FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E
&
INDUSTRY CANADA RSS-131

TEST REPORT

For

Air-Lock WK-8800 Network Stabilizer Module Booster

Trade Name: Airgoon

Model: Air-Lock WK 8800

Issued to

Airgoon LTD.
2207 Concord Pike, Suite 700, Wilmington, DELAWARE, United States, 19803

Issued by

Compliance Certification Services Inc.
No.11, Wu-Gong 6th Rd., Wugu Industrial Park,
New Taipei City 248, Taiwan (R.O.C.)
http://www.ccsrf.com
service@ccsrf.com
Issued Date: April 20, 2012

Testing Laboratory
1309

Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		April 20, 2012		Initial Issue	ALL	Gina Lo

TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION

Applicant:	Airgoon LTD. 2207 Concord Pike, Suite 700, Wilmington, DELAWARE, United States, 19803
Manufacturer:	Airgoon LTD. 2207 Concord Pike, Suite 700, Wilmington, DELAWARE, United States, 19803
Equipment Under Test:	Air-Lock WK-8800 Network Stabilizer Module Booster
Trade Name:	Airgoon
Model Number:	Air-Lock WK 8800
Date of Test:	October 28, 2011 ~ April 12, 2012

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E & IC RSS-131 Issue 2: July 2003	No non-compliance noted

The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

The test results of this report relate only to the tested sample identified in this report.

Approved by:

Jason Lin

Jason Lin
Section Manager
Compliance Certification Services Inc.

Reviewed by:

Gina Lo

Gina Lo
Section Manager
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product		Air-Lock WK-8800 Network Stabilizer Module Booster			
Trade Name		Airgoon			
Model Number		Air-Lock WK 8800			
Model Discrepancy		N/A			
Received Date		October 21, 2011			
Power Supply		DC 5V			
Mode	**WCDMA**	**Band**	**UL Frequency (MHz)**	**DL Frequency (MHz)**	**Modulation**
		Band II	1852.4 ~ 1907.6	1932.4 ~ 1987.6	QPSK
		Band V	826.4 ~ 846.6	871.4 ~ 891.6	QPSK
Mode	**AMPS**		824 – 849MHz	869 – 894MHz	FSK
			1850 – 1910MHz	1930 – 1990MHz	FSK
Mode	**CDMA**		824 – 849MHz	869 – 894MHz	QPSK
			1850 – 1910MHz	1930 – 1990MHz	QPSK
Mode	**TDMA**		824 – 849MHz	869 – 894MHz	π/4 DQPSK
			1850 – 1910MHz	1930 – 1990MHz	π/4 DQPSK

Max. RF Output power Mode: WCDMA	Uplink	WCDMA Band II: 28.34 dBm / 0.6823 W WCDMA Band V: 28.51 dBm / 0.7096 W
	Downlink	WCDMA Band II: 14.46 dBm / 0.0279 W WCDMA Band V: 12.91 dBm / 0.0195 W
Max. RF Output power Mode: AMPS	Uplink	824 – 849MHz: -8.72 dBm / 0.00013 W 1850 – 1910MHz: -8.23 dBm / 0.00015 W
	Downlink	869 – 894MHz: 25.28 dBm / 0.33729 W 1930 – 1990MHz: 24.87 dBm / 0.30690 W
Max. RF Output power Mode: CDMA	Uplink	824 – 849MHz: 0.53 dBm / 0.00113 W 1850 – 1910MHz: 0.84 dBm / 0.00121 W
	Downlink	869 – 894MHz: 31.26 dBm / 1.33660 W 1930 – 1990MHz: 15.04 dBm / 0.03192 W
Max. RF Output power Mode: TDMA	Uplink	824 – 849MHz: -2.12 dBm / 0.00061 W 1850 – 1910MHz: -2.59 dBm / 0.00055 W
	Downlink	869 – 894MHz: 28.98 dBm / 0.79068 W 1930 – 1990MHz: 28.36 dBm / 0.68549 W
Emission Designator Mode: WCDMA	Uplink	WCDMA Band II: 4M18F9W WCDMA Band V: 4M14F9W
	Downlink	WCDMA Band II: 4M18F9W WCDMA Band V: 4M17F9W
Emission Designator Mode: AMPS	Uplink	824 – 849MHz: 13k6F9W 1850 – 1910MHz: 243kF9W
	Downlink	869 – 894MHz: 13k6F9W 1930 – 1990MHz: 243kF9W
Emission Designator Mode: CDMA	Uplink	824 – 849MHz: 1M26F9W 1850 – 1910MHz: 1M26F9W
	Downlink	869 – 894MHz: 1M26F9W 1930 – 1990MHz: 1M26F9W
Emission Designator Mode: TDMA	Uplink	824 – 849MHz: 247kF9W 1850 – 1910MHz: 247kF9W
	Downlink	869 – 894MHz: 248kF9W 1930 – 1990MHz: 247kF9W
Antenna Specification	1. Multi-Band Omni-Directional Marine Outdoor Antenna Gain: 12dBi 2. Multi-Band Omni-Directional Marine Outdoor Antenna. Gain: 15dBi	

Remark: *The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.*

3. TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4: 2003, TIA/EIA-603-C: 2004 and FCC CFR 47, Part 2 and Part 22 Subpart H & Part 24 Subpart E.

The tests documented in this report were performed in accordance with IC RSS-132, SPSR503, RSS-133, SPSR510 and ANSI C63.4 and TIA/EIA-603-C.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4: 2003.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4: 2003.

3.4 DESCRIPTION OF TEST MODES

All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: WCDMA Band II Uplink
Mode 2: WCDMA Band II Downlink
Mode 3: WCDMA Band V Uplink
Mode 4: WCDMA Band V Downlink
Mode 5: AMPS / 824 – 849MHz Uplink
Mode 6: AMPS / 869 – 894MHz Downlink
Mode 7: AMPS / 1850 – 1910MHz Uplink
Mode 8: AMPS / 1930 – 1990MHz Downlink
Mode 9: CDMA / 824 – 849MHz Uplink
Mode 10: CDMA / 869 – 894MHz Downlink
Mode 11: CDMA / 1850 – 1910MHz Uplink
Mode 12: CDMA / 1930 – 1990MHz Downlink
Mode 13: TDMA / 824 – 849MHz Uplink
Mode 14: TDMA / 869 – 894MHz Downlink
Mode 15: TDMA / 1850 – 1910MHz Uplink
Mode 16: TDMA / 1930 – 1990MHz Downlink

Note: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Remark: *Each piece of equipment is scheduled for calibration once a year and Loop Antenna is scheduled for calibration once three years.*

3M Semi Anechoic Chamber				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	US42510268	11/15/2012
EMI Test Receiver	R&S	ESCI	100064	03/01/2013
Pre-Amplifier	Mini-Circults	ZFL-1000LN	SF350700823	01/13/2013
Pre-Amplifier	MITEQ	AFS44-00102650-42-10P-44	1415367	11/20/2012
Bilog Antenna	Sunol Sciences	JB3	A030105	10/03/2012
Horn Antenna	EMCO	3117	00055165	01/11/2013
Turn Table	CCS	CC-T-1F	N/A	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R
Site NSA	CCS	N/A	N/A	12/23/2012
Loop Antenna	EMCO	6502	8905/2356	06/10/2013
Test S/W	EZ-EMC (CCS-3A1RE)			

4.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Powerline Conducted Emission	N/A
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683

***Remark**: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.*

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

☐ No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.
Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

☒ No.11, Wu-Gong 6th Rd., Wugu Industrial Park, New Taipei City 248, Taiwan (R.O.C.)
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

☐ No.81-1, Lane 210, Bade 2nd Rd., Lujhu Township, Taoyuan County 33841, TAIWAN, R.O.C.
Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4: 2003 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

5.3LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 0824-01 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, IC 2324G-1 for 3M Semi Anechoic Chamber A, 2324G-2 for 3M Semi Anechoic Chamber B.

5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements	FCC MRA: TW1039
Taiwan	TAF	LP0002, RTTE01, FCC Method-47 CFR Part 15 Subpart C, D, E, RSS-210, RSS-310 IDA TS SRD, AS/NZS 4268, AS/NZS 4771, TS 12.1 & 12,2, ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 300 328, ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 301 893, ETSI EN 301 489-1/3/7/17 FCC OET Bulletin 65 + Supplement C, EN 50360, EN 50361, EN 50371, RSS 102, EN 50383, EN 50385, EN 50392, IEC 62209, CNS 14958-1, CNS 14959 FCC Method –47 CFR Part 15 Subpart B IEC / EN 61000-3-2, IEC / EN 61000-3-3, IEC / EN 61000-4-2/3/4/5/6/8/11	TAF Testing Laboratory 1309
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	Canada IC 2324G-1 IC 2324G-2

** No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.*

6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix II for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
1.	Universal Radio Communication Tester (Remote)	R&S	CMU200	101245	N/A	N/A	Unshielded, 1.8m
2.	Spectrum Analyzer (Remote)	Agilent	E4446A	MY43360131	N/A	N/A	N/A

Remark:

1. *All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.*
2. *Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

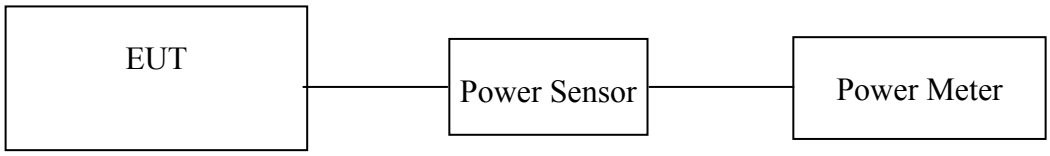
7. FCC PART 22 & 24 REQUIREMENTS & INDUSTRY CANADA RSS-131

7.1 RF OUTPUT POWER TEST

LIMIT

N/A

Test Configuration



TEST PROCEDURE

The measurement is made according to ANSI/TIA-603-C-2004 as follows:
1. The transmitter output was connected to power meter and base station through power divider.
2. Set base station for EUT at GSM 850: PCL=5 and PCS 1900: PCL=0.
3. Set base station for EUT at WCDMA Band V and WCDMA Band II, power level was set to maximum.
4. Select lowest, middle, and highest channels for each band.

TEST RESULTS

No non-compliance noted.

Test Data

Mode: WCDMA

Bands	Data Mode	Channel	Peak Power	
			(dBm)	(W)
WCDMA Band II	Uplink	Low	**28.34**	**0.6823**
		Mid	28.24	0.6668
		High	26.98	0.4989
	Downlink	Low	**14.46**	**0.0279**
		Mid	13.47	0.0222
		High	13.71	0.0235
WCDMA Band V	Uplink	Low	26.68	0.4656
		Mid	**28.51**	**0.7096**
		High	26.47	0.4436
	Downlink	Low	12.23	0.0167
		Mid	12.79	0.0190
		High	**12.91**	**0.0195**

Mode: AMPS

Frequency Range	Data Mode	Channel	Peak Power	
			(dBm)	(W)
824 – 849MHz	Uplink	Low	-8.81	0.00013
		Mid	-8.77	0.00013
		High	**-8.72**	**0.00013**
869 – 894MHz	Downlink	Low	23.90	0.24547
		Mid	**25.28**	**0.33729**
		High	24.06	0.25468
1850 – 1910MHz	Uplink	Low	-8.24	0.00015
		Mid	**-8.23**	**0.00015**
		High	-8.24	0.00015
1930 – 1990MHz	Downlink	Low	23.67	0.23281
		Mid	**24.87**	**0.30690**
		High	22.79	0.19011

Mode: CDMA

Frequency Range	Data Mode	Channel	Peak Power	
			(dBm)	(W)
824 – 849MHz	Uplink	Low	0.45	0.00111
		Mid	0.51	0.00112
		High	**0.53**	**0.00113**
869 – 894MHz	Downlink	Low	30.69	1.17220
		Mid	**31.26**	**1.33660**
		High	31.13	1.29718
1850 – 1910MHz	Uplink	Low	**0.84**	**0.00121**
		Mid	0.82	0.00121
		High	0.83	0.00121
1930 – 1990MHz	Downlink	Low	14.16	0.02606
		Mid	**15.04**	**0.03192**
		High	13.11	0.02046

Mode: TDMA

Frequency Range	Data Mode	Channel	Peak Power	
			(dBm)	(W)
824 – 849MHz	Uplink	Low	-2.22	0.00060
		Mid	-2.17	0.00061
		High	**-2.12**	**0.00061**
869 – 894MHz	Downlink	Low	27.99	0.62951
		Mid	**28.98**	**0.79068**
		High	28.28	0.67298
1850 – 1910MHz	Uplink	Low	-2.60	0.00055
		Mid	-2.60	0.00055
		High	**-2.59**	**0.00055**
1930 – 1990MHz	Downlink	Low	27.54	0.56754
		Mid	**28.36**	**0.68549**
		High	25.58	0.36141

7.2 OCCUPIED BANDWIDTH / BAND EDGE TEST

LIMIT

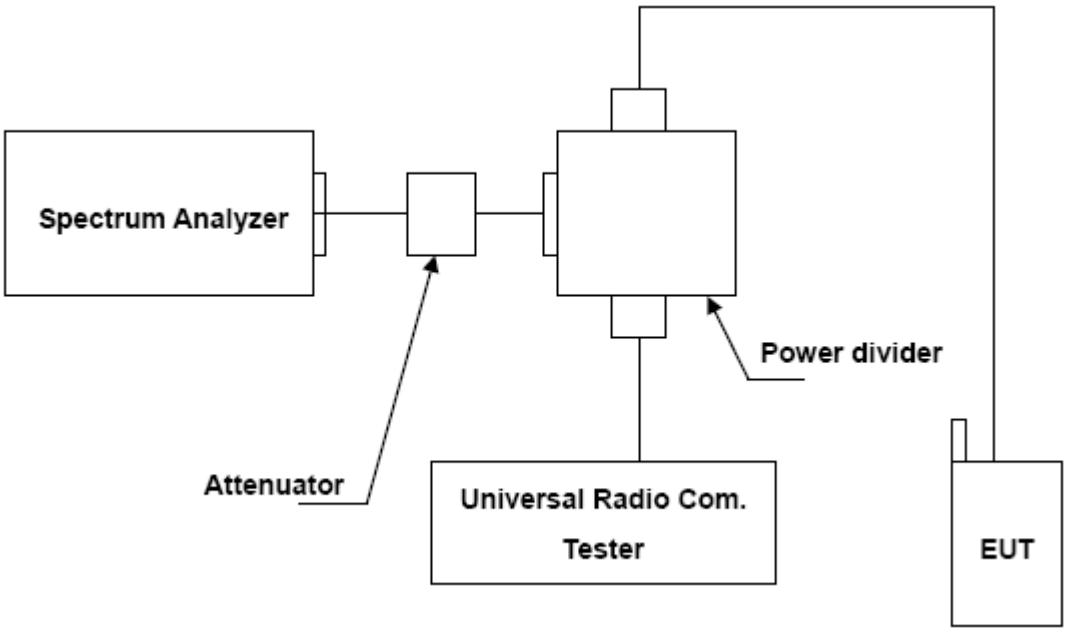
The Occupied Bandwidth Limit:

N/A.

The Band Edge Limit:

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.

Test Configuration



TEST PROCEDURE

The measurement is made according to FCC rules part 22 and 24:
1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The occupied bandwidth of middle channel for the highest and lowest RF powers was measured.
3. The Modulation Characteristics setting: RB=51 kHz; VB=160 kHz.
4. The band edge of low and high channels for the highest RF powers within the transmitting frequency band were measured. Setting RBW as roughly BW/100.
5. The band edge setting: RB=100 kHz; VB=100 kHz for WCDMA Band V and WCDMA Band II.

TEST RESULTS

No non-compliance noted.

Test Data

Mode: WCDMA

Band	Data Mode	Channel	99% Bandwidth (MHz)
WCDMA Band II	Uplink	Low	4.1841
		Mid	4.1843
		High	4.1728
	Downlink	Low	4.1780
		Mid	4.1707
		High	4.1880

Band	Data Mode	Channel	99% Bandwidth (MHz)
WCDMA Band V	Uplink	Low	4.1434
		Mid	4.1430
		High	4.1388
	Downlink	Low	4.1460
		Mid	4.1681
		High	4.1724

Mode: AMPS

Frequency Range	Data Mode	Channel	99% Bandwidth (kHz)
824 – 849MHz	Uplink	Low	13.0621
		Mid	13.4341
		High	13.6991
869 – 894MHz	Downlink	Low	13.6239
		Mid	13.5393
		High	13.6755
1850 – 1910MHz	Uplink	Low	243.6689
		Mid	243.2026
		High	243.6401
1930 – 1990MHz	Downlink	Low	243.6208
		Mid	243.7521
		High	243.4436

Mode: CDMA

Frequency Range	Data Mode	Channel	99% Bandwidth (MHz)
824 – 849MHz	Uplink	Low	1.2677
		Mid	1.2679
		High	1.2677
869 – 894MHz	Downlink	Low	1.2688
		Mid	1.2688
		High	1.2681
1850 – 1910MHz	Uplink	Low	1.2681
		Mid	1.2681
		High	1.2674
1930 – 1990MHz	Downlink	Low	1.2670
		Mid	1.2677
		High	1.2676

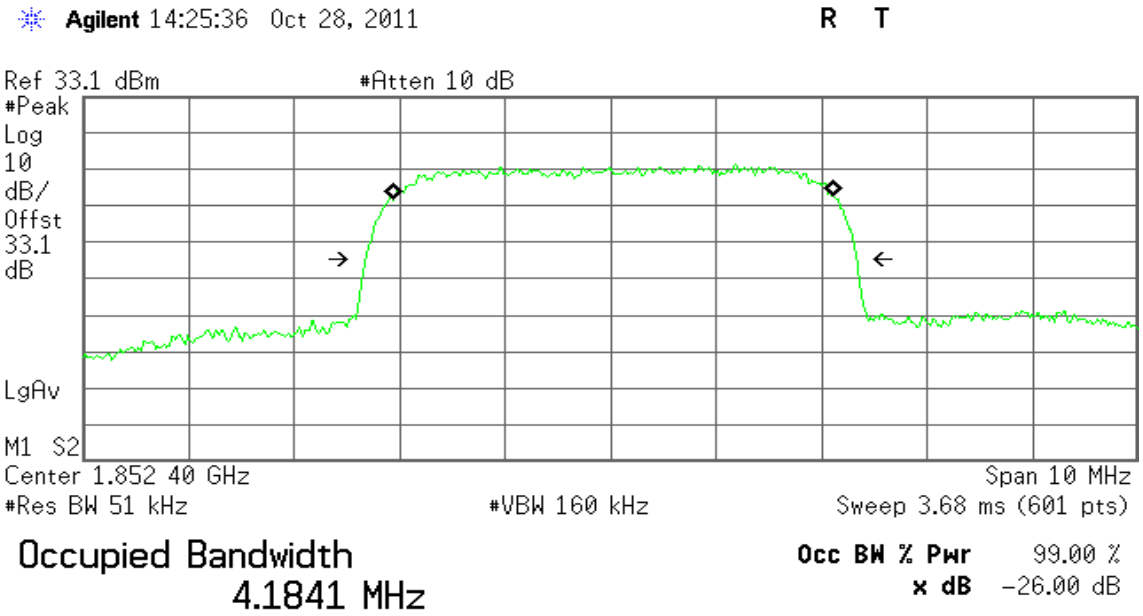
Mode: TDMA

Frequency Range	Data Mode	Channel	99% Bandwidth (kHz)
824 – 849MHz	Uplink	Low	247.2586
		Mid	247.2672
		High	247.2712
869 – 894MHz	Downlink	Low	248.1656
		Mid	248.2797
		High	248.3207
1850 – 1910MHz	Uplink	Low	247.4512
		Mid	247.3019
		High	247.5427
1930 – 1990MHz	Downlink	Low	247.4538
		Mid	247.1946
		High	247.6033

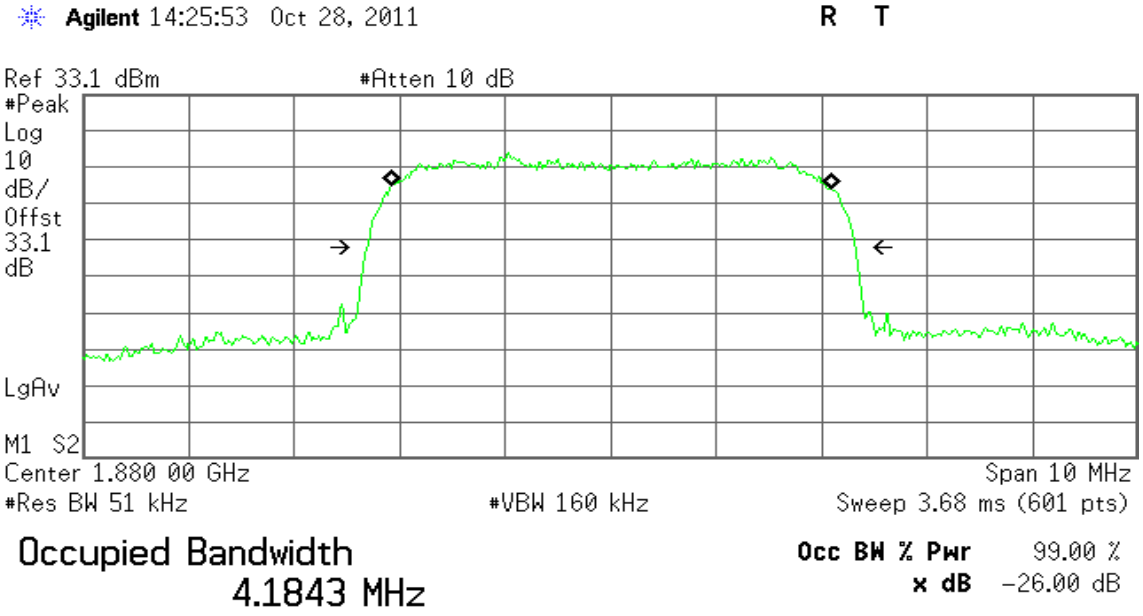
Test Plot

Mode 1: WCDMA Band II Uplink

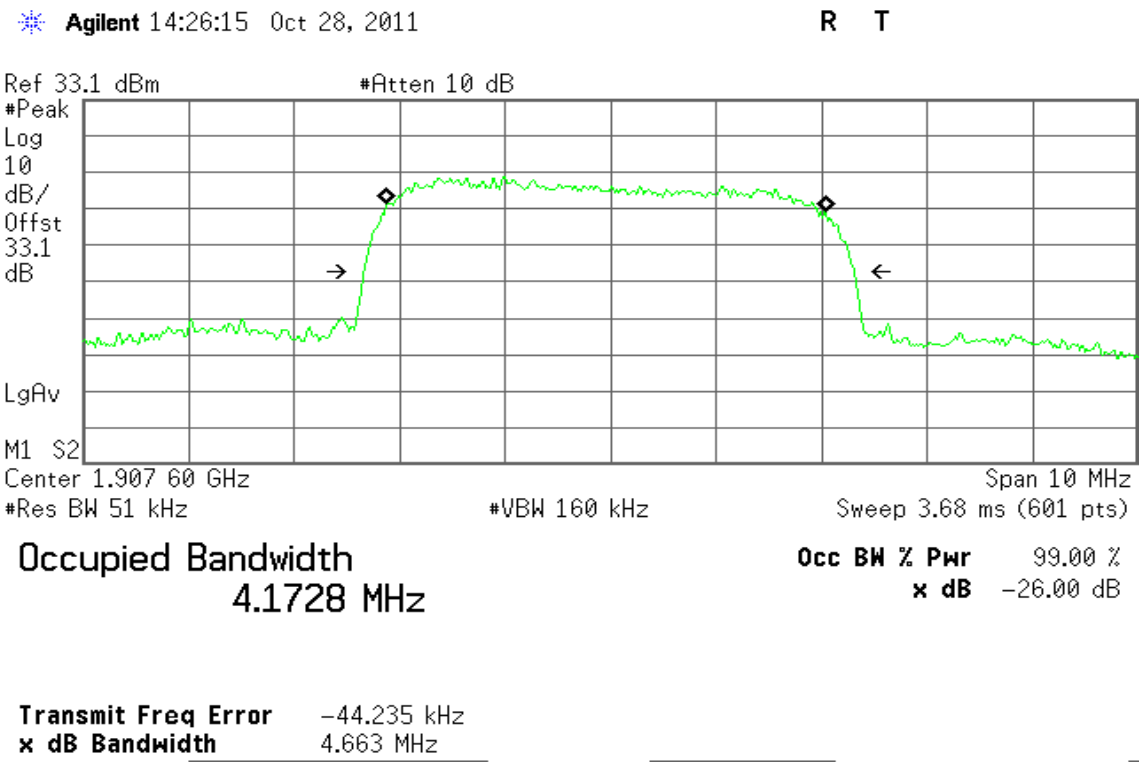
CH Low



CH Mid

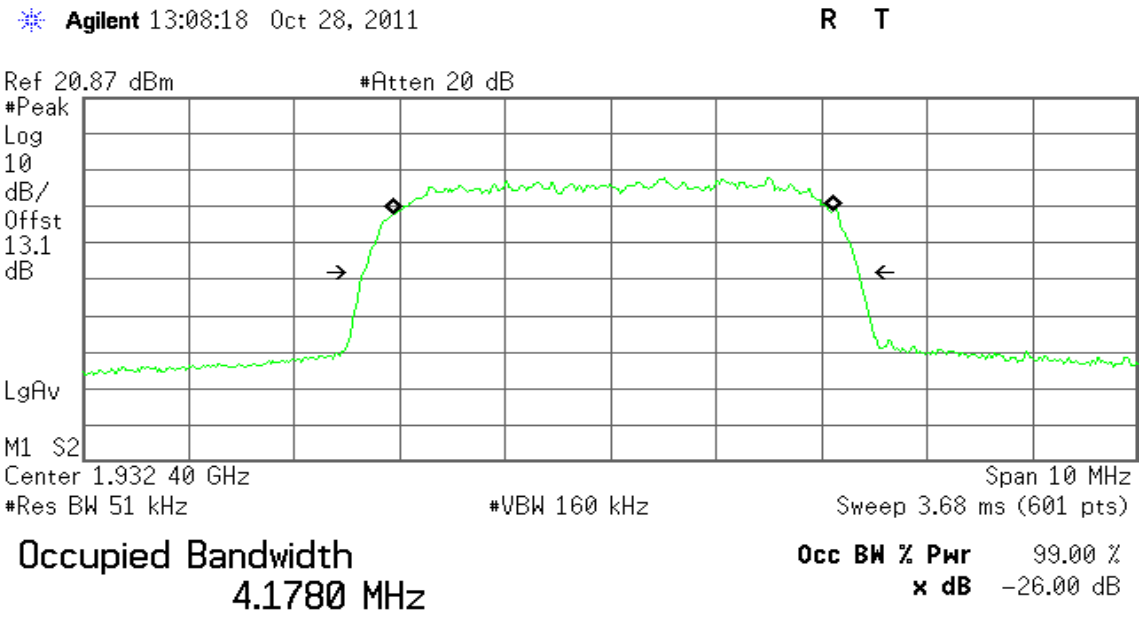


CH High


Agilent 14:26:15 Oct 28, 2011
R T
Ref 33.1 dBm
#Atten 10 dB
#Peak
Log
10
dB/
Offst
33.1
dB
LgAv
M1 S2
Center 1.907 60 GHz
Span 10 MHz
#Res BW 51 kHz
#VBW 160 kHz
Sweep 3.68 ms (601 pts)
Occupied Bandwidth
4.1728 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error -44.235 kHz
x dB Bandwidth 4.663 MHz

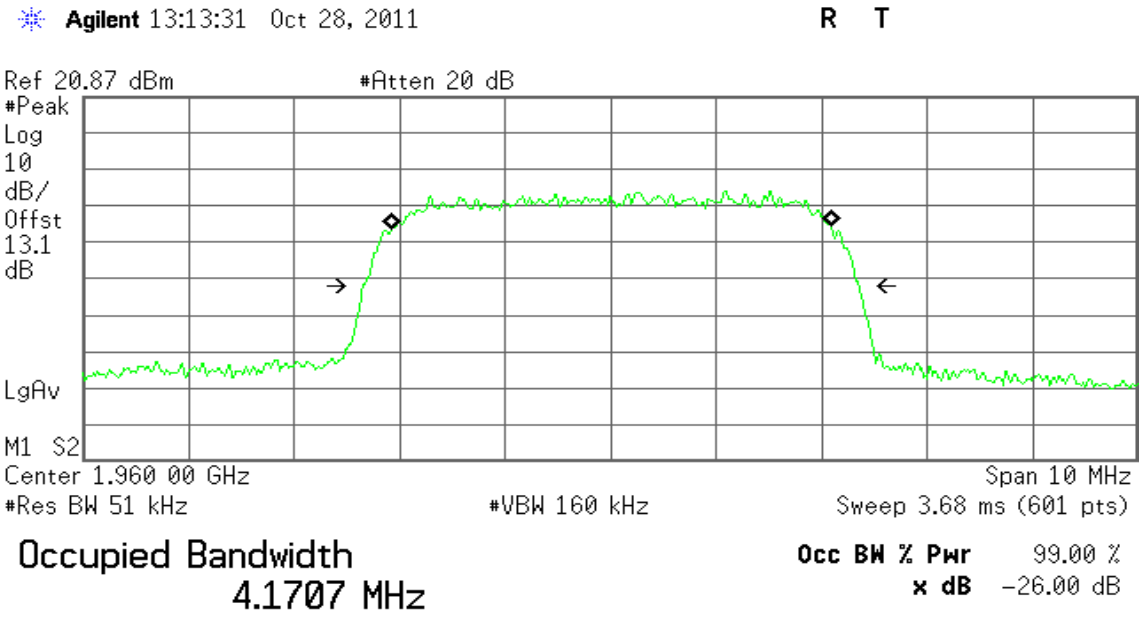
Mode 2: WCDMA Band II Downlink

CH Low



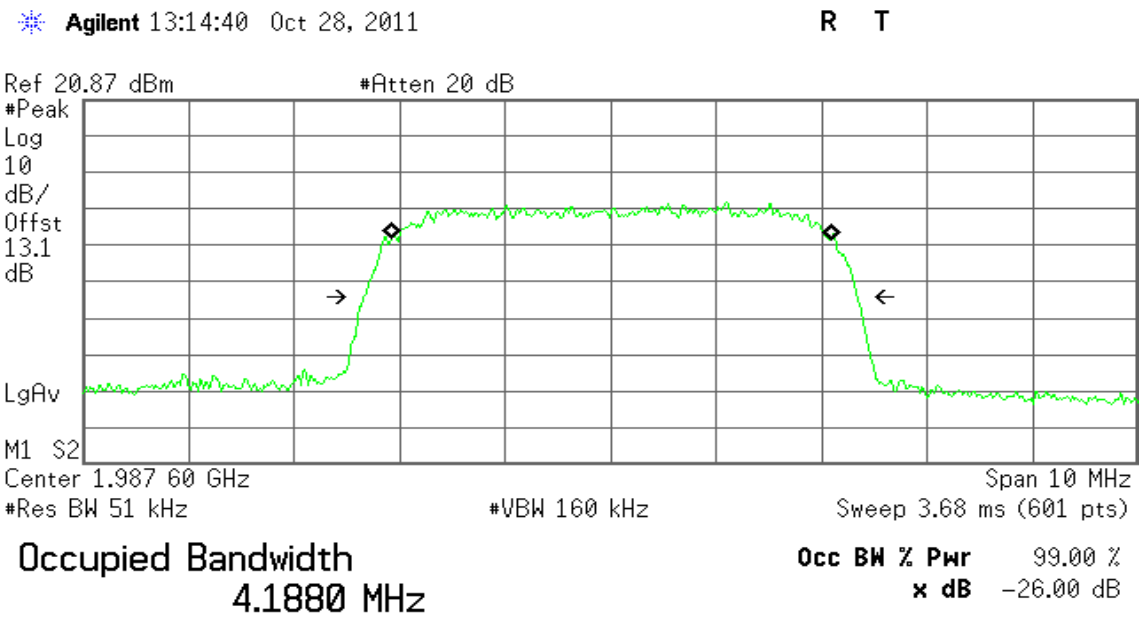
Transmit Freq Error	24.014 kHz
x dB Bandwidth	4.708 MHz

CH Mid



Transmit Freq Error	7.066 kHz
x dB Bandwidth	4.711 MHz

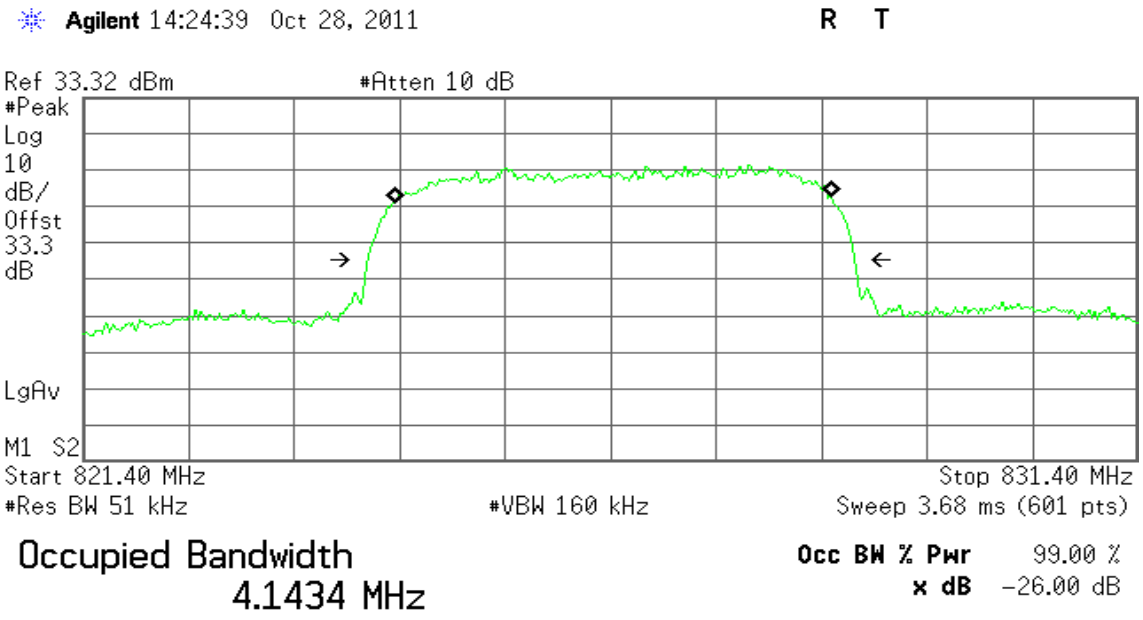
CH High



Transmit Freq Error	5.305 kHz
x dB Bandwidth	4.688 MHz

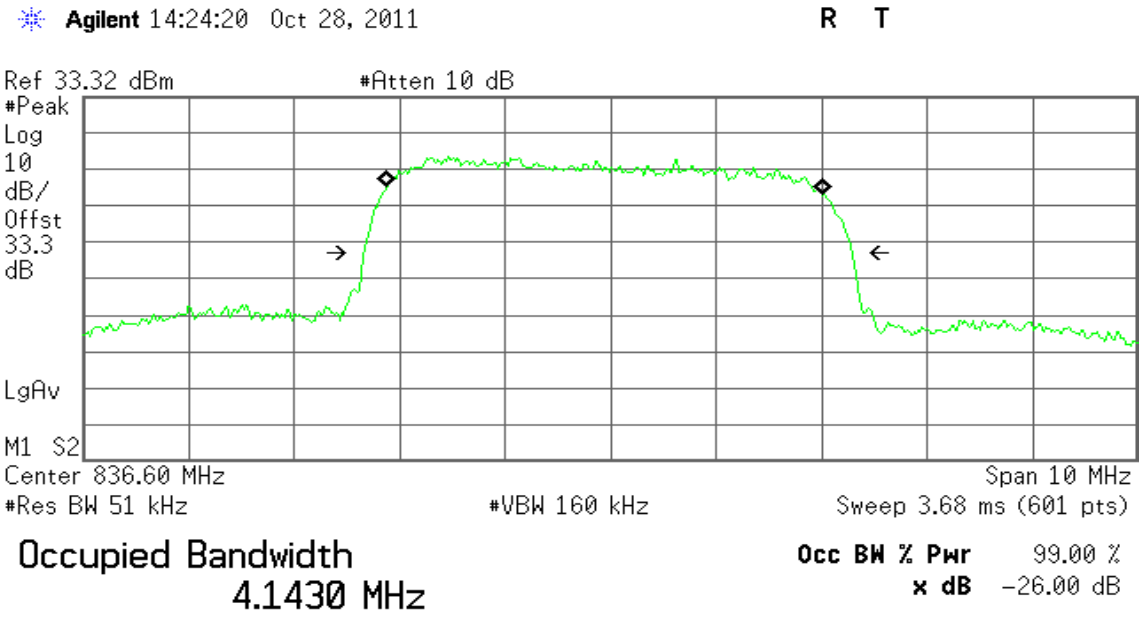
Mode 3: WCDMA Band V Uplink

CH Low



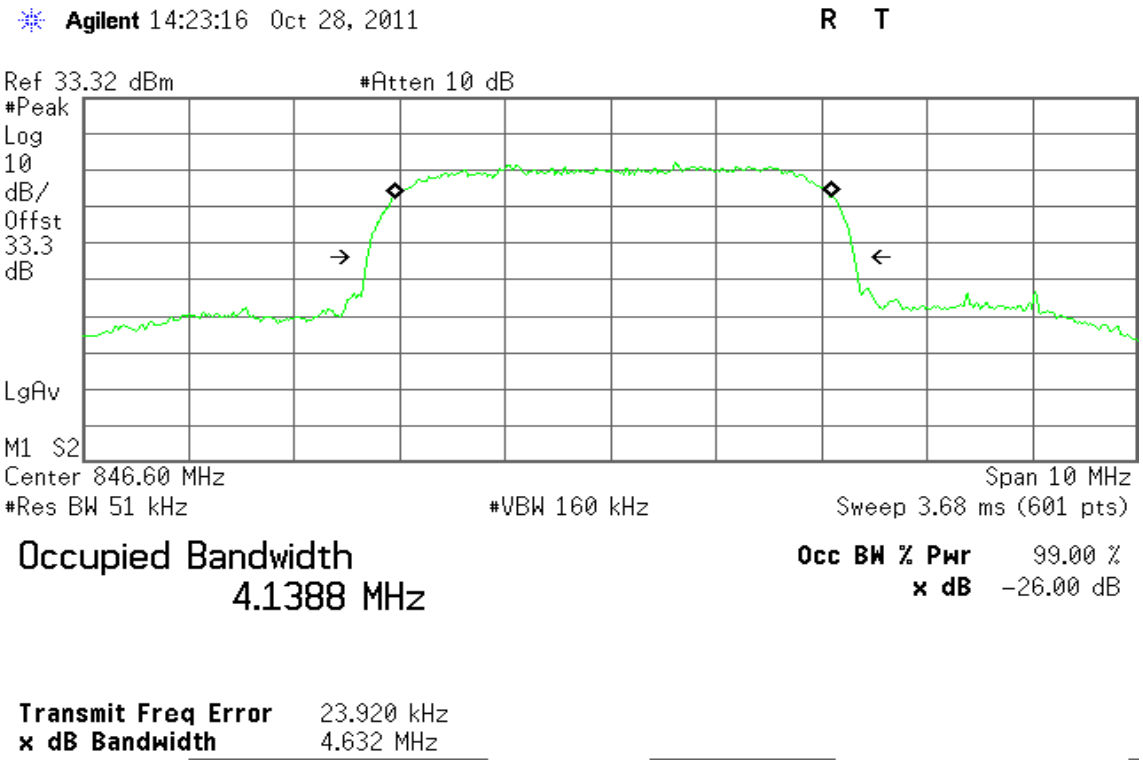
Transmit Freq Error	23.295 kHz
x dB Bandwidth	4.628 MHz

CH Mid



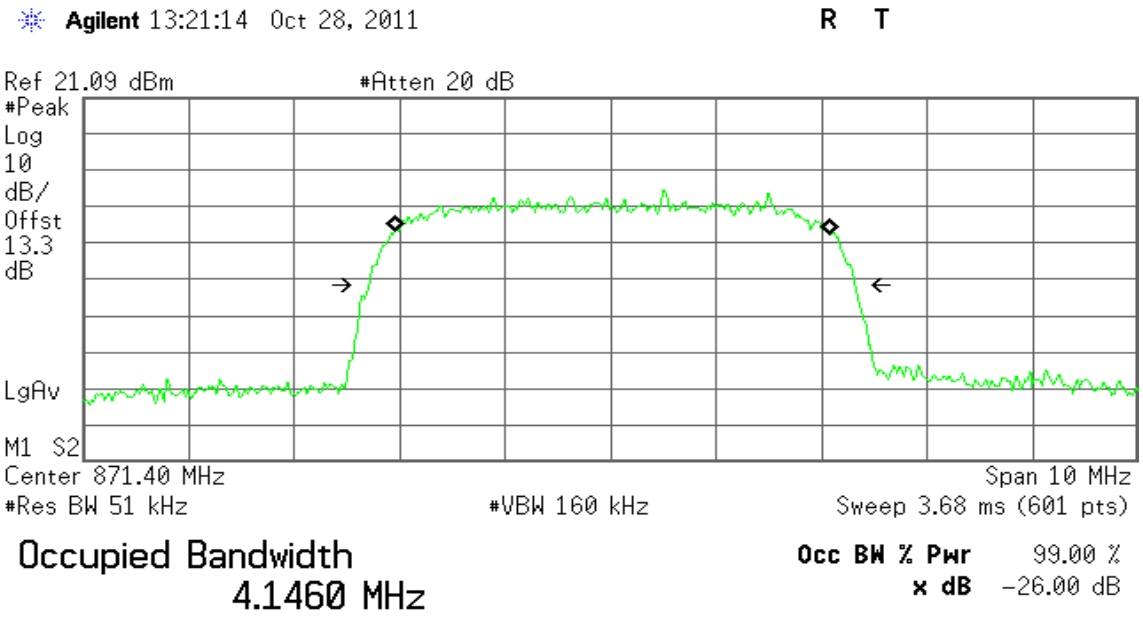
Transmit Freq Error	-59.210 kHz
x dB Bandwidth	4.637 MHz

CH High


Agilent 14:23:16 Oct 28, 2011
R T
Ref 33.32 dBm
#Atten 10 dB
#Peak
Log
10
dB/
Offst
33.3
dB
LgAv
M1 S2
Center 846.60 MHz
Span 10 MHz
#Res BW 51 kHz
#VBW 160 kHz
Sweep 3.68 ms (601 pts)
Occupied Bandwidth
4.1388 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 23.920 kHz
x dB Bandwidth 4.632 MHz

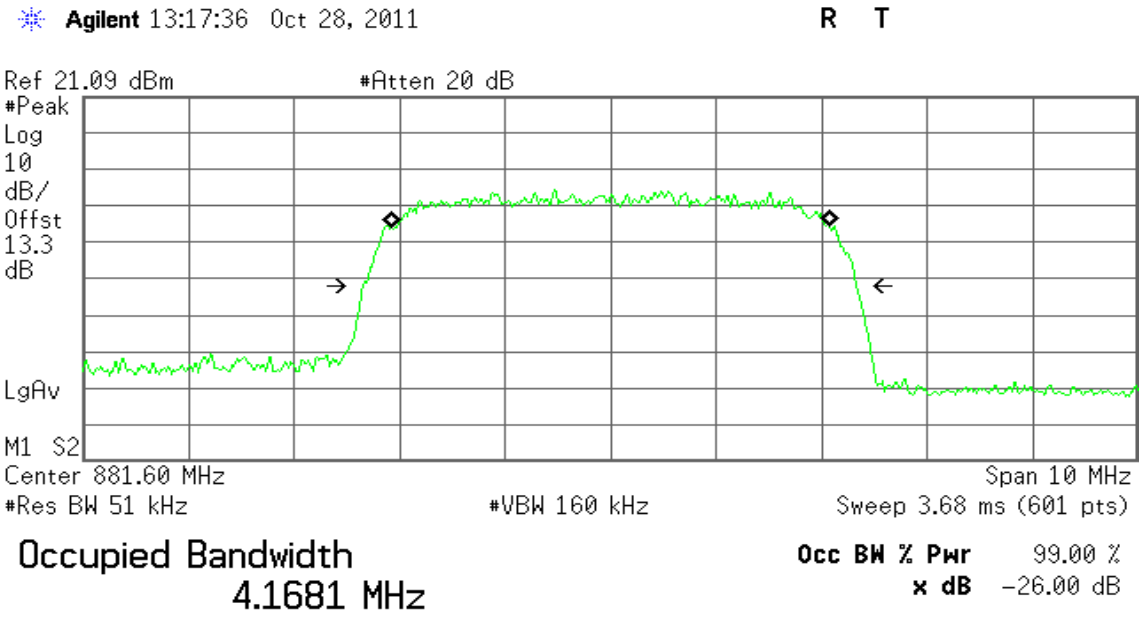
Mode 4: WCDMA Band V Downlink

CH Low



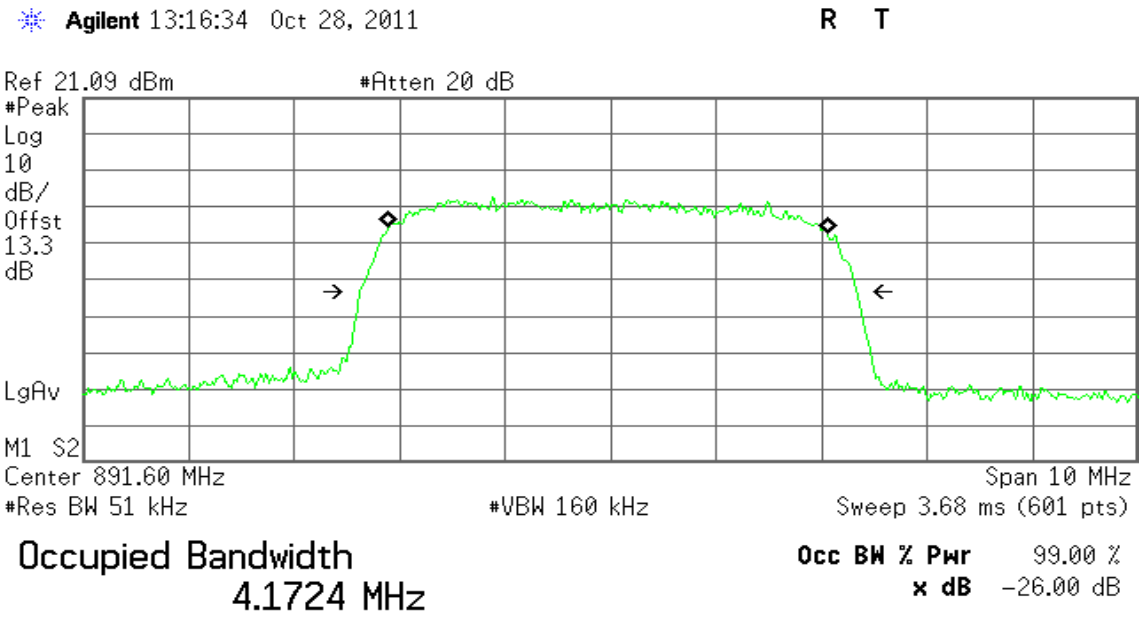
Transmit Freq Error	18.324 kHz
x dB Bandwidth	4.617 MHz

CH Mid



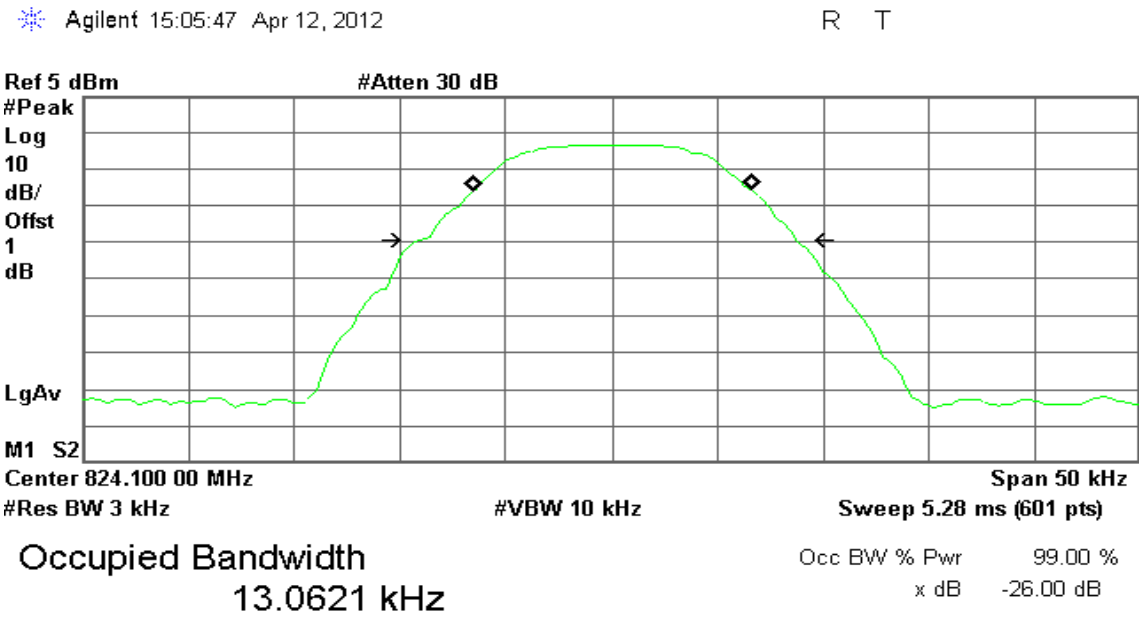
Transmit Freq Error	-6.348 kHz
x dB Bandwidth	4.686 MHz

CH High


Agilent 13:16:34 Oct 28, 2011
R T
Ref 21.09 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
13.3
dB
LgAv
M1 S2
Center 891.60 MHz
Span 10 MHz
#Res BW 51 kHz
#VBW 160 kHz
Sweep 3.68 ms (601 pts)
Occupied Bandwidth
4.1724 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error -24.911 kHz
x dB Bandwidth 4.721 MHz

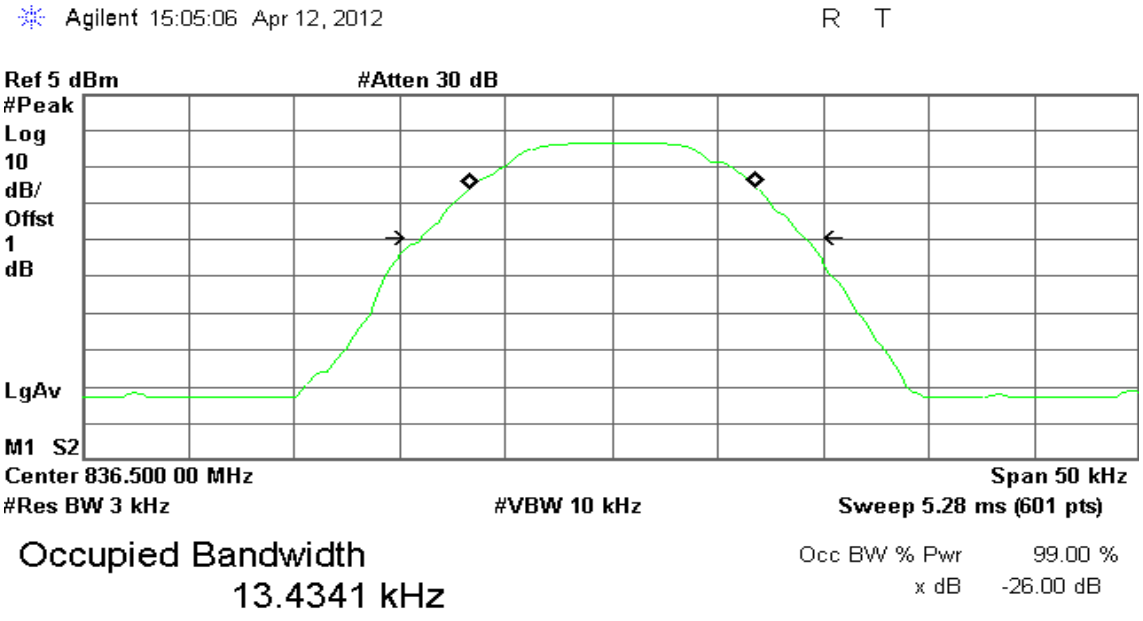
Mode 5: AMPS / 824 – 849MHz Uplink

CH Low



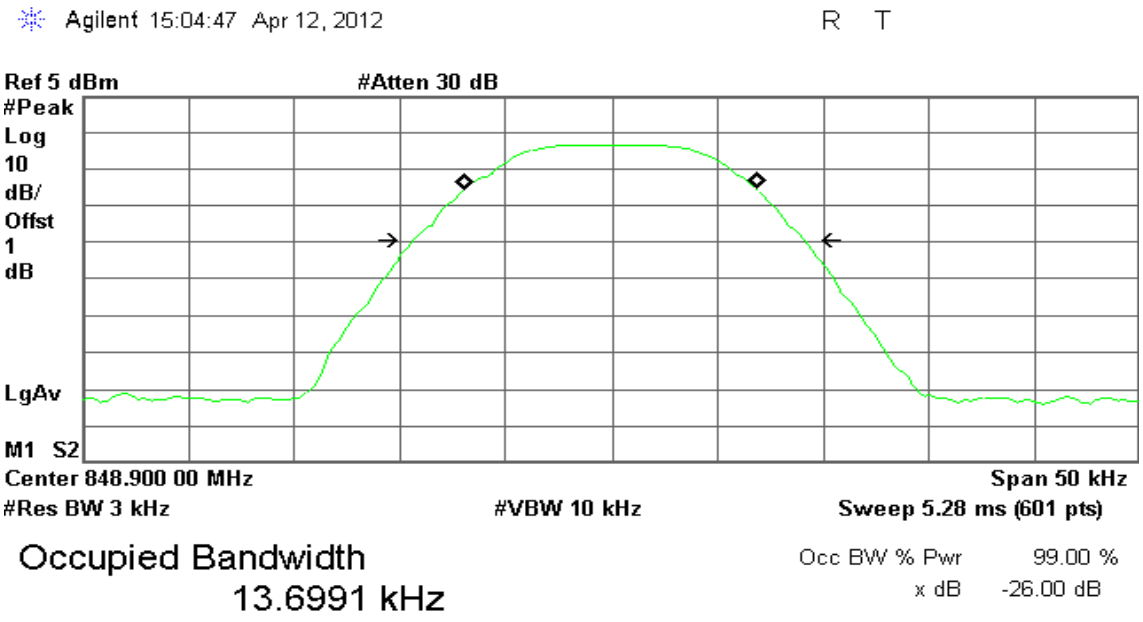
Transmit Freq Error	49.825 Hz
x dB Bandwidth	17.852 kHz

CH Mid



Transmit Freq Error	72.174 Hz
x dB Bandwidth	18.067 kHz

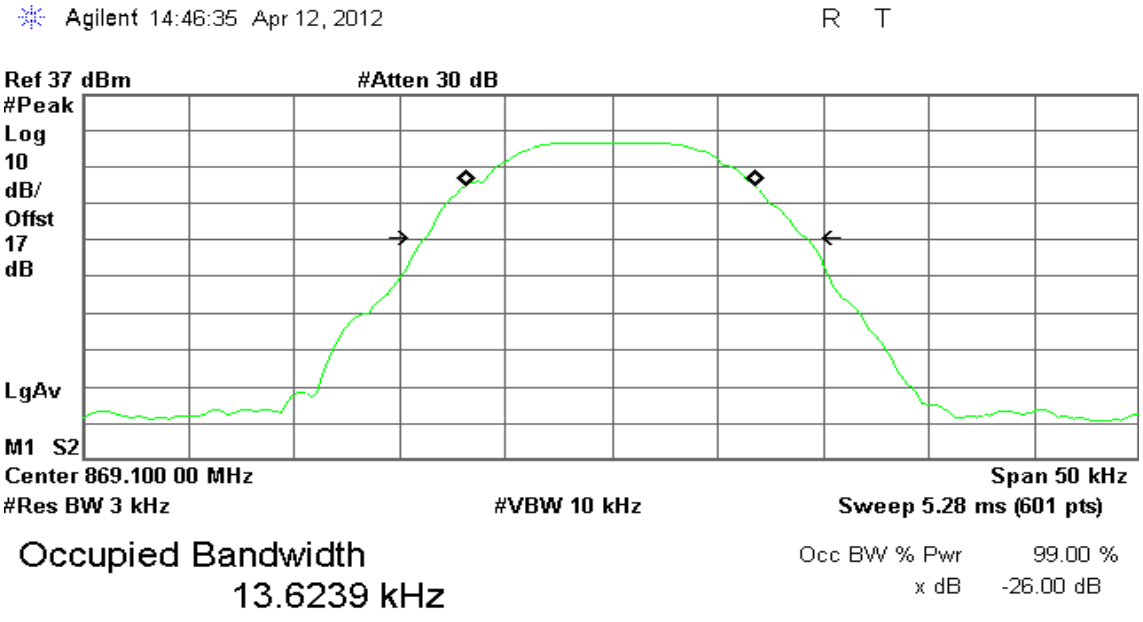
CH High



Transmit Freq Error	-48.152 Hz
x dB Bandwidth	18.379 kHz

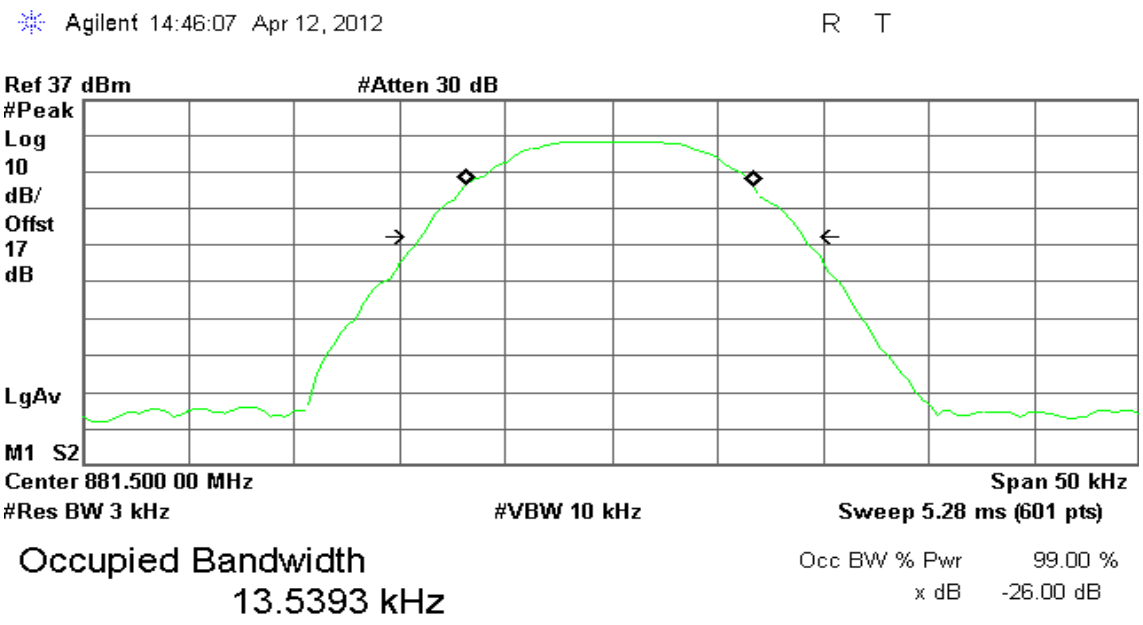
Mode 6: AMPS / 869 – 894MHz Downlink

CH Low



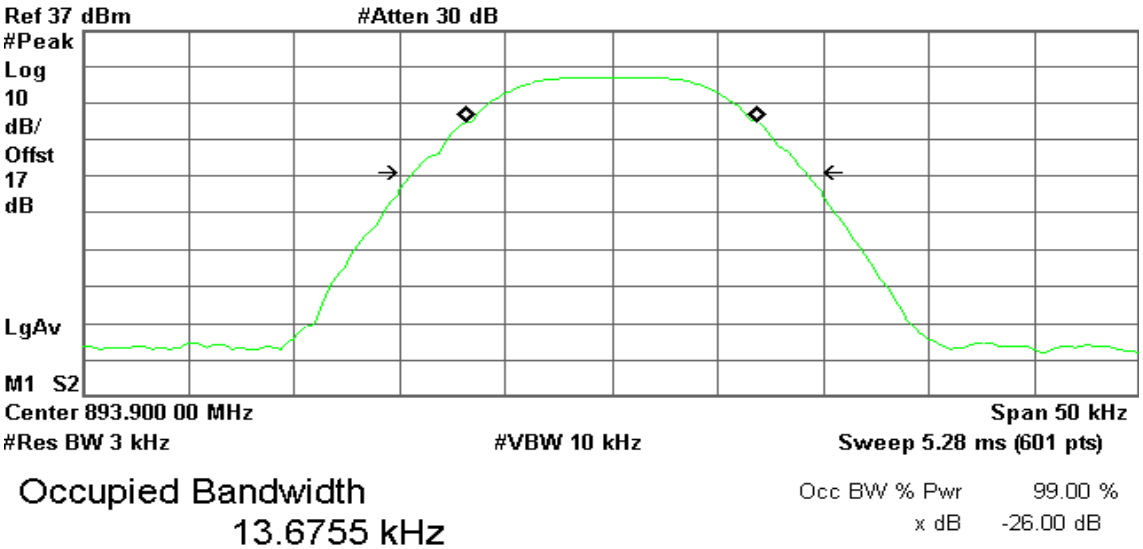
Transmit Freq Error	-49.352 Hz
x dB Bandwidth	17.829 kHz

CH Mid



Transmit Freq Error	-82.801 Hz
x dB Bandwidth	17.982 kHz

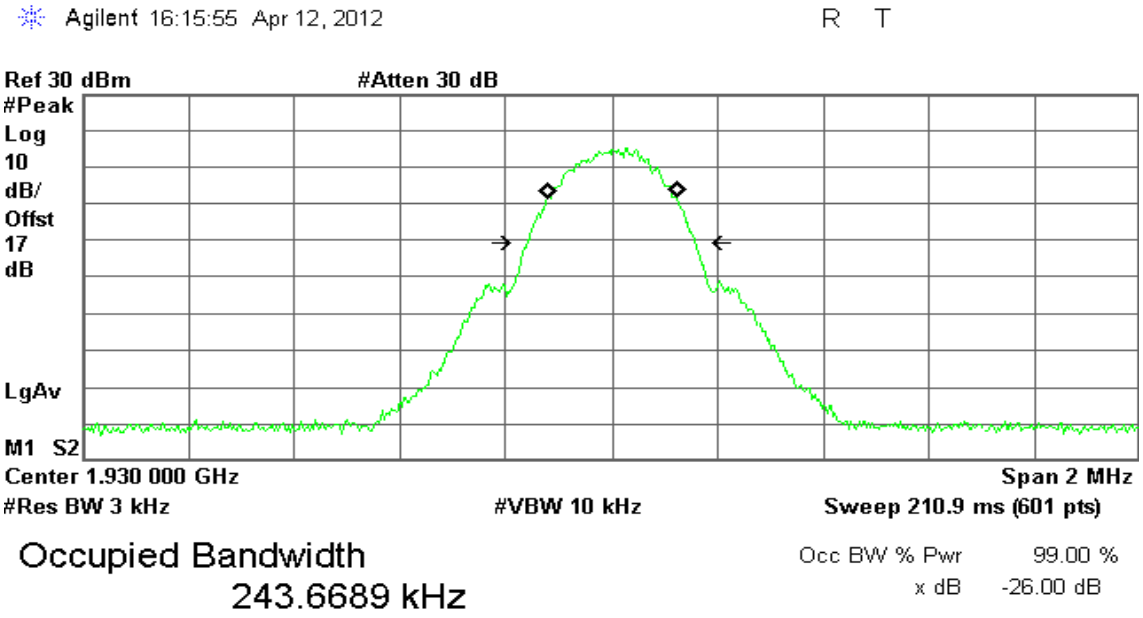
CH High



Transmit Freq Error	-12.087 Hz
x dB Bandwidth	18.428 kHz

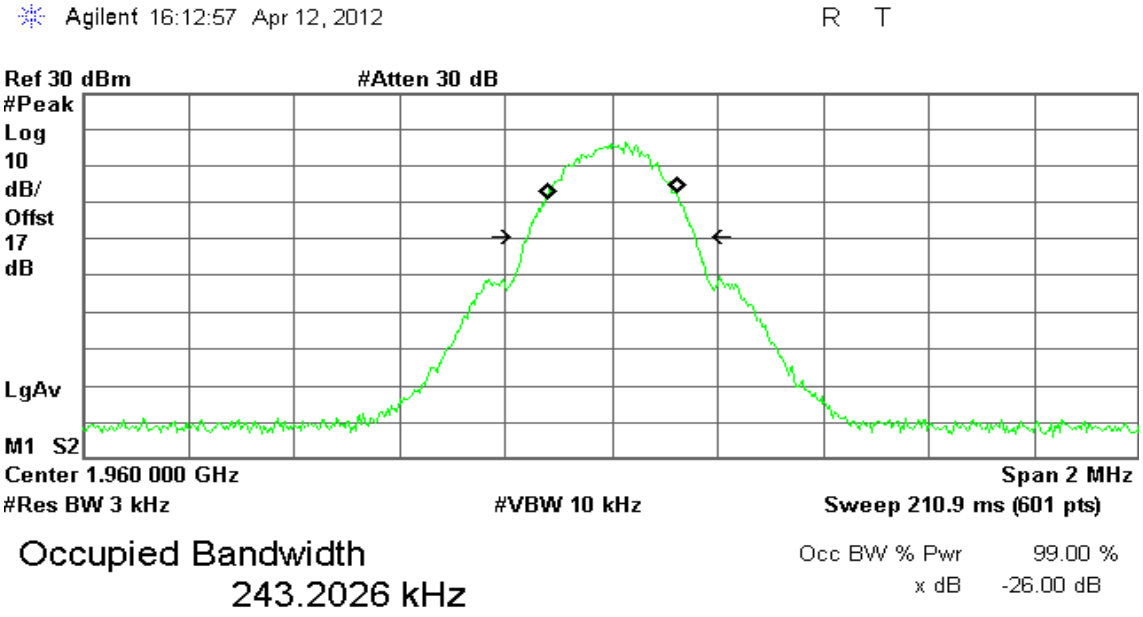
Mode 7: AMPS / 1850 – 1910MHz Uplink

CH Low



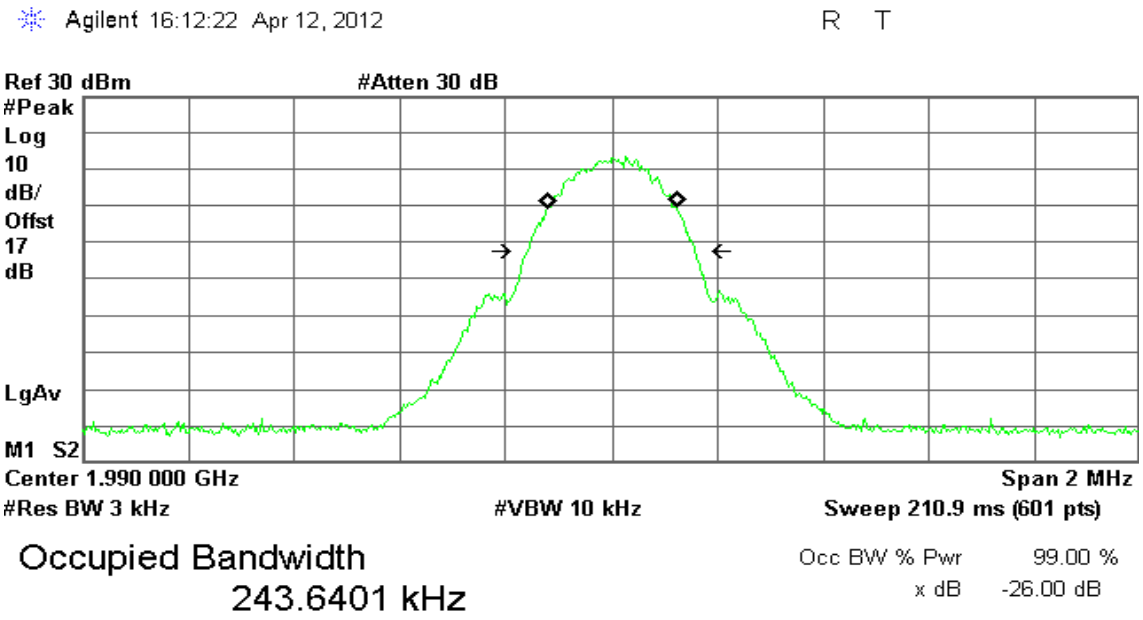
Transmit Freq Error	1.148 kHz
x dB Bandwidth	315.964 kHz

CH Mid



Transmit Freq Error	984.112 Hz
x dB Bandwidth	316.221 kHz

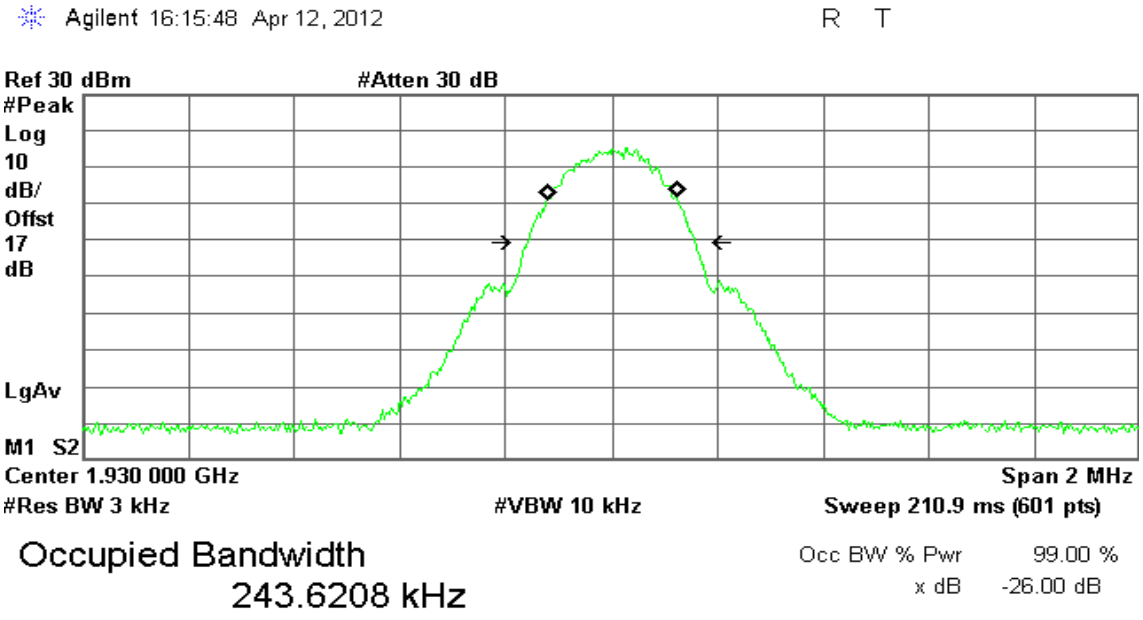
CH High



Transmit Freq Error	886.945 Hz
x dB Bandwidth	316.539 kHz

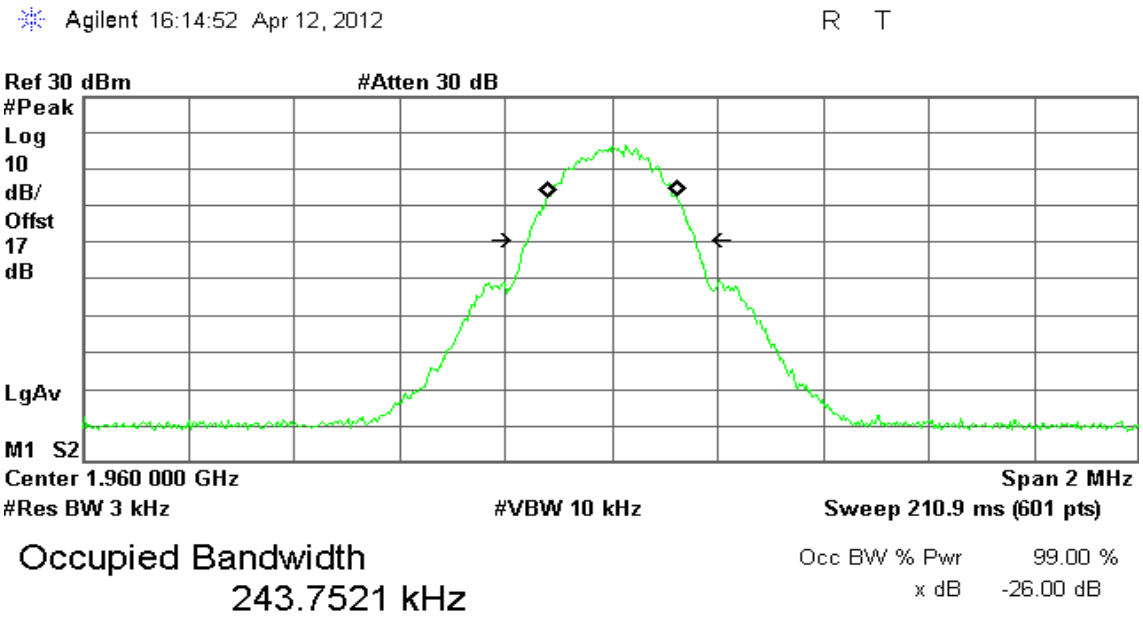
Mode 8: AMPS / 1930 – 1990MHz Downlink

CH Low



Transmit Freq Error	1.212 kHz
x dB Bandwidth	315.831 kHz

CH Mid

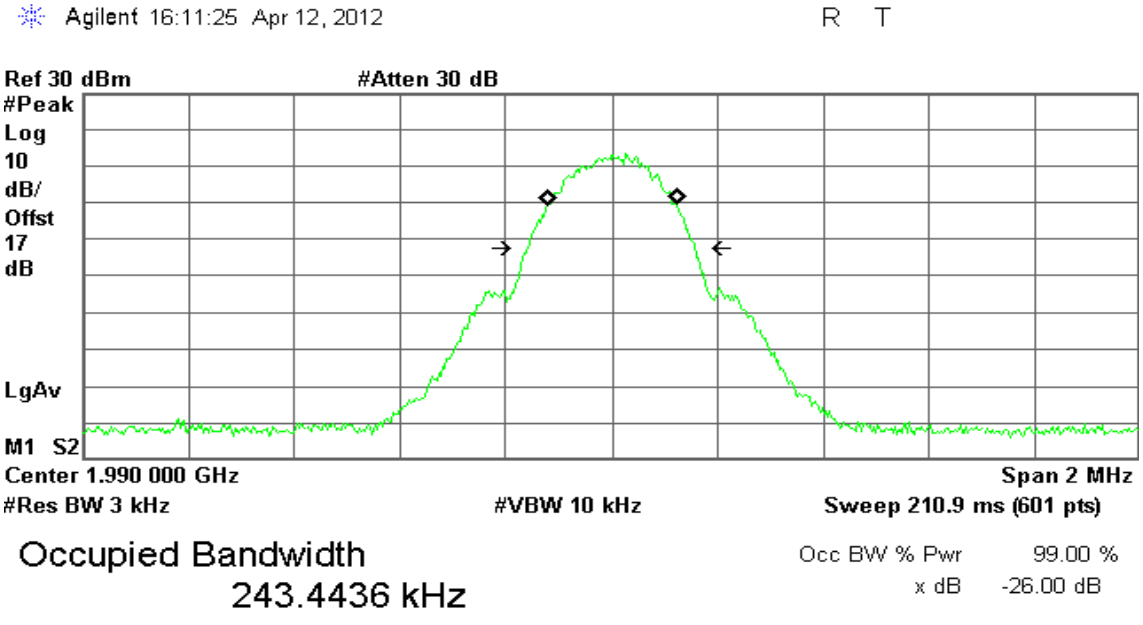


Occupied Bandwidth
243.7521 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error	952.361 Hz
x dB Bandwidth	316.281 kHz

CH High



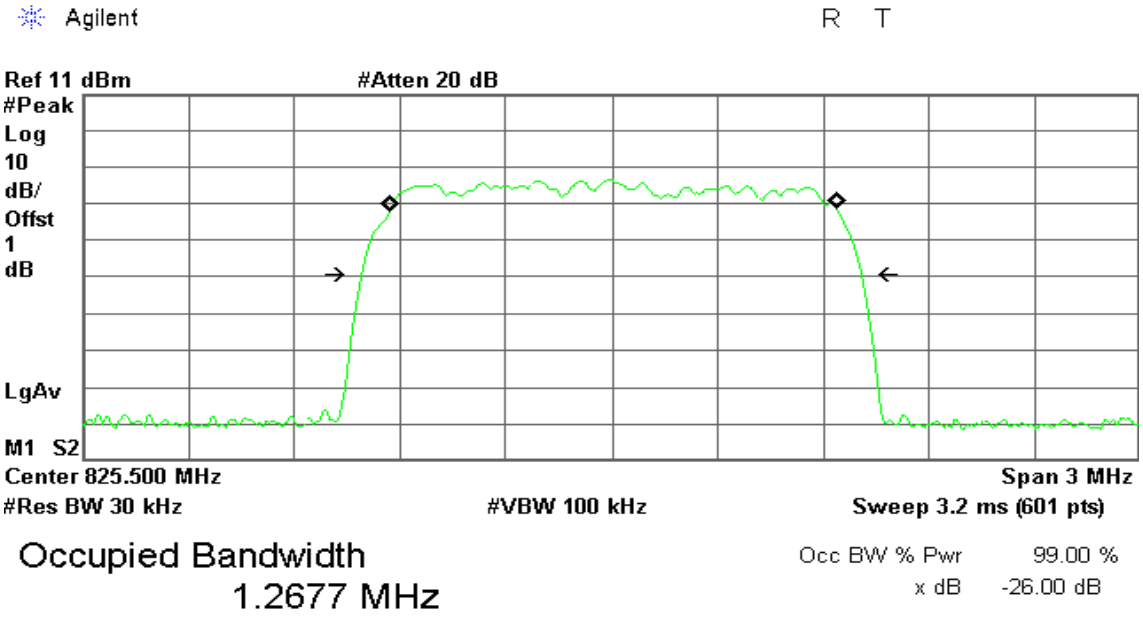
Occupied Bandwidth
243.4436 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error	943.293 Hz
x dB Bandwidth	316.404 kHz

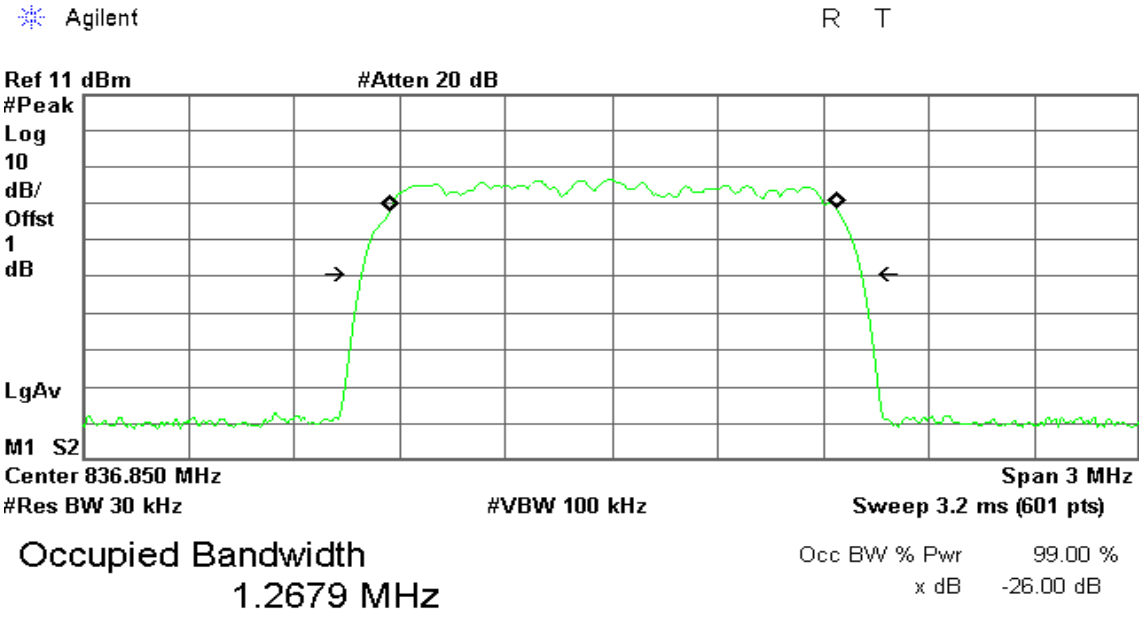
Mode 9: CDMA / 824 – 849MHz Uplink

CH Low



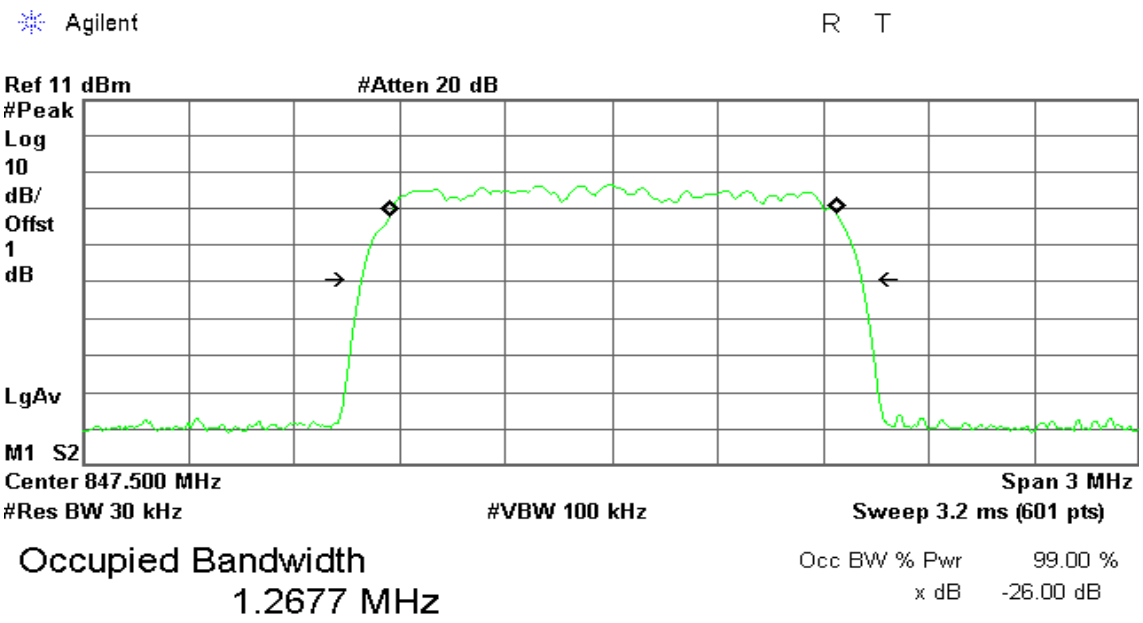
Transmit Freq Error	5.424 kHz
x dB Bandwidth	1.420 MHz

CH Mid



Transmit Freq Error	5.491 kHz
x dB Bandwidth	1.420 MHz

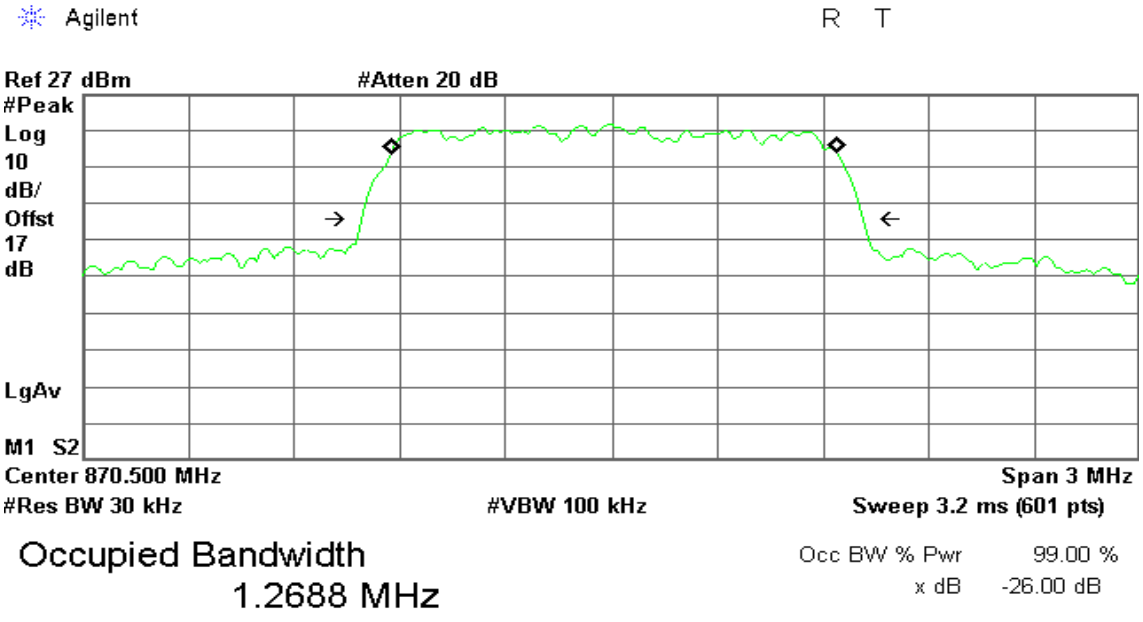
CH High



Transmit Freq Error	5.428 kHz
x dB Bandwidth	1.420 MHz

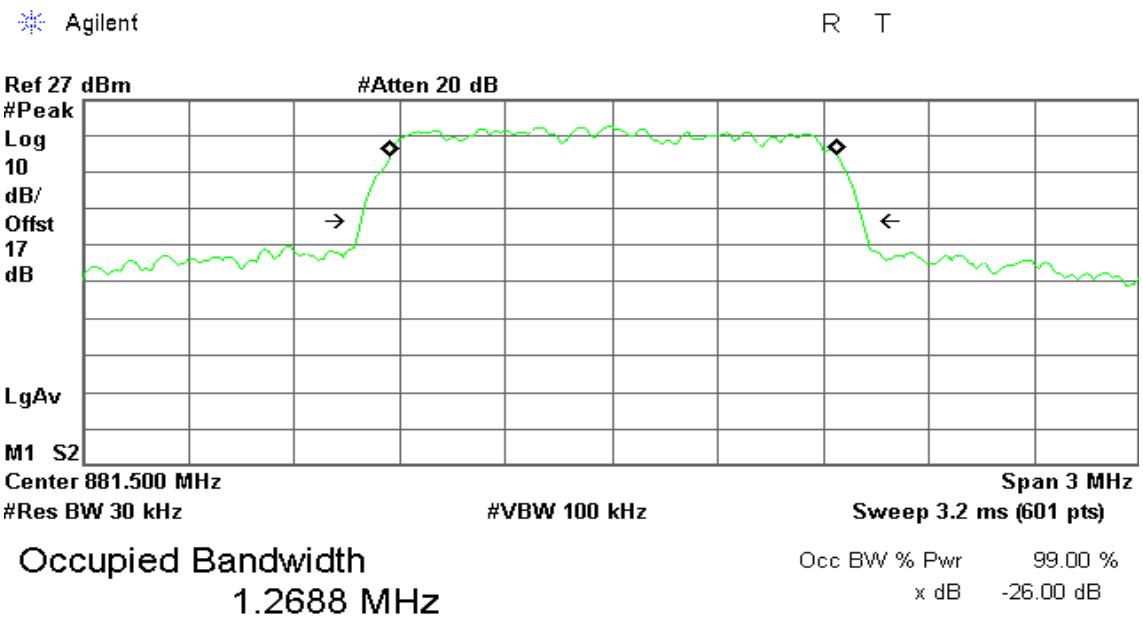
Mode 10: CDMA / 869 – 894MHz Downlink

CH Low



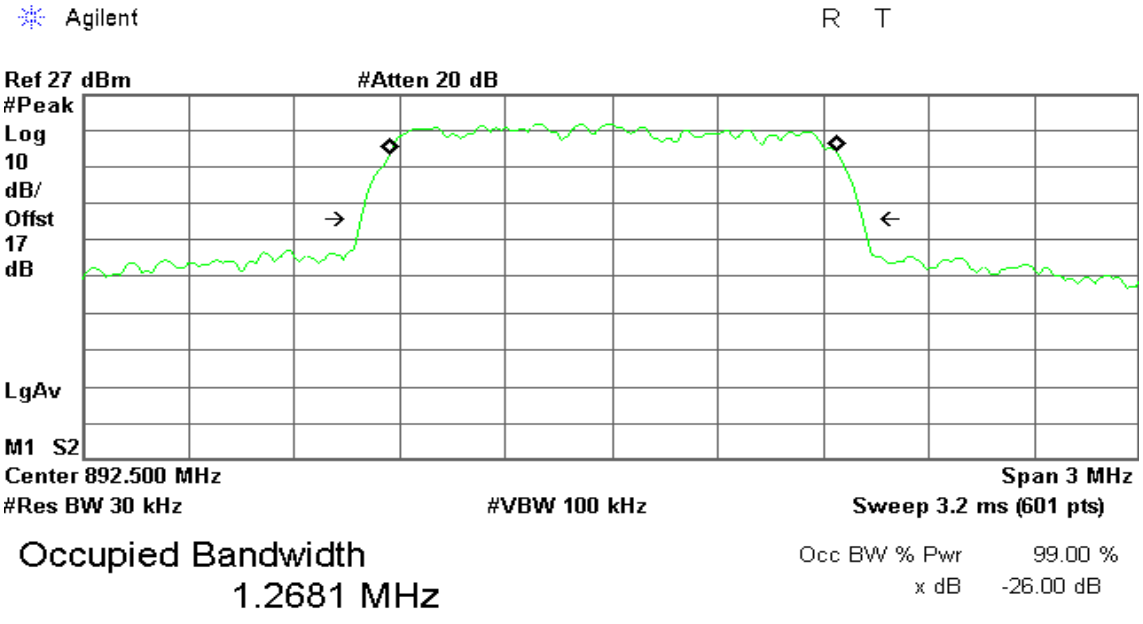
Transmit Freq Error	7.505 kHz
x dB Bandwidth	1.425 MHz

CH Mid



Transmit Freq Error	6.113 kHz
x dB Bandwidth	1.426 MHz

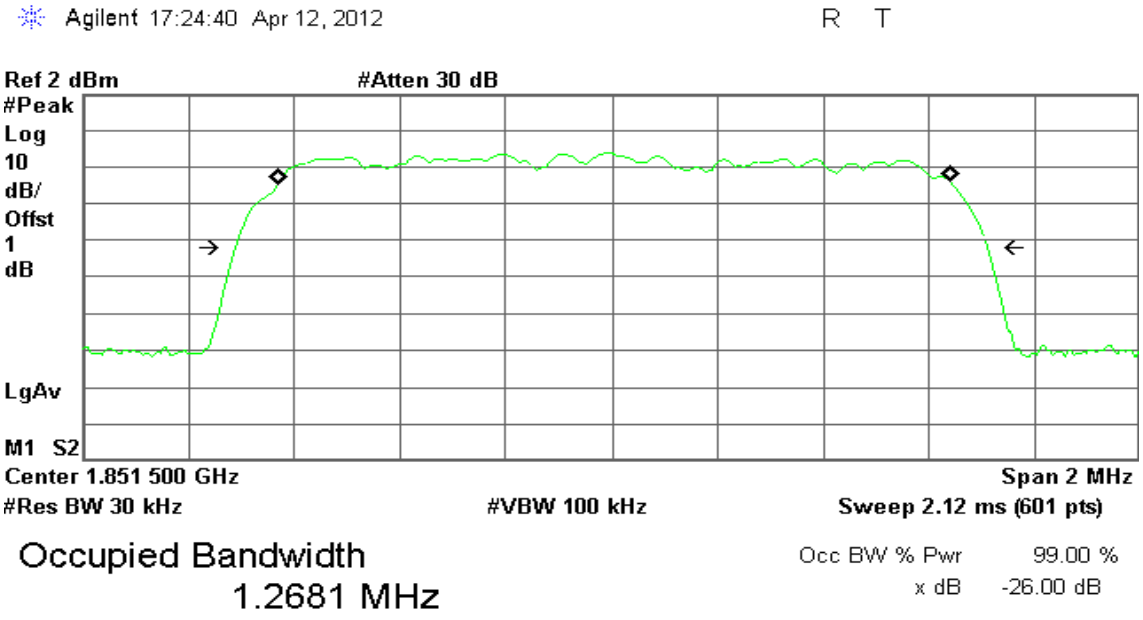
CH High



Transmit Freq Error	5.534 kHz
x dB Bandwidth	1.424 MHz

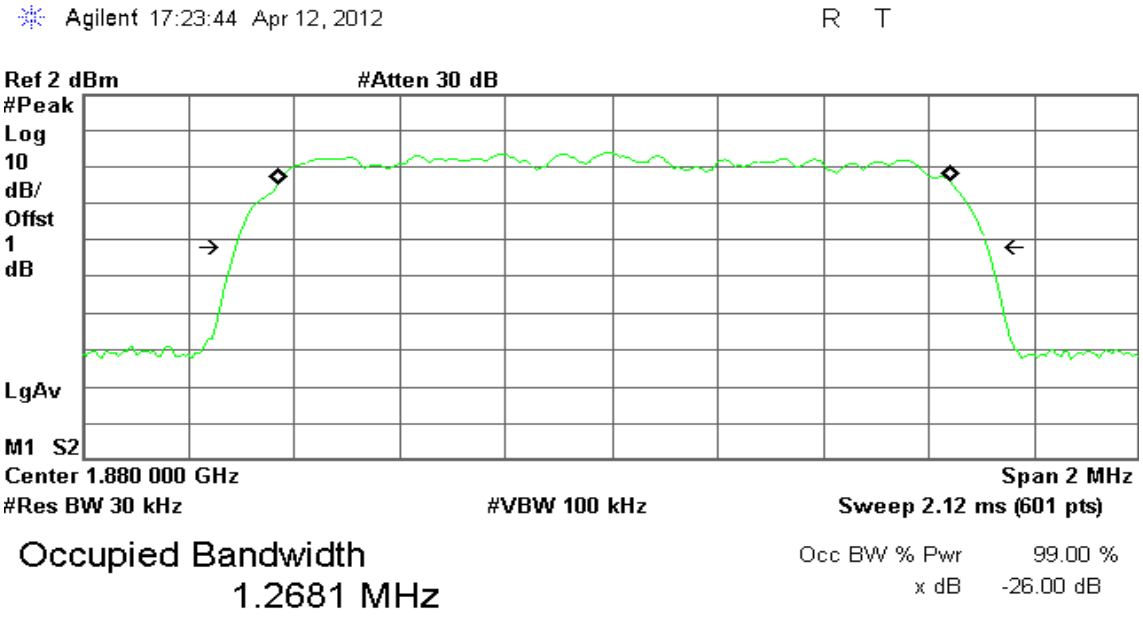
Mode 11: CDMA / 1850 – 1910MHz Uplink

CH Low



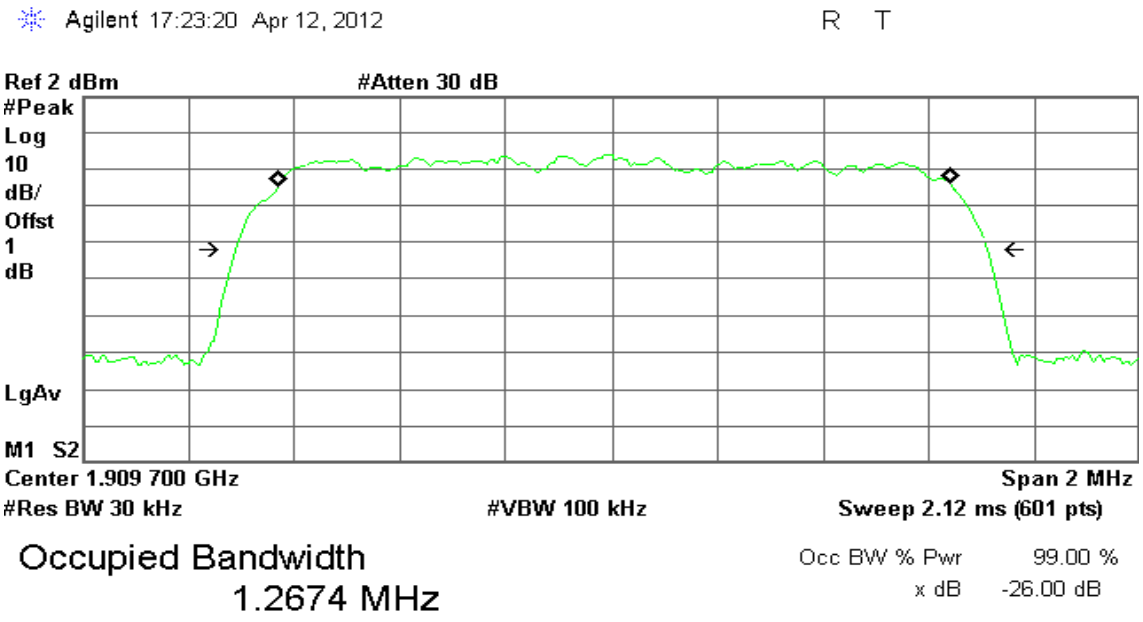
Transmit Freq Error	5.013 kHz
x dB Bandwidth	1.421 MHz

CH Mid



Transmit Freq Error	5.061 kHz
x dB Bandwidth	1.420 MHz

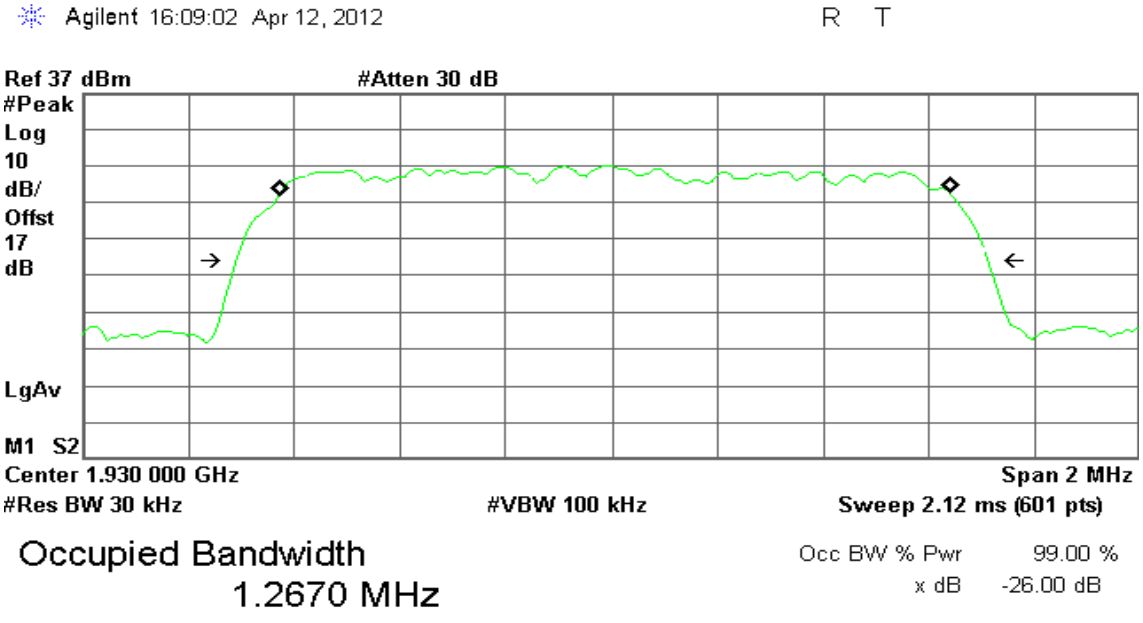
CH High



Transmit Freq Error	5.211 kHz
x dB Bandwidth	1.420 MHz

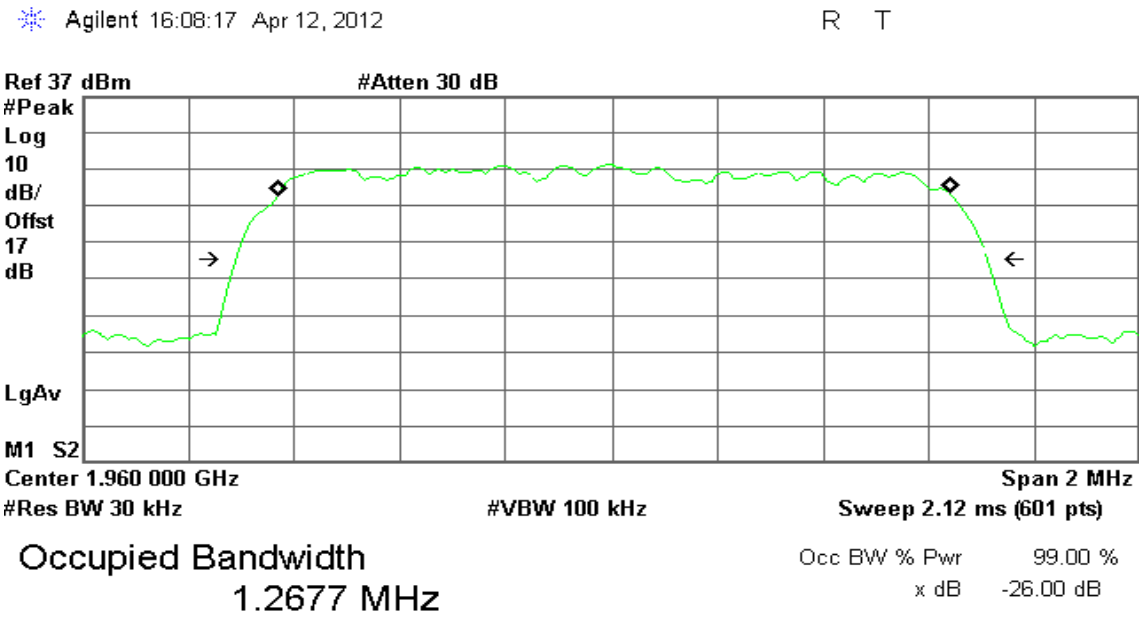
Mode 12: CDMA / 1930 – 1990MHz Downlink

CH Low



Transmit Freq Error	6.470 kHz
x dB Bandwidth	1.419 MHz

CH Mid

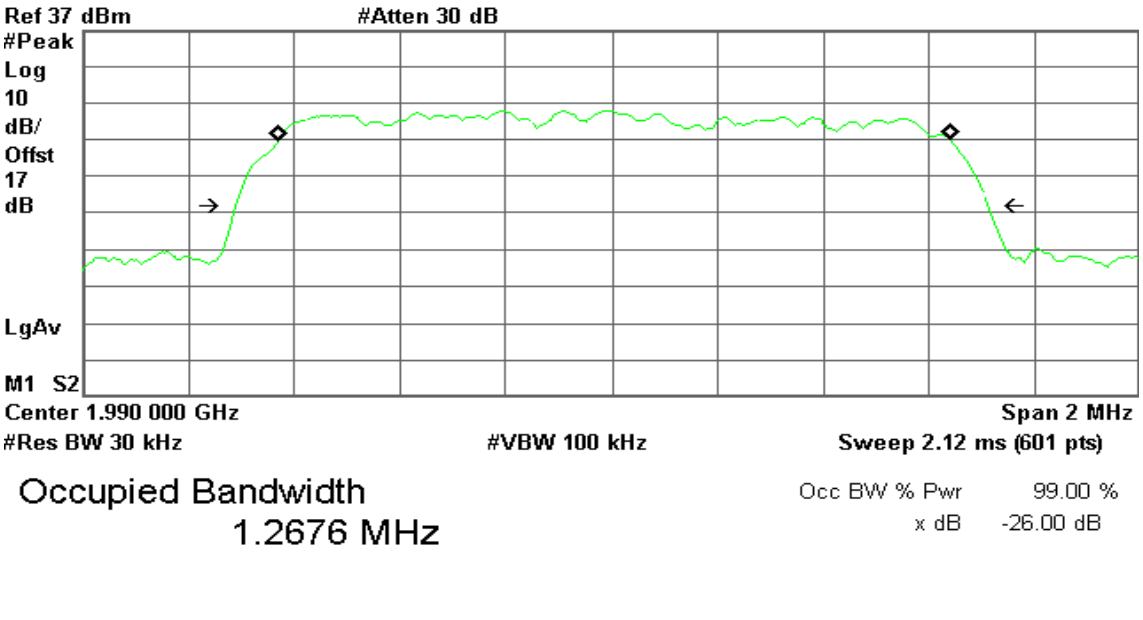


Occupied Bandwidth
1.2677 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 4.700 kHz
x dB Bandwidth 1.419 MHz

CH High



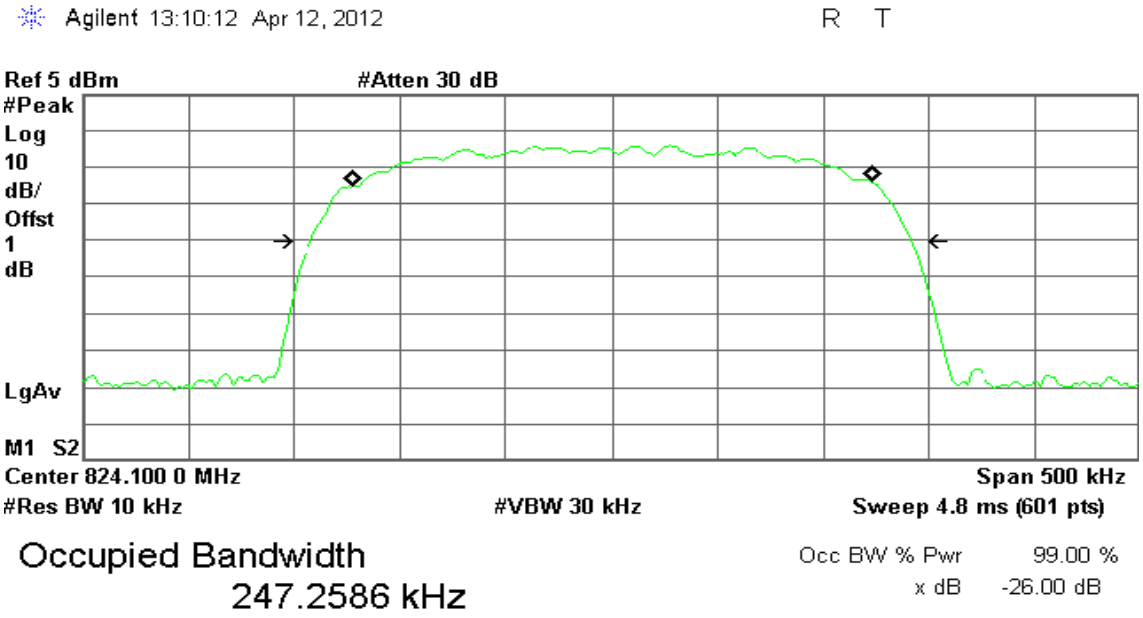
Occupied Bandwidth
1.2676 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 4.639 kHz
x dB Bandwidth 1.420 MHz

Mode 13: TDMA / 824 – 849MHz Uplink

CH Low

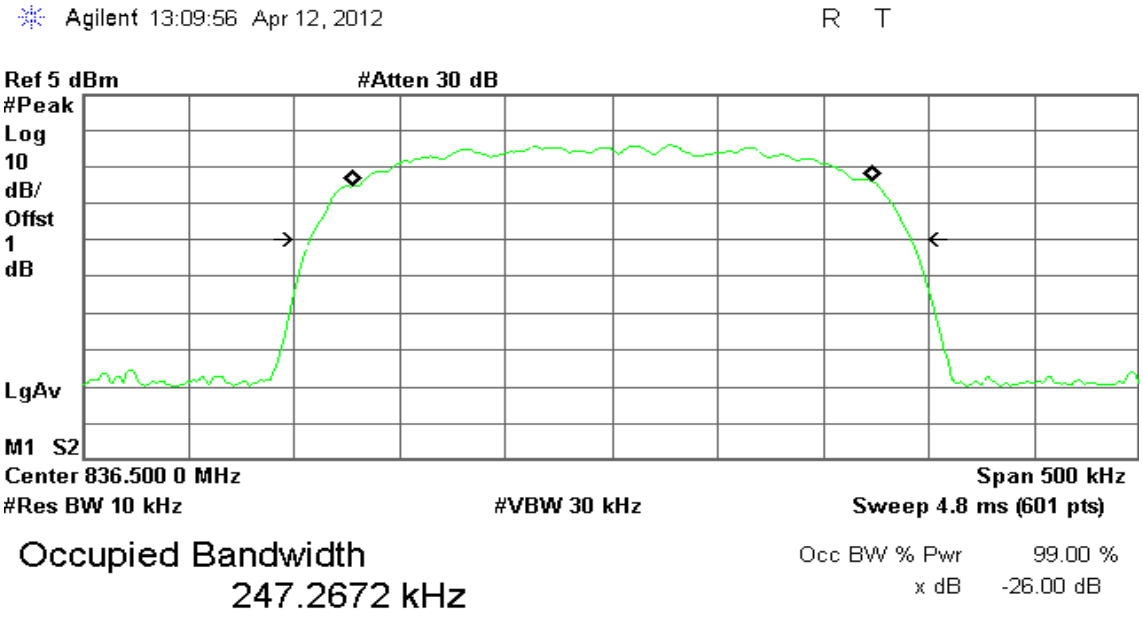


Occupied Bandwidth
247.2586 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 138.818 Hz
x dB Bandwidth 286.012 kHz

CH Mid

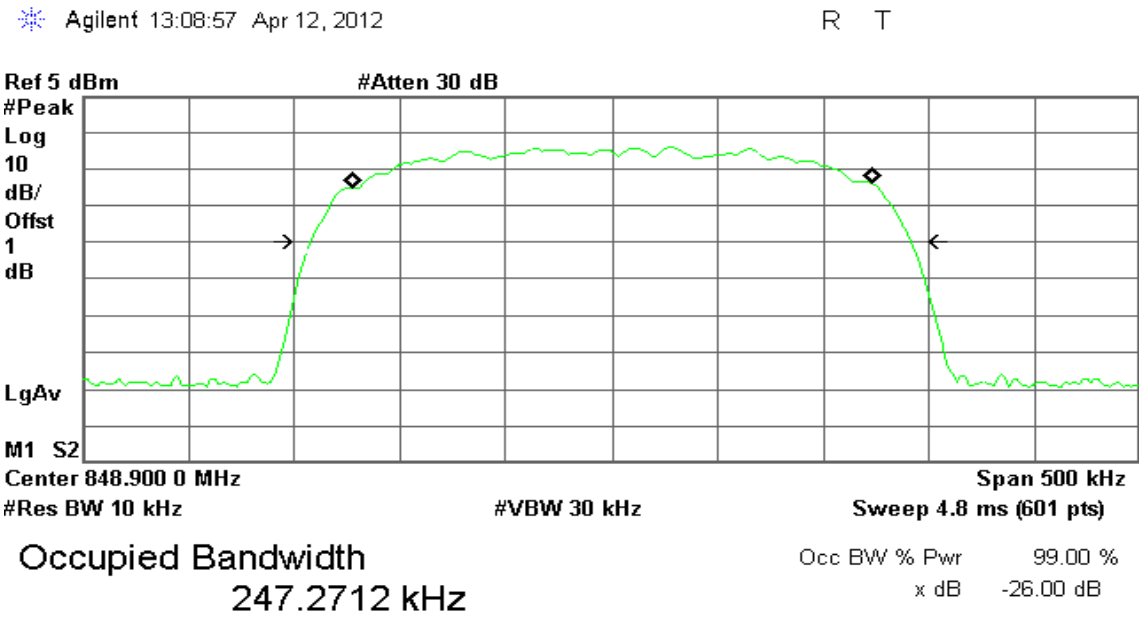


Occupied Bandwidth
247.2672 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 56.481 Hz
x dB Bandwidth 286.108 kHz

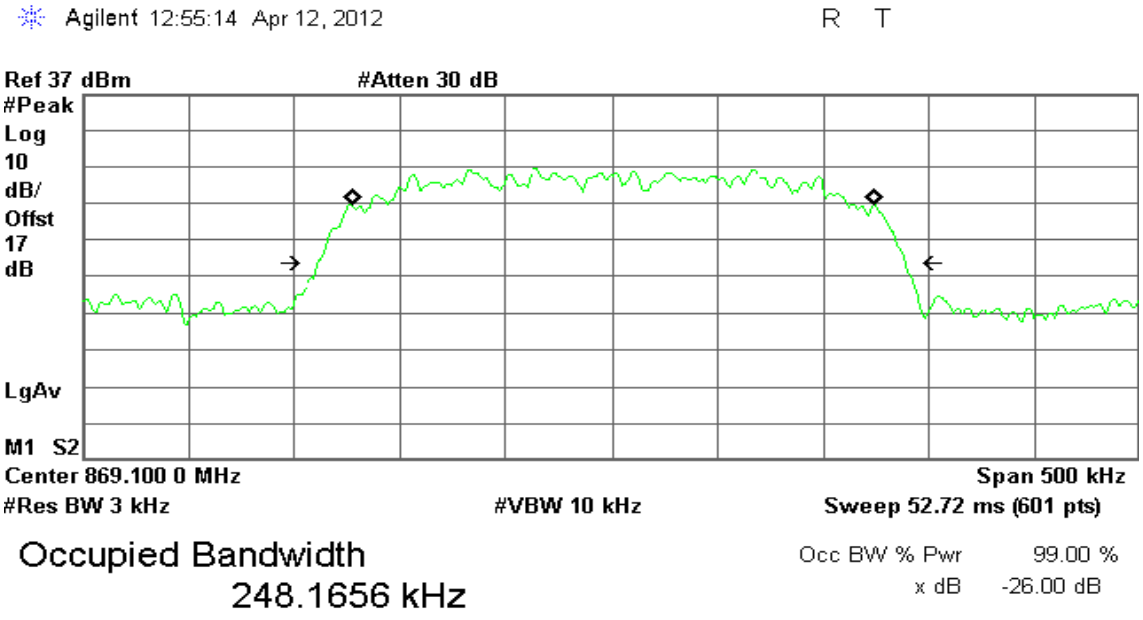
CH High



Transmit Freq Error	153.738 Hz
x dB Bandwidth	286.143 kHz

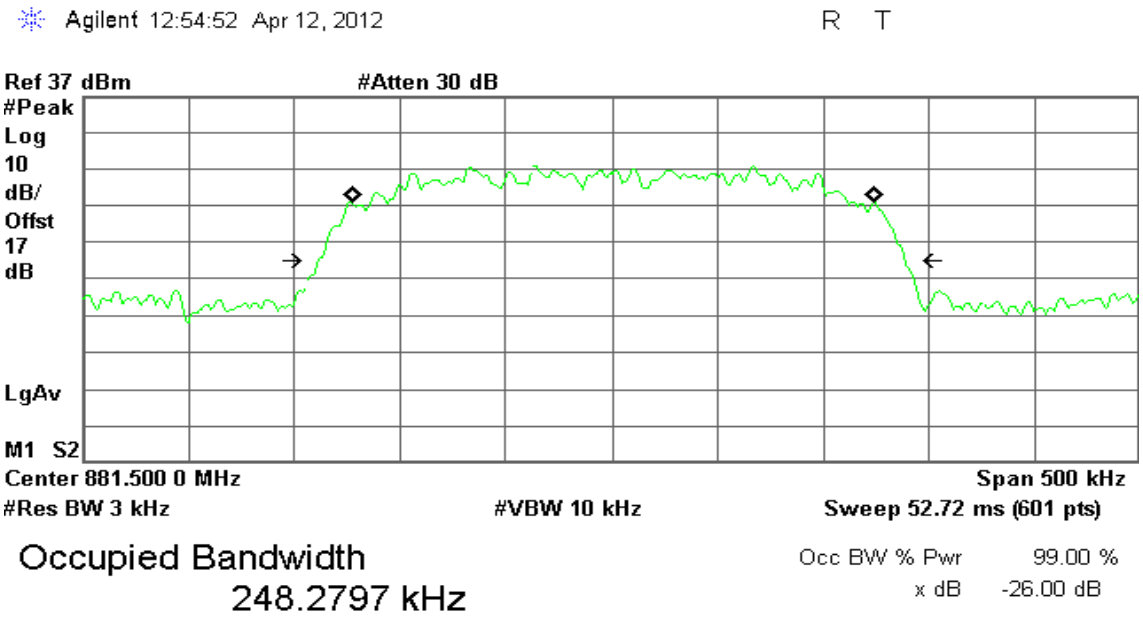
Mode 14: TDMA / 869 – 894MHz Downlink

CH Low



Transmit Freq Error	655.571 Hz
x dB Bandwidth	279.513 kHz

CH Mid

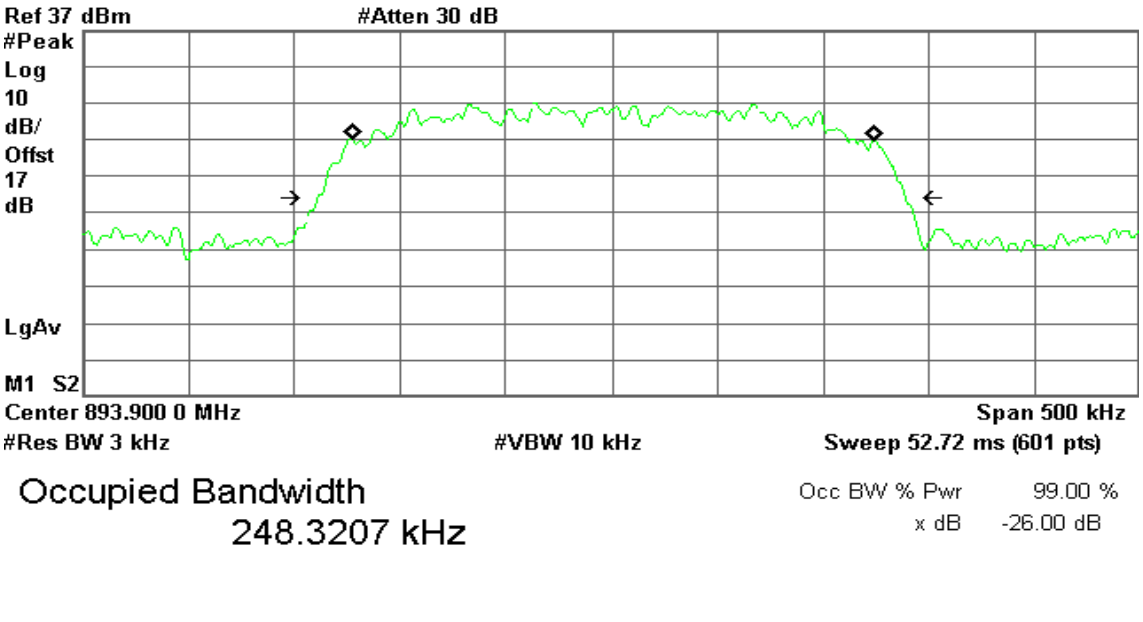


Occupied Bandwidth
248.2797 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error	854.409 Hz
x dB Bandwidth	279.543 kHz

CH High



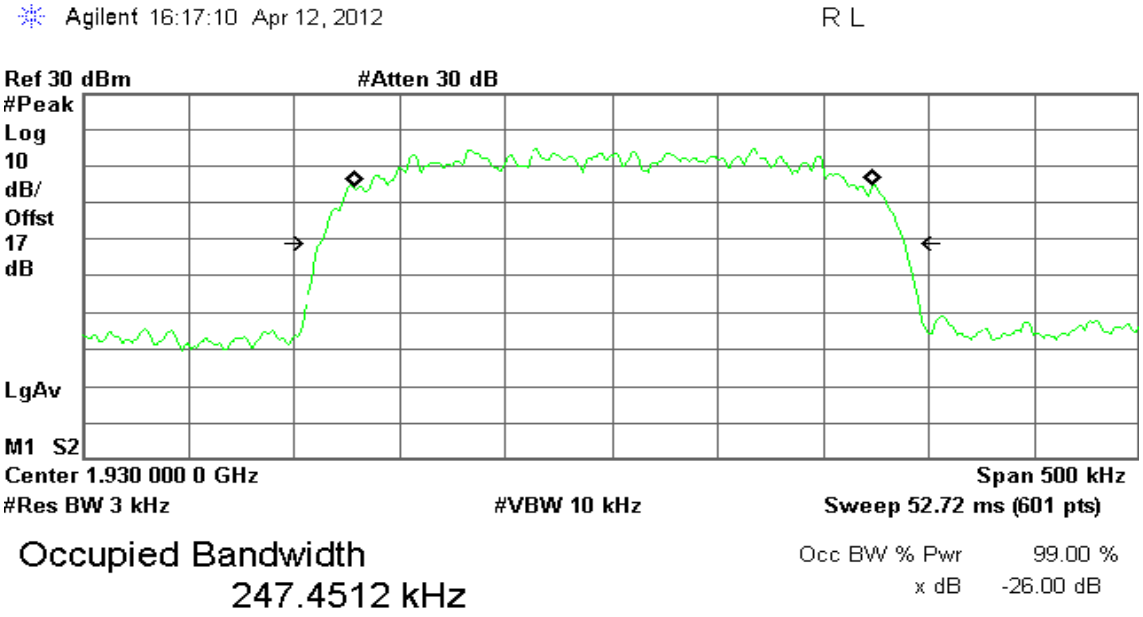
Occupied Bandwidth
248.3207 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error	684.101 Hz
x dB Bandwidth	279.703 kHz

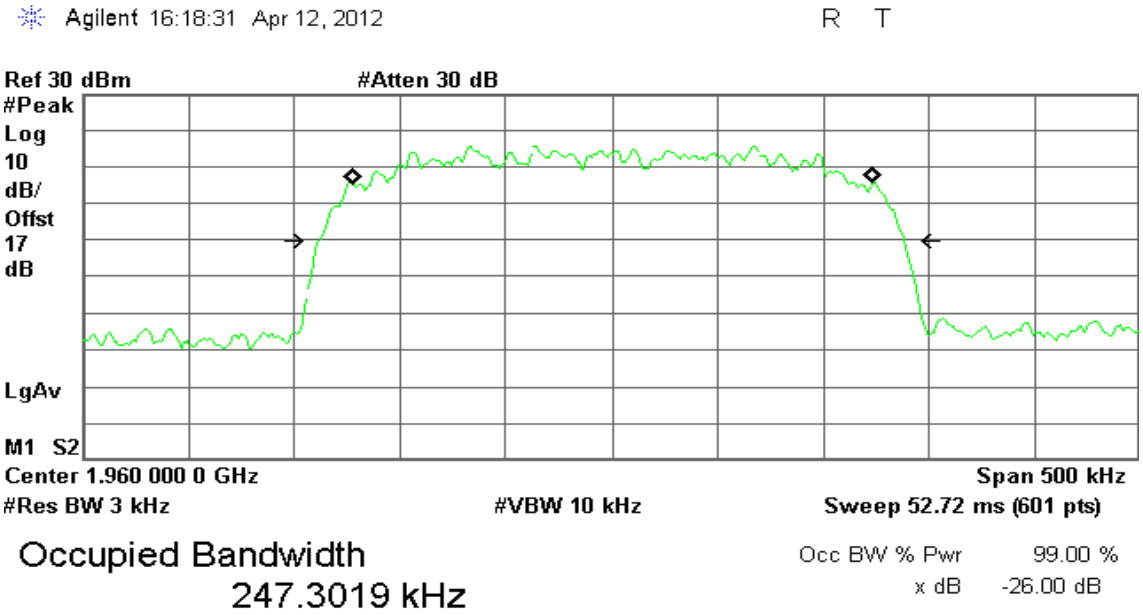
Mode 15: TDMA / 1850 – 1910MHz Uplink

CH Low



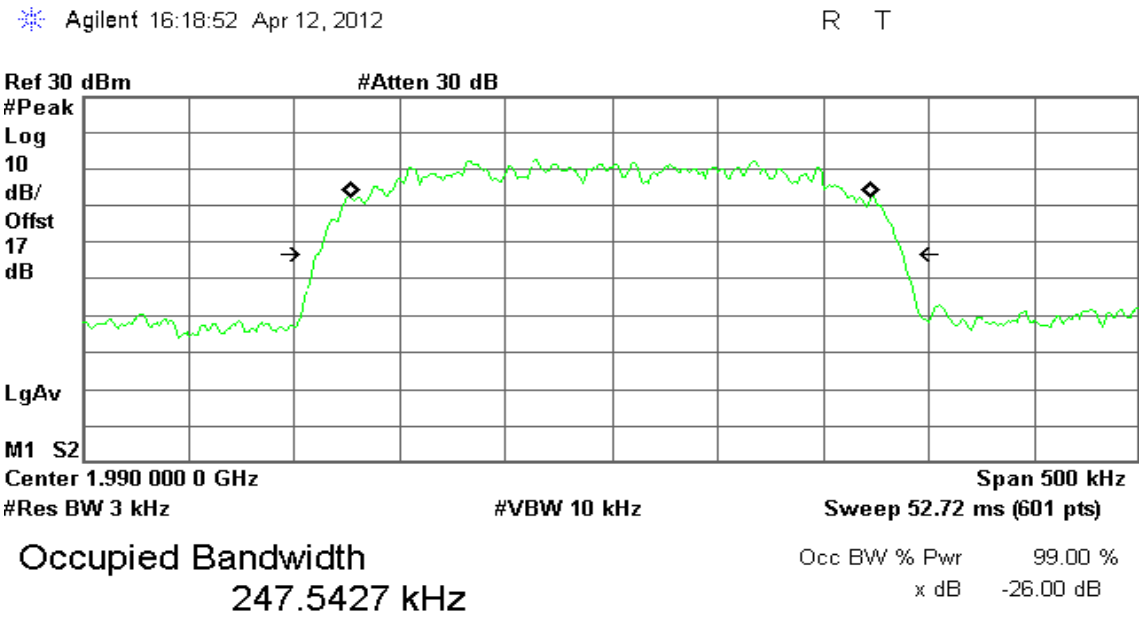
Transmit Freq Error	835.324 Hz
x dB Bandwidth	278.360 kHz

CH Mid



Transmit Freq Error	771.276 Hz
x dB Bandwidth	278.175 kHz

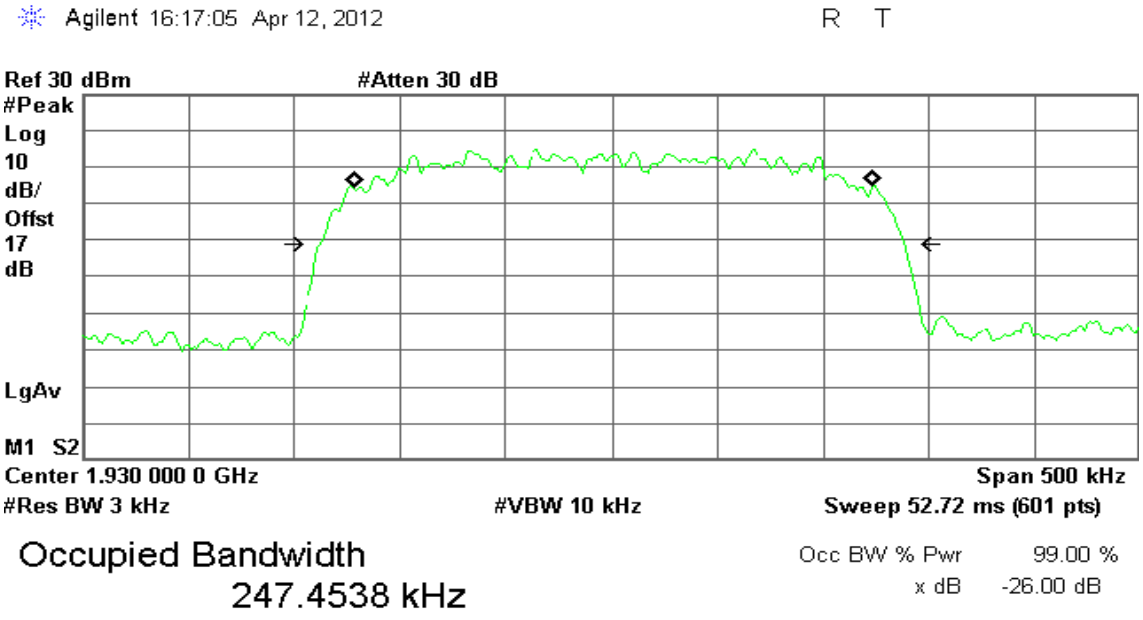
CH High



Transmit Freq Error	-125.188 Hz
x dB Bandwidth	278.605 kHz

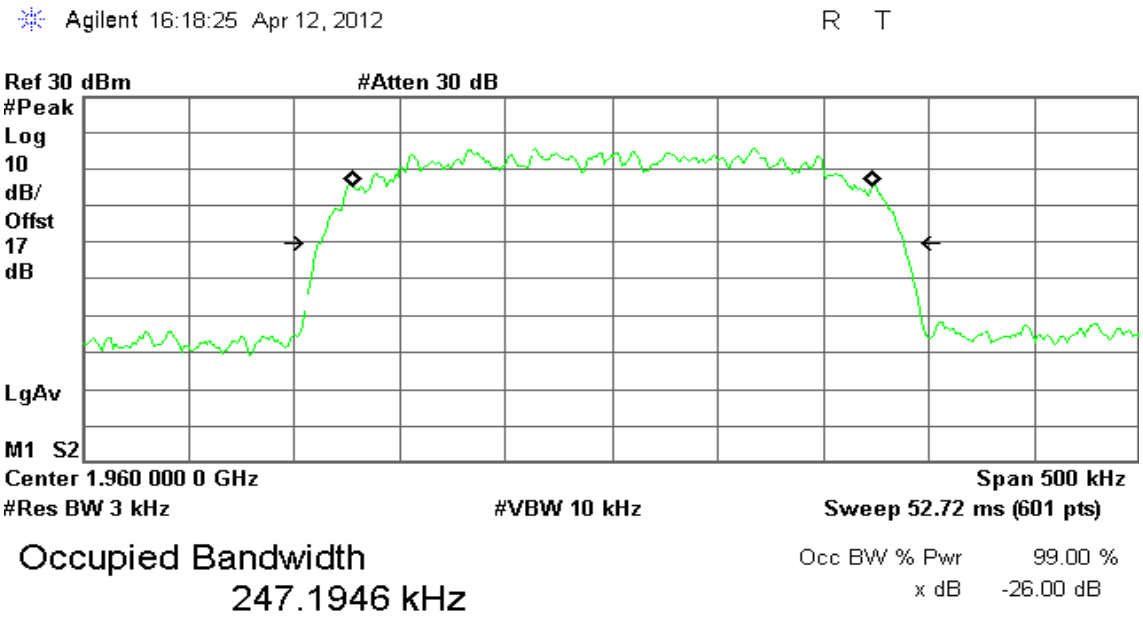
Mode 16: TDMA / 1930 – 1990MHz Downlink

CH Low



Transmit Freq Error	835.173 Hz
x dB Bandwidth	278.368 kHz

CH Mid

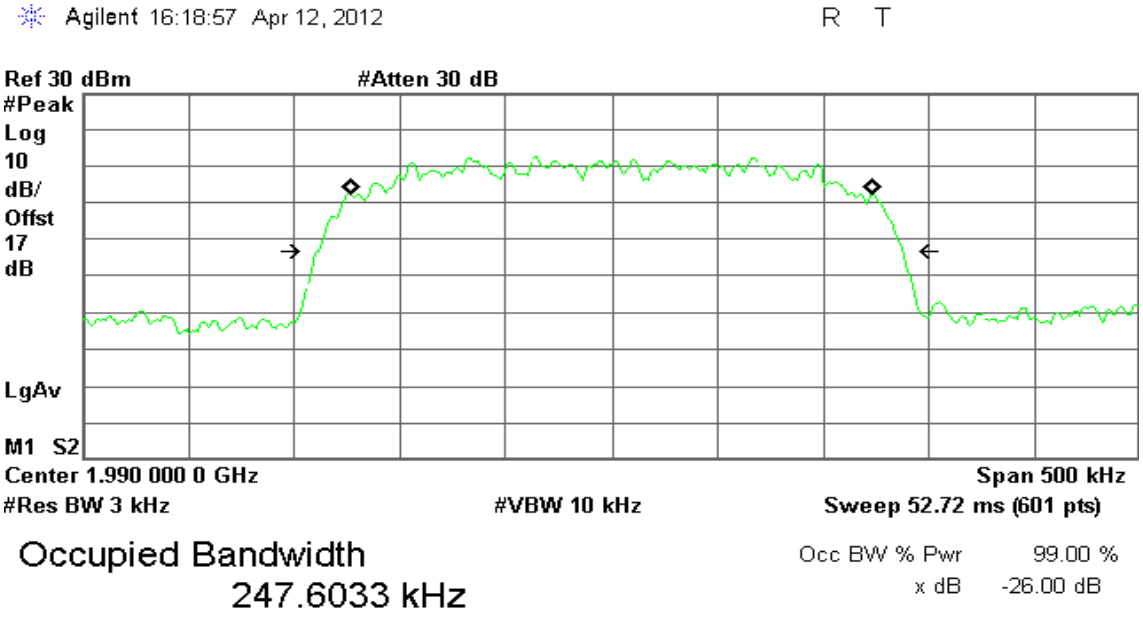


Occupied Bandwidth
247.1946 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error	758.402 Hz
x dB Bandwidth	277.604 kHz

CH High



Occupied Bandwidth
247.6033 kHz

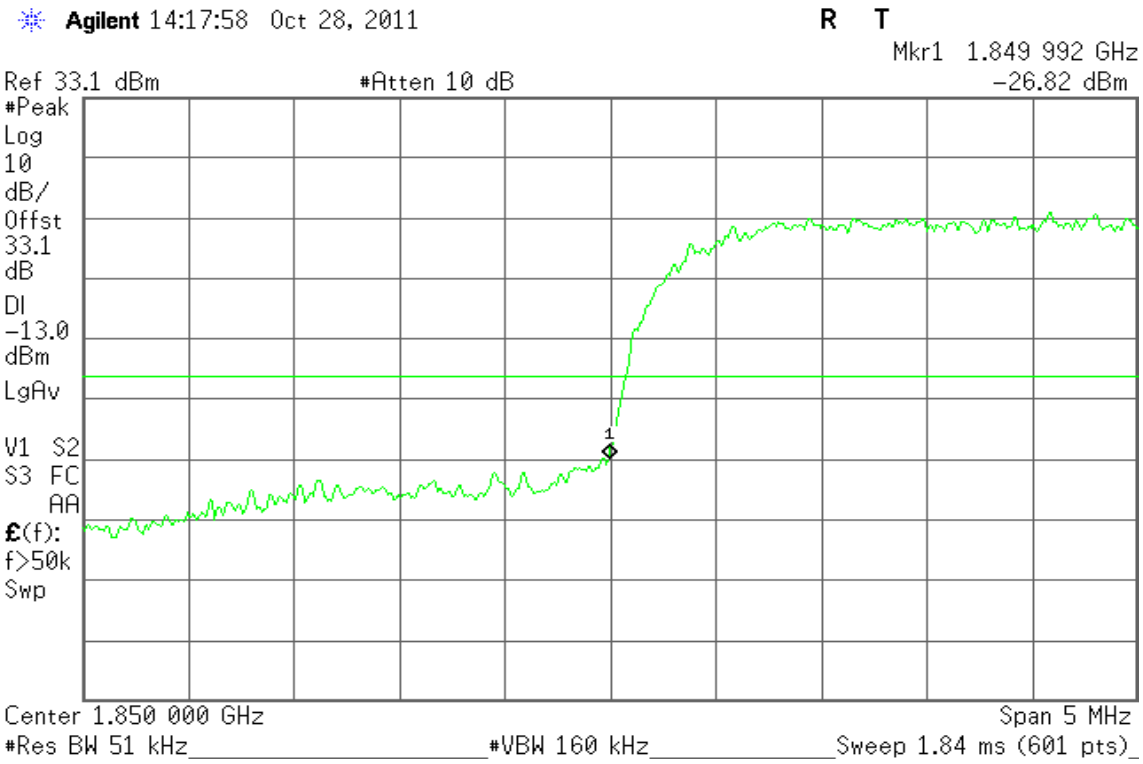
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error	-68.026 Hz
x dB Bandwidth	278.776 kHz

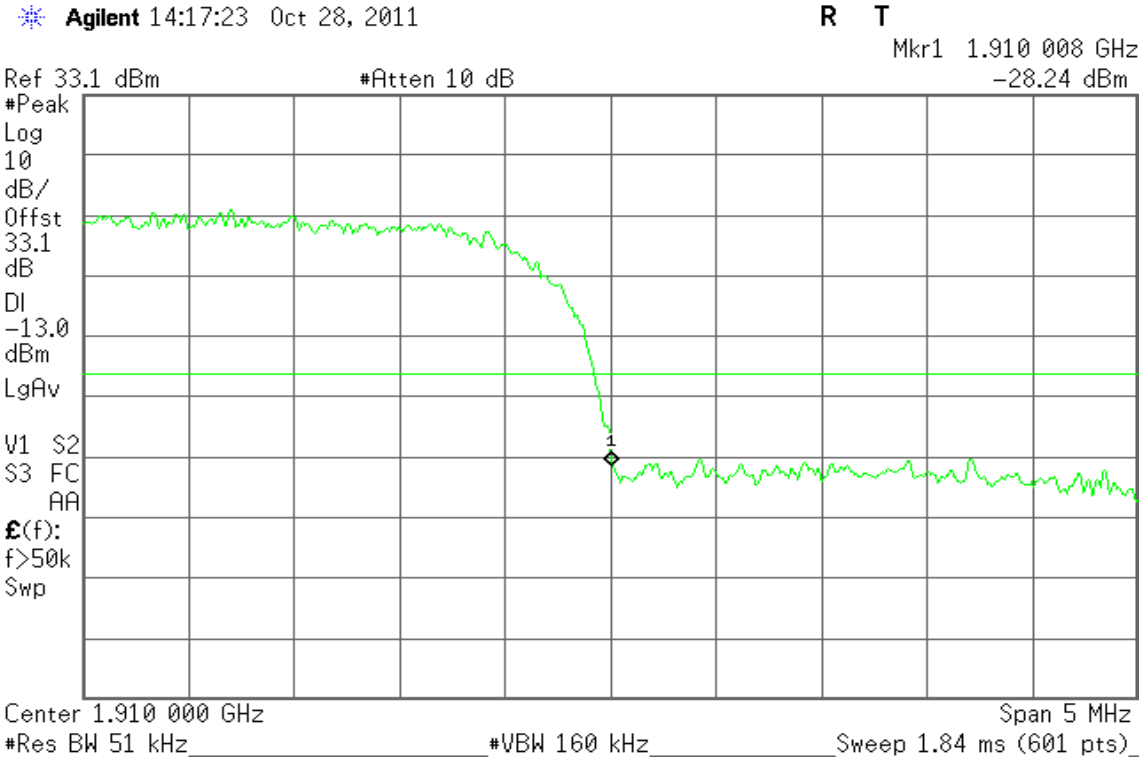
Band Edge

Mode 1: WCDMA Band II Uplink

CH Low

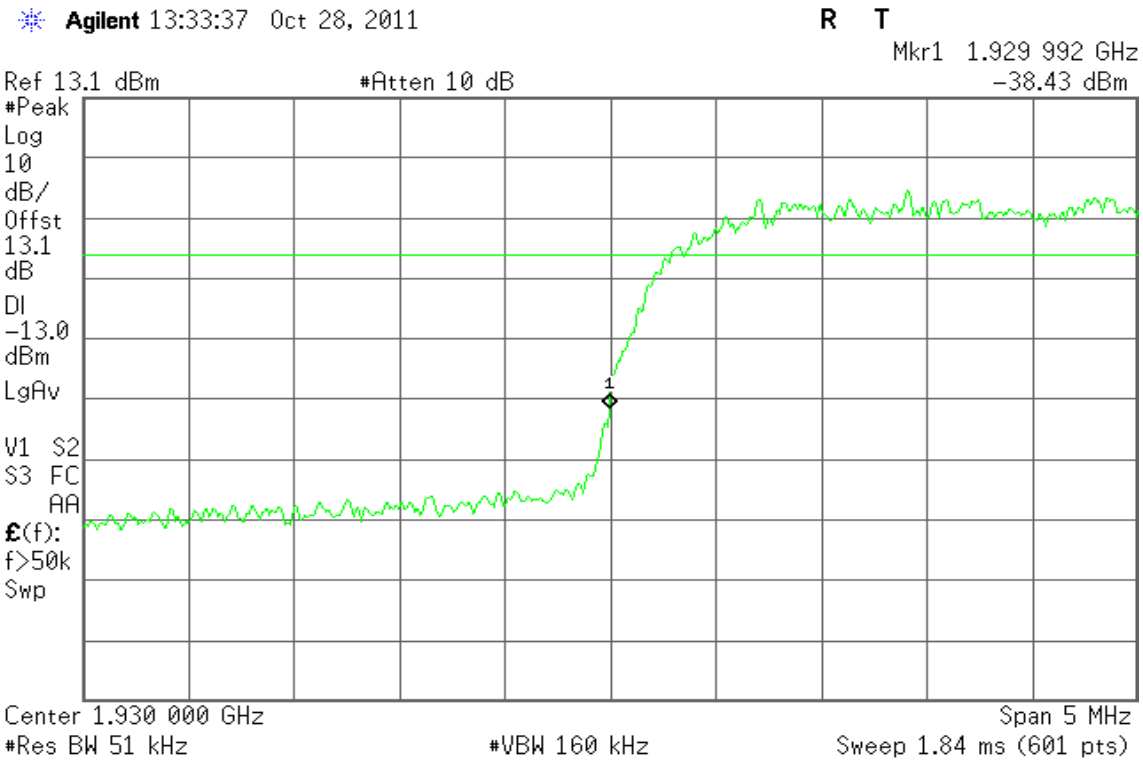


CH High

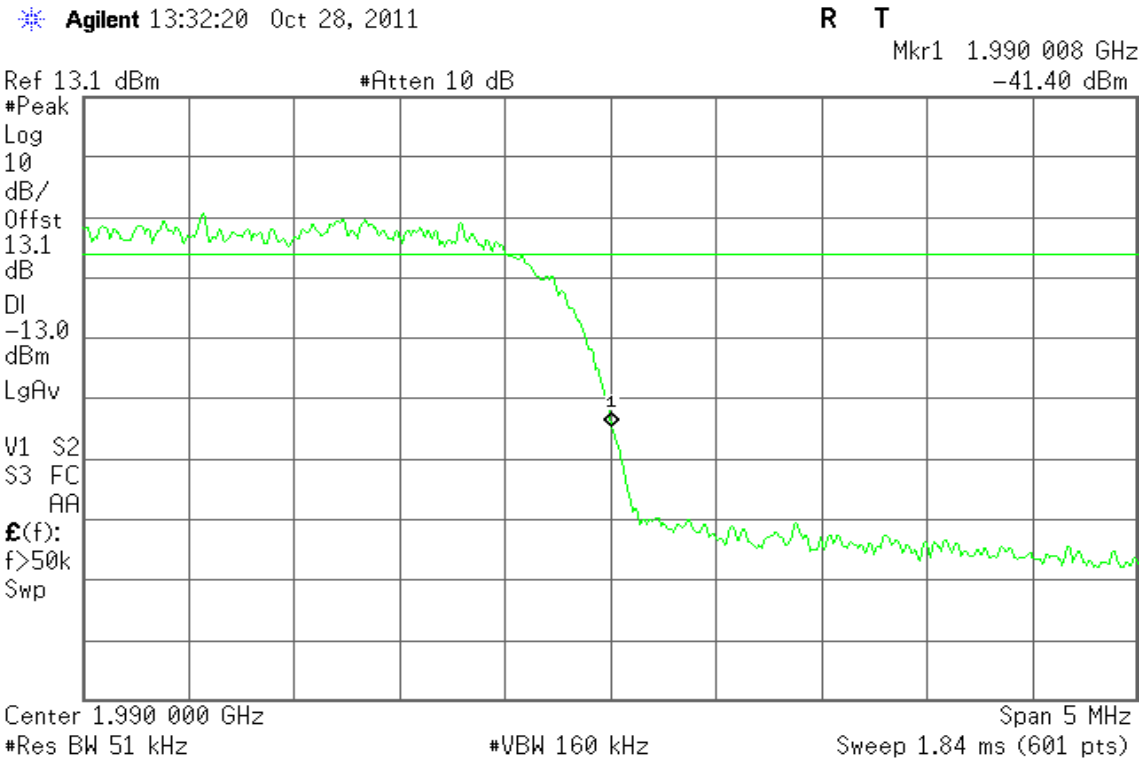


Mode 2: WCDMA Band II Downlink

CH Low

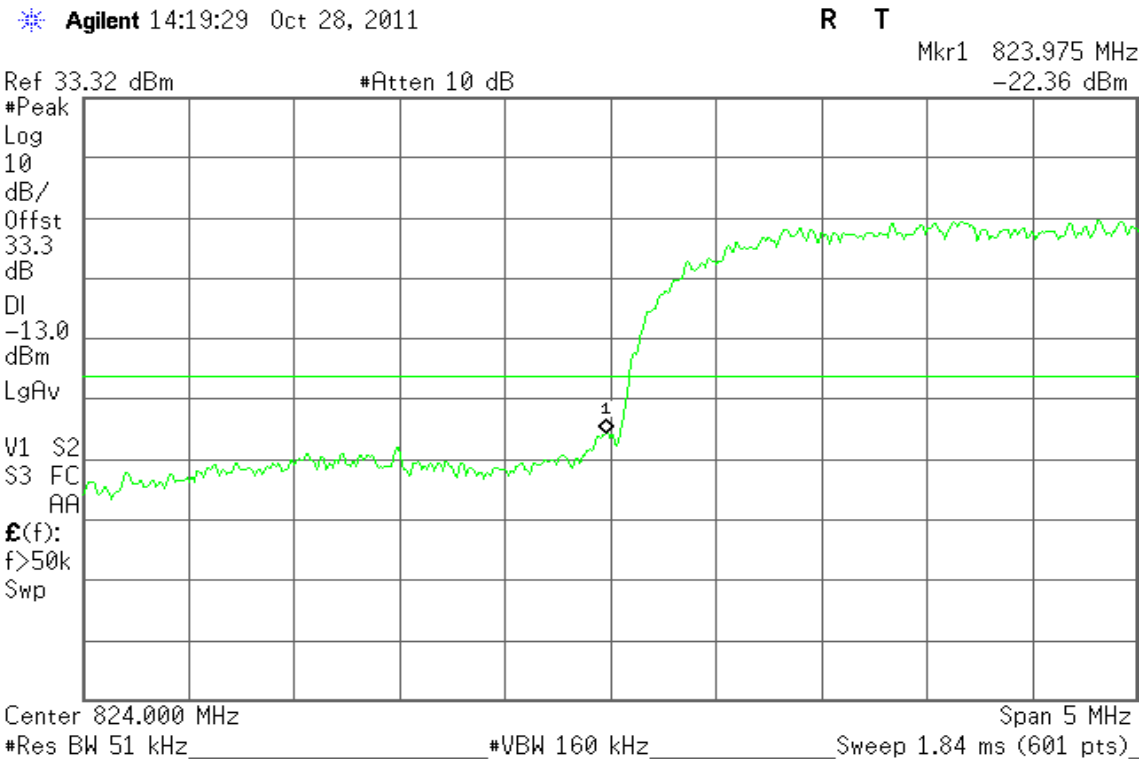


CH High

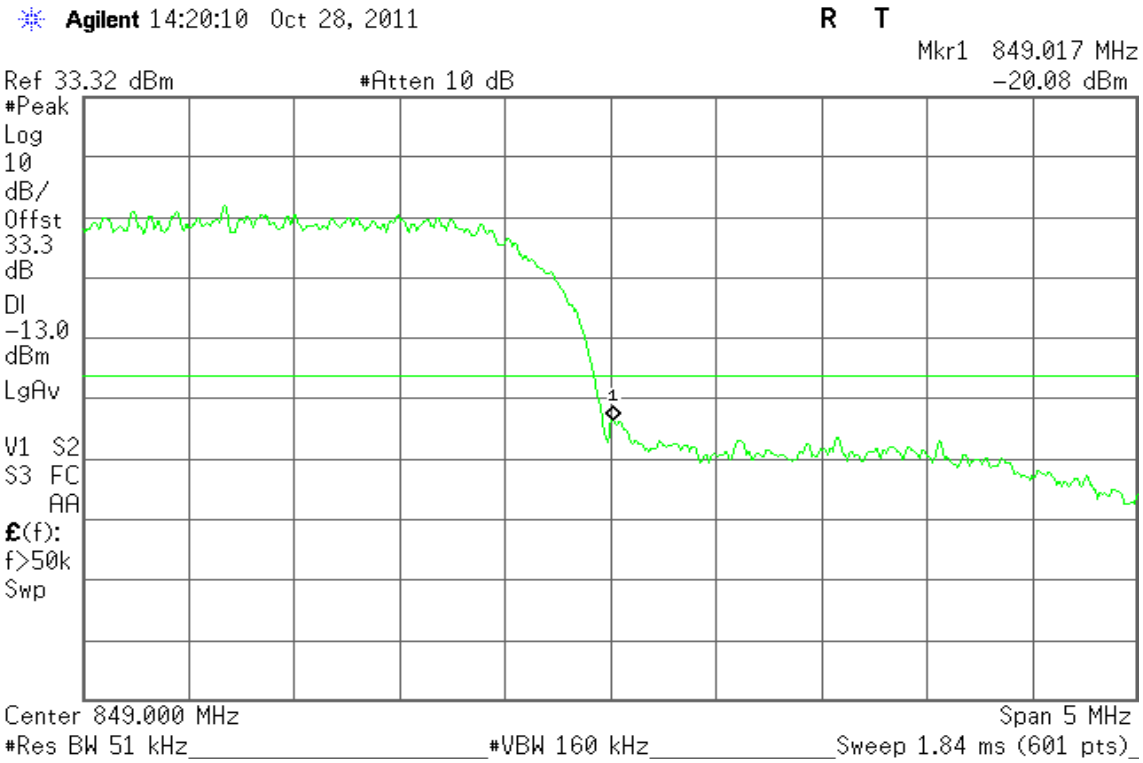


Mode 3: WCDMA Band V Uplink

CH Low

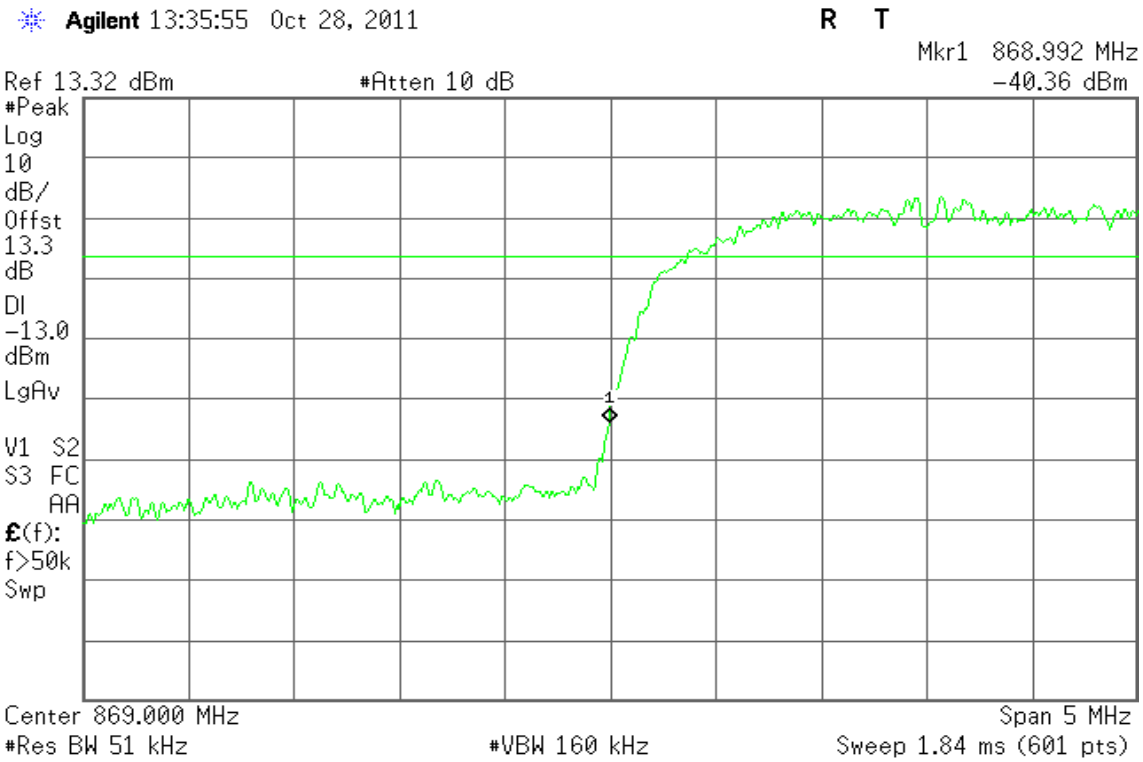


CH High

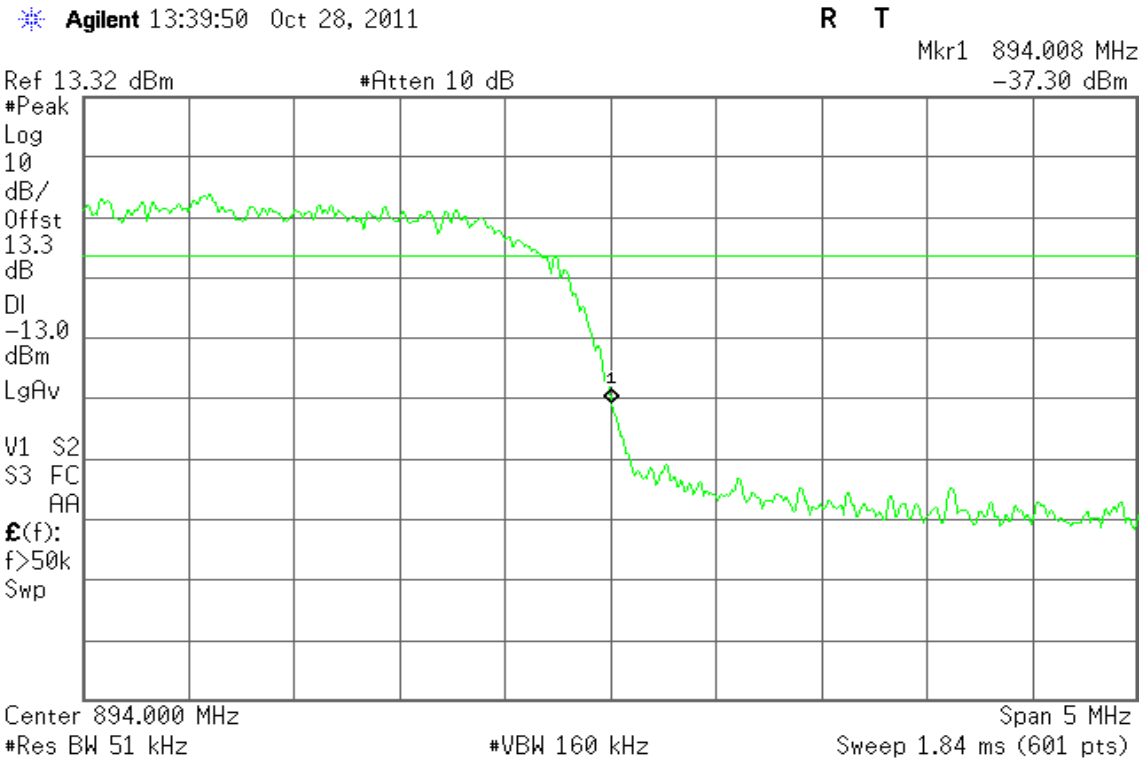


Mode 4: WCDMA Band V Downlink

CH Low

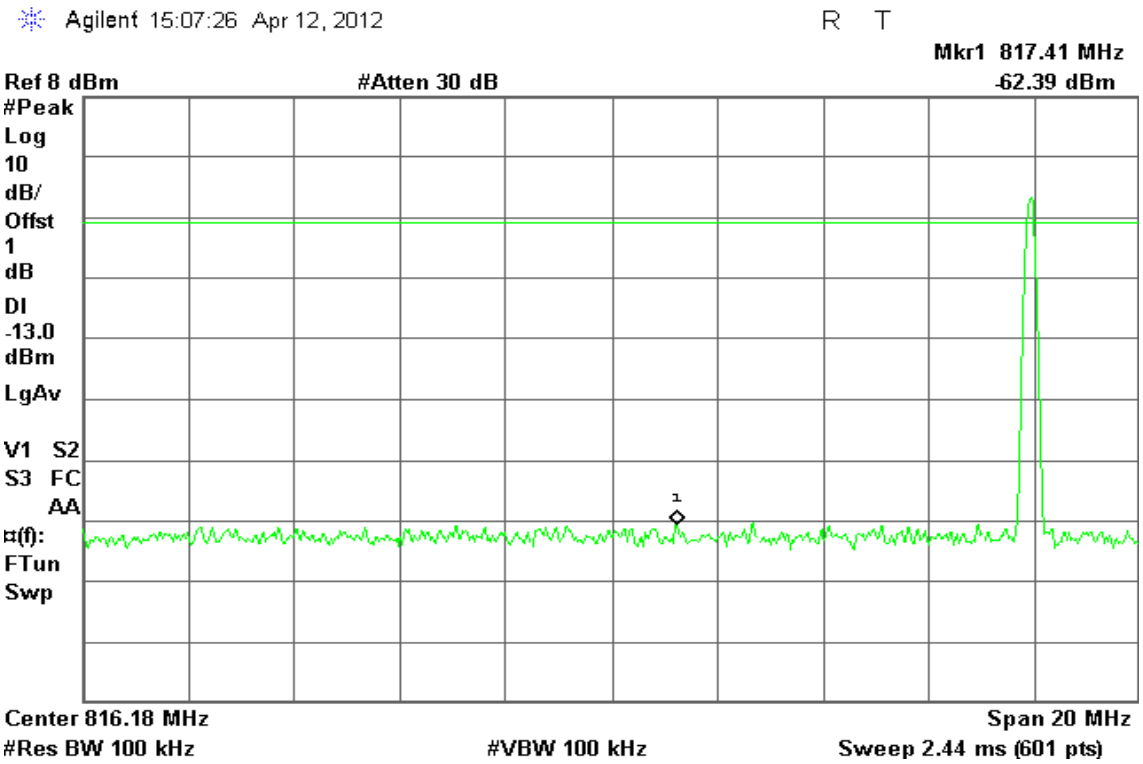


CH High

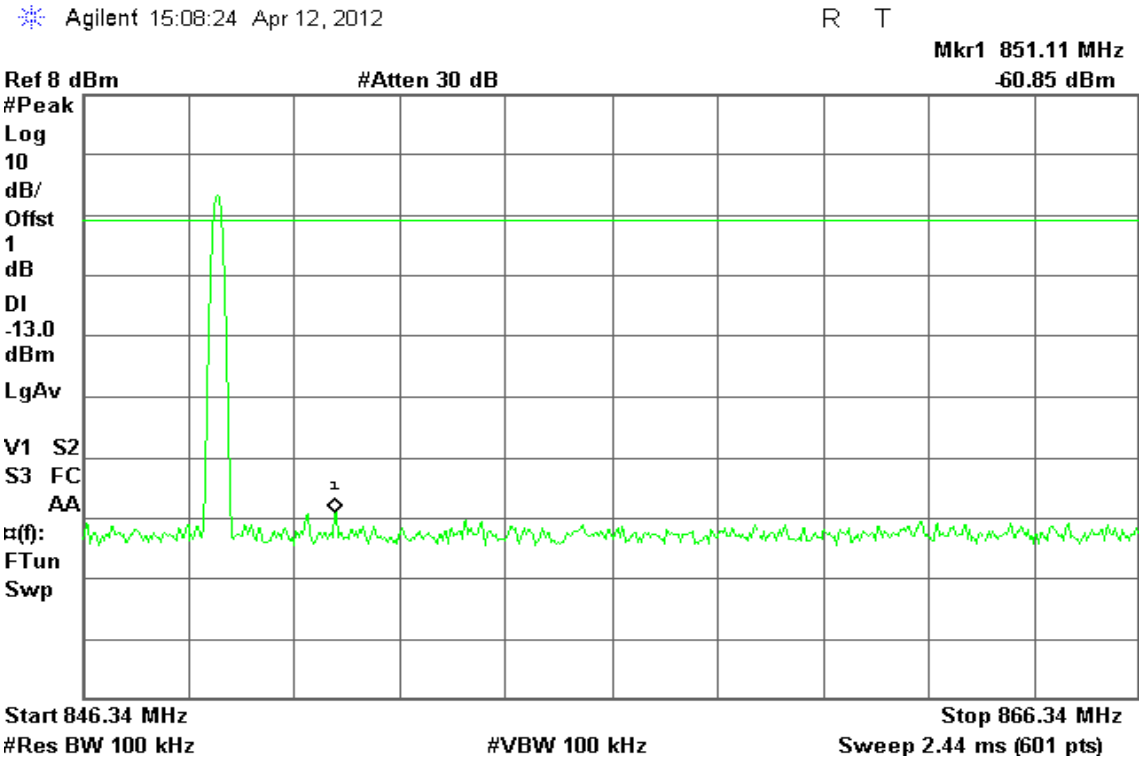


Mode 5: AMPS / 824 – 849MHz Uplink

CH Low

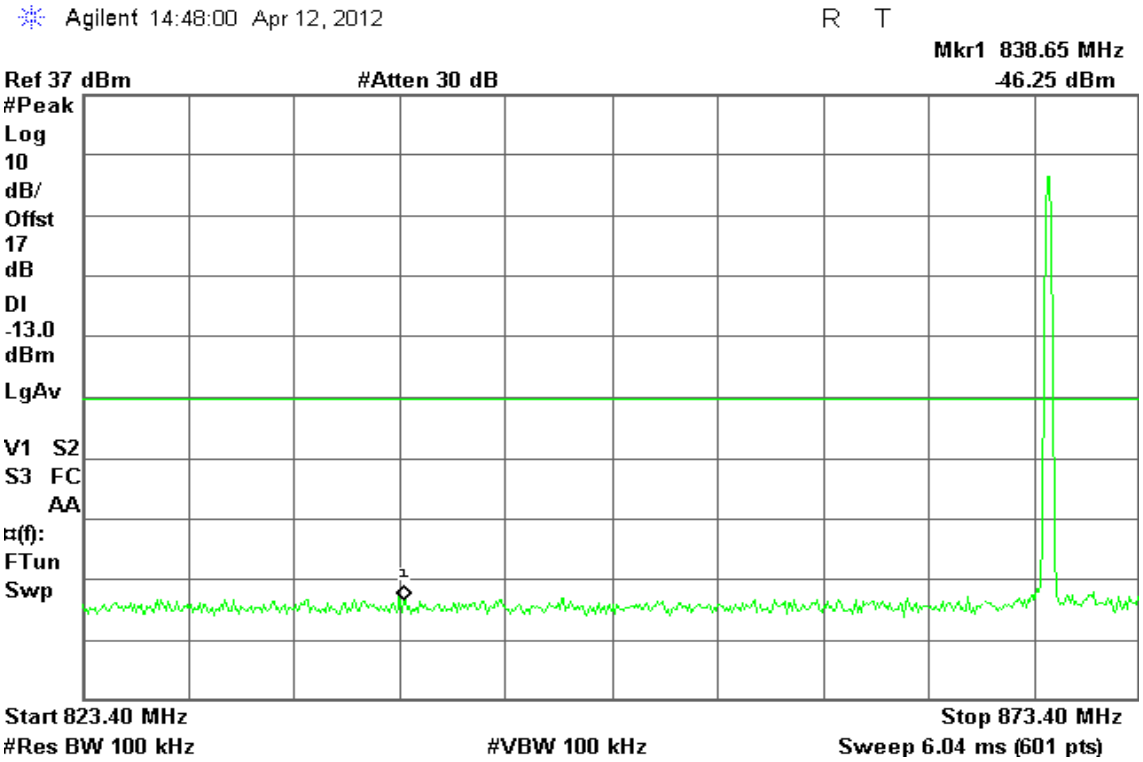


CH High

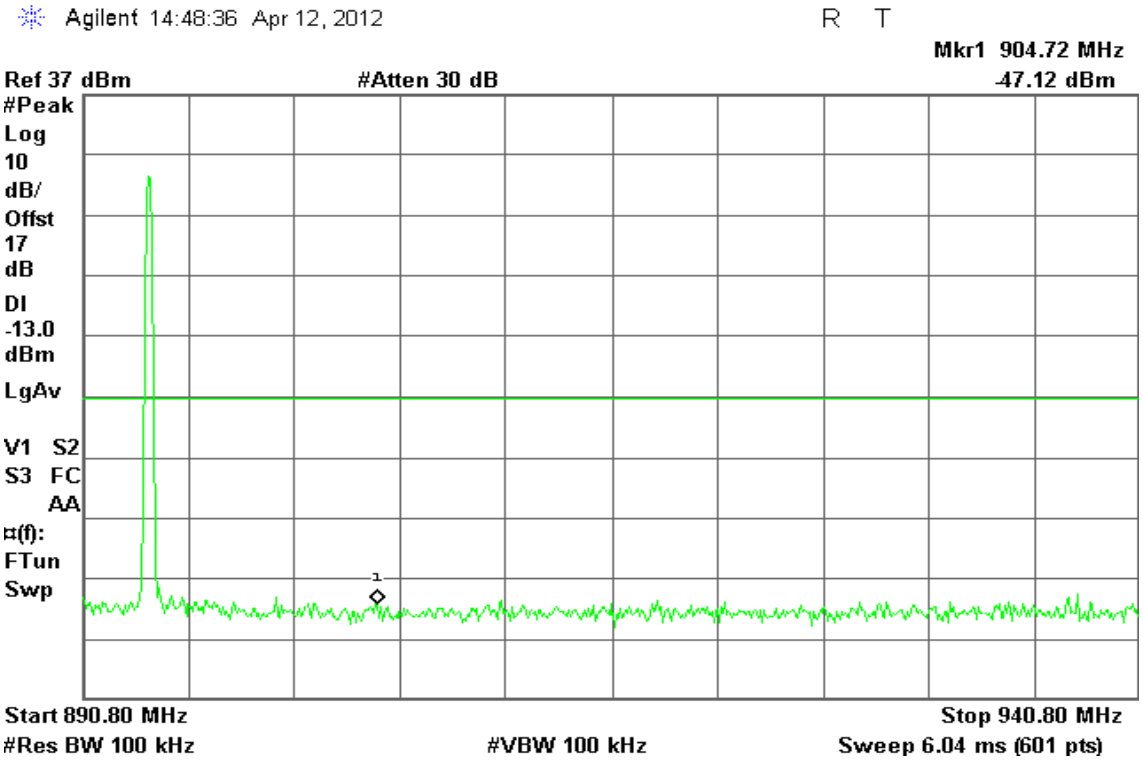


Mode 6: AMPS / 869 – 894MHz Downlink

CH Low

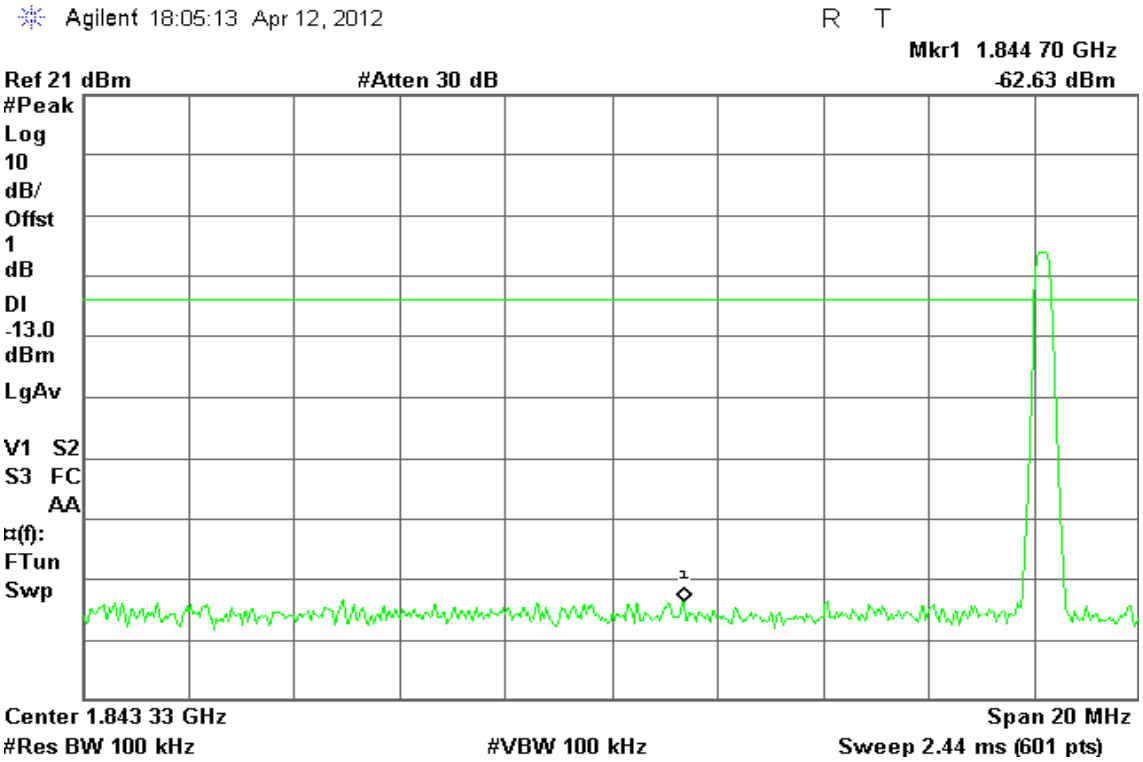


CH High

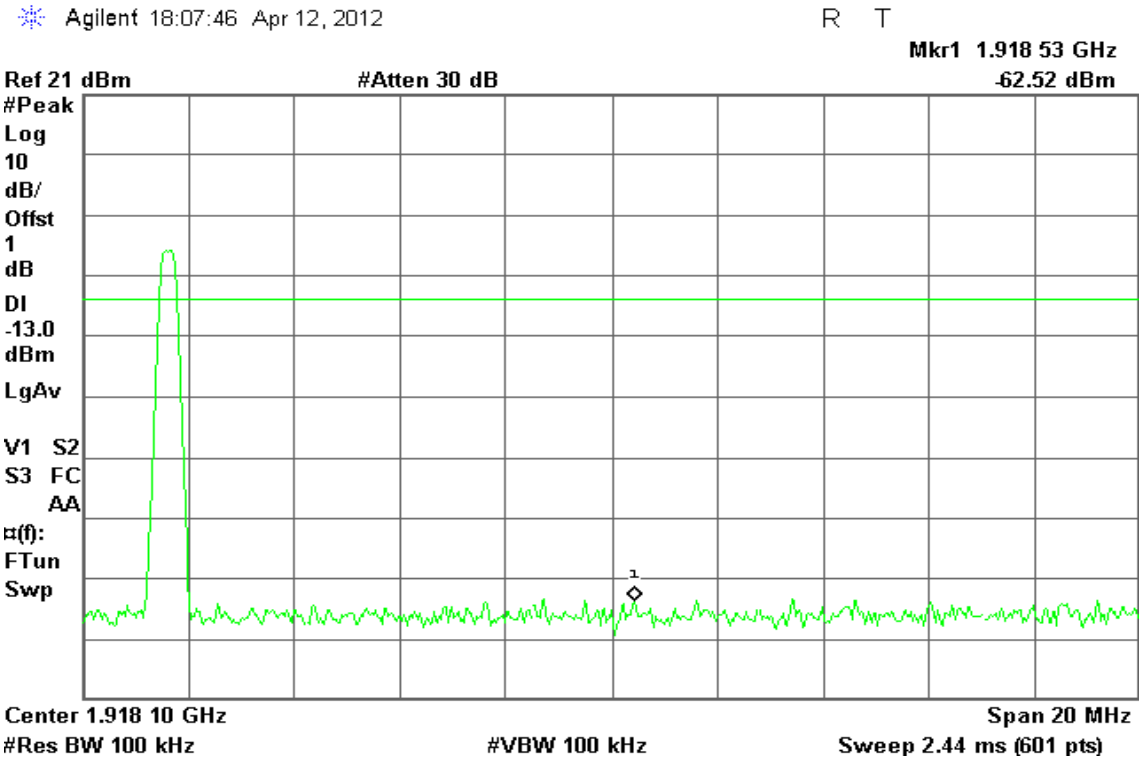


Mode 7: AMPS / 1850 – 1910MHz Uplink

CH Low

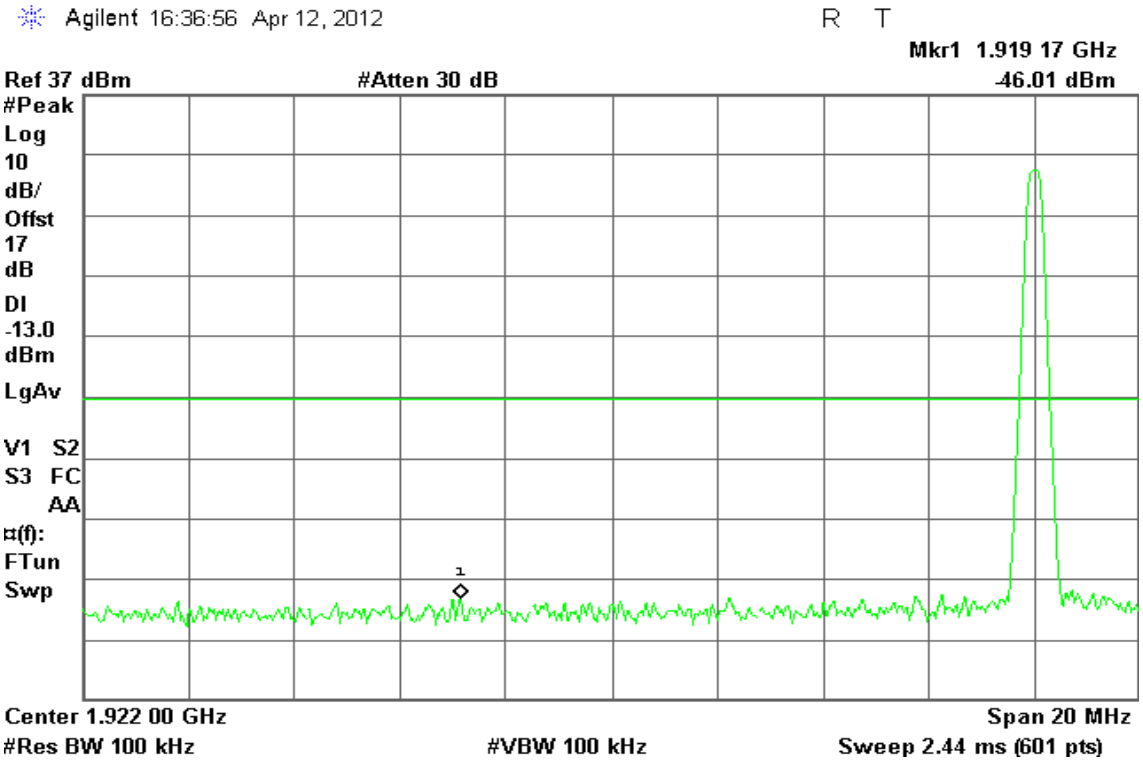


CH High

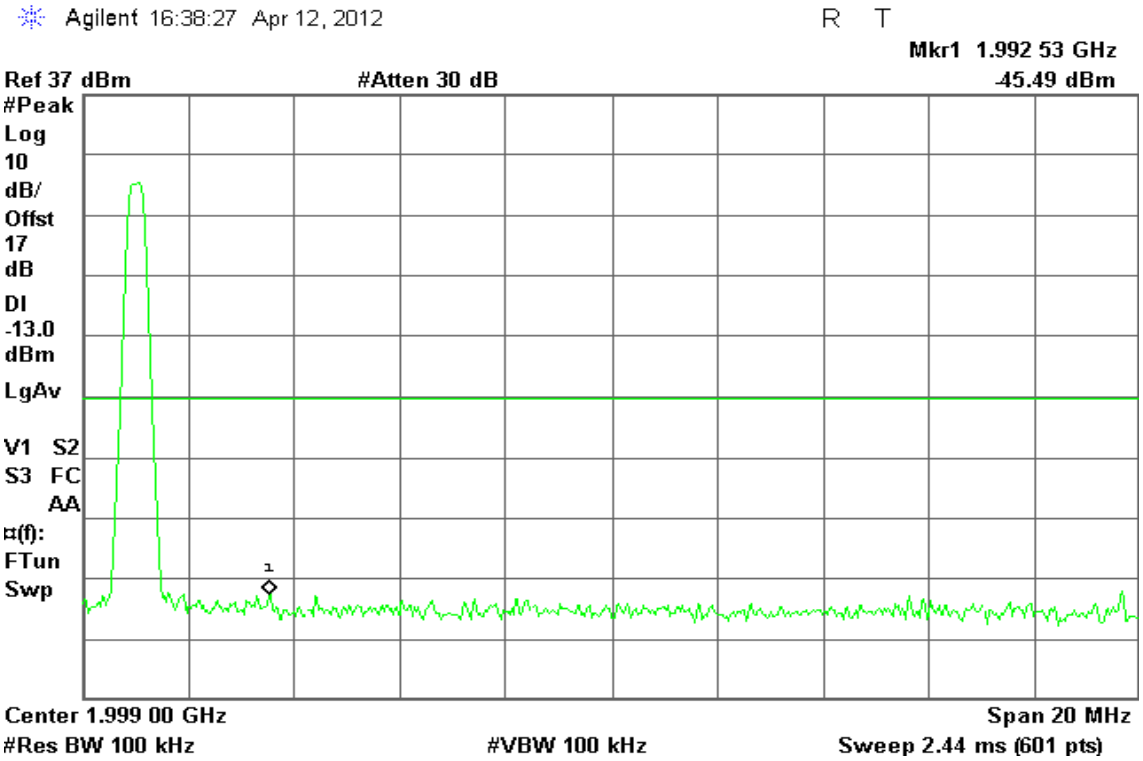


Mode 8: AMPS / 1930 – 1990MHz Downlink

CH Low

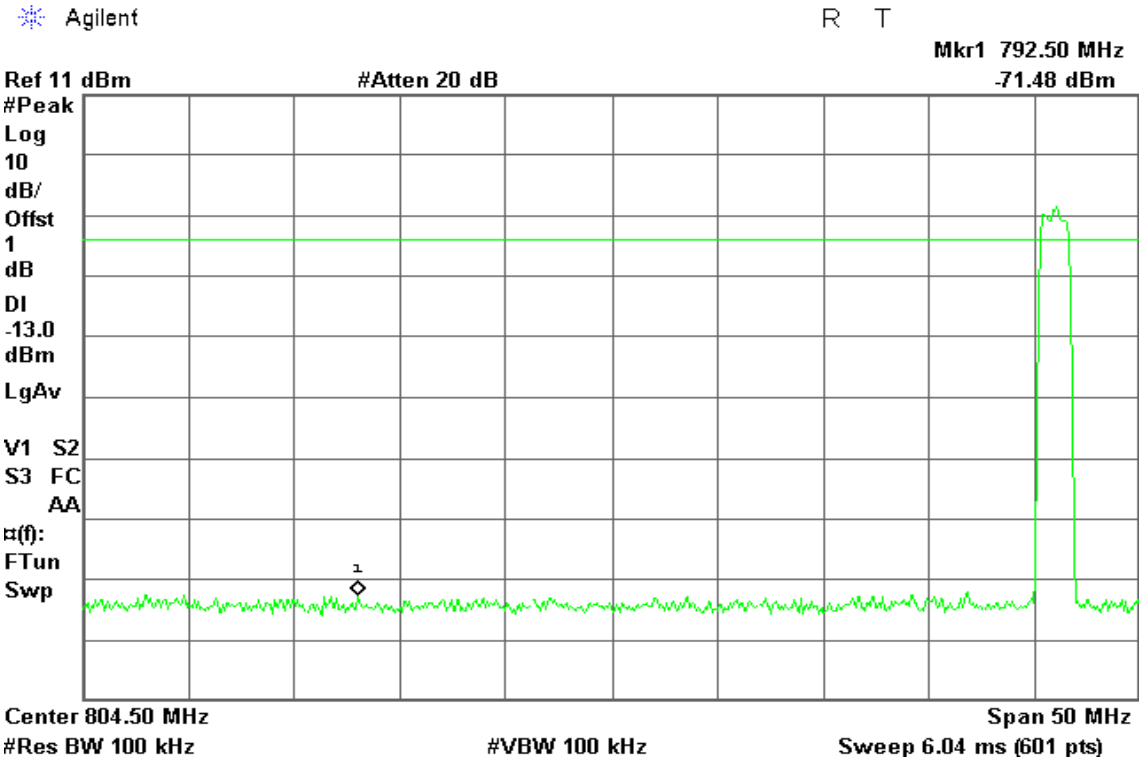


CH High

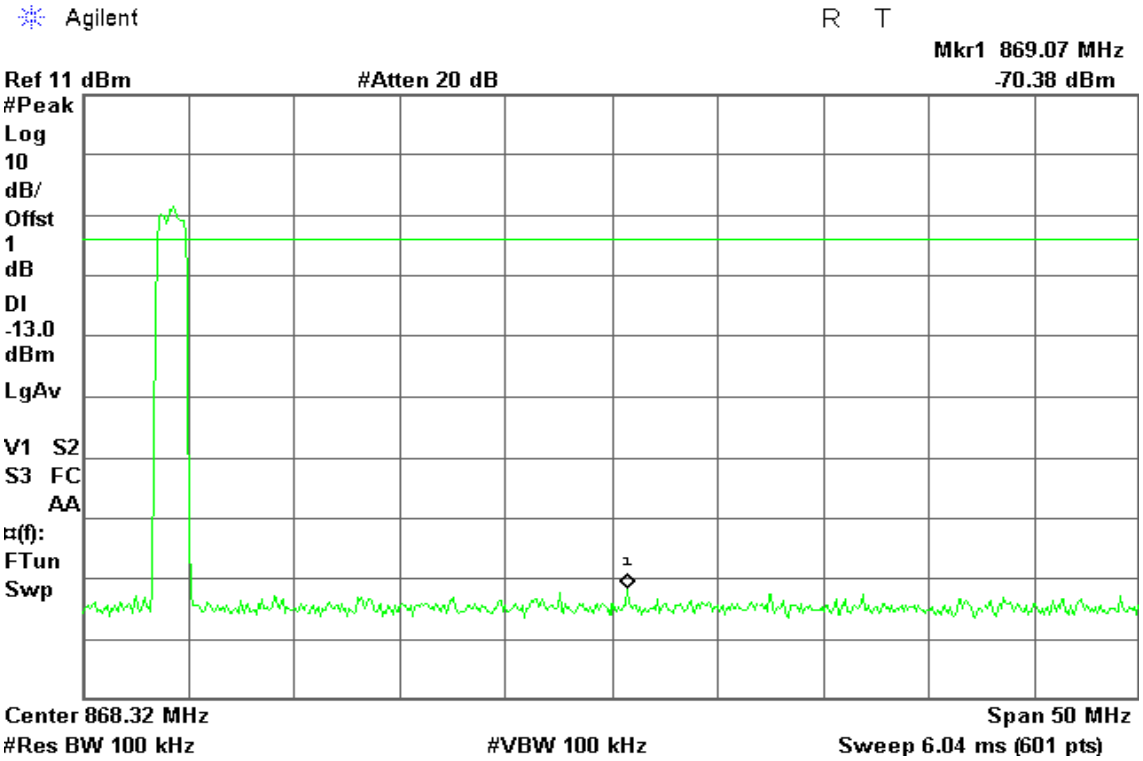


Mode 9: CDMA / 824 – 849MHz Uplink

CH Low

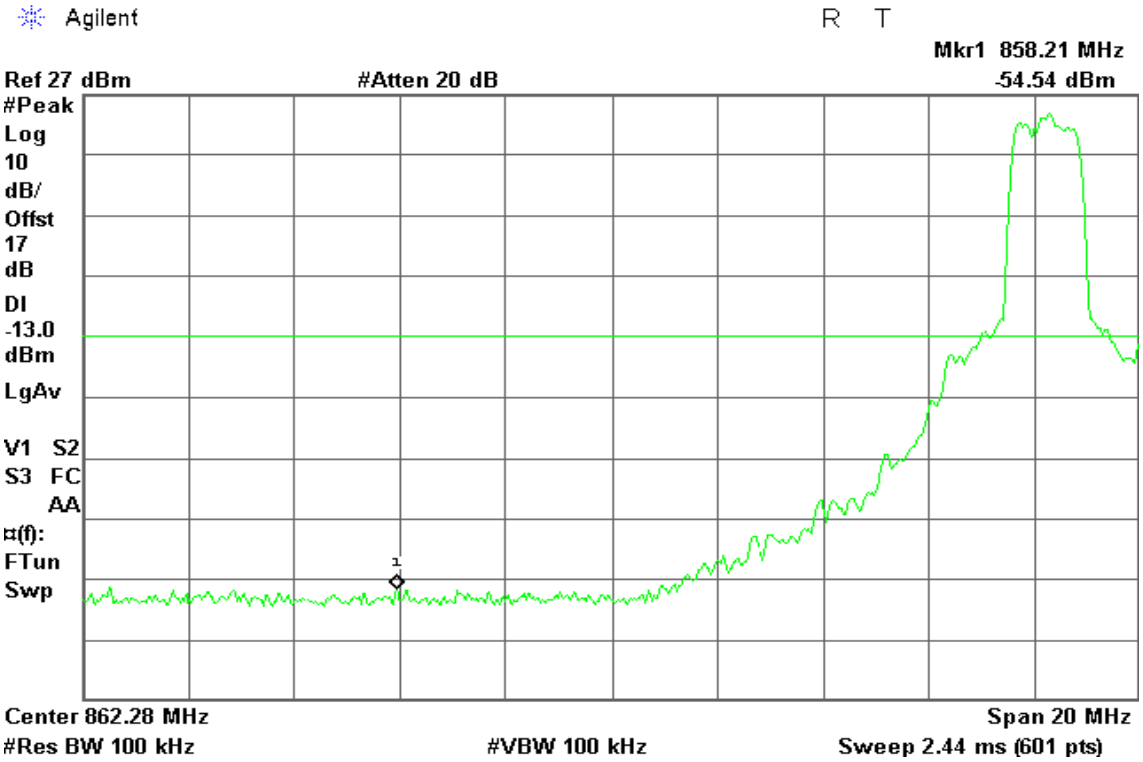


CH High

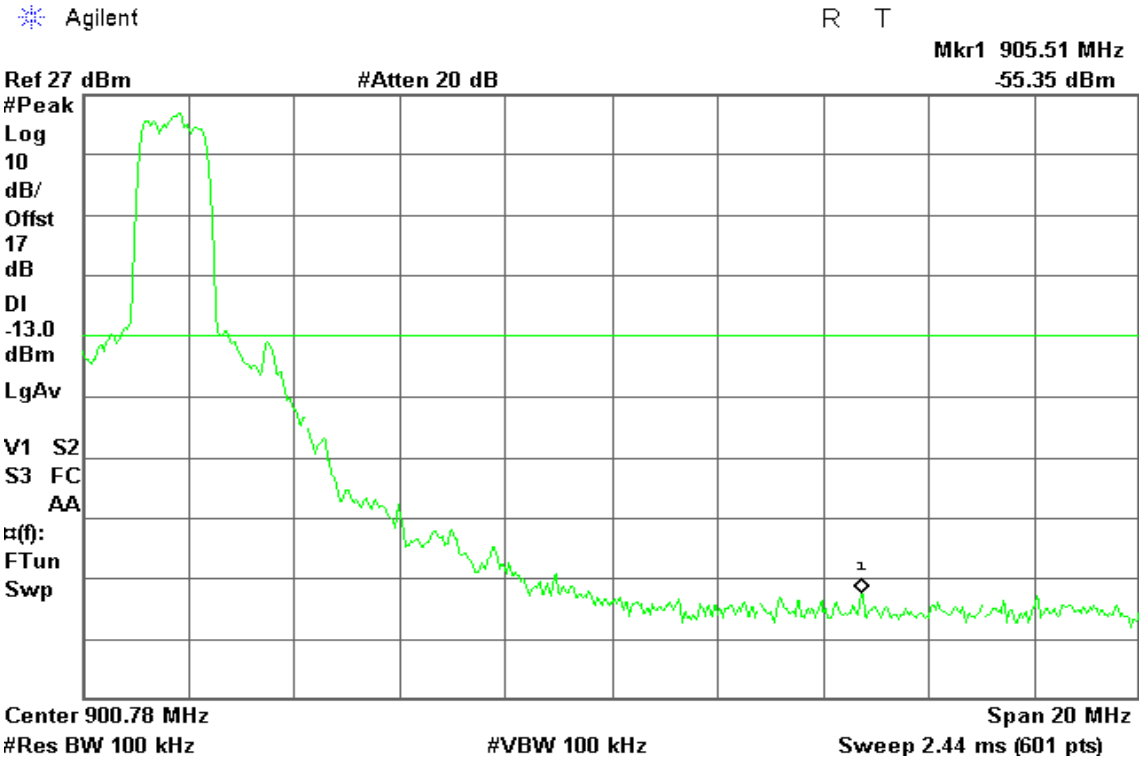


Mode 10: CDMA / 869 – 894MHz Downlink

CH Low

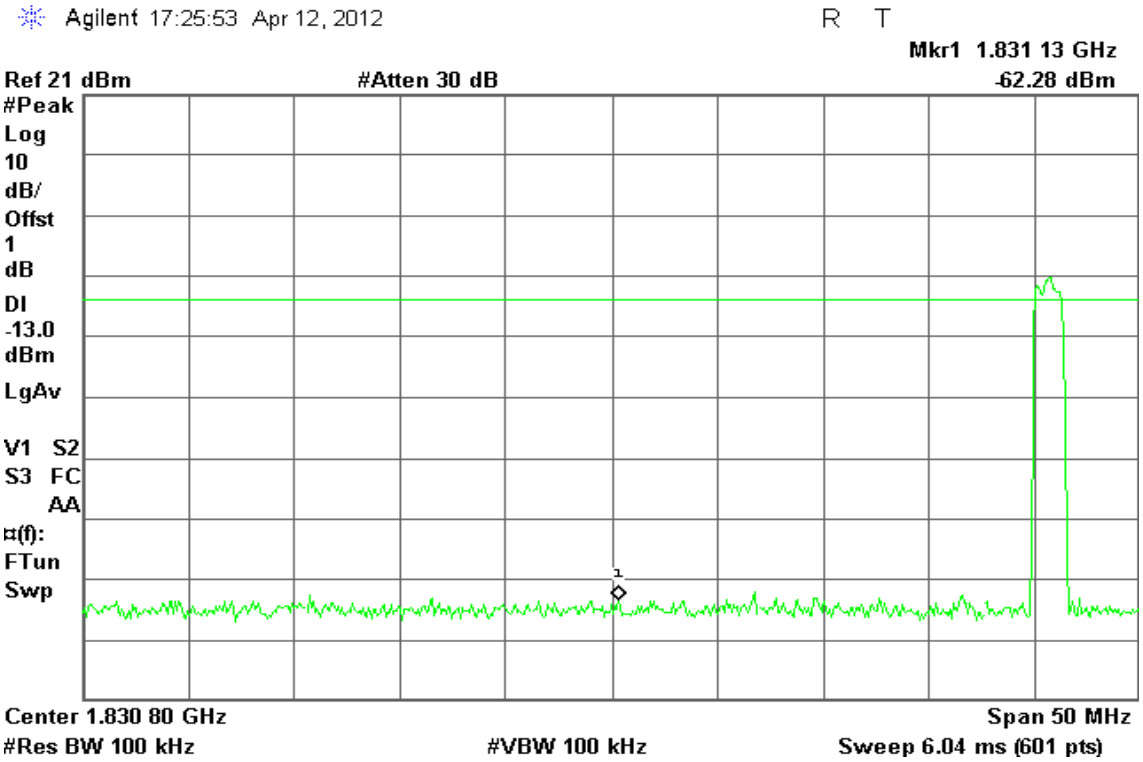


CH High

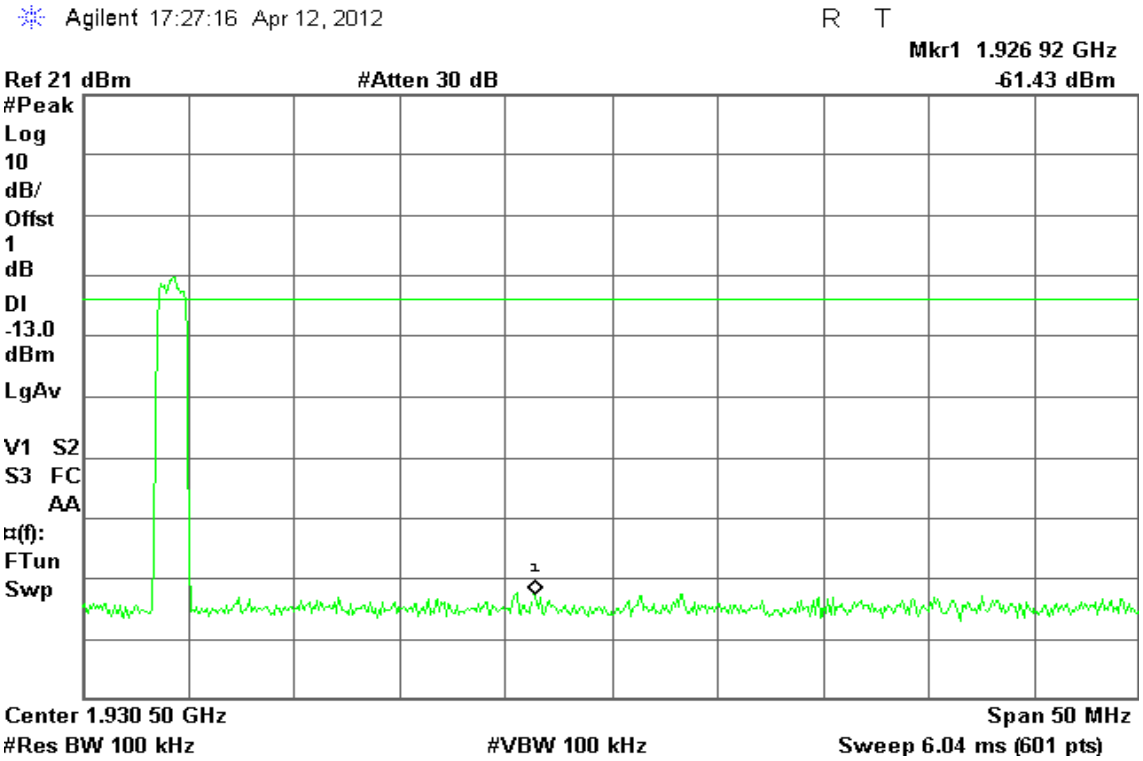


Mode 11: CDMA / 1850 – 1910MHz Uplink

CH Low

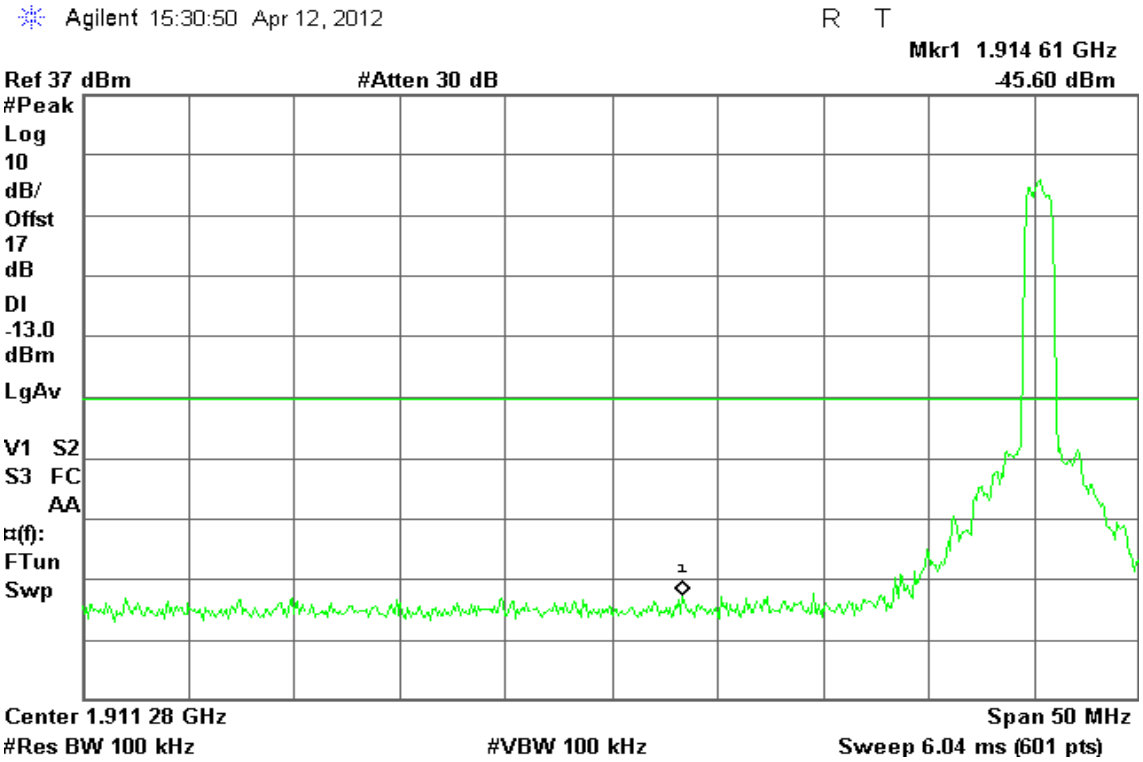


CH High

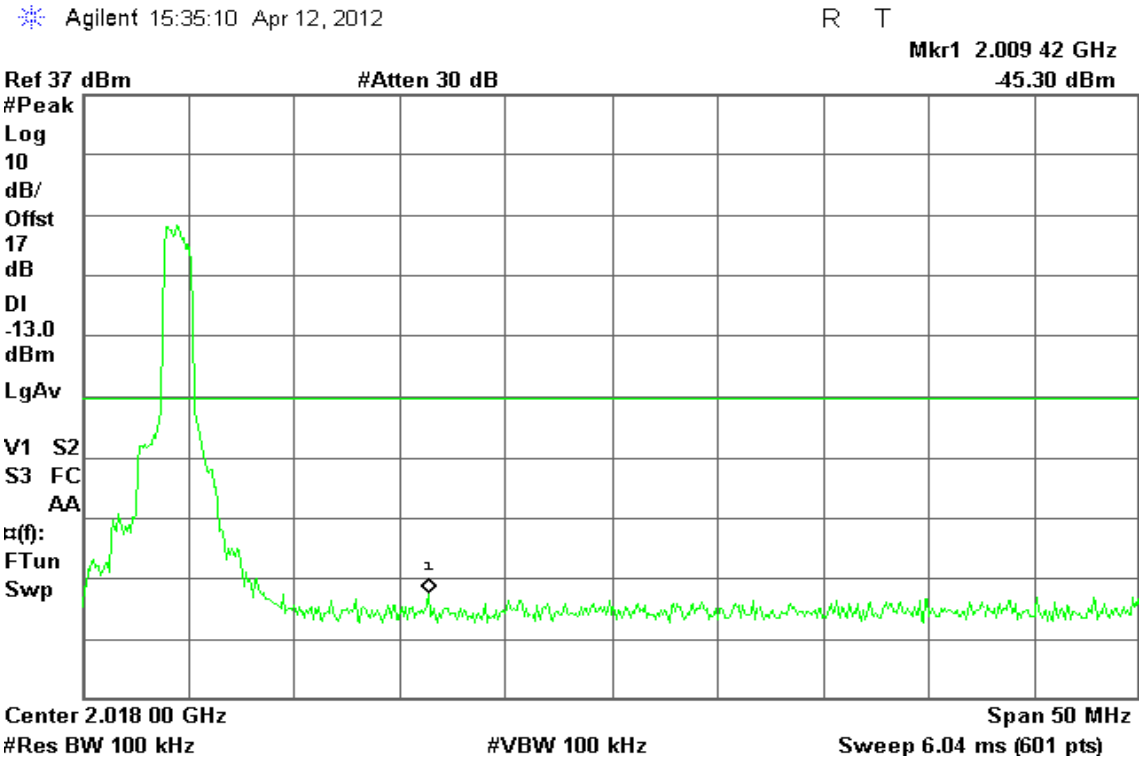


Mode 12: CDMA / 1930 – 1990MHz Downlink

CH Low

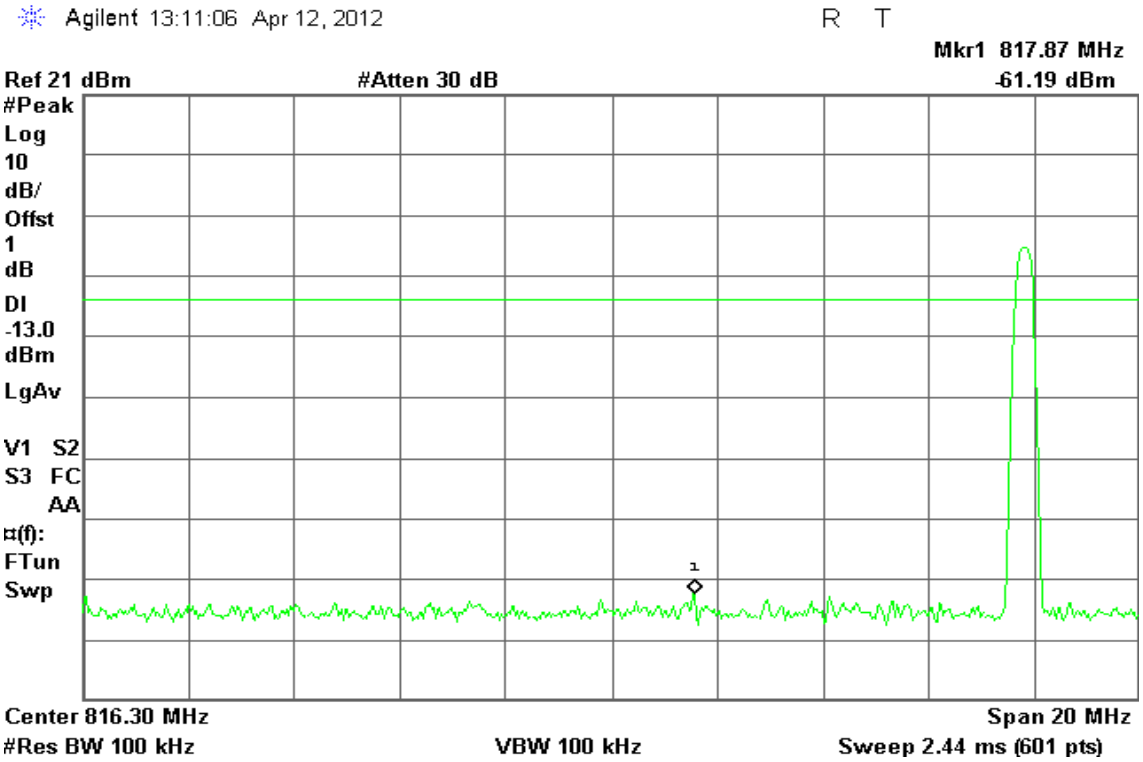


CH High

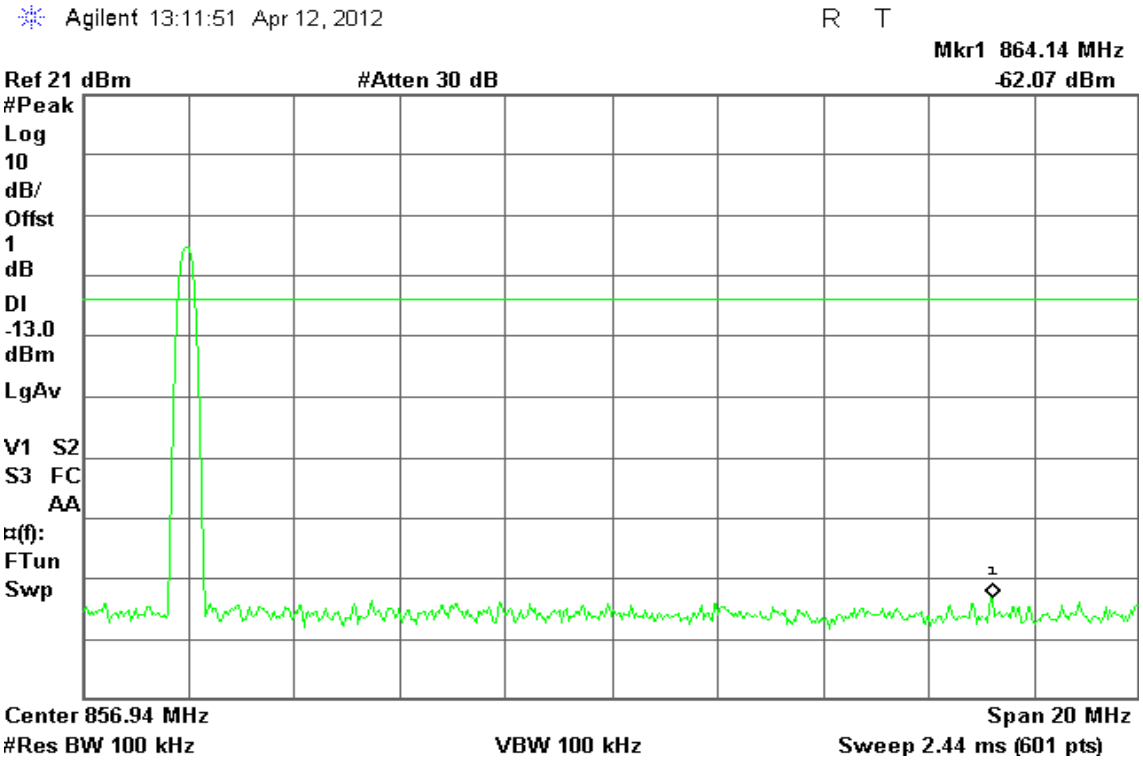


Mode 13: TDMA / 824 – 849MHz Uplink

CH Low

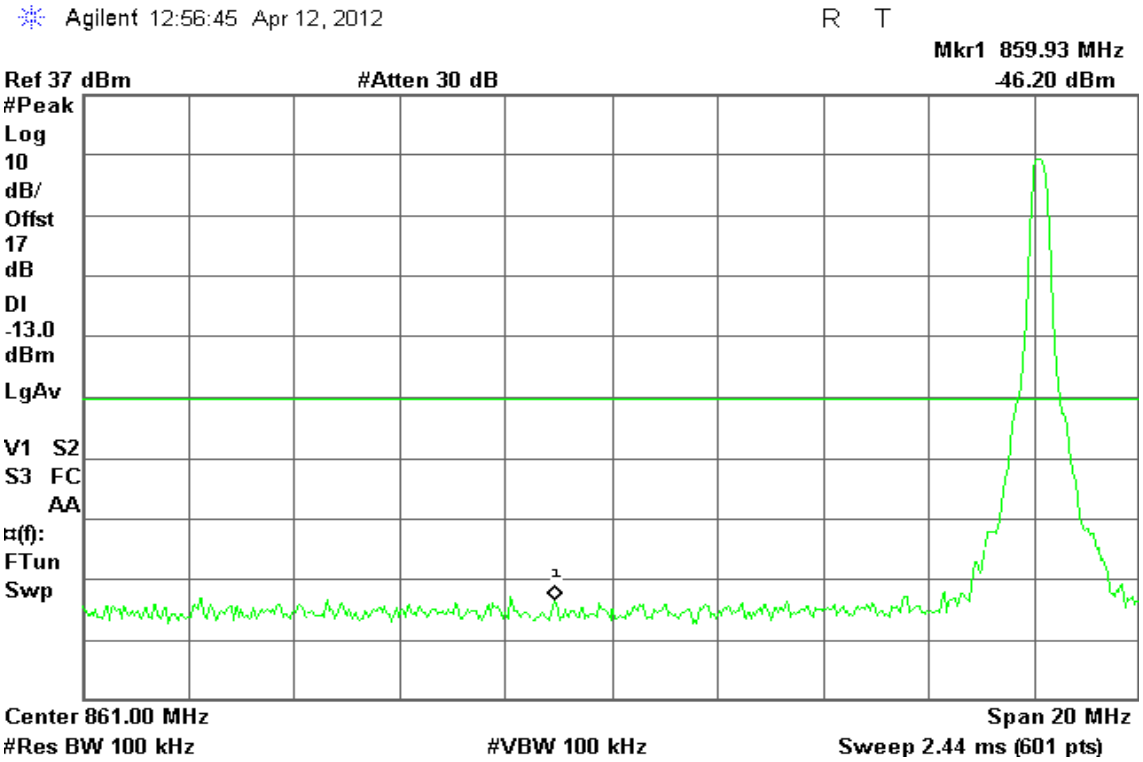


CH High

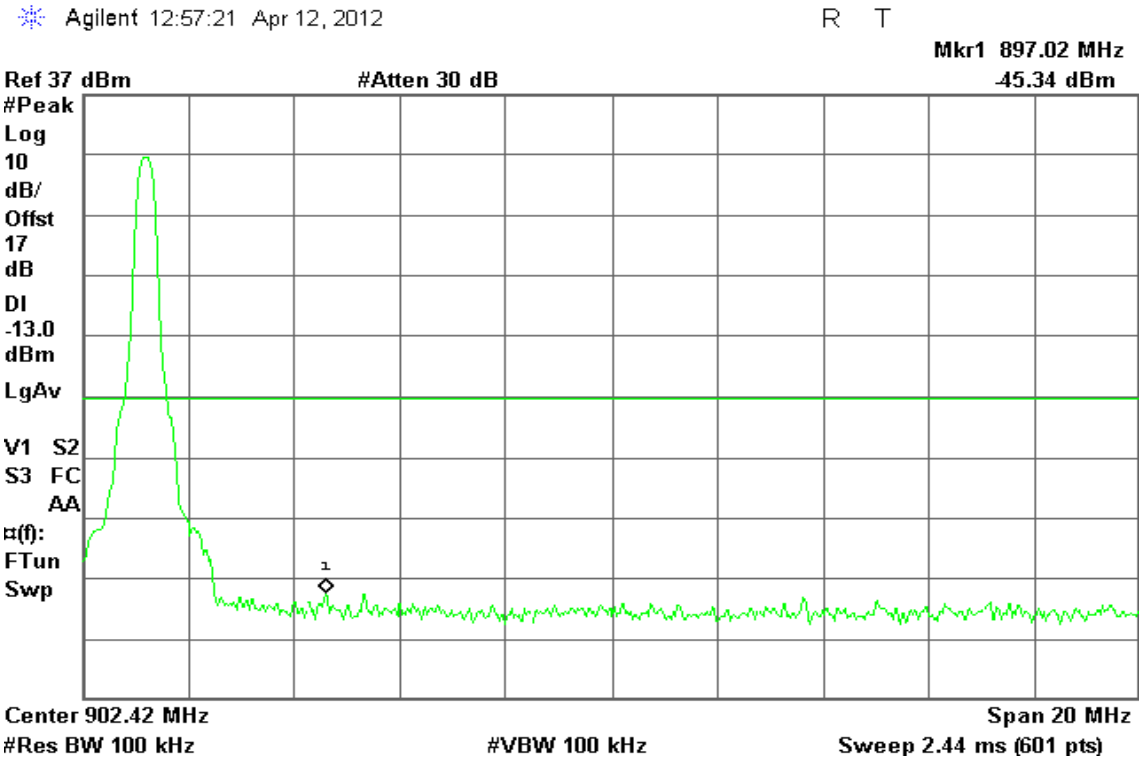


Mode 14: TDMA / 869 – 894MHz Downlink

CH Low

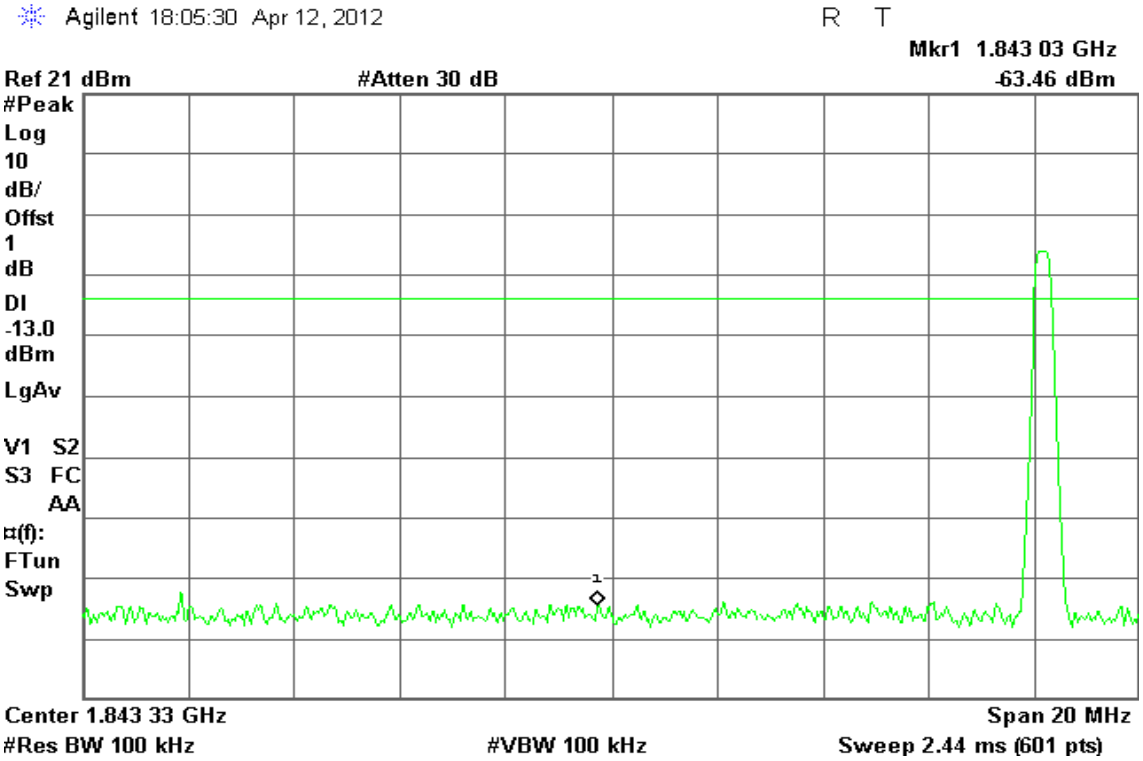


CH High

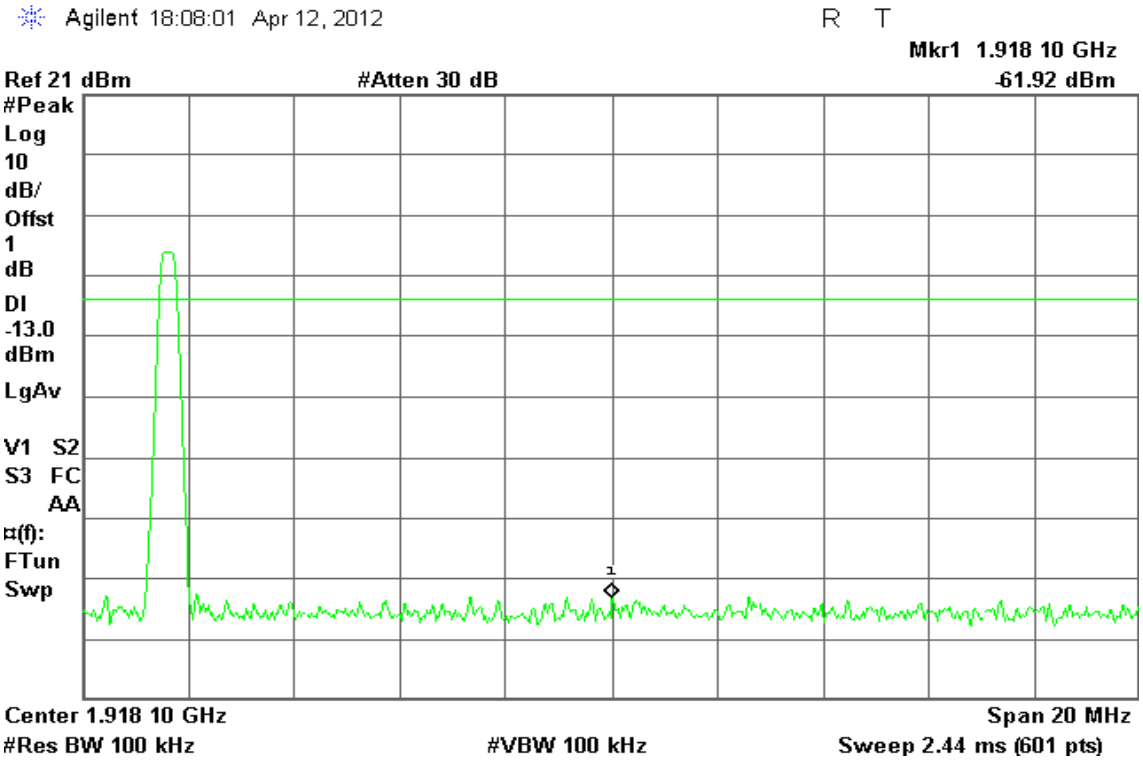


Mode 15: TDMA / 1850 – 1910MHz Uplink

CH Low

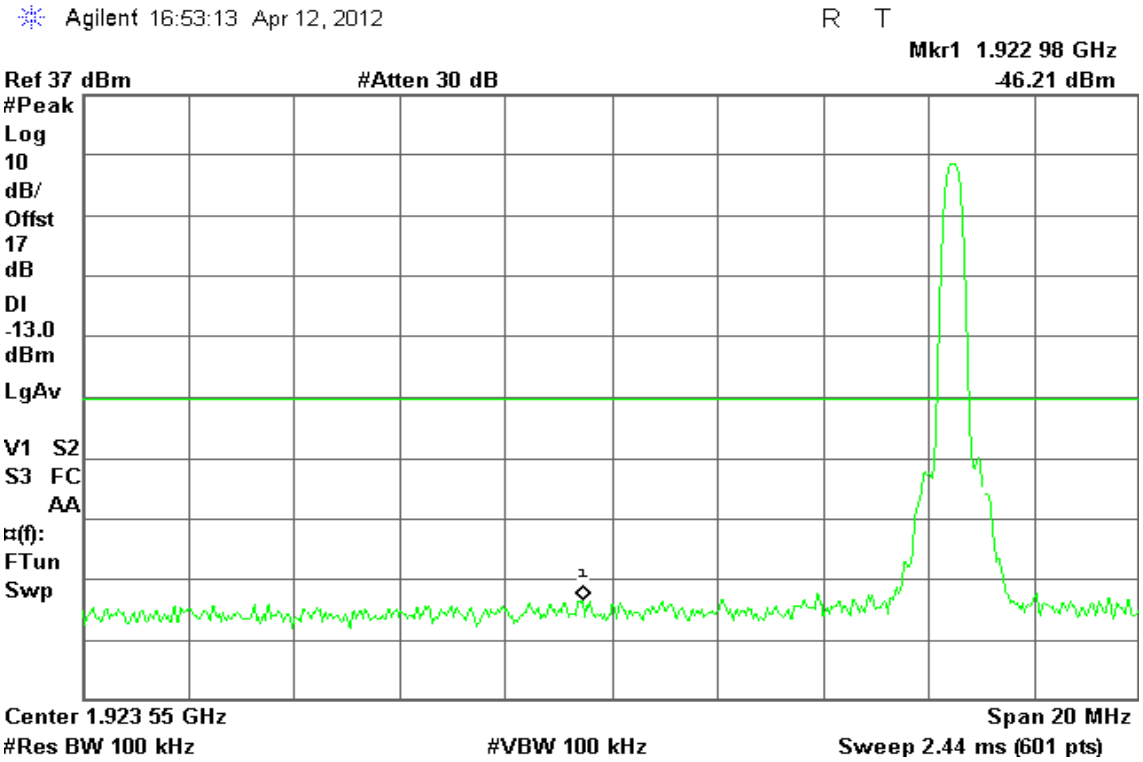


CH High

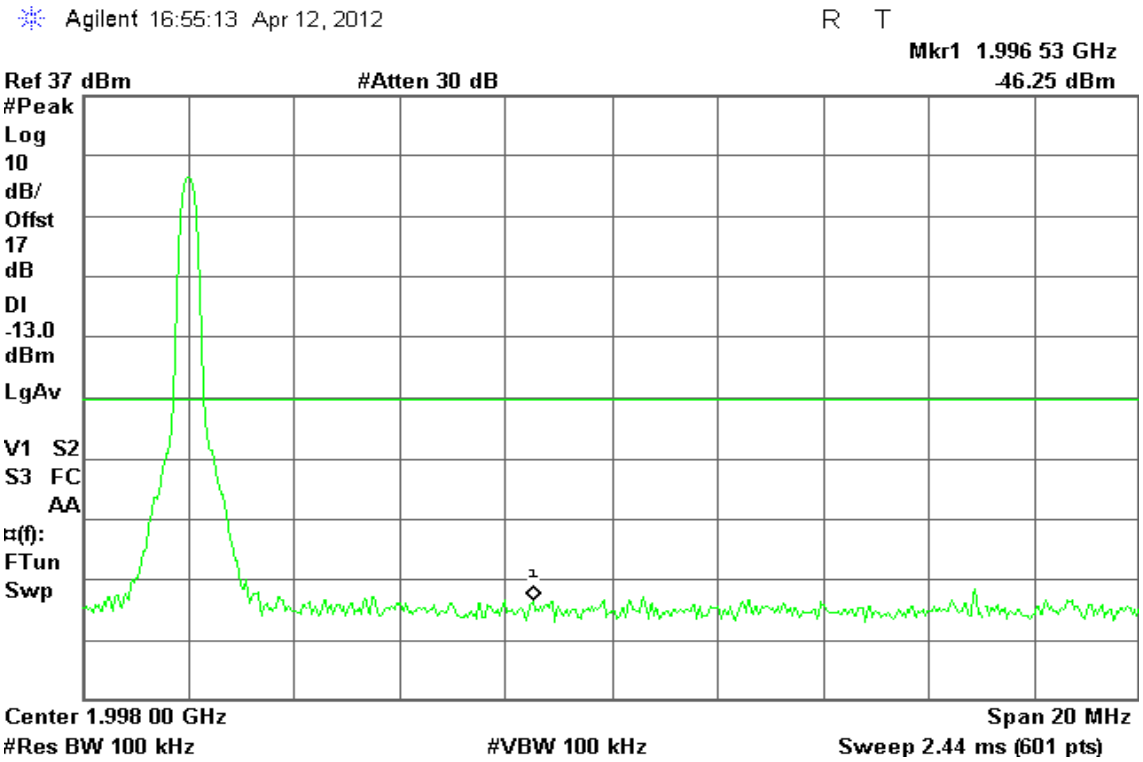


Mode 16: TDMA / 1930 – 1990MHz Downlink

CH Low

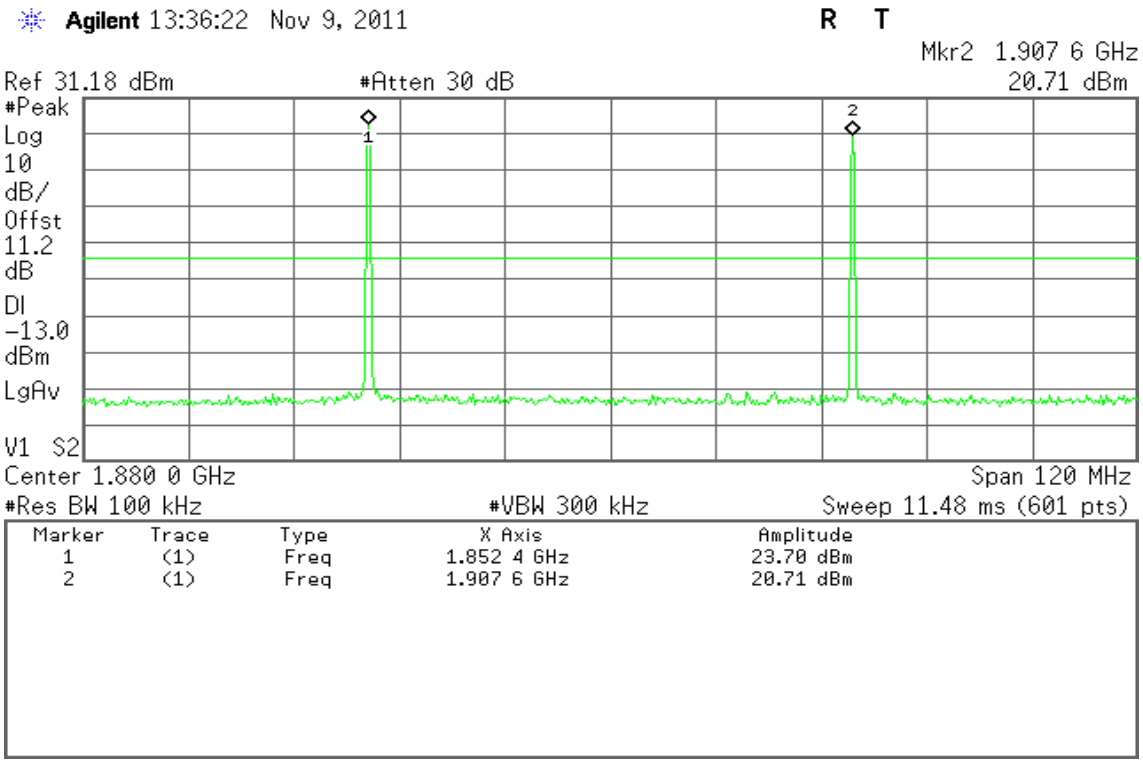


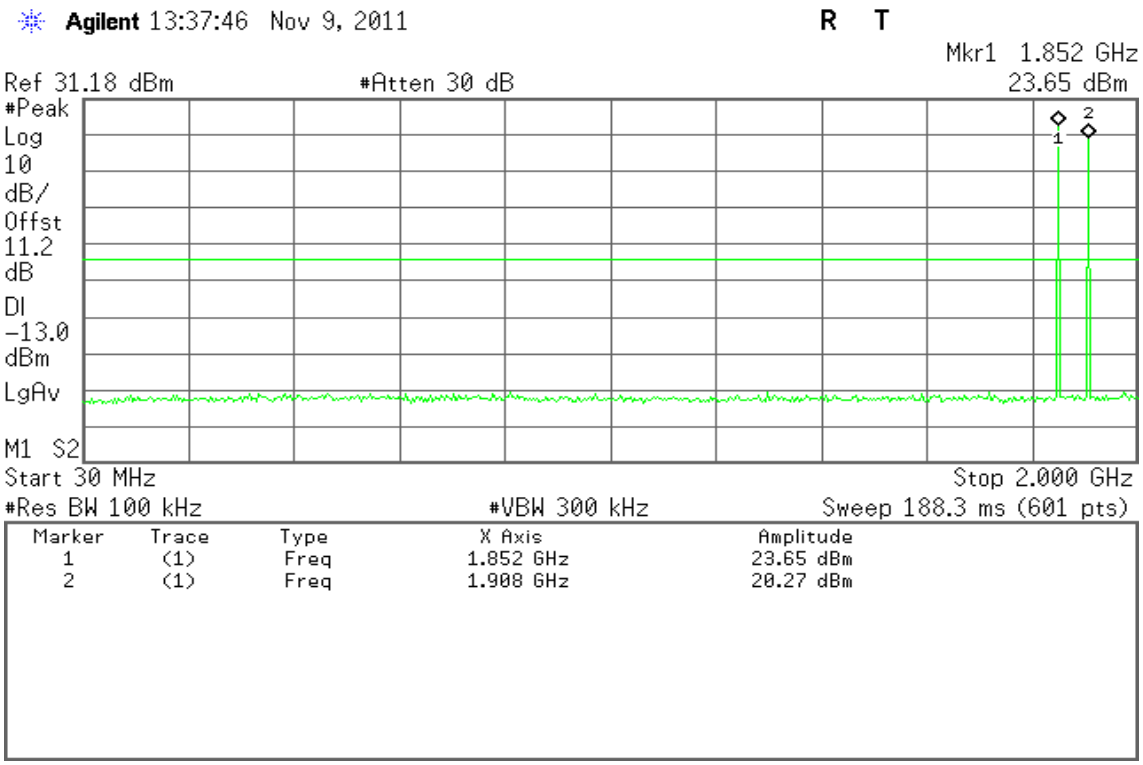
CH High

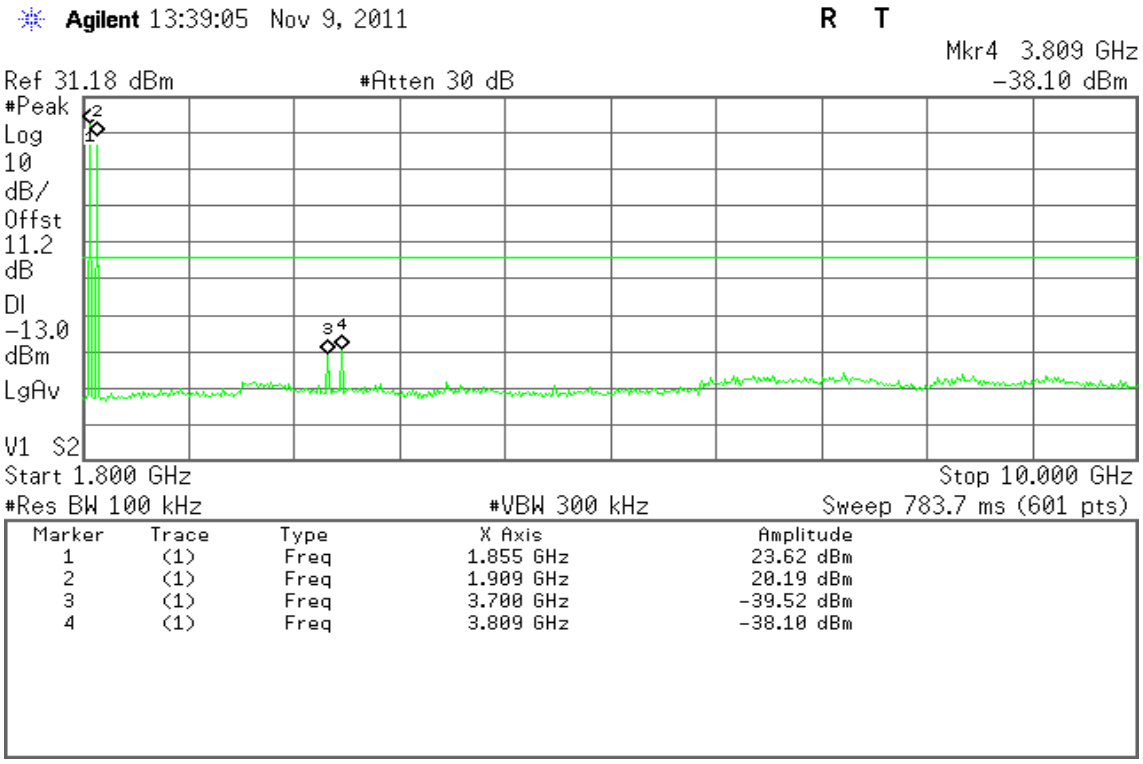


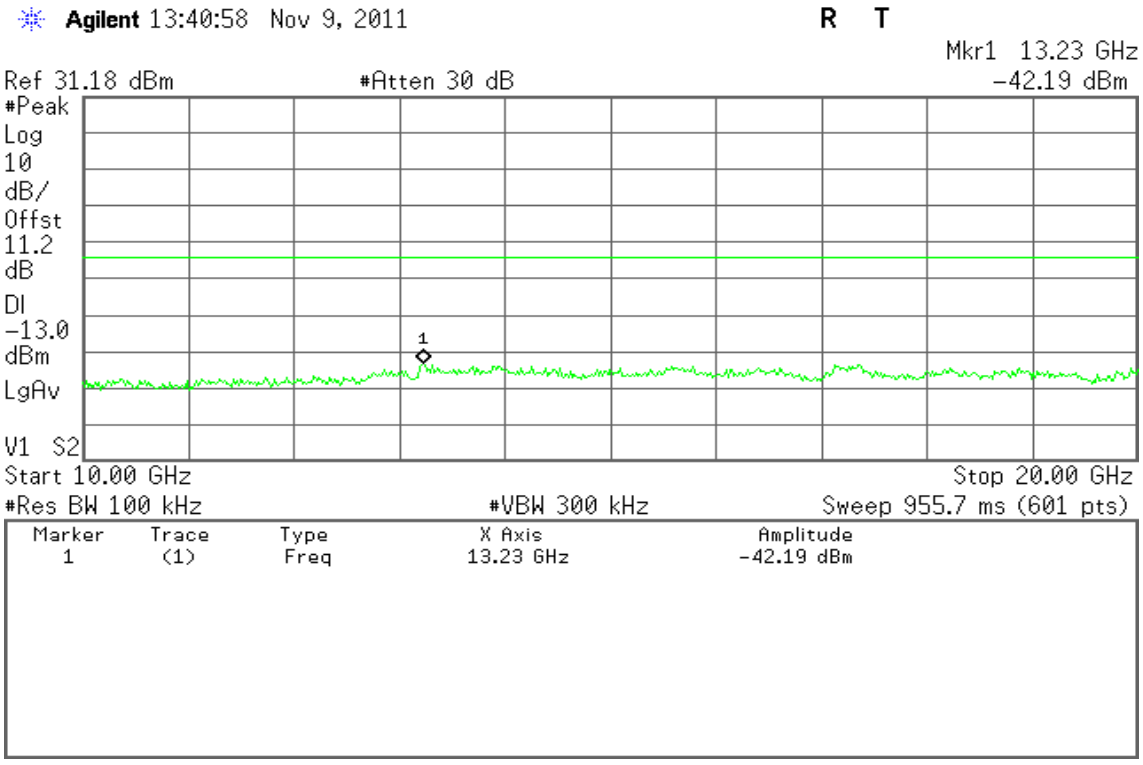
Inter-Modulation

Mode 1: WCDMA Band II Uplink

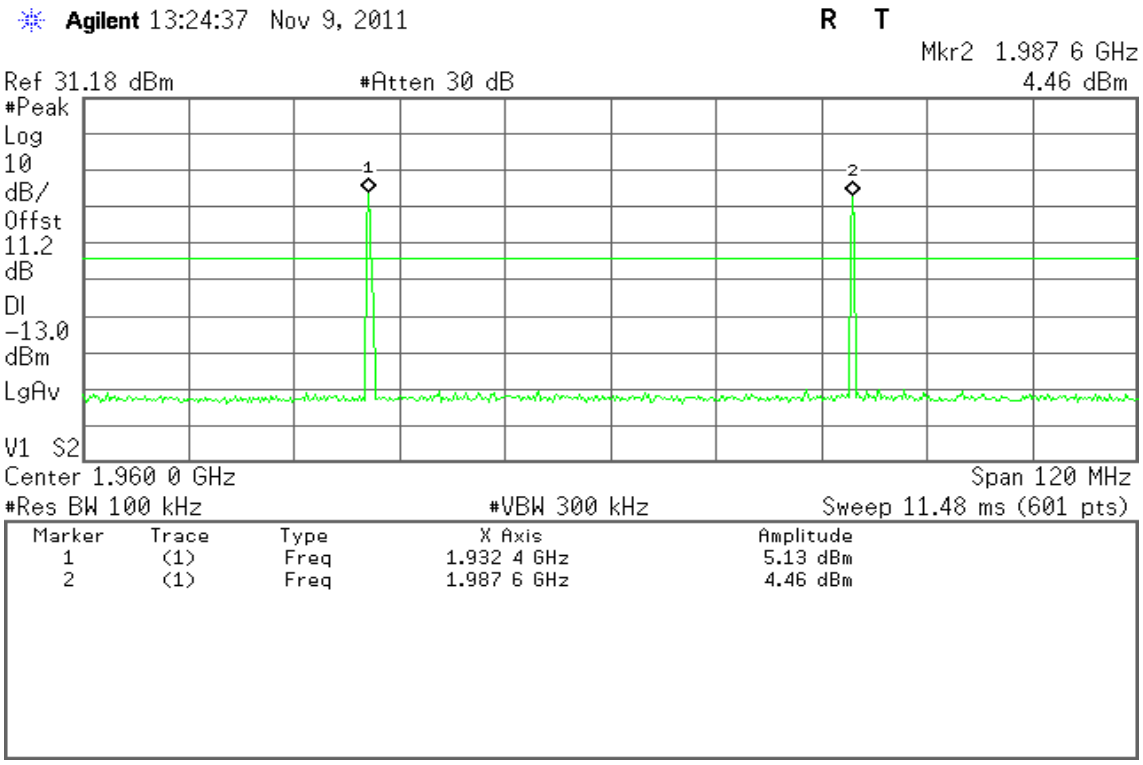


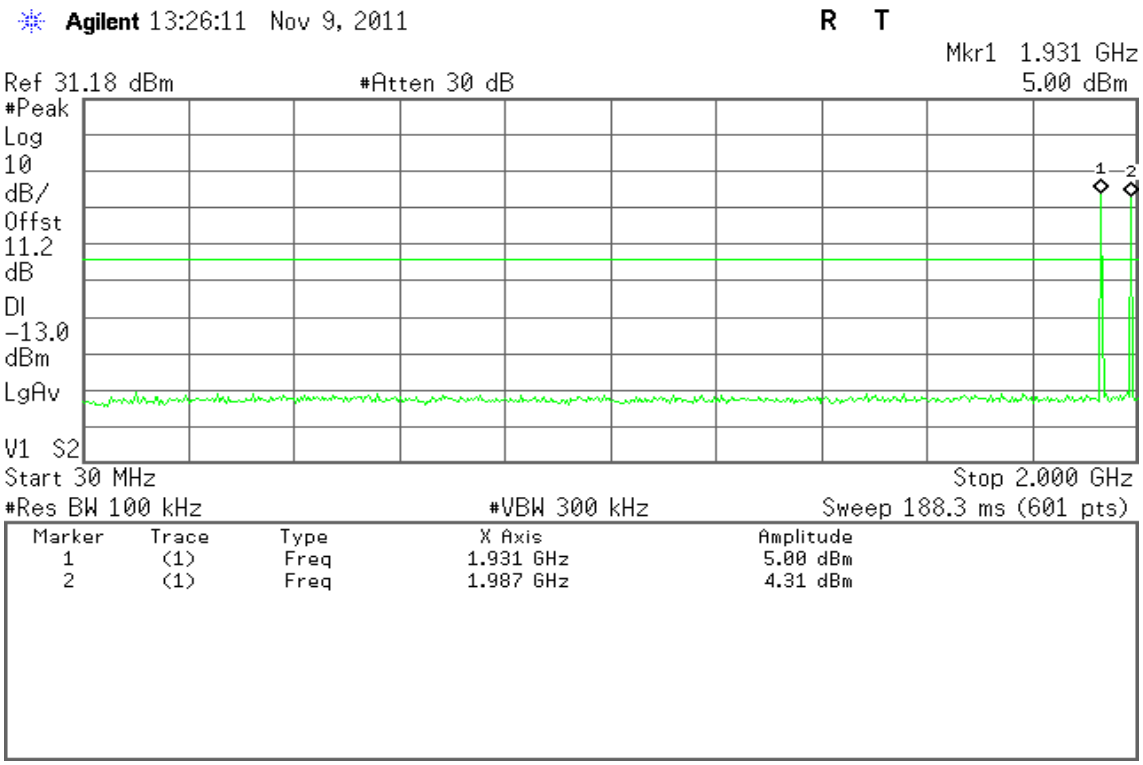


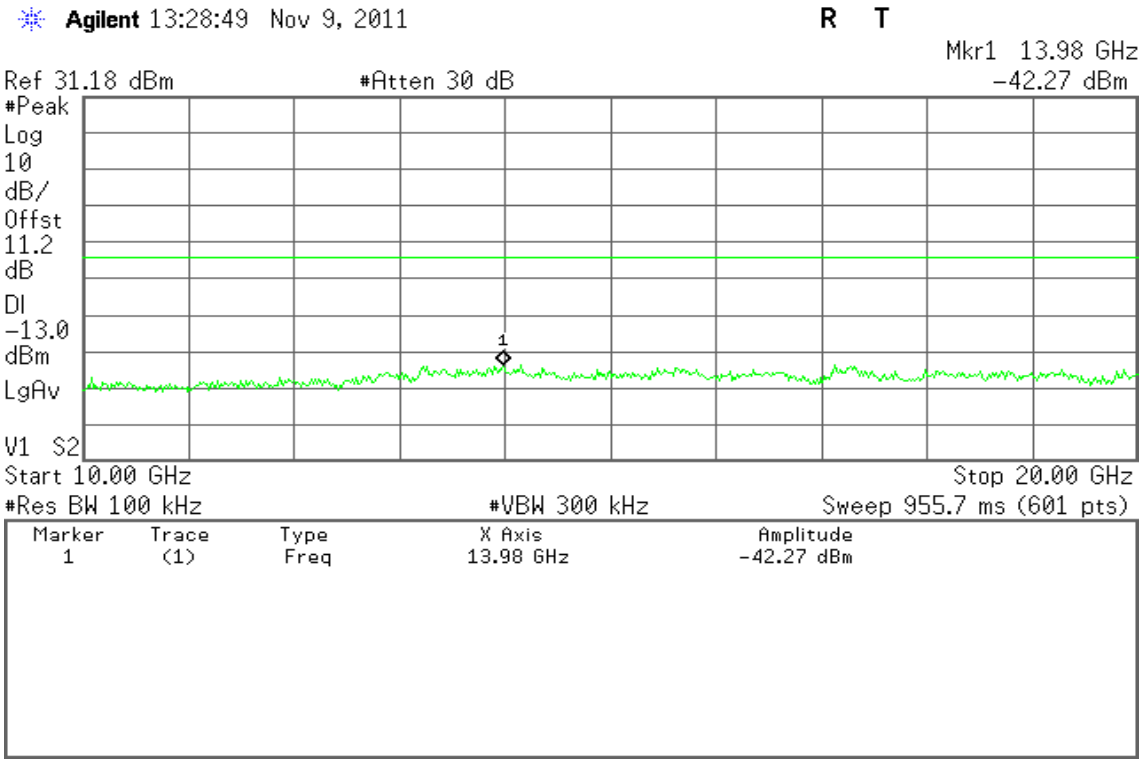

Agilent 13:39:05 Nov 9, 2011
R T
Mkr4 3.809 GHz
Ref 31.18 dBm
#Atten 30 dB
-38.10 dBm
#Peak
Log
10
dB/
Offst
11.2
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 1.800 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 783.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 1.855 GHz 23.62 dBm
2 (1) Freq 1.909 GHz 20.19 dBm
3 (1) Freq 3.700 GHz -39.52 dBm
4 (1) Freq 3.809 GHz -38.10 dBm

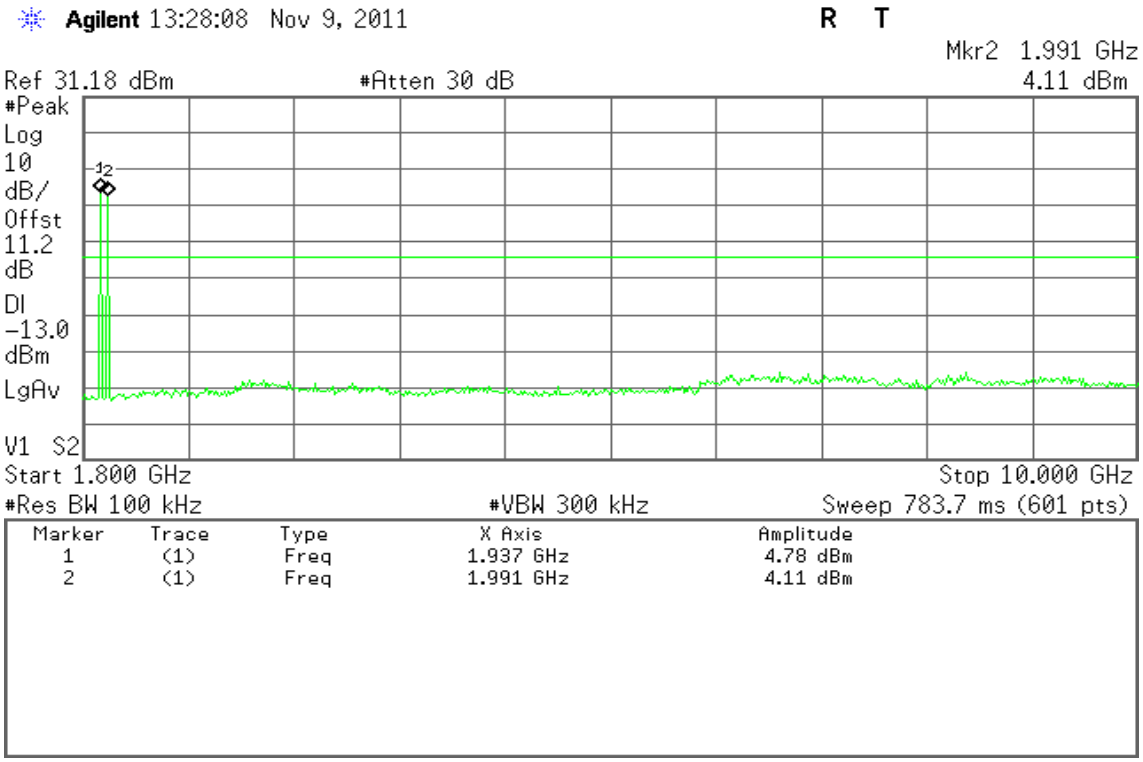

Agilent 13:40:58 Nov 9, 2011
R T
Mkr1 13.23 GHz
Ref 31.18 dBm
#Atten 30 dB
-42.19 dBm
#Peak
Log
10
dB/
Offst
11.2
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 10.00 GHz
Stop 20.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 13.23 GHz -42.19 dBm

Mode 2: WCDMA Band II Downlink

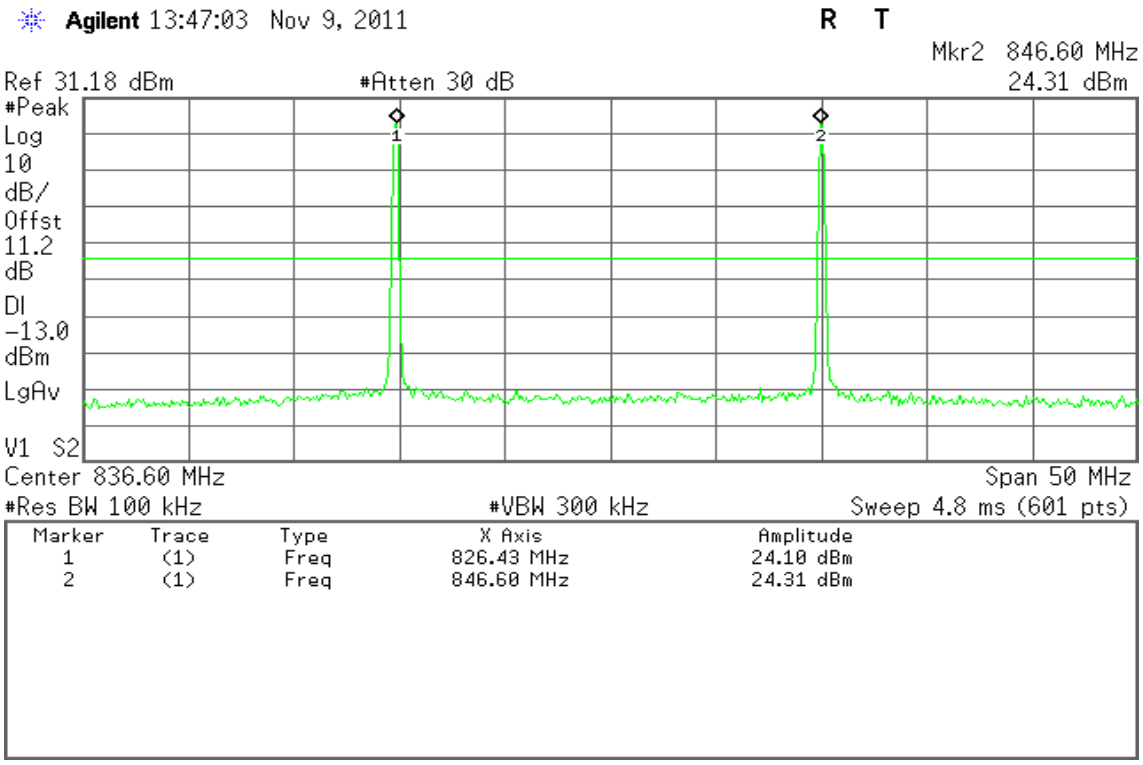


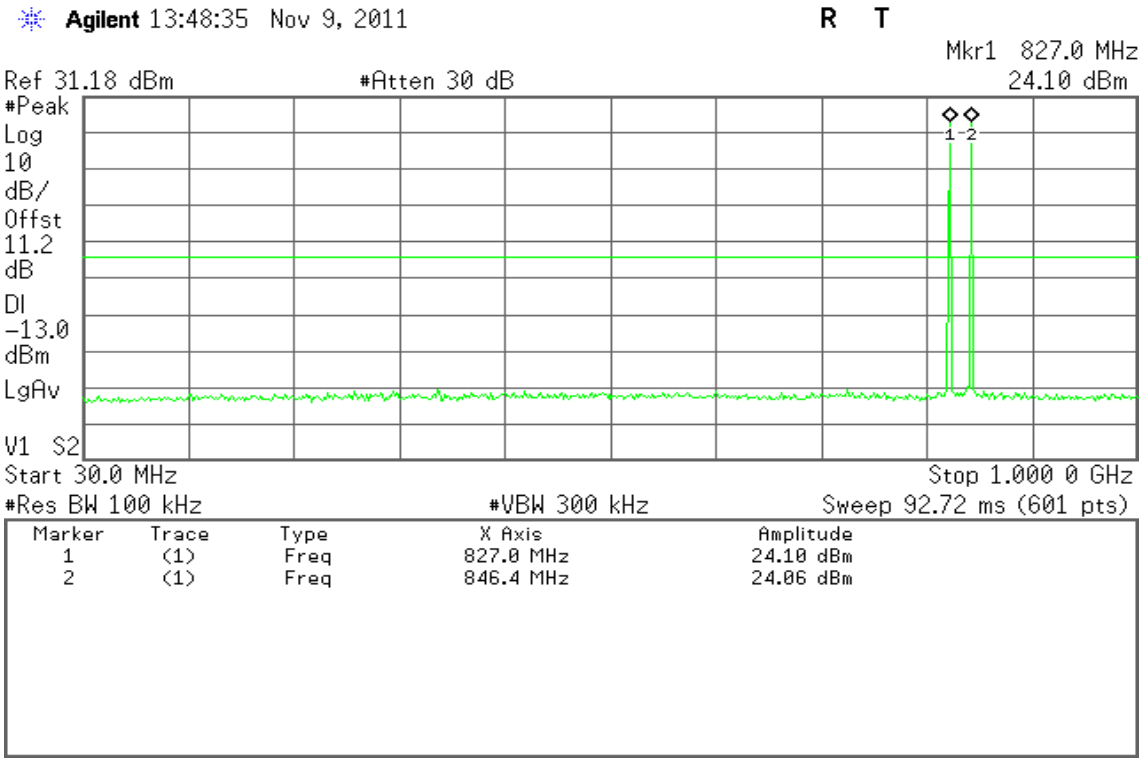


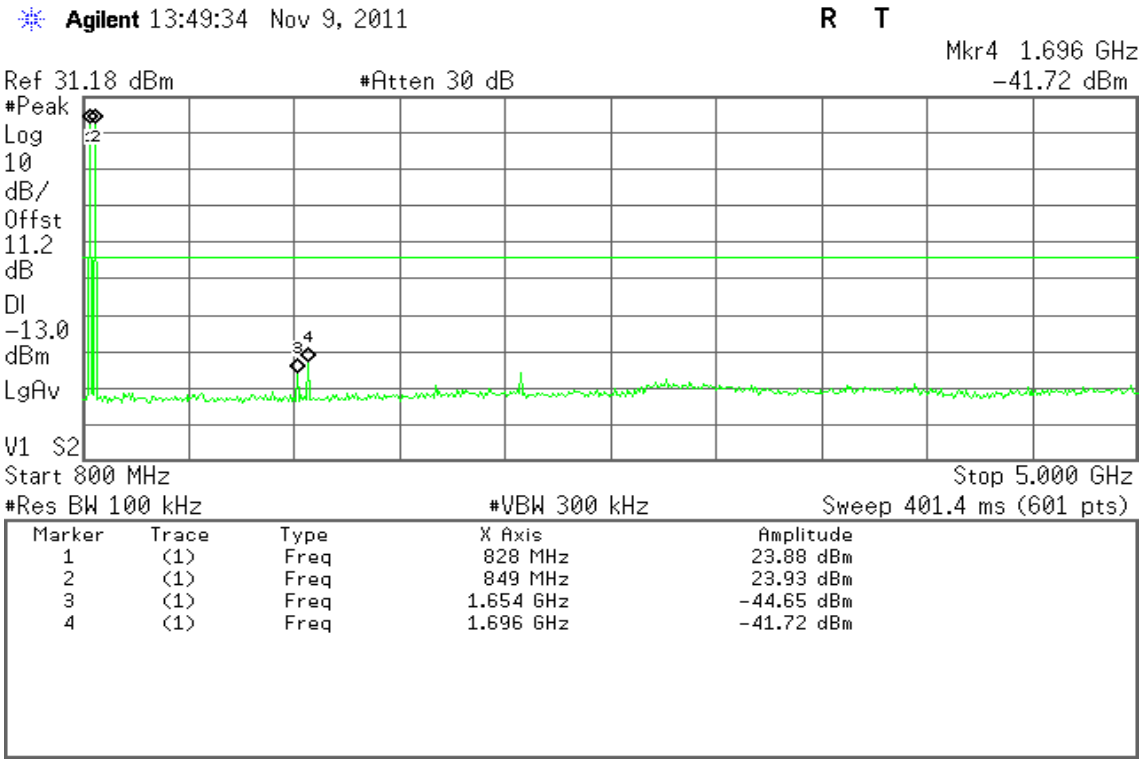

Agilent 13:28:49 Nov 9, 2011
R T
Mkr1 13.98 GHz
Ref 31.18 dBm
#Atten 30 dB
-42.27 dBm
#Peak
Log
10
dB/
Offst
11.2
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 10.00 GHz
Stop 20.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 13.98 GHz -42.27 dBm

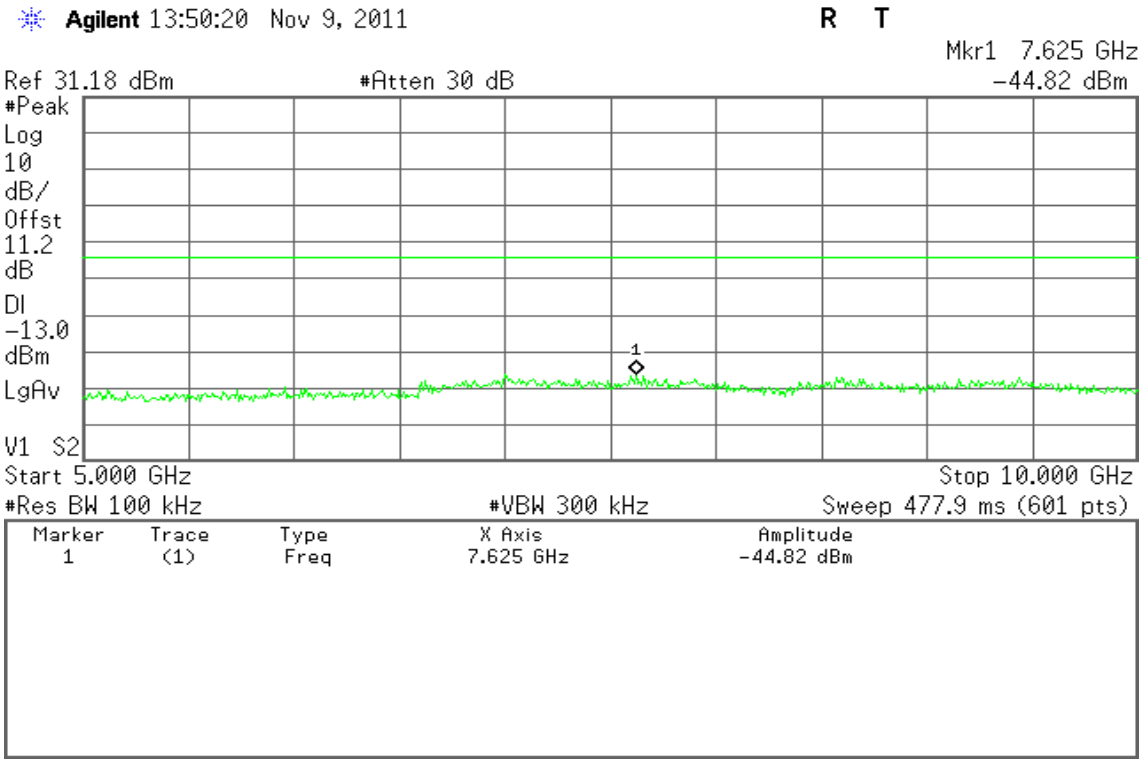

Agilent 13:28:08 Nov 9, 2011
R T
Mkr2 1.991 GHz
Ref 31.18 dBm
#Atten 30 dB
4.11 dBm
#Peak
Log
10
dB/
Offst
11.2
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 1.800 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 783.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 1.937 GHz 4.78 dBm
2 (1) Freq 1.991 GHz 4.11 dBm

Mode 3: WCDMA Band V Uplink

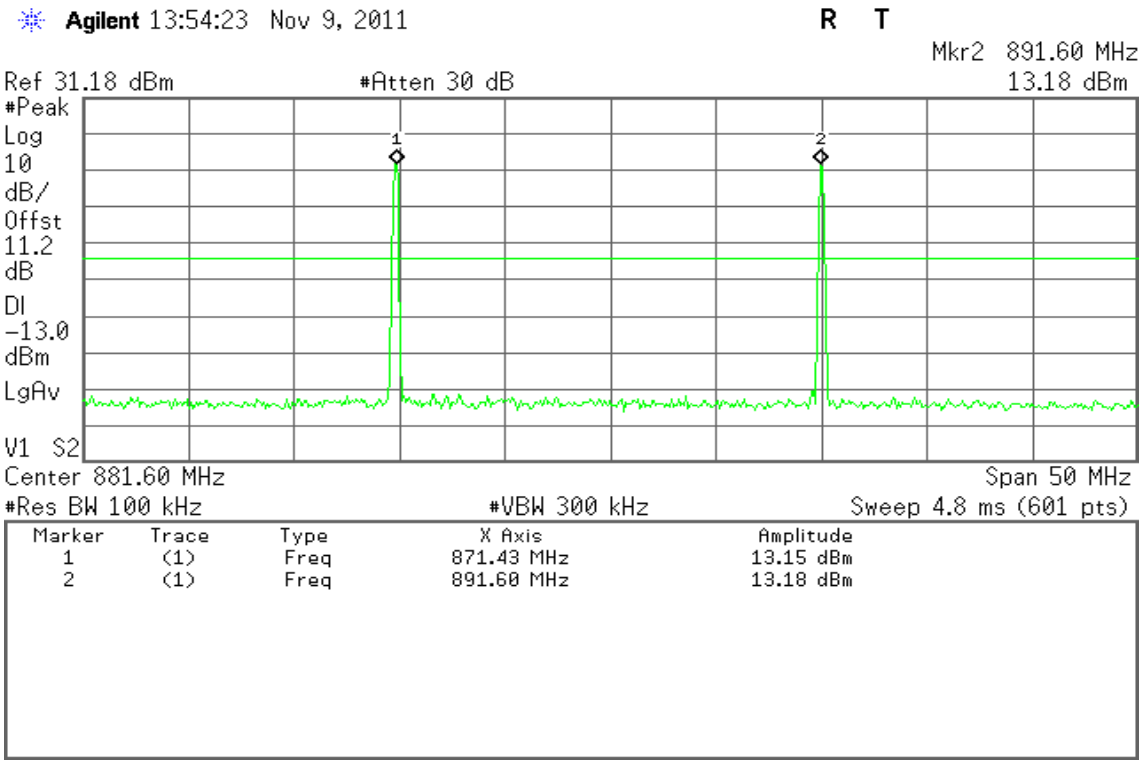


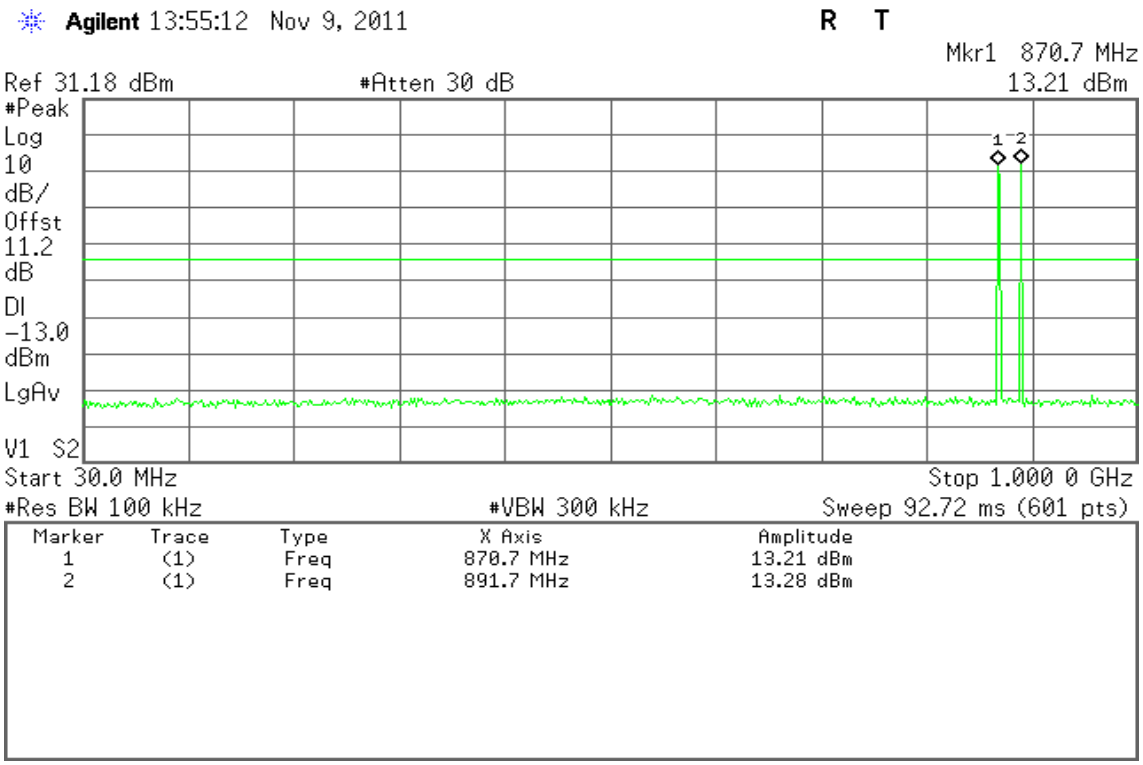


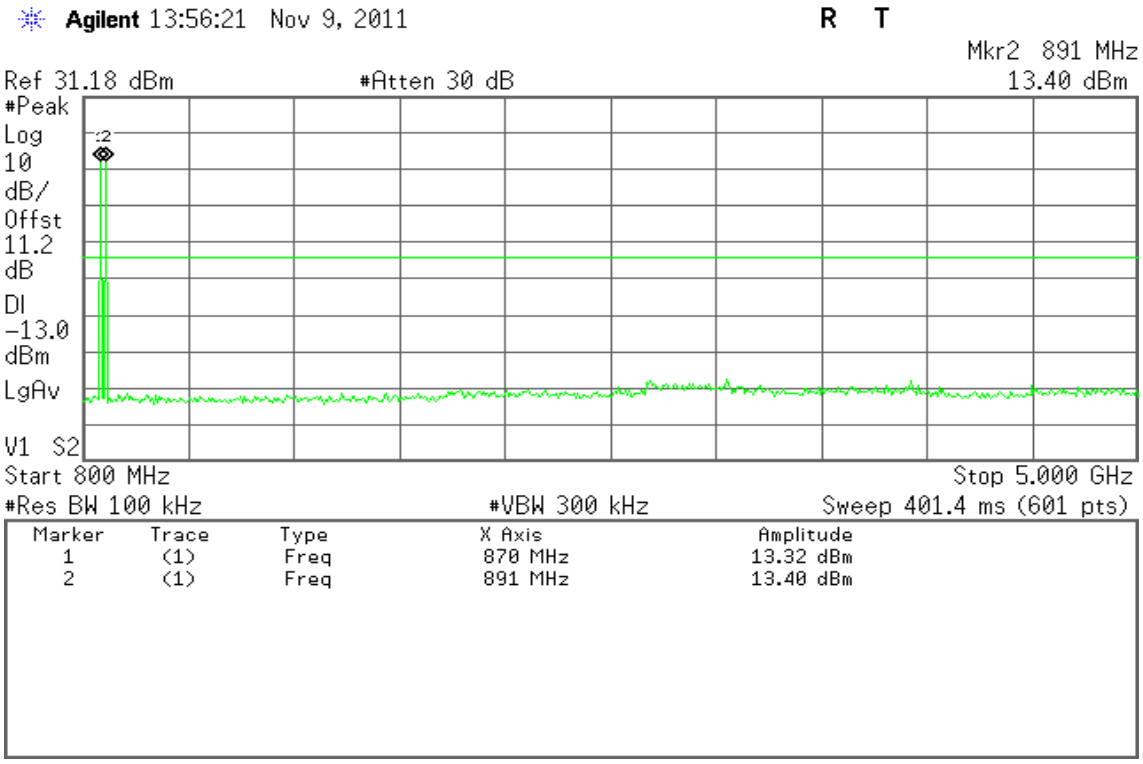

Agilent 13:49:34 Nov 9, 2011
R T
Mkr4 1.696 GHz
Ref 31.18 dBm
#Atten 30 dB
-41.72 dBm
#Peak
Log
10
dB/
Offst
11.2
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 800 MHz
Stop 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 401.4 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 828 MHz 23.88 dBm
2 (1) Freq 849 MHz 23.93 dBm
3 (1) Freq 1.654 GHz -44.65 dBm
4 (1) Freq 1.696 GHz -41.72 dBm

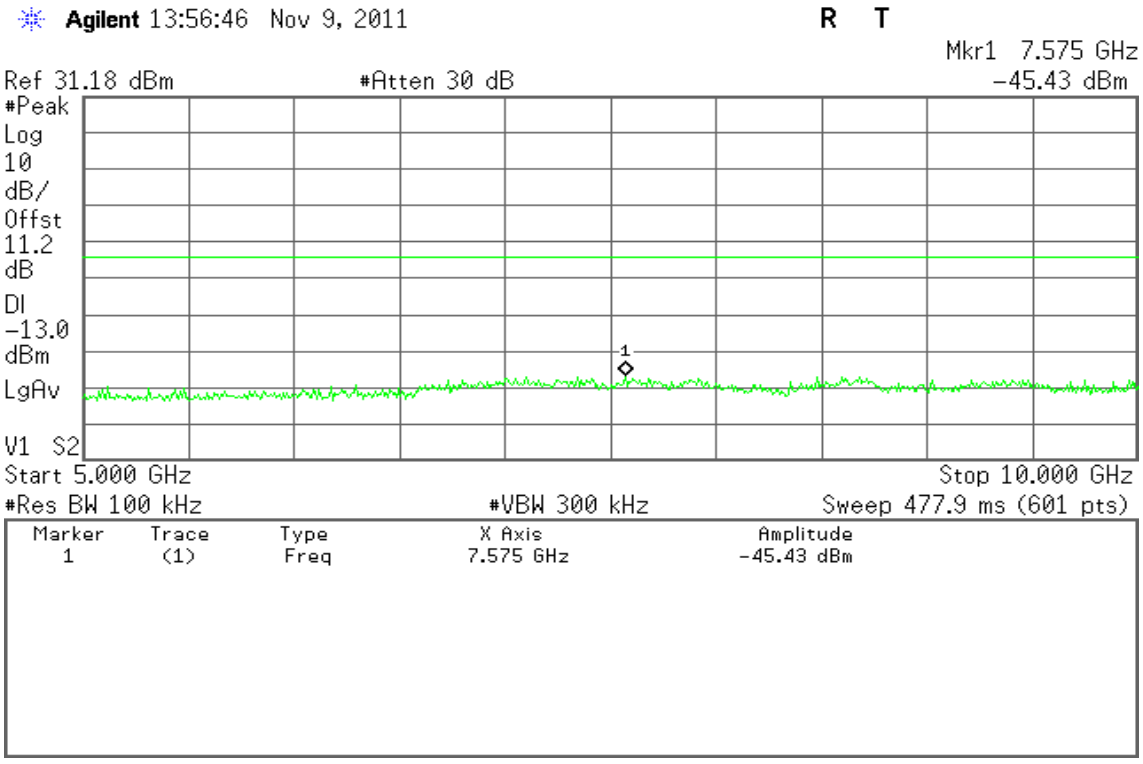

Agilent 13:50:20 Nov 9, 2011
R T
Mkr1 7.625 GHz
Ref 31.18 dBm
#Atten 30 dB
-44.82 dBm
#Peak
Log
10
dB/
Offst
11.2
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.625 GHz -44.82 dBm

Mode 4: WCDMA Band V Downlink

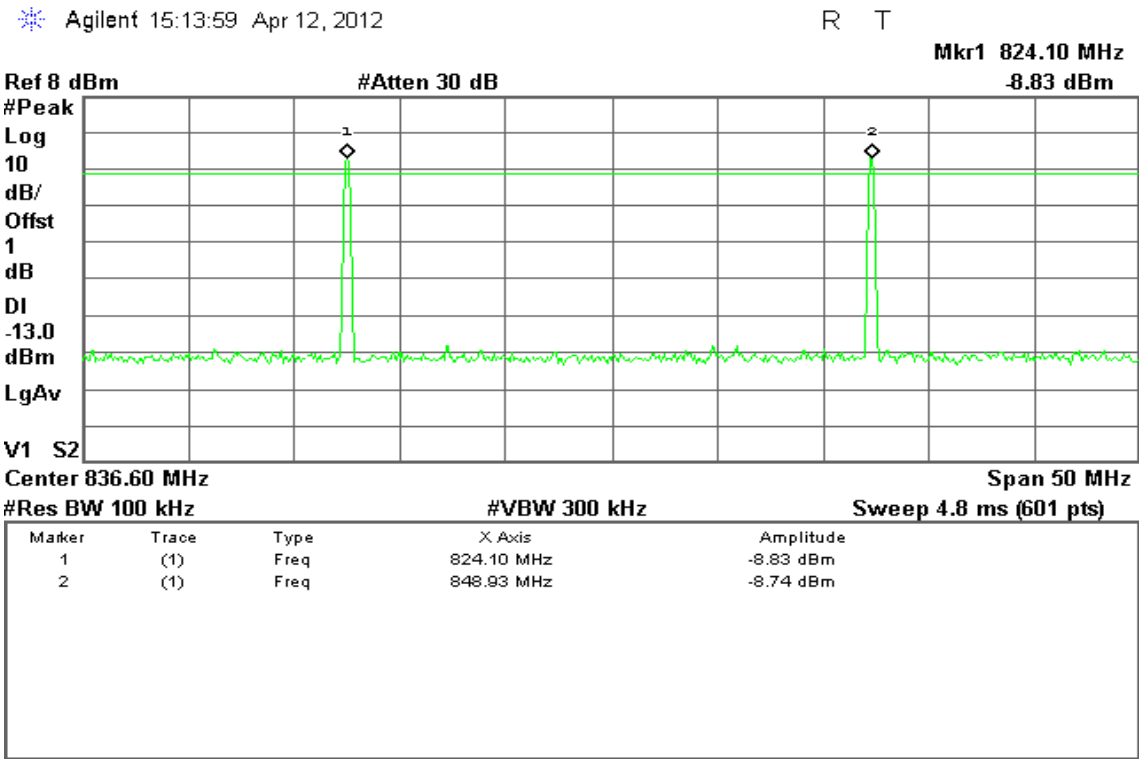


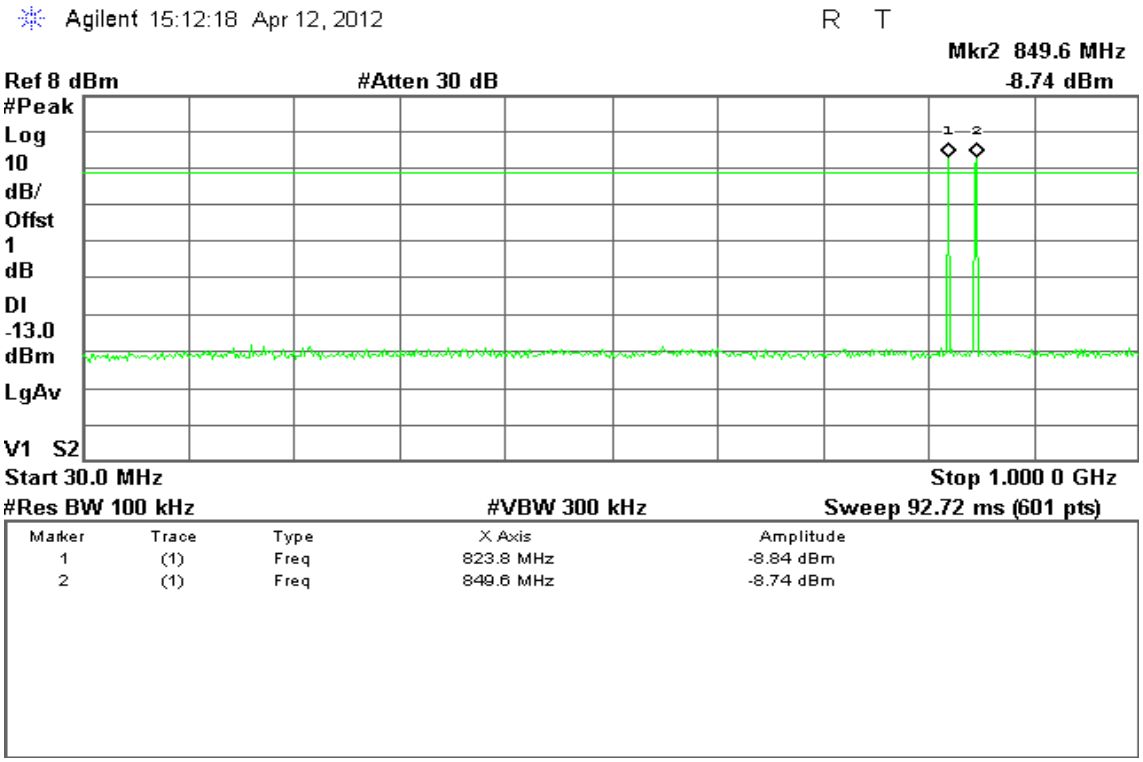


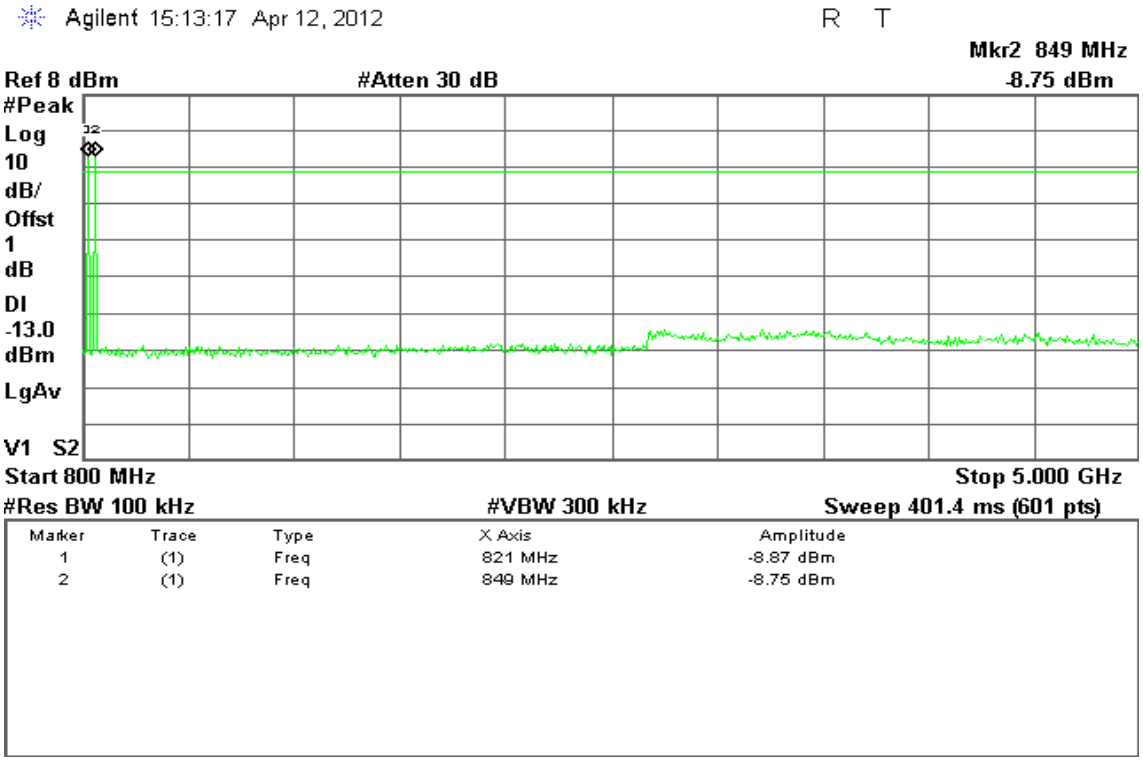

Agilent 13:56:21 Nov 9, 2011
R T
Mkr2 891 MHz
Ref 31.18 dBm
#Atten 30 dB
13.40 dBm
#Peak
Log
10
dB/
Offst
11.2
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 800 MHz
Stop 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 401.4 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 870 MHz 13.32 dBm
2 (1) Freq 891 MHz 13.40 dBm

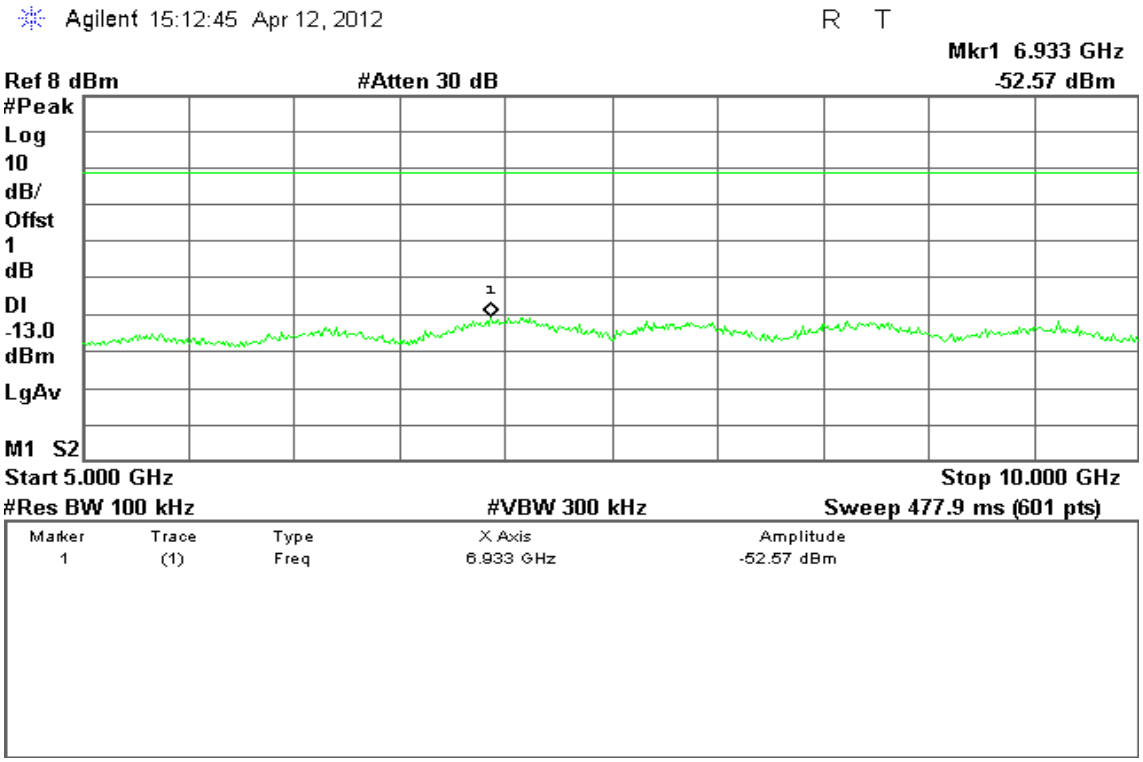

Agilent 13:56:46 Nov 9, 2011
R T
Mkr1 7.575 GHz
Ref 31.18 dBm
#Atten 30 dB
-45.43 dBm
#Peak
Log
10
dB/
Offst
11.2
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.575 GHz -45.43 dBm

Mode 5: AMPS / 824 – 849MHz Uplink

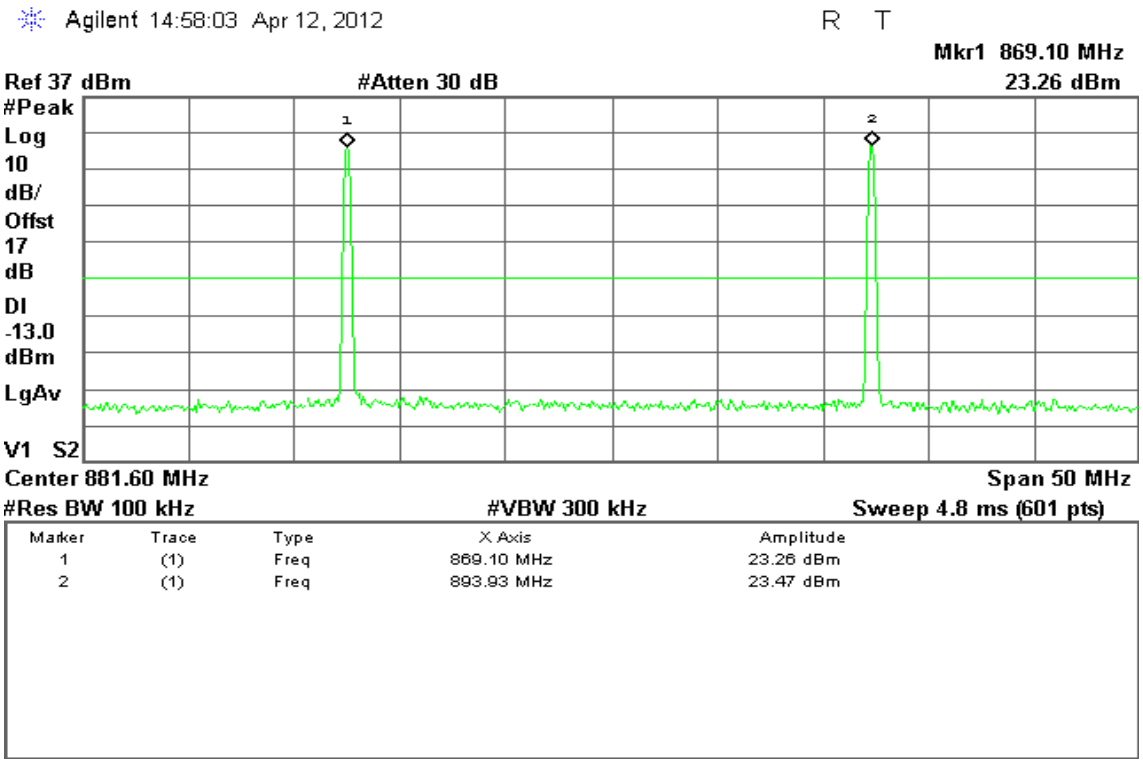


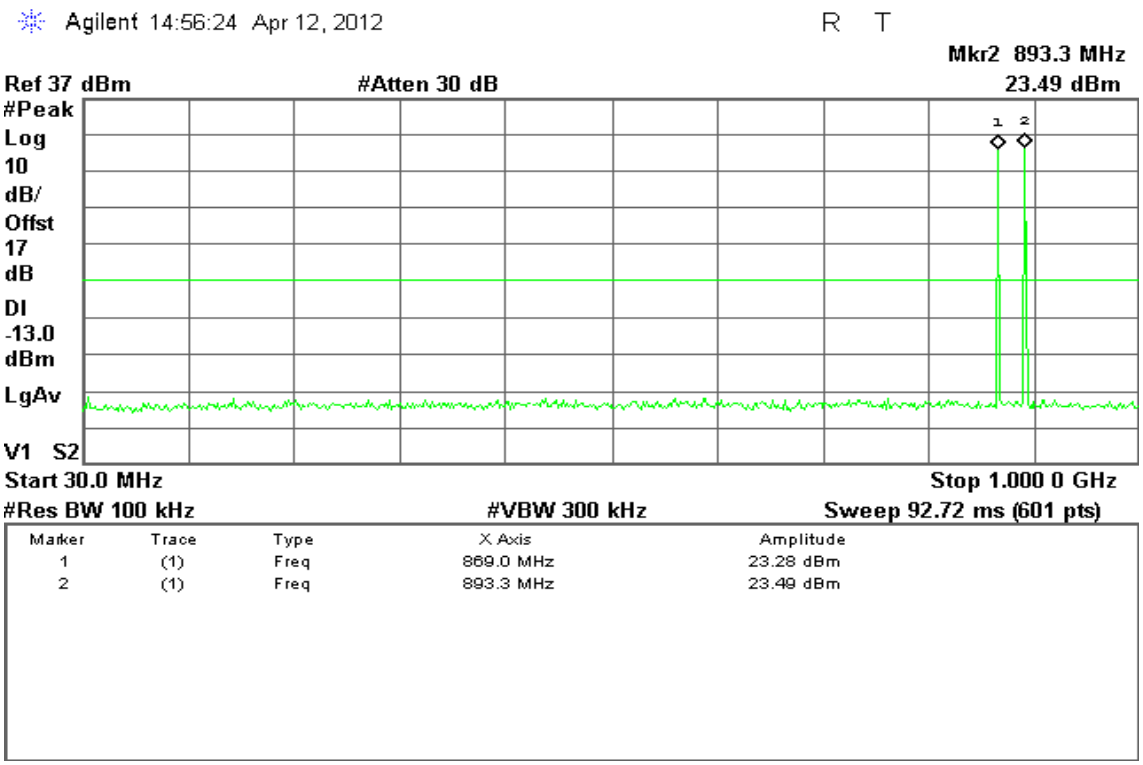


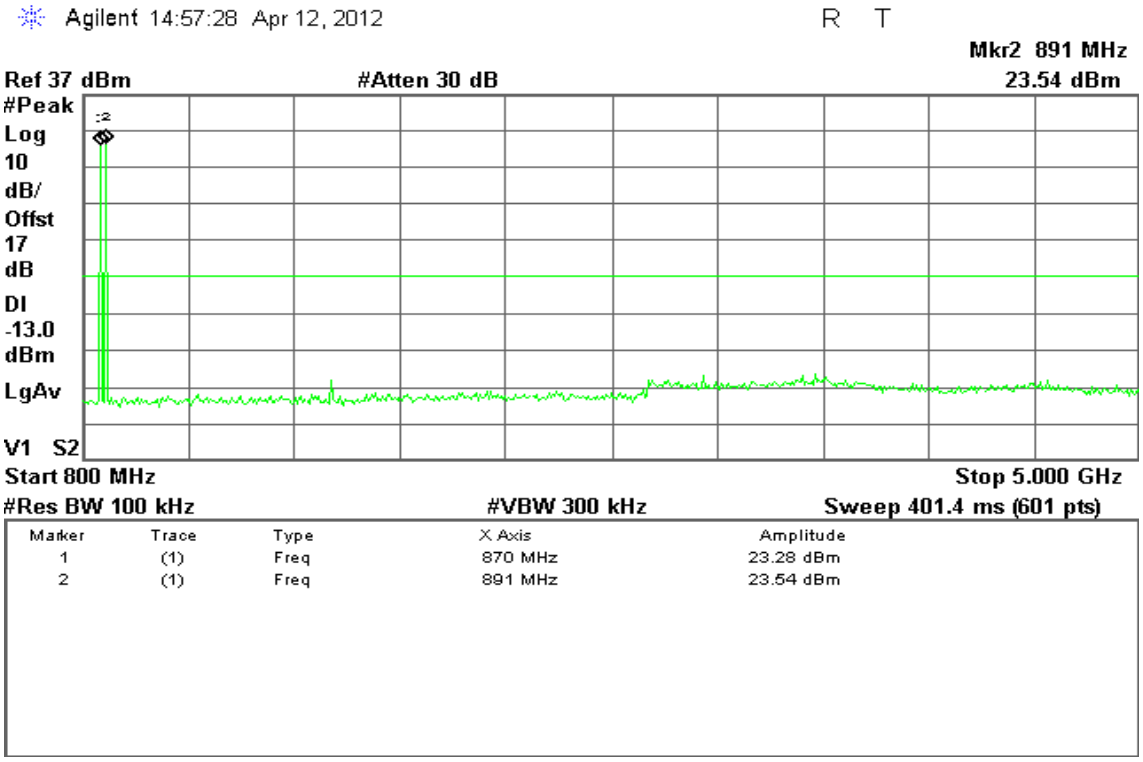

Agilent 15:13:17 Apr 12, 2012
R T
Mkr2 849 MHz
Ref 8 dBm
#Atten 30 dB
-8.75 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 800 MHz
Stop 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 401.4 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 821 MHz -8.87 dBm
2 (1) Freq 849 MHz -8.75 dBm

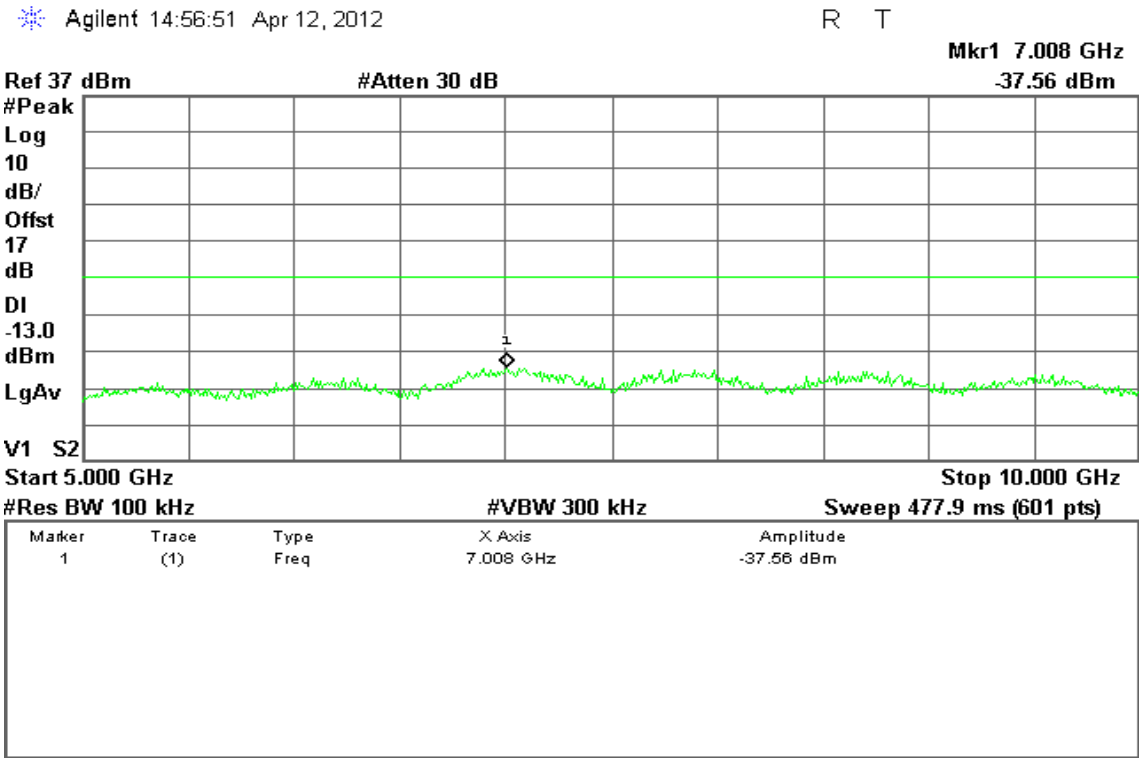

Agilent 15:12:45 Apr 12, 2012
R T
Mkr1 6.933 GHz
Ref 8 dBm
#Atten 30 dB
-52.57 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 6.933 GHz -52.57 dBm

Mode 6: AMPS / 869 – 894MHz Downlink

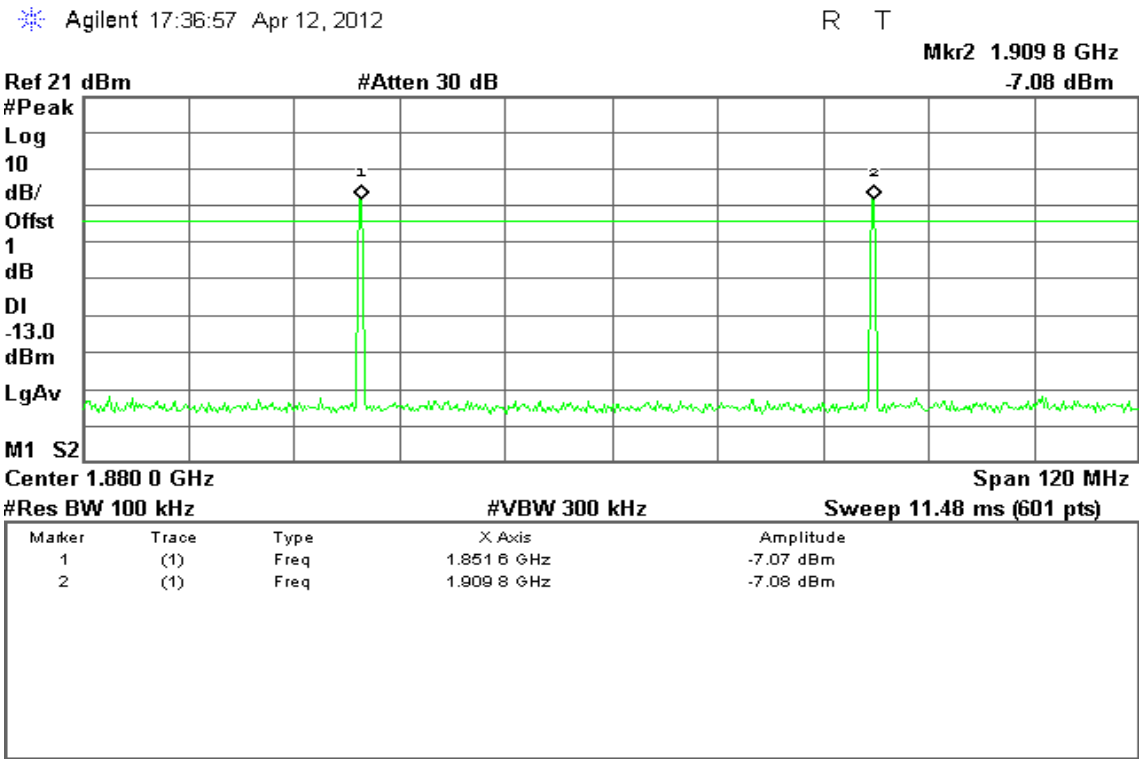


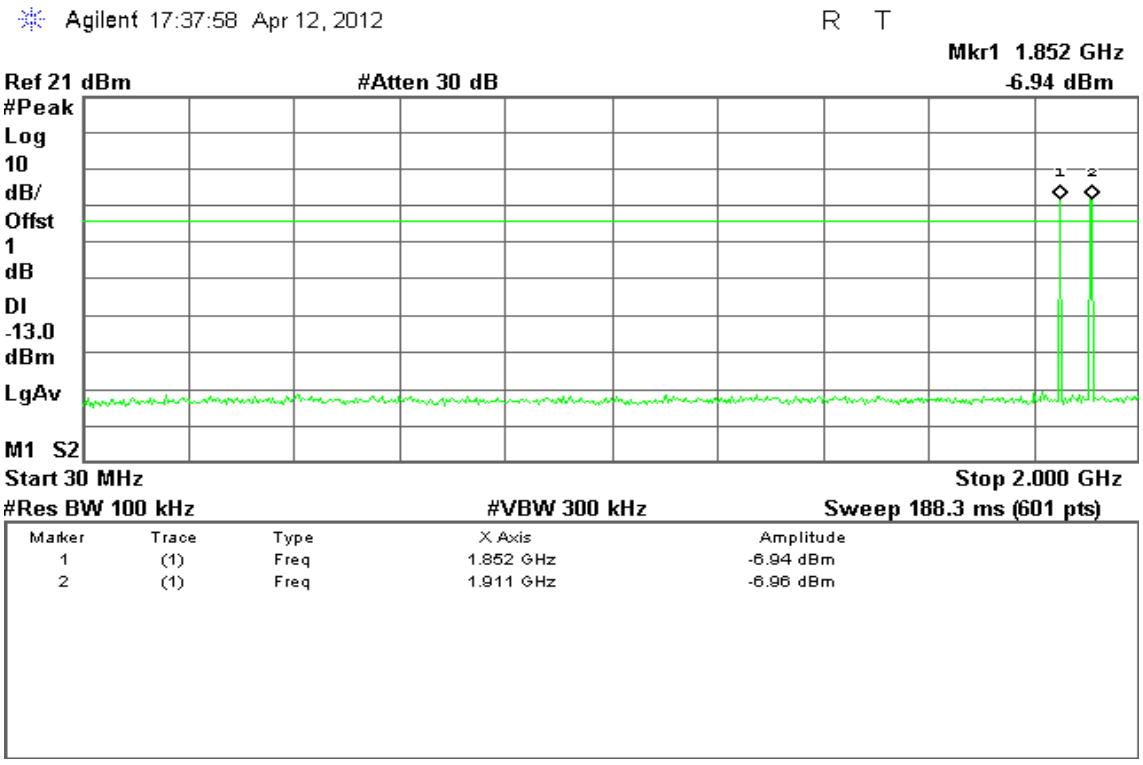


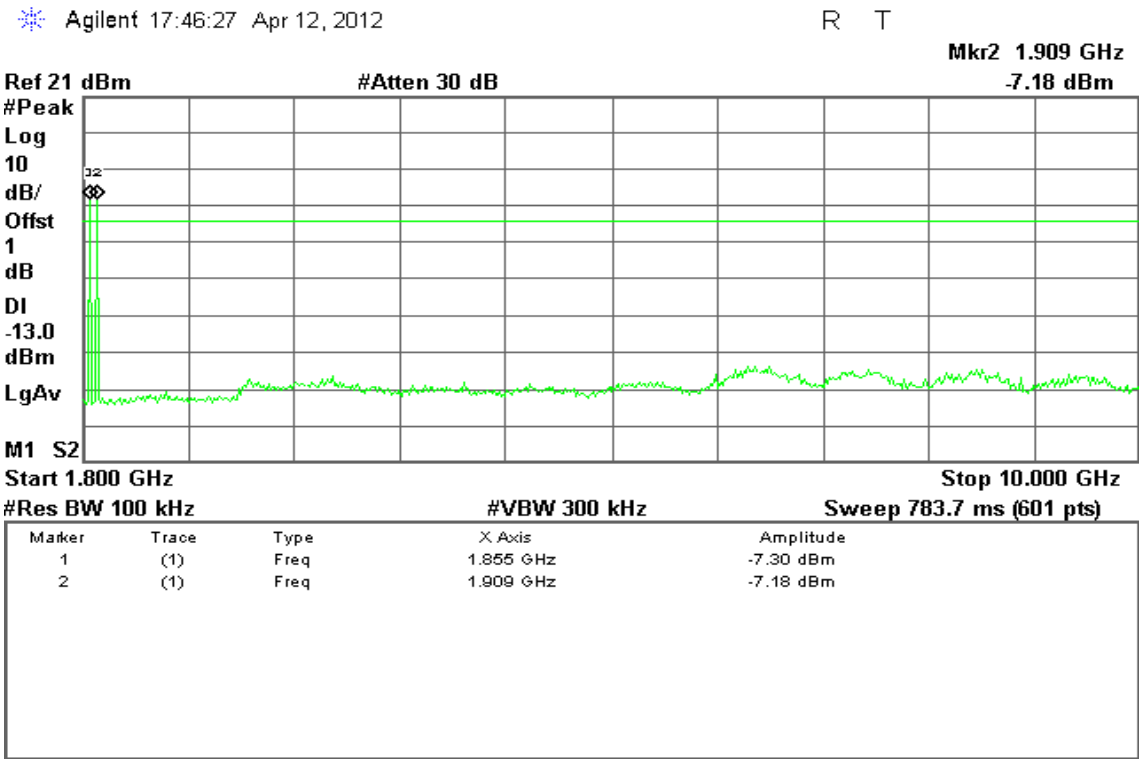

Agilent 14:57:28 Apr 12, 2012
R T
Mkr2 891 MHz
Ref 37 dBm
#Atten 30 dB
23.54 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 800 MHz
Stop 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 401.4 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 870 MHz 23.28 dBm
2 (1) Freq 891 MHz 23.54 dBm

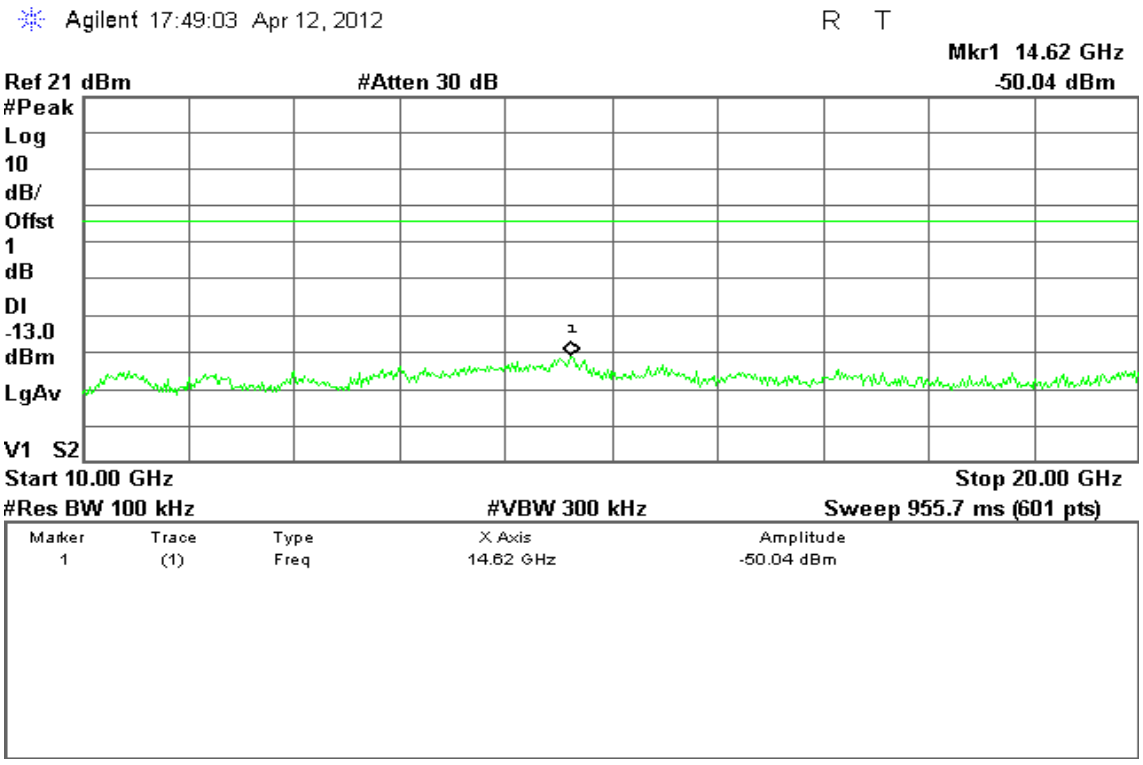

Agilent 14:56:51 Apr 12, 2012
R T
Mkr1 7.008 GHz
Ref 37 dBm
#Atten 30 dB
-37.56 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.008 GHz -37.56 dBm

Mode 7: AMPS / 1850 – 1910MHz Uplink

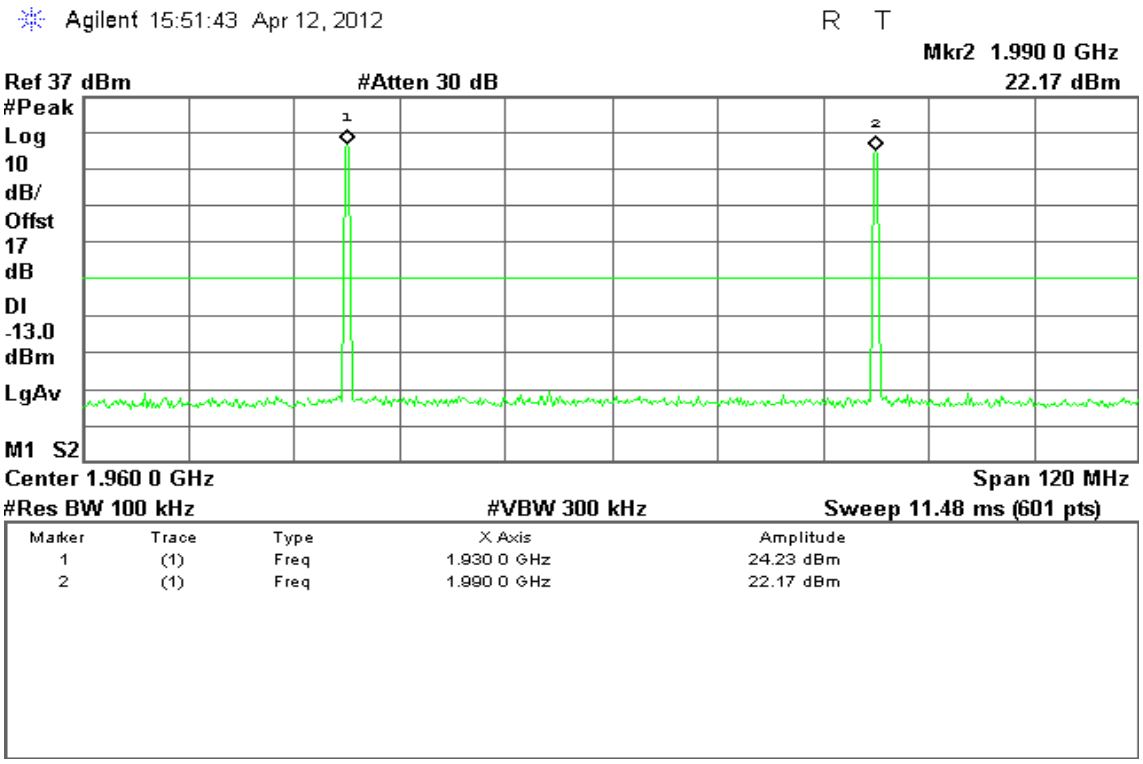


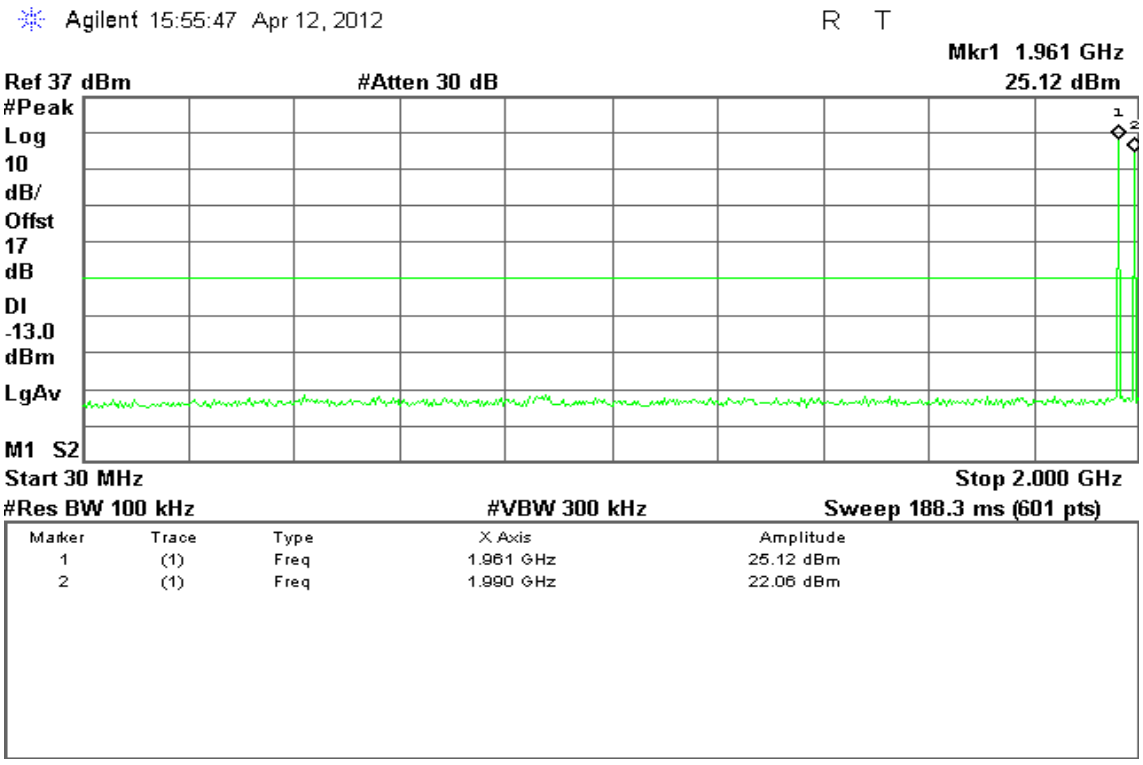


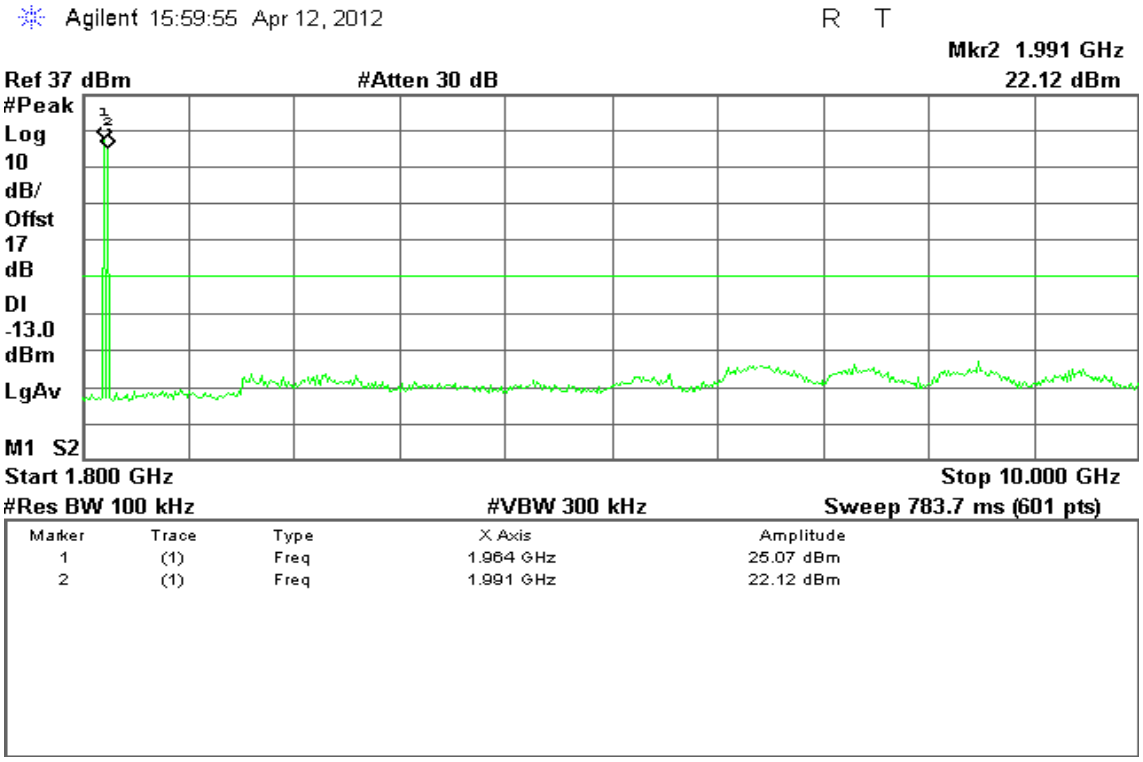

Agilent 17:46:27 Apr 12, 2012
R T
Mkr2 1.909 GHz
Ref 21 dBm
#Atten 30 dB
-7.18 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 1.800 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 783.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 1.855 GHz -7.30 dBm
2 (1) Freq 1.909 GHz -7.18 dBm

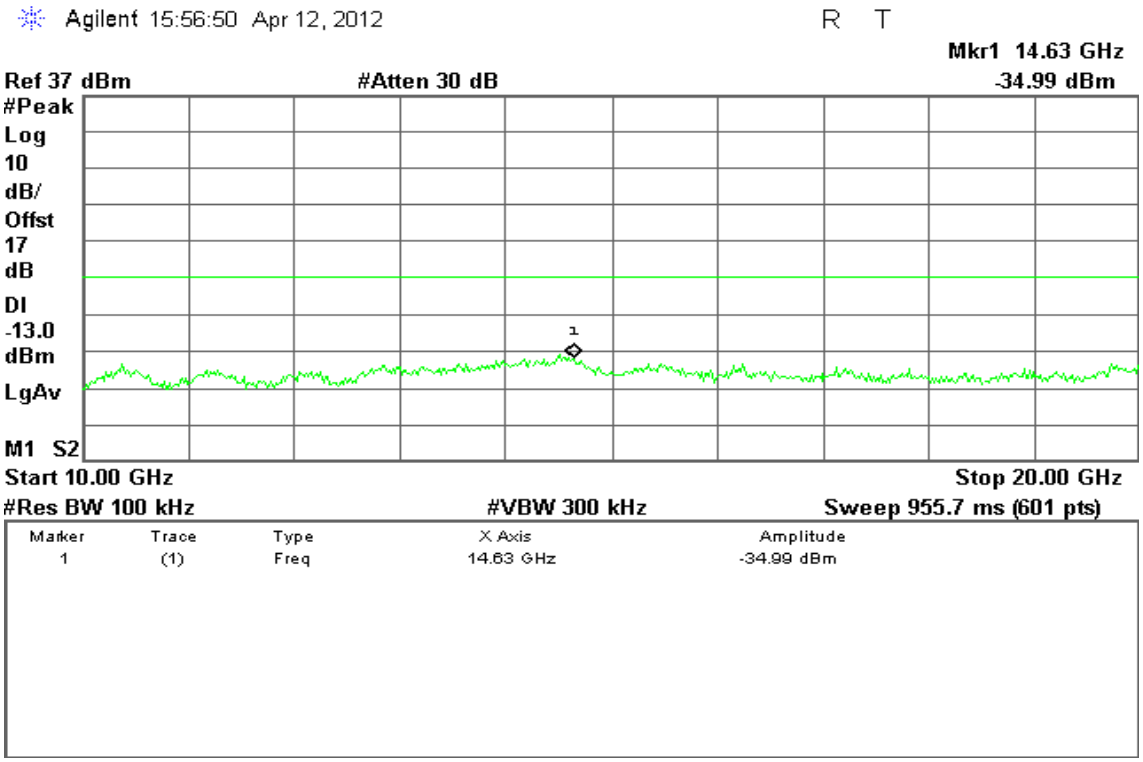

Agilent 17:49:03 Apr 12, 2012
R T
Mkr1 14.62 GHz
Ref 21 dBm
#Atten 30 dB
-50.04 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 10.00 GHz
Stop 20.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 14.62 GHz -50.04 dBm

Mode 8: AMPS / 1930 – 1990MHz Downlink

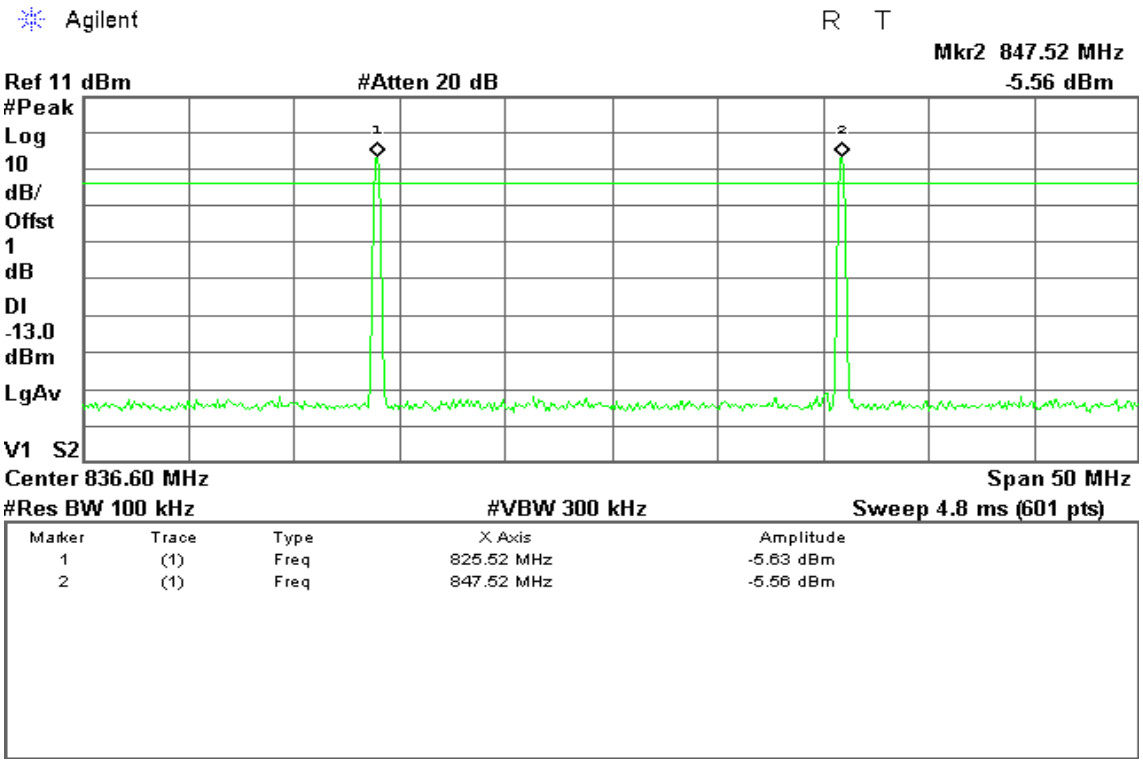


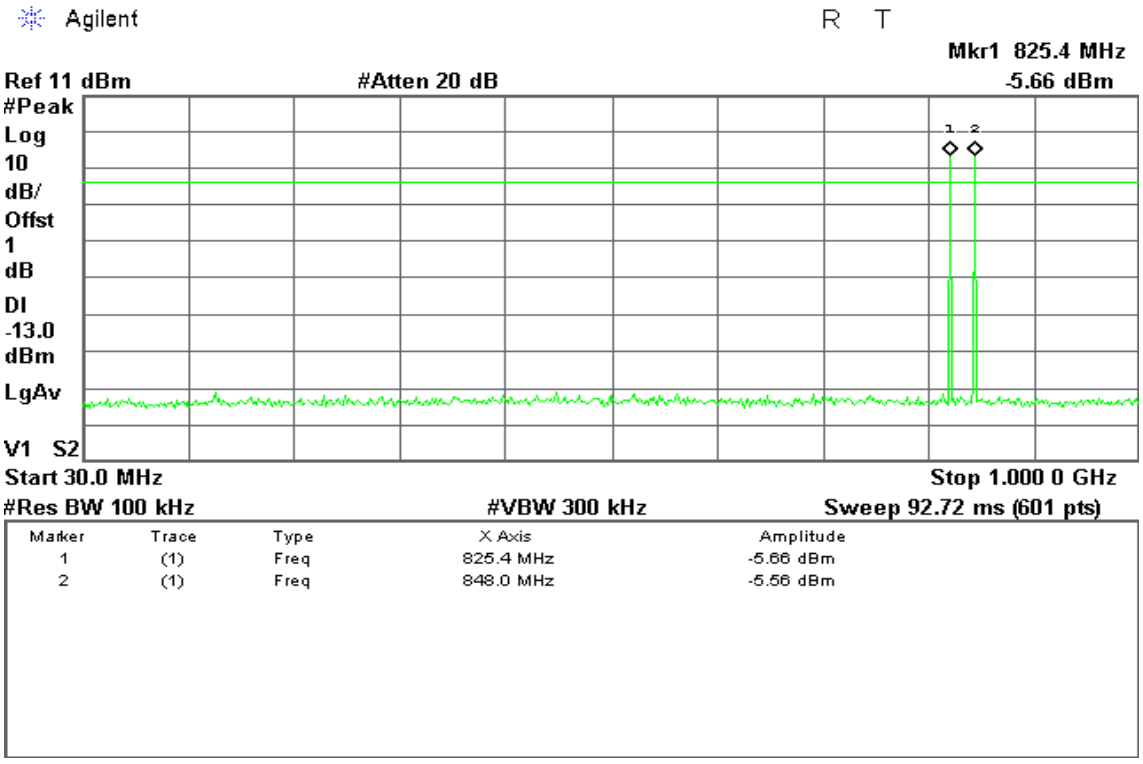


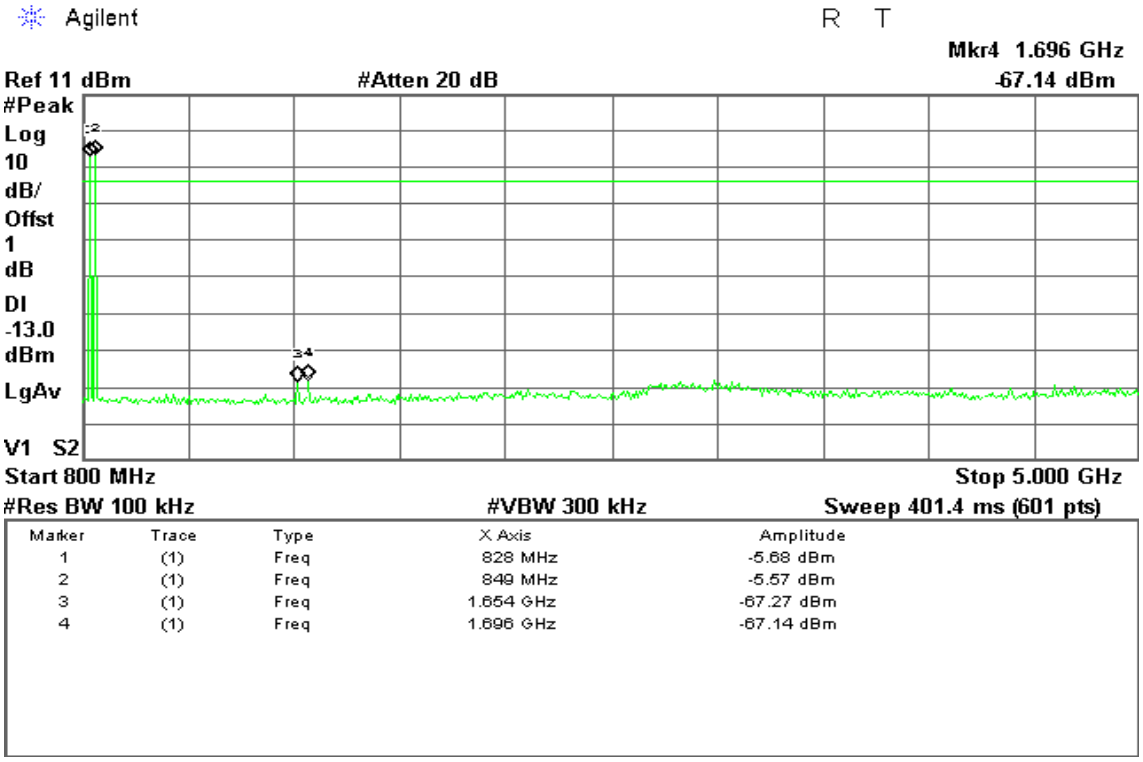

Agilent 15:59:55 Apr 12, 2012
R T
Mkr2 1.991 GHz
Ref 37 dBm
#Atten 30 dB
22.12 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 1.800 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 783.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 1.964 GHz 25.07 dBm
2 (1) Freq 1.991 GHz 22.12 dBm

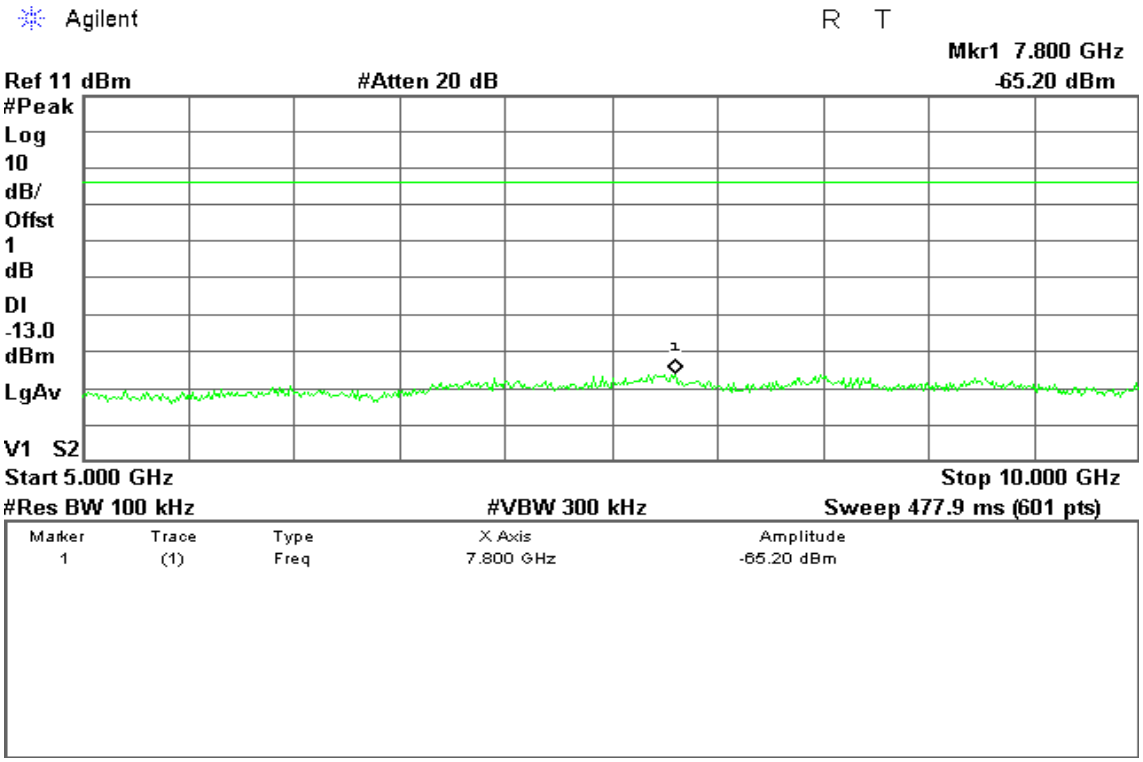

Agilent 15:56:50 Apr 12, 2012
R T
Mkr1 14.63 GHz
Ref 37 dBm
#Atten 30 dB
-34.99 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 10.00 GHz
Stop 20.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 14.63 GHz -34.99 dBm

Mode 9: CDMA / 824 – 849MHz Uplink

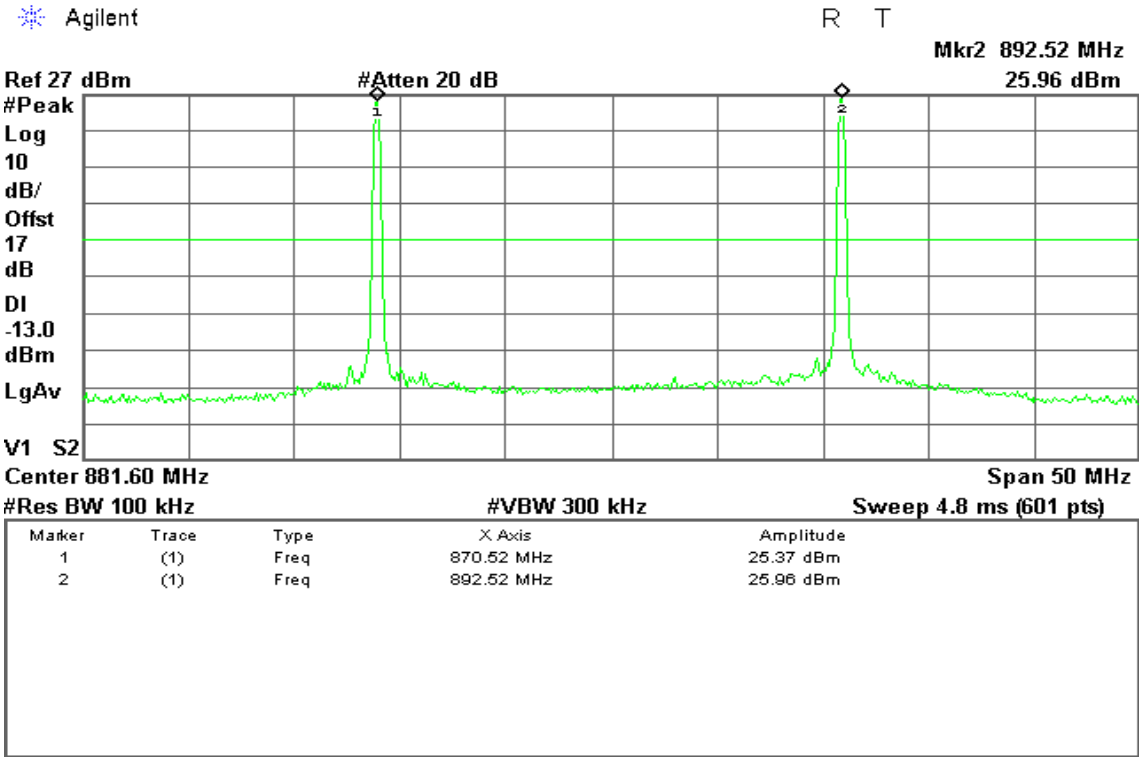


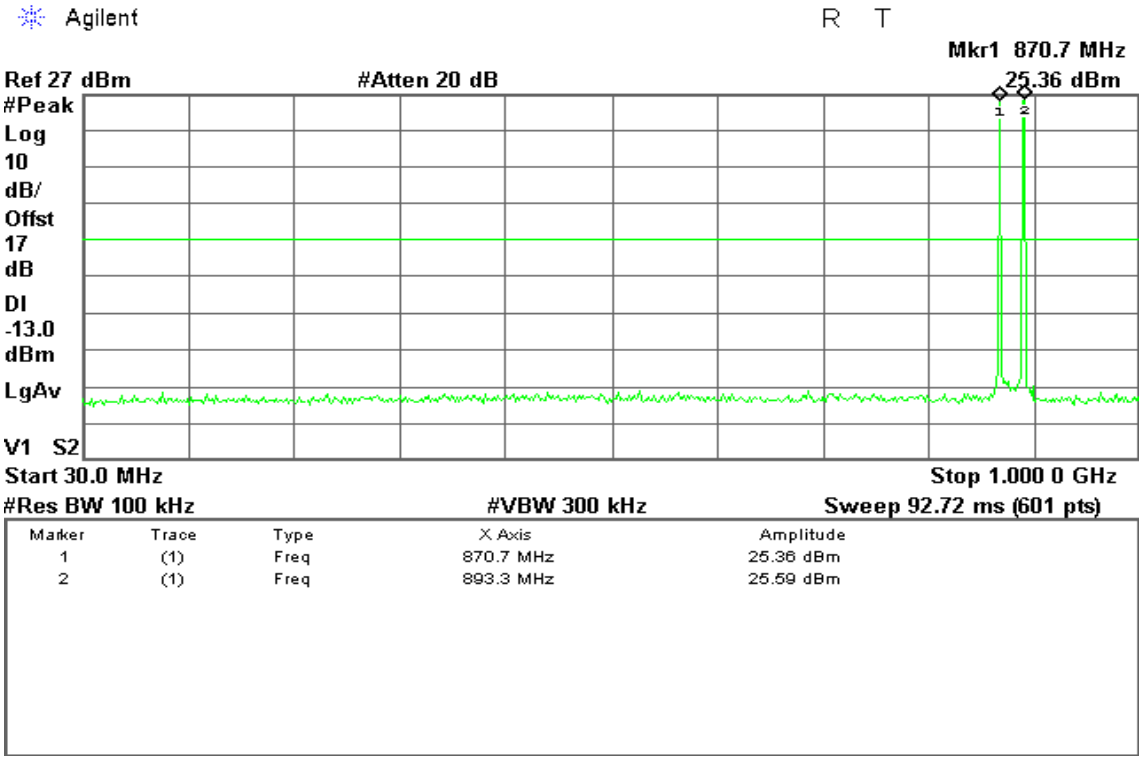


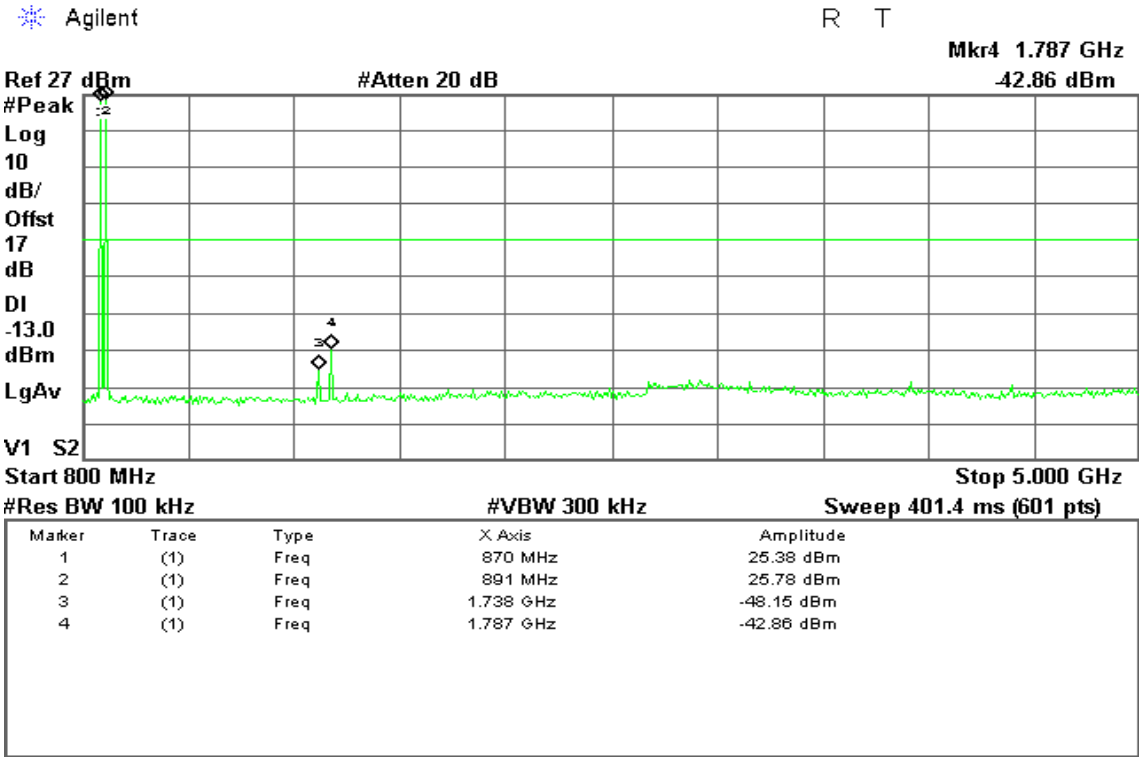

Agilent
R T
Mkr4 1.696 GHz
Ref 11 dBm
#Atten 20 dB
-67.14 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 800 MHz
Stop 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 401.4 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 828 MHz -5.68 dBm
2 (1) Freq 849 MHz -5.57 dBm
3 (1) Freq 1.654 GHz -67.27 dBm
4 (1) Freq 1.696 GHz -67.14 dBm

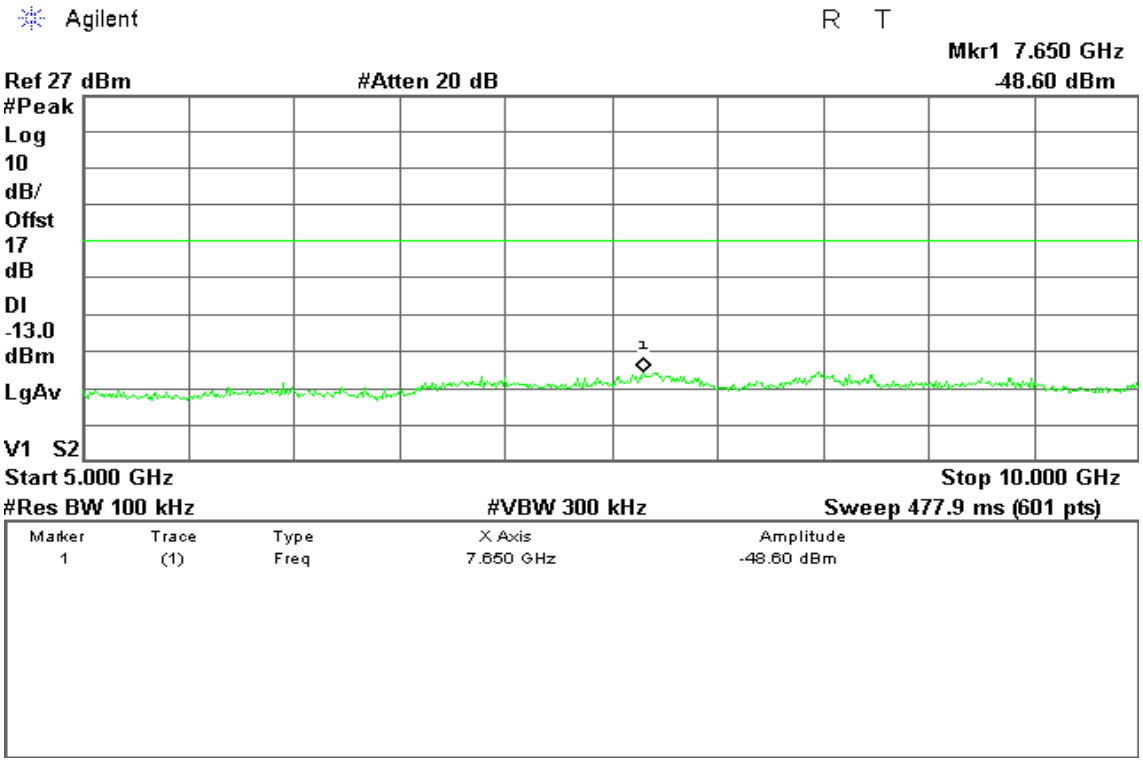

Agilent
R T
Mkr1 7.800 GHz
Ref 11 dBm
#Atten 20 dB
-65.20 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.800 GHz -65.20 dBm

Mode 10: CDMA / 869 – 894MHz Downlink

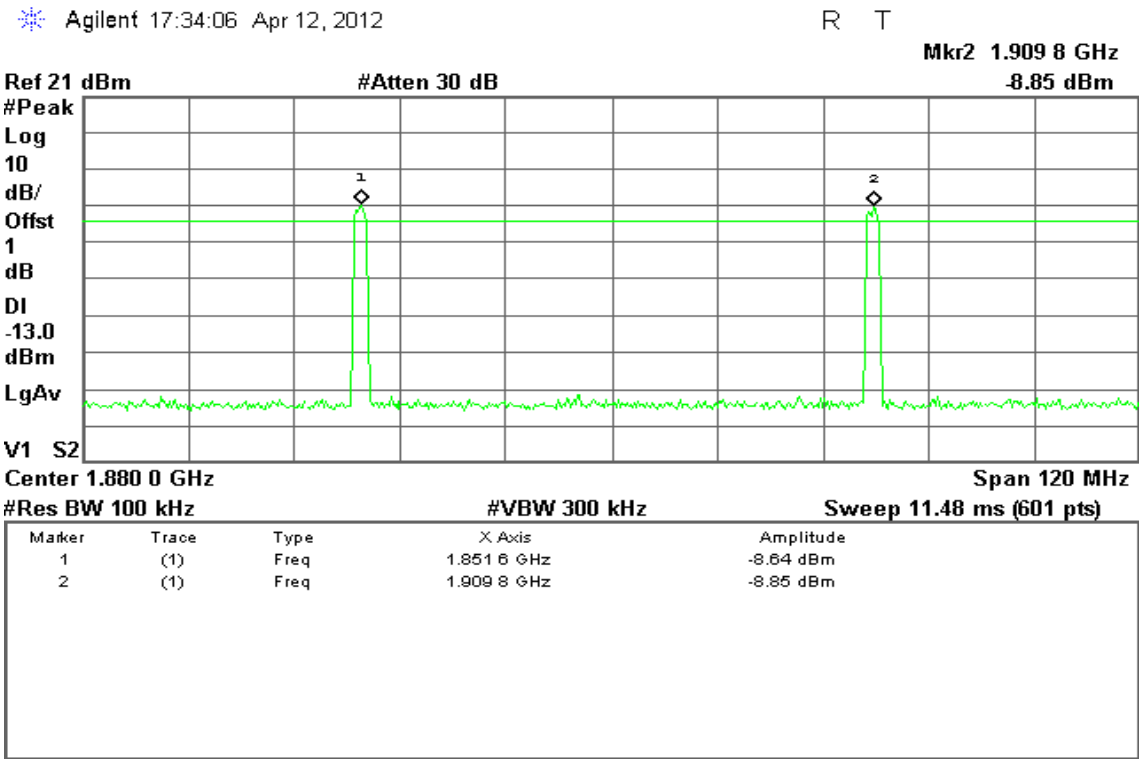


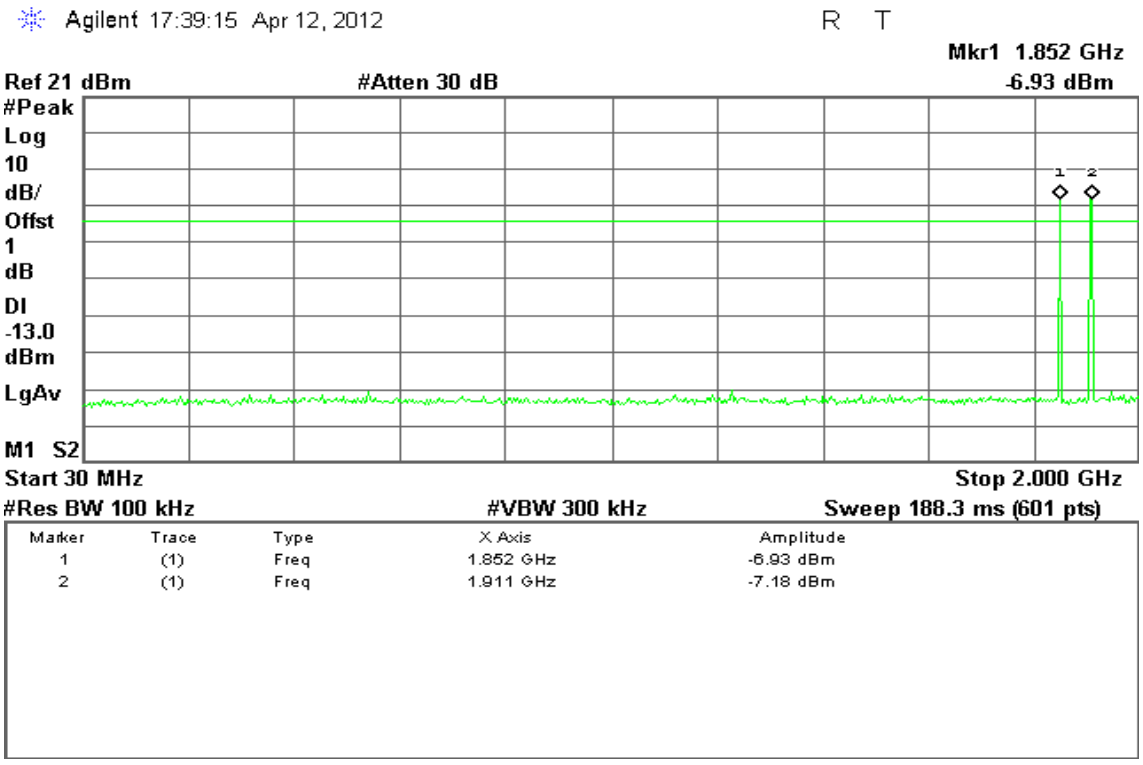


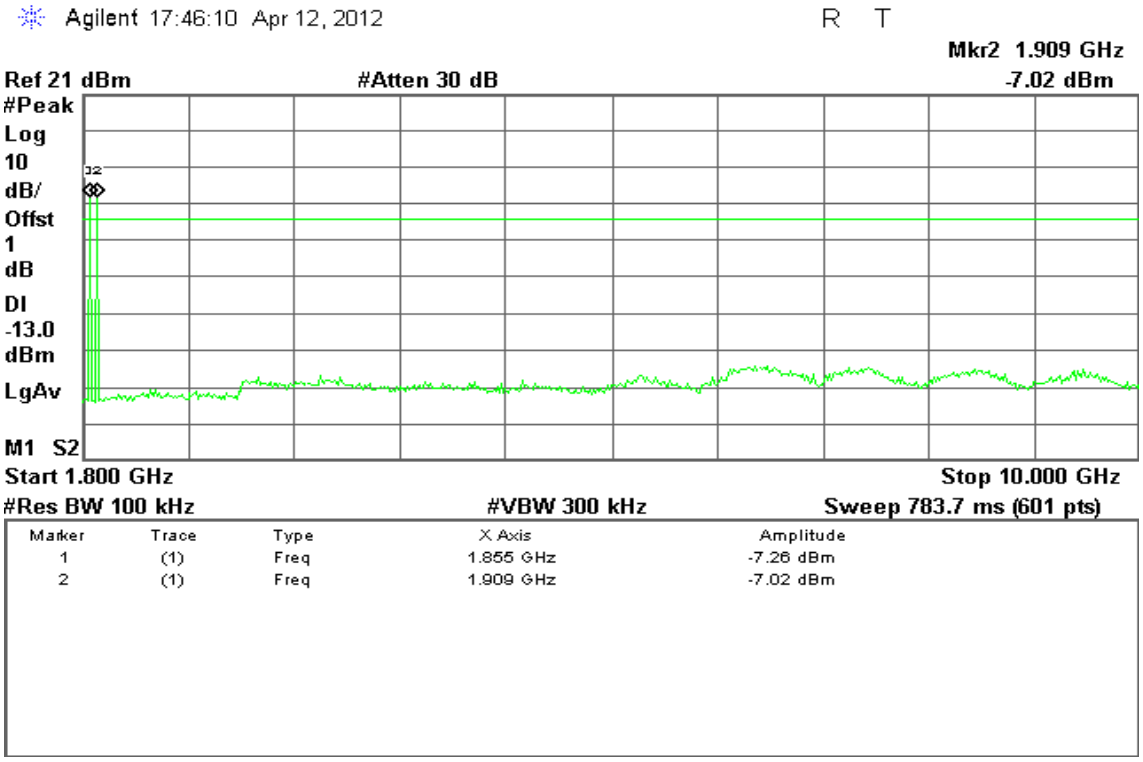

Agilent
R T
Mkr4 1.787 GHz
Ref 27 dBm
#Atten 20 dB
-42.86 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 800 MHz
Stop 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 401.4 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 870 MHz 25.38 dBm
2 (1) Freq 891 MHz 25.78 dBm
3 (1) Freq 1.738 GHz -48.15 dBm
4 (1) Freq 1.787 GHz -42.86 dBm

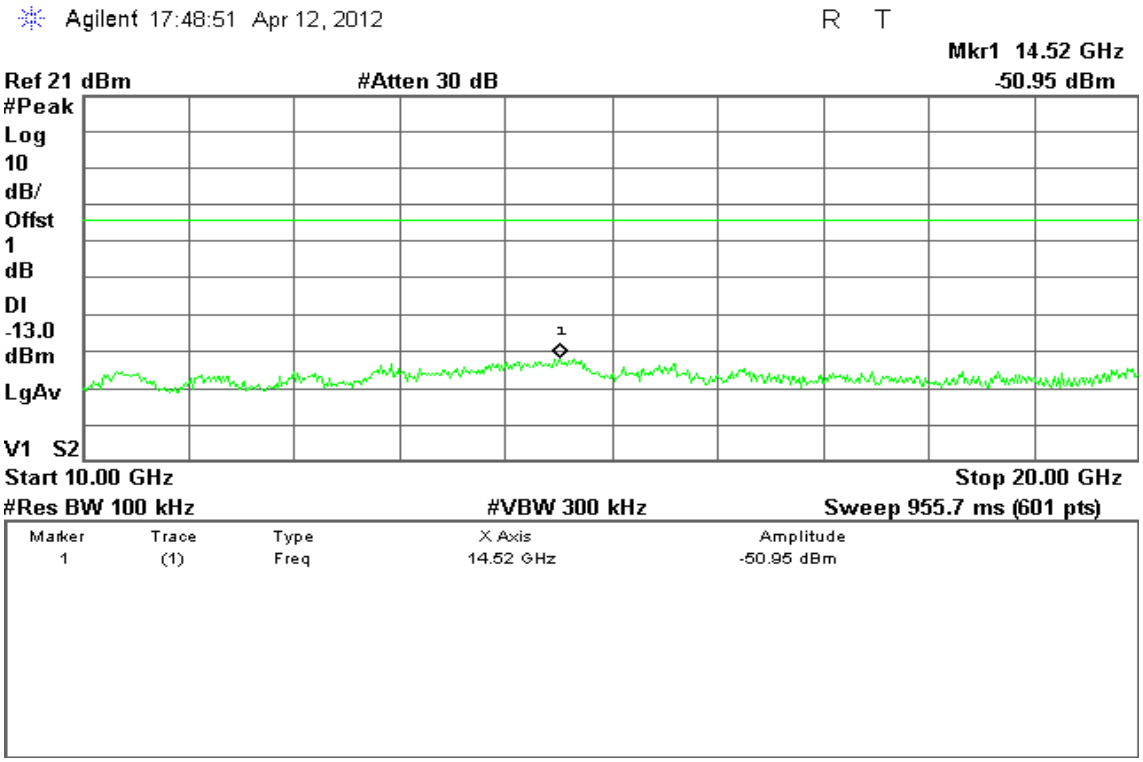

Agilent
R T
Mkr1 7.650 GHz
Ref 27 dBm
#Atten 20 dB
-48.60 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.650 GHz -48.60 dBm

Mode 11: CDMA / 1850 – 1910MHz Uplink

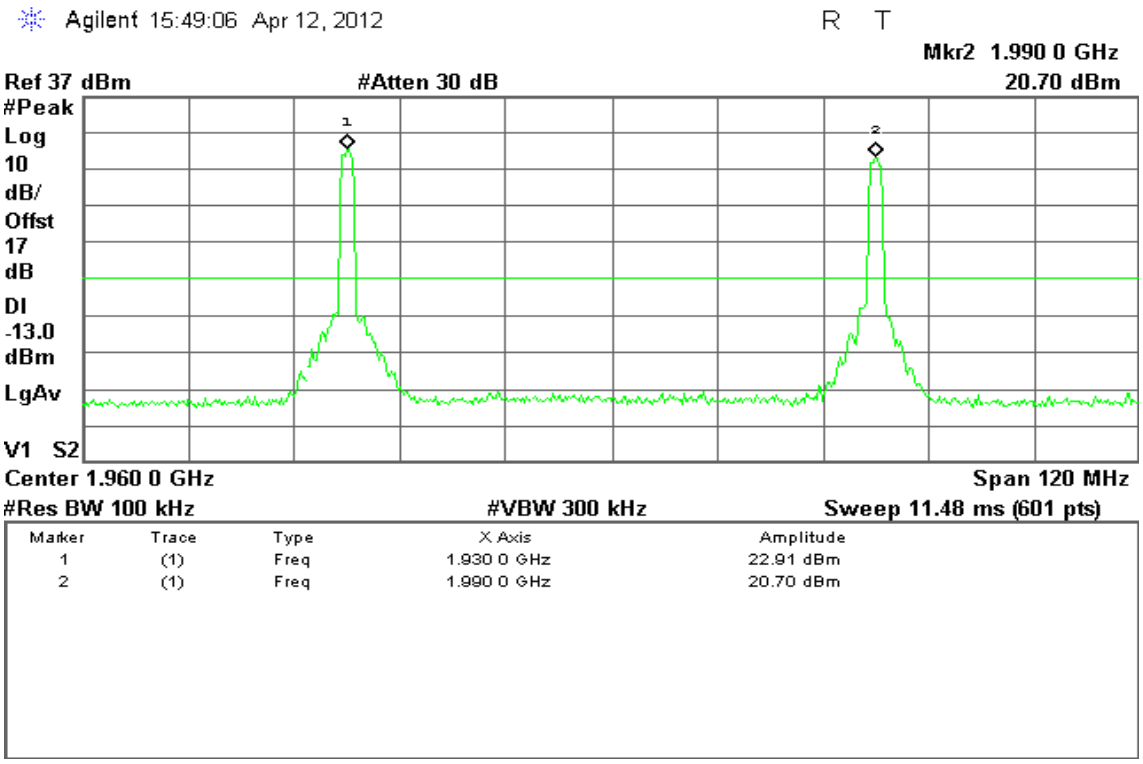


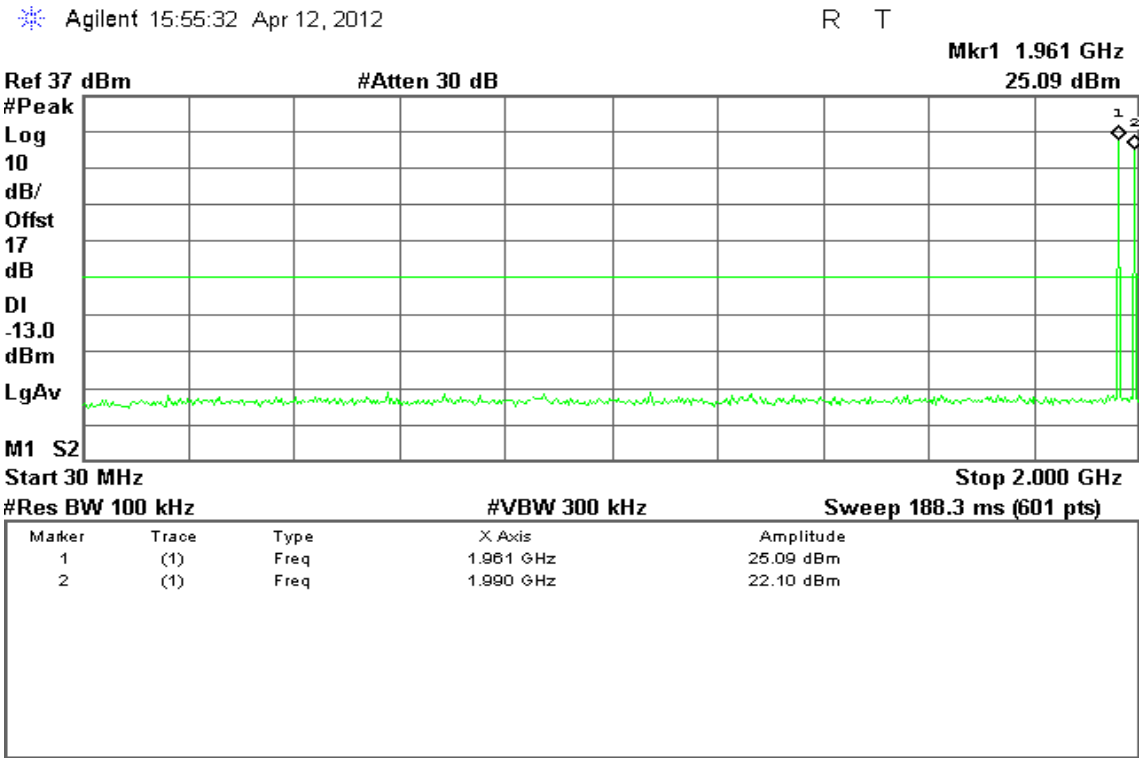


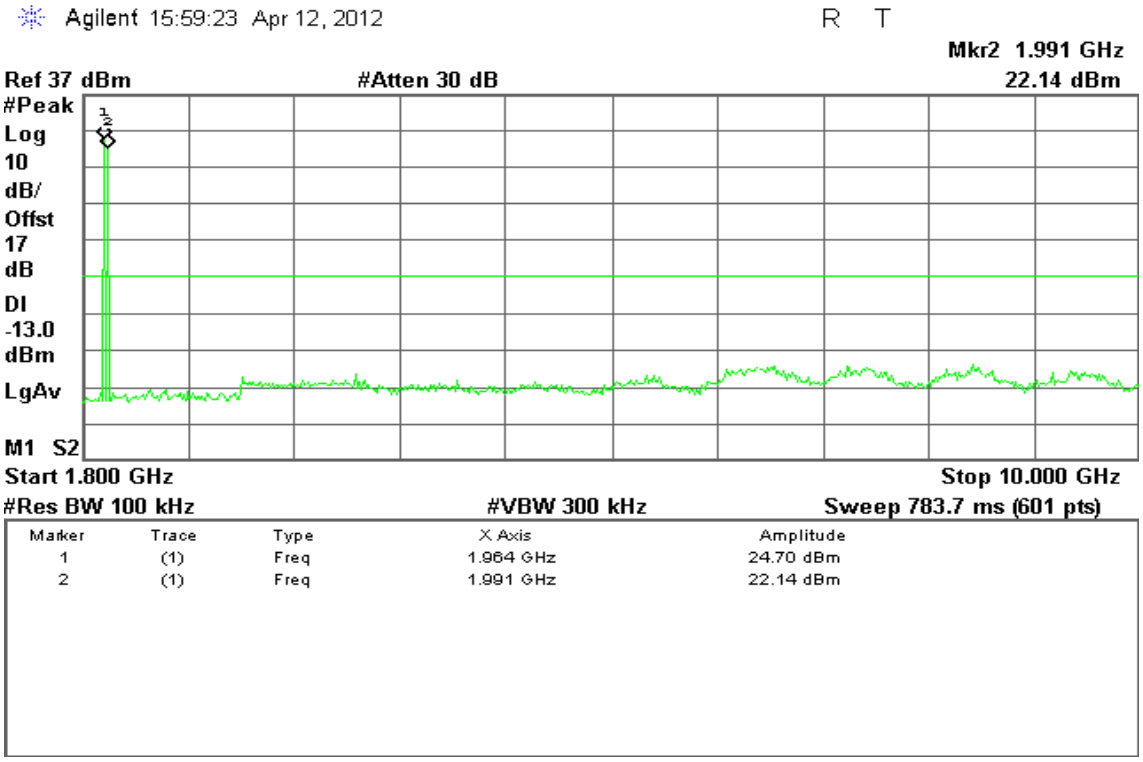

Agilent 17:46:10 Apr 12, 2012
R T
Mkr2 1.909 GHz
Ref 21 dBm
#Atten 30 dB
-7.02 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 1.800 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 783.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 1.855 GHz -7.26 dBm
2 (1) Freq 1.909 GHz -7.02 dBm

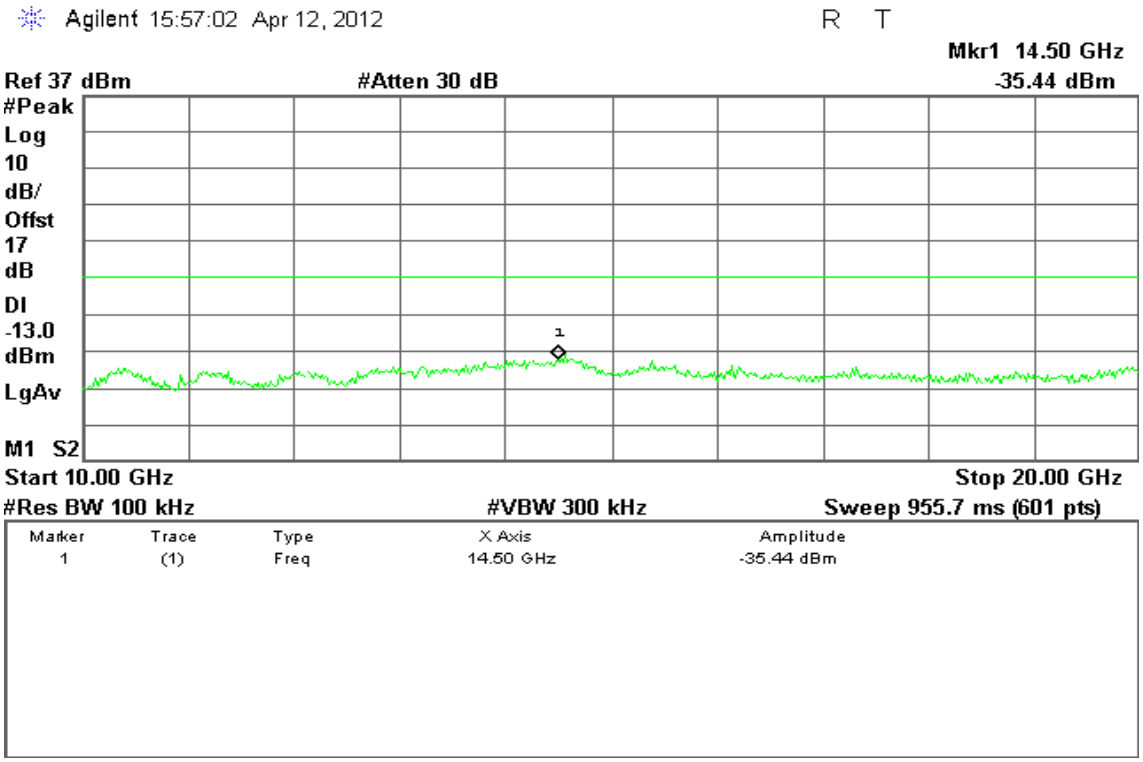

Agilent 17:48:51 Apr 12, 2012
R T
Mkr1 14.52 GHz
Ref 21 dBm
#Atten 30 dB
-50.95 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 10.00 GHz
Stop 20.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 14.52 GHz -50.95 dBm

Mode 12: CDMA / 1930 – 1990MHz Downlink

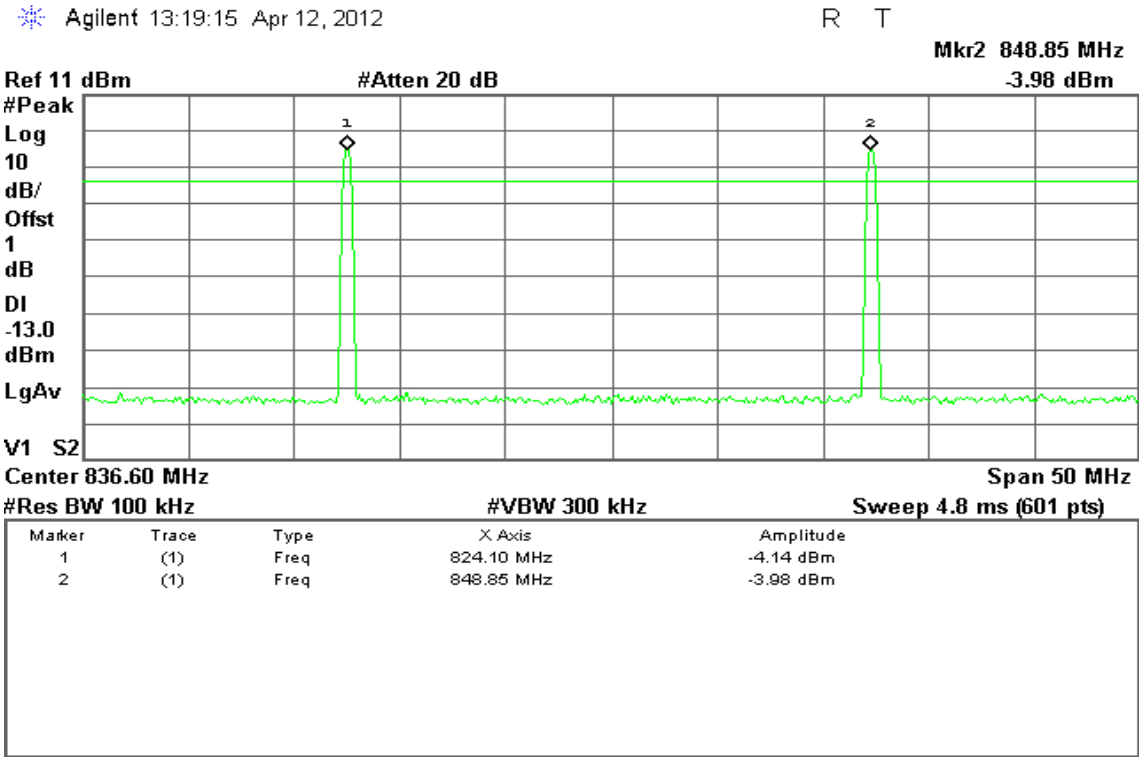


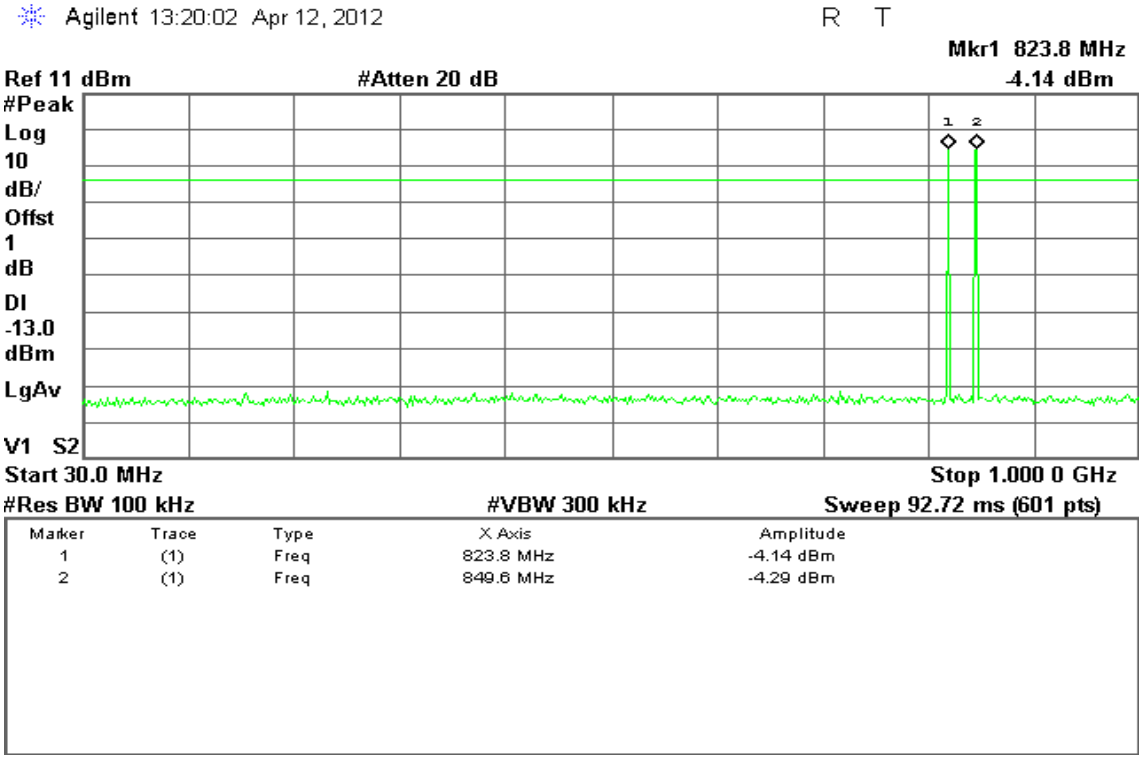


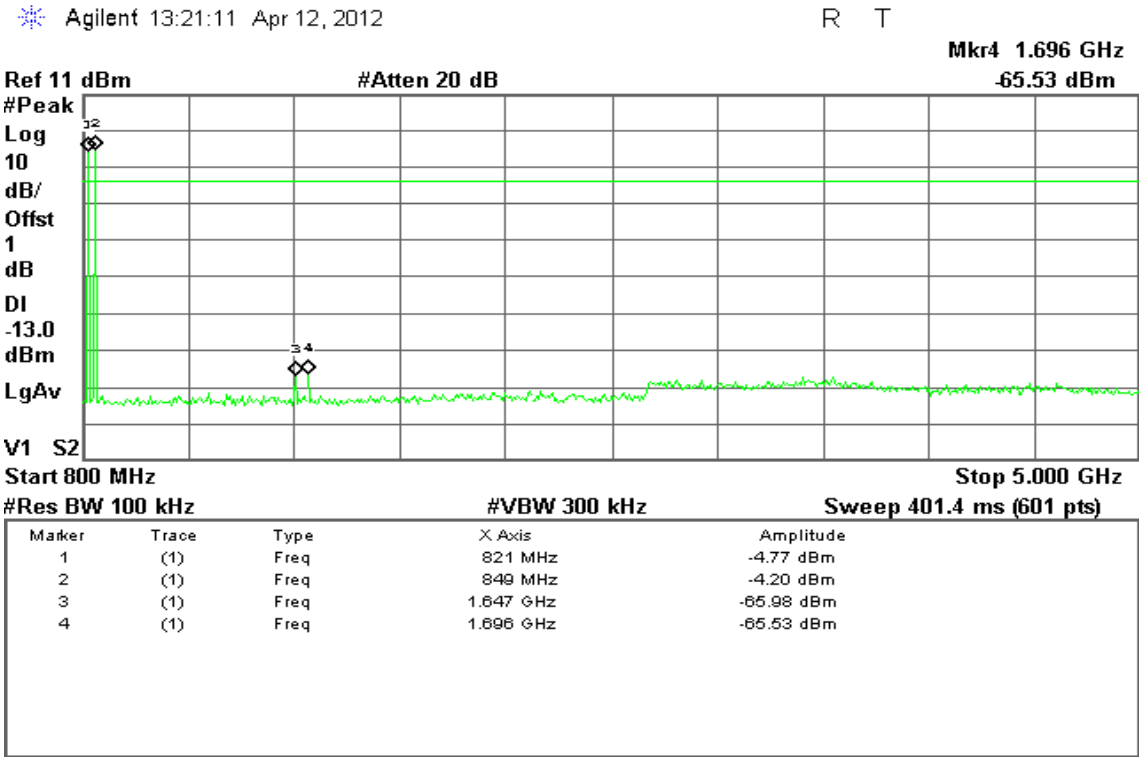

Agilent 15:59:23 Apr 12, 2012
R T
Mkr2 1.991 GHz
Ref 37 dBm
#Atten 30 dB
22.14 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 1.800 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 783.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 1.964 GHz 24.70 dBm
2 (1) Freq 1.991 GHz 22.14 dBm

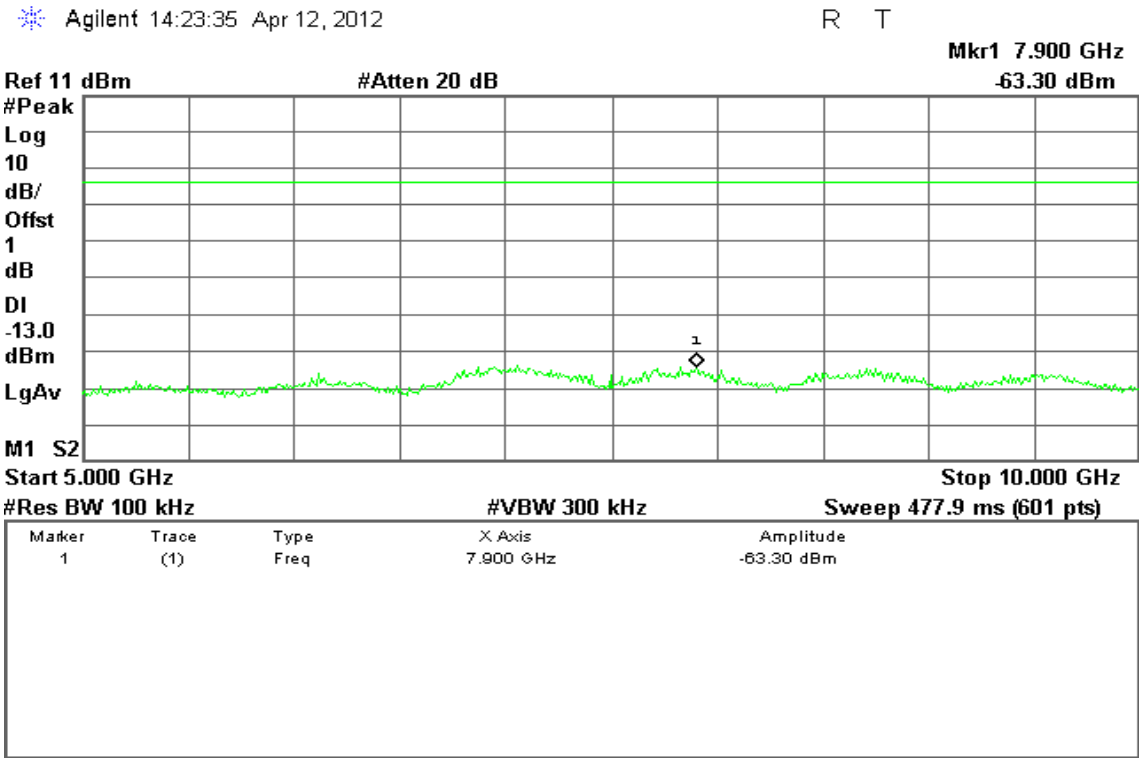

Agilent 15:57:02 Apr 12, 2012
R T
Mkr1 14.50 GHz
Ref 37 dBm
#Atten 30 dB
-35.44 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 10.00 GHz
Stop 20.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 14.50 GHz -35.44 dBm

Mode 13: TDMA / 824 – 849MHz Uplink

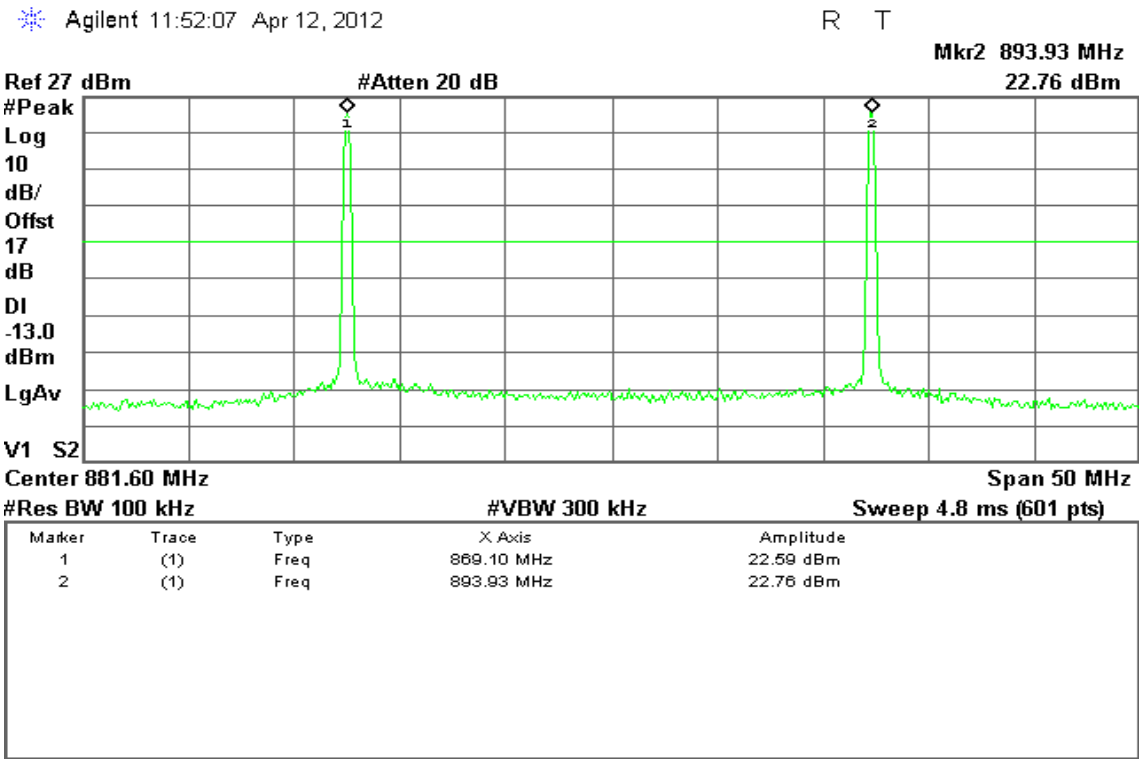


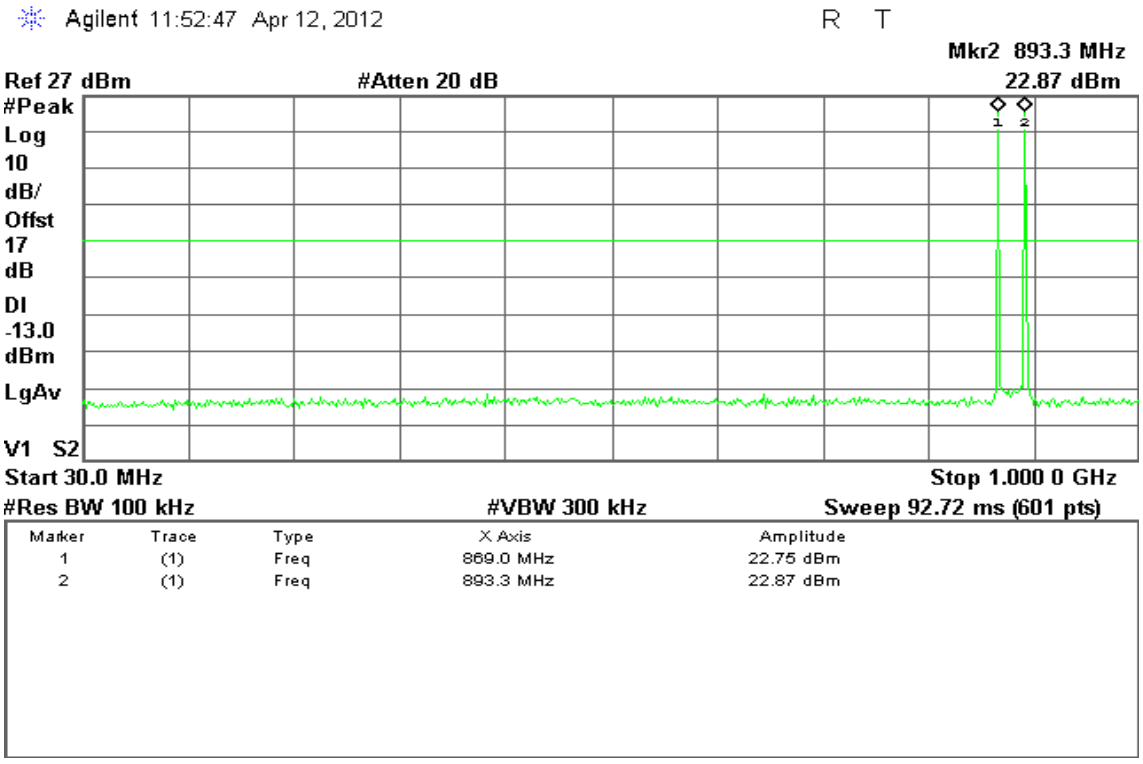


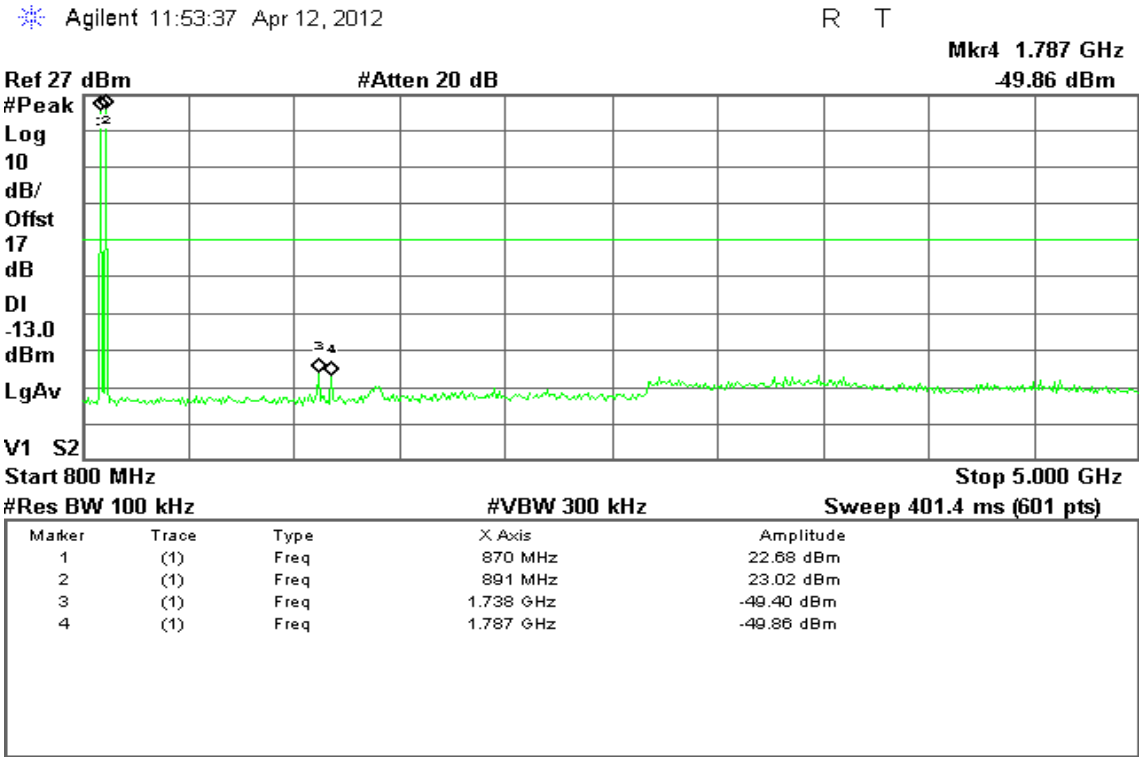

Agilent 13:21:11 Apr 12, 2012
R T
Mkr4 1.696 GHz
Ref 11 dBm
#Atten 20 dB
-65.53 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 800 MHz
Stop 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 401.4 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 821 MHz -4.77 dBm
2 (1) Freq 849 MHz -4.20 dBm
3 (1) Freq 1.647 GHz -65.98 dBm
4 (1) Freq 1.696 GHz -65.53 dBm

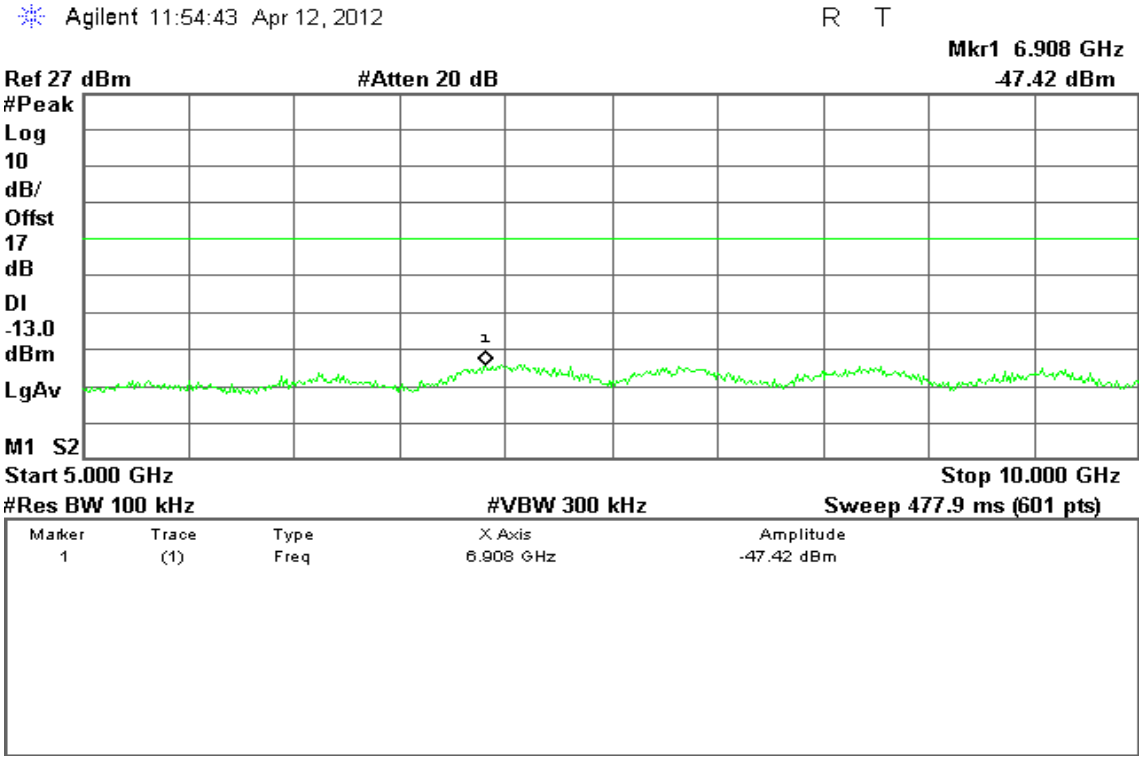

Agilent 14:23:35 Apr 12, 2012
R T
Mkr1 7.900 GHz
Ref 11 dBm
#Atten 20 dB
-63.30 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.900 GHz -63.30 dBm

Mode 14: TDMA / 869 – 894MHz Downlink

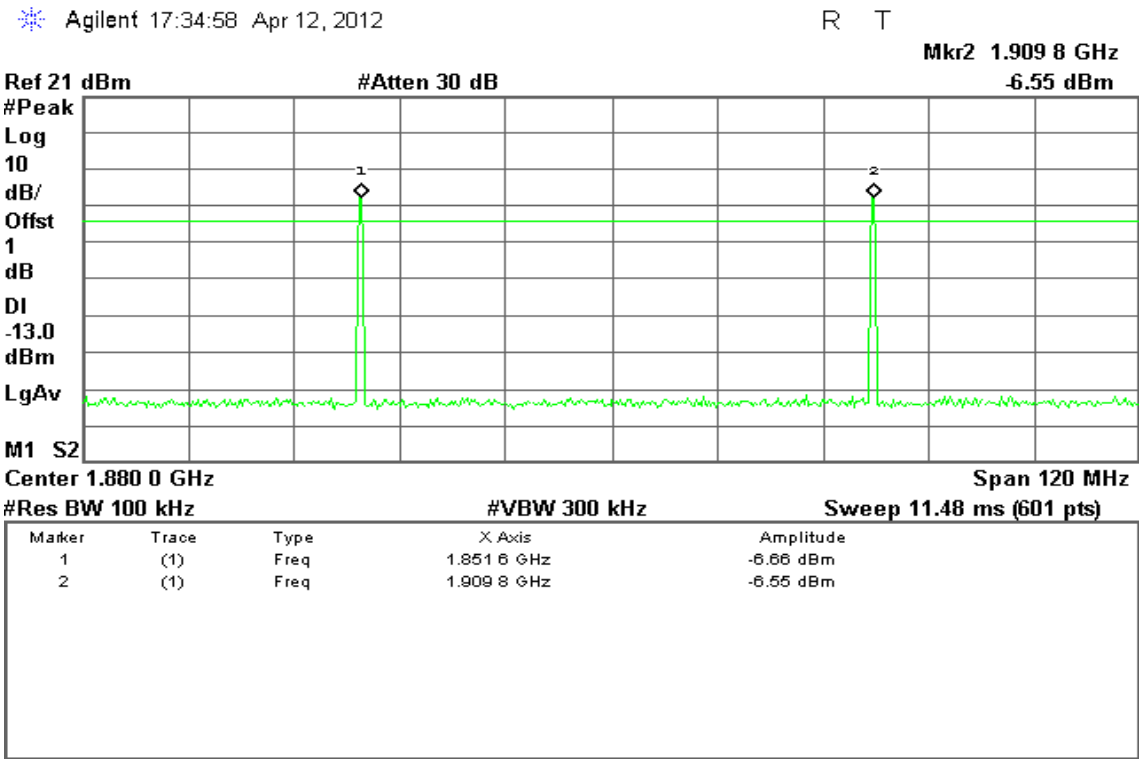


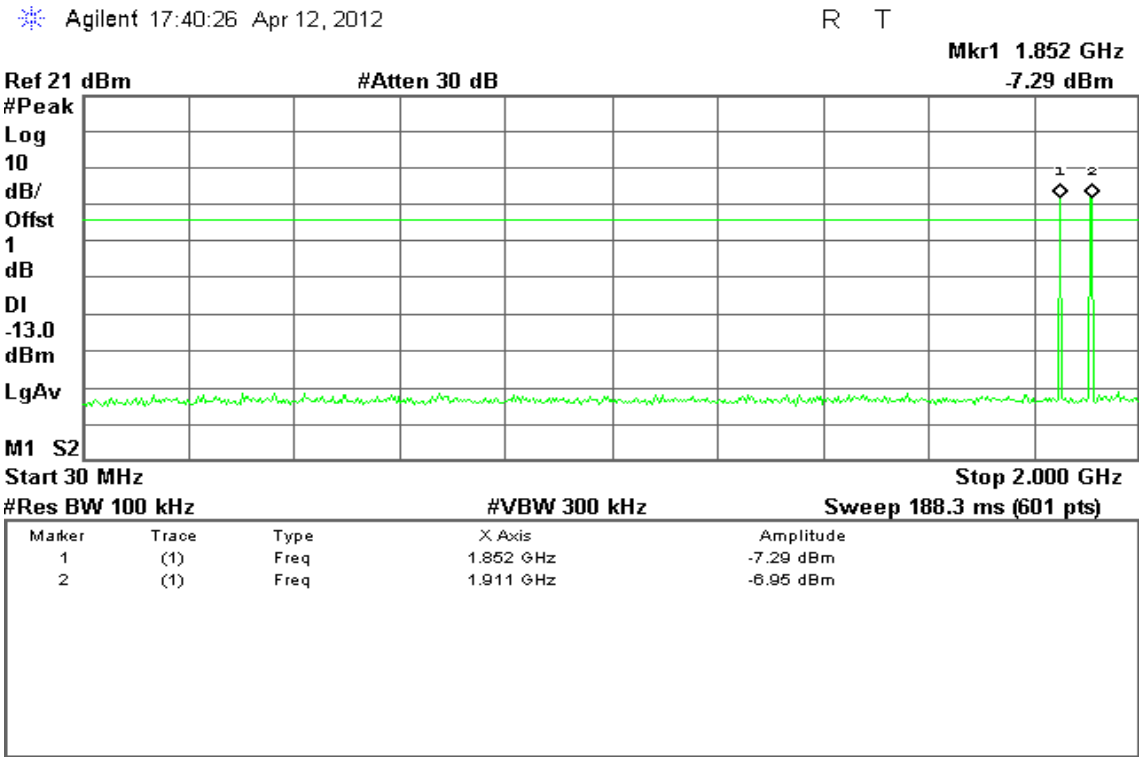


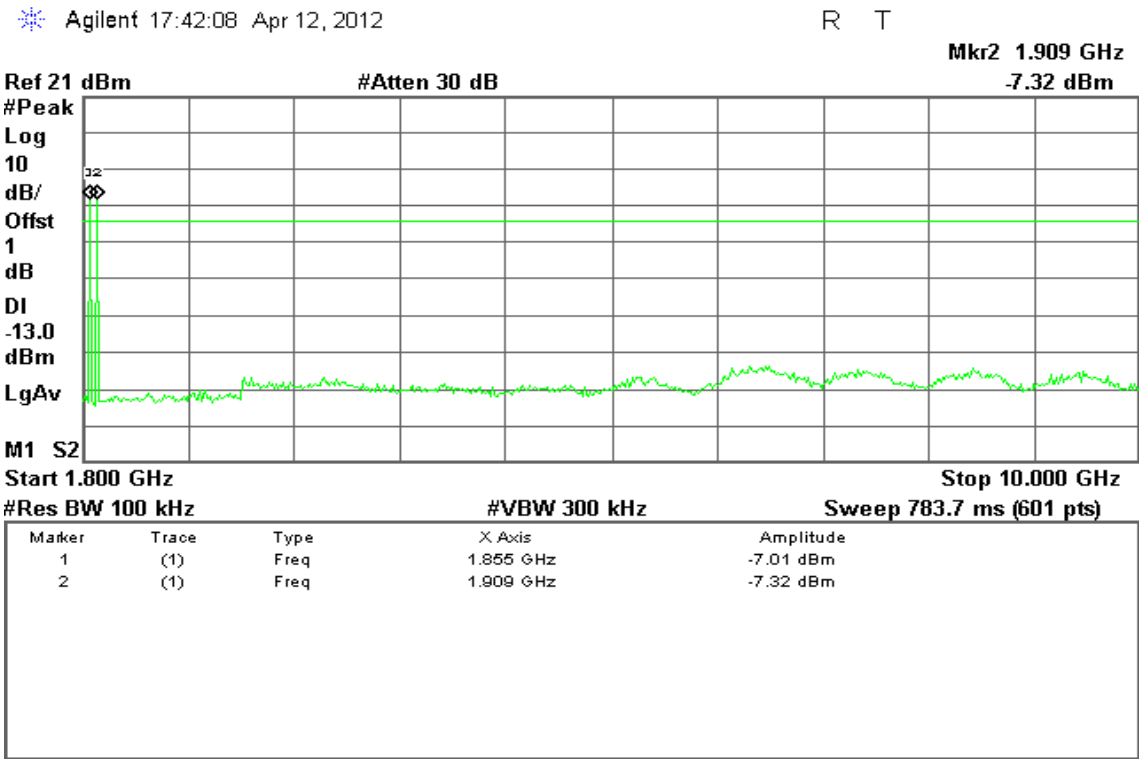

Agilent 11:53:37 Apr 12, 2012
R T
Mkr4 1.787 GHz
Ref 27 dBm
#Atten 20 dB
-49.86 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 800 MHz
Stop 5.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 401.4 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 870 MHz 22.68 dBm
2 (1) Freq 891 MHz 23.02 dBm
3 (1) Freq 1.738 GHz -49.40 dBm
4 (1) Freq 1.787 GHz -49.86 dBm

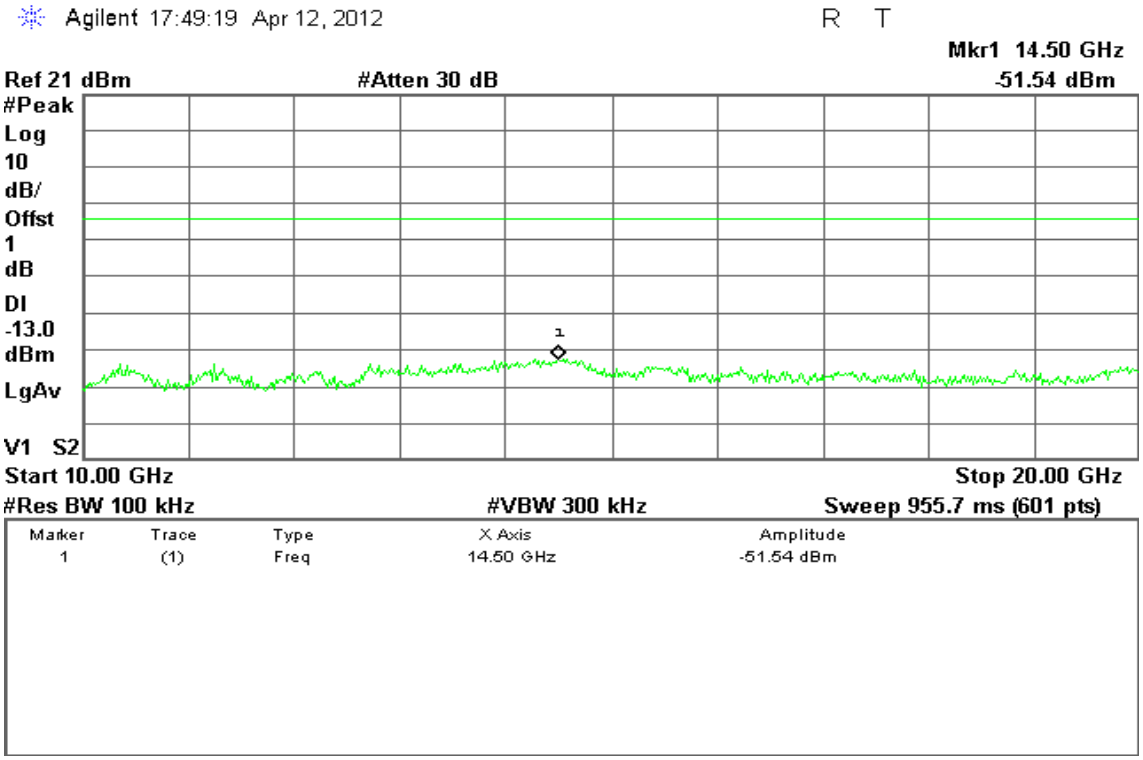

Agilent 11:54:43 Apr 12, 2012
R T
Mkr1 6.908 GHz
Ref 27 dBm
#Atten 20 dB
-47.42 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 6.908 GHz -47.42 dBm

Mode 15: TDMA / 1850 – 1910MHz Uplink

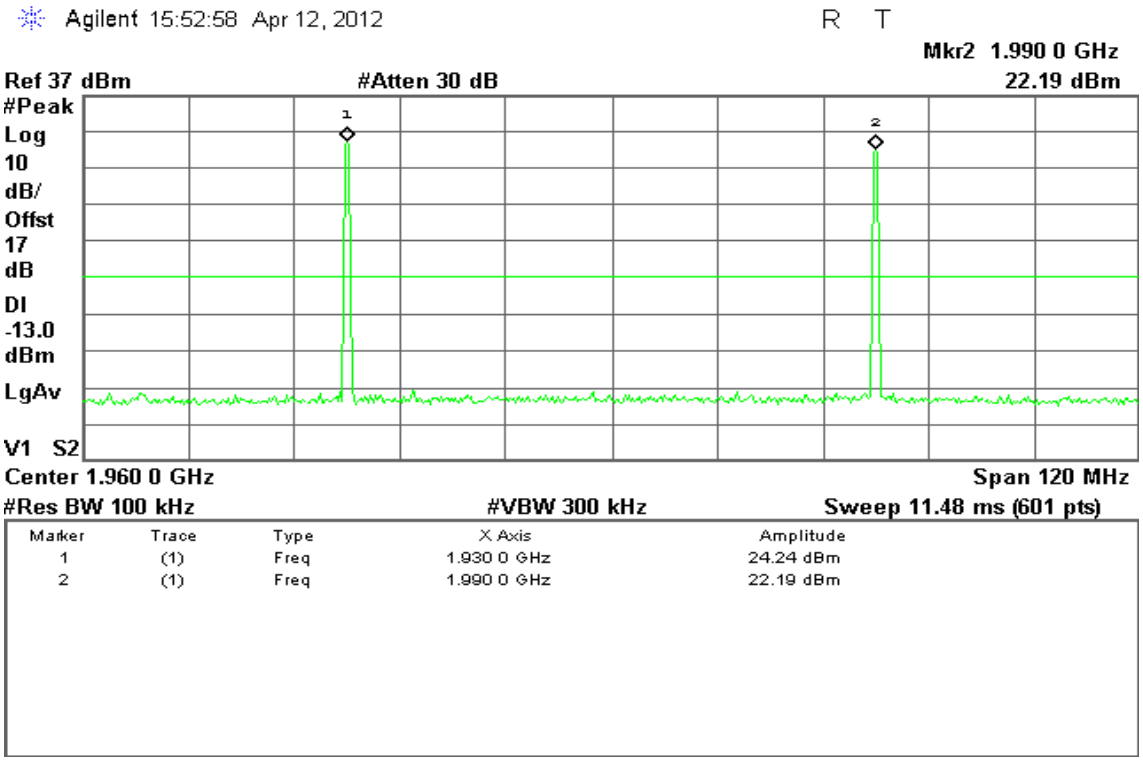


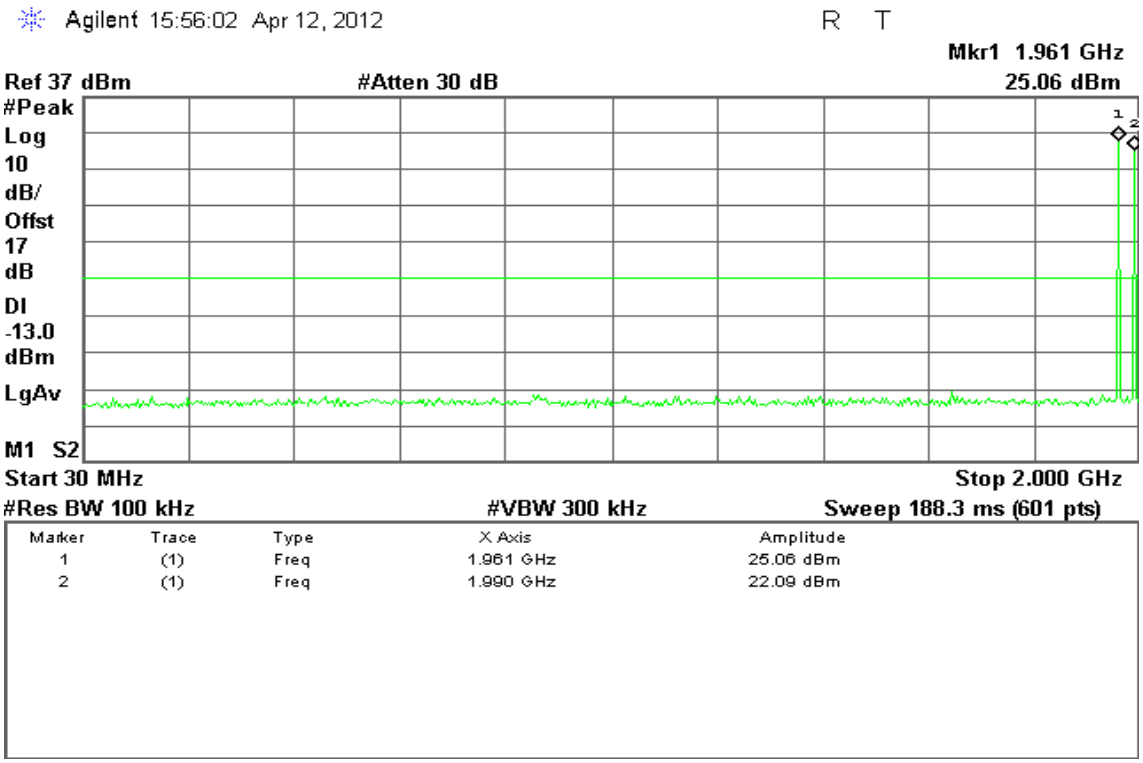


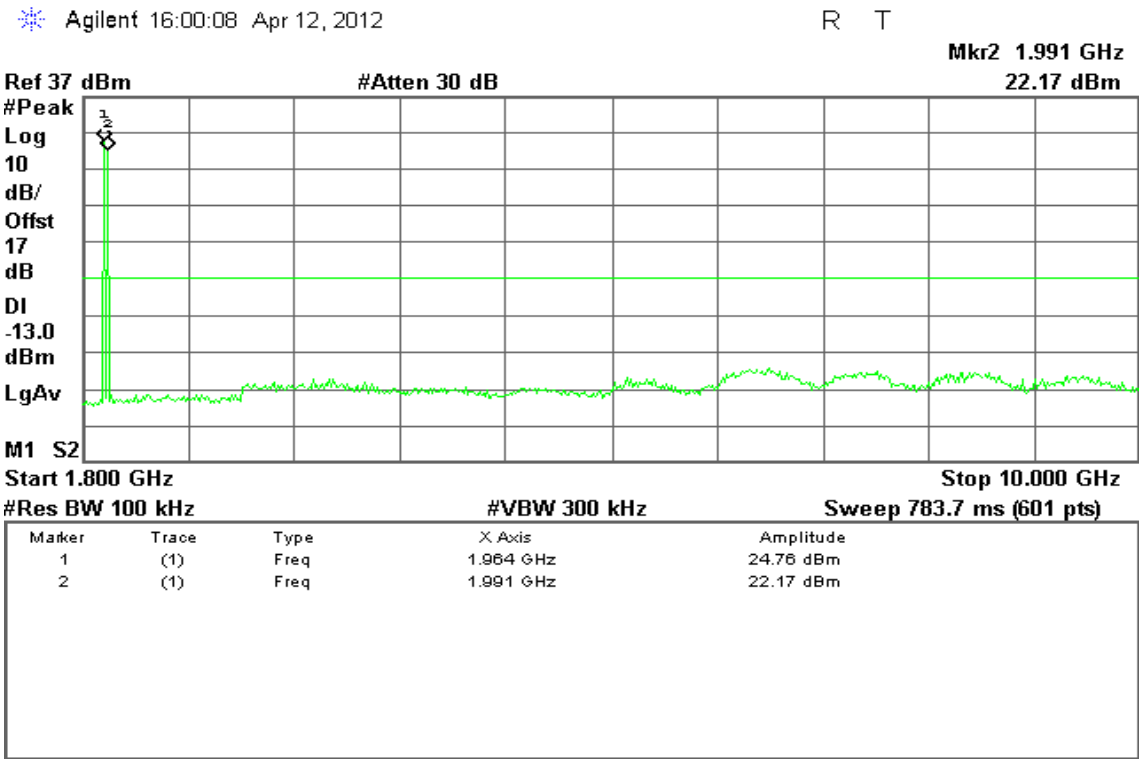

Agilent 17:42:08 Apr 12, 2012
R T
Mkr2 1.909 GHz
Ref 21 dBm
#Atten 30 dB
-7.32 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 1.800 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 783.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 1.855 GHz -7.01 dBm
2 (1) Freq 1.909 GHz -7.32 dBm

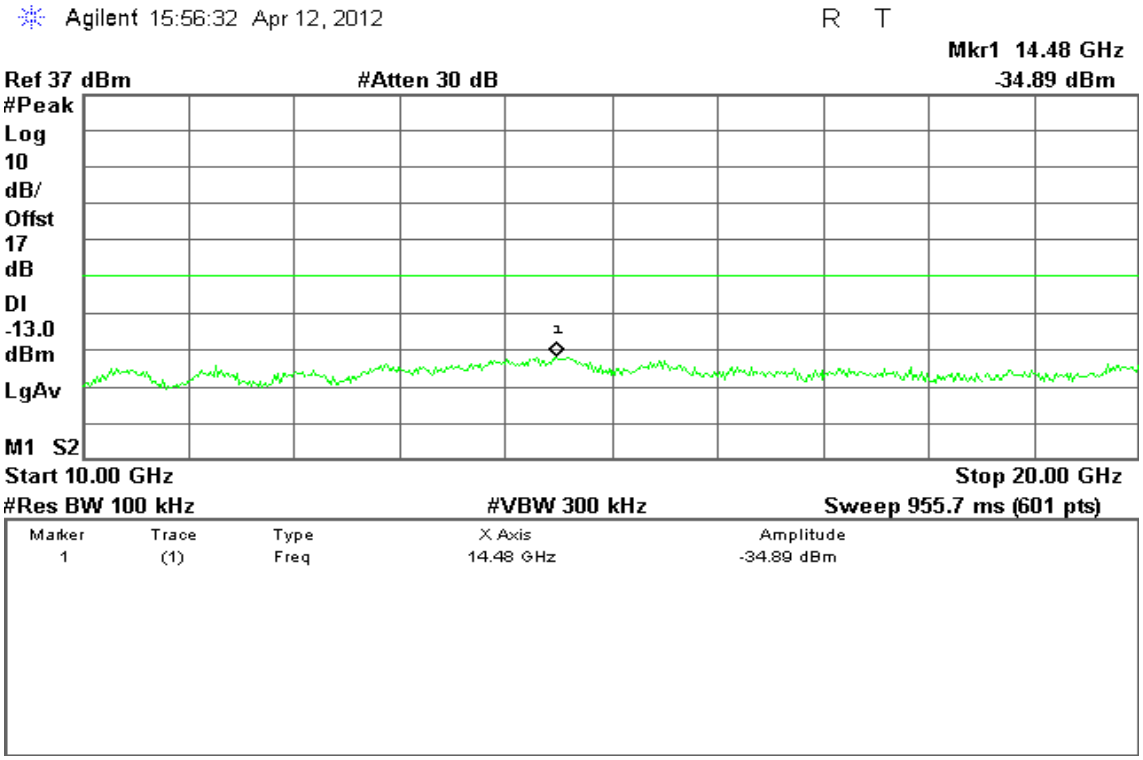

Agilent 17:49:19 Apr 12, 2012
R T
Mkr1 14.50 GHz
Ref 21 dBm
#Atten 30 dB
-51.54 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 10.00 GHz
Stop 20.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 14.50 GHz -51.54 dBm

Mode 16: TDMA / 1930 – 1990MHz Downlink






Agilent 16:00:08 Apr 12, 2012
R T
Mkr2 1.991 GHz
Ref 37 dBm
#Atten 30 dB
22.17 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 1.800 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 783.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 1.964 GHz 24.76 dBm
2 (1) Freq 1.991 GHz 22.17 dBm


Agilent 15:56:32 Apr 12, 2012
R T
Mkr1 14.48 GHz
Ref 37 dBm
#Atten 30 dB
-34.89 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
M1 S2
Start 10.00 GHz
Stop 20.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 955.7 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 14.48 GHz -34.89 dBm

7.3 CONDUCTED SPURIOUS EMISSIONS TEST

LIMIT

According to FCC §2.1051
RSS131 §Cl4.4

TEST PROCEDURE

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.
4. Test setting at RB=1MHz, VB=1MHz.

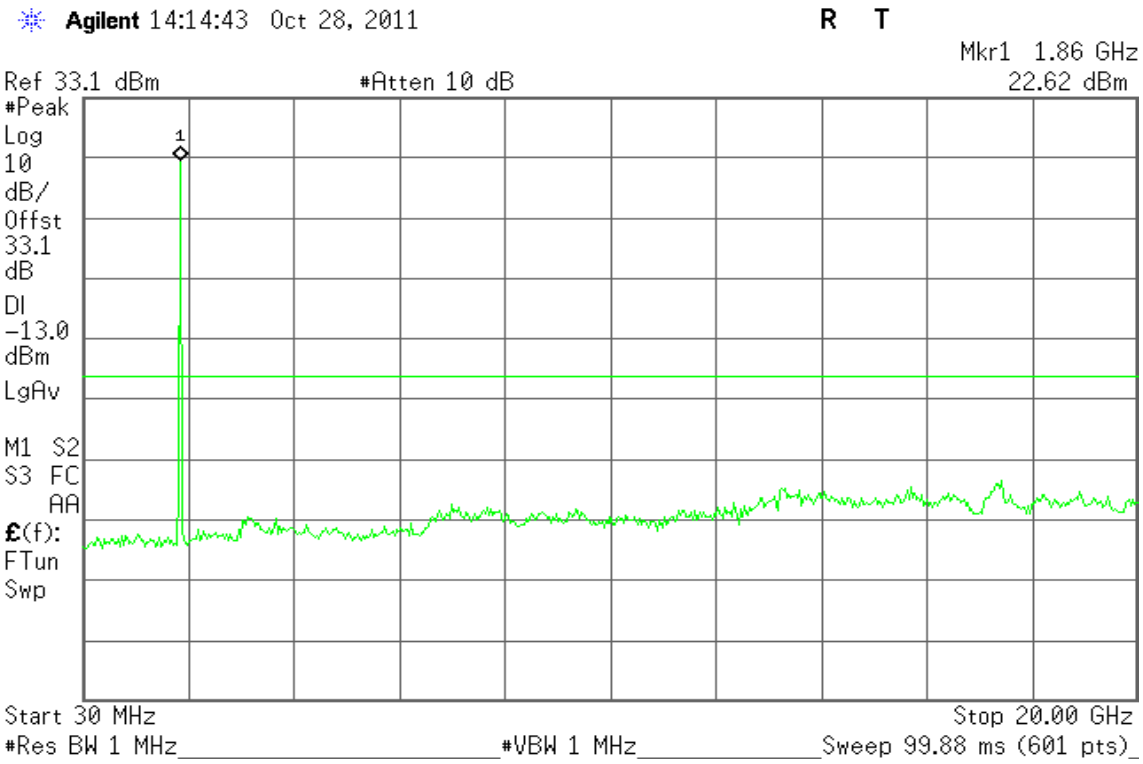
TEST RESULTS

No non-compliance noted.

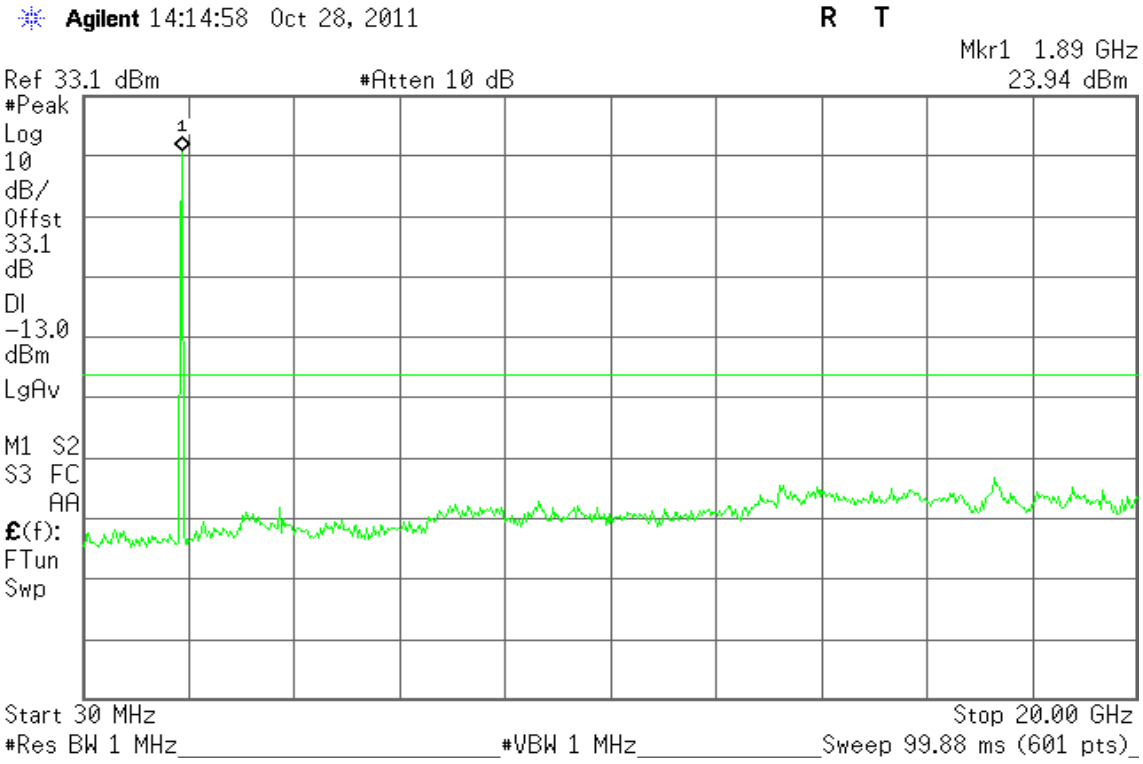
Test Plot

Mode 1: WCDMA Band II Uplink

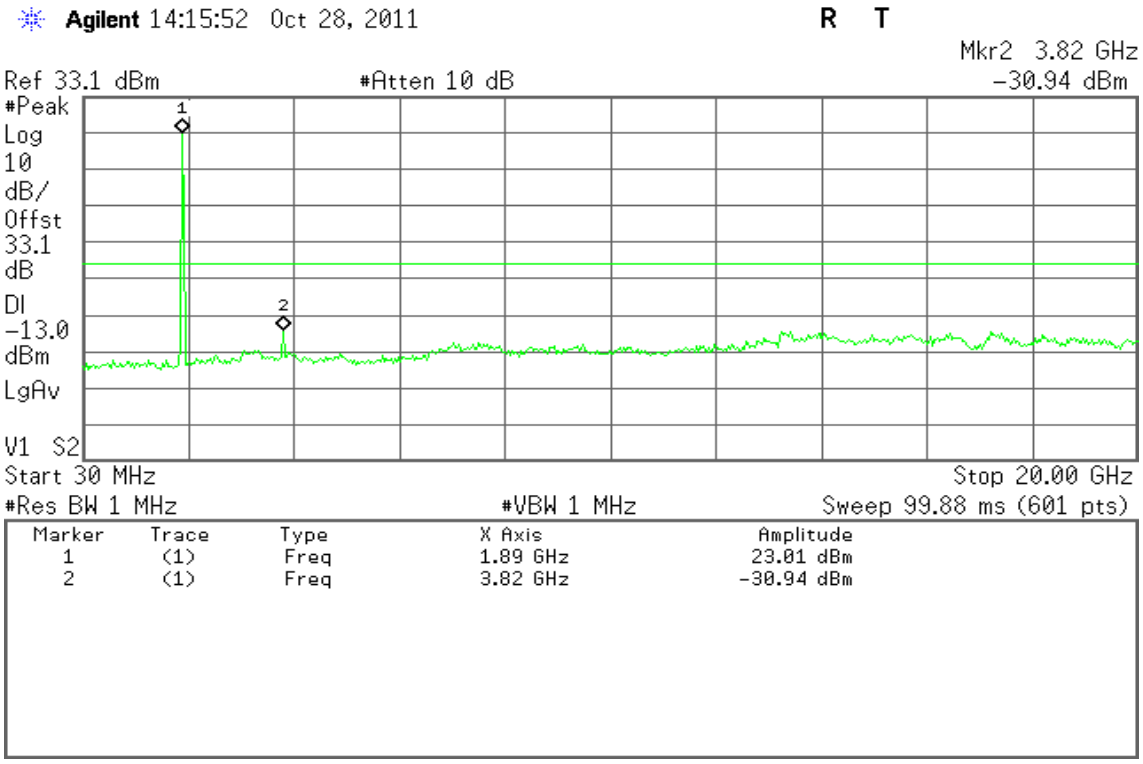
CH Low



CH Mid

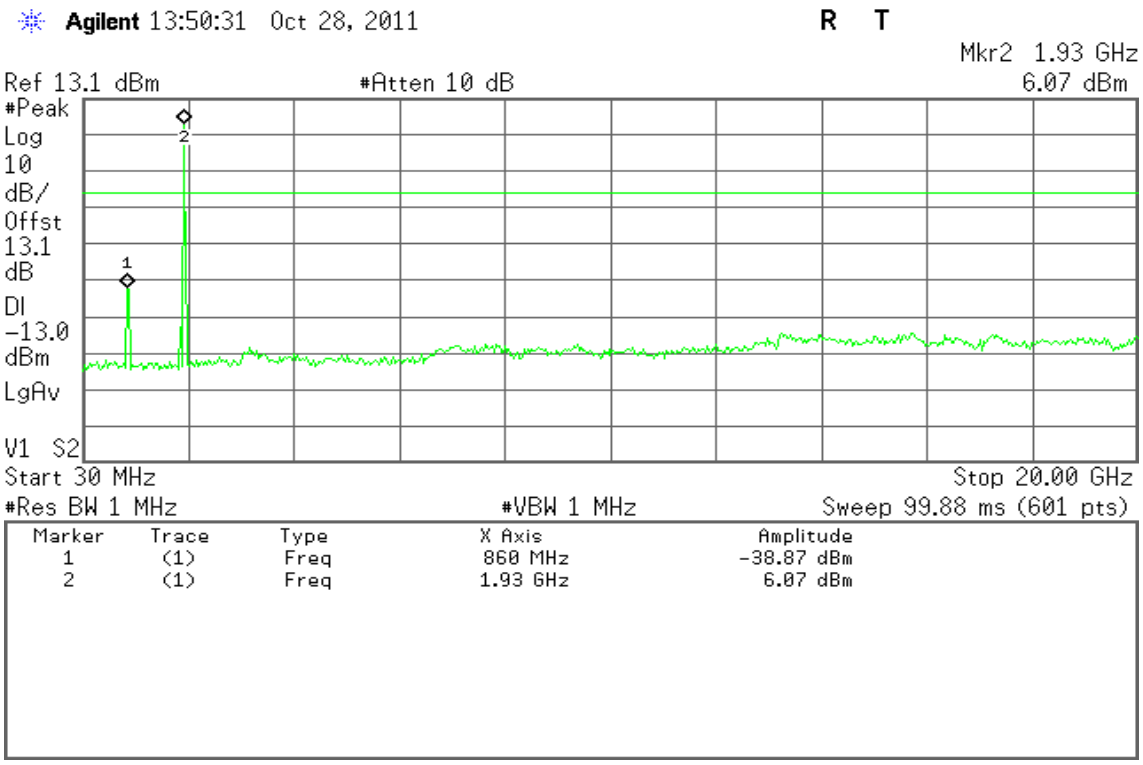


CH High

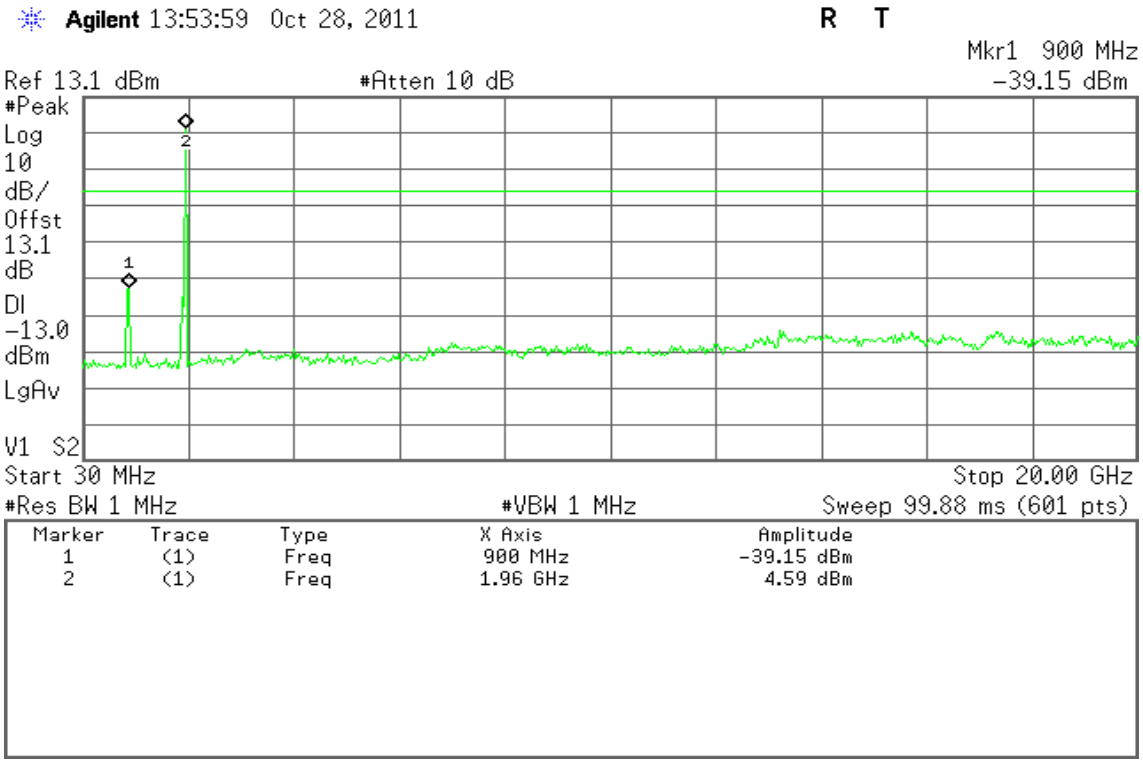

Agilent 14:15:52 Oct 28, 2011
R T
Mkr2 3.82 GHz
Ref 33.1 dBm
#Atten 10 dB
-30.94 dBm
#Peak
Log
10
dB/
Offst
33.1
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 30 MHz
Stop 20.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 99.88 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 1.89 GHz 23.01 dBm
2 (1) Freq 3.82 GHz -30.94 dBm

Mode 2: WCDMA Band II Downlink

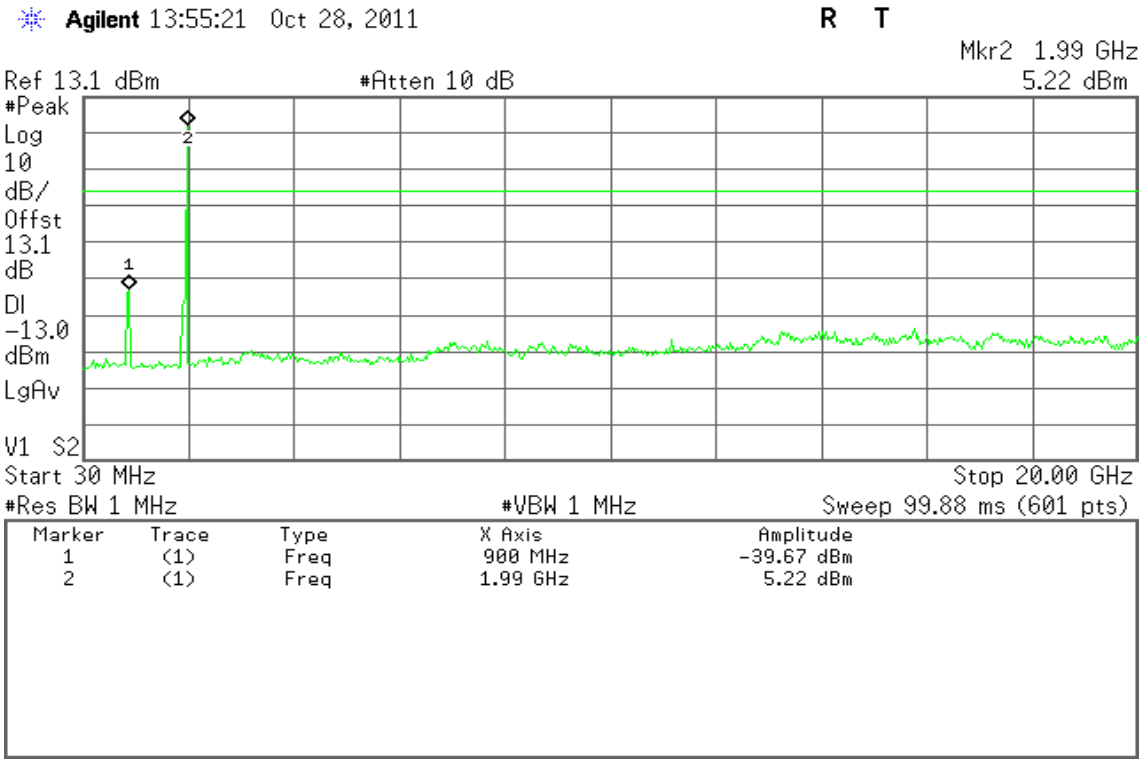
CH Low



CH Mid

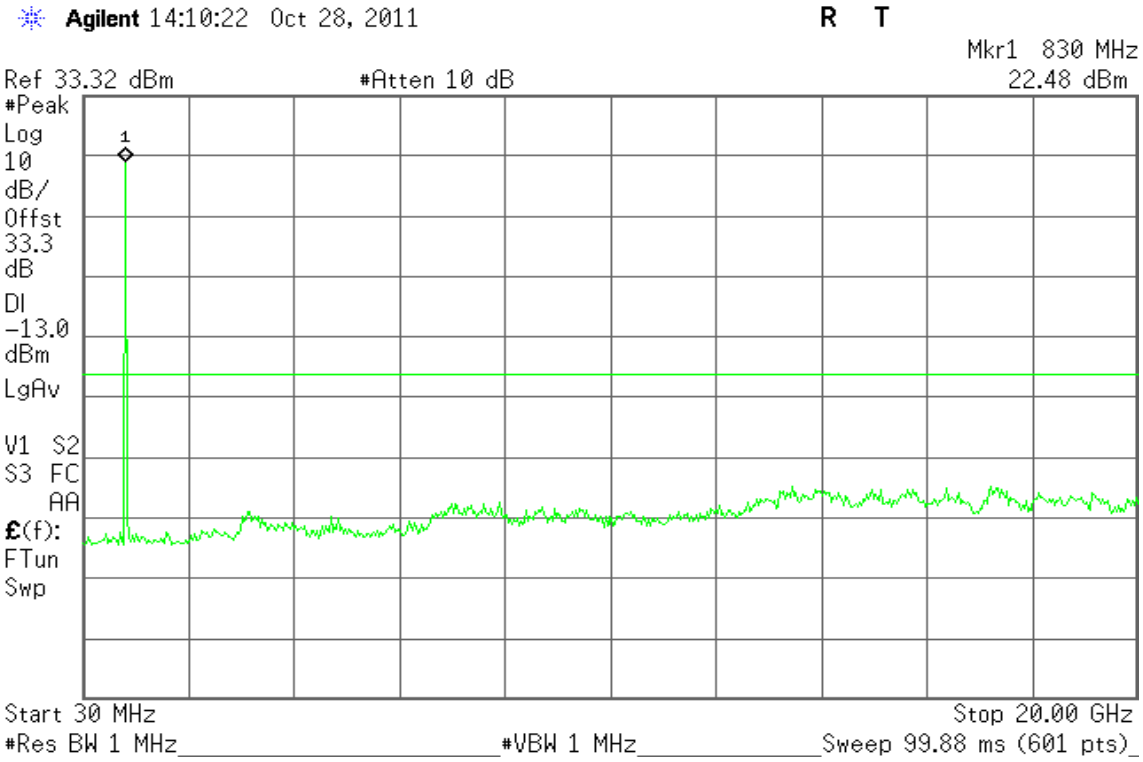


CH High

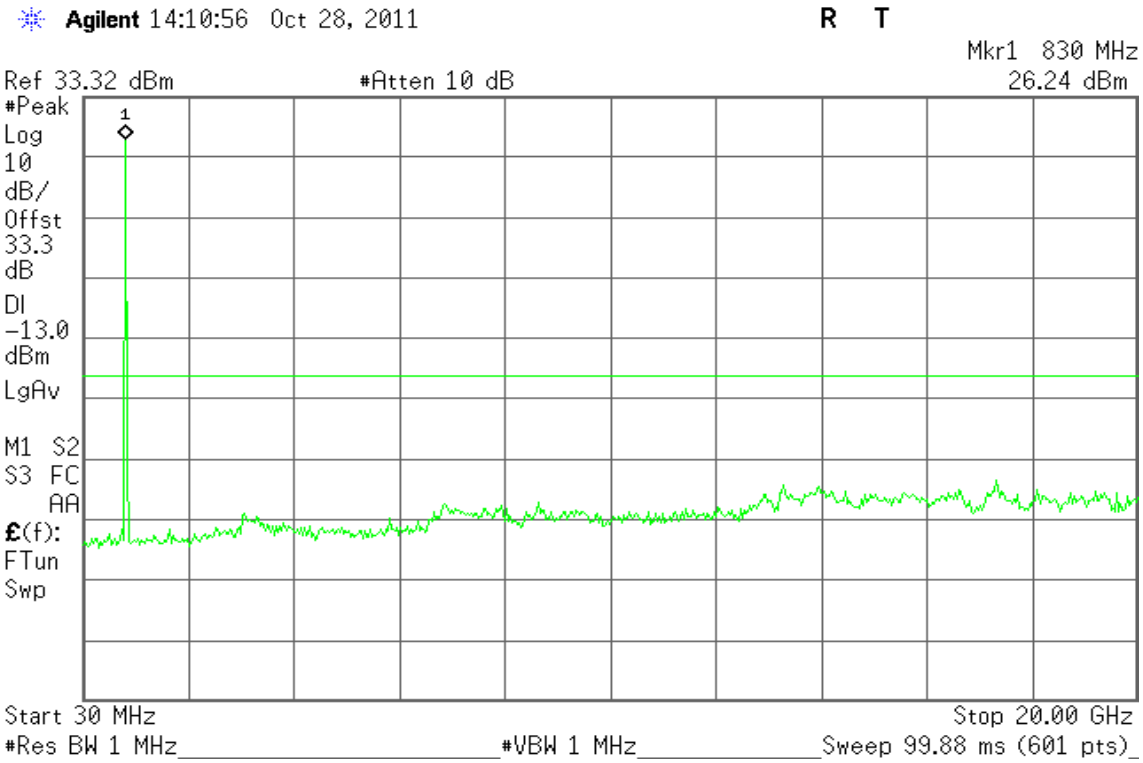

Agilent 13:55:21 Oct 28, 2011
R T
Mkr2 1.99 GHz
Ref 13.1 dBm
#Atten 10 dB
5.22 dBm
#Peak
Log
10
dB/
Offst
13.1
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 30 MHz
Stop 20.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 99.88 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 900 MHz -39.67 dBm
2 (1) Freq 1.99 GHz 5.22 dBm

Mode 3: WCDMA Band V Uplink

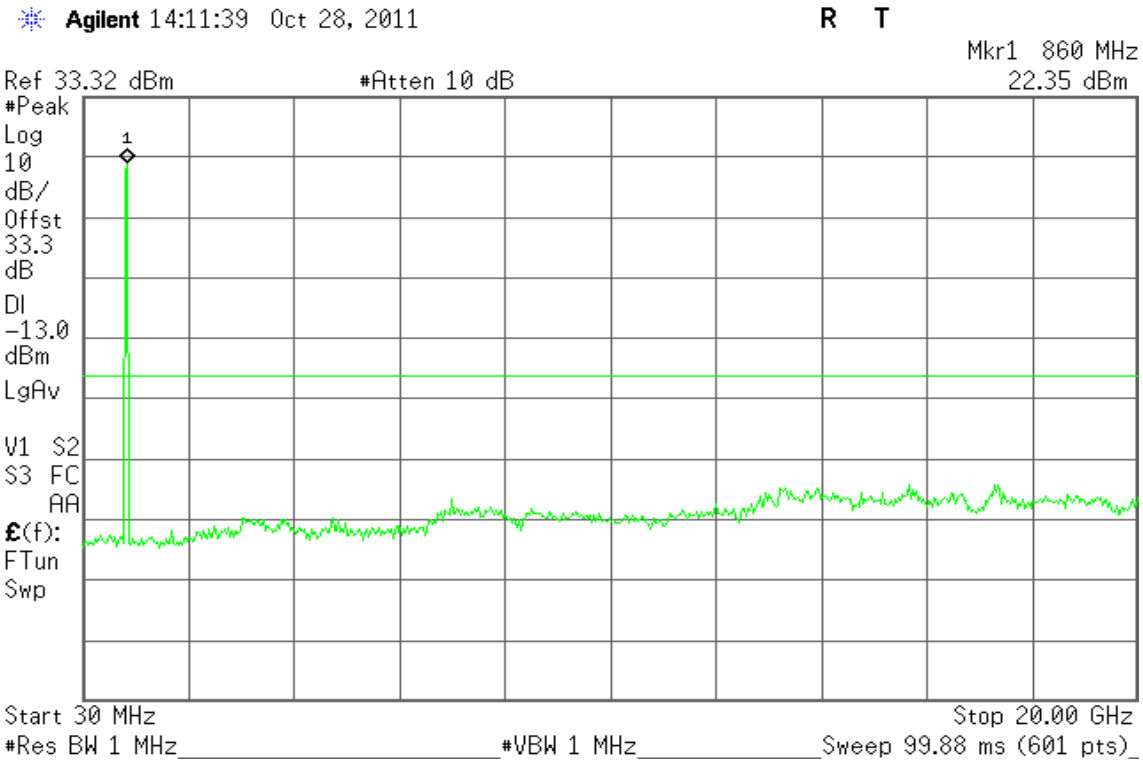
CH Low



CH Mid

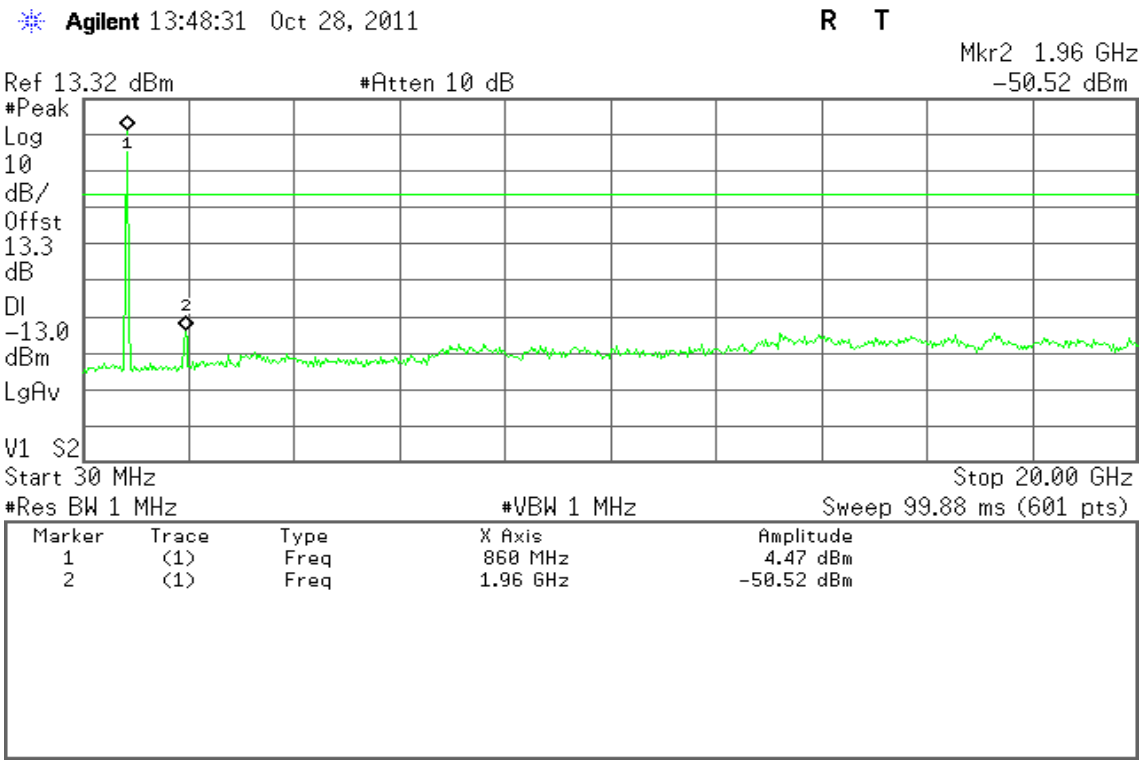


CH High

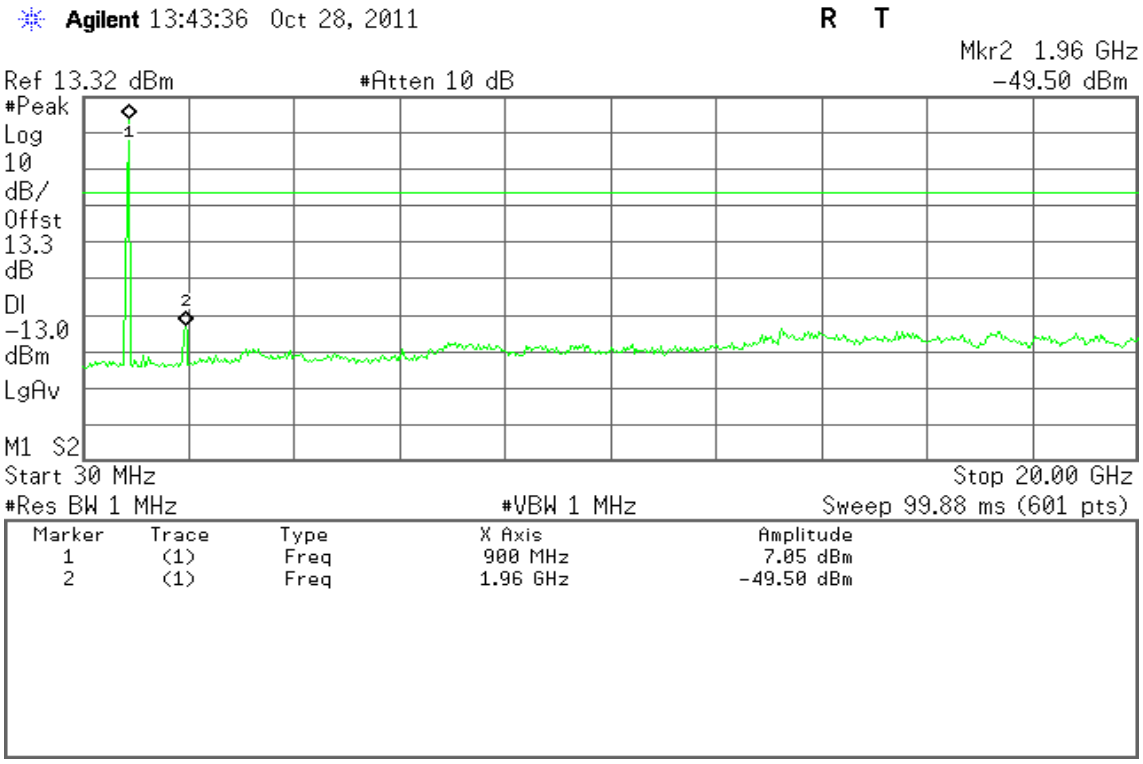

Agilent 14:11:39 Oct 28, 2011
R T
Mkr1 860 MHz
Ref 33.32 dBm
#Atten 10 dB
22.35 dBm
#Peak
Log
10
dB/
Offst
33.3
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
£(f):
FTun
Swp
1
Start 30 MHz
Stop 20.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 99.88 ms (601 pts)

Mode 4: WCDMA Band V Downlink

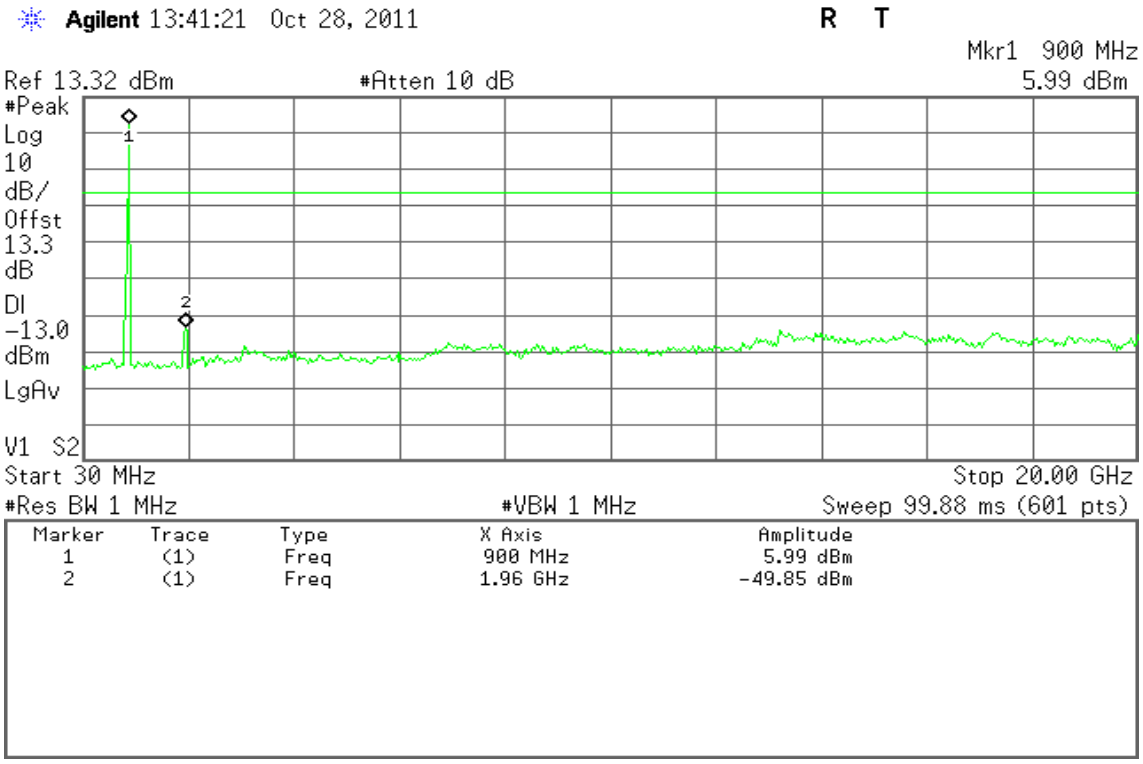
CH Low



CH Mid

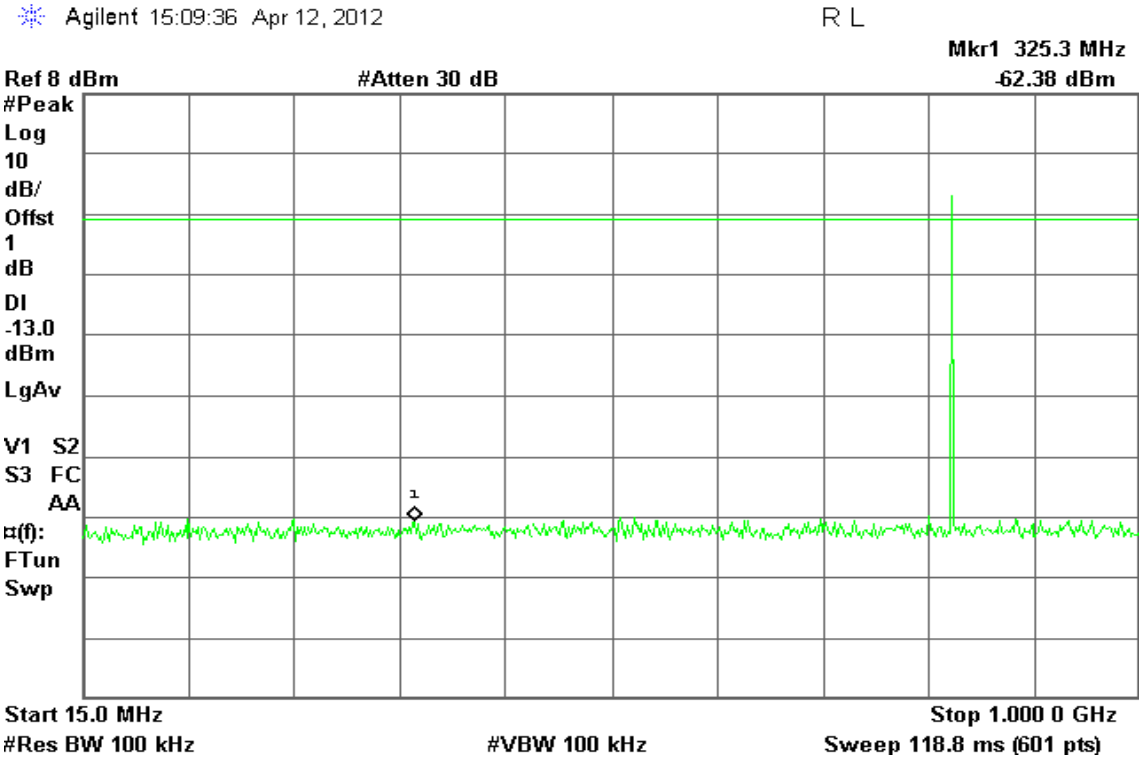


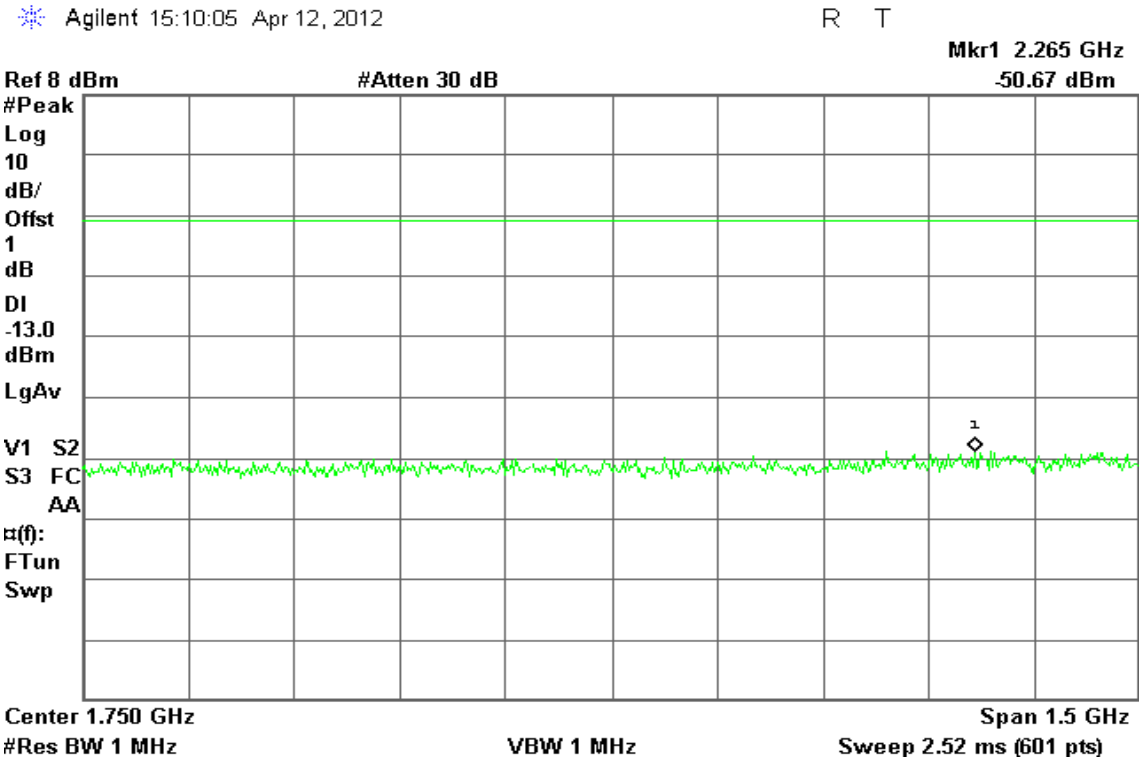
CH High

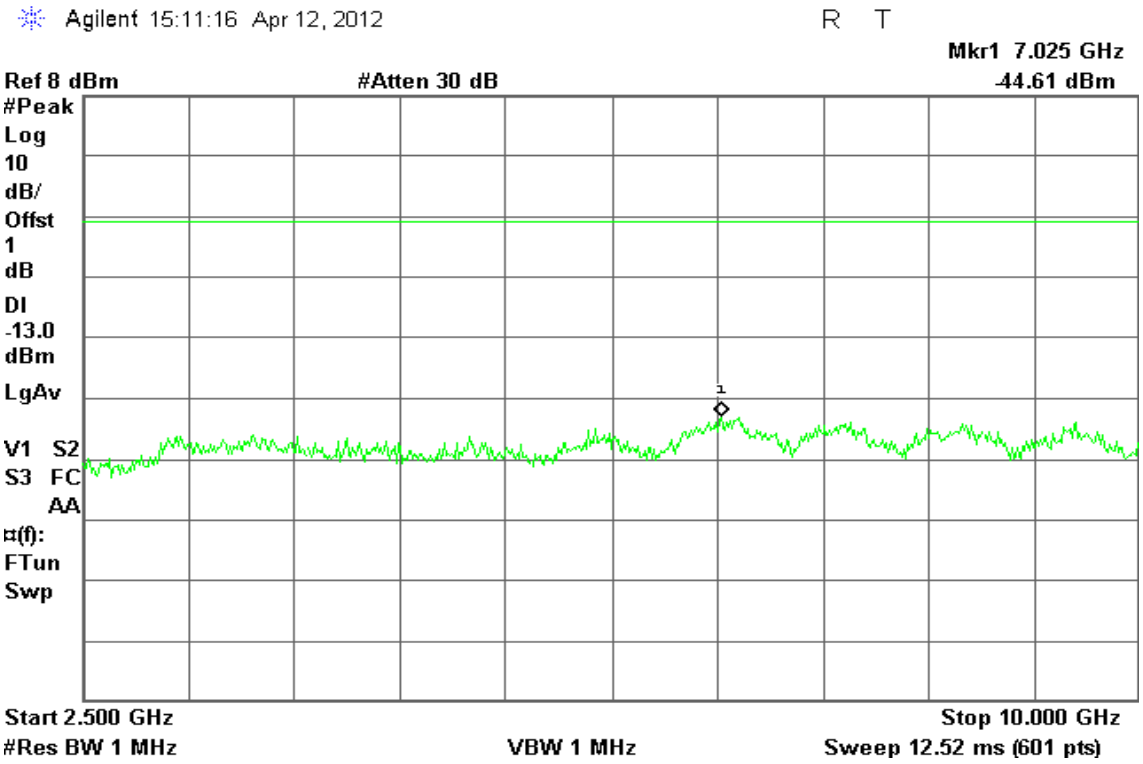

Agilent 13:41:21 Oct 28, 2011
R T
Mkr1 900 MHz
Ref 13.32 dBm
#Atten 10 dB
5.99 dBm
#Peak
Log
10
dB/
Offst
13.3
dB
Dl
-13.0
dBm
LgAv
V1 S2
Start 30 MHz
Stop 20.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 99.88 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 900 MHz 5.99 dBm
2 (1) Freq 1.96 GHz -49.85 dBm

Mode 5: AMPS / 824 – 849MHz Uplink

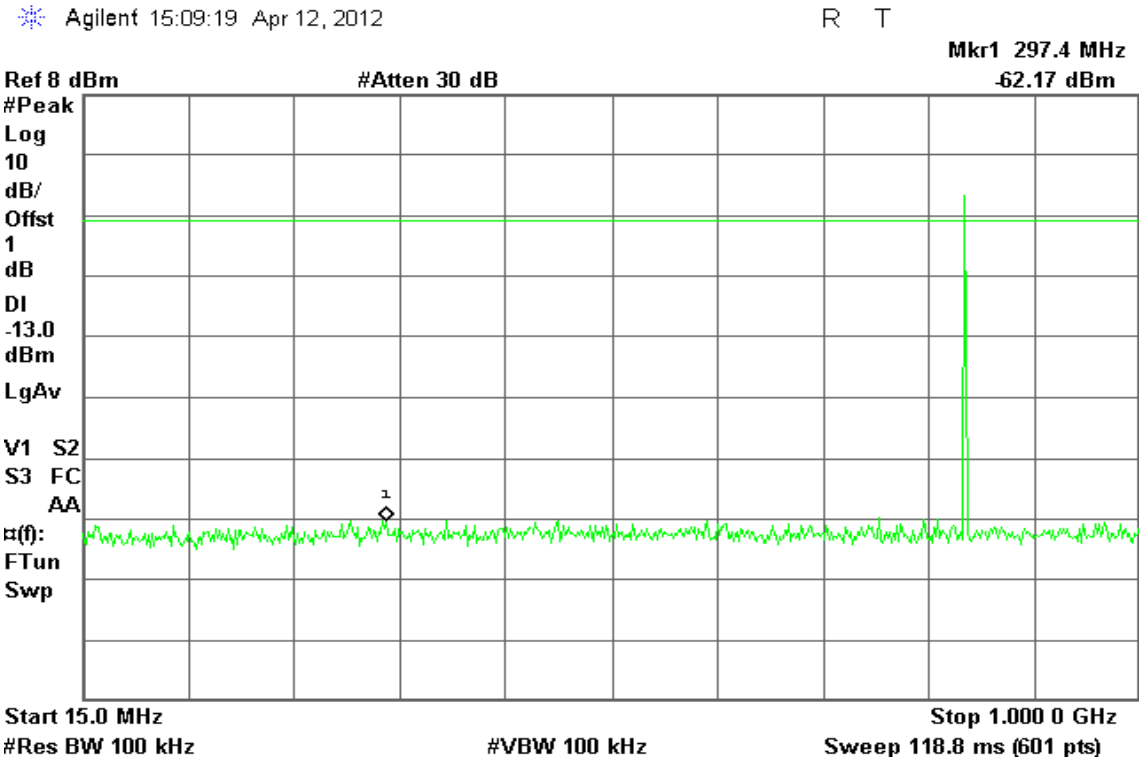
CH Low

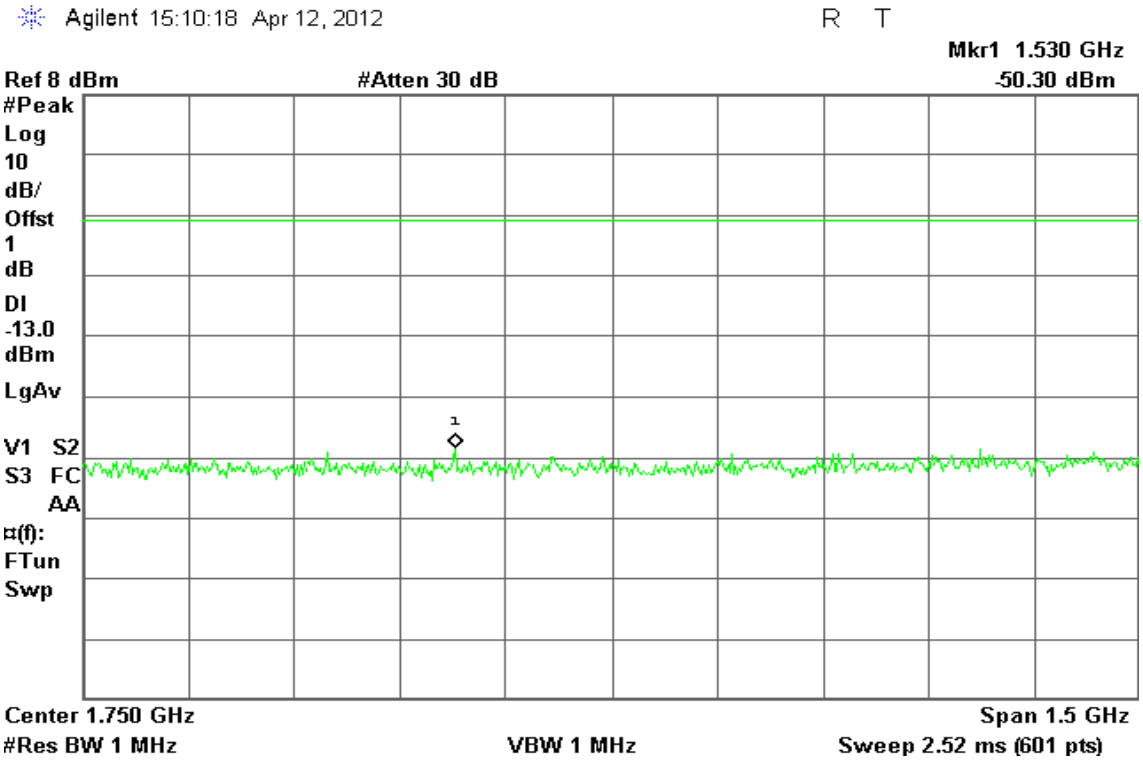


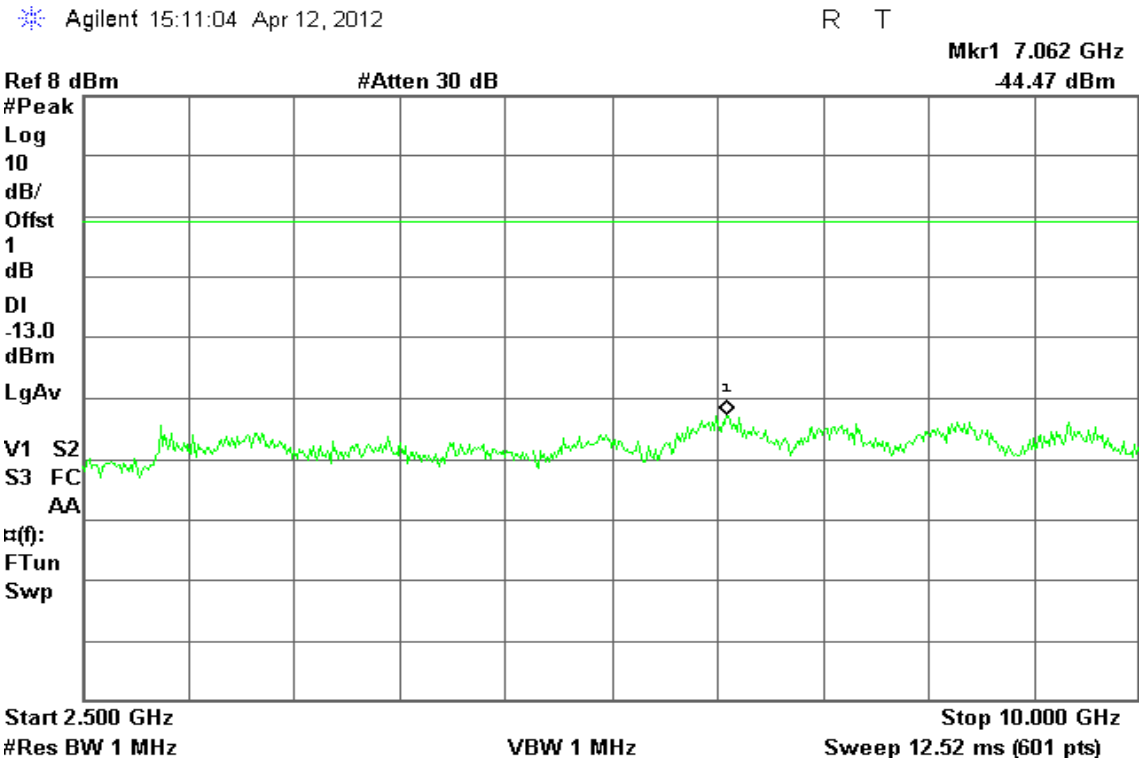



Agilent 15:11:16 Apr 12, 2012
R T
Mkr1 7.025 GHz
-44.61 dBm
Ref 8 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 12.52 ms (601 pts)

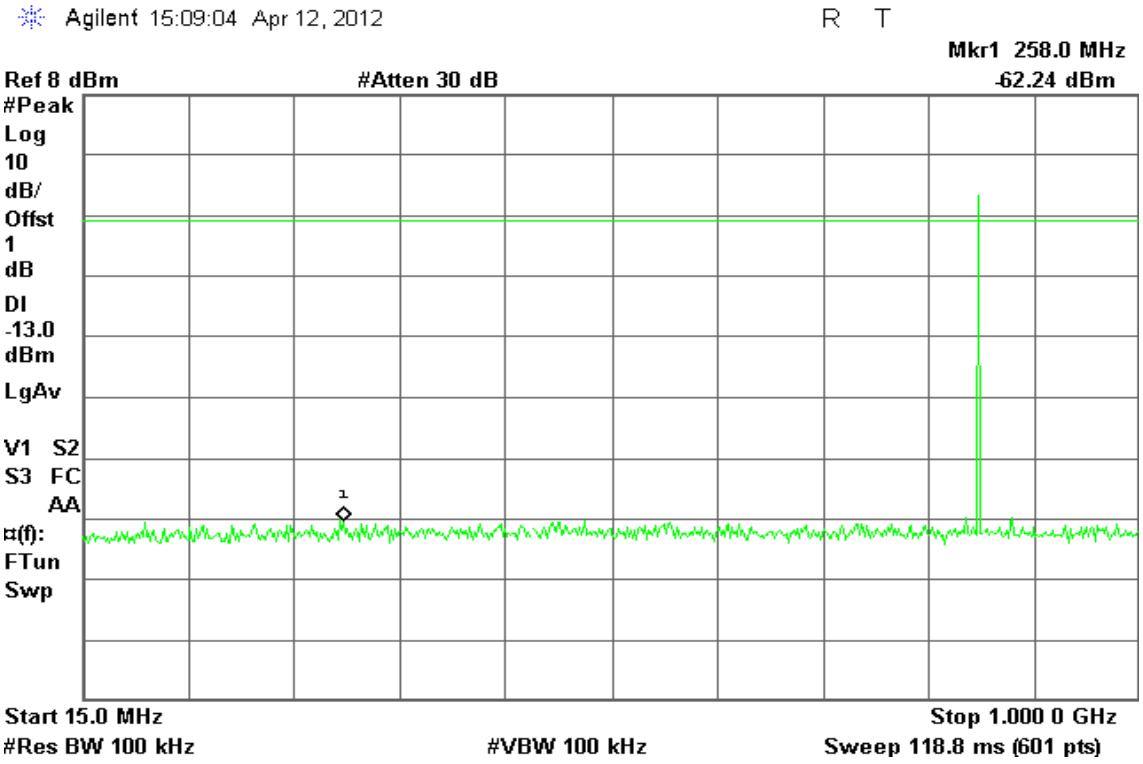
CH Mid

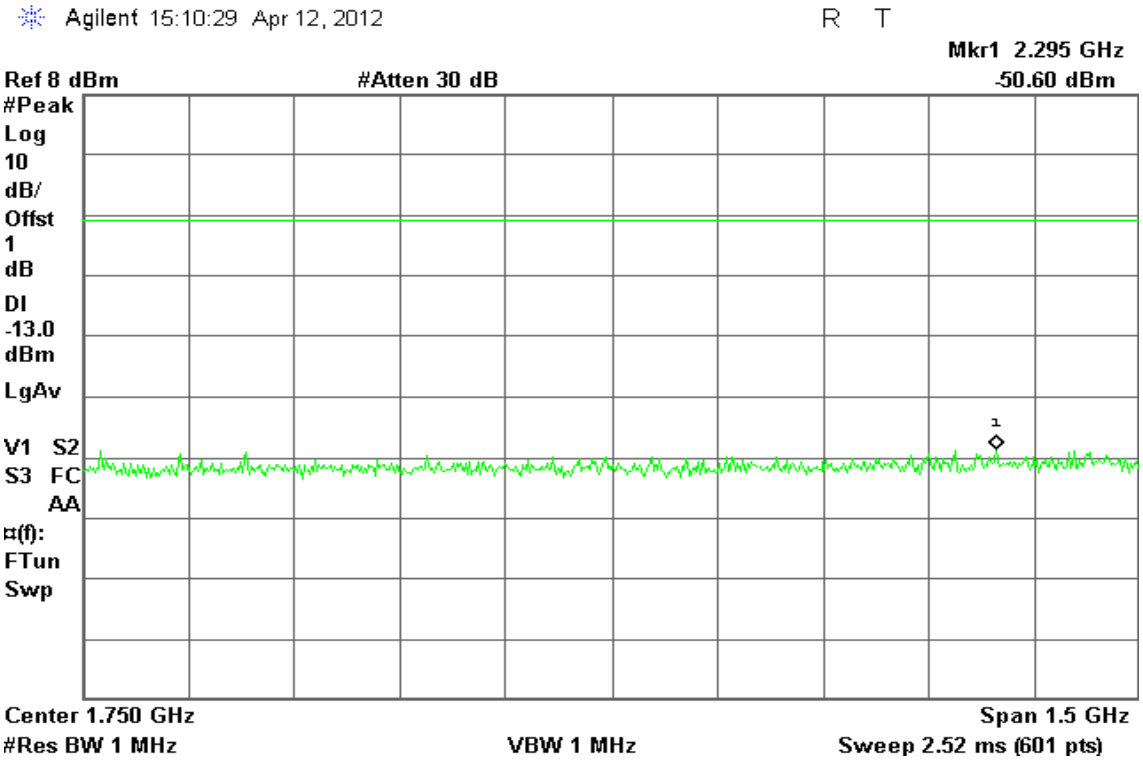

Agilent 15:09:19 Apr 12, 2012
R T
Mkr1 297.4 MHz
Ref 8 dBm
#Atten 30 dB
-62.17 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 118.8 ms (601 pts)

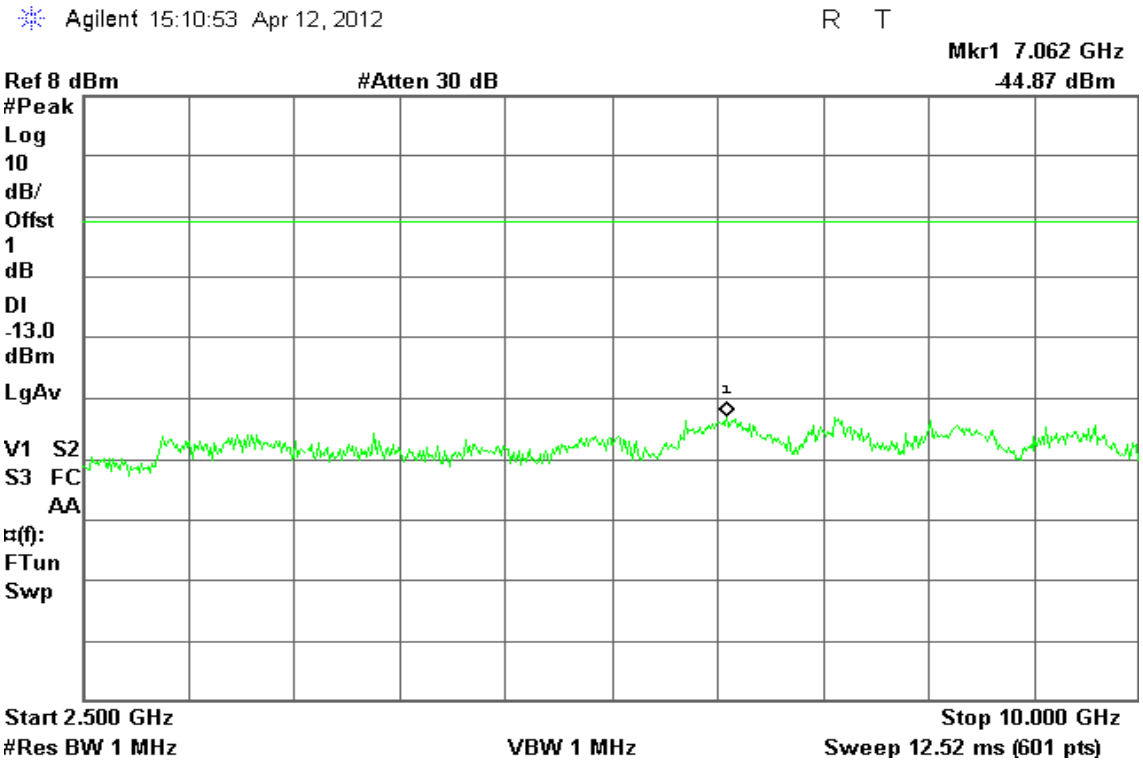

Agilent 15:10:18 Apr 12, 2012
R T
Mkr1 1.530 GHz
Ref 8 dBm
#Atten 30 dB
-50.30 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Center 1.750 GHz
Span 1.5 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 2.52 ms (601 pts)


Agilent 15:11:04 Apr 12, 2012
R T
Mkr1 7.062 GHz
-44.47 dBm
Ref 8 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
1
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 12.52 ms (601 pts)

CH High

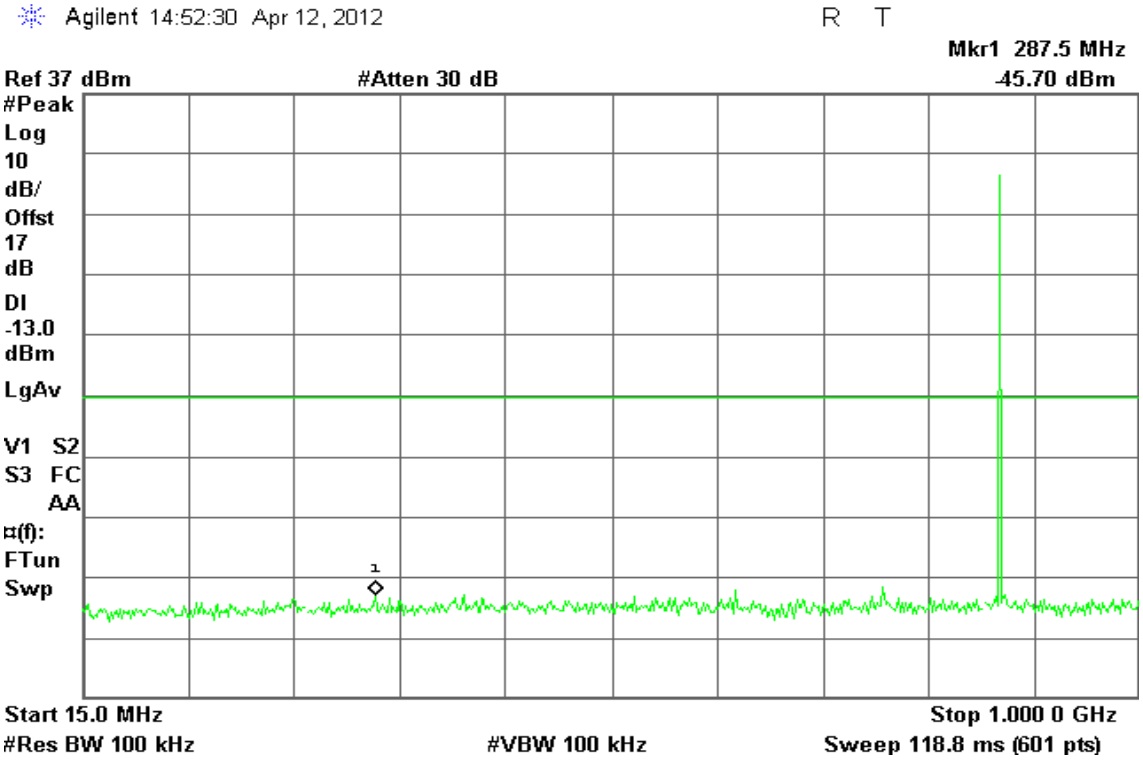

Agilent 15:09:04 Apr 12, 2012
R T
Mkr1 258.0 MHz
Ref 8 dBm
#Atten 30 dB
-62.24 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 118.8 ms (601 pts)

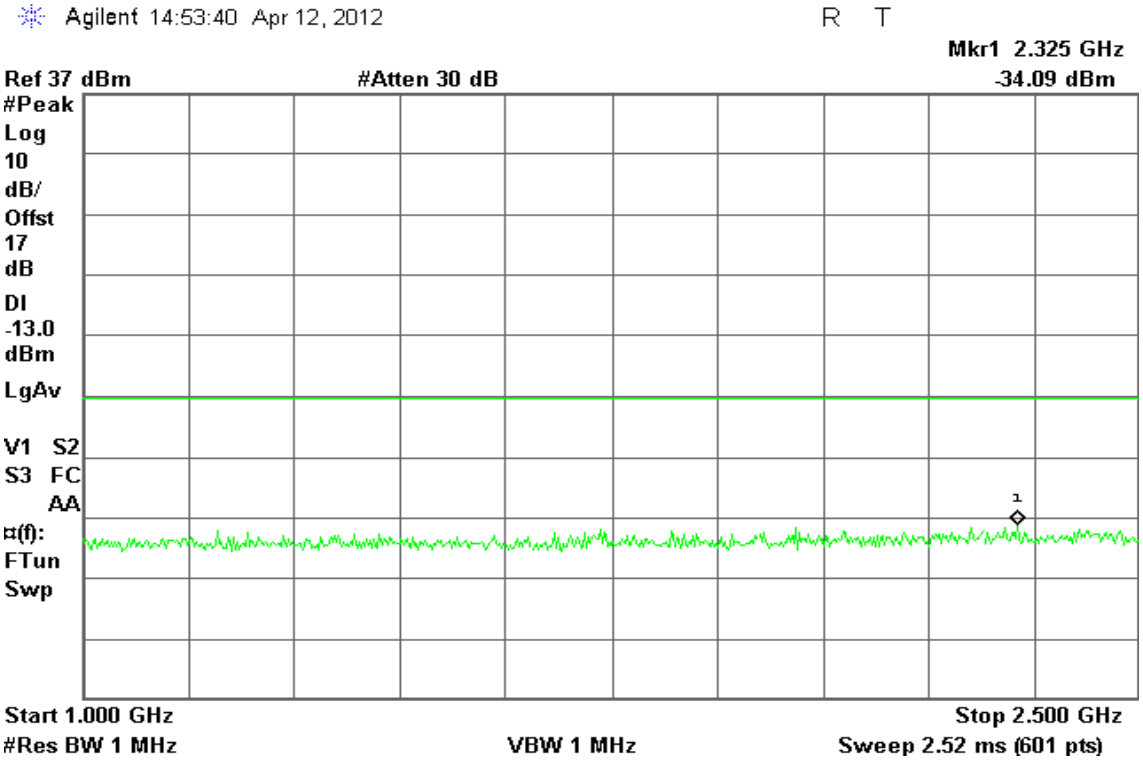

Agilent 15:10:29 Apr 12, 2012
R T
Mkr1 2.295 GHz
Ref 8 dBm
#Atten 30 dB
-50.60 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Center 1.750 GHz
Span 1.5 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 2.52 ms (601 pts)

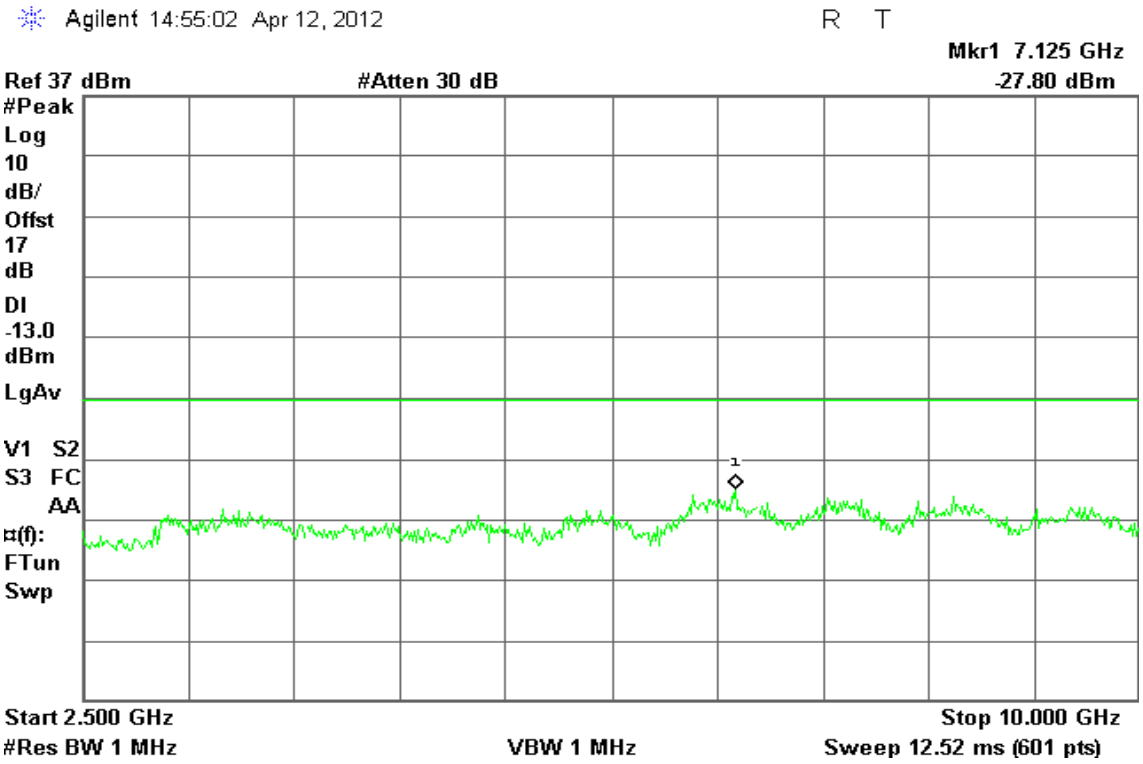

Agilent 15:10:53 Apr 12, 2012
R T
Mkr1 7.062 GHz
-44.87 dBm
Ref 8 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 10.000 GHz
Sweep 12.52 ms (601 pts)

Mode 6: AMPS / 869 – 894MHz Downlink

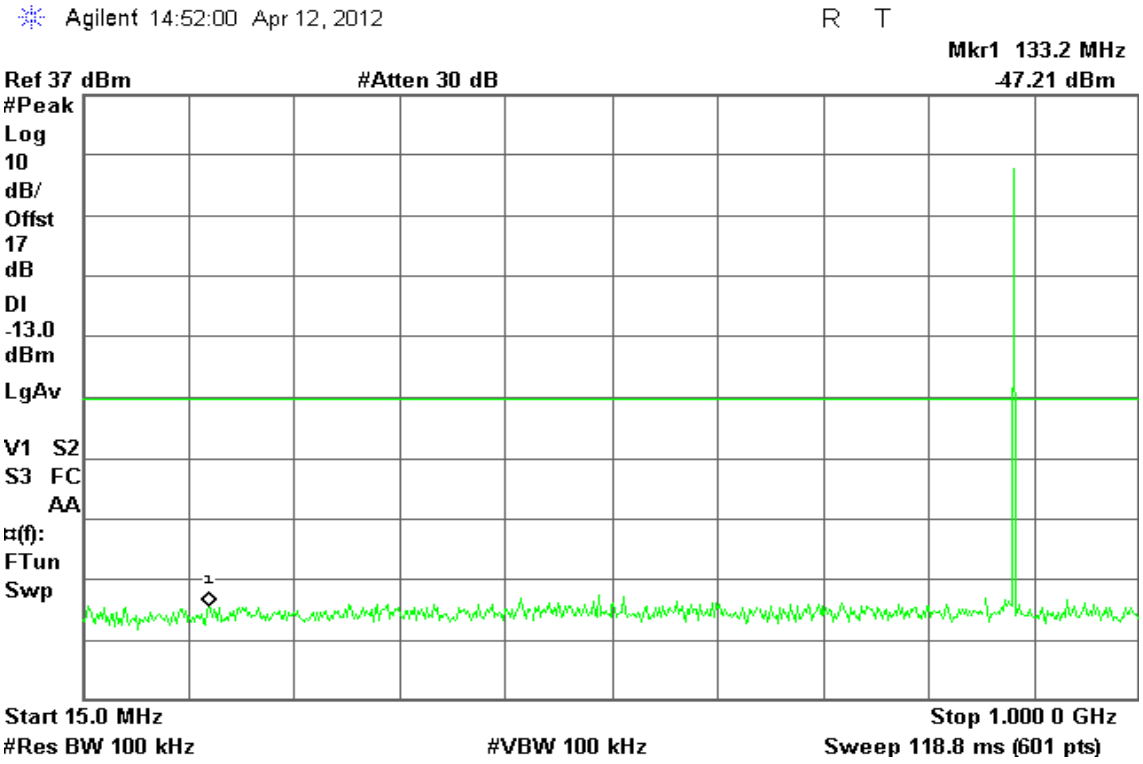
CH Low

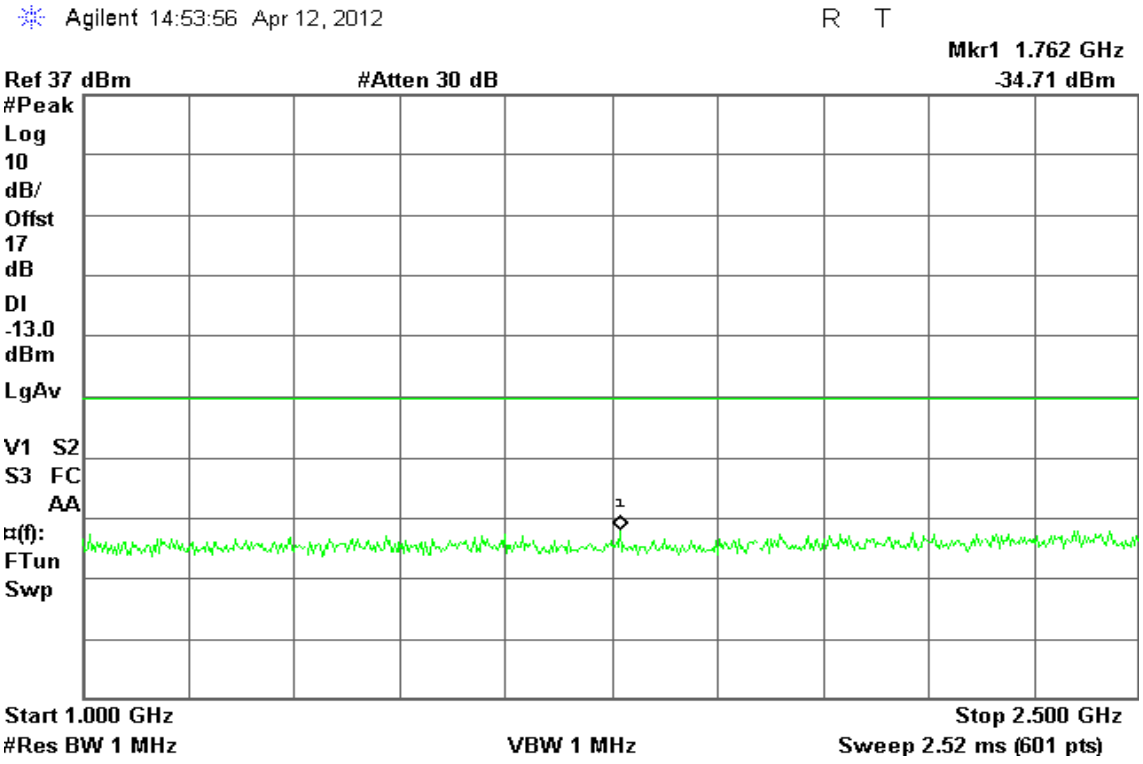


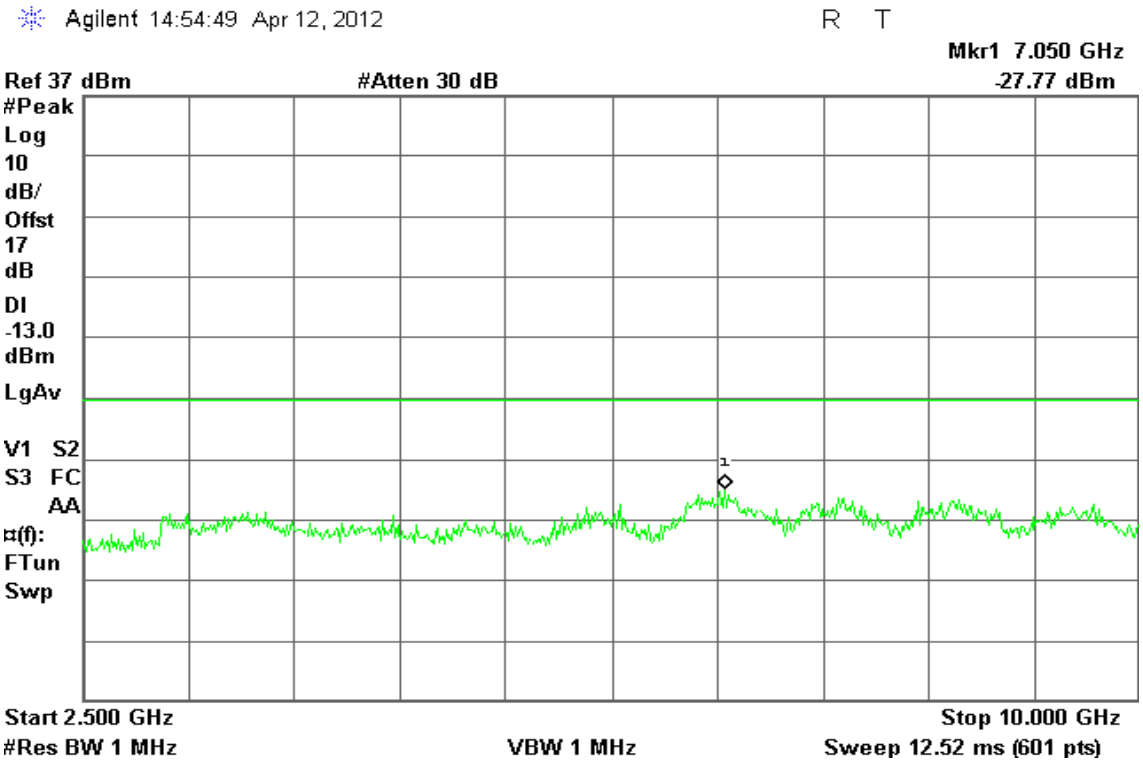



Agilent 14:55:02 Apr 12, 2012
R T
Mkr1 7.125 GHz
-27.80 dBm
Ref 37 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 12.52 ms (601 pts)

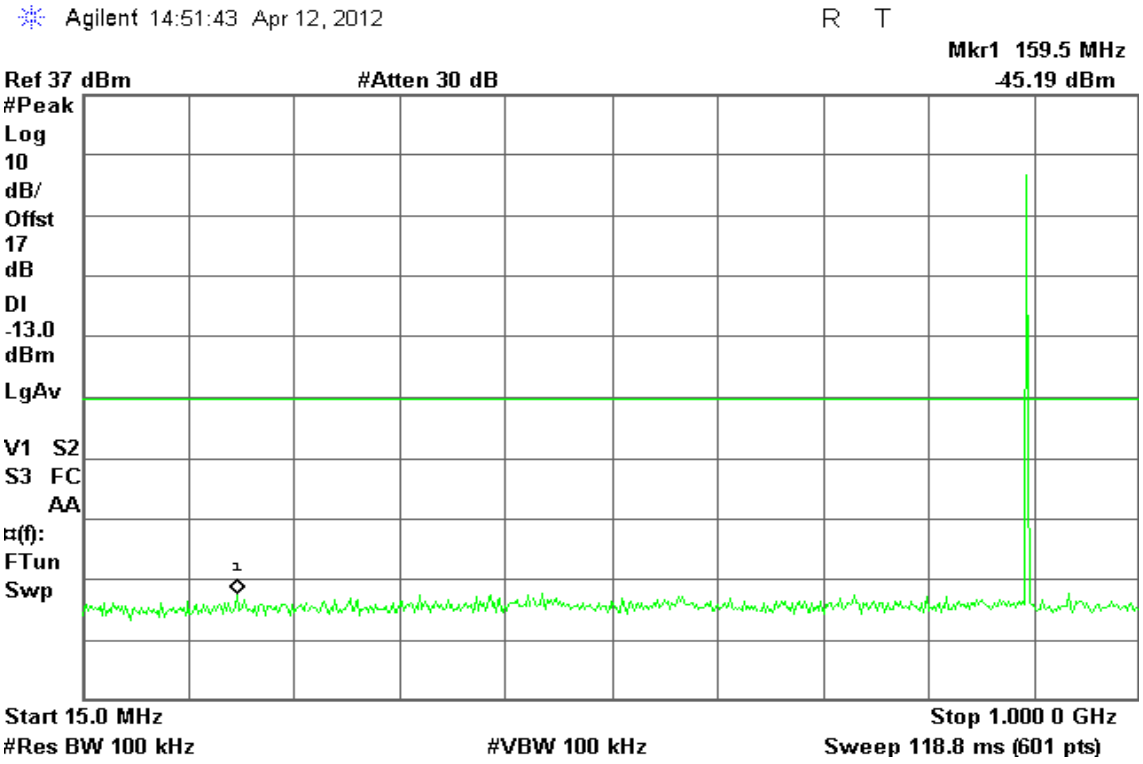
CH Mid

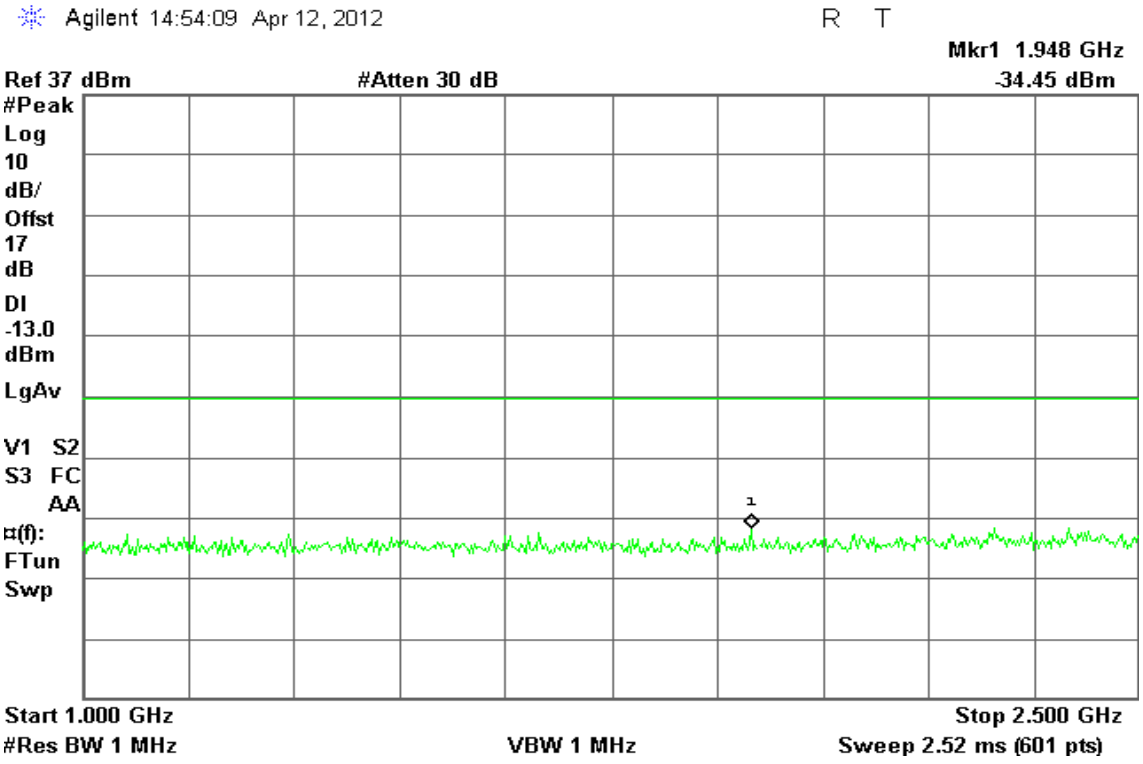

Agilent 14:52:00 Apr 12, 2012
R T
Mkr1 133.2 MHz
Ref 37 dBm
#Atten 30 dB
-47.21 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
#Res BW 100 kHz
#VBW 100 kHz
Stop 1.000 0 GHz
Sweep 118.8 ms (601 pts)

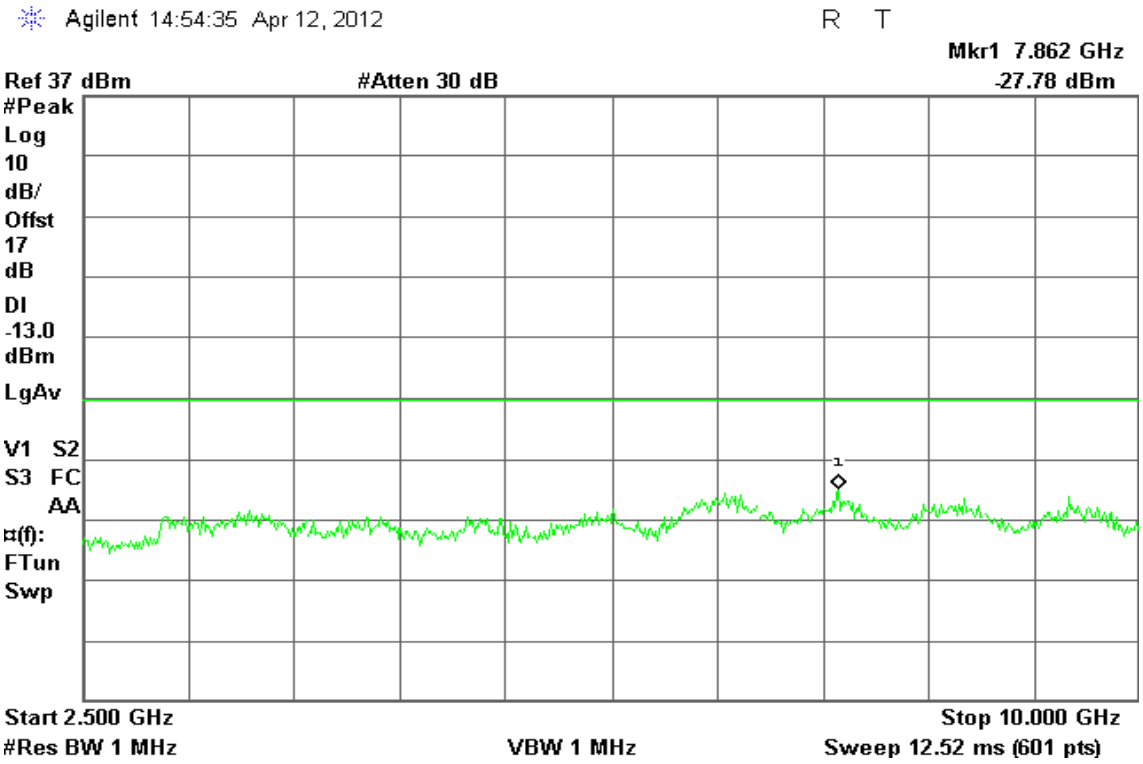

Agilent 14:53:56 Apr 12, 2012
R T
Mkr1 1.762 GHz
Ref 37 dBm
#Atten 30 dB
-34.71 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 2.500 GHz
Sweep 2.52 ms (601 pts)


Agilent 14:54:49 Apr 12, 2012
R T
Mkr1 7.050 GHz
-27.77 dBm
Ref 37 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 10.000 GHz
Sweep 12.52 ms (601 pts)

CH High

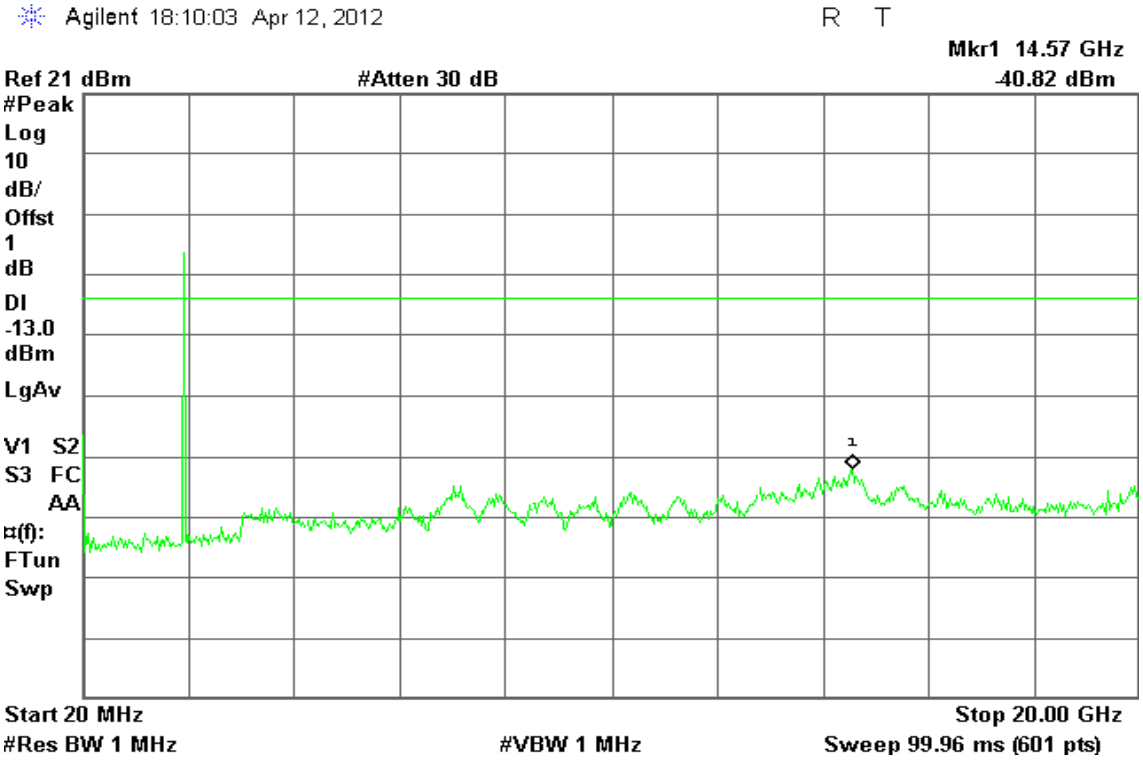

Agilent 14:51:43 Apr 12, 2012
R T
Mkr1 159.5 MHz
Ref 37 dBm
#Atten 30 dB
-45.19 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 118.8 ms (601 pts)


Agilent 14:54:09 Apr 12, 2012
R T
Mkr1 1.948 GHz
Ref 37 dBm
#Atten 30 dB
-34.45 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 2.52 ms (601 pts)

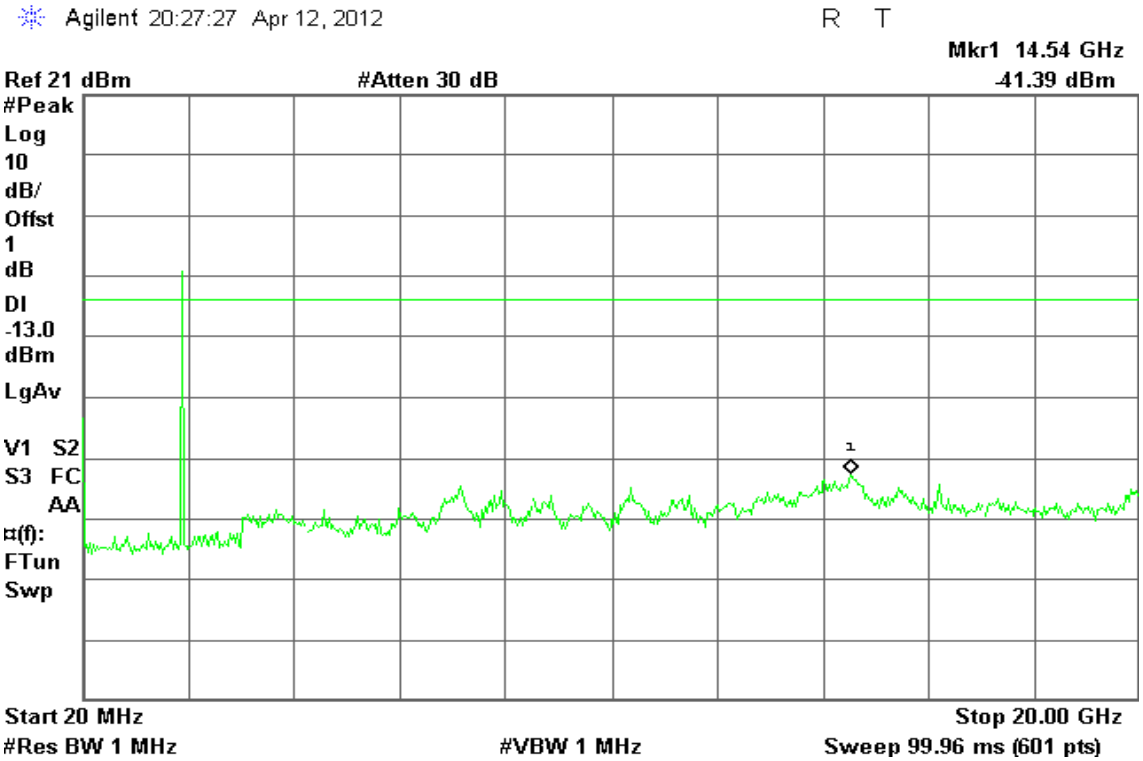

Agilent 14:54:35 Apr 12, 2012
R T
Mkr1 7.862 GHz
-27.78 dBm
Ref 37 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
1
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 12.52 ms (601 pts)

Mode 7: AMPS / 1850 – 1910MHz Uplink

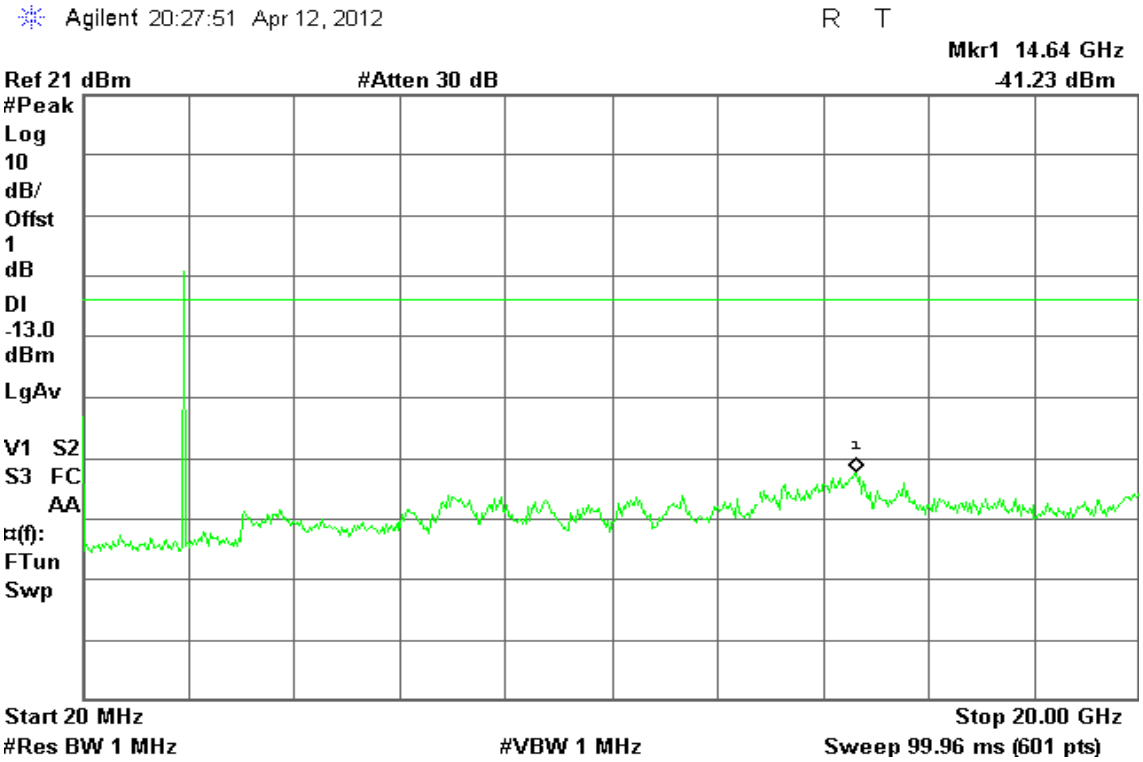
CH Low



CH Mid

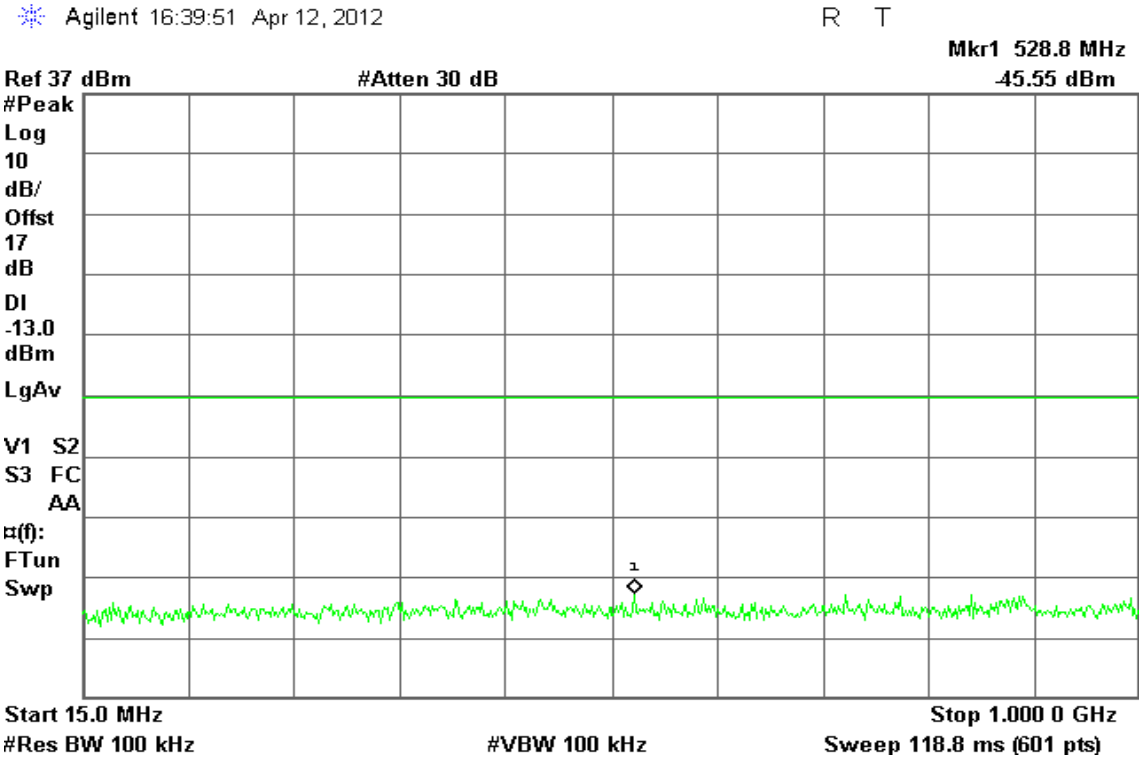


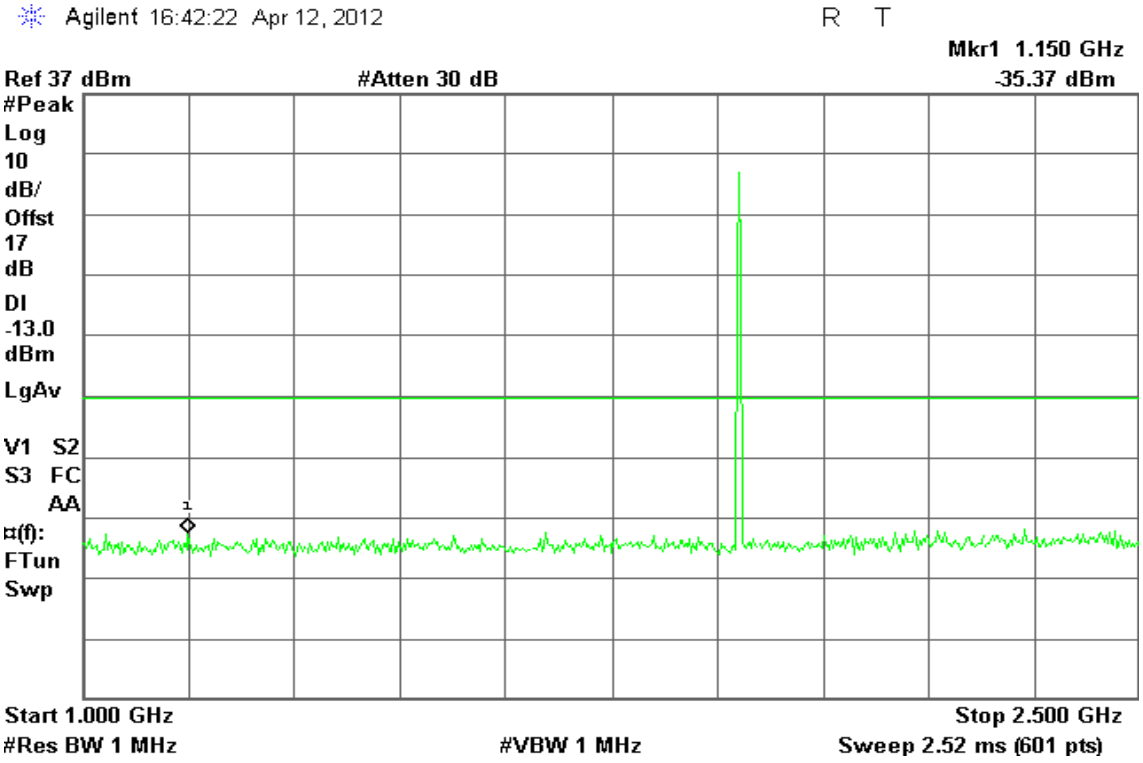
CH High

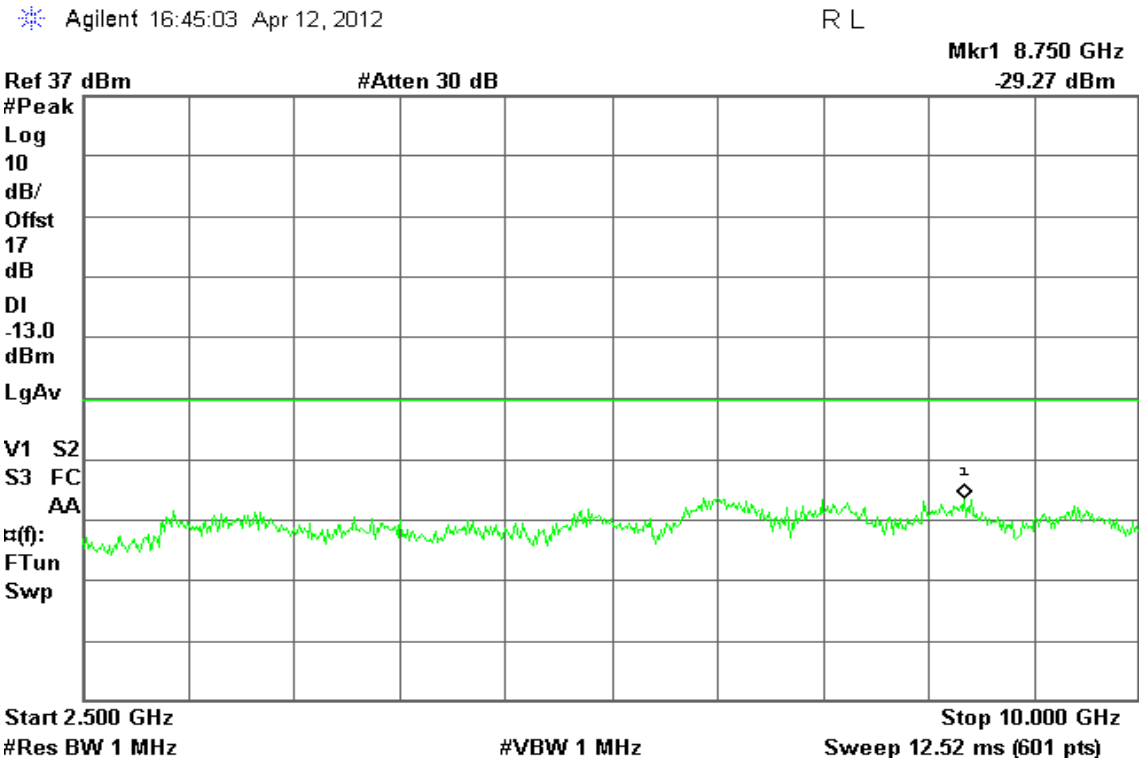

Agilent 20:27:51 Apr 12, 2012
R T
Mkr1 14.64 GHz
-41.23 dBm
Ref 21 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
1
Start 20 MHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 20.00 GHz
Sweep 99.96 ms (601 pts)

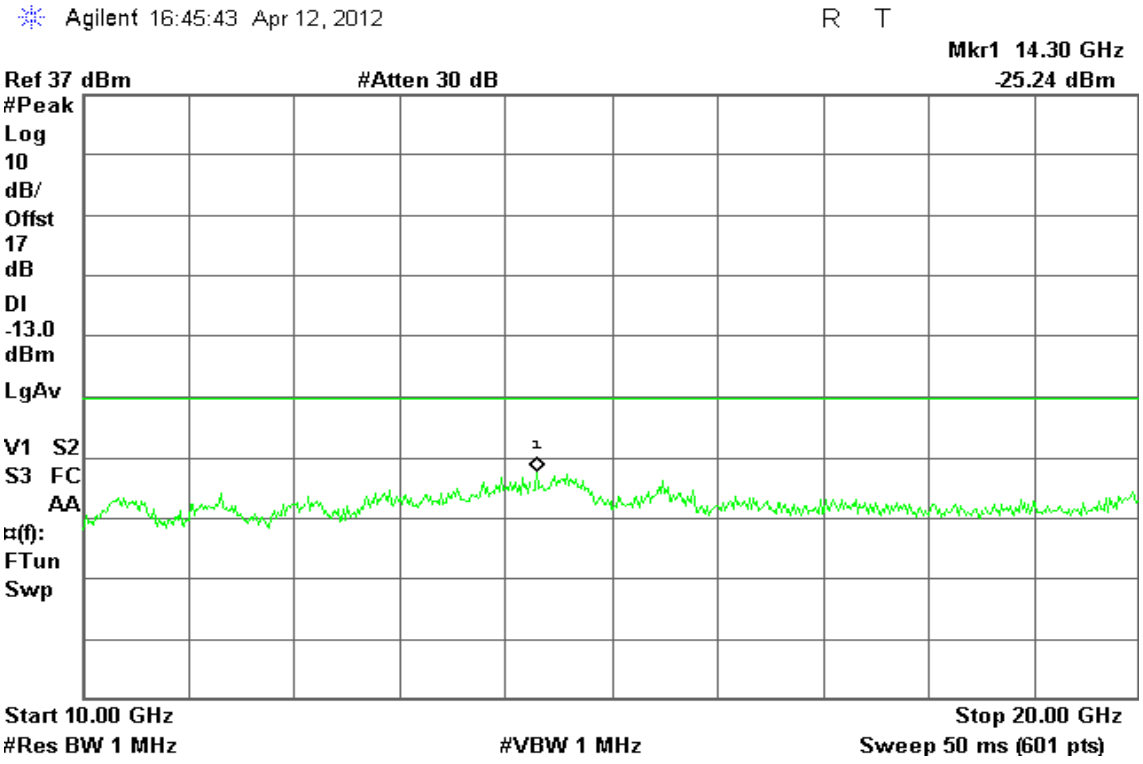
Mode 8: AMPS / 1930 – 1990MHz Downlink

CH Low

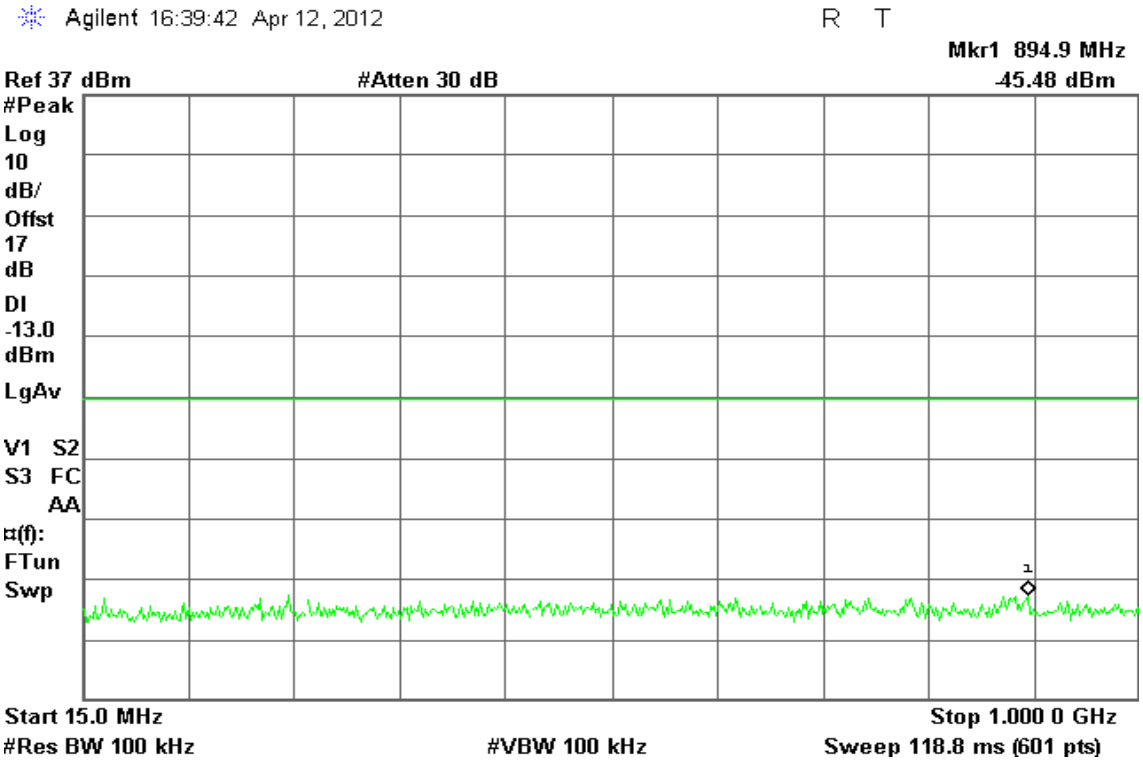


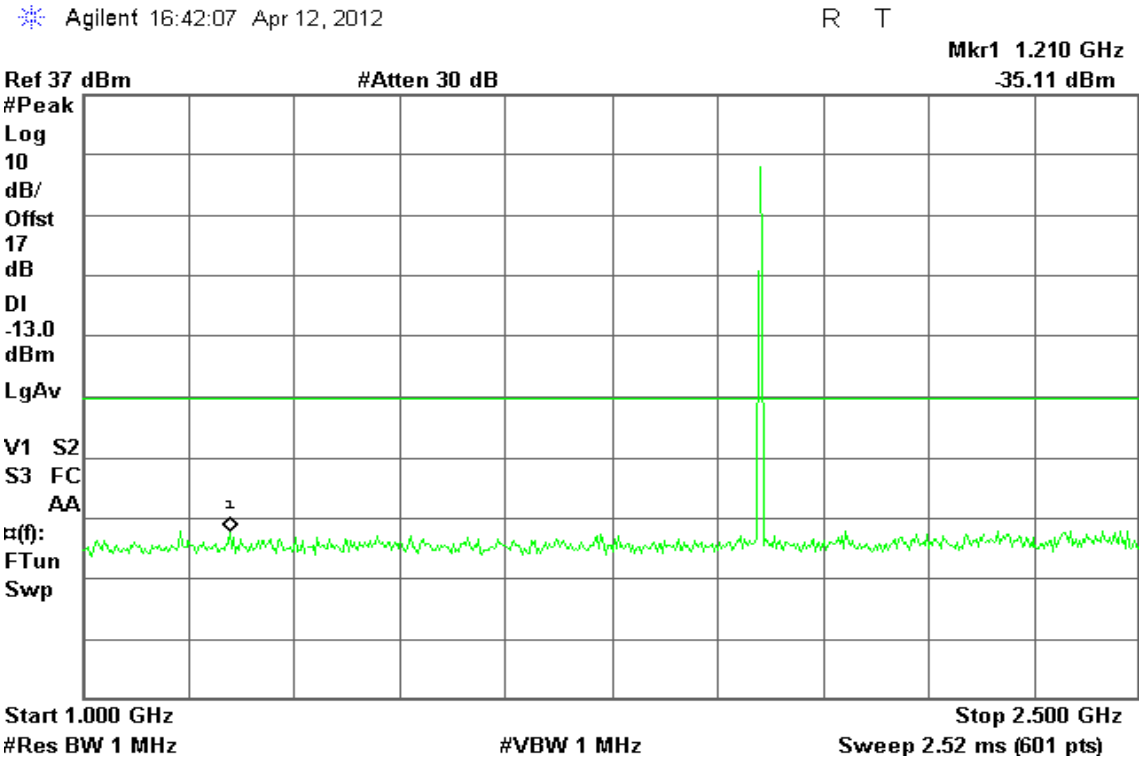


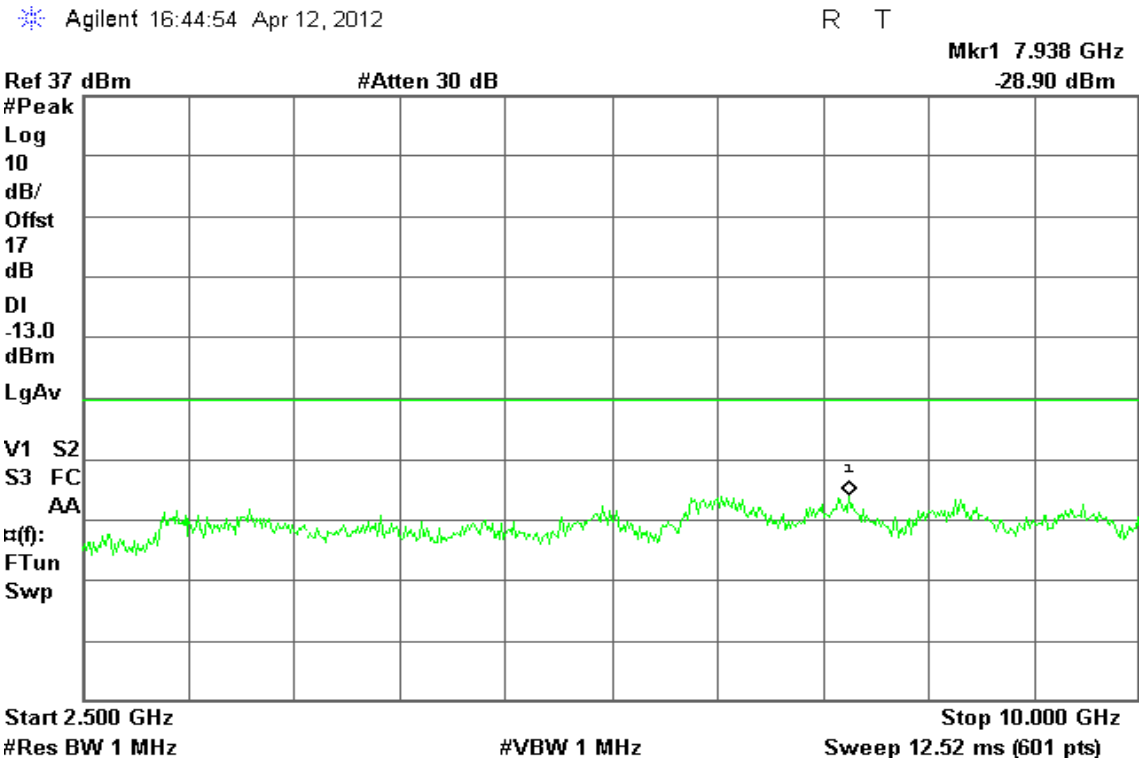

Agilent 16:45:03 Apr 12, 2012
R L
Mkr1 8.750 GHz
-29.27 dBm
Ref 37 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 10.000 GHz
Sweep 12.52 ms (601 pts)

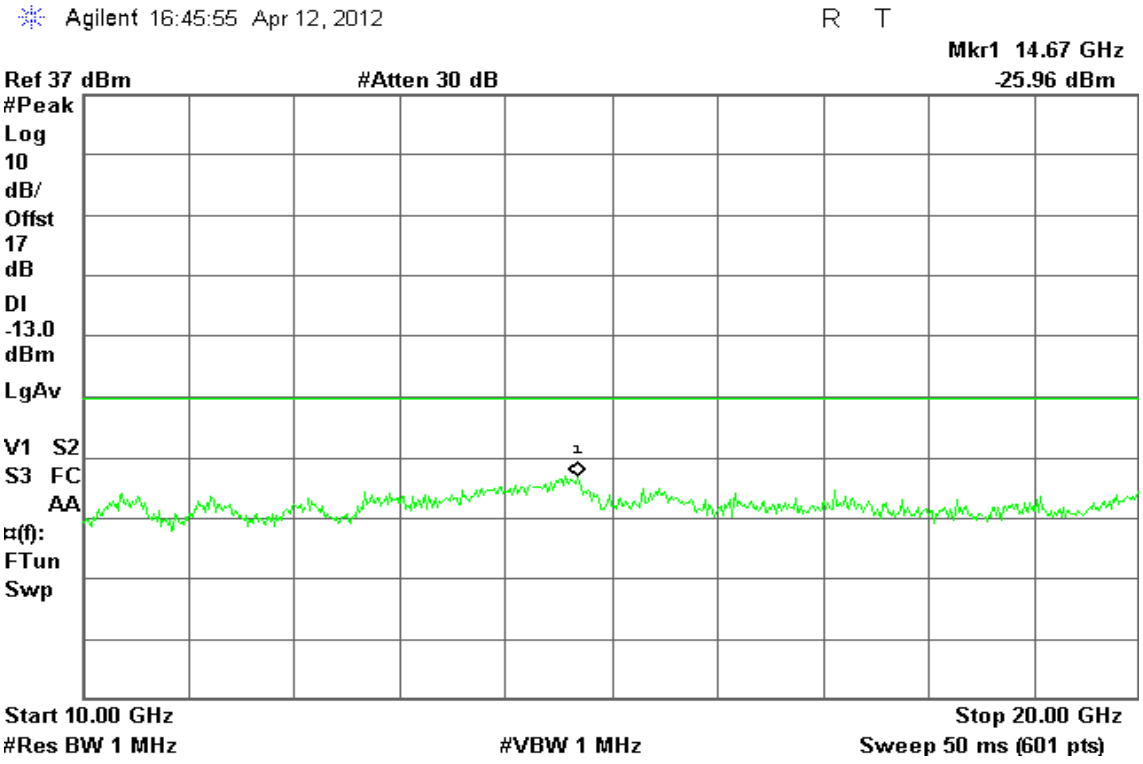

Agilent 16:45:43 Apr 12, 2012
R T
Mkr1 14.30 GHz
-25.24 dBm
Ref 37 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 10.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 20.00 GHz
Sweep 50 ms (601 pts)

CH Mid

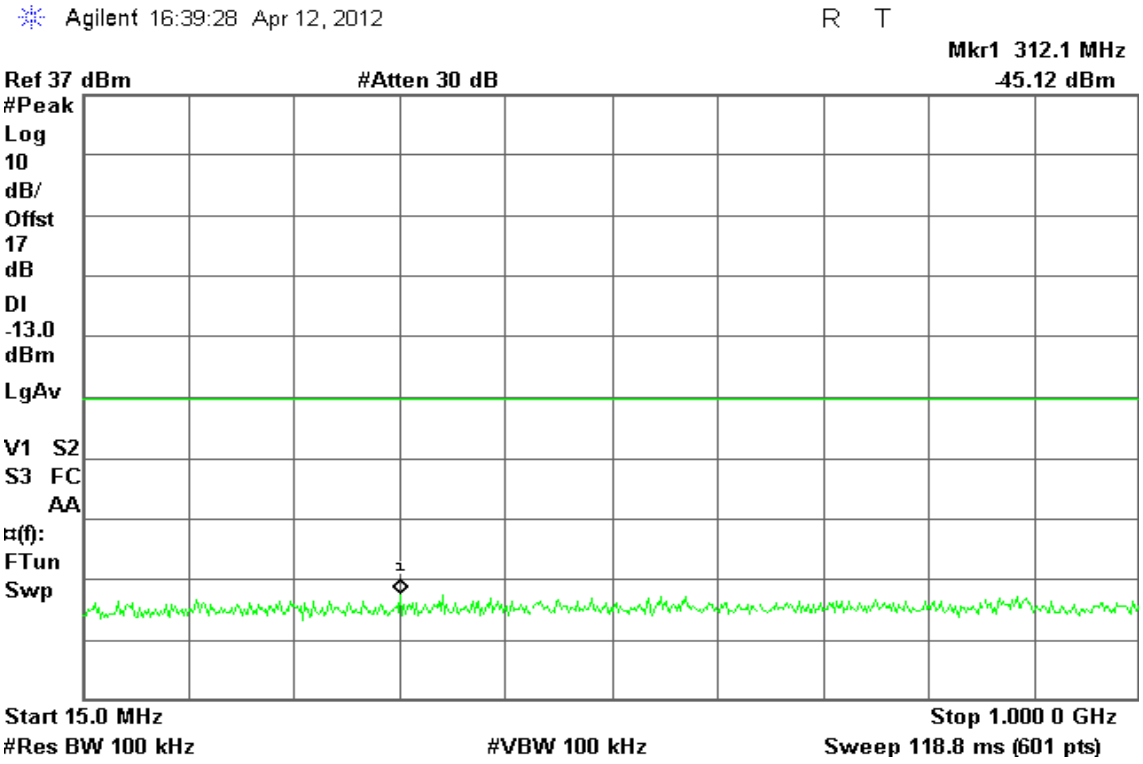

Agilent 16:39:42 Apr 12, 2012
R T
Mkr1 894.9 MHz
Ref 37 dBm
#Atten 30 dB
-45.48 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 118.8 ms (601 pts)

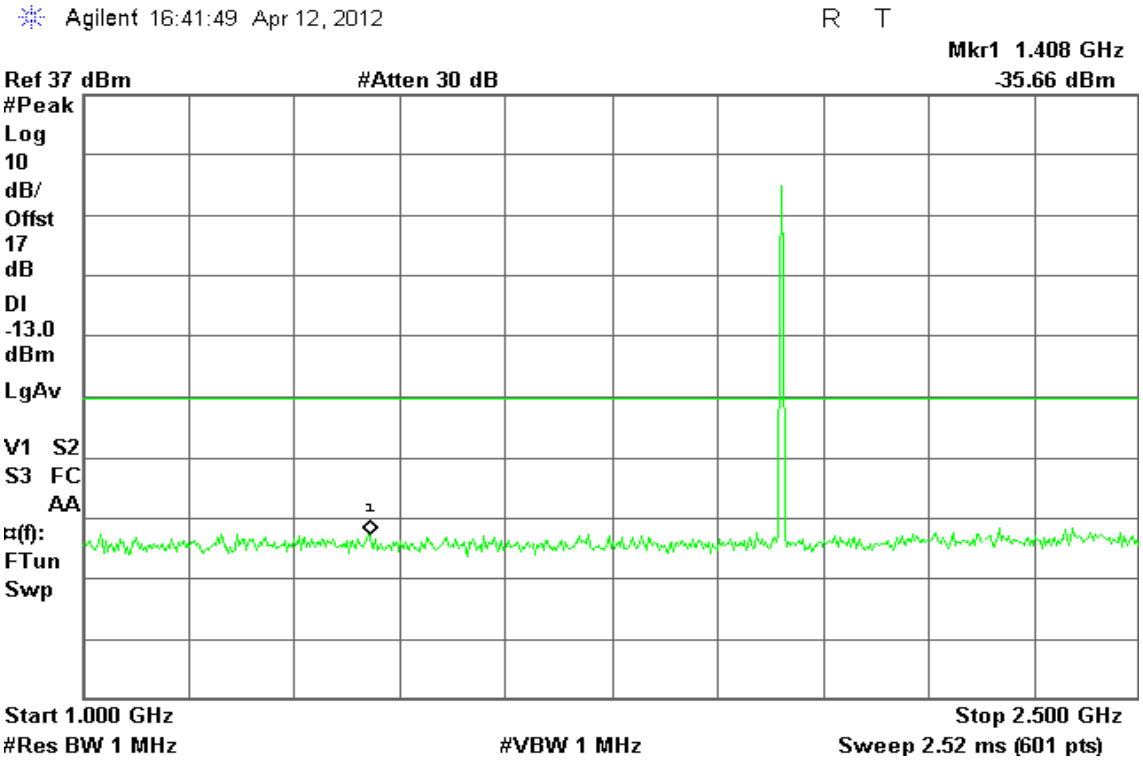

Agilent 16:42:07 Apr 12, 2012
R T
Mkr1 1.210 GHz
Ref 37 dBm
#Atten 30 dB
-35.11 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 2.52 ms (601 pts)

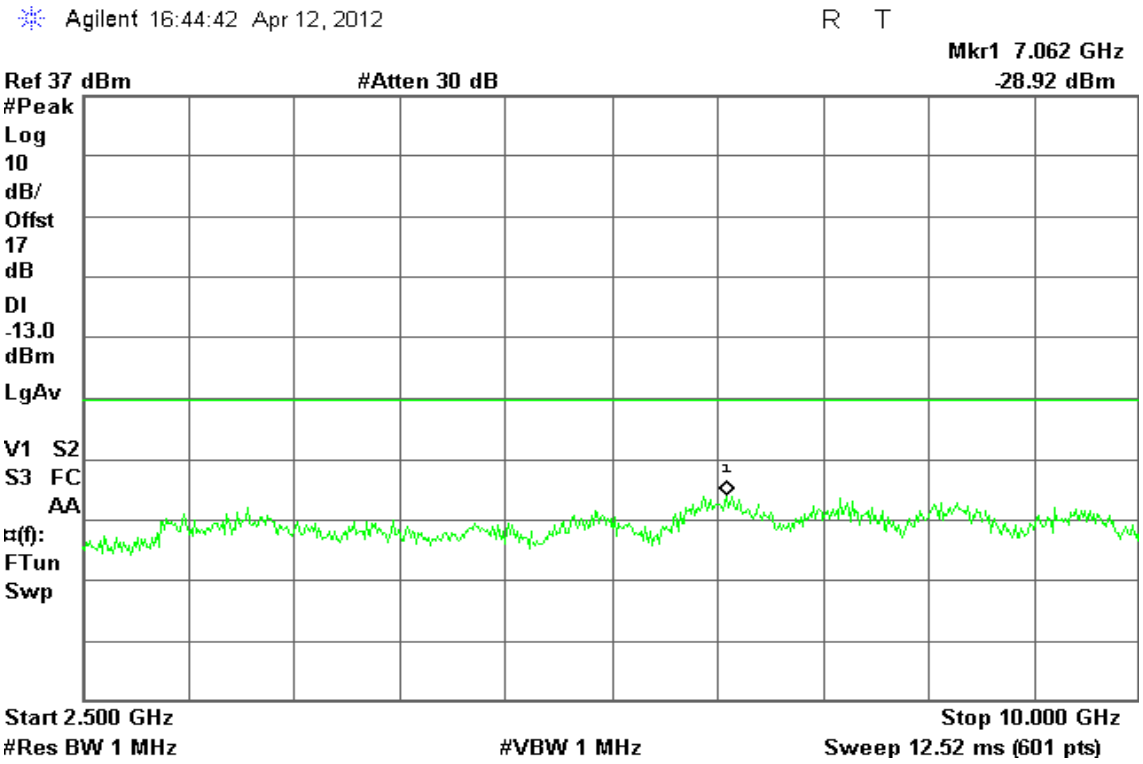

Agilent 16:44:54 Apr 12, 2012
R T
Mkr1 7.938 GHz
Ref 37 dBm
#Atten 30 dB
-28.90 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 12.52 ms (601 pts)

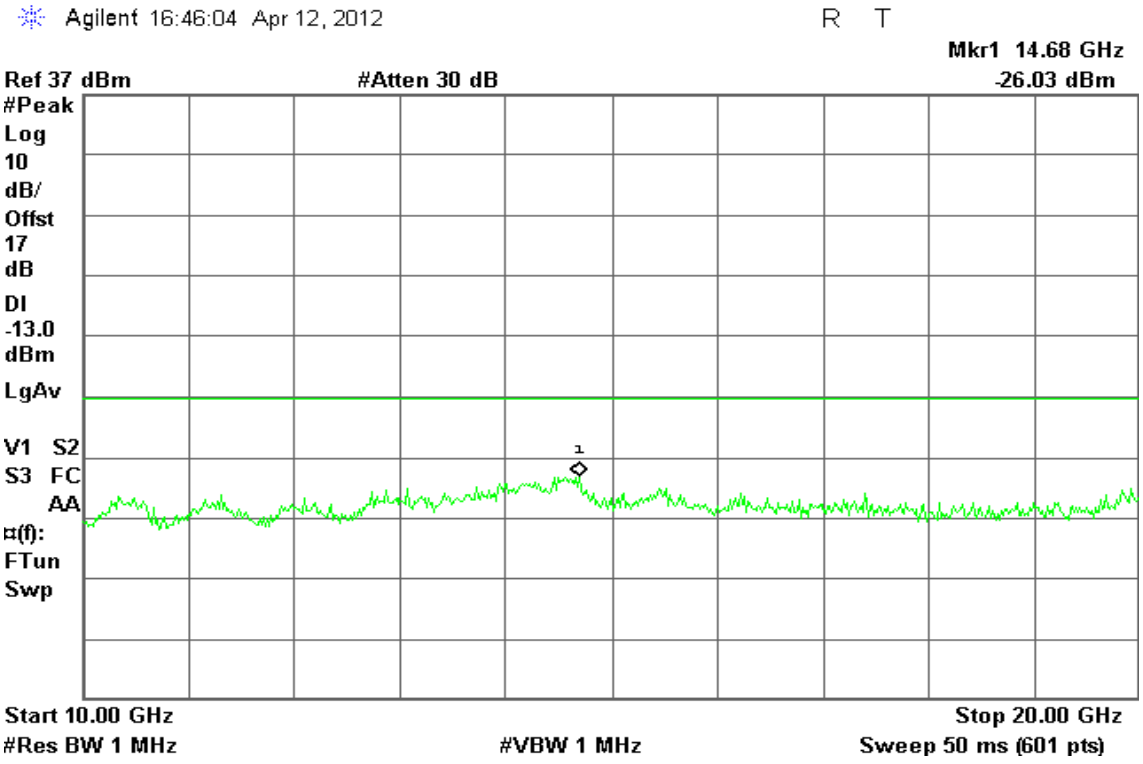

Agilent 16:45:55 Apr 12, 2012
R T
Mkr1 14.67 GHz
Ref 37 dBm
#Atten 30 dB
-25.96 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 10.00 GHz
Stop 20.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 50 ms (601 pts)

CH High


Agilent 16:39:28 Apr 12, 2012
R T
Mkr1 312.1 MHz
Ref 37 dBm
#Atten 30 dB
-45.12 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
#Res BW 100 kHz
#VBW 100 kHz
Stop 1.000 0 GHz
Sweep 118.8 ms (601 pts)

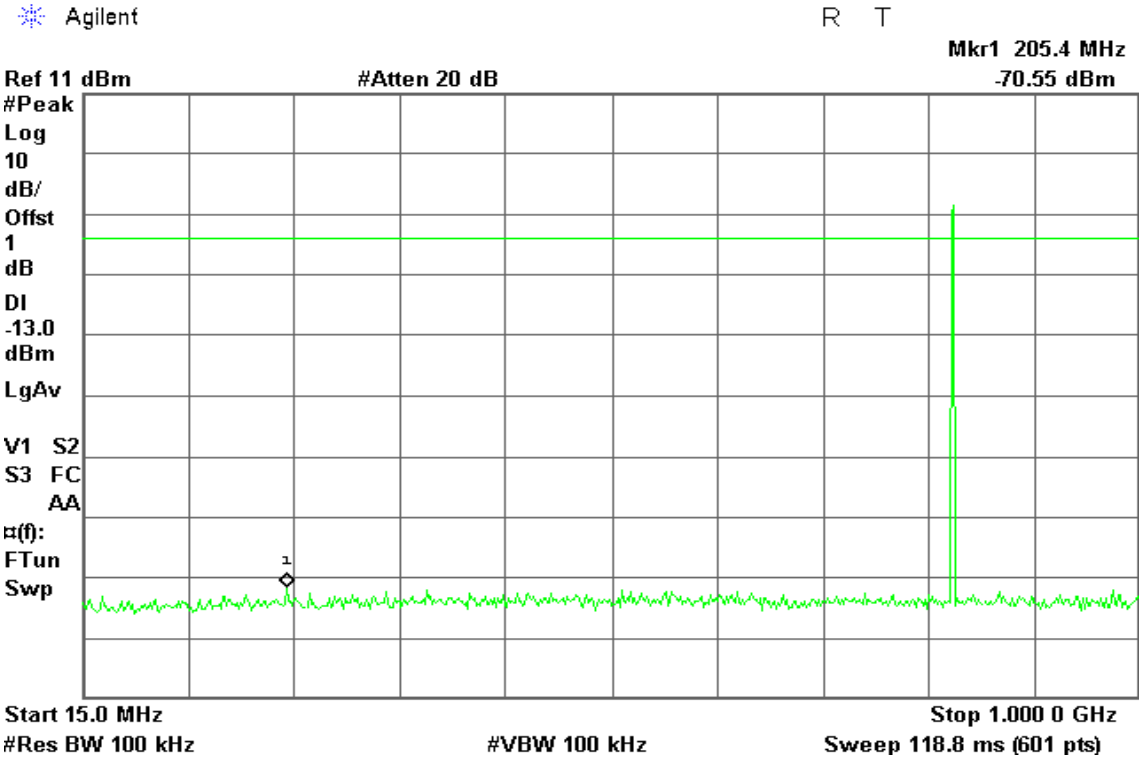

Agilent 16:41:49 Apr 12, 2012
R T
Mkr1 1.408 GHz
Ref 37 dBm
#Atten 30 dB
-35.66 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 2.500 GHz
Sweep 2.52 ms (601 pts)

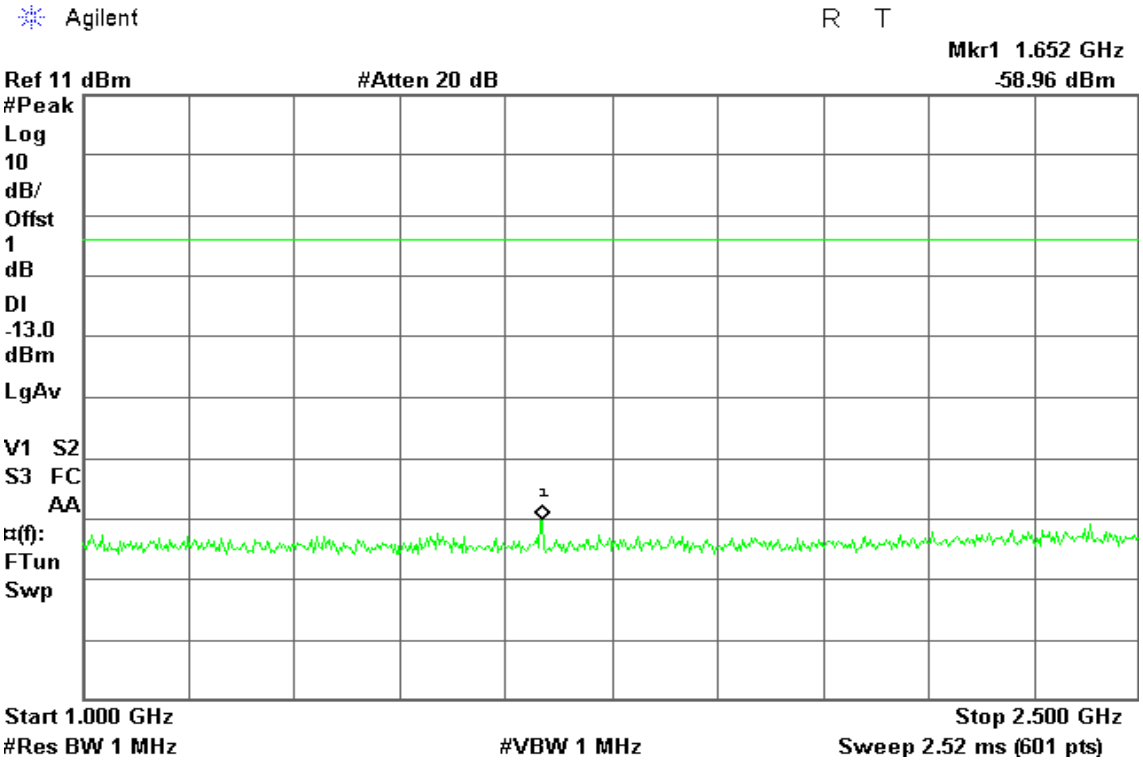

Agilent 16:44:42 Apr 12, 2012
R T
Mkr1 7.062 GHz
Ref 37 dBm
#Atten 30 dB
-28.92 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 12.52 ms (601 pts)

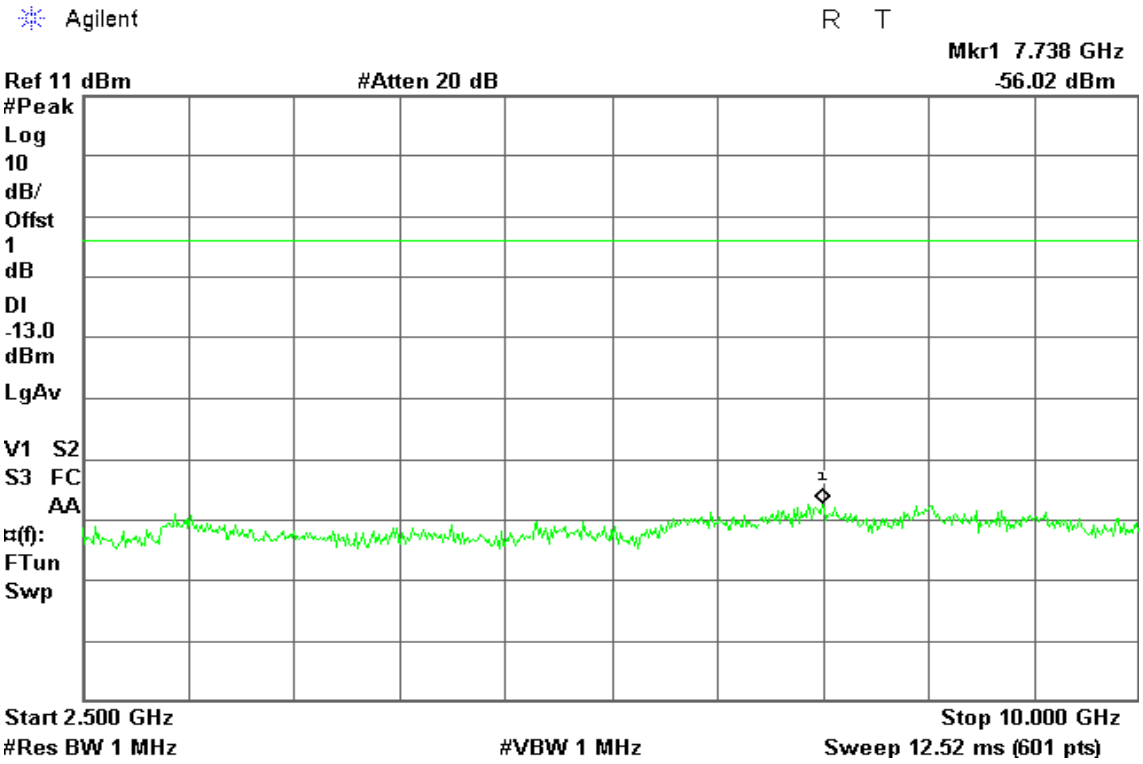

Agilent 16:46:04 Apr 12, 2012
R T
Mkr1 14.68 GHz
Ref 37 dBm
#Atten 30 dB
-26.03 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 10.00 GHz
Stop 20.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 50 ms (601 pts)

Mode 9: CDMA / 824 – 849MHz Uplink

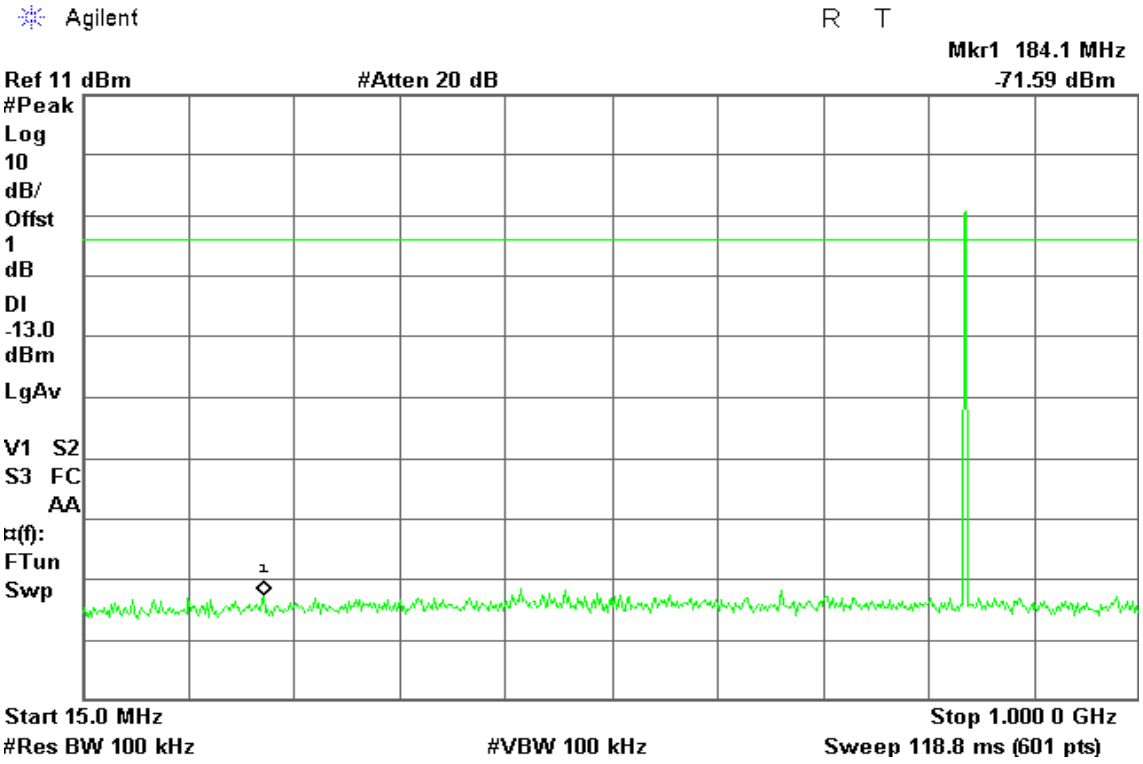
CH Low

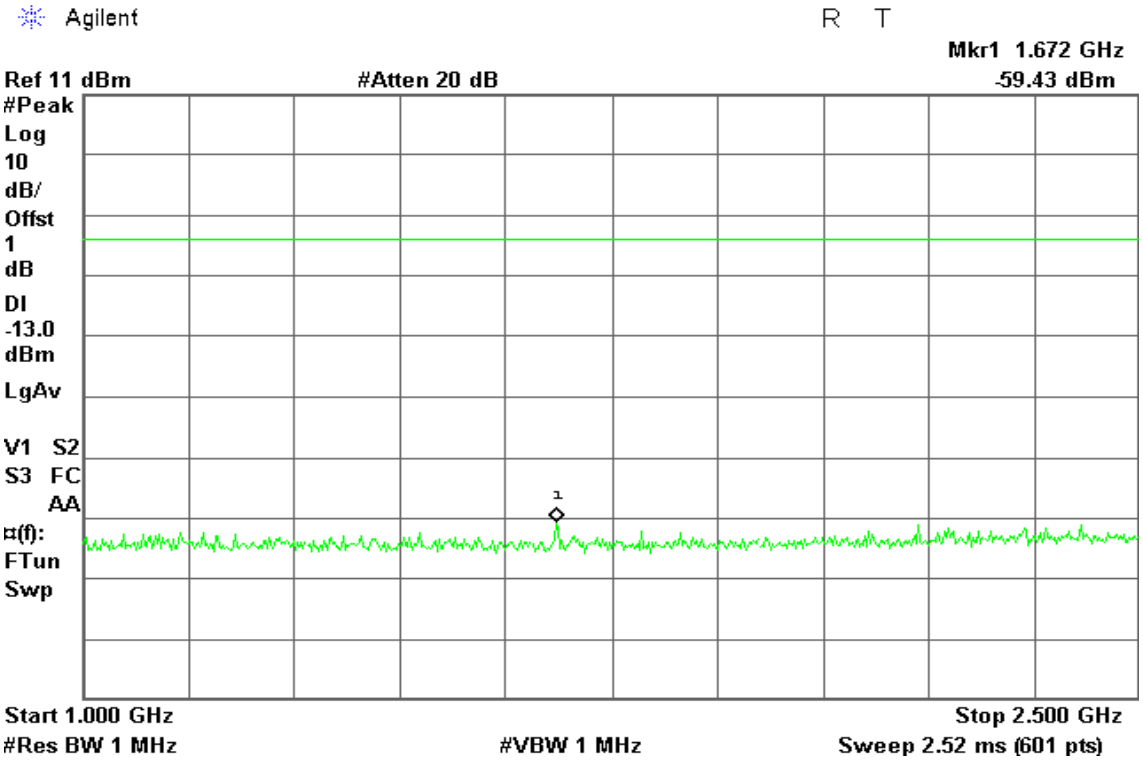


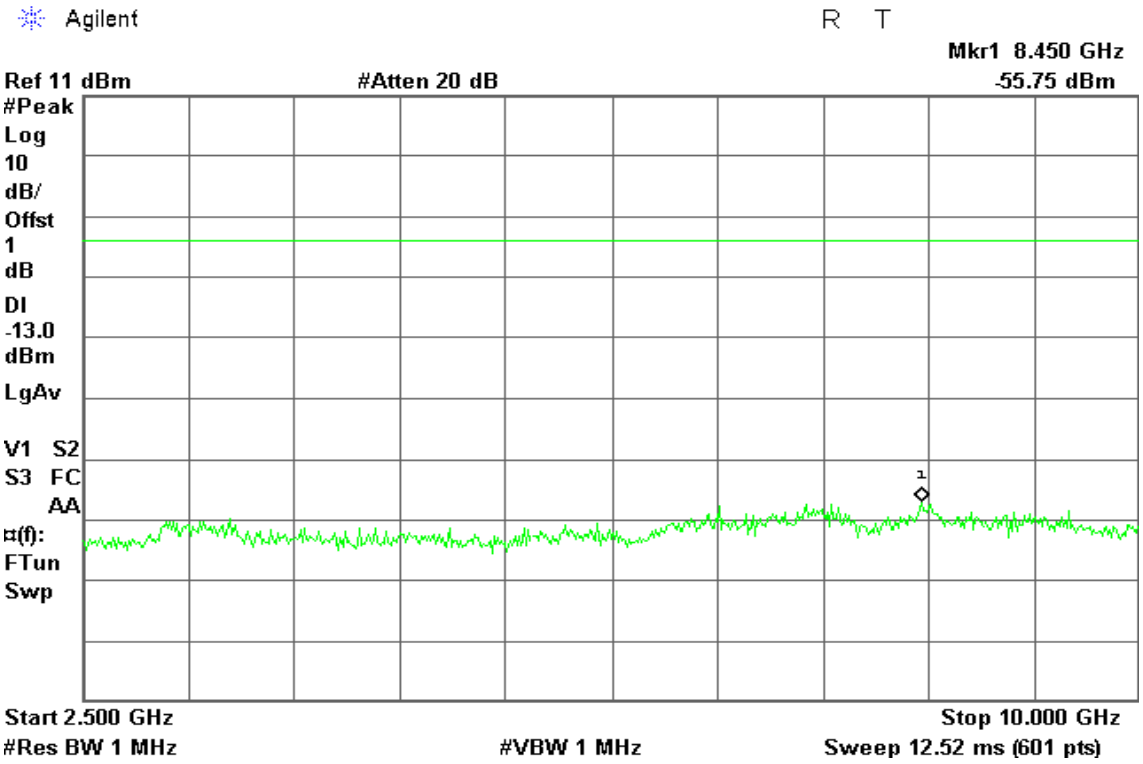



Agilent
R T
Mkr1 7.738 GHz
Ref 11 dBm
#Atten 20 dB
-56.02 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 12.52 ms (601 pts)

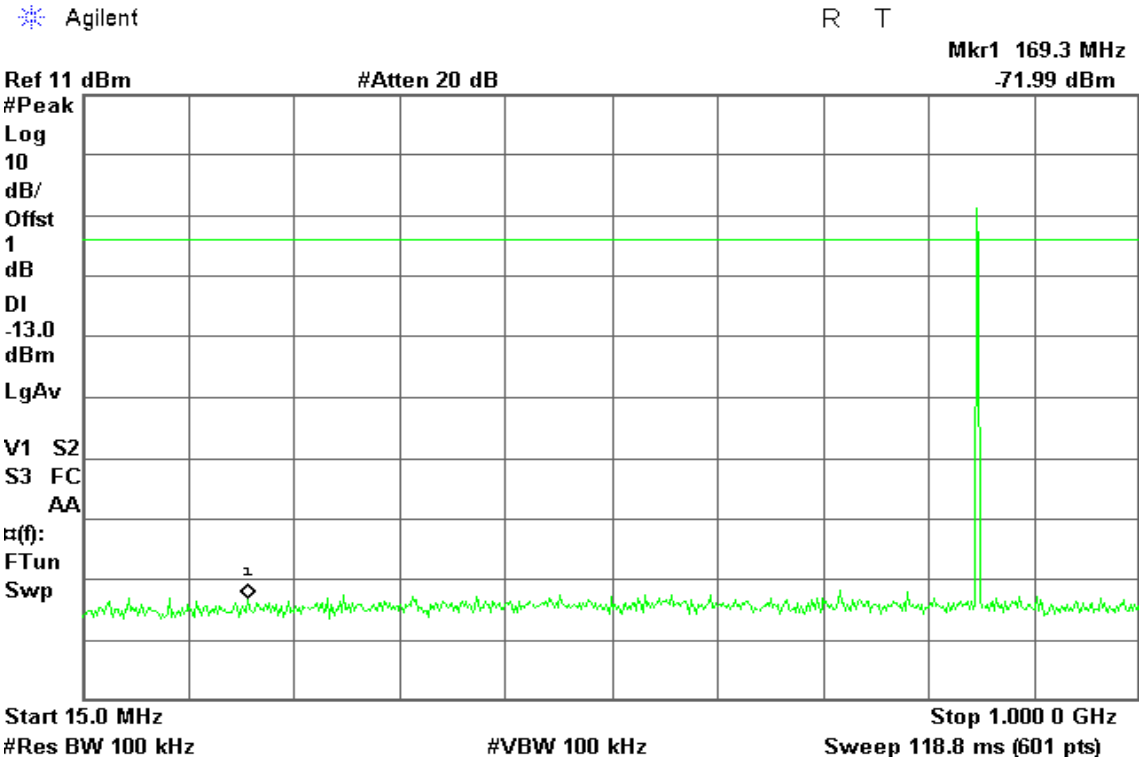
CH Mid

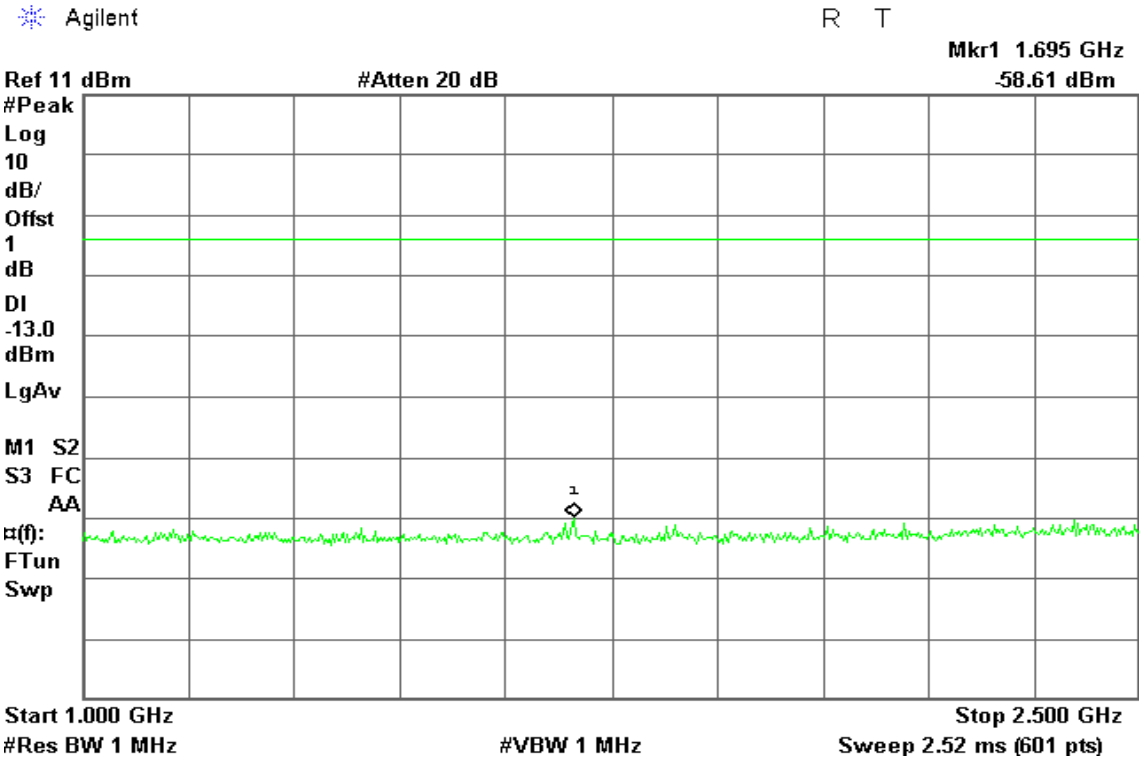

Agilent
R T
Mkr1 184.1 MHz
Ref 11 dBm
#Atten 20 dB
-71.59 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 118.8 ms (601 pts)

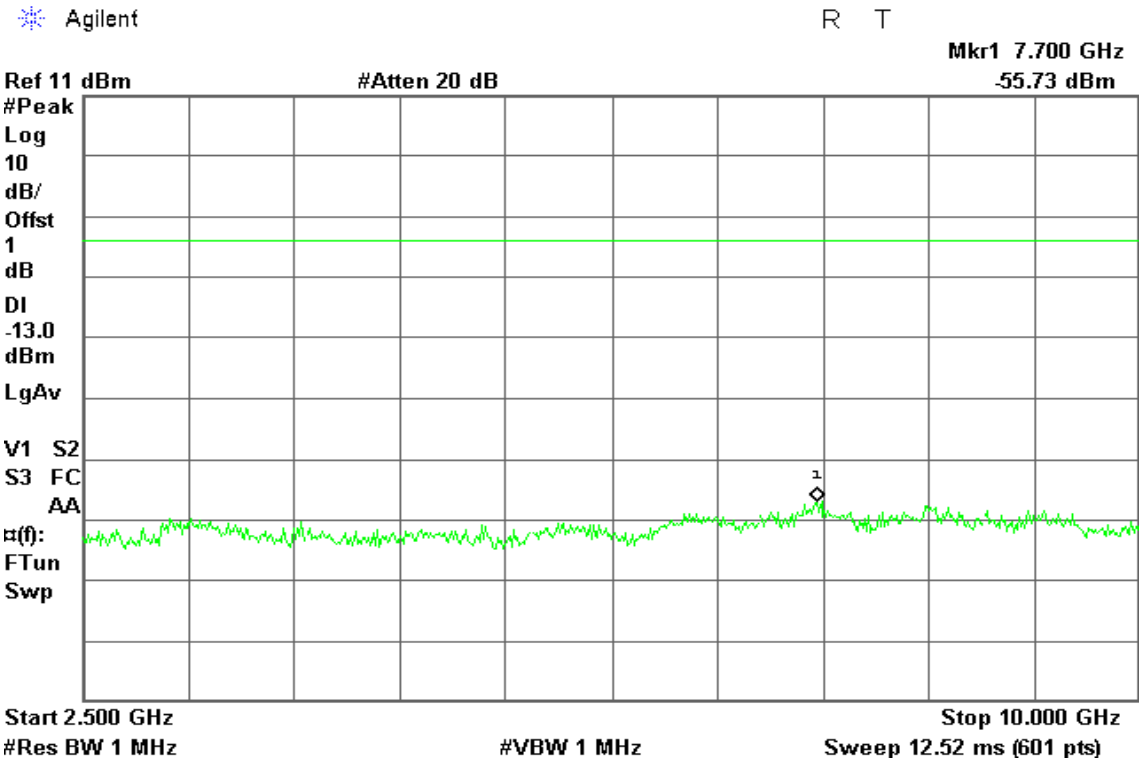

Agilent
R T
Mkr1 1.672 GHz
Ref 11 dBm
#Atten 20 dB
-59.43 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 2.52 ms (601 pts)


Agilent
R T
Mkr1 8.450 GHz
Ref 11 dBm
#Atten 20 dB
-55.75 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 12.52 ms (601 pts)

CH High

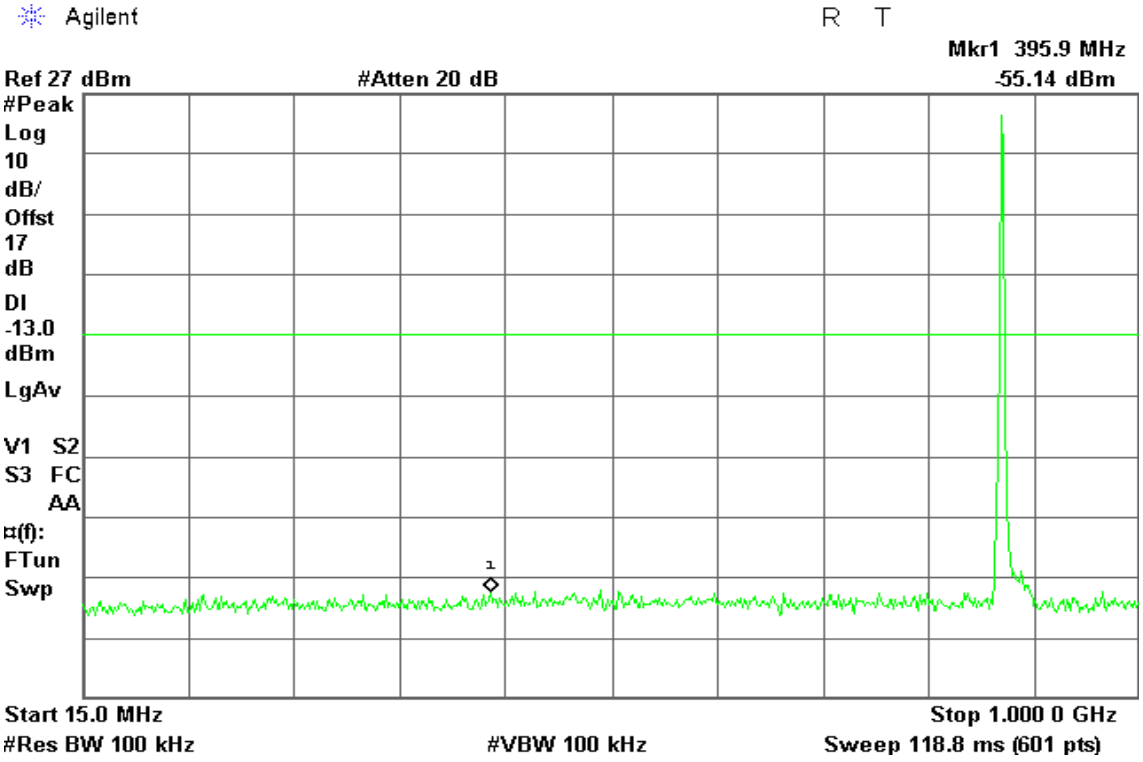

Agilent
R T
Mkr1 169.3 MHz
Ref 11 dBm
#Atten 20 dB
-71.99 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 118.8 ms (601 pts)

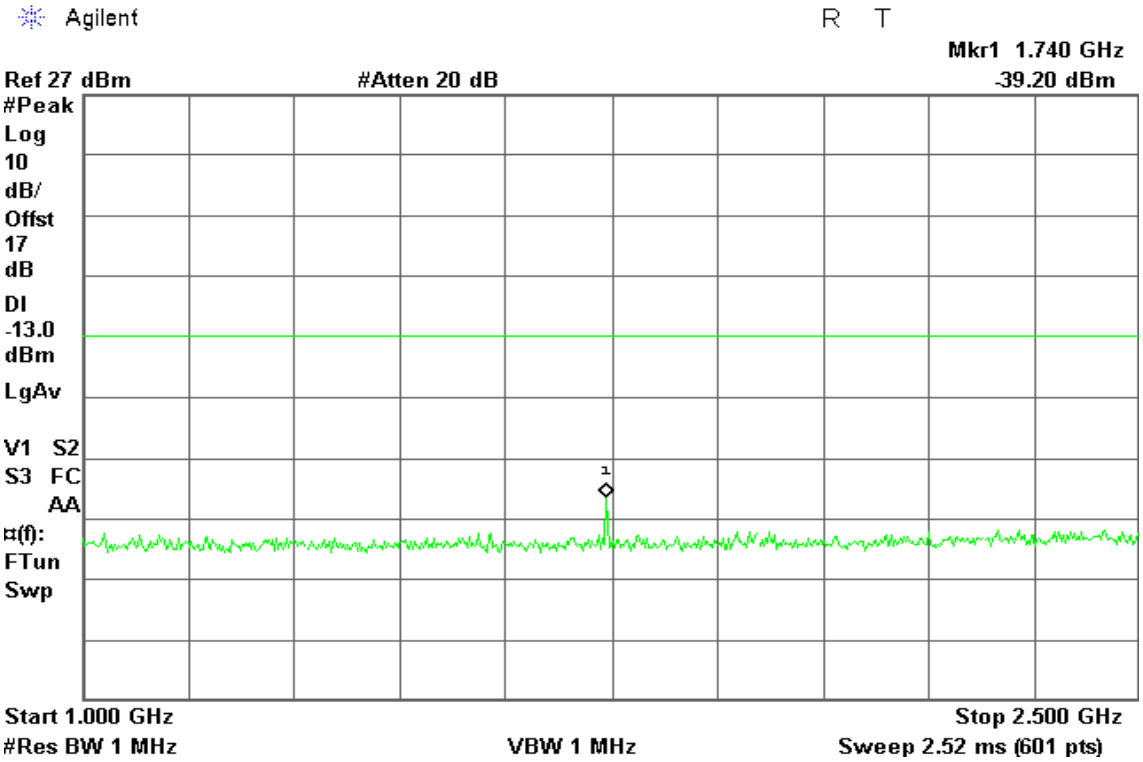

Agilent
R T
Mkr1 1.695 GHz
Ref 11 dBm
#Atten 20 dB
-58.61 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 2.52 ms (601 pts)

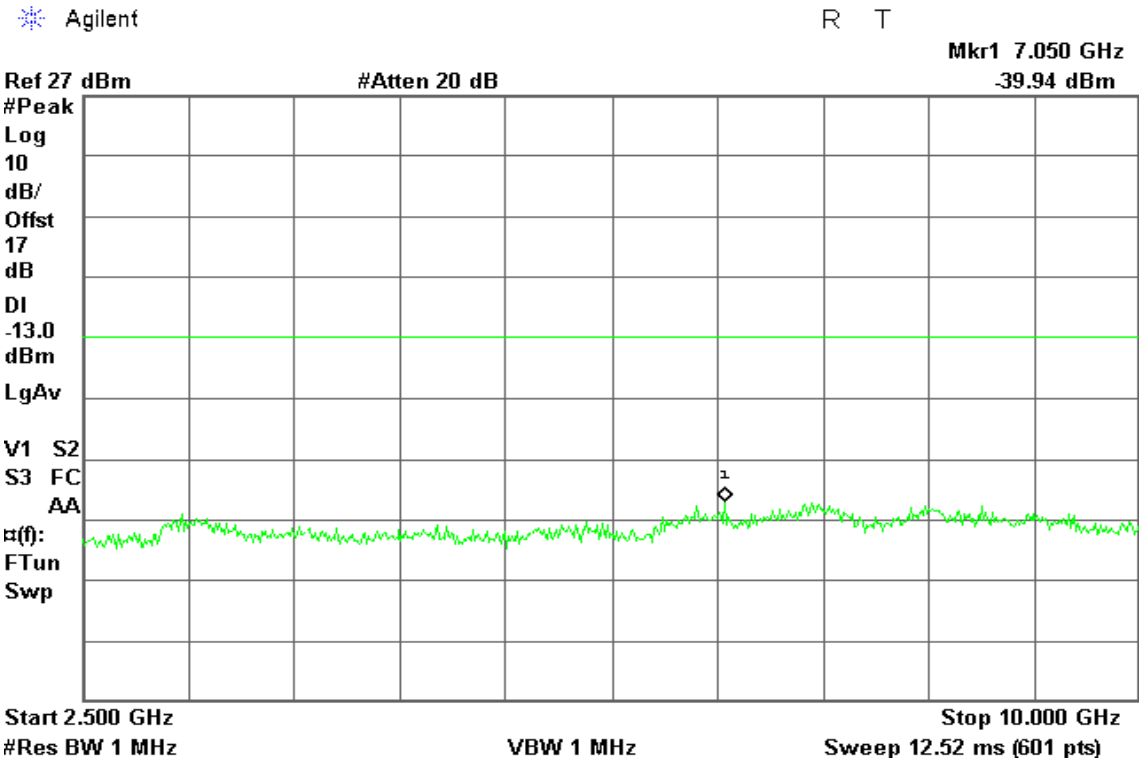

Agilent
R T
Mkr1 7.700 GHz
Ref 11 dBm
#Atten 20 dB
-55.73 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 12.52 ms (601 pts)

Mode 10: CDMA / 869 – 894MHz Downlink

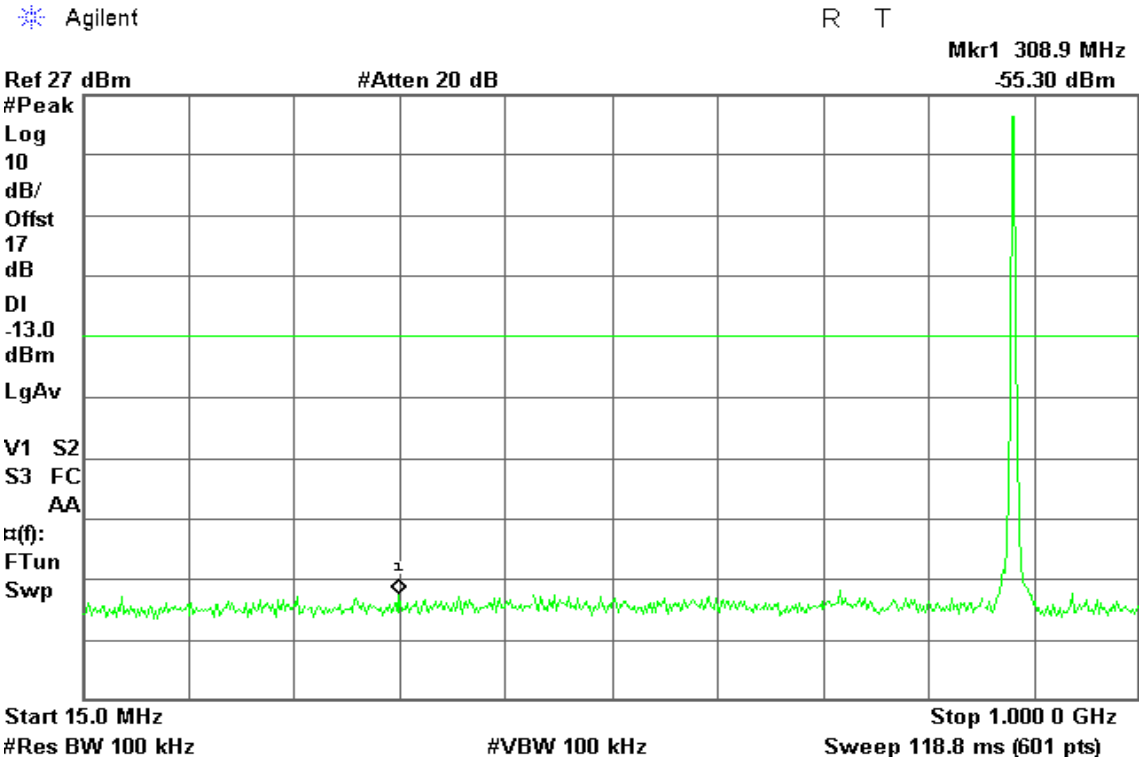
CH Low

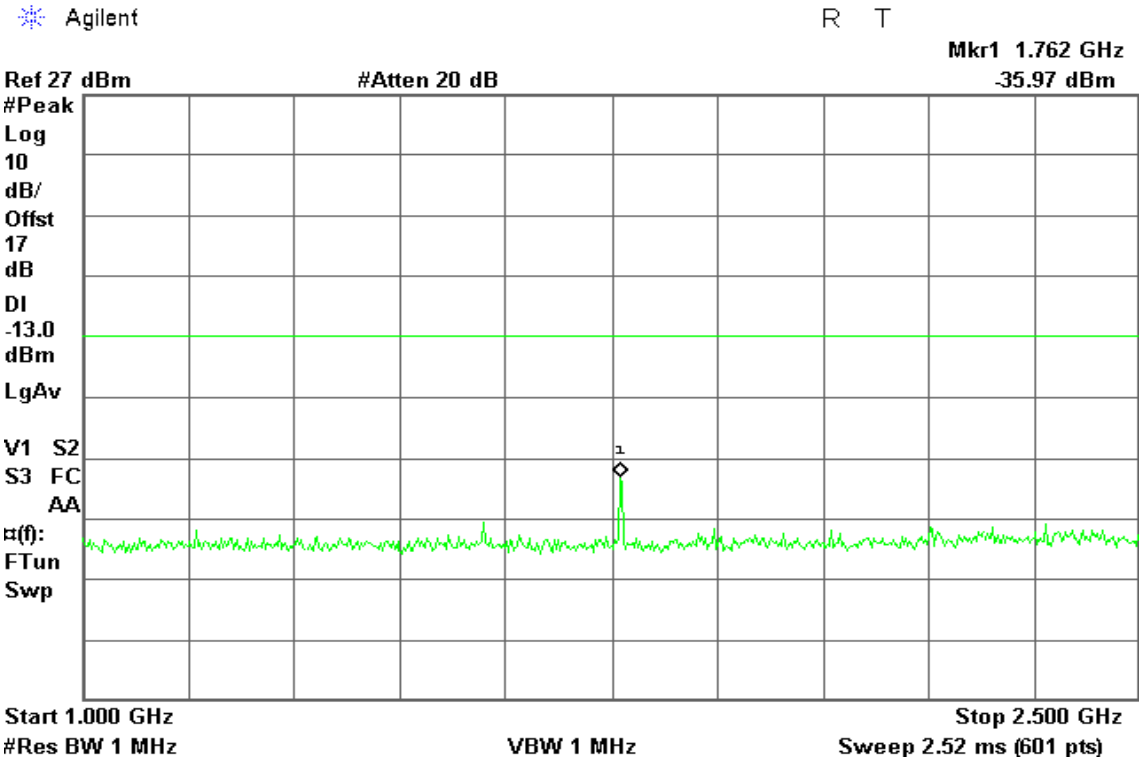


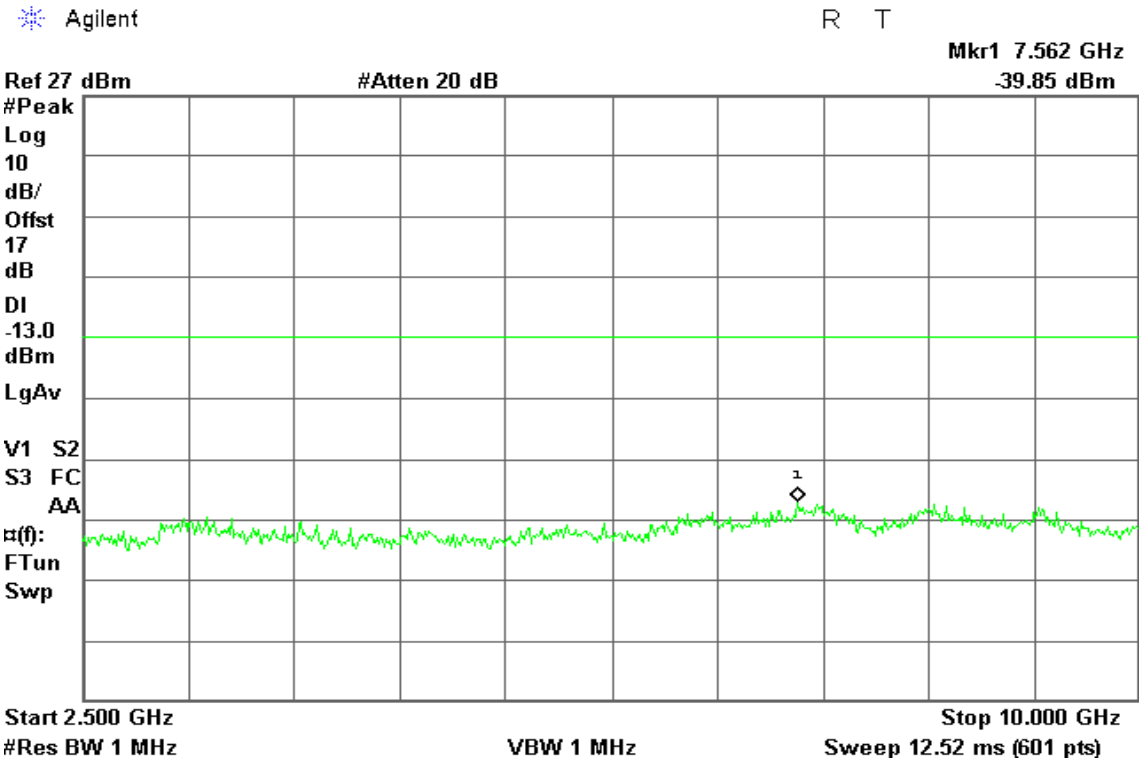



Agilent
R T
Mkr1 7.050 GHz
-39.94 dBm
Ref 27 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 12.52 ms (601 pts)

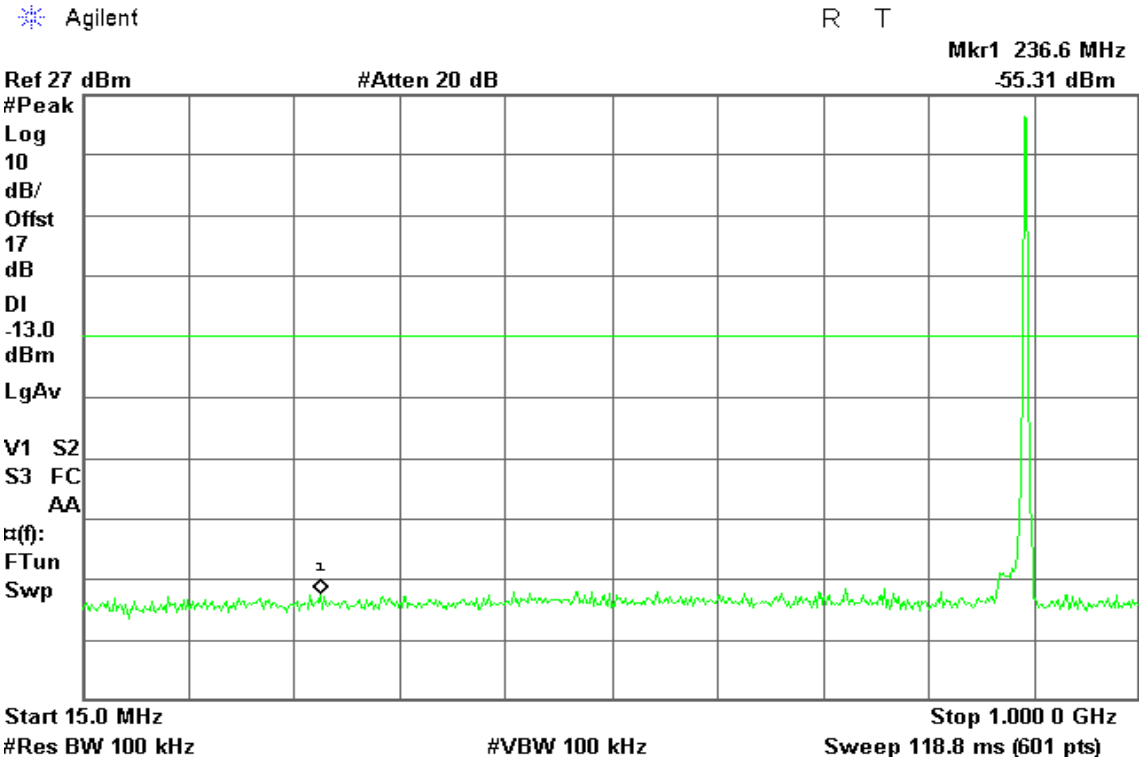
CH Mid

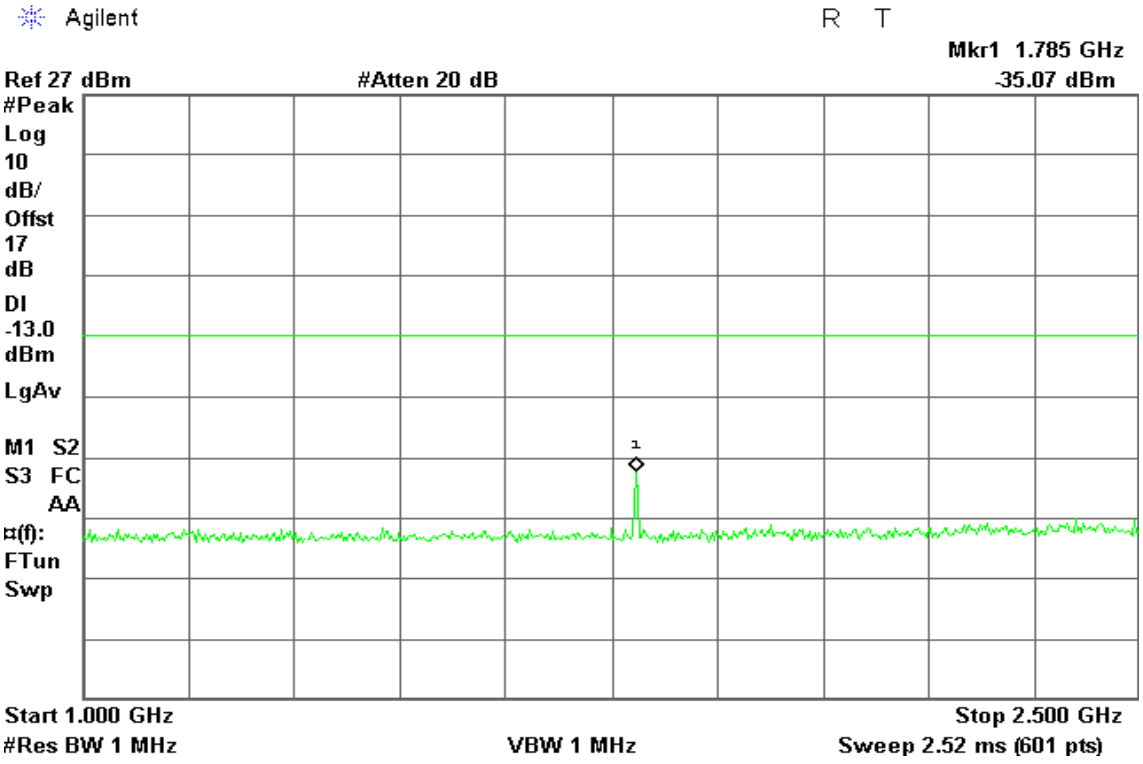

Agilent
R T
Mkr1 308.9 MHz
Ref 27 dBm
#Atten 20 dB
-55.30 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 118.8 ms (601 pts)

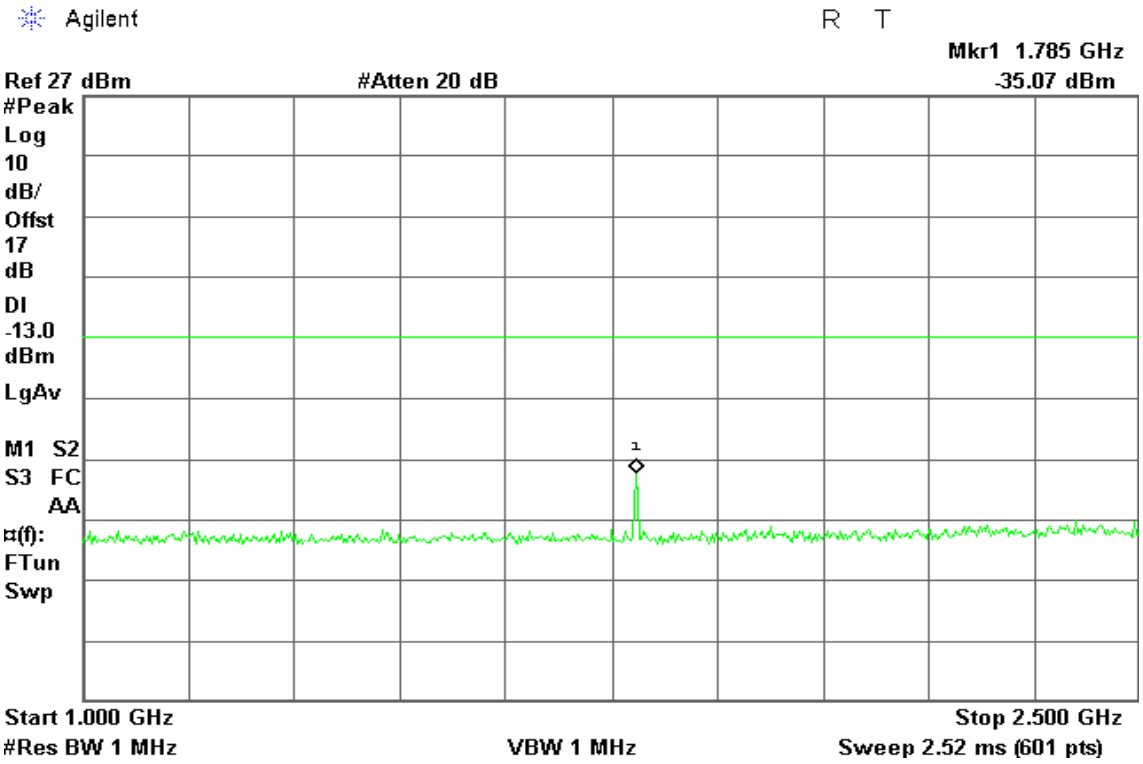

Agilent
R T
Mkr1 1.762 GHz
Ref 27 dBm
#Atten 20 dB
-35.97 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 2.52 ms (601 pts)


Agilent
R T
Mkr1 7.562 GHz
-39.85 dBm
Ref 27 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 12.52 ms (601 pts)

CH High

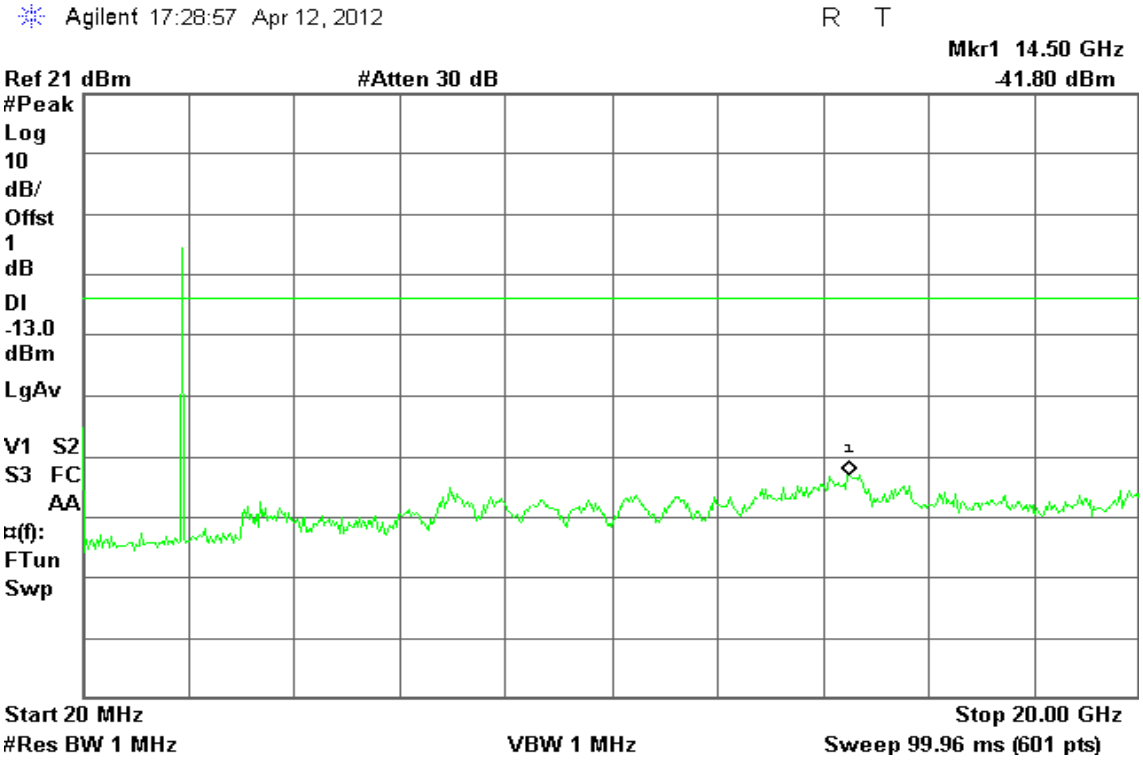

Agilent
R T
Mkr1 236.6 MHz
Ref 27 dBm
#Atten 20 dB
-55.31 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 118.8 ms (601 pts)


Agilent
R T
Mkr1 1.785 GHz
Ref 27 dBm
#Atten 20 dB
-35.07 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 2.52 ms (601 pts)

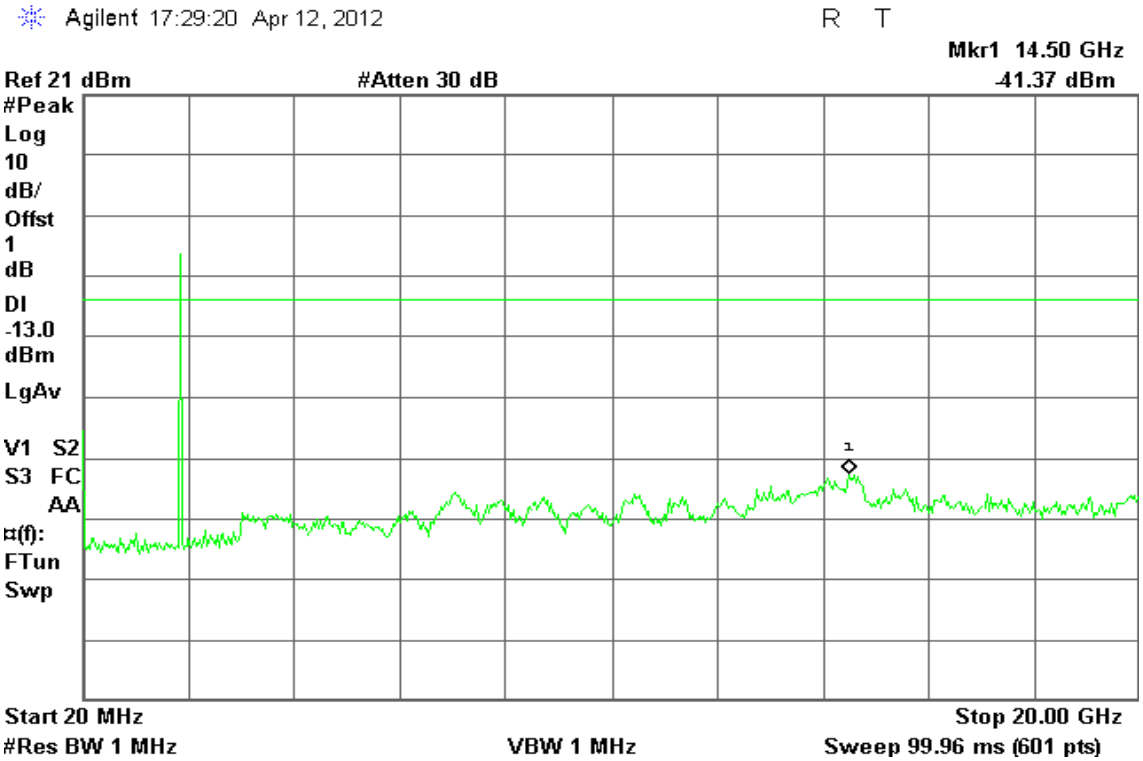

Agilent
R T
Mkr1 1.785 GHz
Ref 27 dBm
#Atten 20 dB
-35.07 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 2.52 ms (601 pts)

Mode 11: CDMA / 1850 – 1910MHz Uplink

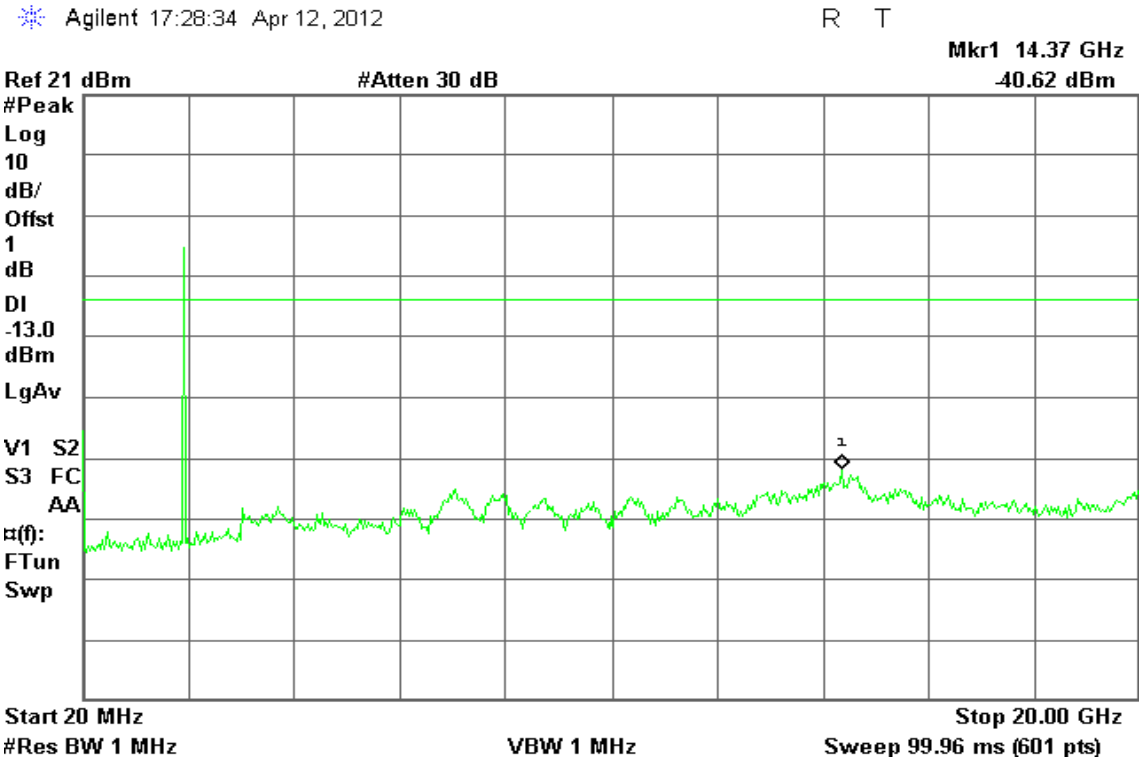
CH Low



CH Mid

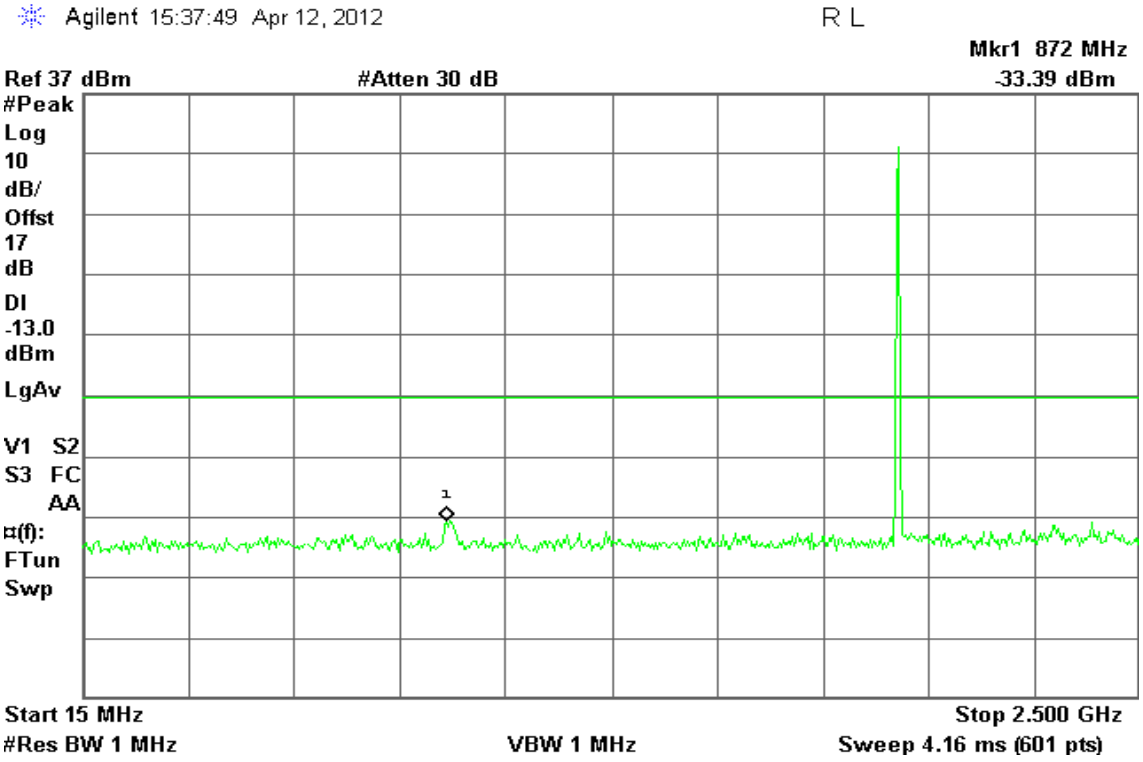


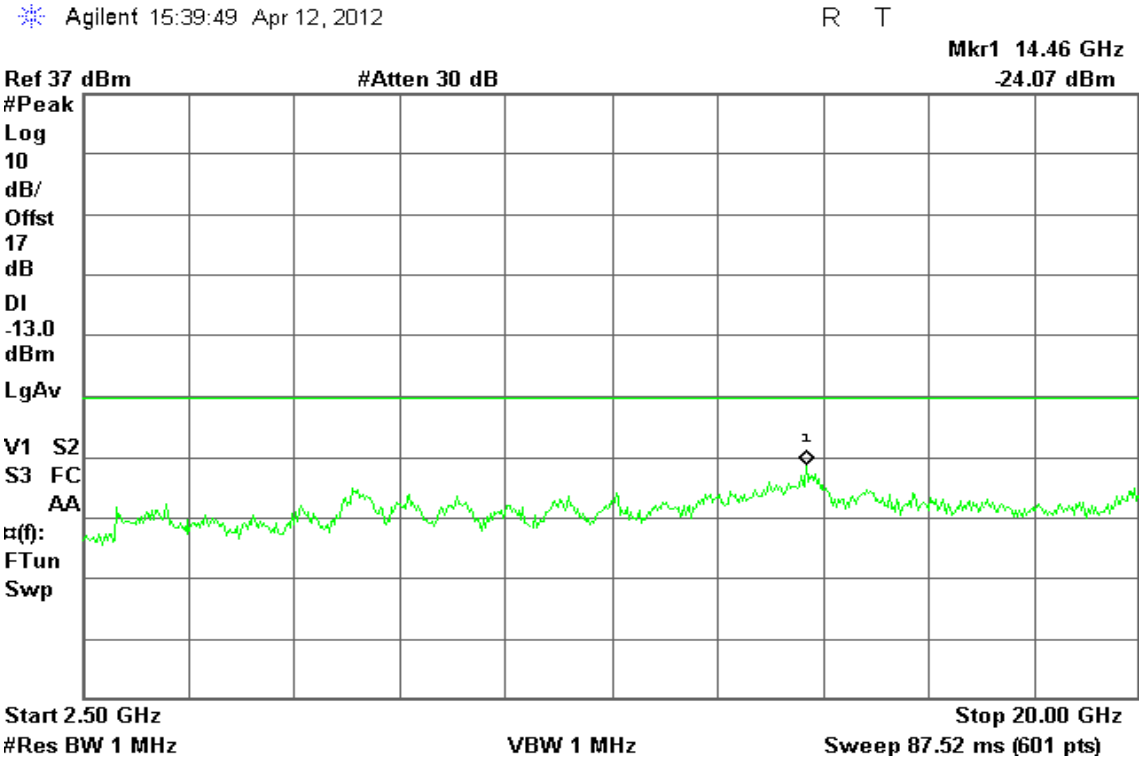
CH High


Agilent 17:28:34 Apr 12, 2012
R T
Mkr1 14.37 GHz
Ref 21 dBm
#Atten 30 dB
-40.62 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 20 MHz
Stop 20.00 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 99.96 ms (601 pts)

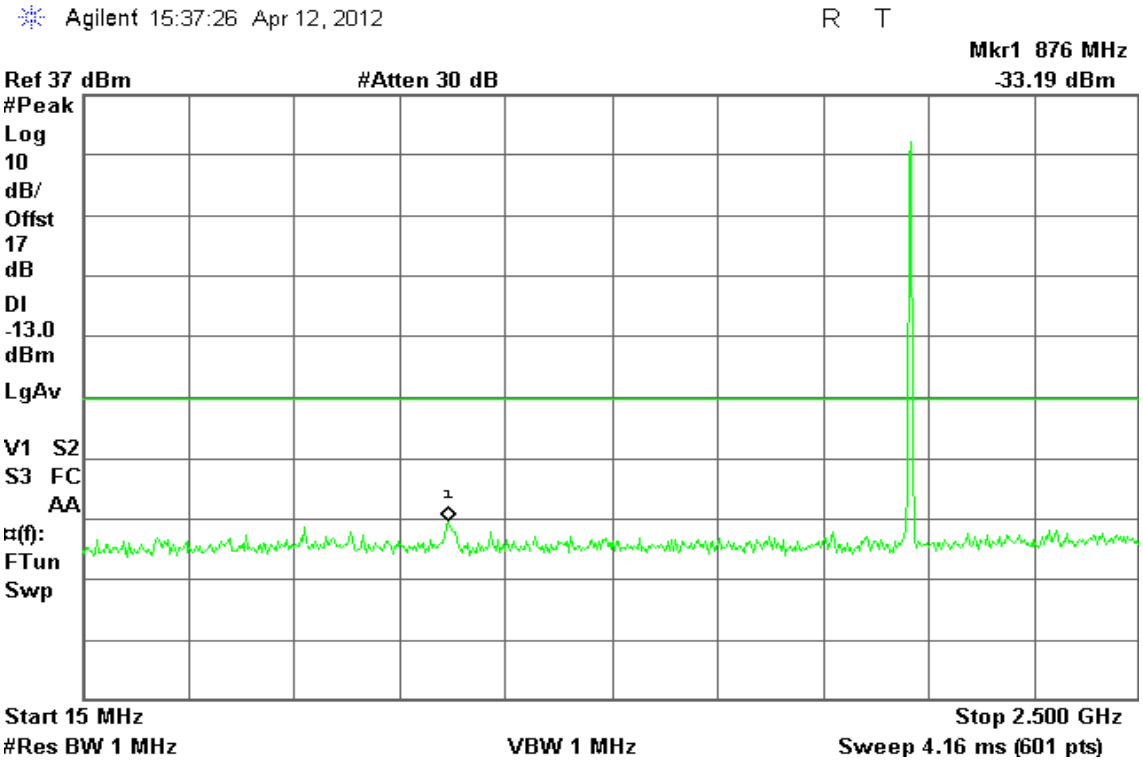
Mode 12: CDMA / 1930 – 1990MHz Downlink

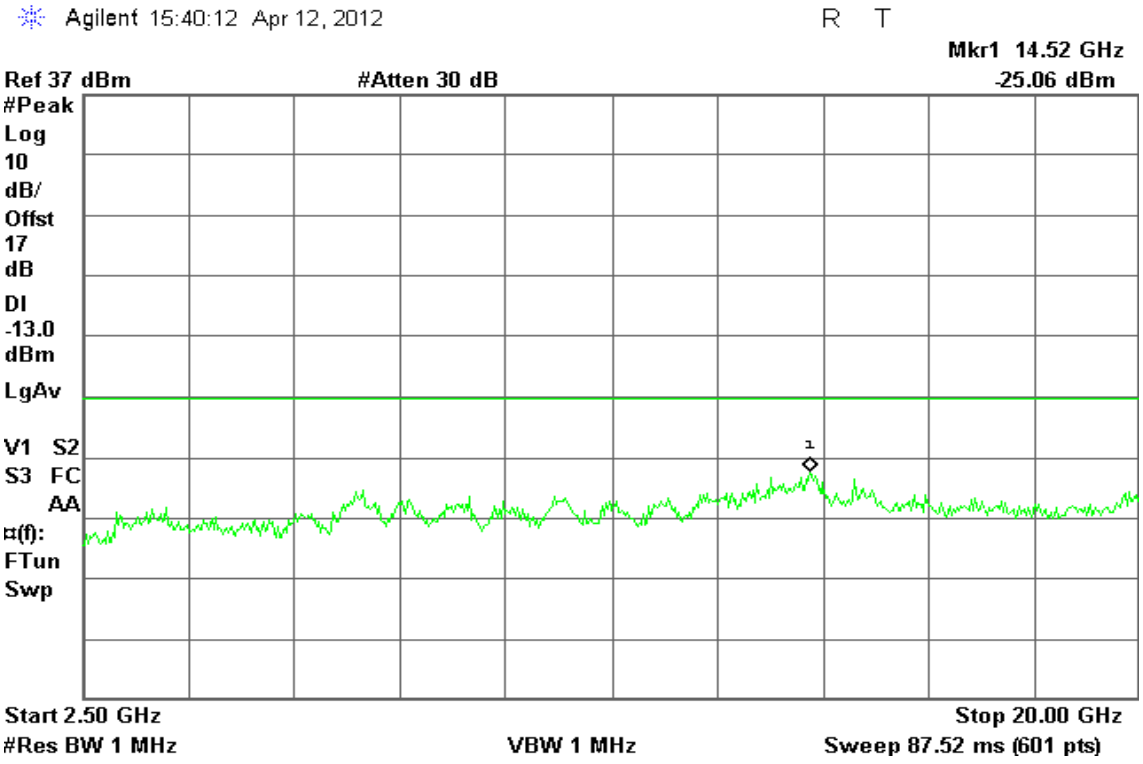
CH Low



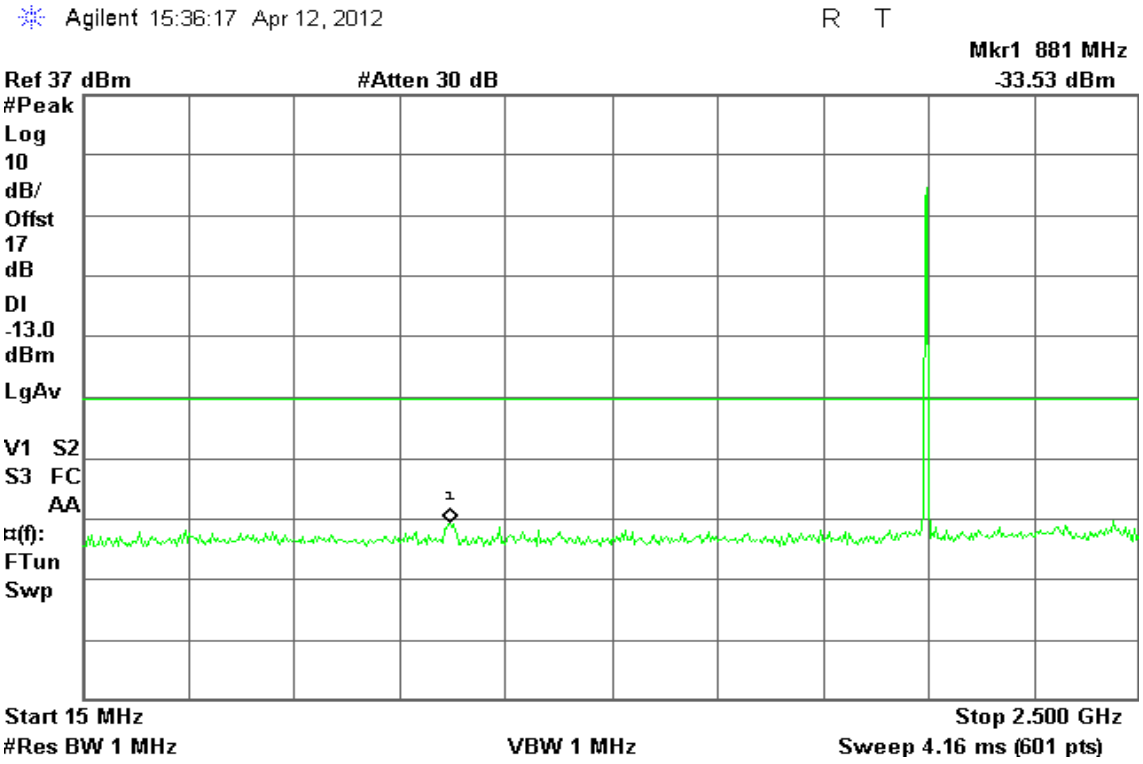


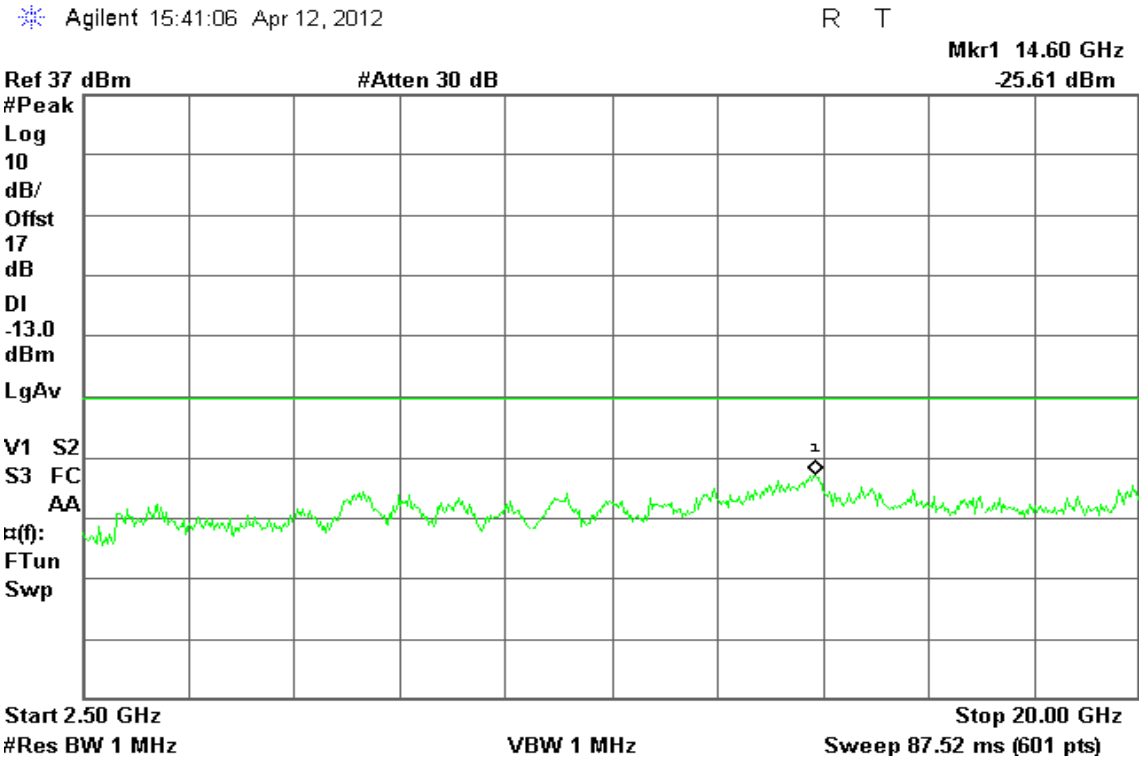
CH Mid


Agilent 15:37:26 Apr 12, 2012
R T
Mkr1 876 MHz
-33.19 dBm
Ref 37 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15 MHz
#Res BW 1 MHz
VBW 1 MHz
Stop 2.500 GHz
Sweep 4.16 ms (601 pts)


Agilent 15:40:12 Apr 12, 2012
R T
Mkr1 14.52 GHz
-25.06 dBm
Ref 37 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.50 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 20.00 GHz
Sweep 87.52 ms (601 pts)

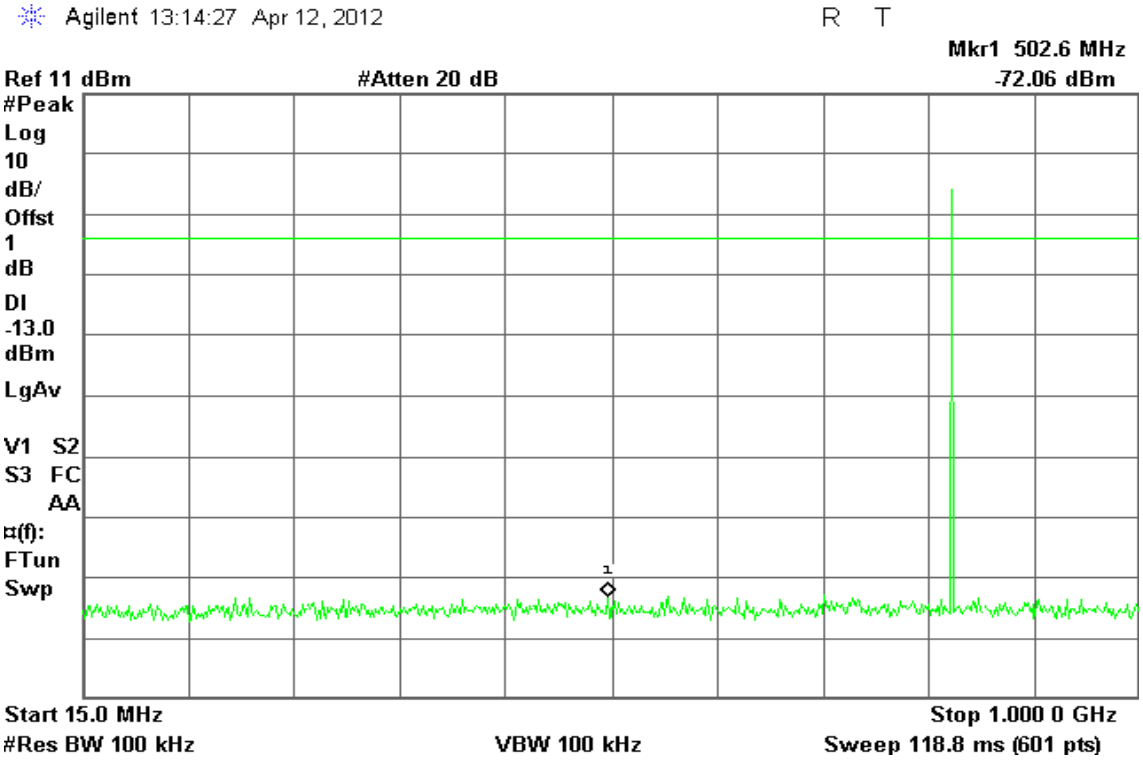
CH High

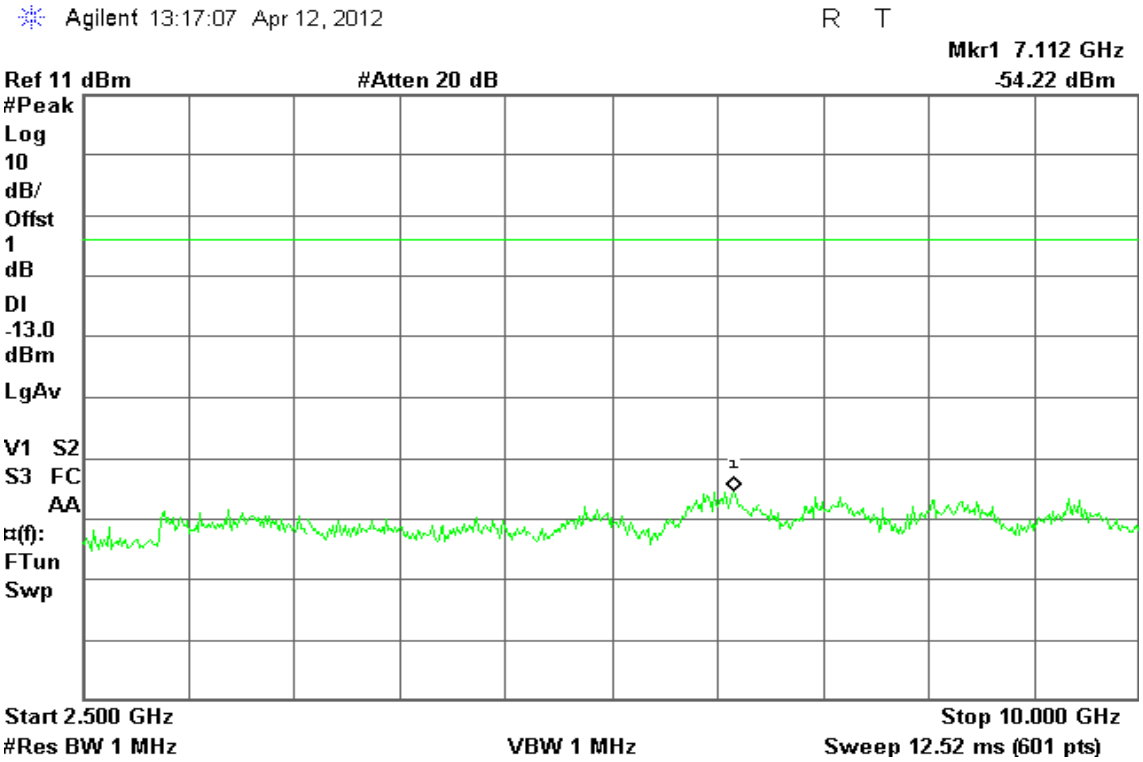

Agilent 15:36:17 Apr 12, 2012
R T
Mkr1 881 MHz
-33.53 dBm
Ref 37 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15 MHz
#Res BW 1 MHz
VBW 1 MHz
Stop 2.500 GHz
Sweep 4.16 ms (601 pts)

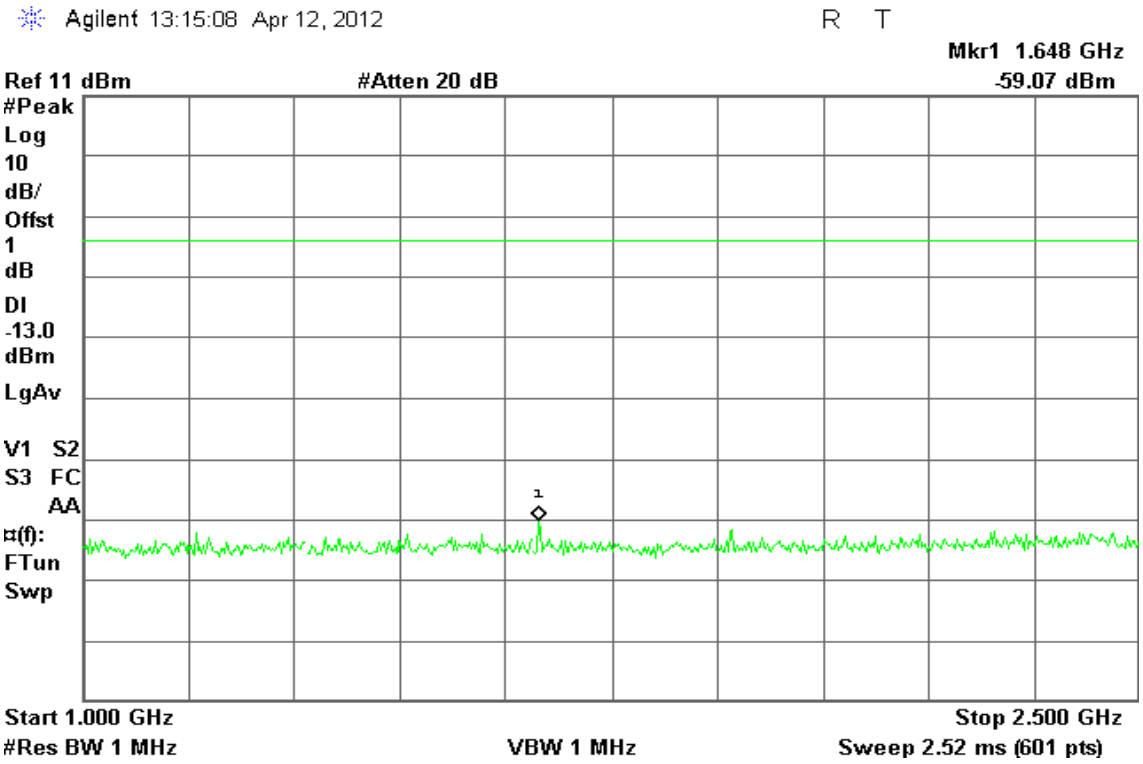

Agilent 15:41:06 Apr 12, 2012
R T
Mkr1 14.60 GHz
-25.61 dBm
Ref 37 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.50 GHz
#Res BW 1 MHz
VBW 1 MHz
Stop 20.00 GHz
Sweep 87.52 ms (601 pts)

Mode 13: TDMA / 824 – 849MHz Uplink

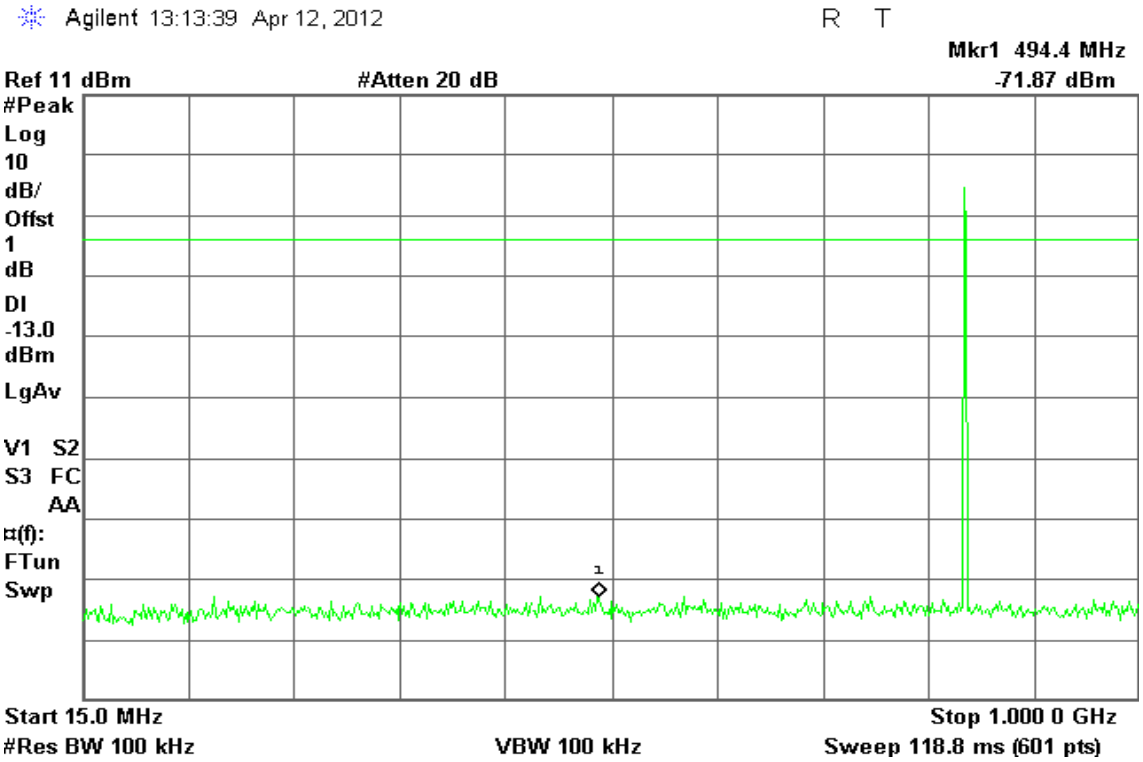
CH Low

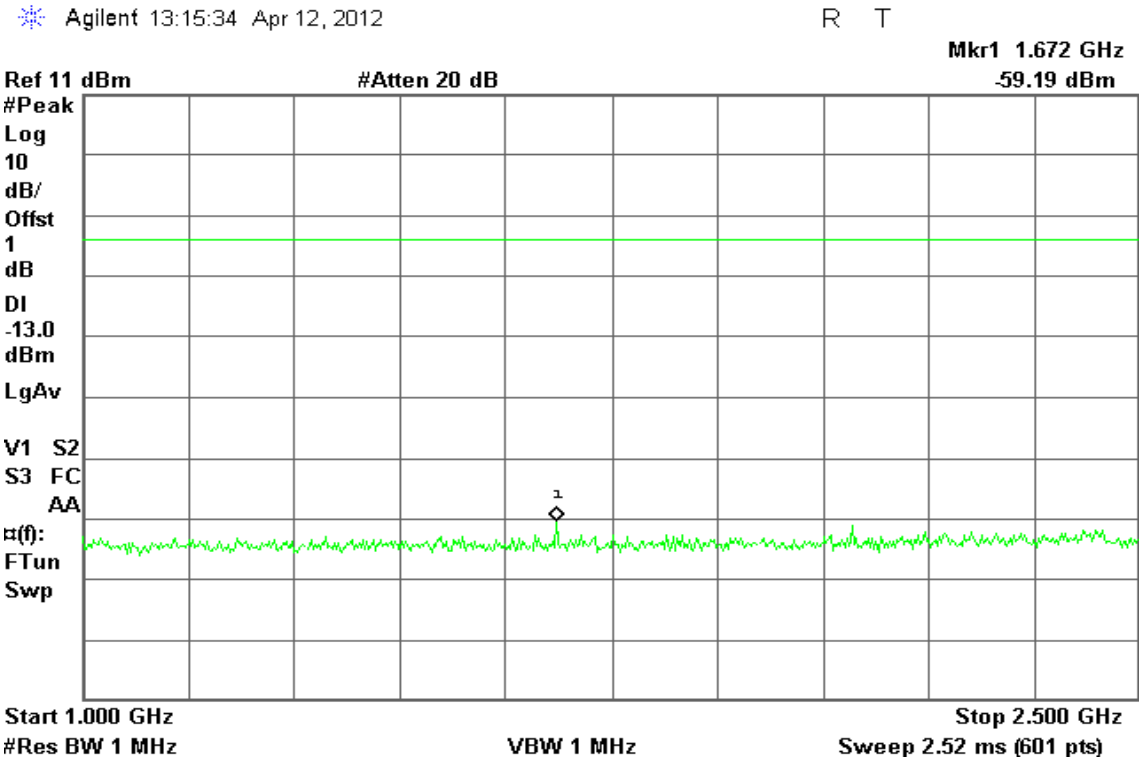


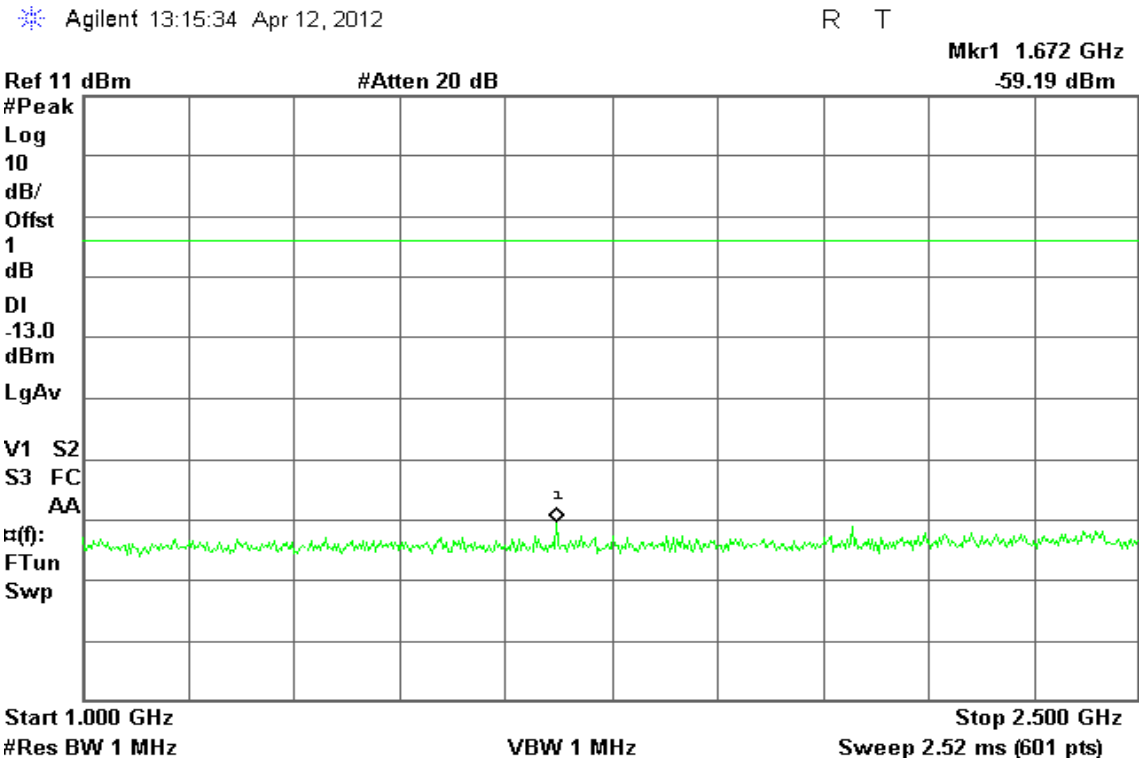



Agilent 13:15:08 Apr 12, 2012
R T
Mkr1 1.648 GHz
-59.07 dBm
Ref 11 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 2.52 ms (601 pts)

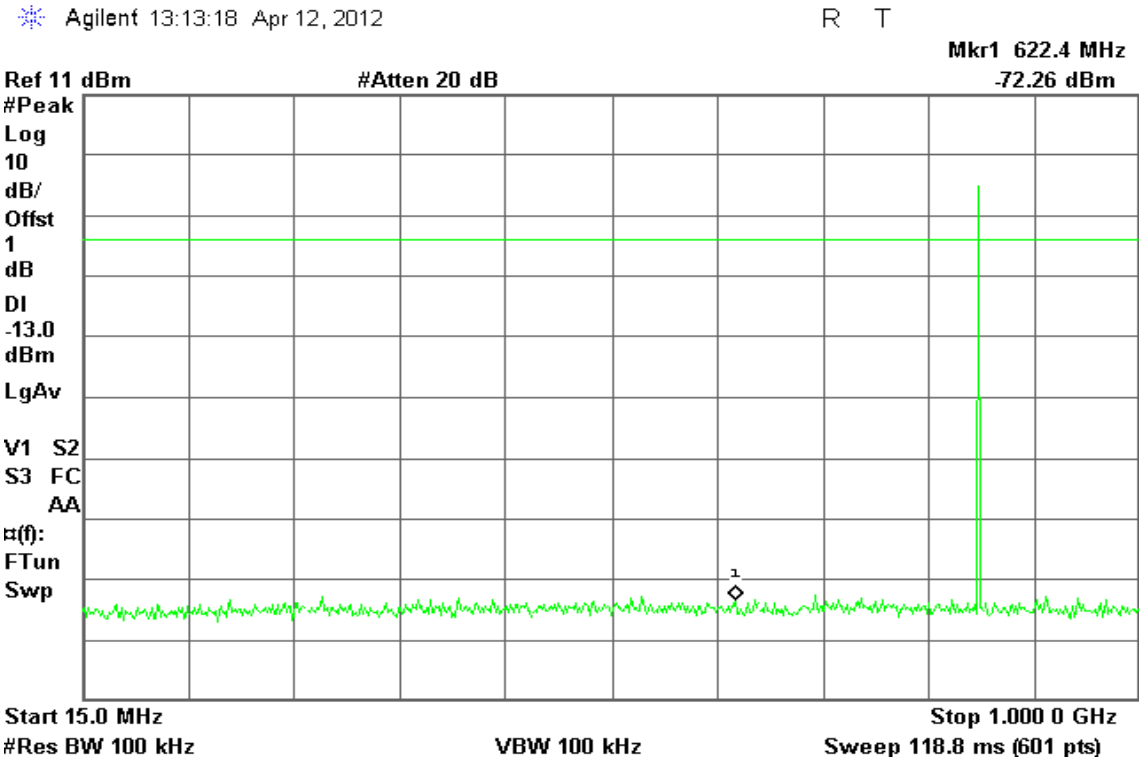
CH Mid

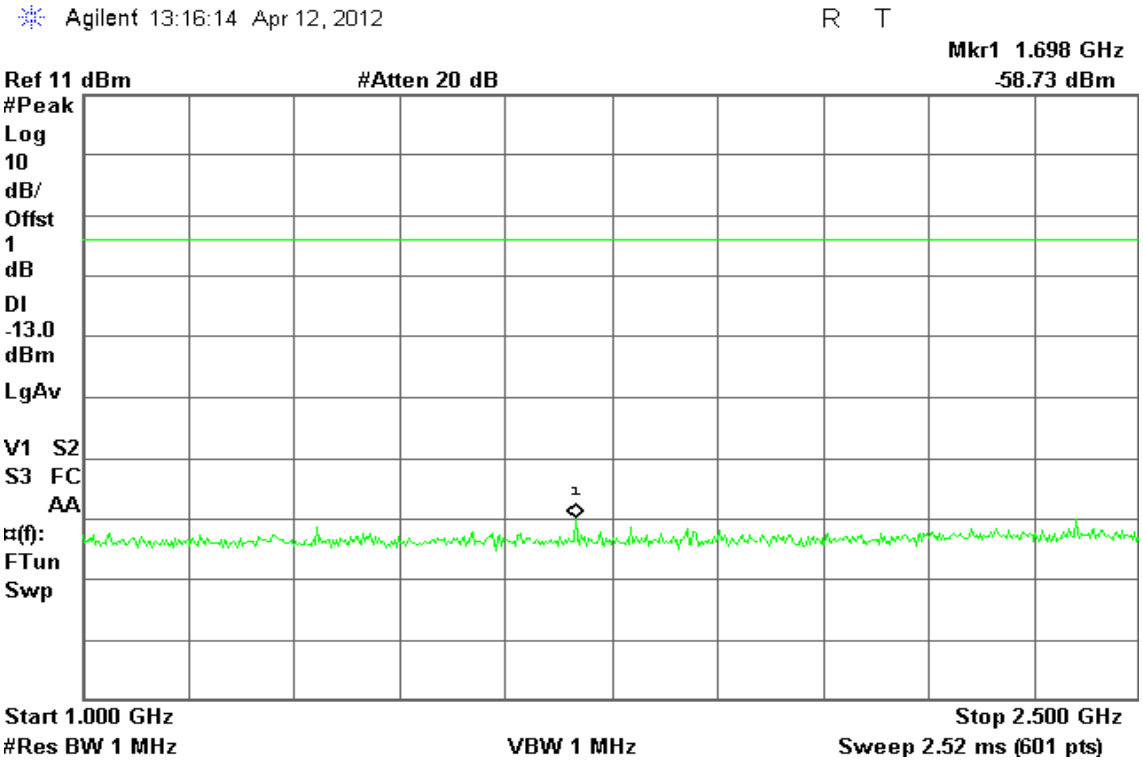

Agilent 13:13:39 Apr 12, 2012
R T
Mkr1 494.4 MHz
Ref 11 dBm
#Atten 20 dB
-71.87 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
VBW 100 kHz
Sweep 118.8 ms (601 pts)

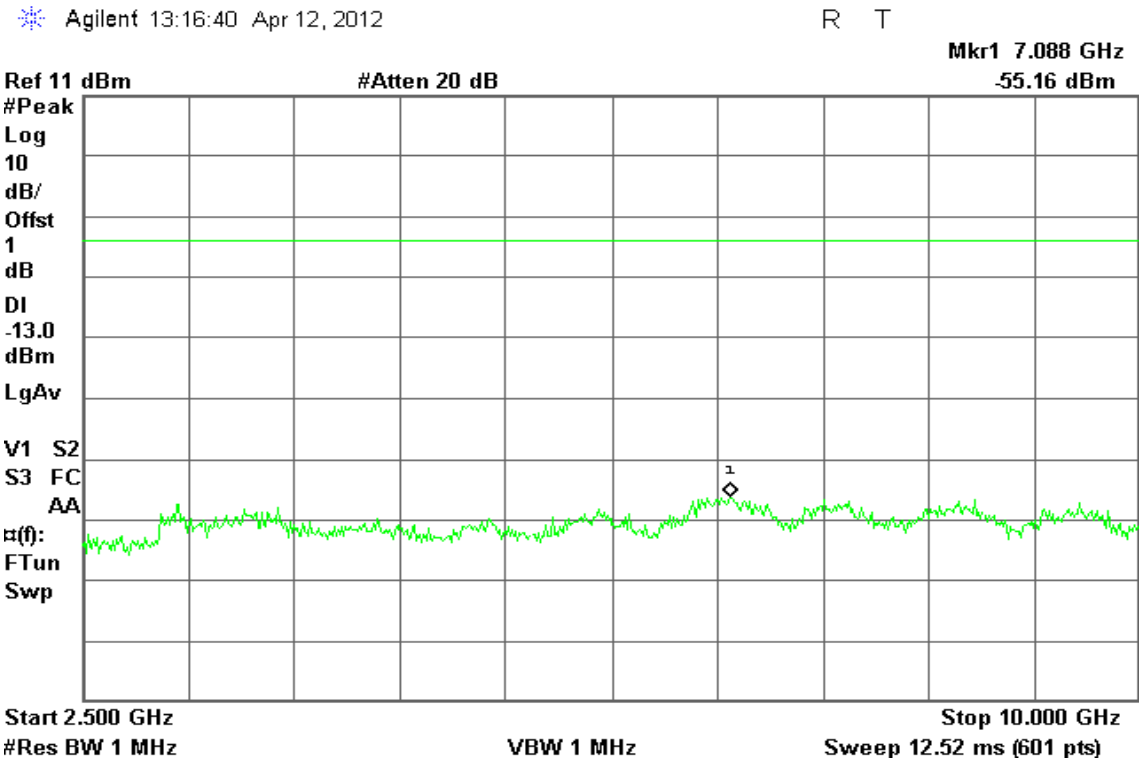

Agilent 13:15:34 Apr 12, 2012
R T
Mkr1 1.672 GHz
Ref 11 dBm
#Atten 20 dB
-59.19 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 2.52 ms (601 pts)


Agilent 13:15:34 Apr 12, 2012
R T
Mkr1 1.672 GHz
-59.19 dBm
Ref 11 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 2.52 ms (601 pts)

CH High

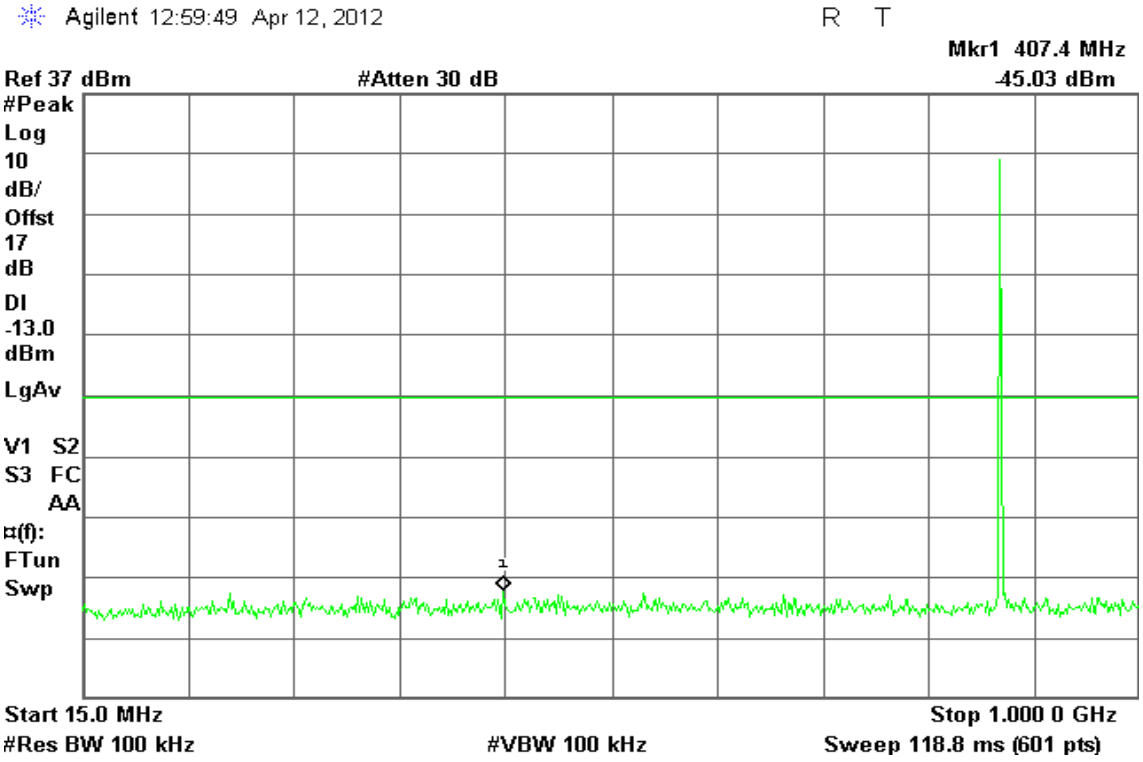

Agilent 13:13:18 Apr 12, 2012
R T
Mkr1 622.4 MHz
Ref 11 dBm
#Atten 20 dB
-72.26 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
VBW 100 kHz
Sweep 118.8 ms (601 pts)

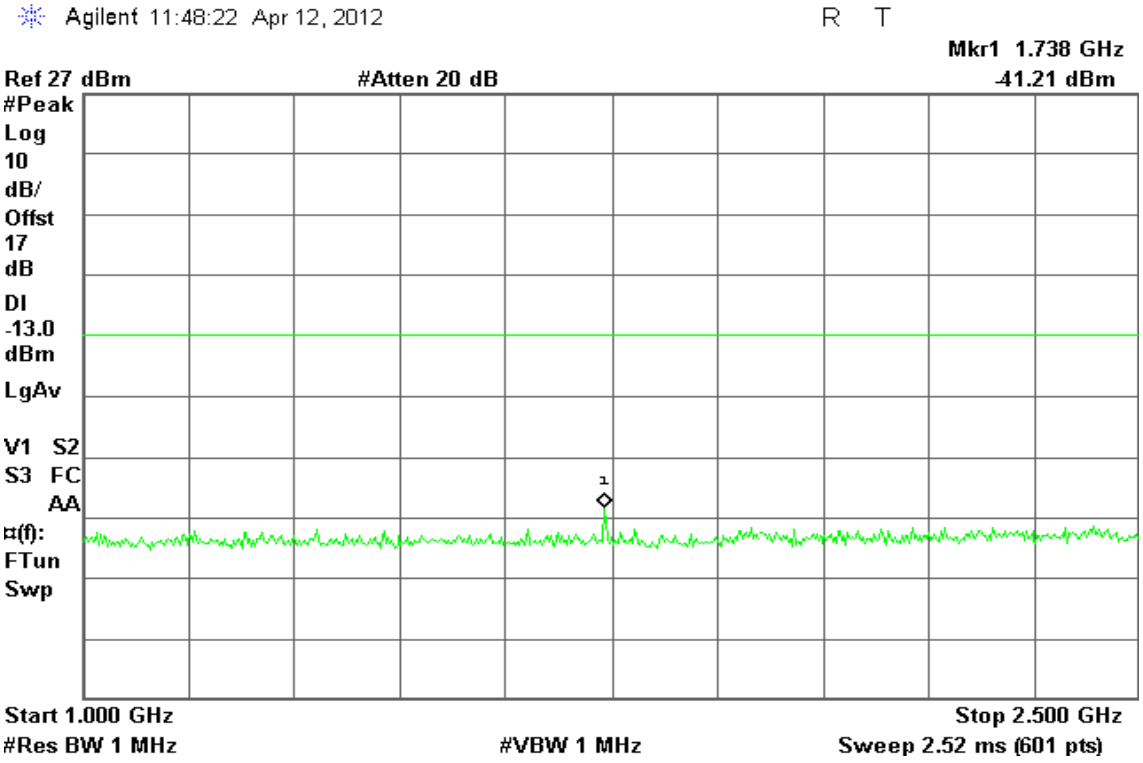

Agilent 13:16:14 Apr 12, 2012
R T
Mkr1 1.698 GHz
Ref 11 dBm
#Atten 20 dB
-58.73 dBm
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 2.52 ms (601 pts)

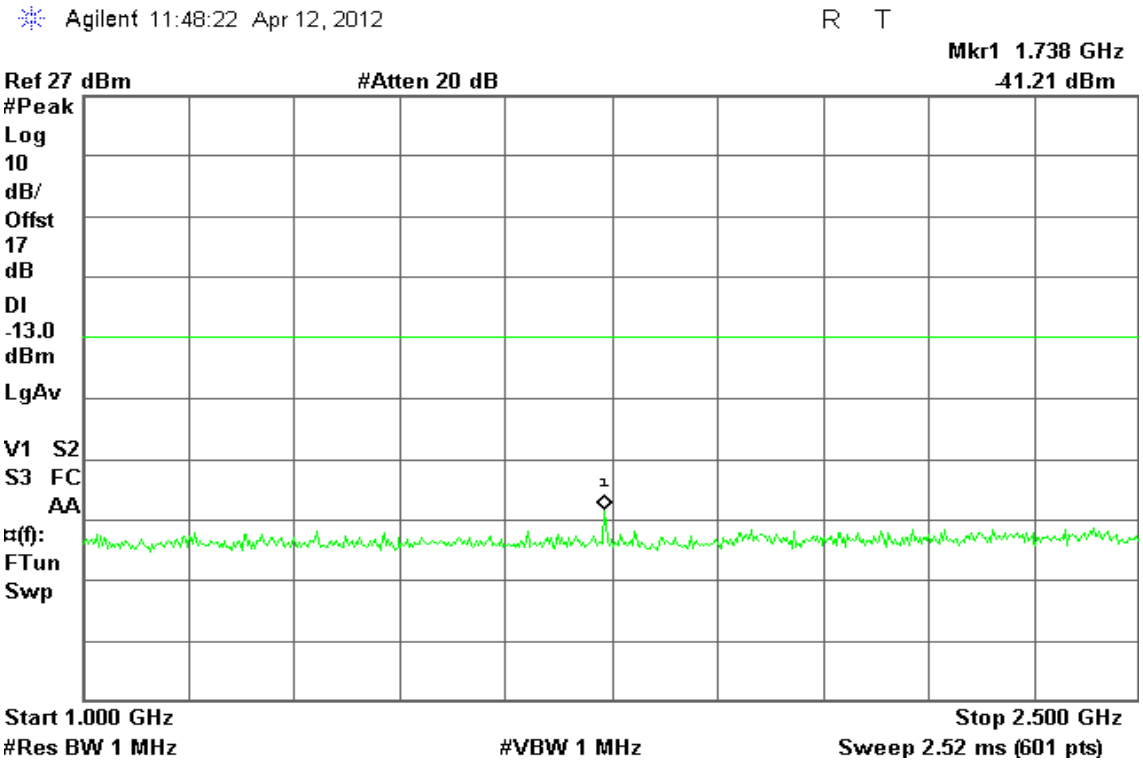

Agilent 13:16:40 Apr 12, 2012
R T
Mkr1 7.088 GHz
-55.16 dBm
Ref 11 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 12.52 ms (601 pts)

Mode 14: TDMA / 869 – 894MHz Downlink

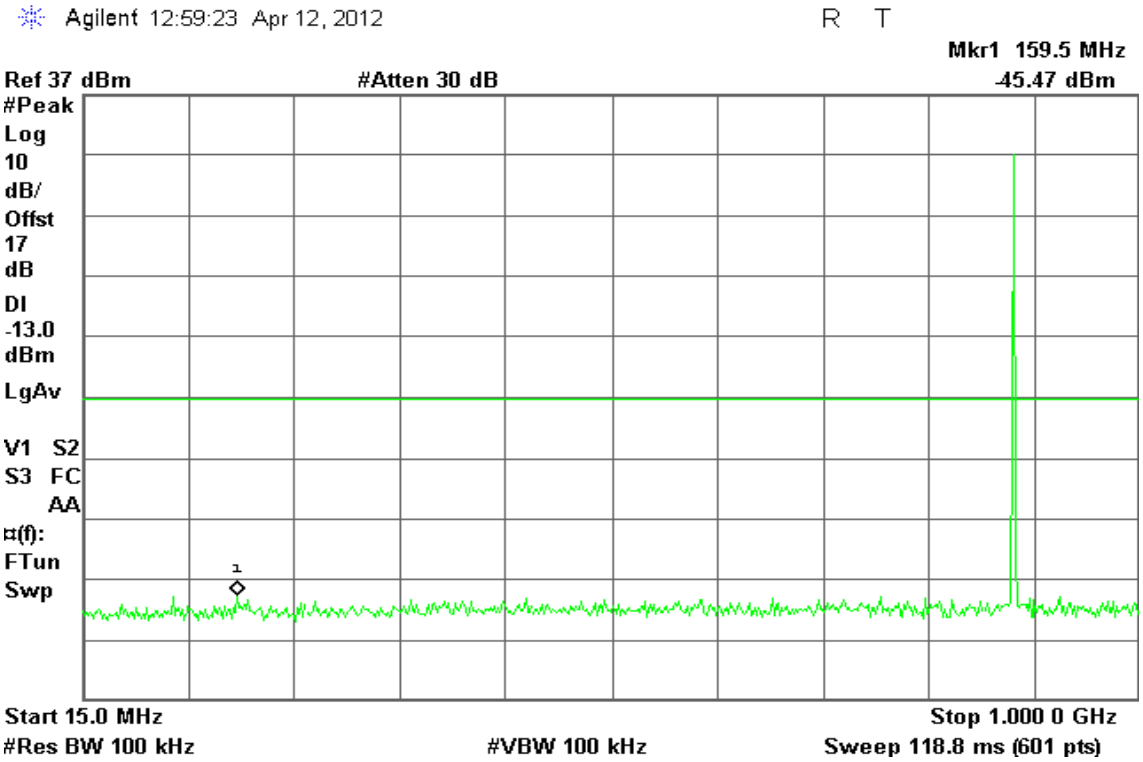
CH Low

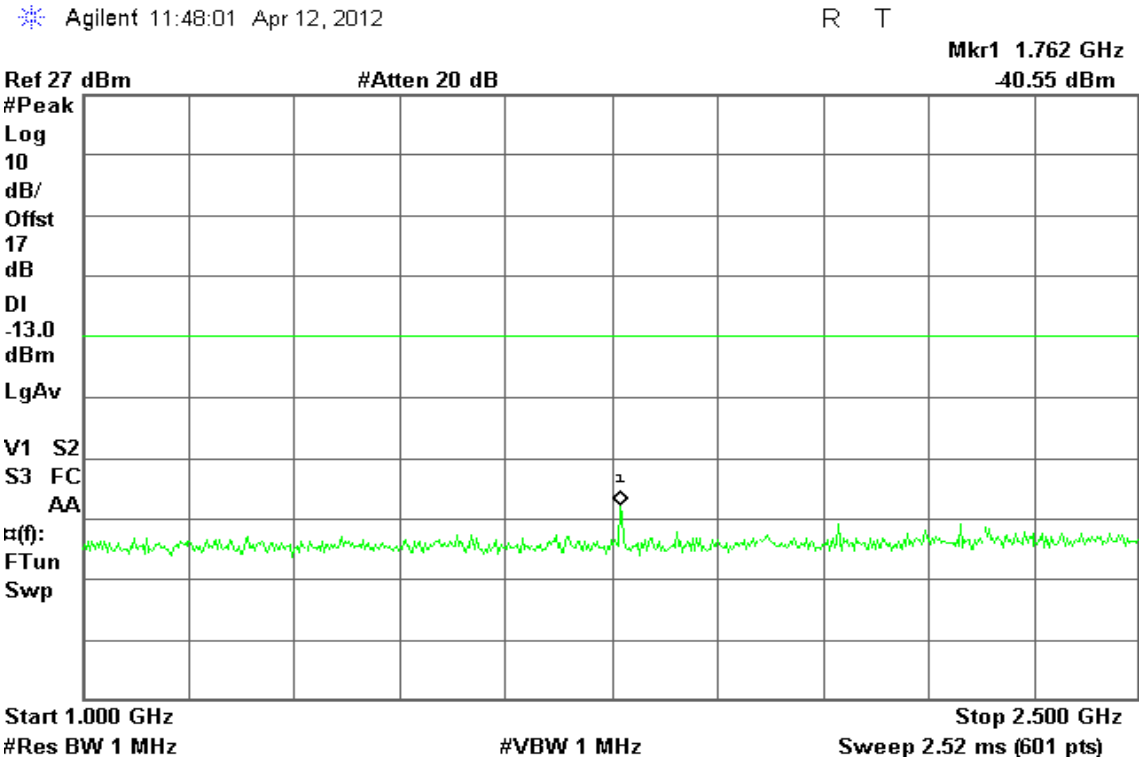


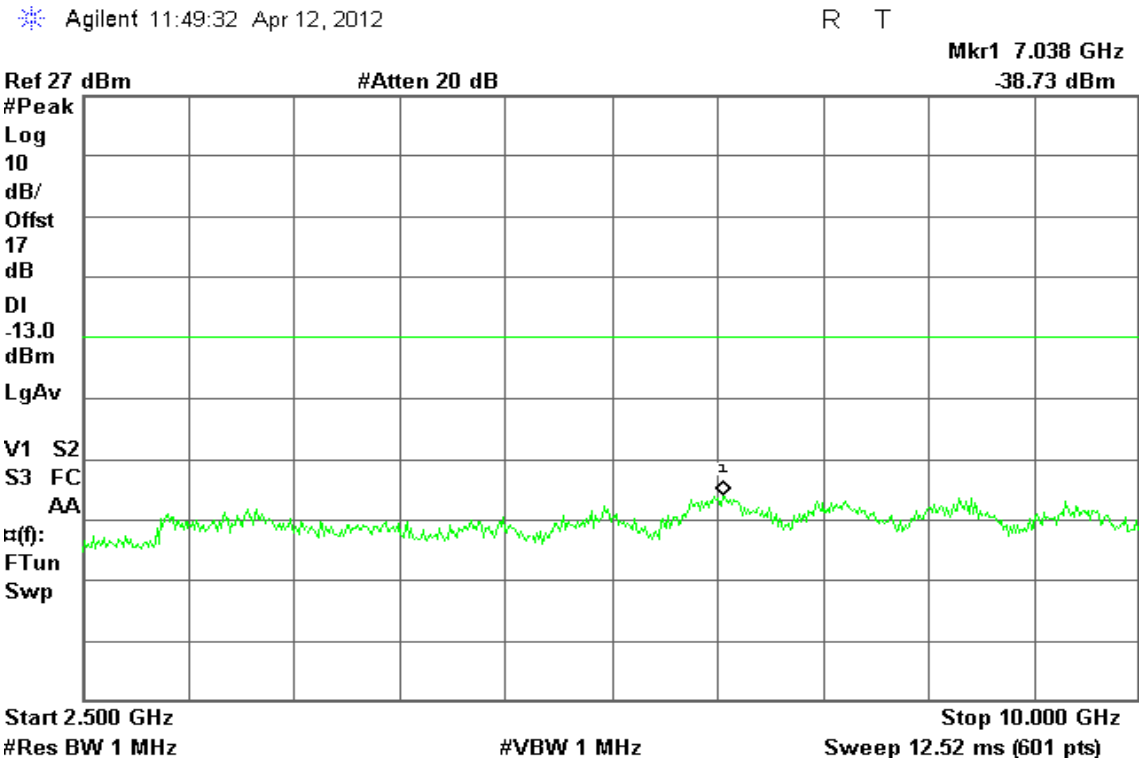



Agilent 11:48:22 Apr 12, 2012
R T
Mkr1 1.738 GHz
-41.21 dBm
Ref 27 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
Stop 2.500 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 2.52 ms (601 pts)

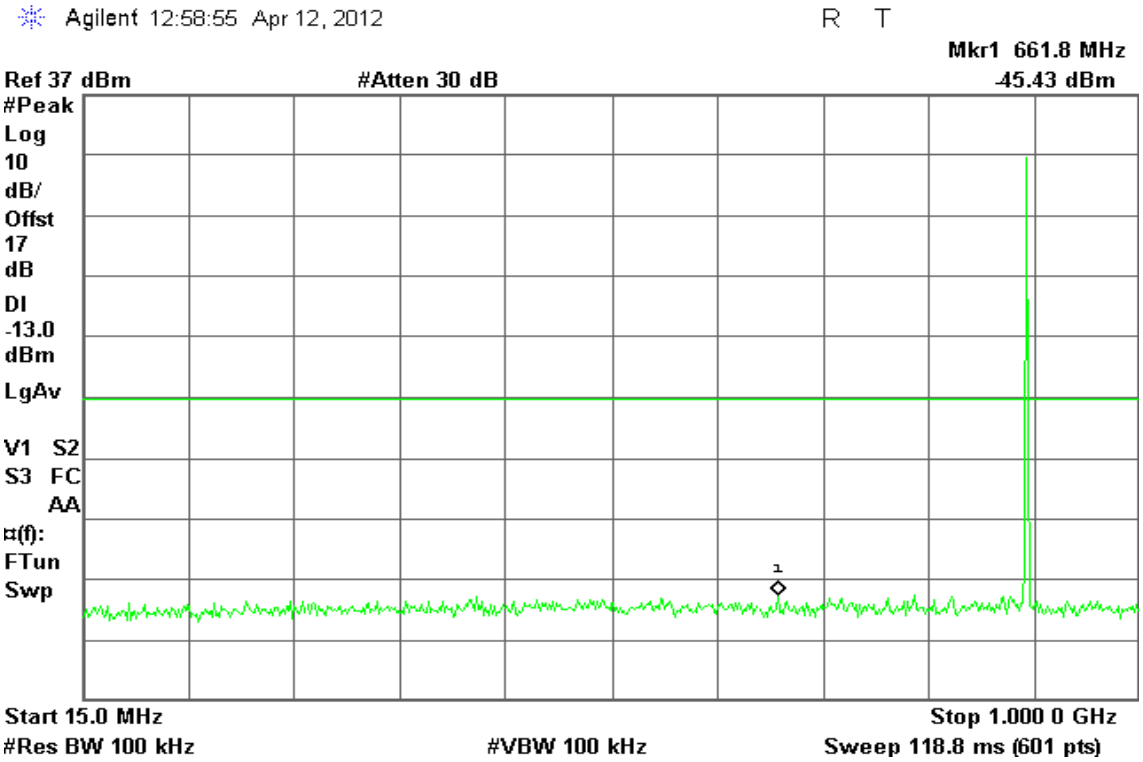
CH Mid

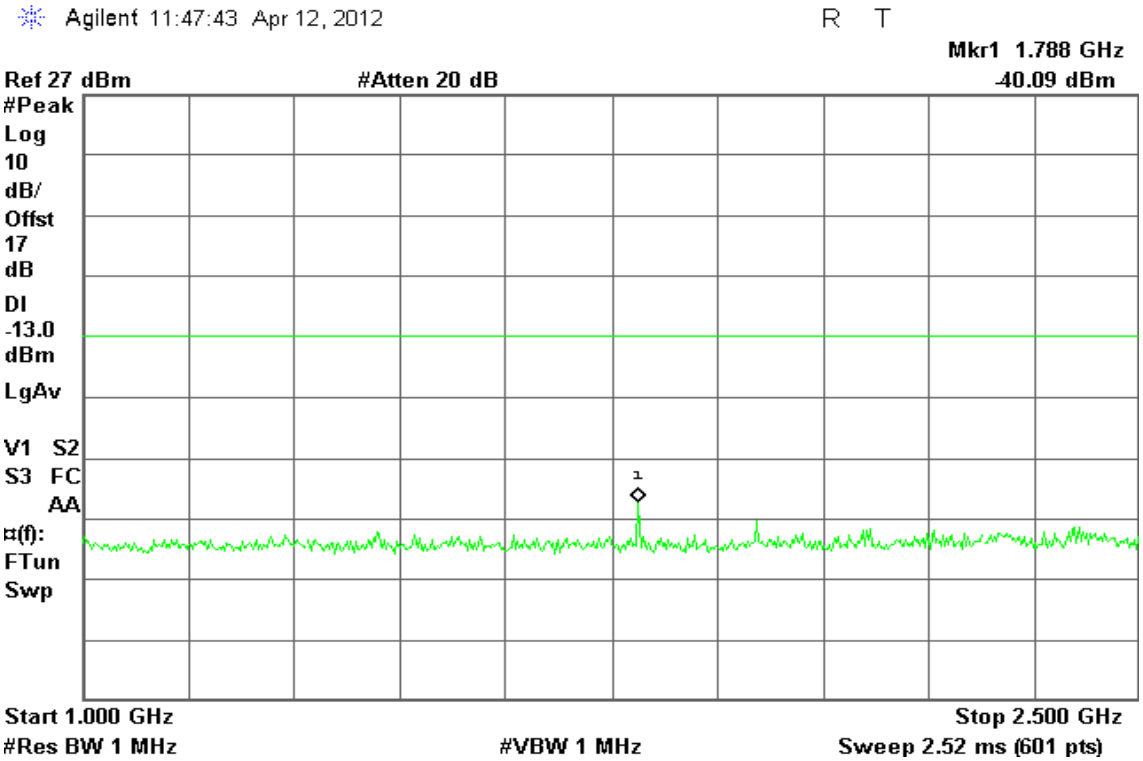

Agilent 12:59:23 Apr 12, 2012
R T
Mkr1 159.5 MHz
Ref 37 dBm
#Atten 30 dB
-45.47 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
#Res BW 100 kHz
#VBW 100 kHz
Stop 1.000 0 GHz
Sweep 118.8 ms (601 pts)

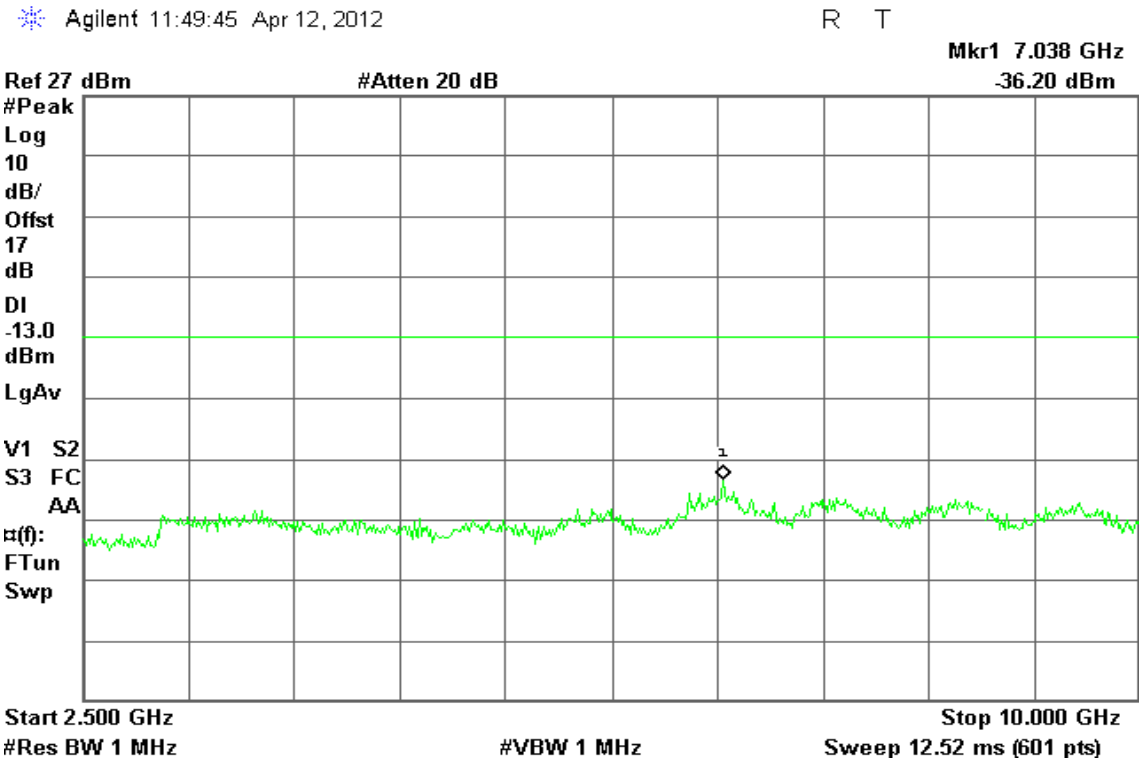

Agilent 11:48:01 Apr 12, 2012
R T
Mkr1 1.762 GHz
Ref 27 dBm
#Atten 20 dB
-40.55 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 2.500 GHz
Sweep 2.52 ms (601 pts)


Agilent 11:49:32 Apr 12, 2012
R T
Mkr1 7.038 GHz
-38.73 dBm
Ref 27 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 12.52 ms (601 pts)

CH High

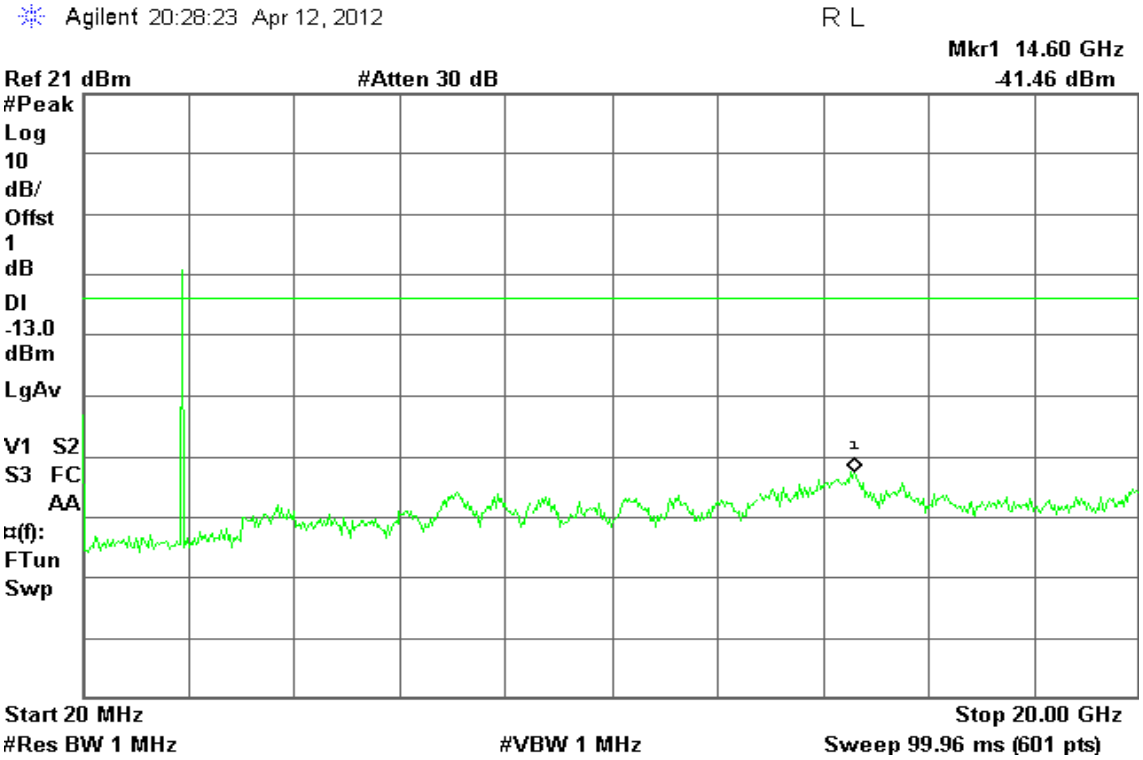

Agilent 12:58:55 Apr 12, 2012
R T
Mkr1 661.8 MHz
Ref 37 dBm
#Atten 30 dB
-45.43 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15.0 MHz
#Res BW 100 kHz
#VBW 100 kHz
Stop 1.000 0 GHz
Sweep 118.8 ms (601 pts)


Agilent 11:47:43 Apr 12, 2012
R T
Mkr1 1.788 GHz
Ref 27 dBm
#Atten 20 dB
-40.09 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 1.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 2.500 GHz
Sweep 2.52 ms (601 pts)

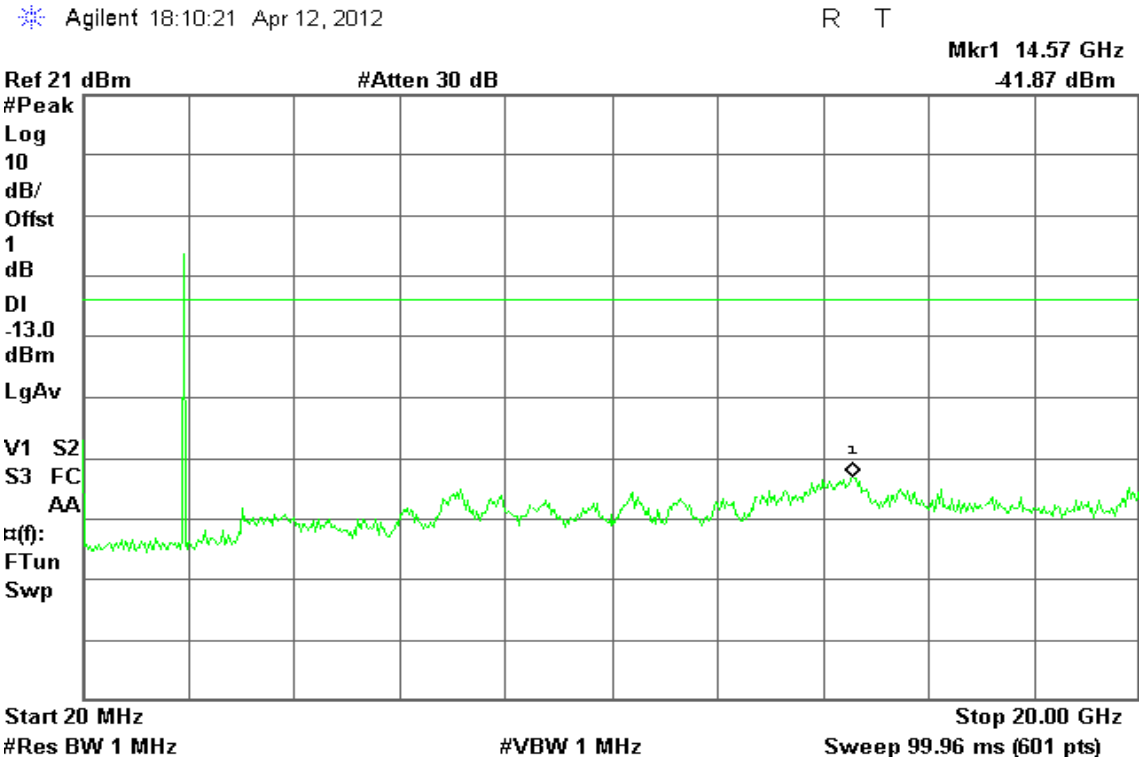

Agilent 11:49:45 Apr 12, 2012
R T
Mkr1 7.038 GHz
-36.20 dBm
Ref 27 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.500 GHz
Stop 10.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 12.52 ms (601 pts)

Mode 15: TDMA / 1850 – 1910MHz Uplink

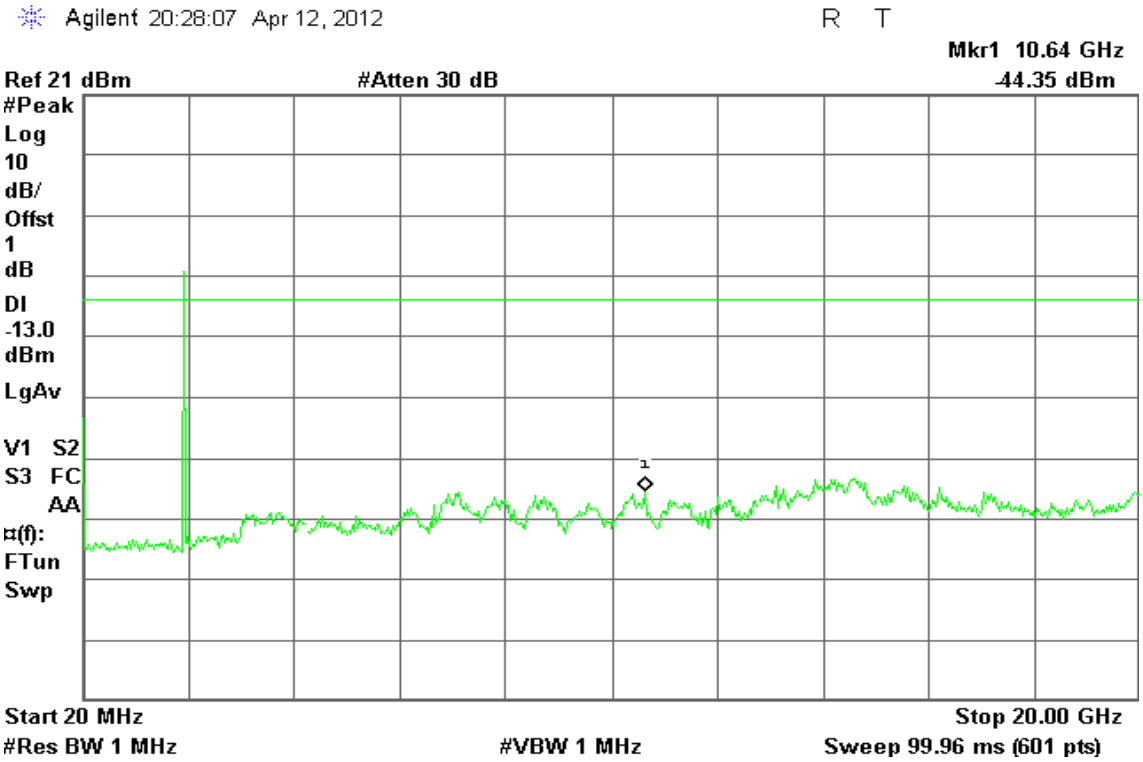
CH Low



CH Mid

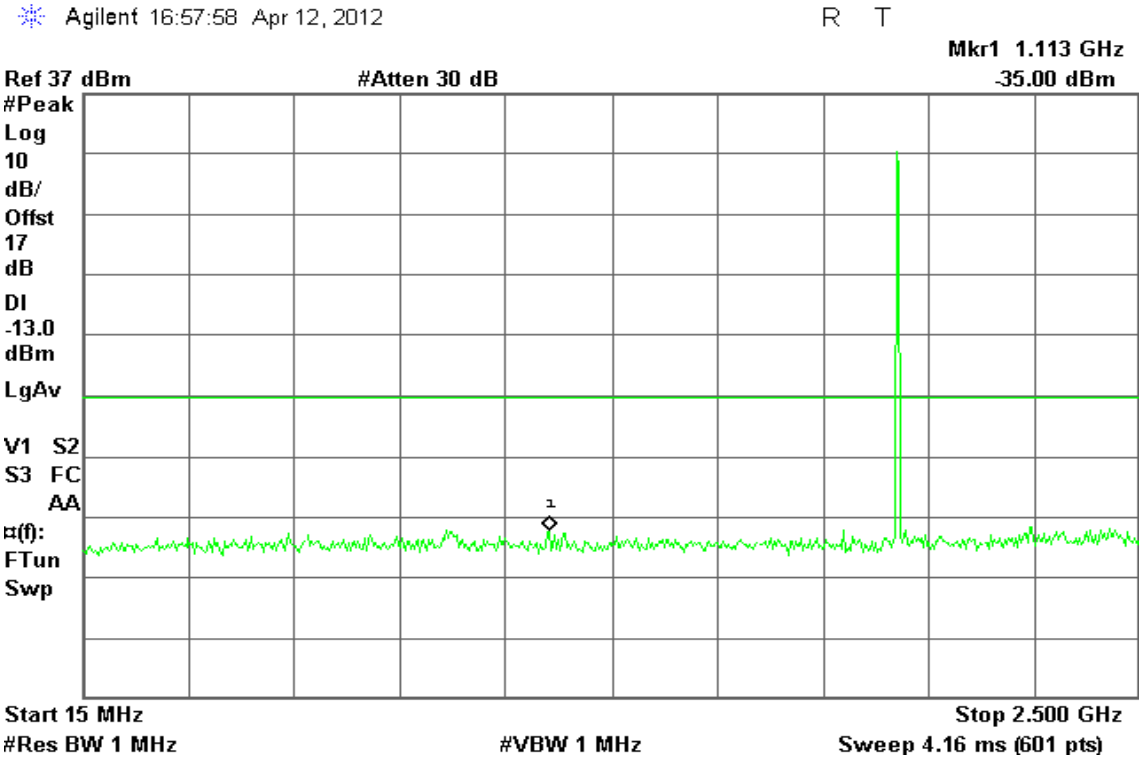


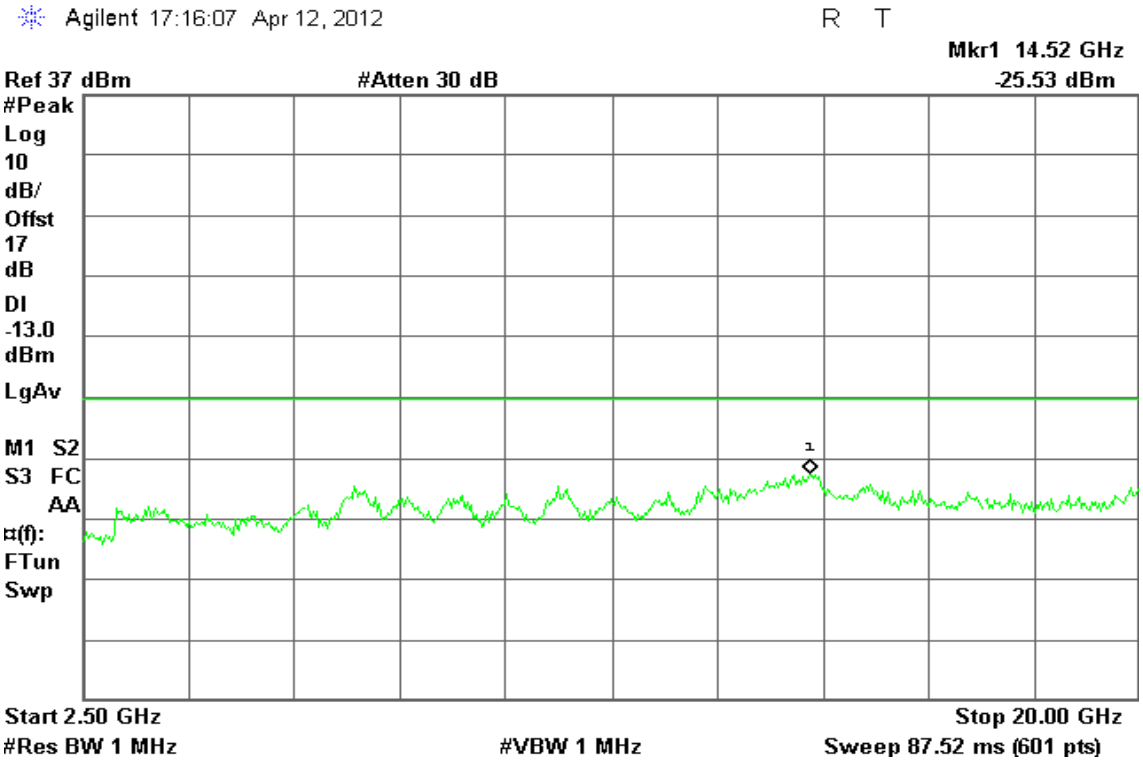
CH High


Agilent 20:28:07 Apr 12, 2012
R T
Mkr1 10.64 GHz
-44.35 dBm
Ref 21 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
1
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 20 MHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 20.00 GHz
Sweep 99.96 ms (601 pts)

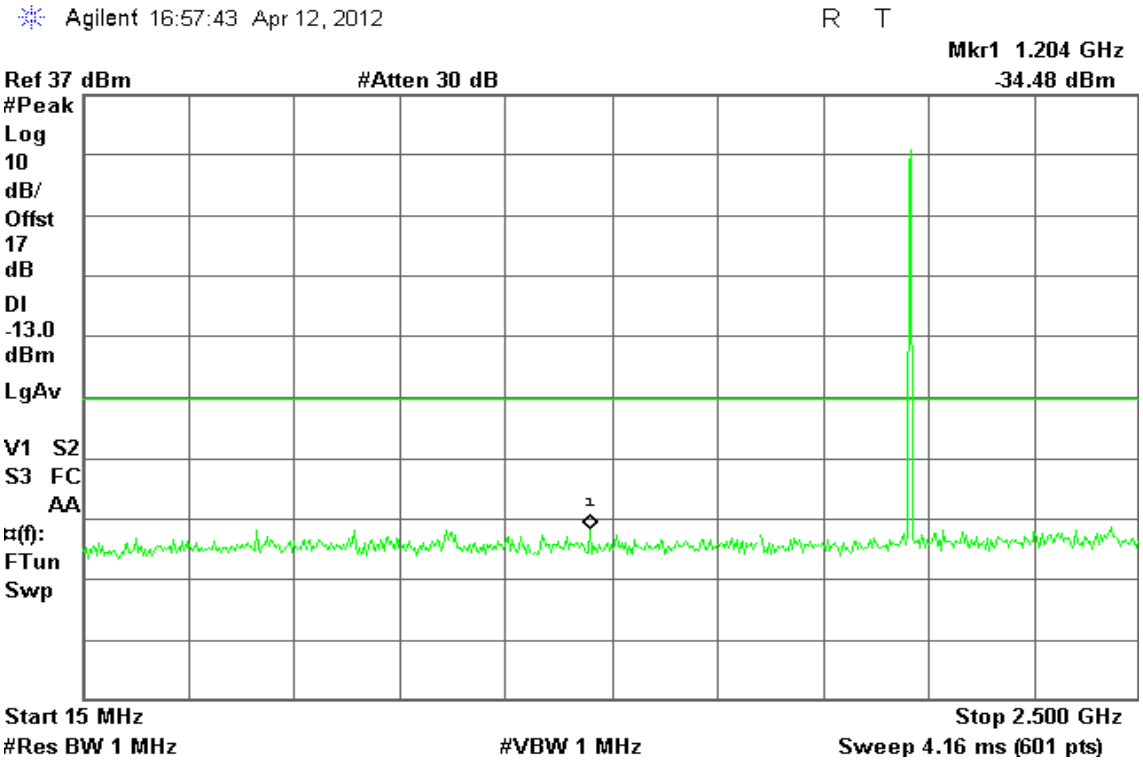
Mode 16: TDMA / 1930 – 1990MHz Downlink

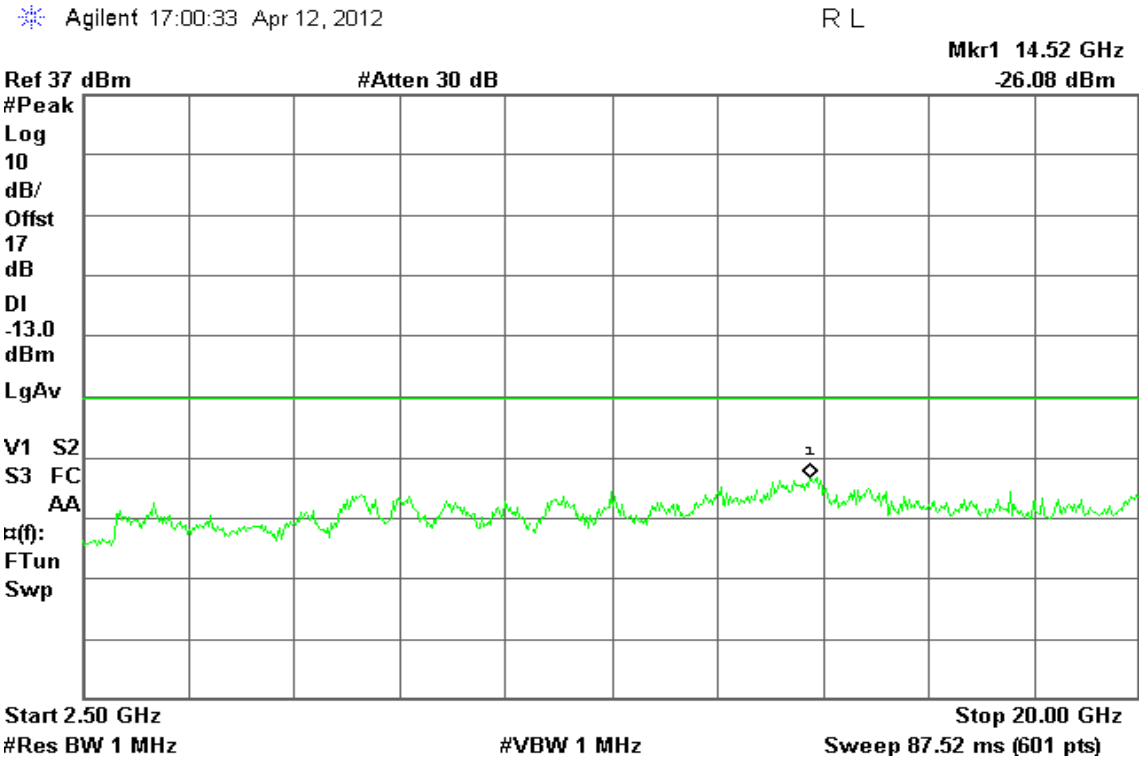
CH Low



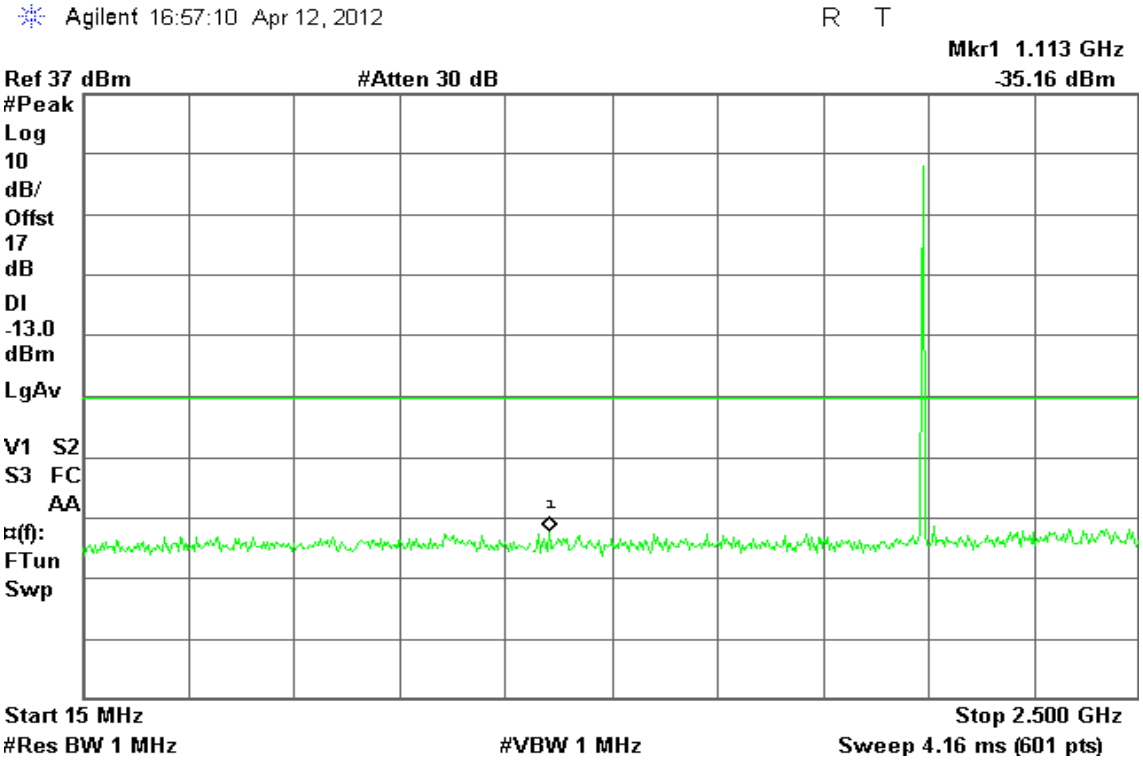


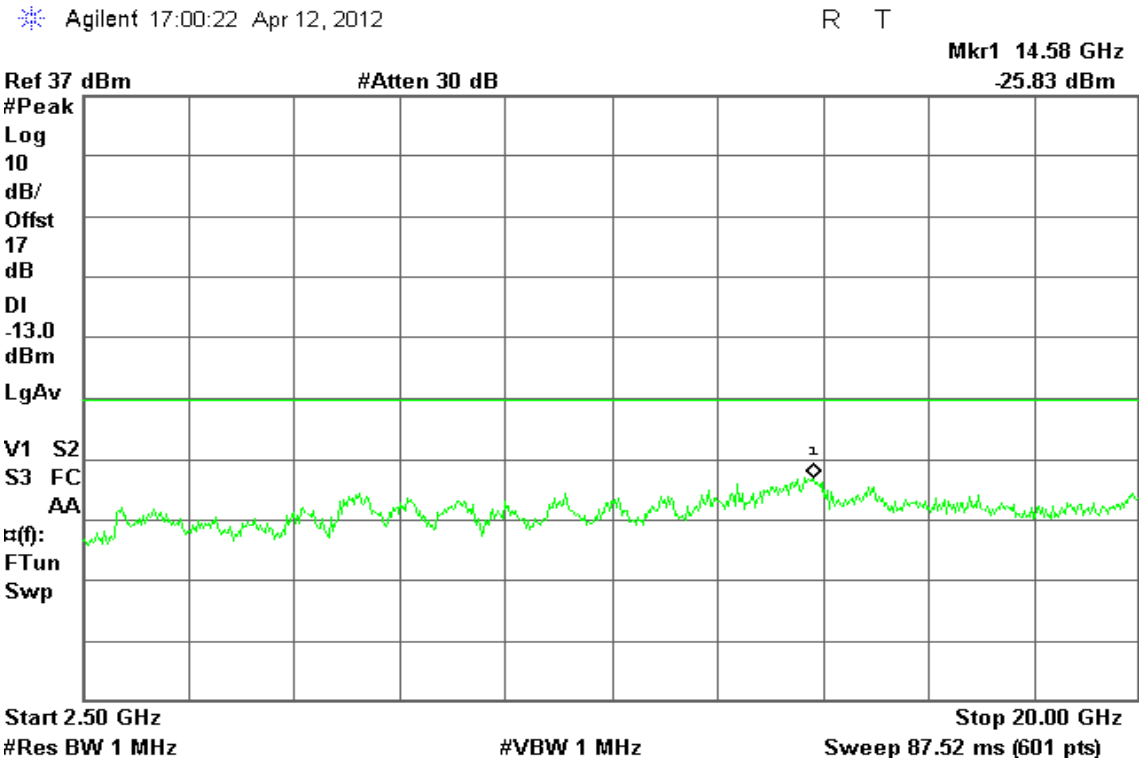
CH Mid


Agilent 16:57:43 Apr 12, 2012
R T
Mkr1 1.204 GHz
Ref 37 dBm
#Atten 30 dB
-34.48 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15 MHz
Stop 2.500 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)


Agilent 17:00:33 Apr 12, 2012
R L
Mkr1 14.52 GHz
Ref 37 dBm
#Atten 30 dB
-26.08 dBm
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.50 GHz
Stop 20.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 87.52 ms (601 pts)

CH High


Agilent 16:57:10 Apr 12, 2012
R T
Mkr1 1.113 GHz
-35.16 dBm
Ref 37 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 15 MHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 2.500 GHz
Sweep 4.16 ms (601 pts)


Agilent 17:00:22 Apr 12, 2012
R T
Mkr1 14.58 GHz
-25.83 dBm
Ref 37 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
17
dB
Dl
-13.0
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Start 2.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Stop 20.00 GHz
Sweep 87.52 ms (601 pts)

7.4 FIELD STRENGTH OF SPURIOUS RADIATION

LIMIT

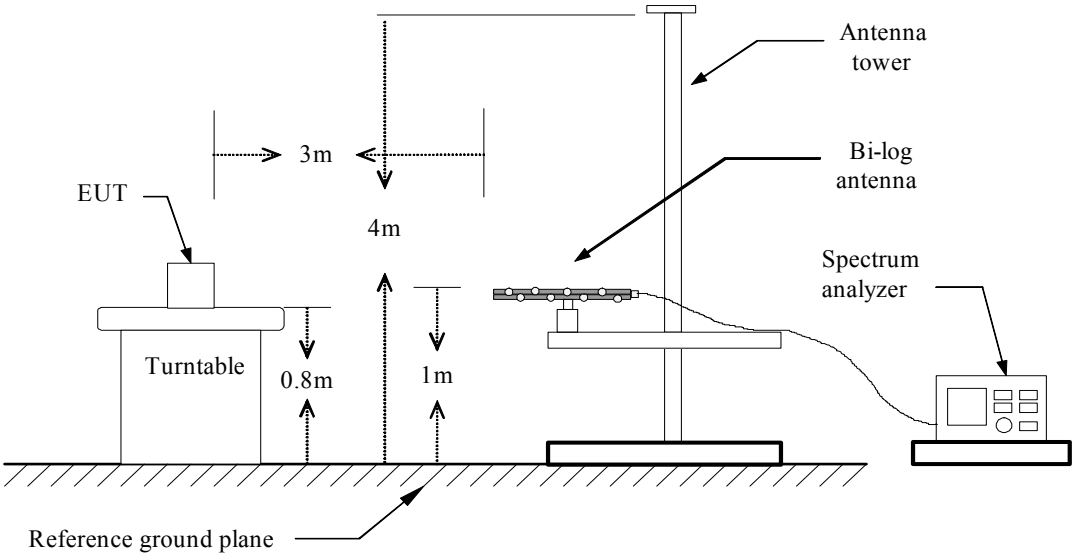
According to FCC §2.1053. RSS-132 (4.5.2), RSS-131 Cl 4.4.

DEFINITION:

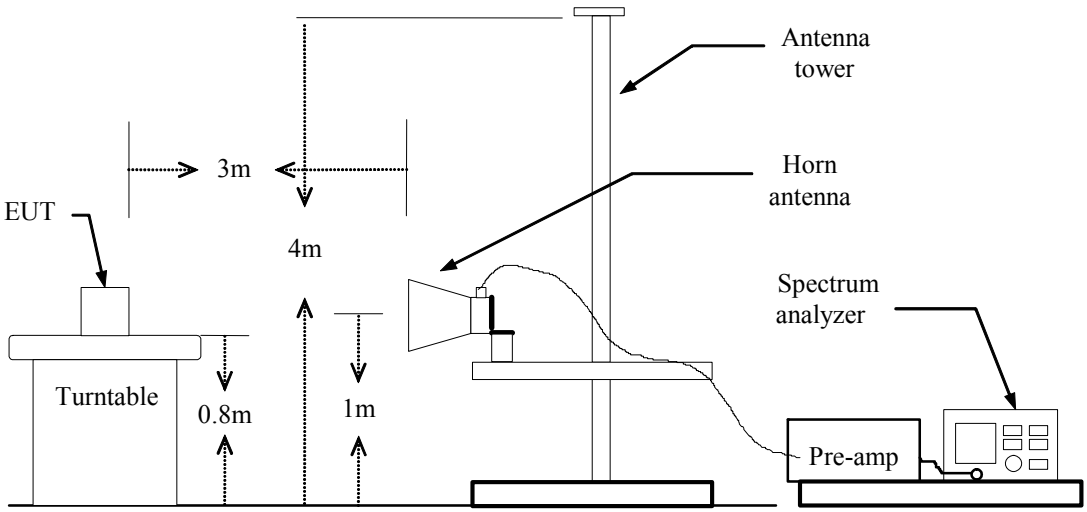
Emissions from the equipment when connected into a non-radiating load on a frequency or frequencies which are outside an occupied band sufficient to ensure transmission of information of required quality for the class of communication desired. The reduction in the level of these spurious emissions will not affect the quality of the information being transmitted.

Test Configuration

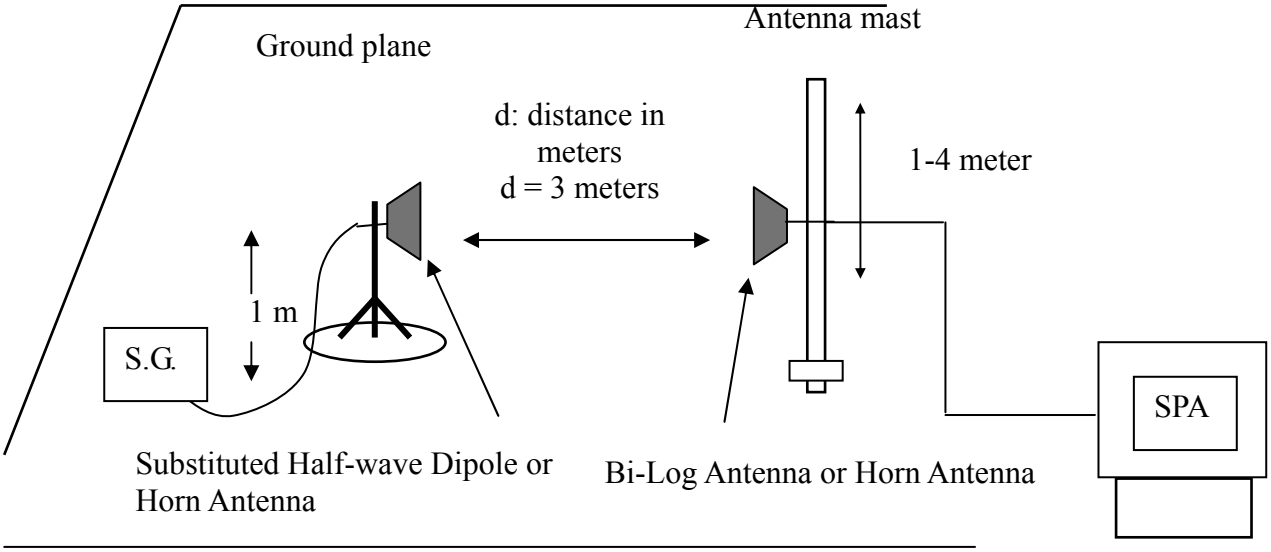
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



TEST PROCEDURE

The EUT was placed on a non-conductive, the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission were identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)
EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

TEST RESULTS

No non-compliance noted.

Test Data

Below 1GHz

Operation Mode: Mode 1: WCDMA Band II Uplink / CH Low **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
63.9500	-68.44	0.91	-2.02	-71.37	-13.00	-58.37	V
122.1500	-69.25	1.29	-1.93	-72.47	-13.00	-59.47	V
153.6750	-74.95	1.45	0.98	-75.42	-13.00	-62.42	V
267.6500	-80.85	1.96	5.22	-77.59	-13.00	-64.59	V
401.0250	-80.61	2.4	5.98	-77.03	-13.00	-64.03	V
531.9750	-81.89	2.76	6.07	-78.58	-13.00	-65.58	V
51.8250	-62.74	0.82	-4.37	-67.93	-13.00	-54.93	H
119.7250	-64.27	1.27	-2.09	-67.63	-13.00	-54.63	H
267.6500	-77.86	1.96	5.22	-74.60	-13.00	-61.60	H
401.0250	-72.37	2.4	5.98	-68.79	-13.00	-55.79	H
531.9750	-75.93	2.76	6.07	-72.62	-13.00	-59.62	H
878.7500	-69.87	3.46	6.66	-66.67	-13.00	-53.67	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 1: WCDMA Band II Uplink / CH Mid **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
63.9500	-69.23	0.91	-2.02	-72.16	-13.00	-59.16	V
119.7250	-69.45	1.27	-2.09	-72.81	-13.00	-59.81	V
267.6500	-81.74	1.96	5.22	-78.48	-13.00	-65.48	V
401.0250	-83.2	2.4	5.98	-79.62	-13.00	-66.62	V
531.9750	-81.21	2.76	6.07	-77.90	-13.00	-64.90	V
772.0500	-79.66	3.28	6.32	-76.62	-13.00	-63.62	V
51.8250	-61.79	0.82	-4.37	-66.98	-13.00	-53.98	H
119.7250	-64.18	1.27	-2.09	-67.54	-13.00	-54.54	H
267.6500	-78.92	1.96	5.22	-75.66	-13.00	-62.66	H
401.0250	-69.41	2.4	5.98	-65.83	-13.00	-52.83	H
531.9750	-75.88	2.76	6.07	-72.57	-13.00	-59.57	H
873.9000	-69.59	3.45	6.58	-66.46	-13.00	-53.46	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 1: WCDMA Band II Uplink / CH High **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
63.9500	-69.28	0.91	-2.02	-72.21	-13.00	-59.21	V
122.1500	-69.62	1.29	-1.93	-72.84	-13.00	-59.84	V
267.6500	-81.79	1.96	5.22	-78.53	-13.00	-65.53	V
401.0250	-80.77	2.4	5.98	-77.19	-13.00	-64.19	V
531.9750	-82.22	2.76	6.07	-78.91	-13.00	-65.91	V
895.7250	-78.94	3.51	6.65	-75.80	-13.00	-62.80	V
51.8250	-62.81	0.82	-4.37	-68.00	-13.00	-55.00	H
114.8750	-64.75	1.24	-1.9	-67.89	-13.00	-54.89	H
267.6500	-78.06	1.96	5.22	-74.80	-13.00	-61.80	H
401.0250	-72.22	2.4	5.98	-68.64	-13.00	-55.64	H
531.9750	-76.2	2.76	6.07	-72.89	-13.00	-59.89	H
873.9000	-69.8	3.45	6.58	-66.67	-13.00	-53.67	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 2: WCDMA Band II Downlink / CH Low **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
66.3750	-69.86	0.93	-1.91	-72.70	-13.00	-59.70	V
122.1500	-69.97	1.29	-1.93	-73.19	-13.00	-60.19	V
165.8000	-77.56	1.53	2.05	-77.04	-13.00	-64.04	V
398.6000	-81.91	2.38	5.98	-78.31	-13.00	-65.31	V
531.9750	-79.92	2.76	6.07	-76.61	-13.00	-63.61	V
878.7500	-80.61	3.46	6.66	-77.41	-13.00	-64.41	V
66.3750	-68.07	0.93	-1.91	-70.91	-13.00	-57.91	H
119.7250	-63.95	1.27	-2.09	-67.31	-13.00	-54.31	H
202.1750	-72.78	1.64	3.57	-70.85	-13.00	-57.85	H
401.0250	-76.39	2.4	5.98	-72.81	-13.00	-59.81	H
531.9750	-75.91	2.76	6.07	-72.60	-13.00	-59.60	H
810.8500	-77.46	3.34	6.2	-74.60	-13.00	-61.60	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 2: WCDMA Band II Downlink / CH Mid **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
66.3750	-70.38	0.93	-1.91	-73.22	-13.00	-60.22	V
119.7250	-70.83	1.27	-2.09	-74.19	-13.00	-61.19	V
328.2750	-84.68	2.17	5.71	-81.14	-13.00	-68.14	V
401.0250	-79.44	2.4	5.98	-75.86	-13.00	-62.86	V
531.9750	-80.51	2.76	6.07	-77.20	-13.00	-64.20	V
798.7250	-81.83	3.33	6.48	-78.68	-13.00	-65.68	V
66.3750	-67.58	0.93	-1.91	-70.42	-13.00	-57.42	H
117.3000	-64.83	1.26	-1.99	-68.08	-13.00	-55.08	H
245.8250	-80.74	1.82	5.52	-77.04	-13.00	-64.04	H
401.0250	-73.96	2.4	5.98	-70.38	-13.00	-57.38	H
531.9750	-75.37	2.76	6.07	-72.06	-13.00	-59.06	H
665.3500	-77.82	3.06	6.3	-74.58	-13.00	-61.58	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 2: WCDMA Band II Downlink / CH High **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
66.3750	-69.61	0.93	-1.91	-72.45	-13.00	-59.45	V
122.1500	-70.16	1.29	-1.93	-73.38	-13.00	-60.38	V
156.1000	-78.51	1.46	1.15	-78.82	-13.00	-65.82	V
401.0250	-78.54	2.4	5.98	-74.96	-13.00	-61.96	V
531.9750	-79.59	2.76	6.07	-76.28	-13.00	-63.28	V
890.8750	-80.75	3.5	6.7	-77.55	-13.00	-64.55	V
66.3750	-66.57	0.93	-1.91	-69.41	-13.00	-56.41	H
119.7250	-63.53	1.27	-2.09	-66.89	-13.00	-53.89	H
401.0250	-77.26	2.4	5.98	-73.68	-13.00	-60.68	H
531.9750	-75.56	2.76	6.07	-72.25	-13.00	-59.25	H
665.3500	-76.61	3.06	6.3	-73.37	-13.00	-60.37	H
784.1750	-76.81	3.31	6.15	-73.97	-13.00	-60.97	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 3: WCDMA Band V Uplink / CH Low **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
63.9500	-69.71	0.91	-2.02	-72.64	-13.00	-59.64	V
119.7250	-70.9	1.27	-2.09	-74.26	-13.00	-61.26	V
156.1000	-80.75	1.46	1.15	-81.06	-13.00	-68.06	V
267.6500	-81.76	1.96	5.22	-78.50	-13.00	-65.50	V
401.0250	-77.38	2.4	5.98	-73.80	-13.00	-60.80	V
531.9750	-82.07	2.76	6.07	-78.76	-13.00	-65.76	V
51.8250	-63.11	0.82	-4.37	-68.30	-13.00	-55.30	H
114.8750	-64.39	1.24	-1.9	-67.53	-13.00	-54.53	H
160.9500	-73.77	1.49	1.5	-73.76	-13.00	-60.76	H
267.6500	-78.21	1.96	5.22	-74.95	-13.00	-61.95	H
401.0250	-71.76	2.4	5.98	-68.18	-13.00	-55.18	H
531.9750	-75.8	2.76	6.07	-72.49	-13.00	-59.49	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 3: WCDMA Band V Uplink / CH Mid **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
63.9500	-69.23	0.91	-2.02	-72.16	-13.00	-59.16	V
119.7250	-69.92	1.27	-2.09	-73.28	-13.00	-60.28	V
173.0750	-80.9	1.58	2.85	-79.63	-13.00	-66.63	V
267.6500	-81.78	1.96	5.22	-78.52	-13.00	-65.52	V
401.0250	-78.63	2.4	5.98	-75.05	-13.00	-62.05	V
531.9750	-82.06	2.76	6.07	-78.75	-13.00	-65.75	V
51.8250	-62.87	0.82	-4.37	-68.06	-13.00	-55.06	H
117.3000	-63.69	1.26	-1.99	-66.94	-13.00	-53.94	H
160.9500	-73.25	1.49	1.5	-73.24	-13.00	-60.24	H
255.5250	-77.04	1.87	5.64	-73.27	-13.00	-60.27	H
401.0250	-74.05	2.4	5.98	-70.47	-13.00	-57.47	H
531.9750	-75.78	2.76	6.07	-72.47	-13.00	-59.47	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 3: WCDMA Band V Uplink / CH High **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
63.9500	-69.75	0.91	-2.02	-72.68	-13.00	-59.68	V
122.1500	-70.05	1.29	-1.93	-73.27	-13.00	-60.27	V
228.8500	-84.62	1.79	5.38	-81.03	-13.00	-68.03	V
267.6500	-81.52	1.96	5.22	-78.26	-13.00	-65.26	V
401.0250	-78.95	2.4	5.98	-75.37	-13.00	-62.37	V
531.9750	-81.08	2.76	6.07	-77.77	-13.00	-64.77	V
51.8250	-62.92	0.82	-4.37	-68.11	-13.00	-55.11	H
114.8750	-64.66	1.24	-1.9	-67.80	-13.00	-54.80	H
267.6500	-78.63	1.96	5.22	-75.37	-13.00	-62.37	H
401.0250	-76.41	2.4	5.98	-72.83	-13.00	-59.83	H
531.9750	-75.81	2.76	6.07	-72.50	-13.00	-59.50	H
665.3500	-78.74	3.06	6.3	-75.50	-13.00	-62.50	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 4: WCDMA Band V Downlink / CH Low **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
66.3750	-69.94	0.93	-1.91	-72.78	-13.00	-59.78	V
119.7250	-69.89	1.27	-2.09	-73.25	-13.00	-60.25	V
216.7250	-85.28	1.74	5.35	-81.67	-13.00	-68.67	V
354.9500	-83.94	2.25	5.75	-80.44	-13.00	-67.44	V
531.9750	-79.55	2.76	6.07	-76.24	-13.00	-63.24	V
679.9000	-83	3.09	6.5	-79.59	-13.00	-66.59	V
66.3750	-67.86	0.93	-1.91	-70.70	-13.00	-57.70	H
114.8750	-63.94	1.24	-1.9	-67.08	-13.00	-54.08	H
182.7750	-68.82	1.61	3.72	-66.71	-13.00	-53.71	H
240.9750	-77.8	1.81	5.34	-74.27	-13.00	-61.27	H
401.0250	-75.91	2.4	5.98	-72.33	-13.00	-59.33	H
531.9750	-75.2	2.76	6.07	-71.89	-13.00	-58.89	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 4: WCDMA Band V Downlink / CH Mid **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
66.3750	-70.12	0.93	-1.91	-72.96	-13.00	-59.96	V
122.1500	-72.28	1.29	-1.93	-75.50	-13.00	-62.50	V
272.5000	-78.04	1.99	5.15	-74.88	-13.00	-61.88	V
357.3750	-83.43	2.26	5.73	-79.96	-13.00	-66.96	V
531.9750	-80.12	2.76	6.07	-76.81	-13.00	-63.81	V
713.8500	-82.98	3.15	6.38	-79.75	-13.00	-66.75	V
66.3750	-67.15	0.93	-1.91	-69.99	-13.00	-56.99	H
114.8750	-60.81	1.24	-1.9	-63.95	-13.00	-50.95	H
146.4000	-71.07	1.41	0.35	-72.13	-13.00	-59.13	H
388.9000	-79.45	2.32	6	-75.77	-13.00	-62.77	H
531.9750	-75.27	2.76	6.07	-71.96	-13.00	-58.96	H
633.8250	-79.3	2.99	6.18	-76.11	-13.00	-63.11	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 4: WCDMA Band V Downlink / CH High **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
66.3750	-69.9	0.93	-1.91	-72.74	-13.00	-59.74	V
119.7250	-70.88	1.27	-2.09	-74.24	-13.00	-61.24	V
240.9750	-84.25	1.81	5.34	-80.72	-13.00	-67.72	V
401.0250	-83.65	2.4	5.98	-80.07	-13.00	-67.07	V
531.9750	-80.4	2.76	6.07	-77.09	-13.00	-64.09	V
670.2000	-83.17	3.07	6.3	-79.94	-13.00	-66.94	V
51.8250	-64.91	0.82	-4.37	-70.10	-13.00	-57.10	H
114.8750	-61.15	1.24	-1.9	-64.29	-13.00	-51.29	H
262.8000	-78.34	1.93	5.46	-74.81	-13.00	-61.81	H
359.8000	-79.52	2.27	5.7	-76.09	-13.00	-63.09	H
464.0750	-79.53	2.61	5.84	-76.30	-13.00	-63.30	H
531.9750	-76.16	2.76	6.07	-72.85	-13.00	-59.85	H

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Above 1GHz

Operation Mode: Mode 1: WCDMA Band II Uplink / CH Low **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
4517.500	-55.37	8.95	9.83	-54.49	-13.00	-41.49	V
N/A							
2977.500	-56.23	7.04	7.34	-55.93	-13.00	-42.93	H
4395.000	-54.3	8.64	9.72	-53.22	-13.00	-40.22	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 1: WCDMA Band II Uplink / CH Mid **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3852.500	-55.84	8.33	9.25	-54.92	-13.00	-41.92	V
N/A							
5042.500	-54.79	9.43	10.62	-53.60	-13.00	-40.60	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 1: WCDMA Band II Uplink / CH High **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
4937.500	-55.82	9.32	10.5	-54.64	-13.00	-41.64	V
N/A							
5392.500	-53.81	9.81	10.76	-52.86	-13.00	-39.86	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 2: WCDMA Band II Downlink / CH Low **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
4062.500	-55.01	8.42	9.45	-53.98	-13.00	-40.98	V
4692.500	-54.81	9.13	10.11	-53.83	-13.00	-40.83	V
N/A							
3117.500	-56.74	7.19	7.75	-56.18	-13.00	-43.18	H
5077.500	-54.92	9.44	10.63	-53.73	-13.00	-40.73	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 2: WCDMA Band II Downlink / CH Mid **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3152.500	-57.42	7.22	7.86	-56.78	-13.00	-43.78	V
5812.500	-53.4	10.42	10.86	-52.96	-13.00	-39.96	V
6792.500	-49.85	11.3	11.65	-49.50	-13.00	-36.50	V
N/A							
3905.000	-55.65	8.39	9.31	-54.73	-13.00	-41.73	H
5987.500	-52.48	10.78	10.9	-52.36	-13.00	-39.36	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 2: WCDMA Band II Downlink / CH High **Test Date:** November 5, 2011
Temperature: 26°C **Tested by:** Edward Lin
Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3117.500	-57.76	7.19	7.75	-57.20	-13.00	-44.20	V
4972.500	-55.86	9.37	10.56	-54.67	-13.00	-41.67	V
5602.500	-55.49	10.19	10.82	-54.86	-13.00	-41.86	V
N/A							
3082.500	-57.12	7.14	7.65	-56.61	-13.00	-43.61	H
4780.000	-55.3	9.28	10.25	-54.33	-13.00	-41.33	H
6635.000	-49.42	11.25	11.46	-49.21	-13.00	-36.21	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 3: WCDMA Band V Uplink / CH Low **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1665.000	-56.39	5.06	6	-55.45	-13.00	-42.45	V
4675.000	-55.27	9.13	10.08	-54.32	-13.00	-41.32	V
N/A							
1665.000	-59.87	5.06	6	-58.93	-13.00	-45.93	H
3572.500	-55.97	8.04	8.97	-55.04	-13.00	-42.04	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 3: WCDMA Band V Uplink / CH Mid **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1682.500	-51.37	5.09	5.97	-50.49	-13.00	-37.49	V
4255.000	-56.14	8.55	9.6	-55.09	-13.00	-42.09	V
N/A							
1682.500	-55.65	5.09	5.97	-54.77	-13.00	-41.77	H
2522.500	-57.01	6.38	6.16	-57.23	-13.00	-44.23	H
3940.000	-55.12	8.37	9.34	-54.15	-13.00	-41.15	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 3: WCDMA Band V Uplink / CH High **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1700.000	-49.29	5.11	5.94	-48.46	-13.00	-35.46	V
5462.500	-55.16	9.89	10.79	-54.26	-13.00	-41.26	V
N/A							
1700.000	-52.46	5.11	5.94	-51.63	-13.00	-38.63	H
2540.000	-54.96	6.41	6.2	-55.17	-13.00	-42.17	H
5602.500	-53.39	10.19	10.82	-52.76	-13.00	-39.76	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 4: WCDMA Band V Downlink / CH Low **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1665.000	-51.12	5.06	6	-50.18	-13.00	-37.18	V
1875.000	-56.63	5.41	5.63	-56.41	-13.00	-43.41	V
5042.500	-55.06	9.43	10.62	-53.87	-13.00	-40.87	V
N/A							
1665.000	-55.87	5.06	6	-54.93	-13.00	-41.93	H
3747.500	-55.68	8.23	9.15	-54.76	-13.00	-41.76	H
6827.500	-48.59	11.36	11.69	-48.26	-13.00	-35.26	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 4: WCDMA Band V Downlink / CH Mid **Test Date:** November 5, 2011

Temperature: 26°C **Tested by:** Edward Lin

Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1682.500	-47.87	5.09	5.97	-46.99	-13.00	-33.99	V
1875.000	-57.08	5.41	5.63	-56.86	-13.00	-43.86	V
4710.000	-55.72	9.15	10.14	-54.73	-13.00	-41.73	V
6530.000	-50.42	11.1	11.34	-50.18	-13.00	-37.18	V
N/A							
1682.500	-51.67	5.09	5.97	-50.79	-13.00	-37.79	H
2312.500	-56.52	6.08	5.84	-56.76	-13.00	-43.76	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: Mode 4: WCDMA Band V Downlink / CH High **Test Date:** November 5, 2011
Temperature: 26°C **Tested by:** Edward Lin
Humidity: 45 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1700.000	-44.91	5.11	5.94	-44.08	-13.00	-31.08	V
1875.000	-56.98	5.41	5.63	-56.76	-13.00	-43.76	V
4290.000	-56.17	8.59	9.63	-55.13	-13.00	-42.13	V
5970.000	-53.49	10.7	10.89	-53.30	-13.00	-40.30	V
N/A							
1700.000	-50.07	5.11	5.94	-49.24	-13.00	-36.24	H
2540.000	-56.47	6.41	6.2	-56.68	-13.00	-43.68	H
5952.500	-52.53	10.63	10.89	-52.27	-13.00	-39.27	H
N/A							

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

7.5 MEASUREMENT OF FREQUENCY STABILITY

LIMIT

According to RSS-131.

The EUT is a power amplifier and contains no circuitry for generating or stabilizing the RF signal. The driver will be responsible for this task.

7.6 FREQUENCY SPECTRUM TO BE INVESTIGATED

LIMIT

According to FCC §2.1057
The Frequency was searched from the lowest radio frequency generated in the equipment through the 10th harmonic of the carrier frequency.