

Test Report:	1W03670
Applicant:	Elisra Electronic Systems Ltd. 48 Mivtza Kadesh Street 51203, Bene-Beraq, Isreal
Equipment Under Test: (EUT)	MW-CBDA-ESMR-10W80A Bi-Directional Amplifier
FCC ID:	OIWCBDAESMR10W80
In Accordance With:	FCC Part 22 & 90
Tested By:	Nemko Canada Inc. (Formerly KTL Ottawa Inc.) 3325 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	G. Westwell, Wireless Technologist
Date:	
Total Number of Pages:	26

Table of Contents

Section 1.	Summary of Test Results.....	3
Section 2.	General Equipment Specification	5
Section 3.	RF Power Output	8
Section 4.	Occupied Bandwidth.....	9
Section 5.	Spurious Emissions At Antenna Terminals.....	14
Section 6.	Field Strength of Spurious Emissions	23
Section 7.	Test Equipment List	25
Section 8.	Test Diagrams	26

EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier
FCC ID: OIWCBD AESMR10W80

Section 1. Summary of Test Results

General

All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 22 & 90.



New Submission



Production Unit



Class II Permissive Change



Pre-Production Unit



Equipment Code

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST
SPECIFICATIONS HAVE BEEN MADE.

See "Summary of Test Data".



NVLAP LAB CODE: 100351-0

TESTED BY: _____ DATE: _____
Russell Grant, Wireless Group Manager

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This report applies only to the items tested.

EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier
FCC ID: OIWCBD AESMR10W80

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.1046	Complies
Audio Frequency Response	2.1047	N/A
Audio Low-Pass Filter Response	2.1047	N/A
Modulation Limiting	2.1047	N/A
Occupied Bandwidth	2.1049	Complies
Spurious Emissions at Antenna Terminals	2.1051	Complies
Field Strength of Spurious Emissions	2.1053	Complies
Frequency Stability	2.1055	N/A
Transient Frequency Behavior	——	N/A

Footnotes For N/A's:

use any

This equipment is a bi-directional amplifier and does not
frequency generating or modulation circuits.

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EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier
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Section 2. General Equipment Specification

Manufacturer: Elisra Electronic Systems Ltd.

Model No.: MW-CBDA-ESMR-10W80A

Serial No.: 01041090

Date Received In Laboratory: April 27, 2001

Nemko Identification No.: Item #1

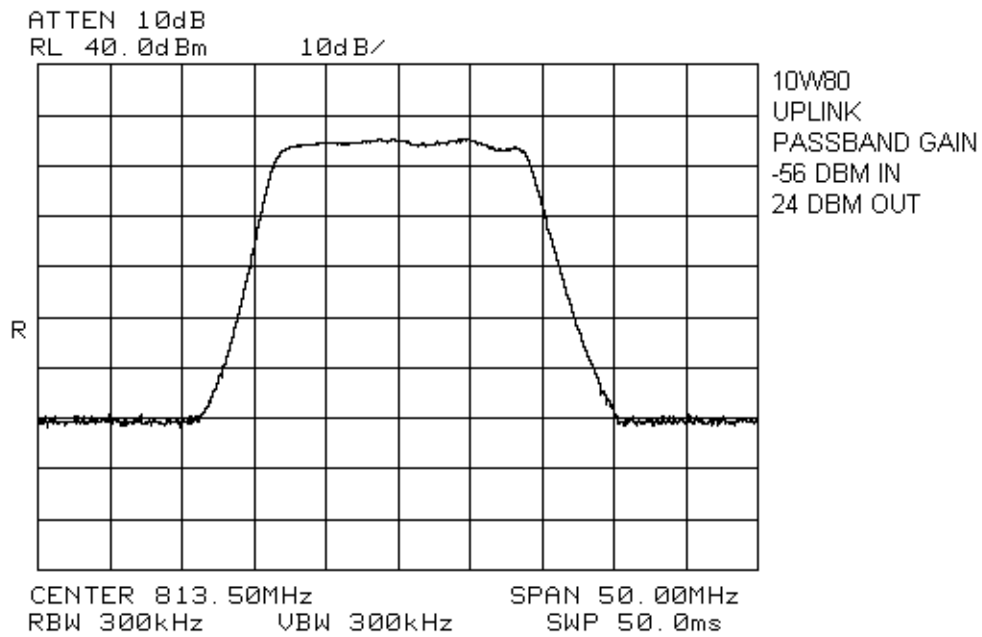
Uplink: 806-821MHz, 24dBm

Downlink: 851-866MHz, 30dBm

Emission: D7W

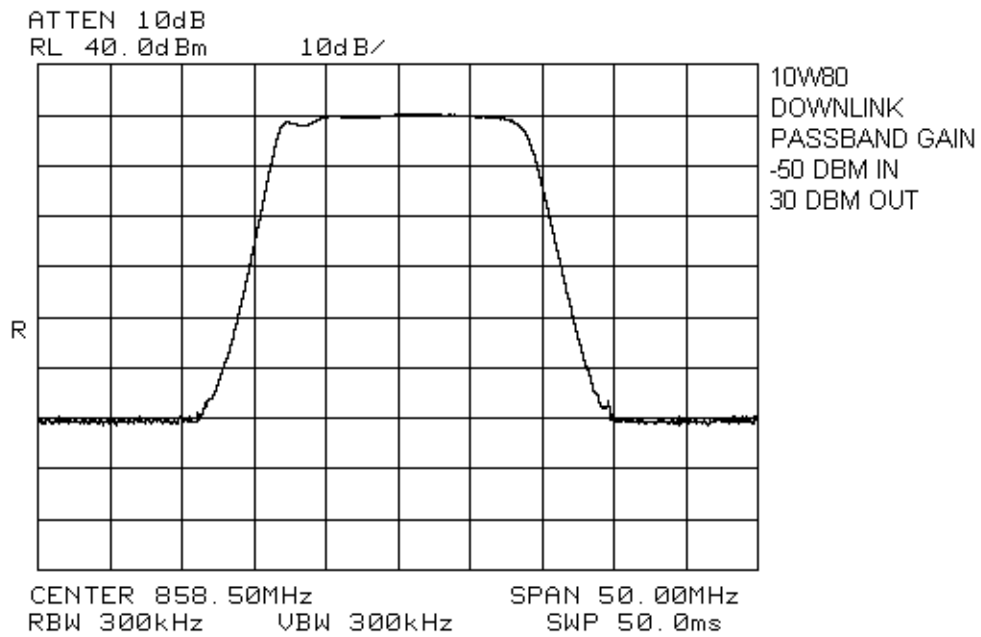
EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier

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Section 3. RF Power Output

Para. No.: 2.1046

Test Performed By: Russell Grant	Date of Test: May 2, 2001
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Minimum Standard: $\pm 1\text{dB}$

Test Results: Complies.

Measurement Data: Uplink: 24dBm
Downlink: 30dBm

The per channel output power is de-rated according to the number of channels.

$$\frac{\text{Rated Output Power}}{N}$$

Where N is the number of channels.

EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier
FCC ID: OIWCBD AESMR10W80

Section 4. Occupied Bandwidth

Para. No.: 2.1049

Test Performed By: Russell Grant	Date of Test: May 2, 2001
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Minimum Standard: N/A

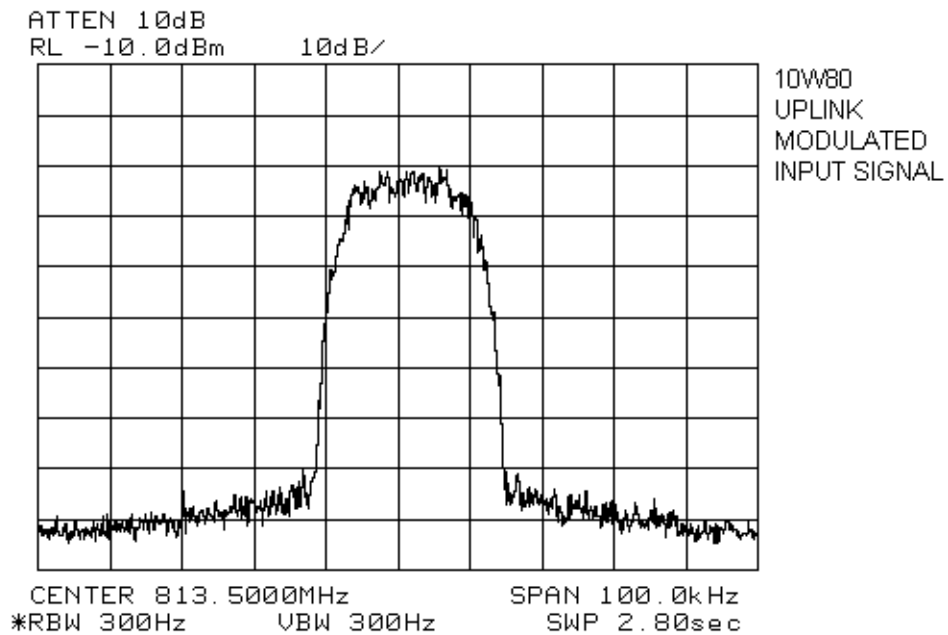
Test Results: Complies.

Measurement Data: See attached graphs.

The modulated input/output signals were compared in order to ensure that there is no degradation in the occupied bandwidth.

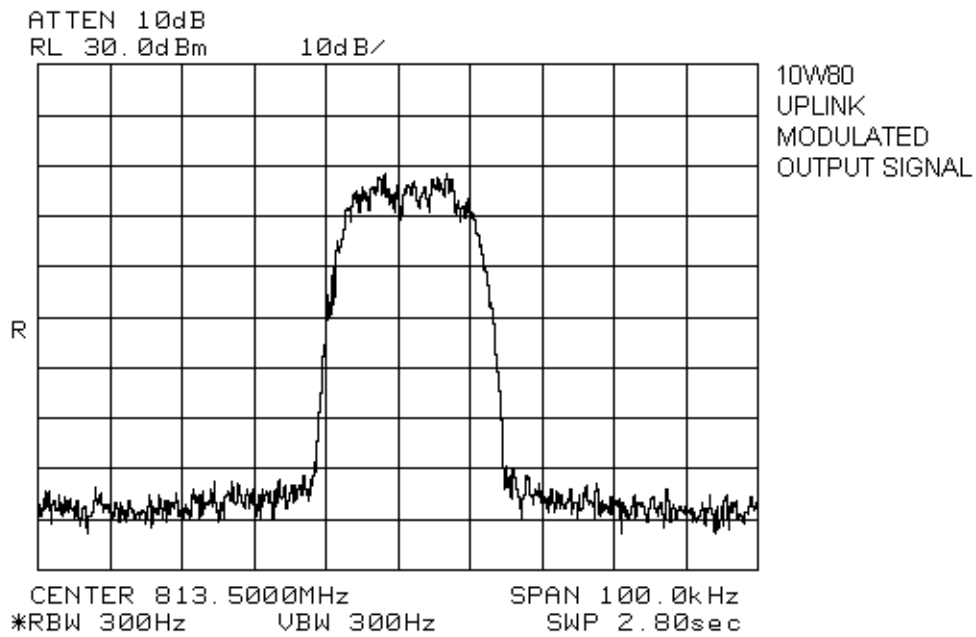
EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier

FCC ID: OIWCBD AESMR10W80



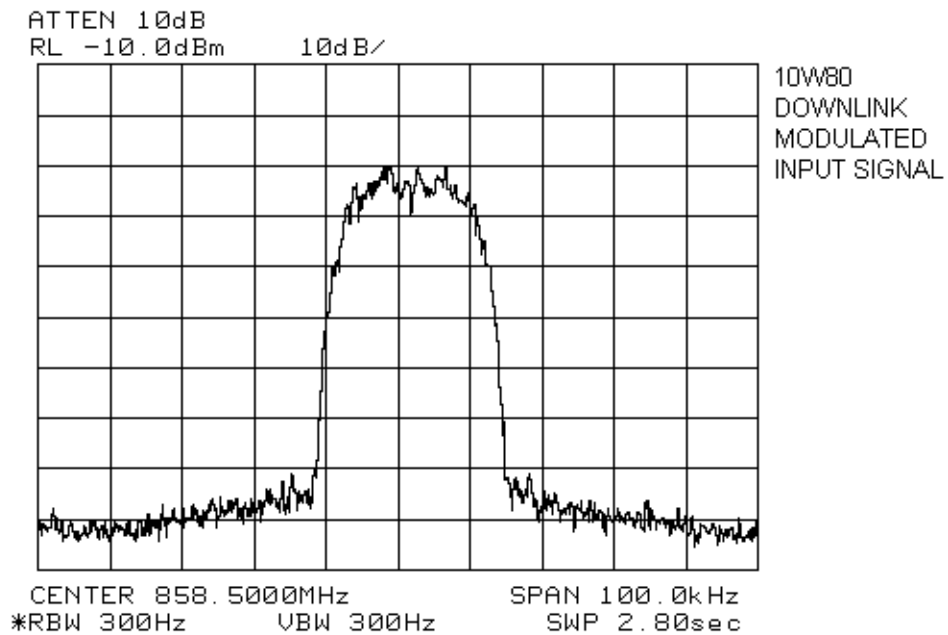
EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier

FCC ID: OIWCBD AESMR10W80



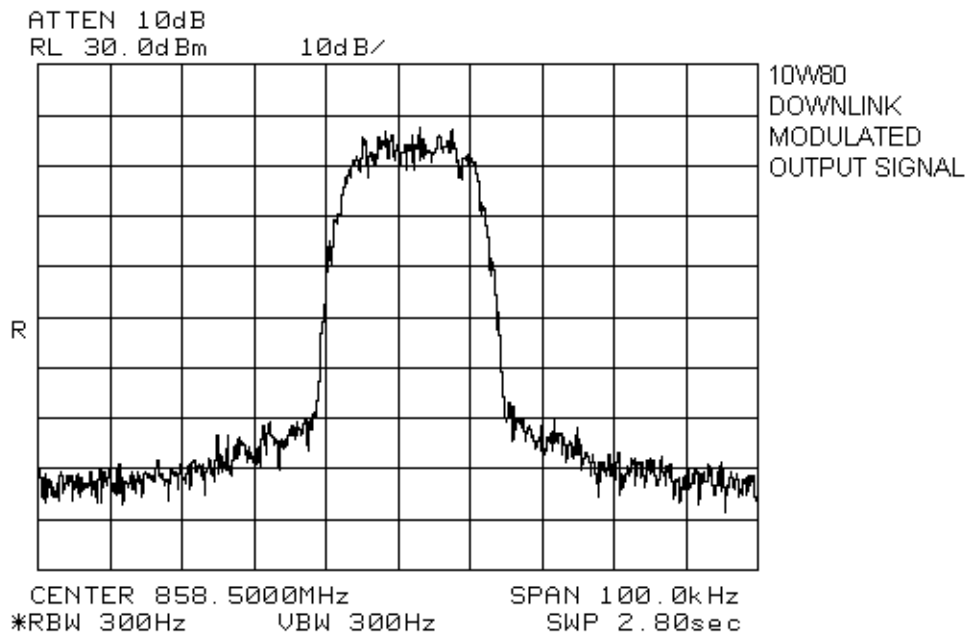
EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier

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Section 5. Spurious Emissions At Antenna Terminals

Para. No.: 2.1051

Test Performed By: Russell Grant	Date of Test: May 7, 2001
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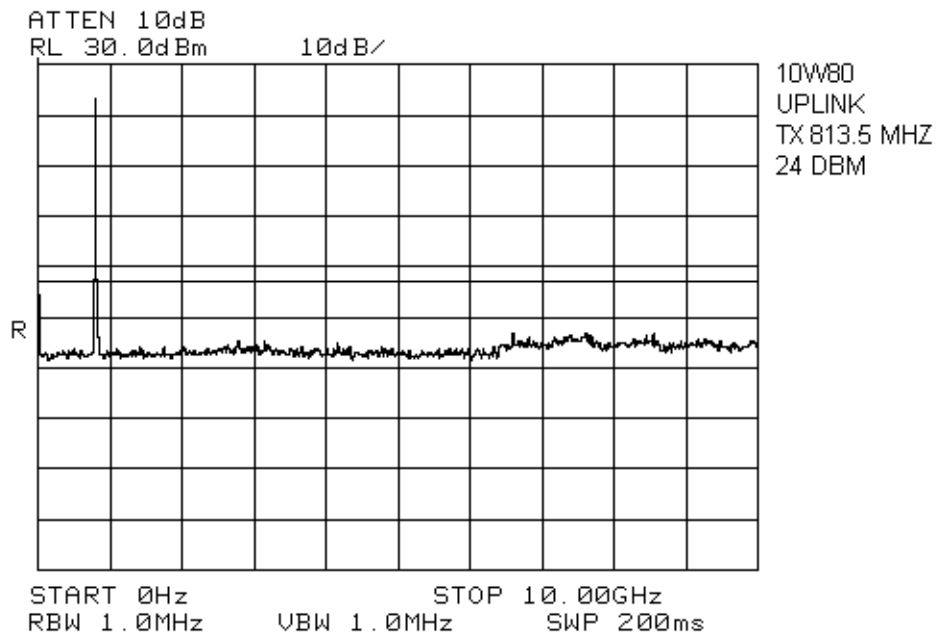
Minimum Standard: -13dBm

Test Results: Complies.

Measurement Data: See attached graphs.

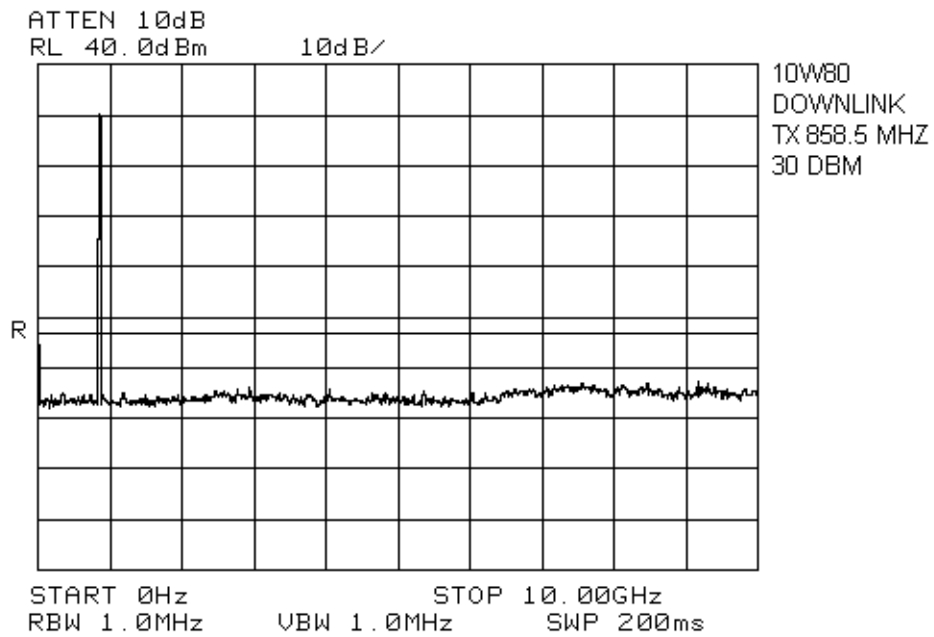
EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier

FCC ID: OIWCBD AESMR10W80



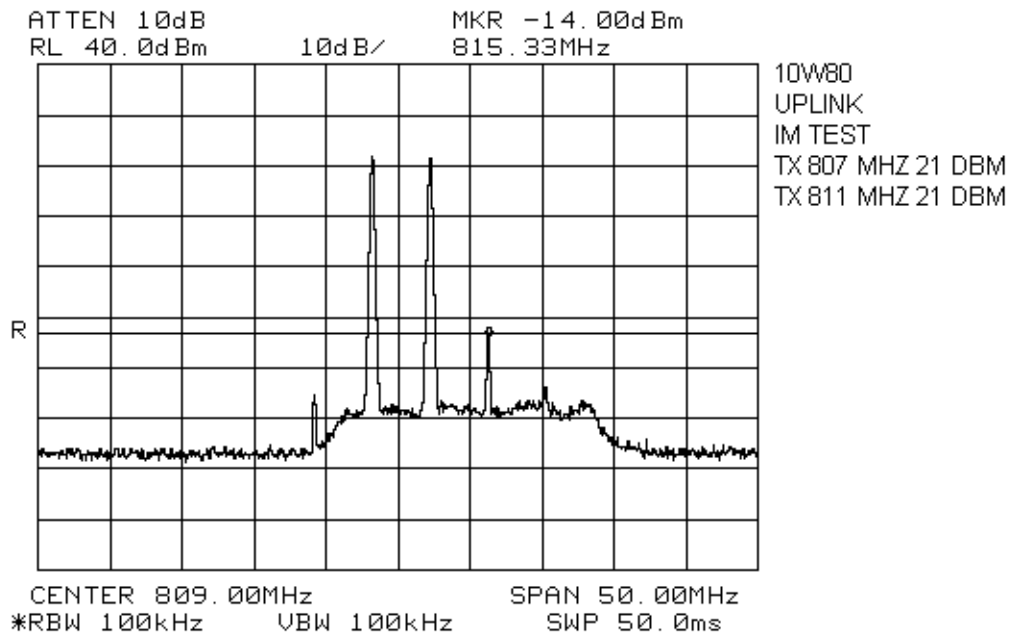
EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier

FCC ID: OIWCBD AESMR10W80



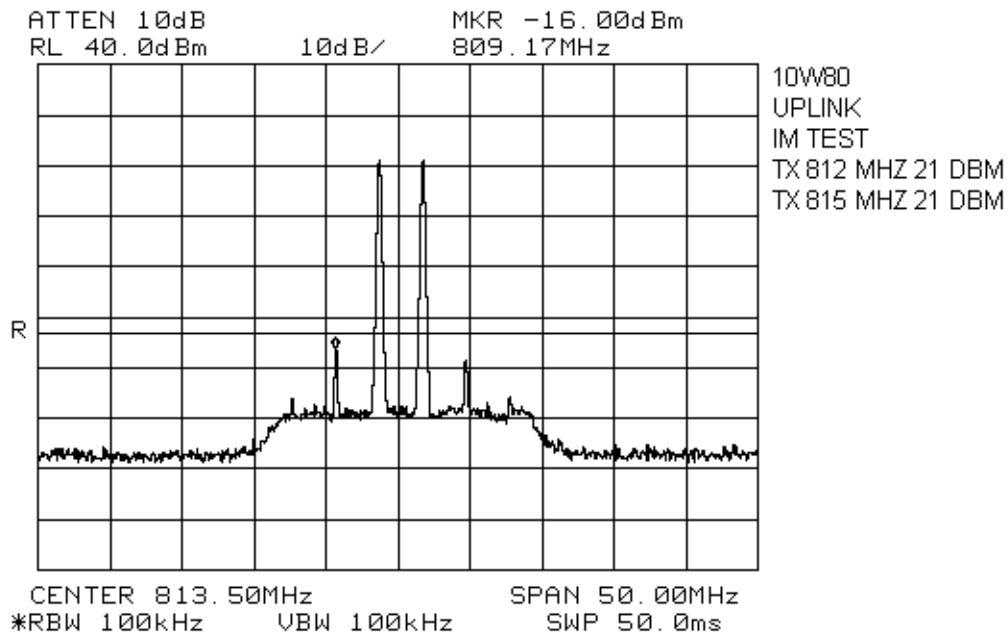
EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier

FCC ID: OIWCBD AESMR10W80



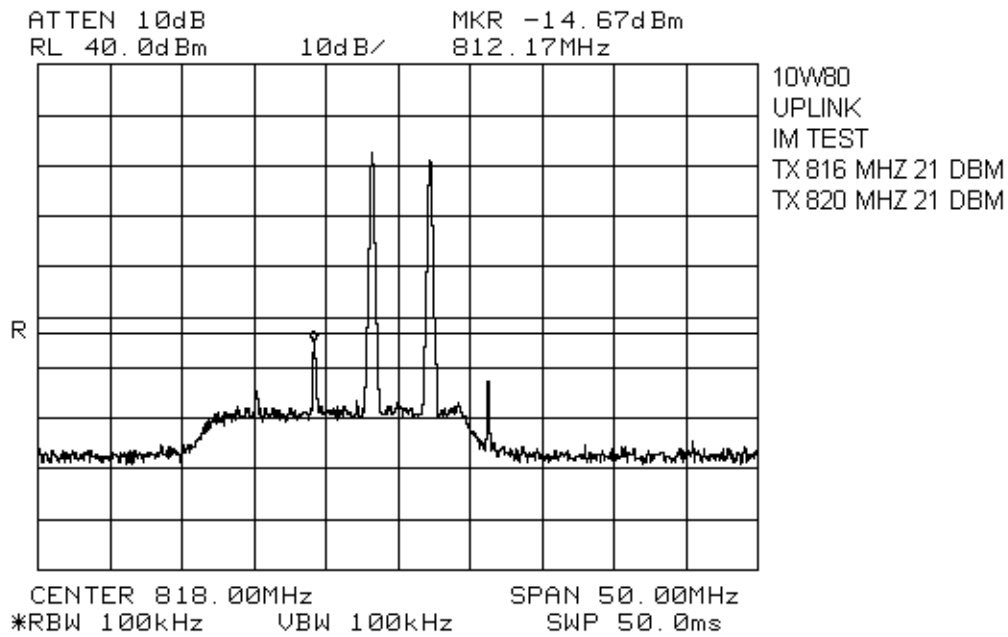
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FCC ID: OIWCBDAESMR10W80



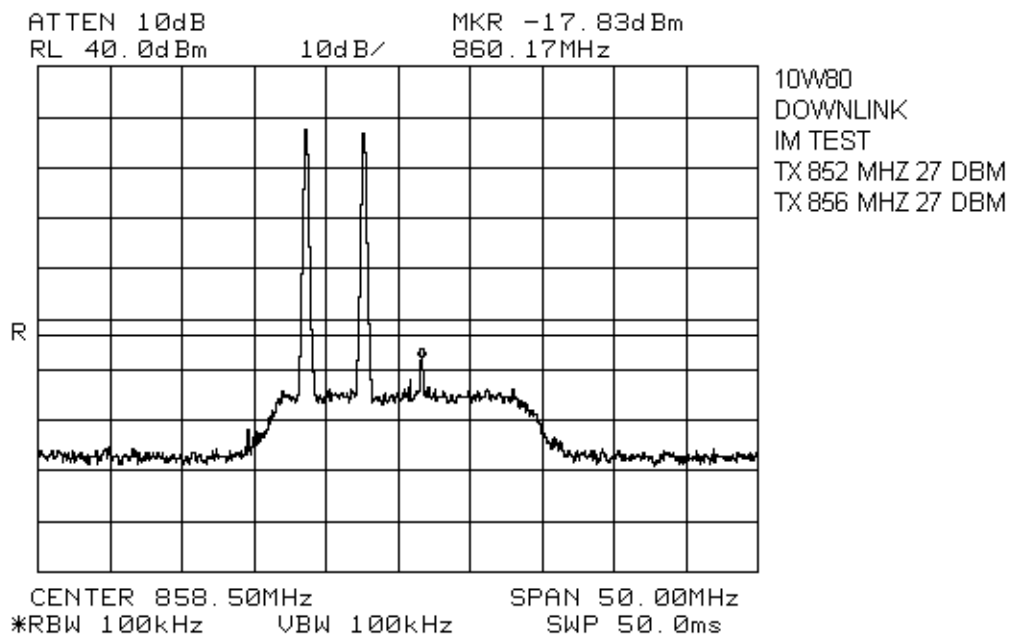
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FCC ID: OIWCBD AESMR10W80



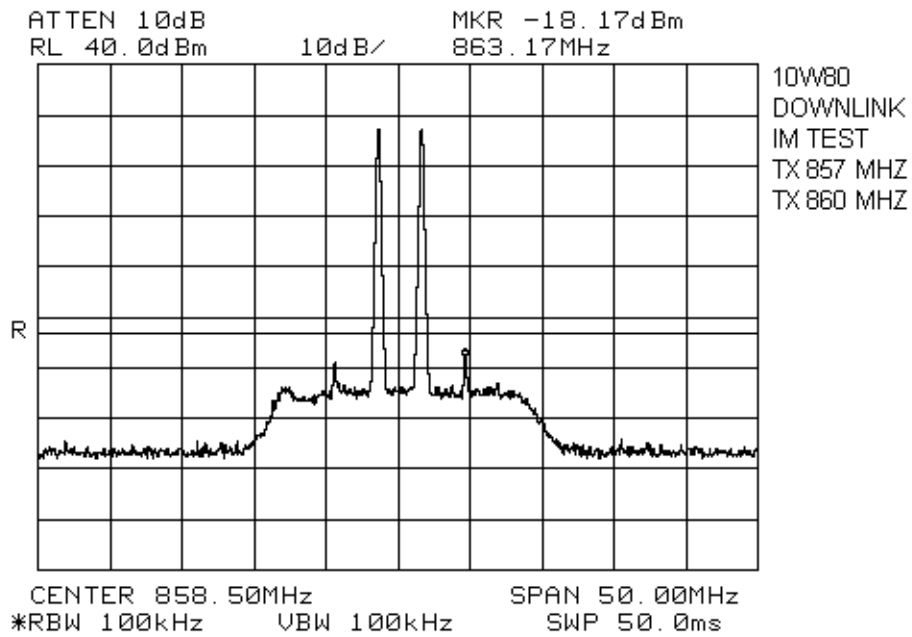
EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier

FCC ID: OIWCBD AESMR10W80



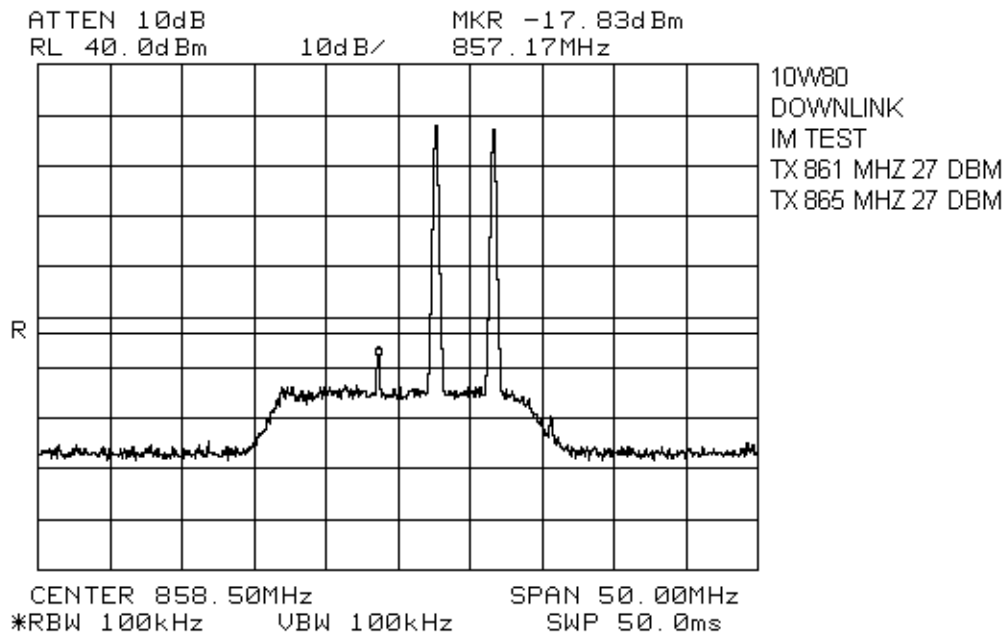
EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier

FCC ID: OIWCBDAESMR10W80



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EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier
FCC ID: OIWCBD AESMR10W80

Section 6. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Russell Grant	Date of Test: May 3, 2001
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Minimum Standard: -13dBm

Test Results: Complies.

Measurement Data: No emissions detected.

The spectrum was searched up to the 10th harmonic of the fundamental frequency of operation. All emissions within 20dB of the specification limit are measured and reported.

EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier
FCC ID: OIWCBD AESMR10W80

Field Strength of Spurious Emissions Setup Photographs – Worst Case

Front View:



*EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier**FCC ID: OIWCBD AESMR10W80*

Section 7. Test Equipment List

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8564E	3846A01407	May 31/99	Nov. 30/00
1 Year	Attenuator	Narda	768-10	9707	Aug. 23/99	Aug. 23/00
1 Year	Attenuator	Narda	768-10	9709	Oct. 8/99	Oct. 8/00
1 Year	Attenuator	Narda	769-20	4153	Oct. 1/99	Oct. 1/00
2 Year	RF Millivoltmeter	Rohde & Schwarz	URV5	FA000420	Oct. 6/99	Oct. 6/01
2 Year	Power Sensor	Rohde & Schwarz	URV5-Z5	FA000419	Oct. 6/99	Oct. 6/01
1 Year	Horn Antenna	EMCO #2	3115	4336	Dec. 1/00	Dec. 1/01
3 Year	Signal Generator	Rohde & Schwarz	SM1Q03	DE22004	Sept. 18/00	Sept. 18/03
3 Year	Standard Gain Horn	Electro-Metrics	SH-50/60-1	FA000479	July 7/00	July 7/01
3 Year	RF Generator	Rohde & Schwarz	SIMIQ03E	DE24154	Oct. 4/99	Oct. 4/01

NA: Not Applicable

NCR: No Cal Required

COU: CAL On Use

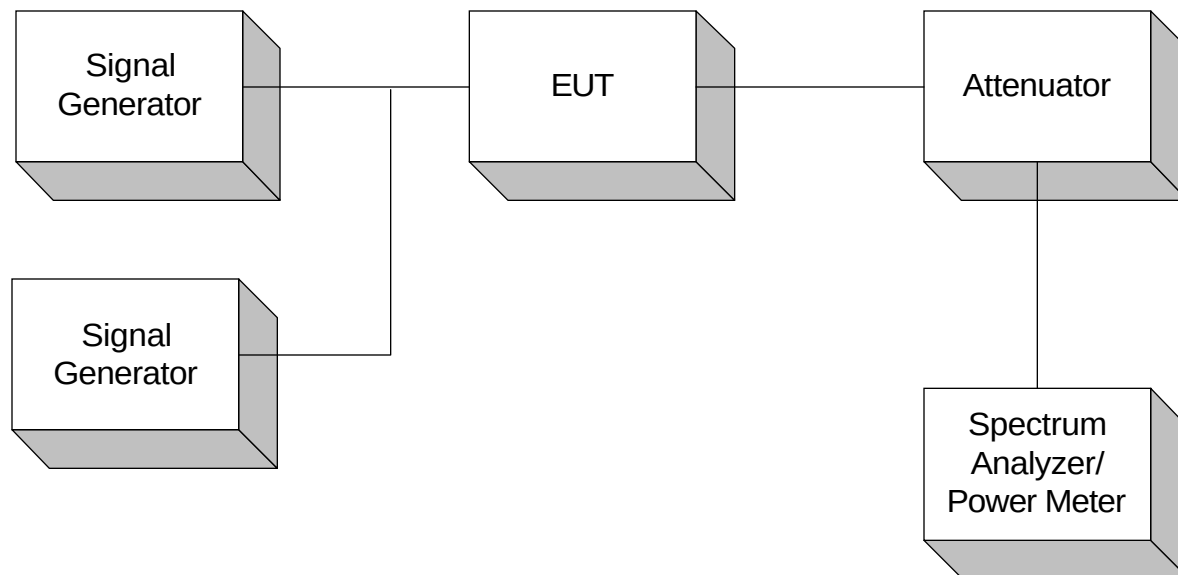
EQUIPMENT: MW-CBDA-ESMR-10W80A Bi-Directional Amplifier
FCC ID: OIWCBD AESMR10W80

Section 8. Test Diagrams

Para. No. 2.1046 - R.F. Power Output

Para. No. 2.1049 – Occupied Bandwidth

Para. No. 2.1051 – Spurious Emissions At Antenna Terminals



Para. No. 2.1053 - Field Strength of Spurious Radiation

