

EXHIBIT 2

**TECHNICAL DESCRIPTION,
BLOCK DIAGRAM AND SCHEMATIC DIAGRAM**

PARAGRAPH 2.1033(b)(4) AND (5)

Recoton CLV-200T & CLV-200R General Description

→ The Recoton CLV-200T is a simple transmitter based on a 418MHz SAW resonator. The data information from a standard infra-red remote is sent to a modulation circuit that turns on and off a 418MHz SAW resonator. This OOK (ON-OFF Keyed) signal is then received by the CLV-200R receiver and then converted back to a data signal.

The Recoton CLV-200R is based on a single chip OOK (ON-OFF Keyed) Receiver IC for remote wireless control of an electronic satellite receiver. The Receiver uses an IC that is a true "antenna-in, data-out" monolithic device. All RF and IF tuning is accomplished automatically within the IC, which eliminates manual tuning of the receiver circuit. Receiver functions are all completely integrated within the IC.

EXHIBIT 3

REPORT OF MEASUREMENTS

PARAGRAPH 2.1033(b)(6)

RUBICOM SYSTEMS, INC.



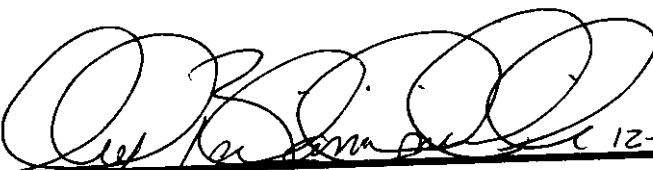
**FCC INTENTIONAL RADIATOR
TEST REPORT
FOR THE
RECOTON CORPORATION
CLV200T REMOTE TRANSMITTER
COPY 1**



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

THIS REPORT SHALL NOT BE REPRODUCED
EXCEPT IN FULL WITHOUT THE WRITTEN
APPROVAL OF THE TESTING LABORATORY

FCC CLASS B TEST REPORT
FOR THE
RECOTON CORPORATION
CLV200T REMOTE TRANSMITTER
S/N: 20

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RECEIVED: December 11, 1998

COMPLETED: December 15, 1998

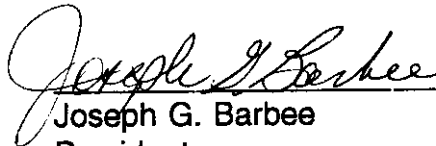
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CERTIFICATION

Rubicom Systems, Inc. (RSI) certifies the information obtained in this report was performed consistent with the requirements of ANSI C63.4-1992. The Recoton Corporation, CLV200T complies with the requirements of CFR 47 Part 15.231 Subpart C for intentional radiators.

This data was obtained while testing a Recoton CLV200T Remote Control, s/n: 20, furnished by Recoton Corporation and described in Paragraph 1.3 and Appendix B of this document. NOTE: The unit tested was labeled as a Hughes HRMC-6RF Remote Control. 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 the Recoton Corporation, CLV200T and the comparison of these emissions to the requirements of the FCC, Title 47, Part 15.231 Subpart C for intentional Transmitter.

This testing was performed on a 3-meter open area test site at Rubicom Systems, Inc. The testing was performed for Recoton Corporation under purchase order 61107 and is filed under JA-1620-1 at RSI. The results of this test effort demonstrate compliance of the Recoton CLV200T to the CFR Title 47, Part 15.231 Subpart C, intentional transmitters.

The unit under test was a CLV200T Remote Control, s/n: 20.

1.0 INTRODUCTION

1.1 Purpose

The purpose of this report is to show compliance of the Recoton Corporation CLV200T to the requirements of the FCC Rules and Regulations (CFR Title 47, Part 15.231) for intentional transmitters with periodic operation above 70MHz. The tests were performed on a three meter site.

1.2 Requirements

The test requirements are as follows:

RADIATED (15.209a) (15.205)

Freq. (MHz)	3 Meter Field Strength <u>μV/M</u>	3 Meter <u>dBμV/M</u>
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
960 - Above	500	54 Avg 74 Peak

RADIATED (CFR 15.249a)

	Field Strength <u>3 Meter</u>	3 Meter <u>dBμV/m</u>
Fundamental	418 Millivolts	80.3 Average. 100-3 Peak
Harmonics	Fundamental -20dB =	60.3 Average 80.3 Peak

1.3 Unit Under Test Description

The Recoton CLV200T is a hand held remote control unit for controlling various components including digital satellite receiver, TV, cable boxes and VCR's, as well as many amplifiers and compact disc players.

1.4 Summary of Results

Data is presented in Paragraph 6.0. The CLV200T was found to be compliant to the requirements of CFR Title 47, Part 15 for periodic transmission above 70MHz (specifically 418MHz).

2.0 APPLICABLE DOCUMENTS

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

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

3.0 TEST SITE DESCRIPTION

This testing was performed at Rubicom Systems, Inc. 3-meter open area 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**

Temperature: **62°**

Barometer: **29.65 inches**

Humidity: **64%**

4.0 TEST INSTRUMENTATION

The following test equipment was used to perform this testing.

<u>Qty.</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Model No.</u>	<u>Last Cal.</u>	<u>Cal Cycle</u>
1	Spectrum Analyzer	Advantest	R3271	09/09/98	1 yr
1	Spectrum Analyzer	Advantest	R3261A	07/22/98	1 yr
1	Power Line Stab. Network	Solar Elect.	8012-50-5-24-BNC		NCR
1	Plotter	Hewlett Packard	7440A		NCR

5.0 TEST SAMPLE SETUP AND CONFIGURATIONS

The Recoton Corporation CLV200T was placed on the nonconductive 80cm high manual turntable. The unit was configured with the guide button constantly depressed, as that seemed to emit the maximum fundamental signal.

The Advent Wireless test setup is shown in Photo 1.

6.0 PROCEDURES AND RESULTS

6.1 Radiated Emissions

Figures 6.1-1 through 6.1-8 present the pre-scans in the 30MHz-5GHz range during Electric Field testing in the enclosure. There were no signals detected from the transmitter below 418MHz. Tabulated data for all signals detected are listed in this section. Table 6.1-1 for average and Table 6.1-2 for peak values. All testing was performed on the 3 meter site.

An example of calculations are as follows:

Meter Reading	20 dB μ V
Antenna Factor	+16 Conversion Factor
Cable Loss	+2 Correction Factor
Result	+38 dB μ V/m

The spectrum analyzer memory card contains the correction factors for calibrated cables and antenna factors. When external attenuation is required the reference level is offset during test.

Figures 6.1-9 through 6.1-18 present plots of the radiated data over the range of 30MHz-5GHz. The exact levels of signals detected and maximized are presented in the tabulated tables mentioned above.

Figures 6.1-19 through 6.1-28 are the ambient profiles for the 30MHz-5GHz radiated measurements.

6.2 Conducted Emissions

Since the unit is powered by four 1.5 VDC (size AAA) batteries, power line conducted tests were not applicable.

FCC RADIATED EMISSIONS TABULATED RESULTS

EUT MODEL: RECOTON ADVENT WIRELESS AUDIO TRANSMITTER

ELEVATION: 1 - 4 METERS AZIMUTH: 0° - 360°

S/N: 8224C0051

DATE: 09/09/98

TESTER: 

MEASURED (MHz)	ANTENNA POL.	MEASURED (dB μ V/m) AVG. >1GHz Q.P. <1GHz	Q.P. LIMIT (dB μ V/M @ 3 METERS	MARGIN (dB)
418M	H	73.5	80.3	-6.8
418M	V	57.0	80.3	-23.3
836M	H	34.0	60.3	-26.3
836M	V	52.0	60.3	-8.3
1.254G	H	42.5	60.3	-17.8
1.254G	V	45.0	60.3	-15.3
1.672G	H	41.5	60.3	-18.8
1.672G	V	44.0	60.3	-16.3
2.090G	H	43.8	60.3	-16.5
2.090G	V	45.0	60.3	-15.3
2.508G	H	40.0	60.3	-20.3
2.508G	V	52.0	60.3	-8.3
2.926G	H	46.0	60.3	-14.3
2.926G	V	48.0	60.3	-12.3
3.344G	H	35.0	60.3	-15.3
3.344G	V	42.5	60.3	-17.8
3.762G	H	51.0	60.3	-9.3
3.762G	V	52.0	60.3	-8.3
4.180G	H	51.0	60.3	-9.3
4.180G	V	48.0	60.3	-12.3

TABLE 6.1-1

FCC RADIATED EMISSIONS TABULATED RESULTS

EUT MODEL: RECOTON ADVENT WIRELESS AUDIO TRANSMITTER

ELEVATION: 1 - 4 METERS AZIMUTH: 0° - 360°

S/N: 8224C0051

DATE: 09/09/98

TESTER: 

MEASURED (MHz)	ANTENNA POL.	MEASURED (dB μ V/m) PEAK	Q.P. LIMIT (dB μ V/M @ 3 METERS)	MARGIN (dB)
418M	H	99.1	100.3	-1.2
418M	V	82.0	100.3	-18.3
836M	H	65.7	80.3	-14.6
836M	V	65.0	80.3	-15.3
1.254G	H	67.0	80.3	-13.3
1.254G	V	72.0	80.3	-8.3
1.672G	H	60.0	80.3	-20.3
1.672G	V	66.5	80.3	-13.8
2.090G	H	70.0	80.3	-10.3
2.090G	V	70.0	80.3	-10.3
2.508G	H	54.5	80.3	-25.8
2.508G	V	67.0	80.3	-13.3
2.926G	H	65.0	80.3	-15.3
2.926G	V	67.5	80.3	-12.8
3.344G	H	63.0	80.3	-17.3
3.344G	V	68.5	80.3	-11.8
3.762G	H	72.0	80.3	-8.3
3.762G	V	75.7	80.3	-4.8
4.180G	H	72.5	80.3	-7.8
4.180G	V	65.5	80.3	-14.8

TABLE 6.1-2



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
 FREQ: 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: *AB*

JA-1620-1

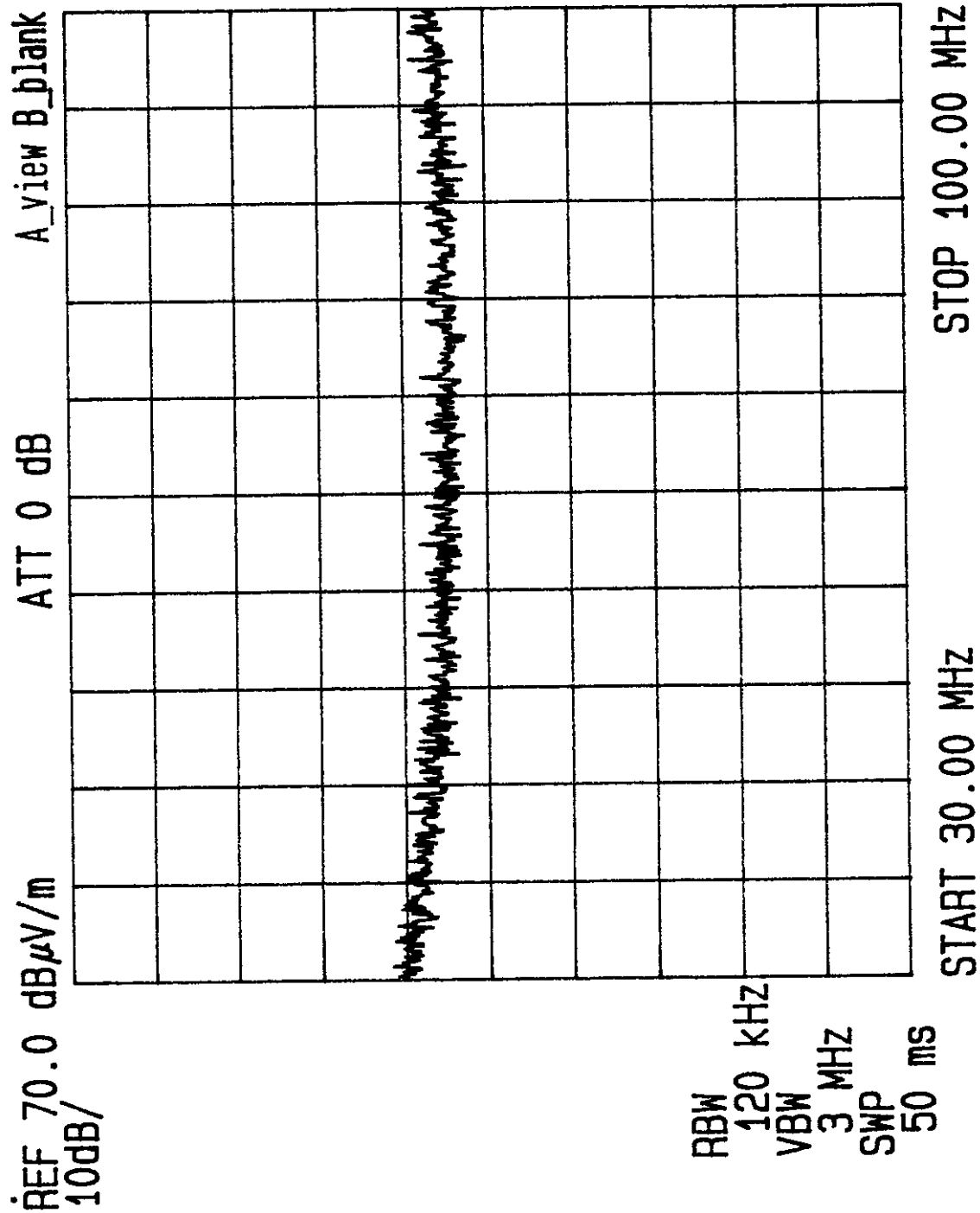
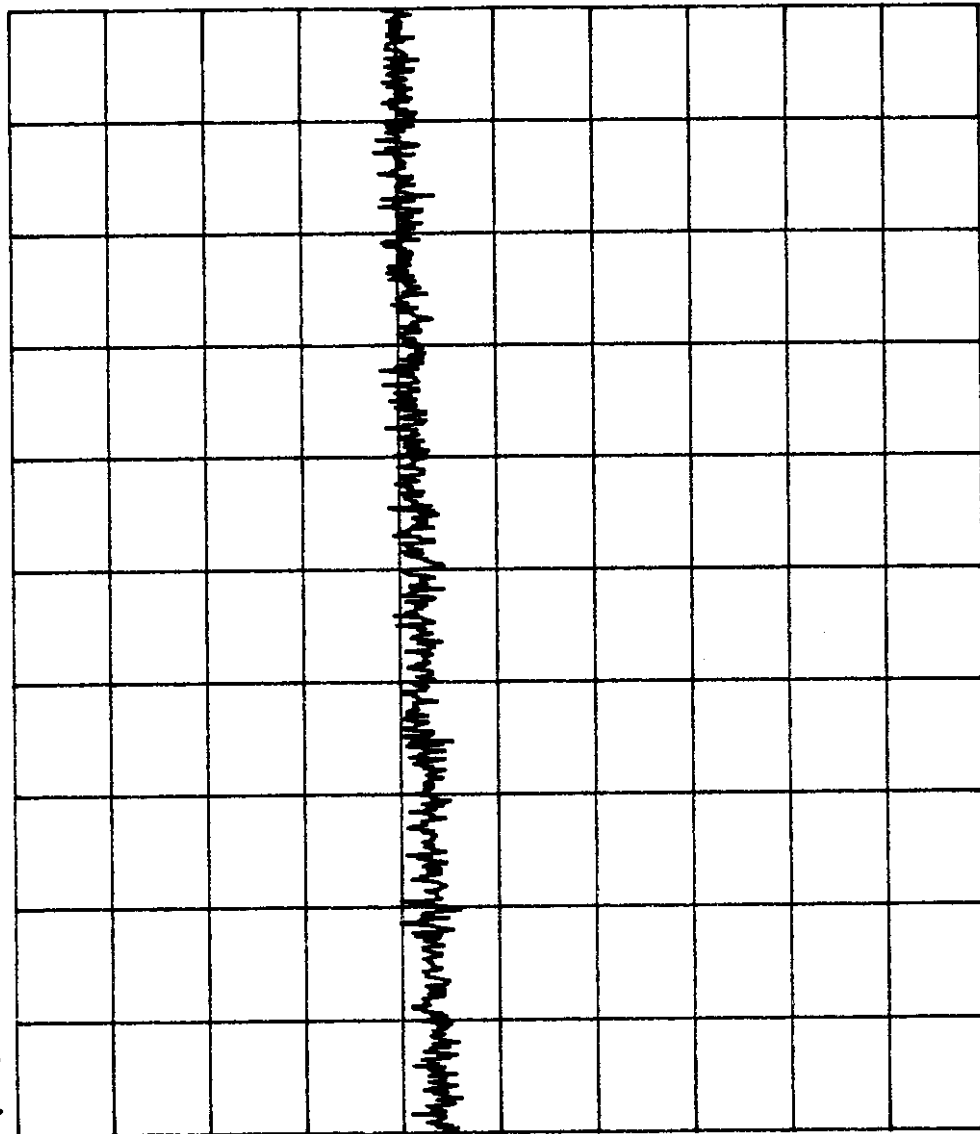


FIGURE 6.1-1



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
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: *[Signature]*

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



RBW 120 KHZ
VBW 3 MHZ
SWP 50 MS

START 100.0 MHZ STOP 200.0 MHZ

FIGURE 6.1-2



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
 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: *AD*

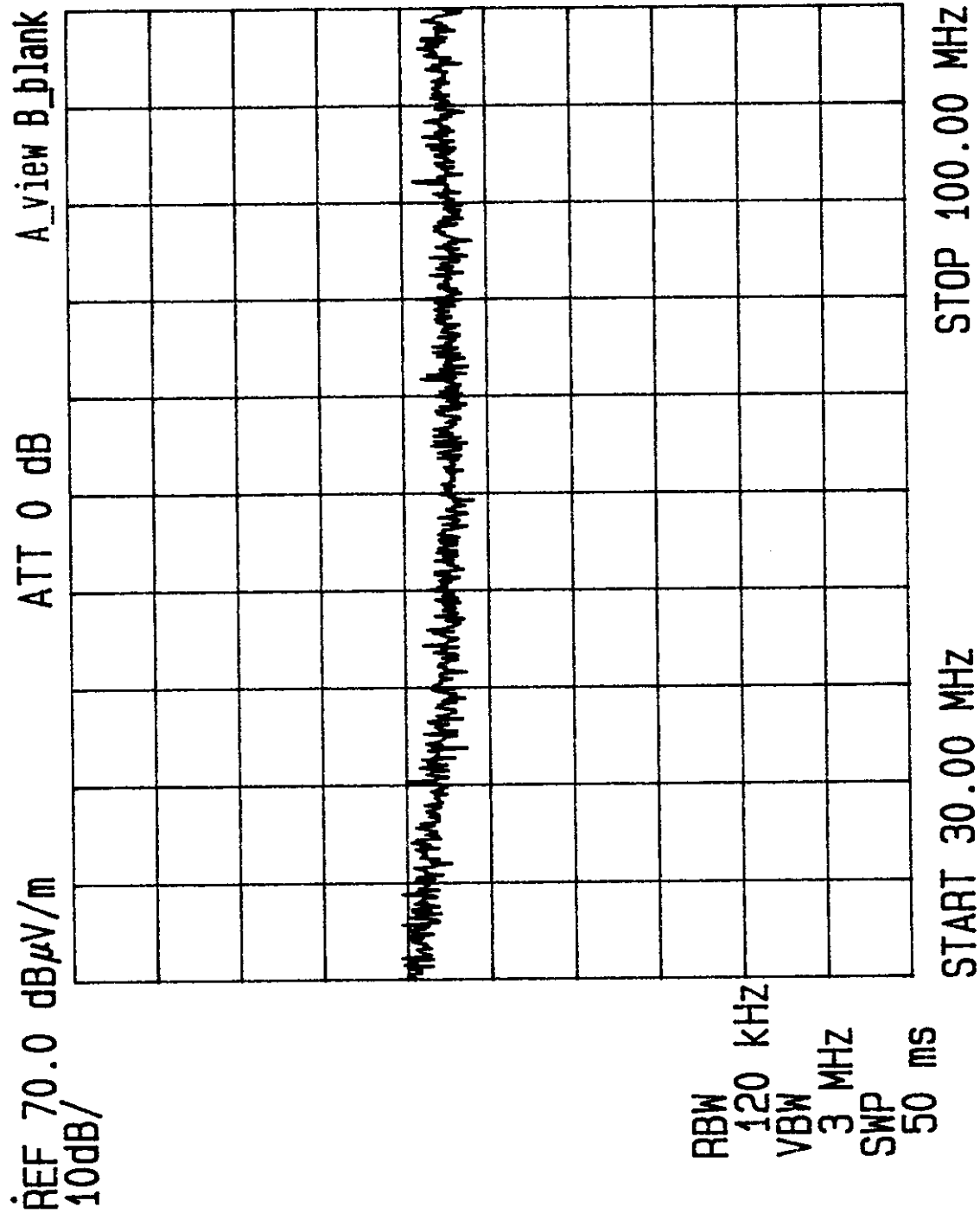


FIGURE 6.1-3



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
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: *AB*

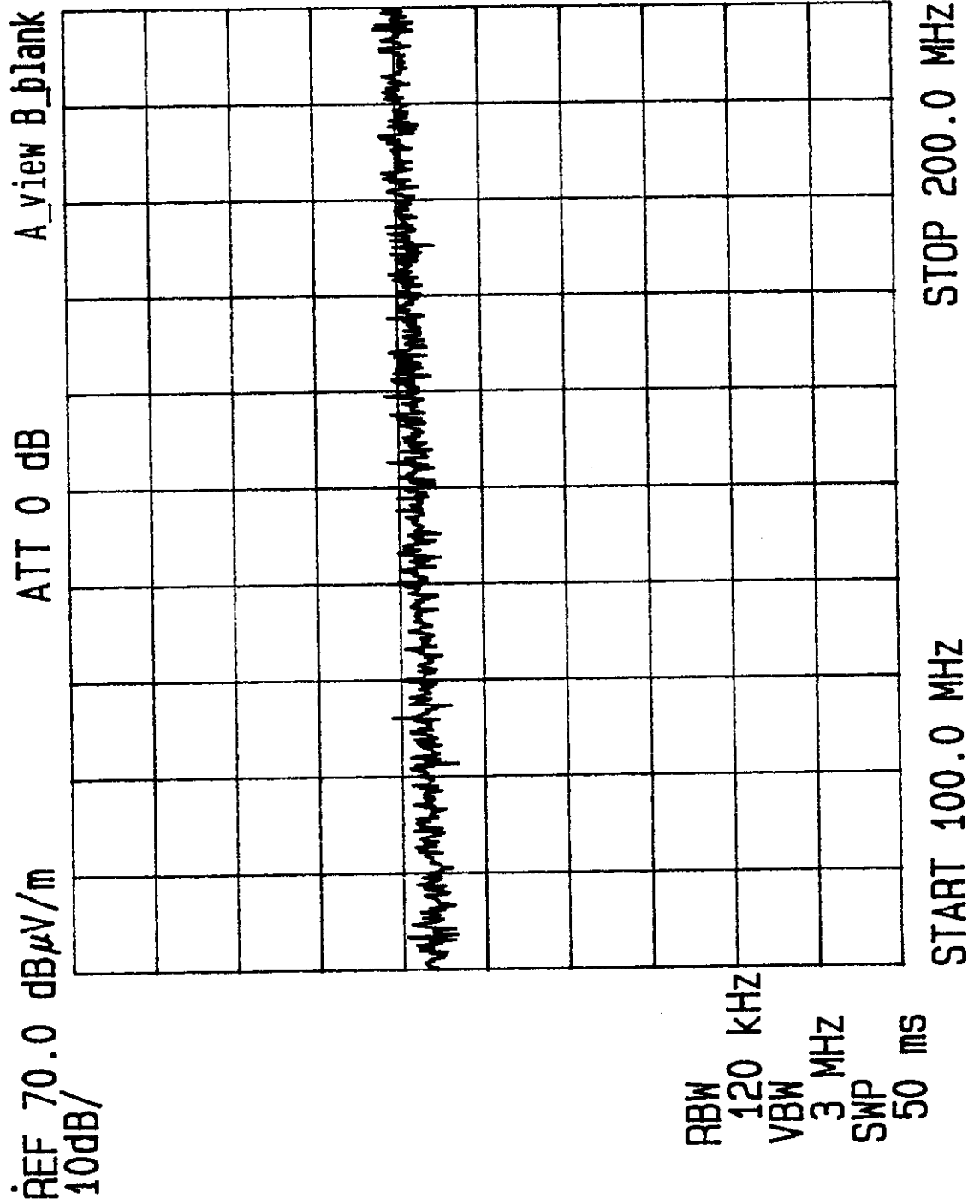


FIGURE 6.1-4



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
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: AS

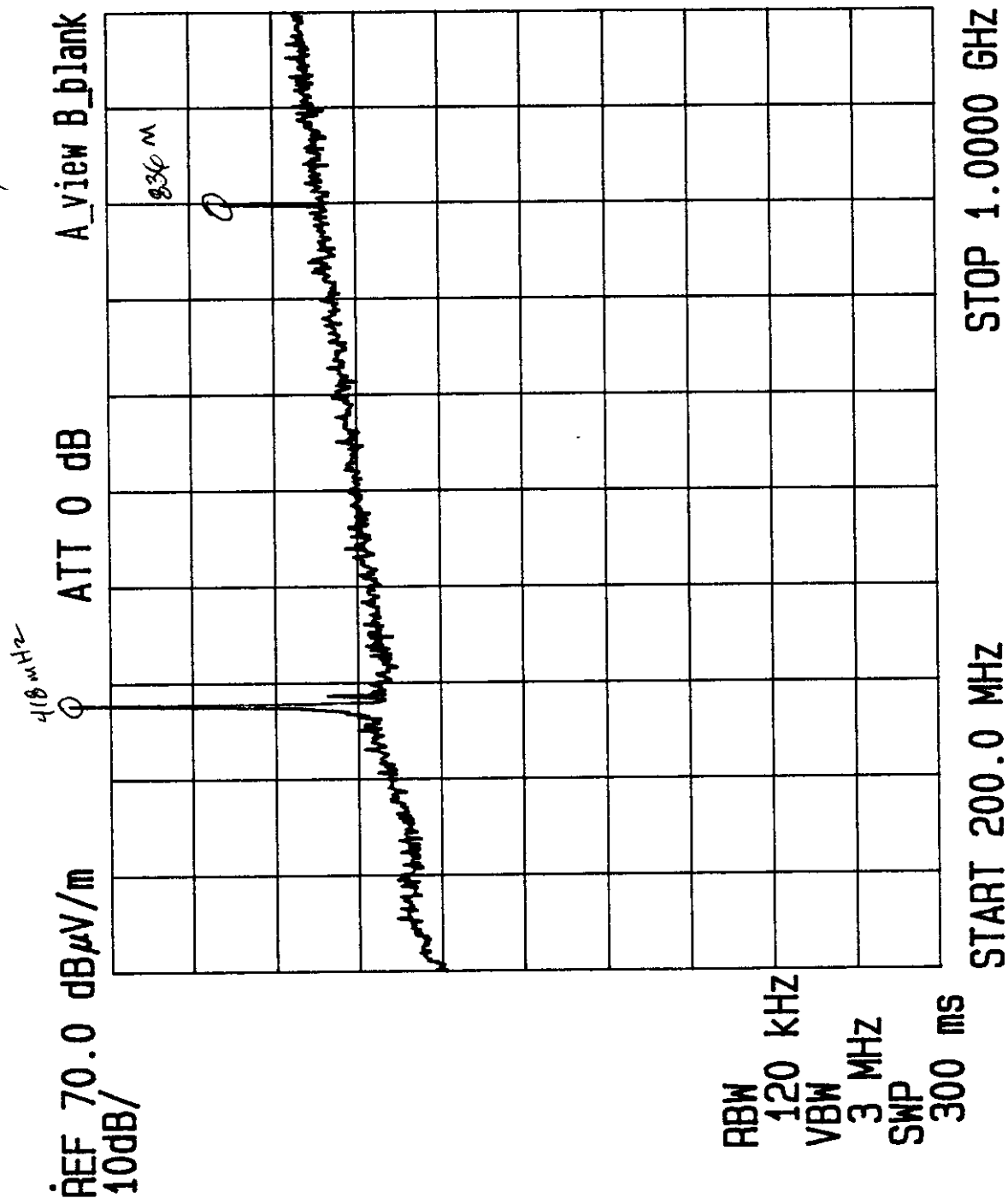


FIGURE 6.1-5



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
FREQ: 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: *AB*

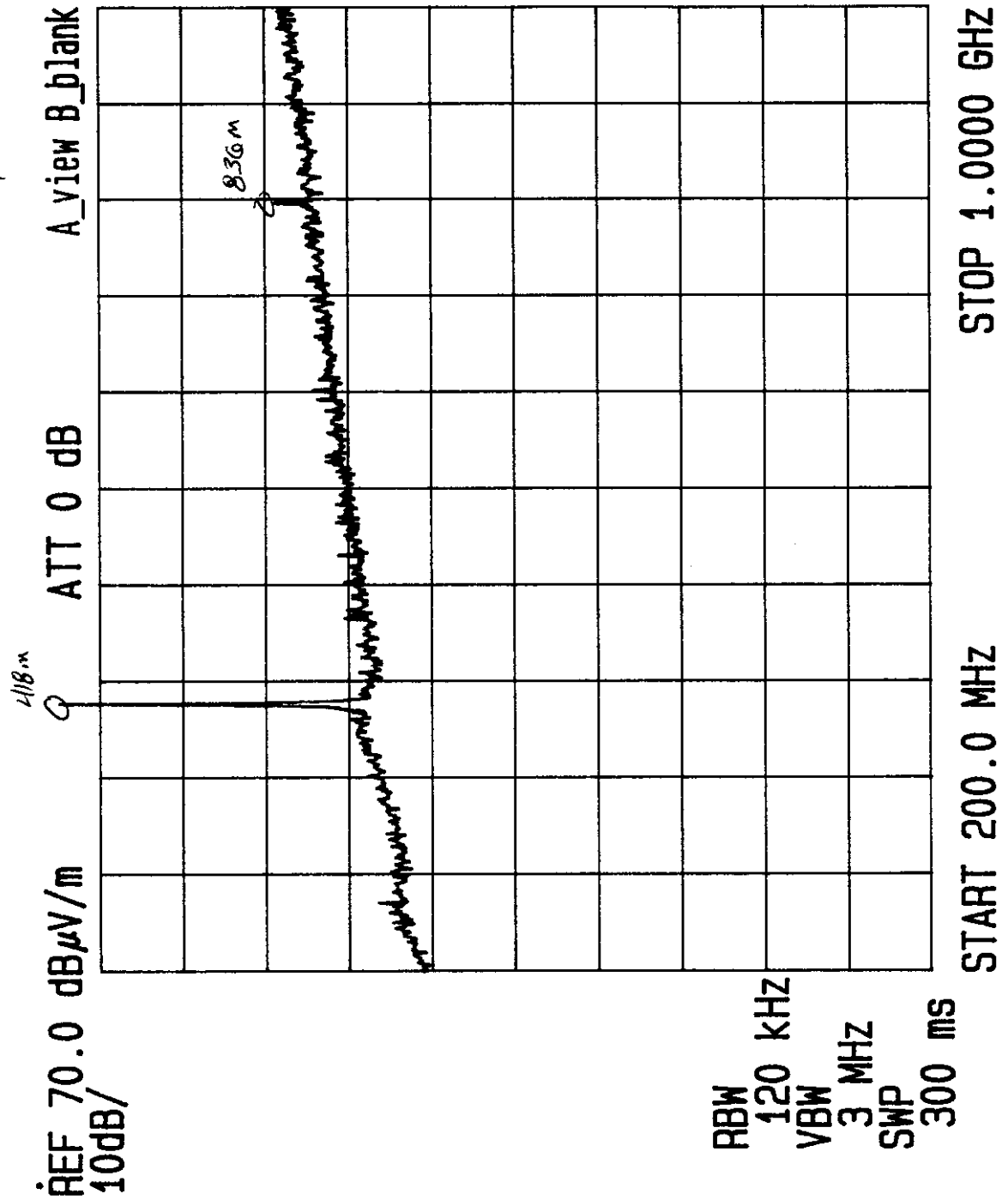


FIGURE 6.1-6



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
 FREQ: 1G-5GHz SPEC: PARAGRAPH 15.231 ANT.HT/POL: 1m H
 DETECT: PEAK LINE UNDER TEST: N/A EUT POSITION:
 DATE: 12-14-98 TEST SITE: ROOM 1 TESTER: *[Signature]*

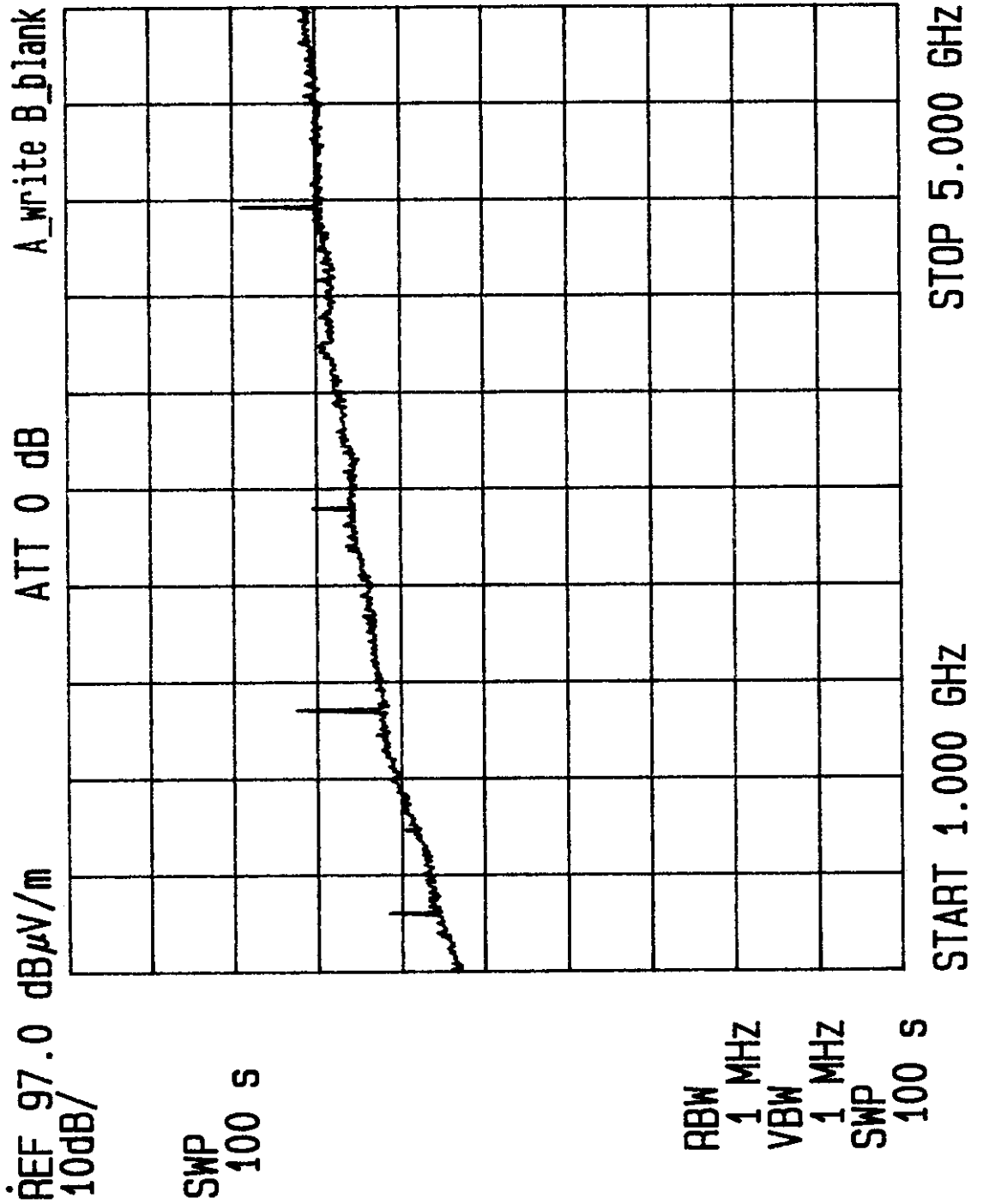


FIGURE 6.1-7



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
FREQ: 1G-5GHz SPEC: PARAGRAPH 15.231 ANT.HT/POL: /H V
DETECT: PEAK LINE UNDER TEST: N/A EUT POSITION:
DATE: 12/14/98 TEST SITE: ROOM 1 TESTER: *[Signature]*

JA-1620-1

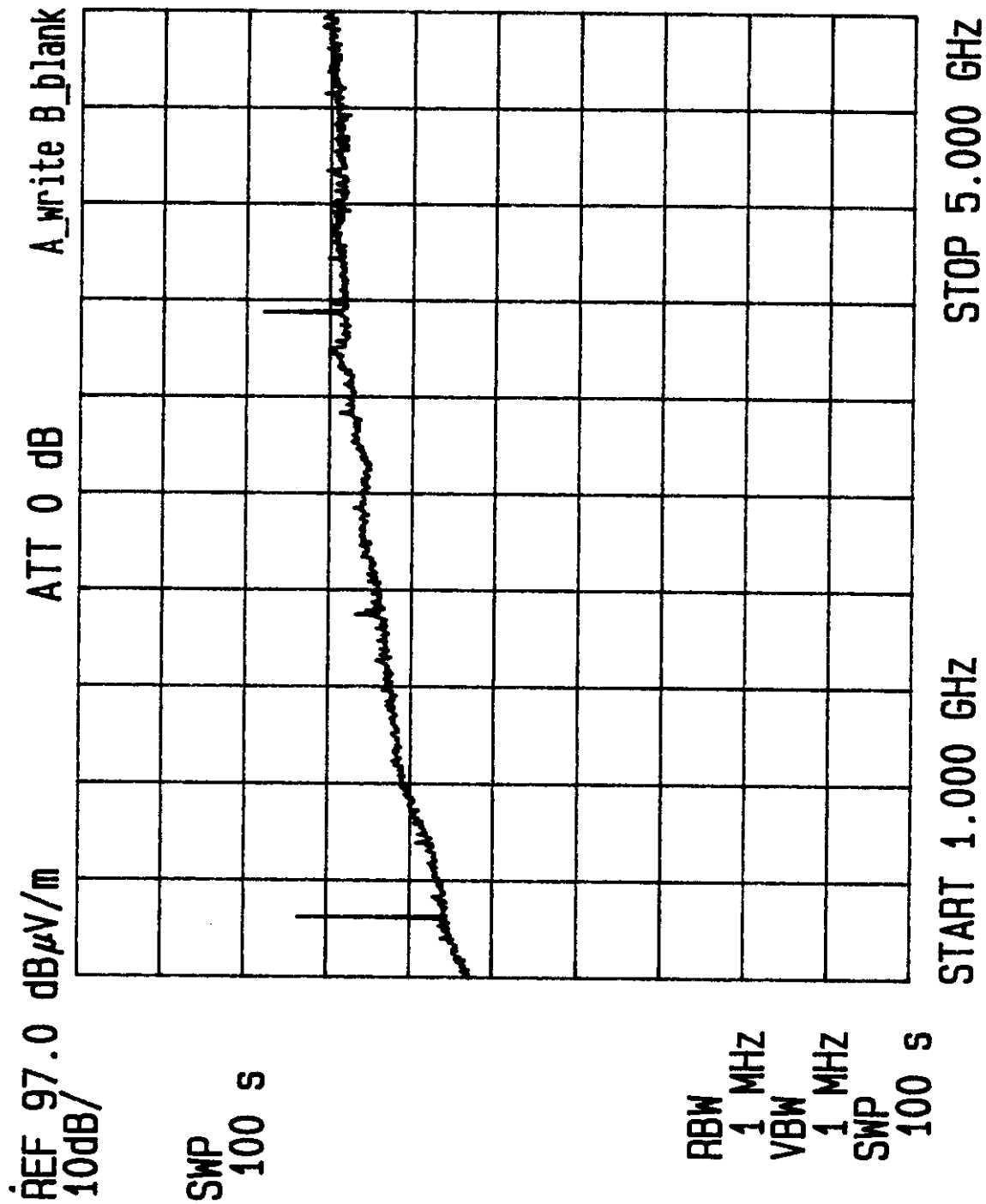


FIGURE 6.1-8



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 30M-100MHz	SPEC: FCC CLASS B	ANT. HT/POL: 1.5" H
DETECTOR: QUASI PEAK	LINE UNDER TEST: N/A	EUT POSITION: 0°
DATE: 12/15/98	TEST SITE: 3 METER	TESTER: [Signature]

JA-1620-1

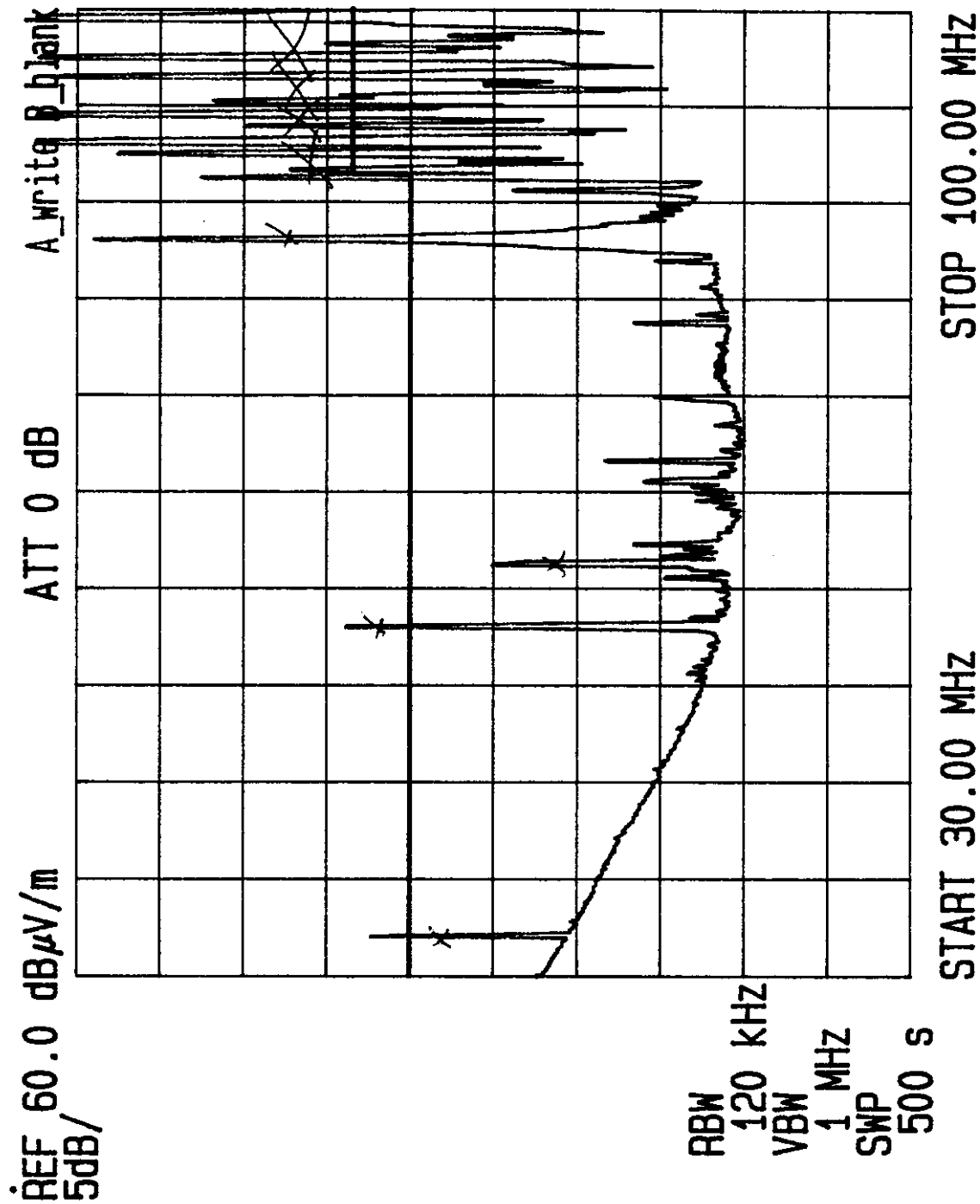


FIGURE 6.1-9



22



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 100M-200MHZ	SPEC: FCC CLASS B	ANT.HT/POL: 1.5m H
DETECTOR: QUASI PEAK	LINE UNDER TEST: N/A	EUT POSITION: 0°
DATE: 12/15	TEST SITE: 3 METER	TESTER: [signature]

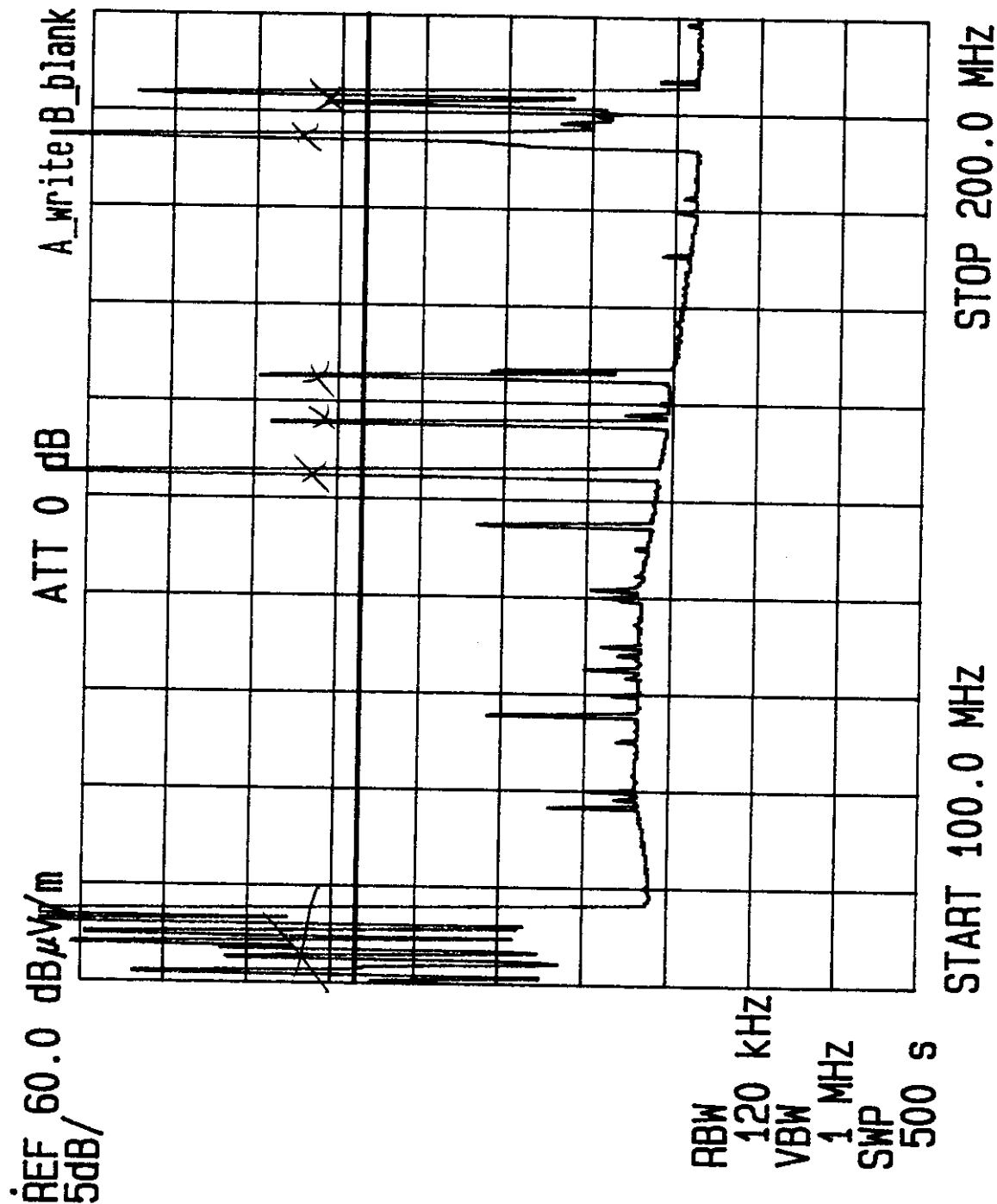


FIGURE 6.1-11



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 100M-200MHZ	SPEC: FCC CLASS B	ANT.HT/POL: 1.75' V
DETECTOR: QUASI PEAK	LINE UNDER TEST: N/A	EUT POSITION: 0°
DATE: 12/5/98	TEST SITE: 3 METER	TESTER: <i>gh</i>

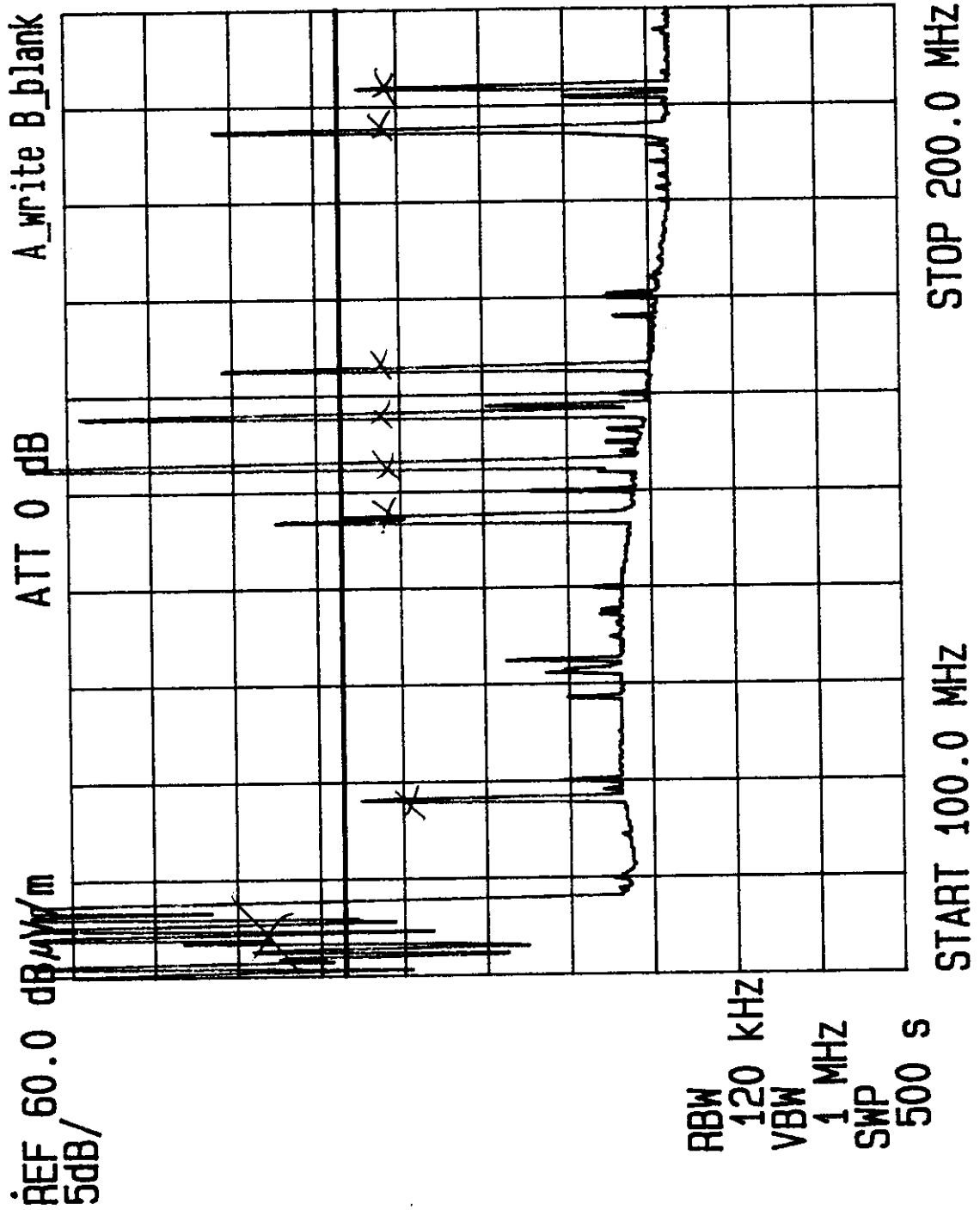


FIGURE 6.1-12



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 200M-1GHZ	SPEC: FCC CLASS B	ANT.HT/POL: 1.85m H
DETECTOR: QUASI PEAK	LINE UNDER TEST: N/A	EUT POSITION: 22'
DATE: 12-14-98	TEST SITE: 3 METER	TESTER: AB

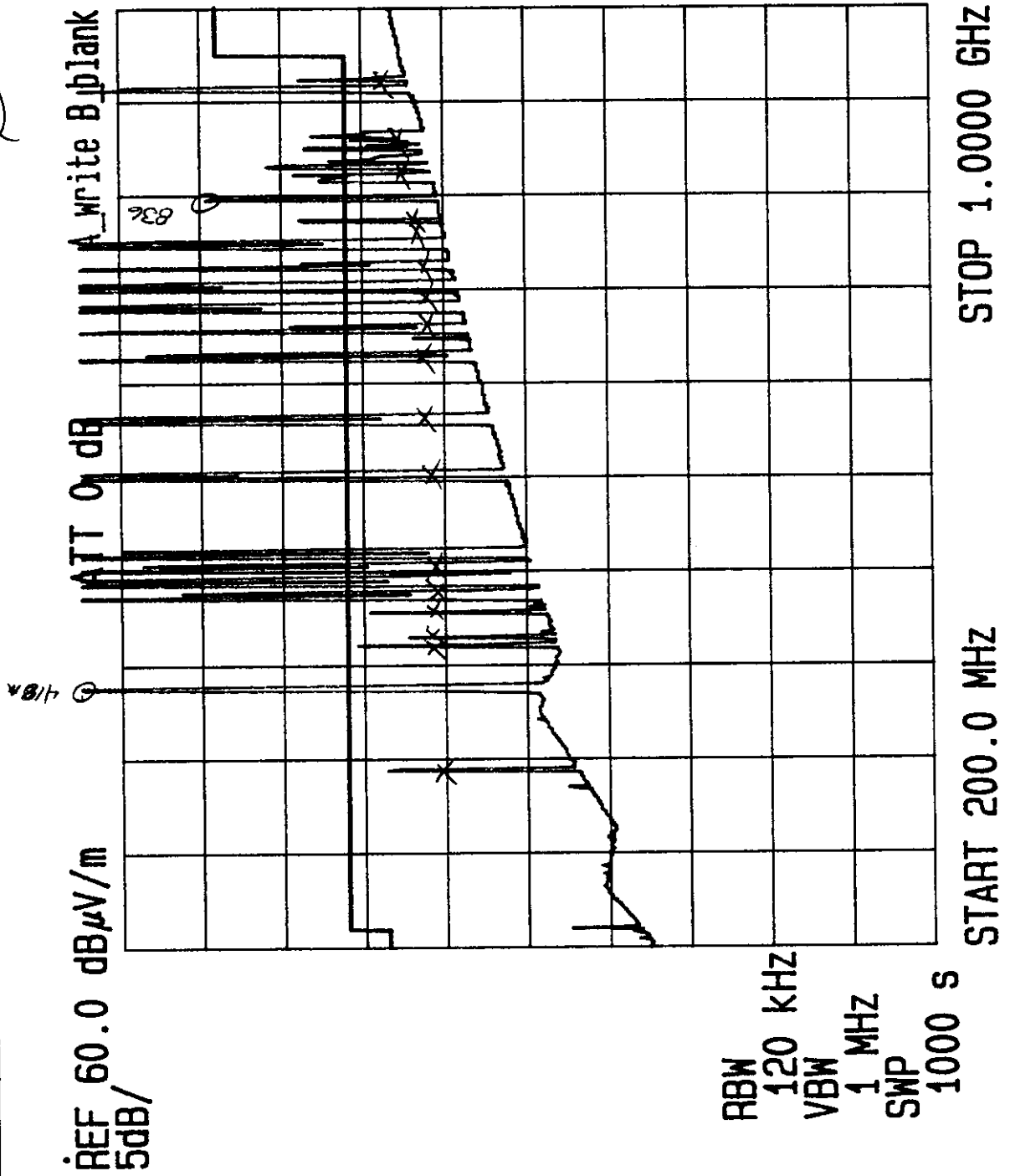


FIGURE 6.1-13



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
FREQ: 200M-1GHZ SPEC: FCC CLASS B ANT.HT/POL: 1m V
DETECTOR: QUASI PEAK LINE UNDER TEST: N/A EUT POSITION: 292"
DATE: 12/14/98 TEST SITE: 3 METER TESTER: *[Signature]*

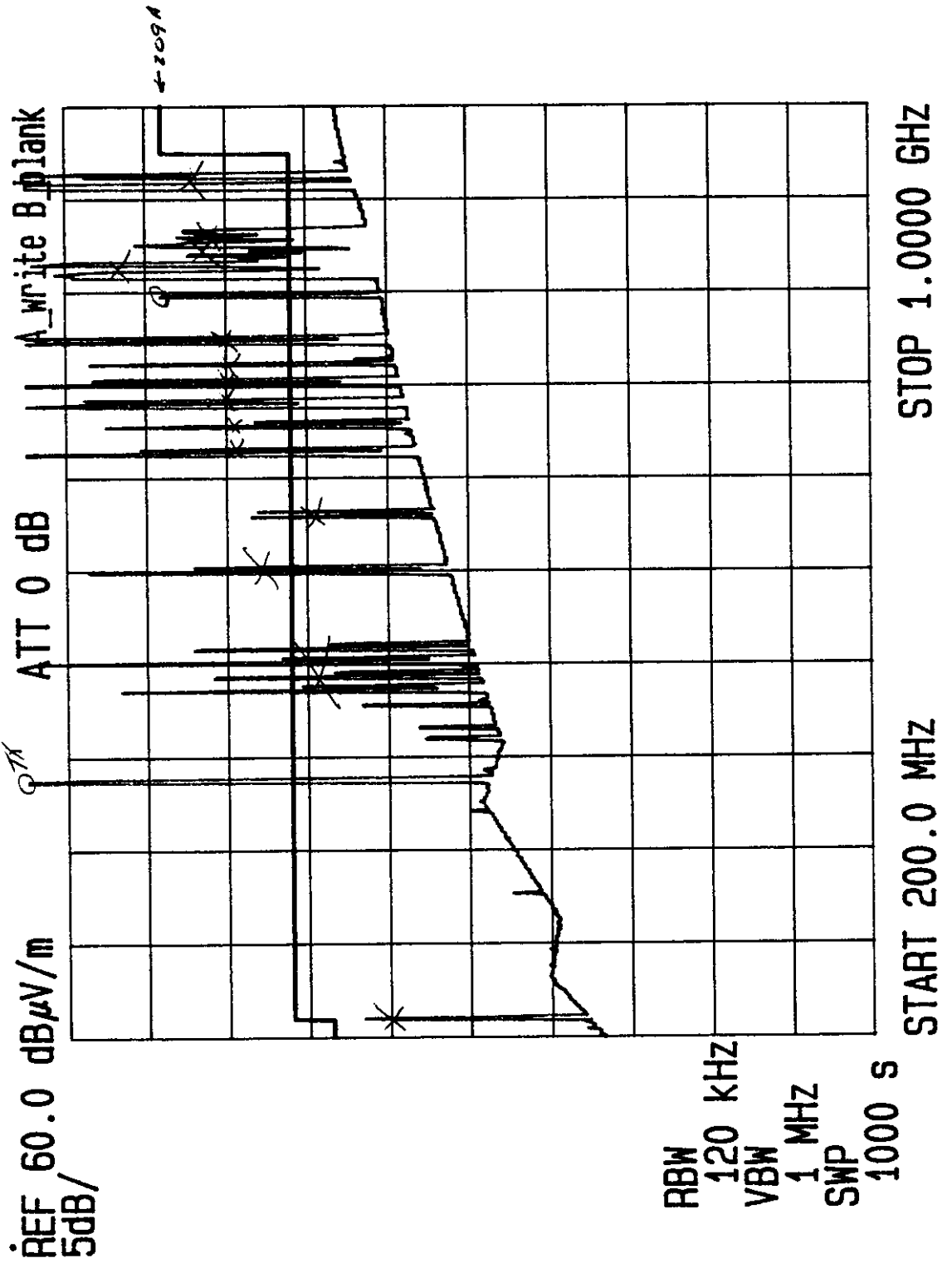


FIGURE 6.1-14



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 1G-5GHZ	SPEC: PARAGRAPH 15.231	ANT. HT/POL: 1m H
DETECT: AVERAGE	LINE UNDER TEST: N/A	EUT POSITION: 180°
DATE: 12/16/98	TEST SITE: 3 METER	TESTER: <i>[Signature]</i>

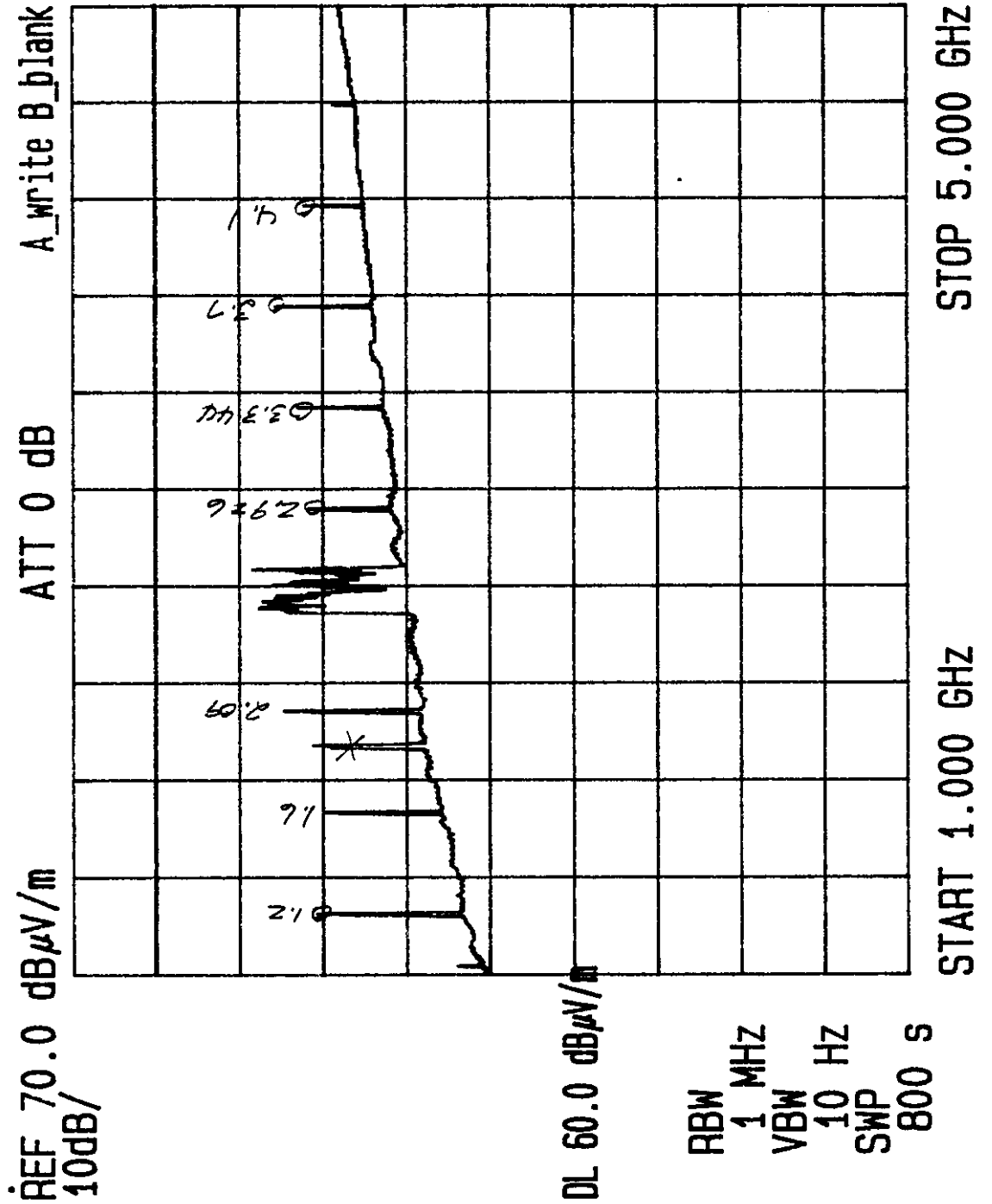


FIGURE 6.1-15



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 1G-5GHz	SPEC: PARAGRAPH 15.231	ANT. HT/POL: 14 V
DETECT: PEAK	LINE UNDER TEST: N/A	EUT POSITION: 180°
DATE: 12/16/98	TEST SITE: 3 METER	TESTER: <i>[Signature]</i>

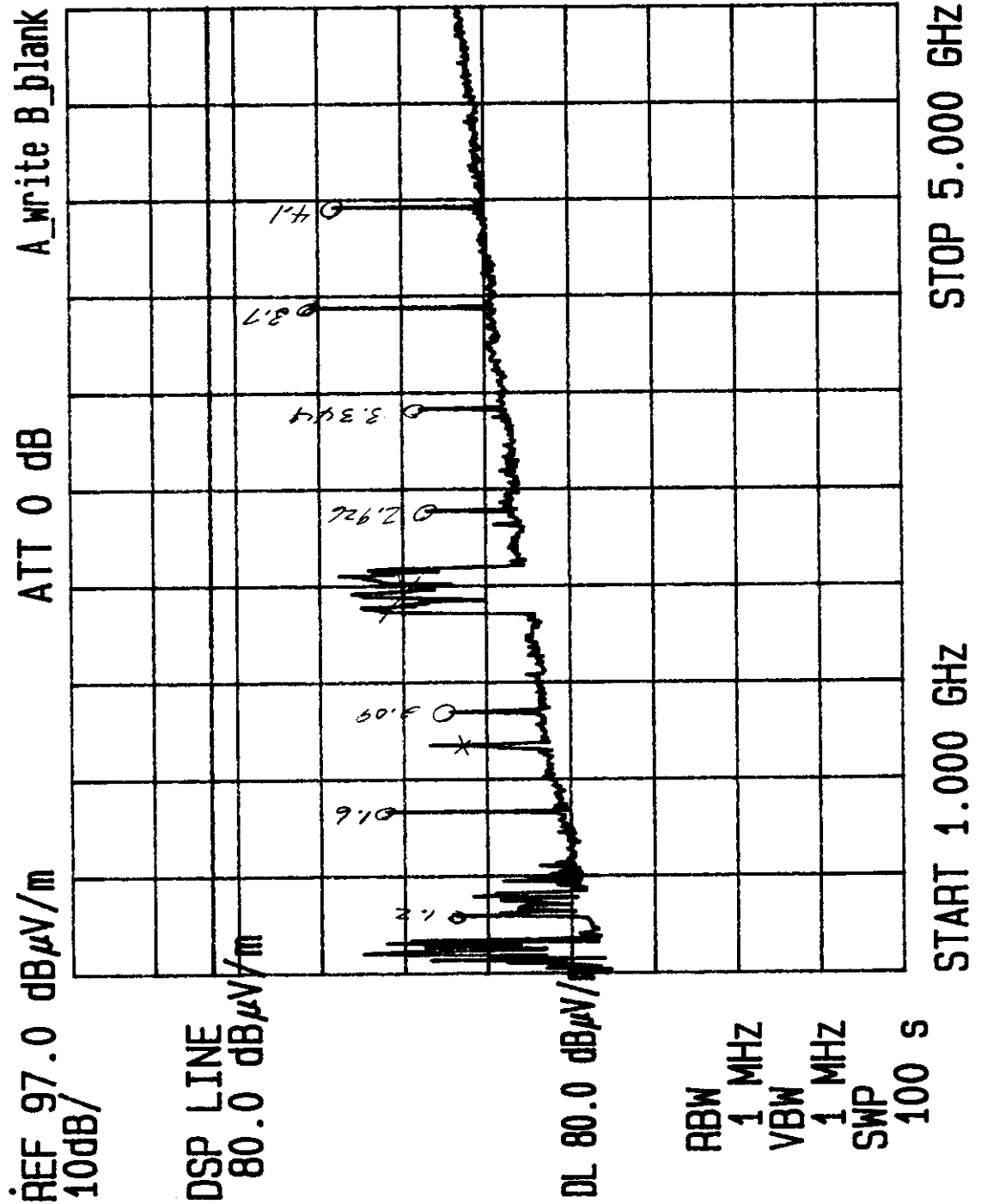


FIGURE 6.1-16



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 1G-5GHz	SPEC: PARAGRAPH 15.231	ANT. HT/POL: 10m H
DETECT: PEAK	LINE UNDER TEST: N/A	EUT POSITION: 180°
DATE: 12-16-98	TEST SITE: 3 METER	TESTER: [Signature]

JA-1620-1

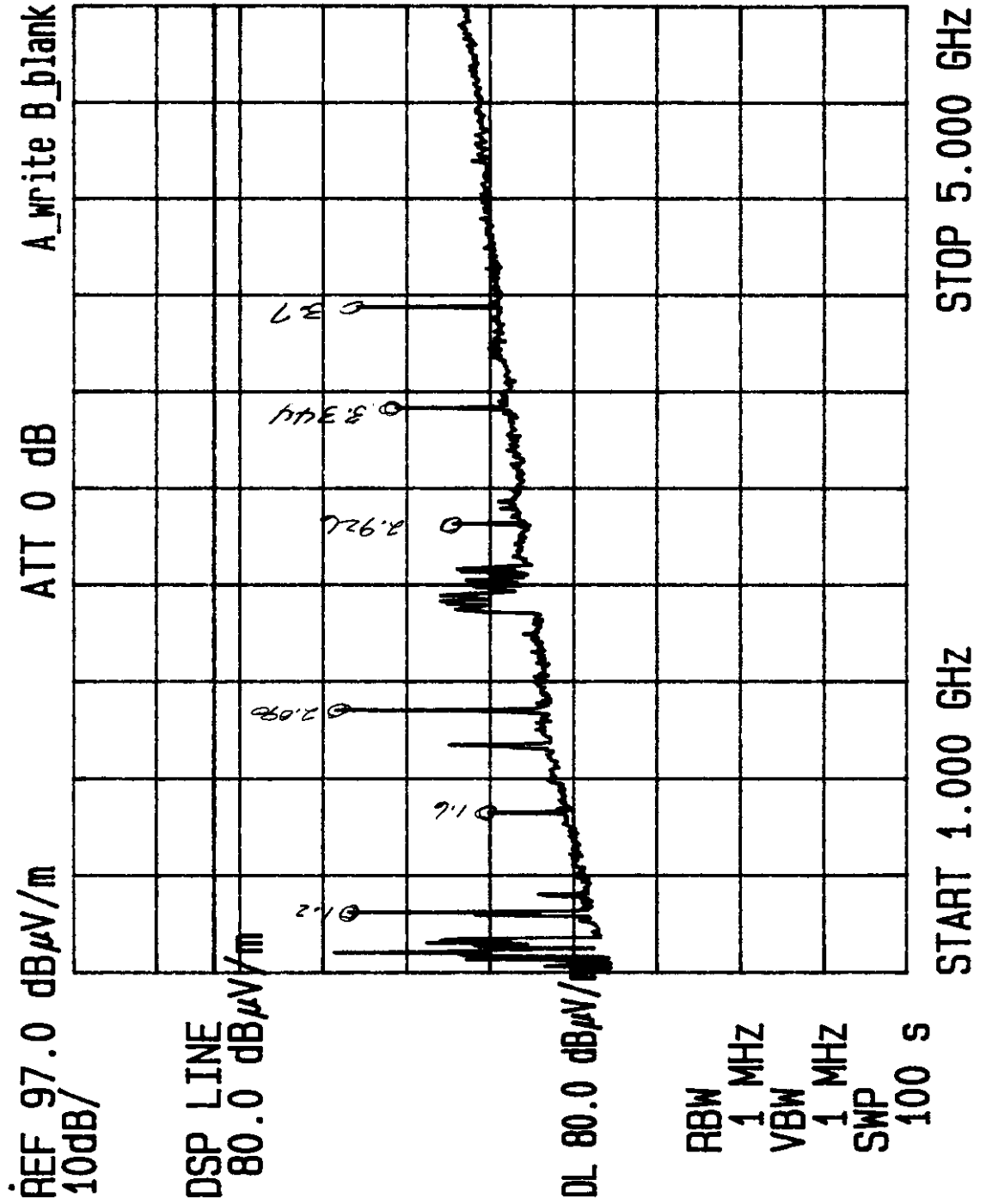


FIGURE 6.1-17



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 1G-5GHZ	SPEC: PARAGRAPH 15.231	ANT. HT/POL: 14 V
DETECT: AVERAGE	LINE UNDER TEST: N/A	EUT POSITION: 180°
DATE: 12/16/88	TEST SITE: 3 METER	TESTER: <i>[Signature]</i>

JA-1620-1

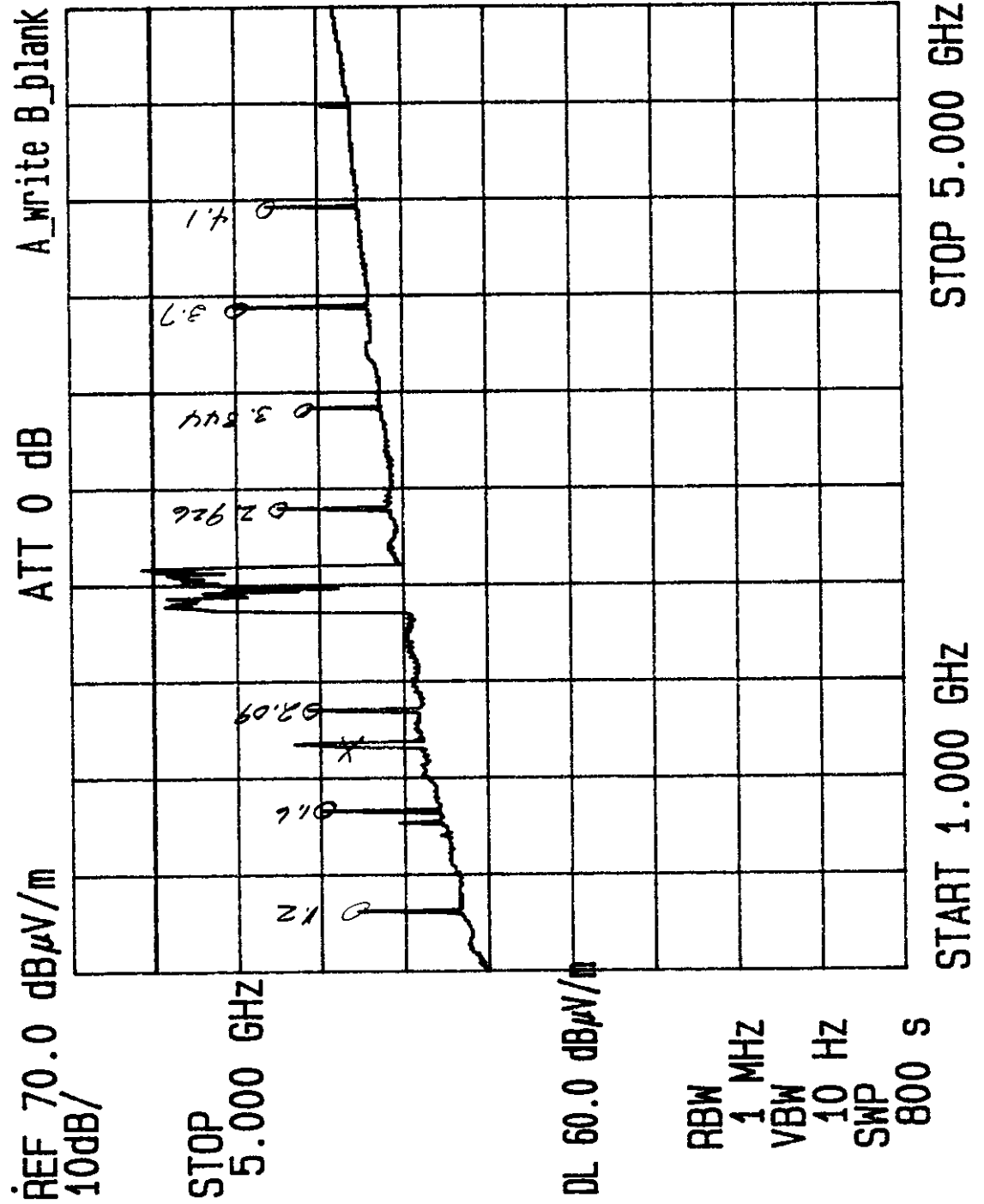


FIGURE 6.1-18



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
FREQ: 30M-100MHZ 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: AB

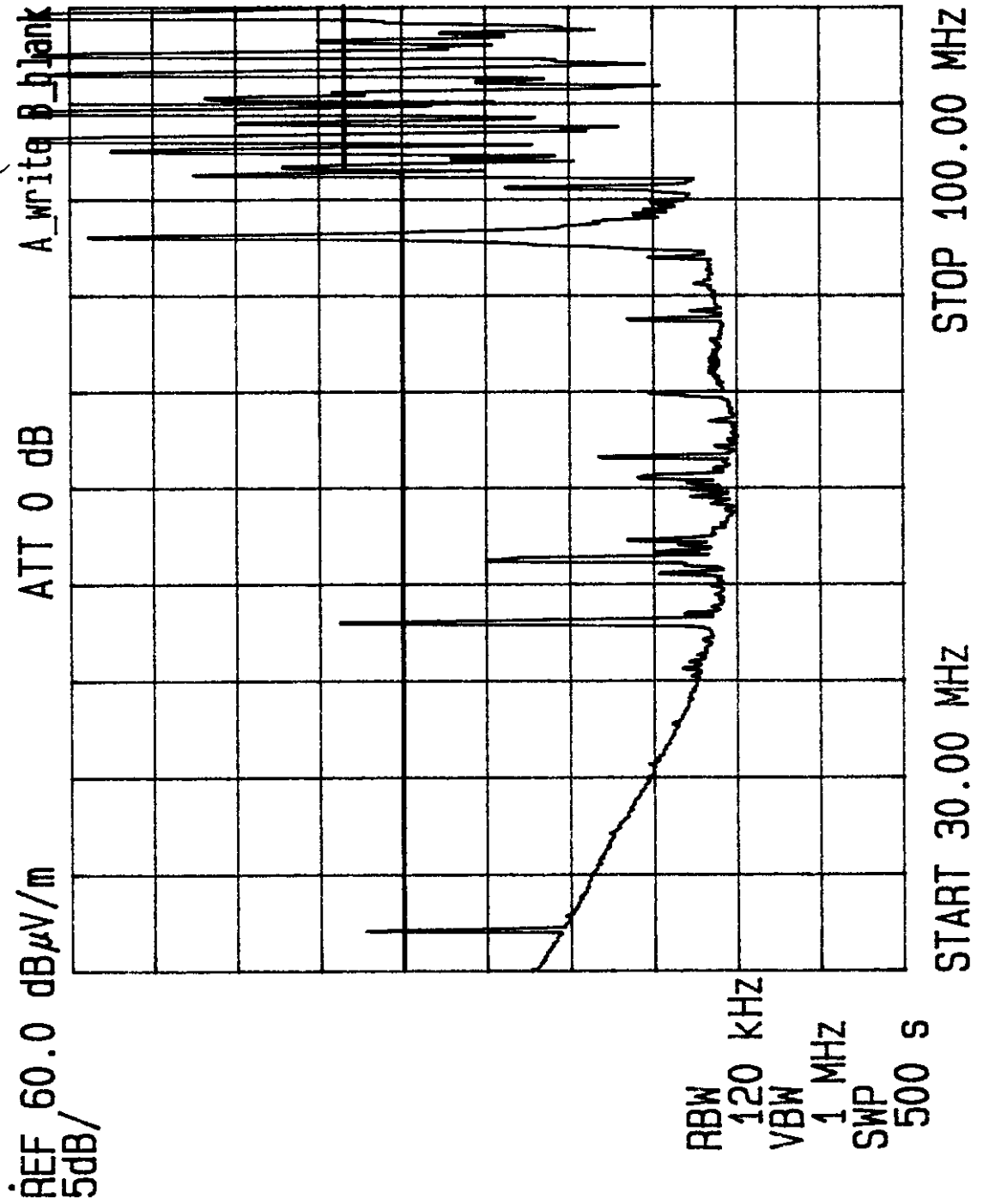


FIGURE 6.1-19



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 30M-100MHz	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: <i>AB</i>

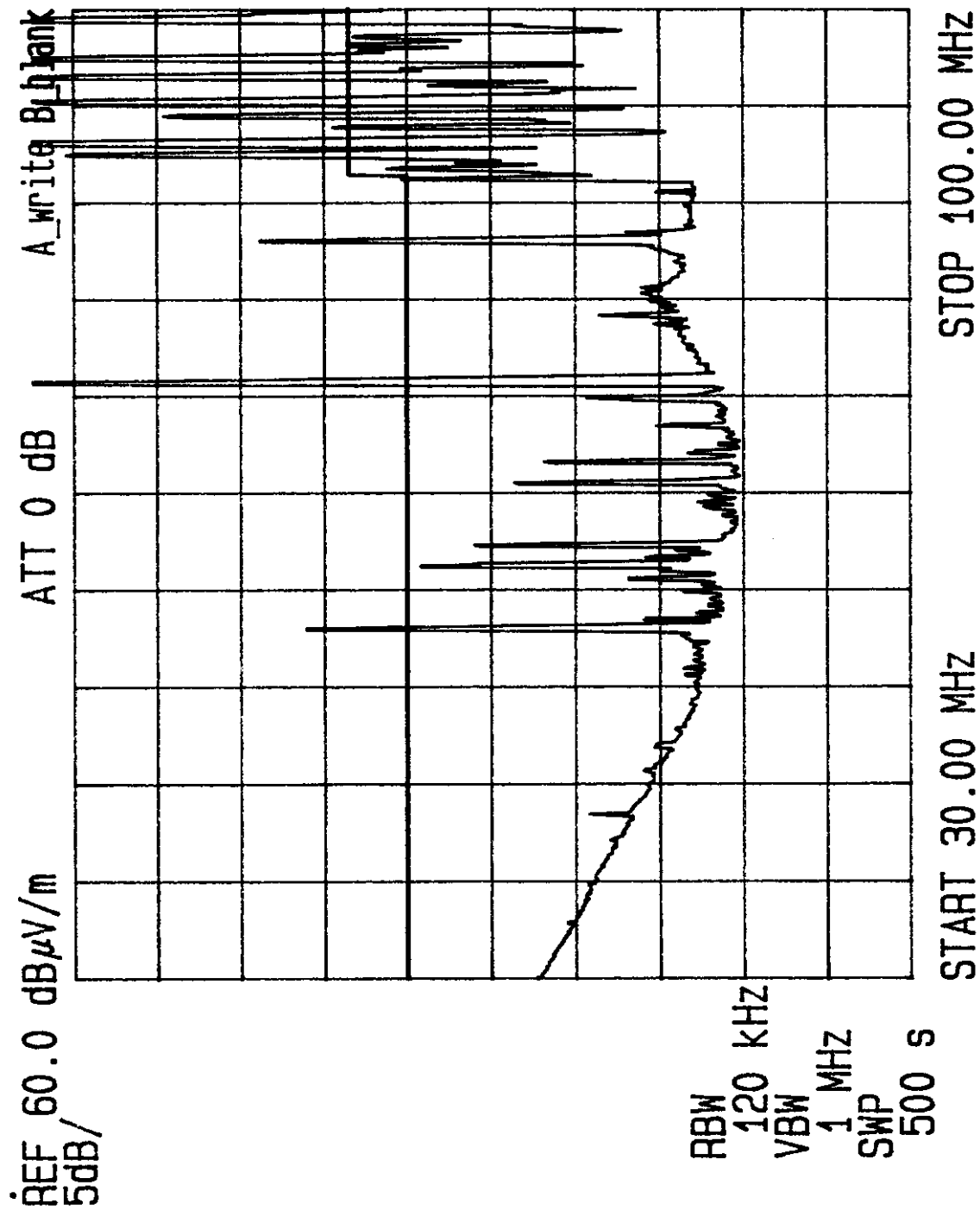


FIGURE 6.1-20



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
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: *AB*

JA-1620-1

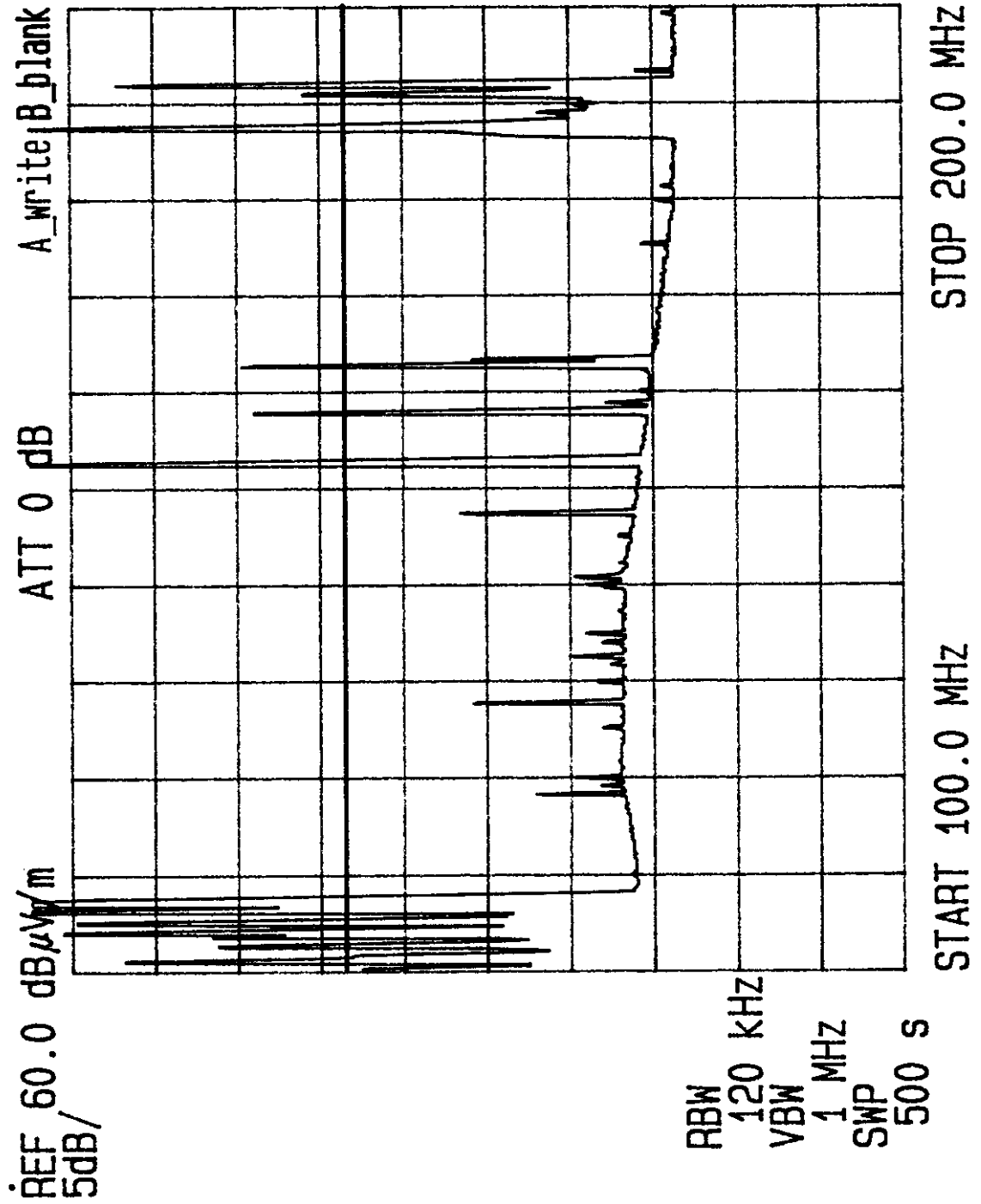


FIGURE 6.1-21



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
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: <i>[Signature]</i>

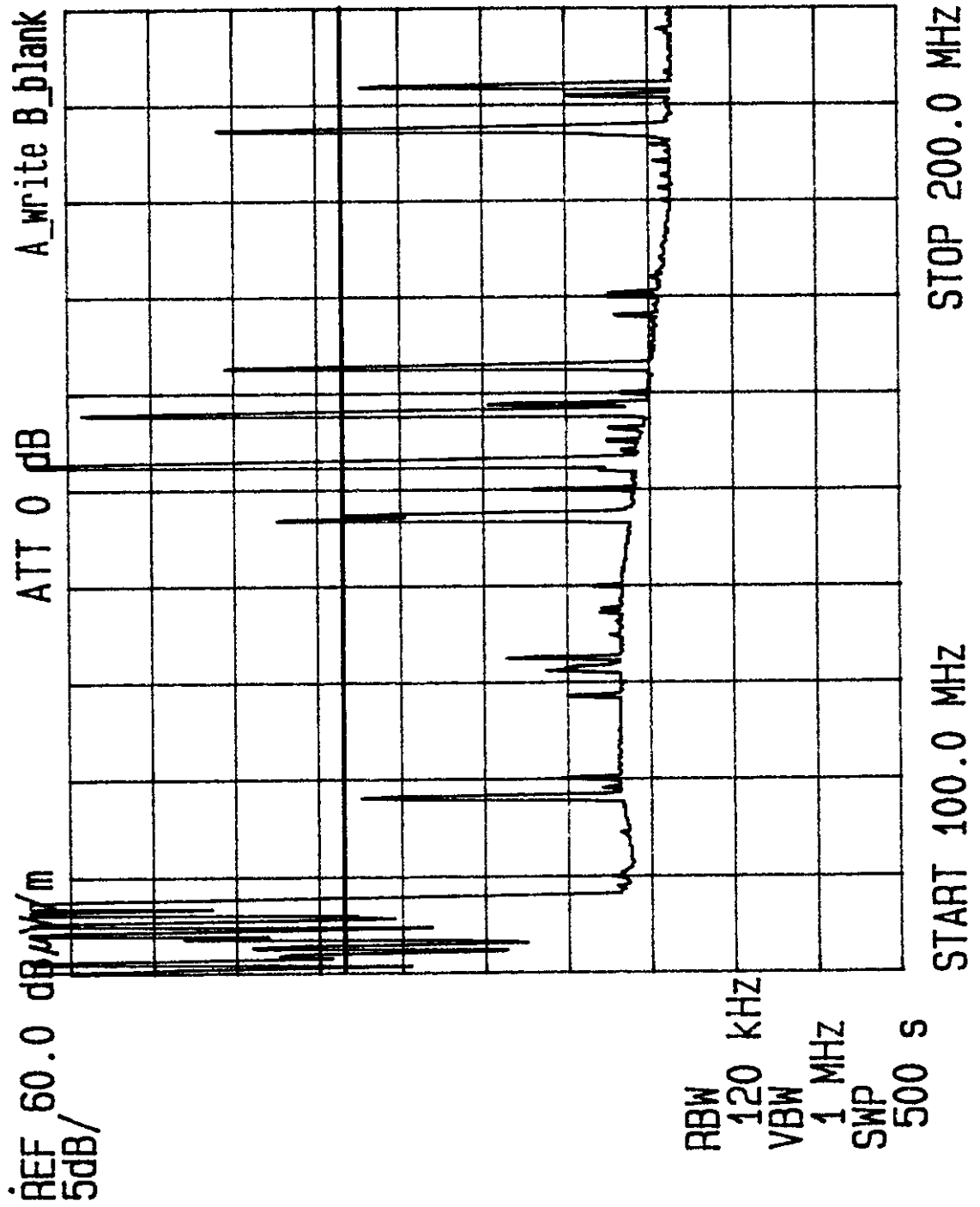


FIGURE 6.1-22



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 200M-1GHZ	SPEC: FCC CLASS B	ANT.HT/POL: /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>

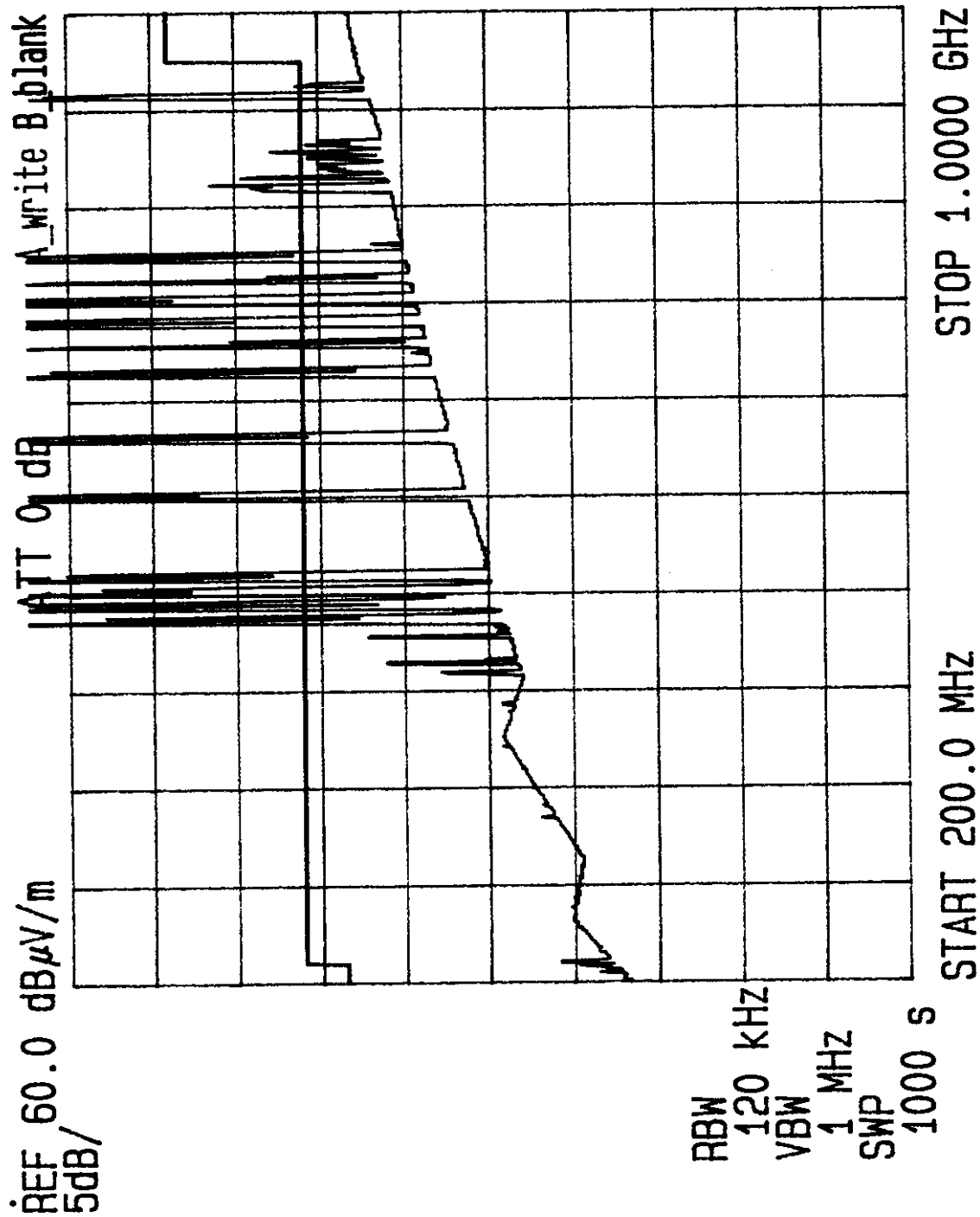


FIGURE 6.1-23



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 200M-1GHZ	SPEC: FCC CLASS B	ANT.HI/POL: /M V
DETECTOR: Q P AMBIENT	LINE UNDER TEST: N/A	EUT POSITION: -
DATE: 12-15-98	TEST SITE: 3 METER	TESTER: AB

JA-1620-1

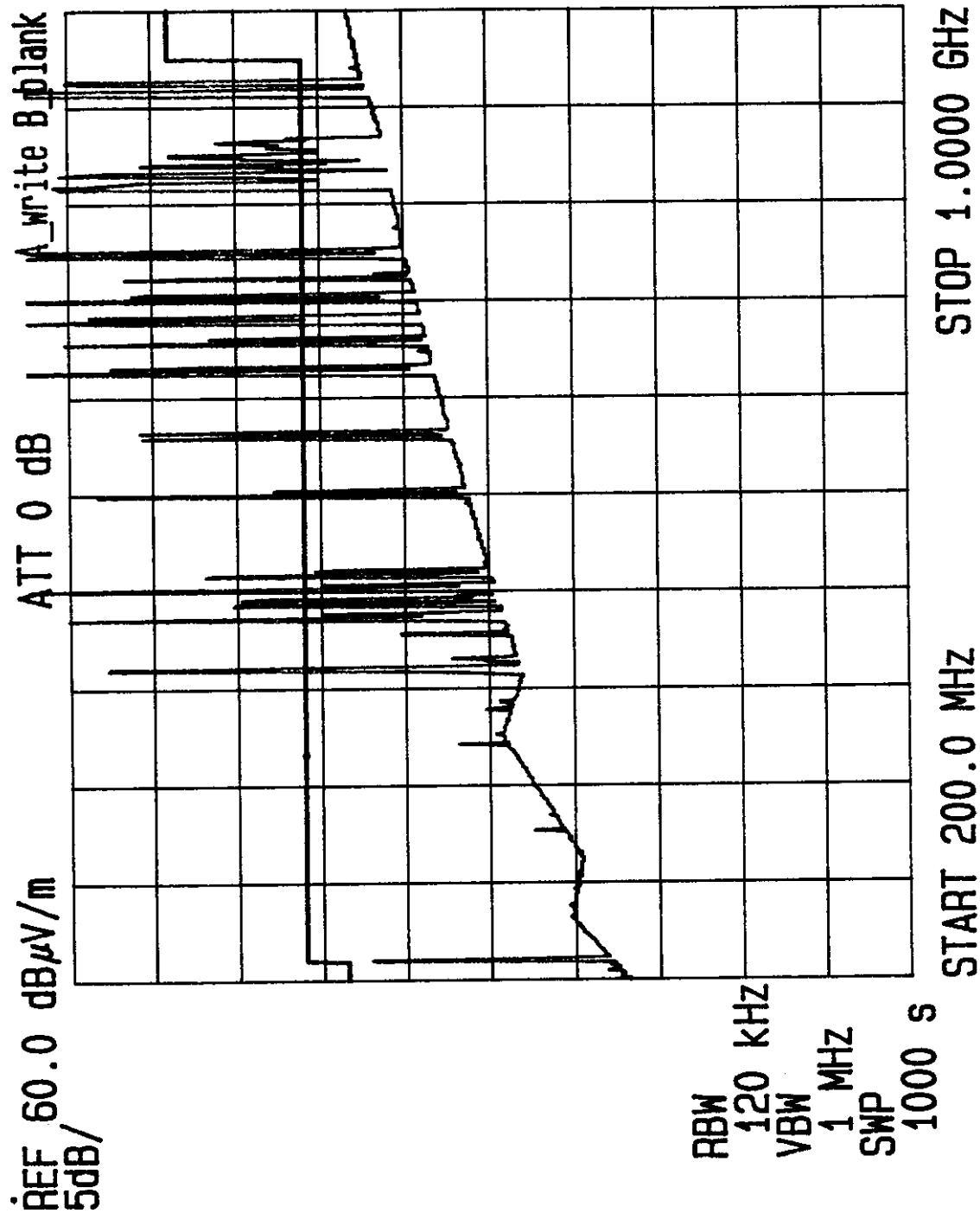


FIGURE 6.1-24



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20 ANT. HT/POL: 1.8m H
FREQ: 1G-5GHZ SPEC: PARAGRAPH 15.231 EUT POSITION: --
DETECT: PEAK AMBIENT LINE UNDER TEST: N/A TESTER: AB
DATE: 12-16-98 TEST SITE: 3 METER

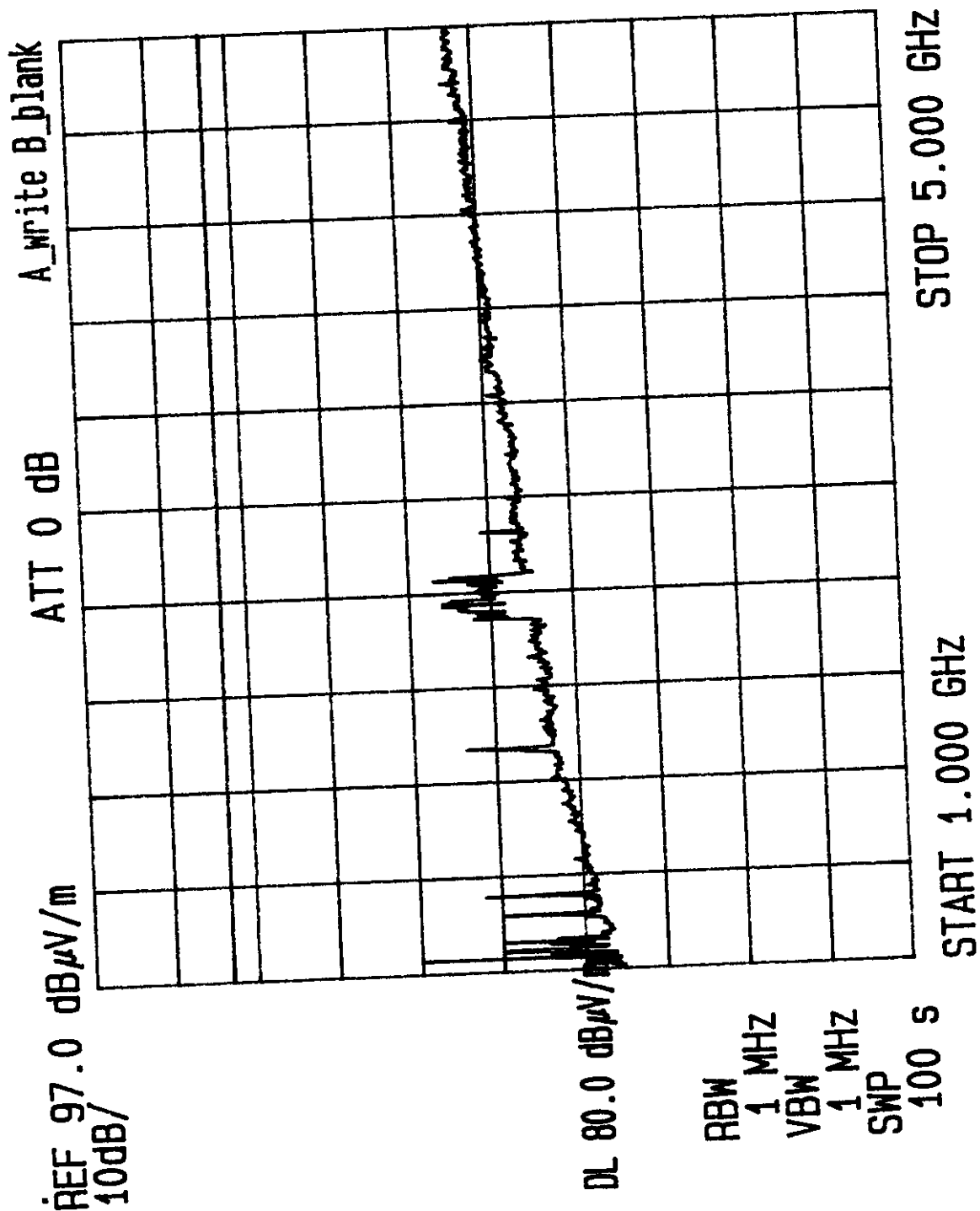


FIGURE 6.1-25



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
 FREQ: 1G-5GHZ SPEC: PARAGRAPH 15.231 ANT. HT/POL: 1m V
 DETECT: PEAK AMBIENT LINE UNDER TEST: N/A EUT POSITION: 13
 DATE: 12-16-96 TEST SITE: 3 METER TESTER:

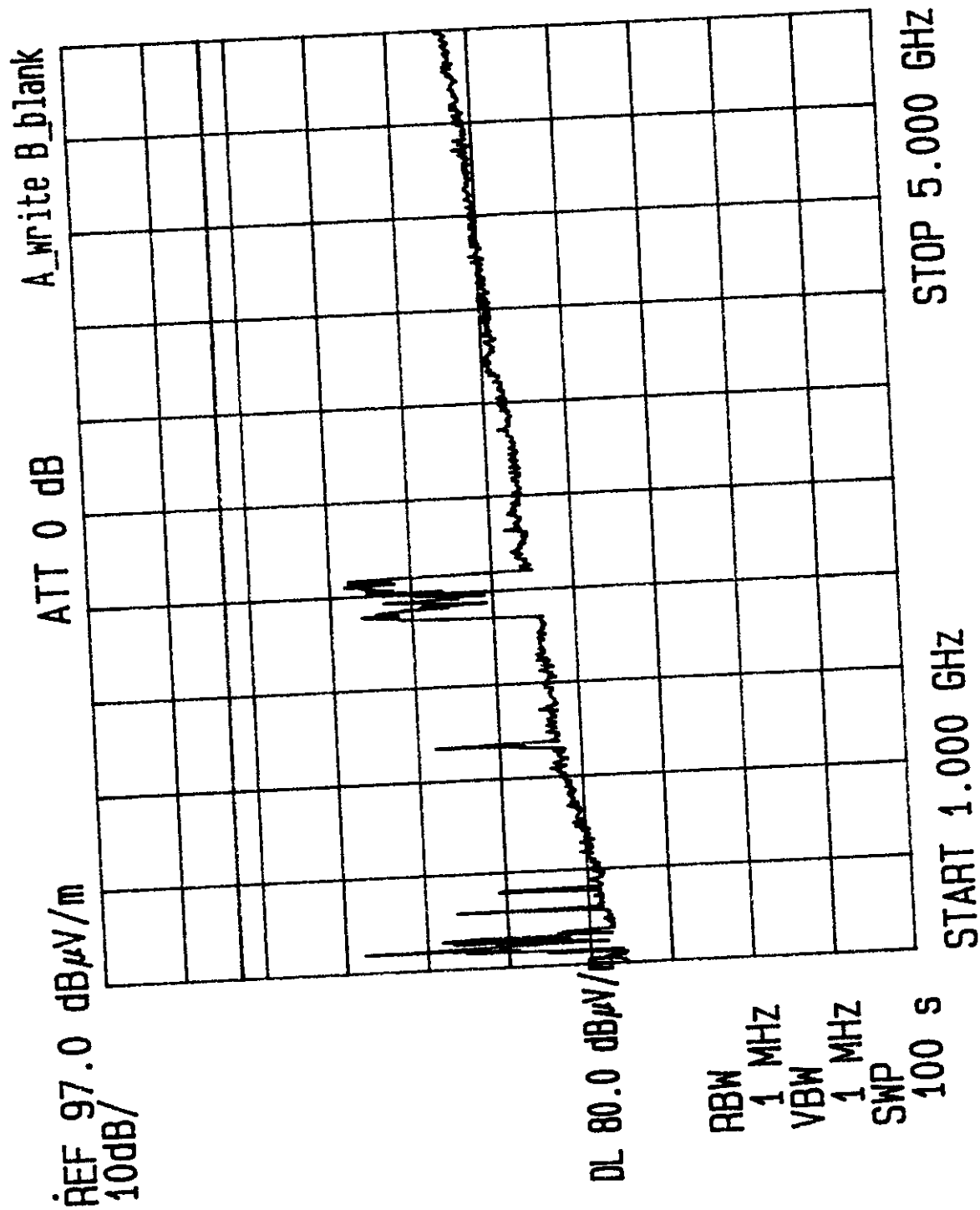


FIGURE 6.1-26



TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20 ANT. HT/POL: / μ H
FREQ: 1G-5GHZ SPEC: PARAGRAPH 15.231 EUT POSITION: ---
DETECT: AVG. AMBIENT LINE UNDER TEST: N/A TESTER: *AB*
DATE: / 2-16-98 TEST SITE: 3 METER

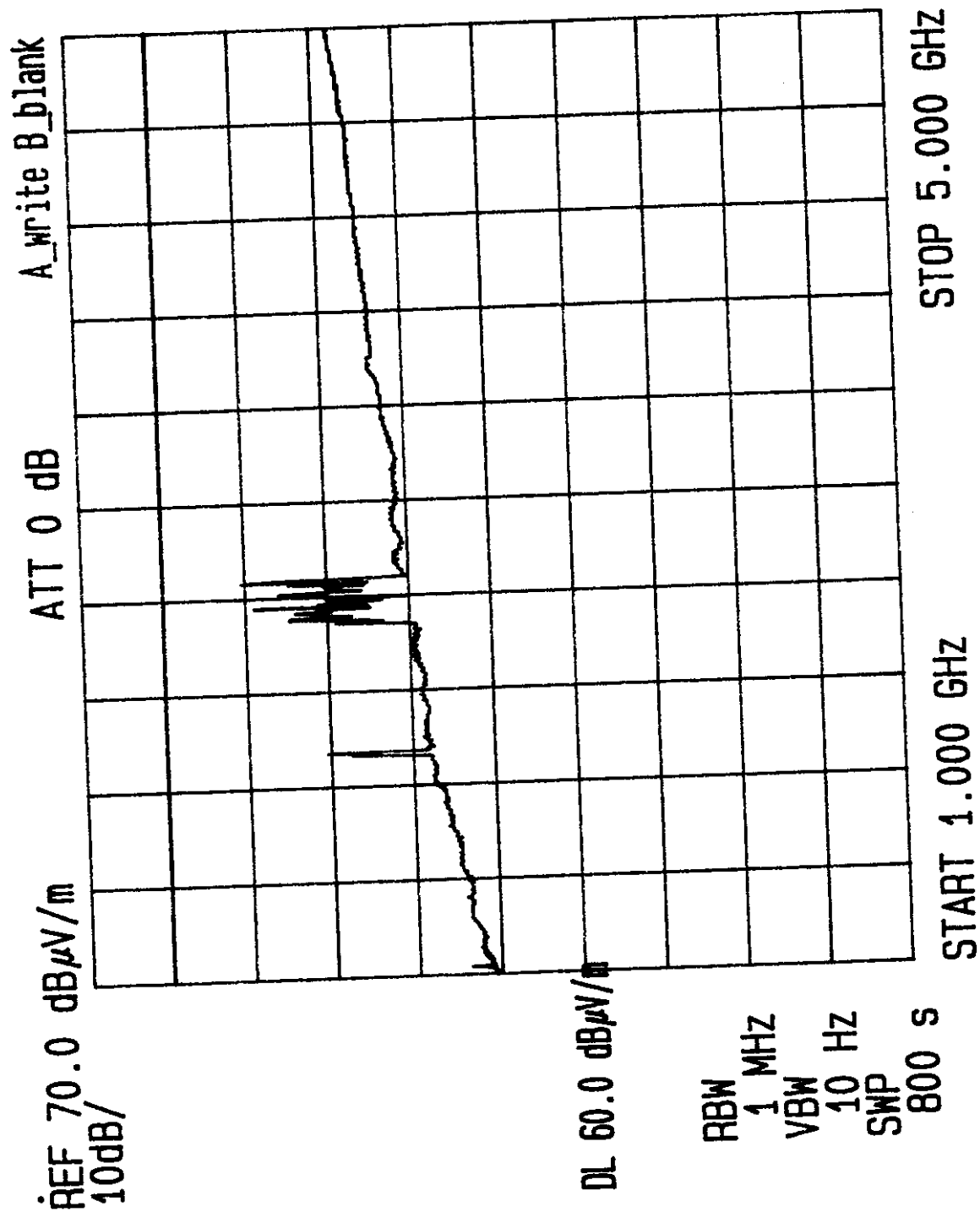


FIGURE 6.1-27



TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 1G-5GHz	SPEC: PARAGRAPH 15.231	ANT. HT/POL: 1m V
DETECT: AVG. AMBIENT	LINE UNDER TEST: N/A	EUT POSITION: -
DATE: 12-16-98	TEST SITE: 3 METER	TESTER: <i>MB</i>

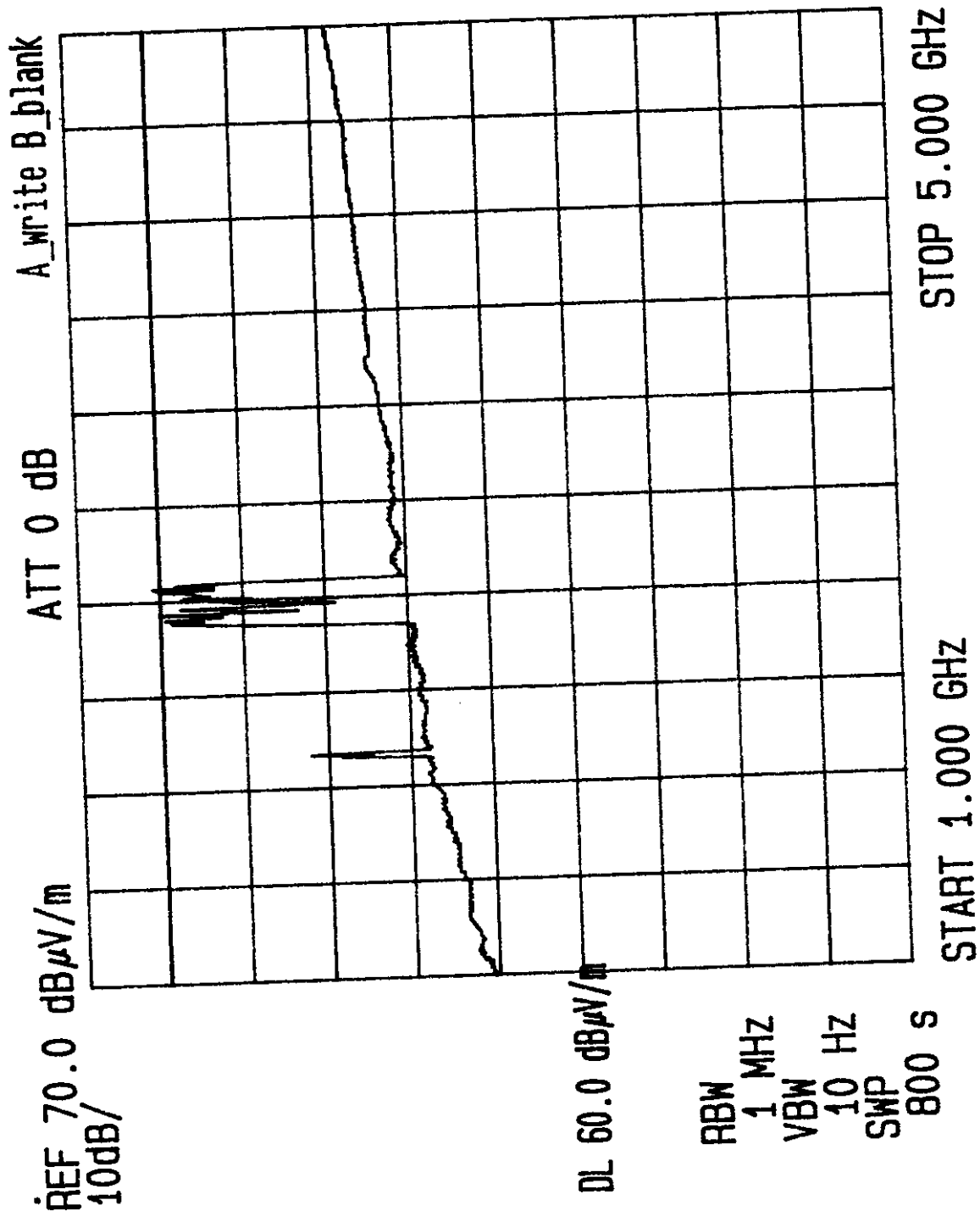


FIGURE 6.1-28