



# PCTEST ENGINEERING LABORATORY, INC.

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http://www.pctestlab.com



## MEASUREMENT REPORT

### FCC Part 22, 24, & 27 / IC RSS-132/RSS-133/RSS-139

**Applicant Name:**  
KYOCERA Communications, Inc.  
8611 Balboa Ave  
San Diego, CA 92123  
USA

**Date of Testing:**  
12/7/12 - 12/17/12, 02/21/2013  
**Test Site/Location:**  
PCTEST Lab., Columbia, MD, USA  
**Test Report Serial No.:**  
0Y1212071743.V65

<b>FCC ID:</b>	<b>V65C6721A1</b>
<b>APPLICANT:</b>	<b>KYOCERA COMMUNICATIONS, INC.</b>

**Application Type:** Certification  
**Model(s):** C6721  
**EUT Type:** Portable Handset  
**FCC Classification:** PCS Licensed Transmitter Held to Ear (PCE)  
**FCC Rule Part(s):** §2; §22(H), §24(E), §27(C)  
**Test Procedure(s):** ANSI/TIA-603-C-2004, KDB 971168  
**Test Device Serial No.:** *identical prototype* [S/N:  
256691412905244000  
256691412905244673  
99000051502125]

Mode	Tx Frequency (MHz)	Emission Designator	ERP/EIRP	
			Max. Power (W)	Max. Power (dBm)
CDMA850	824.70 - 848.31	1M27F9W	0.166	22.21
CDMA1700	1711.25 - 1753.75	1M27F9W	0.230	23.63
CDMA1900	1851.25 - 1908.75	1M27F9W	0.185	22.66

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. Test results reported herein relate only to the item(s) tested.

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.



Randy Ortanez  
President

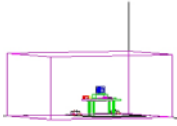


<b>FCC ID:</b> V65C6721A1		<b>FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Reviewed by:</b> Quality Manager
<b>Test Report S/N:</b> 0Y1212071743.V65	<b>Test Dates:</b> 12/7/12 - 12/17/12, 02/21/2013	<b>EUT Type:</b> Portable Handset		Page 1 of 49

# T A B L E O F C O N T E N T S

FCC PART 22, 24 & 27 MEASUREMENT REPORT.....		3
1.0 INTRODUCTION .....		4
1.1 SCOPE .....		4
1.2 TESTING FACILITY.....		4
2.0 PRODUCT INFORMATION.....		5
2.1 EQUIPMENT DESCRIPTION .....		5
2.2 DEVICE CAPABILITIES.....		5
2.3 TEST CONFIGURATION.....		5
2.4 EMI SUPPRESSION DEVICE(S)/MODIFICATIONS .....		5
3.0 DESCRIPTION OF TESTS .....		6
3.1 EVALUATION PROCEDURE .....		6
3.2 CELLULAR - BASE FREQUENCY BLOCKS.....		6
3.3 CELLULAR - MOBILE FREQUENCY BLOCKS.....		6
3.4 AWS - BASE FREQUENCY BLOCKS .....		7
3.5 AWS - MOBILE FREQUENCY BLOCKS .....		7
3.6 PCS - BASE FREQUENCY BLOCKS.....		7
3.7 PCS - MOBILE FREQUENCY BLOCKS.....		8
3.8 OCCUPIED BANDWIDTH EMISSION LIMITS .....		8
3.9 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL.....		8
3.10 RADIATED POWER AND RADIATED SPURIOUS EMISSIONS .....		9
3.11 PEAK-AVERAGE RATIO.....		10
3.12 FREQUENCY STABILITY / TEMPERATURE VARIATION .....		10
4.0 TEST EQUIPMENT CALIBRATION DATA .....		11
5.0 SAMPLE CALCULATIONS .....		13
6.0 TEST RESULTS.....		14
6.1 SUMMARY.....		14
6.2 EFFECTIVE RADIATED POWER OUTPUT DATA .....		15
6.3 EQUIVALENT ISOTROPIC RADIATED POWER OUTPUT DATA.....		15
6.4 CELLULAR CDMA RADIATED MEASUREMENTS.....		16
6.5 AWS CDMA RADIATED MEASUREMENTS.....		19
6.6 PCS CDMA RADIATED MEASUREMENTS.....		22
6.7 CELLULAR CDMA FREQUENCY STABILITY MEASUREMENTS .....		25
6.8 AWS CDMA FREQUENCY STABILITY MEASUREMENTS.....		27
6.9 PCS CDMA FREQUENCY STABILITY MEASUREMENTS.....		29
7.0 PLOT(S) OF EMISSIONS .....		31
8.0 CONCLUSION.....		49

<b>FCC ID:</b> V65C6721A1		<b>FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)</b>	 <b>Reviewed by:</b> Quality Manager
<b>Test Report S/N:</b> 0Y1212071743.V65	<b>Test Dates:</b> 12/7/12 - 12/17/12, 02/21/2013	<b>EUT Type:</b> Portable Handset	Page 2 of 49



# MEASUREMENT REPORT

## FCC Part 22, 24, & 27



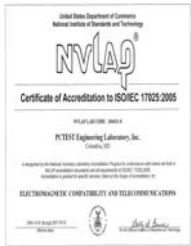
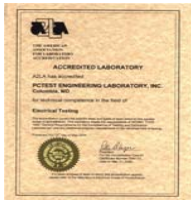
### §2.1033 General Information



**APPLICANT:** KYOCERA Communications, Inc.  
**APPLICANT ADDRESS:** 8611 Balboa Ave  
 San Diego, CA 92123  
**TEST SITE:** PCTEST ENGINEERING LABORATORY, INC.  
**TEST SITE ADDRESS:** 7185 Oakland Mills Road, Columbia, MD 21046 USA  
**FCC RULE PART(S):** §2; §22(H), §24(E), §27(C)(L)  
**IC SPECIFICATION(S):** RSS-132 Issue 2; RSS-133 Issue 5; RSS-139 Issue 2  
**BASE MODEL:** C6721  
**FCC ID:** V65C6721A1  
**FCC CLASSIFICATION:** PCS Licensed Transmitter Held to Ear (PCE)  
**MODE:** CDMA / EvDO  
**Test Device Serial No.:** 256691412905244000  Production  Pre-Production  Engineering  
 99000051502125  
**DATE(S) OF TEST:** 12/7/12 - 12/17/12, 02/21/2013  
**TEST REPORT S/N:** 0Y1212071743.V65

### Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab. located in Columbia, MD 21046, U.S.A.

- PCTEST facility is an FCC registered (PCTEST Reg. No. 159966) 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 (2451B-1).
- 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 (2451B-1) 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.



<b>FCC ID:</b> V65C6721A1		<b>FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Reviewed by:</b> Quality Manager
<b>Test Report S/N:</b> 0Y1212071743.V65	<b>Test Dates:</b> 12/7/12 - 12/17/12, 02/21/2013	<b>EUT Type:</b> Portable Handset	Page 3 of 49	

# 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 and the Industry Canada Certification and Engineering Bureau.

## 1.2 Testing Facility

The map below shows the location of the PCTEST LABORATORY, its proximity to the FCC Laboratory, the Columbia vicinity, the Baltimore-Washington Intern't'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 located at 7185 Oakland Mills Road, Columbia, MD 21046. The site coordinates are 39° 10'23" N latitude and 76° 49'50" W longitude. The facility is 0.4 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on February 15, 2012.

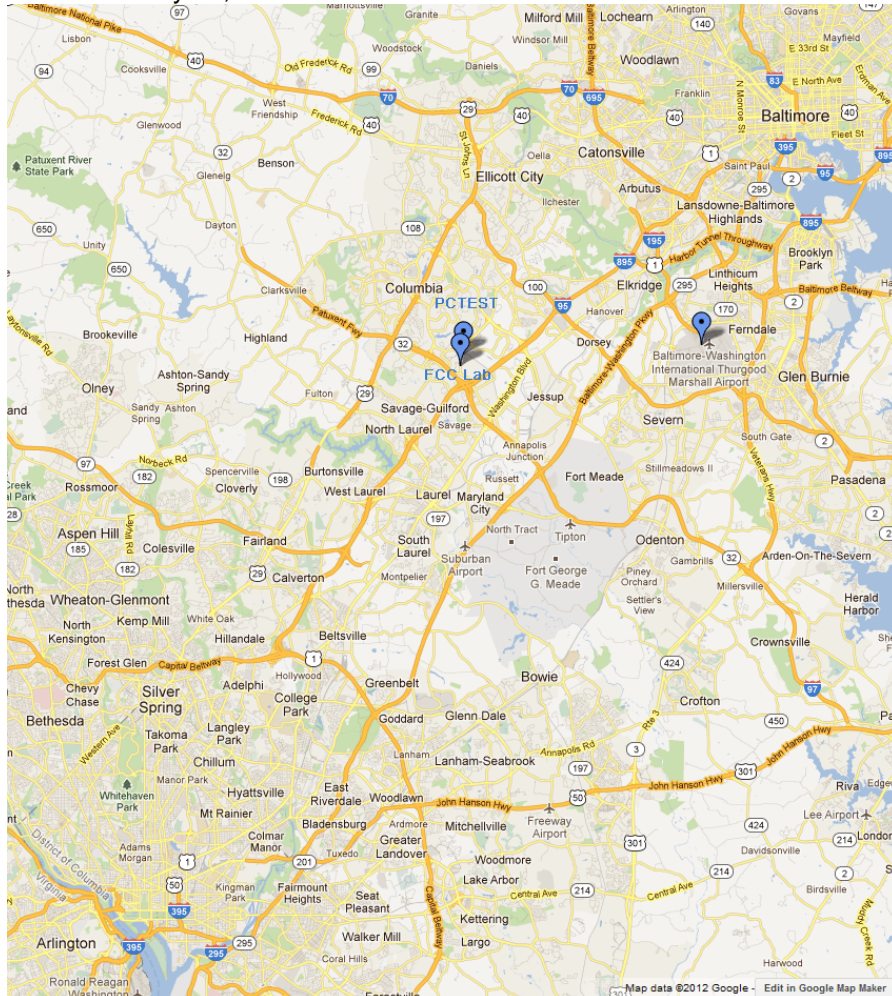




Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

FCC ID: V65C6721A1	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	 KYOCERA	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 4 of 49

## 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Kyocera Portable Handset FCC ID: V65C6721A1**. The test data contained in this report pertains only to the emissions due to the EUT's licensed transmitter.

### 2.2 Device Capabilities

This device contains the following capabilities:



850/1700/1900 CDMA/EvDO Rev0/A (BC0, BC15, BC1), Band 2 (1.4, 3, 5, 10 MHz BW), Band 4 (1.4, 3, 5, 10 MHz BW), Band 5 (1.4, 3, 5, 10 MHz BW), Band 12 (1.4, 3, 5, 10 MHz BW), Band 17 (5, 10 MHz BW) LTE, 802.11b/g/n WLAN, Bluetooth (1x,EDR, LE)

### 2.3 Test Configuration

The Kyocera Portable Handset FCC ID: V65C6721A1 was tested per the guidance of ANSI/TIA-603-C-2004 and KDB 971168. See Section 3.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

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

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

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 5 of 49

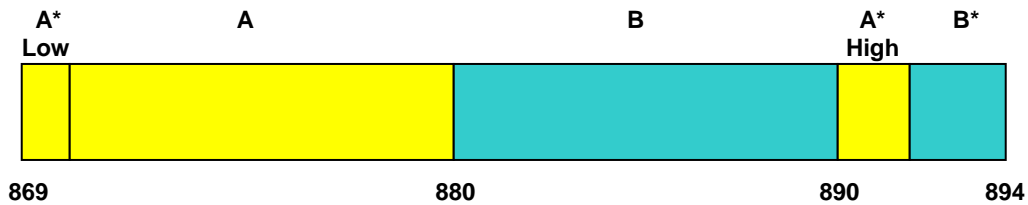
### 3.0 DESCRIPTION OF TESTS

#### 3.1 Evaluation Procedure

The measurement procedures described in the “Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards” (ANSI/TIA-603-C-2004) and “Procedures for Compliance Measurement of the Fundamental Emission Power of Licensed Wideband (> 1 MHz) Digital Transmission Systems” were used in the measurement of the measurement of the **Kyocera Portable Handset FCC ID: V65C6721A1**.

Deviation from Measurement Procedure.....None

#### 3.2 Cellular - Base Frequency Blocks



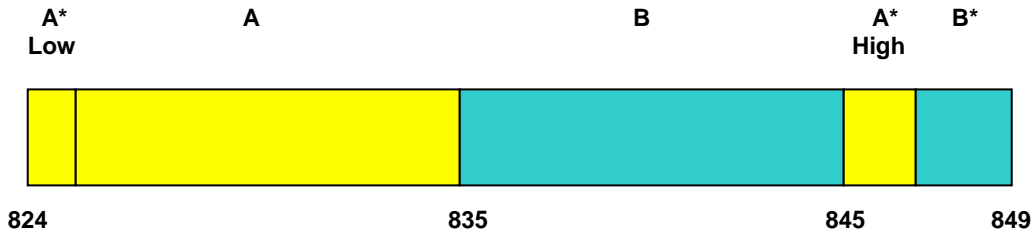
BLOCK 1: 869 – 880 MHz (A\* Low + A)

BLOCK 3: 890 – 891.5 MHz (A\* High)

BLOCK 2: 880 – 890 MHz (B)

BLOCK 4: 891.5 – 894 MHz (B\*)

#### 3.3 Cellular - Mobile Frequency Blocks



BLOCK 1: 824 – 835 MHz (A\* Low + A)

BLOCK 3: 845 – 846.5 MHz (A\* High)

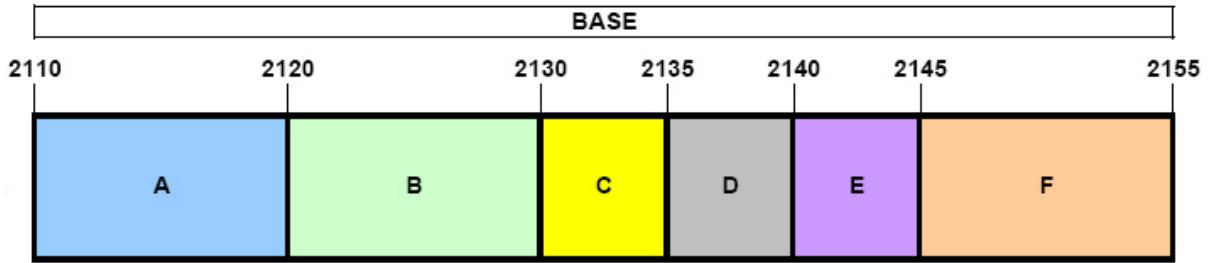
BLOCK 2: 835 – 845 MHz (B)

BLOCK 4: 846.5 – 849 MHz (B\*)

FCC ID: V65C6721A1	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	KYOCERA	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 6 of 49	

### 3.4 AWS - Base Frequency Blocks

§27.5(h)



BLOCK 1: 2110 – 2120 MHz (A)

BLOCK 4: 2135 – 2140 MHz (D)

BLOCK 2: 2120 – 2130 MHz (B)

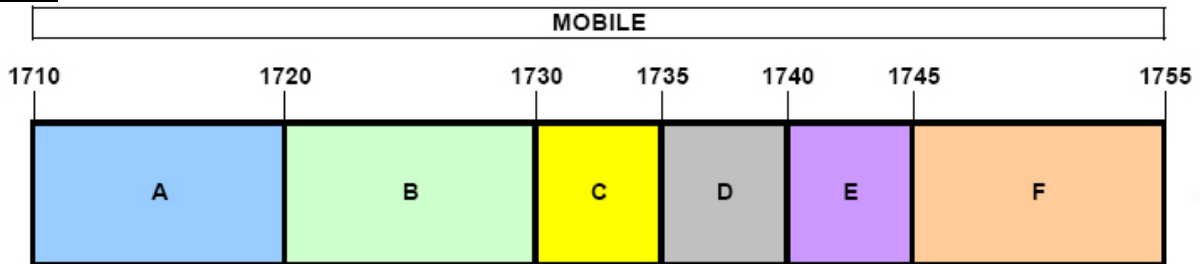
BLOCK 5: 2140 – 2145 MHz (E)

BLOCK 3: 2130 – 2135 MHz (C)

BLOCK 6: 2145 – 2155 MHz (E)

### 3.5 AWS - Mobile Frequency Blocks

§27.5(h)



BLOCK 1: 1710 – 1720 MHz (A)

BLOCK 4: 1735 – 1740 MHz (D)

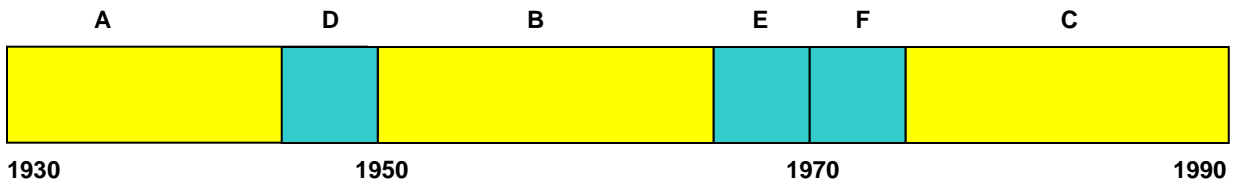
BLOCK 2: 1720 – 1730 MHz (B)

BLOCK 5: 1740 – 1745 MHz (E)

BLOCK 3: 1730 – 1735 MHz (C)

BLOCK 6: 1745 – 1755 MHz (F)

### 3.6 PCS - Base Frequency Blocks



BLOCK 1: 1930 – 1945 MHz (A)

BLOCK 4: 1965 – 1970 MHz (E)

BLOCK 2: 1945 – 1950 MHz (D)

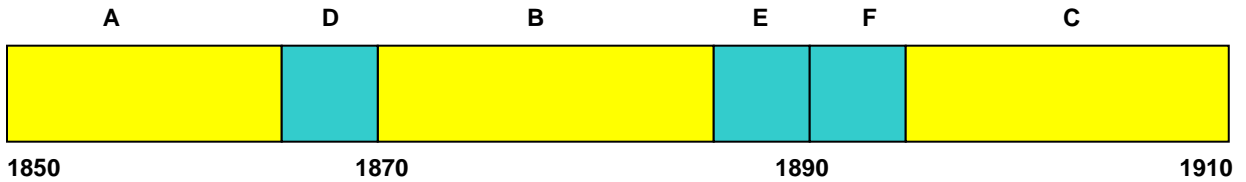
BLOCK 5: 1970 – 1975 MHz (F)

BLOCK 3: 1950 – 1965 MHz (B)

BLOCK 6: 1975 – 1990 MHz (C)

FCC ID: V65C6721A1	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	KYOCERA	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 7 of 49	

### 3.7 PCS - Mobile Frequency Blocks



- BLOCK 1: 1850 – 1865 MHz (A)
- BLOCK 2: 1865 – 1870 MHz (D)
- BLOCK 3: 1870 – 1885 MHz (B)
- BLOCK 4: 1885 – 1890 MHz (E)
- BLOCK 5: 1890 – 1895 MHz (F)
- BLOCK 6: 1895 – 1910 MHz (C)

### 3.8 Occupied Bandwidth Emission Limits



§2.1049, 22.917(a)(b), 24.238(a)(b), §27.53(h)

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. The spectrum analyzers’ “occupied bandwidth” measurement function was used to record the occupied bandwidth in accordance with KDB 971168.

### 3.9 Spurious and Harmonic Emissions at Antenna Terminal

§2.1051, 22.917(a), 24.238(a), §27.53(h)

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. 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 100 kHz or greater for Part 22 and 1 MHz or greater for Part 24 and 27. 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.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 8 of 49	



### 3.10 Radiated Power and Radiated Spurious Emissions

§2.1053, 22.917(a), 22., 24.232(c), 24.238(a), §27.53(h)

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. An ETS Lindgren Model 2188 raised turntable is used for radiated measurement. It is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. A 78cm high PVC support structure is placed on top of the turntable. A ¾" (~1.9cm) sheet of high density polyethylene is used as the table top and is placed on top of the PVC supports to bring the total height of the table to 80cm.



The equipment under test was transmitting while connected to its integral antenna and is placed on a wooden turntable 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer. Radiated power levels are also investigated with the receive antenna horizontally and vertically polarized. The maximized power level is recorded using the spectrum analyzer "Channel Power" function with the integration band set to the emissions' occupied bandwidth, a RMS detector, RBW = 100kHz, VBW = 300kHz, and a 1 second sweep time over a minimum of 10 sweeps, per the guidelines of KDB 971168.

Per the guidance of ANSI/TIA-603-C-2004, a half-wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

$$P_d \text{ [dBm]} = P_g \text{ [dBm]} - \text{cable loss [dB]} + \text{antenna gain [dBd/dBi]}$$

Where,  $P_d$  is the dipole equivalent power,  $P_g$  is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to  $P_g \text{ [dBm]} - \text{cable loss [dB]}$ .

The calculated  $P_d$  levels are then compared to the absolute spurious emission limit of -13dBm which is equivalent to the required minimum attenuation of  $43 + 10\log_{10}(\text{Power}_{\text{[Watts]}})$  specified in 22.917(a) and 24.238(a).

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	 Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 9 of 49

### 3.11 Peak-Average Ratio

§24.232(d), §27.50(d)(5)

A peak to average ratio measurement is performed at the conducted port of the EUT. For CDMA 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.

### 3.12 Frequency Stability / Temperature Variation

§2.1055, 22.355, 24.235, §27.54



Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-C-2004. 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 and AC powered 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 – For Part 22, the frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5$  ppm) of the center frequency. For Part 24 and 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.*



#### 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 fifteen minutes 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 sufficient stabilization period at each temperature shall be used prior to each frequency requirement.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 10 of 49	

## 4.0 TEST EQUIPMENT CALIBRATION DATA

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



FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 11 of 49

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	LTx1	Licensed Transmitter Cable Set	1/25/2012	Annual	1/25/2013	N/A
-	RE1	Radiated Emissions Cable Set (UHF/EHF)	7/10/2012	Annual	7/10/2013	N/A
Agilent	E8257D	(250kHz-20GHz) Signal Generator	4/5/2012	Annual	4/5/2013	MY45470194
Agilent	N9020A	MXA Signal Analyzer	10/9/2012	Annual	10/9/2013	US46470561
Anritsu	MA2411B	Pulse Sensor	9/19/2012	Annual	9/19/2013	1027293
Anritsu	ML2495A	Power Meter	10/11/2012	Annual	10/11/2013	1039008
Espec	ESX-2CA	Environmental Chamber	4/4/2012	Annual	4/4/2013	17620
ETS Lindgren	3117	1-18 GHz DRG Horn (Medium)	7/22/2011	Biennial	7/22/2013	125518
ETS Lindgren	3164-08	Quad Ridge Horn Antenna	11/7/2012	Biennial	11/7/2014	128338
Mini-Circuits	VHF-1200+	High Pass Filter	1/15/2012	Annual	1/15/2013	30923
Mini-Circuits	VHF-3100+	High Pass Filter	1/15/2012	Annual	1/15/2013	30841
Rohde & Schwarz	CMU200	Base Station Simulator	5/22/2012	Annual	5/22/2013	109892
Rohde & Schwarz	TS-PR18	1-18 GHz Pre-Amplifier	6/26/2012	Annual	6/26/2013	100071
Rohde & Schwarz	ESU26	EMI Test Receiver	1/15/2012	Annual	1/15/2013	100342
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	3/5/2012	Annual	3/5/2013	102060
Schwarzbeck	UHA 9105	Dipole Antenna (400 - 1GHz) Rx	11/14/2011	Biennial	11/14/2013	9105-2404
Schwarzbeck	UHA 9105	Dipole Antenna (400 - 1GHz) Tx	11/14/2011	Biennial	11/14/2013	9105-2403
Seekonk	NC-100	Torque Wrench (8" lb)	3/5/2012	Triennial	3/5/2015	N/A
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	1/26/2012	Biennial	1/26/2014	A051107

**Table 4-1. Test Equipment (12/7/12 - 12/17/12)**

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	LTx1	Licensed Transmitter Cable Set	1/17/2013	Annual	1/17/2014	N/A
-	RE1	Radiated Emissions Cable Set (UHF/EHF)	7/10/2012	Annual	7/10/2013	N/A
Agilent	E8257D	(250kHz-20GHz) Signal Generator	4/5/2012	Annual	4/5/2013	MY45470194
Anritsu	MA2411B	Pulse Sensor	9/19/2012	Annual	9/19/2013	1027293
Anritsu	ML2495A	Power Meter	10/11/2012	Annual	10/11/2013	1039008
Espec	ESX-2CA	Environmental Chamber	4/4/2012	Annual	4/4/2013	17620
ETS Lindgren	3117	1-18 GHz DRG Horn (Medium)	7/22/2011	Biennial	7/22/2013	125518
ETS Lindgren	3164-08	Quad Ridge Horn Antenna	11/7/2012	Biennial	11/7/2014	128338
Mini-Circuits	VHF-1200+	High Pass Filter	1/17/2013	Annual	1/17/2014	30923
Mini-Circuits	VHF-3100+	High Pass Filter	1/17/2013	Annual	1/17/2014	30841
Rohde & Schwarz	CMU200	Base Station Simulator	5/22/2012	Annual	5/22/2013	109892
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	10/7/2011	Biennial	10/7/2013	103962
Rohde & Schwarz	TS-PR18	1-18 GHz Pre-Amplifier	6/26/2012	Annual	6/26/2013	100071
Rohde & Schwarz	ESU26	EMI Test Receiver	3/15/2012	Annual	3/15/2013	100342
Schwarzbeck	UHA 9105	Dipole Antenna (400 - 1GHz) Tx	10/3/2011	Biennial	10/3/2013	91052522TX
Seekonk	NC-100	Torque Wrench (8" lb)	3/5/2012	Triennial	3/5/2015	N/A
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	1/26/2012	Biennial	1/26/2014	A051107

**Table 4-2. Test Equipment (02/21/2013)**

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 12 of 49	

## 5.0 SAMPLE CALCULATIONS

### Emission Designator

**Emission Designator = 1M25F9W**

CDMA BW = 1.25 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: Channel 25 PCS Mode 2<sup>nd</sup> Harmonic (3702.50 MHz)**

The receive spectrum 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 spectrum analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is  $2.0$  dB at  $3702.50$  MHz. So  $6.1$  dB is added to the signal generator reading of  $-30.9$  dBm yielding  $-24.80$  dBm. The fundamental EIRP was  $25.50$  dBm so this harmonic was  $25.50$  dBm  $- (-24.80) = 50.3$  dBc.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EVDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 13 of 49

## 6.0 TEST RESULTS

### 6.1 Summary



Company Name: KYOCERA Communications, Inc.  
 FCC ID: V65C6721A1  
 FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)  
 Mode(s): CDMA / EvDO

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
<b>TRANSMITTER MODE (TX)</b>						
2.1049, 22.917(a), 24.238(a), 27.53(g)(1)	RSS-Gen (4.6.1) RSS-133 (2.3)	Occupied Bandwidth	N/A	CONDUCTED	PASS	Section 7.0
2.1051, 22.917(a), 24.238(a), 27.53(g)	RSS-132 (4.5.1) RSS-133 (6.5.1) RSS-139 (6.5)	Band Edge / Conducted Spurious Emissions	< 43 + 10log <sub>10</sub> (P[Watts]) at Band Edge and for all out-of-band emissions		PASS	Section 7.0
24.232(d), 27.50(d)(5)	RSS-133 (6.4) RSS-139 (6.4)	Peak-Average Ratio	< 13 dB		PASS	Section 7.0
2.1046	RSS-132 (4.4) RSS-133 (4.1) RSS-139 (4.1)	Transmitter Conducted Output Power	N/A		PASS	RF Exposure Report
22.913(a)(2)	RSS-132 (4.4) [SRSP-503(5.1.3)]	Effective Radiated Power	< 7 Watts max. ERP	RADIATED	PASS	Section 6.2
24.232(c), 27.50(d)(4)	RSS-133 (6.4) [SRSP-510 (5.1.2)] RSS-139 (6.4)	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP (PCS) < 1 Watt max. EIRP (AWS)		PASS	Section 6.3
2.1053, 22.917(a), 24.238(a), 27.53(g)	RSS-132 (4.5.1) RSS-133 (6.5.1) RSS-139 (6.5)	Undesirable Emissions	< 43 + 10log <sub>10</sub> (P[Watts]) for all out-of-band emissions		PASS	Sections 6.4, 6.5, 6.6
2.1055, 22.355, 24.235, 27.54	RSS-132 (4.3) RSS-133 (6.3) RSS-139 (6.3)	Frequency Stability	< 2.5 ppm (Part 22) Emission must remain in band (Part 24)		PASS	Sections 6.7, 6.8, 6.9

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

**Notes:**

- 1) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in Section 7.0 were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, directional couplers, and attenuators used as part of the system to maintain a link between the call box and the EUT at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables, attenuators, and couplers.

FCC ID: V65C6721A1	 <b>FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)</b>		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 14 of 49

## 6.2 Effective Radiated Power Output Data

§22.913(a)(2); RSS-132 (4.4) [SRSP-503(5.1.3)]

Frequency [MHz]	Mode	Battery Type	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
824.70	CDMA850	Standard	16.89	4.60	V	21.49	0.141	38.45	-16.96
836.52	CDMA850	Standard	17.39	4.82	V	22.21	0.166	38.45	-16.24
848.31	CDMA850	Standard	16.25	5.04	V	21.29	0.135	38.45	-17.16

**Table 6-2. Effective Radiated Power Output Data (Cellular Band)**

## 6.3 Equivalent Isotropic Radiated Power Output Data

§24.232(c), §27.50(d)(2); RSS-133 (6.4) [SRSP-510 (5.1.2)], RSS-139 (6.4)

Frequency [MHz]	Mode	Battery Type	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1711.25	CDMA1700	Standard	13.68	9.89	H	23.57	0.227	30.00	-6.43
1732.50	CDMA1700	Standard	13.32	9.85	H	23.17	0.207	30.00	-6.83
1753.75	CDMA1700	Standard	13.82	9.81	H	23.63	0.230	30.00	-6.37



**Table 6-3. Equivalent Isotropic Radiated Power Output Data (AWS Band)**

Frequency [MHz]	Mode	Battery Type	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1851.25	CDMA1900	Standard	12.39	9.60	H	21.99	0.158	33.01	-11.02
1880.00	CDMA1900	Standard	13.13	9.53	H	22.66	0.185	33.01	-10.35
1908.75	CDMA1900	Standard	12.11	9.47	H	21.58	0.144	33.01	-11.43

**Table 6-4. Equivalent Isotropic Radiated Power Output Data (PCS Band)**

### NOTES:

1. 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.
2. This unit was tested with its standard battery.
3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical configuration for the cellular band and horizontal configuration for the PCS and AWS bands. The data reported in the table above was measured in this test setup.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 15 of 49	

## 6.4 Cellular CDMA Radiated Measurements

### §2.1053, 22.917(a); RSS-132 (4.5.1)

#### Field Strength of SPURIOUS Radiation



OPERATING FREQUENCY: 824.70 MHz  
 CHANNEL: 1013  
 MEASURED OUTPUT POWER: 21.49 dBm = 0.141 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W) =$  34.49 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1649.40	-48.33	2.59	-45.75	V	67.2
2474.10	-54.52	2.89	-51.63	V	73.1
3298.80	-92.79	5.45	-87.33	V	108.8
4123.50	-92.43	7.05	-85.38	V	106.9
4948.20	-92.56	7.87	-84.69	V	106.2

**Table 6-5. Radiated Spurious Data (Cellular CDMA Mode – Ch. 1013)**

#### **NOTES:**

1. 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.
2. This unit was tested with its standard battery.
3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical configuration for the cellular band and horizontal configuration for the PCS and AWS bands. The data reported in the table above was measured in this test setup.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 16 of 49	



**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: 22.21 dBm = 0.166 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W) =$  35.21 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1673.04	-48.96	2.34	-46.62	V	68.8
2509.56	-55.03	2.84	-52.19	V	74.4
3346.08	-93.08	5.64	-87.43	V	109.6
4182.60	-92.63	7.14	-85.48	V	107.7
5019.12	-92.54	7.97	-84.57	V	106.8

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

**NOTES:**

1. 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.
2. This unit was tested with its standard battery.
3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical configuration for the cellular band and horizontal configuration for the PCS and AWS bands. The data reported in the table above was measured in this test setup.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 17 of 49	

**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: 21.29 dBm = 0.135 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10} (W) =$  34.29 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1696.62	-41.15	2.09	-39.06	V	60.3
2544.93	-54.20	3.16	-51.04	V	72.3
3393.24	-93.36	5.83	-87.53	V	108.8
4241.55	-92.82	7.24	-85.58	V	106.9
5089.86	-92.45	8.02	-84.43	V	105.7

**Table 6-7. Radiated Spurious Data (Cellular CDMA Mode – Ch. 777)**

**NOTES:**

1. 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.
2. This unit was tested with its standard battery.
3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical configuration for the cellular band and horizontal configuration for the PCS and AWS bands. The data reported in the table above was measured in this test setup.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 18 of 49	

## 6.5 AWS CDMA Radiated Measurements §2.1053, 27.53(g)

### Field Strength of SPURIOUS Radiation



OPERATING FREQUENCY: 1711.25 MHz  
 CHANNEL: 25  
 MEASURED OUTPUT POWER: 23.57 dBm = 0.227 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W) =$  36.57 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3422.50	-56.74	8.10	-48.64	H	72.2
5133.75	-53.44	10.21	-43.23	H	66.8
6845.00	-41.63	11.32	-30.31	H	53.9
8556.25	-49.89	13.02	-36.87	H	60.4
10267.50	-88.89	13.02	-75.87	H	99.4

**Table 6-8. Radiated Spurious Data (AWS CDMA Mode – Ch. 25)**

#### NOTES:

1. 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.
2. This unit was tested with its standard battery.
3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical configuration for the cellular band and horizontal configuration for the PCS and AWS bands. The data reported in the table above was measured in this test setup.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 19 of 49	

**AWS CDMA Radiated Measurements (Cont'd)**  
**§2.1053, 27.53(g)**

**Field Strength of SPURIOUS Radiation**



OPERATING FREQUENCY: 1732.50 MHz  
 CHANNEL: 450  
 MEASURED OUTPUT POWER: 23.17 dBm = 0.207 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W) =$  36.17 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3465.00	-56.22	8.26	-47.95	H	71.1
5197.50	-53.25	10.26	-42.99	H	66.2
6930.00	-44.17	11.42	-32.75	H	55.9
8662.50	-52.33	13.07	-39.27	H	62.4
10395.00	-88.98	13.12	-75.86	H	99.0

**Table 6-9. Radiated Spurious Data (AWS CDMA Mode – Ch. 450)**

**NOTES:**

1. 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.
2. This unit was tested with its standard battery.
3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical configuration for the cellular band and horizontal configuration for the PCS and AWS bands. The data reported in the table above was measured in this test setup.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 20 of 49	

**AWS CDMA Radiated Measurements (Cont'd)**  
**§2.1053, 27.53(g)**

**Field Strength of SPURIOUS Radiation**



OPERATING FREQUENCY: 1753.75 MHz  
 CHANNEL: 875  
 MEASURED OUTPUT POWER: 23.63 dBm = 0.230 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W) =$  36.63 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3507.50	-57.14	8.40	-48.74	H	72.4
5261.25	-53.01	10.31	-42.70	H	66.3
7015.00	-43.44	11.51	-31.93	H	55.6
8768.75	-51.34	13.11	-38.23	H	61.9
10522.50	-88.98	13.20	-75.78	H	99.4

**Table 6-10. Radiated Spurious Data (AWS CDMA Mode – Ch. 875)**

**NOTES:**

1. 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.
2. This unit was tested with its standard battery.
3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical configuration for the cellular band and horizontal configuration for the PCS and AWS bands. The data reported in the table above was measured in this test setup.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 21 of 49	

## 6.6 PCS CDMA Radiated Measurements §2.1053, 24.238(a)

### Field Strength of SPURIOUS Radiation



OPERATING FREQUENCY: 1851.25 MHz  
 CHANNEL: 25  
 MEASURED OUTPUT POWER: 21.99 dBm = 0.158 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10}(W) =$  34.99 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3702.50	-51.44	8.40	-43.04	H	65.0
5553.75	-54.36	10.62	-43.74	H	65.7
7405.00	-40.88	11.82	-29.06	H	51.0
9256.25	-49.89	13.30	-36.59	H	58.6
11107.50	-51.01	13.50	-37.51	H	59.5

**Table 6-11. Radiated Spurious Data (PCS CDMA Mode – Ch. 25)**

#### NOTES:

1. 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.
2. This unit was tested with its standard battery.
3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical configuration for the cellular band and horizontal configuration for the PCS and AWS bands. The data reported in the table above was measured in this test setup.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 22 of 49	

**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: 22.66 dBm = 0.185 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10} (W) =$  35.66 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-54.39	8.42	-45.97	H	68.6
5640.00	-47.32	10.66	-36.66	H	59.3
7520.00	-41.35	11.92	-29.42	H	52.1
9400.00	-51.84	13.24	-38.60	H	61.3
11280.00	-53.25	13.49	-39.76	H	62.4

**Table 6-12. Radiated Spurious Data (PCS CDMA Mode – Ch. 600)**

**NOTES:**

1. 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.
2. This unit was tested with its standard battery.
3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical configuration for the cellular band and horizontal configuration for the PCS and AWS bands. The data reported in the table above was measured in this test setup.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 23 of 49	

**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: 21.58 dBm = 0.144 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10} (W) =$  34.58 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3817.50	-49.95	8.57	-41.38	H	63.0
5726.25	-47.83	10.69	-37.14	H	58.7
7635.00	-43.02	12.06	-30.96	H	52.5
9543.75	-50.52	13.20	-37.32	H	58.9
11452.50	-54.11	13.42	-40.69	H	62.3

**Table 6-13. Radiated Spurious Data (PCS CDMA Mode – Ch. 1175)**

**NOTES:**

1. 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.
2. This unit was tested with its standard battery.
3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical configuration for the cellular band and horizontal configuration for the PCS and AWS bands. The data reported in the table above was measured in this test setup.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 24 of 49	





## 6.7 Cellular CDMA Frequency Stability Measurements

§2.1055, 22.355

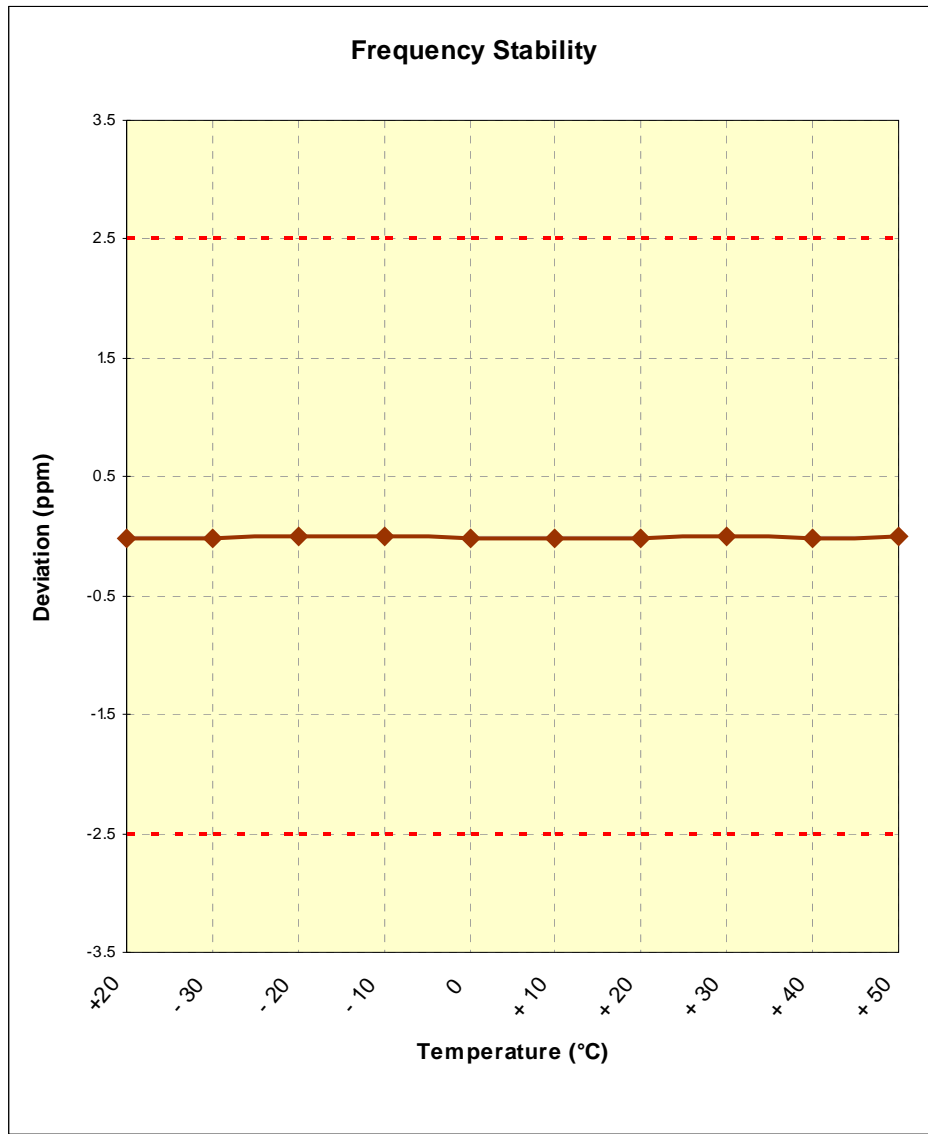
OPERATING FREQUENCY: 836,520,000 Hz  
 CHANNEL: 384  
 REFERENCE VOLTAGE: 3.8 VDC  
 DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	836,519,986	-14	-0.00000169
100 %		- 30	836,519,981	-19	-0.00000224
100 %		- 20	836,519,994	-6	-0.00000071
100 %		- 10	836,519,995	-5	-0.00000057
100 %		0	836,519,990	-10	-0.00000120
100 %		+ 10	836,519,993	-7	-0.00000088
100 %		+ 20	836,519,987	-13	-0.00000149
100 %		+ 30	836,519,996	-4	-0.00000046
100 %		+ 40	836,519,983	-17	-0.00000203
100 %		+ 50	836,519,994	-6	-0.00000070
115 %	4.37	+ 20	836,519,997	-3	-0.00000035
BATT. ENDPOINT	3.40	+ 20	836,519,992	-8	-0.00000101

Table 6-14. Frequency Stability Data (Cellular CDMA Mode – Ch. 384)

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 25 of 49	

**Cellular CDMA Frequency Stability Measurements (Cont'd)**  
**§2.1055, 22.355**



**Figure 6-1. Frequency Stability Graph (Cellular CDMA Mode – Ch. 384)**

FCC ID: V65C6721A1	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	KYOCERA	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 26 of 49

## 6.8 AWS CDMA Frequency Stability Measurements

§2.1055, 27.54



OPERATING FREQUENCY: 1,732,500,000 Hz  
 CHANNEL: 450  
 REFERENCE VOLTAGE: 3.8 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	1,732,499,986	-14	-0.00000081
100 %		- 30	1,732,499,996	-4	-0.00000024
100 %		- 20	1,732,499,988	-12	-0.00000071
100 %		- 10	1,732,499,991	-9	-0.00000050
100 %		0	1,732,499,984	-16	-0.00000094
100 %		+ 10	1,732,499,991	-9	-0.00000052
100 %		+ 20	1,732,499,981	-19	-0.00000110
100 %		+ 30	1,732,499,991	-9	-0.00000051
100 %		+ 40	1,732,499,994	-6	-0.00000035
100 %		+ 50	1,732,499,987	-13	-0.00000076
115 %	4.37	+ 20	1,732,499,985	-15	-0.00000087
BATT. ENDPOINT	3.40	+ 20	1,732,499,986	-14	-0.00000082

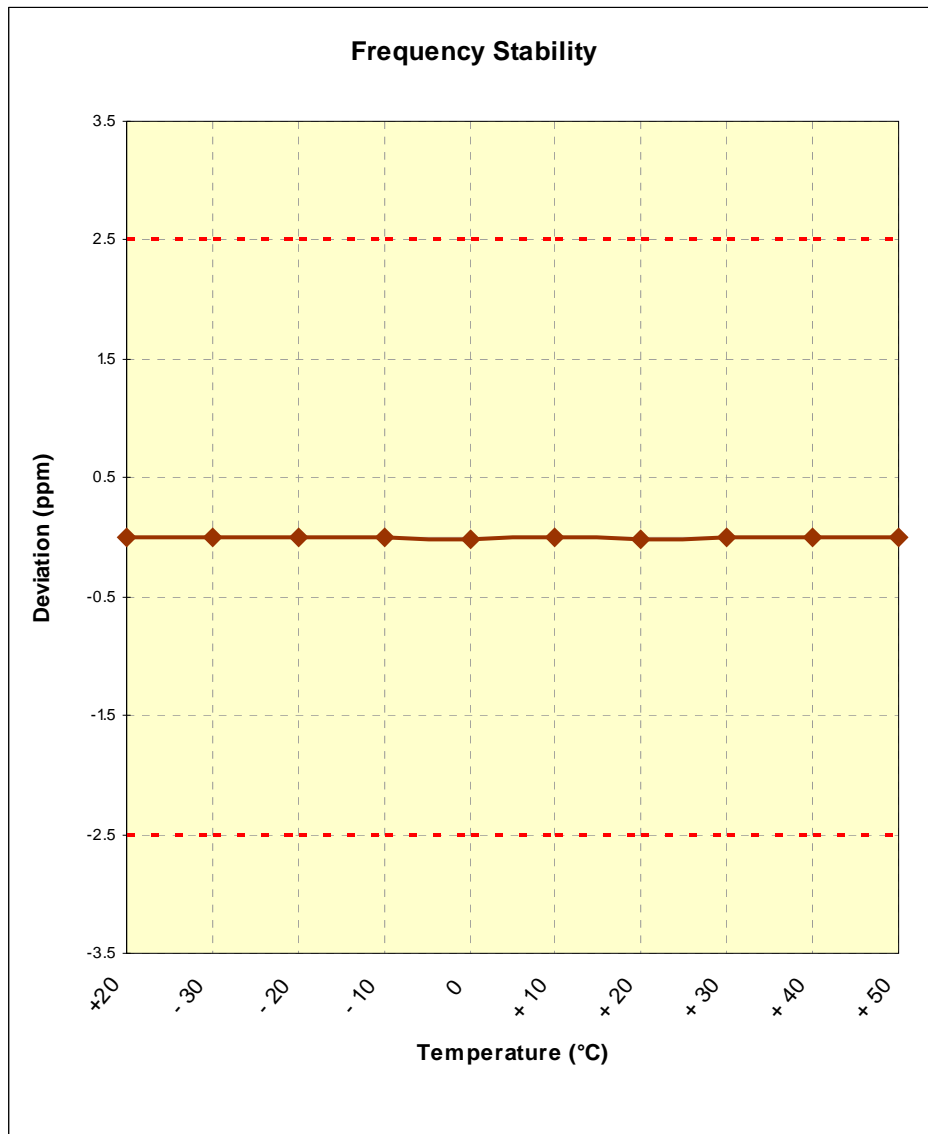
**Table 6-15. Frequency Stability Data (AWS CDMA Mode – Ch. 450)**

**Note:**

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: V65C6721A1	 PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 27 of 49	

**AWS CDMA Frequency Stability Measurements (Cont'd)**  
**§2.1055, 27.54**



**Figure 6-2. Frequency Stability Graph (AWS CDMA Mode – Ch. 450)**

FCC ID: V65C6721A1	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	KYOCERA	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 28 of 49

## 6.9 PCS CDMA Frequency Stability Measurements

§2.1055, 24.235



OPERATING FREQUENCY: 1,880,000,000 Hz  
 CHANNEL: 600  
 REFERENCE VOLTAGE: 3.8 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	1,879,999,987	-13	-0.00000071
100 %		- 30	1,880,000,000	0	-0.00000002
100 %		- 20	1,879,999,990	-10	-0.00000054
100 %		- 10	1,879,999,983	-17	-0.00000090
100 %		0	1,879,999,987	-13	-0.00000069
100 %		+ 10	1,880,000,000	0	-0.00000002
100 %		+ 20	1,879,999,987	-13	-0.00000070
100 %		+ 30	1,879,999,984	-16	-0.00000088
100 %		+ 40	1,879,999,984	-16	-0.00000087
100 %		+ 50	1,879,999,988	-12	-0.00000066
115 %	4.37	+ 20	1,879,999,993	-7	-0.00000035
BATT. ENDPOINT	3.40	+ 20	1,879,999,998	-2	-0.00000013

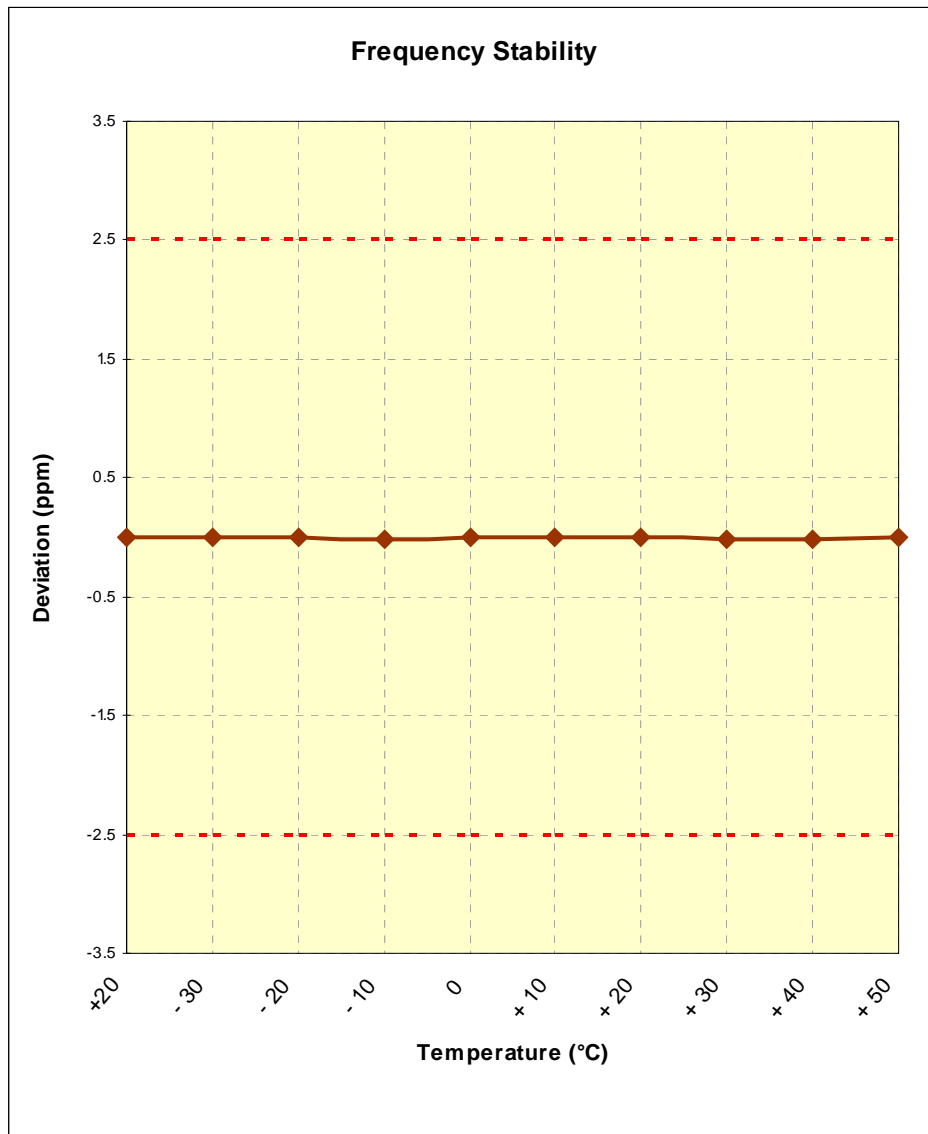
Table 6-16. Frequency Stability Data (PCS CDMA Mode – Ch. 600)

**Note:**

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset	Page 29 of 49	

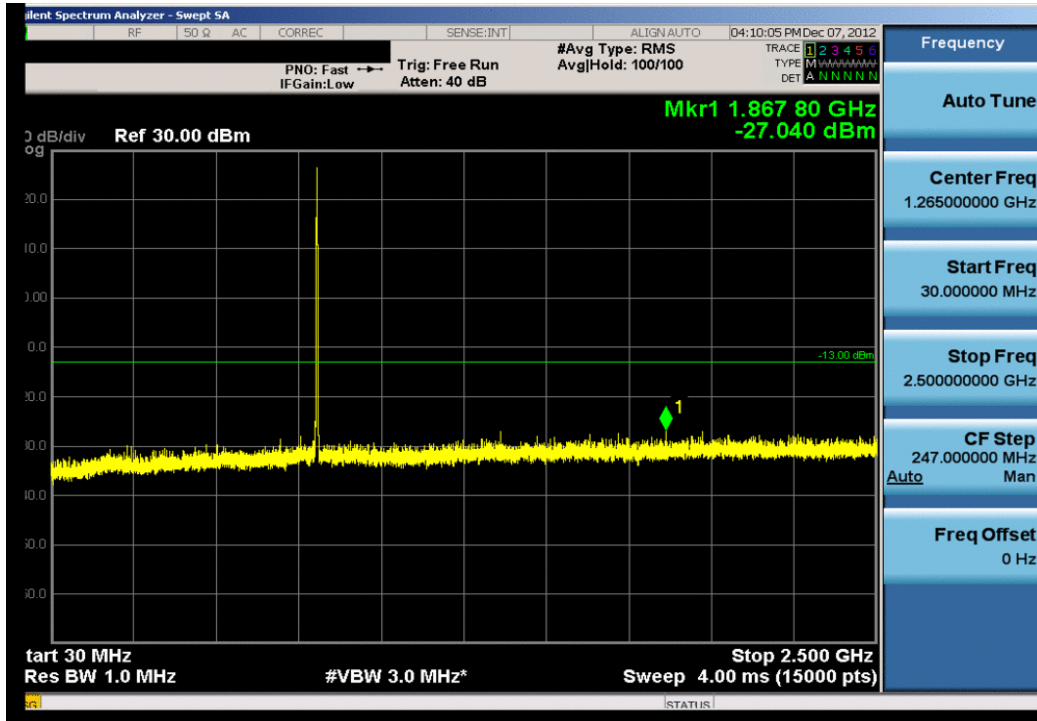
**PCS CDMA Frequency Stability Measurements (Cont'd)**  
§2.1055, 24.235



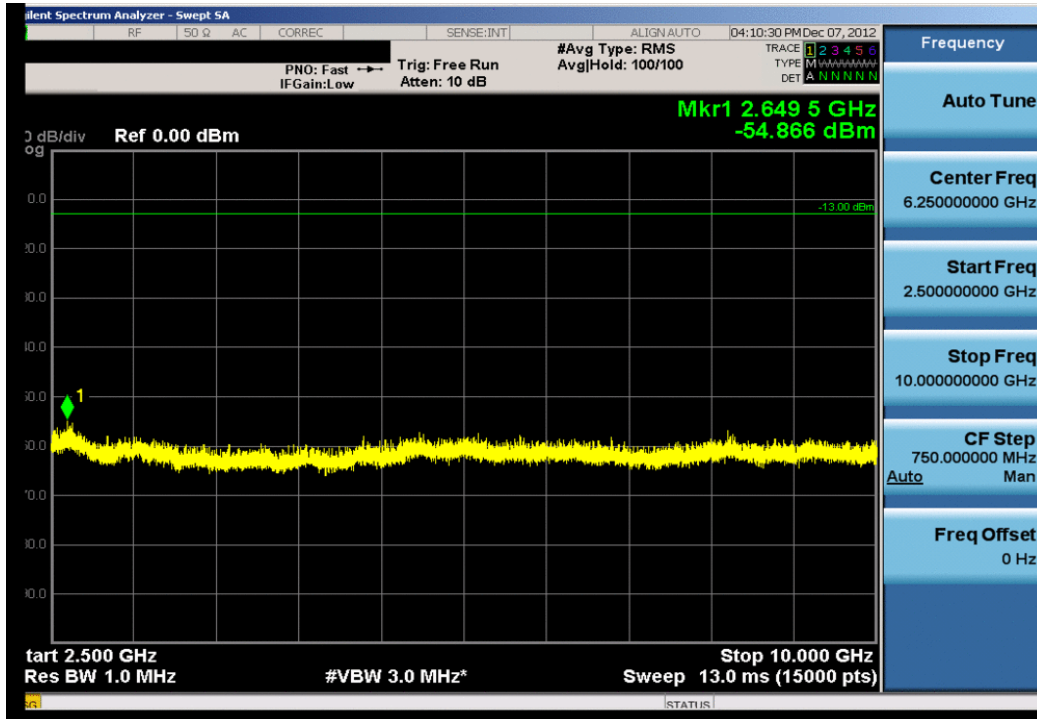
**Figure 6-3. Frequency Stability Graph (PCS CDMA Mode – Ch. 600)**

FCC ID: V65C6721A1	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	KYOCERA	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 30 of 49

## 7.0 PLOT(S) OF EMISSIONS

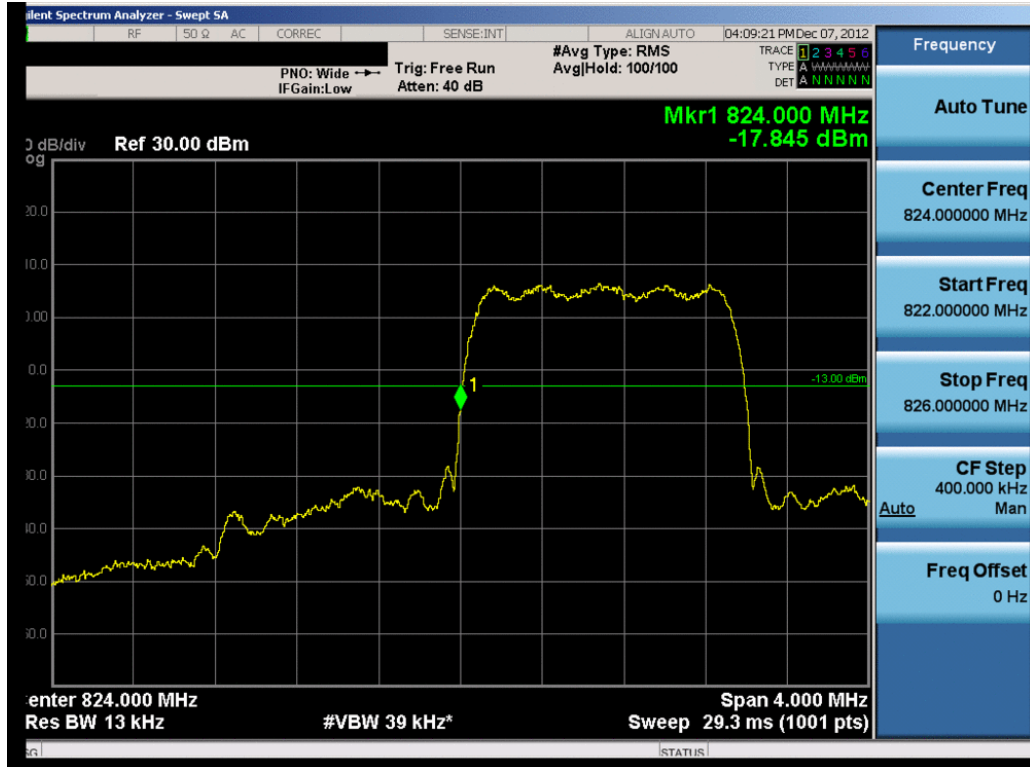


**Plot 7-1. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 1013)**



**Plot 7-2. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 1013)**

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 31 of 49



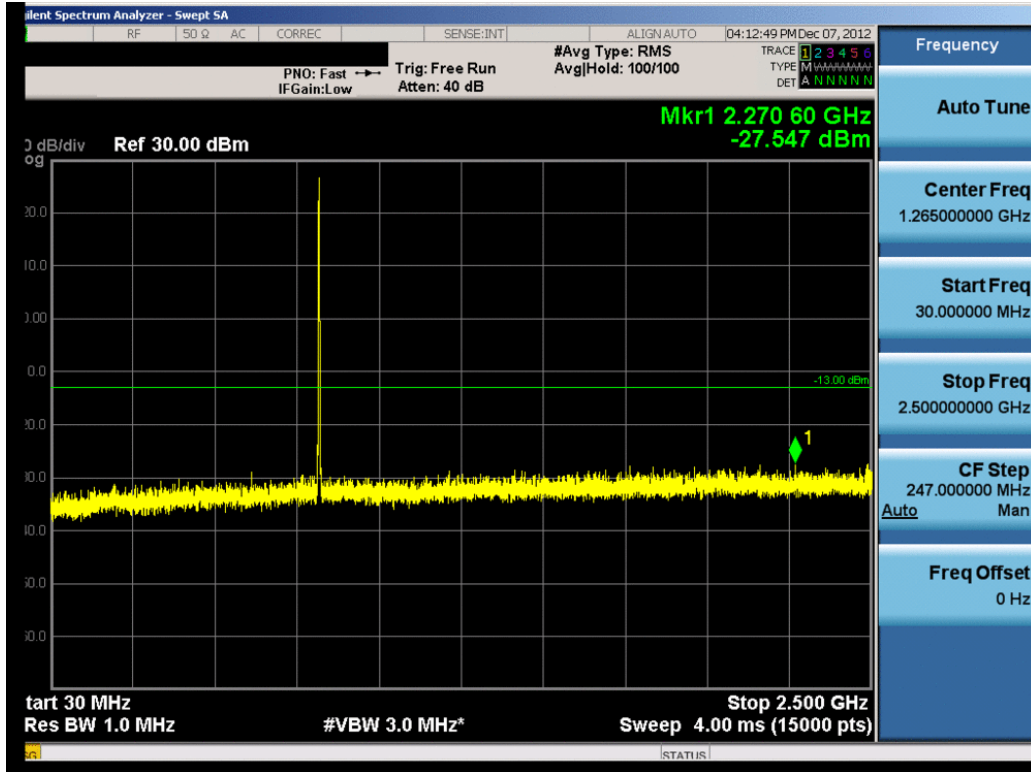
Plot 7-3. Band Edge Plot (Cellular CDMA Mode – Ch. 1013)



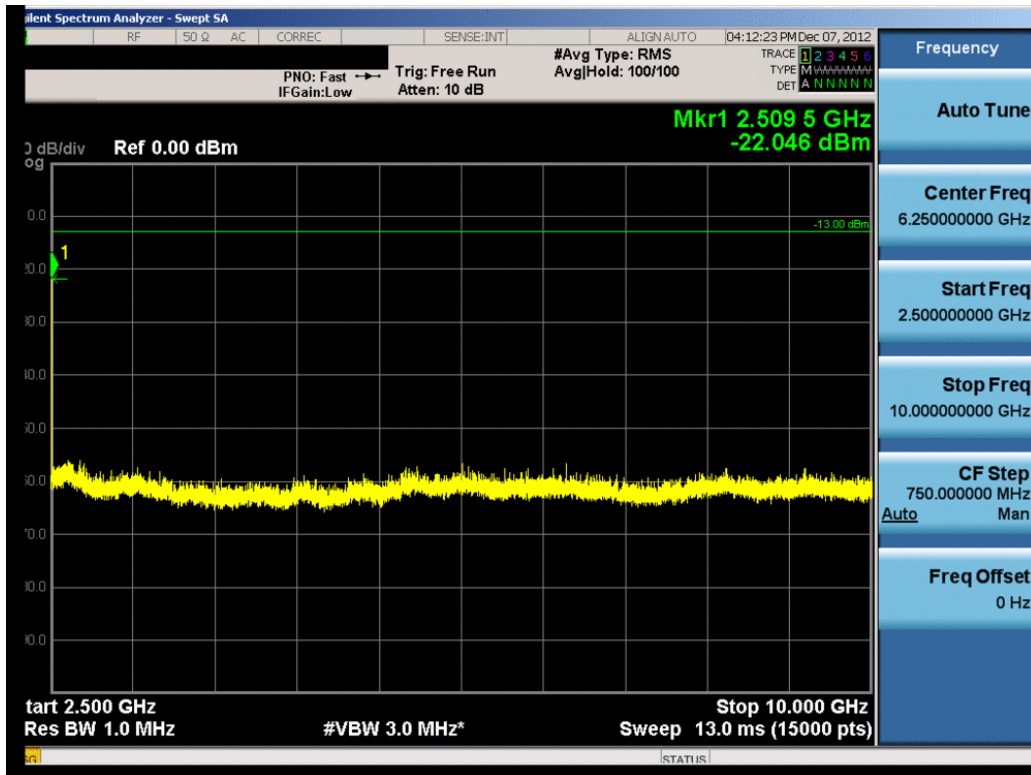
Plot 7-4. 4MHz Span Plot (Cellular CDMA Mode – Ch. 1013)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 32 of 49



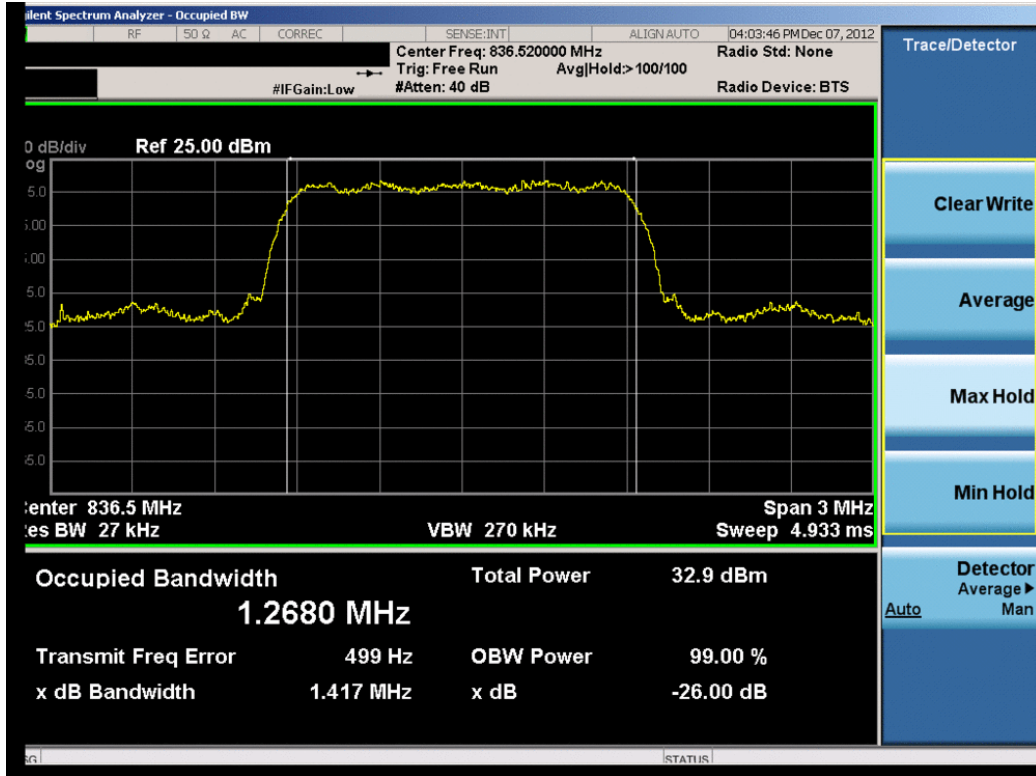


**Plot 7-5. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 384)**

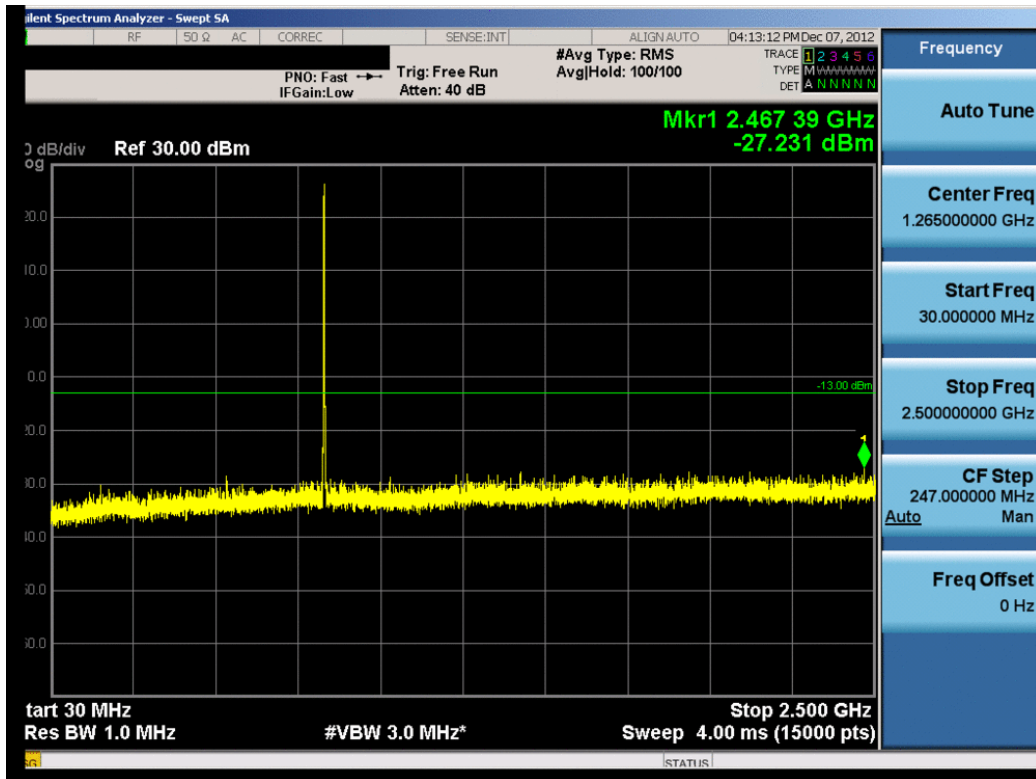


**Plot 7-6. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 384)**

FCC ID: V65C6721A1	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	KYOCERA	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 33 of 49

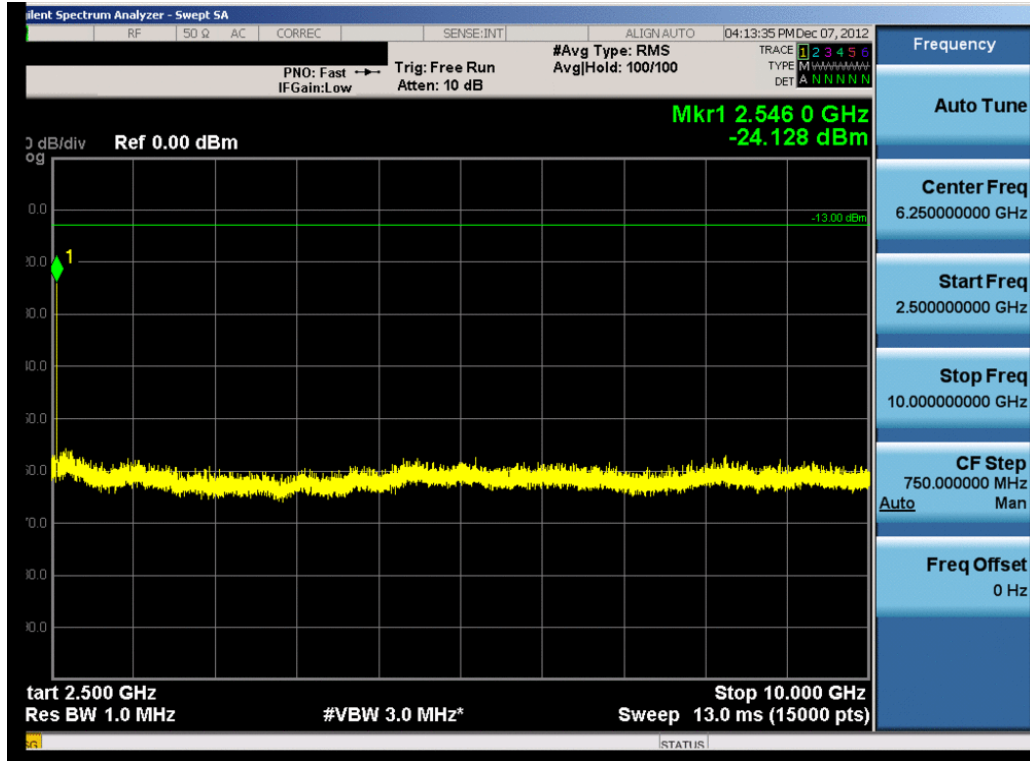


Plot 7-7. Occupied Bandwidth Plot (Cellular CDMA Mode – Ch. 384)



Plot 7-8. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 777)

FCC ID: V65C6721A1	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	KYOCERA	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 34 of 49



Plot 7-9. Conducted Spurious Plot (Cellular CDMA Mode – Ch. 777)

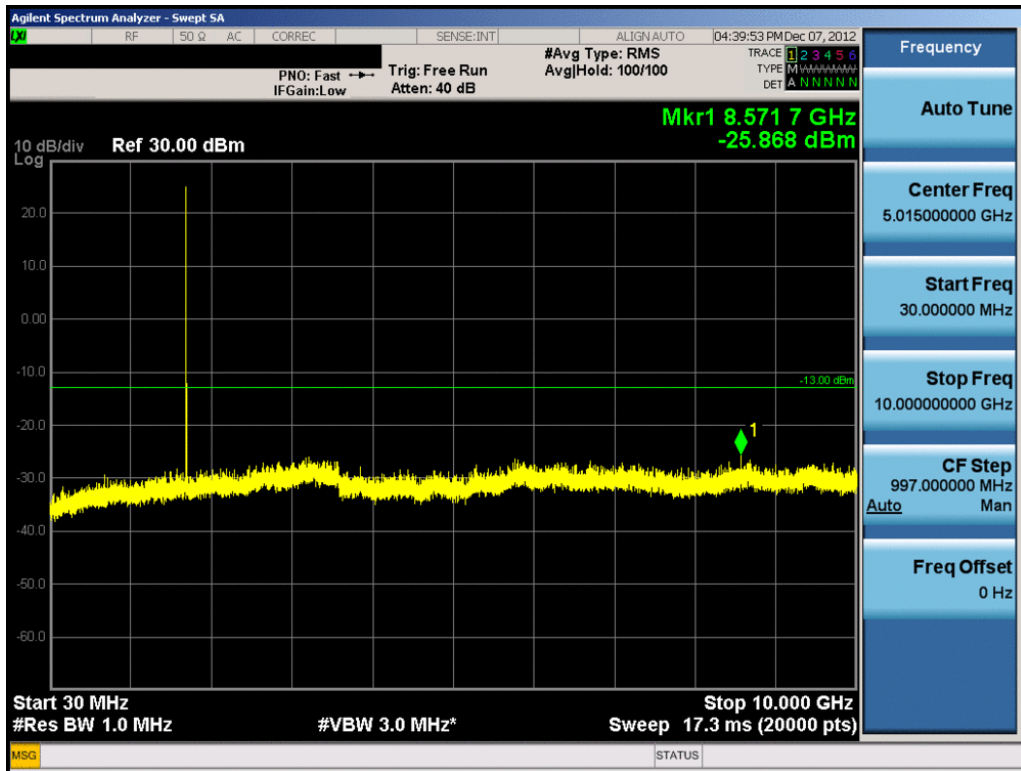


Plot 7-10. Band Edge Plot (Cellular CDMA Mode – Ch. 777)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 35 of 49

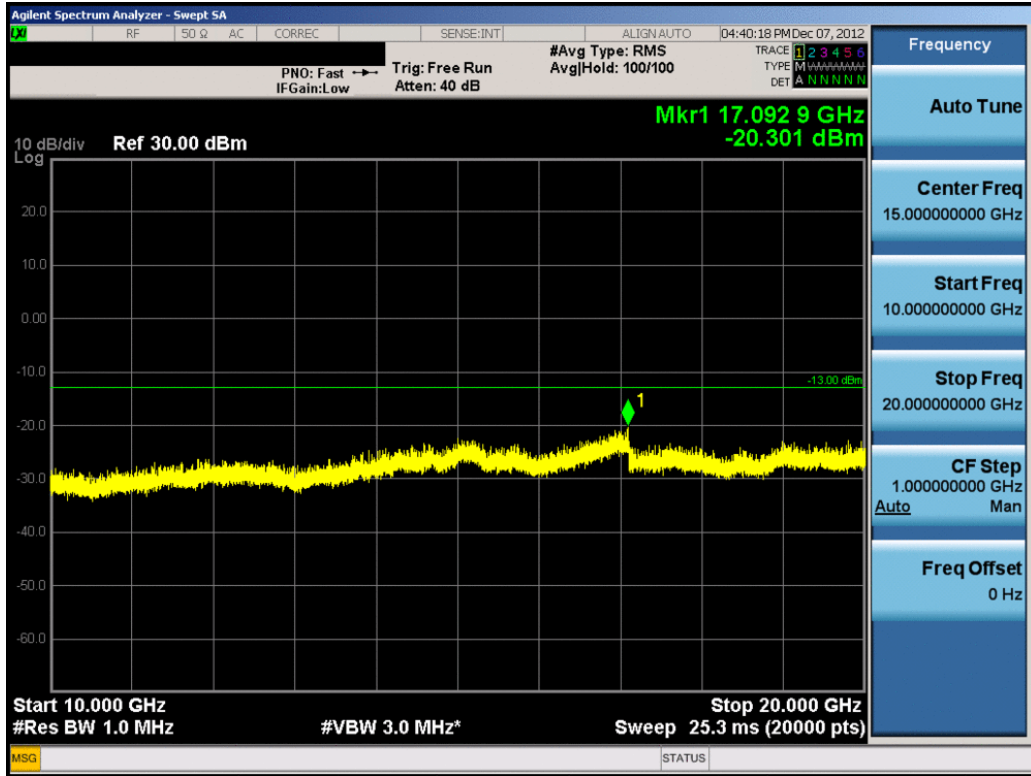


Plot 7-11. 4MHz Span Plot (Cellular CDMA Mode – Ch. 777)

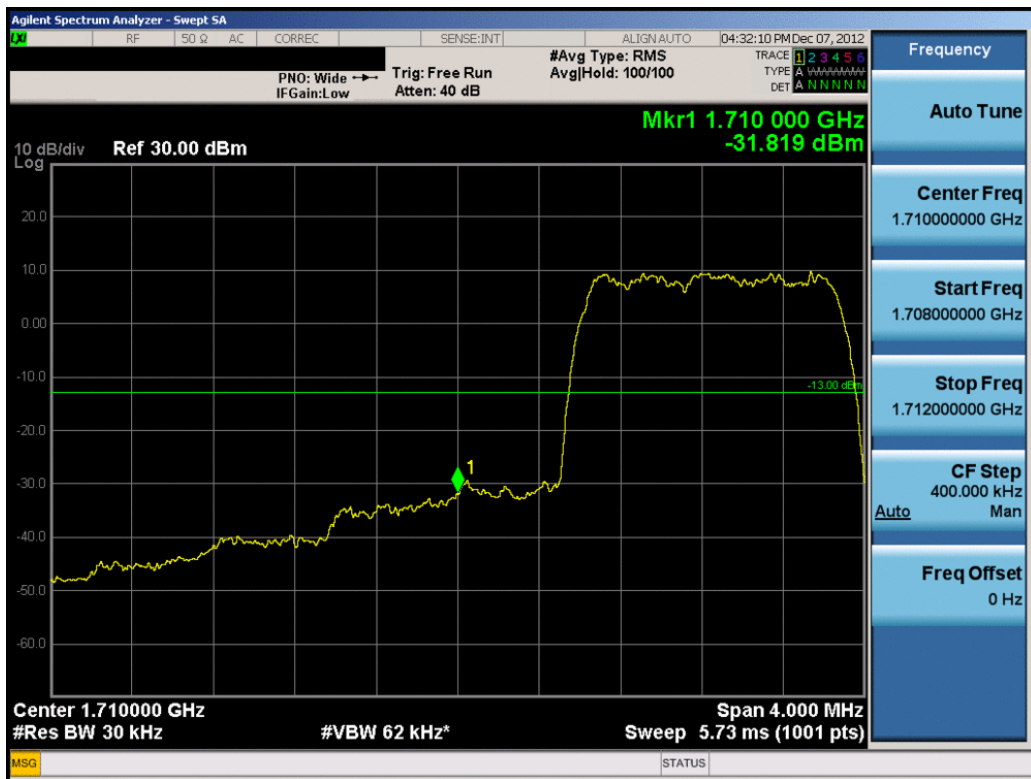


Plot 7-12. Conducted Spurious Plot (AWS CDMA Mode – Ch. 25)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 36 of 49

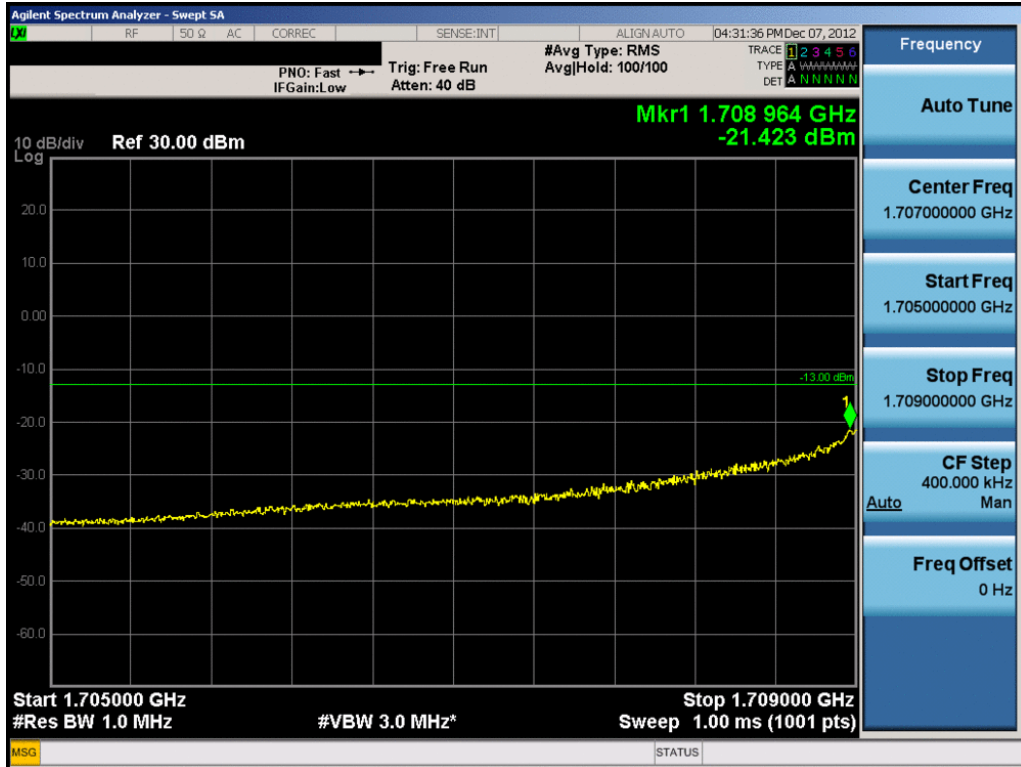


Plot 7-13. Conducted Spurious Plot (AWS CDMA Mode – Ch. 25)

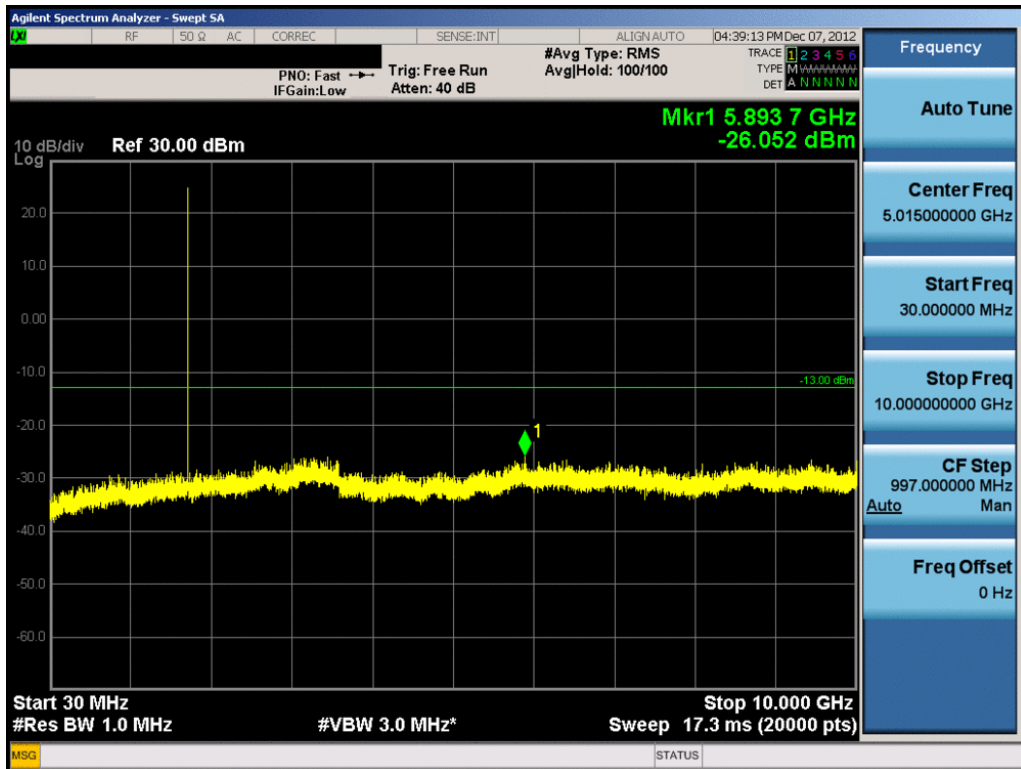


Plot 7-14. Band Edge Plot (AWS CDMA Mode – Ch. 25)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 37 of 49

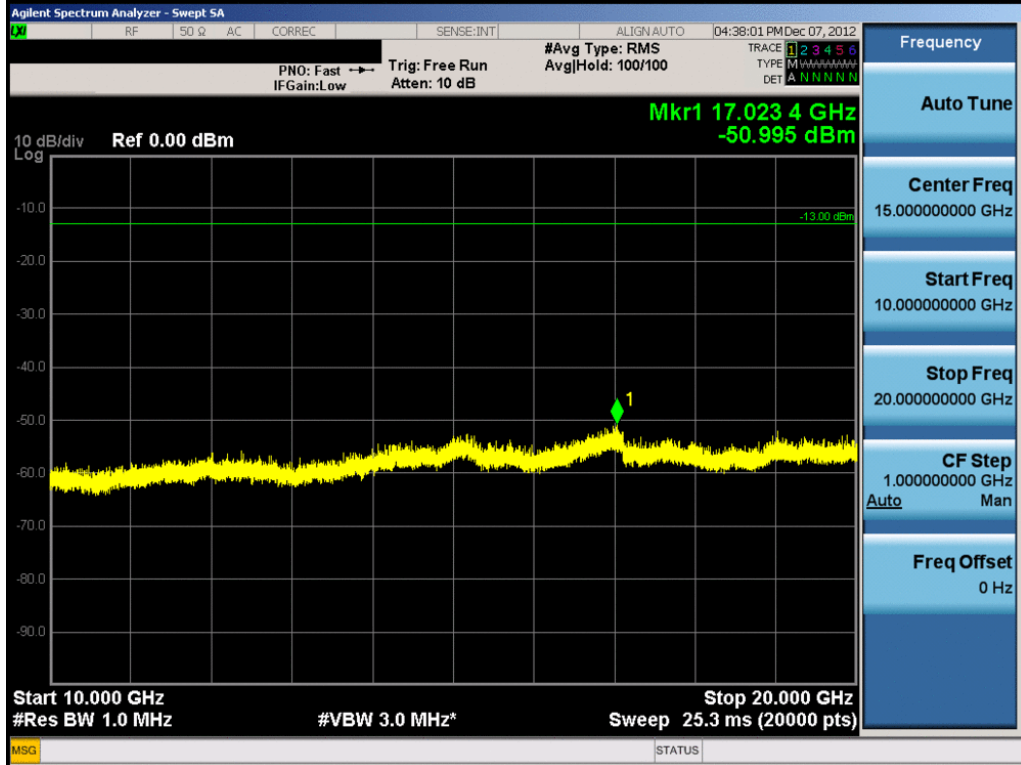


Plot 7-15. 4MHz Span Plot (AWS CDMA Mode – Ch. 25)

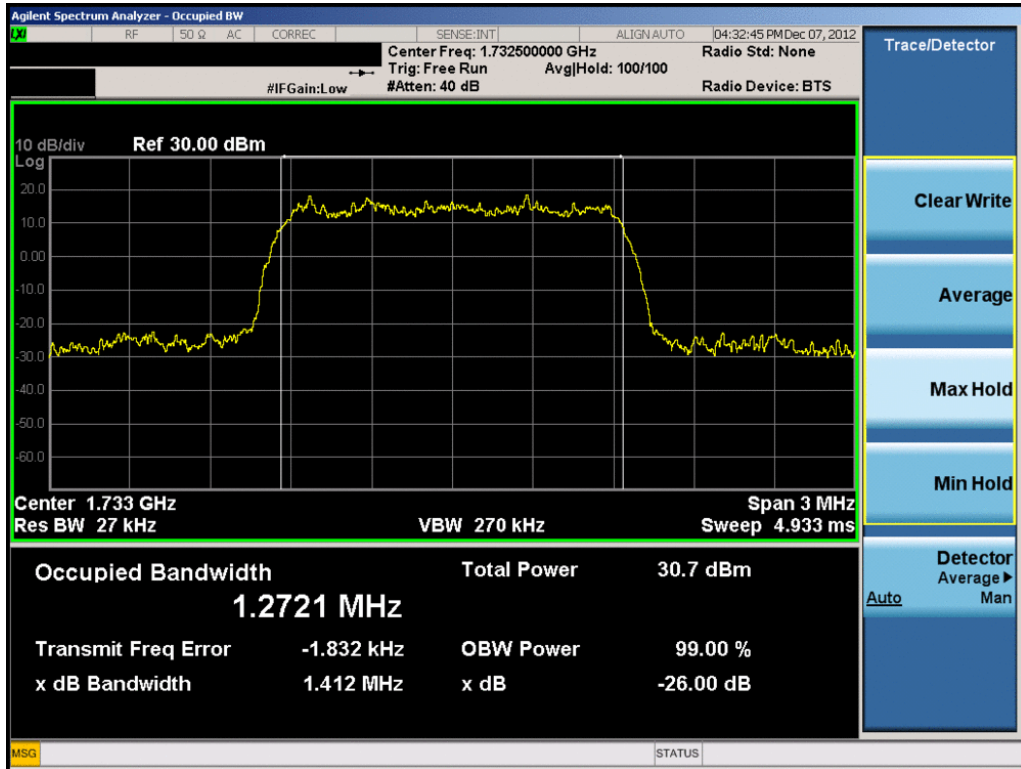


Plot 7-16. Conducted Spurious Plot (AWS CDMA Mode – Ch. 450)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 38 of 49

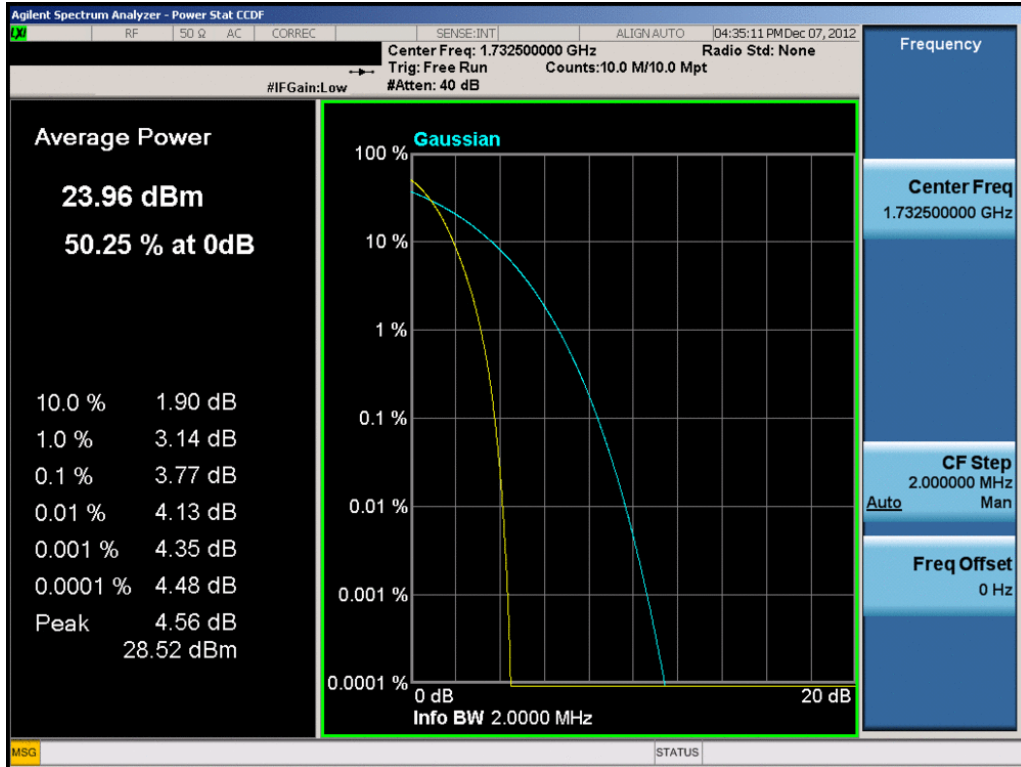


Plot 7-17. Conducted Spurious Plot (AWS CDMA Mode – Ch. 450)

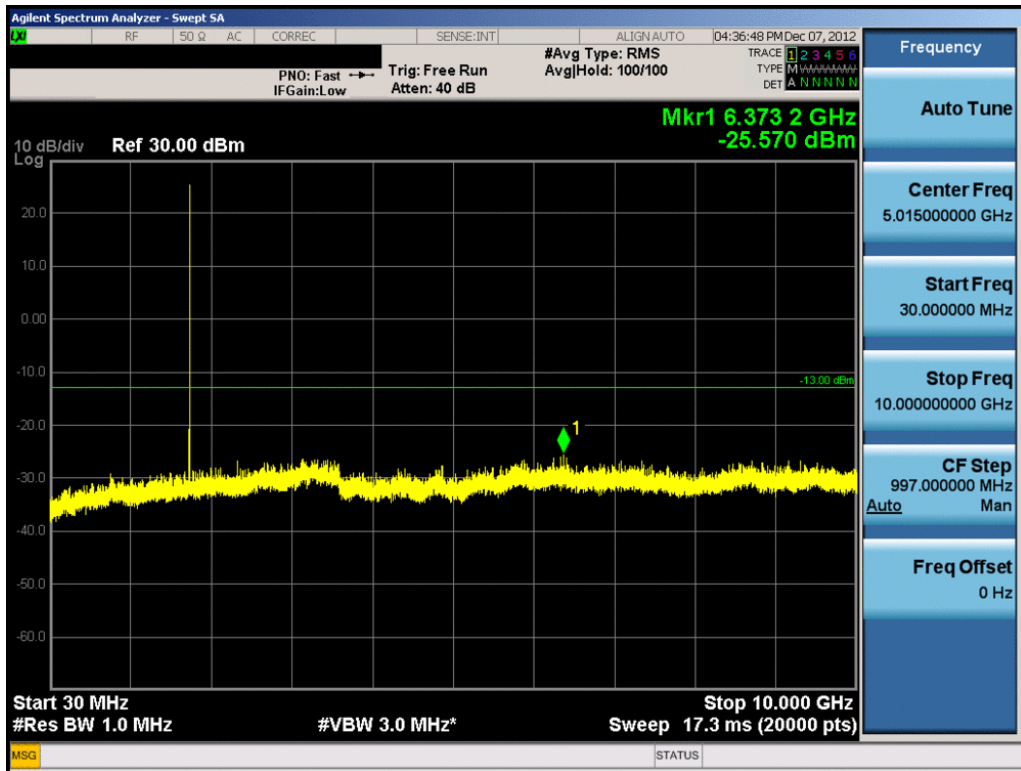


Plot 7-18. Occupied Bandwidth Plot (AWS CDMA Mode – Ch. 450)

FCC ID: V65C6721A1	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	KYOCERA	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 39 of 49



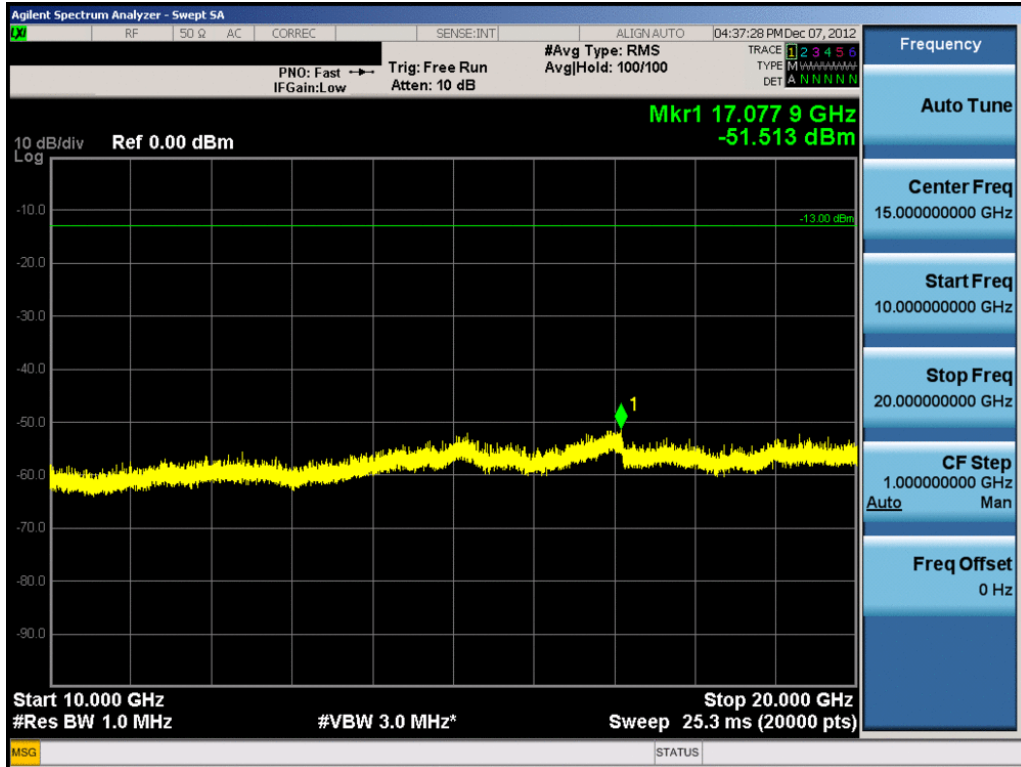
Plot 7-19. Peak-Average Ratio Plot (AWS CDMA Mode – Ch. 450)



Plot 7-20. Conducted Spurious Plot (AWS CDMA Mode – Ch. 875)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 40 of 49





Plot 7-21. Conducted Spurious Plot (AWS CDMA Mode – Ch. 875)

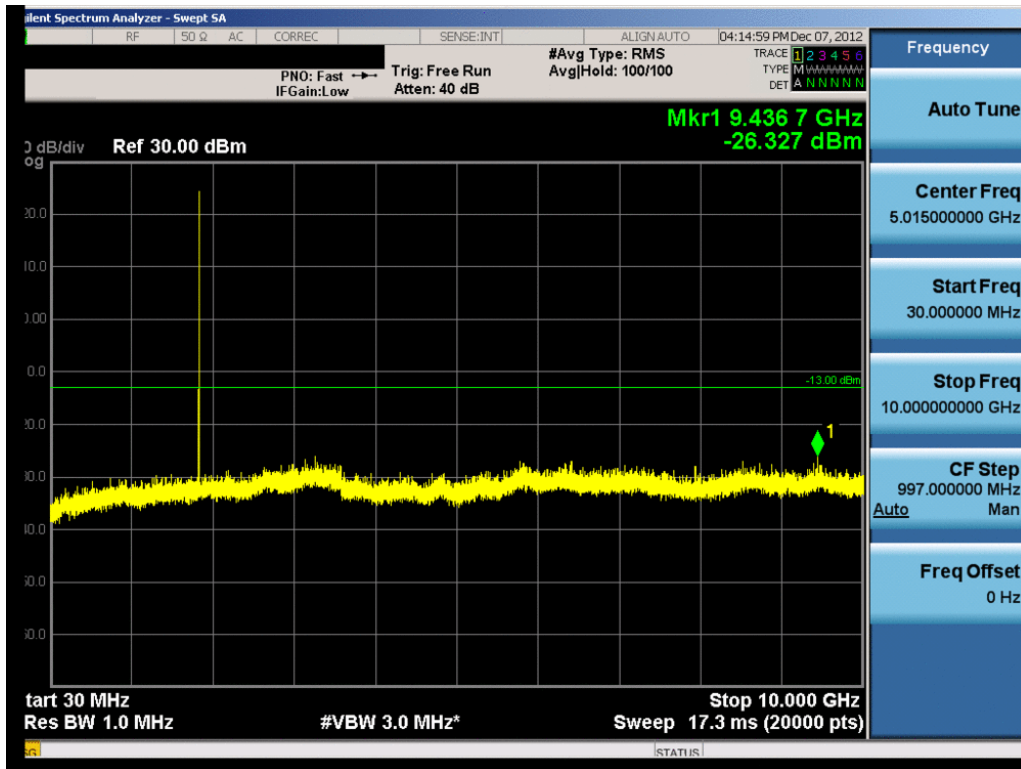


Plot 7-22. Band Edge Plot (AWS CDMA Mode – Ch. 875)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 41 of 49

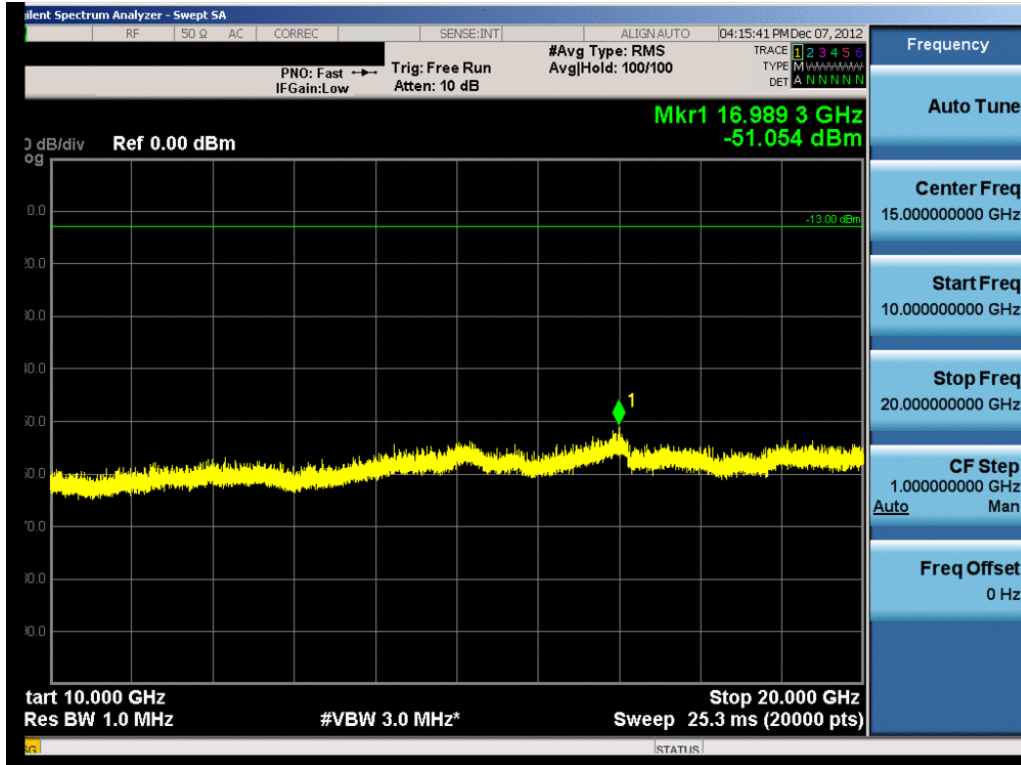


Plot 7-23. 4MHz Span Plot (AWS CDMA Mode – Ch. 875)



Plot 7-24. Conducted Spurious Plot (PCS CDMA Mode – Ch. 25)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 42 of 49

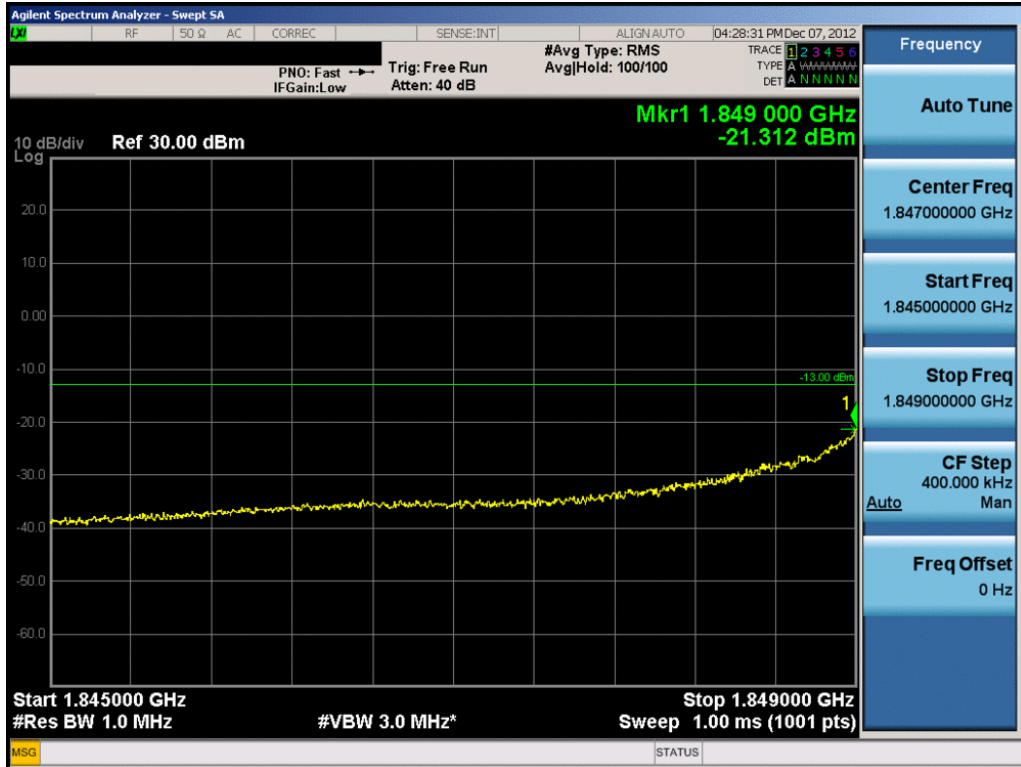


Plot 7-25. Conducted Spurious Plot (PCS CDMA Mode – Ch. 25)

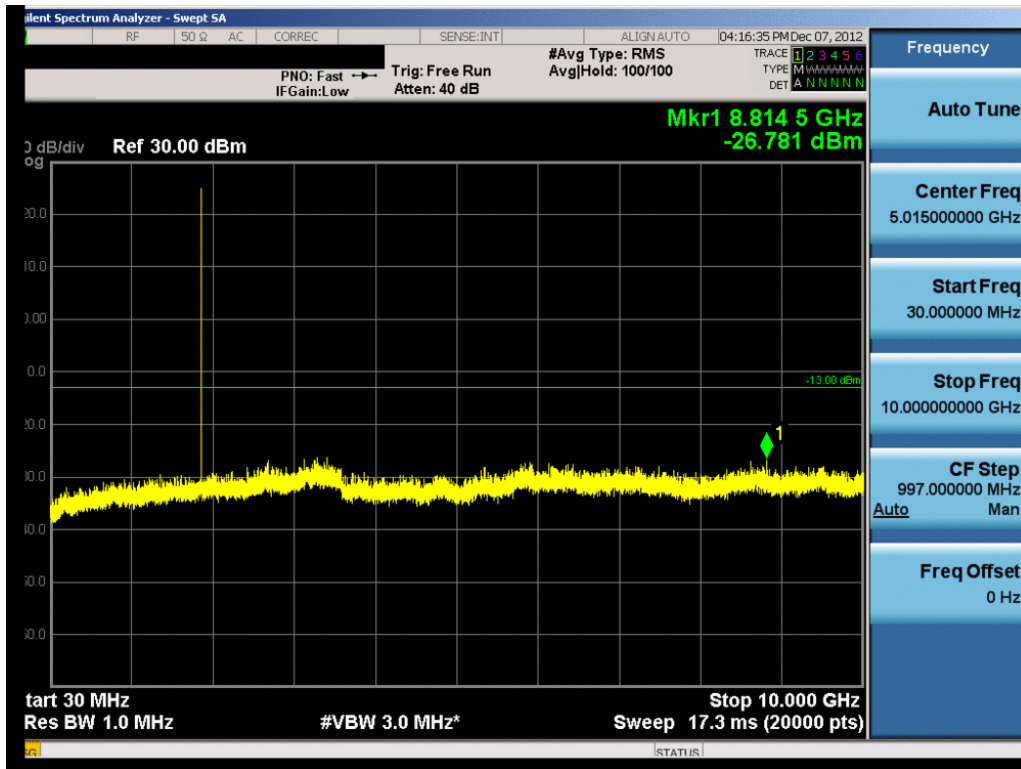


Plot 7-26. Band Edge Plot (PCS CDMA Mode – Ch. 25)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 43 of 49

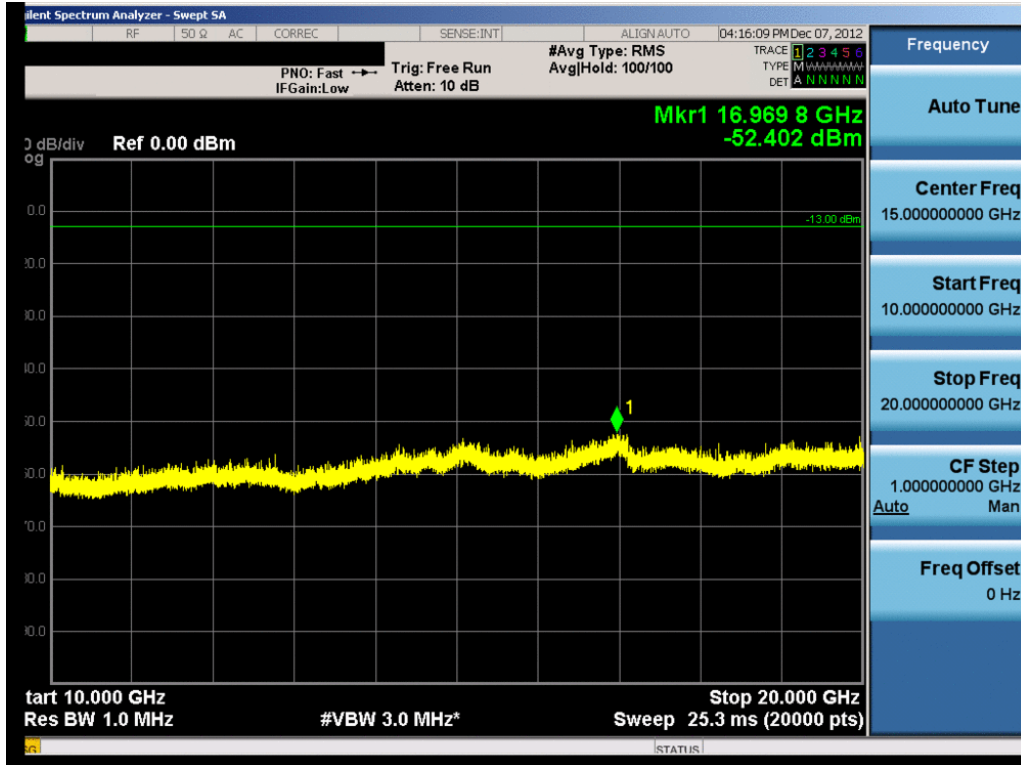


Plot 7-27. 4MHz Span Plot (PCS CDMA Mode – Ch. 25)

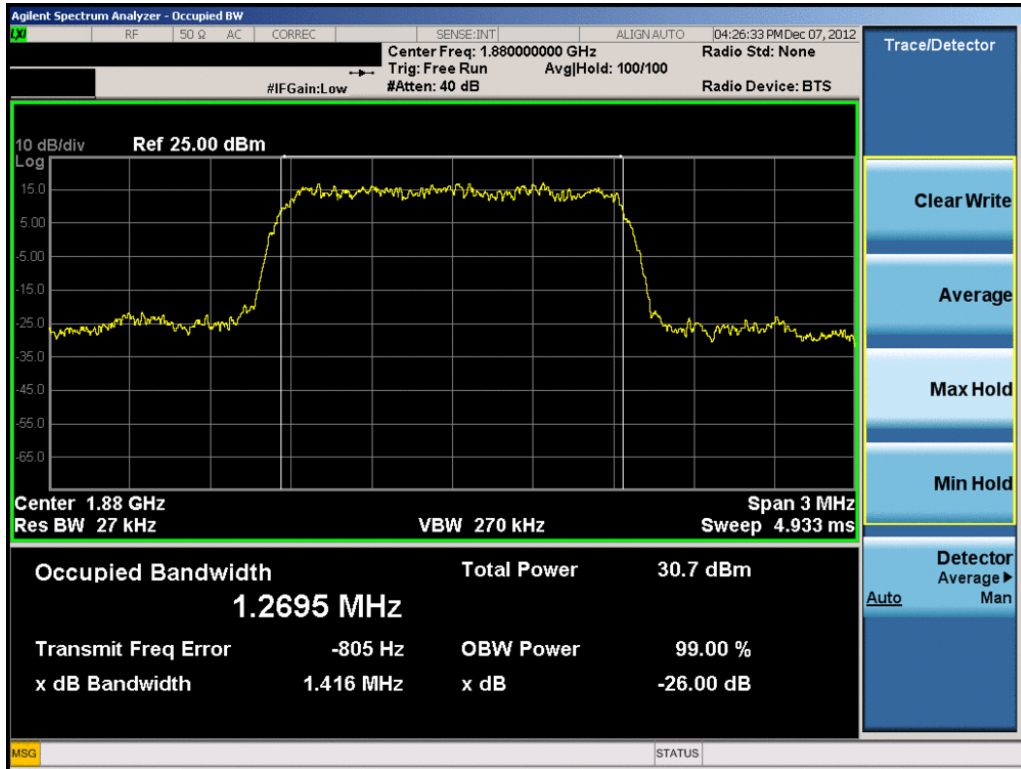


Plot 7-28. Conducted Spurious Plot (PCS CDMA Mode – Ch. 600)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 44 of 49

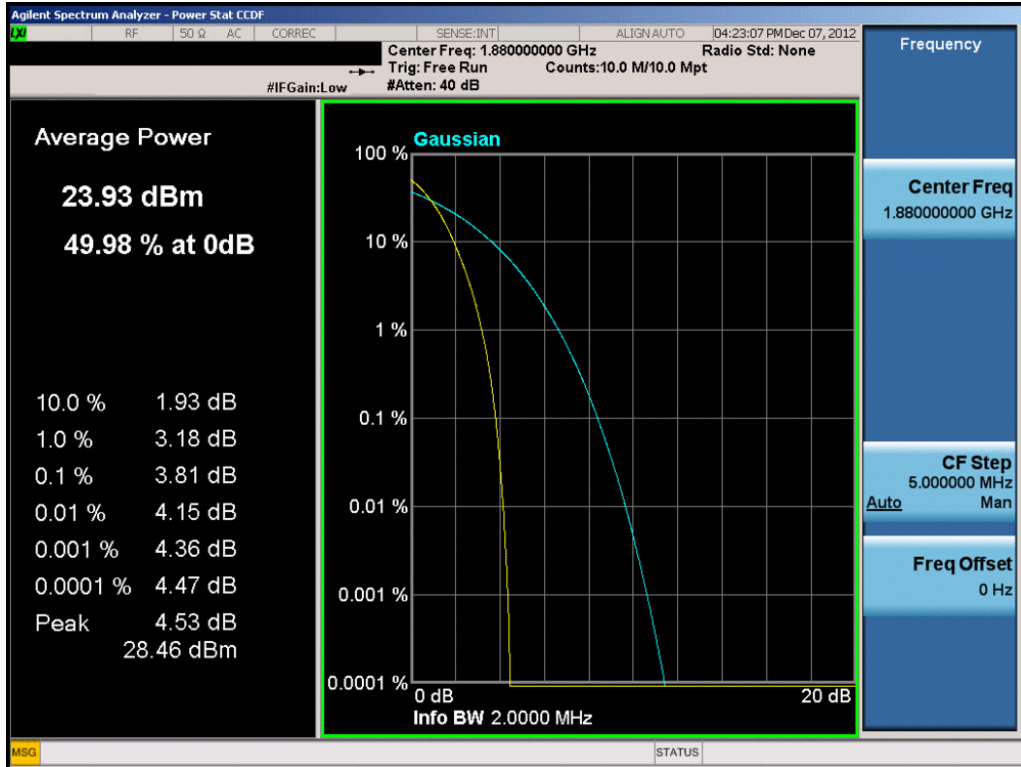


Plot 7-29. Conducted Spurious Plot (PCS CDMA Mode – Ch. 600)

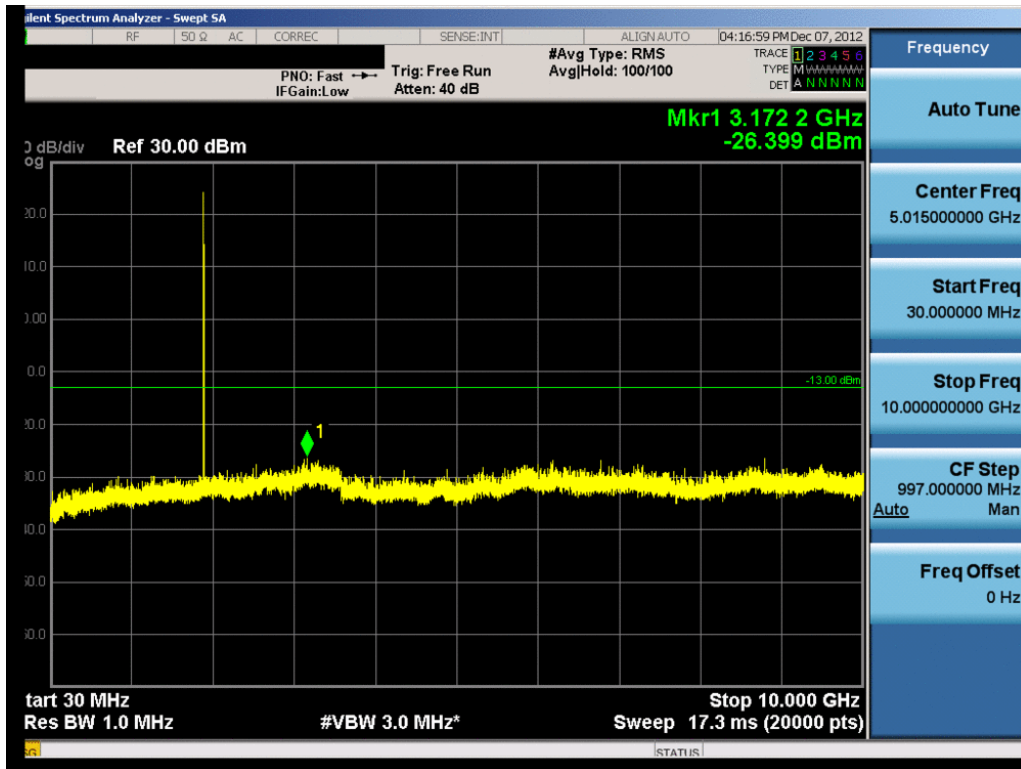


Plot 7-30. Occupied Bandwidth Plot (PCS CDMA Mode – Ch. 600)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 45 of 49

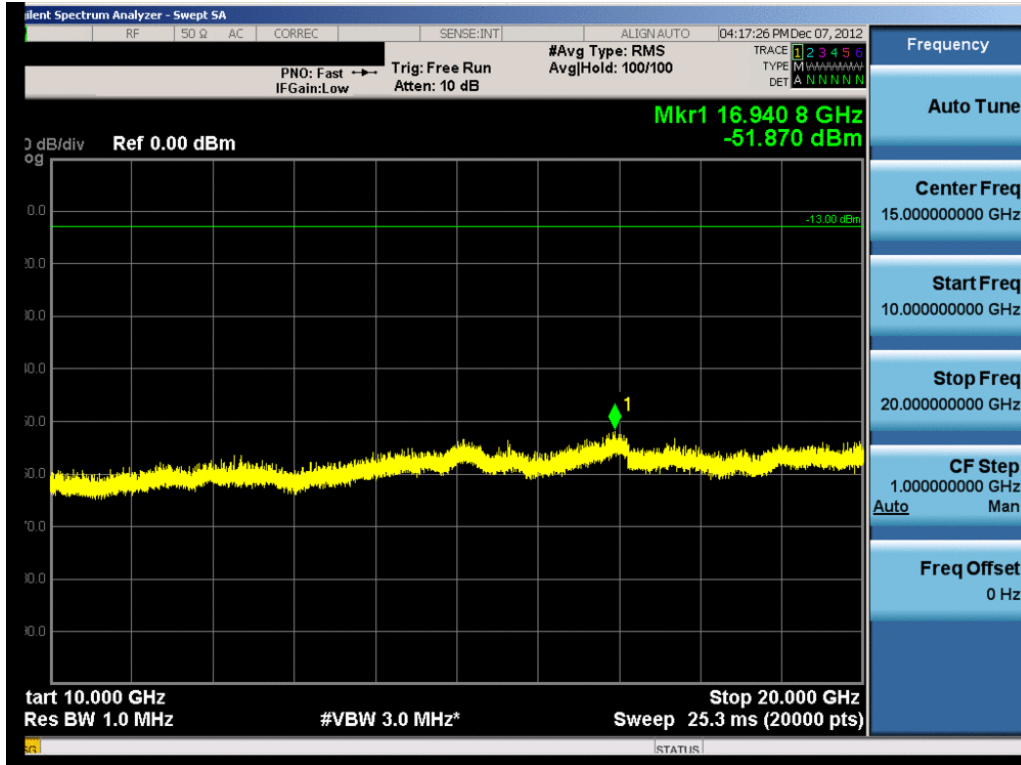


**Plot 7-31. Peak-Average Ratio Plot (PCS CDMA Mode – Ch. 600)**



**Plot 7-32. Conducted Spurious Plot (PCS CDMA Mode – Ch. 1175)**

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 46 of 49

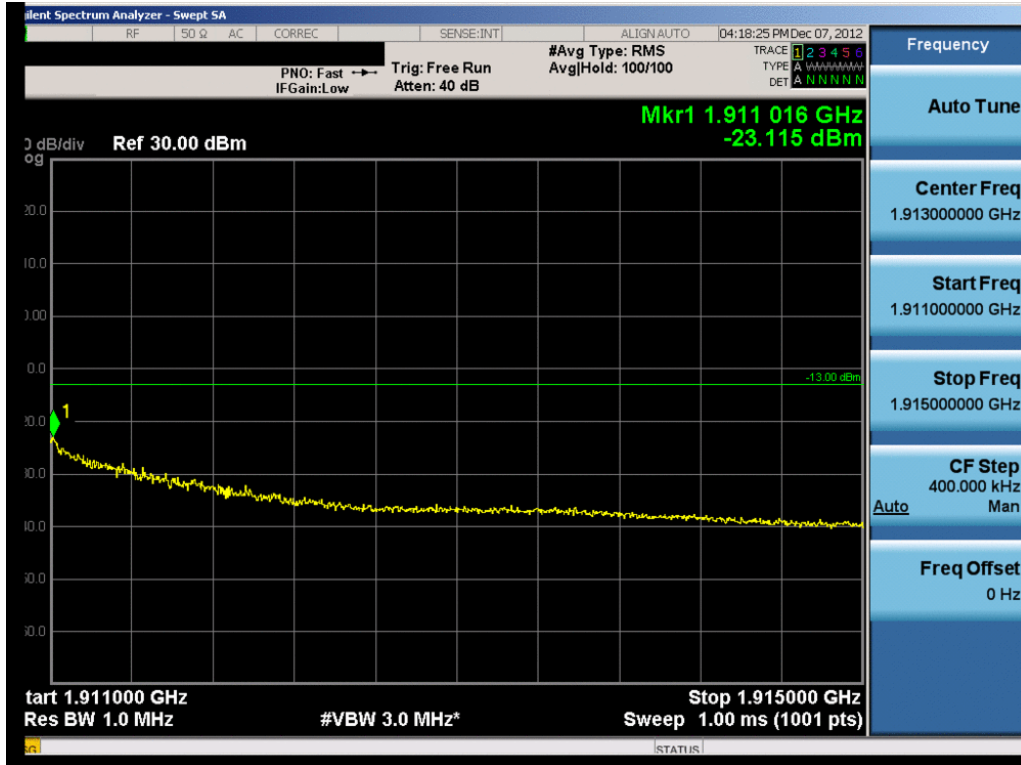


Plot 7-33. Conducted Spurious Plot (PCS CDMA Mode – Ch. 1175)



Plot 7-34. Band Edge Plot (PCS CDMA Mode – Ch. 1175)

FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 47 of 49





FCC ID: V65C6721A1	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 CDMA / EvDO MEASUREMENT REPORT (CERTIFICATION)	<b>KYOCERA</b>	Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 48 of 49



## 8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Kyocera Portable Handset FCC ID: V65C6721A1** complies with all the requirements of Parts 2, 22, 24, and 27 of the FCC rules and RSS-132, RSS-133, and RSS-139 of the Industry Canada rules.

FCC ID: V65C6721A1		FCC Pt. 22/24/27 CDMA / EVDO MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212071743.V65	Test Dates: 12/7/12 - 12/17/12, 02/21/2013	EUT Type: Portable Handset		Page 49 of 49