



# PCTEST ENGINEERING LABORATORY, INC.

6660-B Dobbin Road, Columbia, MD 21045 USA  
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http://www.pctestlab.com



## CERTIFICATE OF COMPLIANCE FCC Part 22 & 24 Certification

**Applicant Name:**  
Novatel Wireless Inc.  
9645 Scranton Road, Suite 205  
San Diego, CA 92121-3030  
United States

**Date of Testing:**  
August 21, 2008  
**Test Site/Location:**  
PCTEST Lab., Columbia, MD, USA  
**Test Report Serial No.:**  
0808191138-R1.PKR

<b>FCC ID:</b>	<b>PKRNVWMC1000</b>
<b>APPLICANT:</b>	<b>NOVATEL WIRELESS INC.</b>

**Application Type:** Certification

**FCC Classification:** PCS Licensed Transmitter Held to Ear (PCE)

**FCC Rule Part(s):** §2; §22(H), §24(E)

**EUT Type:** 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO

**Model(s):** MC1000

**Tx Frequency Range:** 824.20 - 848.80MHz (Cell. GSM) / 1850.20 - 1909.80MHz (PCS GSM)  
826.40 - 846.60MHz (Cell. WCDMA) / 1852.4 - 1907.6MHz (PCS WCDMA)  
824.70 - 848.31MHz (Cell. CDMA) / 1851.25 - 1908.75MHz (PCS CDMA)

**Max. RF Output Power:** 1.291 W ERP Cell. GSM (31.11 dBm) / 0.971 W EIRP PCS GSM (29.87 dBm)  
0.314 W ERP Cell. WCDMA (24.97 dBm) / 0.263 W EIRP PCS WCDMA (24.2 dBm)  
0.313 W ERP Cell. CDMA (24.95 dBm) / 0.279 W EIRP PCS CDMA (24.46 dBm)  
0.731 W ERP EDGE850 (28.64 dBm) 0.407 W EIRP EDGE1900 (26.1 dBm)

**Emission Designator(s):** 243KGXW (Cellular GSM), 242KGXW (PCS GSM)  
245KG7W (EDGE850), 242KG7W (EDGE1900)  
4M16F9W (Cellular WCDMA), 4M17F9W (PCS WCDMA)  
1M27F9W (Cellular CDMA), 1M27F9W (PCS CDMA)

**Test Device Serial No.:** *identical prototype* [S/N: N/A]

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

\* This revised test report (S/N: 0808191138-R1.PKR) supersedes and replaces the previously issued test report on the same subject EUT for the same type of testing as indicated. Please discard or destroy the previously issued test report (S/N: 0808191138.PKR) and dispose of it accordingly.

**Grant Conditions:** Power output listed is ERP for Part 22 and EIRP for Part 24.

PCTEST certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.



Randy Ortanez  
President

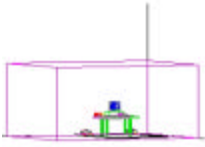


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<b>Test Report S/N:</b> 0808191138-R1.PKR	<b>Test Dates:</b> August 21, 2008	<b>EUT Type:</b> 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 1 of 74

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# MEASUREMENT REPORT

## FCC Part 22 & 24



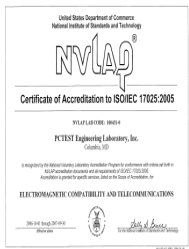
### §2.1033 General Information



**APPLICANT:** Novatel Wireless Inc.  
**APPLICANT ADDRESS:** 9645 Scranton Road, Suite 205  
 San Diego, CA 92121-3030  
**TEST SITE:** PCTEST ENGINEERING LABORATORY, INC.  
**TEST SITE ADDRESS:** 6660-B Dobbin Road, Columbia, MD 21045 USA  
**FCC RULE PART(S):** §2; §22(H), §24(E)  
**BASE MODEL :** MC1000  
**FCC ID:** PKRNVWMC1000  
**FCC CLASSIFICATION:** PCS Licensed Transmitter Held to Ear (PCE)  
 243KGXW (Cellular GSM), 242KGXW (PCS GSM)  
 245KG7W (EDGE850), 242KG7W (EDGE1900)  
**EMISSION DESIGNATOR(S):** 4M16F9W (Cellular WCDMA), 4M17F9W (PCS WCDMA)  
 1M27F9W (Cellular CDMA), 1M27F9W (PCS CDMA)  
**MODE:** GSM/EDGE/CDMA/WCDMA  
**FREQUENCY TOLERANCE:** ±0.00025 % (2.5 ppm)  
**Test Device Serial No.:** N/A       Production     Pre-Production     Engineering  
**DATE(S) OF TEST:** August 21, 2008  
**TEST REPORT S/N:** 0808191138-R1.PKR

### Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab located in Columbia, MD 21045, U.S.A.

- PCTEST facility is an FCC registered (PCTEST Reg. No. 90864) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules and Industry Canada (IC-2451).
- PCTEST Lab is accredited to ISO 17025 by U.S. National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP Lab code: 100431-0) in EMC, FCC and Telecommunications.
- PCTEST Lab is accredited to ISO 17025-2005 by the American Association for Laboratory Accreditation (A2LA) in Specific Absorption Rate (SAR) testing, Hearing Aid Compatibility (HAC) testing, CTIA Test Plans, and wireless testing for FCC and Industry Canada Rules.
- PCTEST Lab is a recognized U.S. Conformity Assessment Body (CAB) in EMC and R&TTE (n.b. 0982) under the U.S.-EU Mutual Recognition Agreement (MRA).
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC Guide 65 by the American National Standards Institute (ANSI) in all scopes of FCC Rules and Industry Canada Standards (RSS).
- PCTEST facility is an IC registered (IC-2451) test laboratory with the site description on file at Industry Canada.
- PCTEST is a CTIA Authorized Test Laboratory (CATL) for AMPS, CDMA, and EvDO wireless devices and for Over-the-Air (OTA) Antenna Performance testing for AMPS, CDMA, GSM, GPRS, EGPRS, UMTS (W-CDMA), CDMA 1xEVDO, and CDMA 1xRTT.



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# 1.0 INTRODUCTION

## 1.1 Scope

Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

## 1.2 Testing Facility

The map below shows the location of the PCTEST LABORATORY, its proximity to the FCC Laboratory, the Columbia vicinity area, the Baltimore-Washington Internt'l (BWI) airport, the city of Baltimore and the Washington, DC area. (see Figure 1-1).

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility in New Concept Business Park, Guilford Industrial Park, Columbia, Maryland. The site address is 6660-B Dobbin Road, Columbia, MD 21045. The test site is one of the highest points in the Columbia area with an elevation of 390 feet above mean sea level. The site coordinates are 39° 11'15" N latitude and 76° 49'38" W longitude. The facility is 1.5 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. There are no FM or TV transmitters within 15 miles of the site. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2003 on January 27, 2006 and Industry Canada.

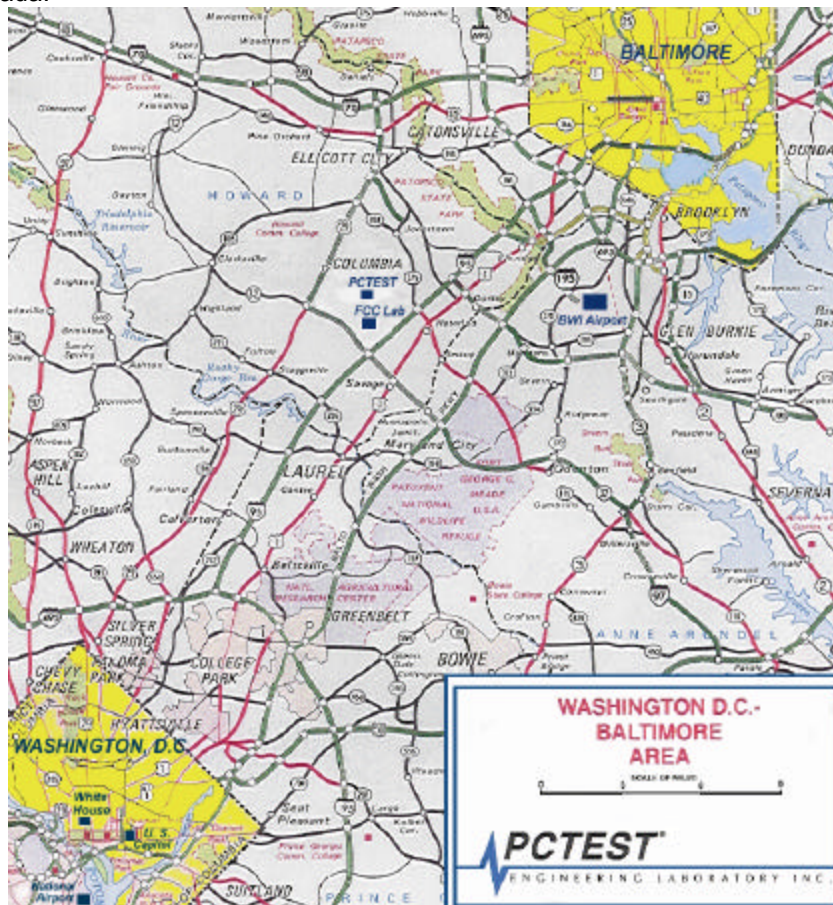




Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

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## 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Novatel 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO FCC ID: PKRNVWMC1000**. The EUT consisted of the following component(s):

Trade Name / Base Model	FCC ID	Description
Novatel / Model: MC1000	PKRNVWMC1000	850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO

Table 2-1. EUT Equipment Description

### 2.2 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

### 2.3 Labeling Requirements

Per 2.925

The FCC identifier shall be permanently affixed to the equipment and shall be readily visible to the purchaser at the time of purchase.



Per 15.19; Docket 95-19

In addition to this requirement, a device subject to certification shall be labeled as follows:

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.*

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the trade name and FCC ID must be displayed on the device per Section 15.19(b)(2).

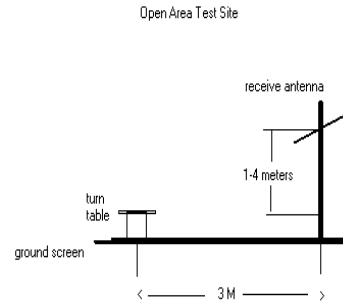
Please see attachment for FCC ID label and label location.

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### 3.0 DESCRIPTION OF TESTS

#### 3.1 Measurement Procedure

The radiated spurious measurements were made outdoors at a 3-meter test range (see Figure 3-1). The equipment under test is placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic antenna are taken into consideration.



**Figure 3-1. Diagram of 3-meter outdoor test range**

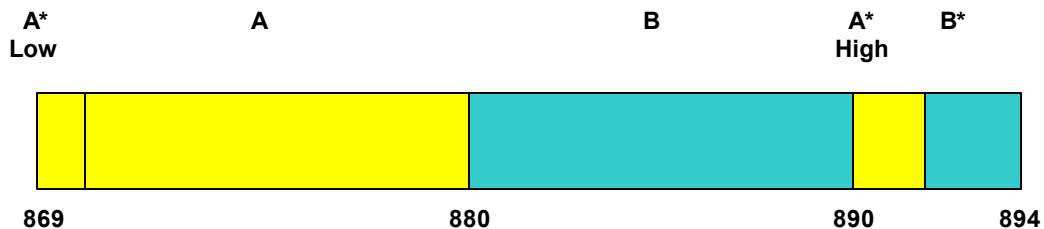
**Deviation from Measurement Procedure.....None**

#### 3.2 Occupied Bandwidth Emission Limits

§2.1049, 22.917(a), 24.238(a)

- On any frequency outside a licensee’s frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log(P)$  dB.
- Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.
- When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee’s frequency block edges, both upper and lower, as the design permits.
- The measurement of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

#### 3.3 Cellular - Base Frequency Blocks



**BLOCK 1: 869 – 880 MHz (A\* Low + A)**

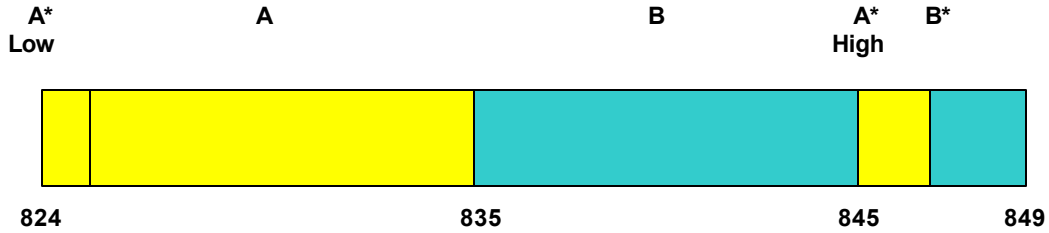
**BLOCK 3: 890 – 891.5 MHz (A\* High)**

**BLOCK 2: 880 – 890 MHz (B)**

**BLOCK 4: 891.5 – 894 MHz (B\*)**

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### 3.4 Cellular - Mobile Frequency Blocks



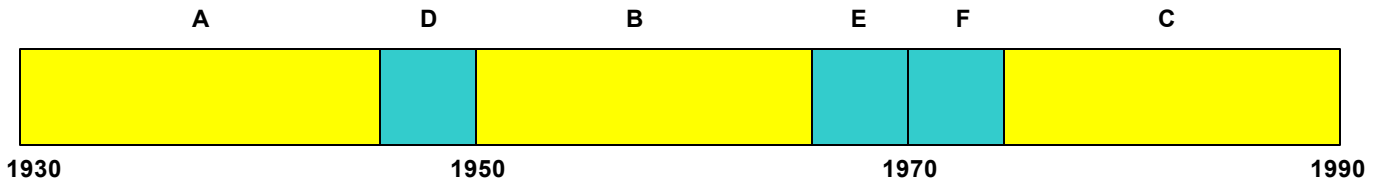
BLOCK 1: 824 – 835 MHz (A\* Low + A)

BLOCK 3: 845 – 846.5 MHz (A\* High)

BLOCK 2: 835 – 845 MHz (B)

BLOCK 4: 846.5 – 849 MHz (B\*)

### 3.5 PCS - Base Frequency Blocks



BLOCK 1: 1930 – 1945 MHz (A)

BLOCK 4: 1965 – 1970 MHz (E)

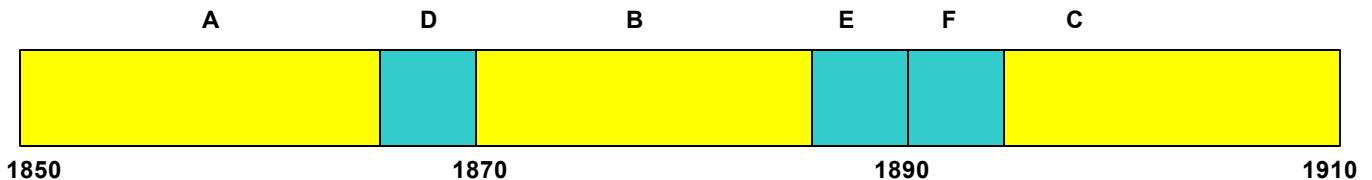
BLOCK 2: 1945 – 1950 MHz (D)

BLOCK 5: 1970 – 1975 MHz (F)

BLOCK 3: 1950 – 1965 MHz (B)

BLOCK 6: 1975 – 1990 MHz (C)

### 3.6 PCS - Mobile Frequency Blocks



BLOCK 1: 1850 – 1865 MHz (A)

BLOCK 4: 1885 – 1890 MHz (E)

BLOCK 2: 1865 – 1870 MHz (D)

BLOCK 5: 1890 – 1895 MHz (F)



BLOCK 3: 1870 – 1885 MHz (B)

BLOCK 6: 1895 – 1910 MHz (C)

### 3.7 Spurious and Harmonic Emissions at Antenna Terminal

§2.1051, 22.917(a), 24.238(a)

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10<sup>th</sup> harmonic.

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### 3.8 Radiated Spurious and Harmonic Emissions

#### §2.1053, 22.917(a), 24.238(a)

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz.

#### Effective Radiated Power Output Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

#### Equivalent Isotropic Radiated Power Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:



A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

Spurious and harmonic radiated emissions are measured outdoors at our 3-meter test range. The equipment under test is placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10<sup>th</sup> harmonic. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits.

### 3.9 Peak-Average Ratio

#### §24.232(d)

A peak to average ratio measurement is performed at the conducted port of the EUT. For CDMA and WCDMA signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level. For GSM signals, an average and a peak trace are used on a spectrum analyzer to determine the largest deviation between the average and the peak power of the EUT in a bandwidth greater than the emission bandwidth.

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### 3.10 Frequency Stability / Temperature Variation

**§2.1055, 22.355, 24.235**



The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

*Specification – The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency.*

**Time Period and Procedure:**

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.



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## 4.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST).

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	263-10dB	(DC-18GHz) 10 dB Attenuator	N/A		N/A	N/A
-	No.165	(30MHz - 1000MHz) RG58 Coax Cable	N/A		N/A	N/A
-	No.166	(1000-26500MHz) Microwave RF Cable	N/A		N/A	N/A
-	No.167	(100kHz - 100MHz) RG58 Coax Cable	N/A		N/A	N/A
Agilent	11713A	Attenuation/Switch Driver	12/13/2007	Annual	12/13/2008	3439A02645
Agilent	8449B	(1-26.5GHz) Pre-Amplifier	12/13/2007	Annual	12/13/2008	3008A00985
Agilent	8495A	(0-70dB) DC-4GHz Attenuator	N/A		N/A	N/A
Agilent	85650A	Quasi-Peak Adapter	3/13/2008	Annual	3/13/2009	2043A00301
Agilent	8566B	(100Hz-22GHz) Spectrum Analyzer	12/13/2007	Annual	12/13/2008	3638A08713
Agilent	8566B	Opt. 462 Impulse Bandwidth	12/13/2007	Annual	12/13/2008	3701A22204
Agilent	8591A	(9kHz-1.8GHz) Spectrum Analyzer	8/19/2008	Annual	8/19/2009	3144A02458
Agilent	8648D	(9kHz-4GHz) Signal Generator	10/11/2007	Biennial	10/11/2009	3613A00315
Agilent	8901A	Modulation Analyzer	8/18/2008	Annual	8/18/2009	2432A03467
Agilent	8903B	Audio Analyzer	8/18/2008	Annual	8/18/2009	3011A09025
Agilent	E4407B	ESA Spectrum Analyzer	3/13/2008	Annual	3/13/2009	US39210313
Agilent	E4432B	ESG-D Series Signal Generator	8/18/2008	Annual	8/18/2009	US40053896
Agilent	E4448A	(3Hz-50GHz) Spectrum Analyzer	1/24/2008	Annual	1/24/2009	US42510244
Agilent	E5515C	Wireless Communications Test Set	6/8/2007	Biennial	6/8/2009	GB46110872
Agilent	E5515C	Wireless Communications Test Set	6/8/2007	Biennial	6/8/2009	GB46310798
Agilent	E5515C	Wireless Communications Test Set	9/10/2008	Biennial	9/10/2010	GB41450275
Agilent	F8257D	(250kHz-20GHz) Signal Generator	3/8/2007	Biennial	3/8/2009	MY45470194
Compliance Design	Roberts	Dipole Set	11/9/2007	Biennial	11/9/2009	146
Compliance Design	Roberts	Dipole Set	11/9/2007	Biennial	11/9/2009	147
Emco	3115	Horn Antenna (1-18GHz)	9/24/2007	Biennial	9/24/2009	9704-5182
Emco	3115	Horn Antenna (1-18GHz)	10/4/2007	Biennial	10/4/2009	9205-3874
Emco	3121C-DB4	Dipole Antenna	1/23/2007	Biennial	1/23/2009	23951
Espec	ESX-2CA	Environmental Chamber	3/12/2008	Annual	3/12/2009	17620
Gigatronics	80701A	(0.05-18GHz) Power Sensor	8/18/2008	Annual	8/18/2009	1833460
Gigatronics	8651A	Universal Power Meter	8/18/2008	Annual	8/18/2009	1835299
Gigatronics	8651A	Universal Power Meter	8/18/2008	Annual	8/18/2009	8650319
K & L	11SH10	Band Pass Filter	N/A	Annual	N/A	1300/4000
K & L	11SH10	Band Pass Filter	N/A	Annual	N/A	4000/12000
MiniCircuits	VHF-1300+	High Pass Filter	N/A		N/A	30716
MiniCircuits	VHF-3100+	High Pass Filter	N/A		N/A	30721
Pasternack	PF2208-6	Bidirectional Coupler	N/A		N/A	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	5/29/2008	Annual	5/29/2009	836371/0079
Rohde & Schwarz	CMU200	Base Station Simulator	12/6/2007	Annual	12/6/2008	107826
Rohde & Schwarz	CMU200	Base Station Simulator	7/23/2008	Annual	7/23/2009	109892
Rohde & Schwarz	NRVD	Dual Channel Power Meter	8/20/2008	Biennial	8/20/2010	101695
Rohde & Schwarz	NRVS	Single Channel Power Meter	7/3/2007	Biennial	7/3/2009	835360/0079
Rohde & Schwarz	NRV-Z32	Peak Power Sensor (100uW-2W)	12/21/2006	Biennial	12/21/2008	100155
Rohde & Schwarz	NRV-Z33	Peak Power Sensor (1mW-20W)	11/28/2006	Biennial	11/28/2008	100004
Rohde & Schwarz	NRV-Z53	Power Sensor	7/3/2007	Biennial	7/3/2009	846076/0007
Schwarzbeck	UHA9105	Dipole Antenna (400 - 1GHz) Rx	6/19/2007	Biennial	6/18/2009	9105-2404
Schwarzbeck	UHA9105	Dipole Antenna (400 - 1GHz) Tx	6/19/2007	Biennial	6/18/2009	9105-2403
Solar Electronics	8012-50-R-24-BNC	LISN	11/8/2007	Biennial	11/8/2009	310233
Sunol	DRH-118	Horn Antenna (1 - 18GHz)	5/9/2007	Biennial	5/9/2009	A050307

**Table 4-1. Test Equipment**

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 10 of 74

## 5.0 SAMPLE CALCULATIONS

### GSM Emission Designator

**Emission Designator = 250KGXW**

GSM BW = 250 kHz  
 G = Phase Modulation  
 X = Cases not otherwise covered  
 W = Combination (Audio/Data)

### WCDMA Emission Designator

**Emission Designator = 4M16F9W**

WCDMA BW = 4.16 MHz  
 F = Frequency Modulation  
 9 = Composite Digital Info  
 W = Combination (Audio/Data) (Measured at the 99.75% power bandwidth)

### CDMA Emission Designator



**Emission Designator = 1M27F9W**

CDMA BW = 1.27 MHz  
 F = Frequency Modulation  
 9 = Composite Digital Info  
 W = Combination (Audio/Data) (Measured at the 99.75% power bandwidth)

### Spurious Radiated Emission - PCS Band

**Example: GSM Channel 512 PCS Mode 2<sup>nd</sup> Harmonic (3700.40 MHz)**

The receive analyzer reading at 3 meters with the EUT on the turntable was -81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -81.0 dBm on the receive analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 3700.40 MHz. So 6.1 dB is added to the signal generator reading of -30.9 dBm yielding -24.80 dBm. The fundamental EIRP was 25.501 dBm so this harmonic was 25.501 dBm - (-24.80) = 50.3 dBc.

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 11 of 74	



## 6.0 TEST RESULTS

### 6.1 Summary

Company Name: Novatel Wireless Inc.  
 FCC ID: PKRNVWMC1000  
 FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)  
 Mode(s): GSM/EDGE/CDMA/WCDMA

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
<b>TRANSMITTER MODE (TX)</b>					
2.1049, 22.917(a), 24.238(a)	Occupied Bandwidth	N/A	CONDUCTED	PASS	Section 7.0
2.1051, 22.917(a), 24.238(a)	Band Edge / Conducted Spurious Emissions	< 43 + log <sub>10</sub> (P[Watts]) at Band Edge and for all out-of-band emissions		PASS	Section 7.0
24.232(d)	Peak-Average Ratio	< 13 dB		PASS	Section 7.0
2.1046	GSM/WCDMA Conducted Output Power	N/A		PASS	Section 6.2
22.913(a)(2)	Effective Radiated Power	< 7 Watts max. ERP (<6.3 Watts max. ERP (IC))	RADIATED	PASS	Section 6.3
24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP		PASS	Section 6.4
2.1053, 22.917(a), 24.238(a)	Undesirable Emissions	< 43 + log <sub>10</sub> (P[Watts]) for all out-of-band emissions		PASS	Sections 6.5, 6.6, 6.8, 6.9
2.1055, 22.355, 24.235	Frequency Stability	< 2.5 ppm		PASS	Sections 6.11, 6.12, 6.14, 6.15
<b>RECEIVER MODE (RX) / DIGITAL EMISSIONS</b>					
15.107	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.107 limits	LINE CONDUCTED	PASS	Pt. 15B Test Report
15.109	General Field Strength Limits (Restricted Bands and Radiated Emissions Limits)	< FCC 15.109 limits	RADIATED (30MHz-1GHz) (1-25 GHz)	PASS	Pt. 15B Test Report
<b>RF EXPOSURE (SAR)</b>					
2.1091 / 2.1093	SAR Test	1.6 W/kg (SAR Limit)	SAR	PASS	SAR Report

**Table 6-1. Summary of Test Results**

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 12 of 74	

## 6.2 Conducted Output Power

### §2.1046

A base station simulator (Rhode and Schwartz Model: CMU200) was used to establish communication with the **Novatel 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO FCC ID: PKRNVWMC1000**. The base station simulator parameters were set to produce the maximum power from the EUT. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. The GSM and WCDMA conducted powers are reported below, respectively.

		RF Conducted Power Table	
Band	Channel	GPRS [dBm] 1 Tx Slot	EDGE [dBm] 1 Tx Slot
Cellular	128	32.20	27.60
	190	32.20	27.93
	251	32.10	27.75
PCS	512	29.10	26.84
	661	29.00	26.91
	810	29.00	26.73

Table 6-2. GPRS/EDGE Conducted Output Powers

UMTS RF Conducted Power Table			
		HSDPA Inactive	HSDPA Active
Band	Channel	12.2 kbps RMC [dBm]	12.2 kbps RMC [dBm]
Cellular	4132	24.43	24.38
	4183	24.56	24.60
	4233	24.37	24.44
PCS	9262	23.24	23.35
	9400	23.42	23.08
	9538	24.38	23.42

Table 6-3. WCDMA Conducted Output Powers

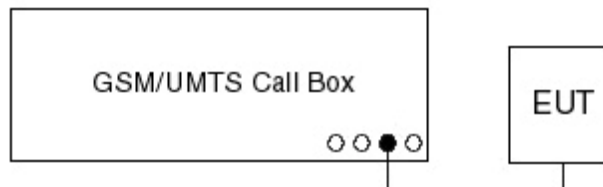




Figure 6-1. GSM/WCDMA Conducted Power Test Setup Diagram

FCC ID: PKRNVWMC1000	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 13 of 74

### 6.3 Effective Radiated Power Output Data

§22.913(a)(2)

**POWER: PCL "5" (Cellular GSM Mode)**

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery Type
824.20	GSM850	-9.080	30.86	0.00	H	30.86	1.219	Standard
836.60	GSM850	-9.070	30.87	0.00	H	30.87	1.222	Standard
848.80	GSM850	-8.830	31.11	0.00	H	31.11	1.291	Standard
848.80	EDGE850	-11.300	28.64	0.00	H	28.64	0.731	Standard

**Table 6-4. Effective Radiated Power Output Data (GSM)**

**POWER: All "1" bits (Cellular WCDMA Mode)**

Frequency [MHz]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery Type
826.40	-15.510	24.43	0.00	H	24.43	0.277	Standard
836.60	-15.600	24.34	0.00	H	24.34	0.272	Standard
846.60	-14.970	24.97	0.00	H	24.97	0.314	Standard

**Table 6-5. Effective Radiated Power Output Data (WCDMA)**

**POWER: All "1" bits (Cellular CDMA Mode)**

Frequency [MHz]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery Type
824.70	-14.990	24.95	0.00	H	24.95	0.313	Standard
836.52	-15.610	24.33	0.00	H	24.33	0.271	Standard
848.31	-15.480	24.46	0.00	H	24.46	0.279	Standard

**Table 6-6. Effective Radiated Power Output Data (CDMA)**

## 6.4 Equivalent Isotropic Radiated Power Output Data §24.232(c)

POWER: PCL "0" (PCS GSM Mode)

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
1850.20	GSM1900	-13.430	21.87	8.00	H	29.87	0.971	Standard
1880.00	GSM1900	-14.720	20.58	8.00	H	28.58	0.721	Standard
1909.80	GSM1900	-14.650	20.65	8.00	H	28.65	0.733	Standard
1850.20	EDGE1900	-17.200	18.10	8.00	H	26.10	0.407	Standard

Table 6-7. Equivalent Isotropic Radiated Power Output Data (GSM)

POWER: All "1" bits (PCS WCDMA Mode)



Frequency [MHz]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
1852.40	-19.100	16.20	8.00	H	24.20	0.263	Standard
1880.00	-19.210	16.09	8.00	H	24.09	0.256	Standard
1907.60	-19.400	15.90	8.00	H	23.90	0.245	Standard

Table 6-8. Equivalent Isotropic Radiated Power Output Data (WCDMA)

POWER: All "1" bits (PCS CDMA Mode)

Frequency [MHz]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
1851.25	-19.020	16.28	8.00	H	24.28	0.268	Standard
1880.00	-18.840	16.46	8.00	H	24.46	0.279	Standard
1908.75	-19.200	16.10	8.00	H	24.10	0.257	Standard

Table 6-9. Equivalent Isotropic Radiated Power Output Data (CDMA)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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## 6.5 Cellular GSM Radiated Measurements

### §2.1053, 22.917(a)

#### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 824.20 MHz  
 CHANNEL: 128  
 MEASURED OUTPUT POWER: 31.110 dBm = 1.291 W  
 MODULATION SIGNAL: GSM (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10} (W)$  44.11 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1648.40	-46.26	6.08	-40.17	H	71.3
2472.60	-45.49	6.53	-38.96	H	70.1
3296.80	-94.73	6.87	-87.86	H	119.0
4121.00	-92.62	7.21	-85.42	H	116.5
4945.20	-91.87	8.37	-83.50	H	114.6



**Table 6-10. Radiated Spurious Data (Cellular GSM Mode – Ch. 128)**

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 16 of 74



**Cellular GSM Radiated Measurements (Cont'd)**  
§2.1053, 22.917(a)

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 836.60 MHz  
 CHANNEL: 190  
 MEASURED OUTPUT POWER: 31.110 dBm = 1.291 W  
 MODULATION SIGNAL: GSM (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10} (W)$  44.11 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1673.20	-46.13	6.09	-40.04	H	71.1
2509.80	-46.91	6.55	-40.35	H	71.5
3346.40	-94.61	6.89	-87.71	H	118.8
4183.00	-92.84	7.43	-85.40	H	116.5
5019.60	-91.55	8.35	-83.20	H	114.3



**Table 6-11. Radiated Spurious Data (Cellular GSM Mode – Ch. 190)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 17 of 74

**Cellular GSM Radiated Measurements (Cont'd)**  
§2.1053, 22.917(a)

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 848.80 MHz  
 CHANNEL: 251  
 MEASURED OUTPUT POWER: 31.110 dBm = 1.291 W  
 MODULATION SIGNAL: GSM (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10} (W)$  44.11 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1697.60	-45.50	6.09	-39.41	H	70.5
2546.40	-45.36	6.57	-38.79	H	69.9
3395.20	-94.48	6.91	-87.57	H	118.7
4244.00	-93.04	7.65	-85.39	H	116.5
5092.80	-91.22	8.33	-82.89	H	114.0



**Table 6-12. Radiated Spurious Data (Cellular GSM Mode – Ch. 251)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 18 of 74

## 6.6 Cellular WCDMA Radiated Measurements

### §2.1053, 22.917(a)

#### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 826.40 MHz  
 CHANNEL: 4132  
 MEASURED OUTPUT POWER: 24.970 dBm = 0.314 W  
 MODULATION SIGNAL: WCDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.97 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1652.80	-57.83	6.08	-51.75	H	76.7
2479.20	-52.85	6.54	-46.32	H	71.3
3305.60	-94.71	6.88	-87.83	H	112.8
4132.00	-92.66	7.25	-85.41	H	110.4
4958.40	-91.82	8.37	-83.45	H	108.4



**Table 6-13. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4132)**

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 19 of 74

**Cellular WCDMA Radiated Measurements (Cont'd)**  
§2.1053, 22.917(a)

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 836.60 MHz  
 CHANNEL: 4183  
 MEASURED OUTPUT POWER: 24.970 dBm = 0.314 W  
 MODULATION SIGNAL: WCDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.97 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1673.20	-59.24	6.09	-53.16	H	78.1
2509.80	-53.63	6.55	-47.07	H	72.0
3346.40	-94.62	6.89	-87.73	H	112.7
4183.00	-92.81	7.40	-85.40	H	110.4
5019.60	-91.59	8.35	-83.24	H	108.2



**Table 6-14. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4183)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

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**Cellular WCDMA Radiated Measurements (Cont'd)**  
§2.1053, 22.917(a)

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 846.60 MHz  
 CHANNEL: 4233  
 MEASURED OUTPUT POWER: 24.970 dBm = 0.314 W  
 MODULATION SIGNAL: WCDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.97 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1693.20	-58.32	6.09	-52.23	H	77.2
2539.80	-53.99	6.57	-47.42	H	72.4
3386.40	-94.50	6.91	-87.60	H	112.6
4233.00	-93.01	7.62	-85.39	H	110.4
5079.60	-91.28	8.33	-82.94	H	107.9



**Table 6-15. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4233)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

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## 6.7 Cellular CDMA Radiated Measurements

### §2.1053, 22.917(a)

#### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 824.70 MHz  
 CHANNEL: 1013  
 MEASURED OUTPUT POWER: 24.950 dBm = 0.313 W  
 MODULATION SIGNAL: CDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.95 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1649.40	-45.95	6.08	-39.87	H	64.8
2474.10	-49.68	6.53	-43.15	H	68.1
3298.80	-94.73	6.87	-87.85	H	112.8
4123.50	-92.63	7.21	-85.42	H	110.4
4948.20	-91.86	8.37	-83.49	H	108.4



**Table 6-16. Radiated Spurious Data (Cellular CDMA Mode – Ch. 1013)**

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

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**Cellular CDMA Radiated Measurements (Cont'd)**  
§2.1053, 22.917(a)

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 836.52 MHz  
 CHANNEL: 384  
 MEASURED OUTPUT POWER: 24.950 dBm = 0.313 W  
 MODULATION SIGNAL: CDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.95 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1673.04	-50.63	6.09	-44.54	H	69.5
2509.56	-47.91	6.55	-41.35	H	66.3
3346.08	-94.61	6.89	-87.71	H	112.7
4182.60	-92.83	7.43	-85.40	H	110.4
5019.12	-91.55	8.35	-83.20	H	108.2



**Table 6-17. Radiated Spurious Data (Cellular CDMA Mode – Ch. 384)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

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**Cellular CDMA Radiated Measurements (Cont'd)**  
**§2.1053, 22.917(a)**

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 848.31 MHz  
 CHANNEL: 777  
 MEASURED OUTPUT POWER: 24.950 dBm = 0.313 W  
 MODULATION SIGNAL: CDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.95 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1696.62	-45.61	6.09	-39.51	H	64.5
2544.93	-53.46	6.57	-46.89	H	71.8
3393.24	-94.49	6.91	-87.58	H	112.5
4241.55	-93.03	7.65	-85.39	H	110.3
5089.86	-91.23	8.33	-82.90	H	107.8



**Table 6-18. Radiated Spurious Data (Cellular CDMA Mode – Ch. 777)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

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## 6.8 PCS GSM Radiated Measurements

§2.1053, 24.238(a)

### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1850.20 MHz  
 CHANNEL: 512  
 MEASURED OUTPUT POWER: 29.870 dBm = 0.971 W  
 MODULATION SIGNAL: GSM (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  42.87 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3700.40	-50.82	9.02	-41.81	H	71.7
5550.60	-49.29	10.40	-38.89	H	68.8
7400.80	-87.21	10.50	-76.71	H	106.6
9251.00	-86.52	11.85	-74.67	H	104.5
11101.20	-84.07	12.76	-71.31	H	101.2



**Table 6-19. Radiated Spurious Data (PCS GSM Mode – Ch. 512)**

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

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**PCS GSM Radiated Measurements (Cont'd)**  
**§2.1053, 24.238(a)**

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 1880.00 MHz  
 CHANNEL: 661  
 MEASURED OUTPUT POWER: 29.870 dBm = 0.971 W  
 MODULATION SIGNAL: GSM (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  42.87 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-50.26	8.99	-41.27	H	71.1
5640.00	-48.46	10.40	-38.06	H	67.9
7520.00	-87.22	10.62	-76.60	H	106.5
9400.00	-86.30	11.70	-74.60	H	104.5
11280.00	-83.32	12.69	-70.63	H	100.5



**Table 6-20. Radiated Spurious Data (PCS GSM Mode – Ch. 661)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

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**PCS GSM Radiated Measurements (Cont'd)**  
§2.1053, 24.238(a)

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 1909.80 MHz  
 CHANNEL: 810  
 MEASURED OUTPUT POWER: 29.870 dBm = 0.971 W  
 MODULATION SIGNAL: GSM (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10} (W)$  42.87 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3819.60	-50.71	8.97	-41.74	H	71.6
5729.40	-48.25	10.40	-37.85	H	67.7
7639.20	-87.13	10.71	-76.42	H	106.3
9549.00	-86.10	11.64	-74.46	H	104.3
11458.80	-82.58	12.62	-69.96	H	99.8



**Table 6-21. Radiated Spurious Data (PCS GSM Mode – Ch. 810)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

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## 6.9 PCS WCDMA Radiated Measurements

### §2.1053, 24.238(a)

#### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1852.40 MHz  
 CHANNEL: 9262  
 MEASURED OUTPUT POWER: 24.200 dBm = 0.263 W  
 MODULATION SIGNAL: WCDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.20 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3704.80	-42.60	9.01	-33.59	H	57.8
5557.20	-49.76	10.40	-39.36	H	63.6
7409.60	-87.22	10.51	-76.70	H	100.9
9262.00	-86.50	11.83	-74.67	H	98.9
11114.40	-84.01	12.75	-71.26	H	95.5



**Table 6-22. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9262)**

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

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**PCS WCDMA Radiated Measurements (Cont'd)**  
§2.1053, 24.238(a)

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 1880.00 MHz  
 CHANNEL: 9400  
 MEASURED OUTPUT POWER: 24.200 dBm = 0.263 W  
 MODULATION SIGNAL: WCDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.20 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-35.56	8.99	-26.57	H	50.8
5640.00	-45.96	10.40	-35.56	H	59.8
7520.00	-87.22	10.62	-76.60	H	100.8
9400.00	-86.30	11.70	-74.60	H	98.8
11280.00	-83.32	12.69	-70.63	H	94.8



**Table 6-23. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9400)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

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**PCS WCDMA Radiated Measurements (Cont'd)**  
§2.1053, 24.238(a)

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 1907.60 MHz  
 CHANNEL: 9538  
 MEASURED OUTPUT POWER: 24.200 dBm = 0.263 W  
 MODULATION SIGNAL: WCDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.20 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3815.20	-25.73	8.97	-16.76	H	41.0
5722.80	-46.57	10.40	-36.17	H	60.4
7630.40	-87.14	10.71	-76.43	H	100.6
9538.00	-86.11	11.63	-74.48	H	98.7
11445.60	-82.63	12.62	-70.01	H	94.2



**Table 6-24. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9538)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

FCC ID: PKRNVWMC1000	 FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 30 of 74

## 6.10 PCS CDMA Radiated Measurements

### §2.1053, 24.238(a)

#### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1851.25 MHz  
 CHANNEL: 25  
 MEASURED OUTPUT POWER: 24.460 dBm = 0.279 W  
 MODULATION SIGNAL: CDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.46 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3702.50	-43.31	9.02	-34.30	H	58.8
5553.75	-47.48	10.40	-37.08	H	61.5
7405.00	-87.21	10.51	-76.71	H	101.2
9256.25	-86.51	11.84	-74.67	H	99.1
11107.50	-84.04	12.76	-71.29	H	95.7



**Table 6-25. Radiated Spurious Data (PCS CDMA Mode – Ch. 25)**

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 31 of 74

**PCS CDMA Radiated Measurements (Cont'd)**  
§2.1053, 24.238(a)

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 1880.00 MHz  
 CHANNEL: 600  
 MEASURED OUTPUT POWER: 24.460 dBm = 0.279 W  
 MODULATION SIGNAL: CDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.46 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-40.26	8.99	-31.27	H	55.7
5640.00	-45.26	10.40	-34.86	H	59.3
7520.00	-87.22	10.62	-76.60	H	101.1
9400.00	-86.30	11.70	-74.60	H	99.1
11280.00	-83.32	12.69	-70.63	H	95.1



**Table 6-26. Radiated Spurious Data (PCS CDMA Mode – Ch. 600)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 32 of 74	



**PCS CDMA Radiated Measurements (Cont'd)**  
§2.1053, 24.238(a)

**Field Strength of SPURIOUS Radiation**

OPERATING FREQUENCY: 1908.75 MHz  
 CHANNEL: 1175  
 MEASURED OUTPUT POWER: 24.460 dBm = 0.279 W  
 MODULATION SIGNAL: CDMA (Internal)  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W)$  37.46 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3817.50	-25.72	8.97	-16.75	H	41.2
5726.25	-46.56	10.40	-36.16	H	60.6
7635.00	-87.13	10.71	-76.42	H	100.9
9543.75	-86.10	11.64	-74.47	H	98.9
11452.50	-82.61	12.62	-69.99	H	94.4



**Table 6-27. Radiated Spurious Data (PCS CDMA Mode – Ch. 1175)**

**NOTES:**

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Active at 12.2 kbps RMC and TPC bits all set to "1" and in GSM mode and using a Power Control Level of "0" in the PCS Band and "5" in the Cellular Band. In CDMA mode, this device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery.

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 33 of 74	



## 6.11 Cellular GSM Frequency Stability Measurements

§2.1055, 22.355

<b>Operating Frequency:</b>	<b>836,600,000</b>	<b>Hz</b>
<b>Channel:</b>	<b>PDTCH = 190</b>	
<b>Reference Voltage:</b>	<b>5</b>	<b>Vdc</b>
<b>Deviation Limit:</b>	<b>+/- 0.00025/2.5 %/ppm</b>	

Voltage (%)	Temp (Vdc)	Temp (C)	Frequency Error			Offset (Hz)	Frequency (Hz)	Deviation	
			Minimum	Maximum	Average over 100 readings			(ppm)	(%)
90%	4.50	25 (Ref)	-0.40	19.63	10.90	10.90	836,600,010.90	0.00000000	0.00000000
		-20	-8.81	12.43	3.86	3.86	836,600,003.86	-0.00841501	-0.000000842
		-10	-3.66	15.09	8.97	8.97	836,600,008.97	-0.00230696	-0.000000231
		0	-14.77	10.15	-0.15	-0.15	836,599,999.85	-0.01320822	-0.000001321
		10	-13.28	11.97	-1.04	-1.04	836,599,998.96	-0.01427205	-0.000001427
		25	-26.79	-8.11	-15.67	-15.67	836,599,984.33	-0.03175950	-0.000003176
		30	-28.25	-7.81	-17.84	-17.84	836,599,982.16	-0.03435333	-0.000003435
		40	-40.14	-17.89	-25.78	-25.78	836,599,974.22	-0.04384413	-0.000004384
		50	-42.61	-19.96	-29.70	-29.70	836,599,970.30	-0.04852976	-0.000004853
	60	-44.39	-24.34	-34.10	-34.10	836,599,965.90	-0.05378915	-0.000005379	
100%	5.00	25 (Ref)	1.48	21.36	13.48	13.48	836,600,013.48	0.00000000	0.00000000
		-20	-9.48	13.72	3.06	3.06	836,600,003.06	-0.01245518	-0.00000125
		-10	-3.26	12.15	6.68	6.68	836,600,006.68	-0.00812814	-0.00000081
		0	-17.59	17.15	-3.63	-3.63	836,599,996.37	-0.02045183	-0.00000205
		10	-11.20	13.46	-0.73	-0.73	836,599,999.27	-0.01698542	-0.00000170
		25	-26.62	-6.09	-18.24	-18.24	836,599,981.76	-0.03791537	-0.00000379
		30	-22.77	-5.99	-13.30	-13.30	836,599,986.70	-0.03201052	-0.00000320
		40	-45.09	-22.69	-33.35	-33.35	836,599,966.65	-0.05597657	-0.00000560
		50	-39.92	-19.59	-27.84	-27.84	836,599,972.16	-0.04939039	-0.00000494
	60	-42.58	-21.76	-32.60	-32.60	836,599,967.40	-0.05508009	-0.00000551	
105%	5.25	25 (Ref)	8.37	28.85	21.19	21.19	836600021.19	0.00000000	0.00000000
		-20	-10.4	10.71	2.65	2.65	836600002.65	-0.02216113	-0.0000022
		-10	-7.23	17.27	8.86	8.86	836600008.86	-0.01473823	-0.0000015
		0	-9.76	18.78	5.01	5.01	836600005.01	-0.01934019	-0.0000019
		10	-11.24	12.69	0.22	0.22	836600000.22	-0.02506574	-0.0000025
		25	-29.19	-7.99	-16.81	-16.81	836599983.19	-0.04542194	-0.0000045
		30	-30.87	-10.08	-17.89	-17.89	836599982.11	-0.04671288	-0.0000047
		40	-40.27	-19.16	-29.23	-29.23	836599970.77	-0.06026775	-0.0000060
		50	-41.83	-16.3	-25.79	-25.79	836599974.21	-0.05615587	-0.0000056
	60	-43.93	-22.65	-32.11	-32.11	836599967.89	-0.06371025	-0.0000064	

Table 6-28. Frequency Stability Data (Cellular GSM Mode – Ch. 190)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 34 of 74



## 6.12 Cellular WCDMA Frequency Stability Measurements

§2.1055, 22.355

<b>Operating Frequency:</b>	<b>836,400,000 Hz</b>
<b>Channel:</b>	<b>DLCH=4407 ULCH=4182</b>
<b>Reference Voltage:</b>	<b>5 Vdc</b>
<b>Deviation Limit:</b>	<b>+/- 0.00025/2.5 %/ppm</b>

Voltage		Temp	Frequency Error			Offset	Frequency	Deviation	
(%)	(Vdc)	( C )	Minimum	Maximum	Average over 100 readings	(Hz)	(Hz)	(ppm)	(%)
90%	4.50	25 (Ref)	-13.61	14.03	-1.02	-1.02	836,399,998.98	0.00000000	0.00000000
		-20	-15.27	12.29	-1.14	-1.14	836,399,998.86	-0.00014347	-0.00000014
		-10	-17.83	12.30	-2.09	-2.09	836,399,997.91	-0.00127929	-0.000000128
		0	-14.65	9.32	-0.94	-0.94	836,399,999.06	0.00009565	0.00000010
		10	-17.90	16.30	-2.15	-2.15	836,399,997.85	-0.00135103	-0.000000135
		25	-17.94	15.52	-1.53	-1.53	836,399,998.47	-0.00060976	-0.000000061
		30	-12.97	15.74	-2.22	-2.22	836,399,997.78	-0.00143472	-0.000000143
		40	-15.73	19.70	2.87	2.87	836,400,002.87	0.00465088	0.000000465
		50	-13.44	14.12	-0.44	-0.44	836,399,999.56	0.00069345	0.000000069
60	-17.02	14.50	0.06	0.06	836,400,000.06	0.00129125	0.000000129		
100%	5.00	25 (Ref)	-16.81	12.86	1.98	1.98	836,400,001.98	0.00000000	0.00000000
		-20	-16.28	18.50	-1.10	-1.10	836,399,998.90	-0.00368245	-0.00000037
		-10	-16.28	11.44	-1.25	-1.25	836,399,998.75	-0.00386179	-0.00000039
		0	-16.25	13.33	-1.24	-1.24	836,399,998.76	-0.00384983	-0.00000038
		10	-16.24	11.89	-1.65	-1.65	836,399,998.35	-0.00434003	-0.00000043
		25	-18.37	14.11	-2.14	-2.14	836,399,997.86	-0.00492587	-0.00000049
		30	-12.67	21.07	0.53	0.53	836,400,000.53	-0.00173362	-0.00000017
		40	-18.76	22.78	0.14	0.14	836,400,000.14	-0.00219990	-0.00000022
		50	-15.98	10.66	-1.97	-1.97	836,399,998.03	-0.00472262	-0.00000047
60	-19.96	17.15	-1.07	-1.07	836,399,998.93	-0.00364658	-0.00000036		
105%	5.25	25 (Ref)	-16.75	10.01	-2.3	-2.3	836399997.70	0.00000000	0.00000000
		-20	-17.81	14.12	-1.17	-1.17	836399998.83	0.00135103	0.00000001
		-10	-16.72	14.94	-1.85	-1.85	836399998.15	0.00053802	0.00000001
		0	-18.66	15.14	-1.8	-1.8	836399998.20	0.00059780	0.00000001
		10	-19.11	10.6	-1.7	-1.7	836399998.30	0.00071736	0.00000001
		25	-16.31	13.49	-1.73	-1.73	836399998.27	0.00068149	0.00000001
		30	-21.13	11.04	-1.46	-1.46	836399998.54	0.00100430	0.00000001
		40	-20.3	14.83	-1.78	-1.78	836399998.22	0.00062171	0.00000001
		50	-17.95	16.69	-1.5	-1.5	836399998.50	0.00095648	0.00000001
60	-18.32	12.73	0.8	0.8	836400000.80	0.00370636	0.00000004		

Table 6-29. Frequency Stability Data (Cellular WCDMA Mode – Ch. 4183)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 35 of 74

### 6.13 Cellular CDMA Frequency Stability Measurements §2.1055, 22.355



Operating Frequency:	836,520,000	Hz
Channel:	384	
Reference Voltage:		Vdc
Deviation Limit:	+/- 0.00025/2.5	%/ppm

Voltage		Temp	Frequency Error			Offset	Frequency	Deviation	
(%)	(Vdc)	( C )	Minimum	Maximum	Average over 100 readings	(Hz)	(Hz)	(ppm)	(%)
90%	4.50	25 (Ref)	-1.32	3.77	0.66	0.66	836,520,000.66	0.00000000	0.00000000
		-20	-1.60	4.36	1.46	1.46	836,520,001.46	0.00095634	0.00000096
		-10	-1.53	5.45	1.60	1.60	836,520,001.60	0.00112370	0.000000112
		0	-3.37	5.28	1.68	1.68	836,520,001.68	0.00121934	0.000000122
		10	-1.55	7.09	3.04	3.04	836,520,003.04	0.00284512	0.000000285
		25	-4.50	4.22	1.40	1.40	836,520,001.40	0.00088462	0.000000088
		30	-3.70	3.53	1.53	1.53	836,520,001.53	0.00104002	0.000000104
		40	-1.39	3.52	0.60	0.60	836,520,000.60	-0.00007173	-0.000000007
		50	-1.18	3.28	0.63	0.63	836,520,000.63	-0.00003586	-0.000000004
	60	-7.63	5.59	-0.26	-0.26	836,519,999.74	-0.00109979	-0.000000110	

Voltage		Temp	Frequency Error			Offset	Frequency	Deviation	
(%)	(Vdc)	( C )	Minimum	Maximum	Average over 100 readings	(Hz)	(Hz)	(ppm)	(%)
100%	5.00	25 (Ref)	-4.76	4.30	0.62	0.62	836,520,000.62	0.00000000	0.00000000
		-20	0.09	5.46	2.03	2.03	836,520,002.03	0.00168555	0.00000017
		-10	3.06	3.84	1.87	1.87	836,520,001.87	0.00149429	0.00000015
		0	-3.33	6.52	2.17	2.17	836,520,002.17	0.00185291	0.00000019
		10	-2.22	6.91	2.82	2.82	836,520,002.82	0.00262994	0.00000026
		25	-3.90	4.40	0.95	0.95	836,520,000.95	0.00039449	0.00000004
		30	-0.49	2.79	1.33	1.33	836,520,001.33	0.00084875	0.00000008
		40	-1.20	2.27	0.70	0.70	836,520,000.70	0.00009563	0.00000001
		50	-1.08	4.04	0.42	0.42	836,520,000.42	-0.00023909	-0.00000002
	60	-7.39	3.89	-0.53	-0.53	836,519,999.47	-0.00137474	-0.00000014	

Voltage		Temp	Frequency Error			Offset	Frequency	Deviation	
(%)	(Vdc)	( C )	Minimum	Maximum	Average over 100 reading	(Hz.)	(Hz)	(ppm)	(%)
105%	5.25	25 (Ref)	-0.66	2.71	0.73	0.73	836520000.73	0.00000000	0.00000000
		-20	2.1	4.38	2.05	2.05	836520002.05	0.00157797	0.00000002
		-10	0.1	5.34	1.88	1.88	836520001.88	0.00137474	0.00000001
		0	-3.42	6.16	2.13	2.13	836520002.13	0.00167360	0.00000002
		10	-2.86	6.29	2.11	2.11	836520002.11	0.00164969	0.00000002
		25	-3.74	5.8	2.02	2.02	836520002.02	0.00154210	0.00000002
		30	-0.12	5.72	1.97	1.97	836520001.97	0.00148233	0.00000001
		40	-1.22	3.58	0.59	0.59	836520000.59	-0.00016736	0.00000000
		50	-1.39	3.48	-0.04	-0.04	836519999.96	-0.00092048	-0.00000001
	60	-7.89	3.4	-1.2	-1.2	836519998.80	-0.00230718	-0.00000002	

Table 6-30. Frequency Stability Data (Cellular CDMA Mode – Ch. 384)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 36 of 74



## 6.14 PCS GSM Frequency Stability Measurements

§2.1055, 24.235

<b>Operating Frequency:</b>	<b>1,880,000,000</b>	<b>Hz</b>
<b>Channel:</b>	<b>PDTCH = 661</b>	
<b>Reference Voltage:</b>	<b>5</b>	<b>Vdc</b>
<b>Deviation Limit:</b>	<b>+/- 0.00025/2.5 %/ppm</b>	

Voltage (%)	Temp (Vdc)	Temp (C)	Frequency Error			Offset (Hz)	Frequency (Hz)	Deviation	
			Minimum	Maximum	Average over 100 readings			(ppm)	(%)
90%	4.50	25 (Ref)	-47.46	-7.35	-20.98	-20.98	1,879,999,979.02	0.00000000	0.00000000
		-20	-71.22	-25.01	-39.48	-39.48	1,879,999,960.52	-0.00984043	-0.000000984
		-10	-13.02	30.72	12.08	12.08	1,880,000,012.08	0.01758511	0.000001759
		0	-10.73	31.35	10.19	10.19	1,880,000,010.19	0.01657979	0.000001658
		10	-3.39	40.83	24.51	24.51	1,880,000,024.51	0.02419681	0.000002420
		25	-20.57	31.29	12.03	12.03	1,880,000,012.03	0.01755851	0.000001756
		30	-22.45	19.11	3.55	3.55	1,880,000,003.55	0.01304787	0.000001305
		40	-56.03	-13.80	-29.01	-29.01	1,879,999,970.99	-0.00427128	-0.000000427
		50	-41.07	-3.97	-24.34	-24.34	1,879,999,975.66	-0.00178723	-0.000000179
	60	-96.23	-49.80	-78.08	-78.08	1,879,999,921.92	-0.03037234	-0.000003037	
100%	5.00	25 (Ref)	-53.00	-16.99	-30.02	-30.02	1,879,999,969.98	0.00000000	0.00000000
		-20	-68.61	-16.71	-38.41	-38.41	1,879,999,961.59	-0.00446277	-0.00000045
		-10	-14.16	24.71	3.51	3.51	1,880,000,003.51	0.01783511	0.00000178
		0	3.60	42.00	25.24	25.24	1,880,000,025.24	0.02939362	0.00000294
		10	-6.92	47.99	21.38	21.38	1,880,000,021.38	0.02734043	0.00000273
		25	-4.53	42.77	23.42	23.42	1,880,000,023.42	0.02842553	0.00000284
		30	-5.83	35.87	23.36	23.36	1,880,000,023.36	0.02839362	0.00000284
		40	-57.96	-11.29	-32.38	-32.38	1,879,999,967.62	-0.00125532	-0.00000013
		50	-43.54	-7.33	-22.97	-22.97	1,879,999,977.03	0.00375000	0.00000038
	60	-93.11	-50.68	-72.20	-72.20	1,879,999,927.80	-0.02243617	-0.00000224	
105%	5.25	25 (Ref)	-64.55	-24.37	-37.83	-37.83	1879999962.17	0.00000000	0.00000000
		-20	-67.18	-25.22	-43.85	-43.85	1879999956.15	-0.00320213	-0.00000003
		-10	-26.29	17.11	-2.26	-2.26	1879999997.74	0.01892021	0.00000019
		0	-3.54	42.07	25.03	25.03	1880000025.03	0.03343617	0.00000033
		10	1.47	44.17	28.96	28.96	1880000028.96	0.03552660	0.00000036
		25	-5.57	38.57	21.02	21.02	1880000021.02	0.03130319	0.00000031
		30	-8.74	42.24	20.93	20.93	1880000020.93	0.03125532	0.00000031
		40	-61.88	-10.5	-32.94	-32.94	1879999967.06	0.00260106	0.00000003
		50	-50.63	-10.14	-24.39	-24.39	1879999975.61	0.00714894	0.00000007
	60	-65.81	-37.79	-58.47	-58.47	1879999941.53	-0.01097872	-0.00000011	

Table 6-31. Frequency Stability Data (PCS GSM Mode – Ch. 661)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 37 of 74



## 6.15 PCS WCDMA Frequency Stability Measurements

§2.1055, 24.235

<b>Operating Frequency:</b>	<b>1,880,000,000</b>	<b>Hz</b>
<b>Channel:</b>	<b>DLCH=9800</b>	
	<b>ULCH=9400</b>	
<b>Reference Voltage:</b>	<b>5</b>	<b>Vdc</b>
<b>Deviation Limit:</b>	<b>+/- 0.00025/2.5 %/ppm</b>	

Voltage (%)	Temp (Vdc)	Temp (C)	Frequency Error			Offset (Hz)	Frequency (Hz)	Deviation	
			Minimum	Maximum	Average over 100 readings			(ppm)	(%)
90%	4.50	25 (Ref)	-29.56	18.81	-1.57	-1.57	1,879,999,998.43	0.00000000	0.00000000
		-20	-26.88	19.13	1.37	1.37	1,880,000,001.37	0.00156383	0.000000156
		-10	-27.47	21.07	0.62	0.62	1,880,000,000.62	0.00116489	0.000000116
		0	-24.75	27.13	0.76	0.76	1,880,000,000.76	0.00123936	0.000000124
		10	-31.39	25.21	-2.52	-2.52	1,879,999,997.48	-0.00050532	-0.000000051
		25	-24.93	21.92	-0.15	-0.15	1,879,999,999.85	0.00075532	0.000000076
		30	-25.88	20.08	-1.45	-1.45	1,879,999,998.55	0.00006383	0.000000006
		40	-23.11	23.63	0.77	0.77	1,880,000,000.77	0.00124468	0.000000124
		50	-33.59	27.71	-0.13	-0.13	1,879,999,999.87	0.00076596	0.000000077
		60	-20.79	23.26	-0.26	-0.26	1,879,999,999.74	0.00069681	0.000000070
100%	5.00	25 (Ref)	-27.58	16.60	-0.73	-0.73	1,879,999,999.27	0.00000000	0.00000000
		-20	-27.07	23.36	0.66	0.66	1,880,000,000.66	0.00073936	0.000000007
		-10	-20.85	26.94	2.14	2.14	1,880,000,002.14	0.00152660	0.000000015
		0	-20.73	22.74	-1.37	-1.37	1,879,999,998.63	-0.00034043	-0.000000003
		10	-30.72	25.24	-1.21	-1.21	1,879,999,998.79	-0.00025532	-0.000000003
		25	-21.12	21.06	0.03	0.03	1,880,000,000.03	0.00040426	0.000000004
		30	-21.48	23.61	1.64	1.64	1,880,000,001.64	0.00126064	0.000000013
		40	-22.86	24.90	1.02	1.02	1,880,000,001.02	0.00093085	0.000000009
		50	-26.52	24.58	-0.87	-0.87	1,879,999,999.13	-0.00007447	-0.000000001
		60	-25.51	19.65	-1.21	-1.21	1,879,999,998.79	-0.00025532	-0.000000003
105%	5.25	25 (Ref)	-24.47	25.58	-0.59	-0.59	1879999999.41	0.00000000	0.00000000
		-20	-26.65	24.66	0.27	0.27	1880000000.27	0.00045745	0.00000000
		-10	-20.54	33.9	1.63	1.63	1880000001.63	0.00118085	0.00000001
		0	-28.93	15.95	-0.14	-0.14	1879999999.86	0.00023936	0.00000000
		10	-24.93	26.11	-2.62	-2.62	1879999997.38	-0.00107979	-0.00000001
		25	-21.95	25.98	-1.69	-1.69	1879999998.31	-0.00058511	-0.00000001
		30	-23.66	23.82	-1.88	-1.88	1879999998.12	-0.00068617	-0.00000001
		40	-22.64	19.29	-1.29	-1.29	1879999998.71	-0.00037234	0.00000000
		50	-42.17	37.8	1.9	1.9	1880000001.90	0.00132447	0.00000001
		60	-25.87	21.52	-1.43	-1.43	1879999998.57	-0.00044681	0.00000000

Table 6-32. Frequency Stability Data (PCS WCDMA Mode – Ch. 9400)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 38 of 74

## 6.16 PCS CDMA Frequency Stability Measurements

### §2.1055, 24.235



Operating Frequency:	1,880,000,000	Hz
Channel:	600	
Reference Voltage:		Vdc
Deviation Limit:	+/- 0.00025/2.5 %/ppm	

Voltage		Temp	Frequency Error			Offset	Frequency	Deviation	
(%)	(Vdc)	( C )	Minimum	Maximum	Average over 100 readings	(Hz)	(Hz)	(ppm)	(%)
90%	4.50	25 (Ref)	-3.02	3.12	0.19	0.19	1,880,000,000.19	0.00000000	0.00000000
		-20	-5.03	4.14	-0.76	-0.76	1,879,999,999.24	-0.00050532	-0.00000051
		-10	-2.13	8.08	3.74	3.74	1,880,000,003.74	0.00188830	0.000000189
		0	5.33	17.00	10.29	10.29	1,880,000,010.29	0.00537234	0.000000537
		10	3.96	13.33	8.46	8.46	1,880,000,008.46	0.00439894	0.000000440
		25	0.51	14.62	6.29	6.29	1,880,000,006.29	0.00324468	0.000000324
		30	-3.54	5.29	0.18	0.18	1,880,000,000.18	-0.00000532	-0.000000001
		40	-5.35	6.95	-0.45	-0.45	1,879,999,999.55	-0.00034043	-0.000000034
		50	-4.10	1.96	-1.00	-1.00	1,879,999,999.00	-0.00063298	-0.000000063
60	-5.65	5.07	-1.12	-1.12	1,879,999,998.88	-0.00069681	-0.000000070		

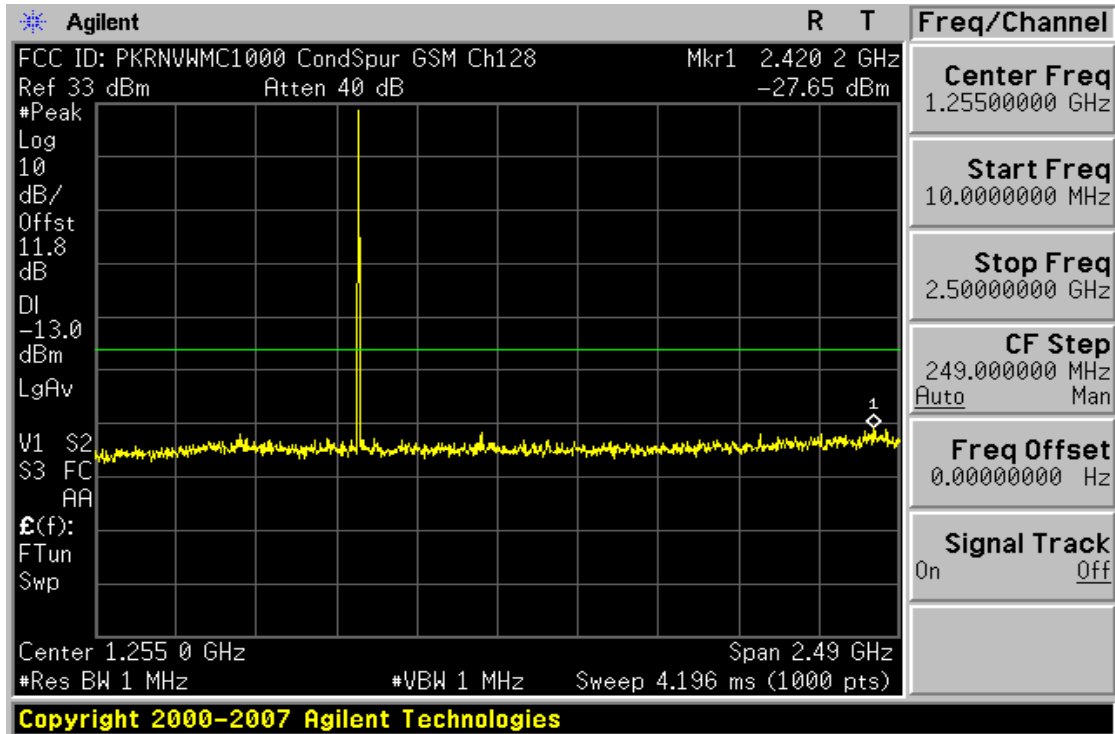
Voltage		Temp	Frequency Error			Offset	Frequency	Deviation	
(%)	(Vdc)	( C )	Minimum	Maximum	Average over 100 readings	(Hz)	(Hz)	(ppm)	(%)
100%	5.00	25 (Ref)	-2.20	9.84	1.46	1.46	1,880,000,001.46	0.00000000	0.00000000
		-20	-6.93	3.27	-1.77	-1.77	1,879,999,998.23	-0.00171809	-0.00000017
		-10	-1.17	7.37	2.94	2.94	1,880,000,002.94	0.00078723	0.00000008
		0	3.91	15.98	10.06	10.06	1,880,000,010.06	0.00457447	0.00000046
		10	1.94	10.05	6.75	6.75	1,880,000,006.75	0.00281383	0.00000028
		25	1.21	13.71	6.73	6.73	1,880,000,006.73	0.00280319	0.00000028
		30	-5.17	4.73	-0.06	-0.06	1,879,999,999.94	-0.00080851	-0.00000008
		40	-7.58	3.98	-2.83	-2.83	1,879,999,997.17	-0.00228191	-0.00000023
		50	-4.52	1.25	-1.33	-1.33	1,879,999,998.67	-0.00148404	-0.00000015
60	-5.24	5.70	-0.03	-0.03	1,879,999,999.97	-0.00079255	-0.00000008		

Voltage		Temp	Frequency Error			Offset	Frequency	Deviation	
(%)	(Vdc)	( C )	Minimum	Maximum	Average over 100 reading	(Hz.)	(Hz)	(ppm)	(%)
105%	5.25	25 (Ref)	-1.03	9.95	2.25	2.25	1880000002.25	0.00000000	0.00000000
		-20	-7.23	1.26	-2.92	-2.92	1879999997.08	-0.00275000	-0.00000003
		-10	-2.62	7.26	2.27	2.27	1880000002.27	0.00001064	0.00000000
		0	6.02	17.84	11.12	11.12	1880000011.12	0.00471809	0.00000005
		10	1.31	12.15	5.65	5.65	1880000005.65	0.00180851	0.00000002
		25	1.73	10.56	6	6	1880000006.00	0.00199468	0.00000002
		30	-5.69	3.87	0.13	0.13	1880000000.13	-0.00112766	-0.00000001
		40	-4.39	4.74	-0.32	-0.32	1879999999.68	-0.00136702	-0.00000001
		50	-7.89	5.58	-1.1	-1.1	1879999998.90	-0.00178191	-0.00000002
60	-4.28	7.36	1.95	1.95	1880000001.95	-0.00015957	0.00000000		

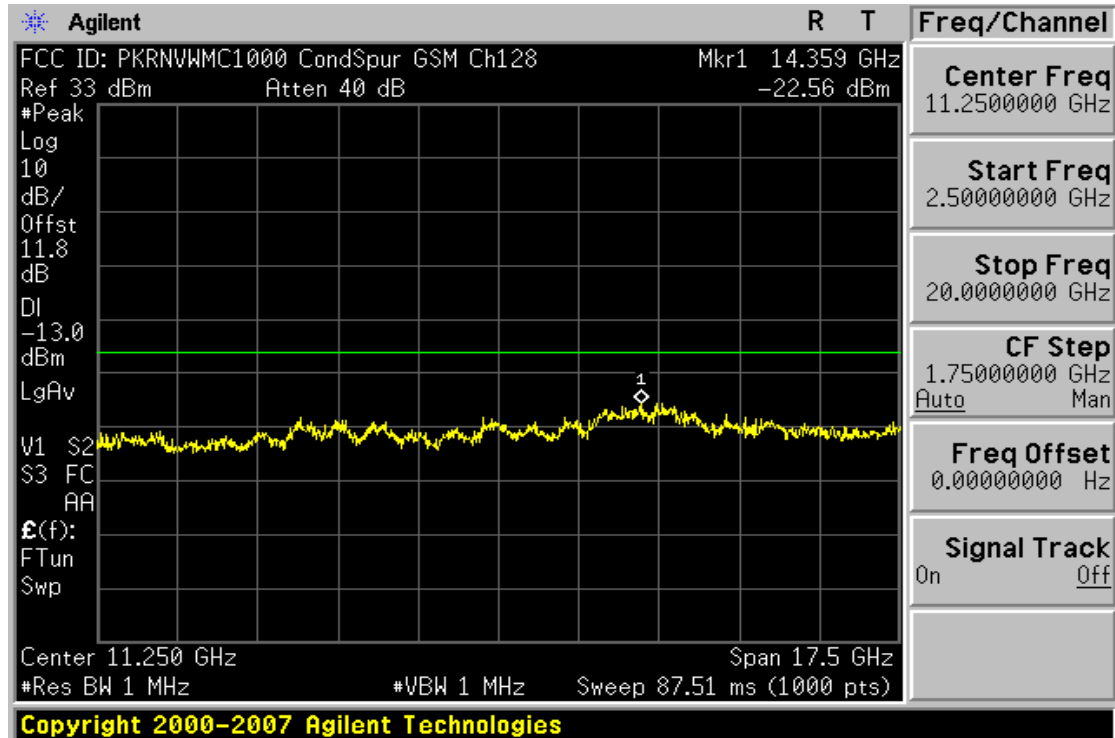
Table 6-33. Frequency Stability Data (PCS CDMA Mode – Ch. 600)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 39 of 74

## 7.0 PLOTS OF EMISSIONS



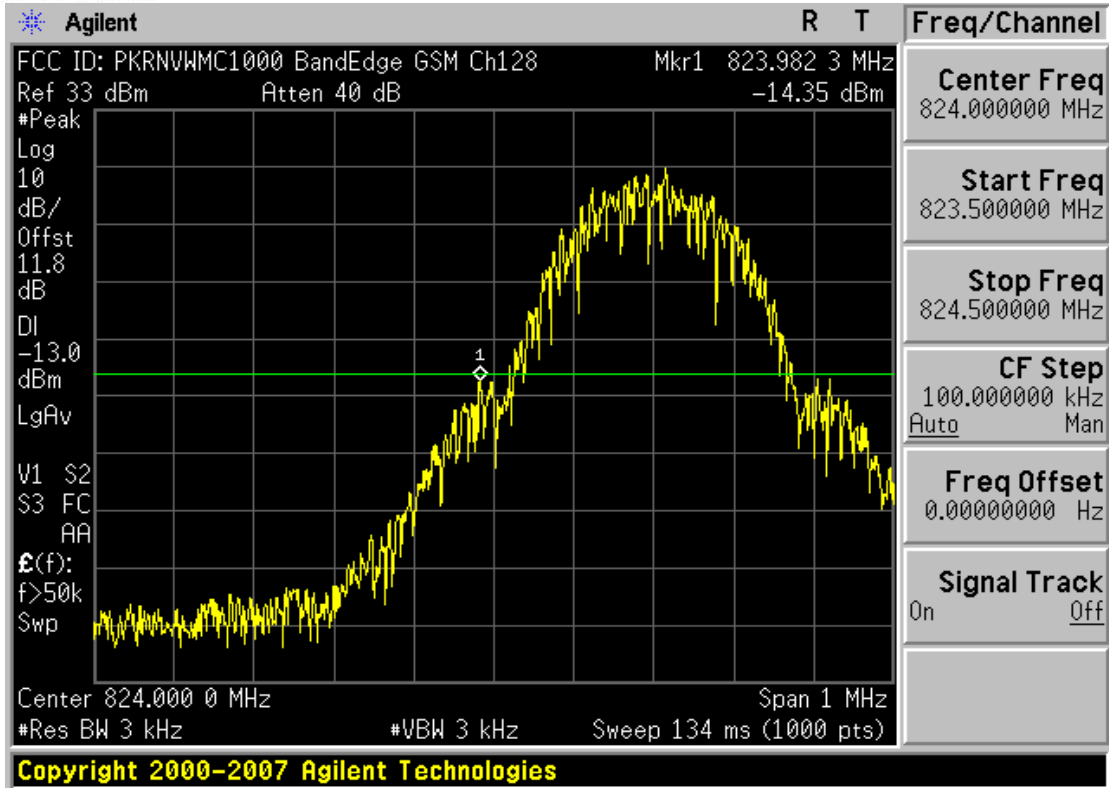
Plot 7-1. Conducted Spurious Plot (Cellular GSM Mode – Ch. 128)



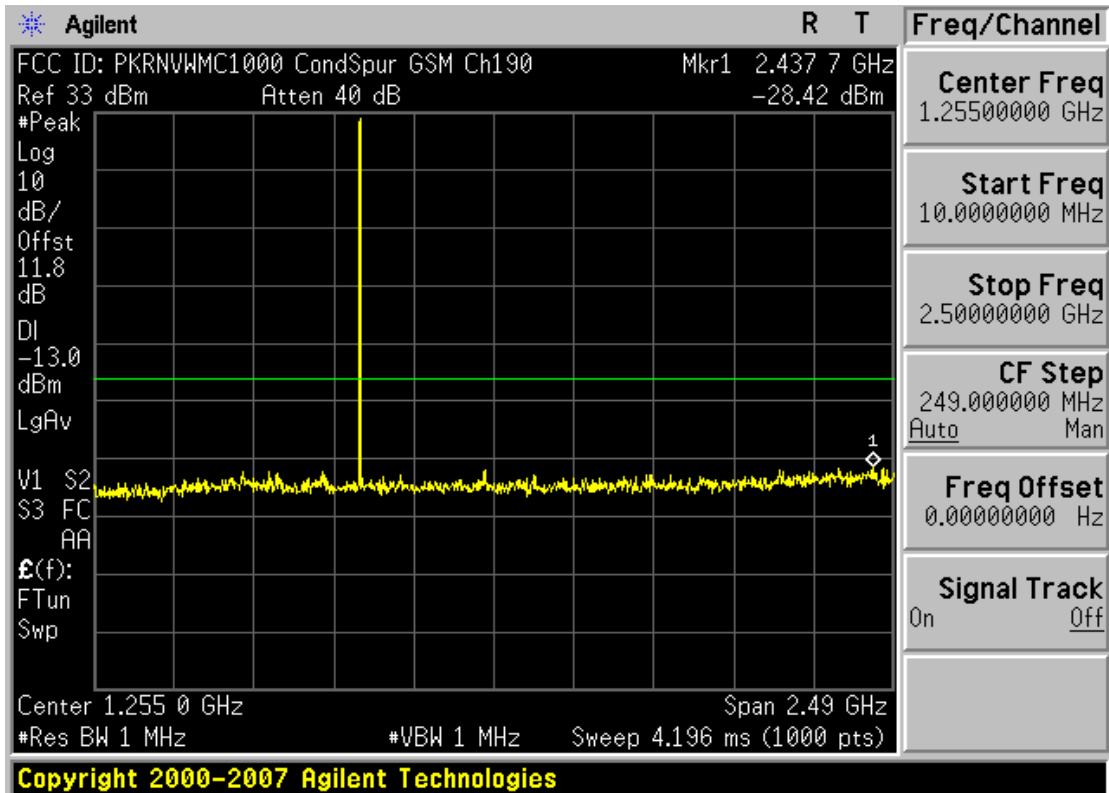
Plot 7-2. Conducted Spurious Plot (Cellular GSM Mode – Ch. 128)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 40 of 74



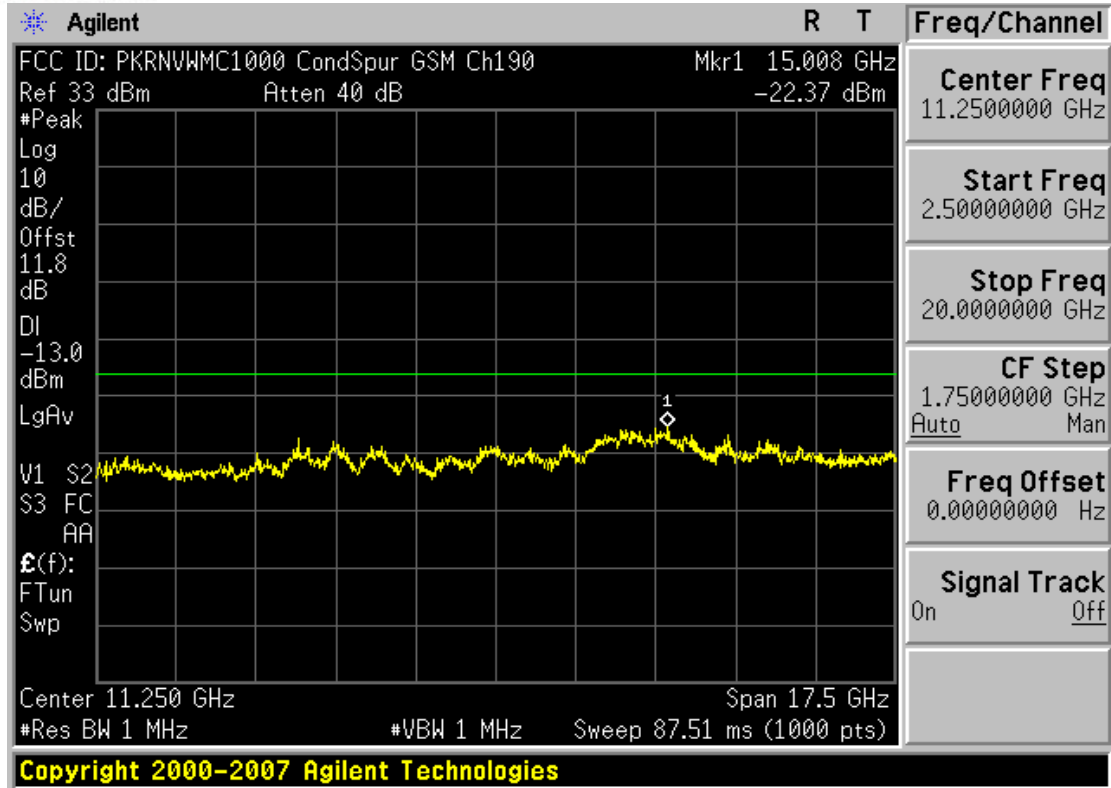


Plot 7-3. Band Edge Plot (Cellular GSM Mode – Ch. 128)

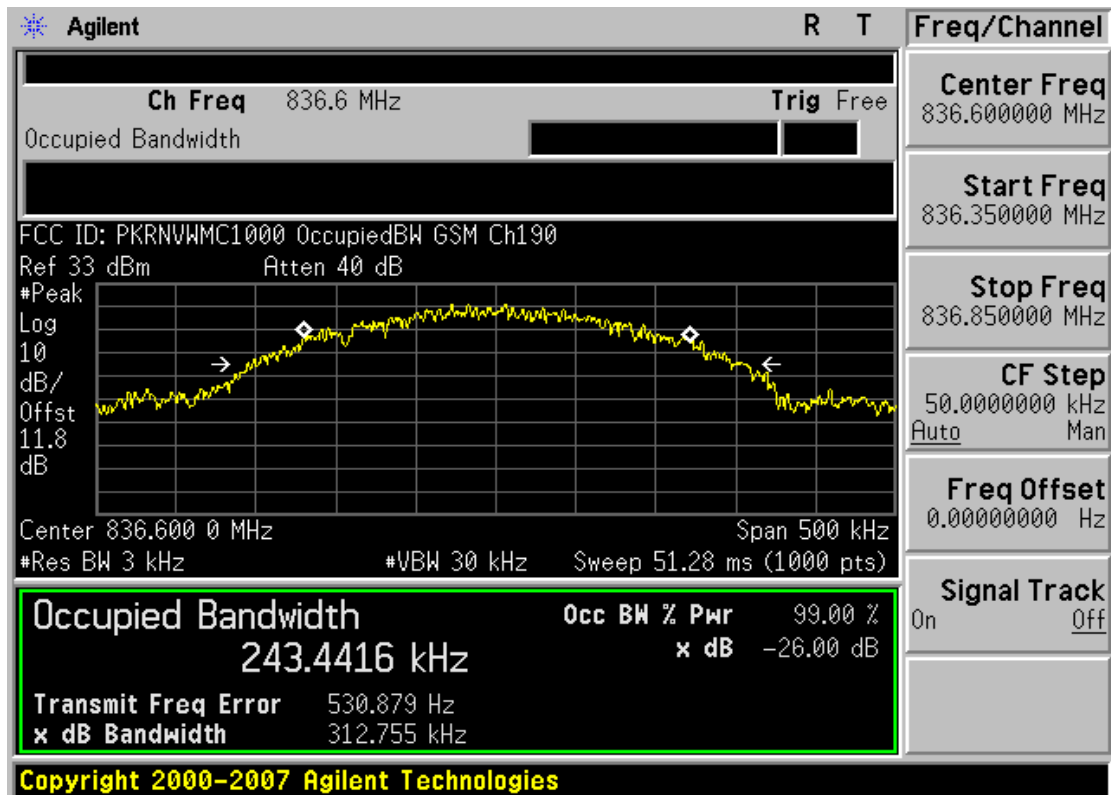


Plot 7-4. Conducted Spurious (Cellular GSM Mode – Ch. 190)

FCC ID: PKRNVWMC1000	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 41 of 74

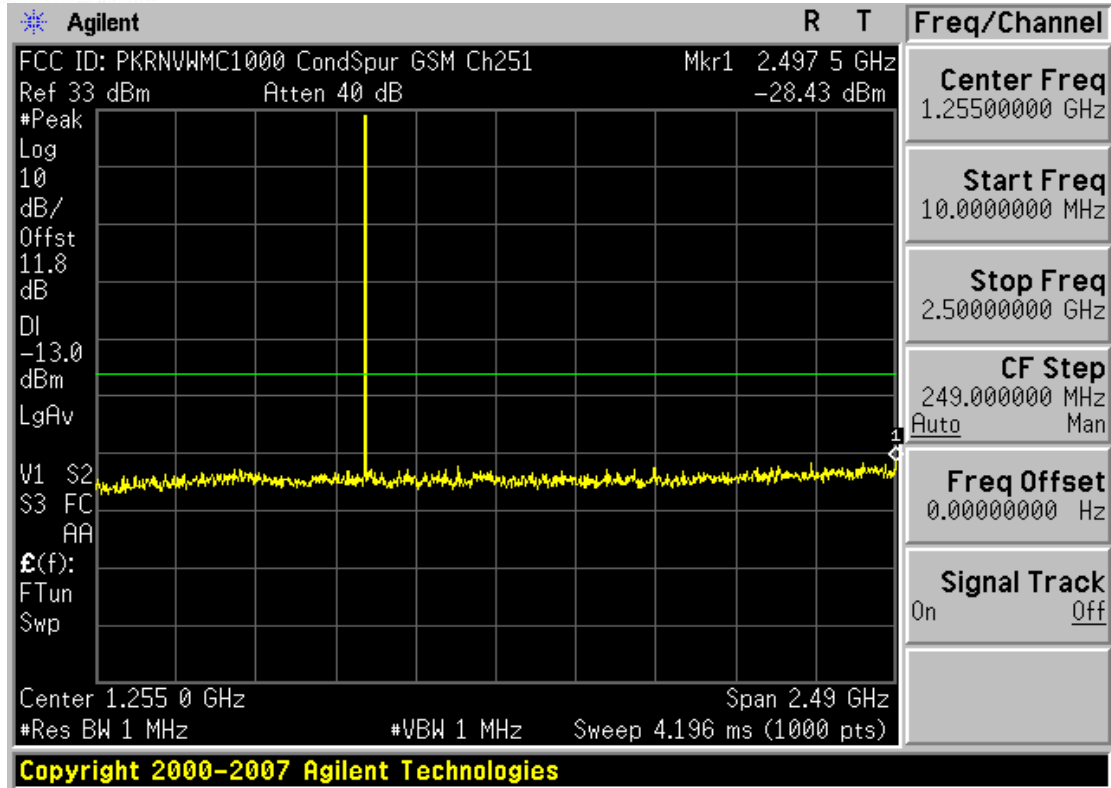


Plot 7-5. Conducted Spurious Plot (Cellular GSM Mode – Ch. 190)

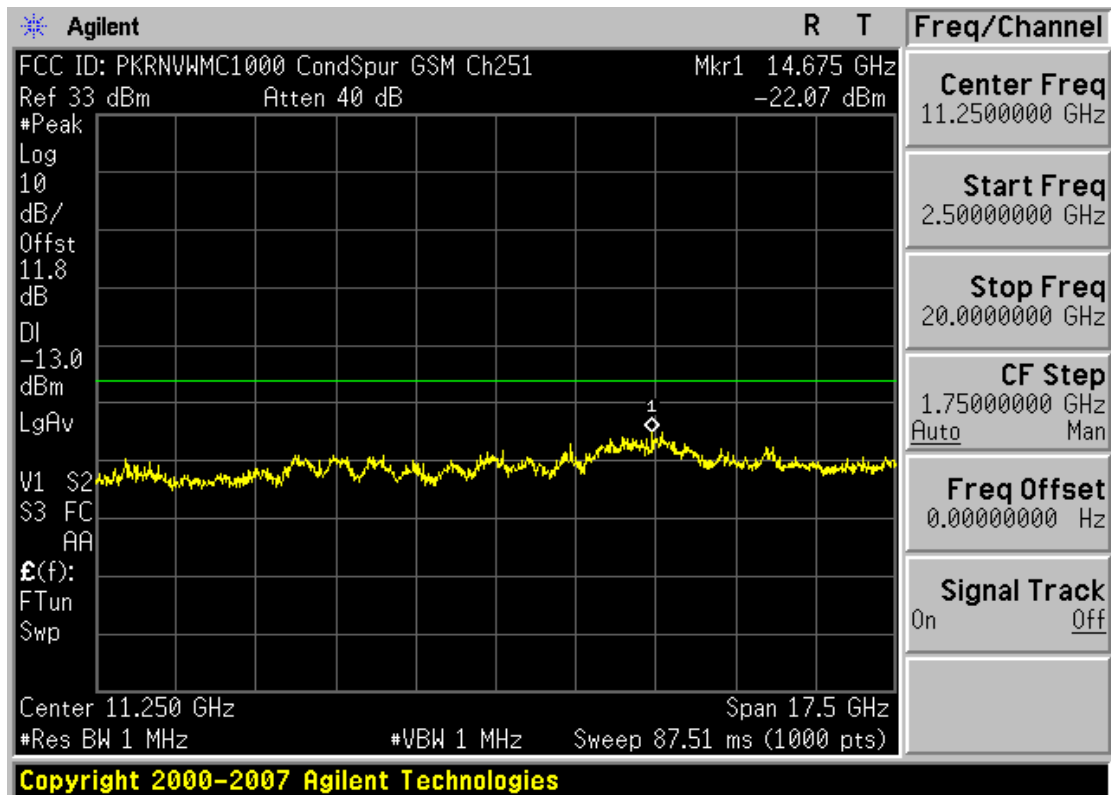


Plot 7-6. Occupied Bandwidth Plot (Cellular GSM Mode – Ch. 190)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 42 of 74

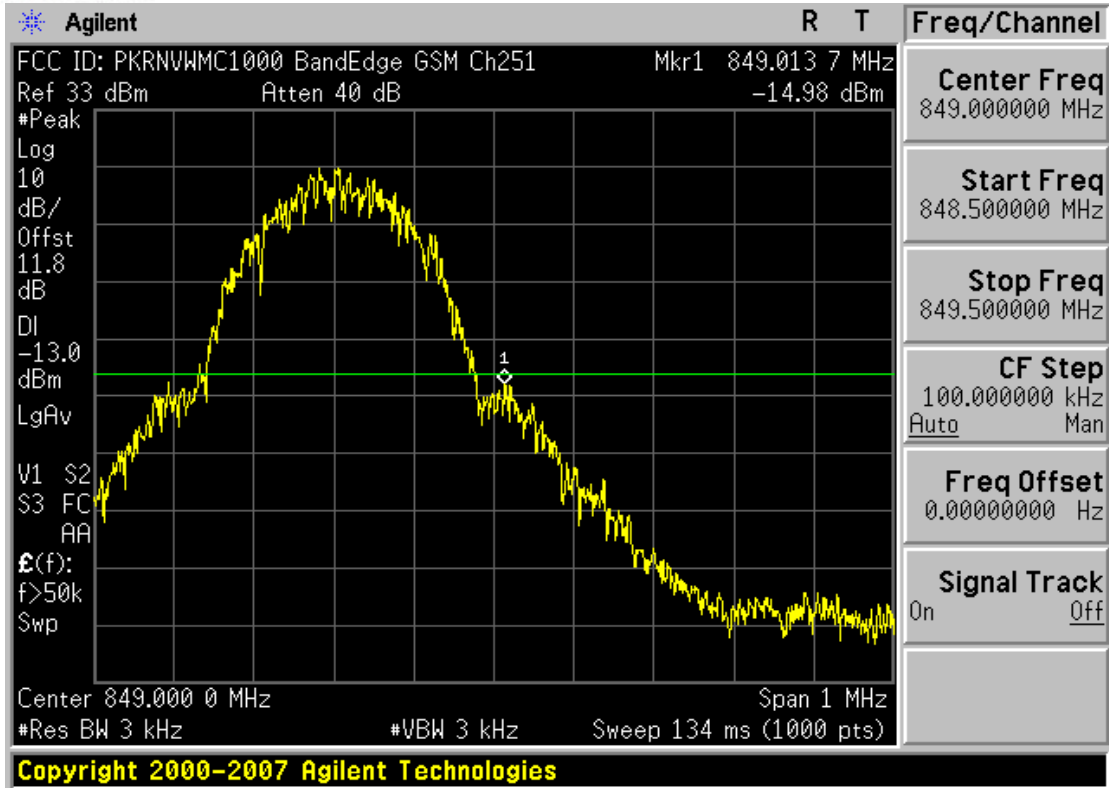


Plot 7-7. Conducted Spurious Plot (Cellular GSM Mode – Ch. 251)

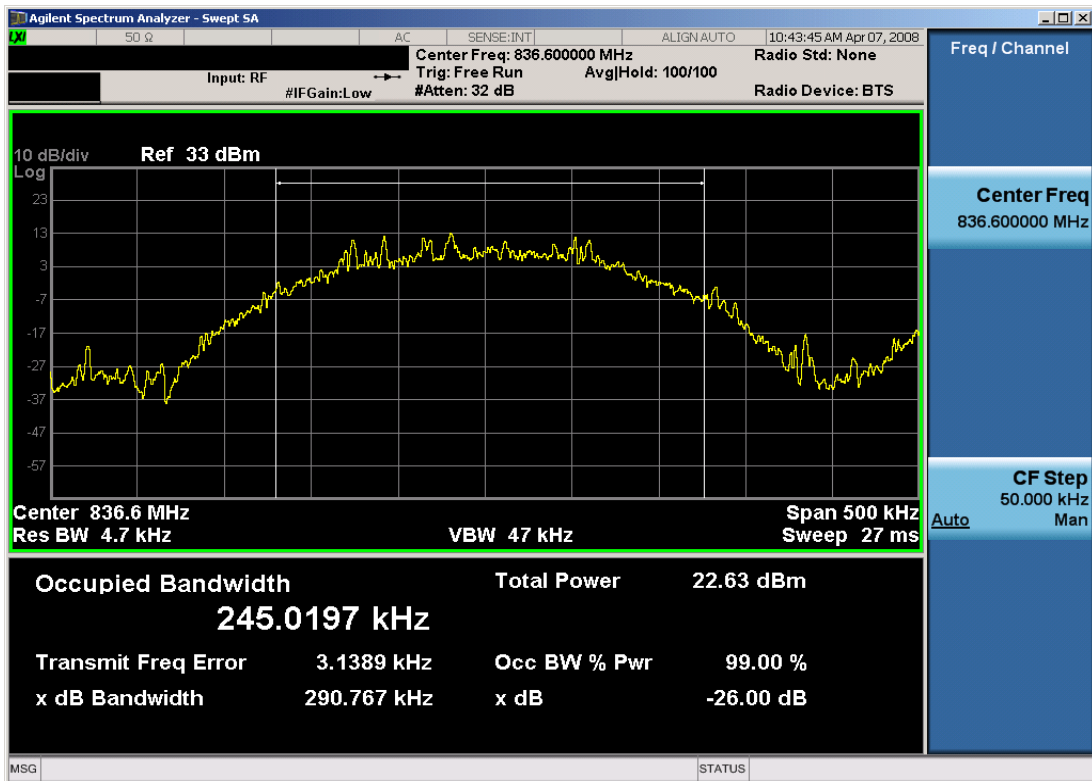


Plot 7-8. Conducted Spurious Plot (Cellular GSM Mode – Ch. 251)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 43 of 74

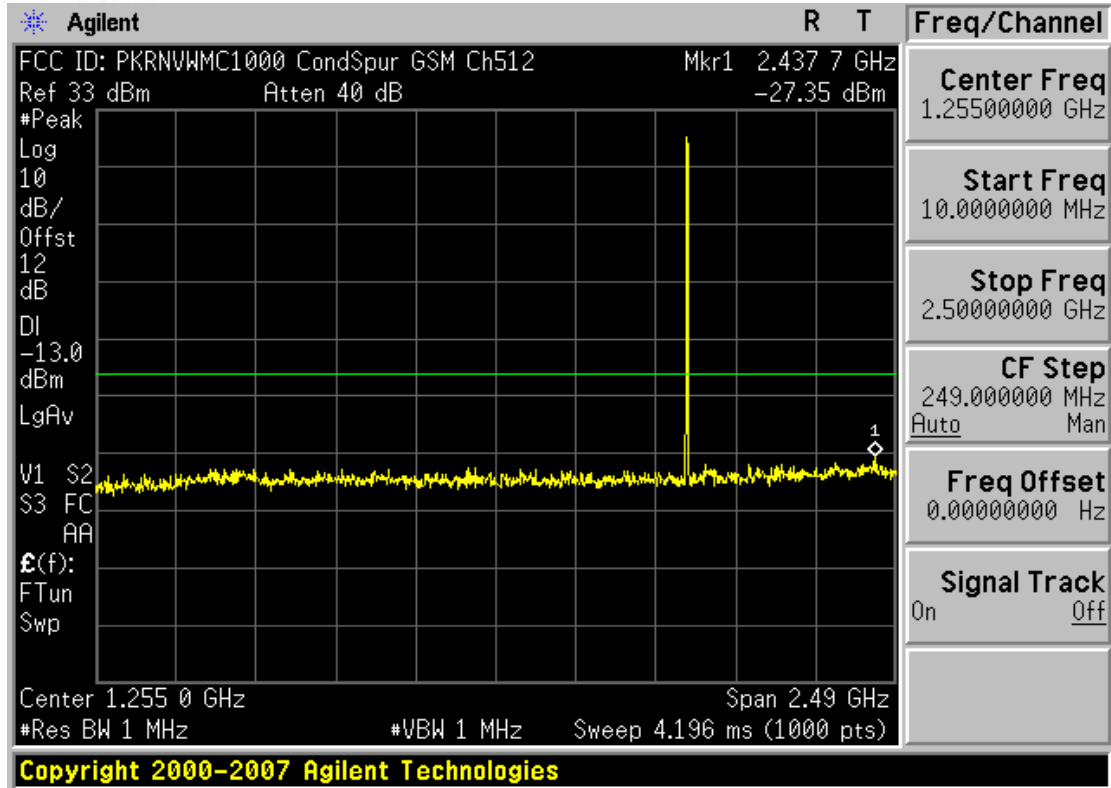


Plot 7-9. Band Edge Plot (Cellular GSM Mode – Ch. 251)

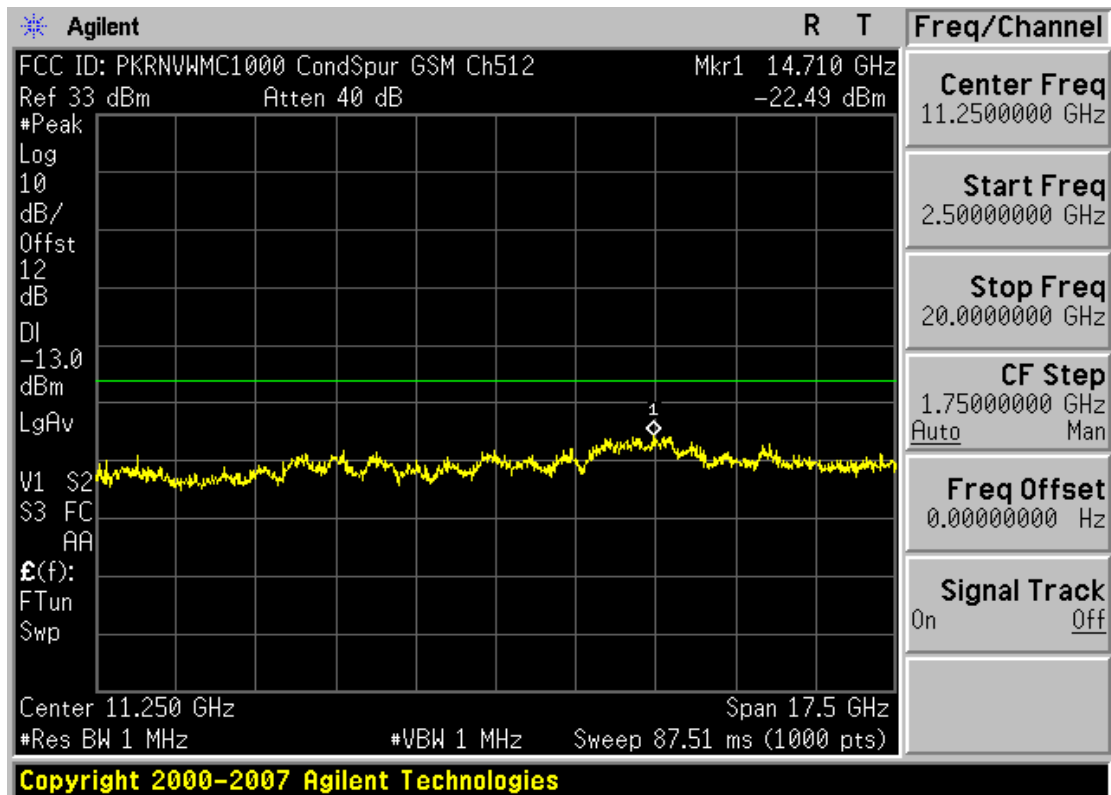


Plot 7-10. Occupied Bandwidth Plot (EDGE850 Mode – Ch. 190)

FCC ID: PKRNVWMC1000	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 44 of 74

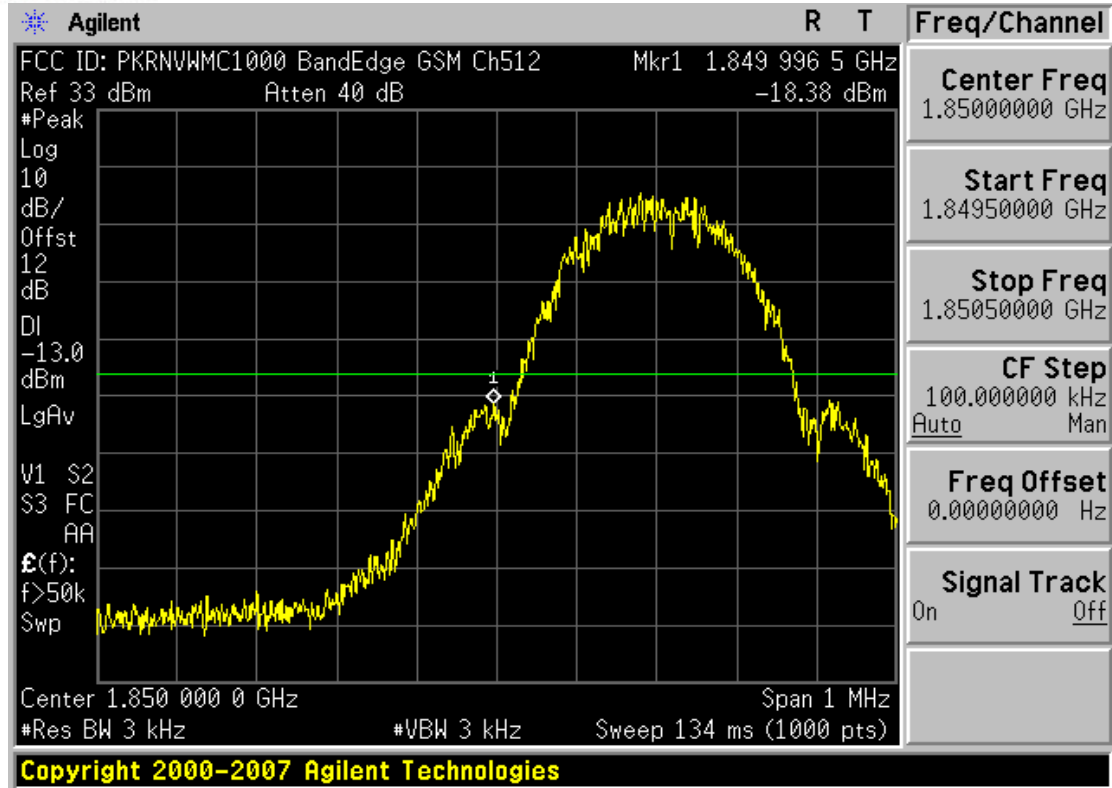


Plot 7-11. Conducted Spurious Plot (PCS GSM Mode – Ch. 512)

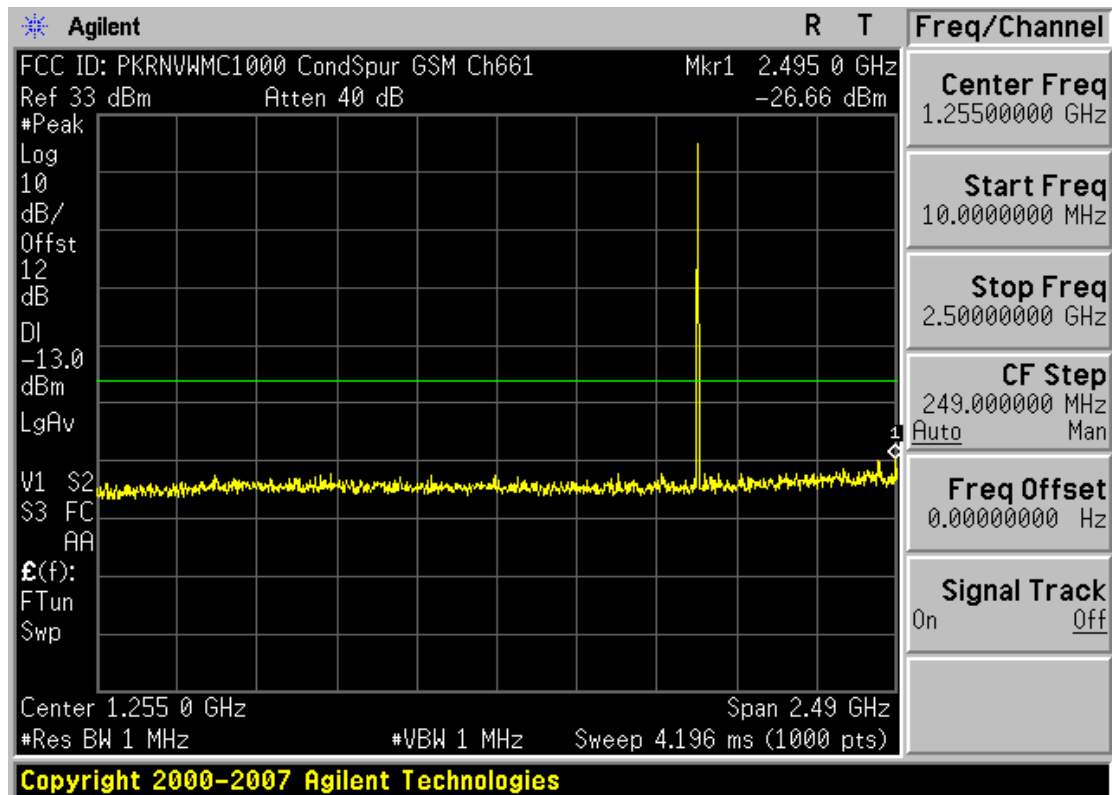


Plot 7-12. Conducted Spurious Plot (PCS GSM Mode – Ch. 512)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 45 of 74



Plot 7-13. Band Edge Plot (PCS GSM Mode – Ch. 512)

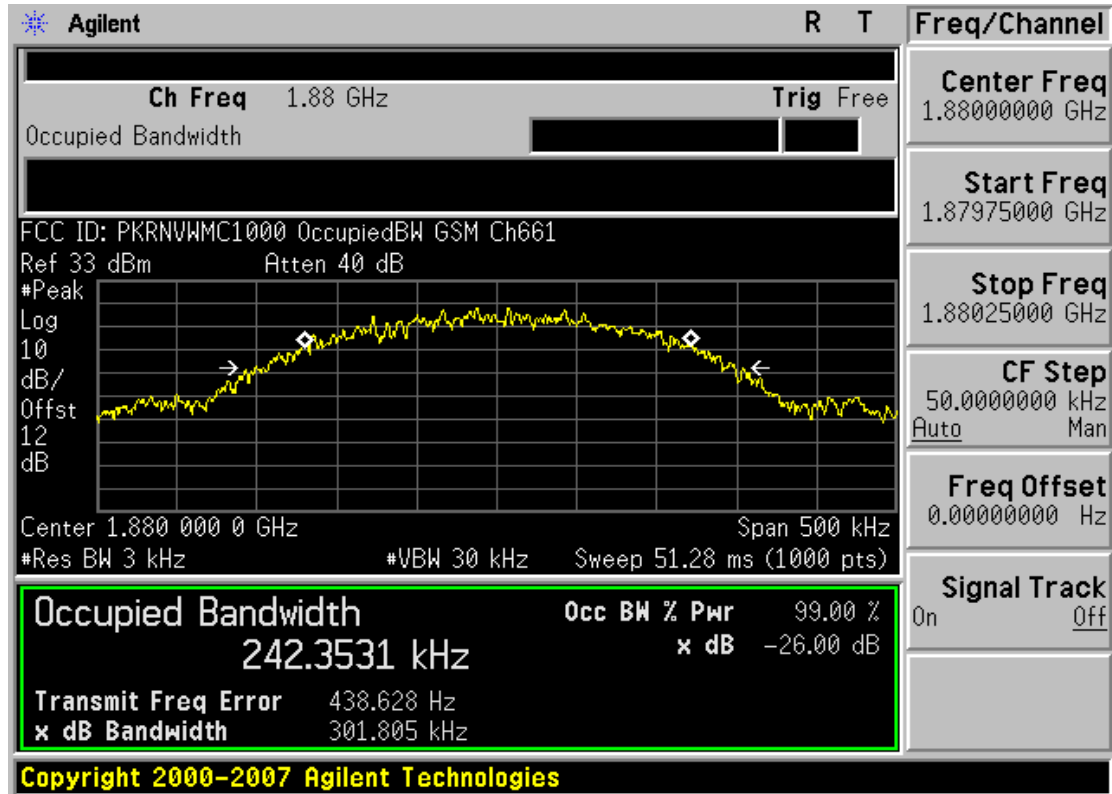


Plot 7-14. Conducted Spurious Plot (PCS GSM Mode – Ch. 661)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 46 of 74

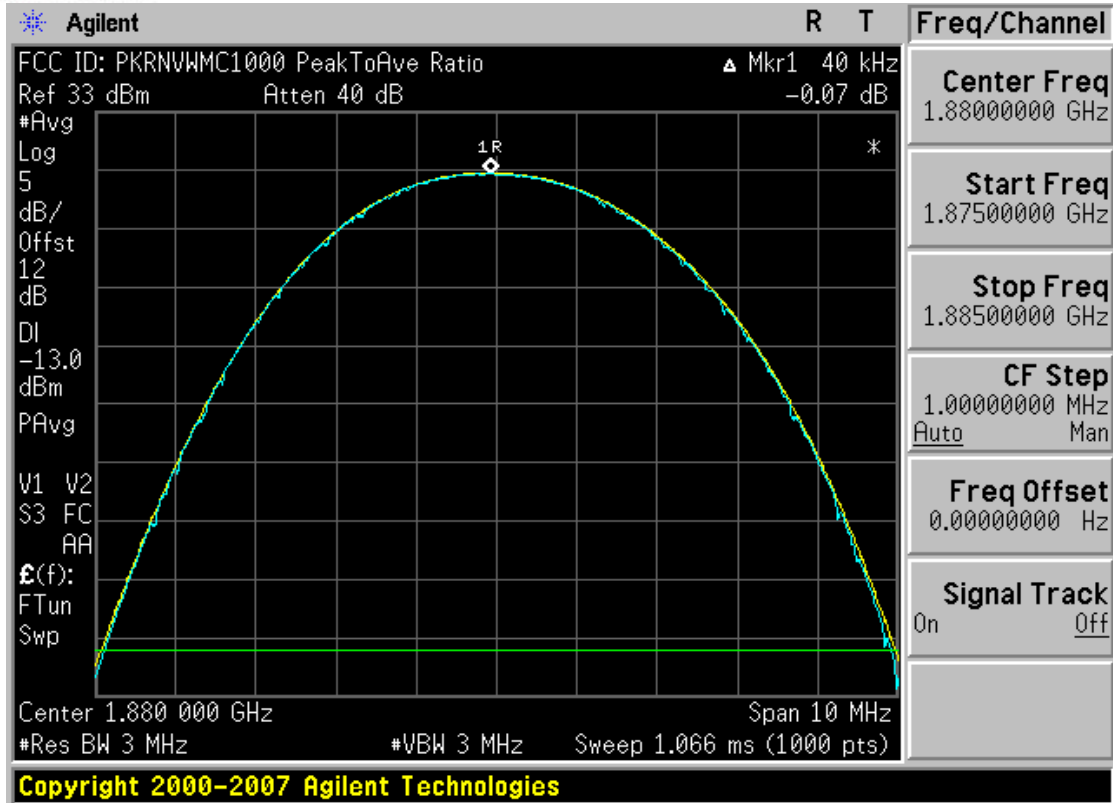


Plot 7-15. Conducted Spurious Plot (PCS GSM Mode – Ch. 661)

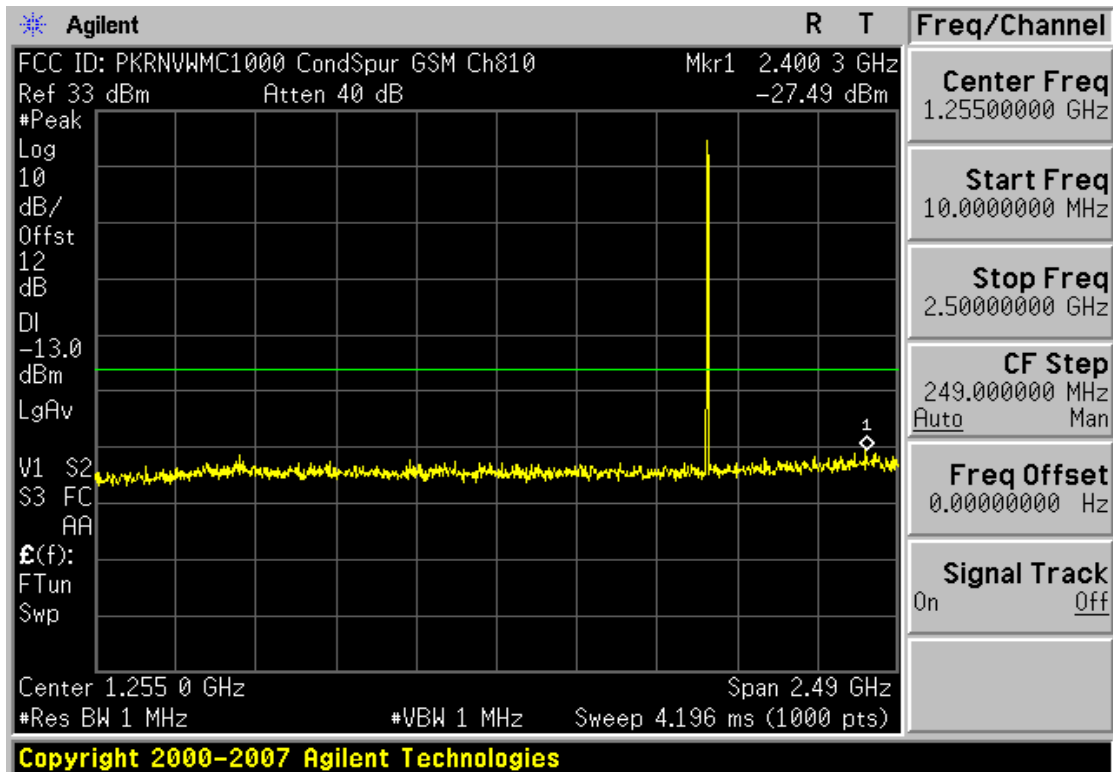


Plot 7-16. Occupied Bandwidth Plot (PCS GSM Mode – Ch. 661)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 47 of 74



Plot 7-17. Peak-Average Ratio Plot (PCS GSM Mode – Ch. 661)



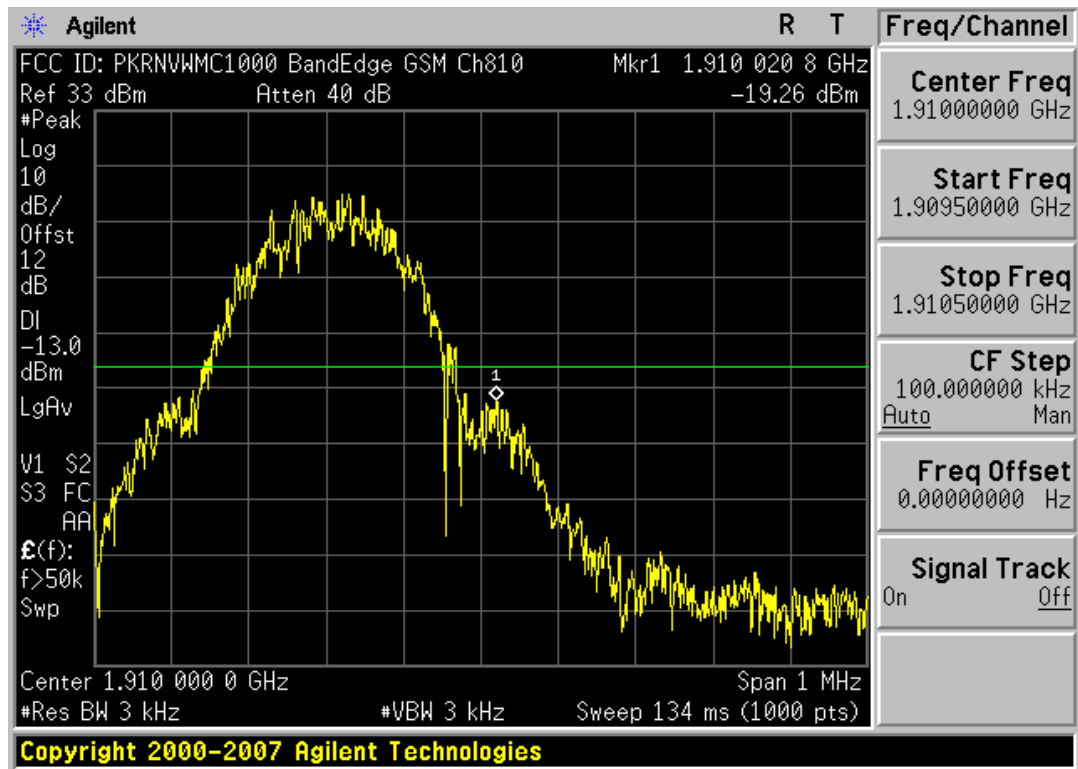
Plot 7-18. Conducted Spurious Plot (PCS GSM Mode – Ch. 810)

FCC ID: PKRNVWMC1000	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 48 of 74



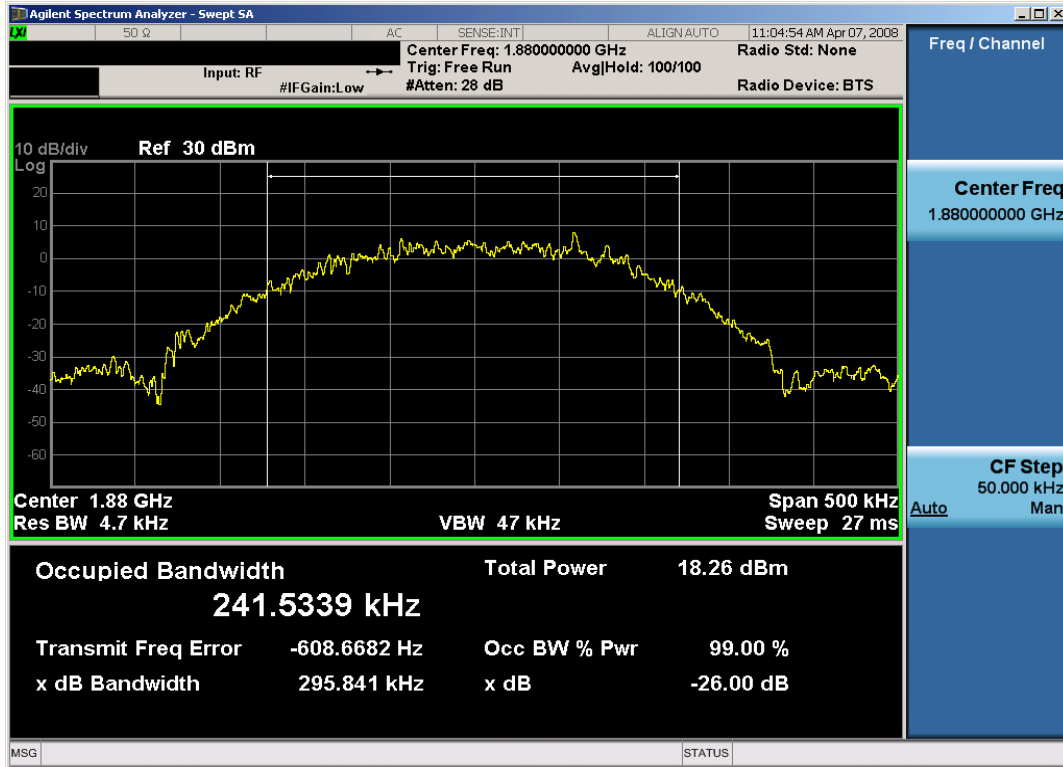


Plot 7-19. Conducted Spurious Plot (PCS GSM Mode – Ch. 810)

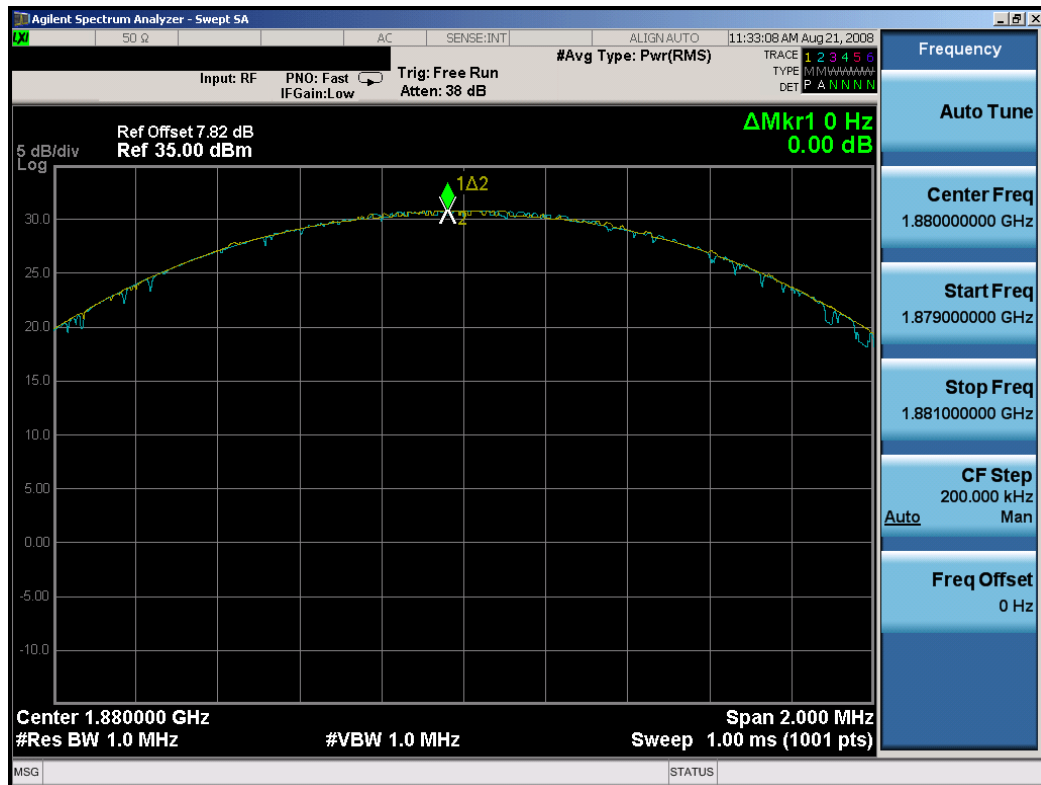


Plot 7-20. Band Edge Plot (PCS GSM Mode – Ch. 810)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 49 of 74

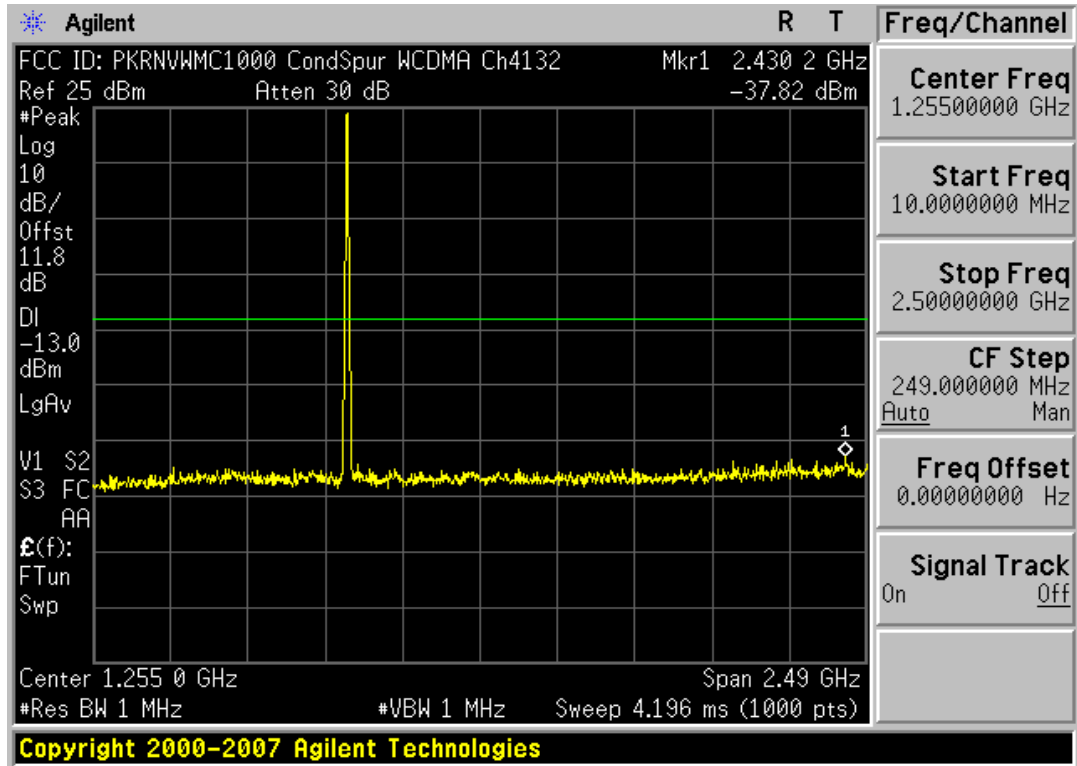


Plot 7-21. Occupied Bandwidth Plot (EDGE1900 Mode – Ch. 661)

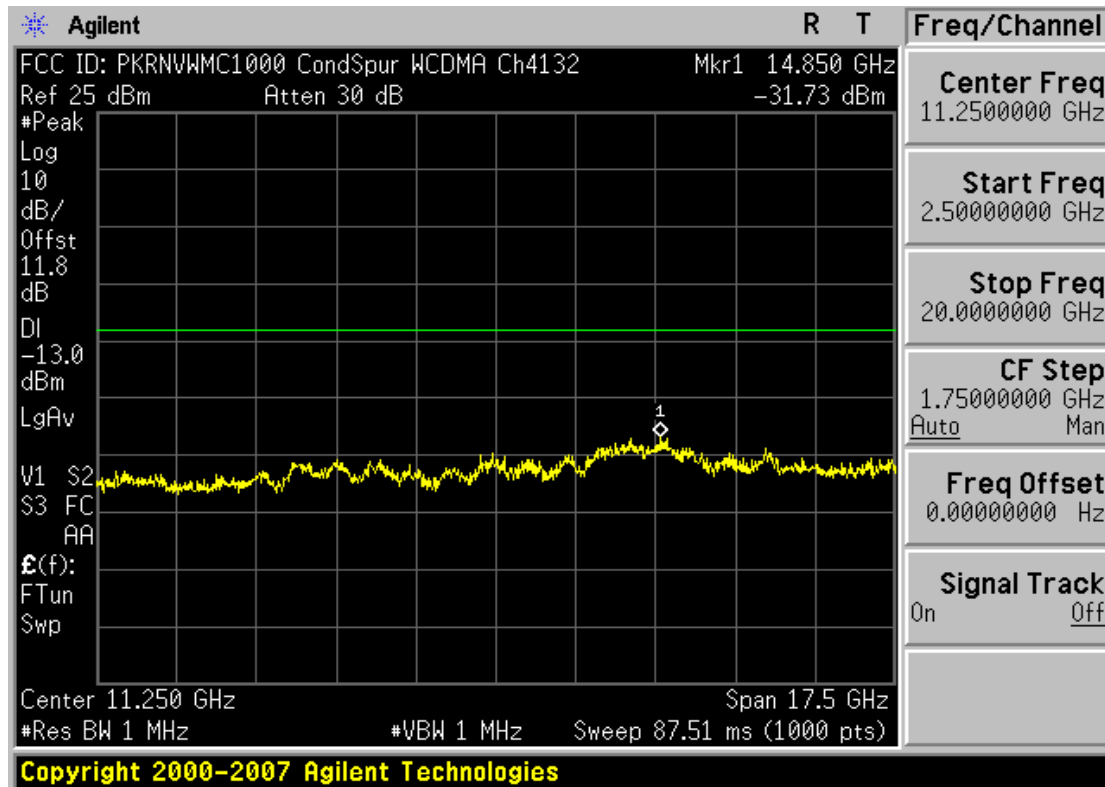


Plot 7-22. Peak-Average Ratio Plot (EDGE1900 Mode – Ch. 661)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 50 of 74

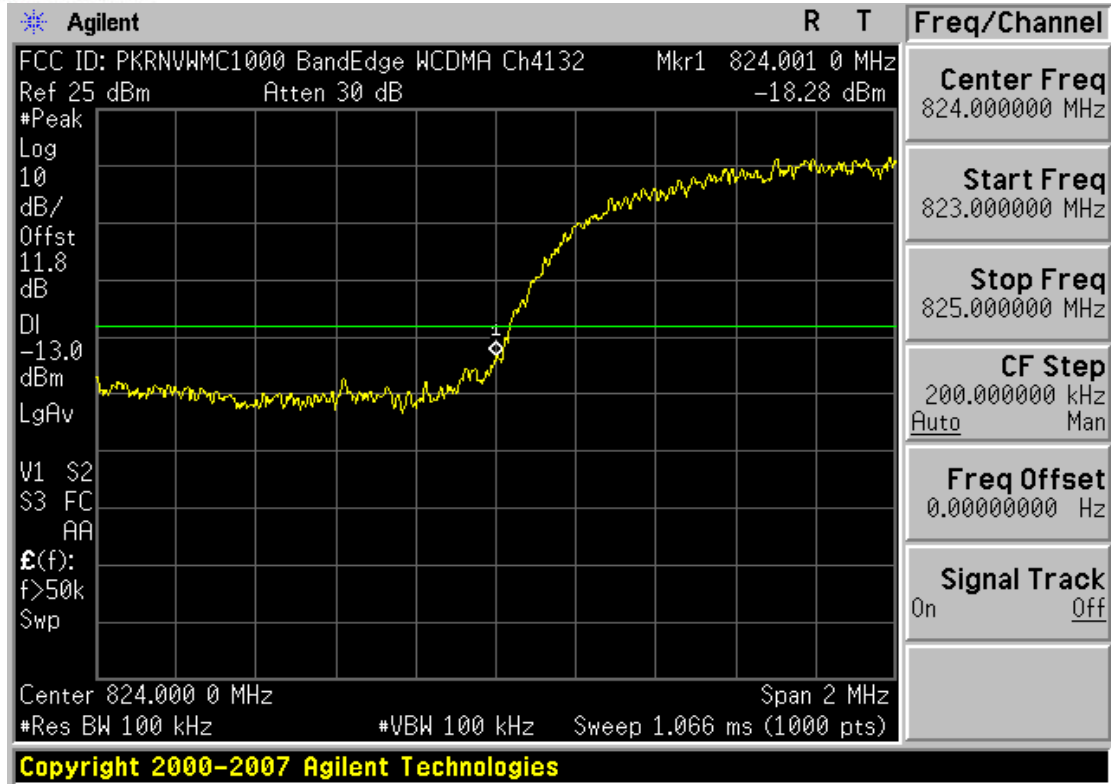


Plot 7-23. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4132)

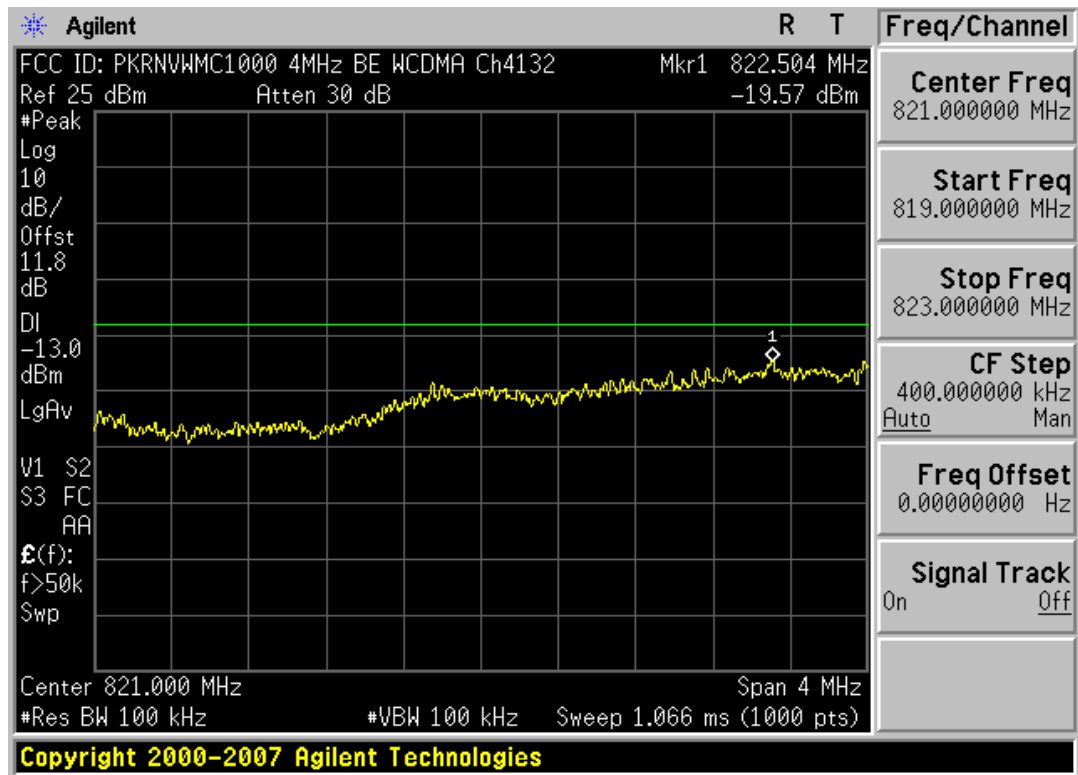


Plot 7-24. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4132)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 51 of 74

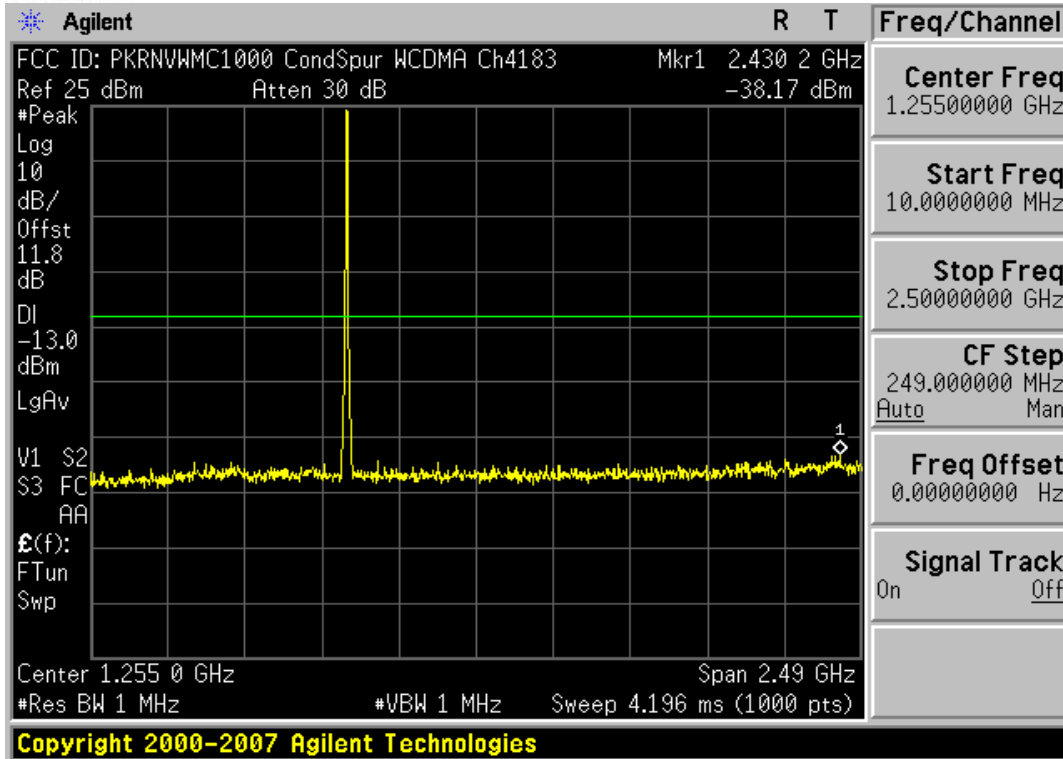


Plot 7-25. Band Edge Plot (Cellular WCDMA Mode – Ch. 4132)

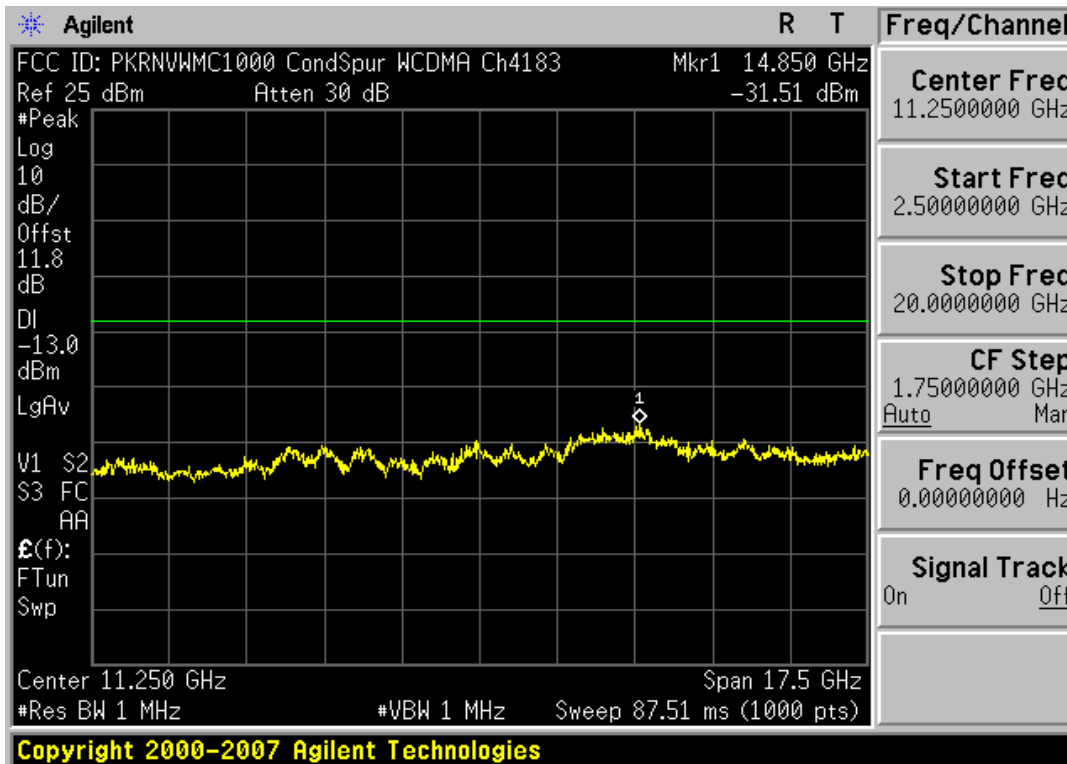


Plot 7-26. 4MHz Span Plot (Cellular WCDMA Mode – Ch. 4132)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 52 of 74

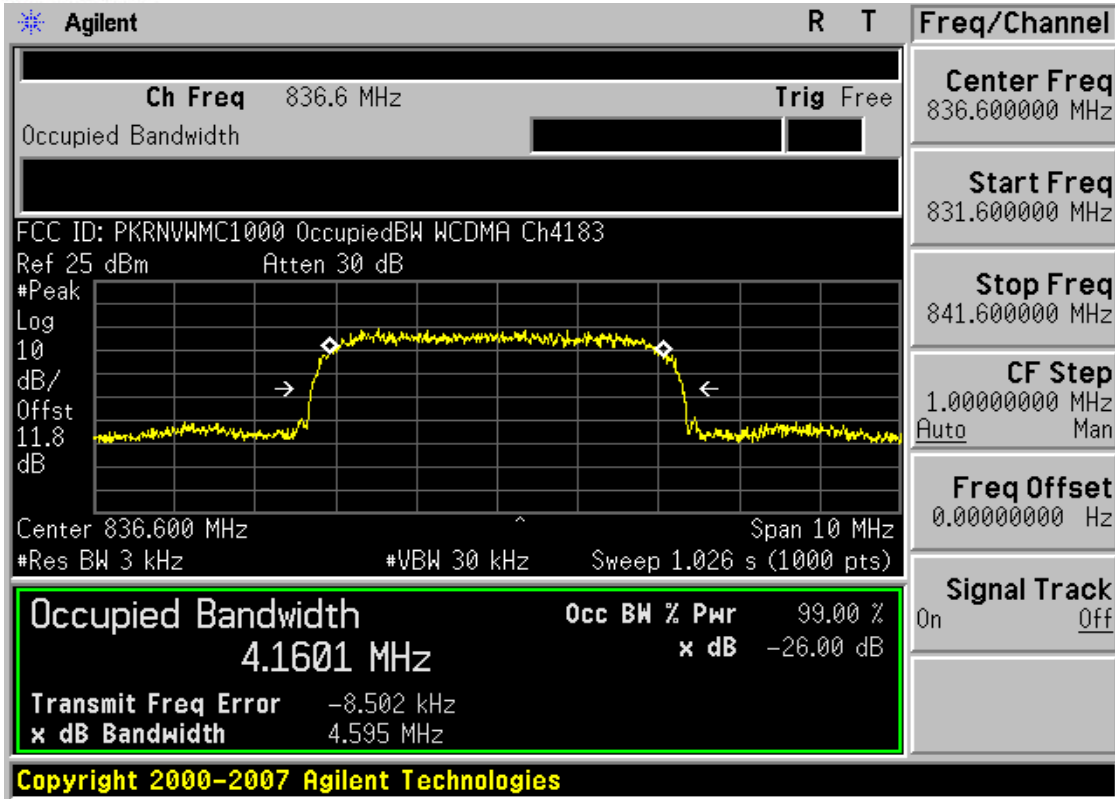


Plot 7-27. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4183)

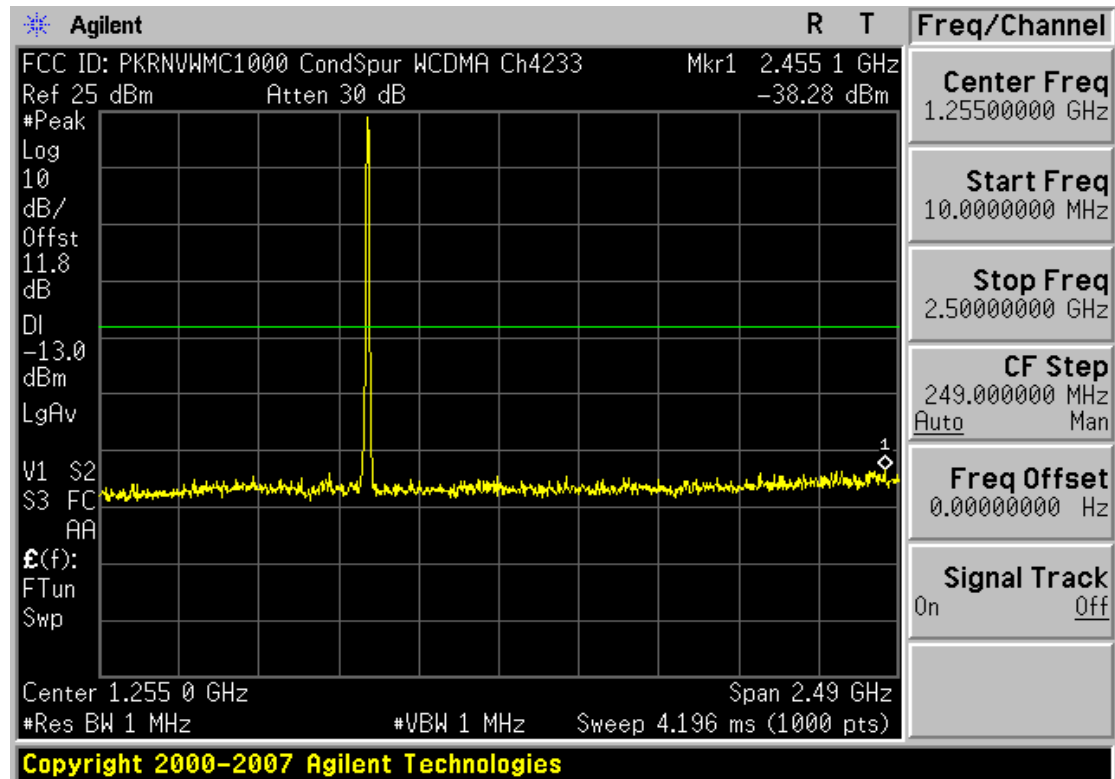


Plot 7-28. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4183)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 53 of 74

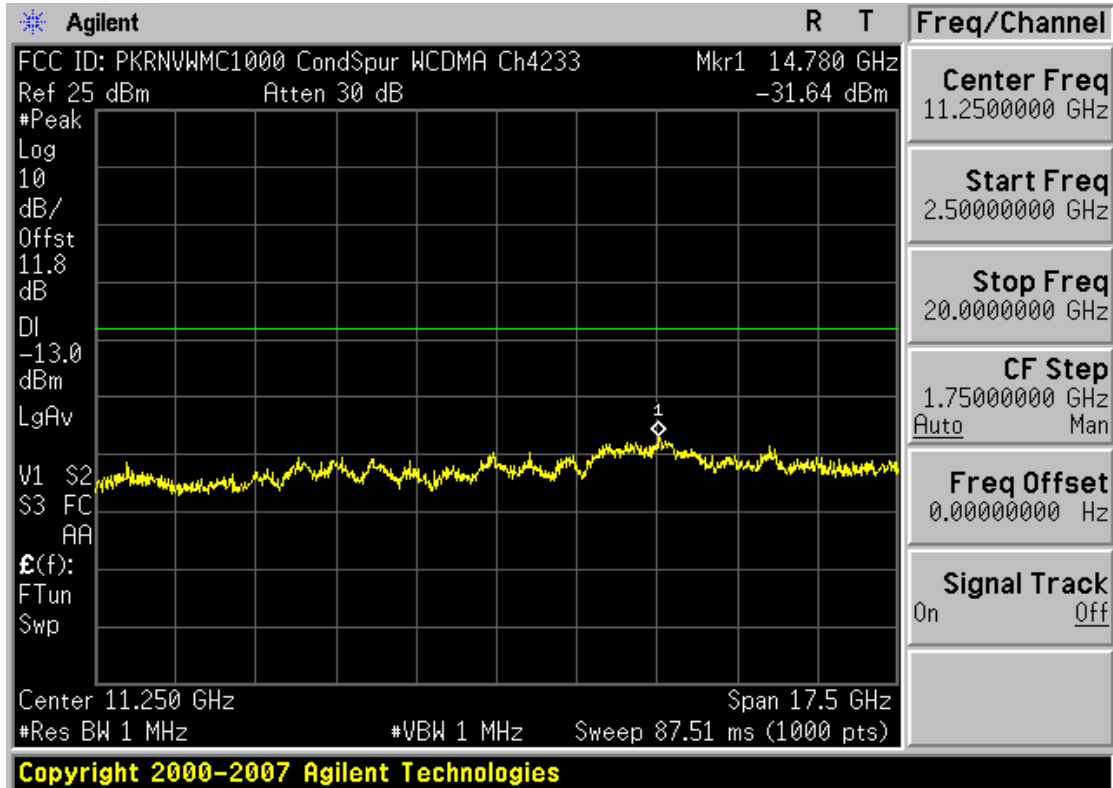


Plot 7-29. Occupied Bandwidth Plot (Cellular WCDMA Mode – Ch. 4183)

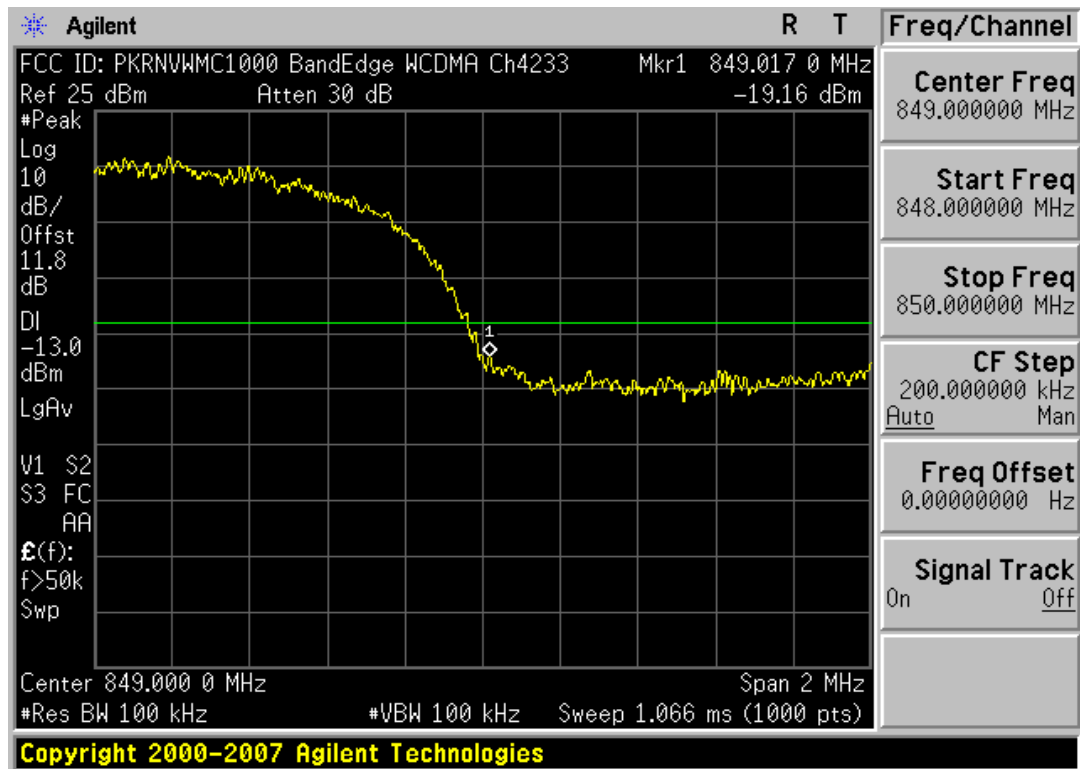


Plot 7-30. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4233)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 54 of 74

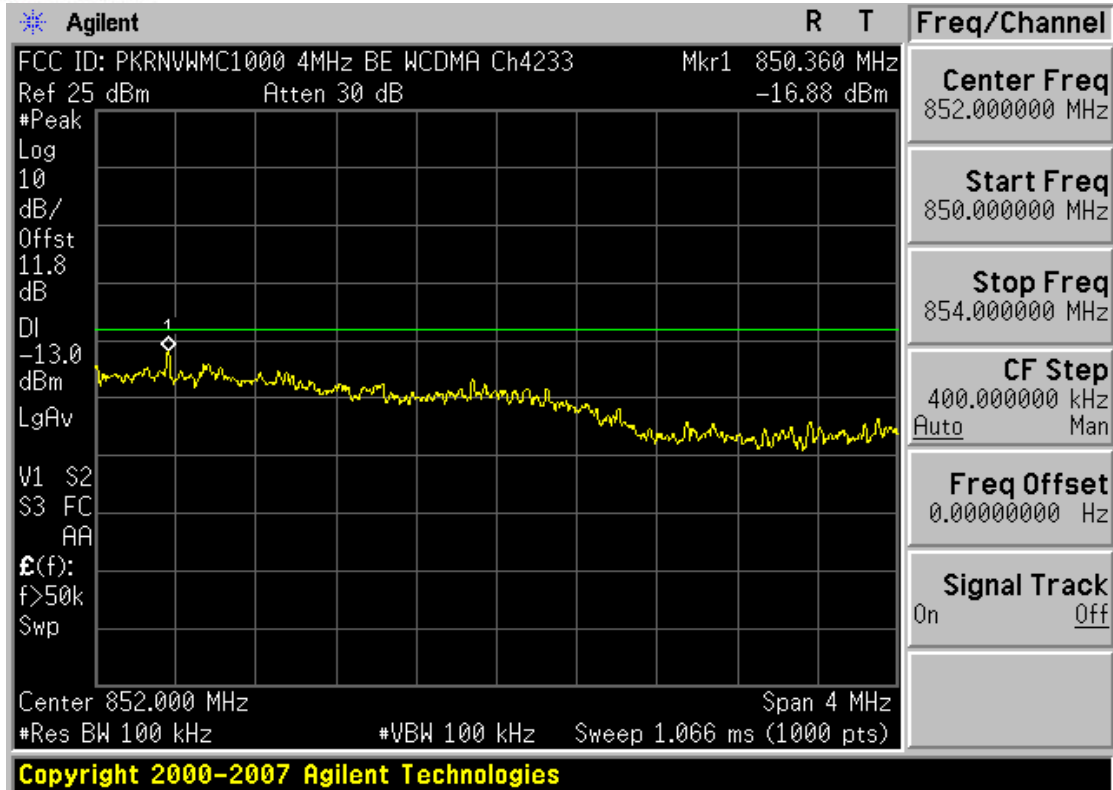


Plot 7-31. Conducted Spurious Plot (Cellular WCDMA Mode – Ch. 4233)

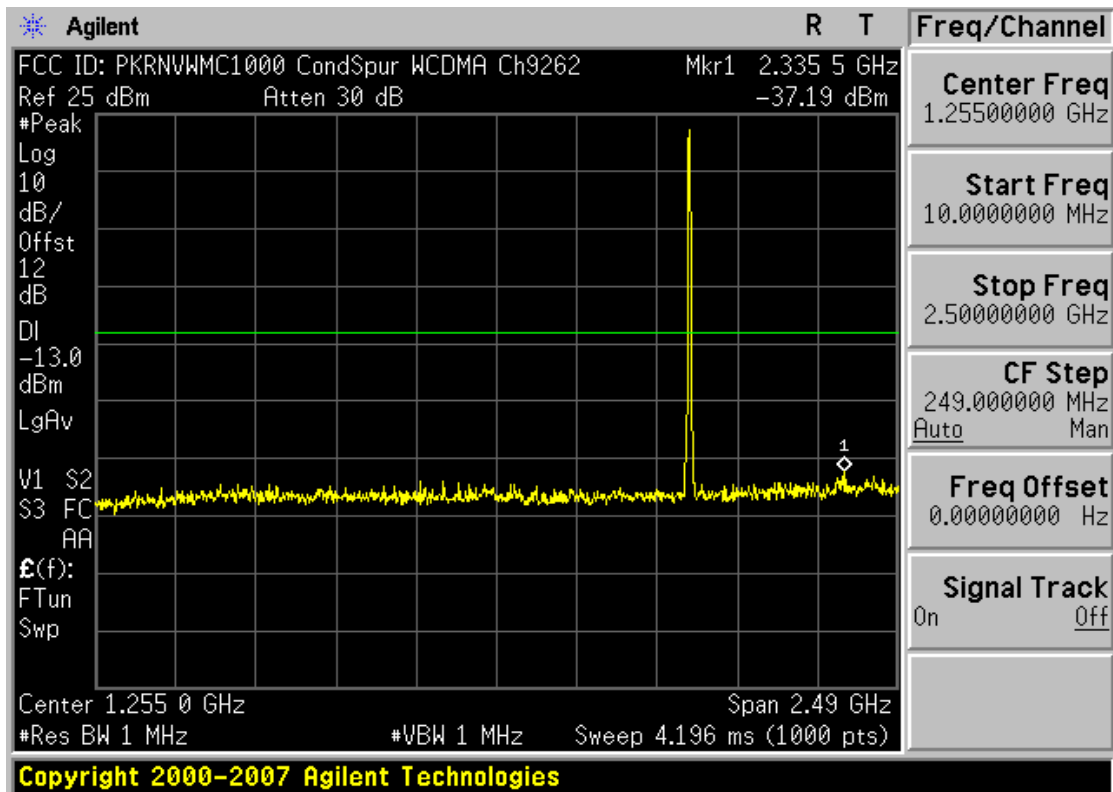


Plot 7-32. Band Edge Plot (Cellular WCDMA Mode – Ch. 4233)

FCC ID: PKRNVWMC1000	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 55 of 74



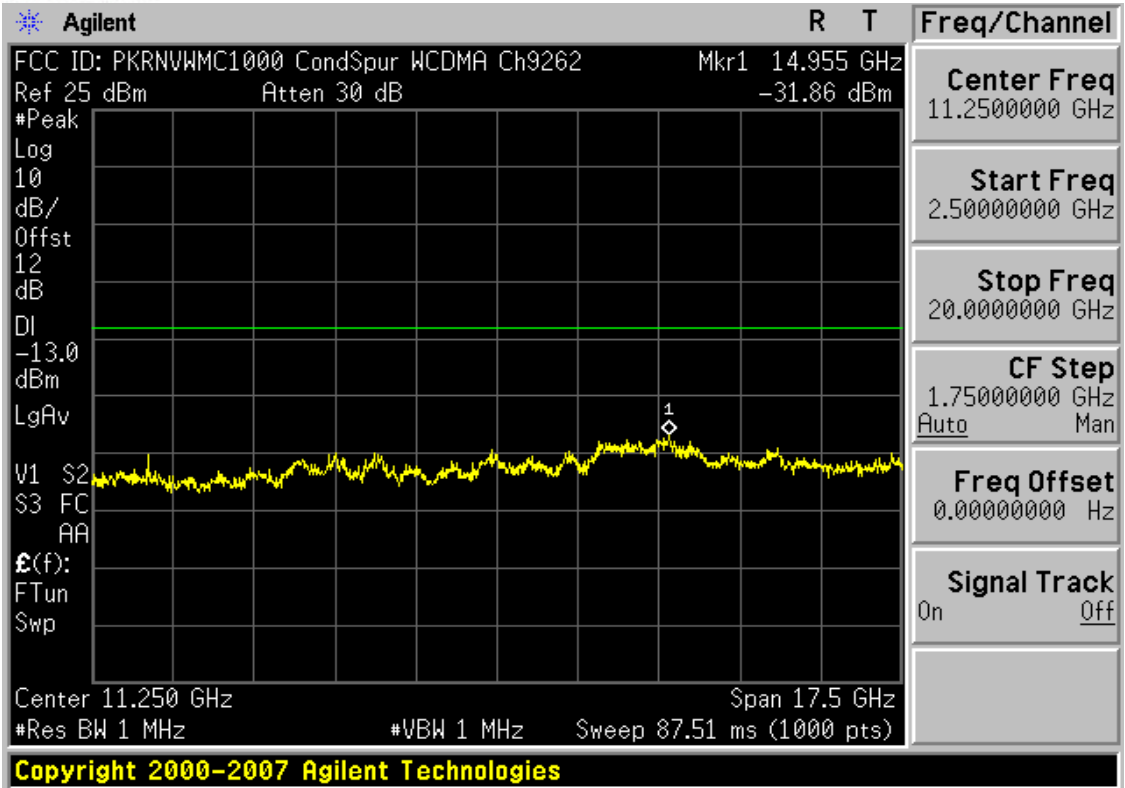
Plot 7-33. 4MHz Span Plot (Cellular WCDMA Mode – Ch. 4233)



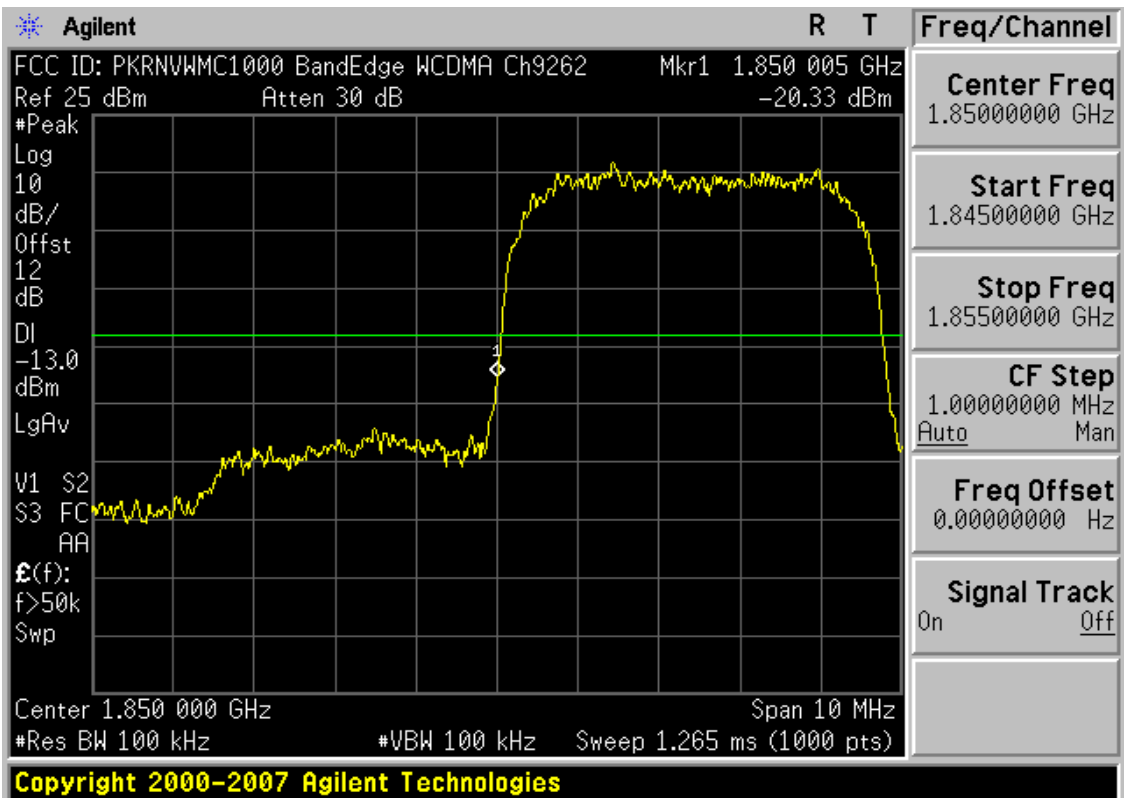
Plot 7-34. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9262)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 56 of 74



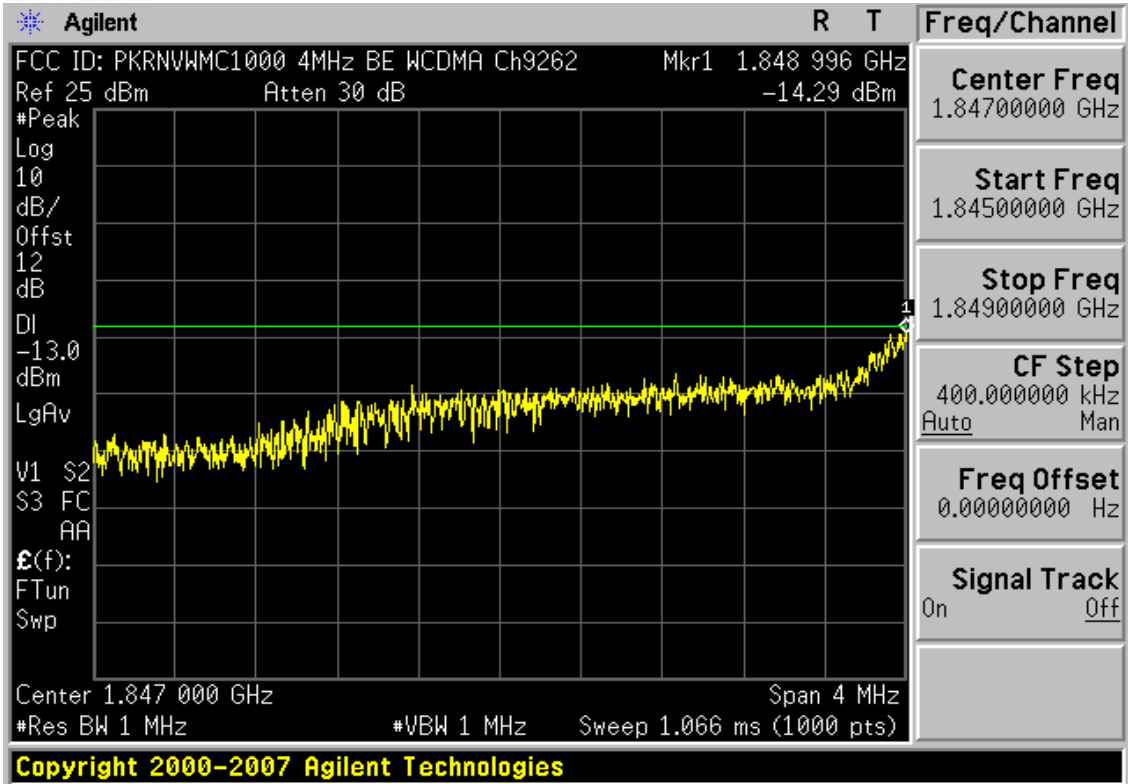


Plot 7-35. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9262)

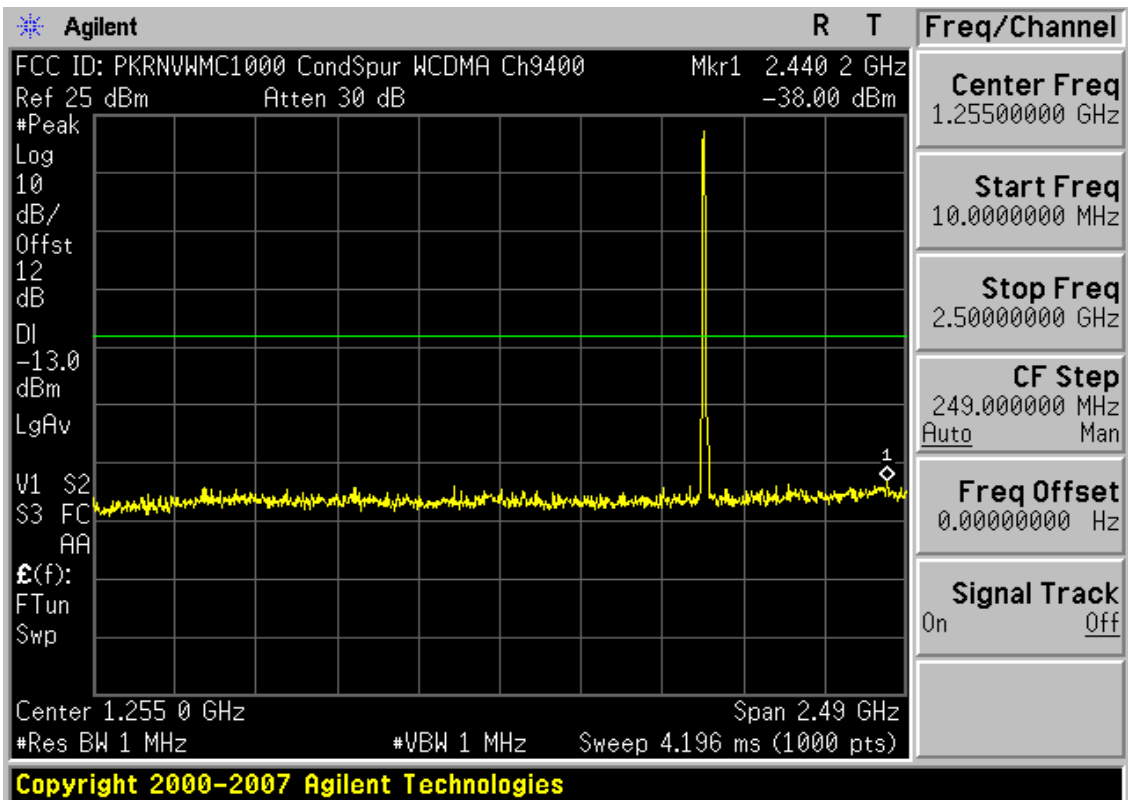


Plot 7-36. Band Edge Plot (PCS WCDMA Mode – Ch. 9262)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 57 of 74

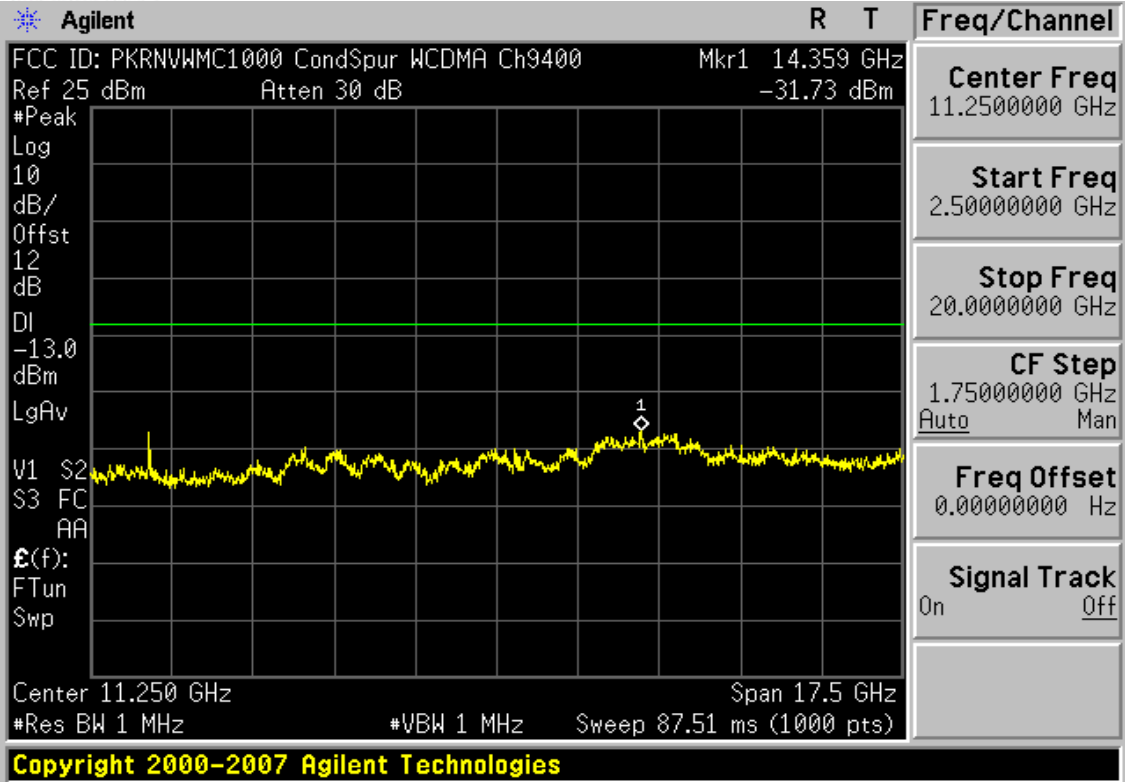


Plot 7-37. 4MHz Span Plot (PCS WCDMA Mode – Ch. 9262)

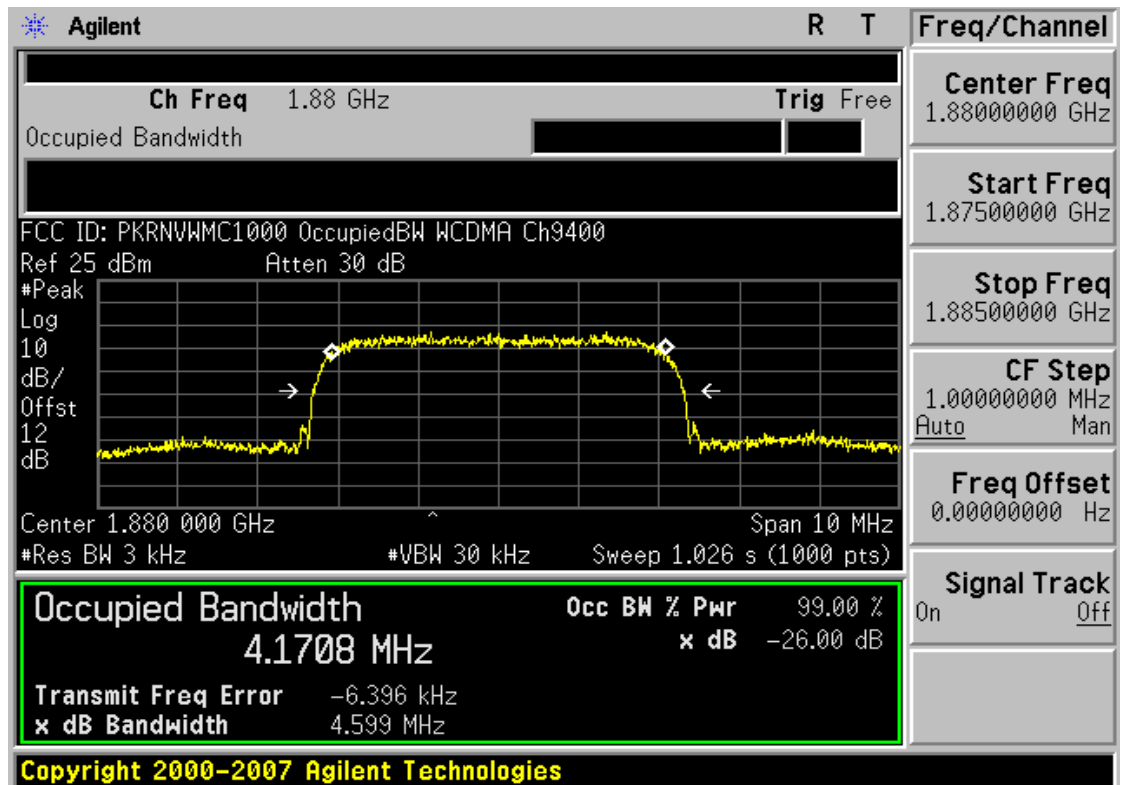


Plot 7-38. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9400)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 58 of 74

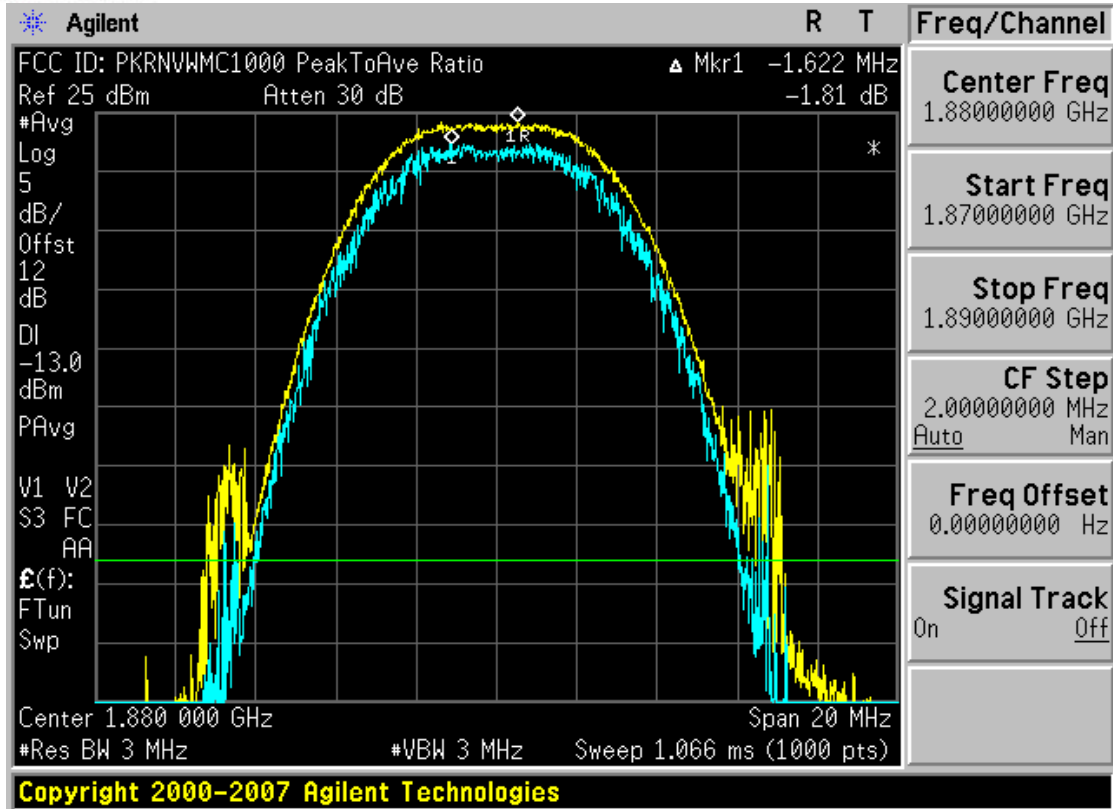


Plot 7-39. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9400)

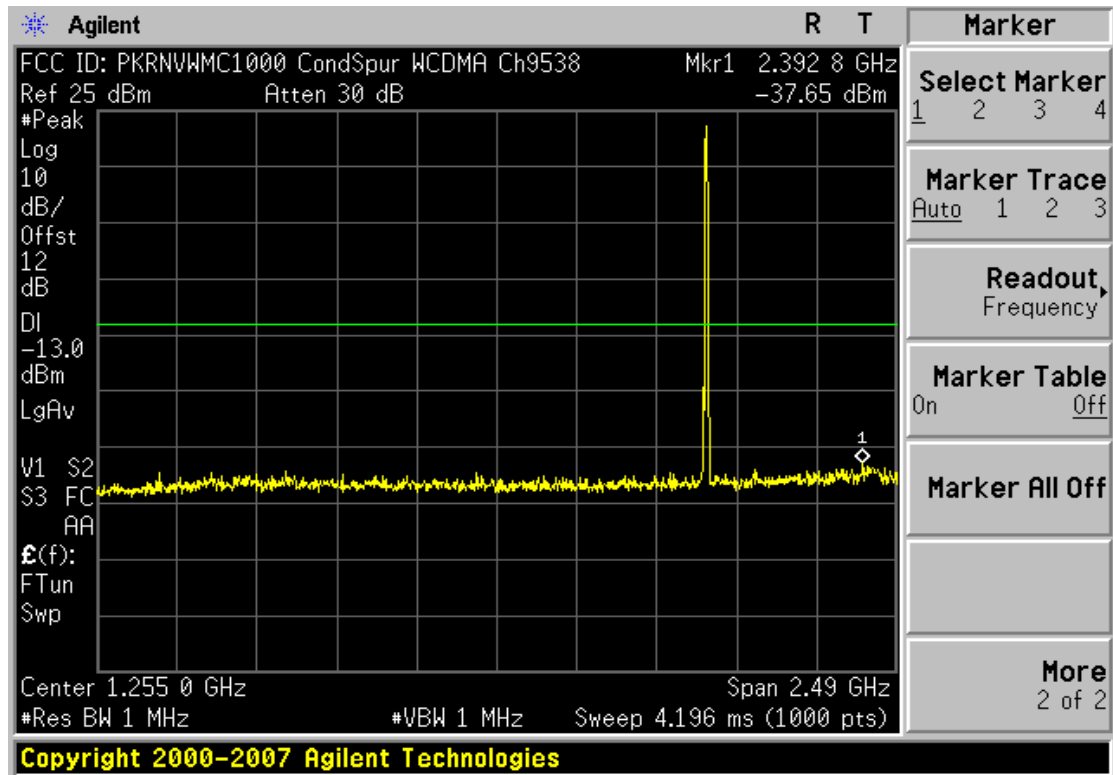


Plot 7-40. Occupied Bandwidth Plot (PCS WCDMA Mode – Ch. 9400)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 59 of 74

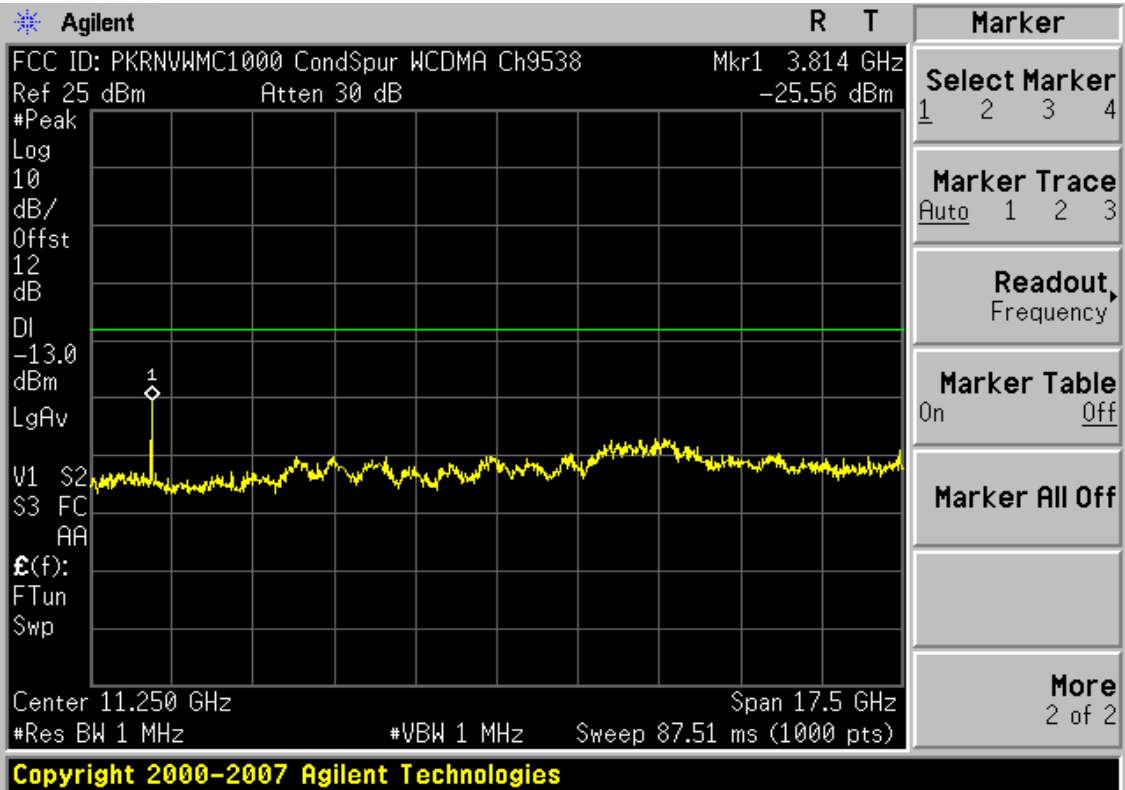


Plot 7-41. Peak-Average Ratio Plot (PCS WCDMA Mode – Ch. 9400)

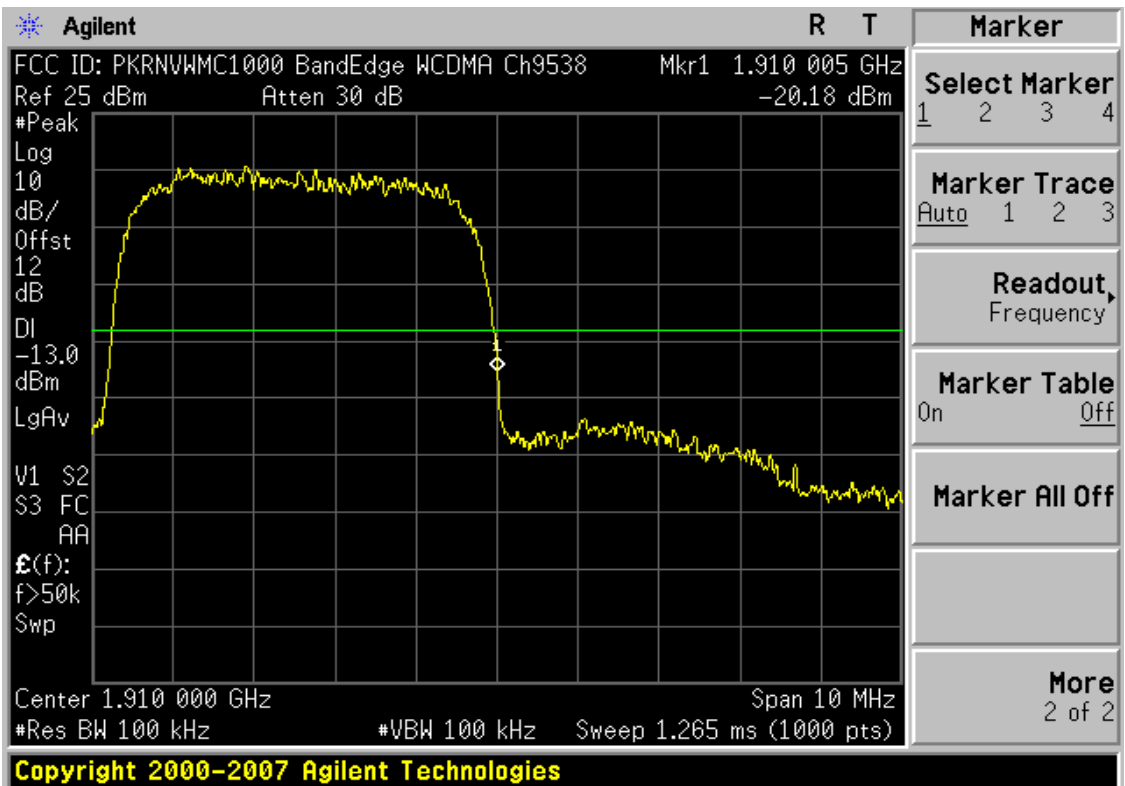


Plot 7-42. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9538)

FCC ID: PKRNVWMC1000	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 60 of 74

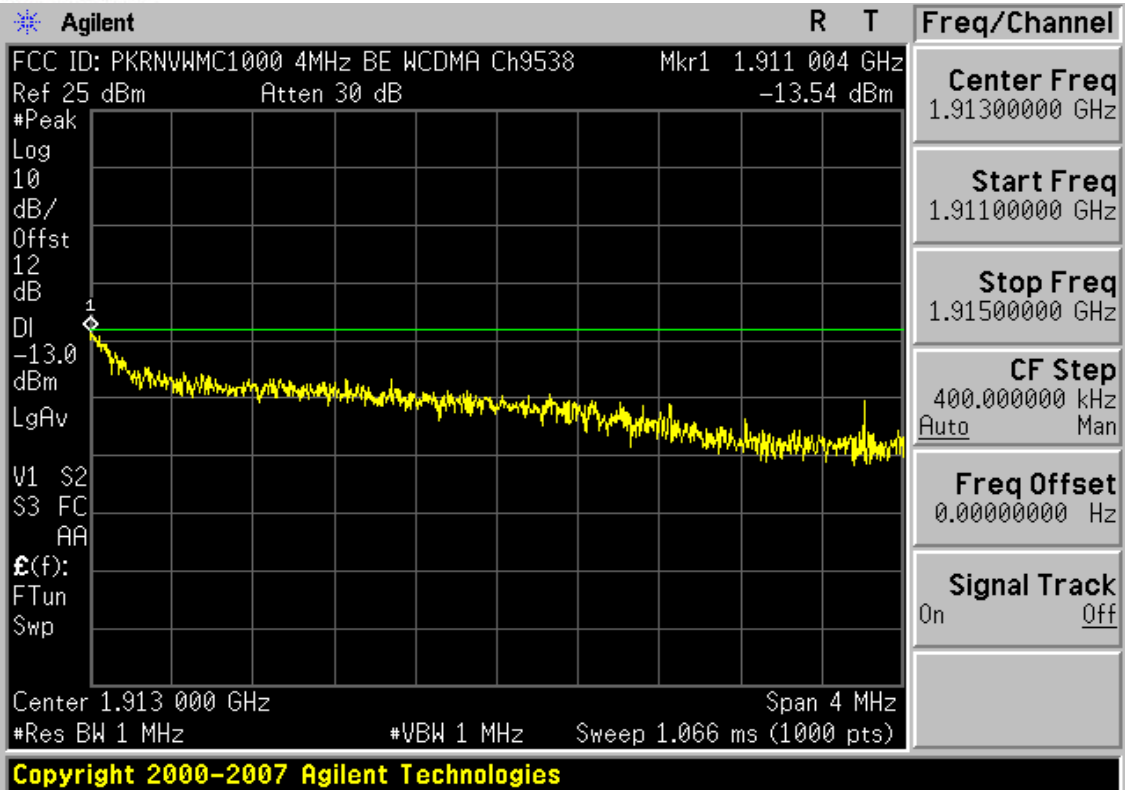


Plot 7-43. Conducted Spurious Plot (PCS WCDMA Mode – Ch. 9538)

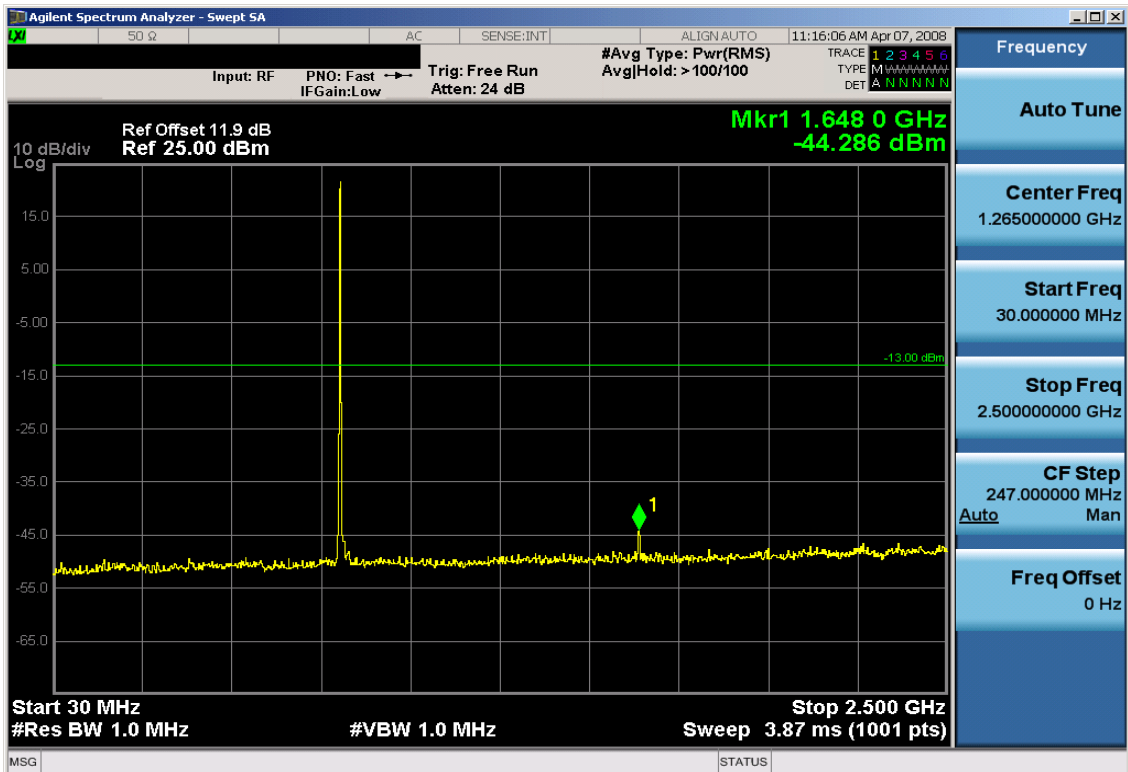


Plot 7-44. Band Edge Plot (PCS WCDMA Mode – Ch. 9538)

FCC ID: PKRNVWMC1000	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 61 of 74

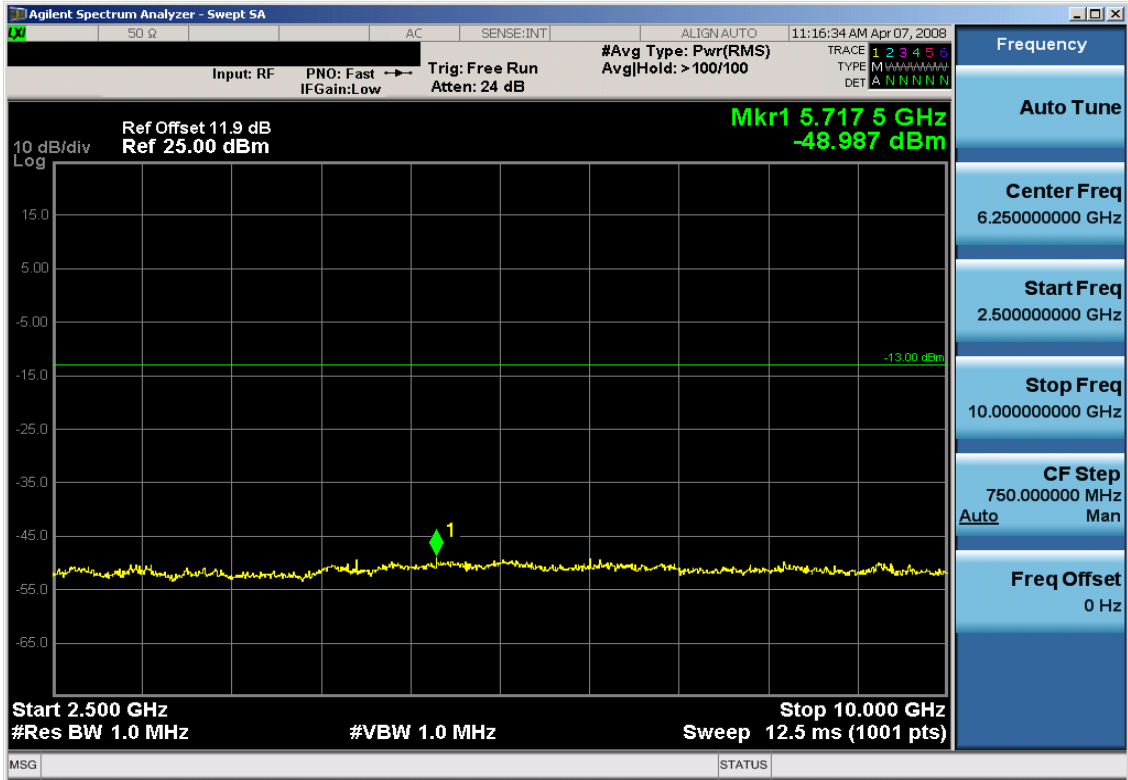


Plot 7-45. 4MHz Span Plot (PCS WCDMA Mode – Ch. 9538)

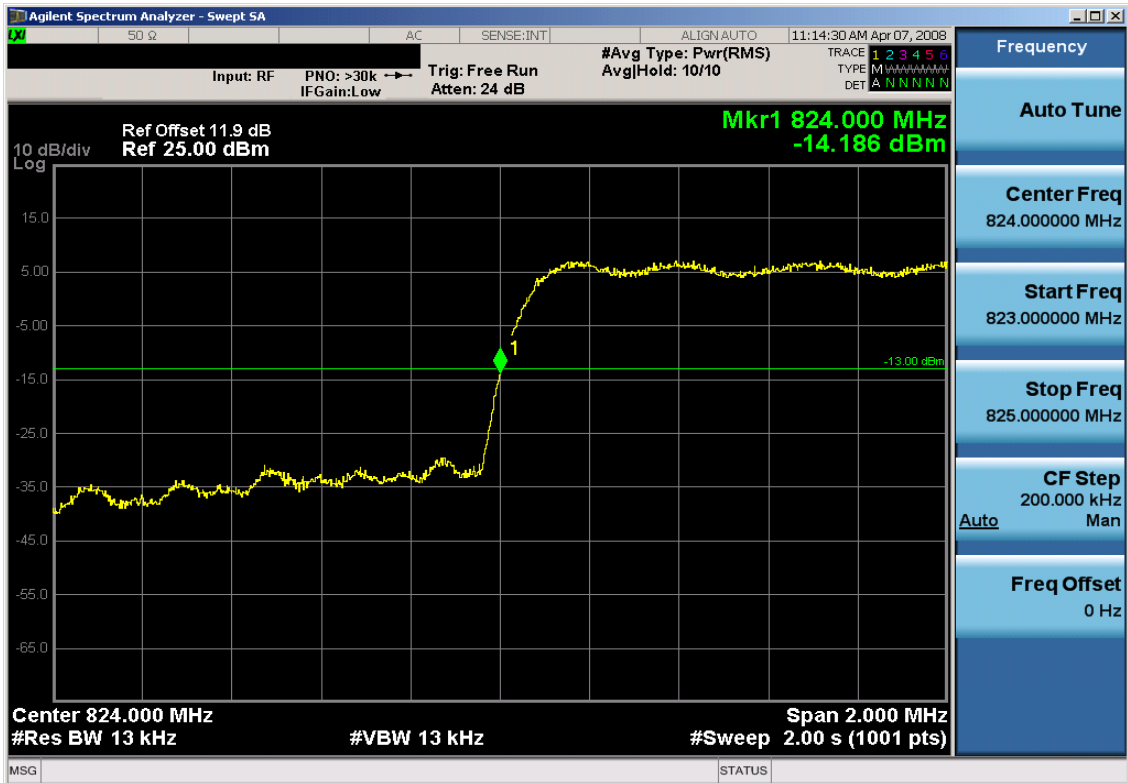


Plot 7-46. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 1013)



FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 62 of 74

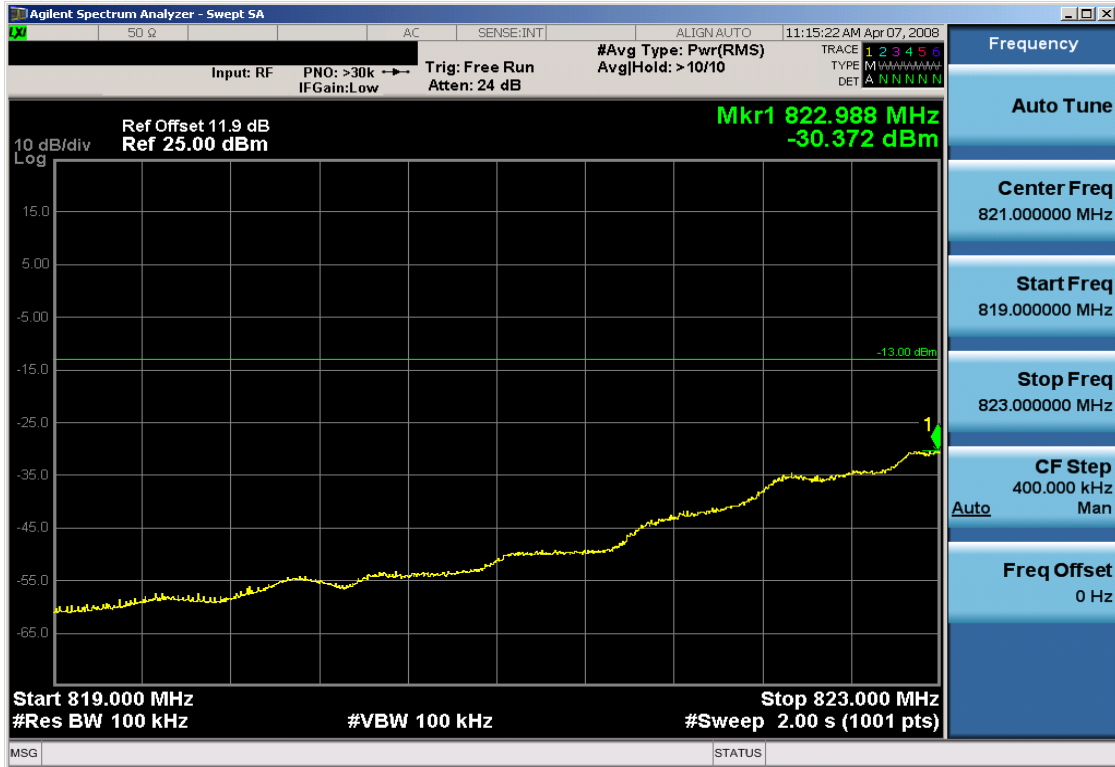


Plot 7-47. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 1013)

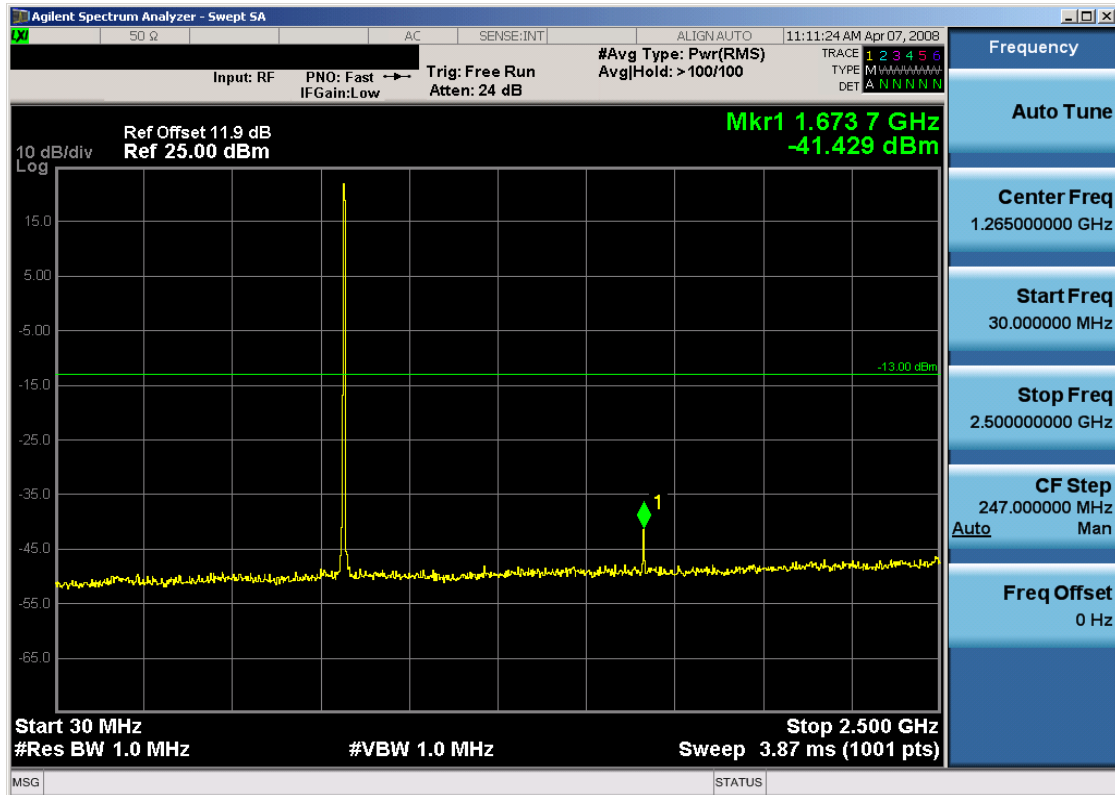


Plot 7-48. Band Edge Plot (Cellular CDMA Mode – Ch. 1013)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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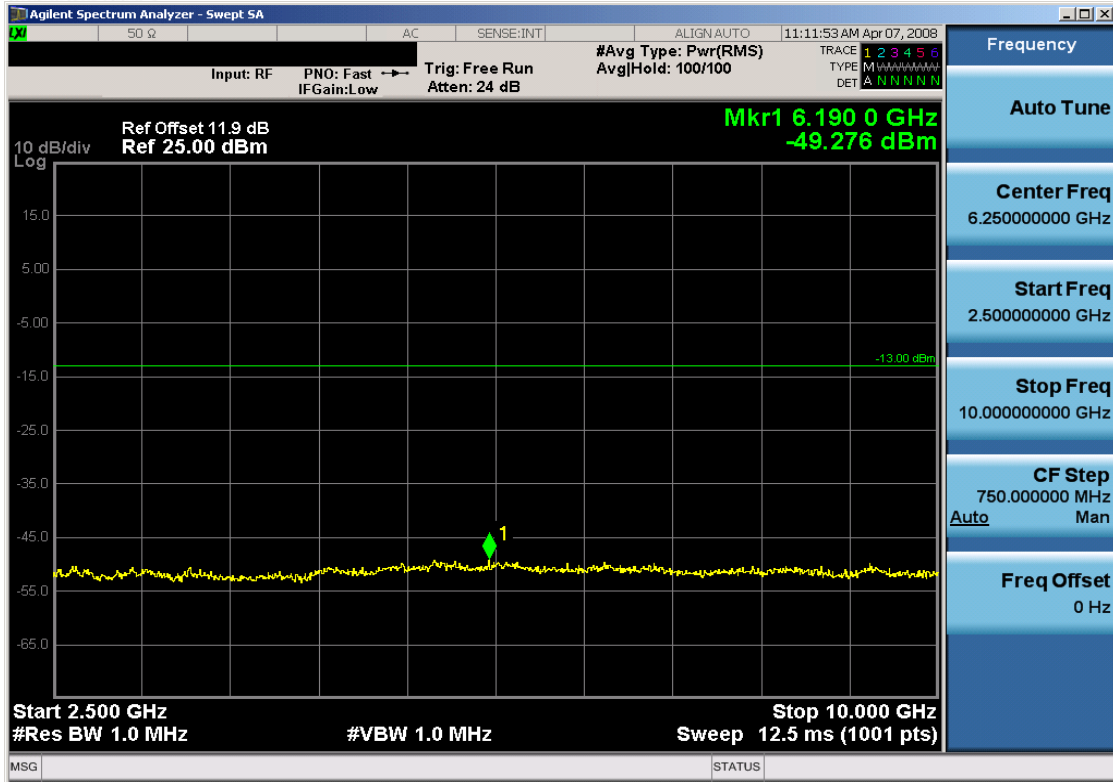
Plot 7-49. 4MHz Span Plot (Cellular CDMA Mode – Ch. 1013)



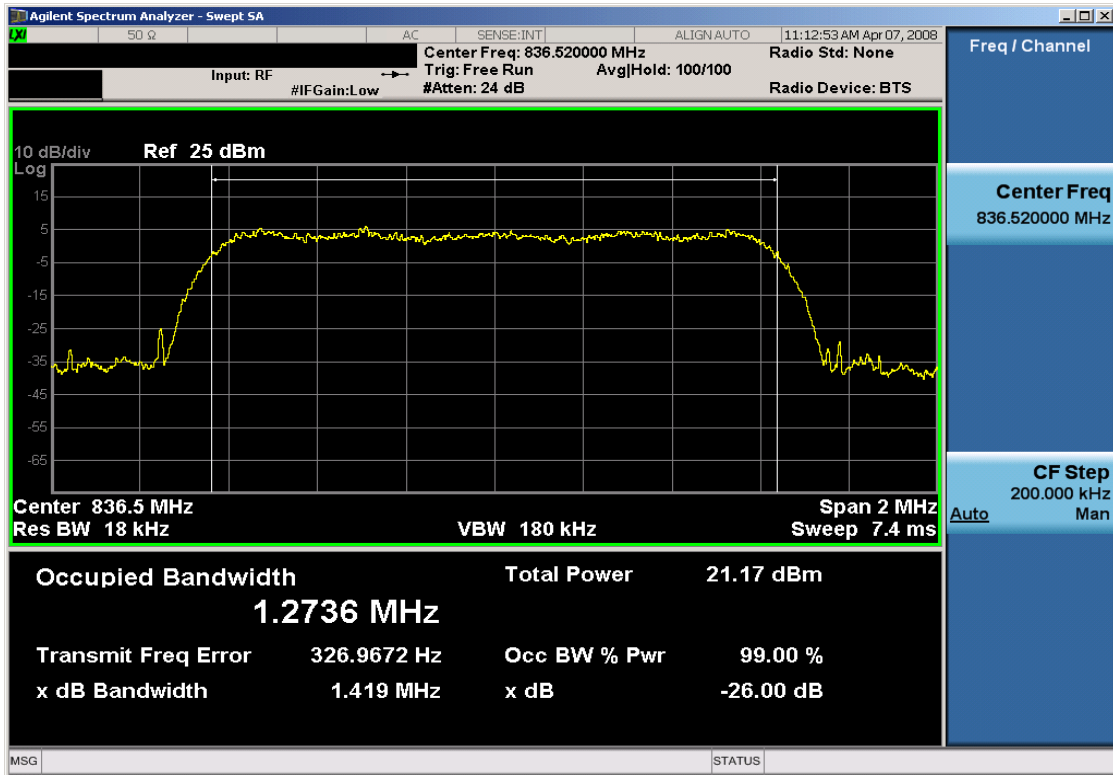
Plot 7-50. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 384)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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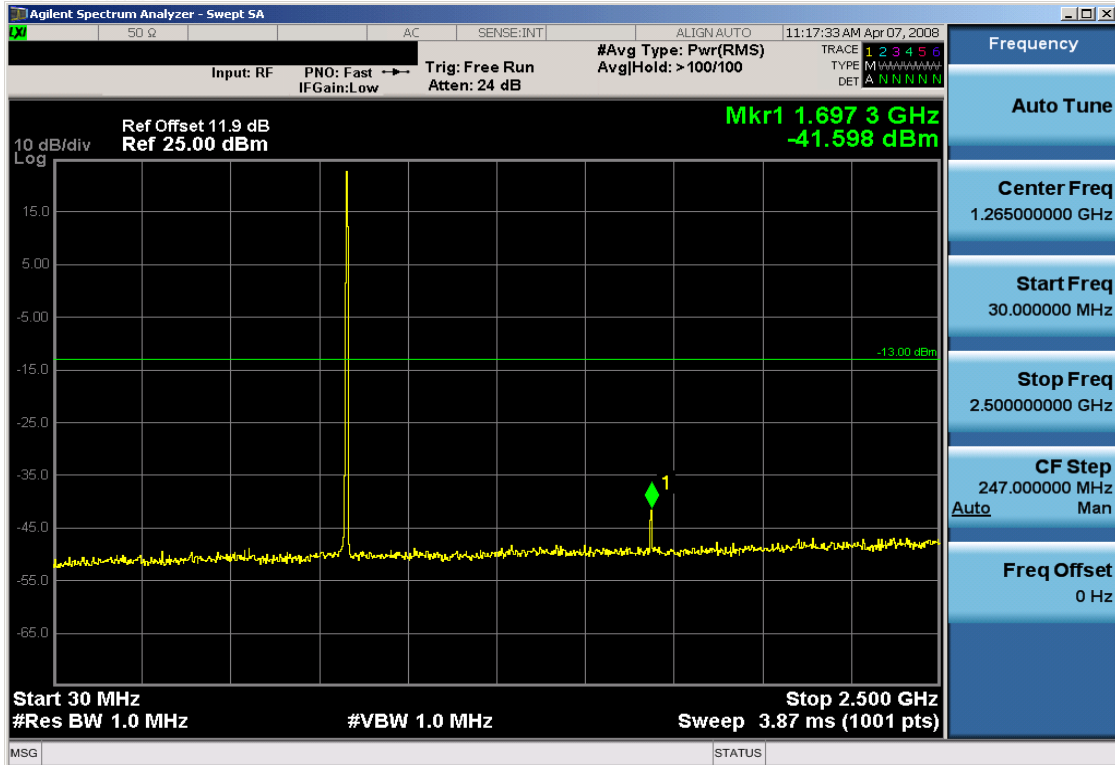


Plot 7-51. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 384)

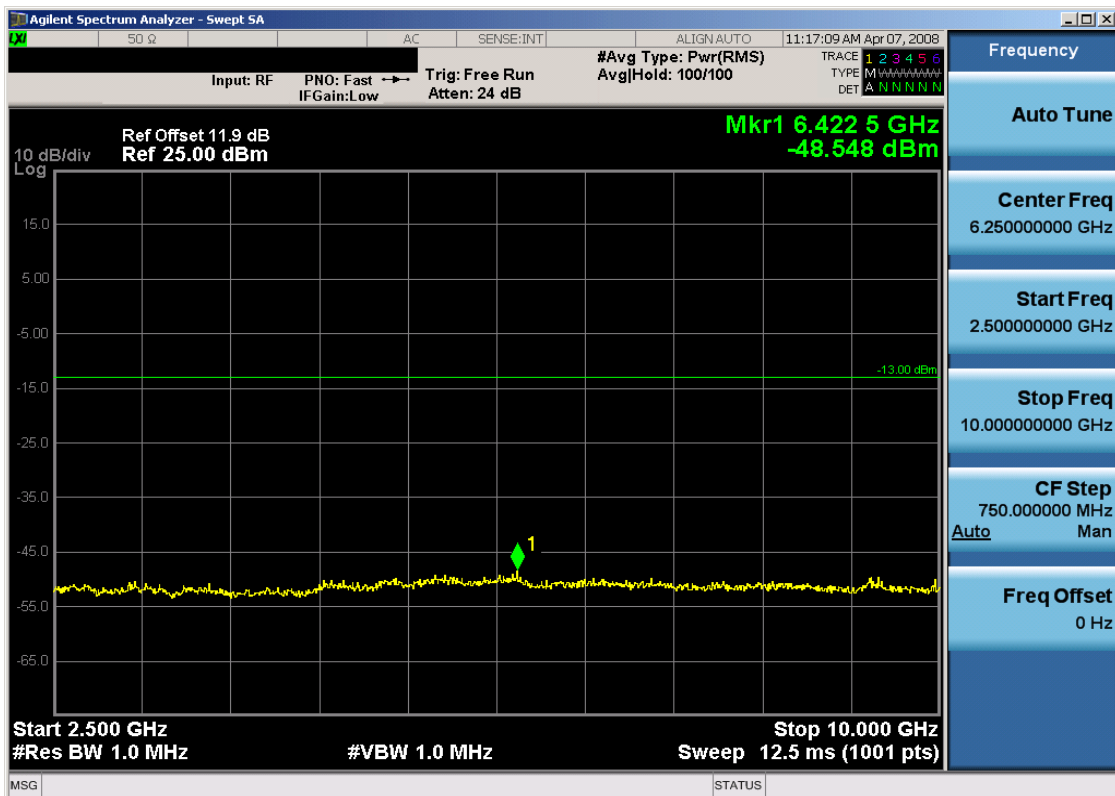


Plot 7-52. Occupied Bandwidth Plot (Cellular CDMA Mode – Ch. 1013)

FCC ID: PKRNVWMC1000	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 65 of 74

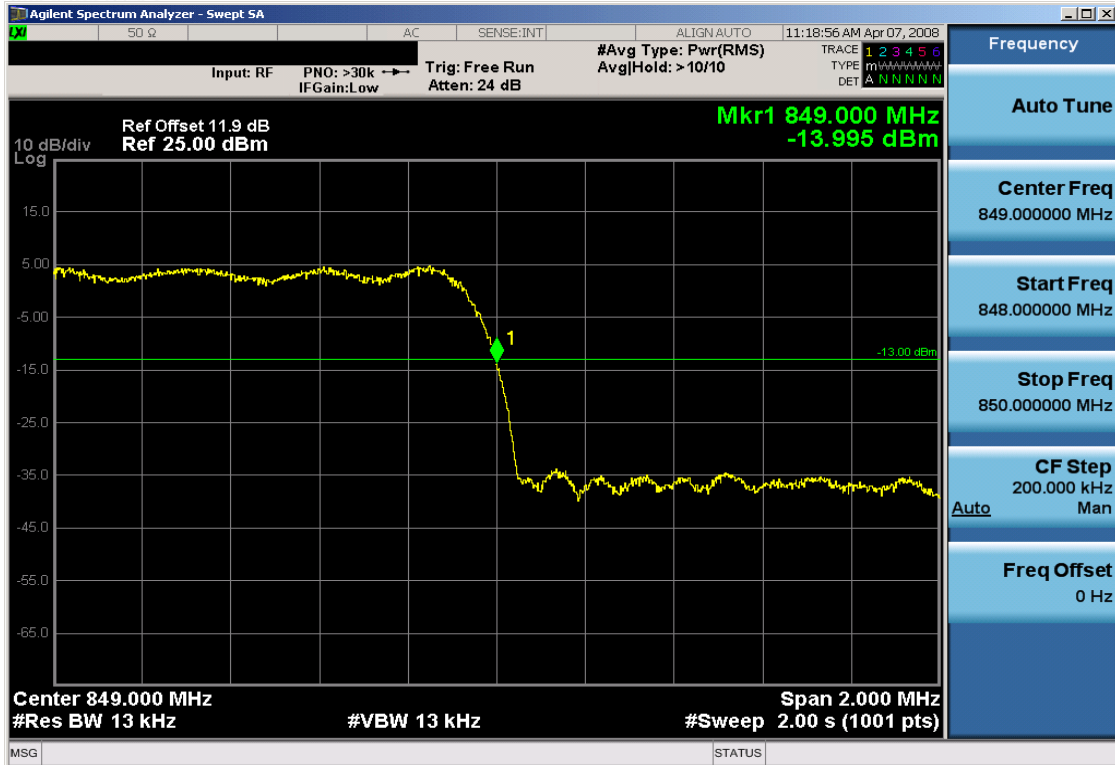


Plot 7-53. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 777)



Plot 7-54. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 777)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 66 of 74

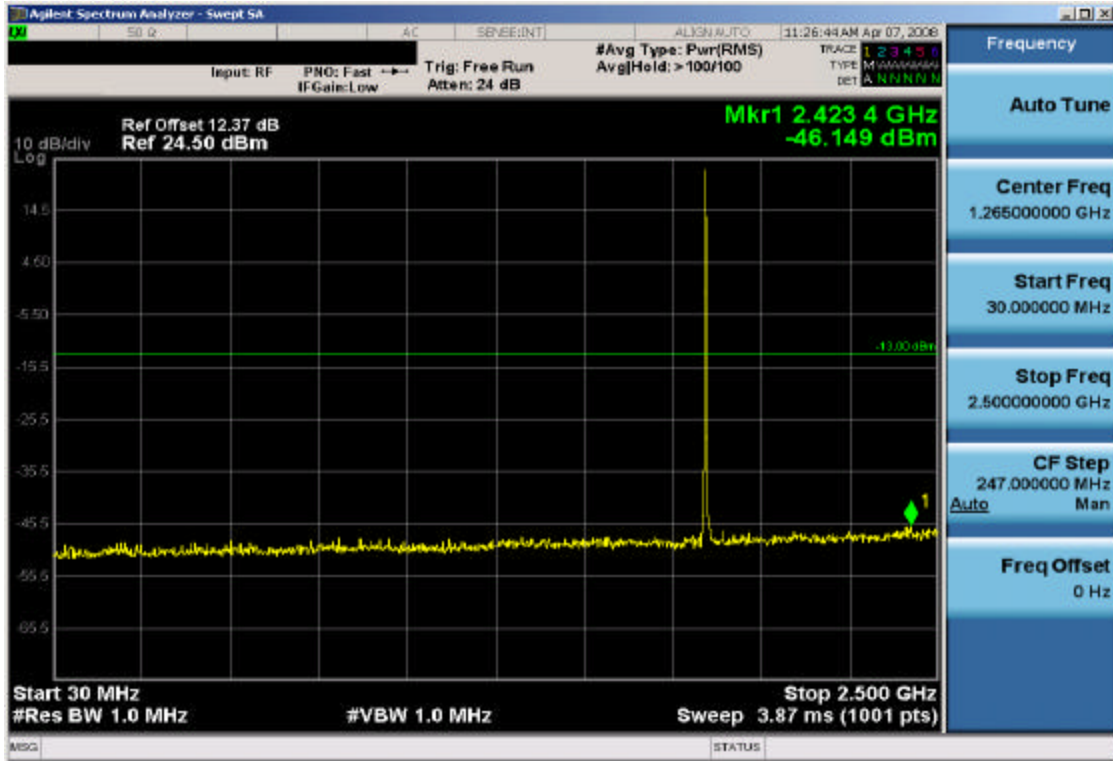


Plot 7-55. Band Edge Plot (Cellular CDMA Mode – Ch. 777)

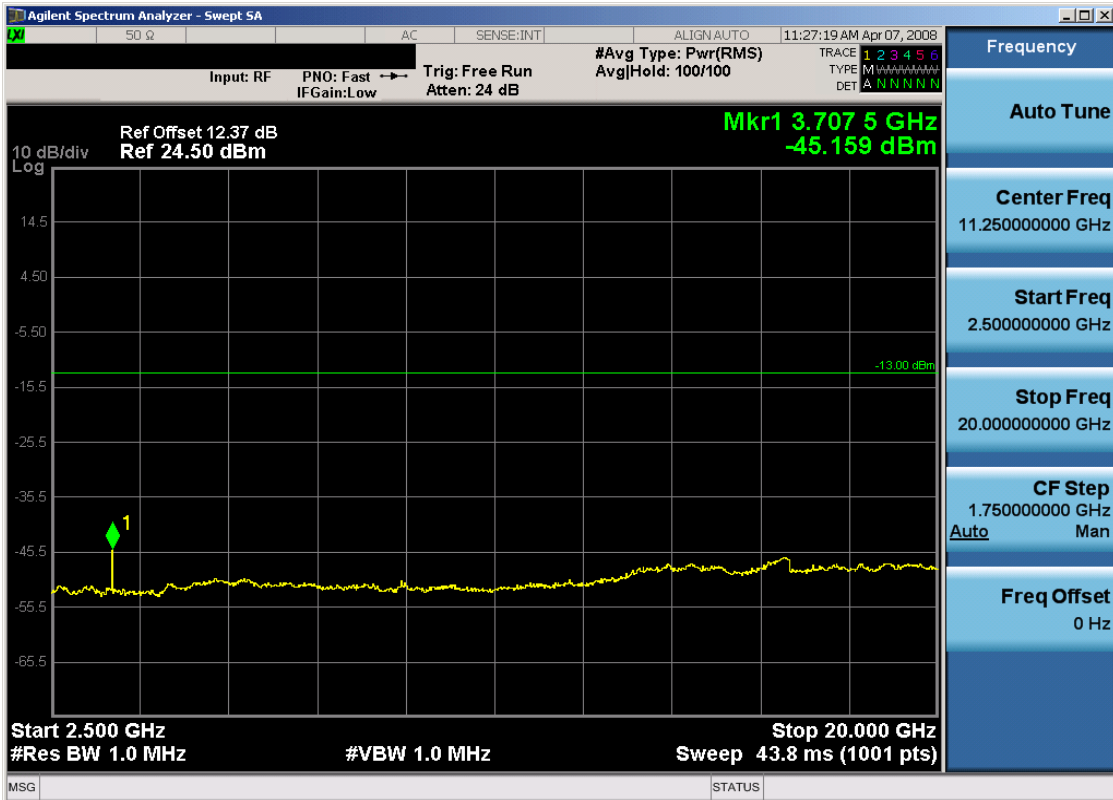


Plot 7-56. 4MHz Span Plot (Cellular CDMA Mode – Ch. 777)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO		Page 67 of 74

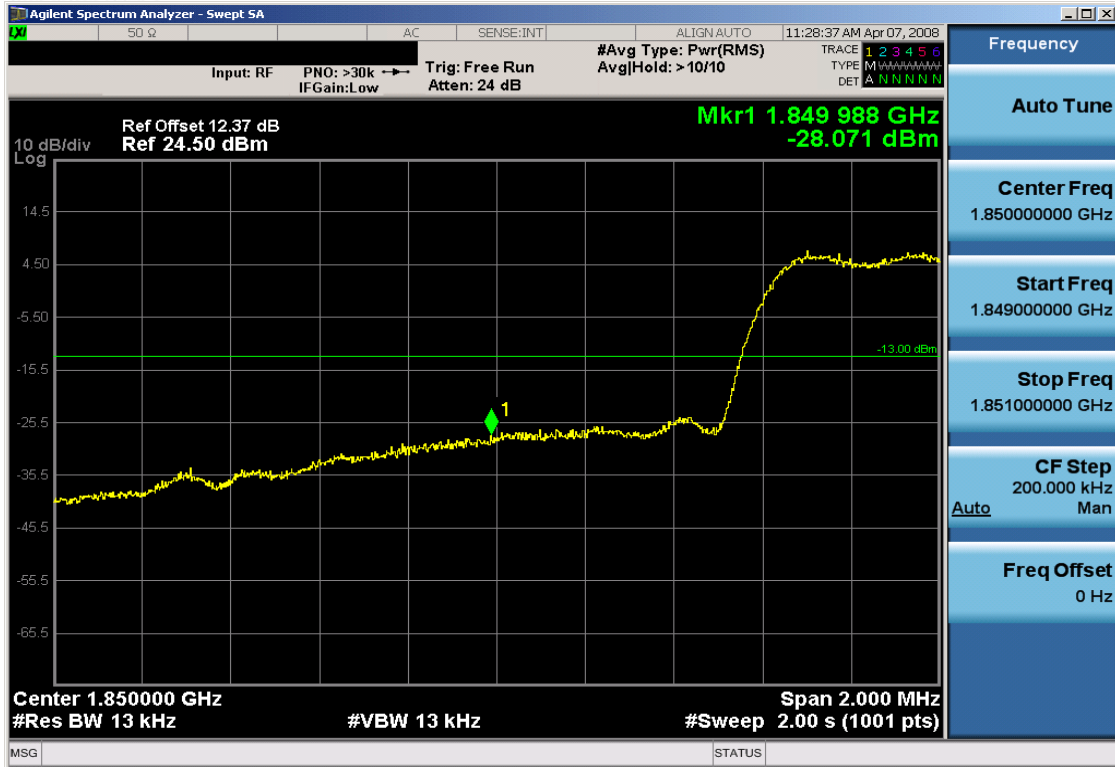


Plot 7-57. Conducted Spurious Plot (PCS CDMA Mode – Ch. 25)

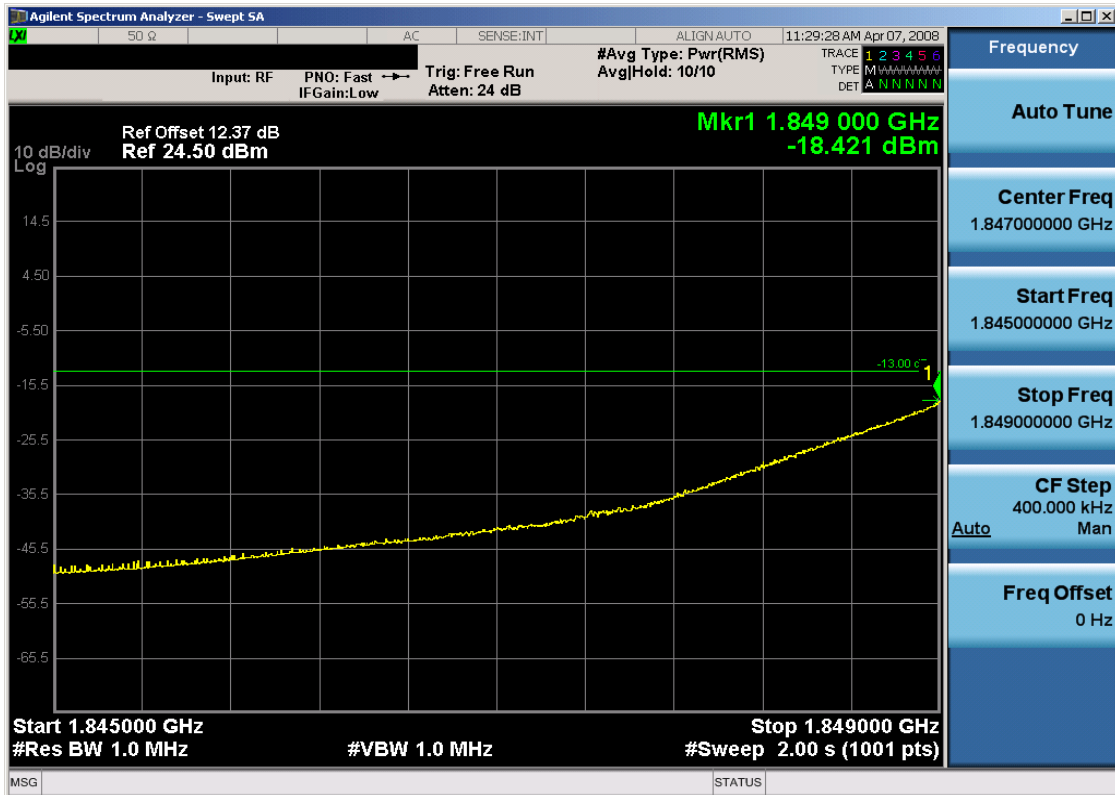


Plot 7-58. Conducted Spurious Plot (PCS CDMA Mode – Ch. 25)

FCC ID: PKRNVWMC1000	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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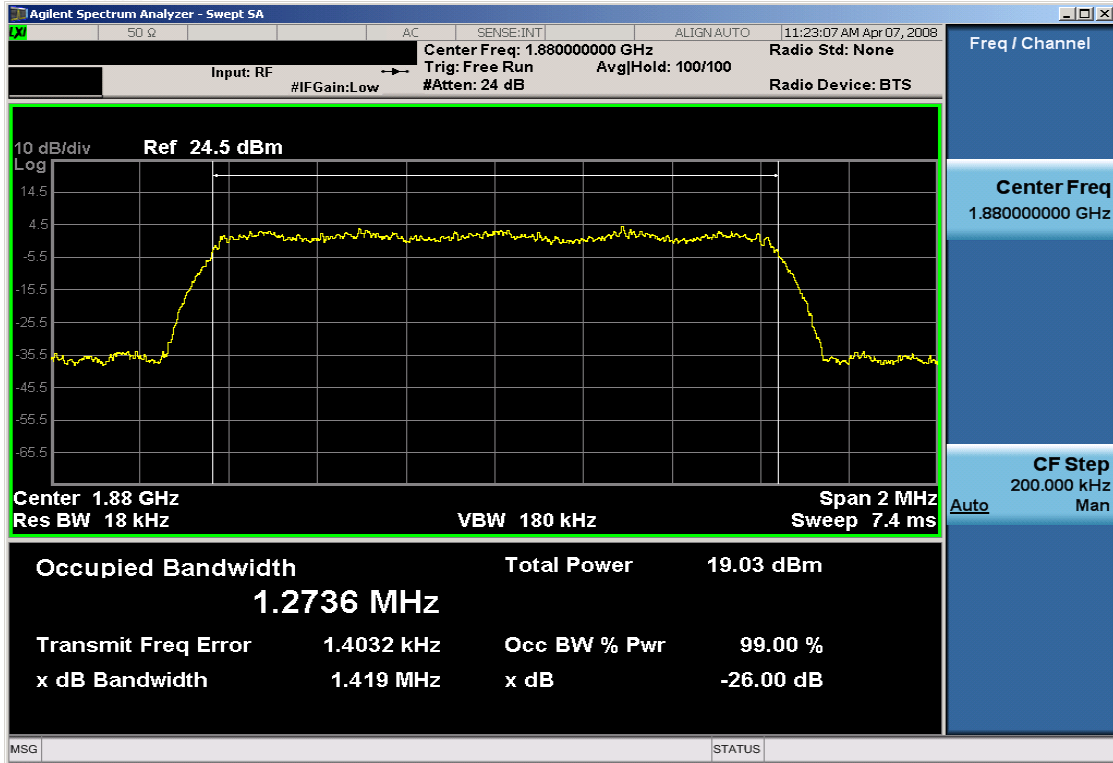
Plot 7-59. Band Edge Plot (PCS CDMA Mode – Ch. 25)



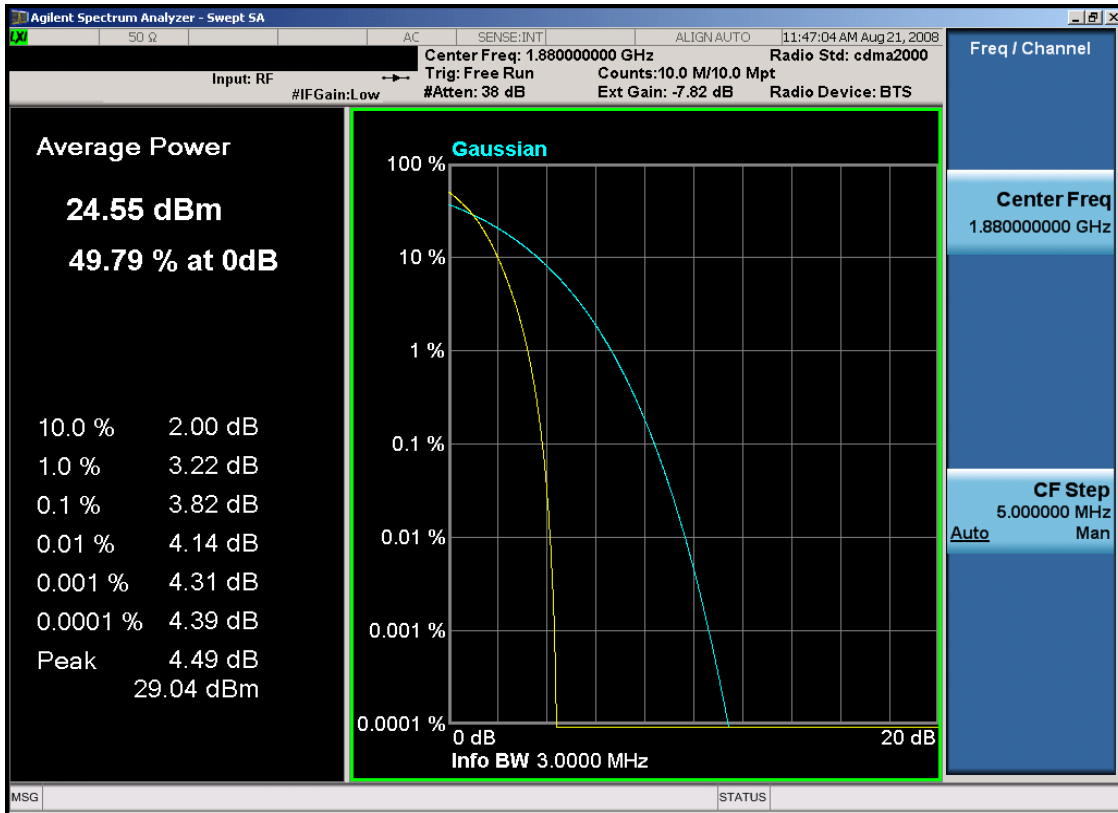
Plot 7-60. 4MHz Span Plot (PCS CDMA Mode – Ch. 25)

FCC ID: PKRNVWMC1000	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 69 of 74



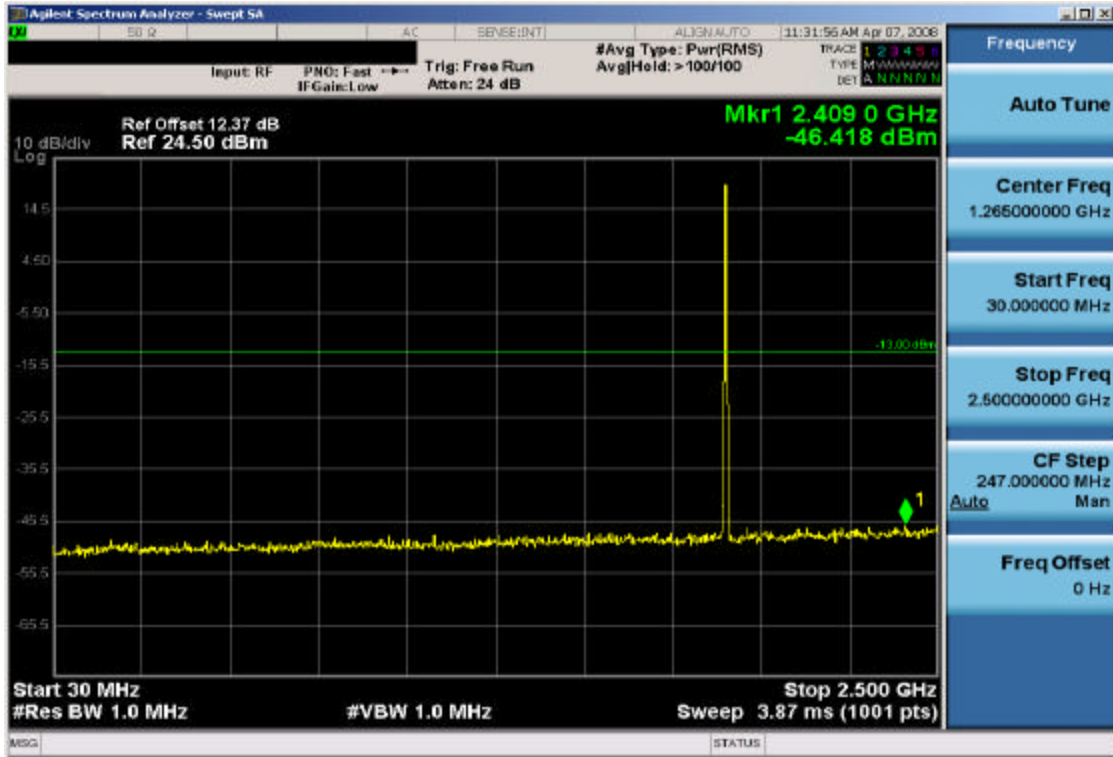


Plot 7-63. Occupied Bandwidth Plot (PCS CDMA Mode – Ch. 600)

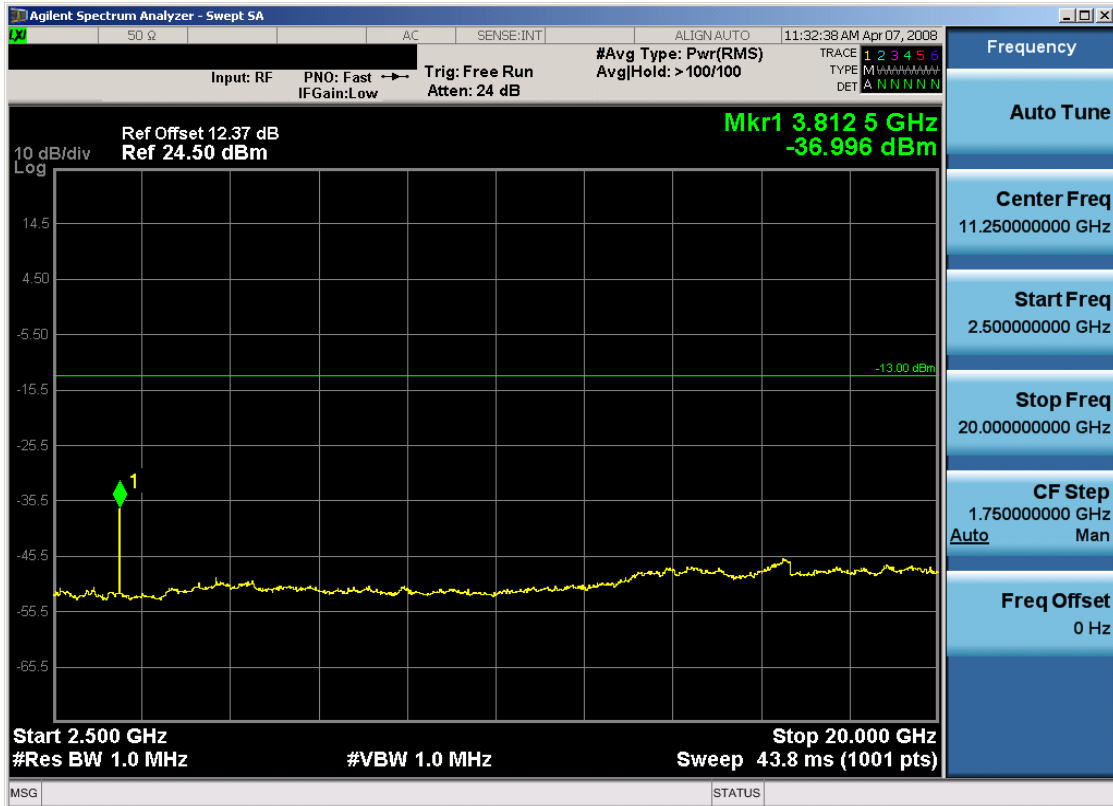


Plot 7-64. Peak-Average Ratio Plot (PCS CDMA Mode – Ch. 600)

FCC ID: PKRNVWMC1000	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
Test Report S/N: 0808191138-R1.PKR	Test Dates: August 21, 2008	EUT Type: 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 71 of 74



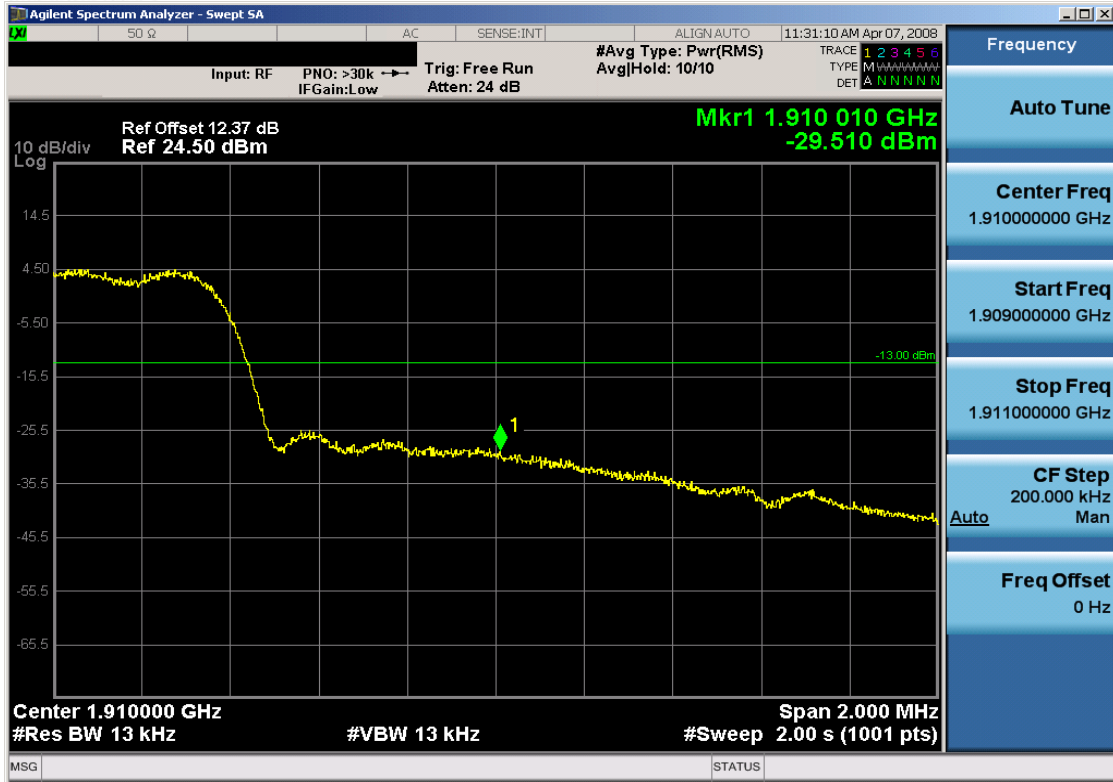
Plot 7-65. Conducted Spurious Plot (PCS CDMA Mode – Ch. 1175)



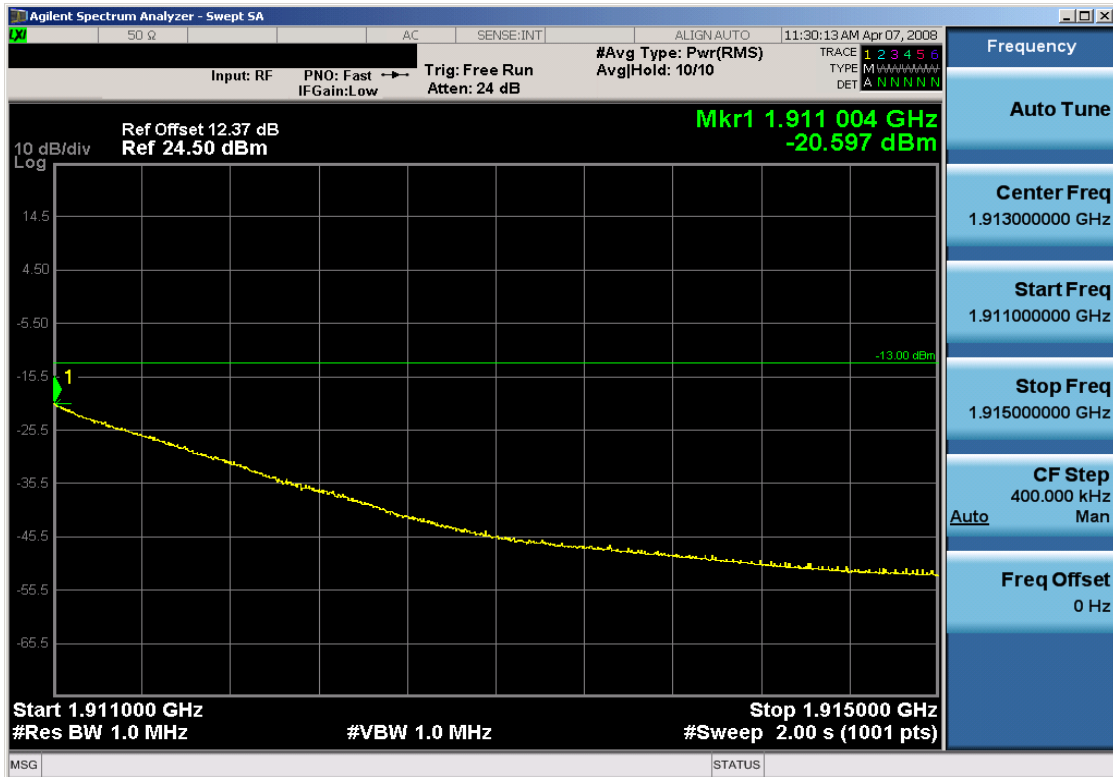
Plot 7-66. Conducted Spurious Plot (PCS CDMA Mode – Ch. 1175)

FCC ID: PKRNVWMC1000		FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Plot 7-67. Band Edge Plot (PCS CDMA Mode – Ch. 1175)





Plot 7-68. 4MHz Span Plot (PCS CDMA Mode – Ch. 1175)

FCC ID: PKRNVWMC1000	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)	Reviewed by: Quality Manager
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## 8.0 CONCLUSION

The data collected show that the **Novatel 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO FCC ID: PKRNVWMC1000** complies with all the requirements of Parts 2, 22, and 24 of the FCC rules.

FCC ID: PKRNVWMC1000		<b>FCC Pt. 22/24 GSM/EDGE/CDMA/WCDMA TEST REPORT (CERTIFICATION)</b>		<b>Reviewed by:</b> Quality Manager
<b>Test Report S/N:</b> 0808191138-R1.PKR	<b>Test Dates:</b> August 21, 2008	<b>EUT Type:</b> 850/1900 GSM/WCDMA/EDGE/CDMA USB Modem with EvDO	Page 74 of 74	