

# Retlif Testing Laboratories

795 Marconi Avenue, Ronkonkoma, N.Y. 11779 (516) 737- 1500 - FAX 516-737-1497

(Branch Office)

101 New Boston Road, Goffstown, N.H. 03045 (603) 497-4600 - FAX (603) 497-5281

## FCC COMPLIANCE TEST REPORT FOR MODEL 700t SYSTEM CONTROLLER WITH 418MHz RF TRANSMITTER FCC ID: MMU700tRF

APPLICANT NAME: Remote Technologies Inc.

MANUFACTURER NAME: EI Microcircuits

CUSTOMER NAME: Lexicon, Inc.

CUSTOMER P.O.: 16386

DATE OF REPORT: June 23, 1998

TEST REPORT NO.: R-3158N2

TEST START DATE: May 12, 1998

TEST FINISH DATE: June 10, 1998

TEST TECHNICIAN(S): T. Cricco, J. Monahan

TEST ENGINEER: J. Monahan

SUPERVISOR: S. Wentworth

REPORT PREPARED BY: A. Herrick

GOVERNMENT SOURCE INSPECTION: Not Applicable

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## CERTIFICATION AND SIGNATURES

We certify that this report is a true report of the results obtained from the tests of the equipment stated. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.



John Monahan  
Corporate Engineering  
NVLAP Approved Signatory



Scott Wentworth  
Branch Manager

### NON-WARRANTY PROVISION

The testing services have been performed, findings obtained, and reports prepared in accordance with generally accepted testing laboratory principles and practices. This warranty is in lieu of all other warranties, either express or implied.

### NON-ENDORSEMENT

This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation endorsement, or certification of the product or material tested. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.



**Retlif Testing Laboratories**

Test Report No. R-3158N2  
FCC ID: MMU700tRF

EXHIBIT 6

Report of Measurements

Para. 2.1033(b)(6)



**Retlif Testing Laboratories**

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FCC ID: MMU700tRF

<b>APPLICANT</b> Remote Technologies Inc. 10250 Valley View Road, Suite 149 Eden Prairie, MN 55344	<b>MANUFACTURER</b> EI Microcircuits 1651 Pohl Road Mankato, MN 56001
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TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C, Para. 15.231

TEST PROCEDURE: ANSI C63.4:1992

TEST SAMPLE DESCRIPTION

BRANDNAME: Not Applicable

MODEL: 700t

TYPE: Low Power Remote Control Transmitter

POWER REQUIREMENTS: 6 Volt Internal Rechargeable Battery Pack /

External Power Supply-Battery Charger

FREQUENCY OF OPERATION: 418 MHZ

TESTS PERFORMED

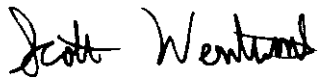
Para. 15.231(a). Radiated Emissions, Fundamental and Harmonics

Para. 15.231(c). Occupied Bandwidth

Para. 15.207(a). Conducted Emissions

I HEREBY CERTIFY THAT: The measurements shown here were in accordance with the procedure indicated and that the energy emitted by this equipment was found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

I FURTHER CERTIFY THAT: On the basis of the measurements made, the device tested is capable of operation in compliance with the requirements of Part 15 of the FCC Rules under normal use and maintenance.

<b>SIGN</b> 	<b>PRINT</b> Scott Wentworth	<b>TITLE</b> Branch Manager
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**Retlif Testing Laboratories**

Test Report No. R-3158N2  
FCC ID: MMU700tRF

## REPORT OF MEASUREMENTS

Applicant: Remote Technologies Inc.  
Device: System Controller with 418MHz RF Transmitter  
FCC ID: MMU700tRF  
Power Requirements: 6 Volt Internal Rechargeable Battery Pack /  
External Power Supply-Battery Charger  
Applicable Rule Section: Part 15, Subpart C, Section 15.231

### TEST RESULTS

- 15.231 (a) - The device is used in a Home Theater Remote Control with home security and automation capabilities.
- 15.231 (a)(1) - The transmitter is operated by Touchscreen and ceases transmission in less than one second. ✓
- 15.231 (a)(2) - Not applicable.
- 15.231 (a)(3) - The transmitter has no regular or automatic periodic transmissions.
- 15.231 (a)(4)- Not applicable.
- 15.231 (b) - The fundamental field strength did not exceed 10351.42  $\mu\text{V/M}$  (Average) at a test distance of 3 meters, measured with an Average Detector.  
The field strength of harmonic and spurious emissions did not exceed 1035.142  $\mu\text{V/M}$  (AVERAGE).
- 15.231 (c) - The bandwidth of emissions was no more than 0.25% of the center frequency of 418 MHz.



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EXHIBIT 6

Report of Measurements

Radiated Emissions Data, Para. 15.231(a)



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Test Report No. R-3158N2  
FCC ID: MMU700tRF

## TABULAR DATA SHEET

<b>RADIATED FIELD STRENGTH</b>	400 to 4200 MHz
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Lexicon, Inc.

**JOB No.:**

R-3158N2

System Controller with 418MHz RF Transmitter

FCC ID: MMU700tRF

700t

SERIAL No.:

n/a
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FCC Part 15, Subpart C, Intentional Radiator

PARAGRAPH: 15.321

Switched on, operating with fully charged battery and with external power supply attached. Continuously transmitting.

J. Monahan

DATE:

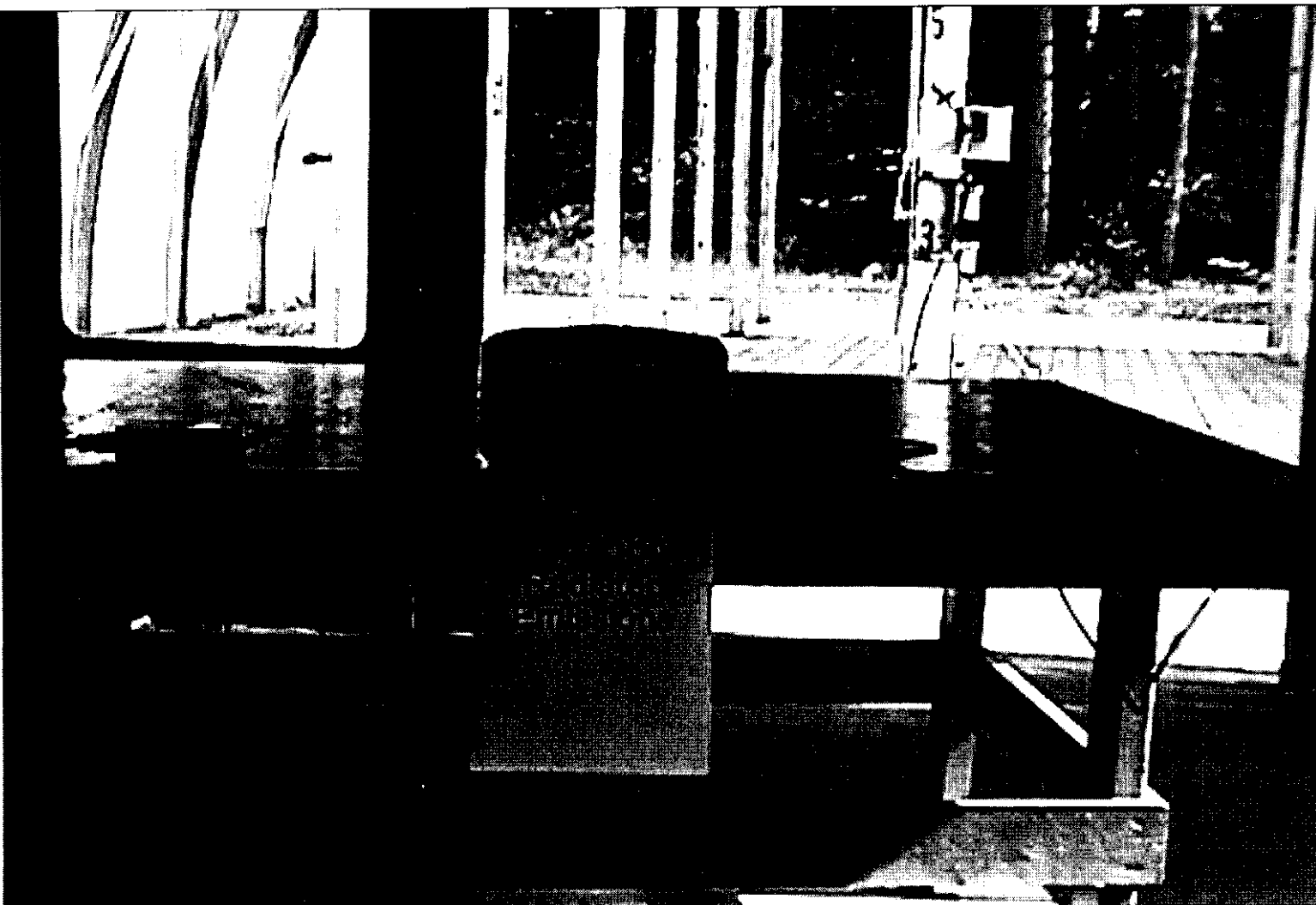
6-10-98

3 Meter Test Distance. Meter Readings taken in Average Detector Function.

FM, so OK

[illegible]

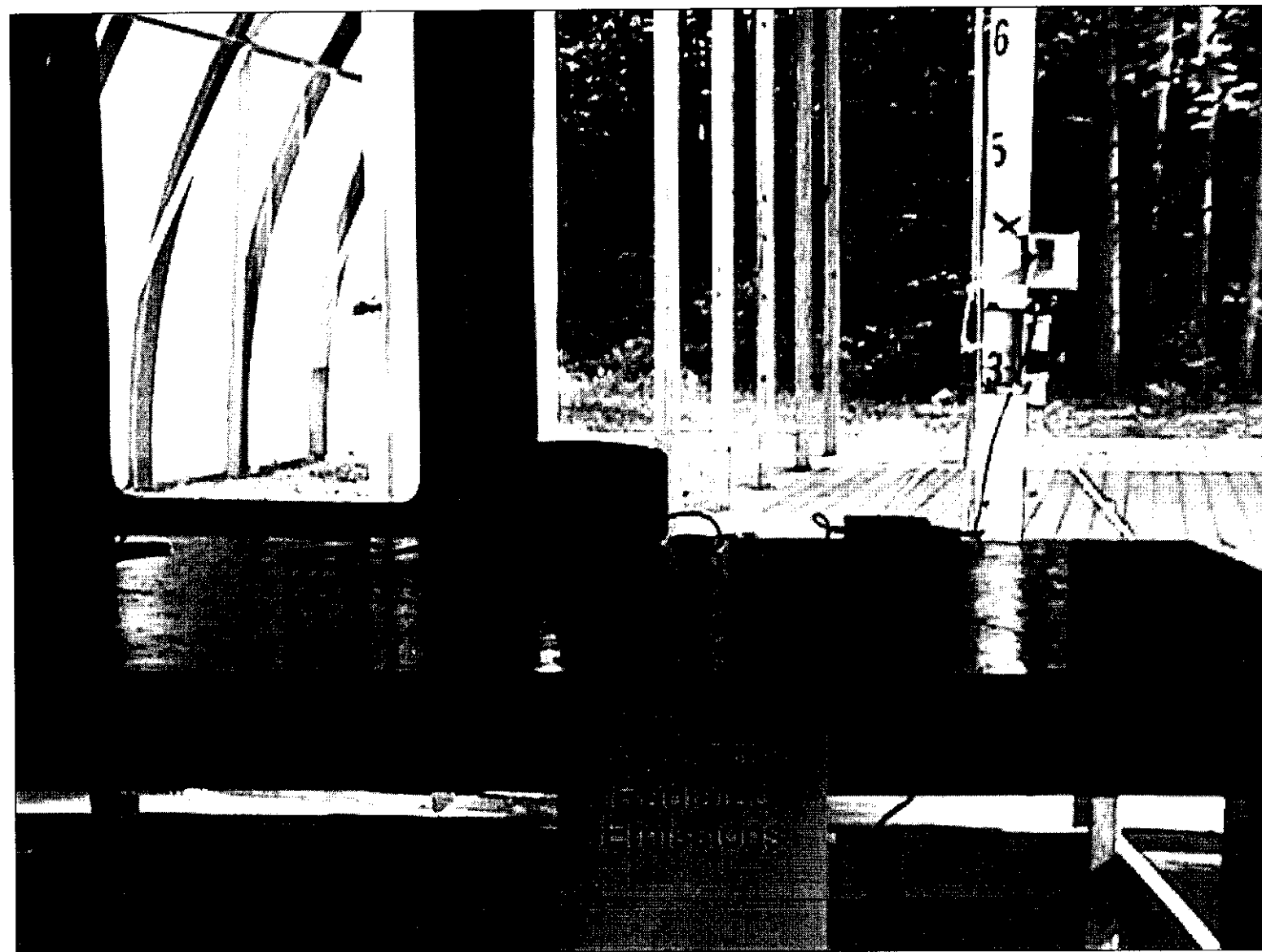
TEST SETUP PHOTOGRAPH(S) - RADIATED EMISSIONS



Test Report No. R-3158N2  
FCC ID: MMU700tRF



TEST SETUP PHOTOGRAPH(S) - RADIATED EMISSIONS



Test Report No. R-3158N2  
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EXHIBIT 6

Report of Measurements

Occupied Bandwidth, Para. 15.231(c)



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Test Report No. R-3158N2  
FCC ID: MMU700tRF

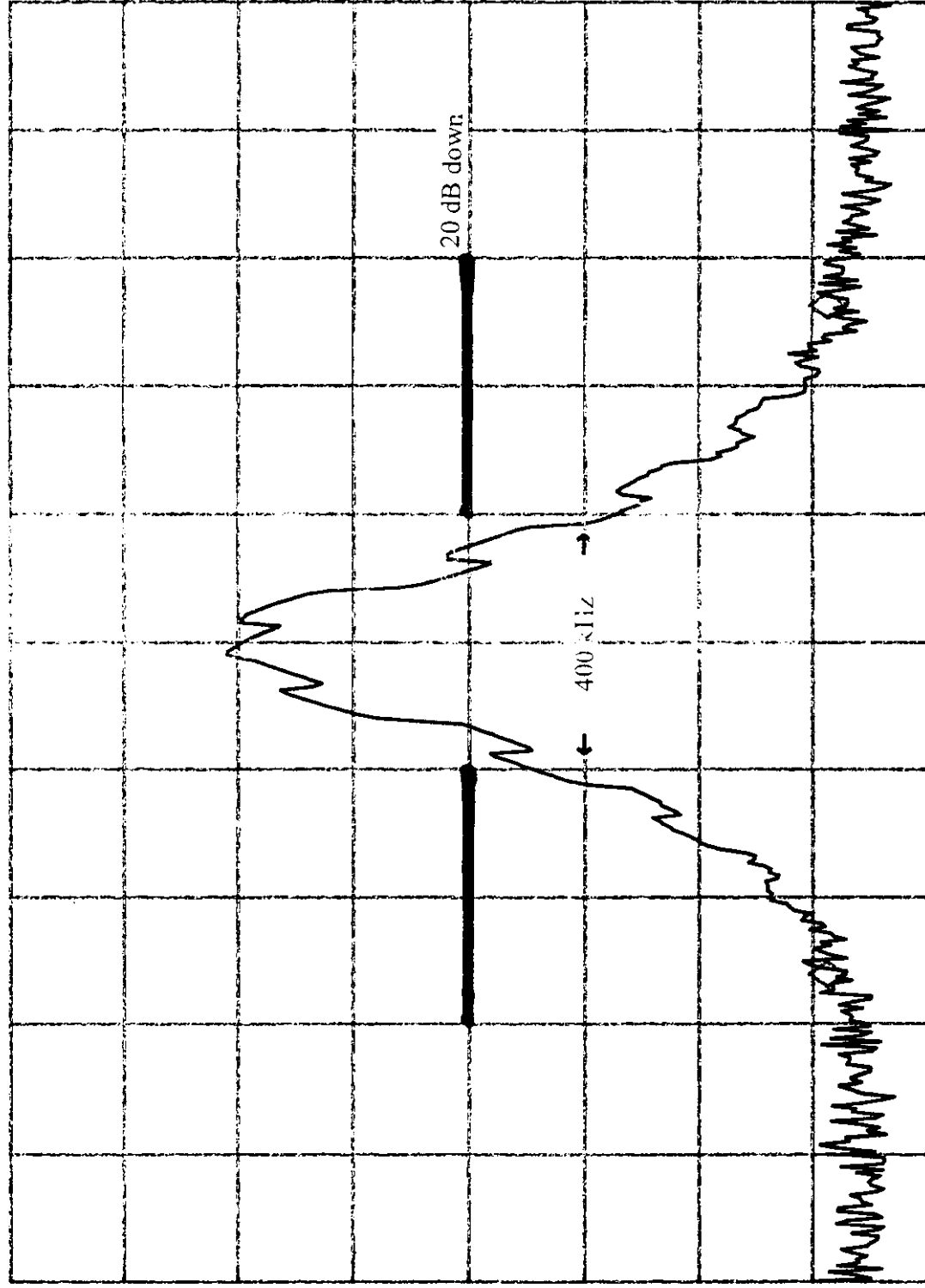
# OCCUPIED BANDWIDTH PLOT

Bandwidth = .25% of Center Freq.  
= .25% of 418 MHz  
= 1.04 MHz

200 kHz/Division  
Horizontal Scale

R-3158 BANDWIDTH  
REF 100.0 dBμV #AT 10 dB

PEAK  
LOG  
10  
dB/



WA SB  
SC FC  
CORR

CENTER 418.000 MHz SPAN 2.000 MHz  
#RES BW 120 KHz SWP 20.0 msec  
VBW 300 KHz

EXHIBIT 6

Report of Measurements

AC Line Conducted Emissions, 15.207(a)



**Retlif Testing Laboratories**

Test Report No. R-3158N2  
FCC ID: MMU700tRF

## TABULAR DATA SHEET

TEST METHOD:	CONDUCTED EMISSIONS .450MHz- 30MHz		
CUSTOMER:	Lexicon, Inc.	JOB No.:	R-3158N2
TEST SAMPLE:	System Controller with 418MHz RF Transmitter FCC ID: MMU700tRF		
MODEL No.:	700t	SERIAL No.:	n/a
TEST SPECIFICATION:	FCC Part 15, Subpart C, Intentional Radiator		PARAGRAPH: 15.231
OPERATING MODE:	Standby and transmitting continuously with touch screen activated.		
TECHNICIAN:	J. Monahan	DATE:	6-11-98
NOTES:	Highest emissions observed during all modes of operation are listed		

[illegible]

EXHIBIT 6

Report of Measurements

Test Equipment List



**Retlif Testing Laboratories**

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# TEST EQUIPMENT LIST

EN	Model No.	Type	Manufacturer	Frequency Range	Serial No.	Cal Date	Due Date
3107	4131B	Spectrum Analyzer	Advantest	10kHz - 3GHz	91510220	02/09/98	02/09/99
3118	BPA-1000	Pre-AMPLIFIER	Electro-Metrics	10kHz - 1000MHz	139	07/10/97	07/10/98
3233	7470A	Graphics Plotter	Hewlett Packard	N/A	2308A98379	04/03/98	04/03/99
3258	3115	Double Ridge Guide Antenn	Electro-Mechanics Co.	1GHz-18GHz	2438	04/03/98	04/03/99
3497	1947A	Transient Limiter	Hewlett Packard	9KHz - 200MHz	3107A01194	09/08/97	09/08/98
4027	9252-50-R-24-BN	Solar LISN	Solar Electronics Co.		951311	06/24/97	06/24/98
4202	3142	Biconilog Antenna	EMCO	26MHz-2.0GHz	1299	06/10/98	06/10/99
4896	7470A	Plotter	Hewlett Packard	N/A	2308A67727	08/22/97	08/22/98
DNH003	8593EM	EMC Analyzer	Hewlett Packard	9KHz-22GHz	3710A00221	03/20/98	03/20/99



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