

EXHIBIT 6
TEST REPORT

TEST REPORT PREPARED BY:

Electronics Test Centre
MPB Technologies Inc.
27 East Lake Hill
Airdrie, Alberta
Canada T2B 2B7
enquire@etc-mpbtech.com
phone: (403) 912-0037
fax: (403) 912-0083

MPBT Report No.: n01e2240 rev.: 2 Date: 1 June 2001

Test Report for Emissions Testing of the TRM-2000 [800 MHz]

In accordance with FCC Part 2 Frequency Allocations and Radio Treaty Matters;
General Rules and Regulations, Subpart J

Test Personnel: Erin Hails

Prepared for: Nortel Networks
8 Manning Close NE
Calgary, AB
T2E 7L4

Client Acceptance
Authorized Signatory

David Raynes
Laboratory Supervisor
Electronics Test Centre (Airdrie)
Authorized Signatory

TABLE OF CONTENTS

1.0	INTRODUCTION
1.1	SCOPE
1.2	APPLICANT
1.3	APPLICABILITY
1.4	TEST SAMPLE DESCRIPTION
1.5	GENERAL TEST CONDITIONS AND ASSUMPTIONS
1.6	SCOPE OF TESTING
1.6.1	VARIATIONS IN TEST METHODS
1.6.2	MARGINAL EMISSIONS MEASUREMENTS
1.6.3	TEST SAMPLE MODIFICATIONS
2.0	ABBREVIATIONS
3.0	MEASUREMENT UNCERTAINTY
4.0	TEST CONCLUSION
4.1	RF OUTPUT POWER
4.2	OCCUPIED BANDWIDTH
4.3	SPURIOUS EMISSIONS AT ANTENNA TERMINALS
5.0	TEST FACILITY
5.1	LOCATION
5.2	GROUNDING PLAN
5.3	POWER SOURCE
5.4	TEST CONFIGURATION
5.4.1	RF OUTPUT POWER
5.4.2	OCCUPIED BANDWIDTH AND SPURIOUS EMISSIONS AT ANTENNA TERMINALS
6.0	TEST EQUIPMENT
6.1	EQUIPMENT USED
6.2	CALIBRATION
APPENDIX A	TRM-2000 [800 MHz]: Client Test Sample Description

1.0 INTRODUCTION

1.1 SCOPE

The purpose of this report is to present the results of compliance testing performed in accordance with CFR 47 FCC Part 2, Subpart J, Equipment Authorization Procedures.

1.2 APPLICANT

This test report has been prepared for Nortel Networks, located in Calgary, Alberta, Canada.

1.3 APPLICABILITY

All test procedures, limits, and results defined in this document apply to the Nortel Networks TRM-2000 [800 MHz] unit, referred to as the Equipment Under Test (EUT).

The results contained in this report relate only to the item tested.

This report does not imply product endorsement by NVLAP, or the Canadian or US governments.

1.4 TEST SAMPLE DESCRIPTION

The test sample provided for testing was a TRM-2000 [800 MHz].

Product Type:	Telecommunications
Model Number:	NPGS85AB P2
Serial Number:	NNTM537T2UFG
Power Requirements:	-48 VDC
Peripheral Equipment:	Laptop, Cell site tester
Cables:	DC interconnect, RF cables, fibre optic cables

More detailed information is supplied by Nortel Networks in Appendix A.

1.5 GENERAL TEST CONDITIONS AND ASSUMPTIONS

The EUT was set up and exercised using the configurations, modes of operation and arrangements defined in this report only. All inputs and outputs to and from other equipment associated with the EUT were adequately simulated.

Where relevant, the EUT was only tested using the monitoring methods and test criteria defined in this report.

All testing, unless otherwise noted, was performed under the following environmental conditions:

Temperature:	17 to 23 °C
Humidity:	45 to 75 %
Barometric Pressure:	68 to 106 kPa

1.6 SCOPE OF TESTING

Tests were performed in accordance with FCC Part 2 Subpart J (2000).

1.6.1 VARIATIONS IN TEST METHODS

There were no variations from the test procedures outlined above.

1.6.2 MARGINAL EMISSIONS MEASUREMENTS

As noted in Section 4, some emissions were measured to be within -6 dB of the specified limit.

1.6.3 TEST SAMPLE MODIFICATIONS

There were no equipment modifications during test performance.

2.0 ABBREVIATIONS

CE	-Conducted Emissions
E	-Field - Electric Field
H	-Field - Magnetic Field
N/T	-Not Tested
N/A	-Not Applicable
RE	-Radiated Emissions

3.0 MEASUREMENT UNCERTAINTY

For these tests, the uncertainties in the measurements were calculated using the methods outlined in the NAMAS document, NIS81: May 1984.

Frequency = ± 1 kHz
Amplitude (RE) = ± 4.01 dB
Amplitude (CE) = ± 3.25 dB

4.0 TEST CONCLUSION

The EUT was subjected to the following tests. Compliance status is indicated as **PASS**, **Marginal Pass**, or **FAIL**.

The following table summarizes the test results in terms of the specification and class or level applied, the unique test sample identification, and the EUT modification state, the mode of operation, configuration and cable arrangement as applicable.

TEST CASE	TEST TYPE	SPECIFICATION	TEST SAMPLE	MOD. STATE	CONFIGURATION	RESULT
§4.1	RF Output Power	FCC Part 2.1046	TRM-2000 [800 MHz]	nil	Simulated Installation	PASS
§4.2	Occupied Bandwidth	FCC Part 2.1049	TRM-2000 [800 MHz]	nil	Simulated Installation	PASS
§4.3	Spurious Emissions at Antenna Terminals	FCC Parts 2.1051 and 2.1057	TRM-2000 [800 MHz]	nil	Simulated Installation	PASS
§4.4	Radiated Emissions	FCC Parts 2.1053 and 2.1057	TRM-2000 [800 MHz]	nil	Simulated Installation	PASS

STATEMENT OF COMPLIANCE

The client equipment referred to in this report was found to comply with the requirements as stated above.

4.1 RF POWER OUTPUT

Test Lab: MPB Technologies Inc. Airdrie Test Personnel: Erin Hails Test Date: 13 March 2001		Product: TRM-2000 [800 MHz]	
Test Result: TRM-2000 [800 MHz]: PASS			
Objectives/Criteria		Specifications	
The effective radiated power emitted by a device at its carrier frequency, measured at the antenna terminal, shall not exceed the limits as specified.		FCC Part 22.913 ERP <= 500 W or 57.0 dBm $ERP_{meas} = ERP_{rated} \pm 1dB$	
Channel	Frequency [MHz]	ERP _{rated} [dBm]	ERP _{meas} [dBm]
008	870.24	42.70	42.71
283	878.49	42.70	42.80
293	878.79	42.70	42.69
374	881.22	42.70	42.54
384	881.52	42.70	42.51
616	888.48	42.70	42.52
758	892.74	42.70	42.58

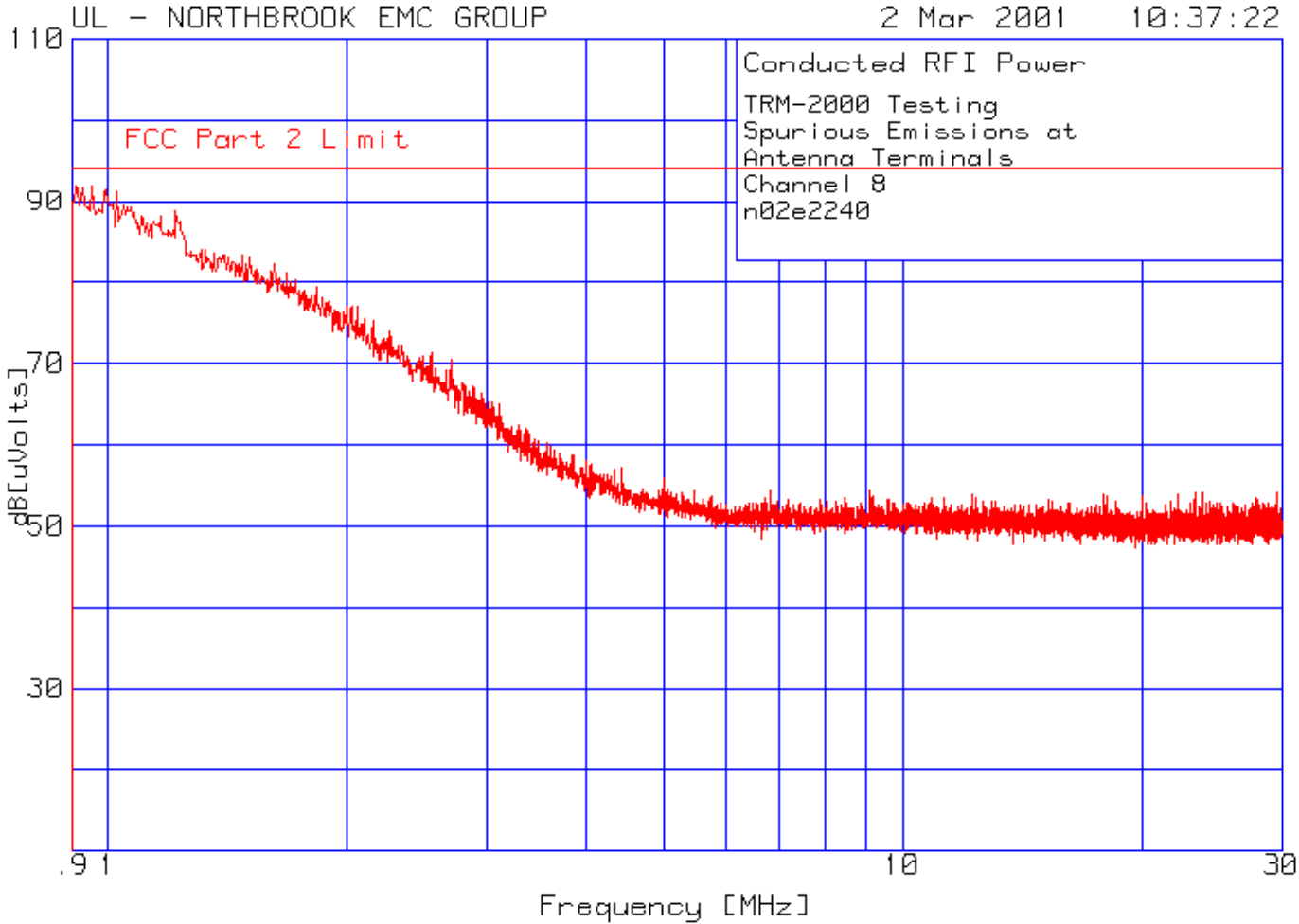
4.2 OCCUPIED BANDWIDTH

Test Lab: MPB Technologies Inc. Airdrie Test Personnel: Erin Hails Test Date: 13 March 2001		Product: TRM-2000 [800 MHz]	
Test Result: TRM-2000 [800 MHz]: PASS			
Objectives/Criteria		Specifications	
The occupied bandwidth shall be measured at its antenna terminal at the carrier frequency such that: 99.0% of the total mean power (area under the curve of spectral density vs. frequency) emitted by the device is within the occupied bandwidth; 0.5% of the total mean power lies below the lower frequency limit of the occupied bandwidth; and 0.5% of the total mean power lies above the higher frequency limit of the occupied bandwidth		The occupied bandwidth and channel spacing for CDMA is 1.25 MHz.	
Channel	Frequency [MHz]		Occupied Bandwidth [MHz]
8	870.24		1.266
283	878.49		1.266
293	878.79		1.266
374	881.22		1.266
384	881.52		1.266
616	888.48		1.266
758	892.74		1.247
Comments: The occupied bandwidth was measured using the occupied bandwidth softkey on the spectrum analyzer.			

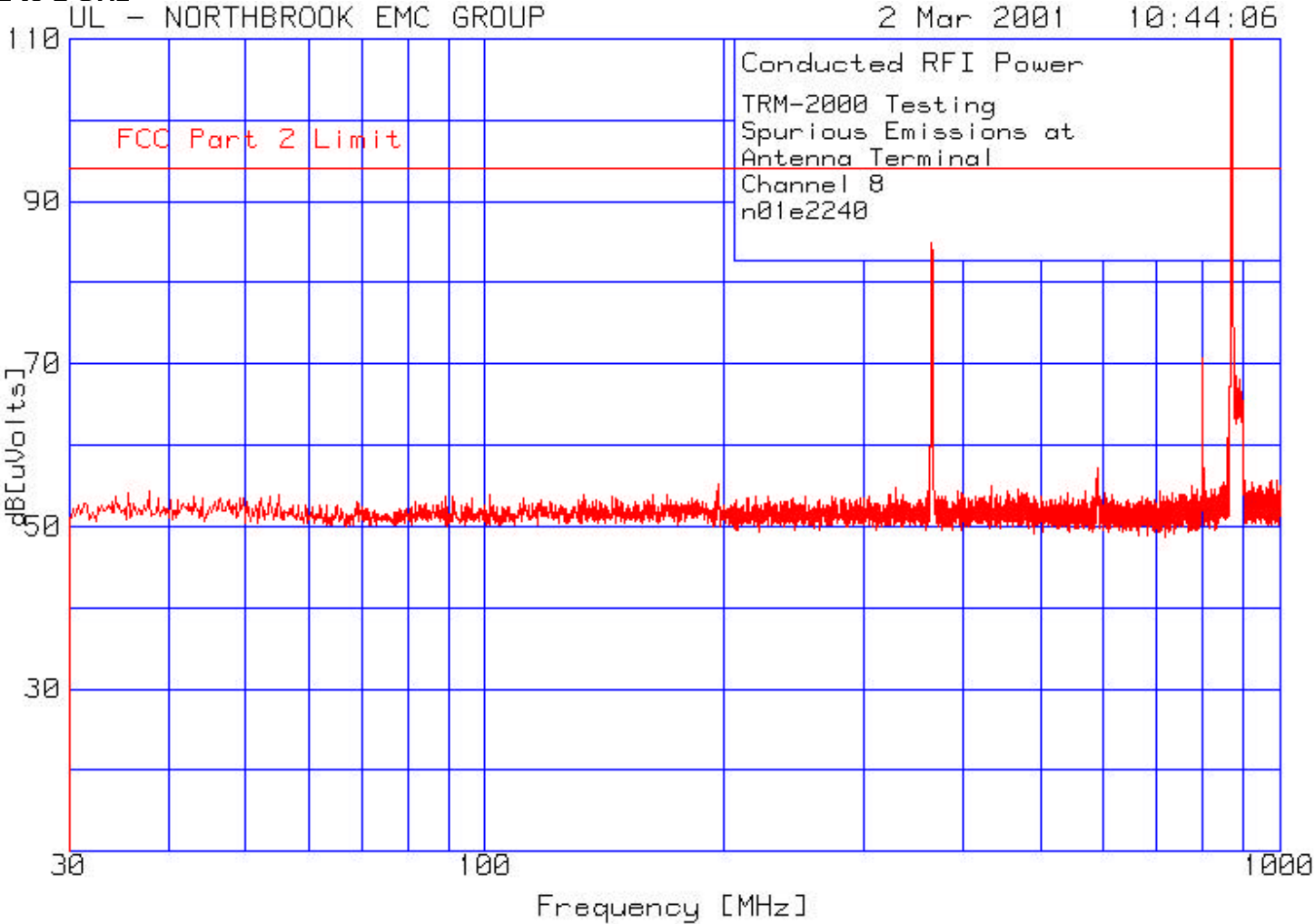
4.3 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Test Lab: MPB Technologies Inc. Airdrie		Product:	
Test Personnel: Erin Hails		TRM-2000 [800 MHz]	
Test Date: 2, 13 March 2001			
Test Result, TRM-2000 [800 MHz]: PASS			
Objectives/Criteria		Specifications	
The spurious emissions at the antenna terminals shall not exceed the limits for the specifications as stated.		FCC Part 2.1051 and 2.1057	
Emission levels should meet the requirements with a margin of 6dB.		FCC Part 22.917(e)	
(NB. f_c denotes carrier frequency)		Frequency	Emission Level
		9 kHz to lower edge of f_c	-13 dBm or 94 dB μ V
		upper edge of f_c to the tenth harmonic of f_c	-13 dBm or 94 dB μ V
Comments:			
Channel	Frequency [MHz]	Emission Level [dB μ V]	Delta [dB from limit]
8	1740.55	87.2	-6.8
283	1757.03	85.8	-8.2
293	1757.70	84.9	-9.1
374	1762.50	85.7	-8.3
384	1763.00	86.3	-7.7
616	1777.05	88.2	-5.8
There were no more emissions measured to be within -20 dB of the specified limit. Refer to the test data plots for more details.			

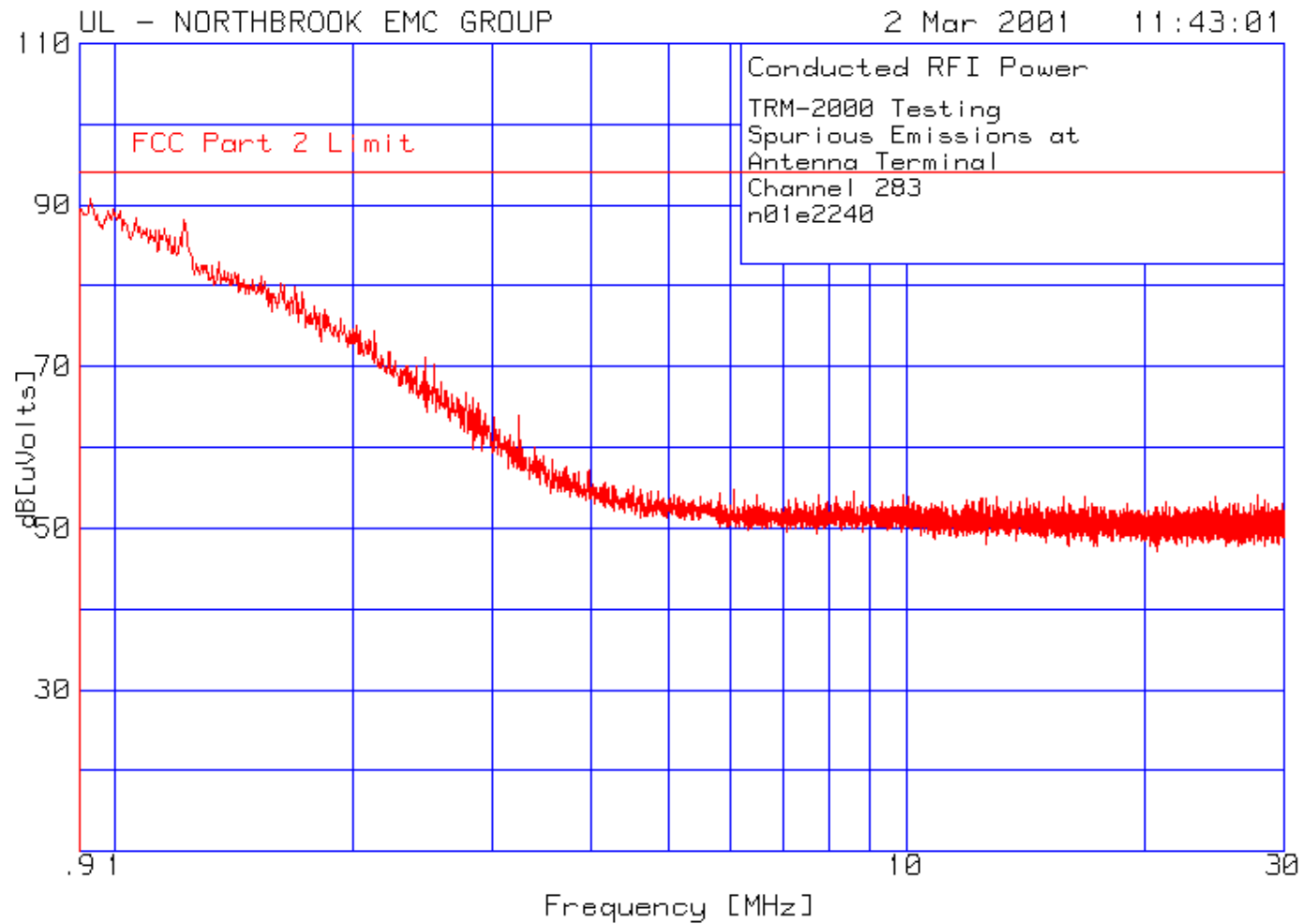
Spurious Emissions at Antenna Terminals
Channel 8
9 kHz to 30 MHz



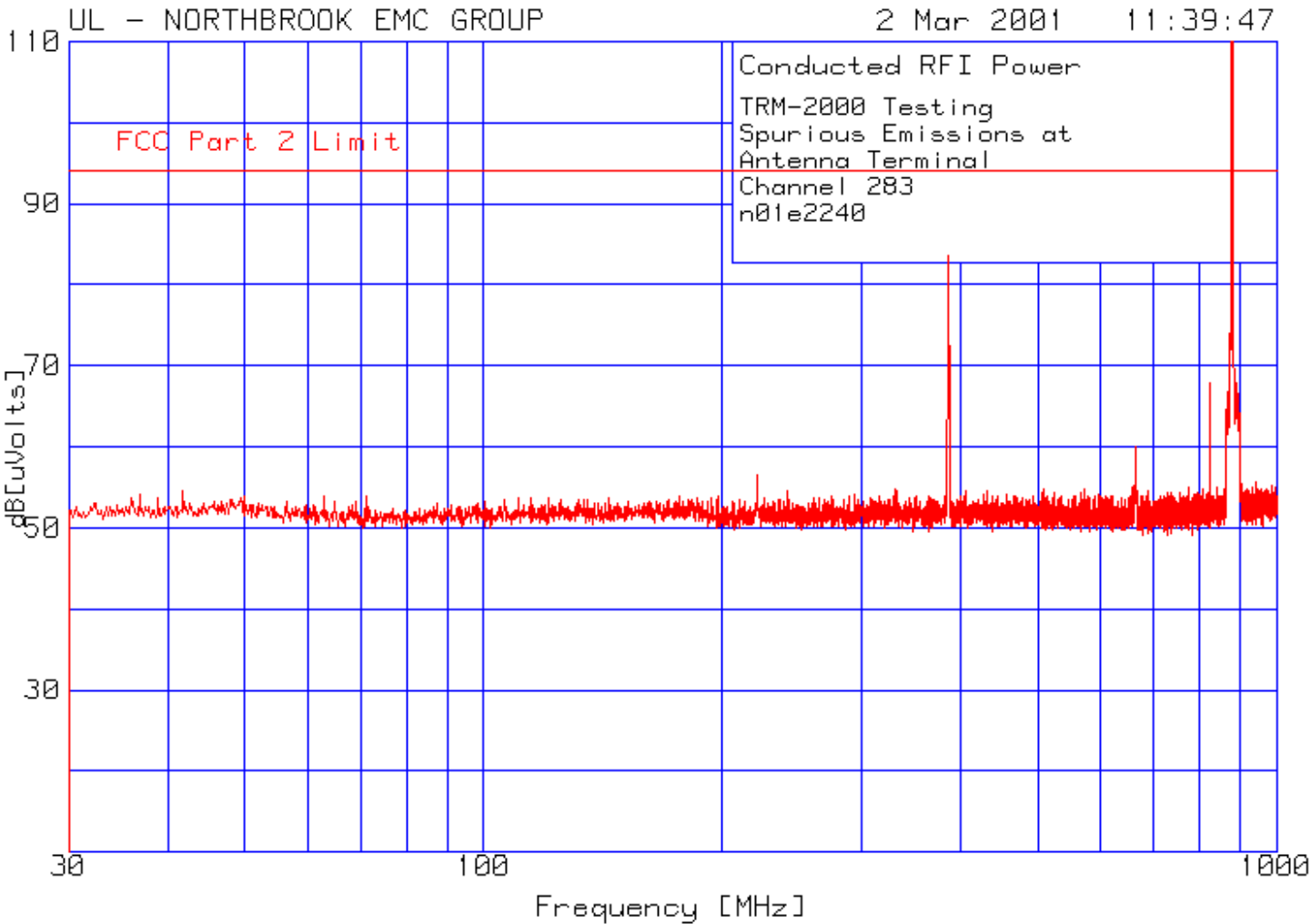
Spurious Emissions at Antenna Terminals
Channel 8
30 MHz to 1 GHz



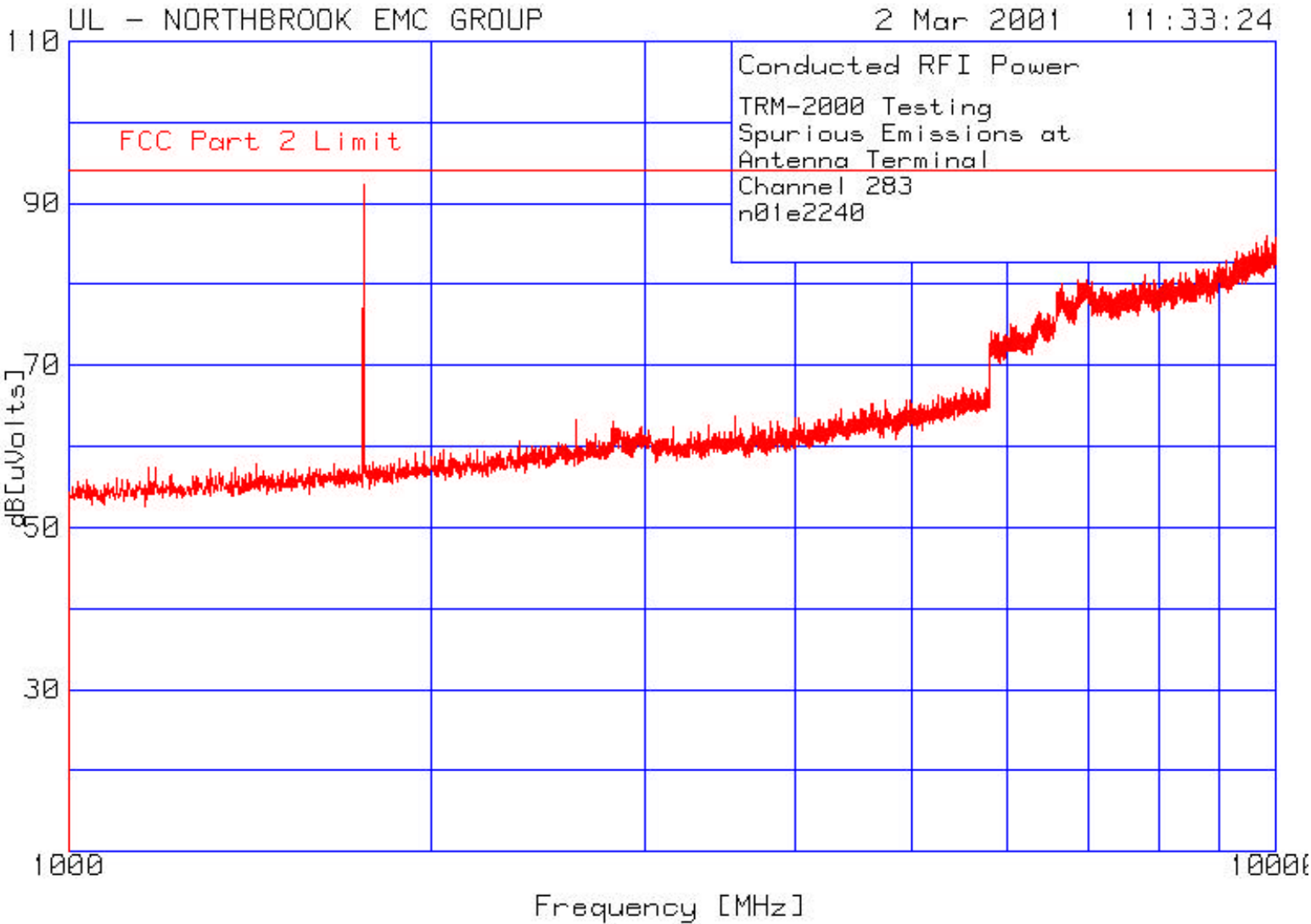
Spurious Emissions at Antenna Terminals
Channel 283
9 kHz to 30 MHz



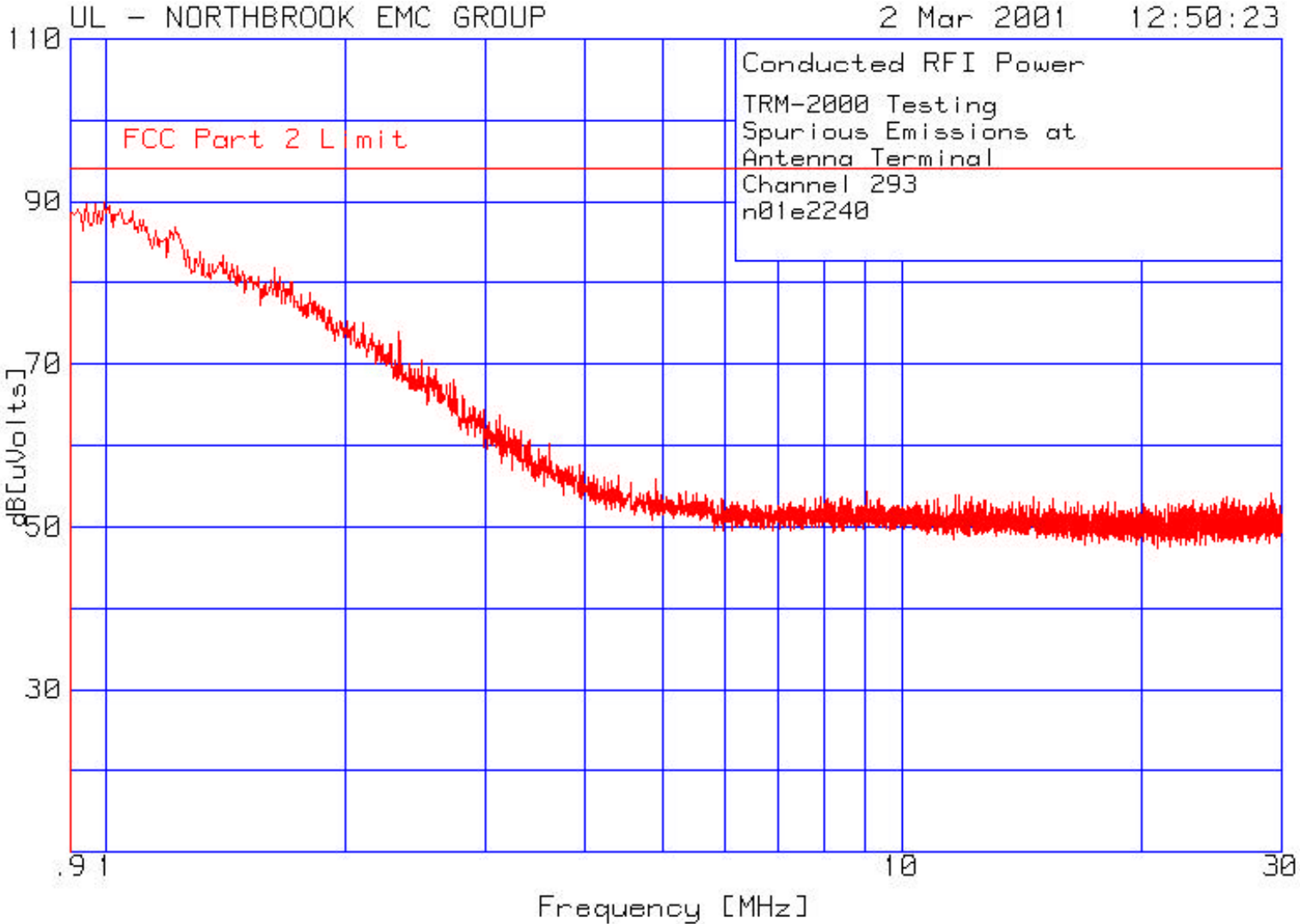
Spurious Emissions at Antenna Terminals
Channel 283
30 MHz to 1 GHz



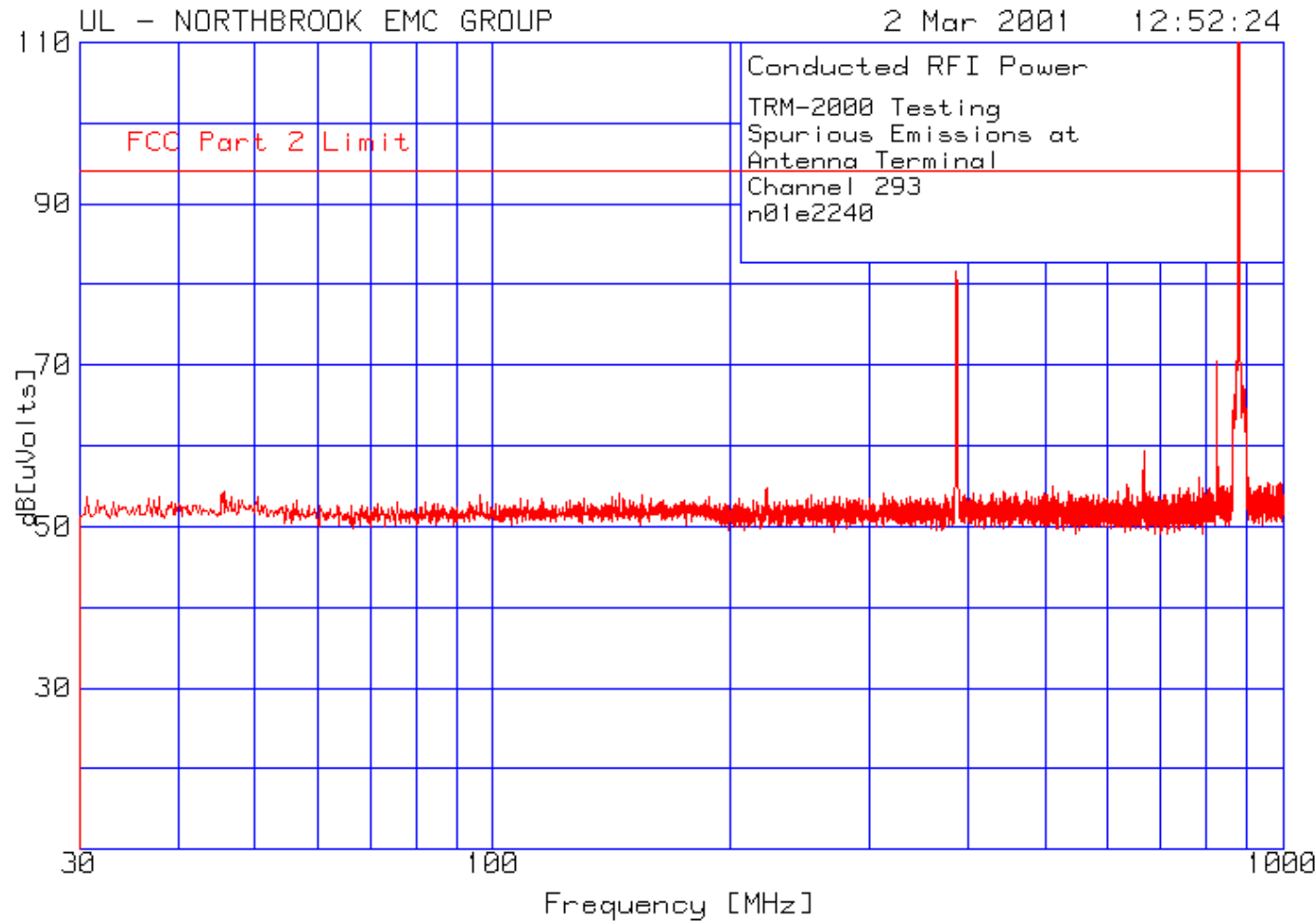
Spurious Emissions at Antenna Terminals
Channel 283
1 GHz to 10 GHz



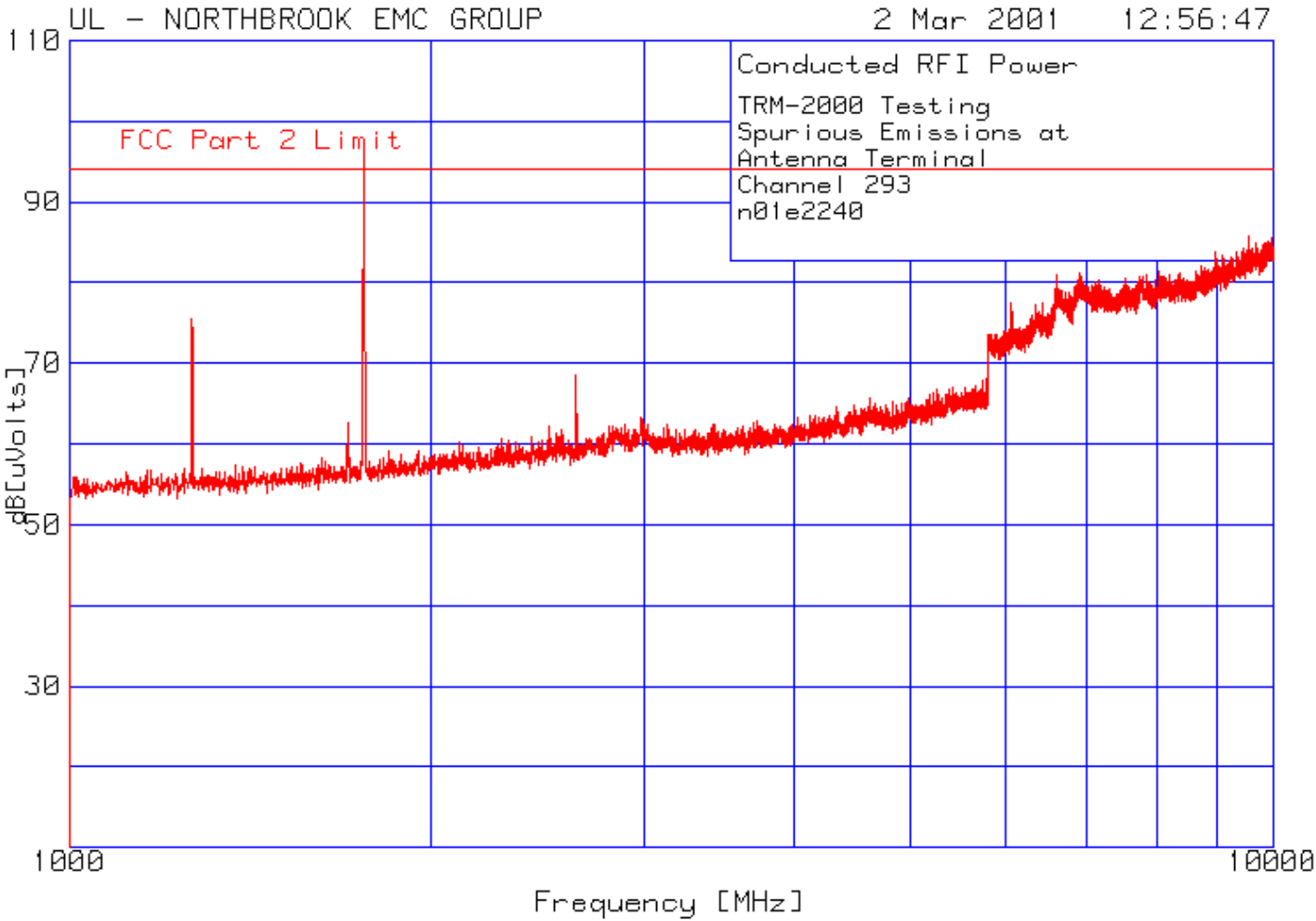
Spurious Emissions at Antenna Terminals
Channel 293
9 kHz to 30 MHz



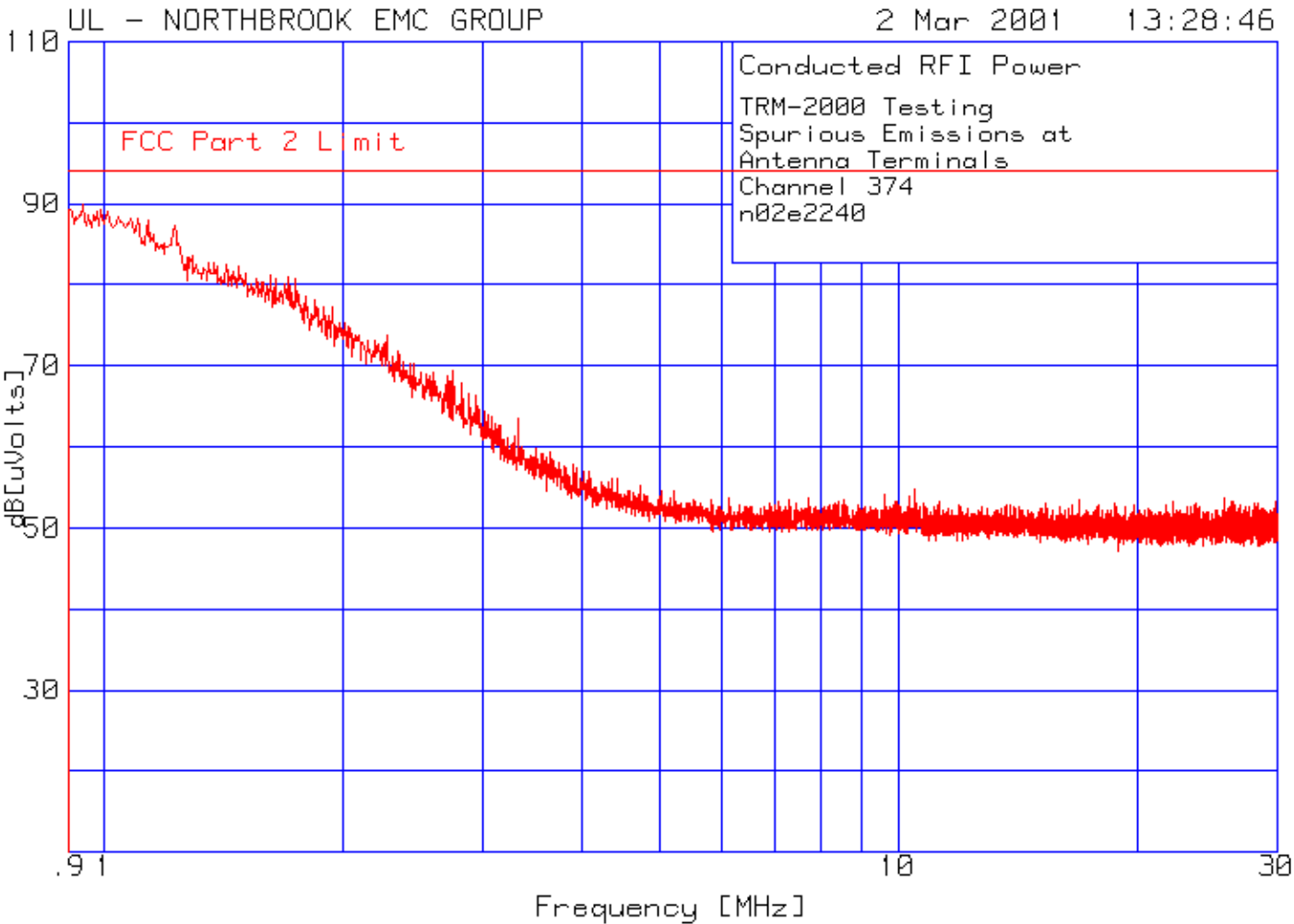
Spurious Emissions at Antenna Terminals
Channel 293
30 MHz to 1 GHz



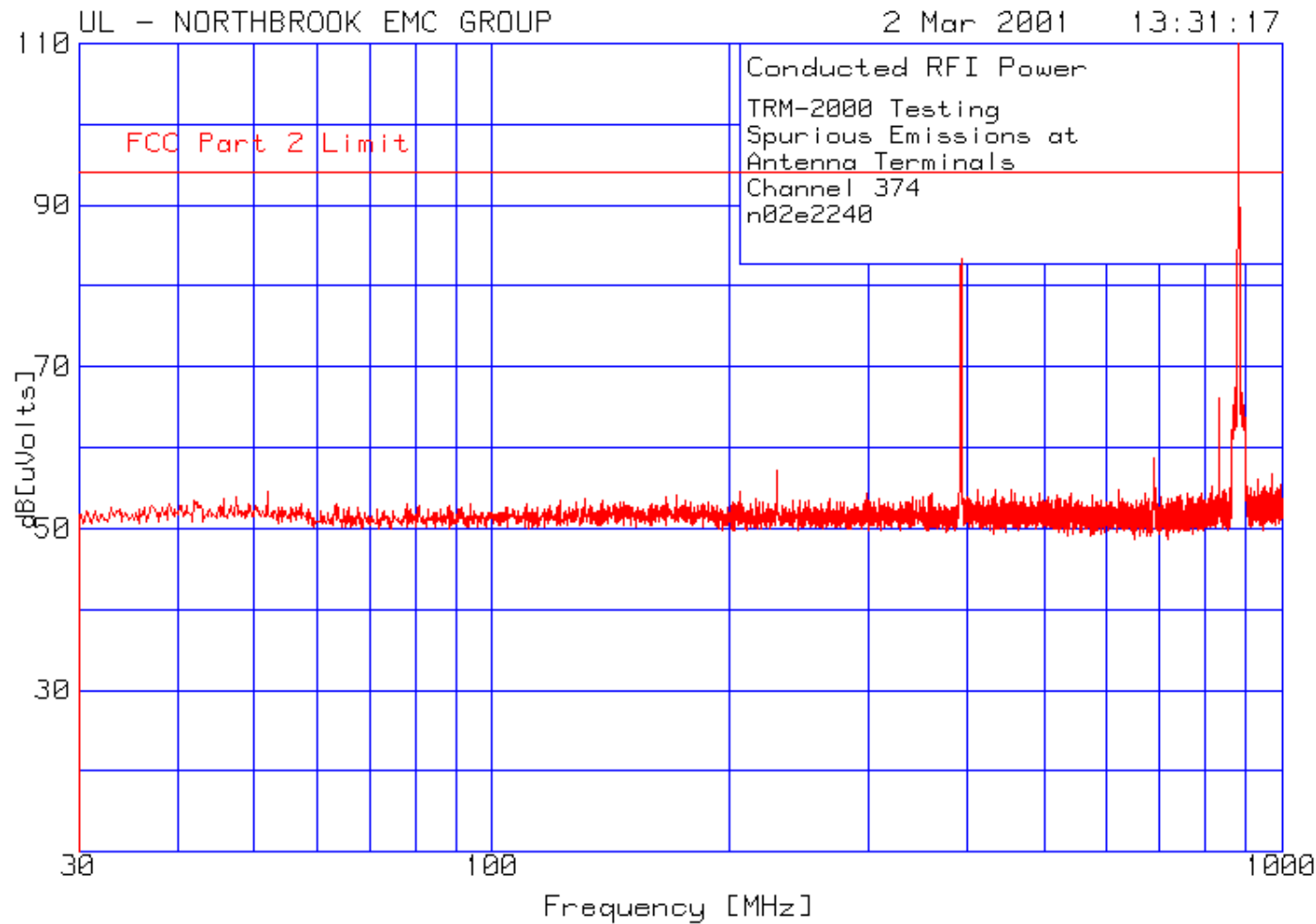
Spurious Emissions at Antenna Terminals
Channel 293
1 GHz to 10 GHz



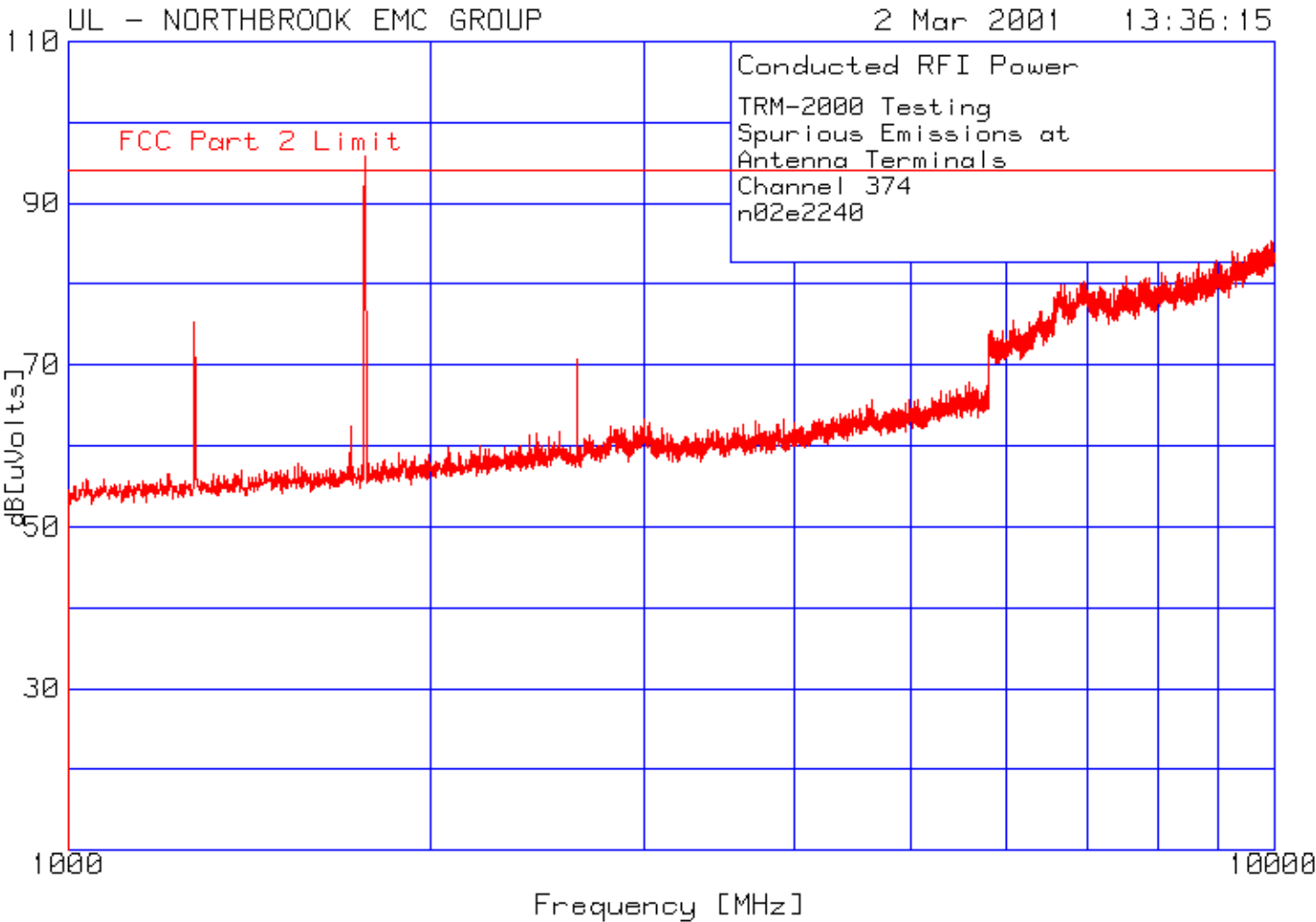
Spurious Emissions at Antenna Terminals
Channel 374
9 kHz to 30 MHz



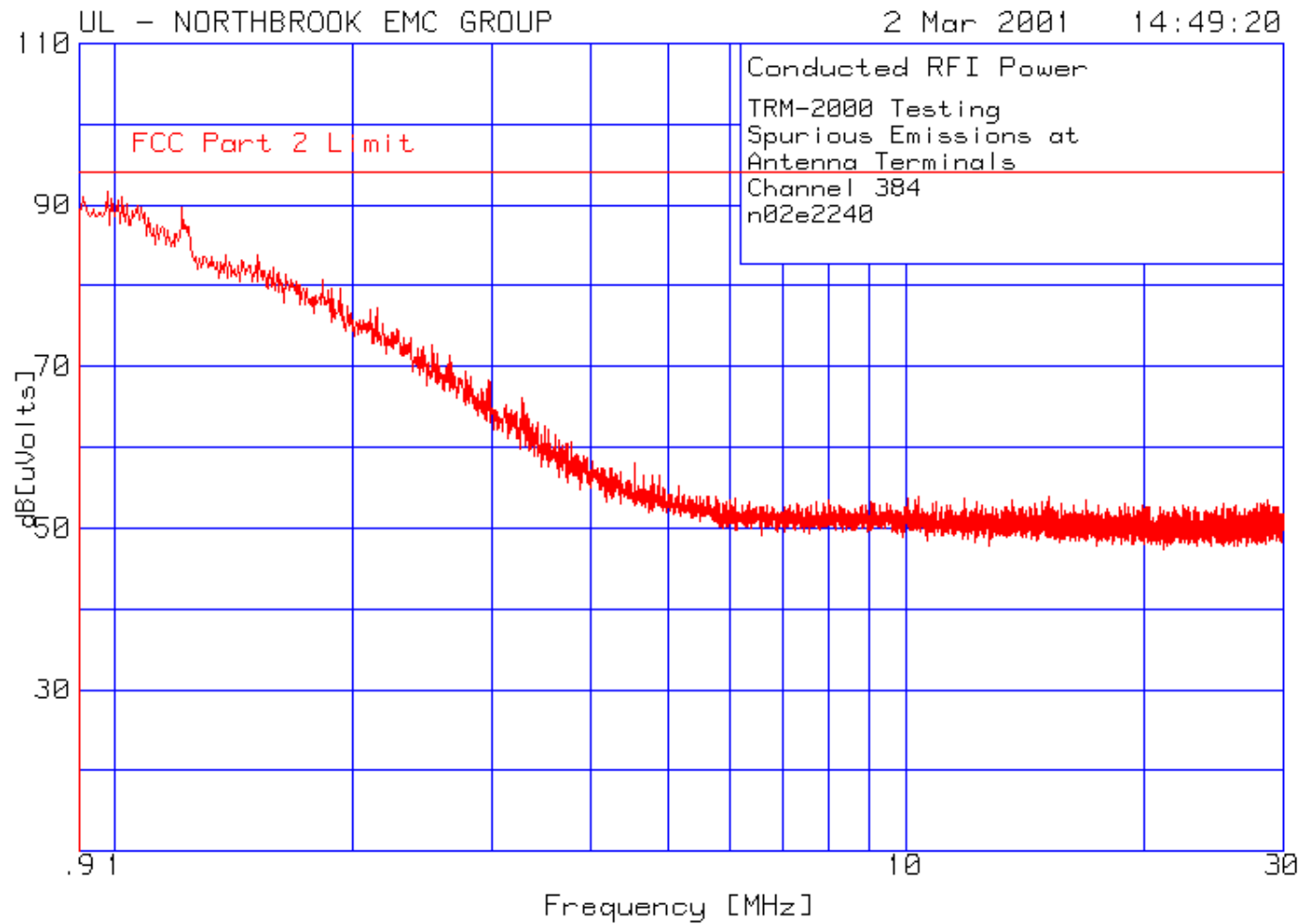
Spurious Emissions at Antenna Terminals
Channel 374
30 MHz to 1 GHz



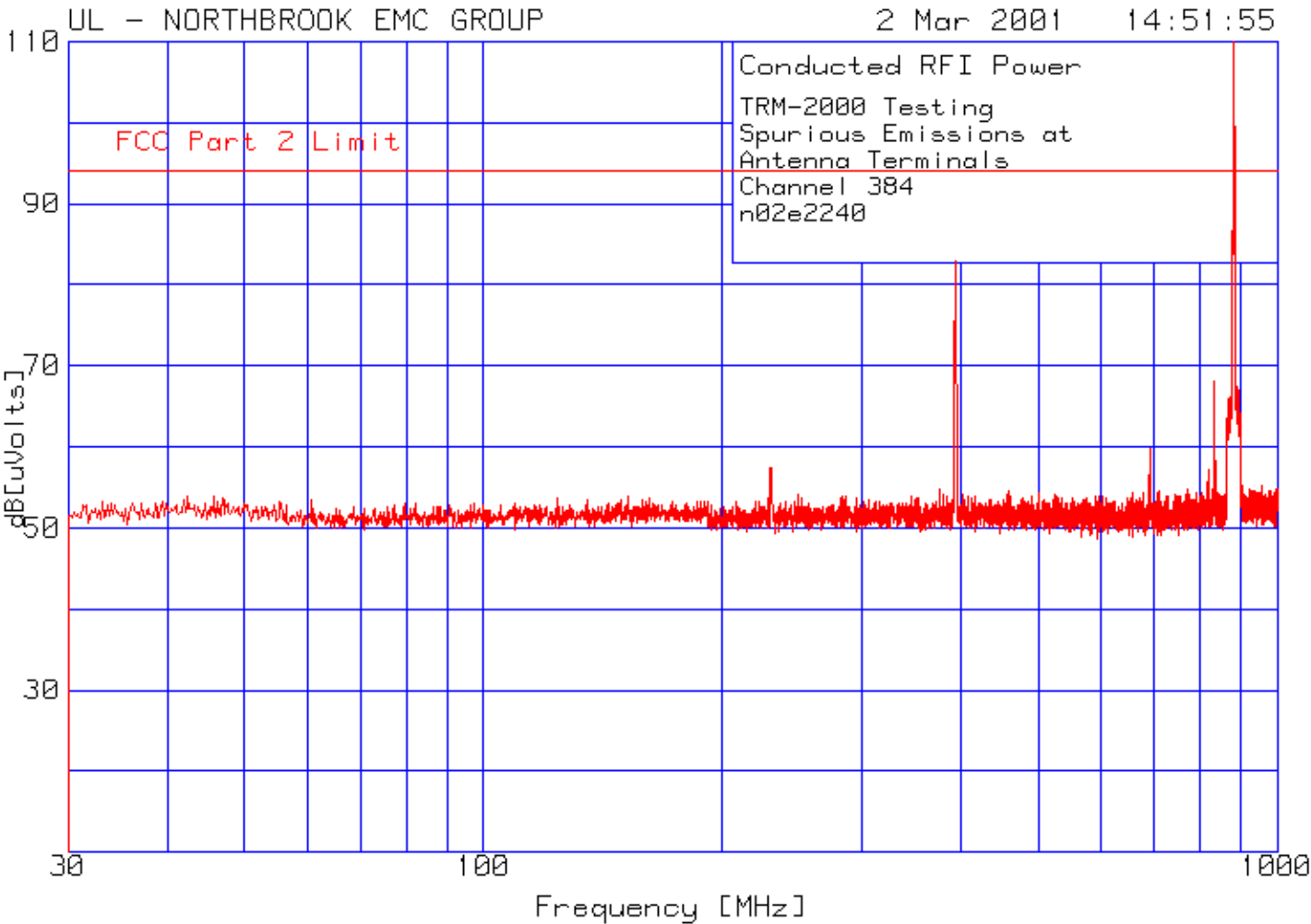
Spurious Emissions at Antenna Terminals
Channel 374
1 GHz to 10 GHz



Spurious Emissions at Antenna Terminals
Channel 384
9 kHz to 30 MHz



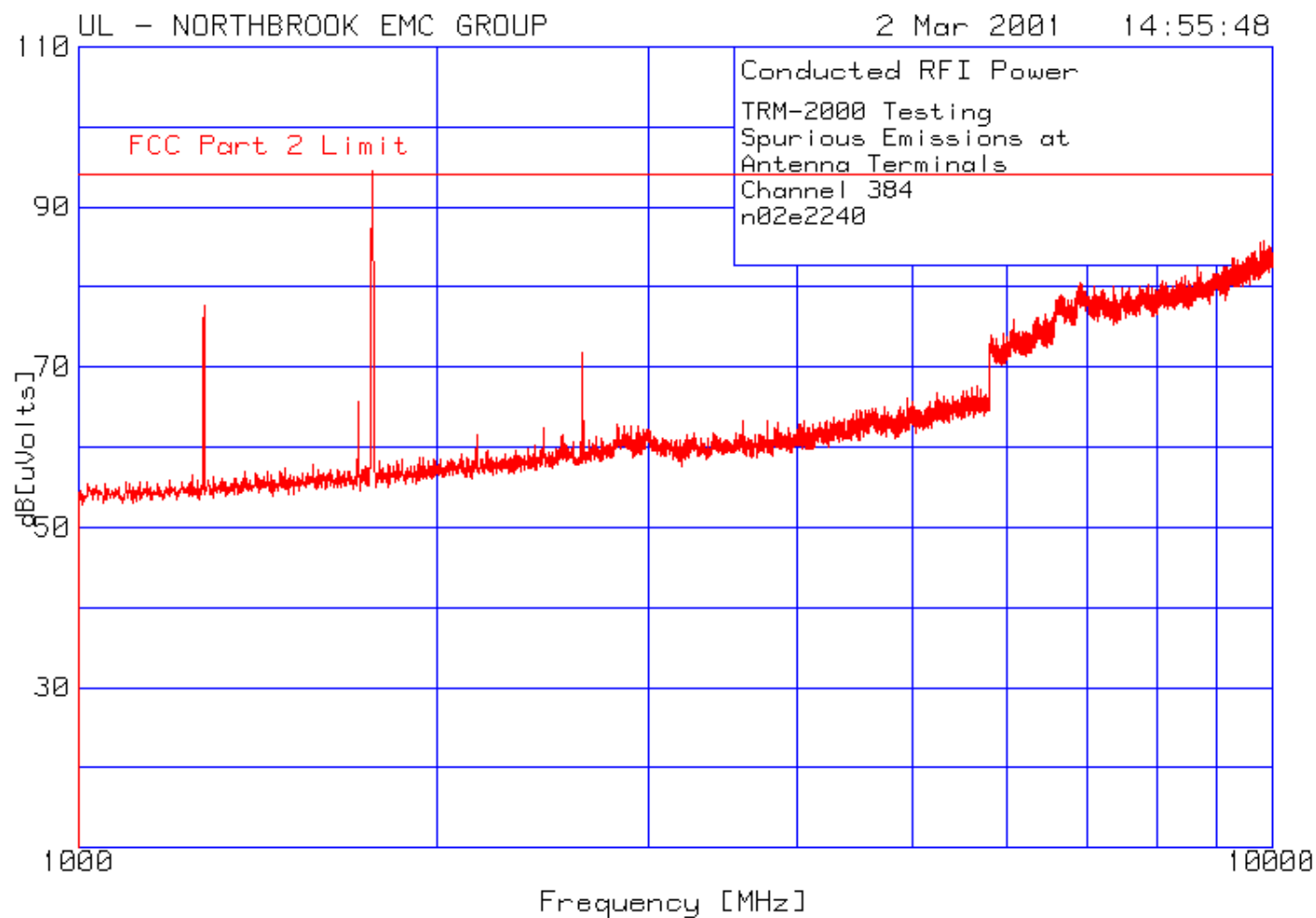
Spurious Emissions at Antenna Terminals
Channel 384
30 MHz to 1 GHz



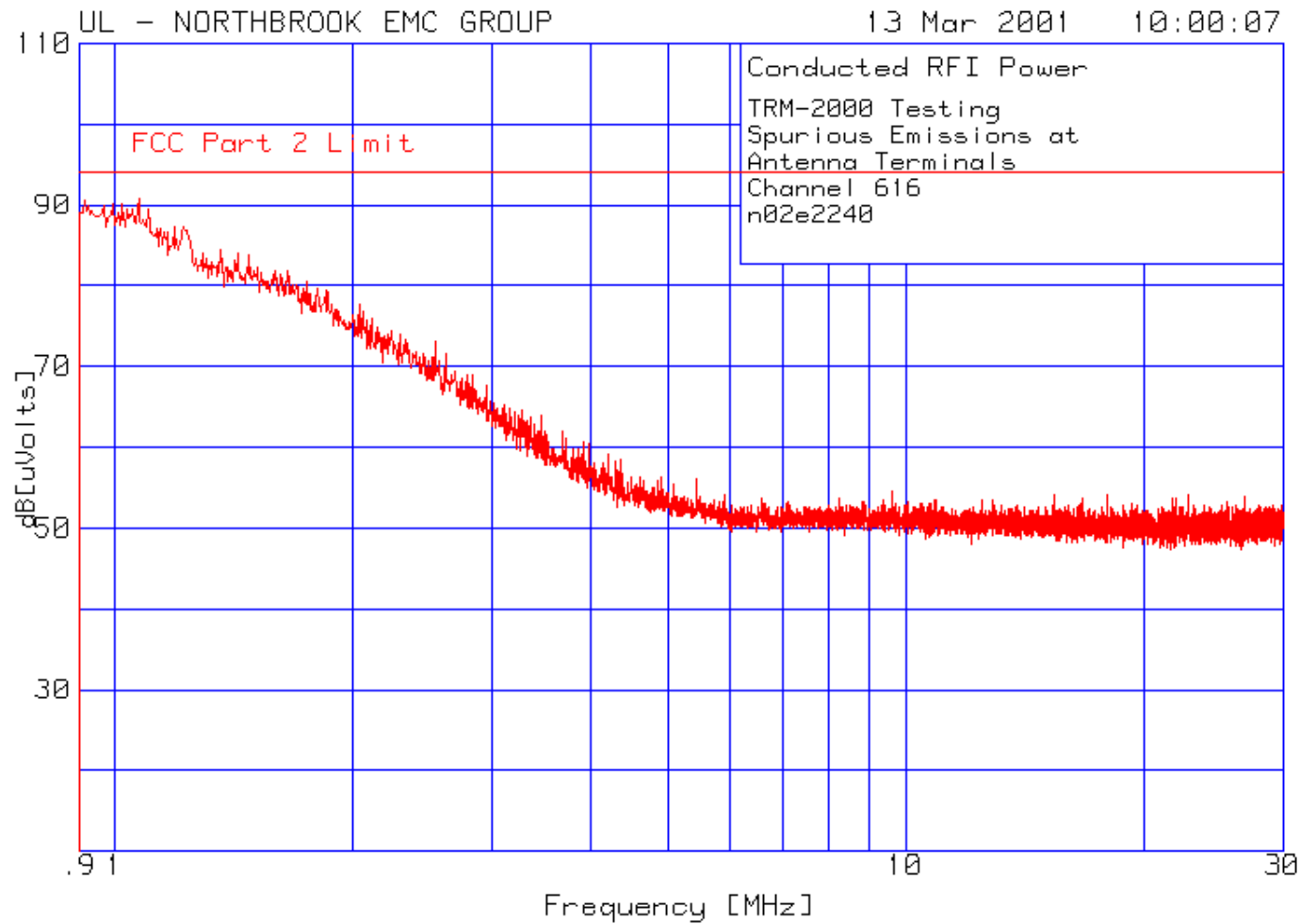
Spurious Emissions at Antenna Terminals

Channel 384

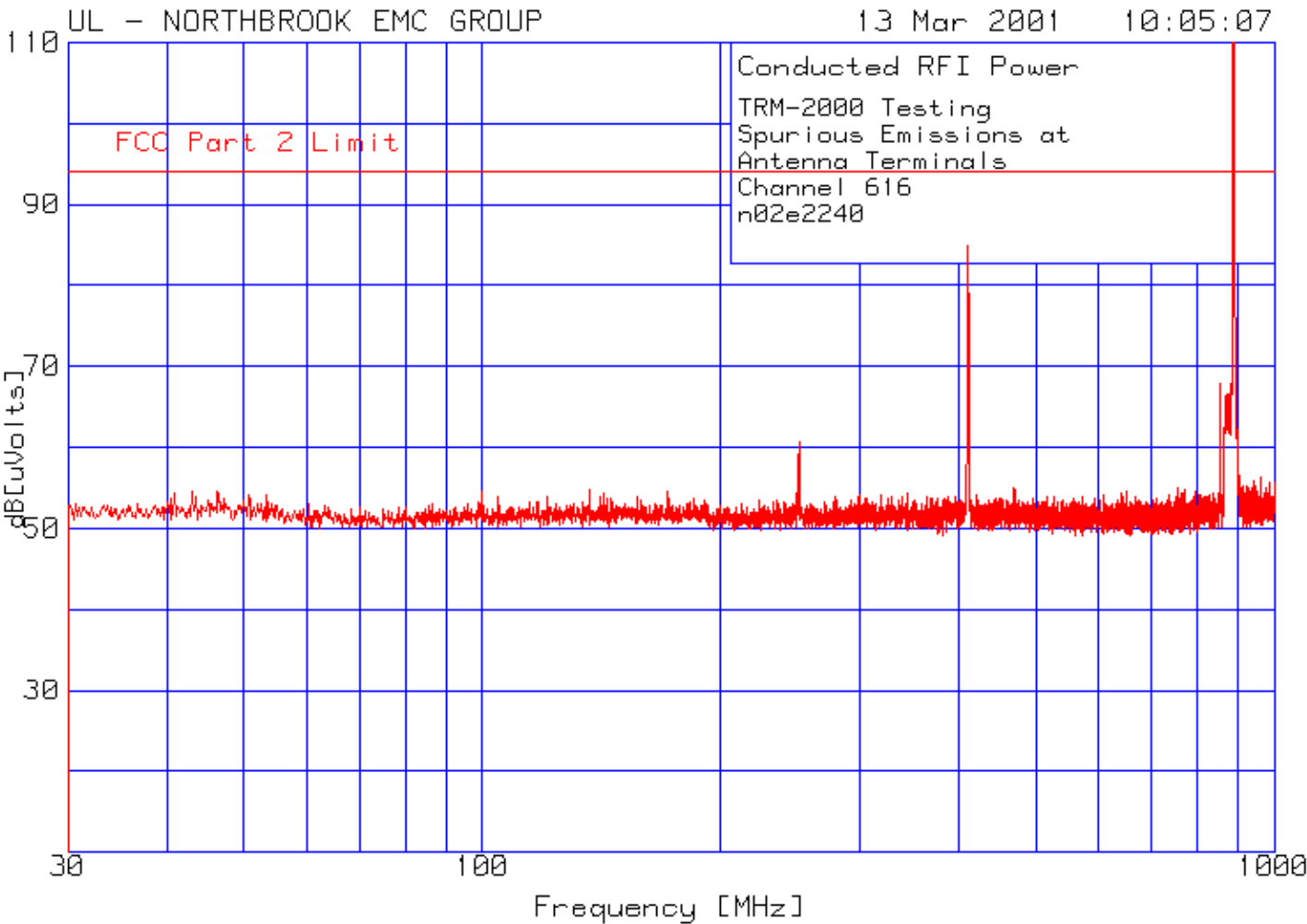
1 GHz to 10 GHz



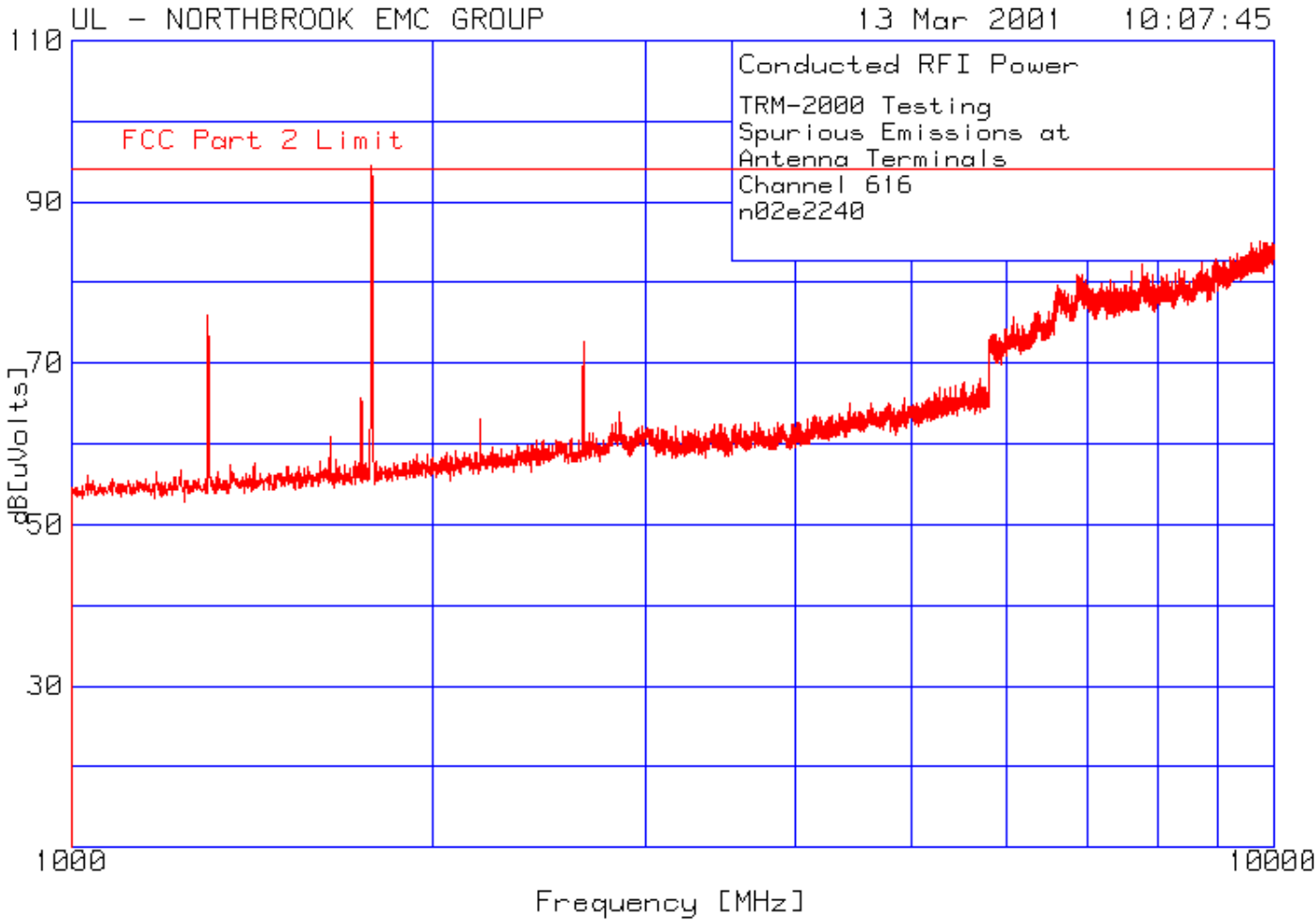
Spurious Emissions at Antenna Terminals
Channel 616
9 kHz to 30 MHz



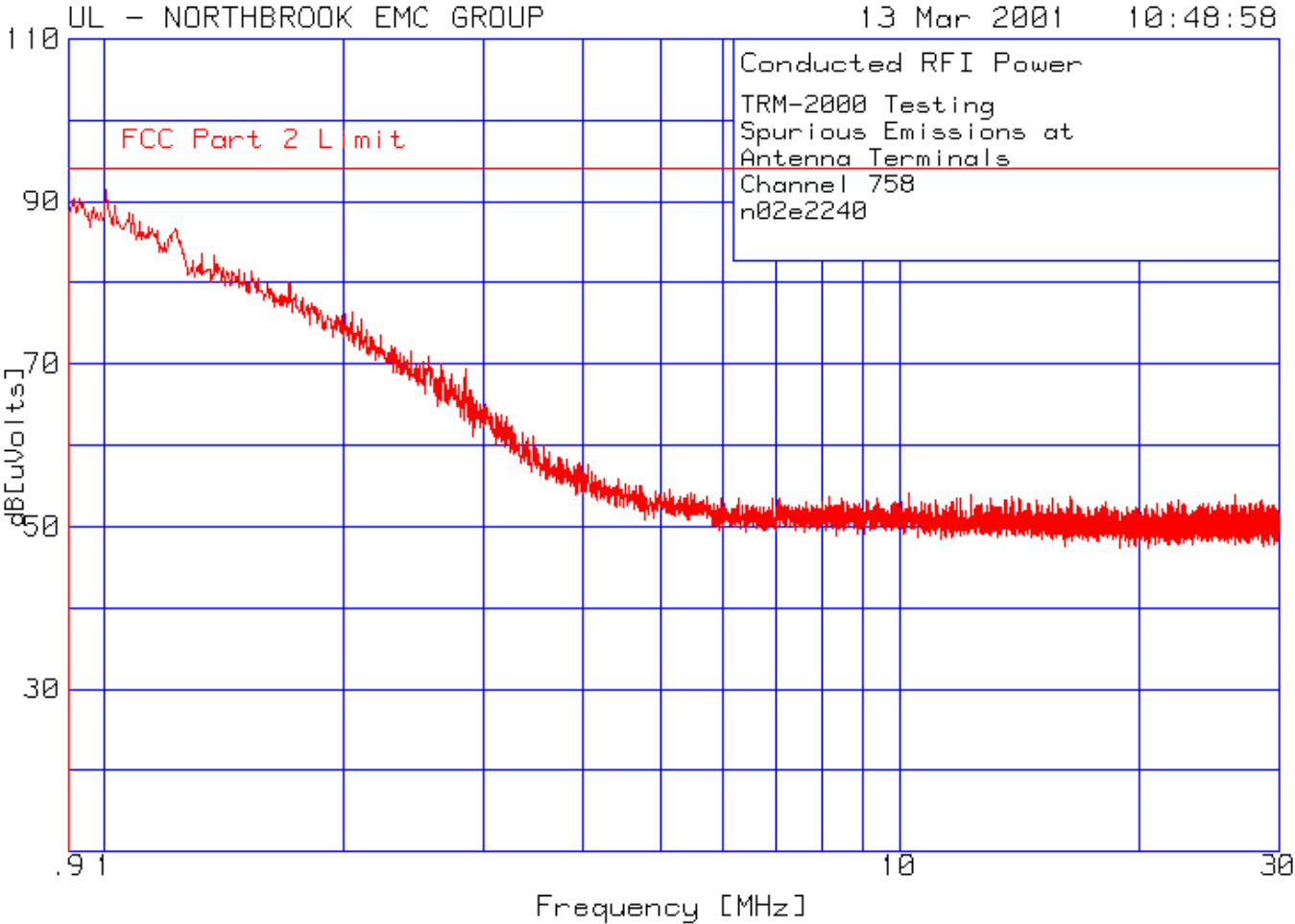
Spurious Emissions at Antenna Terminals
Channel 616
30 MHz to 1 GHz



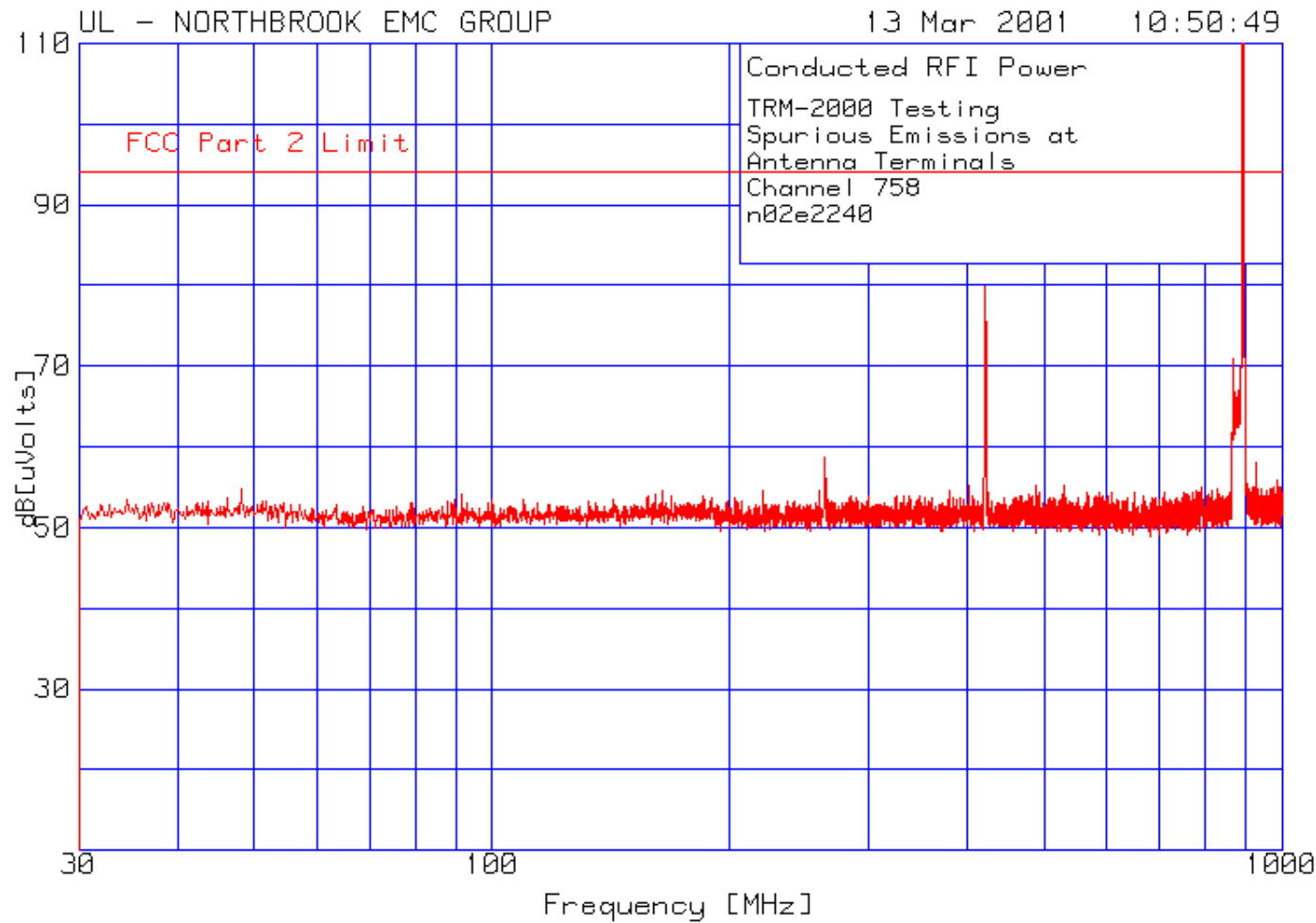
Spurious Emissions at Antenna Terminals
Channel 616
1 GHz to 10 GHz



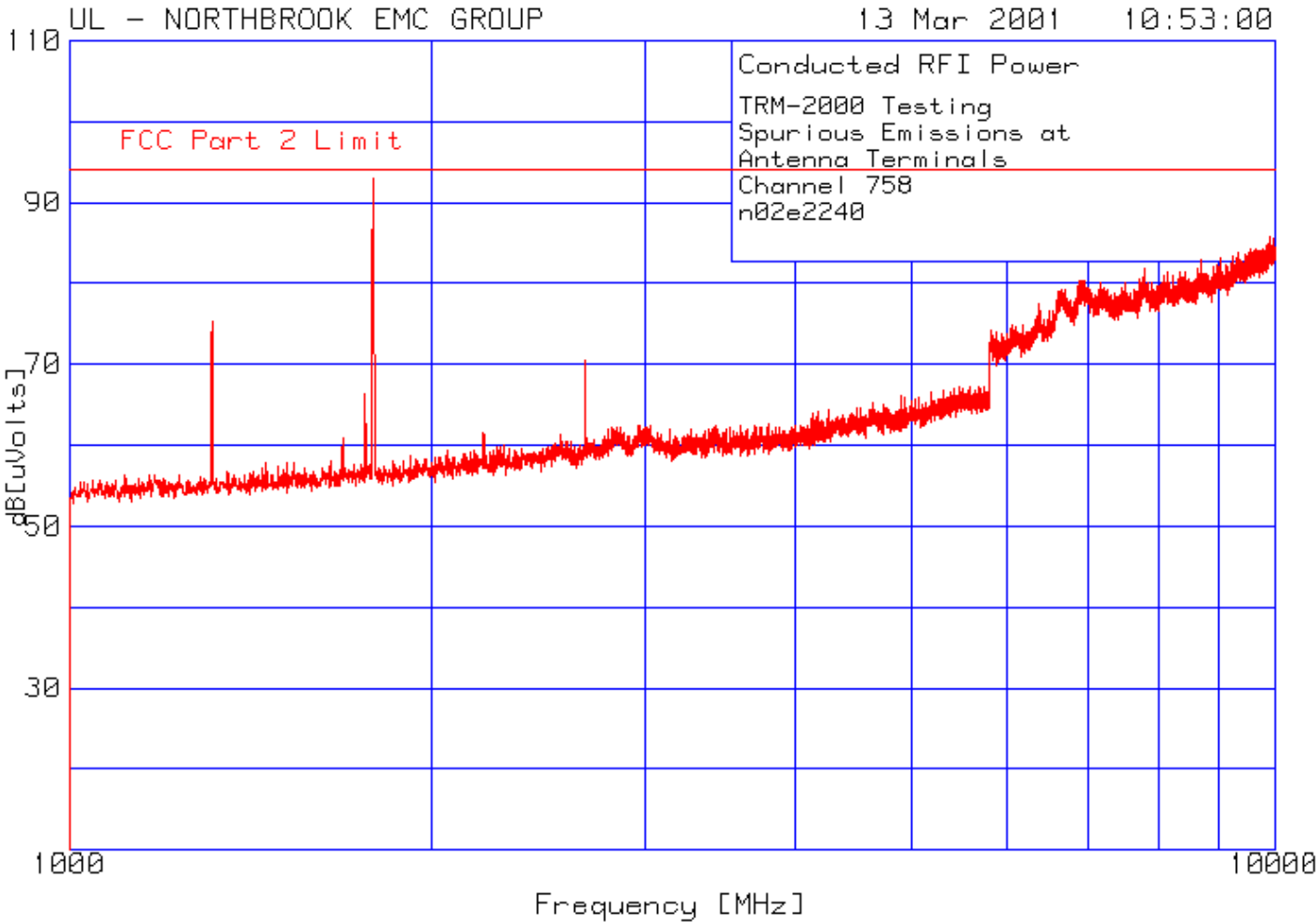
Spurious Emissions at Antenna Terminals
Channel 758
9 kHz to 30 MHz



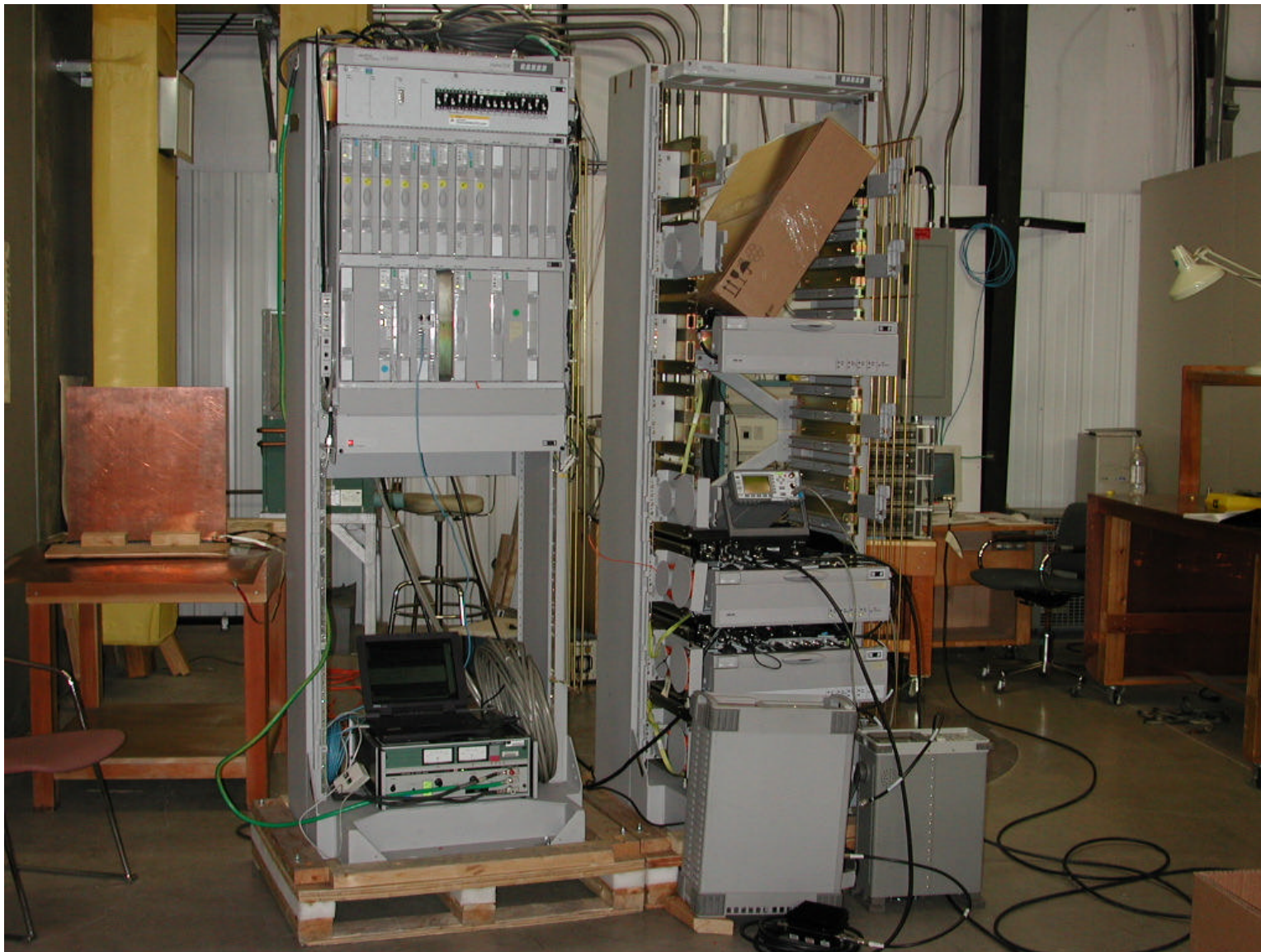
Spurious Emissions at Antenna Terminals
Channel 758
30 MHz to 1 GHz



Spurious Emissions at Antenna Terminals
Channel 758
1 GHz to 10 GHz



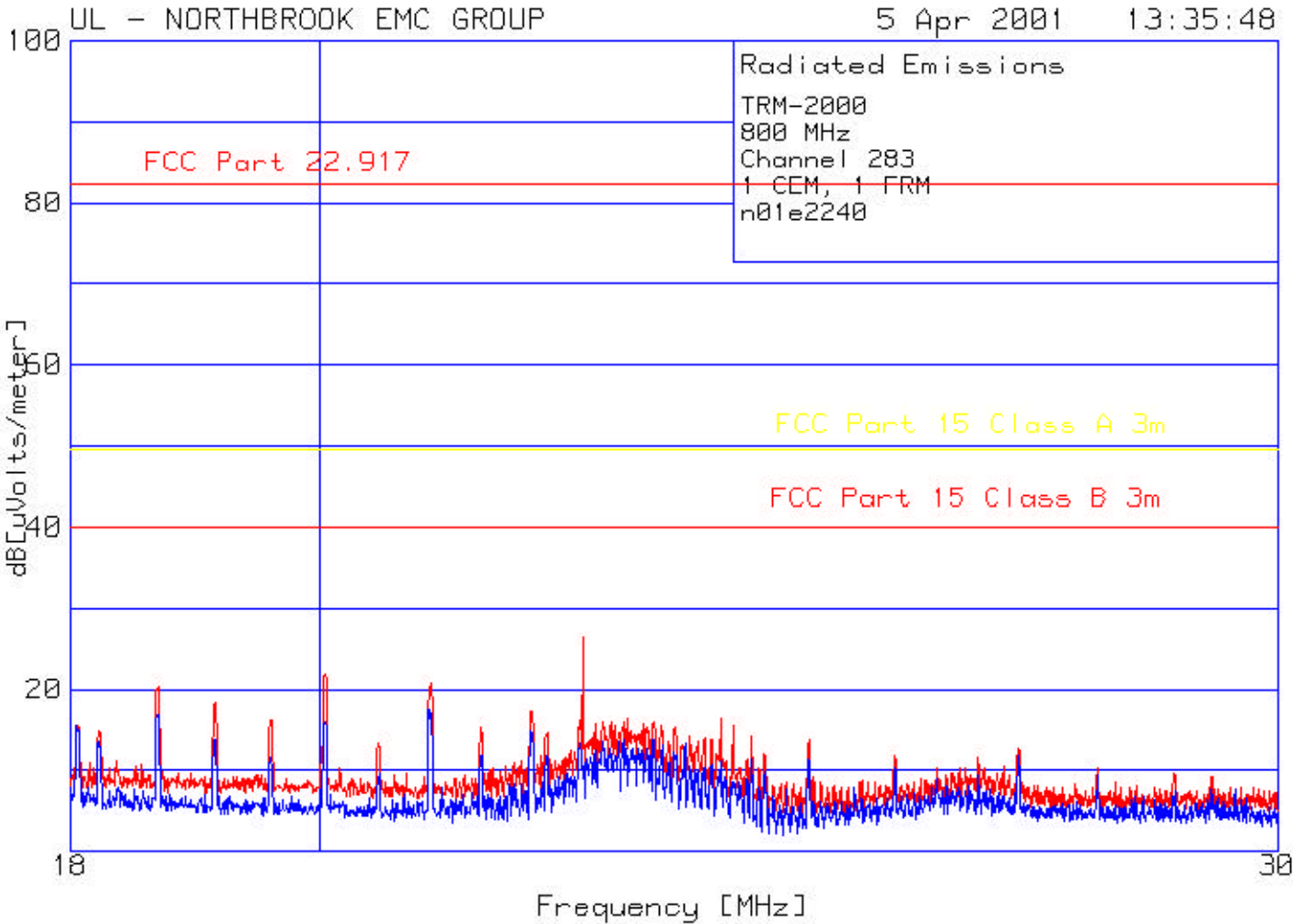
EQUIPMENT TEST SETUP



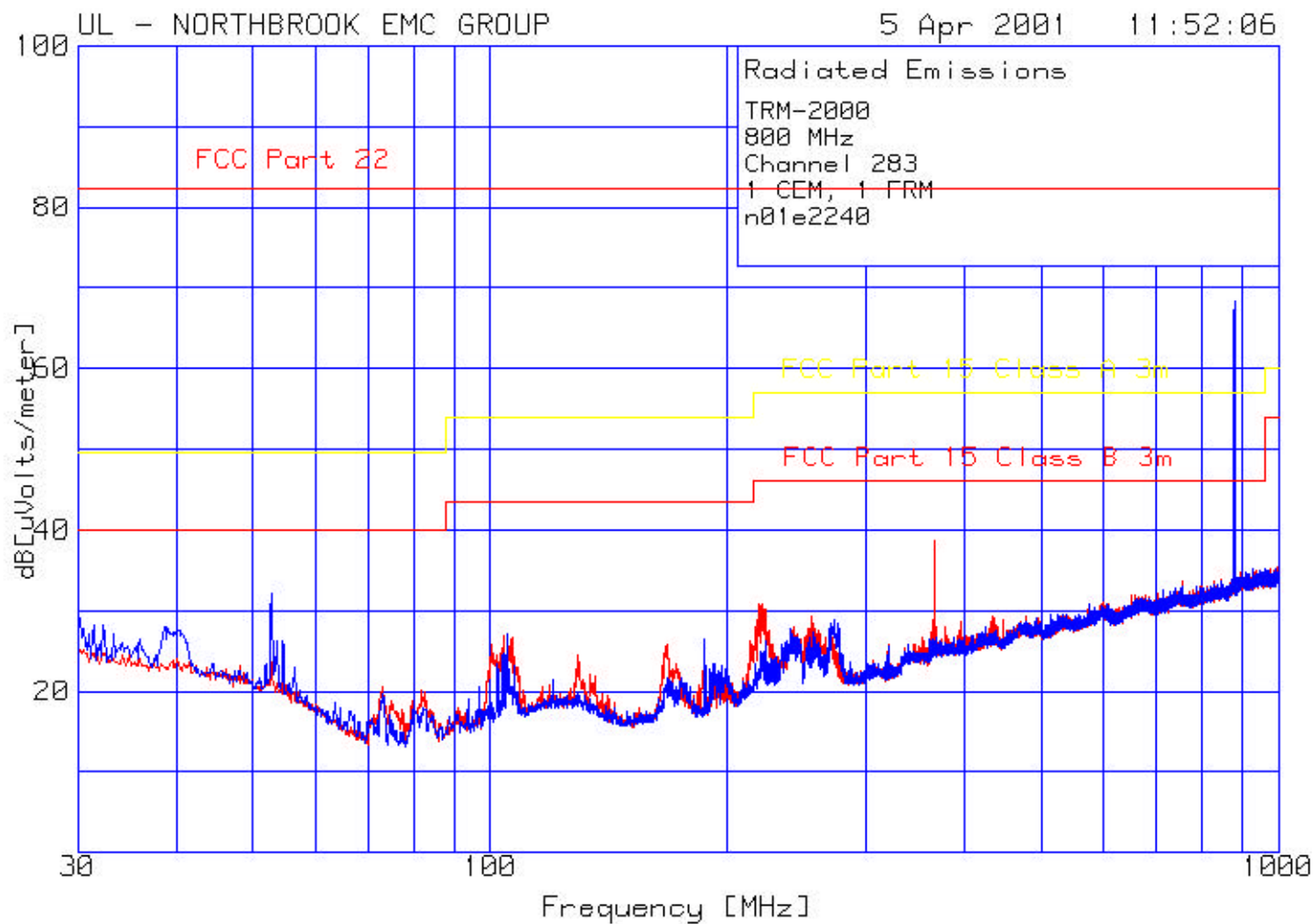
4.4 RADIATED EMISSIONS

Test Lab: MPB Technologies Inc. Airdrie Test Personnel: Erin Hails Test Date: 2, 13 March 2001		Product: TRM-2000 [800 MHz]							
Test Result, TRM-2000 [800 MHz]: PASS									
Objectives/Criteria		Specifications							
The field strength emissions shall not exceed the limits for the specifications as stated. Emission levels should meet the requirements with a margin of 6dB. Tests should be performed from the lowest internally used/generated frequency to the tenth harmonic of the highest internally used/generated frequency. (NB. f_c denotes carrier frequency)		FCC Part 2.1053 and 2.1057 FCC Part 22.917(e) <table border="1"> <thead> <tr> <th>Frequency</th> <th>Emission Level</th> </tr> </thead> <tbody> <tr> <td>9 kHz to lower edge of f_c</td> <td>-13 dBm or 82.2 dBμV/m</td> </tr> <tr> <td>upper edge of f_c to the tenth harmonic of f_c</td> <td>-13 dBm or 82.2 dBμV/m</td> </tr> </tbody> </table>		Frequency	Emission Level	9 kHz to lower edge of f_c	-13 dBm or 82.2 dB μ V/m	upper edge of f_c to the tenth harmonic of f_c	-13 dBm or 82.2 dB μ V/m
Frequency	Emission Level								
9 kHz to lower edge of f_c	-13 dBm or 82.2 dB μ V/m								
upper edge of f_c to the tenth harmonic of f_c	-13 dBm or 82.2 dB μ V/m								
Comments:									
Channel	Frequency [MHz]	Emission Level [dB μ V/m]	Delta [dB from limit]						
8									
283									
293									
374									
384									
616									
There were no emissions measured to be within -20 dB of the specified limit. Refer to the test data plots for more details.									

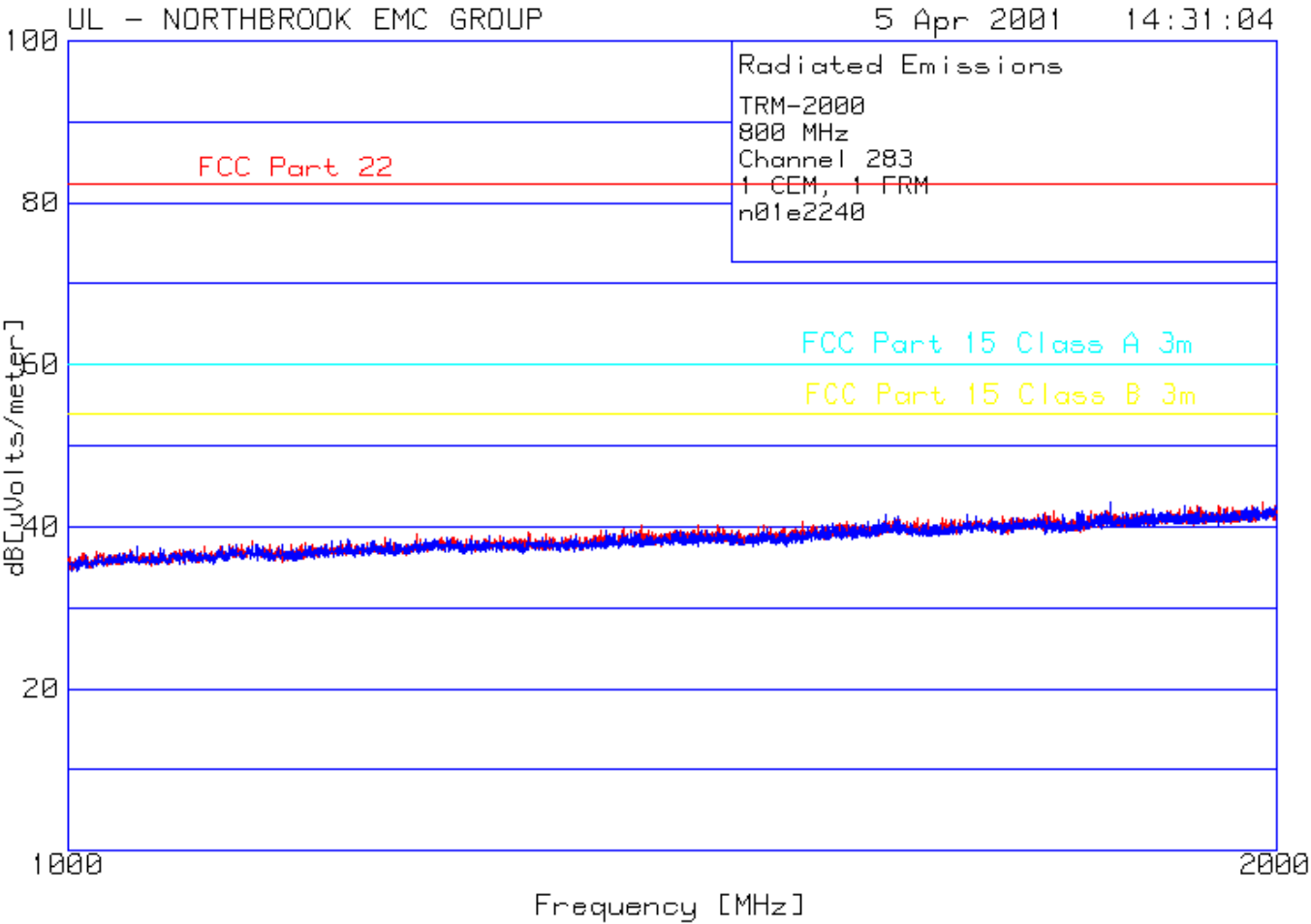
Radiated Emissions
Channel 283
18 to 30 MHz



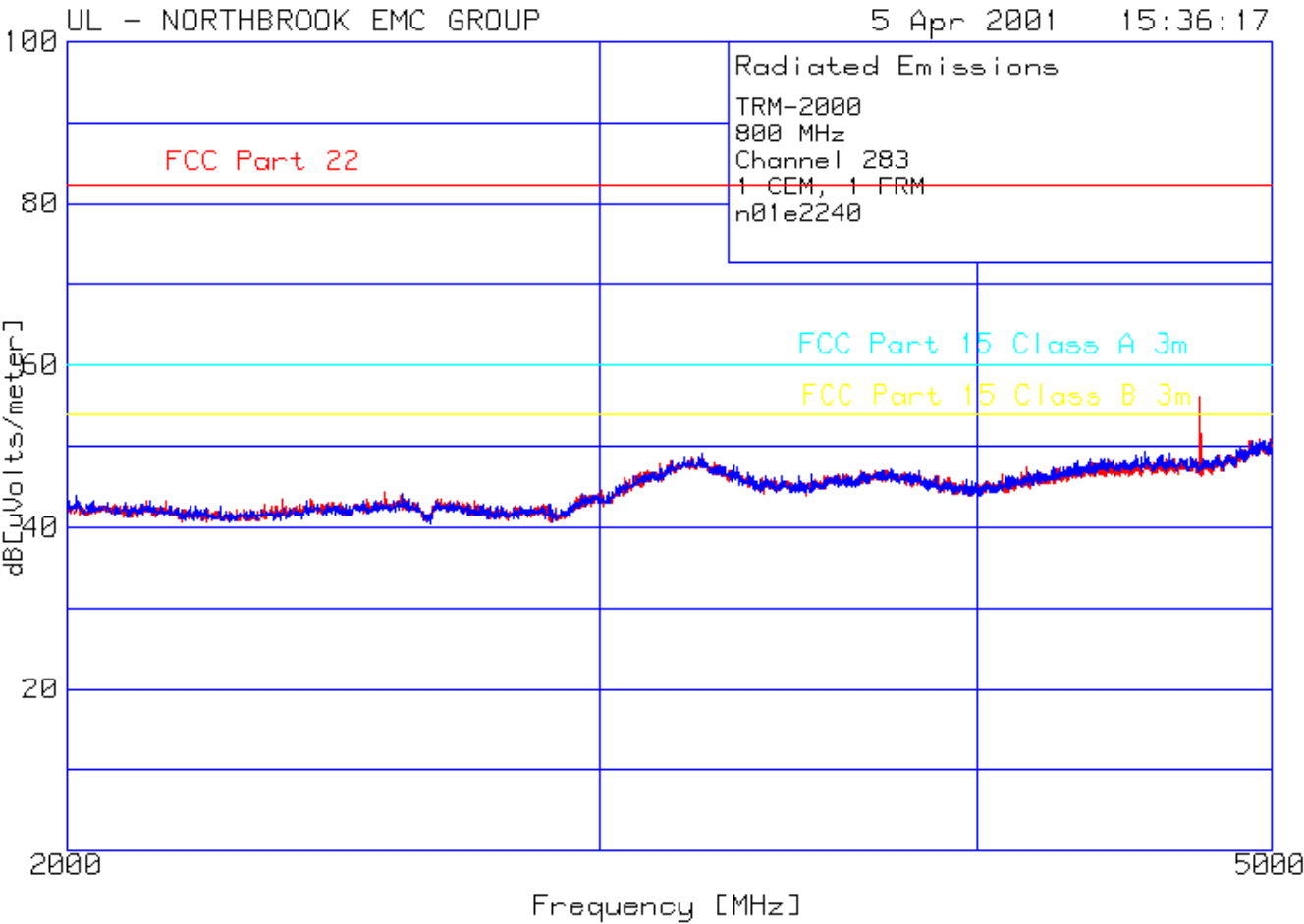
Radiated Emissions
Channel 283
30 to 1000 MHz



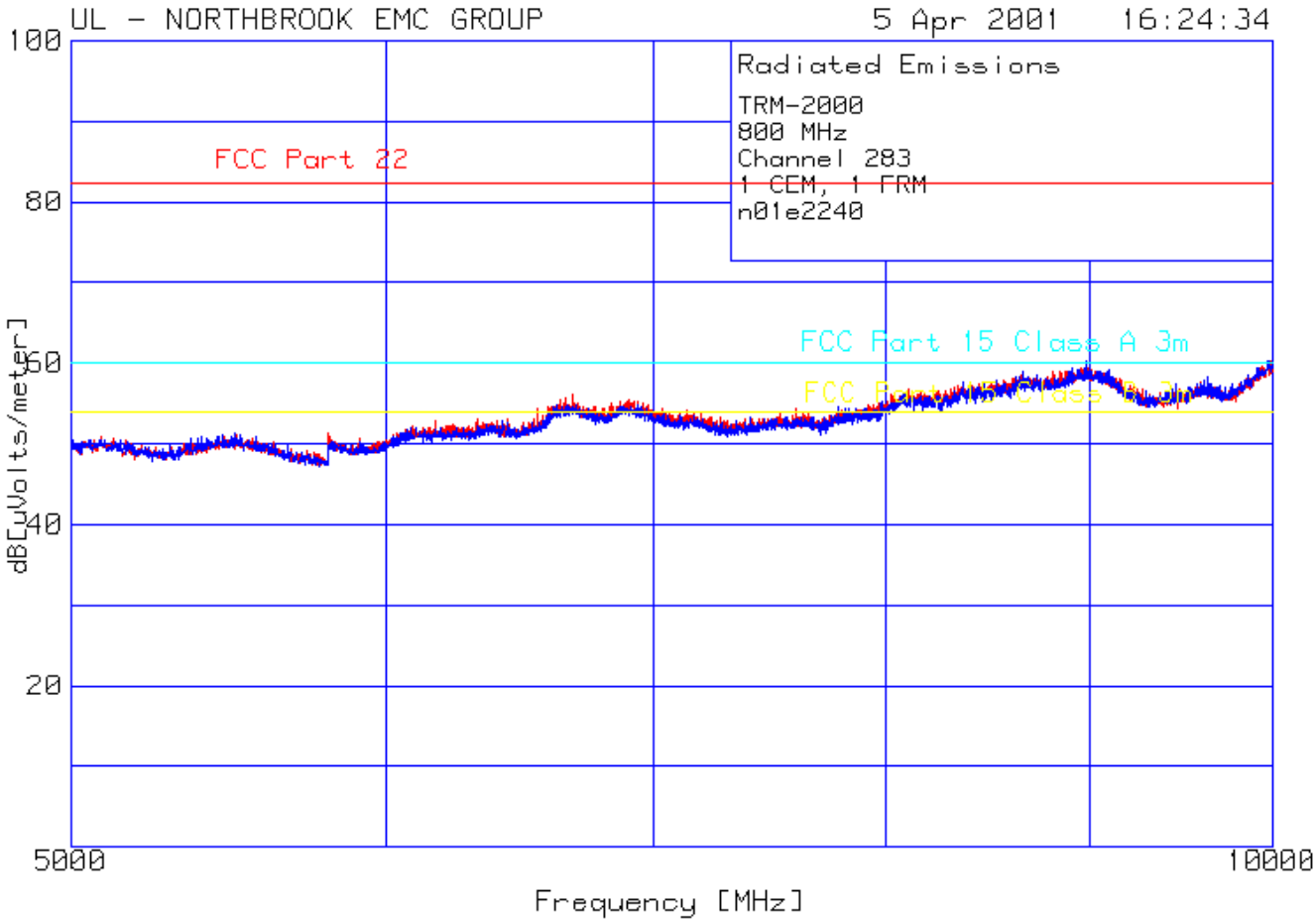
Radiated Emissions
Channel 283
1 to 2 GHz



Radiated Emissions
Channel 283
2 to 5 MHz



Radiated Emissions
Channel 283
5 to 10 MHz



5.0 TEST FACILITY

5.1 LOCATION

The EUT was tested for Electromagnetic Compatibility at the Electronics Test Centre, located in Airdrie, Alberta, Canada.

The RF Anechoic Chamber (RFAC) is identified as Chamber 1, located in the main building complex at the Electronics Test Centre. Its usable working space measures 10.6 m long x 7.3 m wide x 6.5 m high.

This test site is listed with the FCC under Registration Number 99541. Measurements taken at this site are accepted by Industry Canada per file number IC 2046-1.

The floor, walls and ceiling consist of annealed steel panels. The walls and ceiling are covered with ferrite tile, augmented by RF absorbant foam material on the end wall nearest the turntable, and on the adjacent walls and the ceiling. The chamber floor supports a 15 cm high internal floor, constructed of annealed steel panels, that forms the ground plane, and is bonded to the chamber walls.

The 3 m diameter turntable is flush-mounted with the floor. A sub-floor cable-way is provided to route cables between the turntable pit and EUT support equipment. EUT access is gained through an opening in the centre of the turntable.

Test instrumentation and EUT support equipment is located in two shielded vestibules located at the side of the main room. Cables are routed through bulkhead panels between the rooms as required. Power feeds are routed into the main room and vestibules through line filters providing at least 100 dB of attenuation between 10 kHz and 10 GHz.

5.2 GROUNDING PLAN

The EUT was located in a rack supplied by the client. The EUT was grounded according to Nortel Networks specifications.

5.3 POWER

AC power was supplied to the test chamber via an Underwriter's Laboratories ULW100-69, 100 dB, 100 Ampere wall mounted filter. Bonding to ground is via eight-inch lengths of two inch steel conduit.

5.4 TEST CONFIGURATION

5.4.1 RF OUTPUT POWER

Figure 1 illustrates the configuration of the test and measurement equipment used for FCC Part 2.1046.



Figure 1 - Measurement Setup for RF Output Power

5.4.2 OCCUPIED BANDWIDTH AND SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Figure 2 illustrates the configuration of the test and measurement equipment used for FCC Part 2.1049, 2.1051 and 2.1057.

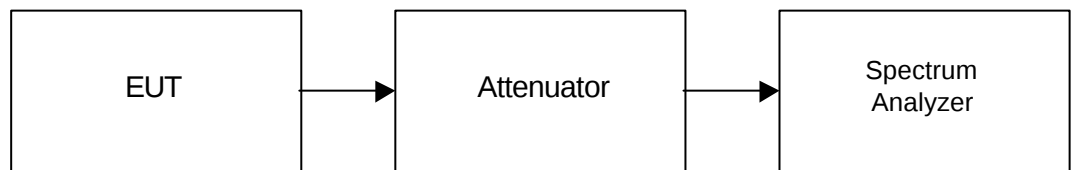


Figure 2 - Measurement Setup for Occupied Bandwidth and Spurious Emissions at Antenna Terminals

6.0 TEST EQUIPMENT

6.1 EQUIPMENT USED

The following equipment was used for this procedure. All measurement devices are calibrated annually, traceable to NIST.

For RF Output Power, one power meter was used. For Occupied Bandwidth and Spurious Emissions at Antenna Terminals, one spectrum analyzer was used.

6.2 CALIBRATION

All measurement instrumentation conforms to ANSI C63.2. Calibration is maintained in accordance with manufacturer recommendations, and ISO Guide 25. Each measurement device is labeled with its ETC asset number and calibration due date.

6.2.1 CALIBRATION ACCURACY

Test equipment used to provide quantitative measurements are calibrated with standards traceable to the National Research Council, National Institute of Standards and Technology, or other national standards. Instrumentation systems for emissions measurements have the following accuracies:

Frequency: ± 1 kHz

Amplitude: ± 2 %

6.2.2 Test Equipment Description

The equipment used in the tests was selected from the following list.

Instrument	Manufacturer	Model No.	Asset No.	Calibration Due
Spectrum Analyzer	Hewlett Packard	8566B	9565	9 March 2001
Spectrum Analyzer	Hewlett Packard	8566B	9168	30 January 2002
Spectrum Analyzer	Hewlett Packard	8595E	20087561	17 November 2001
RF Preselector	Hewlett Packard	85685A	9563	12 March 2001
RF Preselector	Hewlett Packard	85685A	9728	21 September 2001
Quasi-Peak Adapter	Hewlett Packard	85650A	9243	16 June 2001
Line Impedance Stabilization Network	EMCO	3825/2r	9331	2 November 2001
Line Impedance Stabilization Network	EMCO	3825/2r	9259	2 November 2001
Biconilog Antenna	ARA	Lpb-2520/A	4318	14 March 2001
Dual Ridged Guide Antenna	EMCO	3115	9588	6 August 2001
Low Noise Amplifier	MITEQ	JS43-01001800-21- 5P	4354	14 February 2002
Power Meter	Hewlett Packard	436A	9061	3 August 2001
Power Meter	Hewlett Packard	E4419A	20085989	6 October 2001
Power Sensor	Hewlett Packard	8482A	9758	3 August 2001
Power Sensor	Agilent	8482A		8 October 2001

Appendix A

TRM-2000 [800 MHz]

Test Sample Description

(from data provided by Nortel Networks)

Product Application	Product Category
Commercial ✓ Military o	Telecommunications ✓ Information Technology o Surface Transportation o Aerospace o Test & Measurement o Other o _____
Product Name	TRM-2000 [800 MHz]
Part/Model No.	NPGS85AB P2
Serial Number	NNTM 537T2UFG
Power Requirements: (Voltage, AC/DC, Hz, Current)	-48 VDC
Typical Installation Instructions or Configuration	as per rated specifications
Ground Connection (in addition to power cord)	yes
Internally Generated or Used Frequencies	Fixed: 19.6608 MHz 31.9488 MHz Tunable: 5.6 to 6 MHz 39.3216 MHz 63.8976 MHz 750 to 775 MHz 78.6432 MHz 113.664 MHz 869 to 894 MHz
Peripheral Support Equipment	laptop, cell site tester
Description and number of interconnecting Leads & Cables	DC interconnect, RF cables, fibre optic cables
Brief Functional Description	CDMA metrocell BTS