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Test Report

for

Model: PT2

FCC ID: L2V-PT2

to

Federal Communications Commission

Rule Part(s) Part 25

Date of report: August 11, 2009

At the Request of:

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

Attention of:

Christopher Robinson
Ph: 985-893-1048
Fax: 985-893-1858
Email: ChrisR@axonm.com

John Erhard: Engineering Manager

Supervised by:

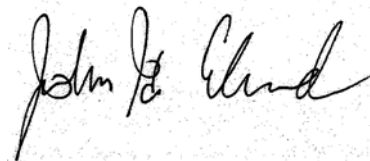
Test Report Revision History

Revision	Date	Revised By	Reason for revision
1.0	August 11, 2009	J Erhard	Original Document
2.0	August 28, 2009	K Springer	Edit Model Number
3.0	September 11, 2009	J Erhard	Updated table to include EIRP power
4.0	September 15, 2009	J Erhard	Add Radiated Spurious emissions data

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 are 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 (conducted)	5
25.204	Power limits (radiated)	6
2.1053	Radiated Spurious Emissions	7
25.202(f)	Emissions Limitations for Portable Earth Stations	8
	Occupied Bandwidth	14
25.202(f)	Emission Masks	16
25.216(g)(i)	Emissions Limits for Portable Earth Stations	18
25.202(d)	Frequency Tolerance	20
	Test Equipment Utilized	21

Required information per ISO 17025-2005, paragraph 5.10.2:

a) **Test Report**

b) Laboratory: Compliance Testing
(FCC: 31040/SIT) 3356 N. San Marcos Place, Suite 107
(Canada: IC 2044-A) Chandler, AZ 85225

c) Report Number: d0980014

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

e) Identification: PT2

EUT Description: Find Me - Satellite

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

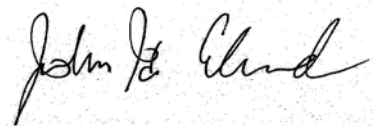
g) Report Date: August 11, 2009

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

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with CT 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
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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, 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: Axonn, LLC
19349 N. 12th Street
Covington, LA 70433

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

Model Number: PT2

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

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

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

(c)(6): **Power Rating, Watts:** 0.481
 Switchable Variable N/A

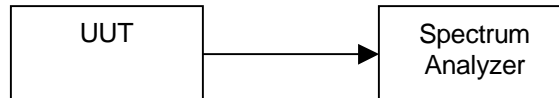
Name Of Test: Power Limits (conducted)
Specification: 25.204
Test Equipment Utilized i00331

Engineer: J Erhard
Test Date: 8/7/2009

Test Procedure

The UUT was connected directly to a Spectrum analyzer. The RBW was set to 3 MHz ensuring that the complete power envelope from the 2 MHz transmit signal was captured. The peak readings for the high and low channel were taken and recorded.

Test Setup



Transmitter Peak Output Power

Tuned Frequency MHz	Recorded Measurement (dBm)	Calculated EIRP (dBm)	Calculated EIRP (Watts)
1611.25	26.82	23.52	0.225
1618.75	26.50	23.20	0.209

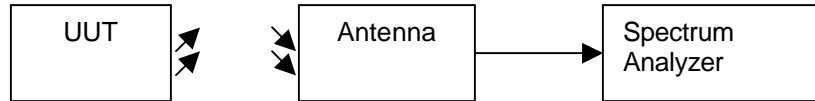
Name Of Test: Power Limits (radiated)
Specification: 25.204
Test Equipment Utilized i00049, i00266, i00267

Engineer: J Erhard
Test Date: 8/7/2009

Test Procedure

The UUT was placed on an OATS 3m from the receiving antenna and was tested per the TIA-603 substitution method. The EIRP measurements are recorded in the table

Test Setup



Radiated Peak Output Power

Tuned Frequency MHz	EIRP (dBm)	EIRP (Watts)
1611.25	23.52	0.225
1618.75	23.20	0.209

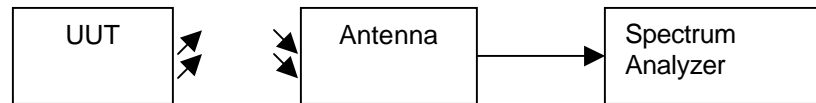
Name of Test: Radiated spurious Emissions
Specification: 2.1053
Test Equipment Utilized i00049, i00267

Engineer: J. Erhard
Test Date: 9/15/2009

Test Procedure

The UUT was tested in an Open Area Test Site (OATS) set 3m from the receiving antenna. A spectrum analyzer was used to verify that the UUT met the requirements for Radiated Emissions. The UUT was tested by rotating it 360° with the antennas in both the vertical and horizontal orientation and raised from 1 to 4 meters to ensure the TX signal levels were maximized. All emissions from 30 MHz to the 10th harmonic of the highest tunable frequency were examined.

Test Setup



Settings below 1 GHz
 RBW = 3 KHz
 VBW = 10KHz
 Detector – average

Sample Calculations

Corrected Value = Measured Value + Correction factor
 Correction factor = ACF + Cable loss

Radiated Emissions

Emission Freq (MHz)	Measured Value (dBm/m)	Correction Factor (dB)	Corrected Value (dBm/m)	Limit (dBm/m)	Result
51.475	-90.0	8.4	-81.6	-13	Pass
109.772	-91.0	13.4	-77.6	-13	Pass
201.034	-90.5	11.6	-78.9	-13	Pass
407.525	-92.9	18.5	-74.4	-13	Pass
641.425	-92.6	23.2	-69.4	-13	Pass
750.205	-92.6	25.8	-66.8	-13	Pass

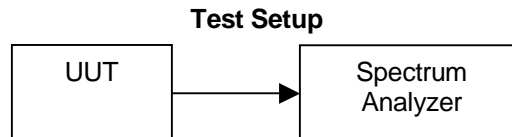
Name Of Test:
Specification:
Test Equipment Utilized

Emissions Limitations for Portable Earth Stations
 25.202(f)
 i00331

Engineer: J Erhard
Test Date: 8/10/2009

Test Procedure

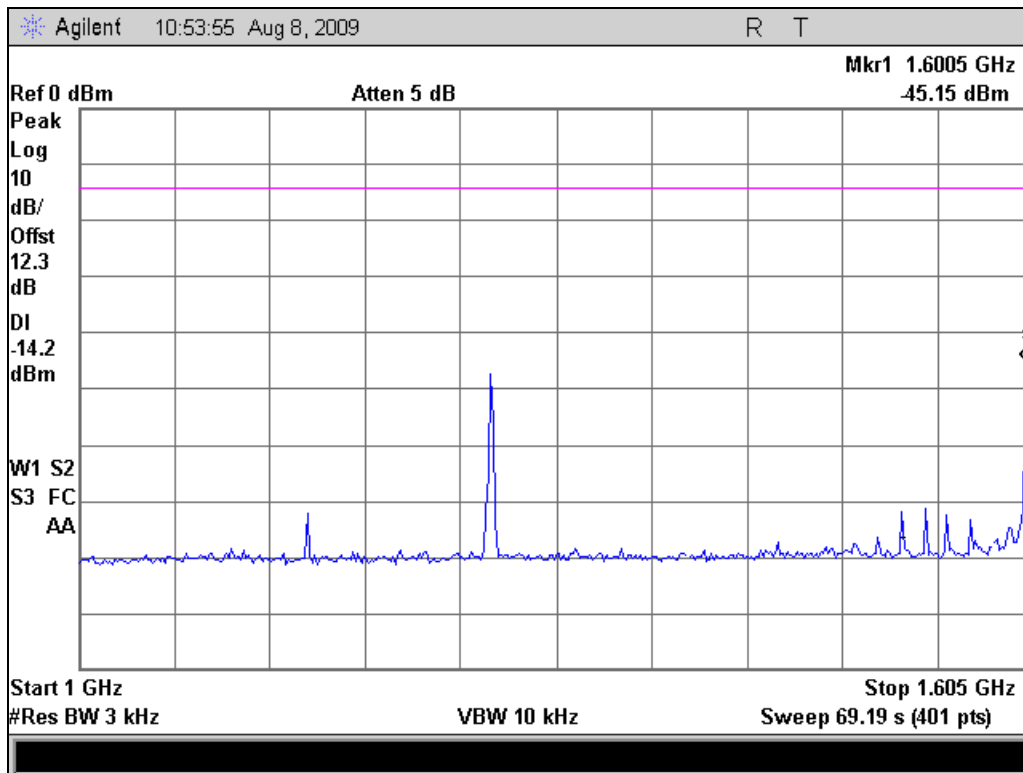
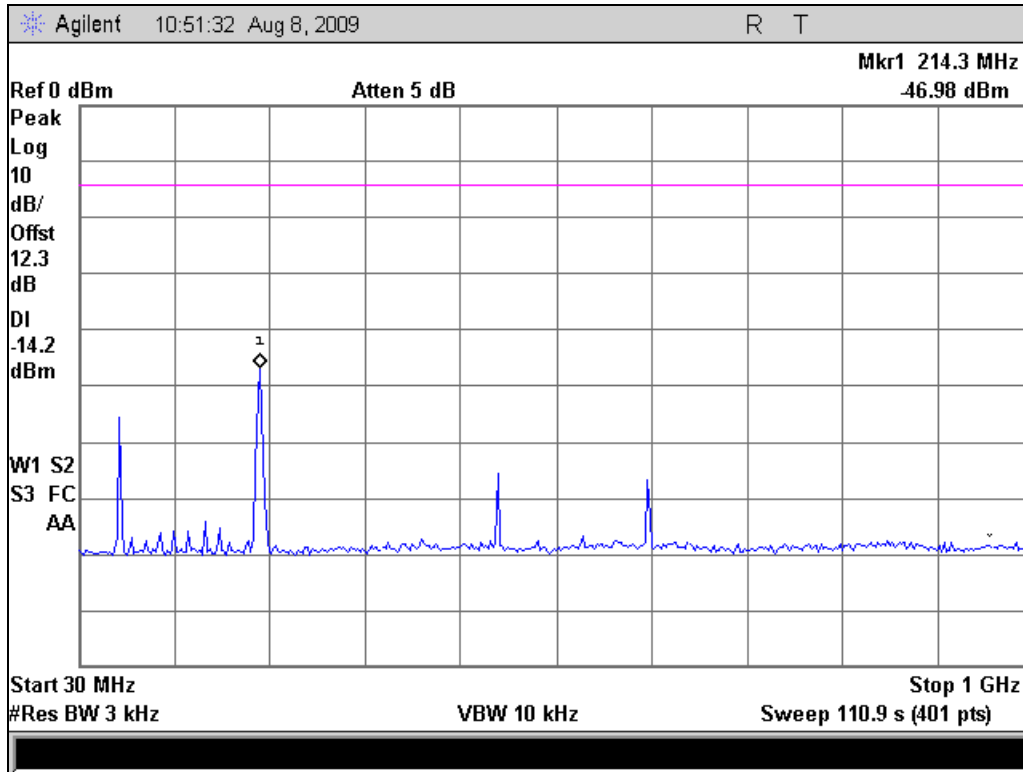
The UUT was connected directly to a spectrum analyzer and the conducted spurious emissions were measured to ensure that the UUT met the requirements specified. Cable and attenuator losses were input into the analyzer as a reference level offset to ensure accurate measurements were obtained.

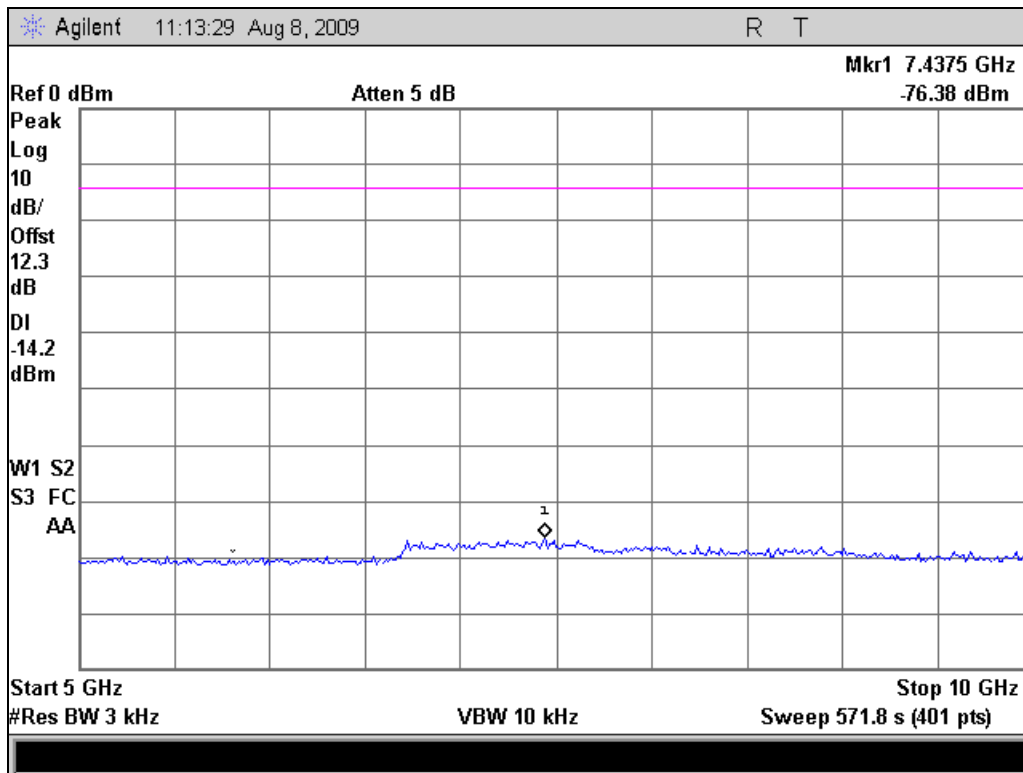
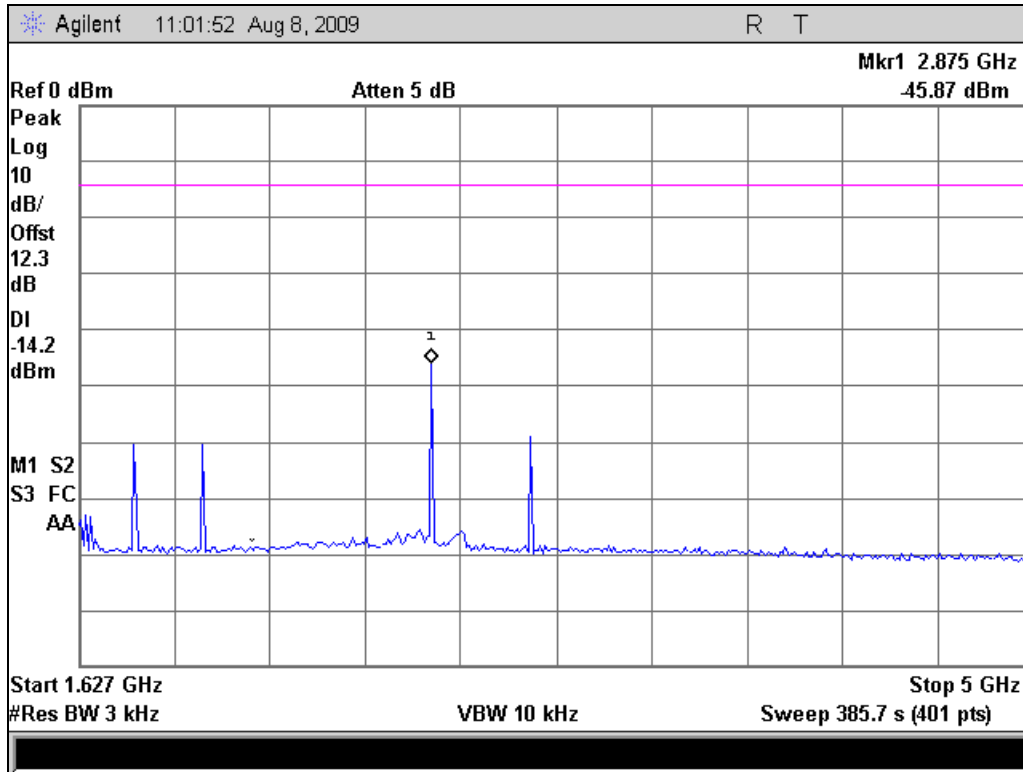


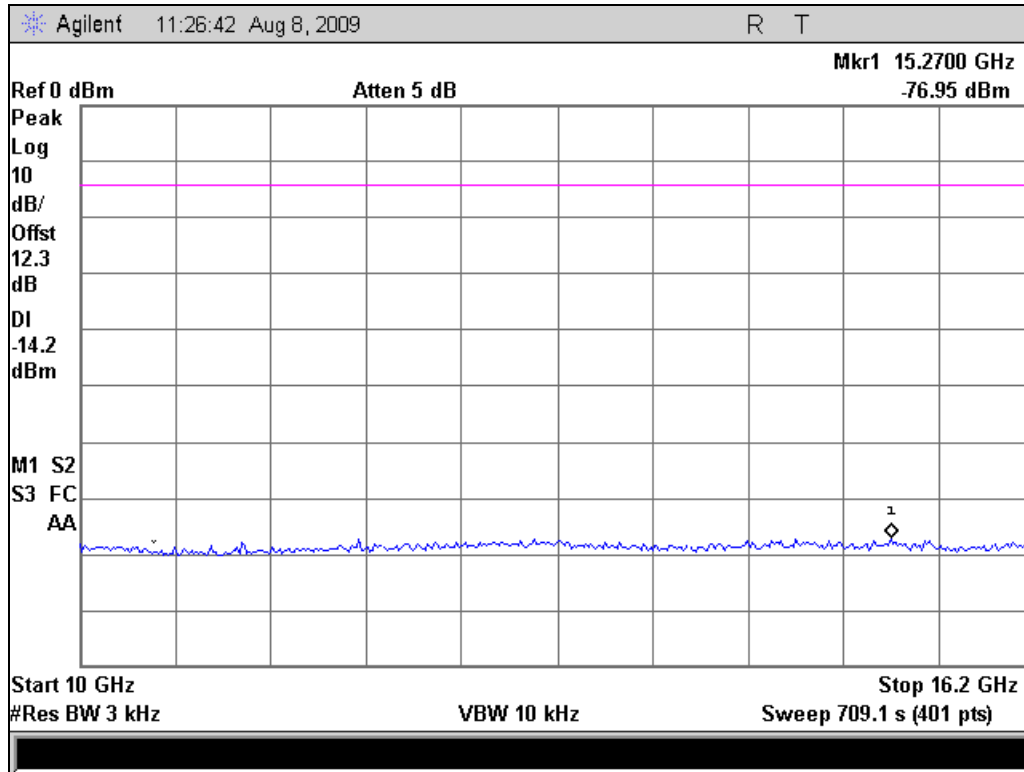
Emissions Limitations Summary Table

Tuned Freq (MHz)	Result	Comments
1611.25 MHz	Pass	See Plots
1618.75 MHz	Pass	See Plots

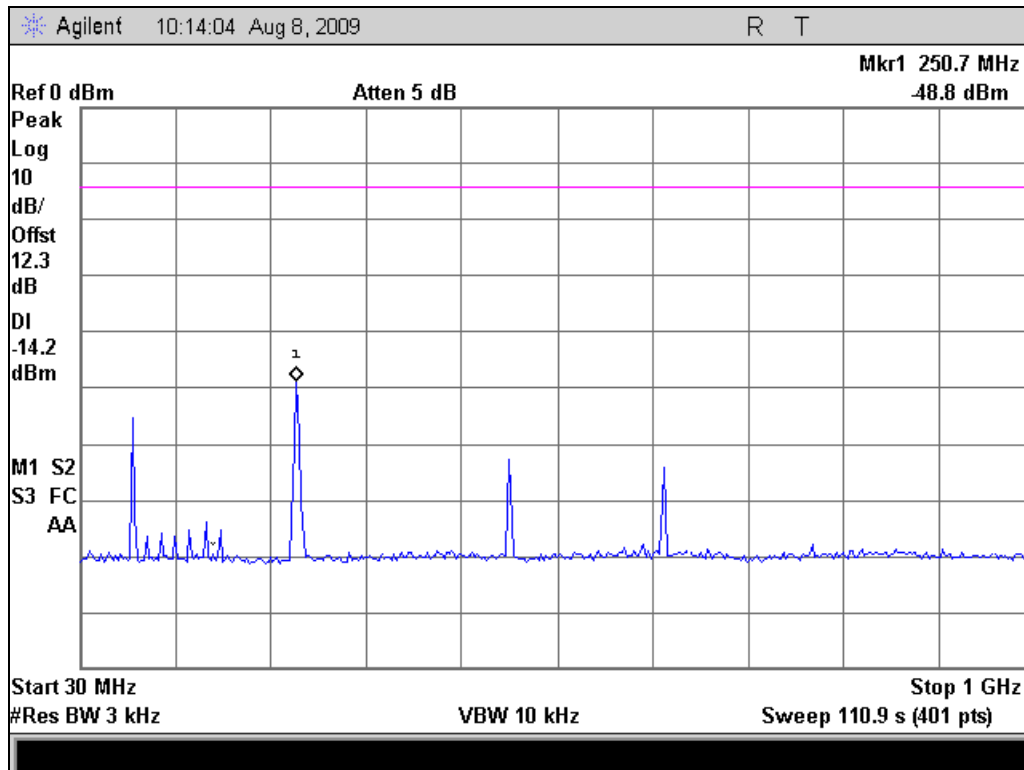
Emissions Limitations Plot 1611.25 MHz

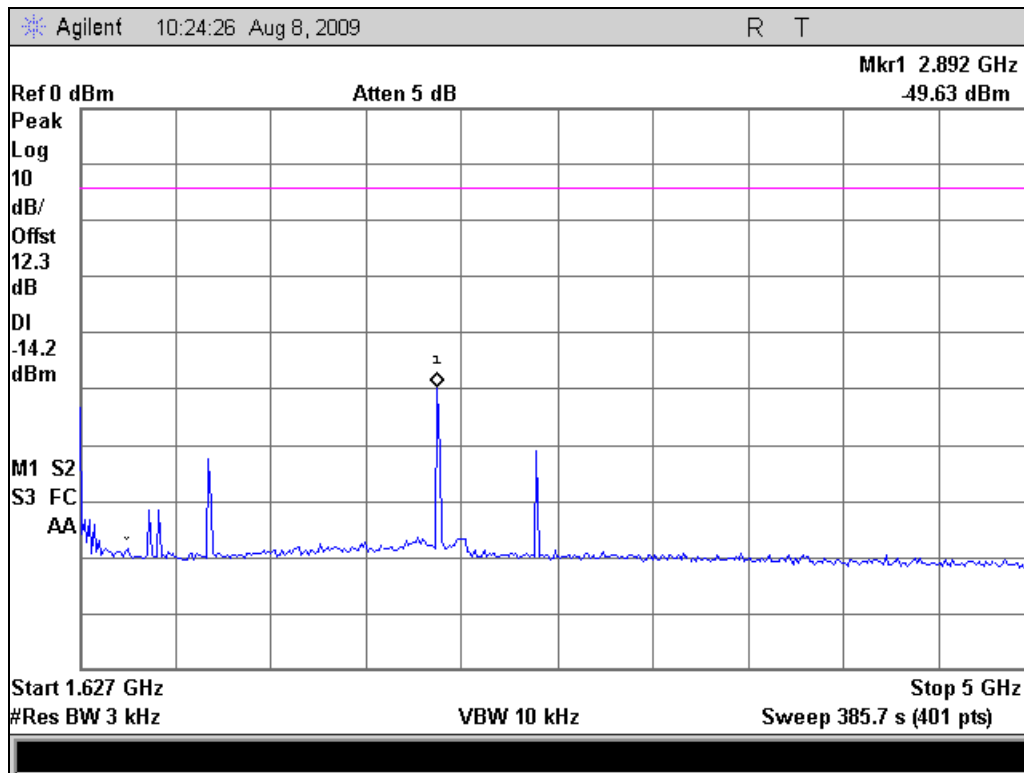
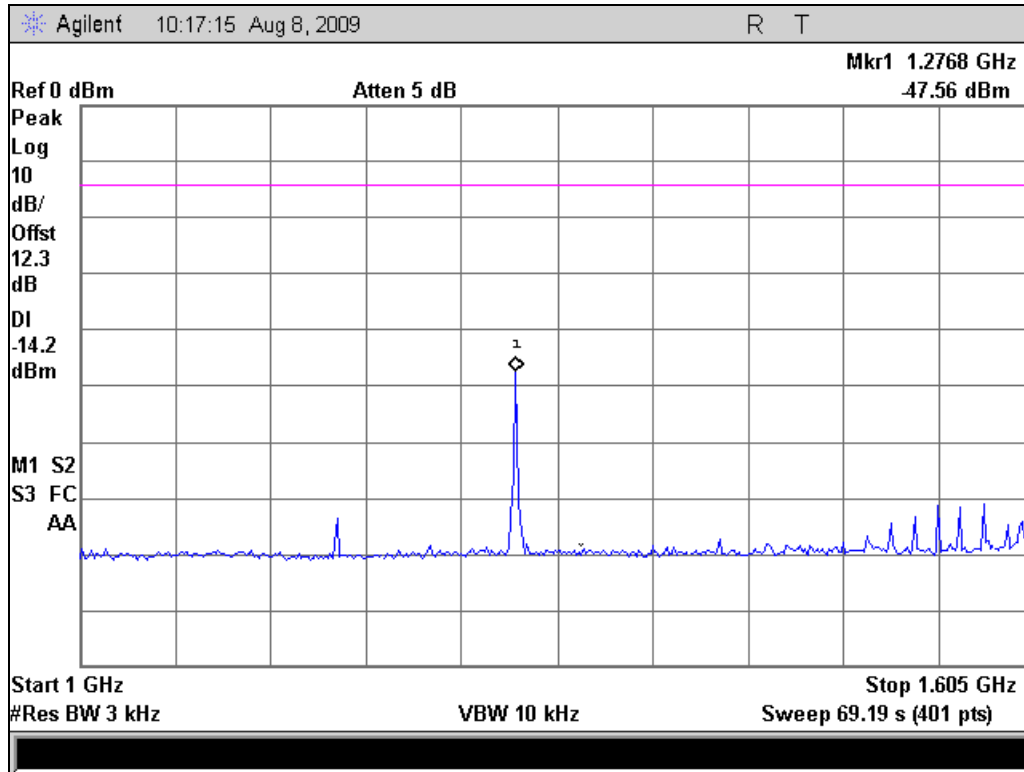


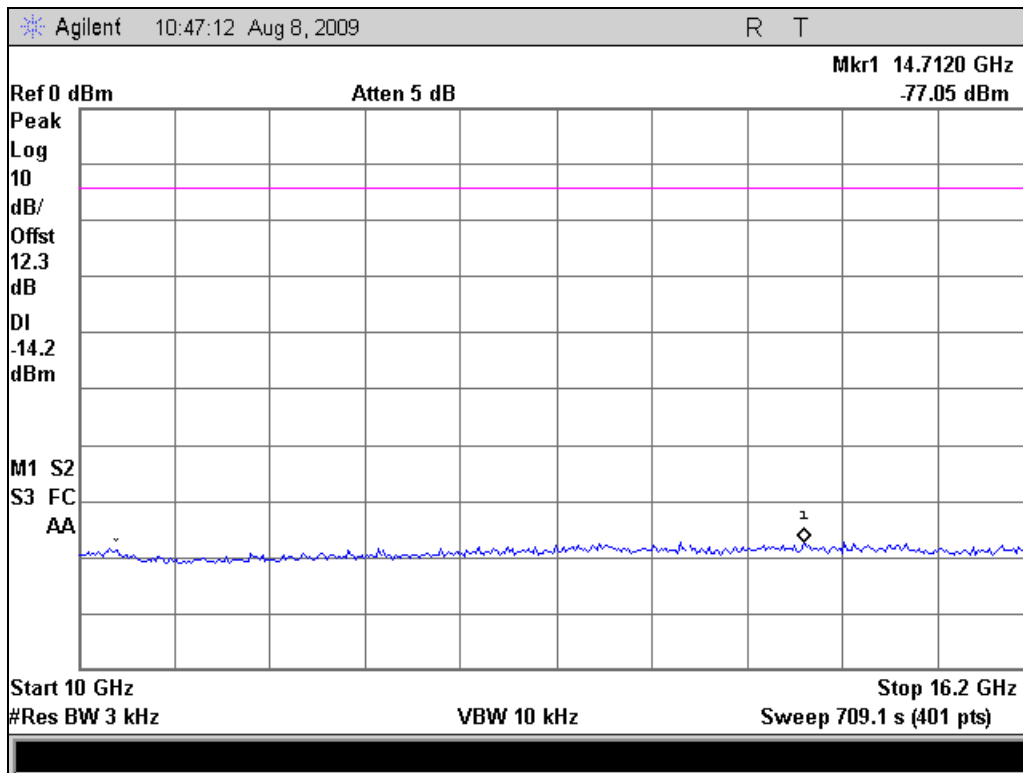
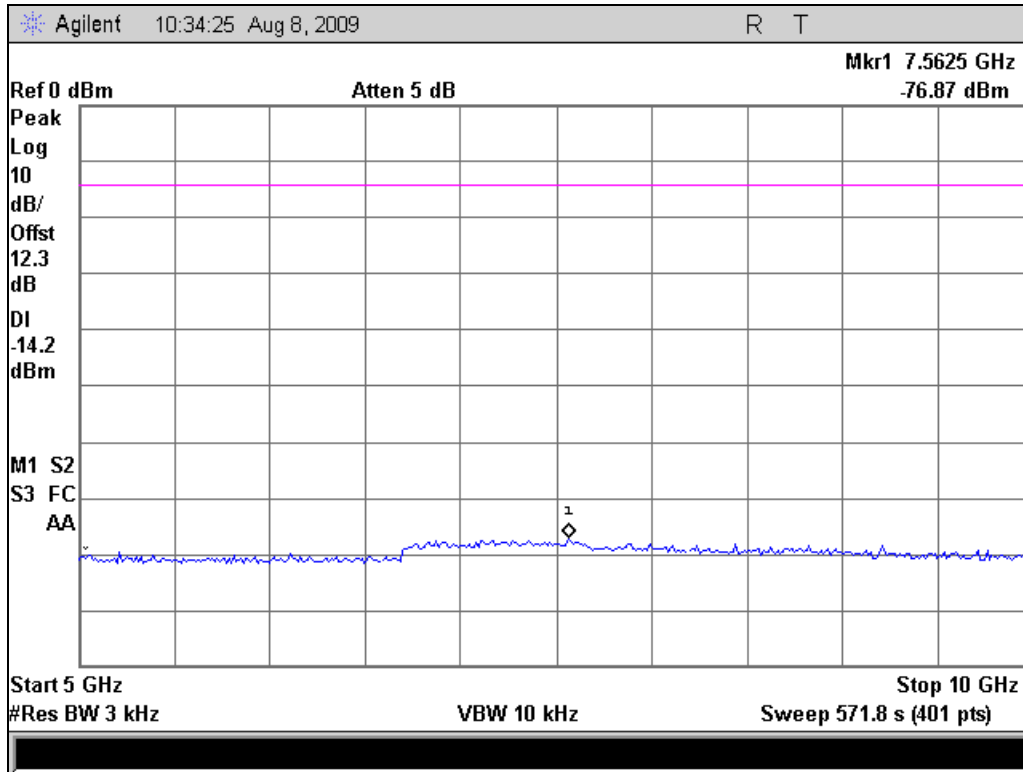




Emissions Limitations Plot 1618.75 MHz







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

Engineer: J Erhard
Test Date: 8/10/2009

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



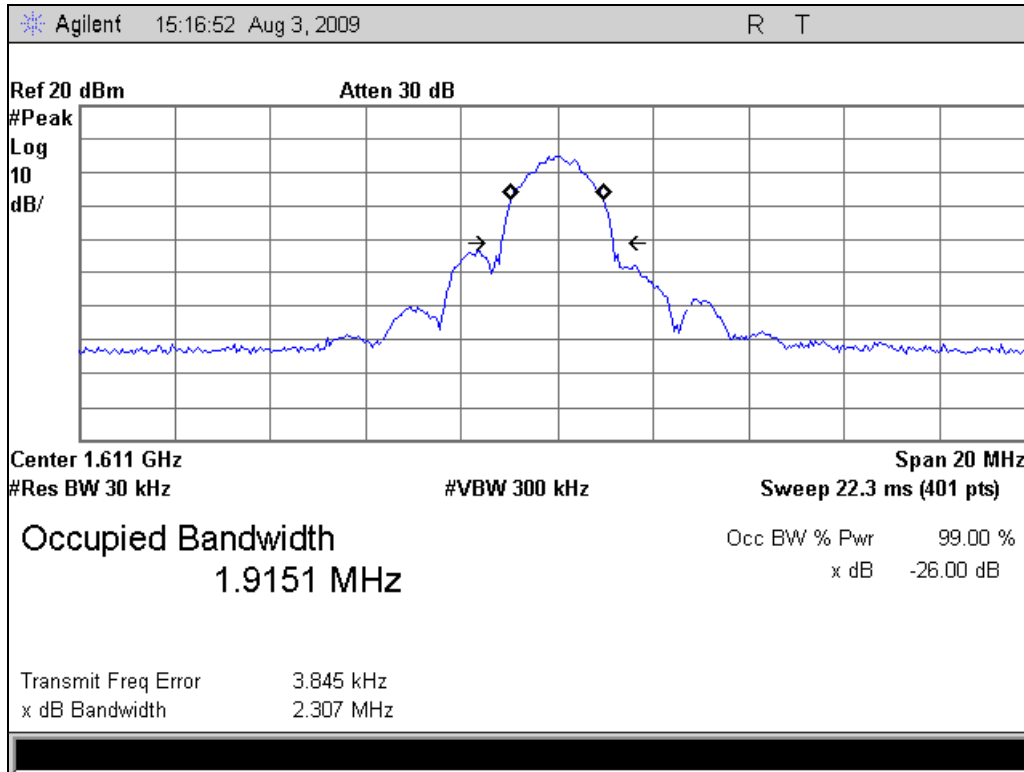
Test results

Occupied Bandwidth Results Table

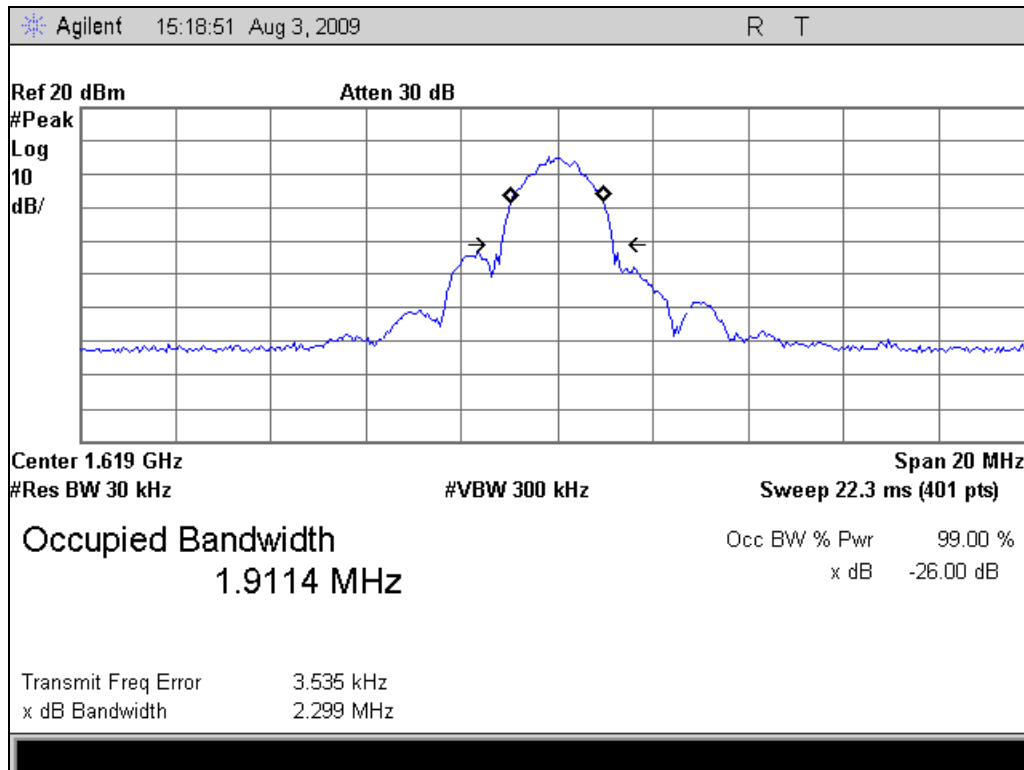
Frequency (MHz)	Measured Bandwidth
1611.25	1.9151
1618.75	1.9114

Occupied Bandwidth

1611.25 MHz



1618.75 MHz



Name Of Test:
Specification:
Test Equipment Utilized

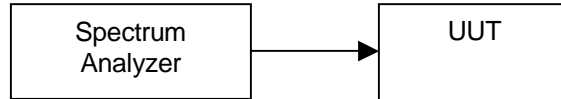
Emission Masks
 25.202(f)
 i00331

Engineer: J Erhard
Test Date: 8/7/2009

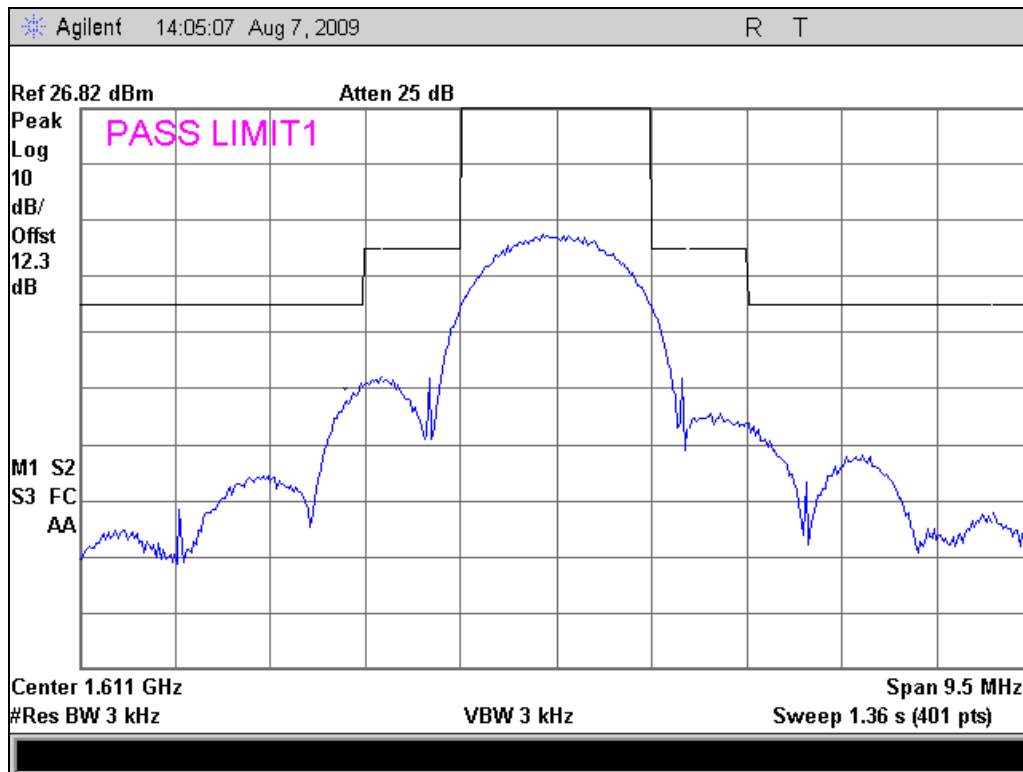
Test Procedure

The UUT was connected directly to a spectrum analyzer to verify that the UUT met the requirements for emission mask. The reference level was offset for the peak power output with the resolution bandwidth set for greater than 3 times the occupied bandwidth of a modulated signal.

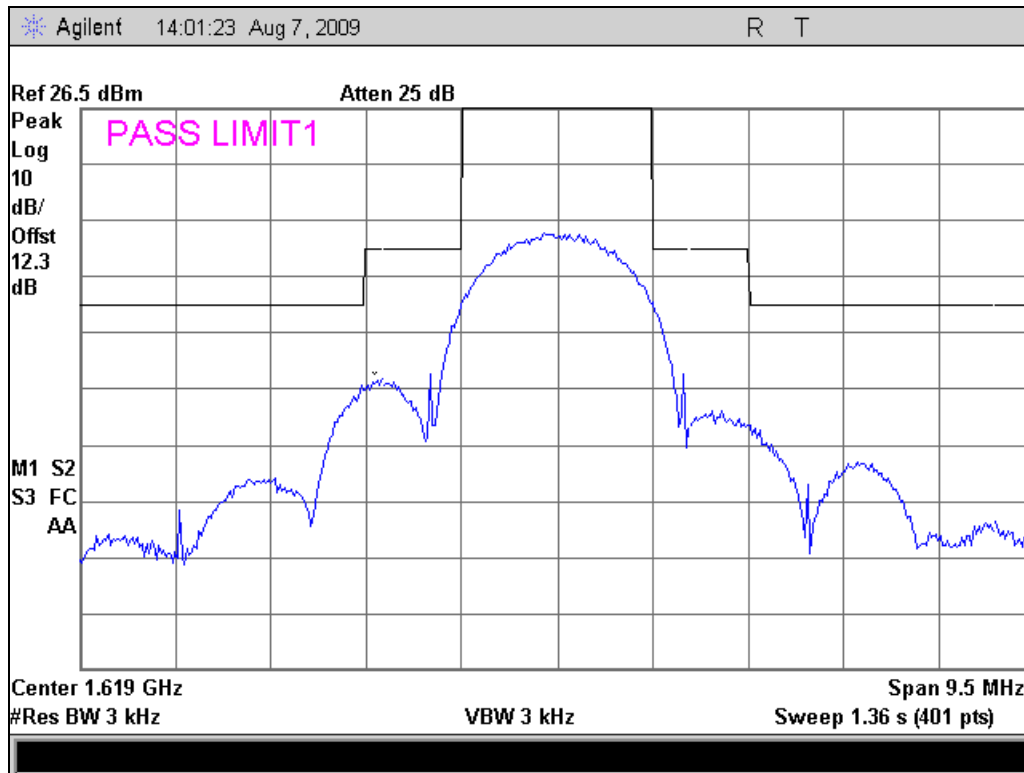
Test Setup



1611.25 MHz Emission Mask Plots



1618.75 MHz Emission Mask Plots



Name Of Test:
Specification:
Test Equipment Utilized

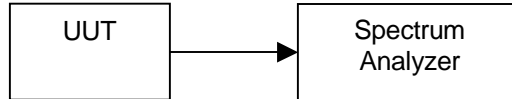
Emissions Limits for Portable Earth Stations
 25.216(g)(i)
 i00331

Engineer: J Erhard
Test Date: 8/10/2009

Test Procedure

The UUT was connected directly to a spectrum analyzer and the conducted spurious emissions were measured to ensure that the UUT met the requirements specified. Cable and attenuator losses were input into the analyzer as a reference level offset to ensure accurate measurements were obtained.

Test Setup



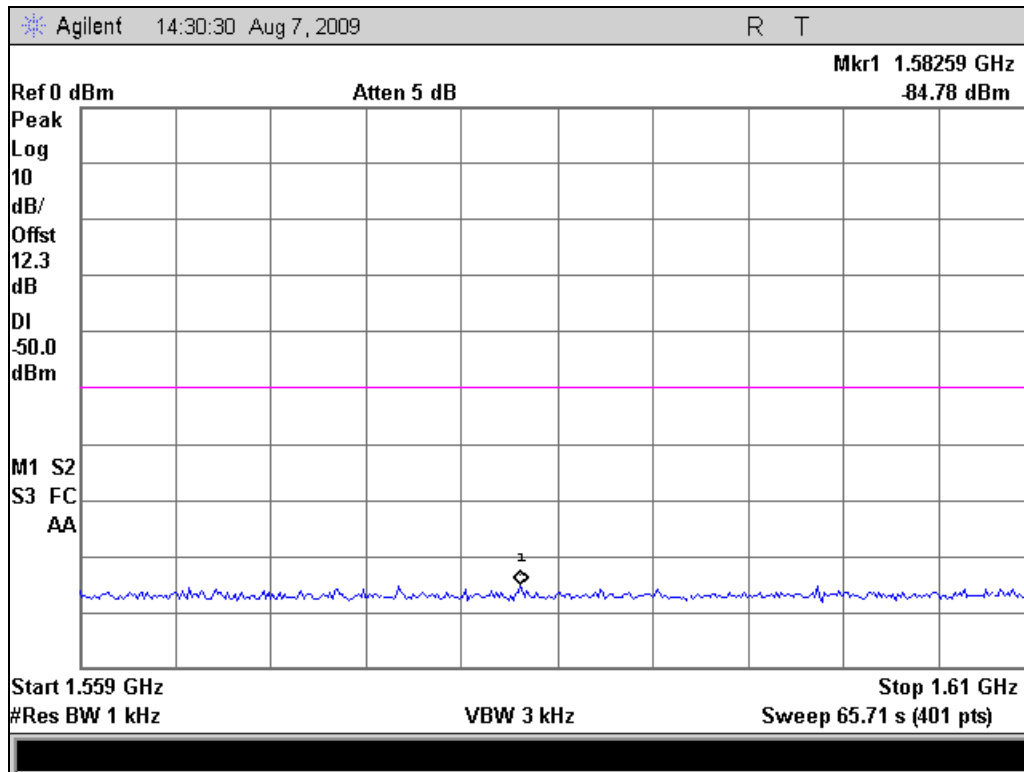
Transmitter Unwanted Emissions 25.216 (g)

Tuned Freq (MHz)	Result	Comments
1611.25	Pass	See Plots
1618.75	Pass	See Plots

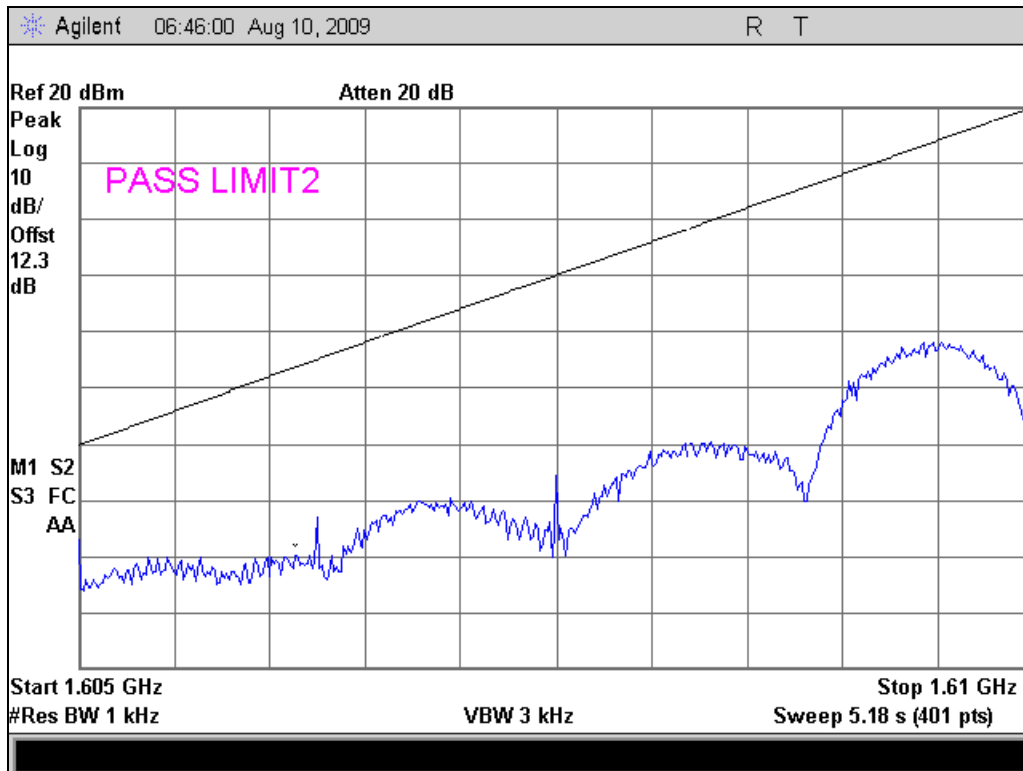
Transmitter Unwanted Emissions 25.216 (i)

Tuned Freq (MHz)	Result	Comments
Off State	Pass	See Plots

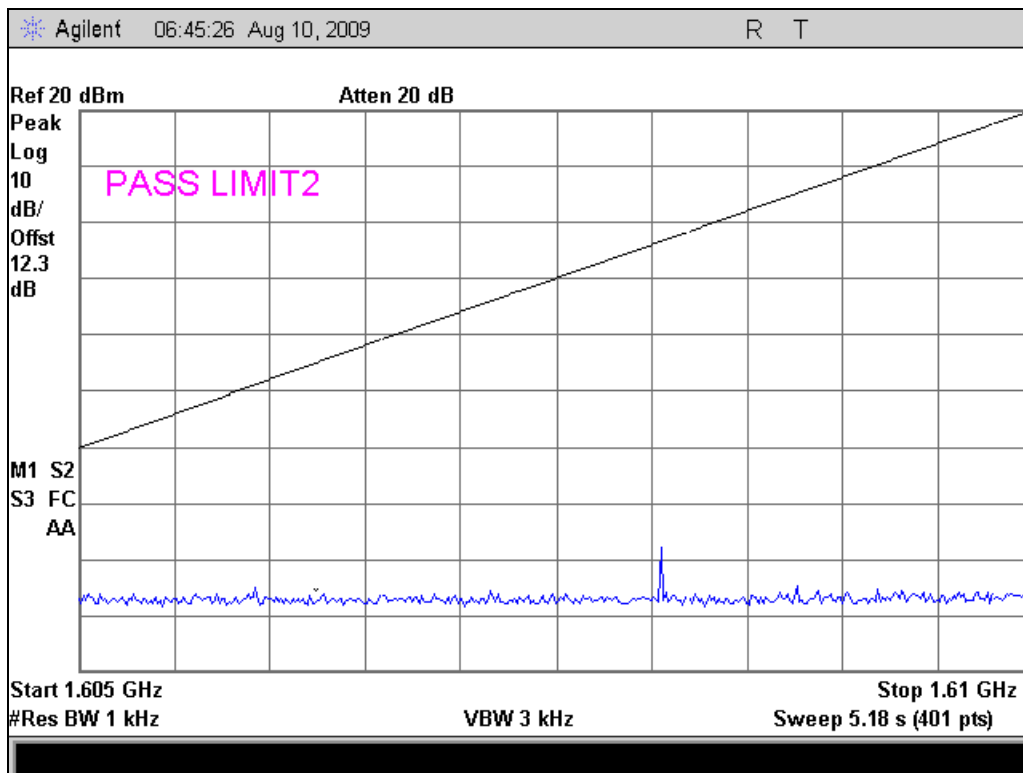
Off State Unwanted Emissions



1611.25 MHz Transmitter Unwanted Emissions



1618.75 MHz Transmitter Unwanted Emissions



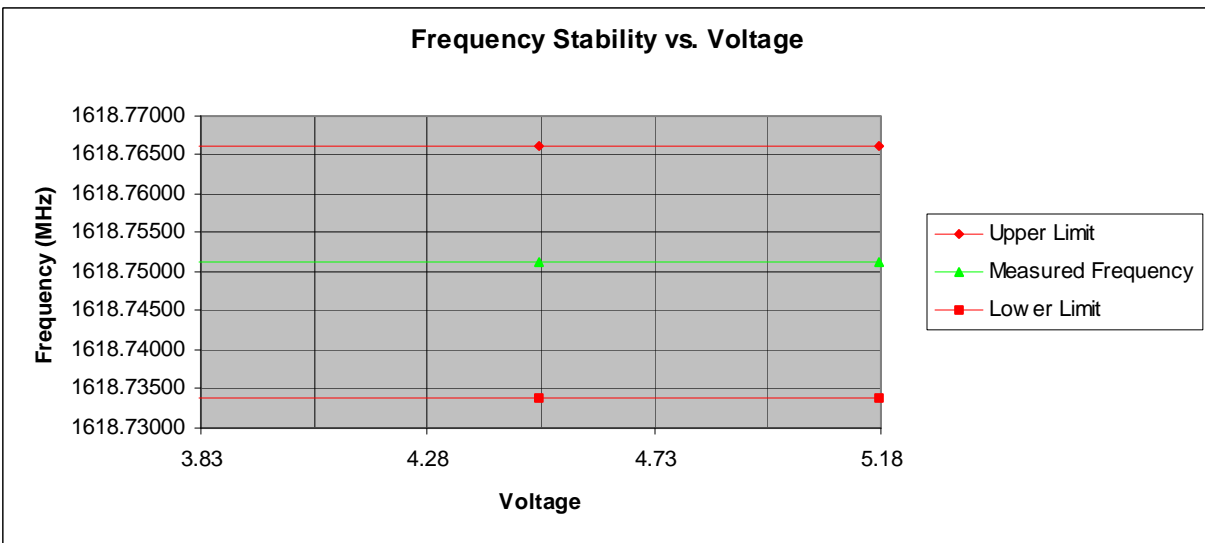
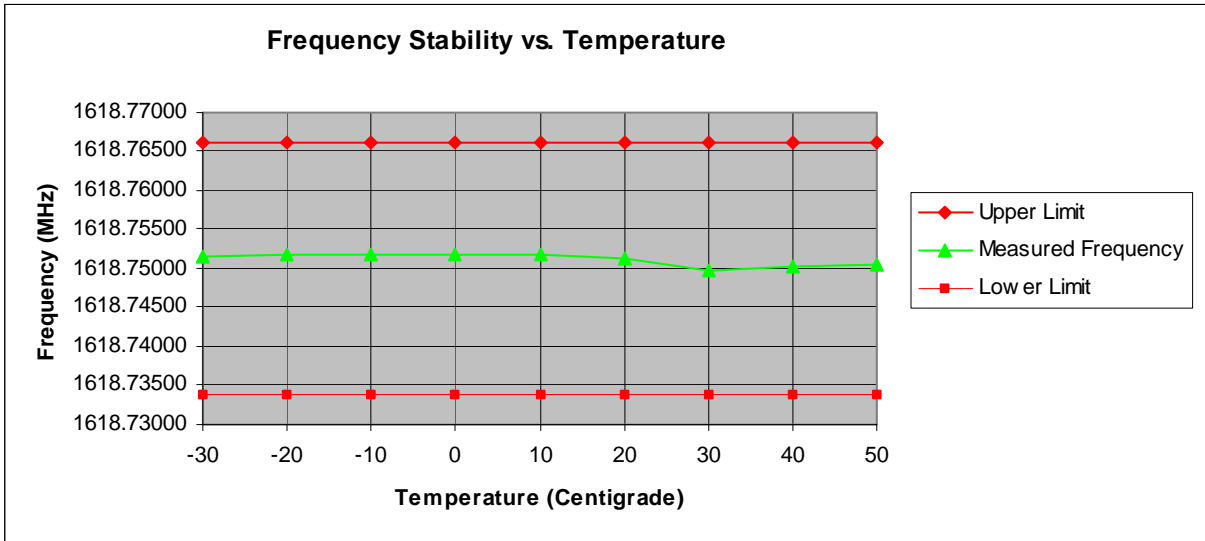
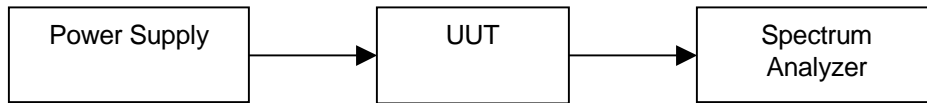
Name Of Test: Frequency Tolerance
Specification: 25.202(d)
Test Equipment Utilized i00008, i00027, i00029, i00321

Engineer: J Erhard
Test Date: 8/5/2009

Test Procedure

The UUT set to CW operation, placed inside an environmental test chamber, and connected directly to a spectrum analyzer. The span and RBW was adjusted for narrowband operation to ensure an accurate measurement of the CW signal could be obtained. The temperature was varied from -30 to +50°C in 10°C increments. After a 30-minute soak time the output frequency was measured. At 20°C the voltage was varied +/- 15% from the nominal voltage.

Test Setup



Test Equipment Utilized

Asset#	Manufacturer	Model	Last Calibration	Calibration Due
i00008	Kenwood	PR19-3A	N/A	N/A
i00027	Tenney	Tenney Jr	12/8/2008	12/8/2009
i00029	HP	8563E	6/8/2009	6/8/2010
i00320	Fluke	75 III	1/7/2009	1/7/2010
i00331	HP	8901A	11/3/08	11/3/2009
i00049	HP	8566B	12/04/08	12/04/09
i00267	Schaffner	CBL6111C	11/06/07	11/06/09
i00266	R&S	SMT-03	Verify When Used	Verify When Used

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