



## TEST REPORT FOR CERTIFICATION

**Test Report:** 2005 020083-FCC  
**FCC ID:**

**Equipment Under Test:** CDMA 800 Cellular Phone  
**Model:** CV343

**Applicant:** VITELCOM MOBILE TECHNOLOGY U.S.A.  
2480 Irvine Boulevard #172  
Tustin, California 92782  
714.389.1169

**In Accordance With:** FCC Part 22, Subpart H

**Tested By:** Nemko USA Inc.  
11696 Sorrento Valley Road  
San Diego, CA 92121-1024

**Date:** February 28, 2005

**Total Number of Pages:** 31

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## Section 1. Summary of Test Results

### General:

**All measurements are traceable to national standards.**

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 22.

### DOCUMENT HISTORY

| REVISION   | DATE              | COMMENTS                    |
|------------|-------------------|-----------------------------|
| -          | February 28, 2005 | Prepared By: A. Laudani     |
| -          | February 28, 2005 | Initial Release: R. L. Hill |
| Revision A | May 3, 2005       | A. Laudani                  |

NOTE: Nemko USA, Inc. hereby makes the following statements so as to conform to Chapter 10 (Test Reports) Requirements of ANSI C63.4 (1992) "Methods and Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz":

- The unit described in this report was received at Nemko USA, Inc.'s facilities on **February 23, 2005**. Testing was performed on the unit described in this report on **February 23, 2005 to March 8, 2005**.
- Retest for Revision A occurred for conducted RF power and frequency stability May 3, 2005.
- The Test Results reported herein apply only to the Unit actually tested, and to substantially identical Units.
- This report does not imply the endorsement of the Federal Communications Commission (FCC), NVLAP or any other government agency.

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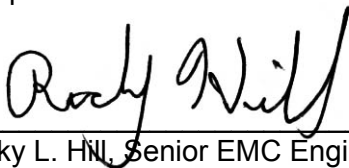
## CERTIFICATION

Nemko USA, Inc., an independent Electromagnetic Compatibility (EMC) Test Laboratory, produced this Test Report and performed the Radio Frequency Interference (RFI) testing and data evaluation contained herein.

Nemko USA, Inc.'s measurement facility is currently registered with the United States Federal Communications Commission (FCC) in accordance with the provisions of 47 United States Code (CFR) Part 2, Subpart I, Section 2.948(a). A current description of Nemko USA, Inc.'s measurement facility is on file with the FCC. Nemko USA Inc. has additionally satisfied the FCC that it complies with the requirements set forth in 47 CFR Part 2, Subpart I, Section 2.948(d) regarding the accreditation of EMC laboratories. As a result, the FCC has placed Nemko USA Inc. on its list of EMC laboratories approved to perform Declaration of Conformity (DOC) procedure testing.

The RFI testing, test data collection and test data evaluation were accomplished in accordance with the ANSI C63.4-1992 Standard, and in accordance with the applicable sections of the FCC rules (47 CFR Parts 2 and 18)." digital devices. The testing was also accomplished in accordance with Industry Canada's ICES-003 standard for unintentional radiating device per EMCAB-3, Issue 3 (May 1998). The administrative summary of this test report provides a description of the test sample

I hereby certify that the test data, test data evaluation, and equipment configurations used to compile this test report are a true and accurate representation of the test sample's radio frequency interference characteristics as of the test date(s), and, for the design of the test sample.



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Ricky L. Hill, Senior EMC Engineer

**Summary Of Test Data**

| <b>Name Of Test</b>                     | <b>Para. No.</b> | <b>Result</b>   |
|---|------------------|-----------------|
| RF Power Output                         | 2.1046           | Complies        |
| Audio Frequency Response                | 2.1047           | NA <sup>1</sup> |
| Audio Low Pass Filter Response          | 2.1047           | NA <sup>1</sup> |
| Modulation Limiting                     | 2.1047           | NA <sup>1</sup> |
| Occupied Bandwidth (WB Data )           | 2.1049           | Complies        |
| Spurious Emissions at Antenna Terminals | 2.1051           | Complies        |
| Field Strength of Spurious Emissions    | 2.1053           | Complies        |
| Frequency Stability                     | 2.1055           | Complies        |

**Footnotes For N/A's:**     <sup>1</sup> Digital Modulation

**Test Conditions:**

**Indoor**                      Temperature: 18-21 °C  
                                     Humidity:     40-62 %

**Outdoor**                    Temperature: 16-22 °C  
                                     Humidity:     45-62 %

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**Section 2.           General Equipment Specification**

|                              |                                     |
|------------------------------|-------------------------------------|
| Manufacturer:                | VITELCOM MOBILE TECHNOLOGY U.S.A.   |
| Model No.:                   | CV343                               |
| Serial No.:                  | N/A                                 |
| Antenna Model:               | CWH700<br>Part Number: A2A10A000K44 |
| Date Received In Laboratory: | February 23, 2005                   |
| Nemko Identification No.:    | 25-083-VITR1                        |
| Frequency Ranges:            | 824.7 – 848.31 MHz                  |
| RF Output (Limit):           | Part 22: 7 Watts                    |
| RF Output (Measured):        | Part 22: 0.29 Watts                 |
| Emission Designators:        | 1M49F9W                             |
| FCC Identifier:              | SELTSM501                           |

### Section 3. RF Power Output

Para. No.: 2.1046

|                                      |                              |
|--------------------------------------|------------------------------|
| <b>Test Performed By:</b> A. Laudani | <b>Date of Test:</b> 2-23-05 |
|--------------------------------------|------------------------------|

**Minimum Standard:** Para. 22.913(a). The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

**Test Results:** Complies, see tables below.

**Measurement Data:**

Radiated RF Power

| Modulation | Frequency (MHz) | Measured (dBm) | Substituted Result (dBm) | Substituted Result Watts |
|------------|-----------------|----------------|--------------------------|--------------------------|
| CDMA       | 824.70          | 22.8           | 19.6                     | 0.09                     |
|            | 836.49          | 23.5           | 20.4                     | 0.11                     |
|            | 848.31          | 25.4           | 21.3                     | 0.14                     |

Conducted ERP

| Modulation | Frequency (MHz) | Measured (dBm) | Gain (dB) | ERP (dBm) | Result Watts |
|------------|-----------------|----------------|-----------|-----------|--------------|
| CDMA       | 824.70          | 24.51          | -1        | 23.51     | 0.28         |
|            | 836.52          | 24.58          | -1        | 23.58     | 0.29         |
|            | 848.30          | 24.51          | -1        | 23.51     | 0.28         |

ERP = Measured + Antenna Gain







Substitution Method For Radiated Emissions

Job # : 25-083-VITR1 Test # : 2  
Page 1 of 1

Client Name : VITELCOM MOBILE TECHNOLOGY U.S.A.  
EUT Name : CDMA 800 Cellular Phone  
EUT Model # : CV343  
EUT Part # : \_\_\_\_\_  
EUT Serial # : \_\_\_\_\_  
EUT Config. : \_\_\_\_\_

Specification : CDMA TX  
FCC Part 22 Reference : \_\_\_\_\_  
Rod. Ant. # : NA Temp. (deg. C) : 18 Date : \_\_\_\_\_  
Bicon Ant.# : NA Humidity (%) : 74 Time : \_\_\_\_\_  
Log Ant.# : 112 EUT Voltage : 3.7 Staff : A. Laudani  
DRG Ant. # : 752 EUT Frequency : dc Photo ID: \_\_\_\_\_  
Dipole Ant.# : NA Phase: na Peak Bandwidth: RBW-1MHz, VBW-1MHz  
Cable#: 60ft Location: SOATS  
Preamp#: 842 Distance: 3m  
Spec An.#: 835

| Frequency<br>mHz | target          |  | Dipole<br>Gain<br>dBi | cable<br>loss<br>dB | Signal<br>Generator<br>dBm | Total<br>(EIRP)<br>dBm | Spec<br>dBm | Margin<br>dBm |
|------------------|-----------------|--|-----------------------|---------------------|----------------------------|------------------------|-------------|---------------|
|                  | level<br>dBuV/m |  |                       |                     |                            |                        |             |               |
| 824.70           | 89.50           |  | 0                     | 4.94                | 24.52                      | 19.6                   | 38.5        | -18.9         |
| 836.49           | 89.83           |  | 0                     | 5.01                | 25.41                      | 20.4                   | 38.5        | -18.1         |
| 848.31           | 90.95           |  | 0                     | 5.11                | 26.43                      | 21.3                   | 38.5        | -17.2         |

| Frequency<br>mHz | target          |  | Horn<br>Gain<br>dBi | cable<br>loss<br>dB | Signal<br>Generator<br>dBm | Total<br>(EIRP)<br>dBm | Spec<br>dBm | Margin<br>dBm |
|------------------|-----------------|--|---------------------|---------------------|----------------------------|------------------------|-------------|---------------|
|                  | level<br>dBuV/m |  |                     |                     |                            |                        |             |               |
| 1649.40          | 46.12           |  | 5.37                | 7.28                | -22.74                     | -24.7                  | -13.0       | -11.7         |
| 1672.98          | 41.95           |  | 5.41                | 7.73                | -26.59                     | -28.9                  | -13.0       | -15.9         |
| 1696.62          | 40.14           |  | 5.45                | 8.47                | -28.04                     | -31.1                  | -13.0       | -18.1         |



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Section 4.                      Audio Frequency Response

**Para. No.: 2.1047**

|                           |                      |
|---------------------------|----------------------|
| <b>Test Performed By:</b> | <b>Date of Test:</b> |
|---------------------------|----------------------|

**Minimum Standard:**                      Para. No. 15-19-B.

**Test Results:**                              Not Applicable, digital modulation

**Measurement Data:**

---

**Section 5. Audio Low-Pass Filter Response****Para. No.: 2.1047**

|                           |                      |
|---------------------------|----------------------|
| <b>Test Performed By:</b> | <b>Date of Test:</b> |
|---------------------------|----------------------|

**Minimum Standard:** Para. No. 22.915 (d).**Test Results:** Not Applicable, digital modulation**Measurement Data:**

- d) Audio filter characteristics. Except as provided in Sec. 22.917, radiotelephony signals applied to the modulator from the modulation limiter must be attenuated as a function of frequency as specified in this paragraph.
- (1) For mobile stations, these signals must be attenuated, relative to the level at 1 kHz, as follows:
    - (i) In the frequency ranges of 3.0 to 5.9 kHz and 6.1 to 15.0 kHz, signals must be attenuated by at least  $40 \log(f/3)$  dB, where  $f$  is the frequency of the signal in kHz.
    - (ii) In the frequency range of 5.9 to 6.1 kHz, signals must be attenuated at least 35 dB.
    - (iii) In the frequency range above 15 kHz, signals must be attenuated at least 28 dB.

**Section 6. Modulation Limiting**

**Para. No.: 2.1047**

|                           |                      |
|---------------------------|----------------------|
| <b>Test Performed By:</b> | <b>Date of Test:</b> |
|---------------------------|----------------------|

**Minimum Standard:** 22.915(b)

**Test Results:** Not Applicable, digital modulation

**Measurement Data:**

SAT Deviation:  
WB Data Deviation:  
ST Deviation:

**Section 7. Occupied Bandwidth**

**Para. No.: 2.1049**

|                                      |                      |
|--------------------------------------|----------------------|
| <b>Test Performed By:</b> A. Laudani | <b>Date of Test:</b> |
|--------------------------------------|----------------------|

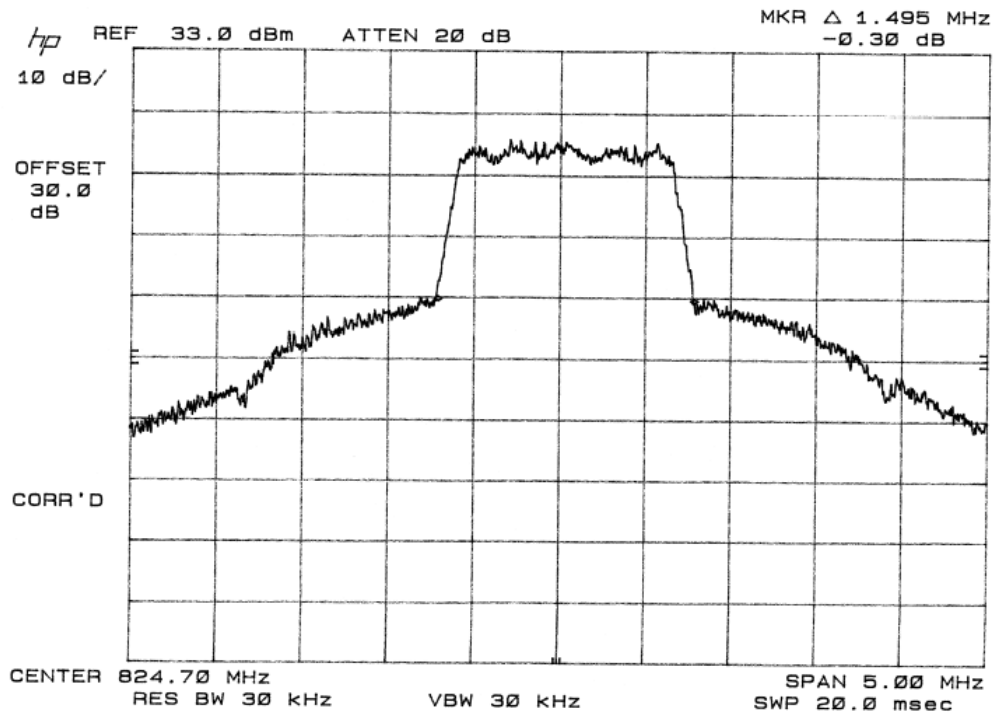
**Minimum Standard:** 22.917(d)

**Test Results:**  
Low Channel – 1.49 MHz  
Mid Channel – 1.43 MHz  
High Channel – 1.48 MHz

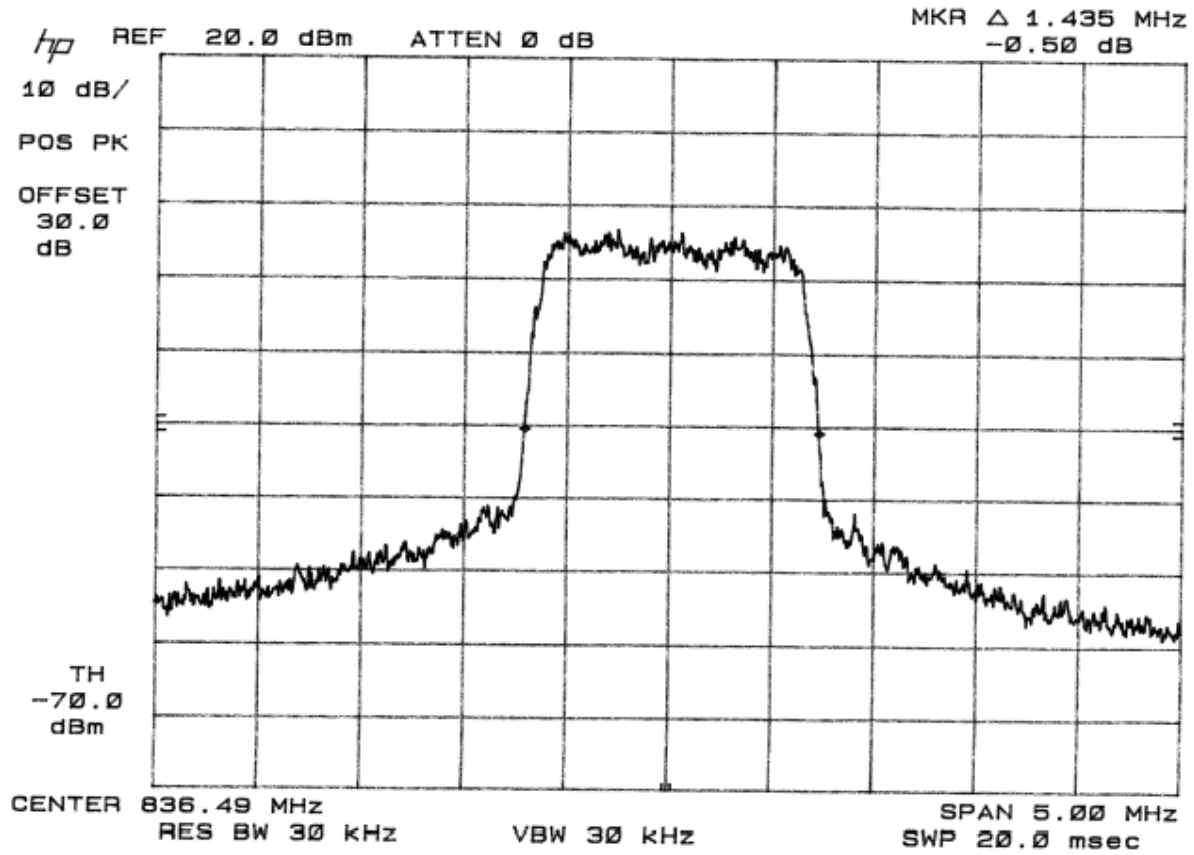
**Test Data:** See plots below.



Low Channel 1013 – 824.7 MHz

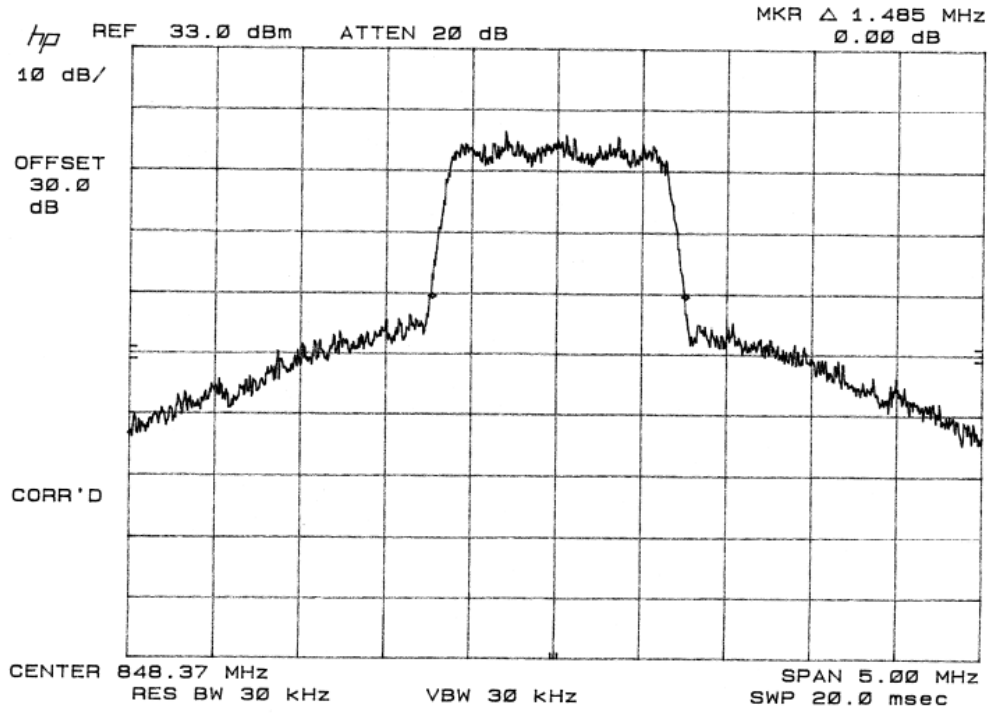


Mid Channel 834 --- 836.49 MHz





### High Channel 777 – 848.37 MHz





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**Section 8. Spurious Emissions At Antenna Terminals**

**Para. No.: 2.1051**

|                                      |                              |
|--------------------------------------|------------------------------|
| <b>Test Performed By:</b> A. Laudani | <b>Date of Test:</b> 2-25-05 |
|--------------------------------------|------------------------------|

**Minimum Standard:** Para. No. 22.917(b).

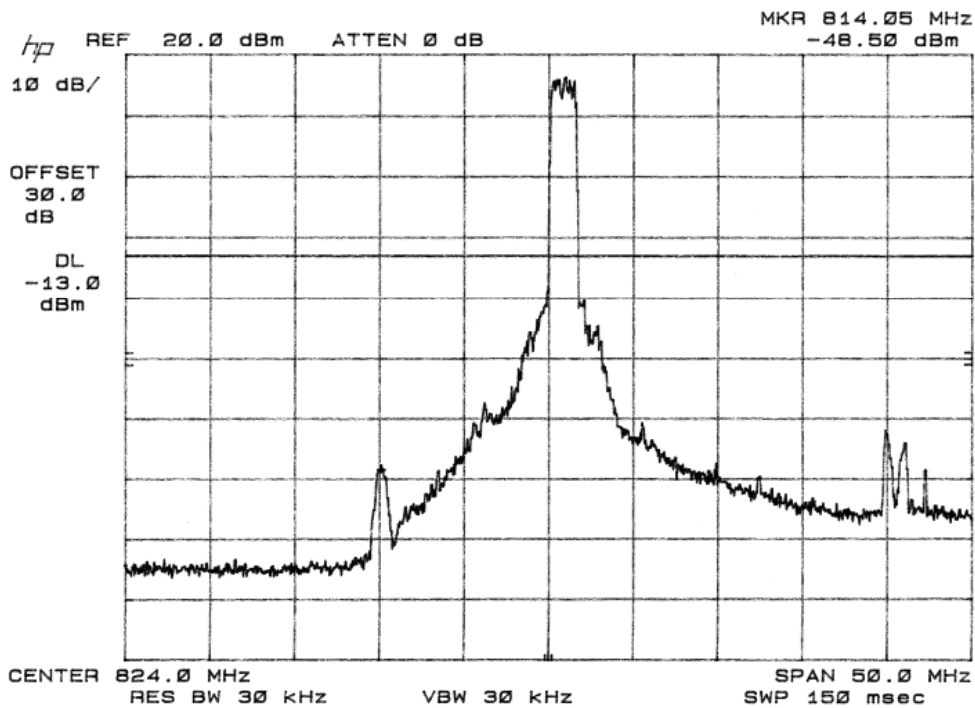
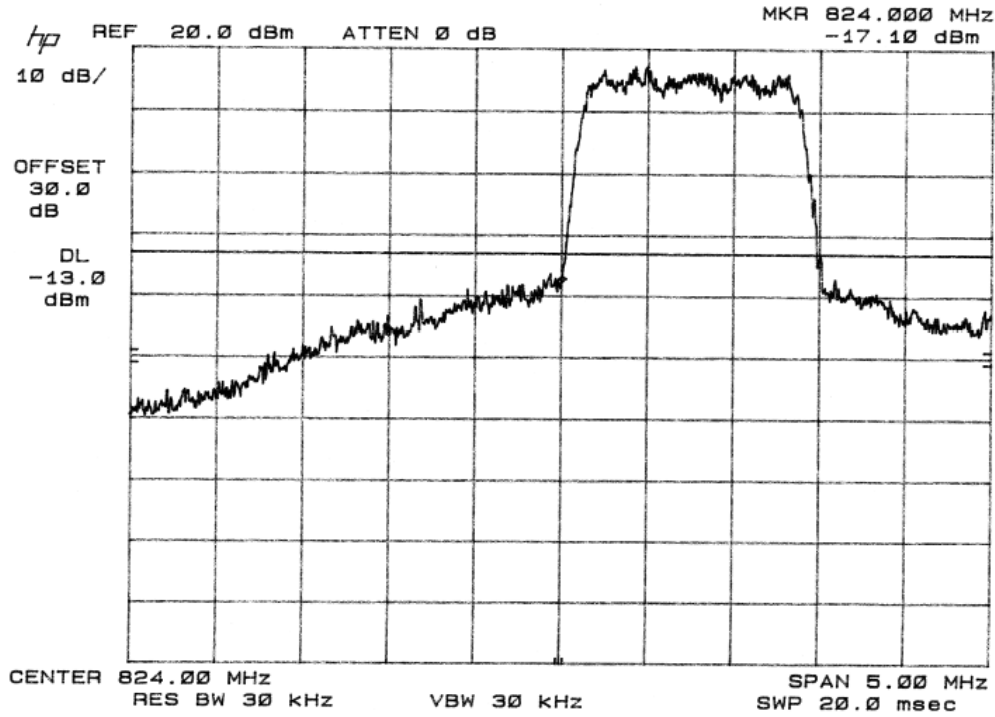
**Test Results:** From 30 MHz to 10 times the transmit frequency or 9000 MHz, worst emissions found were 4.7 dB below the limit @ 1645 MHz

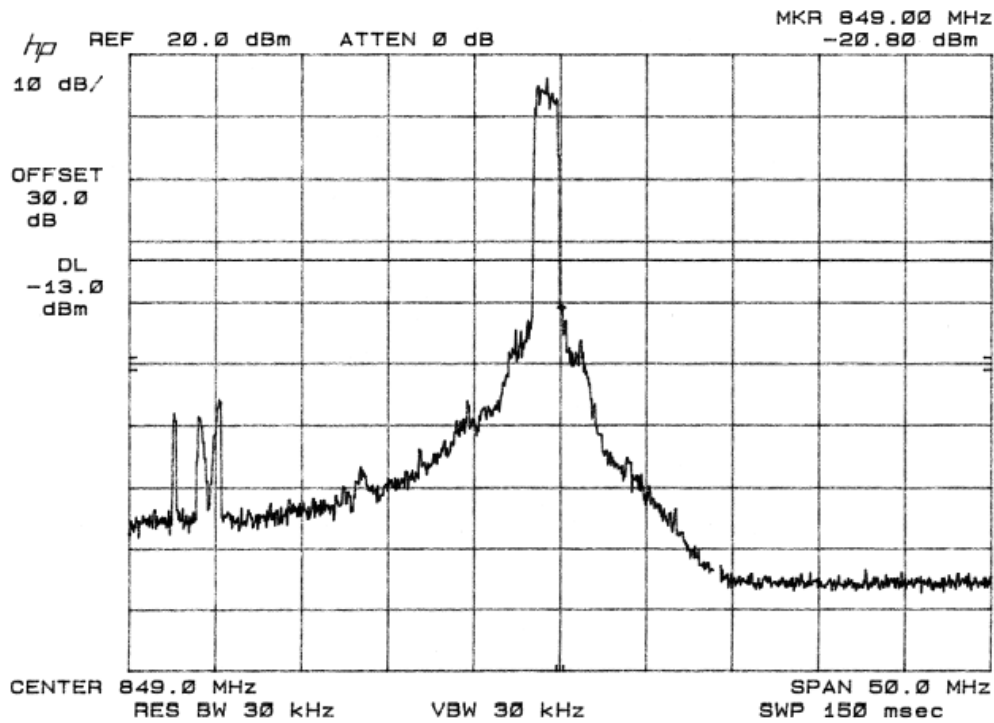
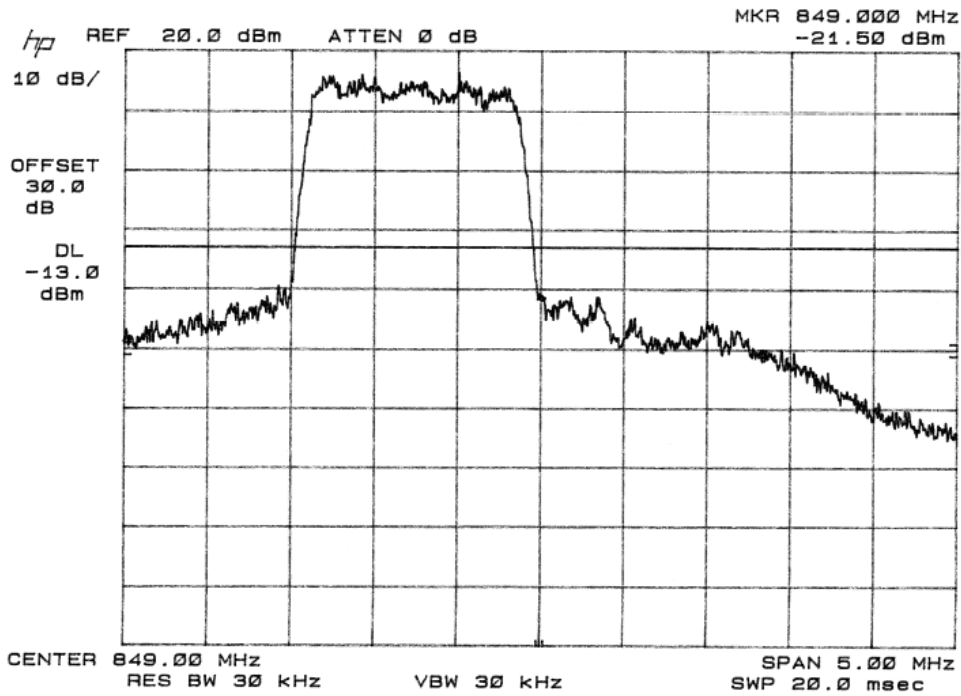
Bandedge measurements (pages 18-19) show compliance.  
Out of band Spurious (pages 20-22) show compliance.

**Test Data:** See plots below.

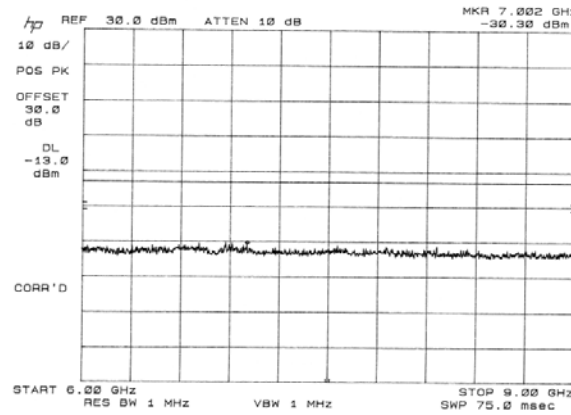
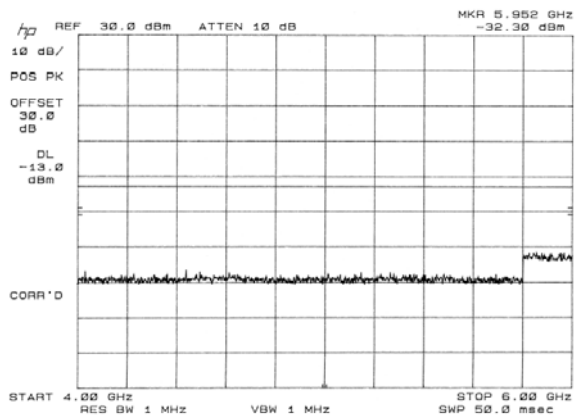
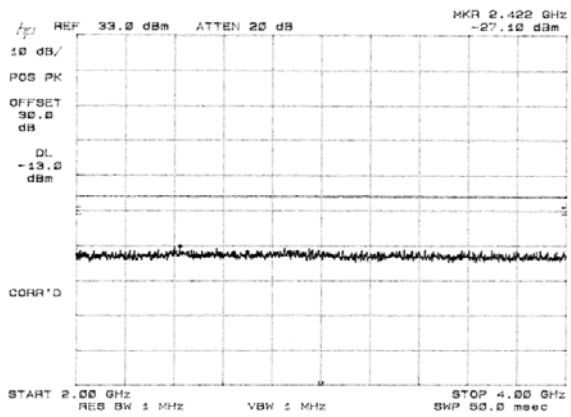
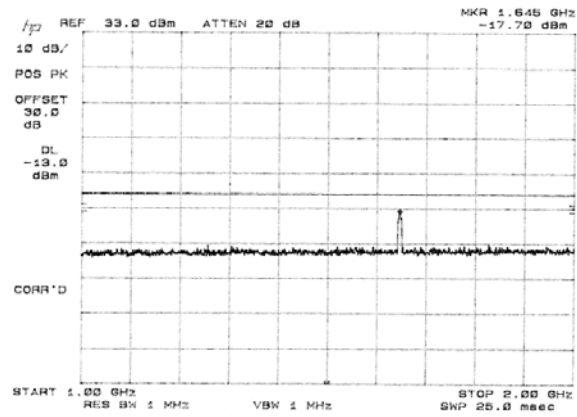
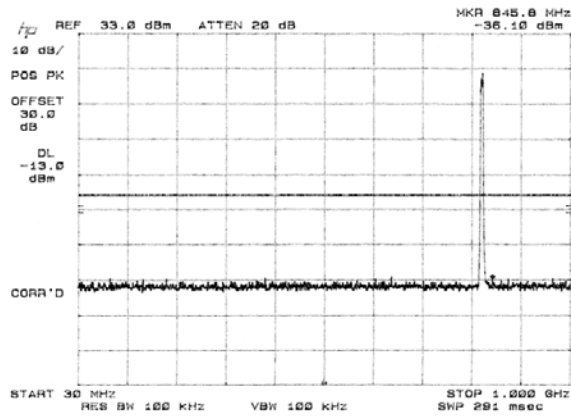


Band Edge

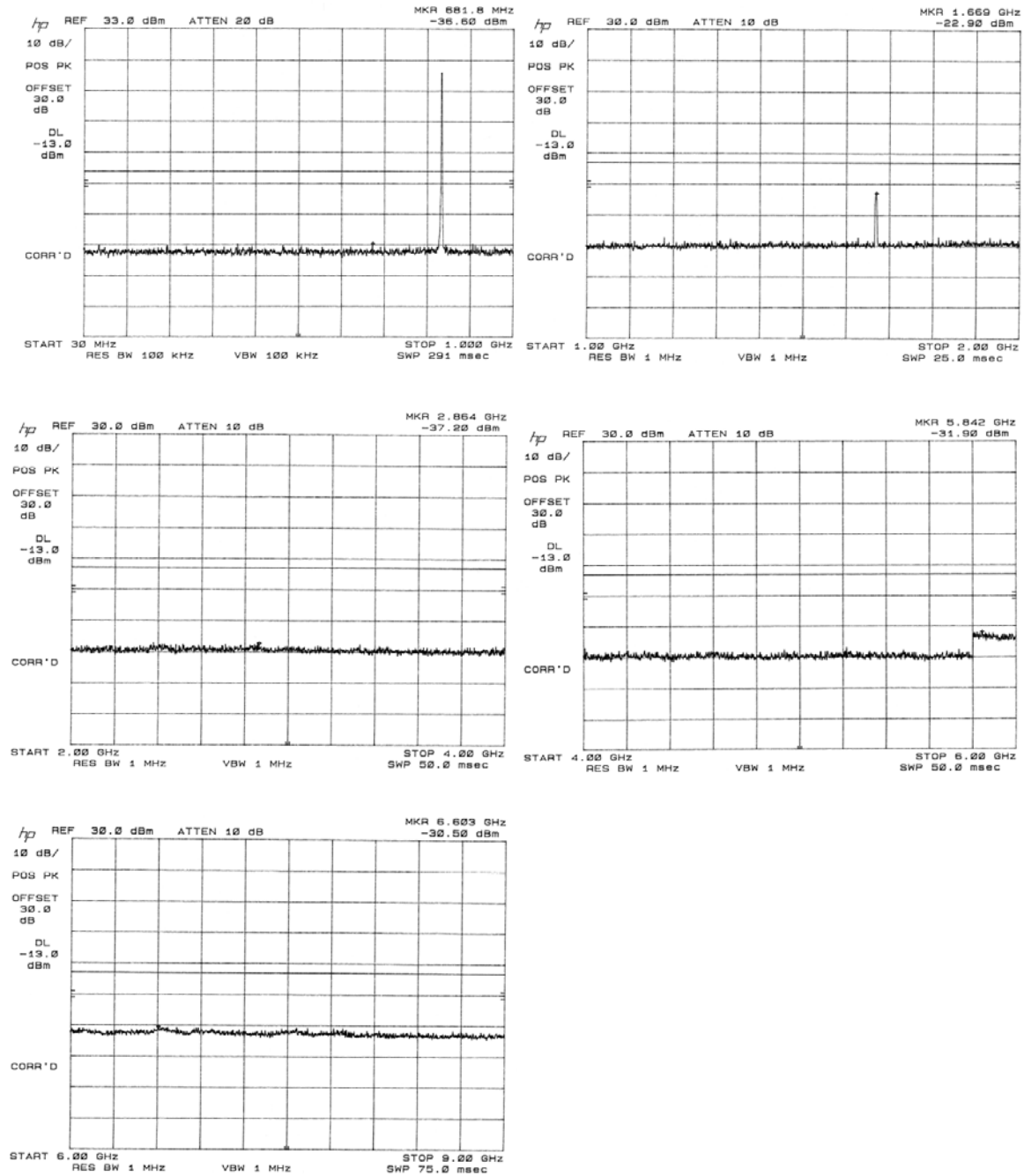




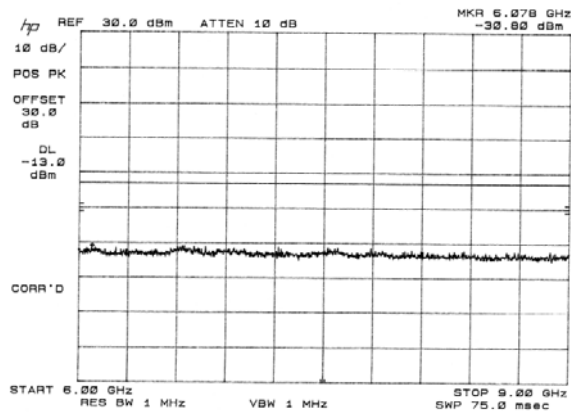
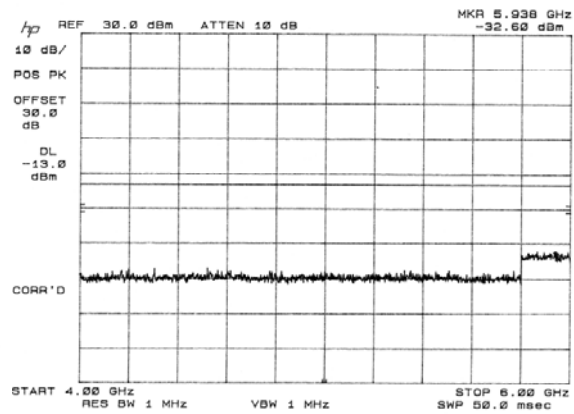
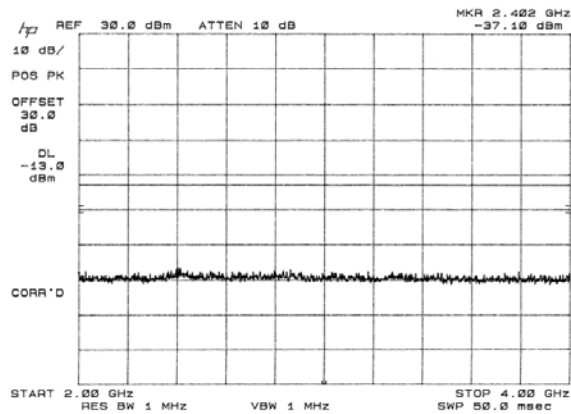
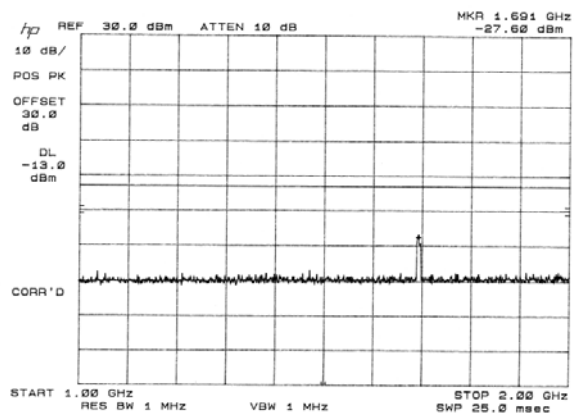
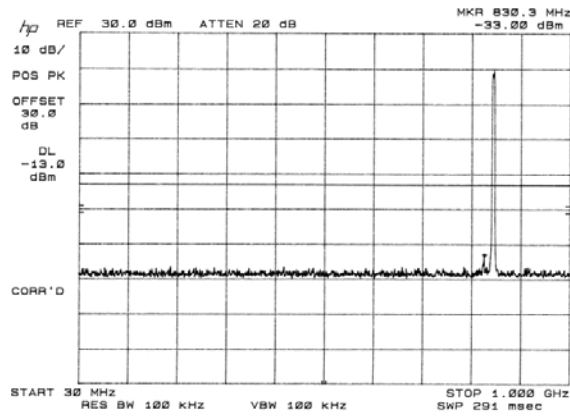
Low Channel 1013: 824.7 MHz -- Worst case 4.7dB below limit @ 1645 MHz



Mid Channel 384: 836.49 MHz -- Worst case 9.9dB below limit @ 1669 MHz



High Channel 777: 848.3 MHz -- Worst case 14.6dB below limit @ 1691 MHz



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**Section 9.           Field Strength of Spurious**

**Para. No.: 2.1053**

|  |                                |
|--|--------------------------------|
| <b>Test Performed By:</b> Alan Laudani | <b>Date of Test:</b> 2-24-2005 |
|--|--------------------------------|

**Minimum Standard:**     Para. No. 22.917(b); Para. No.: 24.238.

**Test Results:**

The maximum spurious field strength in CDMA mode is 10.6 dB below the limit @ 1649.4 MHz  
Signal Substitution was performed which resulted in a margin below limit of 11.7 dB.

**Test Data:**                    See attached tables.

**Radiated Emissions Data**

 Job # : 24-083-VIT      Test # : 1  
 Page 1                      of 1

|                 |                                   |                   |                   |
|-----------------|-----------------------------------|-------------------|-------------------|
| Client Name :   | <u>VITELCOM MOBILE TECHNOLOGY</u> |                   |                   |
| EUT Name :      | <u>CDMA 800 Cellular Phone</u>    |                   |                   |
| EUT Model # :   | <u>CV343</u>                      |                   |                   |
| EUT Part # :    | _____                             |                   |                   |
| EUT Serial # :  | _____                             |                   |                   |
| EUT Config. :   | _____                             |                   |                   |
|                 | <u>CDMA TX</u>                    |                   |                   |
| Specification : | <u>FCC Part 22</u>                |                   | Reference :       |
| Rod. Ant. # :   | <u>NA</u>                         | Temp. (deg. C) :  | <u>18</u>         |
| Bicon Ant.# :   | <u>NA</u>                         | Humidity (%) :    | <u>74</u>         |
| Log Ant.# :     | <u>112</u>                        | EUT Voltage :     | <u>NA</u>         |
| DRG Ant. # :    | <u>752</u>                        | EUT Frequency :   | <u>NA</u>         |
| Dipole Ant.# :  | <u>NA</u>                         | Phase :           | <u>NA</u>         |
| Cable# :        | <u>40ft</u>                       | Location :        | <u>RN#: 90579</u> |
| Preamp# :       | <u>842</u>                        | Distance :        | <u>3m</u>         |
| Spec An.# :     | <u>835</u>                        |                   |                   |
| QP # :          | <u>NA</u>                         |                   |                   |
| PreSelect# :    | <u>NA</u>                         |                   |                   |
|                 |                                   | Date :            | <u>2/24/05</u>    |
|                 |                                   | Time :            | <u>10:30</u>      |
|                 |                                   | Staff :           | <u>A. Laudani</u> |
|                 |                                   | Photo ID :        | _____             |
|                 |                                   | Peak Bandwidth :  | <u>1 MHz</u>      |
|                 |                                   | Video Bandwidth : | <u>1 MHz</u>      |

| Meas. Freq. (MHz) | Vertical (dBuV) pk | Horizontal (dBuV) pk | CF (db) | Max Level (dBm) pk | Spec. Limit (ERP) (dBm) pk | Margin dB pk | EUT Rotation | Ant. Height | Pass Fail Unc. | Comment |
|-------------------|--------------------|----------------------|---------|--------------------|----------------------------|--------------|--------------|-------------|----------------|---------|
| 824.7             | 89.5               | 83.45                | 30.6    | 22.8               |                            |              | 90           | 1.2         | PASS           |         |
| 1649.4            | 46.12              | 39.81                | 27.5    | -23.6              | -13.0                      | -10.6        | 0            | 1.1         | PASS           |         |
| 2474.1            | 71.09              | 61.1                 | -7.9    | -34.1              | -13.0                      | -21.1        |              | 1.1         | PASS           |         |
| 3298.8            | 56.03              | 49.64                | -4.0    | -45.2              | -13.0                      | -32.2        |              | 1.0         | PASS           |         |
| 4123.5            | 48.06              | 48.35                | -0.8    | -49.7              | -13.0                      | -36.7        |              | 1.0         | PASS           | NS, NF  |
| 4948.2            | 50.36              | 49.76                | -1.2    | -48.1              | -13.0                      | -35.1        |              | 1.0         | PASS           | NS, NF  |
| 5772.9            | 50.26              | 51.84                | 2.5     | -42.9              | -13.0                      | -29.9        |              | 1.0         | PASS           |         |
| 6597.6            | 49.05              | 51.26                | 3.4     | -42.6              | -13.0                      | -29.6        |              | 1.0         | PASS           | NS, NF  |
| 7422.3            | 47.12              | 48.2                 | 5.8     | -43.3              | -13.0                      | -30.3        |              | 1.0         | PASS           | NS, NF  |
| 8247              | 46.97              | 47.9                 | 7.5     | -41.9              | -13.0                      | -28.9        |              | 1.0         | PASS           | NS, NF  |
| 836.49            | 89.83              | 84.84                | 30.9    | 23.5               |                            |              | 75           | 1.4         | PASS           |         |
| 1672.98           | 41.95              | 39.03                | 27.5    | -27.8              | -13.0                      | -14.8        |              | 1.2         | PASS           |         |
| 2509.47           | 67.65              | 59.01                | -7.0    | -36.6              | -13.0                      | -23.6        |              | 1.1         | PASS           |         |
| 3345.96           | 53.8               | 51.62                | -4.0    | -47.5              | -13.0                      | -34.5        |              | 1.0         | PASS           |         |
| 4182.45           | 49.24              | 48.75                | -0.8    | -48.8              | -13.0                      | -35.8        |              | 1.0         | PASS           | NS, NF  |
| 5018.94           | 49.26              | 49.26                | 1.7     | -46.3              | -13.0                      | -33.3        |              | 1.0         | PASS           | NS, NF  |
| 5855.43           | 49.39              | 50.90                | 2.5     | -43.9              | -13.0                      | -30.9        |              | 1.0         | PASS           | NS, NF  |
| 6691.92           | 49.36              | 48.29                | 3.4     | -44.5              | -13.0                      | -31.5        |              | 1.0         | PASS           | NS, NF  |
| 7528.41           | 47.49              | 47.29                | 7.0     | -42.8              | -13.0                      | -29.8        |              | 1.0         | PASS           | NS, NF  |
| 8364.90           | 47.86              | 47.67                | 7.5     | -41.9              | -13.0                      | -28.9        |              | 1.0         | PASS           | NS, NF  |
| 848.31            | 90.95              | 86.74                | 31.7    | 25.4               |                            |              | 100          | 1.4         | PASS           |         |
| 1696.62           | 40.14              | 38.18                | 27.50   | -29.6              | -13.0                      | -16.6        |              | 1.2         | PASS           |         |
| 2544.93           | 63.44              | 54.69                | -7.00   | -40.8              | -13.0                      | -27.8        |              | 1.1         | PASS           |         |
| 3393.44           | 51.96              | 53.63                | -4.00   | -47.6              | -13.0                      | -34.6        |              | 1.0         | PASS           |         |
| 4241.85           | 49.30              | 48.93                | -0.80   | -48.8              | -13.0                      | -35.8        |              | 1.0         | PASS           | NS, NF  |
| 5090.22           | 49.53              | 50.11                | 1.70    | -45.5              | -13.0                      | -32.5        |              | 1.0         | PASS           | NS, NF  |
| 5938.59           | 49.47              | 49.66                | 2.50    | -45.1              | -13.0                      | -32.1        |              | 1.0         | PASS           | NS, NF  |
| 6786.96           | 47.39              | 47.76                | 3.40    | -46.1              | -13.0                      | -33.1        |              | 1.0         | PASS           | NS, NF  |
| 7635.33           | 46.61              | 47.31                | 7.00    | -43.0              | -13.0                      | -30.0        |              | 1.0         | PASS           | NS, NF  |
| 8483.70           | 45.85              | 46.01                | 7.50    | -43.9              | -13.0                      | -30.9        |              | 1.0         | PASS           | NS, NF  |

NS = Not seen, even at a lower RBW

NF = Noise Floor measurement.



### Substitution Method For Radiated

Job # : 25-083-VITR1      Test # : 2  
 Page 1 of 1

Client Name : VITELCOM MOBILE TECHNOLOGY U.S.A.  
 EUT Name : CDMA 800 Cellular Phone  
 EUT Model # : CV343  
 EUT Part # : \_\_\_\_\_  
 EUT Serial # : \_\_\_\_\_  
 EUT Config. : \_\_\_\_\_

|                        |                |                            |
|------------------------|----------------|----------------------------|
| <b>Specification :</b> | <u>CDMA TX</u> | <u>FCC Part 22</u>         |
| Rod. Ant. #:           | <u>NA</u>      | Temp. (deg. C) : <u>18</u> |
| Bicon Ant. #:          | <u>NA</u>      | Humidity (%) : <u>74</u>   |
| Log Ant. #:            | <u>112</u>     | EUT Voltage : <u>3.7</u>   |
| DRG Ant. #:            | <u>752</u>     | EUT Frequency : <u>dc</u>  |
| Dipole Ant. #:         | <u>NA</u>      | Phase: <u>na</u>           |
| Cable#:                | <u>60ft</u>    | Location: <u>SOATS</u>     |
| Preamp#:               | <u>842</u>     | Distance: <u>3m</u>        |
| Spec An.#:             | <u>835</u>     |                            |

Reference : \_\_\_\_\_  
 Date : \_\_\_\_\_  
 Time : \_\_\_\_\_  
 Staff : A. Laudani  
 Photo ID: \_\_\_\_\_  
 Peak Bandwidth: RBW-1MHz, VBW-1MHz

| Frequency<br>mHz | target          |  | Dipole<br>Gain<br>dBi | cable<br>loss<br>dB | Signal<br>Generator<br>dBm | Total<br>(EIRP)<br>dBm | Spec<br>dBm | Margin<br>dBm |
|------------------|-----------------|--|-----------------------|---------------------|----------------------------|------------------------|-------------|---------------|
|                  | level<br>dBuV/m |  |                       |                     |                            |                        |             |               |
| 824.70           | 89.50           |  | 0                     | 4.94                | 24.52                      | 19.6                   | 38.5        | -18.9         |
| 836.49           | 89.83           |  | 0                     | 5.01                | 25.41                      | 20.4                   | 38.5        | -18.1         |
| 848.31           | 90.95           |  | 0                     | 5.11                | 26.43                      | 21.3                   | 38.5        | -17.2         |

| Frequency<br>mHz | target          |  | Horn<br>Gain<br>dBi | cable<br>loss<br>dB | Signal<br>Generator<br>dBm | Total<br>(EIRP)<br>dBm | Spec<br>dBm | Margin<br>dBm |
|------------------|-----------------|--|---------------------|---------------------|----------------------------|------------------------|-------------|---------------|
|                  | level<br>dBuV/m |  |                     |                     |                            |                        |             |               |
| 1649.40          | 46.12           |  | 5.37                | 7.28                | -22.74                     | -24.7                  | -13.0       | -11.7         |
| 1672.98          | 41.95           |  | 5.41                | 7.73                | -26.59                     | -28.9                  | -13.0       | -15.9         |
| 1696.62          | 40.14           |  | 5.45                | 8.47                | -28.04                     | -31.1                  | -13.0       | -18.1         |

## Section 10. Frequency Stability

**Para. No.: 2.1055**

|                                      |                              |
|--------------------------------------|------------------------------|
| <b>Test Performed By:</b> A. Laudani | <b>Date of Test:</b> 2-23-05 |
|--------------------------------------|------------------------------|

**Minimum Standard:** Para. No. 22.355

**Test Results:**

Limit = 2.5 ppm of Frequency =  $2.5 \times 836.49 \text{ MHz} / 10^6 = 2091 \text{ Hz}$   
 Worst Case 0.014 ppm variation -- Complies, see tables below.

**Measurement Data:**

CV343 displays "Low Battery Warning Message" on LCD at below 3.45V

| Voltage Supplied Vdc | Conductive Power level (dBm) | Notes                |
|----------------------|------------------------------|----------------------|
| 3.70                 | 24.49                        | Normal Battery level |
| 3.37                 | 24.41                        |                      |
| 3.19                 | 24.6                         |                      |
| 3.15                 | 24.0                         |                      |
| 3.07                 | 23.5                         |                      |
| 2.98                 | 23.1                         |                      |
| 2.92                 | 23.2                         |                      |
| 2.90                 | 23.1                         |                      |
| 2.85                 | 22.7                         | Lost modulation      |
| 2.83                 | 21.9                         | Off                  |

## Part 2.1055 Frequency Stability

25-083-VITR1

**Limit 2.5 ppm of 836.79 MHz = 2091Hz**
**Worst case 12 Hz Variation = 0.014 ppm**

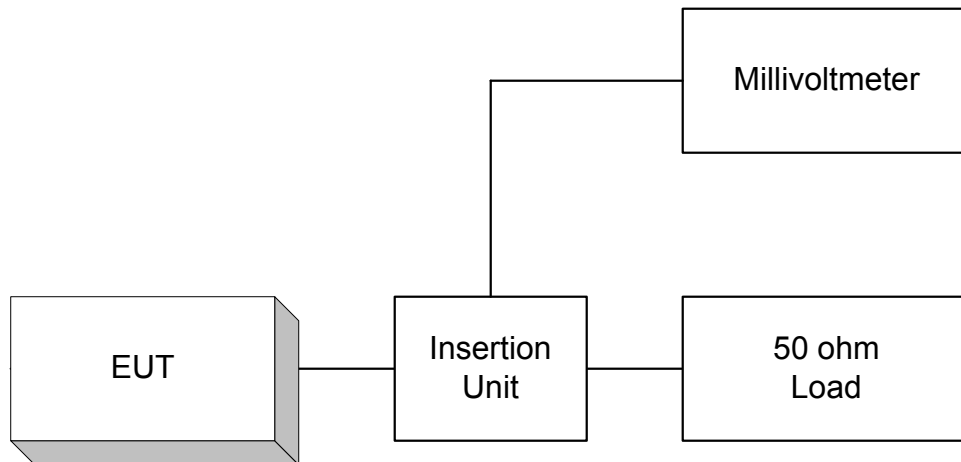
| Temperature |        | Mfg Minimal Battery level = 3.34Vdc |                                | Vnom = 3.70 Vdc          |                         |
|-------------|--------|-------------------------------------|--------------------------------|--------------------------|-------------------------|
| Setpoint    | Actual | Low Freq                            | High Freq                      | Frequency(MHz)           | Variation MHz           |
| °C          | °C     | Frequency(MHz)                      | Variation MHz                  | Frequency(MHz)           | Variation MHz           |
| -30         | -30.1  | 835.895770<br>836.793577            | 837.691383<br>-0.000011        | 835.895780<br>836.793582 | 837.691383<br>-0.000006 |
| -20         | -19.8  | 835.895767<br>836.793575            | 837.691383<br><b>-0.000012</b> | 835.895784<br>836.793584 | 837.691383<br>-0.000003 |
| -10         | -10.1  | 835.895781<br>836.793582            | 837.691383<br>-0.000005        | 835.895780<br>836.793582 | 837.691383<br>-0.000006 |
| 0           | 0.0    | 835.895798<br>836.793591            | 837.691383<br>0.000003         | 835.895799<br>836.793591 | 837.691383<br>0.000004  |
| 10          | 10.2   | 835.895780<br>836.793582            | 837.691383<br>-0.000006        | 835.895791<br>836.793587 | 837.691383<br>0.000000  |
| 20          | 20.1   | 835.895791<br>836.793587            | 837.691383<br>0.000000         | 835.895798<br>836.793591 | 837.691383<br>0.000003  |
| 30          | 29.9   | 835.895793<br>836.793588            | 837.691383<br>0.000001         | 835.895799<br>836.793591 | 837.691383<br>0.000004  |
| 40          | 40.2   | 835.895791<br>836.793587            | 837.691383<br>0.000000         | 835.895798<br>836.793591 | 837.691383<br>0.000003  |
| 50          | 50.1   | 835.895791<br>836.793587            | 837.691383<br>0.000000         | 835.895797<br>836.793590 | 837.691383<br>0.000003  |

Frequencies are read after one hour soak at temperature, no provision to remotely turn off/on EUT  
 Spectrum Analyzer @ 30 kHz VBW, 30 kHz RBW, Span = 5 MHz, averaging on to smooth modulation.

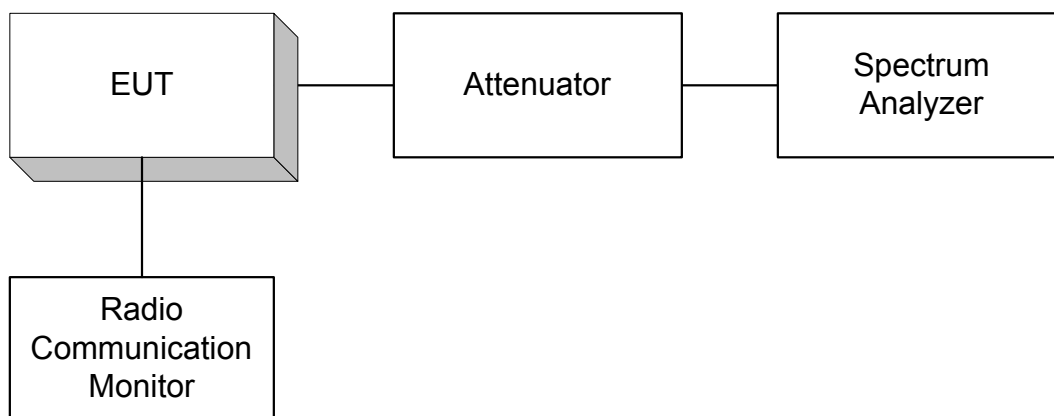
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**Section 11. Block Diagrams**

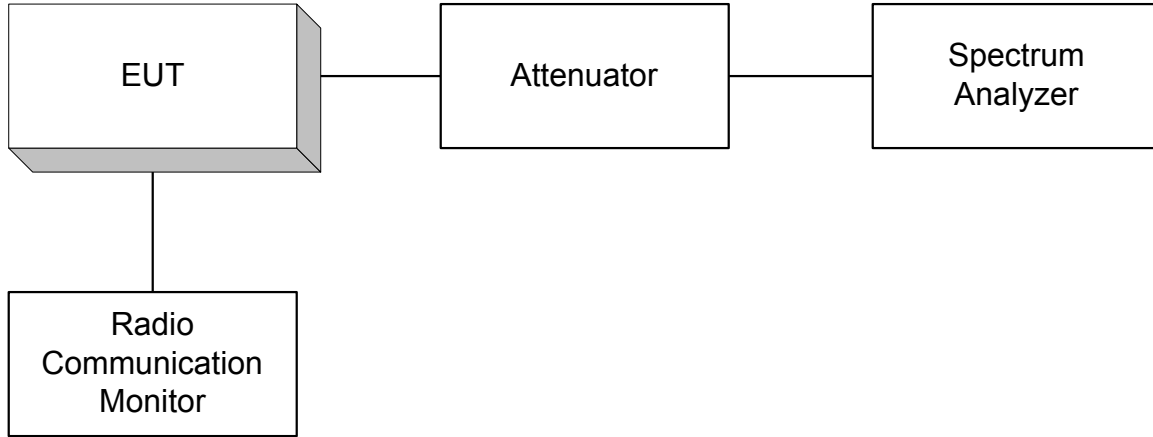
**Para. No. 2.1046 - R.F. Power Output**



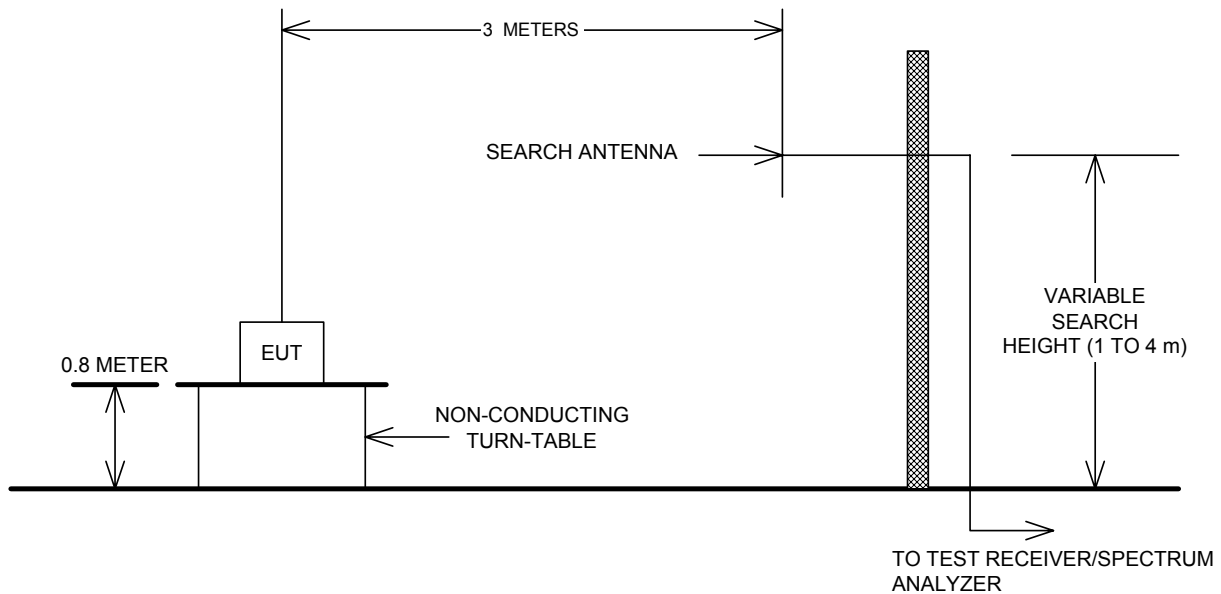
**Para. No. 2.1049 - Occupied Bandwidth**



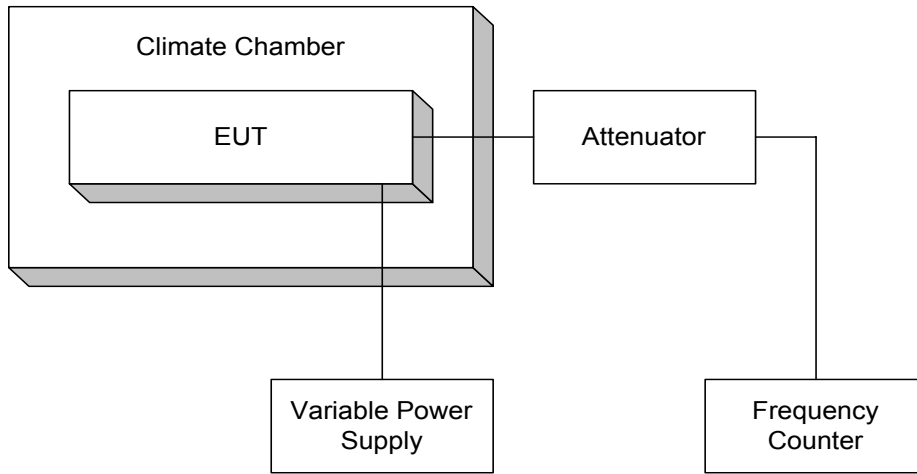
**Para. No. 2.1051 Spurious Emissions at Antenna Terminals**



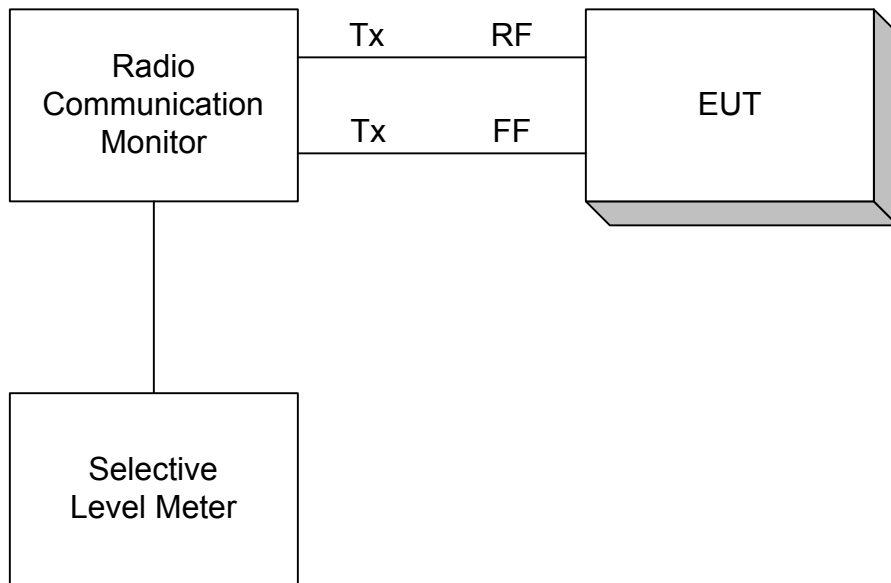
**Para. No. 2.1053 - Field Strength of Spurious Radiation**



**Para. No. 2.1055 - Frequency Stability**



**Para. No. 2.1045 – Audio Frequency Response, Audio Low Pass Filter Response And Modulation Limiting**



### Section 13. Test Equipment List

| <b>Emissions Test Equipment</b> |                                      |             |                  |                         |                |
|---------------------------------|--------------------------------------|-------------|------------------|-------------------------|----------------|
| <b>Client</b>                   | VITELCOM MOBILE TECHNOLOGY<br>U.S.A. |             | <b>EUT Name</b>  | CDMA 800 Cellular Phone |                |
| <b>PAN #</b>                    | 24-611-KYO                           |             | <b>EUT Model</b> | CV343                   |                |
| <i>Device Type</i>              | <i>Model #</i>                       | <i>MFG</i>  | <i>Asset #</i>   | <i>SN</i>               | <i>Cal Due</i> |
| <b>OATS #1 (South)</b>          |                                      |             |                  |                         |                |
| Spectrum Analyzer               | 1088.3494.<br>30                     | R & S       | 835              | 830320/002              | 12-30-05       |
| Antenna, Ridged<br>Guide        | 3115                                 | EMCO        | 529              | 2505                    | 11-19-05       |
| Antenna, Ridged<br>Guide        | 3115                                 | EMCO        | 752              | 9609-4943               | 12-19-05       |
| Signal Generator                | 1018                                 | Gigatronics | 440              | 314104                  | 9/22/2005      |
| Dipole Set                      | 3121C                                | EMCO        | 756              | 1215                    | 8-27-05        |
| Antenna, LPA                    | 3146                                 | EMCO        | 112              | 9101-2988               | 9-19-05        |
| Attenuator, 30 dB               | 8491B                                | HP          | 332              | X0475                   | 4-21-05        |
| Environmental<br>Chamber        | NA                                   | Thermotron  | 048              | NA                      | 1-12-06        |
| Multimeter                      | 111                                  | Fluke       | 810              | NA                      | 1-6-06         |
| Power Supply                    | Adj. Dual<br>DC                      | Micronta    | 772              | NA                      | NCR            |

NA: Not Applicable  
 NCR: No Cal Required  
 COU: CAL On Use