SGS-CSTC Standards Technical Services Co., Ltd.

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Email: sgs_internet_operations@sgs.com
FEDERAL COMMUNICATIONS COMMISSION
Registration number: 282399

TEST REPORT

Application No.:	GZEM1105001312RF
Applicant:	Comba Telecom Ltd.
FCC ID:	PX8TC-2000
Equipment Under Test (EUT):	
Product Name:	AWS Base Station Power Amplifier
Model No.:	TC-2000
Trade Mark:	Comba
Frequency Band:	Downlink: 2110MHz to 2155MHz
	Uplink: 1710MHz to 1755MHz
Standards:	FCC Part 27, FCC Part 2
Date of Receipt:	2011-04-24
Date of Test:	2011-04-25 to 2011-05-30
Date of Issue:	2011-11-08
Test Result :	**Pass***

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

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Strong Yao

Manager

Please refer to section 3 of this report for further details.

2 Version

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
00		2011-11-08		Original

Authorized for issue by:				
Tested By		Daniel He **(Daniel Hew) /Project Engineer**		2011-05-13 to 2011-05-30 **Date**
Prepared By		Daniel He **(Daniel Hew) /Clerk**		2011-09-15 **Date**
Checked By		Jeffrey Chen **(Jeffrey Chen) /Reviewer**		2011-11-08 **Date**

3 Test Summary

Test Item	Test Requirement	Test Method	Result
Output Power	FCC part 27.50	FCC part 2.1046 2-11-04/EAB/RF	PASS
Conducted Spurious Emissions	FCC part 27.53	FCC part 2.1051 2-11-04/EAB/RF	PASS
Band Edge& Intermodulation	FCC part 27.53	FCC part 2.1051 2-11-04/EAB/RF	PASS
Radiated Spurious Emissions	FCC part 27.53	FCC part 2.1053 2-11-04/EAB/RF	PASS
Occupied Bandwidth	FCC part 2.1049	FCC part 2.1049 2-11-04/EAB/RF	PASS
Out of Band Rejection	2-11-04/EAB/RF	2-11-04/EAB/RF	PASS
Frequency Stablility	FCC part 27.54	FCC part 2.1055	NA*

Remark:

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

NA*: Frequency stability is not applicable because the device contains no frequency translation circuit.

4 Contents

5 General Information

5.1 Client Information

Applicant Name:	Comba Telecom Ltd.
Applicant Address:	611 East Wing, No. 8 Science Park West Avenue, Hong Kong Science Park,Tai Po, Hong Kong
Manufacturer:	Comba Telecom Systems(Guangzhou)Ltd.
Address of Manufacturer:	No.10 Shenzhou Road, Guangzhou Science City
Factory:	Comba Telecom Systems(Guangzhou)Ltd.
Address of Factory:	No.10 Shenzhou Road, Guangzhou Science City

5.2 General Description of E.U.T.

Product Name:	AWS Base Station Power Amplifier
Model No.:	TC-2000
Power Supply:	120V AC 50/60Hz
DC Voltage & Current into Final AMPLIFIER	DC 28V, 19A
Operating Temperature:	-25 °C to +50°C
Operating Humidity:	≤ 95%

5.3 Details of E.U.T.

Type of Modulation	CDMA&WCDMA
Emission Designator:	F9W(CDMA), GXW (WCDMA)
Frequency Band:	AWS Band: Downlink: 2110MHz to 2155MHz Uplink: 1710MHz to 1755MHz
Norminal Power Output:	51dBm for downlink 10dBm for uplink
Norminal System Gain:	15dB for downlink 11dB for uplink

5.4 Product Description

TC-2100(MCPA)AWS band-selective Base Station Power Amplifier provides both uplink and downlink amplification for multiple carriers and extends the coverage that decreases the cost and improves the service quality. The unit is fit for outdoor installation and can boost the transmitted power to extend cell coverage. The uplink low-noise amplifier (LNA) serves to improve the receiver sensitivity of the BTS to cope with the extended cell coverage in the downlink.

The unit is powered by both AC and DC power supply options, including 220VAC and 110VAC and -48VDC. It consists of duplexers (DPX), uplink LNA, downlink MCPA, RF by-pass switch, Main Control Unit (MCU), distribution board, power supply unit (PSU), surge protector, wireless modem and Li-ion backup battery. Parameter settings can be done locally via a PC with installed OMT software, or remotely via wireless modem using OMT or OMC software. Through the wireless modem, the alarm data can be transmitted to the OMC automatically, or be sent as SMS to a predefined cellular device.

5.5 Standards Applicable for Testing

The standard used was FCC part 2 & FCC part 27

5.6 Test Location

All tests were performed at:
SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory,
198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663
Tel: +86 20 82155555 Fax: +86 20 82075059
No tests were sub-contracted.

5.7 Other Information Requested by the Customer

None.

5.8 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **NVLAP (Lab Code: 200611-0)**

  SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized unc the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

- **ACMA**

  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for tl Australian C-Tick mark as a result of our NVLAP accreditation.

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

  Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

- **FCC (Registration No.: 282399)**

  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance let from the FCC is maintained in our files. Registration 282399, May 31, 2002.

- **Industry Canada (Registration No.: 4620B-1)**

  The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., L has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

  Date of Registration: February 18, 2009.Valid until February 18, 2011.

- **VCCI (Registration No.: R-2460 and C-2584)**

  The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Service Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2460 and C-2584 respectively.

- **CBTL (Lab Code: TL129)**

  SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IECEE 01:2006-10 and Rul of procedure IECEE 02:2006-10, and the relevant IECEE CB-Scheme Operational documents.

  This certificate was issued August 6, 2009 and valid until May 19, 2012.

6 Equipment Used during Test

RE in Chamber						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Due date (YYYY-MM-DD)	Calibration Interval
EMC0525	Compact Semi-Anechoic Chamber	ChangZhou ZhongYu	N/A	N/A	2012-09-06	2Y
EMC0522	EMI Test Receiver	Rohde & Schwarz	ESIB26	100283	2012-01-17	1Y
EMC0056	EMI Test Receiver	Rohde & Schwarz	ESCI	10036	2012-06-01	1Y
EMC0514	Coaxial cable	SGS	N/A	N/A	2011-12-08	1Y
EMC2025	Trilog Broadband Antenna 30-3000MHz	SCHWARZBECK MESS-ELEKTRONIK	VULB 9163	9163-450	2011-10-28	1Y
EMC0524	Bi-log Type Antenna	Schaffner -Chase	CBL6112B	2966	2011-12-20	1Y
EMC0519	Bilog Type Antenna	Schaffner -Chase	CBL6143	5070	2011-12-20	1Y
EMC2026	Horn Antenna 1-18GHz	R&S	BBHA 9120D	9120D-841	2011-10-28	1Y
EMC0518	Horn Antenna	Rohde & Schwarz	HF906	100096	2012-08-29	1Y
EMC0521	1-26.5 GHz Pre-Amplifier	Agilent	8449B	3008A01649	2012-01-17	1Y
EMC0049	Amplifier	Agilent	8447D	2944A10862	2012-04-21	1Y
EMC0075	310N Amplifier	Sonama	310N	272683	2011-10-25	1Y
EMC0523	Active Loop Antenna	EMCO	6502	42963	2011-11-17	1Y
EMC2041	Broad-Band Horn Antenna(14)15-26.5(40)GHz	SCHWARZBECK MESS-ELEKTRONI	BBHA 9170	9170-375	2012-06-01	1Y
EMC0530	10m Semi- Anechoic Chamber	ETS	N/A	N/A	2012-05-10	2Y

Conducted Emission						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Due date (YYYY-MM-DD)	Calibration Interval
EMC0306	Shielding Room	Zhong Yu	8 x 3 x 3.8 m^3	N/A	N/A	N/A
EMC0118	Two-line v-netwok	R&S	ENV216	100359	2012-08-29	1Y
EMC0102	LISN	SCHAFFNER CHASE	MN2050D/1	1421	2011-11-23	1Y
EMC2046	Artificial Mains Network (LISN)	AFJ Instruments	LT32C	S.N.32031120150	2012-05-18	1Y
EMC0506	EMI Test Receiver	Rohde & Schwarz	ESCS30	100085	2011-11-24	1Y
EMC0107	Coaxial Cable	SGS	2m	N/A	2012-07-18	1Y
EMC0106	Voltage Probe	SGS	N/A	N/A	N/A	1Y
EMC0120	8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T8-02	20550	2012-01-17	1Y
EMC0121	4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T4-02	20549	2012-01-17	1Y
EMC0122	2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T2-02	20548	2012-01-17	1Y

	Other equipment					
No:	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date (dd-mm-yy)**	**Cal. Due Date (dd-mm-yy)**
NA	Power Meter	Agilent	E4419B	MY45100856	2010.6.12	2011.6.11
NA	Signal Generator	Agilent	E4437B	US39260800	2010.6.17	2011.6.16
NA	Signal Generator	Agilent	E4438C	US39260800	2010.6.14	2011.6.14
NA	Spectrum Analyzer	Agilent	N9020A	MY48011385	2010.6.14	2011.6.14
NA	Spectrum Analyzer	Rohde&Schwarz	FSQ 8	SN0805772	2010.6.14	2011.6.14
NA	Attenuator	SHX manufacturer	30dB/50W	09031816	----	----
NA	Attenuator	SHX manufacturer	40dB/50W	09031312	----	----
NA	Attenuator	SHX manufacturer	50dB/50W	09053023	----	----
NA	Signal Generator	Rohde&Schwarz	SMU 200A	08103303	2010.6.12	2011.6.11

General used equipment						
No.	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Due date (YYYY-MM-DD)**	**Calibration Interval**
EMC0006	DMM	Fluke	73	70681569	2011-12-16	1Y
EMC0007	DMM	Fluke	73	70671122	2011-12-16	1Y

7 Test Results

7.1 E.U.T. test conditions

Input voltage:	120V AC
Operating Environment:	
Temperature:	22°C ~26°C
Humidity:	46%~56% RH
Atmospheric Pressure:	990~1005mbar
Test Requirement:	The RF output power of the EUT was measured at the antenna port, by adjusting the input power of signal generter to drive the EUT to get to maximum output power point and keep the EUT at maximum gain setteing for all tests. The device should be tested on both uplink and downlink. For detail test Modulation and Frequency, please refer to 7.2.

Remark:
GENERAL DEFINITIONS FOR CERTIFICATION PURPOSES:
The following three general definitions follow from those stated in the Part 22, 24, and 90 rule sections as listed above. Two of the definitions replace previous EAB internal definitions given for booster, repeater and extender. The general term “extender” is the same as booster, but booster should be used rather than extender. The general term “translator” is the same as repeater, but repeater should be used rather than translator.
External radio frequency power amplifier (ERFPA) - any device which, (1) when used in conjunction with a radio transmitter signal source, is capable of amplification of that signal, and (2) is not an integral part of a radio transmitter as manufactured. The EAS equipment class AMP is used only for an ERFPA device inserted between a transmitter (TNB/PCB) and an antenna (has only one antenna port)
Booster is a device that automatically reradiates signals from base transmitters without channel translation, for the purpose of improving the reliability of existing service by increasing the signal strength in dead spots. An “in-building radiation system” is a signal booster. These devices are not intended to extend the size of coverage from the originating base station. A booster can be either single or multiple channels***.***
Repeater is a device that retransmits the signals of other stations. Repeaters are different from boosters in that they can include frequency translation and can extend coverage beyond the design of the original base station. A repeater is typically single channel but can also be multiple channels.
ERFPA (AMP) and boosters/repeaters (TNB/PCB) can generally be authorized for all rule parts except 15 and 18.
Tests should be done with each typical signal. e.g., for F3E emissions use 2500 Hz with 2.5 or 5 kHz deviation. Use of CW signal for some tests is acceptable in lieu of actual emission, in some cases when CW signal gives worst case.
The EUT is a *ERFPA* and belongs to *AMP* class.

7.2 Test **Procedure** & Measurement Data

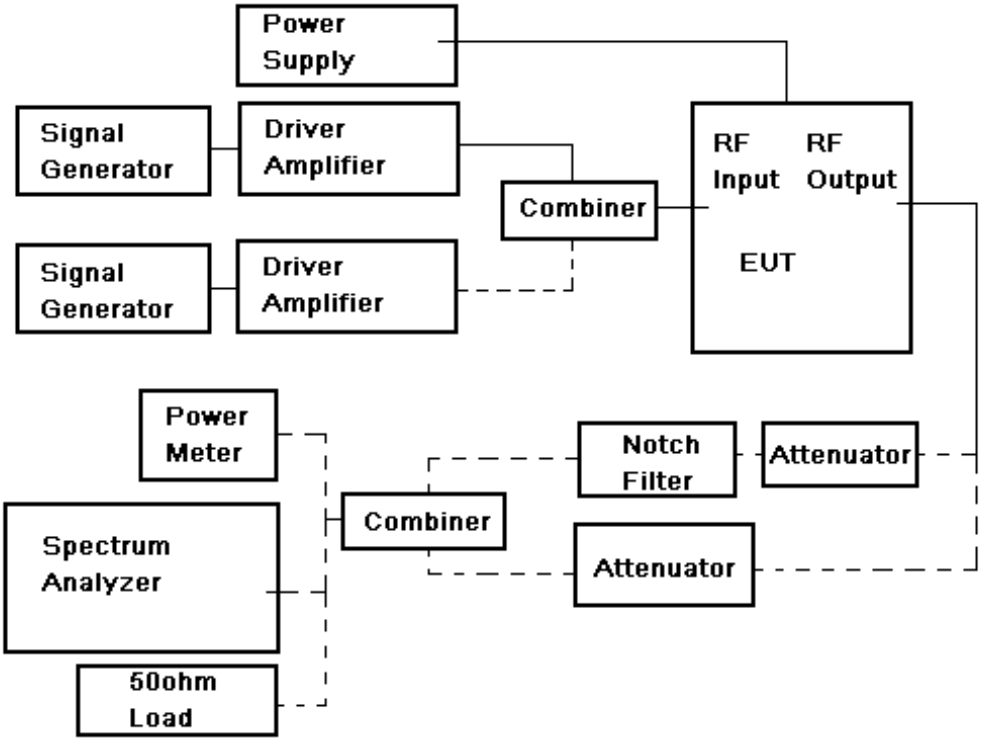
Test Modulation and Frequency
AWS Band

Modulation	Lowest frequency	Middle frequency	Highest frequency
Downlink: 2110MHz to 2155MHz (MHz)			
CDMA	2112	2132.5	2153
WCDMA	2113	2132.5	2152
Uplink: 1710MHz to 1755MHz (MHz)			
CDMA	1712	1732.5	1753
WCDMA	1713	1732.5	1752
Uplink Distribution: 1710MHz to 1755MHz (MHz)			
CDMA	1712	1732.5	1753
WCDMA	1713	1732.5	1752

Remark:

1) We test the downlink through port BTS1 to ANT1 in the lowest band; the middle band; the hightest band and test the respective frequency as above table;
2) We test the uplink through port ANT1 to BTS1 in the lowest band; the middle band; the hightest band and test the respective frequency as above table;
3) We test the Uplink Distribution through port ANT2 to BTS2 in the lowest band; the middle band; the hightest band and test the respective frequency as above table;

General Test Setup:



7.2.1 RF Output Power

Test Date: 2011-04-25

Test Requirement: FCC part 27.50(d)

Para. No.27.53(d)(1). The power of each fixed or base station transmitting in the 2110-2155 MHz band and located in any county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, is limited to a peak equivalent isotropically radiated power (EIRP) of 3280 watts. The power of each fixed or base station transmitting in the 2110-2155 MHz band from any other

location is limited to a peak EIRP of 1640 watts. A licensee operating a base or fixed station utilizing a power of more than 1640 watts EIRP must coordinate such operations in advance with all Government and non-Government satellite entities in the 2025-2110 MHz band. Operations above 1640 watts EIRP must also be coordinated in advance with the following licensees within 120 kilometers (75 miles) of the base or fixed station: all Broadband Radio Service (BRS) licensees authorized under Part 27 in the 2155-2160 MHz band and all AWS licensees in the 2110-2155 MHz band.

Test Method: FCC part 2.1046

EUT Operation:

Status: Drive the EUT to maximum output power.

Conditions: Normal conditions

Application: Cellular Band RF output ports

Test Configuration:

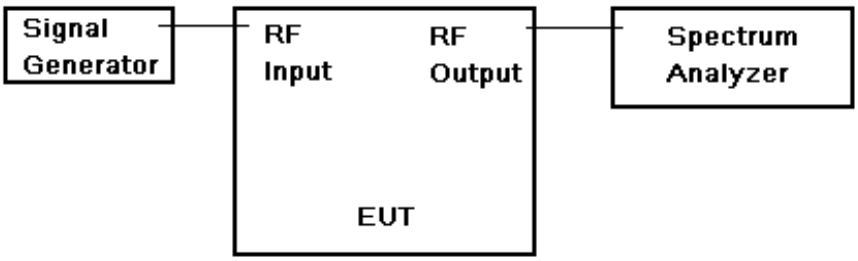


Fig.1 RF Output Power test configuration

Test Procedure: RF output power test procedure:

1.

a) Connect the equipment as illustrated, when the output power is over the max value of the Spectrum Analyzer, add the attenuator to avoid destroying the facility.

b) Set the center frequency of the spectrum analyzer to the assigned transmitter frequency, key the transmitter, and set the level of the carrier to the full scale reference line.

c) do not apply any tone to modulate the EUT.

d1) Adjust the spectrum analyzer for the following settings:

1) Resolution Bandwidth >> the carrier bandwidth,

2) Video Bandwidth refer to standard requirement.

d2) Use spectrum analyzer channel power measurement function;

e) Record the frequencies and levels of carrier power;

f) Calculate the signal link way loss and final power value.

Or 2.

a) Connect the equipment as illustrated;

b) Read the value from the power meter;

c) Calculate the signal link way loss and final power value.

Remark: Output power –

Power on Form 731 should be clearly understood as either composite of multichannels or per carrier. If power is composite include in comments field: "Power output listed is composite for multi-channel operation."

Check that the input drive level is at maximum input rating and maximum gain

settings for all tests. Check both uplink and downlink input levels. See manual or

brochures/technical description for maximum rating. May need to check FCC

identifier of transmitter used for tests.

Confirm device can not operate in saturation. Are there means to control maximum power and to assure linear operation (use in system configuration may be necessary)? How is saturation or over-modulation prevented for pulsed signal inputs?

7.2.1.1 Measurement Record:

Per channel Power, Input=36dBm for downlink and 0dBm for uplink and Uplink Distribution.			
Modulation	**Lowest frequency**	**Middle frequency**	**Highest frequency**
Downlink: Working Band(2110MHz ~ 2155MHz),Measure Maximum Output power			
CDMA	50.63dBm (115.6W)	50.47dBm (111.4W)	50.66dBm (116.4W)
WCDMA	50.62 dBm (115.3W)	50.53 dBm (113.0W)	50.65 dBm (116.1W)
Uplink:Working Band(1710MHz ~ 1755MHz),Measure Maximum Output power			
CDMA	11.1dBm (0.013W)	10.9dBm (0.012W)	10.3dBm (0.011W)
WCDMA	10.6dBm (0.011W)	10.8dBm (0.012W)	10.3dBm (0.011W)
Uplink Distribution:Working Band(1710MHz ~ 1755MHz),Measure Maximum Output power			
CDMA	10.7dBm (0.012W)	10.4dBm (0.011W)	10.2dBm (0.011W)
WCDMA	11.1dBm (0.013W)	10.9dBm (0.012W)	10.8dBm (0.012W)

Remark: test in single channel status, output power is tested in full amplifying status.

Kept the EUT working in maximum gain, adjusted the input power until to get the EUT to maximum output power.

Note: Conducted output power tested. EIRP was not tested because the amplifier does not come with an antenna.

7.2.2 Conducted Spurious Emissions

Test Date:	2011-04-25
Test Requirement:	FCC part 27.53(h) For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.
Test Method:	FCC part 2.1051
EUT Operation:	
Status:	Drive the EUT to maximum output power.
Conditions:	Normal conditions
Application:	Cellular Band RF output ports
Test Configuration:	

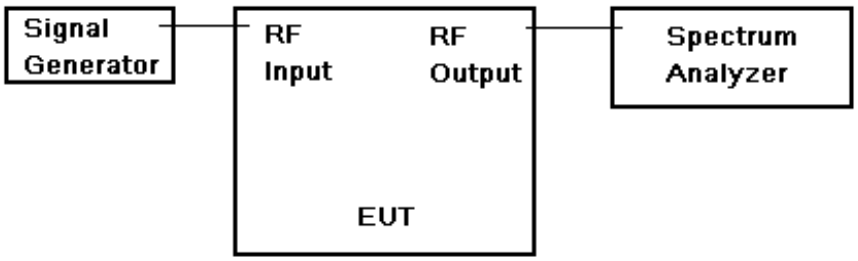
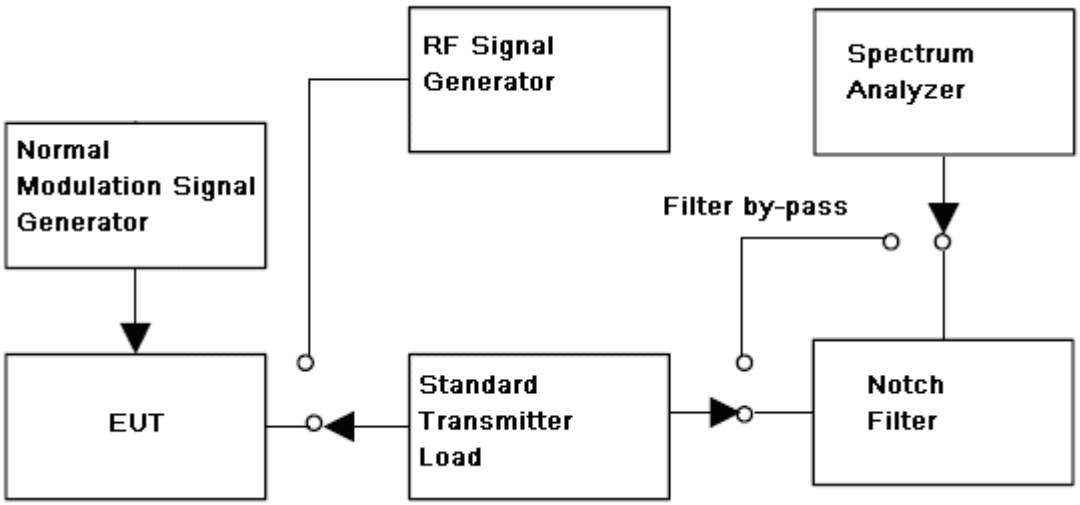


Fig.2. Conducted Spurious Emissions test configuration



Test Procedure:

Conducted Emissions test procedure:

a) Connect the equipment as illustrated, with the notch filter by-passed, when the output power is over the max value of the Spectrum Analyzer, add the attenuator to avoid destroying the facility.

b) Set the center frequency of the spectrum analyzer to the assigned transmitter frequency, key the transmitter, and set the level of the carrier to the full scale reference line.

c) do not apply any tone to modulate the EUT.

d) Adjust the spectrum analyzer for the following settings:

1) Resolution Bandwidth,(base the standard, apply the different set),her is 100KHz for frequency band less than 1GHz, 1MHz for frequency over 1GHz;

2) Video Bandwidth refer to standard requirement.

e) Adjust the center frequency of the spectrum analyzer for incremental coverage of the range from:

1) the lowest radio frequency generated in the equipment, it can be 9KHz base the test method, here select 30MHz as lowest frequency start point;

2) the highest radion frequency shall higher than 10 times of carrier frequency;

f) Record the frequencies and levels of spurious emissions from step e)

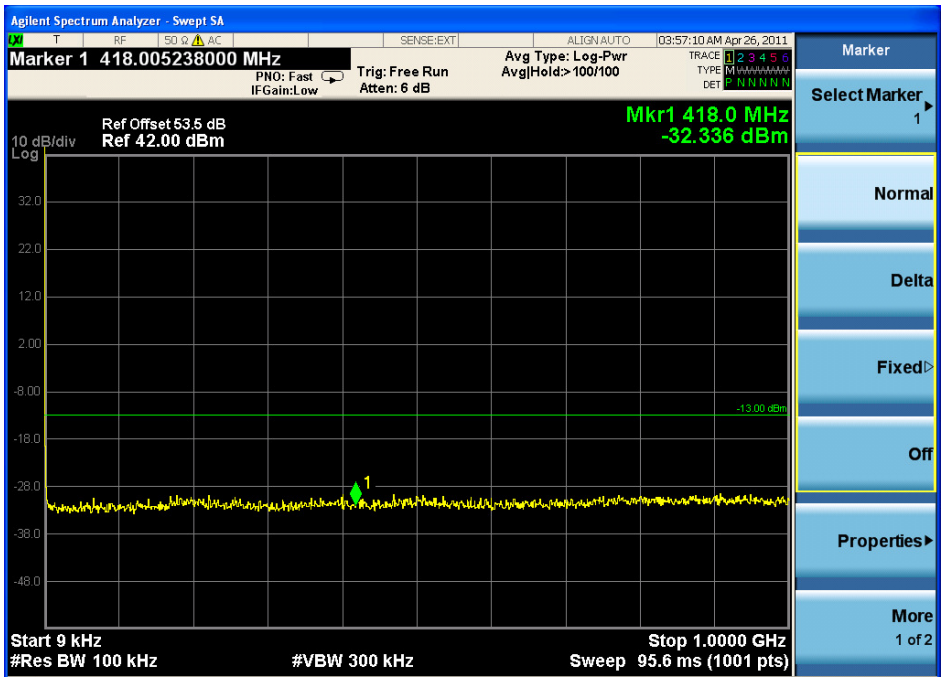
Remark:

The notch filter is used for avoid the EUT fundamental carrier output power making the spectrum overload and the harmonic spurious brought by it.

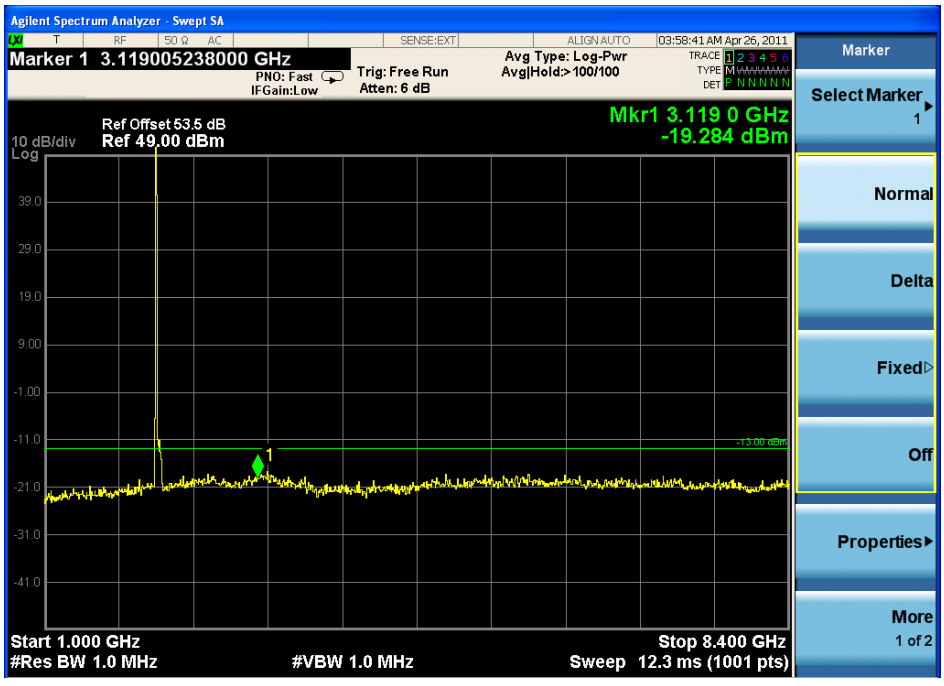
When the EUT fundamental carrier is not enough to make the status, the notch filter could be not used.

7.2.2.1 Measurement Record:

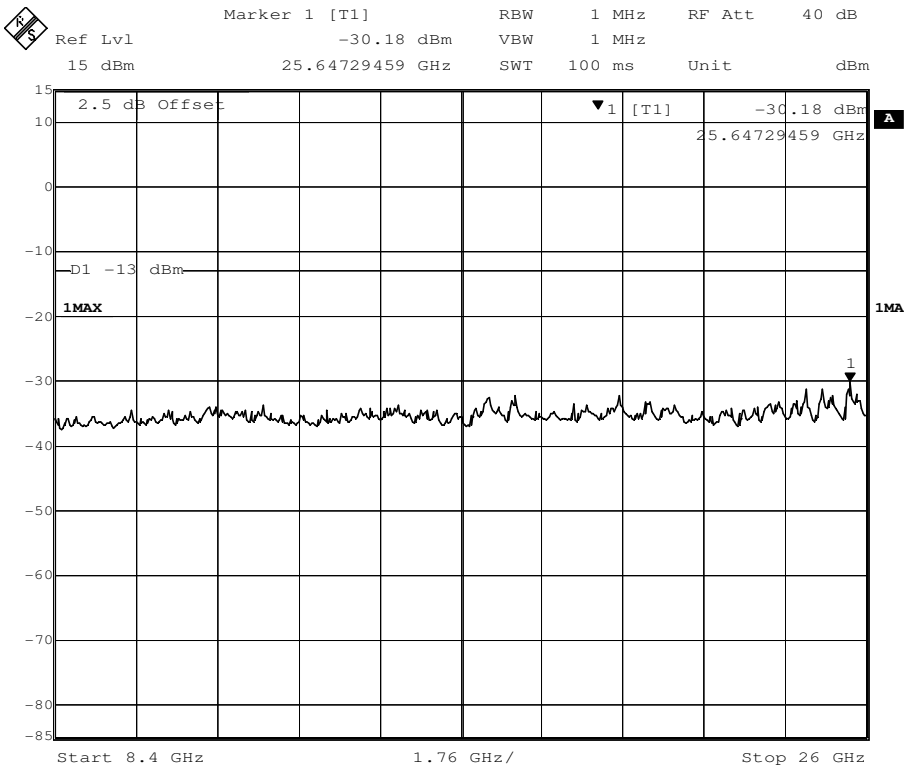
1) Test for Downlink:
CDMA downlink(lowest frequency)
9KHz to 1GHz



1GHz to 8.4GHz

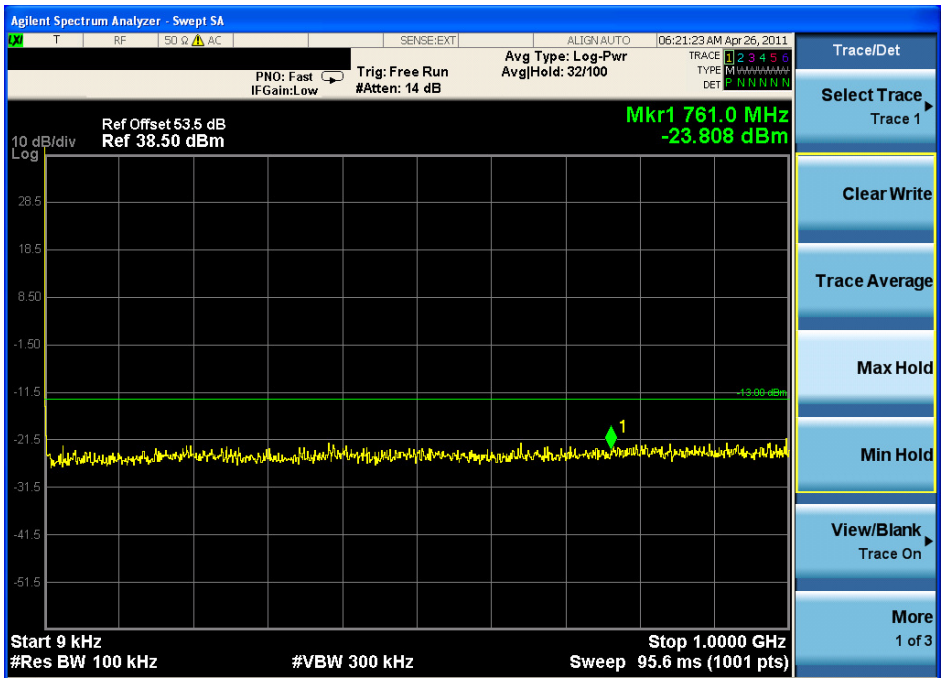


8.4GHz to 26GHz

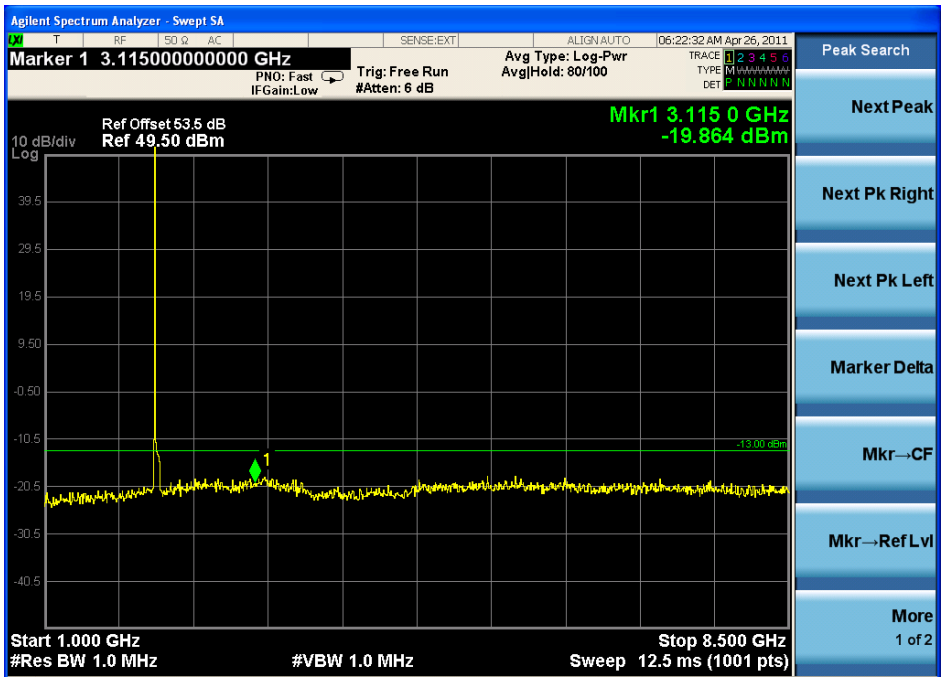


WDMA downlink(lowest frequency)

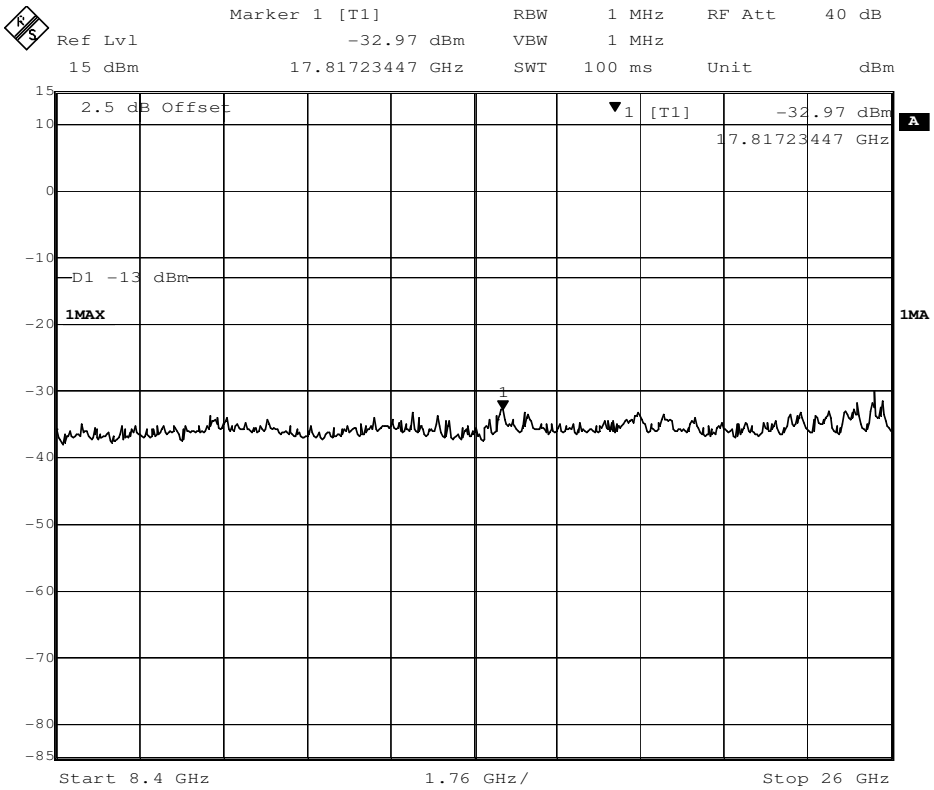
9KHz to 1GHz



1GHz to 8.4GHz

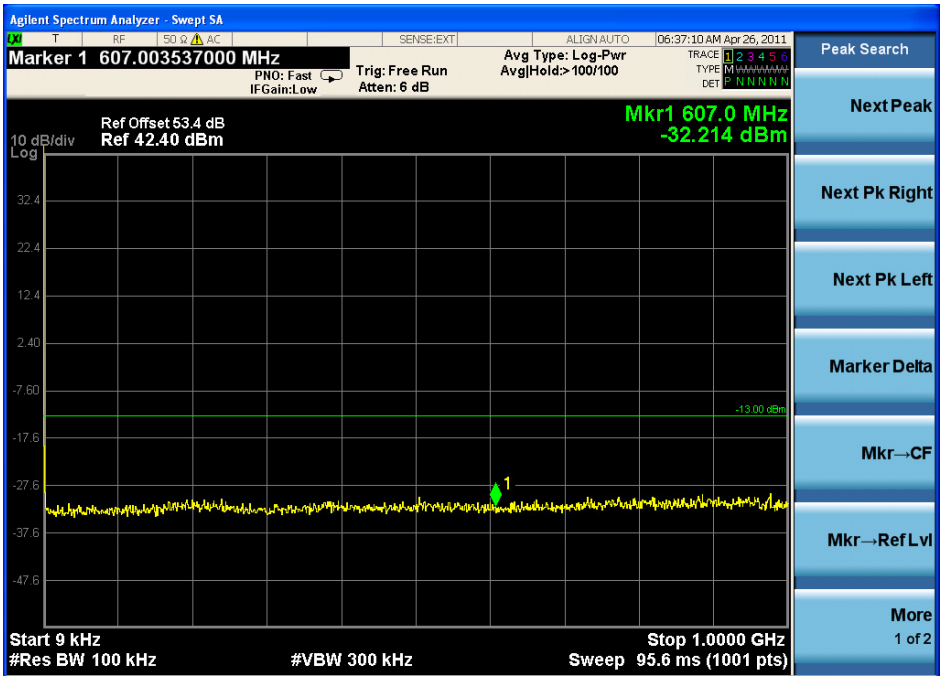


8.4GHz to 26GHz

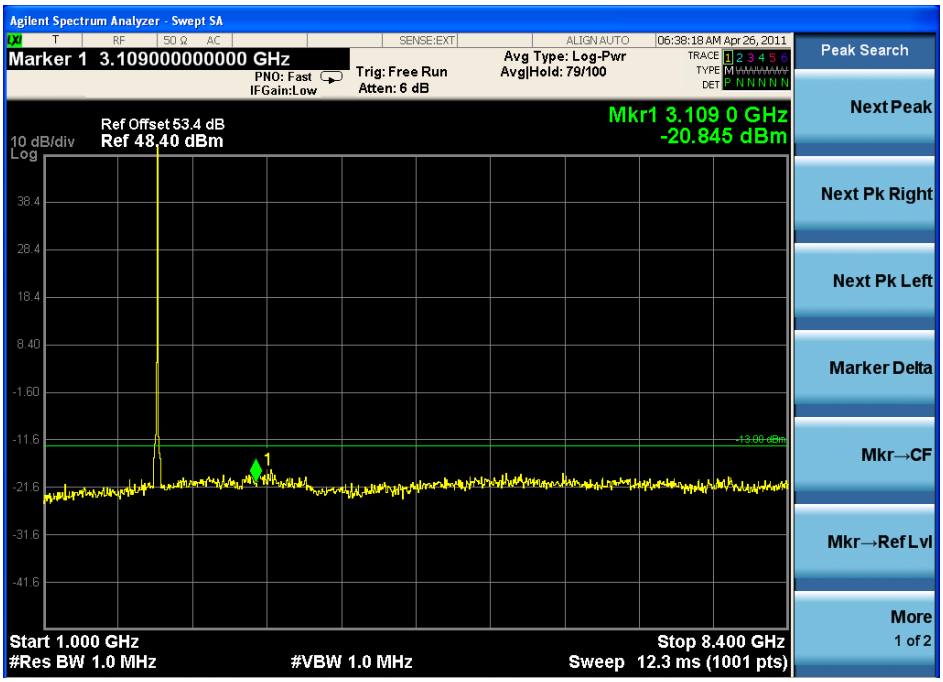


CDMA downlink(middle frequency)

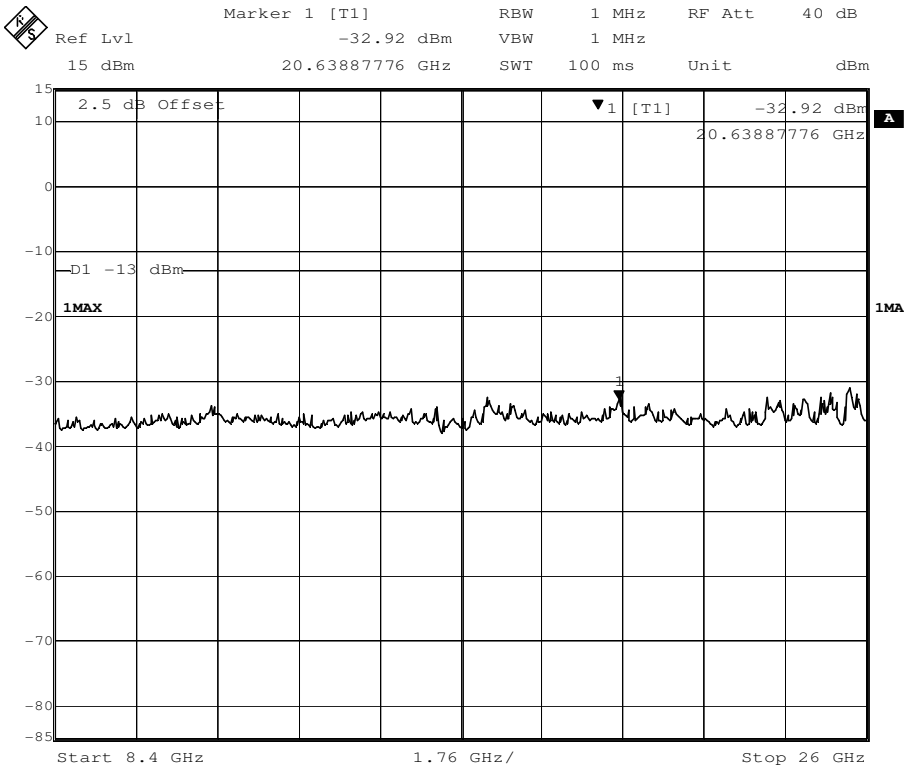
9KHz to 1GHz



1GHz to 8.4GHz

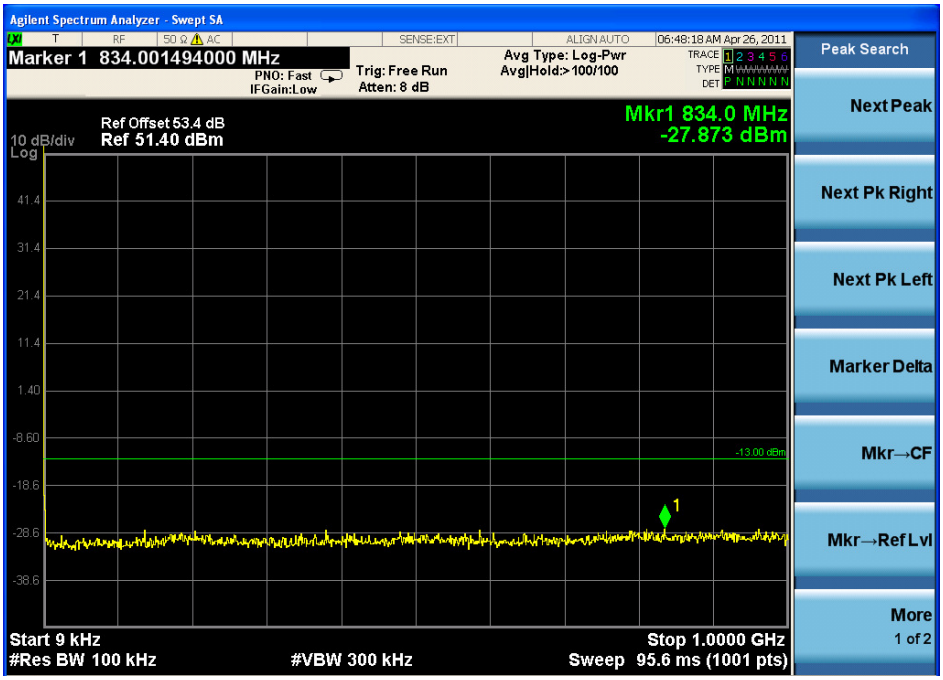


8.4GHz to 26GHz

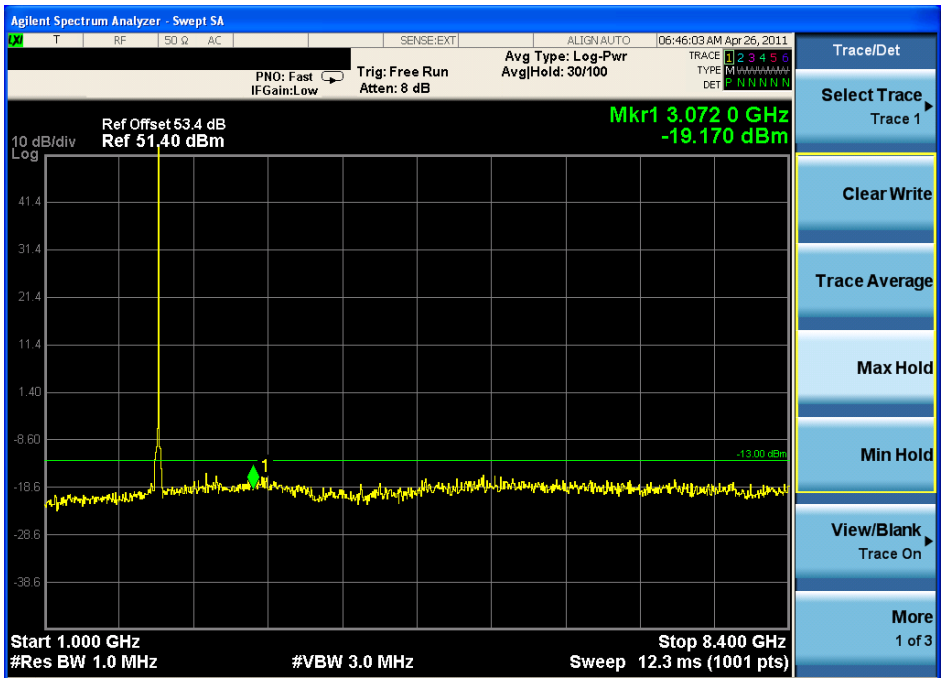


WCDMA downlink(middle frequency)

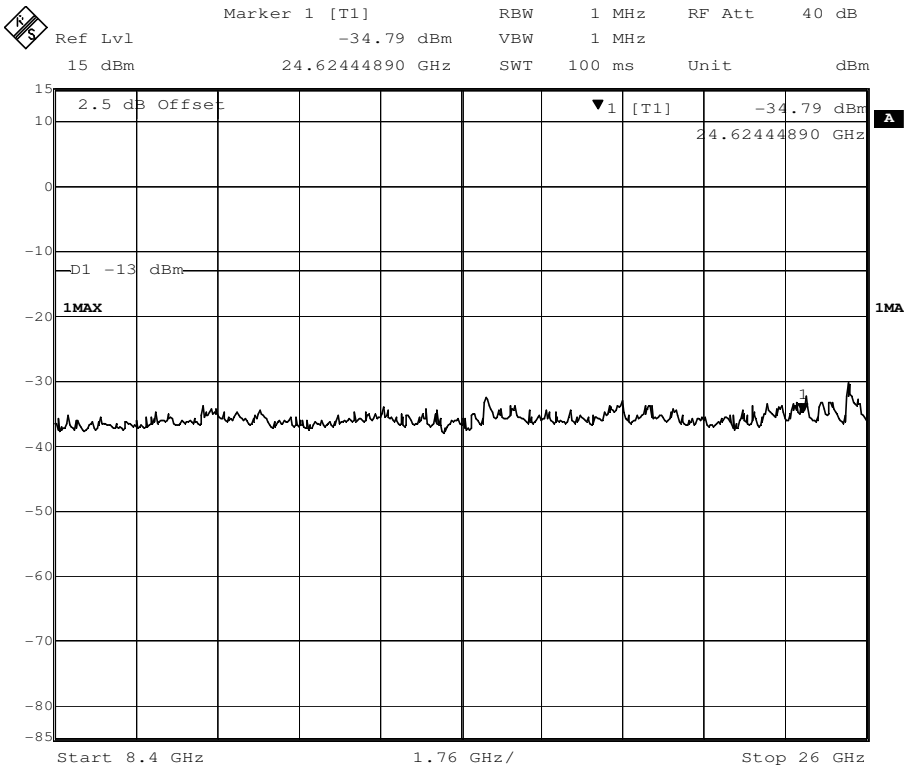
9KHz to 1GHz



1GHz to 8.4GHz

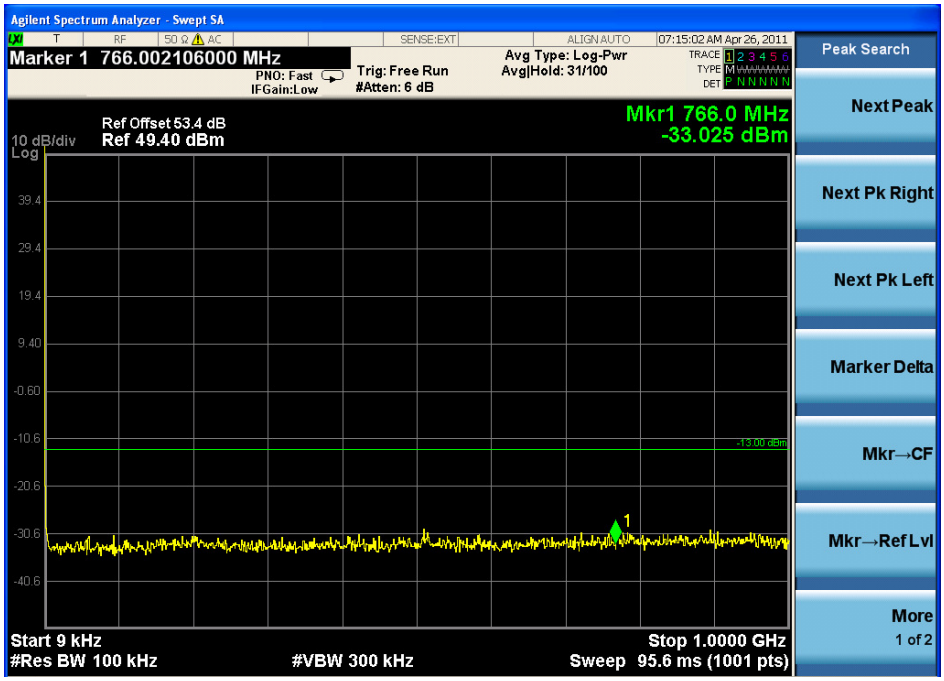


8.4GHz to 26GHz

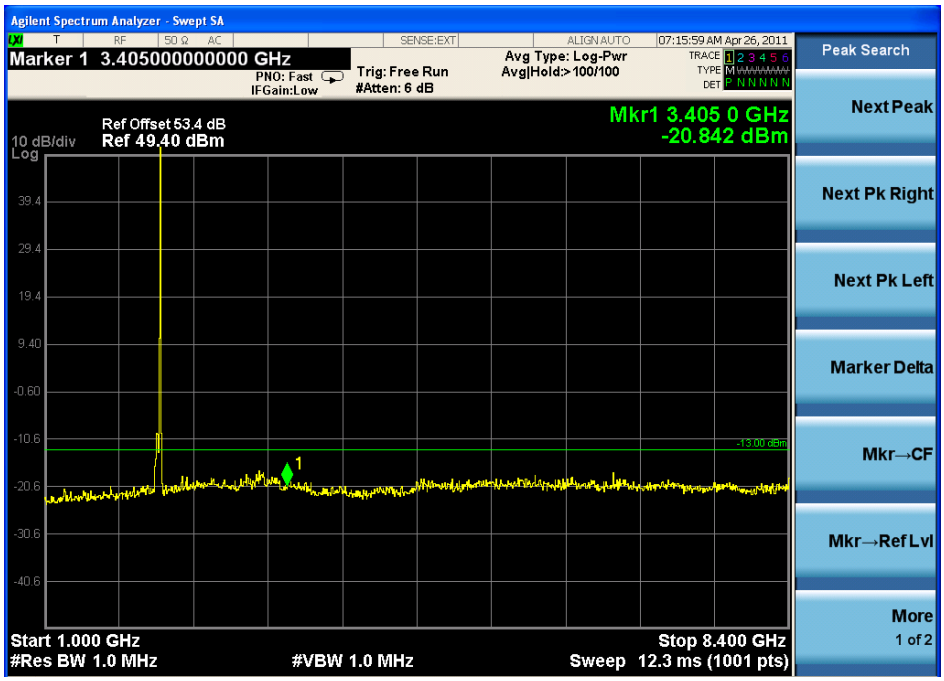


CDMA downlink(highest frequency)

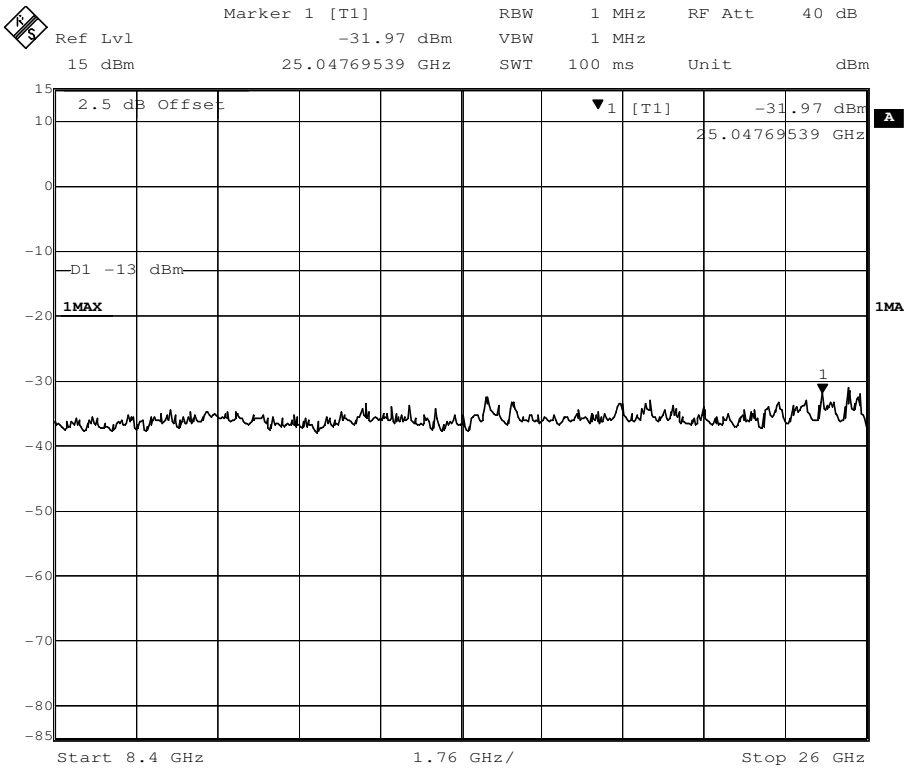
9KHz to 1GHz



1GHz to 8.4GHz

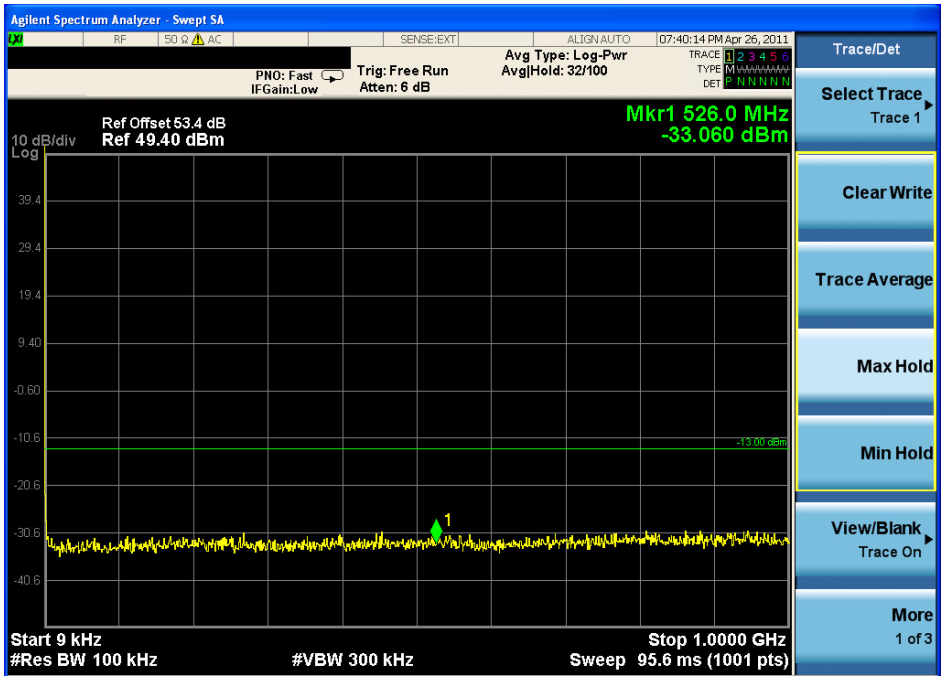


8.4GHz to 26GHz

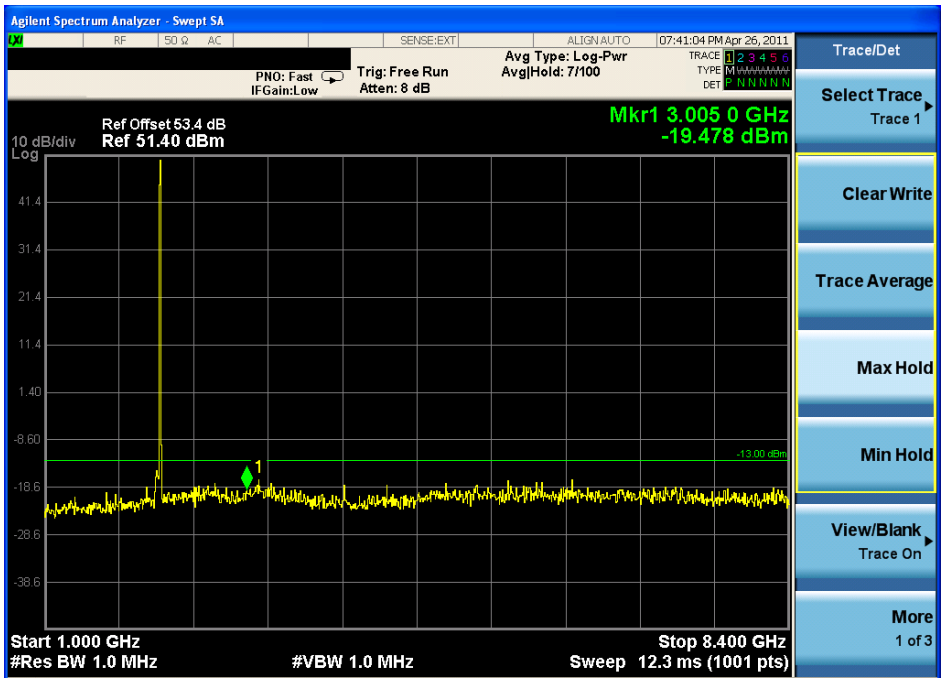


WDMA downlink(highest frequency)

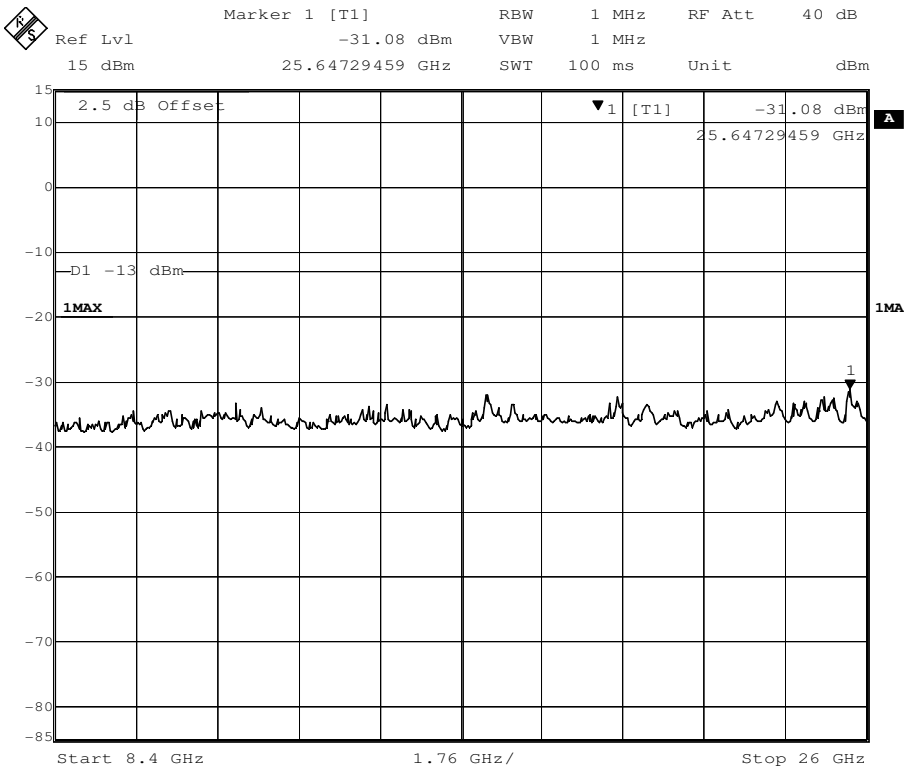
9KHz to 1GHz



1GHz to 8.4GHz



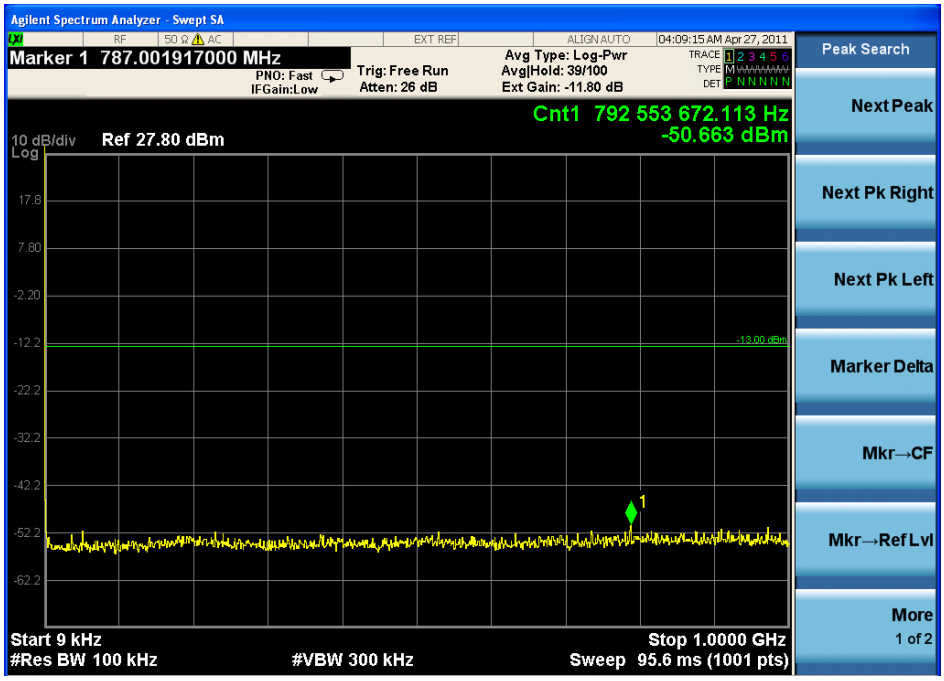
8.4GHz to 26GHz



2) Test for Uplink:

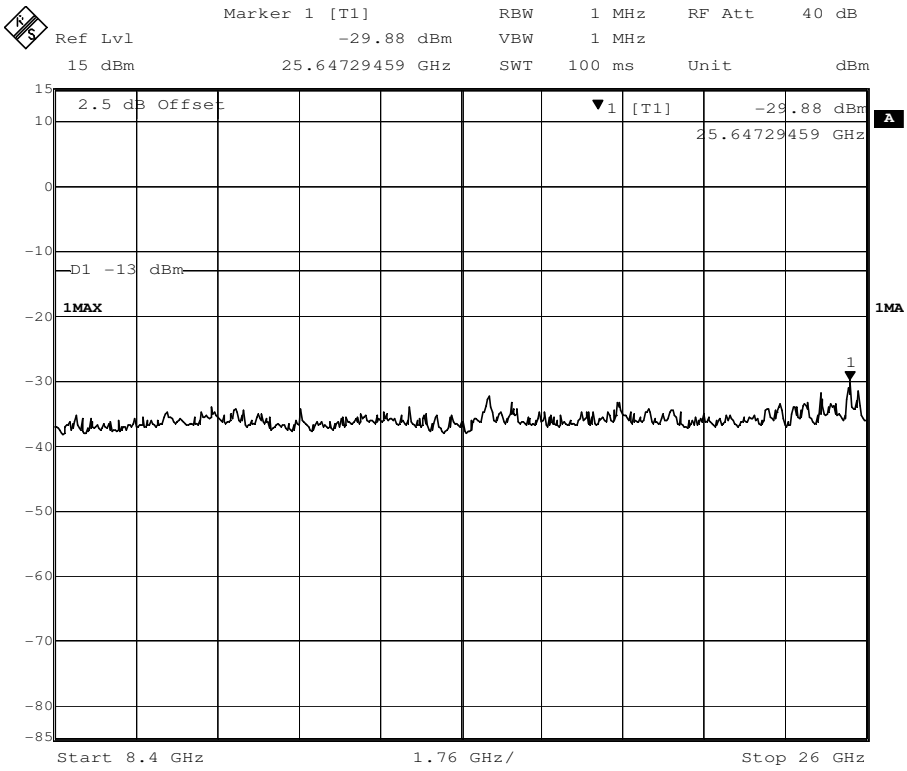
CDMA uplink(lowest frequency)

9KHz to 1GHz



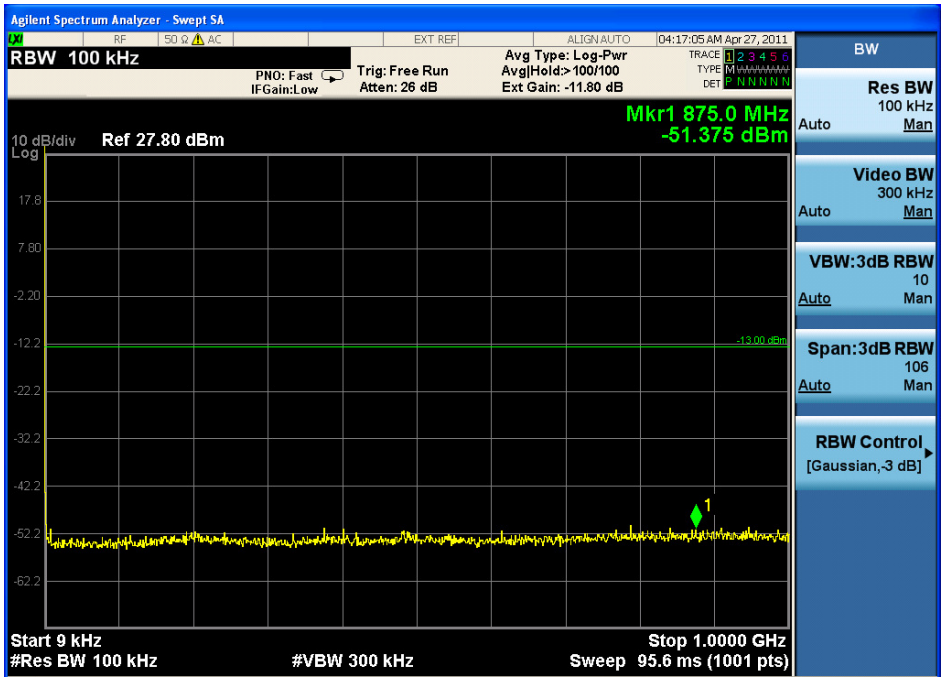
1GHz to 8.4GHz

8.4GHz to 26GHz



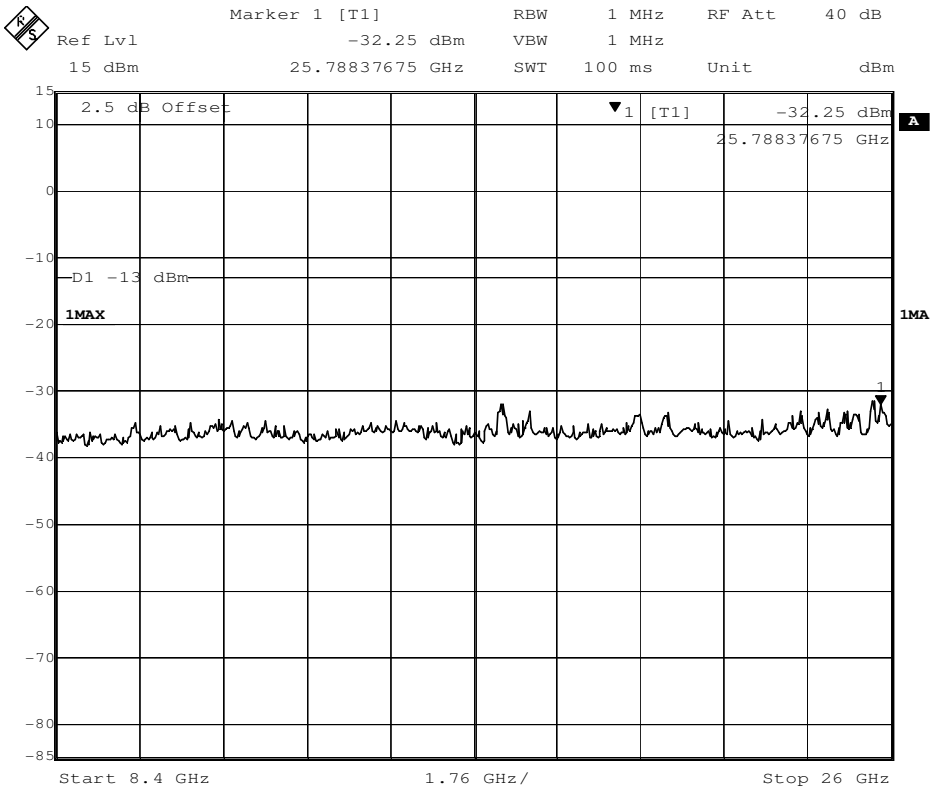
WCDMA uplink(lowest frequency)

9KHz to 1GHz



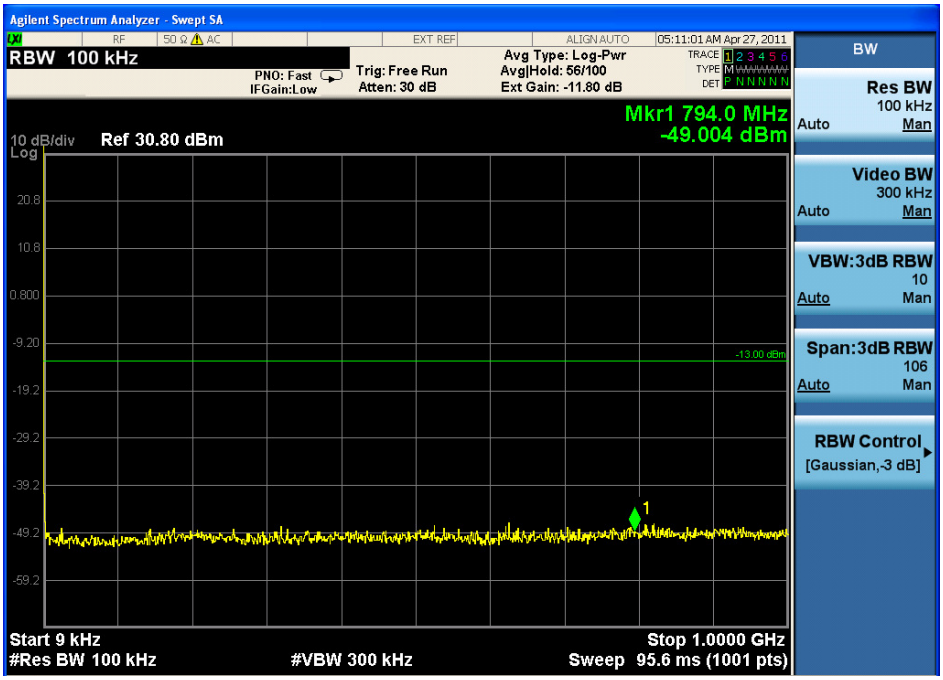
1GHz to 8.4GHz

8.4GHz to 26GHz



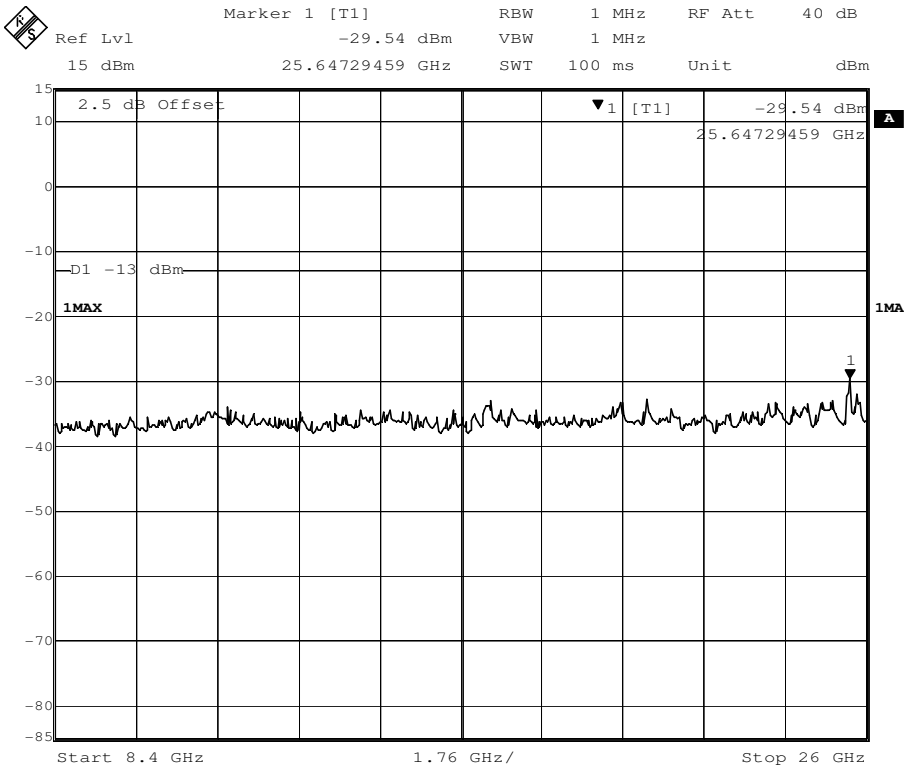
CDMA uplink(middle frequency)

9KHz to 1GHz



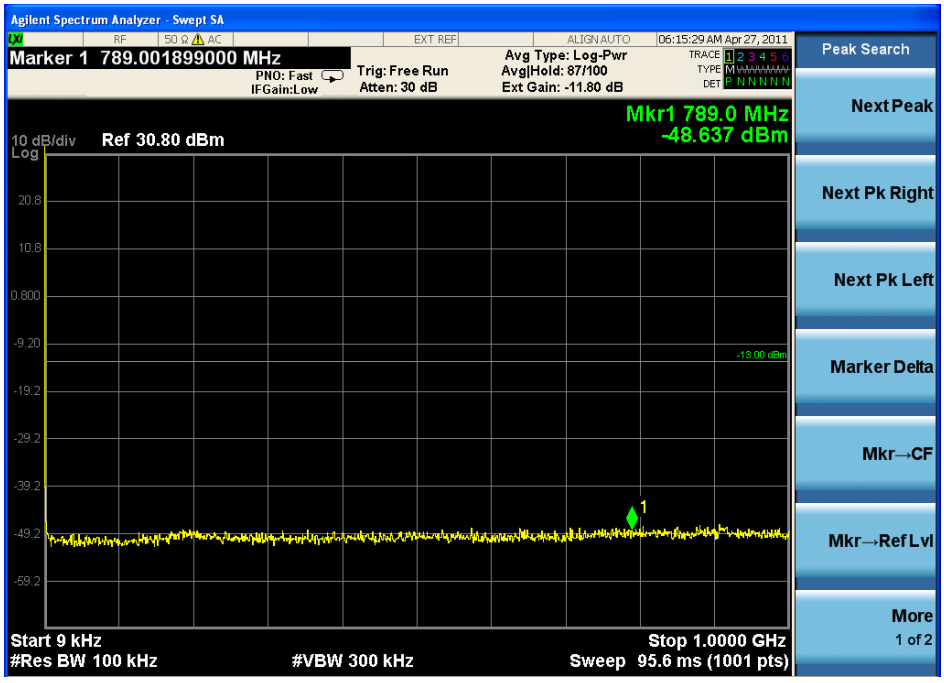
1GHz to 8.4GHz

8.4GHz to 26GHz



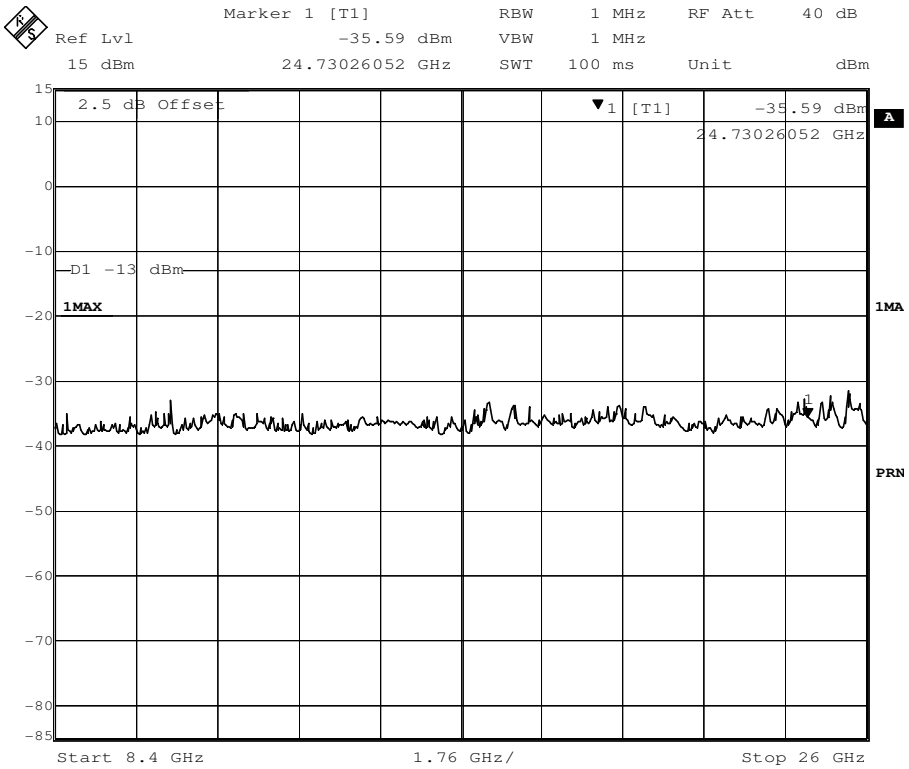
WCDMA uplink(middle frequency)

9KHz to 1GHz



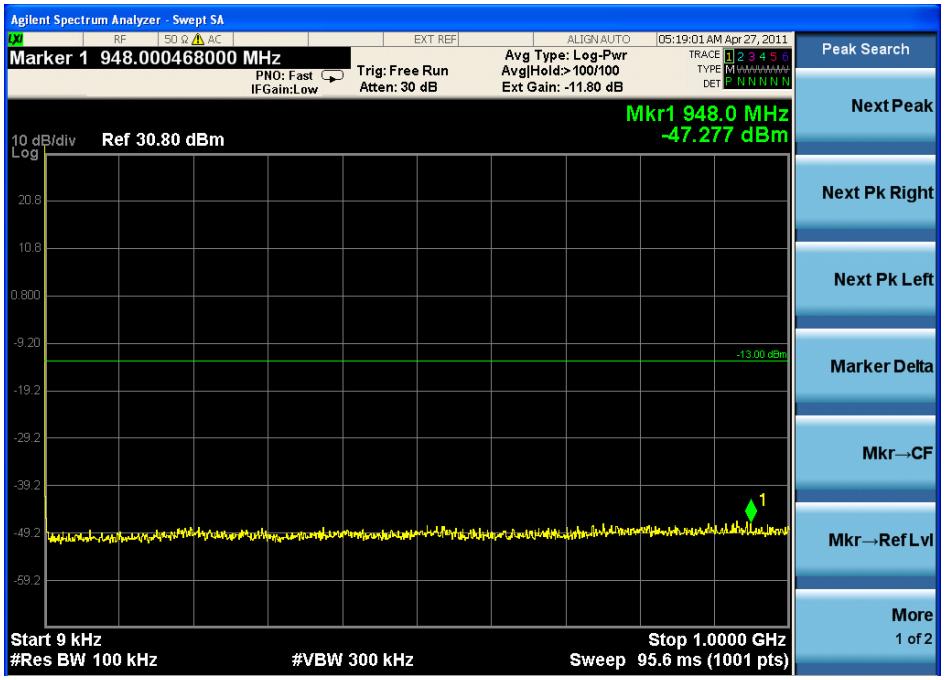
1GHz to 8.4GHz

8.4GHz to 26GHz

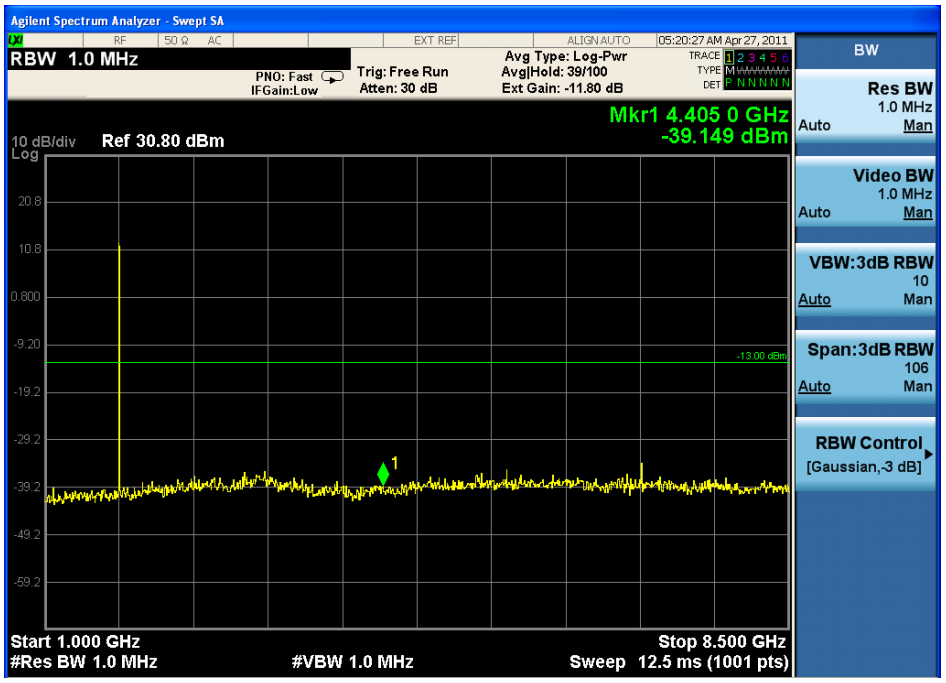


CDMA uplink(highest frequency)

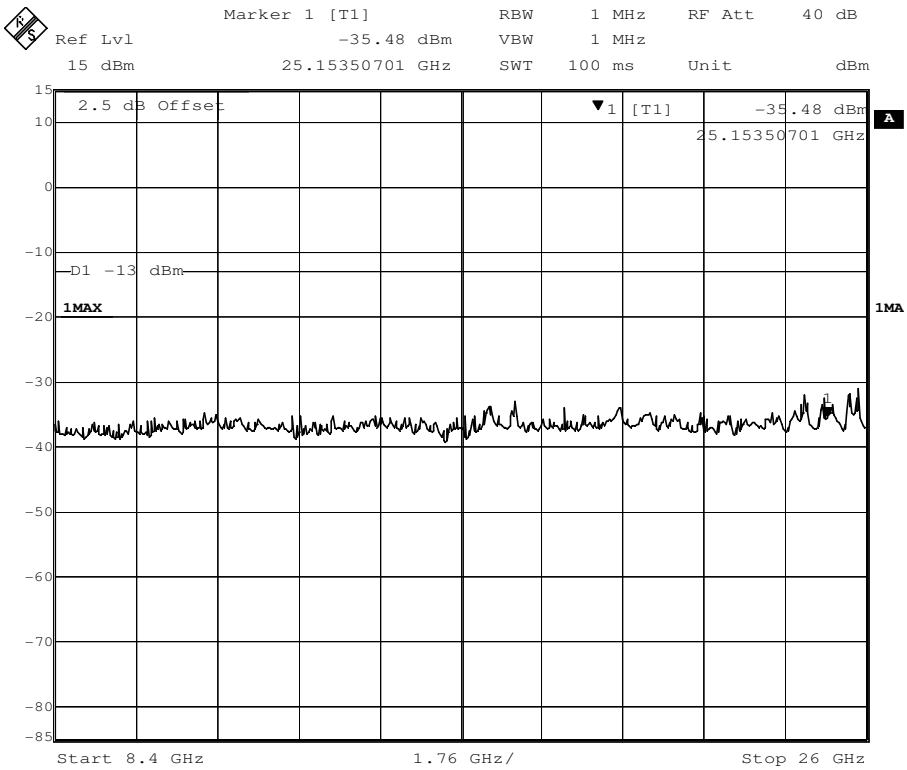
9KHz to 1GHz



1GHz to 8.4GHz

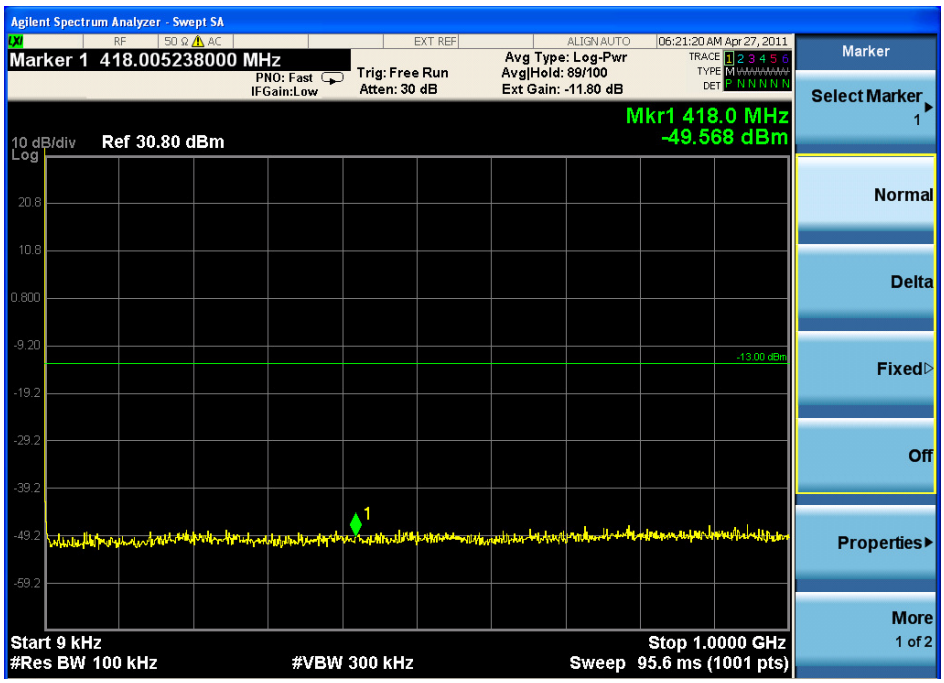


8.4GHz to 26GHz

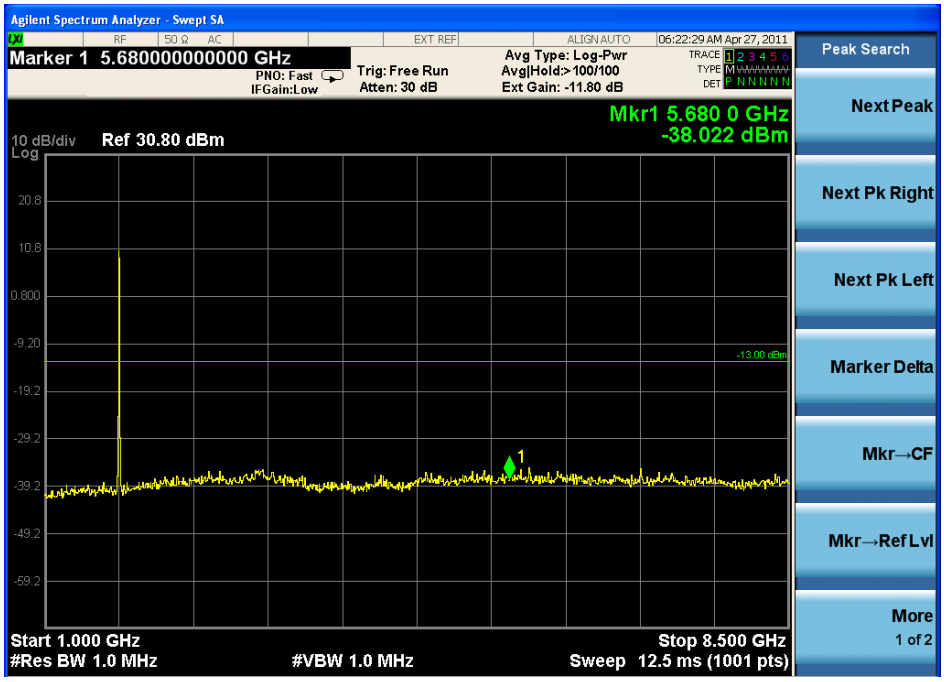


WCDMA uplink(highest frequency)

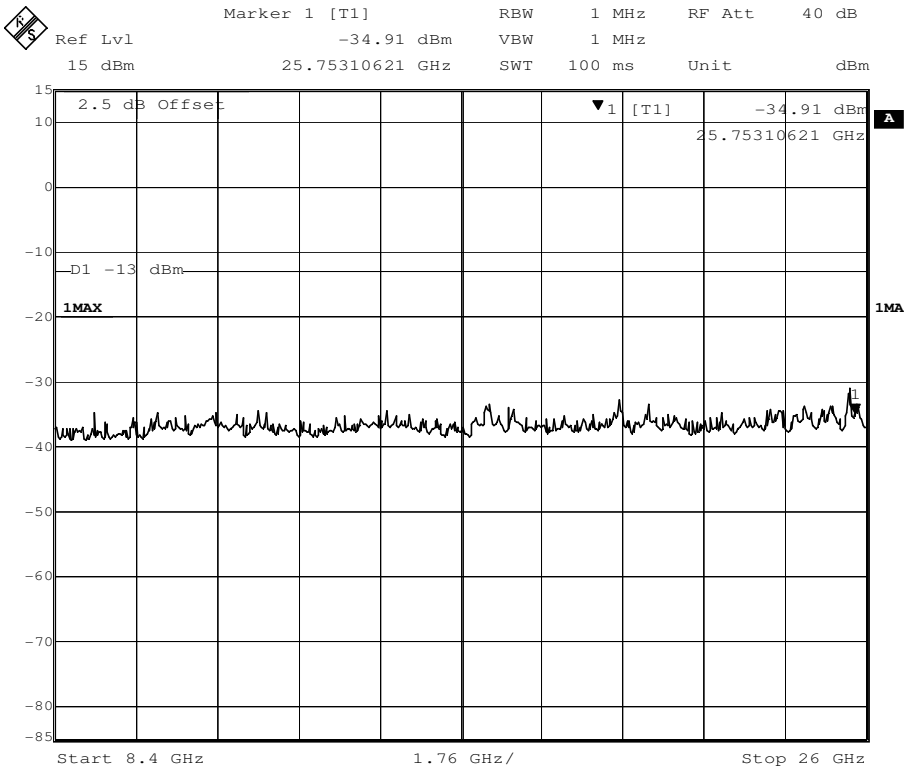
9KHz to 1GHz



1GHz to 8.4GHz



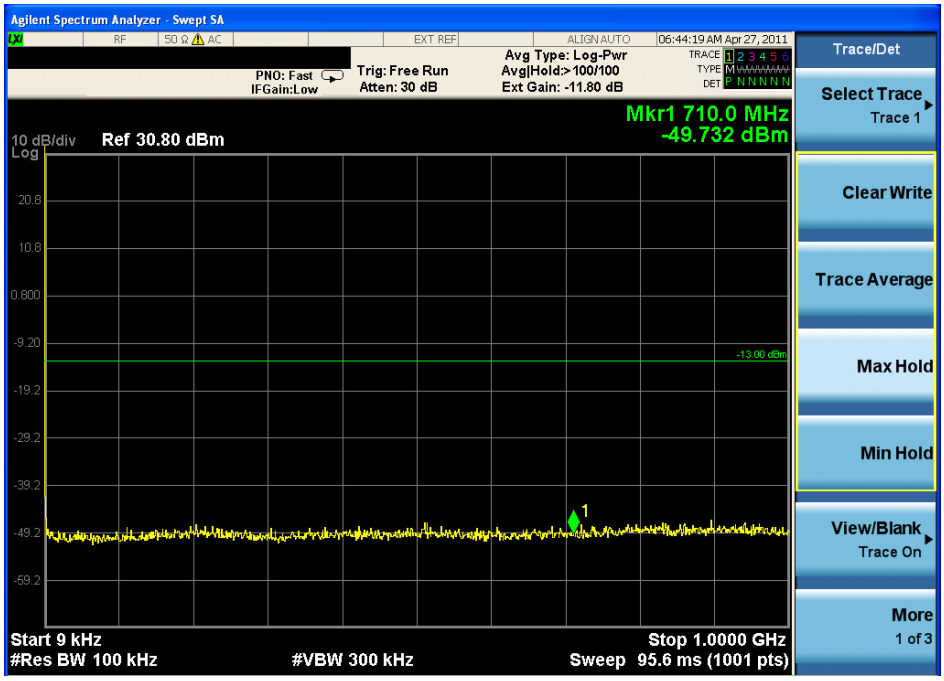
8.4GHz to 26GHz



3) Test for Uplink Distribution:

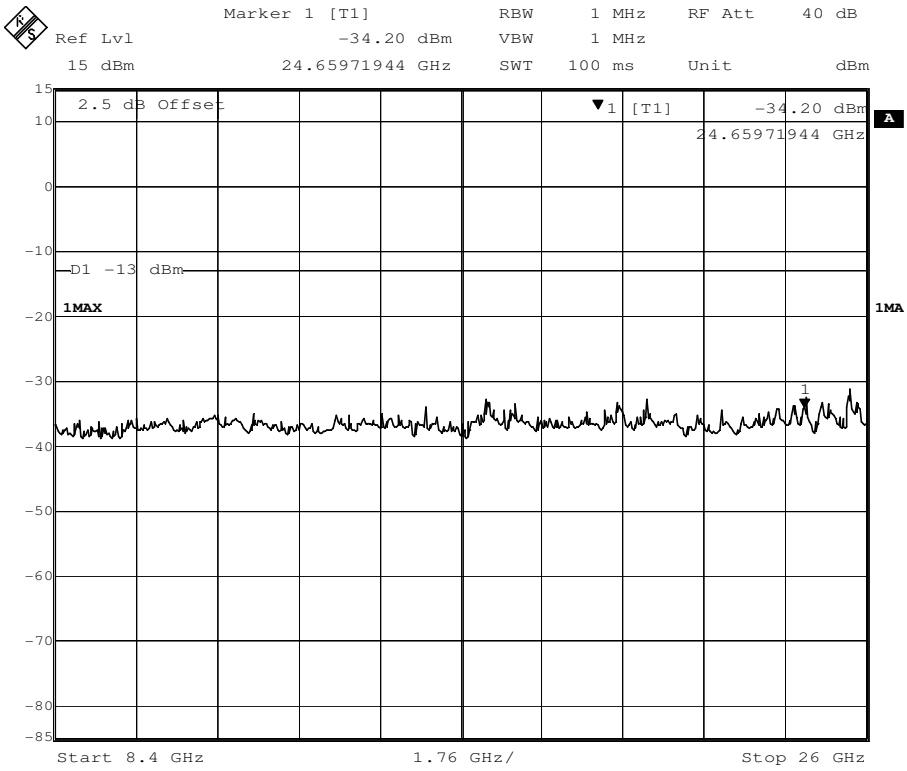
CDMA uplink distribution (lowest frequency)

9KHz to 1GHz



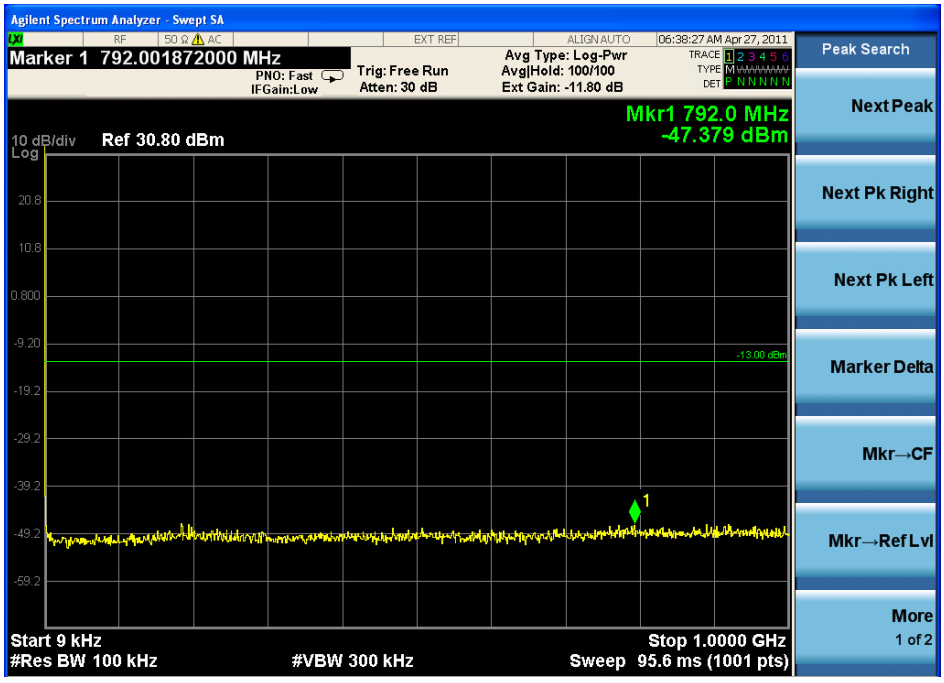
1GHz to 8.4GHz

8.4GHz to 26GHz

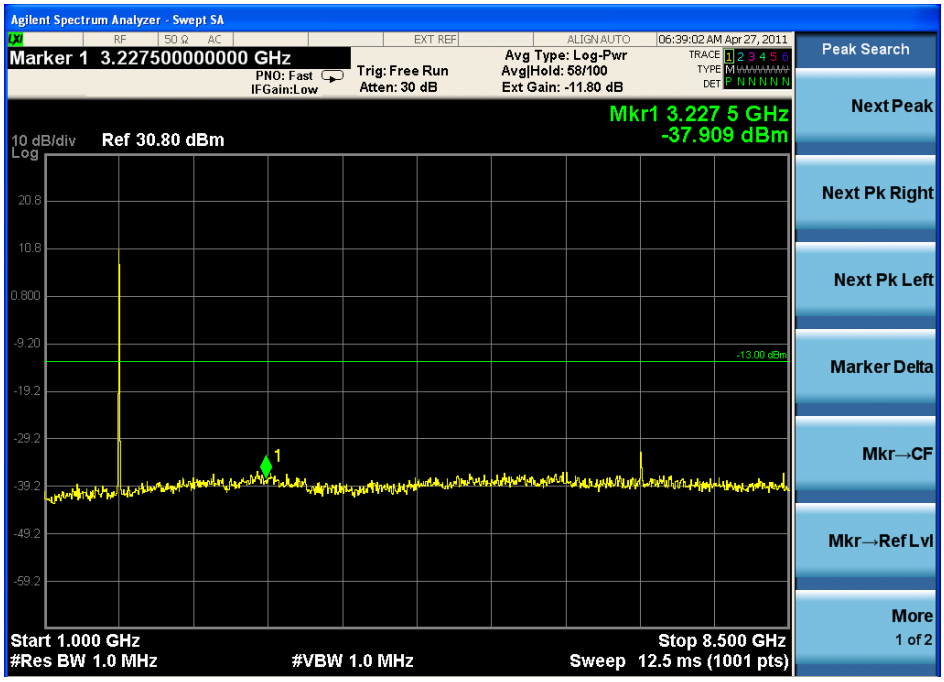


WCDMA uplink distribution (lowest frequency)

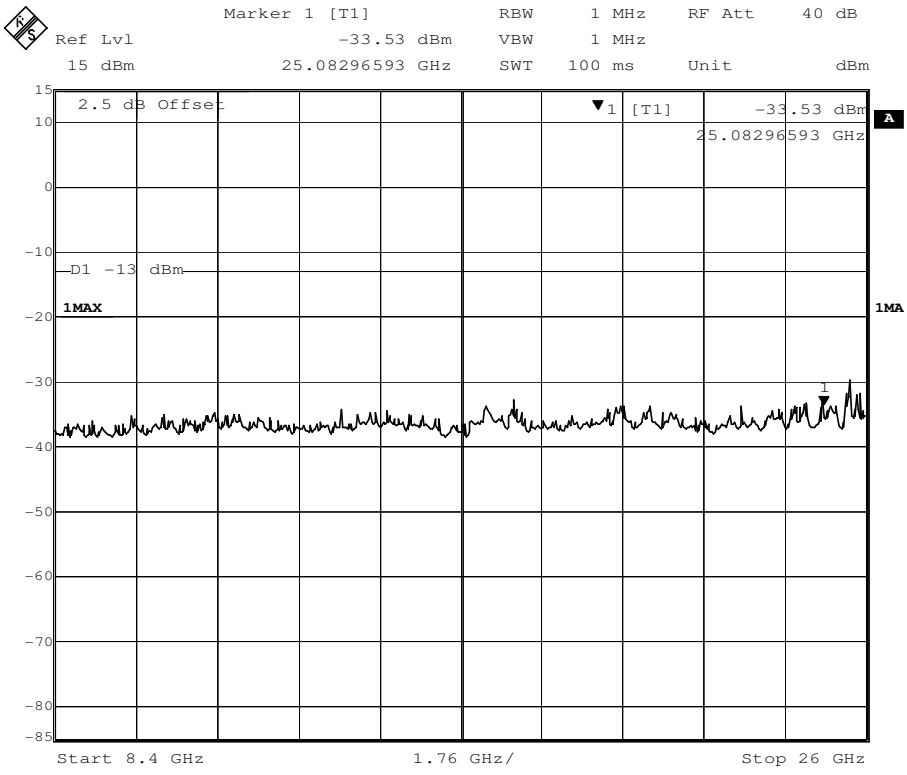
9KHz to 1GHz



1GHz to 8.4GHz

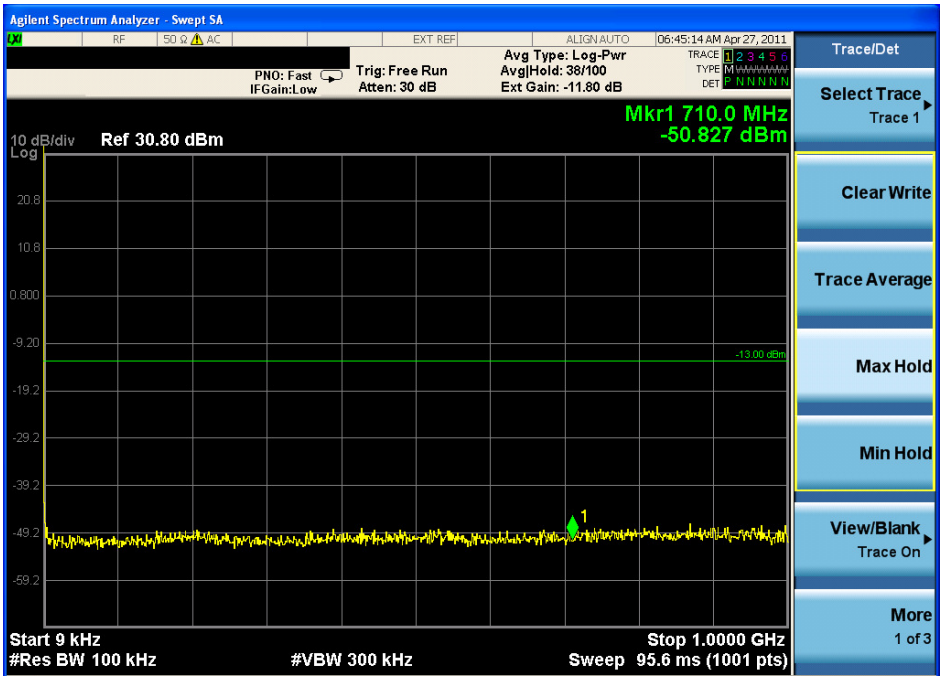


8.4GHz to 26GHz

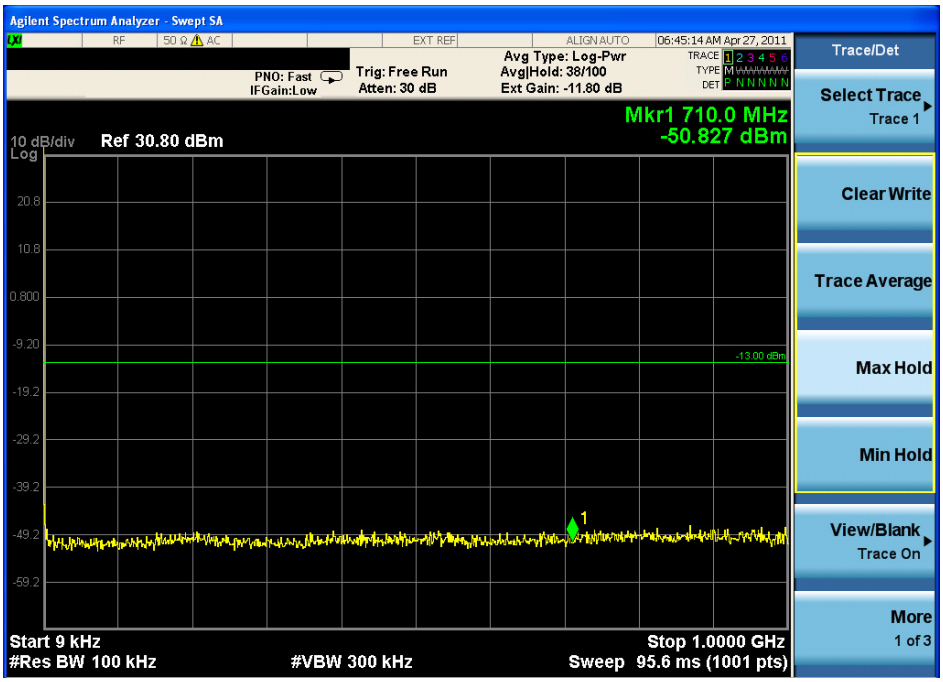


CDMA uplink distribution (middle frequency)

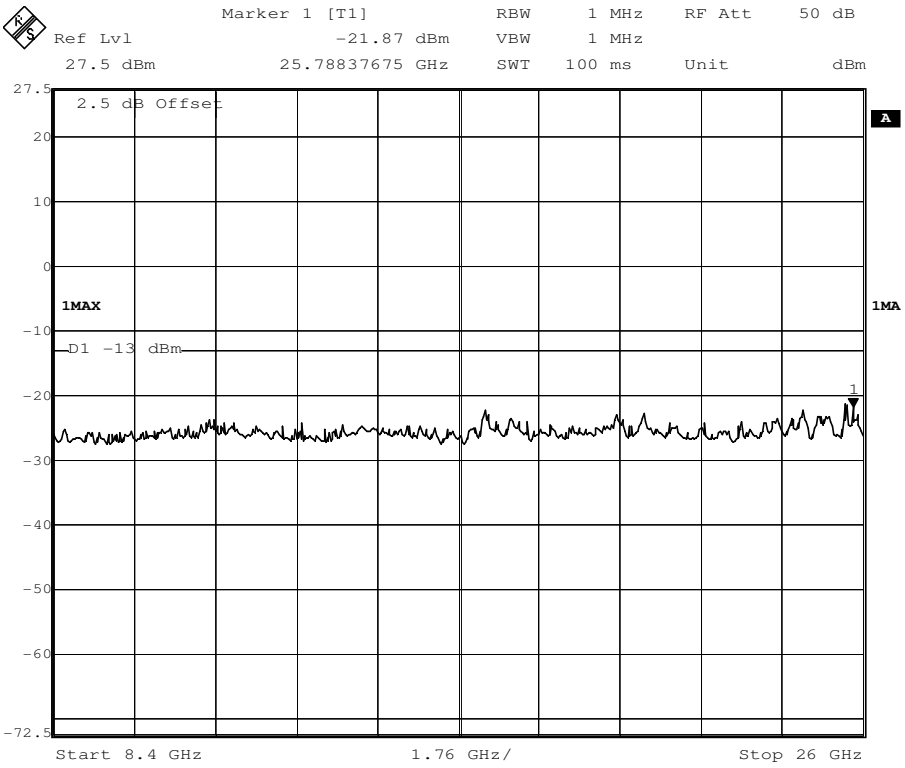
9KHz to 1GHz



1GHz to 8.4GHz

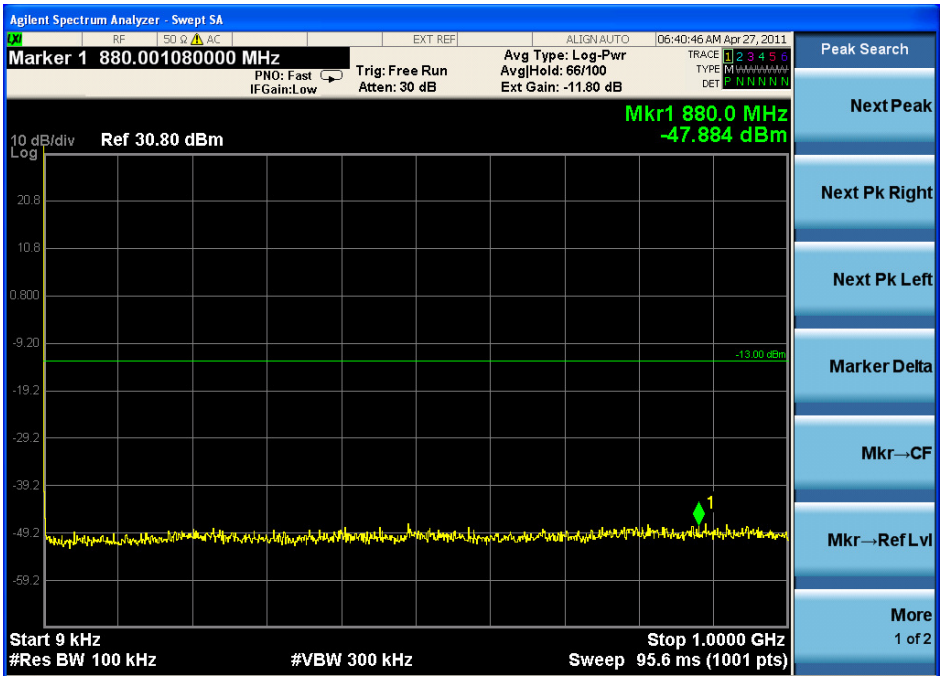


8.4GHz to 26GHz

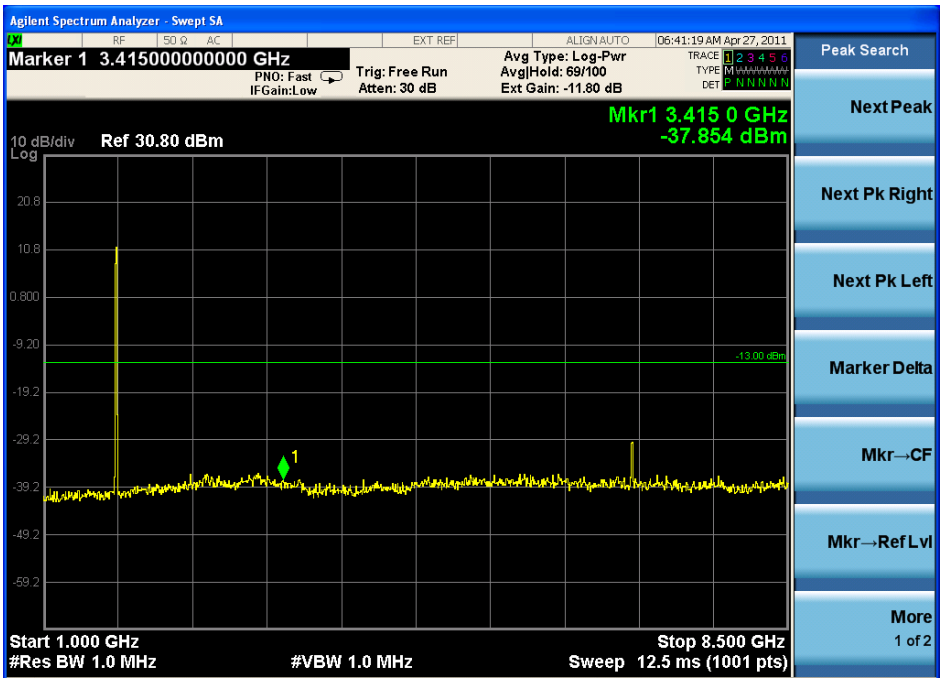


WCDMA uplink distribution (middle frequency)

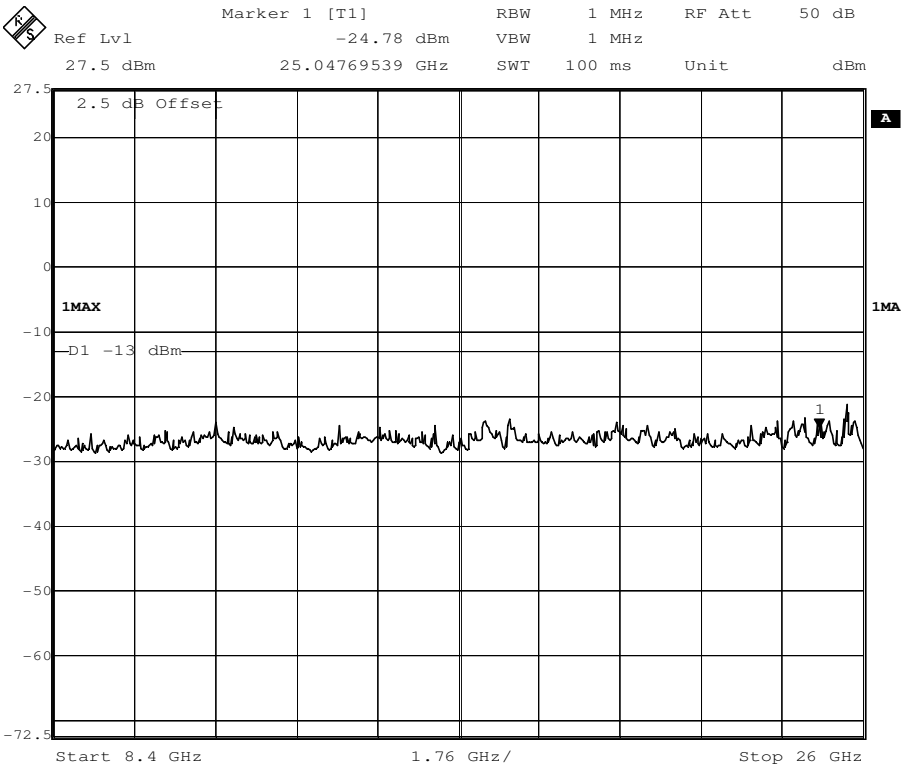
9KHz to 1GHz



1GHz to 8.4GHz

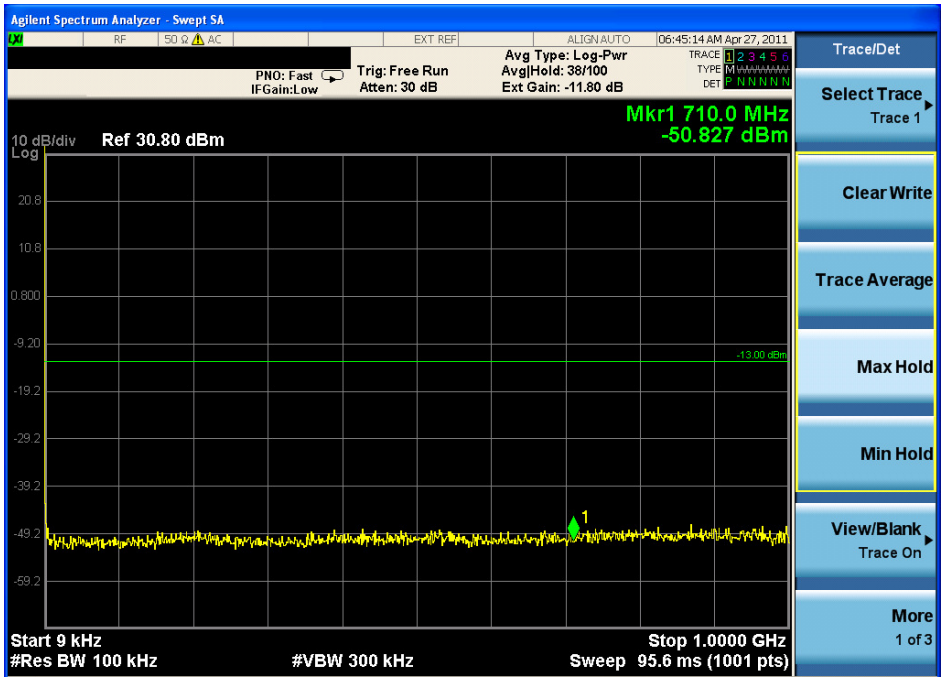


8.4GHz to 26GHz



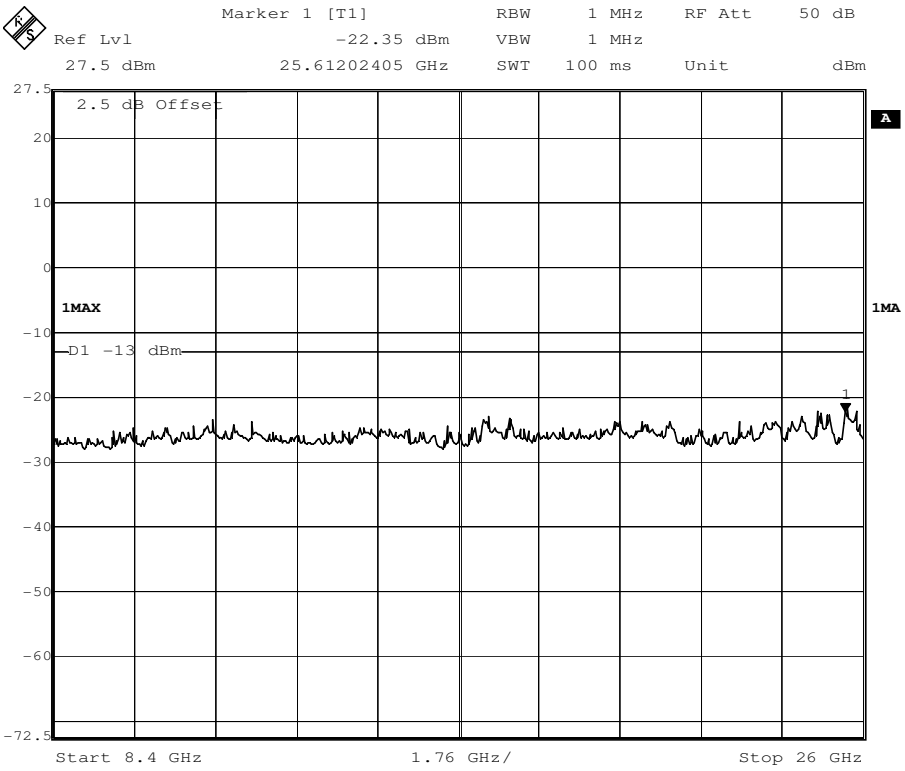
CDMA uplink distribution (highest frequency)

9KHz to 1GHz



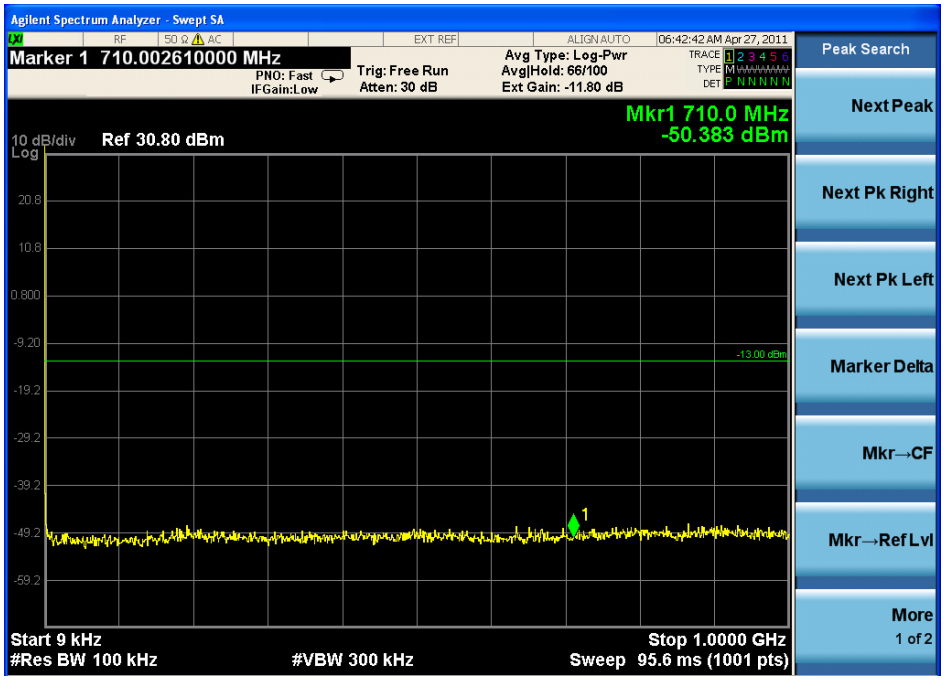
1GHz to 8.4GHz

8.4GHz to 26GHz



WCDMA uplink distribution (highest frequency)

9KHz to 1GHz



1GHz to 8.4GHz