

EXHIBIT 3

REPORT OF MEASUREMENTS

PARAGRAPH 2.1033(b)(6)

RUBICOM SYSTEMS, INC.

FCC CLASS B TEST REPORT

FOR THE

RECOTON CORPORATION

CLV200R BASE RECEIVER

COPY 1



Rubicom Systems, Inc.
284 West Drive, Suite B
Melbourne, FL 32904

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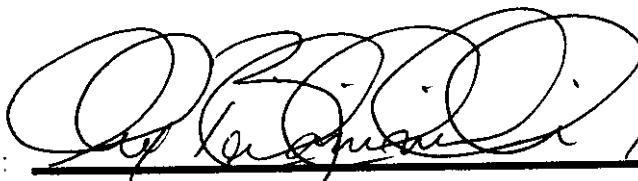
FCC CLASS B TEST REPORT

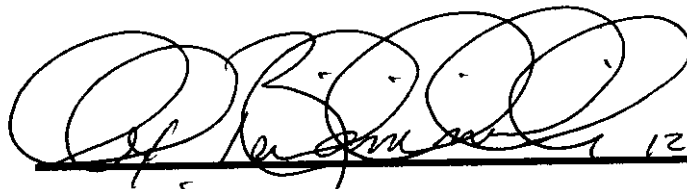
FOR THE

RECOTON CORPORATION

CLV200R BASE RECEIVER

S/N: PT-0024

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Alex Belardinelli

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Alex Belardinelli

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RECEIVED: December 11, 1998

COMPLETED: December 15, 1998

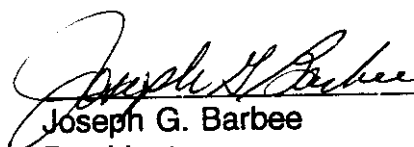
TABLE OF CONTENTS

<u>Paragraph</u>	<u>Title</u>	<u>Page</u>
	CERTIFICATION	1
	ABSTRACT	2
1.0	INTRODUCTION	3
1.1	Purpose	3
1.2	Requirements	3
1.3	Unit Under Test Description	4
1.4	Summary of Results.	4
2.0	APPLICABLE DOCUMENTS	5
3.0	TEST SITE DESCRIPTION	6
3.1	Environmental Conditions.	6
4.0	TEST INSTRUMENTATION	7
5.0	TEST SAMPLE SETUP AND CONFIGURATION	8
6.0	PROCEDURES AND RESULTS	11
6.1	Power Line Conducted	11
6.2	Radiated Emissions	11
6.2.1	Pretest.	11
6.2.2	Official Quasi-Peak Scans.	11
6.2.3	Peak Ambient (EUT Off/Support Equipment "On").	12
6.2.4	Normalized Ambient (EUT Off/ Support "On").	12
6.2.5	Normalized EUT Scan (EUT and Support "On").	12
6.2.6	High Ambient Investigation	12
	FIGURES 6.2.1-1 - 6.2.1-6	13 - 18
	FIGURES 6.2.2-1 - 6.2.2-6	19 - 24
	FIGURES 6.2.3-1 - 6.2.3-6	25 - 30
	APPENDIX A	31

CERTIFICATION

Rubicom Systems, Inc. certifies the information obtained in this report was performed consistent with the requirements of ANSI C63.4-1992. The Recoton Corporation CLV200R complies with the requirements of CFR 47 Part 15, Subpart B for unintentional radiators.

This data was obtained while testing a CLV200R furnished by Recoton Corporation as described in Paragraph 1.3 of this document. NOTE: The unit tested was labeled with "Hughes DSS RX-Prototype, PT-0024. Any modifications to the unit as tested may invalidate the data and void this certification.

 12/21/98
Joseph G. Barbee
President

ABSTRACT

This report presents test results of the emanations found emitting from a Recoton CLV200R and the comparison of these emissions to the requirements of the FCC, Title 47, Part 15, Subpart B for unintentional radiators. The CLV200R is referenced in this document as the CLV200R.

This testing was performed on a 3-meter open field test site at Rubicom Systems, Inc. (RSI). The testing was performed for Recoton Corporation under a purchase order number 61107 and is on file at RSI under JA Number 1620. The results of this test effort demonstrate compliance of the CLV200R to the FCC, Title 47, Part 15, Subpart B, unintentional radiators.

1.0 INTRODUCTION

1.1 Purpose

The purpose of this report is to show compliance of the CLV200R Receiver to the requirements for unintentional radiators.

1.2 Requirements

The test requirements for unintentional radiators are as follows:

RADIATED

<u>Freq. (MHz)</u>	<u>Distance Meters</u>	<u>Field Strength $\mu\text{V/M}$</u>	<u>20 Log 3 Meter $\text{dB } \mu\text{V/M}$</u>
30 - 88	3	100	40.0
88 - 216	3	150	43.5
216 - 960	3	200	46.0
960 - Above	3	500	54.0

1.3 Unit Under Test Description

The CLV200R works in conjunction with the CLV200T to allow control of the digital receiver without being in the line of sight to the unit. The CLV200R has a "shark fin" type base connected to the digital receiver. The CLV200R plugs into the rear of the satellite receiver and allows the receptor to be moved around for better reception from the remote unit.

1.4 Summary of Results

Since the CLV200R receiver operates on DC power, conducted power line test were not applicable.

The electric field data presented in Figures 6.2.2-1 through 6.2.2-6 provide in graphic form, the levels of signals emanating from the EUT with respect to the appropriate limit. Each division of the amplitude scale (Y-Axis) of the data sheet is equal to 5dB. The EUT is compliant to the radiated requirements of FCC, Title 47, Part 15, Subpart B for unintentional radiators. All signals are below the Class B limit.

Paragraph 6.2 contains the tabular listing of frequencies where the levels are within 10dB of the requirements. The results were obtained with no modifications.

2.0 APPLICABLE DOCUMENTS

The following documents form a part of this report to the extent expressed herein:

FCC Code of Federal Regulations Title 47, Part 15,

FCC Procedure for Measuring RF Emissions from Computing
Devices FCC/OET MP-4, July 1987

ANSI C63.4-1992

FCC Characteristics of Open Field Test Sites Bulletin
OET 55, October 1989

TEST INSTRUMENTATION

4.0

The following test equipment was used to perform this testing.

Qty.	Description	Manufacturer	Model No.	Last Cal.	Cal Cycle
1	Spectrum Analyzer	Advantest	R3271	09/09/98	1 yr
1	Plotter	Hewlett Packard	7440A	NCR	
1	BiLog Antenna	Chase	CLB6111B	07/24/98	1 yr

TEST SITE DESCRIPTION

3.0

This testing was performed at Rubicom Systems, Inc. 3-meter test site. The description of the measurement facility was found to be compliant with the requirements of Section 2.948 of the FCC Rules. A copy of the compliance letter is attached to this report as Appendix A.

3.1

Environmental Conditions

Environmental conditions during testing of the EUT were as follows:

Date: December 14, 1998 Date: December 15, 1998

Temperature: 62° F Temperature: 65° F

Barometer: 29.65 inches Barometer: 29.50 inches

Humidity: 64% Humidity: 63%

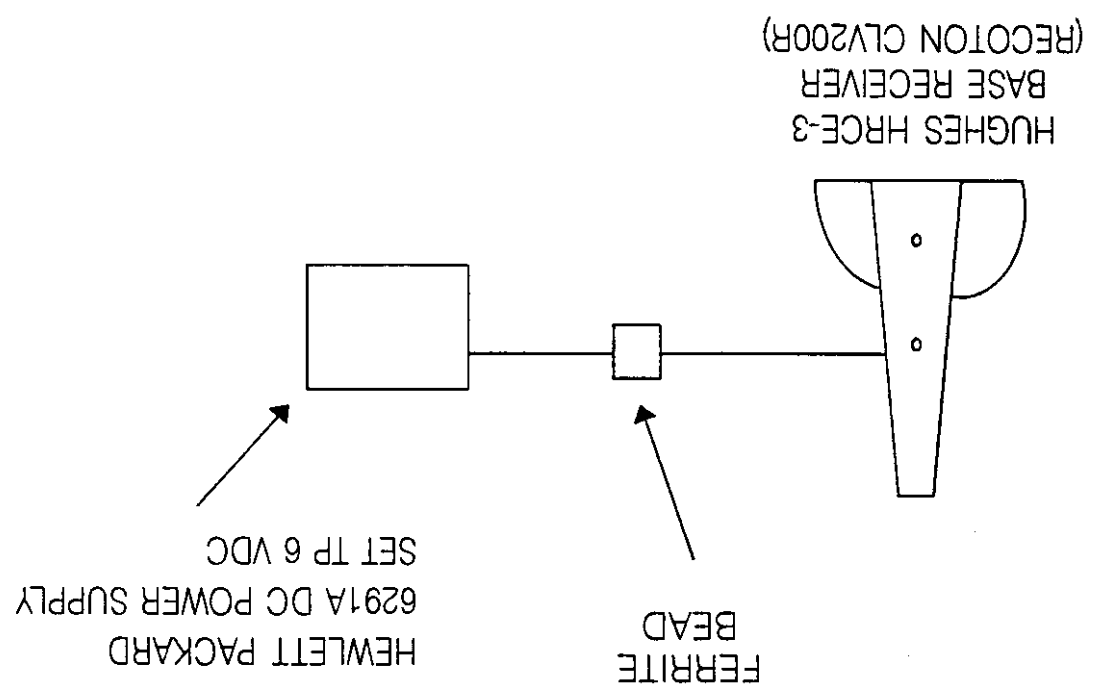
TEST SAMPLE SETUP AND CONFIGURATIONS

5.0

The Recoton Corporation CLV200R Receiver was placed on the nonconductive 80cm high manual turntable. The unit was configured with an external DC power supply. Cables were configured in a normal setup.

Setup for the Recoton CLV200R Receiver is shown below.

The Recoton CLV200R Receiver test setup is shown in Photos 1 and 2.



6.0 PROCEDURES AND RESULTS

6.1 Power Line Conducted

The unit was tested in the shielded enclosure using the Solar Model 8012-50-R-24-BNC PLISN (50 μ H/50ohm). Both the phase and neutral leads were tested. However, since the CLV200R Receiver is DC operated, power line conducted tests were not applicable.

6.2 Radiated Emissions

The following procedures are used to the extent required to ensure that all significant signals emanating from the EUT are identified in frequency and amplitude. These procedures are used for electric field emissions due to the high ambients. No signals within 10dB of the requirement were found, therefore no tabular list is presented.

6.2.1 Pretest

An initial pretest for electric field signals is performed inside a shielded room to identify frequencies emanating from the EUT without the test site ambient interference. This data is presented in Figures 6.2.1-1 through 6.2.1-6.

6.2.2 Official Quasi-Peak Scans

This testing involves maximizing the radiated emissions for peak amplitude levels in antenna height and equipment under test azimuth. This peaking is performed using the frequencies noted during pretest. The maximized height and azimuth are noted on each frequency band. The maximization is performed for each polarization and frequency band. This data is presented in Figures 6.2.2-1 through 6.2.2-6. If required,

the following paragraphs are performed to assist in determining the true signals from the EUT. EUT signals are identified on the graph by circles and a number above the signal. Each signal identified as being from the EUT is maximized in elevation and azimuth. Example; a signal at 65MHz is 5dB below the specification and would be noted as: 65-5.

6.2.3 Peak Ambient (EUT Off/Support Equipment "On")

This paragraph is Quasi-peak plots of the ambient for the purpose of allowing for normalization and to allow viewing the emission without the ambients. Data is presented in Figures 6.2.3-1 through 6.2.3-6 of the environmental ambient.

6.2.4 Normalized Ambient (EUT Off/Support "On")

This data shows the normalized ambient with the EUT in the "off" state and support equipment (if applicable) turned on. The new signals are identified as being from the support equipment.

6.2.5 Normalized EUT Scan (EUT and Support "On")

This data is performed to show the new signals generated above the environmental ambient. The delta signals found in these scans can be attributed to the EUT. This information is used to identify the signals in the plot of Paragraph 6.2.2.

6.2.6 High Ambient Investigation

In the 85MHz to 110MHz range the analyzer is used in the normalized mode to subtract out the ambient signals for a better resolution of the high ambient frequency band.



TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FRFQ: 30M-100MHz	SPEC: FCC CLASS B	ANT.HT/POL: 1M/ H
DETECTOR: PEAK	LINE UNDER TEST: N/A	EUT POSITION: FRONT
DATE: 12-14-98	TEST SITE: ROOM 1	TESTER: <i>[Signature]</i>

REF 70.0 dB μ V/m ATT 0 dB A_view B_blank
10dB/

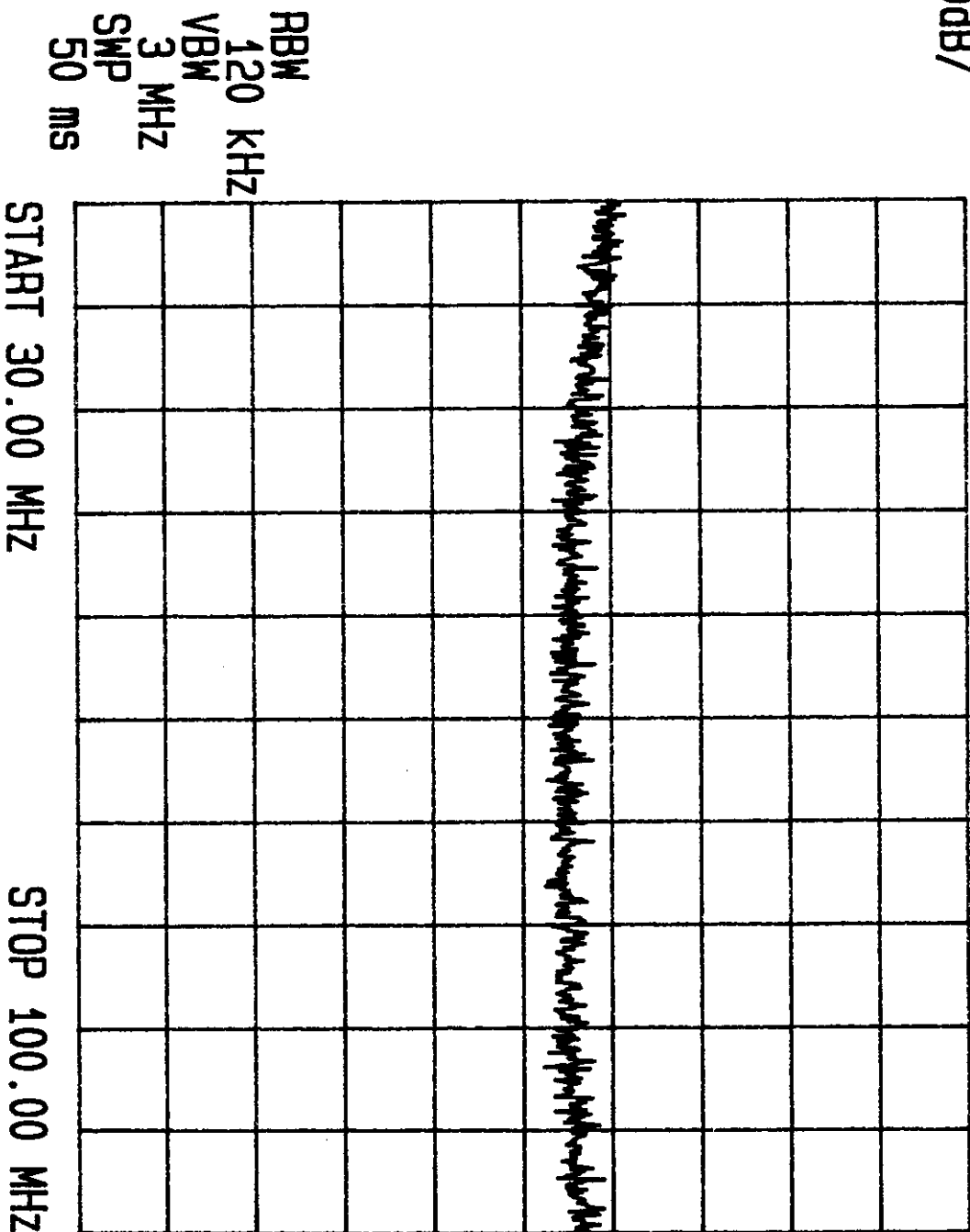


FIGURE 6.2.1-1



TEST: FCC RADIATED EUT: RECOTON CLV200R S/N: PT-0024
FREQ: 100M-200MHZ SPEC: FCC CLASS B ANT. HT/POL: 1M/ H
DETECTOR: PEAK LINE UNDER TEST: N/A EUT POSITION: FRONT
DATE: 12-14-98 TEST SITE: ROOM 1 TESTER: *ATB*

REF 70.0 dB μ V/m ATT 0 dB A_view B_blank
10dB/

RBW 120 KHZ
VBW 3 MHZ
SMP 50 ms

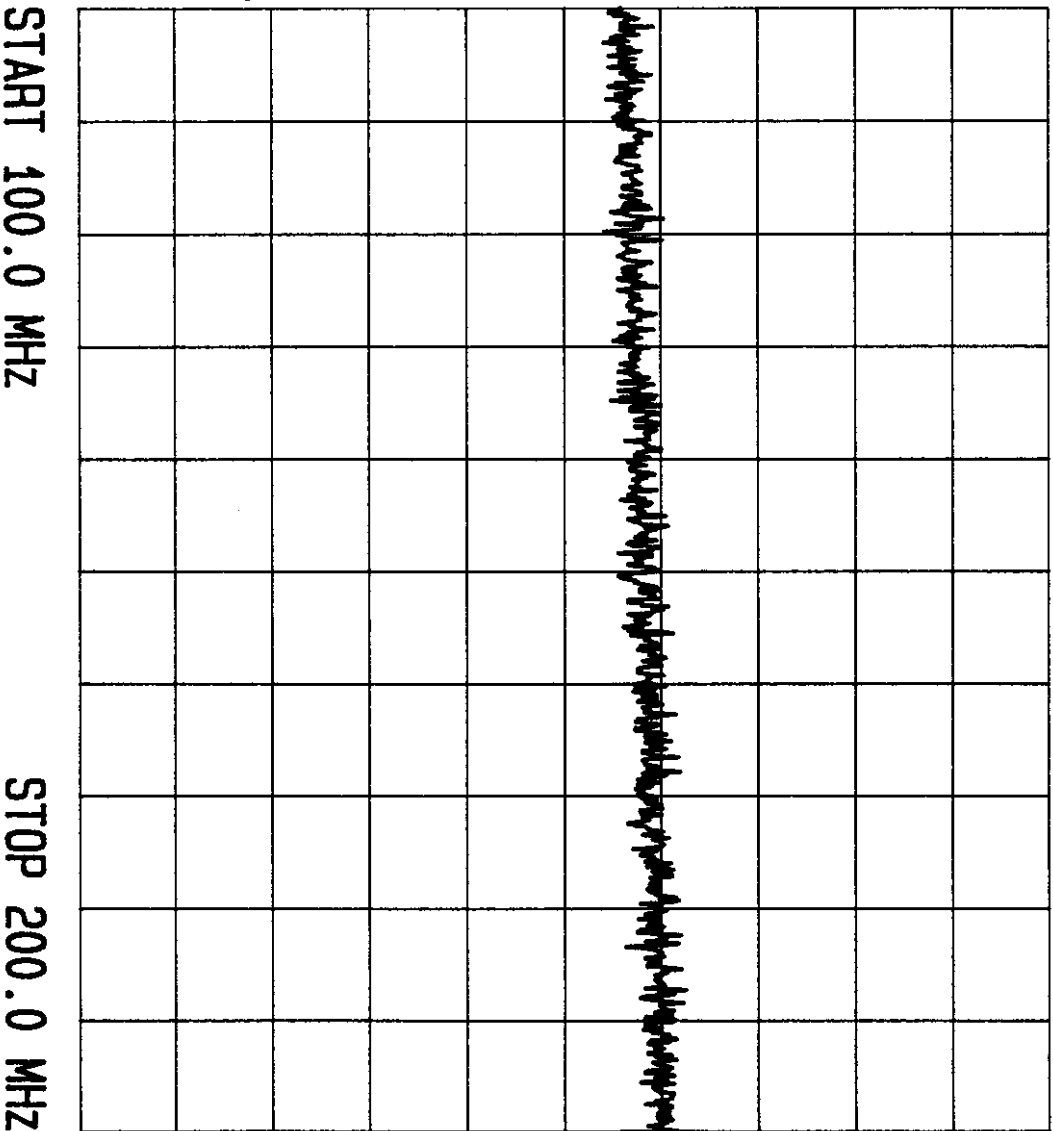


FIGURE 6.2.1-2



TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 30M-100MHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1M/ V
DETECTOR: PEAK	LINE UNDER TEST: N/A	EUT POSITION: FRONT
DATE: 12-14-98	TEST SITE: ROOM 1	TESTER: 

REF 70.0 dB μ V/m ATT 0 dB A_view B_blank
10dB/

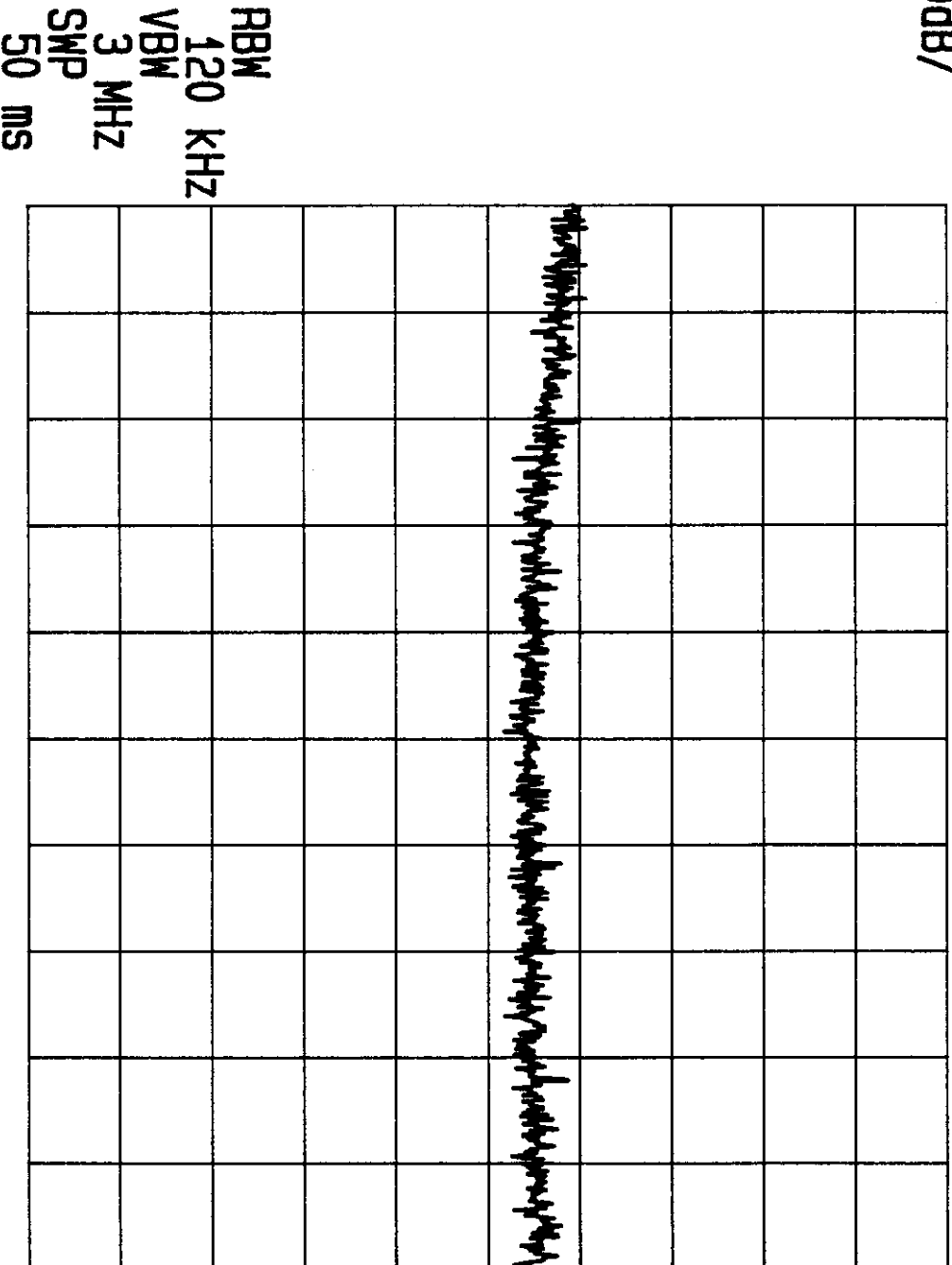


FIGURE 6.2.1-3



TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 100M-200MHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1M/ V
DETECTOR: PEAK	LINE UNDER TEST: N/A	EUT POSITION: FRONT
DATE: 12-14-98	TEST SITE: ROOM 1	TESTER: 

REF 70.0 dB μ V/m ATT 0 dB A_view B_blank
10dB/

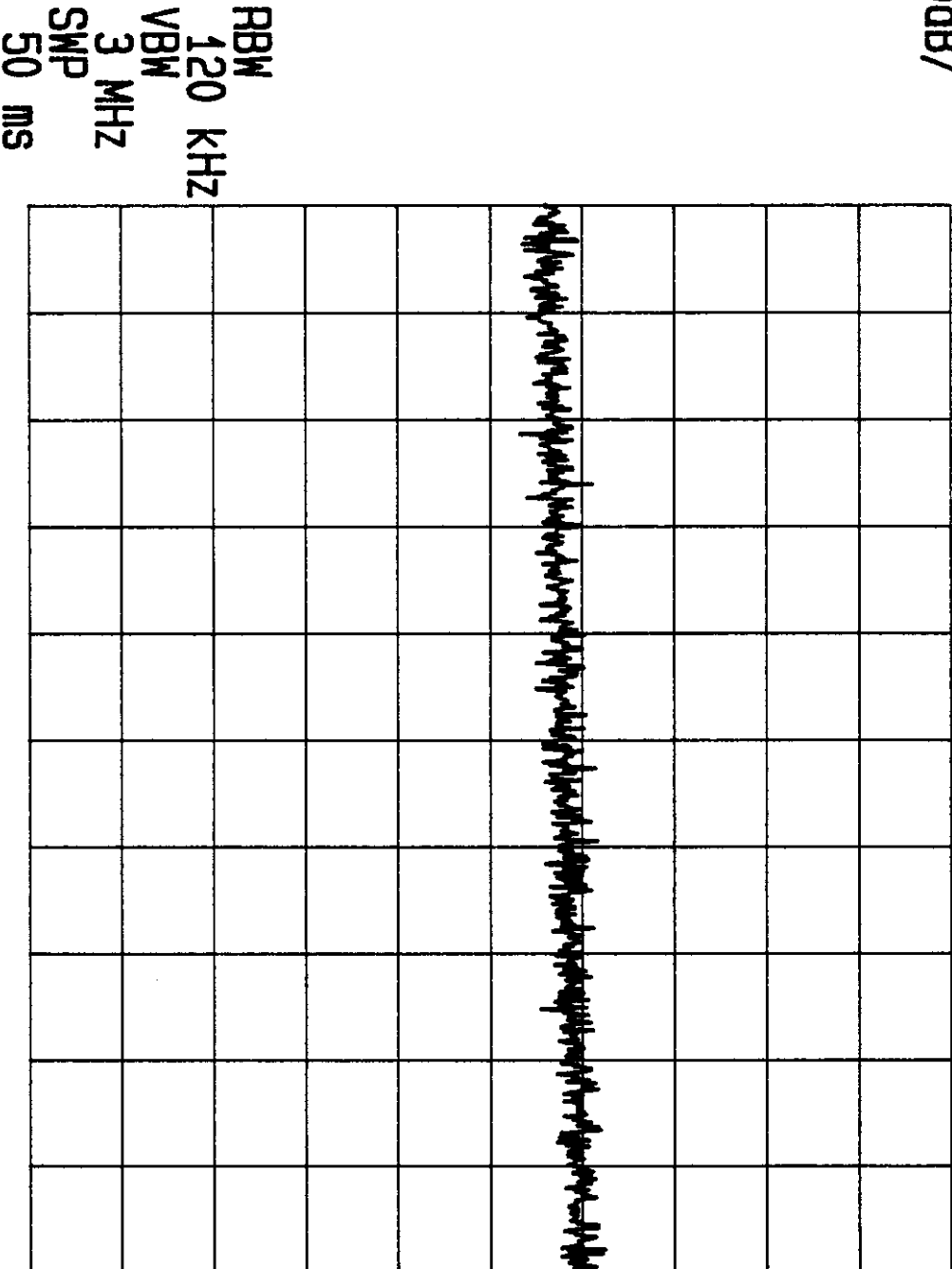


FIGURE 6.2.1-4
16



TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 200M-1GHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1M/ H
DETECTOR: PEAK	LINE UNDER TEST: N/A	EUT POSITION: FRONT
DATE: 12-14-98	TEST SITE: ROOM 1	TESTER: <i>AKB</i>

REF 70.0 dBμV/m ATT 0 dB A_view B_blank
10dB/

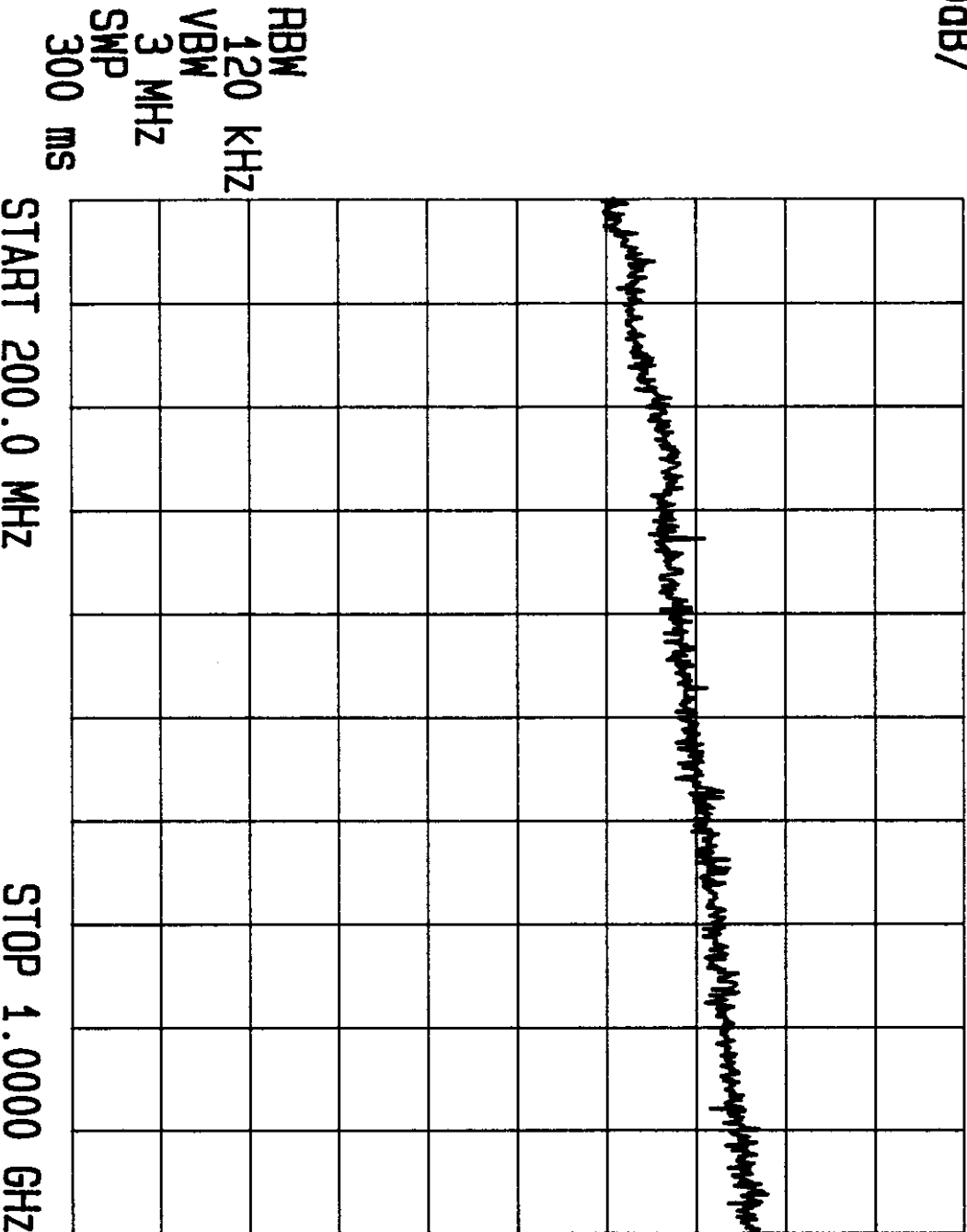


FIGURE 6.2.1-5



TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FRFQ: 200M-1GHZ	SPEC: FCC CLASS B	ANT.HT/POL: 1M/ V
DETECTOR: PEAK	LINE UNDER TEST: N/A	EUT POSITION: FRONT
DATE: 12-14-98	TEST SITE: ROOM 1	TESTER: 

REF 70.0 dB μ V/m ATT 0 dB A_view B_blank
10dB/

RBW 120 KHZ
VBW 3 MHz
SMP 300 ms

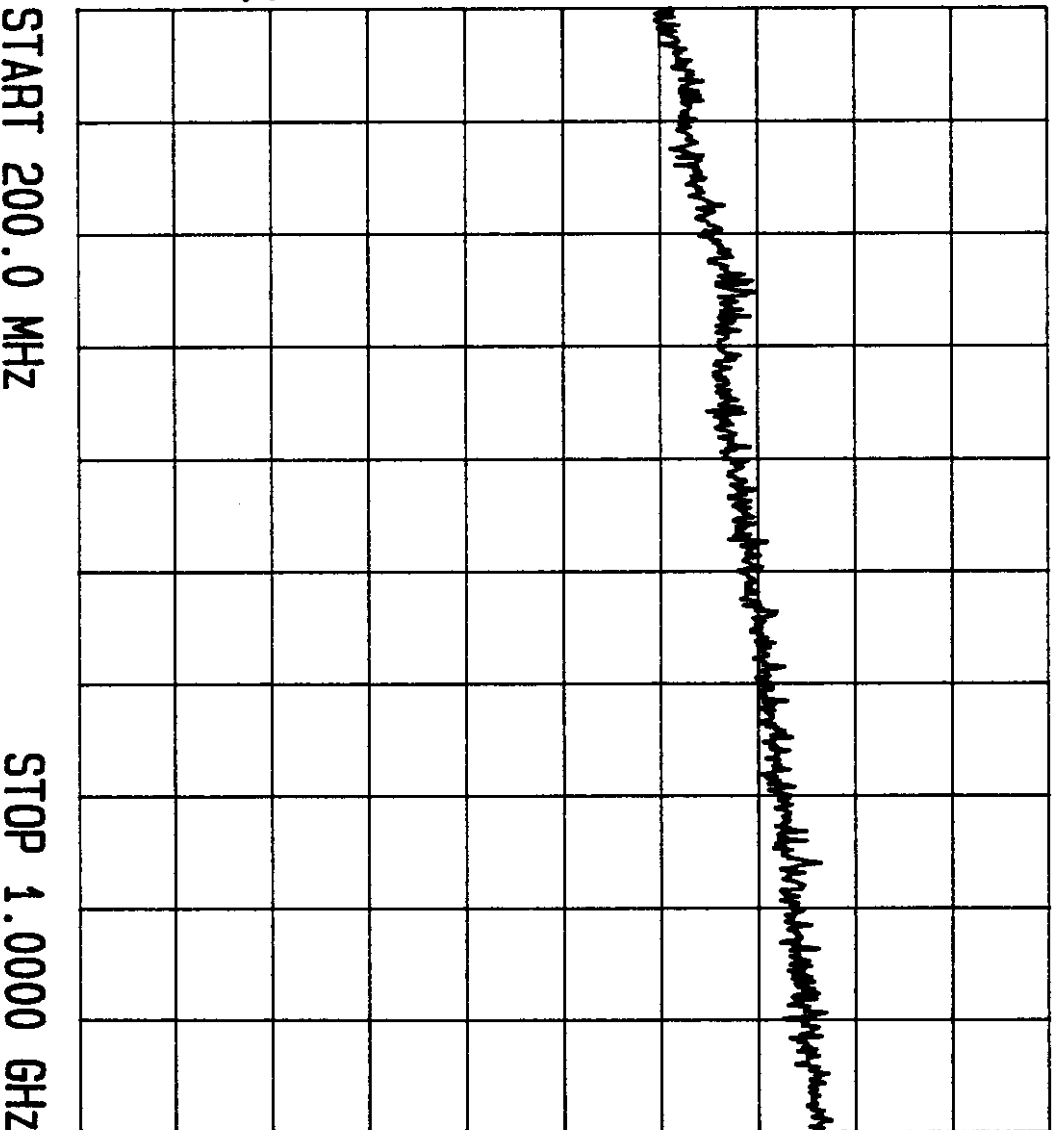


FIGURE 6.2.1-6
18



TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 30M-100MHz	SPEC: FCC CLASS B	ANT. HT/POL: 1.5m / H
DETECTOR: QUASI PEAK	LINE UNDER TEST: N/A	EUT POSITION: 0
DATE: 12-15-98	TEST SITE: 3 METER	TESTER: <i>[Signature]</i>

REF 60.0 dB μ V/m ATT 0 dB A_write B_blank
5dB/

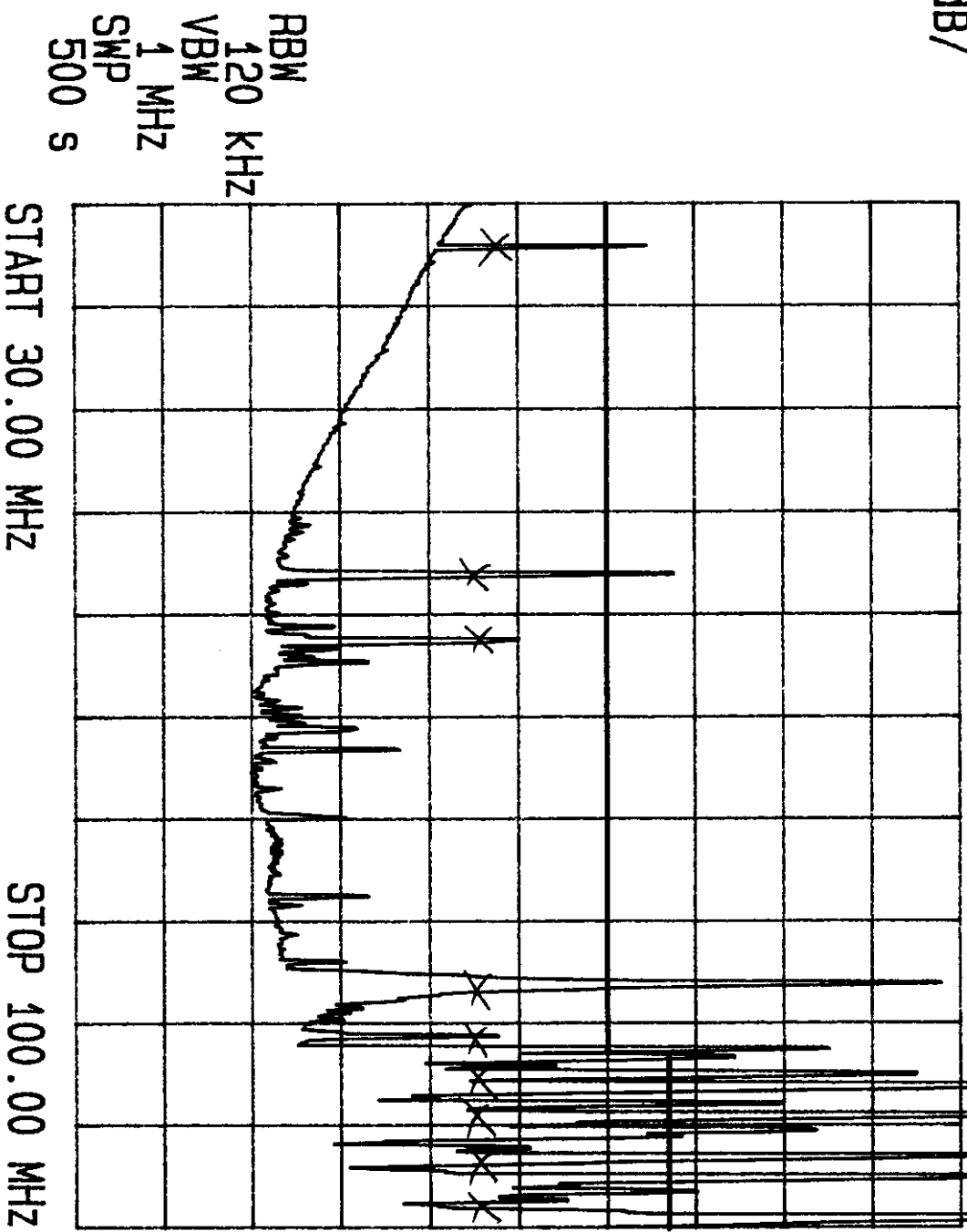


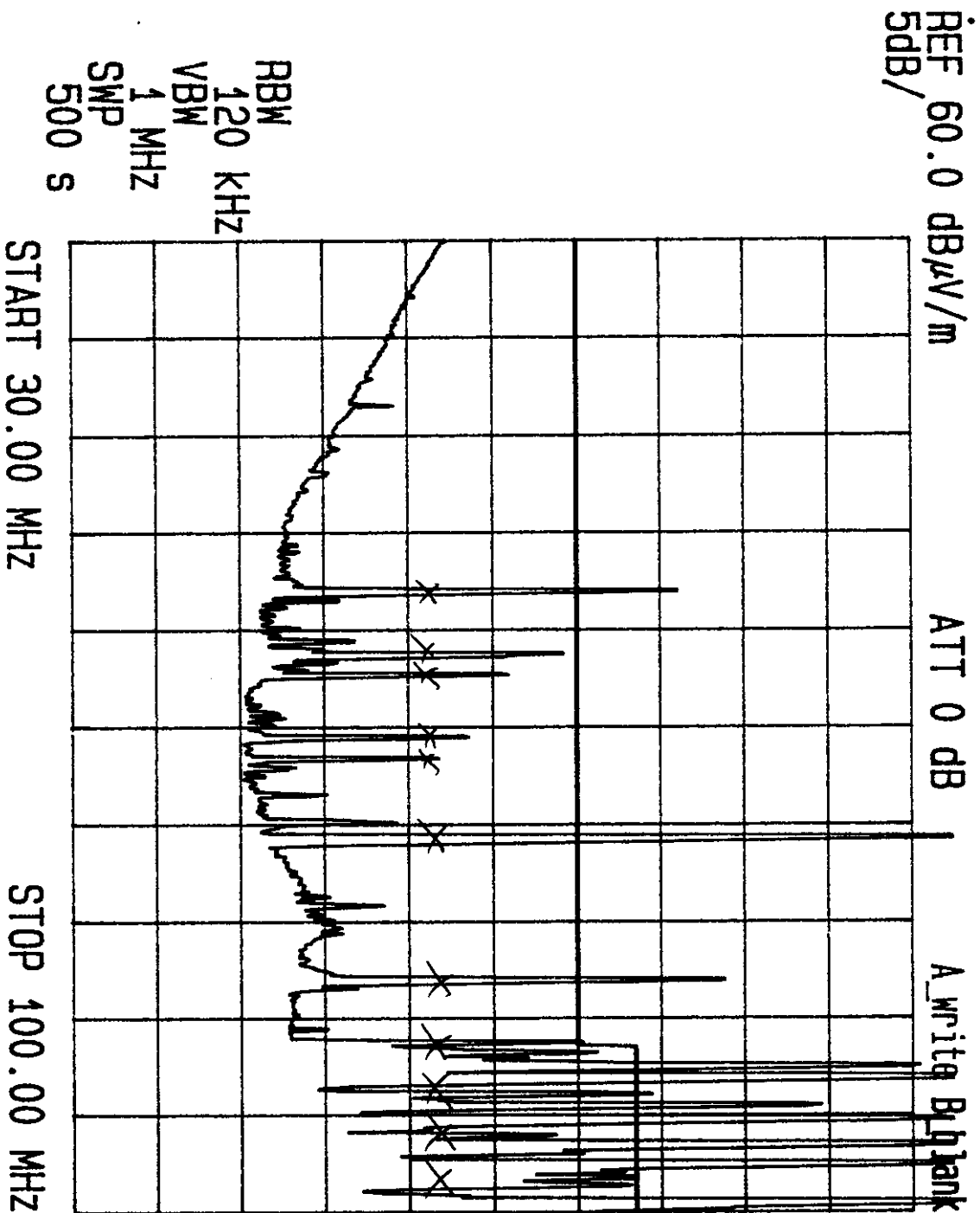
FIGURE 6.2.2-1



TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 30M-100MHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1.75m V
DETECTOR: QUASI PEAK	LINE UNDER TEST: N/A	EUT POSITION: 0°
DATE: 12-16-98	TEST SITE: 3 METER	TESTER:

20

FIGURE 6.2.2-2

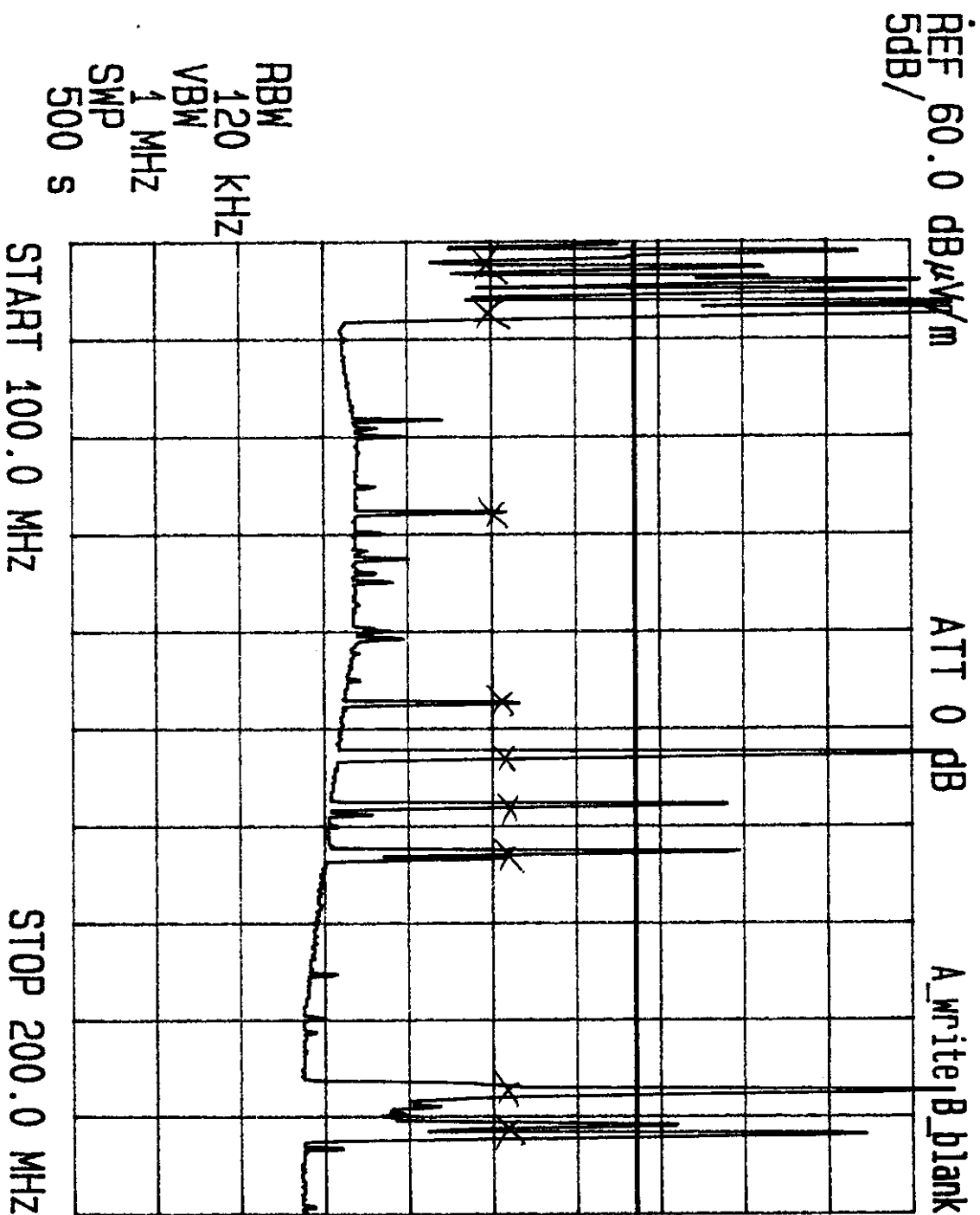




TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 100M-200MHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1.5M(H)
DETECTOR: QUASI PEAK	LINE UNDER TEST: N/A	EUT POSITION: 180°
DATE: 12-15-98	TEST SITE: 3 METER	TESTER:

21

FIGURE 6.2.2-3

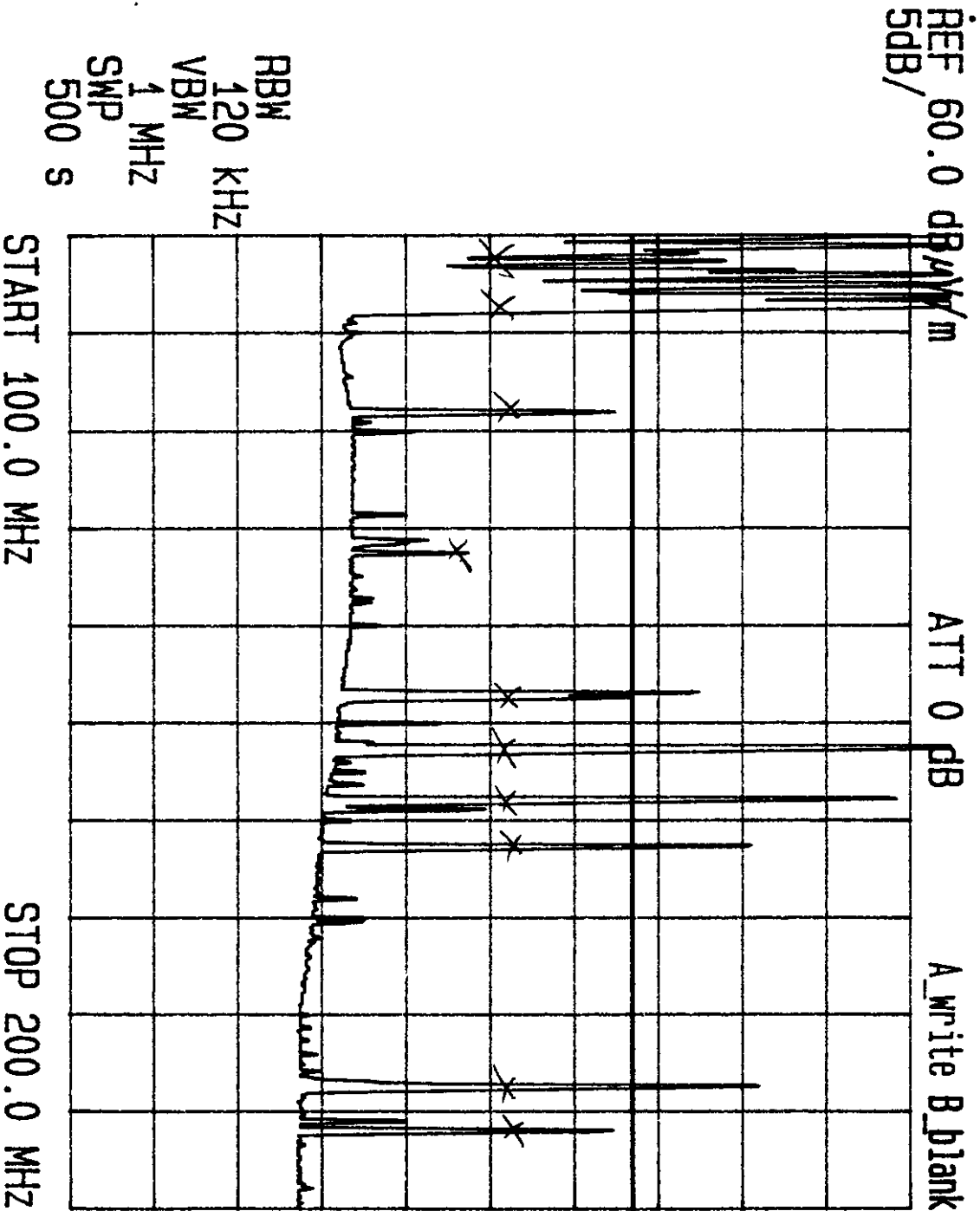




TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FRFQ: 100M-200MHZ	SPEC: FCC CLASS B	ANT.HT/POL: 1.75m/V
DETECTOR: QUASI PEAK	LINE UNDER TEST: N/A	EUT POSITION: 180°
DATE: 12-15-98	TEST SITE: 3 METER	TESTER: 

22

FIGURE 6.2.2-4





TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 200M-1GHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1.5m / H
DETECTOR: QUASI PEAK	LINE UNDER TEST: N/A	EUT POSITION: 60
DATE: 12-15-98	TEST SITE: 3 METER	TESTER: <i>[Signature]</i>

REF 60.0 dB μ V/m
5dB/

RBW 120 KHZ
VBW 1 MHZ
SMP 1000 S

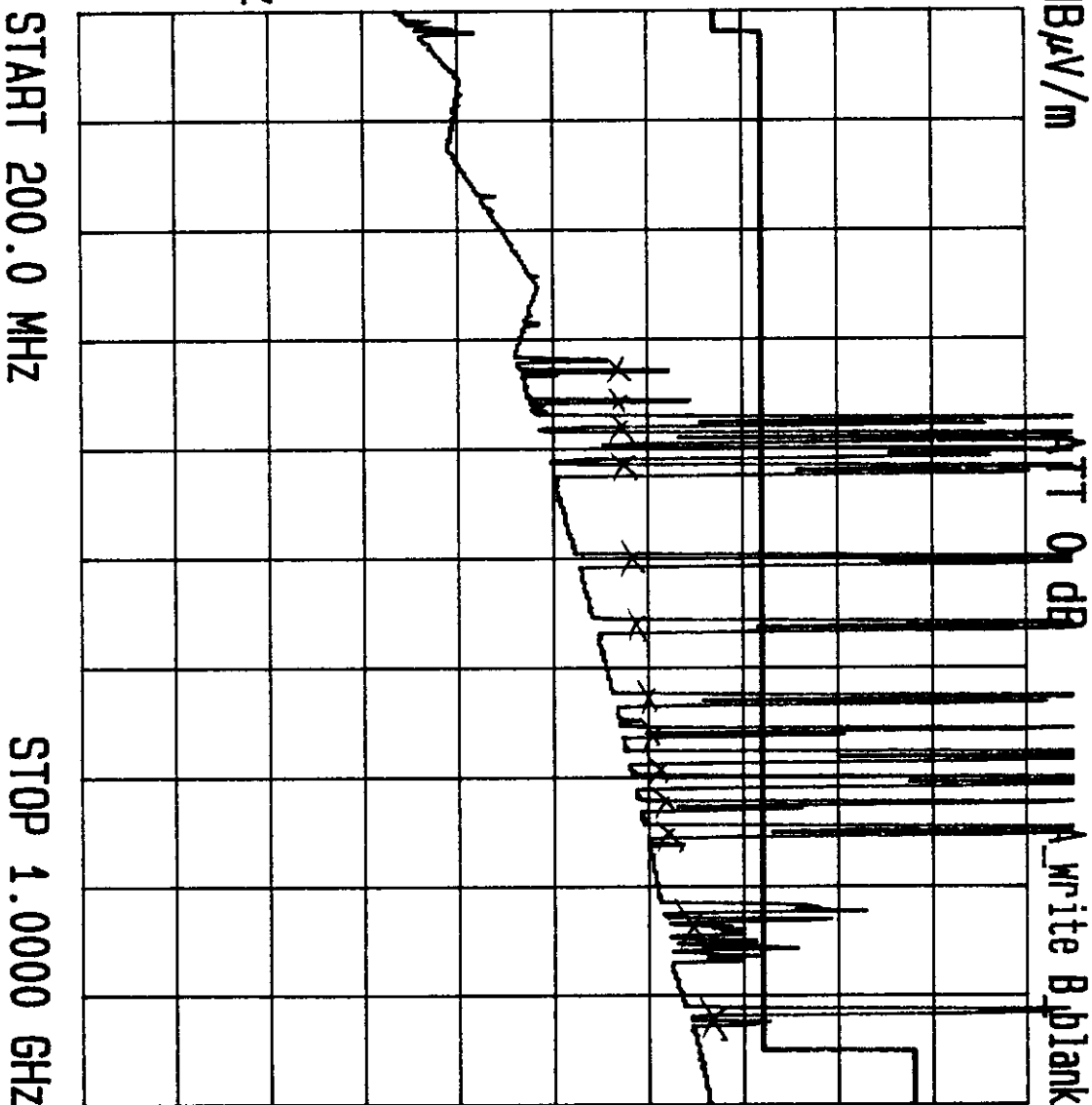


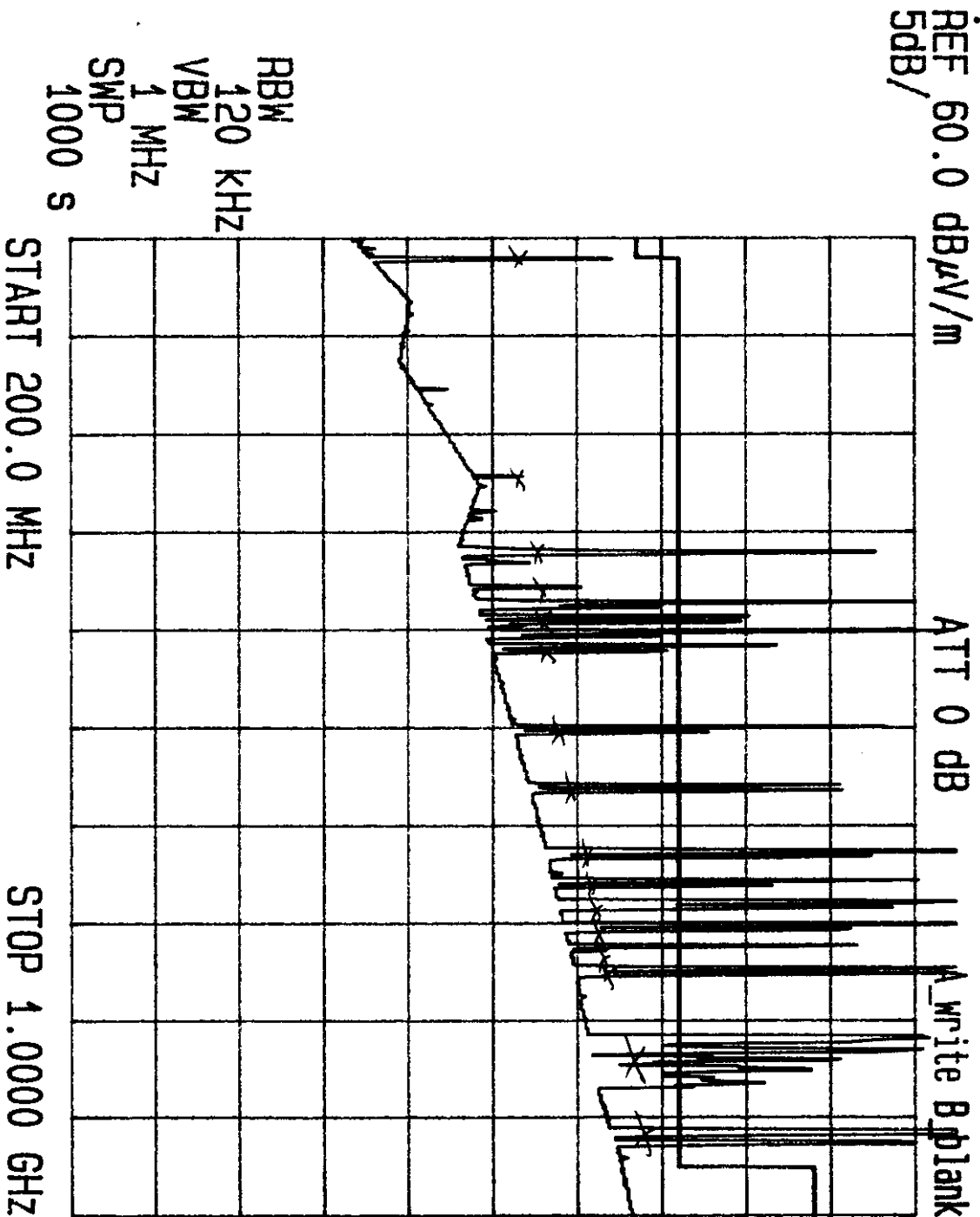
FIGURE 6.2.2-5



TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 200M-1GHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1.75m V
DETECTOR: QUASI PEAK	LINE UNDER TEST: N/A	EUT POSITION: 0'
DATE: 12-15-98	TEST SITE: 3 METER	TESTER: <i>[Signature]</i>

24

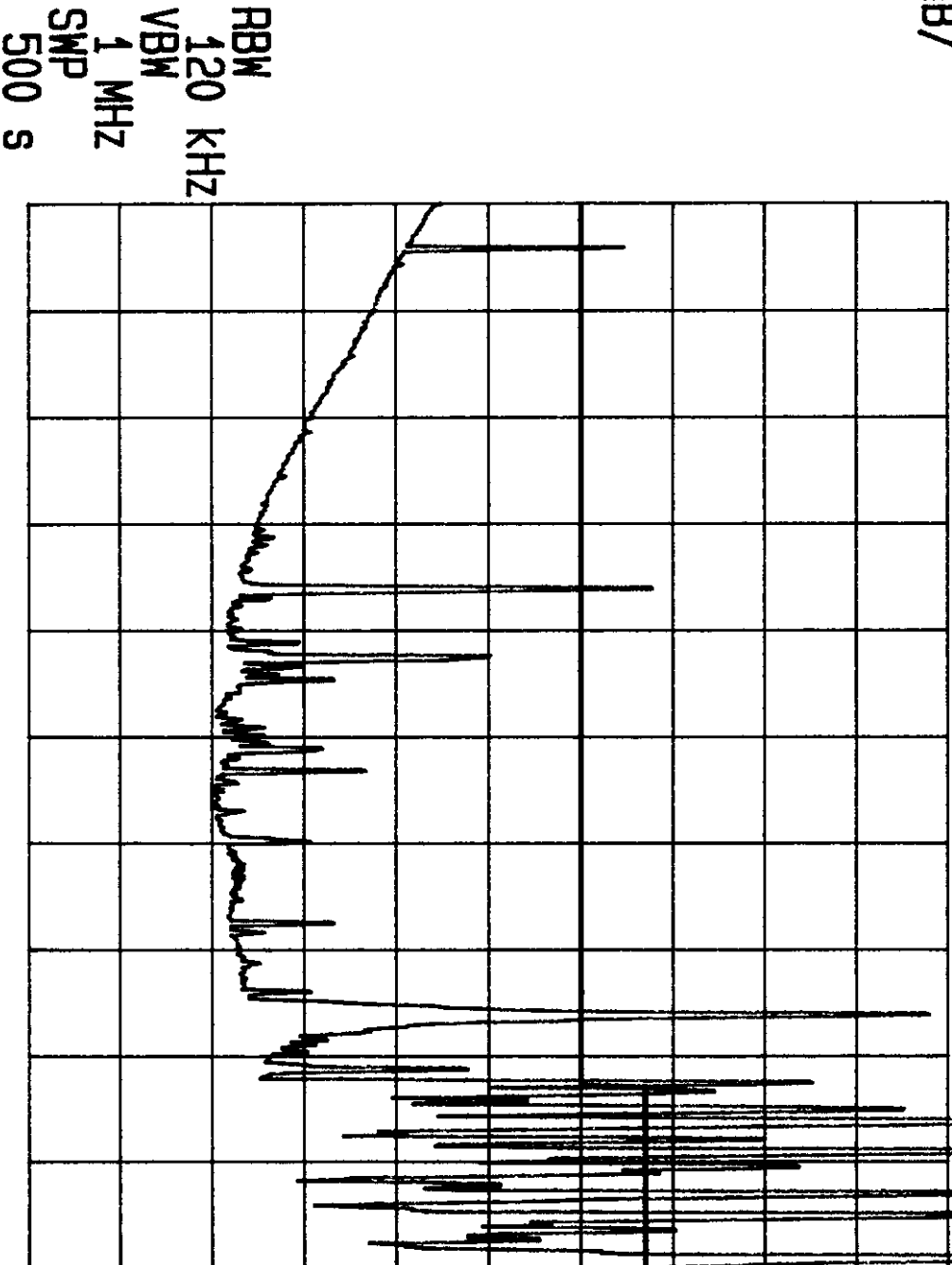
FIGURE 6.2.2-6





TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FRFQ: 30M-100MHz	SPEC: FCC CLASS B	ANT. HT/POL: 1.5m / H
DETECTOR: 0 P AMBIENT	LINE UNDER TEST: N/A	EUT POSITION: -
DATE: 12-15-98	TEST SITE: 3 METER	TESTER: <i>AB</i>

REF 60.0 dB μ V/m ATT 0 dB A_write B_blank
5dB/



START 30.00 MHz STOP 100.00 MHz

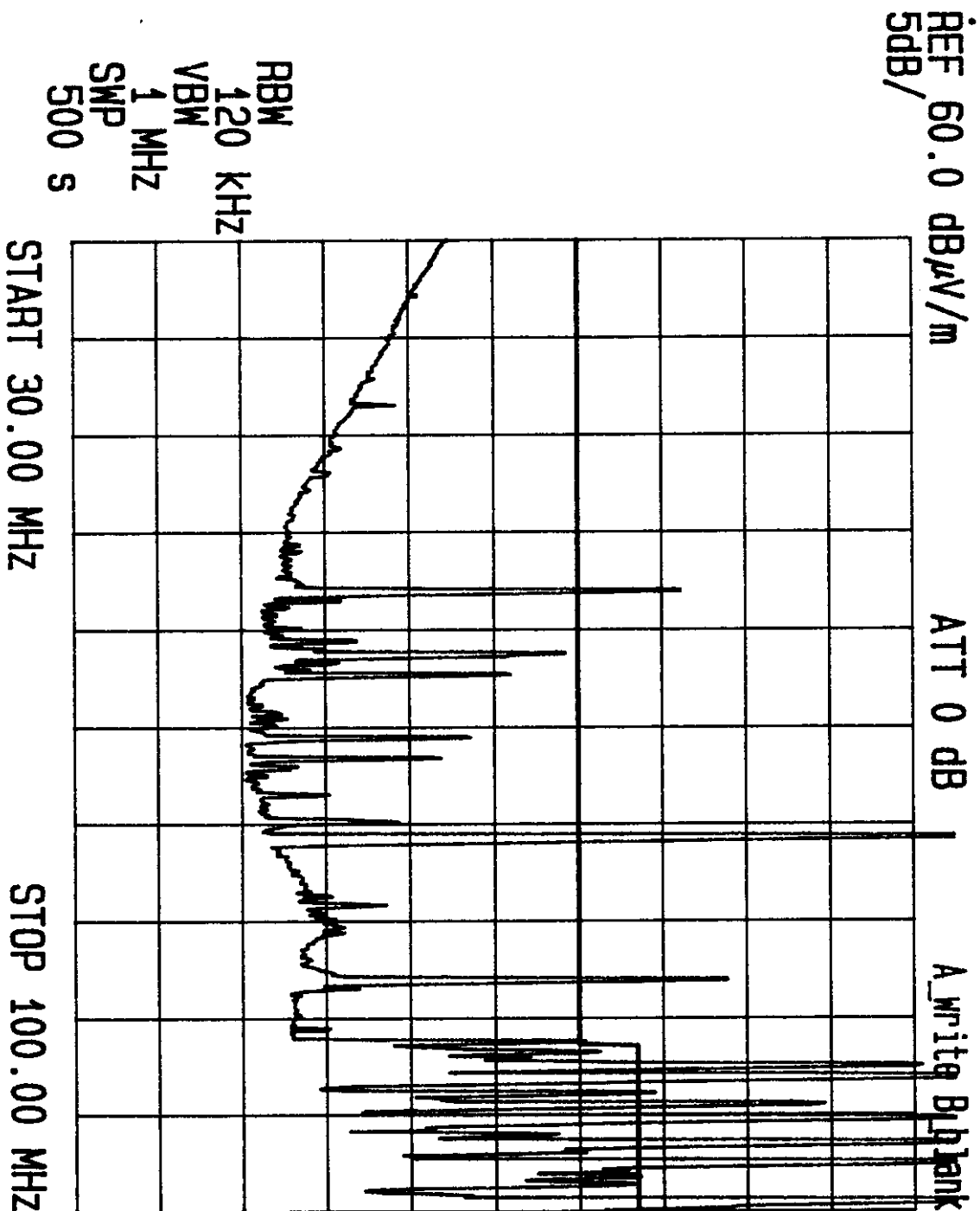
FIGURE 6.2.3-1



TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 30M-100MHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1.75m \ V
DETECTOR: O P AMBIENT	LINE UNDER TEST: N/A	EUT POSITION: -
DATE: 12-15-98	TEST SITE: 3 METER	TESTER: <i>[Signature]</i>

26

FIGURE 6.2.3-2

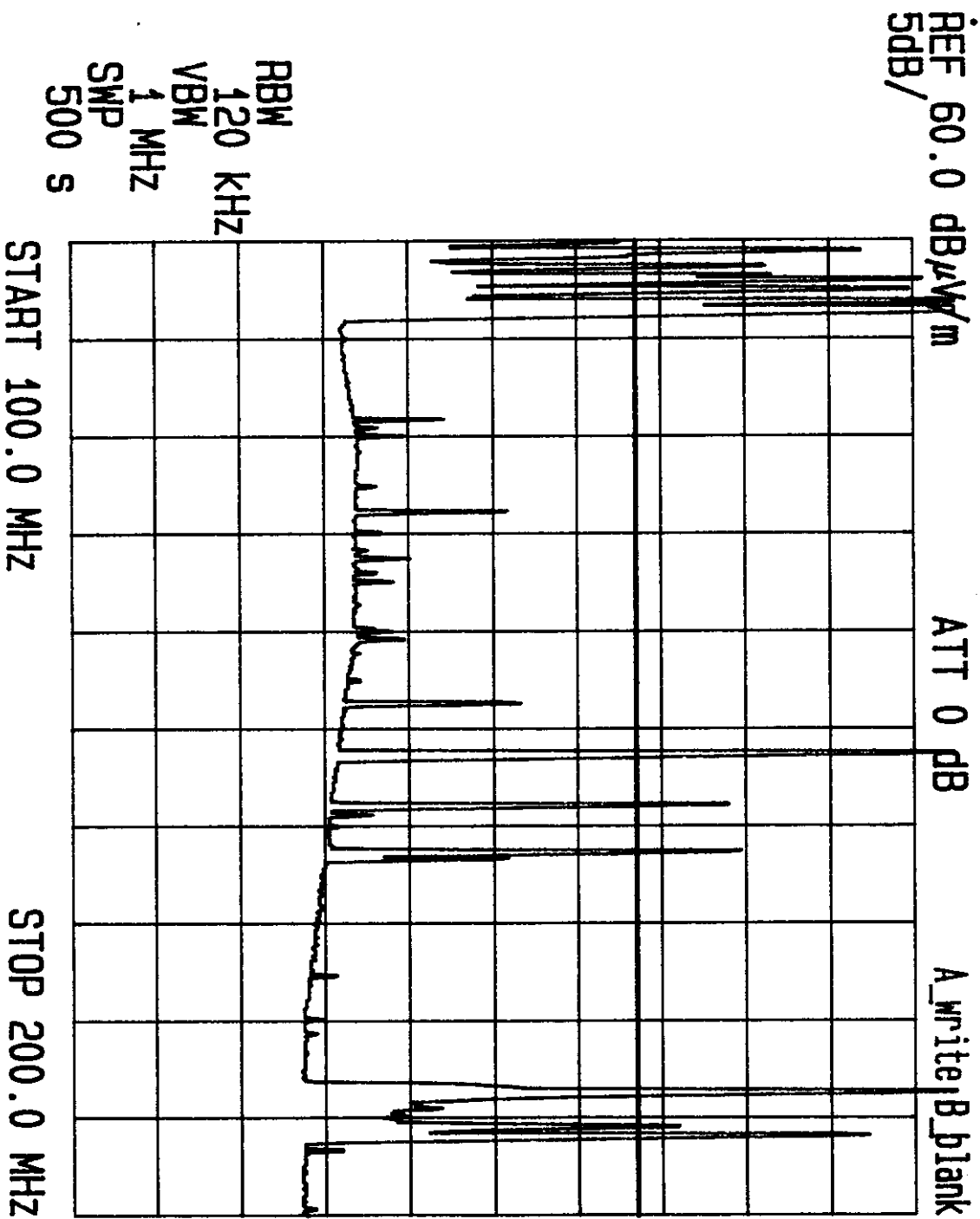




TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 100M-200MHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1.5m \ H
DETECTOR: Q P AMBIENT	LINE UNDER TEST: N/A	EUT POSITION: -
DATE: 12-15-98	TEST SITE: 3 METER	TESTER:

27

FIGURE 6.2.3-3





TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 100M-200MHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1.75m/V
DETECTOR: Q P AMBIENT	LINE UNDER TEST: N/A	EUT POSITION: ~
DATE: 12-15-98	TEST SITE: 3 METER	TESTER: 

REF 60.0 dBμV/m ATT 0 dB A_write B_blank
5dB/

RBW 120 KHZ
VBW 1 MHz
SMP 500 S

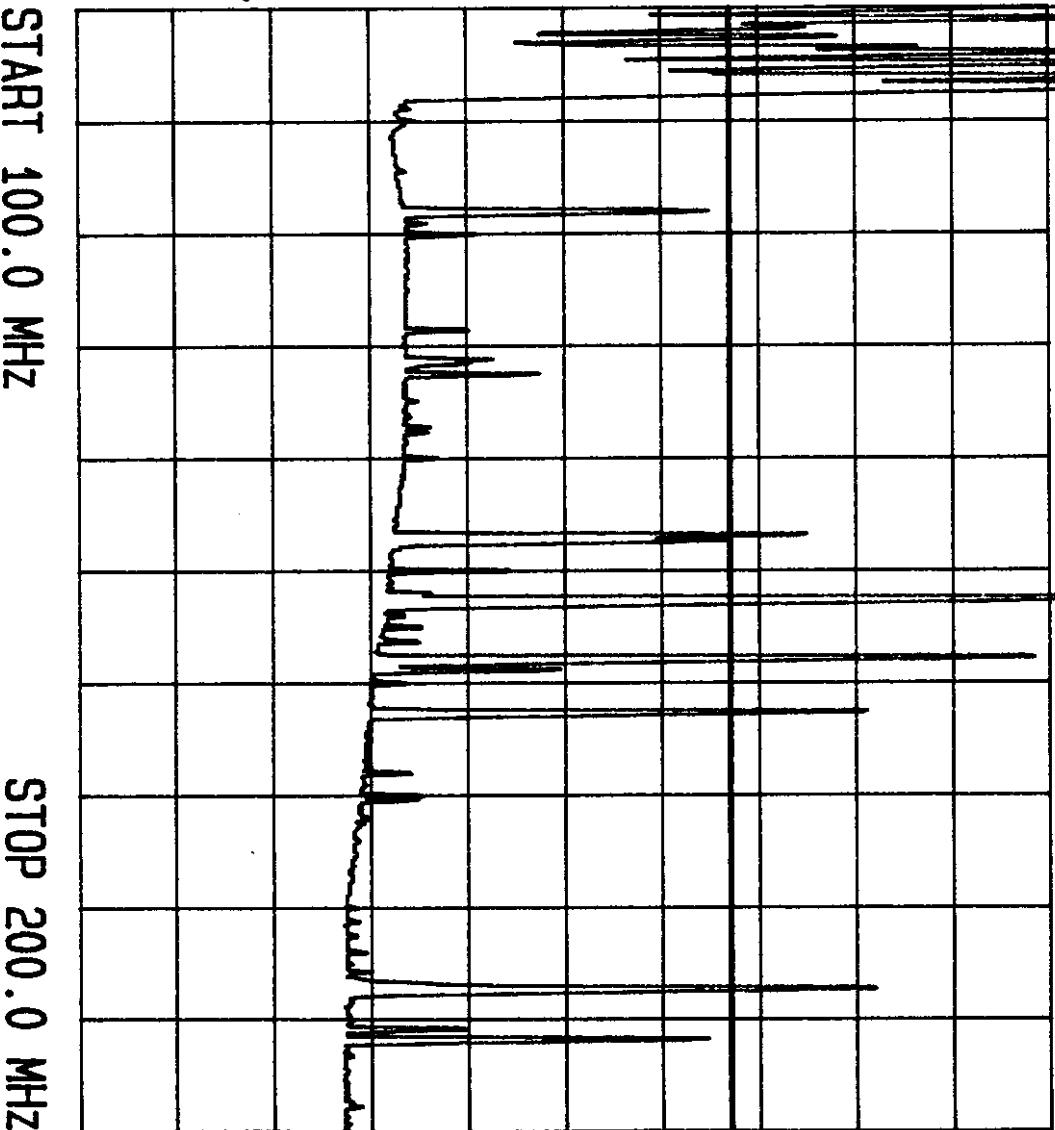


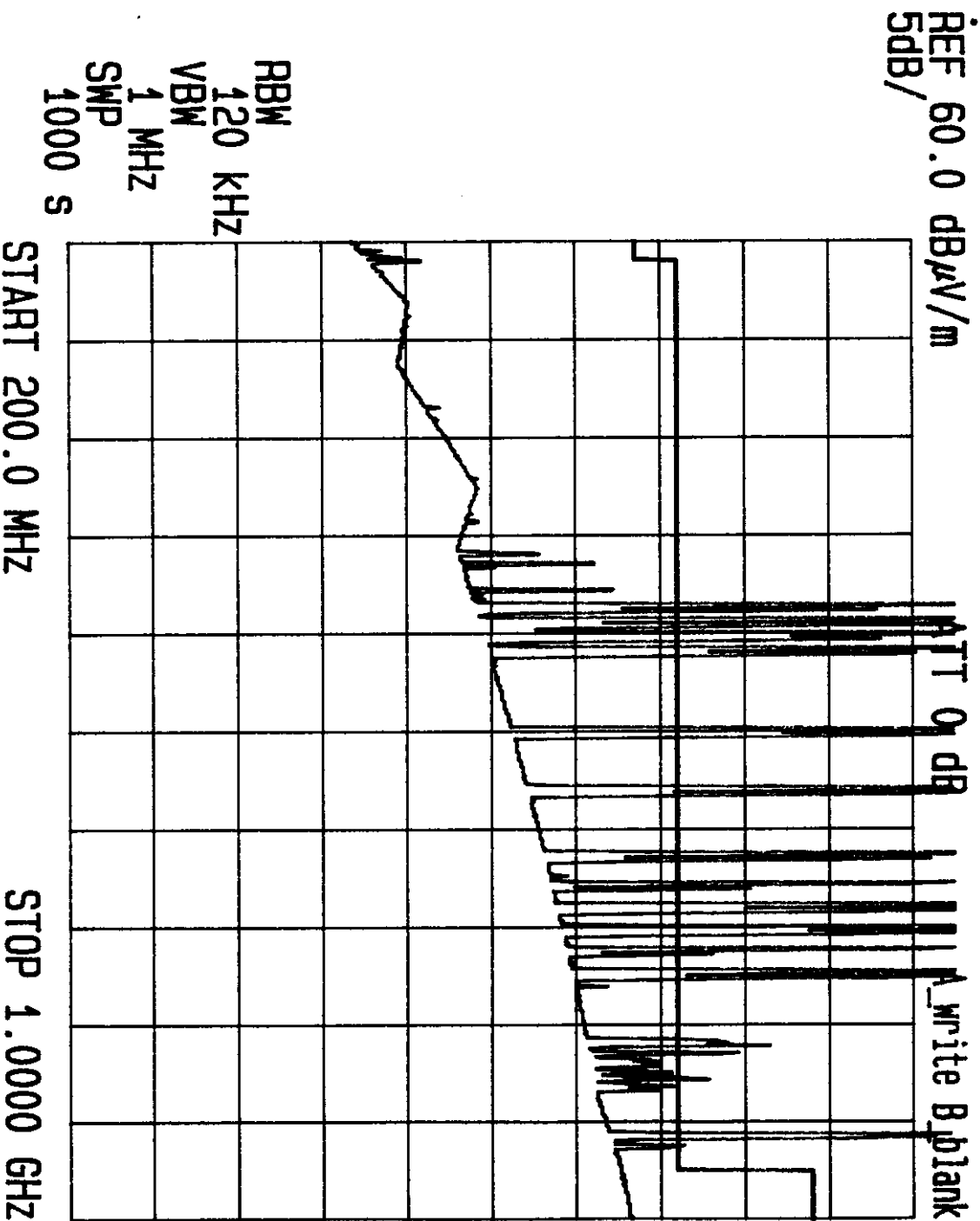
FIGURE 6.2.3-4



TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 200M-1GHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1.5 M/H
DETECTOR: Q P AMBIENT	LINE UNDER TEST: N/A	EUT POSITION: -
DATE: 12-15-98	TEST SITE: 3 METER	TESTER: <i>[Signature]</i>

29

FIGURE 6.2.3-5





TEST: FCC RADIATED	EUT: RECOTON CLV200R	S/N: PT-0024
FREQ: 200M-1GHZ	SPEC: FCC CLASS B	ANT. HT/POL: 1.75m V
DETECTOR: O P AMBIENT	LINE UNDER TEST: N/A	EUT POSITION: -
DATE: 12-15-98	TEST SITE: 3 METER	TESTER:

REF 60.0 dB μ V/m
5dB/

ATT 0 dB

A_write B_blank

RBW 120 KHZ
VBW 1 MHZ
SMP 1000 S

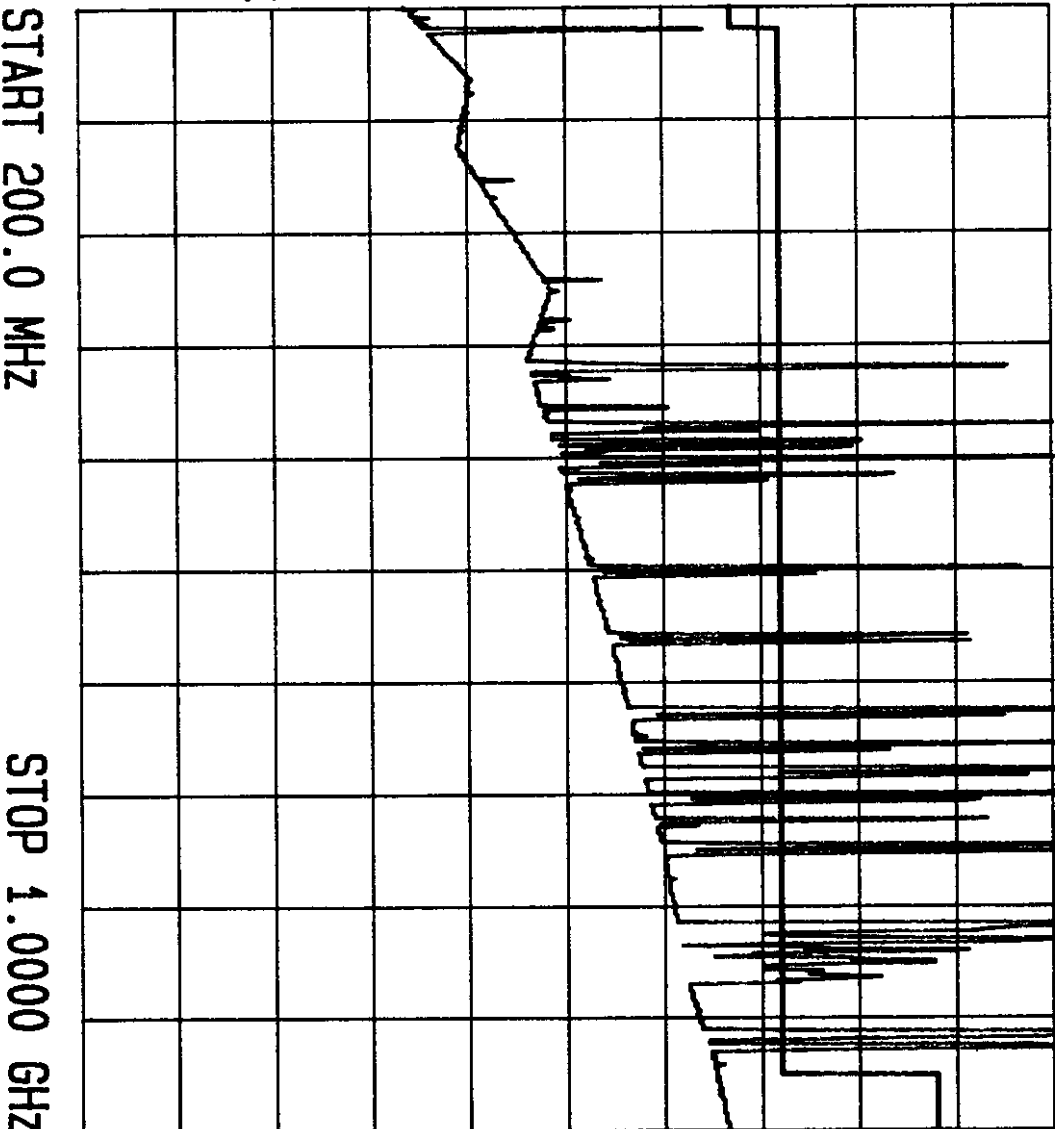


FIGURE 6.2.3-6

COMPLIANCE LETTER

APPENDIX A

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-218)
Facsimile: 301-344-2050

December 5, 1996

IN REPLY REFER TO
31040/SIT
1300F2

JA-1620

Rubicom Systems, Inc.
284 West Drive, Suite B
Melbourne, FL 32904

Attention: Joseph G. Barbee

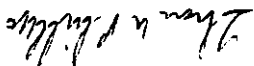
Re: Measurement facility located at above address
(3 meter site)

Gentlemen:

Your submission of the description of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC Rules. The description has, therefore, been placed on file and the name of your organization added to the Commission's list of facilities whose measurement data will be accepted in conjunction with applications for certification or notification under Parts 15 or 18 of the Commission's Rules. Our list will also indicate that the facility complies with the radiated and AC line conducted test site criteria in ANSI C63.4-1992. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has been also added to our list of those who perform these measurement services for the public on a fee basis. This list is published periodically and is also available on the Laboratory's Public Access Link as described in the enclosed Public Notice.

Sincerely,



Thomas W. Phillips
Electronics Engineer
Customer Service Branch

Enclosure:
PAL PN