FCC CFR47 PART 22 SUBPART H
AND PART 24 SUBPART E
CERTIFICATION TEST REPORT

FOR

PDA PHONE

MODEL NUMBER: KAIS100, KAIS110, KAIS120

FCC ID: NM8KS

REPORT NUMBER: 07U10984-2

ISSUE DATE: MAY 15, 2007

Prepared for
HIGH TECH COMPUTER CORP.
23 HSIN HUA ROAD
TAOYUAN 330, TAIWAN R.O.C

Prepared by
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Revision History

Rev.	Issue Date	Revisions	Revised By
---	05/15/07	Initial Issue	T. Chan

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: HIGH TECH COMPUTER, CORP.
23, HSIN HUA ROAD
TAOYUAN 330, TAIWAN R.O.C.

EUT DESCRIPTION: PDA PHONE

MODEL TESTED: KAIS120

MODELS: KAIS100, KAIS110, KAIS120

SERIAL NUMBER: TY709G000545

DATE TESTED: APRIL 12-17, and MAY 15, 2007

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 22 SUBPART H	NO NON-COMPLIANCE NOTED
FCC PART 24 SUBPART E	NO NON-COMPLIANCE NOTED

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

THU CHAN
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

Tested By:

CHIN PANG
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA/EIA 603C (2004), ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15 and FCC CFR 47 Part 22H and 24E.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Radiated Emission, Above 2000 MHz	+/- 4.3 dB
Power Line Conducted Emission	+/- 2.9 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an 850/900/1800/1900/2100 MHz multi-band PDA Phone and manufactured by High Tech Computer Corp.
The PDA supports GSM, GPRS, EGPRS and WCDMA, WCDMA+HSPDA. Device capabilities are documented in the theory of operation
Only the 850/1900 MHz frequency bands were investigated under this project, and the test result documented in this report only applies to EUT operating in the 850/1900 MHz frequency bands. This device contains 900 MHz /1800 MHz/2100 MHz functions but these frequency bands are not operational in the U.S. territories.

The EUT has the following accessories:

ACCESSORIES

Subassembly Description	Manufacturer	Part Number	Model Number
AC ADAPTER FOR EUT	Delta Electronic	79H00051-01M	ADP-5FH B
3.7V Li-ion Battery	Dynapack	35H00088-00M	KAIS160
Earphone	Merry Electronics Co., LTG	NA	EMC220
USB Cable	NA	NA	NA
PDA	HTC	TY709G000591	KAIS100
PDA	HTC	TY709G000606	KAIS110
PDA	HTC	TY709G000545	KAIS120

5.2. MANUFACTURER'S DESCRIPTION OF MODEL DIFFERENCES

The EUT was chosen as a representative model of the series. The following table shows the model differences.

Model Name	Model Differences
KAIS100	No Camera
KAIS110	With Camera
KAIS120	With two cameras, Main Camera: 3.0 megapixel color CMOS camera. Second Camera : Color CMOS CIF camera

*: Model tested: KAIS120

5.3. MAXIMUM OUTPUT POWER

The transmitter has maximum ERP and EIRP output powers as follows:

Part 22 (824 - 849MHz) & Part 24 (1850 - 1910MHz) Authorized Band:

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
824.2 - 848.75	GPRS	30.50	1122.02
824.2 - 848.75	EGPRS	24.30	269.15
826.5 - 846.6	WCDMA	23.70	234.42
826.5 - 846.6	WCDMA+HSDPA	24.60	288.40

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
1850.25 - 1909.8	GPRS	30.80	1202.26
1850.25 - 1909.8	EGPRS	26.60	457.09
1852.4 - 1907.6	WCDMA	26.20	416.87
1852.4 - 1907.6	WCDMA+HSDPA	26.70	467.74

NOTE: RBW=VBW=8MHz

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a fixed internal antenna with the peak gain of –1.5dBi for Cellular band and 1.0dBi for PCS bands.

5.5. SOFTWARE AND FIRMWARE

The following setting is used to establish the link for testing.

GSM850/1900 GPRS & EGPRS Mode

Service selection	Test Mode A – Auto Slot Config: off
Main Service	Packet Data
Network Support	GSM+GPRS
Slot Config	33 dBm for GSM850 and 30 dBm for GSM1900 (for GSM/GPRS modes) 27 dBm for GSM850 and 26 dBm for GSM1900 (for EGPRS mode)

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

Application	Rev, License
WCDMA Mobile Test	A.09.06

WCDMA
Call Setup > Shift & Preset
Cell Parameters: PS Domain Information > Present
ATT (IMSI Attach) Flag State > Set
Security Parameter - System Operations > None
Channel Type:
RMC: 12.2k, 64k, 144k, or 384k
AMC: 12.2 UL / 64/ DL AM RMC, 12.2 UL / 144/ DL AM RMC, or
12.2 UL / 384/ DL AM RMC,

Paging Service: RB Test Mode
Channel (UARFCN) Parms:

	PCS band	Cell band
DL Channel:	9662 / 9800 / 9938	4357 / 4407 / 4458
UL Channel:	9262 / 9400 / 9538	4132 / 4182 / 4233

DL DTCH Data: All Ones
RLC Reestablish: Off
Call Limit State: Off
Call Drop Timer: Off
SRB Config.: 13.6k DCCH
UE Target Power: 25 dBm
UL CL Power Ctrl Parameters
UL CL Power Ctrl Mode: All Up Bits

WCDMA + HSDPA
Uplink Parameter:
UPLINK DPCH Bc / Bd Control: Manual
Manual Uplink DPCH Bc: 9
Manual Uplink DPCH Bd: 15
Channel Type: 12.2k + HSDPA
HSDPA Parameters:
HSDPA RB Test Mode Setup
HS–DSCH Configuration Type: FRC
FRC Type: H-Set 3
CN Domain: CS Domain
Uplink 64k DTCH for HSDPA Loopback State: On
HS-DSCH Data Pattern: All Ones
RLC Header on HS-DSCH: Present
HSDPA Uplink Parameters
DelatACK: 5
DeltaNACK: 5
DeltaCQI: 2

5.6. WORST-CASE CONFIGURATION AND MODE

Based on previous experiment, GPRS 1 slot has the worst case between GSM & GPRS modulations, and the worst case on HSPDA mode for WCDMA modulation.

The EUT is a portable device, therefore X,Y, & Z positions with and without AC adapter, PDA open and closed position and mobile configuration have been investigated. The worst case is to evaluated at Y position with battery operated

The EUT models-KAIS100, KAIS110 and KAIS120 have been investigated during baseline scan and found no different in these models. Since KAIS120 has more option than the other models, therefore, it's used for the test.
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5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Communications Test Set	Agilent	E5515C	10092	DoC

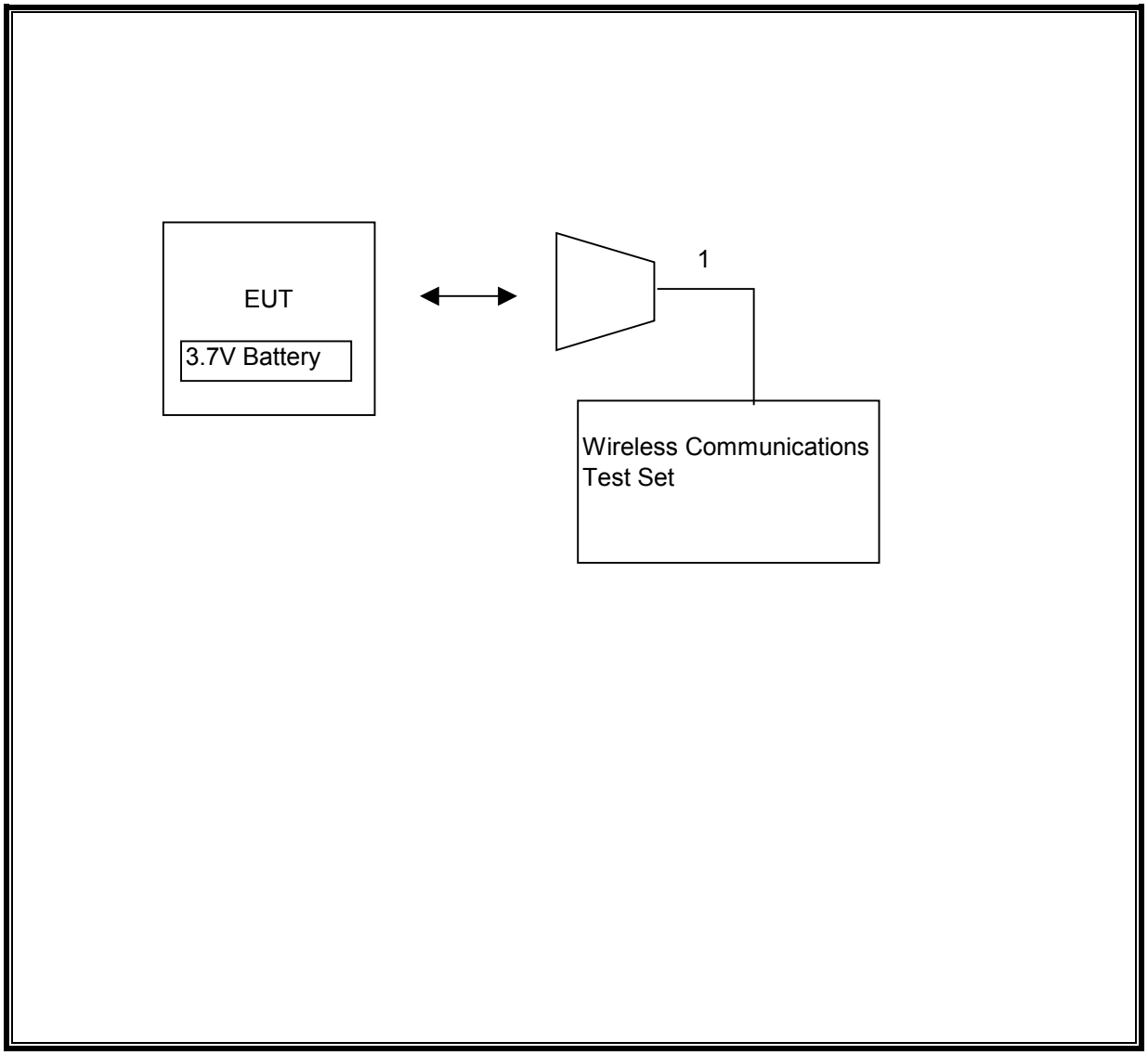
I/O CABLES

I/O CABLE LIST						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	RF In/Out	1	Horn	Un-shielded	3m	NA

TEST SETUP

The EUT is standalone unit. The Wireless Communication test set exercised the EUT.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**Cal Due**
Antenna, Horn 1 ~ 18 GHz	ETS	3117	29301	04/22/08
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	04/22/08
Preamplifier, 1 ~ 26.5 GHz	Agilent / HP	8449B	3008A00561	10/03/07
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent / HP	E4446A	US42510266	10/18/07
Wireless Communications Test Set	Agilent	E5515C	10092	10/19/07
2.7GHz HPF	MicroTronic	HPM13194	2	CNR
1.5GHz HPF	MicroTronic	HPM13195	1	CNR
Signal Generator 2 -40 GHz	R & S	SMP04	DE 34210	06/02/07
Signal Generator 1024 MHz	R & S	SMY01	DE 12311	05/11/08
Dipole	EMCO	3121C-DB2	22435	06/25/07

7. LIMITS AND RESULTS

7.1. OCCUPIED BANDWIDTH

Worst c

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the –26 dB bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal –26 dB bandwidth function is utilized.

RESULTS

No non-compliance noted:

GSM, GPRS

CELL GPRS Modulation

Channel	Frequency (MHz)	99% BW (KHz)	26dB BW (KHz)
Low	824.20	238.364	312.498
Middle	836.52	249.243	301.404
High	848.80	246.205	300.047

1900MHz PCS Modulation

Channel	Frequency (MHz)	99% BW (KHz)	26dB BW (KHz)
Low	1850.25	249.529	311.896
Middle	1880.00	245.424	314.549
High	1909.75	240.107	299.499

GSM, EGPRS

CELL GPRS Modulation

Channel	Frequency (MHz)	99% BW (KHz)	26dB BW (KHz)
Low	824.20	245.331	303.420
Middle	836.52	245.489	310.000
High	848.80	247.299	315.266

1900MHz PCS Modulation

Channel	Frequency (MHz)	99% BW (KHz)	26dB BW (KHz)
Low	1850.25	244.845	312.796
Middle	1880.00	245.276	317.905
High	1909.75	249.084	306.605

WCDMA

WCDMA 850

Channel	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
Low	826.40	4.238	4.596
Middle	836.40	4.157	4.562
High	846.60	4.193	4.569

WCDMA 1900

Channel	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
Low	1852.40	4.238	4.576
Middle	1880.00	4.159	4.568
High	1907.60	4.106	4.584

WCDMA+HSDPA

WCDMA 850

Channel	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
Low	826.40	4.183	4.569
Middle	836.40	4.198	4.589
High	846.60	4.103	4.570

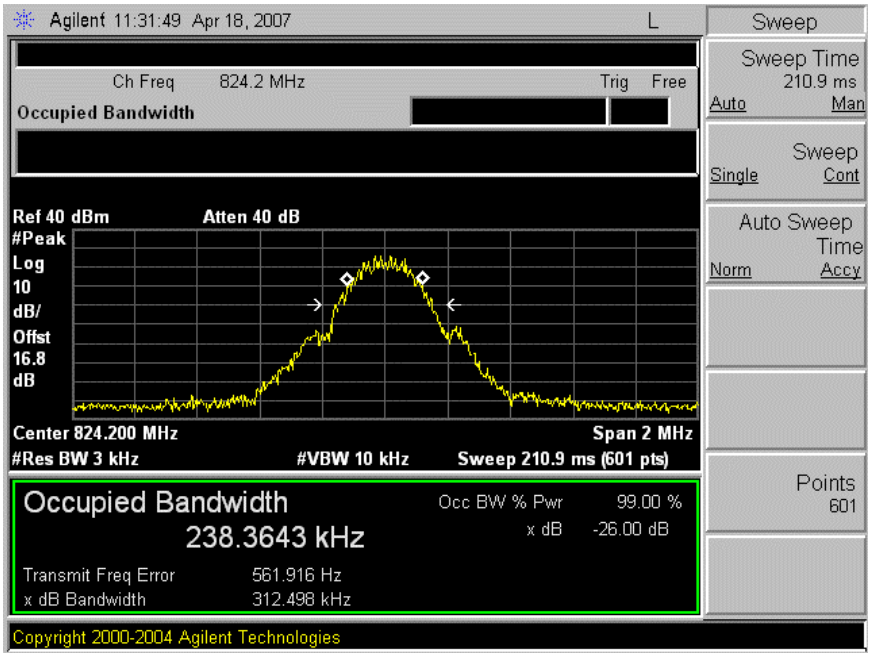
WCDMA 1900

Channel	Frequency (MHz)	99% BW (MHz)	26dB BW (MHz)
Low	1852.40	4.149	4.595
Middle	1880.00	4.189	4.568
High	1907.60	4.167	4.566

GSM850, GPRS

800MHz CELLULAR 26 dB BANDWIDTH

BANDWIDTH LOW CH



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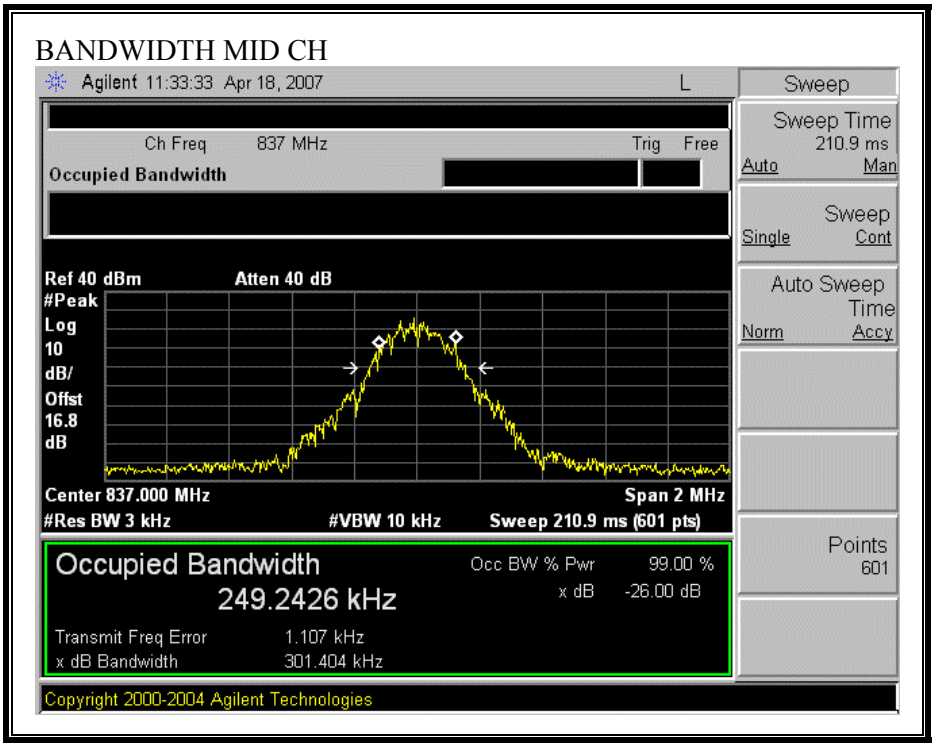

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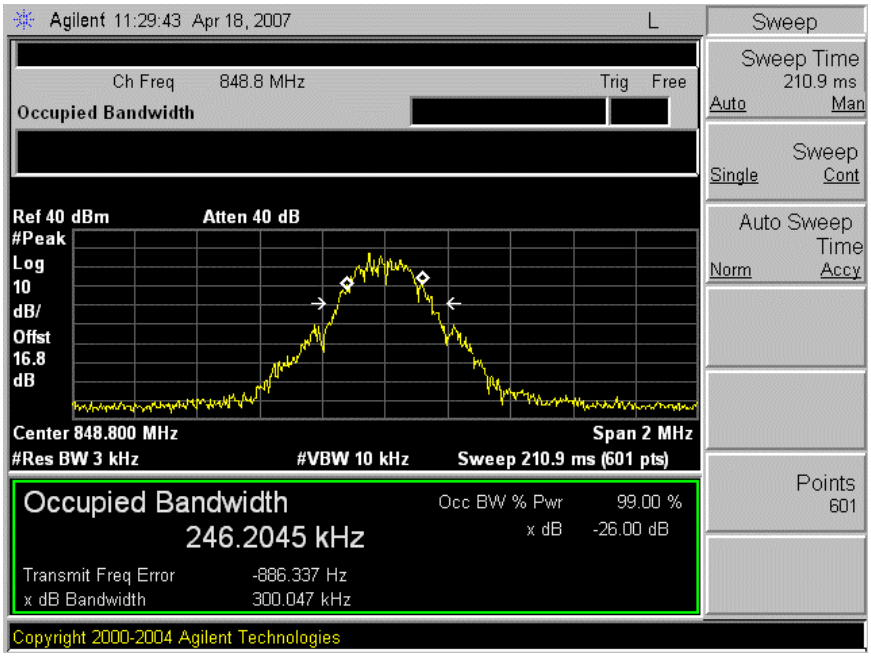

GSM850, EGPRS

800MHz CELLULAR 26 dB BANDWIDTH

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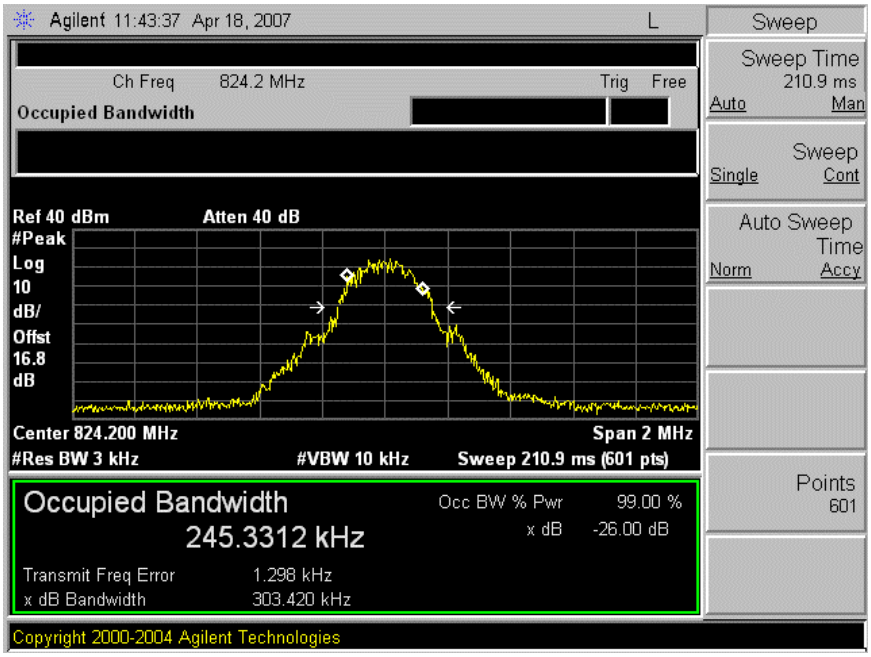

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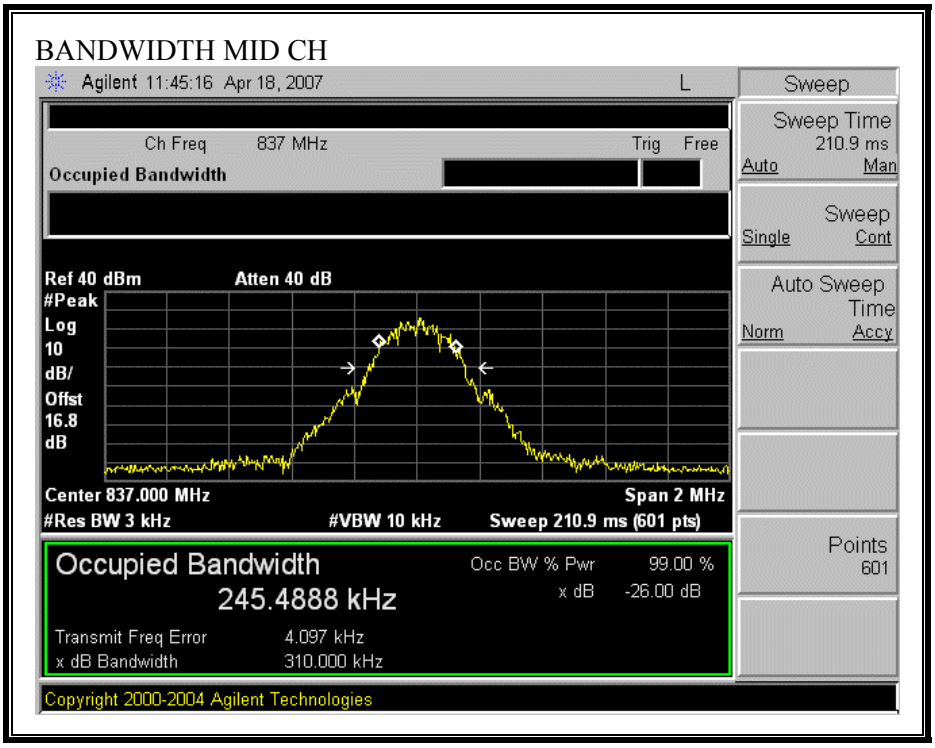

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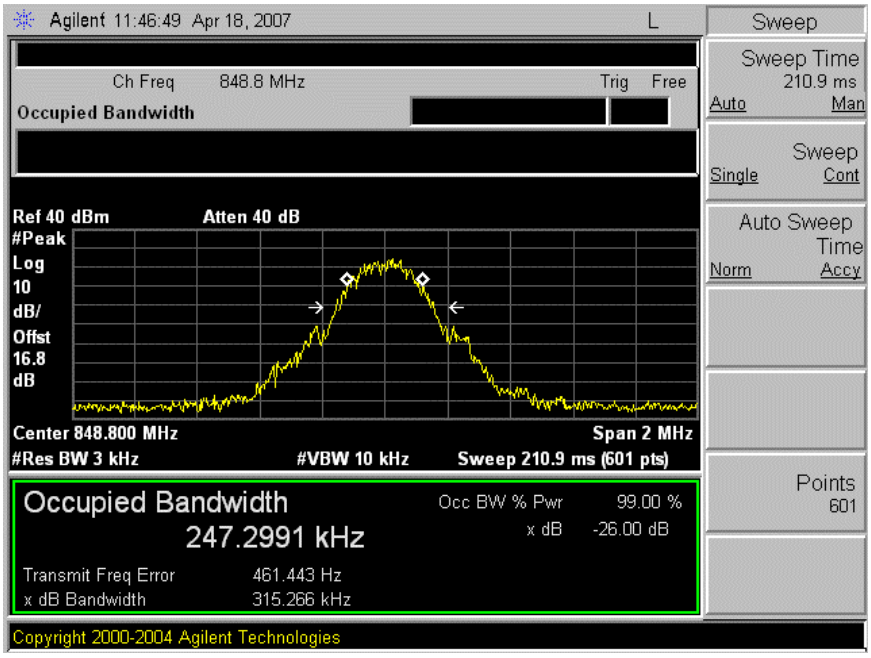

WCDMA 850

800MHz CELLULAR 26 dB BANDWIDTH

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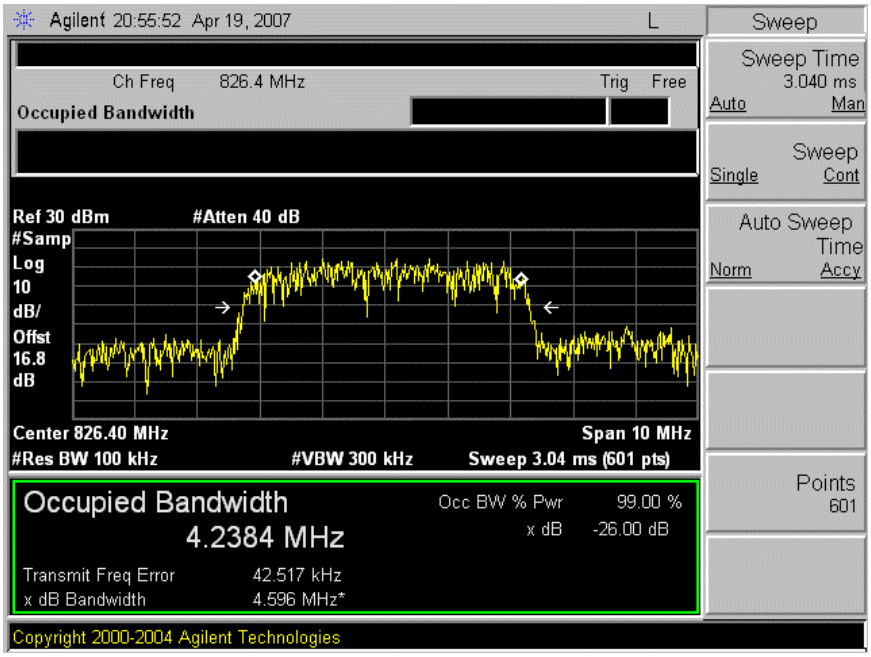

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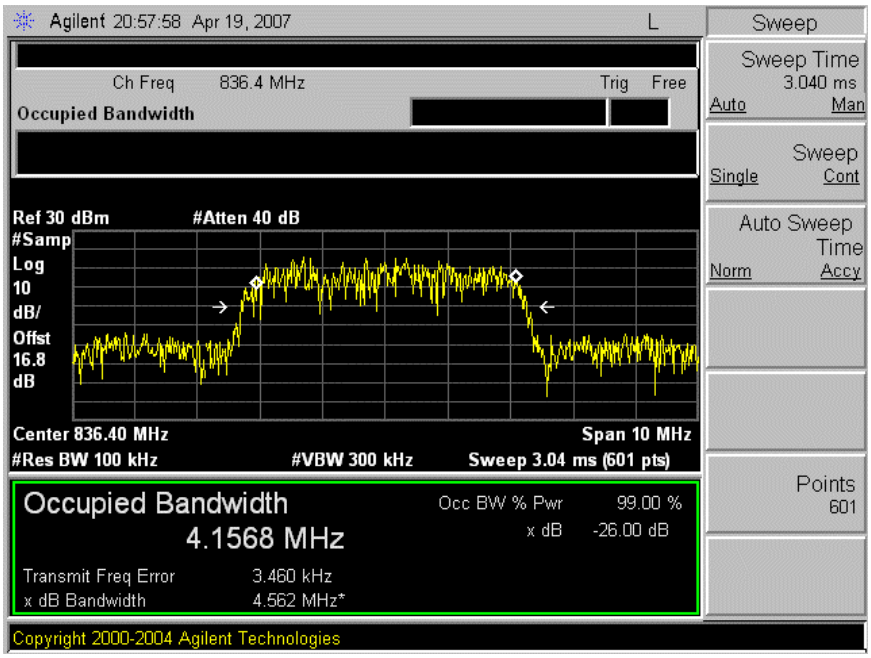

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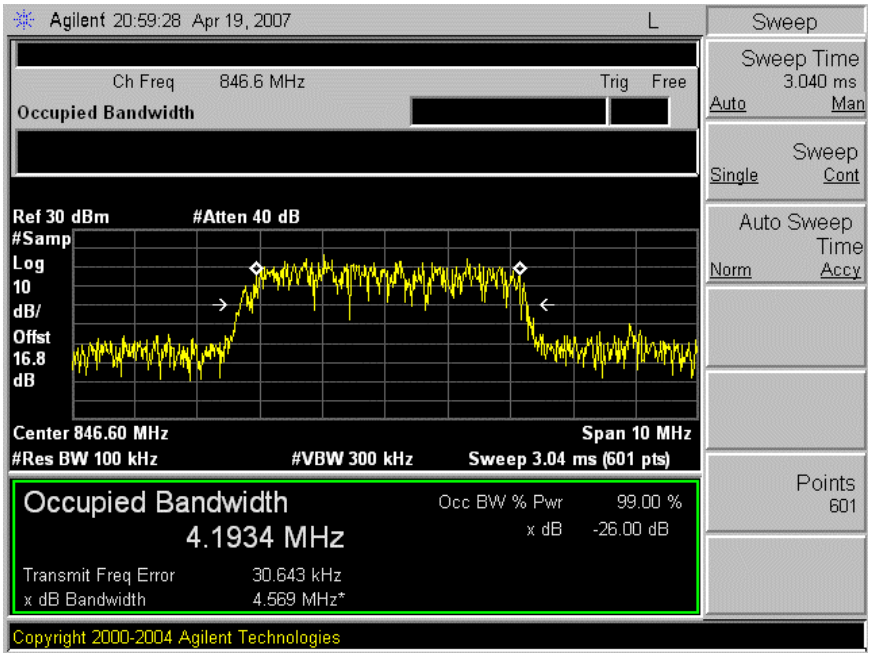

WCDMA+HSDPA 850

800MHz CELLULAR 26 dB BANDWIDTH

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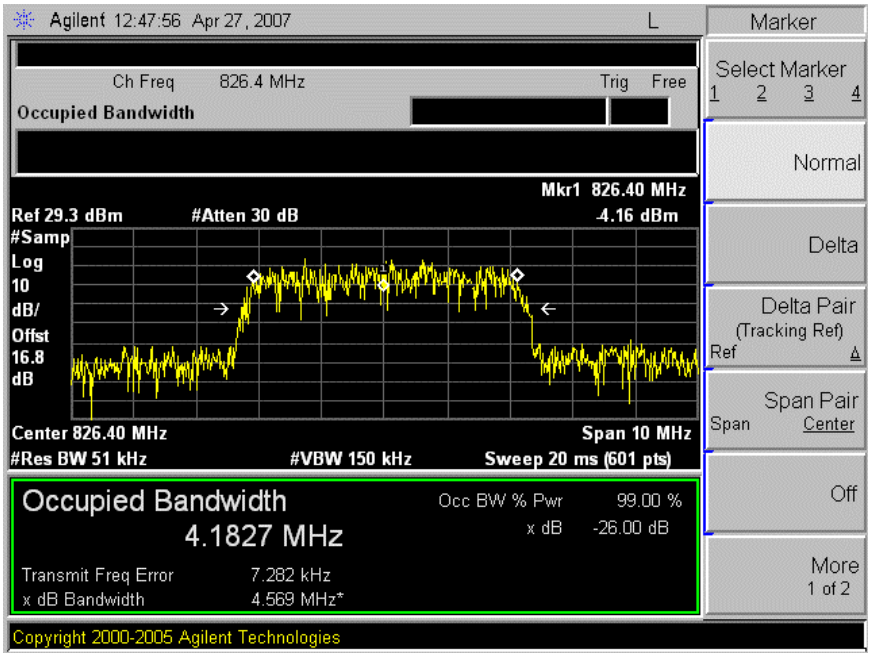

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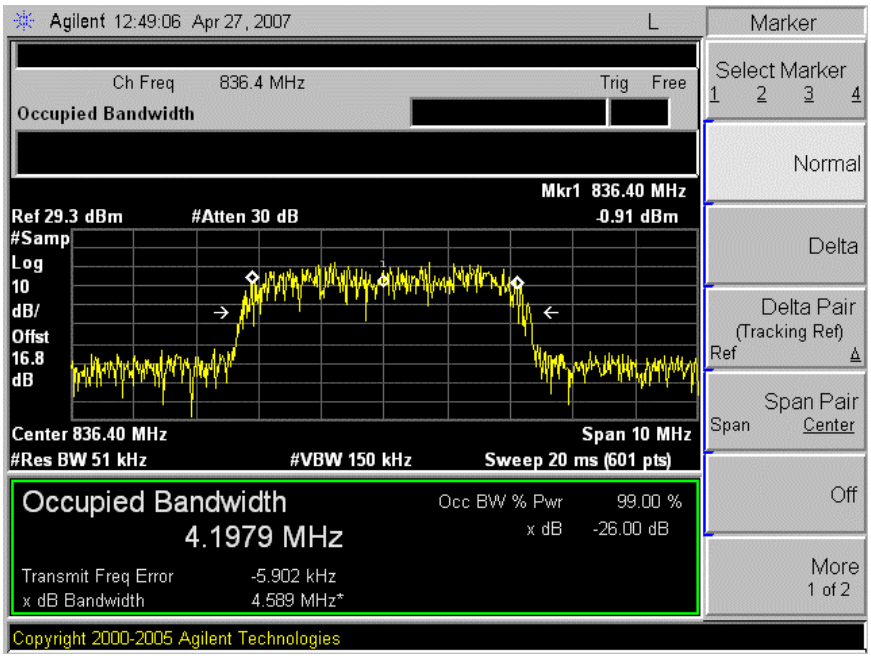

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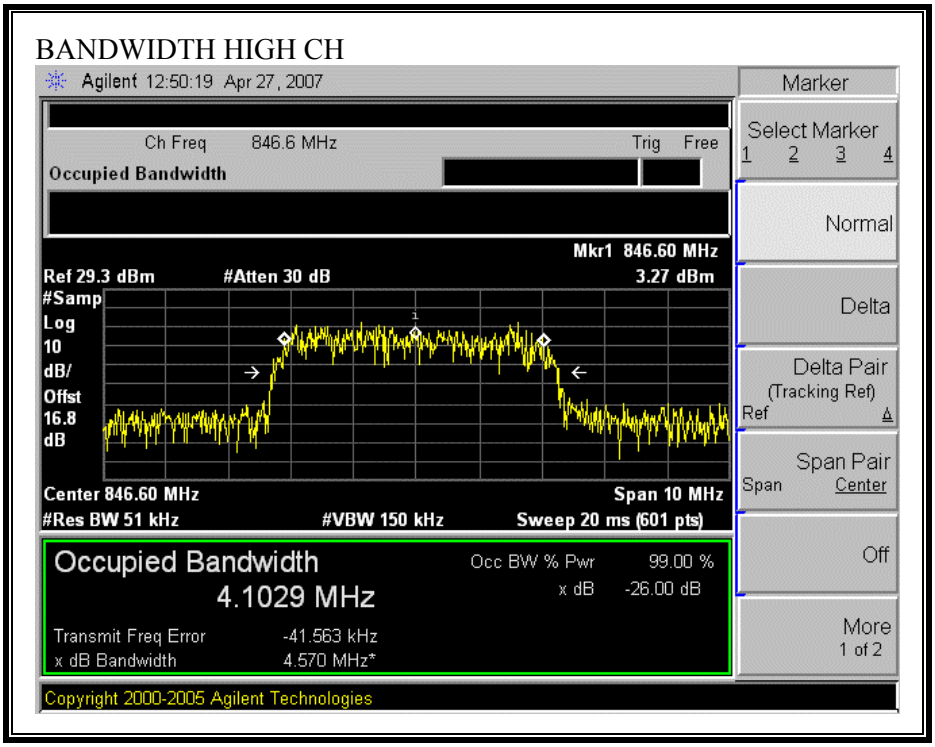

GSM1900, GPRS

1900MHz PCS 26 dB BANDWIDTH

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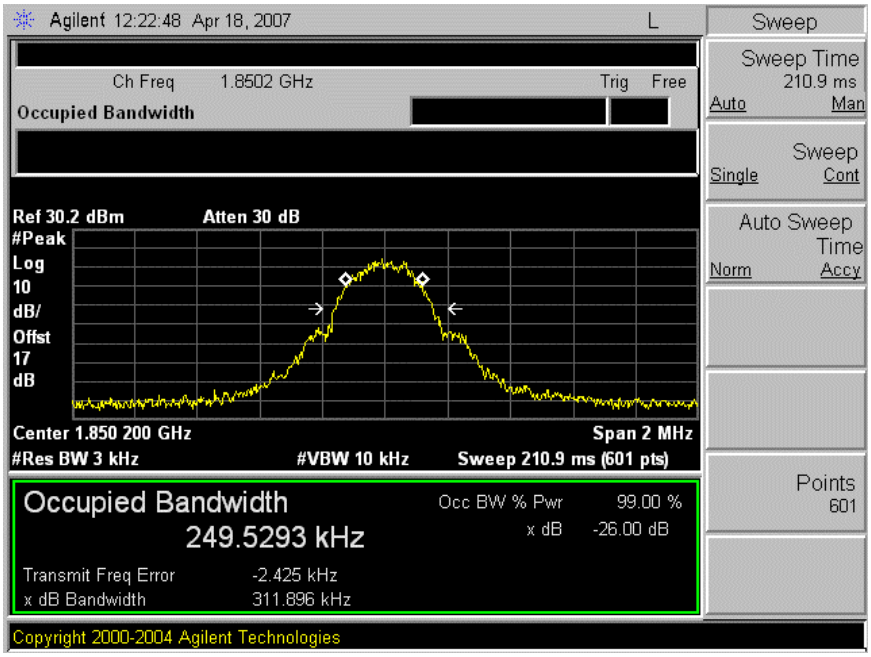

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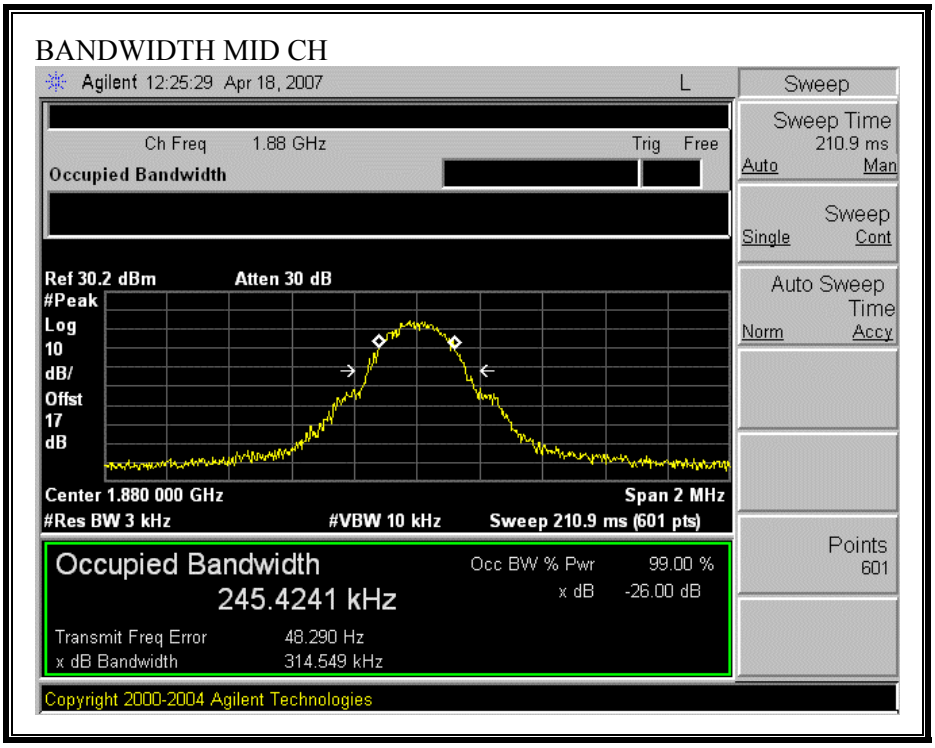

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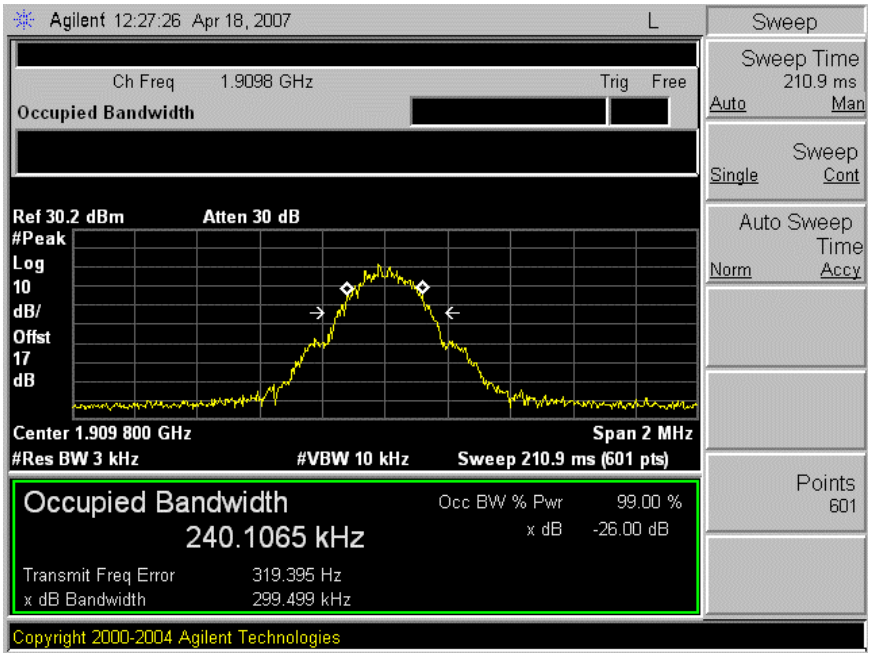

GSM1900, EGPRS

1900MHz PCS 26 dB BANDWIDTH

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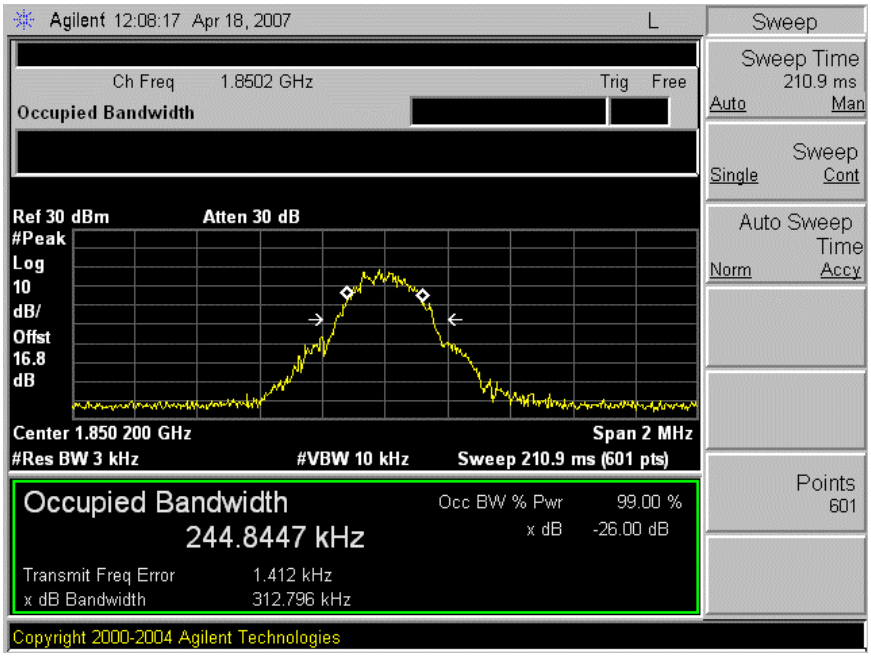

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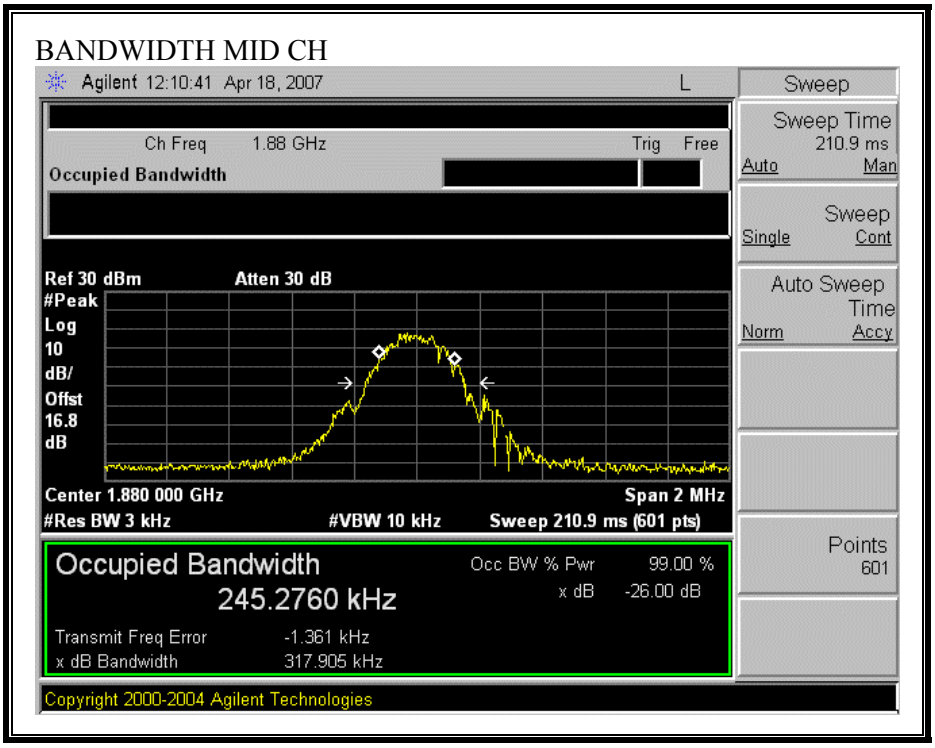

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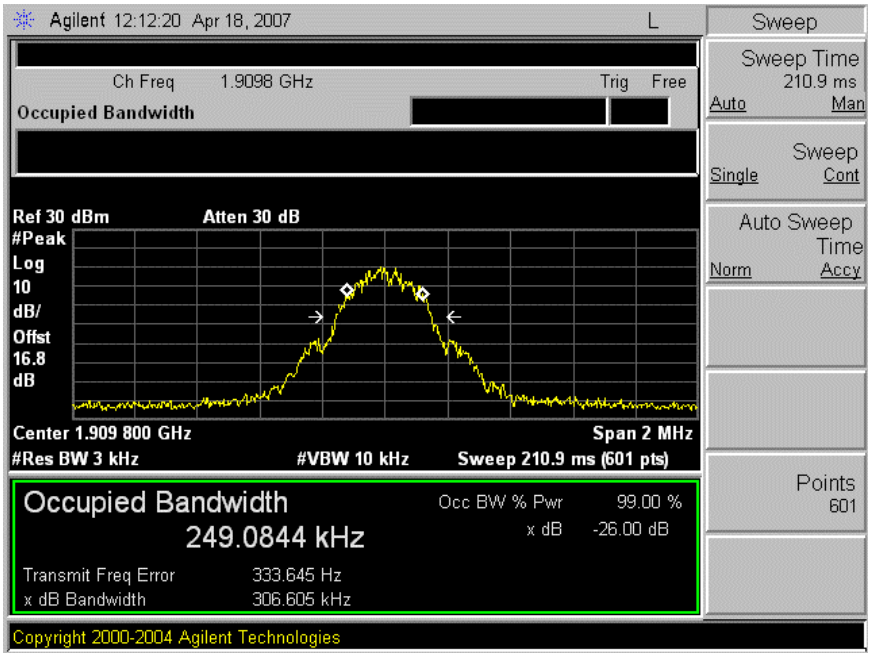
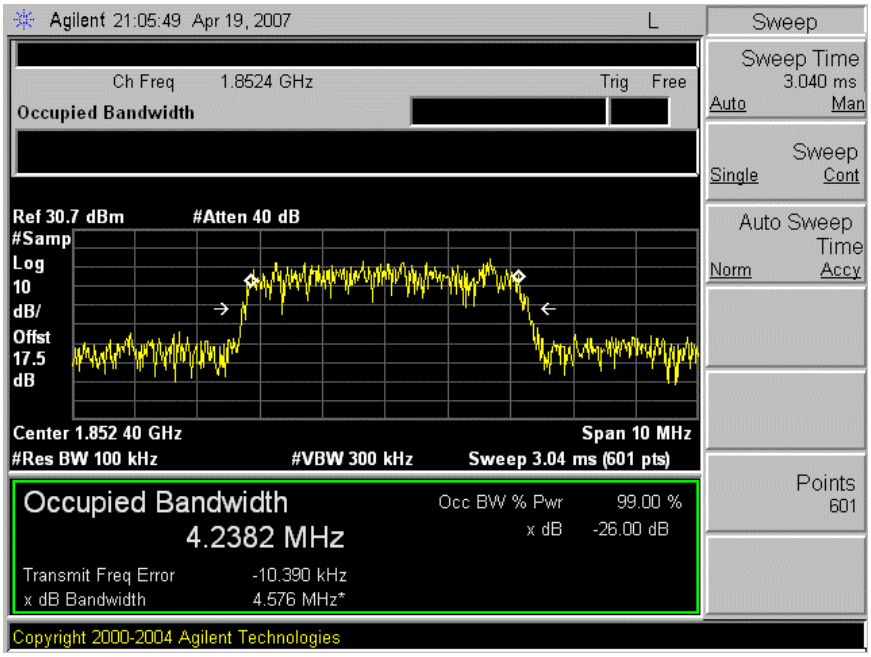


WCDMA1900

1900MHz PCS 26 dB BANDWIDTH

BANDWIDTH LOW CH



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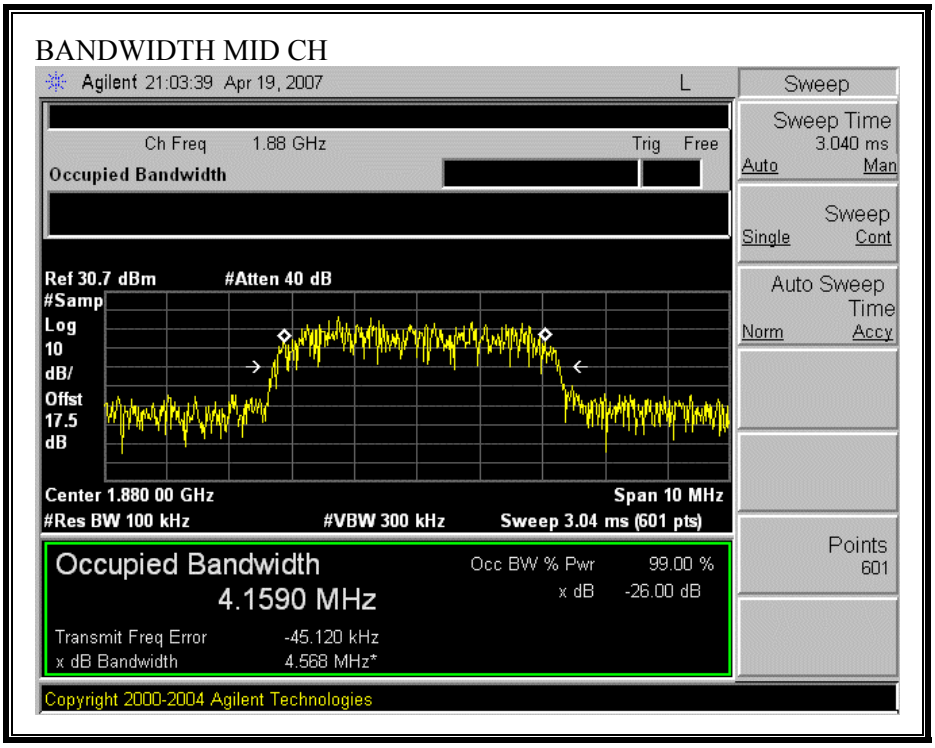

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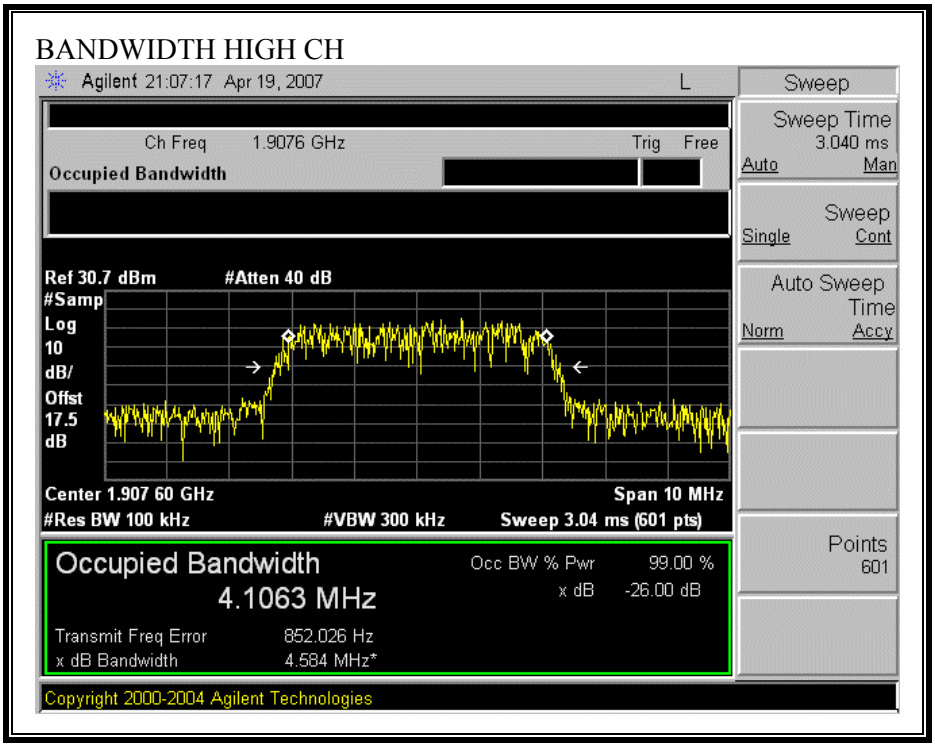

WCDMA+HSDPA 1900

1900MHz PCS 26 dB BANDWIDTH

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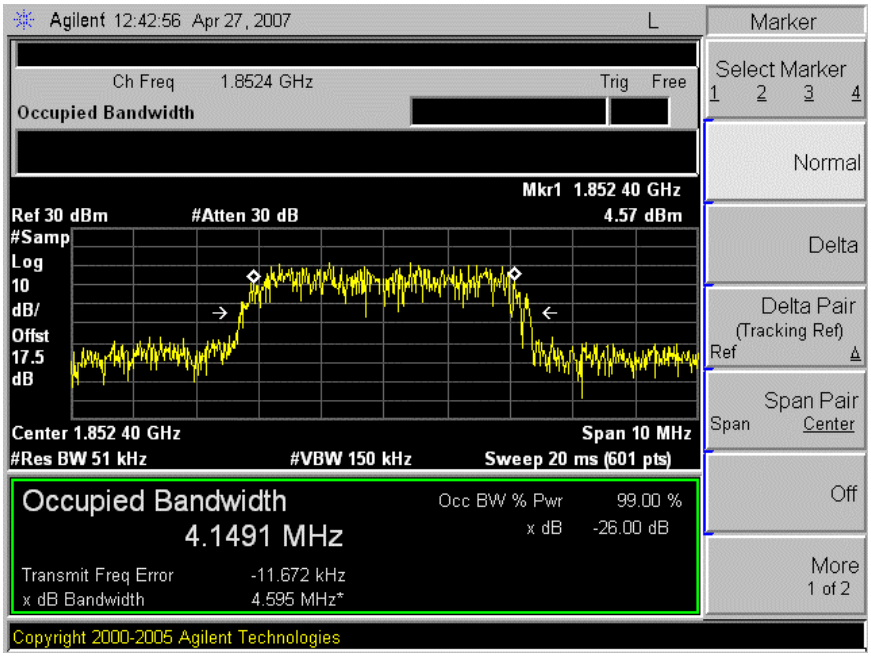

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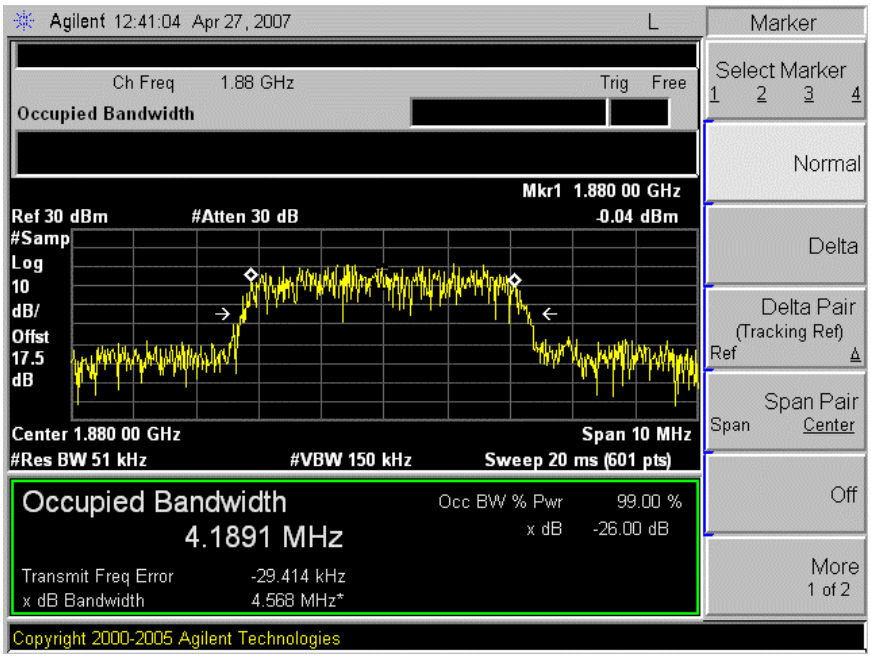

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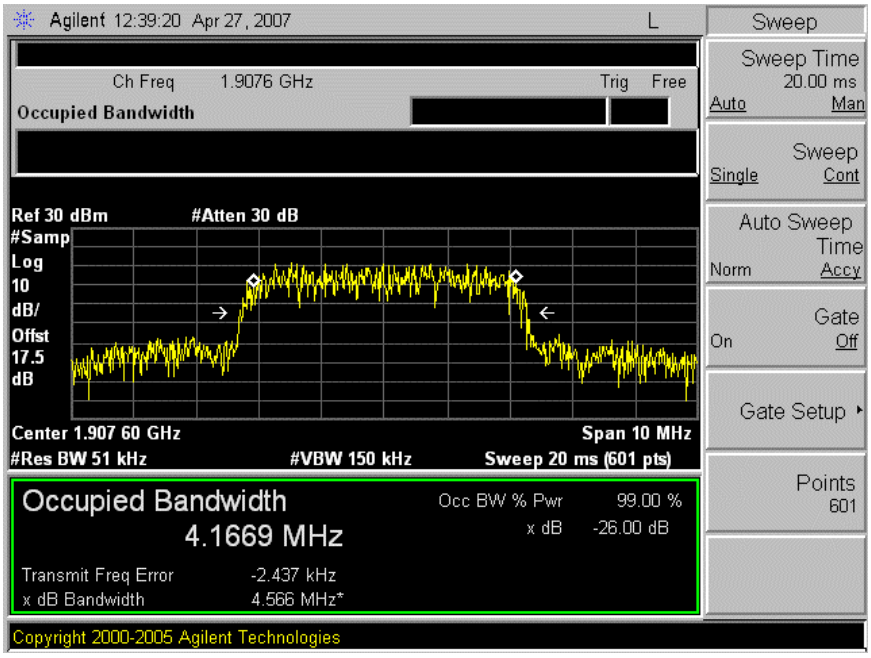


7.2. RF POWER OUTPUT

LIMIT

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
24.232(b) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.17

RESULTS

No non-compliance noted.

NOTE: RBW=1MHz and VBW=3MHz for GSM Modulation, and RBW=VBW=5MHz for WCDMA modulation.

850 MHz GPRS Mode

Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	33.60	2290.87	29.80	954.99
Middle	837	33.78	2387.81	29.40	870.96
High	848.8	33.76	2376.84	30.50	1122.02

850 MHz EGPRS Mode

Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	27.60	575.44	23.70	234.42
Middle	837	27.61	576.77	24.10	257.04
High	848.8	27.51	563.64	24.30	269.15

850 MHz WCDMA Modulation

Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	826.4	27.17	521.19	23.70	234.42
Middle	836.4	27.14	517.61	23.60	229.09
High	846.6	26.72	469.89	23.60	229.09

850 MHz WCDMA+HSPDA Modulation

Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	826.4	26.78	476.43	23.90	245.47
Middle	836.4	26.39	435.51	24.20	263.03
High	848.6	26.59	456.04	24.60	288.40

1900 MHz GPRS Mode

Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.2	29.96	990.83	29.50	891.25
Middle	1880.00	30.28	1066.60	29.90	977.24
High	1909.8	30.51	1124.60	30.80	1202.26

1900 MHz EGPRS Mode

Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.2	25.89	388.15	26.30	426.58
Middle	1880.00	26.39	435.51	26.40	436.52
High	1909.8	26.85	484.17	26.60	457.09

1900 MHz WCDMA Modulation

Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1852.4	26.89	488.65	25.60	363.08
Middle	1880.00	26.78	476.43	25.30	338.84
High	1907.6	27.40	549.54	26.20	416.87

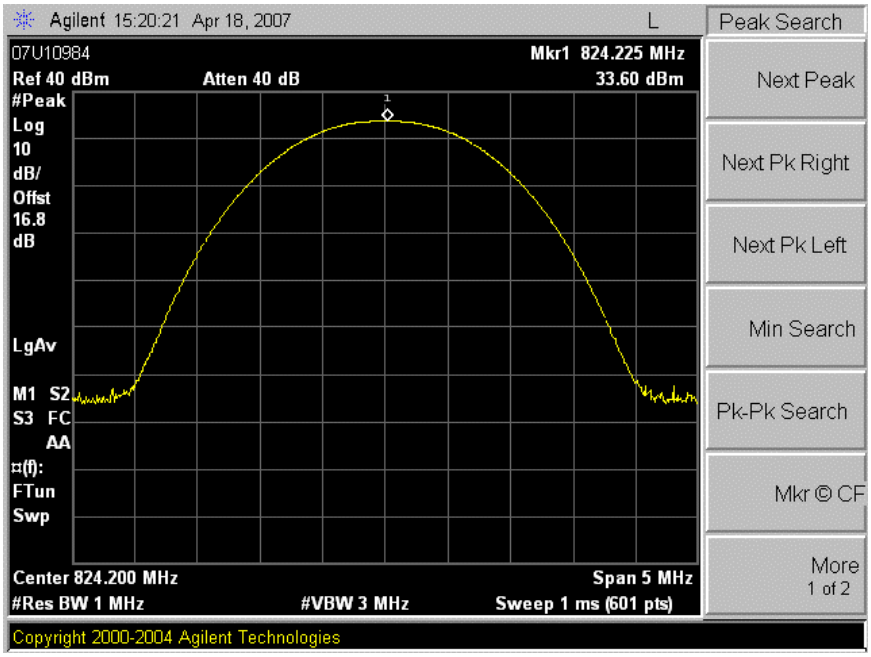
1900 MHz WCDMA+HSPDA Modulation

Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1852.40	26.92	492.04	26.40	436.52
Middle	1880.00	27.06	508.16	25.90	389.05
High	1907.60	27.11	514.04	26.70	467.74

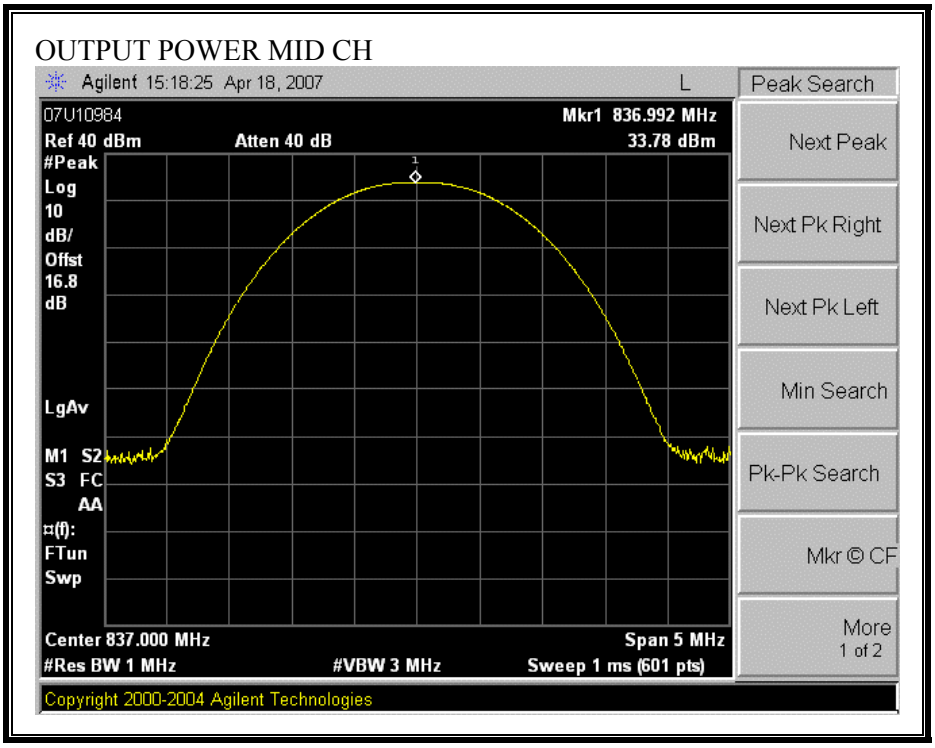
GSM850, GPRS

CELLULLAR (RF CONDUCTED OUTPUT POWER)

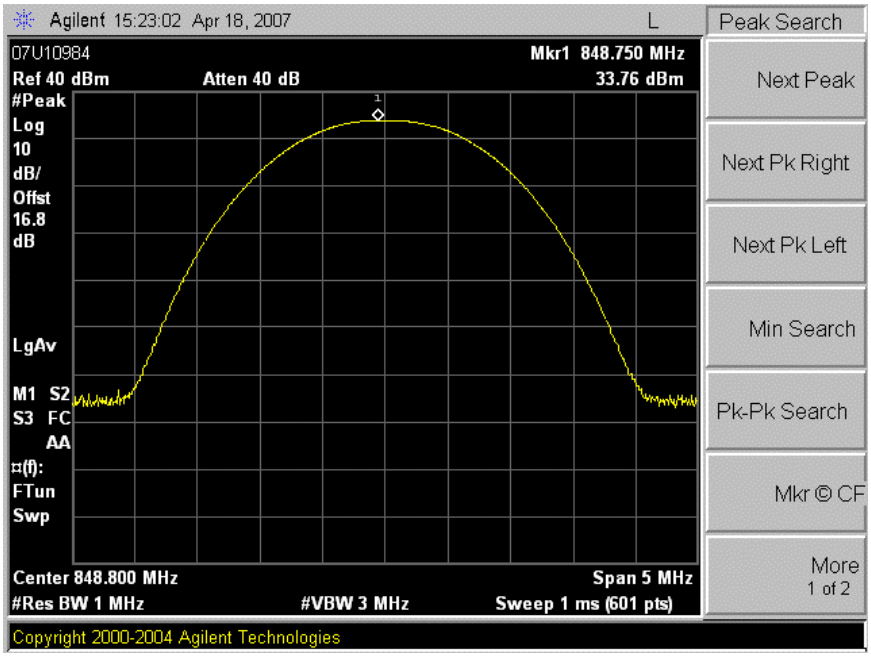
OUTPUT POWER LOW CH



OUTPUT POWER MID CH



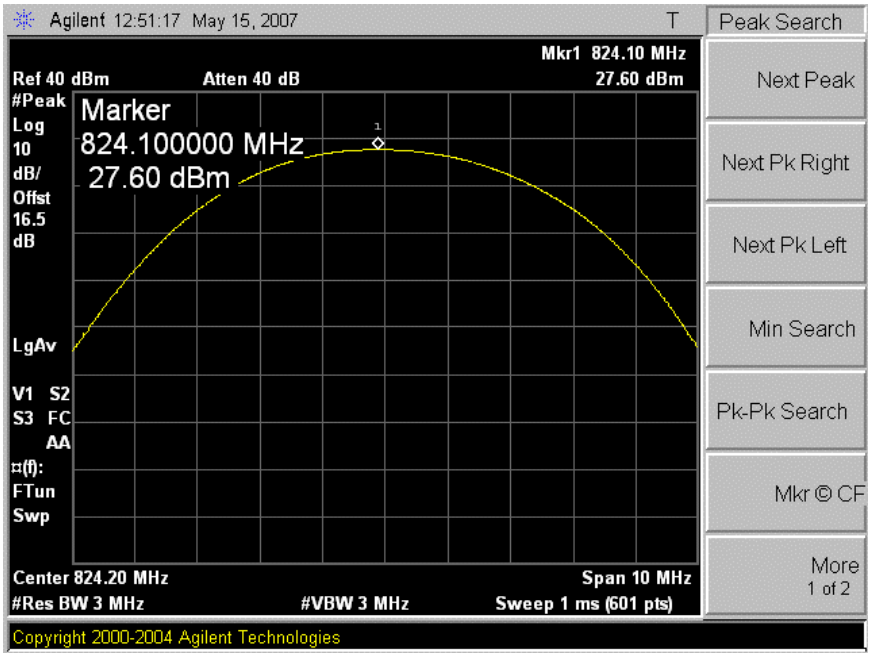
OUTPUT POWER HIGH CH



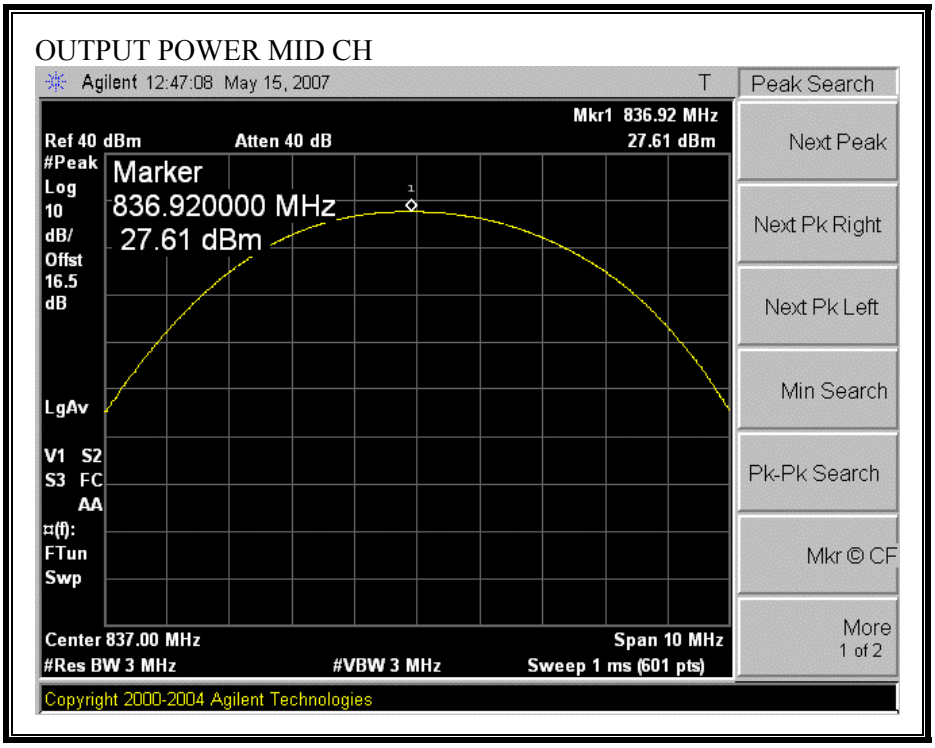
GSM850, EGPRS

CELLULLAR (RF CONDUCTED OUTPUT POWER)

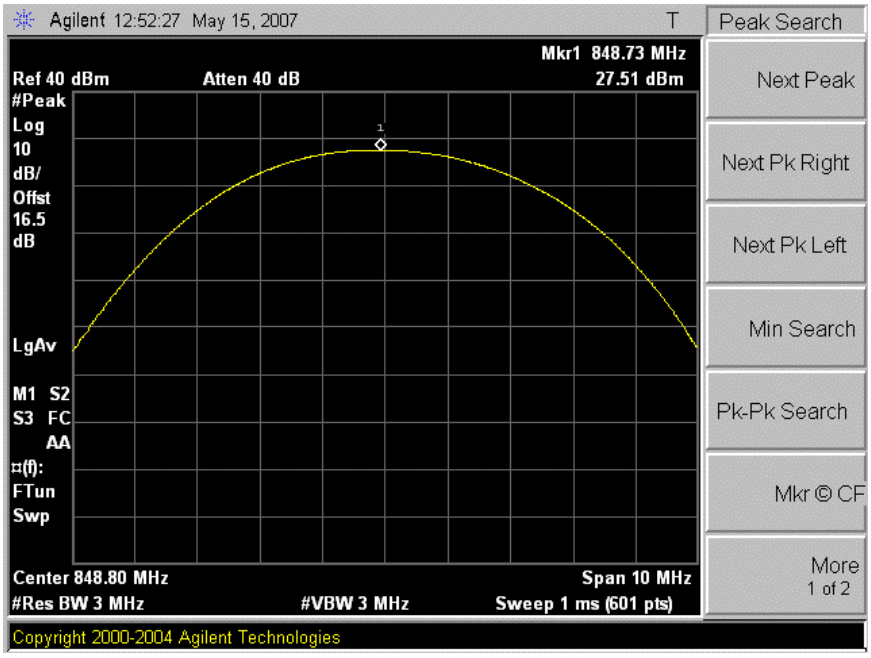
OUTPUT POWER LOW CH



OUTPUT POWER MID CH



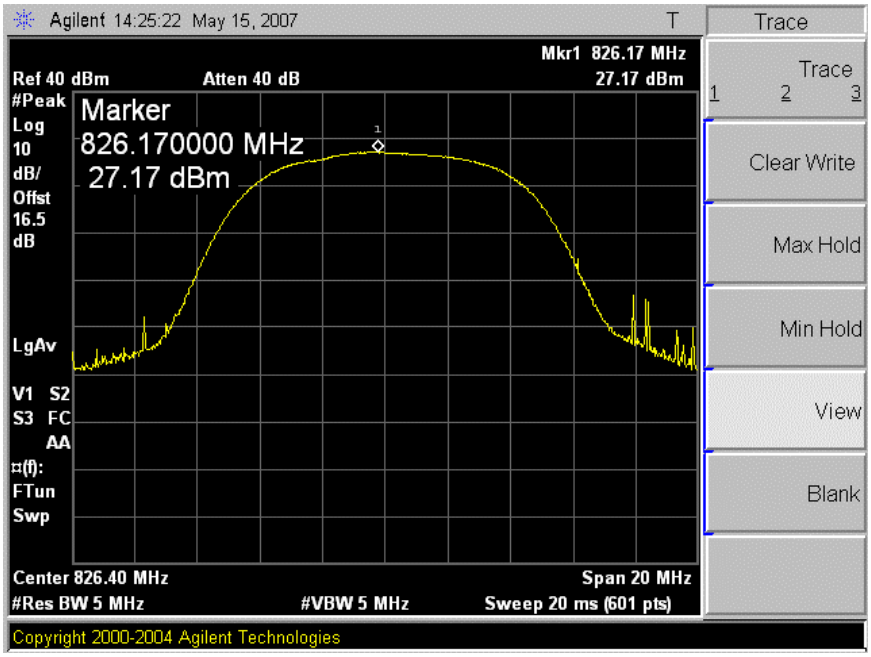
OUTPUT POWER HIGH CH



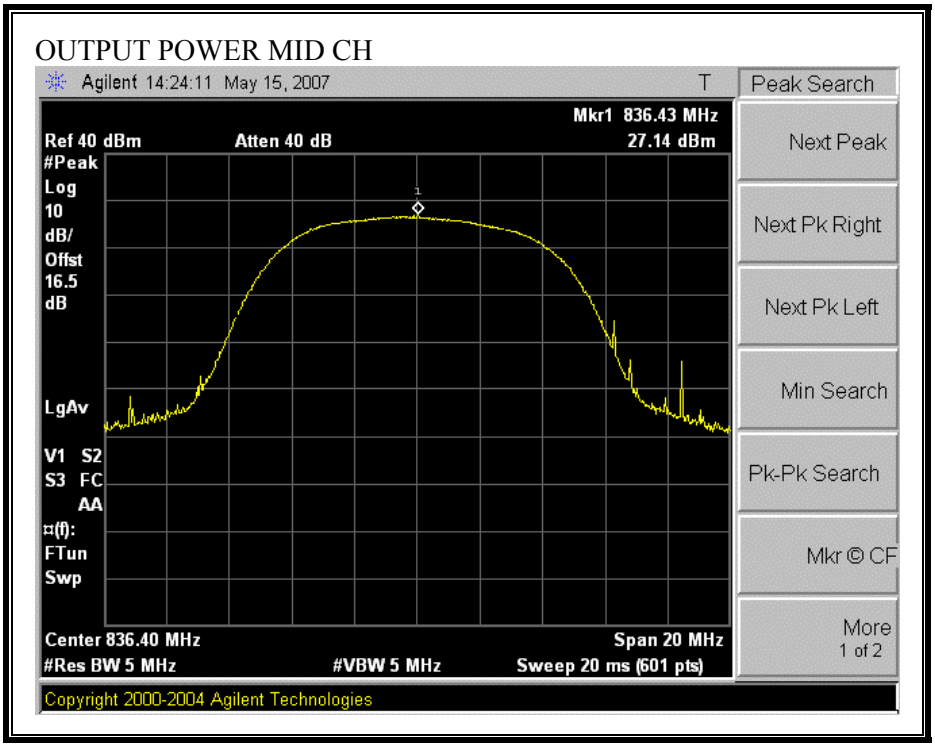
WCDMA 850

CELLULLAR (RF CONDUCTED OUTPUT POWER)

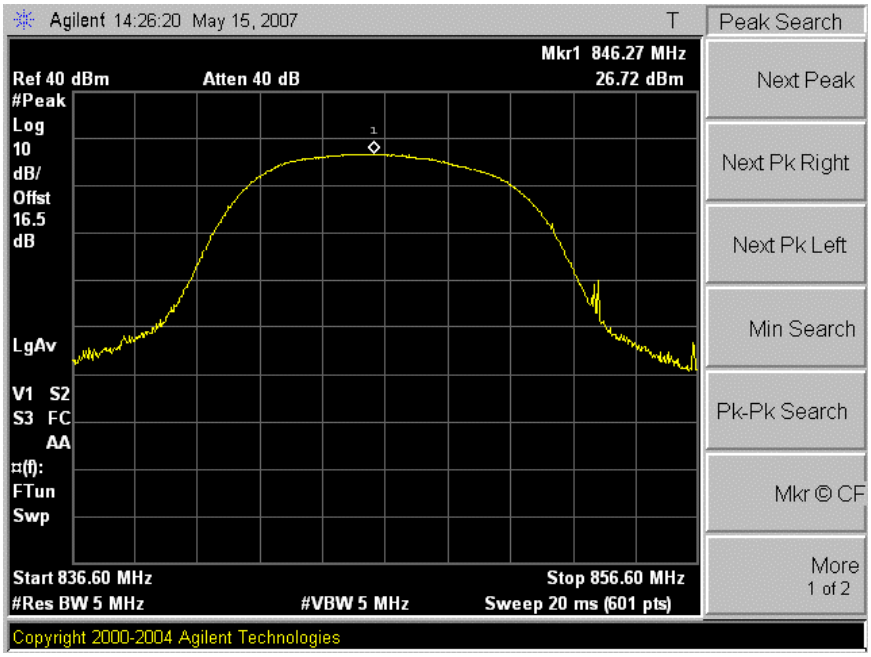
OUTPUT POWER LOW CH



OUTPUT POWER MID CH



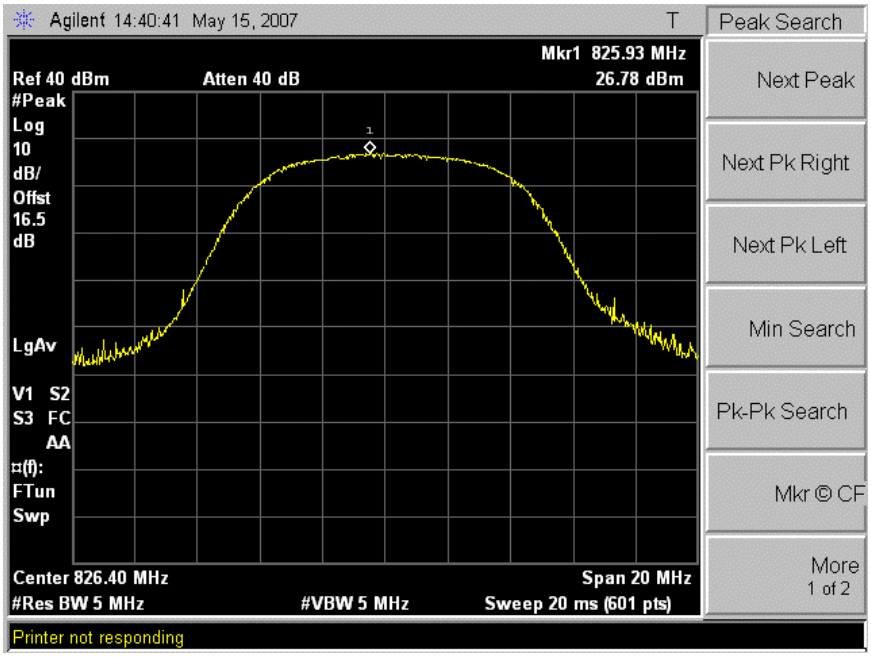
OUTPUT POWER HIGH CH



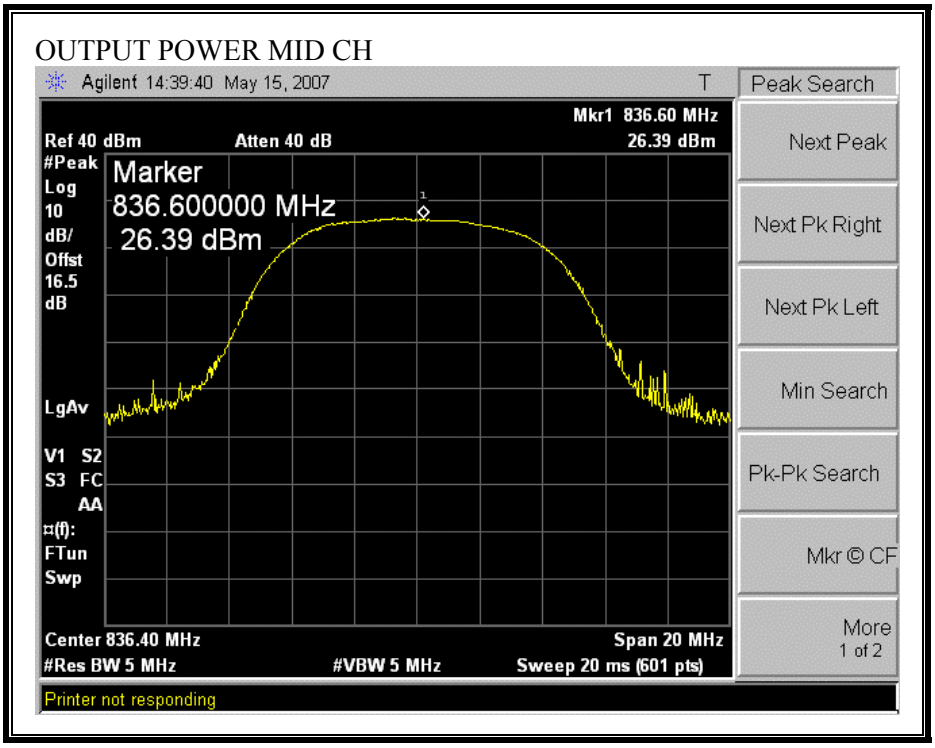
WCDMA + HSDPA 850

CELLULLAR (RF CONDUCTED OUTPUT POWER)

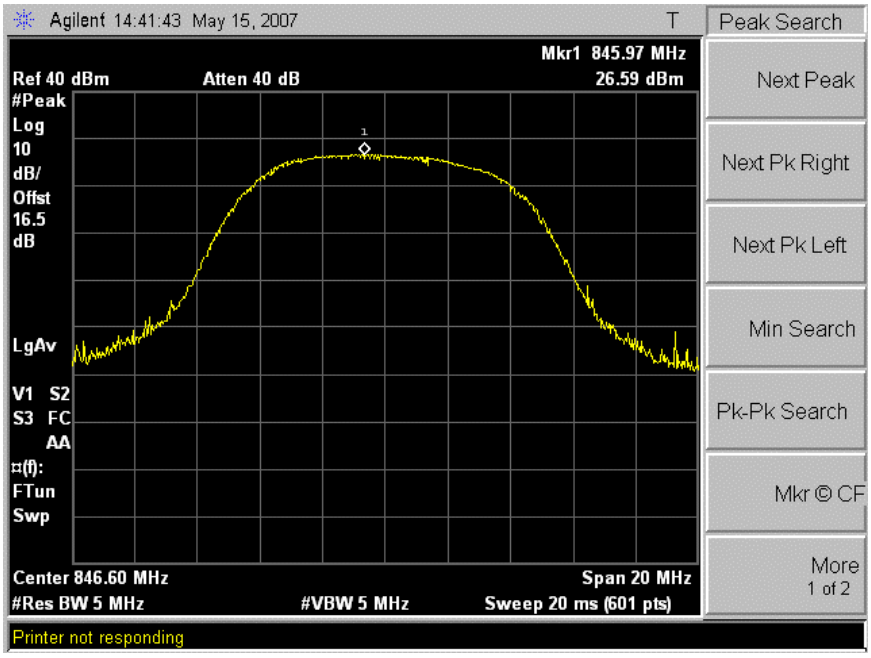
OUTPUT POWER LOW CH



OUTPUT POWER MID CH



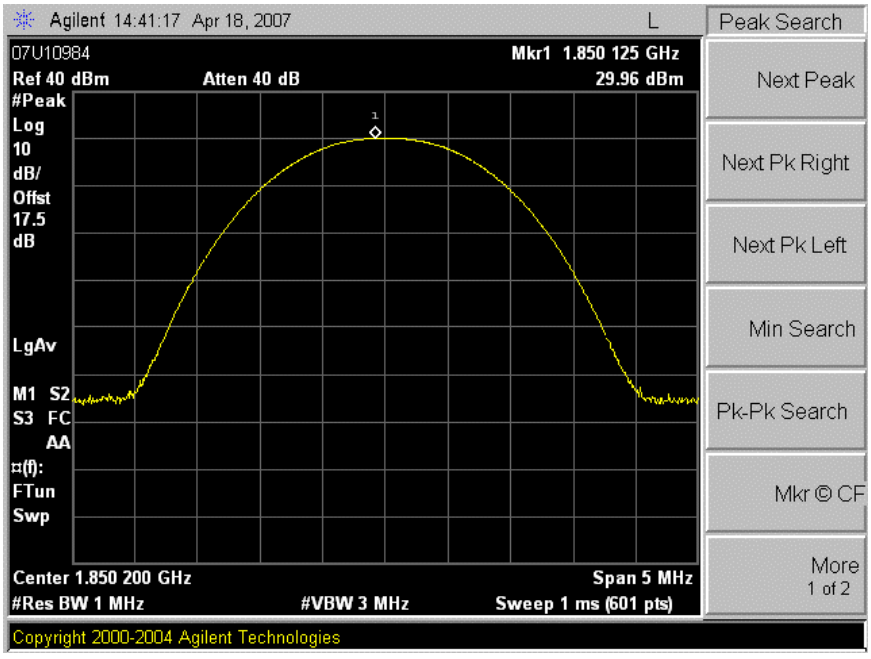
OUTPUT POWER HIGH CH



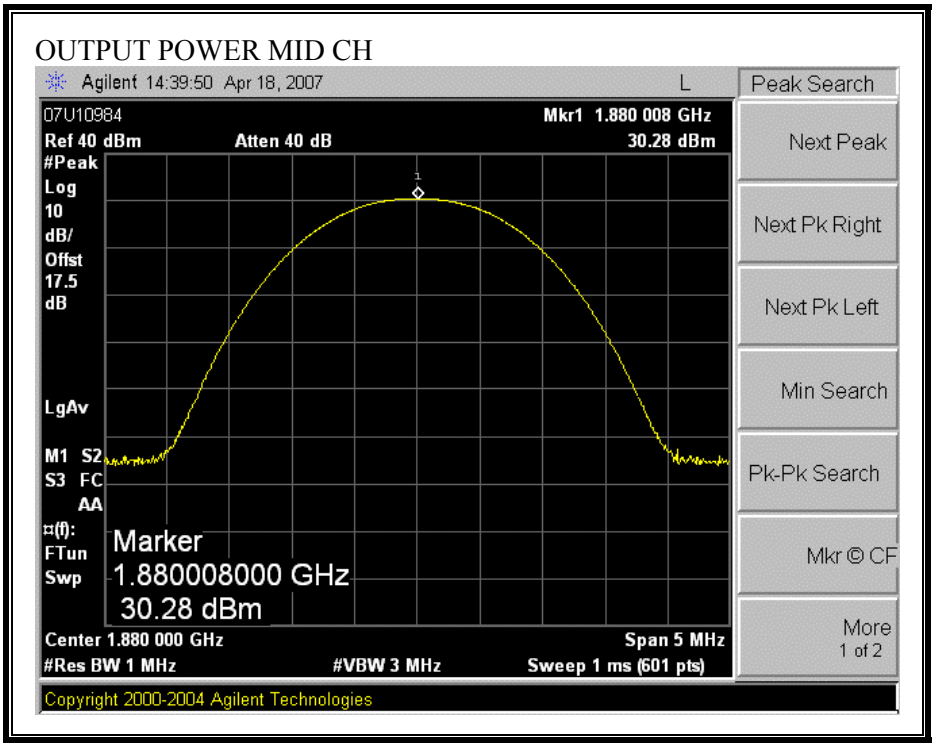
GSM1900, GPRS

PCS (RF CONDUCTED OUTPUT POWER)

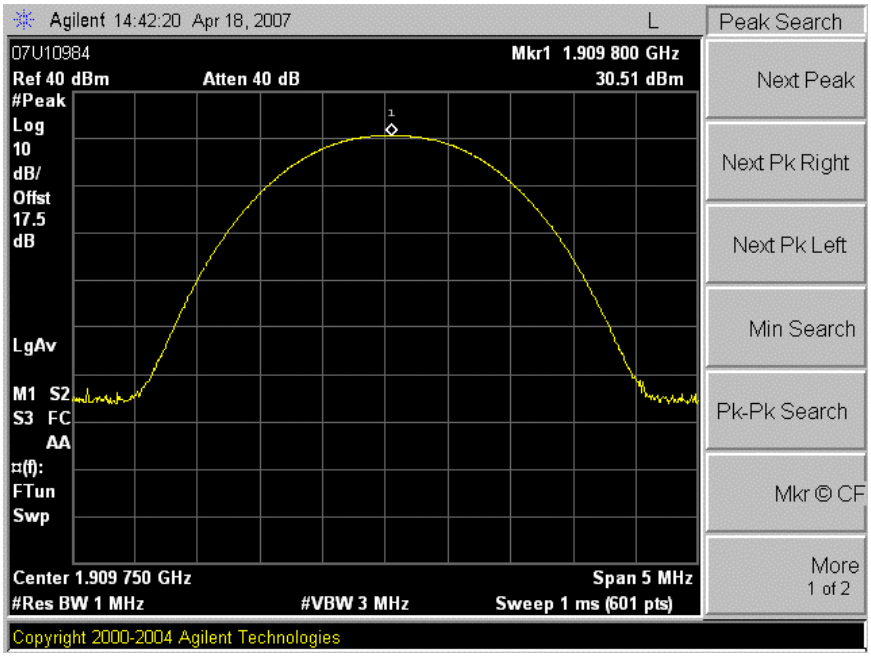
OUTPUT POWER LOW CH



OUTPUT POWER MID CH



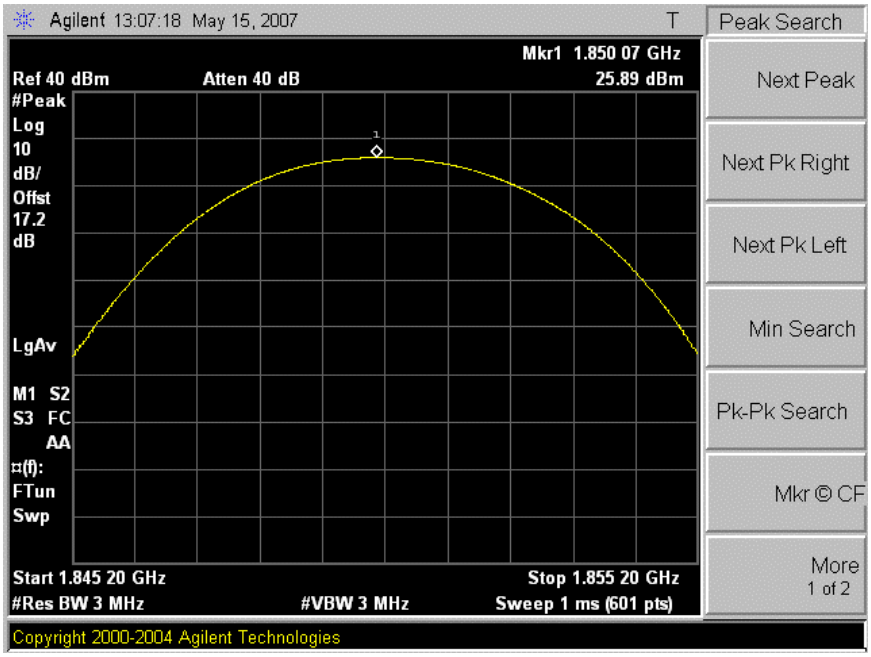
OUTPUT POWER HIGH CH



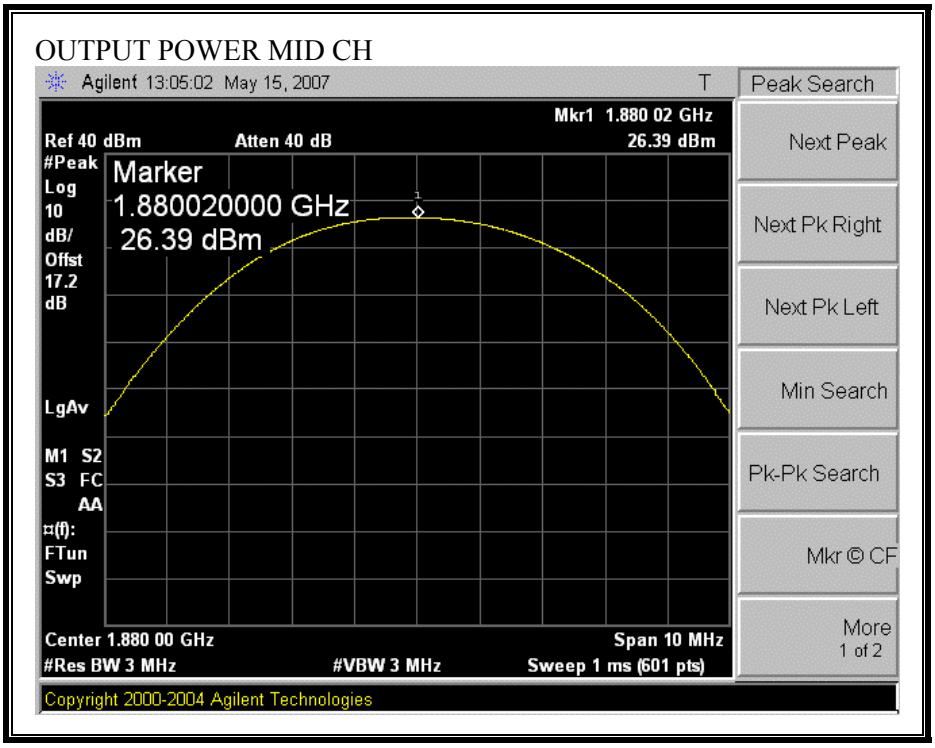
GSM1900, EGPRS

PCS (RF CONDUCTED OUTPUT POWER)

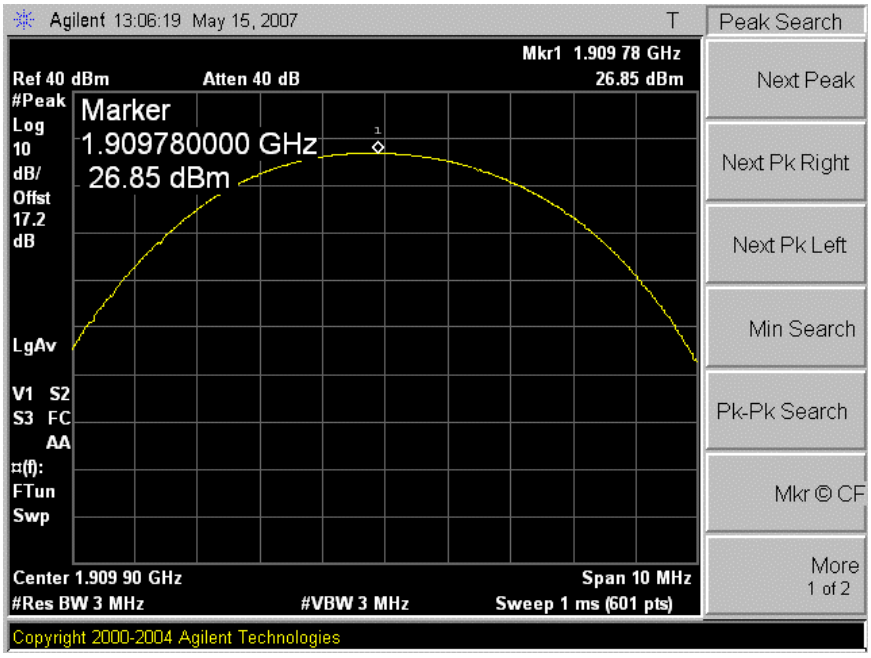
OUTPUT POWER LOW CH



OUTPUT POWER MID CH



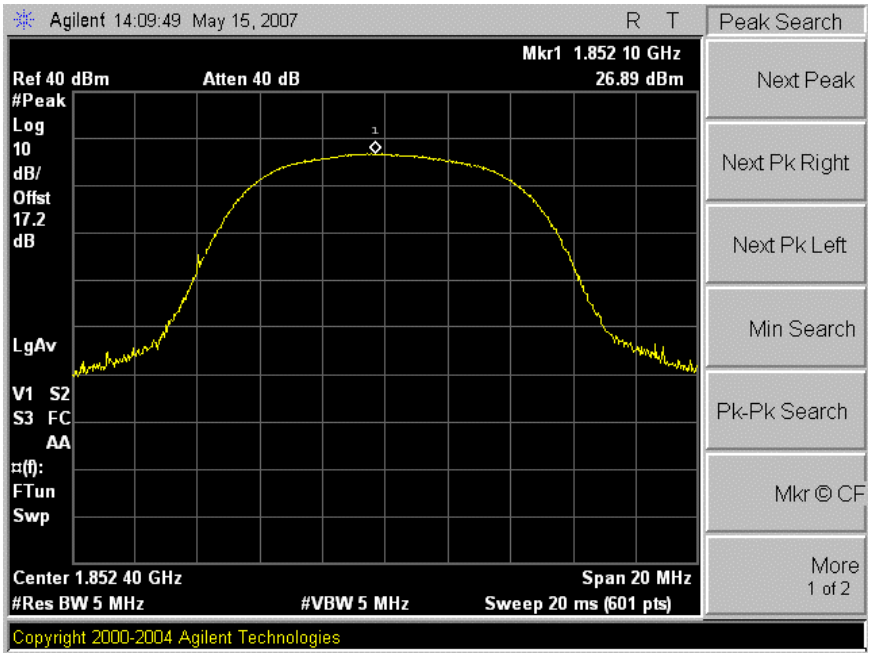
OUTPUT POWER HIGH CH



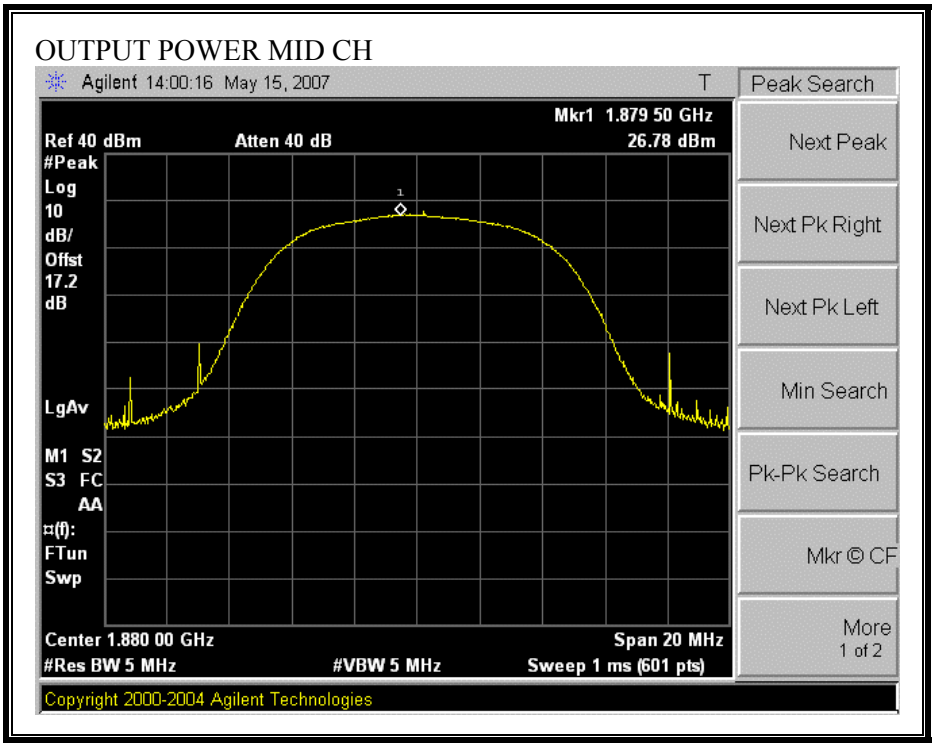
WCDMA 1900

PCS (RF CONDUCTED OUTPUT POWER)

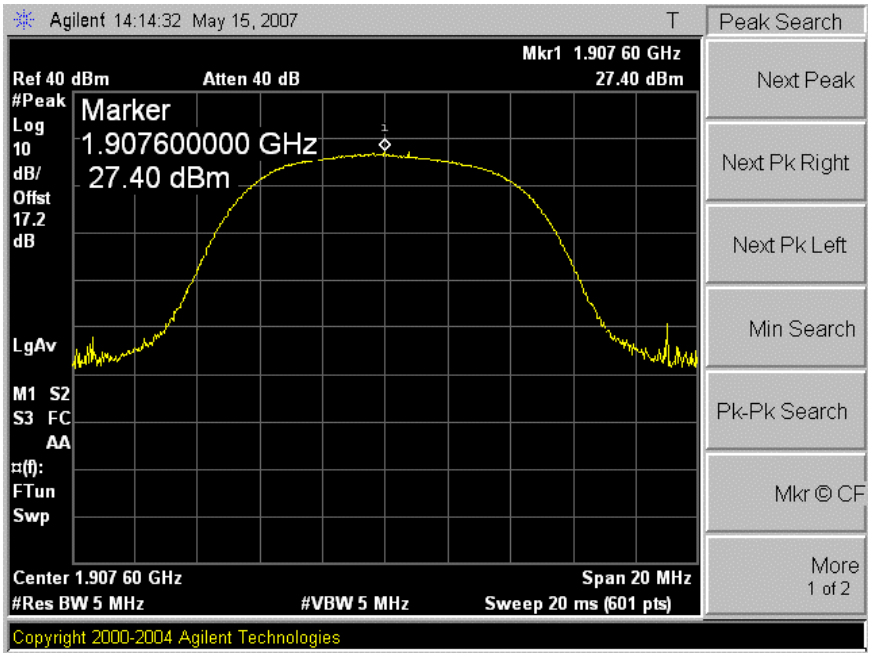
OUTPUT POWER LOW CH



OUTPUT POWER MID CH



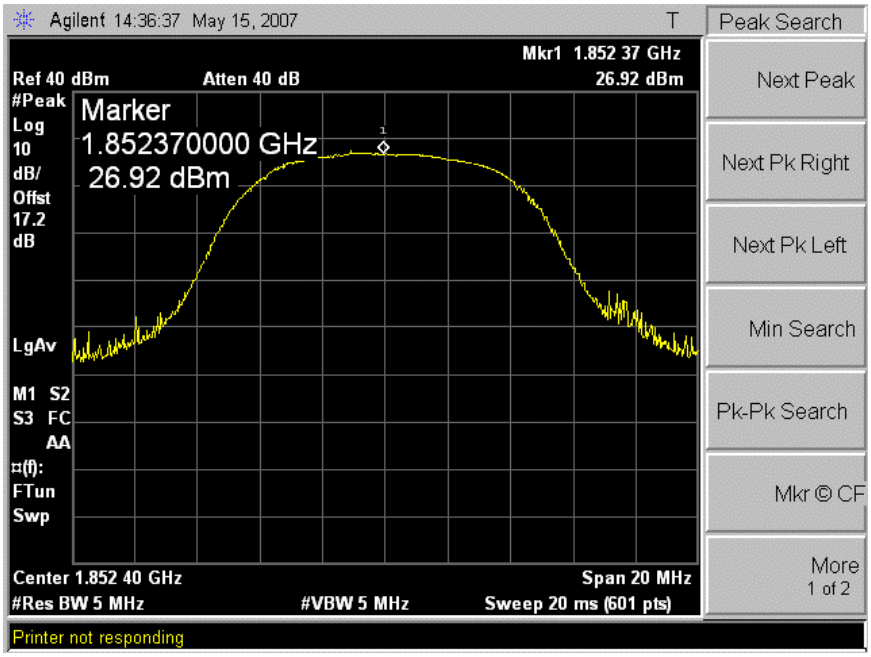
OUTPUT POWER HIGH CH



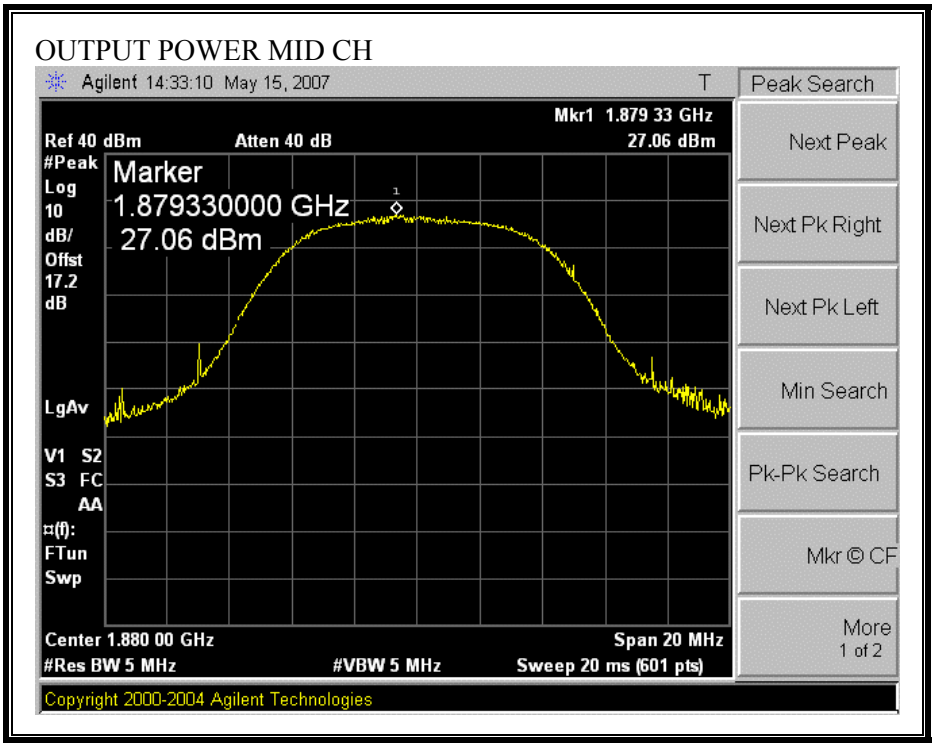
WCDMA+HSDPA 1900

1900MHz PCS (RF CONDUCTED OUTPUT POWER)

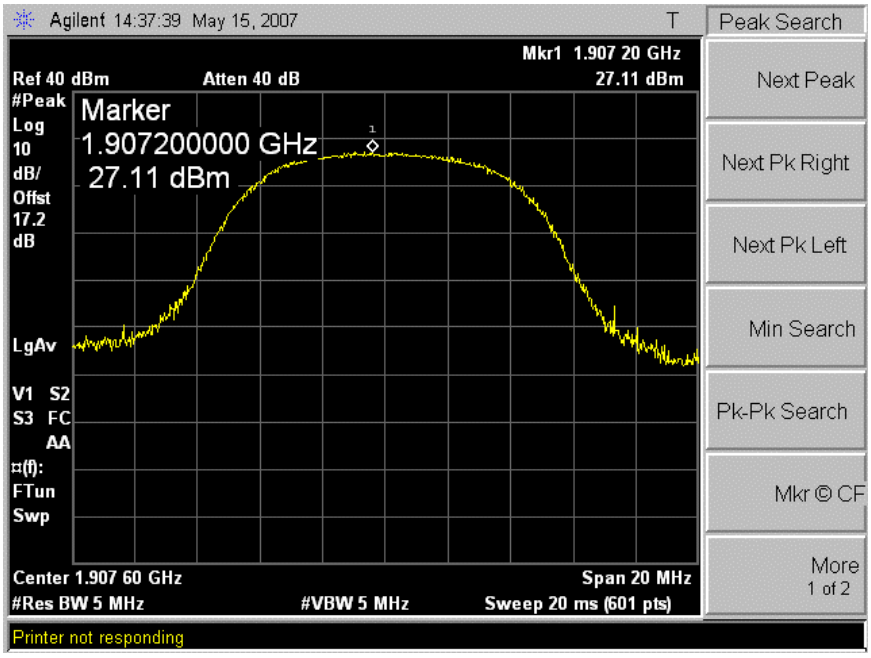
OUTPUT POWER LOW CH



OUTPUT POWER MID CH



OUTPUT POWER HIGH CH



GSM850 GPRS Output Power (ERP)

High Frequency Substitution Measurement
Compliance Certification Services, Fremont 5m Chamber Site

Company: HTC
Project #: 07U10984
Date: 4-14-2007
Test Engineer: Chin Pang
Configuration:EUT Only
Mode:TX, GSM850, GPRS
Worst Case Position
Test Equipment:
Receiving: Sunol T122, and 5m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 177081002

f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
824.20	103.9	V	30.3	0.5	0.0	29.8	38.5	-8.6	
824.20	97.6	H	22.3	0.5	0.0	21.8	38.5	-16.6	
Mid Ch									
836.50	103.0	V	30.0	0.6	0.0	29.4	38.5	-9.0	
836.50	97.5	H	22.4	0.6	0.0	21.8	38.5	-16.6	
High Ch									
848.80	104.4	V	31.2	0.7	0.0	30.5	38.5	-7.9	
848.80	96.0	H	20.5	0.7	0.0	19.8	38.5	-18.6	

Rev. 1.24.7

GSM850 EGPRS Output Power (ERP)

High Frequency Substitution Measurement
Compliance Certification Services, Fremont 5m Chamber Site

Company: HTC
Project #: 07U10984
Date: 4-14-2007
Test Engineer: Chin Pang
Configuration: EUT Only
Mode: TX, GSM850, EGPRS

Test Equipment:
Receiving: Sunol T122, and 5m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 177081002

f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
824.20	97.8	V	24.2	0.5	0.0	23.7	38.5	-14.7	
824.20	95.3	H	20.0	0.5	0.0	19.5	38.5	-18.9	
Mid Ch									
836.50	97.7	V	24.7	0.6	0.0	24.1	38.5	-14.3	
836.50	95.0	H	19.9	0.6	0.0	19.3	38.5	-19.1	
High Ch									
848.80	98.2	V	25.0	0.7	0.0	24.3	38.5	-14.1	
848.80	94.7	H	19.2	0.7	0.0	18.5	38.5	-19.9	

Rev. 1.24.7

Cell Band WCDMA Output Power (ERP)

High Frequency Substitution Measurement
Compliance Certification Services, Fremont 5m Chamber Site

Company: HTC
Project #: 07U10984
Date: 4-14-2007
Test Engineer: Chin Pang
Configuration:EUT Only
Mode:TX, WCDMA 850

Test Equipment:
Receiving: Sunol T122, and 5m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 177081002

f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
826.40	97.8	V	24.2	0.5	0.0	23.7	38.5	-14.7	
826.40	93.0	H	17.7	0.5	0.0	17.2	38.5	-21.2	
Mid Ch									
837.00	97.2	V	24.2	0.6	0.0	23.6	38.5	-14.8	
837.00	92.8	H	17.7	0.6	0.0	17.1	38.5	-21.3	
High Ch									
846.60	97.5	V	24.3	0.7	0.0	23.6	38.5	-14.8	
846.60	92.6	H	17.1	0.7	0.0	16.4	38.5	-22.0	

Rev. 1.24.7

Cell Band WCDMA+HSPDA Output Power (ERP)

High Frequency Substitution Measurement
Compliance Certification Services, Fremont 5m Chamber Site

Company: HTC
Project #: 07U10984
Date: 4-14-2007
Test Engineer: Chin Pang
Configuration:EUT Only
Mode:TX, WCDMA+HSDPA 850

Test Equipment:
Receiving: Sunol T122, and 5m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 177081002

f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
826.40	98.0	V	24.4	0.5	0.0	23.9	38.5	-14.5	
826.40	91.8	H	16.5	0.5	0.0	16.0	38.5	-22.4	
Mid Ch									
837.00	97.8	V	24.8	0.6	0.0	24.2	38.5	-14.2	
837.00	92.0	H	16.9	0.6	0.0	16.3	38.5	-22.1	
High Ch									
846.60	98.5	V	25.3	0.7	0.0	24.6	38.5	-13.8	
846.60	92.4	H	16.9	0.7	0.0	16.2	38.5	-22.2	

Rev. 1.24.7

GSM1900 Band GPRS Output Power (EIRP)

High Frequency Fundamental Measurement
Compliance Certification Services, Fremont 5m Chamber Site

Company: HTC
Project #: 07U10984
Date: 4-14-2007
Test Engineer: Chin Pang
Configuration:EUT Only
Mode:TX, GSM1900, GPRS

Test Equipment:
Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT)
Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
1.850	94.6	V	21.2	0.9	8.3	28.6	33.0	-4.4	
1.850	96.0	H	22.1	0.9	8.3	29.5	33.0	-3.5	
Nid Ch									
1.880	95.2	V	20.9	0.9	8.3	28.3	33.0	-4.7	
1.880	97.3	H	22.5	0.9	8.3	29.9	33.0	-3.1	
High Ch									
1.910	95.0	V	21.7	0.9	8.4	29.2	33.0	-3.8	
1.910	96.1	H	23.3	0.9	8.4	30.8	33.0	-2.3	

Rev. 1.24.7

GSM1900 Band EGPRS Output Power (EIRP)

High Frequency Fundamental Measurement
Compliance Certification Services, Fremont 5m Chamber Site

Company: HTC
Project #: 07U10984
Date: 4-14-2007
Test Engineer: Chin Pang
Configuration:EUT Only
Mode:TX, GSM1900, EGPRS

Test Equipment:
Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT)
Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
1.850	88.6	V	15.2	0.9	8.3	22.6	33.0	-10.4	
1.850	92.8	H	18.9	0.9	8.3	26.3	33.0	-6.7	
Mid Ch									
1.880	89.3	V	15.0	0.9	8.3	22.4	33.0	-10.6	
1.880	93.8	H	19.0	0.9	8.3	26.4	33.0	-6.6	
High Ch									
1.910	90.2	V	16.9	0.9	8.4	24.4	33.0	-8.6	
1.910	91.9	H	19.1	0.9	8.4	26.6	33.0	-6.5	

Rev. 1.24.7

PCS Band WCDMA Output Power (EIRP)

High Frequency Fundamental Measurement
Compliance Certification Services, Fremont 5m Chamber Site

Company: HTC
Project #: 07U10984
Date: 4-14-2007
Test Engineer: Chin Pang
Configuration: EUT Only
Mode: TX, WCDMA 1900

Test Equipment:
Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT)
Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
1.850	89.5	V	16.1	0.9	8.3	23.5	33.0	-9.5	
1.850	92.1	H	18.2	0.9	8.3	25.6	33.0	-7.4	
)id Ch									
1.880	89.4	V	15.1	0.9	8.3	22.5	33.0	-10.5	
1.880	92.7	H	17.9	0.9	8.3	25.3	33.0	-7.7	
High Ch									
1.910	88.8	V	15.5	0.9	8.4	23.0	33.0	-10.0	
1.910	91.5	H	18.7	0.9	8.4	26.2	33.0	-6.9	

Rev. 1.24.7

PCS Band WCDMA + HSPDA Output Power (EIRP)

High Frequency Fundamental Measurement
Compliance Certification Services, Fremont 5m Chamber Site

Company: HTC
Project #: 07U10984
Date: 4-14-2007
Test Engineer: Chin Pang
Configuration: EUT Only
Mode: TX, WCDMA+HSDPA 1900

Test Equipment:
Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT)
Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch									
1.852.4	89.3	V	15.9	0.9	8.3	23.3	33.0	-9.7	
1.852.5	92.9	H	19.0	0.9	8.3	26.4	33.0	-6.6	
Mid Ch									
1.880	89.4	V	15.1	0.9	8.3	22.5	33.0	-10.5	
1.880	93.3	H	18.5	0.9	8.3	25.9	33.0	-7.1	
High Ch									
1.908	88.0	V	14.7	0.9	8.4	22.2	33.0	-10.8	
1.908	92.0	H	19.2	0.9	8.4	26.7	33.0	-6.4	

Rev. 1.24.7

7.3. SPURIOUS EMISSION AT ANTENNA TERMINAL

LIMIT

§22.917 (e) and §24.238 (a) Out of band emissions. 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 + 10 log (P) dB.

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.12, FCC 22.917 (h), & FCC 24.238 (b)

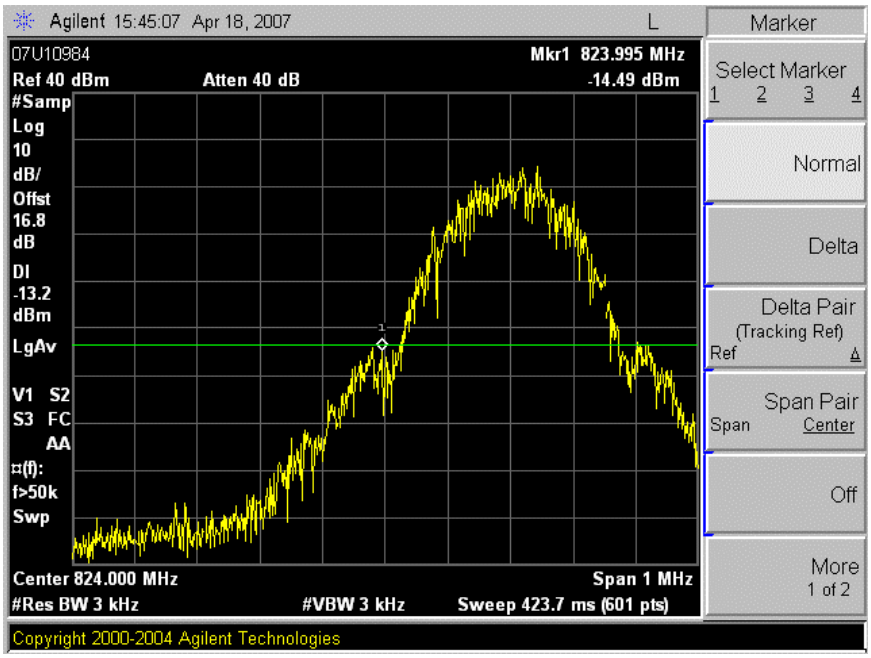
RESULTS

No non-compliance noted.

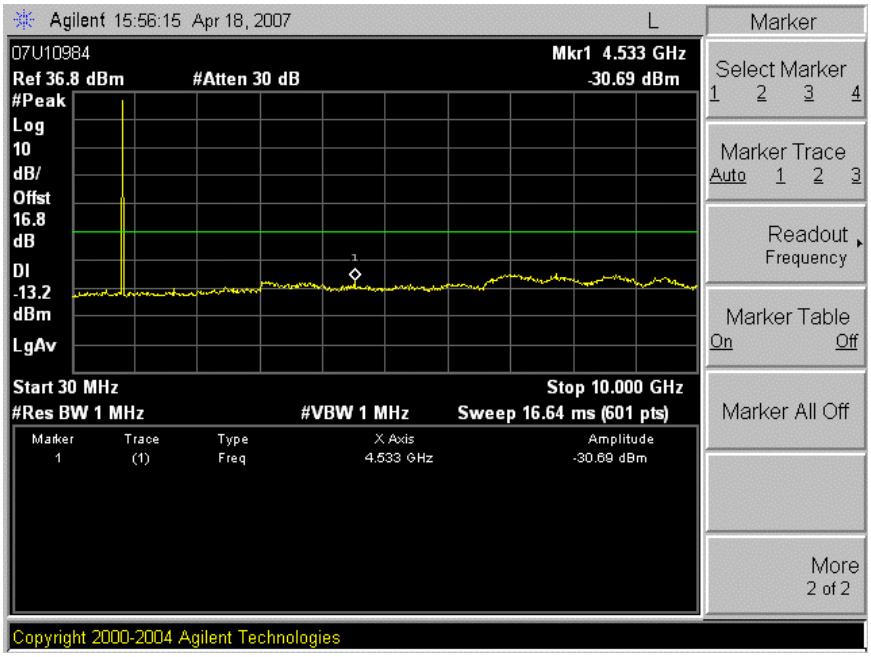
GSM850, GPRS

800MHz CELLULAR

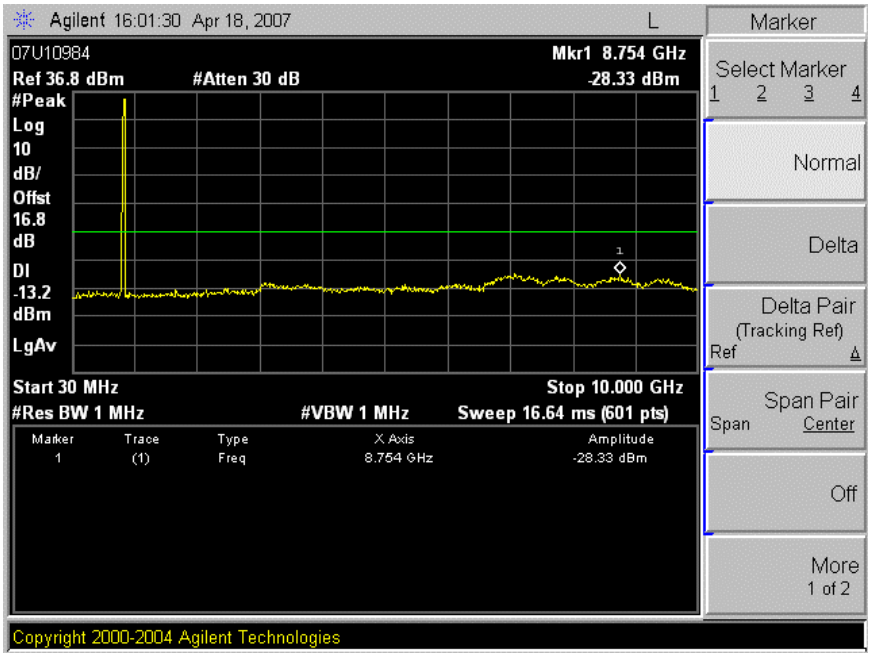
CELLULAR LOW CH BANDEDGE



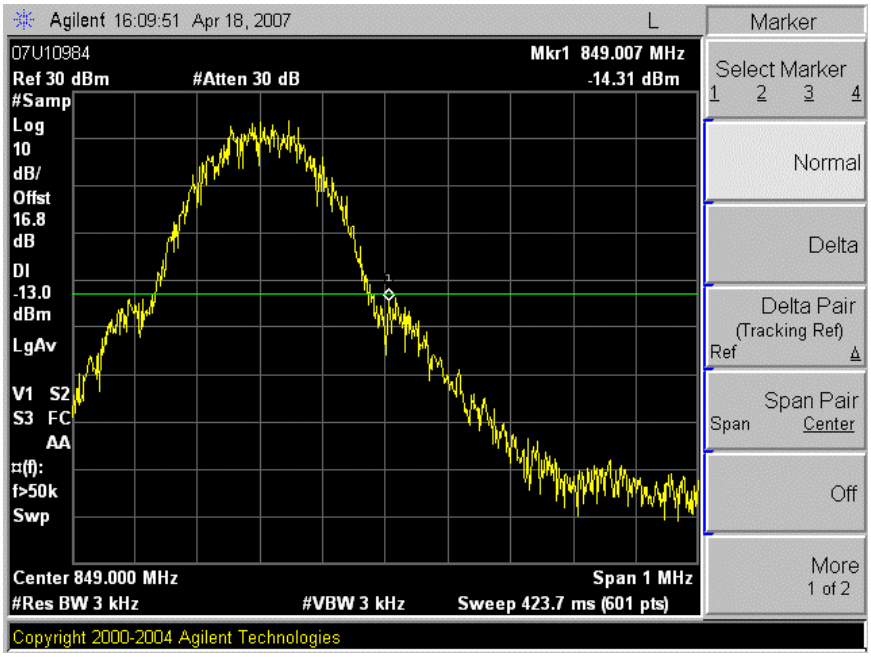
CELLULAR LOW CH SPURIOUS



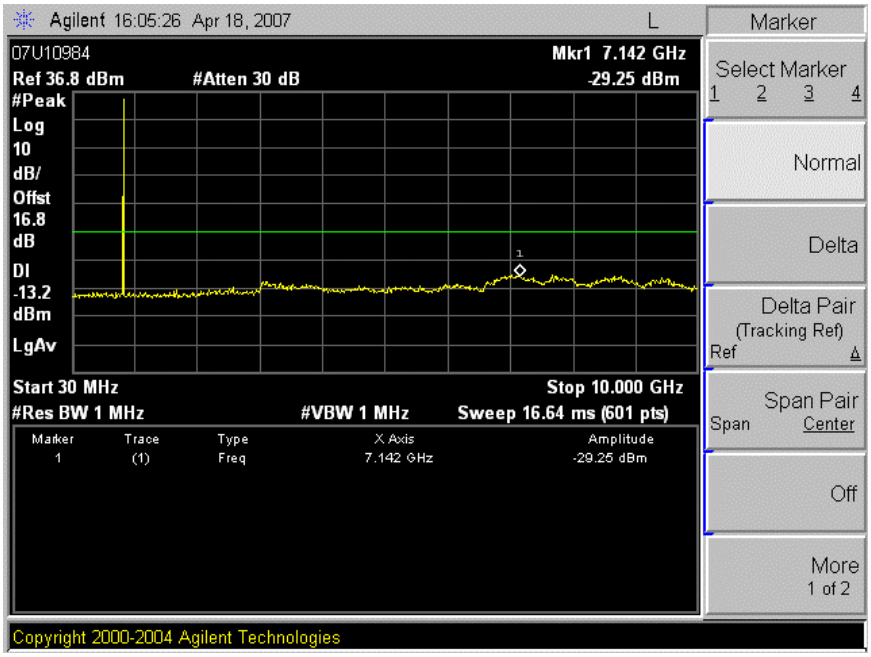
CELLULAR MID CH SPURIOUS



CELLULAR HIGH CH BANDEDGE

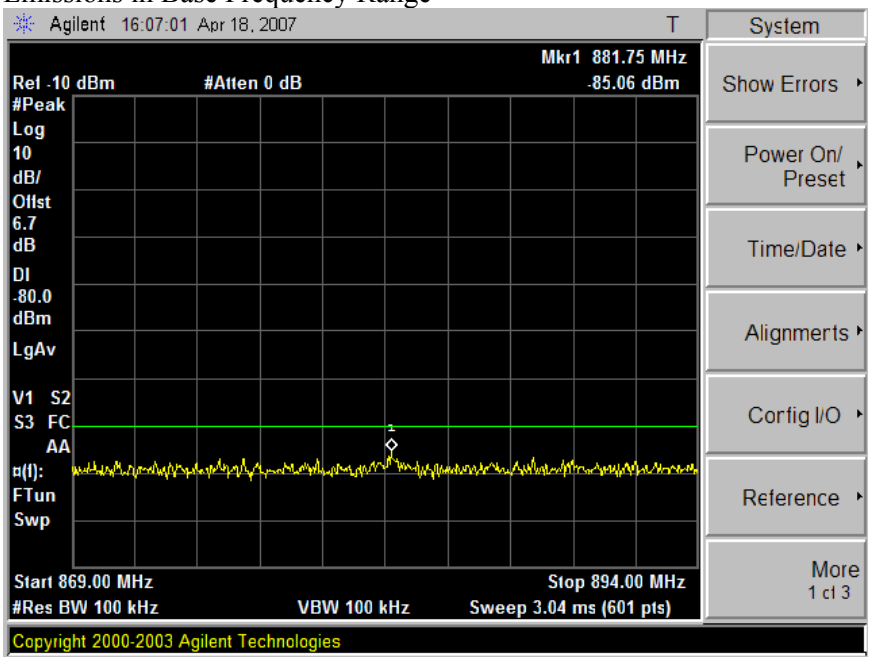


CELLULAR HIGH CH SPURIOUS



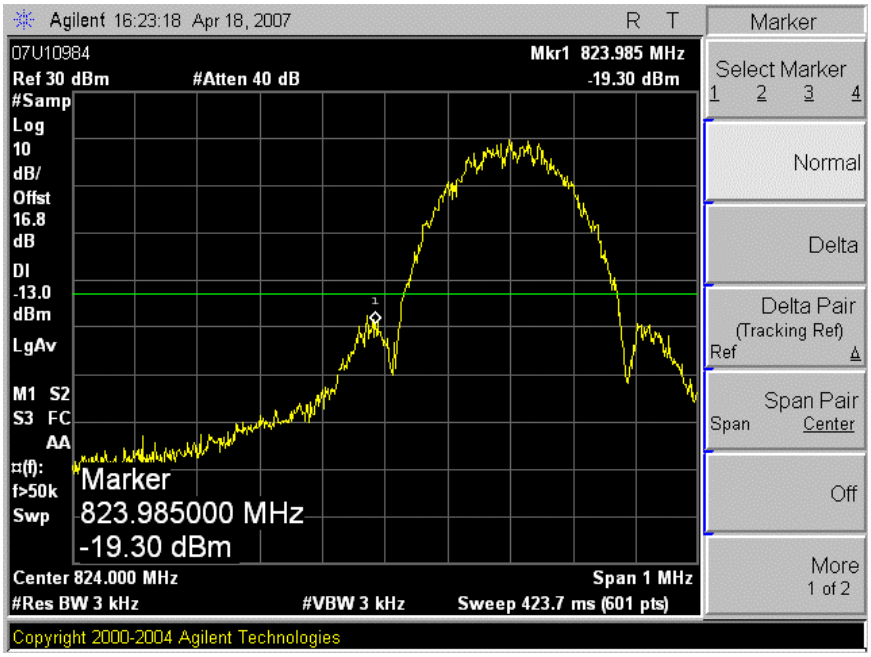
800MHz Cellular Mobile Emissions in Base Frequency Range

Emissions in Base Frequency Range

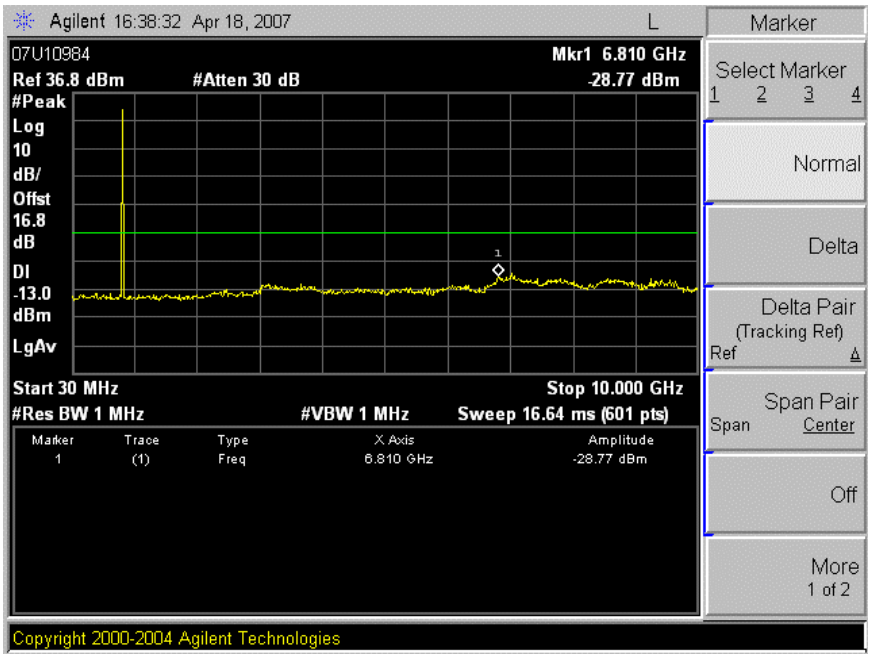


GSM850, EGPRS

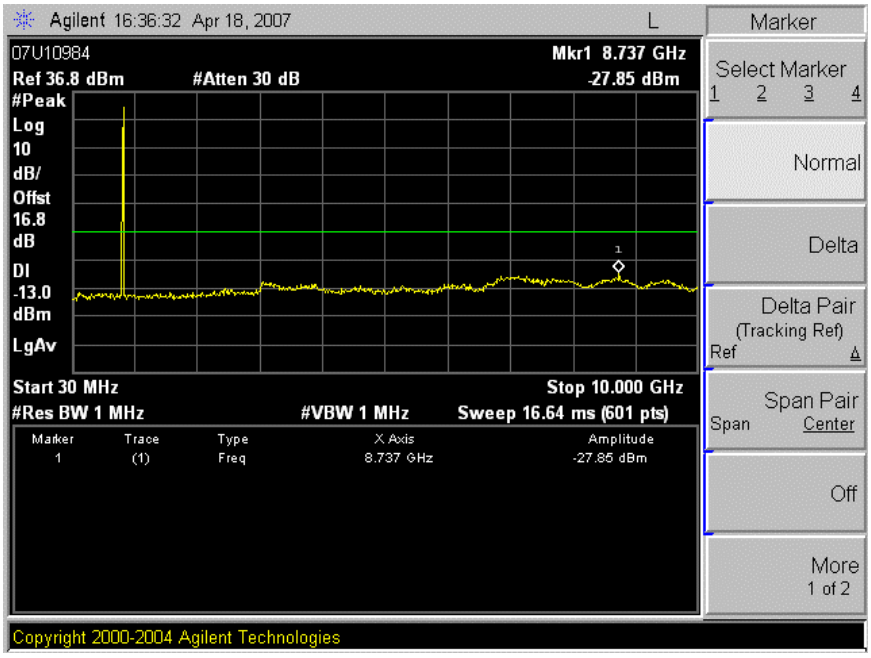
CELLULAR LOW CH BANDEDGE



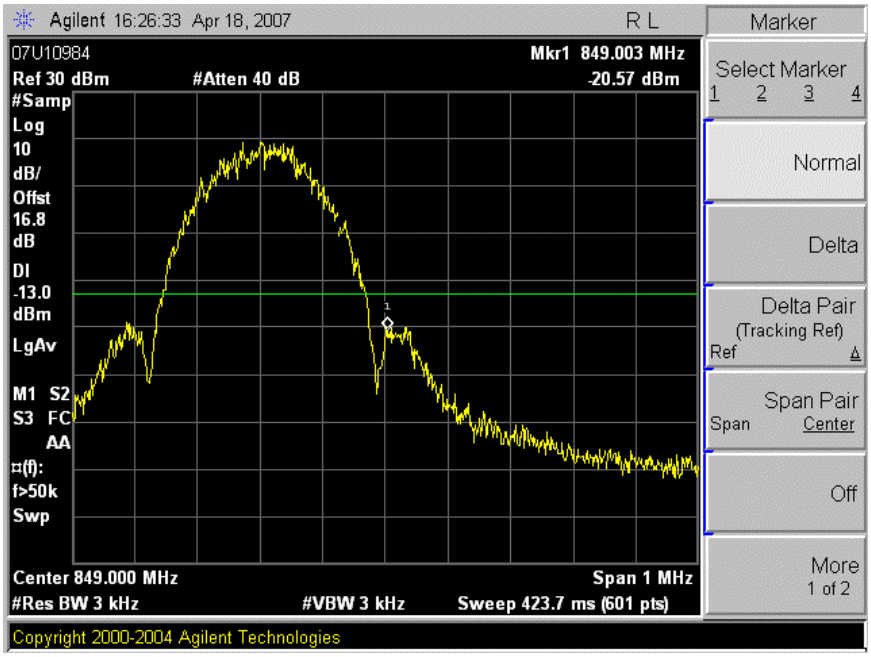
CELLULAR LOW CH SPURIOUS



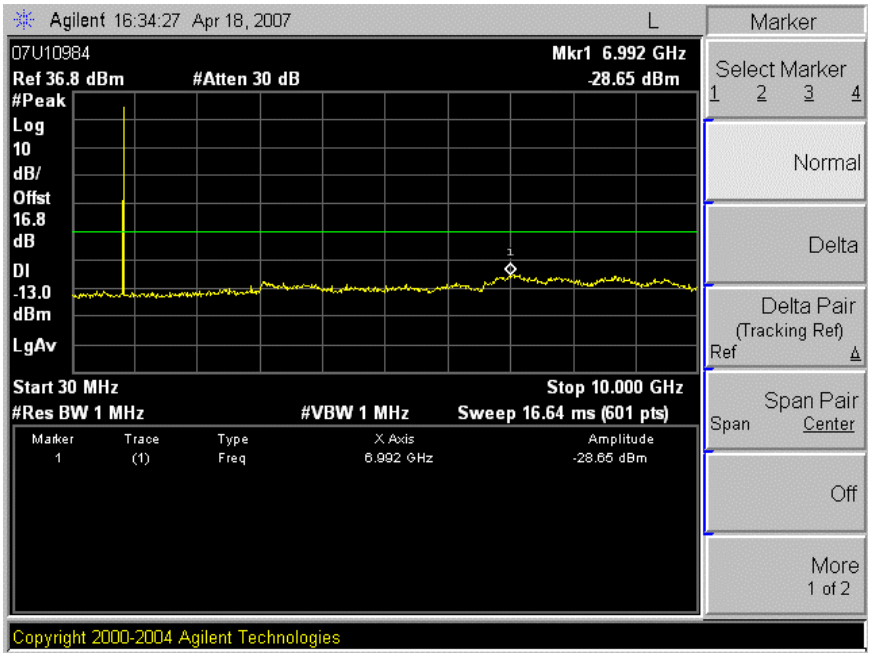
CELLULAR MID CH SPURIOUS



CELLULAR HIGH CH BANDEDGE

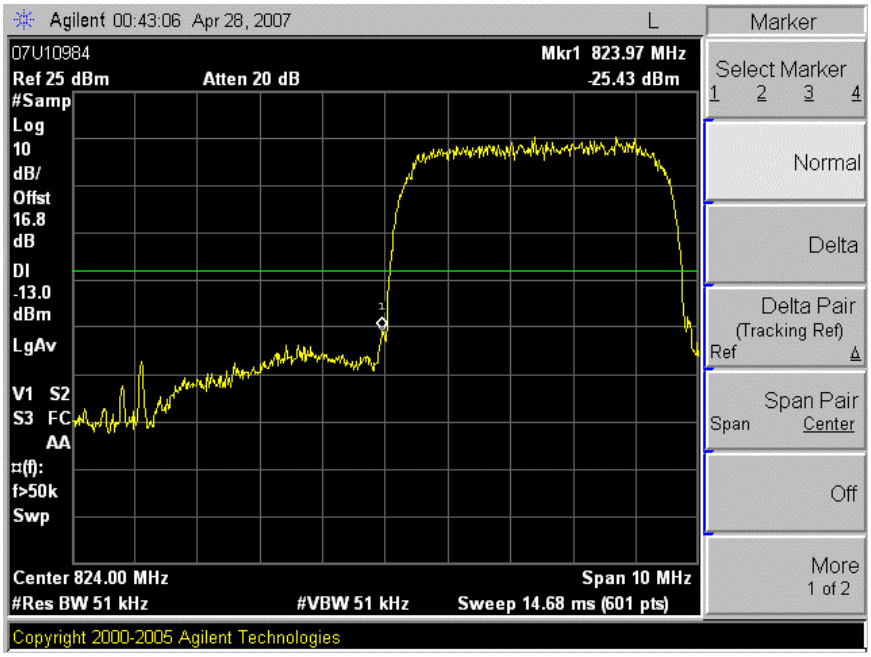


CELLULAR HIGH CH SPURIOUS

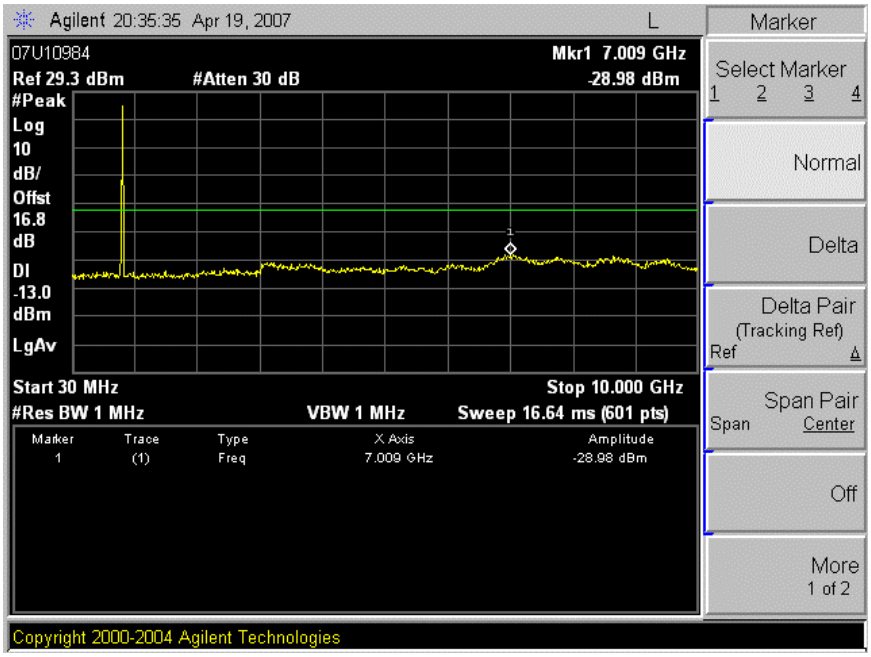


WCDMA 850

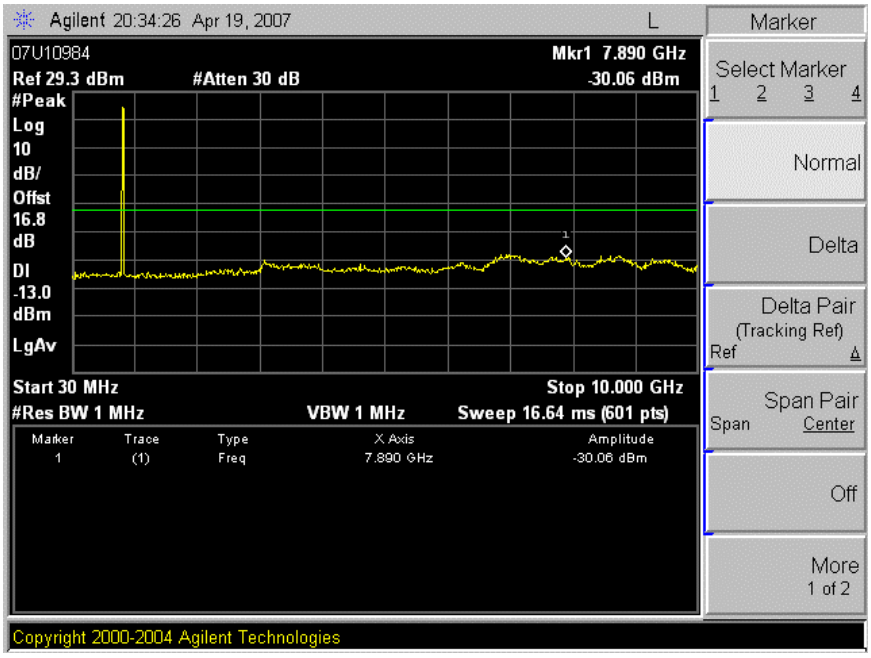
CELLULAR LOW CH BANDEDGE



CELLULAR LOW CH SPURIOUS

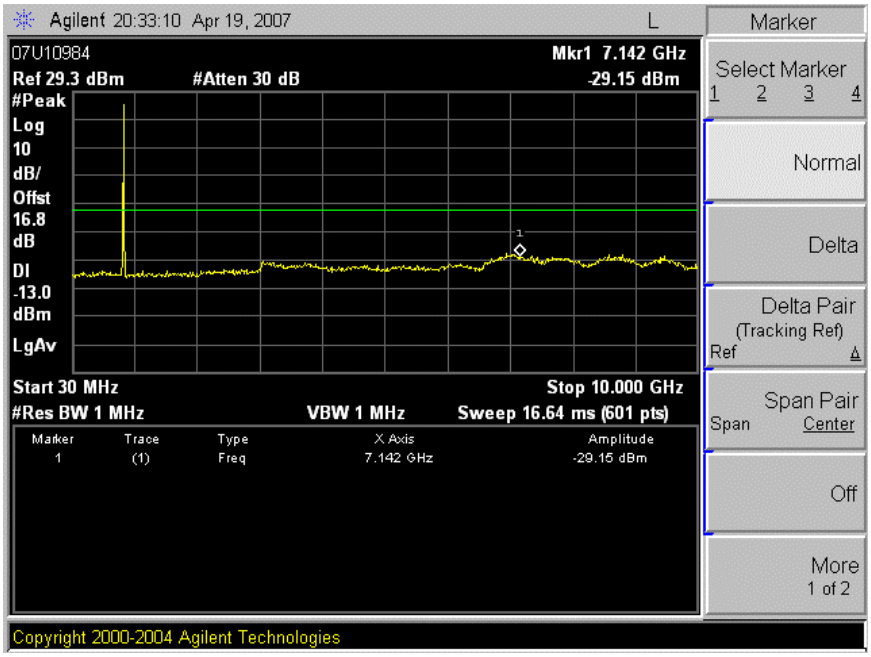


CELLULAR MID CH SPURIOUS

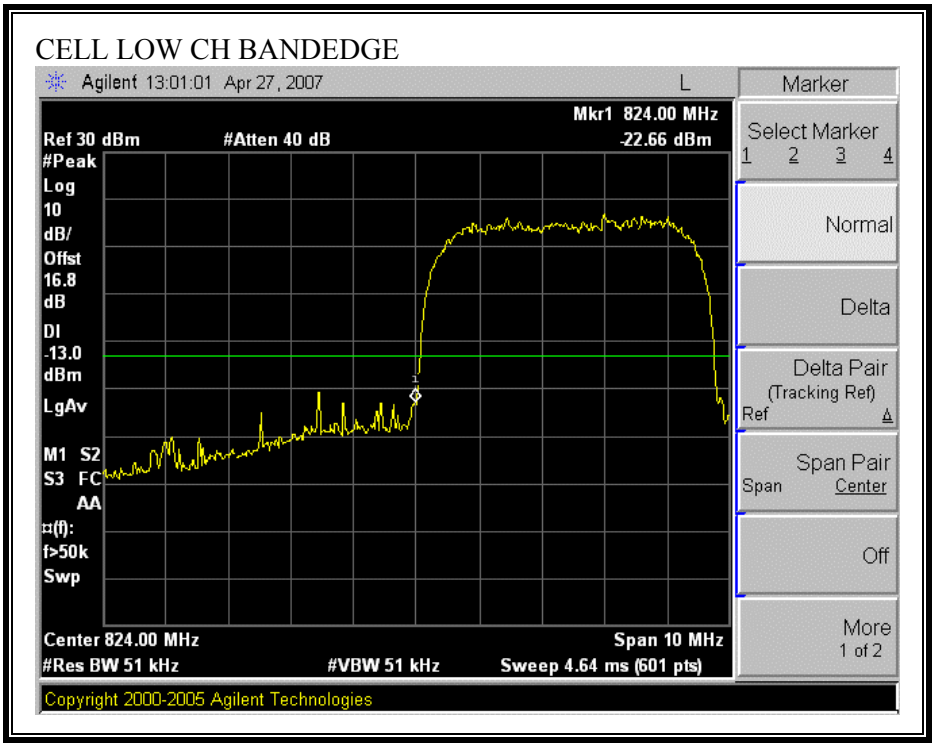


CELLULAR HIGH CH BANDEDGE

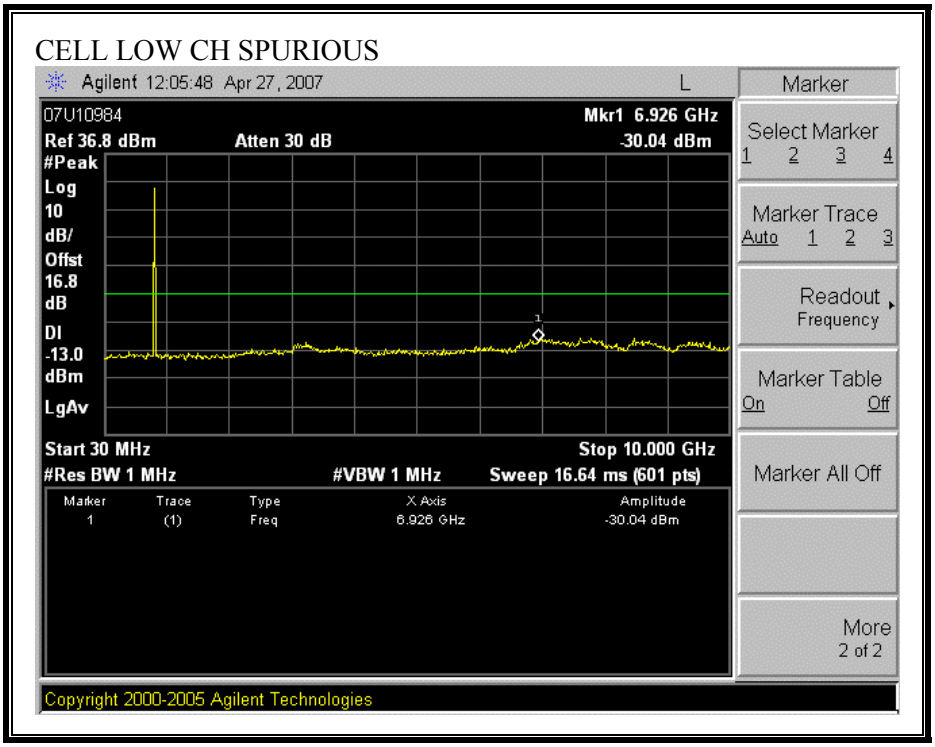
CELLULAR HIGH CH SPURIOUS



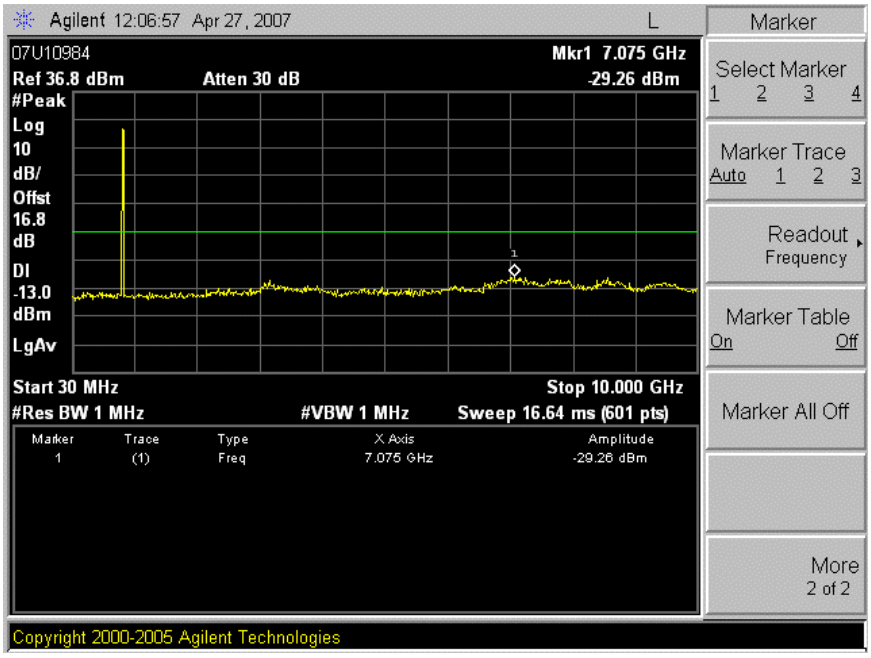
WCDMA+HSDPA 850



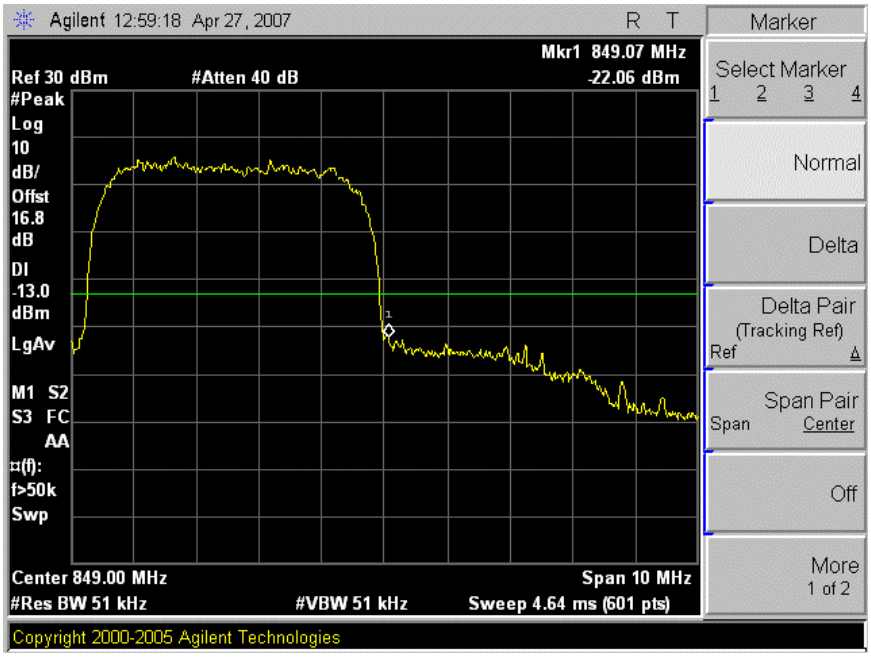
CELL LOW CH SPURIOUS



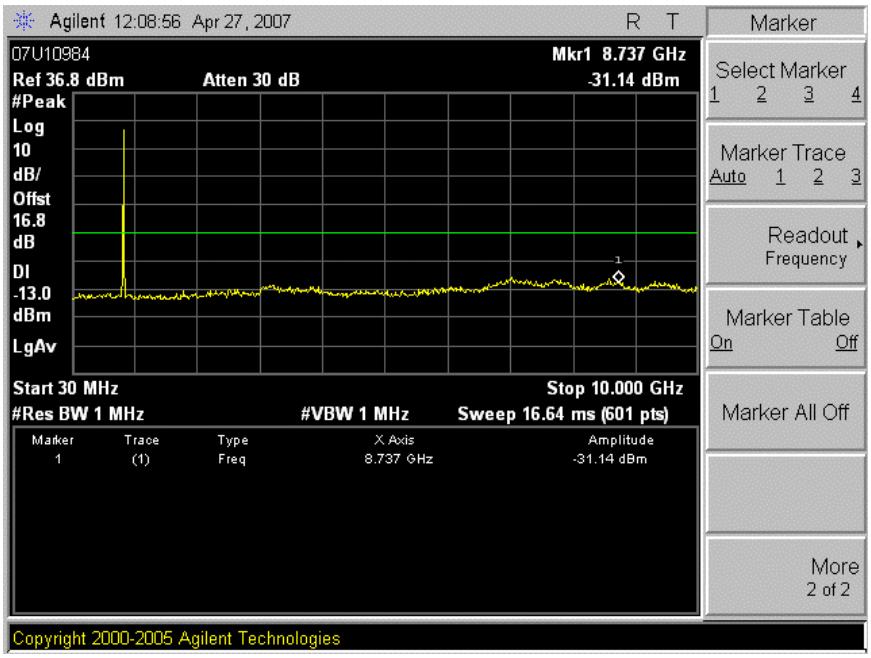
CELL MID CH SPURIOUS



CELL HIGH CH BANDEDGE

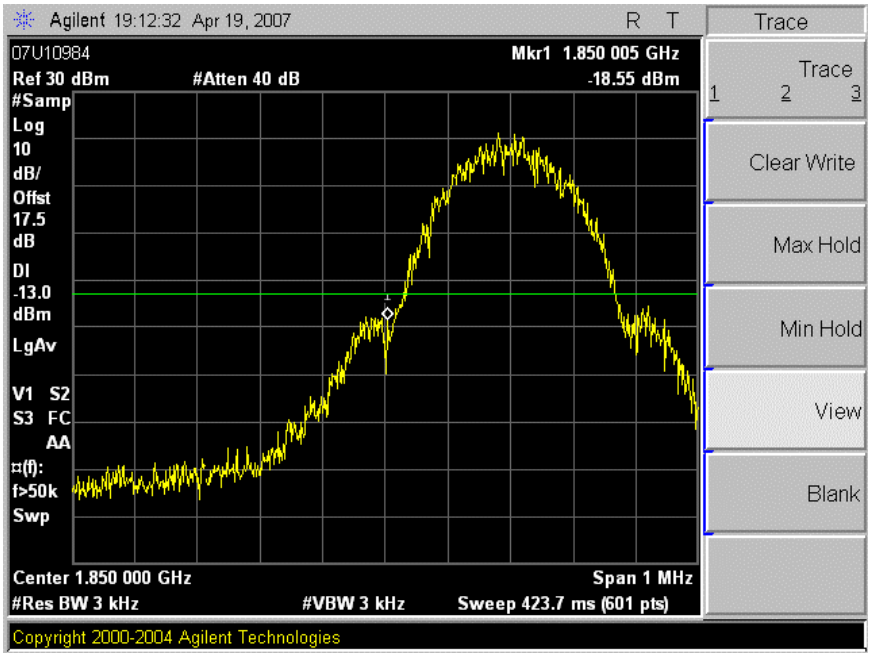


CELL HIGH CH SPURIOUS

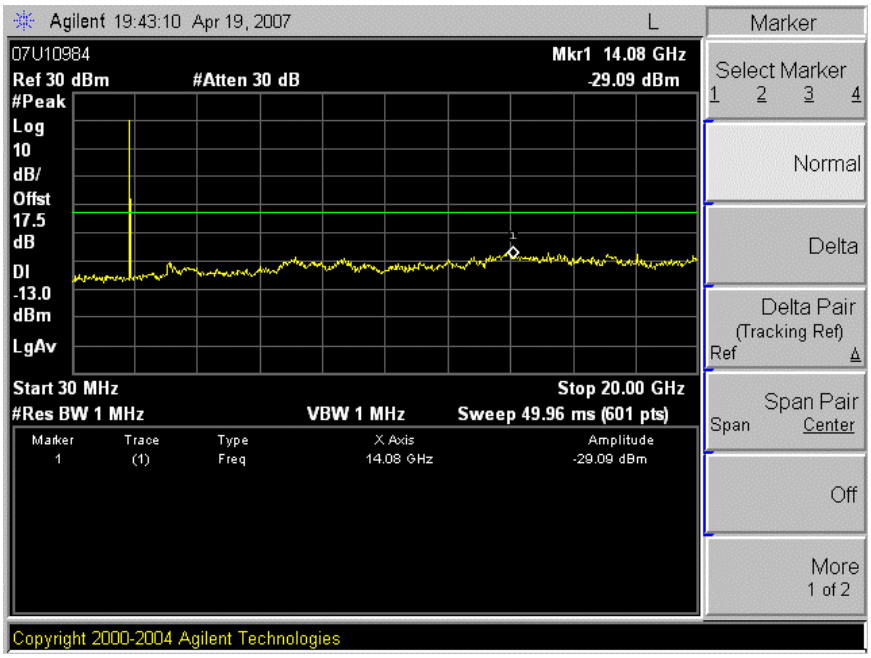


GSM1900, GPRS

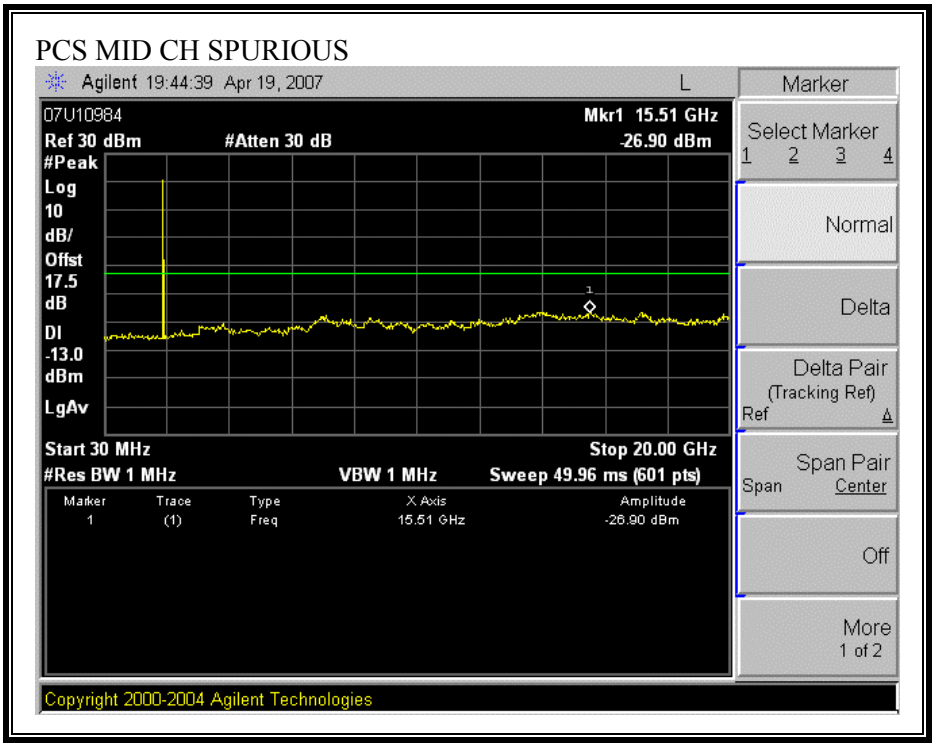
PCS LOWCH BANDEDGE



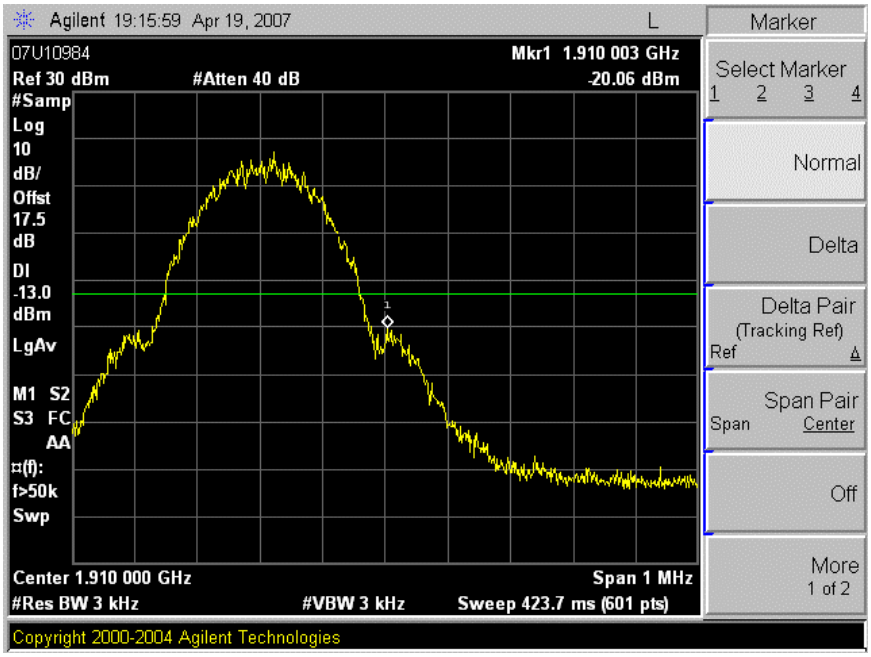
PCS LOW CH SPURIOUS



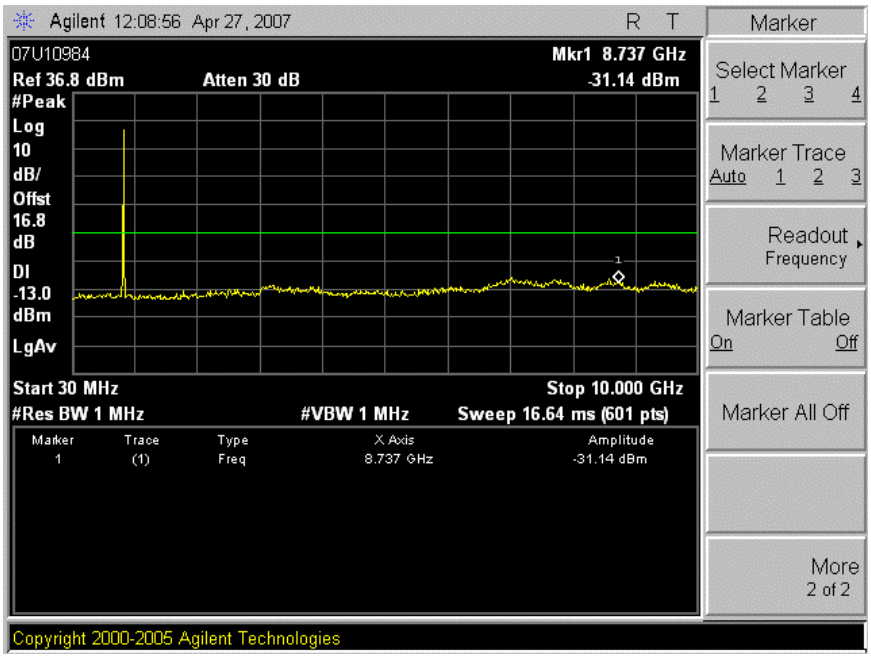
PCS MID CH SPURIOUS



PCS HIGH CH BANDEDGE

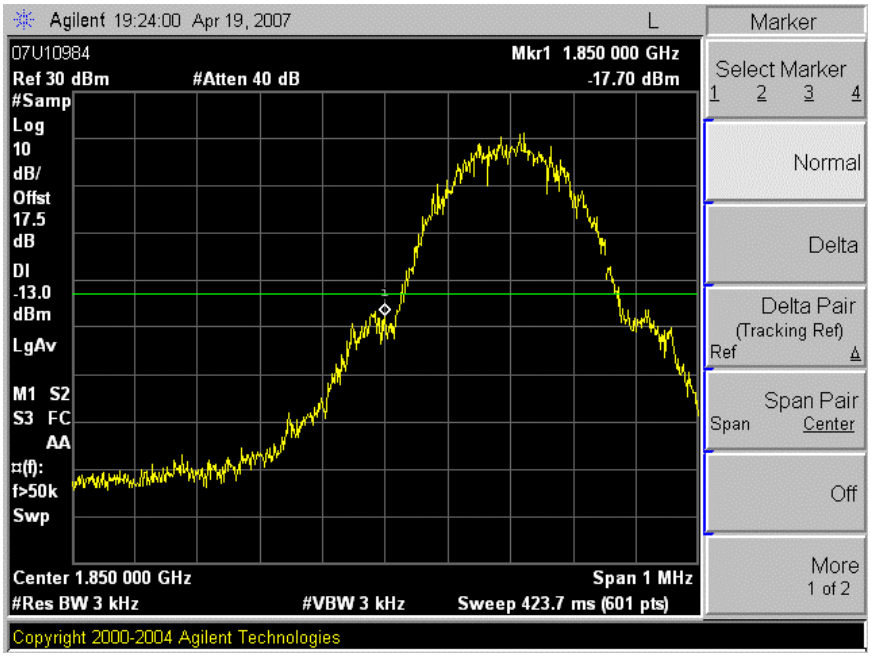


CELL HIGH CH SPURIOUS

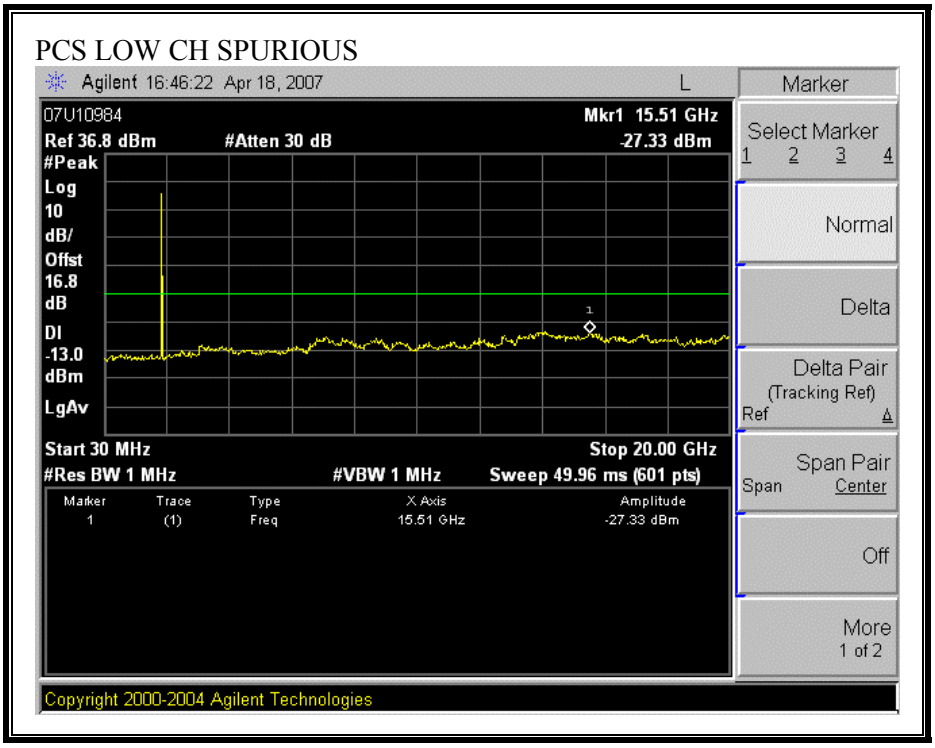


GSM1900, EGPRS

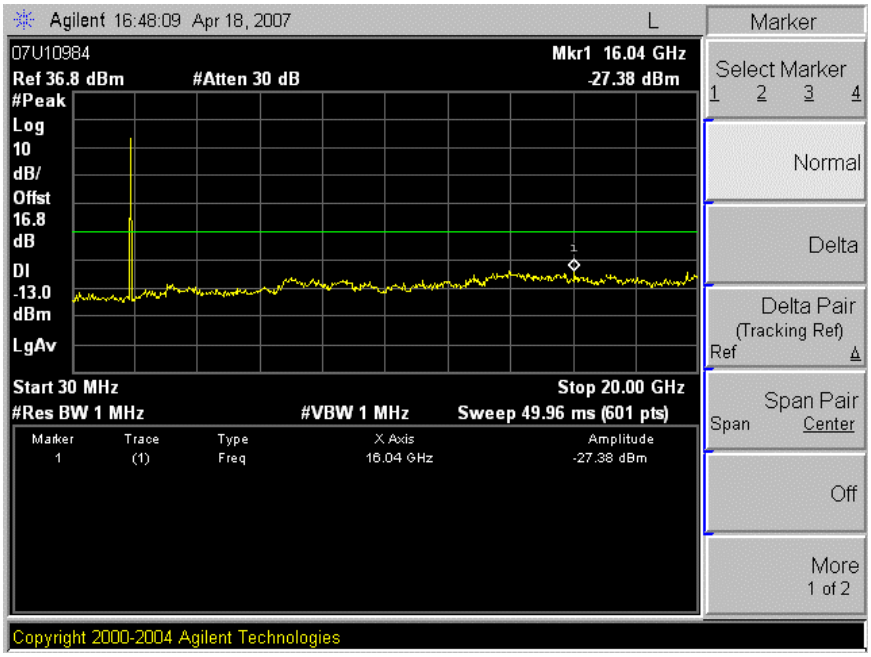
PCS LOWCH BANDEDGE



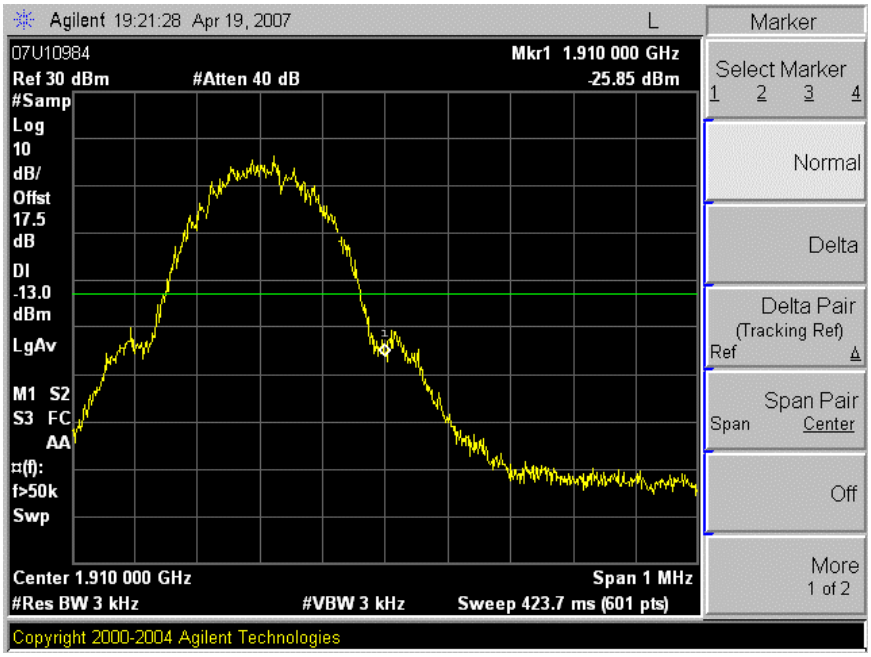
PCS LOW CH SPURIOUS



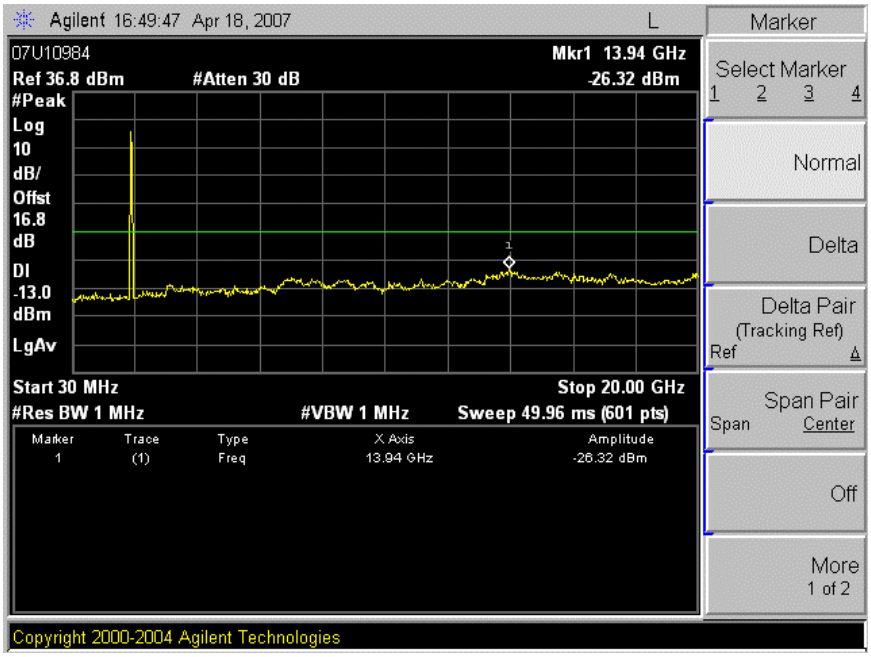
PCS MID CH SPURIOUS



PCS HIGH CH BANDEDGE

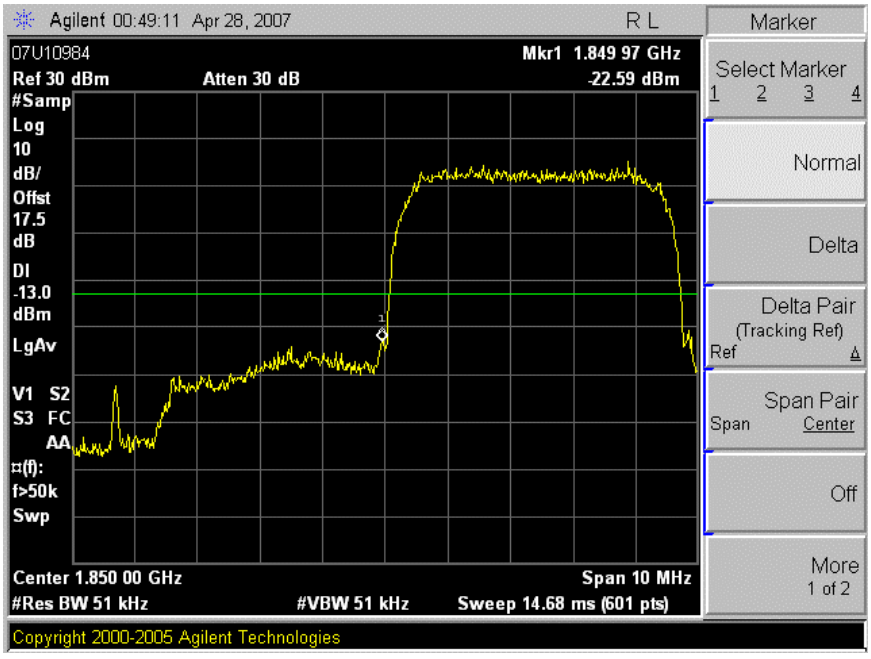


PCS HIGH CH SPURIOUS

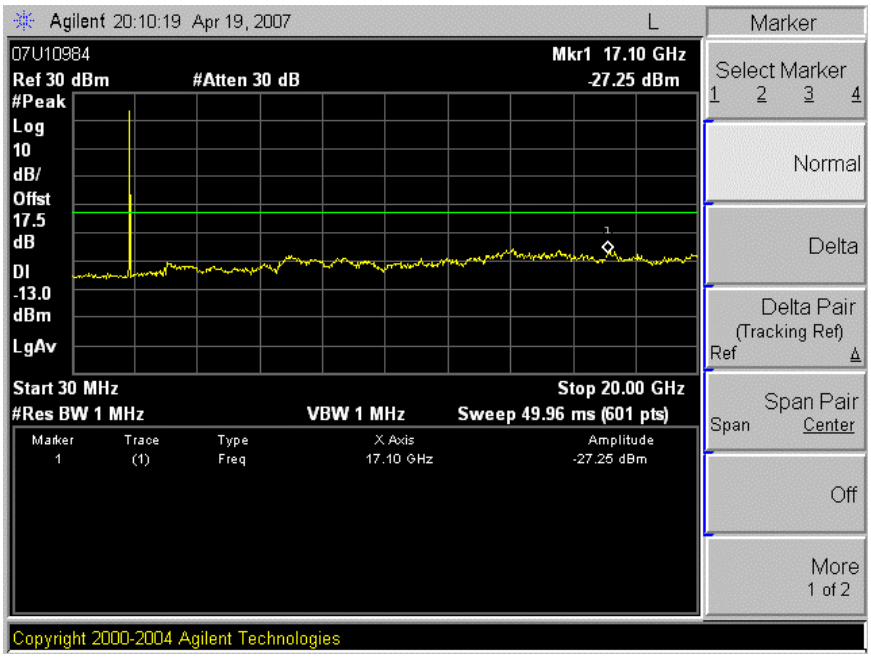


WCDMA 1900

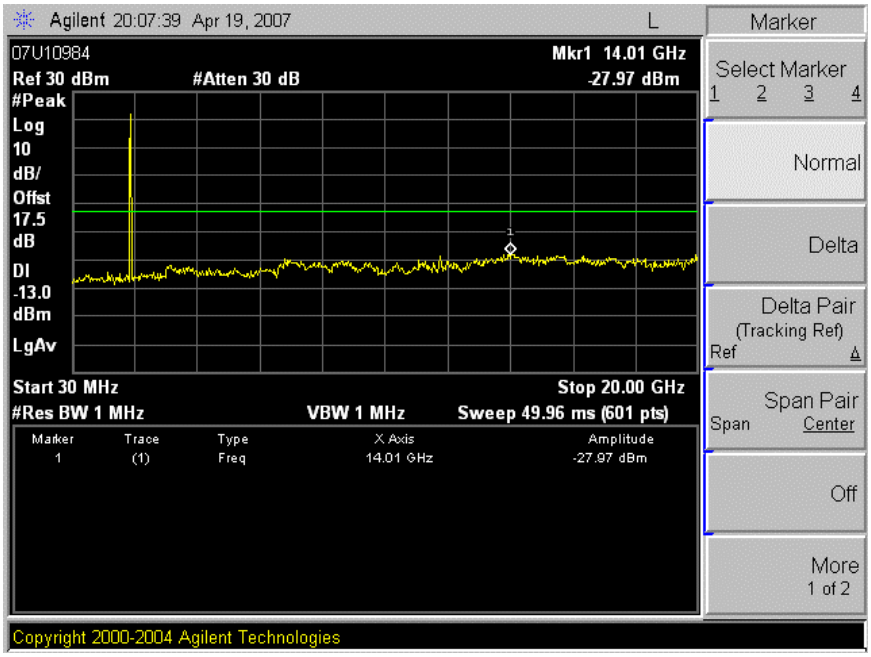
PCS LOWCH BANDEDGE



PCS LOW CH SPURIOUS

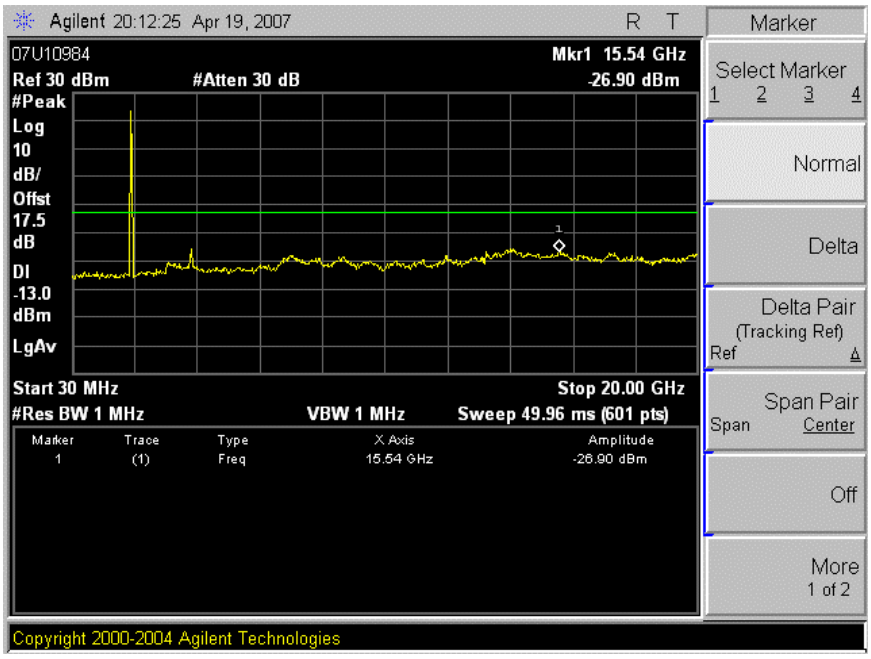


PCS MID CH SPURIOUS



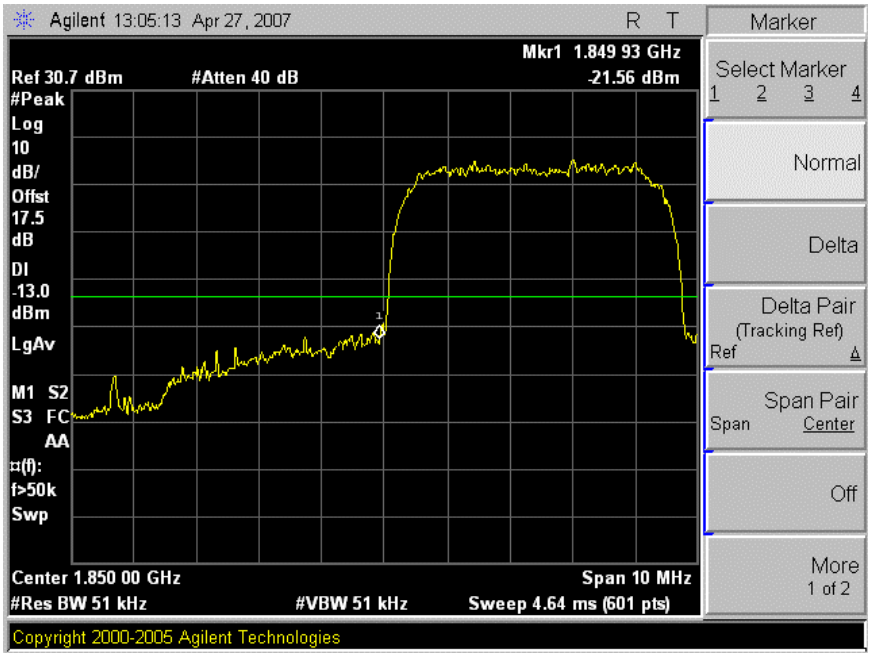
PCS HIGH CH BANDEDGE

PCS HIGH CH SPURIOUS

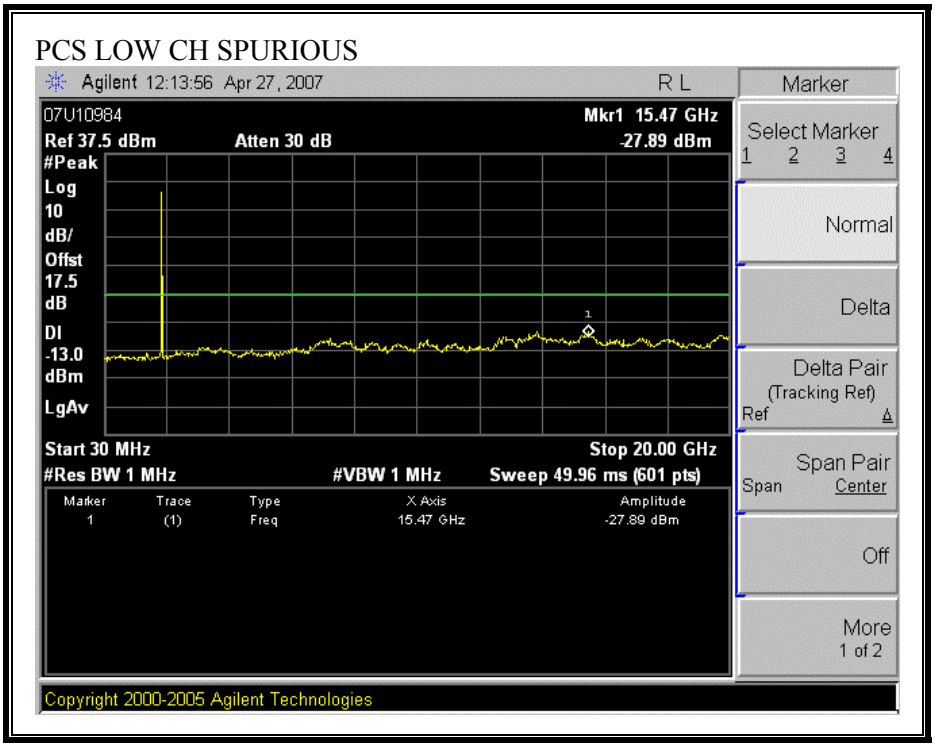


WCDMA+HSDPA1900

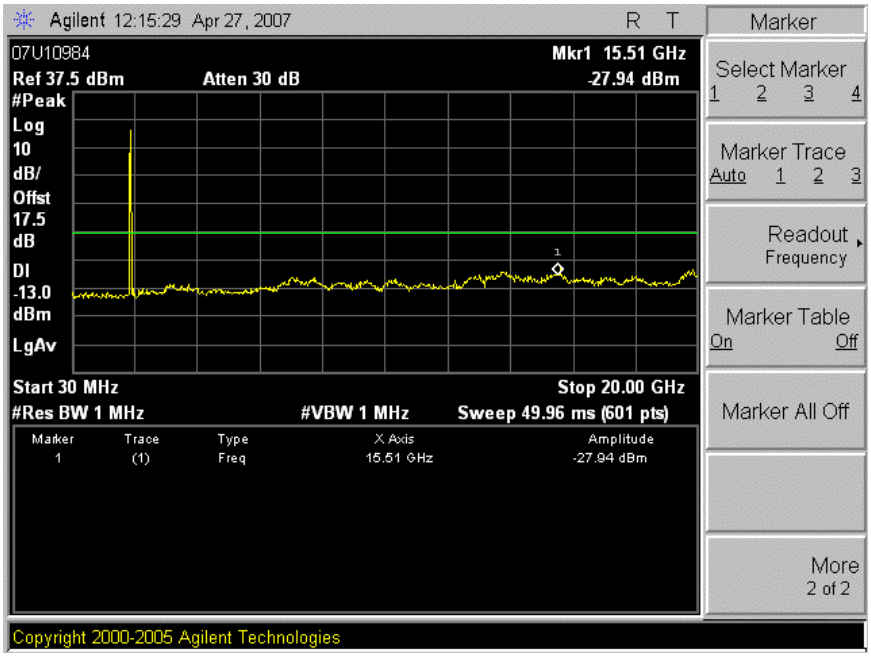
PCS LOW CH BANDEDGE



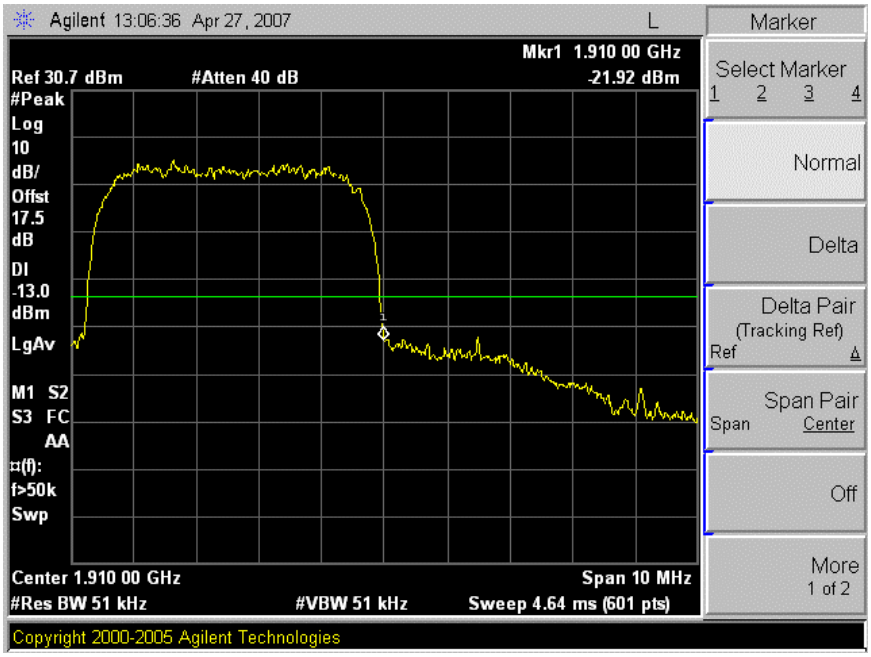
PCS LOW CH SPURIOUS



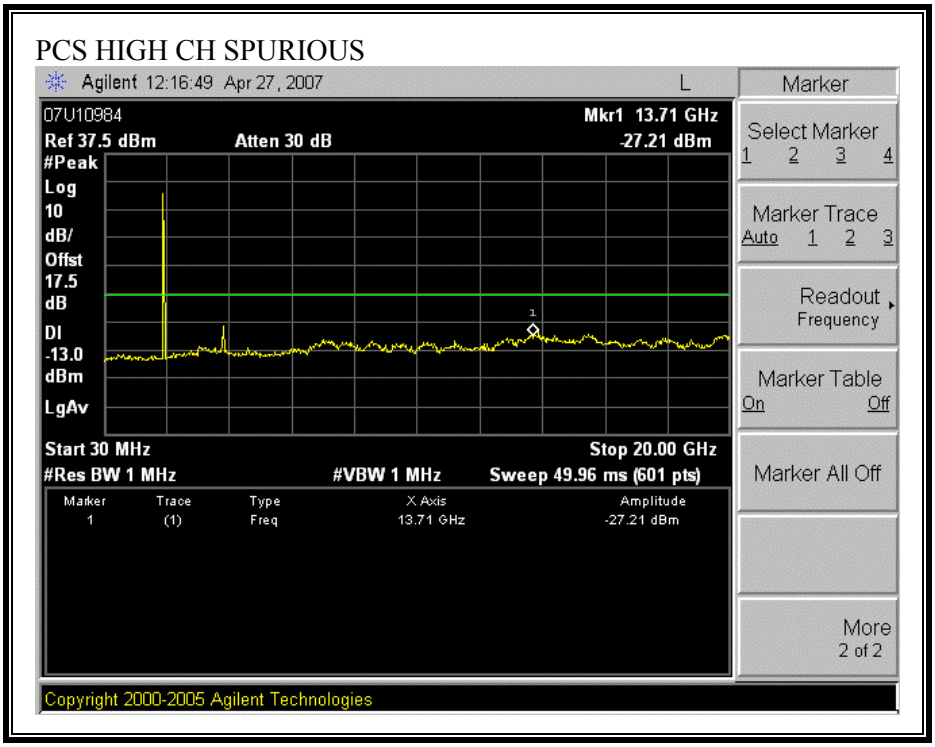
PCS MID CH SPURIOUS



PCS HIGH CH BANDEDGE



PCS HIGH CH SPURIOUS



7.4. FIELD STRENGTH OF SPURIOUS RADIATION

LIMIT

§22.917 (e) and §24.238 (a) Out of band emissions. 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 + 10 log (P) dB.

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.12, FCC 22.917 (h), & FCC 24.238 (b)

RESULTS

No non-compliance noted.

Note: No emissions were found within 30-1000MHz of 20dB below the system noise.

CELL GSM850, GPRS Spurious & Harmonic (ERP)

Cellular Harmonic Substitution Measurement
Compliance Certification Services, Fremont Immunity Chamber

Company: High Tech Computer Corp
Project #: 07U10984
Date: April 13th 2007
Test Enginee: Anoop Singh
Configuration EUT Only
Mode: TX,GSM850, GPRS

Test Equipment:
Receiving: Horn T60, Pre-amp T145, CAN SMA Cables 3 & 12 ft (Setup this one for testing EUT) S/N: 187207004 & 187308840
Substitution: Horn T59, 6ft SMA Cable Warehouse S/N: 187215001

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel (82	824.2MHz								
1.648	57.8	V	-49.2	0.8	7.7	-42.3	-13.0	-29.3	
2.473	60.0	V	-49.9	1.0	9.4	-41.5	-13.0	-28.5	
1.648	55.5	H	-50.2	1.2	9.7	-41.7	-13.0	-28.7	
2.473	70.1	H	-34.6	1.3	9.9	-26.0	-13.0	-13.0	
Mid Channel (83	837.0MHz								
1.674	60.0	V	-45.7	0.8	7.7	-38.8	-13.0	-25.8	
2.511	56.1	V	-53.8	1.0	9.4	-45.4	-13.0	-32.4	
1.674	56.1	H	-49.6	0.8	7.7	-42.7	-13.0	-29.7	
2.511	65.8	H	-43.3	1.0	9.4	-34.9	-13.0	-21.9	
High Channel (8	848.8MHz								
1.698	59.1	V	-49.8	0.8	7.8	-42.9	-13.0	-29.9	
2.546	57.0	V	-52.3	1.0	9.4	-43.9	-13.0	-30.9	
1.698	60.9	H	-45.2	1.2	9.7	-36.7	-13.0	-23.7	
2.546	60.1	H	-45.2	1.4	10.1	-36.5	-13.0	-23.5	

No other frequency was detected above the system nosie floor

CELL EGPRS Spurious & Harmonic (ERP)

Cellular Harmonic Substitution Measurement
Compliance Certification Services, Fremont Immunity Chamber

Company: High Tech Computer Corp
Project #: 07U10984
Date: April 17th 2007
Test Enginee: Anoop Singh
Configuration EUT Only
Mode: TX, GSM850, EGPRS

Test Equipment:
Receiving: Horn T60, Pre-amp T145, CAN SMA Cables 3 & 12 ft (Setup this one for testing EUT) S/N: 187207004 & 187308840
Substitution: Horn T59, 6ft SMA Cable Warehouse S/N: 187215001

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel (82	824.2MHz								
1.648	57.7	V	-49.2	0.8	7.7	-42.4	-13.0	-29.4	
2.473	61.4	V	-48.5	1.0	9.4	-40.1	-13.0	-27.1	
1.648	56.0	H	-49.7	1.2	9.7	-41.2	-13.0	-28.2	
2.473	69.7	H	-35.0	1.3	9.9	-26.4	-13.0	-13.4	
Mid Channel (83	837.0MHz								
1.674	56.5	V	-49.2	0.8	7.7	-42.3	-13.0	-29.3	
2.511	57.8	V	-52.0	1.0	9.4	-43.6	-13.0	-30.6	
1.674	56.7	H	-49.0	0.8	7.7	-42.1	-13.0	-29.1	
2.511	65.2	H	-44.0	1.0	9.4	-35.6	-13.0	-22.6	
High Channel (8	848.8MHz								
1.698	56.9	V	-52.0	0.8	7.8	-45.0	-13.0	-32.0	
2.546	57.0	V	-52.3	1.0	9.4	-43.9	-13.0	-30.9	
1.698	61.4	H	-44.6	1.2	9.7	-36.1	-13.0	-23.1	
2.546	61.0	H	-44.3	1.4	10.1	-35.6	-13.0	-22.6	

No other frequency was detected above the system nosie floor

CELL Band WCDMA Spurious & Harmonic (ERP)

Cellular Harmonic Substitution Measurement
Compliance Certification Services, Fremont Immunity Chamber

Company: High Tech Computer Corp
Project #: 07U10984
Date: April 17th 2007
Test Enginee: Anoop Singh
Configuration EUT Only
Mode: TX, WCDMA 850

Test Equipment:
Receiving: Horn T60, Pre-amp T145, CAN SMA Cables 3 & 12 ft (Setup this one for testing EUT) S/N: 187207004 & 187308840
Substitution: Horn T59, 6ft SMA Cable Warehouse S/N: 187215001

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel (82	826.4MHz								
1.653	59.6	V	-47.3	0.8	7.7	-40.4	-13.0	-27.4	
2.479	56.4	V	-53.5	1.0	9.4	-45.1	-13.0	-32.1	
1.653	57.1	H	-48.6	1.2	9.7	-40.1	-13.0	-27.1	
2.479	60.8	H	-43.9	1.3	9.9	-35.3	-13.0	-22.3	
Mid Channel (83	836.4MHz								
1.673	56.1	V	-49.6	0.8	7.7	-42.7	-13.0	-29.7	
2.509	55.3	V	-54.5	1.0	9.4	-46.1	-13.0	-33.1	
1.673	56.9	H	-48.9	0.8	7.7	-42.0	-13.0	-29.0	
2.509	60.5	H	-48.7	1.0	9.4	-40.3	-13.0	-27.3	
High Channel (8	846.6MHz								
1.693	57.2	V	-51.7	0.8	7.8	-44.8	-13.0	-31.8	
2.540	55.3	V	-54.0	1.0	9.4	-45.6	-13.0	-32.6	
1.693	59.4	H	-46.6	1.2	9.7	-38.1	-13.0	-25.1	
2.540	58.5	H	-46.8	1.4	10.1	-38.1	-13.0	-25.1	

No other frequency was detected above the system nosie floor

CELL Band WCDMA+HSPDA Spurious & Harmonic (ERP)

Cellular Harmonic Substitution Measurement
Compliance Certification Services, Fremont Immunity Chamber

Company: High Tech Computer Corp
Project #: 07U10984
Date: April 17th 2007
Test Enginee: Anoop Singh
Configuration EUT Only
Mode: TX, WCDMA+HSDPA 850

Test Equipment:
Receiving: Horn T60, Pre-amp T145, CAN SMA Cables 3 & 12 ft (Setup this one for testing EUT) S/N: 187207004 & 187308840
Substitution: Horn T59, 6ft SMA Cable Warehouse S/N: 187215001

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel (82	826.4MHz								
1.653	58.9	V	-48.1	0.8	7.7	-41.2	-13.0	-28.2	
2.479	55.0	V	-54.9	1.0	9.4	-46.5	-13.0	-33.5	
1.653	60.2	H	-45.5	1.2	9.7	-37.0	-13.0	-24.0	
2.479	60.8	H	-43.9	1.3	9.9	-35.3	-13.0	-22.3	
Mid Channel (83	836.4MHz								
1.673	57.1	V	-48.6	0.8	7.7	-41.7	-13.0	-28.7	
2.509	56.0	V	-53.8	1.0	9.4	-45.4	-13.0	-32.4	
1.673	56.2	H	-49.5	0.8	7.7	-42.6	-13.0	-29.6	
2.509	60.5	H	-48.6	1.0	9.4	-40.2	-13.0	-27.2	
High Channel (8	846.6MHz								
1.693	58.9	V	-50.1	0.8	7.8	-43.1	-13.0	-30.1	
2.540	55.9	V	-53.4	1.0	9.4	-45.0	-13.0	-32.0	
1.693	59.0	H	-47.0	1.2	9.7	-38.5	-13.0	-25.5	
2.540	59.6	H	-45.7	1.4	10.1	-37.0	-13.0	-24.0	

No other frequency was detected above the system nosie floor

GSM1900 Band GPRS Spurious & Harmonic (EIRP)

PCS Harmonic Substitution Measurement
Compliance Certification Services, Fremont Immunity Chamber

Company: High Tec Computer Corp
Project #: 07U10984
Date: April 13th 2007
Test Engineer: Anoop Singh
Configuration: EUT Only
Mode: TX, GSM 1900, GPRS

Test Equipment:
Receiving: Horn T60, Pre-amp T145, SMA Cables 3 & 12 ft (Setup this one for testing EUT) S/N: 187207004 & 187308840
Substitution: Horn T59, 6ft SMA Cable Warehouse S/N: 187215001

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel	1850.2MHz								
3.700	51.0	V	-53.6	0.9	9.7	-44.8	-13.0	-31.8	
5.551	52.3	V	-50.3	1.3	11.0	-40.6	-13.0	-27.6	
3.700	51.3	H	-49.7	1.4	12.0	-39.1	-13.0	-26.1	
5.551	51.8	H	-45.3	1.9	12.7	-34.6	-13.0	-21.6	
Mid Channel	1880MHz								
3.760	51.3	V	-53.5	0.9	9.7	-44.7	-13.0	-31.7	
5.640	50.1	V	-53.1	1.4	11.2	-43.3	-13.0	-30.3	
3.760	51.4	H	-49.7	1.4	12.0	-39.1	-13.0	-26.1	
5.640	49.5	H	-48.5	1.9	12.7	-37.6	-13.0	-24.6	
High Channel	1909.8MHz								
3.820	51.3	V	-52.7	0.9	9.7	-43.9	-13.0	-30.9	
5.729	52.0	V	-51.5	1.4	11.3	-41.6	-13.0	-28.6	
3.820	50.7	H	-49.8	1.5	12.0	-39.3	-13.0	-26.3	
5.729	51.5	H	-45.9	1.9	12.7	-35.1	-13.0	-22.1	

No other frequency was detected above the system nosie floor

GSM1900 EGPRS Spurious & Harmonic (EIRP)

PCS Harmonic Substitution Measurement
Compliance Certification Services, Fremont Immunity Chamber

Company: High Tec Computer Corp
Project #: 07U10984
Date: April 17th 2007
Test Engineer: Anoop Singh
Configuration: EUT Only
Mode: TX, GSM1900, EGPRS

Test Equipment:
Receiving: Horn T60, Pre-amp T145, SMA Cables 3 & 12 ft (Setup this one for testing EUT) S/N: 187207004 & 187308840
Substitution: Horn T59, 6ft SMA Cable Warehouse S/N: 187215001

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel	1850.2MHz								
3.700	54.0	V	-50.6	0.9	9.7	-41.8	-13.0	-28.8	
5.551	54.9	V	-47.7	1.3	11.0	-38.0	-13.0	-25.0	
3.700	55.0	H	-46.0	1.4	12.0	-35.4	-13.0	-22.4	
5.551	56.1	H	-41.1	1.9	12.7	-30.3	-13.0	-17.3	
Mid Channel	1880MHz								
3.760	55.4	V	-49.4	0.9	9.7	-40.6	-13.0	-27.6	
5.640	55.7	V	-47.5	1.4	11.2	-37.7	-13.0	-24.7	
3.760	54.8	H	-46.3	1.4	12.0	-35.7	-13.0	-22.7	
5.640	55.9	H	-42.0	1.9	12.7	-31.2	-13.0	-18.2	
High Channel	1909.8MHz								
3.820	54.7	V	-49.3	0.9	9.7	-40.5	-13.0	-27.5	
5.729	56.0	V	-47.5	1.4	11.3	-37.6	-13.0	-24.6	
3.820	54.0	H	-46.5	1.5	12.0	-36.0	-13.0	-23.0	
5.729	55.2	H	-42.2	1.9	12.7	-31.3	-13.0	-18.3	

No other frequency was detected above the system nosie floor

PCS Band WCDMA Spurious & Harmonic (EIRP)

PCS Harmonic Substitution Measurement
Compliance Certification Services, Fremont Immunity Chamber

Company: High Tec Computer Corp
Project #: 07U10984
Date: April 17th 2007
Test Engineer: Anoop Singh
Configuration: EUT Only
Mode: TX, WCDMA1900

Test Equipment:
Receiving: Horn T60, Pre-amp T145, SMA Cables 3 & 12 ft (Setup this one for testing EUT) S/N: 187207004 & 187308840
Substitution: Horn T59, 6ft SMA Cable Warehouse S/N: 187215001

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel	1852.4MHz								
3.705	60.1	V	-44.5	0.9	9.7	-35.7	-13.0	-22.7	
5.557	54.7	V	-47.9	1.3	11.0	-38.2	-13.0	-25.2	
3.705	56.7	H	-44.3	1.4	12.0	-33.7	-13.0	-20.7	
5.557	55.5	H	-41.7	1.9	12.7	-30.9	-13.0	-17.9	
Mid Channel	1880MHz								
3.760	56.6	V	-48.2	0.9	9.7	-39.4	-13.0	-26.4	
5.640	55.8	V	-47.4	1.4	11.2	-37.6	-13.0	-24.6	
3.760	57.4	H	-43.7	1.4	12.0	-33.2	-13.0	-20.2	
5.640	55.3	H	-42.6	1.9	12.7	-31.8	-13.0	-18.8	
High Channel	1907.6MHz								
3.815	61.3	V	-42.7	0.9	9.7	-33.9	-13.0	-20.9	
5.723	55.5	V	-48.0	1.4	11.3	-38.1	-13.0	-25.1	
3.815	56.6	H	-43.9	1.5	12.0	-33.4	-13.0	-20.4	
5.723	59.6	H	-37.8	1.9	12.7	-26.9	-13.0	-13.9	

No other frequency was detected above the system nosie floor

PCS Band WCDMA+HSPDA Spurious & Harmonic (EIRP)

Compliance Certification Services, Fremont Immunity Chamber

Company: High Tec Computer Corp
Project #: 07U10984
Date: April 17th 2007
Test Engineer: Anoop Singh
Configuration: EUT Only
Mode: TX, WCDMA+HSDPA 1900

Test Equipment:
Receiving: Horn T60, Pre-amp T145, SMA Cables 3 & 12 ft (Setup this one for testing EUT) S/N: 187207004 & 187308840
Substitution: Horn T59, 6ft SMA Cable Warehouse S/N: 187215001

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel	1852.4MHz								
3.705	60.9	V	-43.8	0.9	9.7	-35.0	-13.0	-22.0	
5.557	56.8	V	-45.8	1.3	11.0	-36.1	-13.0	-23.1	
3.705	56.8	H	-44.2	1.4	12.0	-33.6	-13.0	-20.6	
5.557	56.1	H	-41.1	1.9	12.7	-30.3	-13.0	-17.3	
Mid Channel	1880MHz								
3.760	58.2	V	-46.6	0.9	9.7	-37.8	-13.0	-24.8	
5.640	59.3	V	-43.9	1.4	11.2	-34.1	-13.0	-21.1	
3.760	58.4	H	-42.7	1.4	12.0	-32.1	-13.0	-19.1	
5.640	57.4	H	-40.5	1.9	12.7	-29.7	-13.0	-16.7	
High Channel	1907.6MHz								
3.815	62.1	V	-42.0	0.9	9.7	-33.1	-13.0	-20.1	
5.723	56.2	V	-47.3	1.4	11.3	-37.4	-13.0	-24.4	
3.815	61.6	H	-38.9	1.5	12.0	-28.4	-13.0	-15.4	
5.723	55.3	H	-42.1	1.9	12.7	-31.2	-13.0	-18.2	
No other frequency was detected above the system nosie floor									

7.5. MAXIMUM PERMISSIBLE EXPOSURE

LIMITS

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*($900/f^2$)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*($180/f^2$)	30

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)—Continued

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density
NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.
NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

CALCULATIONS

Given

$E = \sqrt{(30 * P * G)} / d$

and

$S = E ^ 2 / 3770$

where

E = Field Strength in Volts/meter
P = Power in Watts
G = Numeric antenna gain
d = Distance in meters
S = Power Density in milliwatts/square centimeter

Combining equations and rearranging the terms to express the distance as a function of the remaining variables yields:

$d = \sqrt{((30 * P * G) / (3770 * S))}$

Changing to units of Power to mW and Distance to cm, using:

P (mW) = P (W) / 1000 and
d (cm) =100 * d (m)

yields

$d = 100 * \sqrt{((30 * (P / 1000) * G) / (3770 * S))}$
$d = 0.282 * \sqrt{(P * G / S)}$

where

d = distance in cm
P = Power in mW
G = Numeric antenna gain
S = Power Density in mW/cm^2

Substituting the logarithmic form of power and gain using:

P (mW) = 10 ^ (P (dBm) / 10) and
G (numeric) = 10 ^ (G (dBi) / 10)

yields

$d = 0.282 * 10 ^ ((P + G) / 20) / \sqrt{S}$ Equation (1)

where

d = MPE distance in cm
P = Power in dBm
G = Antenna Gain in dBi
S = Power Density Limit in mW/cm^2

Equation (1) and the measured peak power is used to calculate the MPE distance.

LIMITS

From §1.1310 Table 1 (B), S = 1.0 mW/cm^2

RESULTS

No non-compliance noted: (MPE distance equals 20 cm)

NOTE: For mobile or fixed location transmitters, the minimum separation distance is 20 cm, even if calculations indicate that the MPE distance would be less.

Mode	MPE Distance (cm)	Output Power (dBm)	Antenna Gain (dBi)	Power Density (mW/cm^2)
800MHz Celllar	20.0	33.78	-1.50	0.336
1900 MHz PCS	20.0	30.51	1.00	0.281

7.6. FREQUENCY STABILITY

LIMIT

§22.355 Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C–1 of this section.

For Mobile devices operating in the 824 to 849 MHz band at a power level less than or equal to 3 Watts, the limit specified in Table C-1 is +/- 2.5 ppm.

§24.235 The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.3.1 and 2.3.2

RESULTS

No non-compliance noted.

85MHz CELLULAR – MID CHANNEL

Reference Frequency: GPRS Cell Mid Channel 837.000000MHz @ 25*C				
		Limit: ± 2.5 ppm =	2092.165	Hz
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse		
(Vdc)	Temperature (*C)	(MHz)	Delta (ppm)	Limit (ppm)
3.70	50	836.86610	0.035	± 2.5
3.70	40	836.86611	0.030	± 2.5
3.70	30	836.86612	0.014	± 2.5
3.70	***25***	***836.86613***	***0***	***± 2.5***
3.70	20	836.86617	-0.041	± 2.5
3.70	10	836.86617	-0.047	± 2.5
3.70	0	836.86616	-0.036	± 2.5
3.70	-10	836.86617	-0.039	± 2.5
3.70	-20	836.86617	-0.044	± 2.5
3.70	-30	836.86617	-0.049	± 2.5
3.145	25	836.86611	0.025	± 2.5
4.255	25	836.86611	0.029	± 2.5

Reference Frequency: WCDMA Cell Mid Channel 836.490000MHz @ 25*C				
		Limit: ± 2.5 ppm =	2085.479	Hz
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse		
(Vdc)	Temperature (*C)	(MHz)	Delta (ppm)	Limit (ppm)
3.70	50	834.19227	-0.724	± 2.5
3.70	40	834.19203	-0.436	± 2.5
3.70	30	834.19186	-0.233	± 2.5
3.70	***25***	***834.19167***	***0***	***± 2.5***
3.70	20	834.19179	-0.149	± 2.5
3.70	10	834.19196	-0.352	± 2.5
3.70	0	834.19212	-0.544	± 2.5
3.70	-10	834.19229	-0.748	± 2.5
3.70	-20	834.19249	-0.988	± 2.5
3.70	-30	834.19275	-1.299	± 2.5
3.145	25	834.19291	-1.491	± 2.5
4.255	25	834.19301	-1.611	± 2.5

1900MHz PCS – MID CHANNEL

Reference Frequency: PCS Mid Channel 1880.000030MHz @ 20*C Limit: within the authorized block or +- 2.5 ppm = 4698.273 Hz				
Power Supply	**Environment**	**Frequency Deviation Measureed with Time Elapse**		
(Vdc)	**Temperature (*C)**	**(MHz)**	**Delta (ppm)**	**Limit (ppm)**
3.70	50	1879.309303	-0.120	± 2.5
3.70	40	1879.308929	0.079	± 2.5
3.70	30	1879.309022	0.029	± 2.5
3.70	***25***	***1879.309077***	***0***	***± 2.5***
3.70	10	1879.309913	-0.445	± 2.5
3.70	0	1879.309036	0.022	± 2.5
3.70	-10	1879.309152	-0.040	± 2.5
3.70	-20	1879.309199	-0.065	± 2.5
3.70	-30	1879.309214	-0.073	± 2.5

Reference Frequency: PCS Mid Channel 1880.000030MHz @ 20*C Limit: within the authorized block or +- 2.5 ppm = 4698.273 Hz				
Power Supply	**Environment**	**Frequency Deviation Measureed with Time Elapse**		
(Vdc)	**Temperature (*C)**	**(MHz)**	**Delta (ppm)**	**Limit (ppm)**
3.70	***20***	***1879.309077***	***0***	***± 2.5***
3.145	20	1879.309123	*-0.024*	± 2.5
4.255	20	1879.309737	*-0.351*	± 2.5