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

DECEMBER 1998

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

FCC CLASS B TEST REPORT

FOR THE

RECOTON CORPORATION

CLV200T REMOTE TRANSMITTER

S/N: 20

Prepared by: 12-21-98

Alex Belardinelli

Tested by: 12-21-98

Alex Belardinelli

Performed by:

RUBICOM SYSTEMS, INC.
284 West Drive, Suite B
Melbourne, Florida 32904

Performed for:

RECOTON CORPORATION
2950 Lake Emma Road
Lake Mary, FL 32746

RECEIVED: December 11, 1998

COMPLETED: December 15, 1998

TABLE OF CONTENTS

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.

Joseph G. Barbee 12/2/98

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 μV/M	3 Meter dBμV/M
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 3 Meter	3 Meter dBμV/m
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

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

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.

Qty.	Description	Manufacturer	Model No.	Last Cal.	Cal Cycle
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 dBμV
Antenna Factor	+16 Conversion Factor
Cable Loss	$\pm$2 Correction Factor
Result	+38 dBμV/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: AB

MEASURED (MHz)	ANTENNA POL.	MEASURED (dBμV/m) AVG.>1GHz Q.P. <1GHz	Q.P. LIMIT (dBμV/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 (dBμV/m) PEAK	Q.P. LIMIT (dBμV/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

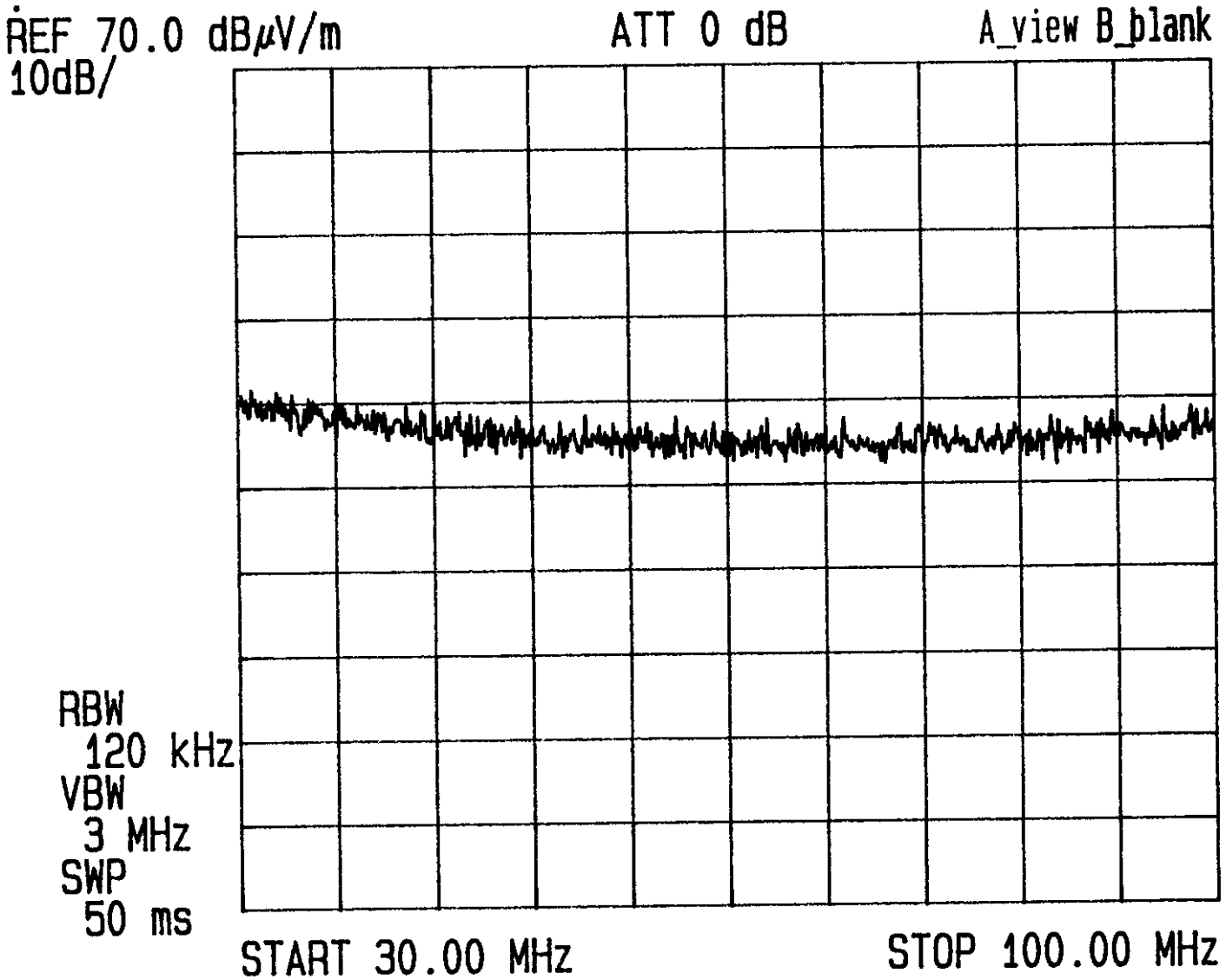

FIGURE 6.1-1

JA-1620-1

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:

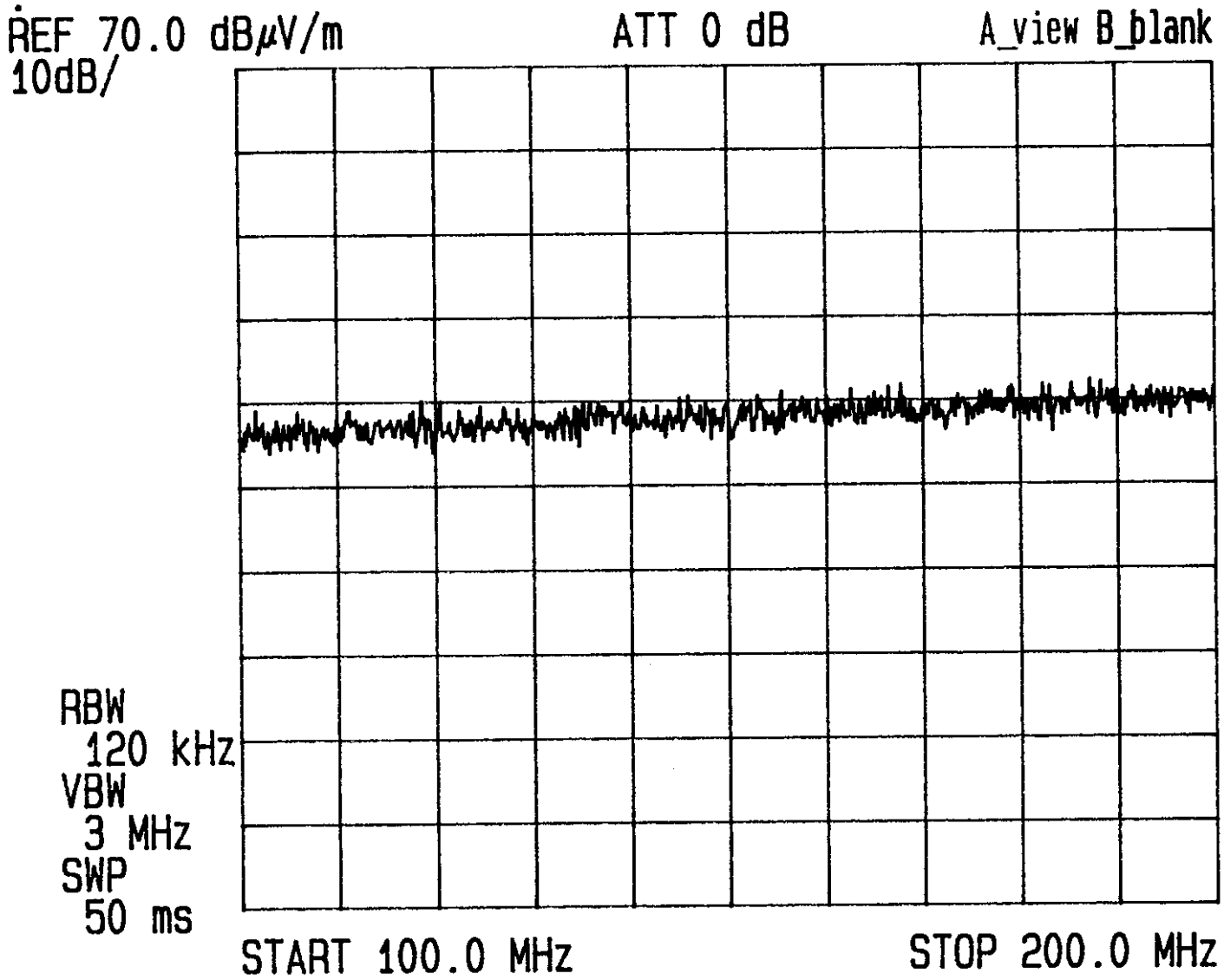

FIGURE 6.1-2

JA-1620-1

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:

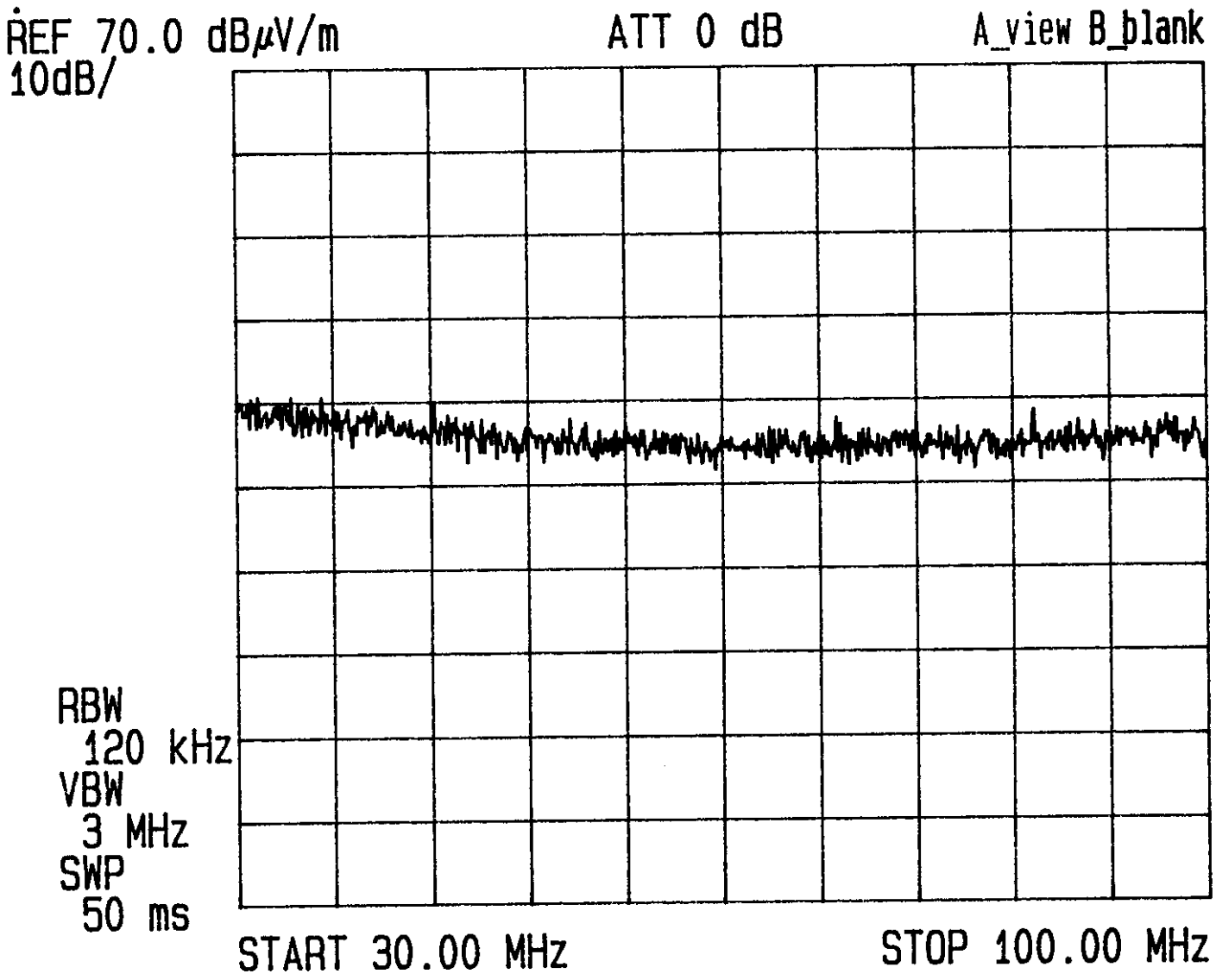

FIGURE 6.1-3

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:

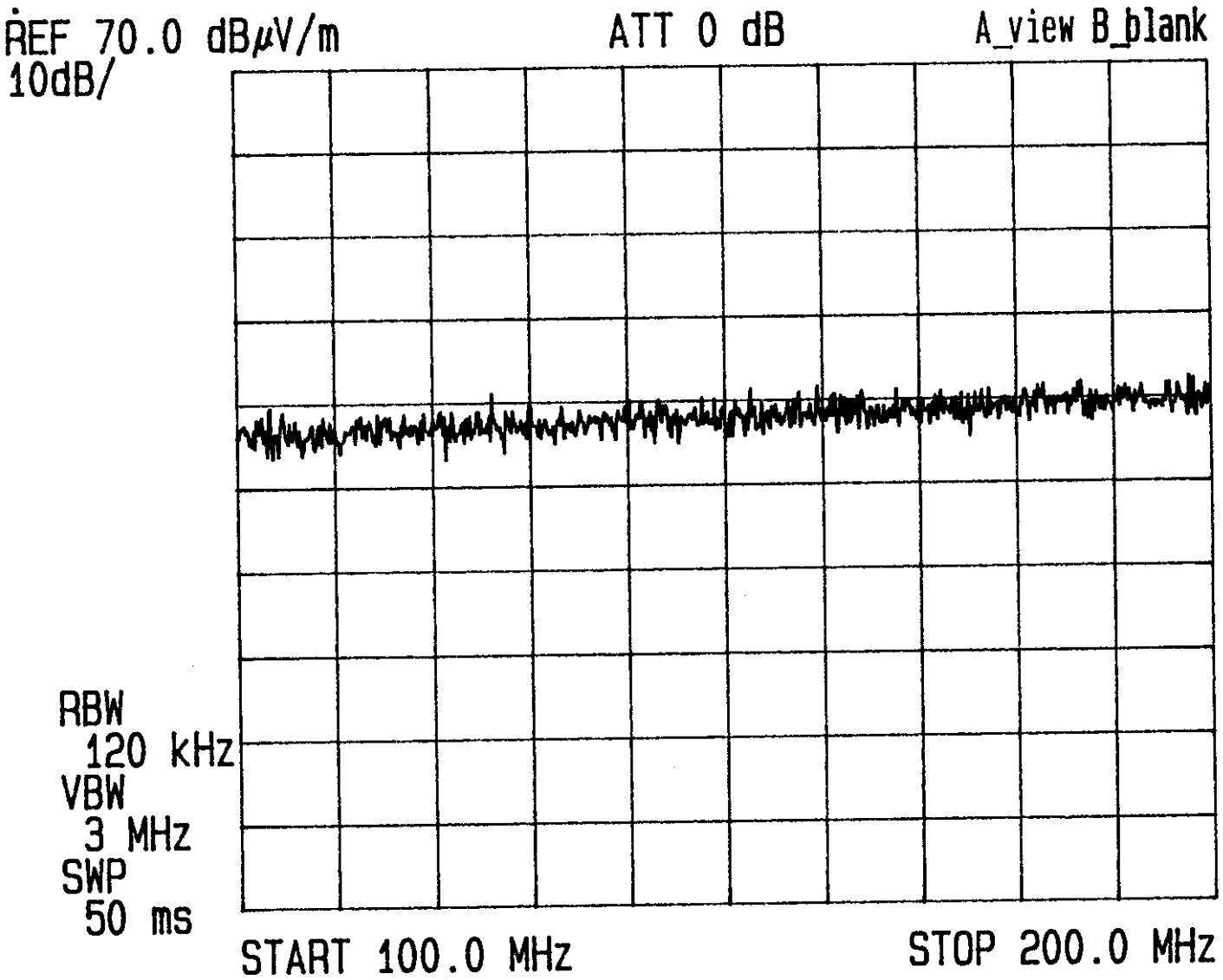

FIGURE 6.1-4

TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 200M-1GHz	SPEC: FCC CLASS B	ANT.HT/POL: 1M/ H
DETECTIOR: PEAK	LINE UNDER TEST: N/A	EUT POSITION: FRONT
DATE: 12-14-98	TEST SITE: ROOM 1	TESTER:

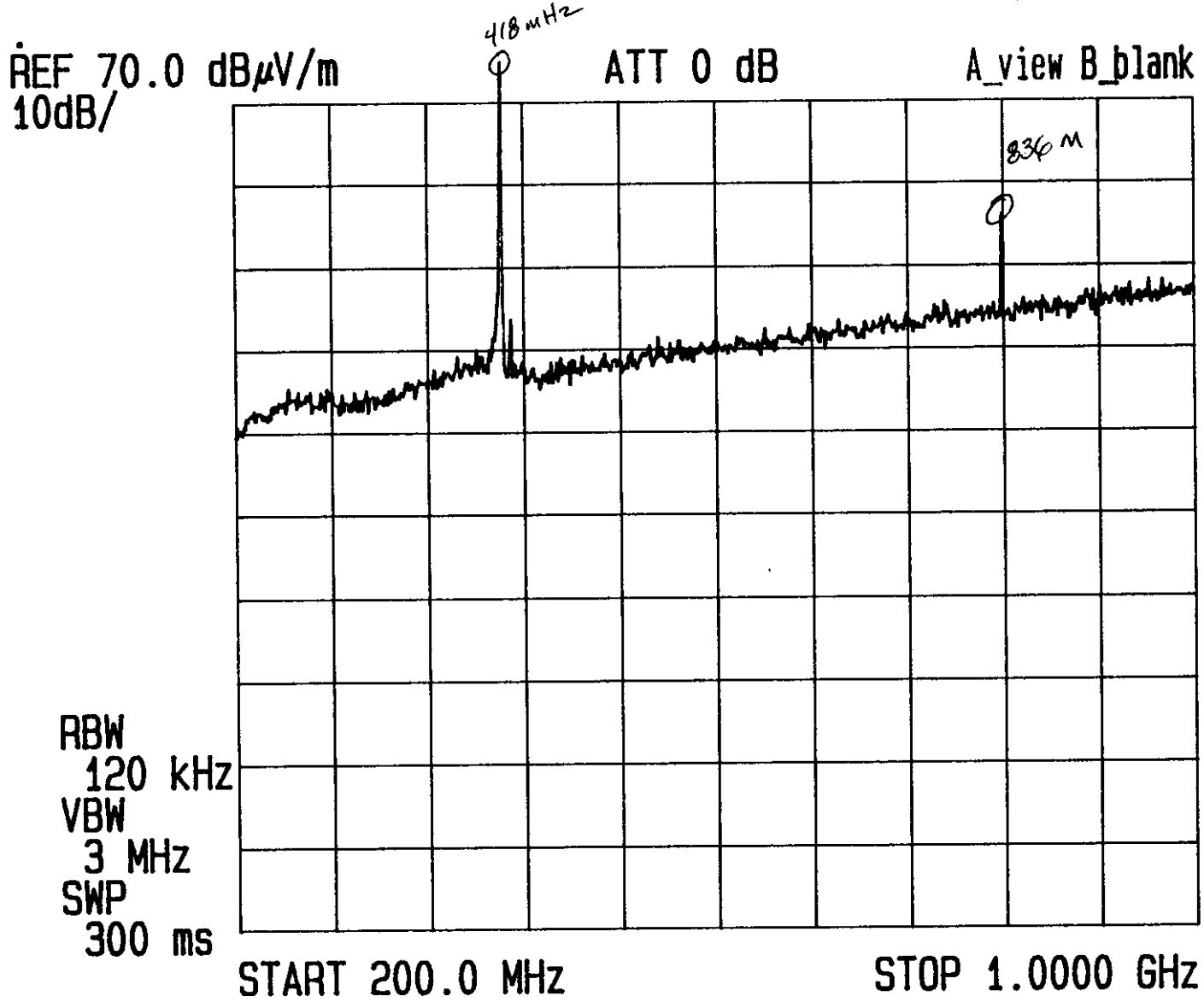

FIGURE 6.1-5

TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 200M-1GHz	SPEC: FCC CLASS B	ANT.HT/POL: 1M/ V
DETECTION: PEAK	LINE UNDER TEST: N/A	EUT POSITION: FRONT
DATE: 12-14-98	TEST SITE: ROOM 1	TESTER:

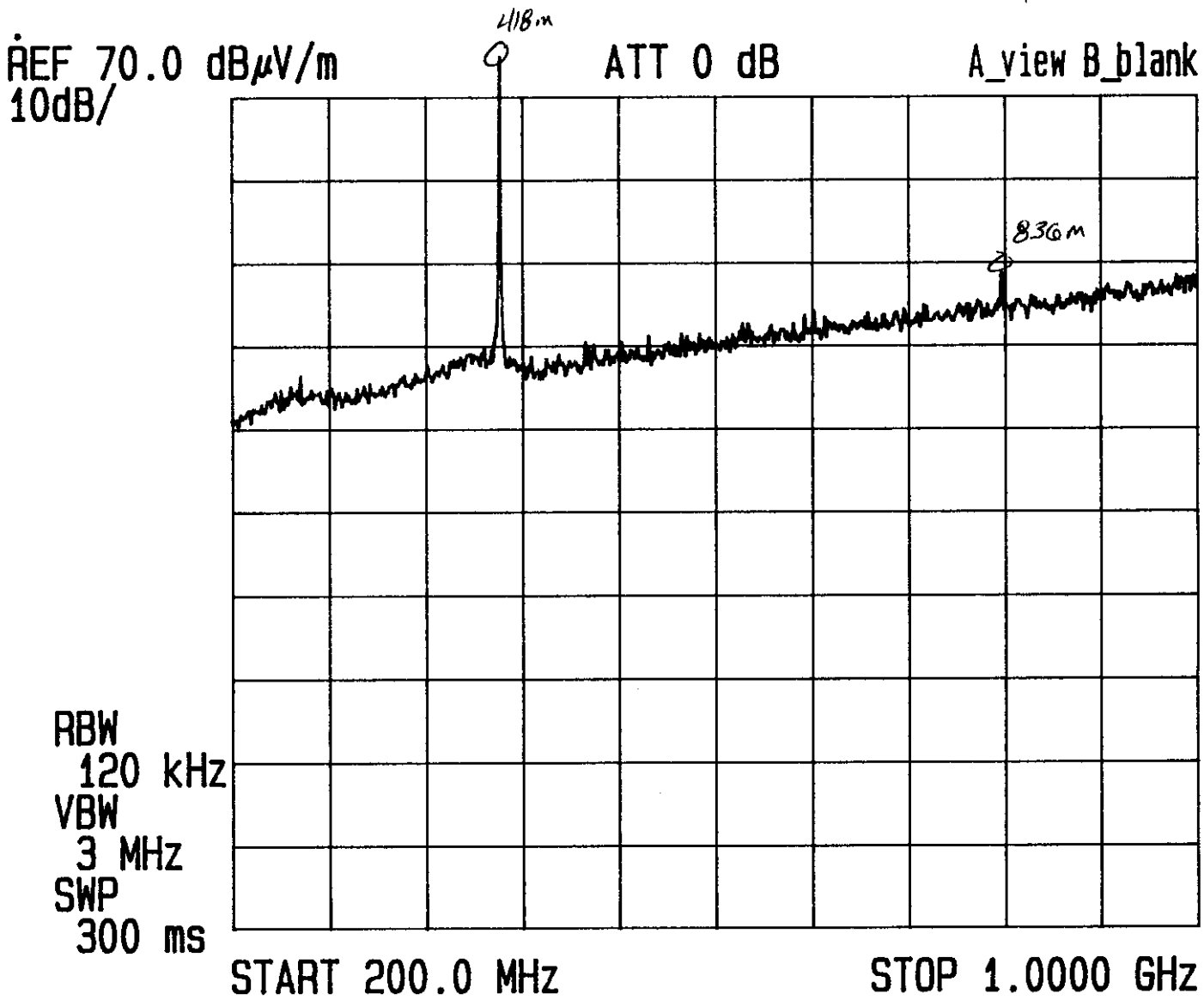

FIGURE 6.1-6

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:

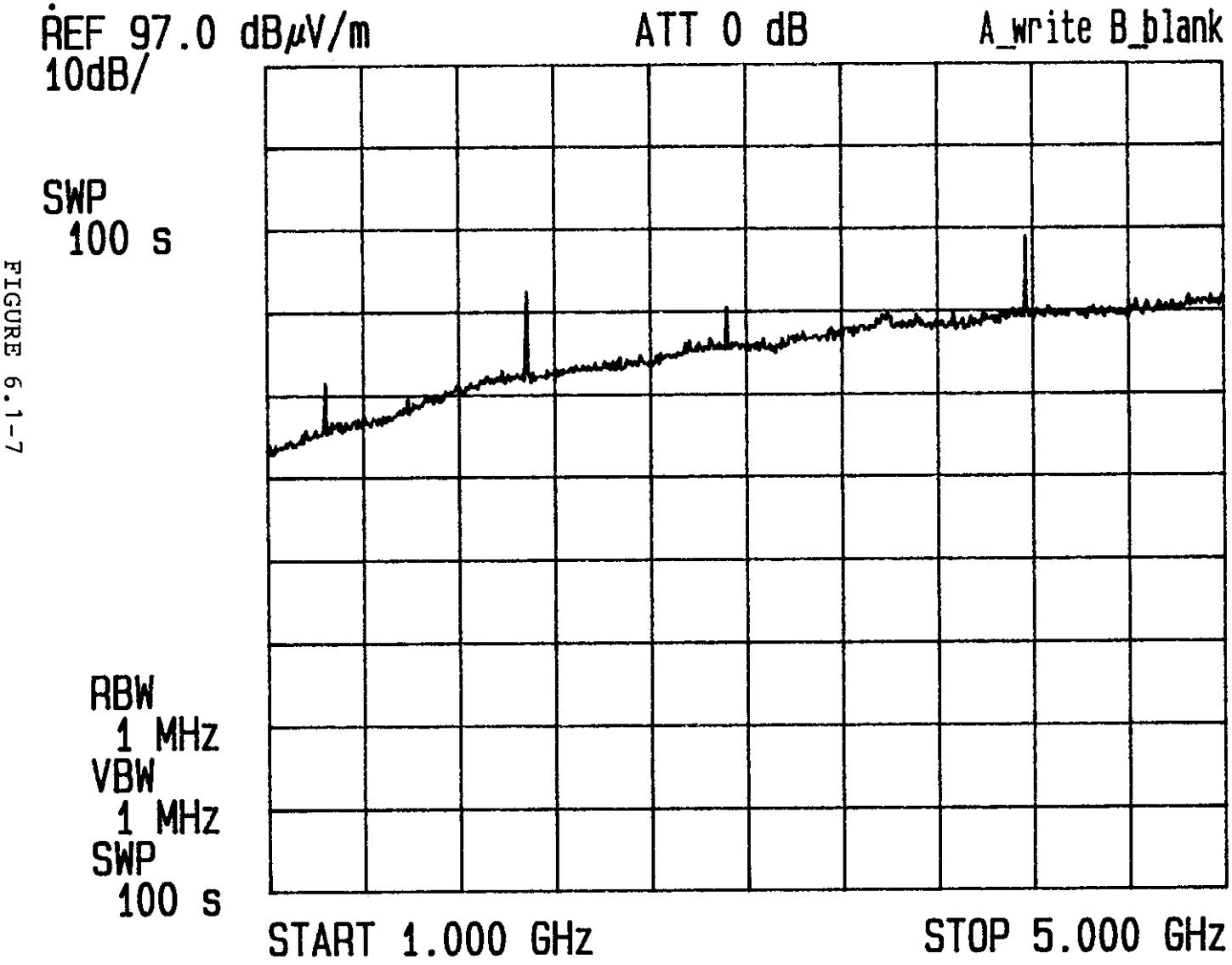

FIGURE 6.1-7

JA-1620-1

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

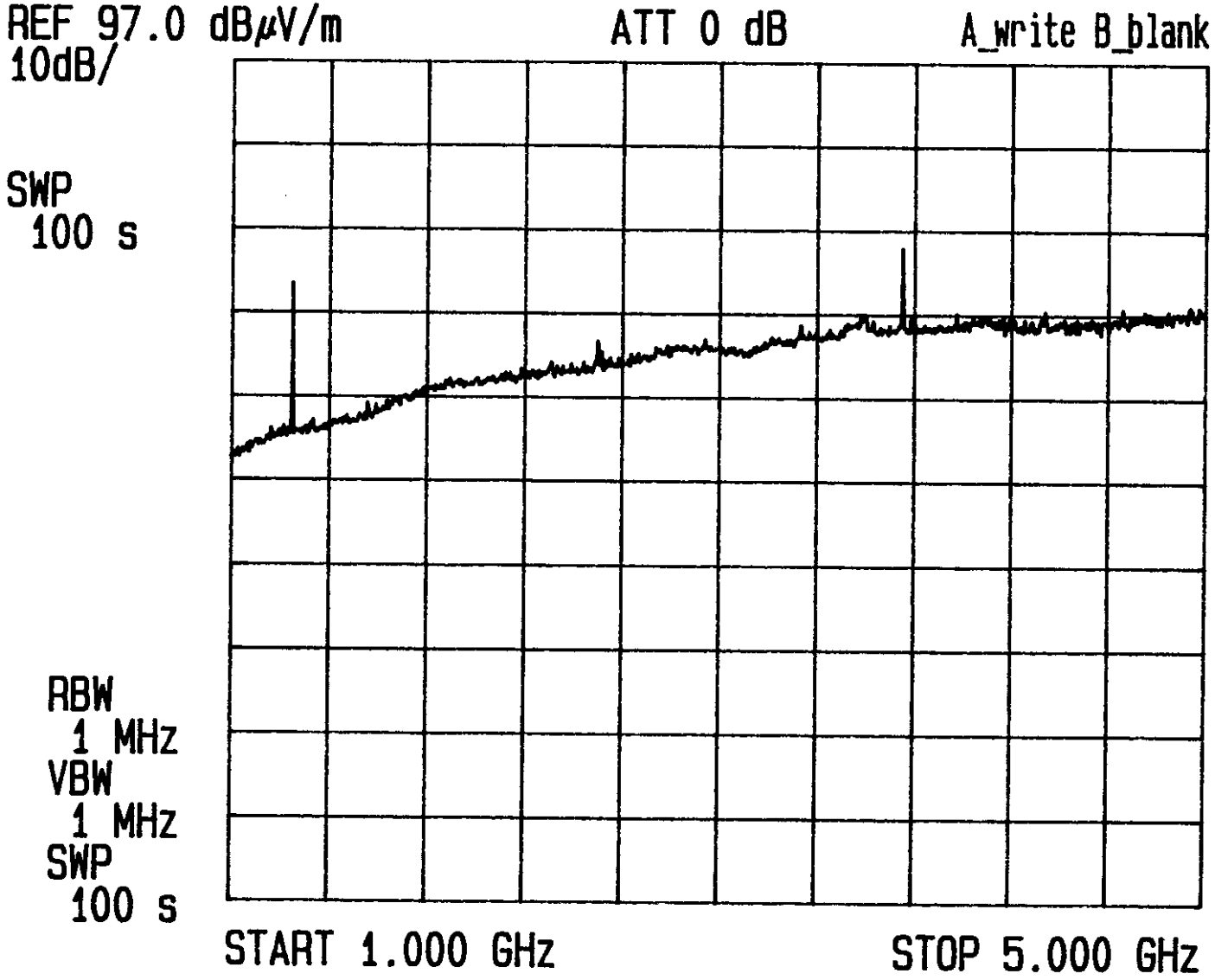

FIGURE 6.1-8

JA-1620-1

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:

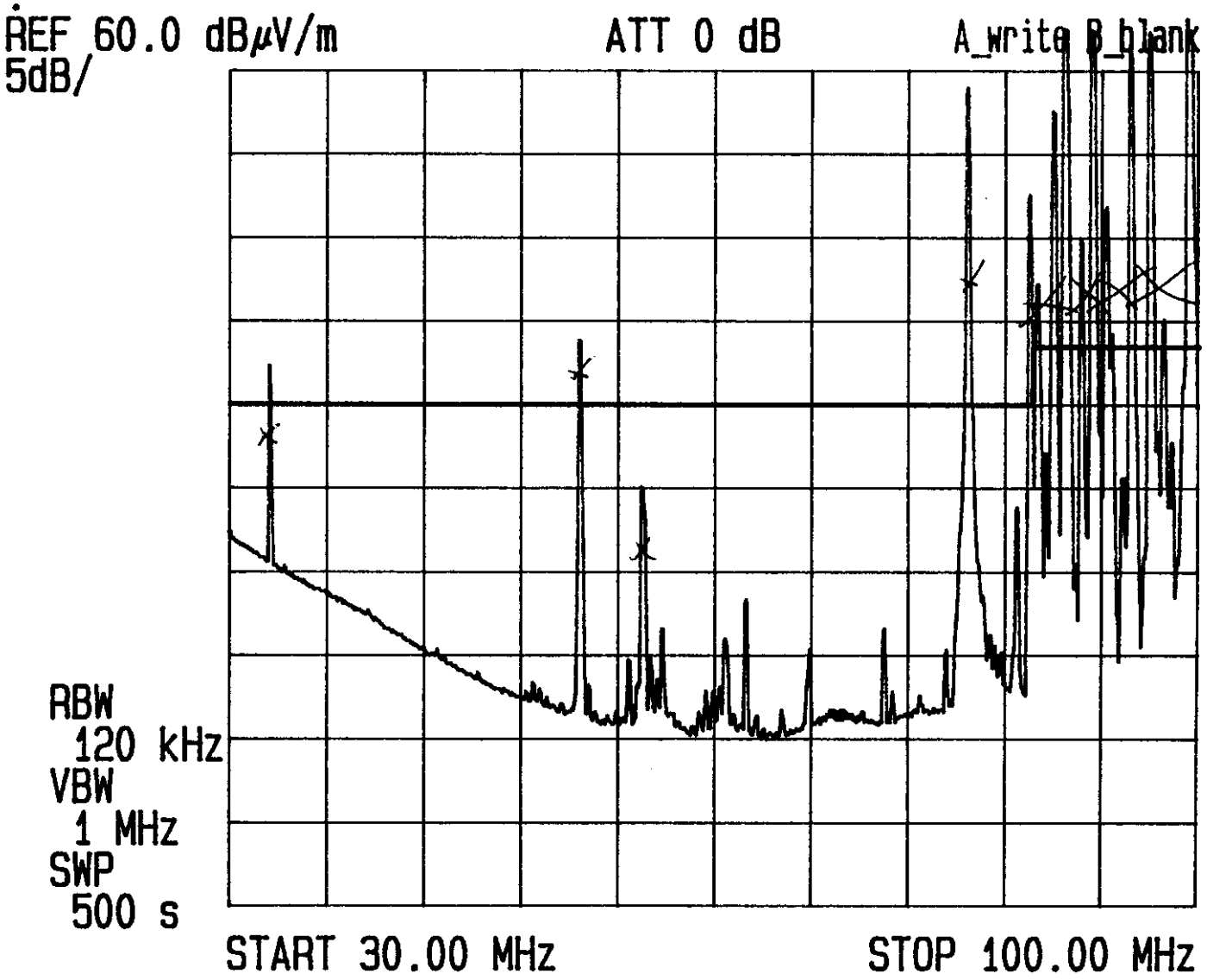

FIGURE 6.1-9

JA-1620-1

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

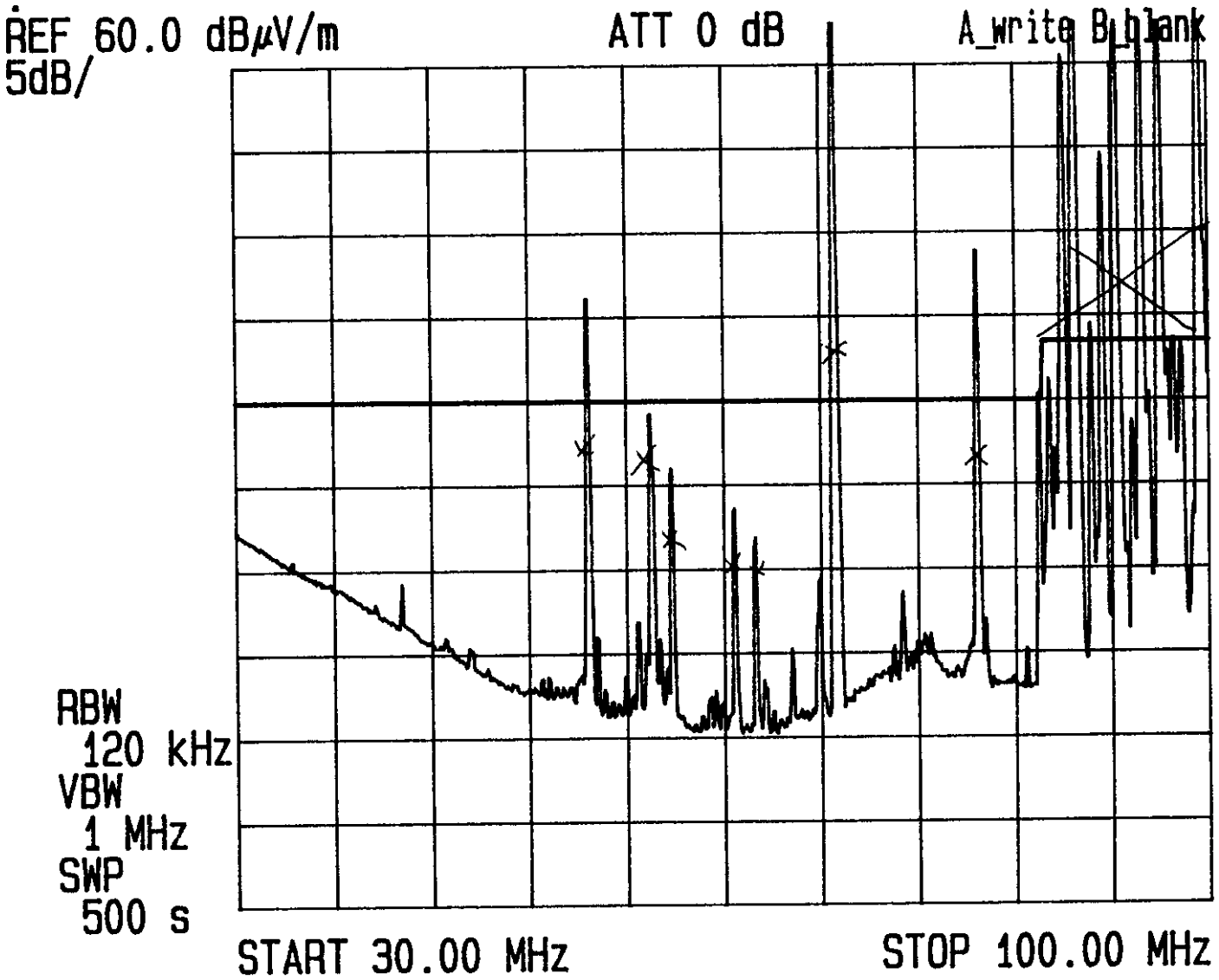

FIGURE 6.1-10

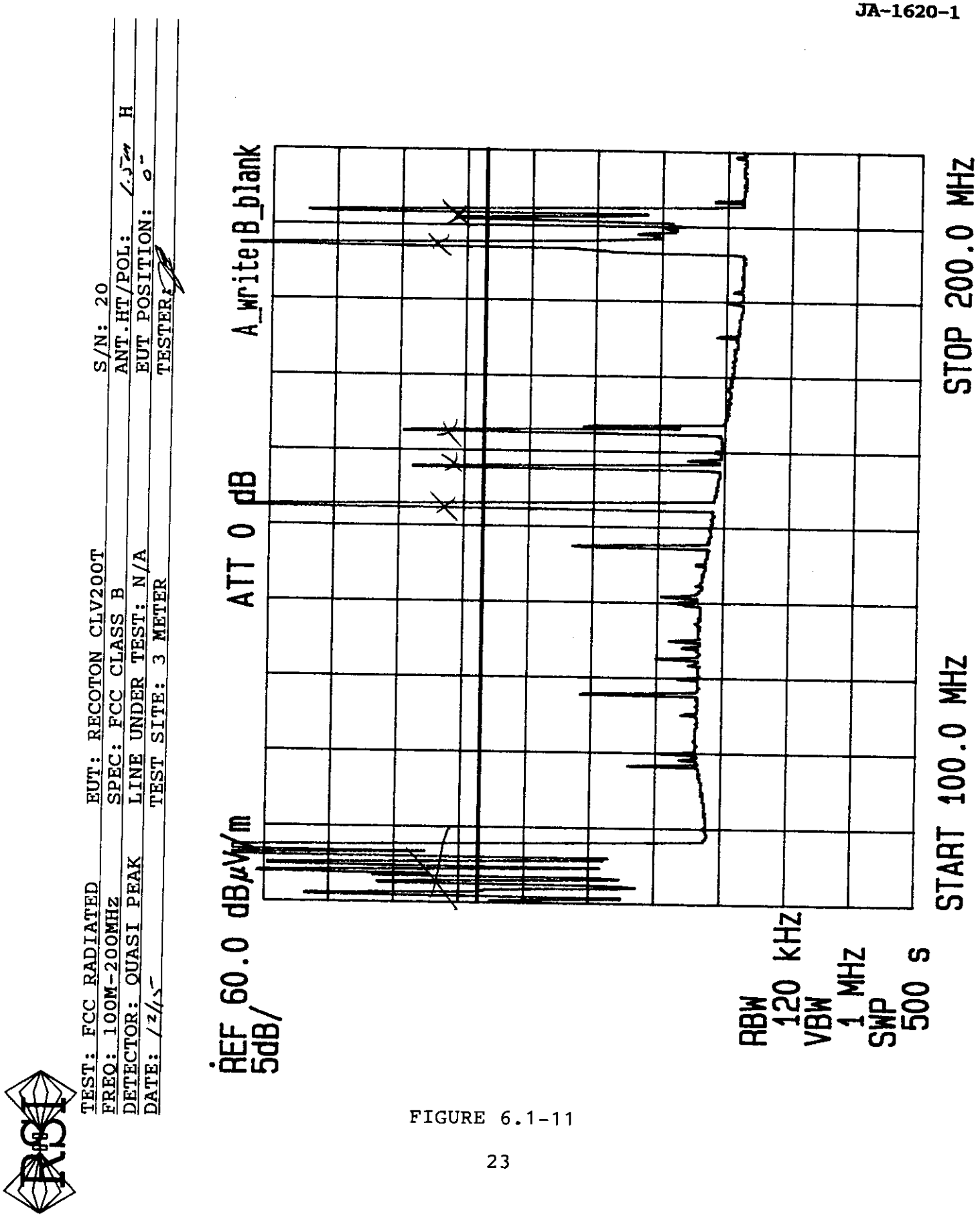
TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
FREQ: 100M-200MHz SPEC: FCC CLASS B ANT.HT/POL: 1.5m H
DETECTOR: QUASI PEAK LINE UNDER TEST: N/A EUT POSITION: 0°
DATE: 12/15 TEST SITE: 3 METER TESTER:
REF 60.0 dBµV/m
5dB/
ATT 0 dB
A_write|B_blank
RBW 120 kHz
VBW 1 MHz
SWP 500 s
START 100.0 MHz
STOP 200.0 MHz

FIGURE 6.1-11

TEST: FCC RADIATED EUT: RECOTON CLV200T S/N: 20
FREQ: 100M-200MHz SPEC: FCC CLASS B ANT.HT/POL: 1.25 V
DETECTOR: QUASI PEAK LINE UNDER TEST: N/A EUT POSITION: 0°
DATE: 12/5-/98 TEST SITE: 3 METER TESTER:

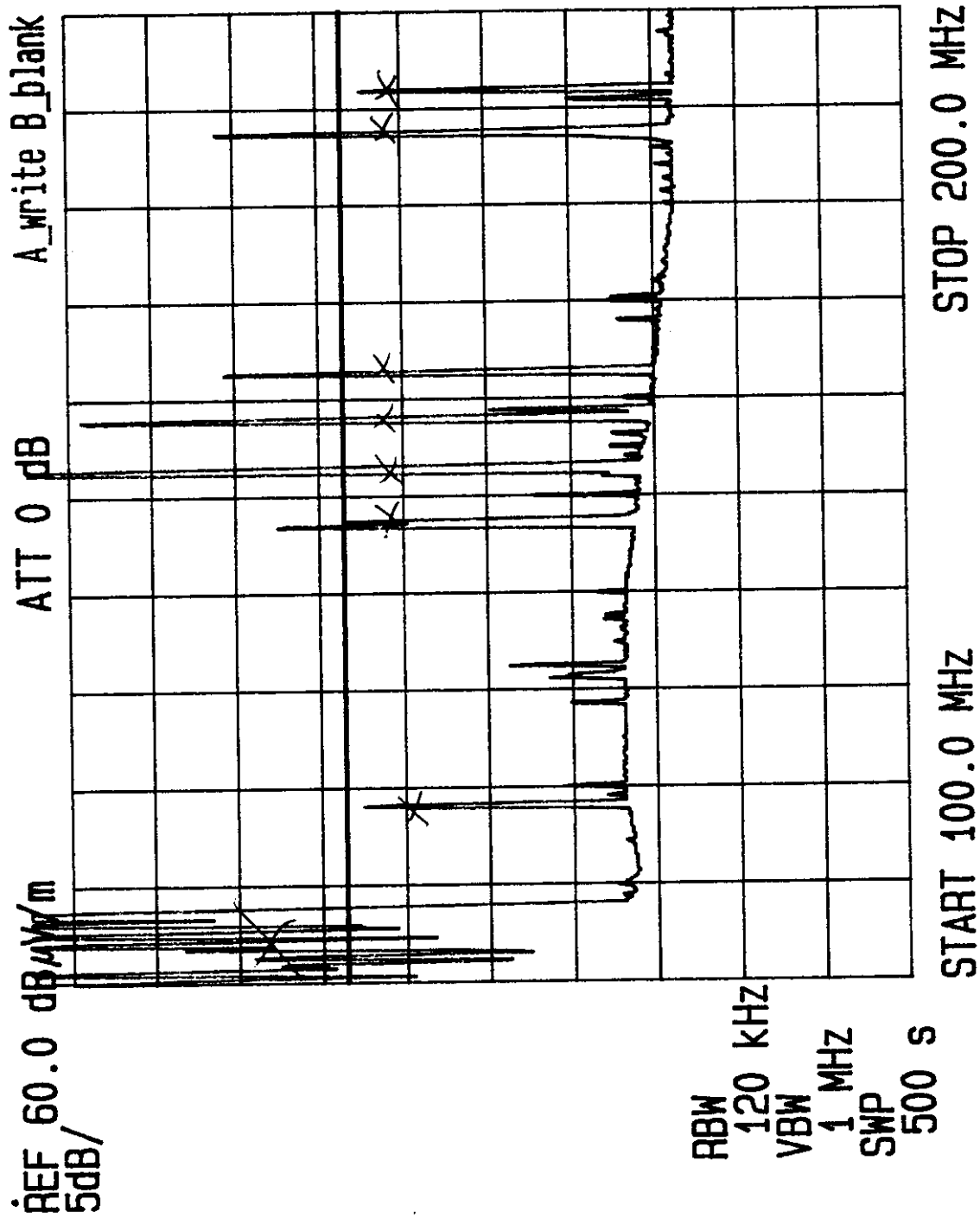

FIGURE 6.1-12

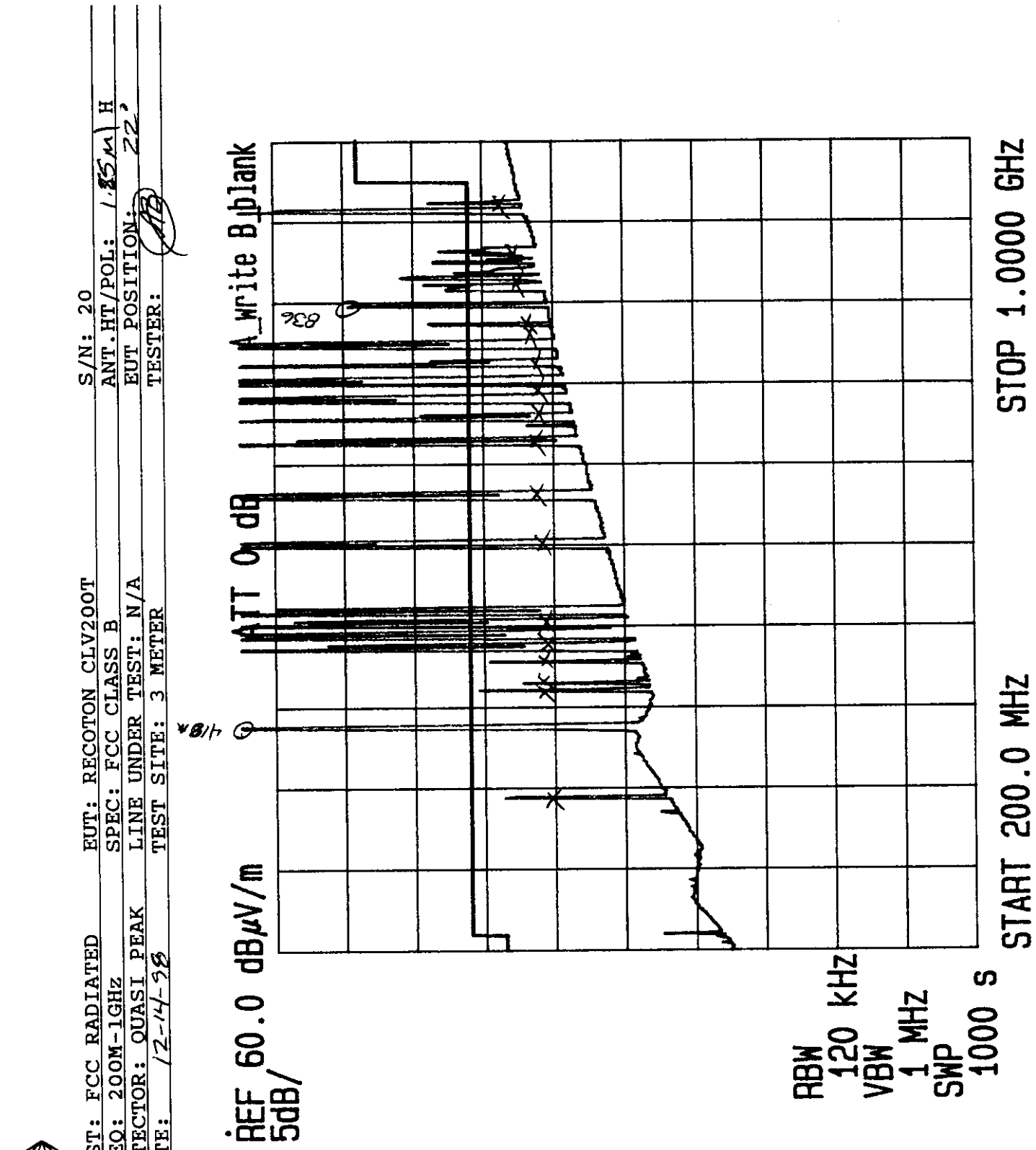
TEST: FCC RADIATED
EUT: RECOTON CLV200T
S/N: 20
FREQ: 200M-1GHz
SPEC: FCC CLASS B
ANT.HT/POL: 1.85m / H
DETECTOR: QUASI PEAK
LINE UNDER TEST: N/A
EUT POSITION: 22°
DATE: 12-14-98
TEST SITE: 3 METER
TESTER:
REF 60.0 dBµV/m
5dB/
ATT 0 dB
A_write B_blank
RBW 120 kHz
VBW 1 MHz
SWP 1000 s
START 200.0 MHz
STOP 1.0000 GHz

FIGURE 6.1-13

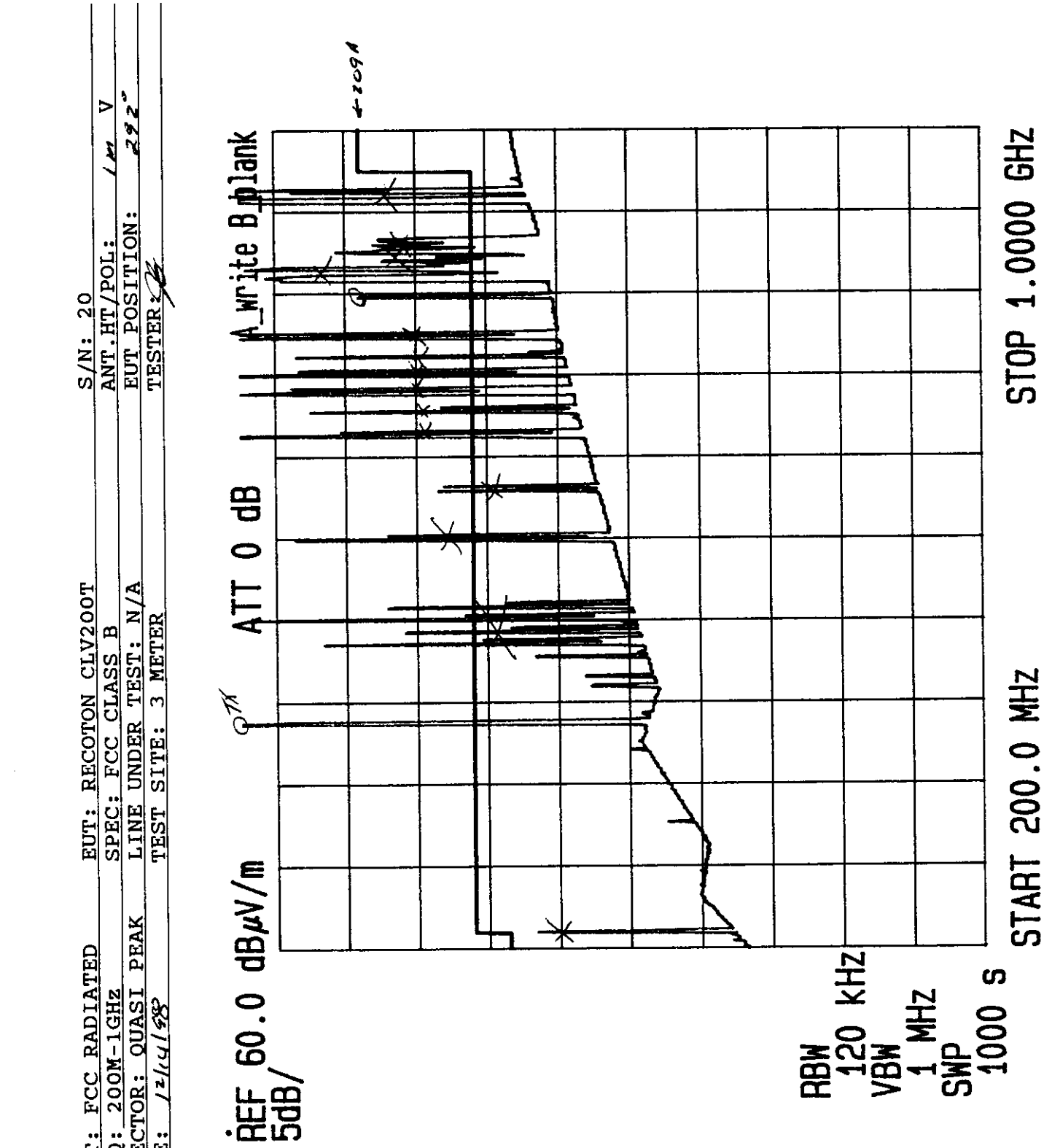
TEST: FCC RADIATED
EUT: RECOTON CLV200T
S/N: 20
FREQ: 200M-1GHz
SPEC: FCC CLASS B
ANT.HT/POL: 1m V
DETECTOR: QUASI PEAK
LINE UNDER TEST: N/A
EUT POSITION: 282°
DATE: 12/14/98
TEST SITE: 3 METER
TESTER:
REF 60.0 dBµV/m
5dB/
ATT 0 dB
A_write B_blank
START 200.0 MHz
STOP 1.0000 GHz
RBW 120 kHz
VBW 1 MHz
SWP 1000 s

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:

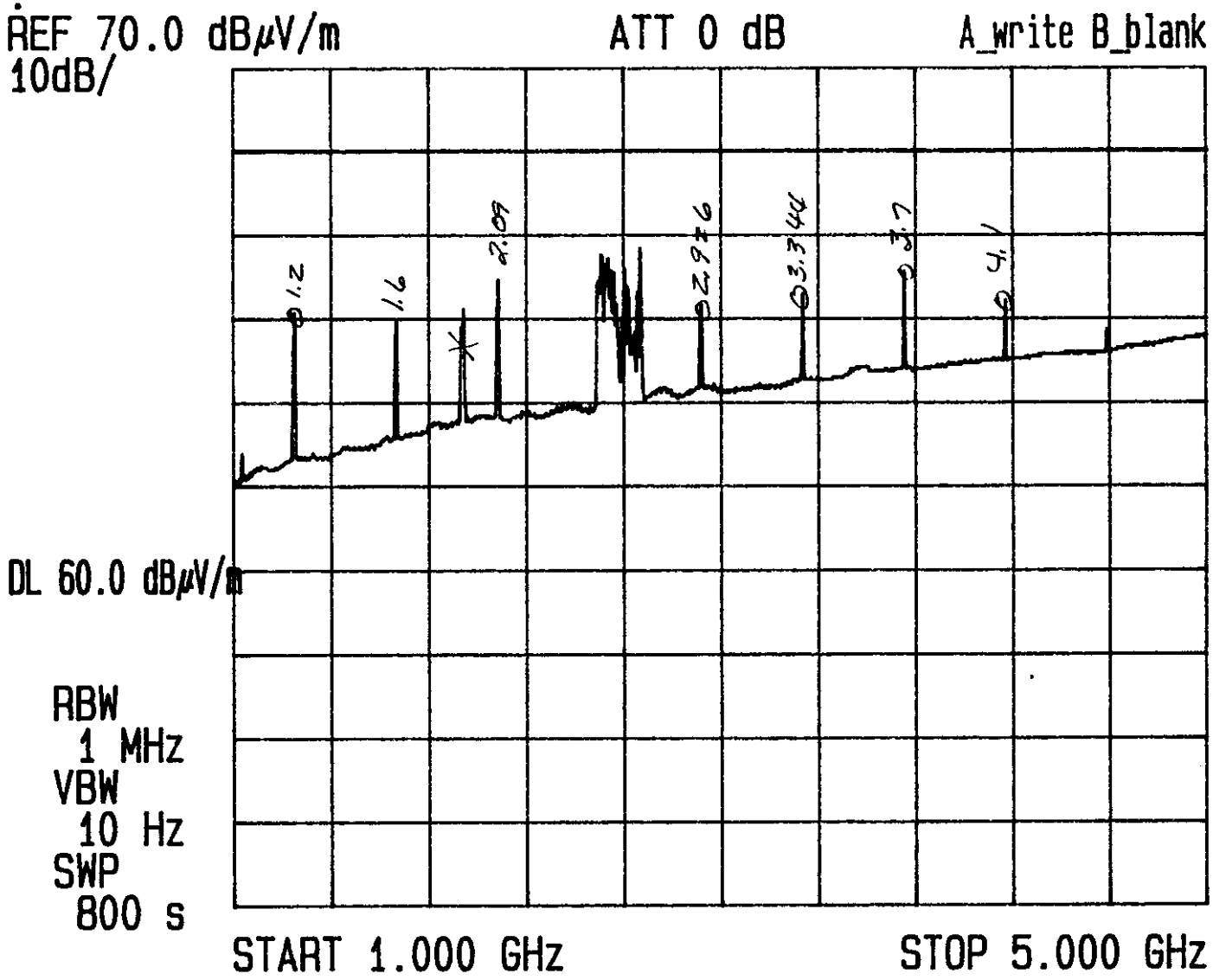

FIGURE 6.1-15

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

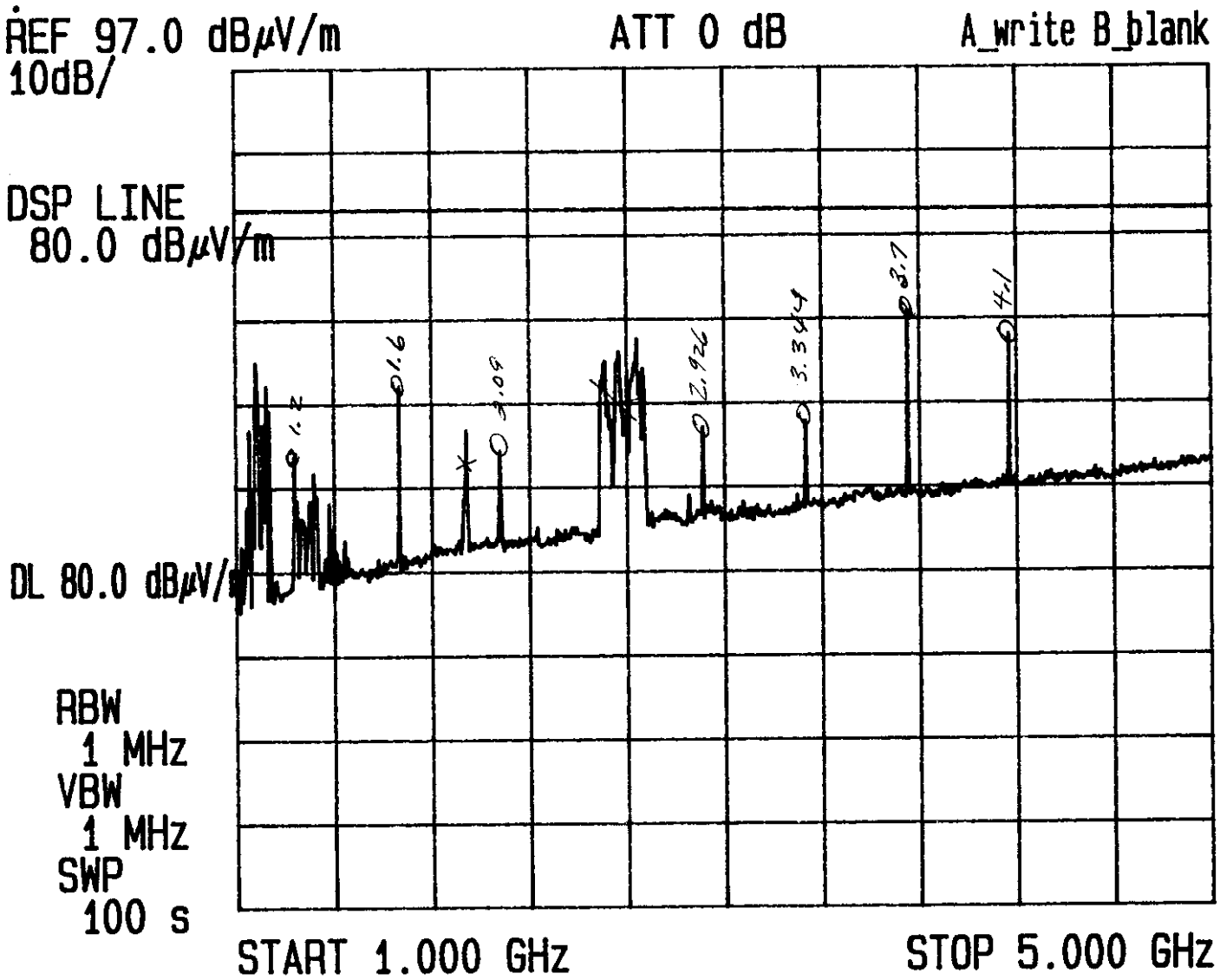

FIGURE 6.1-16

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: 180°
DATE: 12/16-98	TEST SITE: 3 METER	TESTER:

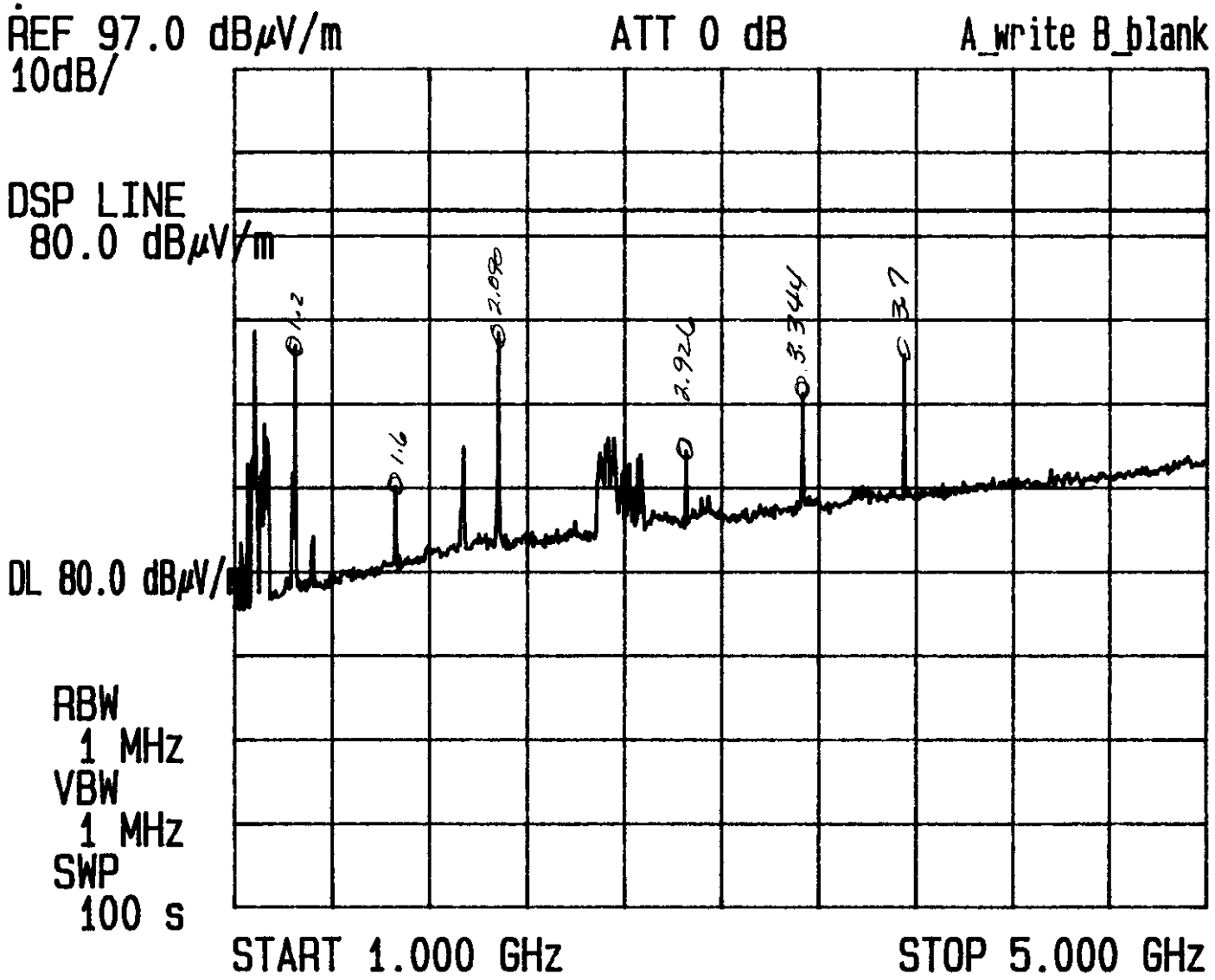

FIGURE 6.1-17

JA-1620-1

TEST: FCC RADIATED	EUT: RECOTON CLV200T	S/N: 20
FREQ: 1G-5GHz	SPEC: PARAGRAPH 15.231	ANT.HT/POL: 1/4 V
DETECT: AVERAGE	LINE UNDER TEST: N/A	EUT POSITION: 180°
DATE: 12/16/98	TEST SITE: 3 METER	TESTER:

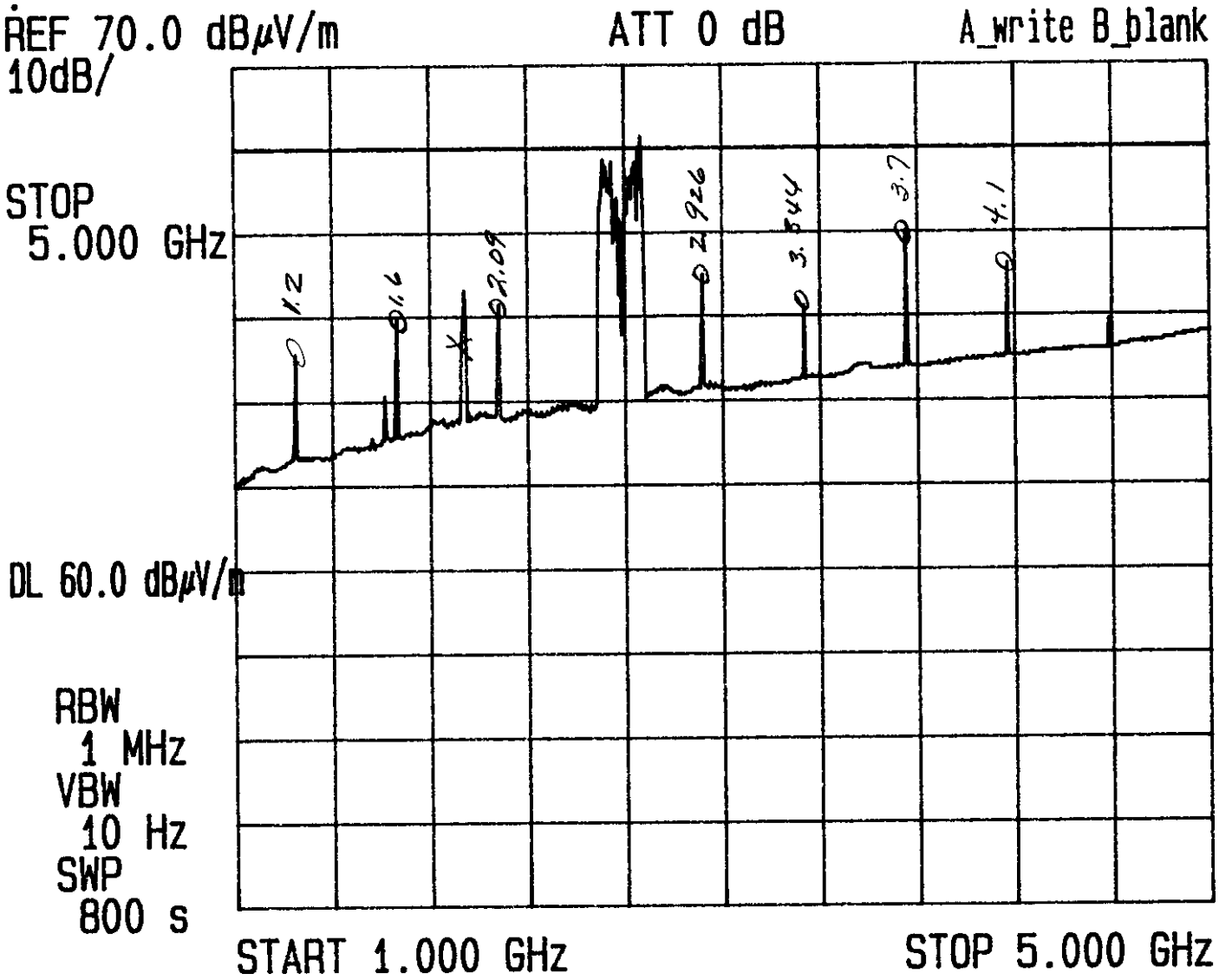

FIGURE 6.1-18

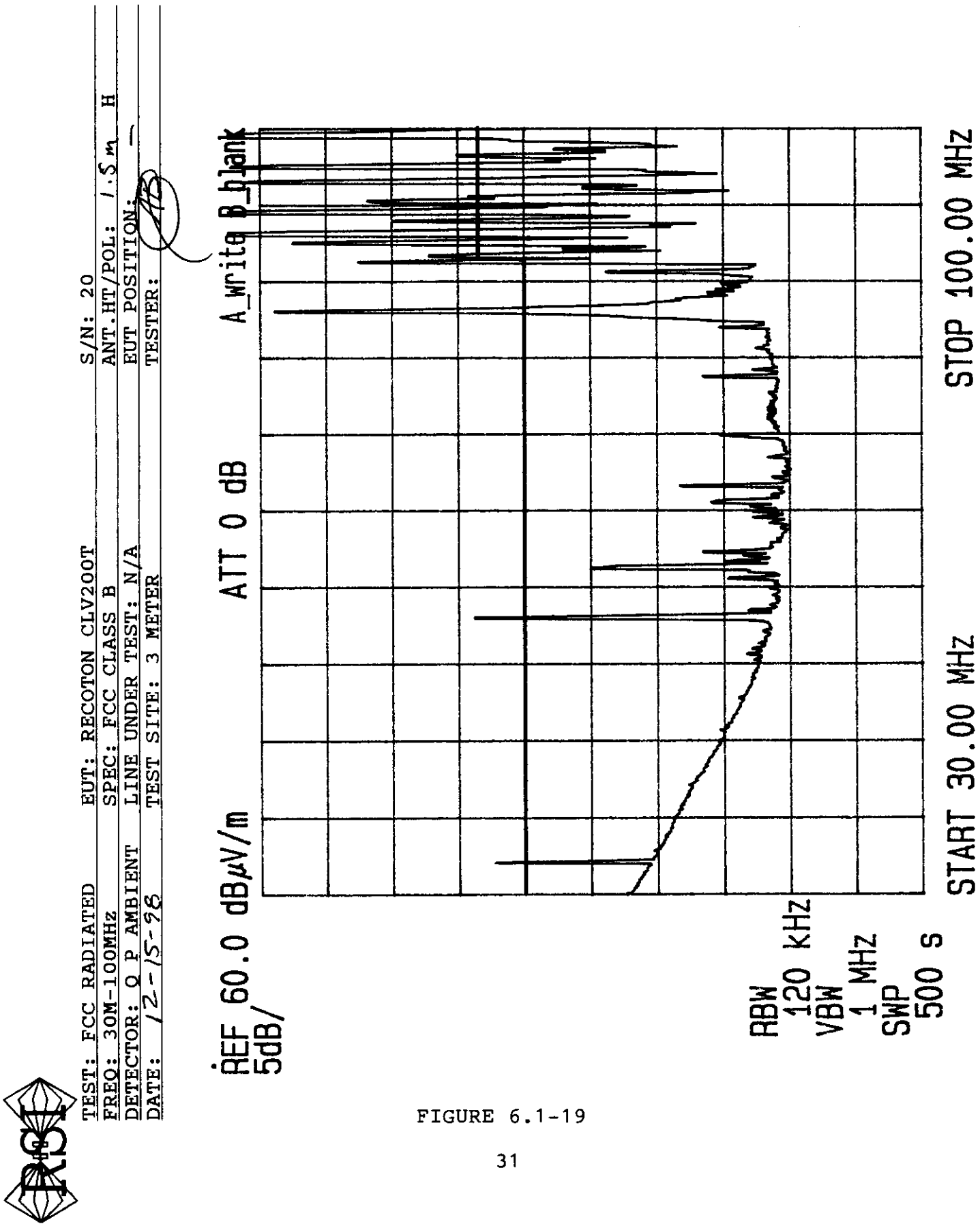
TEST: FCC RADIATED
EUT: RECOTON CLV200T
S/N: 20
FREQ: 30M-100MHz
SPEC: FCC CLASS B
ANT.HT/POL: 1.5m H
DETECTOR: Q P AMBIENT
LINE UNDER TEST: N/A
EUT POSITION:
DATE: 12-15-98
TEST SITE: 3 METER
TESTER:
REF 60.0 dBµV/m
5dB/
ATT 0 dB
A_write B_blank
RBW 120 kHz
VBW 1 MHz
SWP 500 s
START 30.00 MHz
STOP 100.00 MHz

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:

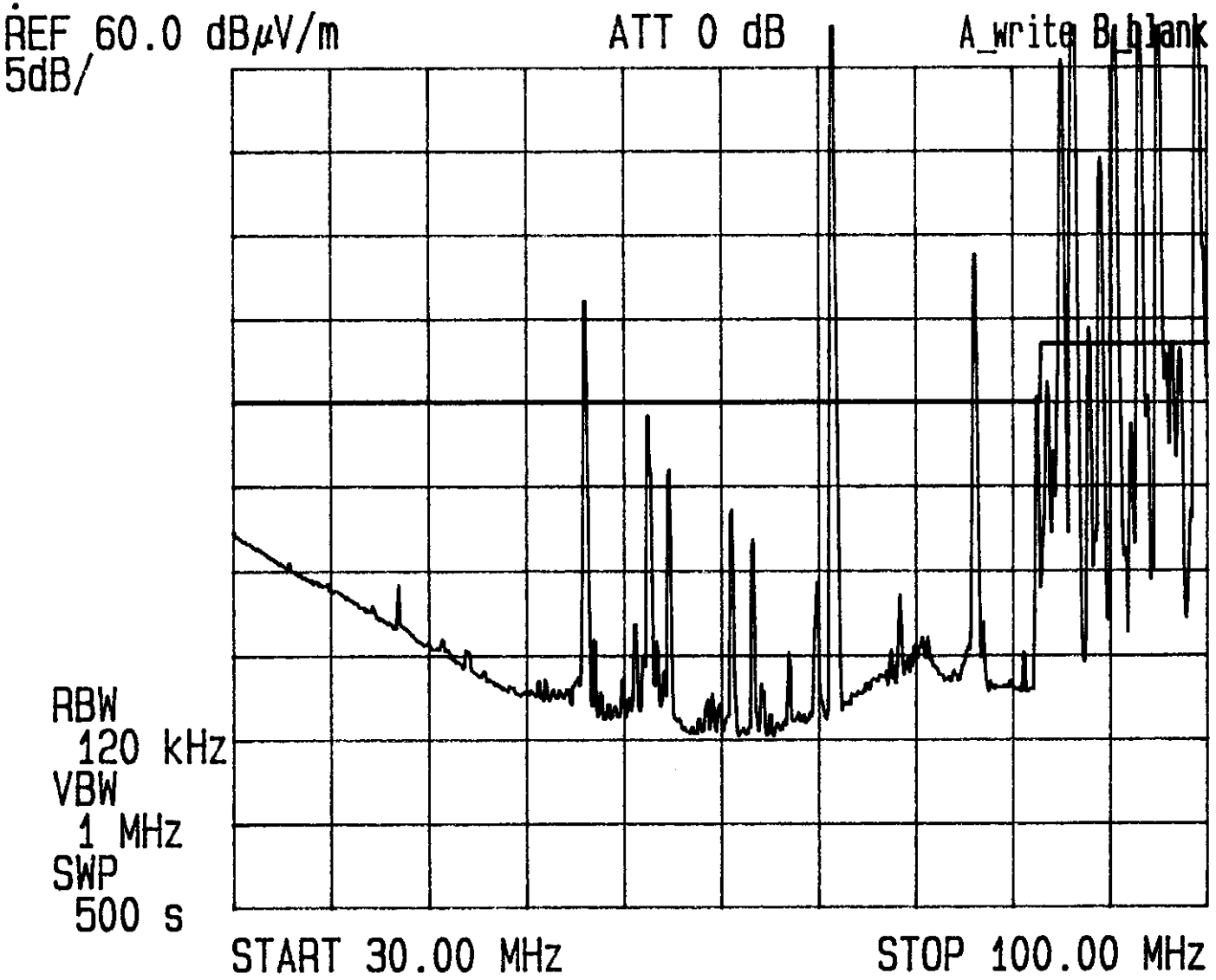

FIGURE 6.1-20

JA-1620-1

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

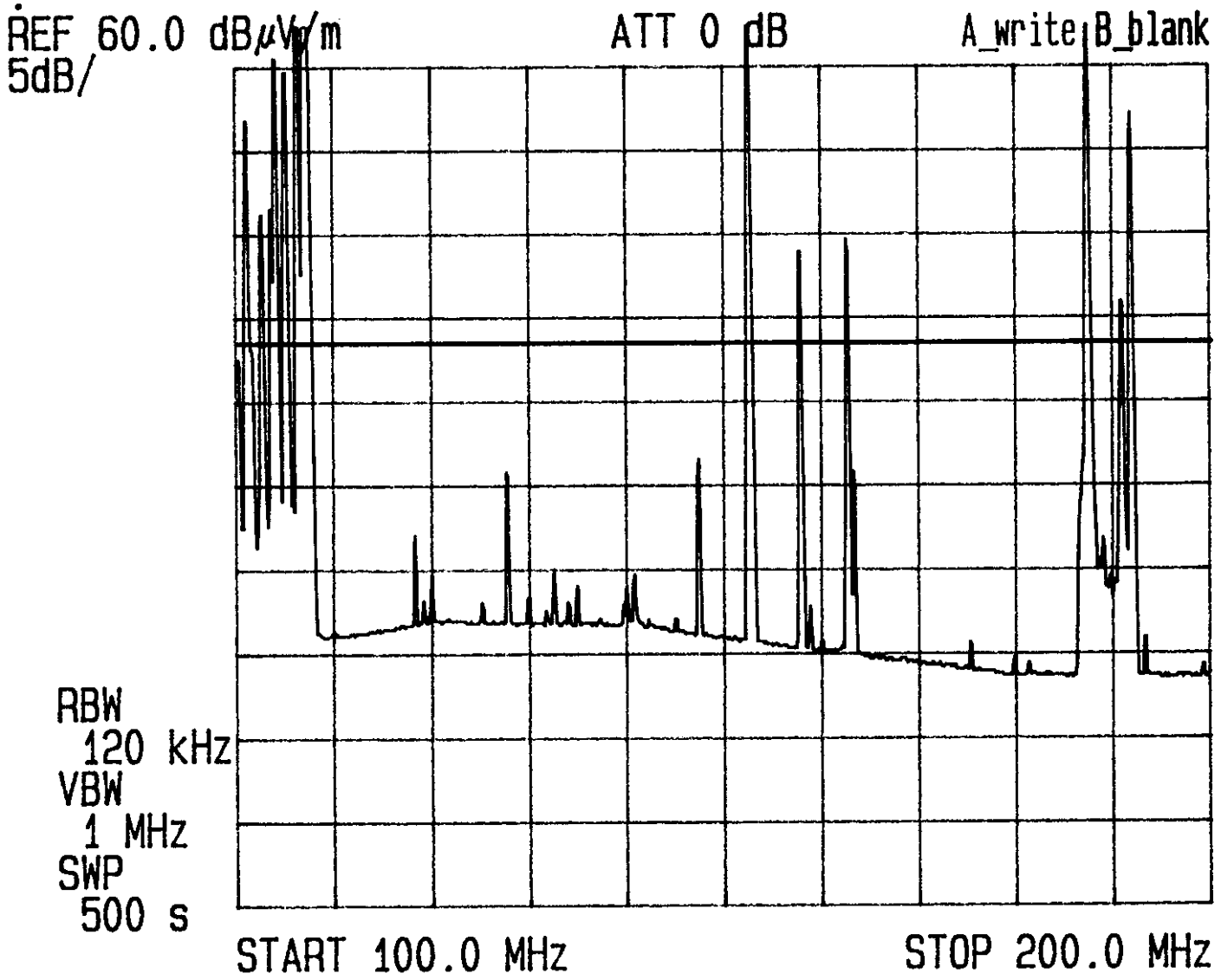

FIGURE 6.1-21

JA-1620-1

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:

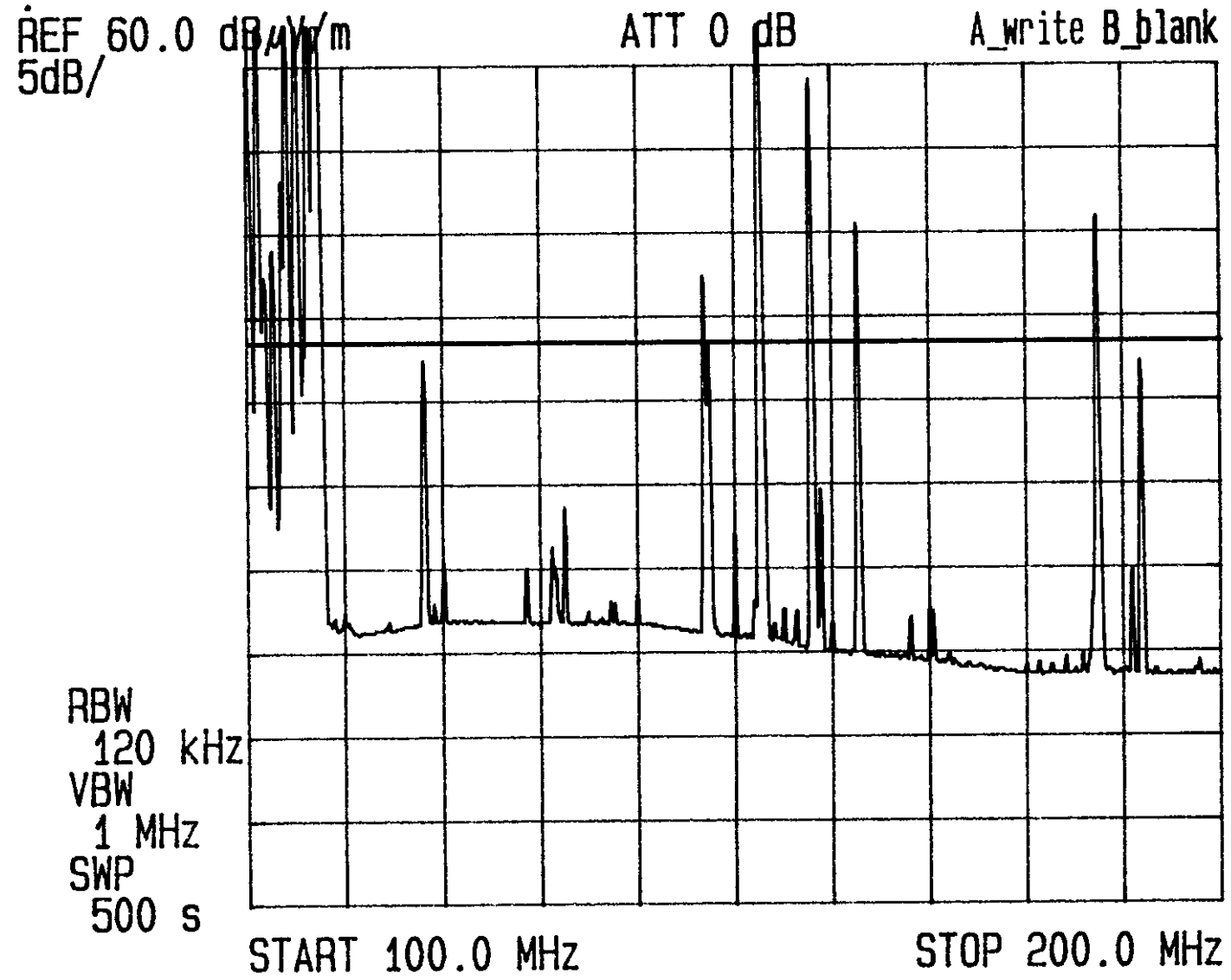

FIGURE 6.1-22

JA-1620-1

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:

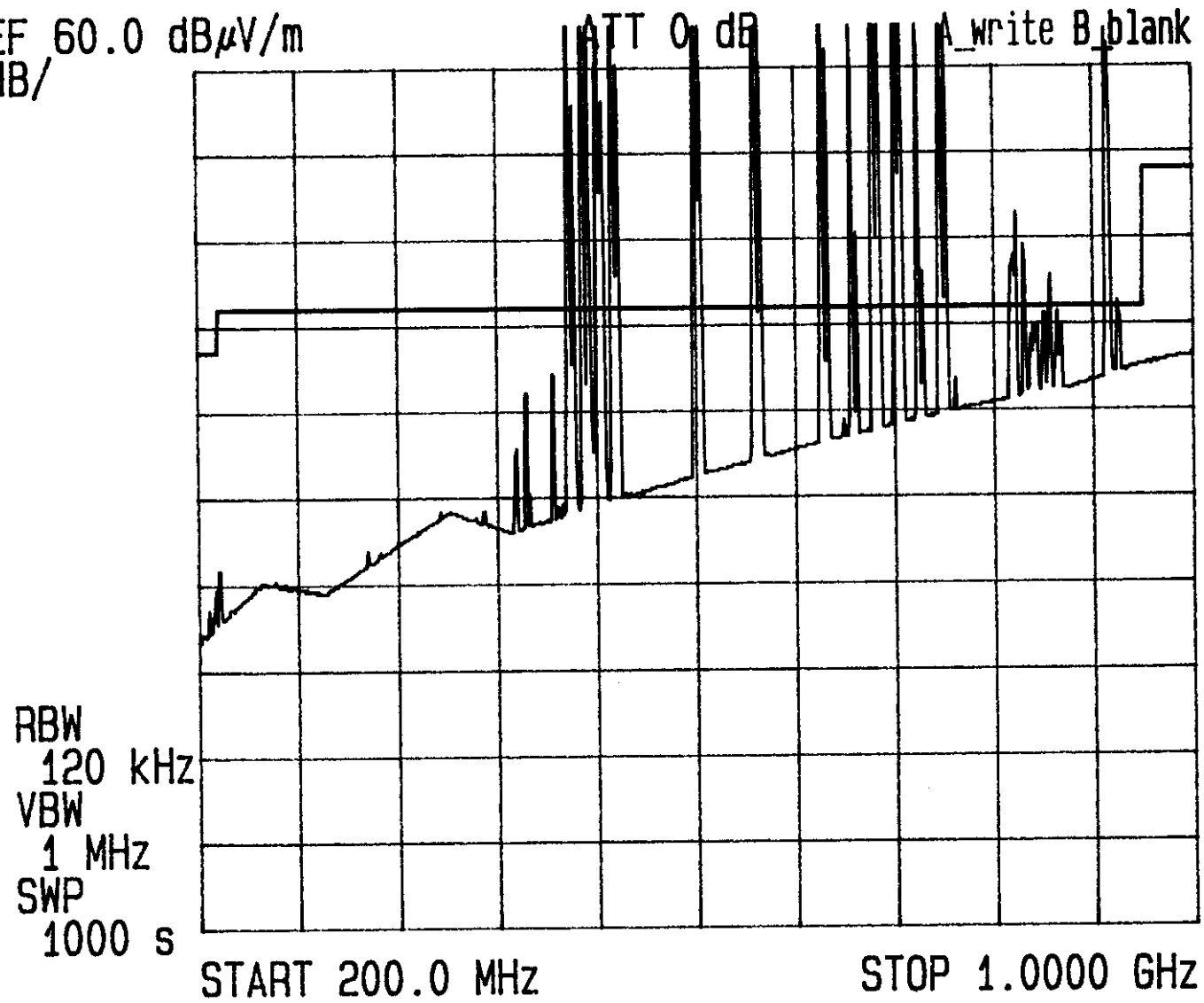

FIGURE 6.1-23

JA-1620-1

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

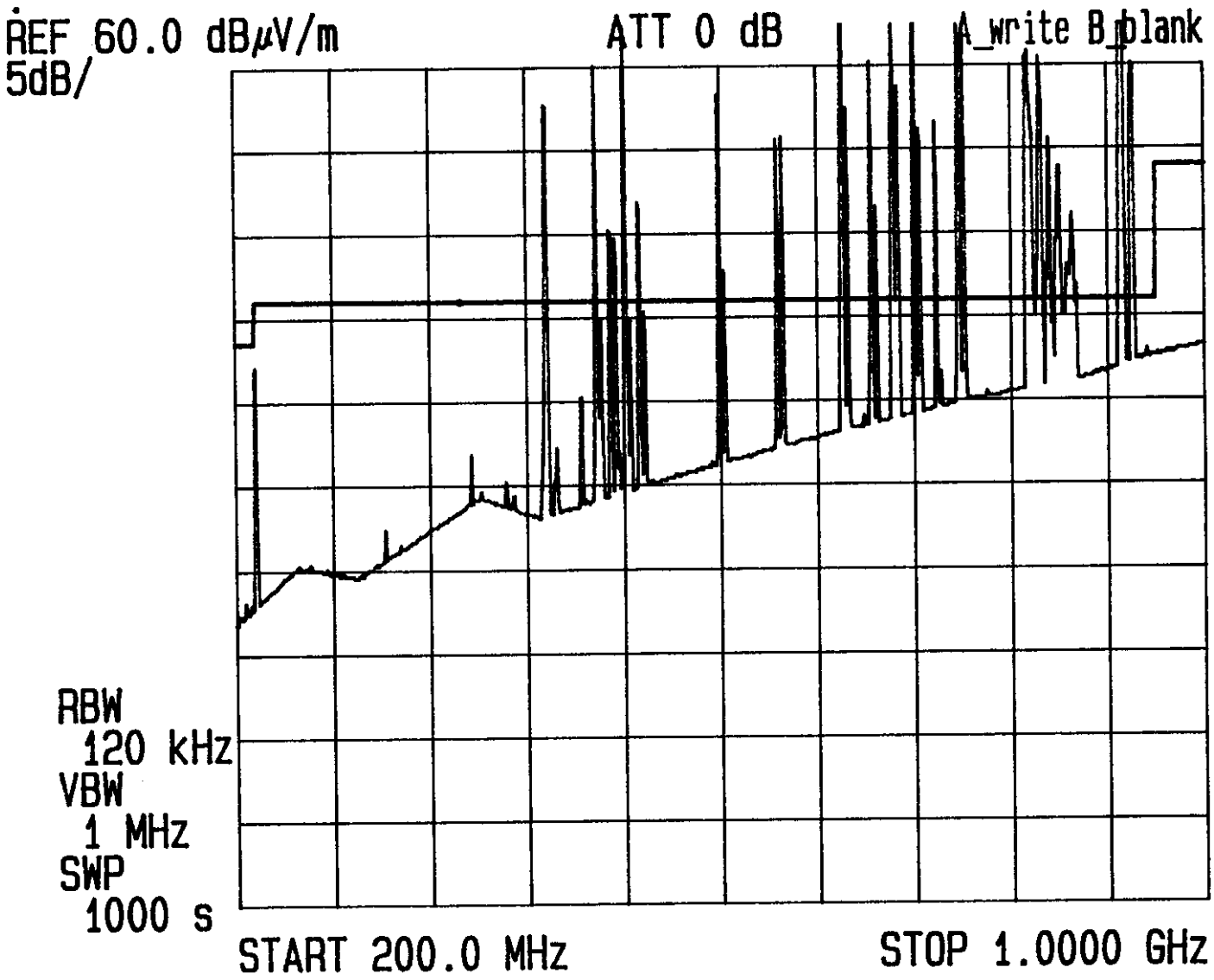

FIGURE 6.1-24

JA-1620-1

TEST: FCC RADIATED
FREQ: 1G-5GHz
DETECT: PEAK AMBIENT
DATE: 12-16-98

EUT: RECOTON CLV200T
SPEC: PARAGRAPH 15.231
LINE UNDER TEST: N/A
TEST SITE: 3 METER

S/N: 20
ANT.HT/POL: 1.8m H
EUT POSITION: —
TESTER: AB

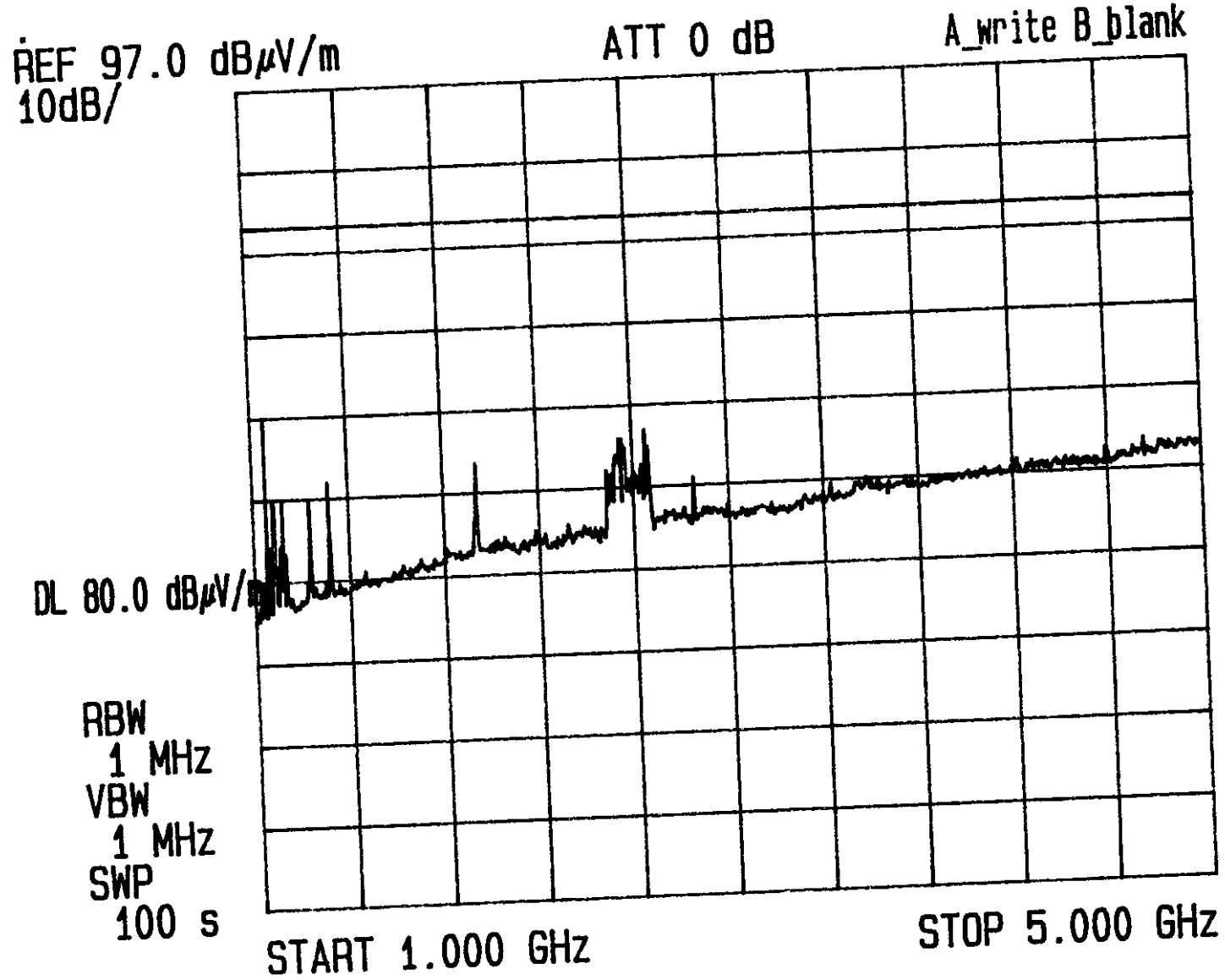

FIGURE 6.1-25

JA-1620-1

TEST: FCC RADIATED
FREQ: 1G-5GHz
DETECT: PEAK AMBIENT
DATE: 12-16-98

EUT: RECOTON CLV200T
SPEC: PARAGRAPH 15.231
LINE UNDER TEST: N/A
TEST SITE: 3 METER

S/N: 20
ANT.HT/POL: 1m / V
EUT POSITION: —
TESTER: AB

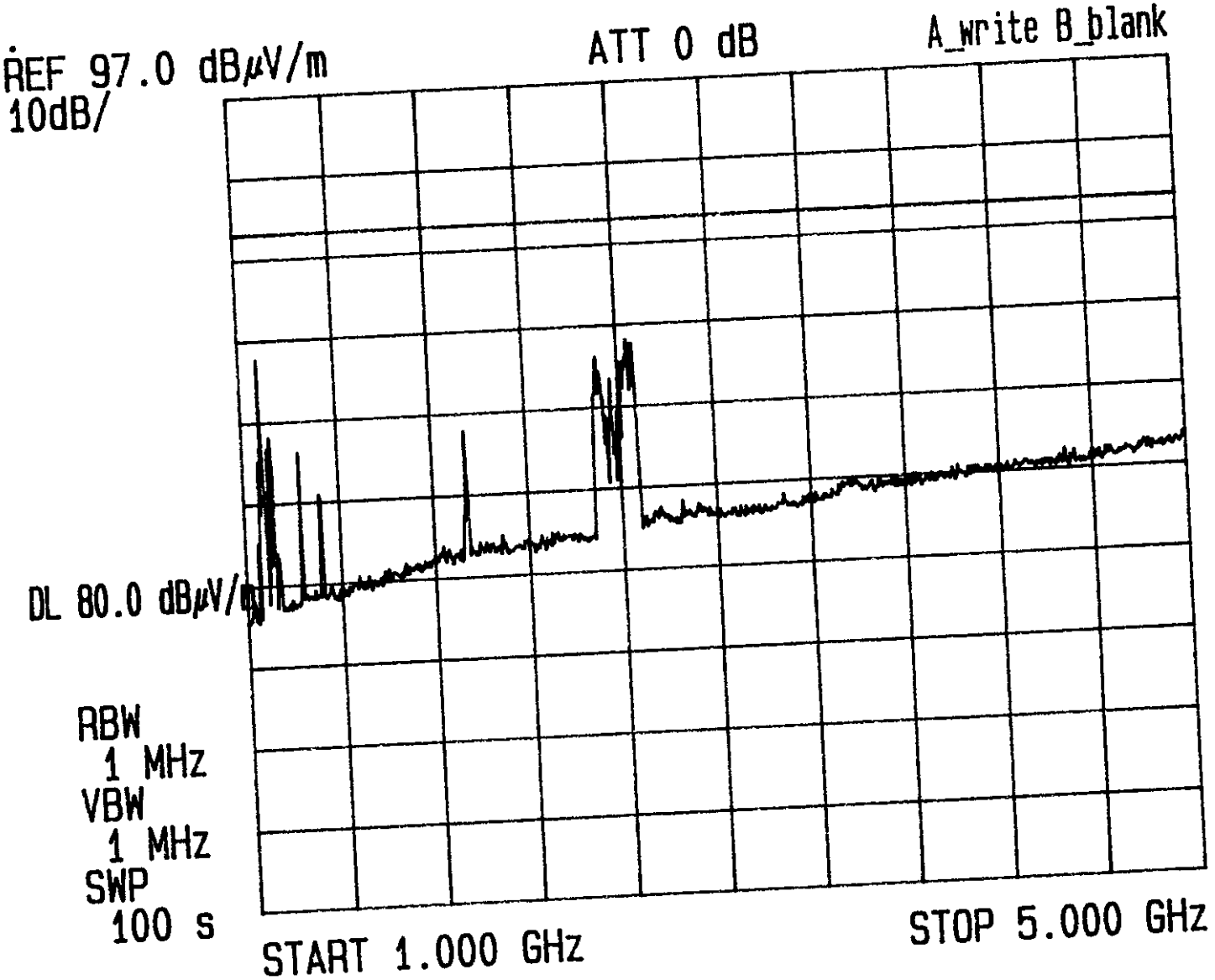

FIGURE 6.1-26

JA-1620-1

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

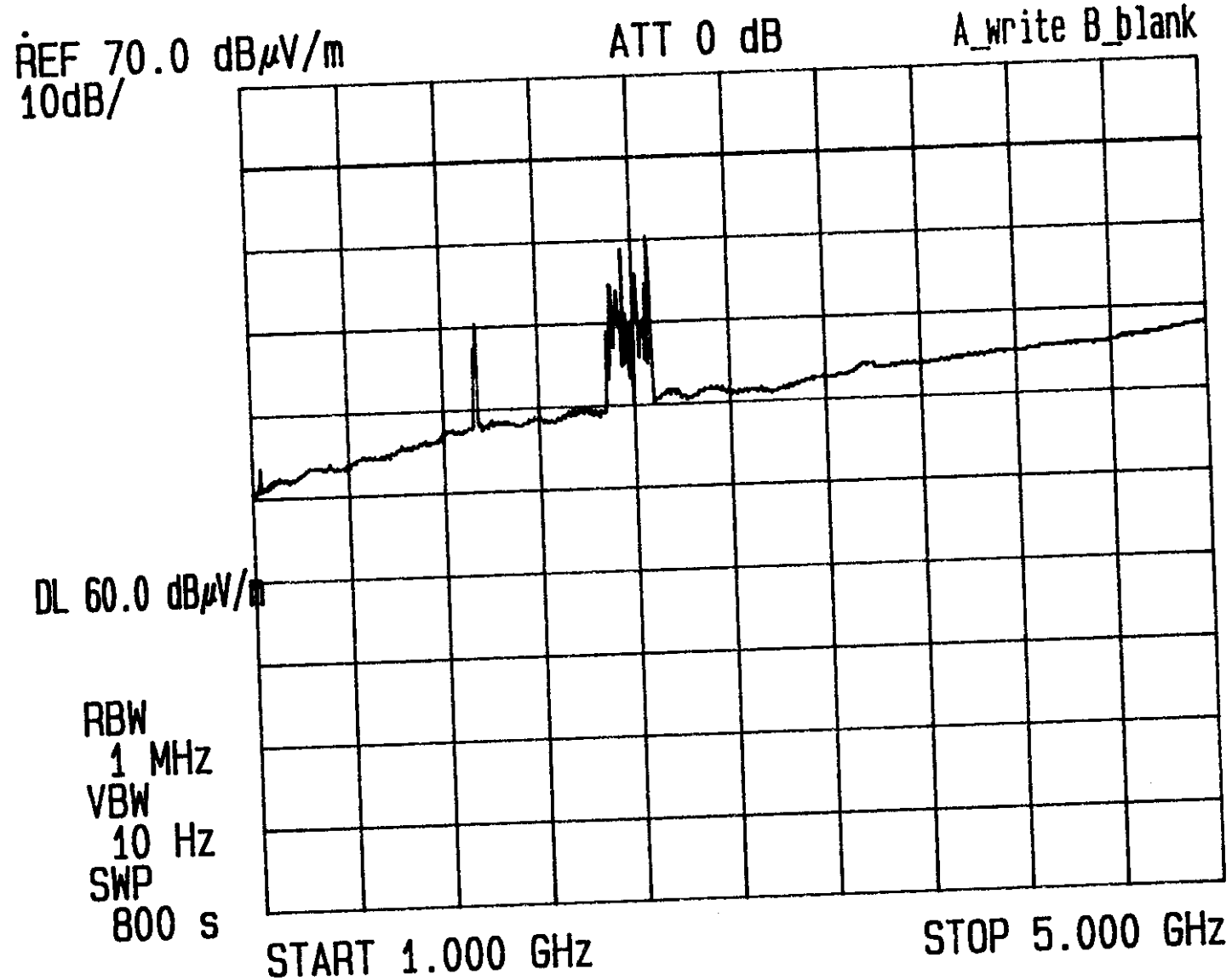

FIGURE 6.1-27

JA-1620-1

TEST: FCC RADIATED
FREQ: 1G-5GHz
DETECT: AVG. AMBIENT
DATE: 12-16-98

EUT: RECOTON CLV200T
SPEC: PARAGRAPH 15.231
LINE UNDER TEST: N/A
TEST SITE: 3 METER

S/N: 20
ANT.HT/POL: 1m V
EUT POSITION: —
TESTER:

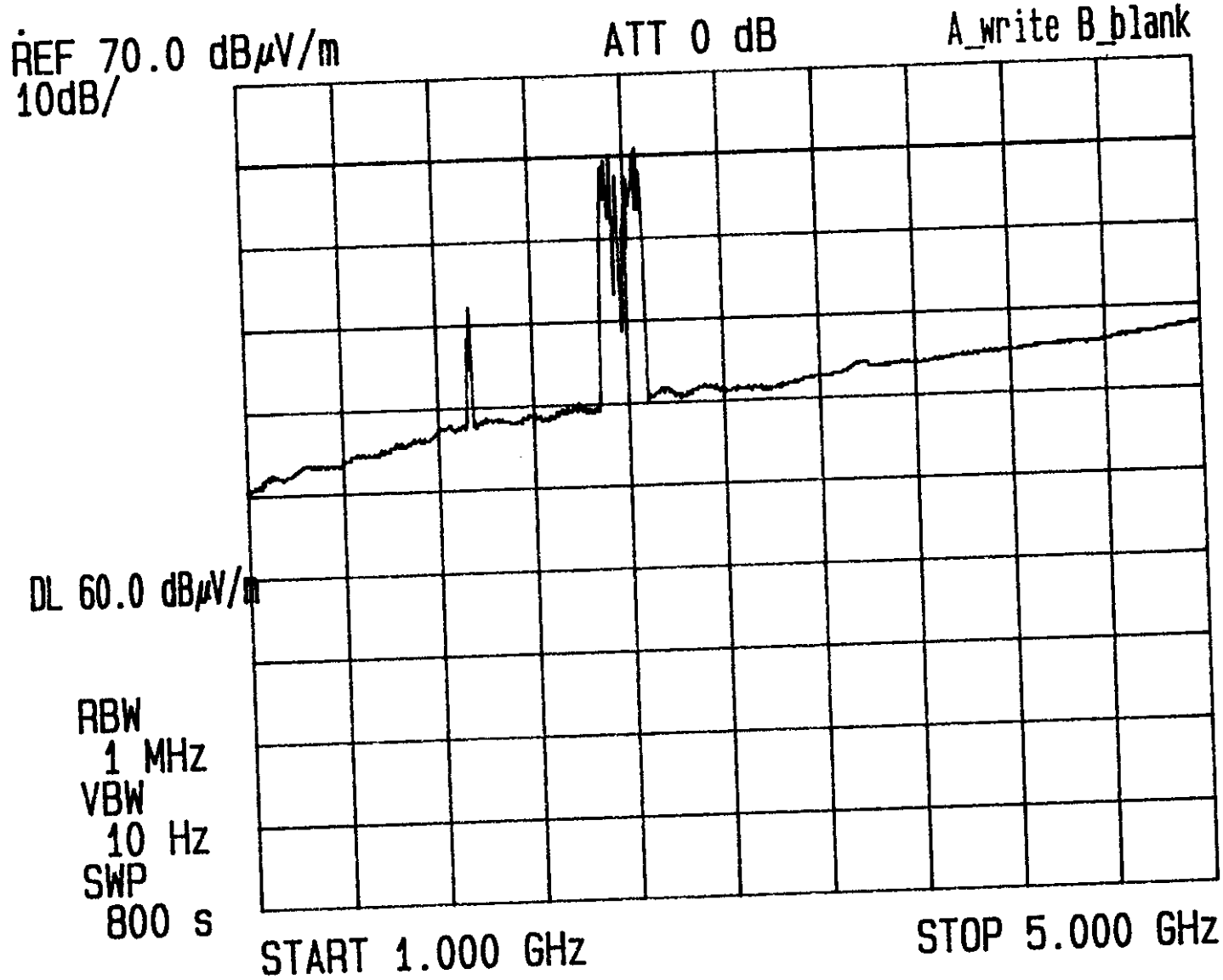

FIGURE 6.1-28

JA-1620-1