Flom Test Lab
EMI, EMC, RF Testing Experts Since 1963
toll-free: (866) 311-3268
fax: (480) 926-3598
http://www.flomlabs.com
info@flomlabs.com

Date: November 12, 2008

Federal Communications Commission
Via: Electronic Filing

Attention: Authorization & Evaluation Division

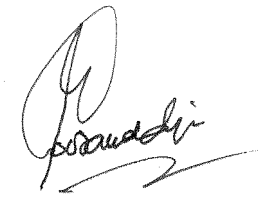
Applicant: eInstruction
Equipment: MOBI IP500
FCC ID: CTW-MOBI
FCC Rules: **15.247**

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: eInstruction

FCC ID: CTW-MOBI

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

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Test Report

for

FCC ID: CTW-MOBI

Model: IP500

to

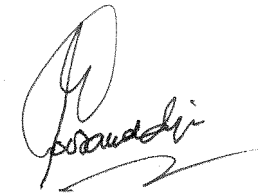
Federal Communications Commission

Rule Part(s) 15.247

Date Of Report: November 12, 2008

On the Behalf of the Applicant: eInstruction
8224 E Evans Road
Scottsdale, AZ 85260

Attention of: Dana Doubrava
Ph: 480-443-2287
Fax: 480-948-5508
Email: dana.doubrava@einstruction.com



Supervised By: Hoosamuddin S. Bandukwala, Lab Director

Flom Test Lab

Test Report Revision History

Revision	Date	Revised By	Reason for revision
1.0	November 12, 2008	J Erhard	Original Document
2.0	February 10, 2009	J Erhard	Edit typo in power table
3.0	February 23, 2009	J Erhard	Retest radiated band edge

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.

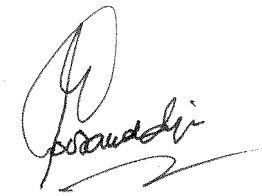
Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories 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.

Flom Test Lab

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

Flom Test Lab
3356 N. San Marcos Place, Suite 107
Chandler, Arizona 85225-7176
(866) 311-3268 phone, (480) 926-3598 fax

Flom Test Lab

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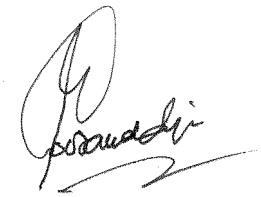
Required information per ISO 17025-2005, paragraph 5.10.2:

a) **Test Report**

b) Laboratory: (FCC: 31040/SIT) (Canada: IC 2044A-1)	Flom Test Lab, Inc. 3356 N. San Marcos Place, Suite 107 Chandler, AZ 85225
c) Report Number:	d0920003
d) Client:	eInstruction
e) Identification:	CTW-MOBI
Description:	Wireless PCB Module, Model IP500, for SPS500 School Pad System
f) EUT Condition:	Not required unless specified in individual tests.
g) Report Date:	November 12, 2008
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 15.247

Sub-Part 2.1033
(c)(1):

Name and Address of Applicant: eInstruction

(c)(2): **FCC ID**: CTW-MOBI

Model Number: IP500

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

Please See Attached Exhibits

(c)(4): **Type of Emission**: QPSK

(c)(5): **FREQUENCY RANGE, MHz**: 2402 to 2479

(c)(6): **Power Rating, W**: .838 mW

____ Switchable ____ Variable __x__ N/A

(c)(7): **Maximum Power Rating, W**: 1W

15.203: **Antenna Requirement**:

__X__ 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

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: 15.247, Operation within bands 902-928, 2400-2483.5, 5725-5850 MHz

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, FCC DTS Guide March 23, 2005, and 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 for current scope of accreditation.

Certificate number: 2152.01

ACCREDITED
CERT NO: 2152-01

FCC OATS Reg. #933597

IC Reg. # 2044A-1

Test Results Summary

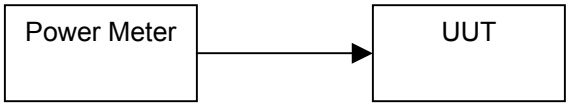
Specification	Test Name	Pass, Fail, N/A	Comments
15.247(b)	Peak Output Power	Pass	
15.247(d)	Conducted Spurious Emissions	Pass	
15.247(d), 15.209(a), 15.205	Radiated Spurious Emissions	Pass	
15.247(d), 15.209(a), 15.205	Emissions At Band Edges	Pass	
15.247(a)(2)	Occupied Bandwidth	Pass	
15.247(e)	Transmitter Power Spectral Density	Pass	
15.207	A/C Powerline Conducted Emissions	Pass	

Name of Test: Peak Output Power
Specification: 15.247(b) **Engineer: J Erhard**
Test Equipment Utilized i00228, i00344 **Test Date: 11/05/08**

Test Procedure

The UUT was connected directly to a power meter input. The peak readings were taken and the result was then compared to the limit.

Test Setup



Transmitter Peak Output Power

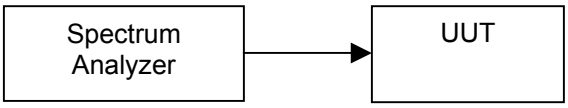
Tuned Frequency MHz	Recorded Measurement	Specification Limit	Result
2402	0.838 mW	1 W	Pass
2441	0.701 mW	1 W	Pass
2479	0.570 mW	1 W	Pass

Name of Test: Conducted Spurious Emissions
Specification: 15.247(d) **Engineer: J Erhard**
Test Equipment Utilized i00331 **Test Date: 11/06/08**

Test Procedure

The UUT was connected directly to a spectrum analyzer to verify that the UUT met the requirements for spurious emissions. The reference level was offset for the peak power output with the resolution bandwidth set for 1 MHz. The frequency range from 30 MHz to the 10th harmonic of the fundamental transmitter was observed. The reference level is added to the recorded measurement to provide the corrected level dBc. Only the worst case is recorded in the Conducted Spurious Emissions Summary Test Table.

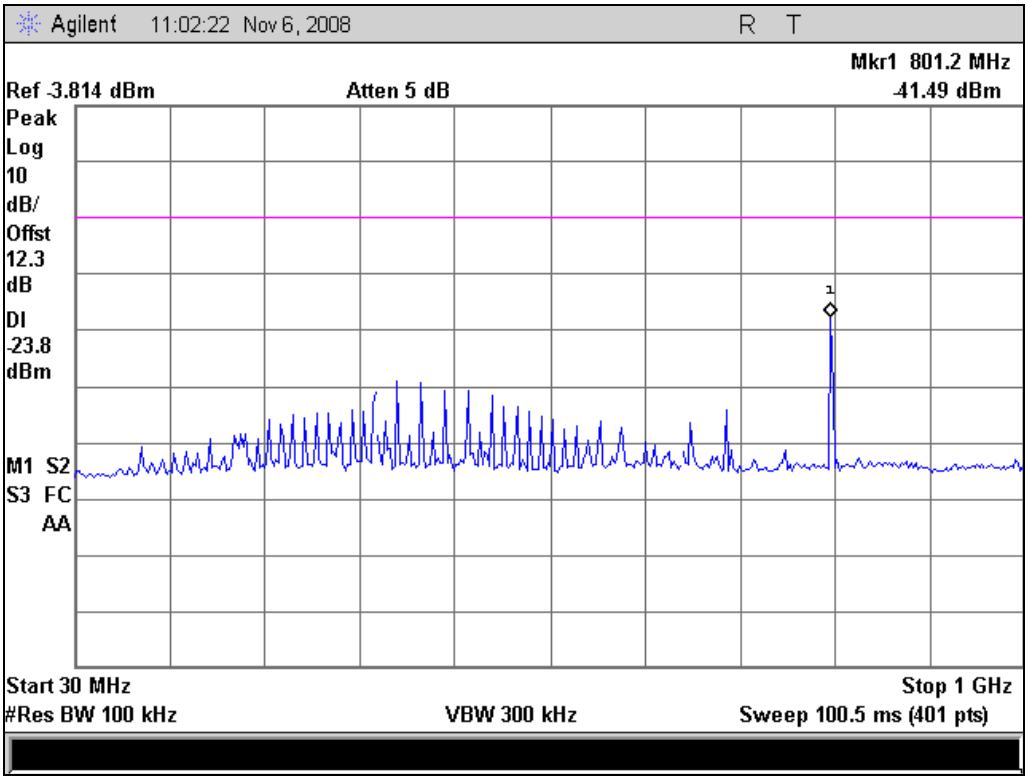
Test Setup

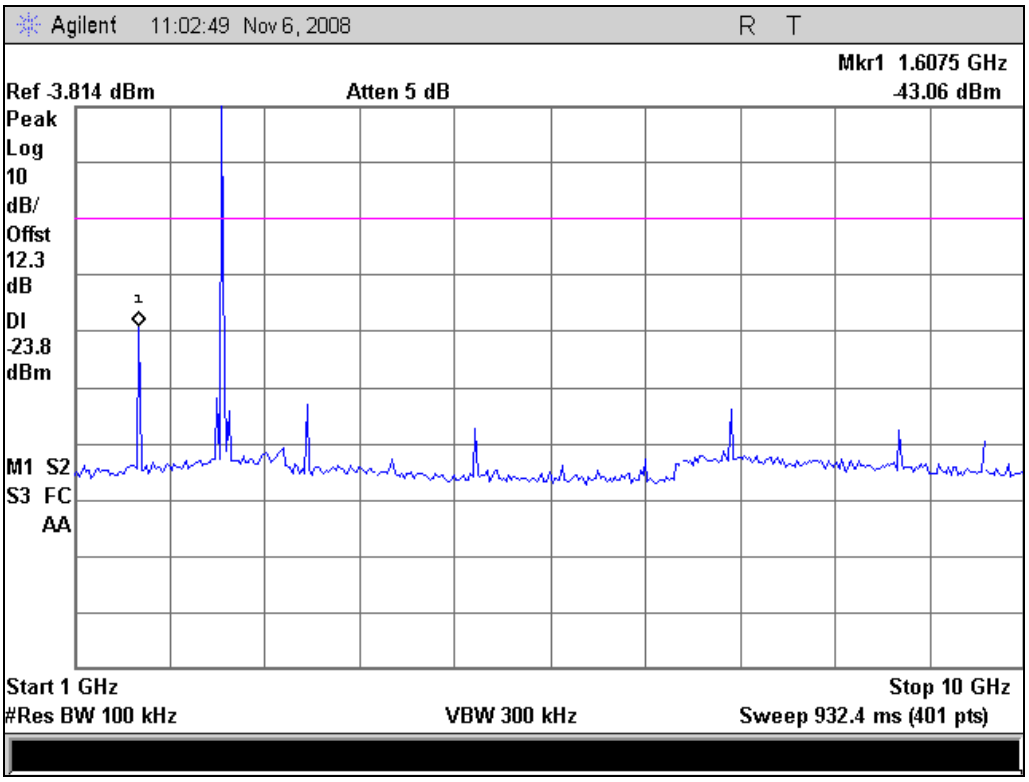


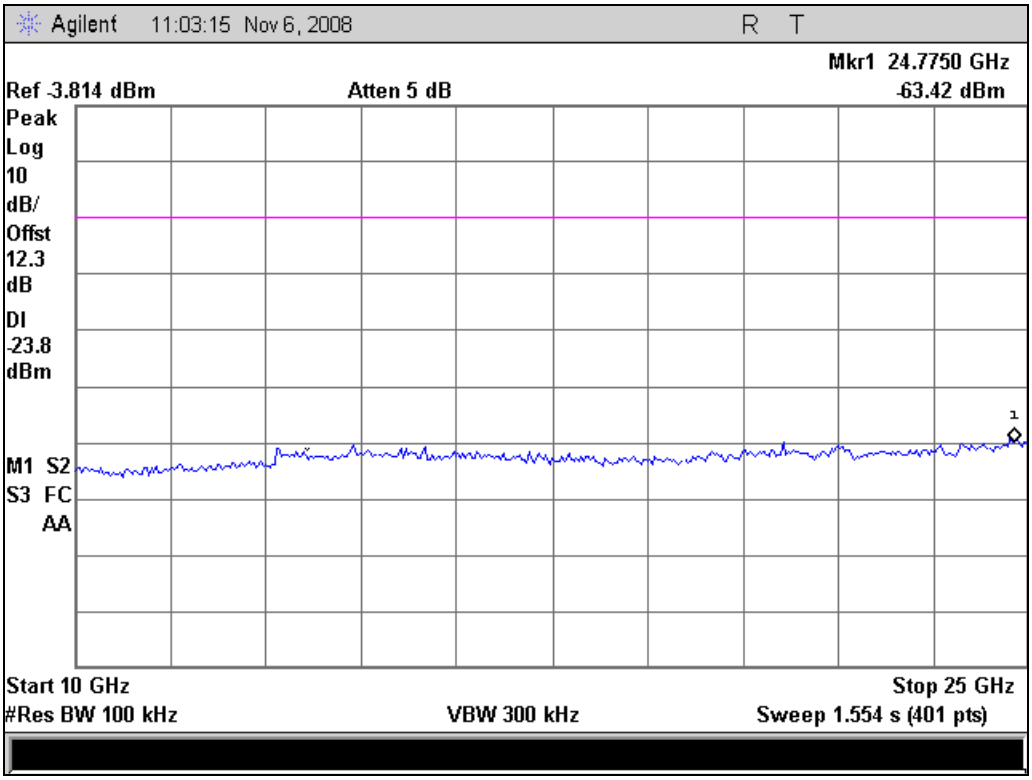
Conducted Spurious Emissions Summary Test Table

Tuned Frequency MHz	Emission Frequency MHz	Recorded Measurement	Reference Level	Corrected Measurement	Specification Limit	Result
2402	801.2 MHz	-41.49 dBm	-3.814 dBm	-37.676 dBc	-20 dBc	Pass
2441	813.8 MHz	-42.20 dBm	-3.837 dBm	-38.363 dBc	-20 dBc	Pass
2479	827.8 MHz	-41.69 dBm	-4.752 dBm	-36.938 dBc	-20 dBc	Pass

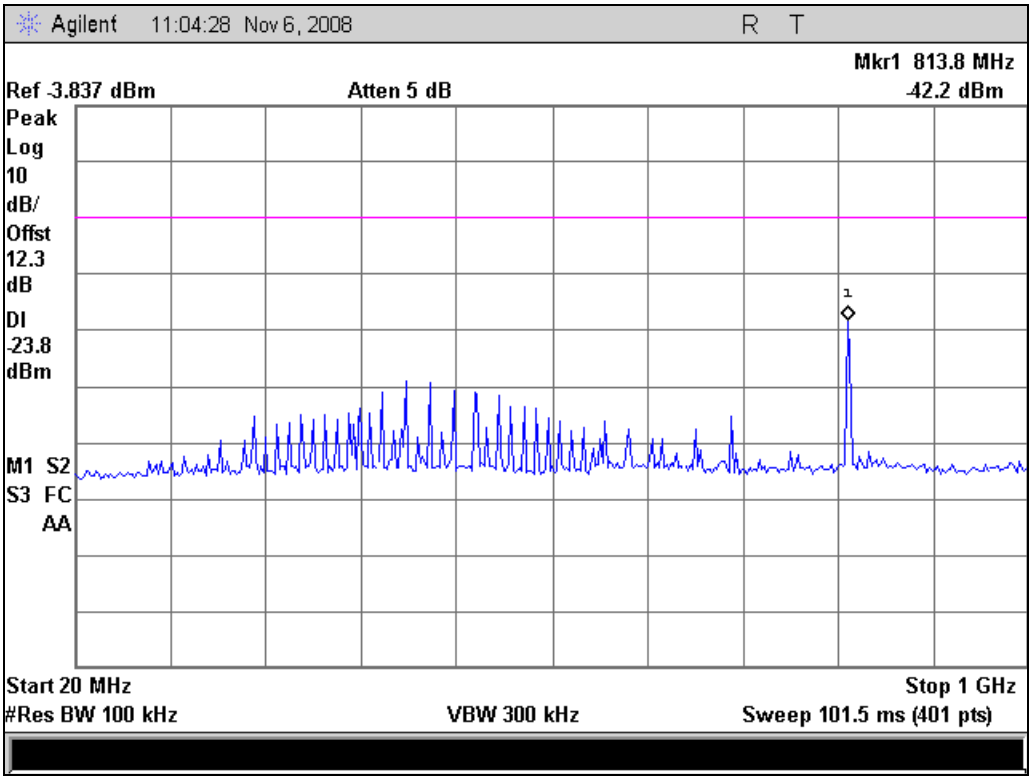
Conducted Spurious Emissions 2402 MHz

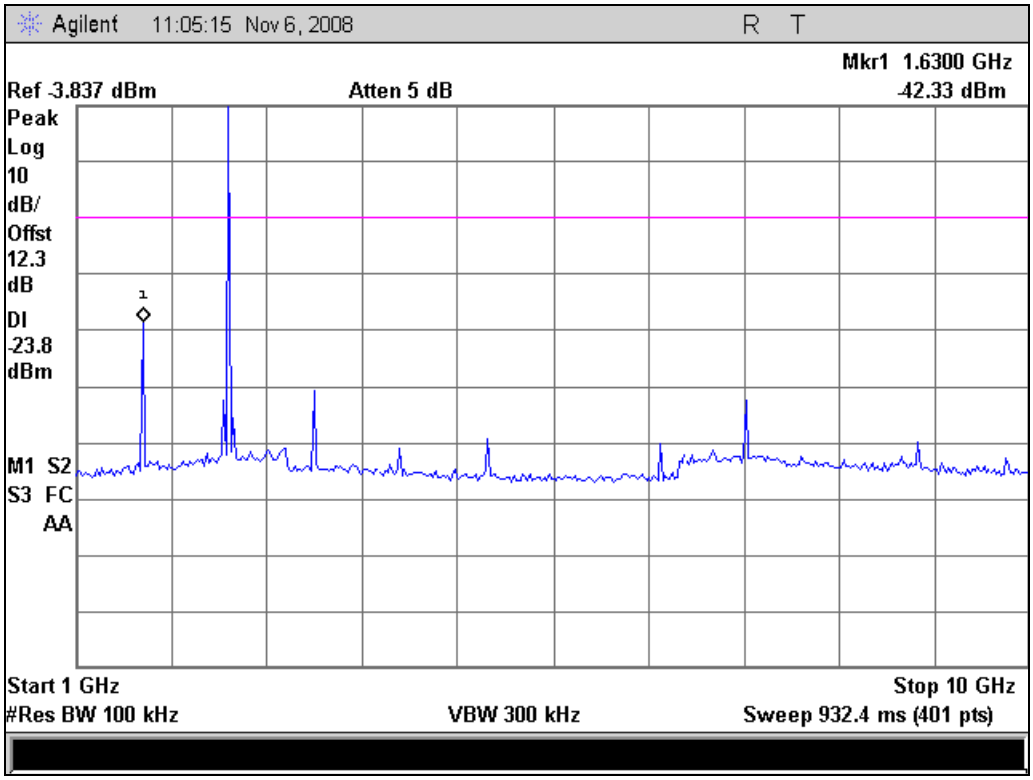


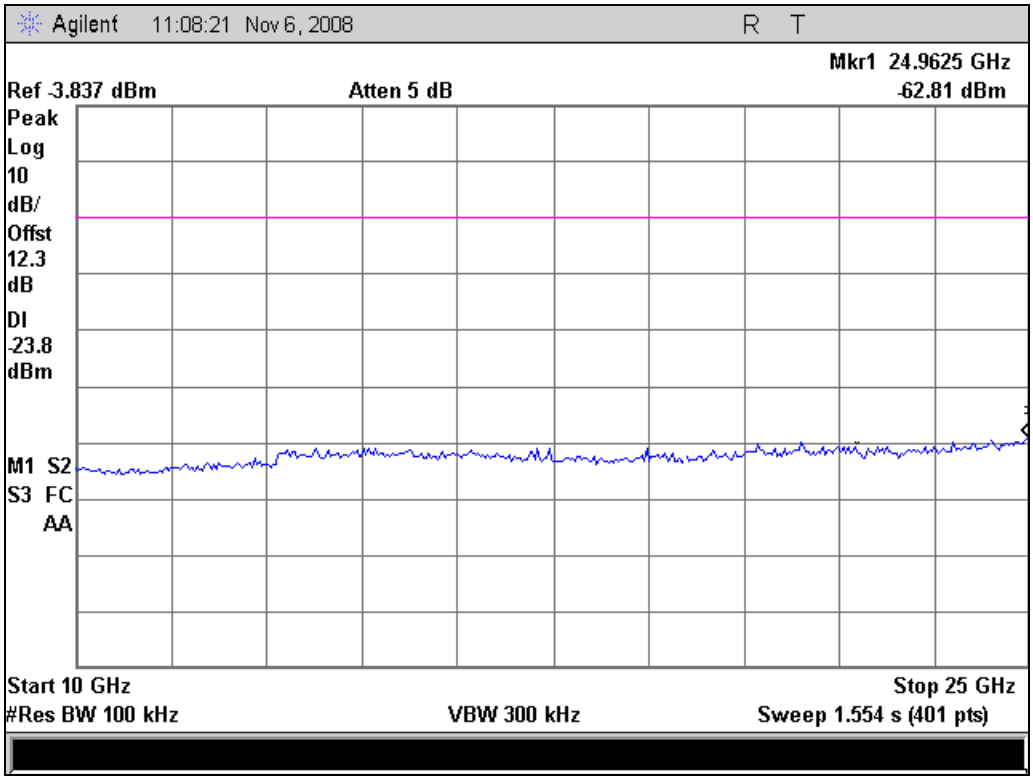




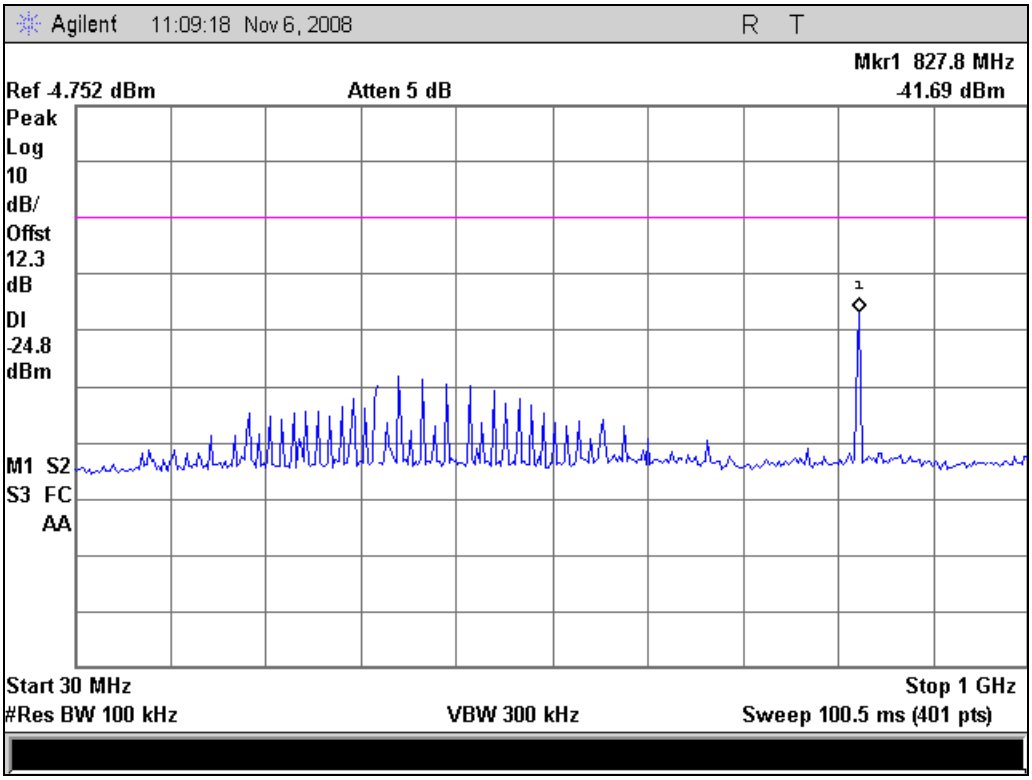
Conducted Spurious Emissions 2441 MHz

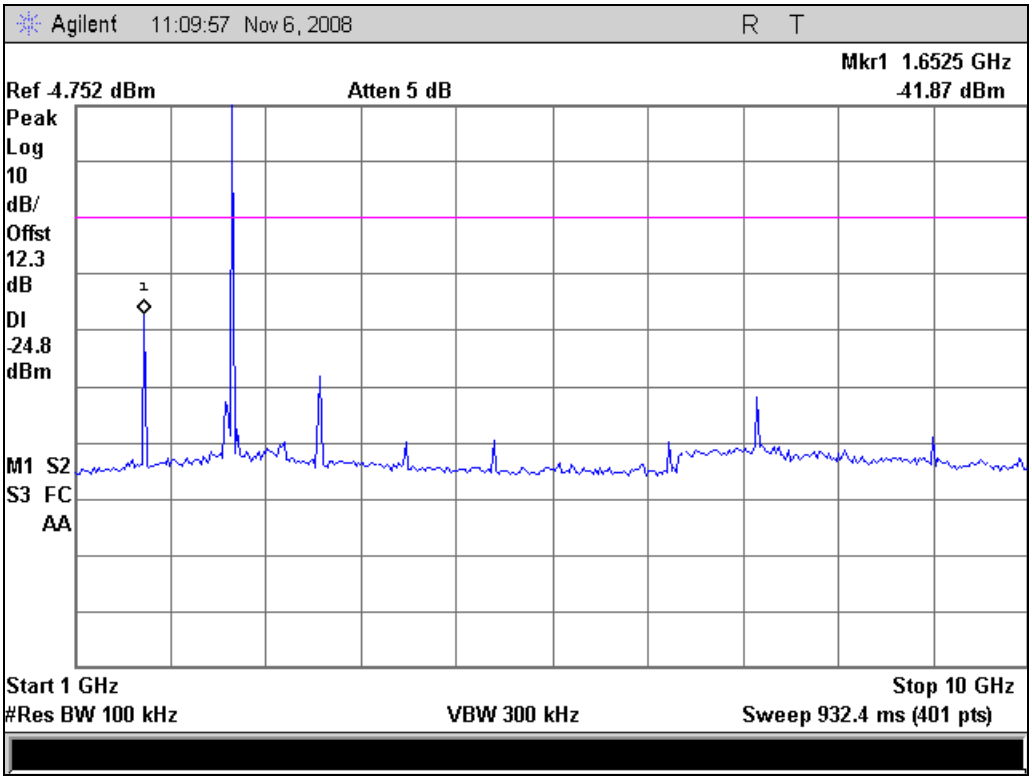


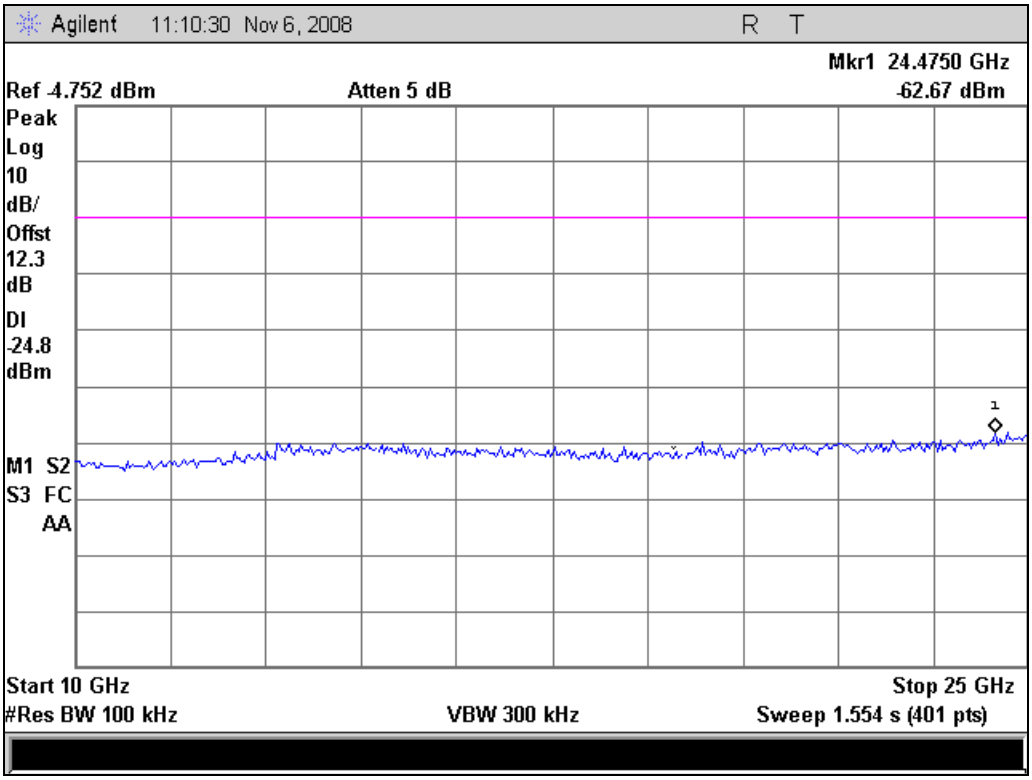

Agilent 11:05:15 Nov 6, 2008
R T
Mkr1 1.6300 GHz
Ref -3.837 dBm
Atten 5 dB
-42.33 dBm
Peak
Log
10
dB/
Offst
12.3
dB
Dl
-23.8
dBm
M1 S2
S3 FC
AA
Start 1 GHz
Stop 10 GHz
#Res BW 100 kHz
VBW 300 kHz
Sweep 932.4 ms (401 pts)


Agilent 11:08:21 Nov 6, 2008
R T
Mkr1 24.9625 GHz
Ref -3.837 dBm
Atten 5 dB
-62.81 dBm
Peak
Log
10
dB/
Offst
12.3
dB
Dl
-23.8
dBm
M1 S2
S3 FC
AA
Start 10 GHz
Stop 25 GHz
#Res BW 100 kHz
VBW 300 kHz
Sweep 1.554 s (401 pts)

Conducted Spurious Emissions 2479 MHz





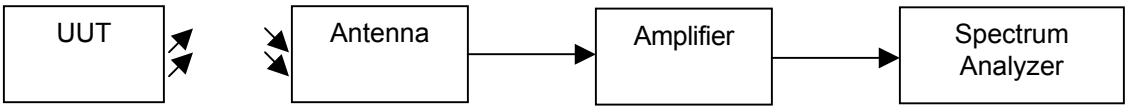

Agilent 11:10:30 Nov 6, 2008
R T
Mkr1 24.4750 GHz
Ref -4.752 dBm
Atten 5 dB
-62.67 dBm
Peak
Log
10
dB/
Offst
12.3
dB
Dl
-24.8
dBm
M1 S2
S3 FC
AA
Start 10 GHz
Stop 25 GHz
#Res BW 100 kHz
VBW 300 kHz
Sweep 1.554 s (401 pts)

Name of Test: Radiated Spurious Emissions
Specification: 15.247(d), 15.209(a), 15.205 **Engineer: J Erhard**
Test Equipment Utilized i00271, i00331 **Test Date: 11/10/08**

Test Procedure

The UUT was tested in a semi-anechoic chamber set 3m from the receiving antenna. A spectrum analyzer was used to verify that the UUT met the requirements for Radiated Spurious Emissions. The antenna and cable correction factors were summed with the amplifier gain and input into the spectrum analyzer as an offset to ensure accurate readings. The spectrum for each tuned frequency was examined to the 10th harmonic.

Test Setup



Radiated Spurious Emissions

Tuned Freq (MHz)	Emission Freq (MHz)	Peak Monitored Level (dBuV/m)	Peak Limit (dBuV/m)	Average Monitored Level (dBuV/m)	Average Limit (dBuV/m)	Result
2402	4803.77	54.71	74.0	51.67	54.0	Pass
2402	7207.45	39.10	74.0	32.48	54.0	Pass
2402	9606.95	44.79	74.0	39.70	54.0	Pass
2441	4881.55	52.23	74.0	49.43	54.0	Pass
2441	7322.10	40.56	74.0	35.64	54.0	Pass
2441	9763.05	43.43	74.0	38.51	54.0	Pass
2479	4957.45	46.71	74.0	43.81	54.0	Pass
2479	7436.45	40.00	74.0	33.73	54.0	Pass
2479	9915.15	43.16	74.0	38.79	54.0	Pass

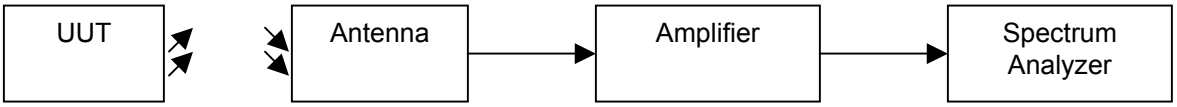
No other emissions were detectable. All emissions were greater than –20 dBc.

Name of Test: Emissions At Band Edges
Specification: 15.247(d), 15.209(a), 15.205 **Engineer: J Erhard**
Test Equipment Utilized i00271, i00331 **Test Date: 11/10/08**

Test Procedure

The UUT was tested in a semi-anechoic chamber set 3m from the receiving transducer. A spectrum analyzer was used to verify that the UUT met the requirements for band edge with both peak and average measurements. The cable and transducer correction factors were input into the analyzer as a reference level offset to ensure accurate readings were obtained. Only radiated measurements were taken as the UUT has an integrated antenna and making a conducted measurement creates an impedance mismatch altering the shape of the modulated signal therefore giving invalid results.

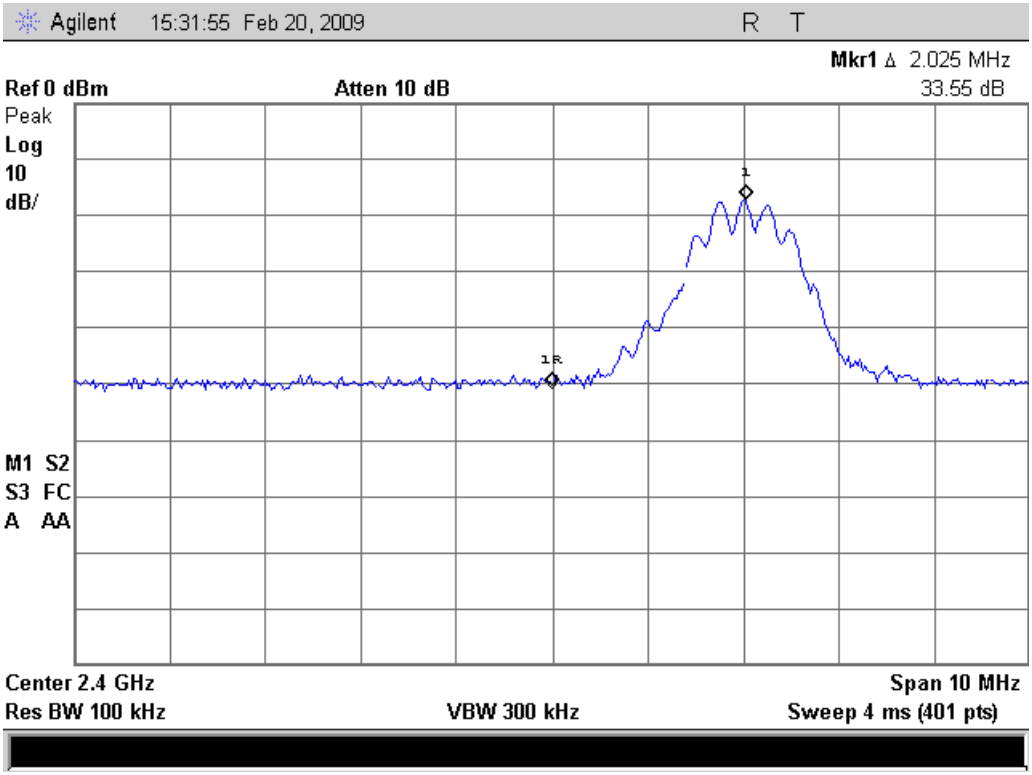
Test Setup



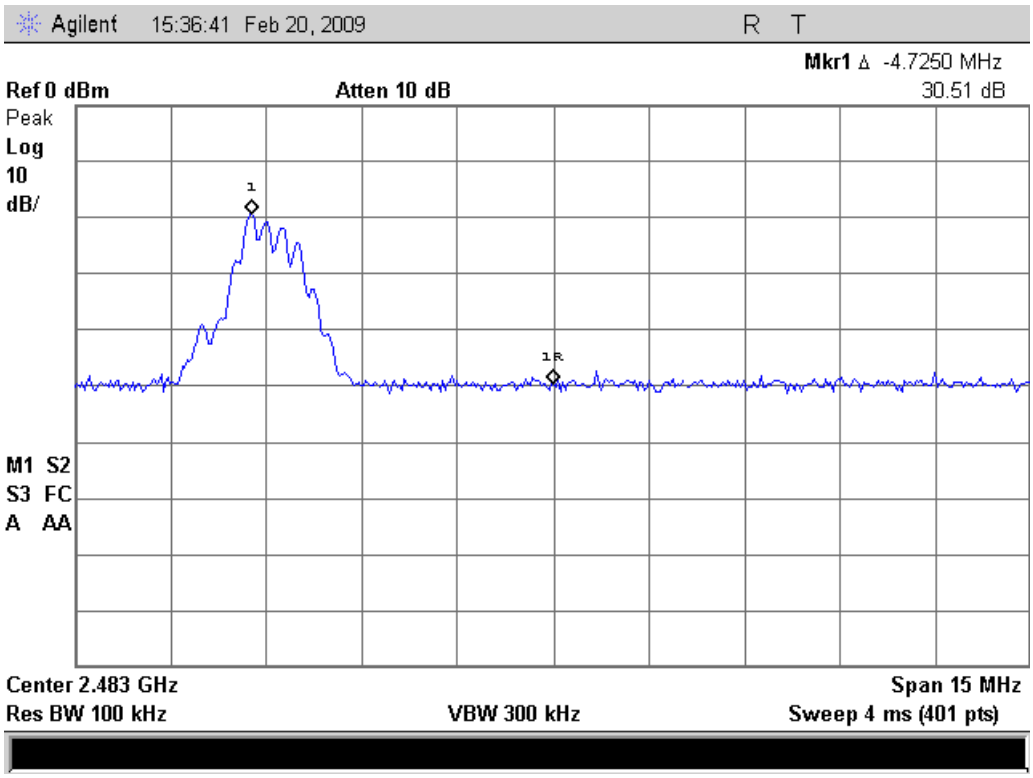
Band Edge Emissions Summary

Tuned Freq (MHz)	Emission Freq (MHz)	Monitored Level	Limit	Result
2402	2400	-33.55 dBc	-20 dBc	Pass
2479	2483.5	-30.51 dBc	-20 dBc	Pass

Band Edge 2400 MHz



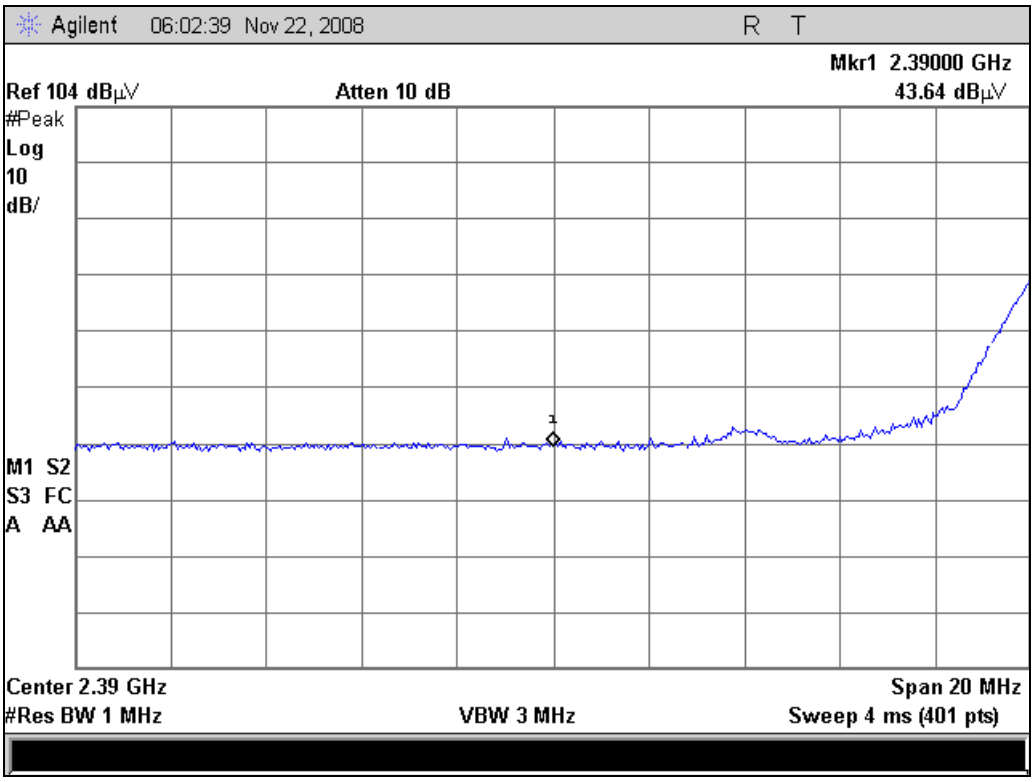
Band Edge 2483.5 MHz

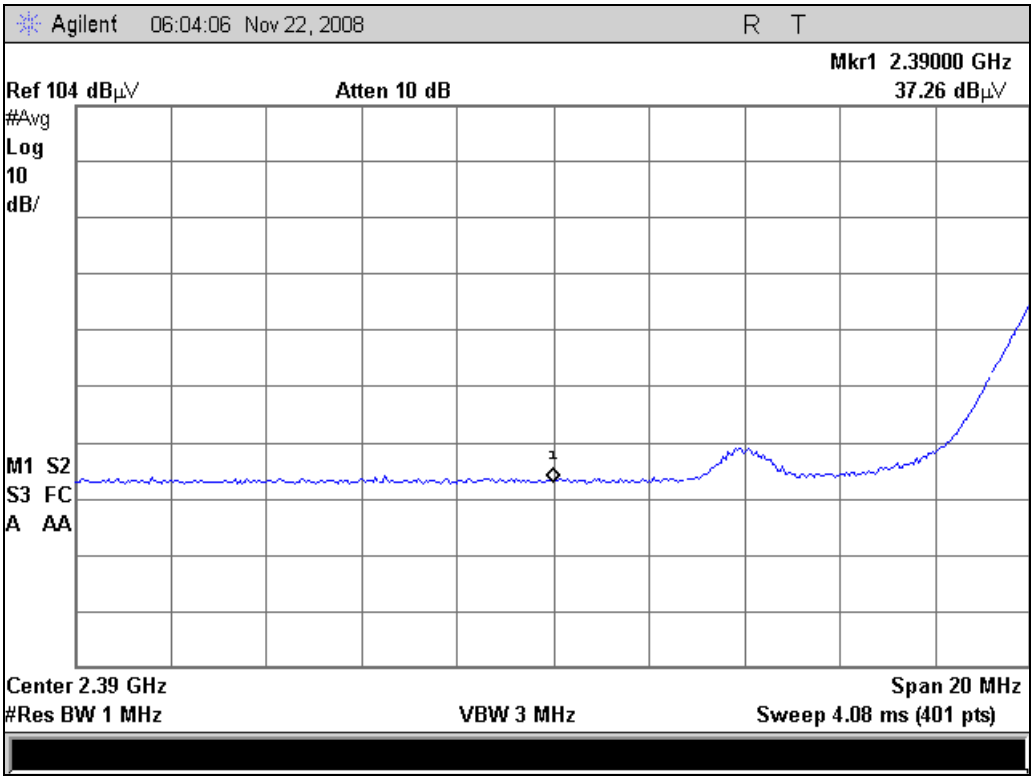


Restricted Band Emissions Summary

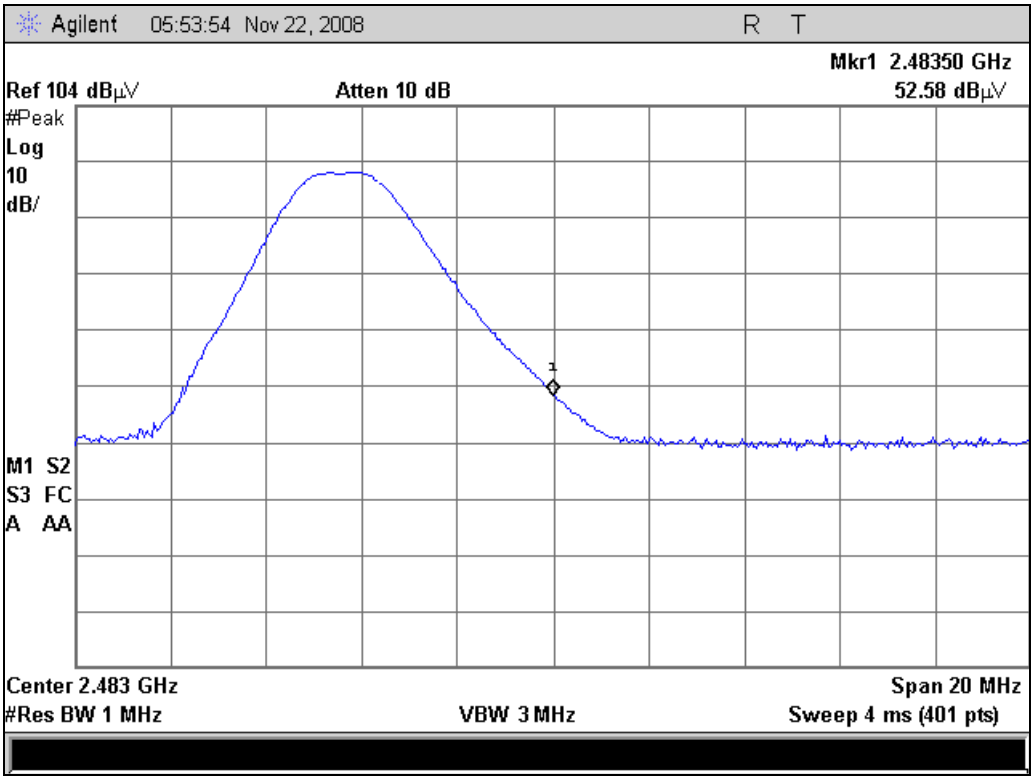
Tuned Freq (MHz)	Emission Freq (MHz)	Monitored Level (dBuV/m)	Detector	Limit (dBuV/m)	Result
2402	2390	43.64	Peak	74	Pass
2402	2390	37.26	Average	54	Pass
2479	2483.5	52.58	Peak	74	Pass
2479	2483.5	48.95	Average	54	Pass

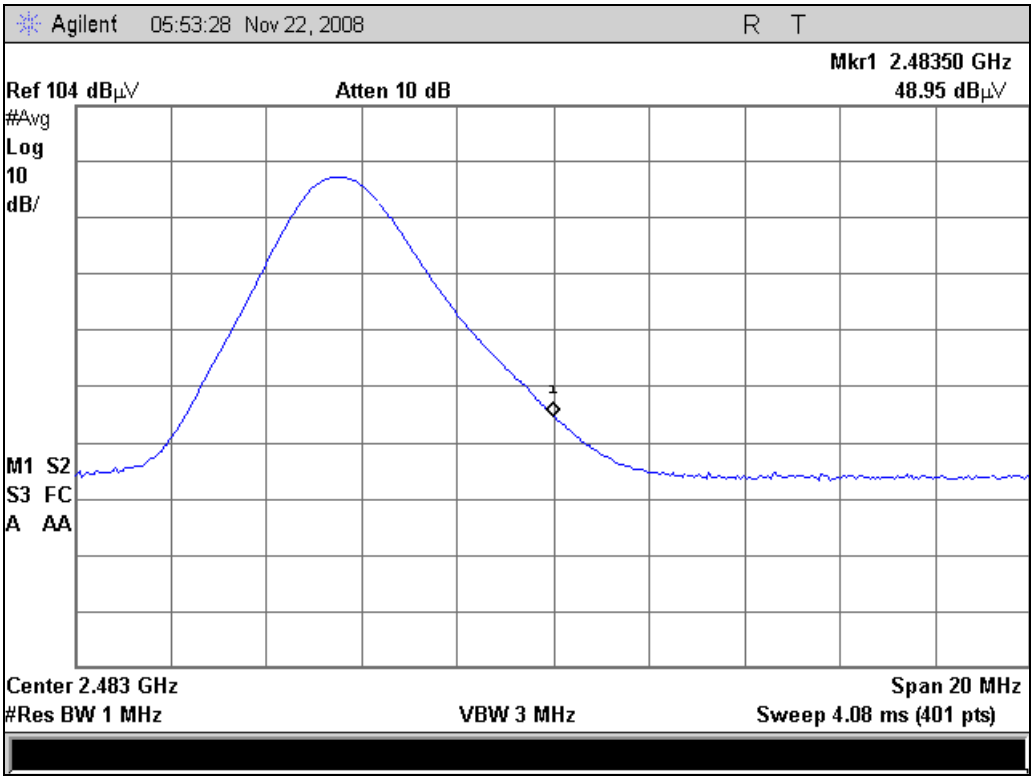
Restricted Band 2390 MHz





Restricted Band 2483.5 MHz



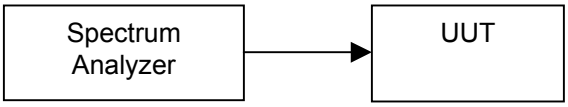


Name of Test: Occupied Bandwidth
Specification: 15.247(a)(2) **Engineer: J Erhard**
Test Equipment Utilized i00331 **Test Date: 11/05/08**

Test Procedure

The UUT was connected directly to a spectrum analyzer. The Span was set wide enough to capture the entire transmit spectrum and the resolution bandwidth was set to at least 1% of the span. The analyzer was set to max hold and when the entire spectrum was captured the 6dB and 99% bandwidths were measured to verify the bandwidth met the specification.

Test Setup



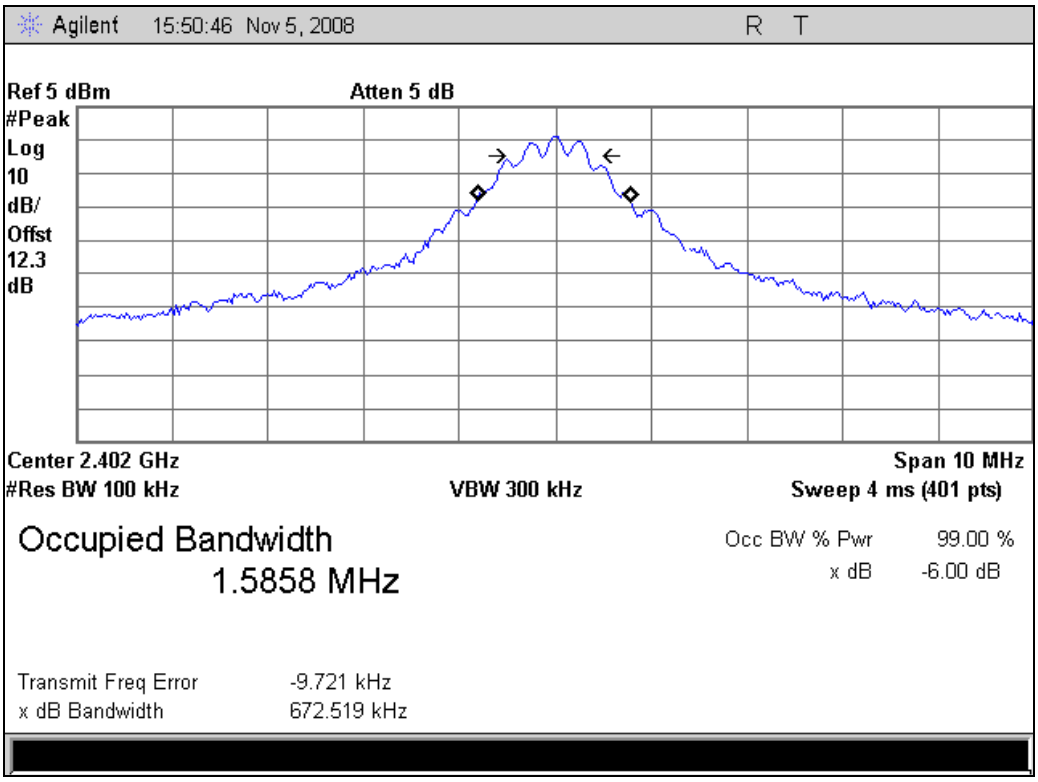
6dB Bandwidth Summary

Frequency MHz	Recorded Measurement	Specification Limit	Result
2402	672.519 kHz	≥ 500 KHz	Pass
2441	723.252 kHz	≥ 500 KHz	Pass
2479	730.703 kHz	≥ 500 KHz	Pass

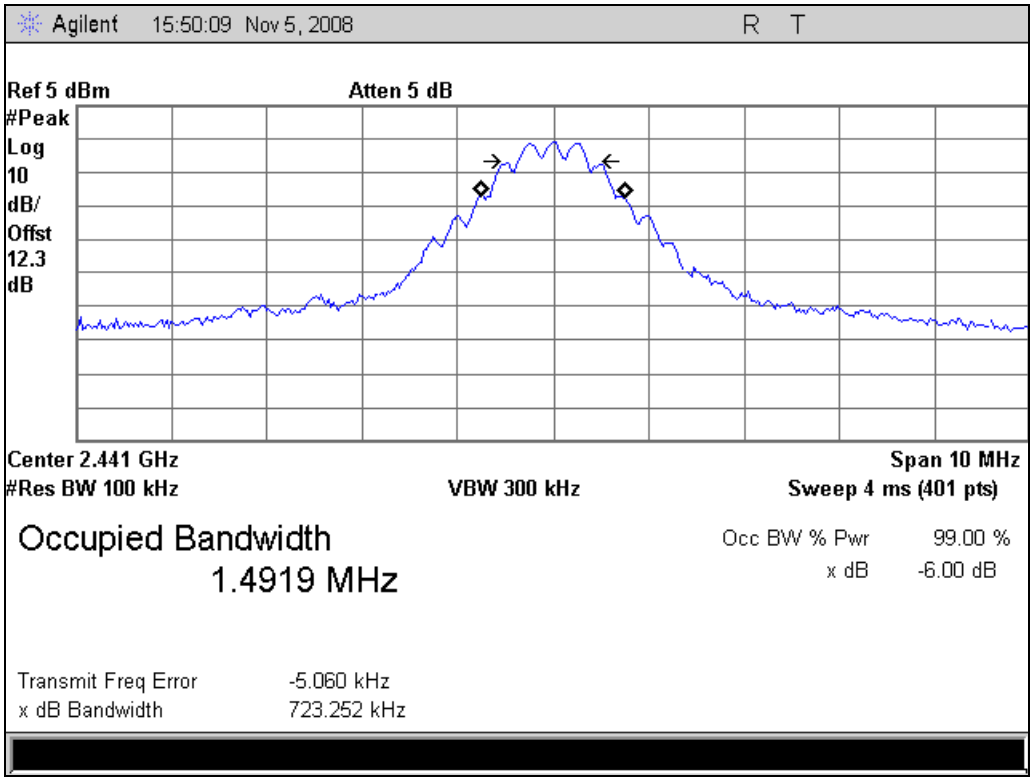
99% Bandwidth Summary

Frequency MHz	Recorded Measurement	Result
2402	1.5858 MHz	Pass
2441	1.4919 MHz	Pass
2479	1.4790 MHz	Pass

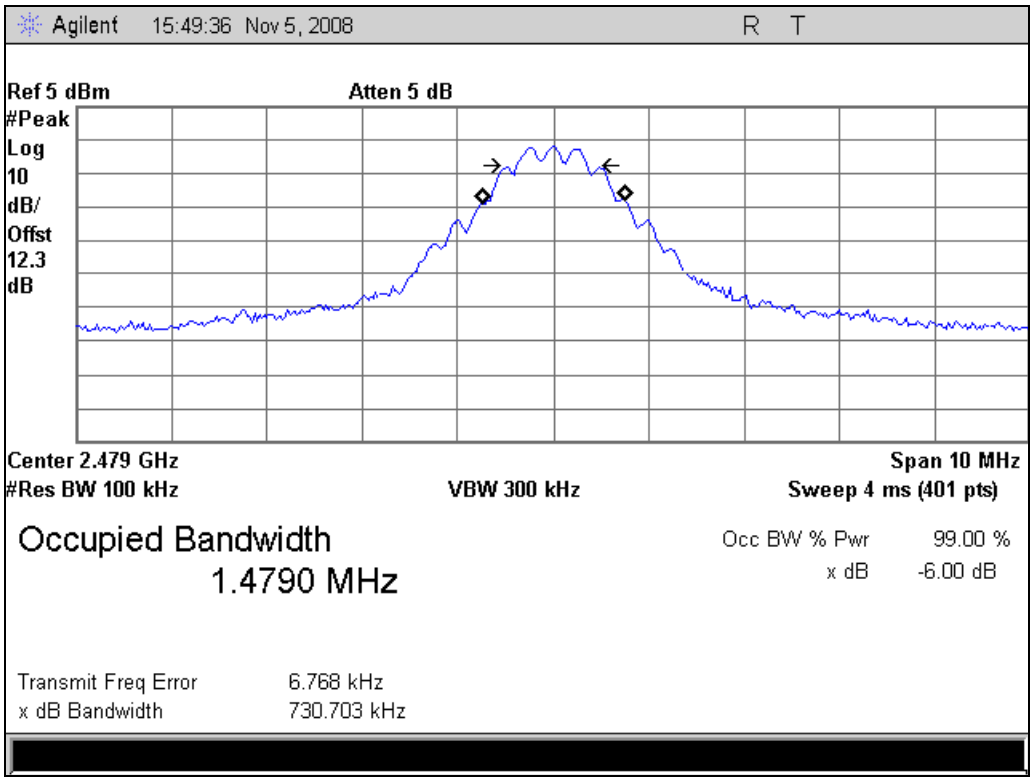
Bandwidth 2402 MHz



Bandwidth 2441 MHz



Bandwidth 2479 MHz

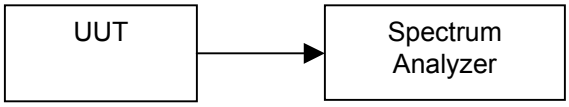


Name of Test: Transmitter Power Spectral Density (PSD)
Specification: 15.247(e) **Engineer: J Erhard**
Test Equipment Utilized i00331 **Test Date: 11/06/08**

Test Procedure

The UUT was connected directly to a spectrum analyzer. The Span was set to 1.5 MHz and the resolution bandwidth was set to 3 KHz. The analyzer was set for a sweep time of 500 seconds. When the entire spectrum was captured the marker peak function of the analyzer was utilized to verify the PSD met the specification.

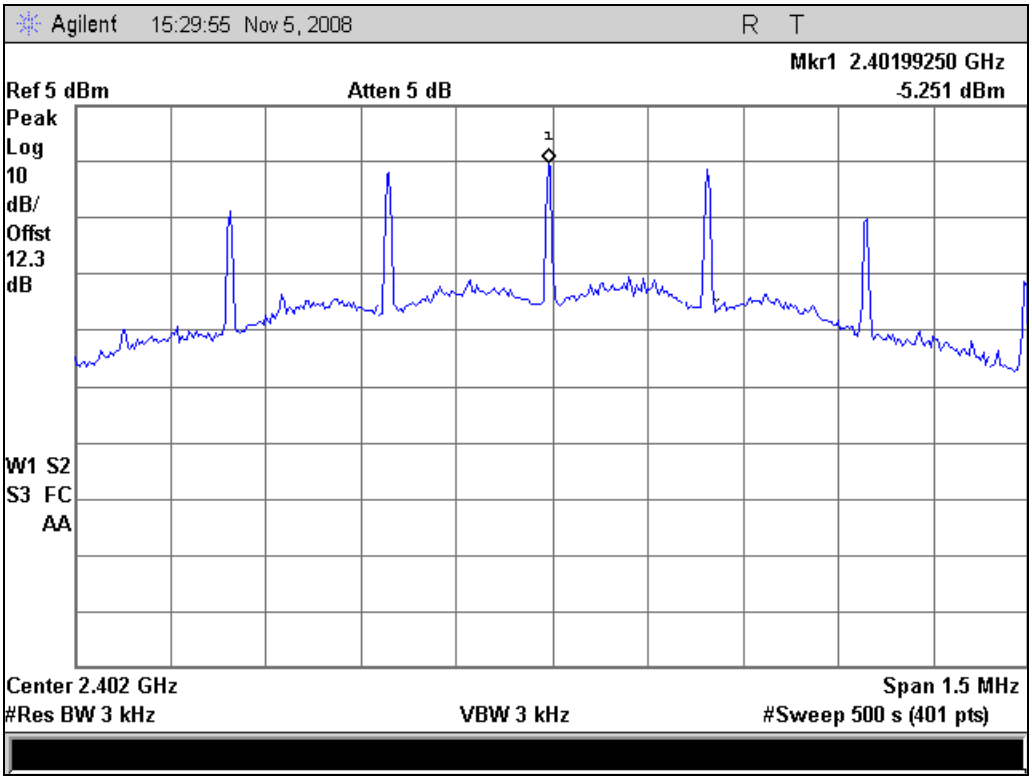
Test Setup



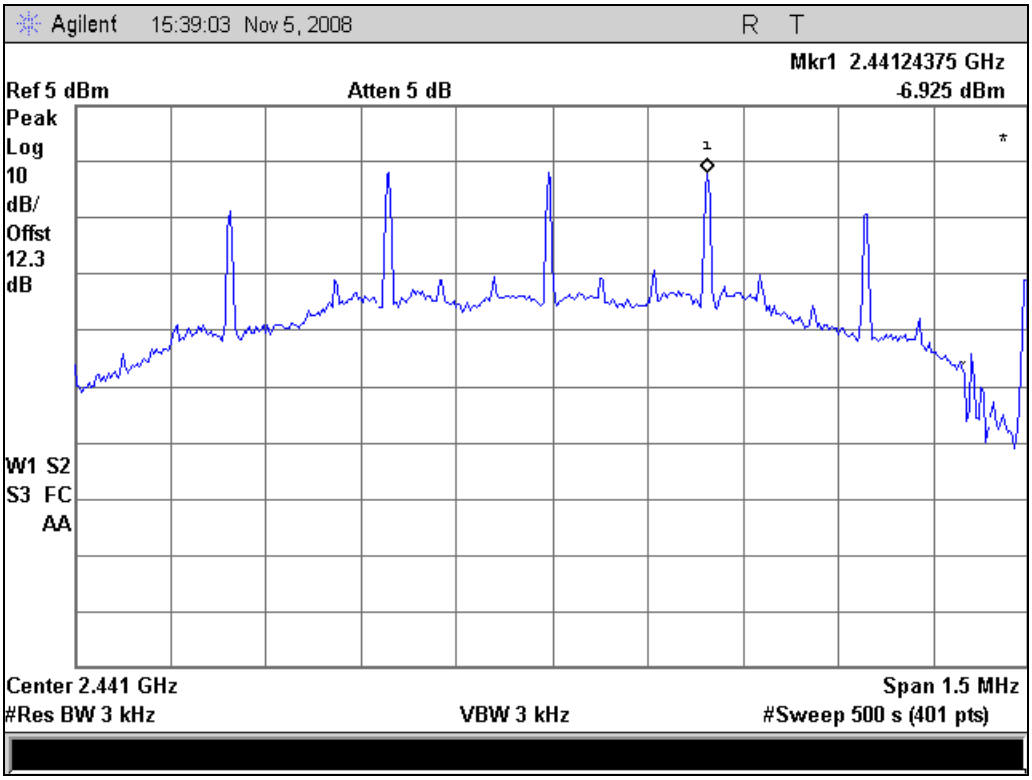
PSD Summary

Frequency MHz	Recorded Measurement	Specification Limit	Result
2402	-5.251 dBm	8 dBm	Pass
2441	-6.925 dBm	8 dBm	Pass
2479	-8.227 dBm	8 dBm	Pass

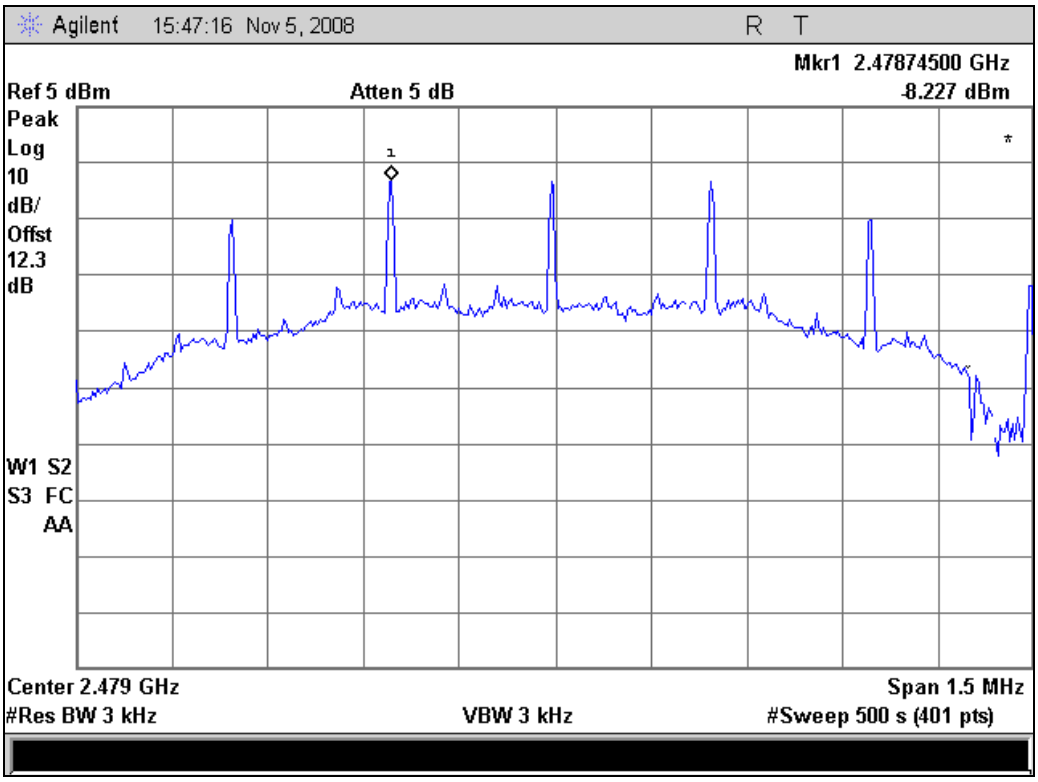
PSD 2402 MHz



PSD 2441 MHz



PSD 2479 MHz

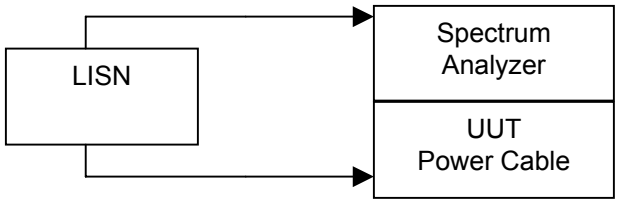

Agilent 15:47:16 Nov 5, 2008
R T
Mkr1 2.47874500 GHz
-8.227 dBm
Ref 5 dBm
Atten 5 dB
Peak
Log
10
dB/
Offst
12.3
dB
W1 S2
S3 FC
AA
Center 2.479 GHz
#Res BW 3 kHz
VBW 3 kHz
Span 1.5 MHz
#Sweep 500 s (401 pts)

Name of Test: A/C Powerline Conducted Emissions
Specification: 15.207 **Engineer: J Erhard**
Test Equipment Utilized i00033, i00270 **Test Date: 11/11/2008**

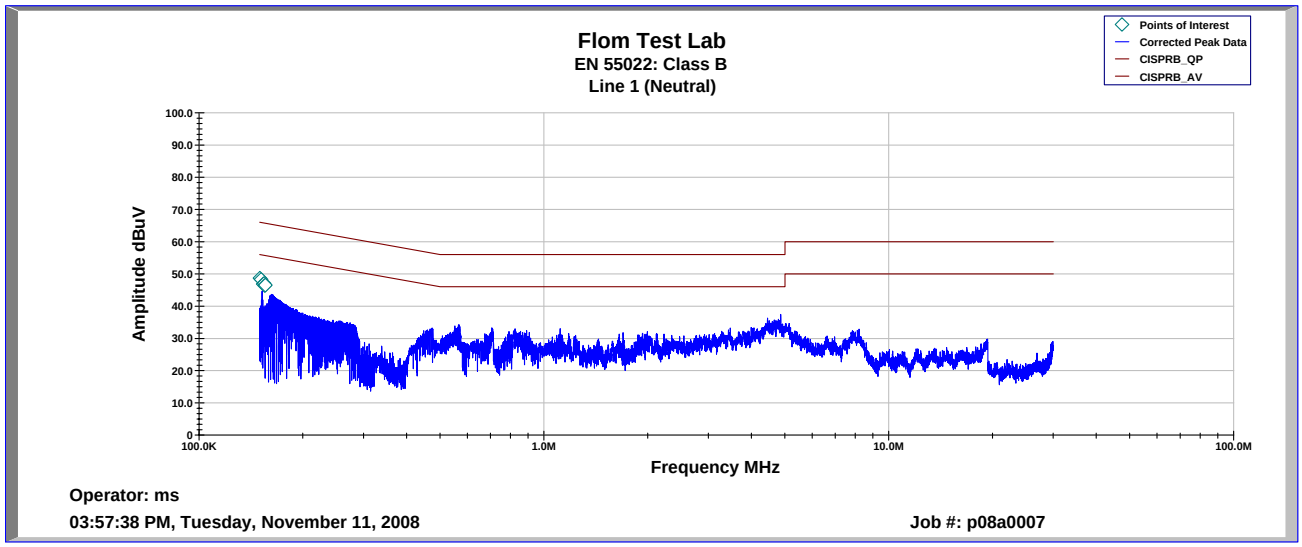
Test Procedure

The UUT power cable connected to a LISN and the monitored output of the LISN was connected directly to a spectrum analyzer. The conducted emissions from 150 kHz to 30 MHz were monitored and compared to the specification limits.

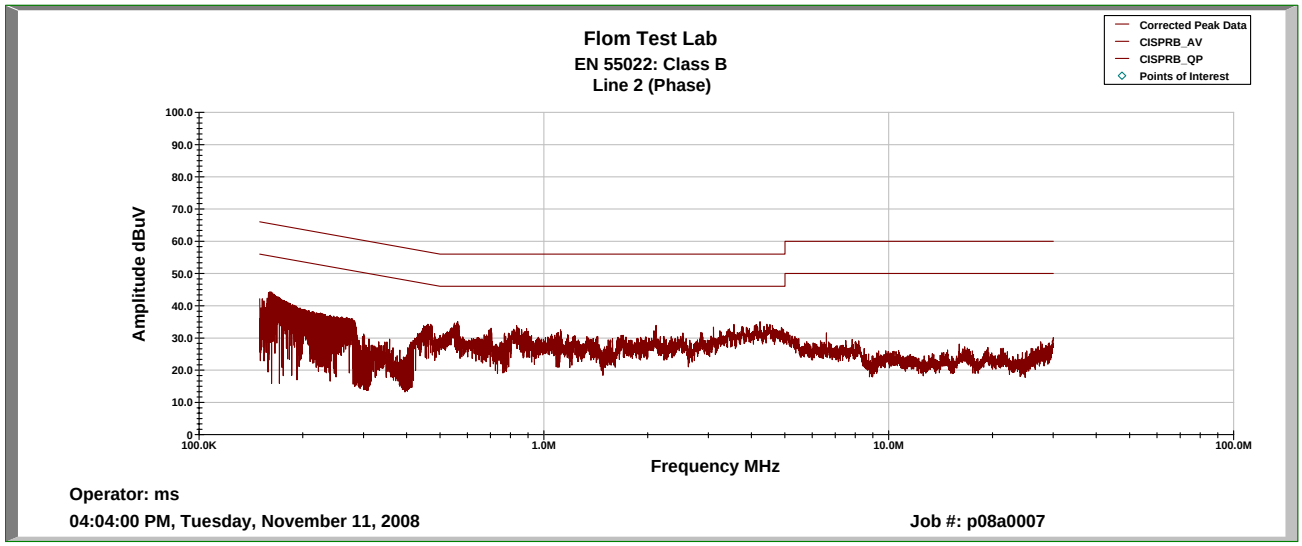
Test Setup



Line 1 Test Results



Line 2 Test Results



All peak values are below the quasi-peak limit.

Test Equipment Utilized

Description	MFG	Model Number	FTL Asset Number	Last Cal Date	Cal Due Date
Spectrum Analyzer	HP	8546A	i00033	10/14/08	10/14/09
Power Meter	HP	E4418B	i00228	10/01/08	10/01/09
LISN	FCC	FCC-LISN-50-32-2-01	i00270	9/17/08	9/17/10
Horn Antenna	ARA	DRG-1181A	i00271	3/6/07	3/6/09
Spectrum Analyzer	Agilent	E4407B	i00331	11/03/08	11/3/09
Power sensor	HP	8485A	i00344	9/30/08	9/30/09

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.

END OF TEST REPORT