



**MOTOROLA**

**PERSONAL COMMUNICATIONS SECTOR**

**PRODUCT SAFETY AND COMPLIANCE  
EMC LABORATORY**

**EMC TEST REPORT**

**Test Report Number** – 11966-1

**Report Date** – September 17, 2003

**Revision 1** - November 6, 2003

The test results contained herein relate only to the model(s) identified. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics.

As the responsible EMC Engineer, I hereby declare that the equipment tested as specified in this report conforms to the requirements indicated.

A handwritten signature in blue ink that reads "Michael E. Hill".

Signature

Name: Michael E. Hill

Title: Senior Electrical Engineer

Date : 2003-09-17

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**Test Report Details**

Tests Performed By: Motorola Personal Communications Sector  
Product Safety and Compliance Group  
600 North US Hwy 45  
Libertyville, IL 60048  
PH (847) 523-6167 Fax (847) 523-4538  
Motorola PCS FRN: 0004321311  
FCC Registration Number: 316588  
Industry Canada Number: IC3908

Tests Requested By: Motorola Inc.  
Personal Communications Sector  
600 North US Hwy 45  
Libertyville, IL 60048

Product Type: Cellular Phone

Signaling Capability: AMPS, 800 CDMA, 1900 CDMA

Model Number:

Serial Numbers:

Testing Complete Date: September 16, 2003

**Applicable Standards**

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-part J as well as the following parts:

- Part 15 Subpart B – Unintentional Radiators
- Part 22 Subpart H - Public Mobile Services
- Part 24 - Personal Communications Services
- Part 90 - Private Land Mobile Radio Service

Applicable Standards: TIA EIA 137-A, TIA EIA 98-C, ANSI 63.4 2001, RSS-118 (AMPS), RSS-128 (TDMA), RSS-129 (CDMA), RSS-133 (PCS), ANSI/TIA/EIA-603-1992

**Summary of Testing**

Test #	Test Name	Pass/Fail
1	RF Power Output	NA
2	ERP (Effective Radiated Power)	NA
3	Modulation Characteristics	Pass
4	Occupied Bandwidth	Pass
5	Spurious Emissions at Antenna Terminal	Pass
6	Field Strength of Spurious Emissions	Pass
7	Frequency Stability	Pass
8	Field Strength of Spurious Emissions from Unintentional Radiators	Pass

Test #	Test Name	Margin with respect to the Limit
1	RF Power Output	NA
2	ERP (Effective Radiated Power)	NA
3	Modulation Characteristics	NA
4	Occupied Bandwidth	See Plots
5	Spurious Emissions at Antenna Terminal	7.4 dB
6	Field Strength of Spurious Emissions	12.4 dB
7	Frequency Stability	13 Hz
8	Field Strength of Spurious Emissions from Unintentional Radiators	5.6 dB

The margin with respect to the limit is the minimum margin for all modes and bands. ( ) indicates the margin at which the product exceeds the limit.

**General and Special Conditions**

The EUT was tested using a fully charged battery when applicable. Where a battery could not be used due to the need for a controlled variation of input voltage, an external power supply was utilized.

All testing was done in an indoor controlled environment with an average temperature of 22° C and relative humidity of 50%.

## Equipment and Cable Configurations

The EUT was tested in a stand-alone configuration that is representative of typical use.

## Measuring Equipment and Calibration Information

Hewlett Packard	RF Amplifier	8347A	3307A01225	9/17/2003
Hewlett Packard	Pre-Amplifier	8449B	3008A00535	10/11/2003
ETS	DRG Horn Antenna	3115	6222	9/30/2003
A.H. Systems Inc.	DRG Horn Antenna	SAS-200/571	265	4/29/2004
ETS	Log-Periodic Antenna	3148	1189	4/29/2004
ETS	Biconical Antenna	3110B	3369	4/29/2004
ETS	Biconical Antenna	3110B	3370	10/25/2003
Attenuator	Weinschel	AS-6	6675	10/3/2003
Attenuator	Weinschel	AS-6	6677	10/3/2003
Rohde & Schwarz	Mobile Test Set	CMD 80	DE29008	N/A
Hewlett Packard	Signal Generator	83623B	3844A01195	5/20/2004
Thermotron	Environmental Chamber	S-4	31580	12/19/2003
Hewlett Packard	Pre-Amplifier	8347A		
Hewlett Packard	Pre-Amplifier	8447F	2805A03419	5/19/2004
Agilent	Power Meter	EE4418B		11/26/2003
Agilent	Sensor	E4412B		11/23/2004
<b>U.L. Equipment List</b>				
Hewlett Packard	QP Adapter	85650A	2811A010169	1/15/2004
Hewlett Packard	S/A Display	8566B	2542A12974	1/15/2004
Hewlett Packard	S/A Display	8566B	2637A03376	1/15/2004
Hewlett Packard	RF Preselector	85685A	2810A00692	1/15/2004
Rohde & Schwarz	S/A Display	FSEK20	DE2525315	1/14/2004
EMCO	Horn Antenna 1-18GHz	3115	2638	7/10/2004
EMCO	Horn Antenna 18-26.5GHz	3160-09	9904-1165	N/A
Chase	Bi-Con Antenna 30-300MHz	VBA6106A	1246	6/23/2004
Chase	Log-Periodic Antenna	UPA6108	1120	6/18/2004

All equipment is on a one-year calibration cycle.

**Measurement Procedures and Data**

**RF POWER OUTPUT**

**Measurement Procedure**

The RF output port of the equipment under test is directly coupled to the input of a HPE4406A Vector Signal Analyzer through a 10dB passive attenuator, adaptor (if needed), and specialized RF connector. The peak power output is measured for all channels.

CFR Part 2.1046

**Measurement Results**

\* Data supplied by SAR Lab

**AMPS**

Frequency (MHz)	Power (dBm)
824.04	26.92
836.52	26.96
848.97	26.73

**CDMA 800**

Frequency (MHz)	Power (dBm)
824.70	24.84
836.52	24.93
848.31	24.80

**CDMA 1900**

Frequency (MHz)	Power (dBm)
1851.25	24.07
1880.00	24.83
1908.75	24.32

## RADIATED (ERP)

### Measurement Procedure

The phone was tested in a 16' cubical anechoic chamber with a 2-axis position system that permits taking complete spherical scans of the EUT's radiation patterns. For all tests, the phone was supported in a free space type environment, vertically oriented in the chamber. Tests were done for Analog three frequencies (824.04, 836.52, and 848.97 MHz), CDMA 800 three frequencies (824.2, 836.6, and 848.8), and CDMA 1900 three frequencies (1851.25, 1880.00, and 1908.75 MHz) with antenna stubby.

CDMA measurements were made with the phone placed in a call using the CMD80 mobile station test set. The phone was weakly coupled to the test set and configured to transmit in full data rate mode. Radiated power was measured at each 15 degree step. The radiated power was measured using a Gigatronics 8542C power meter in "Mod Avg" mode. From these measurements, the software calculates the angle at which maximum radiated power occurs for each case, and the radiated power at this angle was extracted from the data. The max radiated power results for the IHDT56DP1 follows, as EIRP in dBm. To get ERP (effective radiated power referenced to a half-wave dipole), subtract 2.1 dB.

### Measurement Results

\* Data not supplied by EMC Lab

#### **AMPS:**

824.04 MHz: 24.96 dBm

836.52 MHz: 24.63 dBm

848.97 MHz: 24.94 dBm

#### **CDMA 800**

824.70 MHz: 24.74 dBm

836.52 MHz: 24.64 dBm

848.37 MHz: 25.00 dBm

#### **CDMA 1900**

1851.25 MHz: 22.03 dBm

1880.0 MHz: 23.05 dBm

1908.75 MHz: 24.64 dBm

For all measurements, calibration was performed via gain substitution with a half-wave dipole.

Max EIRP in AMPS 800 is 24.96 dBm (**max ERP is 22.86 dBm**)

Max EIRP in CDMA 800 is 25.00 dBm (**max ERP is 22.90 dBm**)

**Max EIRP in CDMA1900 is 24.64 dBm**

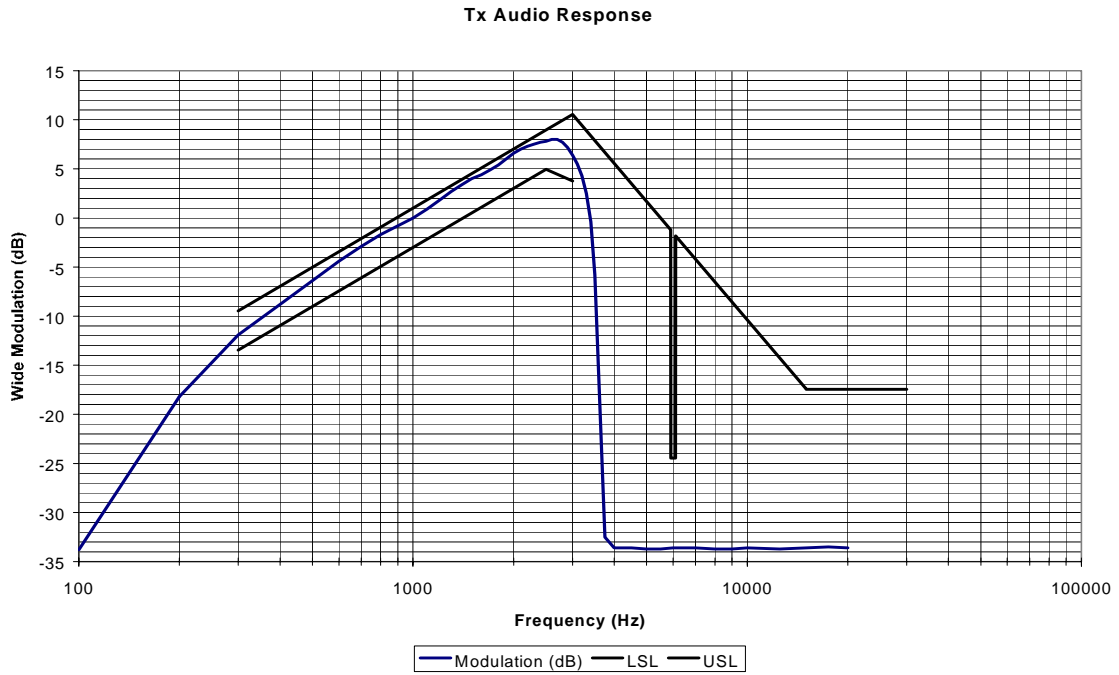
# MODULATION CHARACTERISTICS

CFR Part 2.1047, 22.915

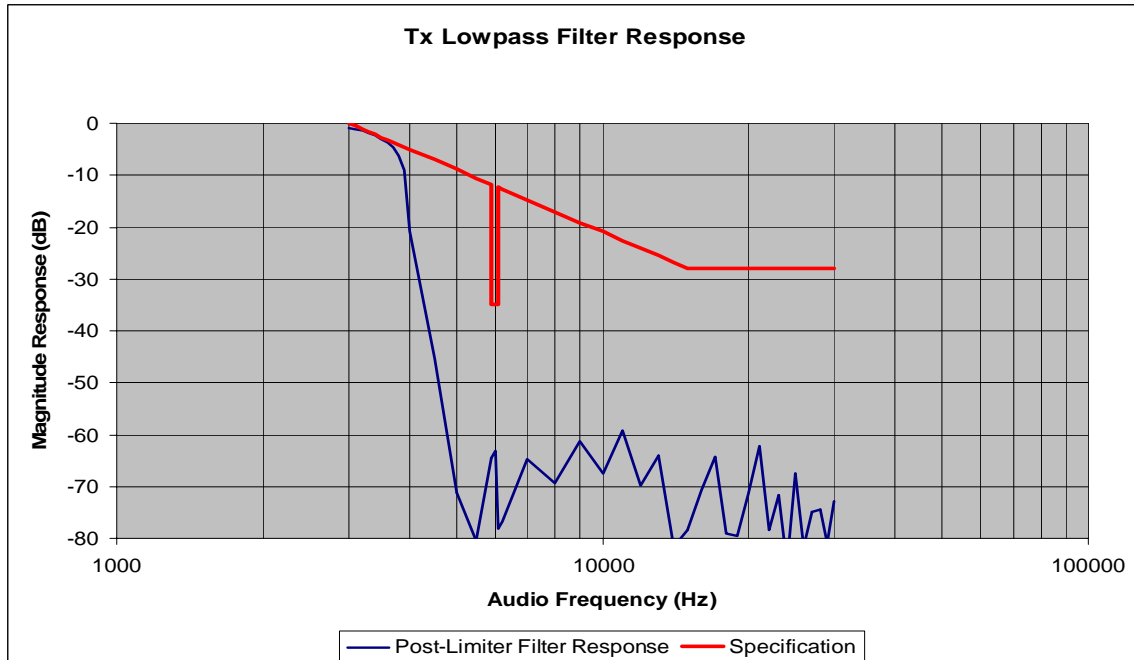
## Measurement Results -AMPS

\* Data supplied by product group

### Transmit Audio Frequency Response

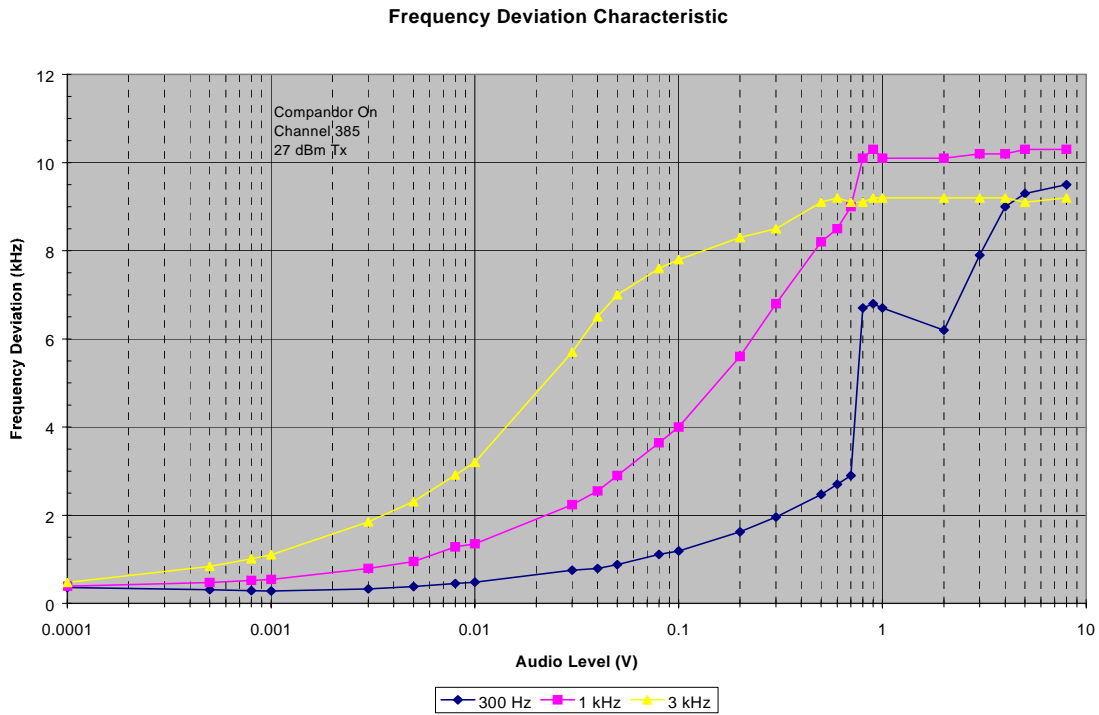


### Post Limiter Filter Attenuation

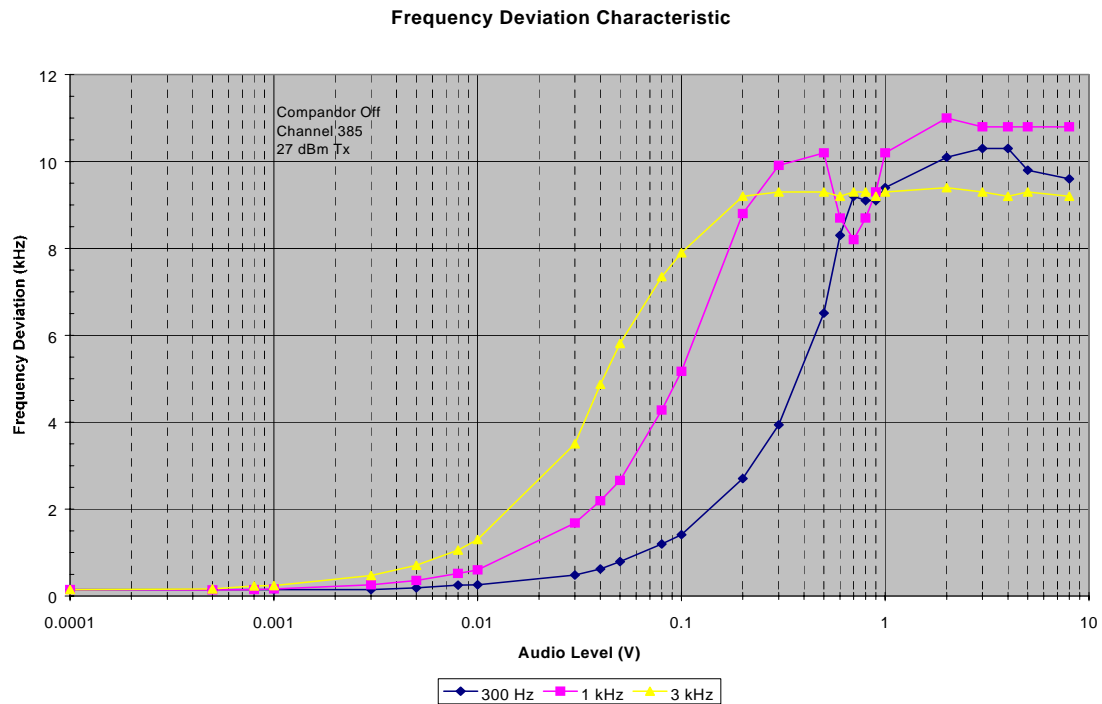


### Modulation Limiting vs. Modulation Input Voltage

#### Compandor On



#### Compandor Off



## OCCUPIED BANDWIDTH

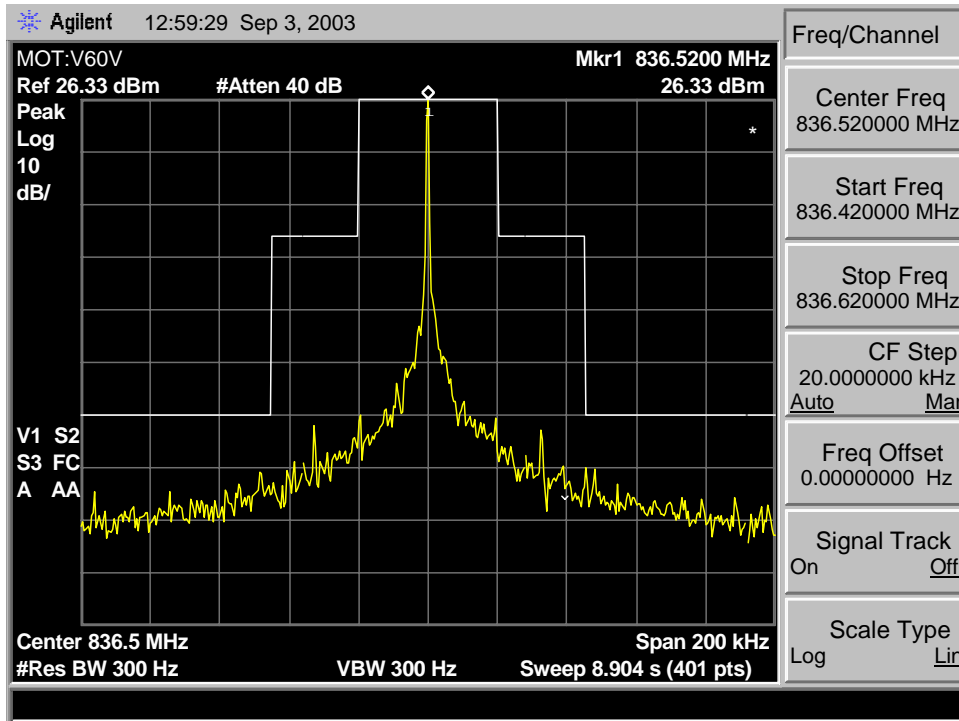
CFR Part 2.1049, 24.238, 22.917

### **Measurement Procedure**

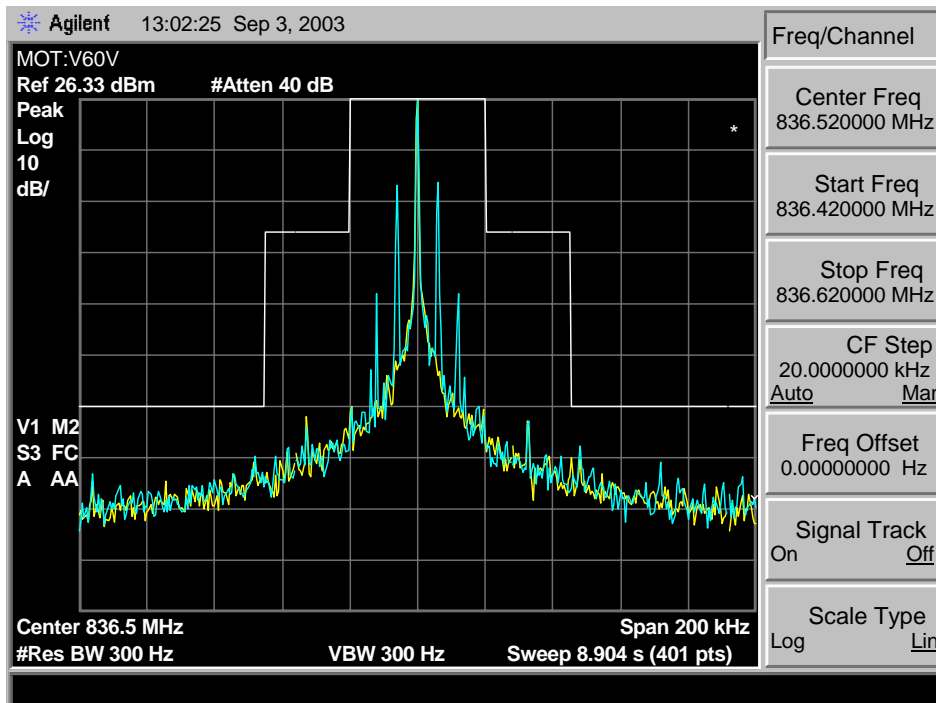
The RF output port of the equipment under test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. The amplitude of the spectrum analyzer is corrected for the attenuator and any other applicable losses. A fully charged battery was used for the supply voltage.

The middle channel within the designated frequency block was measured. For digital modulation, the lower and upper band edge plots are displayed.

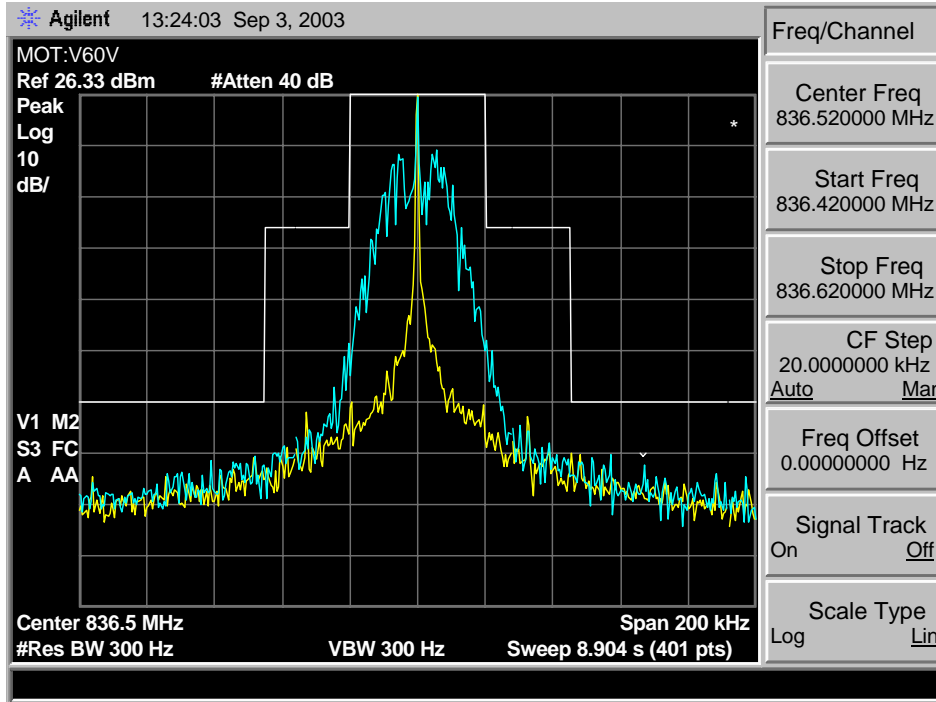
### Measurement Results – AMPS



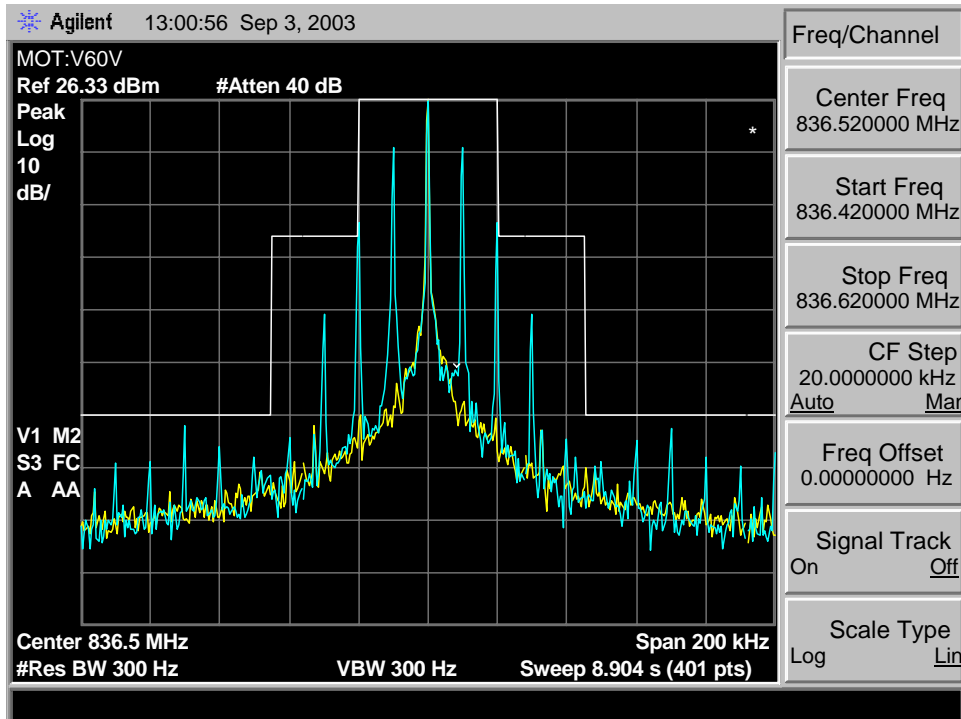
800 AMPS Unmodulated



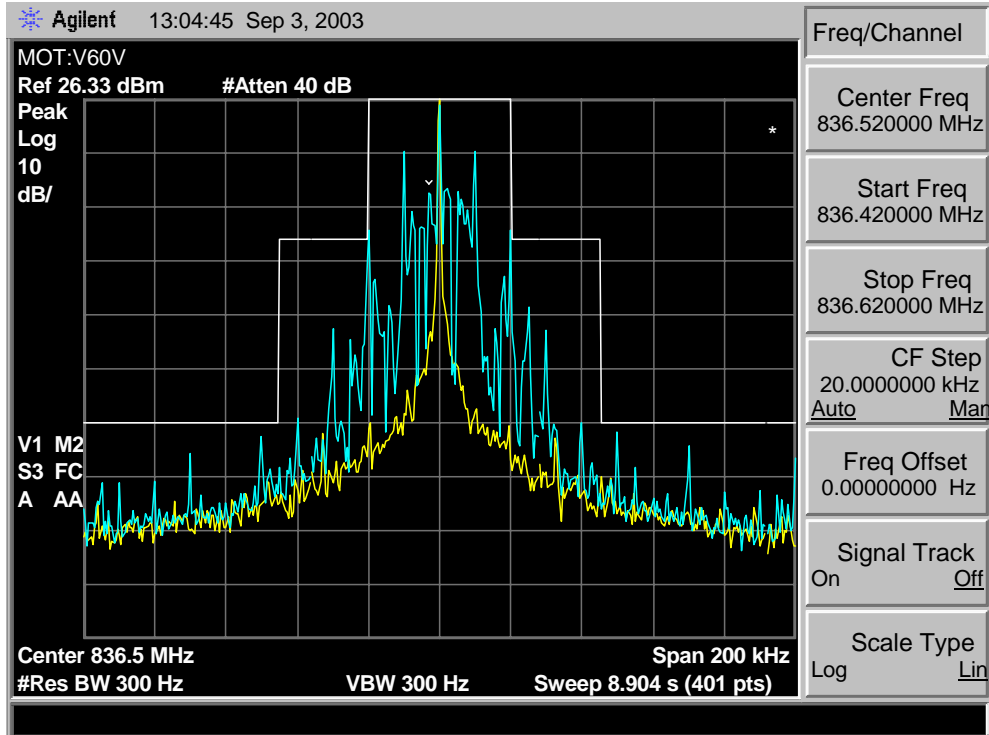
800 AMPS SAT Tone



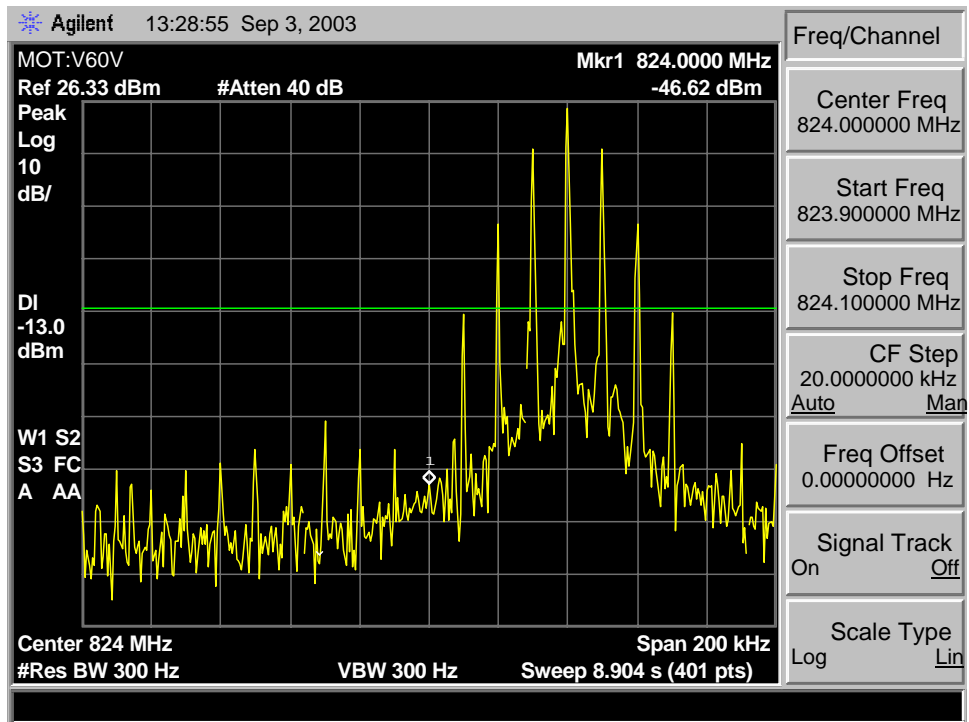
800 AMPS Voice



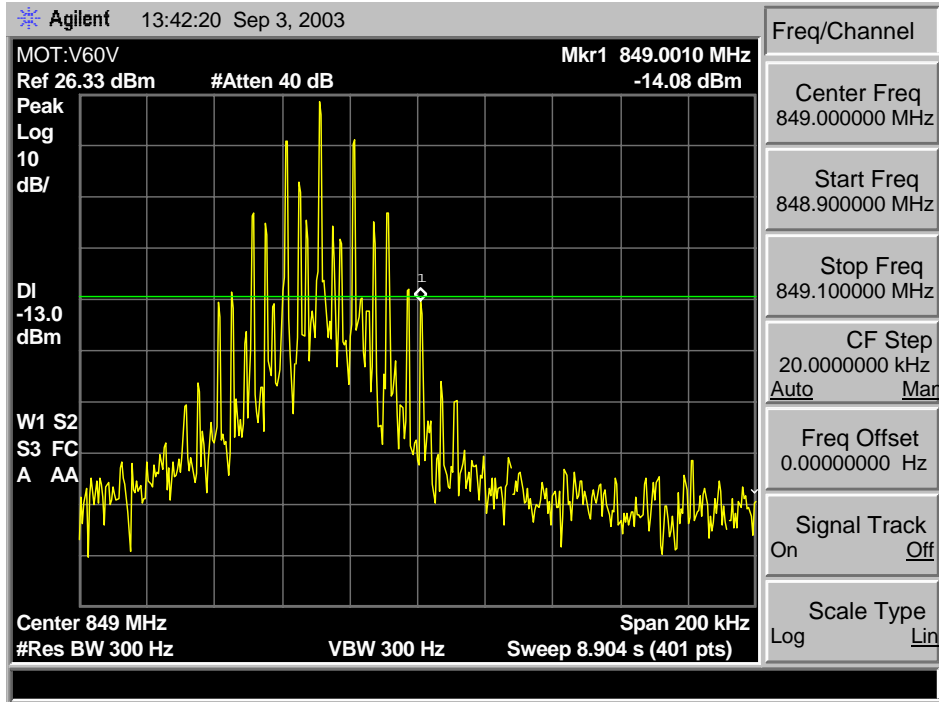
800 AMPS Signal



800 AMPS Wide Band Data

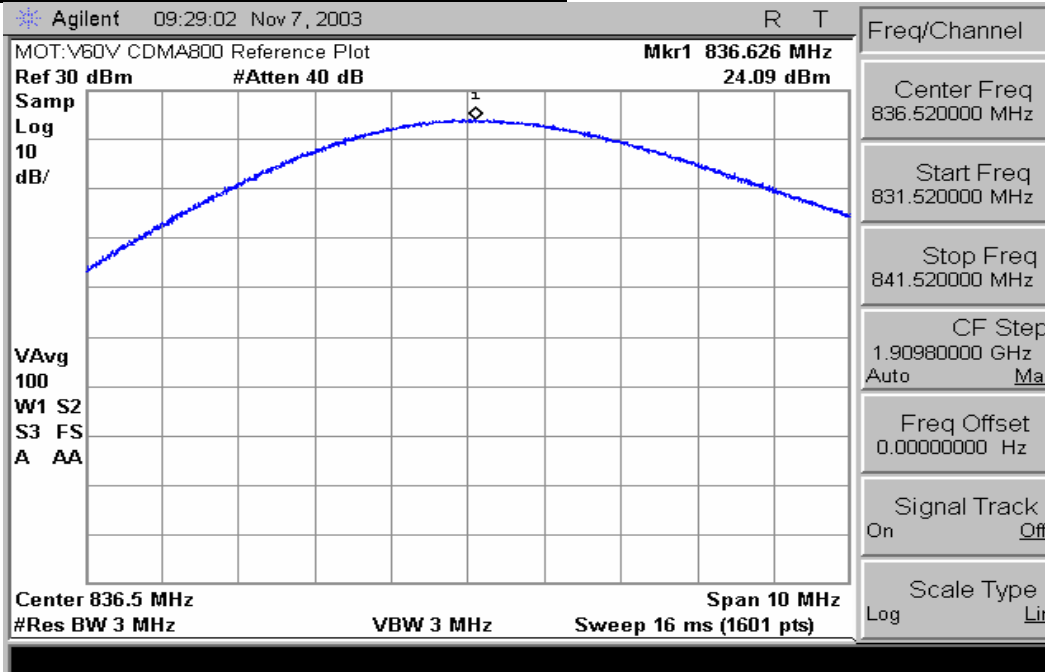


800 AMPS Lower Band Edge

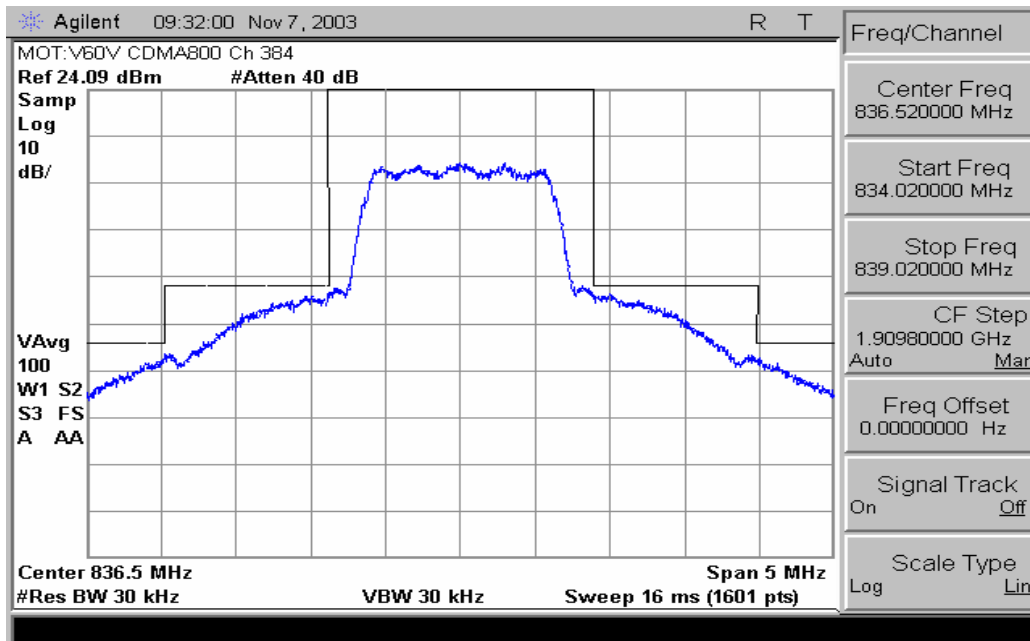


800 AMPS Upper Band Edge

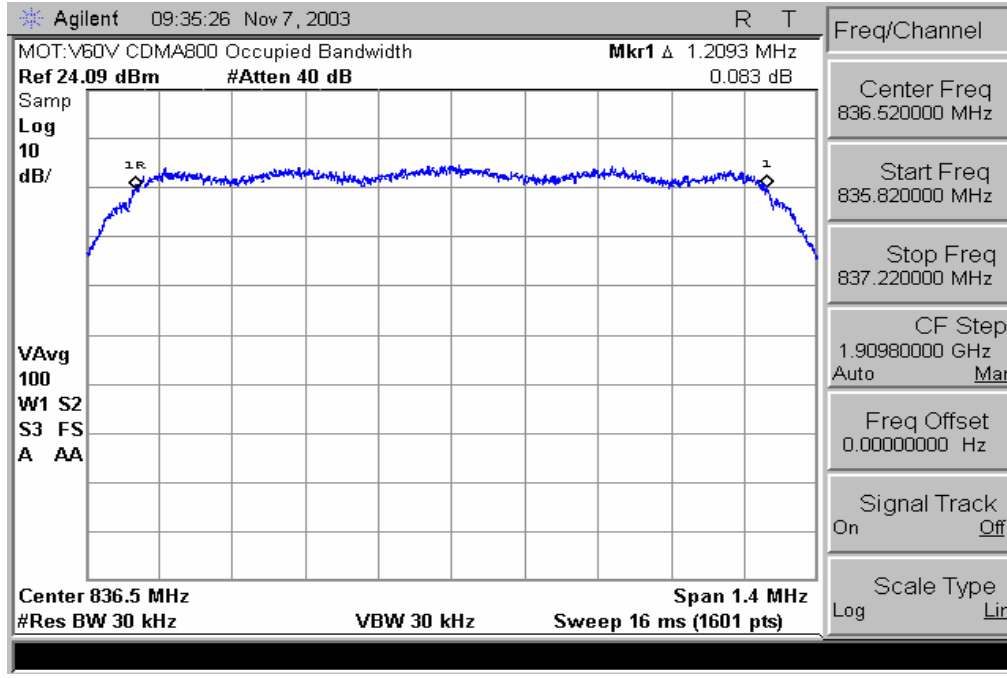
**Measurement Results – CDMA 800**



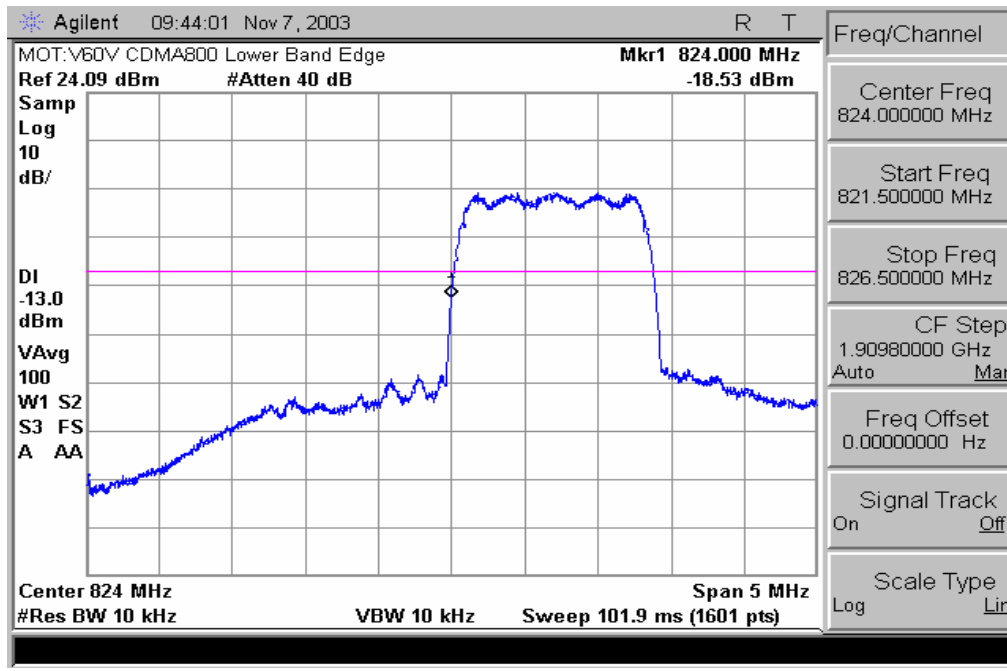
**800 CDMA 800 Reference Plot**



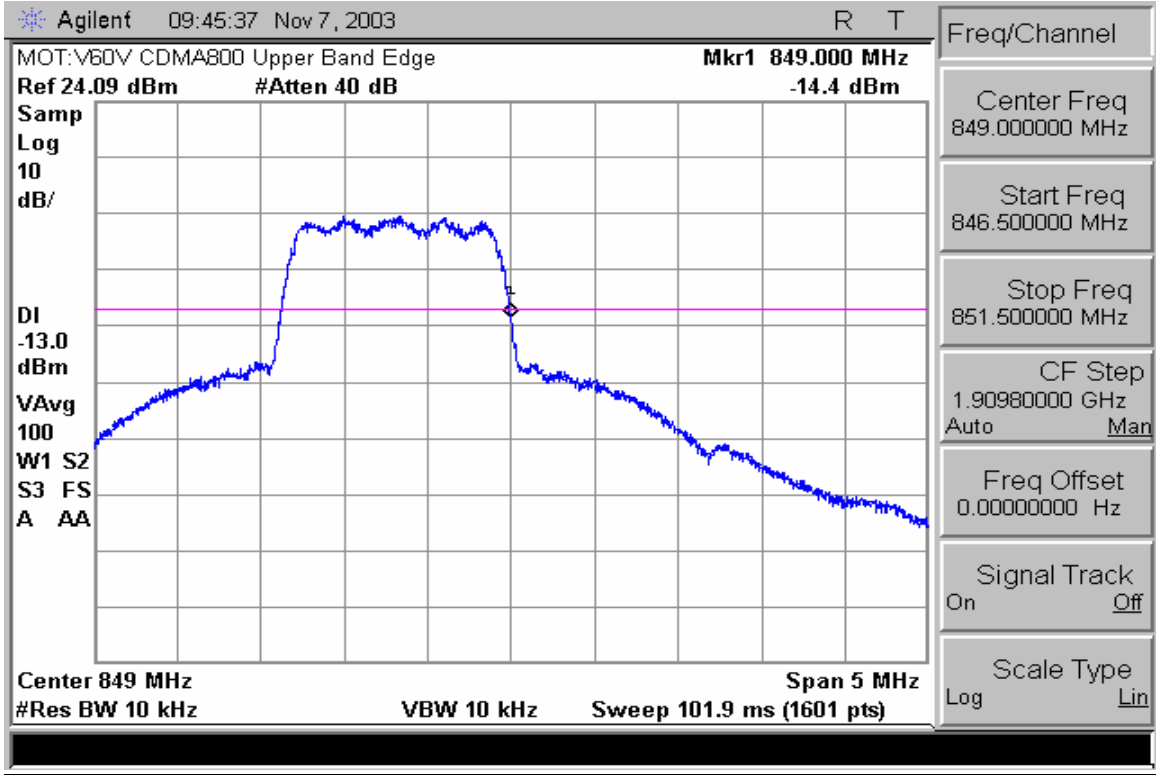
**800 CDMA Bandwidth**



**800 CDMA Occupied Bandwidth Measurement**

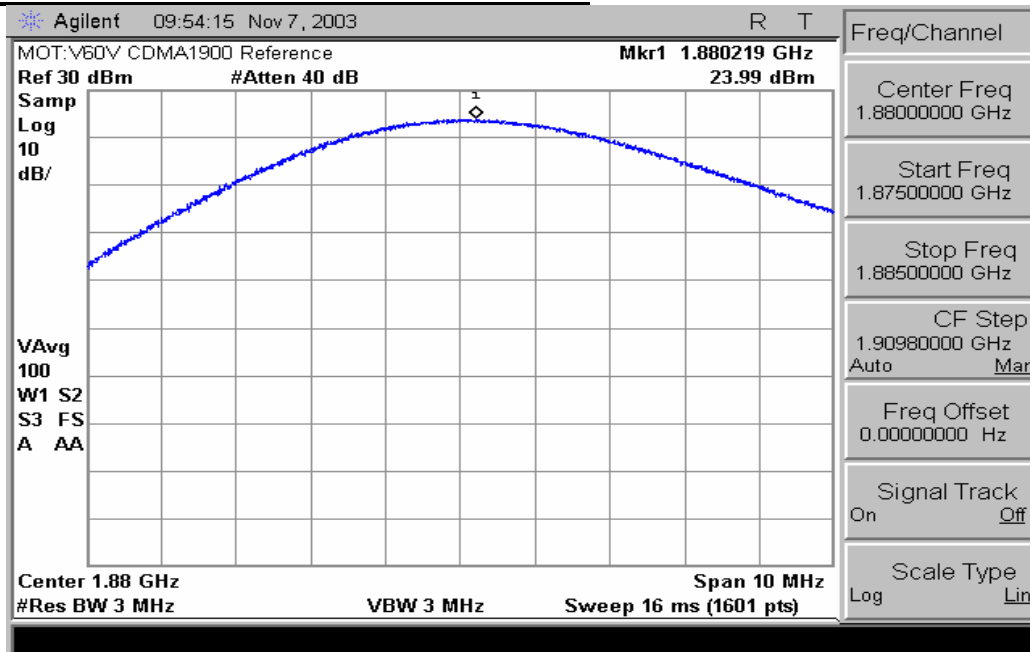


**800 CDMA Lower Edge**

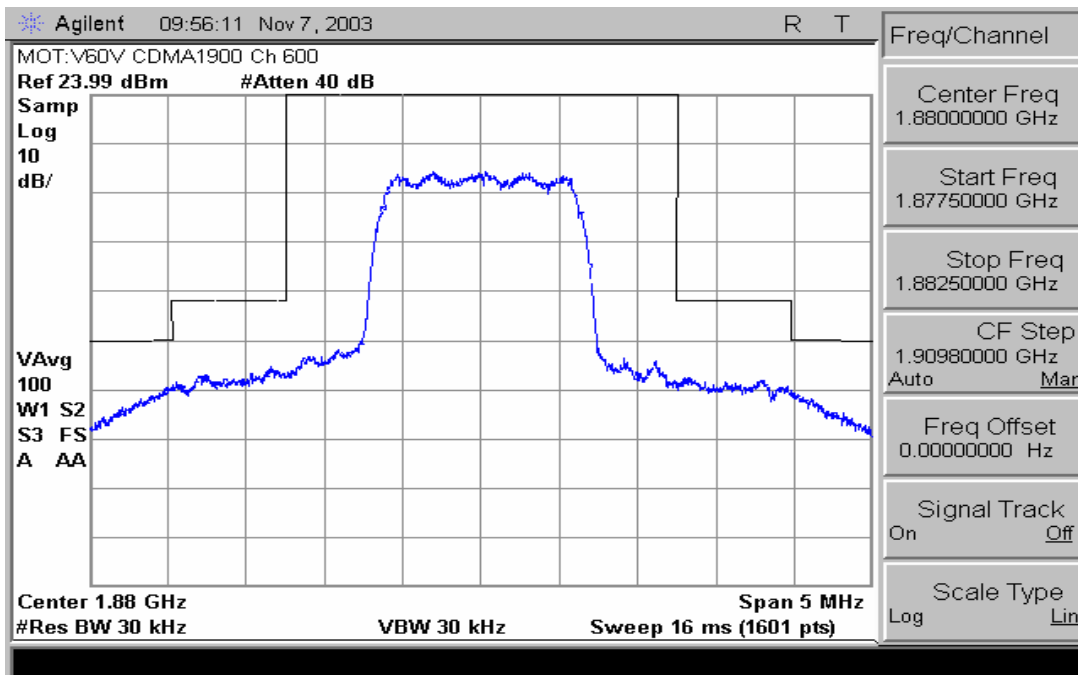


**800 CDMA Upper Edge**

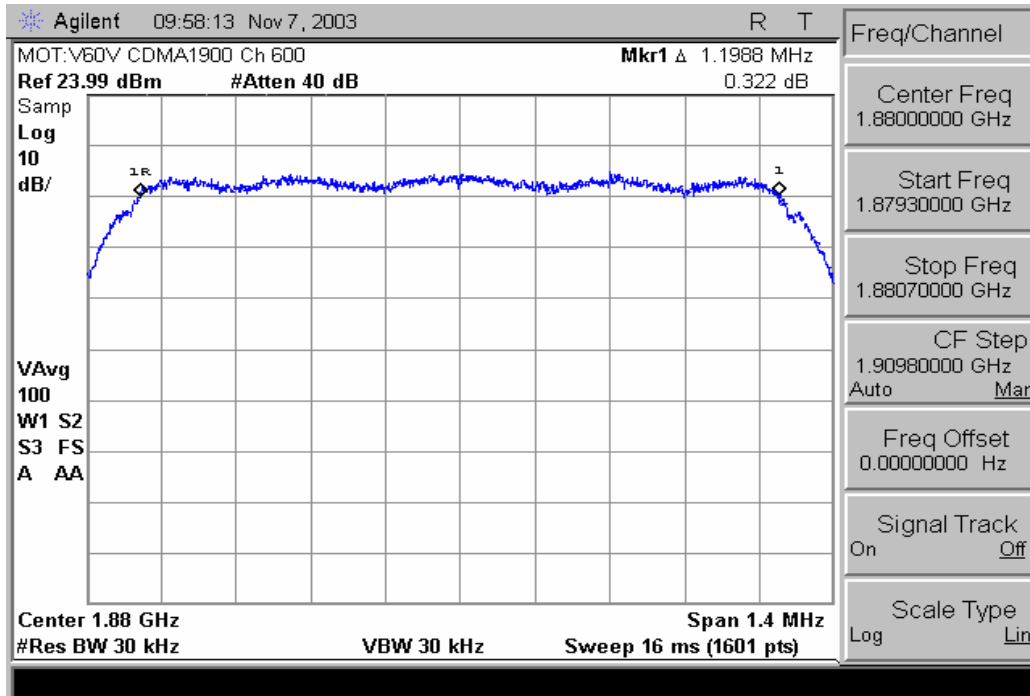
**Measurement Results – CDMA 1900**



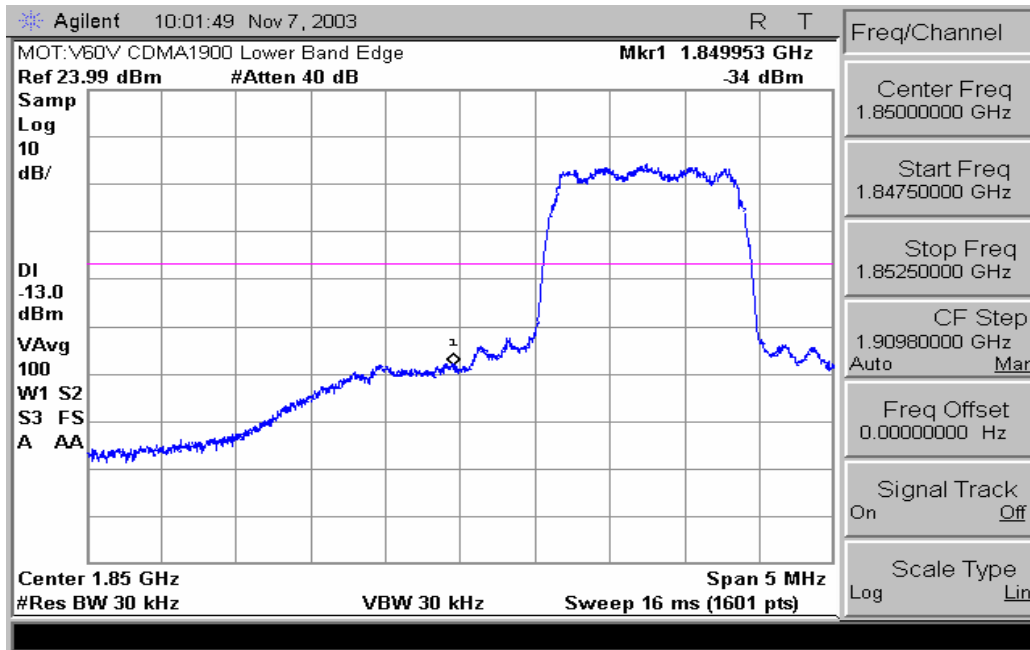
**1900 CDMA Reference Plot**



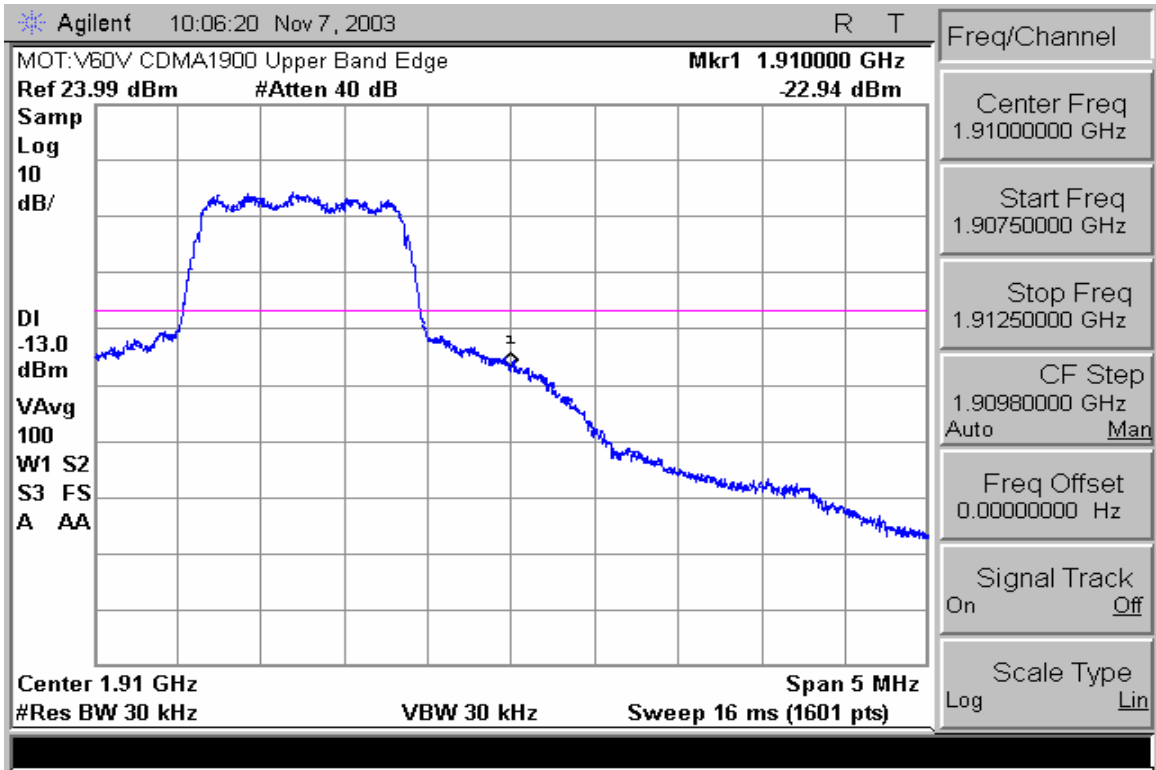
**1900 CDMA Occupied Band**



**1900 CDMA Occupied Band Measurement**



**1900 CDMA Lower Band Edge**



1900 CDMA Upper Band Edge

## **SPURIOUS EMISSIONS AT ANTENNA TERMINALS**

CFR Part 2.1051, 22.917, 24.238

### **Measurement Procedure**

The RF output port of the Equipment Under Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage.

The spectrum was investigated from the lowest frequency signal generated, without going below 9 kHz, up to at least the tenth harmonic of the fundamental or 40 GHz, whichever is lower.

Measurements were made at the middle channel within the frequency band and within the base station frequency range (869-894 MHz) for cellular.

### **Instrument Settings**

Resolution Bandwidth: 1 MHz (PCS), 100 kHz (800 CDMA)

Video Bandwidth:  $\geq$  RBW

Detector: Peak

Sweep: Auto – Cal

Trace: Max Hold

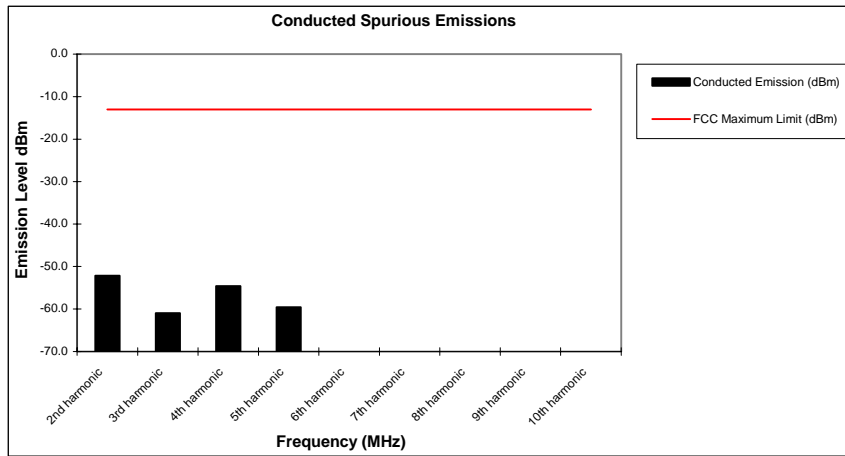
### **Measurement Results**

Attached

**Measurement Results**  
**Modulation: AMPS**

**Conducted Spurious and Harmonic Emissions**

Harmonic of Fundamental	FCC Maximum Limit (dBm)	Conducted Emission (dBm)
2nd harmonic	-13	-52.2
3rd harmonic	-13	-60.9
4th harmonic	-13	-54.6
5th harmonic	-13	-59.6
6th harmonic	-13	*
7th harmonic	-13	*
8th harmonic	-13	*
9th harmonic	-13	*
10th harmonic	-13	*



Notes:

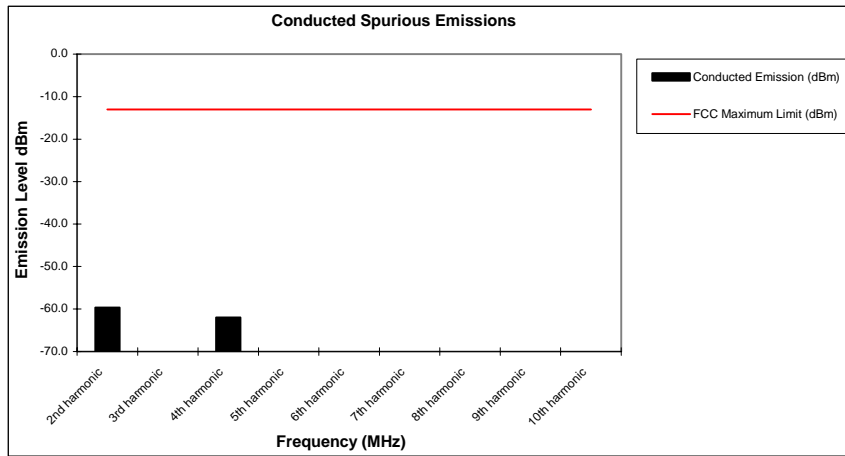
1. \* Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
3. The Spectrum was investigated from 9 kHz to the tenth harmonic of the fundamental.

**Measurement Results**

**Modulation: CDMA 800**

**Conducted Spurious and Harmonic Emissions**

Harmonic of Fundamental	FCC Maximum Limit (dBm)	Conducted Emission (dBm)
2nd harmonic	-13	-59.6
3rd harmonic	-13	*
4th harmonic	-13	-62.0
5th harmonic	-13	*
6th harmonic	-13	*
7th harmonic	-13	*
8th harmonic	-13	*
9th harmonic	-13	*
10th harmonic	-13	*



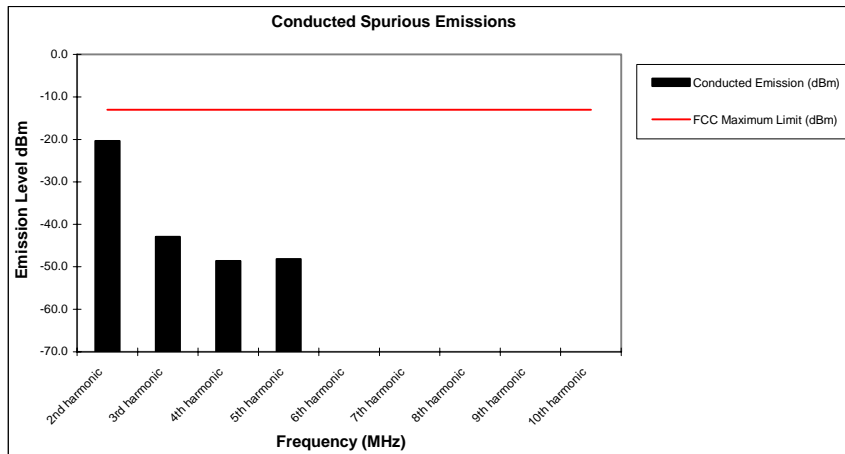
Notes:

- \* Indicates the spurious emission could not be detected due to noise limitations or ambients.
- Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
- The Spectrum was investigated from 9 kHz to the tenth harmonic of the fundamental.

**Measurement Results**  
**Modulation: CDMA 1900**

**Conducted Spurious and Harmonic Emissions**

Harmonic of Fundamental	FCC Maximum Limit (dBm)	Conducted Emission (dBm)
2nd harmonic	-13	-20.4
3rd harmonic	-13	-42.9
4th harmonic	-13	-48.6
5th harmonic	-13	-48.2
6th harmonic	-13	*
7th harmonic	-13	*
8th harmonic	-13	*
9th harmonic	-13	*
10th harmonic	-13	*



Notes:

- \* Indicates the spurious emission could not be detected due to noise limitations or ambients.
- Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
- The Spectrum was investigated from 9 kHz to the tenth harmonic of the fundamental.

## **FIELD STRENGTH OF SPURIOUS EMISSIONS**

CFR Part 2.1053, 22.917, 24.238

### **Measurement Procedure**

The equipment under test is placed inside the semi-anechoic chamber on a wooden table at the turntable center. For each spurious frequency, the antenna mast is raised and lowered from 1 to 4 meters and the turntable is rotated 360 degrees to obtain a maximum reading on the spectrum analyzer. This is repeated for both horizontal and vertical polarizations of the receive antenna.

The equipment under test is then replaced with a substitution antenna fed by a signal generator. With the signal generator tuned to a particular spurious frequency, the antenna mast is raised and lowered from 1 to 4 meters to obtain a maximum reading at the spectrum analyzer. The output of the signal generator is then adjusted until a reading identical to that obtained with the actual transmitter is achieved.

The power in dBm of each spurious emission is calculated by correcting the signal generator level for cable loss and gain of the substitution antenna referenced to a dipole (ANSI/TIA/EIA-603-1992 Section 2.2.12). A fully-charged battery was used for the supply voltage.

### **Instrument Settings**

Resolution Bandwidth: 1 MHz (PCS Band), 30 kHz (Cellular Band)  
Video Bandwidth:  $\geq$  RBW  
Detector: Peak  
Sweep: Auto – Cal  
Trace: Max Hold

### **Measurement Results**

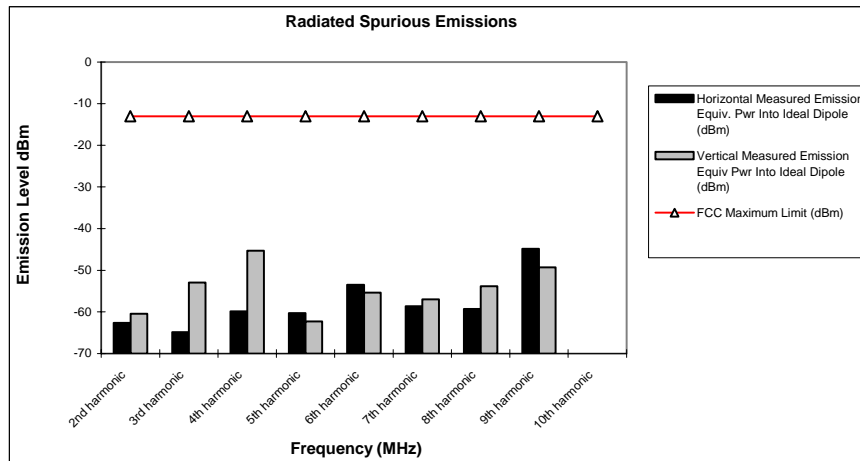
Attached

**Measurement Results**

**Modulation: AMPS**

**Radiated Spurious and Harmonic Emissions**

Frequency (MHz)	FCC Maximum Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
2nd harmonic	-13	-62.7	-60.5
3rd harmonic	-13	-64.9	-53.0
4th harmonic	-13	-59.8	-45.3
5th harmonic	-13	-60.3	-62.3
6th harmonic	-13	-53.5	-55.4
7th harmonic	-13	-58.6	-57.0
8th harmonic	-13	-59.3	-53.9
9th harmonic	-13	-44.9	-49.3
10th harmonic	-13	*	*



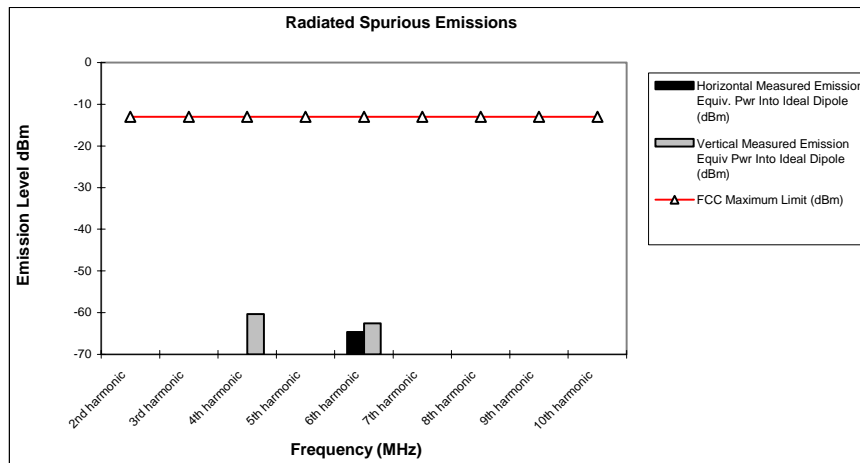
Notes:

1. \* Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
3. The Spectrum was investigated from 30 MHz to the tenth harmonic of the fundamental.

**Measurement Results**  
**Modulation: CDMA 800**

**Radiated Spurious and Harmonic Emissions**

Frequency (MHz)	FCC Maximum Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
2nd harmonic	-13	*	*
3rd harmonic	-13	*	*
4th harmonic	-13	*	-60.3
5th harmonic	-13	-79.6	-80.4
6th harmonic	-13	-64.7	-62.6
7th harmonic	-13	-82.4	*
8th harmonic	-13	*	*
9th harmonic	-13	-82.1	*
10th harmonic	-13	*	*



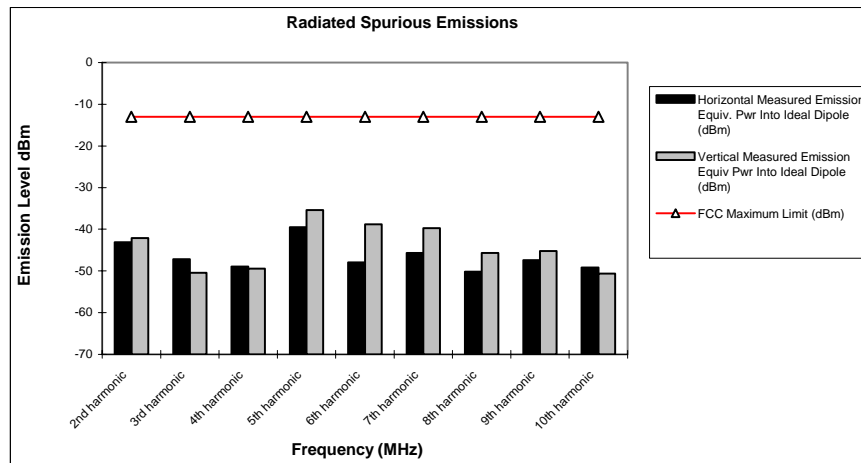
Notes:

1. \* Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
3. The Spectrum was investigated from 30 MHz to the tenth harmonic of the fundamental.

**Measurement Results**  
**Modulation: CDMA 1900**

**Radiated Spurious and Harmonic Emissions**

Frequency (MHz)	FCC Maximum Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
2nd harmonic	-13	-43.1	-42.1
3rd harmonic	-13	-47.1	-50.4
4th harmonic	-13	-49.0	-49.5
5th harmonic	-13	-39.5	-35.4
6th harmonic	-13	-47.9	-38.8
7th harmonic	-13	-45.7	-39.8
8th harmonic	-13	-50.2	-45.7
9th harmonic	-13	-47.4	-45.2
10th harmonic	-13	-49.2	-50.6



Notes:

1. \* Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
3. The Spectrum was investigated from 30 MHz to the tenth harmonic of the fundamental.

## FREQUENCY STABILITY

CFR Part 2.1055, 22.355, 24.235

### **Measurement Procedure**

The equipment under test is placed in an environmental chamber. The antenna port of the Equipment Under Test is directly coupled to the input of the measurement equipment through a specialized RF connector. A power supply is attached as the primary voltage supply.

Frequency measurements are made at the extremes of the temperature range  $-30^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  and at intervals of  $10^{\circ}\text{C}$  with the primary supply voltage set to the nominal battery operating voltage. A period of time sufficient to stabilize all components of the equipment is allowed at each frequency measurement. The maximum variation of frequency is measured.

At room temperature, the primary supply voltage is reduced to the battery operating endpoint of the equipment under test. The maximum variation of frequency is measured. A battery eliminator was used for the input supply voltage.

### **Measurement Results**

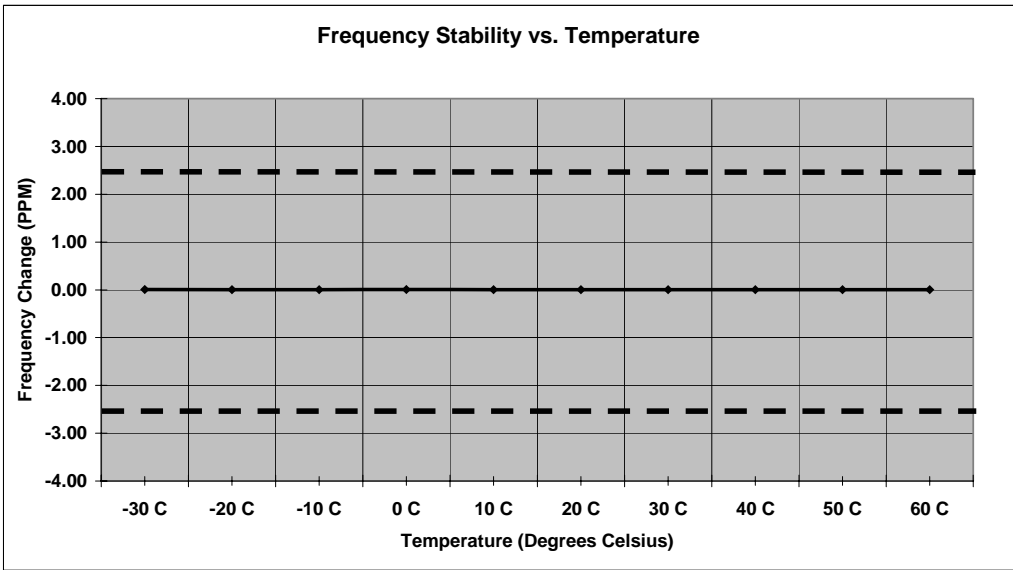
Attached

**Measurement Results**  
**Modulation: AMPS**

**Frequency Stability**

**Mode:** Analog      **Operating Frequency:** 836.52 MHz  
**Channel:** 384      **Deviation Limit (PPM):** 2.5ppm

Temperature C	Frequency Error HZ	Frequency Error (PPM)	Voltage (%)	Voltage (VDC)
-30 C	6.00	0.007	100%	3.60
-20 C	3.00	0.004	100%	3.60
-10 C	3.00	0.004	100%	3.60
0 C	4.00	0.005	100%	3.60
10 C	3.00	0.004	100%	3.60
20 C	3.00	0.004	100%	3.60
30 C	3.00	0.004	100%	3.60
40 C	3.00	0.004	100%	3.60
50 C	3.00	0.004	100%	3.60
60 C	3.00	0.004	100%	3.60
20 C	3.00	0.004	Battery Endpoint	3.30



Technician: Kien  
 Date: 08/27/03  
 Product Name: V60V  
 Submission #: 11966-1  
 S/N: 3DF0C040

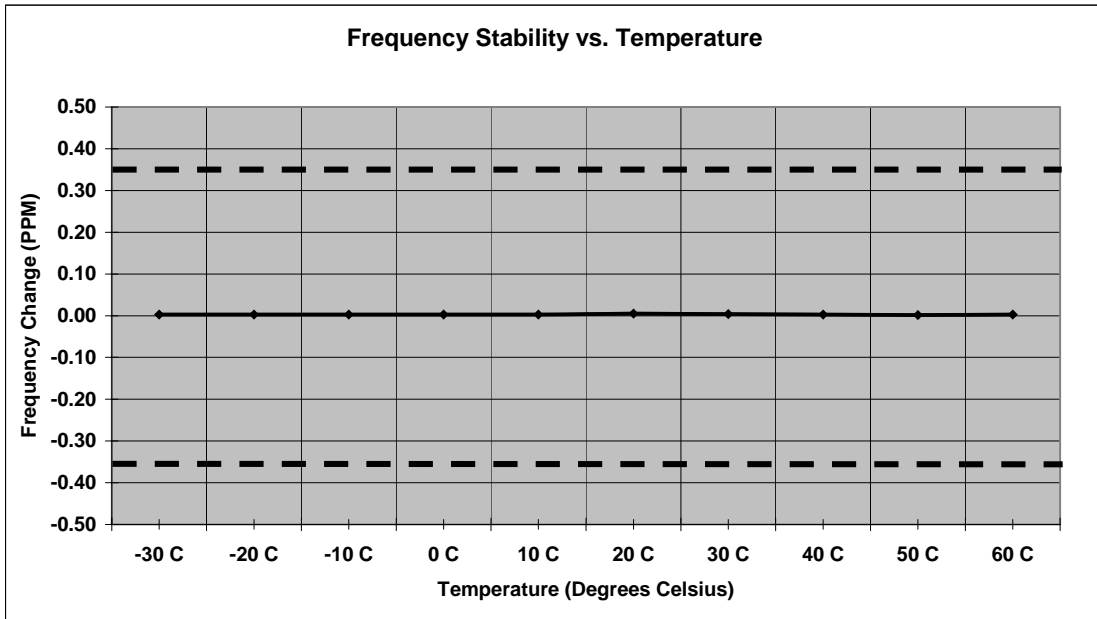
(Uncontrolled When Printed)      Form Control Number: FCD-0192, Rev. 3

**Measurement Results**  
**Modulation: CDMA 800**

**Frequency Stability**

**Mode:** CDMA 800      **Operating Frequency:** 836.52 MHz  
**Channel:** 384      **Deviation Limit (PPM):** 0.359ppm (+/-300 Hz)

Temperature	Frequency Error	Frequency Error	Voltage	Voltage
C	HZ	(PPM)	(%)	(VDC)
-30 C	2.00	0.002	100%	3.60
-20 C	2.00	0.002	100%	3.60
-10 C	2.00	0.002	100%	3.60
0 C	2.00	0.002	100%	3.60
10 C	2.00	0.002	100%	3.60
20 C	4.00	0.005	100%	3.60
30 C	3.00	0.004	100%	3.60
40 C	2.00	0.002	100%	3.60
50 C	1.00	0.001	100%	3.60
60 C	2.00	0.002	100%	3.60
20 C	2.00	0.002	Battery Endpoint	3.30



Technician: Kien  
 Date: 08/27/03  
 Product Name: V60V  
 Submission #: 11966-1  
 S/N: 3DF0C040

(Uncontrolled When Printed)

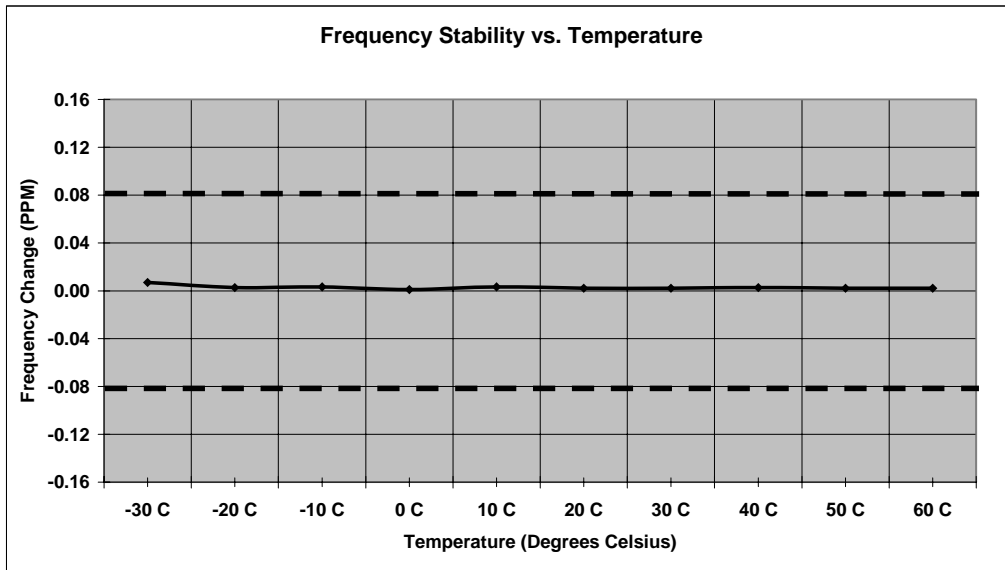
Form Control Number: FCD-0192, Rev. 3

**Measurement Results**  
**Modulation: CDMA 1900**

**Frequency Stability**

**Mode:** CDMA 1900      **Operating Frequency:** 1880.0 MHz  
**Channel:** 600      **Deviation Limit (PPM):** 0.08ppm (+/-150Hz)

Temperature C	Frequency Error HZ	Frequency Error (PPM)	Voltage (%)	Voltage (VDC)
-30 C	13.00	0.007	100%	3.60
-20 C	5.00	0.003	100%	3.60
-10 C	6.00	0.003	100%	3.60
0 C	2.00	0.001	100%	3.60
10 C	6.00	0.003	100%	3.60
20 C	4.00	0.002	100%	3.60
30 C	4.00	0.002	100%	3.60
40 C	5.00	0.003	100%	3.60
50 C	4.00	0.002	100%	3.60
60 C	4.00	0.002	100%	3.60
20 C	3.00	0.002	Battery Endpoint	3.30



Technician: Kien  
 Date: 08/27/03  
 Product Name: V60V  
 Submission #: 11966-1  
 S/N: 3DF0C040

(Uncontrolled When Printed)

Form Control Number: FCD-0192, Rev. 3

## FIELD STRENGTH OF EMISSIONS FROM UNINTENTIONAL RADIATORS

CFR Part 15.109

### Measurement Procedure

The equipment under test is placed inside the semi-anechoic chamber on a wooden table at the turntable center. For each radiated emission, the antenna mast is raised and lowered from 1 to 4 meters and the turntable is rotated 360 degrees to obtain a maximum peak reading on the spectrum analyzer. The radiated emissions are then measured using an EMI receiver employing a CISPR quasi-peak detector function below 1000 MHz and an average detector function above 1000 MHz. This is repeated for both horizontal and vertical polarizations of the receive antenna. A fully charged battery was used for the supply voltage.

The field strength of each radiated emission is calculated by correcting the EMI receiver level for cable loss, amplifier gain, and antenna correction factors.

Field Strength (dBuV/m) = EMI Receiver Level (dBuV) + Cable Loss (dB) -  
Amplifier Gain (dB) + Antenna Correction Factor (1/m)

### Instrument Settings

Resolution Bandwidth: 120 kHz (Below 1 GHz), 1 MHz (Above 1 GHz)  
Video Bandwidth: >= RBW  
Detector: QP (30 MHz – 1 GHz), Ave (> 1GHz), Peak to scan  
Sweep: Auto – Cal  
Trace: Max Hold

### Measurement Results

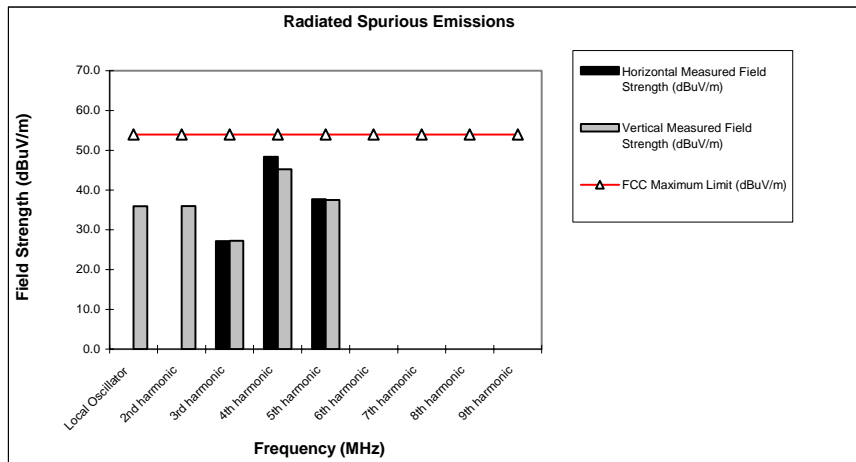
Attached

**Measurement Results**

**Modulation: AMPS**

**Receiver Radiated Spurious Emissions**

Frequency (MHz)	FCC Maximum Limit (dBuV/m)	Horizontal Measured Field Strength (dBuV/m)	Vertical Measured Field Strength (dBuV/m)
Local Oscillator	54	*	35.9
2nd harmonic	54	*	36.0
3rd harmonic	54	27.2	27.2
4th harmonic	54	48.4	45.2
5th harmonic	54	37.7	37.5
6th harmonic	54	*	*
7th harmonic	54	*	*
8th harmonic	54	*	*
9th harmonic	54	*	*
10th harmonic	54	*	*



Notes:

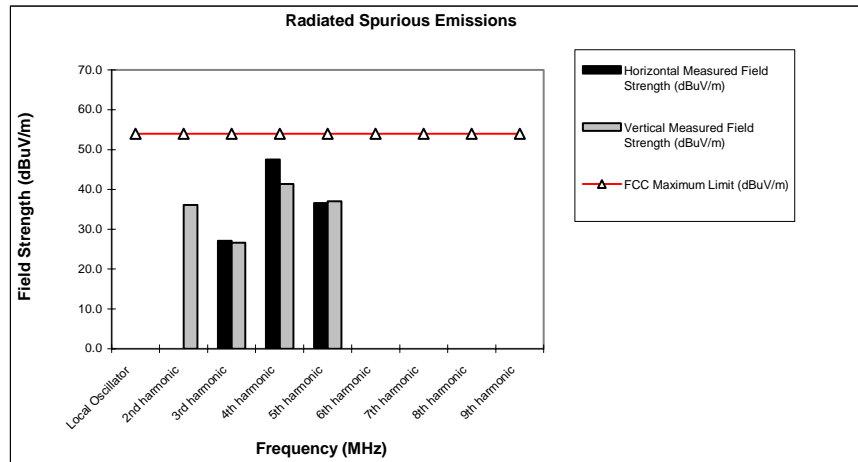
1. \* Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific frequency for the low, mid, and high channels.

**Measurement Results**

**Modulation: CDMA 800**

**Receiver Radiated Spurious Emissions**

Frequency (MHz)	FCC Maximum Limit (dBuV/m)	Horizontal Measured Field Strength (dBuV/m)	Vertical Measured Field Strength (dBuV/m)
Local Oscillator	54	*	*
2nd harmonic	54	*	36.1
3rd harmonic	54	27.1	26.6
4th harmonic	54	47.5	41.4
5th harmonic	54	36.6	37.0
6th harmonic	54	*	*
7th harmonic	54	*	*
8th harmonic	54	*	*
9th harmonic	54	*	*
10th harmonic	54	*	*



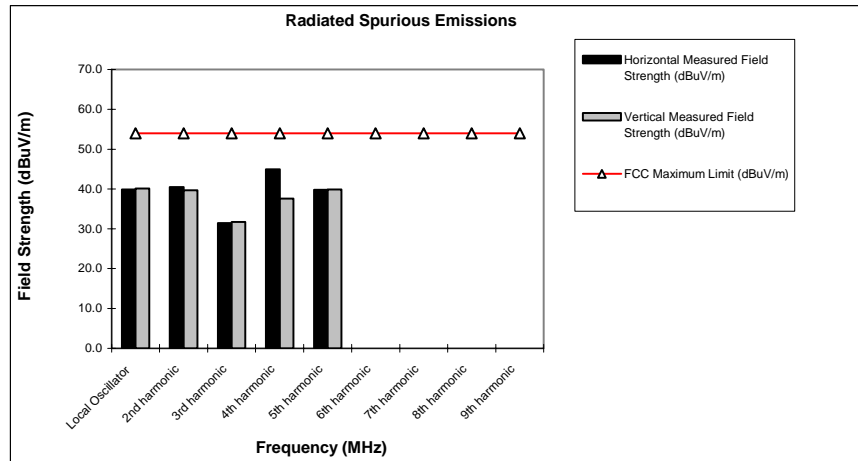
Notes:

1. \* Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific frequency for the low, mid, and high channels.

**Measurement Results**  
**Modulation: CDMA 1900**

**Receiver Radiated Spurious Emissions**

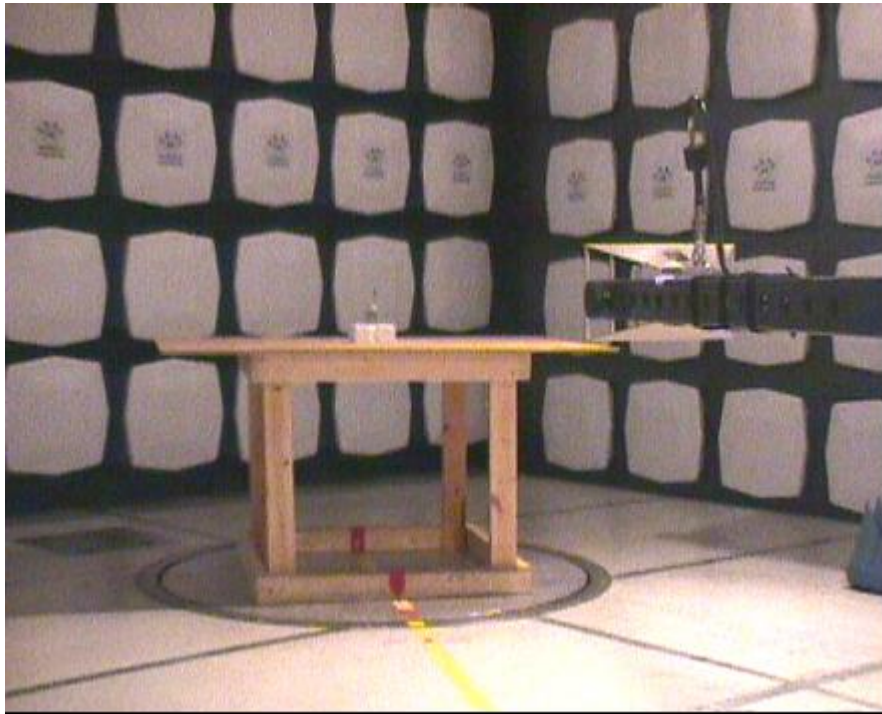
Frequency (MHz)	FCC Maximum Limit (dBuV/m)	Horizontal Measured Field Strength (dBuV/m)	Vertical Measured Field Strength (dBuV/m)
Local Oscillator	54	39.9	40.1
2nd harmonic	54	40.5	39.7
3rd harmonic	54	31.4	31.8
4th harmonic	54	44.9	37.6
5th harmonic	54	39.8	39.9
6th harmonic	54	*	*
7th harmonic	54	*	*
8th harmonic	54	*	*
9th harmonic	54	*	*
10th harmonic	54	*	*



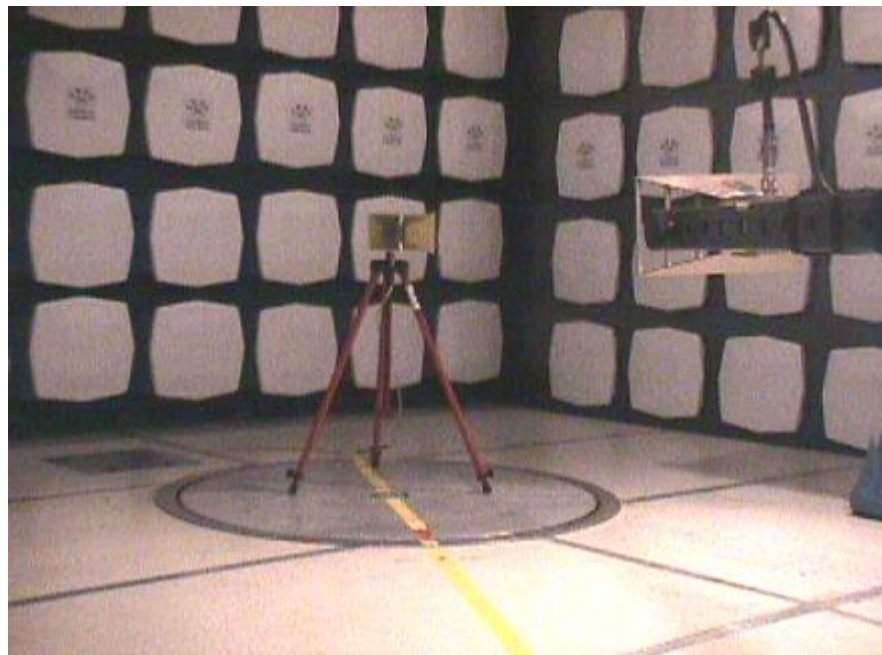
Notes:

- \* Indicates the spurious emission could not be detected due to noise limitations or ambients.
- Each emission reported reflects the highest absolute level at the specific frequency for the low, mid, and high channels.

**Appendix A – Radiated Emissions Test Setup Photos**



A.1 Radiated Emissions Measurement



A.2 Substitution Measurement

**End of Test Report**