



# Flom Test Labs

EMI, EMC, RF Testing Experts Since 1963

toll-free: (866) 311-3268  
fax: (480) 926-3598  
<http://www.flomlabs.com>  
[info@flomlabs.com](mailto:info@flomlabs.com)

**Date:** June 26, 2008

Federal Communications Commission  
Via: Electronic Filing

**Attention:** Authorization & Evaluation Division

**Applicant:** American Micro-Fuel Device Corp.  
**Equipment:** Ridetuner Handlebar unit  
**FCC ID:** WG2RT001  
**FCC Rules:** 15.249

Gentlemen:

On behalf of the Applicant, enclosed please find Application Form 731, Engineering Test Report and all pertinent documentation, the whole for approval of the referenced equipment as shown.

We trust the same is in order. Should you need any further information, kindly contact the writer who is authorized to act as agent.

Sincerely yours,

Hoosamuddin S. Bandukwala, Lab Director



**List Of Exhibits**  
(FCC Certification (Transmitters) - Revised 9/28/98)

**Applicant:** American Micro-Fuel Device Corp.

**FCC ID:** WG2RT001

**By Applicant:**

1. Letter Of Authorization
2. Identification Drawings
  - Id Label
  - Location Info
  - Attestation Statement(S)
  - Location of Compliance Statement
3. Documentation: 2.1033(B)
  - (3) User Manual(S)
  - (4) Operational Description
  - (5) Block Diagram
  - (5) Schematic Diagram
  - (7) External Photographs  
Internal Photographs  
Parts List  
Active Devices

**By F.T.L. Inc.**

- A. Testimonial & Statement of Certification
- B. Statement of Qualifications



toll-free: (866) 311-3268  
fax: (480) 926-3598  
<http://www.flomlabs.com>  
[info@flomlabs.com](mailto:info@flomlabs.com)

## Test Report

for

**FCC ID:** WG2RT001  
**Model:** RT001

to

**Federal Communications Commission**

Rule Part(s)15.249

**Date Of Report:** June 26, 2008

**On the Behalf of the Applicant:** American Micro-Fuel Device Corp.  
2181 Buchanan Loop  
Ferndale, WA 98248

**Attention of:** Perienne DeJaray  
Ph: 360-380-2923  
Fax: 360-380-2942  
Email: [perienne@americanmicrofuel.com](mailto:perienne@americanmicrofuel.com)

Supervised By:

Hoosamuddin S. Bandukwala, Lab Director

## Revision History

Revision	Date	Revised By	Reason for revision
1.0	June 26, 2008	J Erhard	Original Document
2.0	July 24, 2008	J Erhard	Edit model number

**The applicant has been cautioned as to the following:****15.21              Information to User.**

The users manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**15.27(a)              Special Accessories.**

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.

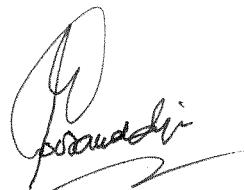
Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

## Testimonial And Statement Of Certification

**This is to certify that:**

1. **That** the application was prepared either by, or under the direct supervision of, the undersigned.
2. **That** the technical data supplied with the application was taken under my direction and supervision.
3. **That** the data was obtained on representative units, randomly selected.
4. **That**, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data are true and correct.

Certifying Engineer:



Hoosamuddin S. Bandukwala, Lab Director

## Table Of Contents

Rule	Description	Page
	Test Report	1
2.1033(c)	General Information Required	2
	Standard Test Conditions and Engineering Practices	4
	Test Results Summary	5
15.249(a)	Fundamental Field Strength	6
15.249(d)	Radiated Spurious Emissions	6
RSS 210	99% Occupied Bandwidth	10
	Test Equipment Utilized	12



Required information per ISO 17025-2005, paragraph 5.10.2:

a) **Test Report**

b) Laboratory: Flom Test Lab, Inc.  
(FCC: 31040/SIT) 3356 N. San Marcos Place, Suite 107  
(Canada: IC 2044A-1) Chandler, AZ 85225

c) Report Number: d0860038

d) Client: American Micro-Fuel Device Corp.

e) Identification: FCC ID: WG2RT001  
Description: Handlebar mounted transmitter

f) EUT Condition: Not required unless specified in individual tests.

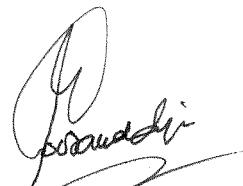
g) Report Date: June 26, 2008  
EUT Received:

h, j, k): As indicated in individual tests.

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with FTL internal quality manual.

m) Supervised by:



Hoosamuddin S. Bandukwala, Lab Director

n) Results: The results presented in this report relate only to the item tested.

o) Reproduction: This report must not be reproduced, except in full, without written permission from this laboratory.

## List Of General Information Required For Certification

In Accordance with FCC Rules and Regulations,  
Volume II, Part 2 and to 15.249

### Sub-Part 2.1033

(c)(1):

**Name and Address of Applicant:** American Micro-Fuel Device Corp.

(c)(2): **FCC ID:** WG2RT001

**Model Number:** RT001

(c)(3): **Instruction Manual(s):**

Please See Attached Exhibits

(c)(4): **Type of Emission:** Low power FHSS

(c)(5): **FREQUENCY RANGE, MHz:** 2405 to 2480

(c)(6): **Power Rating, W:** 0.14 uW  
\_\_\_\_ Switchable      \_\_\_\_ Variable       N/A

(c)(7): **Maximum Power Rating, W:** 5 mW

15.203: **Antenna Requirement:**

- The antenna is permanently attached to the EUT
- The antenna uses a unique coupling
- The EUT must be professionally installed
- The antenna requirement does not apply

The unit was tested with a PCB mounted antenna with a gain of 1.1 dBi.

**Subpart 2.1033 (continued)****(c)(8): Circuit Diagram/Circuit Description:**

Including description of circuitry & devices provided for determining and stabilizing frequency, for suppression of spurious radiation, for limiting modulation and limiting power.

Please See Attached Exhibits

**(c)(9): Label Information:**

Please See Attached Exhibits

**(c)(10): Photographs:**

Please See Attached Exhibits

**(c)(11): Digital Modulation Description:**

       Attached Exhibits  
x N/A

**(c)(12): Test And Measurement Data:**

Follows

Sub-part  
2.1033(b):

### Test And Measurement Data

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2 and the following individual Parts:

15.249 Operation within bands 902-928, 2400-2483.5, 5725-5825 MHz and 24.0-24.25 GHz

### Standard Test Conditions and Engineering Practices

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with ANSI C63.4-2003 unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

Measurement results, unless otherwise noted, are worst-case measurements.

### A2LA

“A2LA has accredited Flom Test Labs, Inc. Chandler, AZ for technical competence in the field of Electrical testing. The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO 17025:2005 ‘General Requirements for the Competence of Testing and Calibration Laboratories’ and any additional program requirements in the identified field of testing.”

Please refer to [www.a2la.org](http://www.a2la.org) for current scope of accreditation.

Certificate number: 2152.01



**IC O.A.T.S. Number: 2044A-1**

**Test Results Summary**

Specification	Test Name	Pass, Fail, N/A	Comments
15.249(a)	Fundamental Field Strength	Pass	
15.249(d)	Out of Band Spurious Emissions	Pass	
RSS-210	99% occupied Bandwidth	Pass	

**Line of Test:**  
**Specification:**  
**Test Equipment Utilized**

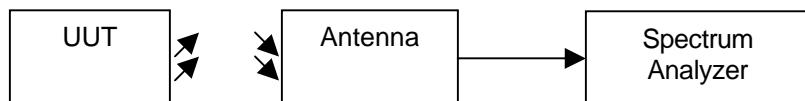
Fundamental Field Strength  
 15.249(a)  
 i00103, i00331

**Test Date: 6/25/08**

### Test Procedure

The UUT was tested on an Open Area Test Site (OATS) at a distance of 3 meters from the receiving antenna. A spectrum analyzer was used to verify that the UUT met the requirements for Fundamental Field Strength. All correction factors were input into the analyzer to ensure a correct reading.

### Test Setup



### Analyzer Settings

Detector Settings	RBW	VBW
Peak	1 MHz	1 MHz

### Fundamental Field Strength

Tuned Freq (MHz)	Peak Measured Level (dBuV/m)	Peak Limit (dBuV/m)	Result
2405	65.42	114.0	Pass
2440	68.53	114.0	Pass
2480	57.45	114.0	Pass

The peak-radiated power was below the average limit therefore no additional testing is required.

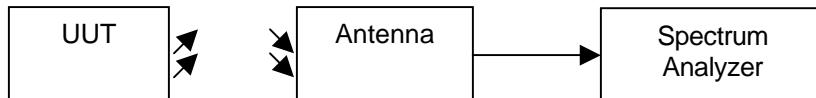
**Name of Test:** Radiated Spurious Emissions  
**Specification:** 15.249(d)  
**Test Equipment Utilized** i00103, i00331

**Test Date:** 6/25/08

### Test Procedure

The UUT was tested on an Open Area Test Site (OATS) at a distance of 3 meters from the receiving antenna. A spectrum analyzer was used to verify that the UUT met the requirements for radiated Spurious. All correction factors were input into the analyzer to ensure a correct reading. Plots are provided to show compliance to the band edge and restricted band requirements.

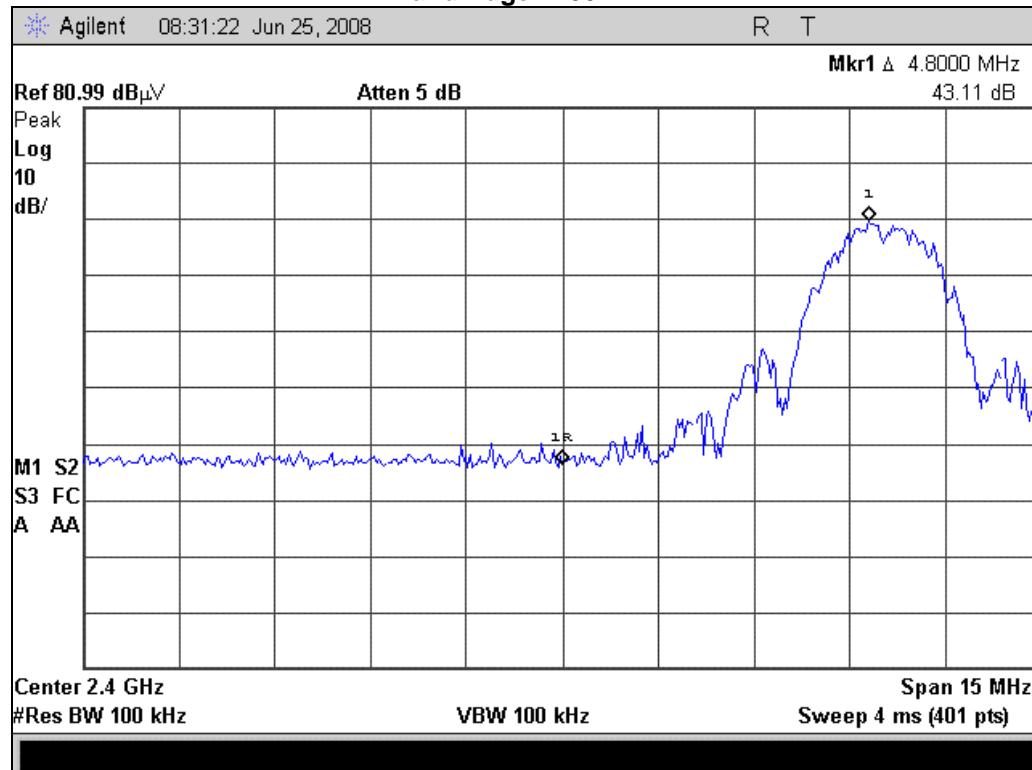
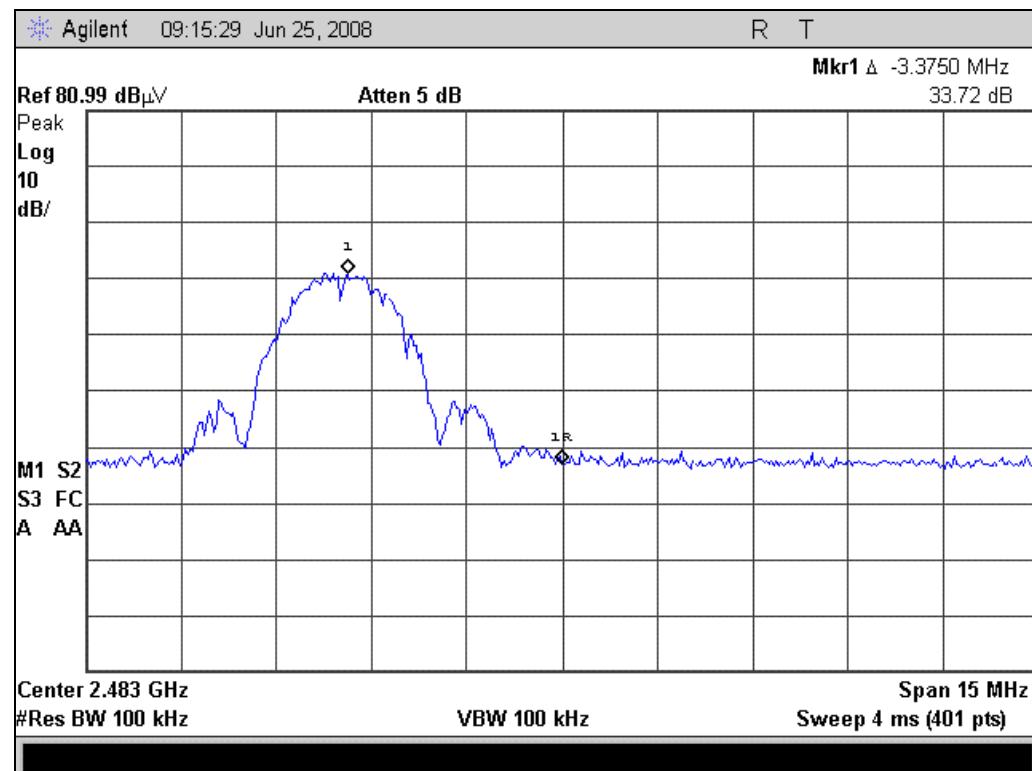
### Test Setup



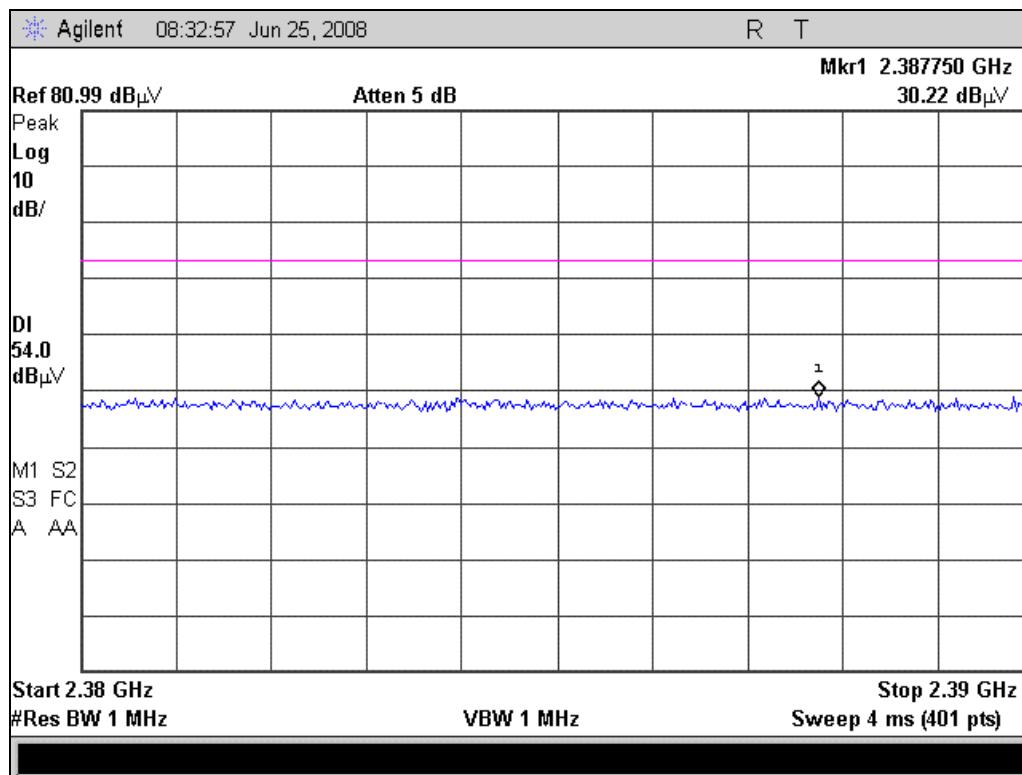
### Radiated Spurious Emissions

Tuned Freq (MHz)	Emission Freq (MHz)	Peak Measured Level (dBuV/m)	Peak Limit (dBuV/m)	Result
2405	4809.1	37.0	74.0	Pass
2440	4879.0	34.7	74.0	Pass
2480	4961.5	28.9	74.0	Pass

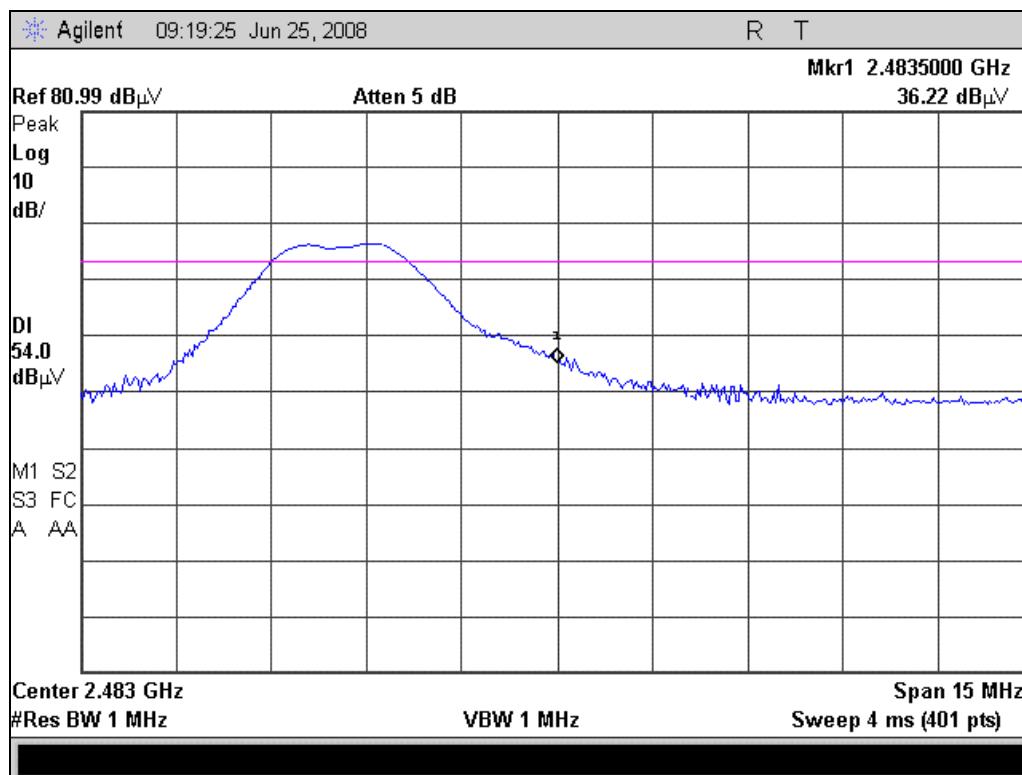
The peak-radiated power was below the average limit therefore no additional testing is required.

**Band Edge 2400 MHz**

**Band Edge 2483.5 MHz**


### Restricted Band Peak 2390 MHz



### Restricted Band Peak 2483.5 MHz



**Name of Test:** 99% Occupied Bandwidth  
**Specification:** RSS 210 Industry Canada Only  
**Test Equipment Utilized** i00103, i00331

**Test Date: 6/25/08**

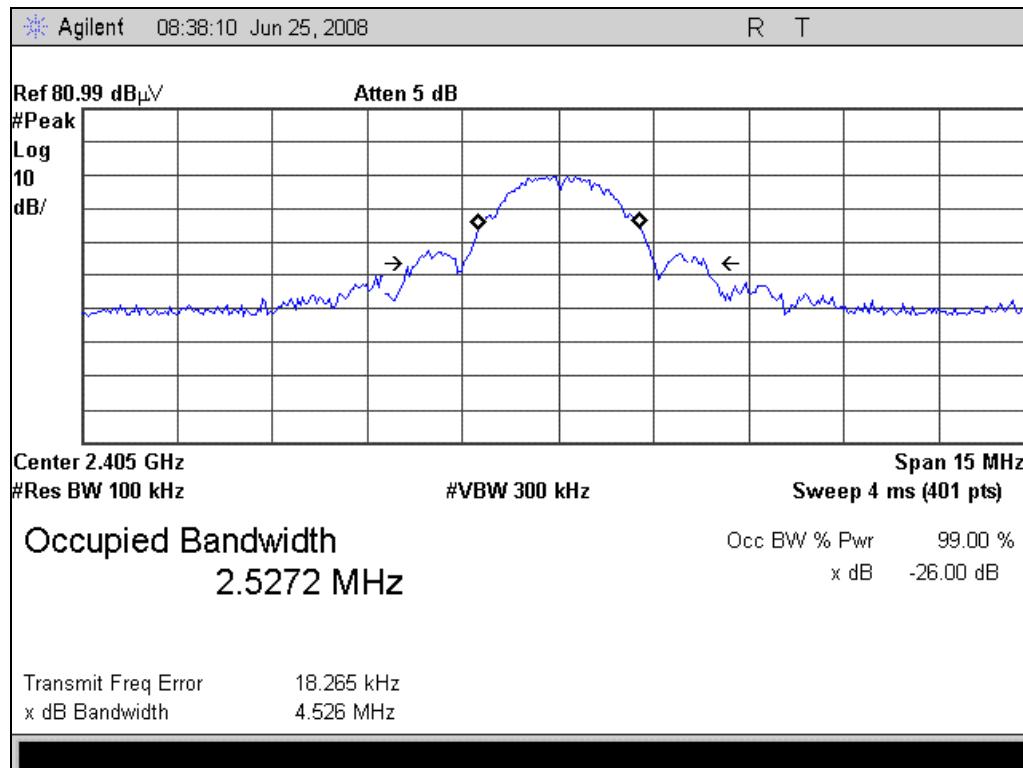
### Test Procedure

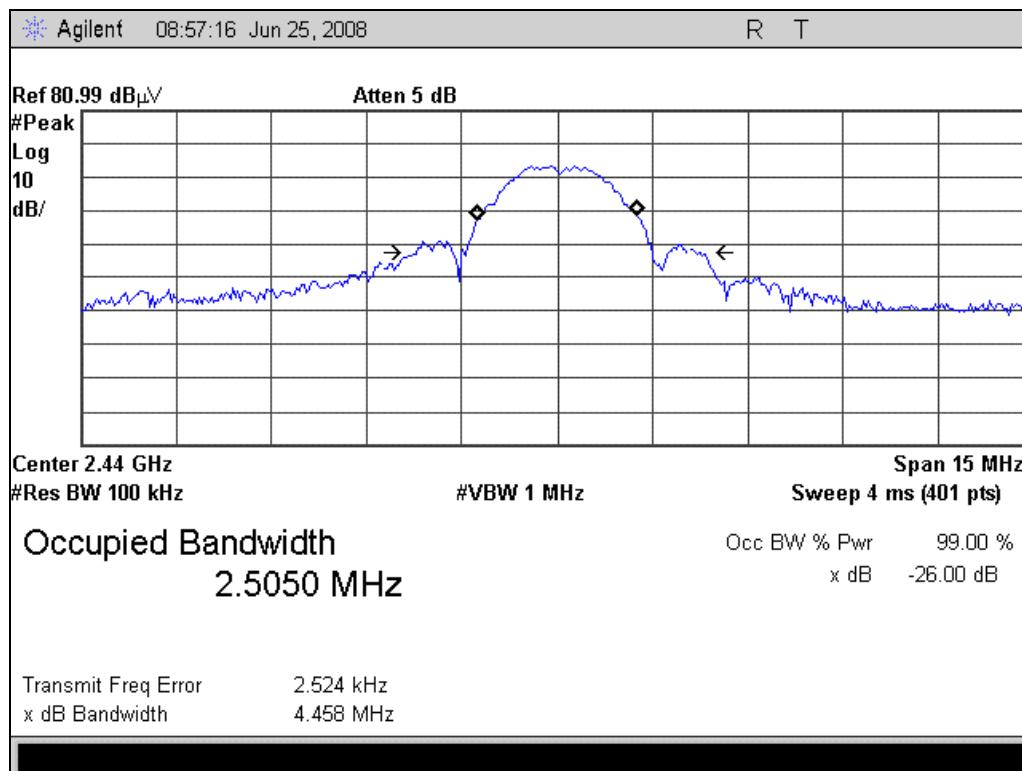
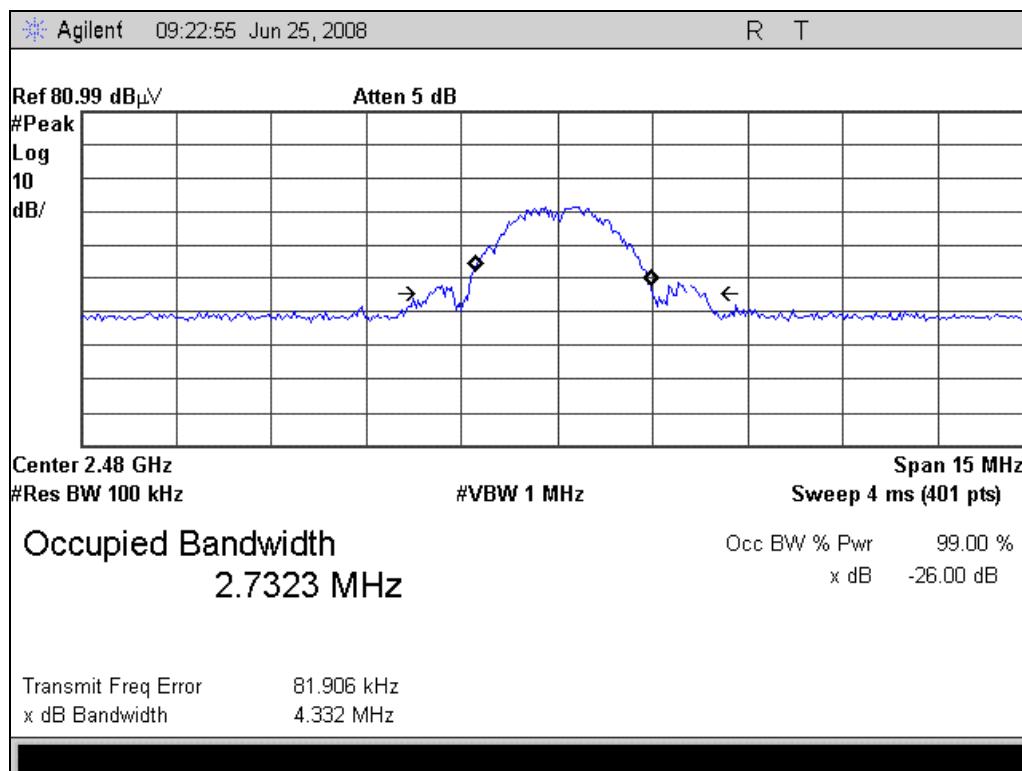
The UUT was tested on an Open Area Test Site (OATS) at a distance of 3 meters from the receiving antenna. A spectrum analyzer was used to verify that the UUT met the Occupied Bandwidth.

### Occupied Bandwidth Summary

Frequency MHz	Recorded Measurement	Result
2405	2.5272 MHz	Pass
2440	2.5050 MHz	Pass
2480	2.7323 MHz	Pass

### 99% Bandwidth 2405 MHz



**99% Bandwidth 2440 MHz**

**99% Bandwidth 2480 MHz**


### Test Equipment Utilized

Description	MFG	Model Number	FTL Asset Number	Last Cal Date	Cal Due Date
Horn Antenna	EMCO	3115	i00103	9/5/06	9/5/08
Spectrum Analyzer	HP	E4407B	i00331	10/23/07	10/23/08

In addition to the above listed equipment standard RF connectors and cables were utilized in the testing of the described equipment. Prior to testing these components were tested to verify proper operation.

### DO OF TEST REPORT