MET Laboratories, Inc. *Safety Certification - EMI - Telecom Environmental Simulation*
914 WEST PATAPSCO AVENUE • BALTIMORE, MARYLAND 21230-3432 • PHONE (410) 354-3300 • FAX (410) 354-3313
33439 WESTERN AVENUE • UNION CITY, CALIFORNIA 94587 • PHONE (510) 489-6300 • FAX (510) 489-6372
3162 BELICK STREET • SANTA CLARA, CA 95054 • PHONE (408) 748-3585 • FAX (510) 489-6372
13301 MCCALLEN PASS • AUSTIN, TEXAS 78753 • PHONE (512) 287-2500 • FAX (512) 287-2513

May 28, 2013

S&C Electric Company
1135 Atlantic Avenue
Alameda, CA 94501

Dear Prakash Ramadass,

Enclosed is the EMC Wireless test report for compliance testing of the S&C Electric Company, IntelliCom DA Mesh Radio 1710, tested to the requirements of Title 47 of the Code of Federal Regulations (CFR), Part 90 Subpart Y for Land Mobile Radio Services and RSS-111, Issue 4, March 2010.

Thank you for using the services of MET Laboratories, Inc. If you have any questions regarding these results or if MET can be of further service to you, please feel free to contact me.

Sincerely yours,
MET LABORATORIES, INC.

Jennifer Warnell
Documentation Department

Reference: (\S&C Electric Company\EMCS37379-FCC90Y Rev. 1)

Electromagnetic Compatibility Criteria
Test Report

For the

S&C Electric Company
Model IntelliCom DA Mesh Radio 1710

Tested under

The FCC Verification Rules
Contained in Title 47 of the CFR, Part 90, Subpart Y
for Private Land Mobile Radio Services
and
RSS-111, Issue 4, March 2010

MET Report: EMCS37379-FCC90Y Rev. 1

May 28, 2013

Prepared For:
S&C Electric Company
1135 Atlantic Avenue
Alameda, CA 94501

Prepared By:
MET Laboratories, Inc.
3162 Belick St.
Santa Clara, CA 95054

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RSS-111, Issue 4, March 2010

MET Report: EMCS37379-FCC90Y Rev. 1

Jonathan Chao, Project Engineer
Electromagnetic Compatibility Lab

Jennifer Warnell
Documentation Department

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of Part 90, Subpart Y of the FCC Rules and Industry Canada standard RSS-111, Issue 4, March 2010 under normal use and maintenance.

Asad Bajwa,
Director, Electromagnetic Compatibility Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
∅	March 22, 2013	Initial Issue.
1	May 28, 2013	Revised to reflect engineer corrections.

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List of Terms and Abbreviations

AC	**A**lternating **C**urrent
ACF	**A**ntenna **C**orrection **F**actor
Cal	**Cal**ibration
d	**M**easurement **D**istance
dB	**D**eci**b**els
dBµA	**D**eci**b**els above one **micro**amp
dBµV	**D**eci**b**els above one **micro**volt
dBµA/m	**D**eci**b**els above one **micro**amp **per m**eter
dBµV/m	**D**eci**b**els above one **micro**volt **per m**eter
DC	**D**irect **C**urrent
E	**E**lectric Field
DSL	**D**igital **S**ubscriber **L**ine
ESD	**E**lectro**s**tatic **D**ischarge
EUT	**E**quipment **U**nder **T**est
f	**F**requency
FCC	**F**ederal **C**ommunications **C**ommission
GRP	**G**round **R**eference **P**lane
H	Magnetic Field
HCP	**H**orizontal **C**oupling **P**lane
Hz	**H**ert**z**
IEC	**I**nternational **E**lectrotechnical **C**ommission
kHz	**k**ilo**h**ert**z**
kPa	**k**ilo**pa**scal
kV	**k**ilo**v**olt
LISN	**L**ine **I**mpedance **S**tabilization **N**etwork
MHz	**M**ega**h**ertz
µH	**microh**enry
µ	**microf**arad
µs	**micros**econds
NEBS	**N**etwork **E**quipment-**B**uilding **S**ystem
PRF	**P**ulse **R**epetition **F**requency
RF	**R**adio **F**requency
RMS	**R**oot-**M**ean-**S**quare
TWT	**T**raveling **W**ave **T**ube
V/m	**V**olts **per m**eter
VCP	**V**ertical **C**oupling **P**lane

I. Executive Summary

A. Testing Summary

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 90, Subpart Y. All tests were conducted using measurement procedure ANSI TIA/EIA-603-A-2004.

Title 47 of the CFR, Part 90, Subpart Y, and FCC 04-265 Reference and Test Description	RSS-111, Issue 4, March 2010 Reference	Conformance			Comments
		Yes	No	N/A	
		Yes - Equipment complies with the Requirement *No - Equipment does not comply with the Requirement* *N/A - Not applicable to the equipment under tests*			
2.1046; 90.1215(a) Peak Power Output	RSS-111, Section 5.3	✓			The EUT met this requirement.
2.1046; 90.1215(a) Peak Power Spectral Density	RSS-111, Section 4.2	✓			The EUT met this requirement
2.1047(a) Modulation Characteristics	N/A			✓	The EUT is not an analog modulation.
2.1049; 90.210(M) Occupied Bandwidth (Emission Mask)	RSS-111, Section 5.3	✓			The EUT met this requirement.
2.1051; 90.210(M) Spurious Emissions at Antenna Terminals	RSS-111, Section 5.4	✓			The EUT met this requirement
2.1053; 90.210(M) Radiated Spurious Emissions	RSS-111, Section 5.4	✓			The EUT met this requirement.
2.1055(a) (1); 90.213 Frequency Stability over Temperature Variations	RSS-111, Section 5.2	✓			The EUT met this requirement.
2.1055(d) (2) Frequency Stability over Voltage Variations	RSS-111, Section 5.2	✓			The EUT met this requirement.
90.214 Transient Frequency Behavior	RSS-111, Section 5.2			✓	The EUT is not an analog modulation.
90.1215(e) Peak Excursion	N/A	✓			The EUT met this requirement.

Table 1. Executive Summary of EMC Part 90Y ComplianceTesting

II. Equipment Configuration

A. Overview

MET Laboratories, Inc. was contracted by S&C Electric Company to perform testing on the IntelliCom DA Mesh Radio 1710 under purchase order number 3455.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the S&C Electric Company., IntelliCom DA Mesh Radio 1710.

An EMC evaluation to determine compliance of the TB 4.9 with the requirements of Part 90, Subpart Y, was conducted. (All references are to the most current version of Title 47 of the Code of Federal Regulations in effect). In accordance with §2.1033, the following data is presented in support of the Certification of the TB4.9. S&C Electric Company should retain a copy of this document and it should be kept on file for at least five years after the manufacturing of the EUT has been **permanently** discontinued. The results obtained relate only to the item(s) tested.

Model(s) Tested:	IntelliCom DA Mesh Radio 1710	
Model(s) Covered:	IntelliCom DA Mesh Radio 1710	
EUT Specifications:	Primary Power Source: 120 VAC, 60 Hz	
	FCC ID: U3D-US1710DA IC: 5349C-CA1710DA	
	Type of Modulations:	OFDM
	Peak Output Power:	23.7dBm
	Equipment Code:	TNB
	EUT Frequency Ranges:	4945 – 4980 MHz
	OATS:	2043C-1
Analysis:	The results obtained relate only to the item(s) tested.	
Environmental Test Conditions:	Temperature (15-35º C):	
	Relative Humidity (30-60%):	
	Barometric Pressure (860-1060 mbar):	
Evaluated by:	Jonathan Chao	
Report Date(s):	May 28, 2013	

Table 2. EUT Summary Table

B. References

CFR 47, Part 90, Subpart Y	Federal Communication Commission, Code of Federal Regulations, Title 47, Part 90: Private Land Mobile Radio Services
RSS-111, Issue 4, March 2010	Low-power Licence-exempt Radiocommunications Devices (All Frequency Bands): Category I Equipment
RSS-GEN, Issue 3, Dec. 2010	General Requirements and Information for the Certification of Radio Apparatus
ANSI C63.4:2003	Methods and Measurements of Radio-Noise Emissions from Low-Voltage Electrical And Electronic Equipment in the Range of 9 kHz to 40 GHz
ISO/IEC 17025:2005	General Requirements for the Competence of Testing and Calibration Laboratories

Table 3. References

C. Test Site

All testing was performed at MET Laboratories, Inc., 3162 Belick St., Santa Clara, CA 95054. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

Radiated Emissions measurements were performed in a semi-anechoic chamber (equivalent to an Open Area Test Site). In accordance with §2.948(a)(3), a complete site description is contained at MET Laboratories.

D. Description of Test Sample

The S&C Electric Company IntelliCom DA Mesh Radio 1710, Equipment Under Test (EUT), provides reliable Ethernet connectivity over a high performance, self-forming wireless mesh backbone. All nodes have an Ethernet port for connecting network devices or other networks to the wireless mesh. 1710 mesh features a single radio solution with capability of expansion to dual Radio operating in the 2.4 GHz, 4.9 GHz (U.S. public safety licensed band) or 5 GHz frequency ranges on the other. Each radio is a 3x3 MIMO but two of the ports have been blocked off. Therefore, only one port of each radio is active. When two radios are installed there will only be two ports on the host device. Both radios are identical. Therefore, measurements were only made on one radio.
IntelliCom 1710 is powered by DC power of 12V / 1.8A.

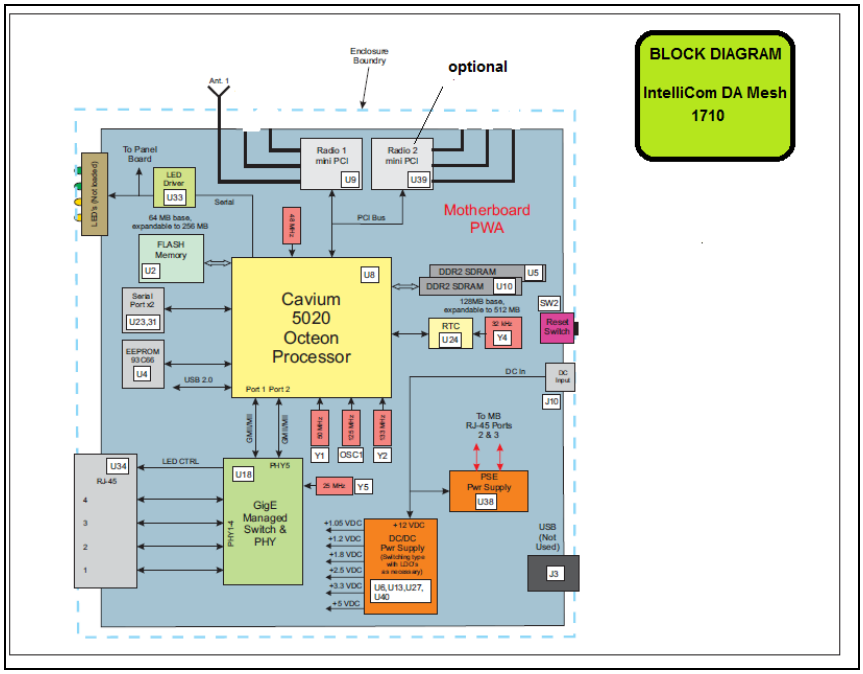


Figure 1. Block Diagram of Test Configuration

E. Equipment Configuration

The EUT was set up as outlined in Figure 1, Block Diagram of Test Setup. All cards, racks, etc., incorporated as part of the EUT is included in the following list.

Ref. ID	Name / Description	Model Number
1	Mesh Node	IntelliCom 1710

Table 4. Equipment Configuration

F. Support Equipment

Support equipment necessary for the operation and testing of the EUT is included in the following list.

Name / Description	Manufacturer	Model Number
External DC Adapter	FSP Group	FSP040-1ADF03A
Rubber Duct Omni	Master Wave	98144PRSX003

Table 5. Support Equipment

G. Ports and Cabling Information

Ref. ID	Port Name on EUT	Cable Description	Qty.	Length (m)	Shielded (Y/N)	Termination Point
1	Antenna Ports and Cables	--	1	--	Y	2.4/5GHz 3dBi Antenna
2	RJ45 Port and Cable	--	1	--	NA	Laptop
3	DC Power Input Port	--	1	--	Y	DC Supply

Table 6. Ports and Cabling Information

H. Method of Monitoring EUT Operation

IntelliCom 1710 will be used for wireless mesh node application and all the IntelliCom 1710 always be verified using the IntelliCom provided Software which will run on server PC or Laptop. If some connectivity is broken then we can verify this with IntelliCom software running on the server then we can take necessary action accordingly. Nodes connectivity will be monitored using a common server (PC or Laptop).

I. Modifications

a) Modifications to EUT
No modifications were made to the EUT.

b) Modifications to Test Standard
No modifications were made to the test standard.

J. Disposition of EUT

The test sample including all support equipment submitted to the Electro-Magnetic Compatibility Lab for testing was returned to S&C Electric Company upon completion of testing.

III. Electromagnetic Compatibility Criteria for Intentional Radiators

Electromagnetic Compatibility Criteria for Intentional Radiators

§90.1215(a) RF Power Output

Test Requirement(s): **§2.1046 and §90.1215(a) with FCC 04-265**

Test Procedures: As required by 47 CFR 2.1046, *RF power output measurements* were made at the RF output terminals using a Spectrum Analyzer.

A laptop was connected to EUT to control the RF power output and frequency channel. The EUT was connected to a Spectrum Analyzer via an attenuator to measure the Peak power. The EUT power was adjusted enough to produce maximum output power as specified in the owner's manual. A resolution bandwidth of 1MHz and Video Bandwidth of 3MHz was used. The output power was then recorded with peak reading. Measurements were made at the low, mid and high channels. Plots were correct for attenuator and cable loss.

Test Results: Equipment is compliant with 47CFR 2.1046 and 90.1215(a) with FCC 04-265.

All RF Power output measurements were direct connection to RF output Terminal of EUT from a Spectrum Analyzer.

Test Engineer(s): Jonathan Chao and Aaron Chang

Test Date(s): 02/01/13 and 05/21/13

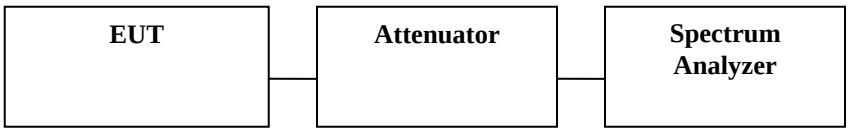
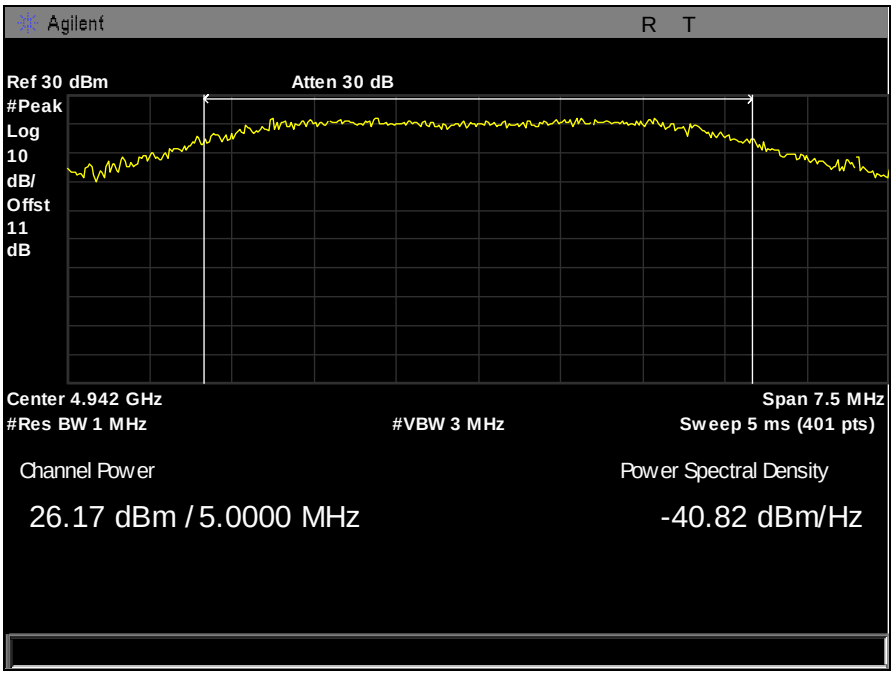


Figure 2. RF Power Output Test Setup

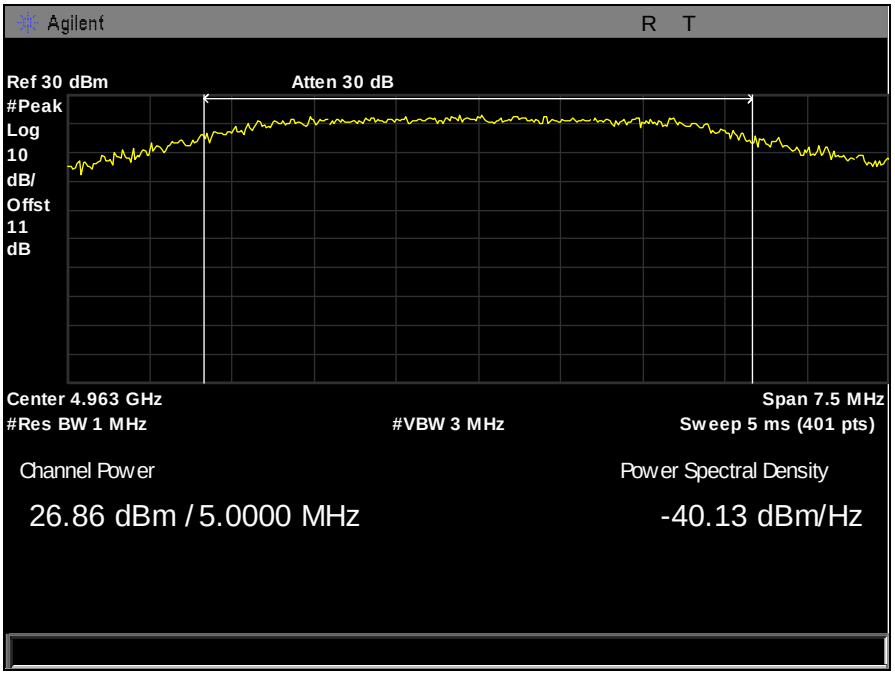
Frequency (MHz)	EUT Channel Bandwidth (MHz)	Measured (dBm) Port 1	Limit (dBm)
4942.5	5	26.17	27
4962.5		26.86	27
4987.5		26.80	27
4945	10	23.70	30
4965		24.14	30
4985		23.26	30
4950	20	23.29	33
4980		23.59	33

Table 7. RF Power Output, Test Results

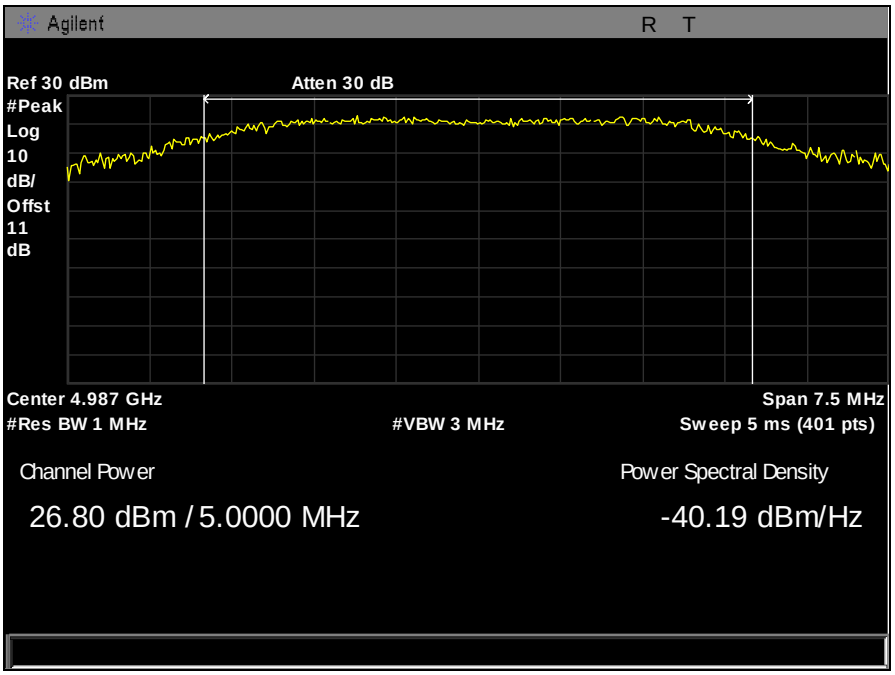
RF Power Output



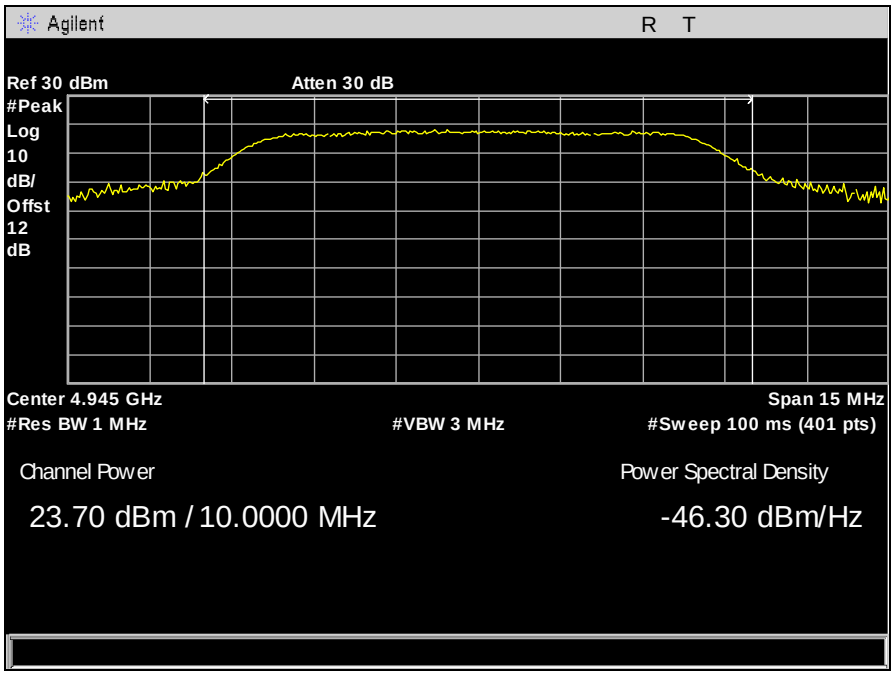
Plot 1. RF Power Output, 802.11a 5 MHz @ 4942.5 MHz



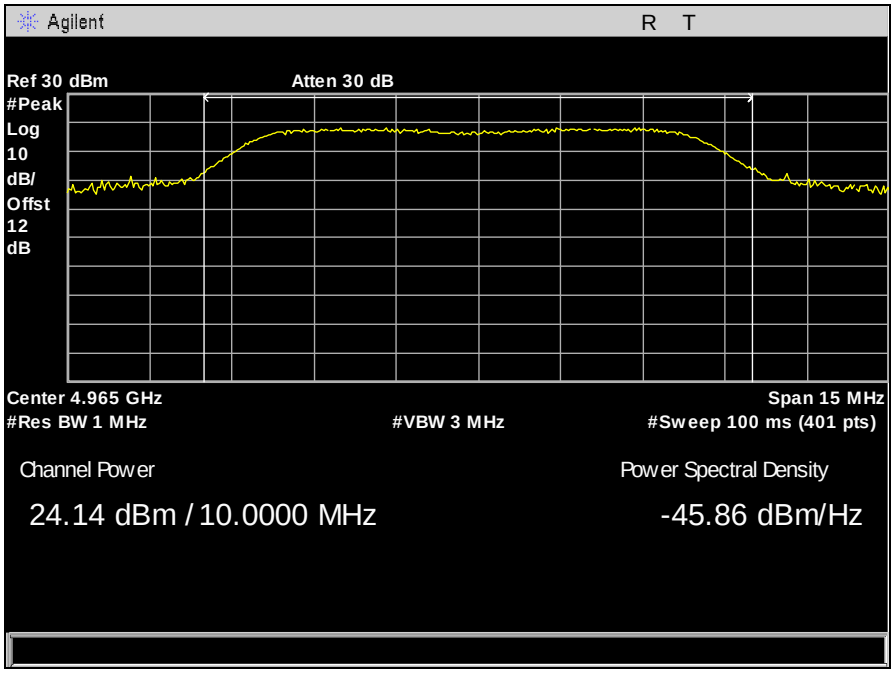
Plot 2. RF Power Output, 802.11a 5 MHz @ 4962.5 MHz



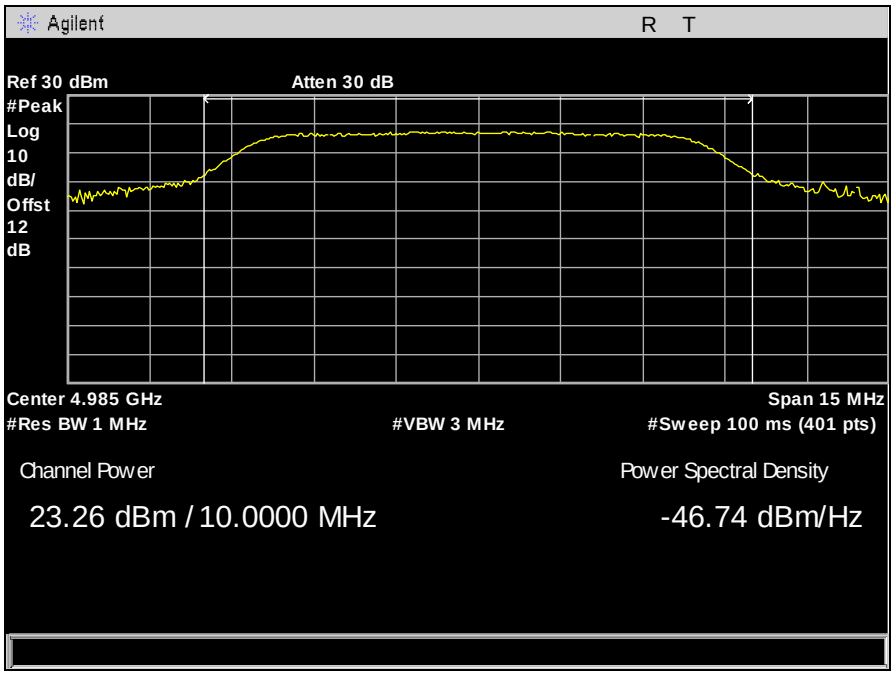
Plot 3. RF Power Output, 802.11a 5 MHz @ 4987.5 MHz



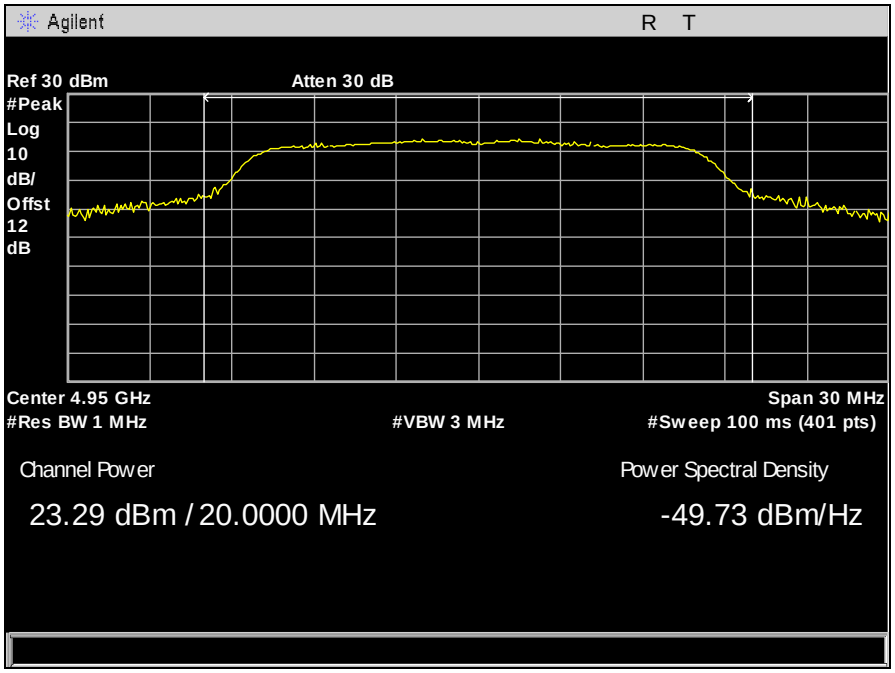
Plot 4. RF Power Output, 802.11a 10 MHz @ 4945 MHz



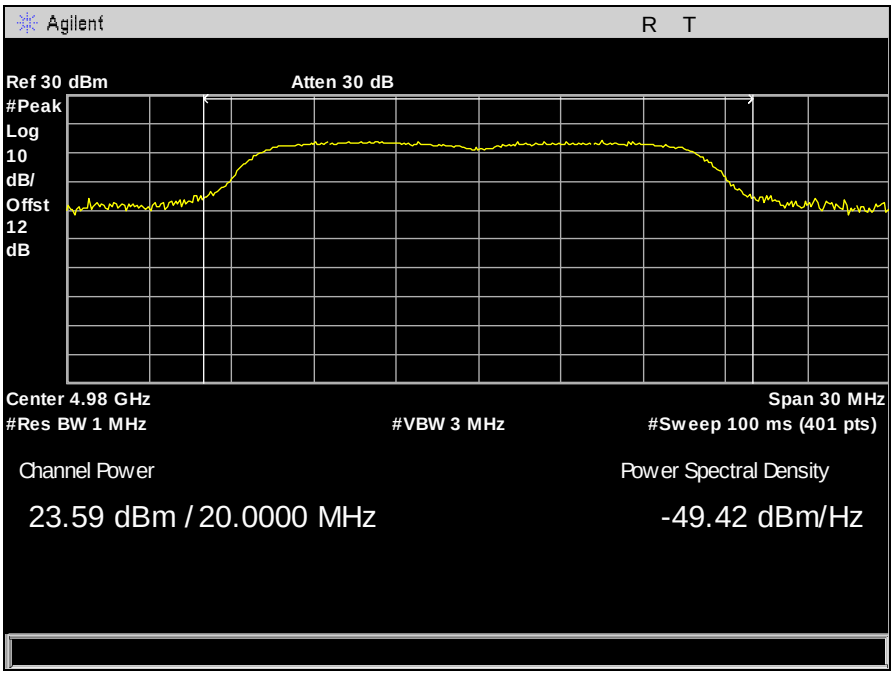
Plot 5. RF Power Output, 802.11a 10 MHz @ 4965 MHz



Plot 6. RF Power Output, 802.11a 10 MHz @ 4985 MHz



Plot 7. RF Power Output, 802.11a 20 MHz @ 4950 MHz



Plot 8. RF Power Output, 802.11a 20 MHz @ 4980 MHz

Electromagnetic Compatibility Criteria for Intentional Radiators

§90.1215(a) Peak Power Spectral Density

Test Requirement(s): **§90.1215(a) with FCC 04-265**

Test Procedures: As required by 47 CFR 2.1046, *RF power output measurements* were made at the RF output terminals using a Directional Coupler through a Spectrum Analyzer and Power Meter.

A laptop was connected to EUT to control the RF power output and frequency channel. The EUT was connected to a Spectrum Analyzer in order to measure the power level. The Spectrum Analyzer was set to a RBW = 1 & VBW = 3 MHz. The EUT power was adjusted at the maximum output power level. The max hold key from the Spectrum Analyzer was activated capturing the modulated envelope of the EUT. The Peak Power Spectral Density was then recorded. Measurements were made at the low, mid and high channels. Plots were corrected for attenuator and cable loss.

Test Results: Equipment is compliant with 47 CFR 2.1046 and 90.1215(a) with FCC 04-265 (High Power devices). The EUT does not exceed a combined 21dBm/MHz peak power spectral density (16.23dBm/MHz per port) at the carrier frequency.

The following pages show measurements of Peak Power Spectral Density plots which is recorded below:

Test Engineer(s): Jonathan Chao and Aaron Chang

Test Date(s): 2/2/2013 and 05/21/13

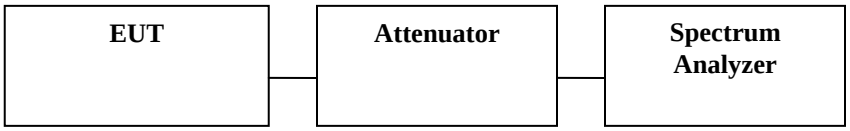
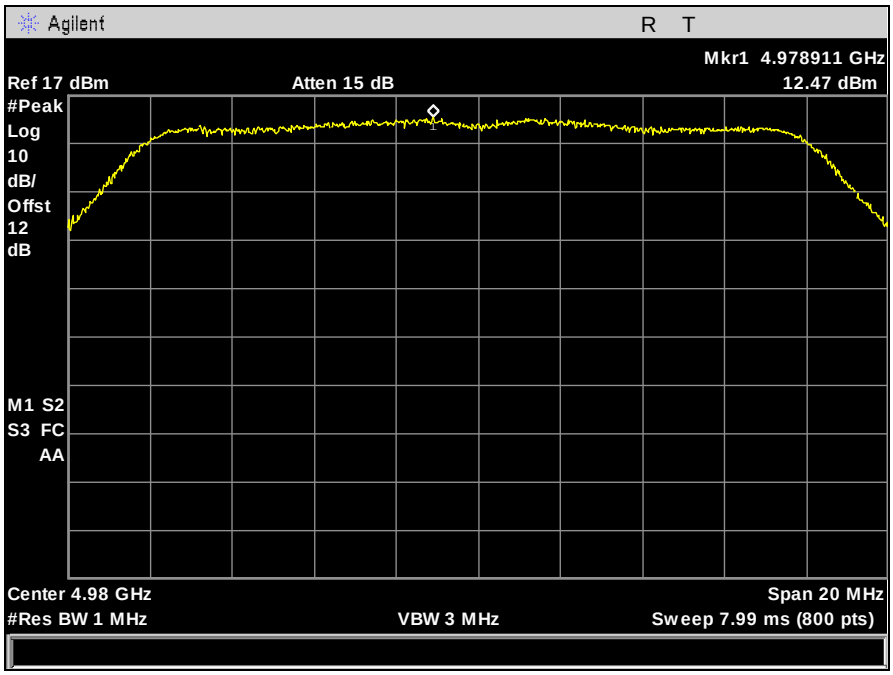


Figure 3. Peak Spectral Density Test Setup

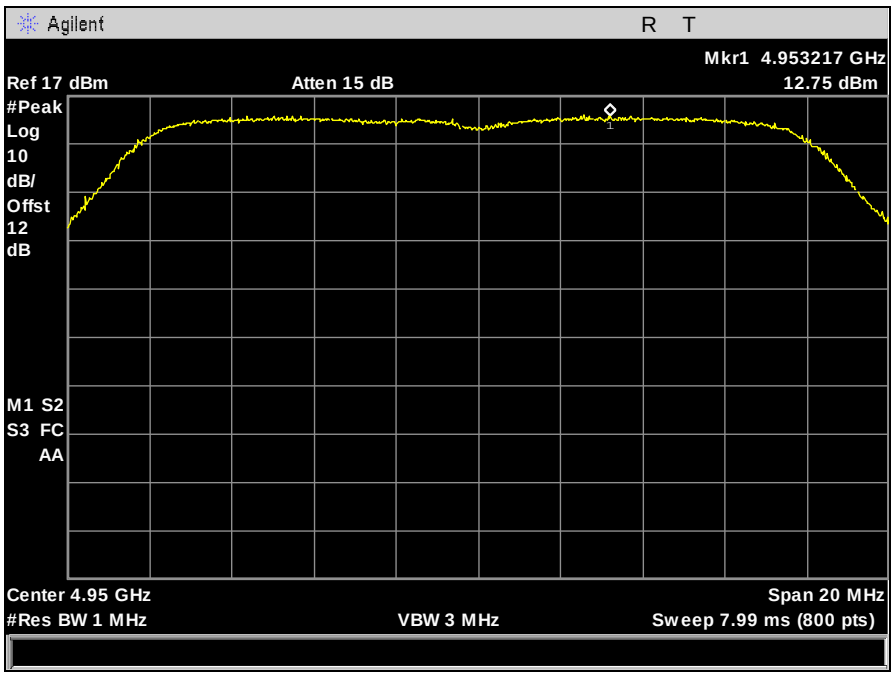
Frequency (MHz)	EUT Channel Bandwidth (MHz)	Measured Power Spectral Density (dBm) Port 1	Limit (dBm)
4950	**20**	12.47	21
4980		12.76	21
4945	**10**	16.21	21
4965		16.53	21
4985		16.38	21
4942.5	**5**	20.57	21
4962.5		20.71	21
4987.5		20.99	21

Table 8. Peak Power Spectral Density, Test Results

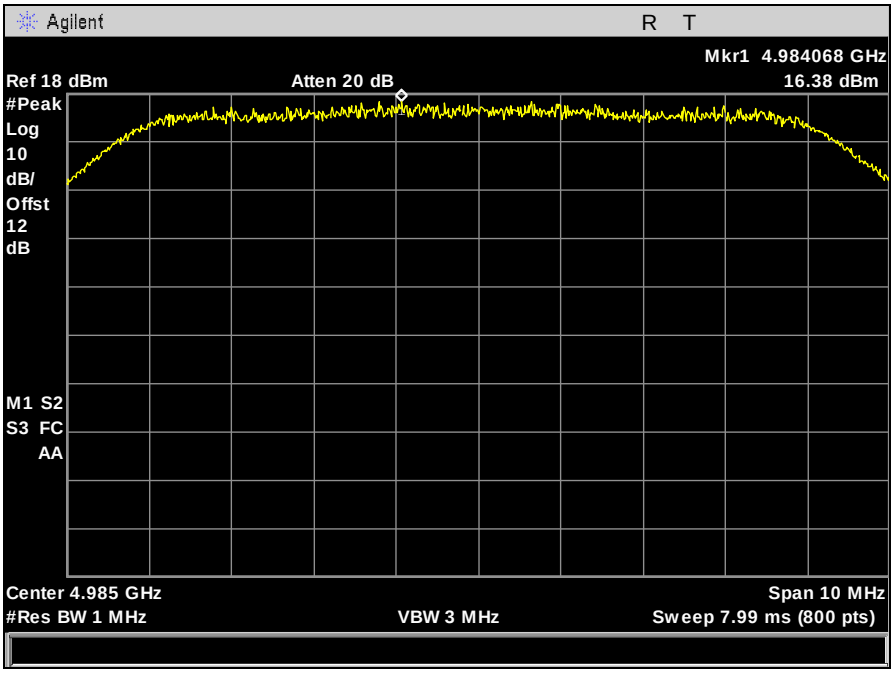
Peak Power Spectral Density



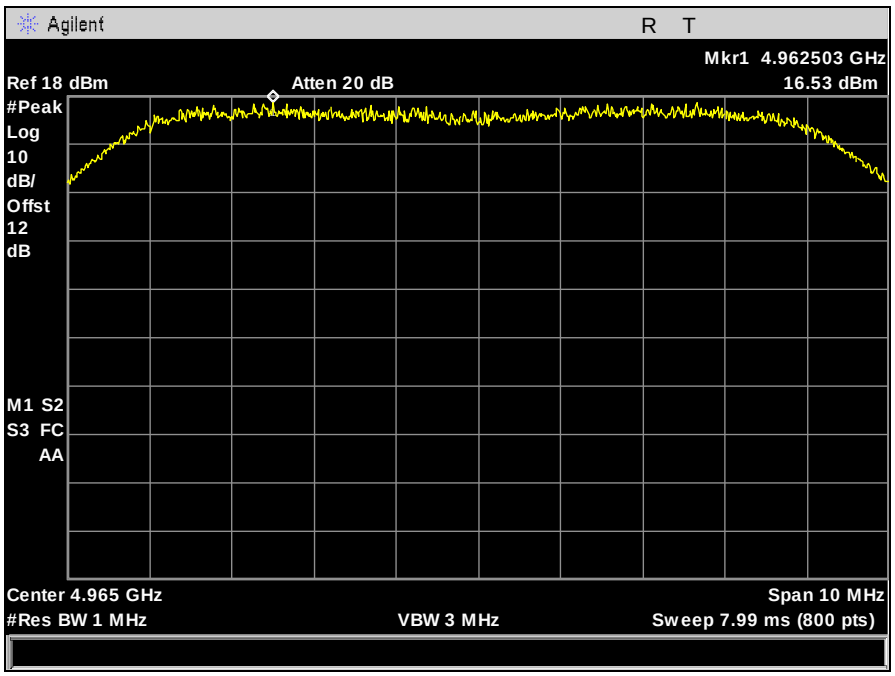
Plot 9. Peak Spectral Density, 20MHz @ 4980MHz



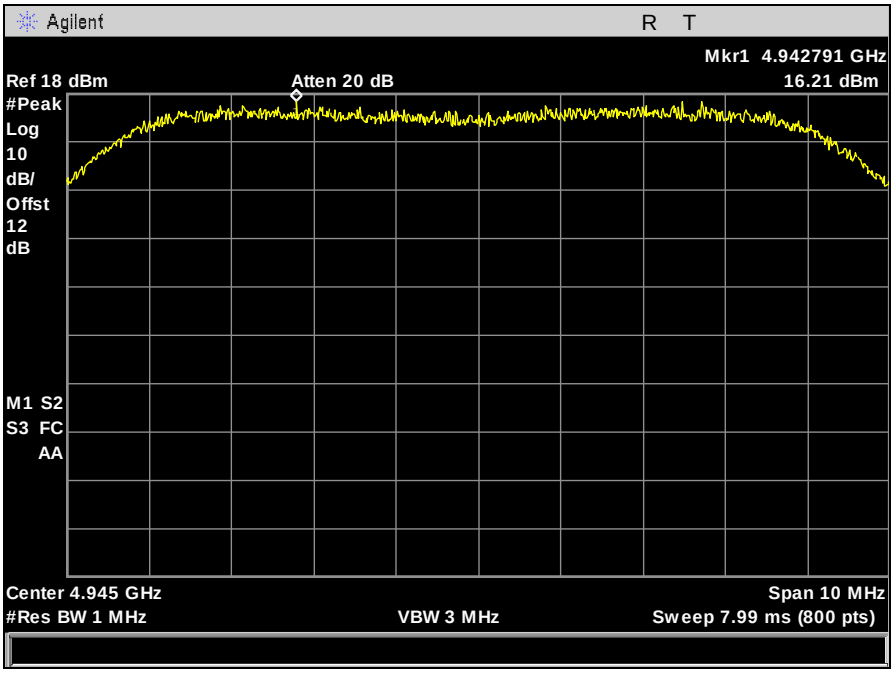
Plot 10. Peak Spectral Density, 20MHz @ 4950MHz



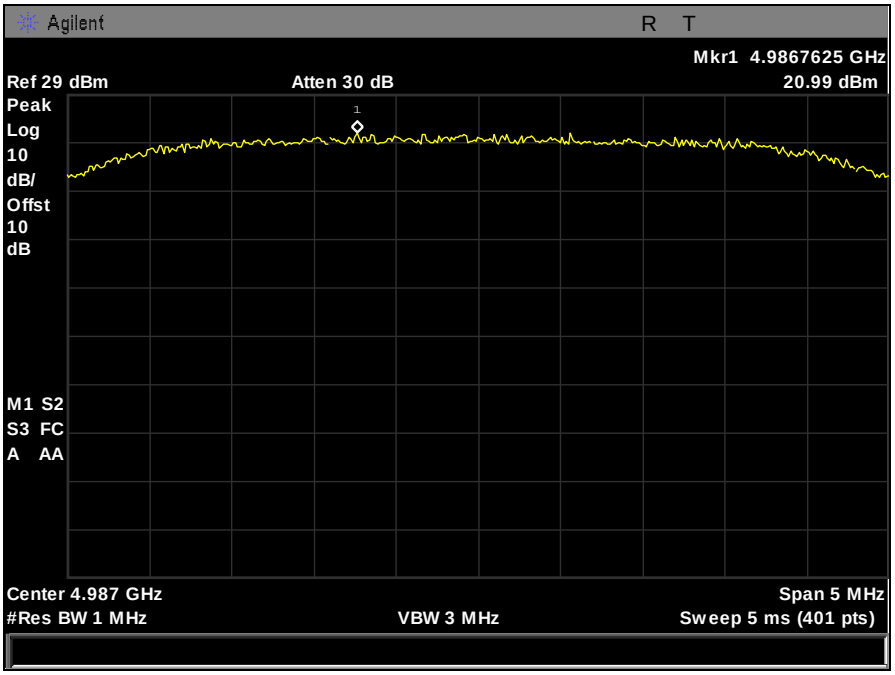
Plot 11. Peak Spectral Density, 10MHz @ 4985MHz



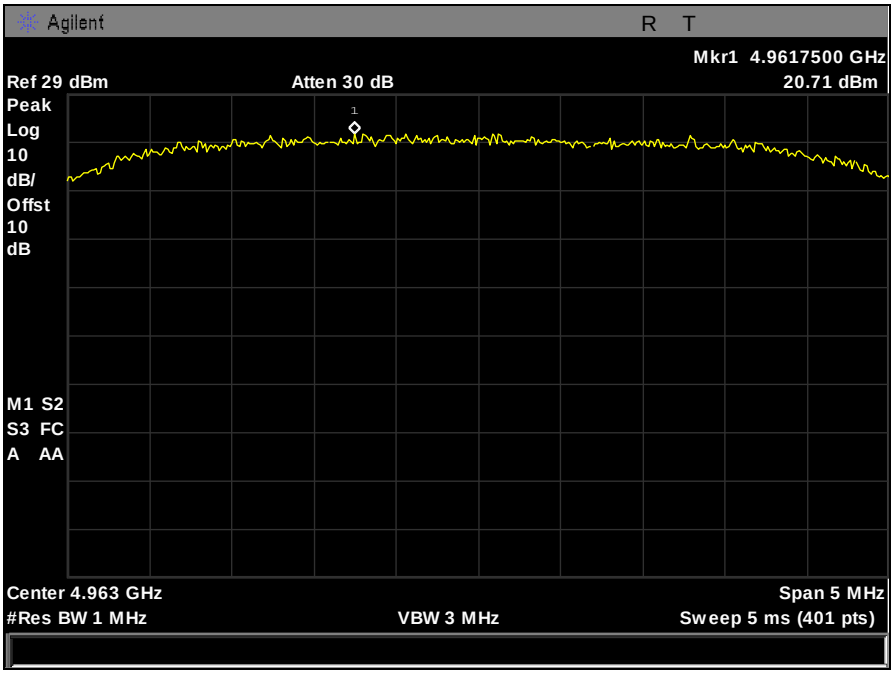
Plot 12. Peak Spectral Density, 10MHz @ 4965MHz



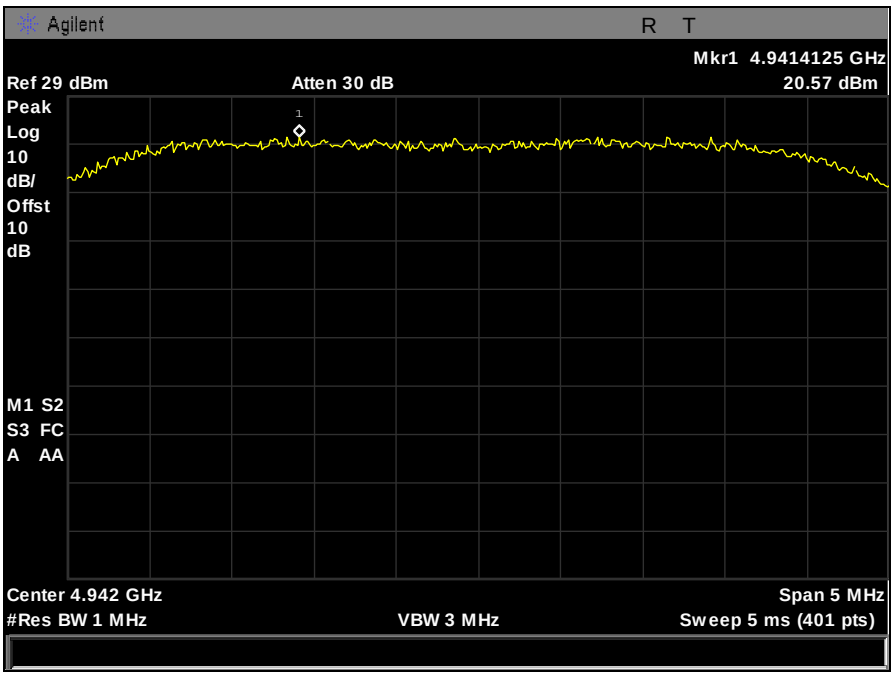
Plot 13. Peak Spectral Density, 10MHz @ 4945MHz



Plot 14. Peak Spectral Density, 5MHz @ 4987.5MHz



Plot 15. Peak Spectral Density, 5MHz @ 4962.5MHz



Plot 16. Peak Spectral Density, 5MHz @ 4942.5 MHz

Electromagnetic Compatibility Criteria for Intentional Radiators

§90.210(M) Occupied Bandwidth (Emission Mask)

Test Requirement(s): **§2.1049 and §90.210 (M) with FCC 04-265 (Emissions Mask M)**

Test Procedures: As required by 47 CFR 2.1049, *occupied bandwidth measurements* were made at the RF output terminals using a Spectrum Analyzer.

A laptop was connected to EUT to control the RF power output and frequency channel. The EUT was connected to a Spectrum Analyzer via attenuator. The measured highest Average Power was set relative to zero dB reference. The RBW of the Spectrum Analyzer was set to at least 1% of the channel bandwidth. An average detector with a 30 kHz Resolution Bandwidth with power averaging over 100 traces was used for Emission Mask. A sample detector with a 1 kHz Resolution bandwidth for the Occupied Bandwidth was used. The EUT power was adjusted at the maximum output power level. Measurements were carried out at the low, mid and high channels of the TX band. Plots were corrected for attenuator and cable loss.

Test Results: Equipment is compliant with Section 2.1049 and 90.210(M) with FCC 04-265 (Emission Mask M). The EUT does not exceed the Emission Masks limit.

The following pages show measurements of Emission Mask plots:

Test Engineer(s): Jonathan Chao and Aaron Chang

Test Date(s): 02/05/13 and 05/21/13

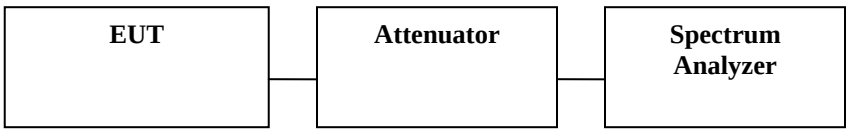
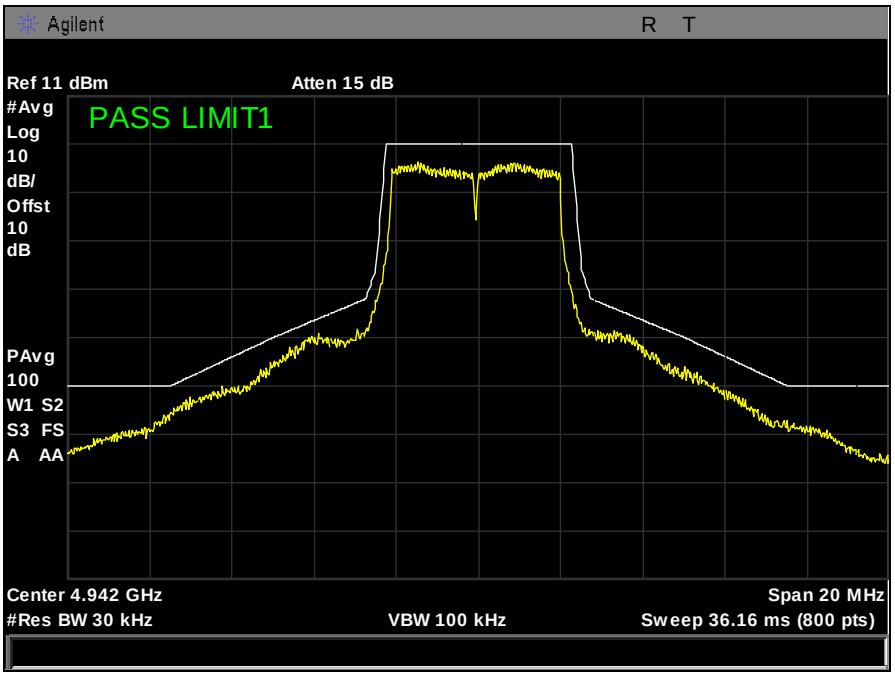
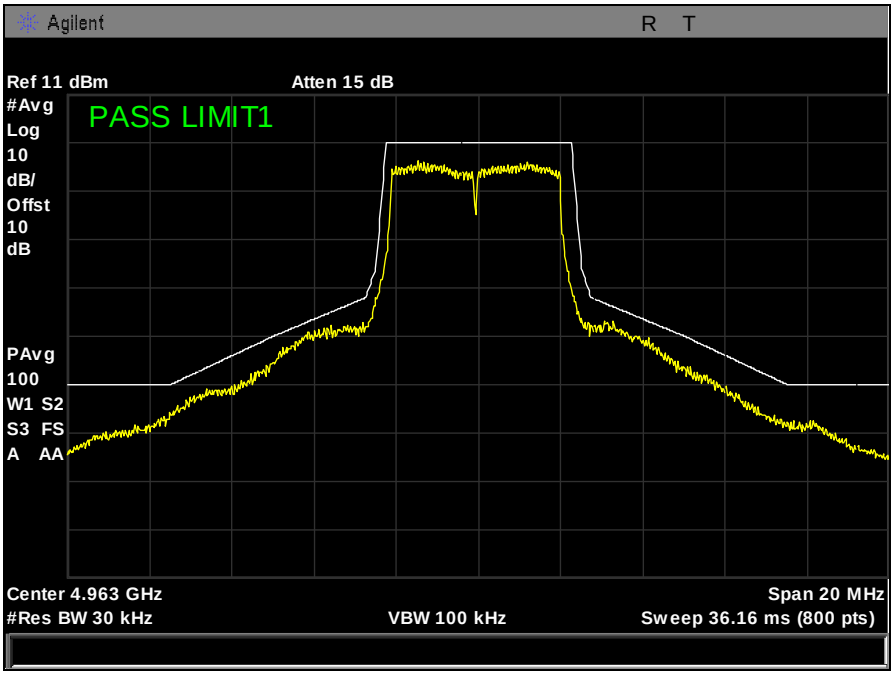


Figure 4. Occupied Bandwidth (Emission Mask) Test Setup

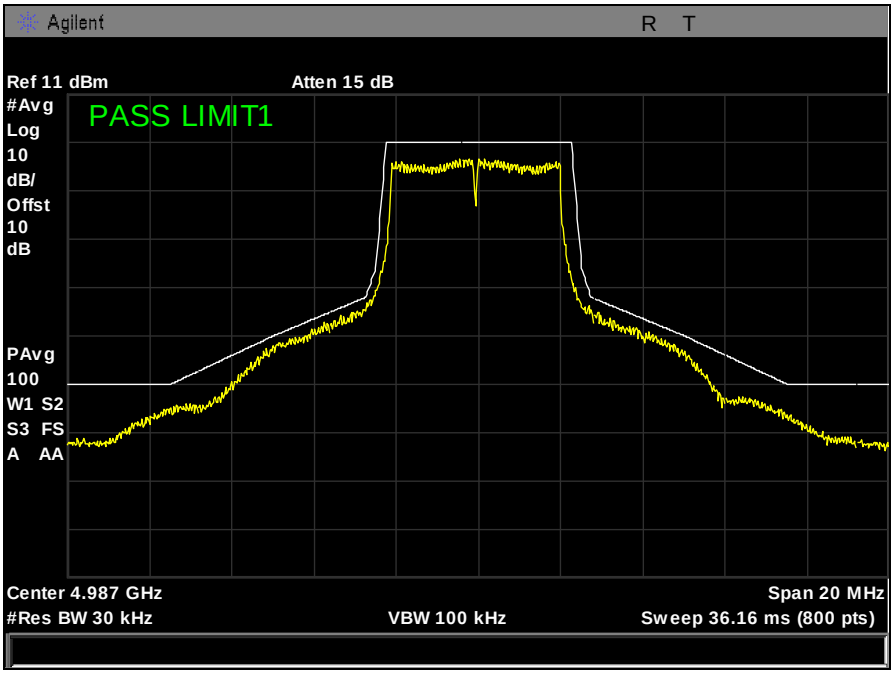
Emission Mask



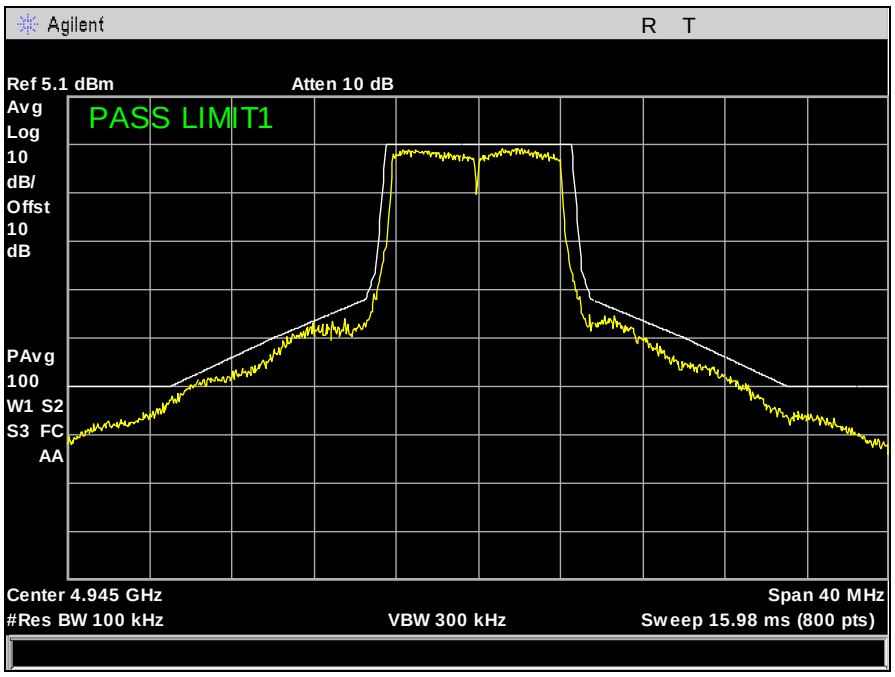
Plot 17. Emission Mask, 802.11a 5 MHz @ 4942.5 MHz



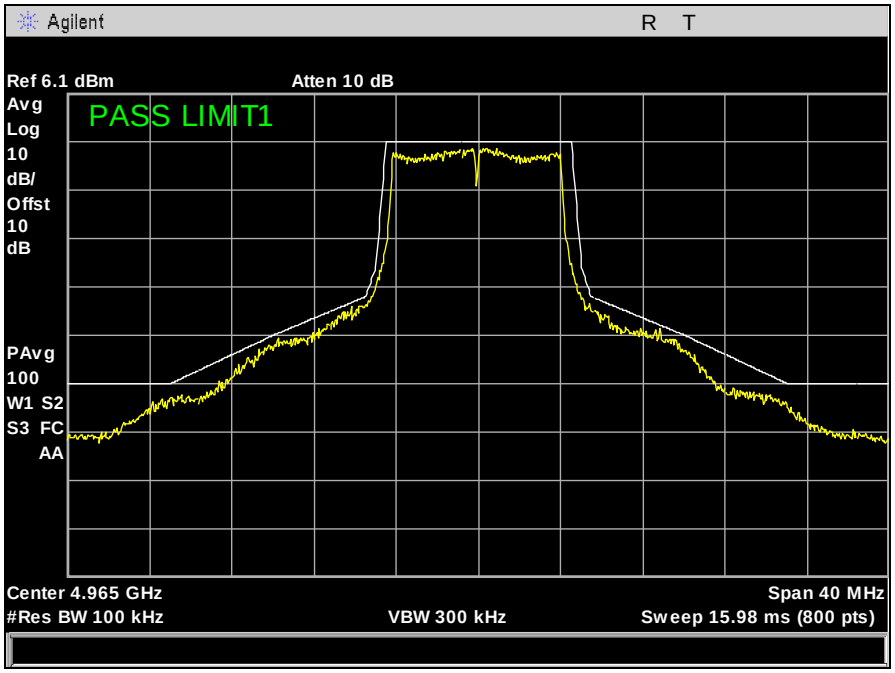
Plot 18. Emission Mask, 802.11a 5 MHz @ 4962.5 MHz



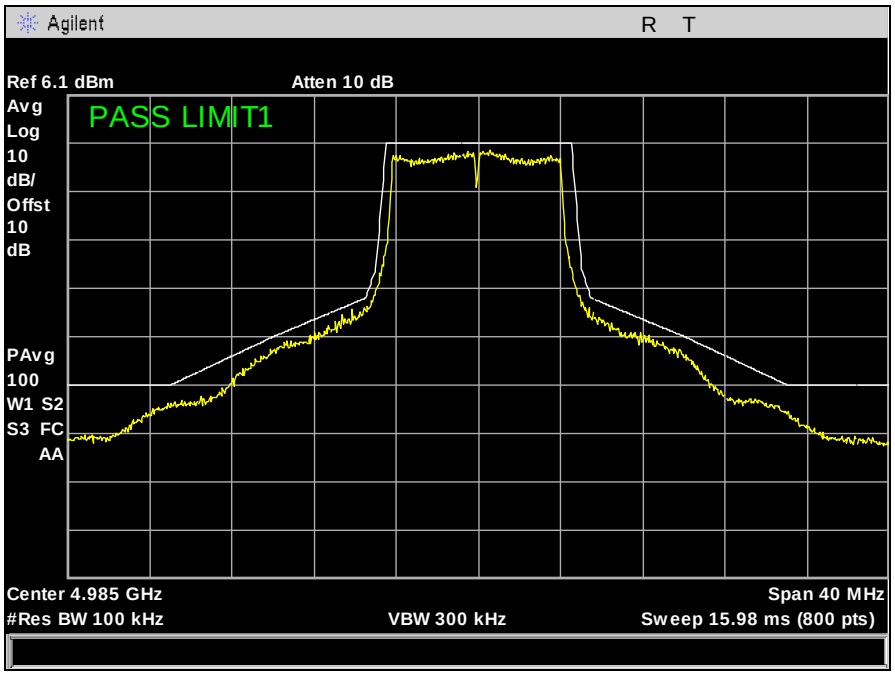
Plot 19. Emission Mask, 802.11a 5 MHz @ 4987.5 MHz



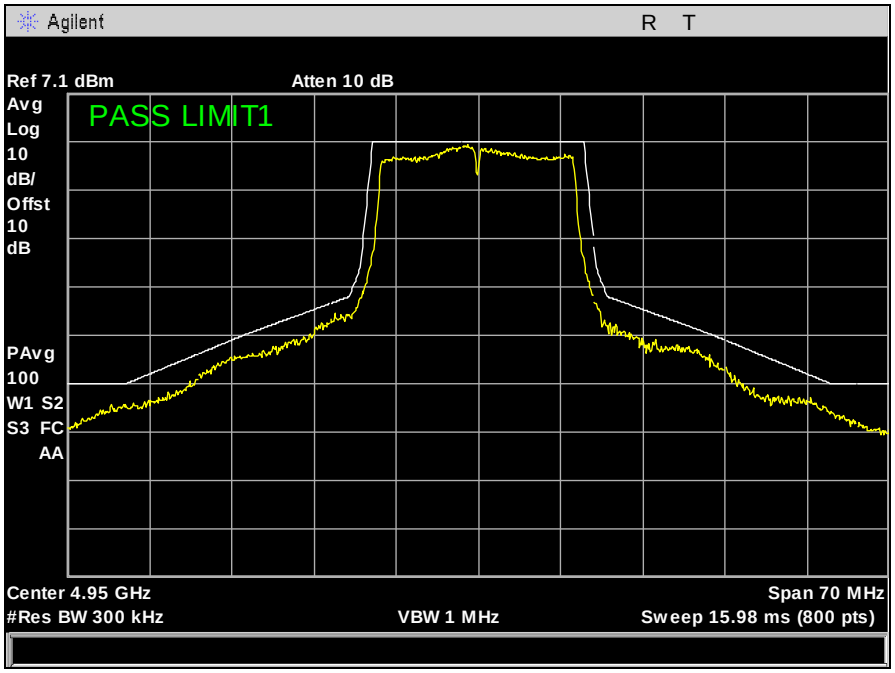
Plot 20. Emission Mask, 802.11a 10 MHz @ 4945 MHz



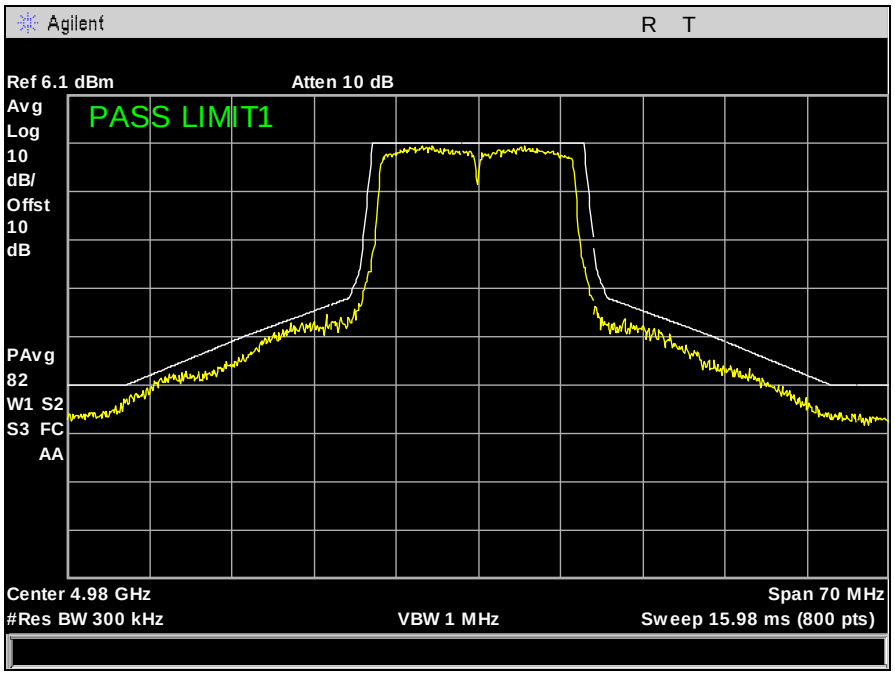
Plot 21. Emission Mask, 802.11a 10 MHz @ 4965 MHz



Plot 22. Emission Mask, 802.11a 10 MHz @ 4985 MHz

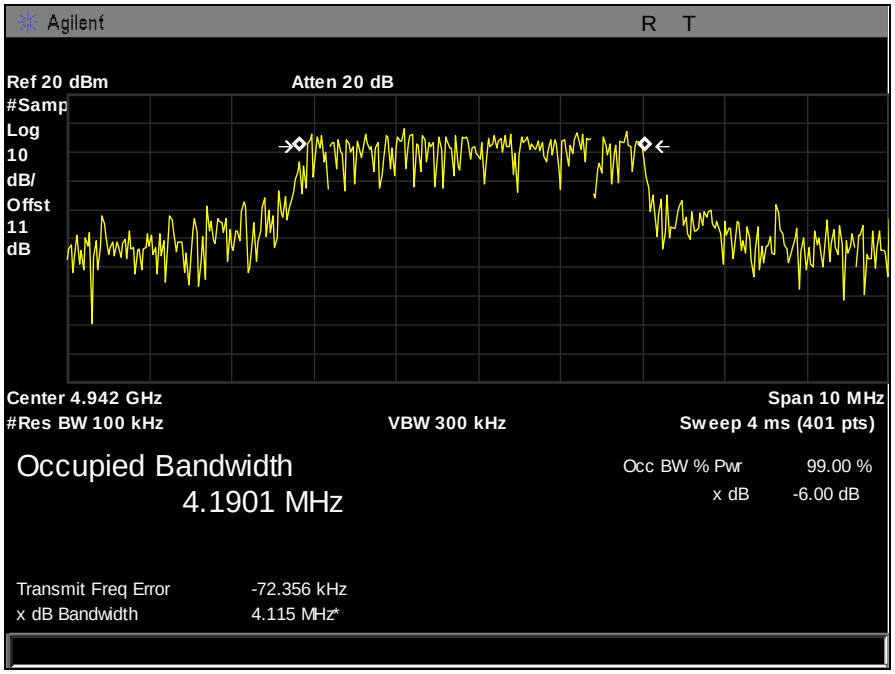


Plot 23. Emission Mask, 802.11a 20 MHz @ 4950 MHz

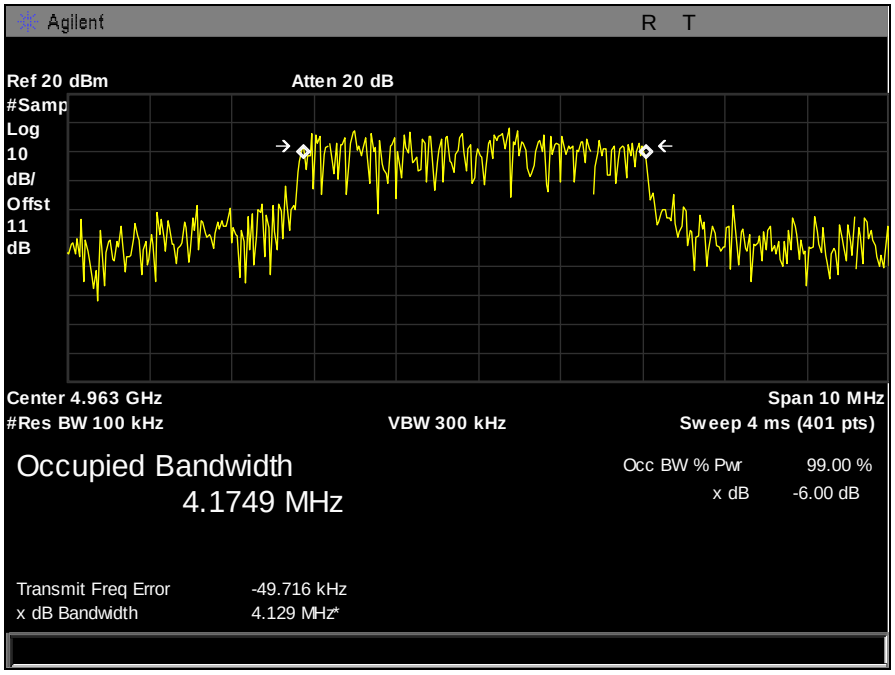


Plot 24. Emission Mask, 802.11a 20 MHz @ 4980 MHz

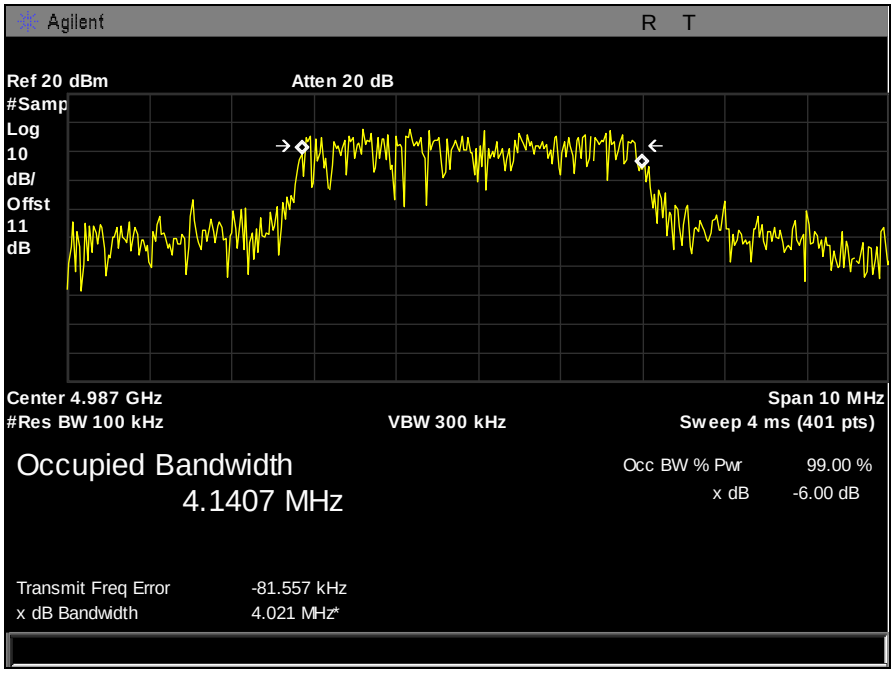
Occupied Bandwidth



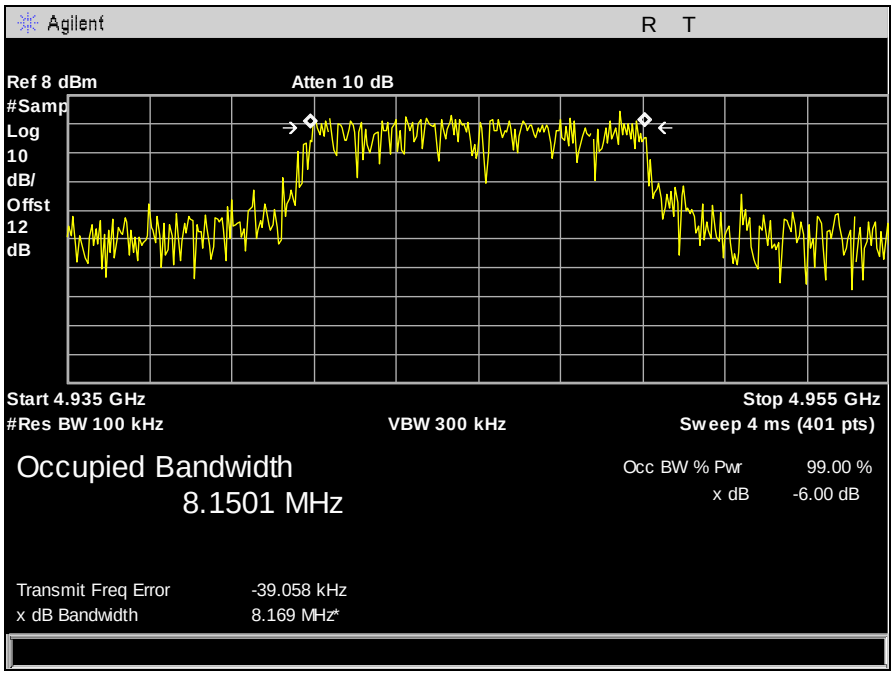
Plot 25. Occupied Bandwidth, 802.11a 5 MHz @ 4942.5 MHz



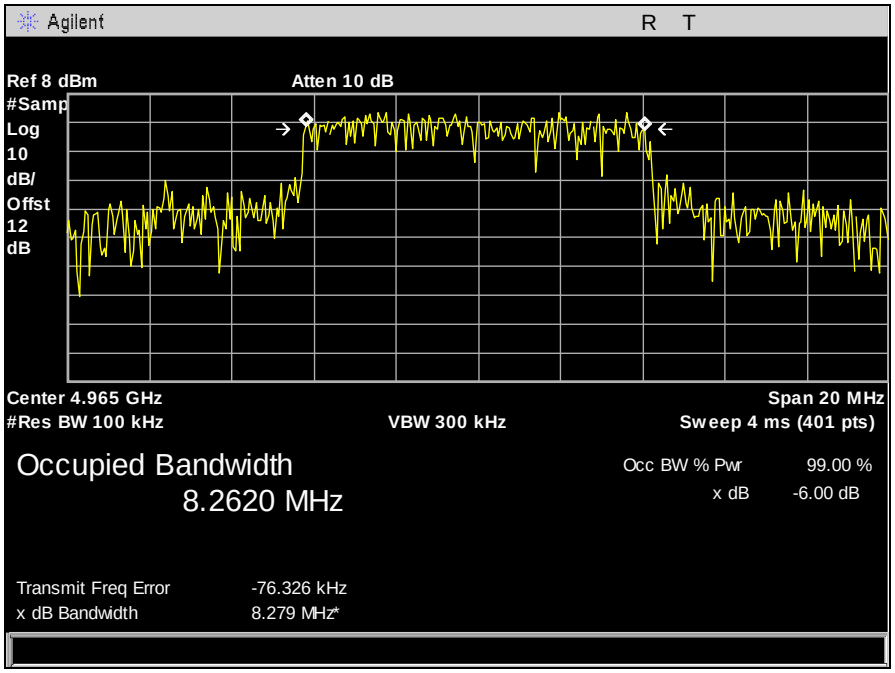
Plot 26. Occupied Bandwidth, 802.11a 5 MHz @ 4962.5 MHz



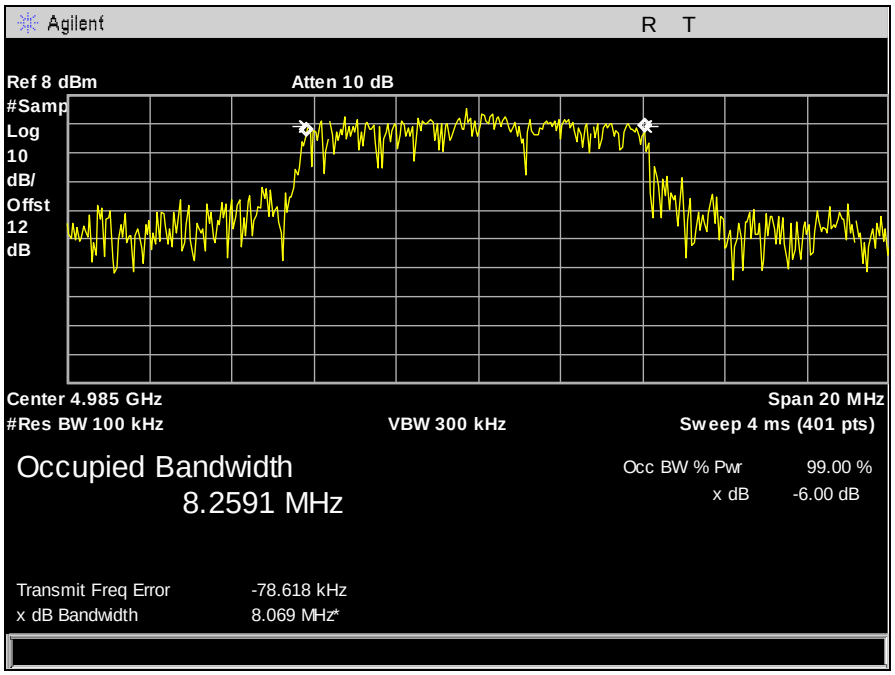
Plot 27. Occupied Bandwidth, 802.11a 5 MHz @ 4987.5 MHz



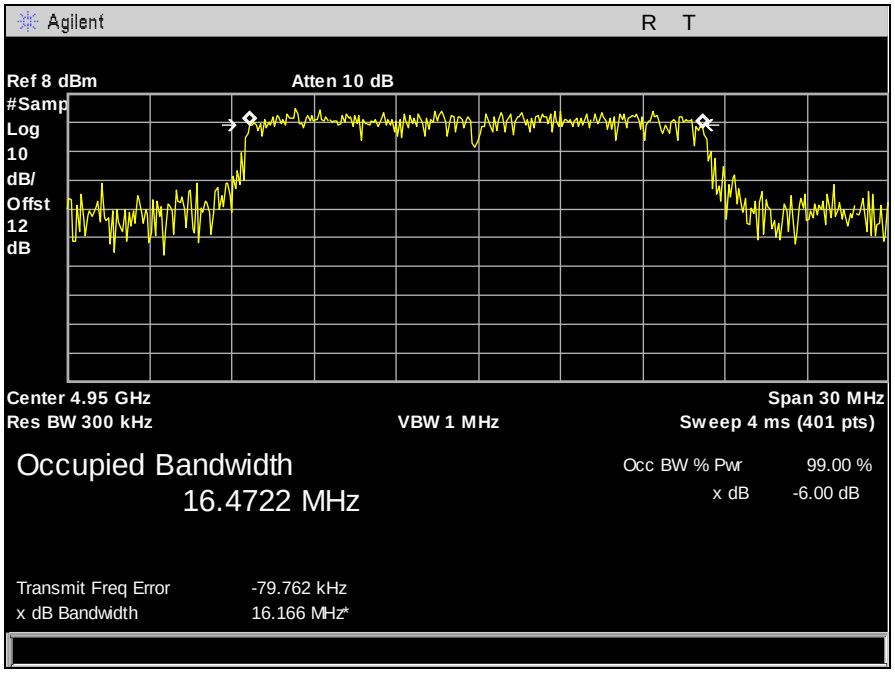
Plot 28. Occupied Bandwidth, 802.11a 10 MHz @ 4945 MHz



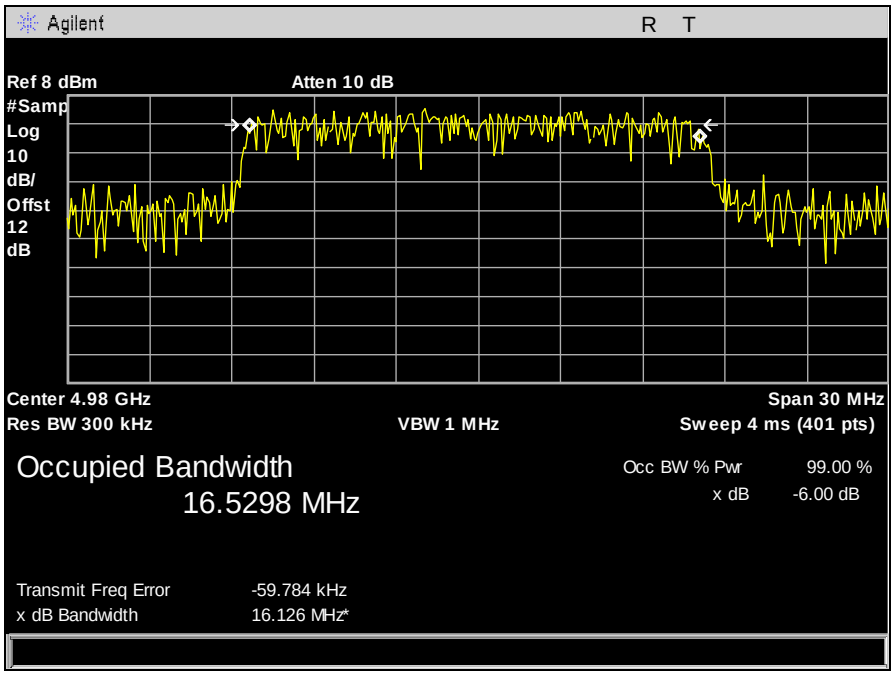
Plot 29. Occupied Bandwidth, 802.11a 10 MHz @ 4965 MHz



Plot 30. Occupied Bandwidth, 802.11a 10 MHz @ 4985 MHz



Plot 31. Occupied Bandwidth, 802.11a 20 MHz @ 4950 MHz



Plot 32. Occupied Bandwidth, 802.11a 20 MHz @ 4980 MHz

Electromagnetic Compatibility Criteria for Intentional Radiators

§90.210 (M) Spurious Emissions at Antenna Terminals

Test Requirement(s): **§2.1051 and §90.210(M) with FCC 04-265**

Test Procedures: As required by 47 CFR 2.1051, *spurious emissions at antenna terminal measurements* were made at the RF output terminals using a Spectrum Analyzer.

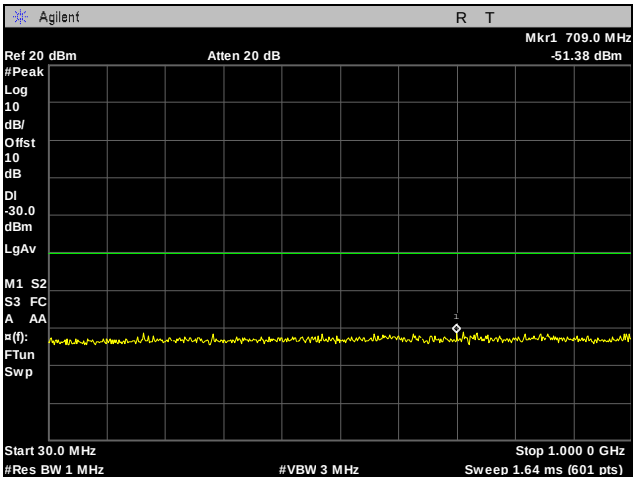
A laptop was connected to EUT to control the RF power output and frequency channel. The EUT was connected to a Spectrum Analyzer and a Power Meter to monitor the output power level. The Spectrum Analyzer was set to sweep 30 MHz and up to 10th harmonic of the fundamental or 40GHz whichever is the lesser. Measurements were made at the low, mid and high channels.

The Conducted Spurious Emissions *Limit* is obtained by the following:

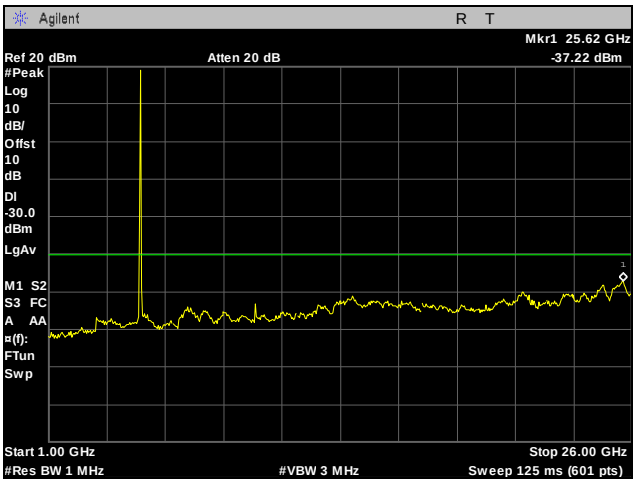
Test Results: Equipment is compliant with Section 2.1051 and 90.210(M) with FCC 04-265.

Test Engineer(s): Jonathan Chao and Aaron Chang

Test Date(s): 02/27/13 and 5/15/13

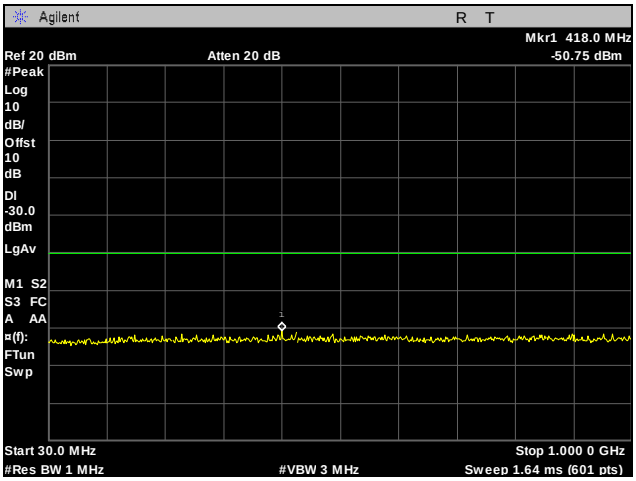


Plot 33. Conducted Spurious Emissions, 802.11a, 4942.5 MHz, 5 MHz, 30 MHz – 1 GHz

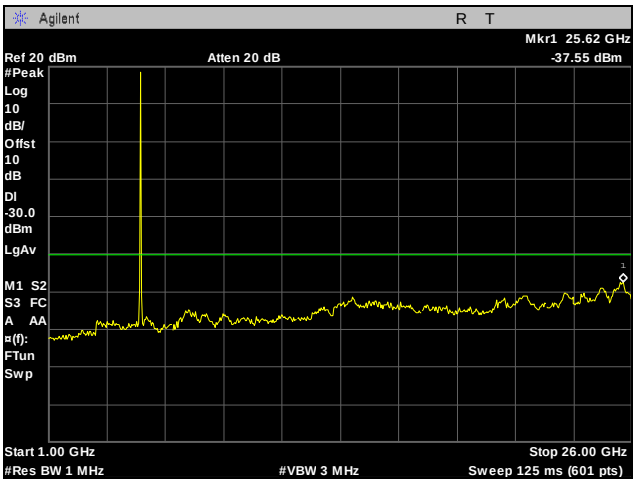


Plot 34. Conducted Spurious Emissions, 802.11a, 4942.5 MHz, 5 MHz, 1 GHz – 26 GHz

Plot 35. Conducted Spurious Emissions, 802.11a, 4942.5 MHz, 5 MHz, 26 GHz – 40 GHz

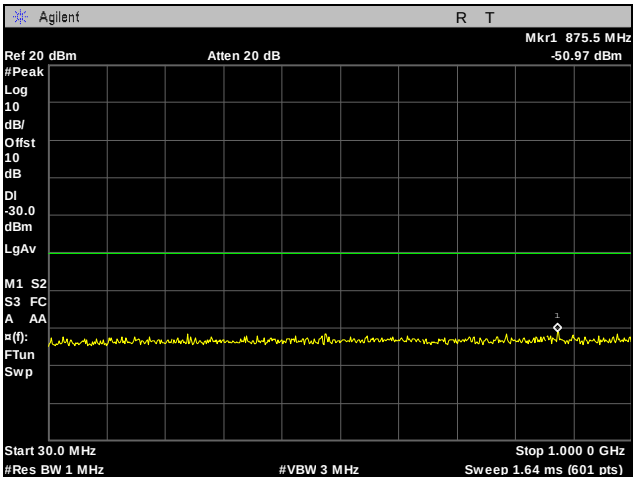


Plot 36. Conducted Spurious Emissions, 802.11a, 4962.5 MHz, 5 MHz, 30 MHz – 1 GHz

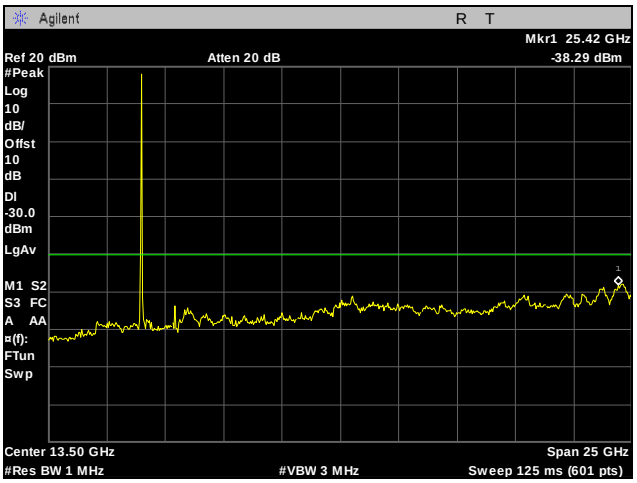


Plot 37. Conducted Spurious Emissions, 802.11a, 4962.5 MHz, 5 MHz, 1 GHz – 26 GHz

Plot 38. Conducted Spurious Emissions, 802.11a, 4962.5 MHz, 5 MHz, 26 GHz – 40 GHz

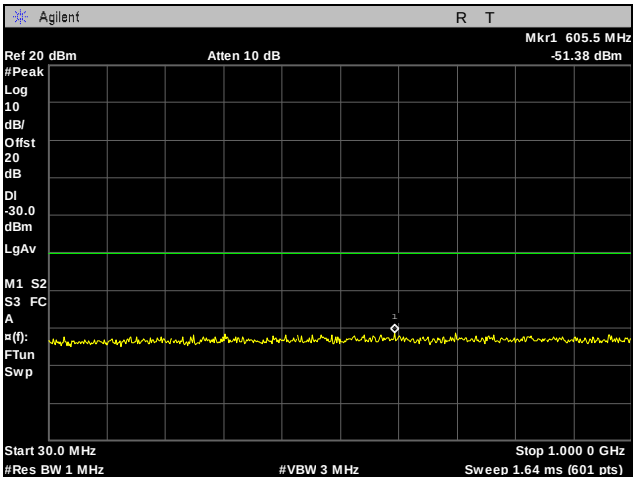


Plot 39. Conducted Spurious Emissions, 802.11a, 4987.5 MHz, 5 MHz, 30 MHz – 1 GHz

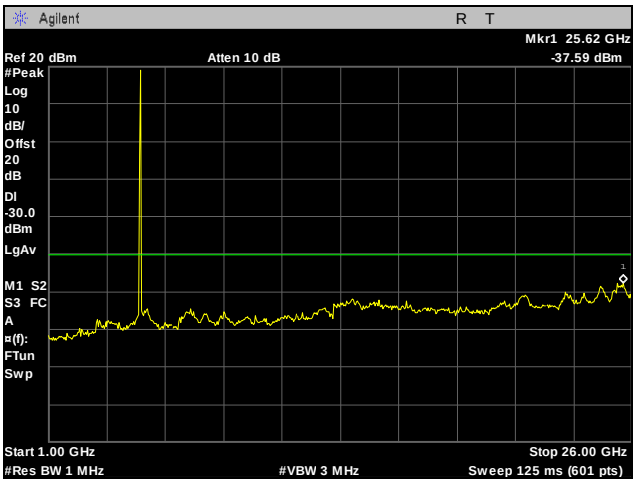


Plot 40. Conducted Spurious Emissions, 802.11a, 4987.5 MHz, 5 MHz, 1 GHz – 26 GHz

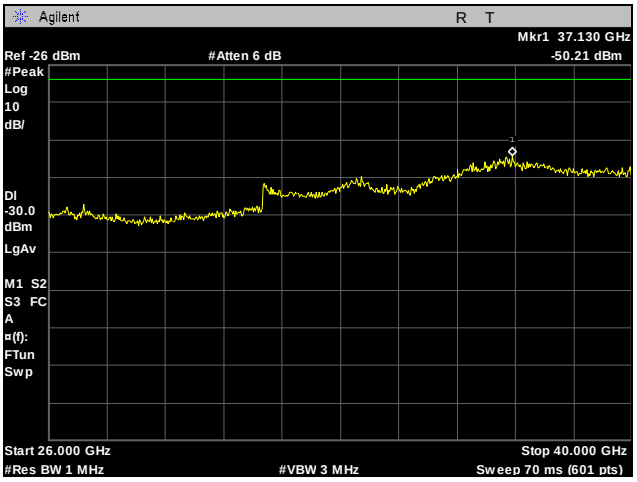
Plot 41. Conducted Spurious Emissions, 802.11a, 4987.5 MHz, 5 MHz, 26 GHz – 40 GHz



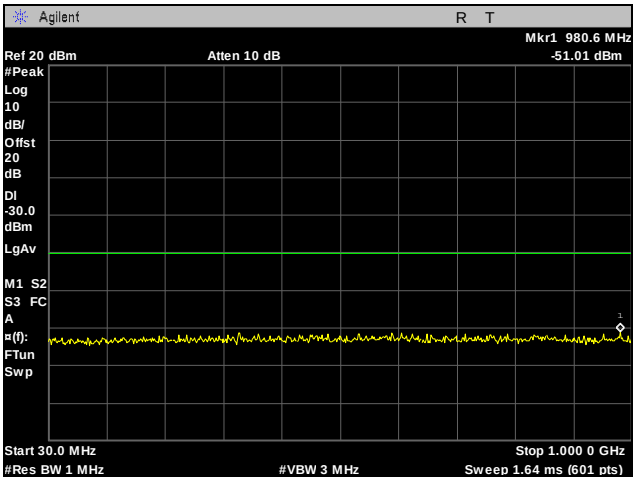
Plot 42. Conducted Spurious Emissions, 802.11a, 4945 MHz, 10 MHz, 30 MHz – 1 GHz



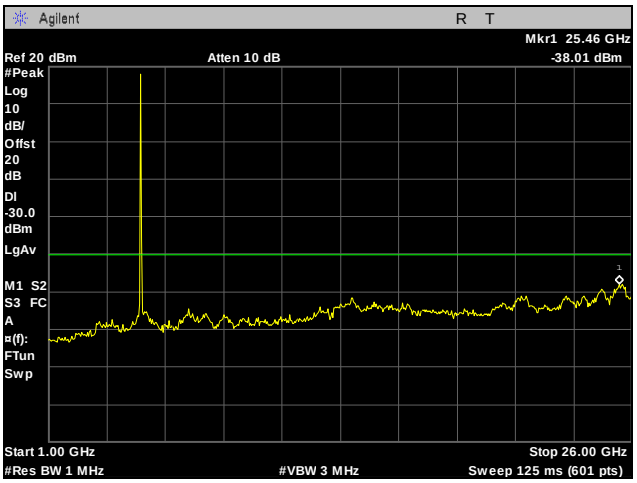
Plot 43. Conducted Spurious Emissions, 802.11a, 4945 MHz, 10 MHz, 1 GHz – 26 GHz



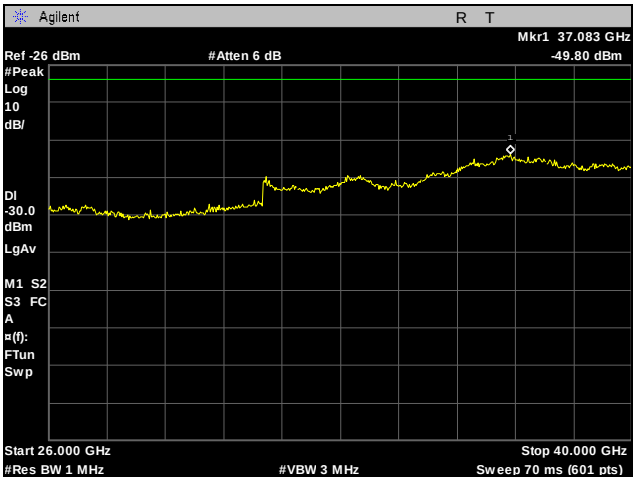
Plot 44. Conducted Spurious Emissions, 802.11a, 4945 MHz, 10 MHz, 26 GHz – 40 GHz



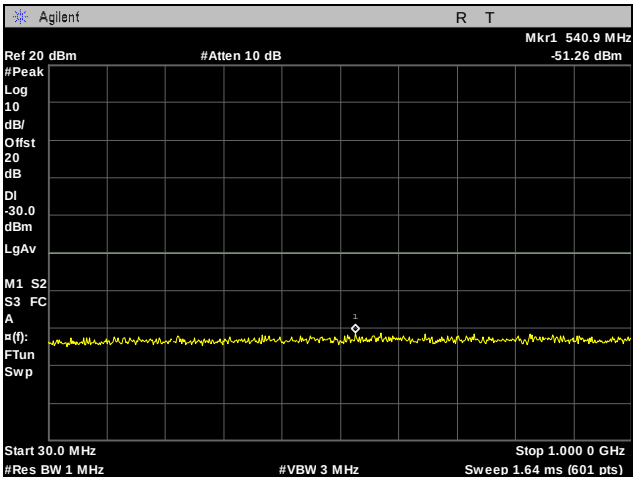
Plot 45. Conducted Spurious Emissions, 802.11a, 4965 MHz, 10 MHz, 30 MHz – 1 GHz



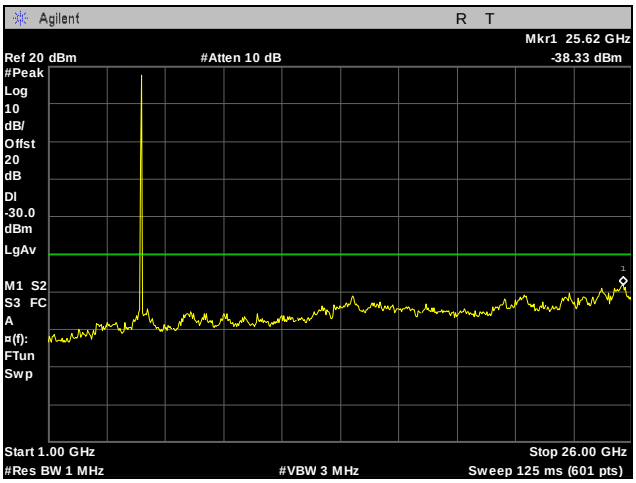
Plot 46. Conducted Spurious Emissions, 802.11a, 4965 MHz, 10 MHz, 1 GHz – 26 GHz



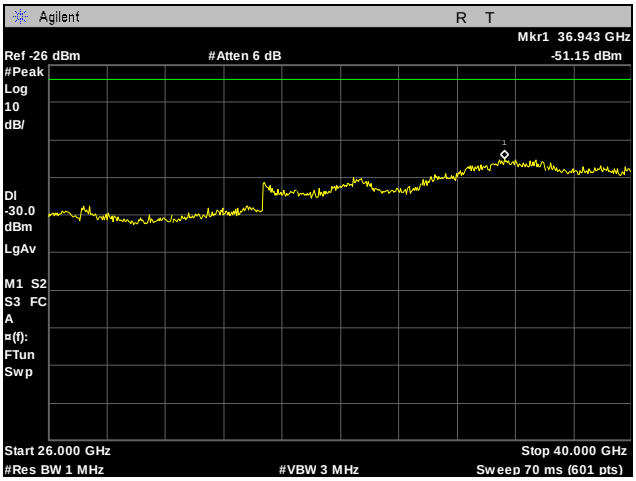
Plot 47. Conducted Spurious Emissions, 802.11a, 4965 MHz, 10 MHz, 26 GHz – 40 GHz



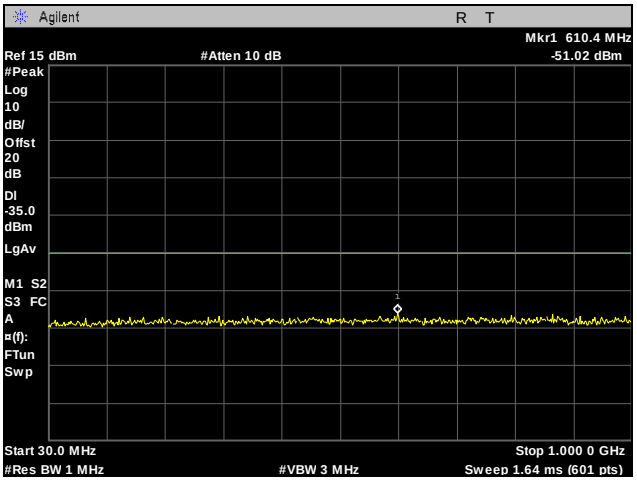
Plot 48. Conducted Spurious Emissions, 802.11a, 4985 MHz, 10 MHz, 30 MHz – 1 GHz



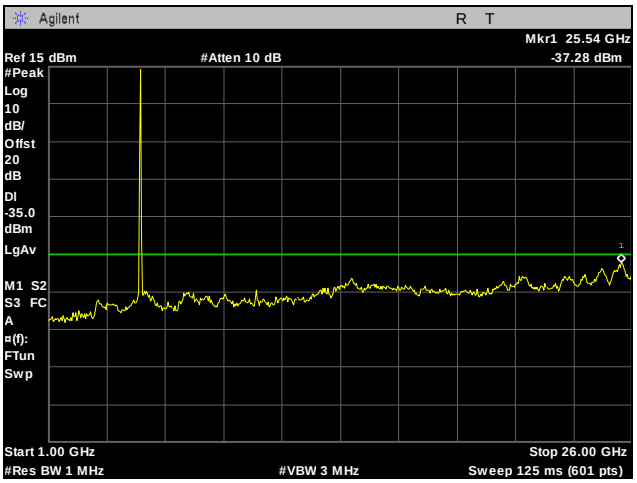
Plot 49. Conducted Spurious Emissions, 802.11a, 4985 MHz, 10 MHz, 1 GHz – 26 GHz



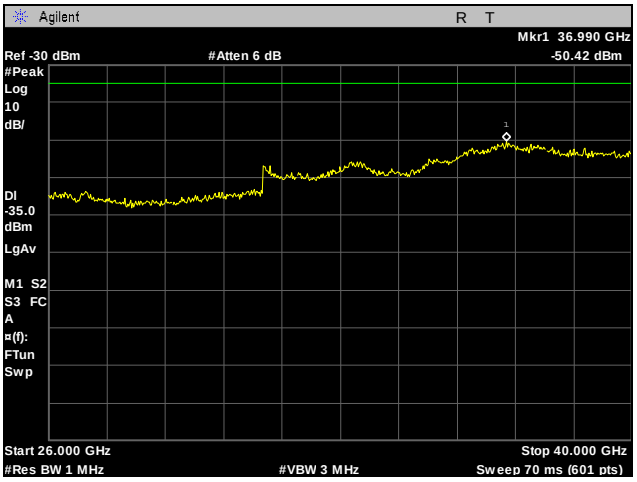
Plot 50. Conducted Spurious Emissions, 802.11a, 4985 MHz, 10 MHz, 26 GHz – 40 GHz



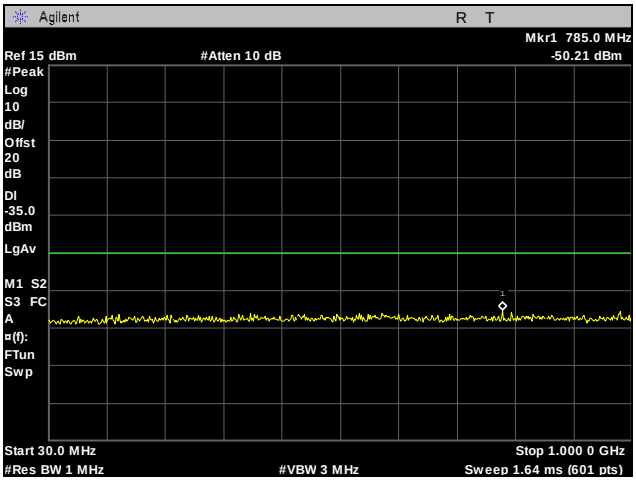
Plot 51. Conducted Spurious Emissions, 802.11a, 4950 MHz, 20 MHz, 30 MHz – 1 GHz



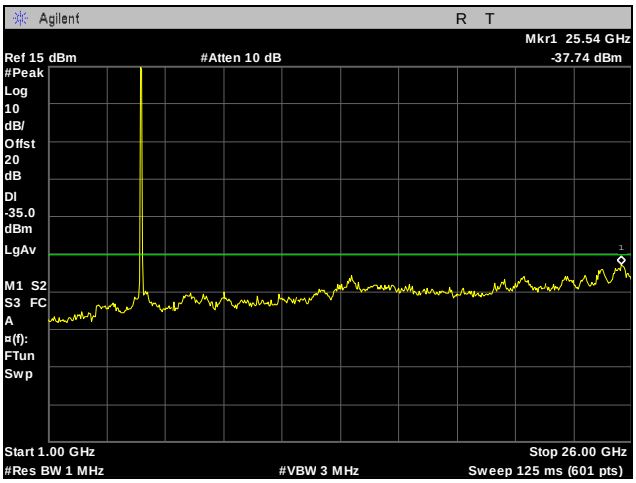
Plot 52. Conducted Spurious Emissions, 802.11a, 4950 MHz, 20 MHz, 1 GHz – 26 GHz



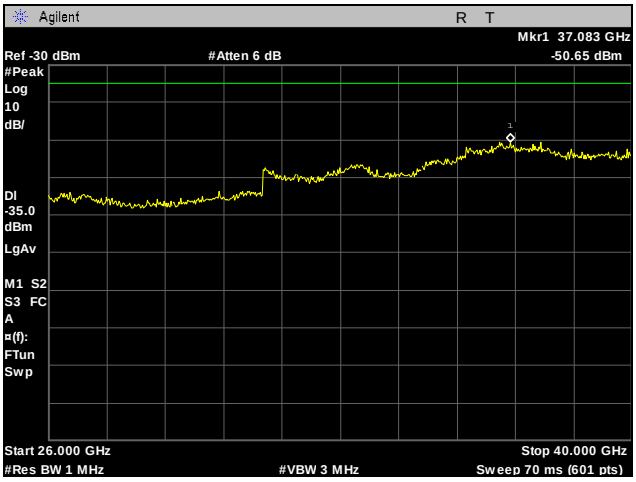
Plot 53. Conducted Spurious Emissions, 802.11a, 4950 MHz, 20 MHz, 26 GHz – 40 GHz



Plot 54. Conducted Spurious Emissions, 802.11a, 4980 MHz, 20 MHz, 30 MHz – 1 GHz



Plot 55. Conducted Spurious Emissions, 802.11a, 4980 MHz, 20 MHz, 1 GHz – 26 GHz



Plot 56. Conducted Spurious Emissions, 802.11a, 4980 MHz, 20 MHz, 26 GHz – 40 GHz

Electromagnetic Compatibility Criteria for Intentional Radiators

§90.210 Radiated Emissions (Substitution Method)

Test Requirement(s): **§2.1053 and §90.210**

Test Procedures: As required by 47 CFR 2.1053, *field strength of radiated spurious measurements* were made in accordance with the procedures of TIA/EIA-603-A-2001 "Land Mobile FM or PM Communications Equipment Measurement and Performance Standards".

Radiated emission measurements were performed inside a semi-anechoic chamber. The EUT was set at a distance of 3m from the receiving antenna. The EUT's RF ports were terminated to 50ohm load. The EUT was set to transmit at the low, mid and high channels of the transmitter frequency range at its maximum power level. The EUT was rotated about 360^0 and the receiving antenna scanned from 1-4m in order to capture the maximum emission. A calibrated antenna source was positioned in place of the EUT and the previously recorded signal was duplicated. The maximum EIRP of the emission was calculated by adding the forward power to the calibrated source plus its appropriate gain value. These steps were carried out with the receiving antenna in both vertical and horizontal polarization. Harmonic emissions up to the 10^{th} or 40GHz, which ever was the lesser, were investigated. Plots were corrected for antenna and cable loss.

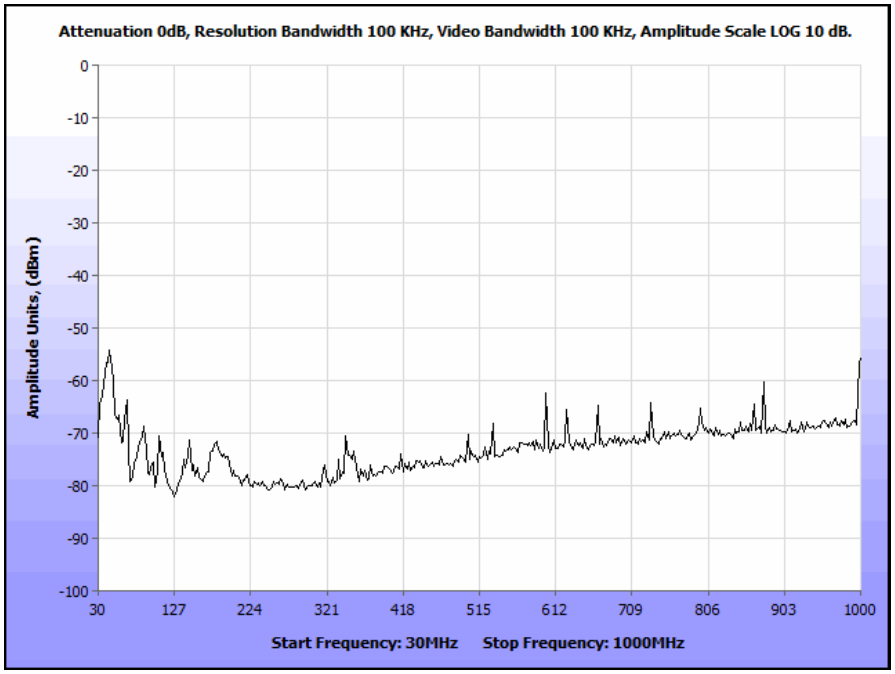
No peaks were found above 18 GHz. Measurements were made above 18 GHz but only noise floor was recorded.

Test Results: Equipment is compliant with Section 2.1053 and 90.210.

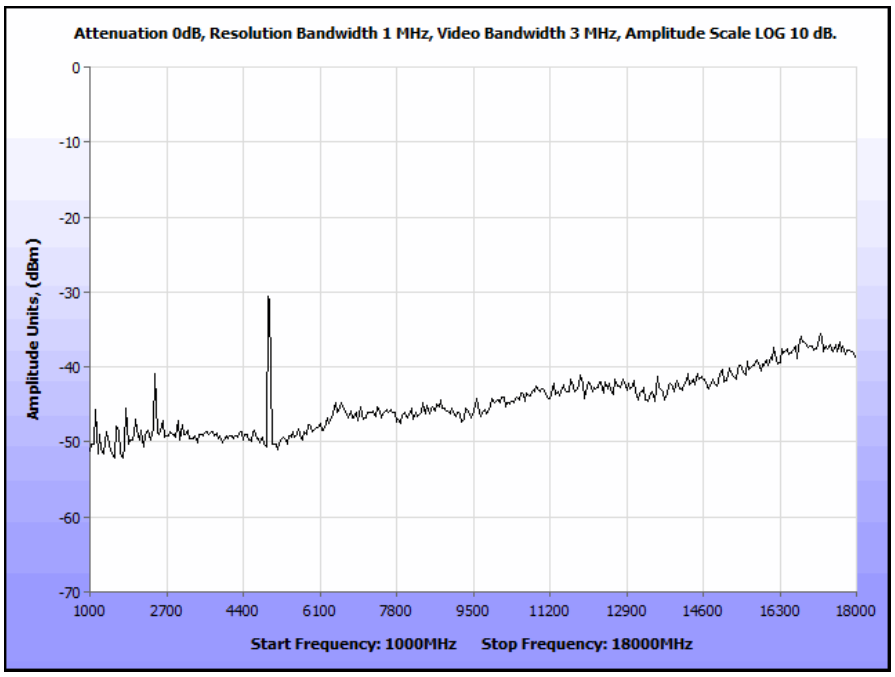
Test Engineer(s): Aaron Chang

Test Date(s): 04/23/13 and 05/23/13

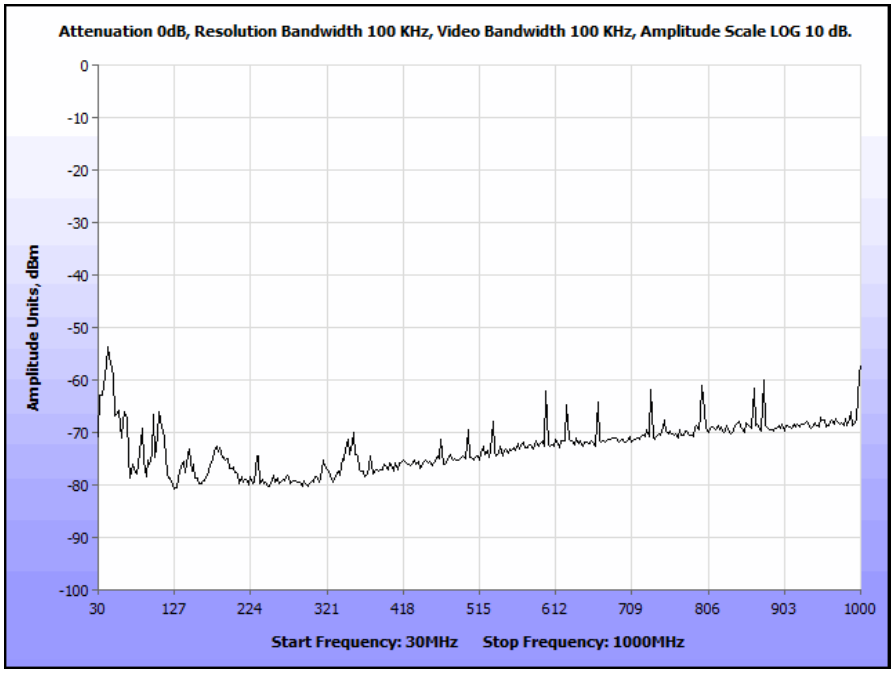
Radiated Spurious Emissions



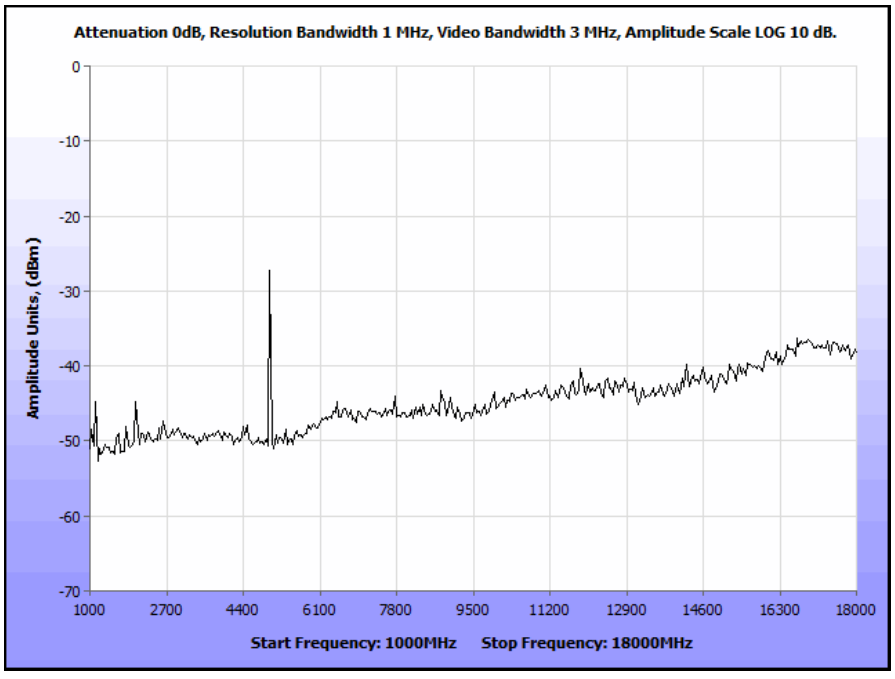
Plot 57. Radiated Spurious Emissions, 802.11a 5 MHz @ 4942.5 MHz, 30 MHz – 1 GHz



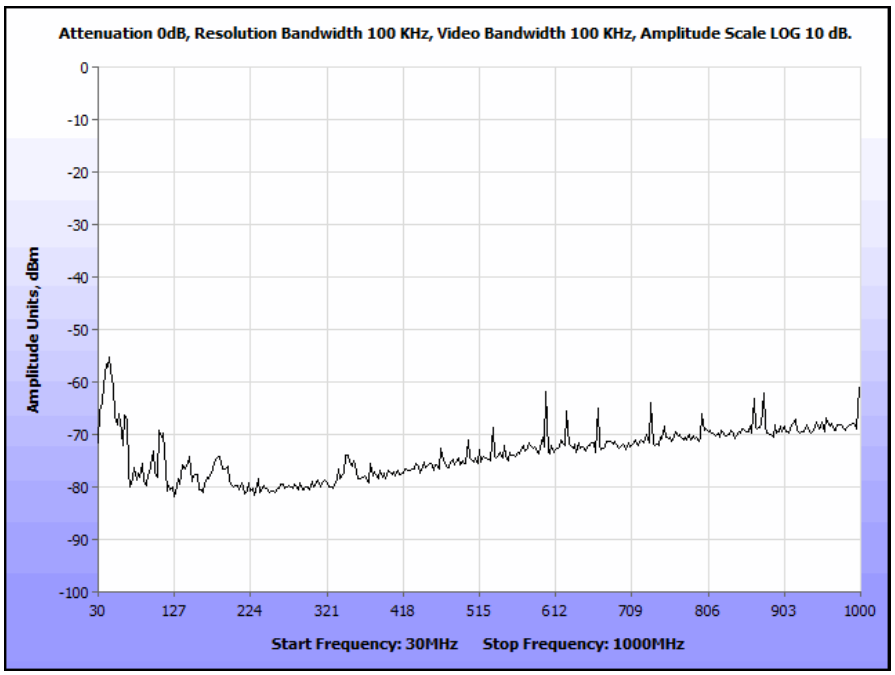
Plot 58. Radiated Spurious Emissions, 802.11a 5 MHz @ 4942.5 MHz, 1 GHz – 18 GHz



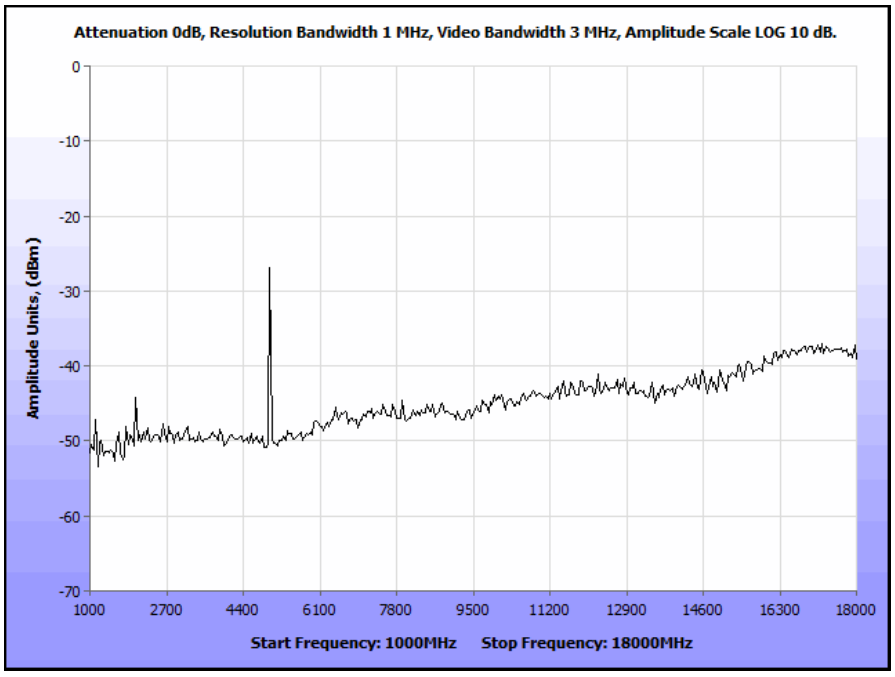
Plot 59. Radiated Spurious Emissions, 802.11a 5 MHz @ 4962.5 MHz, 30 MHz – 1 GHz



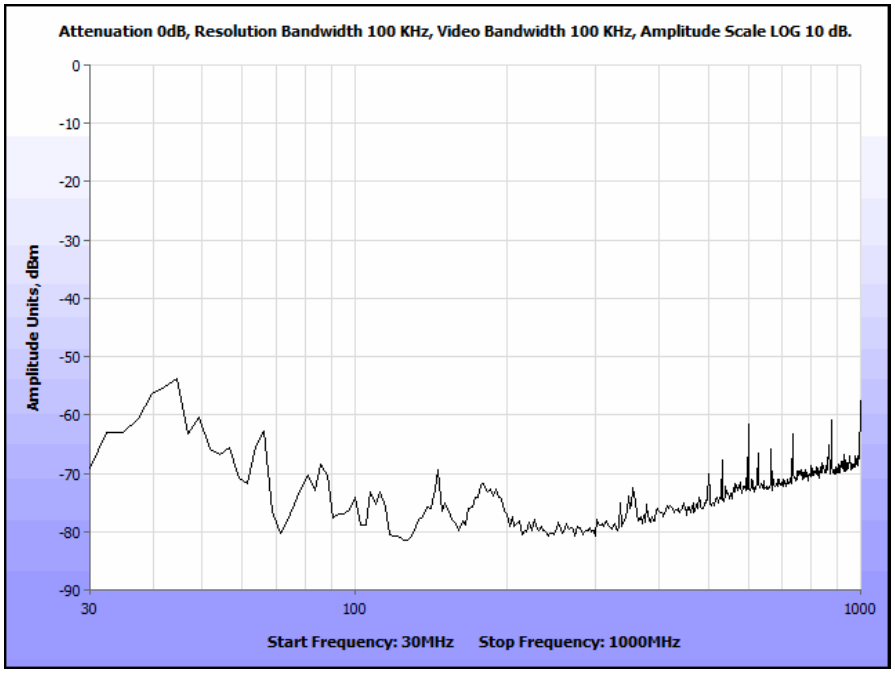
Plot 60. Radiated Spurious Emissions, 802.11a 5 MHz @ 4962.5 MHz, 1 GHz – 18 GHz



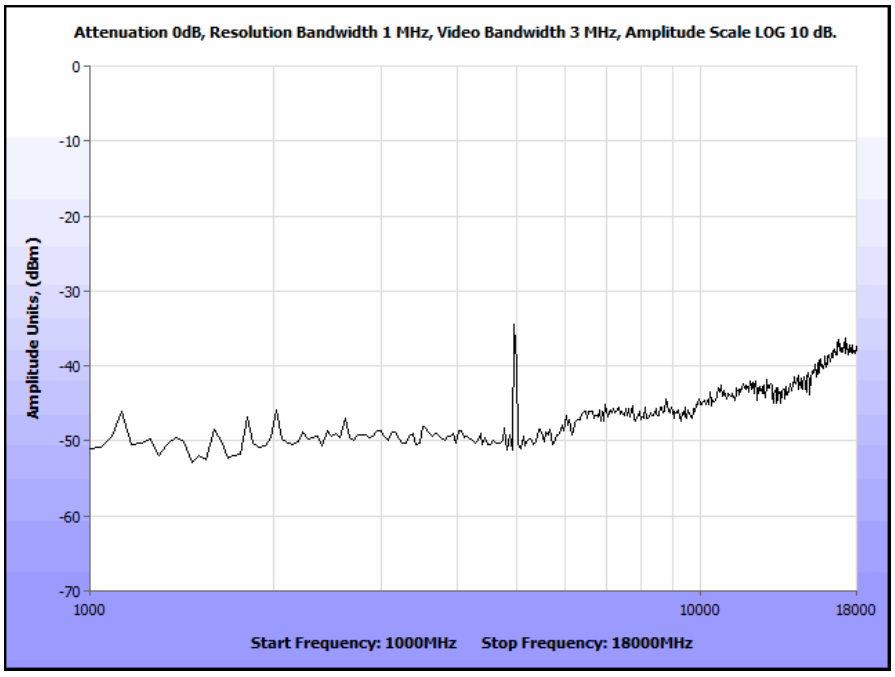
Plot 61. Radiated Spurious Emissions, 802.11a 5 MHz @ 4987.5 MHz, 30 MHz – 1 GHz



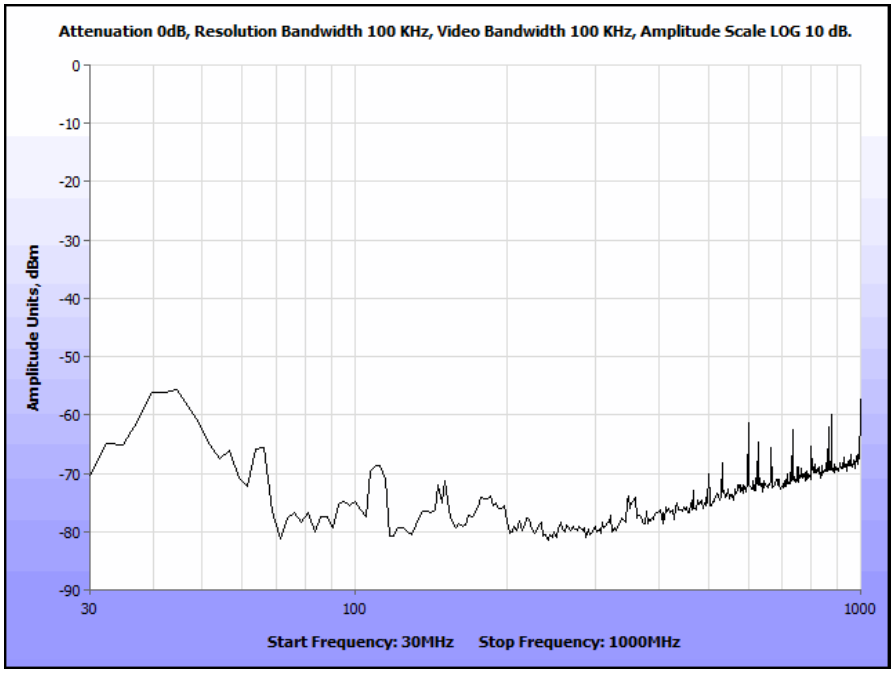
Plot 62. Radiated Spurious Emissions, 802.11a 5 MHz @ 4987.5 MHz, 1 GHz – 18 GHz



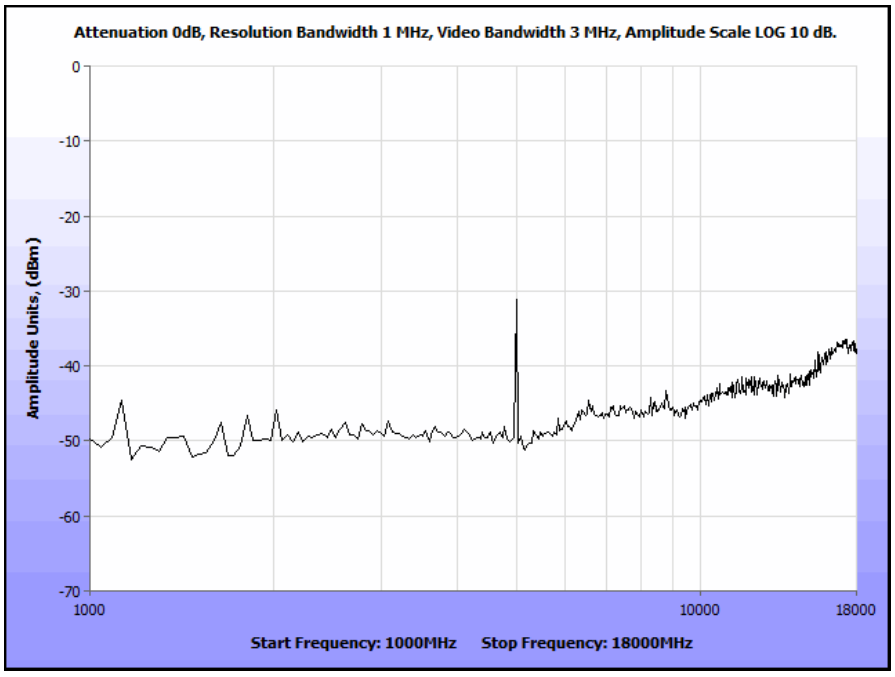
Plot 63. Radiated Spurious Emissions, 802.11a 10 MHz @ 4945 MHz, 30 MHz – 1 GHz



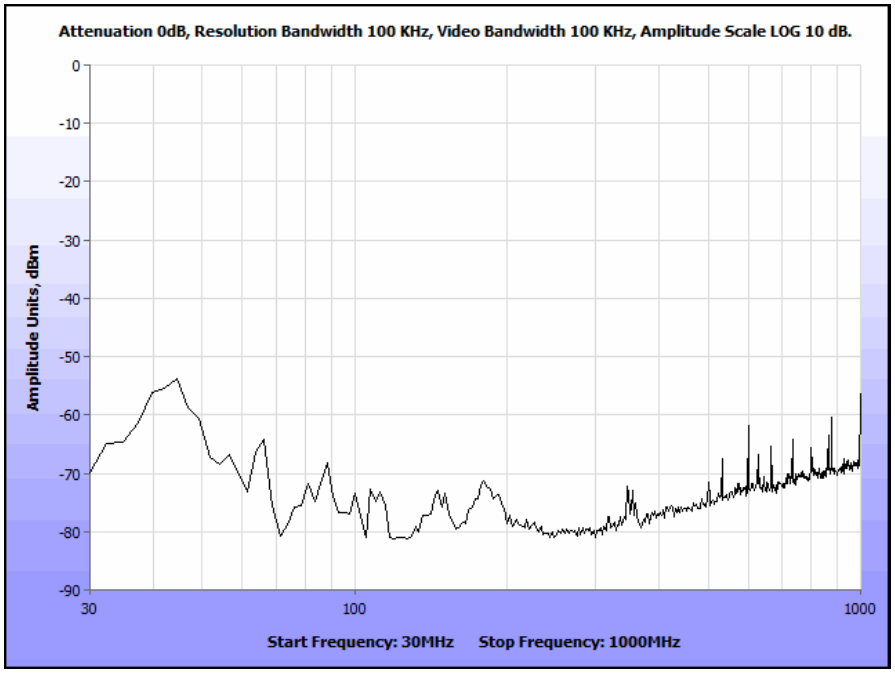
Plot 64. Radiated Spurious Emissions, 802.11a 10 MHz @ 4945 MHz, 1 GHz – 18 GHz



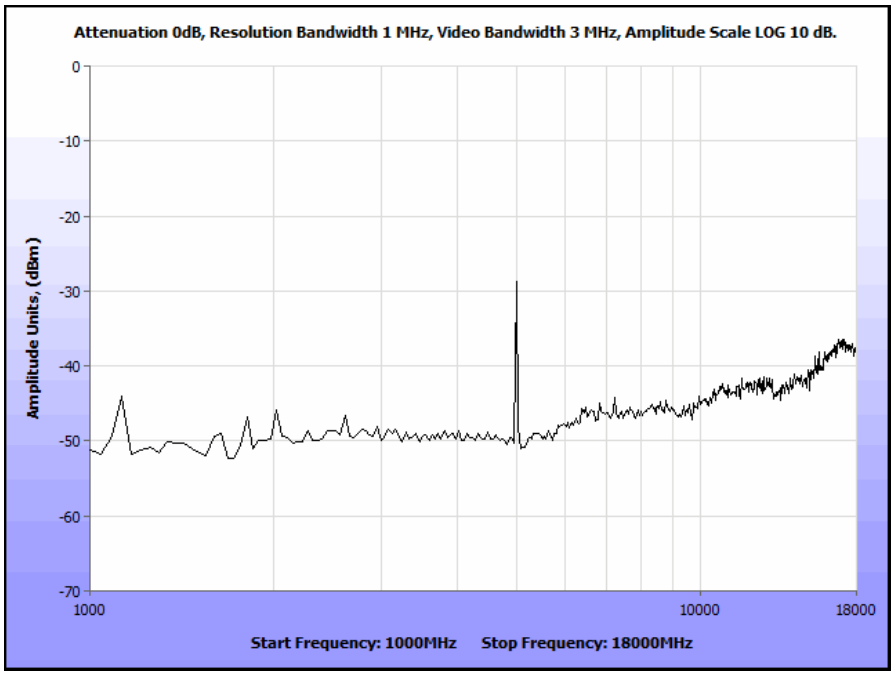
Plot 65. Radiated Spurious Emissions, 802.11a 10 MHz @ 4965 MHz, 30 MHz – 1 GHz



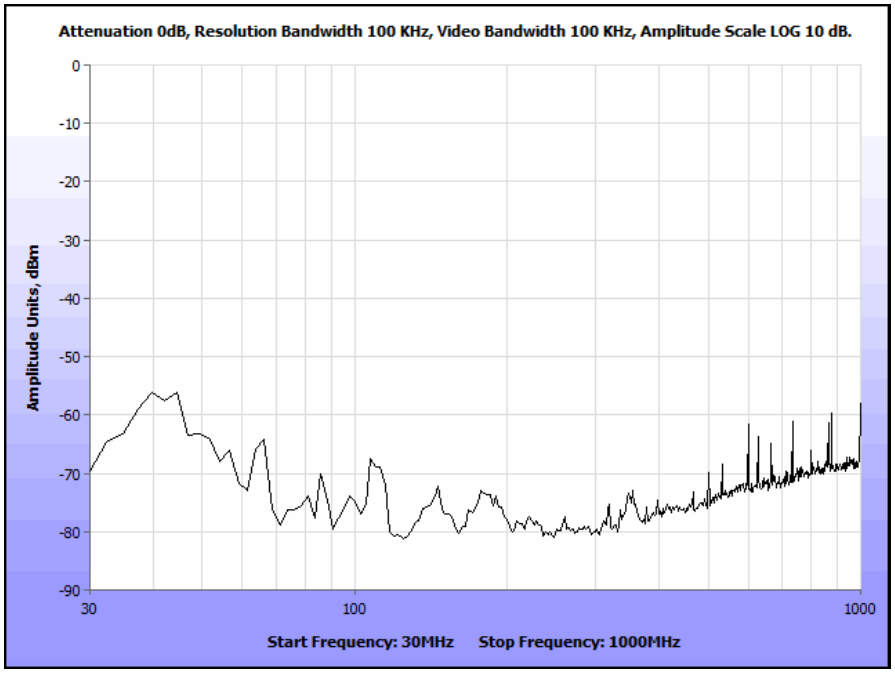
Plot 66. Radiated Spurious Emissions, 802.11a 10 MHz @ 4965 MHz, 1 GHz – 18 GHz



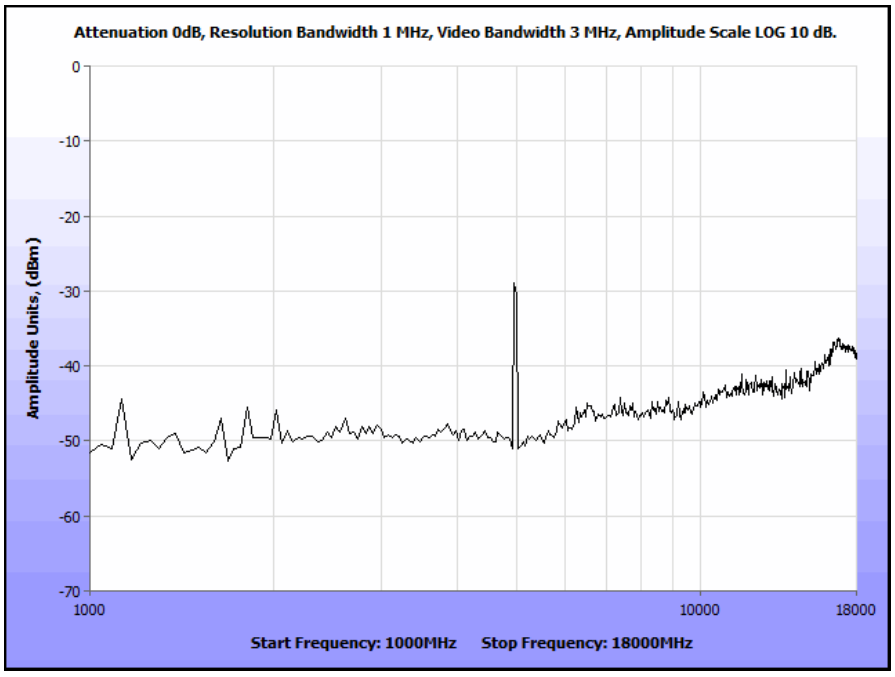
Plot 67. Radiated Spurious Emissions, 802.11a 10 MHz @ 4985 MHz, 30 MHz – 1 GHz



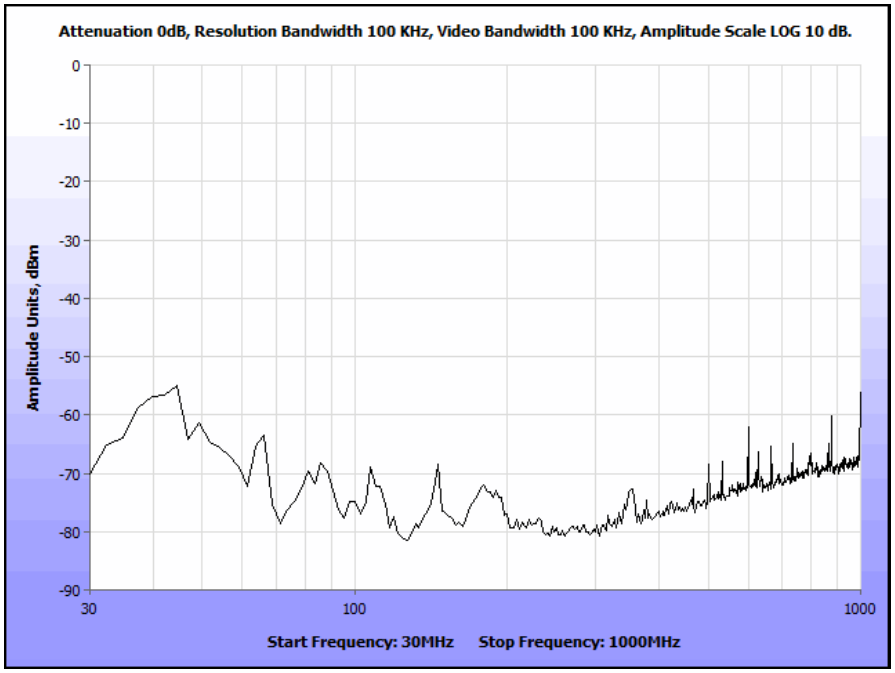
Plot 68. Radiated Spurious Emissions, 802.11a 10 MHz @ 4985 MHz, 1 GHz – 18 GHz



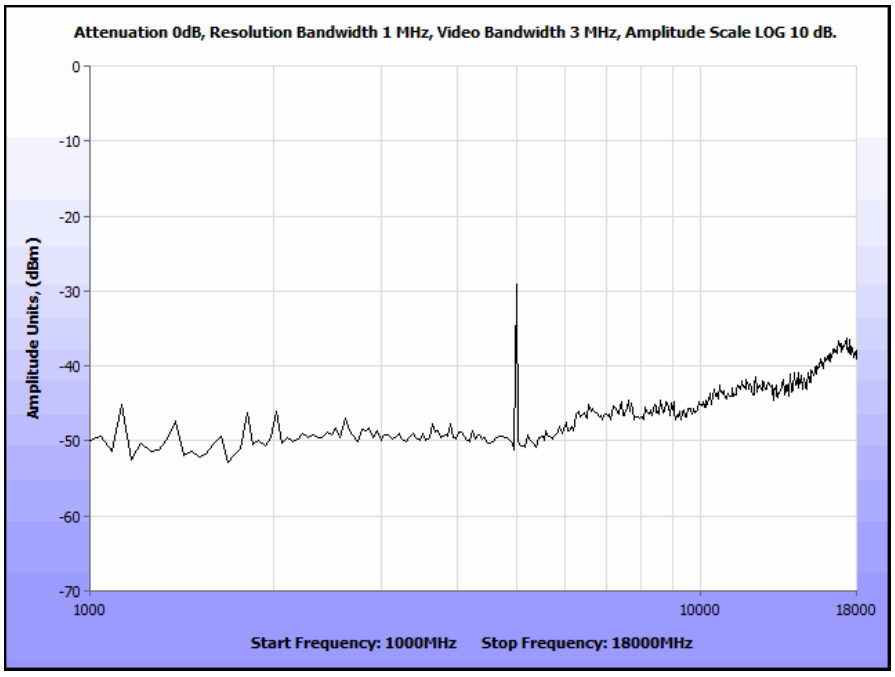
Plot 69. Radiated Spurious Emissions, 802.11a 20 MHz @ 4950 MHz, 30 MHz – 1 GHz



Plot 70. Radiated Spurious Emissions, 802.11a 20 MHz @ 4950 MHz, 1 GHz – 18 GHz



Plot 71. Radiated Spurious Emissions, 802.11a 20 MHz @ 4980 MHz, 30 MHz – 1 GHz



Plot 72. Radiated Spurious Emissions, 802.11a 20 MHz @ 4980 MHz, 1 GHz – 18 GHz

Electromagnetic Compatibility Criteria for Intentional Radiators

§90.213 Frequency Stability

Test Requirement(s): **§2.1055 and §90.213**

Test Procedures: As required by 47 CFR 2.1055, *Frequency Stability measurements* were made at the RF output terminals using a Directional Coupler through a Spectrum Analyzer and Power Meter.

The EUT was placed in the Environmental Chamber and support equipment were outside the chamber on a table. The EUT was set to transmit a CW signal corresponding to the low, mid and high Channels for 5, 10, & 20MHz Bandwidths. The frequency counter option on the Spectrum Analyzer was used to measure frequency deviations. The frequency drift was investigated for every 10^{C} increment until the unit is stabilized then recorded the reading in tabular format with the temperature range of -30 to 50^{C}.

Voltage supplied to EUT is 120 VAC reference temperature was done at 20^{C}. The voltage was varied by ± 15 % of nominal

Test Results: Equipment is compliant with Section 2.1055 and 90.213

Test Engineer(s): Anderson Soungpanya

Test Date(s): 02/08/13

Frequency Stability Test Results

(Low Channel)				
Reference	Voltage (AC)	Temperature (C)	Frequency (MHz)	PPM
	120	50	4945.045286	17.204
	120	40	4945.002955	8.643
	120	30	4944.976876	3.369
	120	20	4944.960216	0.000
	120	10	4944.953478	1.363
4944.960216	120	0	4944.951556	1.751
	120	-10	4944.953585	1.341
	120	-20	4944.951902	1.681
	120	-30	4944.950898	1.884
	102	20	4944.964800	0.927
	138	20	4944.964798	0.927
(Mid Channel)				
Reference	Voltage (AC)	Temperature (C)	Frequency (MHz)	PPM
	120	50	4965.045735	17.184
	120	40	4965.001974	8.370
	120	30	4964.977810	3.503
	120	20	4964.960416	0.000
	120	10	4964.952081	1.679
4964.960416	120	0	4964.951395	1.817
	120	-10	4964.953321	1.429
	120	-20	4964.951954	1.704
	120	-30	4964.951399	1.816
	102	20	4964.965309	0.985
	138	20	4964.965322	0.988
(High Channel)				
Reference	Voltage (AC)	Temperature (C)	Frequency (MHz)	PPM
	120	50	4985.045531	16.234
	120	40	4985.000731	7.247
	120	30	4984.979187	2.925
	120	20	4984.964607	0.000
	120	10	4984.952800	2.369
4984.964607	120	0	4984.951165	2.697
	120	-10	4984.952389	2.451
	120	-20	4984.951798	2.570
	120	-30	4984.950930	2.744
	102	20	4984.965584	0.196
	138	20	4984.965694	0.218

Table 9. Frequency Stability, Test Results, 5 MHz & 10 MHz

(Low Channel)				
Reference	Voltage (AC)	Temperature (C)	Frequency (MHz)	PPM
	120	50	4950.045627	16.846
	120	40	4950.001412	7.913
	120	30	4949.977008	2.983
	120	20	4949.962242	0.000
	120	10	4949.953437	1.779
4949.962242	120	0	4949.953521	1.762
	120	-10	4949.952744	1.919
	120	-20	4949.952024	2.064
	120	-30	4949.950609	2.350
	102	20	4949.962012	0.046
	138	20	4949.961938	0.061
(High Channel)				
Reference	Voltage (AC)	Temperature (C)	Frequency (MHz)	PPM
	120	50	4980.045647	16.239
	120	40	4980.000783	7.230
	120	30	4979.978136	2.682
	120	20	4979.964778	0.000
	120	10	4979.952815	2.402
4979.964778	120	0	4979.951221	2.722
	120	-10	4979.953056	2.354
	120	-20	4979.951837	2.599
	120	-30	4979.950991	2.768
	102	20	4979.965849	0.215
	138	20	4979.965976	0.241

Table 10. Frequency Stability, Test Results, 20 MHz

Electromagnetic Compatibility Criteria for Intentional Radiators

§90.1215(e) Peak Excursion

Test Requirements: **§90.1215(e):** The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

Test Procedure: The EUT was connected directly to the spectrum analyzer through cabling and attenuation. The 1st trace on the spectrum analyzer was set to RBW=1MHz, VBW=3MHz. The peak detector mode was used and the trace max held. The 2nd trace on the spectrum analyzer was set according to measurement method #1 from the FCC Public Notice DA 02-2138 for making conducted power measurements.

Test Results: Equipment was compliant with the peak excursion ratio limits of this section**.**

Test Engineer(s): Jonathan Chao and Aaron Chang

Test Date(s): 04/15/13 and 05/21/13

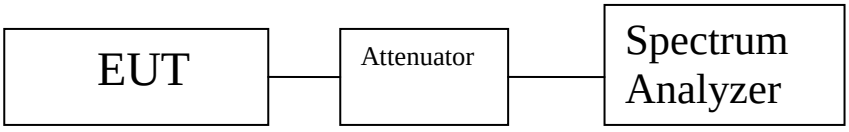
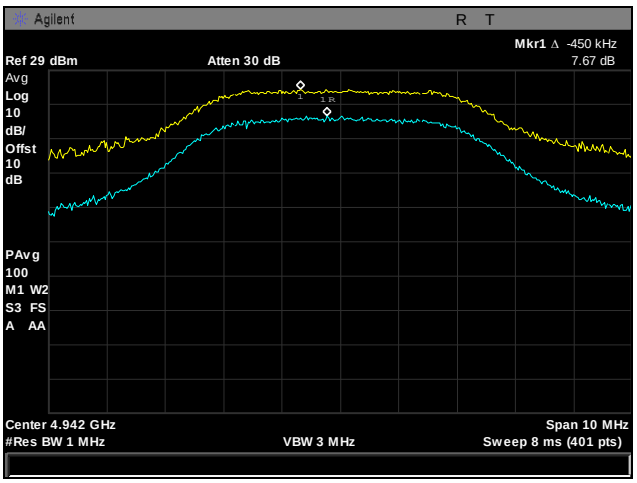
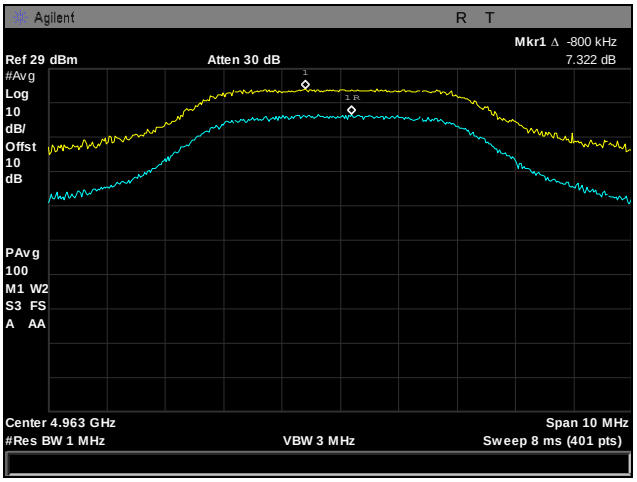


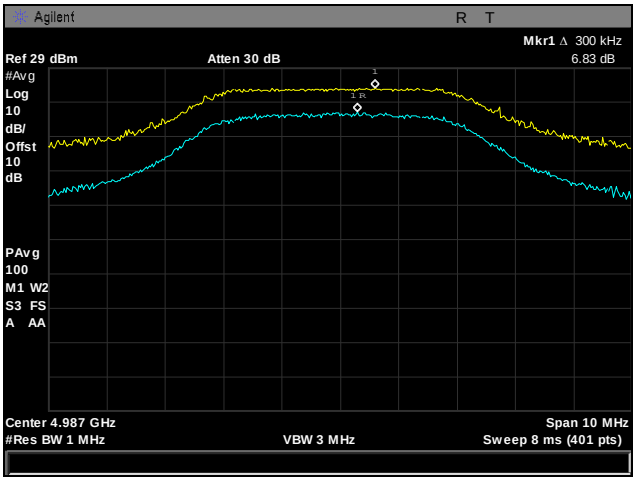
Figure 5. Peak Excursion Ration Test Setup



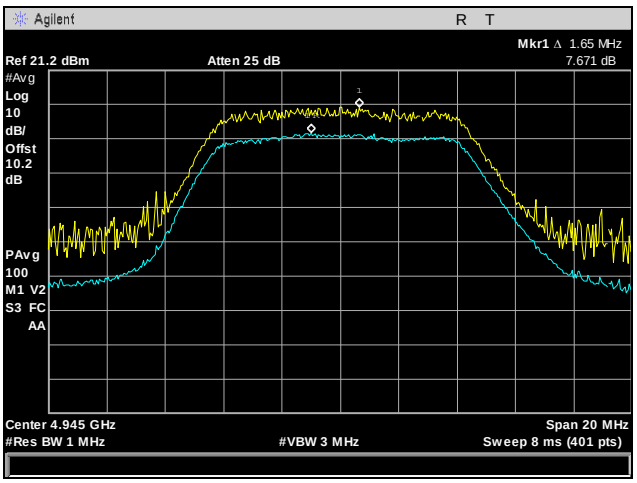
Plot 73. Peak Excursion, 802.11a, 5 MHz @ 4942.5 MHz



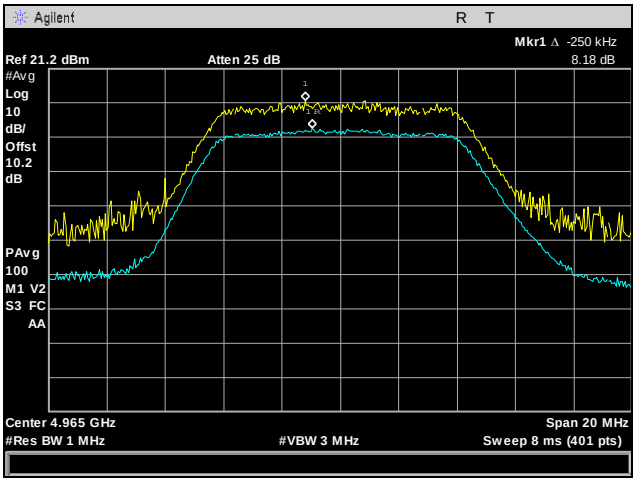
Plot 74. Peak Excursion, 802.11a, 5 MHz @ 4962.5 MHz



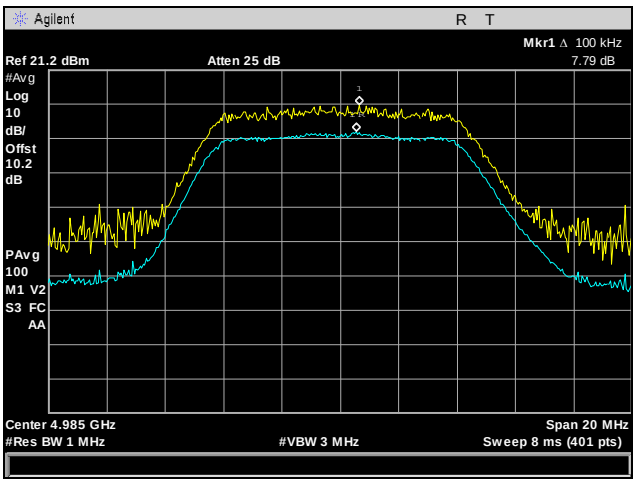
Plot 75. Peak Excursion, 802.11a, 5 MHz @ 4987.5 MHz



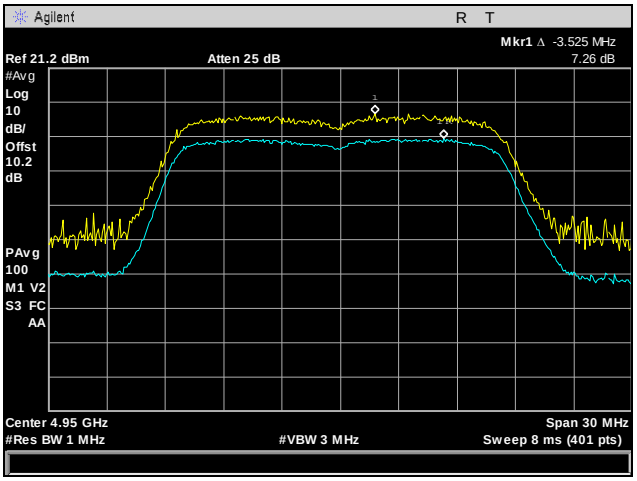
Plot 76. Peak Excursion, 802.11a, 10 MHz @ 4945 MHz



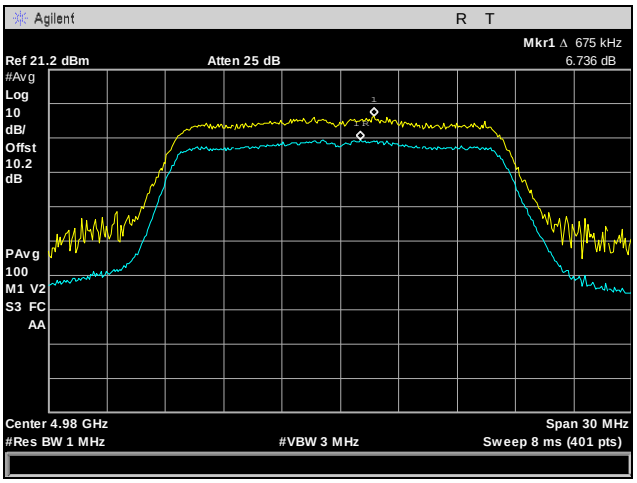
Plot 77. Peak Excursion, 802.11a, 10 MHz @ 4965 MHz



Plot 78. Peak Excursion, 802.11a, 10 MHz @ 4985 MHz



Plot 79. Peak Excursion, 802.11a, 20 MHz @ 4950 MHz



Plot 80. Peak Excursion, 802.11a, 20 MHz @ 4980 MHz

Electromagnetic Compatibility Criteria for Intentional Radiators

§90.1217 Maximum Permissible Exposure

RF Exposure Requirements: **§90.1217, §1.1307(b)(1) and §1.1307(b)(2):** Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

RF Radiation Exposure Limit: **§1.1310:** As specified in this section, the Maximum Permissible Exposure (MPE) Limit shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in Sec. 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of Sec. 2.1093 of this chapter.

MPE Limit Calculation: EUT's operating frequencies @ 4945-4985 MHz; highest conducted power = 26.86 dBm (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm^2 or 10 W/m^2**

Equation from page 18 of OET 65, Edition 97-01

$S = PG / 4\pi R^2$ or $R = \sqrt{PG / 4\pi S}$

where, S = Power Density (1 mW/cm^2)
P = Power Input to antenna (234.42 mW)
G = Antenna Gain (1.99 numeric)
R = Minimum Distance between User and Antenna (20 cm)

$S = (485 * 1.99)/(4 * 3.14 * 20^2) = 0.19$ mW/cm^2

IV. Test Equipment

Test Equipment

Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2005.

MET Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1S2600	BILOG ANTENNA	TESEQ	CBL6112D	4/14/2010	4/14/2013
1S2482	5 METER CHAMBER (NSA)	PANASHIELD	5 METER SEMI-ANECHOIC CHAMBER	11/22/2011	5/22/2013
1S2583	SPECTRUM ANALYZER	AGILENT/HP	E4447A	3/27/2012	9/27/2013
1S2460	1-26GHZ SPECTRUM ANALYZER	AGILENT TECHNOLOGIES	E4407B	7/27/2012	1/27/2014
1S2202	HORN ANTENNA (1 METER)	EMCO	3116	4/23/2010	4/23/2013
1S2523	PREAMPLIFIER	AGILENT TECHNOLOGIES	8449B	SEE NOTE	
1S2603	DOUBLE RIDGED WAVEGUIDE HORN	ETS-LINDGREN	3117	4/15/2011	4/15/2013
1S2729	SONOMA AMPLIFIER	SONOMA INSTRUMENT	310N	4/18/2012	10/18/2013
1S2229	TEMPERATURE CHAMBER	TENNY ENGINEERING	T63C	2/18/2012	8/18/2013
1S2710	DRG HORN ANTENNA	AH SYSTEMS, INC	SAS-574	12/13/2012	6/13/2014
NA	HIGH PASS FILTER	MICRO-TRONICS	HPM13147	SEE NOTE	

Table 11. Test Equipment List

Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.

V. Certification & User's Manual Information

Certification & User's Manual Information

A. Certification Information

The following is extracted from Title 47 of the Code of Federal Regulations, Part 2, Subpart I — Marketing of Radio frequency devices:

§ 2.801 Radio-frequency device defined.

As used in this part, a radio-frequency device is any device which in its operation is capable of Emitting radio-frequency energy by radiation, conduction, or other means. Radio- frequency devices include, but are not limited to:

(a) The various types of radio communication transmitting devices described throughout this chapter.

(b) The incidental, unintentional and intentional radiators defined in Part 15 of this chapter.

(c) The industrial, scientific, and medical equipment described in Part 18 of this chapter.

(d) Any part or component thereof which in use emits radio-frequency energy by radiation, conduction, or other means.

§ 2.803 Marketing of radio frequency devices prior to equipment authorization.

(a) Except as provided elsewhere in this chapter, no person shall sell or lease, or offer for sale or lease (including advertising for sale or lease), or import, ship or distribute for the purpose of selling or leasing or offering for sale or lease, any radio frequency device unless:

(1) In the case of a device subject to certification, such device has been authorized by the Commission in accordance with the rules in this chapter and is properly identified and labeled as required by §2.925 and other relevant sections in this chapter; or

(2) In the case of a device that is not required to have a grant of equipment authorization issued by the Commission, but which must comply with the specified technical standards prior to use, such device also complies with all applicable administrative (including verification of the equipment or authorization under a Declaration of Conformity, where required), technical, labeling and identification requirements specified in this chapter.

(d) Notwithstanding the provisions of paragraph (a) of this section, the offer for sale solely to business, commercial, industrial, scientific or medical users (but not an offer for sale to other parties or to end users located in a residential environment) of a radio frequency device that is in the conceptual, developmental, design or pre-production stage is permitted prior to equipment authorization or, for devices not subject to the equipment authorization requirements, prior to a determination of compliance with the applicable technical requirements *provided* that the prospective buyer is advised in writing at the time of the offer for sale that the equipment is subject to the FCC rules and that the equipment will comply with the appropriate rules before delivery to the buyer or to centers of distribution.

(e)(1) Notwithstanding the provisions of paragraph (a) of this section, prior to equipment authorization or determination of compliance with the applicable technical requirements any radio frequency device may be operated, but not marketed, for the following purposes and under the following conditions:

(i) Compliance testing;

(ii) Demonstrations at a trade show provided the notice contained in paragraph (c) of this section is displayed in a conspicuous location on, or immediately adjacent to, the device;

(iii) Demonstrations at an exhibition conducted at a business, commercial, industrial, scientific or medical location, but excluding locations in a residential environment, provided the notice contained in paragraphs (c) or (d) of this section, as appropriate, is displayed in a conspicuous location on, or immediately adjacent to, the device;

(iv) Evaluation of product performance and determination of customer acceptability, provided such operation takes place at the manufacturer's facilities during developmental, design or pre-production states; or

(v) Evaluation of product performance and determination of customer acceptability where customer acceptability of a radio frequency device cannot be determined at the manufacturer's facilities because of size or unique capability of the device, provided the device is operated at a business, commercial, industrial, scientific or medical user's site, but not at a residential site, during the development, design or pre-production stages.

(e)(2) For the purpose of paragraphs (e)(1)(iv) and (e)(1)(v) of this section, the term *manufacturer's facilities* includes the facilities of the party responsible for compliance with the regulations and the manufacturer's premises, as well as the facilities of other entities working under the authorization of the responsible party in connection with the development and manufacture, but not the marketing, of the equipment.

(f) For radio frequency devices subject to verification and sold solely to business, commercial, industrial, scientific and medical users (excluding products sold to other parties or for operation in a residential environment), parties responsible for verification of the devices shall have the option of ensuring compliance with the applicable technical specifications of this chapter at each end user's location after installation, provided that the purchase or lease agreement includes a proviso that such a determination of compliance be made and is the responsibility of the party responsible for verification of the equipment.

Certification & User's Manual Information

The following is extracted from Title 47 of the Code of Federal Regulations, Part 2, Subpart J — Equipment Authorization Procedures:

§ 2.901 Basis and Purpose

(a) In order to carry out its responsibilities under the Communications Act and the various treaties and international regulations, and in order to promote efficient use of the radio spectrum, the Commission has developed technical standards for radio frequency equipment and parts or components thereof. The technical standards applicable to individual types of equipment are found in that part of the rules governing the service wherein the equipment is to be operated.[1] *In addition to the technical standards provided, the rules governing the service may require that such equipment be verified by the manufacturer or importer*, be authorized under a Declaration of Conformity, or receive an equipment authorization from the Commission by one of the following procedures: certification or registration.

(b) The following sections describe the verification procedure, the procedure for a Declaration of Conformity, and the procedures to be followed in obtaining certification from the Commission and the conditions attendant to such a grant.

§ 2.907 Certification.

(a) Certification is an equipment authorization issued by the Commission, based on representation and test data submitted by the applicant.

(b) Certification attaches to all units subsequently marketed by the grantee which are identical (see Section 2.908) to the sample tested except for permissive changes or other variations authorized by the Commission pursuant to Section 2.1043.

[1] In this case, the equipment is subject to the rules of Part 15. More specifically, the equipment falls under Subpart B (of Part 15), which deals with unintentional radiators.

Certification & User's Manual Information

§ 2.948 Description of measurement facilities.

(a) Each party making measurements of equipment that is subject to an equipment authorization under Part 15 or Part 18 of this chapter, regardless of whether the measurements are filed with the Commission or kept on file by the party responsible for compliance of equipment marketed within the U.S. or its possessions, shall compile a description of the measurement facilities employed.

(1) If the measured equipment is subject to the verification procedure, the description of the measurement facilities shall be retained by the party responsible for verification of the equipment.

(i) If the equipment is verified through measurements performed by an independent laboratory, it is acceptable for the party responsible for verification of the equipment to rely upon the description of the measurement facilities retained by or placed on file with the Commission by that laboratory. In this situation, the party responsible for the verification of the equipment is not required to retain a duplicate copy of the description of the measurement facilities.

(ii) If the equipment is verified based on measurements performed at the installation site of the equipment, no specific site calibration data is required. It is acceptable to retain the description of the measurement facilities at the site at which the measurements were performed.

(2) If the equipment is to be authorized by the Commission under the certification procedure, the description of the measurement facilities shall be filed with the Commission's Laboratory in Columbia, Maryland. The data describing the measurement facilities need only be filed once but must be updated as changes are made to the measurement facilities or as otherwise described in this section. At least every three years, the organization responsible for filing the data with the Commission shall certify that the data on file is current.

Certification & User's Manual Information

1. Label and User's Manual Information

The following is extracted from Title 47 of the Code of Federal Regulations, Part 15, Subpart A — General:

§ 15.19 Labeling requirements.

(a) In addition to the requirements in Part 2 of this chapter, a device subject to certification or verification shall be labeled as follows:

(1) Receivers associated with the operation of a licensed radio service, e.g., FM broadcast under Part 73 of this chapter, land mobile operation under Part 90, etc., shall bear the following statement in a conspicuous location on the device:

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

(2) A stand-alone cable input selector switch, shall bear the following statement in a conspicuous location on the device:

This device is verified to comply with Part 15 of the FCC Rules for use with cable television service.

(3) All other devices shall bear the following statement in a conspicuous location on the device:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

(4) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified under paragraph (a) of this section is required to be affixed only to the main control unit.

(5) When the device is so small or for such use that it is not practicable to place the statement specified under paragraph (a) of this section on it, the information required by this paragraph shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed. However, the FCC identifier or the unique identifier, as appropriate, must be displayed on the device.

§ 15.21 Information to user.

The user's manual or instruction manual for an intentional or unintentional 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.

Verification & User's Manual Information

The following is extracted from Title 47 of the Code of Federal Regulations, Part 15, Subpart B — Unintentional Radiators:

§ 15.105 Information to the user.

(a) For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at own expense.

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.

– Increase the separation between the equipment and receiver.

– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

– Consult the dealer or an experienced radio/TV technician for help.

ICES-003 Procedural & Labeling Requirements

From the Industry Canada Electromagnetic Compatibility Advisory Bulletin entitled, "Implementation and Interpretation of the Interference-Causing Equipment Standard for Digital Apparatus, ICES-003" (EMCAB-3, Issue 2, July 1995):

> "At present, CISPR 22: 2002 and ICES technical requirements are essentially equivalent. Therefore, if you have CISPR 22: 2002 approval by meeting CISPR Publication 22, the only additional requirements are: to attach a note to the report of the test results for compliance, indicating that these results are deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference-Causing Equipment Regulations; to maintain these records on file for the requisite five year period; and to provide the device with a notice of compliance in accordance with ICES-003."

Procedural Requirements:

According to Industry Canada's Interference Causing Equipment Standard for Digital Apparatus ICES-003 Issue 5 August 2012:

Section 6.1: A record of the measurements and results, showing the date that the measurements were completed, shall be retained by the manufacturer or importer for a period of at least five years from the date shown in the record and made available for examination on the request of the Minister.

Section 6.2: A written notice indicating compliance must accompany each unit of digital apparatus to the end user. The notice shall be in the form of a label that is affixed to the apparatus. Where because of insufficient space or other constraints it is not feasible to affix a label to the apparatus, the notice may be in the form of a statement in the users' manual.

Labeling Requirements:

The suggested text for the notice, in English and in French, is provided below, from the Annex of ICES-003:

> This Class [2] digital apparatus complies with Canadian ICES-003.
>
> Cet appareil numérique de la classe [1] est conforme à la norme NMB-003 du Canada.

[2] Insert either A or B but not both as appropriate for the equipment requirements.

End of Report

