Project Number: 99ME45100 Issue Date: December 14, 1999
File Number: NC3932
Model: FFPA-8689-60
FCC ID: MCD FFPA8689-60

Underwriters Laboratories Inc.
1285 Walt Whitman Road
Melville, New York 11747-3081
(516) 271-6200

Report of Measurements
of Electromagnetic Compatibility Testing

Test Report File No.	:	**NC3932** Date of issue: December 14, 1999
Applicant	:	Microwave Power Devices
Model / Serial No.	:	FFPA-8689-60
Product Type	:	Amplifiers
Power Supply	:	-48Vdc
Manufacturer	:	Same as Applicant
License holder	:	Same as Applicant
Address	:	49 Wireless Blvd.
	:	Hauppauge, NY 11788
Test Result	:	☒ **Positive** ☐ **Negative**
Test Project Number References(s)	:	99ME45100

Underwriters Laboratories Inc. authorizes the above-named company to reproduce this Report provided it is reproduced in its entirety.

Underwriters Laboratories Inc. reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. Underwriters Laboratories Inc. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from Underwriters Laboratories Inc. issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval. This report shall not be used by the client to claim product endorsement by NVLAP or any agency of the US government.

Project Number: 99ME45100 Issue Date: December 14, 1999
File Number: NC3932
Model: FFPA-8689-60
FCC ID: MCD FFPA8689-60

Report Directory

Title	Section
☒ General Product Description	1.0
☒ Device Configuration During Test	1.1
☒Amplifier Input/Output Distortion	2.1.1
☒ Conducted and Radiated Spurious Emissions	2.2.2
☒ Intermodulation Distortion	2.2.3
☒ IEEE C95.1 Full Body Exposure Measurements	2.2.4
☒ Photograhps and Diagrams	

1.0 G E N E R A L - Product Description

The unit under test is a high power cellular amplifier. The unit can be operated as a stand-alone device or installed in a distribution rack that allows for multiple amplifiers to be installed for greater power.

The unit under test has a maximum output power of 60 watts.

1.1 Device Configuration During Test

The unit under test was configured and operated by the manufacturer throughout the tests. The unit was configured to produce a maximum output for all signaling techniques. The following is a list of available signaling techniques:

CW, TDMA, CDMA, 2 FSK, and modulated CW

Project Number: 99ME45100 Issue Date: December 14, 1999
File Number: NC3932
Model: FFPA-8689-60
FCC ID: MCD FFPA8689-60

Comparison of Amplifier Output to Amplifier Input for Distortion

The amplifier was tested as a stand-alone device, was injected with a CW signal at the fundamental frequency. The input was adjusted to produce maximum output power (60W). Prior to injecting the signal into the amplifier, the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

The amplifier was injected with a CW signal modulated with 1-kHz with a deviation of 5kHz at the fundamental frequency. The input was adjusted to produce maximum output power (60W). Prior to injecting the signal into the amplifier, the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

The amplifier was injected with a CDMA signal at the fundamental frequency. The input was adjusted to produce maximum output power (60W). Prior to injecting the signal into the amplifier, the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

The amplifier was injected with a TDMA signal at the fundamental frequency. The input was adjusted to produce maximum output power (60W). Prior to injecting the signal into the amplifier, the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

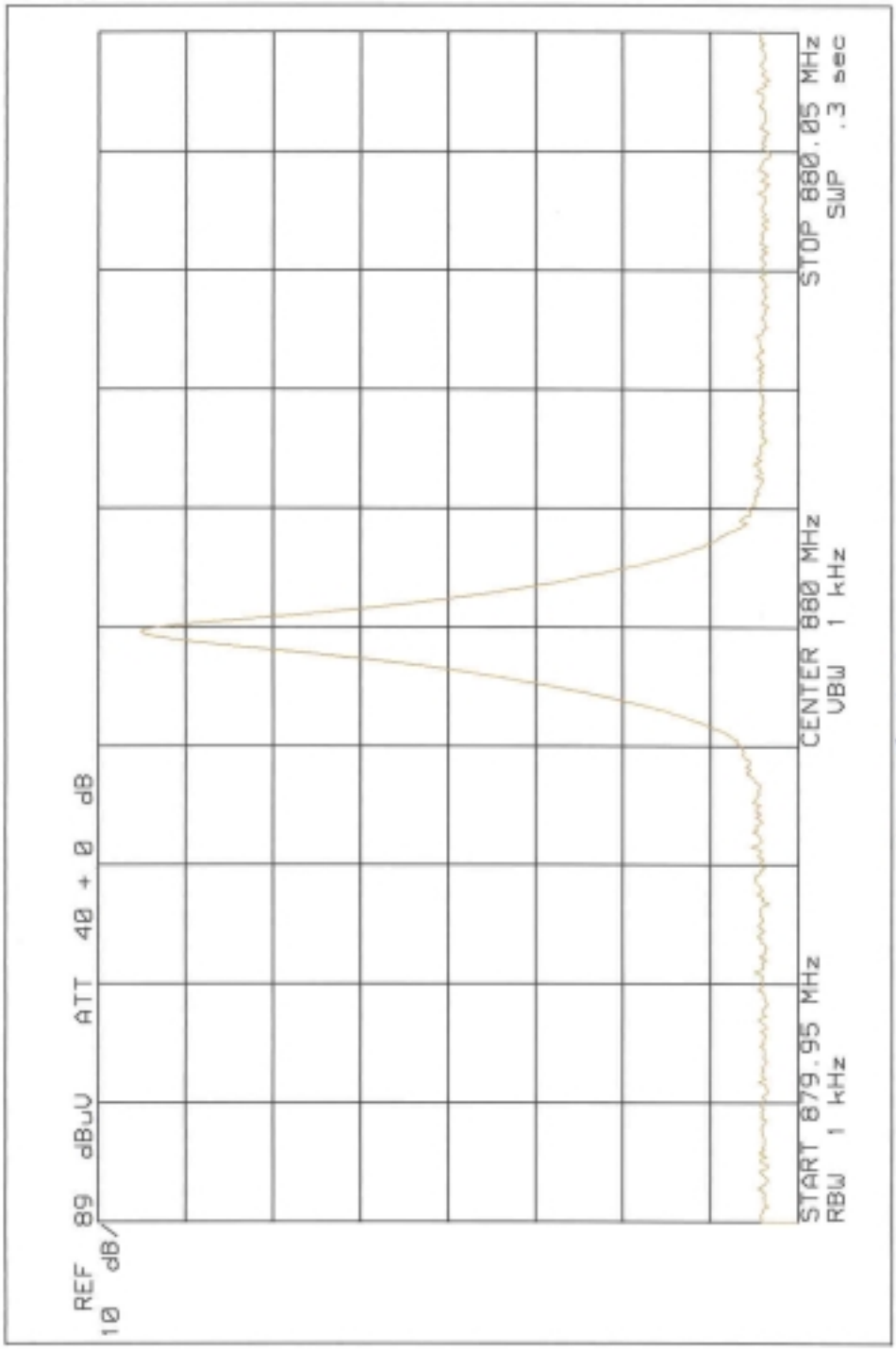
The amplifier was injected with a AMPS signal at the fundamental frequency. The input was adjusted to produce maximum output power (60W). Prior to injecting the signal into the amplifier, the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

The amplifier was injected with a 2FSK signal at the fundamental frequency. The input was adjusted to produce maximum output power (60W). Prior to injecting the signal into the amplifier, the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

Test Results

No significant distortion was detected using any of the modulation techniques described above.

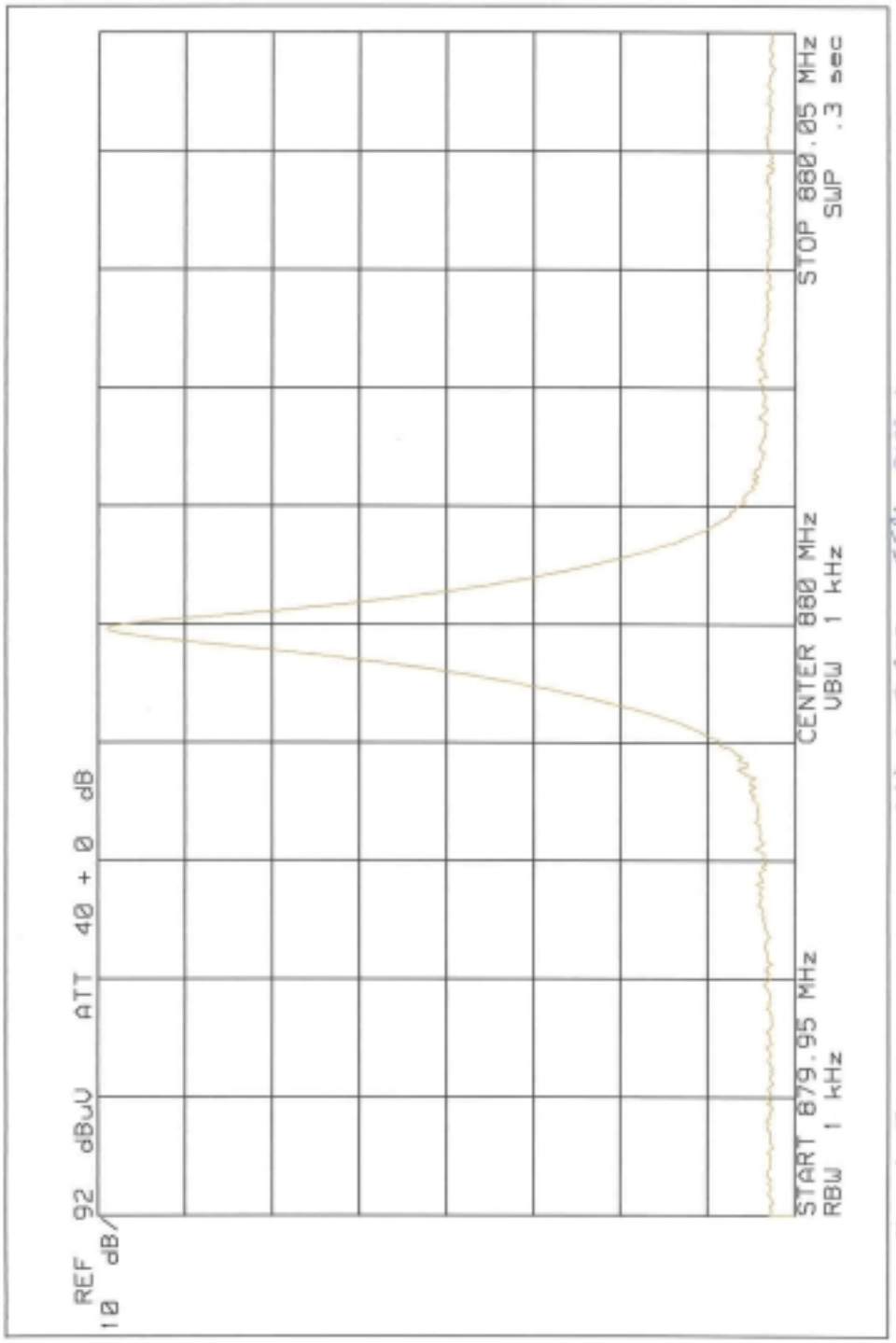
Project Number: 99ME45100 Issue Date: December 14, 1999
File Number: NC3932
Model: FFPA-8689-60
FCC ID: MCD FFPA8689-60



Observations/Comments: CW INPUT

Tested By: 10/28/99

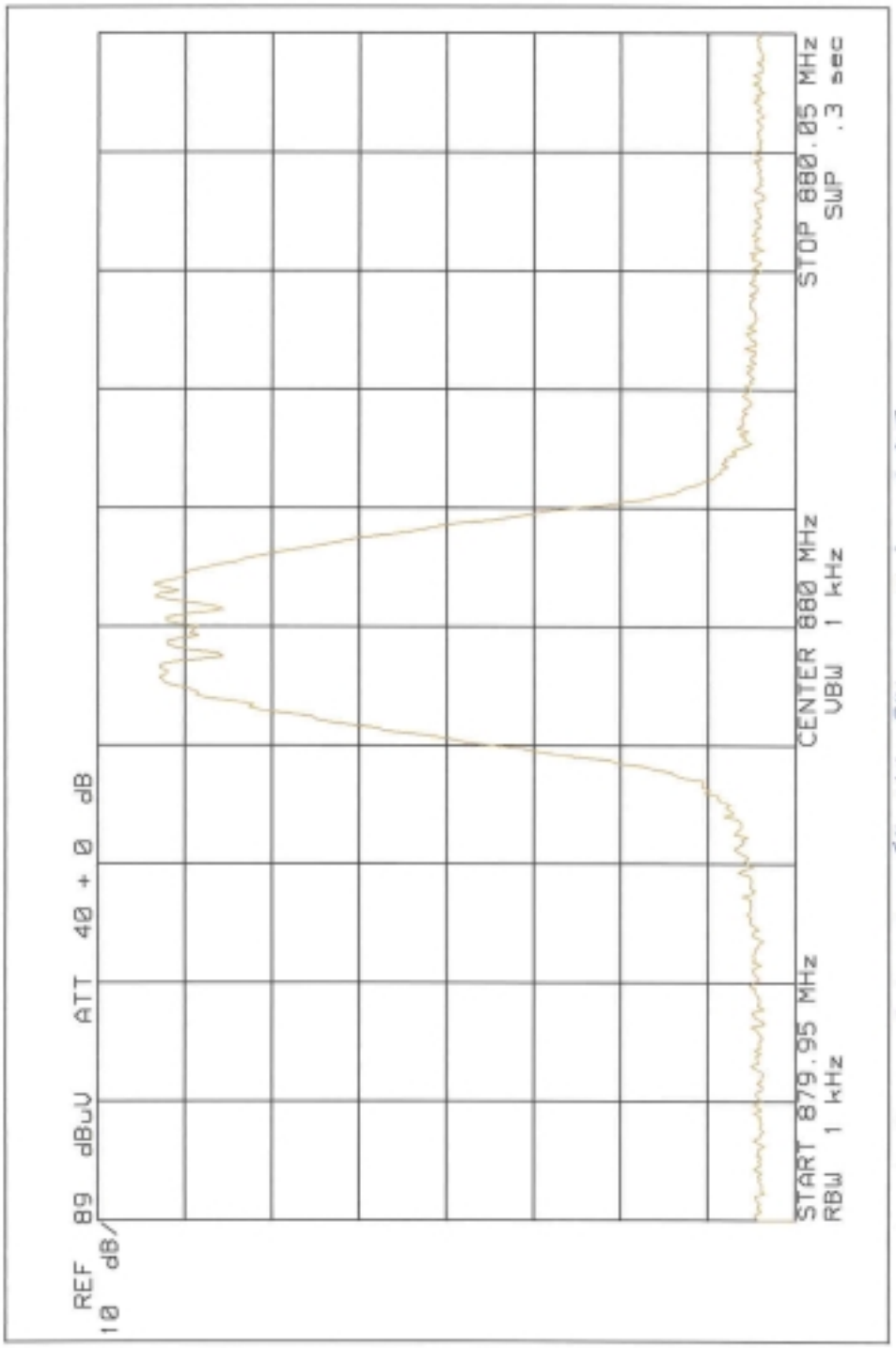
Project Number: 99ME45100 Issue Date: December 14, 1999
File Number: NC3932
Model: FFPA-8689-60
FCC ID: MCD FFPA8689-60



Observations/Comments: CW OUT PUT FFPA 8689-60

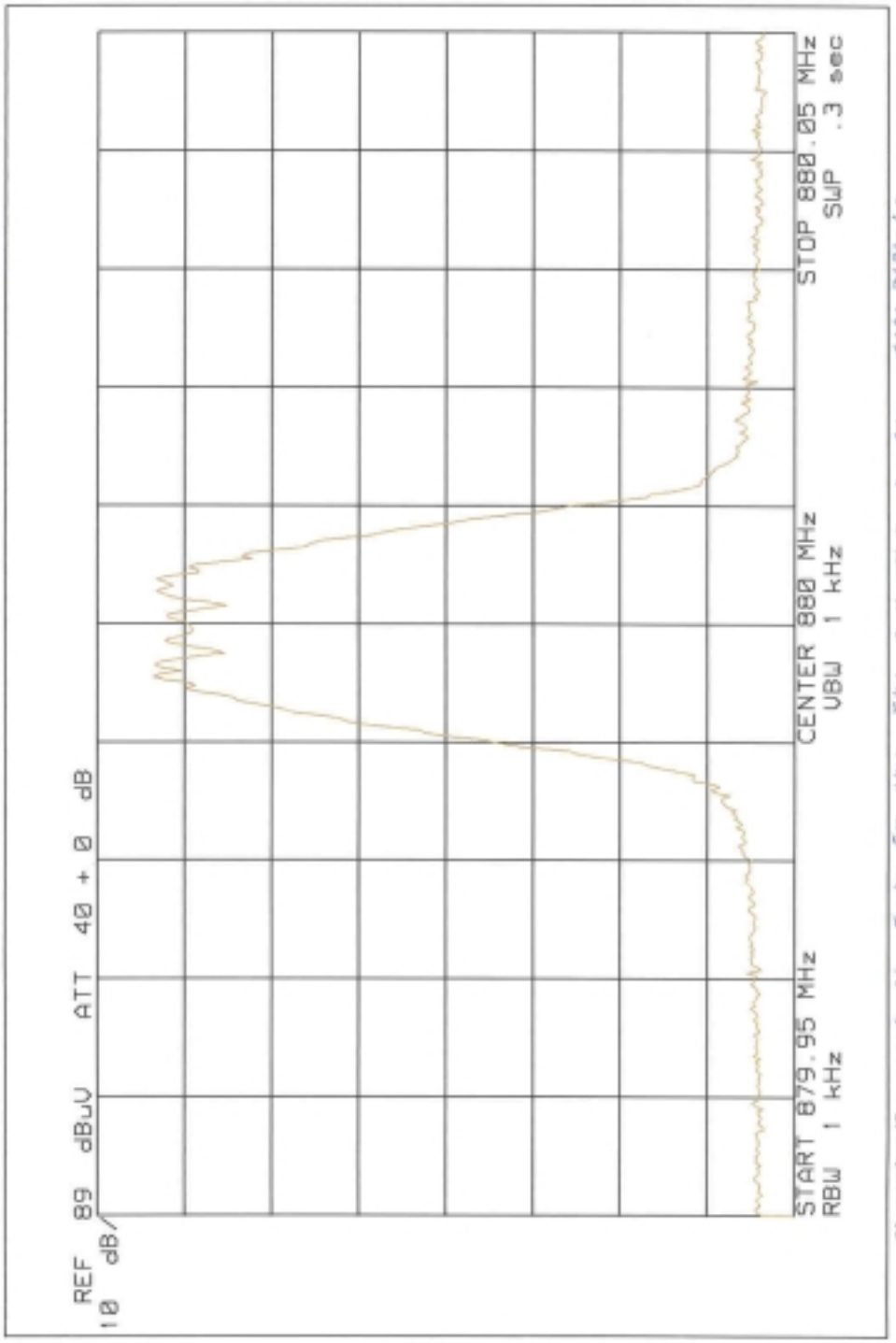
Tested By: 10/28/99

Project Number: 99ME45100 Issue Date: December 14, 1999
File Number: NC3932
Model: FFPA-8689-60
FCC ID: MCD FFPA8689-60



Observations/Comments: Single Tone FM, 1kHz 5kHz Deviation INPUT

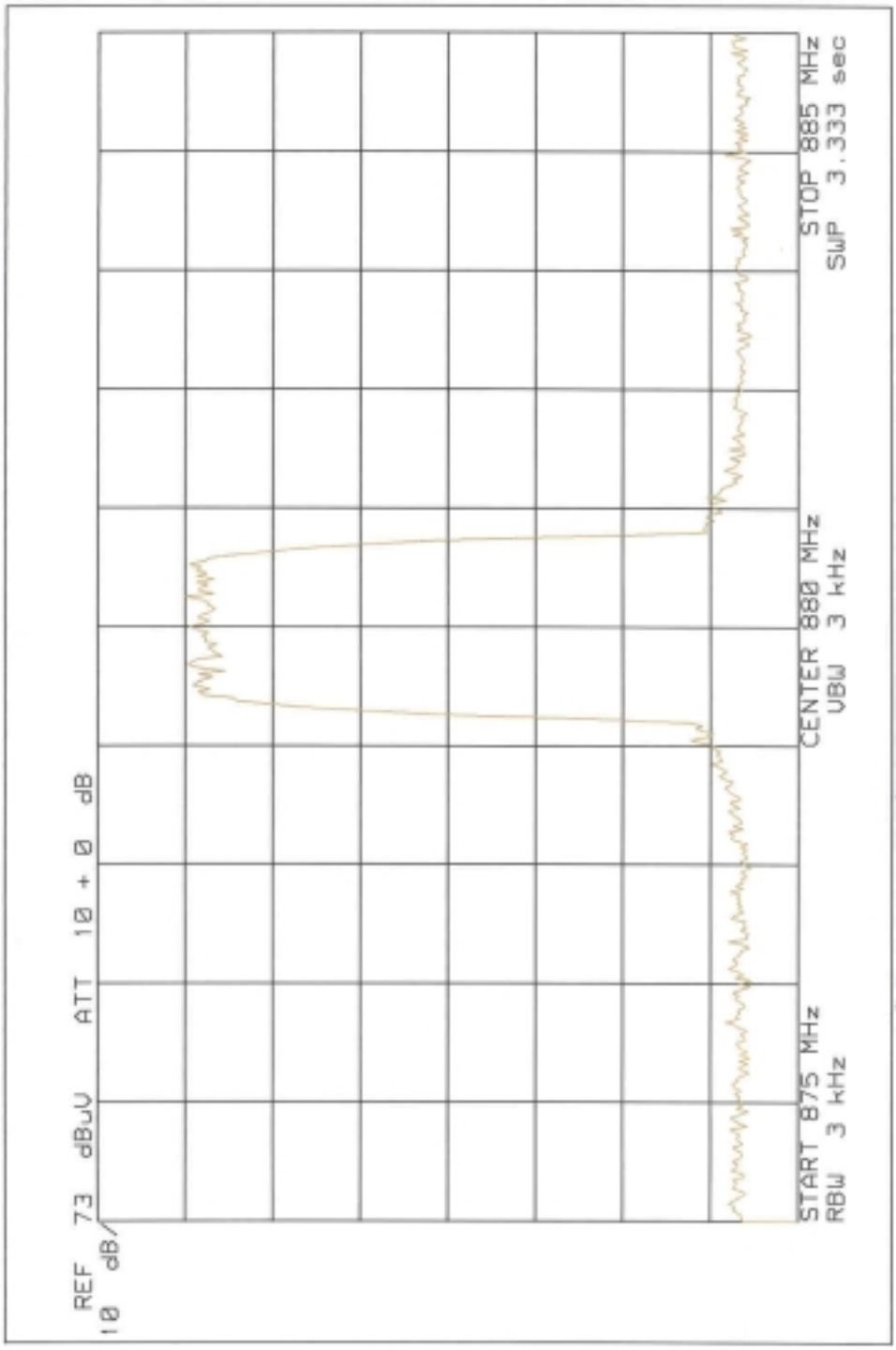
Tested By: 10/28/99



Observations/Comments: Single Tone FM, 1kHz 5kHz Deviation Output FFPA 8689-60

Tested By: [signature] 12/28/99

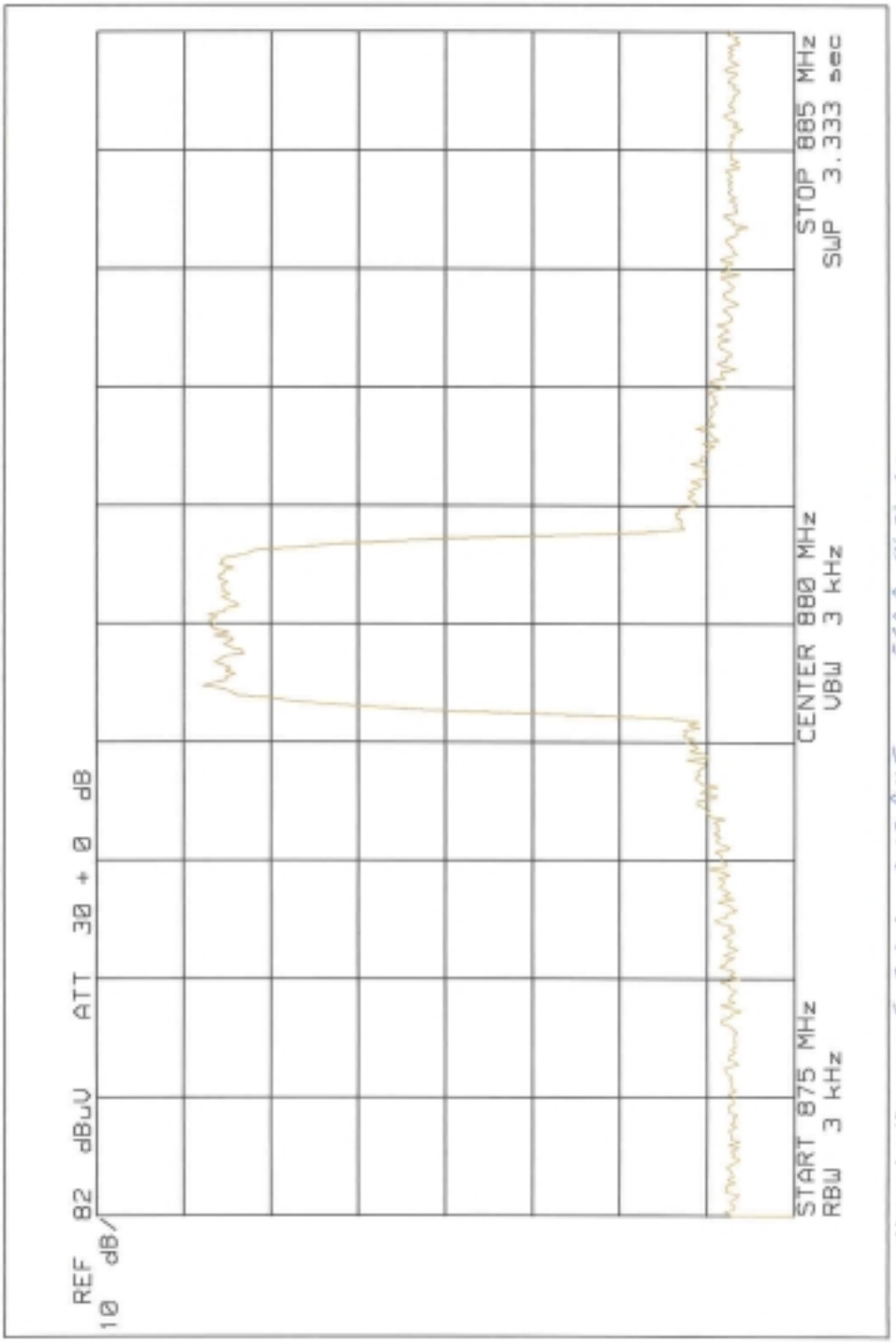
Project Number: 99ME45100 Issue Date: December 14, 1999
File Number: NC3932
Model: FFPA-8689-60
FCC ID: MCD FFPA8689-60



Observations/Comments: CDMA INPUT

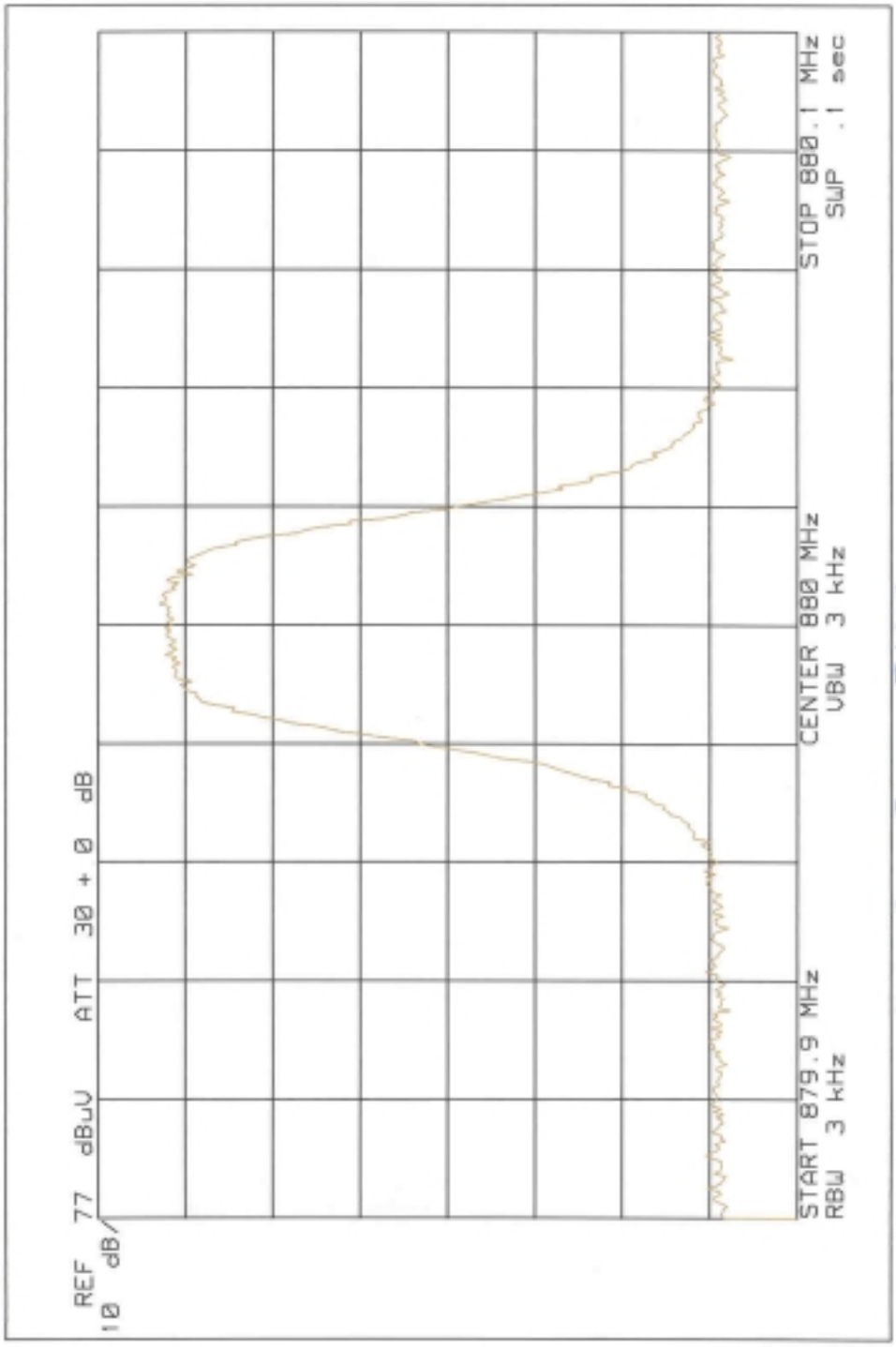
Tested By: [illegible] 12/23/99

Project Number: 99ME45100 Issue Date: December 14, 1999
File Number: NC3932
Model: FFPA-8689-60
FCC ID: MCD FFPA8689-60



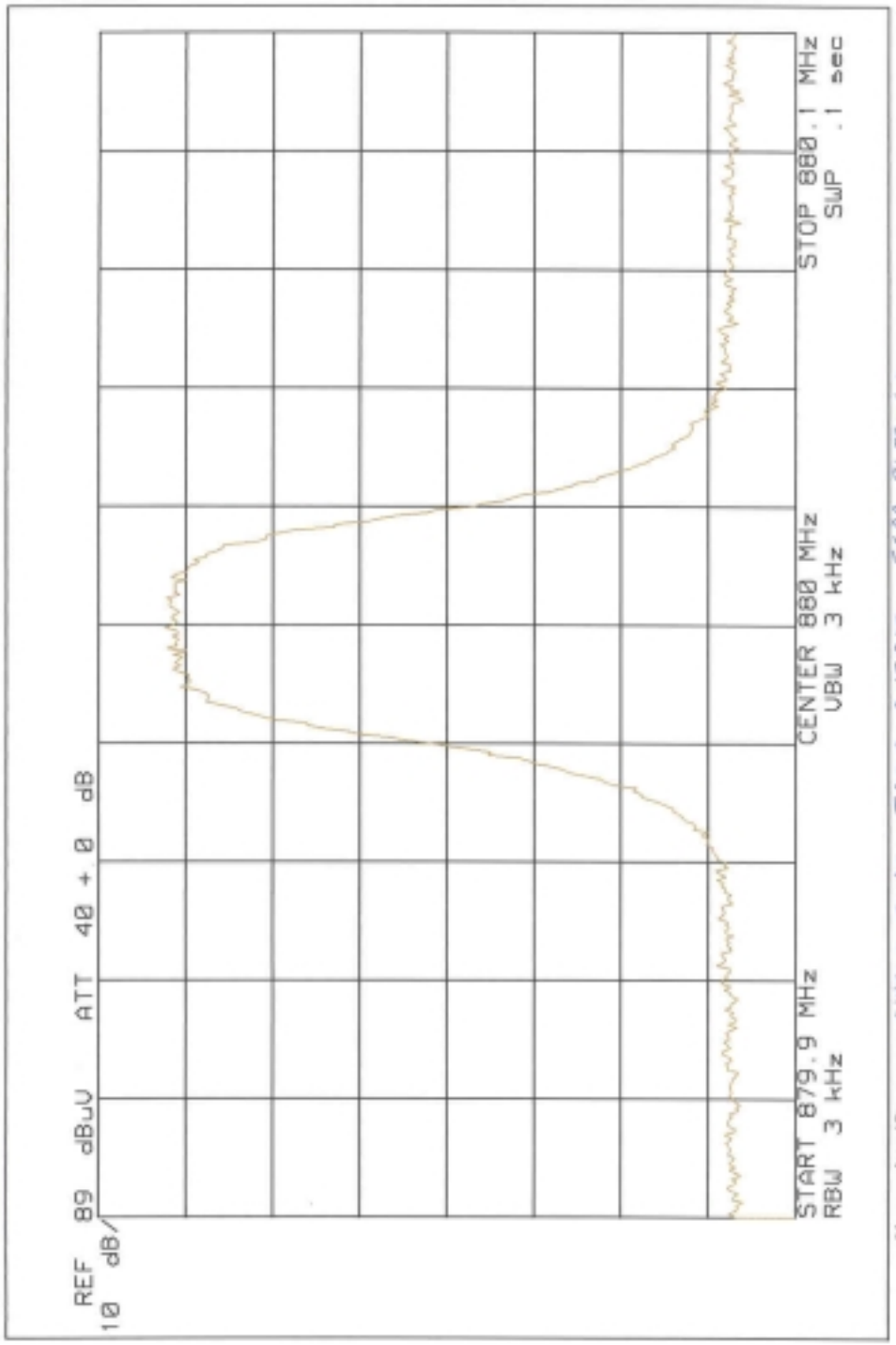
Observations/Comments: C D MA OUT PUT FFPA 8689-60

Tested By: 10/28/99



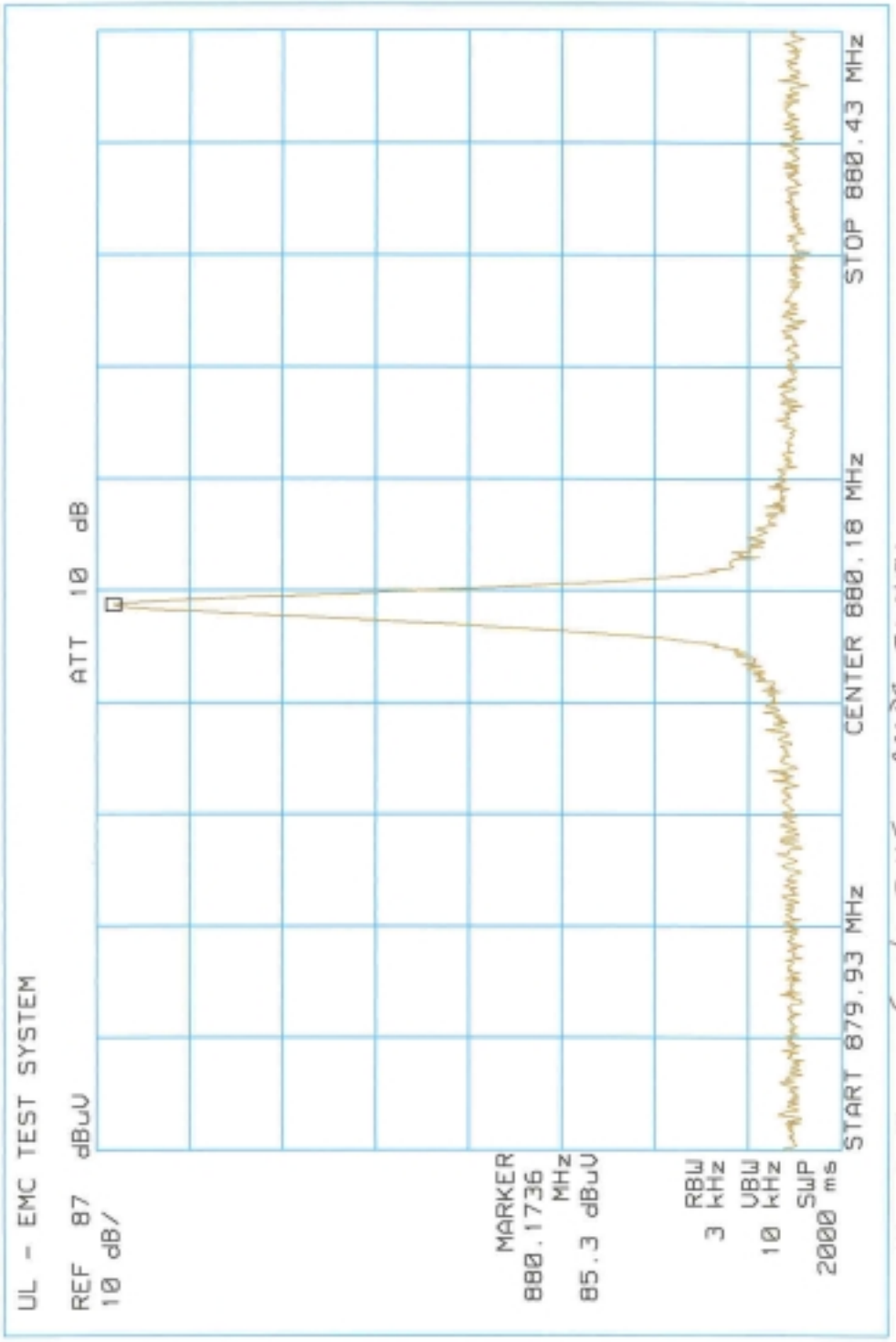
Observations/Comments: Single Tone TDMA Input

Tested By: [signature] 10/28/99



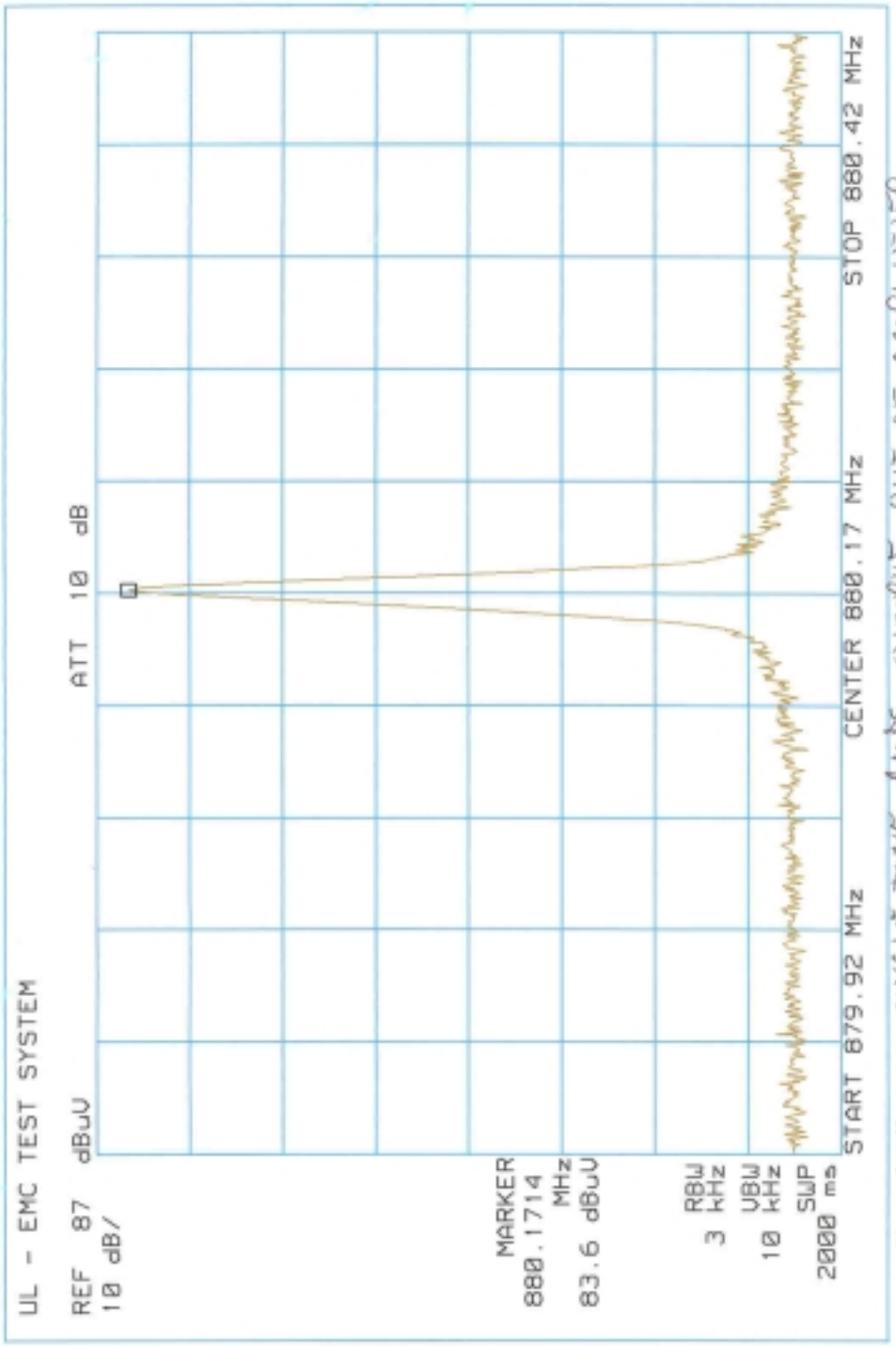
Observations/Comments: SINGLE TONE TDMA OUTPUT FFPA 8689-60

Tested By: 12/28/99



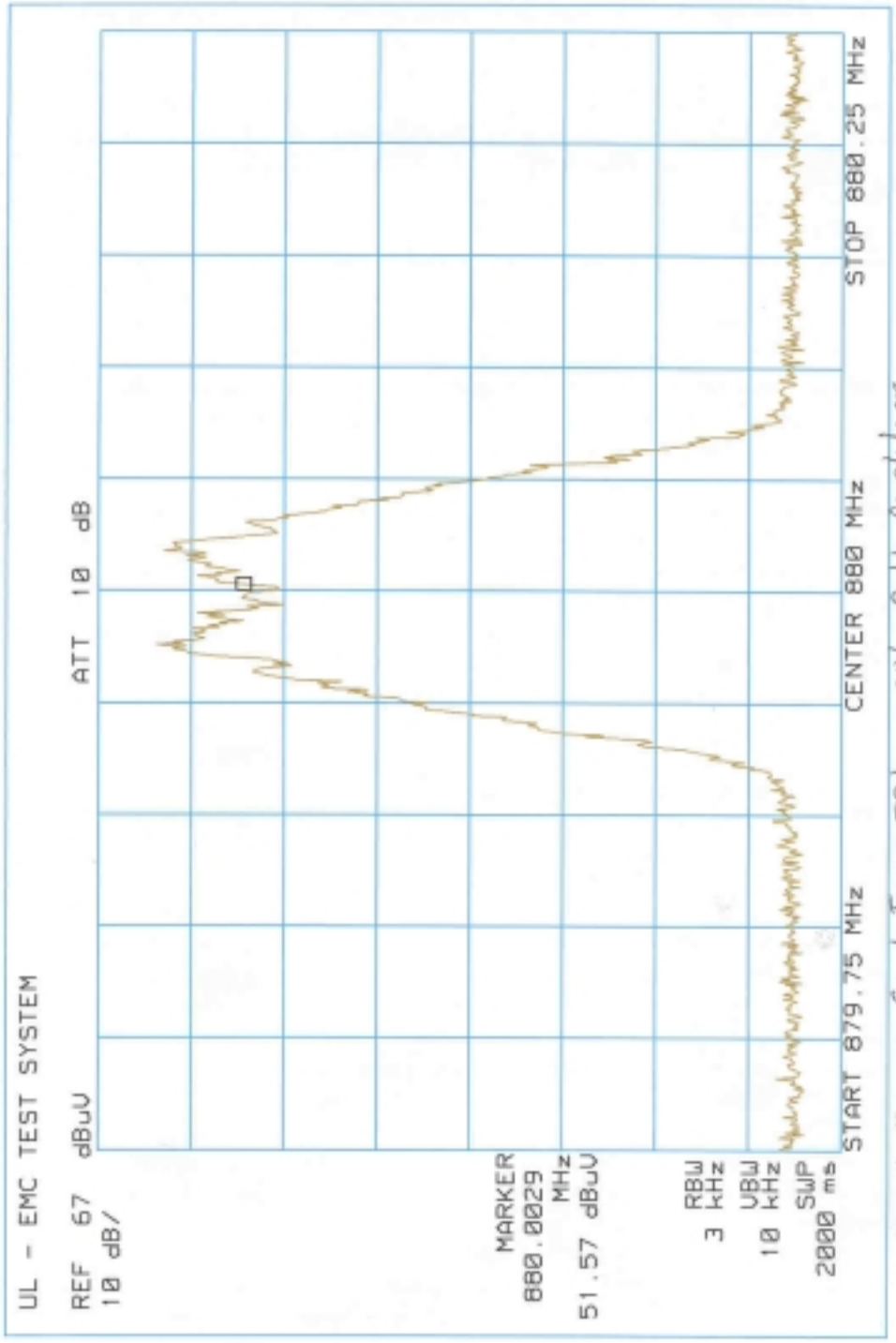
Observations/Comments: Single TONE AMPS INPUT!
FFPA-8869-60 FFPA-8869 -120

Tested By: _____



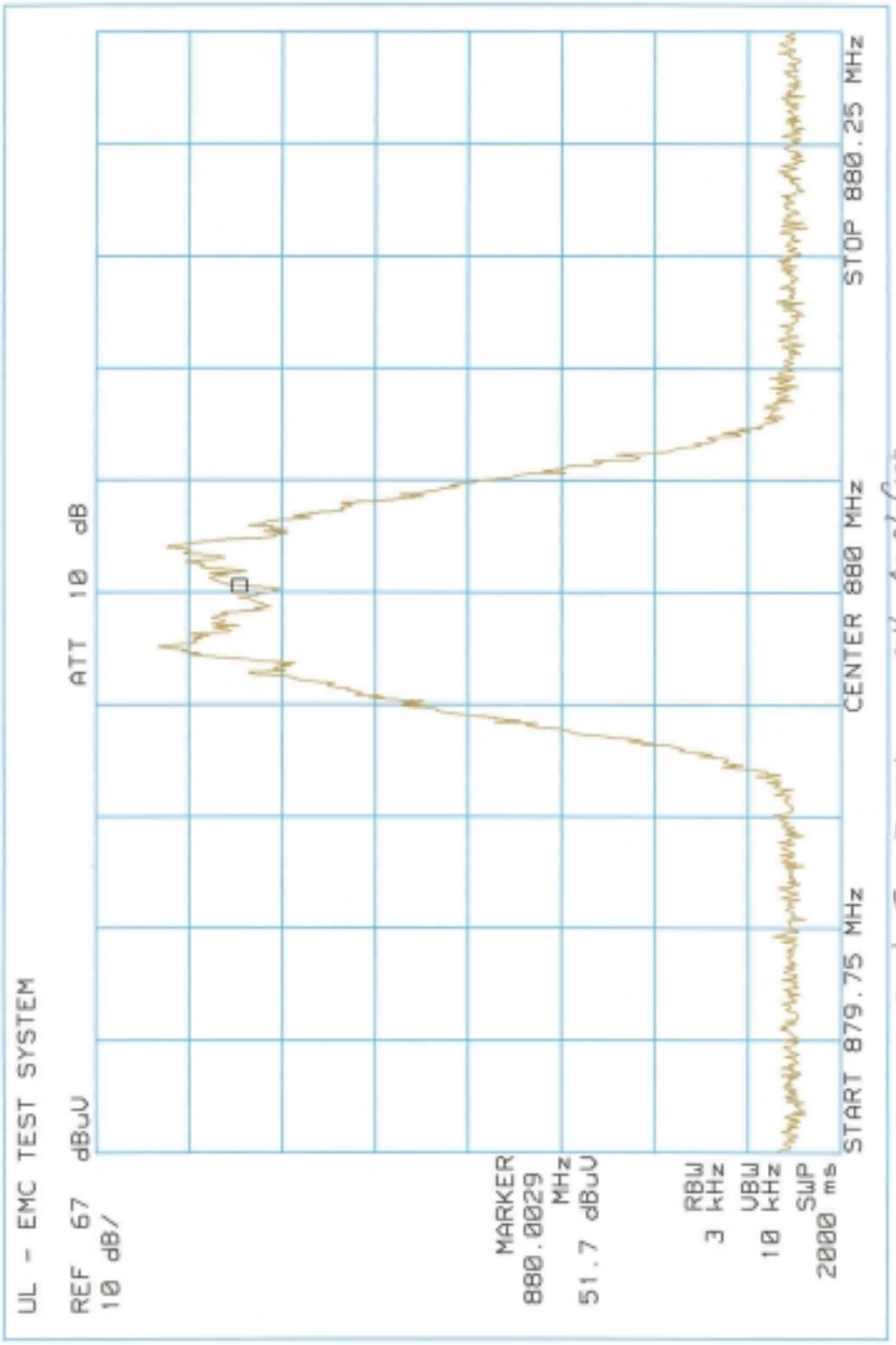
Observations/Comments: SINGLE TONE AMPS OUTPUT OUT OF AMPLIFIER
FFPA-8689-60

Tested By: Bruce Popach 10/4/99



Observations/Comments: Single Tone ZFSK input Both Amplifier
FFPA-8869-60 and FFPA-8869-120

Tested By: 10/4/99



Observations/Comments: Single Tone 2 FSK ~~input~~ Amplifier
FFPA-8869-60 OUTPUT

Tested By: [signature] 10/4/99