

MFA **M. Flom Associates, Inc. - Global Compliance Center**
3356 North San Marcos Place, Suite 107, Chandler, Arizona 85225-7176
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Date: March 26, 2001

Federal Communications Commission
Via: Electronic Filing

Attention: Authorization & Evaluation Division

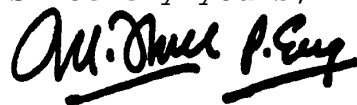
Applicant: Telex Communications, Inc.
Equipment: BTR-800
FCC ID: B5DM514
FCC Rules: Radiofrequency Radiation Exposure Limits
47 CFR 1.1310
MPE - Mobiles _____ Fixed Based Station x

Gentlemen:

On behalf of the Applicant, enclosed please find the CALCULATED Supplemental Test Data Report, the whole for Environmental Assessment (MPE) of the referenced equipment as shown.

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,



Morton Flom, P. Eng.

enclosure(s)
cc: Applicant
MF/cvr

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CALCULATED ENVIRONMENTAL ASSESSMENT

for

FIXED BASE STATION

for

FCC ID: FCC ID: B5DM514
Model: BTR-800

to

FEDERAL COMMUNICATIONS COMMISSION

47 CFR 1.1310 (MPE)
Radiofrequency Radiation Exposure Limits

DATE OF REPORT: March 26, 2001

ON THE BEHALF OF THE APPLICANT:

Telex Communications, Inc.

AT THE REQUEST OF:

P.O. 219090

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

SUPERVISED BY:




Morton Flom, P. Eng.

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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: d0130030
- d) Client: Telex Communications, Inc.
 8601 E. Cornhusker Highway
 P.O. Box 5579
 Lincoln, NE 68505-5579
- e) Identification: BTR-800
 Description: FCC ID: B5DM514
 UHF FM Transceiver
- f) EUT Condition: Not required unless specified in individual tests.
- g) Report Date: March 26, 2001
 EUT Received: January 9, 2001
- 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: 
 Morton Flom, P. Eng.
- 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.

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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:

B5DM514

MODEL NO:

BTR-800

DESCRIPTION:

UHF FM Transceiver

TYPE OF EMISSION:

20K0F3E

FREQUENCY RANGE, MHz:

518 to 608

POWER RATING, Watts:

0.100

 Switchable Variable x N/A

MODULATION:


 AMPS
 TDMA
 CDMA
 x OTHER

ANTENNA:

 HELICAL
 MONOPOLE
 WHIP
 x 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.

M. Flom Associates, Inc. is accredited by the American Association for Laboratory Association (A2LA) as shown in the scope below.



THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited


M. FLOM ASSOCIATES, INC.
Chandler, AZ

for technical competence in the field of

Electrical (EMC) 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 Guide 25-1990 "General Requirements for the Competence of Calibration and Testing Laboratories" (equivalent to relevant requirements of the ISO 9000 series of standards) and any additional program requirements in the identified field of testing.

Presented this 24th day of November, 1998.



Peter Abjorn
President
For the Accreditation Council
Certificate Number 1008.01
Valid to December 31, 2000

For tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical (EMC) Scope of Accreditation



American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC GUIDE 25-1990 AND EN 45001

M. FLOM ASSOCIATES, INC.
Electronic Testing Laboratory
3356 North San Marcos Place, Suite 107
Chandler, AZ 85225
Morton Flom Phone: 480 926 3100

ELECTRICAL (EMC)

Valid to: December 31, 2000 Certificate Number: 1008-01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following electromagnetic compatibility tests:

Tests	Standard(s)
RF Emissions	FCC Part 15 (Subparts B and C) using ANSI C63 4-1992; CISPR 11; CISPR 13; CISPR 14; CISPR 22; EN 55011; EN 55013; EN 55014; EN 55022; EN 50081-1; EN 50081-2; FCC Part 18; ICES-003; AS/NZS 1044; AS/NZS 1053; AS/NZS 3548; AS/NZS 4251.1; CNS 13438
RF Immunity	EN 50082-1; EN 50082-2; AS/NZS 4251.1
Radiated Susceptibility	EN 61000-4-3; ENV 50140; ENV 50204; IEC 1000-4-3; IEC 801-3
ESD	EN 61000-4-2; IEC 1000-4-2; IEC 801-2
EFT	EN 61000-4-4; IEC 1000-4-4; IEC 801-4
Surge	EN 61000-4-5; ENV 50142; IEC 1000-4-5; IEC 801-5
47 CFR (FCC)	2, 21, 22, 23, 24, 74, 80, 87, 90, 95, 97

Revised 2/2/2000

Peter Abjorn

5301 Buckeystown Pike, Suite 350 • Frederick, MD 21704-8370 • Phone: 301 644 3248 • Fax: 301 662 2974

"This laboratory is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this report have been determined in accordance with the laboratory's terms of accreditation unless stated otherwise in the report."

Should this report contain any data for tests for which we are not accredited, or which have been undertaken by a subcontractor that is not A2LA accredited, such data would not covered by this laboratory's A2LA accreditation.

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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: R.F. Radiation Exposure - Calculation

FCC Rules: 1.1307, 1.1310, 1.1311, 2.1091
 Description, EUT: See page 2 of Test Report

LIMITS: Uncontrolled	0.3-1.234 MHz:	Limit [mW/cm ²] = 100
Exposure	1.34-30 MHz:	Limit [mW/cm ²] = (180/f ²)
47 CFR 1.1310	30-300 MHz:	Limit [mW/cm ²] = 0.2
Table 1, (B)	300-1500 MHz	Limit [mW/cm²] = f/1500
	1500-100,000 MHz:	Limit [mW/cm ²] = 1.0

Limit: Uncontrolled Exposure $518/1500 = 0.3453$ mW/cm²

Theoretical Safe Distance

f = 518 MHz
 P = 0.100 Watt

$$\begin{aligned}
 R_m &= [(TX \text{ Power}) / (4\pi \times \text{Limit})]^{1/2} \\
 &= [0.1 / (4\pi \times 3.453)]^{1/2} \\
 &= 0.0480 \text{ meters} \\
 &= 4.8 \text{ cm} \\
 &= 1.89 \text{ inches}
 \end{aligned}$$

SUPERVISED BY:



Morton Flom, P. Eng.

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:



Morton Flom, P. Eng.