



**Test Report:** 3W07345

**Applicant:** Dekolink Wireless Ltd.  
16 Bazel St. Qiryat-Arieh  
Petah-Tikva, 49510  
Israel

**Equipment Under Test:  
(EUT)** MW-CBDA-800AB-1W60-PG2  
Bi-Directional Amplifier

**FCC ID:** OIWCBDA800AB1W60

**In Accordance With:** **FCC Part 22**

**Tested By:** Nemko Canada Inc.  
303 River Road, R.R. 5  
Ottawa, Ontario K1V 1H2

**Authorized By:**   
Kevin Carr, EMC Specialist

**Date:** 30 October 2003

**Total Number of Pages:** 27

*EQUIPMENT:* MW-CBDA-800AB-1W60-PG2

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## **Table of Contents**

|                   |                                                      |           |
|-------------------|------------------------------------------------------|-----------|
| <b>Section 1.</b> | <b>Summary of Test Results .....</b>                 | <b>3</b>  |
| <b>Section 2.</b> | <b>General Equipment Specification.....</b>          | <b>5</b>  |
| <b>Section 3.</b> | <b>RF Power Output.....</b>                          | <b>6</b>  |
| <b>Section 4.</b> | <b>Occupied Bandwidth .....</b>                      | <b>7</b>  |
| <b>Section 5.</b> | <b>Spurious Emissions at Antenna Terminals .....</b> | <b>12</b> |
| <b>Section 6.</b> | <b>Field Strength of Spurious Emissions .....</b>    | <b>23</b> |
| <b>Section 7.</b> | <b>Test Equipment List .....</b>                     | <b>25</b> |
| <b>Section 8.</b> | <b>Block Diagrams .....</b>                          | <b>26</b> |

EQUIPMENT: MW-CBDA-800AB-1W60-PG2

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## 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.



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".



TESTED BY: \_\_\_\_\_ DATE: 29 October 2003  
Glen Westwell, Wireless Technologist

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This report applies only to the items tested.

*EQUIPMENT:* MW-CBDA-800AB-1W60-PG2

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**Summary Of Test Data**

| <b>Name Of Test</b>                     | <b>Para. No.</b> | <b>Result</b> |
|-----------------------------------------|------------------|---------------|
| RF Power Output                         | 2.1046           | Complies      |
| 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           |

**Footnotes For N/A's:**

All Tests were conducted with the AGC circuitry enabled, and verified with AGC disabled.  
The EUT is an f1-f1 amplifier, as such frequency stability was not performed.

**Indoor**                      Temperature: 23°C  
                                    Humidity:     15%

**Outdoor**                    Temperature: 12°C  
                                    Humidity:     60%

*EQUIPMENT:* MW-CBDA-800AB-1W60-PG2

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## **Section 2.        General Equipment Specification**

|                                     |                                                    |
|-------------------------------------|----------------------------------------------------|
| <b>Manufacturer:</b>                | Dekolink Wireless Ltd.                             |
| <b>Model No.</b>                    | MW-CBDA-800AB-1W60-PG2                             |
| <b>Serial No:</b>                   | 03074157                                           |
| <b>Date Received In Laboratory:</b> | 15 Oct 2003                                        |
| <b>Nemko Identification No.:</b>    | #1                                                 |
| <b>Supply Voltage:</b>              | 120VAC, 60Hz                                       |
| <b>Frequency Range:</b>             | Downlink: 869-894MHz<br>Uplink: 824-849 MHz        |
| <b>RF Output Power (Rated):</b>     | Downlink: 27.0dBm (0.5W)<br>Uplink: 27.0dBm (0.5W) |
| <b>Modulation:</b>                  | TDMA & CDMA                                        |
| <b>Emission Designator:</b>         | DXW – TDMA<br>F9W - CDMA                           |

*EQUIPMENT:* MW-CBDA-800AB-1W60-PG2

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**Section 3. RF Power Output**

Para. No.: 2.1046

|                                         |                                  |
|-----------------------------------------|----------------------------------|
| <b>Test Performed By: Glen Westwell</b> | <b>Date of Test: 28 Oct 2003</b> |
|-----------------------------------------|----------------------------------|

**Minimum Standard:** 22.913(a)**Test Results:** Complied.

The maximum RF output power is within  $\pm 1$  dB of the manufacturer's rating. The RF output power is de-rated according to the number of channels via AGC and is equal to  $P_{\max} - 10\log N$ .

$P_{\max}$  = Maximum RF Output Power  
N = Number Of Channels

| <b>Frequency<br/>(MHz)</b> | <b>Measured<br/>Power<br/>(dBm)</b> | <b>Rated<br/>Power<br/>(dBm)</b> |
|----------------------------|-------------------------------------|----------------------------------|
| 869                        | 26.2                                | 27.0                             |
| 881                        | 27.3                                | 27.0                             |
| 894                        | 26.4                                | 27.0                             |
| 824                        | 27.1                                | 27.0                             |
| 836                        | 27.3                                | 27.0                             |
| 849                        | 26.5                                | 27.0                             |

*EQUIPMENT:* MW-CBDA-800AB-1W60-PG2

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## **Section 4.        Occupied Bandwidth**

**Para. No.: 2.1049**

|                                         |                                  |
|-----------------------------------------|----------------------------------|
| <b>Test Performed By: Glen Westwell</b> | <b>Date of Test: 27 Oct 2003</b> |
|-----------------------------------------|----------------------------------|

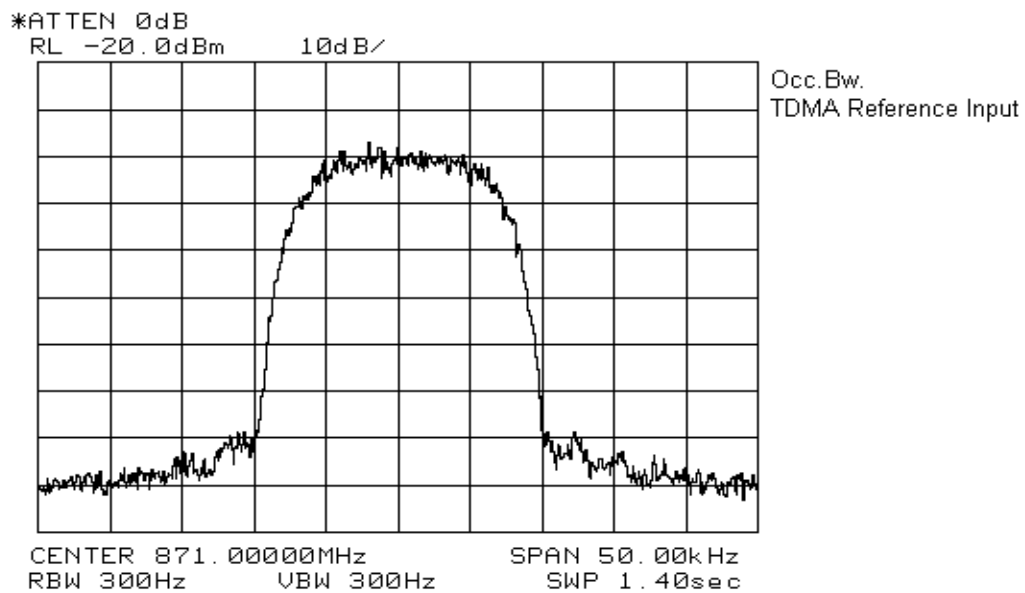
**Minimum Standard:**        22.917, Input vs Output

**Test Results:**              Complied.

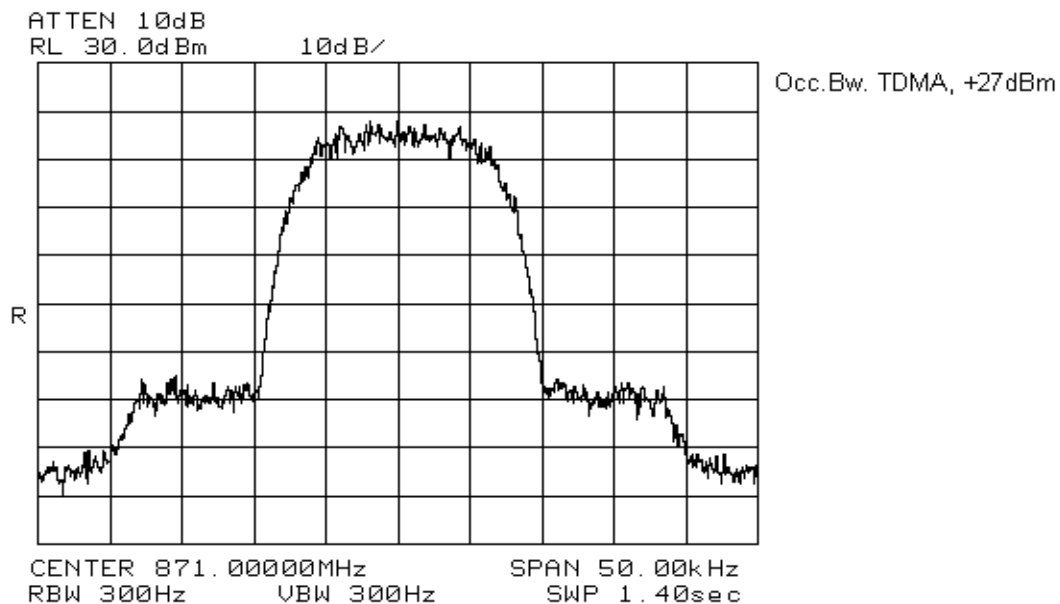
**Measurement Data:**        See attached graphs.

The occupied bandwidth was measured by comparison of input to the output signal. This was done in order to determine if there was any degradation to the output signal due to the amplification through the repeater.

EQUIPMENT: MW-CBDA-800AB-1W60-PG2



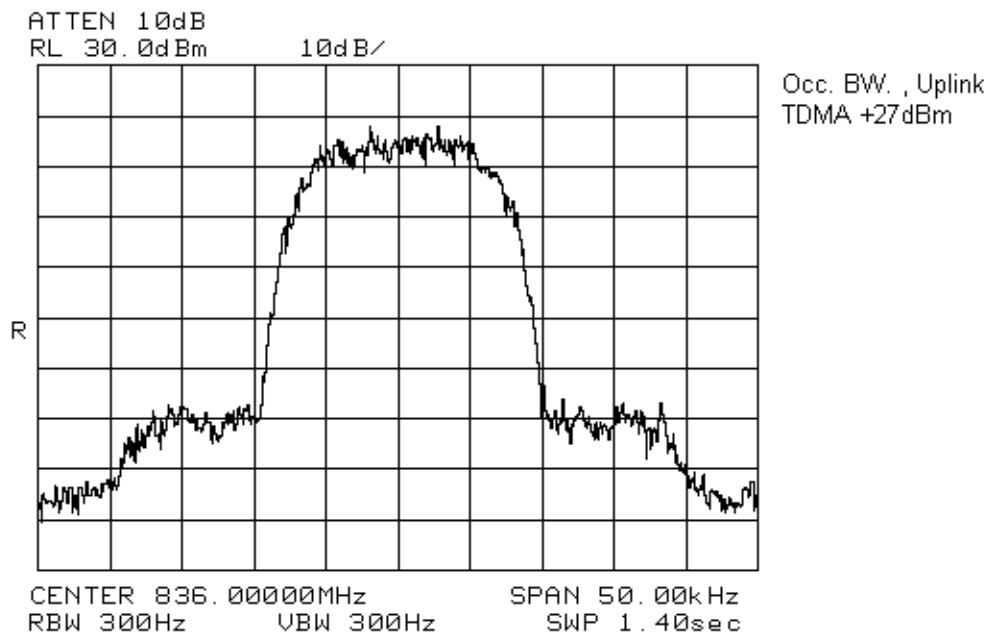
## Downlink



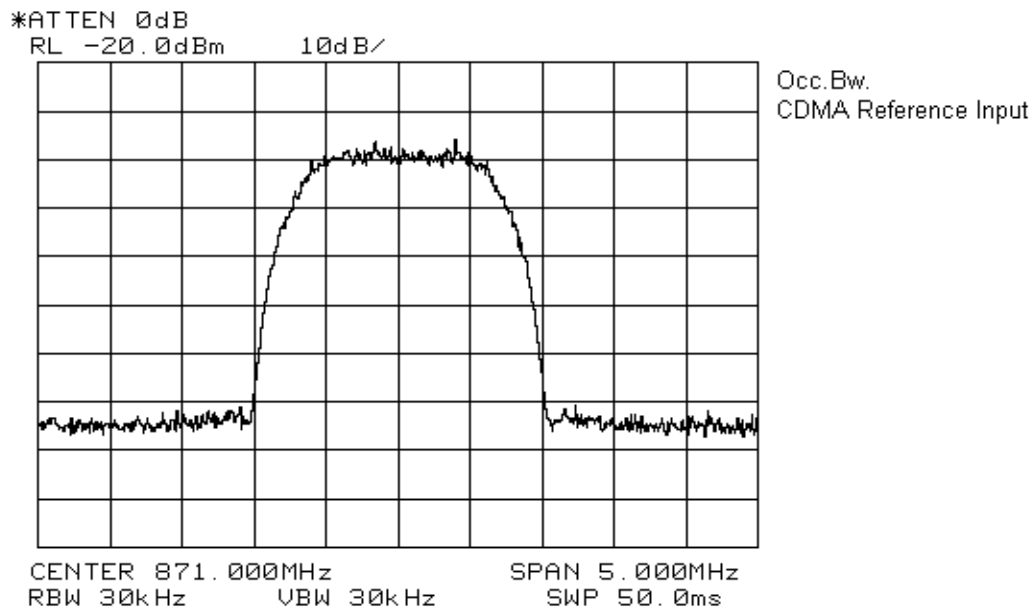
EQUIPMENT: MW-CBDA-800AB-1W60-PG2

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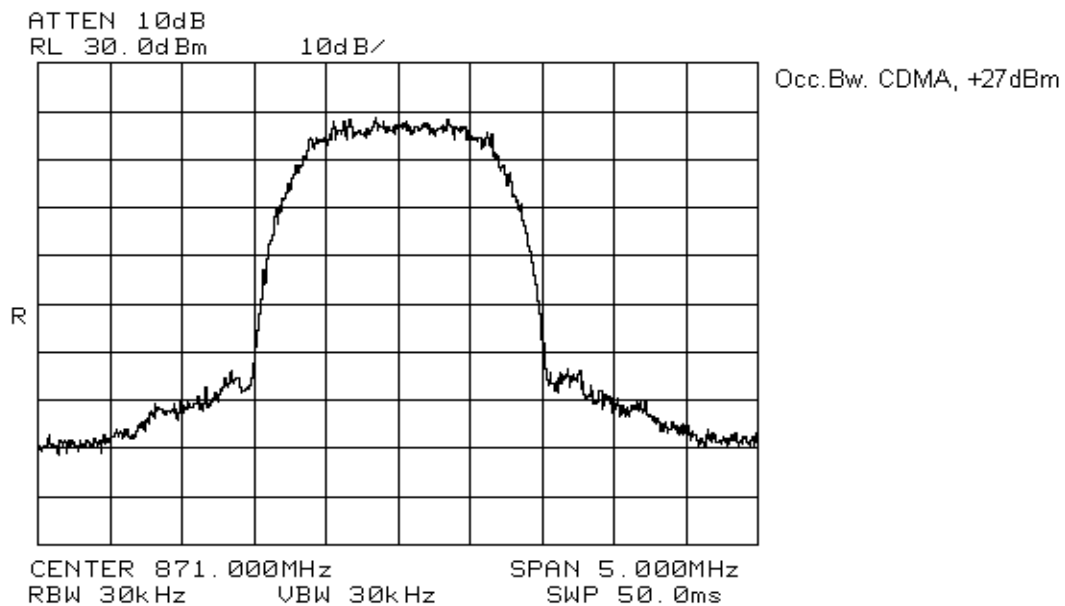
Uplink



EQUIPMENT: MW-CBDA-800AB-1W60-PG2



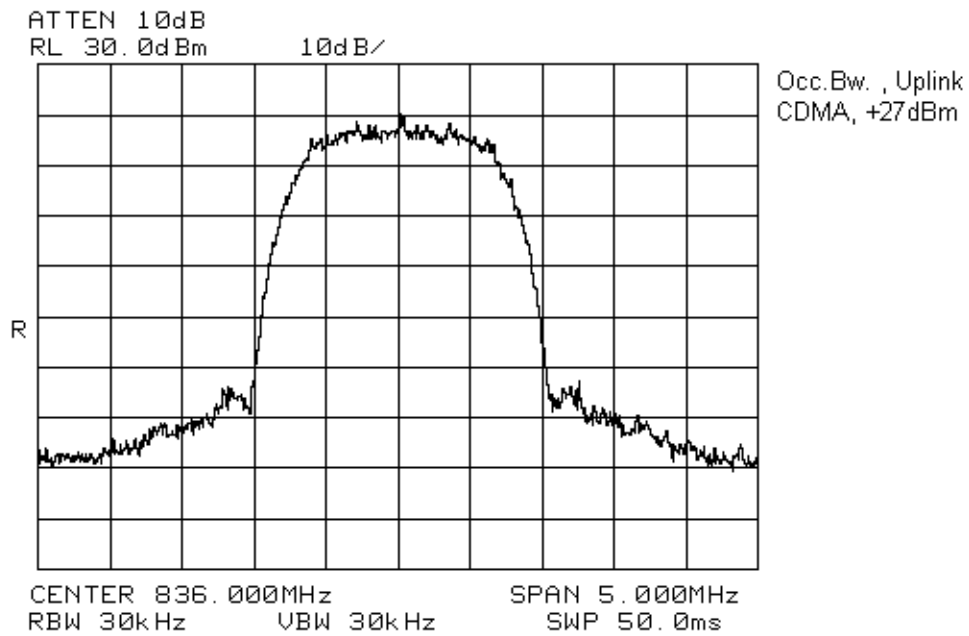
Downlink



EQUIPMENT: MW-CBDA-800AB-1W60-PG2

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Uplink



*EQUIPMENT:* MW-CBDA-800AB-1W60-PG2

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## **Section 5.        Spurious Emissions at Antenna Terminals**

**Para. No.: 2.1051**

|                                         |                                  |
|-----------------------------------------|----------------------------------|
| <b>Test Performed By: Glen Westwell</b> | <b>Date of Test: 27 Oct 2003</b> |
|-----------------------------------------|----------------------------------|

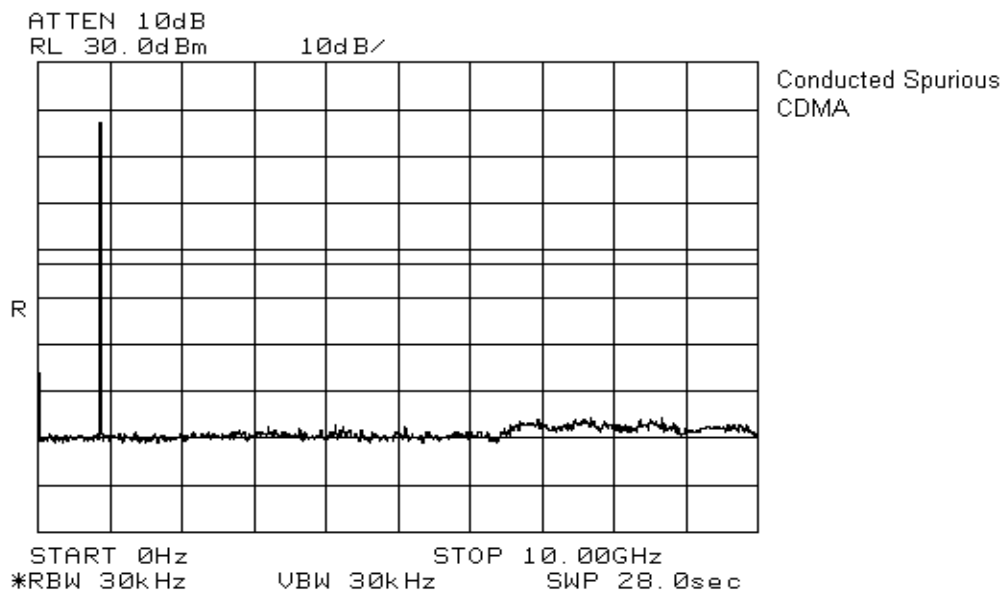
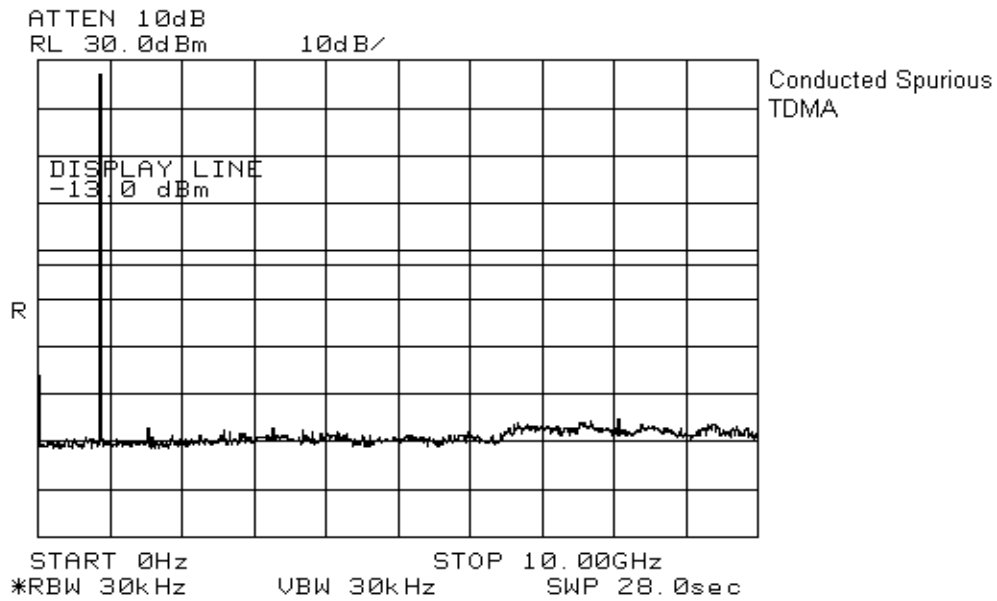
**Minimum Standard:**        22.917(e): -13dBm

**Test Results:**                Complied.

**Measurement Data:**        See attached graph(s).

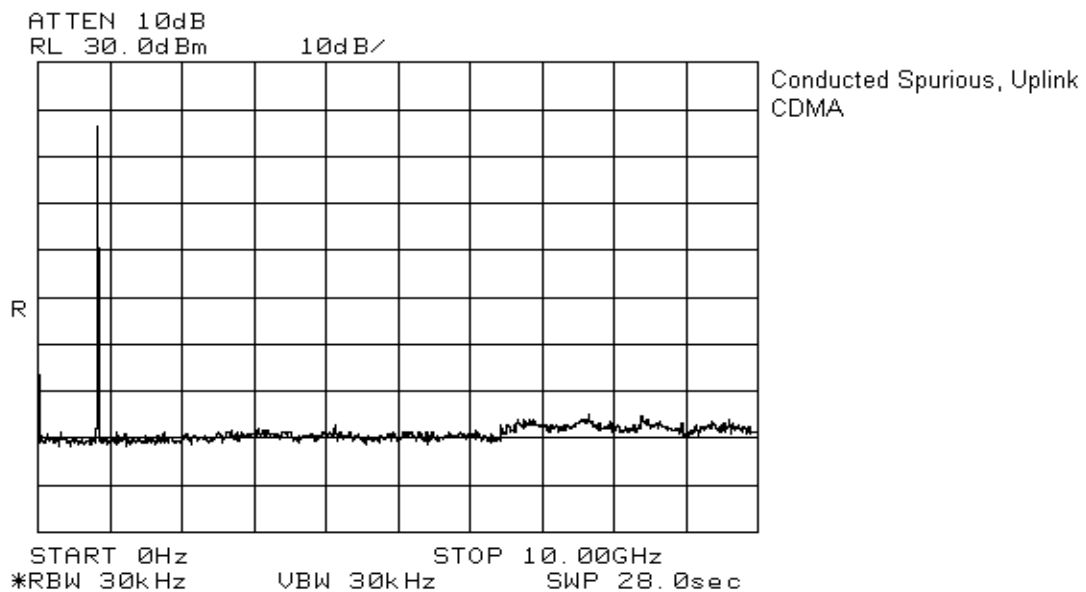
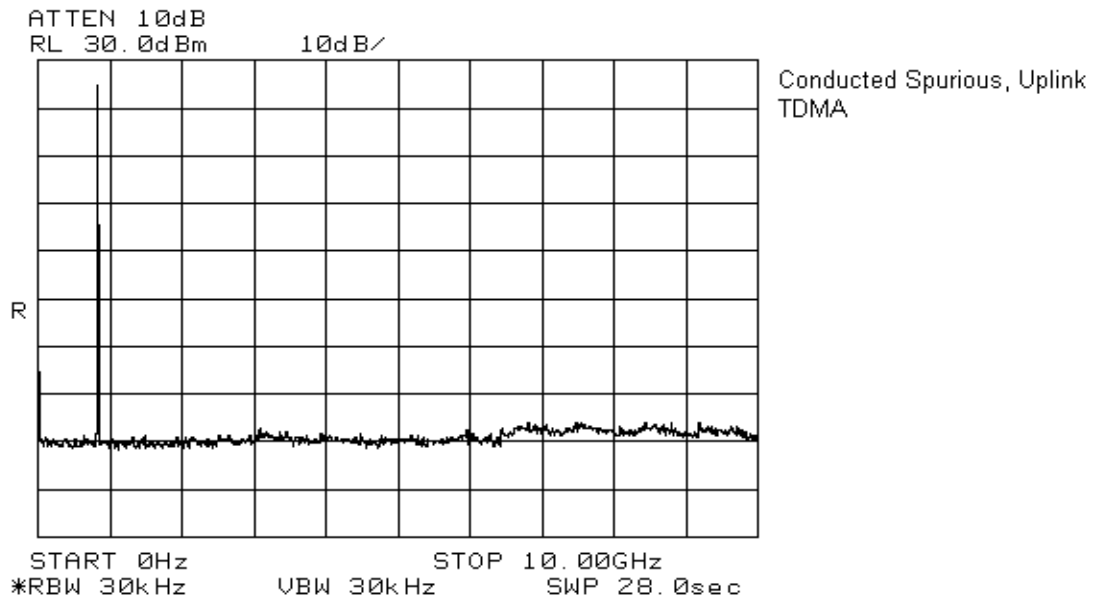
EQUIPMENT: MW-CBDA-800AB-1W60-PG2

Downlink

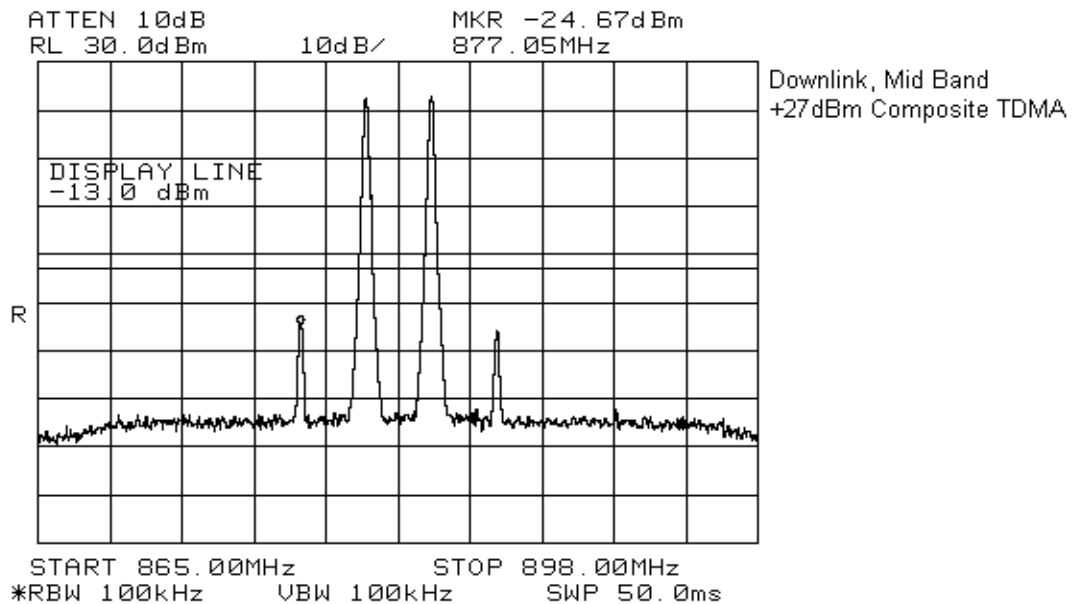
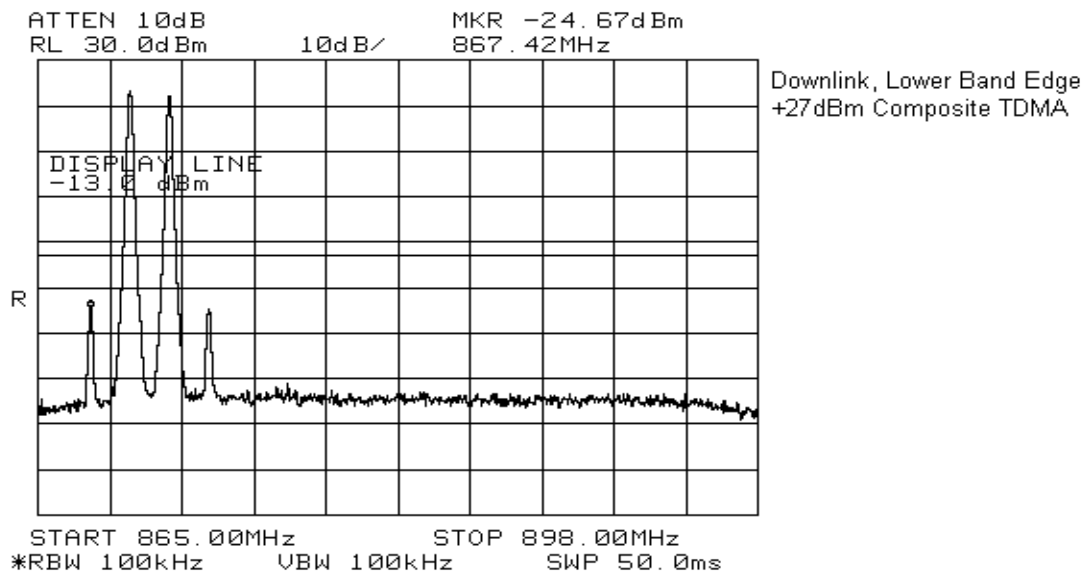


EQUIPMENT: MW-CBDA-800AB-1W60-PG2

Uplink

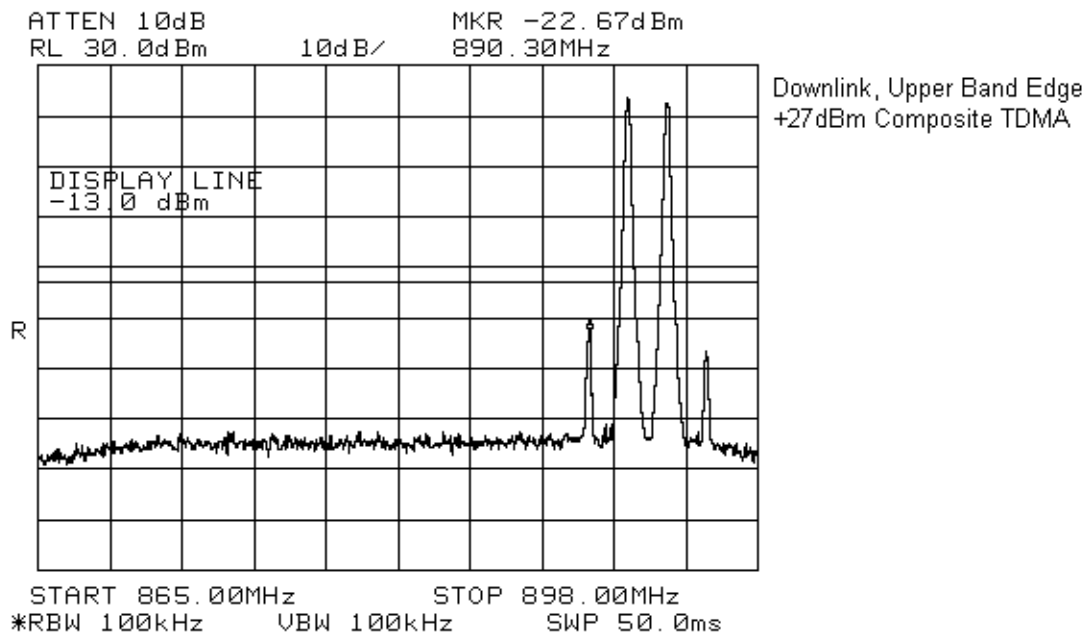


EQUIPMENT: MW-CBDA-800AB-1W60-PG2

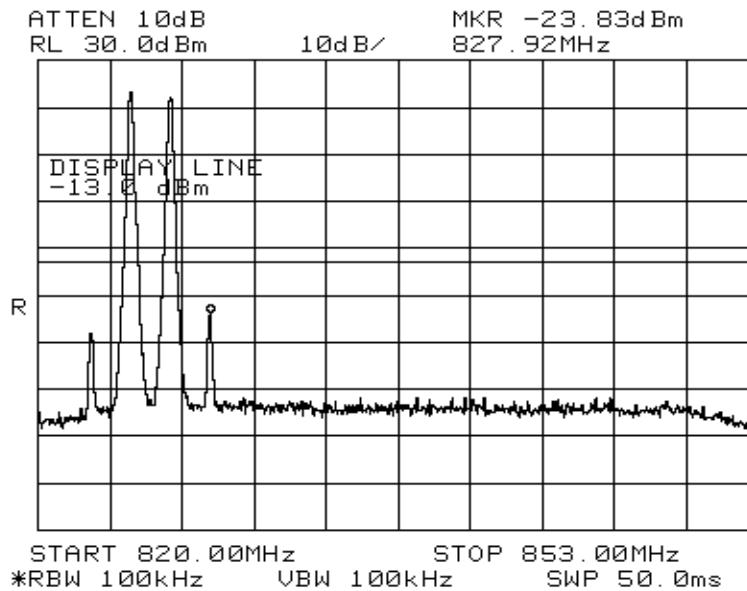


EQUIPMENT: MW-CBDA-800AB-1W60-PG2

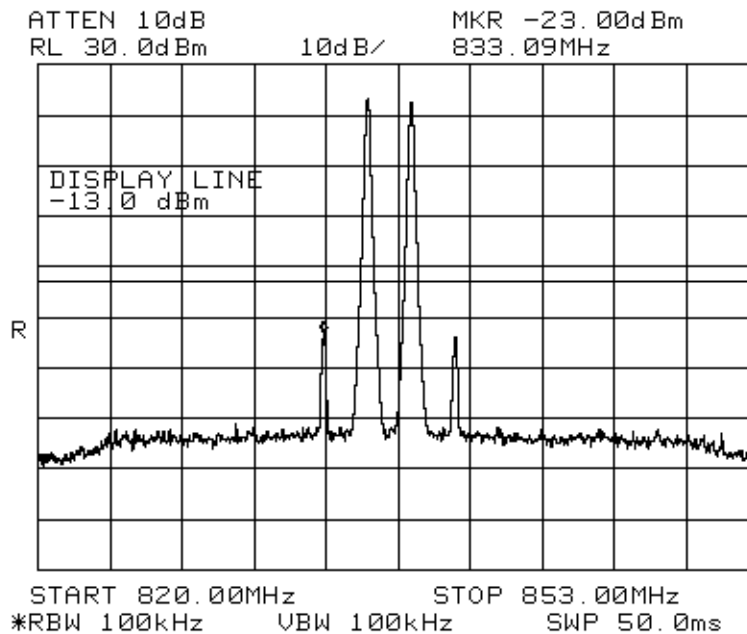
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EQUIPMENT: MW-CBDA-800AB-1W60-PG2



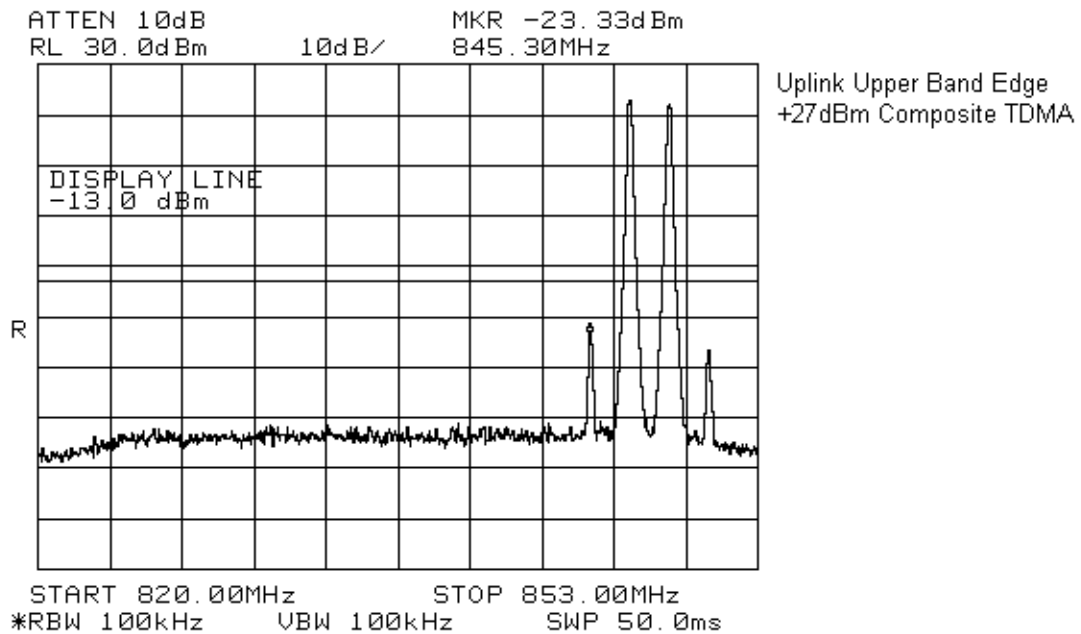
Uplink Lower Band Edge  
+27dBm Composite TDMA



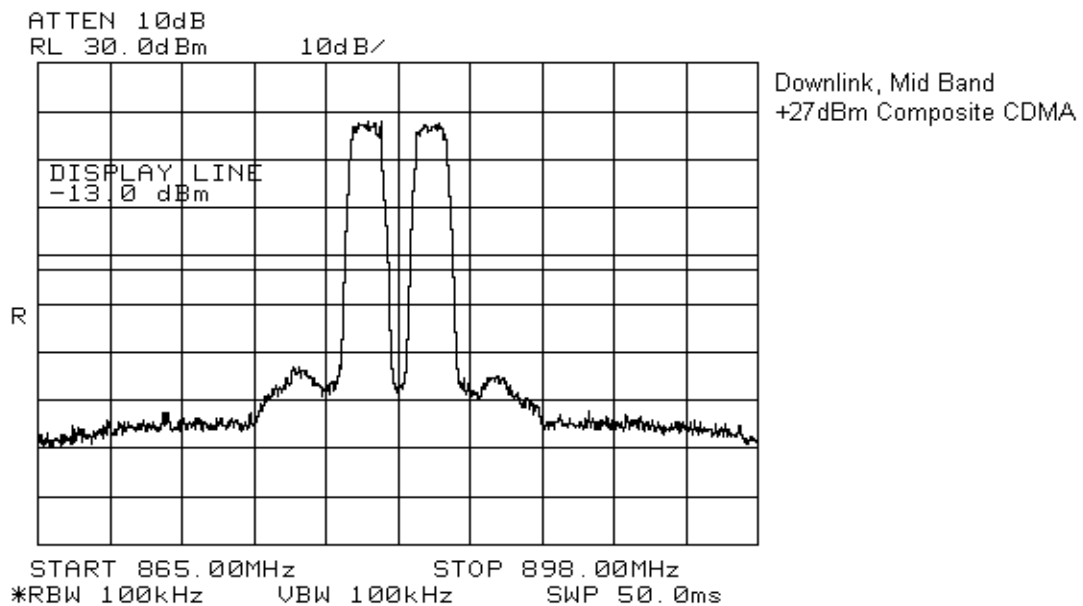
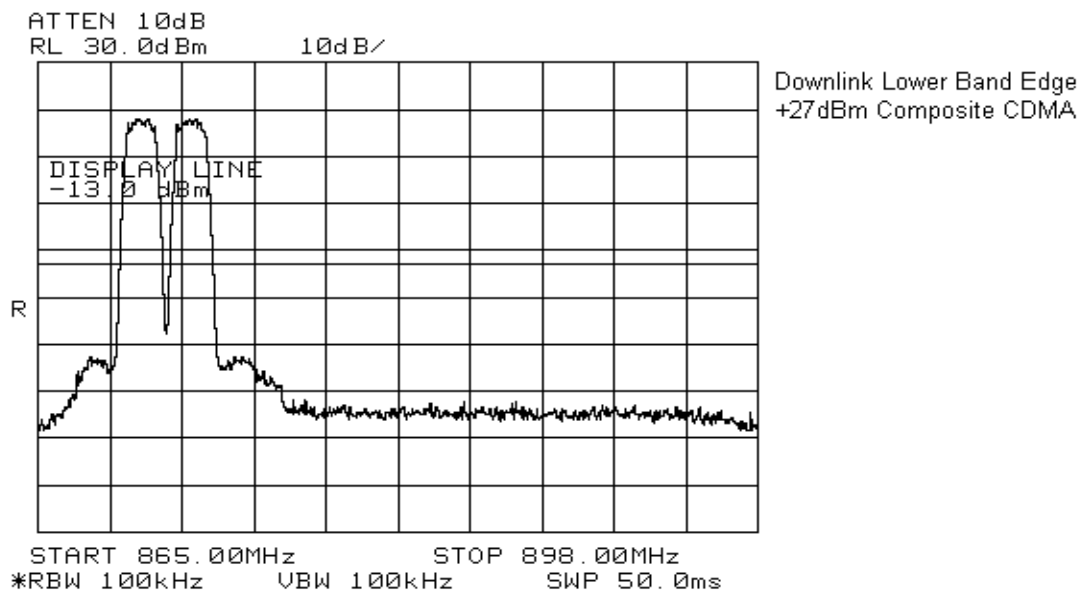
Uplink Mid Band  
+27dBm Composite TDMA

EQUIPMENT: MW-CBDA-800AB-1W60-PG2

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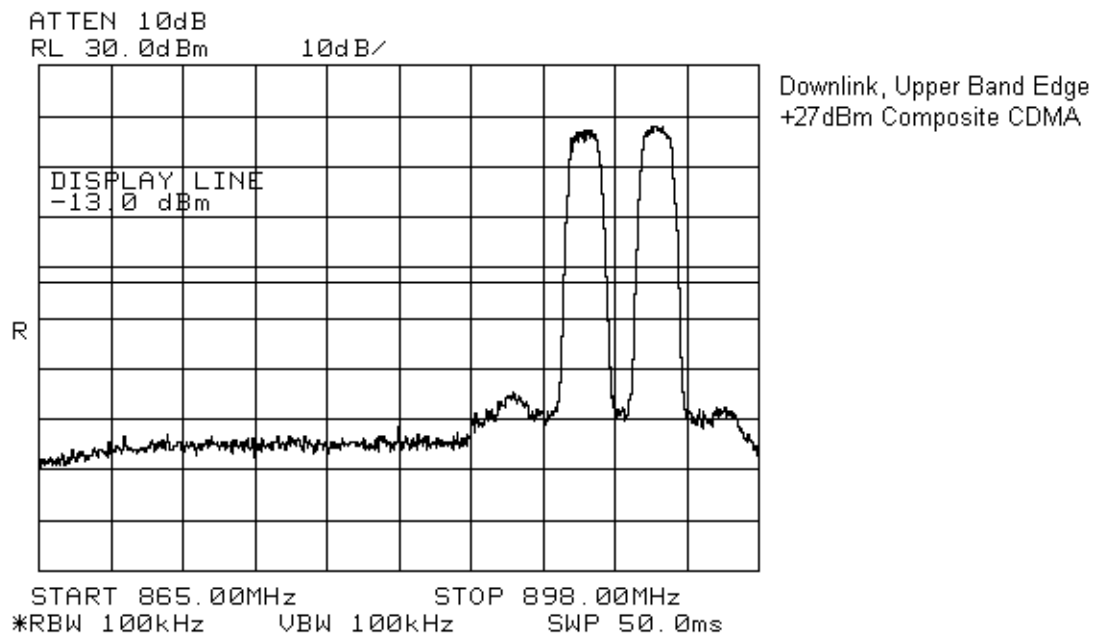


EQUIPMENT: MW-CBDA-800AB-1W60-PG2

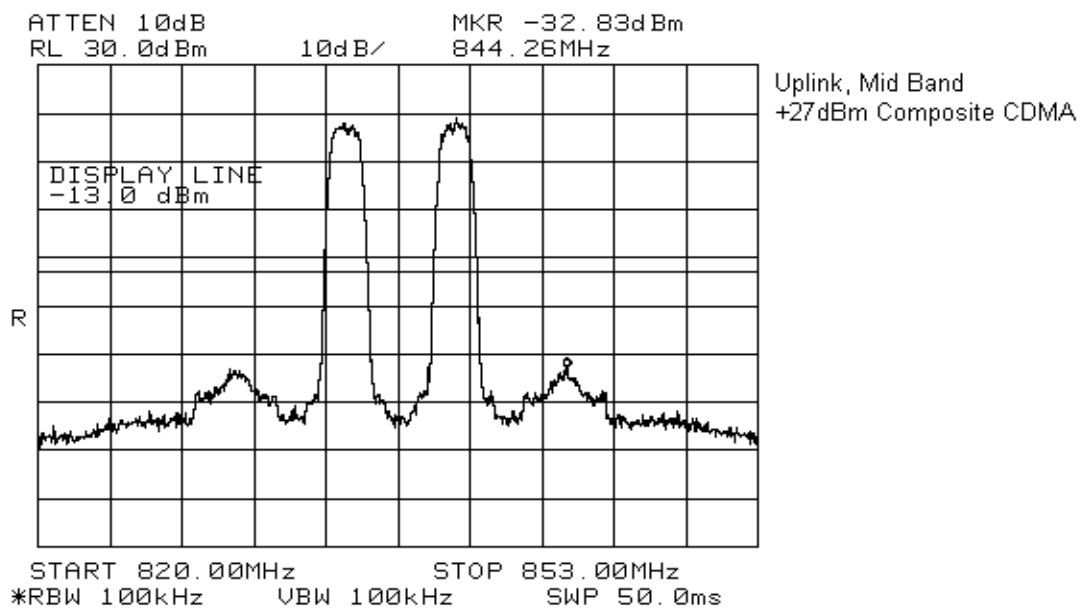
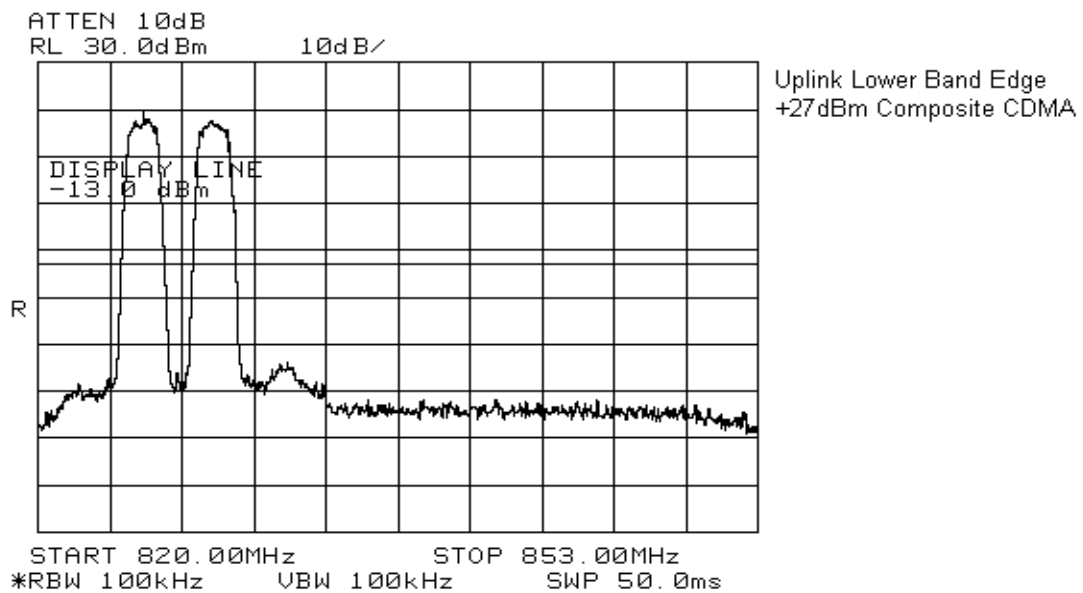


EQUIPMENT: MW-CBDA-800AB-1W60-PG2

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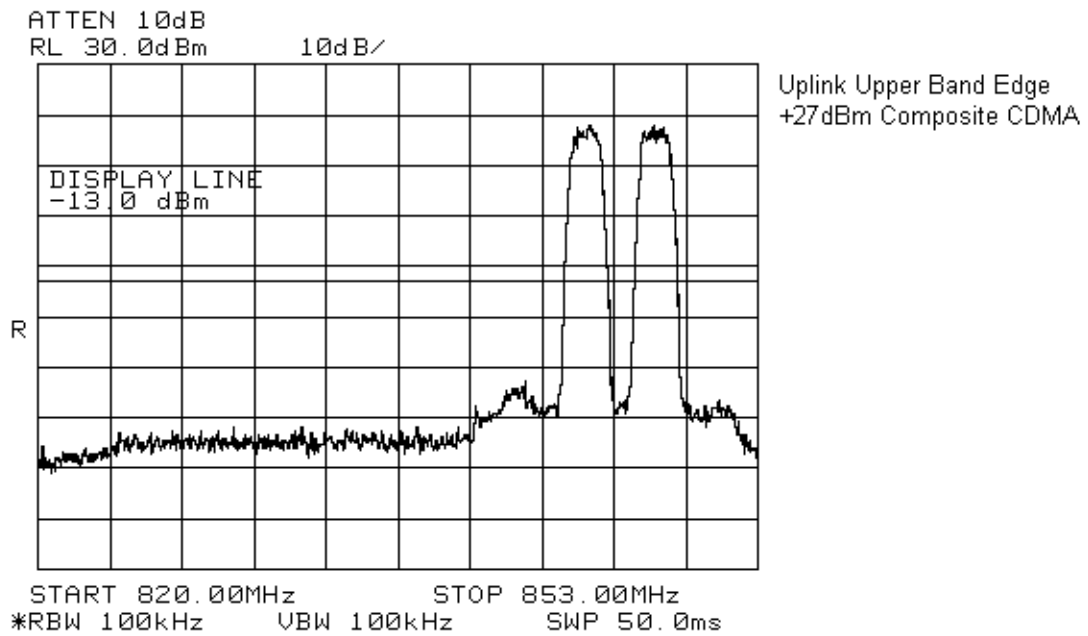


EQUIPMENT: MW-CBDA-800AB-1W60-PG2



EQUIPMENT: MW-CBDA-800AB-1W60-PG2

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*EQUIPMENT:* MW-CBDA-800AB-1W60-PG2

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## **Section 6.        Field Strength of Spurious Emissions**

**Para. No.: 2.1053**

|                                         |                                  |
|-----------------------------------------|----------------------------------|
| <b>Test Performed By: Glen Westwell</b> | <b>Date of Test: 29 Oct 2003</b> |
|-----------------------------------------|----------------------------------|

**Minimum Standard:**        22.917(e): -13dBm

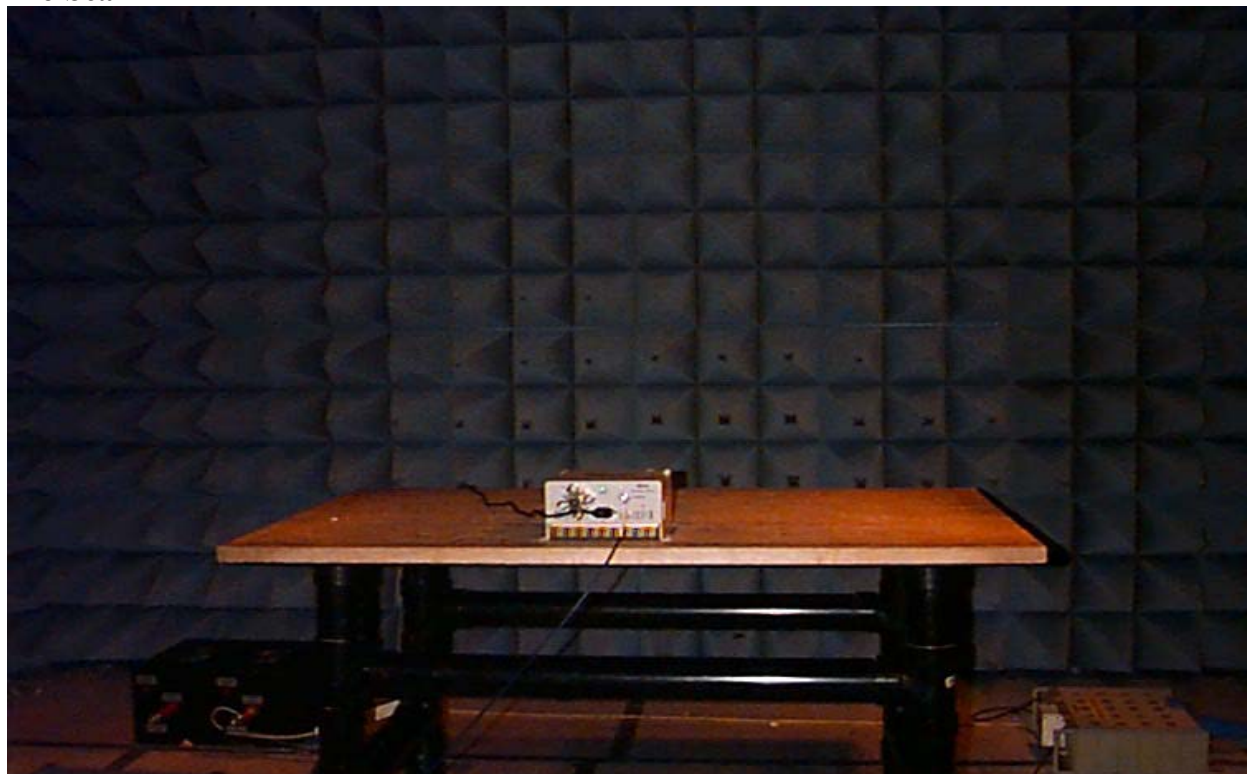
**Test Results:**                Complied.  
                                      No emissions detected.

**Measurement Data:**        All emissions were searched to the 10<sup>th</sup> harmonic.

*EQUIPMENT:* MW-CBDA-800AB-1W60-PG2

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**Photographs of Test Setup**  
**Pre-Scan**



**OATS**



*EQUIPMENT:* MW-CBDA-800AB-1W60-PG2**Section 7. Test Equipment List**

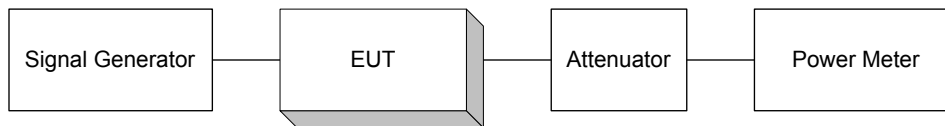
| CAL CYCLE | EQUIPMENT                 | MANUFACTURER    | MODEL    | SERIAL   | LAST CAL.   | NEXT CAL.   |
|-----------|---------------------------|-----------------|----------|----------|-------------|-------------|
| 1 Year    | Spectrum Analyzer         | Hewlett Packard | 8564E    | FA001367 | 13 May 03   | 13 May 04   |
| 1 Year    | Signal Generator          | Rhode & Schwarz | SM1Q03E  | FA001269 | 06 Dec 02   | 06 Dec 03   |
| 1 Year    | Signal Generator          | Rohde & Schwarz | SM1Q03   | FA001091 | 25 Sep 03   | 25 Sep 04   |
| 1 Year    | RF Millivoltmeter         | Rohde & Schwarz | URV5     | FA000420 | 20 May 03   | 20 May 04   |
| 1 Year    | Insertion Unit            | Rohde & Schwarz | URV5-Z4  | FA000905 | 10 Apr 03   | 10 Apr 04   |
| 1 Year    | Power Sensor              | Hewlett Packard | 8487A    | FA001741 | 28 Mar 03   | 28 Mar 04   |
| 1 Year    | Power Meter               | Hewlett Packard | E4418B   | FA001413 | 08 May 03   | 08 May 04   |
| 1 Year    | RF AMP                    | JCA             | 4-8 GHz  | FA001497 | 18 June 03  | 18 June 04  |
| 1 Year    | RF AMP                    | JCA             | 2-4 GHz  | FA001496 | 18 June 03  | 18 June 04  |
| 1 Year    | RF AMP                    | JCA             | 1-2 GHz  | FA001498 | 18 June 03  | 18 June 04  |
| 1 Year    | Spectrum Analyzer         | Hewlett-Packard | 8566B    | FA001309 | June. 05/03 | June. 05/04 |
| 1 Year    | Spectrum Analyzer Display | Hewlett-Packard | 85662A   | FA001309 | June. 05/03 | June. 05/04 |
| NCR       | Bilog                     | Schaffner       | CBL6112B | FA001504 | NCR         | NCR         |
| 1 Year    | Horn Antenna #2           | EMCO            | 3115     | FA000825 | Dec. 09/02  | Dec. 09/03  |

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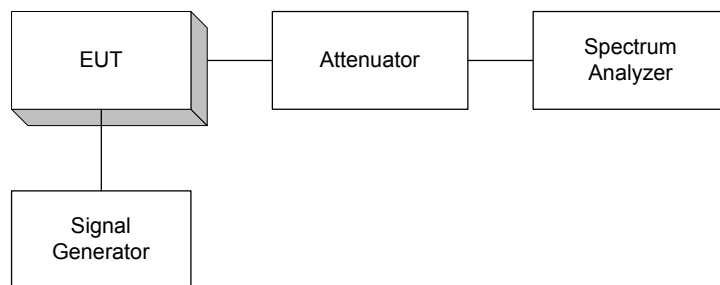
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## Section 8. Block Diagrams

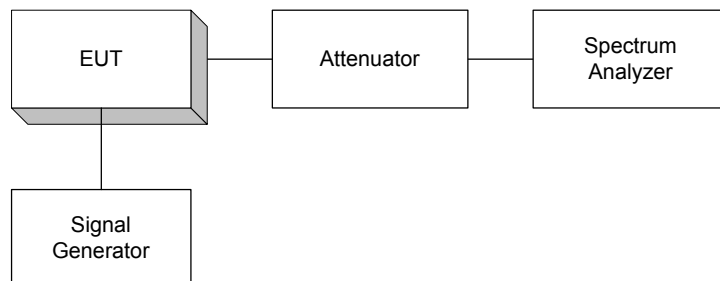
### Para. No. 2.1046 - R.F. Power Output



### Para. No. 2.1049 - Occupied Bandwidth

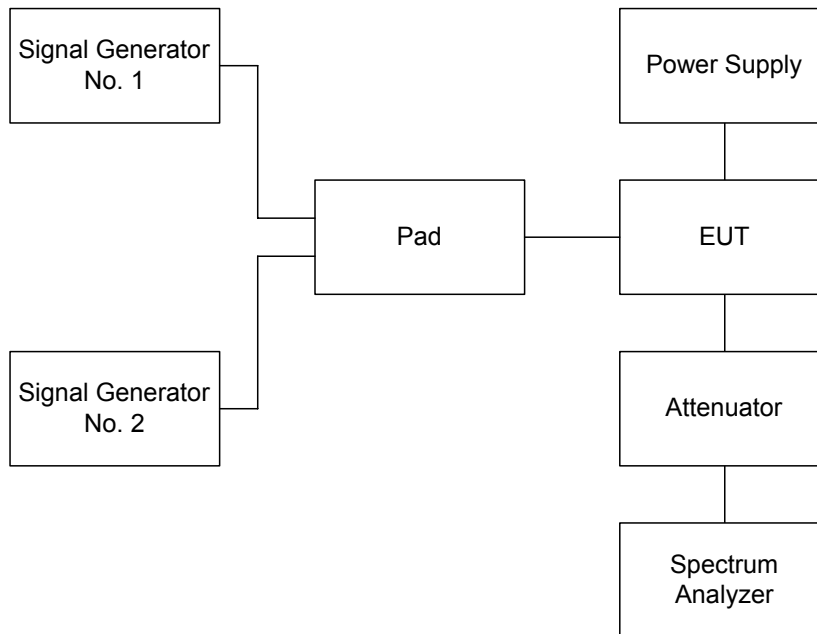


### Para. No. 2.1051 - Spurious Emissions at Antenna Terminals



*EQUIPMENT:* MW-CBDA-800AB-1W60-PG2

### Para. No. 2.1051 - Spurious Emissions at Antenna Terminals



### Para. No. 2.1053 - Field Strength of Spurious Radiation

#### TIA/EIA 603

Effective Radiated Power

Spurious Emissions

