



M. Flom Associates, Inc.
International Compliance Testing Laboratory
3356 N. San Marcos Place, Suite 107
Chandler, AZ 85225
toll-free: (866) 311-3268
fax: (480) 926-3598
<http://www.mflom.com>
info@mflom.com

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
Chandler, Arizona 85225-7176
(480) 926-3100 phone, fax (480) 926-3598

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

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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	Standard Test Conditions and Engineering Practices	6
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15.209(a)	Field Strength of Spurious Radiation	10
15.107	A/C Powerline Conducted Emissions	12

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:**

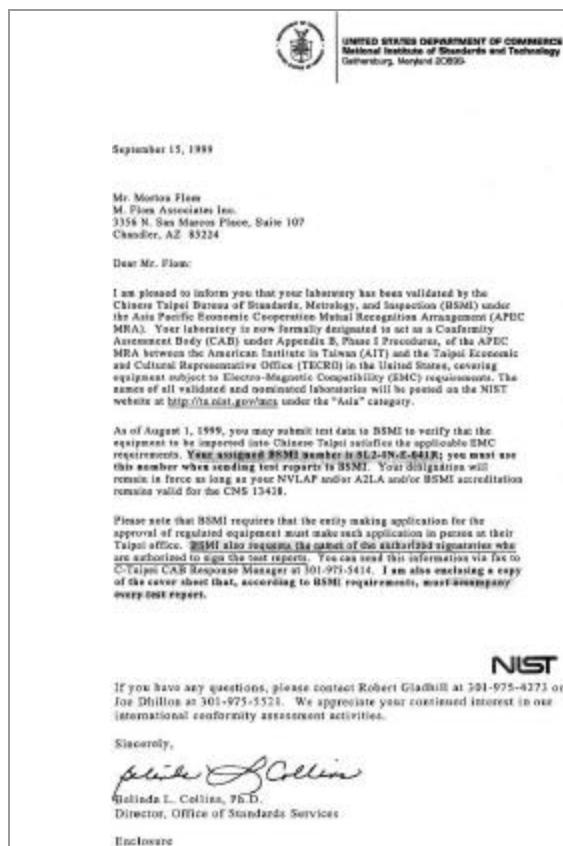
Follows



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 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 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 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 spectrum)
_____	15.249	Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz, and 24.0- 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- 3.6 GHz (vehicle identification systems)
_____	15.321	Specific requirements for asynchronous devices operating in the 1910-1920 MHz and 2390- 2400 MHz bands (Unlicensed PCS)
_____	15.323	Specific requirements for isochronous devices operating in the 1920-1930 MHz sub-band (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 ± 1.5 dB.

Measurement Results

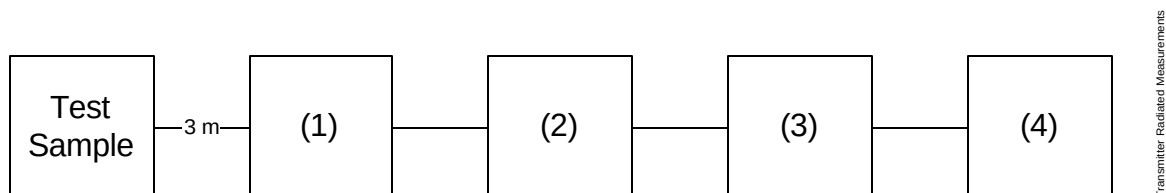
g04c0071: 2004-Dec-27 Mon 10:32:00
State: 2:High Power

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

Frequency Tuned, MHz	Frequency Emission, MHz	Meter, 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 (as applicable)	Description	s/n	Cycle	Last Cal
Per ANSI C63.4-1992, 10.1.4				
(1) Transducer				
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
(2) Coaxial Attenuator				
X i00231/2	PASTERNAK PE7021-30 (30 dB)	231 or 232	NCR	
i0012/3	NARDA 766 (10 dB)	7802 or 7802A	NCR	
(3) Preamp				
X i00028	HP 8449A (+30 dB)	2749A00121	12 mo.	May-03
(4) Spectrum Analyzer				
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 = ≥ 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:

Fc Frequency, MHz	Fc FIELD, mv/m	Spurious Field, mv/m
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, MHz	LEVEL, 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

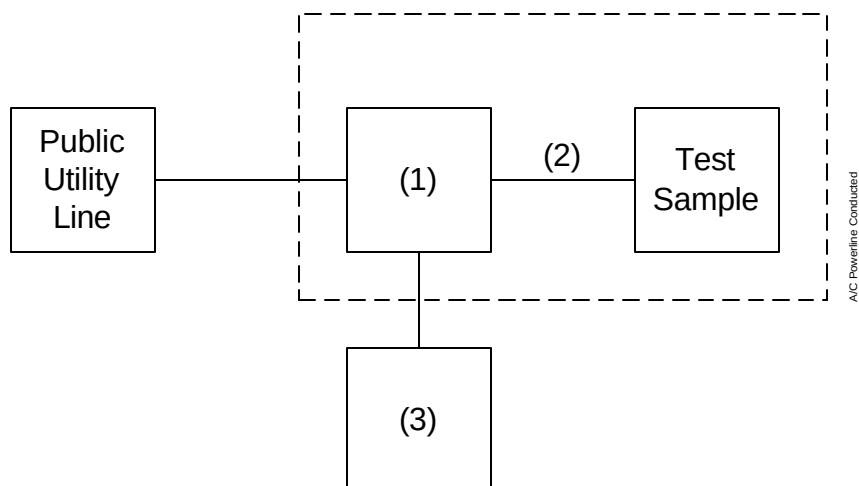
Guide: IEEE Standard 213

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 μ 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
(1) Line Impedance Stabilization Network				
X i00244	Fischer 50-20-2-01	2047	NCR	
(2) Screen Room				
X i00170	Lindgren LG170	4999	NCR	
(3) Spectrum Analyzer				
X i00033	HP 85462A	3625A00357	12 mo.	Jul-04
	i00048	HP 8566B	12 mo.	Sep-04

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	μ 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	μ 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