

**Environmental Assessment**

for

**Mobiles/Fixed Base Station**

for

**FCC ID: B5DM519**

Model: BTR-1

to

**Federal Communications Commission**

**47 CFR 1.1310 (MPE)**

Radiofrequency Radiation Exposure Limits

**Date Of Report:** July 26, 2004

**On the Behalf of the Applicant:**

Telex Communications, Inc.

**At the Request of:**

P.O. 302560

Telex Communications, Inc.  
8601 E. Cornhusker Highway  
P.O. Box 5579  
Lincoln, NE 68505-5579

Attention of:

Charles E. Conner, Project Engineer  
(402) 467-5321; FAX: -3279  
E-mail: charlie.conner@telex.com  
Jim Andersen  
Email: jim.andersen@telex.com



Supervised By:


David E. Lee, Lab Manager

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*Required information per ISO/IEC Guide 25-1990, paragraph 13.2:*

- a) **Test Report (Supplemental)**
- 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: d0470054
- d) Client: Telex Communications, Inc.  
8601 E. Cornhusker Highway  
P.O. Box 5579  
Lincoln, NE 68505-5579
- e) Identification: BTR-1  
Description: FCC ID: B5DM519  
UHF FM Transceiver
- f) EUT Condition: Not required unless specified in individual tests.
- g) Report Date: July 26, 2004  
EUT Received:
- h, j, k): As indicated in individual tests.
- i) Sampling method: No sampling procedure used.
- l) Uncertainty: In accordance with MFA internal quality manual.
- n) Results: The results presented in this report relate only to the item tested.
- m) Supervised by:   
David E. Lee,  
Compliance Test Manager
- o) Reproduction: This report must not be reproduced, except in full, without written permission from this laboratory.

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**Identification of the Equipment Under Test (EUT)**

**Name and Address of Applicant:**

Telex Communications, Inc.  
 8601 E. Cornhusker Highway  
 P.O. Box 5579  
 Lincoln, NE 68505-5579

**Manufacturer:**

Telex Communications, Inc.

**FCC ID:** B5DM519

**Model Number:** BTR-1

**Description:** UHF FM Transceiver

**Type of Emission:** 200KF1E

**Frequency Range, MHz:** 482 to 607.9

**Power Rating, Watts:** 0.050  
 \_\_\_ Switchable      X Variable      \_\_\_ N/A

**Modulation:**  
 \_\_\_ AMPS  
 \_\_\_ TDMA  
 \_\_\_ CDMA  
X OTHER

**Antenna:**  
 \_\_\_ Helical  
 \_\_\_ Monopole  
X Whip  
 \_\_\_ Other

**Note:** For RF Safety test antenna gain taken at the upper range of expected gain (i.e. 0 dBd) and RF Power set to highest nominal power across all channels.



## 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**



UNITED STATES DEPARTMENT OF COMMERCE  
National Institute of Standards and Technology  
Gaithersburg, Maryland 20899

September 15, 1999

Mr. Morton Flom  
M. Flom Associates Inc.  
3356 N. San Marcos Place, Suite 107  
Chandler, AZ 85224

Dear Mr. Flom:

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 Arrangement (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.

As of August 1, 1999, you may submit test data to BSMI to verify that the equipment to be imported into Chinese Taipei satisfies the applicable EMC requirements. Your assigned BSMI number is **SL2-IN-E-041R**; you must use this number when sending test reports to BSMI. Your designation will remain in force as long as your NVLAP and/or A2LA and/or BSMI accreditation remains valid for the CNS 13438.

Please note that BSMI requires that the entity making application for the approval of regulated equipment must make such application in person at their Taipei office. BSMI also requests the names of the authorized signatories who are authorized to sign the test reports. You can send this information via fax to C-Taipei CAB Response Manager at 301-975-5414. I am also enclosing a copy of the cover sheet that, according to BSMI requirements, must accompany every test report.

**NIST**

If you have any questions, please contact Robert Gladhill at 301-975-4273 or Joe Dhillon at 301-975-5521. We appreciate your continued interest in our international conformity assessment activities.

Sincerely,

*Belinda L. Collins*  
Belinda L. Collins, Ph.D.  
Director, Office of Standards Services

Enclosure

## 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**

**Standard Test Conditions  
and  
Engineering Practices**

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

In accordance with ANSI C63.4-1992/2000, 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.

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**Name of Test:** Environmental Assessment

**Specification:** FCC: 47 CFR 1.1310

Frequency, MHZ	MPE Calculated
Limit	482
Minimum Safe	$f/1500 = 0.321 \text{ mW/cm}^2$
Distance	$= [0.050/(12.56 \times 3.21)]^{1/2}$
	$= 0.0352 \text{ m}$
	$= 3.52 \text{ cm}$

Supervised By:



David E. Lee,  
Compliance Test Manager

**(The following will be placed in the Instruction Manual)**

**Mandatory Safety Instructions to Installers & Users**

Use only manufacturer or dealer supplied antenna.

**Antenna Minimum Safe Distance: 3.56cm.**

Antenna Gain: zero dBd referenced to a dipole.

The Federal Communications Commission has adopted a safety standard for human exposure to RF (Radio Frequency) energy which is below the OSHA (Occupational Safety and Health Act) limits.

**Antenna Mounting:** The antenna supplied by the manufacturer or radio dealer must not be mounted at a location such that during radio transmission, any person or persons can come closer than the above indicated minimum safe distance to the antenna i.e. **3.56cm** .

To comply with current FCC RF Exposure limits, the antenna must be installed at or exceeding the minimum safe distance shown above, and in accordance with the requirements of the antenna manufacturer or supplier.

**Base Station Installation:** The antenna should be fixed-mounted on an outdoor permanent structure. RF Exposure compliance must be addressed at the time of installation.

**Antenna Substitution:** Do not substitute any antenna for the one supplied or recommended by the manufacturer or radio dealer. You may be exposing person or persons to excess radio frequency radiation. You may contact your radio dealer or the manufacturer for further instructions.

**Warning:** Maintain a separation distance from the antenna to a person(s) of at least **3.56cm** .

You, as the qualified end-user of this radio device must control the exposure conditions of bystanders to ensure the minimum separation distance (above) is maintained between the antenna and nearby persons for satisfying RF Exposure compliance. The operation of this transmitter must satisfy the requirements of Occupational/Controlled Exposure Environment, for work-related use. Transmit only when person(s) are at least the minimum distance from the properly installed, externally mounted antenna.



**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.

Supervised By:



David E. Lee,  
Compliance Test Manager