DAYTON T. BROWN INC.
Founded 1950
ENGINEERING AND TEST DIVISION
CHURCH STREET, BOHEMIA, LONG ISLAND, NEW YORK 11716 (516) 589-6300

TEST REPORT NO.: DTB01R98-0737

DAYTON T. BROWN, INC. JOB NO.: 400208-00-000

CUSTOMER: MICROWAVE POWER DEVICES
49 WIRELESS BLVD
HAUPPAUGE, NY 11788

SUBJECT: RESULTS OF A TYPE ACCEPTANCE MEASUREMENT PROGRAM PERFORMED ON A MODEL FFPA8689-60 FEED-FORWARD LINEAR POWER AMPLIFIER, SERIAL NO. 7879

PURCHASE ORDER NO.: 51872

ATTENTION: MR. P. MADIGAN

THIS REPORT CONTAINS: 4 PAGES AND 11 ENCLOSURES

TEST ENGINEER	J. SMIRK
DEPARTMENT SUPERVISOR	K. CUMMINGS
OPERATIONS MANAGER	D. MELORE
DATE	4 NOVEMBER 1998

THE DATA CONTAINED IN THIS REPORT WAS OBTAINED BY TESTING IN COMPLIANCE WITH THE APPLICABLE TEST SPECIFICATION AS NOTED

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TABLE OF CONTENTS

1.0 ABSTRACT

This test report details the results of a type acceptance measurement program performed on a Model FFPA8689-60 Feed-Forward Linear Power Amplifier, Serial No. 7879. Measurements performed included (A) three-signal intermodulation distortion measurements; (B) harmonic and spurious emissions both conducted through the antenna port and radiated from the case and cabling; (C) comparison of amplifier output and amplifier input for distortion; and (D) IEEE C95.1-1991 for safety levels with respect to human exposure to radio frequency fields measurements. The results of each measurement indicated that the test item met the requirements of each specification.

Test data pertinent to this program will remain on file at Dayton T. Brown, Inc. for 90 days.

The test results recorded in this report relate only to those items tested.

2.0 REFERENCES

(a) Customer Purchase Order No.: 51872

(b) Dayton T. Brown, Inc. Job No.: 400208-00-000

(c) Specifications: FCC Rules and Regulations, Part 2

FCC Rules and Regulations, Part 22

IEEE C95.1-1991 IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields

Verbal Instructions on Three-Signal Intermodulation Distortion Measurement Supplied to Dayton T. Brown, Inc. by FCC Engineer Mr. Frank Coprich

3.0 ADMINISTRATIVE INFORMATION

Customer: Microwave Power Devices
49 Wireless Blvd
Hauppauge, NY 11788

Test Item: Feed-Forward Linear Power Amplifier

Model No.: FFPA8689-60

Serial No.: 7879

FCC ID: MCDFFPA8689-60

Test Start Date: 25 August 1997

Test Completion Date: 7 October 1998

Disposition of Test Item: Returned to Microwave Power Devices on 7 October 1998.

Customer Representatives Present During Portions of Test:

Name	Affiliation
Mr. P. Madigan	Microwave Power Devices
Mr. P. Polite	Microwave Power Devices

Enclosure 1

Test Equipment List

Test equipment utilized for the program reported herein was within its assigned interval of calibration.
Details are on file at Dayton T. Brown, Inc. and will be made available upon request.

TEST	ITEM	MANUFACTURER	DTB NO.	EQUIPMENT CHARACTERISTIC	MODEL	SERIAL NO.	CALIBRATION DUE DATE
Acceptance Measurements	Spectrum Analyzer	Hewlett-Packard	Rental	9 kHz - 26.5 GHz	8563E	3425A-02523	8/8/99 A/N 295239A
Acceptance Measurements	Signal Generator	Rhode & Schwartz	Customer Equip	300 kHz - 3.3 GHz	SM1Q03	DE21299	-
Acceptance Measurements	Double Ridge Waveguide Antenna	Electro-Mechanics Co.	27-41	200 - 2000 MHz	3106	2036	8/6/00
Acceptance Measurements	Double Ridge Waveguide Antenna	Electro-Mechanics Co.	27-55	1.0 - 18 GHz	3115	2072	10/18/98
Acceptance Measurements	Attenuator	Weinschel	56-8	DC - 18 GHz 50Ω, 25 Watts, 20 dB	46-20-34	BD0648	4/18/99
Acceptance Measurements	Attenuator	Weinschel Engineering	56-26	DC - 18 GHz 50Ω, 25 Watts, 20 dB	46-20-34	AV0525	9/27/98
Acceptance Measurements	Coaxial Dual Directional Coupler	Amplifier Research Corp.	56-31	0.01 - 220 MHz 50Ω, 2500 Watts, 50 dB	DC2000	14259	8/15/99
Acceptance Measurements	Coupler Coaxial Directional	Narda Microwave	65-8	225 - 460 MHz Coupling, 30 dB	3000-30	41072	7/18/99
Acceptance Measurements	Attenuator	Pasternak	65-115	DC - 2.0 GHz, 50Ω, 100 Watt, 6 dB	PE-7021-6	-	1/31/99
Acceptance Measurements	Coaxial Directional Coupler	Narda Microwave	65-130	460 - 950 MHz 50Ω, 30 dB	3001-30	20163	10/18/98
Acceptance Measurements	Coaxial Directional Coupler	Narda Microwave	65-136	4.0 - 10.0 GHz 50Ω, 30 dB	3004-30	40282	3/28/99

Test equipment utilized for the program reported herein was within its assigned interval of calibration.
Details are on file at Dayton T. Brown, Inc. and will be made available upon request.

TEST	ITEM	MANUFACTURER	DTB NO.	EQUIPMENT CHARACTERISTIC	MODEL	SERIAL NO.	CALIBRATION DUE DATE
Acceptance Measurements	Coaxial Resistor	Bird Electronic Corporation	65-179	DC - 1.00 GHz 50Ω, 500 Watts	8201	8813	2/29/00
Acceptance Measurements	Coupler Coaxial Directional	Narda Microwave	65-197	2 - 4 GHz 50Ω, 10 dB	3003-10	21025	4/25/99
Acceptance Measurements	Plotter A & B Size	Hewlett-Packard	65-205-1	HPIB & Serial Interface	7550A	2848A-22163	-
Acceptance Measurements	Coupler Coaxial Directional	Narda Microwave	65-209	920 - 2200 MHz 50Ω, 30 dB	3042B-30	10996	12/27/98
Acceptance Measurements	Spectrum Analyzer	Hewlett-Packard	65-247	10 kHz - 26.5 GHz	8563A	3220A 01924	11/8/98
Acceptance Measurements	Wooden 1 Meter Rule	Lufkin	68-841	Centimeter and Inches	7112	-	5/2/99

Enclosure 2

Information as Required in Paragraph 2.983 of FCC Part 2

DAYTON T. BROWN INC.
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2.983 (a) NAME OF APPLICANT

MPD Technologies, Inc.
49 Wireless Blvd
Hauppauge, NY 11788-3935

2.983 (b) IDENTIFICATION OF EQUIPMENT

Feed-Forward Linear Power Amplifier, Model FFPA8689-60, Serial No. 7879
Part No. DB054500, FCC ID: MCDFFPA8689-60

2.983 (c) QUANTITY PRODUCTION

Quantity production is planned.

2.983 (d) TECHNICAL DESCRIPTION OF EQUIPMENT

The FFPA8689-60 is a single-channel linear power amplifier designed for cellular base station application. It is entirely solid-state and powered by an external 27 VDC power supply. A complete technical description is provided in the Installation, Operation, and Instruction Manual (Enclosure 2) and Detailed Circuit Diagrams (Enclosure 3).

2.983 (d1) TYPES OF EMISSION

The emissions designators are TBD.

2.983 (d2) FREQUENCY RANGE

869 - 894 MHz

2.983 (d3) RANGE OF OPERATING POWER

The amplifier has a fixed gain of 60 ± 0.25 dB. The output power is dependent on the applied input power. Under normal operating conditions, the maximum average output power of 60 watts is not exceeded. The amplifier dynamic range is 20 dB.

2.983 (d4) MAXIMUM POWER RATING

The maximum RF output power rating is 60 watts average.

2.983 (d5) DC VOLTAGE & CURRENT OF FINAL TRANSISTOR STAGE

Four devices in parallel, each draws 5 amps at 27 volts.

2.983 (d6) FUNCTION OF ACTIVE DEVICES

Refer to Enclosures 3 and 4.

2.983 (d7) COMPLETE CIRCUIT DIAGRAMS

Refer to Enclosure 4.

2.983 (d8) INSTRUCTION BOOKS

Refer to Enclosure 3.

2.983 (d9) TUNE-UP PROCEDURE

The unit is aligned to specification after manufacture at the factory. There are no user adjustments or tune-up procedures.

2.983 (d10) DESCRIPTION OF FREQUENCY DETERMINING/STABILIZING CIRCUITS AND DEVICES

The power amplifier does not affect the frequency characteristics of the signals that it amplifies.

2.983 (d11) DESCRIPTION OF CIRCUITS SUPPRESSING SPURIOUS & LIMITING POWER

The unit is a solid-state linear power amplifier; no special or unusual circuitry is utilized to suppress spurious or limit power.

2.983 (d12) DESCRIPTION OF DIGITAL MODULATION METHODS USED

The power amplifier does not modulate the external signals applied to it.

2.983 (e) TEST AND MEASUREMENT DATA

All required test data is provided in Enclosures 6, 7, 8, and 9.

2.983 (f) PHOTOGRAPH/DRAWING OF EQUIPMENT IDENTIFICATION PLATE/LABEL

Refer to Enclosure 5.

2.983 (g) PHOTOGRAPHS/DRAWINGS OF EQUIPMENT

Refer to Enclosure 5.

2.983 (h) ENCODER DEVICES

Not applicable.

2.983 (i) EQUIPMENT FOR USE IN AMATEUR RADIO/RF POWER AMPLIFIER KIT

Not applicable. The equipment is not available as a kit. The equipment is not intended for amateur radio service.

2.983 (j) AM BROADCAST STEREOPHONIC EXCITER-GENERATOR

Not applicable.

Enclosure 5

Equipment and Equipment Identification Label Photographs

Figure 5, Model FFPA 8689-60

98-0737 Enc 5 Pg 1

Figure 6, Back View FFPA 8689-60

98-0737 Enc 5 Pg 2

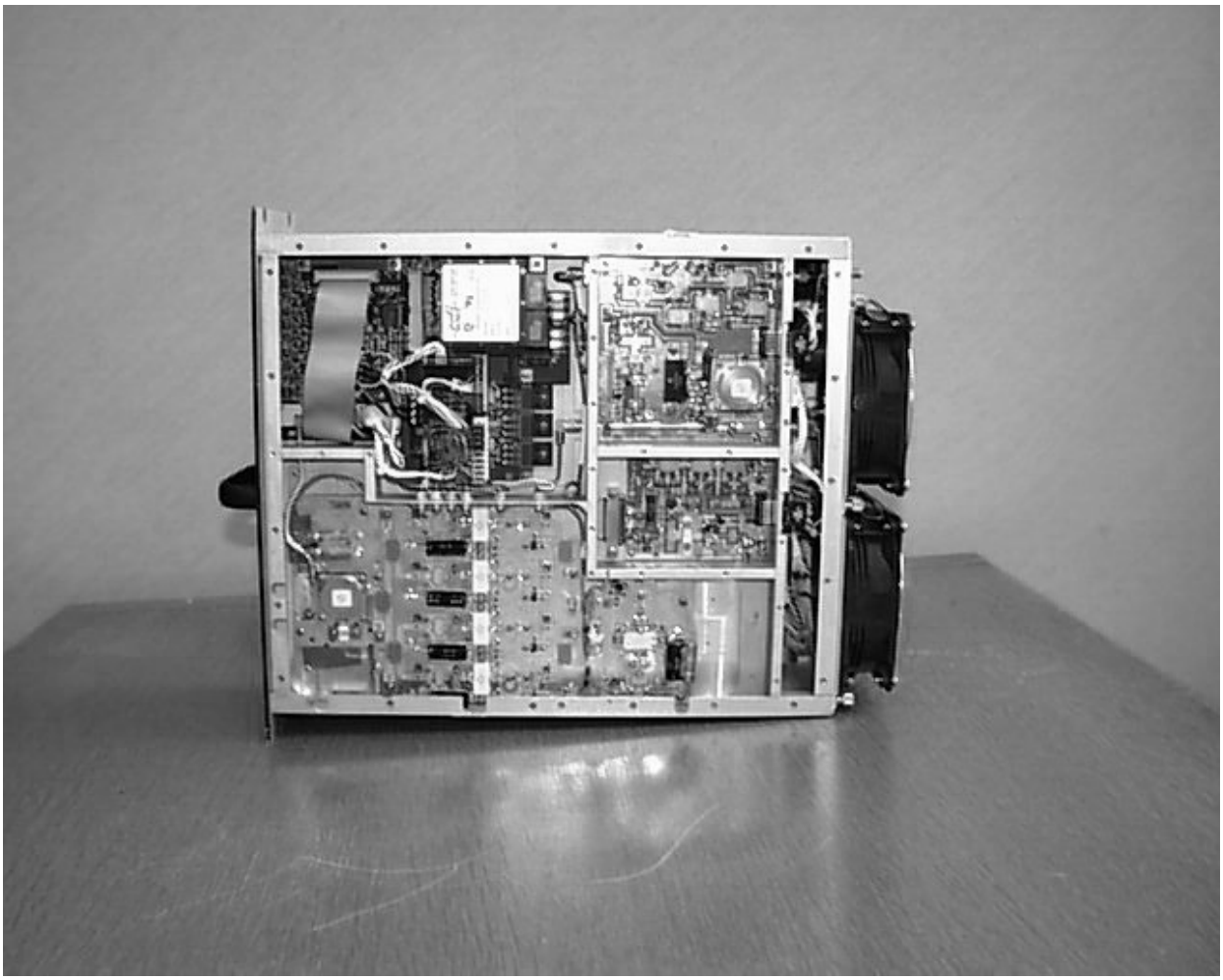

Figure 7, Side View1 of FFPA 8689-60

98-0737 Enc 5 Pg 3

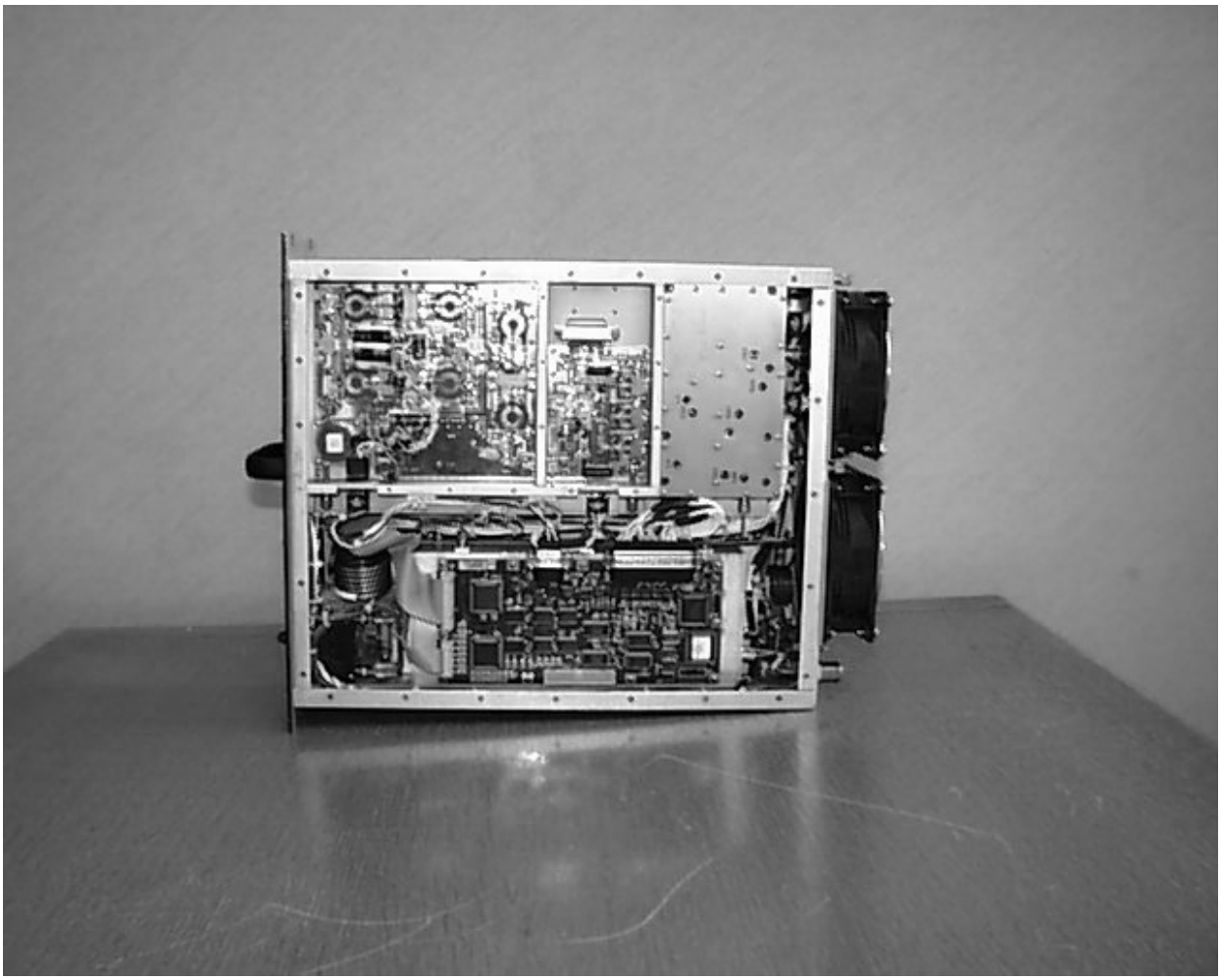

Figure 8, Side View2 FFPA 8689-60

98-0737 Enc 5 Pg 4

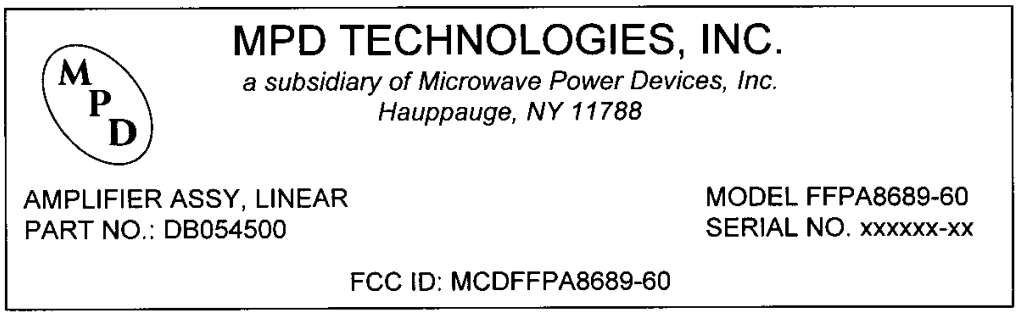

Figure 9, Proposed Marking Label
Model FFPA 8689-60

Enclosure 6

Results of Three-Signal Intermodulation Distortion Measurement

DAYTON T. BROWN INC.
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THREE-SIGNAL INTERMODULATION DISTORTION MEASUREMENT

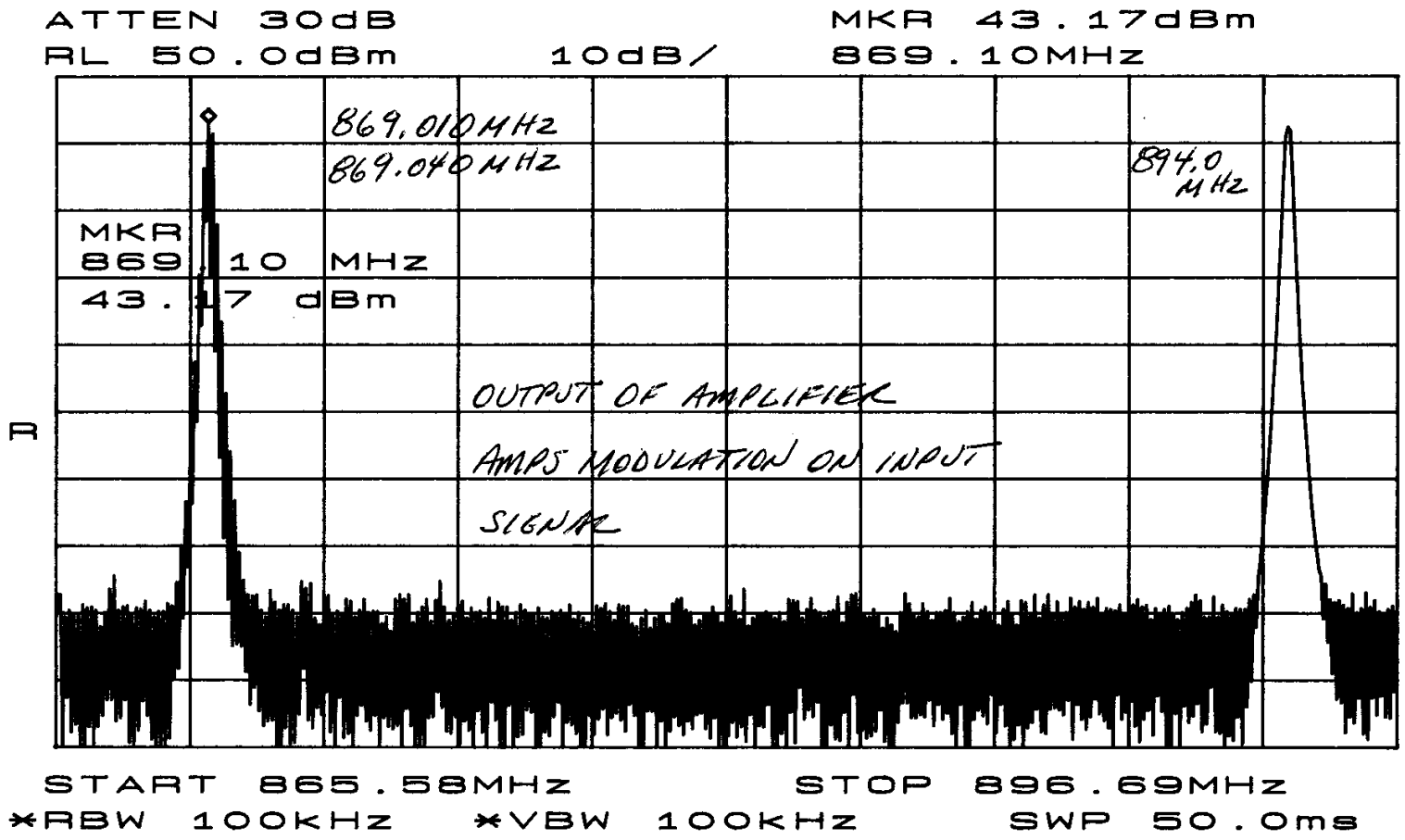
Test Procedure

Three signals at 869.010 MHz, 869.040 MHz and 894.000 MHz, respectively, with AMPS modulation were applied to the input of the amplifier at a level which produced individual amplifier outputs of 38.5 dBm at 869.010 MHz, 37.0 dBm at 869.040 MHz, and 42.5 dBm at 894.000 MHz. Frequencies 869.010 MHz and 869.040 MHz are at the low end of the amplifiers bandpass and frequency 894.000 MHz is at the high end of the amplifiers bandpass. The output of the amplifier was analyzed from 30 MHz to 1 GHz using a spectrum analyzer to measure any out-of-band intermodulation products that exceed -23 dBm or a delta of 60 dB minimum between the individual in band outputs and any out-of-band products.

Test Results

No out of band intermodulation distortion products that exceeded -23 dBm or the delta of 60 dB minimum were found between 30 MHz and 1 GHz.. See the enclosed spectrum analyzer plots for more specific test results.

JOB NUMBER 400208-00-000 GRAPH NUMBER 1

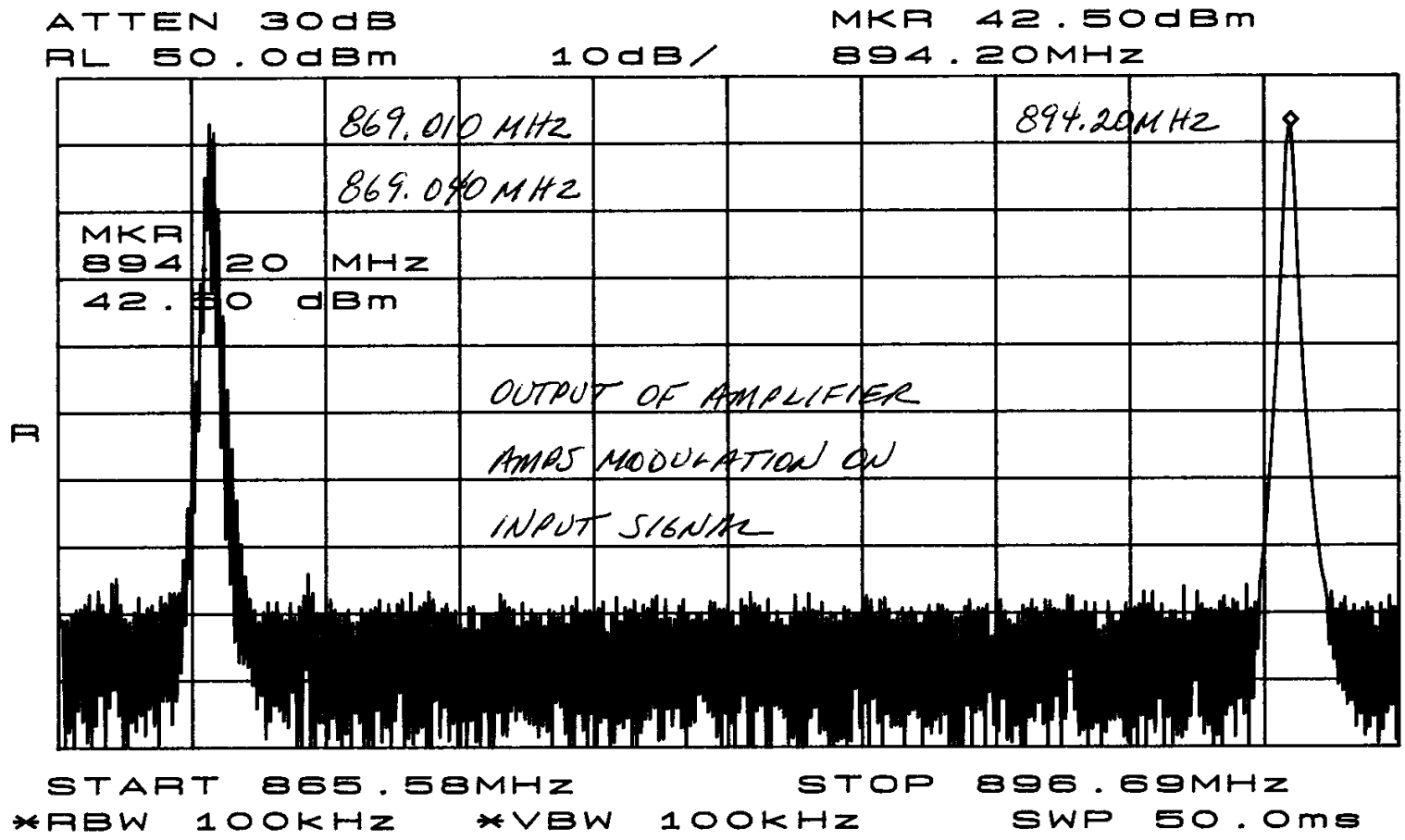


98-0737 Enc 6 Pg 2

REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT.
THREE SIGNALS WITHIN BANDPASS OF AMPLIFIER

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

JOB NUMBER 400208-00-000 GRAPH NUMBER 2

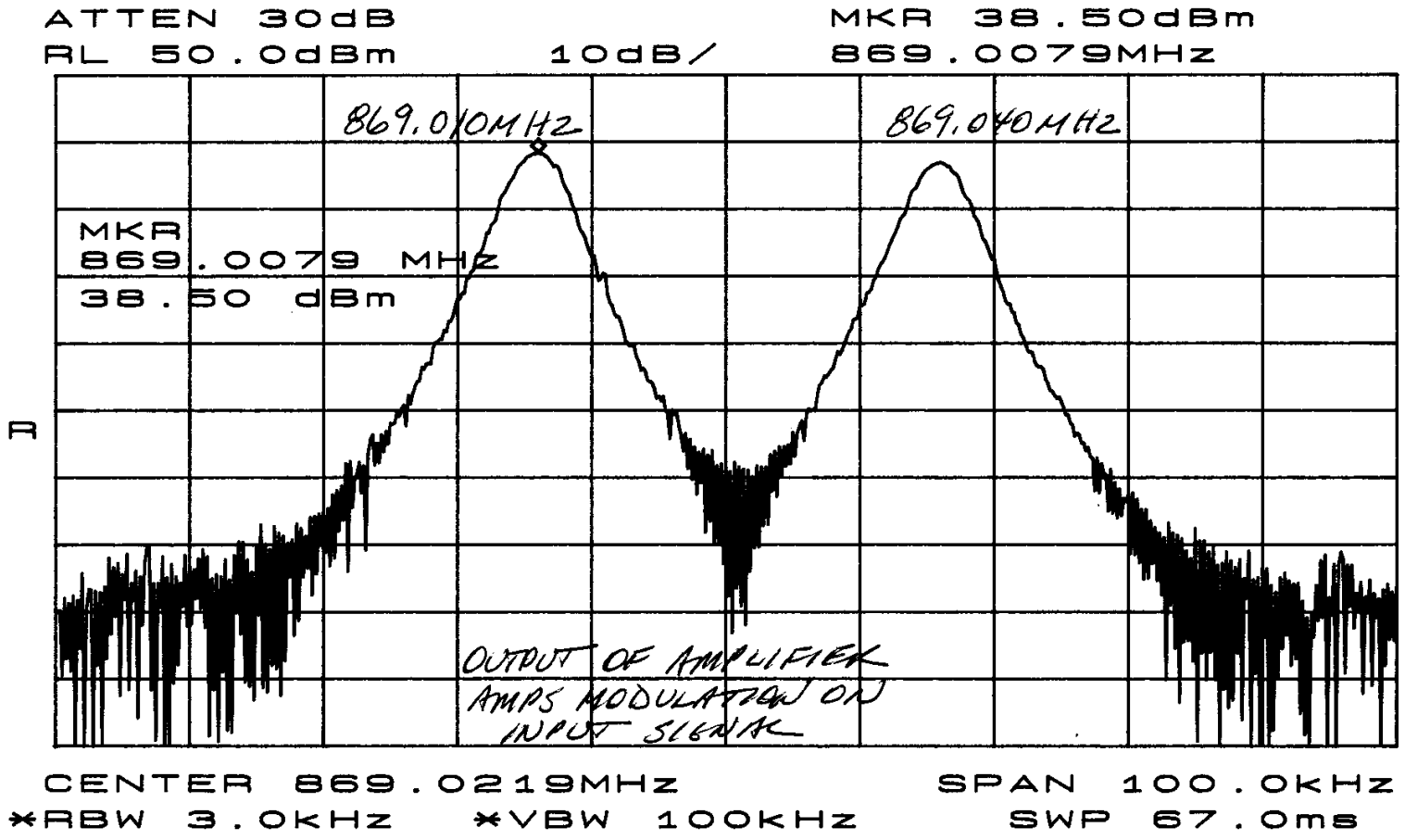


98-0737 Enc 6 Pg 3

REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT
THREE SIGNALS WITHIN BANDPASS OF AMPLIFIER

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

JOB NUMBER 400208-00-000 GRAPH NUMBER 3

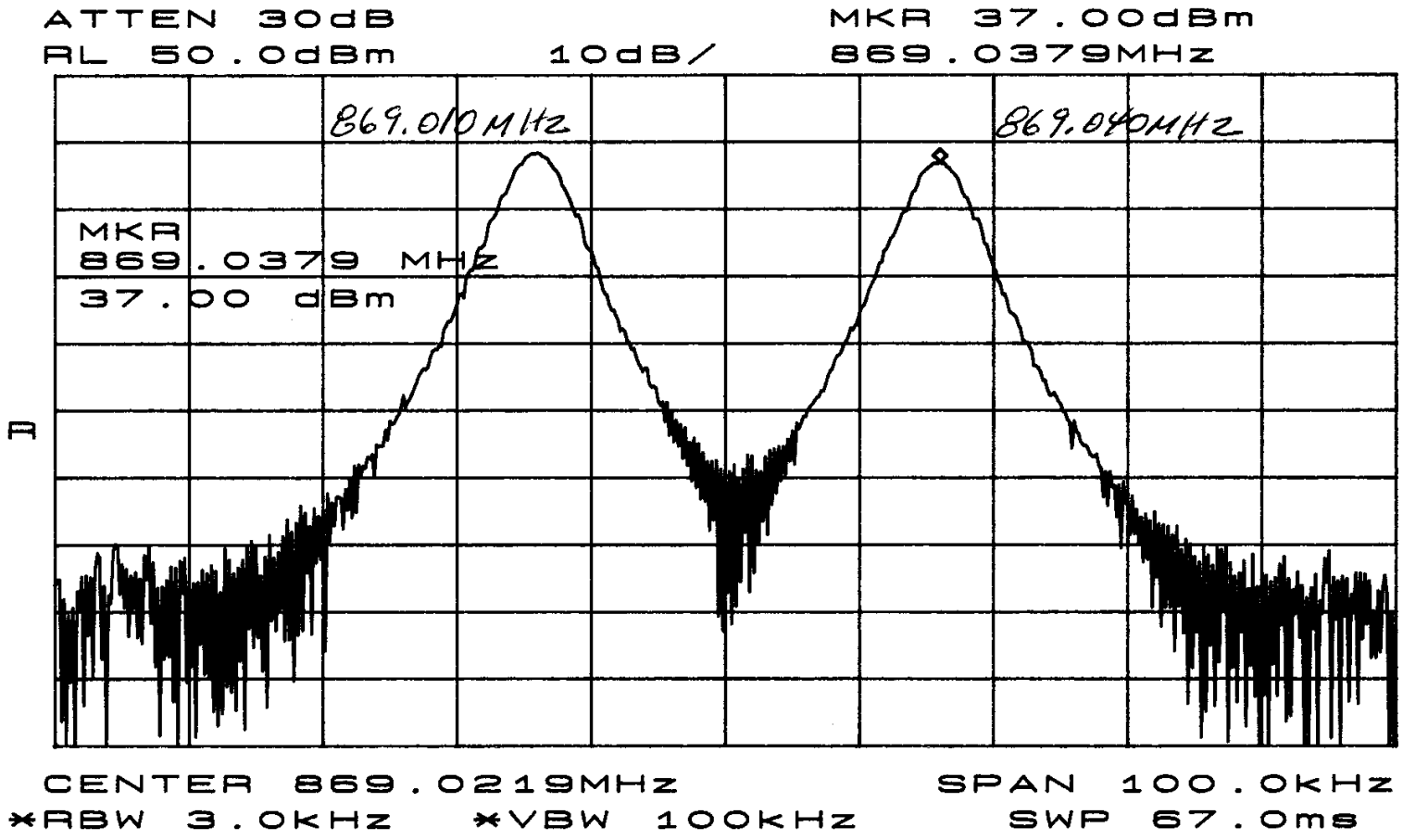


98-0737 Enc 6 Pg 4

REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT
TWO SIGNALS AT LOW FREQUENCY END OF AMPLIFIER
BANDPASS

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

JOB NUMBER 400208-00-000 GRAPH NUMBER 4

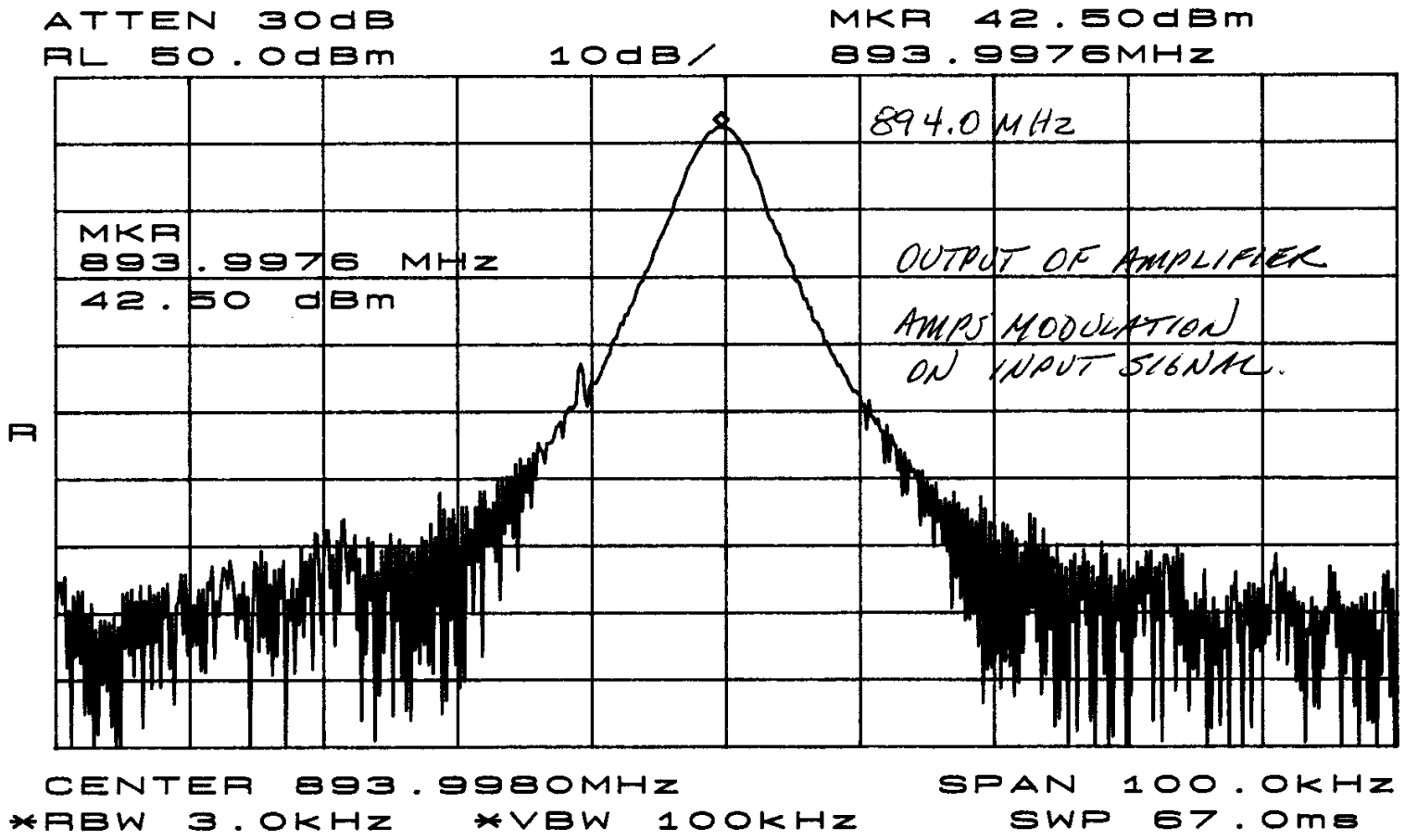


98-0737 Enc 6 Pg 5

REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT
SAME AS GRAPH 3

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

JOB NUMBER 400208-00-000 GRAPH NUMBER 5

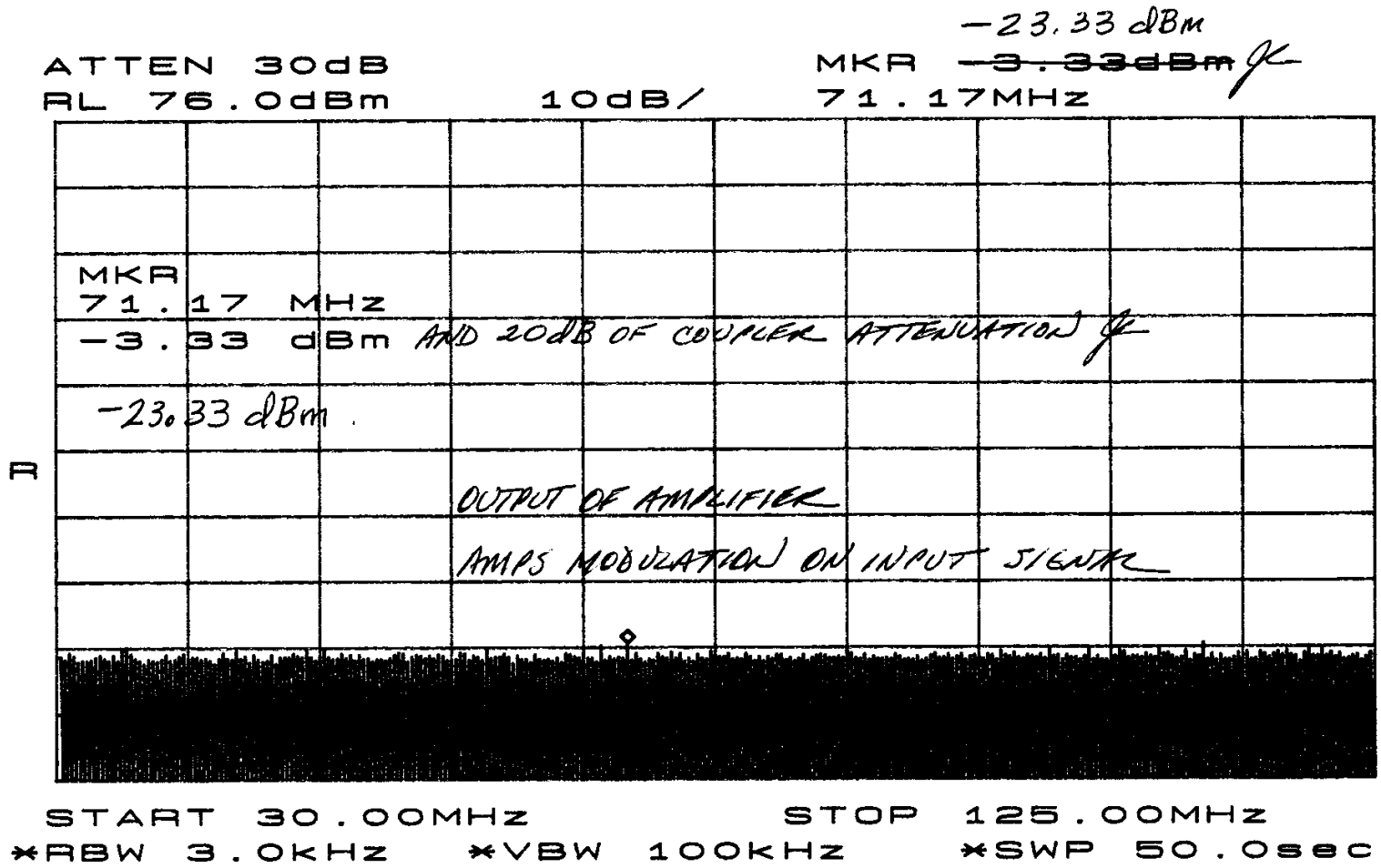


REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT
ONE SIGNAL AT HIGH FREQUENCY END OF AMPLIFIER BANDPASS

TEST TECHNICIAN J Butler TEST ENGINEER J

98-0737 Enc 6 Pg 6

JOB NUMBER 400208-00-000 GRAPH NUMBER 6

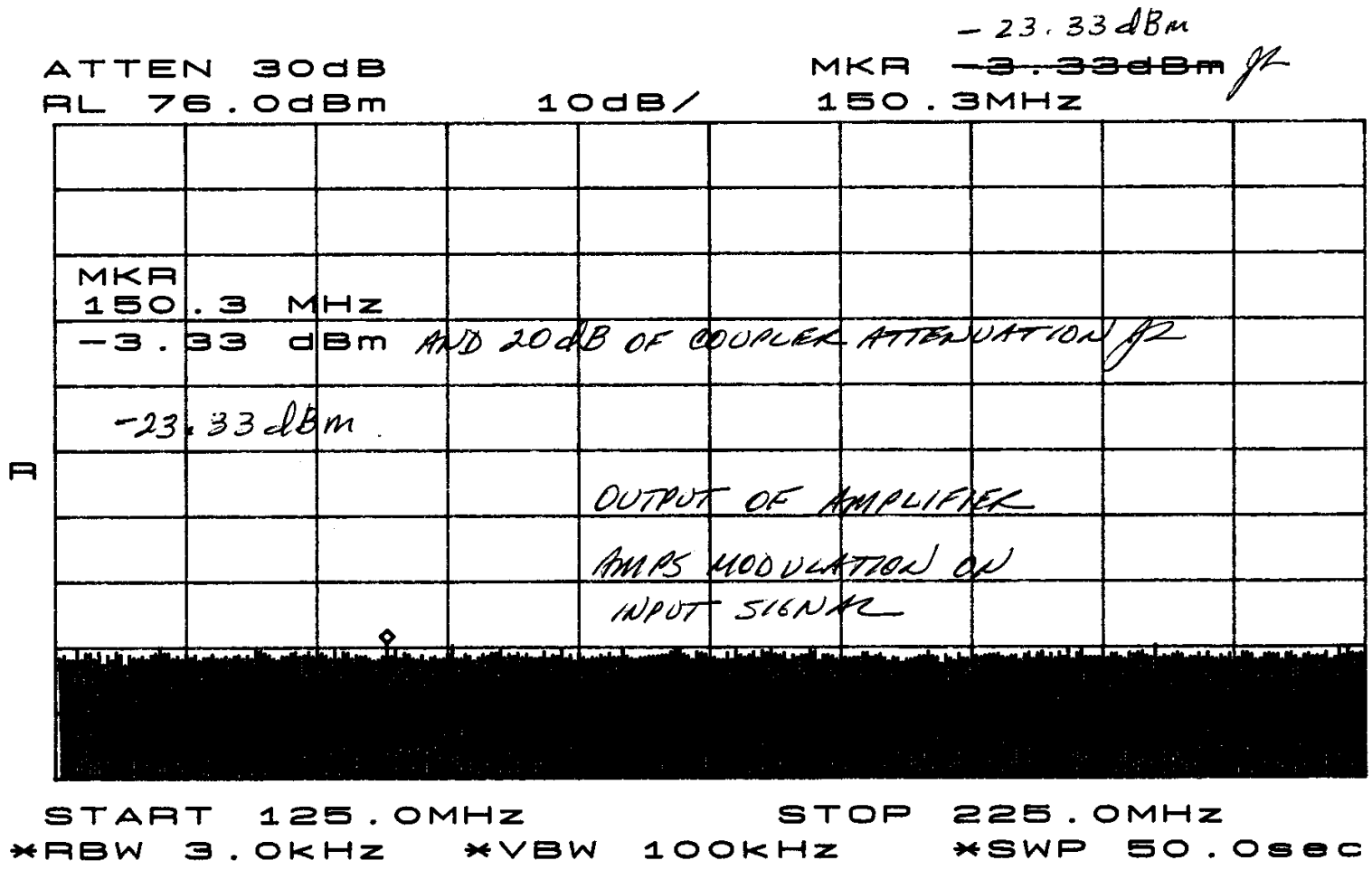


98-0737 Enc 6 Pg 7

REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT
30MHZ TO 125 MHZ OUT OF BAND PRODUCTS

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

JOB NUMBER 400208-00-000 GRAPH NUMBER 7

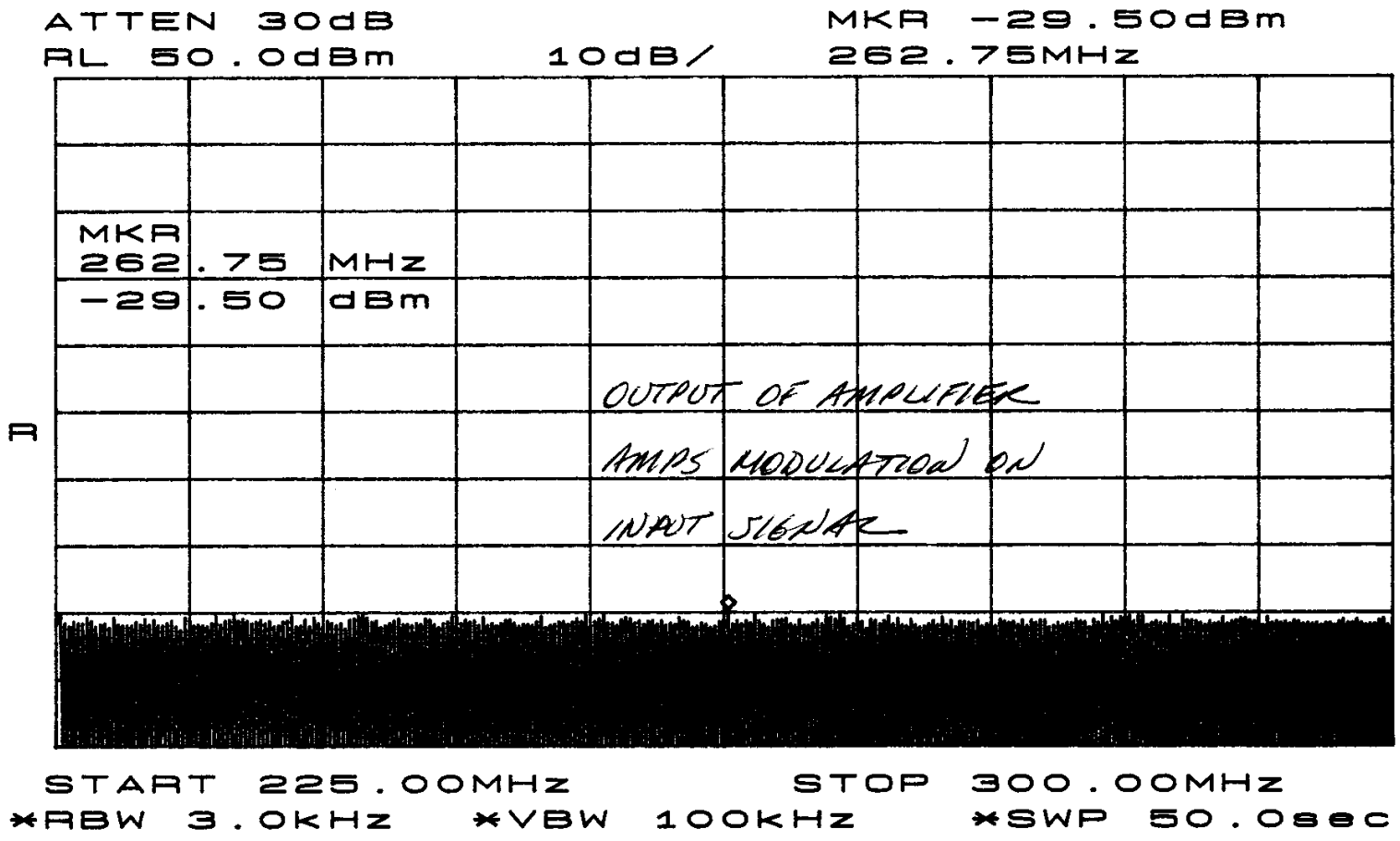


98-0737 Enc 6 Pg 8

REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT
125 MHz TO 225 MHz OUT OF BAND PRODUCTS

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

JOB NUMBER 400208-00-000 GRAPH NUMBER 8



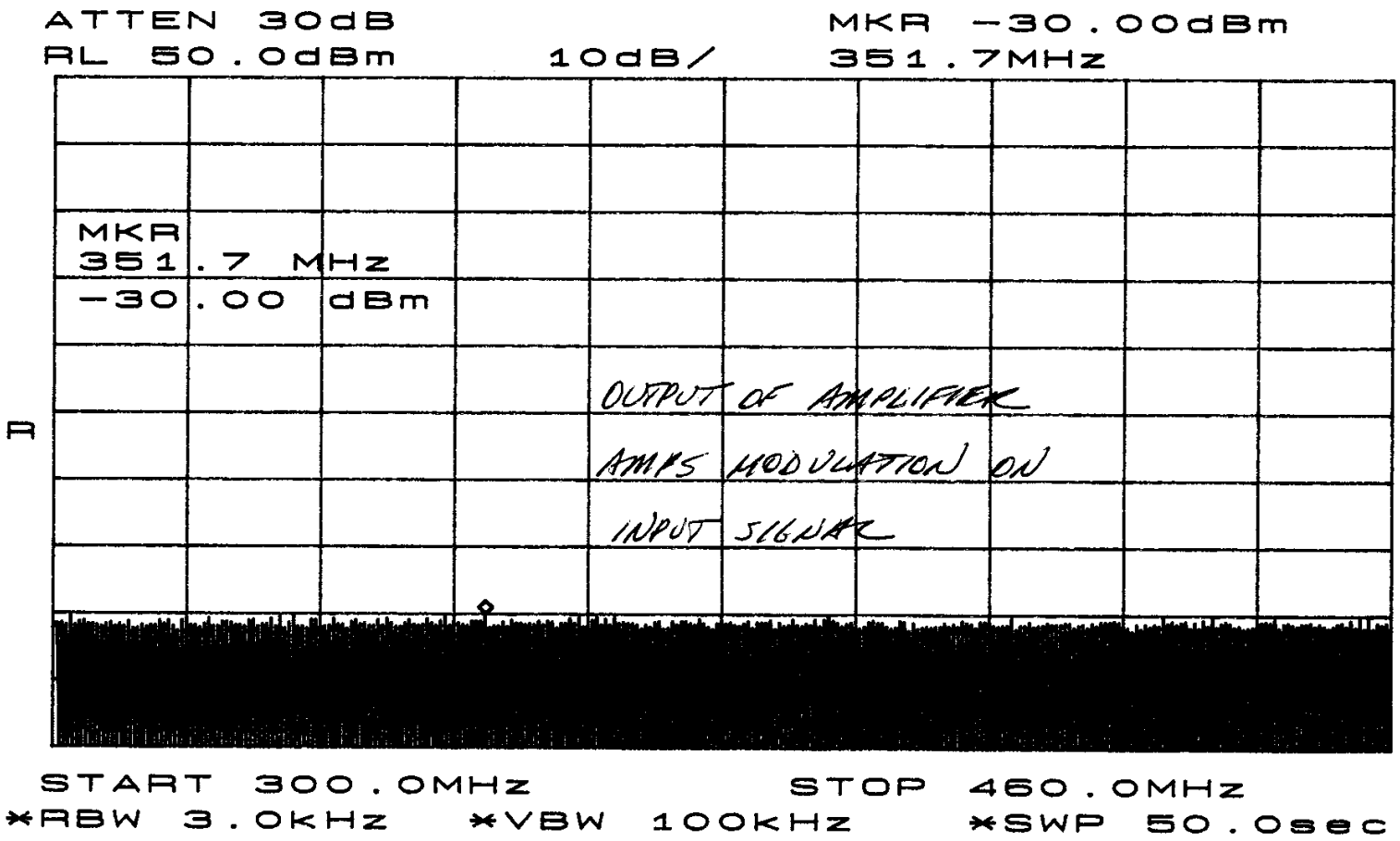
REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENTS
225 MHz TO 300 MHz OUT OF BAND PRODUCTS

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

98-0737 Enc 6 Pg 9

JOB NUMBER 400208-00-000

GRAPH NUMBER 9



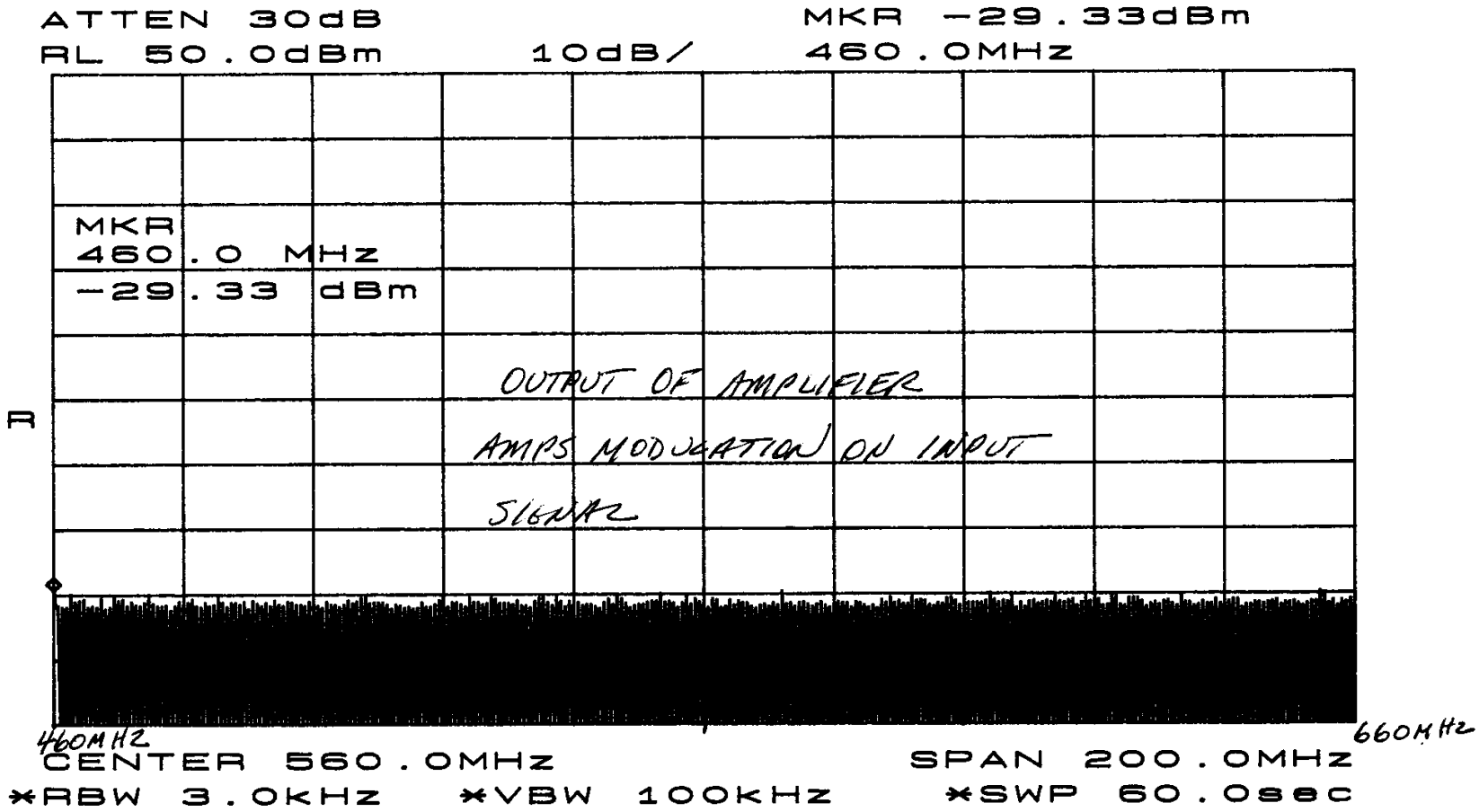
REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT
300 MHz TO 460 MHz

TEST TECHNICIAN

TEST ENGINEER

98-0737 Enc 6 Pg 10

JOB NUMBER 400208-00-000 GRAPH NUMBER 10

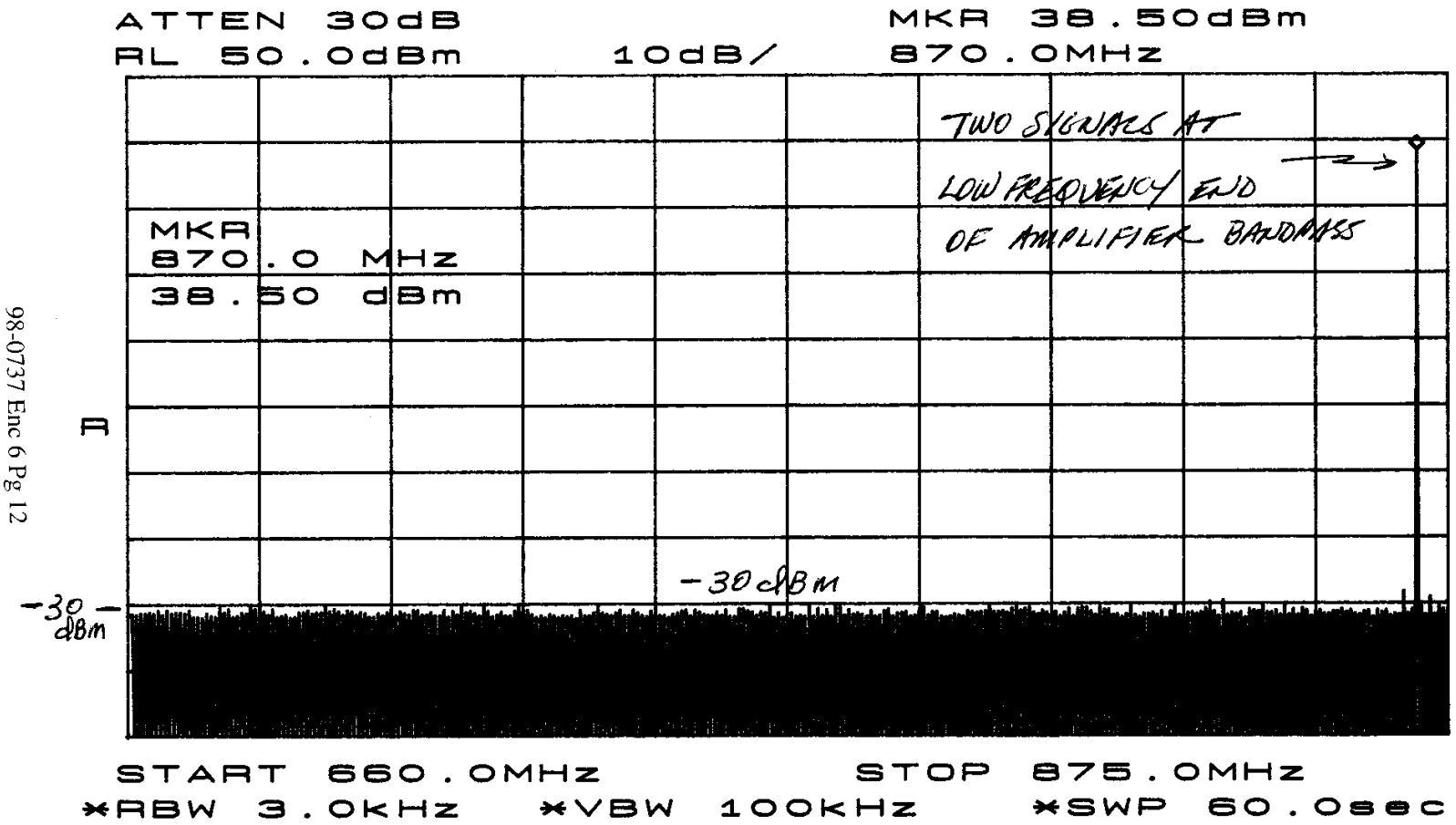


98-0737 Enc 6 Pg 11

REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT 460MHz TO 660MHz OUT OF BAND PRODUCTS

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

JOB NUMBER 400208-00-000 GRAPH NUMBER 11



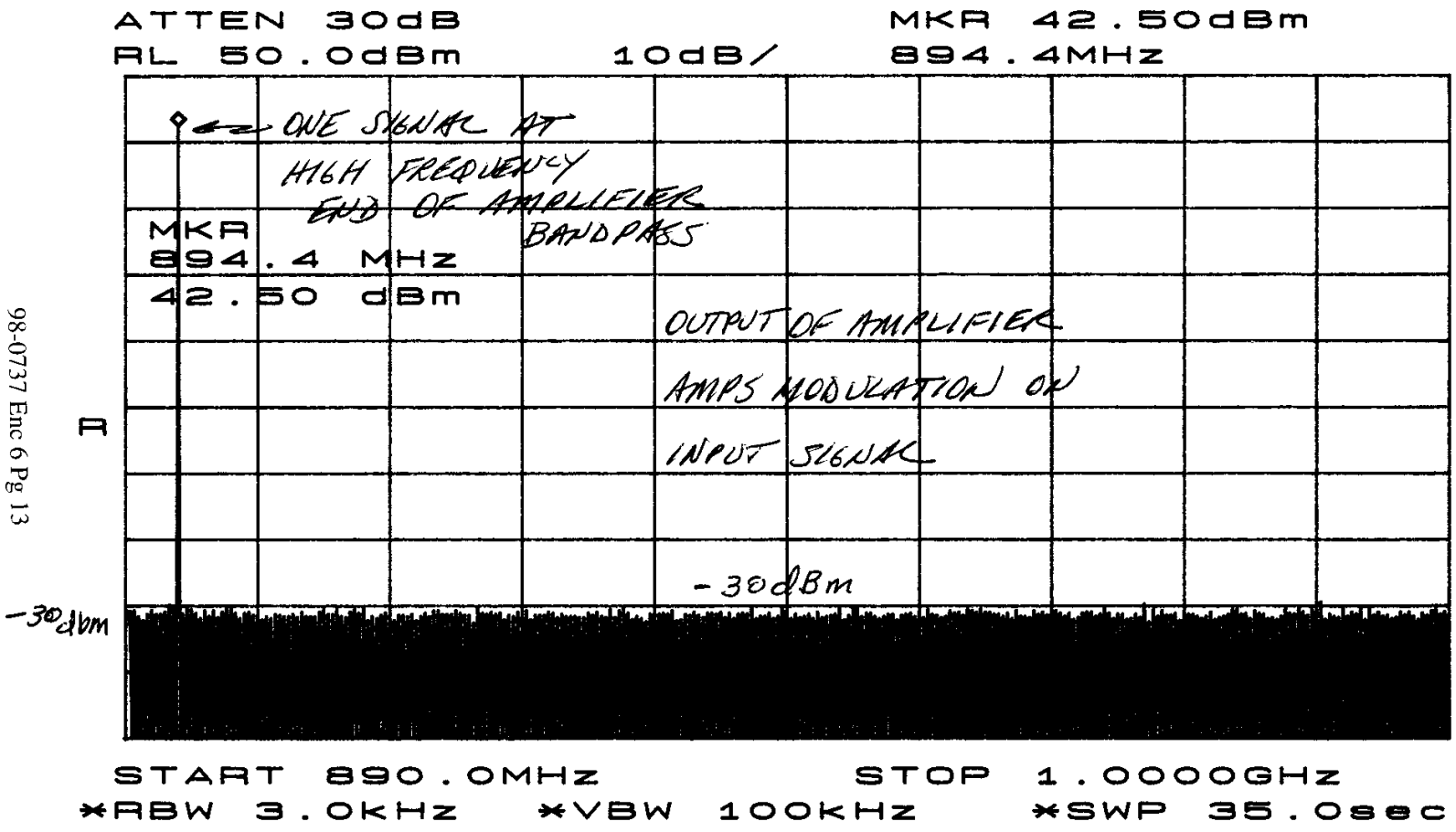
98-0737 Enc 6 Pg 12

REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT
660MHZ TO 875MHZ OUT OF BAND PRODUCTS

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

JOB NUMBER 400208-00-000

GRAPH NUMBER 12



98-0737 Enc 6 Pg 13

REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT
890 MHz TO 1 GHz OUT OF BAND PRODUCTS

TEST TECHNICIAN

TEST ENGINEER

Enclosure 7

Conducted and Radiated Spurious and
Harmonic Emission Measurements

DAYTON T. BROWN INC.®
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CONDUCTED AND RADIATED SPURIOUS AND HARMONIC EMISSION MEASUREMENTS

Test Procedure

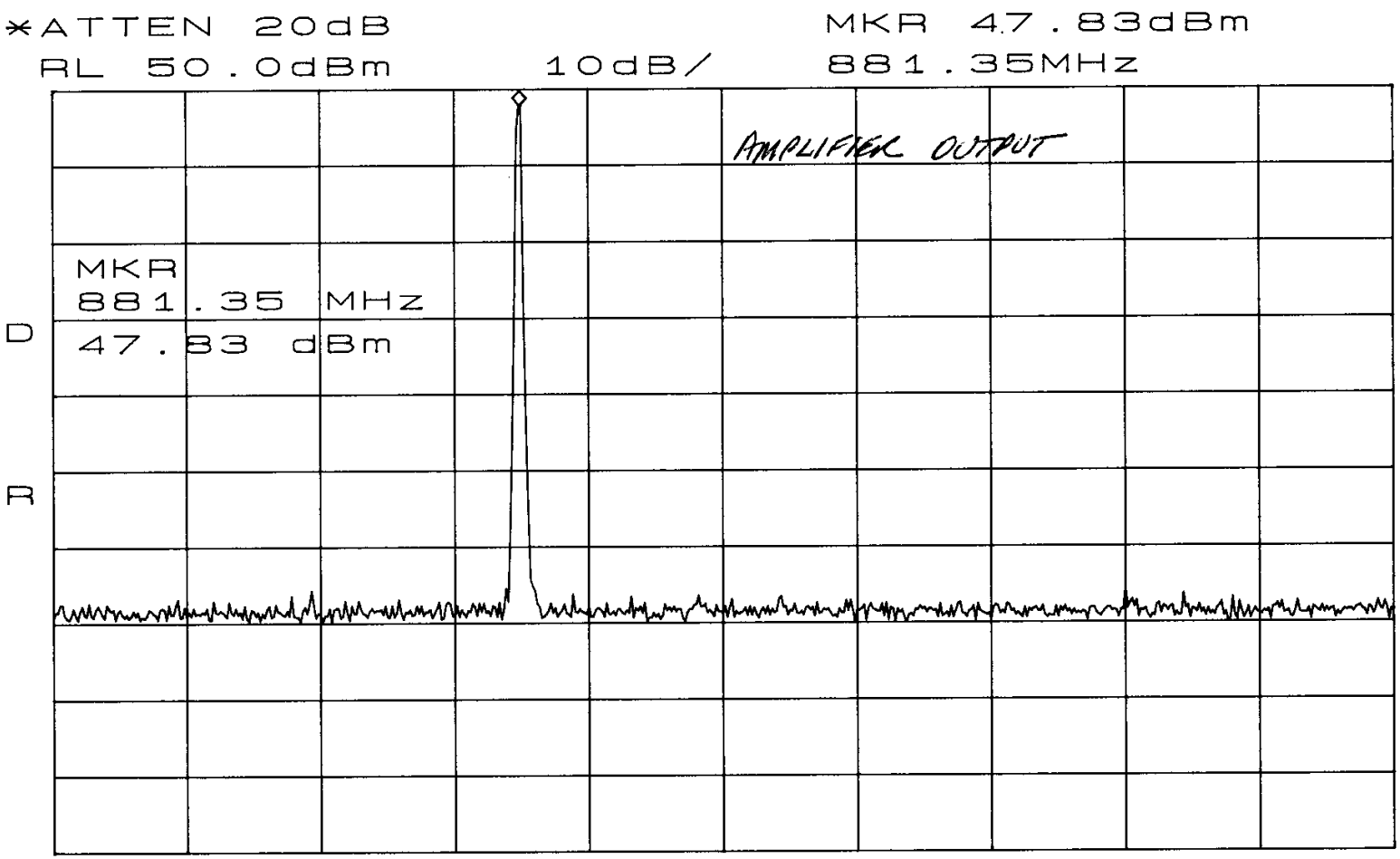
With the amplifier output set to 47.83 dBm at 881.35 MHz into a 50-ohm load, conducted spurious and harmonic emissions were measured at its output connector between 850 MHz and 10 GHz.

With the amplifier output set to 47.83 dBm at 881.75 MHz into a 50-ohm load, radiated spurious and harmonic emissions from its case and cabling were measured between 1 GHz and 10 GHz.

Test Results

All measurements of conducted and radiated spurious and harmonic emissions were greater than 60.83 dB below the fundamental frequency output of the amplifier. See the data sheets for more detailed measurement information.

JOB NUMBER 400208-00-050 GRAPH NUMBER 13



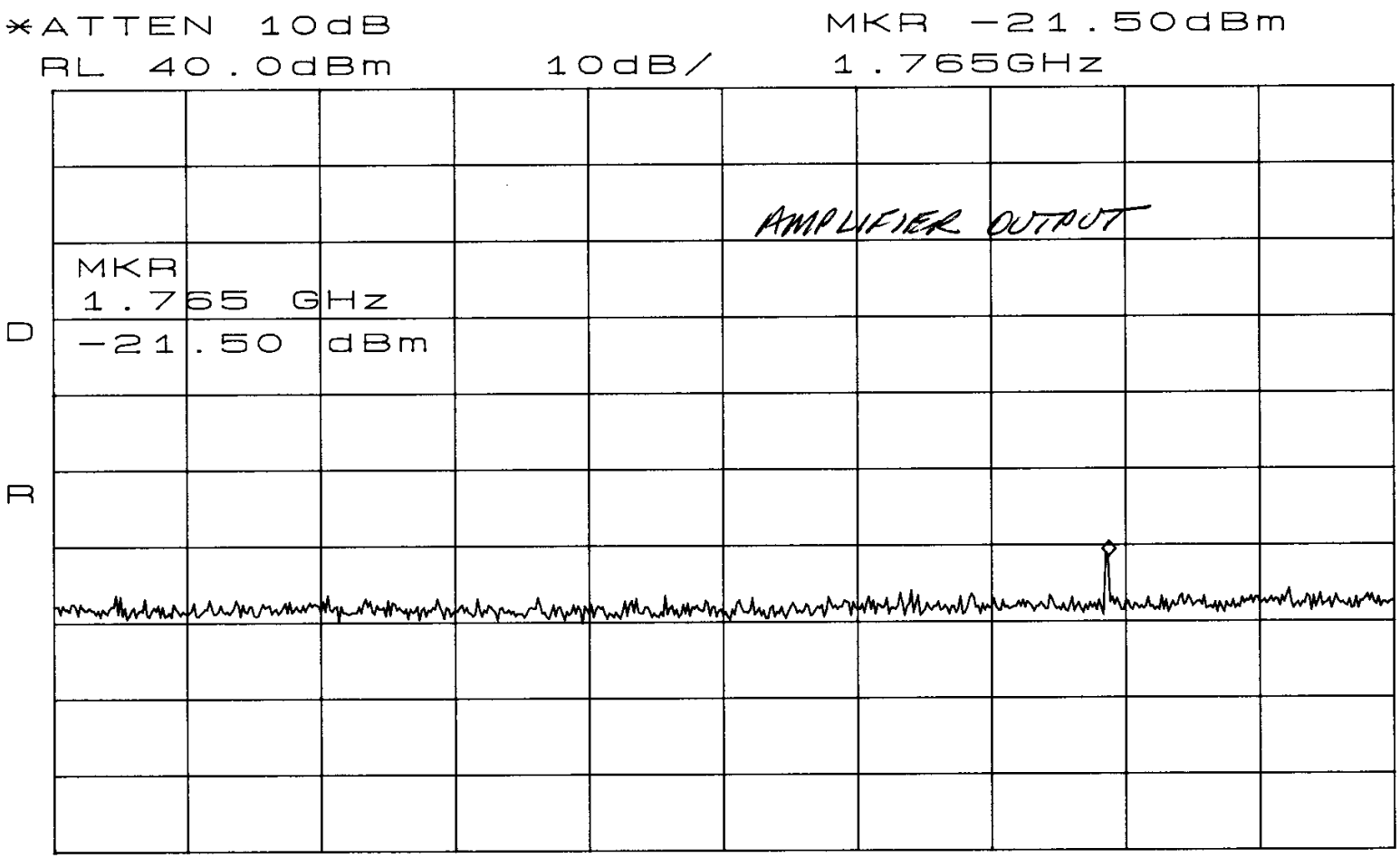
REMARKS CW INPUT SIGNAL CONDUCTED SPURIOUS AND HARMONIC EMISSION MEASUREMENT

TEST TECHNICIAN [signature]

TEST ENGINEER [signature]

98-0737 Enc 7 Pg 2

JOB NUMBER 400208-60-000 GRAPH NUMBER 14



REMARKS CW Input SIGNAL CONDUCTED SPURIOUS AND HARMONIC EMISSION MEASUREMENT

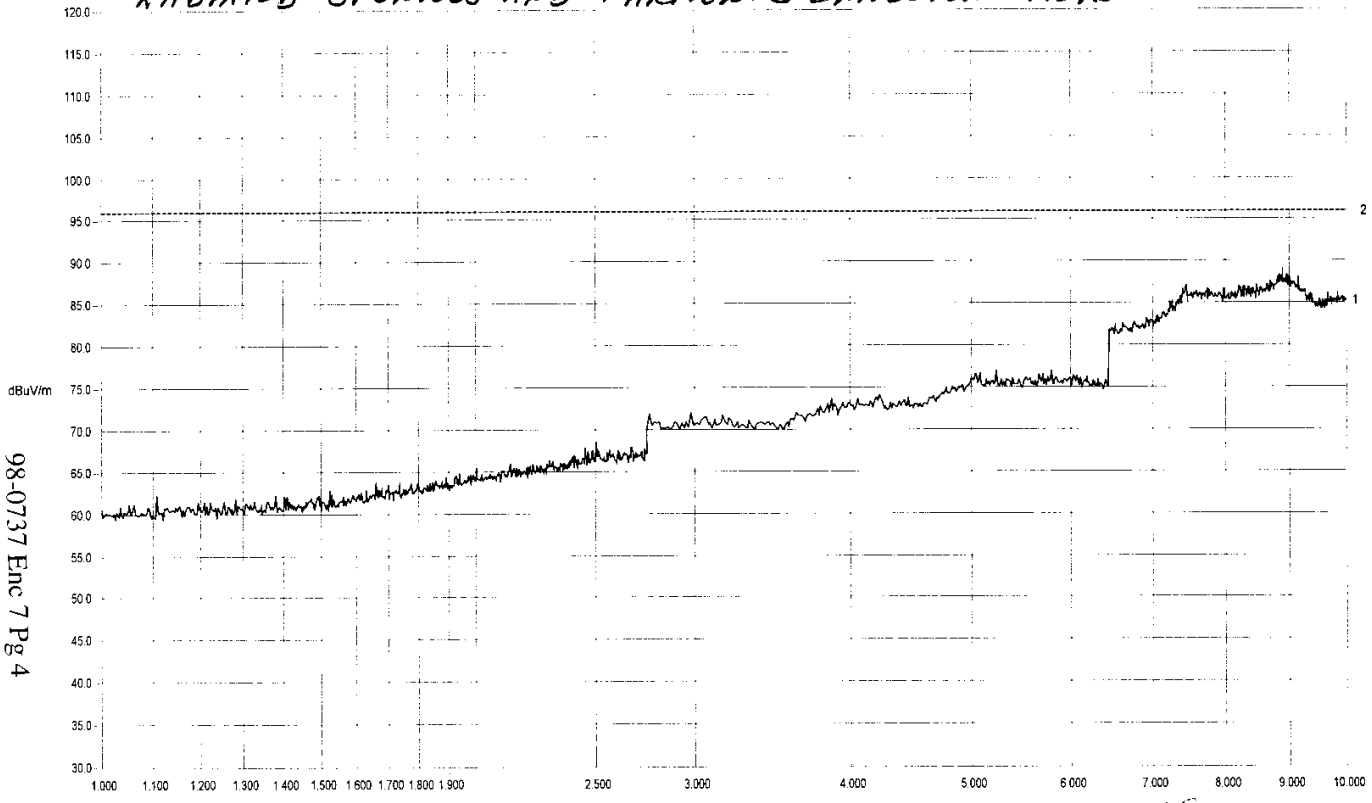
TEST TECHNICIAN [signature] TEST ENGINEER [signature]

Test Title: Radiated Emissions

Test Procedure:	IEEE C95.1 1-1991 Measurement	**Date:**	8/26/98	**Time:**	3:31 PM
Customer:	Microwave Power Devices	**Tested By:**	Gary Butler		
Test Item:	Power Amplifier	**Project Eng.:**	J. Smirk		
Model Num.:	FFPA 8689-60	**Job Num.:**	400208-00-000		
Part Num.:	DBO 54500-5	**Test Num.:**	001		
Serial Num.:	7879	**Sensor Loc.:**	1 meter distance from back of unit		
Mode of Op.:	Normal Operation (CW 881 MHz, 60 Watts output power)	**Sensor Pol.:**	Vertical		

Comment: RADIATED SPURIOUS AND HARMONIC EMISSION MEASUREMENT

File Name: 0208002.red



1. RE Data
2. mpdrade.rel (spec limit)

BW Table

Frequency	BW
1.00 GHz	3.00E5 Hz
10.00 GHz	

Factor Files

27-55.rea (1.00 GHz)

Correction Files

- sma11cc.rec (1.00 GHz) (cable)
- sma11b.rec (1.00 GHz) (2nd cable)
- zero.rec (1.00 GHz) (3rd cable)
- zero.ret (1.00 GHz) (attenuator)
- zero.rep (1.00 GHz) (pre-amp)

Engineer: J. Smirk

Technician: Gary Butler

98-0737 Enc 7 Pg 4

Test Title: Radiated Emissions

Test Procedure:	IEEE C95.1 1-1991 Measurement	Date:	8/26/98	Time:	4:00 PM
Customer:	Microwave Power Devices	Tested By:	Gary Butler		
Test Item:	Power Amplifier	Project Eng.:	J. Smirk		
Model Num.:	FFPA 8689-60	Job Num.:	400208-00-000		
Part Num.:	DBO 54500-5	Test Num.:	003		
Serial Num.:	7879	Sensor Loc.:	1 meter distance from back of unit		
Mode of Op.:	Normal Operation (CW 881 MHz, 60 Watts output power)	Sensor Pol.:	Horizontal		

1. RE Data
2. mpdrade.rel (spec limit)

Comment: RADIATED SPURIOUS AND HARMONIC EMISSION MEASUREMENT

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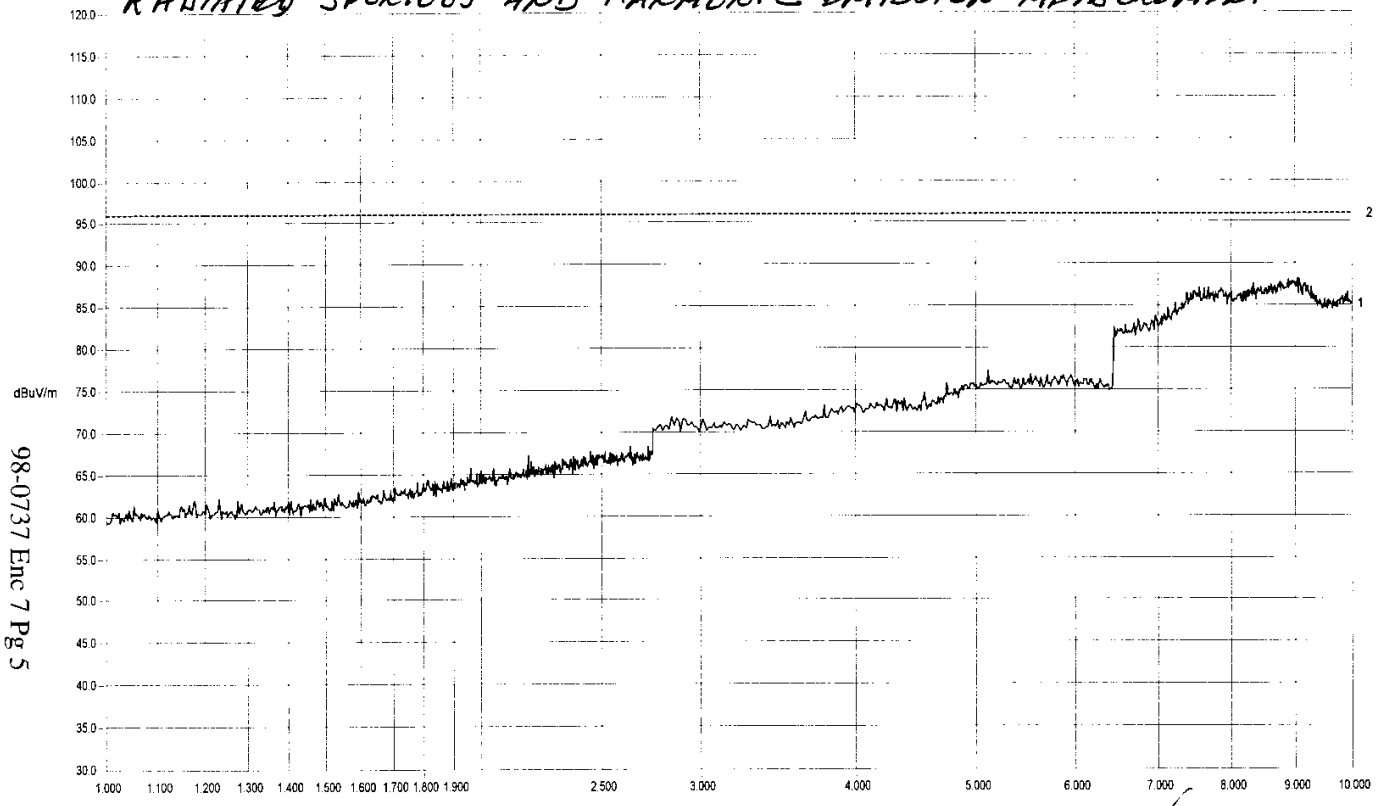

BW Table

Frequency	BW
1.00 GHz	3.00E5 Hz
10.00 GHz	

Factor Files

27-55.rea (1.00 GHz)

Correction Files

- sma11cc.rec (1.00 GHz) (cable)
- sma11b.rec (1.00 GHz) (2nd cable)
- zero.rec (1.00 GHz) (3rd cable)
- zero.ret (1.00 GHz) (attenuator)
- zero.rep (1.00 GHz) (pre-amp)

Engineer: J Smirk

Technician: G Butler

98-0737 Enc 7 Pg 5

Enclosure 8

Comparison of Amplifier Output to Amplifier Input for Distortion

DAYTON T. BROWN INC.®
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COMPARISON OF AMPLIFIER OUTPUT TO AMPLIFIER INPUT FOR DISTORTION

Test Procedure

A CW signal was applied to the input of the amplifier at 880.99 MHz with sufficient level to produce 46.83 dBm of amplifier output into a 50-ohm load. The input signal and the output signal were both analyzed with a spectrum analyzer to detect distortion products produced by the amplifier.

The CW input signal was then frequency modulated with a 1-kHz tone to a deviation level of 5 kHz. The input signal and the output signal were both analyzed with a spectrum analyzer to detect distortion products produced by the amplifier.

A CDMA signal was applied to the input of the amplifier at 880.99 MHz with sufficient level to produce 30 dBm of amplifier output into a 50-ohm load. The input signal and the output signal were both analyzed with a spectrum analyzer to detect distortion products produced by the amplifier.

A TDMA signal was applied to the input of the amplifier at 880.99 MHz with sufficient level to produce 30 dBm of amplifier output into a 50-ohm load. The input signal and the output signal were both analyzed with a spectrum analyzer to detect distortion products produced by the amplifier.

A 2FSK signal was applied to the input of the amplifier at 880.99 MHz with sufficient level to produce 30 dBm of amplifier output into a 50-ohm load. The input signal and the output signal were both analyzed with a spectrum analyzer to detect distortion products produced by the amplifier.

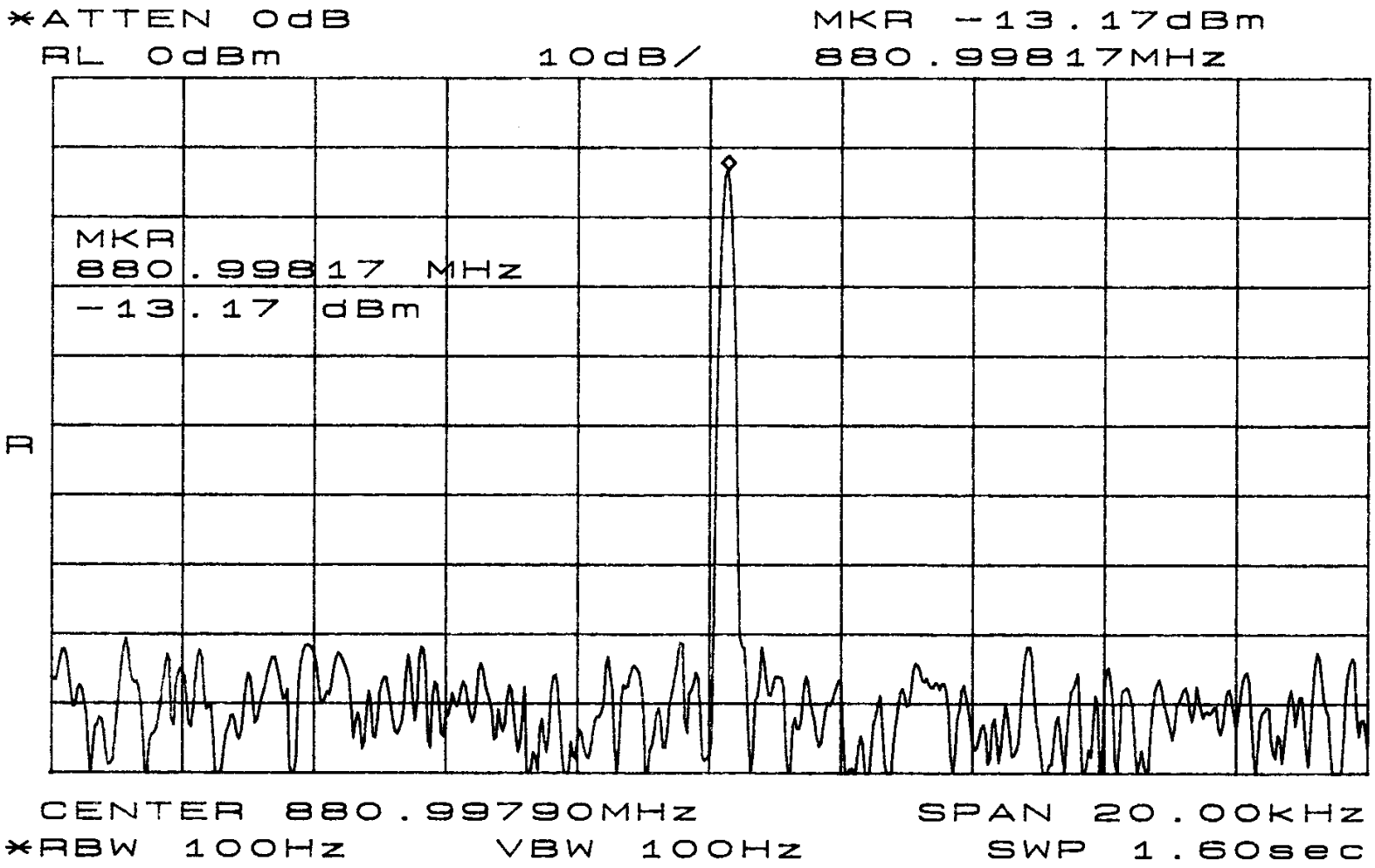
An AMPS signal was applied to the input of the amplifier at 894.0 MHz with sufficient level to produce 42.5 dBm of amplifier output into a 50-ohm load. The input signal and the output signal were both analyzed with a spectrum analyzer to detect distortion products produced by the amplifier.

Test Results

No significant amplifier distortion was detected using either the CW, Frequency Modulated, CDMA, TDMA, 2FSK, or AMPS input signal. See the following graphs for more detailed test results.

JOB NUMBER 400202-00-00

GRAPH NUMBER 15



98-0737 Enc 8 Pg 2

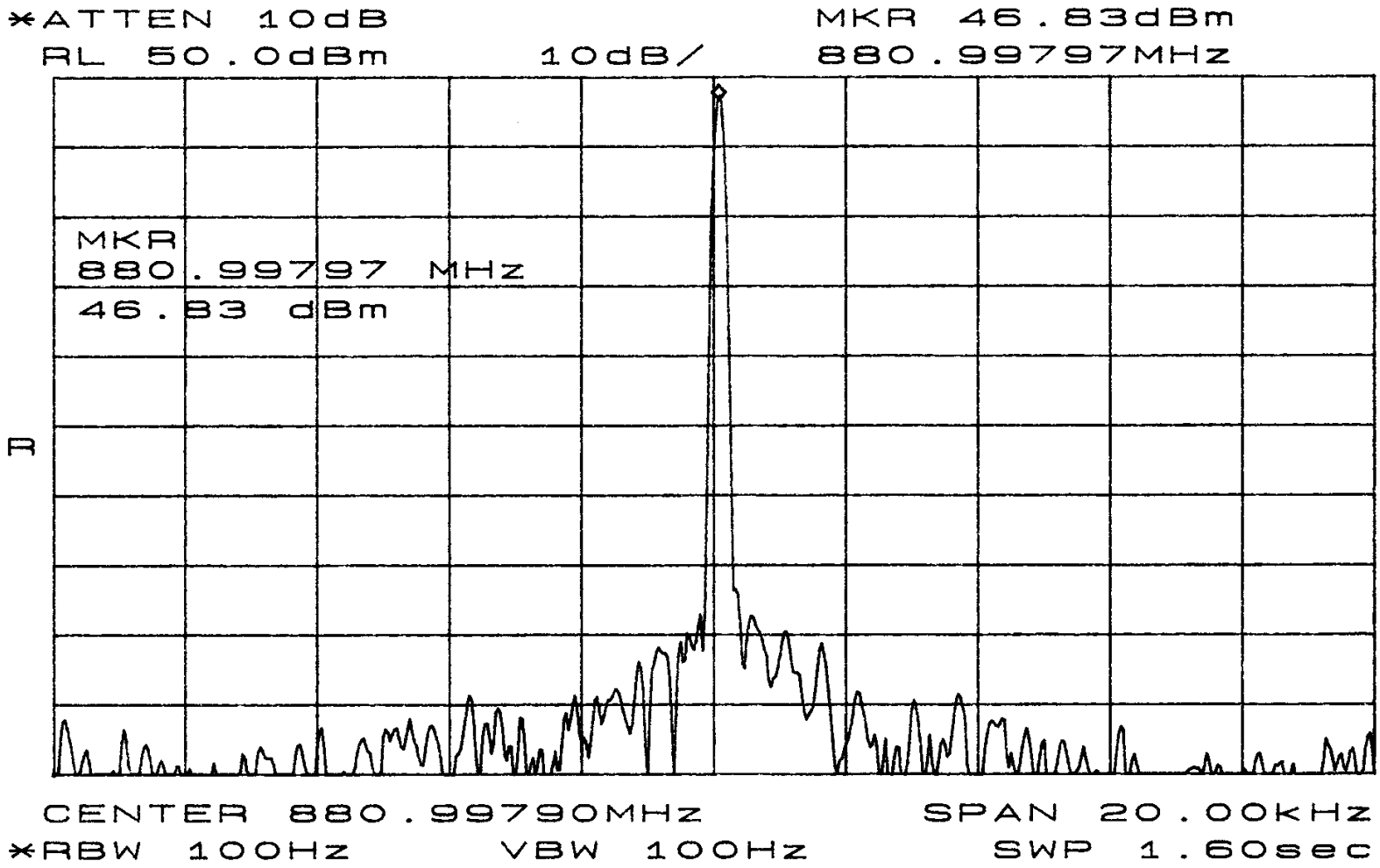
REMARKS CW (Input SIGNAL TO AMPLIFIER)

TEST TECHNICIAN CW Tony

TEST ENGINEER

16

JOB NUMBER 400208-00-000 GRAPH NUMBER _____

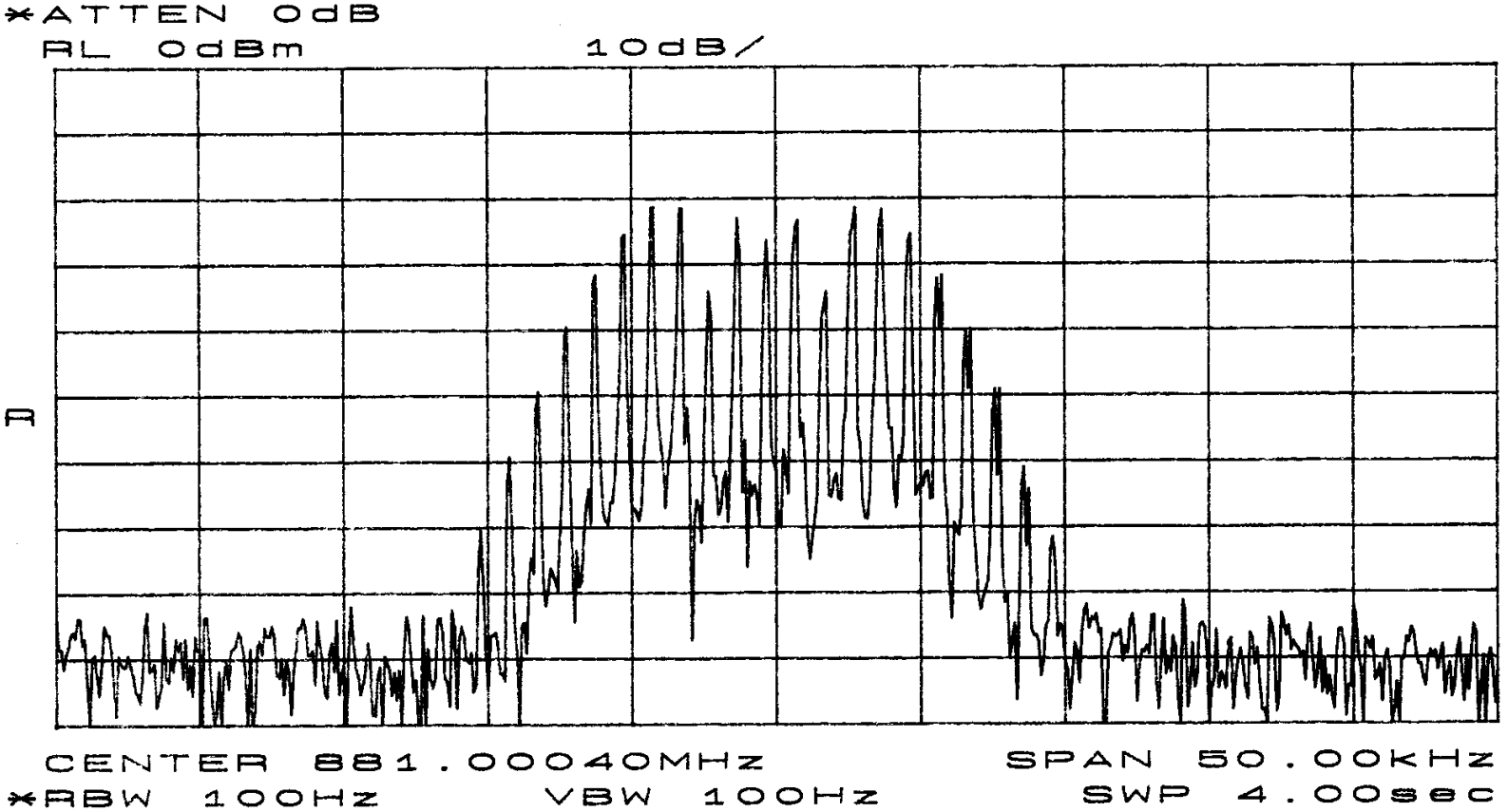


98-0737 Enc 8 Pg 3

REMARKS Amplifier Output, No Modulation (CW)

TEST TECHNICIAN _____ TEST ENGINEER _____

JOB NUMBER 400208-00-000 GRAPH NUMBER 17

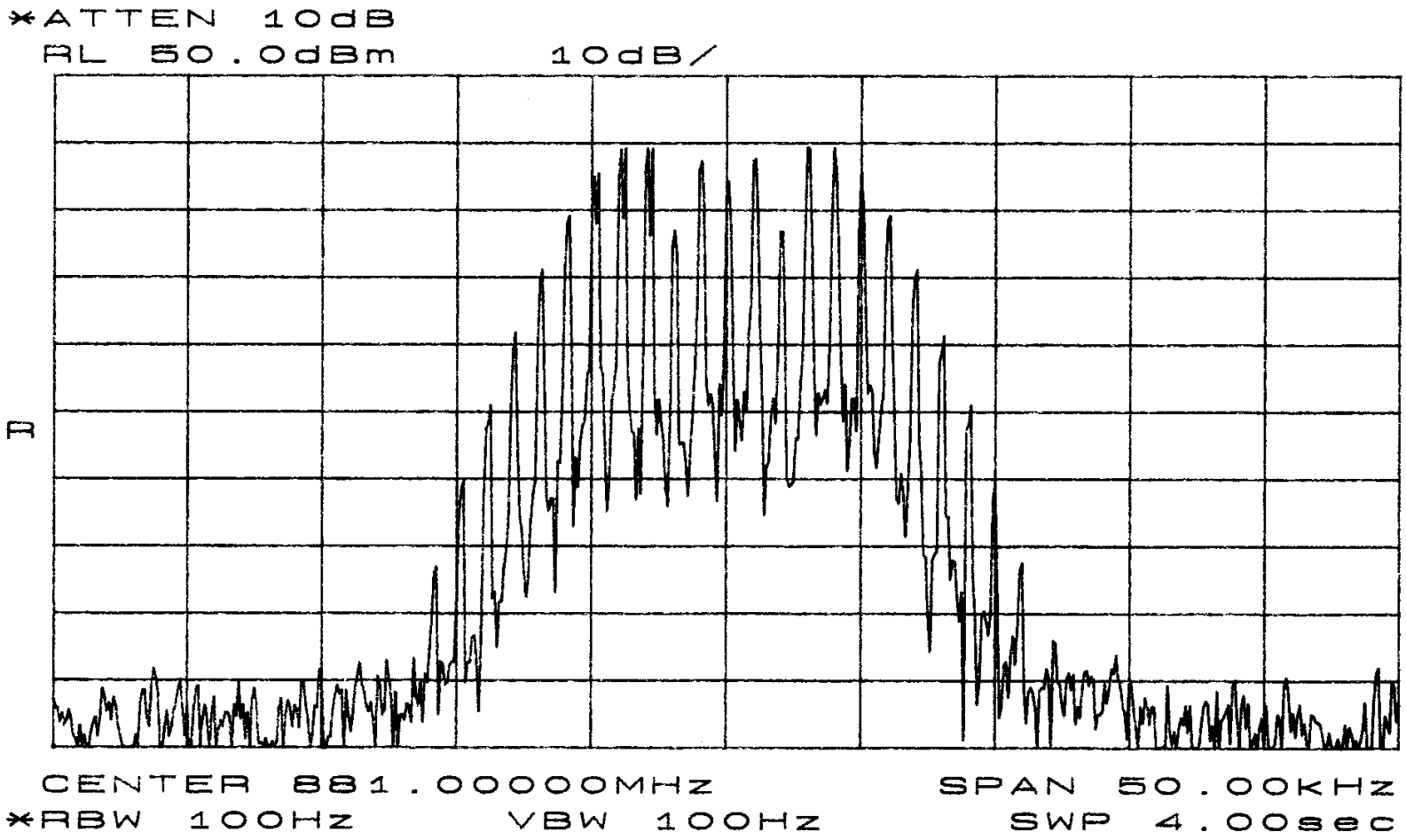


REMARKS FM (Input SIGNAL TO AMPLIFIER)

TEST TECHNICIAN [signature]

TEST ENGINEER [signature]

JOB NUMBER 400208-00-000 GRAPH NUMBER 18



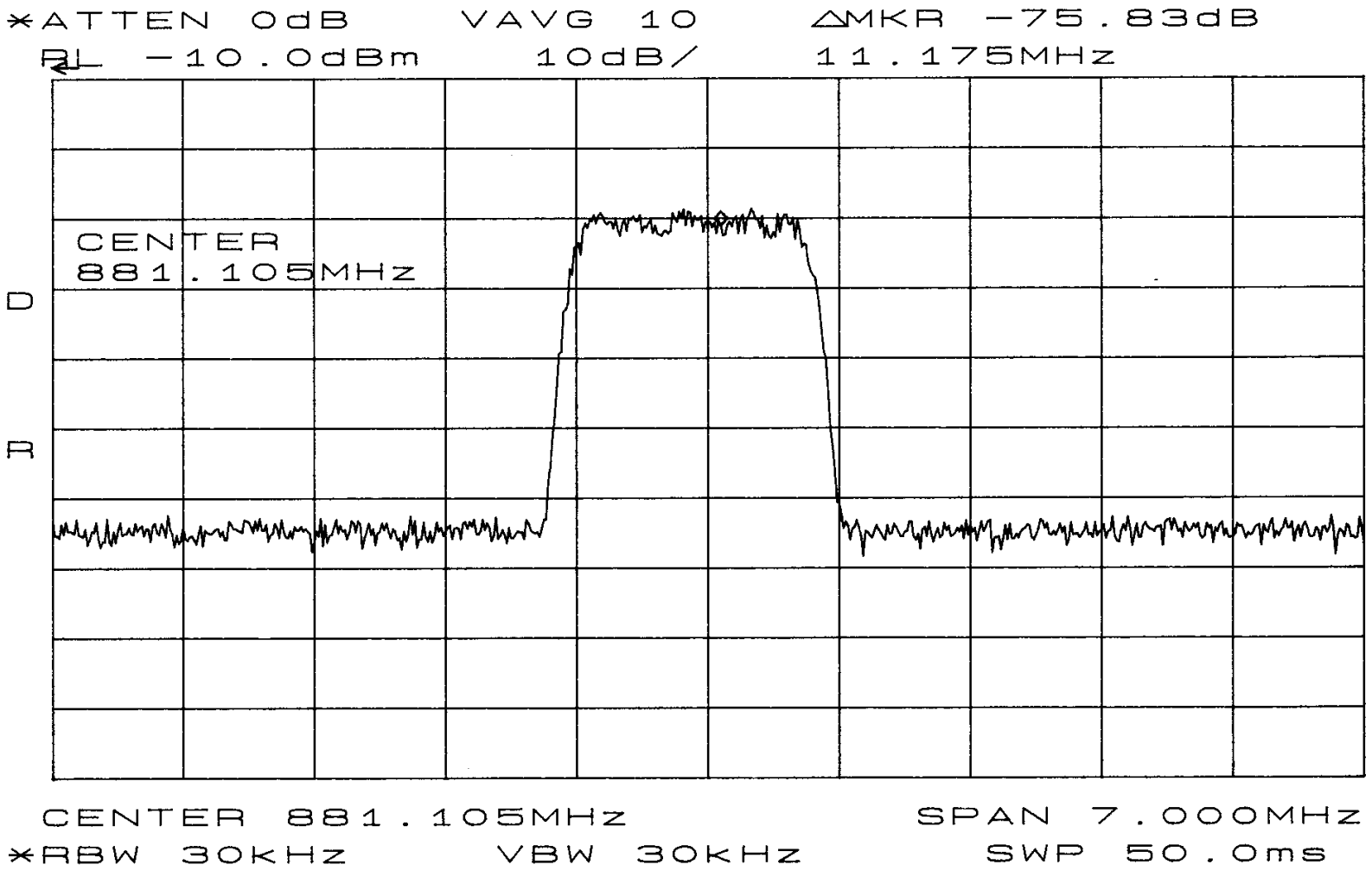
REMARKS FM (Output of Amplifier)

TEST TECHNICIAN [signature]

TEST ENGINEER [signature]

98-0737 Enc 8 Pg 5

JOB NUMBER 400202-00-000 GRAPH NUMBER 19



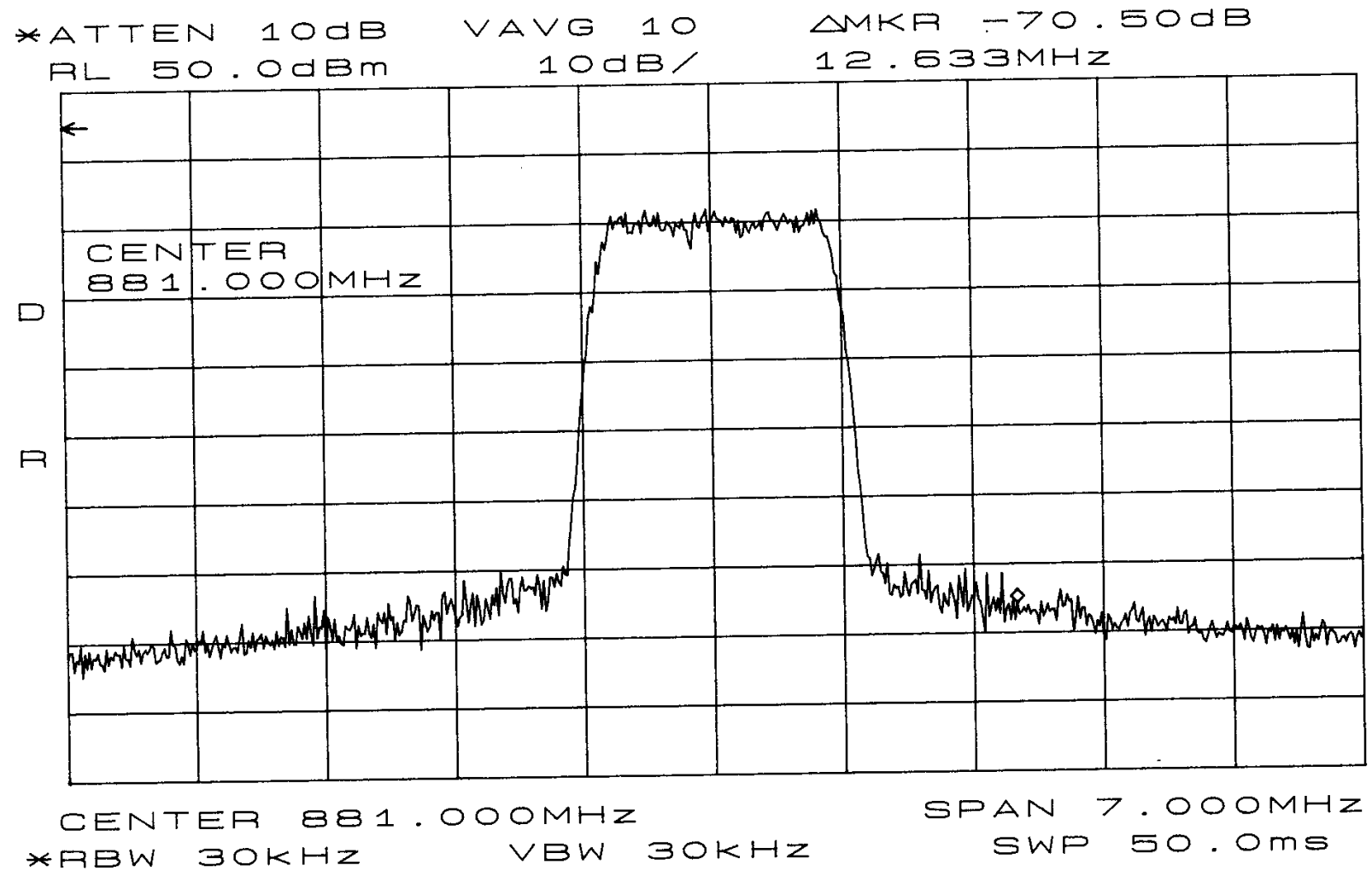
98-0737 Enc 8 Pg 6

REMARKS COMA (Input SIGNAL TO AMPLIFIER)

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

JOB NUMBER 400208-00-000

GRAPH NUMBER 20



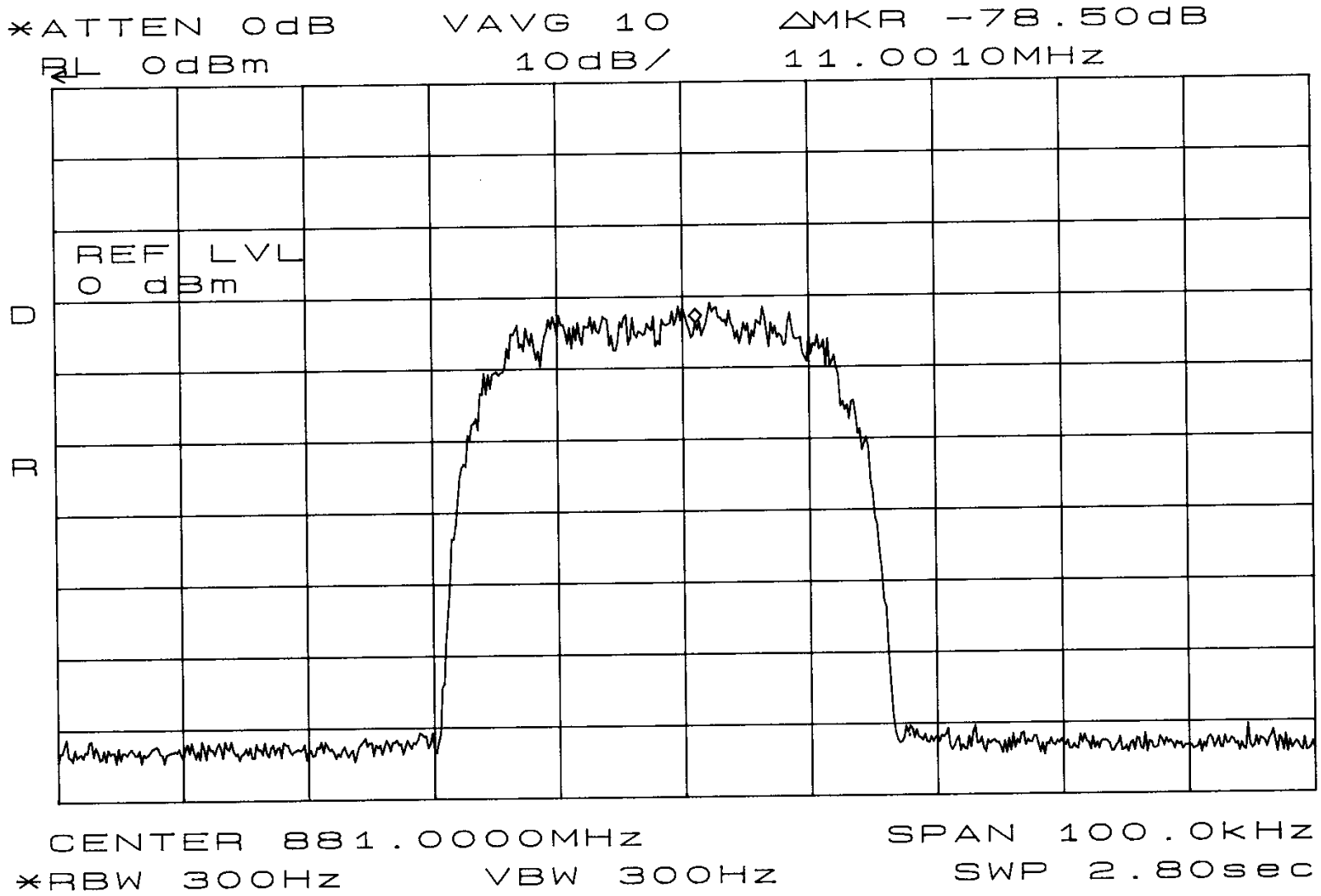
98-0737 Enc 8 Pg 7

REMARKS COMA (Output of AMPLIFIER)

TEST TECHNICIAN

TEST ENGINEER

JOB NUMBER 400208-00-000 GRAPH NUMBER 21



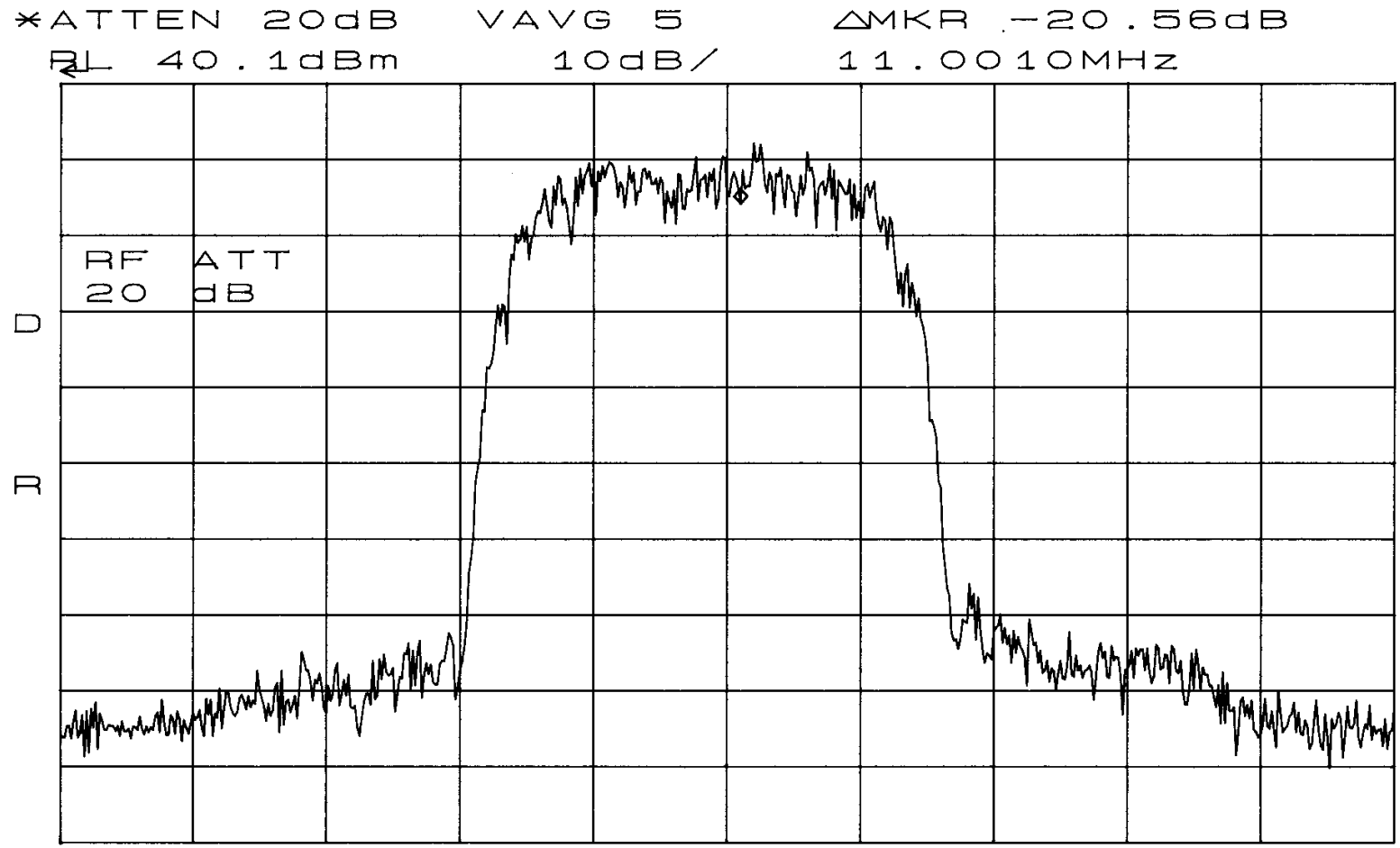
REMARKS TDMA (Input SIGNAL TO AMPLIFIER)

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

98-0737 Enc 8 Pg 8

JOB NUMBER 400208-00-000

GRAPH NUMBER 22



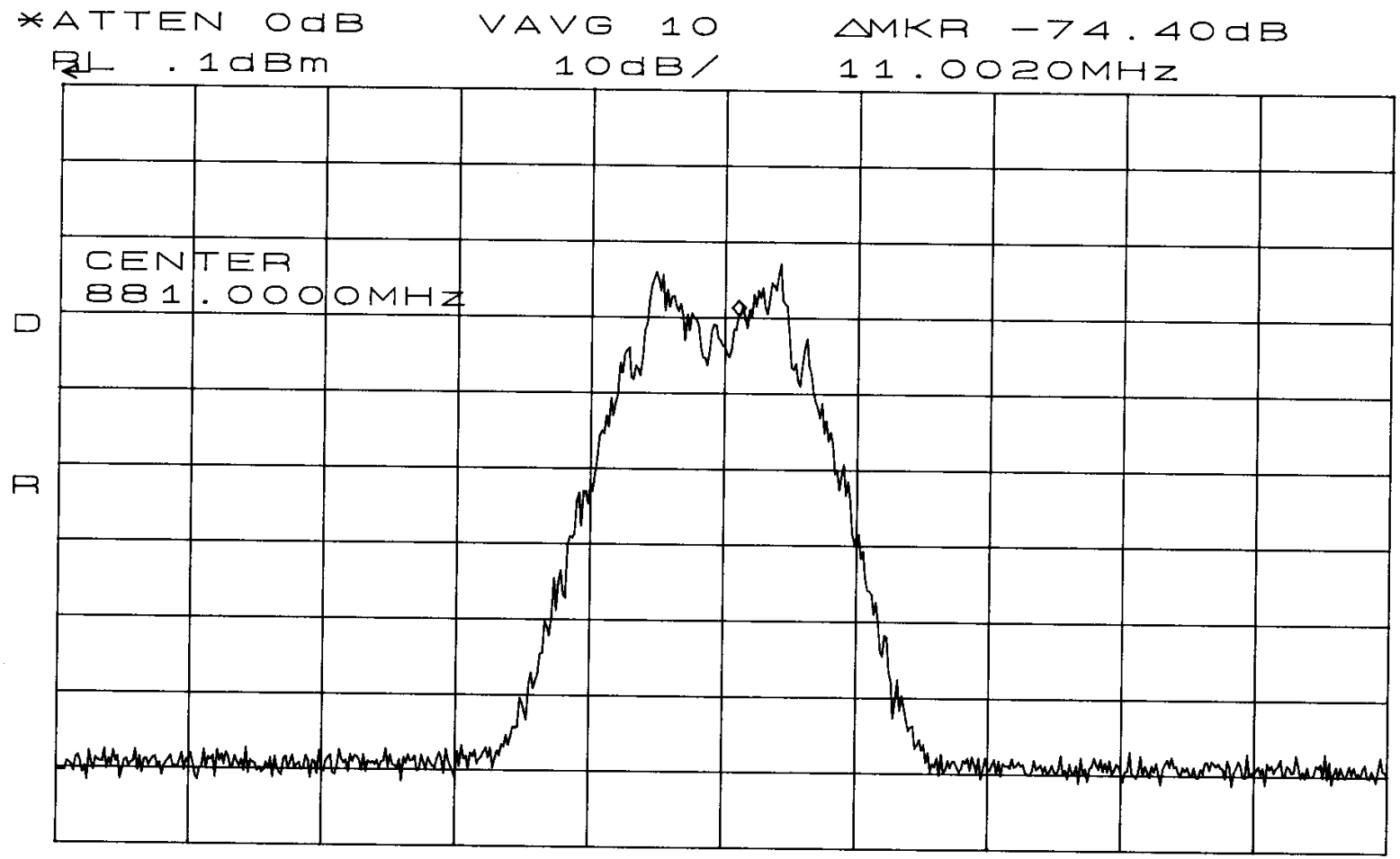
REMARKS TOMA (Output OF AMPLIFIER)

TEST TECHNICIAN

TEST ENGINEER

98-0737 Enc 8 Pg 9

JOB NUMBER 400208-00-000 GRAPH NUMBER 23

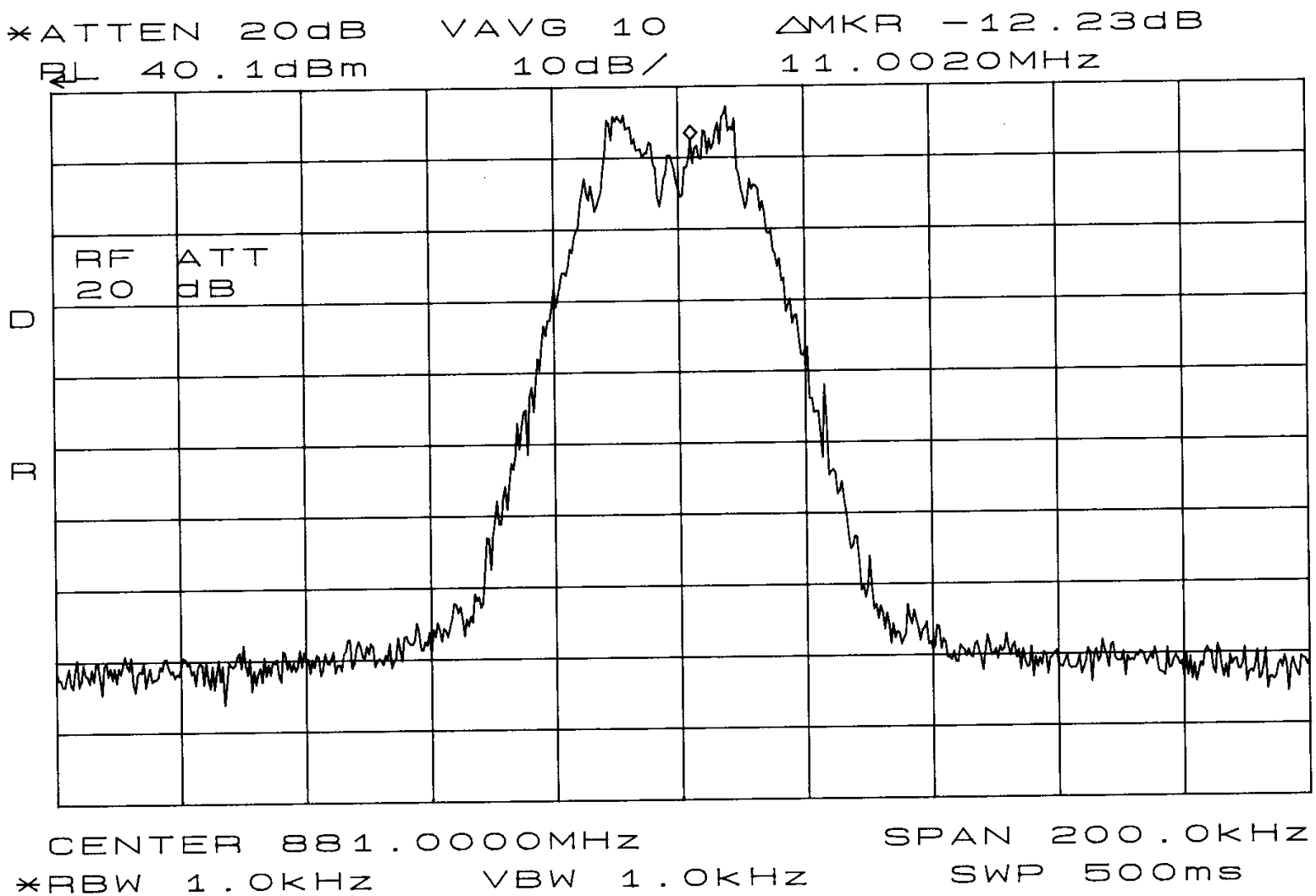


REMARKS 2FSK (Input SIGNAL TO AMPLIFIER)

TEST TECHNICIAN [signature] TEST ENGINEER [signature]

98-0737 Enc 8 Pg 10

JOB NUMBER 400208-0-000 GRAPH NUMBER 24



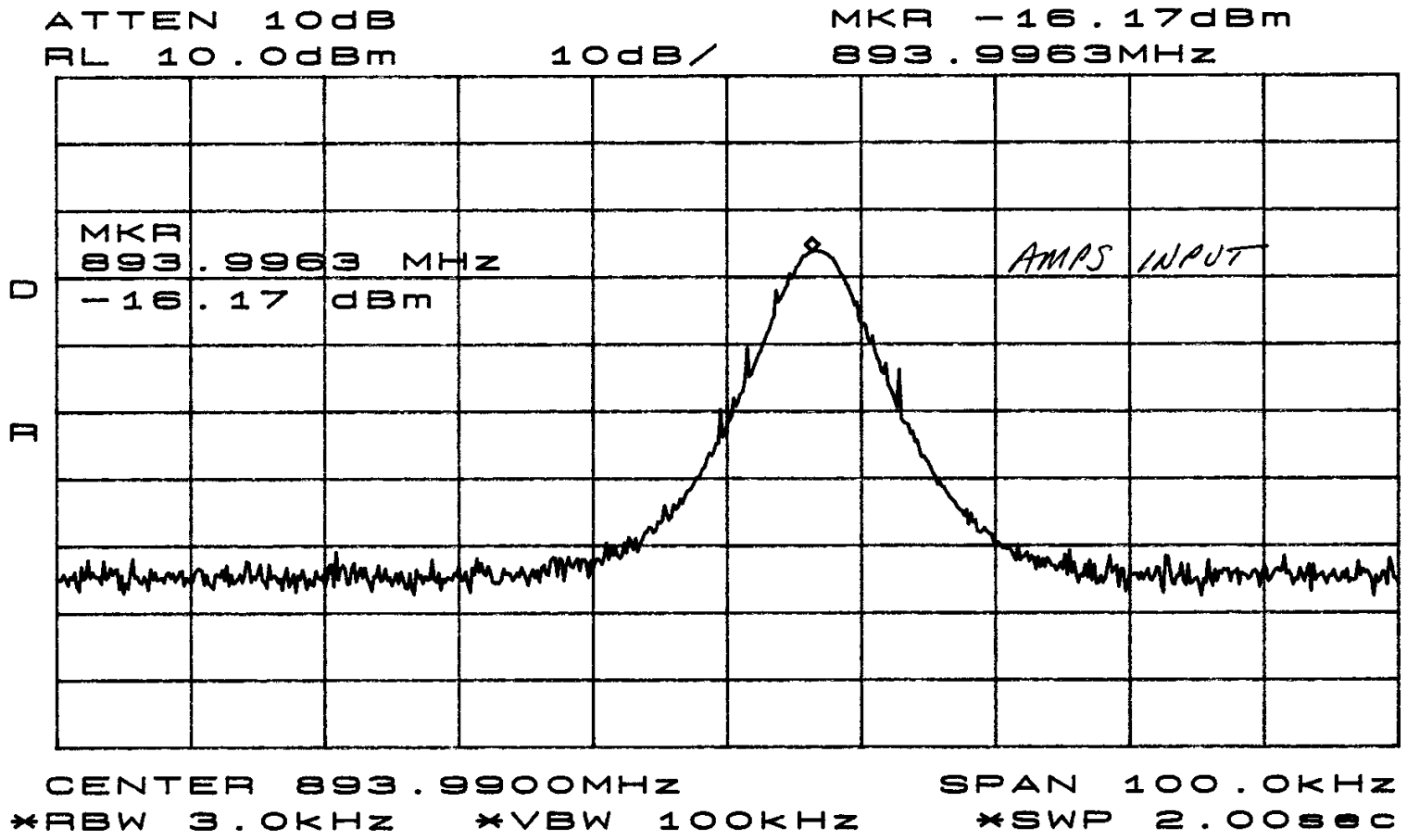
REMARKS 2F5K (Output of Amplifier)

TEST TECHNICIAN _____ TEST ENGINEER _____

98-0737 Enc 8 Pg 11

JOB NUMBER 400208-00-000

GRAPH NUMBER 25



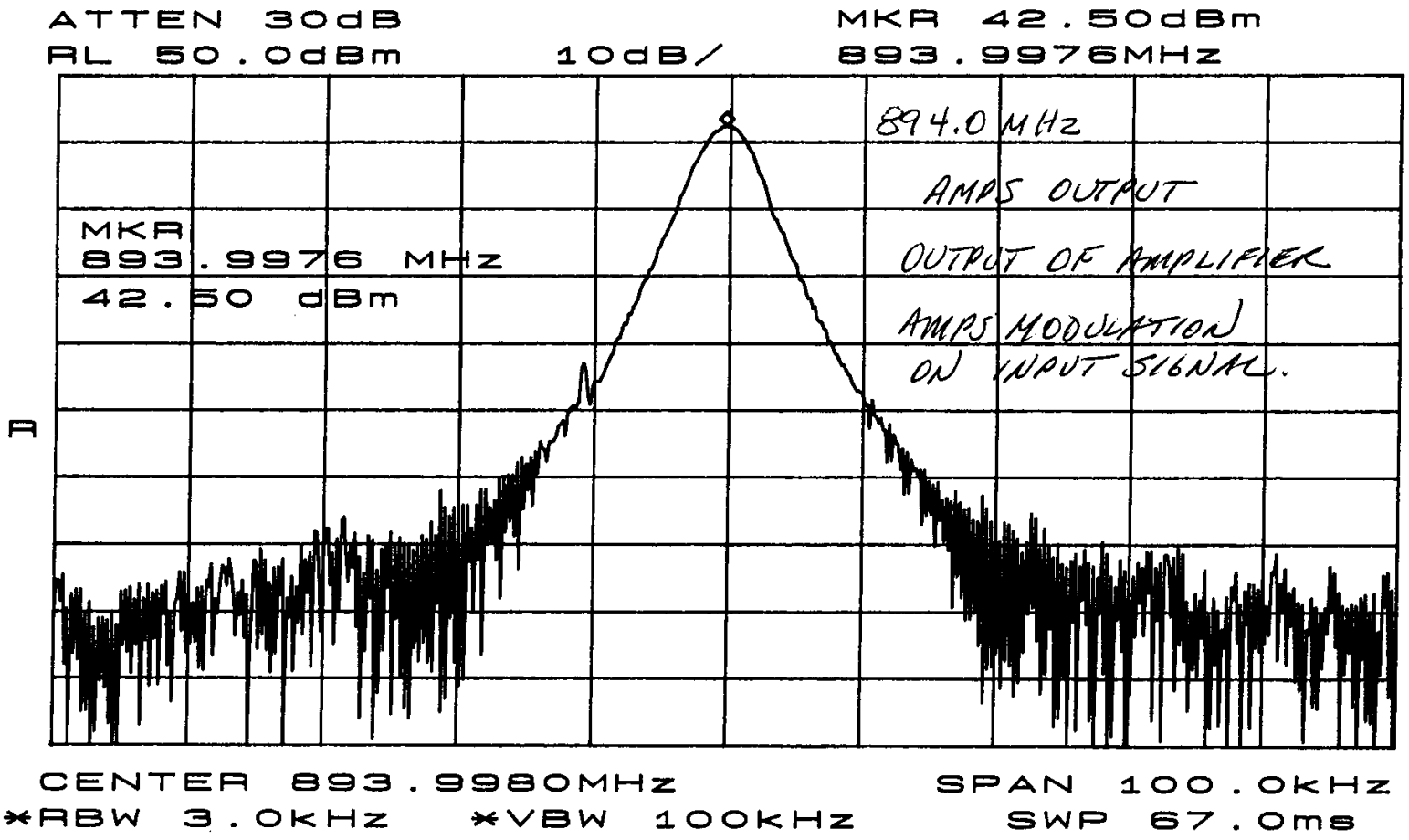
REMARKS AMPS MODULATION INPUT SIGNAL TO AMPLIFIER

TEST TECHNICIAN S Butler

TEST ENGINEER J

98-0737 Enc 8 Pg 12

JOB NUMBER 460208-00-000 GRAPH NUMBER 26



98-0737 Enc 8 Pg 13

REMARKS THREE SIGNAL INTERMODULATION DISTORTION MEASUREMENT
ONE SIGNAL AT HIGH FREQUENCY END OF AMPLIFIER BANDPASS

TEST TECHNICIAN J Butler TEST ENGINEER J Lin

Enclosure 9

Results of IEEE C95.1-1991 Measurement

DAYTON T. BROWN INC.®
Founded 1950

IEEE C95.1 1-1991 MEASUREMENT

Test Procedure

With an 881 MHz signal applied to the amplifier, a radiated emission measurement was performed at a distance of 1 meter to determine if electromagnetic radiation from its enclosure and cabling exceed a safe maximum level of 63 V/m.

Test Results

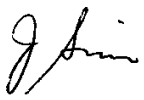
Maximum electromagnetic radiation measured 0.025 V/m at a distance of 1 meter.

MPD
DBO 54500-5 (S/# 7879) 60 Watt Power Amp
26-Aug-98

Radiated Emissions at 881 MHz

Unit Location	Vertical Measured dBuV	Vertical Plus A/F	Horizontal Measured dBuV	Horizontal Plus A/F
Front	57.00	82.00	60.67	85.67
Rear	63.00	88.00	61.30	86.30
Top	54.50	79.50	57.10	82.10
Bottom	46.00	71.00	51.70	76.70
Left	56.33	81.33	56.33	81.33
Right	59.50	84.50	58.30	83.30

27-41 Used for 881 measurement (factor = 25 dB).



Enclosure 10

Physical Inspection Forms

DAYTON T. BROWN INC.
Founded 1950

PHYSICAL INSPECTION FORM

JOB NUMBER 400208-00-000 DATE 08-25-98

CUSTOMER: MPD ENGINEER J. SMIRK

TEST FCC TYPE ACCEPTANCE SPECIFICATION FCC R&R

ITEM FFPA8689-60 AMPLIFIER SERIAL NO. 7879

A PRE TEST INSPECTION REVEALED :

[√] NO ANOMALIES

[ ] NO ANOMALIES DUE TO TESTING

[ ] THE FOLLOWING

Photograph Taken ?? _____ If Yes, Photo Number _____

Technician _____

Engineer _____

DAYTON T. BROWN INC.
Founded 1950

PHYSICAL INSPECTION FORM

JOB NUMBER 400208-00-000 DATE 10-07-98

CUSTOMER: MPD ENGINEER J. SMIRK

TEST FCC TYPE ACCEPTANCE SPECIFICATION FCC R&R

ITEM FFPA8689-60 AMPLIFIER SERIAL NO. 7879

A POST TEST INSPECTION REVEALED :

- [√] NO ANOMALIES
- [ ] NO ANOMALIES DUE TO TESTING
- [ ] THE FOLLOWING

Photograph Taken ?? _____ If Yes, Photo Number _____

Technician _____

Engineer _____

LAB FORM NO. 40 REV 03/94

Enclosure 11

A2LA Scope of Accreditation

American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC GUIDE 25-1990

DAYTON T. BROWN, INC.
Church Street
Bohemia, NY 11716
Charles Gortakowski Phone: 516 589 6300

ACOUSTICS & VIBRATION

Valid To: December 31, 1998 Certificate Number: 0767-01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following acoustics & vibration tests:

Vibration (Sine, Random, Gunfire, Shipboard)

Buzz, Squeak and Rattle

Combined Environments and Reliability (Temperature, Humidity and Vibration)

Pyroshock

Sound Power and Measurements

Airborne and Structureborne Noise Measurement

On the following types of materials and products:
Aircraft Components & Systems; Automotive Components & Systems; Shipboard Components & Systems; Railroad & Industrial Vehicle Components & Systems; Information Technology & Telecommunication Equipment & Systems; Electronic Components & Systems; Medical Electronic Equipment; Military Equipment & Hardware.

Using the following standards:
Military: MIL-STD-810, MIL-STD-167-1, MIL-S-901, MIL-STD-202, MIL-STD-781, MIL-E-16400, MIL-STD-108, MIL-STD-2036, MIL-T-28800, MIL-STD-740-1, MIL-STD-740-2, NAVMAT P-9492
Commercial: RTCA/DO-160
ANSI: S1.2, S1.35
GM: 9103P, 9104P, 9110P, 9125P, 9128P, 9140P, 9144P, 9154P, 9163P, 9175P
FORD: DVT1.12.00.007-AC, ES-F5VB-54043B13-AA
Chrysler: PF-9007, PF-9531, PF-6897, PF-8243, PF-9164
Telephony: Bellcore GR-1089

Roxanne M. Robinson

American Association for Laboratory Accreditation

SUPPLEMENT TO THE SCOPE OF ACCREDITATION TO ISO/IEC GUIDE 25-1990 AND EN 45001

DAYTON T. BROWN, INC.
Church Street
Bohemia, NY 11716
Charles Gortakowski Phone: 516 589 6300

ELECTRICAL (EMC)

Valid as of: November 18, 1997 Certificate Number: 0767-02
Valid until: December 31, 1998

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following electrical tests:

AS/NZS 3548
Code of Federal Regulations (CFR) 47, FCC Method Part 15 using ANSI C63.4
Code of Federal Regulations (CFR) 47, FCC Method Part 68
CISPR 22
EN: 50081-1, 50081-2, 50082-1, 50082-2, 50091-1, 50091-2, 55011, 55013, 55014, 55015, 55022, 60555-2, 60555-3, 60601-1-2, 61000-4-1, 61000-4-2, 61000-4-4, 61000-4-5, 61000-4-7, 61000-4-8, 61000-4-11
ENV: 50140, 50141, 50142, 50204
IEC: 601, 601-1-2, 801-1 (1000-4-1), 801-2 (1000-4-2), 801-3 (1000-4-3), 801-4 (1000-4-4), 801-5 (1000-4-5) 801-6 (1000-4-6), 1000-4-7, 1000-4-8, 1000-4-11, 1000-3-2, 1000-3-3
Commercial Aviation: RTCA/DO-160, FAA Advisory Circular 20-136, Boeing D200Z001, Boeing WZZ7300
Military: MIL-STD-461 (A,B,C,&D), MIL-STD-462, MIL-STD-1399, MIL-STD-704, MIL-E-16400, MIL-STD-2036, MIL-STD-1275A(AT), MIL-STD-202
GM: 9100P, 9105P, 9109P, 9110P, 9112P, 9113P, 9114P, 9115P, 9116P, 9117P, 9119P, 9120P, 9103P, 9104P, 9125P, 9128P, 9140P, 9144P, 9154P, 9163P, 9175P
Chrysler PF9164
Telephony Bellcore GR-1089
ANSI/IEEE: IEEE-587-1980, IEEE-C62.41, IEEE-C62.32
TEMPEST: NST ISSAM Tempest/1-92, NACSEM 5100, NACSIM 5100A, NACSEM 5112, KAG-30A/TSEC
VCCI

Peter Mongan

American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC GUIDE 25-1990 AND EN 45001

DAYTON T. BROWN, INC.
Church Street
Bohemia, NY 11716
Charles Gortakowski Phone: 516 589 6300

ELECTRICAL (EMC)

Valid To: December 31, 1998 Certificate Number: 0767-02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following electrical tests:

Capacitance	Impedance
AC Capacitance	Inductance
AC Loss Characteristics	Lightning
Permittivity	Magnetism
(Dielectric Loss Constant)	Power Transmission
Conductivity	Resistivity
Current (AC/DC)	AC/DC
Electrostatic (ESD)	Insulation Resistance
EMP	Voltage (AC/DC)
EMI/RFI	
Conducted Emissions	Lightning
Conducted Transient Susceptibility	Input Power Variations
Conducted Susceptibility (Immunity)	Magnetic Field Emission
Radiated Emissions (O.A.T.S. Method)	Magnetic Field Susceptibility
Radiated Emissions	Harmonics
Shielded Room Method	RF Power Handling
Radiated Susceptibility (Immunity)	Shielding Effectiveness
Radiated Transient Susceptibility	Stirred Mode
Electrostatic Discharge (ESD)	Transmissibility
Electromagnetic Pulse (EMP)	Site Survey
Electrical Fast Transient (EFT)	TEMPEST

On the following types of materials and products:
Aerospace Components & Systems; Automotive Components & Systems; Shipboard Components & Systems; Railroad & Industrial Vehicle Components & Systems; Information Technology & Telecommunication Equipment & Systems; Electrical & Electronic Components & Systems; Medical Electronic Equipment; Military Equipment & Hardware.

Using the following sources of standards:
ANSI, AS/NZS, CFR, CISPR, EN, ENV, FCC, IEC, Commercial Aviation, Military, GM, Chrysler, Telephony, ANSI/IEEE, TEMPEST, VCCI

A supplemental scope, identifying the full range of tests and types of tests, is available from A2LA or the laboratory.

Peter Mongan

American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC GUIDE 25-1990

DAYTON T. BROWN, INC.
Church Street
Bohemia, NY 11716
Charles Gortakowski Phone: 516 589 6300

MECHANICAL

Valid To: December 31, 1998 Certificate Number: 0767-03

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following mechanical tests:

Compression	Stress	Fracture
Fatigue	Metallography	Torsion
Shear	Hardness	

Tensile (Room, High & Low Temperatures)
NDT (Dye Penetrant & Magnetic Particle)

Environmental Simulation		
Acceleration	Altitude	Fungus
Explosion	Dust	Sun/Solar Radiation
Temperature/Altitude	Wind & Rain	Combined Environments
Salt Fog/Salt Spray	Humidity	Water Immersion
Temperature/Shock	Drop/Impact	Sand

Durability (Horn Life Actuation/Horn Blow Mechanism)
High/Low Temperature/Humidity/Vibration
High Pressure Burst (Air & Hydraulic)
Shock (1/2 Sine, Sawtooth, Trapezoid)

On the following types of materials and products:
Aerospace Components & Systems; Automotive Components & Systems; Shipboard Components & Systems; Railroad & Industrial Components & Systems; Information Technology & Telecommunication Equipment & Systems; Electrical & Electronic Components & Systems; Medical Electronic Equipment; Military Equipment & Hardware; Packaging & Containers; Pipes, Hoses, Fittings, and Valves.

Using the following standards:
Military: MIL-STD-810, MIL-STD-167-1, MIL-S-901, MIL-STD-202, MIL-STD-781, MIL-E-16400, MIL-STD-108, MIL-STD-2036, MIL-T-28800, NAVMAT P-9492, MIL-STD-6866, MIL-T-7743, MIL-STD-410
Commercial: RTCA/DO-160
ASTM: B117, D1141, G23, E18, D2240, B557, E8, E1444
GM: 9110P,9103P, 9104P, 9125P, 9128P, 9140P, 9144P, 9154P, 9163P, 9175P
FORD: DVT1.12.00-007-AC, ES-F5VB-54043B13-AA
Chrysler: PF-9007, PF-9531, PF-6897, PF-8243, PF-9164
Telephony: Bellcore GR-1089

Roxanne M. Robinson