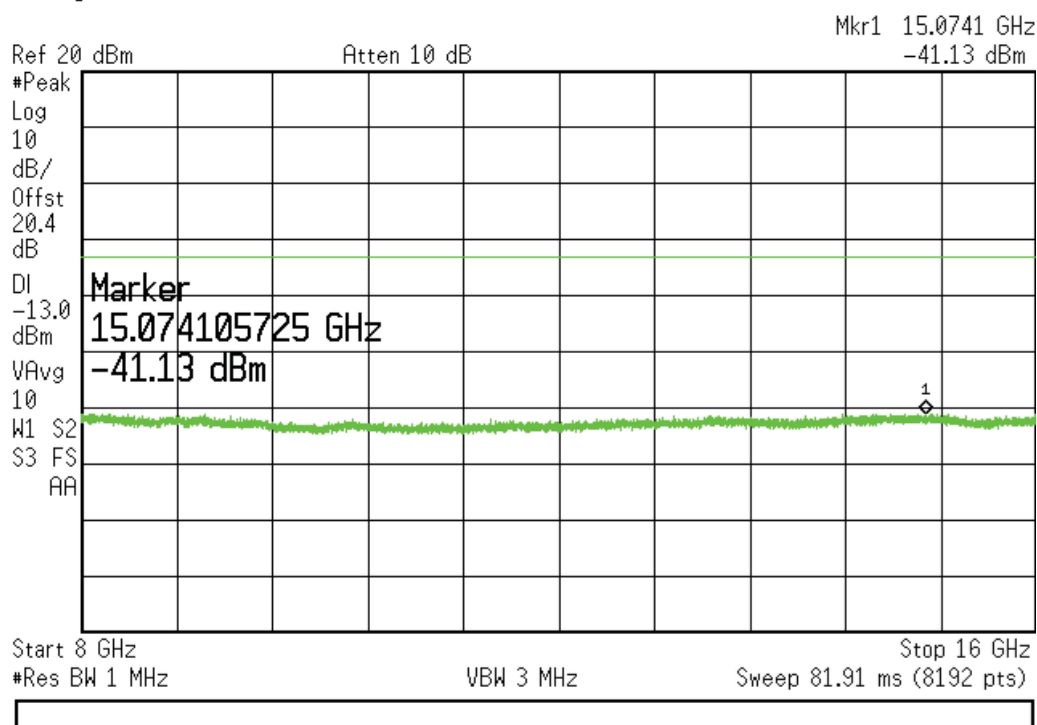
L



1930-1995 MHz Band (High Frequency) (Cont)

Agilent 08:32:18 Aug 12, 2014

L

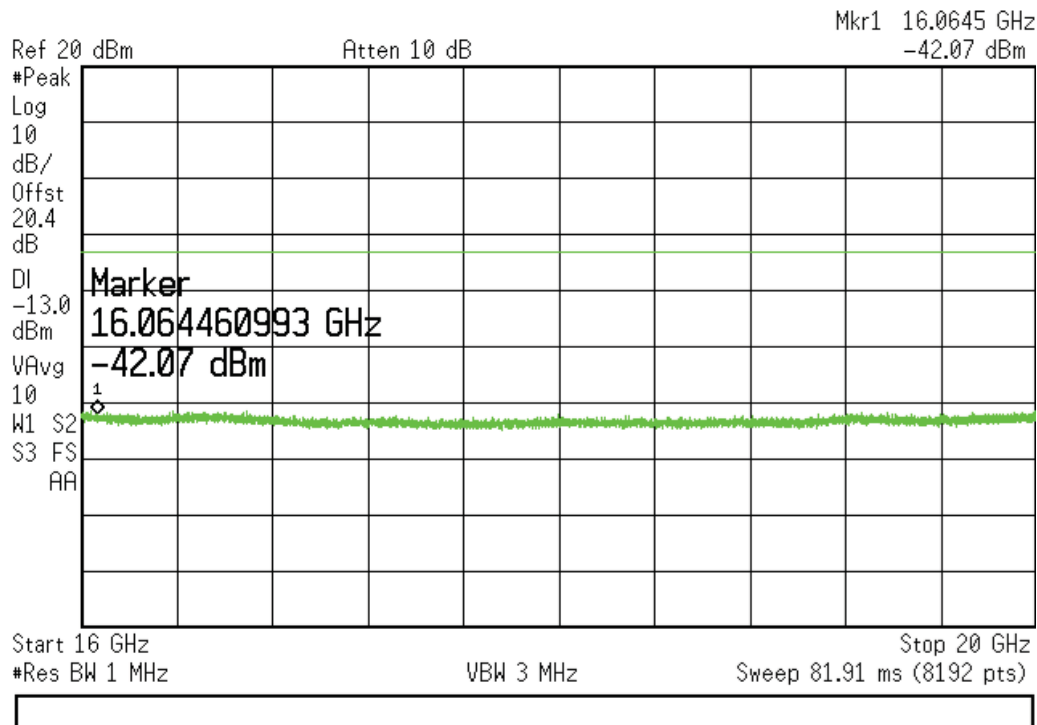




1930-1995 MHz Band (High Frequency) (Cont)

Agilent 08:32:57 Aug 12, 2014

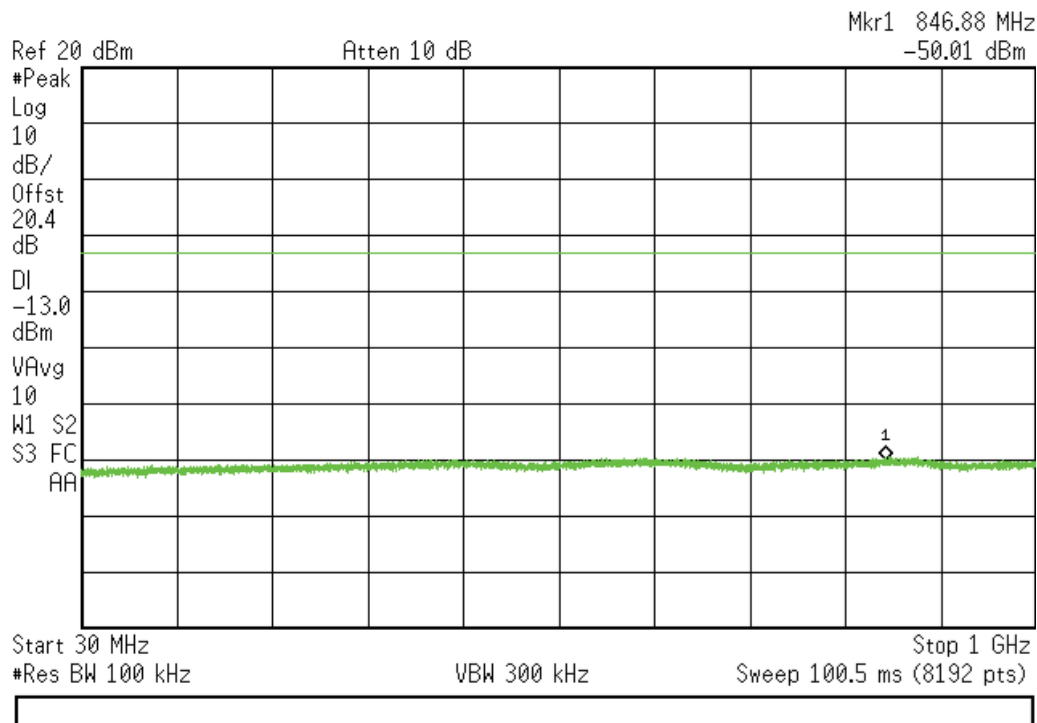
L



2110-2155 MHz Band (Low Frequency)

Agilent 08:36:43 Aug 12, 2014

L

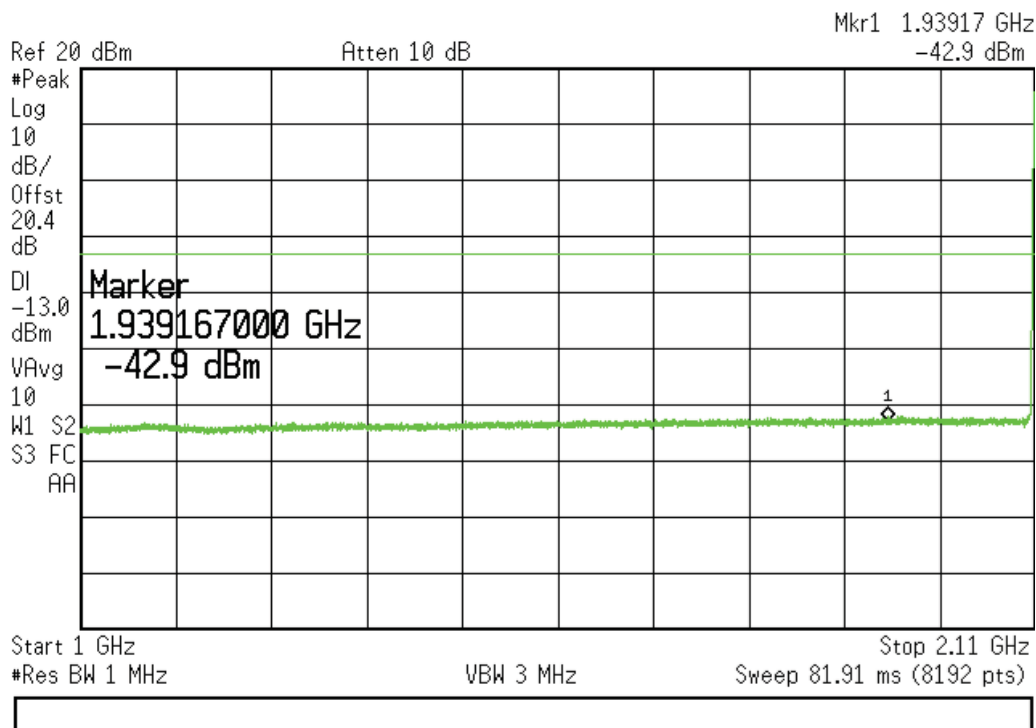




2110-2155 MHz Band (Low Frequency) (Cont)

Agilent 08:47:42 Aug 12, 2014

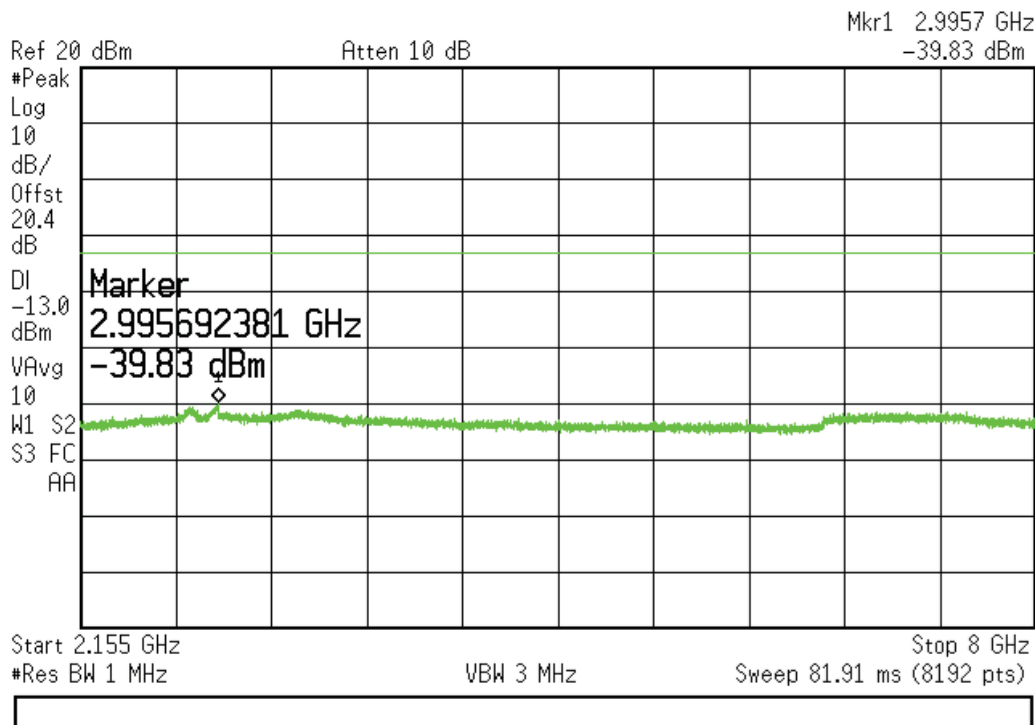
L



2110-2155 MHz Band (Low Frequency) (Cont)

Agilent 08:53:30 Aug 12, 2014

L

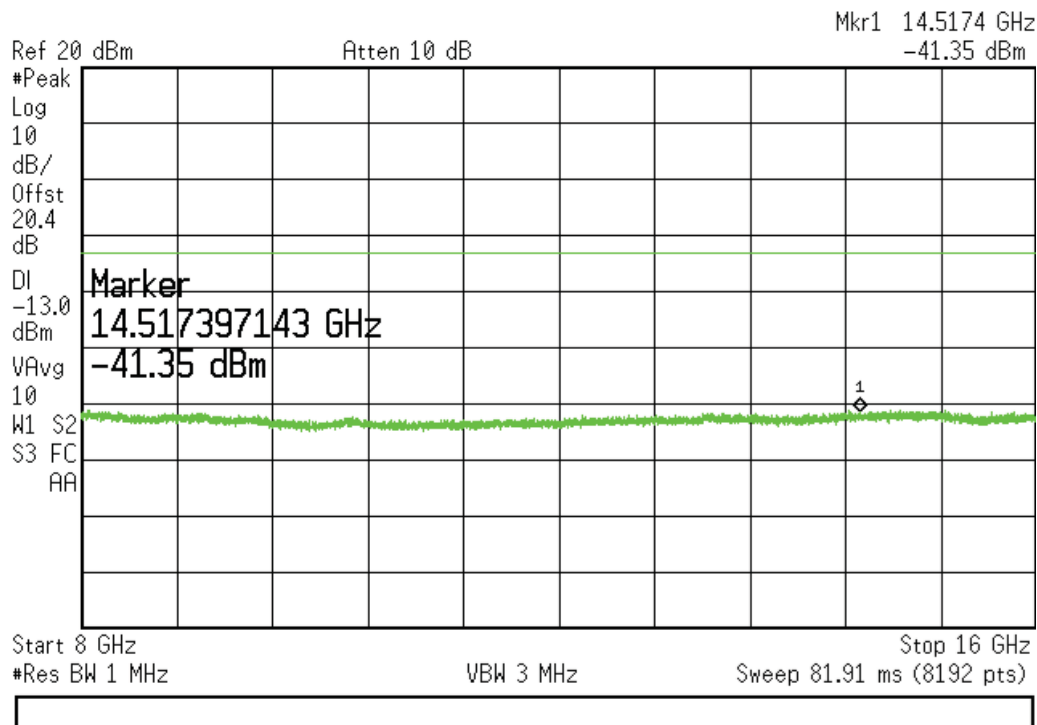




2110-2155 MHz Band (Low Frequency) (Cont)

Agilent 09:04:23 Aug 12, 2014

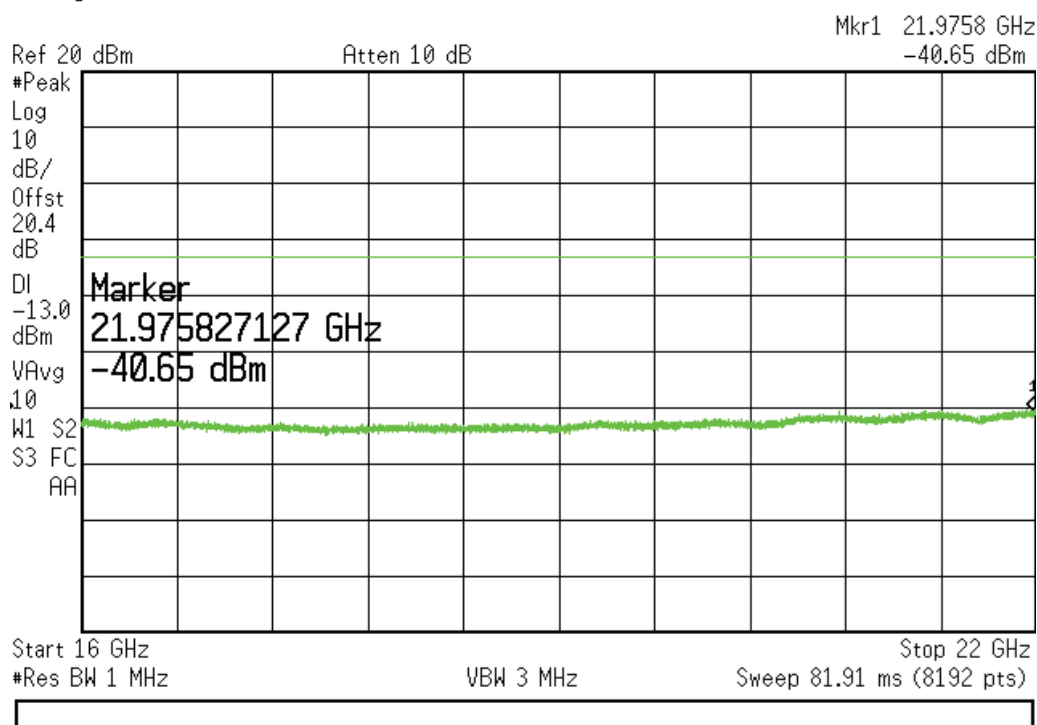
L



2110-2155 MHz Band (Low Frequency) (Cont)

Agilent 09:00:01 Aug 12, 2014

L

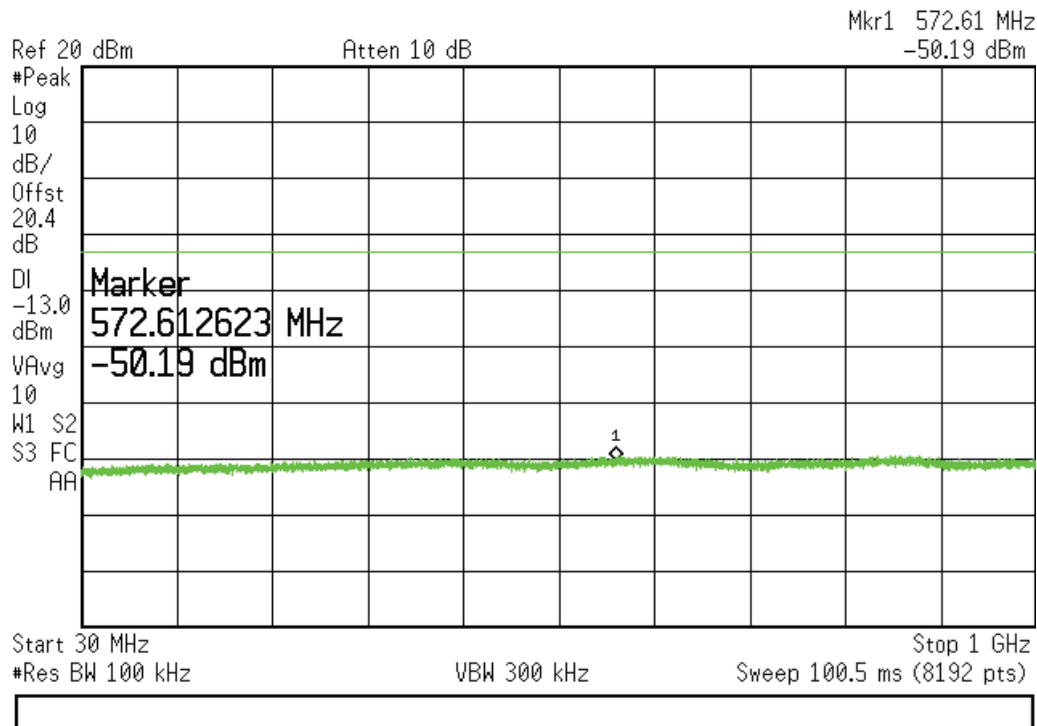




2110-2155 MHz Band (Mid Frequency)

Agilent 08:37:52 Aug 12, 2014

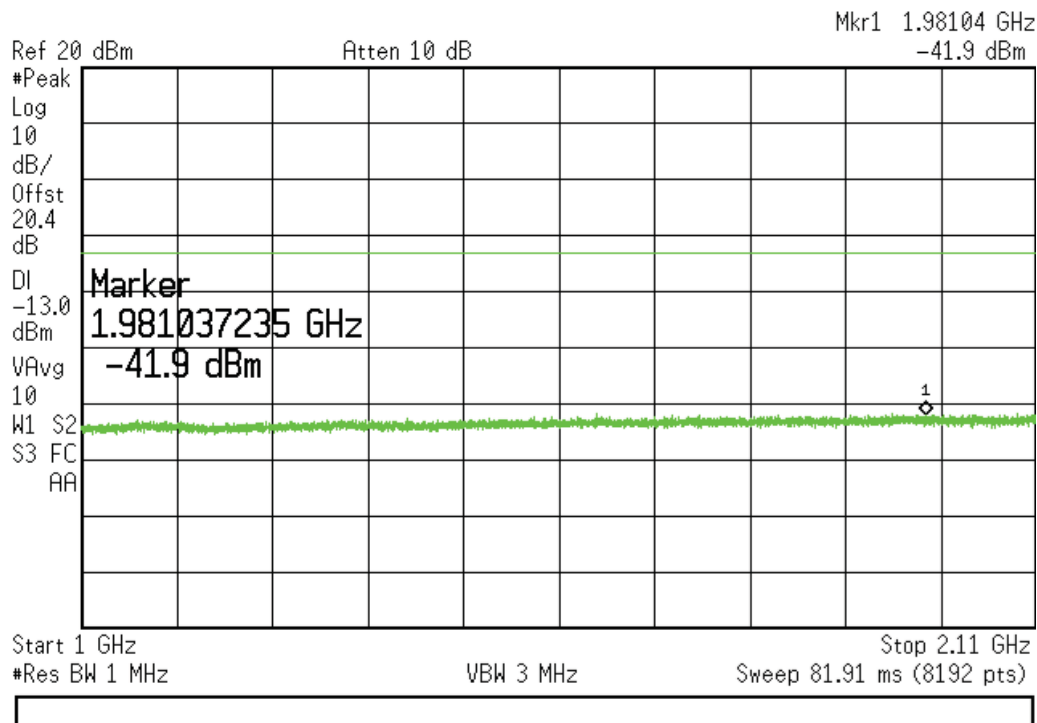
L



2110-2155 MHz Band (Mid Frequency) (Cont)

Agilent 08:48:28 Aug 12, 2014

L

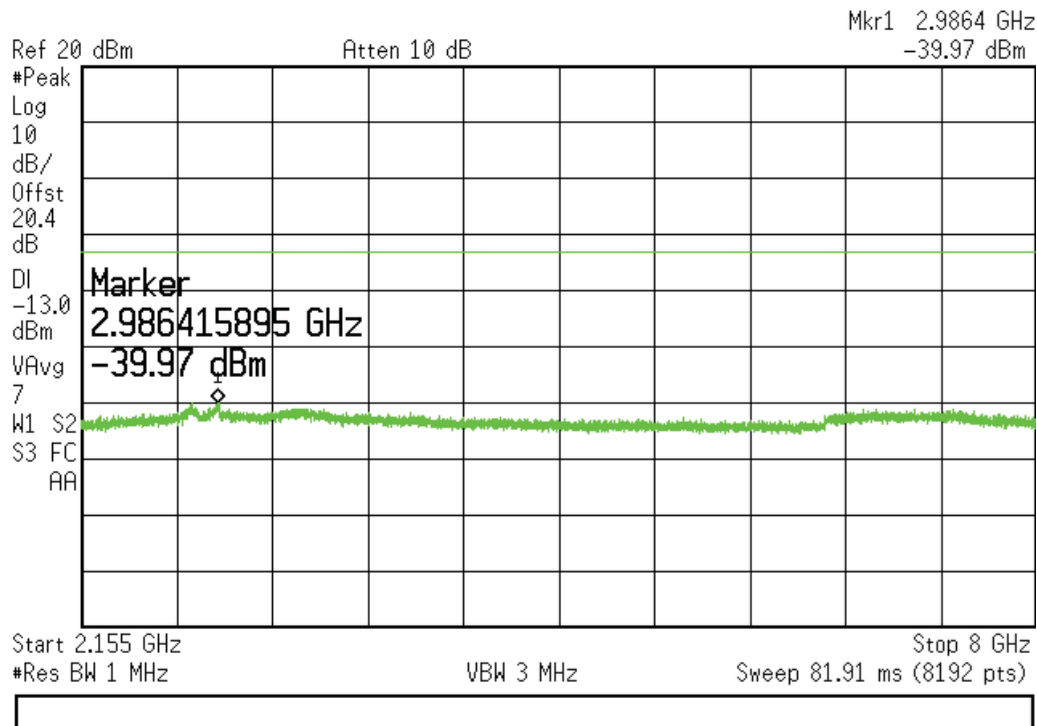




2110-2155 MHz Band (Mid Frequency) (Cont)

Agilent 08:52:56 Aug 12, 2014

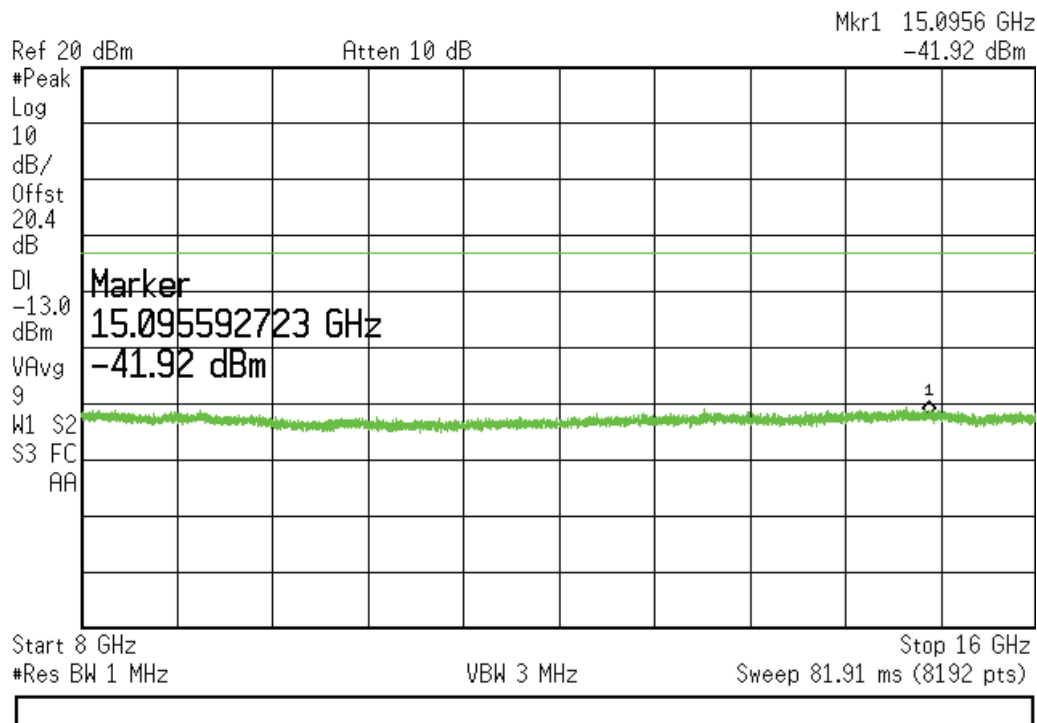
L



2110-2155 MHz Band (Mid Frequency) (Cont)

Agilent 09:03:37 Aug 12, 2014

L

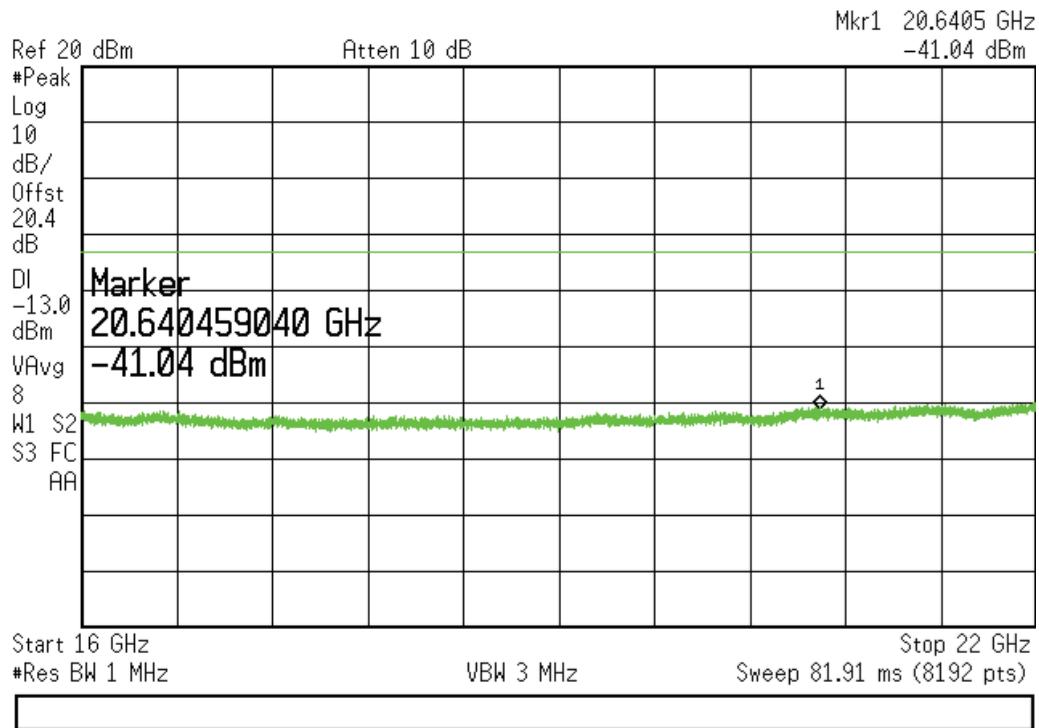




2110-2155 MHz Band (Mid Frequency) (Cont)

Agilent 09:01:13 Aug 12, 2014

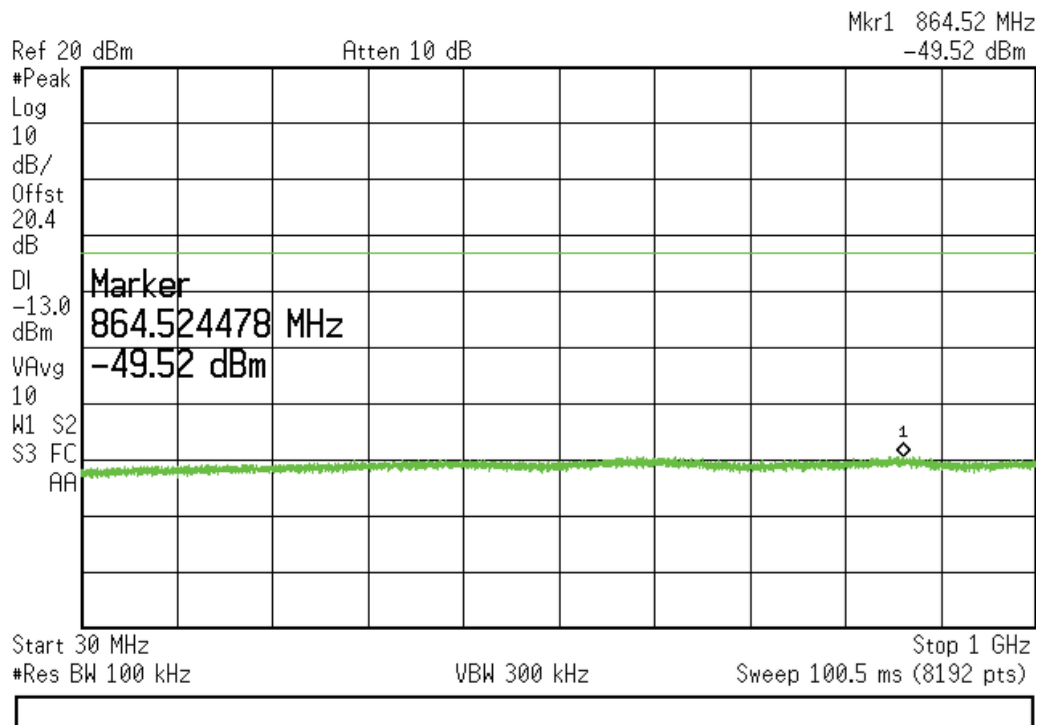
L



2110-2155 MHz Band (High Frequency)

Agilent 08:38:30 Aug 12, 2014

L

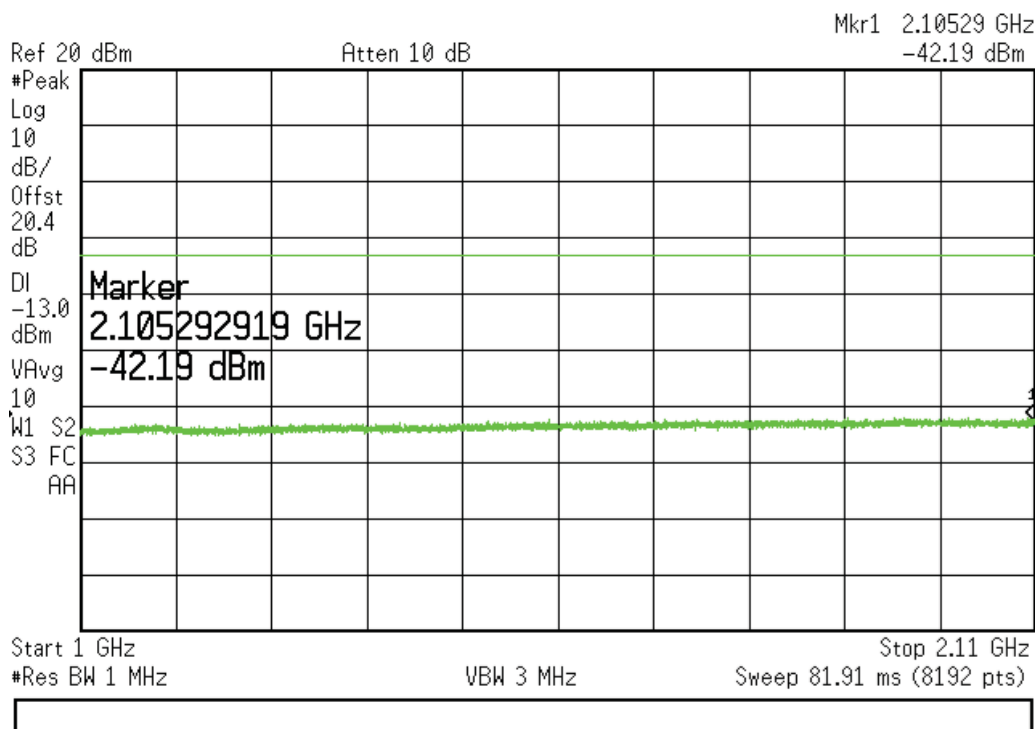




2110-2155 MHz Band (High Frequency) (Cont)

Agilent 08:49:04 Aug 12, 2014

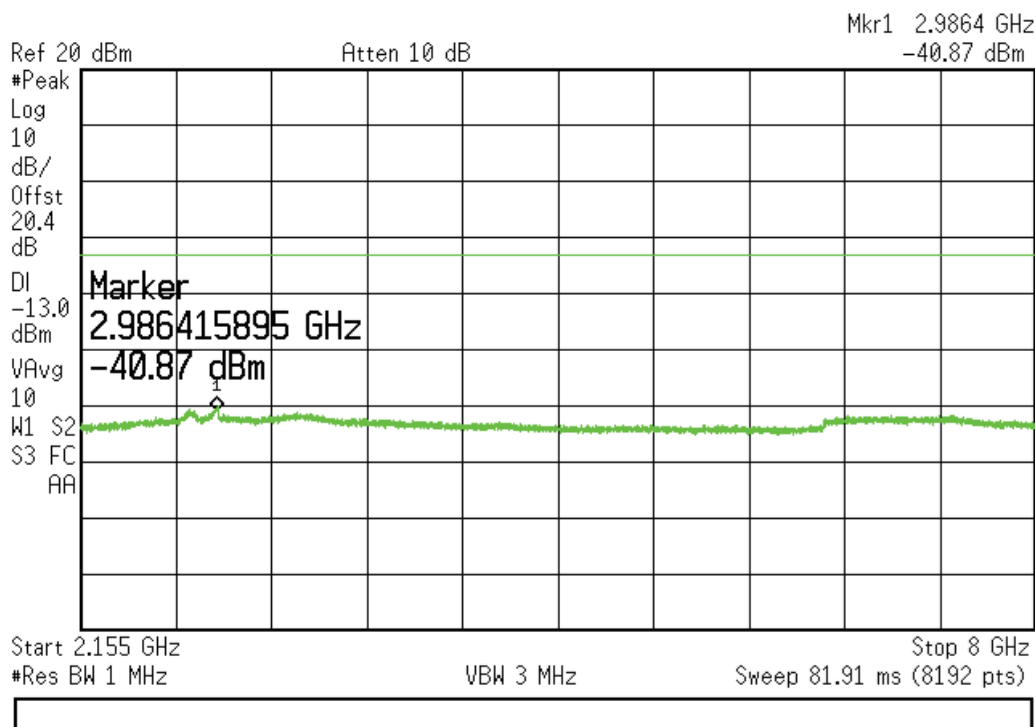
L



2110-2155 MHz Band (High Frequency) (Cont)

Agilent 08:52:05 Aug 12, 2014

L

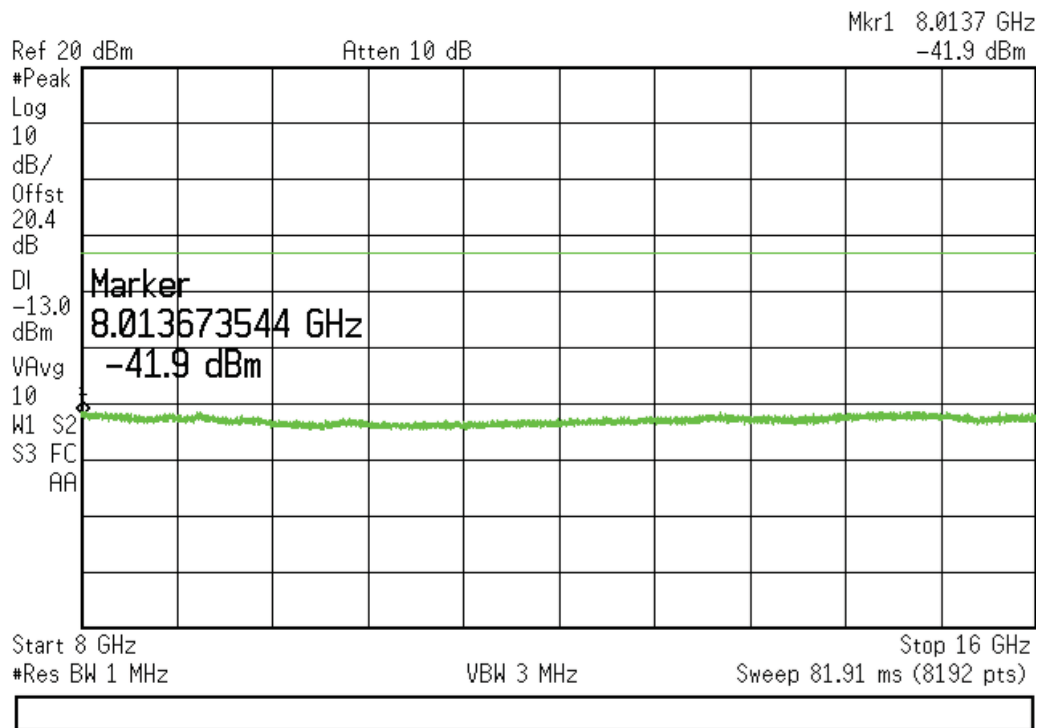




2110-2155 MHz Band (High Frequency) (Cont)

Agilent 09:02:54 Aug 12, 2014

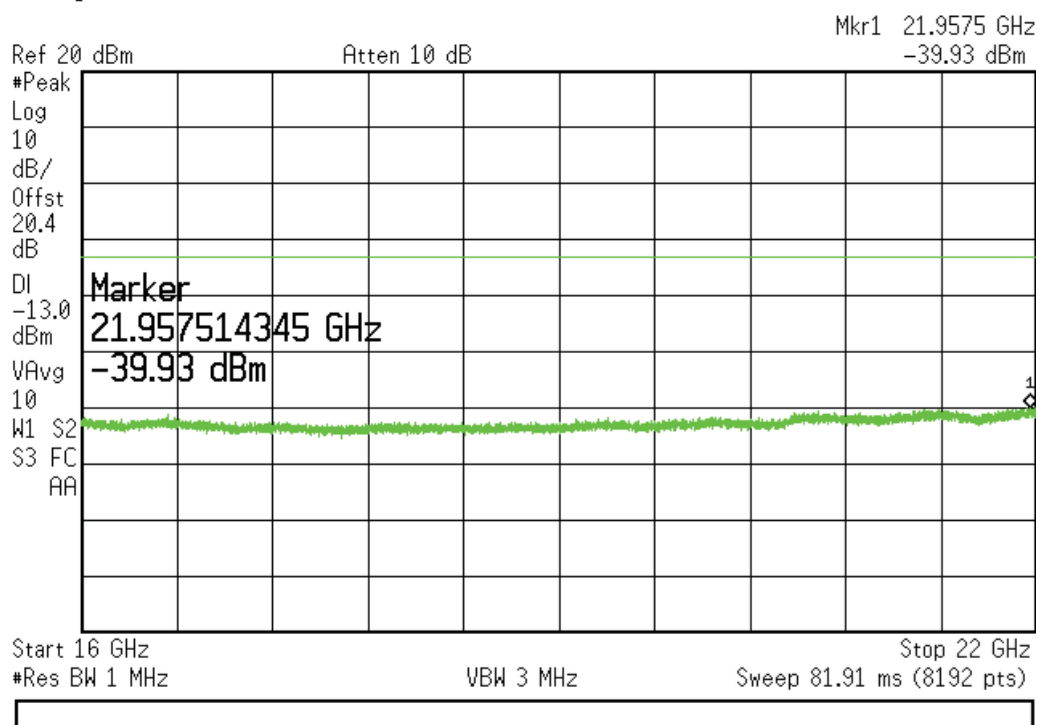
L



2110-2155 MHz Band (High Frequency) (Cont)

Agilent 09:02:06 Aug 12, 2014

L

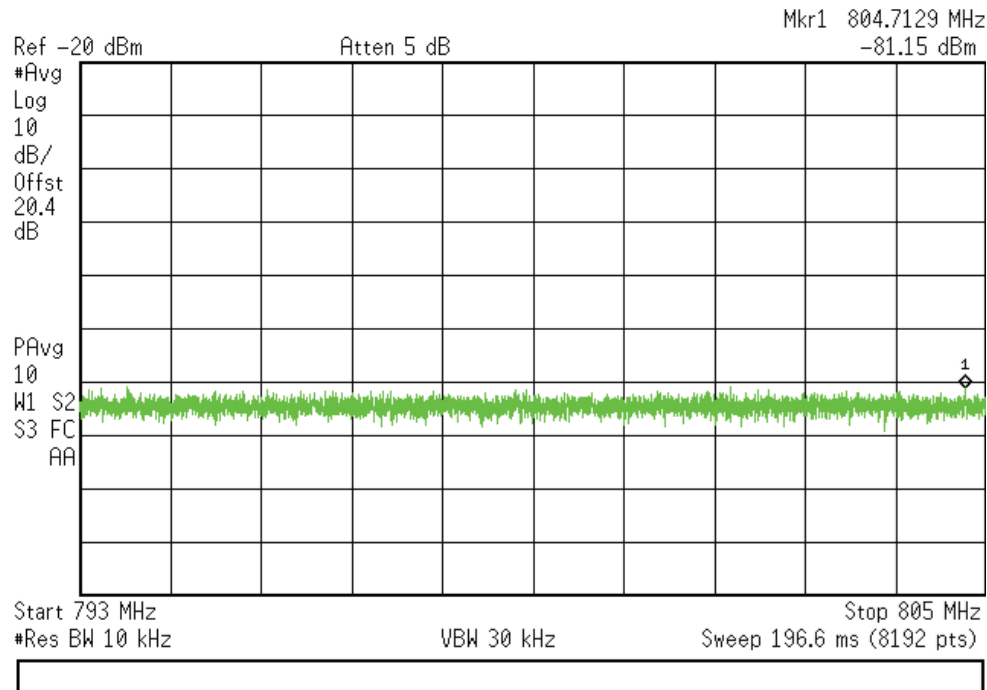




Additional testing 793 - 805 MHz (Narrowband)

Agilent 15:40:25 Aug 14, 2014

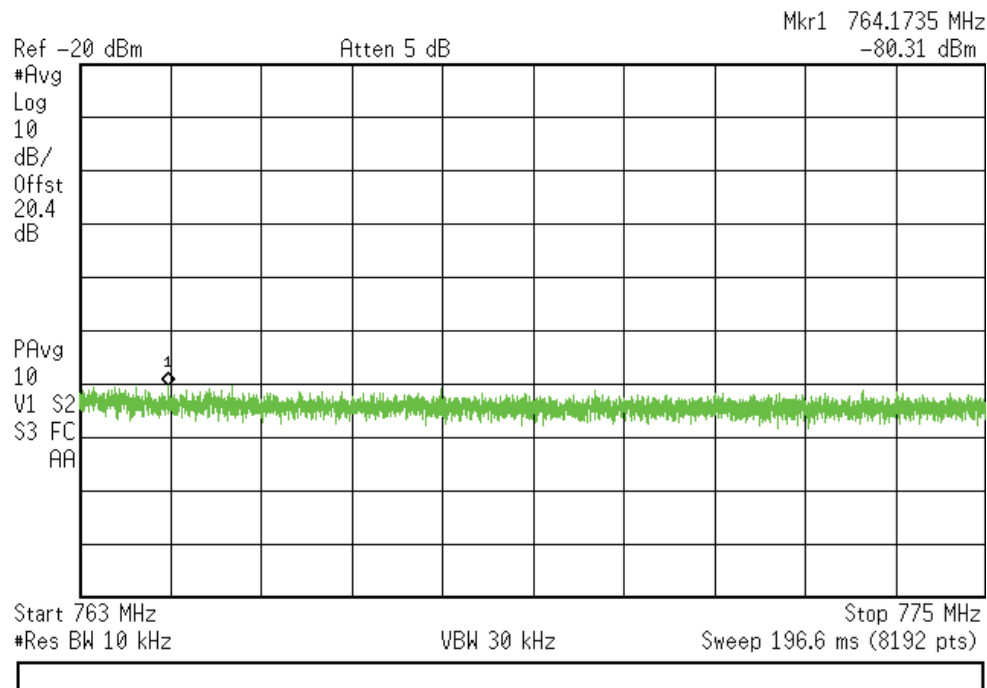
L



Additional testing 763 - 775 MHz (Narrowband)

Agilent 15:39:09 Aug 14, 2014

L

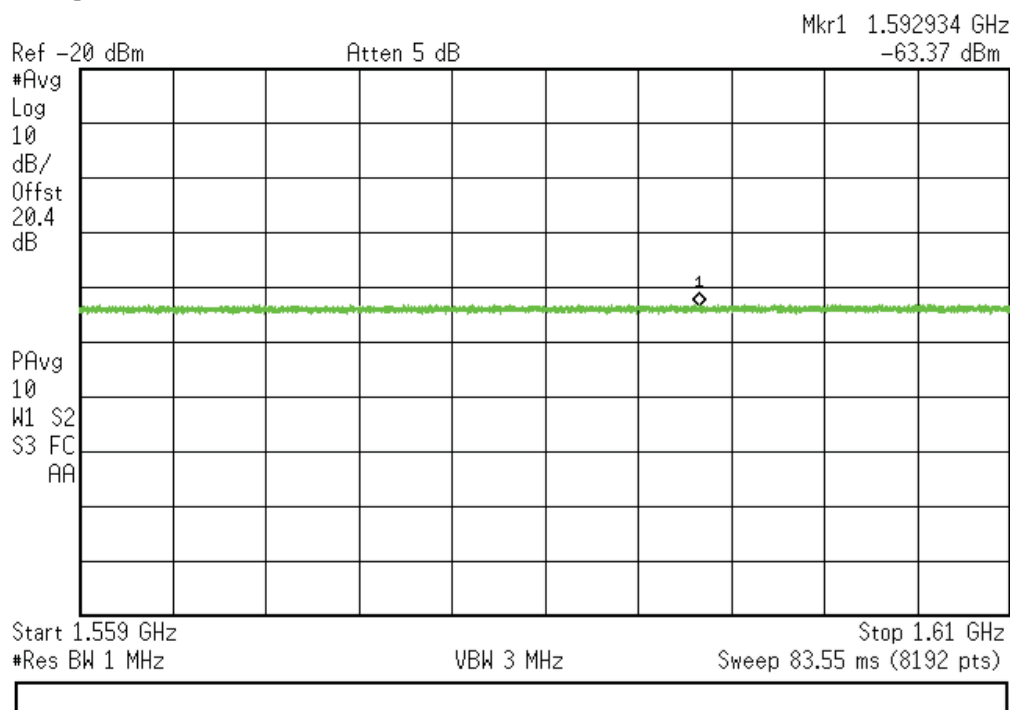




Additional testing 1559 - 1610 MHz (Wideband)

Agilent 15:37:02 Aug 14, 2014

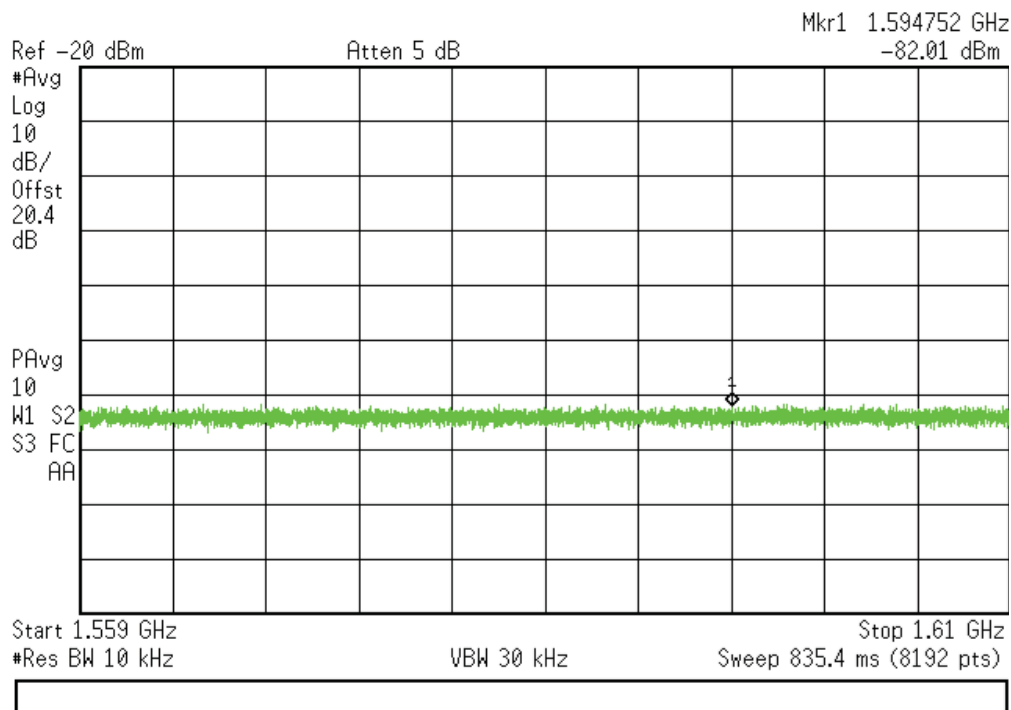
L



Additional testing 1559 - 1610 MHz (Narrowband)

Agilent 15:35:13 Aug 14, 2014

L



Radiated Spurious Emissions

Name of Test:

Radiated Spurious Emissions

Test Equipment Utilized:

i00103, i00349, i00405, i00428, i00331

Engineer: Mike Graffeo

Test Date: 8/14/14

Test Procedure

The EUT was tested in a semi-anechoic chamber with the turntable set 3m from the receiving antenna. A spectrum analyzer was used to verify that the EUT met the requirements for Radiated Emissions. The EUT was tested by rotating it 360 degrees with the antenna in both the vertical and horizontal orientation while raised from 1 to 4 meters to ensure that the signal levels were maximized. All cable and antenna correction factors were input into the spectrum analyzer ensuring an accurate measurement in ERP/EIRP with the resultant power in dBm. A signal generator was used to provide a CW signal. The EUT output was terminated into a 50 Ohm non-radiating load.

The RBW was set to 100 kHz for measurements below 1 GHz and 1 MHz for measurements above 1 GHz. The VBW was set to 3 times the RBW.

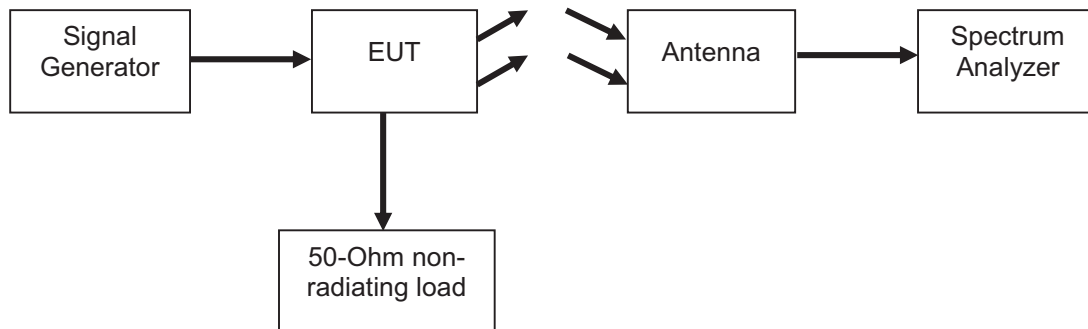
The following formula was used for calculating the limits:

Radiated Spurious Emissions Limit = $P_1 - (43 + 10\log(P_2)) = -13\text{dBm}$

P_1 = power in dBm

P_2 = power in Watts

Test Setup





UPLINK BANDS
698 - 716 MHz Band 707 MHz Tuned Frequency

Measured Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Result
1414	-71.73	-13	Pass
2121	-65.55	-13	Pass
2828	-56.69	-13	Pass
3535	-56.31	-13	Pass

777 - 787 MHz Band 781.5 MHz Tuned Frequency

Measured Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Result
1563	-57.28	-13	Pass
2444.5	-47.24	-13	Pass
3126	-44.3	-13	Pass
3907.5	-44.51	-13	Pass

824 - 849 MHz Band 836.5 MHz Tuned Frequency

Measured Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Result
1673	-52.98	-13	Pass
2509.5	-46.74	-13	Pass
3346	-46.36	-13	Pass
4182.5	-43.91	-13	Pass

1710 - 1755 MHz Band 1732.5 MHz Tuned Frequency

Measured Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Result
3465	-44.26	-13	Pass
5197.5	-42.13	-13	Pass
6930	-38.61	-13	Pass
8662.5	-33.5	-13	Pass



1850 - 1915 MHz Band 1880 MHz Tuned Frequency

Measured Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Result
3760	-45.28	-13	Pass
5640	-43.6	-13	Pass
7520	-34.1	-13	Pass
9400	-30.25	-13	Pass

DOWNLINK BANDS

728 - 746 MHz Band 737 MHz Tuned Frequency

Measured Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Result
1474	-58.38	-13	Pass
2211	-51.08	-13	Pass
2948	-44.78	-13	Pass
3685	-46.49	-13	Pass

746 - 757 MHz Band 751.5 MHz Tuned Frequency

Measured Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Result
1503	-56.18	-13	Pass
2254.5	-52.5	-13	Pass
3006	-46.46	-13	Pass
3757.5	-43.99	-13	Pass

869 - 894 MHz Band 881.5 MHz Tuned Frequency

Measured Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Result
1763	-52.62	-13	Pass
2644.5	-49.57	-13	Pass
3526	-48.19	-13	Pass
4407.5	-48.19	-13	Pass

1930 - 1995 MHz Band 1960 MHz Tuned Frequency

Measured Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Result
3920	-44.56	-13	Pass
5880	-38.42	-13	Pass
7840	-39.68	-13	Pass
9800	44.94	-13	Pass

2110 - 2155 MHz Band 2132.5 MHz Tuned Frequency

Measured Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Result
4265	-44.47	-13	Pass
6397.5	-44.81	-13	Pass
8530	-32.6	-13	Pass
10662.5	-29.7	-13	Pass

No other emissions were detected. All emissions were 20 below the limit of -13 dBm.

Occupied Bandwidth

Name of Test:

Occupied Bandwidth

Engineer: Mike Graffeo

Test Equipment Utilized

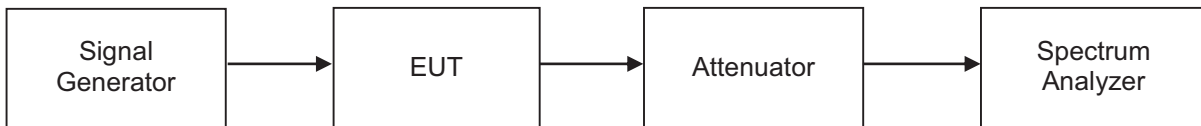
i00405, i00331

Test Date: 8/7/14

Test Procedure

The Occupied Bandwidth was measured at 26dB down across the midpoint of the band, with the input to the EUT at 3dBm above AGC level and again at 6dBm above AGC level. Only the worst case of the two results is shown.

Test Setup



Uplink (GSM Signal)

Band (MHz)	Worst case 99% Emission Bandwidth at Input (KHz)	Worst case 99% Emission Bandwidth at EUT Output (KHz)
698 - 716	245.19	246.22
776-787	244.05	244.73
824-849	242.52	247.29
1710-1755	243.17	244.02
1850-1915	244.53	245.03

Uplink (CDMA Signal)

Band (MHz)	Worst case 99% Emission Bandwidth at Input (MHz)	Worst case 99% Emission Bandwidth at EUT Output (MHz)
698 - 716	1.277	1.273
776-787	1.270	1.273
824-849	1.273	1.270
1710-1755	1.271	1.276
1850-1915	1.271	1.276



Downlink (GSM Signal)

Band (MHz)	Worst case 99% Emission Bandwidth at Input (KHz)	Worst case 99% Emission Bandwidth at EUT Output (KHz)
728-746	243.79	243.82
746-757	245.10	246.06
869-894	244.42	245.55
1930-1995	245.04	246.18
2110-2155	245.95	245.98

Downlink (CDMA Signal)

Band (MHz)	Worst case 99% Emission Bandwidth at Input (MHz)	Worst case 99% Emission Bandwidth at EUT Output (MHz)
728-746	1.272	1.269
746-757	1.273	1.274
869-894	1.270	1.273
1930-1995	1.273	1.269
2110-2155	1.272	1.274

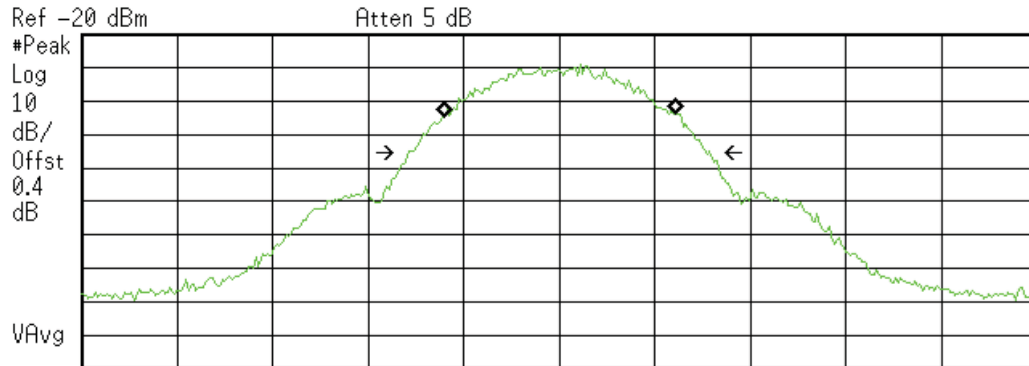


Uplink (GSM Signal)

698 - 716 MHz Band
Input

Agilent 20:16:26 Aug 7, 2014

L



Center 707 MHz

#Res BW 3 kHz

VBW 10 kHz

Span 1 MHz
Sweep 114.4 ms (401 pts)

Occupied Bandwidth
245.1982 kHz

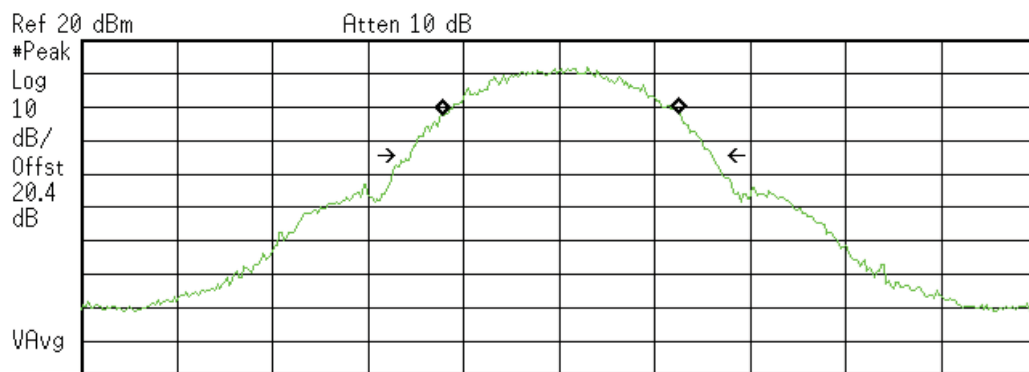
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 915.283 Hz
x dB Bandwidth 314.209 kHz

Output

Agilent 20:28:23 Aug 7, 2014

L



Center 707 MHz

#Res BW 3 kHz

VBW 10 kHz

Span 1 MHz
Sweep 114.4 ms (401 pts)

Occupied Bandwidth
246.2156 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

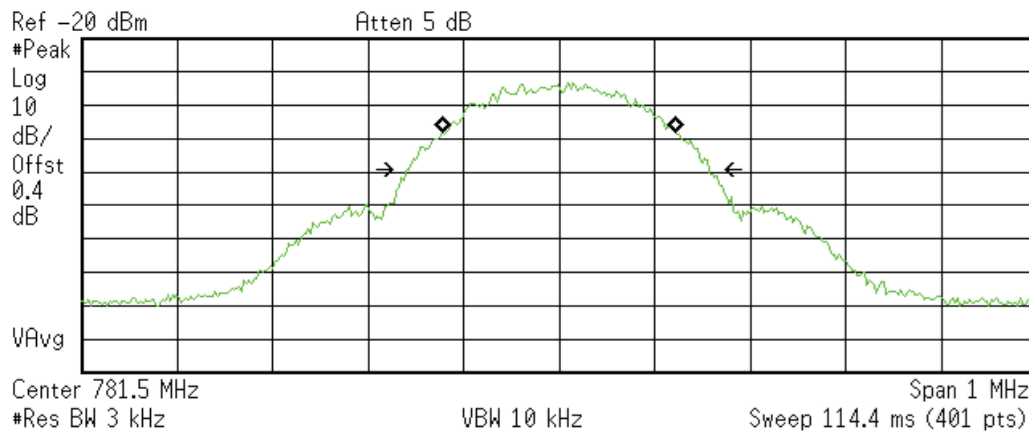
Transmit Freq Error 837.597 Hz
x dB Bandwidth 315.708 kHz



776-787 MHz Band Input

Agilent 20:17:29 Aug 7, 2014

L



Occupied Bandwidth
244.0540 kHz

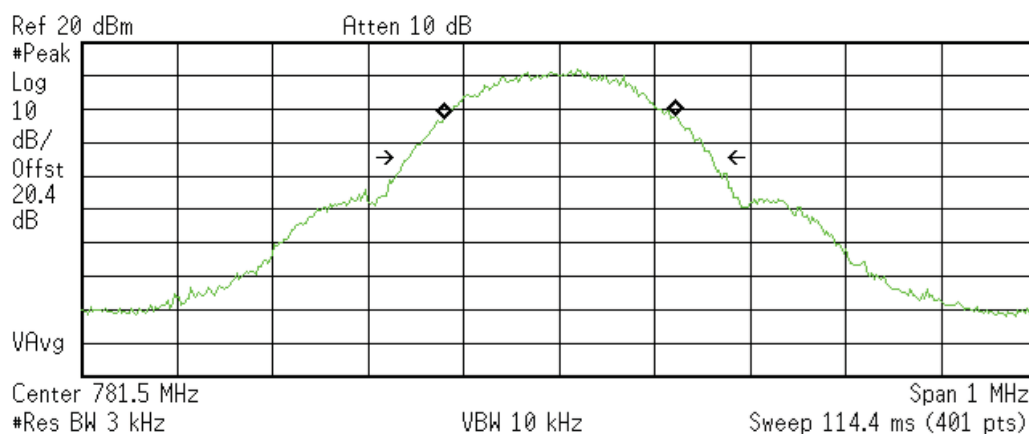
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 427.362 Hz
x dB Bandwidth 314.012 kHz

Output

Agilent 20:29:44 Aug 7, 2014

L



Occupied Bandwidth
244.7347 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

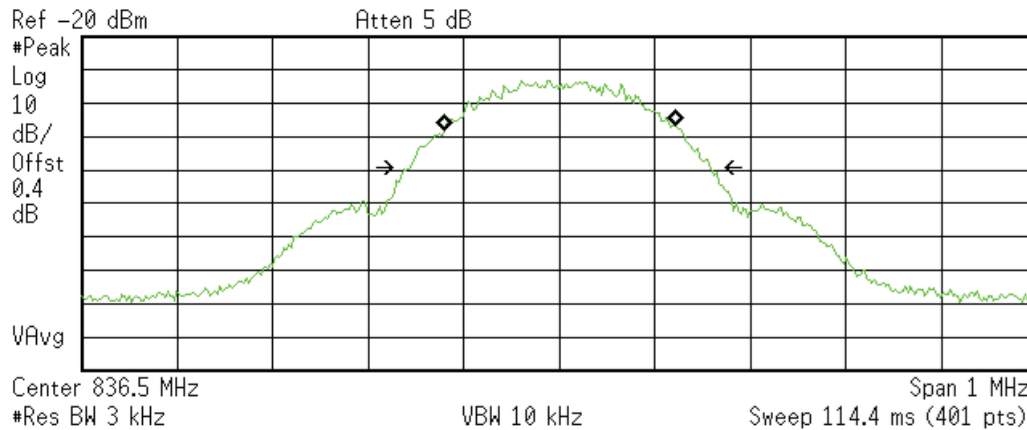
Transmit Freq Error -126.059 Hz
x dB Bandwidth 313.048 kHz



824-849 MHz Band Input

Agilent 20:19:08 Aug 7, 2014

L



Occupied Bandwidth
242.5151 kHz

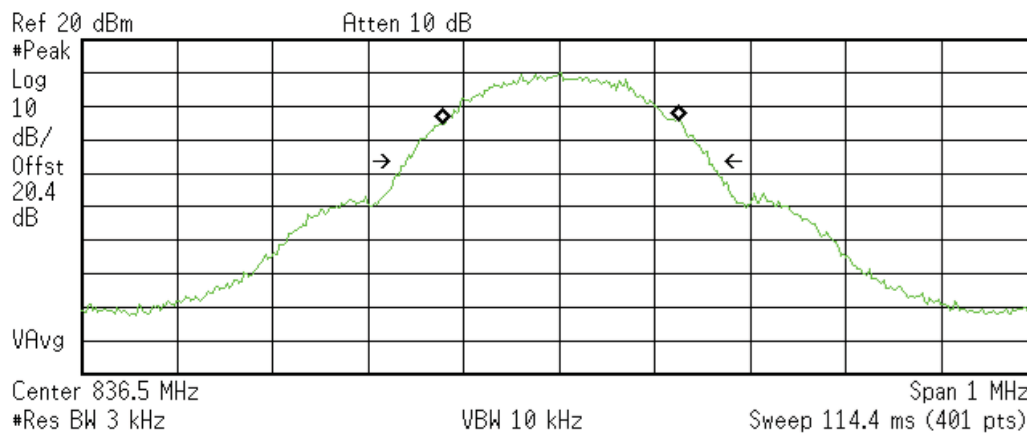
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 739.096 Hz
x dB Bandwidth 314.334 kHz

Output

Agilent 20:30:33 Aug 7, 2014

L



Occupied Bandwidth
247.2910 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

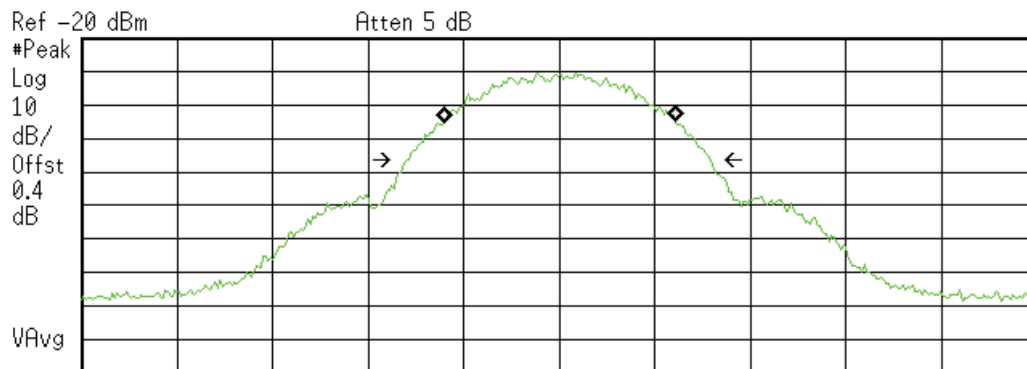
Transmit Freq Error 386.019 Hz
x dB Bandwidth 316.051 kHz



1710-1755 MHz Band Input

Agilent 20:22:52 Aug 7, 2014

L



Center 1.732 GHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
243.1724 kHz

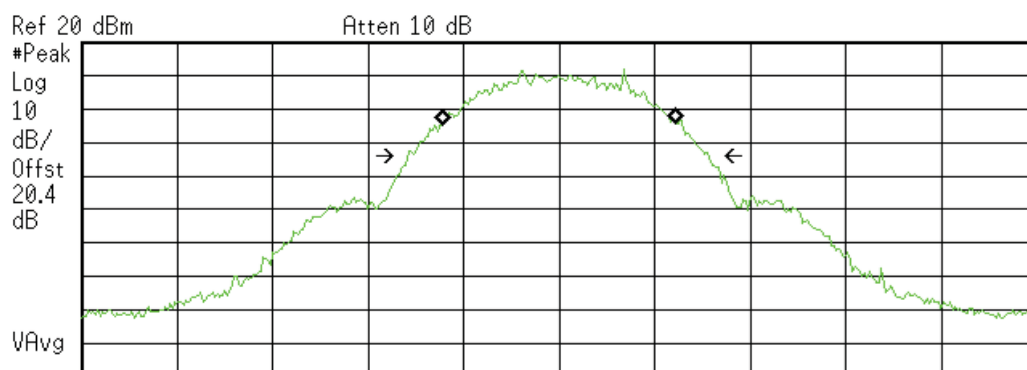
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 364.918 Hz
x dB Bandwidth 316.337 kHz

Output

Agilent 20:32:20 Aug 7, 2014

L



Center 1.732 GHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
244.0159 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

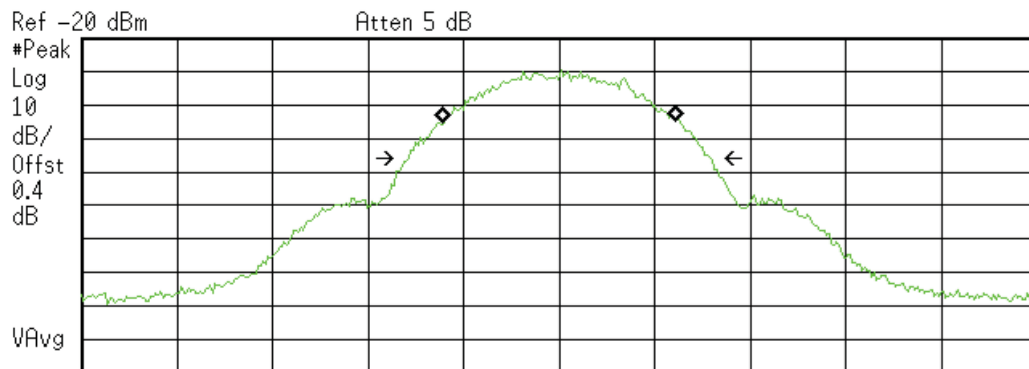
Transmit Freq Error 775.204 Hz
x dB Bandwidth 309.698 kHz



1850-1915 MHz Band Input

Agilent 20:21:25 Aug 7, 2014

L



Center 1.88 GHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
244.5390 kHz

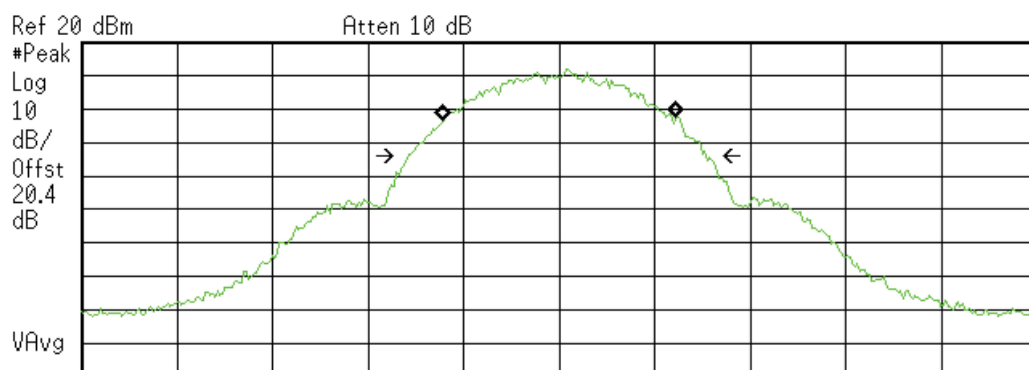
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 813.702 Hz
x dB Bandwidth 315.664 kHz

Output

Agilent 20:31:30 Aug 7, 2014

L



Center 1.88 GHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
245.0323 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

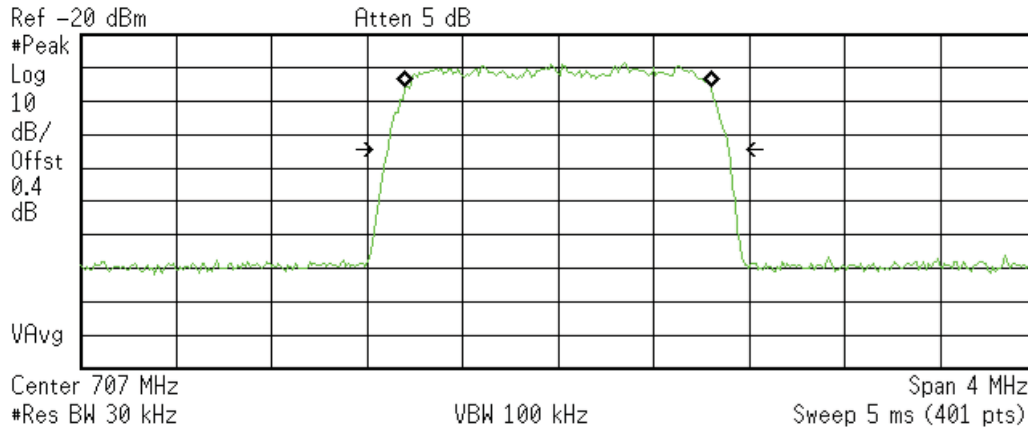
Transmit Freq Error 799.049 Hz
x dB Bandwidth 311.576 kHz



Uplink (CDMA Signal) 698 - 716 MHz Band Input

Agilent 20:42:06 Aug 7, 2014

L



Occupied Bandwidth
1.2769 MHz

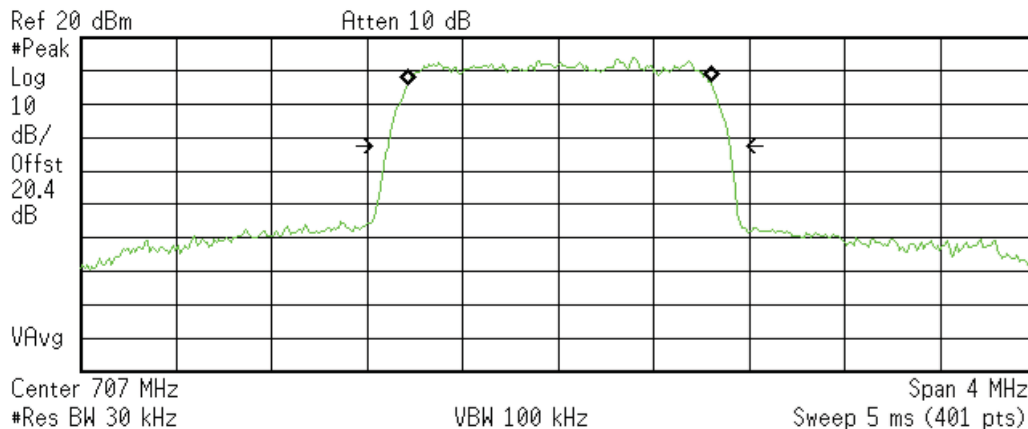
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.871 kHz
x dB Bandwidth 1.425 MHz

Output

Agilent 20:34:49 Aug 7, 2014

L



Occupied Bandwidth
1.2734 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

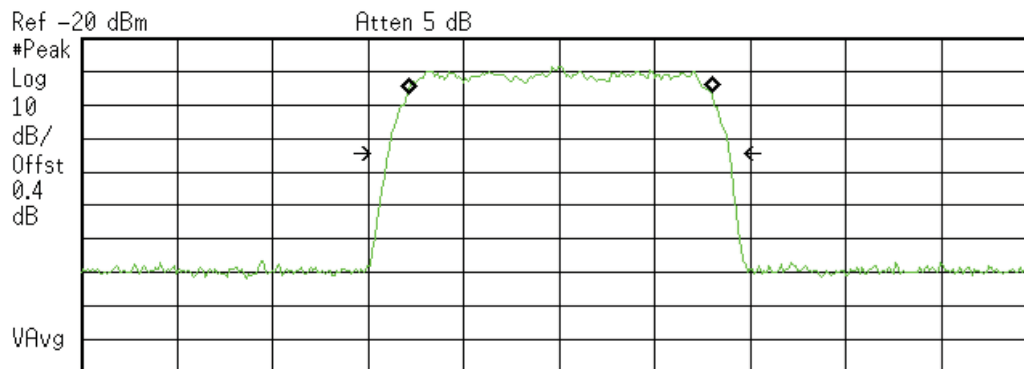
Transmit Freq Error 4.201 kHz
x dB Bandwidth 1.426 MHz



776-787 MHz Band Input

Agilent 20:43:55 Aug 7, 2014

L



Center 781.5 MHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2700 MHz

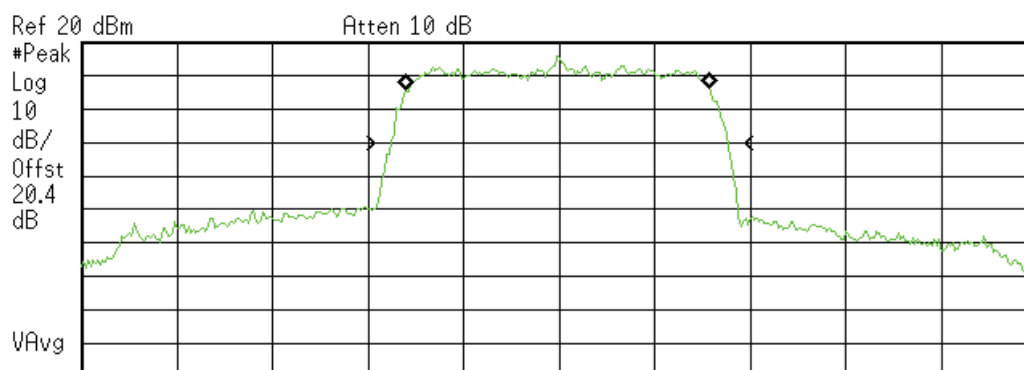
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 398.930 Hz
x dB Bandwidth 1.430 MHz

Output

Agilent 20:36:17 Aug 7, 2014

L



Center 781.5 MHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2729 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

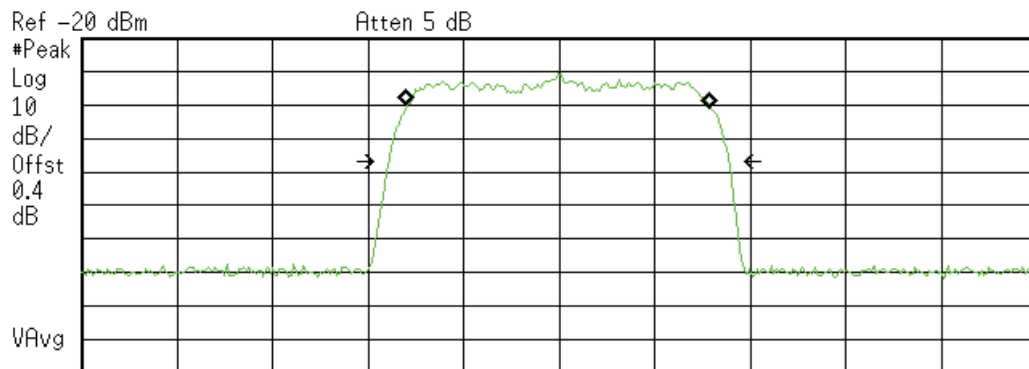
Transmit Freq Error -3.687 kHz
x dB Bandwidth 1.412 MHz



824-849 MHz Band Input

Agilent 20:44:41 Aug 7, 2014

L



Center 836.5 MHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2729 MHz

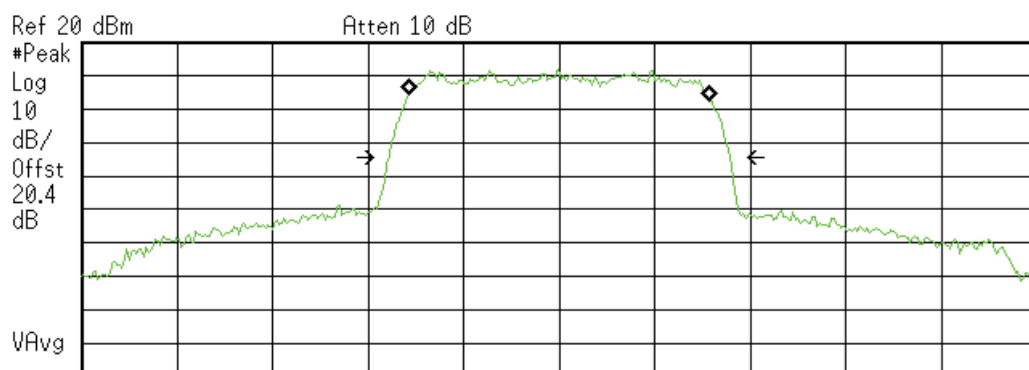
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -163.172 Hz
x dB Bandwidth 1.427 MHz

Output

Agilent 20:37:03 Aug 7, 2014

L



Center 836.5 MHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2696 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

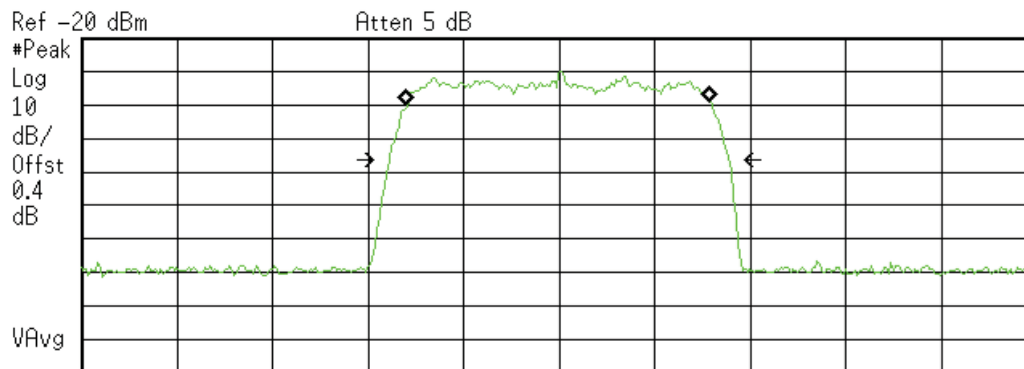
Transmit Freq Error -270.306 Hz
x dB Bandwidth 1.429 MHz



1710-1755 MHz Band Input

Agilent 20:48:14 Aug 7, 2014

L



Center 1.732 GHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2712 MHz

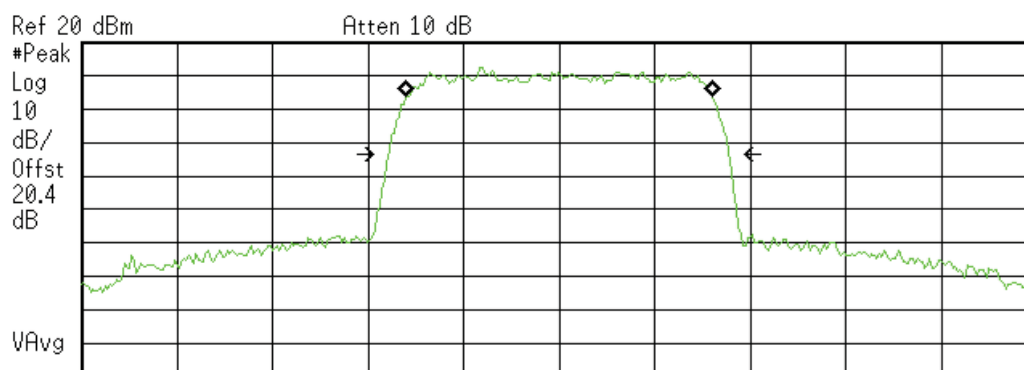
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -757.863 Hz
x dB Bandwidth 1.426 MHz

Output

Agilent 20:38:37 Aug 7, 2014

L



Center 1.732 GHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2759 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

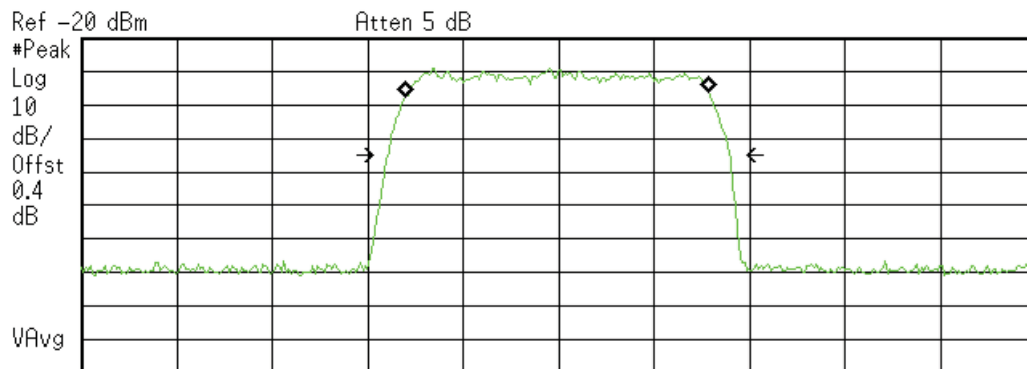
Transmit Freq Error 295.576 Hz
x dB Bandwidth 1.427 MHz



1850-1915 MHz Band Input

Agilent 20:47:22 Aug 7, 2014

L



Center 1.88 GHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2714 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

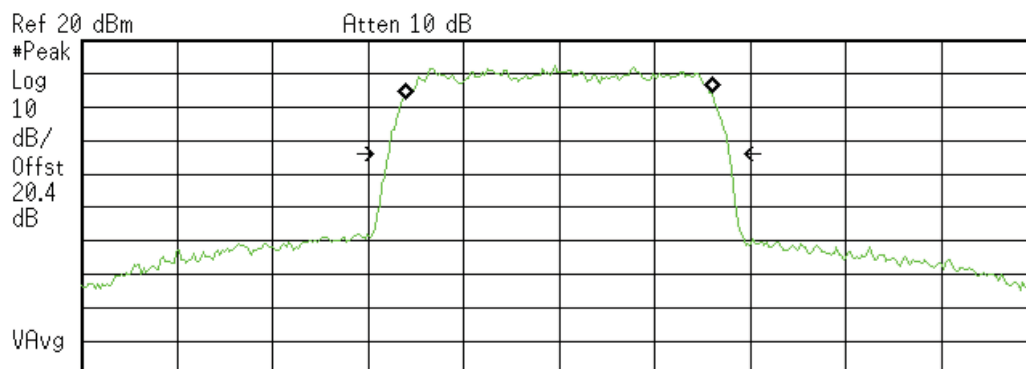
Transmit Freq Error -2.464 kHz
x dB Bandwidth 1.431 MHz



Output

Agilent 20:37:50 Aug 7, 2014

L

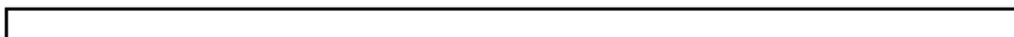


Center 1.88 GHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2759 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.794 kHz
x dB Bandwidth 1.427 MHz

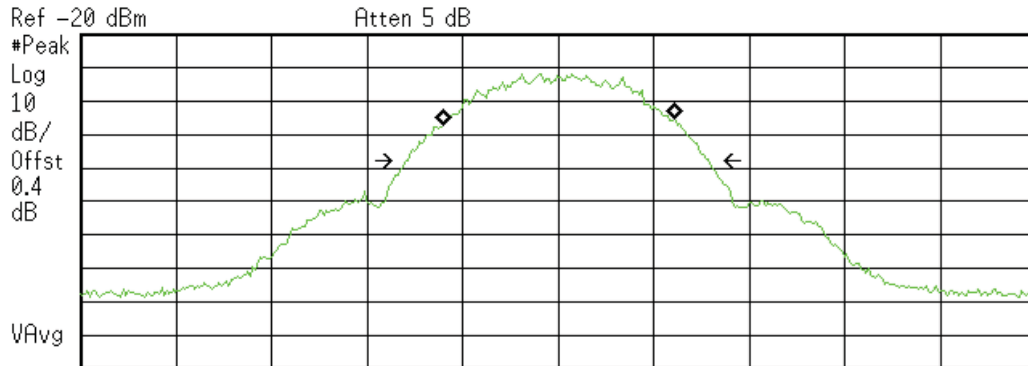




Downlink (GSM Signal)
728-746 MHz Band
Input

Agilent 19:44:59 Aug 7, 2014

L



Center 737 MHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
243.7998 kHz

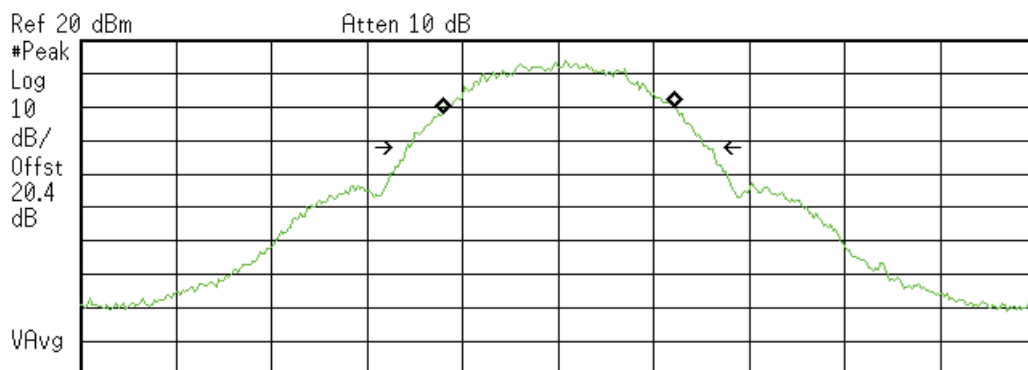
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 760.641 Hz
x dB Bandwidth 316.985 kHz

Output

Agilent 20:00:52 Aug 7, 2014

L



Center 737 MHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
243.8241 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

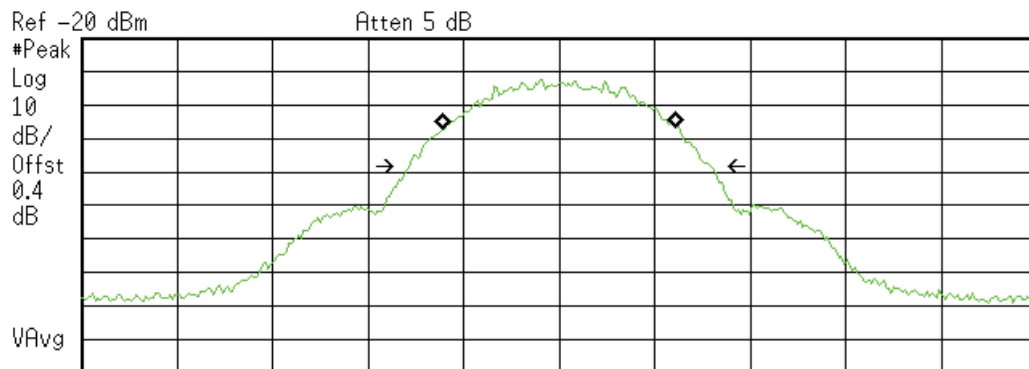
Transmit Freq Error 753.516 Hz
x dB Bandwidth 316.109 kHz



746-757 MHz Band Input

Agilent 20:13:15 Aug 7, 2014

L



Center 751.5 MHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
245.1021 kHz

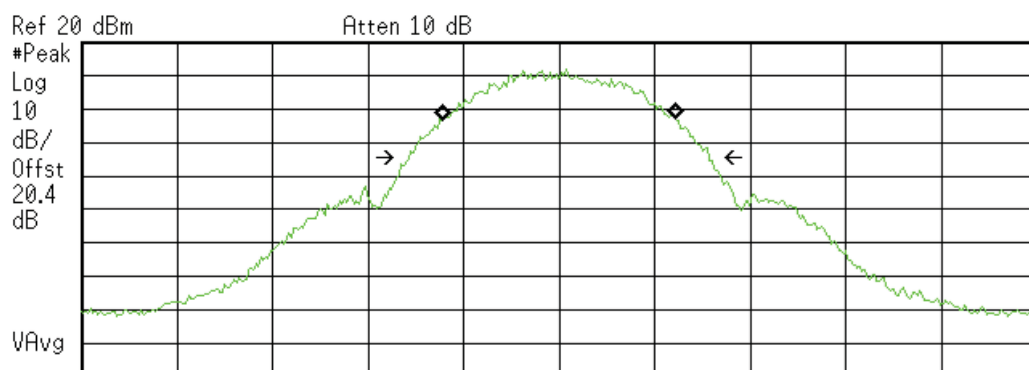
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 223.644 Hz
x dB Bandwidth 317.849 kHz

Output

Agilent 20:06:50 Aug 7, 2014

L



Center 751.5 MHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
246.0604 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

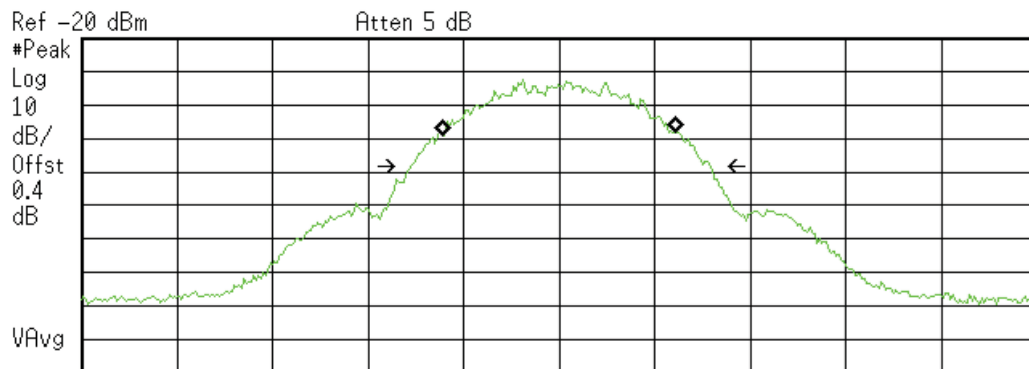
Transmit Freq Error -167.355 Hz
x dB Bandwidth 313.721 kHz



869-894 MHz Band Input

Agilent 19:50:56 Aug 7, 2014

L



Center 881.5 MHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
244.4146 kHz

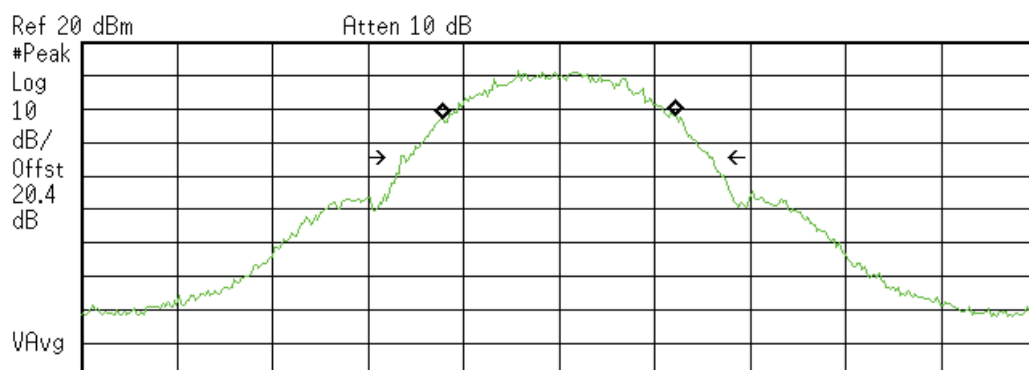
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 425.593 Hz
x dB Bandwidth 315.213 kHz

Output

Agilent 20:03:17 Aug 7, 2014

L



Center 881.5 MHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
245.5513 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

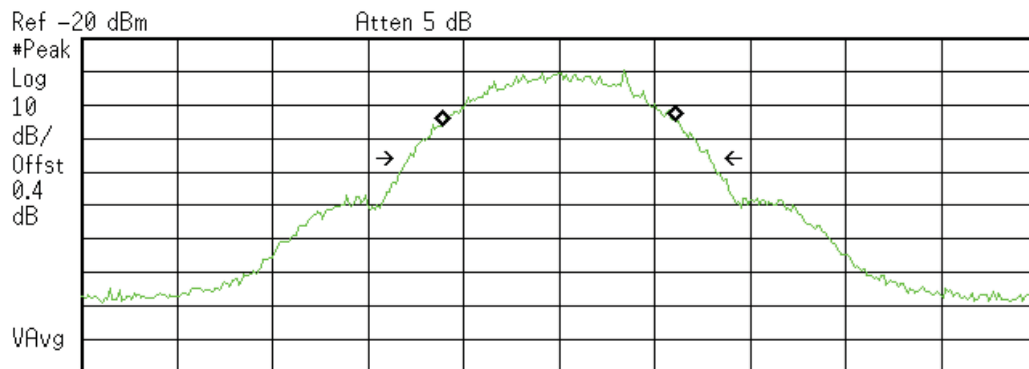
Transmit Freq Error 412.354 Hz
x dB Bandwidth 317.341 kHz



1930-1995 MHz Band Input

Agilent 19:53:24 Aug 7, 2014

L



Center 1.96 GHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
245.0425 kHz

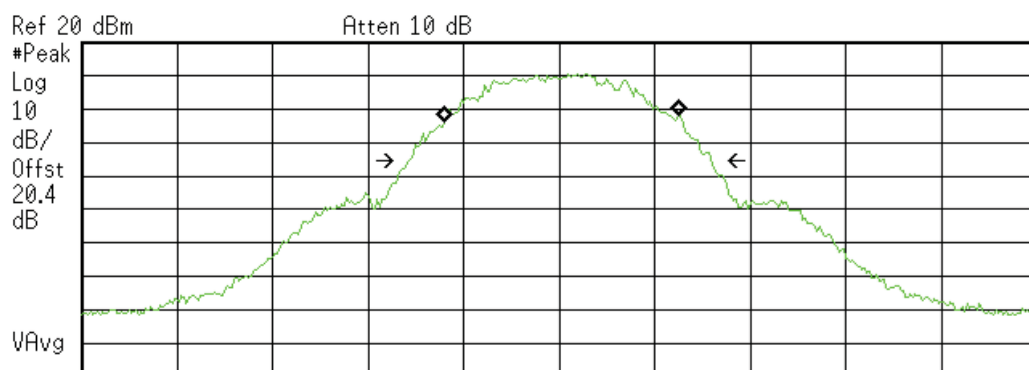
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -126.347 Hz
x dB Bandwidth 315.469 kHz

Output

Agilent 20:04:09 Aug 7, 2014

L



Center 1.96 GHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
246.1833 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

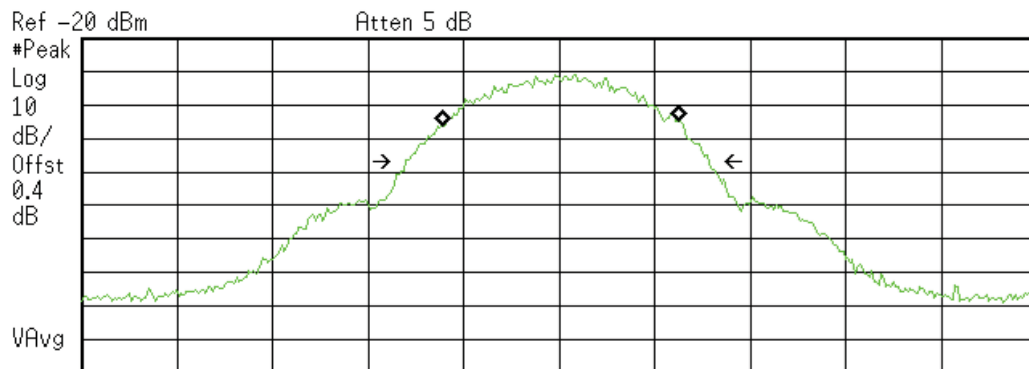
Transmit Freq Error 2.182 kHz
x dB Bandwidth 316.151 kHz



2110-2155 MHz Band Input

Agilent 19:55:18 Aug 7, 2014

L



Center 2.132 GHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
245.0448 kHz

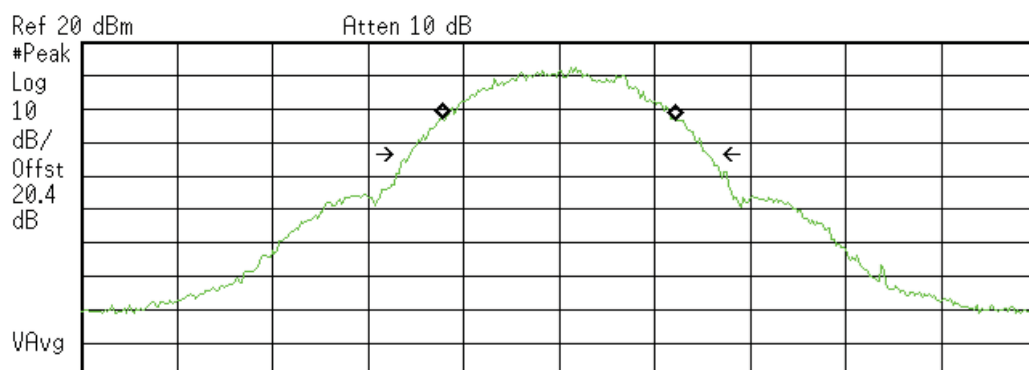
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.461 kHz
x dB Bandwidth 316.749 kHz

Output

Agilent 19:58:48 Aug 7, 2014

L



Center 2.132 GHz Span 1 MHz
#Res BW 3 kHz VBW 10 kHz Sweep 114.4 ms (401 pts)

Occupied Bandwidth
245.9804 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

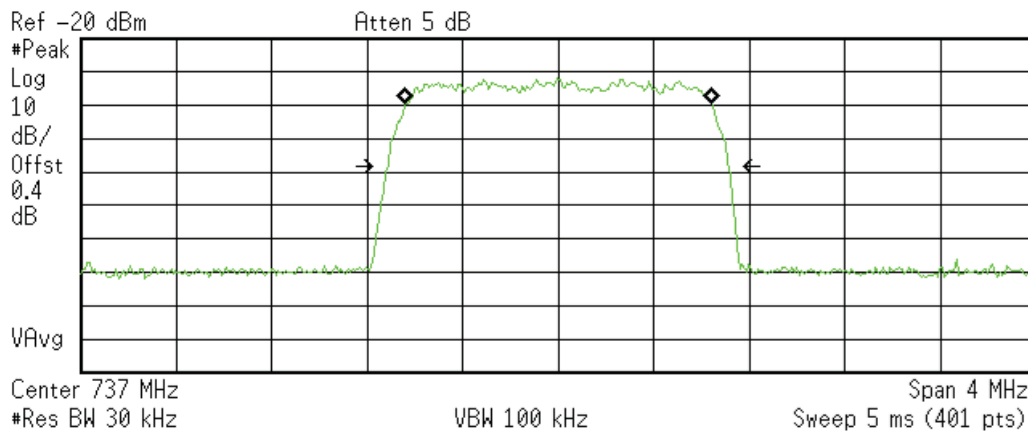
Transmit Freq Error 893.903 Hz
x dB Bandwidth 312.161 kHz



Downlink (CDMA Signal)
728-746 MHz Band
Input

Agilent 19:34:24 Aug 7, 2014

L



Occupied Bandwidth
1.2724 MHz

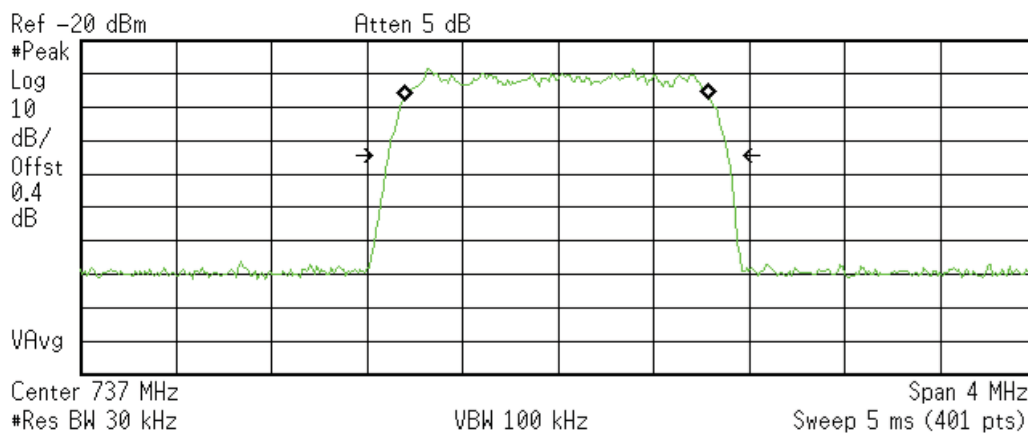
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.500 kHz
x dB Bandwidth 1.426 MHz

Output

Agilent 19:35:27 Aug 7, 2014

L



Occupied Bandwidth
1.2692 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

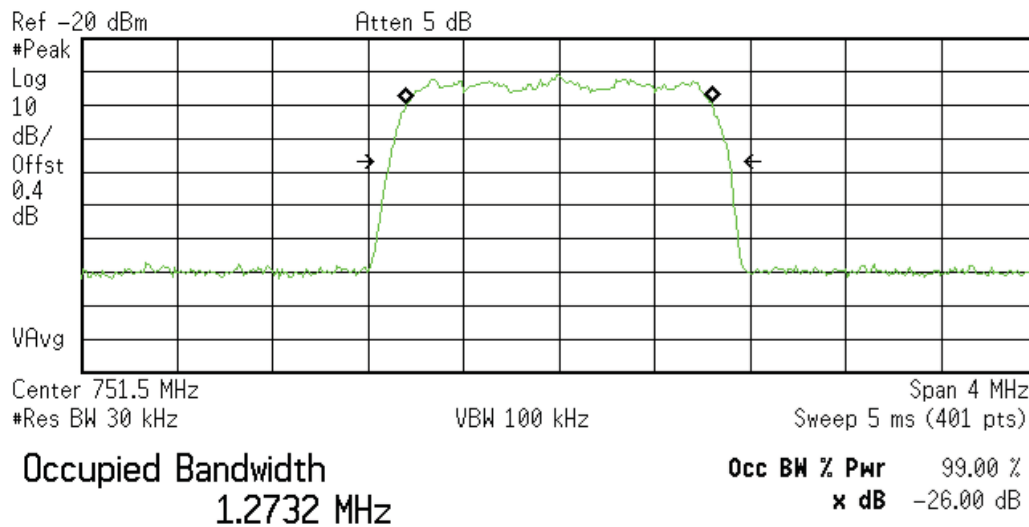
Transmit Freq Error -1.151 kHz
x dB Bandwidth 1.420 MHz



746-757 MHz Band Input

Agilent 19:32:34 Aug 7, 2014

L

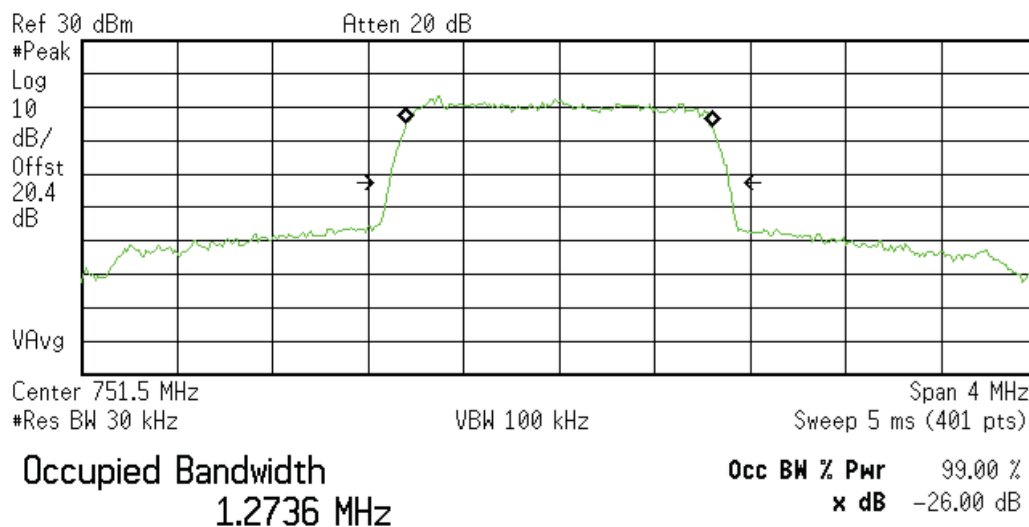


Transmit Freq Error -282.620 Hz
x dB Bandwidth 1.424 MHz

Output

Agilent 19:30:31 Aug 7, 2014

L



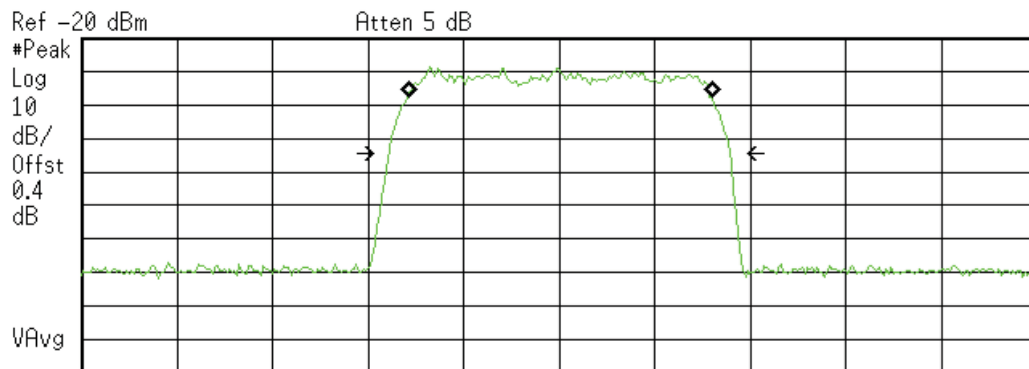
Transmit Freq Error -978.996 Hz
x dB Bandwidth 1.419 MHz



869-894 MHz Band Input

Agilent 19:37:44 Aug 7, 2014

L



Center 881.5 MHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2700 MHz

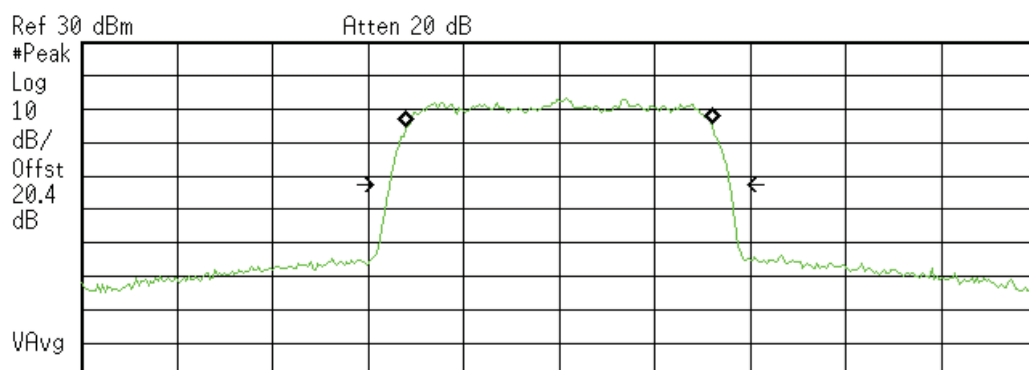
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 662.805 Hz
x dB Bandwidth 1.428 MHz

Output

Agilent 19:23:20 Aug 7, 2014

L



Center 881.5 MHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2730 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

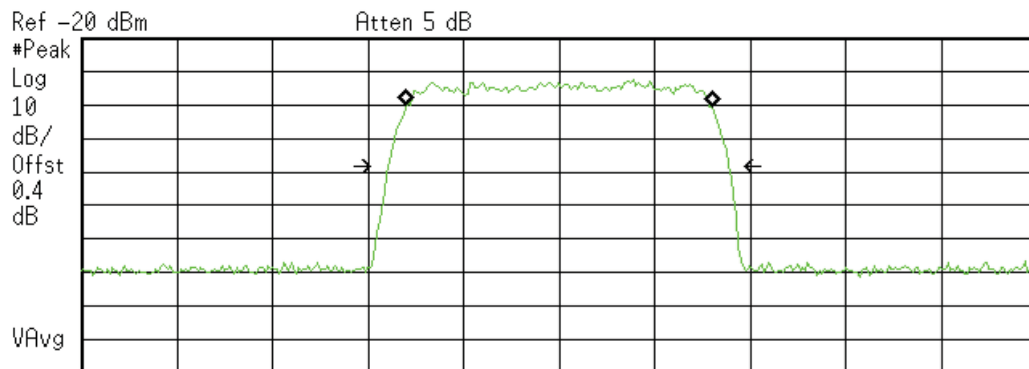
Transmit Freq Error 1.238 kHz
x dB Bandwidth 1.424 MHz



1930-1995 MHz Band Input

Agilent 19:38:41 Aug 7, 2014

L



Center 1.96 GHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2727 MHz

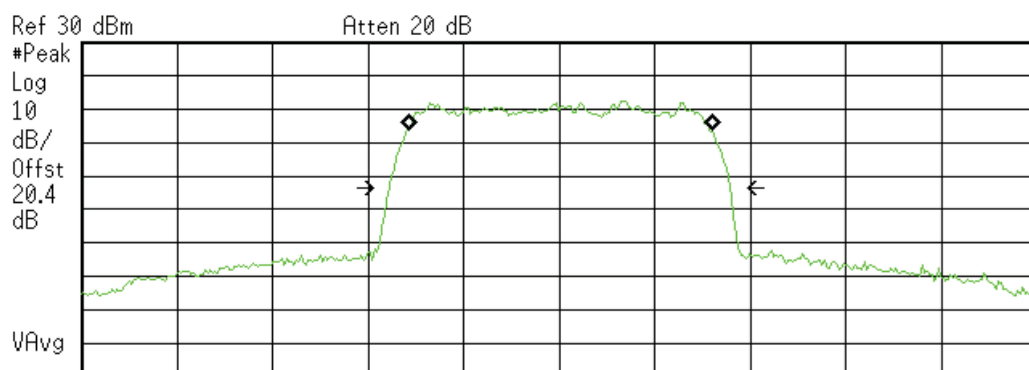
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -863.971 Hz
x dB Bandwidth 1.426 MHz

Output

Agilent 19:27:15 Aug 7, 2014

L



Center 1.96 GHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2690 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

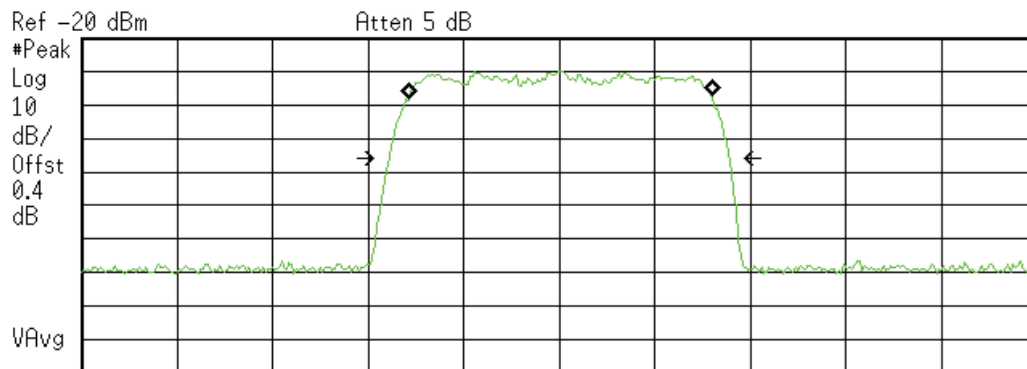
Transmit Freq Error 1.805 kHz
x dB Bandwidth 1.428 MHz



2110-2155 MHz Band Input

Agilent 19:42:04 Aug 7, 2014

L



Center 2.132 GHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2721 MHz

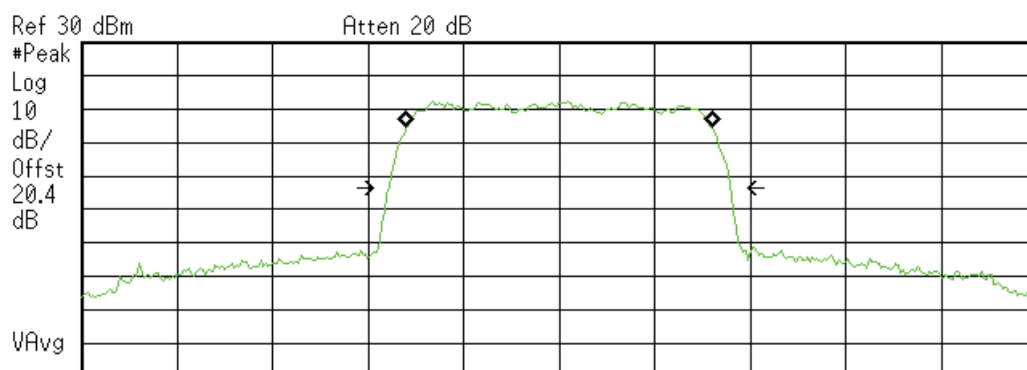
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 955.391 Hz
x dB Bandwidth 1.426 MHz

Output

Agilent 19:29:03 Aug 7, 2014

L



Center 2.132 GHz Span 4 MHz
#Res BW 30 kHz VBW 100 kHz Sweep 5 ms (401 pts)

Occupied Bandwidth
1.2741 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 967.885 Hz
x dB Bandwidth 1.431 MHz

Intermodulation

Name of Test:

Intermodulation

Engineer: Mike Graffeo

Test Equipment Utilized:

i00405, i00331

Test Date: 8/14/14

Test Procedure

The EUT was connected to a spectrum analyzer through a power attenuator. Two signal generators were utilized to produce a two tone signal set so the intermodulation products fell within the operational band. Frequency at the maximum power from out of band rejection was utilized.

The RF input signal level was set to 0.2 dB below the AGC Threshold for this test and then repeated at 3dBm and 6dBm above AGC level.

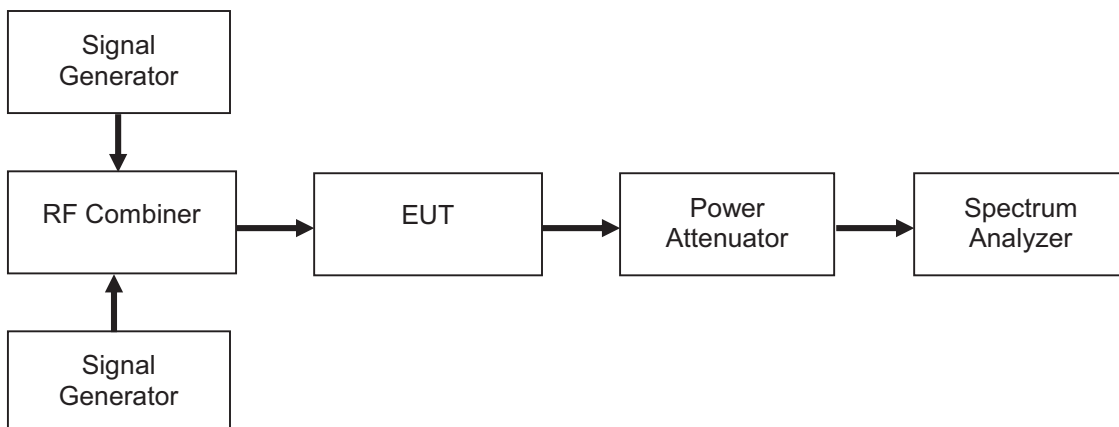
All losses for the combiner and cables were accounted for.

Plots show lower and upper frequencies pairs across band.

Note1: The RBW was increased to better view the intermodulation products, and significant time was allowed to pass before plotting.

Note2: When the band was narrower compared to fitting two wide band signals, the plots were still left in the report for reference.

Test Setup

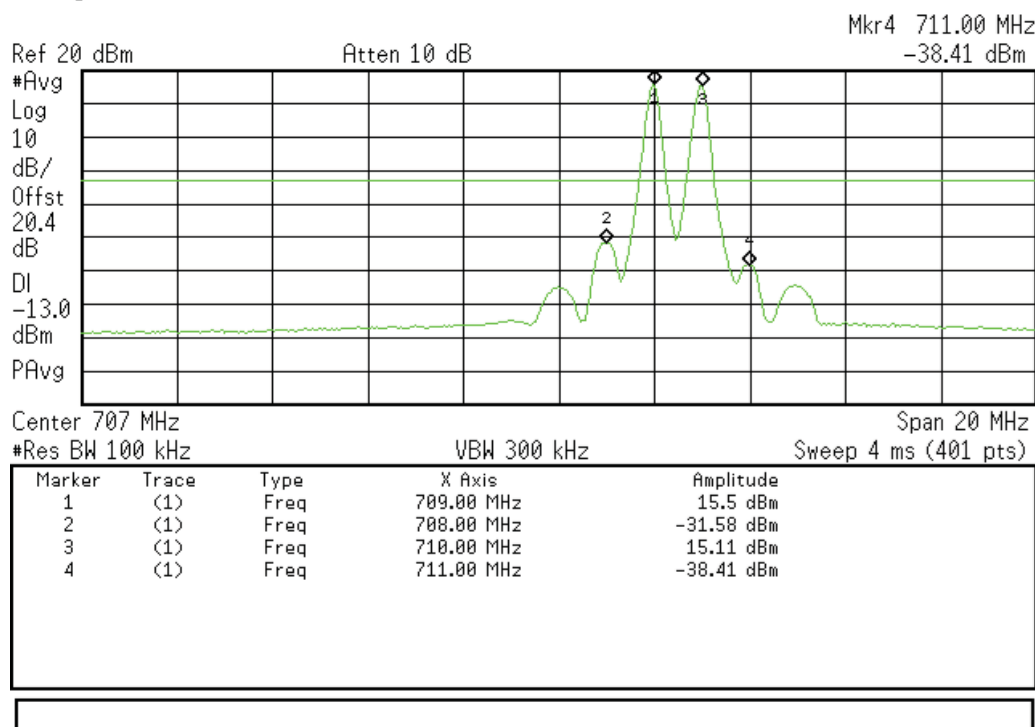




Intermodulation Uplink Test Results at AGC (GSM Signal) 698 - 716 MHz Band

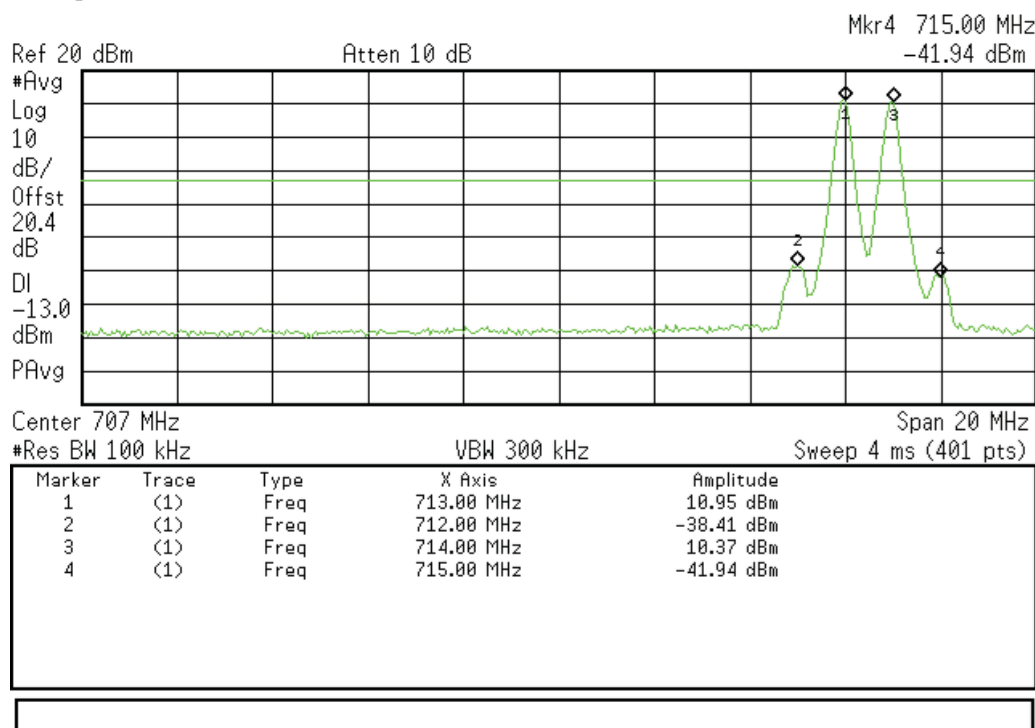
Agilent 10:42:15 Aug 13, 2014

L



Agilent 10:45:04 Aug 13, 2014

L

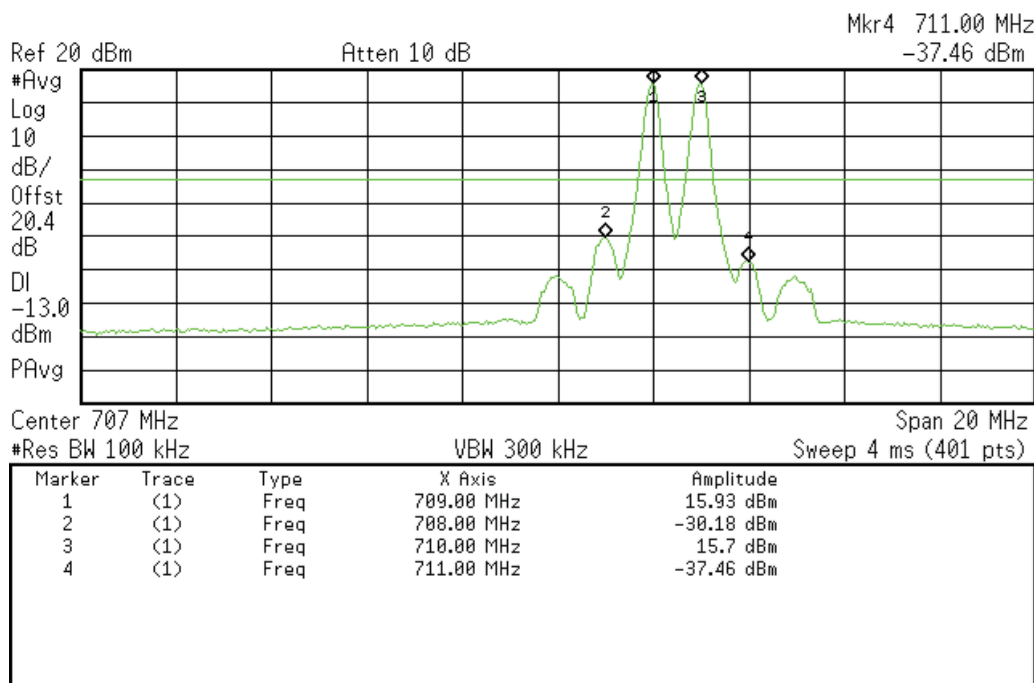




Intermodulation Uplink Test Results at 3db above AGC (GSM Signal) 698 - 716 MHz Band

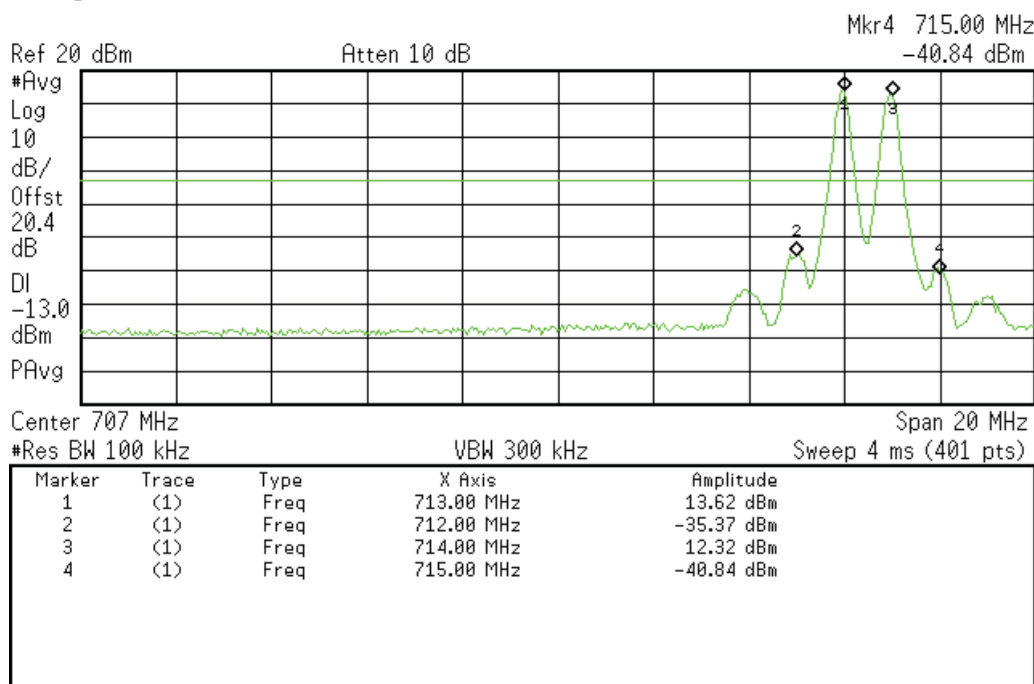
Agilent 10:42:47 Aug 13, 2014

L



Agilent 10:45:16 Aug 13, 2014

L

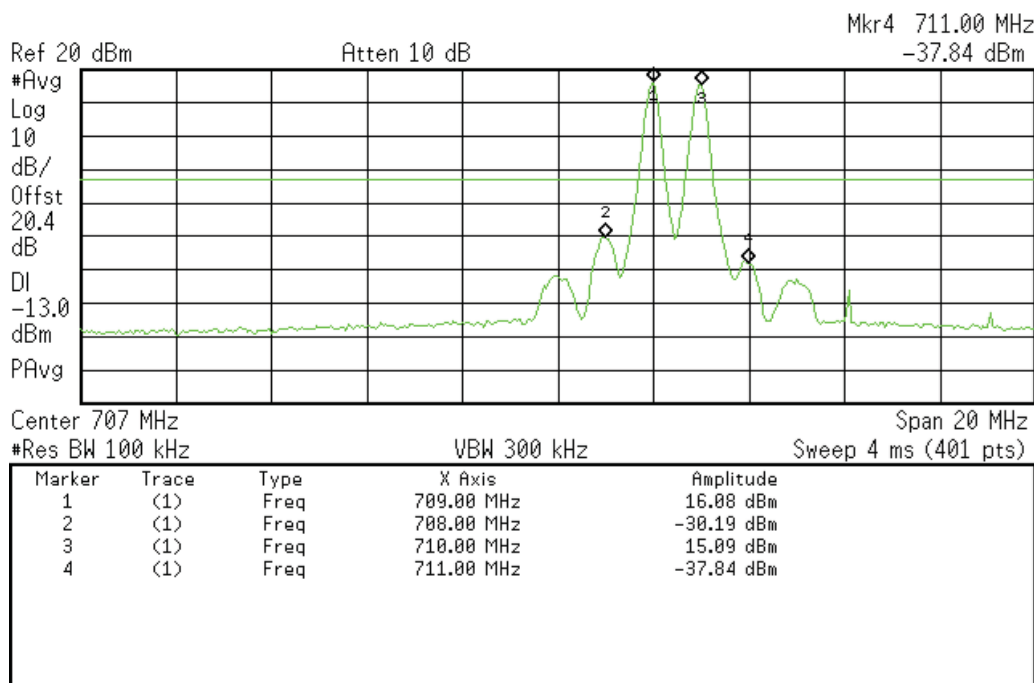




Intermodulation Uplink Test Results at 6db above AGC (GSM Signal) 698 - 716 MHz Band

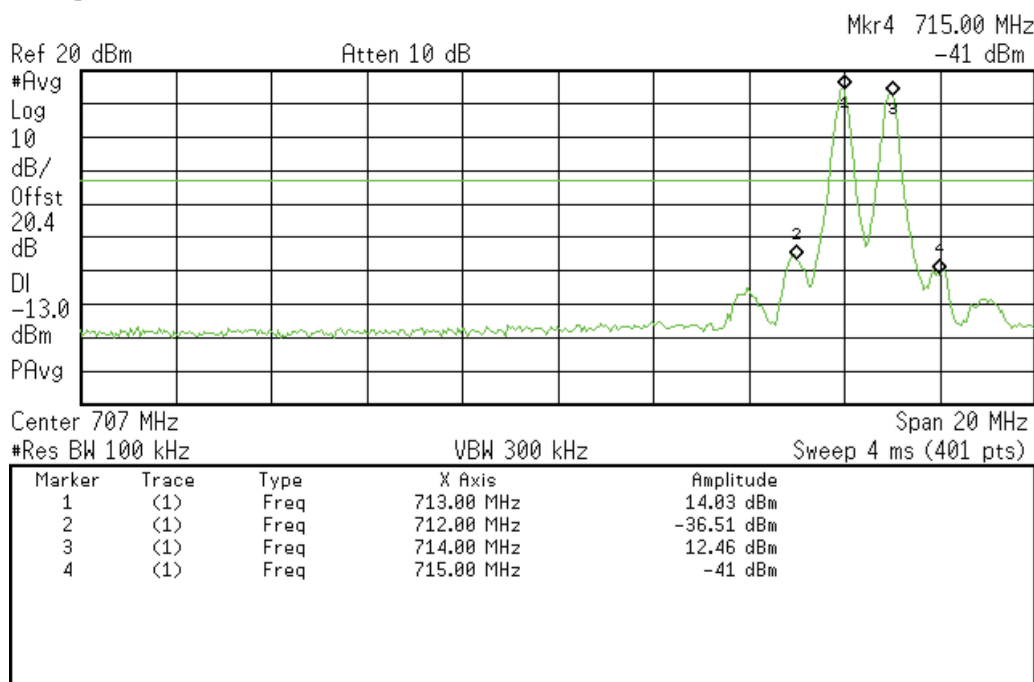
Agilent 10:43:08 Aug 13, 2014

L



Agilent 10:45:30 Aug 13, 2014

L

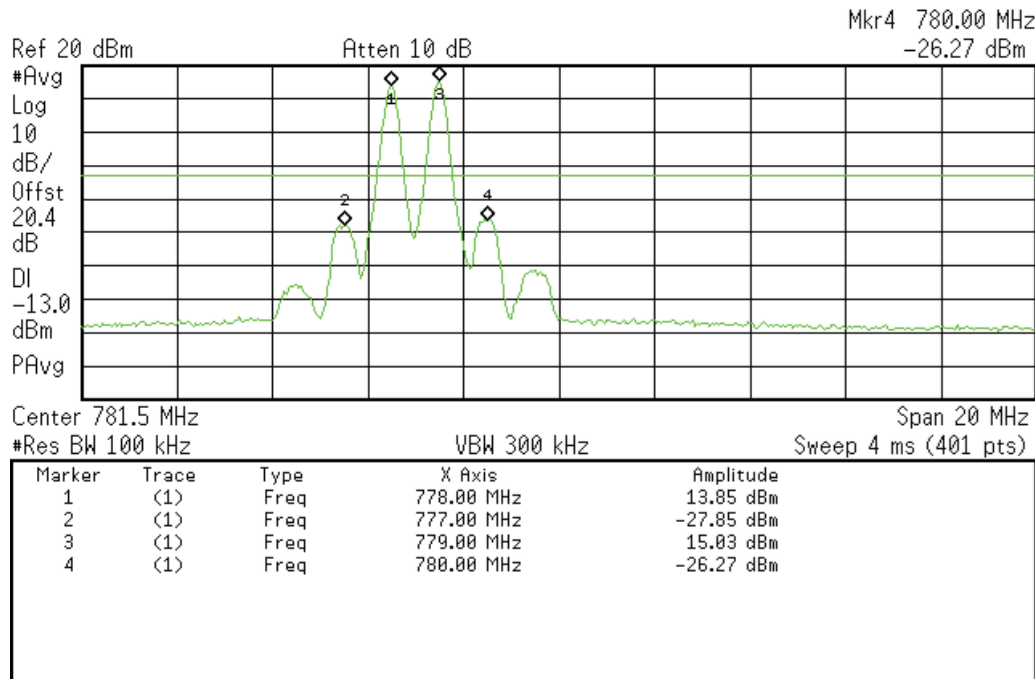




Intermodulation Uplink Test Results at AGC (GSM Signal) 776-787 MHz Band

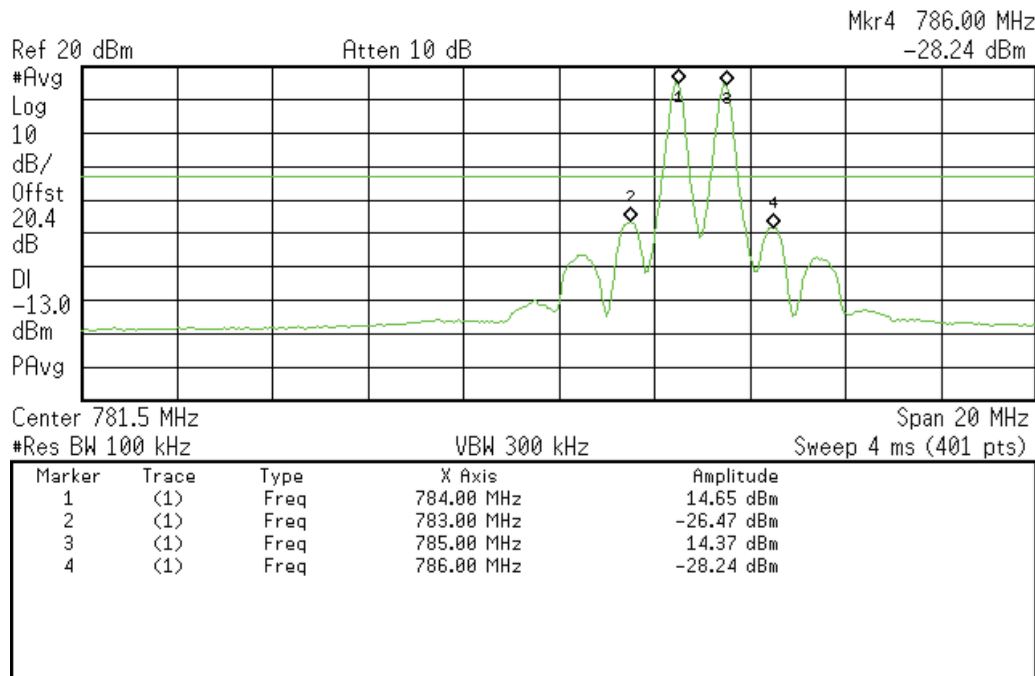
Agilent 10:49:02 Aug 13, 2014

L



Agilent 10:52:33 Aug 13, 2014

L

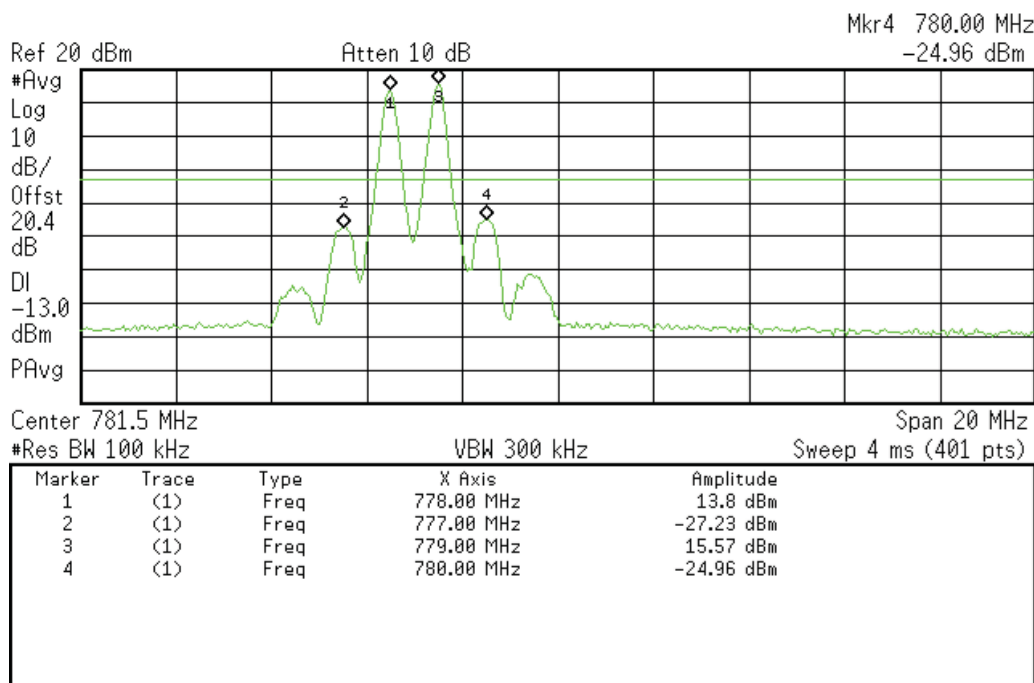




Intermodulation Uplink Test Results at 3db above AGC (GSM Signal) 776-787 MHz Band

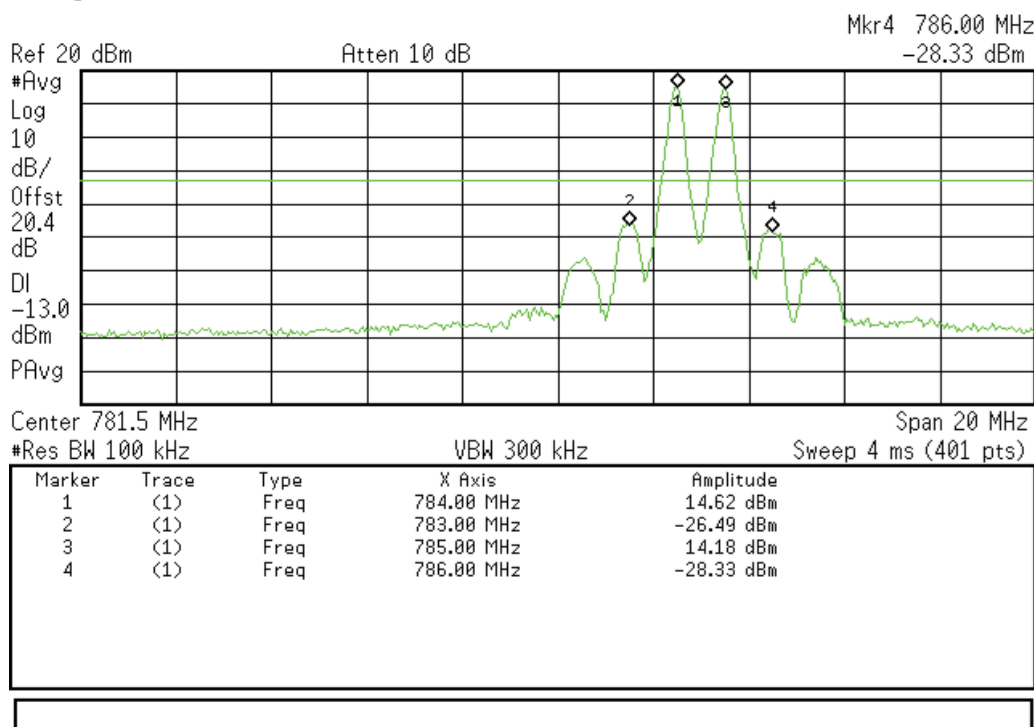
Agilent 10:49:20 Aug 13, 2014

L



Agilent 10:52:47 Aug 13, 2014

L

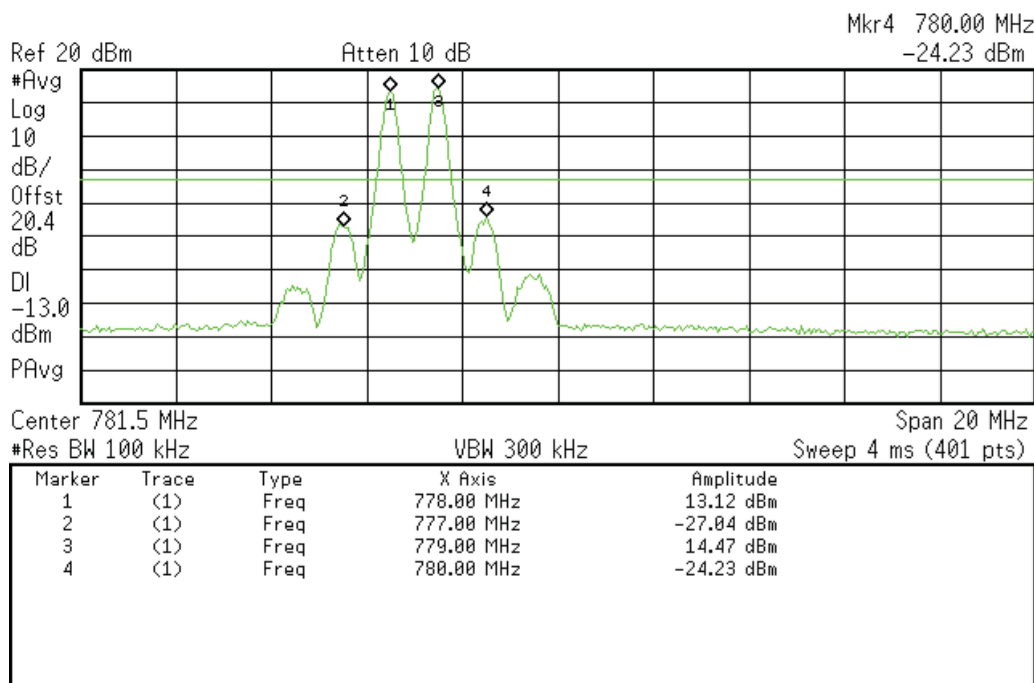




Intermodulation Uplink Test Results at 6db above AGC (GSM Signal) 776-787 MHz Band

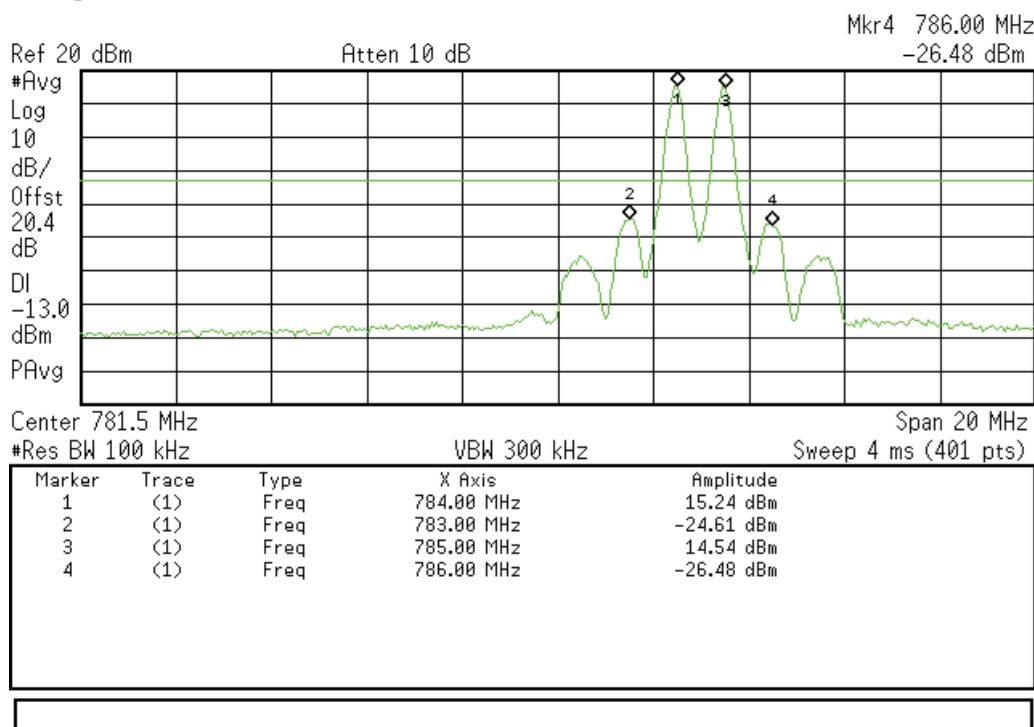
Agilent 10:49:31 Aug 13, 2014

L



Agilent 10:52:59 Aug 13, 2014

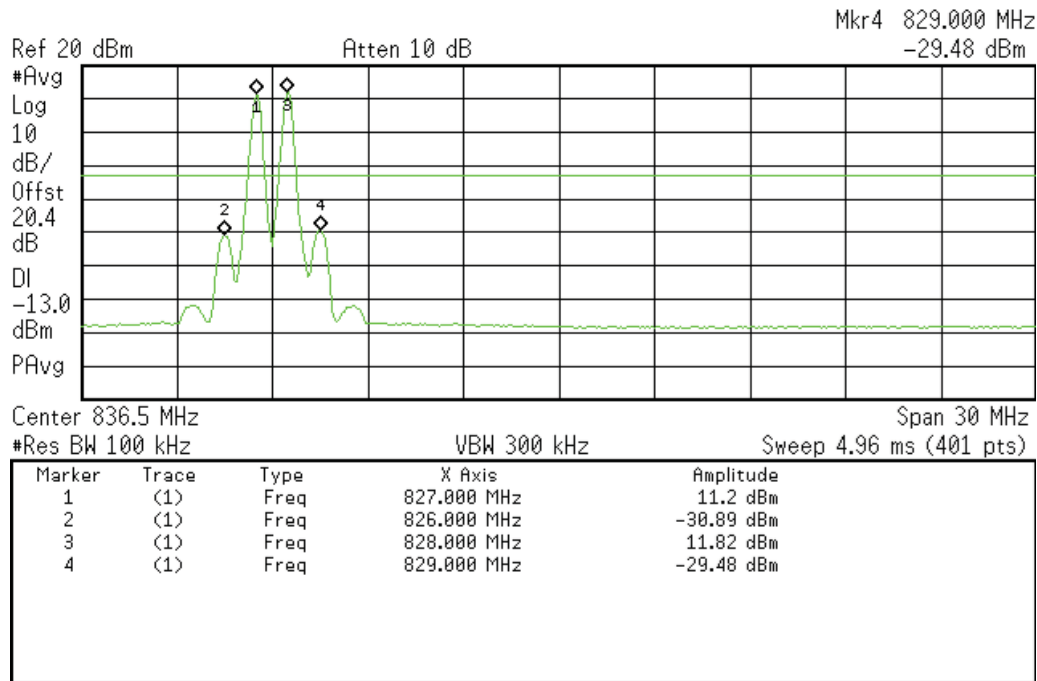
L



Intermodulation Uplink Test Results at AGC (GSM Signal) 824-849 MHz Band

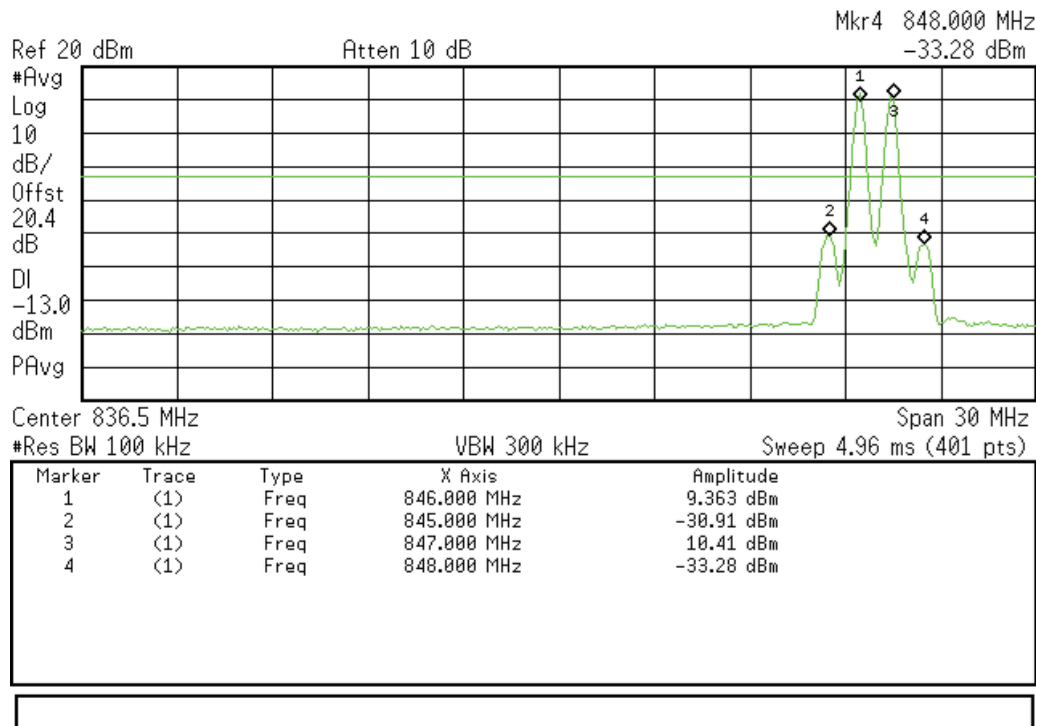
Agilent 10:58:10 Aug 13, 2014

L



Agilent 11:02:48 Aug 13, 2014

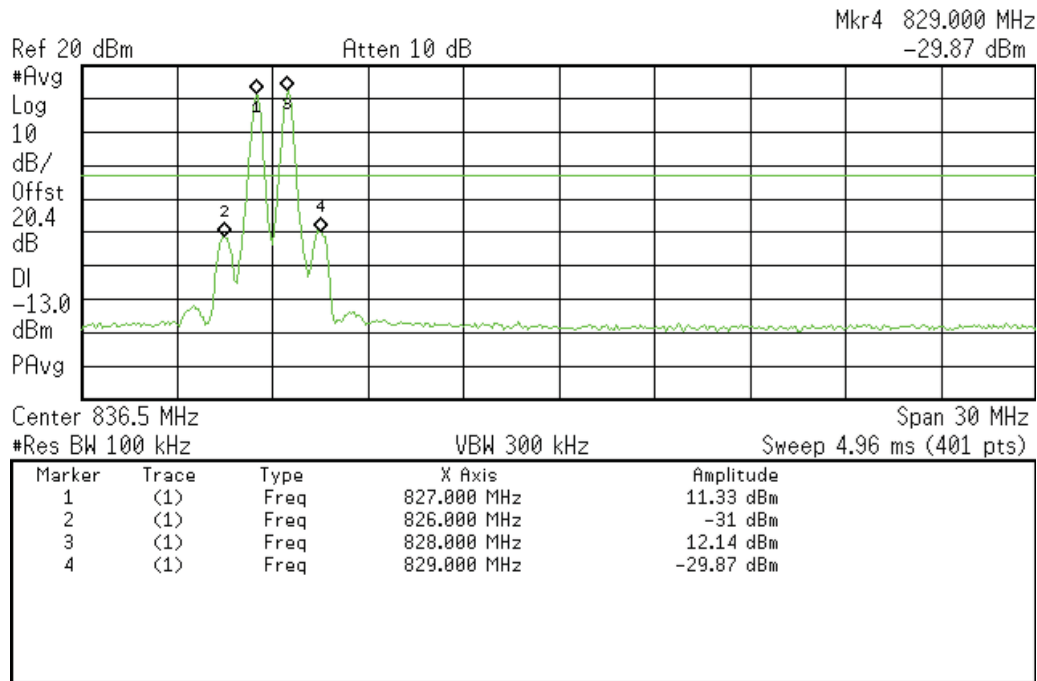
L



Intermodulation Uplink Test Results at 3db above AGC (GSM Signal) 824-849 MHz Band

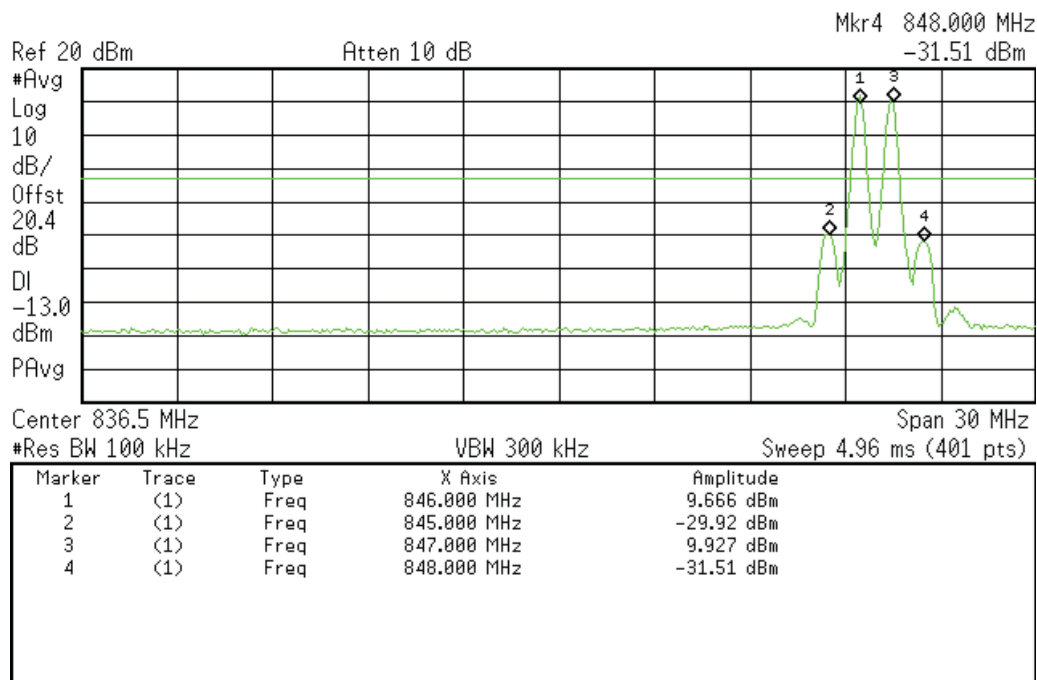
Agilent 10:58:22 Aug 13, 2014

L



Agilent 11:03:05 Aug 13, 2014

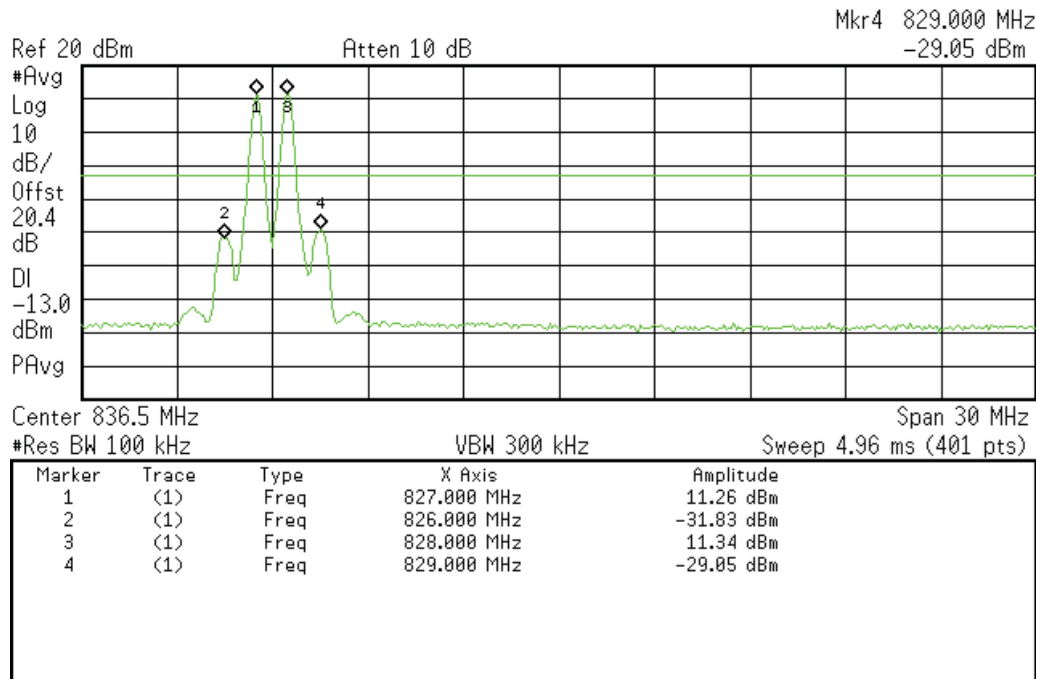
L



Intermodulation Uplink Test Results at 6db above AGC (GSM Signal) 824-849 MHz Band

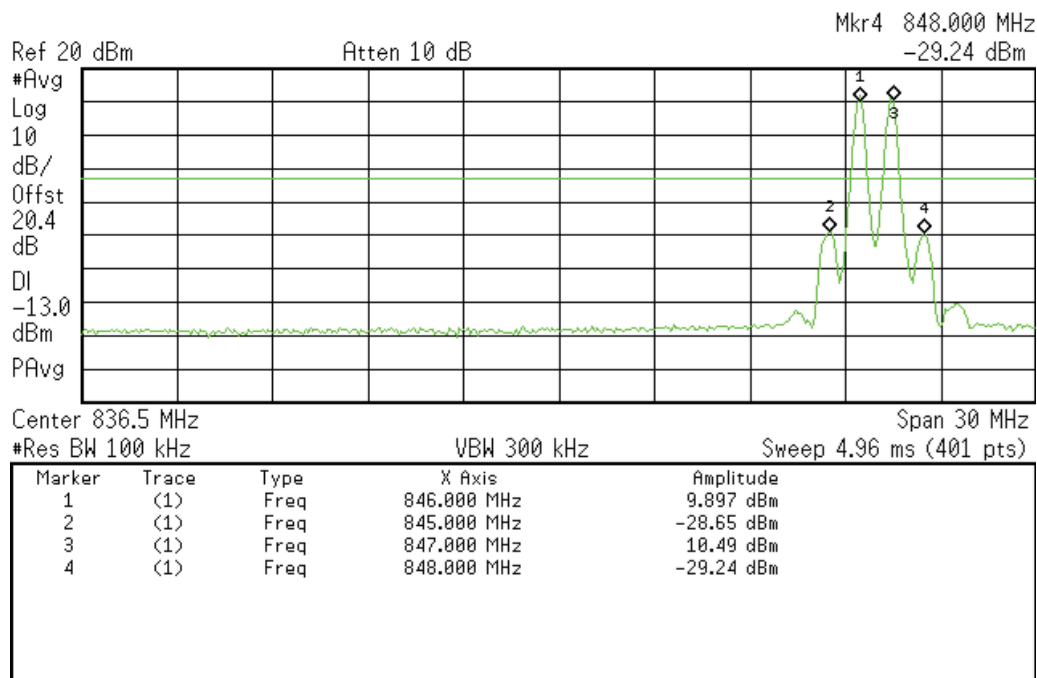
Agilent 10:58:35 Aug 13, 2014

L



Agilent 11:03:20 Aug 13, 2014

L

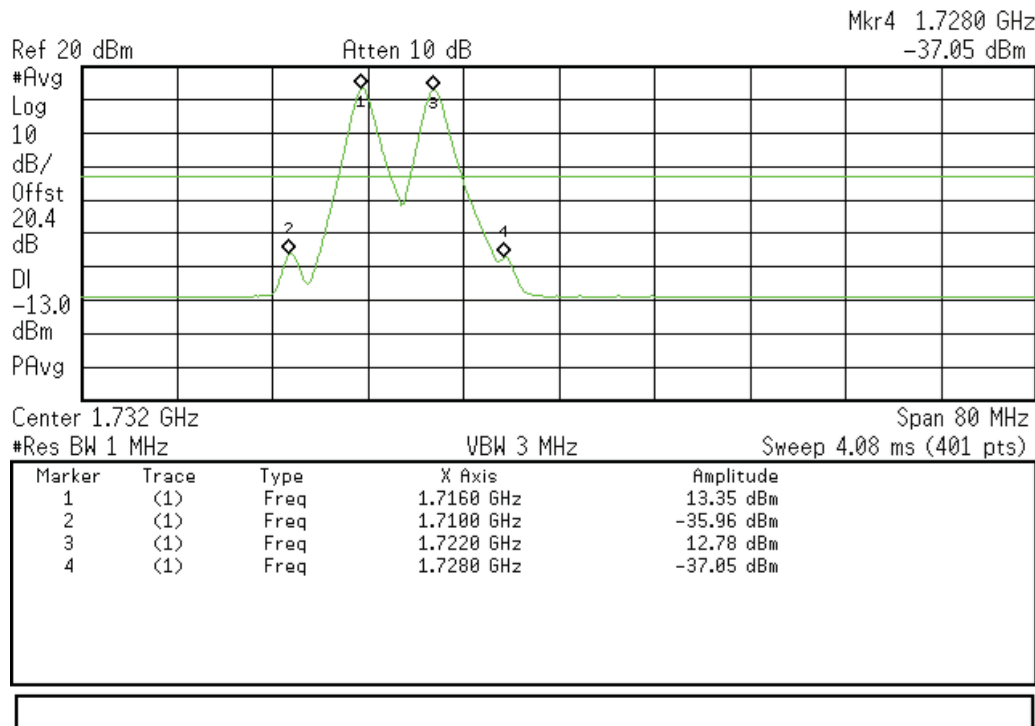




Intermodulation Uplink Test Results at AGC (GSM Signal) 1710-1755 MHz Band

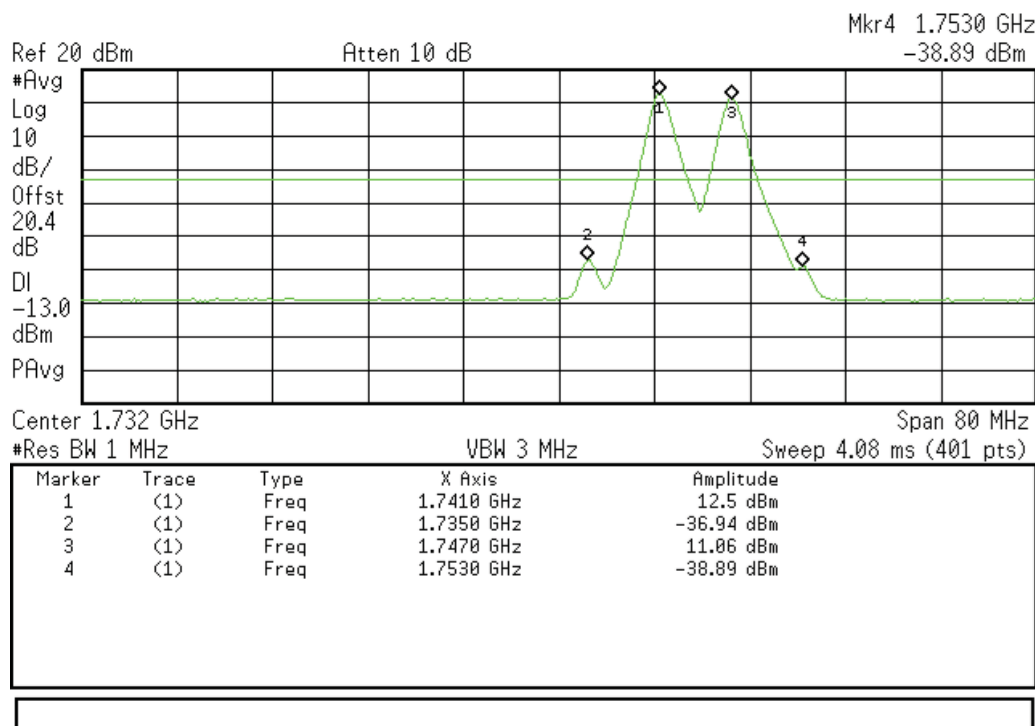
Agilent 11:09:36 Aug 13, 2014

L



Agilent 11:12:39 Aug 13, 2014

L

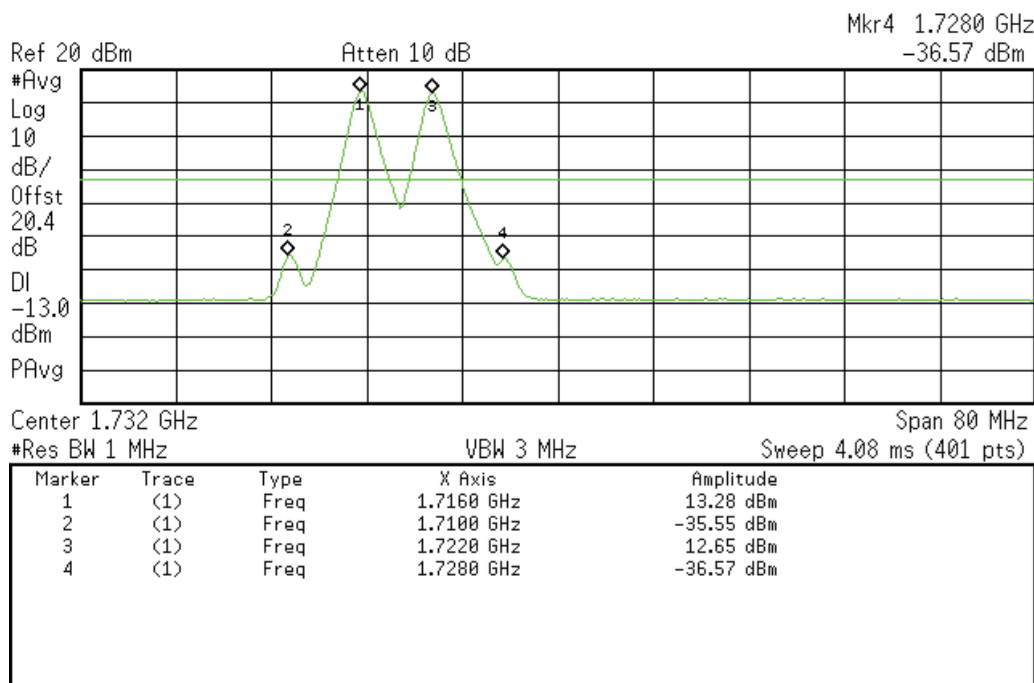




Intermodulation Uplink Test Results at 3db above AGC (GSM Signal) 1710-1755 MHz Band

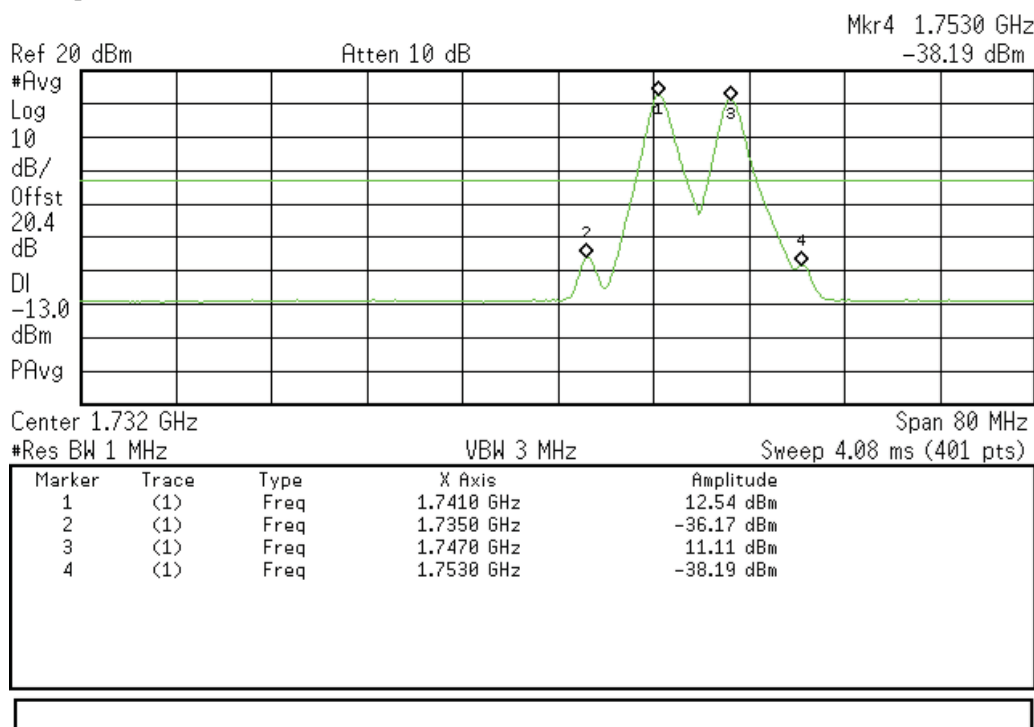
Agilent 11:09:53 Aug 13, 2014

L



Agilent 11:12:56 Aug 13, 2014

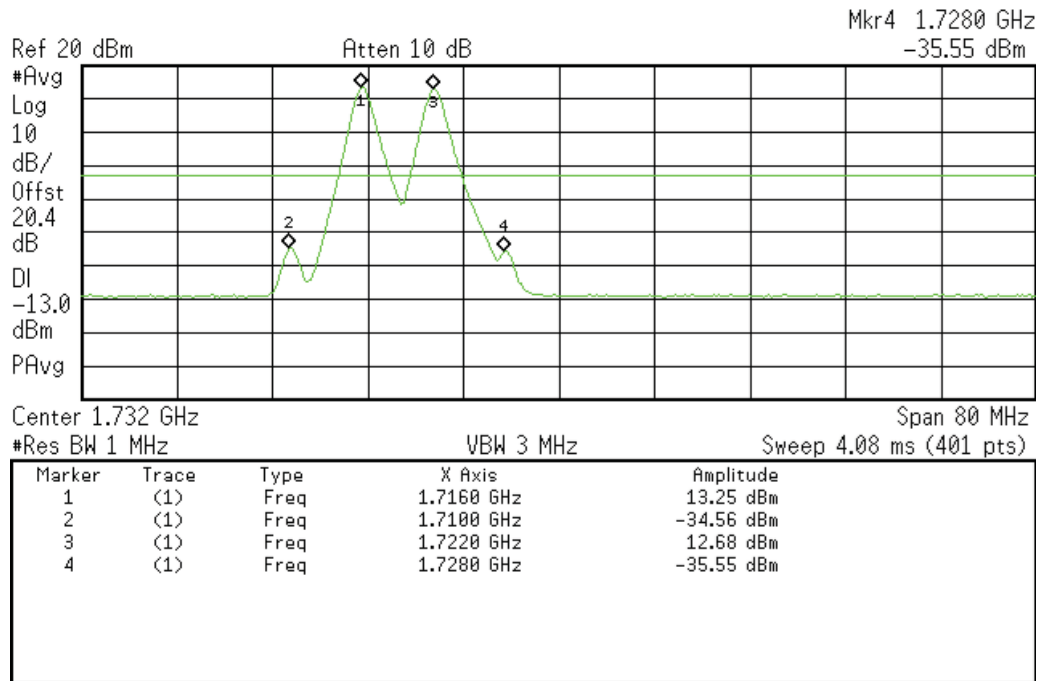
L



Intermodulation Uplink Test Results at 6db above AGC (GSM Signal) 1710-1755 MHz Band

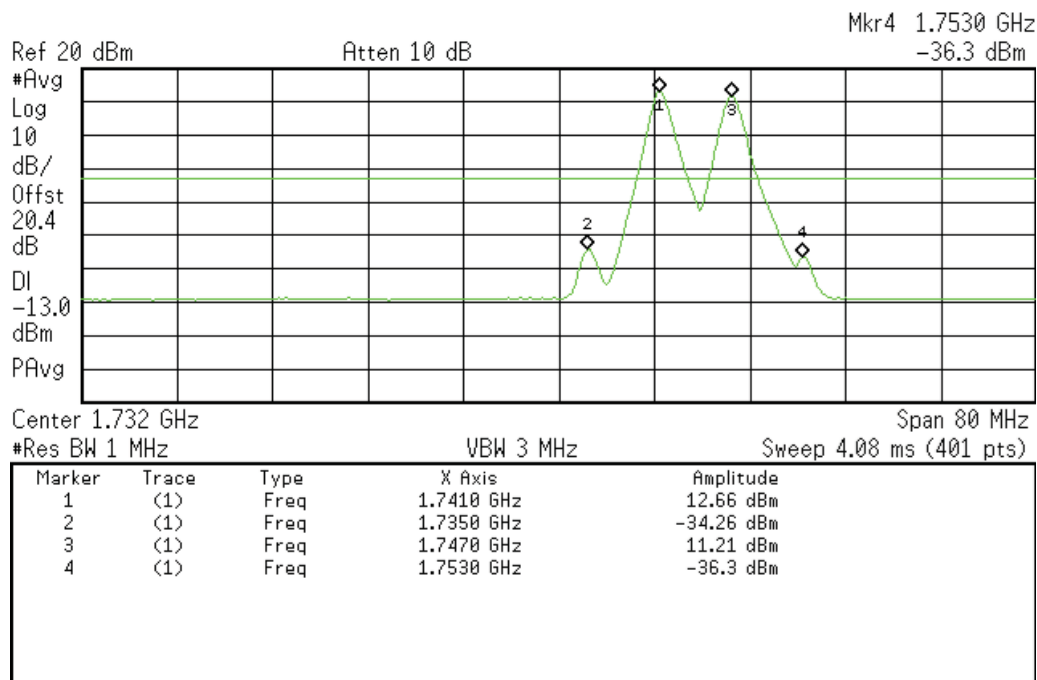
Agilent 11:10:05 Aug 13, 2014

L



Agilent 11:13:10 Aug 13, 2014

L

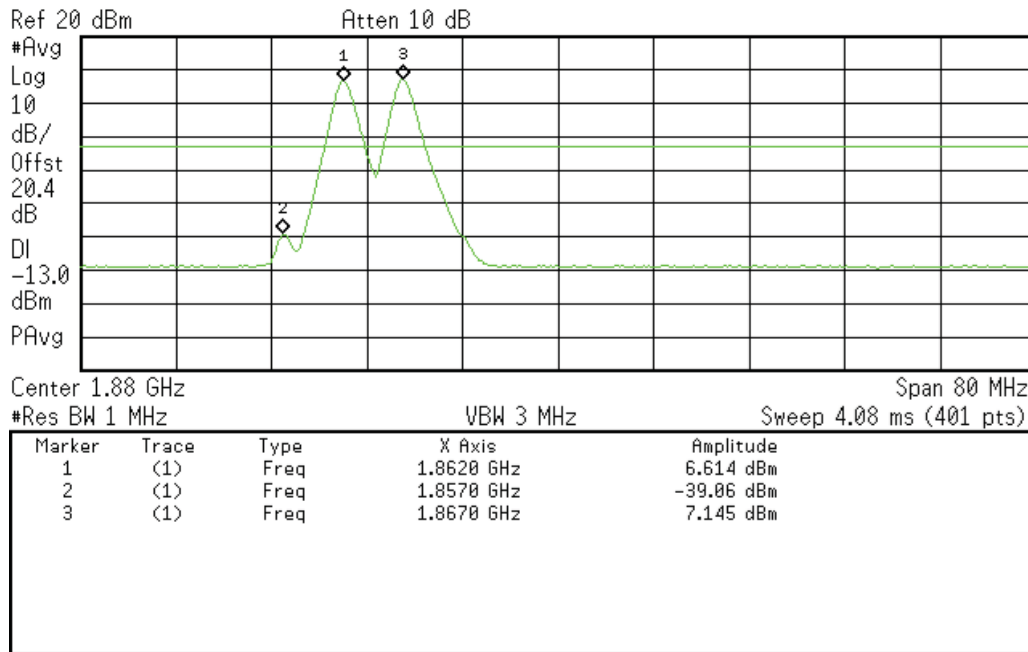




Intermodulation Uplink Test Results at AGC (GSM Signal) 1850-1915 MHz Band

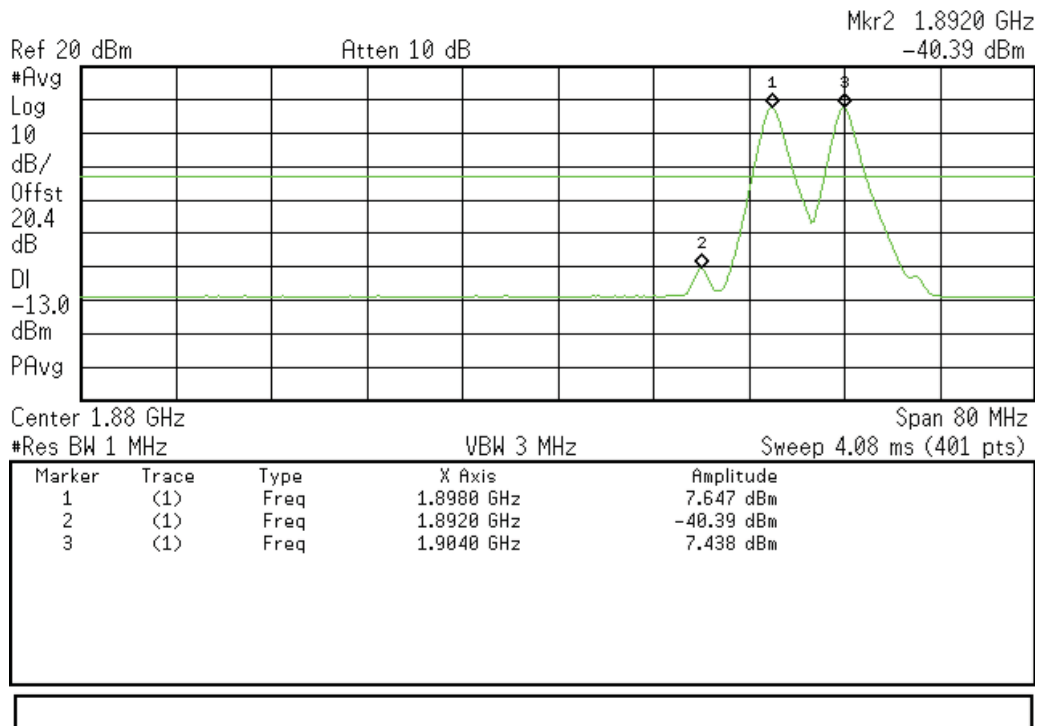
Agilent 11:16:59 Aug 13, 2014

L



Agilent 11:19:20 Aug 13, 2014

L

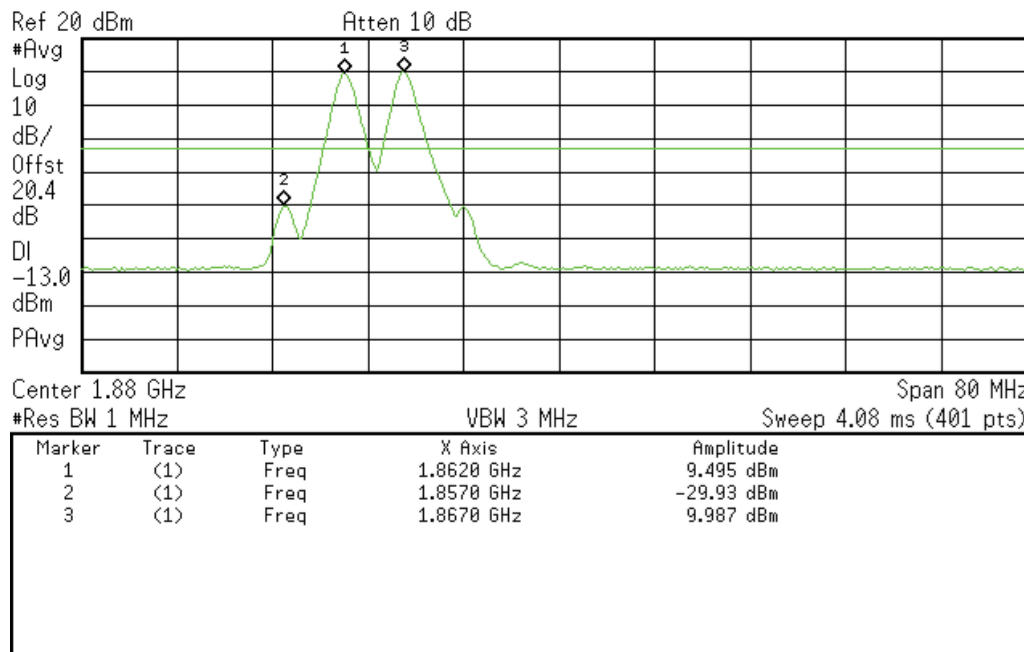




Intermodulation Uplink Test Results at 3db above AGC (GSM Signal) 1850-1915 MHz Band

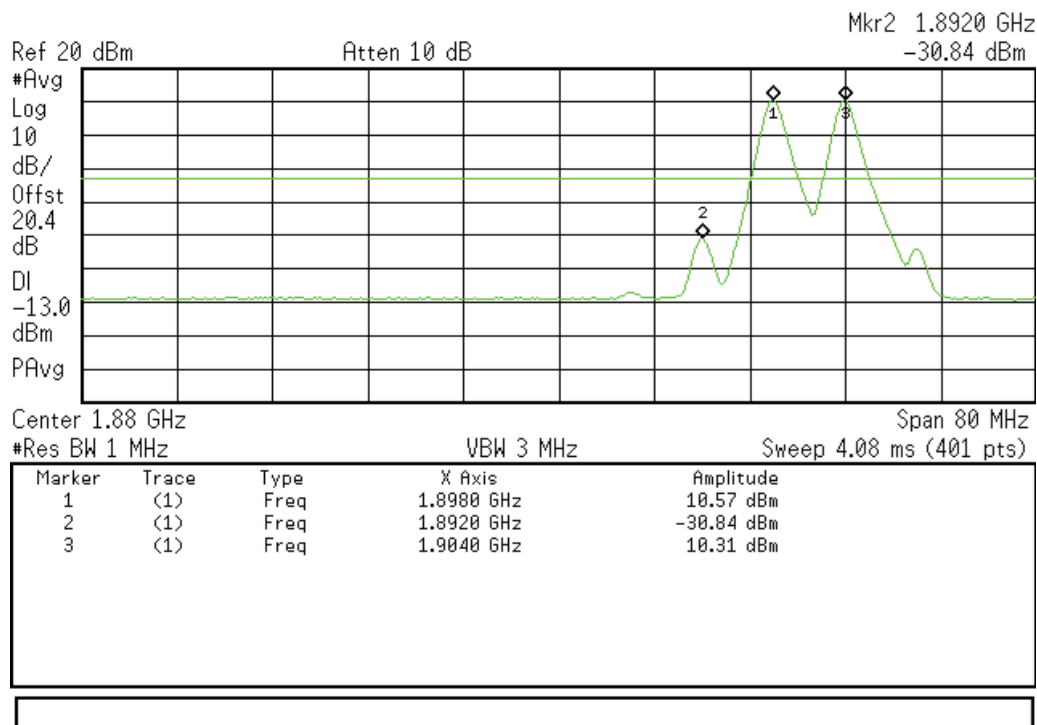
Agilent 11:17:22 Aug 13, 2014

L



Agilent 11:19:40 Aug 13, 2014

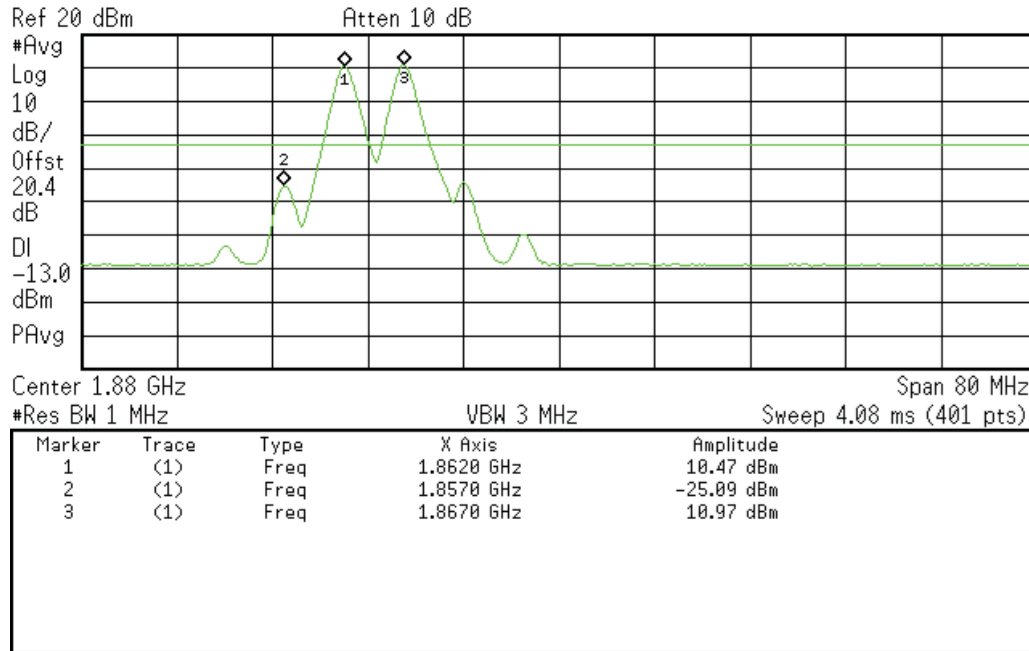
L



**Intermodulation Uplink Test Results at 6db above AGC (GSM Signal)
1850-1915 MHz Band**

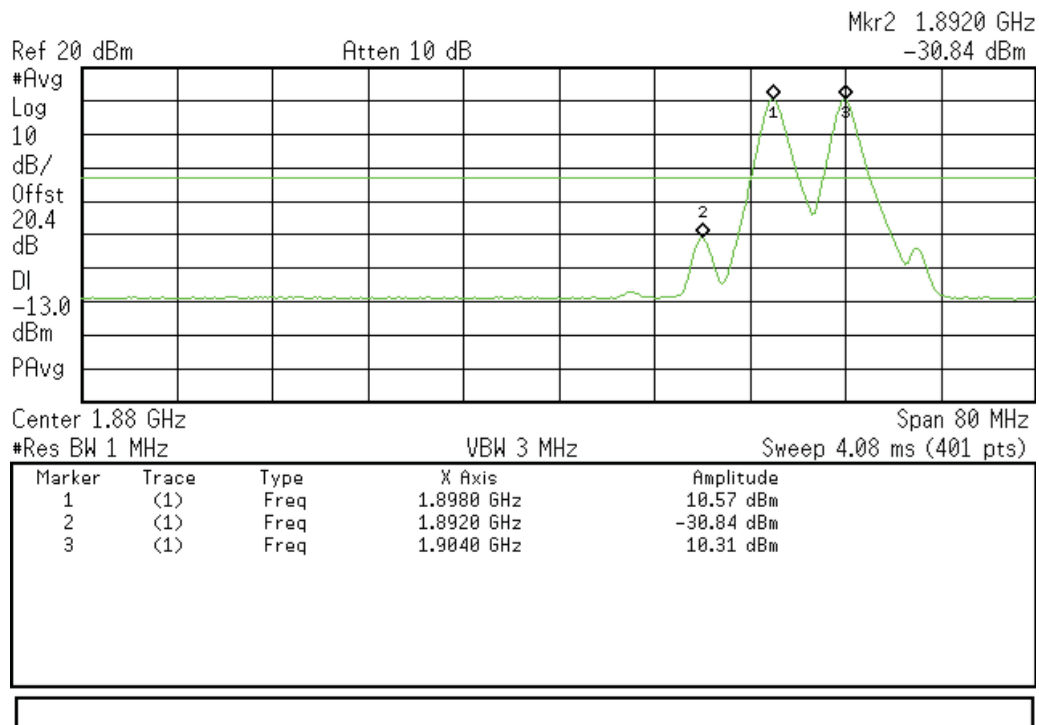
Agilent 11:17:38 Aug 13, 2014

L



Agilent 11:19:40 Aug 13, 2014

L

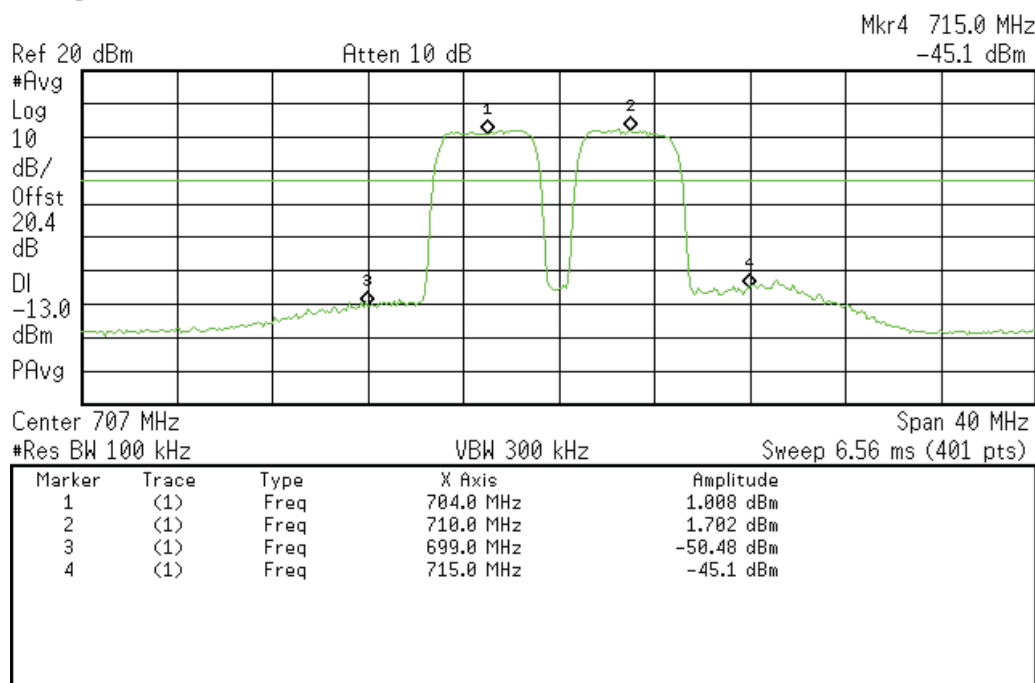




Intermodulation Uplink Test Results at AGC (CDMA Signal) 698 - 716 MHz Band

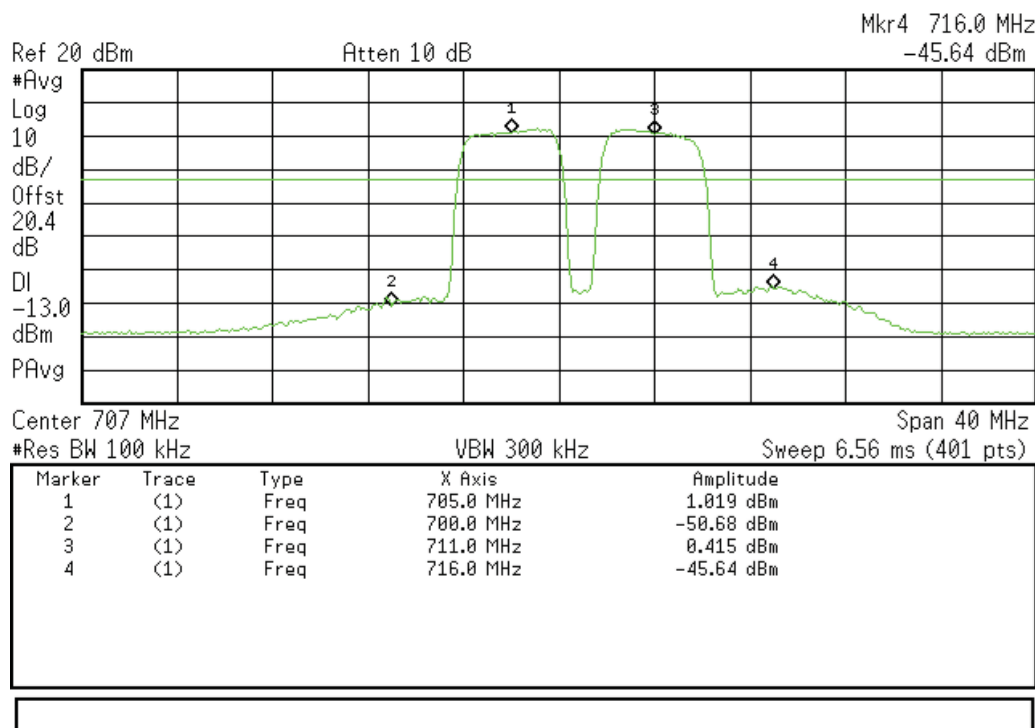
Agilent 16:51:25 Aug 12, 2014

L



Agilent 17:30:08 Aug 12, 2014

L

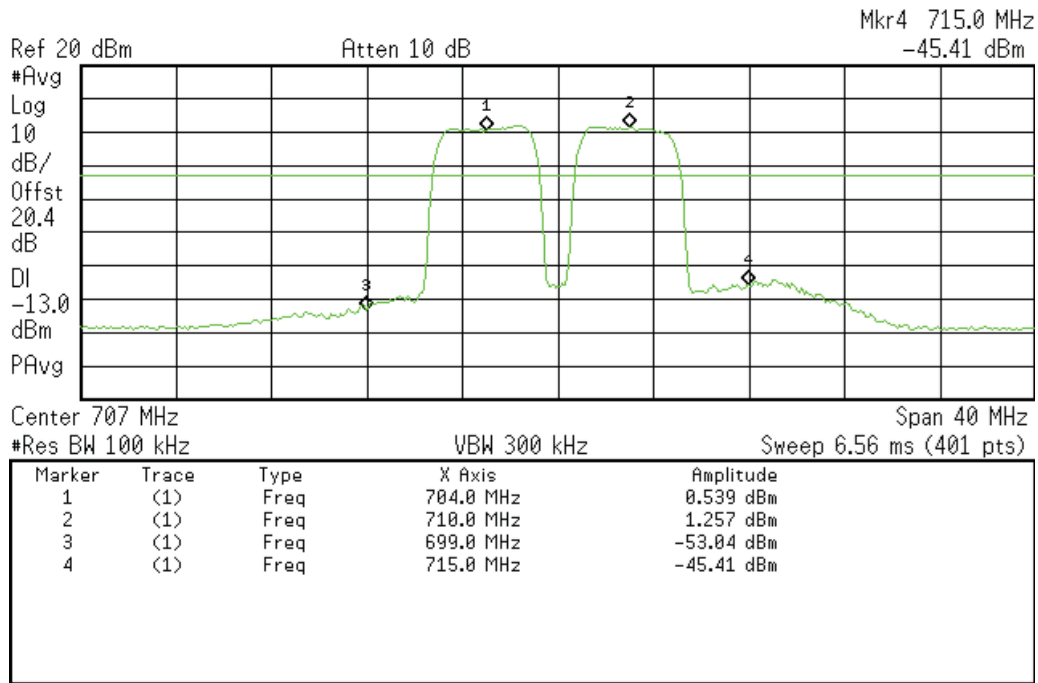




Intermodulation Uplink Test Results at 3db above AGC (CDMA Signal) 698 - 716 MHz Band

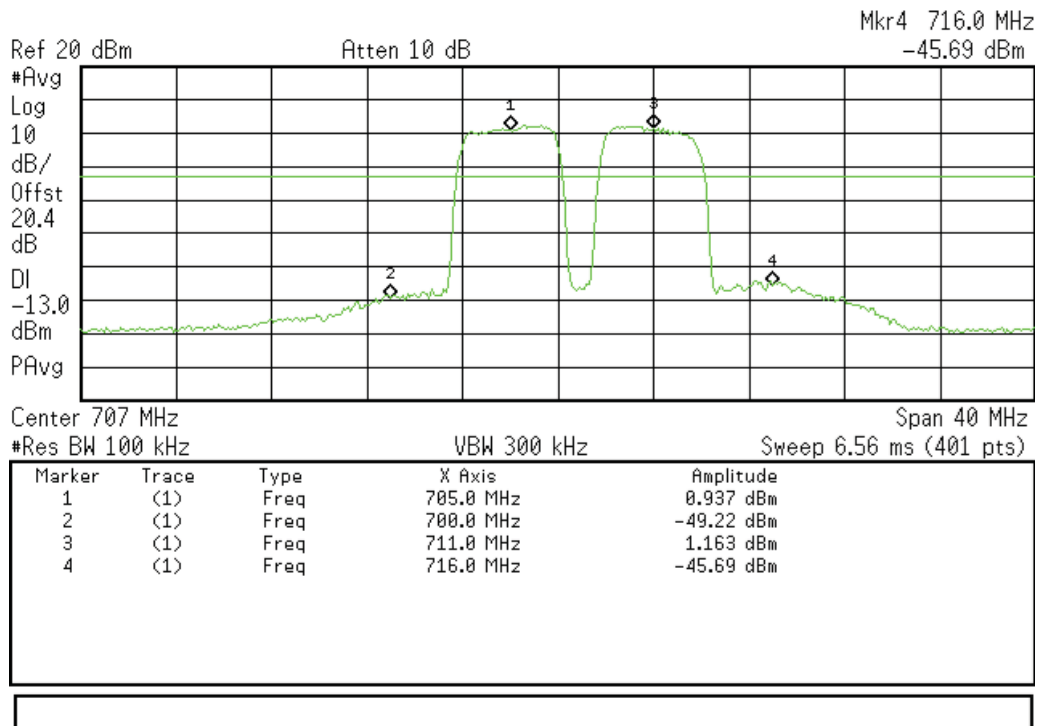
Agilent 16:52:38 Aug 12, 2014

L



Agilent 17:30:52 Aug 12, 2014

L

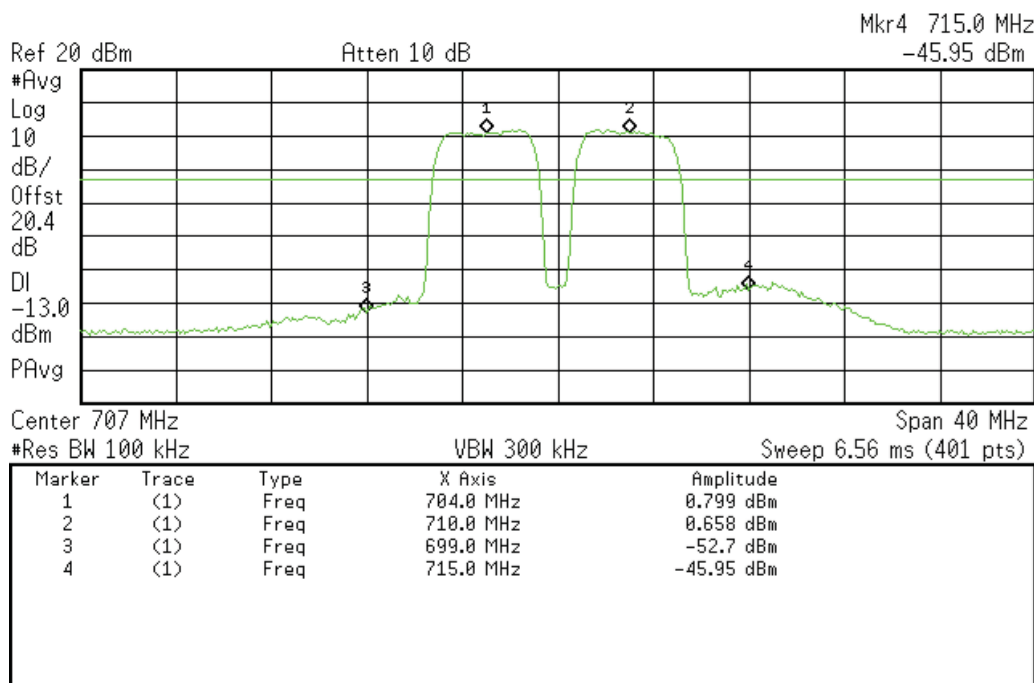




Intermodulation Uplink Test Results at 6db above AGC (CDMA Signal) 698 - 716 MHz Band

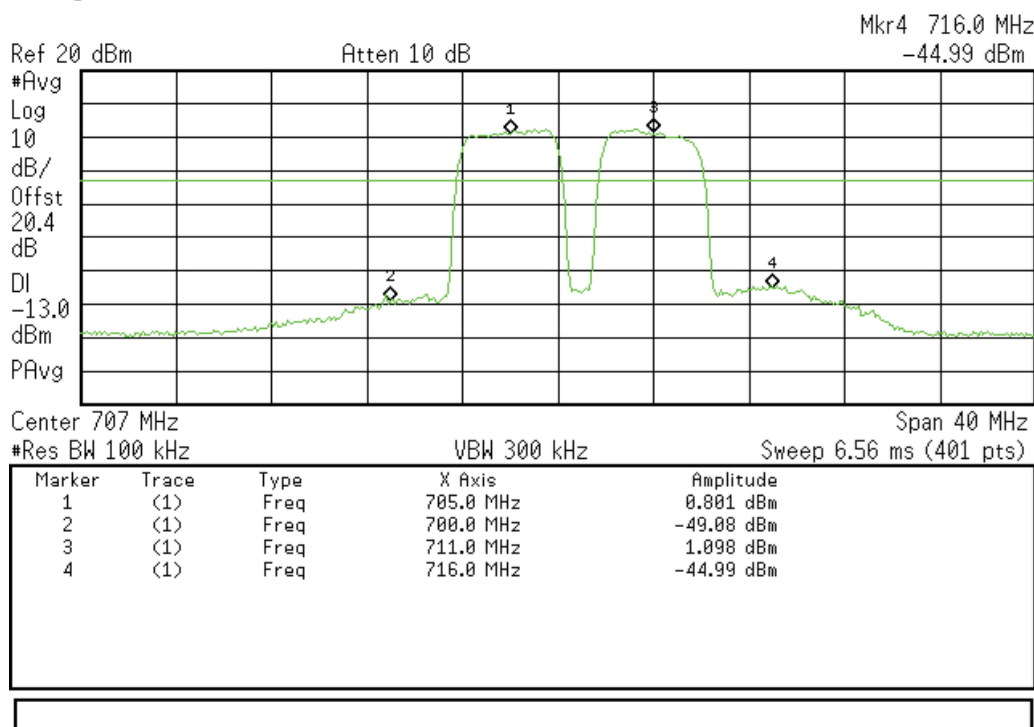
Agilent 16:53:32 Aug 12, 2014

L



Agilent 17:31:22 Aug 12, 2014

L

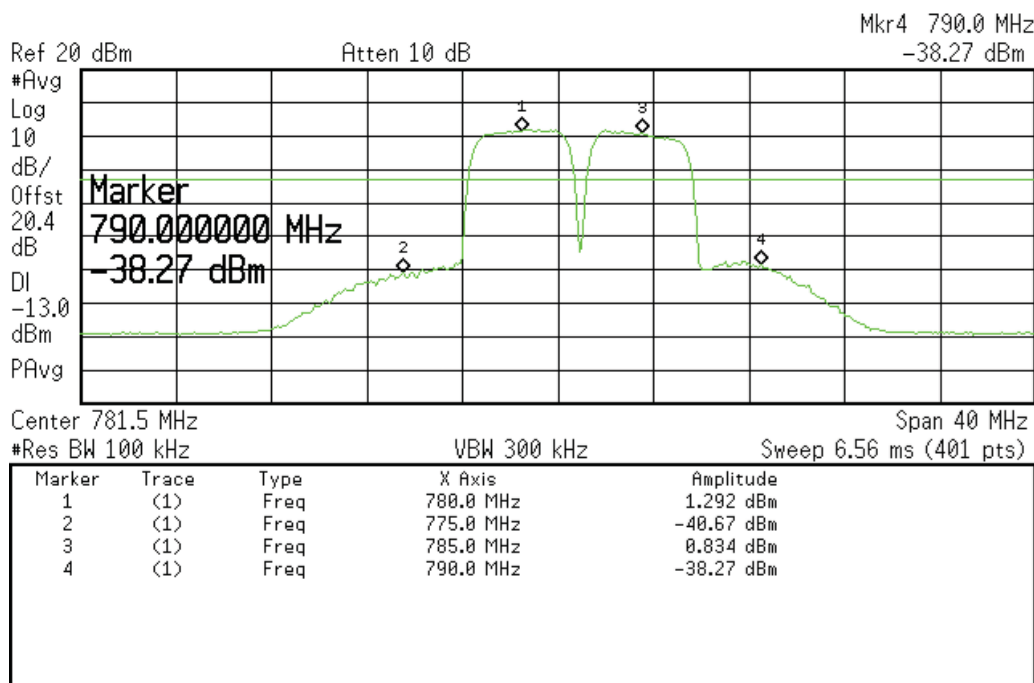




Intermodulation Uplink Test Results at AGC (CDMA Signal) 776-787 MHz Band

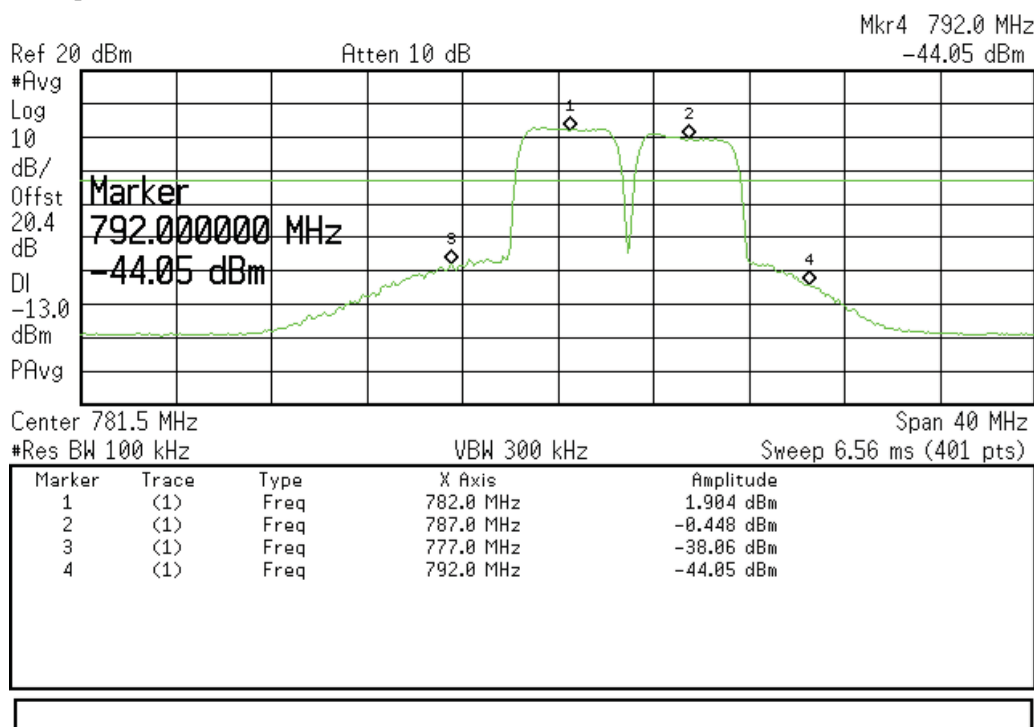
Agilent 17:01:12 Aug 12, 2014

L



Agilent 17:09:58 Aug 12, 2014

L

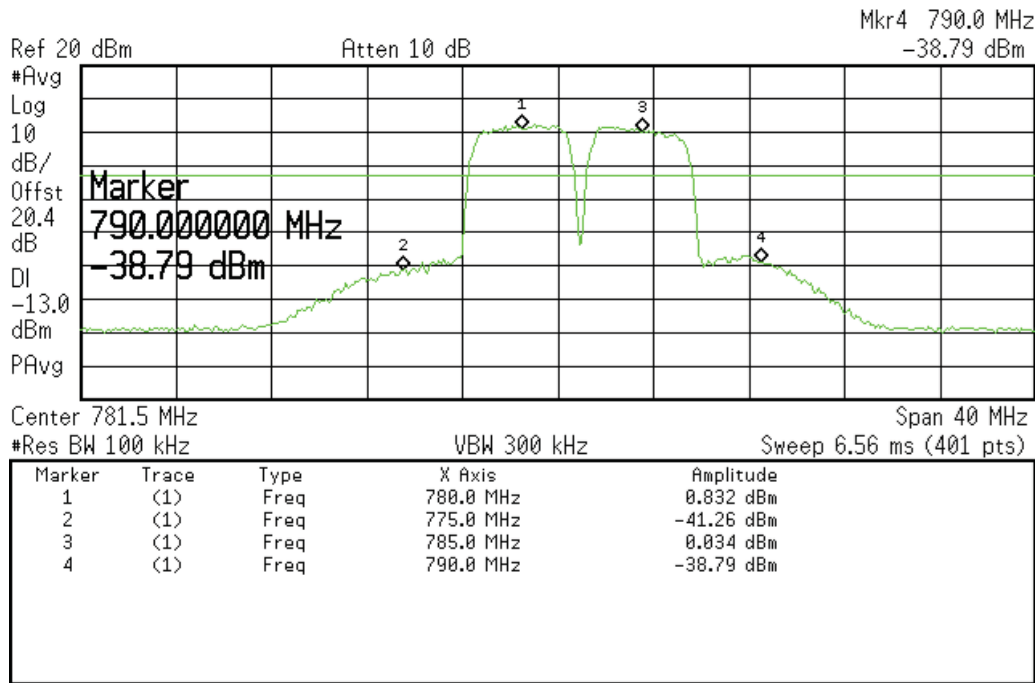




Intermodulation Uplink Test Results at 3db above AGC (CDMA Signal) 776-787 MHz Band

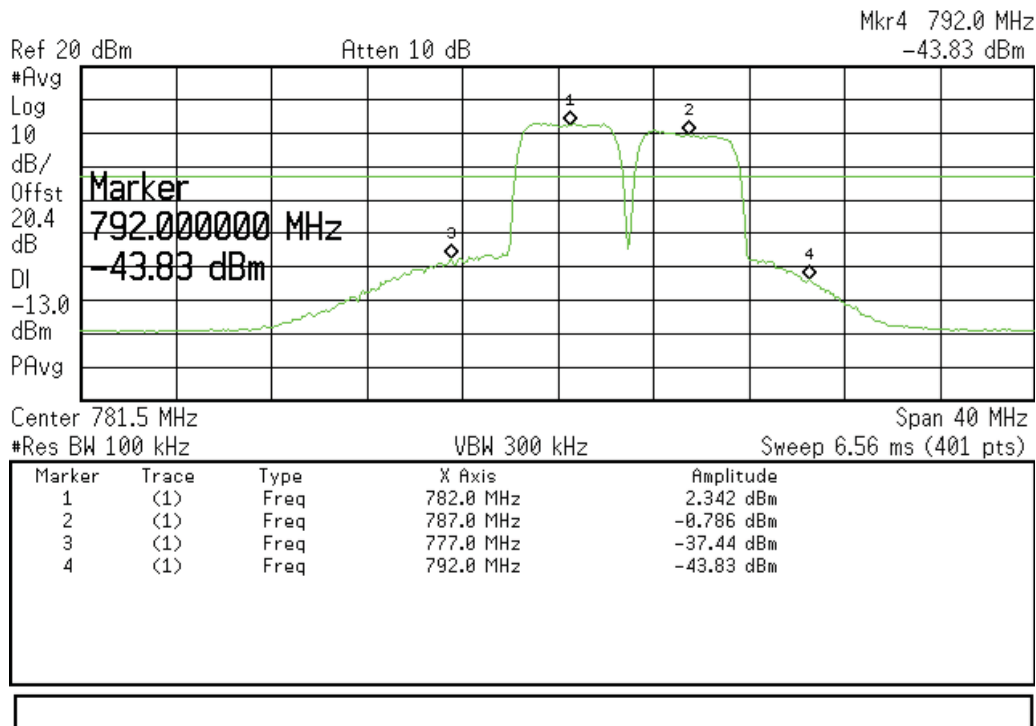
Agilent 17:02:31 Aug 12, 2014

L



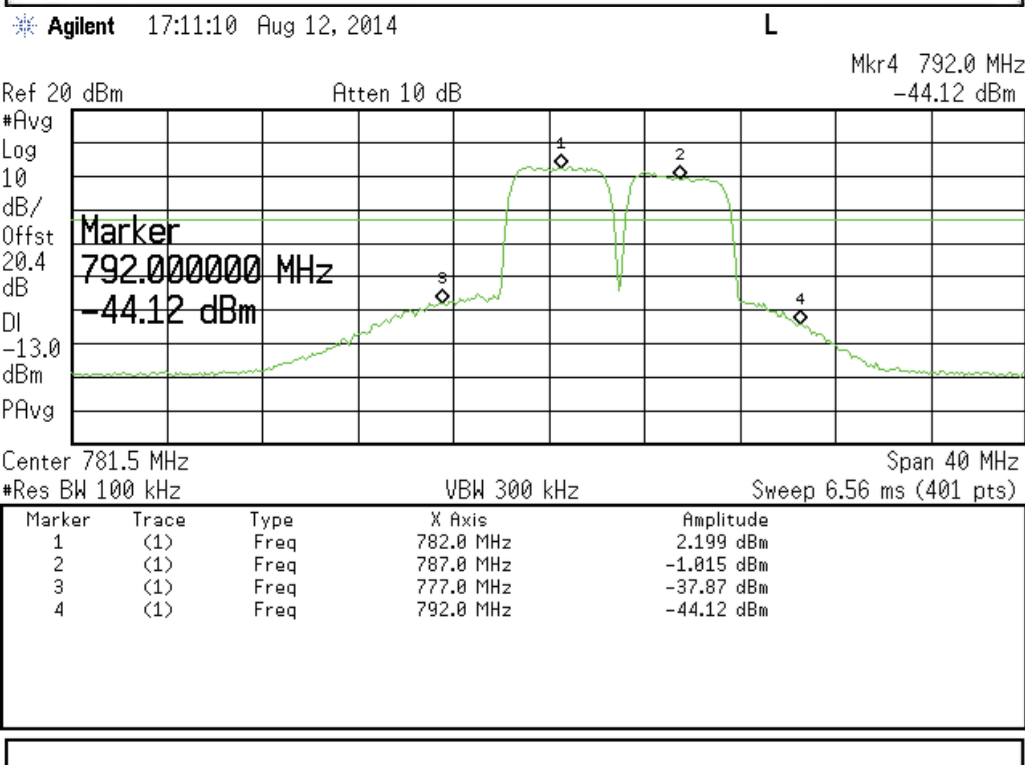
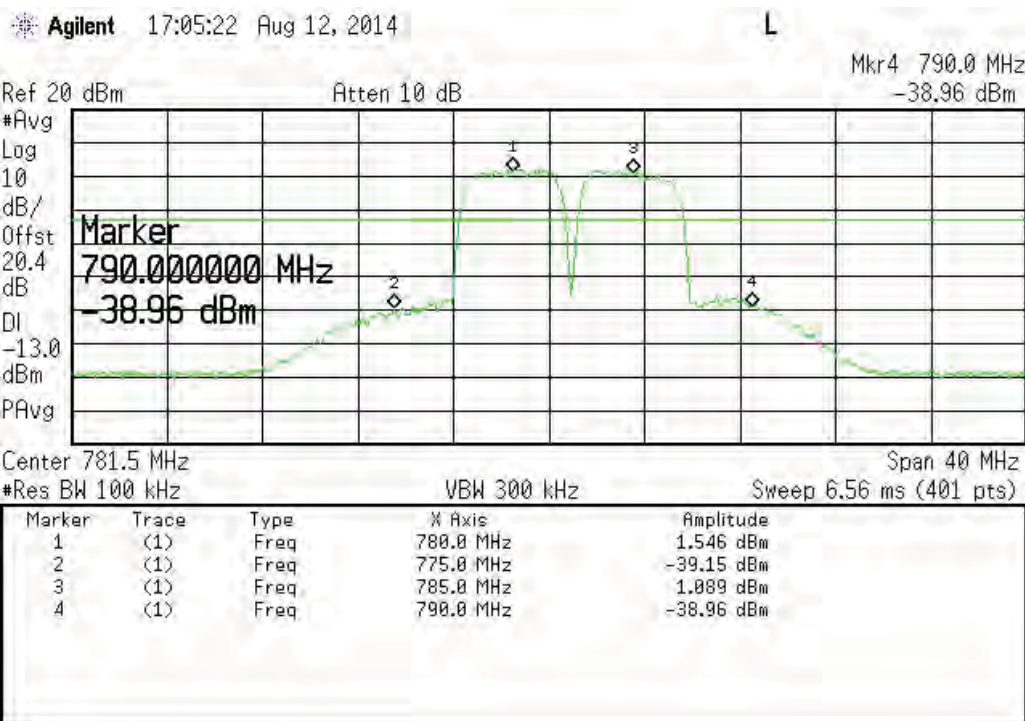
Agilent 17:10:36 Aug 12, 2014

L





Intermodulation Uplink Test Results at 6db above AGC (CDMA Signal)
776-787 MHz Band

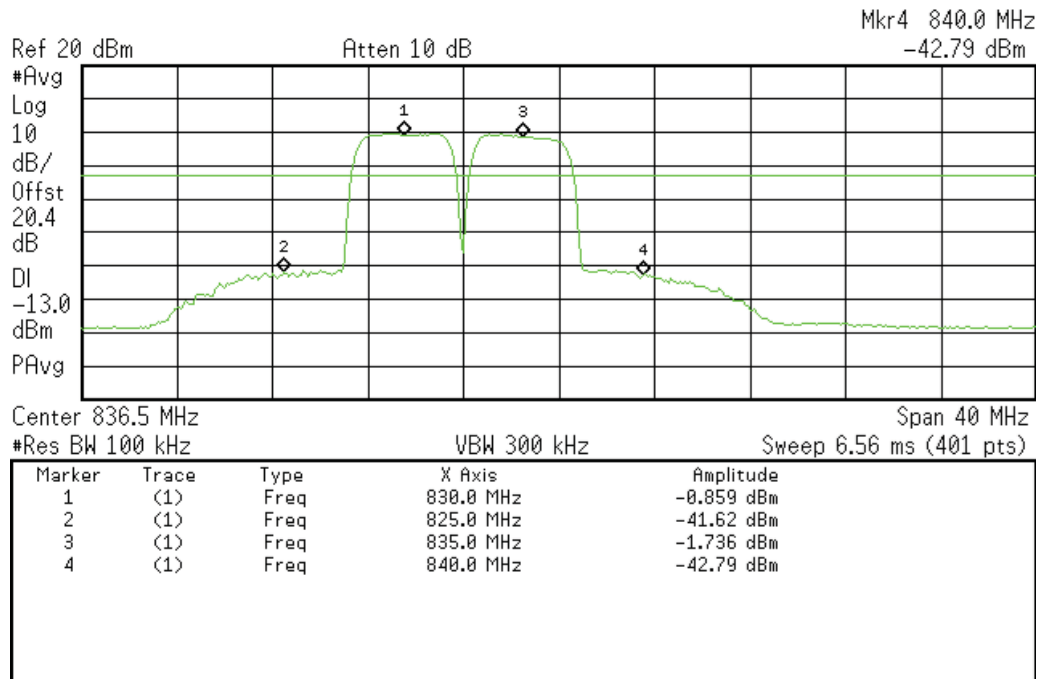




Intermodulation Uplink Test Results at AGC (CDMA Signal) 824-849 MHz Band

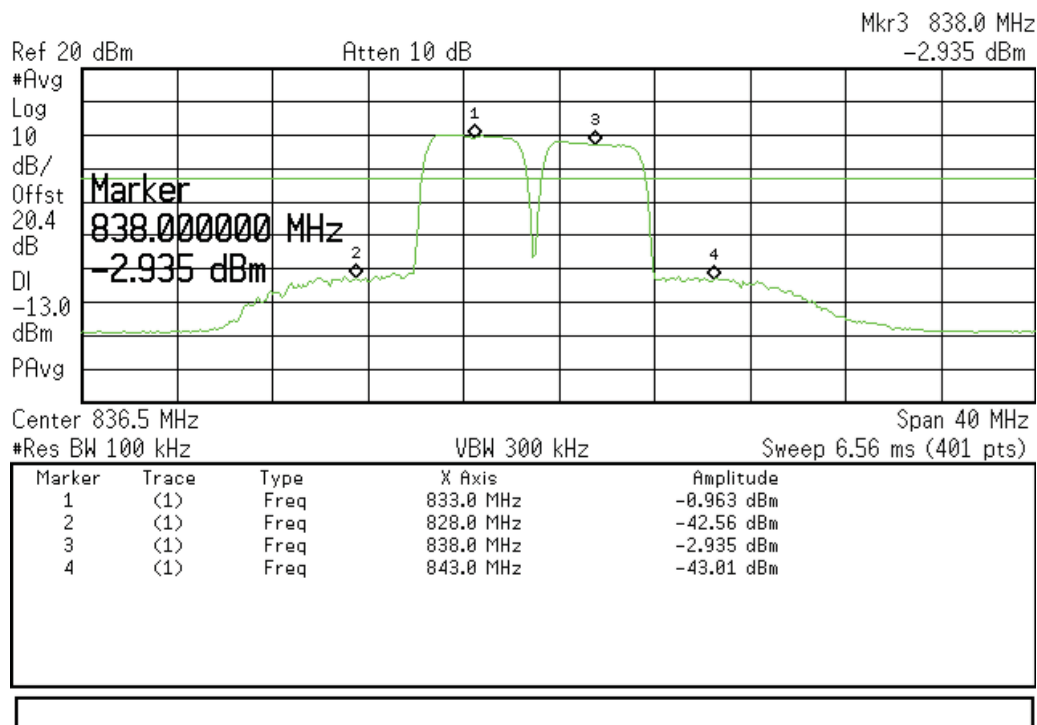
Agilent 17:17:37 Aug 12, 2014

L



Agilent 17:22:00 Aug 12, 2014

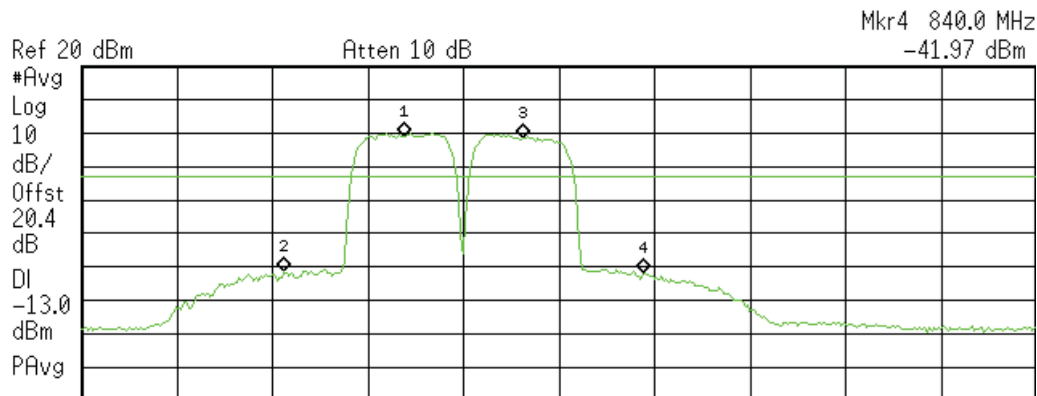
L



Intermodulation Uplink Test Results at 3db above AGC (CDMA Signal) **824-849 MHz Band**

✱ Agilent 17:18:34 Aug 12, 2014

L

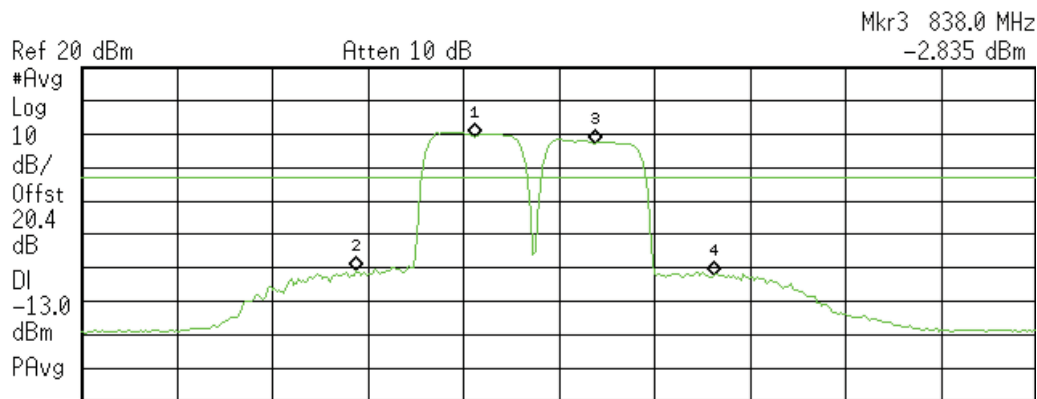


Center 836.5 MHz Span 40 MHz
#Res BW 100 kHz VBW 300 kHz Sweep 6.56 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	830.0 MHz	-1.191 dBm
2	(1)	Freq	825.0 MHz	-41.46 dBm
3	(1)	Freq	835.0 MHz	-1.492 dBm
4	(1)	Freq	840.0 MHz	-41.97 dBm

✱ Agilent 17:23:12 Aug 12, 2014

L



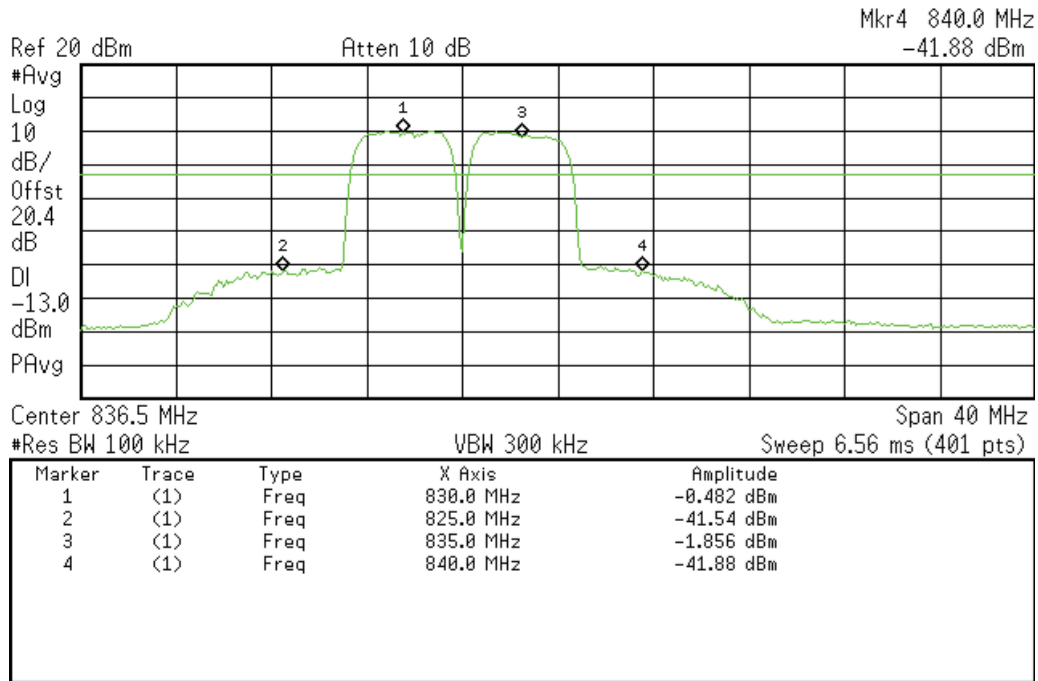
Center 836.5 MHz Span 40 MHz
#Res BW 100 kHz VBW 300 kHz Sweep 6.56 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	833.0 MHz	-0.894 dBm
2	(1)	Freq	828.0 MHz	-40.83 dBm
3	(1)	Freq	838.0 MHz	-2.835 dBm
4	(1)	Freq	843.0 MHz	-42.33 dBm

**Intermodulation Uplink Test Results at 6db above AGC (CDMA Signal)
824-849 MHz Band**

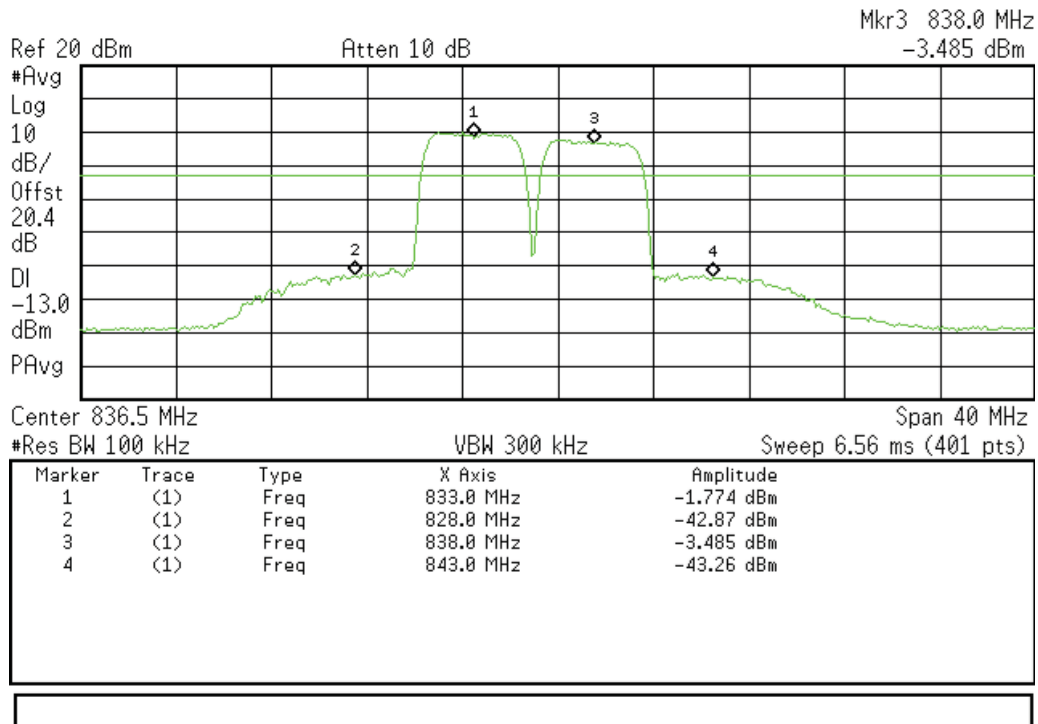
✱ Agilent 17:19:11 Aug 12, 2014

L



✱ Agilent 17:23:54 Aug 12, 2014

L

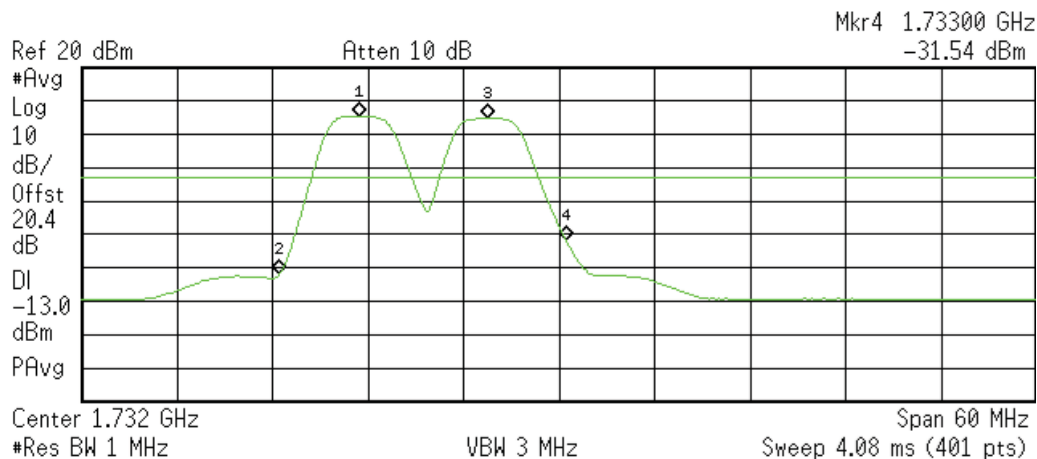




Intermodulation Uplink Test Results at AGC (CDMA Signal) 1710-1755 MHz Band

Agilent 17:36:01 Aug 12, 2014

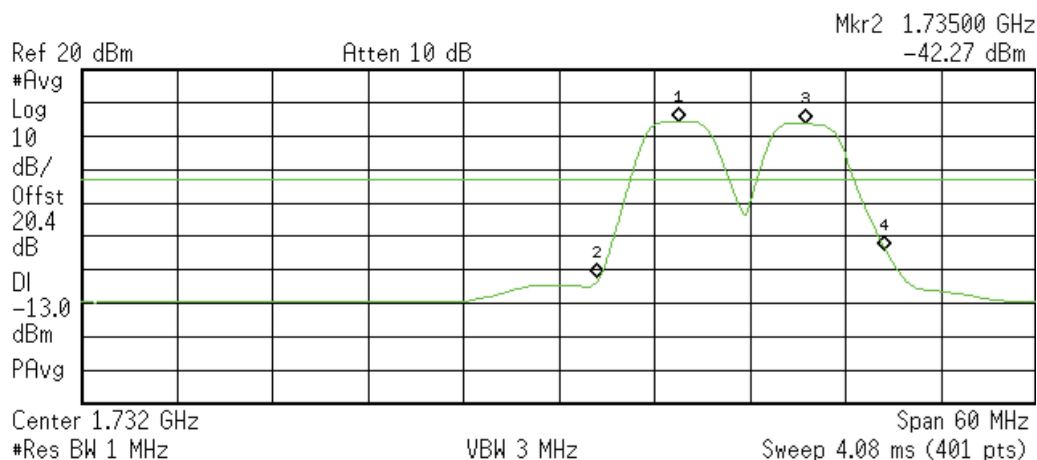
L



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	1.72000 GHz	5.318 dBm
2	(1)	Freq	1.71500 GHz	-41.86 dBm
3	(1)	Freq	1.72800 GHz	4.596 dBm
4	(1)	Freq	1.73300 GHz	-31.54 dBm

Agilent 17:39:56 Aug 12, 2014

L

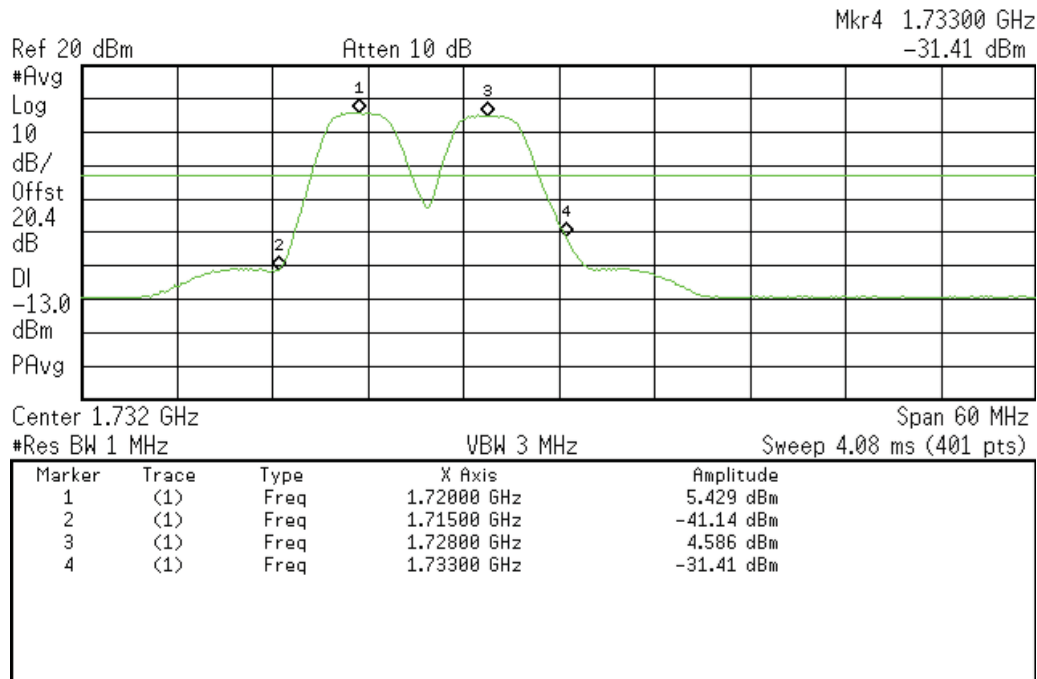


Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	1.74000 GHz	4.331 dBm
2	(1)	Freq	1.73500 GHz	-42.27 dBm
3	(1)	Freq	1.74800 GHz	3.658 dBm
4	(1)	Freq	1.75300 GHz	-34.16 dBm

Intermodulation Uplink Test Results at 3db above AGC (CDMA Signal) **1710-1755 MHz Band**

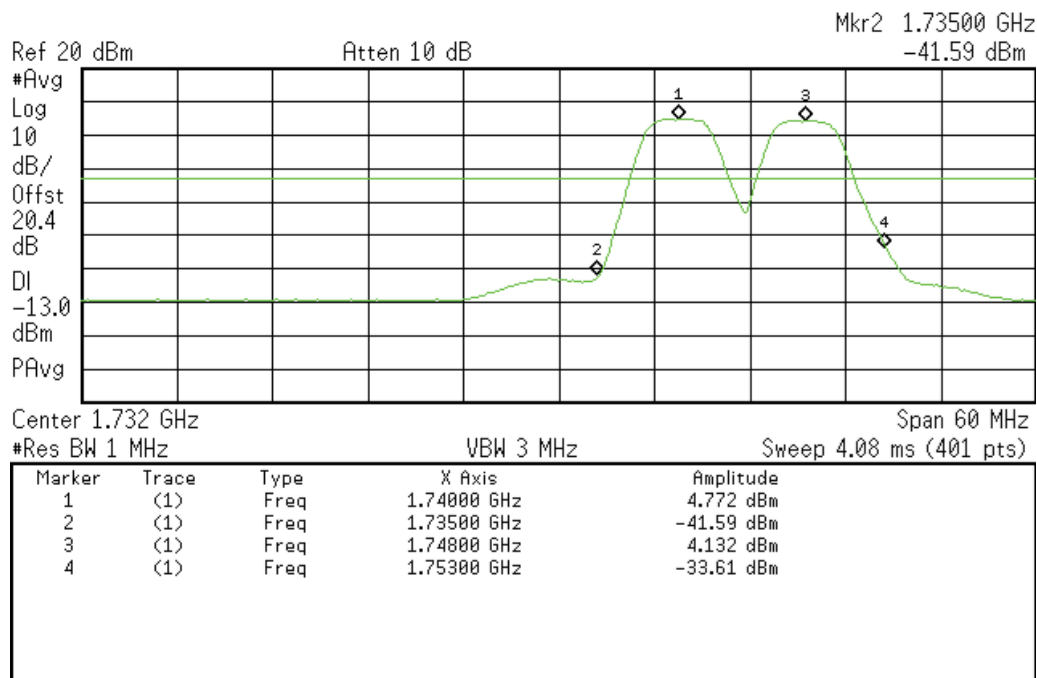
Agilent 17:36:51 Aug 12, 2014

L



Agilent 17:40:27 Aug 12, 2014

L

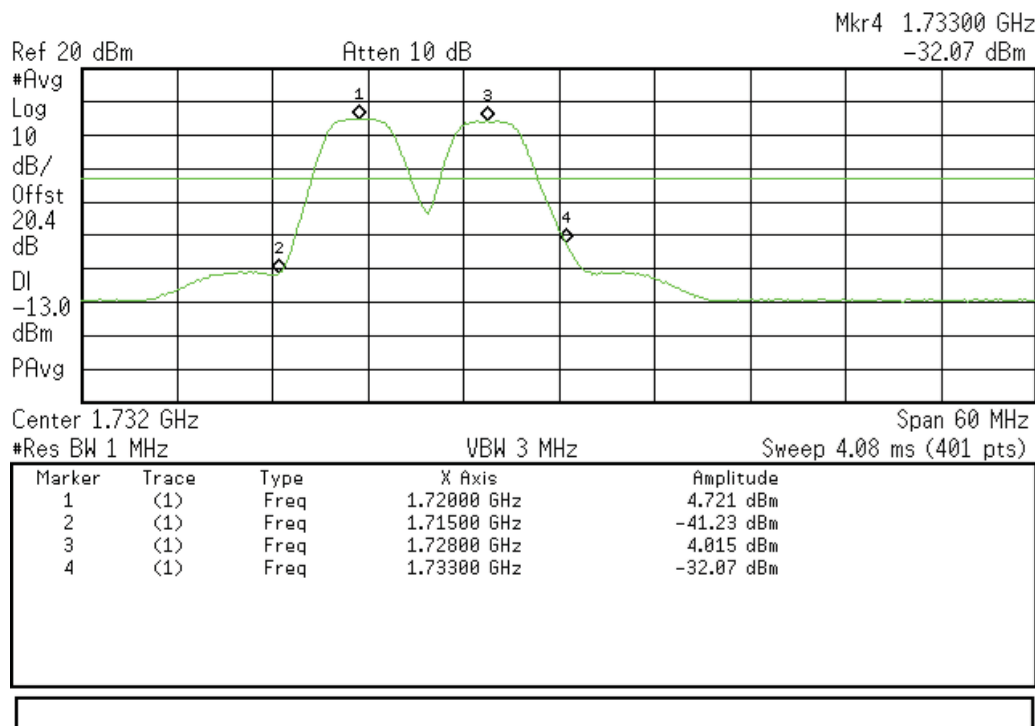




Intermodulation Uplink Test Results at 6db above AGC (CDMA Signal) 1710-1755 MHz Band

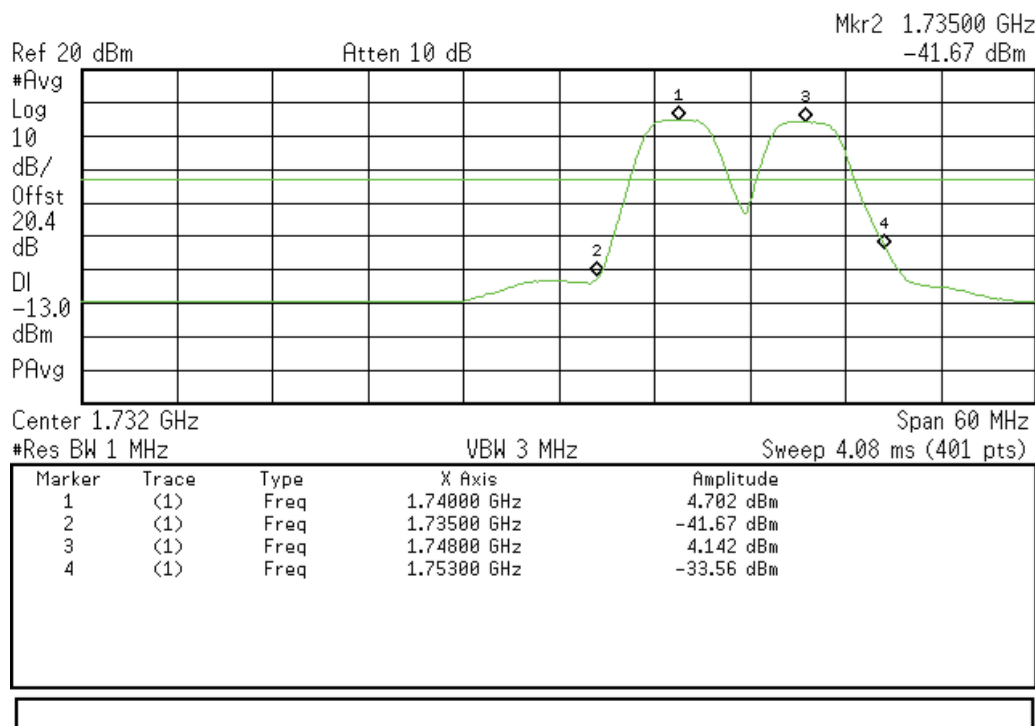
Agilent 17:37:05 Aug 12, 2014

L



Agilent 17:40:41 Aug 12, 2014

L

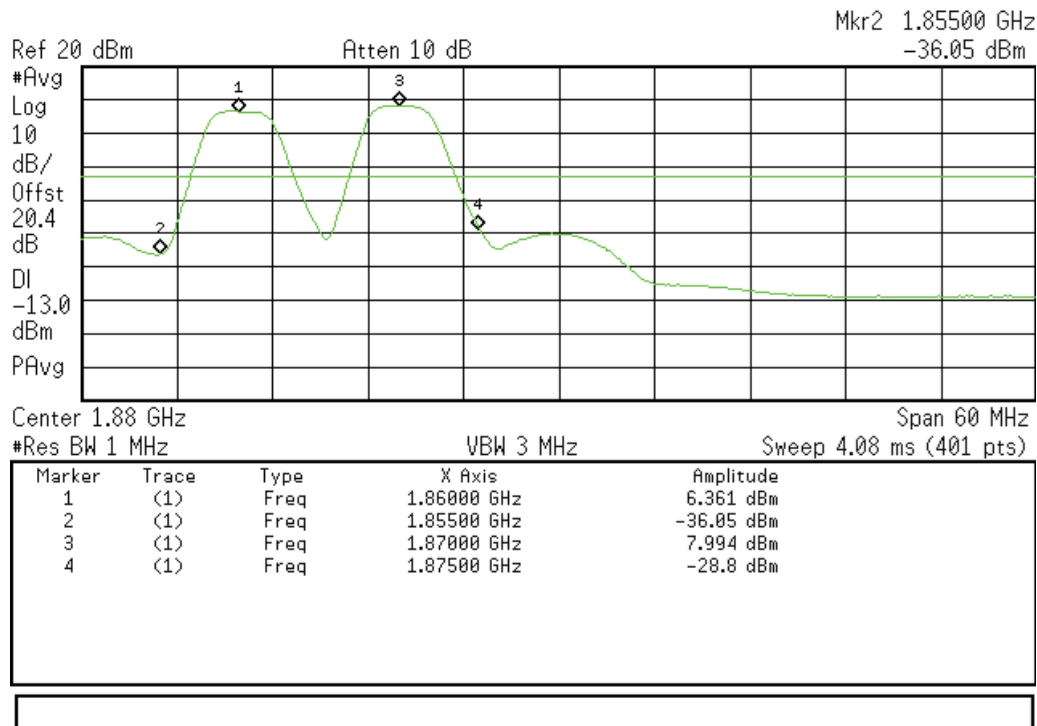




Intermodulation Uplink Test Results at AGC (CDMA Signal) 1850-1915 MHz Band

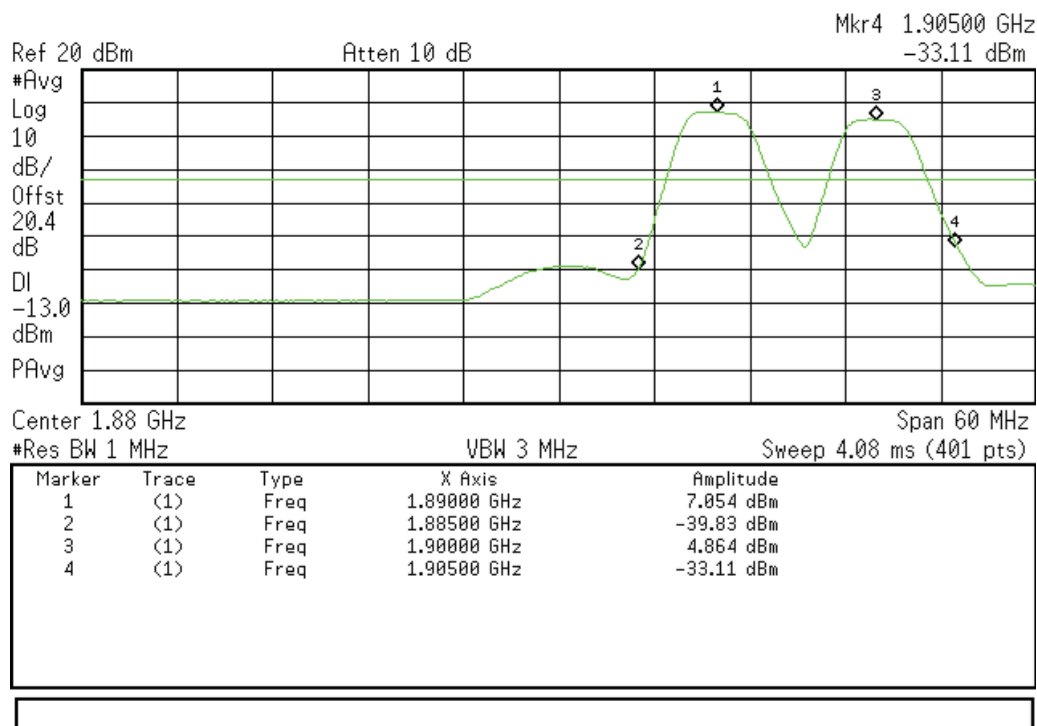
Agilent 17:47:59 Aug 12, 2014

L



Agilent 17:44:28 Aug 12, 2014

L

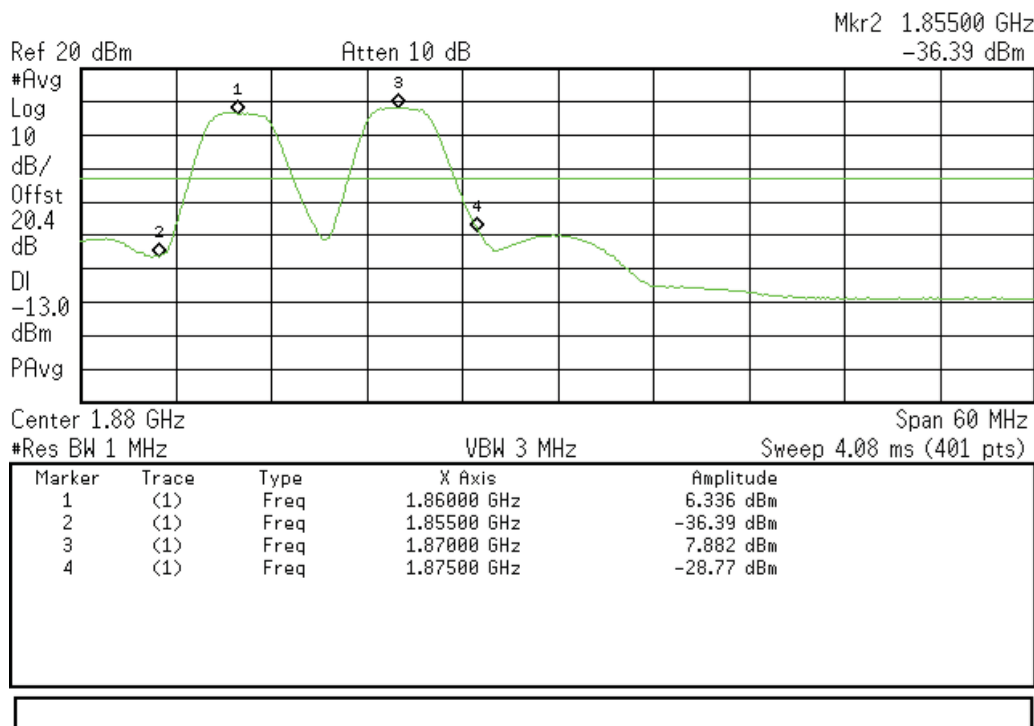




Intermodulation Uplink Test Results at 3db above AGC (CDMA Signal) 1850-1915 MHz Band

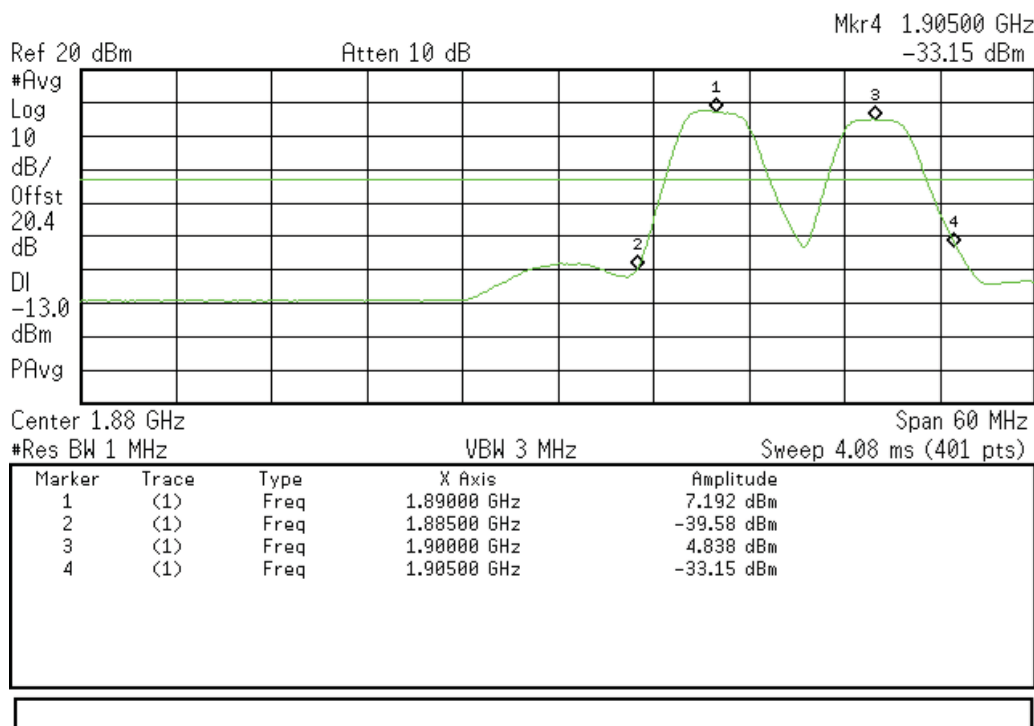
Agilent 17:48:41 Aug 12, 2014

L



Agilent 17:45:12 Aug 12, 2014

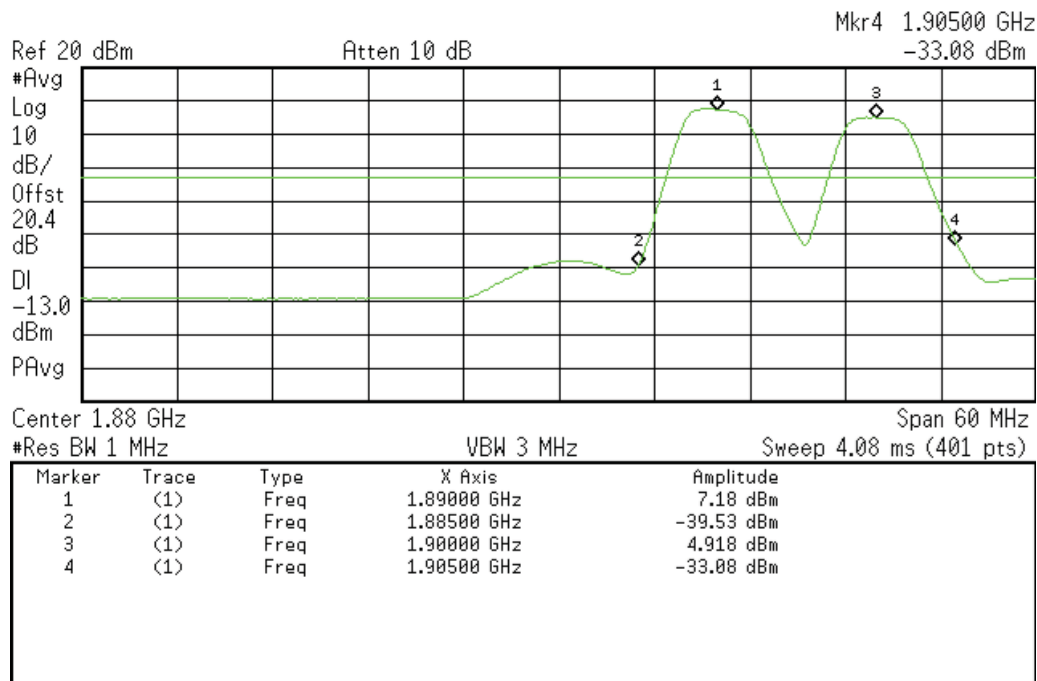
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Intermodulation Uplink Test Results at 6db above AGC (CDMA Signal) **1850-1915 MHz Band**

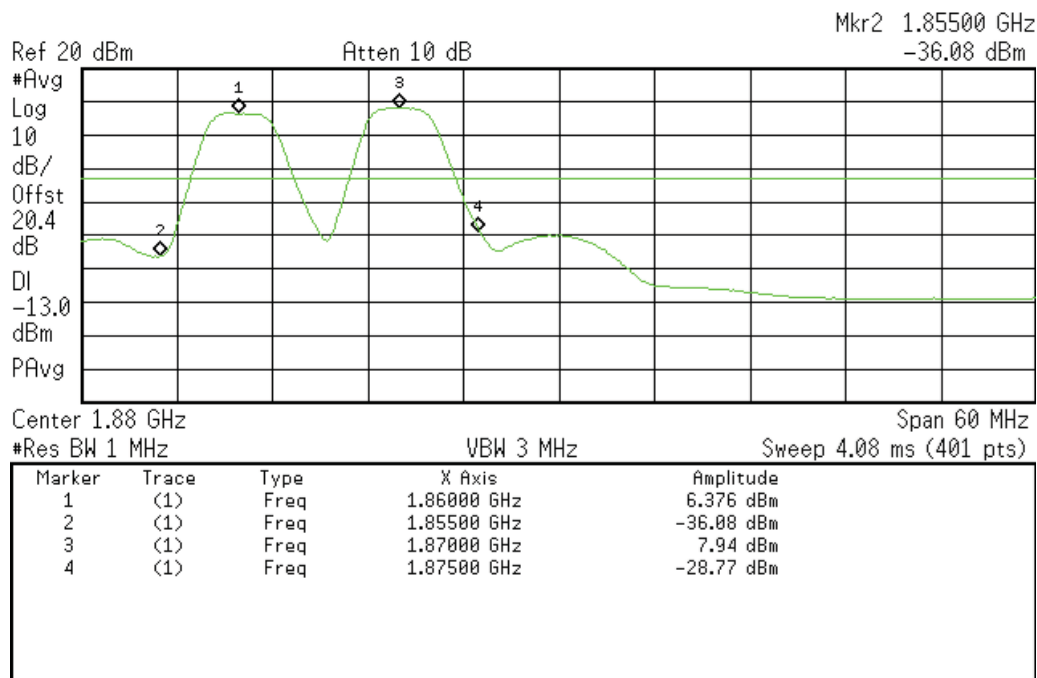
Agilent 17:45:25 Aug 12, 2014

L



Agilent 17:49:18 Aug 12, 2014

L

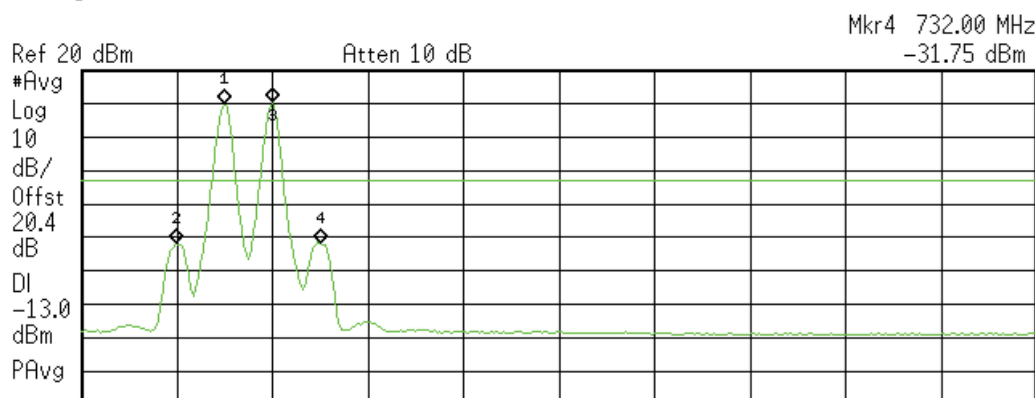




Intermodulation Downlink Test Results at AGC (GSM Signal) 728-746 MHz Band

✱ Agilent 09:46:01 Aug 13, 2014

L

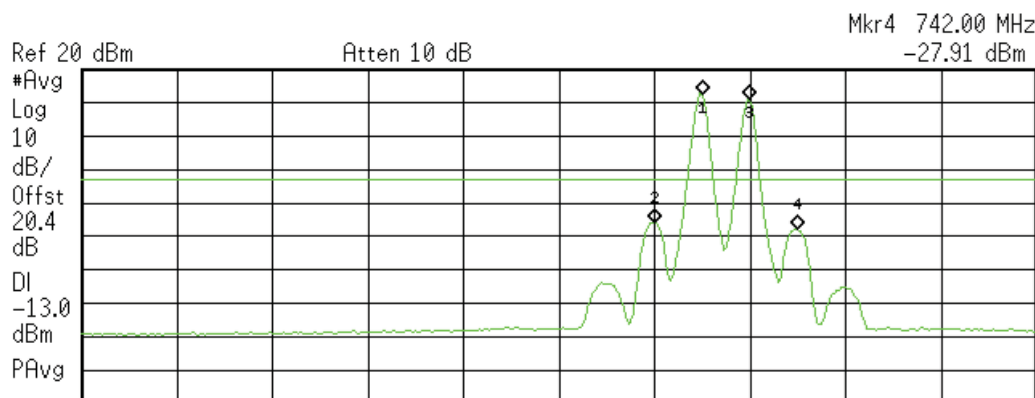


Center 737 MHz Span 20 MHz
#Res BW 100 kHz VBW 300 kHz Sweep 4 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	730.00 MHz	10.18 dBm
2	(1)	Freq	729.00 MHz	-31.65 dBm
3	(1)	Freq	731.00 MHz	10.35 dBm
4	(1)	Freq	732.00 MHz	-31.75 dBm

✱ Agilent 09:48:51 Aug 13, 2014

L



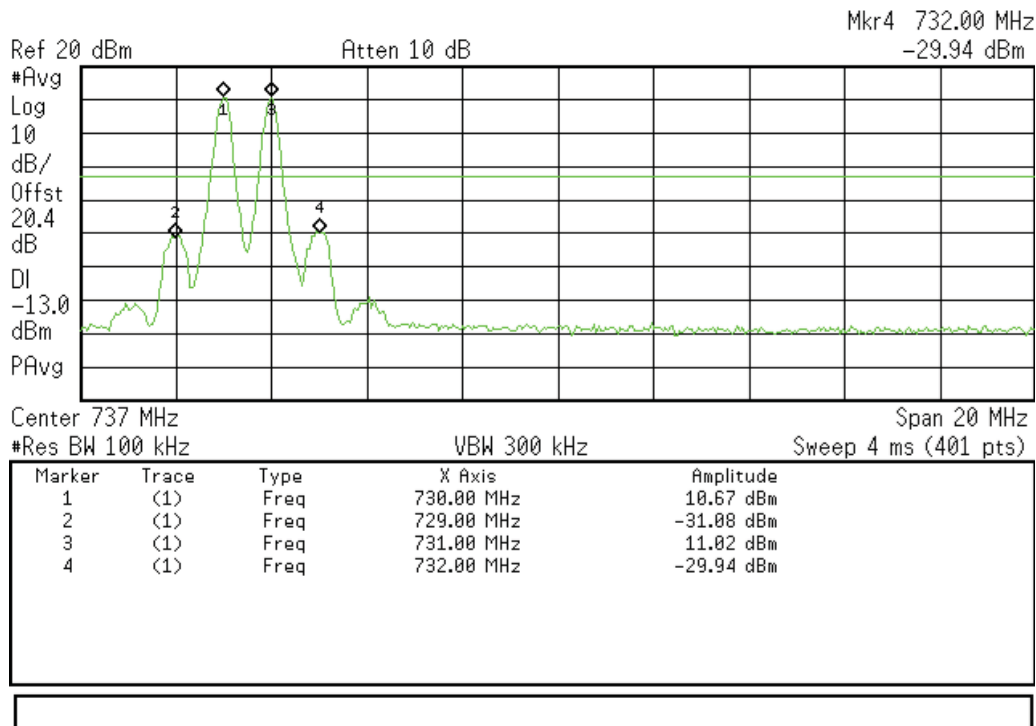
Center 737 MHz Span 20 MHz
#Res BW 100 kHz VBW 300 kHz Sweep 4 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	740.00 MHz	12.4 dBm
2	(1)	Freq	739.00 MHz	-25.81 dBm
3	(1)	Freq	741.00 MHz	11.04 dBm
4	(1)	Freq	742.00 MHz	-27.91 dBm

**Intermodulation Downlink Test Results at 3db above AGC (GSM Signal)
728-746 MHz Band**

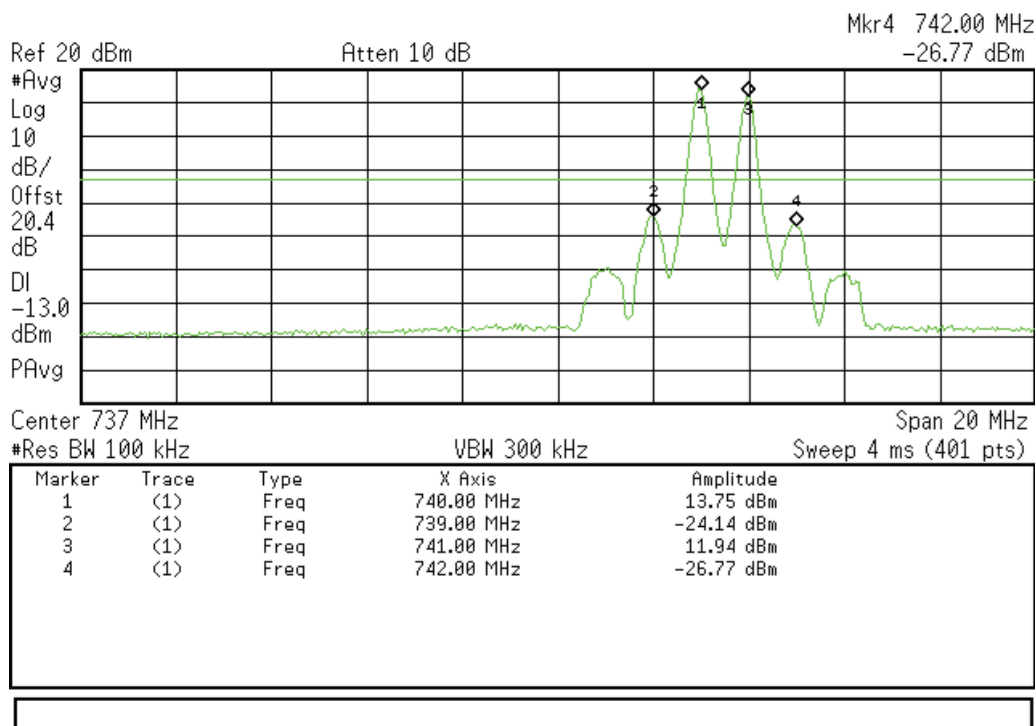
✱ Agilent 09:46:31 Aug 13, 2014

L



✱ Agilent 09:49:22 Aug 13, 2014

L

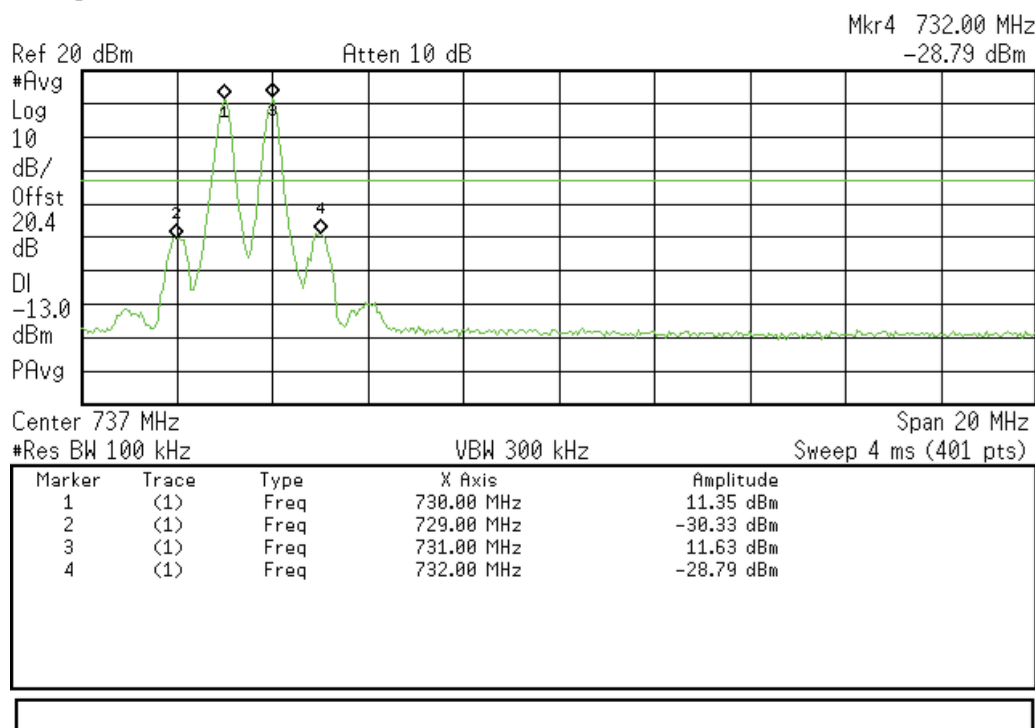




Intermodulation Downlink Test Results at 6db above AGC (GSM Signal) 728-746 MHz Band

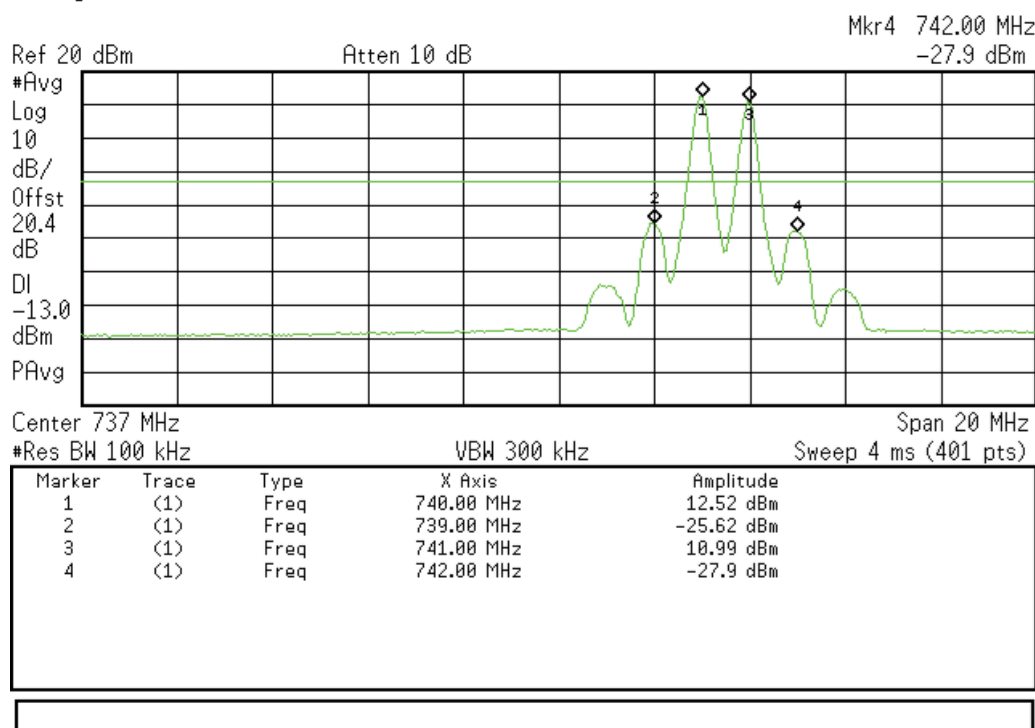
✱ Agilent 09:46:46 Aug 13, 2014

L



✱ Agilent 09:51:54 Aug 13, 2014

L

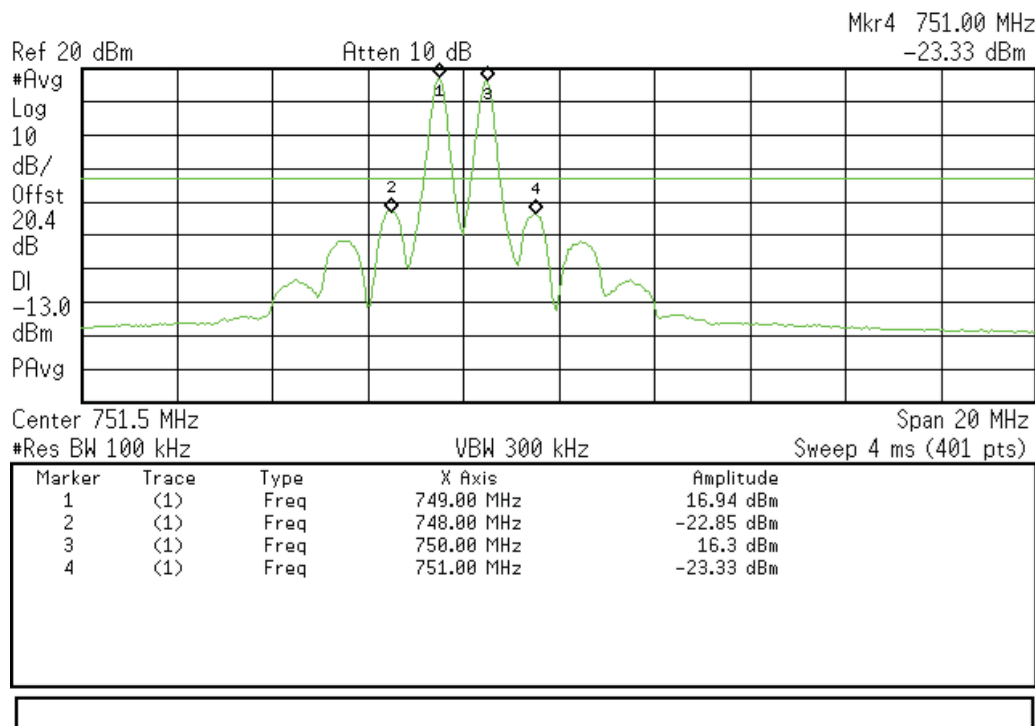




Intermodulation Downlink Test Results at AGC (GSM Signal) 746-757 MHz Band

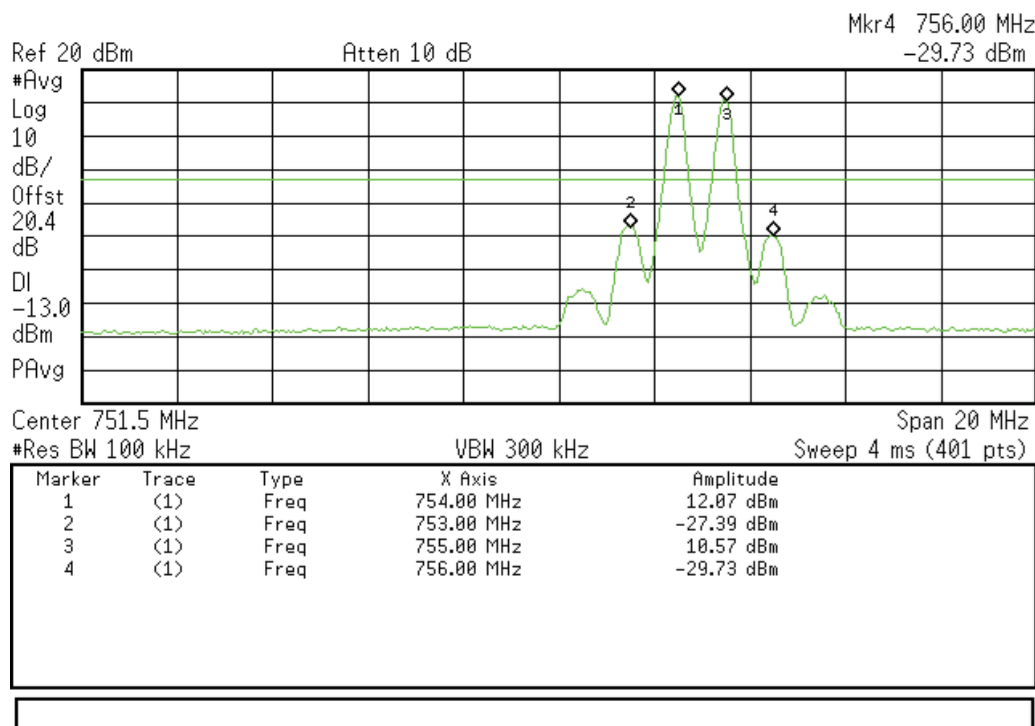
✱ Agilent 09:54:46 Aug 13, 2014

L



✱ Agilent 09:59:06 Aug 13, 2014

L

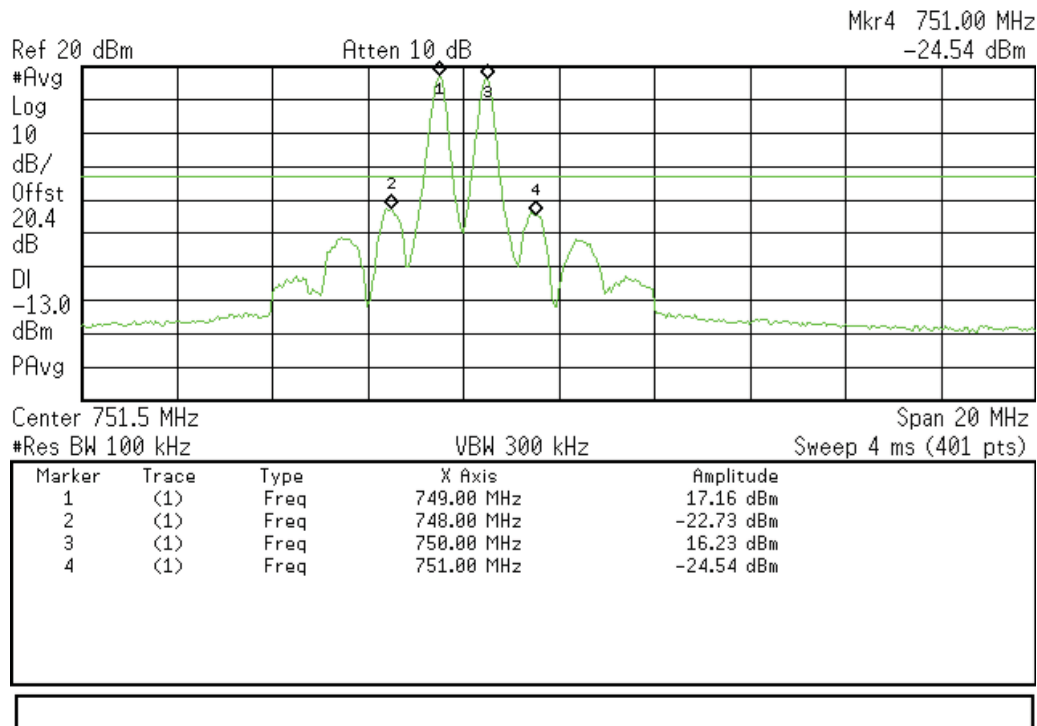




Intermodulation Downlink Test Results at 3db above AGC (GSM Signal) 746-757 MHz Band

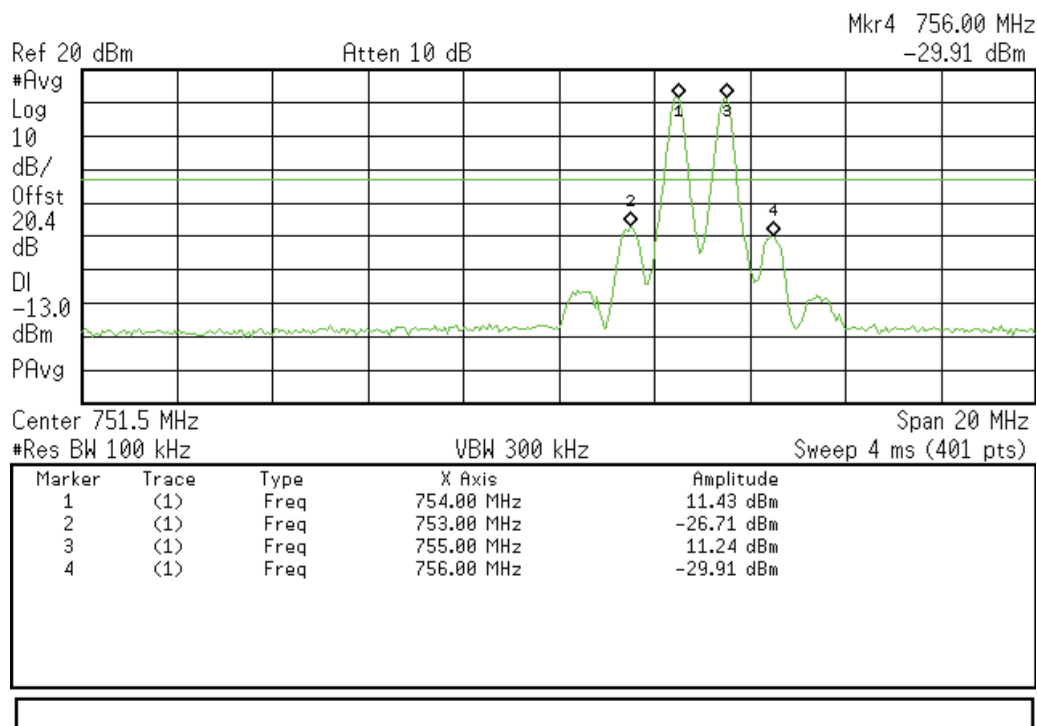
✱ Agilent 09:55:04 Aug 13, 2014

L



✱ Agilent 09:59:21 Aug 13, 2014

L

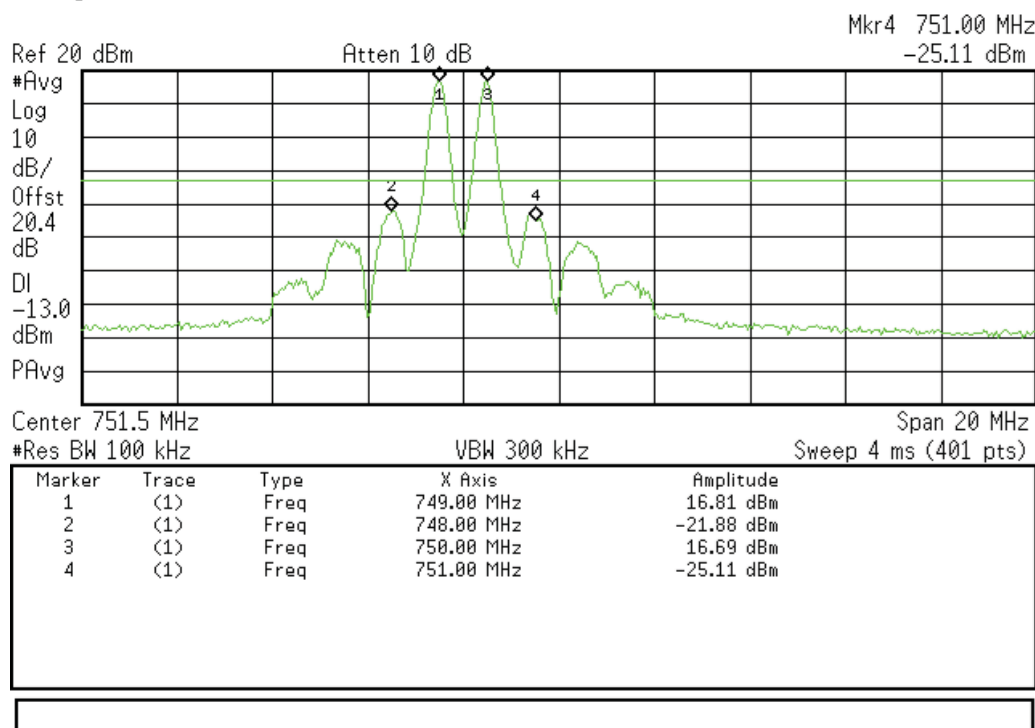




Intermodulation Downlink Test Results at 6db above AGC (GSM Signal) 746-757 MHz Band

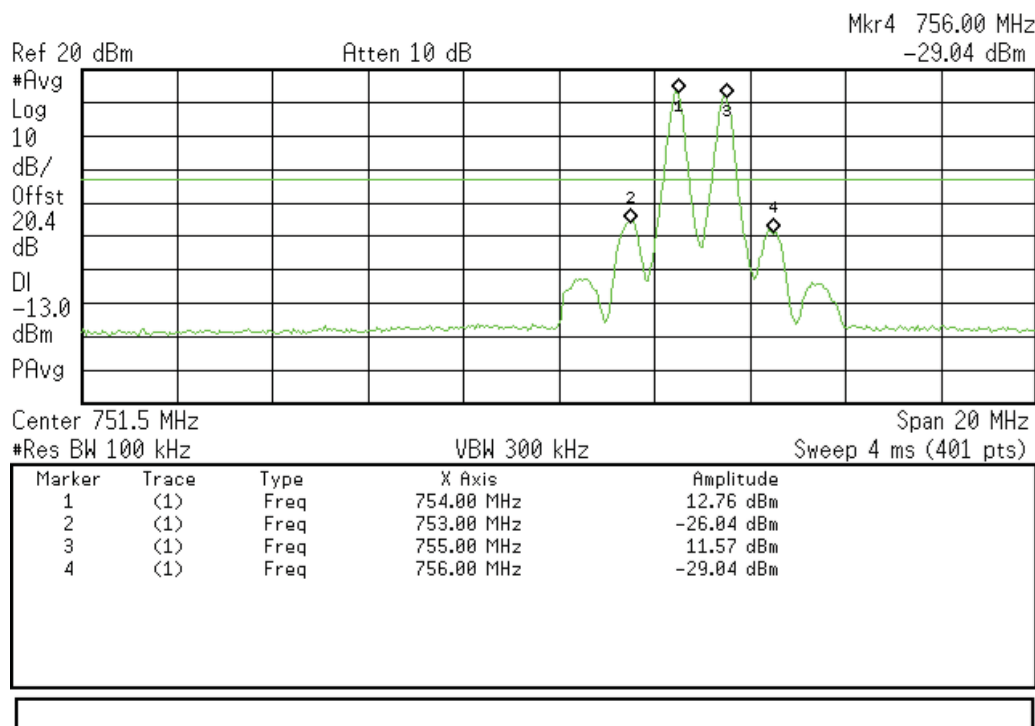
Agilent 09:55:23 Aug 13, 2014

L



Agilent 09:59:34 Aug 13, 2014

L

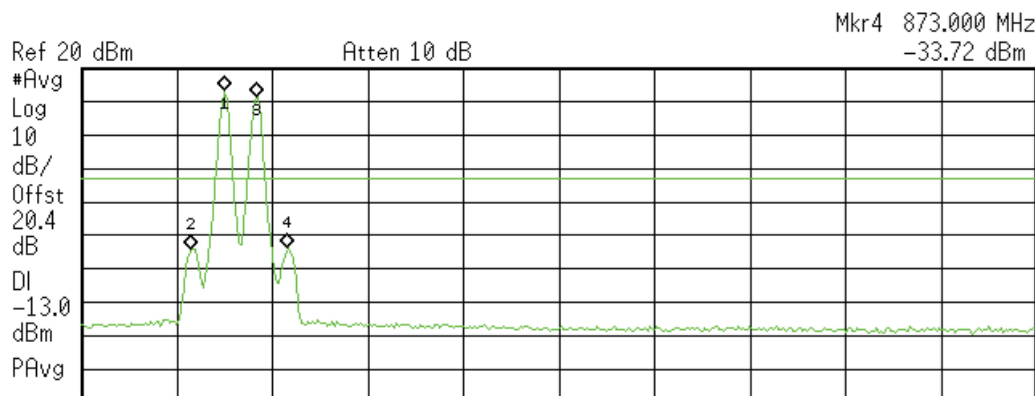




Intermodulation Downlink Test Results at AGC (GSM Signal) 869-894 MHz Band

Agilent 10:03:56 Aug 13, 2014

L

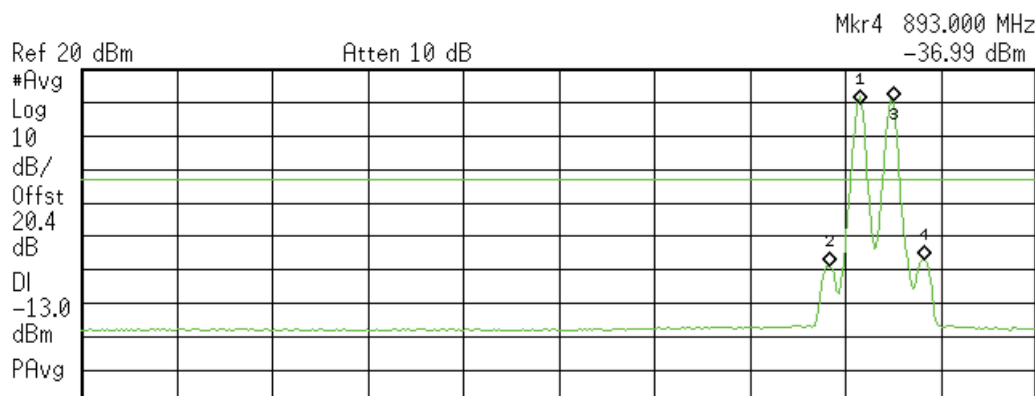


Center 881.5 MHz Span 30 MHz
#Res BW 100 kHz VBW 300 kHz Sweep 4.96 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	871.000 MHz	13.08 dBm
2	(1)	Freq	870.000 MHz	-34.12 dBm
3	(1)	Freq	872.000 MHz	11.5 dBm
4	(1)	Freq	873.000 MHz	-33.72 dBm

Agilent 10:06:55 Aug 13, 2014

L



Center 881.5 MHz Span 30 MHz
#Res BW 100 kHz VBW 300 kHz Sweep 4.96 ms (401 pts)

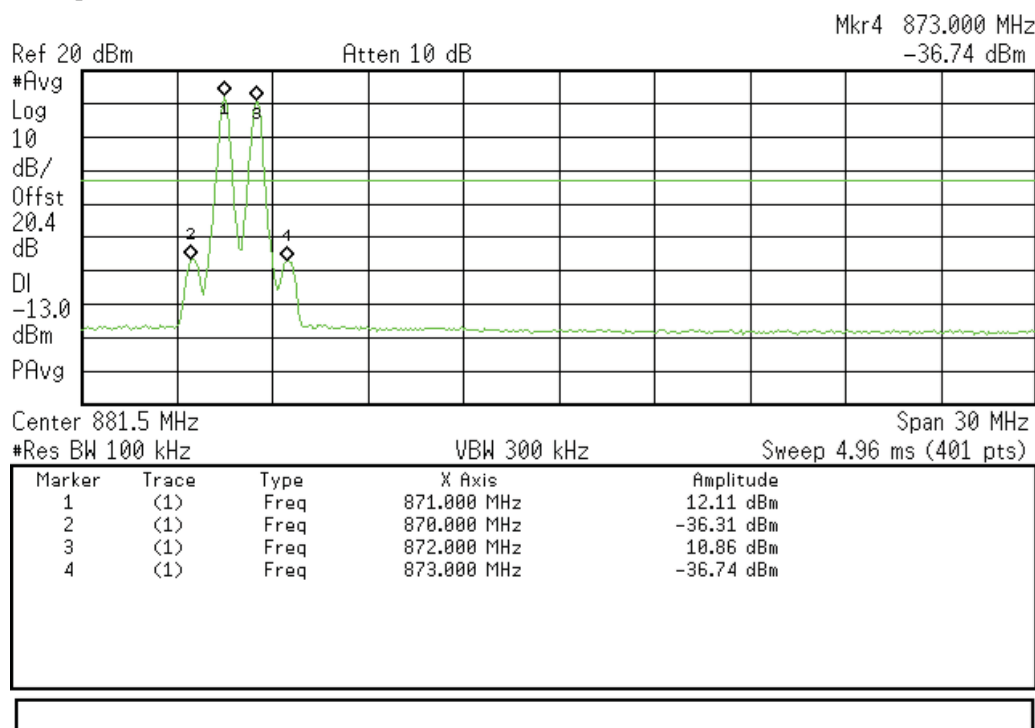
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	891.000 MHz	9.356 dBm
2	(1)	Freq	890.000 MHz	-38.78 dBm
3	(1)	Freq	892.000 MHz	10.4 dBm
4	(1)	Freq	893.000 MHz	-36.99 dBm



Intermodulation Downlink Test Results at 3db above AGC (GSM Signal) 869-894 MHz Band

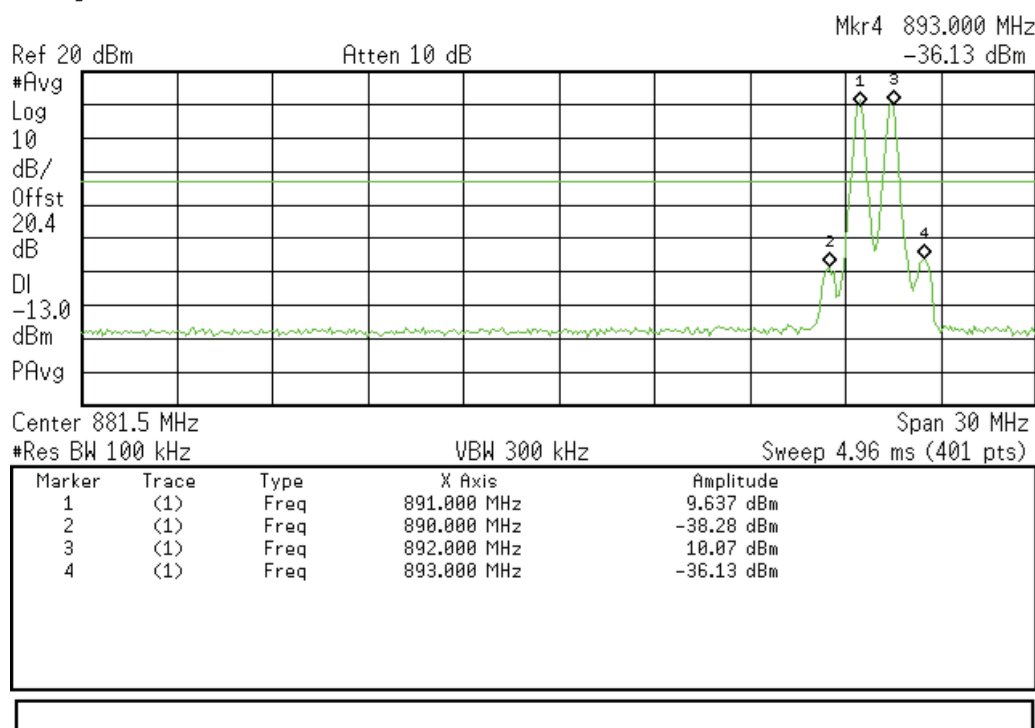
Agilent 10:03:29 Aug 13, 2014

L



Agilent 10:07:12 Aug 13, 2014

L

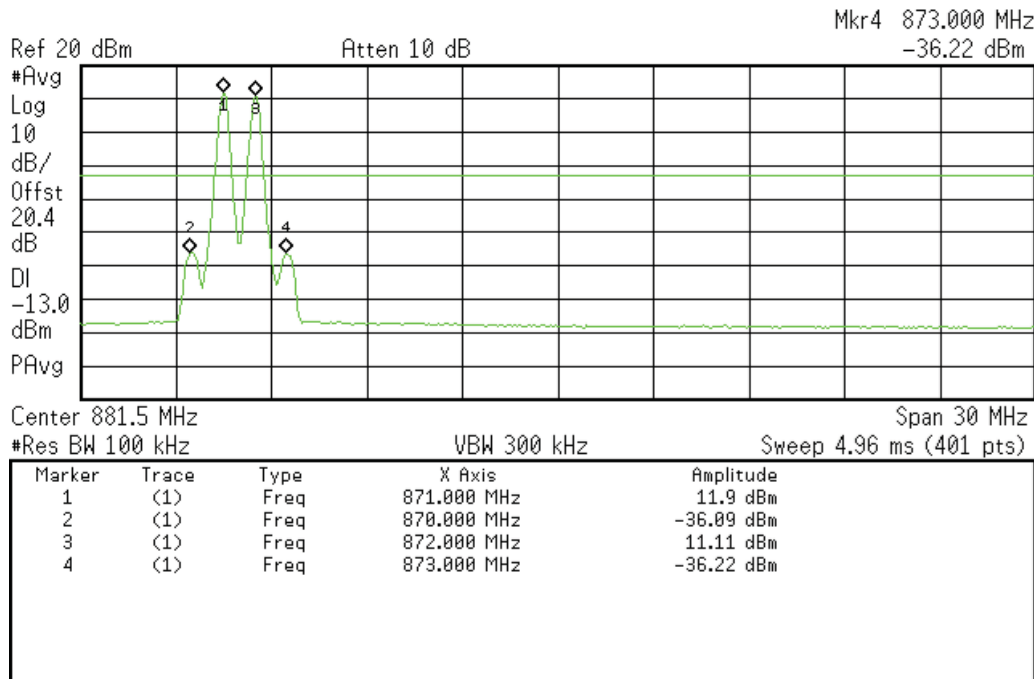




Intermodulation Downlink Test Results at 6db above AGC (GSM Signal) 869-894 MHz Band

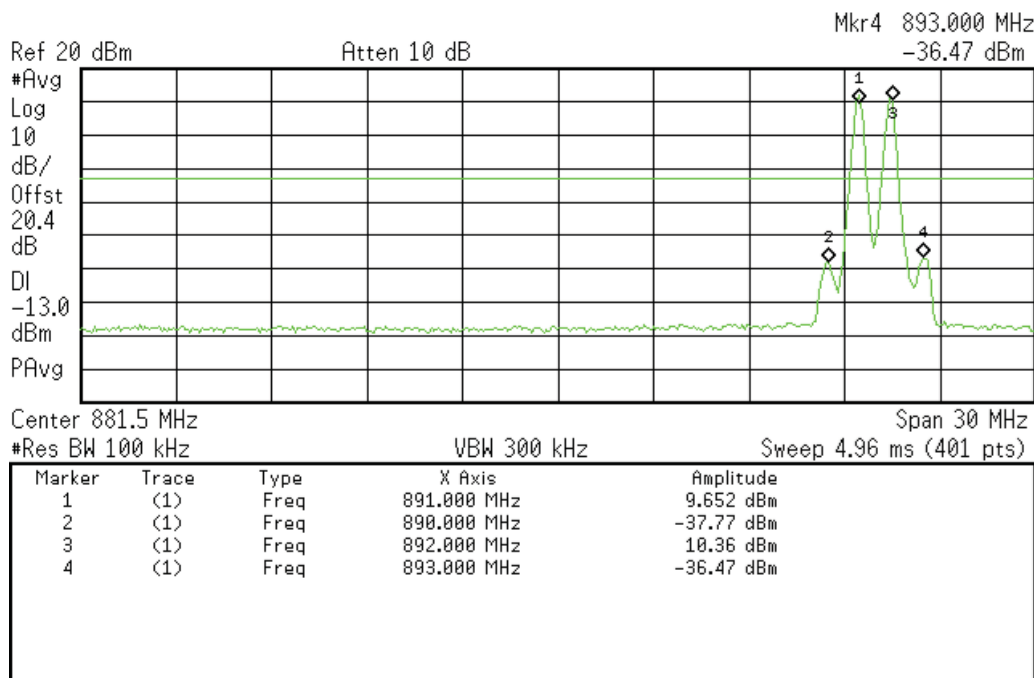
Agilent 10:03:07 Aug 13, 2014

L



Agilent 10:07:25 Aug 13, 2014

L

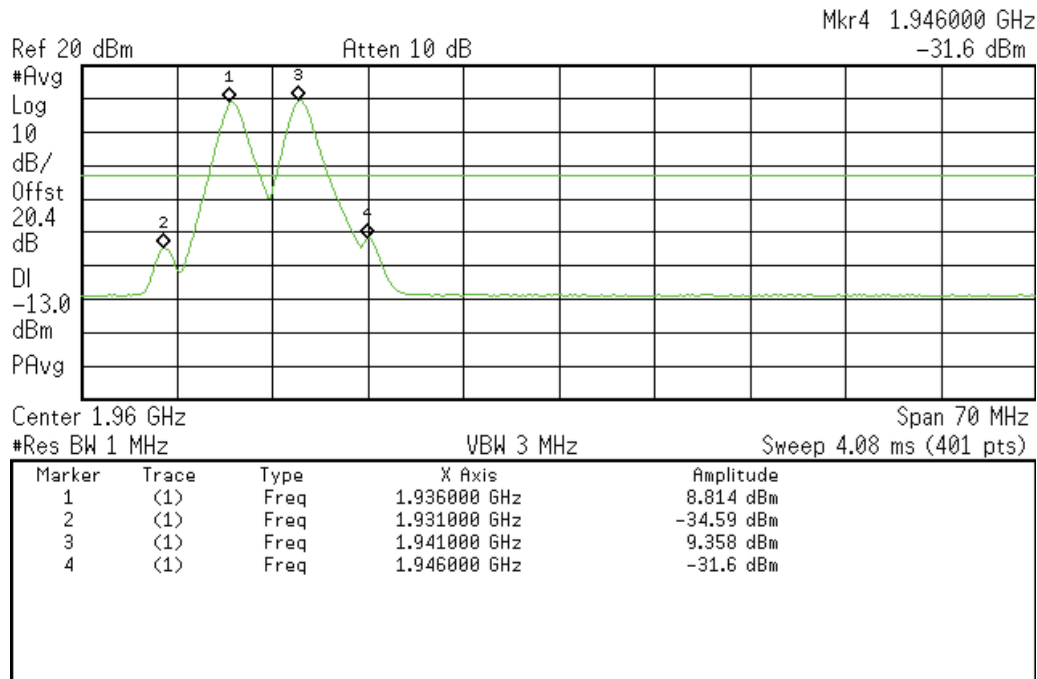




Intermodulation Downlink Test Results at AGC (GSM Signal) 1930-1995 MHz Band

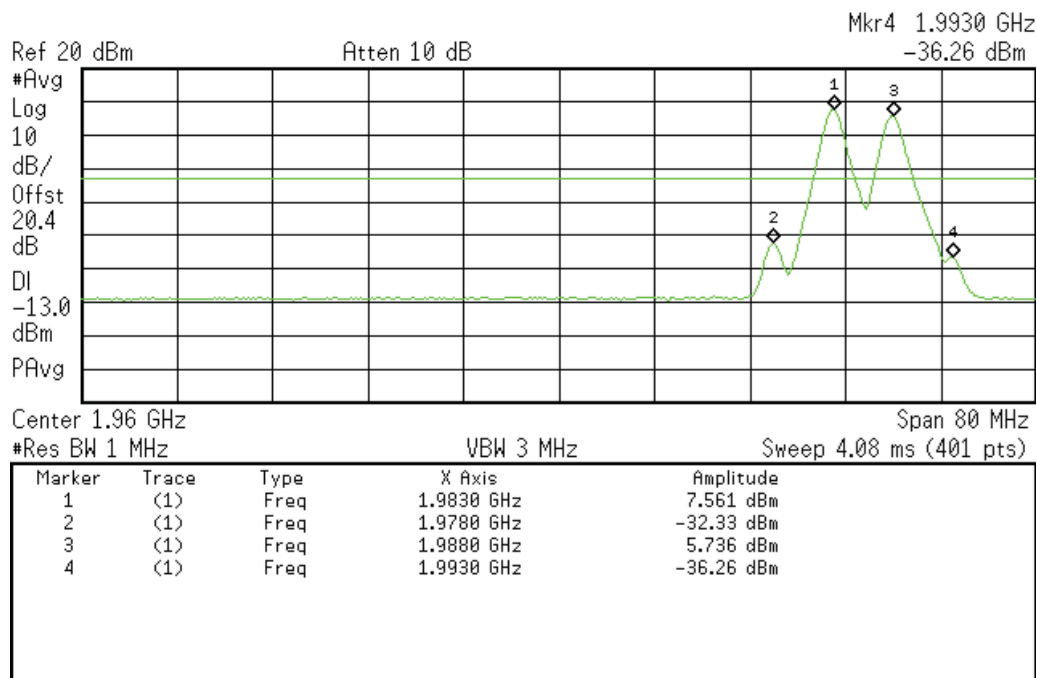
Agilent 10:21:39 Aug 13, 2014

L



Agilent 10:26:11 Aug 13, 2014

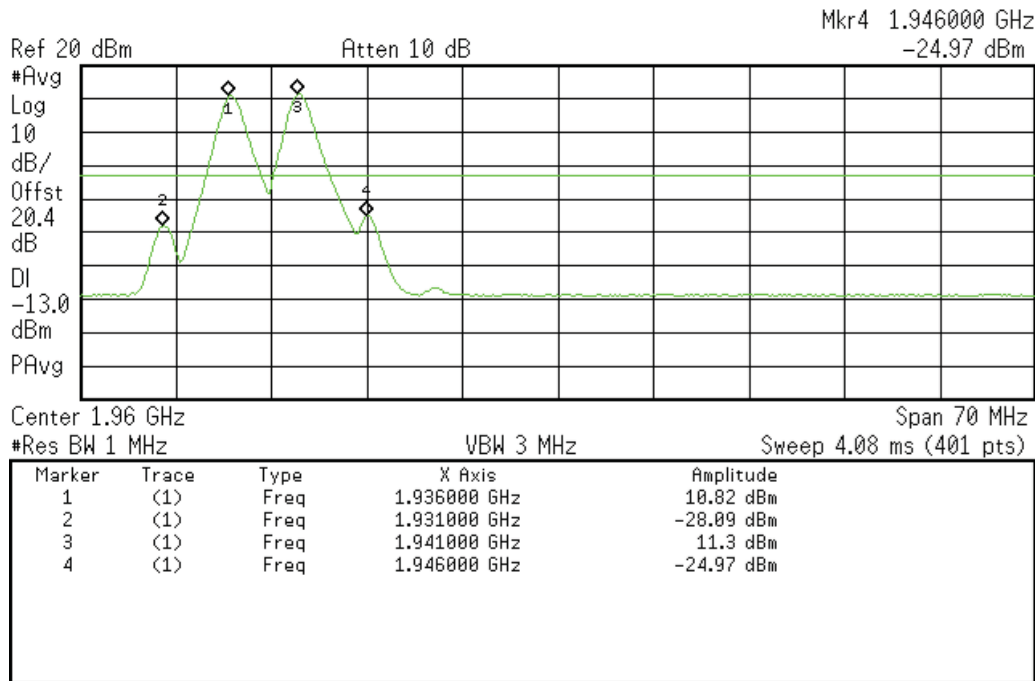
L



Intermodulation Downlink Test Results at 3db above AGC (GSM Signal) 1930-1995 MHz Band

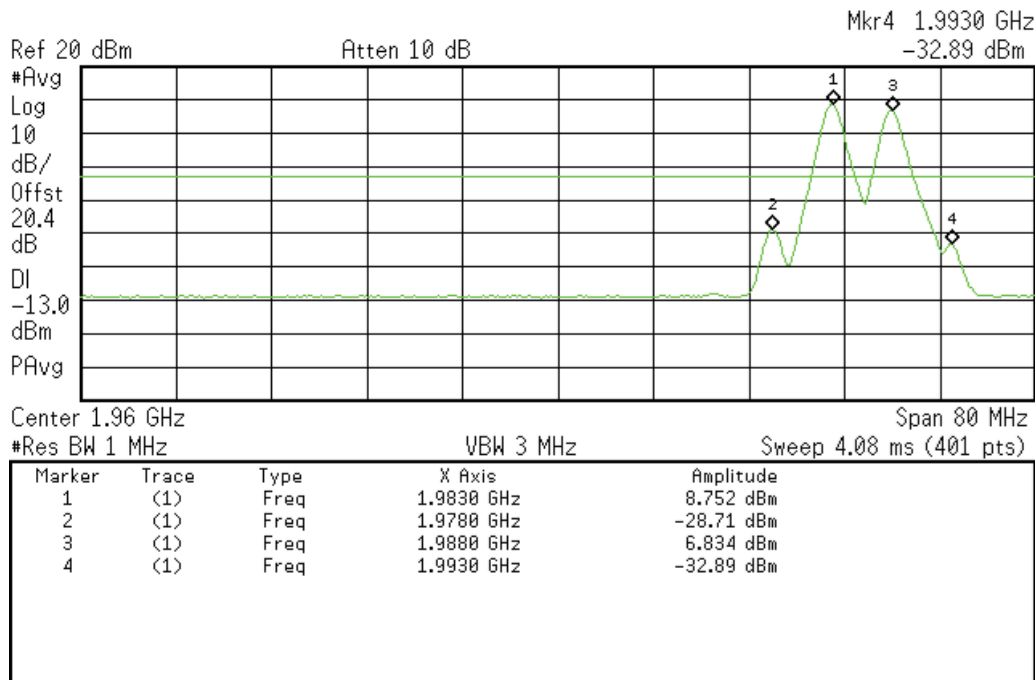
Agilent 10:22:17 Aug 13, 2014

L



Agilent 10:26:27 Aug 13, 2014

L

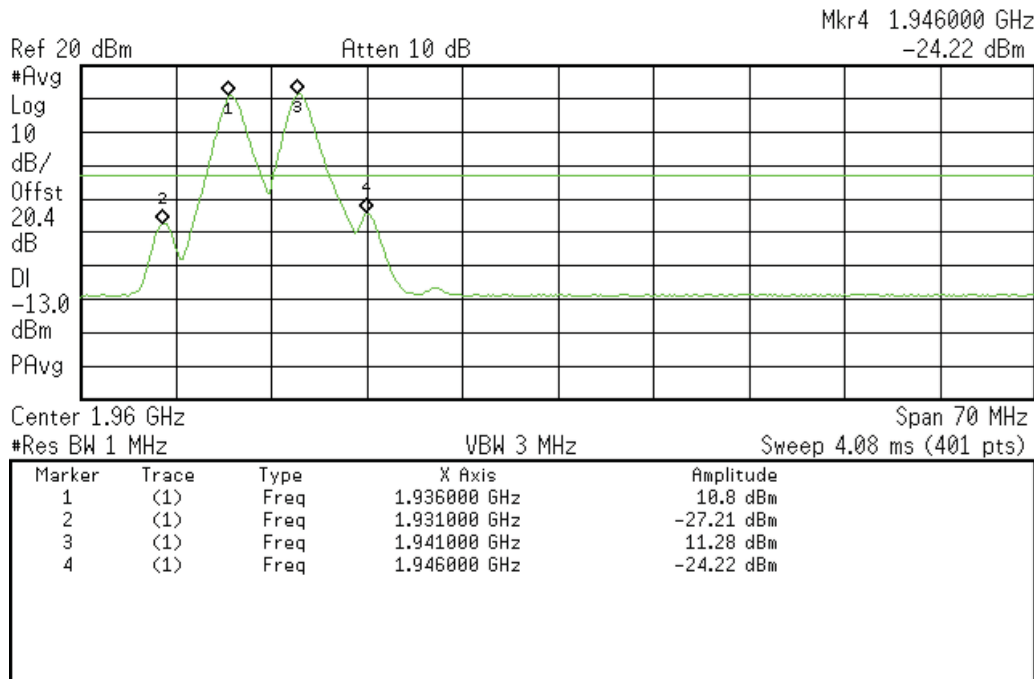




Intermodulation Downlink Test Results at 6db above AGC (GSM Signal) 1930-1995 MHz Band

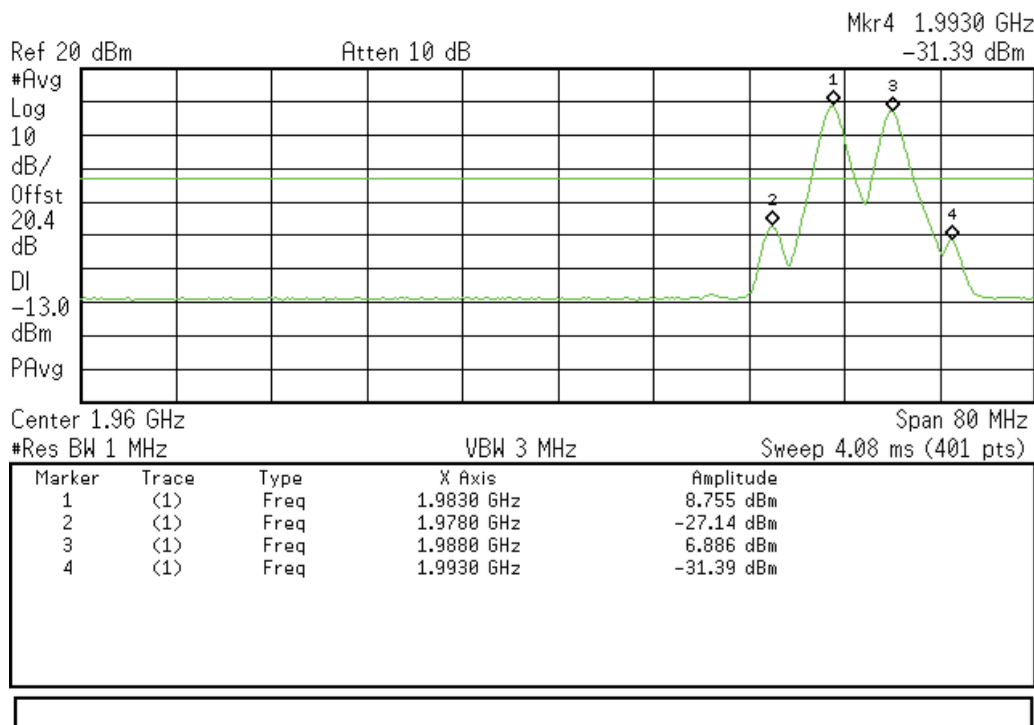
Agilent 10:22:36 Aug 13, 2014

L



Agilent 10:26:44 Aug 13, 2014

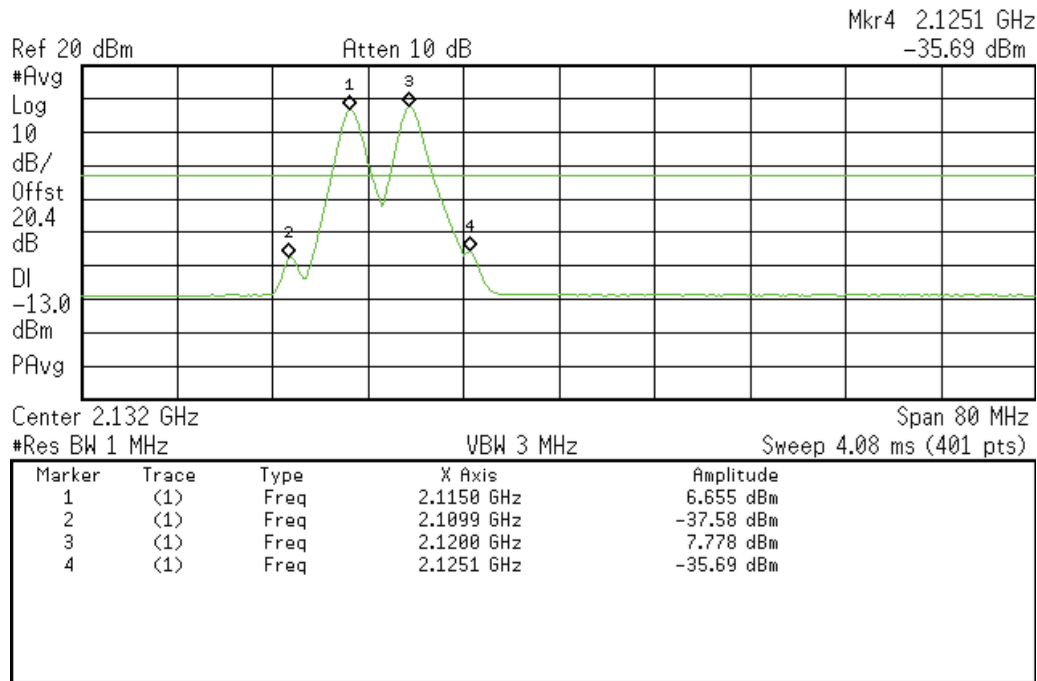
L



Intermodulation Downlink Test Results at AGC (GSM Signal) **2110-2155 MHz Band**

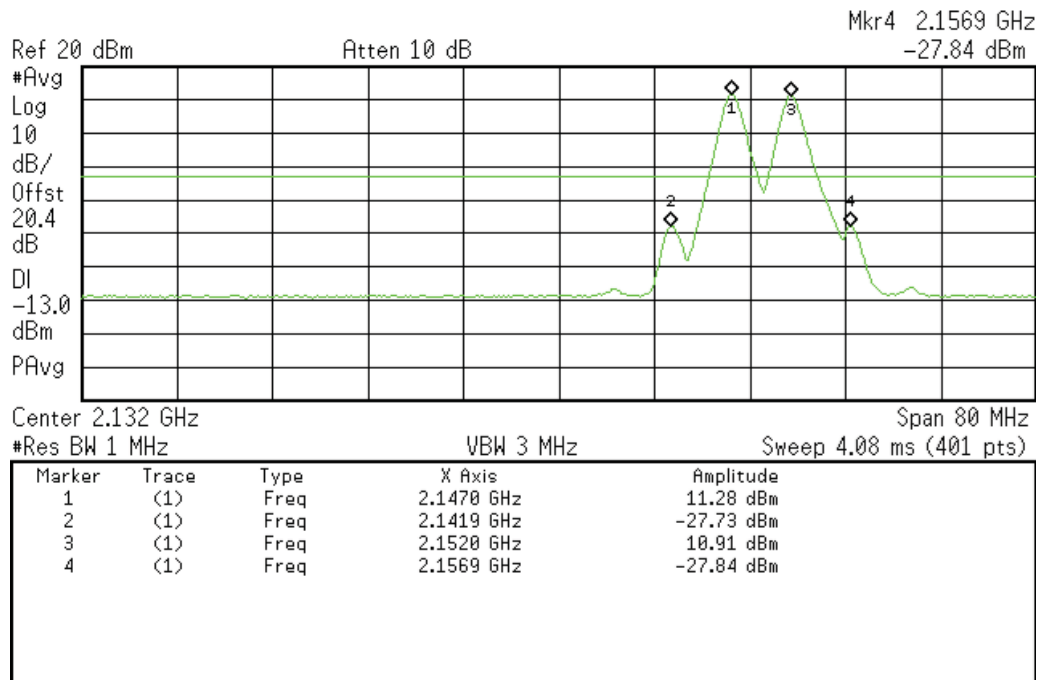
Agilent 10:29:16 Aug 13, 2014

L



Agilent 10:32:20 Aug 13, 2014

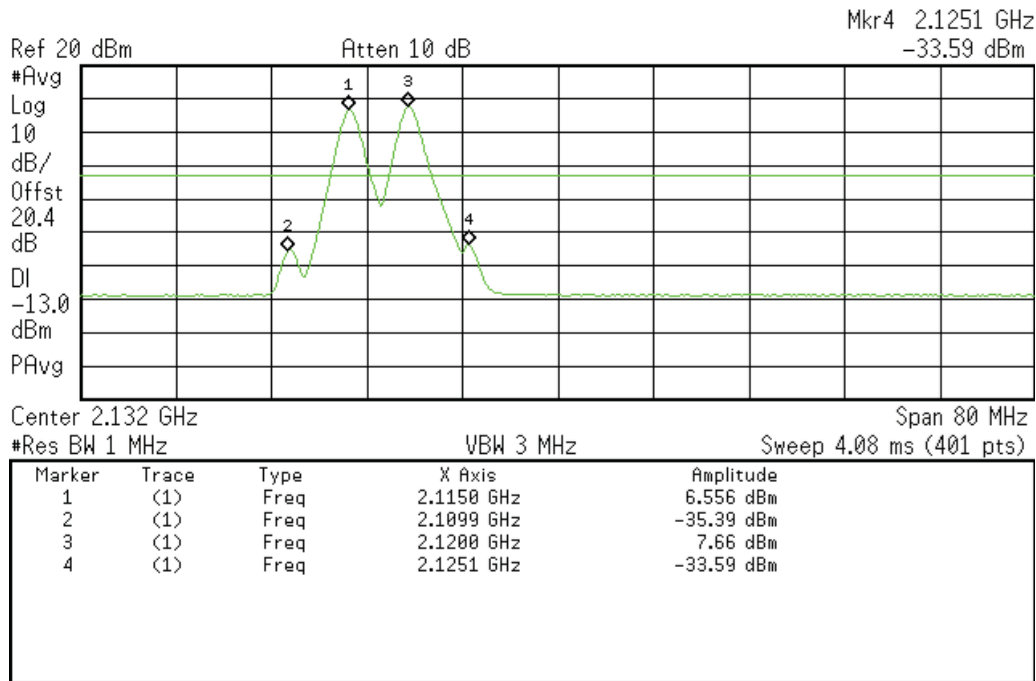
L



**Intermodulation Downlink Test Results at 3db above AGC (GSM Signal)
2110-2155 MHz Band**

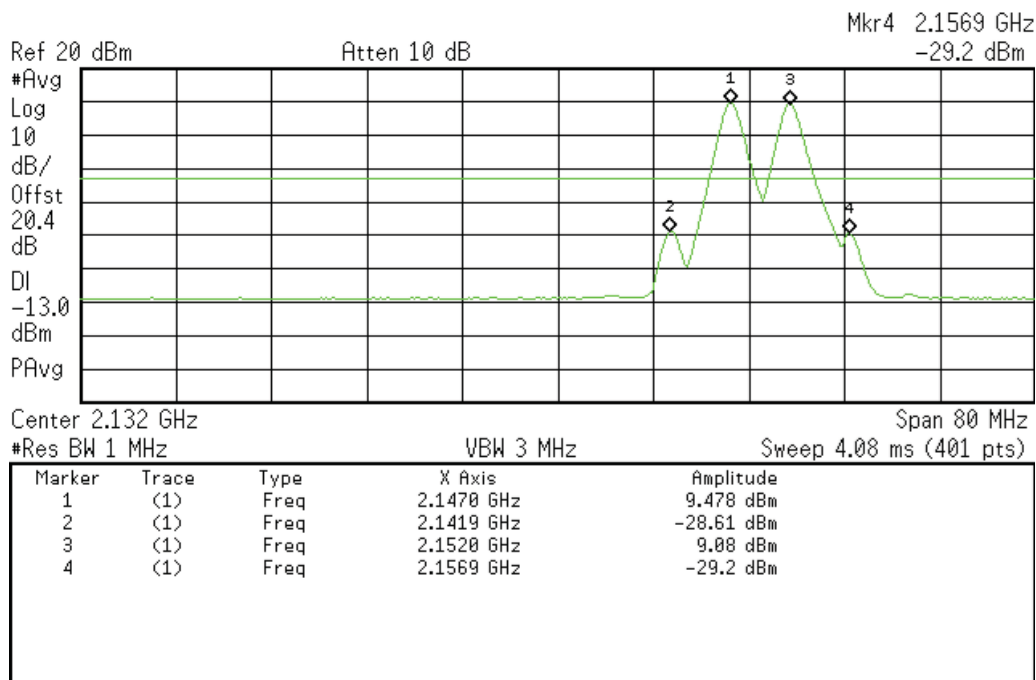
Agilent 10:29:47 Aug 13, 2014

L



Agilent 10:31:39 Aug 13, 2014

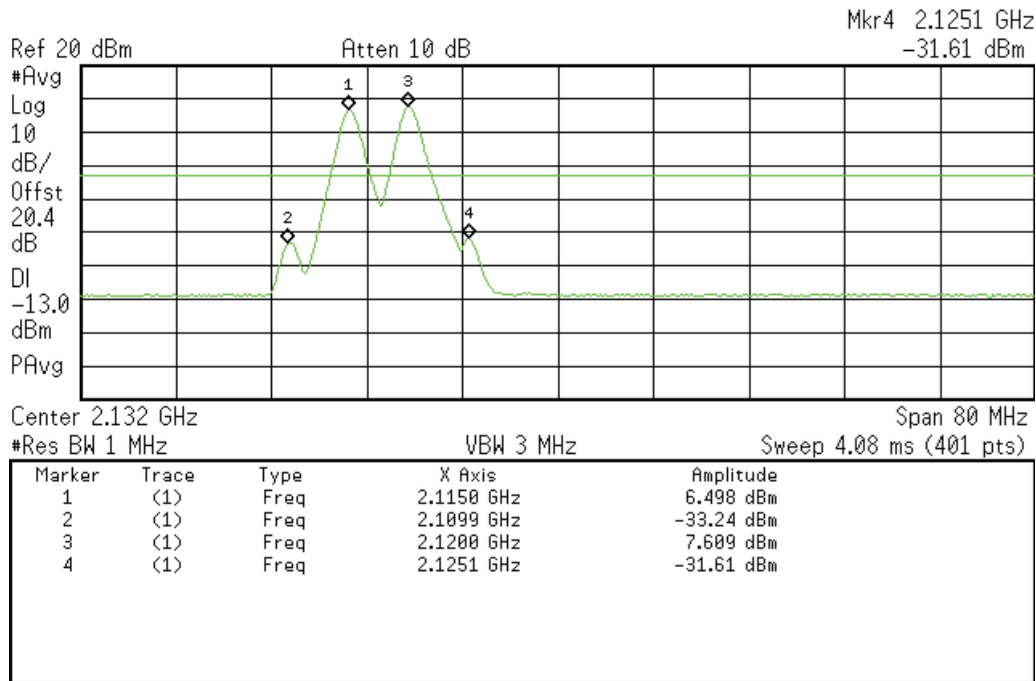
L



**Intermodulation Downlink Test Results at 6db above AGC (GSM Signal)
2110-2155 MHz Band**

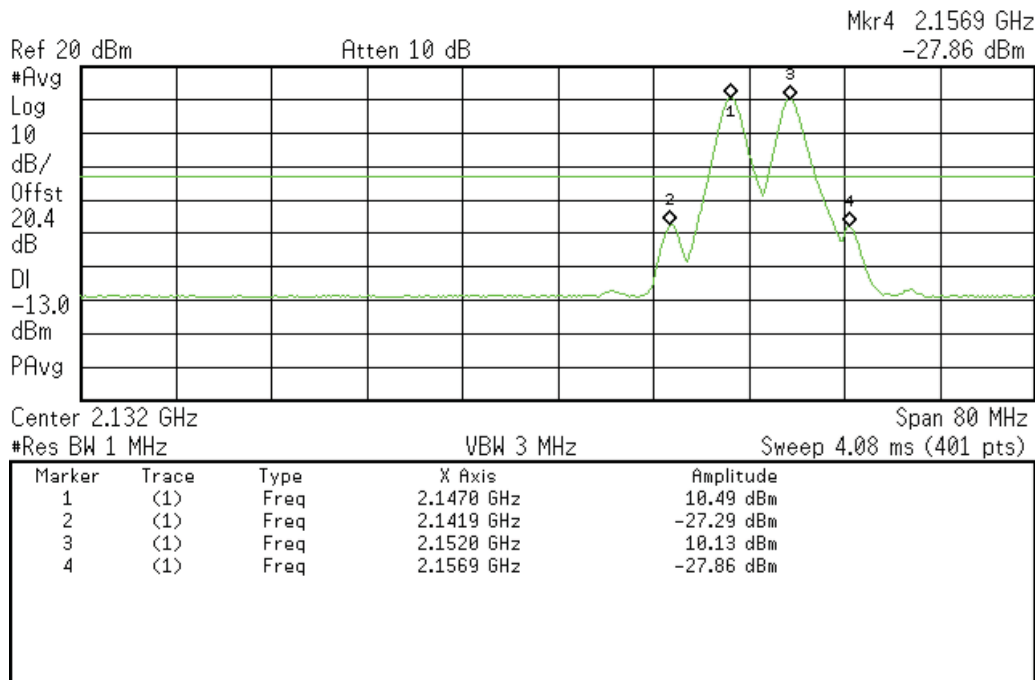
Agilent 10:30:02 Aug 13, 2014

L



Agilent 10:32:54 Aug 13, 2014

L

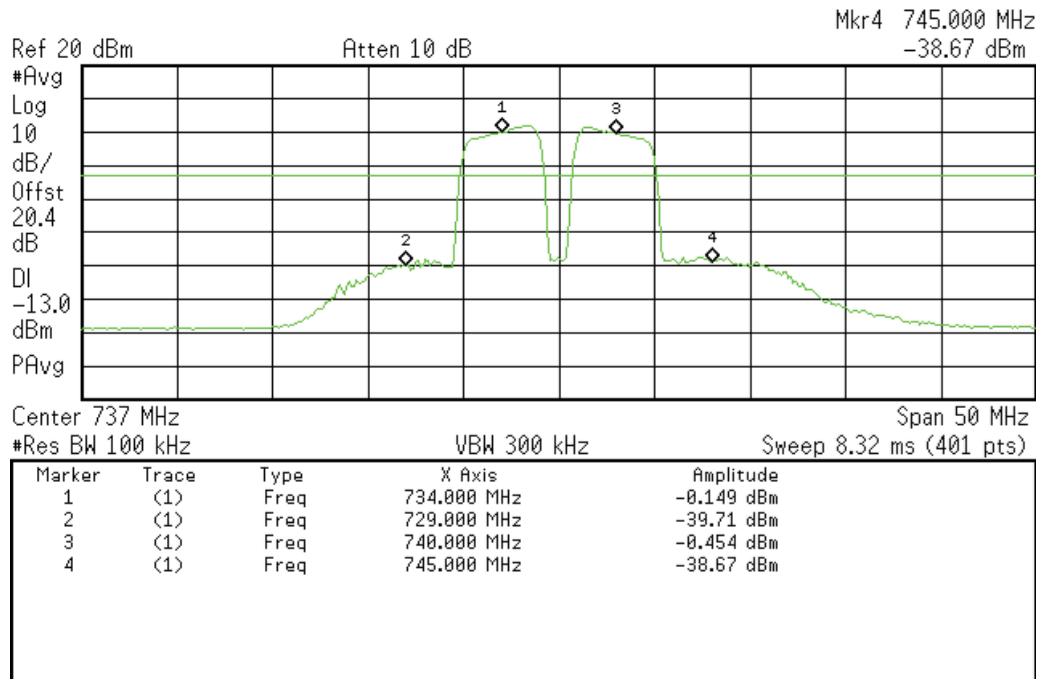




Intermodulation Downlink Test Results at AGC (CDMA Signal) 728-746 MHz Band

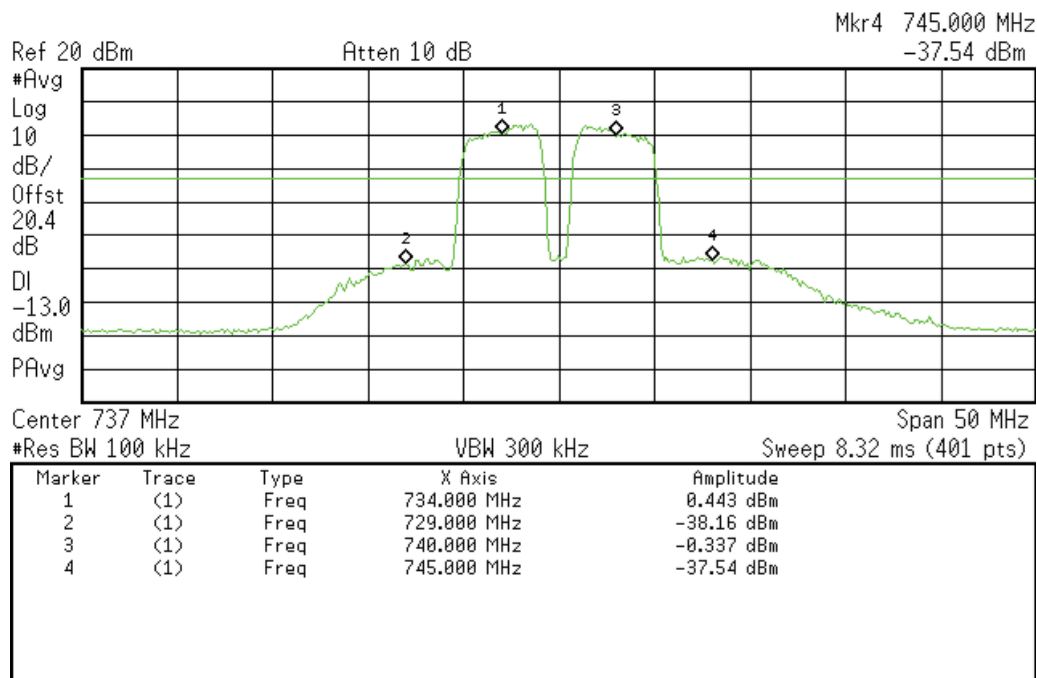
Agilent 07:44:31 Aug 13, 2014

L



Agilent 07:45:33 Aug 13, 2014

L

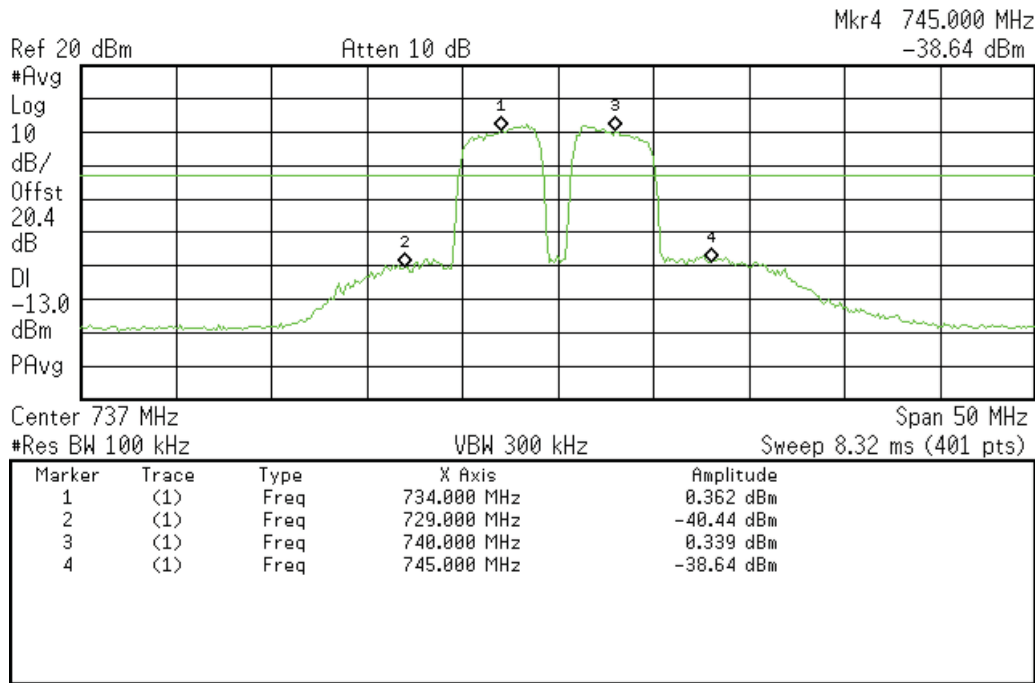




Intermodulation Downlink Test Results at 3db above AGC (CDMA Signal) 728-746 MHz Band

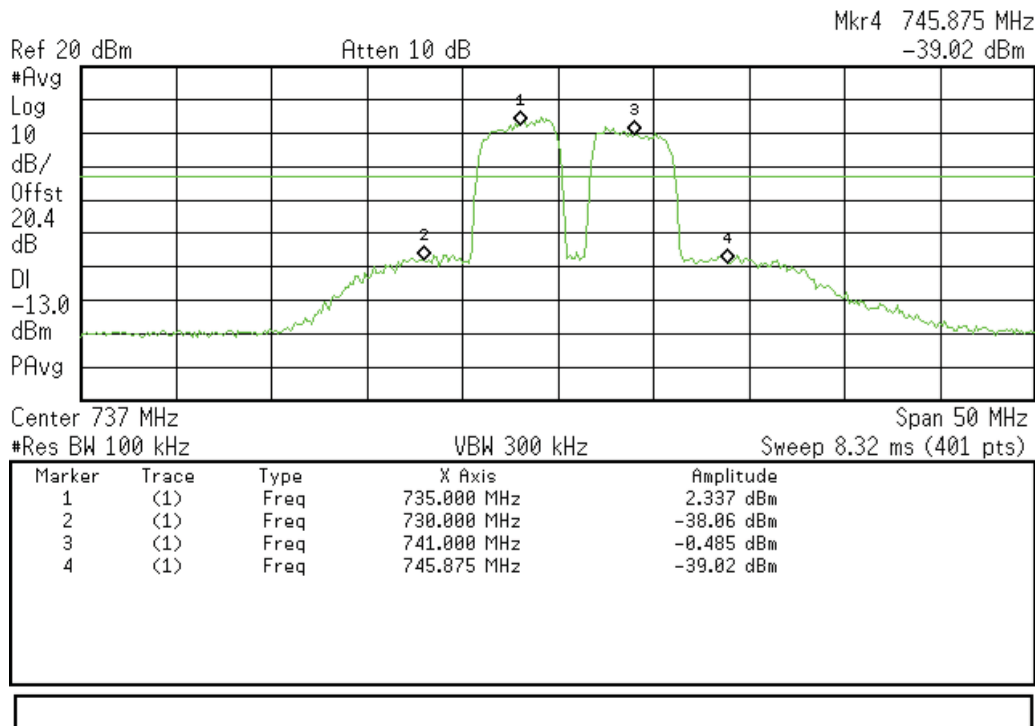
Agilent 07:45:17 Aug 13, 2014

L



Agilent 07:48:58 Aug 13, 2014

L

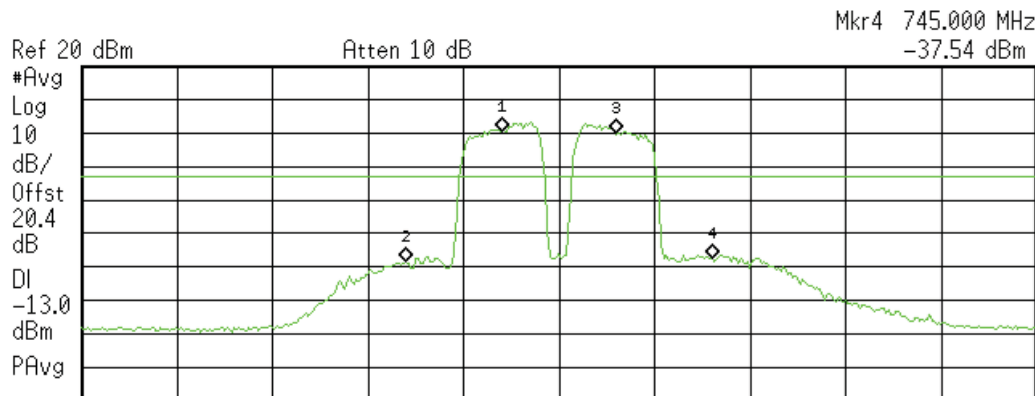




Intermodulation Downlink Test Results at 6db above AGC (CDMA Signal)
728-746 MHz Band

Agilent 07:45:33 Aug 13, 2014

L

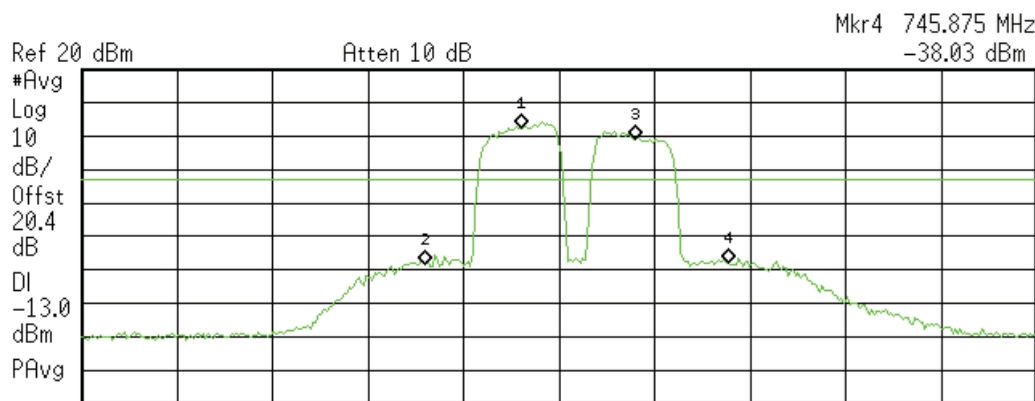


Center 737 MHz Span 50 MHz
#Res BW 100 kHz VBW 300 kHz Sweep 8.32 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	734.000 MHz	0.443 dBm
2	(1)	Freq	729.000 MHz	-38.16 dBm
3	(1)	Freq	740.000 MHz	-0.337 dBm
4	(1)	Freq	745.000 MHz	-37.54 dBm

Agilent 07:49:11 Aug 13, 2014

L



Center 737 MHz Span 50 MHz
#Res BW 100 kHz VBW 300 kHz Sweep 8.32 ms (401 pts)

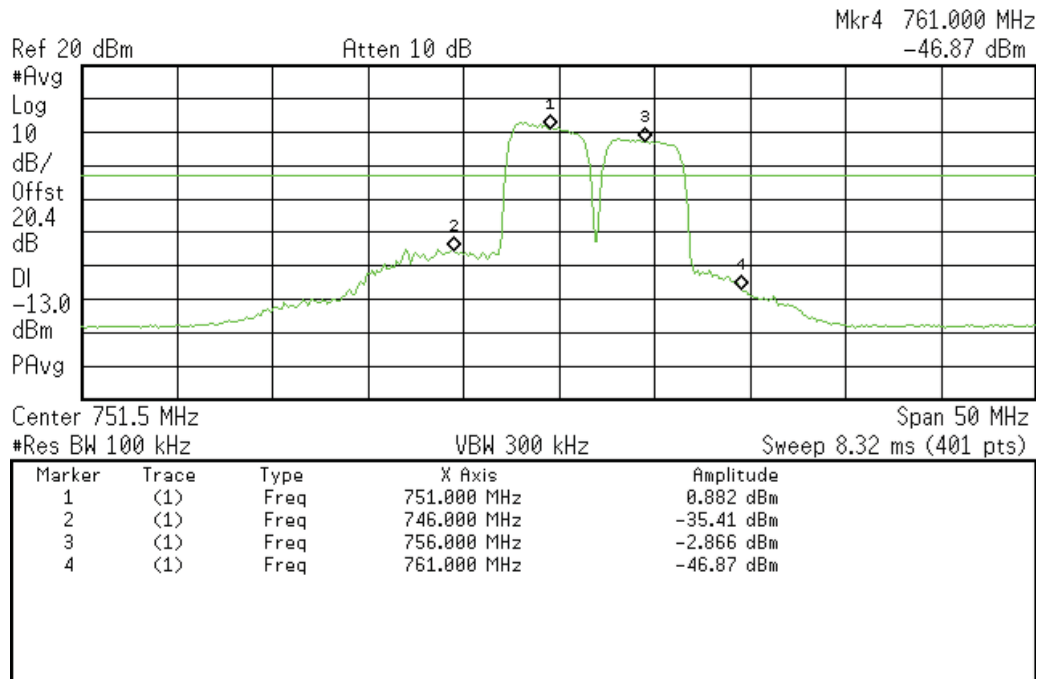
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	735.000 MHz	2.28 dBm
2	(1)	Freq	730.000 MHz	-38.48 dBm
3	(1)	Freq	741.000 MHz	-1.033 dBm
4	(1)	Freq	745.875 MHz	-38.03 dBm



Intermodulation Downlink Test Results at AGC (CDMA Signal) 746-757 MHz Band

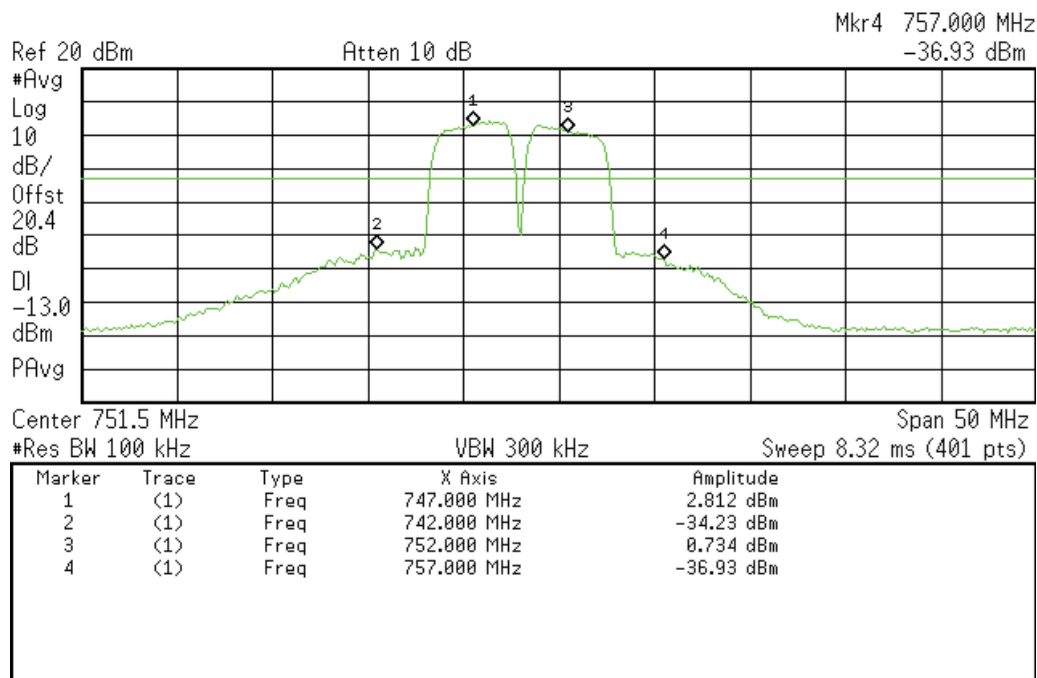
Agilent 08:09:49 Aug 13, 2014

L



Agilent 08:14:53 Aug 13, 2014

L

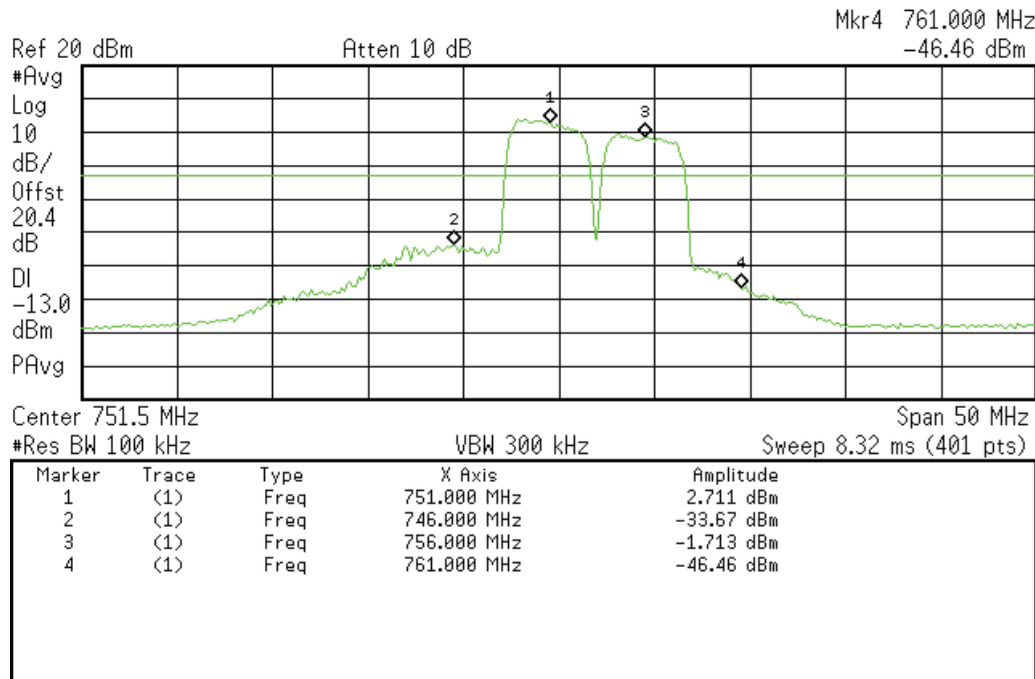




Intermodulation Downlink Test Results at 3db above AGC (CDMA Signal) 746-757 MHz Band

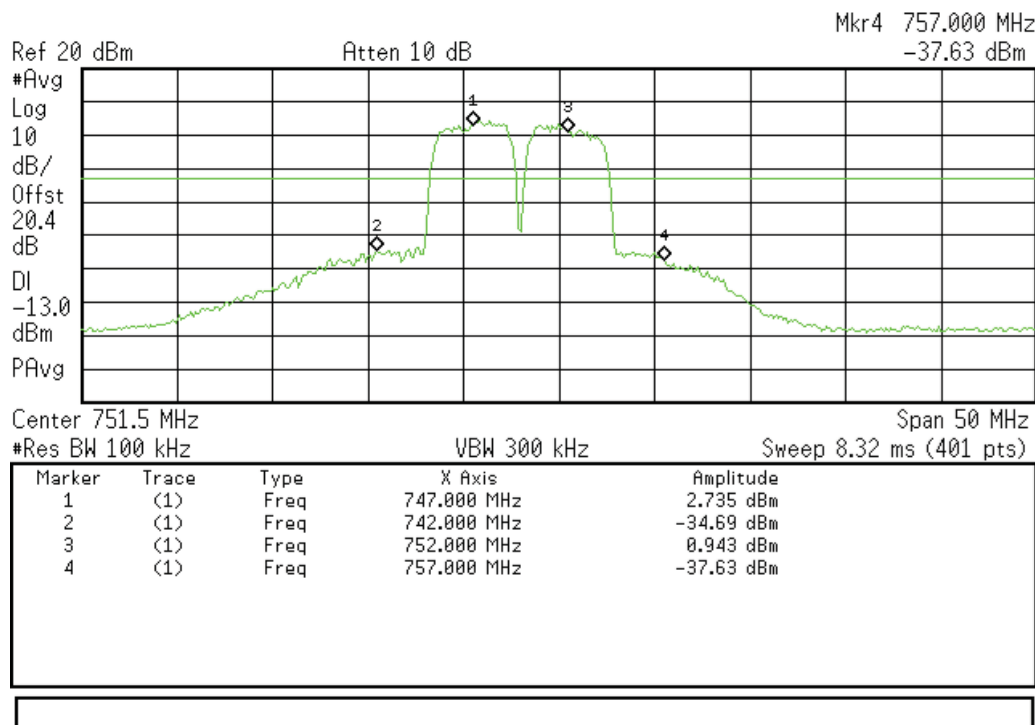
Agilent 08:10:53 Aug 13, 2014

L



Agilent 08:15:24 Aug 13, 2014

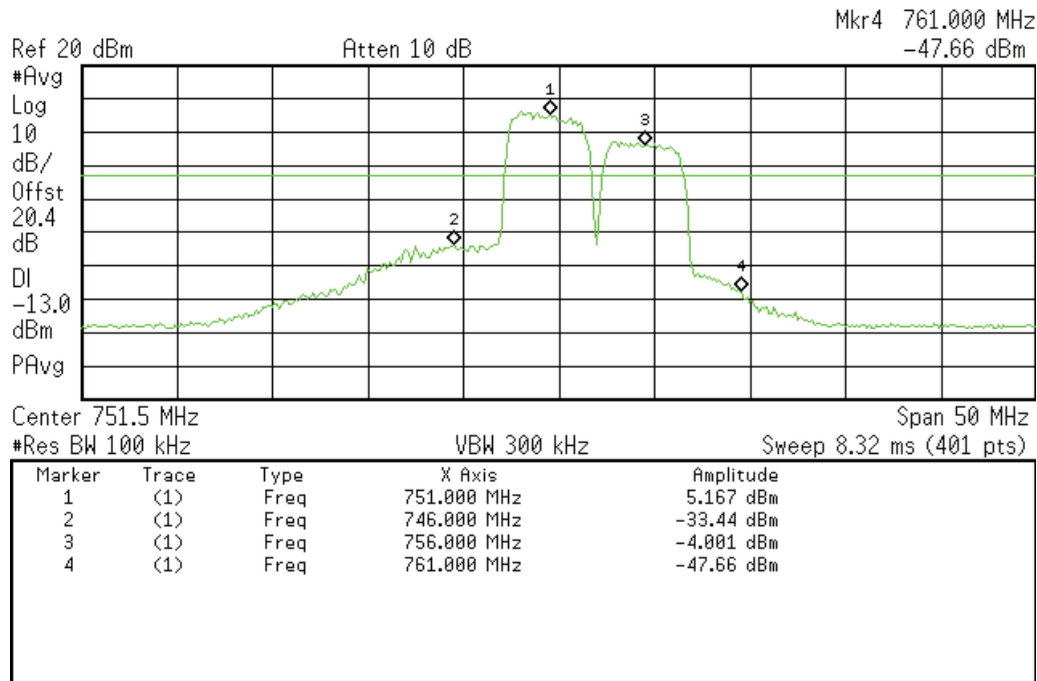
L



Intermodulation Downlink Test Results at 6db above AGC (CDMA Signal) 746-757 MHz Band

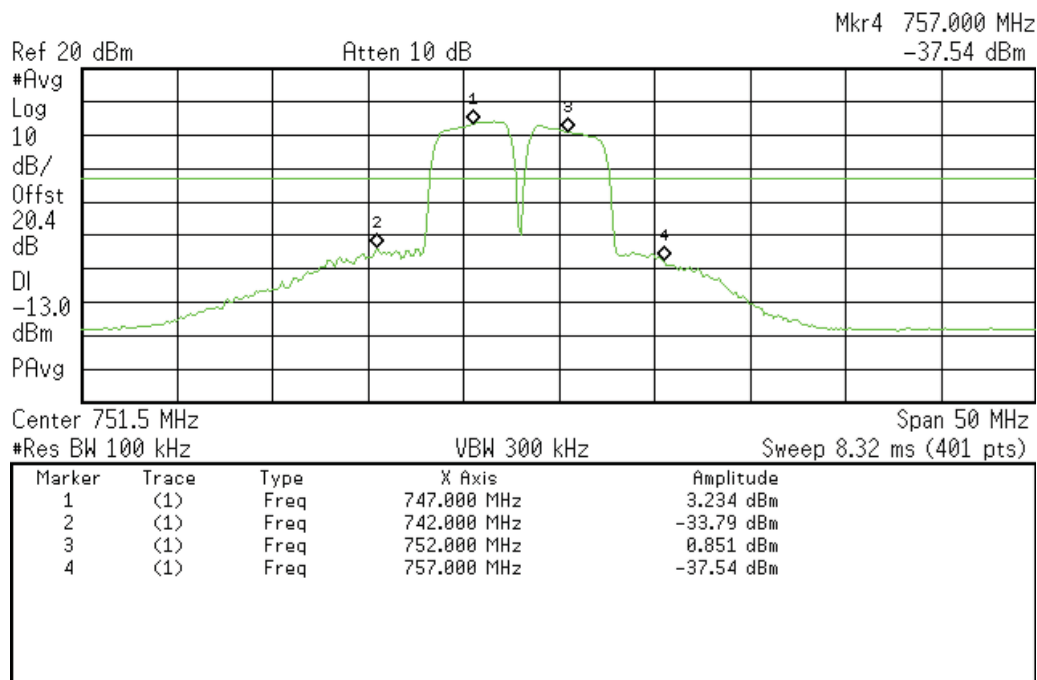
Agilent 08:11:06 Aug 13, 2014

L



Agilent 08:15:47 Aug 13, 2014

L

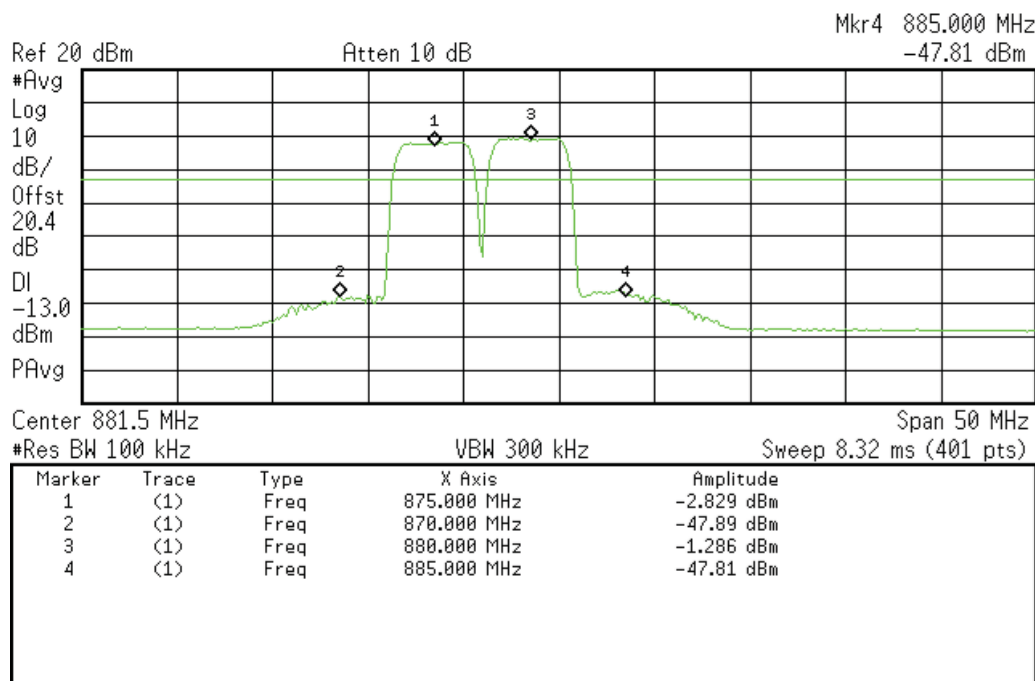




Intermodulation Downlink Test Results at AGC (CDMA Signal) 869-894 MHz Band

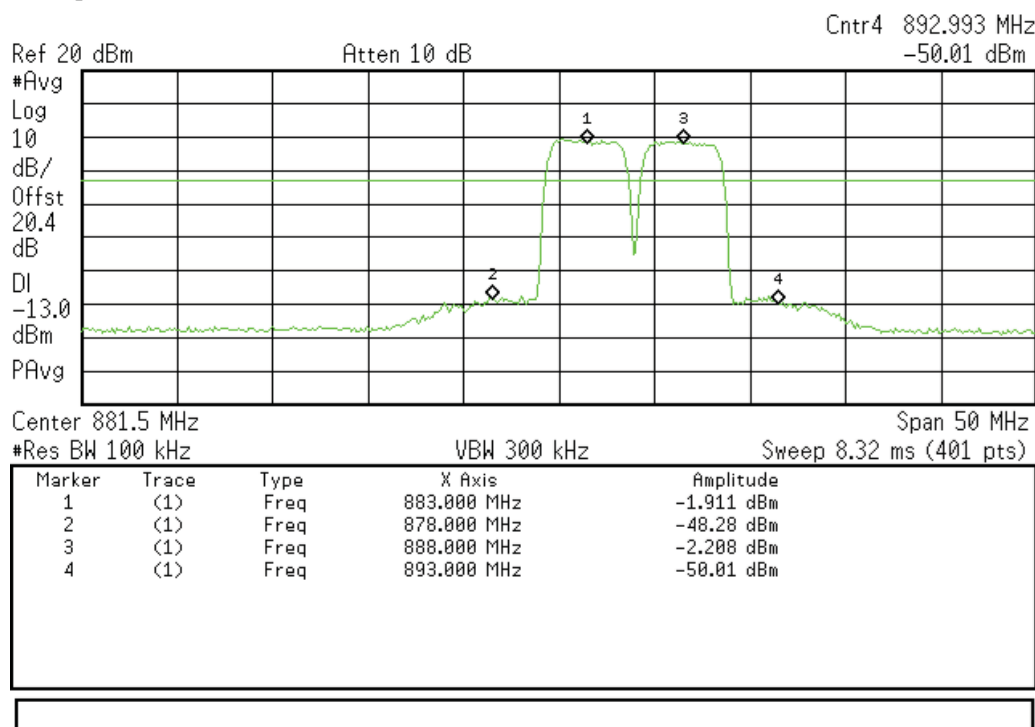
Agilent 08:17:32 Aug 13, 2014

L



Agilent 08:21:54 Aug 13, 2014

L

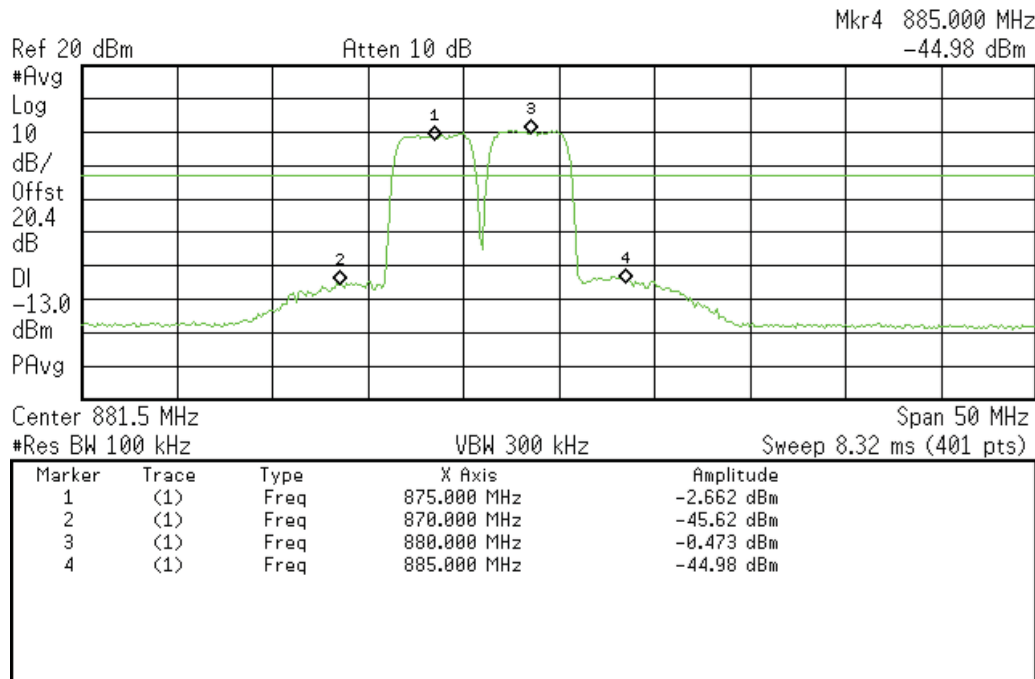




Intermodulation Downlink Test Results at 3db above AGC (CDMA Signal) 869-894 MHz Band

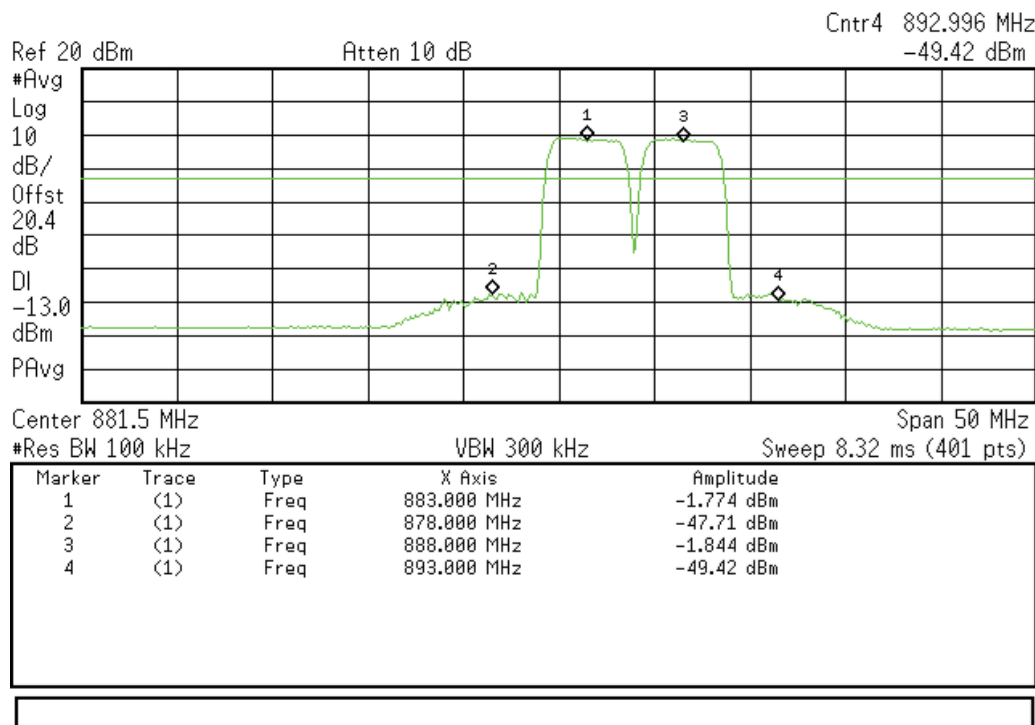
Agilent 08:18:19 Aug 13, 2014

L



Agilent 08:22:30 Aug 13, 2014

L





Intermodulation Downlink Test Results at 6db above AGC (CDMA Signal)
869-894 MHz Band

Agilent 08:18:33 Aug 13, 2014

L

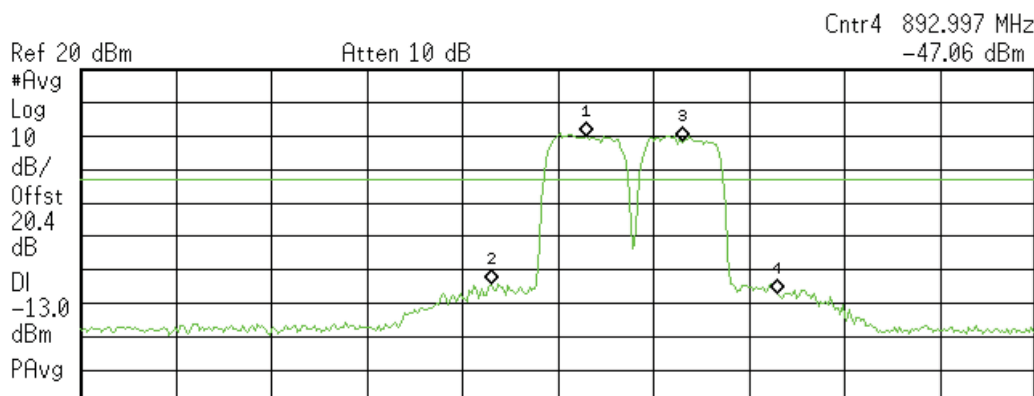


Center 881.5 MHz Span 50 MHz
#Res BW 100 kHz VBW 300 kHz Sweep 8.32 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	875.000 MHz	-1.727 dBm
2	(1)	Freq	870.000 MHz	-44.44 dBm
3	(1)	Freq	880.000 MHz	-0.926 dBm
4	(1)	Freq	885.000 MHz	-43.92 dBm

Agilent 08:22:55 Aug 13, 2014

L



Center 881.5 MHz Span 50 MHz
#Res BW 100 kHz VBW 300 kHz Sweep 8.32 ms (401 pts)

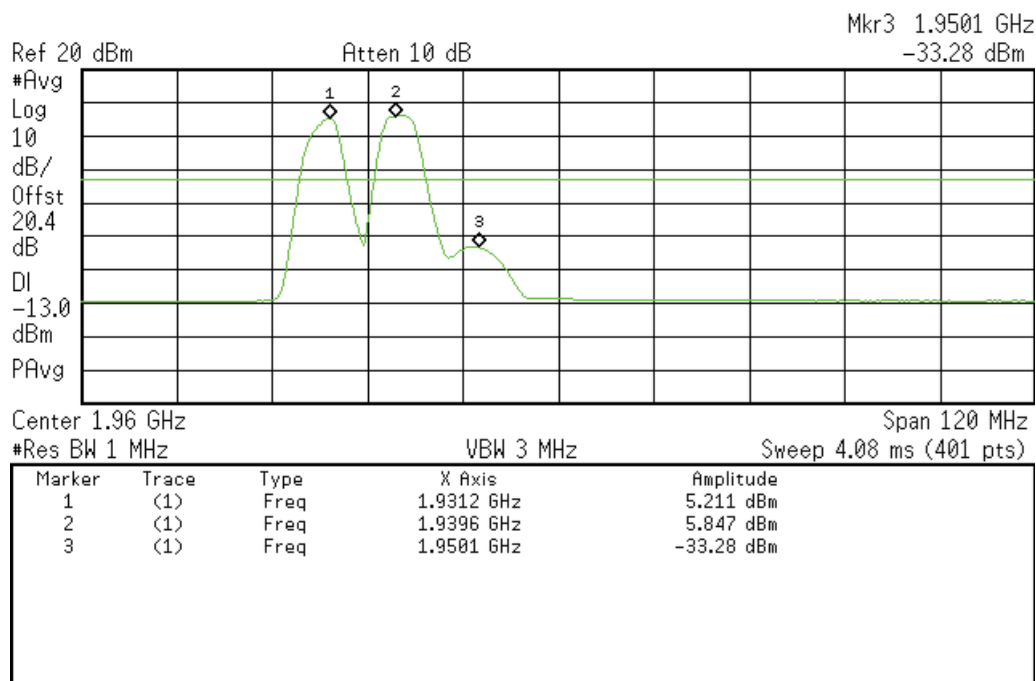
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	883.000 MHz	-0.203 dBm
2	(1)	Freq	878.000 MHz	-44.02 dBm
3	(1)	Freq	888.000 MHz	-1.507 dBm
4	(1)	Freq	893.000 MHz	-47.06 dBm



Intermodulation Downlink Test Results at AGC (CDMA Signal) 1930-1995 MHz Band

Agilent 09:17:02 Aug 13, 2014

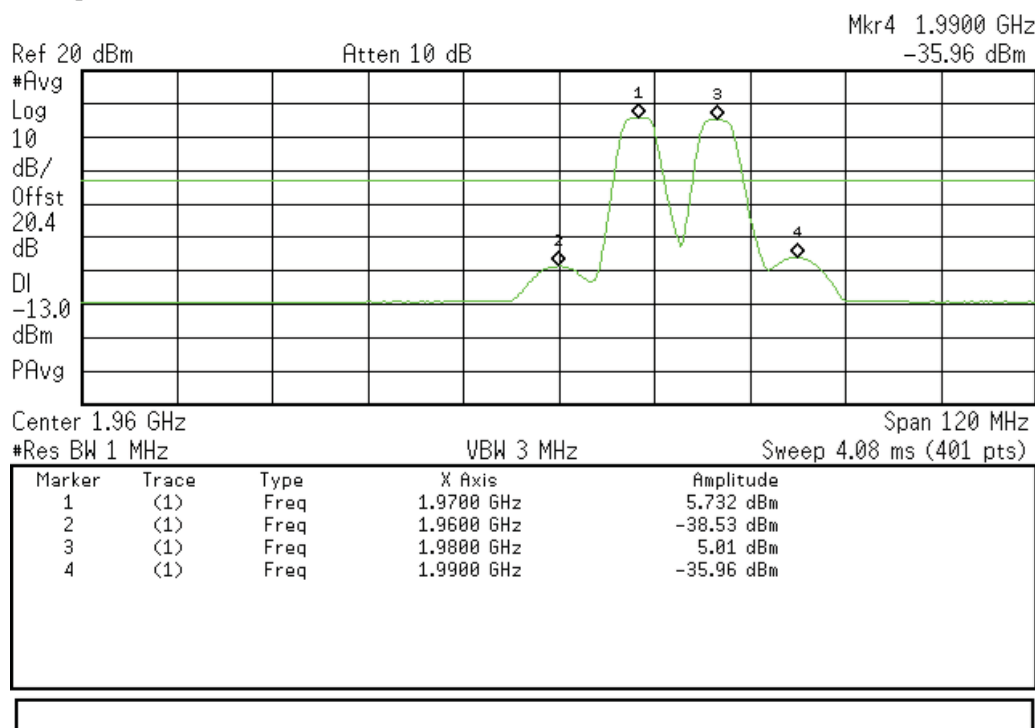
L



4

Agilent 09:20:28 Aug 13, 2014

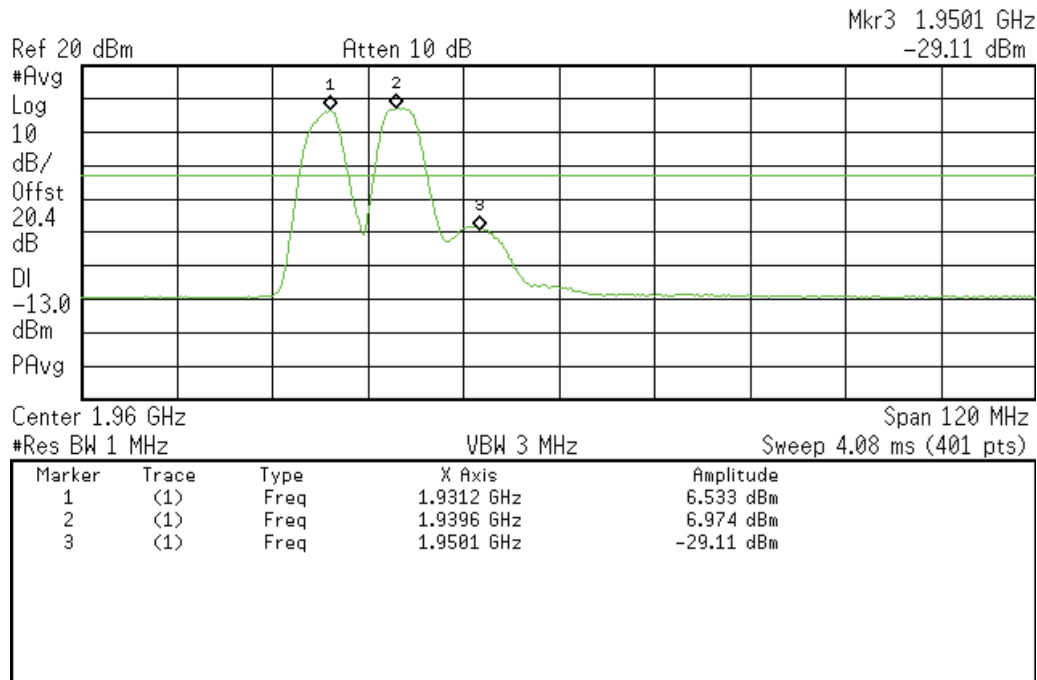
L



**Intermodulation Downlink Test Results at 3db above AGC (CDMA Signal)
1930-1995 MHz Band**

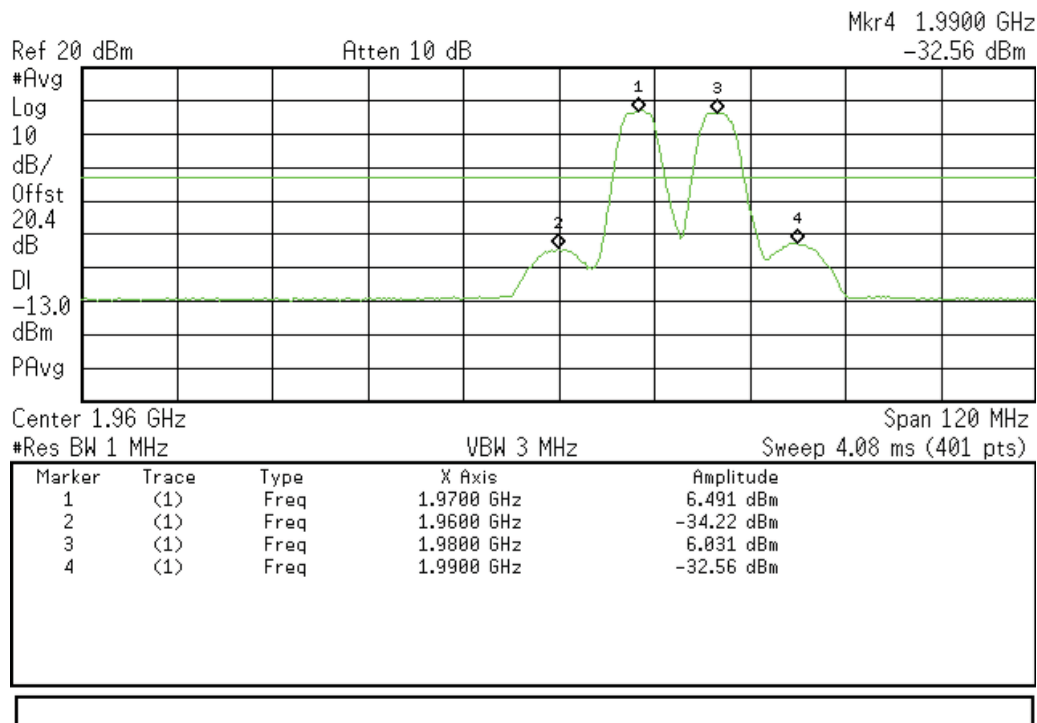
Agilent 09:17:43 Aug 13, 2014

L



Agilent 09:20:56 Aug 13, 2014

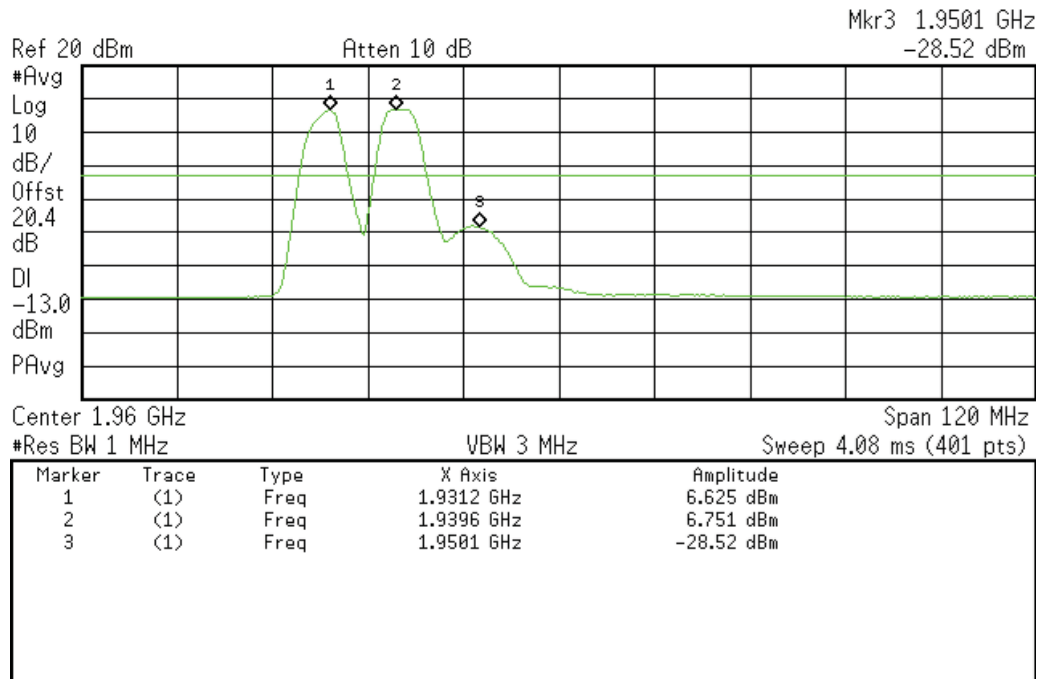
L



**Intermodulation Downlink Test Results at 6db above AGC (CDMA Signal)
1930-1995 MHz Band**

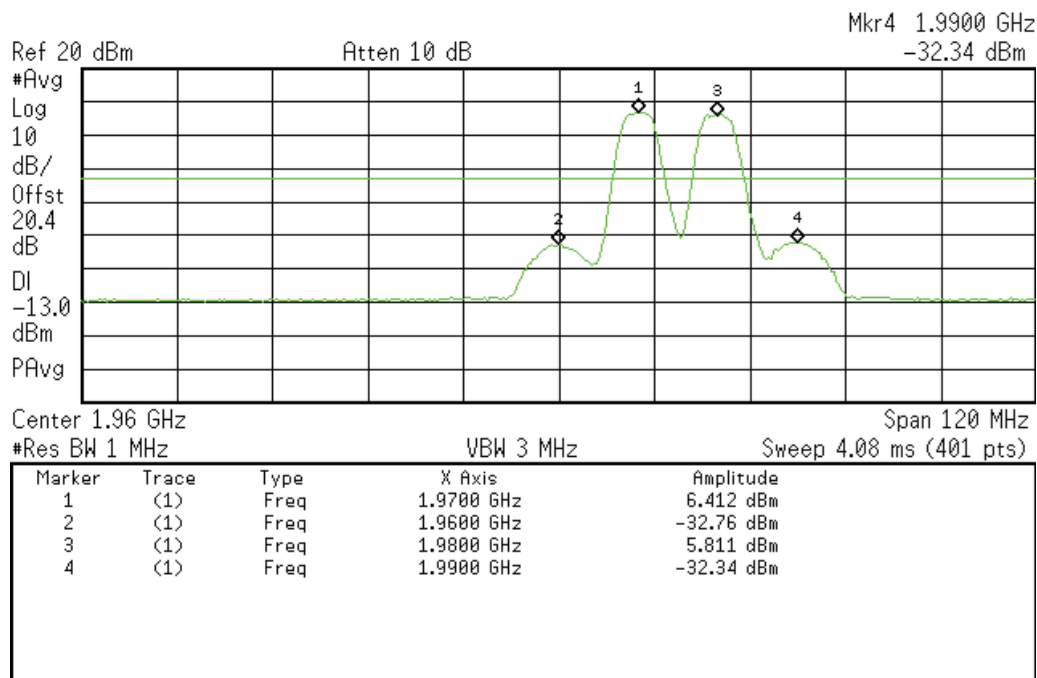
Agilent 09:17:57 Aug 13, 2014

L



Agilent 09:21:16 Aug 13, 2014

L

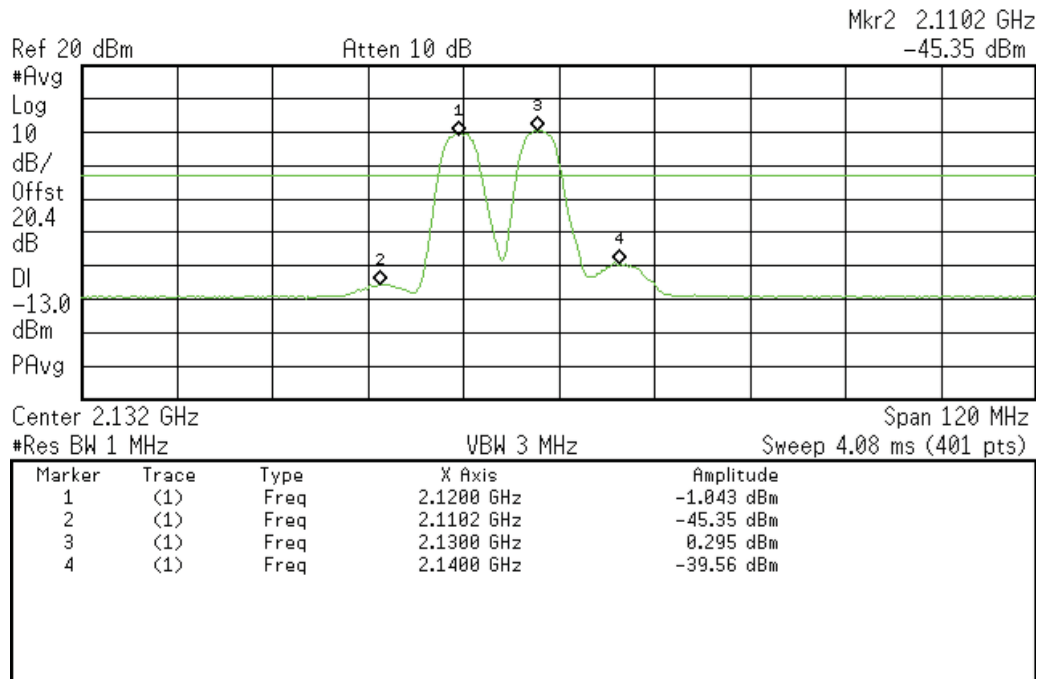




Intermodulation Downlink Test Results at AGC (CDMA Signal) 2110-2155 MHz Band

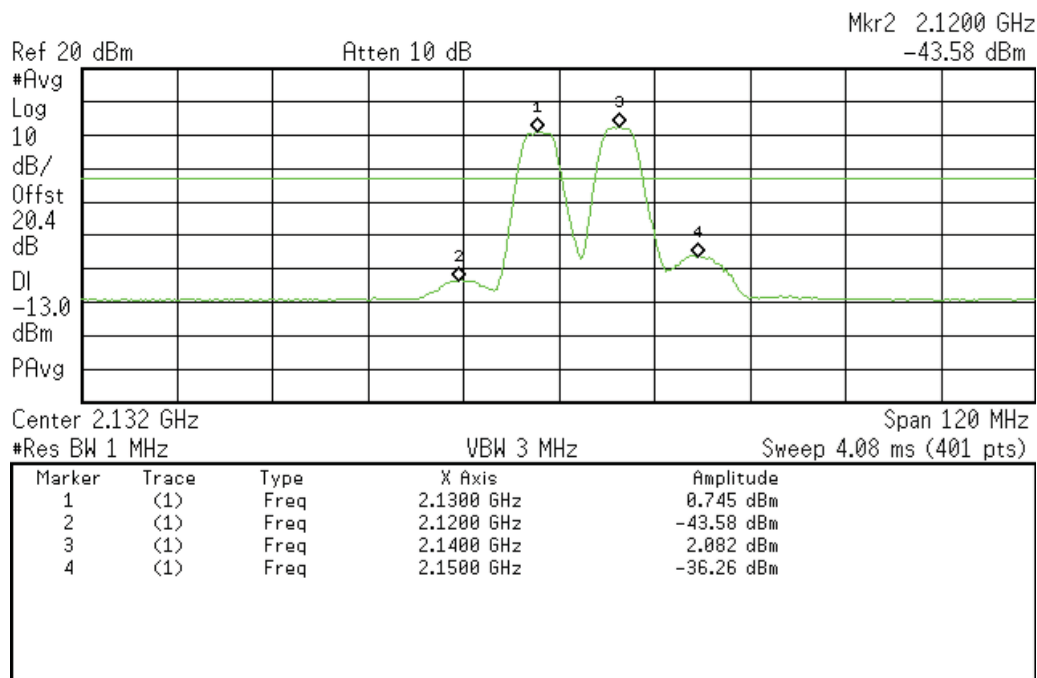
Agilent 09:25:10 Aug 13, 2014

L



Agilent 09:28:07 Aug 13, 2014

L

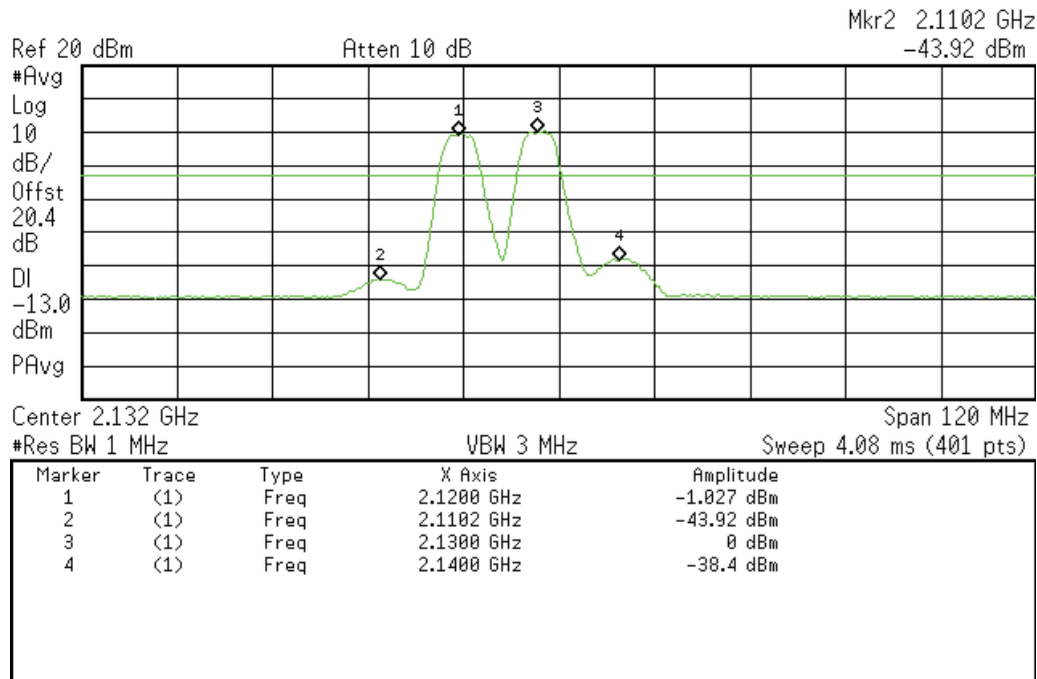




Intermodulation Downlink Test Results at 3db above AGC (CDMA Signal) 2110-2155 MHz Band

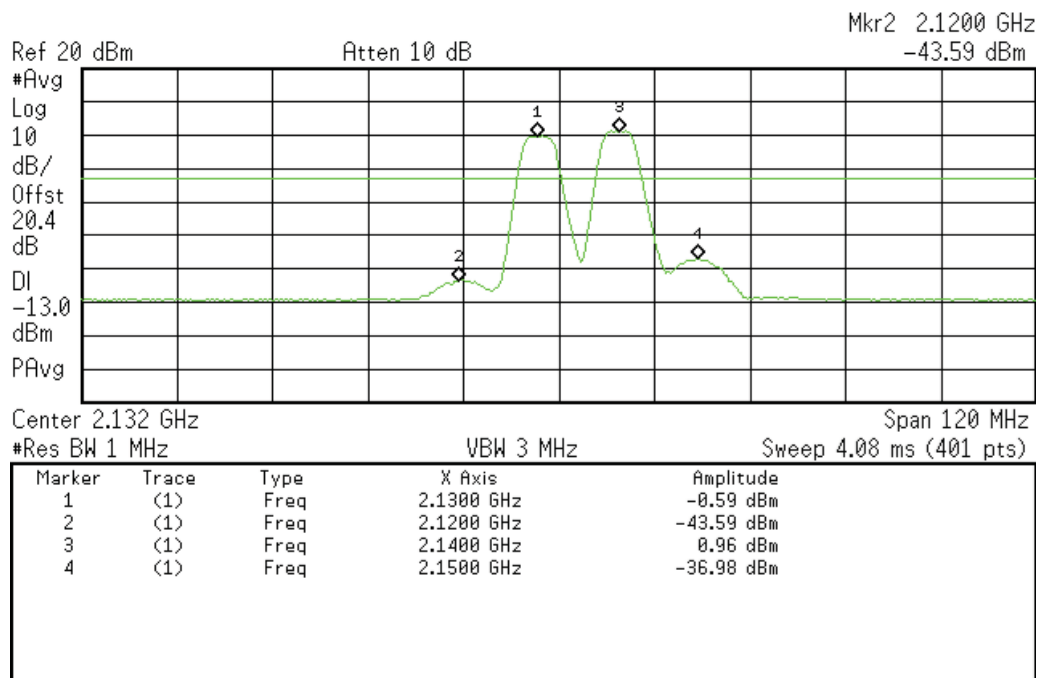
Agilent 09:25:55 Aug 13, 2014

L



Agilent 09:28:33 Aug 13, 2014

L

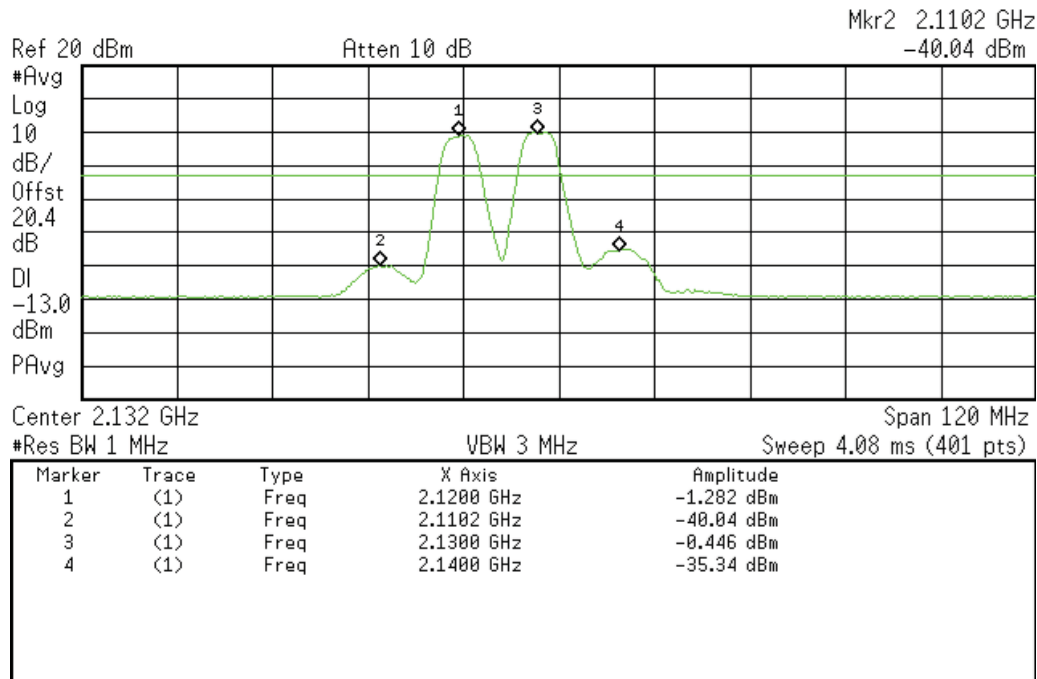




Intermodulation Downlink Test Results at 6db above AGC (CDMA Signal) 2110-2155 MHz Band

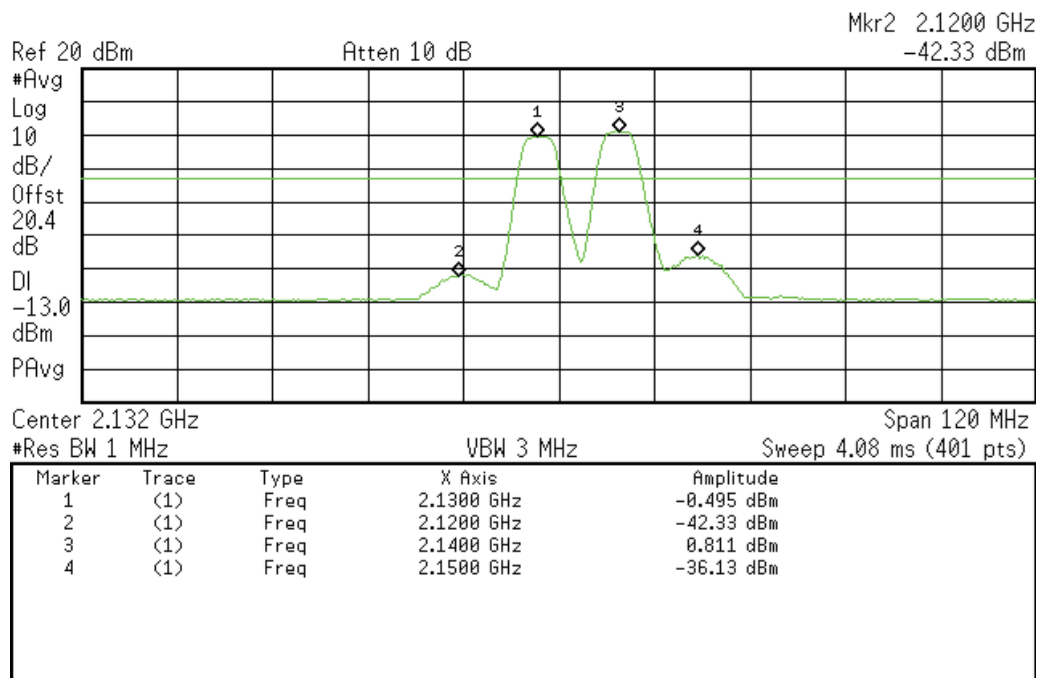
Agilent 09:26:12 Aug 13, 2014

L



Agilent 09:29:02 Aug 13, 2014

L



Noise Figure Test

Name of Test:

Noise Figure

Engineer: Mike Graffeo

Test Equipment Utilized:

i00444, i00445 i00450

Test Date: 8/21/14

Test Procedure

The test equipment was connected as shown in the test set-up.

The noise figure was measured at the passband center frequency.

Noise figure was measured at EUT AGC level

Industrial booster limit = 9dB



Uplink Noise Figure

Operational Band (MHz)	Noise Figure (dB)	Limit (dB)	Margin (dB)
698-716	6.1	9	-2.9
776-787	6.3	9	-2.7
824-849	5.6	9	-3.4
1710-1755	5.1	9	-3.9
1850-1915	7.2	9	-1.8

Downlink Noise Figure

Operational Band (MHz)	Noise Figure (dB)	Limit (dB)	Margin (dB)
728-746	6.5	9	-2.5
746-757	5.8	9	-3.2
869-894	6.3	9	-2.7
1930-1995	6.2	9	-2.8
2110-2155	5	9	-4.0

Test Equipment Utilized

Description	Manufacturer	Model #	CT Asset #	Last Cal Date	Cal Due Date
Horn Antenna	EMCO	3115	i00103	12/11/12	12/11/14
Humidity / Temp Meter	Newport	IBTHX-W-5	i00282	3/24/14	3/24/15
Bi-Log Antenna	Schaffner	CBL 6111D	i00349	10/8/13	10/8/15
EMI Analyzer	Agilent	E4407B	i00331	6/13/14	6/13/15
Signal Generator	Rohde & Schwarz	SMU200A	i00405	12/11/13	12/11/14
3 Meter Semi-Anechoic Chamber	Panashield	3 Meter Semi-Anechoic Chamber	i00428	11/26/13	11/26/15
Noise Figure Meter	HP	8970B	i00444	8/14/2014	8/14/2015
Noise Figure Test Set	HP	8971C	i00450	N/A	N/A
Noise Source	HP	346A	i00445	8/11/2014	8/11/2015

In addition to the above listed equipment standard RF connectors and cables were utilized in the testing of the described equipment. Prior to testing these components were tested to verify proper operation.

END OF TEST REPORT