

CUSTOM TESTING SERVICE

7861- 36

**FCC CFR47 Part 18, Subpart C,
Microwave Oven Operating at ISM
Frequency 2450 MHz $\pm$ 50 MHz
Company: Danby Products Limited
Network No.: 6018825
Date: December 10, 1999
Product: Microwave Oven
Model: DMW119W-1**

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This report contains 19 pages

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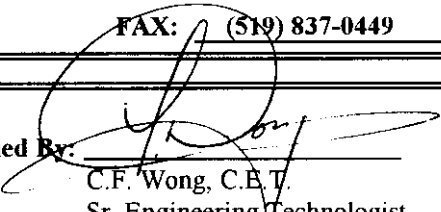
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Date: December 14, 1999

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SECTION 1 GENERAL

Introduction

This report documents the results of the Maximum Frequency Deviation test measurements performed on the EUT described in this report. This report augments the report for Danby Microwave Oven, Model DMW119BL dated May 26, 1999. This test was conducted on Model DMW119W-1, a representative sample to be marketed for Certification of Compliance with **FCC CFR 47:1998 Part 18, Subpart C**.

Equipment Under Test (EUT)

Product : Microwave Oven
Model : DMW119W-1
Serial No. : 1199080021000220
Input Voltage : 120V, 60Hz
RF Power Generated : 1000 Watts
Operating Frequency : 2450 MHz $\pm$ 50 MHz
Date Sample Received : December 3, 1999
Sample Size : 52.1cm wide x 42.5cm deep x 29.2cm high

Accessories/Peripheral Equipment/Cables

Interconnecting Cables on the EUT During Testing

Type	Length	Special Accessories (ferrites, etc.)
(Non-shielded) AC power cable	1.1m	N/A

Test Procedures

The **Maximum Frequency Deviation** test was conducted in the 3m semi-anechoic chamber at CSA's, Toronto, Ontario test laboratory.

CSA's Toronto test facilities satisfies the requirements of ANSI C63.4-1992 and EN 50147-2:1996.

Site Attenuation Factors and a description of the 3m semi-anechoic chamber are filed with the FCC.

The following procedure is as per FCC/OET MP-5 (1986) Section 3.2

After a five minute no-load warm-up from a cold start at room temperature, different loads (300, 700 and 1000 milliliters of water in a beaker in the center of the oven) were used to determine which load resulted in the most frequency deviation. The beaker with 1000 milliliters of water was found to produce the most frequency deviation of the microwave oven. The test results show the frequency deviation at the different load settings.

Applied Standards and Test Summary

Applied Standard (s)	Equipment	Comments
FCC CFR 47:1998, Part 18, Subpart C	Microwave Oven	Complies with applicable standards

Applicable Documents

CFR 47 Part 18:1998	Federal Communications Commission Code of Federal Regulations.
ANSI C63.4 - 1992	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
FCC/OET MP-5 (1986)	FCC Methods of Measurements of Radio Noise Emissions From Industrial, Scientific, and Medical Equipment

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SECTION 2 TEST INSTRUMENTS

Test Equipment:

Instrument	Manufacturer	Model No / Serial No	CSA ID #
Spectrum Analyzer	Advantest	R3271A / J001279	7500 6919
Horn Antenna	EMCO	3115 / 9611-5010	3900 7036
3-m Semi-Anechoic Chamber	Panashield	-	3900 7060

Equipment Calibration and Traceability

Test equipment to produce qualification measurements is calibrated with standards traceable to the National Research Council, National Institute of Standards and Technology or other national standards. All equipment is calibrated at specified intervals. Each receiver and analyzer employs it's own built in calibration features for frequency and levels. Internal calibration checks are performed before qualification measurements are conducted.

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Maximum Frequency Deviation Test

Location : CSA International, Toronto, Ontario, Canada
Site : 20 ft x 30 ft x 17 ft high 3m semi-anechoic chamber
Test Spec. : FCC CFR 47:1998, Part 18, Subpart C
Supply Voltage : 120V, 60Hz
Tested By : R.Sargent
Date Tested : December 10, 1999
Ambient Temperature : 23.5°C
Relative Humidity : 31%
Atmospheric Pressure : 101.7 kPa

The EUT was positioned in the center of the turntable.

The measurement distance between the EUT and the antenna was set at 3m.

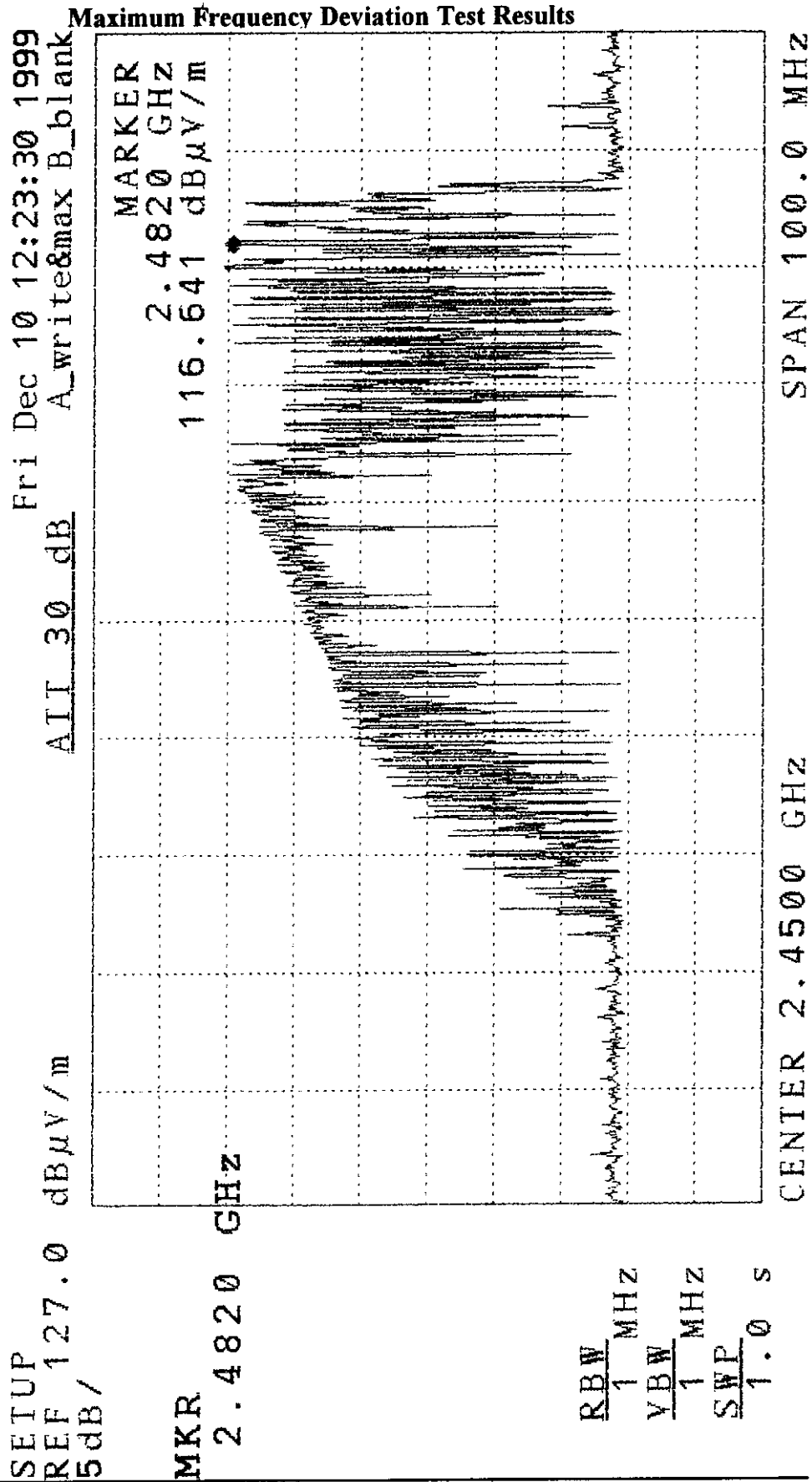
A beaker with 1000 milliliters of water was placed in the center of the oven.

Measurement results can be found in the following pages.

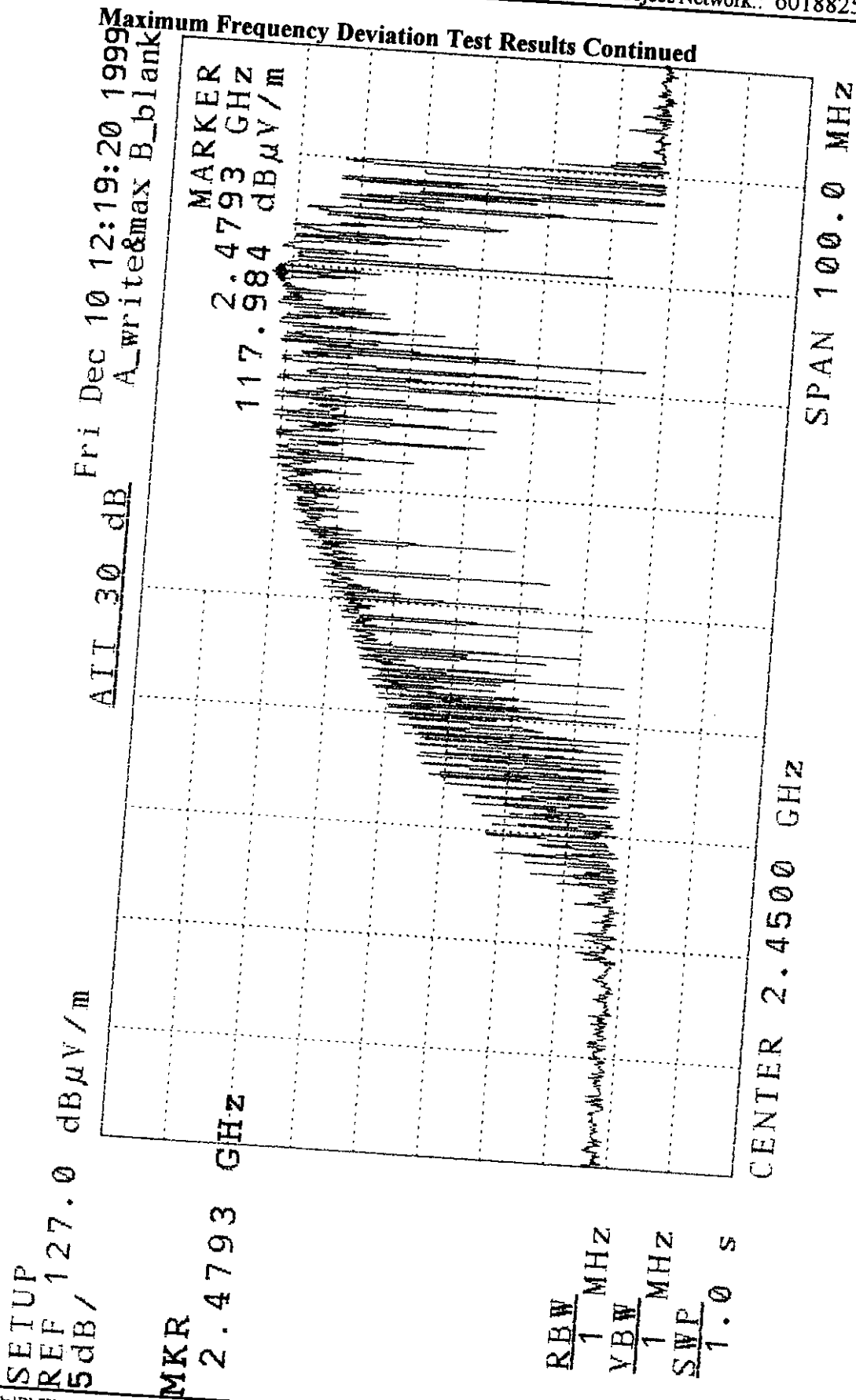
Limits - FCC Part 18, Subpart C, Maximum Frequency Deviation

Frequency	Deviation
2450 MHz	± 50 MHz

Danby Product Limited
 Model: DMW119W-1
 S/N: 119908002100110
 Power Setting: "HI"



Danby Product Limited
Model: DMW119W-1
S/N: 119908002100110
Power Setting: "9"



Danby Product Limited
Model: DMW119W-1
S/N: 119908002100110
Power Setting: "8"

Maximum Frequency Deviation Test Results Continued

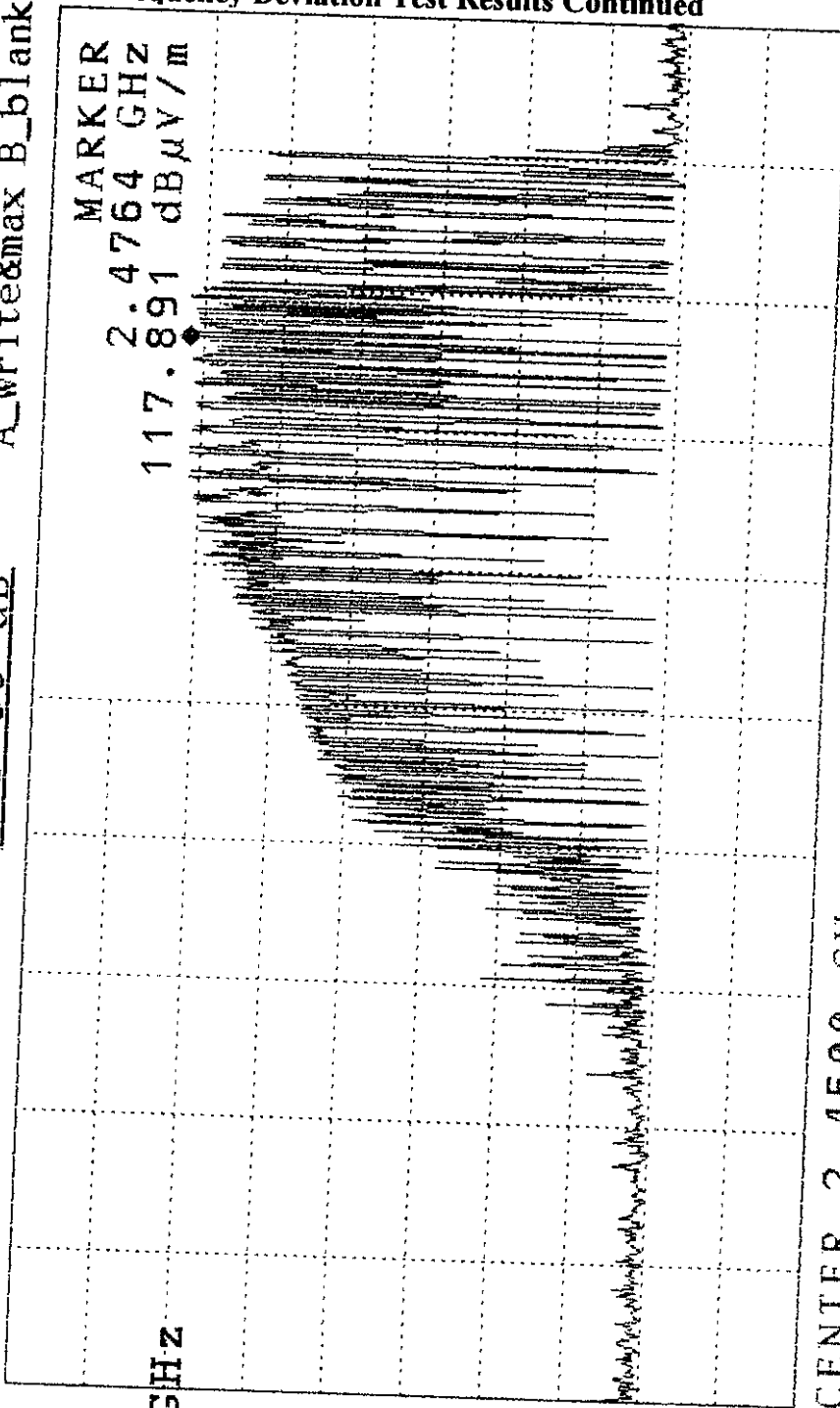
SETUP
REF 127.0 dBμV/m
5dB/

ATT 30 dB

Fri Dec 10 12:16:06 1999
A_write&max B_blank

MKR
2.4764 GHz

MARKER
2.4764 GHz
117.891 dBμV/m



CENTER 2.4500 GHz

SPAN 100.0 MHz

RBW 1 MHz
VBW 1 MHz
SWP 1.0 s

Danby Product Limited
Model: DMW119W-1
S/N: 119908002100110
Power Setting: "7"

Maximum Frequency Deviation Test Results Continued

SETUP
REF 127.0 dBμV/m
5dB/

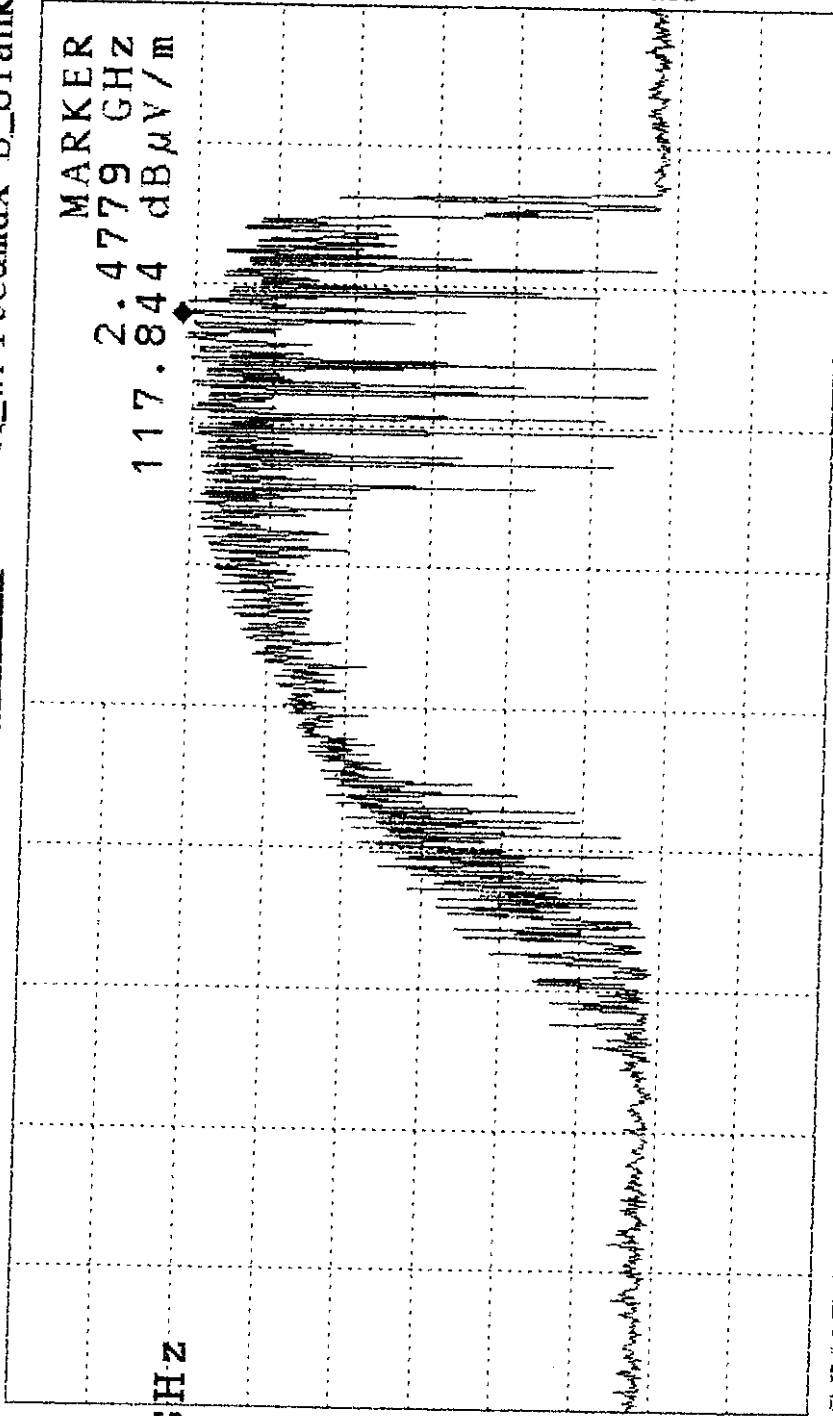
Fri Dec 10 12:12:51 1999
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ATT 30 dB

dBμV/m

MKR

2.4779 GHz

MARKER
2.4779 GHz
117.844 dBμV/m



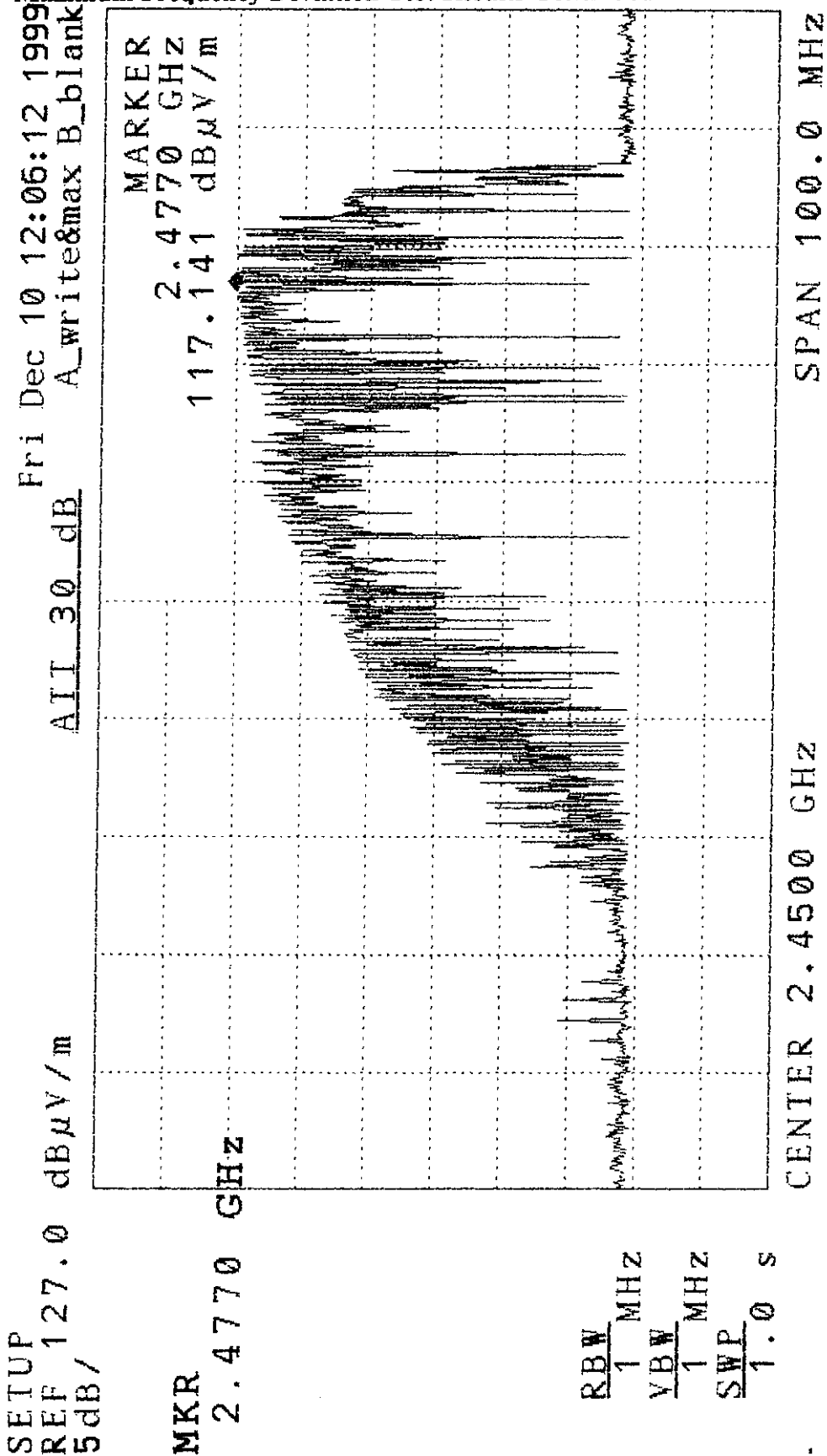
CENTER 2.4500 GHz

SPAN 100.0 MHz

RBW 1 MHz
VBW 1 MHz
SWP 1.0 s

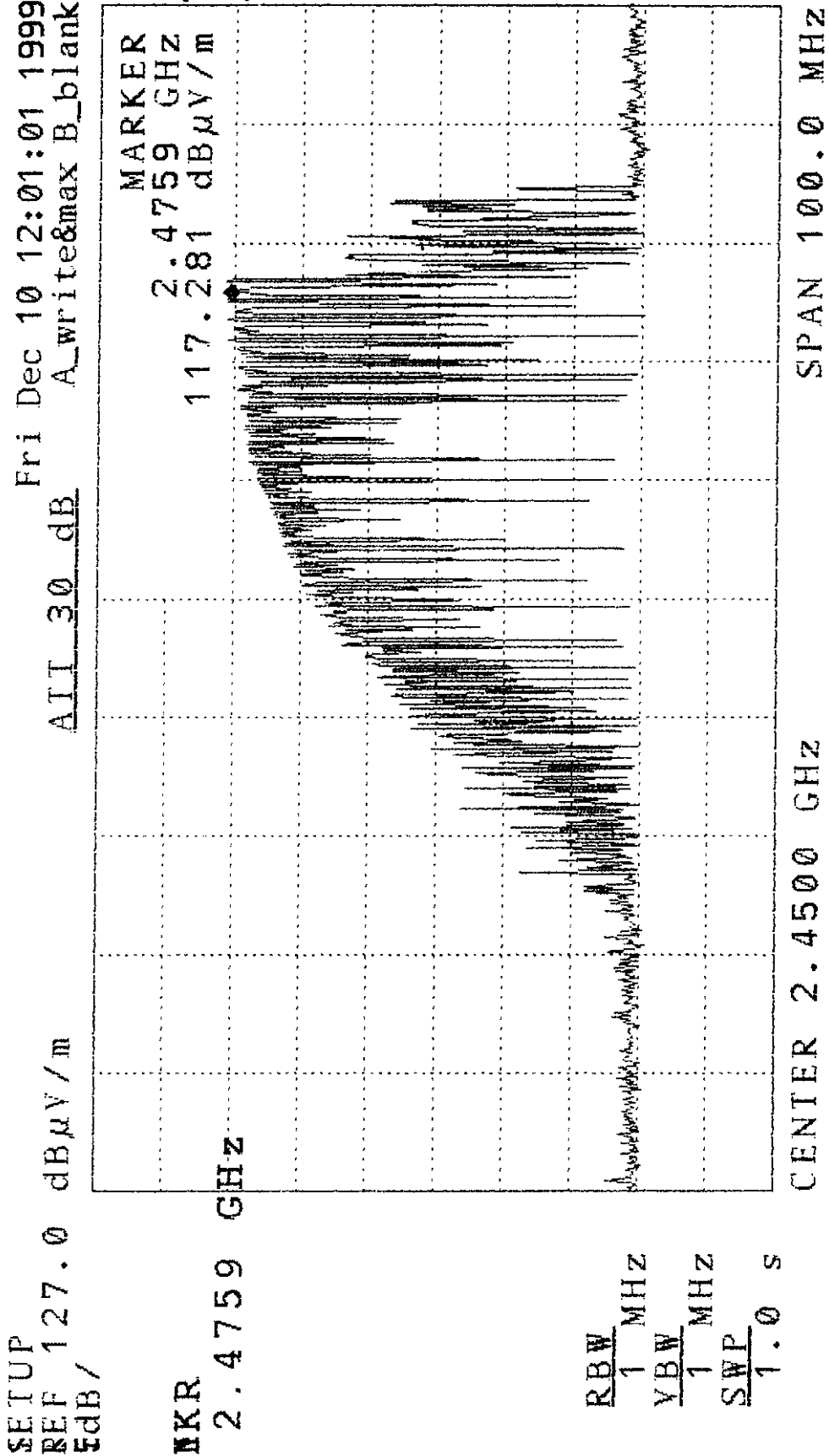
Danby Product Limited
Model: DMW119W-1
S/N: 119908002100110
Power Setting: "6"

Maximum Frequency Deviation Test Results Continued



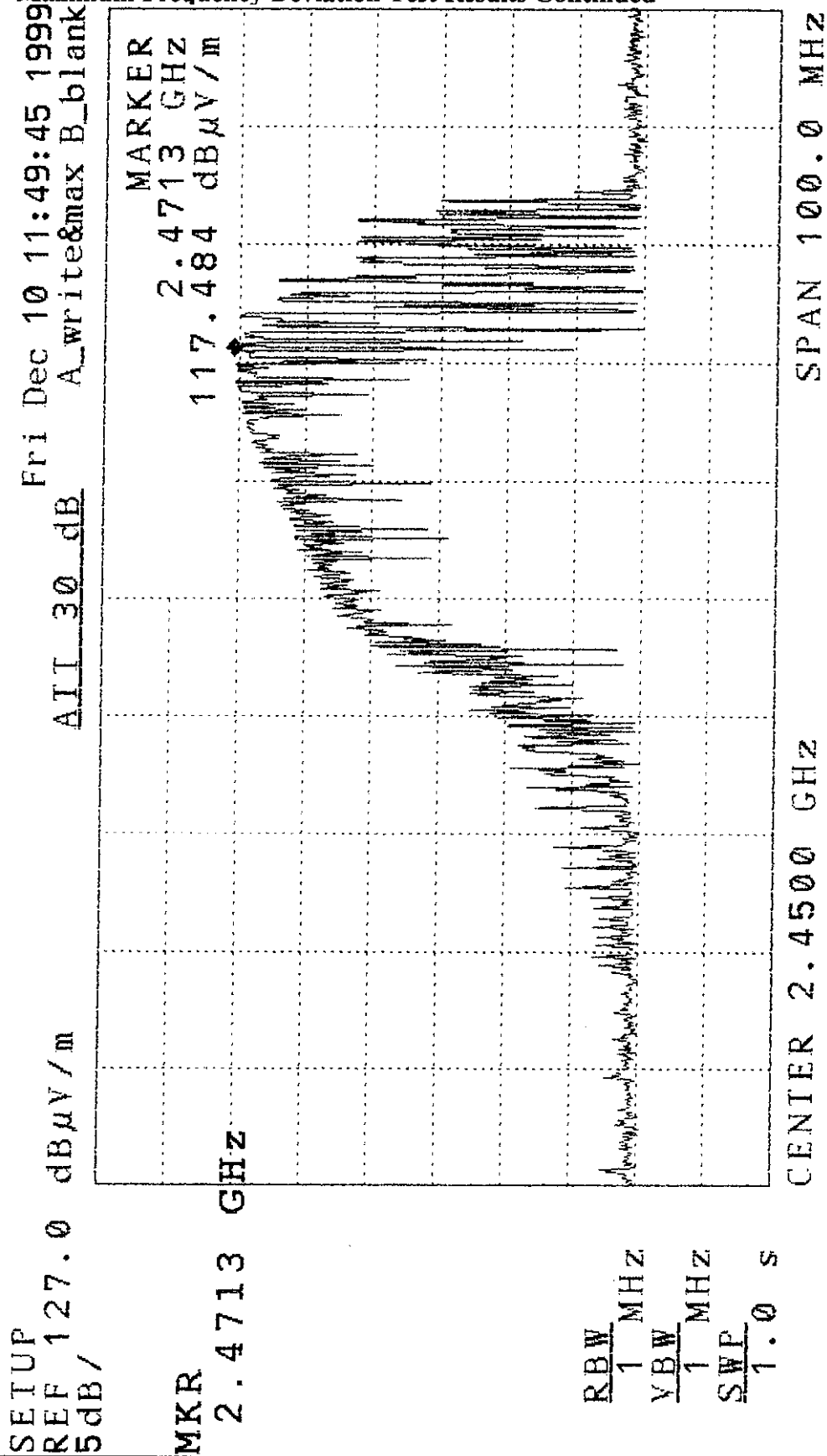
Danby Product Limited
Model: DMW119W-1
S/N: 119908002100110
Power Setting: "5"

Maximum Frequency Deviation Test Results Continued



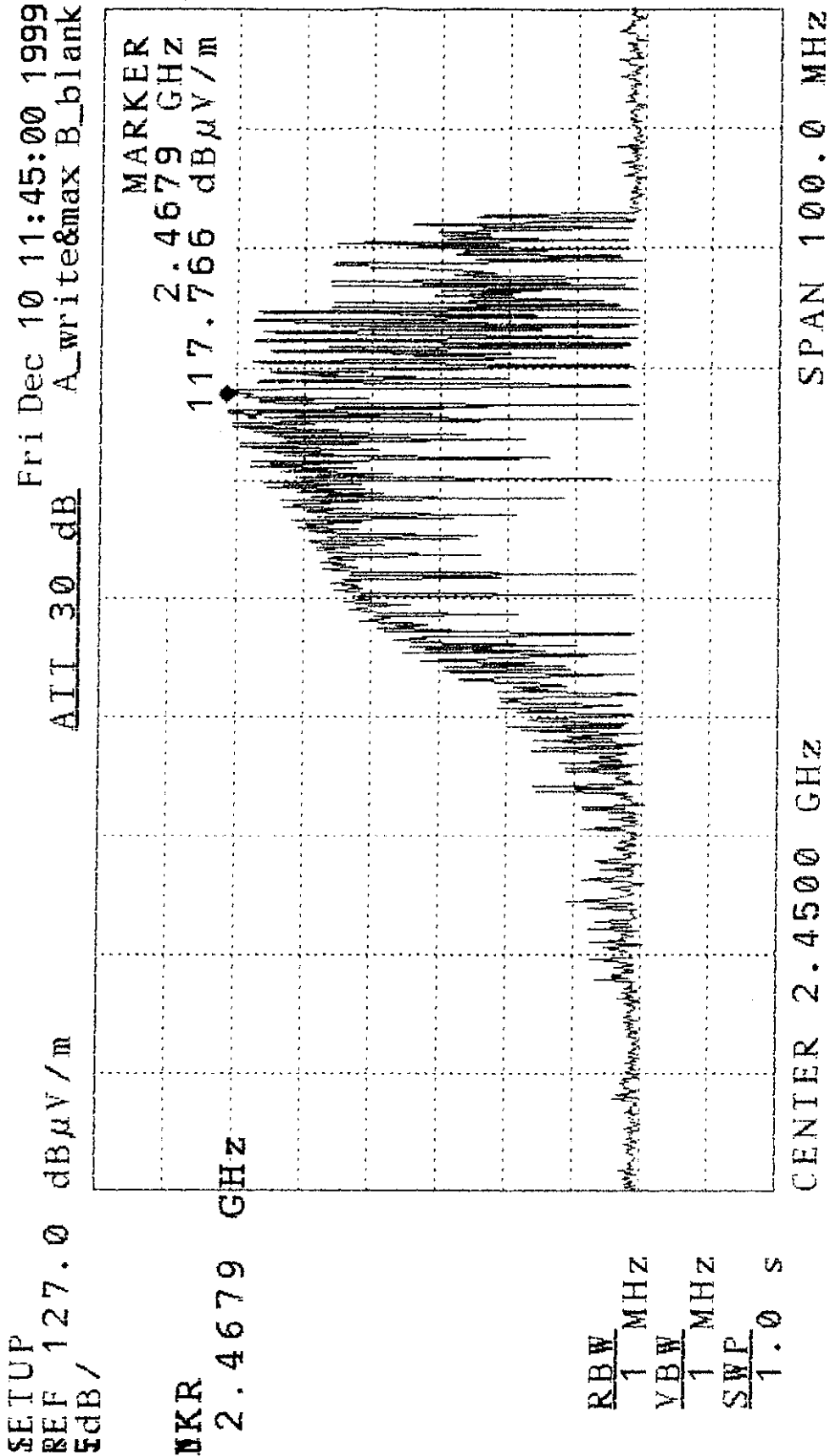
Danby Product Limited
Model: DMW119W-1
S/N: 119908002100110
Power Setting: "4"

Maximum Frequency Deviation Test Results Continued



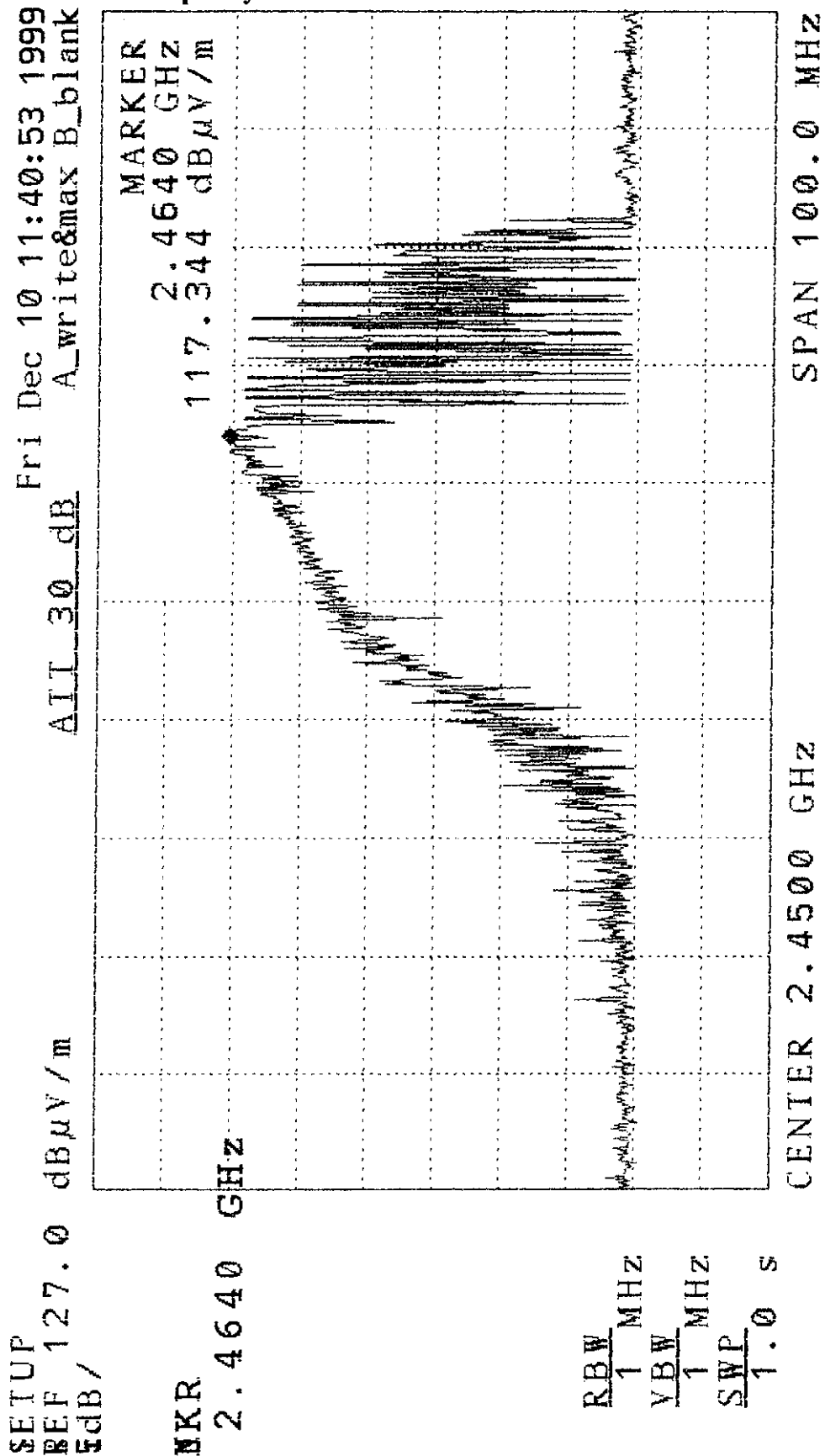
Danby Product Limited
Model: DMW119W-1
S/N: 119908002100110
Power Setting: "3"

Maximum Frequency Deviation Test Results Continued



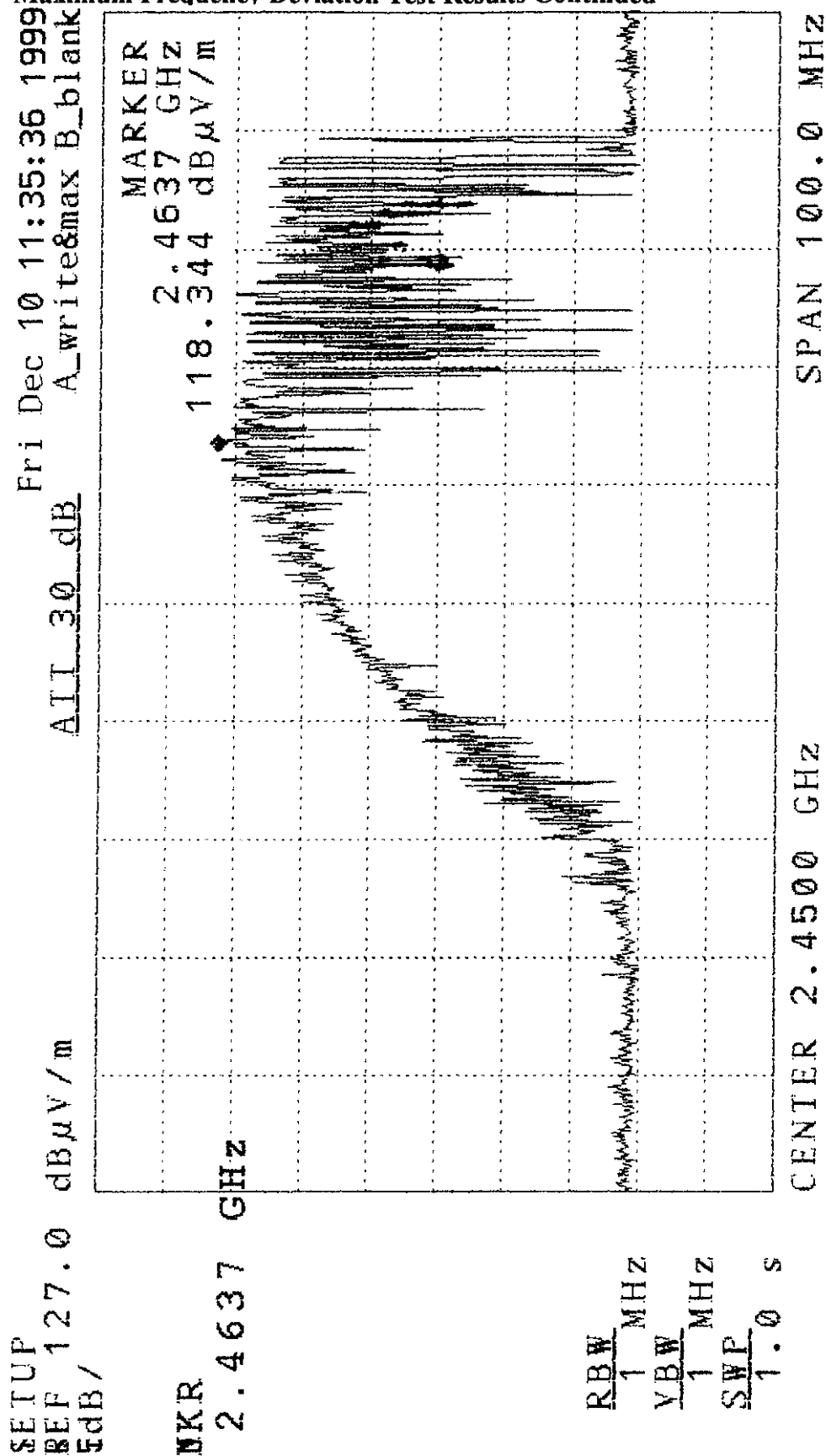
Danby Product Limited
Model: DMW119W-1
S/N: 119908002100110
Power Setting: "2"

Maximum Frequency Deviation Test Results Continued



Danby Product Limited
 Model: DMW119W-1
 S/N: 119908002100110
 Power Setting: "1"

Maximum Frequency Deviation Test Results Continued



Engineering Statement

The Danby Microwave Oven, Model DMW119W-1, satisfies the Maximum Frequency Deviation requirements of FCC CFR 47, Part 18, Subpart C.

EUT Modifications: No modification (suppressions, additions, replacements) were done on the EUT to make it compliant with FCC CFR 47, Part 18, Subpart C.

Test Specification Deviation: This test was conducted on Model DMW119W-1. Danby Microwave Oven, Model DMW119W-1 is identical to Model DMW119BL in the original report dated May 26, 1999, except for the colour as per the client.

Uncertainty calculations are documented in the DQD 308 of CSA. These uncertainties are available to all customers upon request.