



**M. Flom Associates, Inc.**  
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Date of Report: December 28, 2004

Date of Submission: February 23, 2005

Federal Communications Commission  
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: Zelocity Corporation  
Equipment: PUREFLIGHT ZPF01  
FCC ID: R8W-ZPF01  
FCC Rules: 15.245, Confidentiality

Gentlemen:

On behalf of the Applicant, enclosed please find Application Form 731, Engineering Test Report and all pertinent documentation, the whole for approval of the referenced equipment as shown.

Filing fees are attached.

We trust the same is in order. Should you need any further information, kindly contact the writer who is authorized to act as agent.

Sincerely yours,

David E. Lee, Compliance Test Manager

enclosure(s)  
cc: Applicant  
DEL/del

M. Flom Associates, Inc.  
3356 N. San Marcos Place, Suite 107  
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FCC ID: R8W-ZPF01  
MFA p04c0013, d04c0069



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## Transmitter Certification

of

FCC ID: R8W-ZPF01  
Model: PUREFLIGHT ZPF01

to

### Federal Communications Commission

Rule Part 15.245, Confidentiality

Date of report: February 23, 2005

#### On the Behalf of the Applicant:

Zelosity Corporation

#### At the Request of:

P.O. 1036

Zelosity Corporation  
14500 N. Northsight Blvd., Suite 250  
Scottsdale, AZ 85260

#### Attention of:

Kay Comaford  
(480) 556-6007; fax: (480) 556-6008  
email: [kay@zelosity.com](mailto:kay@zelosity.com)

#### Supervised by:

David E. Lee, Compliance Test Manager

**List Of Exhibits**  
(FCC **Certification** (Transmitters) - Revised 9/28/98)

Applicant: Zelocity Corporation

FCC ID: R8W-ZPF01

**By Applicant:**

1. Letter Of Authorization
2. Identification Drawings
  - Label
  - Location of Label
  - Compliance Statement
  - Location of Compliance Statement
3. Documentation: 2.1033(B)
  - (3) User Manual
  - (4) Operational Description
  - (5) Block Diagram
  - (5) Schematic Diagram
  - (7) Photographs
  - Parts List
4. Draft Specification Information

**By M.F.A. Inc.**

- A. Testimonial & Statement of Certification

**The Applicant has been cautioned as to the following:**

15.21 Information to User.

The users manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a) Special Accessories.

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

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| 15.209(a) | Field Strength of Spurious Radiation               | 10   |
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*Required information per ISO/IEC Guide 25-1990, paragraph 13.2:*

a) **Test Report**

b) Laboratory: M. Flom Associates, Inc.  
(FCC: 31040/SIT) 3356 N. San Marcos Place, Suite 107  
(Canada: IC 2044) Chandler, AZ 85225

c) Report Number: d04c0069

d) Client: Zelosity Corporation  
14500 N. Northsight Blvd., Suite 250  
Scottsdale, AZ 85260

e) Identification: PUREFLIGHT ZPF01  
FCC ID: R8W-ZPF01  
Description: FIELD DISTURBANCE SENSOR

f) EUT Condition: Not required unless specified in individual tests.

g) Report Date: December 28, 2004  
EUT Received: December 22, 2004

h, j, k): As indicated in individual tests.

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with MFA internal quality manual.

m) Supervised by:



David E. Lee, Compliance Test Manager

n) Results: The results presented in this report relate only to the item tested.

o) Reproduction: This report must not be reproduced, except in full, without written permission from this laboratory.

### List of General Information Required for Certification

In Accordance With FCC Rules and Regulations,  
Volume II, Part 2 and to 15.245, Confidentiality

#### Sub-part 2.1033

(c)(1): **Name and Address of Applicant:**

Zelocity Corporation  
14500 N. Northsight Blvd., Suite 250  
Scottsdale, AZ 85260

**Manufacturer:**

Applicant

(c)(2): **FCC ID:** R8W-ZPF01

**Model Number:** PUREFLIGHT ZPF01

(c)(3): **Instruction Manual(s):**

Please See Attached Exhibits

(c)(4): **Type Of Emission:** Digital

(c)(5): **FREQUENCY RANGE, MHz:** 10500 - 10550

(c)(6): **Power Rating,** 208.93 mV/m @ 3m  
☐ Switchable ☐ Variable ☒ N/A

(c)(7): **Maximum Power Rating, W:** 2500 mV/m @ 3m

**15.203: Antenna Requirement:**

- ☒ The antenna is permanently attached to the EUT  
☐ The antenna uses a unique coupling  
☐ The EUT must be professionally installed  
☐ The antenna requirement does not apply

**Subpart 2.1033** (continued)

(c)(8): Voltages & currents in all elements in final RF Stage, including final transistor or solid state device:

|                        |   |            |
|------------------------|---|------------|
| Collector Current, A   | = | per manual |
| Collector Voltage, Vdc | = | per manual |
| Supply Voltage, Vdc    | = | 12         |

(c)(9): **Tune-Up Procedure:**

Please See Attached Exhibits

(c)(10): **Circuit Diagram/Circuit Description:**

Including description of circuitry & devices provided for determining and stabilizing frequency, for suppression of spurious radiation, for limiting modulation and limiting power.

Please See Attached Exhibits

(c)(11): **Label Information:**

Please See Attached Exhibits

(c)(12): **Photographs:**

Please See Attached Exhibits

(c)(13): **Digital Modulation Description:**

☐ Attached Exhibits  
☒ N/A

(c)(14): **Test And Measurement Data:**

Follows

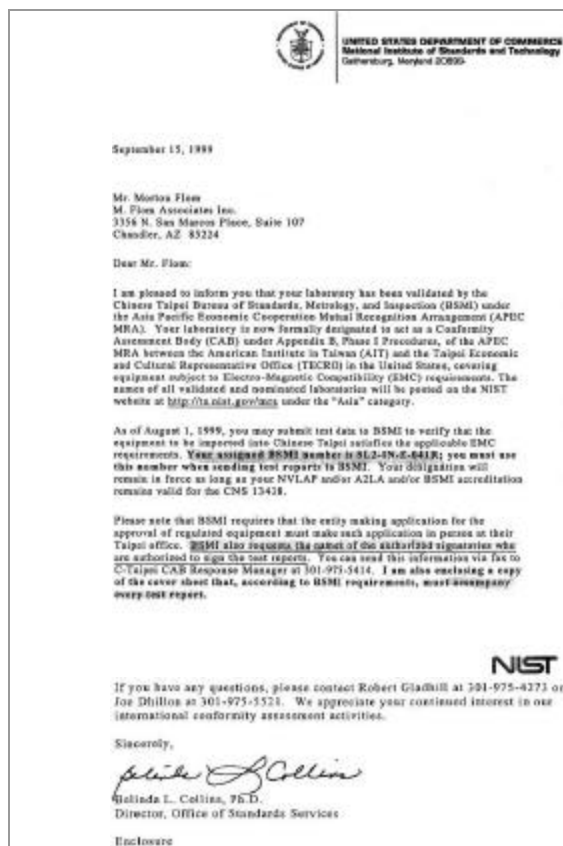




## A2LA

"A2LA has accredited M. Flom Associates, Inc. Chandler, AZ for technical competence in the field of Electrical Testing. The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 - 1999 'General Requirements for the Competence of Testing and Calibration Laboratories' and any additional program requirements in the identified field of testing."

Certificate Number: **2152-01**



## NIST

I am pleased to inform you that your laboratory has been validated by the Chinese Taipei Bureau of Standards, Metrology and Inspection (BSMI) under the Asia Pacific Economic Cooperation Mutual Recognition Agreement (APEC MRA). Your laboratory is now formally designated to act as a Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the APEC MRA between the American Institute in Taiwan (AIT) and the Taipei Economic and Cultural Representative Office (TECRO) in the United States, covering equipment subject to Electro-Magnetic Compatibility (EMC) requirements. The names of all validated and nominated laboratories will be posted on the NIST website at <http://ts.nist.gov/mra> under the 'Asia' category."

BSMI Number: **SL2-IN-E-041R**

Sub-part  
2.1033(b):

### Test And Measurement Data

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2, Sub-part J, Sections 2.1031, 2.1033, 2.1035, 2.1041, 2.1043, 2.1045, and the following individual Parts:

|         |        |                                                                                                                                           |
|---------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| _____   | 15.209 | Radiated emission limits; general requirements                                                                                            |
| _____   | 15.211 | Tunnel radio systems                                                                                                                      |
| _____   | 15.213 | Cable locating equipment                                                                                                                  |
| _____   | 15.214 | Cordless telephones                                                                                                                       |
| _____   | 15.217 | Operation in the band 160-190 kHz                                                                                                         |
| _____   | 15.219 | Operation in the band 510-1705 kHz                                                                                                        |
| _____   | 15.221 | Operation in the band 525-1705 kHz (leaky coax)                                                                                           |
| _____   | 15.223 | Operation in the band 1.705-10 MHz                                                                                                        |
| _____   | 15.225 | Operation in the band 13.553-13.567 MHz                                                                                                   |
| _____   | 15.227 | Operation in the band 26-27.28 MHz (remote control)                                                                                       |
| _____   | 15.229 | Operation in the band 40.66-40.70 MHz                                                                                                     |
| _____   | 15.231 | Periodic operation in the band 40.66-40.70 MHz and above 70 MHz                                                                           |
| _____   | 15.233 | Operation within the bands 43.71-44.49, 46.60-46.98 MHz<br>48.75-49.51 MHz and 49.66-50.0 MHz                                             |
| _____   | 15.235 | Operation within the band 49.82-49.90 MHz                                                                                                 |
| _____   | 15.237 | Operation within the bands 72.0-73.0 MHz, 74.6-74.8 MHz<br>and 75.2-76.0 MHz (auditory assistance)                                        |
| _____   | 15.239 | Operation in band 88-108 MHz                                                                                                              |
| _____   | 15.241 | Operation in the band 174-216 MHz (biomedical)                                                                                            |
| _____   | 15.243 | Operation in the band 890-940 MHz (materials)                                                                                             |
| X _____ | 15.245 | Operation within the bands 902-928 MHz, 2435-2465 MHz, 5785-5815 MHz, 10500-10550<br>MHz, and 24075-24175 MHz (filed disturbance sensors) |
| _____   | 15.247 | Operation within bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz (spread<br>spectrum)                                               |
| _____   | 15.249 | Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz, and 24.0-<br>24.25 GHz                                            |
| _____   | 15.251 | Operation within the bands 2.9-3.26 GHz, 3.267-3.332 GHz, 3.339-3.3458 GHz, and 3.358-<br>3.6 GHz (vehicle identification systems)        |
| _____   | 15.321 | Specific requirements for asynchronous devices operating in the 1910-1920 MHz and 2390-<br>2400 MHz bands (Unlicensed PCS)                |
| _____   | 15.323 | Specific requirements for isochronous devices operating in the 1920-1930 MHz sub-band<br>(Unlicensed PCS)                                 |

## **Standard Test Conditions and Engineering Practices**

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with ANSI C63.4-1992/2001, section 6.1.9, and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures. All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.

Measurement results, unless otherwise noted, are worst-case measurements.

**Name of Test:** RF Power Output (Radiated)

**Specification:** 47 CFR 2.1046(a)

**Test Equipment:** As per attached page

### Measurement Procedure (Radiated)

1. The EUT was placed on an open-field site and its radiated field strength at a known distance was measured by means of a spectrum analyzer. Equivalent loading was calculated from the equation  $P_t = (E \times R)^2 / 49.2$  watts, where  $R = 3m$ .
2. Measurement accuracy is  $\pm 1.5$  dB.

### Measurement Results

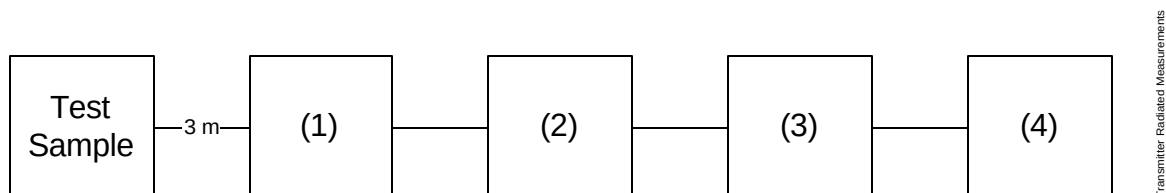
g04c0071: 2004-Dec-27 Mon 10:32:00  
State: 2:High Power

Ambient Temperature:  $18^{\circ}\text{C} \pm 3^{\circ}\text{C}$

| Frequency Tuned,<br>MHz | Frequency Emission,<br>MHz | Meter,<br>dBuV/m | CF, dB | ERP, dBm | mV/m @ 3m |
|-------------------------|----------------------------|------------------|--------|----------|-----------|
| 10.532500               | 10532.959924               | 86.9             | 19.63  | 9.20     | 208.93    |

**Name of Test:** RF Power Output (Radiated)

### Transmitter Radiated Measurements



| Asset<br>(as applicable)                   | Description                 | s/n           | Cycle  | Last Cal |
|--------------------------------------------|-----------------------------|---------------|--------|----------|
| <small>Per ANSI C63.4-1992, 10.1.4</small> |                             |               |        |          |
| <b>(1) Transducer</b>                      |                             |               |        |          |
| i00088                                     | EMCO 3109-B 25MHz-300MHz    | 2336          | 12 mo. | Sep-03   |
| X i00089                                   | Apriel 2001 200MHz-1GHz     | 001500        | 12 mo. | Sep-03   |
| X i00103                                   | EMCO 3115 1GHz-18GHz        | 9208-3925     | 12 mo. | Jan-04   |
| <b>(2) Coaxial Attenuator</b>              |                             |               |        |          |
| X i00231/2                                 | PASTERNAK PE7021-30 (30 dB) | 231 or 232    | NCR    |          |
| i0012/3                                    | NARDA 766 (10 dB)           | 7802 or 7802A | NCR    |          |
| <b>(3) Preamp</b>                          |                             |               |        |          |
| X i00028                                   | HP 8449A (+30 dB)           | 2749A00121    | 12 mo. | May-03   |
| <b>(4) Spectrum Analyzer</b>               |                             |               |        |          |
| X i00029                                   | HP 8563E                    | 3213A00104    | 12 mo. | May-04   |
| X i00033                                   | HP 85462A                   | 3625A00357    | 12 mo. | Jul-04   |

**Name of Test:** RF Power Output (Radiated)



Frequency of Carrier, MHz = 10532.5  
 Spectrum Searched = 30 - 10500  
 All Other Emissions =  $\geq 20$ dB Below Limit  
 Measurement Results = Attached

Meets general radiated emission limits (Rule 15.209)  
 outside of the frequency band.

Per 47 CFR 15.245:

(a) EUT is, or makes use of, a field disturbance sensor.

(b) EUT complies with the following limits:

| <b>Fc Frequency, MHz</b> | <b>Fc FIELD, mv/m</b> | <b>Spurious Field, mv/m</b> |
|--------------------------|-----------------------|-----------------------------|
| 902-928                  | 500                   | 1.6                         |
| 2435-2465                | 500                   | 1.6                         |
| 5783-5815                | 500                   | 1.6                         |
| 10500-10550              | 2500                  | 25.0                        |
| 24075-24175              | 2500                  | 25.0                        |

(b)(1) Harmonic emissions in the restricted bands below 17.7 GHz do not exceed the field strength limits of 15.209. Harmonic emissions in the restricted bands at and above 17.7 GHz do not exceed the following field strength limits:

(b)(1)(i) For field disturbance sensors used only within a building or to open doors, 25.0 mV/m

(b)(1)(ii) For all other field disturbance sensors, 7.5 mV/m

(b)(1)(iii) Emissions in the restricted bands fully comply with the limits given in 15.209

(b)(2) Emissions were measured at a disturbance of 3 meters.

(b)(3) Emissions radiated outside of the specified frequency bands, other than harmonics, were attenuated by at least the lesser attenuation of 50 dB below the fundamental of 15.209.

(b)(4) The emissions were measured on instrumentation employing an average detector. The provisions in 15.35 for limiting peak emissions were met.

**Name Of Test:** Radiated Spurious Emissions  
g04c0072: 2004-Dec-27 Mon 10:49:00  
STATE: 0:General

All other emissions in the required measurement range were more that 20 dB below the required limits.

| Frequency Emission,<br>MHz | LEVEL,<br>dBuV | @ m | C.F., dB | dBuV/m | @ m | mV/m  |
|----------------------------|----------------|-----|----------|--------|-----|-------|
| 53.300000                  | 13.41          | 3   | 12.91    | 26.32  | 3   | 0.020 |
| 167.300000                 | 12.22          | 3   | 15.56    | 27.78  | 3   | 0.023 |
| 265.400000                 | 11.98          | 3   | 23.84    | 35.82  | 3   | 0.061 |
| 394.200000                 | 13.59          | 3   | 22.49    | 36.08  | 3   | 0.063 |
| 518.400000                 | 3.05           | 3   | 26.07    | 29.12  | 3   | 0.028 |
| 527.600000                 | 3.58           | 3   | 26.66    | 30.24  | 3   | 0.032 |
| 539.900000                 | 4.89           | 3   | 27.43    | 32.32  | 3   | 0.040 |
| 704.500000                 | 4.14           | 3   | 33.08    | 37.22  | 3   | 0.072 |
| 816.700000                 | 4.24           | 3   | 32.62    | 36.86  | 3   | 0.069 |
| 955.100000                 | 1.21           | 3   | 36.30    | 37.51  | 3   | 0.074 |
| 1044.166667                | 40.67          | 3   | -4.42    | 36.25  | 3   | 0.064 |
| 1683.000000                | 42.00          | 3   | 0.30     | 42.30  | 3   | 0.128 |
| 2180.500000                | 41.67          | 3   | 1.71     | 43.38  | 3   | 0.144 |
| 2465.500000                | 40.83          | 3   | 2.19     | 43.02  | 3   | 0.141 |
| 3176.000000                | 40.67          | 3   | 3.19     | 43.86  | 3   | 0.154 |
| 4031.410000                | 33.50          | 3   | 9.54     | 43.04  | 3   | 0.141 |
| 4849.653333                | 32.50          | 3   | 9.15     | 41.65  | 3   | 0.120 |
| 5390.153333                | 35.83          | 3   | 9.24     | 45.07  | 3   | 0.177 |
| 5843.773333                | 30.33          | 3   | 10.66    | 40.99  | 3   | 0.109 |
| 6424.088333                | 34.50          | 3   | 10.54    | 45.04  | 3   | 0.177 |
| 7270.038333                | 34.83          | 3   | 11.58    | 46.41  | 3   | 0.208 |
| 7722.289167                | 33.17          | 3   | 13.54    | 46.71  | 3   | 0.213 |
| 8760.789167                | 28.33          | 3   | 12.34    | 40.67  | 3   | 0.107 |



Supervised By:

David E. Lee, Compliance Test Manager



**Specification:** FCC: 47 CFR 15.107

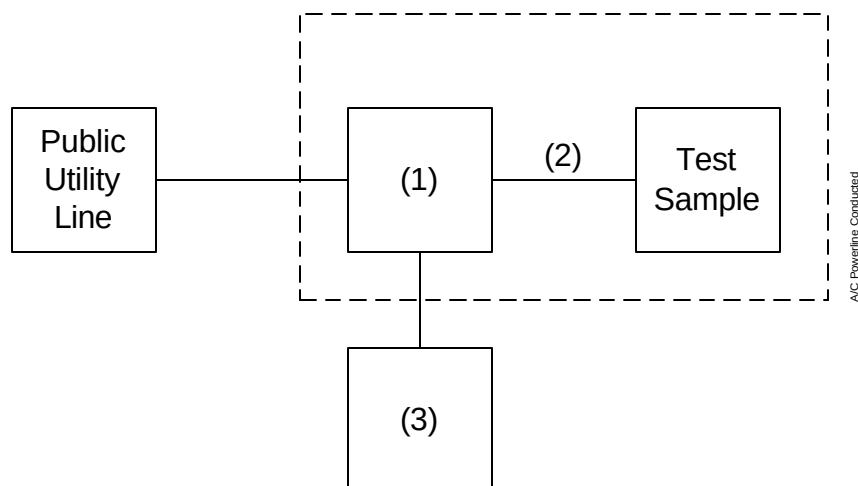
**Guide:** IEEE Standard 213

**Test Conditions:** S. T. & H.

### Measurement Procedure

1. A test sample was connected to the Public Utility lines through a LISN.
2. A reference level of 250  $\mu$ V was set on the Spectrum Analyzer. The spectrum was searched over the range of 150 kHz to 30 MHz.
3. All other emissions were 20 dB or more below limit.
4. ☒ The test sample used a charger.  
☐ The test sample does not use a charger.
5. Measurement Results: Attached.

### Test Set Up: A/C Powerline Conducted Measurements



| Asset                                           | Description        | s/n        | Cycle  | Last Cal |
|-------------------------------------------------|--------------------|------------|--------|----------|
| <b>(1) Line Impedance Stabilization Network</b> |                    |            |        |          |
| X i00244                                        | Fischer 50-20-2-01 | 2047       | NCR    |          |
| <b>(2) Screen Room</b>                          |                    |            |        |          |
| X i00170                                        | Lindgren LG170     | 4999       | NCR    |          |
| <b>(3) Spectrum Analyzer</b>                    |                    |            |        |          |
| X i00033                                        | HP 85462A          | 3625A00357 | 12 mo. | Jul-04   |
| i00048                                          | HP 8566B           | 2511AD1467 | 12 mo. | Sep-04   |

Per ANSI C63.4-1992/2000 Draft, 10.1.4

**Test Setup:**

**A/C Powerline Conducted Emissions**



**Results:**

A/C Powerline Conducted Emissions

g04c0073: 2004-Dec-28 Tue 13:41:00

State: 0:General

| Frequency Tuned, MHz | Frequency Emission, MHz | Level, dBuV | C.F., dB | $\mu$ V |
|----------------------|-------------------------|-------------|----------|---------|
| 10532.500000         | 1.440000                | 15.24       | 0.58     | 6.18    |
| 10532.500000         | 3.300000                | 19.21       | 0.62     | 9.81    |
| 10532.500000         | 8.280000                | 1.76        | 0.86     | 1.35    |
| 10532.500000         | 12.370000               | 6.59        | 1.05     | 2.41    |
| 10532.500000         | 16.240000               | 9.88        | 1.23     | 3.59    |
| 10532.500000         | 24.270000               | 19.95       | 1.56     | 11.9    |

g04c0074: 2004-Dec-28 Tue 14:16:00

State: 0:General

| Frequency Tuned, MHz | Frequency Emission, MHz | Level, dBuV | C.F., dB | $\mu$ V |
|----------------------|-------------------------|-------------|----------|---------|
| 10532.500000         | 1.740000                | 7.79        | 0.51     | 2.60    |
| 10532.500000         | 3.230000                | 3.78        | 0.61     | 1.66    |
| 10532.500000         | 8.210000                | 4.16        | 0.91     | 1.79    |
| 10532.500000         | 11.850000               | 0.94        | 1.07     | 1.26    |
| 10532.500000         | 16.240000               | 11.41       | 1.39     | 4.37    |
| 10532.500000         | 24.270000               | 8.70        | 1.72     | 3.32    |



Performed By:

Bobby Leanio

## Radiated Measurements For Part 15 Transmitters with Integral Antennas

### Radiated Measurements

| Range Of Measurement | Specification | Resolution B/W | Video B/A |
|----------------------|---------------|----------------|-----------|
| 30 to 1000 MHz       | CISPR         | =100 kHz       | =100 kHz  |
| >1000 MHz            | FCC, 15.37(b) | 1 MHz          | =1 MHz    |
| (if averaging)       | FCC, 15.37(b) | 1 MHz          | 10 Hz     |

### Measuring Equipment

**a. Antennas:**

|                |                |
|----------------|----------------|
| EMCO 3109      | 20 - 300 MHz   |
| APREL AALP2001 | 200 - 1000 MHz |
| APREL AAB20200 | 20 - 200 MHz   |
| APREL AAH118   | 1 - 18 GHz     |

**b. Instruments:**

|          |                                    |
|----------|------------------------------------|
| HP8566B  | Spectrum Analyzer                  |
| HP85685A | Preselector, w/ preamp below 2 GHz |
| HP85650A | Quasi Peak Adapter                 |
| HP8449   | Preamp, above 2 GHz                |

### Occupied Bandwidth

Occupied Bandwidth is measured as a radiated signal without attenuators and/or filter. RBW, VBW and scan settings as shown were set to produce a meaningful result in accordance with ANSI C63.4, Section 13.1.7.

### Part 15.21, Information to User

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly avoided by the party responsible for compliance could void the user's authority to operate the equipment.

§ 15.205 Restricted Bands of Operation

(a) Except as shown in paragraph (b) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

| MHz               | MHz                 | MHz           | GHz         |
|-------------------|---------------------|---------------|-------------|
| 0.090-0.110       | 16.42-16.423        | 399.9-410     | 4.5-5.25    |
| 0.495-0.505       | 16.69475-16.69625   | 608-614       | 5.35-5.46   |
| 2.1735-2.1905     | 16.80425-16.80475   | 960-1240      | 7.25-7.75   |
| 4.125-4.128       | 25.5-25.67          | 1300-1427     | 8.025-8.5   |
| 4.17725-4.17775   | 37.5-38.25          | 1435-1626.5   | 9.0-9.2     |
| 4.20725-4.20775   | 73-74.6             | 1645.5-1646.5 | 9.3-9.5     |
| 6.215-6.218       | 74.8-75.2           | 1660-1710     | 10.6-12.7   |
| 6.26775-6.26825   | 108-121.94          | 1718.8-1722.2 | 13.25-13.4  |
| 6.31175-6.31225   | 123-138             | 2200-2300     | 14.47-14.5  |
| 8.291-8.294       | 149.9-150.05        | 2310-2390     | 15.35-16.2  |
| 8.362-8.366       | 156.52475-156.52525 | 2483.5-2500   | 17.7-21.4   |
| 8.37625-8.38675   | 156.7-156.9         | 2655-2900     | 22.01-23.12 |
| 8.41425-8.41475   | 162.0125-167.17     | 3260-3267     | 23.6-24.0   |
| 12.29-12.293      | 167.72-173.2        | 3332-3339     | 31.2-31.8   |
| 12.51975-12.52025 | 240-285             | 3345.8-3358   | 36.43-36.5  |
| 12.57675-12.57725 | 322-339.4           | 3600-4400     |             |
| 13.36-13.41       |                     |               |             |

**Testimonial  
And  
Statement Of Certification**

**This is to certify that:**

1. **That** the application was prepared either by, or under the direct supervision of, the undersigned.
2. **That** the technical data supplied with the application was taken under my direction and supervision.
3. **That** the data was obtained on representative units, randomly selected.
4. **That**, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data are true and correct.

Certifying Engineer:



David E. Lee, Compliance Test Manager