PCTEST ENGINEERING LABORATORY, INC.
6660-B Dobbin Road, Columbia, MD 21045 USA
Tel. 410.290.6652 / Fax 410.290.6654
http://www.pctestlab.com

MEASUREMENT REPORT
FCC Part 90 Band Class 10 CDMA

Applicant:
Motorola Mobility, Inc.
8000 West Sunrise Blvd.
Plantation, FL 33322
United States

Date of Testing:
6/1/2012, 07/20/12 - 08/01/12
Test Site/Location:
PCTEST Lab., Columbia, MD, USA
Test Report Serial No.:
0Y1205220712.IHD-R1

FCC ID:	**IHDT56NL2**
APPLICANT:	**MOTOROLA MOBILITY, INC.**

Applicant Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part:	§90.691
EUT Type:	Portable Handset
Tx Frequency Range:	817.9 - 823.1 MHz (CDMA)
Max. RF Output Power:	0.149 W ERP CDMA (21.72 dBm) , 0.086 W ERP EvDO (19.33 dBm)
Emission Designator(s):	1M27F9W (CDMA), 1M27F9W (EvDO)
Test Device Serial No.:	*identical prototype* [S/N: Unit 7, 990001196033153]

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.

Grant Conditions: Power output listed is ERP for Part 90.

***This revised Test Report (S/N: 0Y1205220712.IHD-R1) supersedes and replaces the previously issued test report on the same subject EUT for the same type of testing as indicated. Please discard and destroy the previously issued test report (S/N: 0Y1205220712.IHD) and dispose of it accordingly.**

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

Randy Ortanez
President

ACCREDITED
TESTING LABORATORY
CERTIFICATE #2041.01

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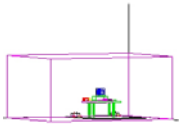
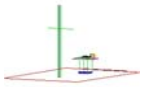


MEASUREMENT REPORT
BC10 CDMA



§2.1033 General Information

APPLICANT:	Motorola Mobility, Inc.
APPLICANT ADDRESS:	8000 West Sunrise Blvd. Plantation, FL 33322, United States
TEST SITE:	PCTEST ENGINEERING LABORATORY, INC.
TEST SITE ADDRESS:	7185 Oakland Mills Road, Columbia, MD 21046 USA
BASE MODEL:	ASANTI
FCC CLASSIFICATION:	PCS Licensed Transmitter Held to Ear (PCE)
EMISSION DESIGNATOR(S):	1M27F9W (CDMA). 1M27F9W (EvDO)
MODE:	CDMA / EvDO
FREQUENCY TOLERANCE:	±0.00025 % (2.5 ppm)
Test Device Serial No.:	Unit 7, 990001196033153 ☐ Production ☒ Pre-Production ☐ Engineering
DATE(S) OF TEST:	6/1/2012, 07/20/12 - 08/01/12
TEST REPORT S/N:	0Y1205220712.IHD-R1

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.
- 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.

- 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.
- 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.

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 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 28, 2009.

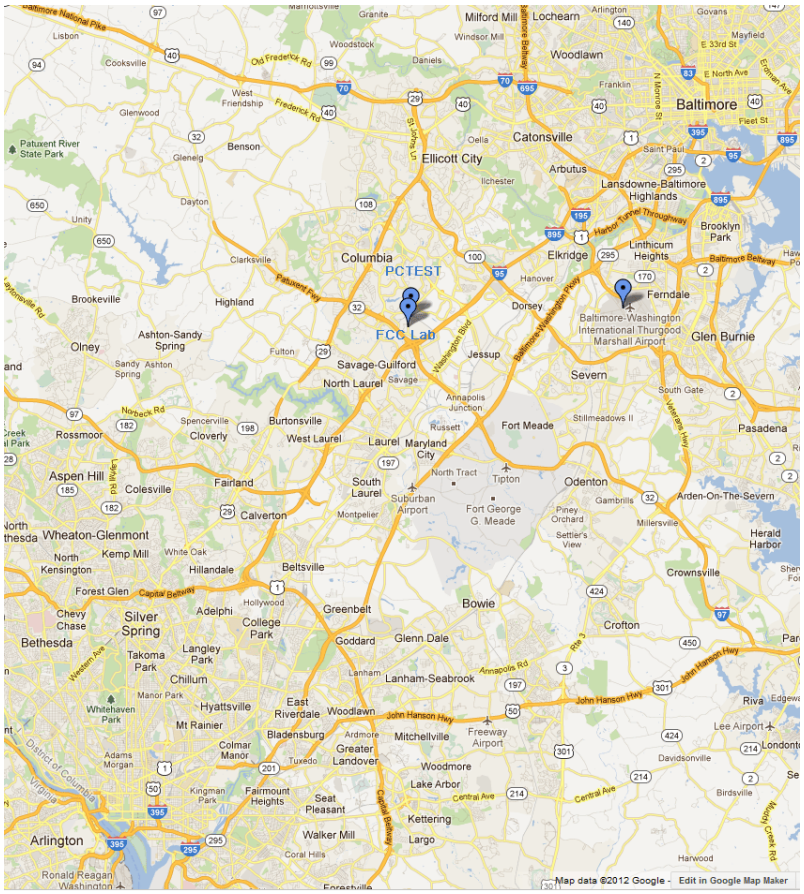


Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Motorola Portable Handset FCC ID: IHDT56NL2**. The EUT consisted of the following component(s):

Trade Name	FCC ID	Description
Motorola	IHDT56NL2	Portable Handset

Table 2-1. EUT Equipment Description

Note: All data contained in this report is applicable for the device operation in the BC10 (817 – 824 MHz). Test data shown supports the devices compliance with §90.691 of the FCC Rules and Regulation.

2.2 Device Capabilities

This device contains the following capabilities:

850/1900 CDMA/EvDO Rev 0/A (BC0, BC1, BC10), Band 25 LTE (5 MHz), 802.11b/g/n WLAN, Bluetooth(1x,EDR, LE), NFC

2.3 EMI Suppression Device(s)/Modifications

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

3.0 DESCRIPTION OF TESTS

3.1 Measurement Procedure

The measurement procedures described in the document titled "Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards" (ANSI/TIA-603-C-2004) was used in the measurement of the measurement of the **Motorola Portable Handset FCC ID: IHDT56NL2.**

Deviation from Measurement Procedure……..None

3.2 Occupied Bandwidth

§2.1049

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 internal occupied bandwidth function of the spectrum analyzer was used to obtain a measurement.

3.3 Spurious and Harmonic Emissions at Antenna Terminal

§2.1051, §90.691

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^{th} harmonic.

Out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 $Log_{10}(f/6.1)$ decibels or 50 + 10 $Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + $10Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

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.

3.4 Radiated Power and Radiated Spurious Emissions

§2.1053, §90.635, §90.691

Radiated power and radiated spurious emissions are measured outdoors at our 3-meter test range. The equipment under test is placed on a wooden turntable 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. This level is then measured with a broadband average power meter. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th 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 average power meter reading. This spurious level is recorded with the power meter. 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 R.C.s and S.O.s, including EvDO Rev0 and RevA; the worst case is reported with RC3/SO55 with "All Up" power control bits.

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
-	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	10/10/2011	Annual	10/10/2012	US46470561
Anritsu	MA2411B	Pulse Sensor	10/13/2011	Annual	10/13/2012	1027293
Anritsu	ML2495A	Power Meter	10/13/2011	Annual	10/13/2012	1039008
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	10/1/2010	Biennial	10/1/2012	128337
Mini-Circuits	VHF-1200+	High Pass Filter	1/15/2012	Annual	1/15/2013	30923
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	12/15/2011	Annual	12/15/2012	100342
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

Table 4-1. Test Equipment

Note:

All equipment whose calibration dates fall outside of the test ranges for this device are confirmed to have been within their calibration cycles when they were used for testing.

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 – Cellular Band

Example: Channel 476 CDMA BC10 Mode 3rd Harmonic (2453.70MHz)

The average receive power meter 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 power meter. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 2453.70 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.

6.0 TEST RESULTS

6.1 Summary

Company Name: Motorola Mobility, Inc.

FCC ID: IHDT56NL2

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

Mode(s): CDMA / EvDO

Band: Band Class 10

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
§2.1051, §90.691	Band Edge / Conducted Spurious Emissions	< 50 + 10log$_{10}$ (P[Watts]) at Band Edge and for all out-of-band emissions within 37.5kHz of Block Edge	CONDUCTED	PASS	Section 6.5, 7.0
§2.1046	Transmitter Conducted Output Power	N/A		PASS	RF Exposure Report
§90.635	Effective Radiated Power	< 100 Watts max. ERP	RADIATED	PASS	Section 6.2, 6.3
§2.1053, §90.691	Undesirable Emissions	< 43 + 10log$_{10}$ (P[Watts]) for all out-of-band emissions		PASS	Sections 6.4, 6.5
§2.1055, §90.213	Frequency Stability	< 2.5 ppm		PASS	Section 6.6, 6.7

Table 6-1. Summary of Test Results

6.2 Effective Radiated Power Output Data

§90.635

Frequency [MHz]	Mode BC10 [Channel]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery Type
817.90	Ch. 476	-15.280	21.72	0.00	H	21.72	0.149	Standard
823.10	Ch. 684	-15.920	21.08	0.00	H	21.08	0.128	Standard

Table 6-2. Effective Radiated Power Output Data (1x CDMA)

NOTES:

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

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This level is recorded using the power meter. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

This device was tested under all R.C.s and S.O.s, including EvDO Rev0 and RevA; the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. 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 setup. The data reported in the table above was measured in this test setup.

6.3 Effective Radiated Power Output Data

§90.635

Frequency [MHz]	Mode BC10 [Channel]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery Type
817.90	Ch. 476	-17.810	19.19	0.00	H	19.19	0.083	Standard
823.10	Ch. 684	-17.670	19.33	0.00	H	19.33	0.086	Standard

Table 6-3. Effective Radiated Power Output Data (EvDO)

NOTES:

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

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This level is recorded using the power meter. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

This device was tested under all R.C.s and S.O.s, including EvDO Rev0 and RevA; the worst case is reported with EvDO Rev0 with "All Up" power control bits. This unit was tested with its standard battery. 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 setup. The data reported in the table above was measured in this test setup.

6.4 BC10 CDMA Radiated Measurements

§2.1053, §90.691

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY:	817.90	MHz		
CHANNEL:	476			
MEASURED OUTPUT POWER:	21.72	dBm	=	0.149 W
MODULATION SIGNAL:	CDMA (Internal)			
DISTANCE:	3	meters		
LIMIT:	$43 + 10 \log_{10}$ (W) =	34.72	dBc	

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1635.80	-53.38	4.88	-48.50	V	70.2
2453.70	-58.42	5.15	-53.27	V	75.0
3271.60	-60.98	7.49	-53.49	V	75.2
4089.50	-96.52	9.15	-87.37	V	109.1
4907.40	-94.97	9.95	-85.02	V	106.7

Table 6-4. Radiated Spurious Data (CDMA Mode – BC10 Ch. 476)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 R.C.s and S.O.s, including EvDO Rev0 and RevA; the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. 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 setup. The data reported in the table above was measured in this test setup.

BC10 CDMA Radiated Measurements (Cont'd)
§2.1053, §90.691

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY:	823.10	MHz		
CHANNEL:	684			
MEASURED OUTPUT POWER:	21.08	dBm	=	0.128 W
MODULATION SIGNAL:	CDMA (Internal)			
DISTANCE:	3	meters		
LIMIT:	43 + 10 $\log_{10}$ (W) =	34.08	dBc	

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1646.20	-54.24	4.77	-49.46	V	70.5
2469.30	-59.39	5.06	-54.33	V	75.4
3292.40	-61.91	7.57	-54.34	V	75.4
4115.50	-96.50	9.19	-87.31	V	108.4
4938.60	-94.94	10.00	-84.94	V	106.0

Table 6-5. Radiated Spurious Data (CDMA Mode – BC10 Ch. 684)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 R.C.s and S.O.s, including EvDO Rev0 and RevA; the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. 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 setup. The data reported in the table above was measured in this test setup.

6.5 BC10 EvDO Radiated Measurements

§2.1053, §90.691

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY:	817.90	MHz		
CHANNEL:	476			
MEASURED OUTPUT POWER:	19.19	dBm	=	0.149 W
MODULATION SIGNAL:	EvDO			
DISTANCE:	3	meters		
LIMIT:	43 + 10 $\log_{10}$ (W) =	34.72	dBc	

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1635.80	-60.81	4.88	-55.93	V	75.1
2453.70	-58.46	5.15	-53.31	V	72.5
3271.60	-95.98	7.49	-88.49	V	107.7
4089.50	-96.52	9.15	-87.37	V	106.6
4907.40	-94.97	9.95	-85.02	V	104.2

Table 6-6. Radiated Spurious Data (EvDO Mode – BC10 Ch. 476)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 R.C.s and S.O.s, including EvDO Rev0 and RevA; the worst case is reported with EvDO Rev0 with "All Up" power control bits. This unit was tested with its standard battery. 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 setup. The data reported in the table above was measured in this test setup.

BC10 EvDO Radiated Measurements (Cont'd)

§2.1053, §90.691

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY:	823.10	MHz		
CHANNEL:	684			
MEASURED OUTPUT POWER:	19.33	dBm	=	0.128 W
MODULATION SIGNAL:	EvDO			
DISTANCE:	3	meters		
LIMIT:	43 + 10 $\log_{10}$ (W) =	34.08	dBc	

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1646.20	-59.57	4.77	-54.79	V	74.1
2469.30	-58.78	5.06	-53.72	V	73.0
3292.40	-96.06	7.57	-88.49	V	107.8
4115.50	-96.50	9.19	-87.31	V	106.6
4938.60	-94.94	10.00	-84.94	V	104.3

Table 6-7. Radiated Spurious Data (EvDO Mode – BC10 Ch. 684)

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 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This spurious level is recorded using the power meter. 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 R.C.s and S.O.s, including EvDO Rev0 and RevA; the worst case is reported with EvDO Rev0 with "All Up" power control bits. This unit was tested with its standard battery. 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 setup. The data reported in the table above was measured in this test setup.

6.6 BC10 CDMA Frequency Stability Measurements

§2.1055, §90.213

OPERATING FREQUENCY: 823,100,000 Hz

CHANNEL: 684

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	823,099,988	-12	-0.000002
100 %		- 30	823,099,963	-37	-0.000004
100 %		- 20	823,099,967	-33	-0.000004
100 %		- 10	823,099,993	-7	-0.000001
100 %		0	823,099,978	-22	-0.000003
100 %		+ 10	823,099,986	-14	-0.000002
100 %		+ 20	823,099,993	-7	-0.000001
100 %		+ 30	823,099,982	-18	-0.000002
100 %		+ 40	823,099,974	-26	-0.000003
100 %		+ 50	823,099,989	-11	-0.000001
115 %	4.26	+ 20	823,099,974	-26	-0.000003
BATT. ENDPOINT	3.40	+ 20	823,099,973	-27	-0.000003

Table 6-8. Frequency Stability Data (Cellular CDMA Mode – Ch. 684)

Note:
Carrier frequency stability measurements performed according to ANSI/TIA/EIA-603-C-2004, Aug. 17,2004

BC10 CDMA Frequency Stability Measurements
§2.1055, §90.213

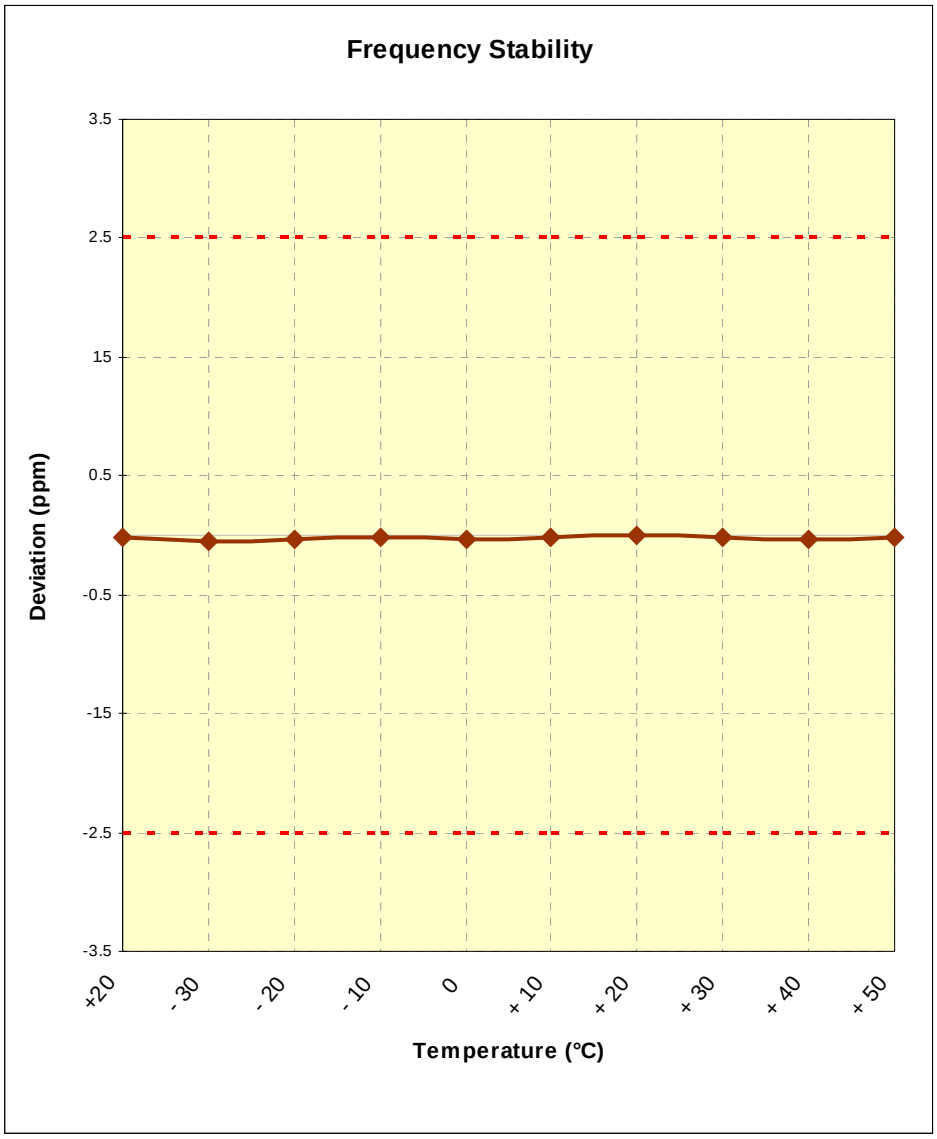


Figure 6-1. Frequency Stability Graph (Cellular CDMA Mode – Ch. 684)

Note:
Carrier frequency stability measurements performed according to ANSI/TIA/EIA-603-C-2004, Aug. 17,2004

6.7 BC10 EvDO Frequency Stability Measurements

§2.1055, §90.213

OPERATING FREQUENCY: 823,100,000 Hz

CHANNEL: 684

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	823,099,992	-8	-0.000001
100 %		- 30	823,099,983	-17	-0.000002
100 %		- 20	823,099,984	-16	-0.000002
100 %		- 10	823,099,988	-12	-0.000001
100 %		0	823,099,974	-26	-0.000003
100 %		+ 10	823,099,971	-29	-0.000004
100 %		+ 20	823,099,965	-35	-0.000004
100 %		+ 30	823,099,974	-26	-0.000003
100 %		+ 40	823,099,962	-38	-0.000005
100 %		+ 50	823,099,982	-18	-0.000002
115 %	4.26	+ 20	823,099,984	-16	-0.000002
BATT. ENDPOINT	3.40	+ 20	823,099,973	-27	-0.000003

Table 6-9. Frequency Stability Data (Cellular EvDO Mode – Ch. 684)

Note:
Carrier frequency stability measurements performed according to ANSI/TIA/EIA-603-C-2004, Aug. 17,2004

BC10 CDMA Frequency Stability Measurements
§2.1055, §90.213

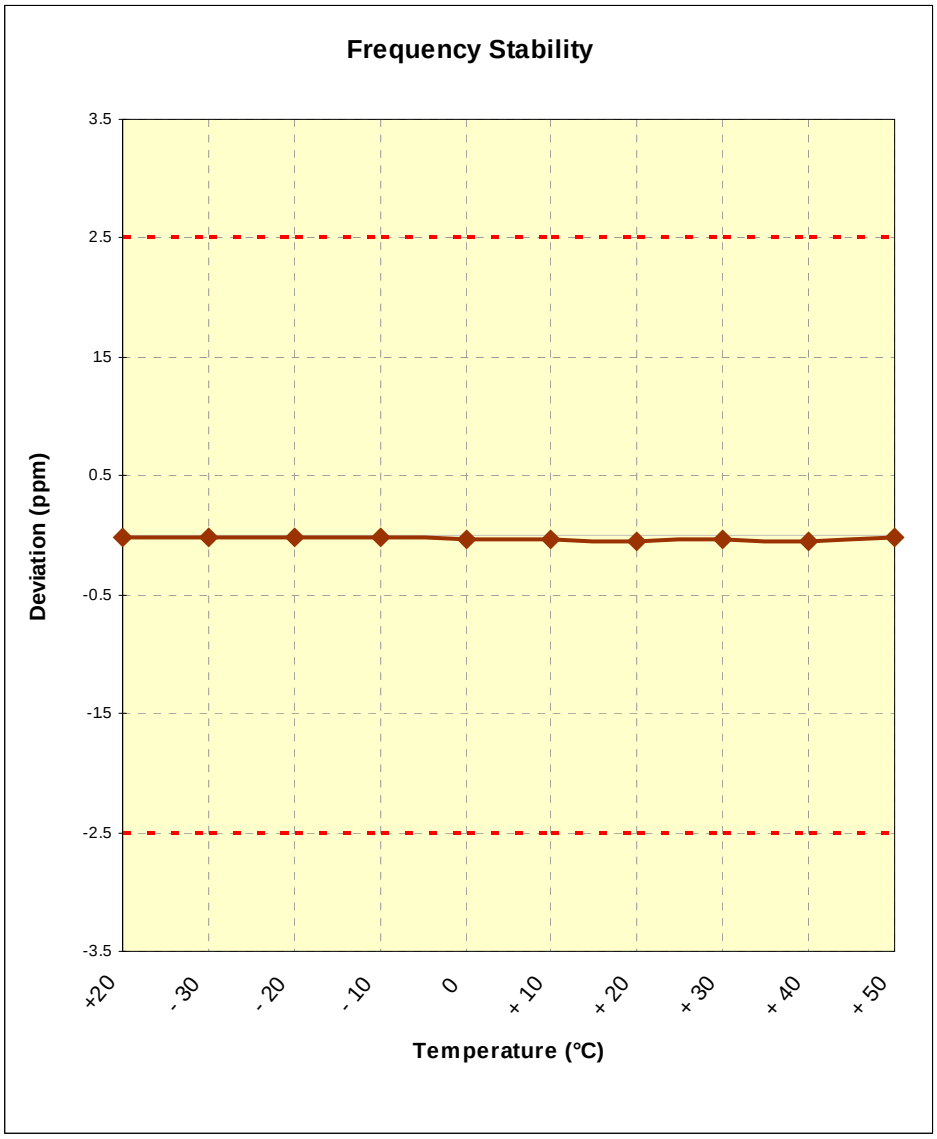


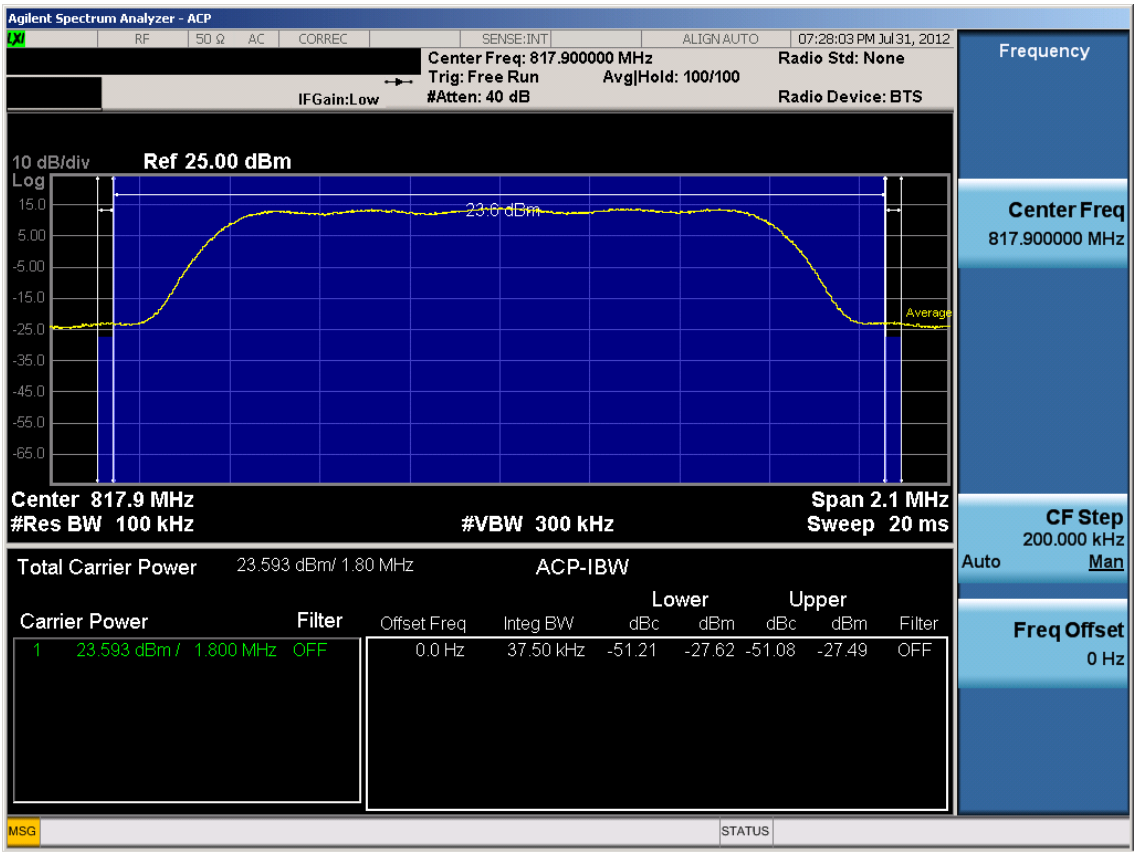
Figure 6-2. Frequency Stability Graph (Cellular EvDO Mode – Ch. 684)

Note:
Carrier frequency stability measurements performed according to ANSI/TIA/EIA-603-C-2004, Aug. 17,2004

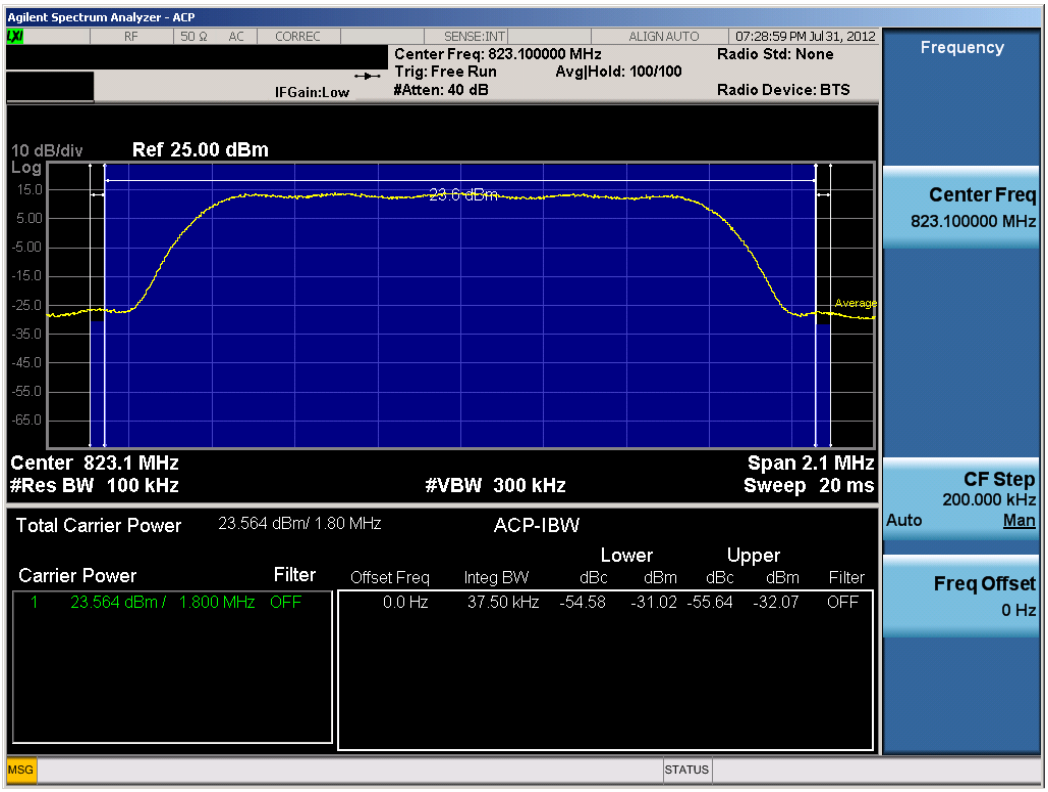
6.8 BC10 CDMA/EVDO Band Edge Measurements

§2.1051, §90.691

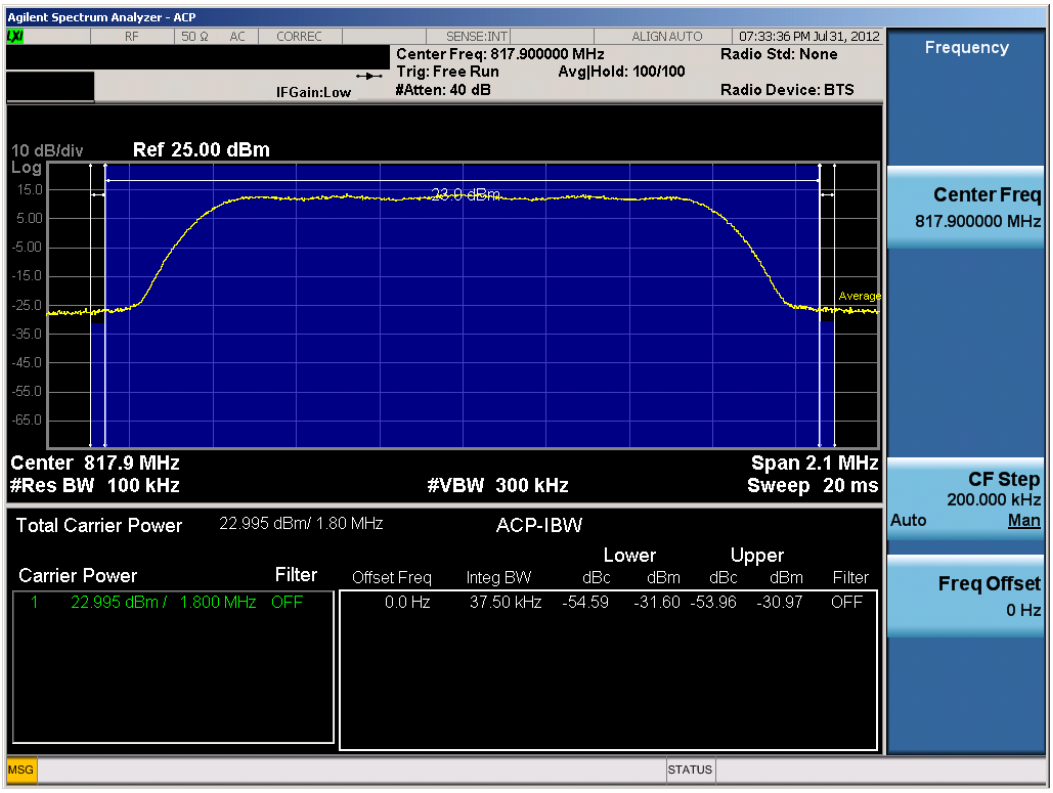
The band edge is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies. ***The maximum permissible power is attenuated below the transmit power by at least 50 + 10log$_{10}$ (P[Watts]) at Band Edge and for all out-of-band emissions within 37.5kHz of Block Edge.***



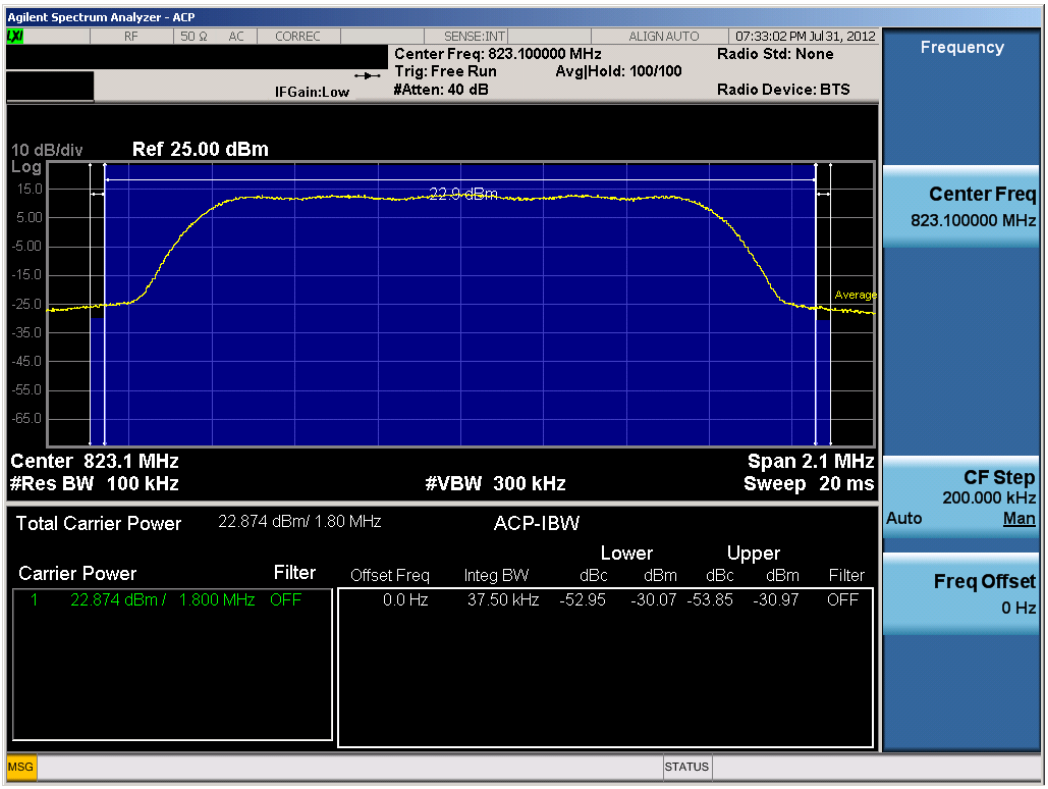
Plot 6-1. Channel Edge Plot (BC10 CDMA Ch. 476) - §90.691



Plot 6-2. Channel Edge Plot (BC10 CDMA Ch. 684) - §90.691



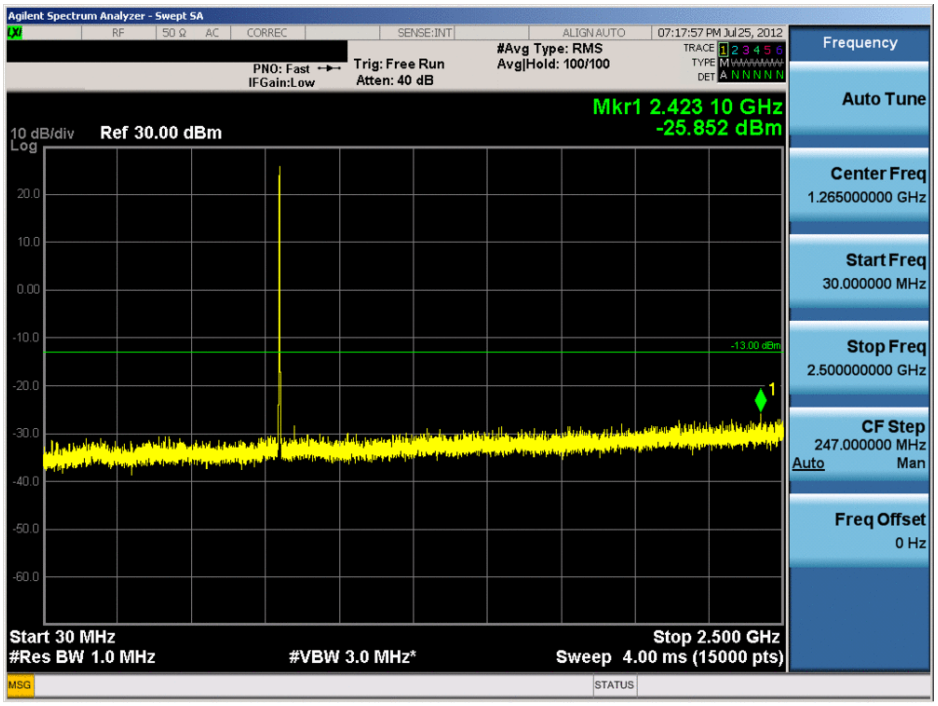
Plot 6-3. Channel Edge Plot (BC10 EVDO Ch. 476) - §90.691



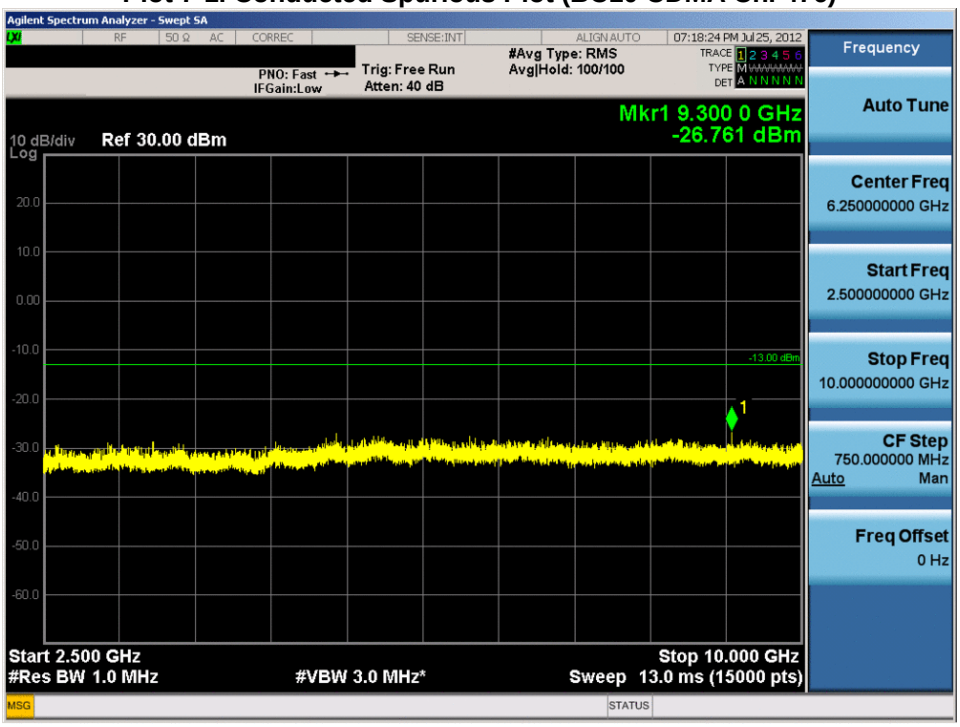
Plot 6-4. Channel Edge Plot (BC10 EVDO Ch. 684) - §90.691

7.0 PLOT(S) OF EMISSIONS

CDMA MODE RC3/SO55:



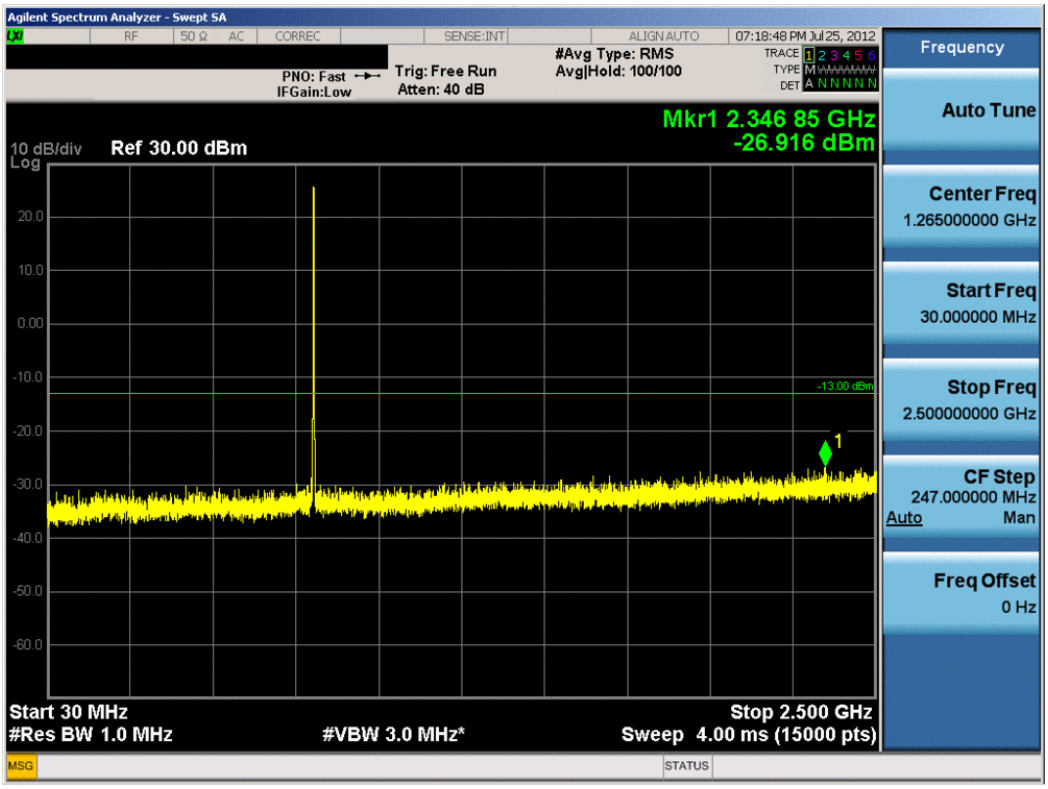
Plot 7-1. Conducted Spurious Plot (BC10 CDMA Ch. 476)



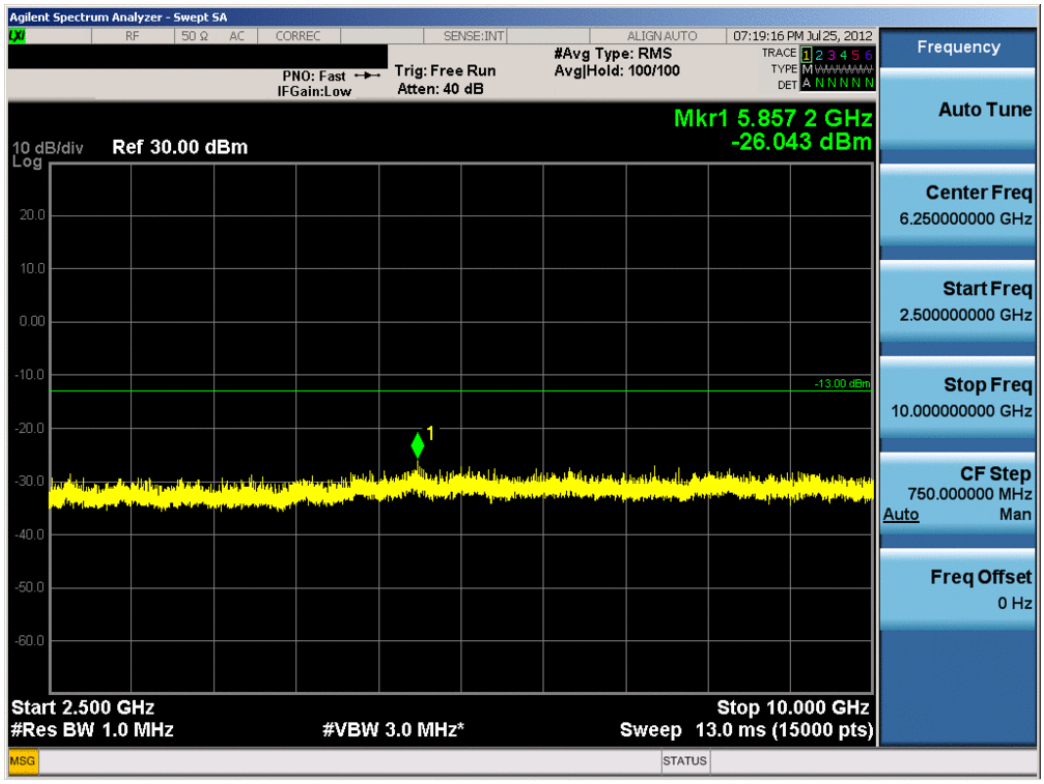
Plot 7-2. Conducted Spurious Plot (BC10 CDMA Ch. 476)

Plot 7-3. 4MHz Span Plot (BC10 CDMA Ch. 476)

Plot 7-4. 4MHz Span Interior Plot (BC10 CDMA Ch. 476)



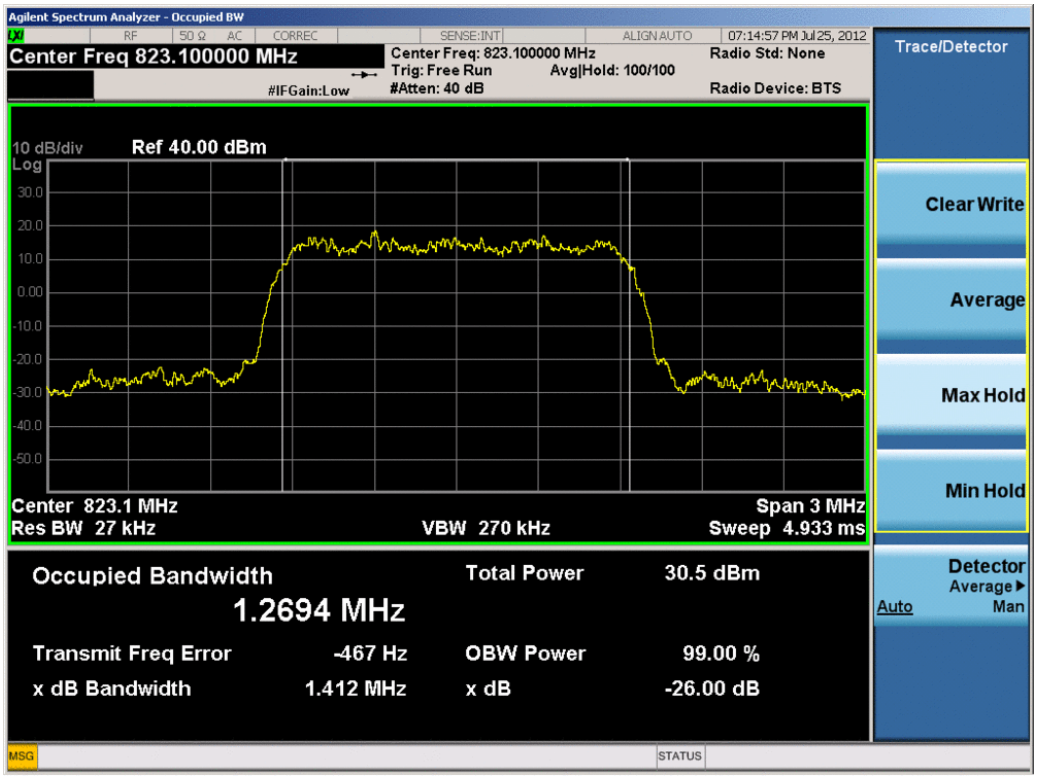
Plot 7-5. Conducted Spurious Plot (BC10 CDMA Ch. 684)



Plot 7-6. Conducted Spurious Plot (BC10 CDMA Ch. 684)

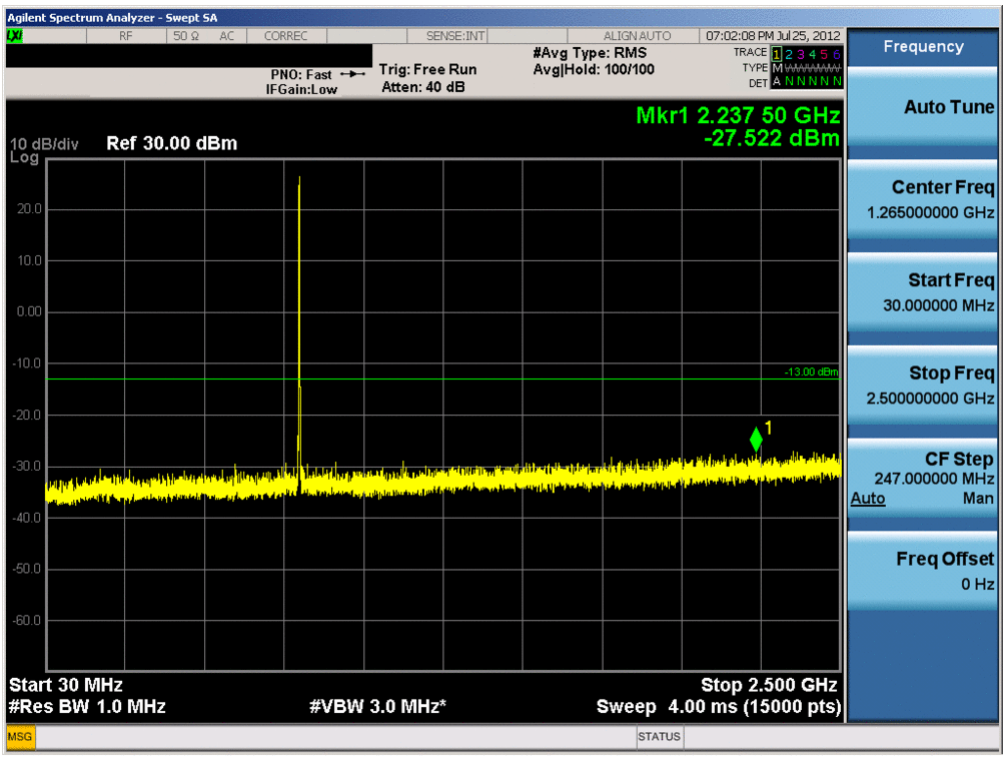
Plot 7-7. 4MHz Span Interior Plot (BC10 CDMA Ch. 684)

Plot 7-8. 4MHz Span Plot (BC10 CDMA Ch. 684)

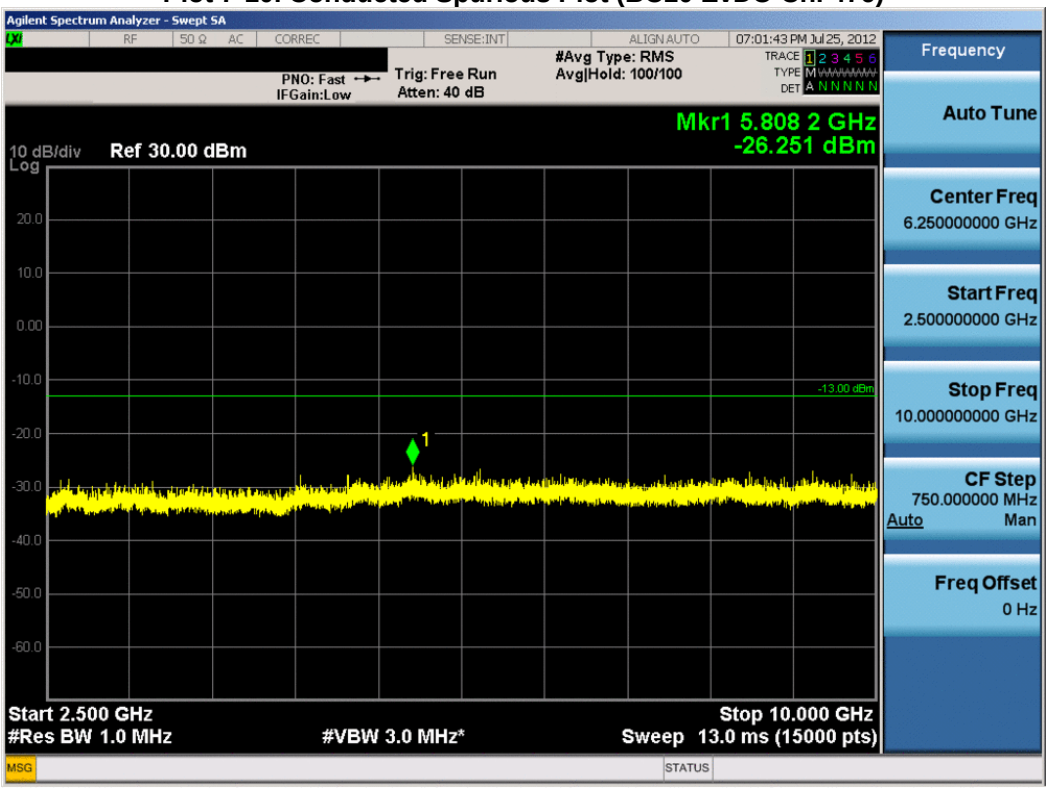


Plot 7-9. Occupied Bandwidth Plot (BC10 CDMA Ch. 684)

EvDO MODE REV0:



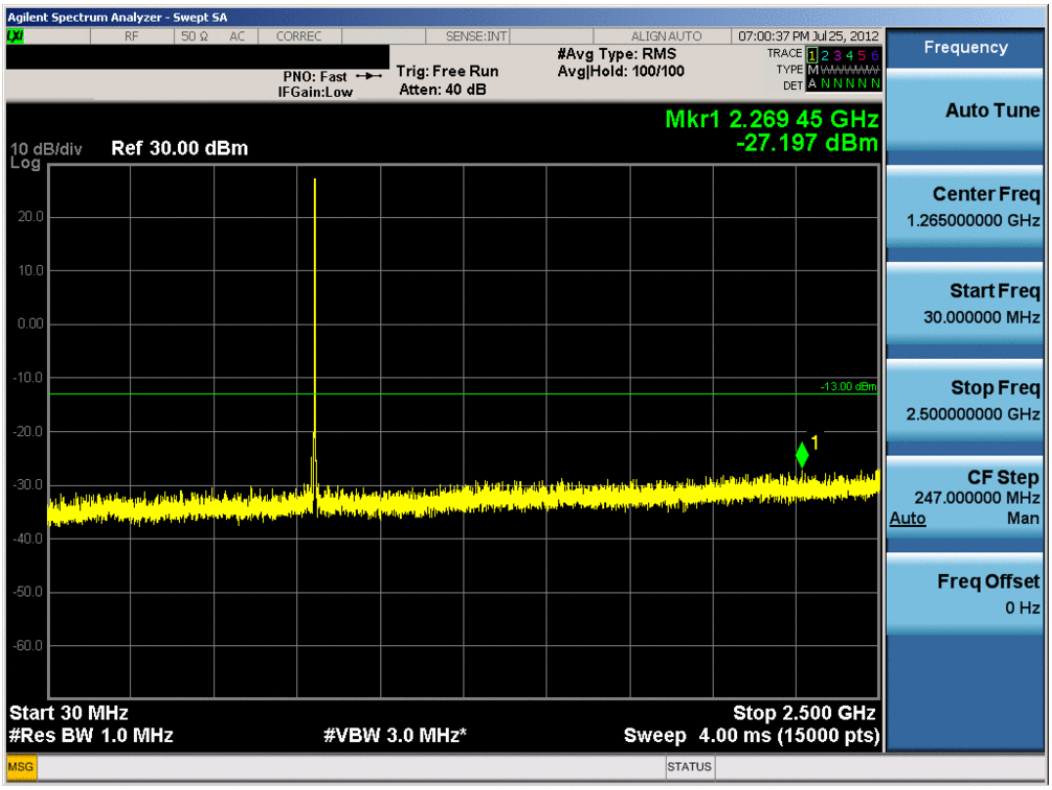
Plot 7-10. Conducted Spurious Plot (BC10 EvDO Ch. 476)



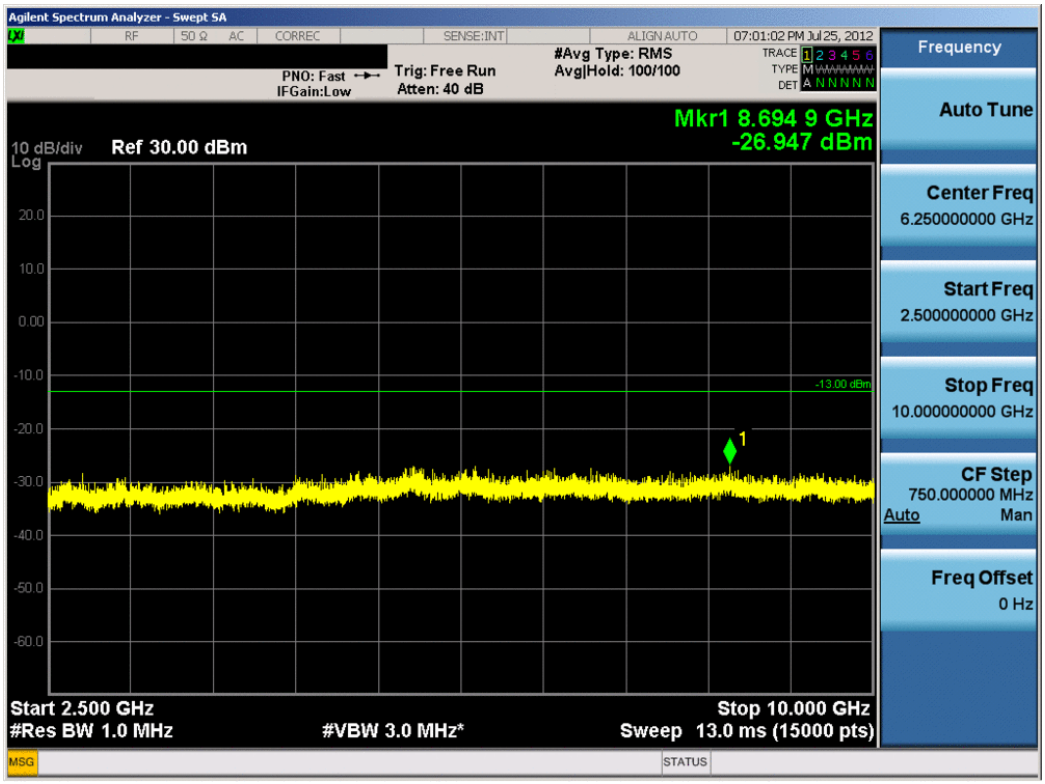
Plot 7-11. Conducted Spurious Plot (BC10 EvDO Ch. 476)

Plot 7-12. 4MHz Span Plot (BC10 EvDO Ch. 476)

Plot 7-13. 4MHz Span Interior Plot (BC10 EvDO Ch. 476)



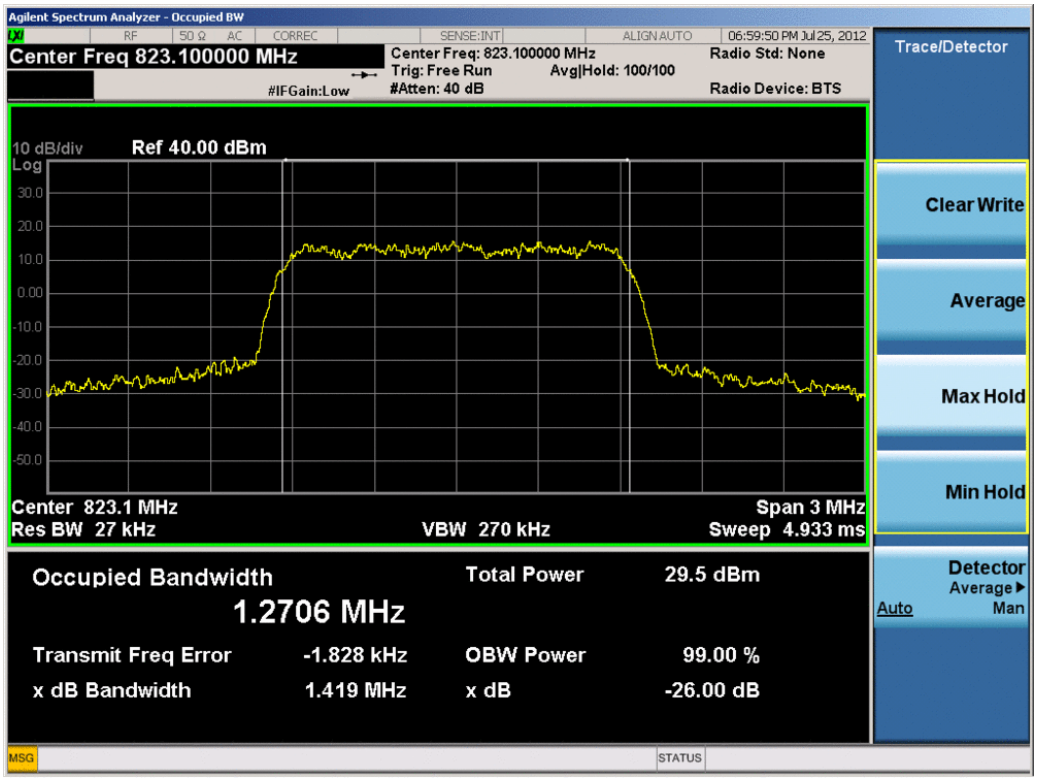
Plot 7-14. Conducted Spurious Plot (BC10 EvDO Ch. 684)



Plot 7-15. Conducted Spurious Plot (BC10 EvDO Ch. 684)

Plot 7-16. 4MHz Span Interior Plot (BC10 EvDO Ch. 684)

Plot 7-17. 4MHz Span Plot (BC10 EvDO Ch. 684)



Plot 7-18. Occupied Bandwidth Plot (BC10 EvDO Ch. 684)

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Motorola Portable Handset FCC ID: IHDT56NL2** complies with all the requirements of Parts 90 of the FCC rules.