



Compliance Testing

Previously Flom Test Lab

RF, EMC & Safety Testing Experts Since 1963

toll-free: (866) 311-3268

fax: (480) 926-3598

<http://www.ComplianceTesting.com>

info@ComplianceTesting.com

Test Report

For

FCC ID: L2V-COMM

Model: COMM

to

Federal Communications Commission

Rule Part(s) 25

Date of report: May 12, 2010

At the Request of:

Spot LLC
19349 N. 12th Street
Covington, LA 70433

Attention of:

Christopher Robinson
Ph: (985) 893-1048
Fax: 985-893-1858
Email: ChrisR@globalstar.com

Supervised by:

John Erhard: Engineering Manager

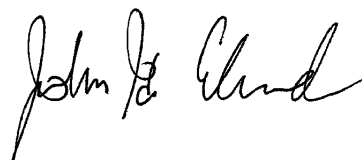
Test Report Revision History

Revision	Date	Revised By	Reason for revision
1.0	May 12, 2010	J. Erhard	Original Document

Testimonial And Statement Of Verification

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 is true and correct.



John Erhard: Engineering Manager

Certifying Engineer:

Table of Contents

<u>Rule</u>	<u>Description</u>	<u>Page</u>
	Test Report	2
	Standard Test Conditions and Engineering Practices	3
	List of General Technical Information	4
25.204	Power limits	5
25.202(c)(f) 25.216(f)(g)(i)	Emissions Limitations for Mobile Earth Stations	6
	Occupied Bandwidth	13
25.202(f)	Emission Masks	15
25.202(d)	Frequency Tolerance (Temperature Variation)	18
25.202(d)	Frequency Tolerance (Voltage Variation)	19
	Test Equipment Utilized	20

Required information per ISO 17025-2005, paragraph 5.10.2:

a) **Test Report**

b) Laboratory: Compliance Testing
(FCC:933597) 3356 N. San Marcos Place, Suite 107
(Canada: IC 2044-A) Chandler, AZ 85225

c) Report Number: d1050012

d) Client: Spot LLC
19349 N. 12th Street
Covington, LA 70433

e) Identification: COMM
FCC ID: L2V-COMM

EUT Description: Portable Satellite Transmitter

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

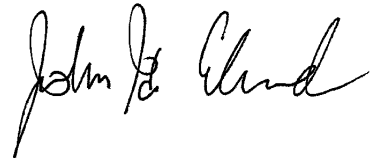
g) Report Date: May 12, 2010

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

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with Compliance Testing internal quality manual.

m) Supervised by:



John Erhard: Engineering Manager

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.

Accessories used during testing:

Type	Quantity	Manufacturer	Model	Serial No.	FCC ID
------	----------	--------------	-------	------------	--------

Standard Test Conditions and Engineering Practices

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

In accordance with ANSI C63.4-2009, section 6.1.9, 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.

Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures. All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.

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

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: FCC Part 25 Satellite Communications

A2LA

"A2LA has accredited Compliance Testing in 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



Industry Canada OATS Number 2011A-1

FCC OATS Reg. Number 933597



List of General Technical Information

In Accordance with FCC Rules and Regulations Volume II, Part 2 and to Part 25

Name and Address of Applicant: Spot LLC
19349 N. 12th Street
Covington, LA 70433

Manufacturer: Spot LLC
19349 N. 12th Street
Covington, LA 70433

Model Number: COMM

(c)(3): **Instruction Manual(s):** Please see attached exhibits

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

(c)(5): **Frequency Range, MHz:** 1611.25 – 1618.75

(c)(6): **Power Rating, Watts:** 0.295
_____ Switchable _____ Variable X N/A

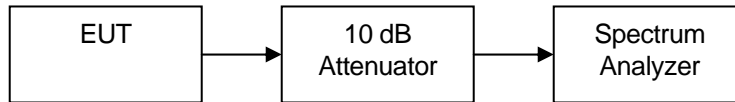
Name Of Test: Power Limits
Specification: 25.204
Test Equipment Utilized: i00008, i00320, i00331

Engineer: J. Erhard
Test Date: 4/30/2010

Test Procedure

The EUT was connected directly to a spectrum analyzer with the RBW set greater than the 6 dB bandwidth with the peak readings recorded in the following table. All cable and attenuator losses were summed and input into the analyzer as a reference level offset to ensure accurate readings.

Test Setup



Transmitter Peak Output Power

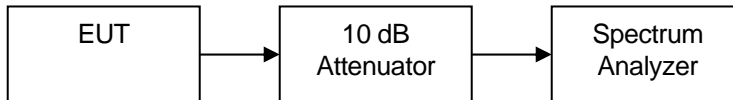
Tuned Frequency MHz	Recorded Measurement	Specification Limit	Result
1611.25	24.7 dBm	No limit for Earth Stations	N/A
1618.75	24.0 dBm	No limit for Earth Stations	N/A

Name Of Test: Emissions Limitations for Mobile Earth Stations
Specification: 25.202(c)(f) 25.216(f)(g)(i) **Engineer:** J. Erhard
Test Equipment Utilized: i00008, i00320, i00331 **Test Date:** 4/30/2010

Test Procedure

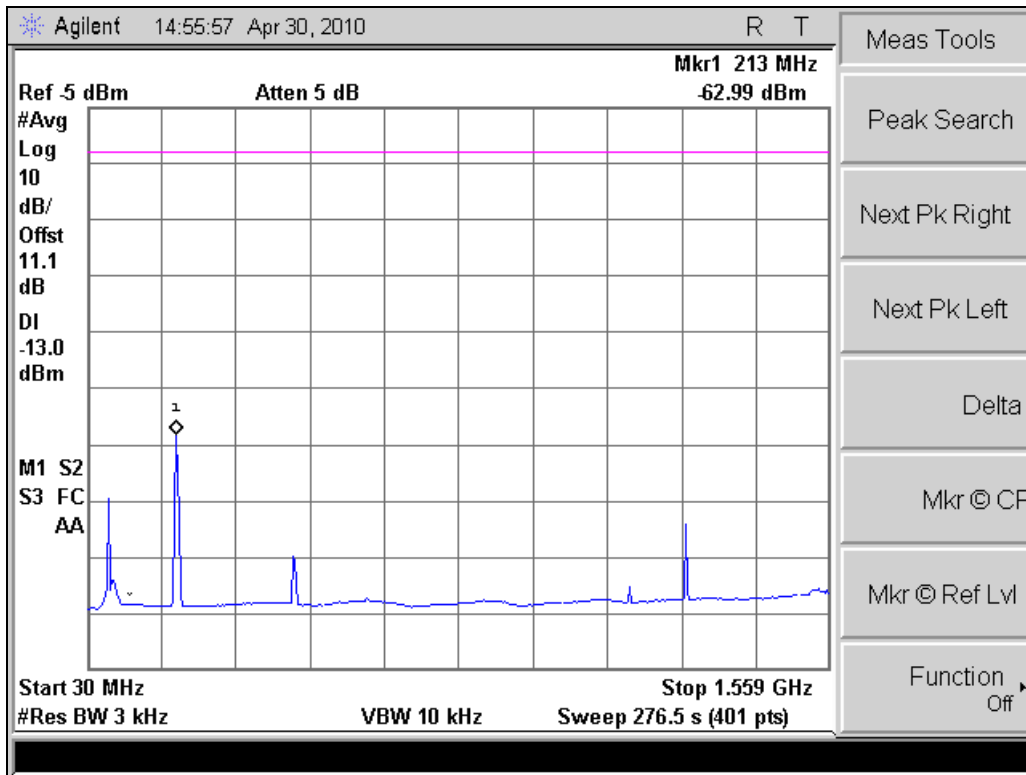
The EUT was connected directly to a spectrum analyzer and the conducted spurious emissions were measured to ensure that the EUT met the requirements specified. Appropriate attenuation utilized to ensure that the fundamental power did not force the input of the spectrum analyzer into compressions. The cable and attenuator losses were input into the analyzer as a reference level offset to ensure accurate measurements were obtained.

Test Setup

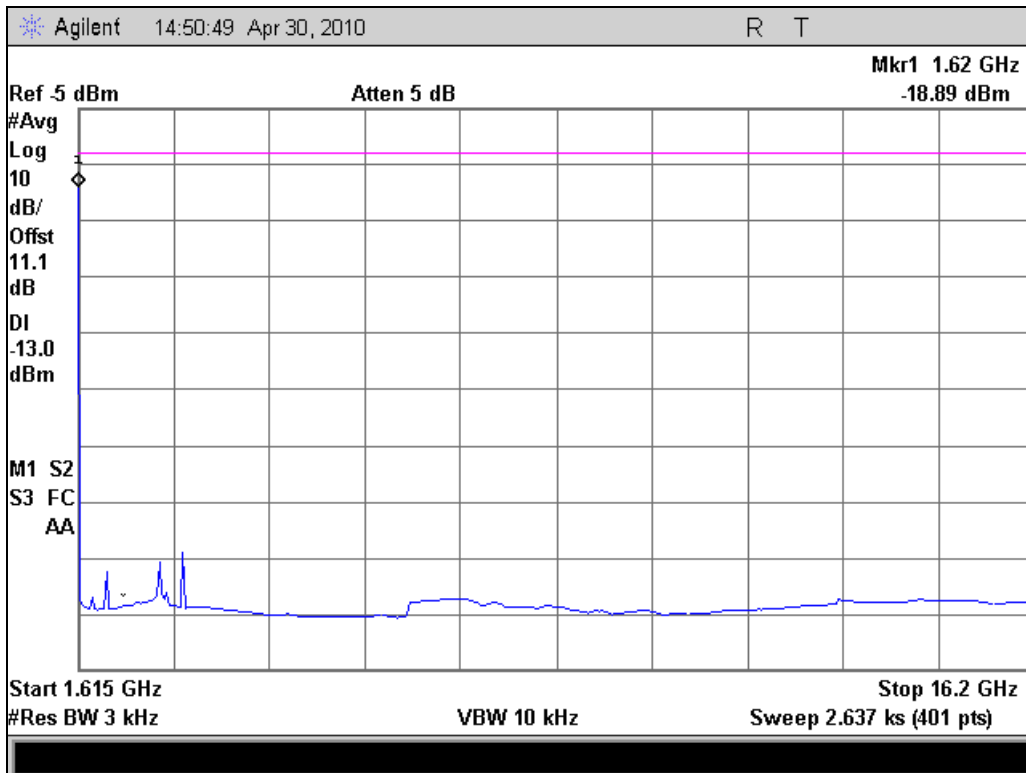


Conducted Spurious Emissions 1611.25 MHz

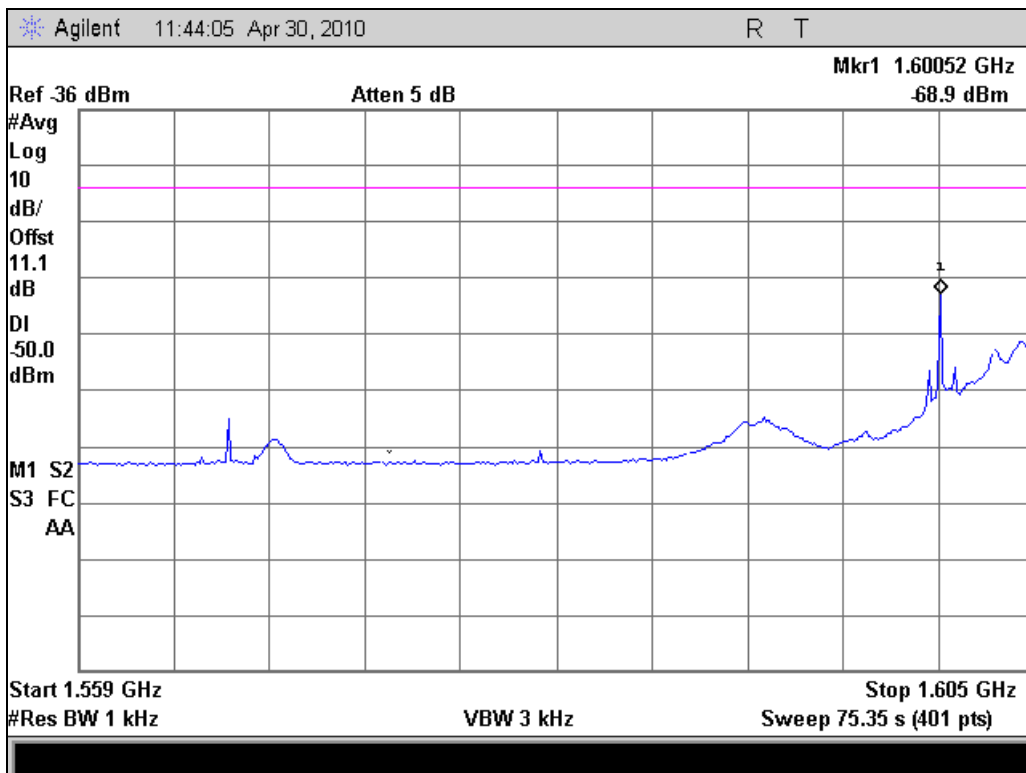
30 MHz to 1559 MHz



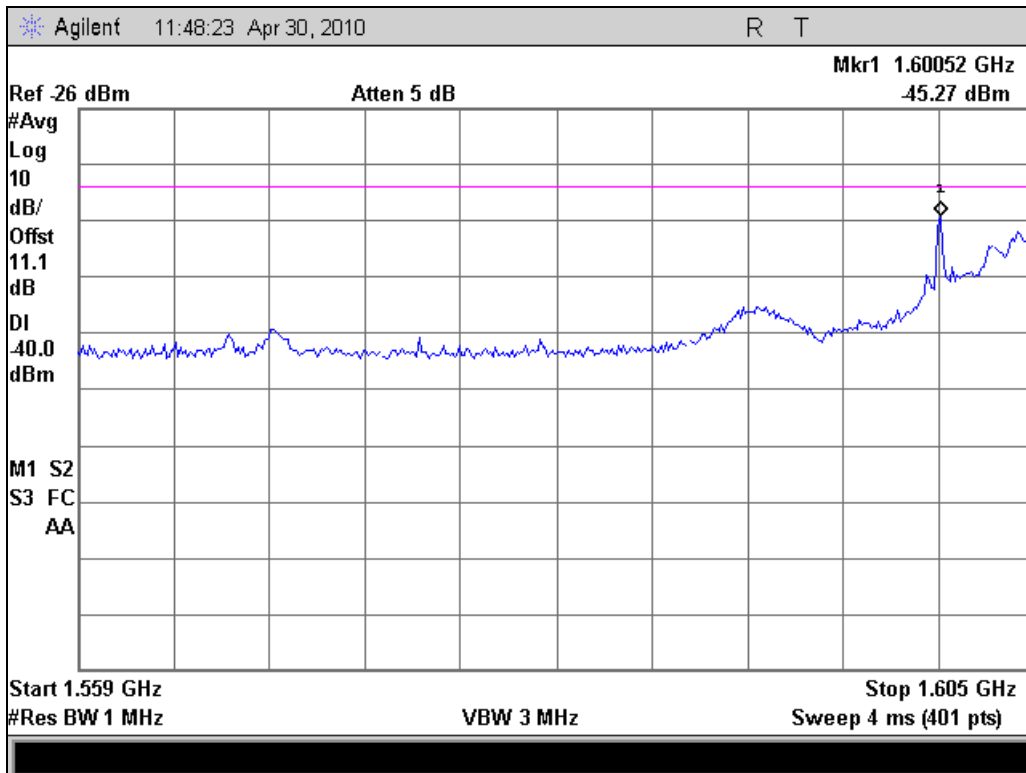
1615 MHz to 16.2 GHz



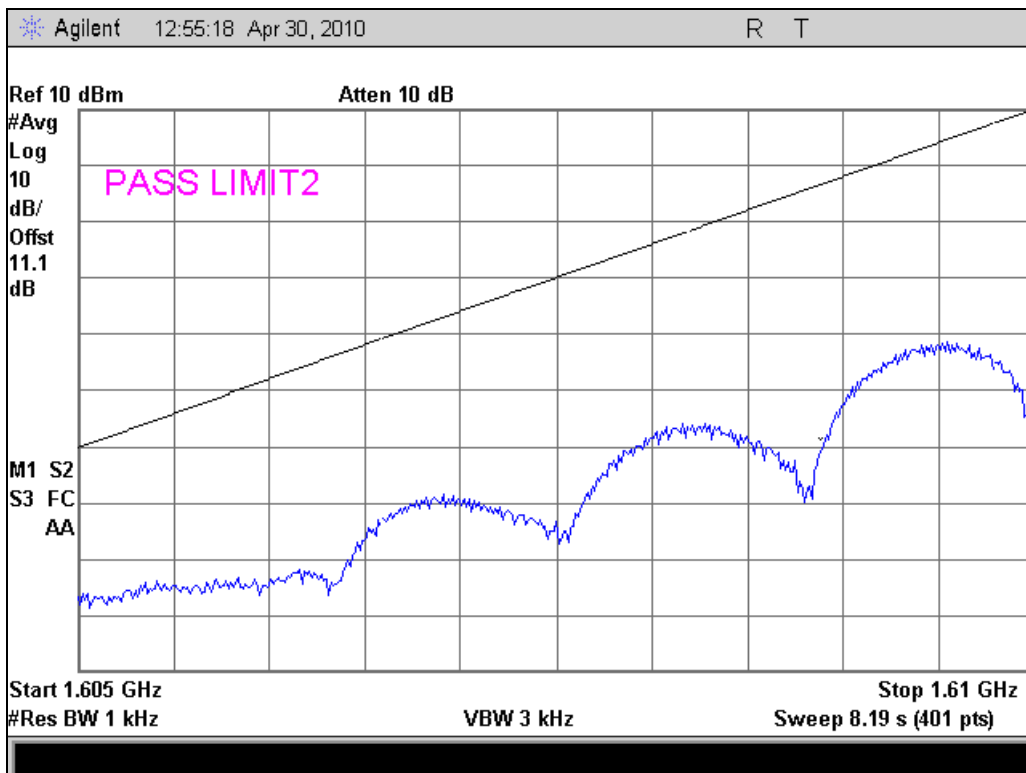
1559 – 1605 Narrow Band



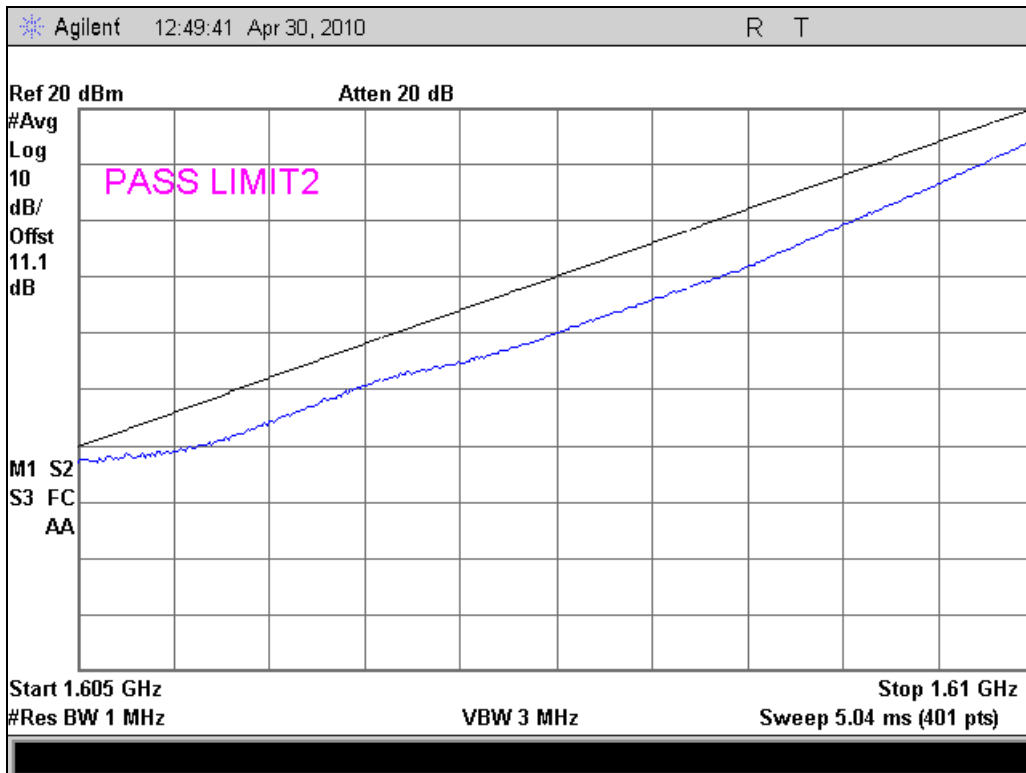
1559 – 1605 Wide Band



1605 - 1610 Narrow Band

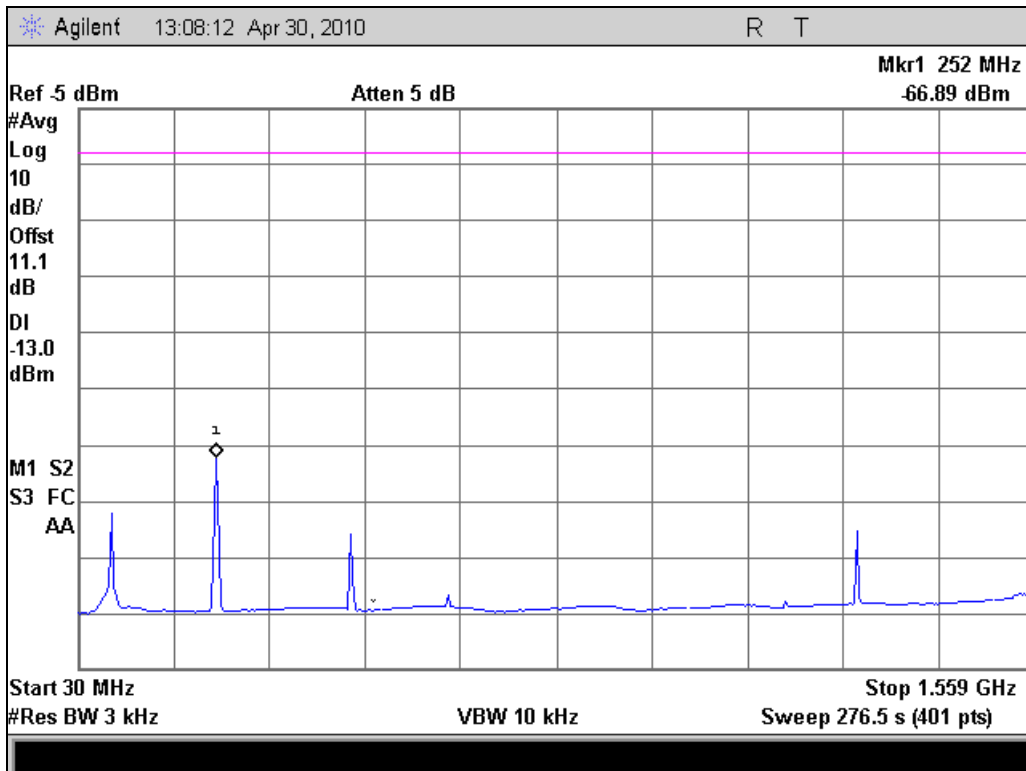


1605 - 1610 Wide Band

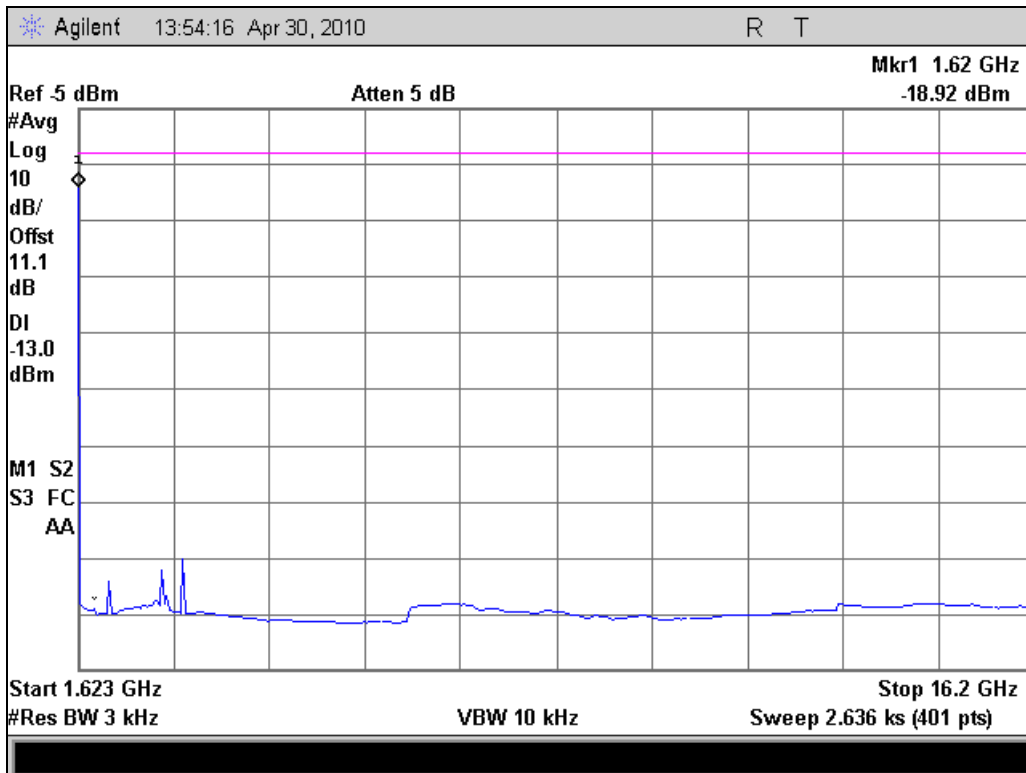


Conducted Spurious Emissions 1618.75 MHz

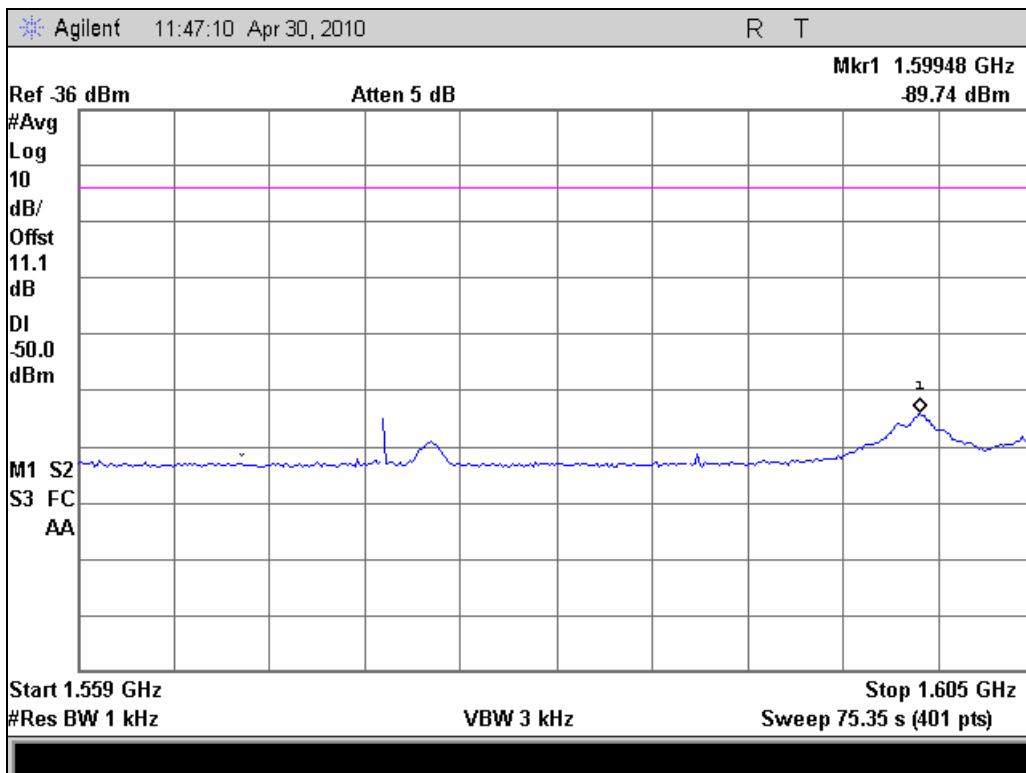
30 MHz to 1559 MHz



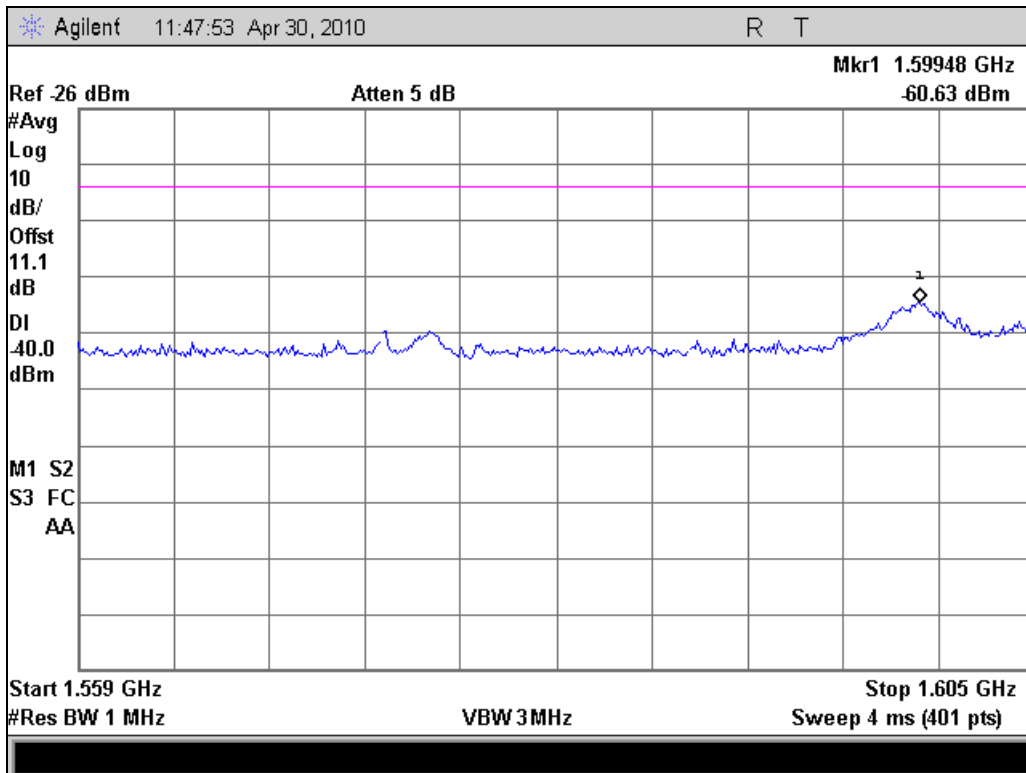
1623 MHz to 16.2 GHz



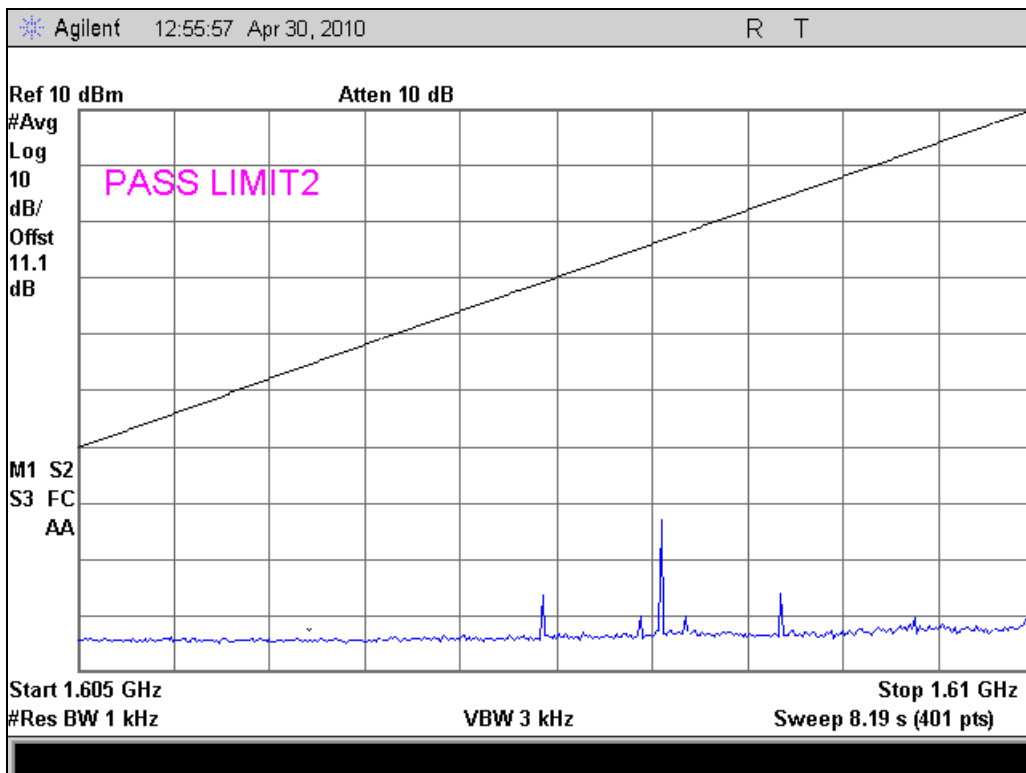
1559 – 1605 Narrow Band



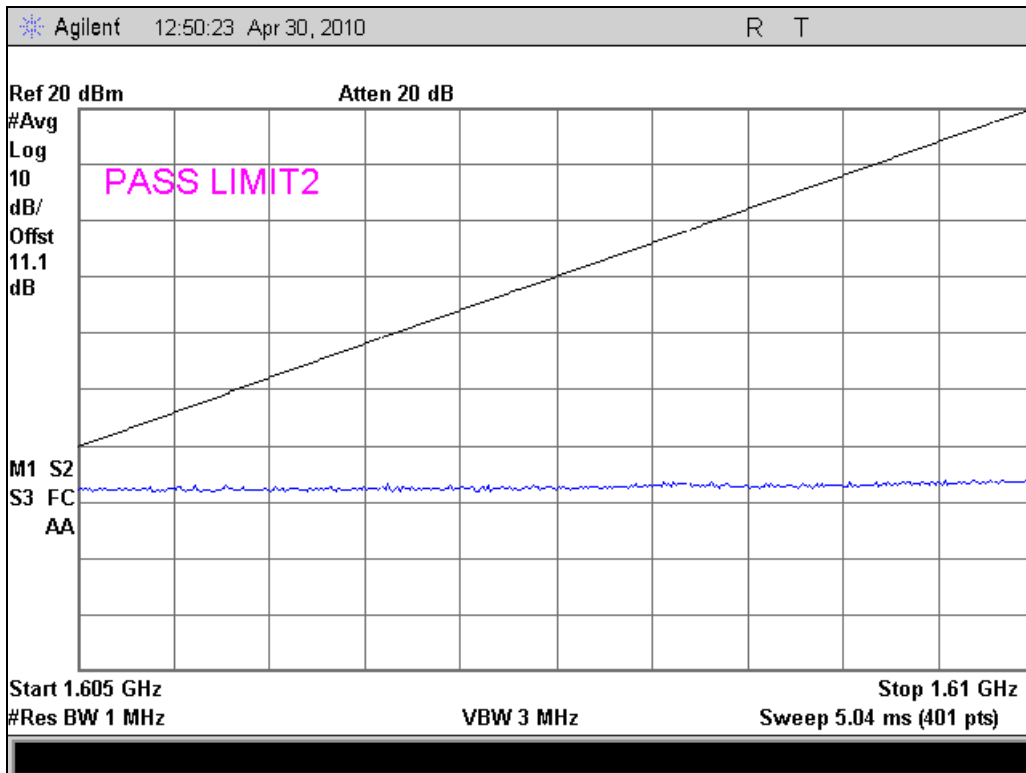
1559 – 1605 Wide Band



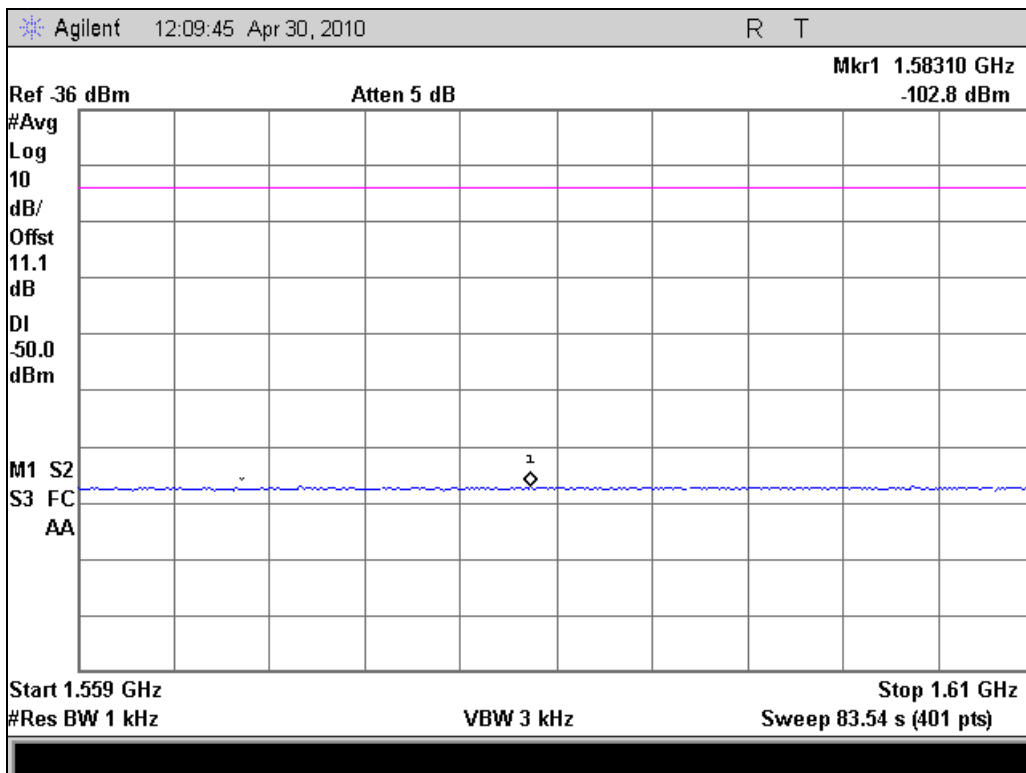
1605 - 1610 Narrow Band



1605 - 1610 Wide Band



Conducted Spurious Emissions Carrier Off



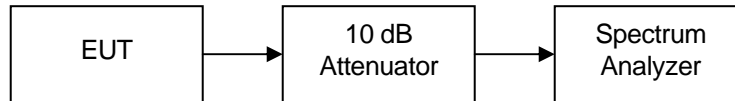
Name Of Test: Occupied Bandwidth
Specification: N/A
Test Equipment: i00008, i00320, i00331

Engineer: J. Erhard
Test Date: 5/3/2010

There is no requirement for occupied bandwidth in part 25 for portable earth stations however the emissions masks are based upon the occupied bandwidth. This information is reported for reference only.

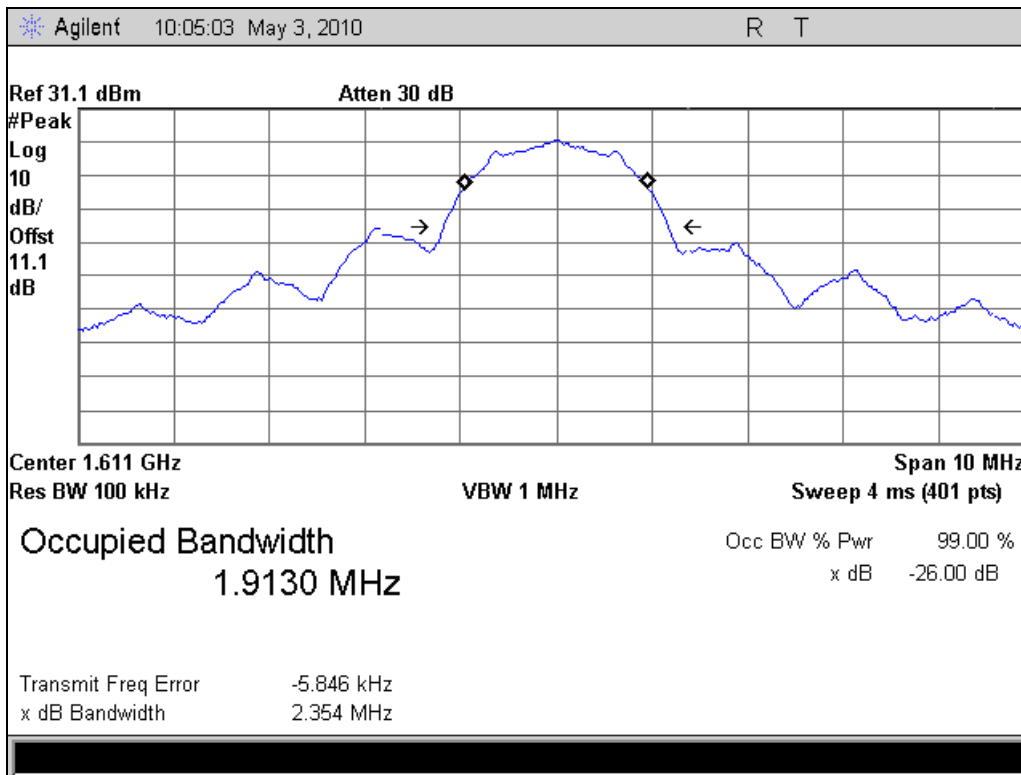
Test Procedure

The EUT was connected to a spectrum analyzer.
 The occupied bandwidth of the modulated output was measured and plotted.

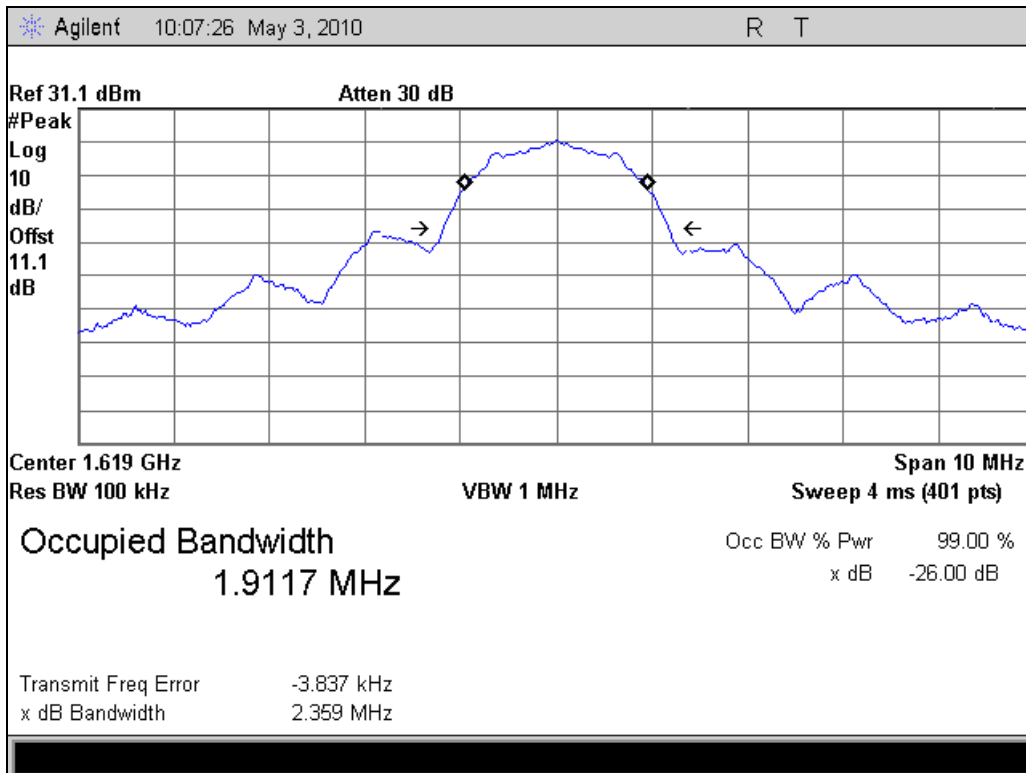


Occupied Bandwidth Plots

1611.25 MHz



1618.75 MHz



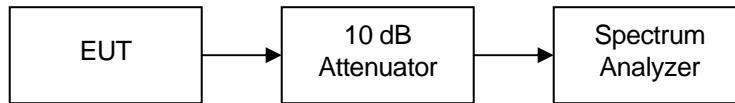
Name Of Test: Emission Masks
Specification: 25.202(f)
Test Equipment Utilized: i00008, i00320, i00331

Engineer: J. Erhard
Test Date: 5/3/2010

Test Procedure

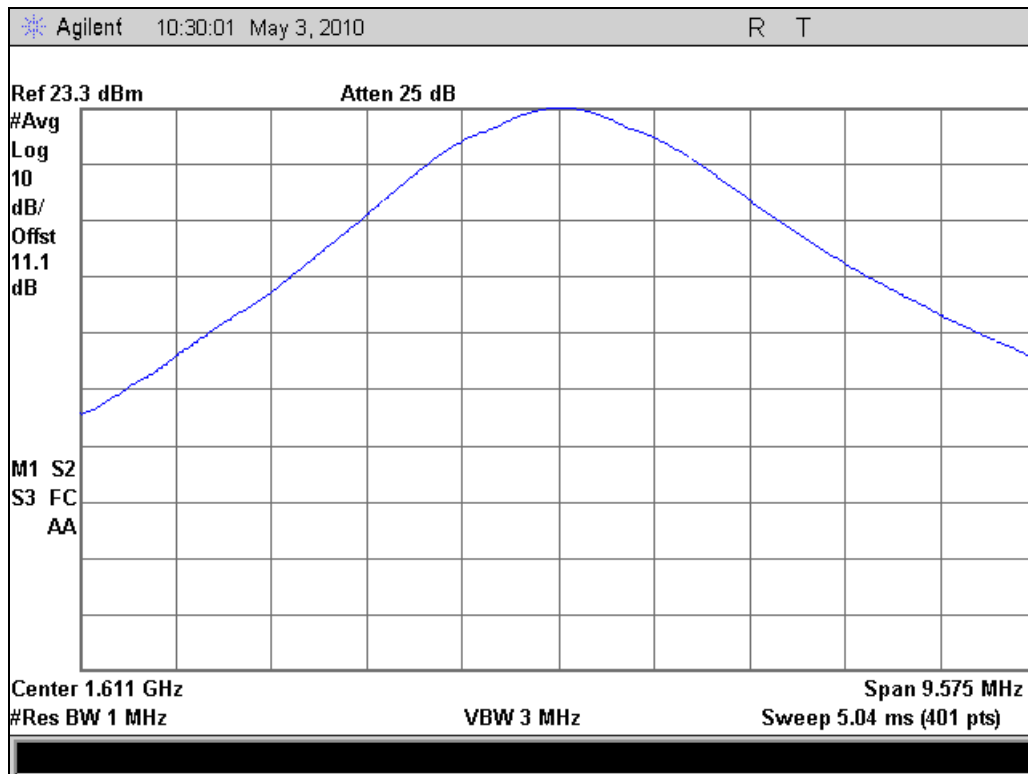
The EUT was connected directly to a spectrum analyzer to verify that the EUT met the requirements for emission mask. The reference level was set for the average output power in a 1 MHz bandwidth.

Test Setup

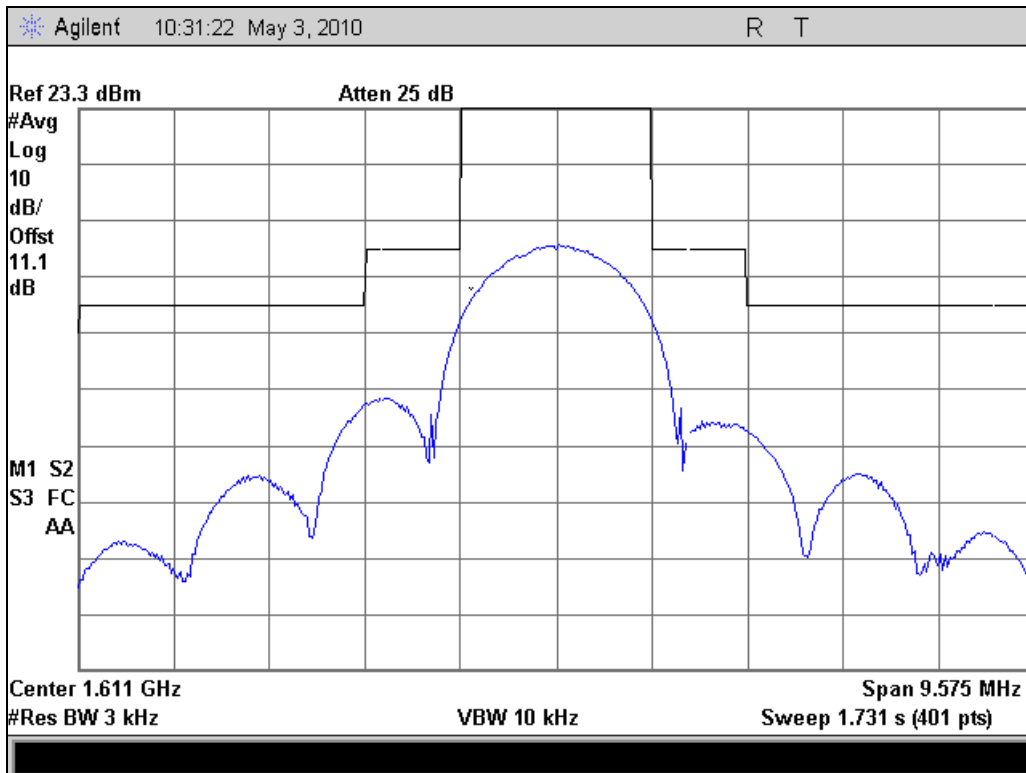


Emission Mask Plots

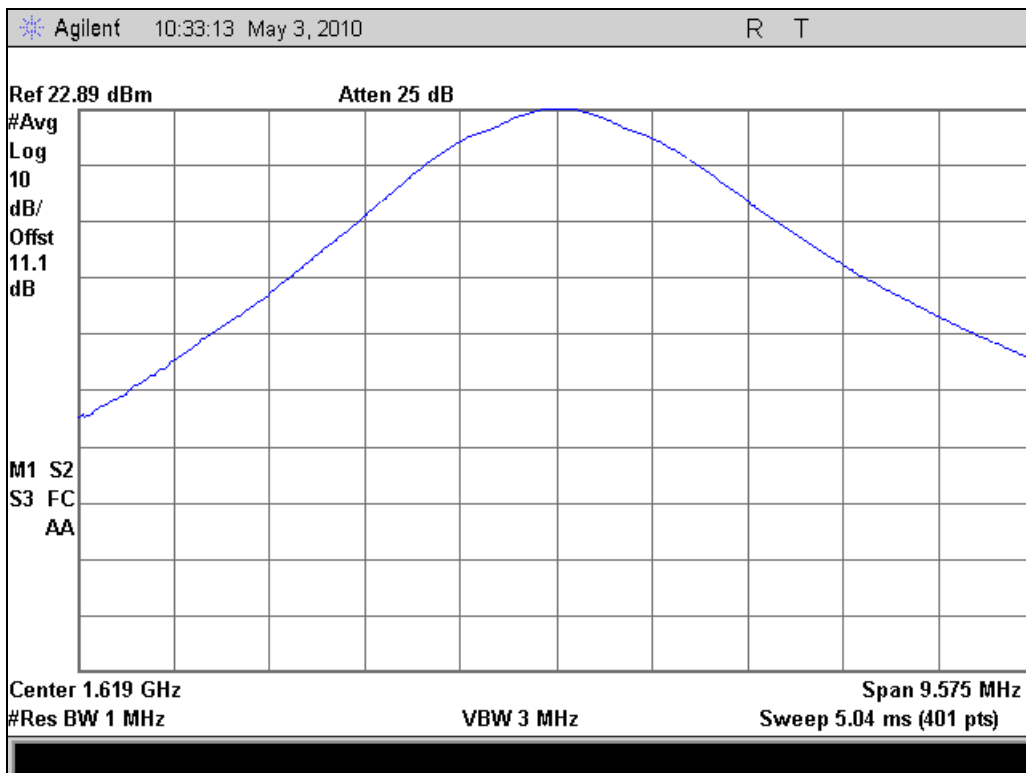
1611.25 MHz Reference



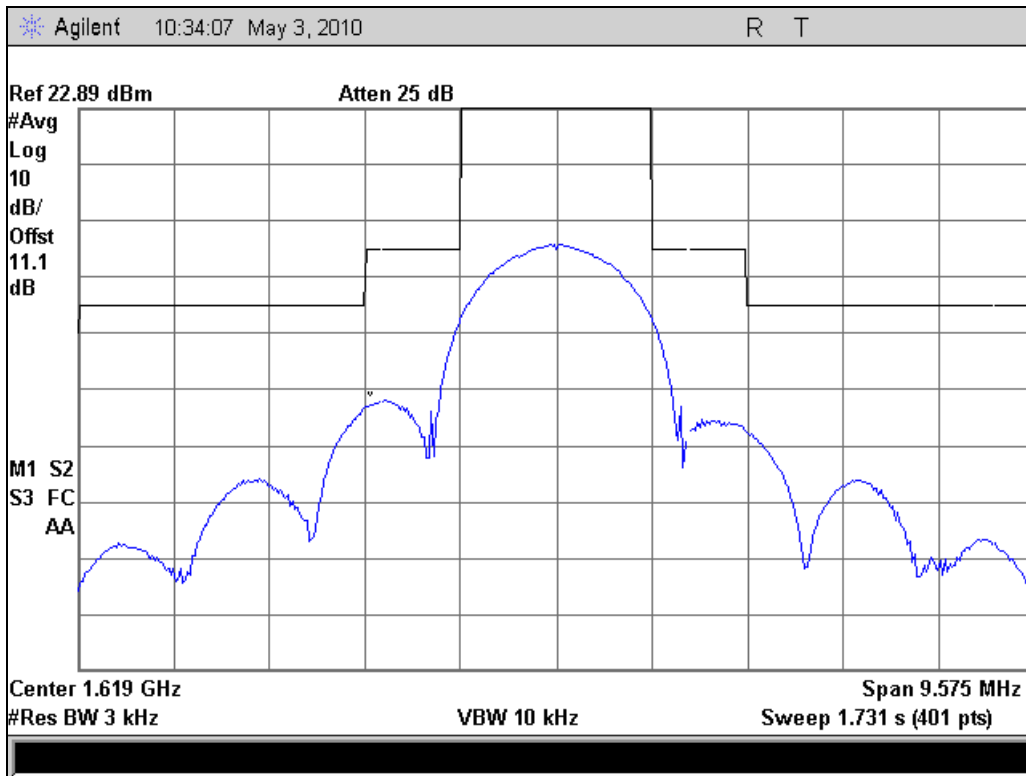
1611.25 MHz Mask



1618.75 MHz Reference



1618.75 MHz Mask

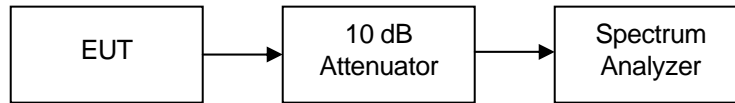


Name Of Test: Frequency Tolerance (Temperature Variation)
Specification: 25.202(d) **Engineer:** J. Erhard
Test Equipment Utilized: i00008, i00027, i00029, i00320 **Test Date:** 4/26/2010

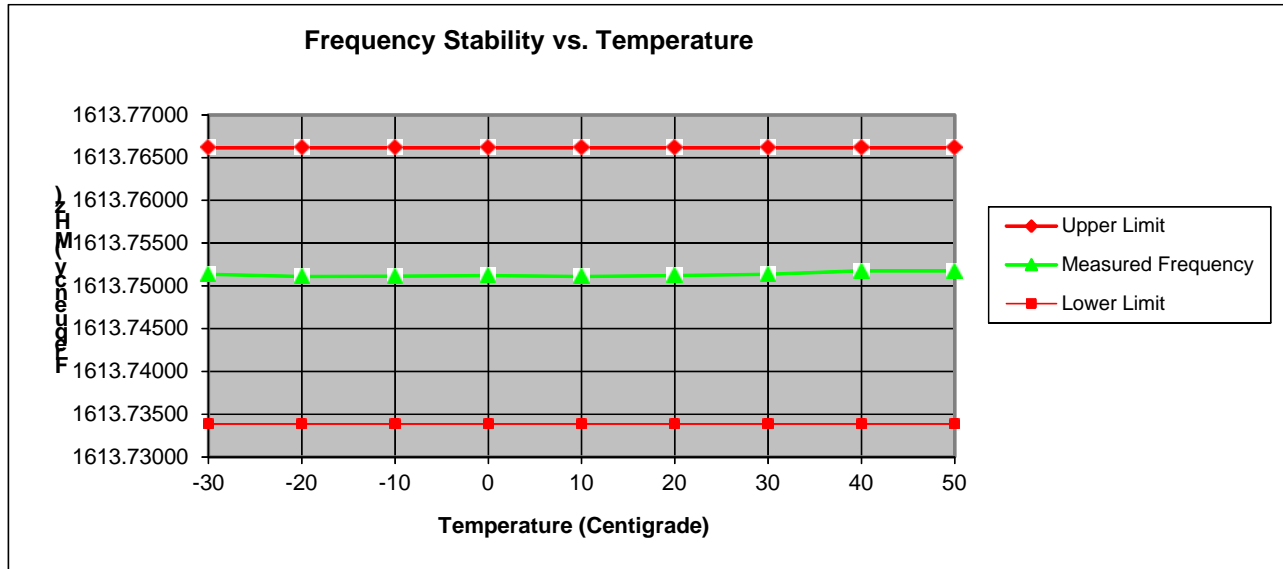
Test Procedure

The EUT was placed in an environmental test chamber and the temperature was raised from -30°C to 50°C in 10°C increments. The EUT was connected to a spectrum analyzer. At each 10°C increment the frequency was measured.

Test Setup



Test Plot

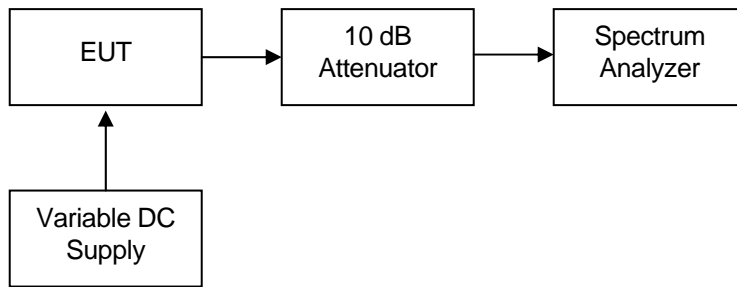


Name Of Test: Frequency Tolerance (Temperature Variation)
Specification: 25.202(d) **Engineer:** J. Erhard
Test Equipment Utilized: i00008, i00027, i00029, i00320 **Test Date:** 4/26/2010

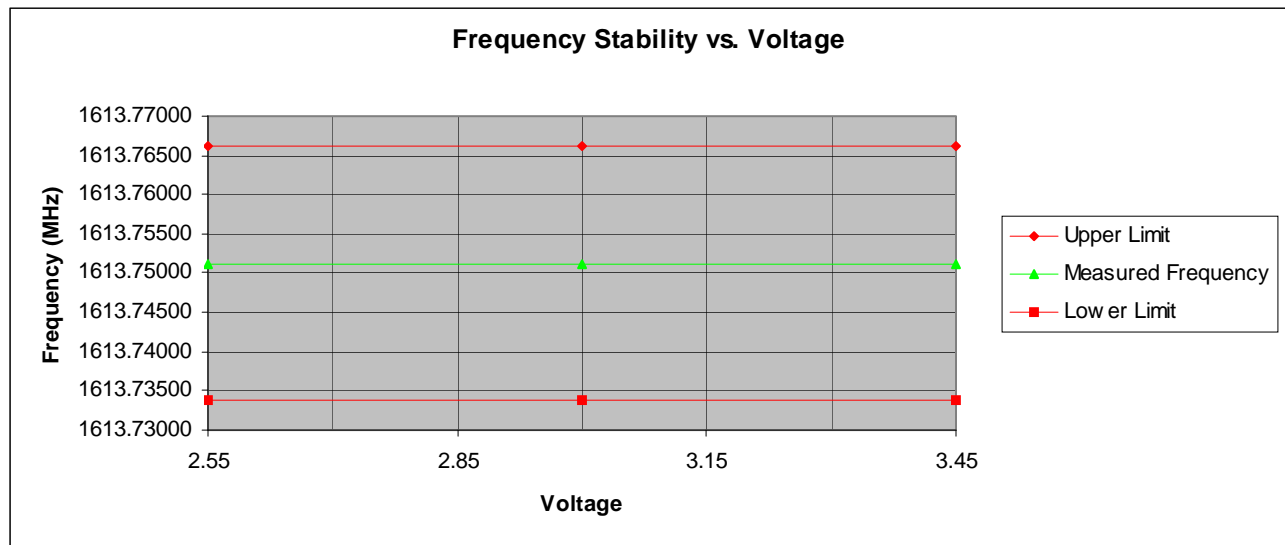
Test Procedure

The EUT was powered by a variable DC power supply and connected to a spectrum analyzer. With the temperature at 20°C the supply voltage was varied +/- 15% and the frequency was measured.

Test Setup



Test Plot



Test Equipment Utilized

Description	MFG	Model Number	CT Asset Number	Last Cal Date	Cal Due Date
DC Power Supply	Kenwood	PR18-3A	i00008	NCR	NCR
Temperature Chamber	Tenny	Tenny Jr	i00027	12/8/2009	12/8/2010
Spectrum Analyzer	HP	8563E	i00029	6/8/2009	6/8/2010
DMM	Fluke	75III	i00320	2/16/2010	2/16/2011
Spectrum Analyzer	Agilent	E4407B	i00331	11/3/2009	11/3/2010

In addition to the above listed equipment standard RF connectors, adapters, attenuators, 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