



Measurement of RF Emissions from a AT75K0 Digital Television Transmitter

For : Linear Industries, Inc.
2531 Technology Drive, Suite 310
Elgin, IL 60124

P.O. No. : 059-LII-09
Date Tested : October 19, 2009
Test Personnel : Richard E. King
Specification : FCC Part 74, Subpart G

Test Report By : *RICHARD E. KING*
Richard King

Witnessed By : Gustavo Figueiredo
Linear Industries, Inc.

Approved By : *Raymond J. Klouda*
Raymond J. Klouda
Registered Professional Engineer of
Illinois - 44894



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THIS REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF ELITE ELECTRONIC ENGINEERING INCORPORATED.



REVISION HISTORY

Revision	Date	Description
—	October 19, 2009	Initial release



Measurement of RF Emissions from a Digital Television Transmitter, Model No. AT75K0

1 INTRODUCTION

1.1 Scope of Tests

This report presents the results of the RF emissions measurements performed on a Digital Television Transmitter, Part No. AT75K0, Serial No. 0001, (hereinafter referred to as the test item). The test item is designed to transmit at 515MHz using an external antenna. The test item has a rated output power of 5000W. The test item was manufactured and submitted for testing by Linear Industries, Inc. located in Elgin, IL.

1.2 Purpose

The test series was performed to determine if the test item meets the field strength of spurious emissions requirements of the Code of Federal Regulations Title 47, Part 74, Subpart G. Testing was performed in accordance with TIA-603-C-2004.

1.3 Deviations, Additions and Exclusions

These tests were performed at the Linear Industries, Inc. facility in an open area inside the facility. The site attenuation was not verified.

1.4 EMC Laboratory Identification

This series of tests was performed by Elite Electronic Engineering Incorporated of Downers Grove, Illinois. The laboratory is accredited by the National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP Lab Code: 100278-0.

1.5 Laboratory Conditions

The temperature at the time of the test was 24°C and the relative humidity was 33%.

2 APPLICABLE DOCUMENTS

The following documents of the exact issue designated form part of this document to the extent specified herein:

- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 74, dated 1 October 2008
- TIA-603-C-2004, "Land Mobile FM or PM – Communications Equipment – Measurement and Performance Standards"

3 TEST ITEM SET-UP AND OPERATION

3.1 General Description

The test item is a Linear Industries, Inc., Digital Television Transmitter, Model No. AT75K0. The test item is designed to transmit at 515MHz. A block diagram of the test item set-up is shown as Figure 1.

3.1.1 Power Input

The test item was powered by 240V, 60Hz single phase power.

3.1.2 Peripheral Equipment

The following peripheral equipment was submitted with the test item:

Item	Description
Filter	Com Tech, M/N: A-TC6D200C-NN, S/N: 0937-047171, was connected to the output of the test item
Dummy Load	UHF Digital Altronic Research Inc. (Model No. 6710DE3) 10kW dummy load was connected to the output of the filter



3.1.3 Signal Input/Output Leads

The following interconnect cables were submitted with the test item:

Item	Description
Coaxial Cable	Used to connect the output of the filter to the dummy load.

3.1.4 Grounding

The test item was grounded only through the third wire of its input power cord.

3.2 Operational Mode

For all tests, the test item was transmitting at 515MHz. The test was performed with the test item transmitting at 5000 Watts.

3.3 Test Item Modifications

No modifications were required to comply with the test series.

4 TEST FACILITY AND TEST INSTRUMENTATION

4.1 Test Site

All tests were performed in an open area at the Linear Industries, Inc. facility.

4.2 Test Instrumentation

The test instrumentation and auxiliary equipment used during the tests are listed in Table 9-1.

4.3 Calibration Traceability

Test equipment is maintained and calibrated on a regular basis. All calibrations are traceable to the National Institute of Standards and Technology (NIST).

5 TEST PROCEDURES

5.1 Field Strength of Spurious Emissions

5.1.1 Requirements

Per 74.750(2), Radio frequency harmonics of the visual and aural carriers, measured at the output terminals of the transmitter, shall be attenuated no less than 60 dB below the peak visual output power within the assigned channel. All other emissions appearing on frequencies more than 3 megacycles above or below the upper and lower edges, respectively, of the assigned channel shall be attenuated no less than:

- 1) 30 dB for transmitters rated at no more than 1 watt power output.
- 2) 50 dB for transmitters rated at more than 1 watt power output.
- 3) 60 dB for transmitters rated at more than 100 watts power output.

5.1.2 Procedures

All tests were performed in an open area at the Linear Industries, Inc. facility.

Preliminary radiated emissions measurements were first performed using a peak detector and automatically plotted. The broadband measuring antenna was positioned at a 3 meter distance from the test item. The entire frequency range from 30MHz to 5150MHz was investigated using a peak detector function. All preliminary tests were performed with the test item transmitting at 515MHz into a dummy load.

All significant broadband and narrowband signals found in the preliminary sweeps were then measured using a peak detector at a test distance of 3 meters. The measurements were made with a bilog or double ridged waveguide antenna over the frequency range of 30MHz to 5150MHz. To ensure that maximum emission levels



were measured, the following steps were taken:

- 1) The test item was exposed to the receiving antenna at all 360 degrees.
- 2) Since the measuring antennas are linearly polarized, both horizontal and vertical field components were measured.
- 3) The measuring antenna was raised and lowered for each antenna polarization to maximize the readings.

The equivalent power was determined from the field intensity levels measured at 3 meters using the substitution method. To determine the emission power a tuned dipole or double ridged waveguide antenna was set in place of the test item and connected to a calibrated signal generator. The output of the signal generator was adjusted to match the received level at the spectrum analyzer. The signal level was recorded. The reading was corrected to compensate for cable loss, as required, and when the double ridged waveguide antenna was used, increased by the difference in gain between the dipole and the waveguide antenna.

5.1.3 Results

The preliminary radiated emissions of the site ambient are presented on pages 10 through 25. Factors for the antennas and cables were added to the data before it was plotted. This data is only presented for a reference, and is used to determine the ambient emissions of the site.

The preliminary radiated emissions plots are presented on pages 26 through 41. Factors for the antennas and cables were added to the data before it was plotted. This data is only presented for a reference, and is not used as official data.

The final radiated levels are presented on page 42. The radiated emissions were measured through the 10th harmonic. As can be seen from the data, all emissions measured from the test item were within the specification limits. Photographs of the test site and test setup configuration are shown on Figure 2.

6 OTHER TEST CONDITIONS

6.1 Test Personnel and Witnesses

All tests were performed by qualified personnel from Elite Electronic Engineering Incorporated. The test series was witnessed by Linear Industries, Inc. personnel.

6.2 Disposition of the Test Item

The test item and all associated equipment were returned to Linear Industries, Inc. upon completion of the tests.

7 CONCLUSIONS

It was determined that the Linear Industries, Inc. Digital Television Transmitter, Part No. AT75K0, Serial No. 0001, did fully meet the spurious radiated emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 74, Subpart G, when tested per TIA-603-C-2004.

8 CERTIFICATION

Elite Electronic Engineering Incorporated certifies that the information contained in this report was obtained under conditions which meet or exceed those specified in the test specifications.

The data presented in this test report pertains to the test item at the test date as operated by Linear Industries, Inc. personnel. Any electrical or mechanical modification made to the test item subsequent to the specified test date will serve to invalidate the data and void this certification.

This report must not be used to claim product endorsement by NVLAP or any agency of the US Government.



9 EQUIPMENT LIST

Table 9-1 Equipment List

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Due Date
CDU2	LAPTOP COMPUTER	DELL	PRECISION	---	---	N/A	
GSD0	SIGNAL GENERATOR	ROHDE & SCHWARZ	SMB 100A	100395	9KHZ-6GHZ	2/12/2009	2/12/2010
NDN0	TUNED DIPOLE ANTENNA	EMCO	3121C-DB2	311	60-140MHZ	3/12/2009	3/12/2010
NDQ0	TUNED DIPOLE ANTENNA	EMCO	3121C-DB4	311	400-1000MHZ	3/12/2009	3/12/2010
NTA1	BILOG ANTENNA	CHASE EMC LTD.	BILOG CBL6112	2054	0.03-2GHZ	9/10/2009	9/10/2010
NWF0	RIDGED WAVE GUIDE	EMCO	3105	2035	1-12.4GHZ	10/25/2008	10/25/2009
NWH0	RIDGED WAVE GUIDE	TENSOR	4105	2081	1-12.4GHZ	10/25/2008	10/25/2009
RBB0	EMI TEST RECEIVER 20HZ TO 40 GHZ.	ROHDE & SCHWARZ	ESIB40	100250	20 HZ TO 40GHZ	3/11/2009	3/11/2010

N/A: Not Applicable

Note 1: For the purpose of this test, the equipment was calibrated over the specified frequency range, pulse rate, or modulation prior to the test or monitored by a calibrated instrument.

Figure 1 Diagram of Test Item Setup

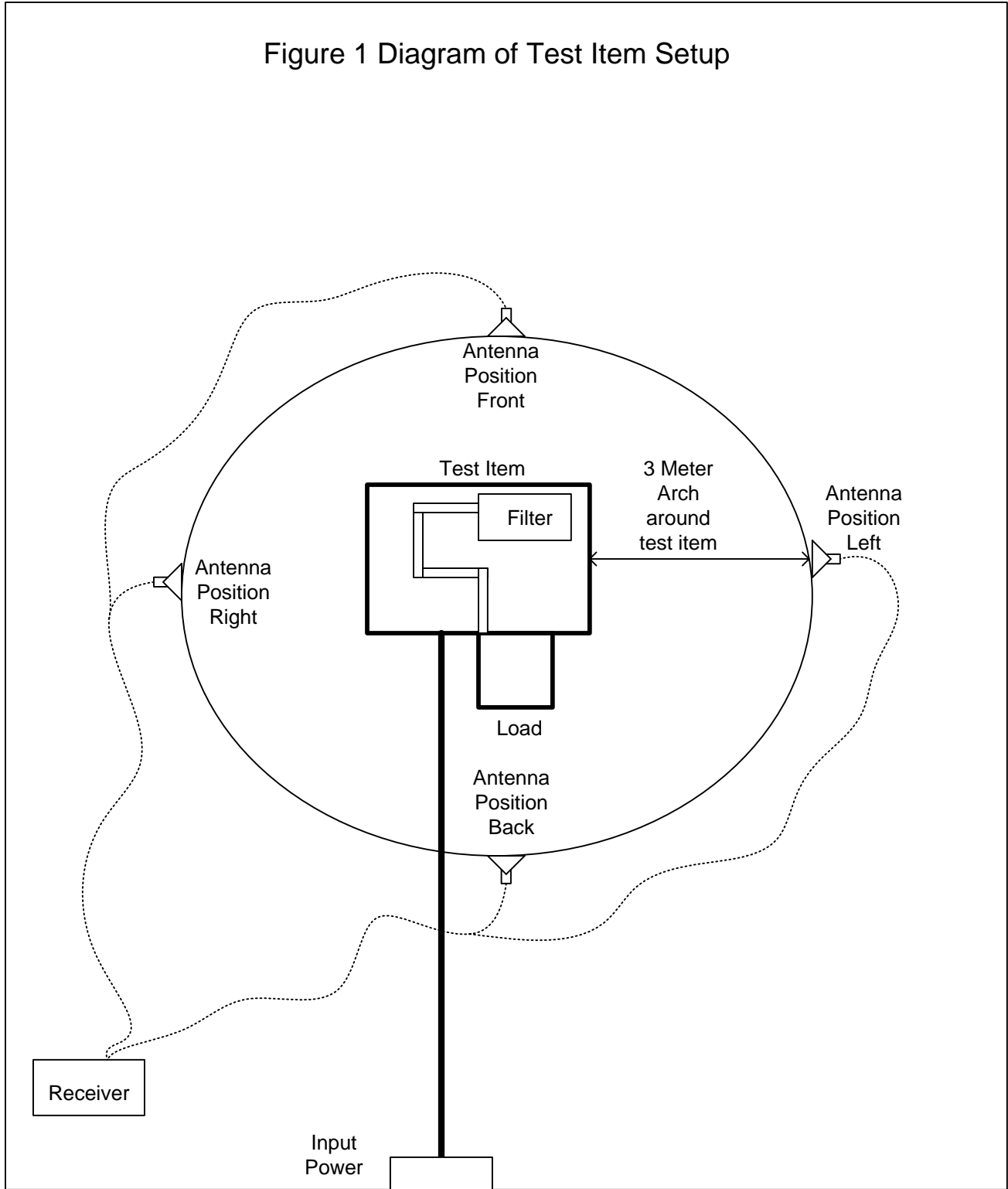


Figure 2



Test Set-up for Radiated Emissions, 1GHz to 5150MHz – Horizontal Polarization

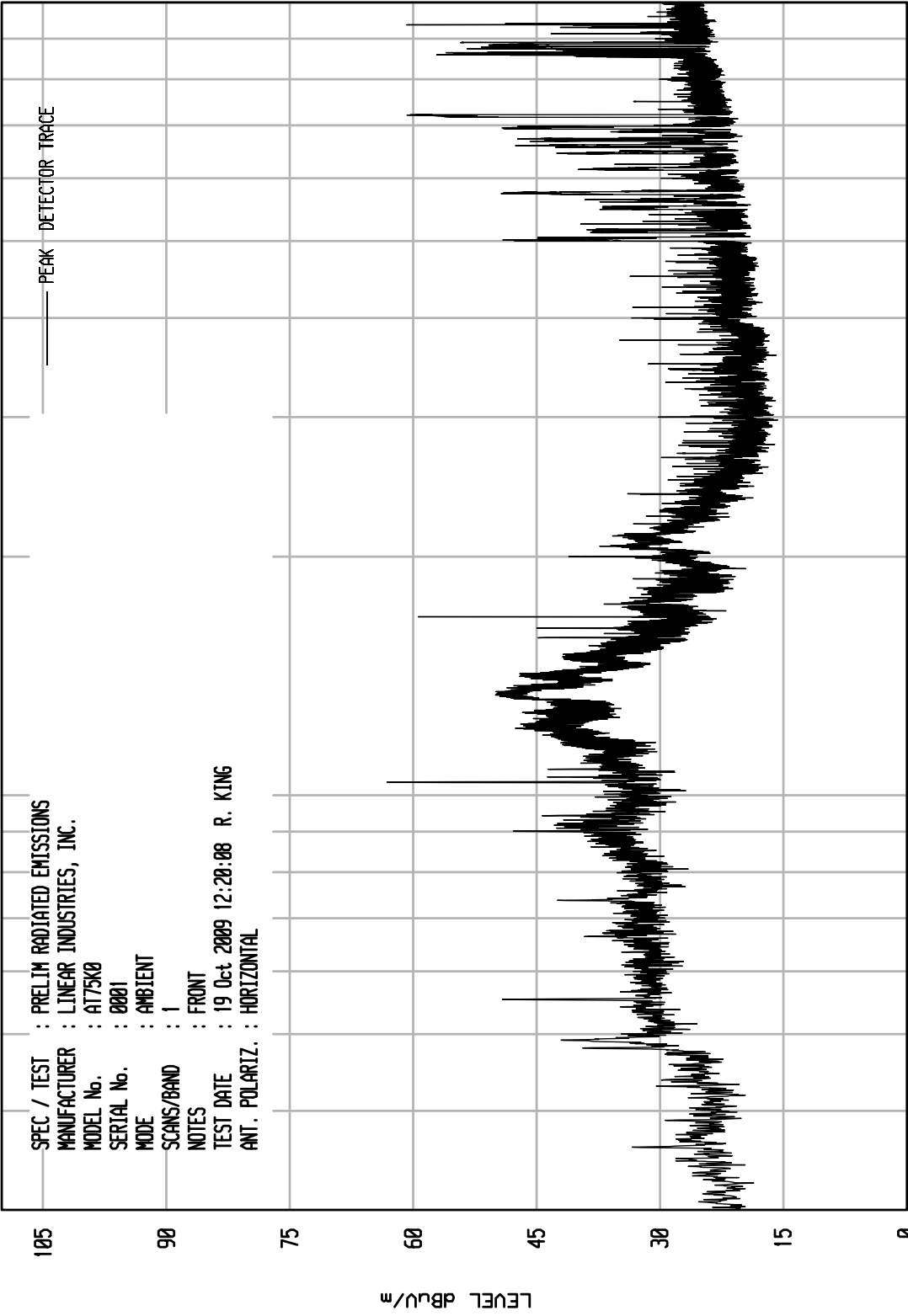


Test Set-up for Radiated Emissions, 1GHz to 5150MHz – Vertical Polarization

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UK01 01/30/09

UNITV RCU EMI RUN 18



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT
 SCANS/BAND : 1
 NOTES : FRONT
 TEST DATE : 19 Oct 2009 12:20:08 R. KING
 ANT. POLARIZ. : HORIZONTAL

START = 30

100

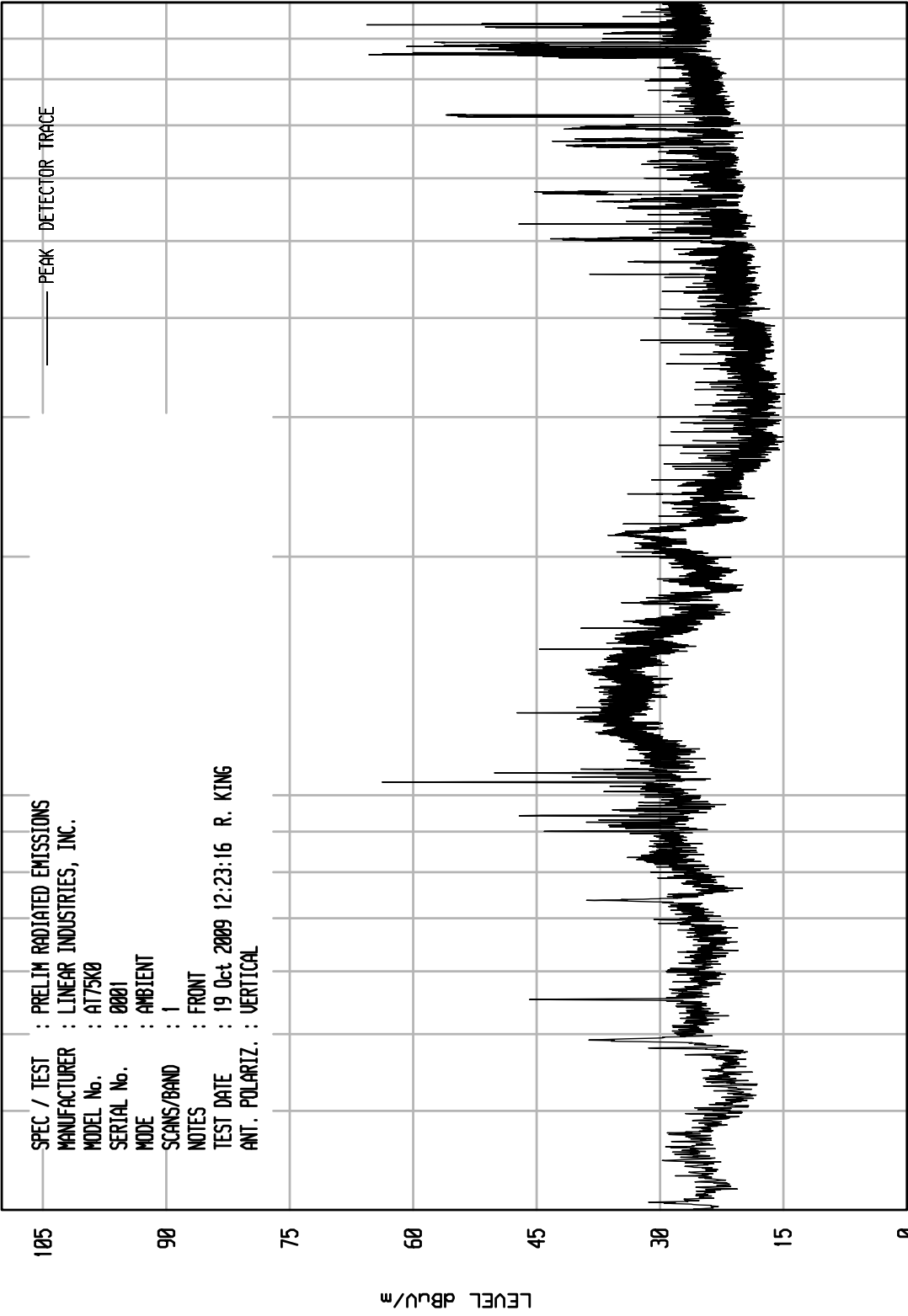
FREQUENCY MHz

STOP = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UK01 01/30/09

UNITV RCU EMI RUN 19



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT
 SCANS/BAND : 1
 NOTES : FRONT
 TEST DATE : 19 Oct 2009 12:23:16 R. KING
 ANT. POLARIZ. : VERTICAL

— PEAK — DETECTOR TRACE

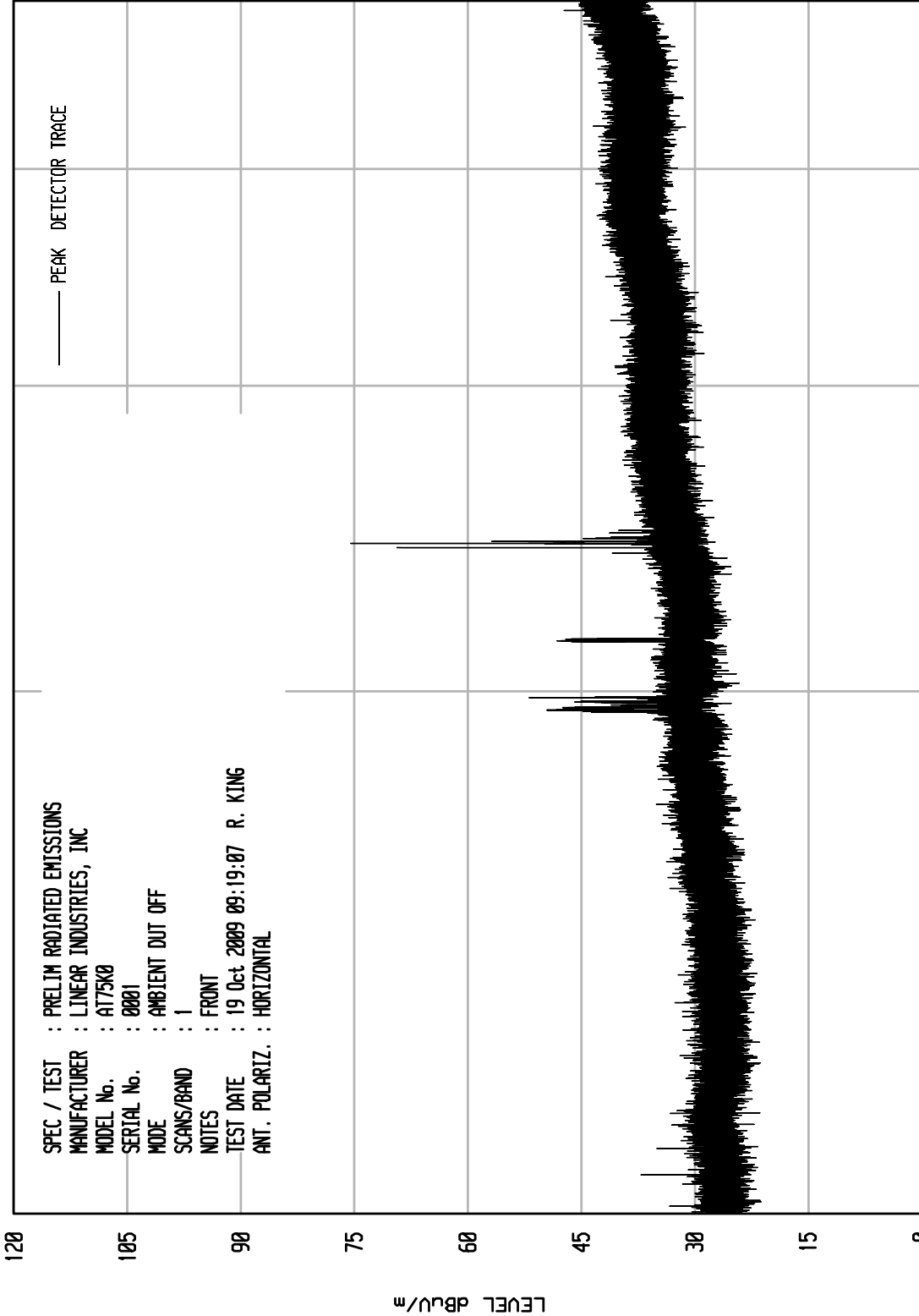
START = 30 STOP = 1000
 FREQUENCY MHz

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 7

UK01 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT DUT OFF
 SCANS/BAND : 1
 NOTES : FRONT
 TEST DATE : 19 Oct 2009 09:19:07 R. KING
 ANT. POLARIZ. : HORIZONTAL



STOP = 5000

FREQUENCY MHz

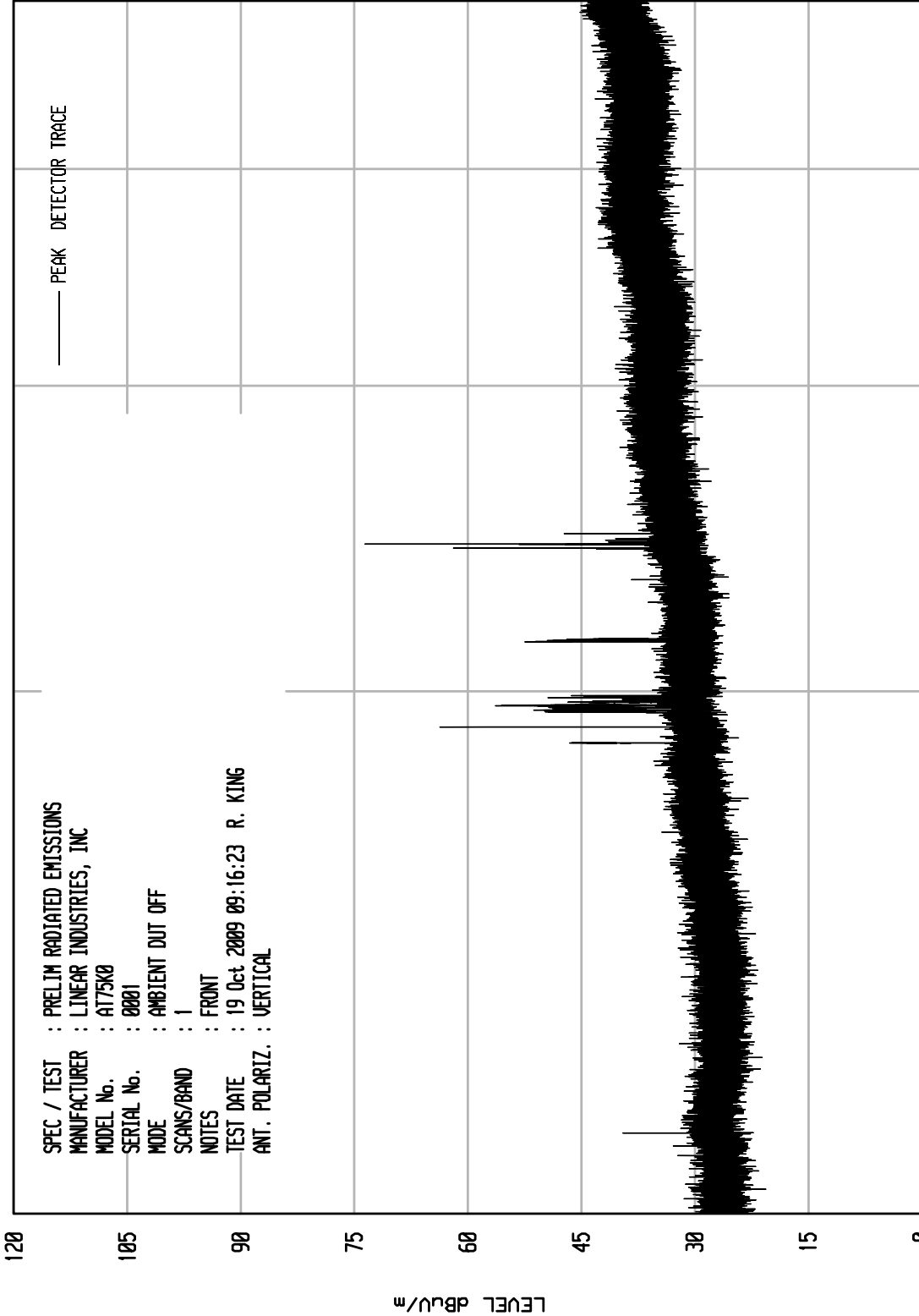
START = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 6

UKR1 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT DUT OFF
 SCANS/BAND : 1
 NOTES : FRONT
 TEST DATE : 19 Oct 2009 09:16:23 R. KING
 ANT. POLARIZ. : VERTICAL



STOP = 5000

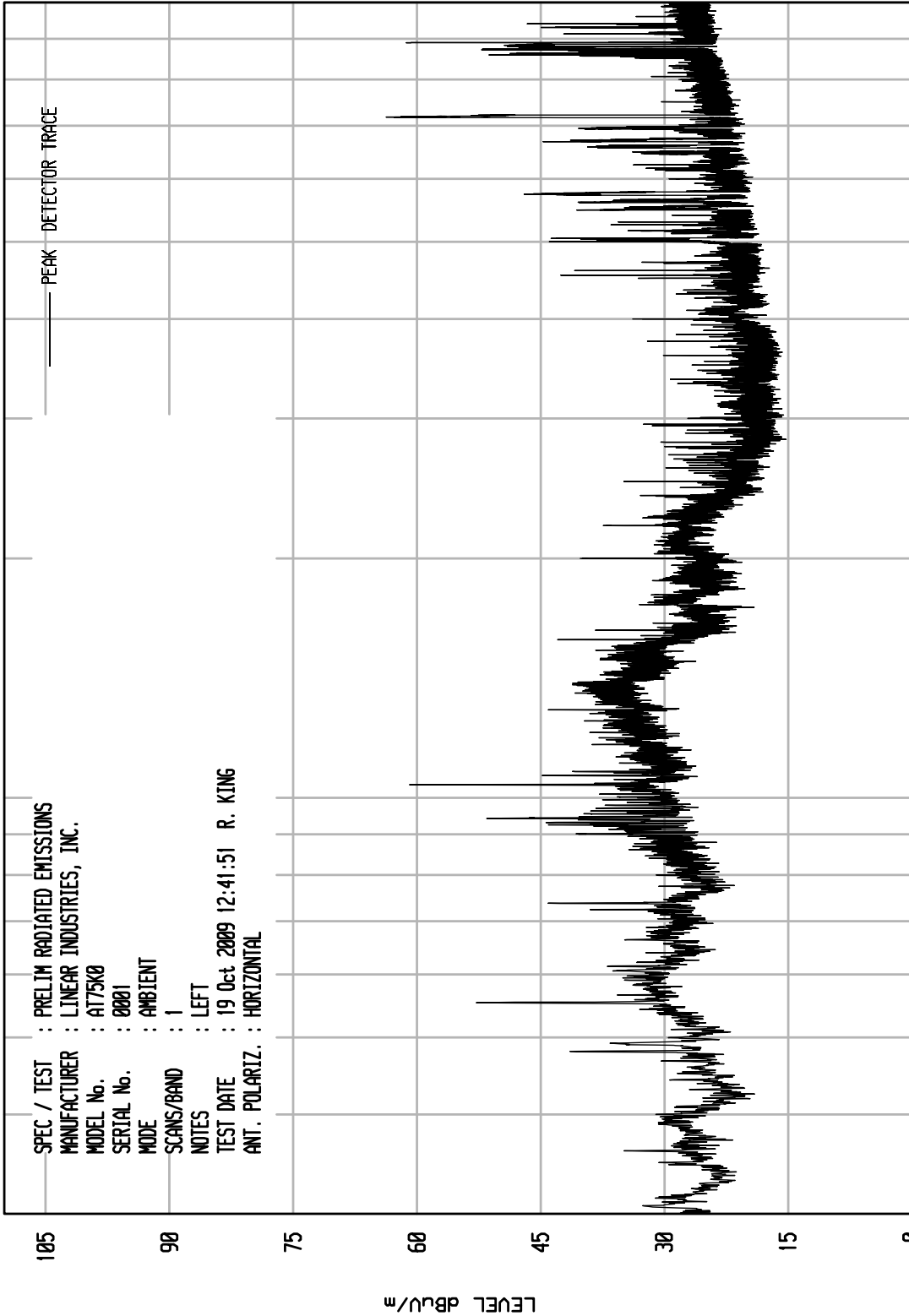
FREQUENCY MHz

START = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UK01 01/30/09

UNITV RCU EMI RUN 25



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT
 SCANS/BAND : 1
 NOTES : LEFT
 TEST DATE : 19 Oct 2009 12:41:51 R. KING
 ANT. POLARIZ. : HORIZONTAL

START = 30

100

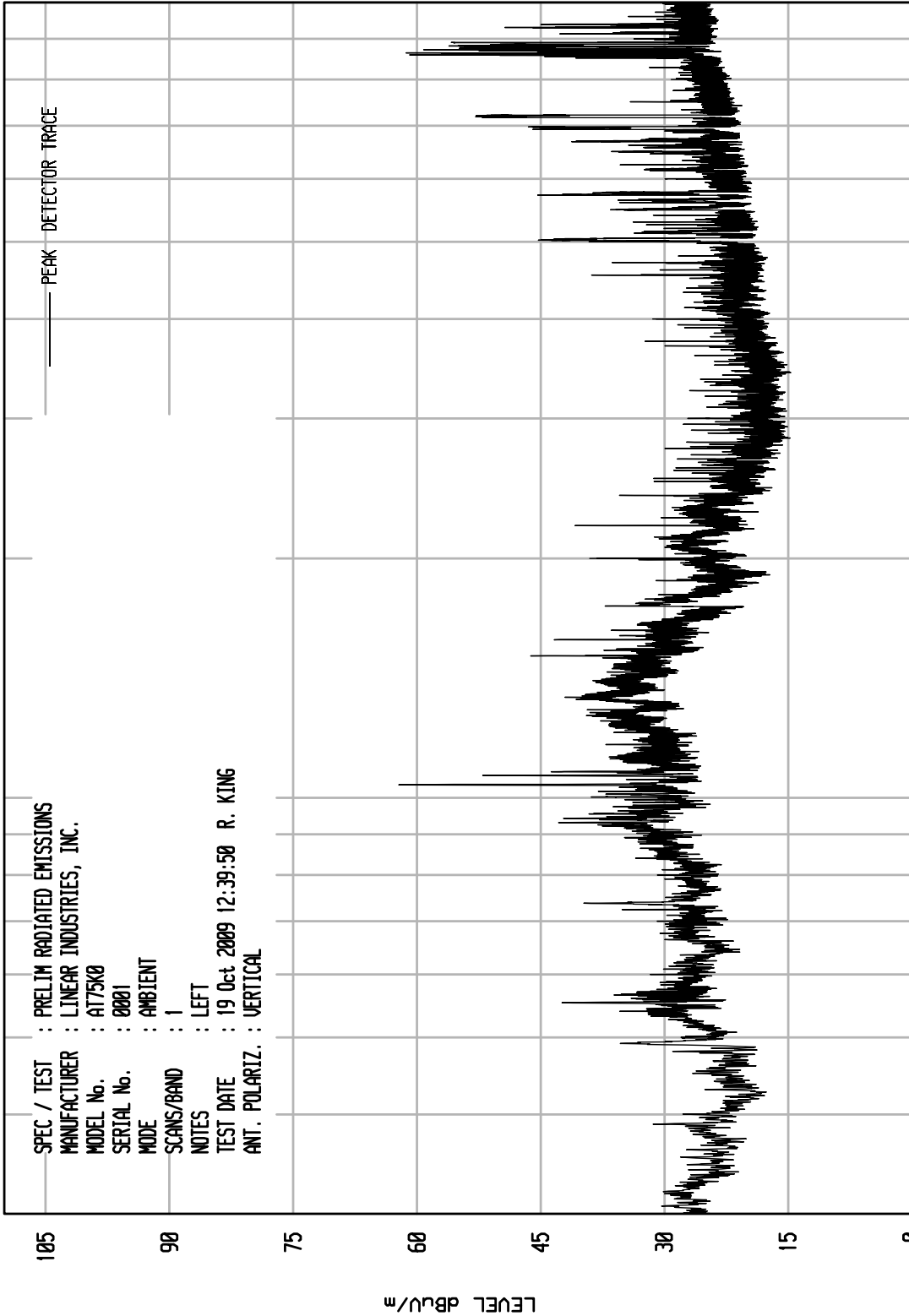
FREQUENCY MHz

STOP = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UK01 01/30/09

UNITV RCU EMI RUN 24



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT
 SCANS/BAND : 1
 NOTES : LEFT
 TEST DATE : 19 Oct 2009 12:39:50 R. KING
 ANT. POLARIZ. : VERTICAL

START = 30

100

FREQUENCY MHz

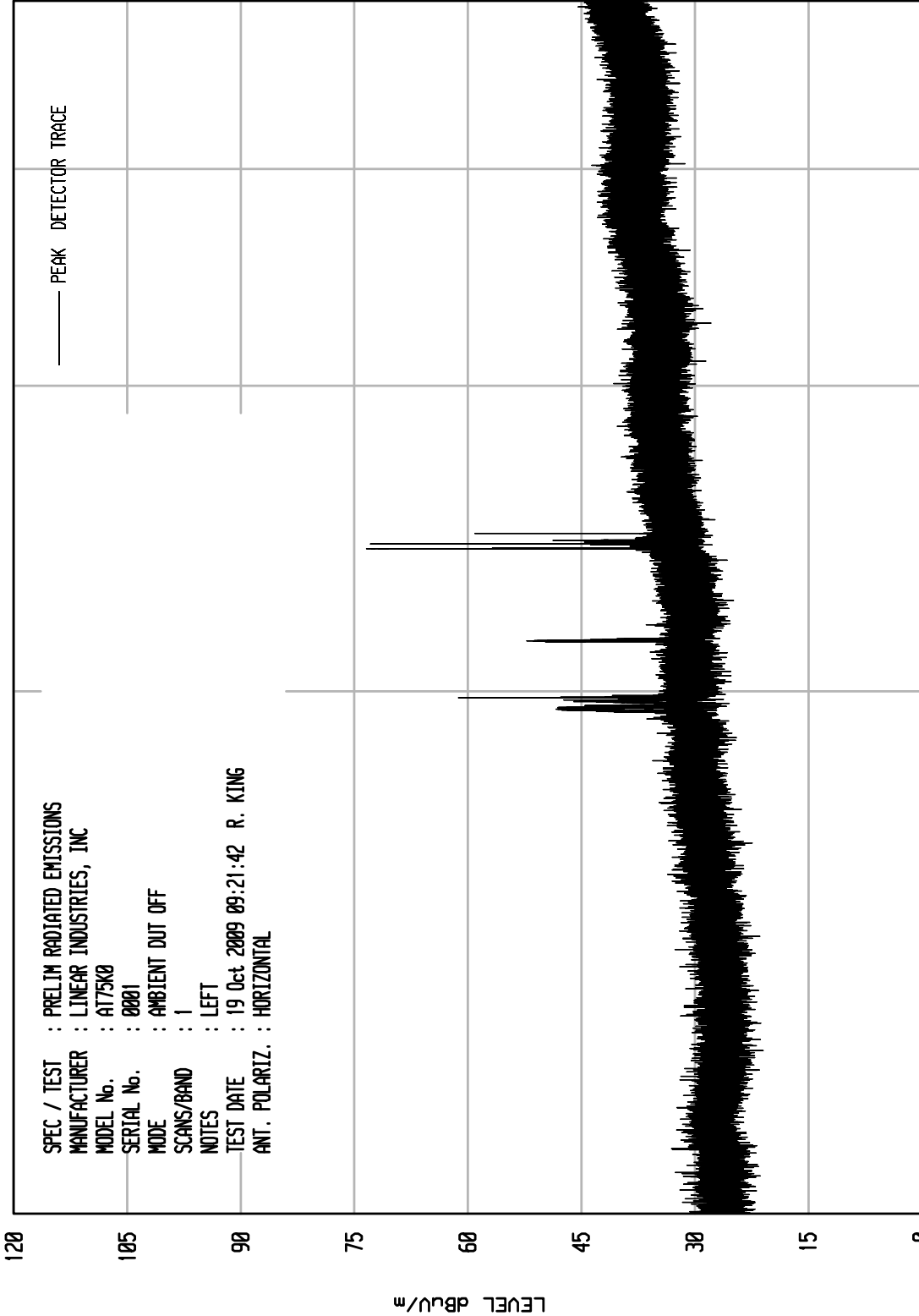
STOP = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 8

UK01 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT DUT OFF
 SCANS/BAND : 1
 NOTES : LEFT
 TEST DATE : 19 Oct 2009 09:21:42 R. KING
 ANT. POLARIZ. : HORIZONTAL



STOP = 5000

FREQUENCY MHz

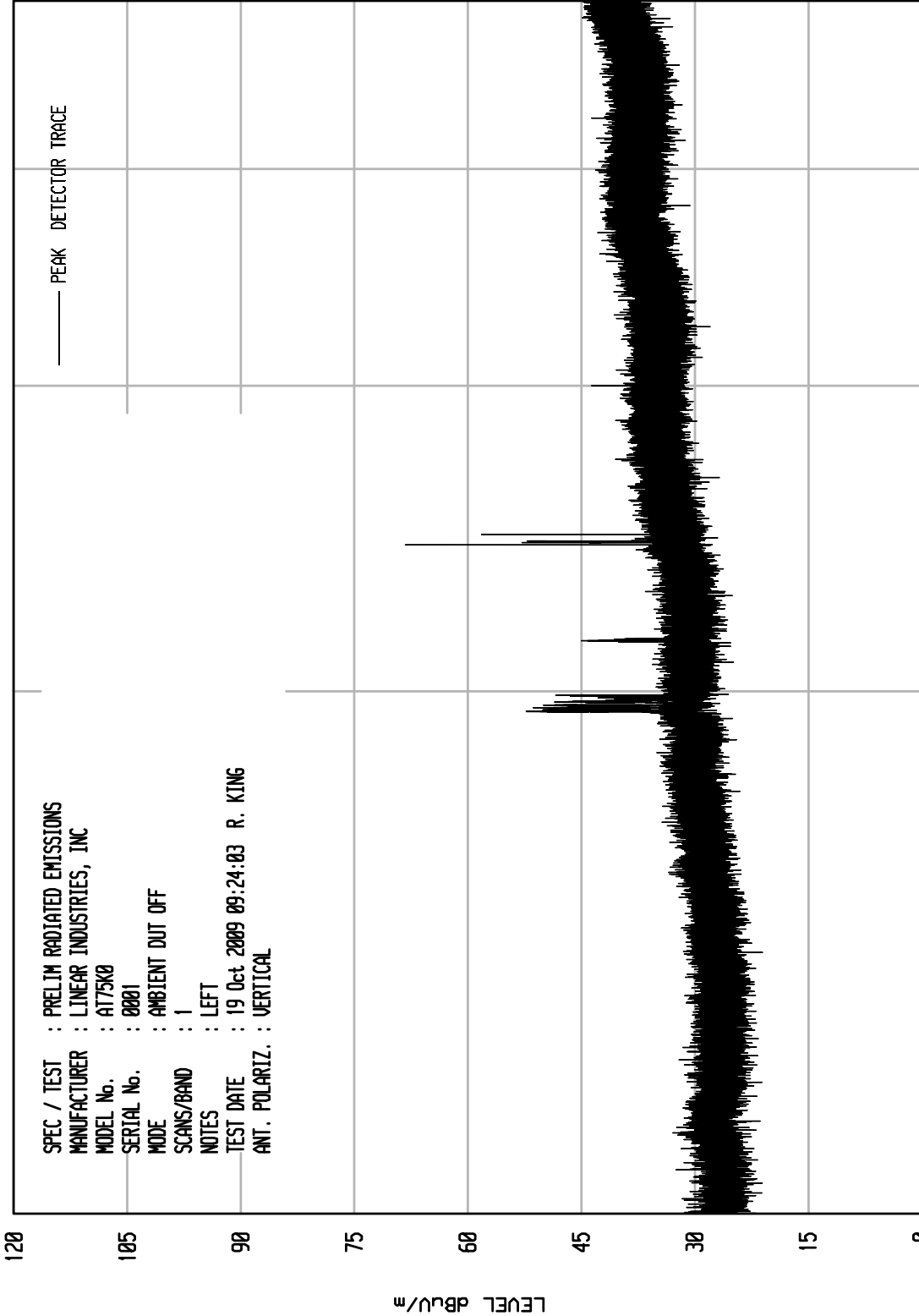
START = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 9

UKR1 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT DUT OFF
 SCANS/BAND : 1
 NOTES : LEFT
 TEST DATE : 19 Oct 2009 09:24:03 R. KING
 ANT. POLARIZ. : VERTICAL



START = 1000

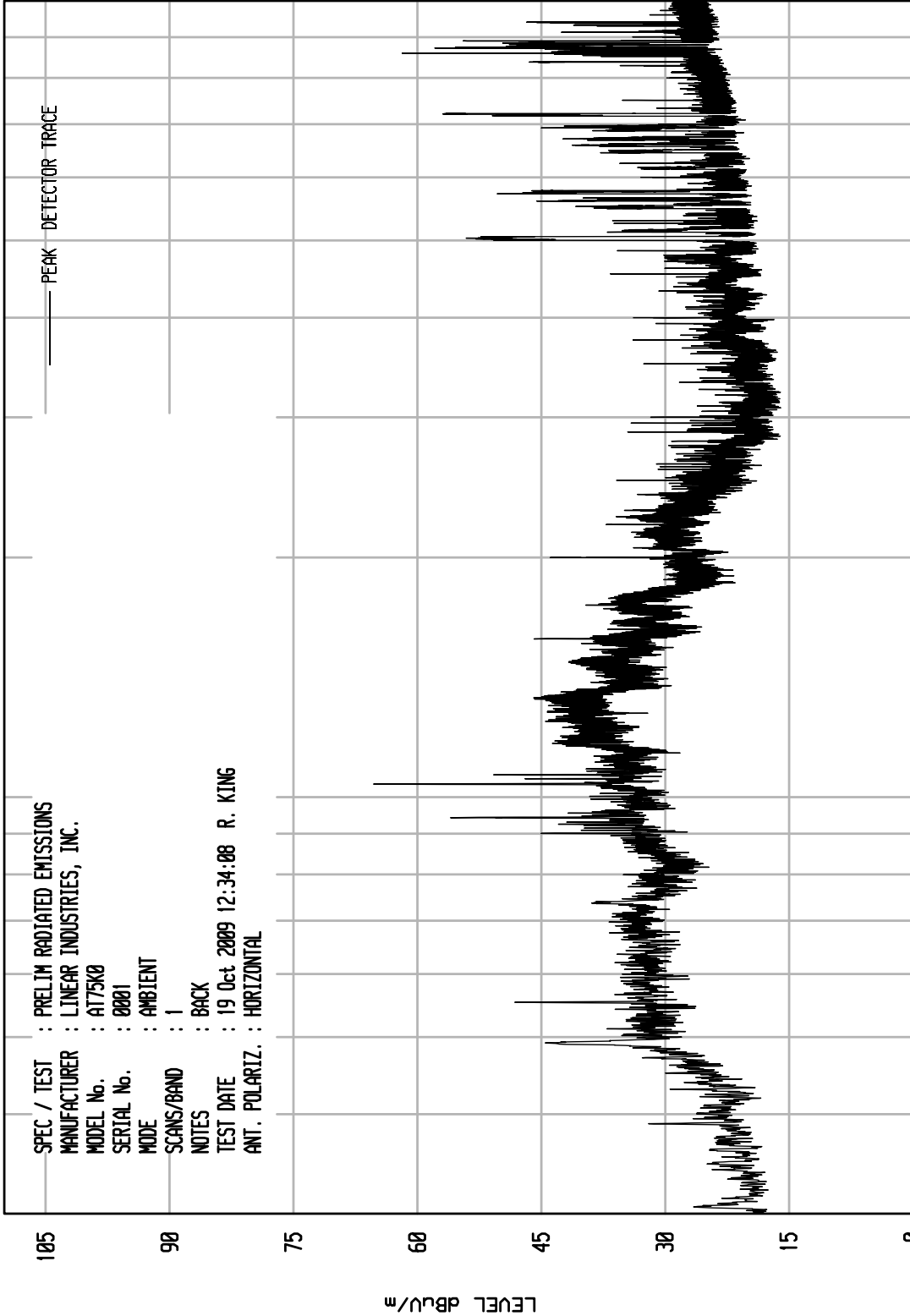
FREQUENCY MHz

STOP = 5000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UK01 01/30/09

UNITV RCU EMI RUN 22



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT
 SCANS/BAND : 1
 NOTES : BACK
 TEST DATE : 19 Oct 2009 12:34:08 R. KING
 ANT. POLARIZ. : HORIZONTAL

START = 30

100

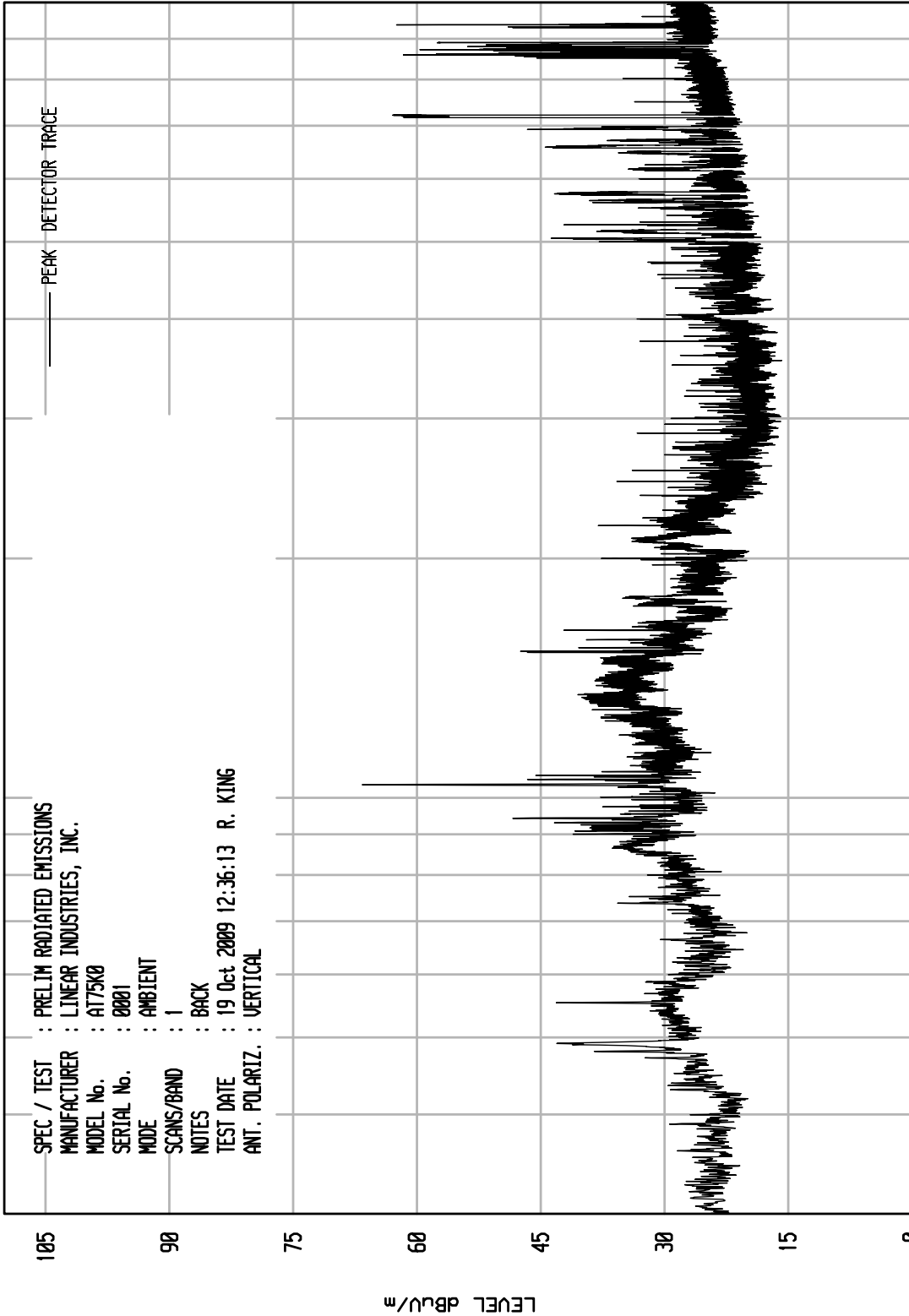
FREQUENCY MHz

STOP = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UK01 01/30/09

UNITV RCU EMI RUN 23



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT
 SCANS/BAND : 1
 NOTES : BACK
 TEST DATE : 19 Oct 2009 12:36:13 R. KING
 ANT. POLARIZ. : VERTICAL

STOP = 1000

FREQUENCY MHz

100

START = 30

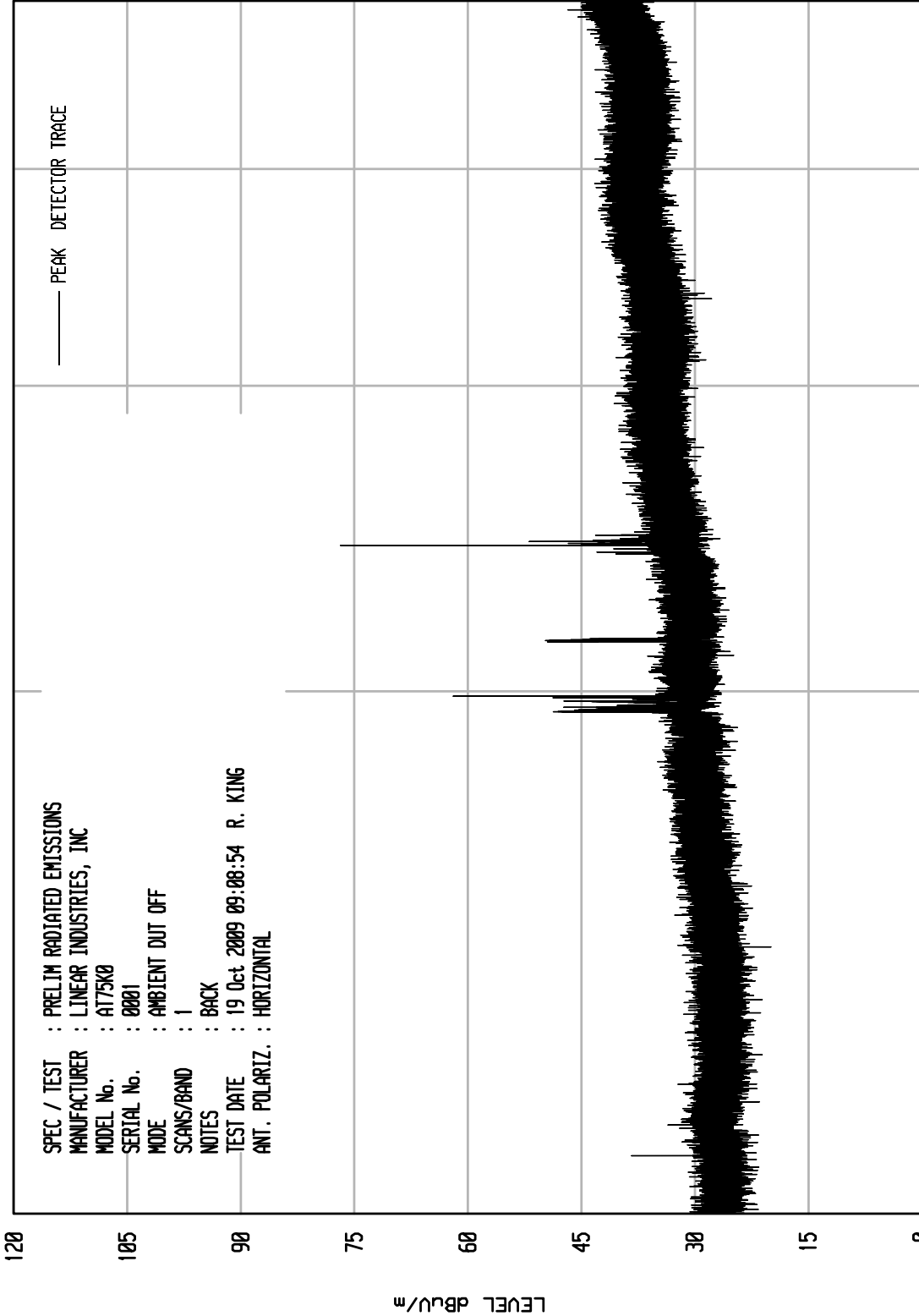
LEVEL dBu/m

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 3

UK01 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT DUT OFF
 SCANS/BAND : 1
 NOTES : BACK
 TEST DATE : 19 Oct 2009 09:08:54 R. KING
 ANT. POLARIZ. : HORIZONTAL



STOP = 5000

FREQUENCY MHz

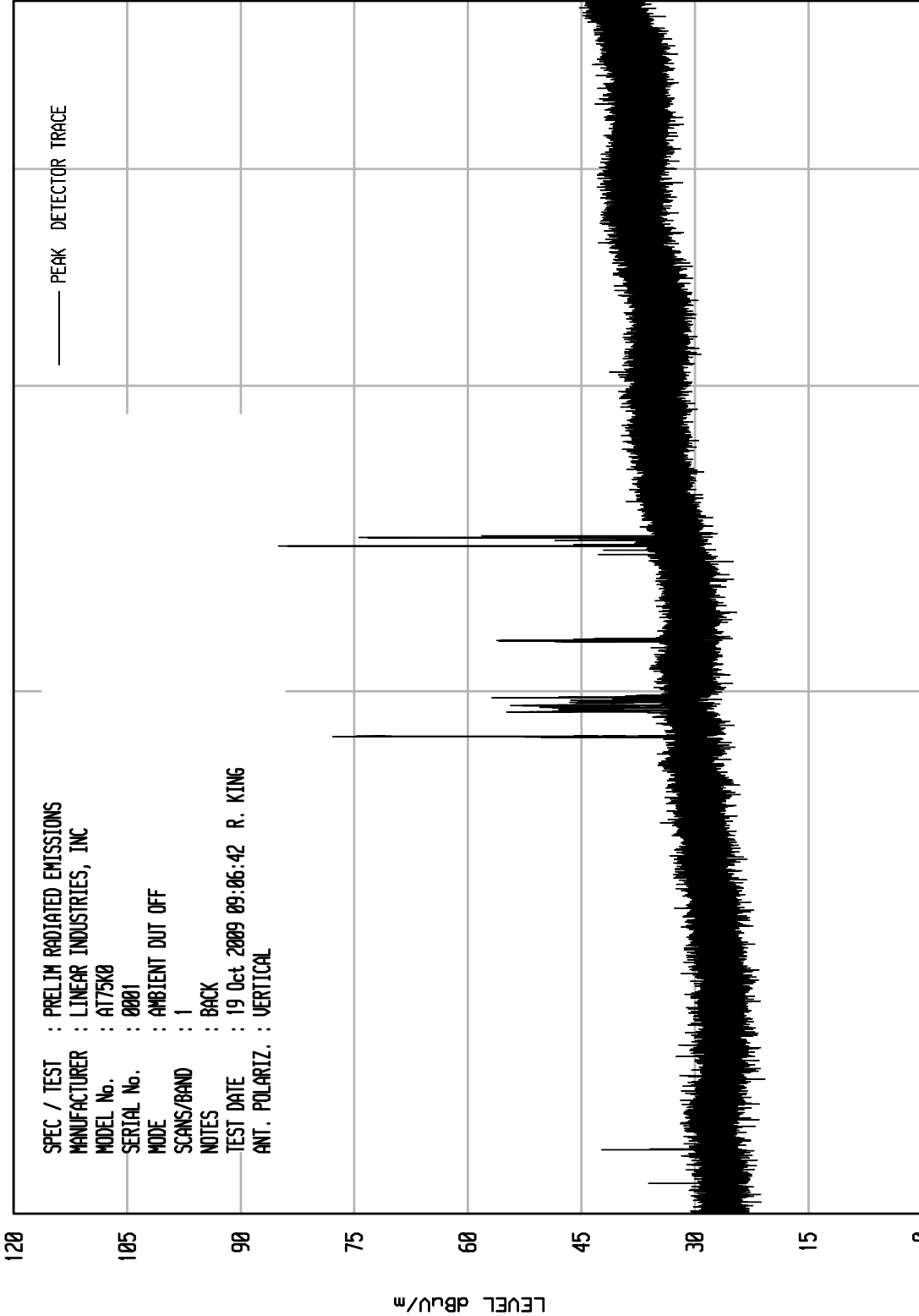
START = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 2

UKR1 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT DUT OFF
 SCANS/BAND : 1
 NOTES : BACK
 TEST DATE : 19 Oct 2009 09:06:42 R. KING
 ANT. POLARIZ. : VERTICAL



STOP = 5000

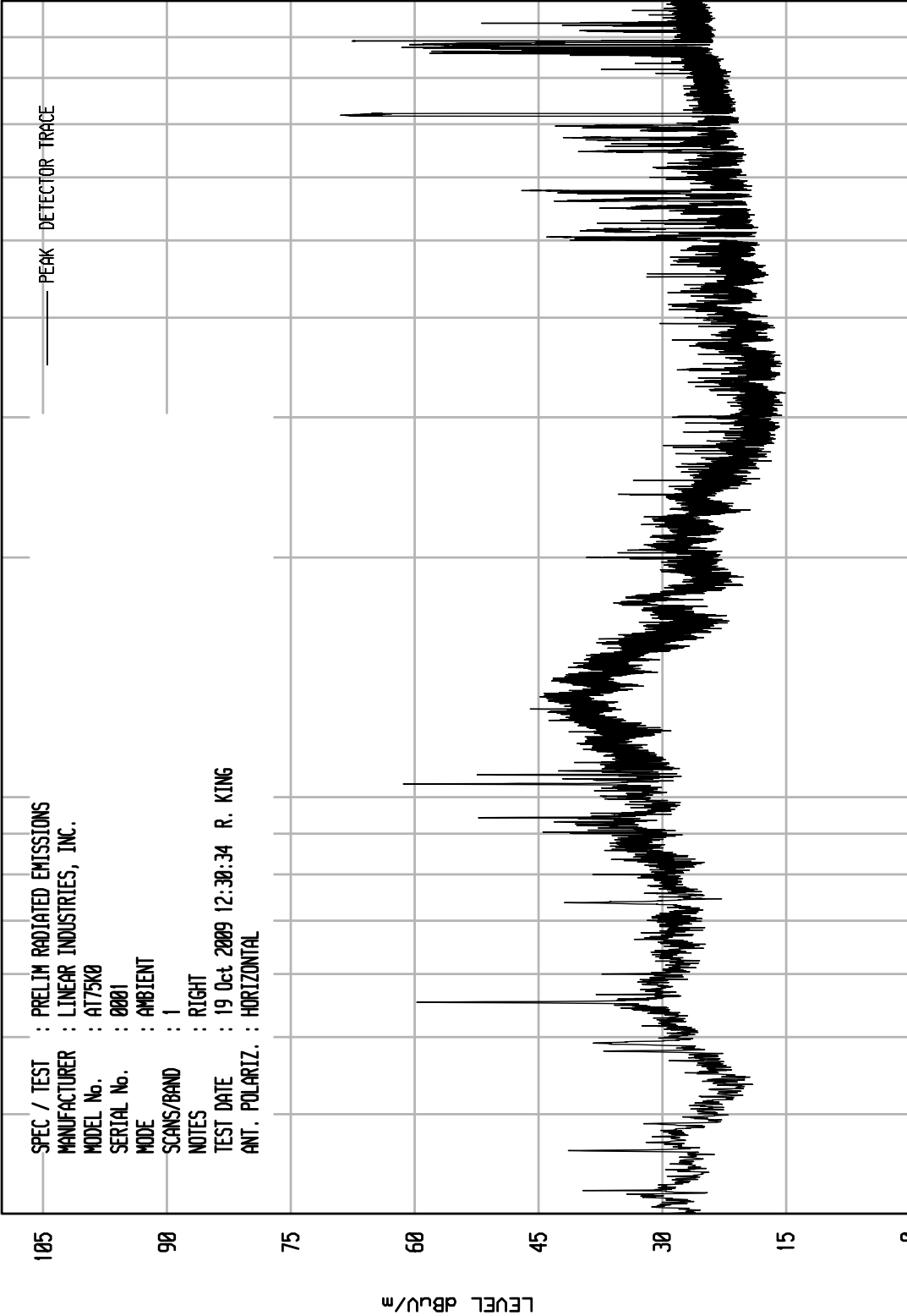
FREQUENCY MHz

START = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 21

UK01 01/30/09



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT
 SCANS/BAND : 1
 NOTES : RIGHT
 TEST DATE : 19 Oct 2009 12:30:34 R. KING
 ANT. POLARIZ. : HORIZONTAL

STOP = 1000

FREQUENCY MHz

100

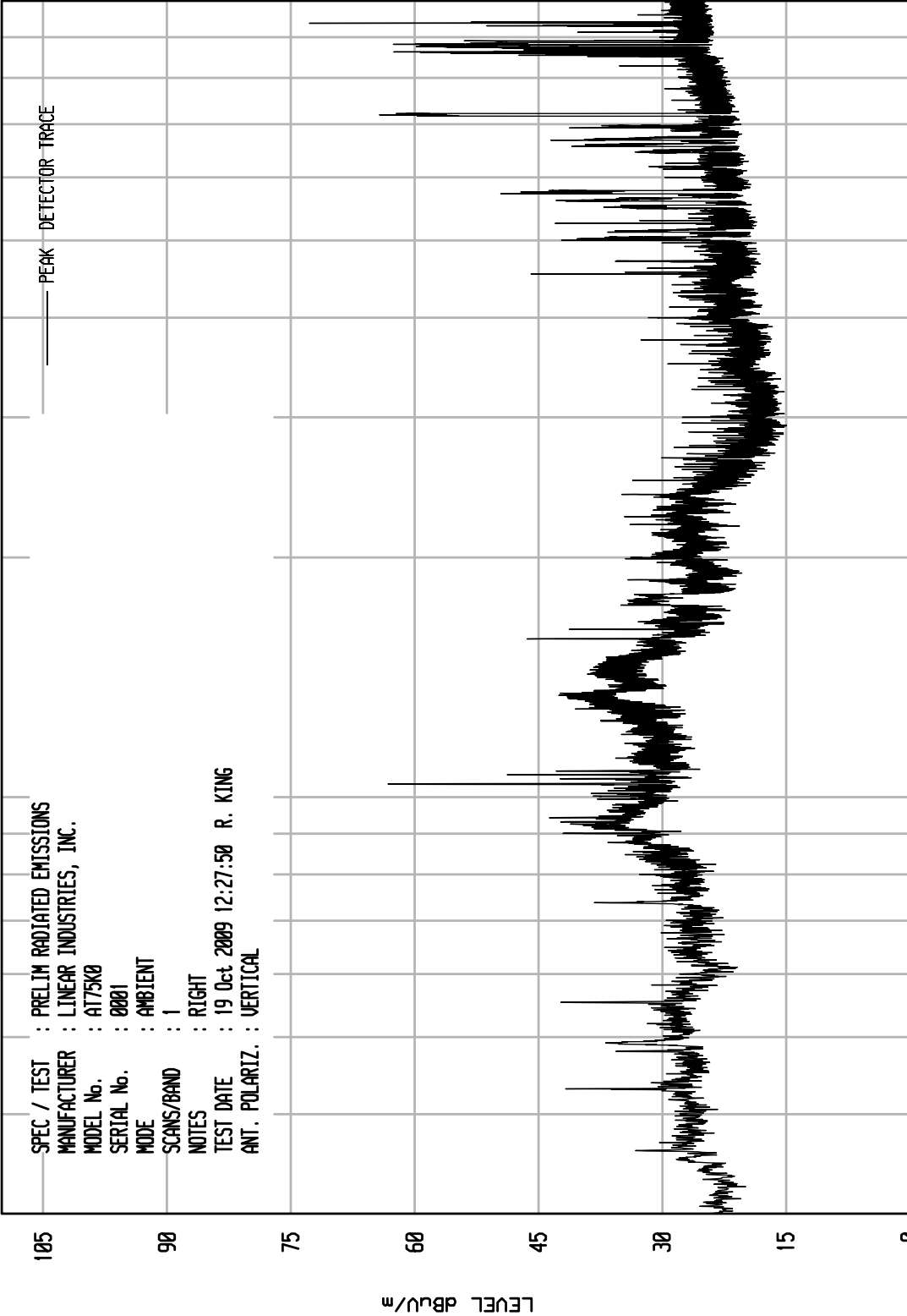
START = 30

LEVEL dBu/m

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UK01 01/30/09

UNITV RCU EMI RUN 20



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT
 SCANS/BAND : 1
 NOTES : RIGHT
 TEST DATE : 19 Oct 2009 12:27:50 R. KING
 ANT. POLARIZ. : VERTICAL

START = 30

100

FREQUENCY MHz

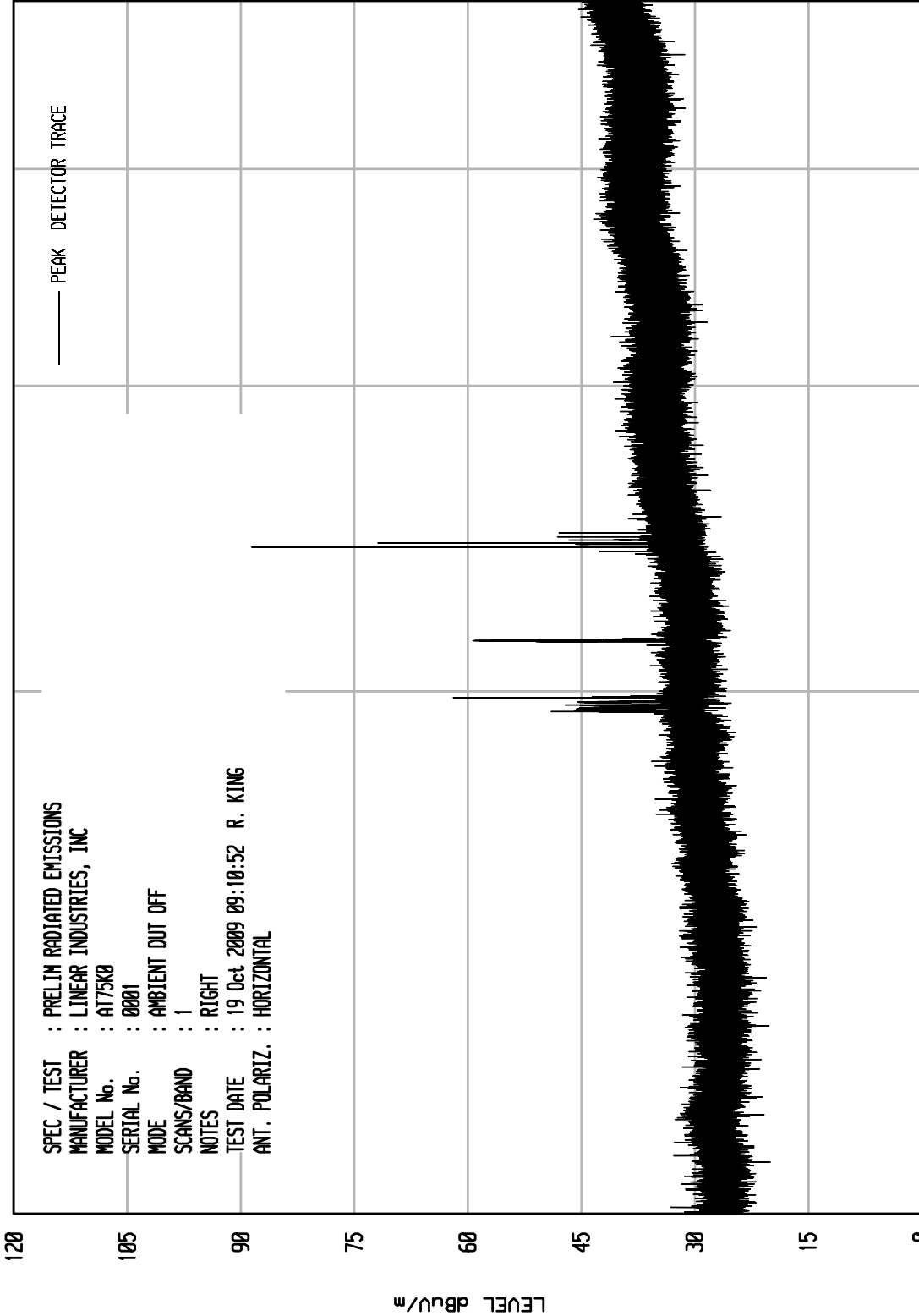
STOP = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 4

UK01 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT DUT OFF
 SCANS/BAND : 1
 NOTES : RIGHT
 TEST DATE : 19 Oct 2009 09:10:52 R. KING
 ANT. POLARIZ. : HORIZONTAL



STOP = 5000

FREQUENCY MHz

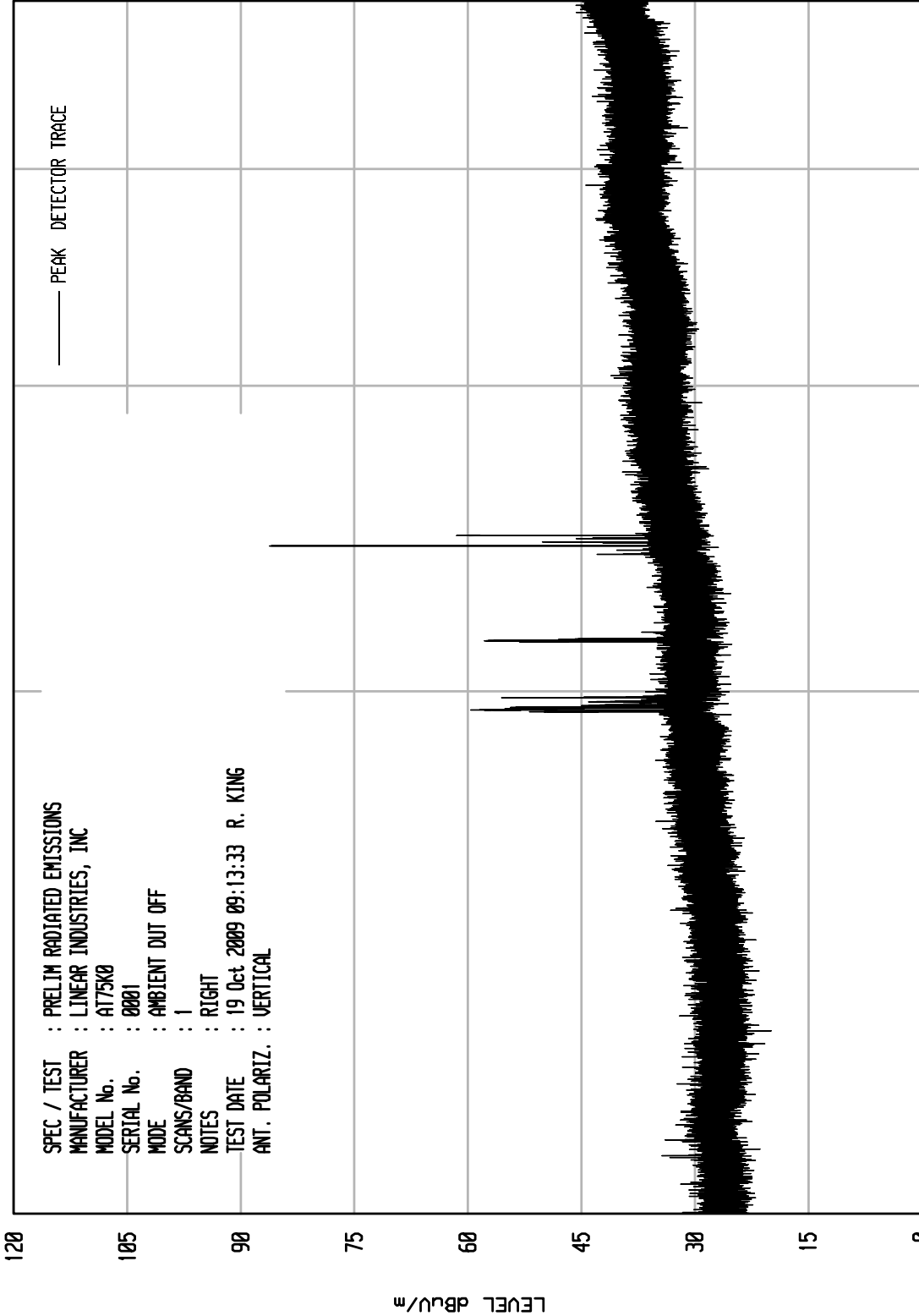
START = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 5

UK01 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : AMBIENT DUT OFF
 SCANS/BAND : 1
 NOTES : RIGHT
 TEST DATE : 19 Oct 2009 09:13:33 R. KING
 ANT. POLARIZ. : VERTICAL



STOP = 5000

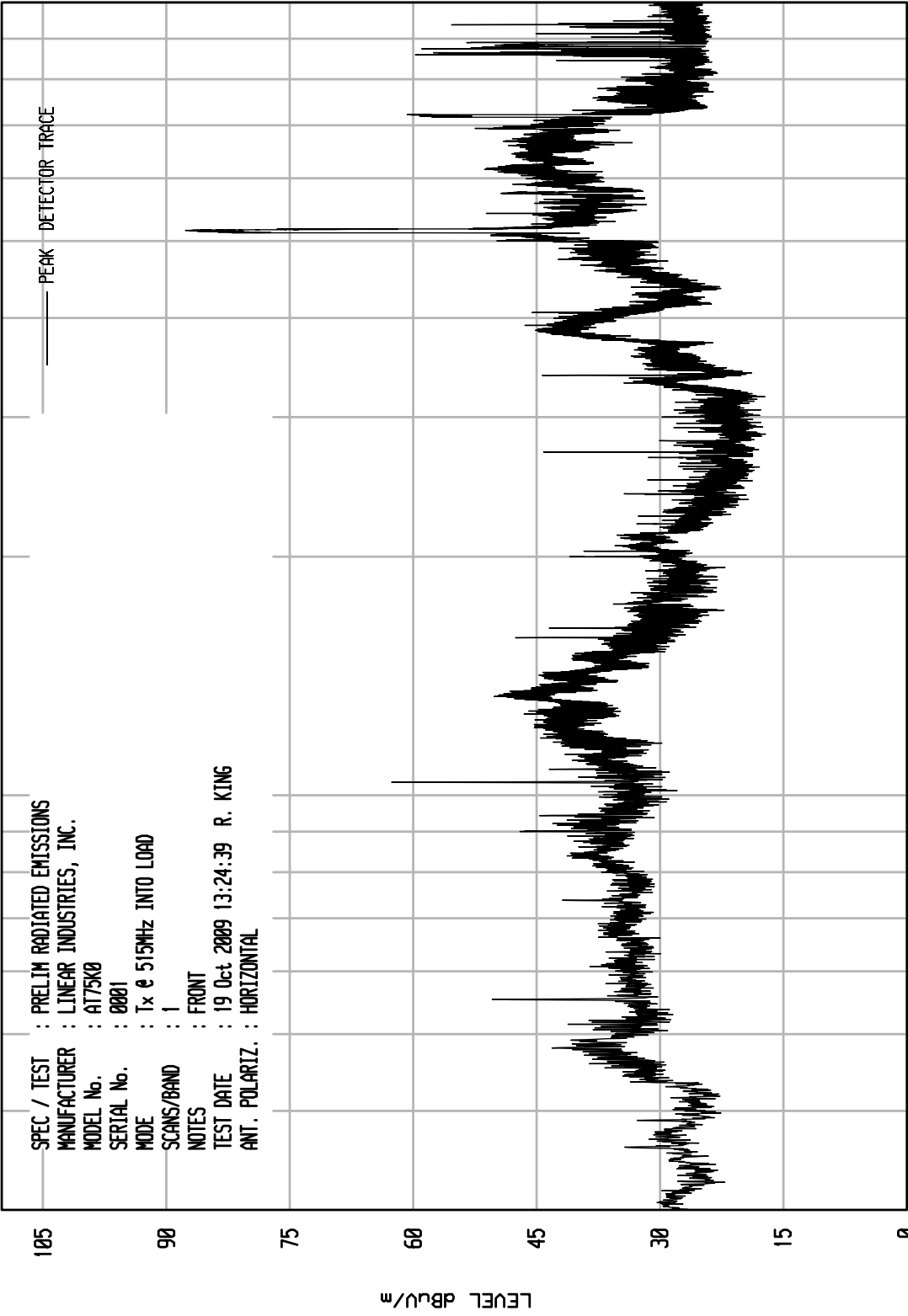
FREQUENCY MHz

START = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UK01 01/30/09

UNITV RCU EMI RUN 32



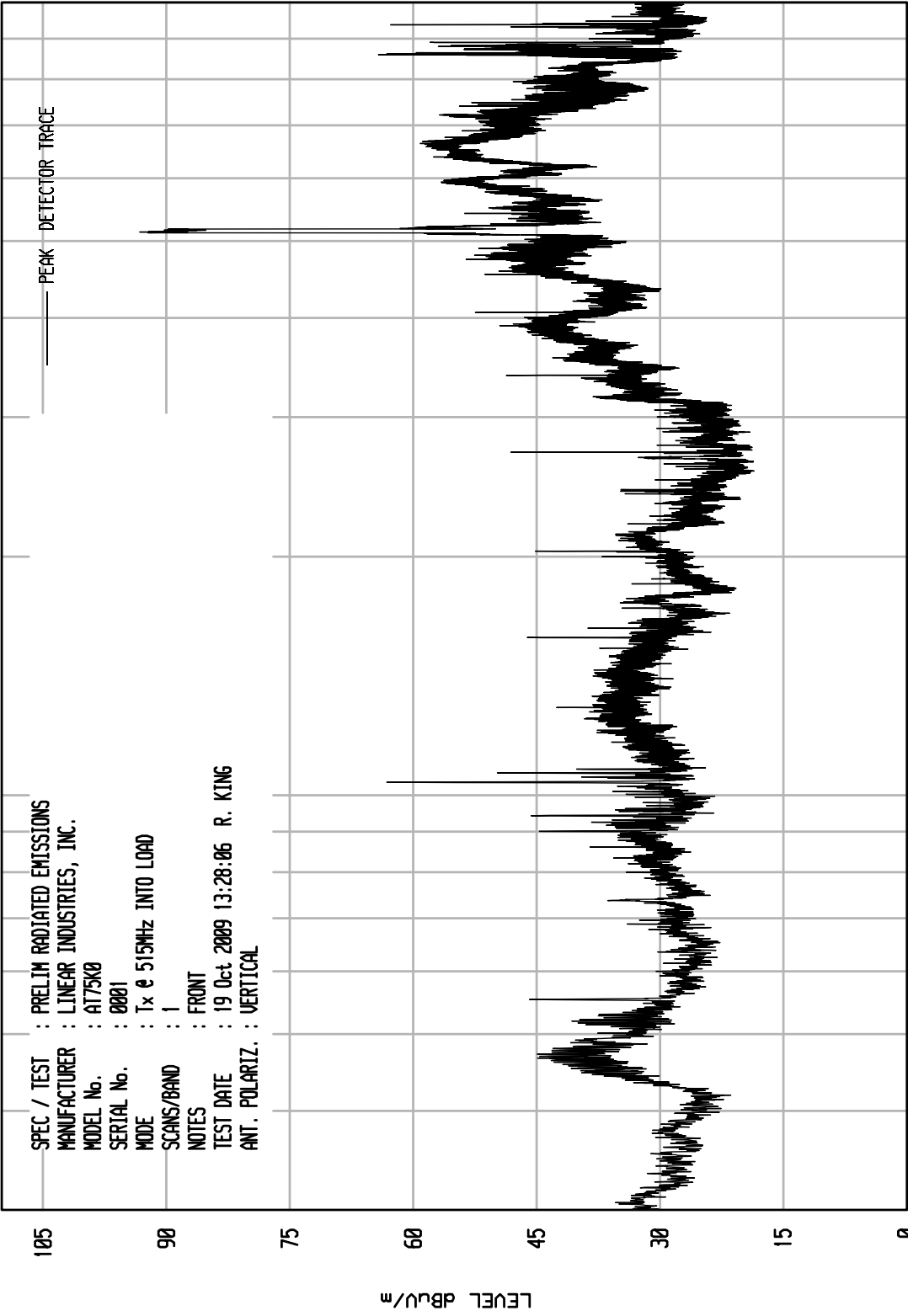
SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz INTO LOAD
 SCANS/BAND : 1
 NOTES : FRONT
 TEST DATE : 19 Oct 2009 13:24:39 R. KING
 ANT. POLARIZ. : HORIZONTAL

START = 30 STOP = 1000
 FREQUENCY MHz

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 33

UKR1 01/30/09



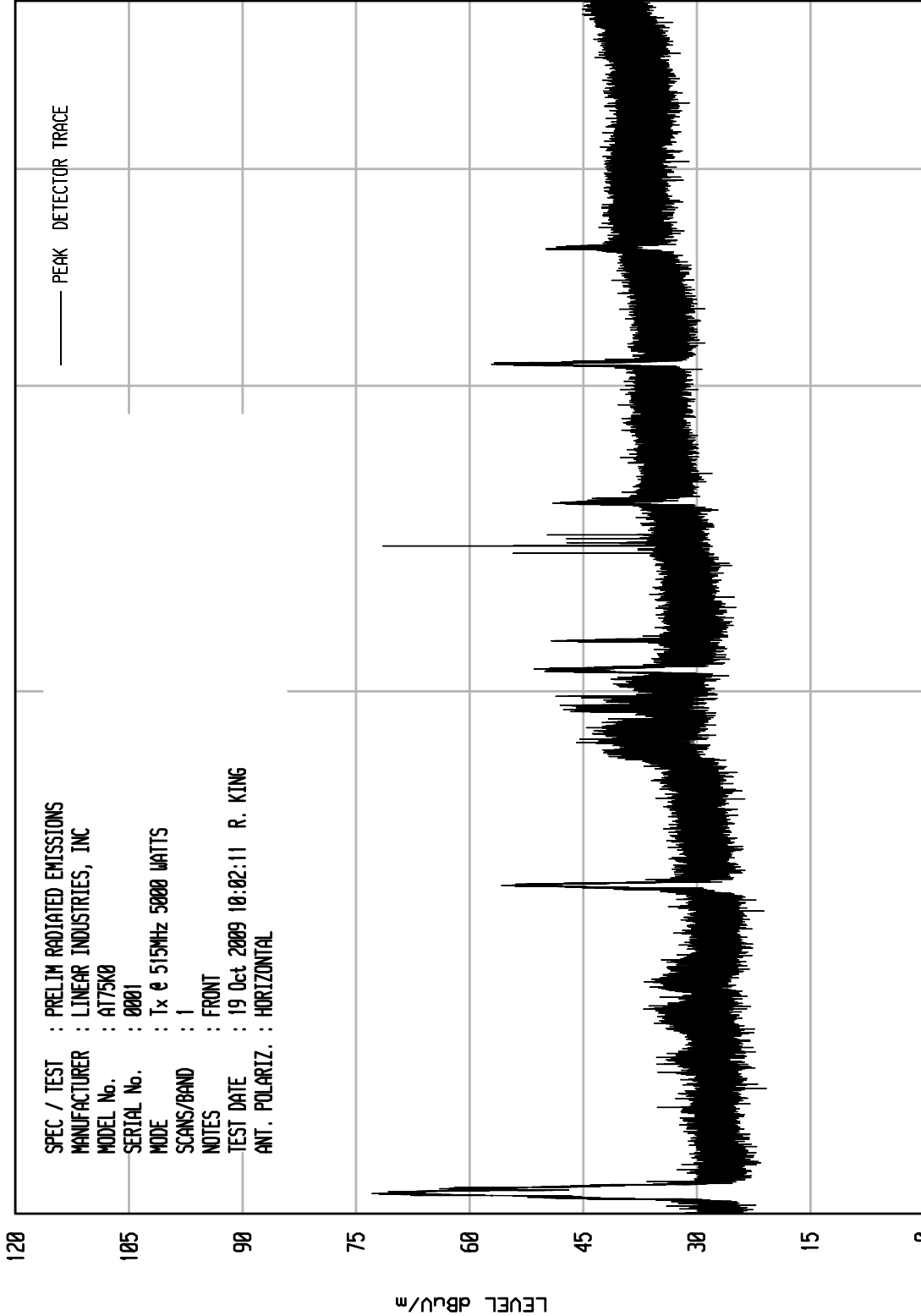
SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz INTO LOAD
 SCANS/BAND : 1
 NOTES : FRONT
 TEST DATE : 19 Oct 2009 13:28:06 R. KING
 ANT. POLARIZ. : VERTICAL

START = 30 STOP = 1000
 FREQUENCY MHz

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 16

UKR1 01/30/09



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz 5000 WATTS
 SCANS/BAND : 1
 NOTES : FRONT
 TEST DATE : 19 Oct 2009 10:02:11 R. KING
 ANT. POLARIZ. : HORIZONTAL

STOP = 5000

FREQUENCY MHz

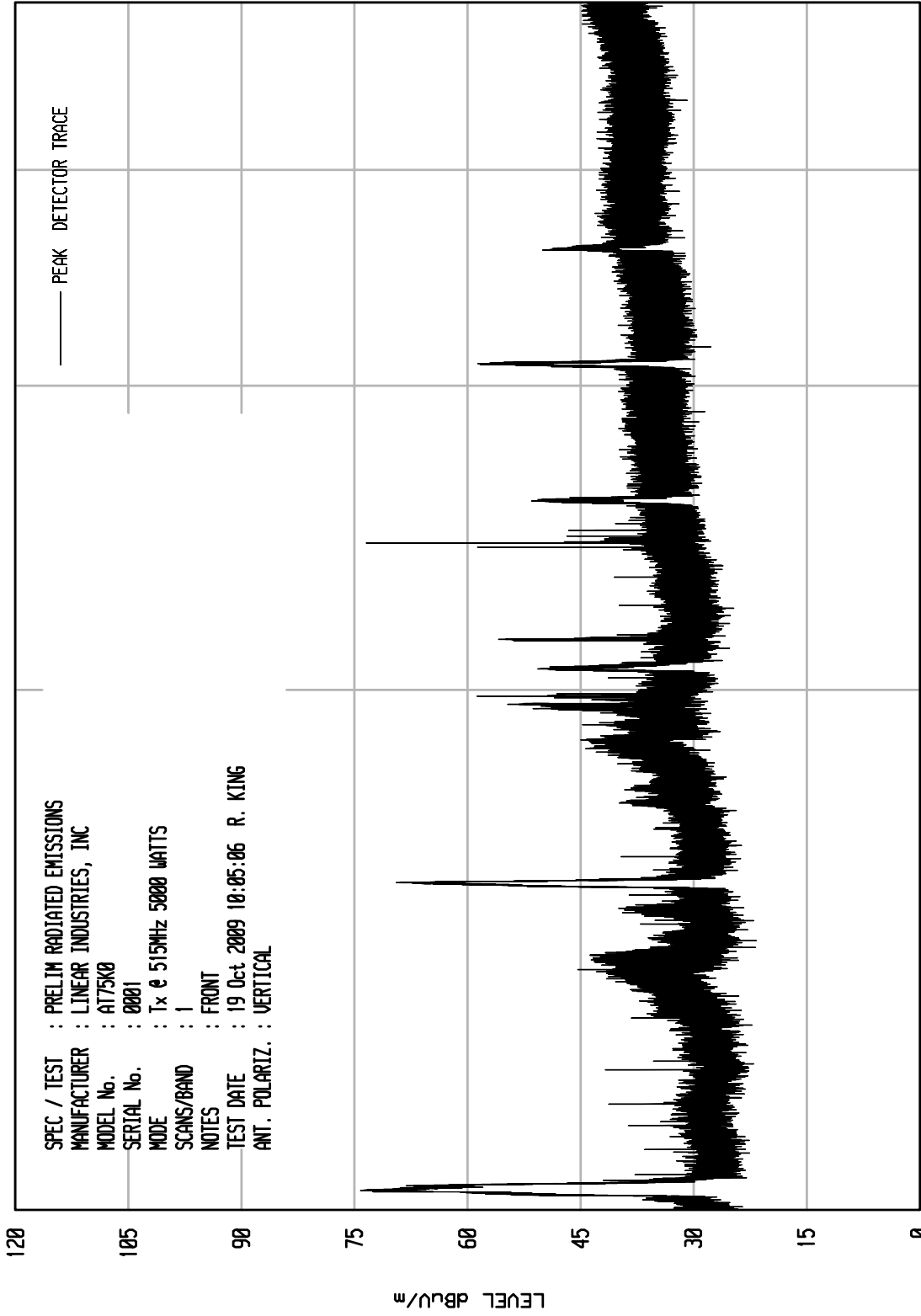
START = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 17

UKR1 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz 5000 WATTS
 SCANS/BAND : 1
 NOTES : FRONT
 TEST DATE : 19 Oct 2009 10:05:06 R. KING
 ANT. POLARIZ. : VERTICAL



START = 1000

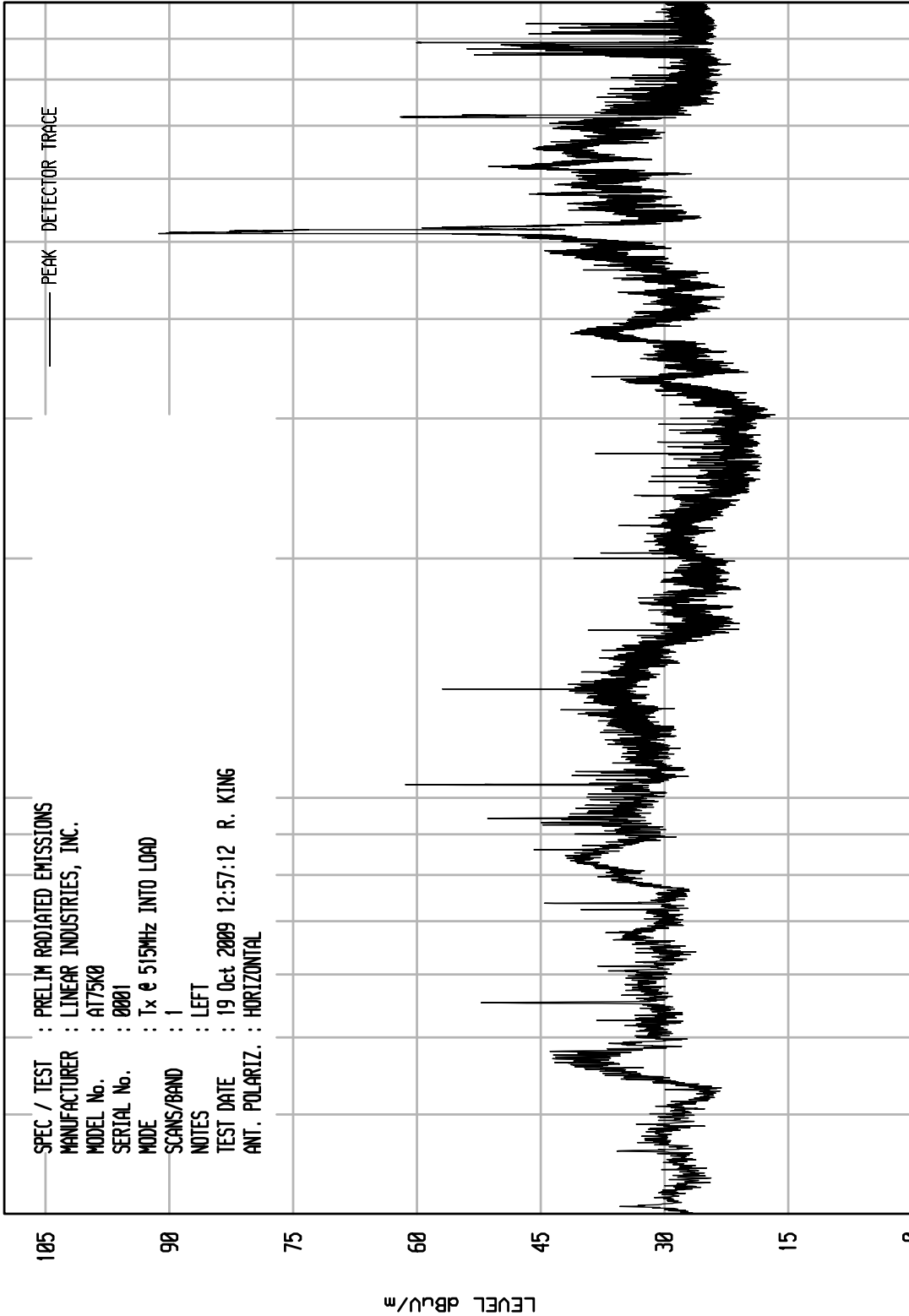
FREQUENCY MHz

STOP = 5000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UK01 01/30/09

UNITV RCU EMI RUN 26



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz INTO LOAD
 SCANS/BAND : 1
 NOTES : LEFT
 TEST DATE : 19 Oct 2009 12:57:12 R. KING
 ANT. POLARIZ. : HORIZONTAL

START = 30

100

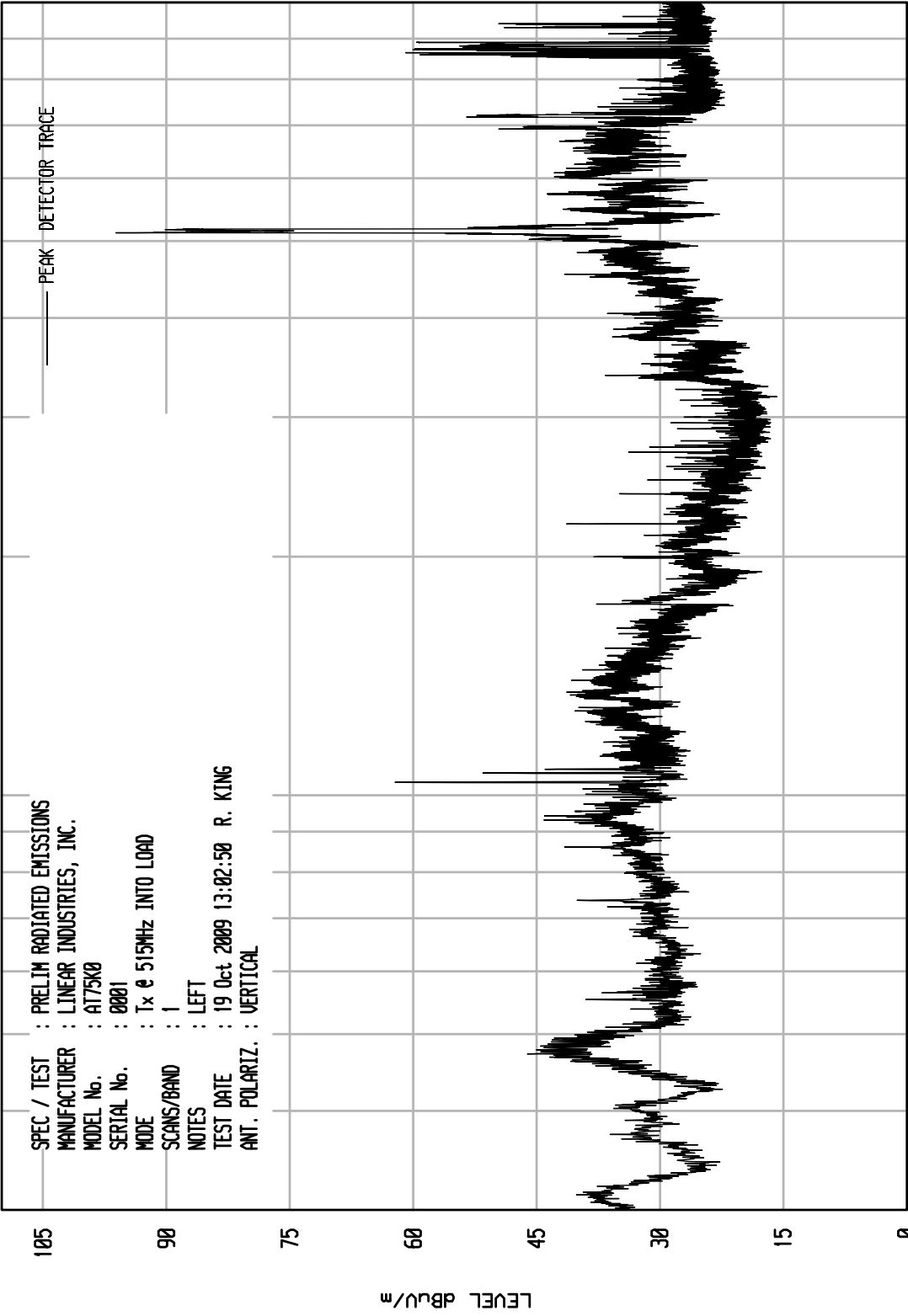
FREQUENCY MHz

STOP = 1000

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Downers Grove, Ill. 60515

UNITV RCU EMI RUN 27

UKR1 01/30/09



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz INTO LOAD
 SCANS/BAND : 1
 NOTES : LEFT
 TEST DATE : 19 Oct 2009 13:02:50 R. KING
 ANT. POLARIZ. : VERTICAL

STOP = 1000

FREQUENCY MHz

100

START = 30

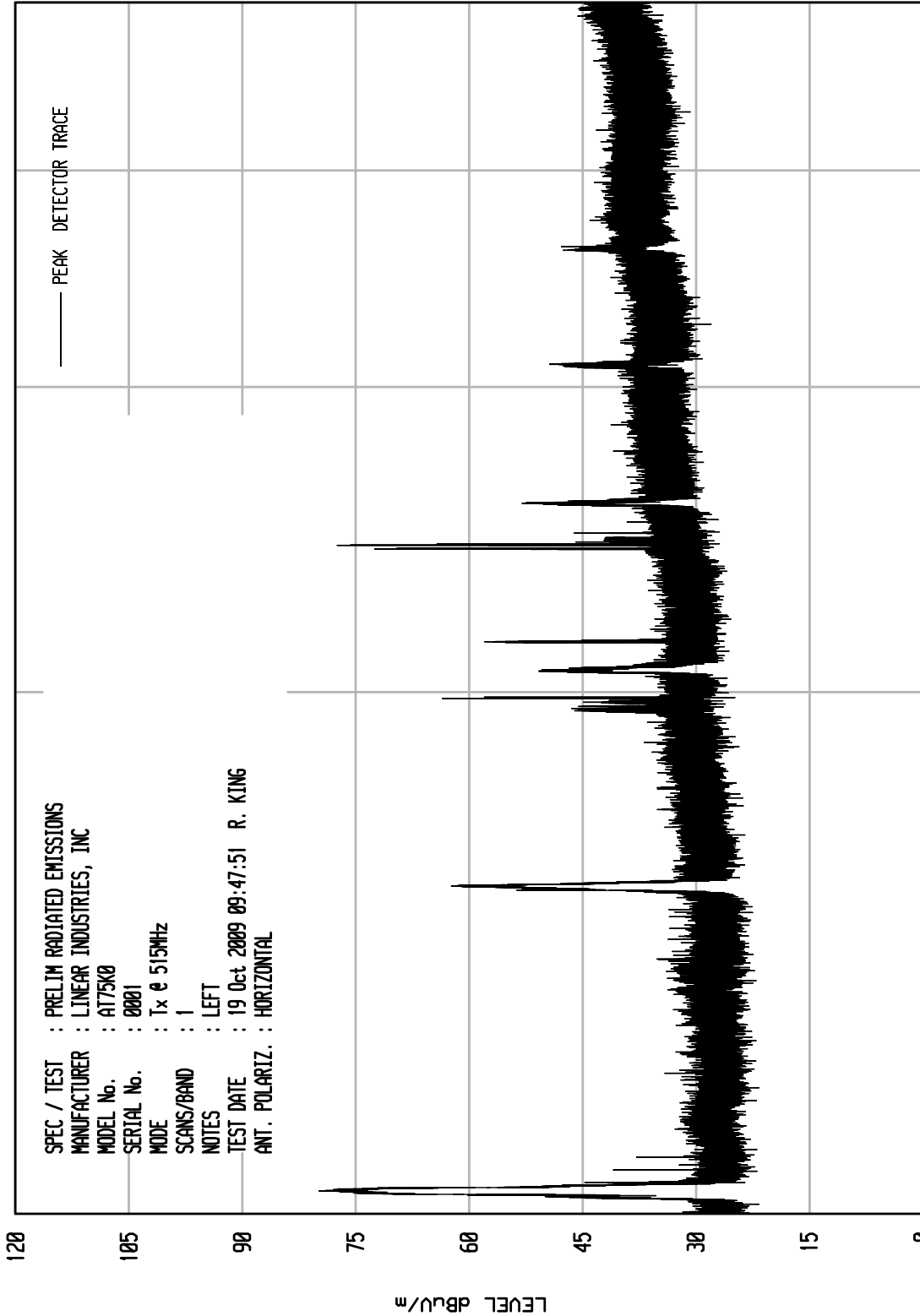
LEVEL dBu/m

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 11

UKR1 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz
 SCANS/BAND : 1
 NOTES : LEFT
 TEST DATE : 19 Oct 2009 09:47:51 R. KING
 ANT. POLARIZ. : HORIZONTAL



START = 1000

FREQUENCY MHz

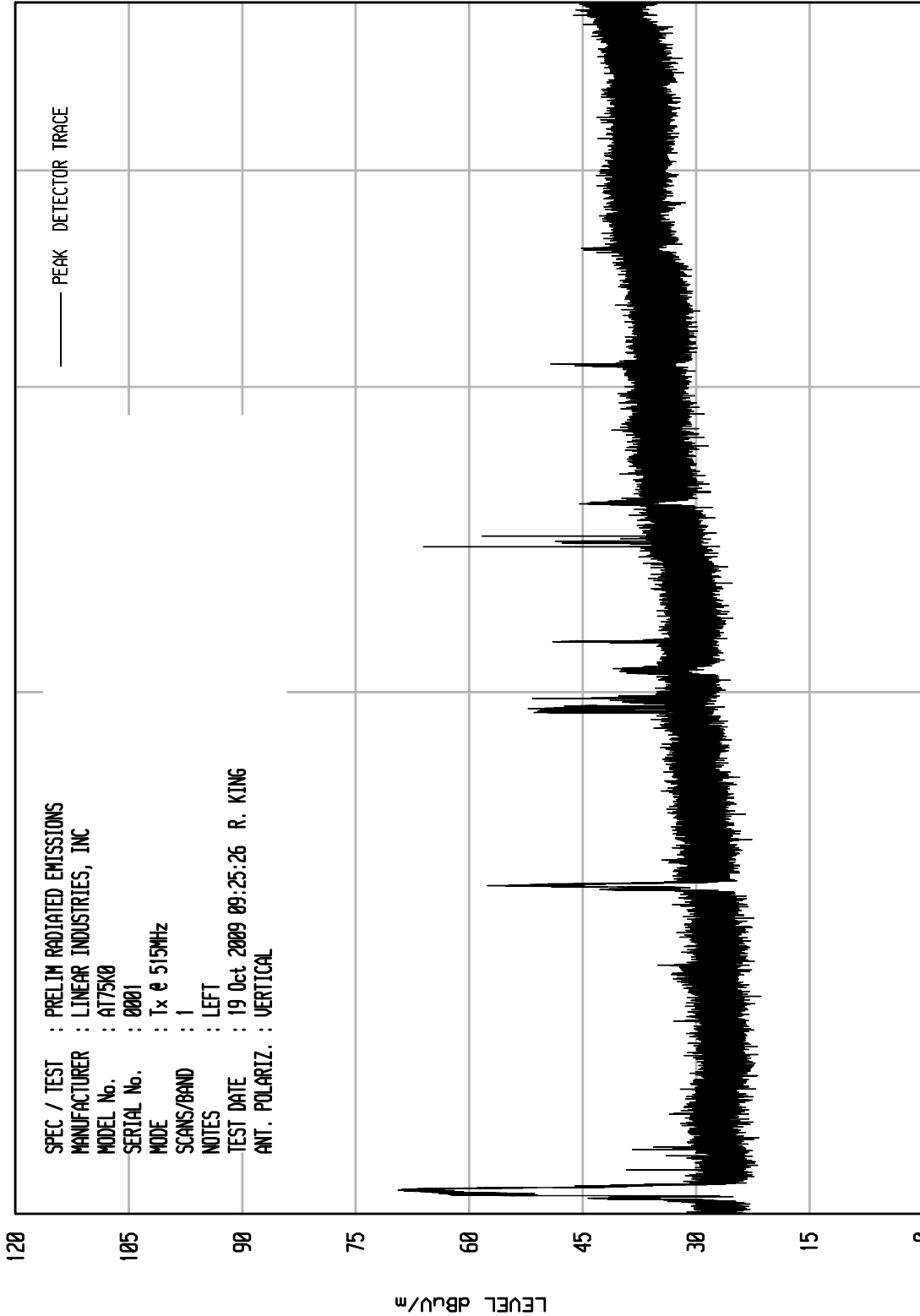
STOP = 5000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 10

UKR1 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz
 SCANS/BAND : 1
 NOTES : LEFT
 TEST DATE : 19 Oct 2009 09:25:26 R. KING
 ANT. POLARIZ. : VERTICAL



START = 1000

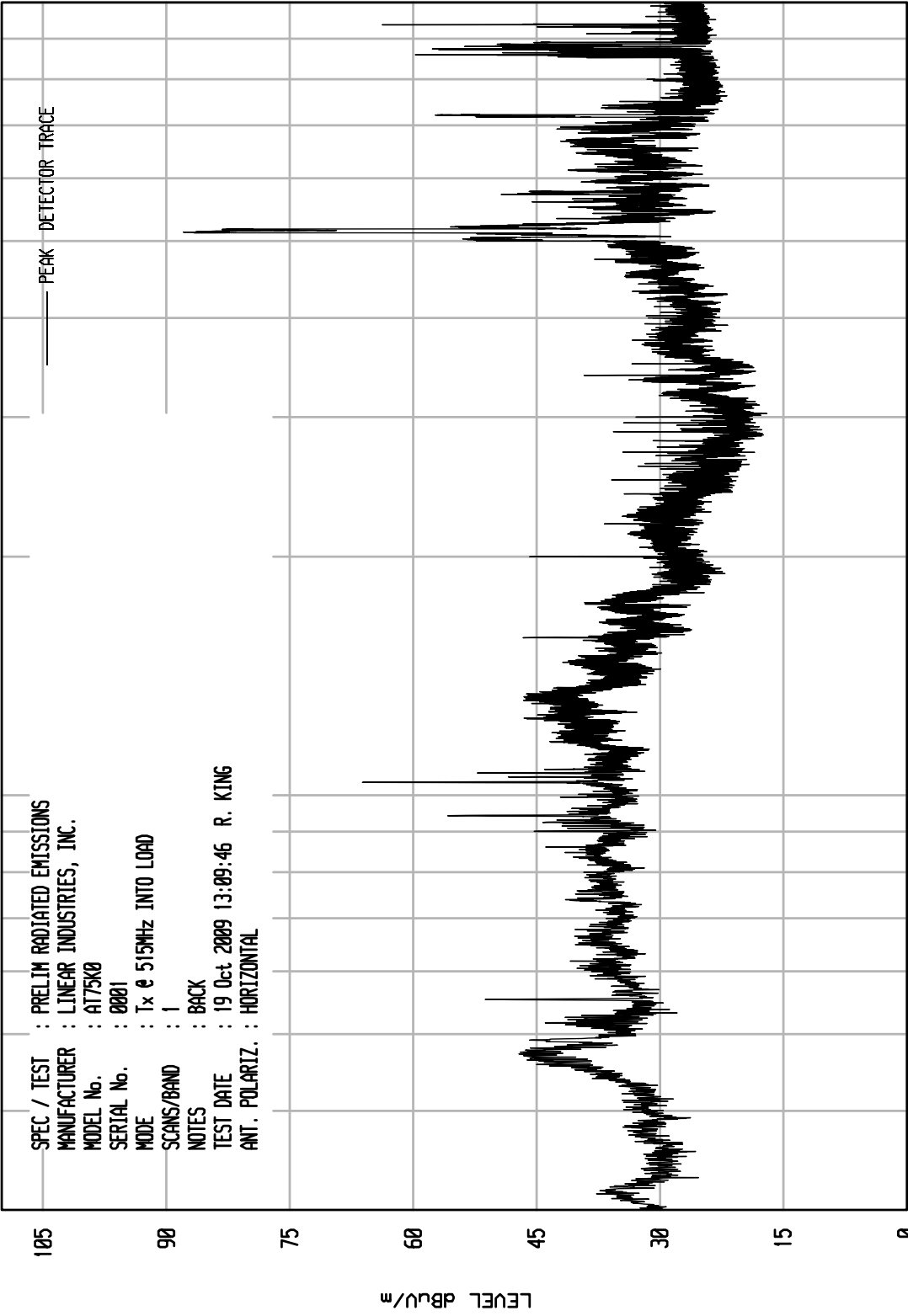
FREQUENCY MHz

STOP = 5000

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UNITV RCU EMI RUN 29



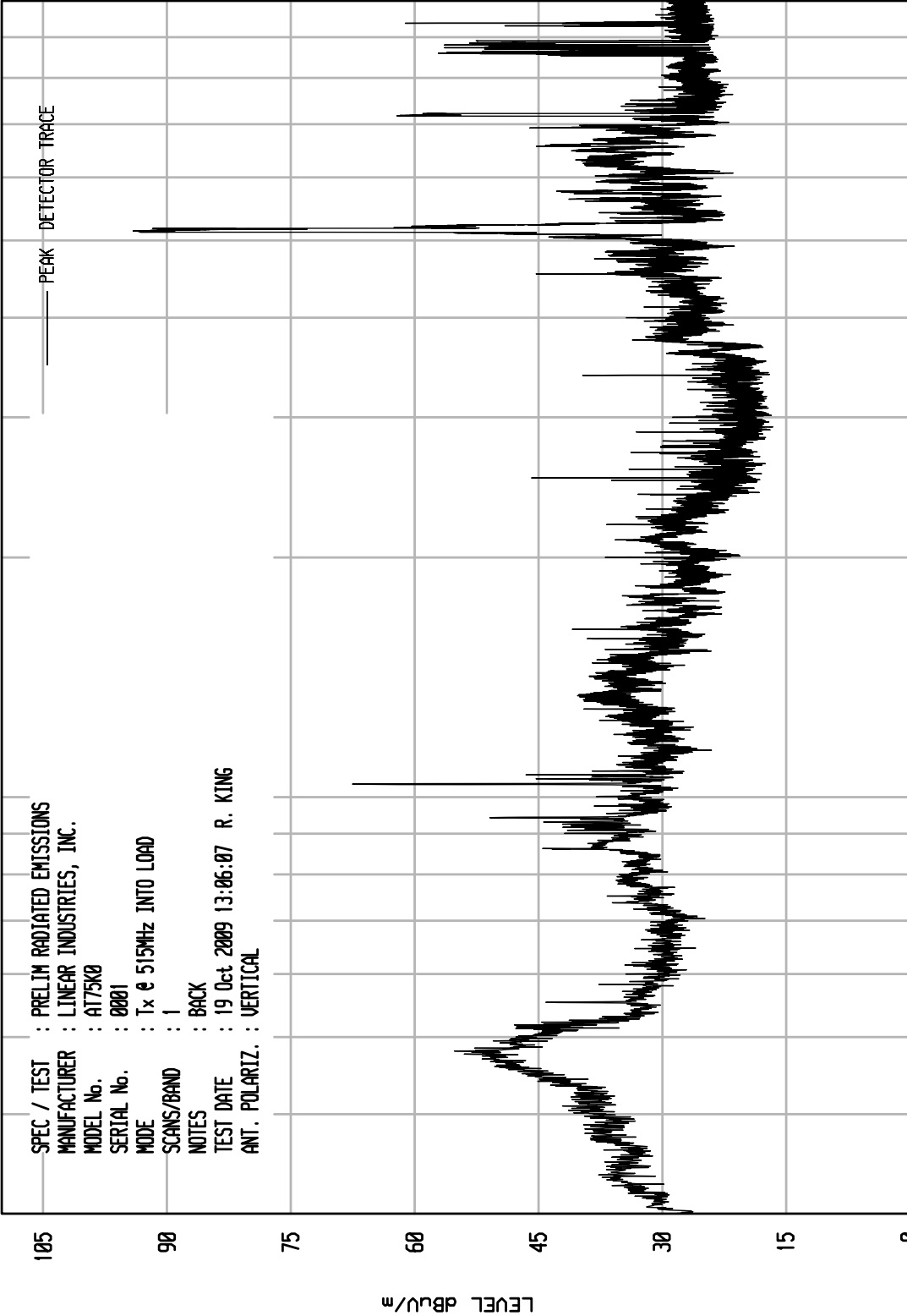
SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz INTO LOAD
 SCANS/BAND : 1
 NOTES : BACK
 TEST DATE : 19 Oct 2009 13:09:46 R. KING
 ANT. POLARIZ. : HORIZONTAL

START = 30 STOP = 1000
 FREQUENCY MHz

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UNITV RCU EMI RUN 28



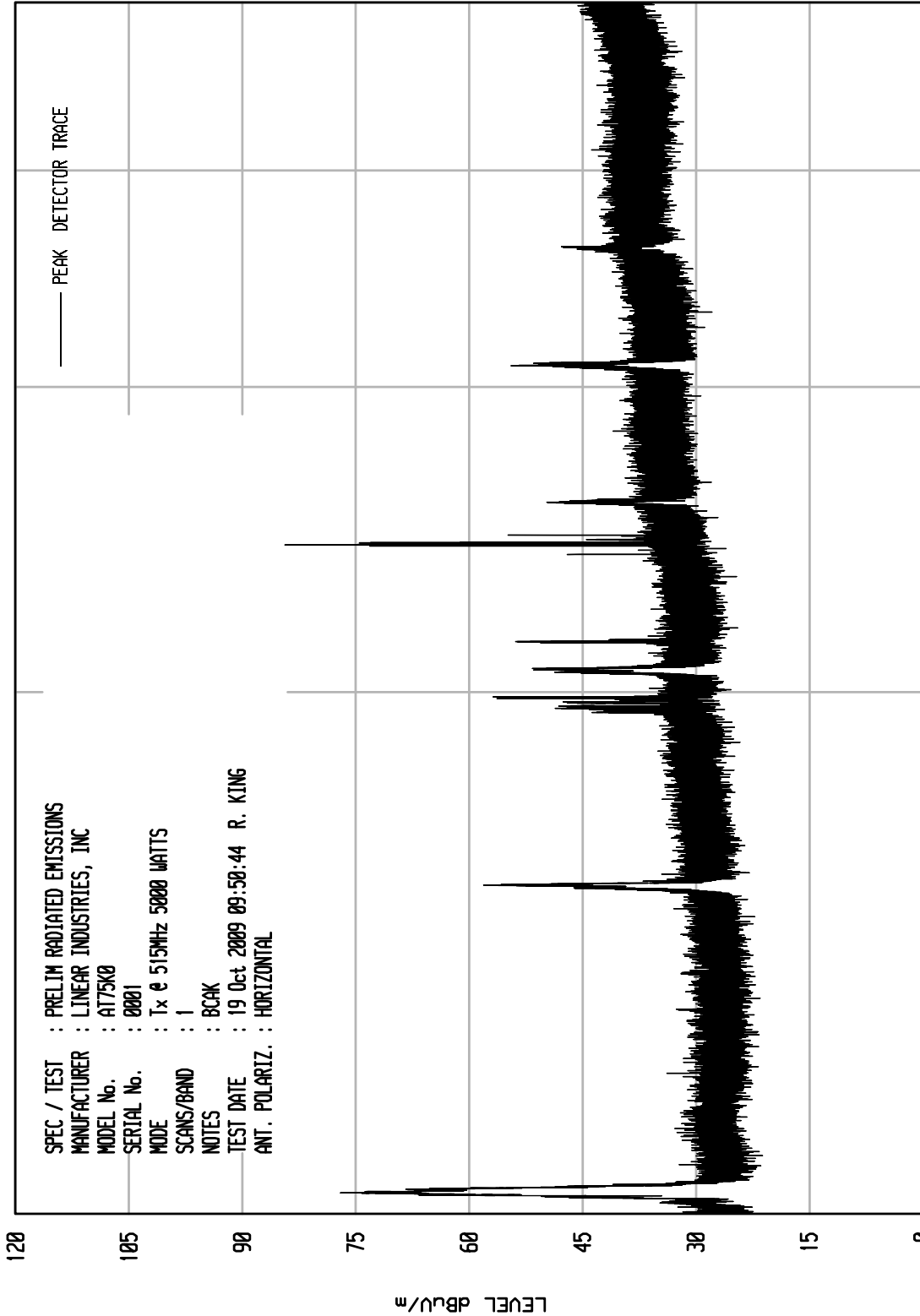
SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz INTO LOAD
 SCANS/BAND : 1
 NOTES : BACK
 TEST DATE : 19 Oct 2009 13:06:07 R. KING
 ANT. POLARIZ. : VERTICAL

START = 30 STOP = 1000

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UNITV RCU EMI RUN 12

UK01 01/30/09



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz 5000 WATTS
 SCANS/BAND : 1
 NOTES : BCAF
 TEST DATE : 19 Oct 2009 09:50:44 R. KING
 ANT. POLARIZ. : HORIZONTAL

STOP = 5000

FREQUENCY MHz

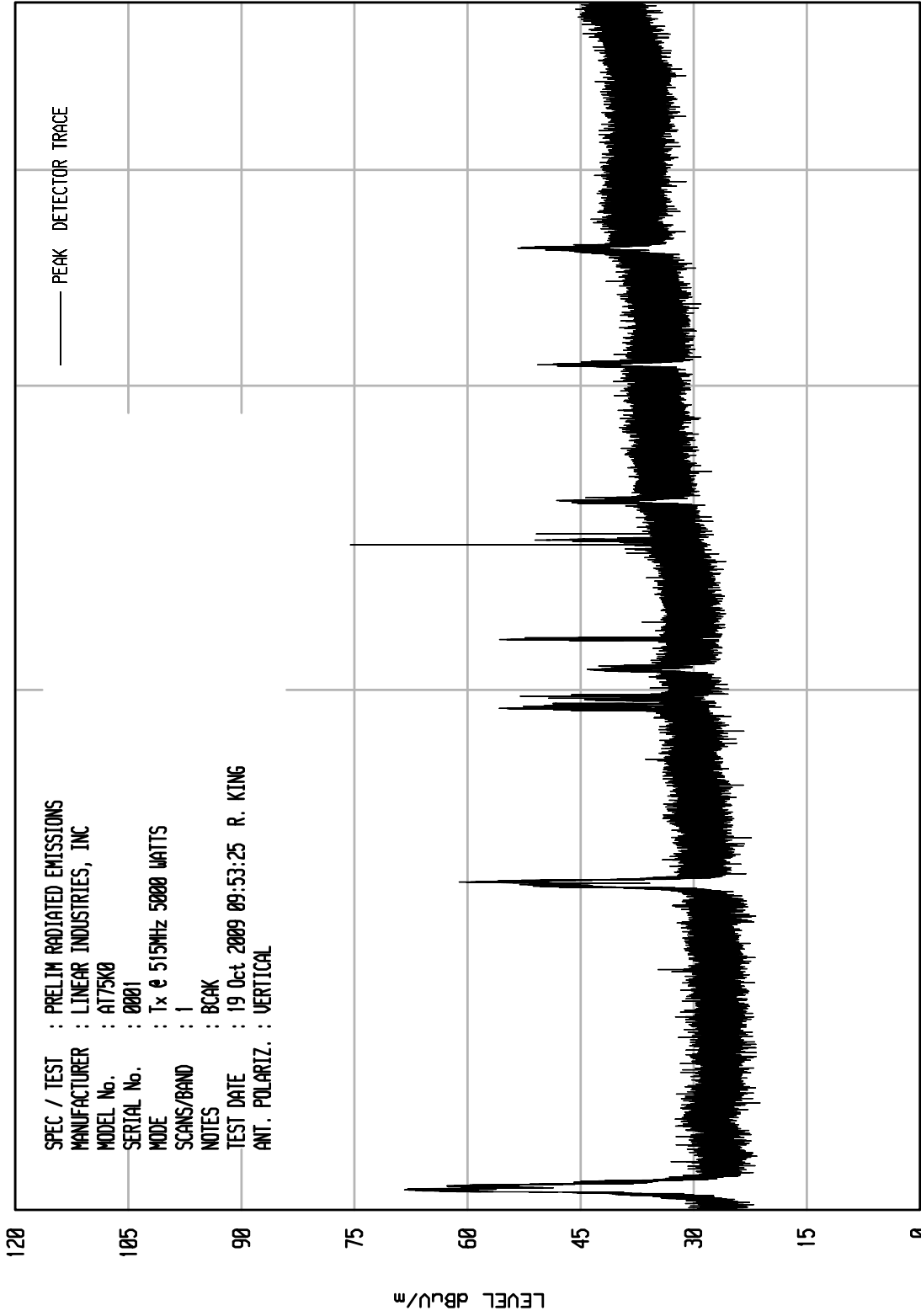
START = 1000

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UNITV RCU EMI RUN 13

UKR1 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz 5000 WATTS
 SCANS/BAND : 1
 NOTES : BCAF
 TEST DATE : 19 Oct 2009 09:53:25 R. KING
 ANT. POLARIZ. : VERTICAL



STOP = 5000

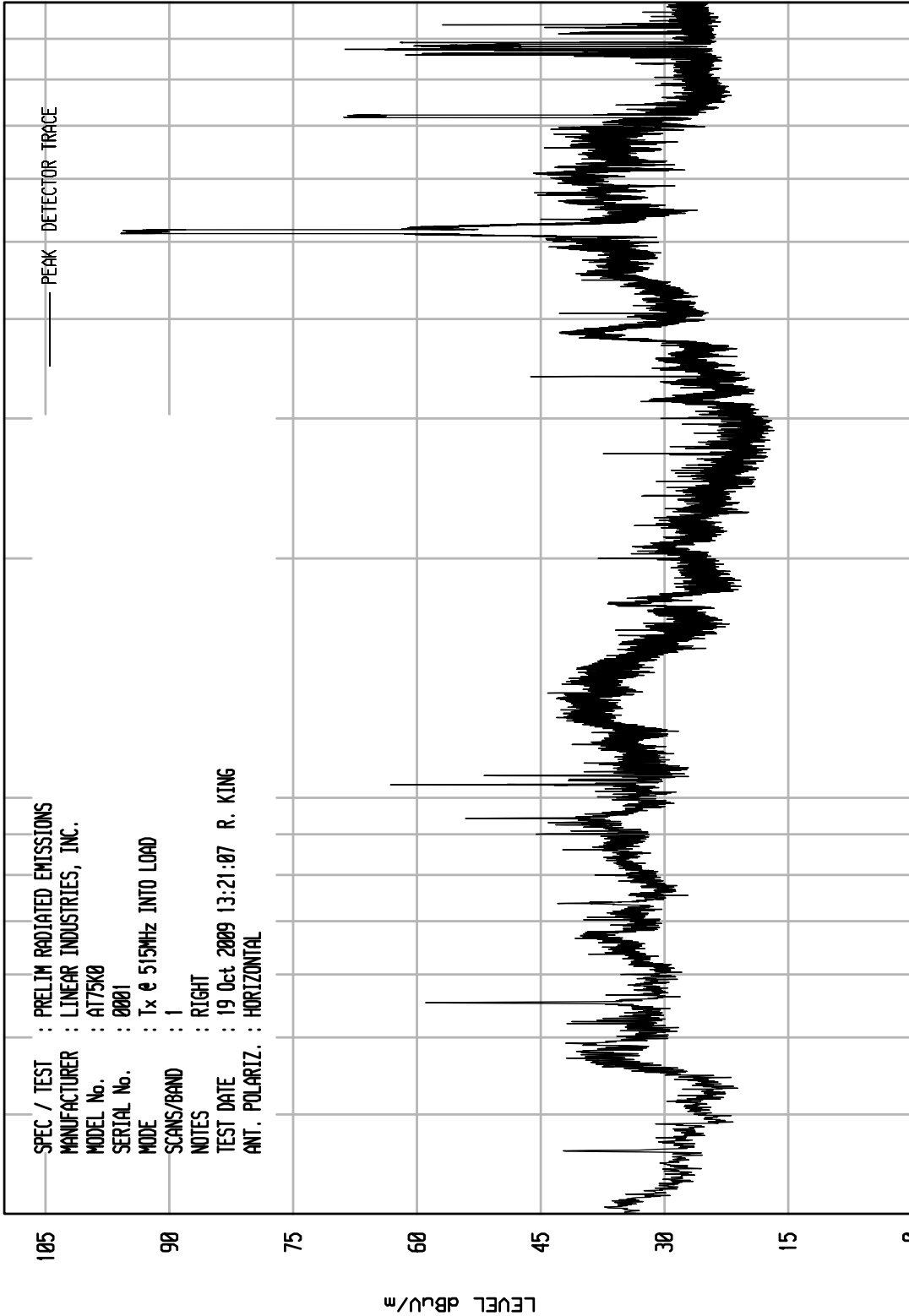
FREQUENCY MHz

START = 1000

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UNITV RCU EMI RUN 31



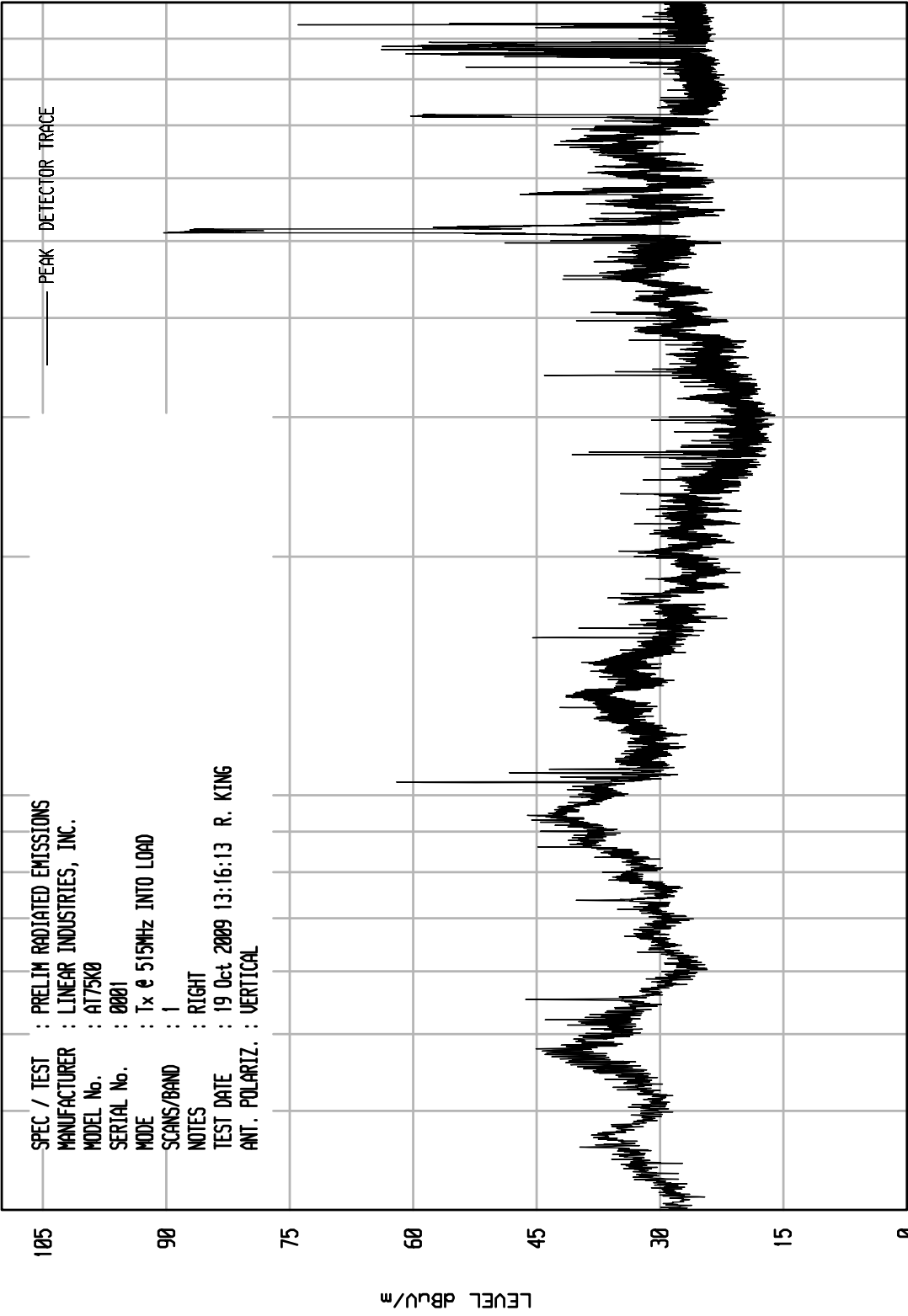
SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz INTO LOAD
 SCANS/BAND : 1
 NOTES : RIGHT
 TEST DATE : 19 Oct 2009 13:21:07 R. KING
 ANT. POLARIZ. : HORIZONTAL

START = 30 STOP = 1000
 FREQUENCY MHz

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Downers Grove, Ill. 60515

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UNITV RCU EMI RUN 30



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC.
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz INTO LOAD
 SCANS/BAND : 1
 NOTES : RIGHT
 TEST DATE : 19 Oct 2009 13:16:13 R. KING
 ANT. POLARIZ. : VERTICAL

105
90
75
60
45
30
15
0

LEVEL dBu/m

100

FREQUENCY MHz

START = 30

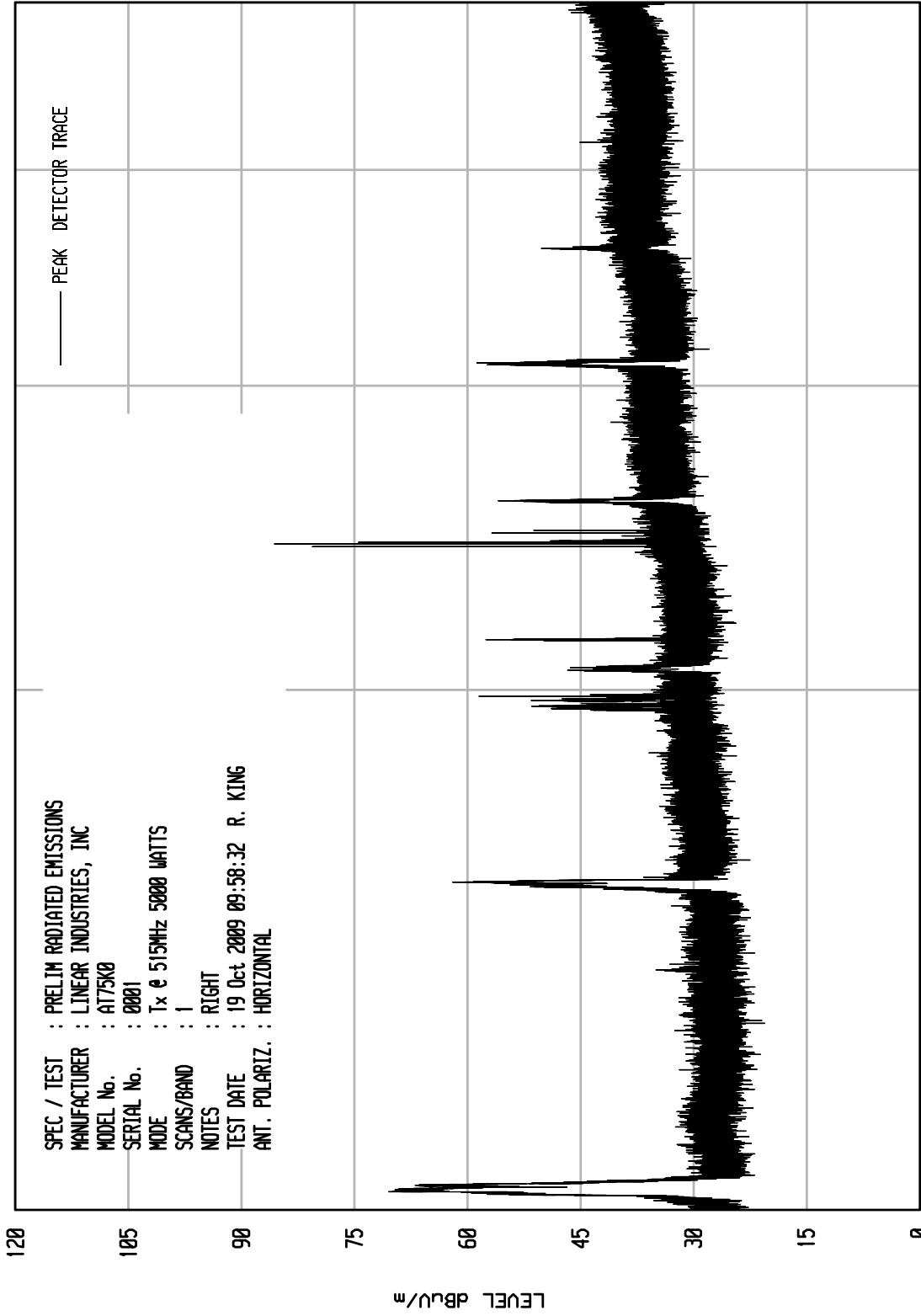
STOP = 1000

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Downers Grove, Ill. 60515

UNITV RCU EMI RUN 15

UKR1 01/30/09

SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz 5000 WATTS
 SCANS/BAND : 1
 NOTES : RIGHT
 TEST DATE : 19 Oct 2009 09:58:32 R. KING
 ANT. POLARIZ. : HORIZONTAL



STOP = 5000

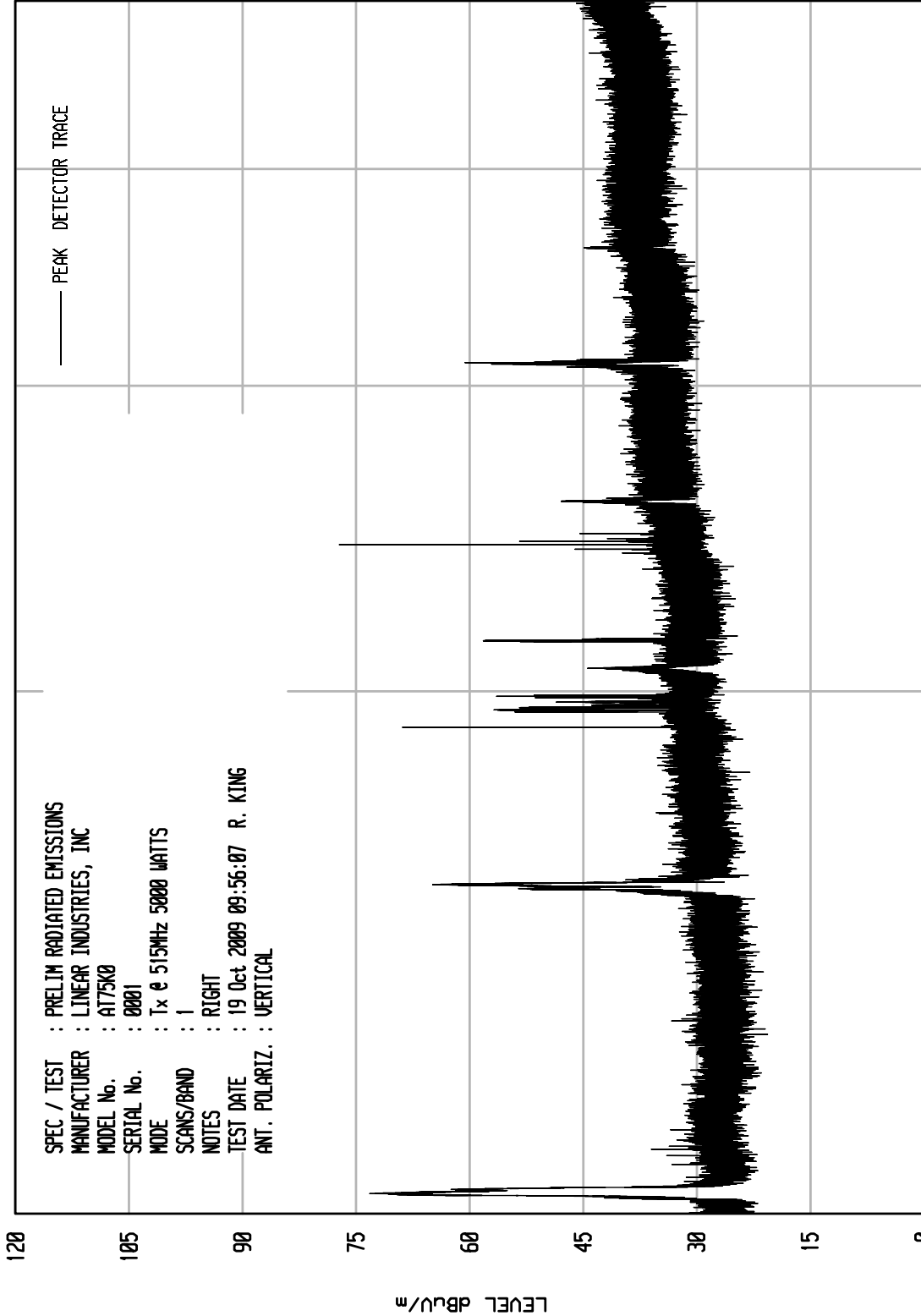
FREQUENCY MHz

START = 1000

ELITE ELECTRONIC ENGINEERING Inc.
Downers Grove, Ill. 60515

UNITV RCU EMI RUN 14

UK01 01/30/09



SPEC / TEST : PRELIM RADIATED EMISSIONS
 MANUFACTURER : LINEAR INDUSTRIES, INC
 MODEL No. : A175X0
 SERIAL No. : 0001
 MODE : Tx @ 515MHz 5000 WATTS
 SCANS/BAND : 1
 NOTES : RIGHT
 TEST DATE : 19 Oct 2009 09:56:07 R. KING
 ANT. POLARIZ. : VERTICAL

STOP = 5000

FREQUENCY MHz

START = 1000

LEVEL dBu/m



MANUFACTURER : Linear Industries, Inc.
 MODEL : AT75K0 Digital Television Transmitter
 SPECIFICATION : FCC Part 74 Spurious Radiated Emissions
 DATE : October 19, 2009
 NOTES : Transmit at Channel 515MHz, 5000 Watts
 : Test Distance is 3 meters

Freq (MHz)	Ant Pol	Meter Reading (dBUV)	Ambient	Matched SIG. GEN. (dB)			Total* (dBm)	Limit** (dBm)
					Ant Gain (dB)	CBL (dB)		
1030.0	H	65.9		-6.2	2.4	1.5	-5.3	7.0
1030.0	V	64.5		-7.4	2.4	1.5	-6.5	7.0
1545.0	H	52.2		-20.3	4.9	1.9	-17.3	7.0
1545.0	V	51.6		-21.7	4.9	1.9	-18.7	7.0
2060.0	H	42.4		-29.8	5.3	2.3	-26.8	7.0
2060.0	V	37.8		-32.0	5.3	2.3	-29.0	7.0
2575.0	H	41.9		-27.0	5.4	2.7	-24.4	7.0
2575.0	V	40.7		-26.5	5.4	2.7	-23.9	7.0
3090.0	H	41.6		-24.1	5.6	3.1	-21.6	7.0
3090.0	V	40.9		-23.5	5.6	3.1	-21.0	7.0
3605.0	H	39.7		-25.6	6.7	3.3	-22.2	7.0
3605.0	V	37.3		-28.0	6.7	3.3	-24.6	7.0
4120.0	H	39.8		-24.2	7.4	3.6	-20.5	7.0
4120.0	V	37.2		-27.1	7.4	3.6	-23.4	7.0
4635.0	H	22.9		-42.1	8.2	4.0	-37.8	7.0
4635.0	V	22.1		-44.5	8.2	4.0	-40.2	7.0
5150.0	H	23.1		-40.5	7.7	4.3	-37.0	7.0
5150.0	V	22.2		-42.2	7.7	4.3	-38.7	7.0

* ERP = matched signal + antenna gain - cable loss

** Limit = Power (dBm) – 60dB = 67dBm (5000 W) – 60dB = 7dBm

Checked BY Richard E. King :

Richard E. King