



Interstate 40 and Straw Plains Pike, P.O. Box 14810, Knoxville, TN 37914-1810 Tel. (615) 521-4316

November 14, 1986

Optima Enclosures  
2166 Mountain Industrial Blvd.  
Tucker, Georgia 30084

Attention: Mr. Thomas Allen - Design Eng. Manager

Dear Mr. Allen:

The attached report of measurements # 63081, is the result of the RF shielding effectiveness tests conducted on your Instrument Cabinet Model RF 701924-1D.

The attached measurements were taken November 04, 1986 at the N.A.P. Consumer Electronics Corp. EMI Test Facility at Knoxville, TN. The N.A.P.C.E.C. test facility is registered with the Federal Communications Commission.

If there are any questions concerning the attached report, please contact me.

Very Truly Yours,

NAP Consumer Electronics Corp.

A handwritten signature in cursive script, appearing to read "Fred A. Fisher".

Fred A. Fisher  
Project Engineer  
FCC/EMC Compliance Lab

Attachments

NAPCEC FILE # 63081

ENGINEERING STATEMENT:

All measurement data on the attached report is based upon an Engineering judgment at the NAP Consumer Electronics Corp. site at Knoxville, Tennessee, which is recognized by the FCC. Although this data is taken under stringent laboratory conditions and to the best of our knowledge, represents accurate data, it must be recognized that emissions from this type equipment may be greatly affected by the final installation of the equipment. Therefore, NAP Consumer Electronics Corp., while supporting the accuracy of the data in this report, takes no responsibility for use of equipment based on these tests. The manufacturer of this equipment must take full responsibility for any field problems which may arise, and agrees that NAP Consumer Electronics Corp. in performing its functions in accordance with its objects and purposes does not assume or undertake to discharge any responsibility of the Manufacturer to any other party or parties.

*Fred Fisher*

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Fred Fisher, Supervisor  
EMI Testing Laboratory  
NAP Consumer Electronics Corp.

LIST OF EXHIBITS

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1. TEST EQUIPMENT LIST
2. TEST METHODS AND CONCLUSIONS
3. RF ATTENUATION ANALYSIS GRAPHS
4. SKETCH OF TEST SET-UP
5. PHOTOGRAPHS OF TEST SET-UP



CONSUMER ELECTRONICS CORP.

# PRODUCT QUALIFICATION APPROVAL REPORT

PART NUMBER	REV.	PART DESCRIPTION EMI Instrument Cabinet	WHERE USED EMI/RFI	REPORT NUMBER 63081
OUR P.O. NO.	VENDOR Optima Enclosures		VENDOR SAMPLE NO. RF701924-1D	QTY. SAMPLES ORDERED RECEIVED
REASON FOR REQUEST	<input type="checkbox"/> COMPONENT APPROVAL	<input type="checkbox"/> TOOL APPROVAL	<input type="checkbox"/> FINISH-COLOR APPROVAL	<input type="checkbox"/>

ITEM	INSPECTION OR TEST RESULTS OR COMMENTS	INITIALS	
		O.K.	NOT O.K.
1.0	Introduction:  The Optima Model RF701924-1D Shielded Instrument Cabinet was tested at the NAP Consumer Electronics Corp. EMI Test Facility at Knoxville, Tennessee, under controlled laboratory conditions. The purpose of the test was to determine the RF shielding effectiveness of the instrument cabinet.		
2.0	Standard Emitter Calibration:  A broadband antenna (Standard Emitter) was placed on a rotatable wooden turntable 1-meter above the metal ground plane of the 3-meter test site. The broadband antenna was powered by the HP8640B RF Signal Generator via a 50 ohm double shielded coaxial cable. The HP8640B RF Signal Generator was positioned beneath the metal ground plane (see the attached sketch).  A receiving dipole antenna was placed 3-meters away from the Standard Emitter on a 5-meter fiberglass mast. The receiving antenna was connected to an HP8568A RF Spectrum Analyzer via 60 ft. of 50 ohm coaxial cable. The EMI receiver used in this test was the HP8568A RF Spectrum Analyzer.		

<input type="checkbox"/> REJECT  <input type="checkbox"/> RESAMPLE AFTER CORRECTING ITEMS 'NOT O.K.'  <input type="checkbox"/> CORRECT AND PROCEED WITH PRODUCTION	<input type="checkbox"/> PRODUCTION SAMPLES REQUIRED <input type="checkbox"/> YES <input type="checkbox"/> NO	PART APPROVED FOR PRODUCTION	APPROVAL REQUESTED BY	DATE
		INSPECTED BY	<i>[Signature]</i>	DATE 11/4/86
		FINISH OR ARTWORK APPROVAL		DATE
	BY	DATE	STYLING OR IND. DESIGN APPROVAL	DATE
		TOOLING APPROVAL	DATE	

M2085-1 REV

ACCEPTANCE OF SAMPLES DOES NOT RELIEVE VENDOR OF RESPONSIBILITY OF MEETING ALL APPLICABLE SPECIFICATIONS



# PRODUCT QUALIFICATION APPROVAL REPORT

PART NUMBER	REV.	PART DESCRIPTION EMI Instrument Cabinet	WHERE USED EMI/RFI	REPORT NUMBER 63081 page 2
OUR P.O. NO.	VENDOR Optima Enclosures		VENDOR SAMPLE NO. RF701924-1D	QTY. SAMPLES ORDERED RECEIVED

REASON FOR REQUEST  COMPONENT APPROVAL  TOOL APPROVAL  FINISH-COLOR APPROVAL

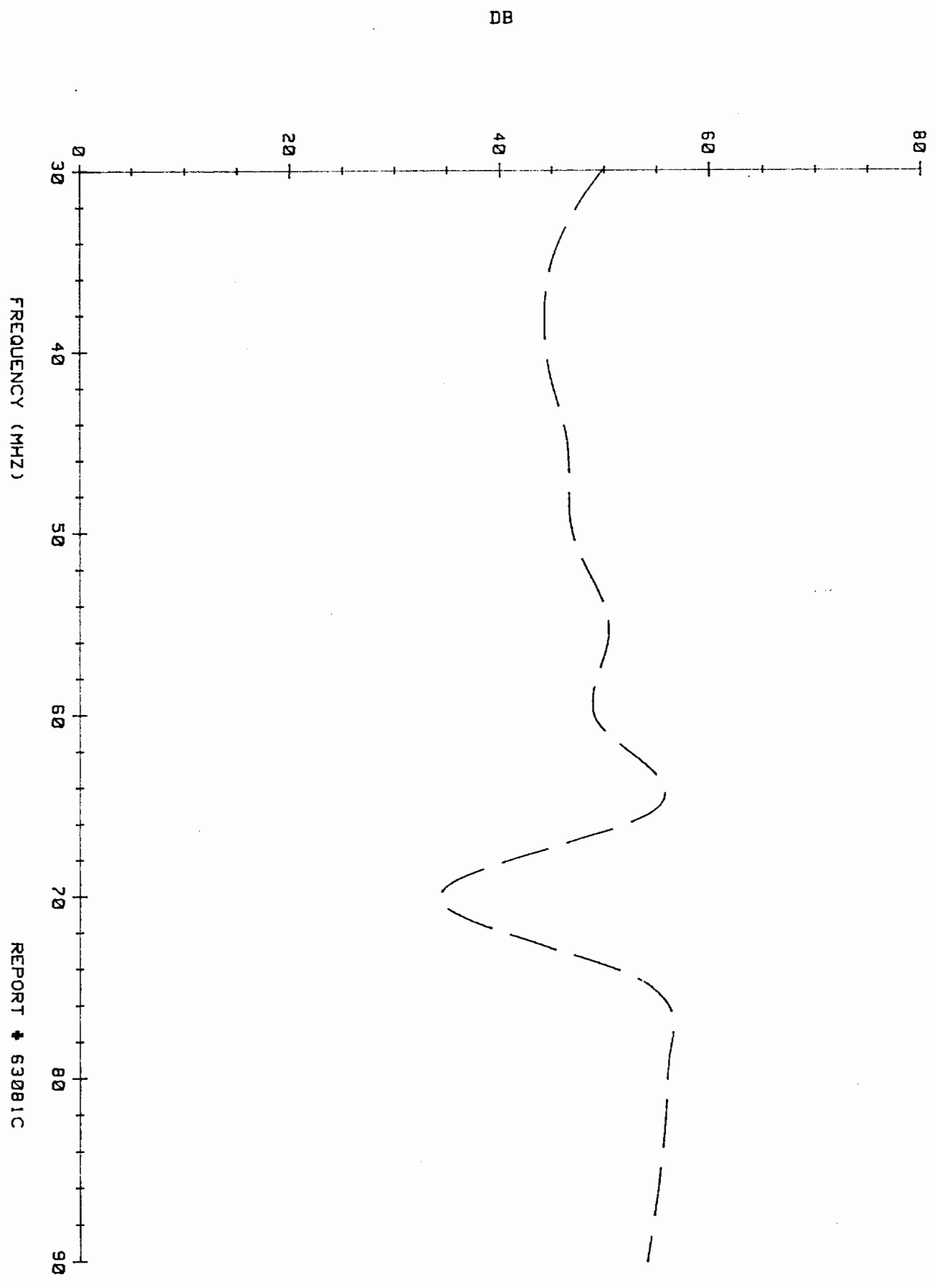
ITEM	INSPECTION OR TEST RESULTS OR COMMENTS	INITIALS	
		O.K.	NOT O.K.
	The RF Signal Generator output signal level was adjusted to a level that produced an RF signal 80 dB above the open site ambient at 30 MHz. A horizontally polarized dipole receiving antenna was tuned to 30 MHz and was positioned 1-meter above the metal ground plane. The turntable was rotated one revolution with the RF Spectrum Analyzer set in the peak hold mode. The radiated RF was measured and recorded for 30 MHz. The procedure was repeated for the frequencies listed on the data sheet (35-1000 MHz).		
	3.0 Test Method:  Once the open field signal levels were recorded, the Standard Emitter was placed on a non-conductive platform inside the RF701924-1D instrument cabinet, 1-meter above the metal ground plane. The Standard Emitter was again powered by the HP8640B RF Signal Generator via a 50 ohm double shielded coaxial cable passed through conduit which was located in the center of the turntable and held stationary through a hole drilled into the bottom of the instrument cabinet (see the attached sketch).		

<input type="checkbox"/> REJECT <input type="checkbox"/> RESAMPLE AFTER CORRECTING ITEMS 'NOT O.K.' <input type="checkbox"/> CORRECT AND PROCEED WITH PRODUCTION	PRODUCTION SAMPLES REQUIRED <input type="checkbox"/> YES <input type="checkbox"/> NO	PART APPROVED FOR PRODUCTION	APPROVAL REQUESTED BY	DATE
			INSPECTED BY <i>[Signature]</i>	DATE 2/4/86
			FINISH OR ARTWORK APPROVAL	DATE
		BY	STYLING OR IND. DESIGN APPROVAL	DATE
BY	DATE	DATE	TOOLING APPROVAL	DATE

M2085-1 REV.



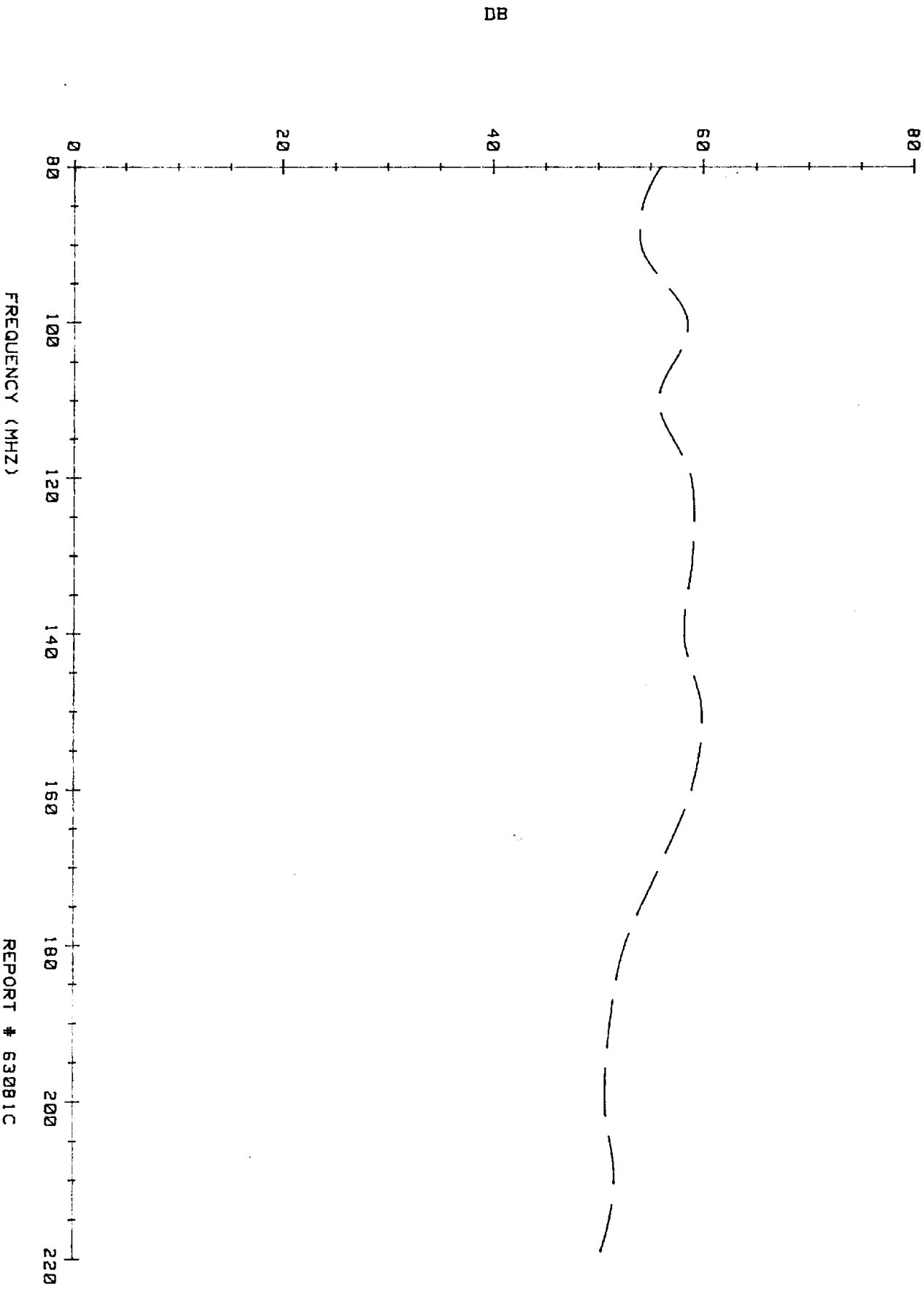
E. M. I. CABINET ATTENUATION  
RF 701924-1D



FREQUENCY (MHZ)

REPORT # 63081C

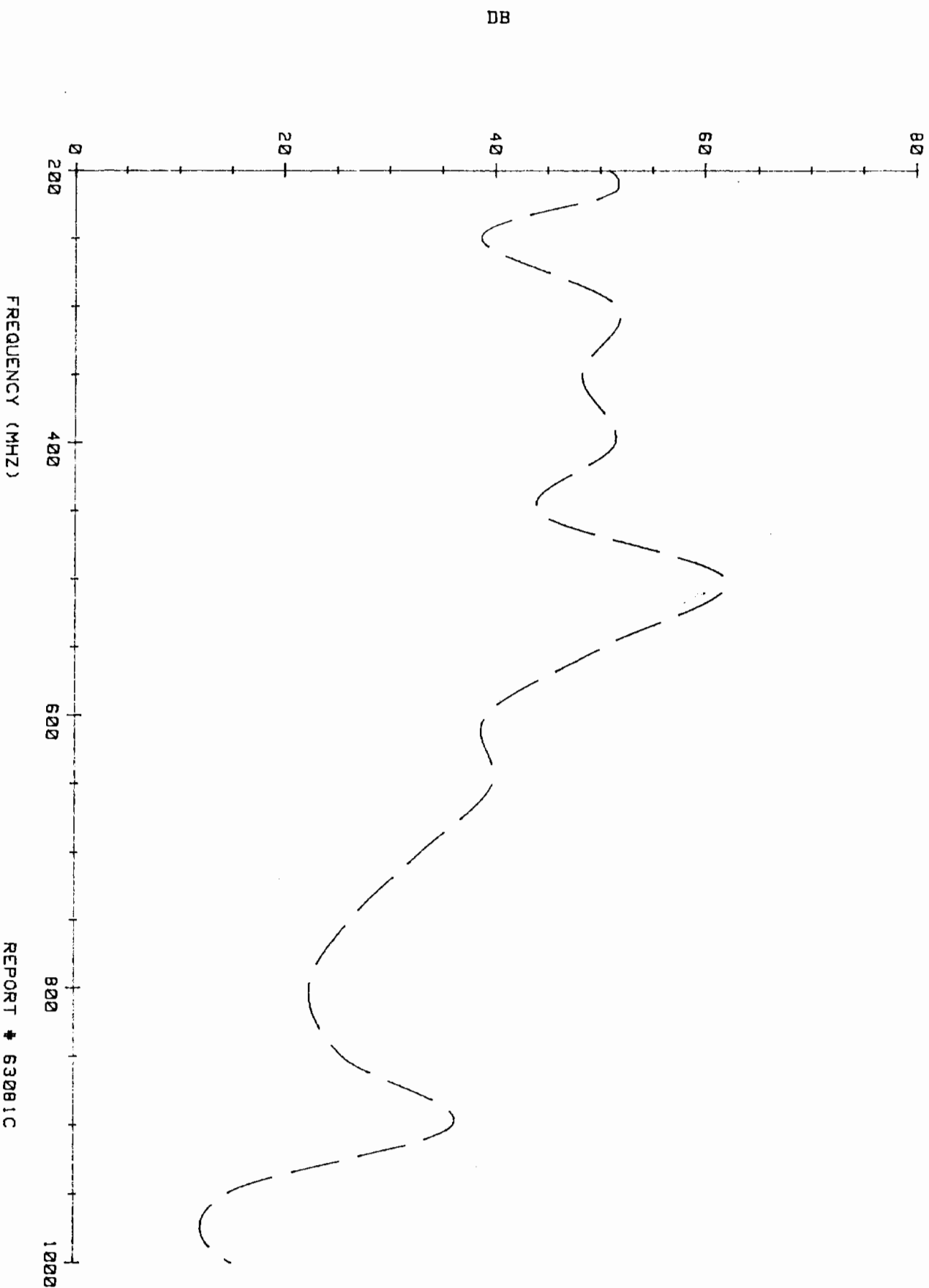
E. M. I. CABINET ATTENUATION  
RF 701924-1D



FREQUENCY (MHZ)

REPORT # 63081C

E. M. I. CABINET ATTENUATION  
RF 701924-1D

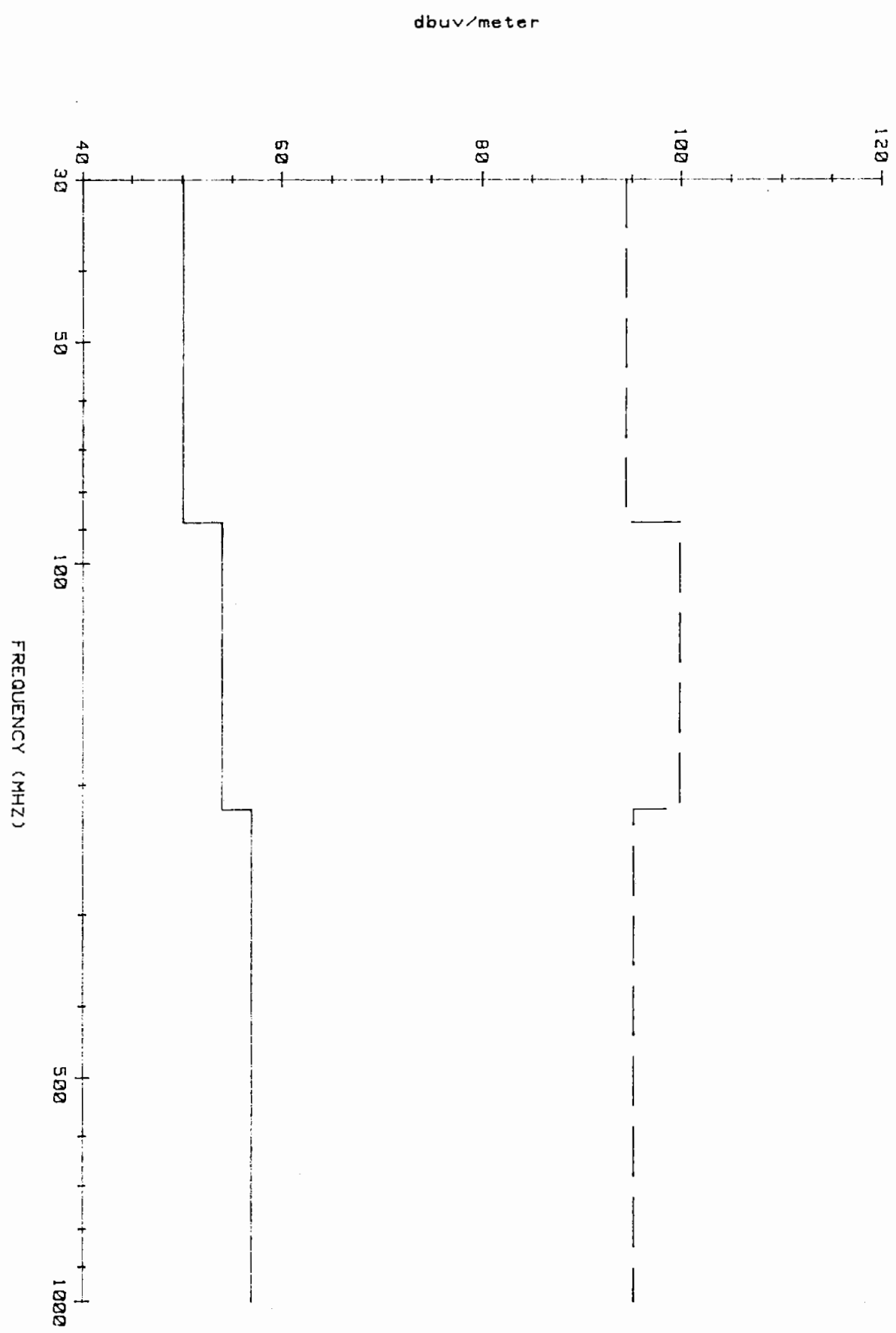


REPORT # 63081C



E. M. I. CABINET ATTENUATION  
RF 701924-1D

----- FCC LIMIT CLASS A  
----- OPTIMA CONTROL LIMIT



E. M. I. CABINET ATTENUATION  
RF701924

----- FCC LIMIT CLASS A

