



Accredited Laboratory

FCC ID: BXZU981
Exhibit B

NOTIFICATION TEST REPORT

FOR

TELECOURIER, INC.

UHF ALARM RECEIVER
U981

FCC PART 15, SUBPART B
CLASS B COMPLIANCE

REPORT NO. 963777


MAY, 1996

PREPARED FOR:

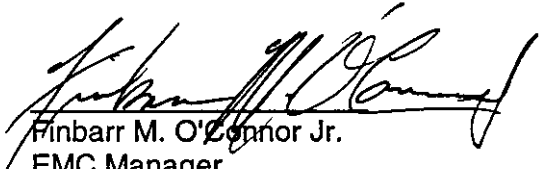
Telecourier, Inc.
Wayne, PA 19087

PREPARED BY:

R & B Enterprises
West Conshohocken, PA


George Robinson
EMC Test Specialist

APPROVED BY:


Finbarr M. O'Connor Jr.
EMC Manager

P. O. No. 9632
Job No. 96T028

This document shall not be reproduced, except in full, without the written approval of R & B Enterprises.

This document cannot be used to claim a product endorsement by NVLAP or any agency of the U. S. Government.

R & B Enterprises DIVISION

EMC SCIENCE CENTER, INC
20 Clipper Road • West Conshohocken, PA 19428
610-825-1960

Report No. 963777

Revision -
Page No. i

TABLE OF CONTENTS

	<u>Page</u>
ADMINISTRATIVE DATA	1
SUMMARY OF RESULTS	2
1.0 GENERAL INFORMATION	3
1.1 DESCRIPTION OF EQUIPMENT UNDER TEST	3
2.0 DESCRIPTION OF TEST CONFIGURATION	4
2.1 OPEN-AREA RADIATED EMISSION TEST SITE	4
2.2 OPEN-AREA RADIATED EMISSIONS TEST PROCEDURE	5
3.0 TEST RESULTS	6
3.1 RADIATED EMISSIONS	6
TABLE 1 LIST OF TEST EQUIPMENT AND FIXTURES	6
FIGURES	
1 OPEN-AREA TEST SITE CONFIGURATION	7
2 MINI-RECEIVER WITH TWO INFRARED LOCATORS	8
APPENDICES	
A RADIATED-EMISSION DATA	9
B ANTENNA FACTORS	14
C SUPPLEMENTAL DATA	17

ADMINISTRATIVE DATA

PURPOSE OF TEST	To demonstrate compliance of the UHF Alarm Receiver, Model U981, with FCC Part 15, Subpart B, Class B requirements
EQUIPMENT TESTED	UHF Alarm Receiver M/N: U981
MANUFACTURER	Telecourier, Inc. Wayne, PA
TEST SPECIFICATION	ANSI C63.4-1992
TEST PERSONNEL	George Robinson EMC Test Specialist
CUSTOMER REPRESENTATIVE	Roger Almstedt Scott Fahey
DATE OF TEST	April 5, 1996
TEST LOCATION	EMC Science Center, Inc. 20 Clipper Road West Conshohocken, PA 19428
DISPOSITION OF TEST ITEM	Returned via Customer Representatives

SUMMARY OF RESULTS

The U981 Alarm Receiver was tested in accordance with ANSI Measurement Procedure C63.4-1992 for compliance to the Class B Requirements of Part 15, Subpart B of the FCC Rules and Regulations.

As received, the equipment under test (EUT) complied with the emission limits to which it was tested.

The EUT does not connect to the public utility, therefore conducted emissions was not performed on the unit. It is powered by a 7 - 24 Vac or dc power source.

The worst case margin of compliance was - 18 dB at 164 MHz and 174 MHz.

1.0 GENERAL INFORMATION

1.1 DESCRIPTION OF EQUIPMENT UNDER TEST

The U981 Alarm Receiver is used either together with the alarm transmitter U971 or in a TelePROJECT 900 Alarm System. Also, the U981 can be programmed to respond to paging from the Telecourier 900 Paging System.

The U981 Alarm Receiver was tested with two infrared transmitters, P950L and P950SL.

2.0 DESCRIPTION OF TEST CONFIGURATION

The tests were performed in accordance with ANSI Measurement Procedure C63.4-1992, "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz", dated May 26, 1992.

A list of the test equipment used is contained in Table 1.

2.1 OPEN-AREA RADIATED EMISSIONS TEST SITE

The radiated-emission test was performed on an open-area site located adjacent to R & B Enterprises' EMI facility. The test site was constructed and tested to the recommendations/requirements of ANSI C63.4-1992. The following is a description of the test site.

The conducting ground plane measures 56 feet (17 meters) wide by 70 feet (21.3 meters) long and is made up of ¼-inch square galvanized steel mesh. Copper ground rods are connected to the ground plane at key locations.

This size ground plane allows an extension of 5 meters beyond the antenna tower and is sufficiently wide such that it extends at least 5 meters beyond the widest horizontally polarized antenna (dipole or biconical).

The receive antennas were placed on a remotely controlled motorized fiberglass antenna positioner located 3 or 10 meters from the EUT. The positioner was capable of positioning the center of the antenna at any height in the range of 1 to 4 m above the ground plane. The positioner was also capable of maintaining the antenna in both horizontal and vertical polarizations.

The antenna signals were fed to the EMI receiver located within the building via a shielded cable. The EMI receiver was powered from a common wall socket through an isolation transformer.

The EUT was placed on a wooden table with the dimensions of 1.5 meters x 1.0 meter x 0.8 meter high. The table was placed on a remotely controlled turntable, thus allowing emissions to be measured from all sides of the EUT. The EUT is located in a wooded weather protected structure 20 feet wide by 36 feet long and 16 ½ feet high.

The power supplied to the EUT came from a separate power run from the main distribution box through underground PVC conduit. Receptacles were brought above ground via PVC conduit to the center of the turntable. The power was switchable remotely via a switch located at the building power-distribution panel.

2.2 OPEN-AREA RADIATED EMISSIONS TEST PROCEDURE

The EUT was configured in a normal operating configuration. Preliminary radiated measurements were performed inside the shielded enclosure at a measurement distance of one meter to determine the emission characteristics of the EUT. The EUT was rotated 360° to determine the configuration that produced the highest level. This procedure was performed over the frequency range from 30 MHz to 1000 MHz. This configuration was utilized for the final measurement performed.

The final radiated-emission test was performed on the open-area site. The measurements were taken with an EUT-to-antenna distance of 3 meters over the frequency range from 30 MHz to 1000 MHz. The frequency and amplitude of the six highest radiated emissions relative to the limit were recorded as a minimum.

The radiated-emission measurements were taken in both the horizontal and vertical polarization of the receive antenna. Also, the receive antenna was varied in height from 1 to 4 meters to measure the maximum emission from the EUT.

3.0 TEST RESULTS

3.1 RADIATED EMISSIONS

The EUT was set up for radiated emissions tests on the open-area test site, as shown in Figures 1 and 2.

The results can be found in Appendix A.

TABLE 1
FCC LIST OF TEST EQUIPMENT USED

<u>ITEM</u>	<u>CHARACT.</u>	<u>MANUFACT.</u>	<u>MODEL</u>	<u>SERIAL NO.</u>	<u>CAL DUE</u>
Interference Analyzer	10 kHz 1000 MHz	Electro-Metrics	EMC-25 MKIII	613	12-07-96
Spectrum Analyzer	10 kHz- 40 GHz	Tektronix	492	B010494	08-22-96
Biconical Antenna	20 MHz to 200 MHz	EMCO	3109	2793	07/19/96
Log Periodic Antenna	200 MHz- 1000 MHz	Amplifier Research	AT1000	16186	12/10/96
Wooden Test Bench	1.5 m W x 1.0 m L x 80 cm H	R & B Enterprises	101	-	N/A
Antenna Tower	5 meters	Electro-Metrics	EM4700	501	N/A
Remote Controlled Turntable	1.5 meters	Electro-Metrics	EM4710/M	1001	N/A

FIGURE 1
OPEN-AREA TEST SITE CONFIGURATION

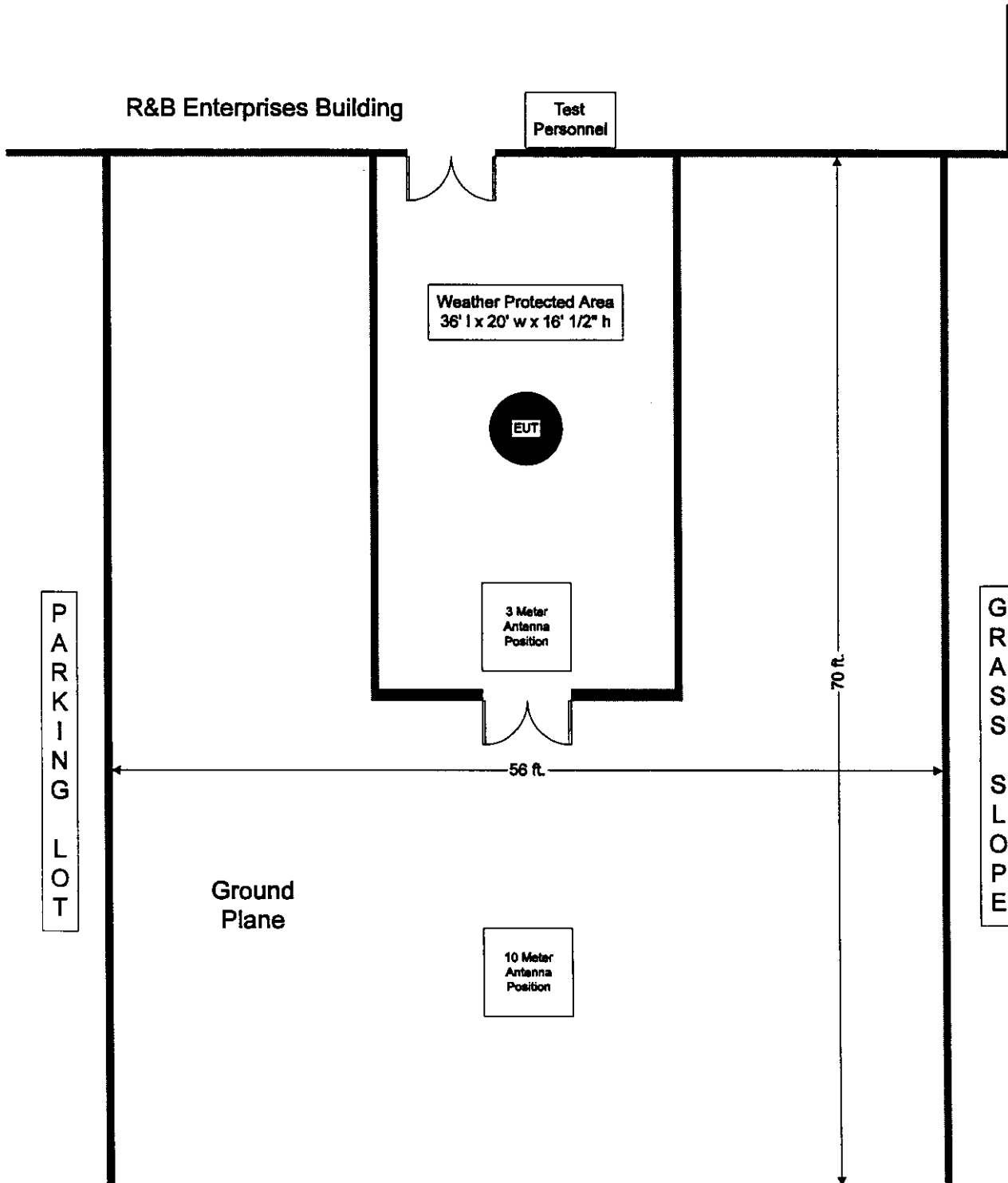
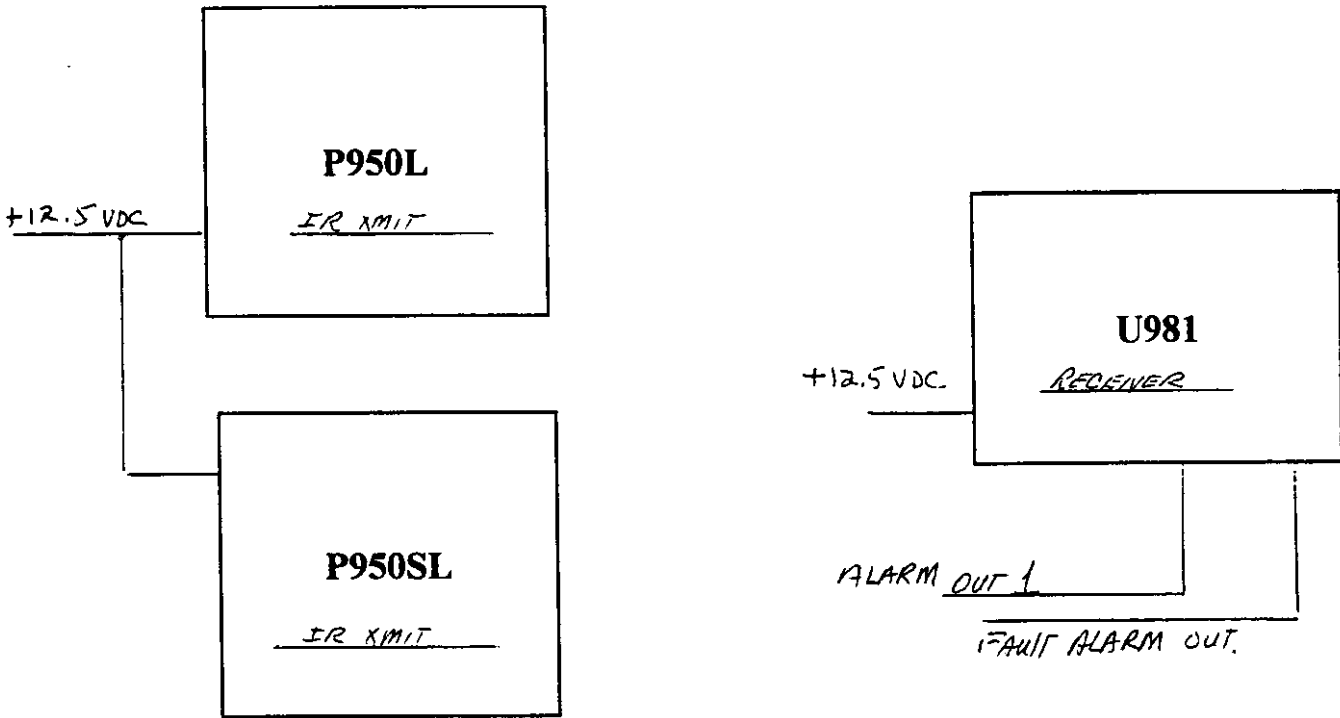


FIGURE 2

MINI-RECEIVER WITH TWO INFRARED LOCATORS



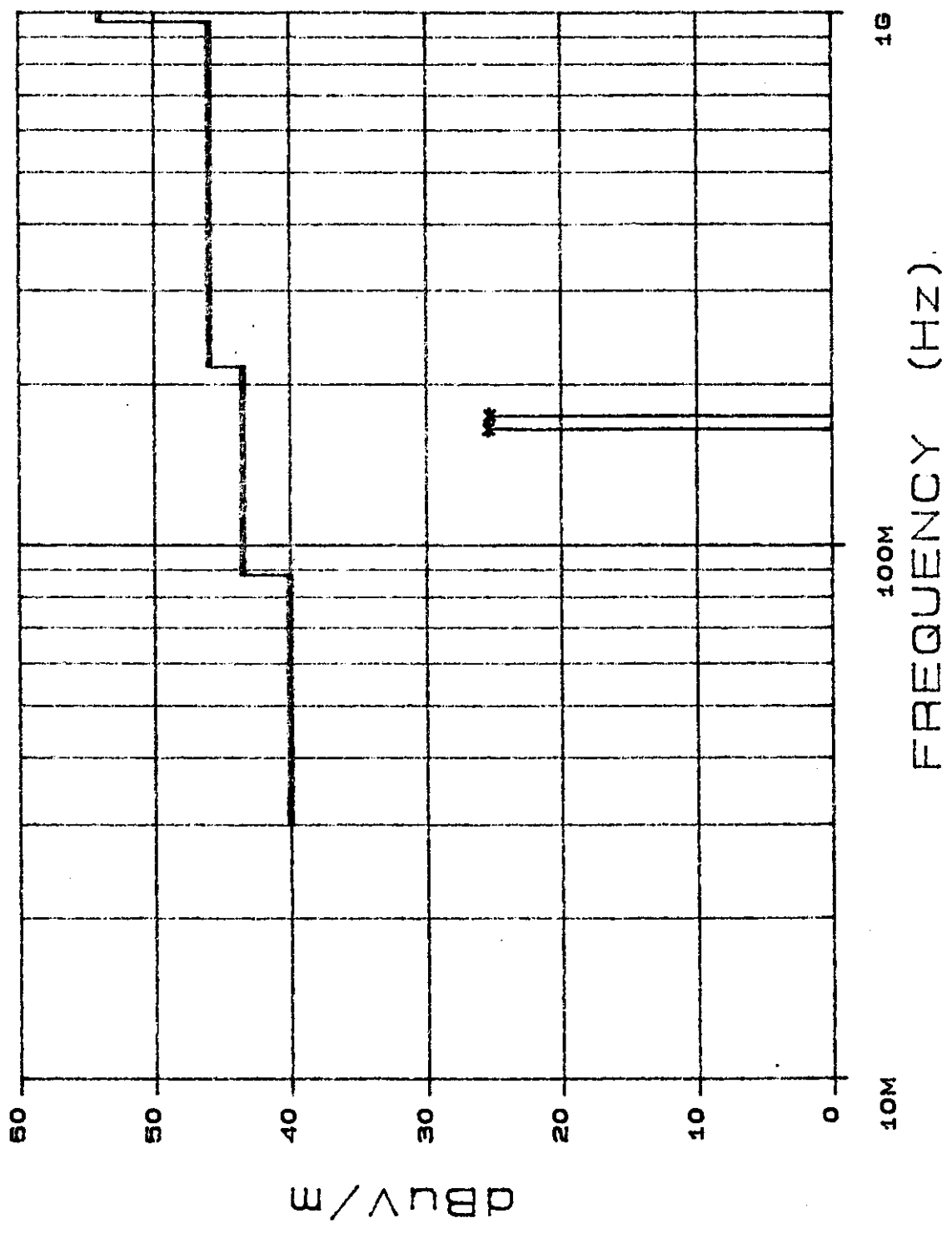
ALL CABLES UNSHIELDED TWISTED PAIR
ALL UNITS IN THE FIELD OF TEST (3 METERS)

APPENDIX A

RADIATED-EMISSION DATA

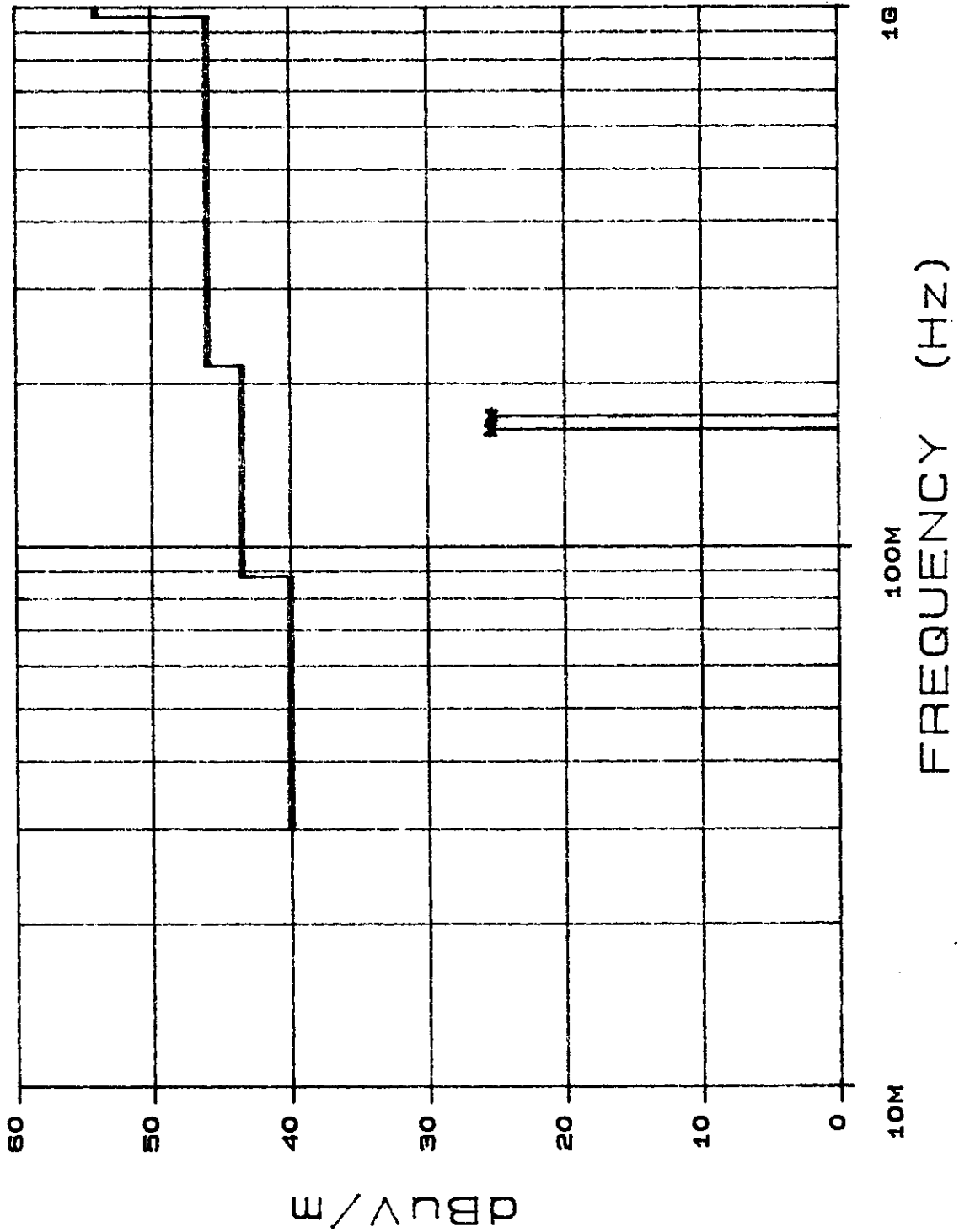
Telecourier Inc. TEST DATE: 04/05/1996
UHF mini alarm receiver in a radio paging system
MODEL NO. U981
SERIAL NO. None
TECHNICIAN: George Robinson

FCC PART 15, SUBPART B, RADIATED EMISSIONS, CLASS B
U981, and Locators P950L, & P950SL Tested together.
Vertical Polarization
Normal operation



Telecourier Inc. TEST DATE: 04/05/1996
UHF mini alarm receiver in a radio paging system
MODEL NO. U981
SERIAL NO. None
TECHNICIAN: George Robinson

FCC PART 15, SUBPART B, RADIATED EMISSIONS, CLASS B
U981, and Locators P950L, & P950SL Tested together.
Horizontal Polarization
Normal operation



R & B Enterprises DIVISION

EMC SCIENCE CENTER, INC

20 Clipper Road • West Conshohocken, PA 19428

610-825-1960

Report No. 963777

Revision -

Page No. 12

Telecourier Inc.

JOB #96T028

UHF mini alarm receiver in a radio paging system

MODEL #U981

SERIAL #None

TEST DATE: 04/05/1996

TECHNICIAN: George Robinson

FCC PART 15, SUBPART B, RADIATED EMISSIONS, CLASS B

U981, and Locators P950L, & P950SL Tested together.

Horizontal Polarization

Normal operation

FREQUENCY: (HZ)	READING: (dBuV)	FACTOR: (dB)	SPEC: (dBuV/m)	ACTUAL: (dBuV/m)	ACTUAL: (uV/m)	MARGIN: (dB)
164.00 MHz	15.0	10.4	43.5	25.4	18.6	-18.1
174.00 MHz	15.0	10.3	43.5	25.3	18.4	-18.2

R & B ENTERPRISES DIVISION

EMC SCIENCE CENTER, INC.

20 CLIPPER ROAD • WEST CONSHOHOCKEN, PA 19428 • 610-825-1960

REPORT NO.
963777

PAGE NO.
13

APPENDIX B

ANTENNA FACTORS

R & B Enterprises DIVISION

EMC SCIENCE CENTER, INC

20 Clipper Road • West Conshohocken, PA 19428

610-825-1960

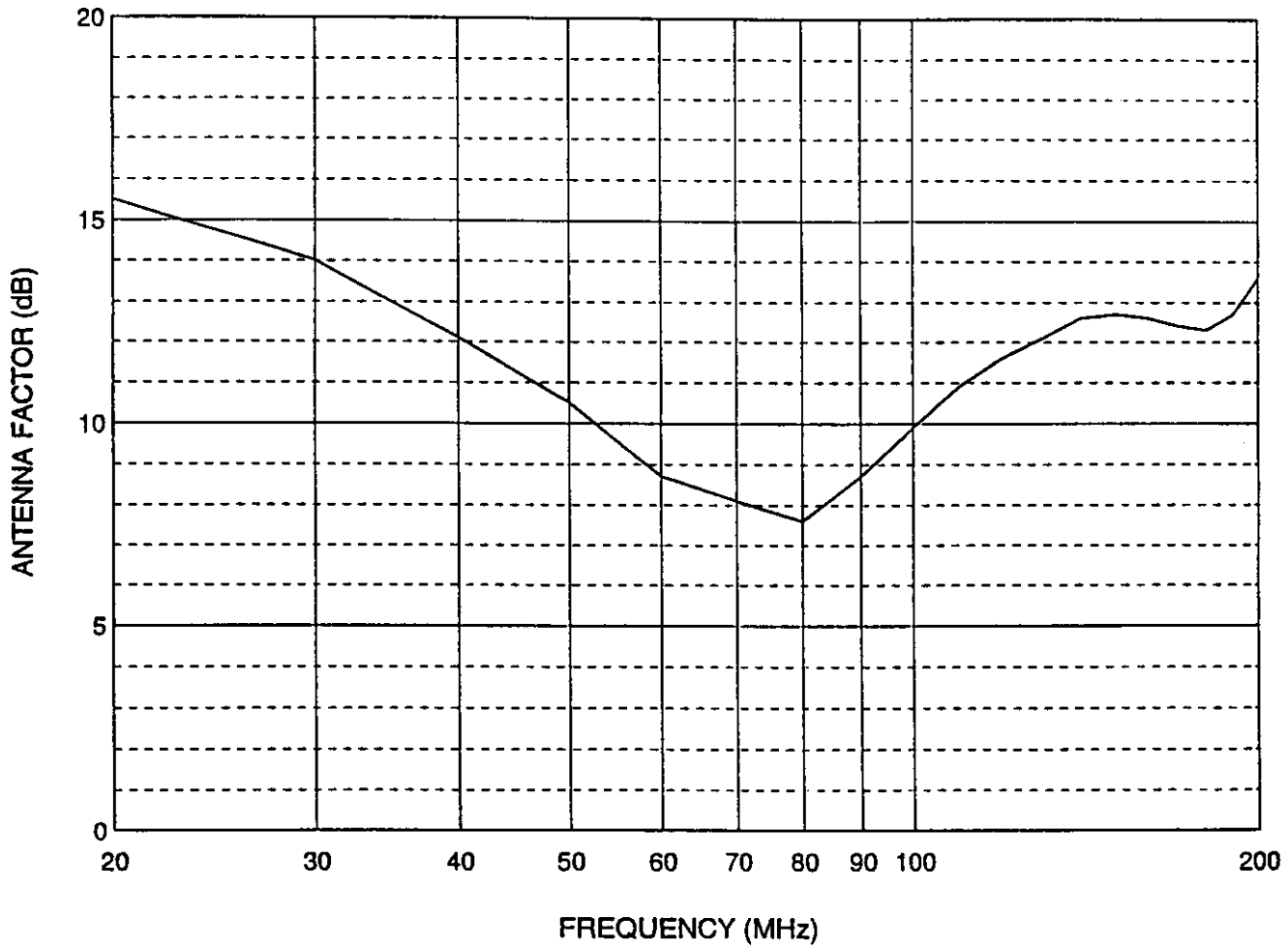
Report No. 963777

Revision -

Page No. 15

ANTENNA CORRECTION FACTOR

EMCO
 BICONICAL ANTENNA
 MODEL: 3109
 S/N: 2793
 CALIBRATION DUE: 07/19/96
 3 Meter Calibration



R & B Enterprises DIVISION

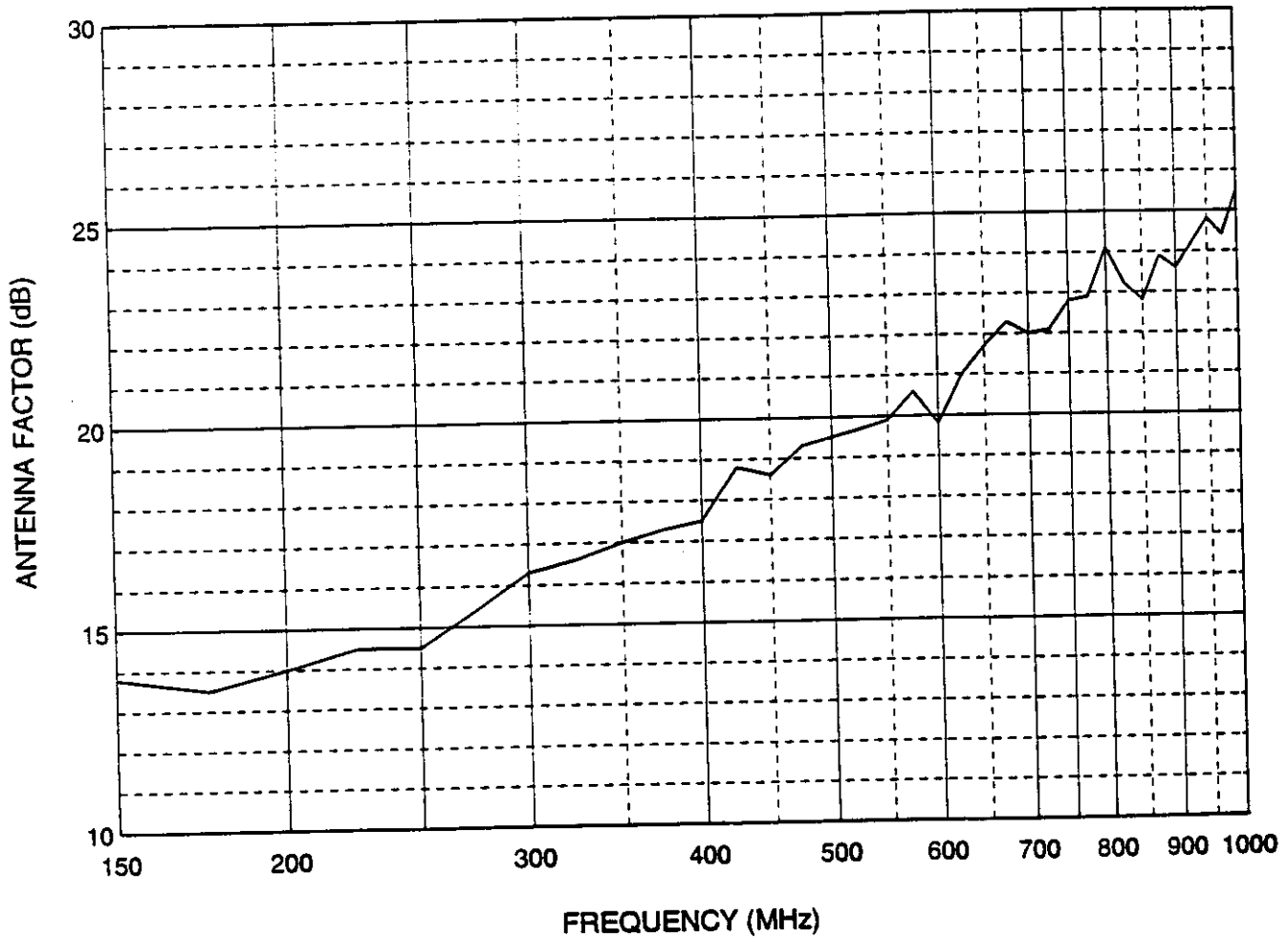
EMC SCIENCE CENTER, INC
 20 Clipper Road • West Conshohocken, PA 19428
 610-825-1960

Report No. 963777

Revision -
 Page No. 16

ANTENNA CORRECTION FACTOR

AMPLIFIER RESEARCH LOG PERIODIC ANTENNA
 MODEL: AT1000
 S/N: 16186
 CALIBRATION DUE: 12/10/96



R & B Enterprises DIVISION

EMC SCIENCE CENTER, INC
 20 Clipper Road • West Conshohocken, PA 19428
 610-825-1960

Report No. 963777

Revision -
 Page No. 17

APPENDIX C

SUPPLEMENTAL DATA

R & B Enterprises DIVISION

EMC SCIENCE CENTER, INC

20 Clipper Road • West Conshohocken, PA 19428

610-825-1960

Report No. 963777

Revision -

Page No. 18

SUPPLEMENTAL INFORMATION
FOR
FCC TESTS AND REPORTS

1. NAME AND ADDRESS OF MANUFACTURER:
Q560 W TATECO AB
Box 8783
S 402 76 Löttenburg Sweden
2. NAME AND ADDRESS OF COMPANY REQUESTING TESTING:
TEK COURIER INC.
950 WEST VALLEY RD. SUITE 3102
WAYNE, PA 19087
3. TYPE OF PRODUCT:
Telecommunication/Regny/Personal Akom

4. PRODUCT NAME:
Tek Protect / Telexcourier 900

5. MODEL NUMBER: U981
SERIAL NUMBER (S):

6. BRIEF GENERAL AND TECHNICAL DESCRIPTIONS of the system/device under test. Include size of unit/device, and, where applicable, attach a list of all peripheral devices utilized during the testing. INCLUDING names of manufacturers, model and serial numbers, and FCC ID#.

The U981 is a mini UHF receiver. When it receives the proper code it will provide output-pwr. This output-pwr and one fault out-pwr. This unit responds to our U971, U970, U970I and it also can be programmed from our U957T & U957C

SUPPLEMENTAL INFORMATION
Page 3

9. MODES OF OPERATION
A. Describe all possible
Testing / Test Rigging

B. Describe those used in the test.

C. Provide justification test modes (if not all).

10. Describe how cables were oriented during tests. *WORST CASE.*

A. Are cables provided with EUT?

B. Are variable lengths used?

C. Why were test lengths selected?

11. Describe orientation of EUT (layout) during ~~tests~~ and RE tests to obtain maximum emissions? *WORST CASE*

A. Was this varied during ~~tests~~ and RE tests to obtain maximum emissions? *YES*

B. Provide photograph of worst case of ~~emissions~~ and RE configurations. *Photo attached*

COMPLETED BY:
TITLE:
COMPANY:
DATE:

