

TEST REPORT FROM RADIO FREQUENCY INVESTIGATION LTD.

Test Of: Wood & Douglas Ltd
SR500 Receiver

To: FCC Part 15: 1998 Class B

Test Report Serial No:
RFI/EMCB1/RP39403A

This Test Report Is Issued Under The Authority Of Brian Watson Technical Director: 	Checked By: 
Tested By: 	Release Version No: PDF01
Issue Date: 2 September 1999	Test Date: 27 July 1999

This report is issued in Adobe Acrobat portable document format (PDF). It is only a valid copy of the report if it is being viewed in PDF format with the following security options not allowed: Changing the document, Selecting text and graphics, Adding or changing notes and form fields. Furthermore, the date of creation must match the issue date stated above.
This report may be copied in full.

Radio Frequency Investigation Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RQ, ENGLAND. Tel: +44 (0) 1256 851193 Fax: +44 (0) 1256 851192	Registered in England, No. 211 7901. Registered Office: Ewhurst Park, Ramsdell, Basingstoke, Hampshire RG26 5RQ	
--	--	---

RADIO FREQUENCY INVESTIGATION LTD.

EMC Department

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

TEST REPORT

S.No: RFI/EMCB1/RP39403A

Page 2 of 26

Issue Date: 2 September 1999

This page has been left intentionally blank.

Table of Contents

1. Client Information	4
2. Equipment Under Test (EUT).....	5
3. Test Specification, Methods And Procedures.....	7
4. Deviations From The Test Specification.....	8
5. Operation Of The EUT During Testing	9
6. Summary Of Test Results.....	10
7. Measurements, Examinations And Derived Results.....	11
8. Measurement Uncertainty.....	14
Appendix 1. Test Equipment Used.....	15
Appendix 2. Measurement Methods	16
Appendix 3. Test Configuration Drawings	19
Appendix 4. Graphical Test Results	23
Appendix 5. Photographs of EUT.....	25

1. Client Information

Company Name:	Wood & Douglas Ltd
Address:	Lattice House Baughurst Basingstoke Hants RG26 5LP
Contact Name:	Mr A Stickland

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

2. Equipment Under Test (EUT)

The following information (with the exception of the Date of Receipt) has been supplied by the client:

2.1. Identification Of Equipment Under Test (EUT)

Brand Name:	Wood & Douglas Ltd
Model Name or Number:	SR500
Unique Type Identification:	SR50051
Serial Number:	990798022
Country of Manufacture:	UK
FCC ID Number:	Not applicable
Date of Receipt:	27 July 1999

2.2. Description Of EUT

The equipment under test is a synthesised receiver with 12.5 kHz channel spacing for telemetry use.

2.3. Modifications Incorporated In EUT

None stated by client.

2.4. Additional Information Related To Testing

Power Supply Requirement:	DC supply of 9 V (customer supplied)
Intended Operating Environment:	Commercial
Weight:	0.03 kg
Dimensions:	60 mm x 40 mm x 20 mm (including pins)
Interface Ports:	10 pin connector for I/O 2 pin connector for power 3 pin connector for RF

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

2.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

Description:	ST500 Test Jig
Brand Name:	Wood and Douglas
Model Name or Number:	None stated by client
Serial Number:	WD011
FCC ID Number:	None stated by client
Cable Length And Type:	N/A (Direct Connection to the EUT)
Connected to Port:	N/A

Description:	Plug Top power supply
Brand Name:	Seung Jin Electronics Co
Model Name or Number:	SJ-1205D
Serial Number:	WD009
FCC ID Number:	None stated by client
Cable Length And Type:	1.5m Twin
Connected to Port:	DC Input Port to Test Jig

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

3. Test Specification, Methods And Procedures

3.1. Test Specification

Reference:	FCC Part 15: 1998 Class B
Title:	Code of Federal Regulations, Part 15 (47CFR15) Radio Frequency Devices: Digital Devices.
Comments:	A description of the test facility used for this test is on file with, and has been accepted by, the Federal Communications Commission as required by Section 2.948 of Federal Rules.
Purpose of Test:	To determine whether the equipment complied with the requirements of the specification for the purposes of certification.

3.2. Methods And Procedures

The methods and procedures used were as detailed in:

ANSI C63.2 (1987)

Title: American National Standard for Instrumentation - Electromagnetic noise and field strength.

ANSI C63.4 (1992)

Title: American National Standard Methods of Measurement of Electromagnetic Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

ANSI C63.5 (1988)

Title: American National Standard for the Calibration of antennas used for Radiated Emission measurements in Electromagnetic Interference (EMI) control.

ANSI C63.7 (1988)

Title: American National Standard Guide for Construction of Open Area Test Sites for performing Radiated Emission Measurements.

CISPR 16-1 (1993)

Title: Specification for radio disturbance and immunity measuring apparatus and methods. Part 1. Radio disturbance and immunity measuring apparatus.

3.3. Definition Of Measurement Equipment

The measurement equipment used complied with the requirements of the standards referenced in the Methods & Procedures section above. Appendix 1 contains a list of the test equipment used.

RADIO FREQUENCY INVESTIGATION LTD.

EMC Department

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

TEST REPORT

S.No: RFI/EMCB1/RP39403A

Page 8 of 26

Issue Date: 2 September 1999

4. Deviations From The Test Specification

None.

5. Operation Of The EUT During Testing

5.1. Operating Conditions

The EUT was tested in a normal laboratory environment.

During testing, the EUT was powered by a DC supply of 9 V (customer supplied).

5.2. Operating Modes

The EUT was tested in the following operating mode:

The SR500 was operated in the test jig, and operated as intended, in a continuous receive mode on bottom (430 MHz), centre (450 MHz) and top (470 MHz) channel.

The reason for choosing this mode was that it was defined by the client as being likely to be the worst case with regards EMC.

5.3. Configuration And Peripherals

The EUT was tested in the following configuration:

Connected to the test jig to allow a correct operation for test purposes.

The reason for choosing this configuration was that it was defined by the client as being likely to be the worst case with regards EMC.

NB Section 2 of this report contains a full list of support equipment used and Appendix 3 contains a schematic diagram of the test configuration.

6. Summary Of Test Results

6.1. Conducted Emissions

Range Of Measurements	Specification Reference	Compliance Status
AC Powerline Conducted Emissions, 450 kHz to 30 MHz	Section 15 of C.F.R. 47: 1998	Complied

6.2. Radiated Emissions

Range Of Measurements	Specification Reference	Compliance Status
Electric Field Strength, 30 MHz to 2000 MHz	Section 15 of C.F.R. 47: 1998	Complied

6.3. Location Of Tests

All the measurements described in this report were performed at the premises of Radio Frequency Investigation Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RQ, England.

7. Measurements, Examinations And Derived Results

7.1. General Comments

7.1.1. This section contains test results only. Details of the test methods and procedures can be found in Appendix 2 of this report.

7.1.2. The measurement uncertainties stated were calculated in accordance with the requirements of NAMAS Document NIS 81 with a confidence level of 95%. Please refer to Section 8 for details of measurement uncertainties.

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

7.2. Test Results For AC Mains Conducted Emissions

7.2.1. Quasi-Peak Detector Measurements On Live And Neutral Lines

7.2.1.1. Plots of the initial scans can be found in Appendix 4.

7.2.1.2. Conducted emission preliminary scans were performed with the EUT set to bottom, middle and top channels. Emission levels were found to be higher when the EUT was set to middle channel. Therefore conducted emission final measurements were performed on middle channel only.

7.2.1.3. The following table lists frequencies at which emissions were measured using a Quasi-Peak detector:

Frequency (MHz)	Line	Q-P Level (dBmV)	Q-P Limit (dBmV)	Margin (dB)	Result
0.503	Live	14.2	48.0	33.8	Complied
0.936	Neutral	13.0	48.0	35.0	Complied
1.291	Neutral	12.6	48.0	35.4	Complied
1.392	Live	12.5	48.0	35.5	Complied
2.459	Neutral	10.3	48.0	37.7	Complied
2.553	Live	10.3	48.0	37.7	Complied
4.660	Neutral	9.8	48.0	38.2	Complied
6.160	Live	9.9	48.0	38.1	Complied
7.970	Neutral	9.6	48.0	38.4	Complied
12.070	Live	9.7	48.0	38.3	Complied
14.350	Neutral	9.8	48.0	38.2	Complied
20.840	Live	9.9	48.0	38.1	Complied

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

7.3. Test Results For Radiated Emissions

7.3.1. Electric Field Strength Measurements

7.3.1.1. The client has stated that the highest clock frequency for the EUT was 470 MHz. Therefore tests were performed up to 2000 MHz.

7.3.1.2. Preliminary scans were produced with the EUT set to operate on all 3 receive modes. However the emissions were all of a similar level, and therefore final measurements were performed with the EUT set to centre channel.

7.3.1.3. Plots of the initial scans can be found in Appendix 4.

7.3.1.4. The following table lists frequencies at which emissions were measured using a Quasi-Peak detector (results incorporate antenna factors and cable losses):

Frequency (MHz)	Ant. Pol.	Q-P Level (dBmV/m)	Q-P Limit (dBmV/m)	Margin (dB)	Result
50.000	Vert.	7.2	40.0	32.8	Complied
130.000	Vert.	12.8	43.5	30.7	Complied
150.000	Vert.	14.7	43.5	28.8	Complied
200.000	Vert.	6.7	43.5	36.8	Complied
250.000	Vert.	18.8	46.0	27.2	Complied
300.000	Vert.	12.7	46.0	33.3	Complied

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

8. Measurement Uncertainty

8.1. Company Policy, as based on the NAMAS Accreditation Standard, M10, paragraph 12.11 (o), states that Test Reports shall include estimated uncertainty of the calibration or test result (this information need only appear in test reports and test certificates where it is relevant to the validity or application of the test result, where a client's instructions so require or where uncertainty affects compliance to a specification or limit).

8.2. The global uncertainties have been calculated in accordance with NAMAS NIS 81 (Edition 1, May 1994) as follows:

Measurement Type	Range	Confidence Level	Calculated Uncertainty
Conducted Emissions	0.15 MHz to 30 MHz	95%	+/- 2.2 dB
Radiated Emissions	30 MHz to 1000 MHz	95%	+/- 4.9 dB
Radiated Emissions	1 GHz to 2 GHz	95%	+/- 4.3 dB

8.3. Measurement uncertainties have been applied in accordance with NAMAS document NIS 81 (edition 1, May 1994), and in the absence of any specification criteria, guidance, or code of practice, compliance has been judged on the basis of shared risk.

8.4. In the case of emissions tests, the measured value of the disturbance from the product sample shall be compared directly with the limits. If the measured value is equal to or less than the limit the product is deemed to pass the test.

8.5. In the case of immunity tests, the equipment is deemed to pass the test if it fulfils the stated performance criteria at the required or a higher severity level. The measurement uncertainty has been taken into account in the calibration procedures stated in the relevant basic standard.

8.6. The methods used to calculate the above uncertainties are in line with those used for calibration laboratories contained in NAMAS document NIS 3003 Edition 8 "The Expression of Uncertainty and Confidence in Measurement" May 1995, which align with international recommendations "Guide to the Expression of Uncertainty in Measurement" ISO/IEC/OIML/BIPM (Prepared by ISO/TAG 4: January 1993).

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

Appendix 1. Test Equipment Used

Instrument	Manufacturer	Model	RFI No.
Conducted Emissions:			
Test Receiver	R & S	ESBI	M090
Plotter	H.P.	7440A	P001
Pulse Limiter	R & S	ESH3-Z2	A003
L.I.S.N. (1 ph.)	R & S	ESH3-Z5	A191
Radiated Electric Field, OATS:			
Test Receiver	R & S	ESBI	M090
UHF Receiver	R & S	ESVP	M002
Controller	R & S	EZM	M004
Bilog Antenna	Chase	CBL6111	A259
Bilog Antenna	Chase	CBL6111	A490
3dB Attenuator	Narda	771-03	A262

NB In accordance with NAMAS requirements, all the measurement equipment is on a calibration schedule.

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

Appendix 2. Measurement Methods

A2.1. AC Mains Conducted Emissions: FCC Part 15

A2.1.1. AC mains conducted emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function.

A2.1.2. The test was performed in a shielded enclosure with the equipment arranged as detailed in the standard on a wooden bench using the floor of the screened enclosure as the ground reference plane and with the EUT powered via a 60 Hz AC mains supply.

A2.1.3. Initial measurements in the form of swept scans covering the entire measurement band were performed in order to identify frequencies on which the EUT was generating interference. In order to minimise the time taken for these swept measurements, a Peak detector was used in conjunction with the appropriate detector IF measuring bandwidths (see table below). Repetitive scans were performed to allow for emissions with low repetition rates, and the duty cycle of the EUT. The test configuration was the same for the initial scans as for the final measurements.

A2.1.4. Following the initial scans, a graph was produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. A tolerance line was set 6 dB below the specification limit and levels above the tolerance line were re-tested (at individual frequencies) using the appropriate detector function.

A2.1.5. The test equipment settings for conducted emissions measurements were as follows:

Receiver Function	Initial Scan	Final Measurements
Detector Type:	Peak	Quasi-Peak (CISPR)*
Mode:	Max Hold	Not applicable
Bandwidth:	10 kHz	9 kHz
Amplitude Range:	60 dB	20 dB
Measurement Time:	Not applicable	> 1 s
Observation Time:	Not applicable	> 15 s
Step Size:	Continuous sweep	Not applicable
Sweep Time:	Coupled	Not applicable

* In some instances an Average detector function may also have been used.

A2.2. Radiated Emissions: FCC Part 15

A2.2.1. Radiated emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function.

A2.2.2. Initial measurements covering the entire measurement band in the form of swept scans in a shielded enclosure were performed in order to identify frequencies on which the EUT was generating interference. This determined the frequencies on which the EUT should be re-measured in full on the open area test site. In order to minimise the time taken for the swept measurements, a Peak detector was used in conjunction with the appropriate detector IF measuring bandwidth (see table below). Repetitive scans were performed to allow for emissions with low repetition rates, and for the duty cycle of the EUT. The test configuration was the same for the initial scans as for the final measurements.

A2.2.3. The initial scans were performed using an antenna height of 1.5 m and a measurement distance of 3 m. Following the initial scans, graphs were produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. A tolerance line was set 6 dB below the specification limit and levels above the tolerance line were re-tested on the open area test site, at the appropriate distance, using a measuring receivers with a Quasi-Peak detector (below 1000 MHz), where applicable, for measurements above 1000 MHz average and peak detectors were used.

A2.2.4. For the main (final) measurements the EUT was arranged on a non-conducting table on an open area test site, as detailed in the specification.

A2.2.5. All measurements on the open area test site were performed using broadband antennas.

A2.2.6. On the open area test site, at each frequency where a signal was found, the levels were maximised by initially rotating the turntable through 360°. For frequencies below 1000 MHz, the antenna height was varied between 1 m and 4 m. For frequencies above 1000 MHz, the antenna was fixed at a height of 1.5m. At this point, any signals found to be between the limit and a level 6 dB below it were further maximised by changing the configuration of the EUT, e.g. re-routing cables to peripherals and moving peripherals with respect to the EUT.

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

A2.2.7. The test equipment settings for radiated emissions measurements were as follows:

Receiver Function	Initial Scan (Below 1000 MHz)	Final Measurements (Below 1000 MHz)
Detector Type:	Peak	Quasi-Peak (CISPR)
Mode:	Max Hold	Not applicable
Bandwidth:	100 kHz	120 kHz
Amplitude Range:	60 dB	20 dB
Measurement Time:	Not applicable	> 1 s
Observation Time:	Not applicable	> 15 s
Step Size:	Continuous sweep	Not applicable
Sweep Time:	Coupled	Not applicable

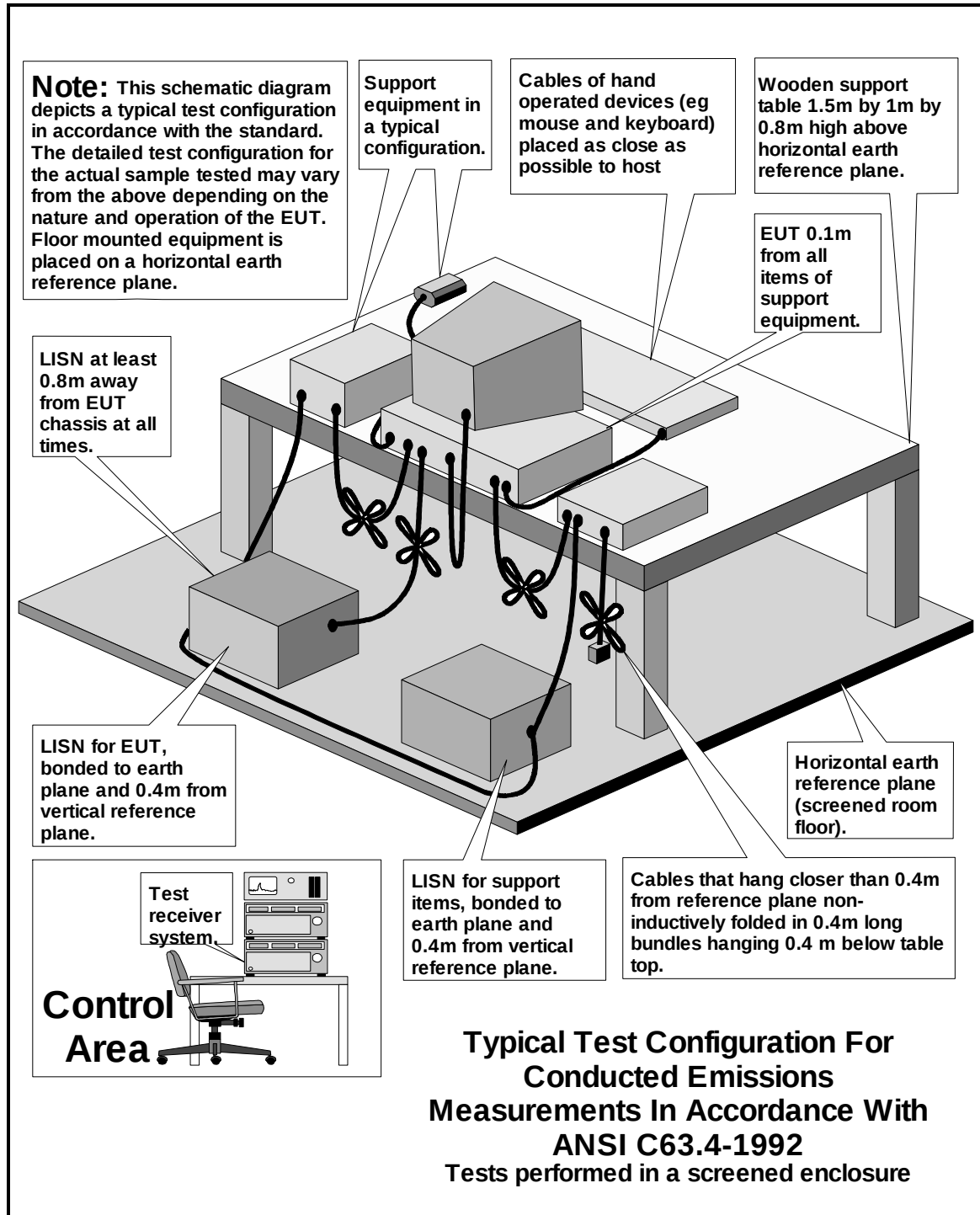
Receiver Function	Initial Scan (Above 1000 MHz)	Final Measurements (Above 1000 MHz)
Detector Type:	Peak	Peak/Average
Mode:	Max Hold	Not applicable
Bandwidth:	1 MHz	1 MHz
Amplitude Range:	60 dB	20 dB (typical)
Measurement Time:	Not applicable	> 1 s
Observation Time:	Not applicable	> 15 s
Step Size:	Continuous sweep	Not applicable
Sweep Time:	Coupled	Not applicable

Appendix 3. Test Configuration Drawings

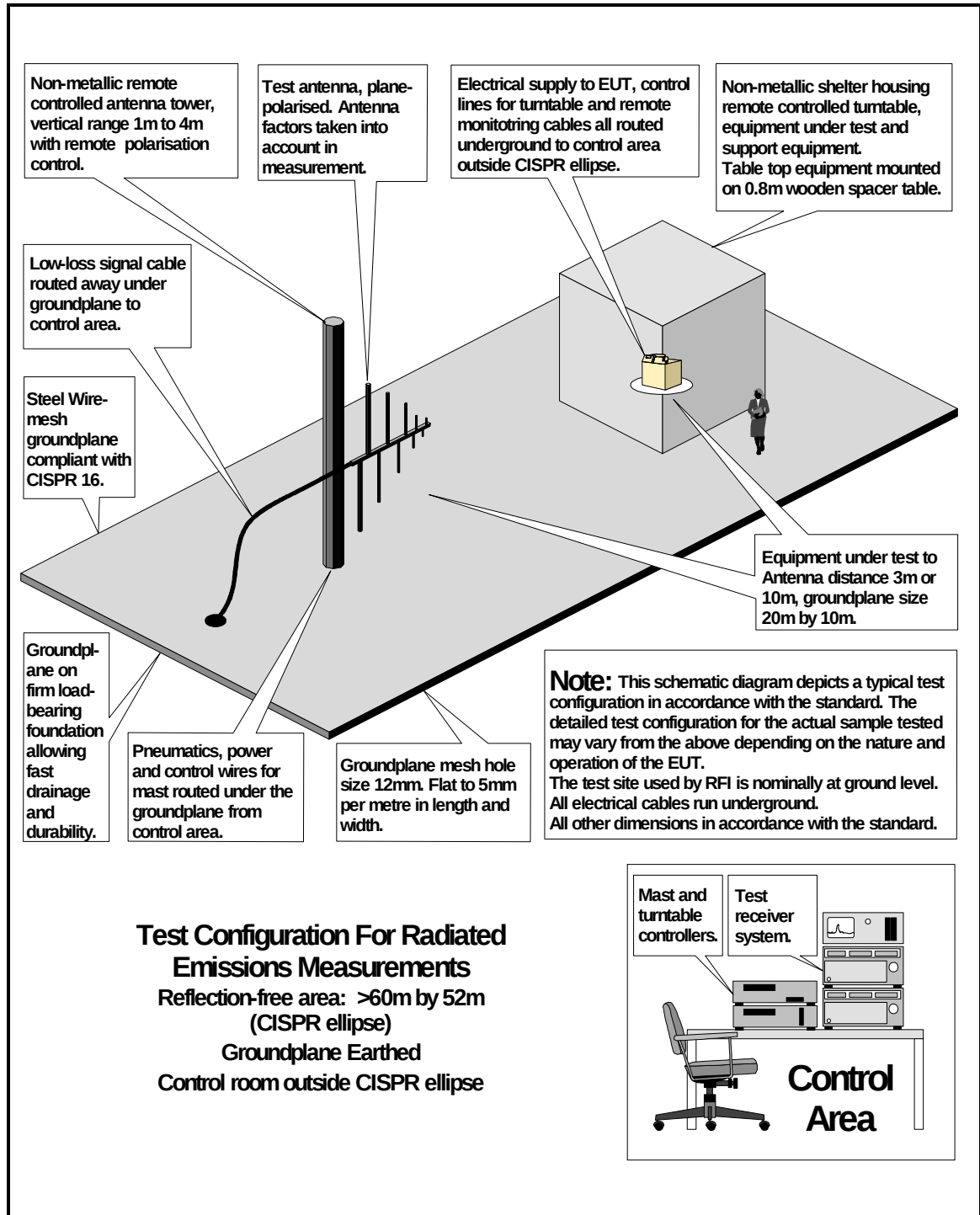
This appendix contains the following drawings:

Drawing Reference Number	Title
DRG\39403ETF01\EMICON	Test configuration for measurement of conducted emissions
DRG\39403ETF01\EMIRAD	Test configuration for measurement of radiated emissions
DRG\39403ETF01\001	Schematic diagram of the EUT, support equipment and interconnecting cables used for the test

DRG\39403ETF01\EMICON

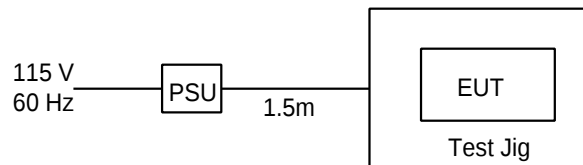


DRG\39403ETF01\EMIRAD



DRG\39403ETF01\001

Configuration of EUT and Local Support Equipment



Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

Appendix 4. Graphical Test Results

This appendix contains the following graphs:

Graph Reference Number	Title
GPH\39403ETF01\107	Scan of Conducted Emissions: Bottom Channel. 450kHz to 30MHz. Live Line.
GPH\39403ETF01\108	Scan of Conducted Emissions: Bottom Channel. 450kHz to 30MHz. Neutral Line.
GPH\39403ETF01\109	Scan of Conducted Emissions: Middle Channel. 450kHz to 30MHz. Live Line.
GPH\39403ETF01\110	Scan of Conducted Emissions: Middle Channel. 450kHz to 30MHz. Neutral Line.
GPH\39403ETF01\111	Scan of Conducted Emissions: Top Channel. 450kHz to 30MHz. Live Line.
GPH\39403ETF01\112	Scan of Conducted Emissions: Top Channel. 450kHz to 30MHz. Neutral Line.
GPH\39403ETF01\113	Scan of Radiated Electric Field: Bottom Channel. 30 MHz to 1000 MHz.
GPH\39403ETF01\114	Scan of Radiated Electric Field: Middle Channel. 30 MHz to 1000 MHz.
GPH\39403ETF01\115	Scan of Radiated Electric Field: Top Channel. 30 MHz to 1000 MHz.
GPH\39403ETF01\116	Scan of Radiated Electric Field: Bottom Channel. 1GHz to 2GHz.
GPH\39403ETF01\117	Scan of Radiated Electric Field: Middle Channel. 1GHz to 2GHz.
GPH\39403ETF01\118	Scan of Radiated Electric Field: Top Channel. 1GHz to 2GHz.

These pages are not included in the total number of pages for this report.



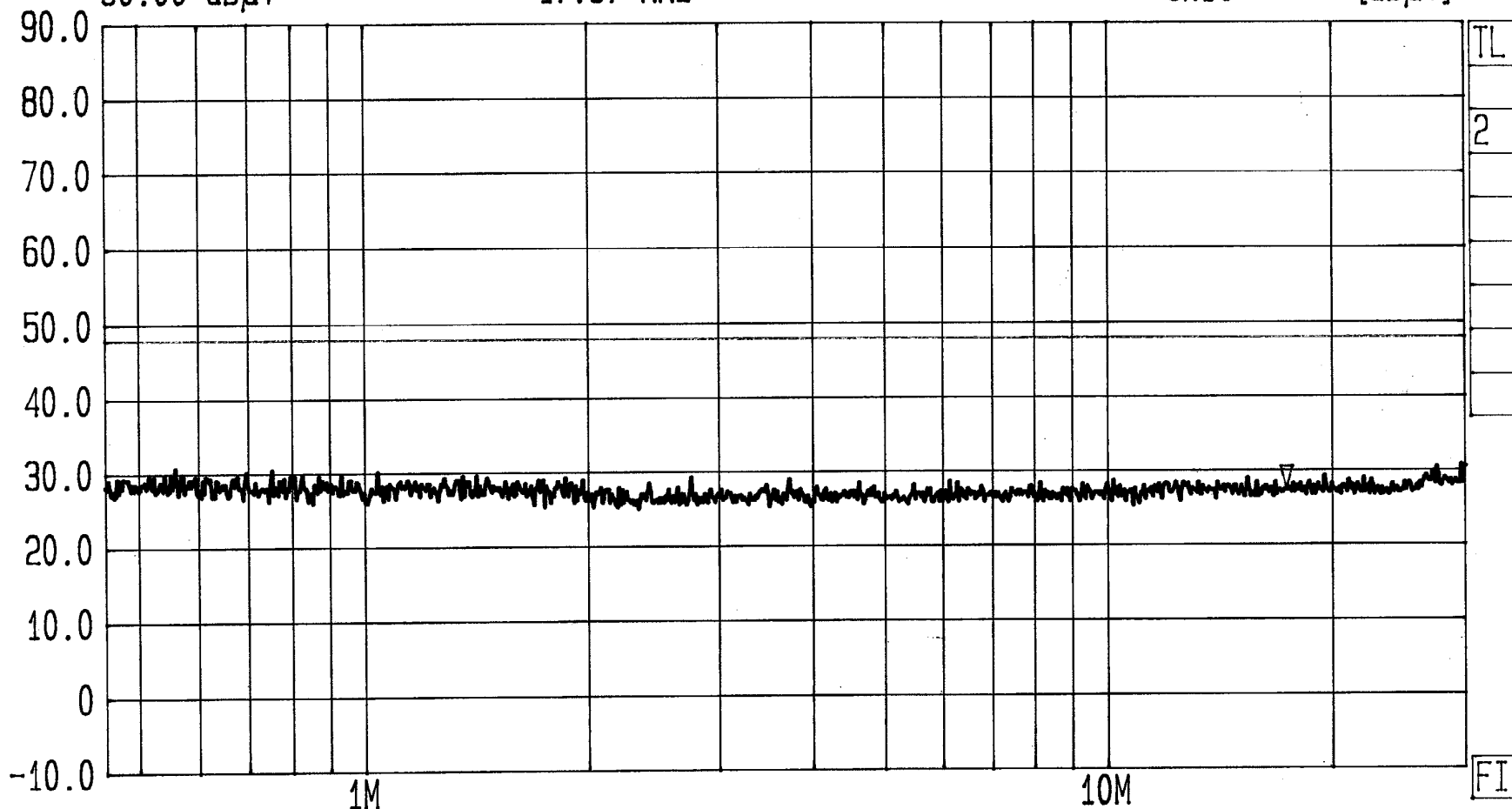
Date 27.Jul.'99 Time 13:26:53
Ref.Lvl 90.00 dB μ V
Marker 27.61 dB μ V
17.37 MHz

Res.Bw
TG.Lvl
CF.Stp

9 kHz [imp]
off
2.955 MHz

Vid.Bw
RF.Att
Unit

100 kHz
20 dB
[dB μ V]



Start 450 kHz Span 29.55 MHz Center 3.67423 MHz Sweep 2.2 s Stop 30 MHz

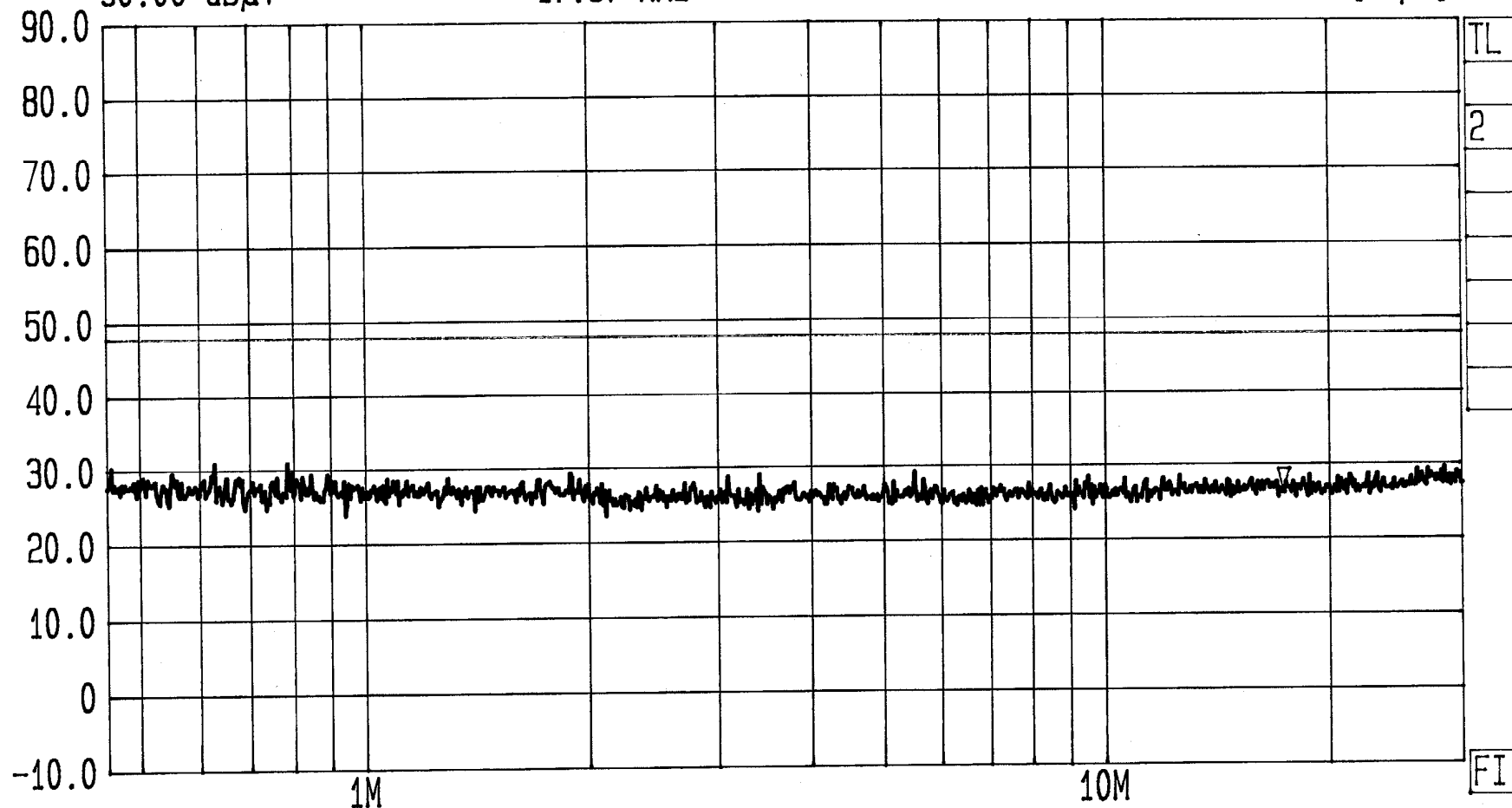
Conducted Emissions (Live) Tested by RFI for Wood and Douglas.
EUT: SR500. Part 15.107. RX Un-Modulated. Bottom Channel

FCC Part 15
GPH/39403/JD01/107



Date 27.Jul.'99 Time 14:00:53
Ref.Lvl 90.00 dBμV
Marker 26.32 dBμV
17.37 MHz

Res.Bw 9 kHz [imp] Vid.Bw 100 kHz
TG.Lvl off
CF.Stp 2.955 MHz RF.Att 20 dB
Unit [dBμV]



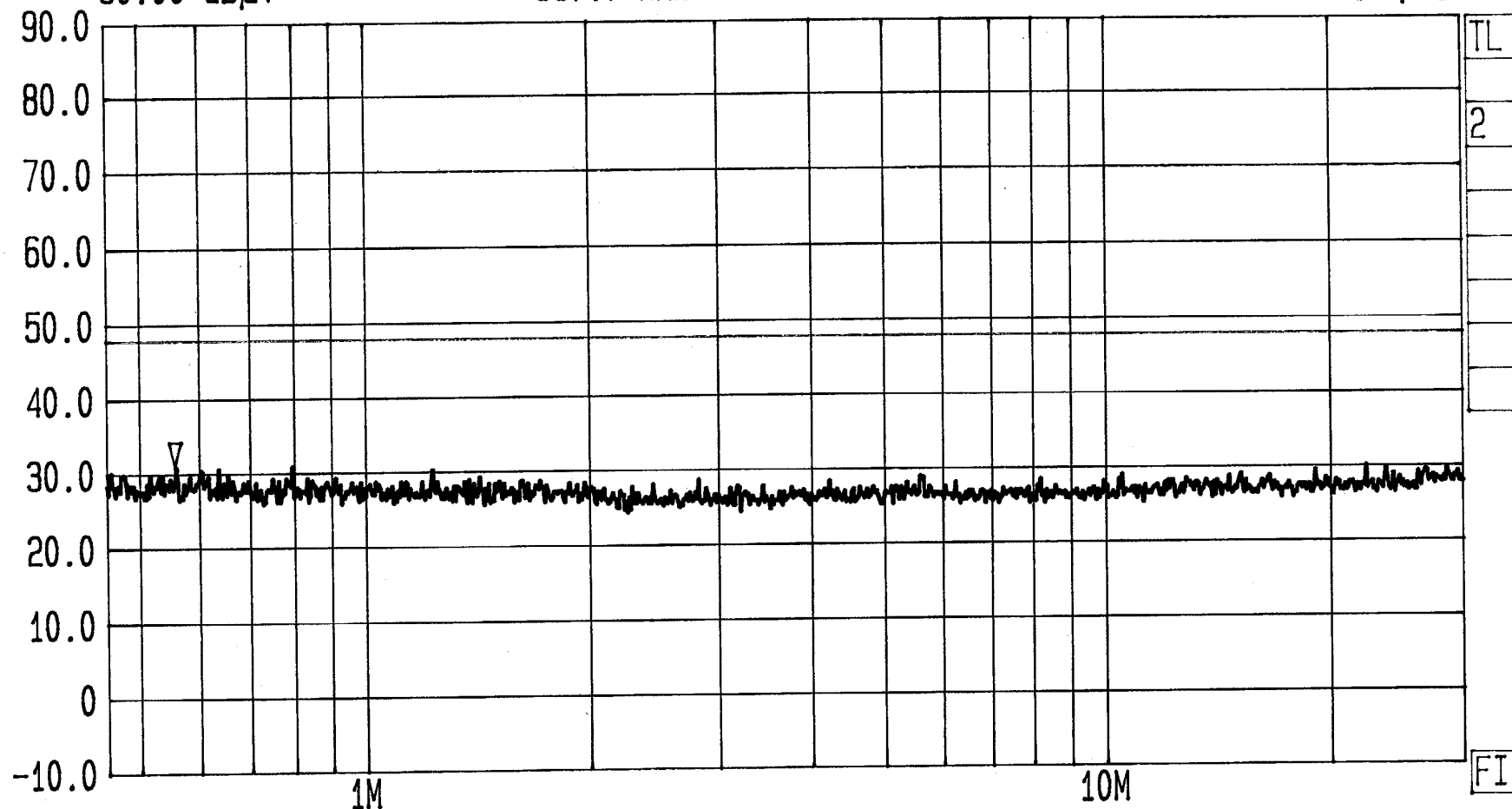
Start 450 kHz Span 29.55 MHz Center 3.67423 MHz Sweep 2.2 s Stop 30 MHz

Conducted Emissions (Neutral) Tested by RFI for Wood and Douglas. FCC Part 15
EUT: SR500. Part 15.107. RX Un-Modulated. Bottom Channel GPH/39403/JD01/108



Date 27.Jul.'99 Time 14:06:20
Ref.Lvl 90.00 dBμV
Marker 31.29 dBμV
557.7 kHz

Res.Bw 9 kHz [imp] Vid.Bw 100 kHz
TG.Lvl off
CF.Stp 2.955 MHz RF.Att 20 dB
Unit [dBμV]



Start 450 kHz Span 29.55 MHz Center 3.67423 MHz Sweep 2.2 s Stop 30 MHz

Conducted Emissions (Live) Tested by RFI for Wood and Douglas.
EUT: SR500. Part 15.107. RX Un-Modulated. Middle Channel

FCC Part 15
GPH/39403/JD01/109



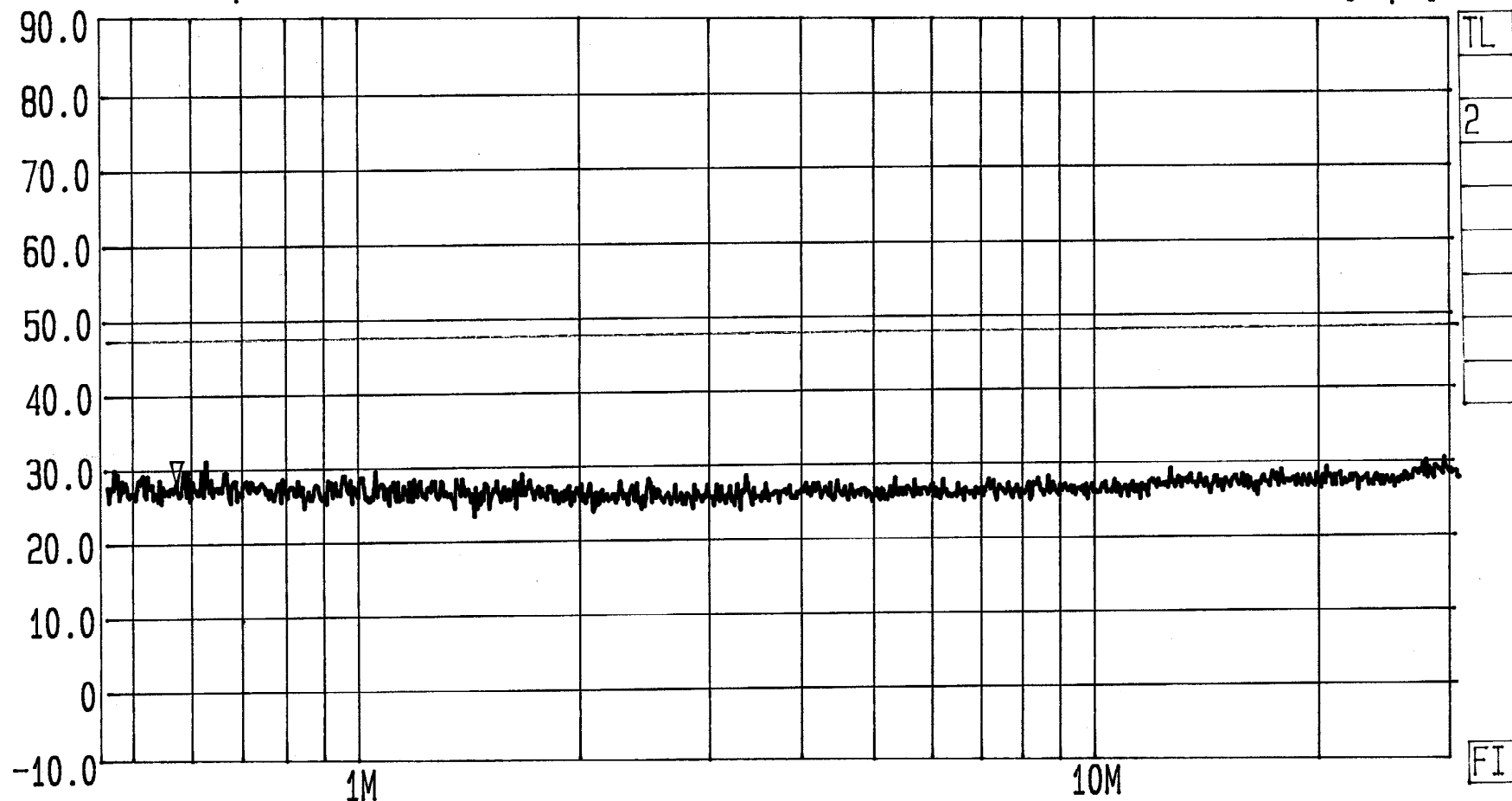
Date 27.Jul.'99 Time 14:11:42
Ref.Lvl 90.00 dBμV
Marker 28.63 dBμV
557.7 kHz

Res.Bw
TG.Lvl
CF.Stp

9 kHz [imp]
off
2.955 MHz

Vid.Bw
RF.Att
Unit

100 kHz
20 dB
[dBμV]



Start
450 kHz

Span
29.55 MHz

Center
3.67423 MHz

Sweep
260 ms

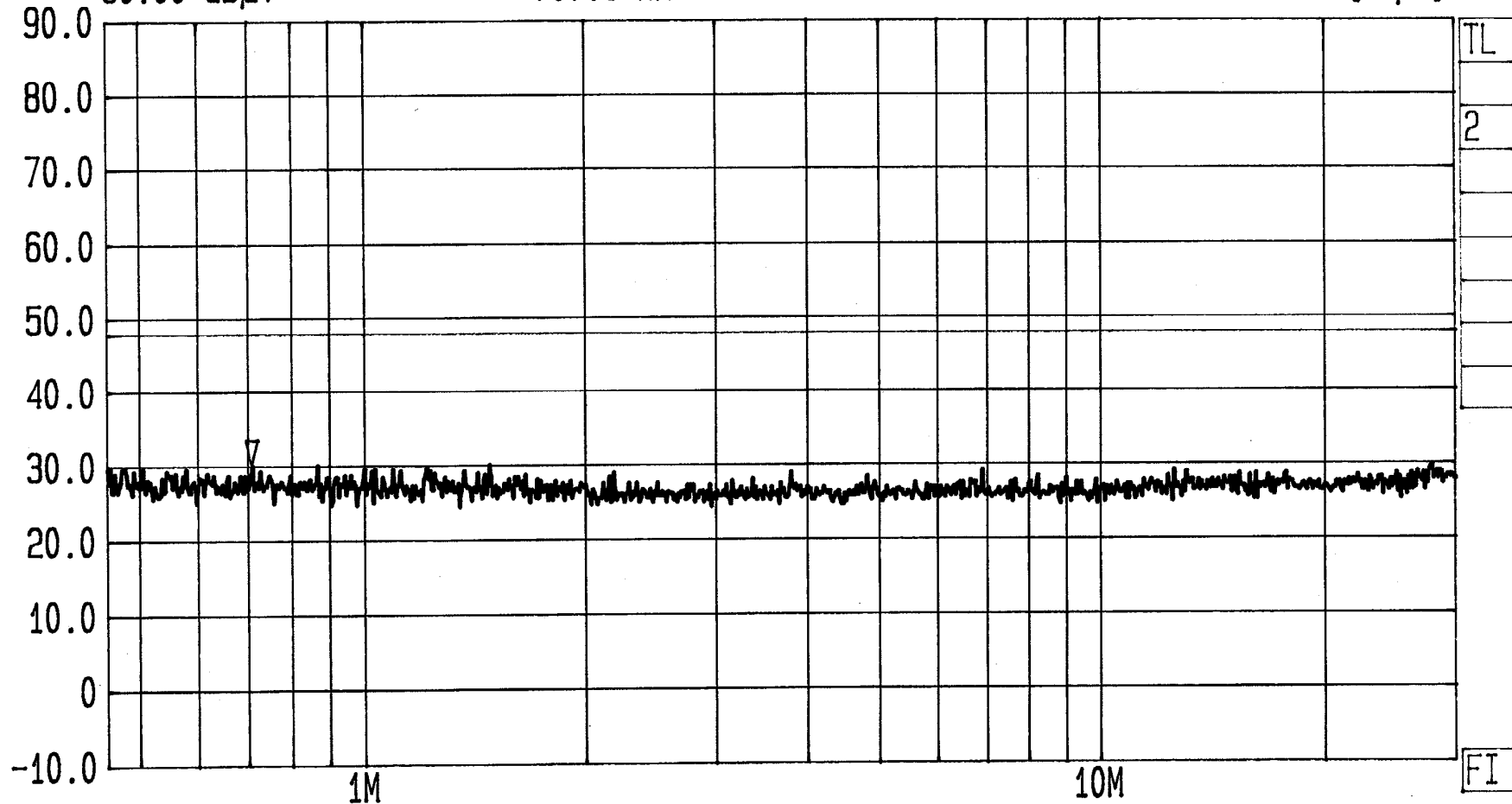
Stop
30 MHz

Conducted Emissions (Neutral) Tested by RFI for Wood and Douglas. FCC Part 15
EUT: SR500. Part 15.107. RX Un-Modulated. Middle Channel GPH/39403/JD01/110



Date 27.Jul.'99 Time 14:17:18
Ref.Lvl 90.00 dB μ V
Marker 30.51 dB μ V
707.6 kHz

Res.Bw 9 kHz [imp] Vid.Bw 100 kHz
TG.Lvl off
CF.Stp 2.955 MHz RF.Att 20 dB
Unit [dB μ V]

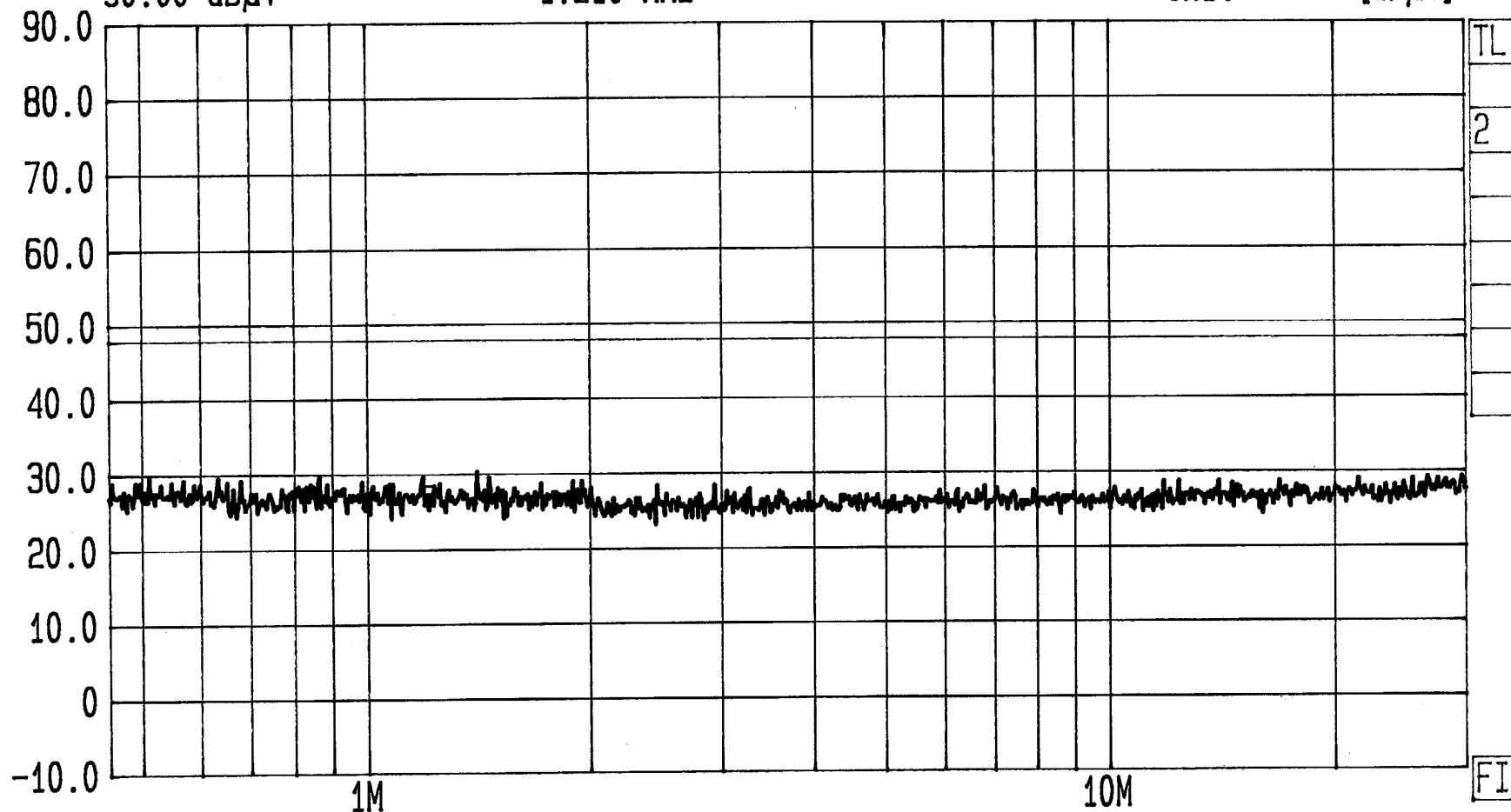


Start 450 kHz Span 29.55 MHz Center 3.67423 MHz Sweep 2.2 s Stop 30 MHz
Conducted Emissions (Live) Tested by RFI for Wood and Douglas. FCC Part 15
EUT: SR500. Part 15.107. RX Un-Modulated. Top Channel GPH/39403/JD01/111



Date 27.Jul.'99 Time 14:26:03
Ref.Lvl 90.00 dBμV
Marker 25.40 dBμV
1.210 MHz

Res.Bw 9 kHz [imp] off
TG.Lvl
CF.Stp 2.955 MHz
Vid.Bw 100 kHz
RF.Att 20 dB
Unit [dBμV]



Start 450 kHz Span 29.55 MHz Center 3.67423 MHz Sweep 2.2 s Stop 30 MHz

Conducted Emissions (Neutral) Tested by RFI for Wood and Douglas. FCC Part 15
EUT: SR500. Part 15.107. RX Un-Modulated. Top Channel GPH/39403/JD01/112

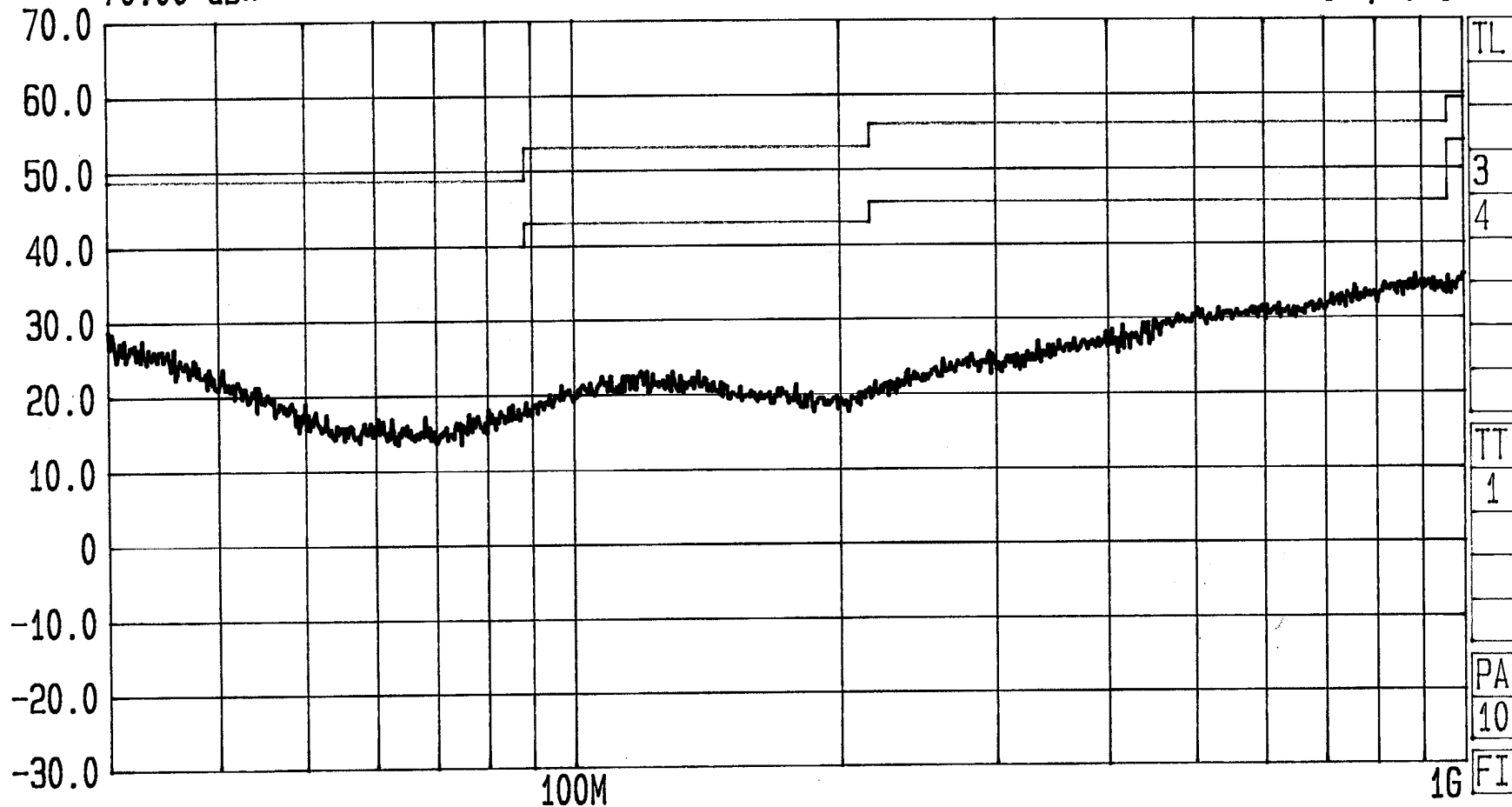


Date 27.Jul.'99 Time 15:47:56

Ref.Lvl
70.00 dB*

Res.Bw 120 kHz [imp]
TG.Lvl off
CF.Stp 97.000 MHz

Vid.Bw 100 kHz
RF.Att 0 dB
Unit [dBμV/m]



Start
30 MHz

Span
970 MHz

Center
173.2 MHz

Sweep
80 ms

Stop
1 GHz

Radiated Emissions.

Tested by RFI for Wood and Douglas

FCC Part 15

EUT: SR 500. Part 15.109 RX Un-Modulated Bottom Channel

GPH/39403/JD01/113

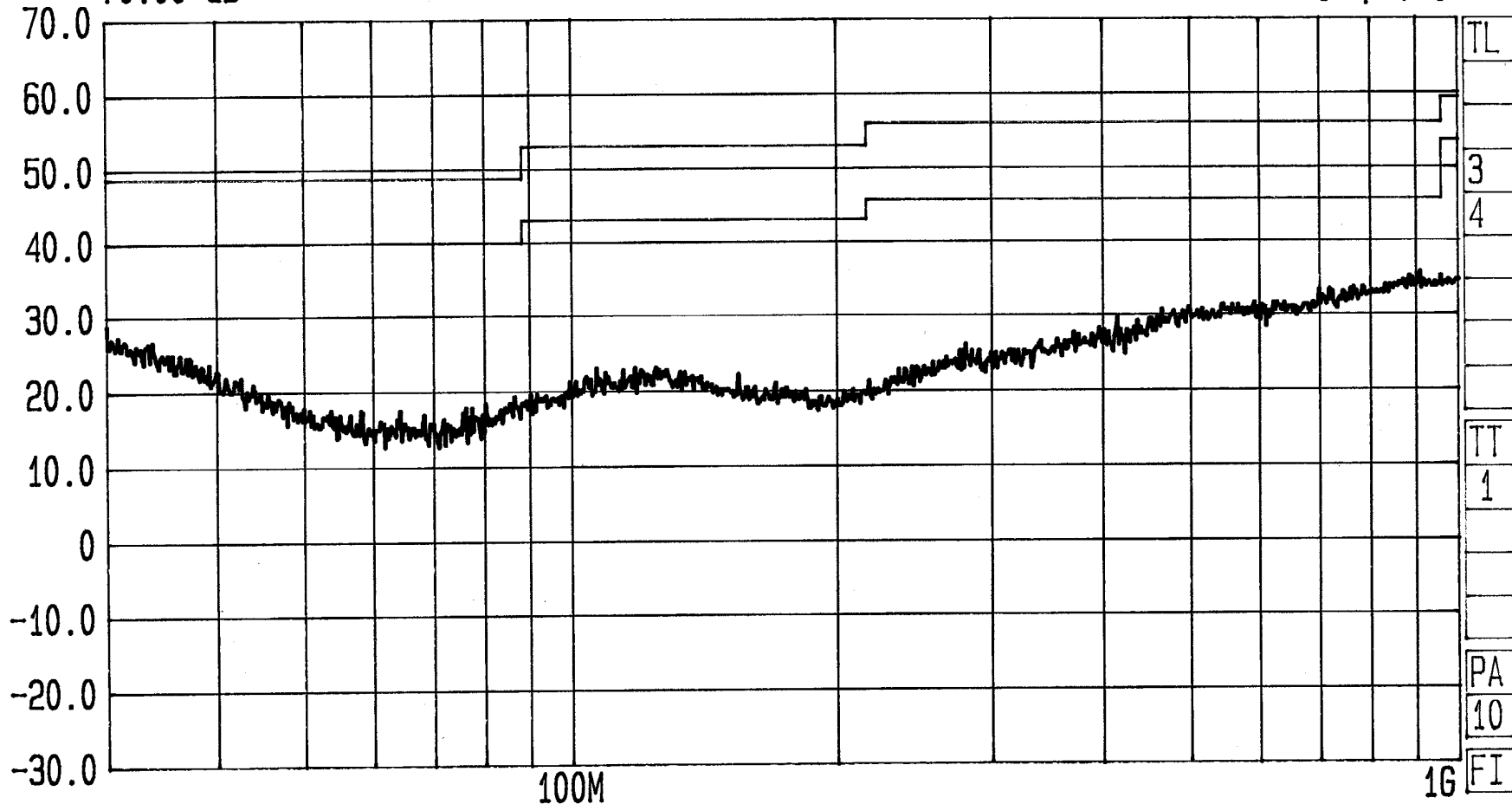


Date 27.Jul.'99 Time 15:53:10

Ref.Lvl
70.00 dBx

Res.Bw 120 kHz [imp]
TG.Lvl off
CF.Stp 97.000 MHz

Vid.Bw 100 kHz
RF.Att 0 dB
Unit [dBμV/m]



Start
30 MHz

Span
970 MHz

Center
173.2 MHz

Sweep
380 ms

Stop
1 GHz

Radiated Emissions.

Tested by RFI for Wood and Douglas

FCC Part 15

EUT: SR 500. Part 15.109

RX Un-Modulated Middle Channel

GPH/39403/JD01/114



Date 27.Jul.'99 Time 16:06:09

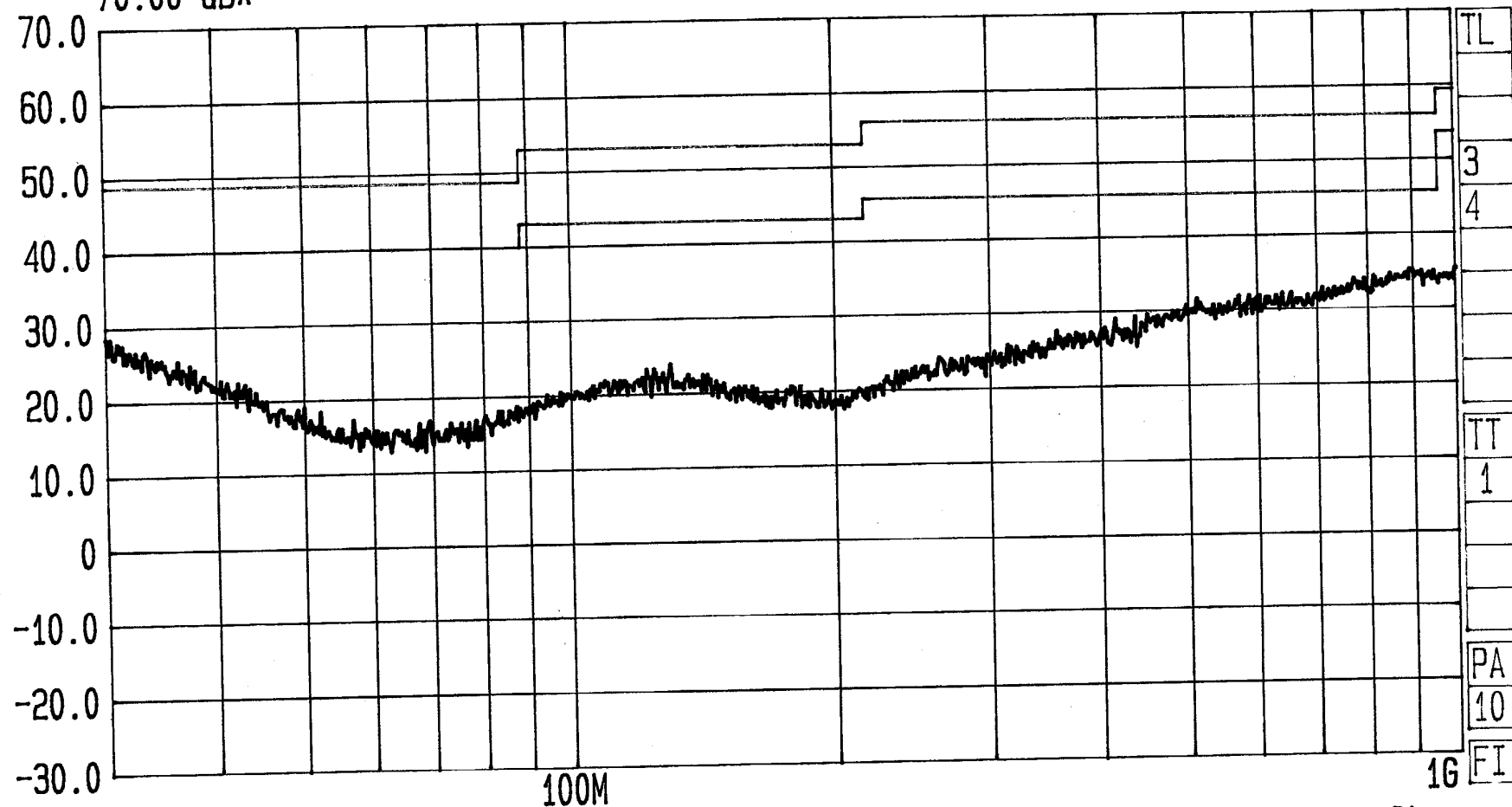
Ref.Lvl
70.00 dB*

Res.Bw
TG.Lvl
CF.Stp

120 kHz [imp]
off
97.000 MHz

Vid.Bw
RF.Att
Unit

100 kHz
0 dB
[dBμV/m]



Start
30 MHz

Span
970 MHz

Center
173.2 MHz

Sweep
80 ms

Stop
1 GHz

Radiated Emissions.
EUT: SR 500. Part 15.109

Tested by RFI for Wood and Douglas
RX Un-Modulated Top Channel

FCC Part 15
GPH/39403/JD01/115



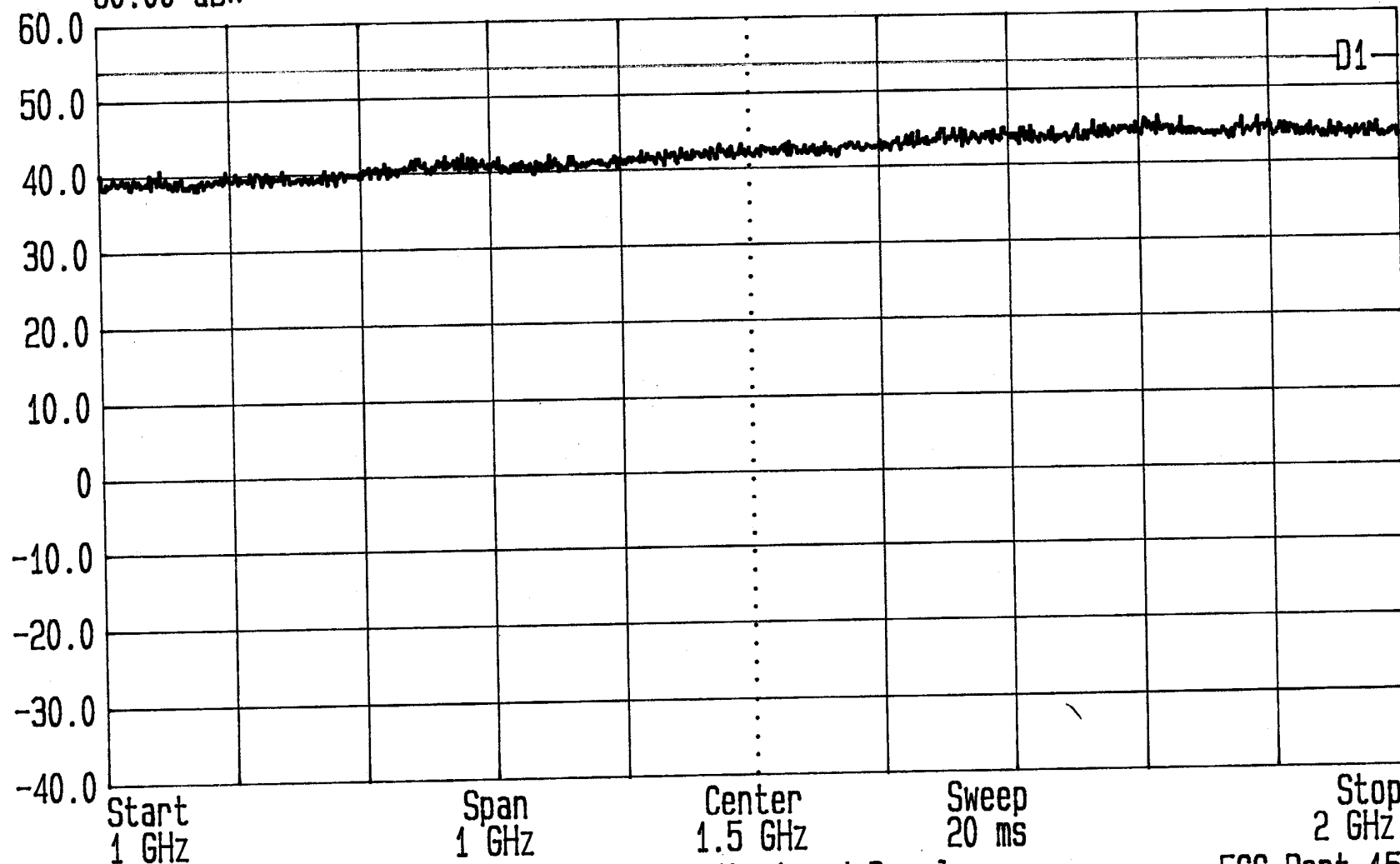
Date 27.Jul.'99 Time 16:33:58
Ref.Lvl
60.00 dB*

Res.Bw
TG.Lvl
CF.Stp

1 MHz [imp]
off
100.000 MHz

Vid.Bw
RF.Att
Unit

1 MHz
0 dB
[dB μ V/m]



TT
2
PA
10
FI

Radiated Emissions. Tested by RFI for Wood and Douglas
EUT: SR 500. Part 15.109 RX Un-Modulated Bottom Channel

FCC Part 15
GPH/39403/JD01/116



Date 27.Jul.'99 Time 16:38:58

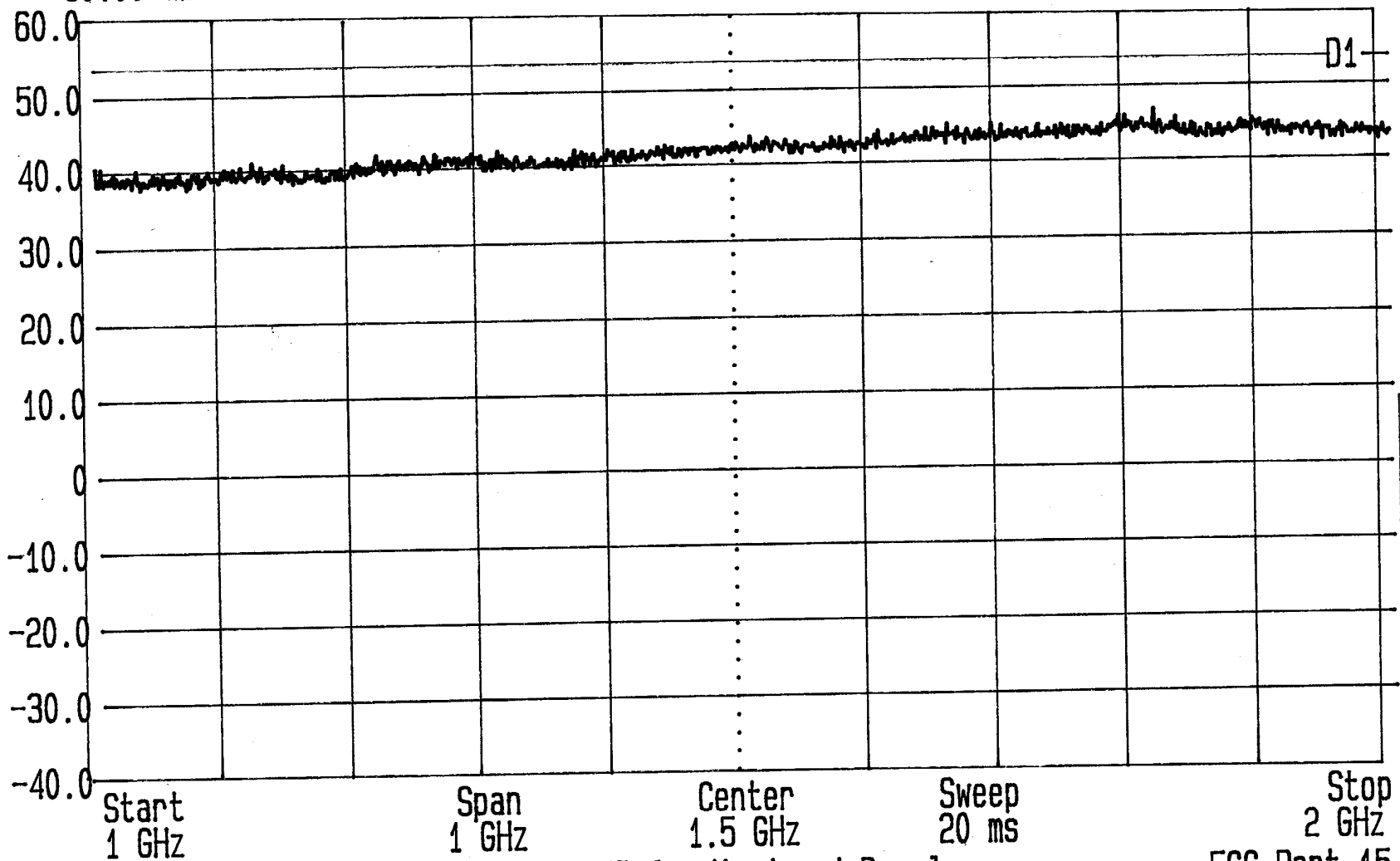
Ref.Lvl
60.00 dBx

Res.Bw
TG.Lvl
CF.Stp

1 MHz [imp]
off
100.000 MHz

Vid.Bw
RF.Att
Unit

1 MHz
0 dB
[dBμV/m]



Radiated Emissions. Tested by RFI for Wood and Douglas
EUT: SR 500. Part 15.109 RX Un-Modulated Middle Channel

FCC Part 15
GPH/39403/JD01/117



Date 27.Jul.'99 Time 16:44:56

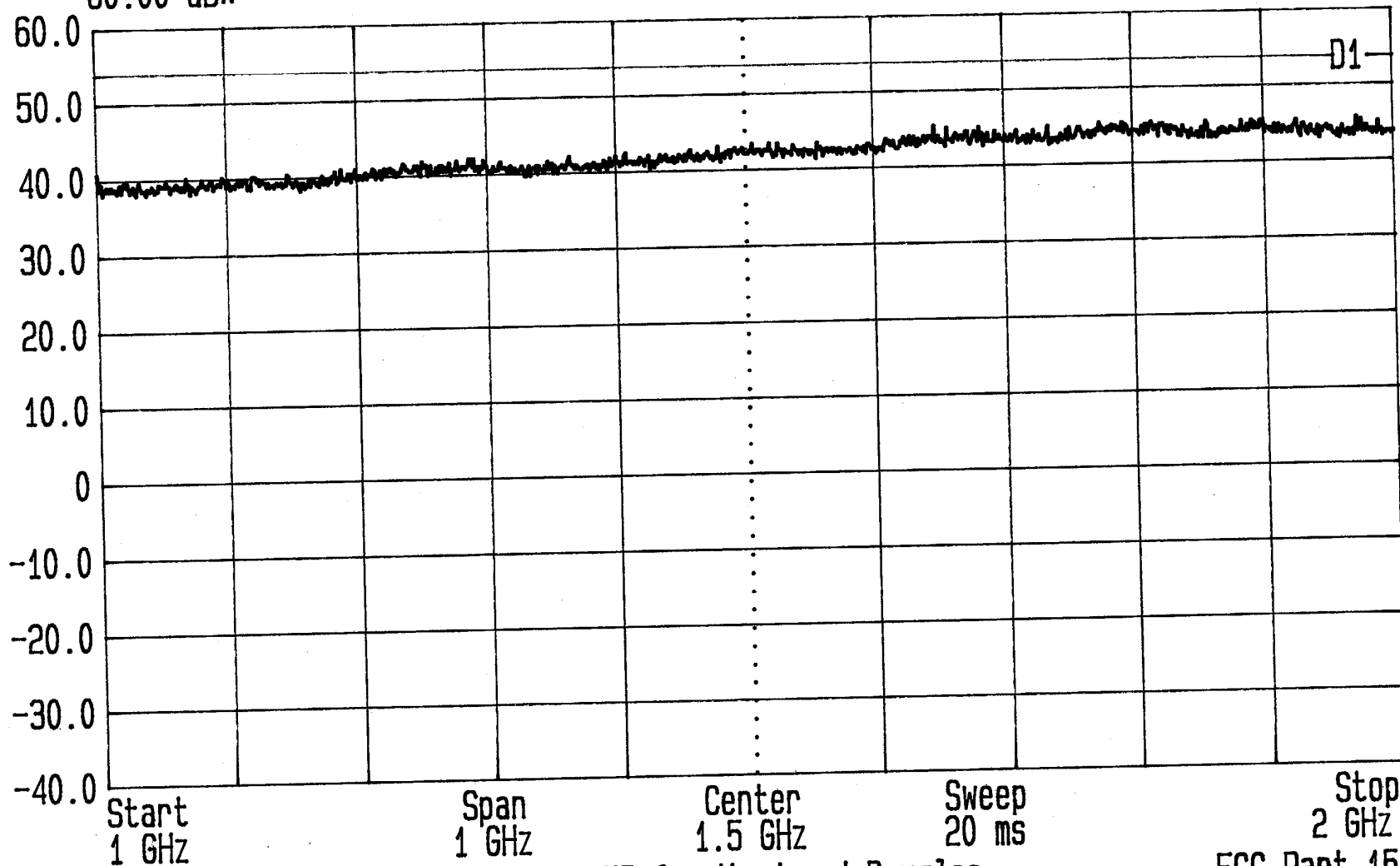
Ref.Lvl
60.00 dBx

Res.Bw
TG.Lvl
CF.Stp

1 MHz [imp]
off
100.000 MHz

Vid.Bw
RF.Att
Unit

1 MHz
0 dB
[dBμV/m]



TT

2

PA

10

FI

Radiated Emissions. Tested by RFI for Wood and Douglas
EUT: SR 500. Part 15.109 RX Un-Modulated Top Channel

FCC Part 15
GPH/39403/JD01/118

RADIO FREQUENCY INVESTIGATION LTD.

EMC Department

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

TEST REPORT

S.No: RFI/EMCB1/RP39403A

Page 24 of 26

Issue Date: 2 September 1999

This page left intentionally blank.

Appendix 5. Photographs of EUT

This appendix contains the following photographs:

Photo Reference Number	Title
PHT\39403ETF01\001	Front view of Conducted Emissions
PHT\39403ETF01\002	Side view of Conducted Emissions
PHT\39403ETF01\003	Front view of Radiated Emissions
PHT\39403ETF01\004	Rear view of Radiated Emissions
PHT\39403ETF01\005	Side view of Radiated Emissions

These pages are not included in the total number of pages for this report.

RADIO FREQUENCY INVESTIGATION LTD.

EMC Department

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

TEST REPORT

S.No: RFI/EMCB1/RP39403A

Page 26 of 26

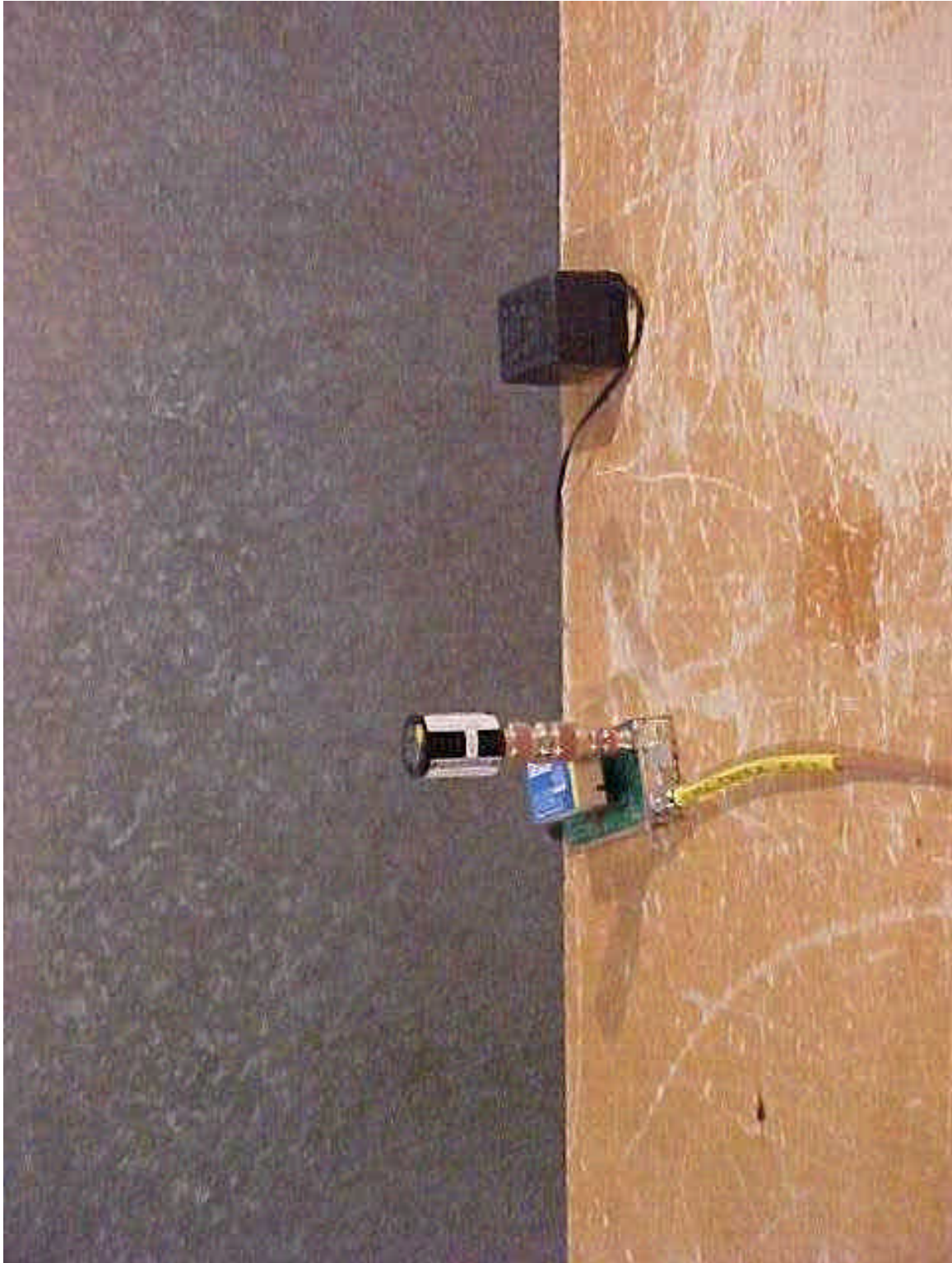
Issue Date: 2 September 1999

This page has been left intentionally blank.

EMC Department

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

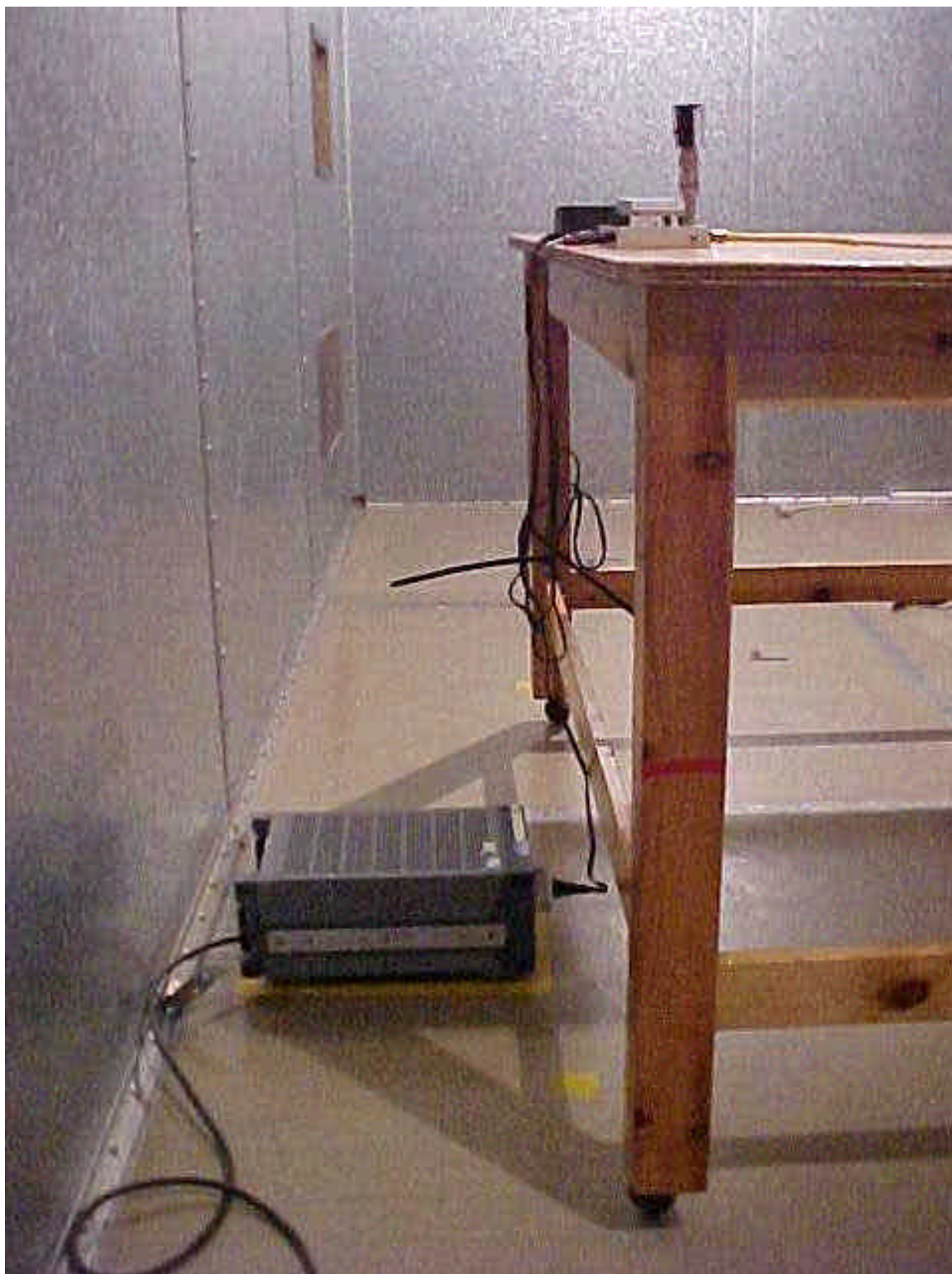
PHT\39403ETF01\001: Front view of Conducted Emissions



EMC Department

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

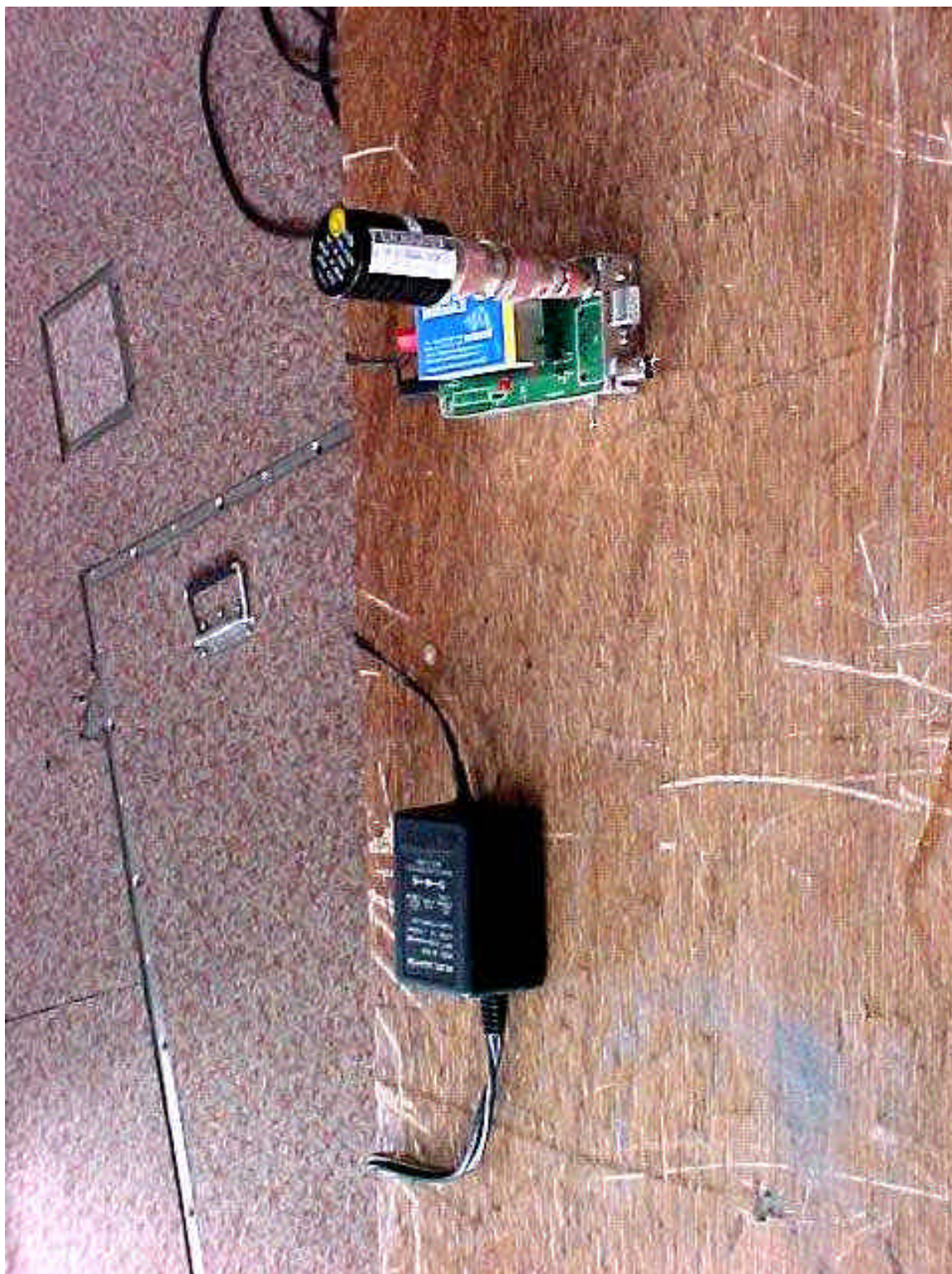
PHT\39403ETF01\002: Side view of Conducted Emissions



EMC Department

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

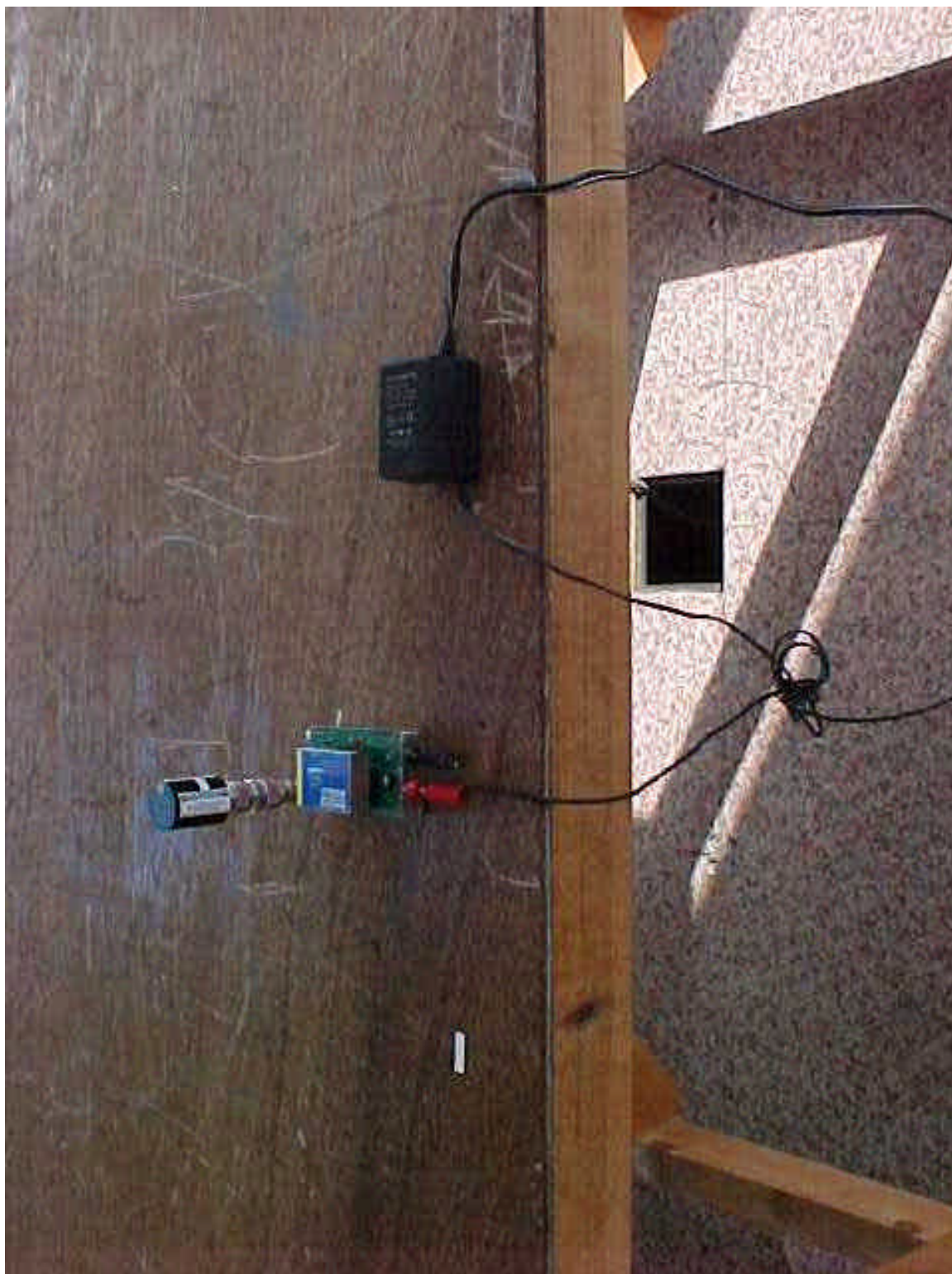
PHT\39403ETF01\003: Front view of Radiated Emissions



EMC Department

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

PHT\39403ETF01\004: Rear view of Radiated Emissions



EMC Department

Test Of: Wood & Douglas Ltd SR500 Receiver
To: F.C.C. Part 15: 1998 Class B

PHT\39403ETF01\005: Side view of Radiated Emissions

