

Spacelabs Healthcare

Ultraview SL Wireless Option

Report No. SPAC0447.1 Rev. 1

Report Prepared By



www.nwemc.com
1-888-EMI-CERT

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EMC Test Report



22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test

Last Date of Test: November 17, 2008

Spacelabs Healthcare

Model: Ultraview SL Wireless Option

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Spurious Radiated Emissions	FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002	Pass
Spurious Radiated Emissions	FCC 15.209:2008	ANSI C63.4:2003	Pass
Peak Power Spectral Density	FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002	Pass
Peak Excursion	FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002	Pass
Peak Transmit Power	FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002	Pass
Frequency Stability	FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002	Pass
Emission Bandwidth	FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002	Pass
AC Power line Conducted Emissions	FCC 15.207:2008	ANSI C63.4:2003	Pass

Modifications made to the product

See the Modifications section of this report

Test Facility

The measurement facility used to collect the data is located at:

Northwest EMC, Inc.
22975 NW Evergreen Parkway, Suite 400
Hillsboro, OR 97124

Phone: (503) 844-4066 Fax: 844-3826

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada (Site filing #2834D-2).

Approved By:

Ethan Schoonover, Sultan Lab Manager



NVLAP Lab Code: 200630-0

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America.

Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test.

Revision Number	Description	Date	Page Number
01	In the Voltage section changed (VDC) to (VAC)	12/12/08	92

FCC: Accredited by NVLAP for performance of FCC radio, digital, and ISM device testing. Our Open Area Test Sites, certification chambers, and conducted measurement facilities have been fully described in reports filed with the FCC and accepted by the FCC in letters maintained in our files. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by the FCC as a Telecommunications Certification Body (TCB). This allows Northwest EMC to certify transmitters to FCC specifications in accordance with 47 CFR 2.960 and 2.962.



NVLAP: Northwest EMC, Inc. is accredited under the United States Department of Commerce, National Institute of Standards and Technology, and National Voluntary Laboratory Accreditation Program for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. The NVLAP accreditation encompasses Electromagnetic Compatibility Testing in accordance with the European Union EMC Directive 2004/108/EC, and ANSI C63.4. Additionally, Northwest EMC is accredited by NVLAP to perform radio testing in accordance with the European Union R&TTE Directive 1999/5/EEC, the requirements of FCC, and the RSS radio standards for Industry Canada.



NVLAP LAB CODE 200629-0
NVLAP LAB CODE 200630-0
NVLAP LAB CODE 200676-0
NVLAP LAB CODE 200761-0

Industry Canada: Accredited by NVLAP for performance of Industry Canada RSS and ICES testing. Our Open Area Test Sites and certification chambers comply with RSS-Gen, Issue 2 and have been filed with Industry Canada and accepted. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by NIST and recognized by Industry Canada as a Certification Body (CB) per the APEC Mutual Recognition Arrangement (MRA). This allows Northwest EMC to certify transmitters to Industry Canada technical requirements. (*Site Filing Numbers - Hillsboro: 2834D-1, 2834D-2, Sultan: 2834C-1, Irvine: 2834B-1, 2834B-2*)



CAB: Designated by NIST and validated by the European Commission as a Conformity Assessment Body (CAB) to conduct tests and approve products to the EMC directive and transmitters to the R&TTE directive, as described in the U.S. - EU Mutual Recognition Agreement.



TÜV Product Service: Included in TÜV Product Service Group's Listing of Recognized Laboratories. It qualifies in connection with the TÜV Certification after Recognition of Agent's Testing Program for the product categories and/or standards shown in TÜV's current Listing of CARAT Laboratories, available from TÜV. A certificate was issued to represent that this laboratory continues to meet TÜV's CARAT Program requirements. Certificate No. USA0604C.



TÜV Rheinland: Authorized to carryout EMC tests by order and under supervision of TÜV Rheinland. This authorization is based on "Conditions for EMC-Subcontractors" of November 1992.



NEMKO: Assessed and accredited by NEMKO (Norwegian testing and certification body) for European emissions and immunity testing. As a result of NEMKO's laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification (Authorization No. ELA 119).



Australia/New Zealand: The National Association of Testing Authorities (NATA), Australia has been appointed by the ACA as an accreditation body to accredit test laboratories and competent bodies for EMC standards. Accredited test reports or assessments by competent bodies must carry the NATA logo. Test reports made by an overseas laboratory that has been accredited for the relevant standards by an overseas accreditation body that has a Mutual Recognition Agreement (MRA) with NATA are also accepted as technical grounds for product conformity. The report should be endorsed with the respective logo of the accreditation body (NVLAP).



VCCI: Accepted as an Associate Member to the VCCI, Acceptance No. 564. Conducted and radiated measurement facilities have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. (*Registration Numbers. - Hillsboro: C-1071, R-1025, C-2687, T-289, and R-2318, Irvine: R-1943, C-2766, and T-298, Sultan: R-871, C-1784, and T-294*).



BSMI: Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement (US0017). License No.SL2-IN-E-1017.



GOST: Northwest EMC, Inc. has been assessed and accredited by the Russian Certification bodies Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC, to perform EMC and Hygienic testing for Information Technology Products. As a result of their laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification



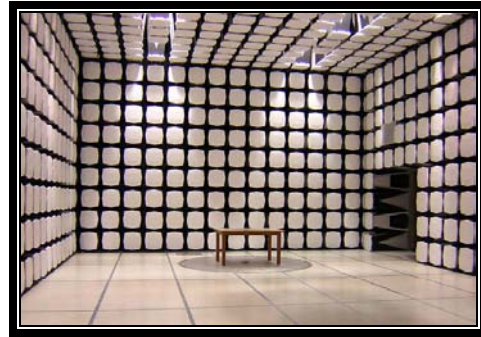
MIC: Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (*Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157*)



SCOPE

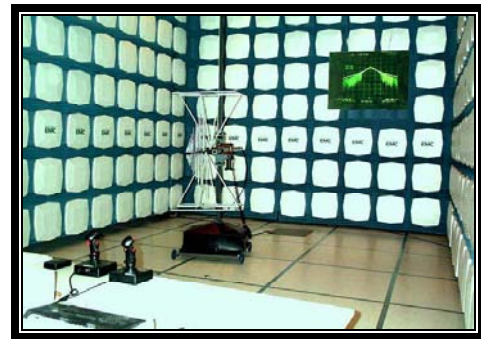
For details on the Scopes of our Accreditations, please visit:

<http://www.nwemc.com/accreditations/>



**California – Orange County Facility
Labs OC01 – OC13**

41 Tesla Ave. Irvine, CA 92618
(888) 364-2378 Fax: (503) 844-3826



**Oregon – Evergreen Facility
Labs EV01 – EV11**

22975 NW Evergreen Pkwy. Suite 400 Hillsboro, OR 97124
(503) 844-4066 Fax: (503) 844-3826



**Washington – Sultan Facility
Labs SU01 – SU07**

14128 339th Ave. SE Sultan, WA 98294
(888) 364-2378

Party Requesting the Test

Company Name:	Spacelabs Healthcare
Address:	5150 220th Ave SE, PO Box 7018
City, State, Zip:	Issaquah, WA 98027-7018
Test Requested By:	Steve Cantwell
Model:	Ultraview SL Wireless Option
First Date of Test:	November 10, 2008
Last Date of Test:	November 17, 2008
Receipt Date of Samples:	November 5, 2008
Equipment Design Stage:	Prototype
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test**Functional Description of the EUT (Equipment Under Test):**

One 802.11a/b/g radio module

Testing Objective:

Seeking to demonstrate compliance under FCC 15E for operation in the 5.2 and 5.6 GHz bands.

CONFIGURATION 1 SPAC0447**Software/Firmware Running during test**

Description	Version
UltraView SL operating system	Unknown
Hyperterminal	Unknown

EUT

Description	Manufacturer	Model/Part Number	Serial Number
EUT - 802.11(a/b/g) radio	Spacelabs Healthcare	WMIA-166AGI	08806B1000020
Host System - UltraView SL	Spacelabs Healthcare	91369	1369-P00003

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
Power Supply	Spacelabs Healthcare	119-0479-00	Rev A
USB Mouse	Logitech	M-BJ58	PMA34664899
SpO2 Sensor	Nellcor	DS-100A	3192296

Remote Equipment Outside of Test Setup Boundary

Description	Manufacturer	Model/Part Number	Serial Number
Remote PC	IBM	A21m	IS108

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	No	1.75m	No	Power Supply	AC Mains
DC Power	PA	1.85m	Yes	Power Supply	Host System - UltraView SL
RS-232 Null Modem	Yes	2.0m	No	Host System - UltraView SL	Remote PC
Video	Yes	1.8m	Yes	Host System - UltraView SL	Unterminated
Serial	Yes	5.0m	No	Host System - UltraView SL	RS-232 Null Modem Cable
SDLC	Yes	0.5m	Yes	Host System - UltraView SL	Terminated
RJ-11 Comms Cable	Yes	2.5m	No	Host System - UltraView SL	Unterminated
USB	Yes	1.8m	PA	Host System - UltraView SL	USB Mouse
LAN	No	0.9m	Yes	Host System - UltraView SL	Unterminated
ECG	PA	3.5m	No	Host System - UltraView SL	Terminated
Press Cable (700-0028-00)	PA	1.2m	PA	Host System - UltraView SL	Unterminated
Temp Cable (700-0031-00)	PA	0.3m	PA	Host System - UltraView SL	1/4 inch Temp Cable
1/4 inch Temp Cable	PA	3.1m	PA	Temp Cable (700-0031-00)	Terminated
SpO2 cable	PA	3.7m	PA	Host System - UltraView SL	SpO2 Sensor cable
SpO2 Sensor cable	PA	0.9m	PA	SpO2 cable	SpO2 Sensor
CO Cable (700-0027-00)	PA	0.3m	PA	Host System - UltraView SL	CO Sensor Cable
CO Sensor Cable (306655-001)	PA	2.9m	PA	CO Cable (700-0027-00)	Terminated

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

CONFIGURATION 2 SPAC0447**Software/Firmware Running during test**

Description	Version
UltraView SL operating system	Unknown
Hyperterminal	Unknown

EUT

Description	Manufacturer	Model/Part Number	Serial Number
EUT - 802.11(a/b/g) radio	Spacelabs Healthcare	WMIA-166AGI	08806B1000020
Host System - UltraView SL	Spacelabs Healthcare	91369	1369-P00003

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
Power Supply	Spacelabs Healthcare	119-0479-00	Rev A

Remote Equipment Outside of Test Setup Boundary

Description	Manufacturer	Model/Part Number	Serial Number
Remote PC	IBM	A21m	IS108

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	No	1.75m	No	Power Supply	AC Mains
DC Power	PA	1.85m	Yes	Power Supply	Host System - UltraView SL
RS-232 Null Modem	Yes	2.0m	No	Host System - UltraView SL	Remote PC
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

CONFIGURATION 3 SPAC0447**Software/Firmware Running during test**

Description	Version
UltraView SL operating system	Unknown
Hyperterminal	Unknown

EUT

Description	Manufacturer	Model/Part Number	Serial Number
EUT - 802.11(a/b/g) radio	Spacelabs Healthcare	WMIA-166AGI	08806B1000020
Host System - UltraView SL	Spacelabs Healthcare	91369	1369-P00003

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
Power Supply	Spacelabs Healthcare	119-0479-00	Rev A
USB Mouse	Logitech	M-BJ58	PMA34664899
SpO2 Sensor	Nellcor	DS-100A	3192296

Remote Equipment Outside of Test Setup Boundary

Description	Manufacturer	Model/Part Number	Serial Number
Remote PC	IBM	A21m	IS108

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	No	1.75m	No	Power Supply	AC Mains
DC Power	PA	1.85m	Yes	Power Supply	Host System - UltraView SL
RS-232 Null Modem	Yes	2.0m	No	Host System - UltraView SL	Remote PC
Video	Yes	1.8m	Yes	Host System - UltraView SL	Unterminated
SDLC	Yes	0.5m	Yes	Host System - UltraView SL	Terminated
RJ-11 Comms Cable	Yes	2.5m	No	Host System - UltraView SL	Unterminated
USB	Yes	1.8m	PA	Host System - UltraView SL	USB Mouse
LAN	No	0.9m	Yes	Host System - UltraView SL	Unterminated
ECG	PA	3.5m	No	Host System - UltraView SL	Terminated
Press Cable (700-0028-00)	PA	1.2m	PA	Host System - UltraView SL	Unterminated
Temp Cable (700-0031-00)	PA	0.3m	PA	Host System - UltraView SL	1/4 inch Temp Cable
1/4 inch Temp Cable	PA	3.1m	PA	Temp Cable (700-0031-00)	Terminated
SpO2 cable	PA	3.7m	PA	Host System - UltraView SL	SpO2 Sensor cable
SpO2 Sensor cable	PA	0.9m	PA	SpO2 cable	SpO2 Sensor
CO Cable (700-0027-00)	PA	0.3m	PA	Host System - UltraView SL	CO Sensor Cable
CO Sensor Cable (306655-001)	PA	2.9m	PA	CO Cable (700-0027-00)	Terminated

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	11/10/2008	Emission Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	11/10/2008	AC Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	11/11/2008	Peak Transmit Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	11/11/2008	Peak Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	11/12/2008	Peak Excursion	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	11/14/2008	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
7	11/17/2008	Frequency Stability	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was complete.

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

Transmitting 802.11(a), 6 Mbps, High Channel 140
Transmitting 802.11(a), 6 Mbps, Mid Channel 120
Transmitting 802.11(a), 6 Mbps, Mid Channel 100
Transmitting 802.11(a), 6 Mbps, High Channel 64
Transmitting 802.11(a), 6 Mbps, Low Channel 52
Transmitting 802.11(a), 6 Mbps, High Channel 48
Transmitting 802.11(a), 6 Mbps, Low Channel 36

POWER SETTINGS INVESTIGATED

120VAC/60Hz

CONFIGURATIONS INVESTIGATED

SPAC0447 - 3

SAMPLE CALCULATIONS

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
LISN	Solar	9252-50-R-24-BNC	LIR	1/4/2008	13 mo
LISN	Solar	9252-50-R-24-BNC	LIP	1/4/2008	13 mo
Attenuator	Coaxicom	66702 2910-20	ATO	6/30/2008	13 mo
High Pass Filter	T.T.E.	7766	HFG	2/5/2008	13 mo
EV07 Cables		Conducted Cables	EVG	5/2/2008	13 mo
Receiver	Rohde & Schwarz	ESCI	ARH	8/28/2008	12 mo

MEASUREMENT BANDWIDTHS

	Frequency Range	Peak Data	Quasi-Peak Data	Average Data
	(MHz)	(kHz)	(kHz)	(kHz)
	0.01 - 0.15	1.0	0.2	0.2
	0.15 - 30.0	10.0	9.0	9.0
	30.0 - 1000	100.0	120.0	120.0
	Above 1000	1000.0	N/A	1000.0
Measurements were made using the bandwidths and detectors specified. No video filter was used.				

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm.

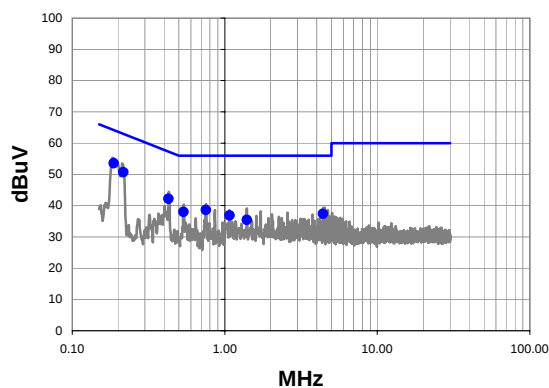
EMC

AC POWERLINE CONDUCTED EMISSIONS

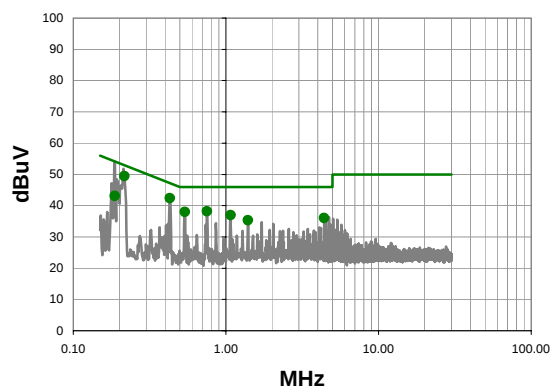
Work Order:	SPAC0447	Date:	11/10/08	
Project:	None	Temperature:	24	
Job Site:	EV07	Humidity:	45	
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by: David DiVergigelis
EUT:	Ultraview SL Wireless Option			
Configuration:	3 - AC Powerline Conducted Emissions			
Customer:	Spacelabs Healthcare			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting 802.11(a), 6 Mbps, Low Channel 36			
Deviations:	No deviations.			
Comments:	None			

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.187	32.2	21.3	53.5	64.2	-10.6
0.217	29.6	21.1	50.7	62.9	-12.3
0.429	21.2	20.9	42.1	57.3	-15.1
0.752	17.9	20.7	38.6	56.0	-17.4
0.538	17.1	20.9	38.0	56.0	-18.0
4.408	16.7	20.6	37.3	56.0	-18.7
1.076	16.3	20.6	36.9	56.0	-19.1
1.396	14.8	20.6	35.4	56.0	-20.6

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.217	28.4	21.1	49.5	52.9	-3.5
0.429	21.4	20.9	42.3	47.3	-4.9
0.752	17.4	20.7	38.1	46.0	-7.9
0.538	17.1	20.9	38.0	46.0	-8.0
1.076	16.4	20.6	37.0	46.0	-9.0
4.408	15.4	20.6	36.0	46.0	-10.0
1.396	14.7	20.6	35.3	46.0	-10.7
0.187	21.8	21.3	43.1	54.2	-11.0

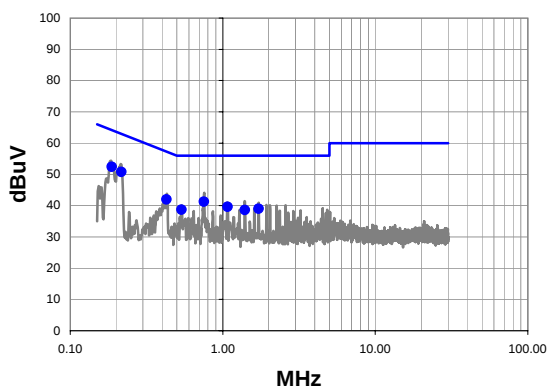
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AC POWERLINE CONDUCTED EMISSIONS

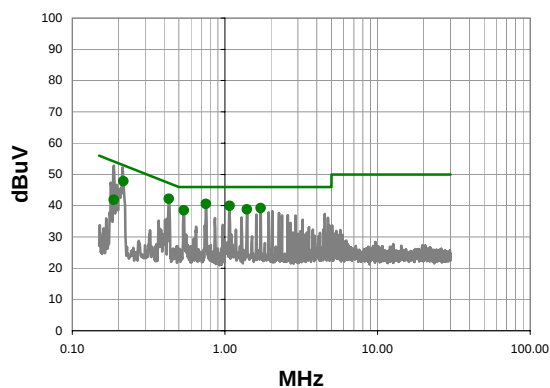
Work Order:	SPAC0447	Date:	11/10/08	
Project:	None	Temperature:	24	
Job Site:	EV07	Humidity:	45	
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by: David DiVergigelis
EUT:	Ultraview SL Wireless Option			
Configuration:	3 - AC Powerline Conducted Emissions			
Customer:	Spacelabs Healthcare			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting 802.11(a), 6 Mbps, Low Channel 36			
Deviations:	No deviations.			
Comments:	None			

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.187	31.1	21.3	52.4	64.2	-11.7
0.217	29.7	21.1	50.8	62.9	-12.2
0.753	20.5	20.7	41.2	56.0	-14.8
0.429	21.0	20.9	41.9	57.3	-15.3
1.076	19.0	20.6	39.6	56.0	-16.4
1.720	18.4	20.6	39.0	56.0	-17.0
0.538	17.8	20.9	38.7	56.0	-17.3
1.396	18.0	20.6	38.6	56.0	-17.4

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.429	21.2	20.9	42.1	47.3	-5.1
0.217	26.7	21.1	47.8	52.9	-5.2
0.753	19.8	20.7	40.5	46.0	-5.5
1.076	19.3	20.6	39.9	46.0	-6.1
1.720	18.6	20.6	39.2	46.0	-6.8
1.396	18.2	20.6	38.8	46.0	-7.2
0.538	17.6	20.9	38.5	46.0	-7.5
0.187	20.5	21.3	41.8	54.2	-12.3

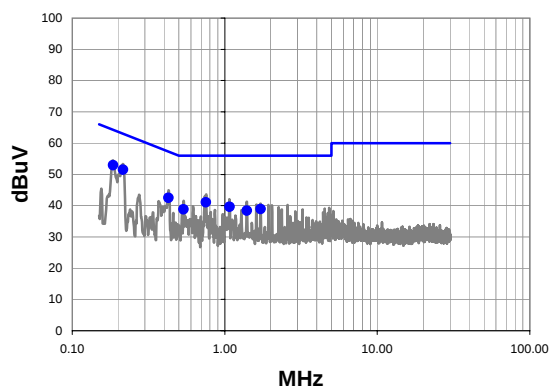
EMC

AC POWERLINE CONDUCTED EMISSIONS

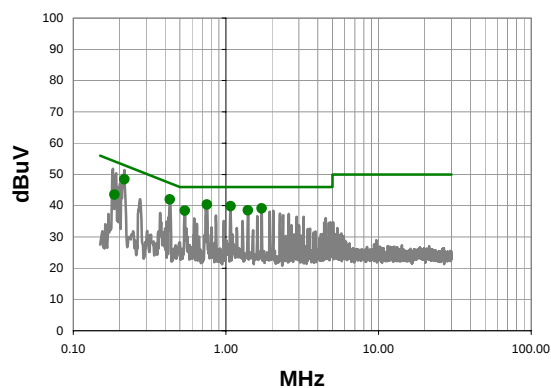
Work Order:	SPAC0447	Date:	11/10/08	<i>David DiVergigelis</i>
Project:	None	Temperature:	24	
Job Site:	EV07	Humidity:	45	
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by: David DiVergigelis
EUT:	Ultraview SL Wireless Option			
Configuration:	3 - AC Powerline Conducted Emissions			
Customer:	Spacelabs Healthcare			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting 802.11(a), 6 Mbps, High Channel 48			
Deviations:	No deviations.			
Comments:	None			

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.186	31.6	21.3	52.9	64.2	-11.3
0.216	30.4	21.1	51.5	63.0	-11.5
0.429	21.5	20.9	42.4	57.3	-14.8
0.752	20.3	20.7	41.0	56.0	-15.0
1.076	19.0	20.6	39.6	56.0	-16.4
1.720	18.3	20.6	38.9	56.0	-17.1
0.538	17.9	20.9	38.8	56.0	-17.2
1.396	17.8	20.6	38.4	56.0	-17.6

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.216	27.4	21.1	48.5	53.0	-4.5
0.429	21.0	20.9	41.9	47.3	-5.3
0.752	19.6	20.7	40.3	46.0	-5.7
1.076	19.2	20.6	39.8	46.0	-6.2
1.720	18.5	20.6	39.1	46.0	-6.9
1.396	17.9	20.6	38.5	46.0	-7.5
0.538	17.5	20.9	38.4	46.0	-7.6
0.186	22.2	21.3	43.5	54.2	-10.7

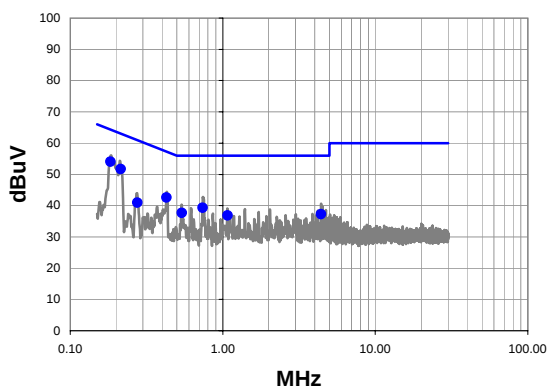
EMC

AC POWERLINE CONDUCTED EMISSIONS

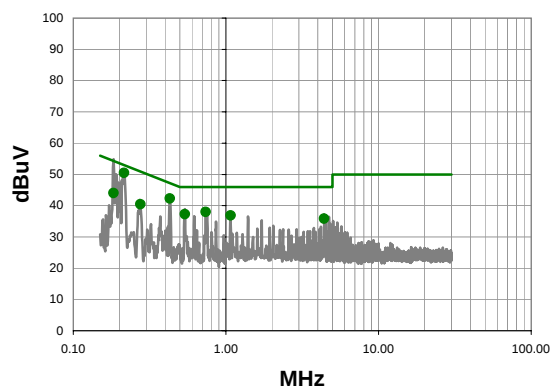
Work Order:	SPAC0447	Date:	11/10/08		
Project:	None	Temperature:	24		
Job Site:	EV07	Humidity:	45		
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by:	David DiVergigelis
EUT:	Ultraview SL Wireless Option				
Configuration:	3 - AC Powerline Conducted Emissions				
Customer:	Spacelabs Healthcare				
Attendees:	None				
EUT Power:	120VAC/60Hz				
Operating Mode:	Transmitting 802.11(a), 6 Mbps, High Channel 48				
Deviations:	No deviations.				
Comments:	None				

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.184	32.7	21.4	54.1	64.3	-10.2
0.215	30.6	21.1	51.7	63.0	-11.4
0.429	21.7	20.9	42.6	57.3	-14.6
0.739	18.6	20.7	39.3	56.0	-16.7
0.539	16.8	20.9	37.7	56.0	-18.3
4.408	16.6	20.6	37.2	56.0	-18.8
1.076	16.3	20.6	36.9	56.0	-19.1
0.276	19.9	21.0	40.9	60.9	-20.0

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	29.4	21.1	50.5	53.0	-2.6
0.429	21.3	20.9	42.2	47.3	-5.0
0.739	17.2	20.7	37.9	46.0	-8.1
0.539	16.4	20.9	37.3	46.0	-8.7
1.076	16.3	20.6	36.9	46.0	-9.1
4.408	15.2	20.6	35.8	46.0	-10.2
0.184	22.6	21.4	44.0	54.3	-10.3
0.276	19.4	21.0	40.4	50.9	-10.5

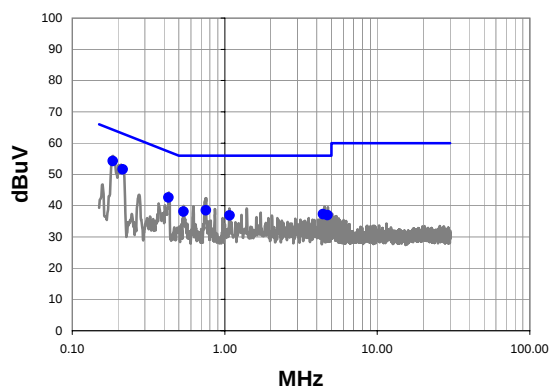
EMC

AC POWERLINE CONDUCTED EMISSIONS

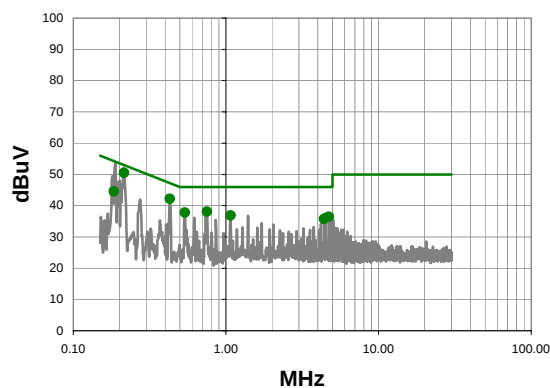
Work Order:	SPAC0447	Date:	11/10/08	<i>David DiVergigelis</i>	
Project:	None	Temperature:	24		
Job Site:	EV07	Humidity:	45		
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by:	David DiVergigelis
EUT:	Ultraview SL Wireless Option				
Configuration:	3 - AC Powerline Conducted Emissions				
Customer:	Spacelabs Healthcare				
Attendees:	None				
EUT Power:	120VAC/60Hz				
Operating Mode:	Transmitting 802.11(a), 6 Mbps, Low Channel 52				
Deviations:	No deviations.				
Comments:	None				

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.185	32.9	21.4	54.3	64.3	-10.0
0.215	30.5	21.1	51.6	63.0	-11.5
0.429	21.7	20.9	42.6	57.3	-14.6
0.752	17.8	20.7	38.5	56.0	-17.5
0.538	17.2	20.9	38.1	56.0	-17.9
4.408	16.6	20.6	37.2	56.0	-18.8
4.732	16.3	20.6	36.9	56.0	-19.1
1.076	16.3	20.6	36.9	56.0	-19.1

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	29.4	21.1	50.5	53.0	-2.6
0.429	21.2	20.9	42.1	47.3	-5.1
0.752	17.3	20.7	38.0	46.0	-8.0
0.538	16.9	20.9	37.8	46.0	-8.2
1.076	16.3	20.6	36.9	46.0	-9.1
4.732	15.8	20.6	36.4	46.0	-9.6
0.185	23.2	21.4	44.6	54.3	-9.7
4.408	15.1	20.6	35.7	46.0	-10.3

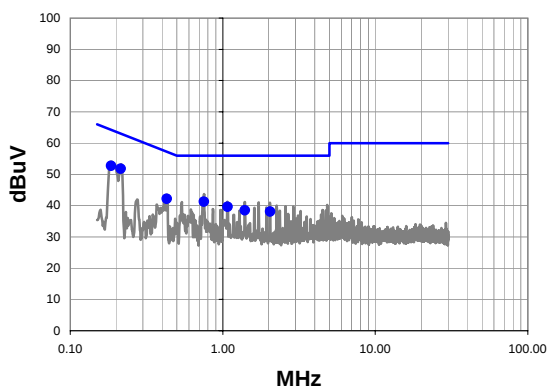
EMC

AC POWERLINE CONDUCTED EMISSIONS

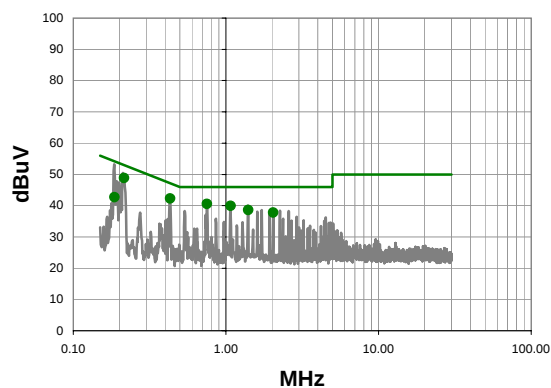
Work Order:	SPAC0447	Date:	11/10/08	
Project:	None	Temperature:	24	
Job Site:	EV07	Humidity:	45	
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by: David DiVergigelis
EUT:	Ultraview SL Wireless Option			
Configuration:	3 - AC Powerline Conducted Emissions			
Customer:	Spacelabs Healthcare			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting 802.11(a), 6 Mbps, Low Channel 52			
Deviations:	No deviations.			
Comments:	None			

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003
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Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	30.7	21.1	51.8	63.0	-11.3
0.186	31.4	21.3	52.7	64.2	-11.5
0.753	20.5	20.7	41.2	56.0	-14.8
0.431	21.2	20.9	42.1	57.2	-15.1
1.076	19.0	20.6	39.6	56.0	-16.4
1.400	17.9	20.6	38.5	56.0	-17.5
2.044	17.5	20.6	38.1	56.0	-17.9

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	27.8	21.1	48.9	53.0	-4.2
0.431	21.3	20.9	42.2	47.2	-5.0
0.753	19.8	20.7	40.5	46.0	-5.5
1.076	19.3	20.6	39.9	46.0	-6.1
1.400	18.0	20.6	38.6	46.0	-7.4
2.044	17.2	20.6	37.8	46.0	-8.2
0.186	21.3	21.3	42.6	54.2	-11.6

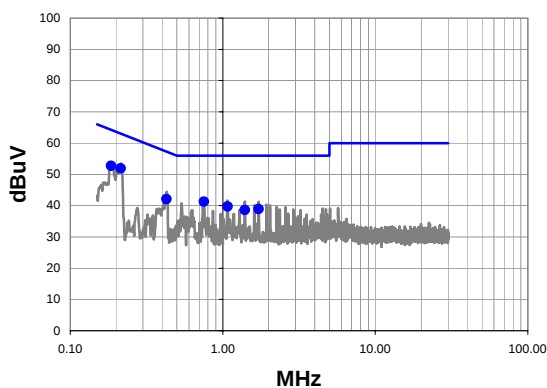
EMC

AC POWERLINE CONDUCTED EMISSIONS

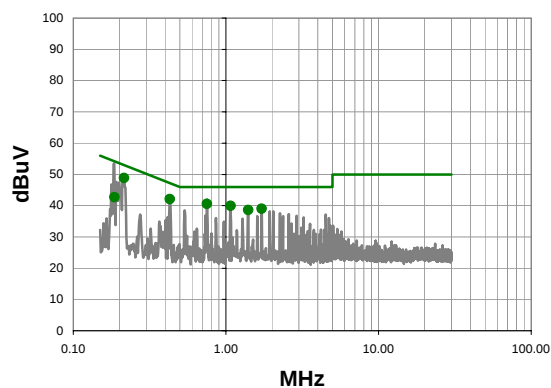
Work Order:	SPAC0447	Date:	11/10/08		
Project:	None	Temperature:	24		
Job Site:	EV07	Humidity:	45	Tested by: David DiVergigelis	
Serial Number:	Various, see config page	Barometric Pres.:	30.25		
EUT: Ultraview SL Wireless Option					
Configuration: 3 - AC Powerline Conducted Emissions					
Customer: Spacelabs Healthcare					
Attendees: None					
EUT Power: 120VAC/60Hz					
Operating Mode: Transmitting 802.11(a), 6 Mbps, High Channel 64					
Deviations: No deviations.					
Comments: None					

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	30.8	21.1	51.9	63.0	-11.2
0.186	31.4	21.3	52.7	64.2	-11.5
0.753	20.5	20.7	41.2	56.0	-14.8
0.429	21.1	20.9	42.0	57.3	-15.2
1.076	19.1	20.6	39.7	56.0	-16.3
1.720	18.3	20.6	38.9	56.0	-17.1
1.400	18.0	20.6	38.6	56.0	-17.4

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	27.8	21.1	48.9	53.0	-4.2
0.429	21.1	20.9	42.0	47.3	-5.2
0.753	19.8	20.7	40.5	46.0	-5.5
1.076	19.3	20.6	39.9	46.0	-6.1
1.720	18.4	20.6	39.0	46.0	-7.0
1.400	18.0	20.6	38.6	46.0	-7.4
0.186	21.3	21.3	42.6	54.2	-11.6

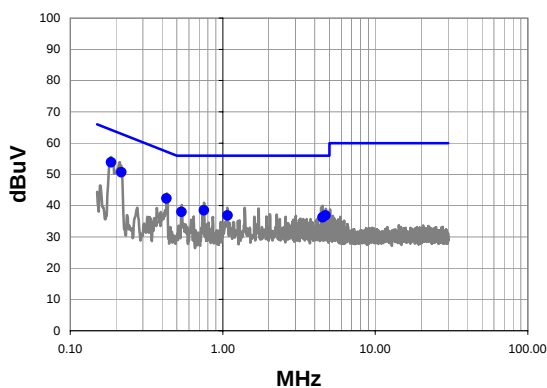
EMC

AC POWERLINE CONDUCTED EMISSIONS

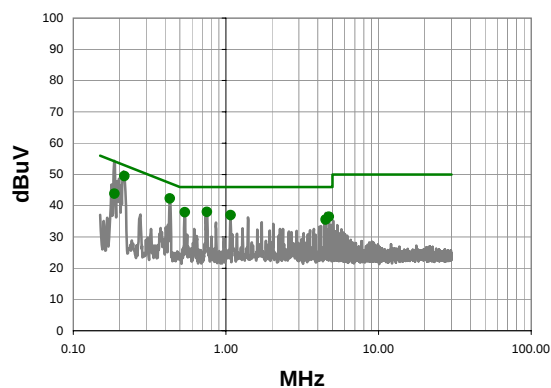
Work Order:	SPAC0447	Date:	11/10/08	
Project:	None	Temperature:	24	
Job Site:	EV07	Humidity:	45	
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by: David DiVergigelis
EUT:	Ultraview SL Wireless Option			
Configuration:	3 - AC Powerline Conducted Emissions			
Customer:	Spacelabs Healthcare			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting 802.11(a), 6 Mbps, High Channel 64			
Deviations:	No deviations.			
Comments:	None			

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.186	32.5	21.3	53.8	64.2	-10.4
0.217	29.6	21.1	50.7	62.9	-12.3
0.429	21.3	20.9	42.2	57.3	-15.0
0.752	17.7	20.7	38.4	56.0	-17.6
0.538	17.1	20.9	38.0	56.0	-18.0
1.076	16.3	20.6	36.9	56.0	-19.1
4.732	16.2	20.6	36.8	56.0	-19.2
4.516	15.6	20.6	36.2	56.0	-19.8

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.217	28.4	21.1	49.5	52.9	-3.5
0.429	21.3	20.9	42.2	47.3	-5.0
0.752	17.2	20.7	37.9	46.0	-8.1
0.538	17.0	20.9	37.9	46.0	-8.1
1.076	16.4	20.6	37.0	46.0	-9.0
4.732	15.8	20.6	36.4	46.0	-9.6
0.186	22.5	21.3	43.8	54.2	-10.4
4.516	14.9	20.6	35.5	46.0	-10.5

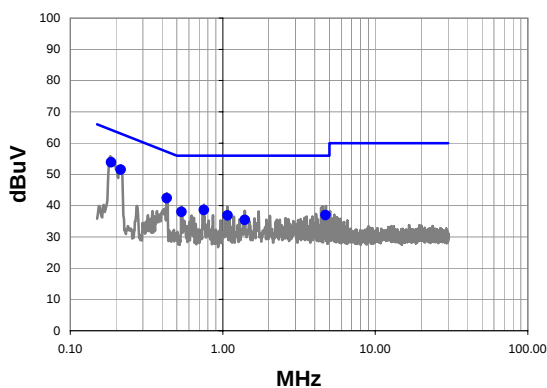
EMC

AC POWERLINE CONDUCTED EMISSIONS

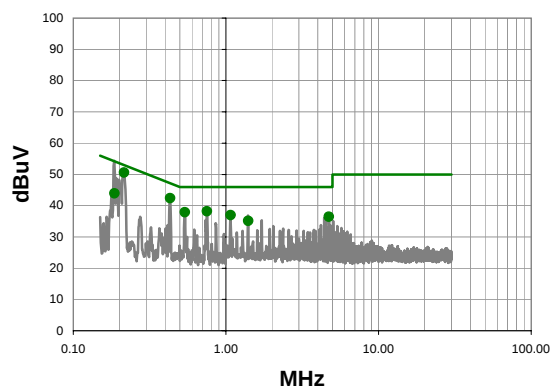
Work Order:	SPAC0447	Date:	11/10/08		
Project:	None	Temperature:	24		
Job Site:	EV07	Humidity:	45	Tested by: David DiVergigelis	
Serial Number:	Various, see config page	Barometric Pres.:	30.25		
EUT: Ultraview SL Wireless Option					
Configuration: 3 - AC Powerline Conducted Emissions					
Customer: Spacelabs Healthcare					
Attendees: None					
EUT Power: 120VAC/60Hz					
Operating Mode: Transmitting 802.11(a), 6 Mbps, Mid Channel 100					
Deviations: No deviations.					
Comments: None					

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.186	32.5	21.3	53.8	64.2	-10.4
0.215	30.4	21.1	51.5	63.0	-11.6
0.431	21.4	20.9	42.3	57.2	-14.9
0.753	17.9	20.7	38.6	56.0	-17.4
0.538	17.1	20.9	38.0	56.0	-18.0
4.732	16.3	20.6	36.9	56.0	-19.1
1.076	16.3	20.6	36.9	56.0	-19.1
1.400	14.8	20.6	35.4	56.0	-20.6

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	29.5	21.1	50.6	53.0	-2.5
0.431	21.5	20.9	42.4	47.2	-4.8
0.753	17.4	20.7	38.1	46.0	-7.9
0.538	17.0	20.9	37.9	46.0	-8.1
1.076	16.4	20.6	37.0	46.0	-9.0
4.732	15.8	20.6	36.4	46.0	-9.6
0.186	22.6	21.3	43.9	54.2	-10.3
1.400	14.5	20.6	35.1	46.0	-10.9

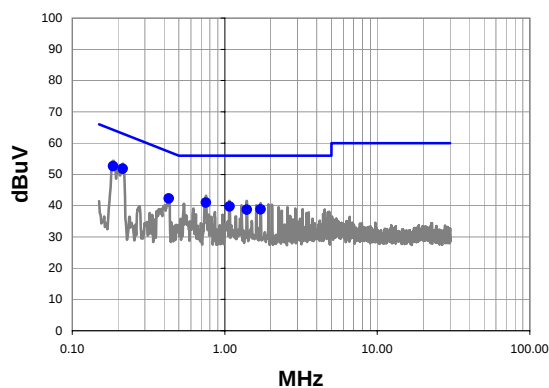
EMC

AC POWERLINE CONDUCTED EMISSIONS

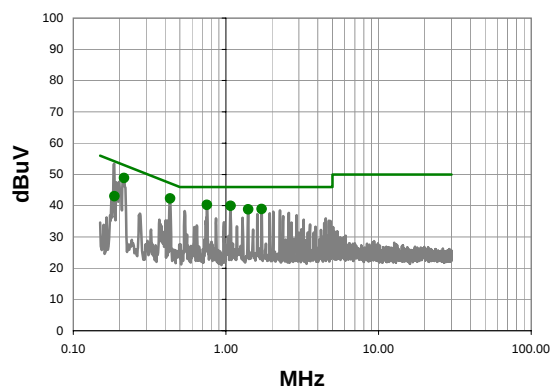
Work Order:	SPAC0447	Date:	11/10/08	<i>David DiVergigelis</i>
Project:	None	Temperature:	24	
Job Site:	EV07	Humidity:	45	
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by: David DiVergigelis
EUT:	Ultraview SL Wireless Option			
Configuration:	3 - AC Powerline Conducted Emissions			
Customer:	Spacelabs Healthcare			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting 802.11(a), 6 Mbps, Mid Channel 100			
Deviations:	No deviations.			
Comments:	None			

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003
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Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	30.7	21.1	51.8	63.0	-11.3
0.186	31.3	21.3	52.6	64.2	-11.6
0.431	21.3	20.9	42.2	57.2	-15.0
0.752	20.2	20.7	40.9	56.0	-15.1
1.076	19.1	20.6	39.7	56.0	-16.3
1.720	18.2	20.6	38.8	56.0	-17.2
1.400	18.1	20.6	38.7	56.0	-17.3

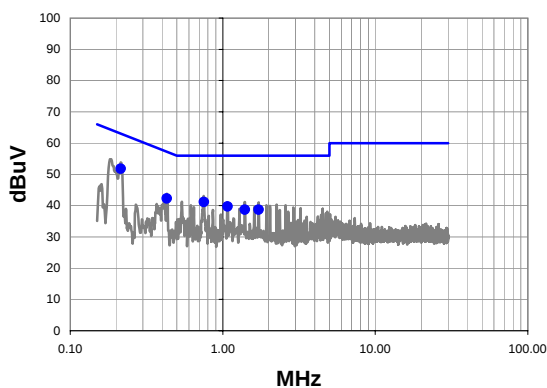
Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	27.8	21.1	48.9	53.0	-4.2
0.431	21.3	20.9	42.2	47.2	-5.0
0.752	19.5	20.7	40.2	46.0	-5.8
1.076	19.3	20.6	39.9	46.0	-6.1
1.720	18.3	20.6	38.9	46.0	-7.1
1.400	18.2	20.6	38.8	46.0	-7.2
0.186	21.6	21.3	42.9	54.2	-11.3

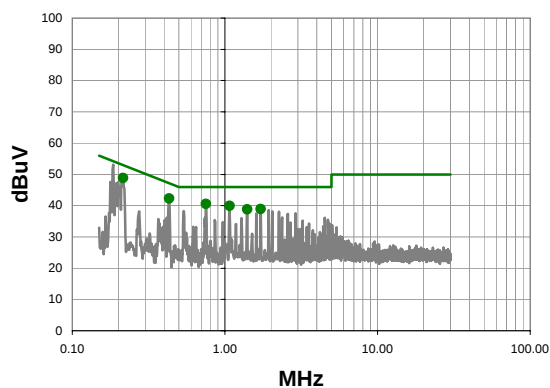
Work Order:	SPAC0447	Date:	11/10/08	<i>David DiVergigelis</i>
Project:	None	Temperature:	24	
Job Site:	EV07	Humidity:	45	
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by: David DiVergigelis
EUT:	Ultraview SL Wireless Option			
Configuration:	3 - AC Powerline Conducted Emissions			
Customer:	Spacelabs Healthcare			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting 802.11(a), 6 Mbps, Mid Channel 120			
Deviations:	No deviations.			
Comments:	None			

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	30.7	21.1	51.8	63.0	-11.3
0.753	20.4	20.7	41.1	56.0	-14.9
0.431	21.3	20.9	42.2	57.2	-15.0
1.076	19.1	20.6	39.7	56.0	-16.3
1.720	18.1	20.6	38.7	56.0	-17.3
1.400	18.1	20.6	38.7	56.0	-17.3

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	27.8	21.1	48.9	53.0	-4.2
0.431	21.3	20.9	42.2	47.2	-5.0
0.753	19.8	20.7	40.5	46.0	-5.5
1.076	19.3	20.6	39.9	46.0	-6.1
1.720	18.3	20.6	38.9	46.0	-7.1
1.400	18.2	20.6	38.8	46.0	-7.2

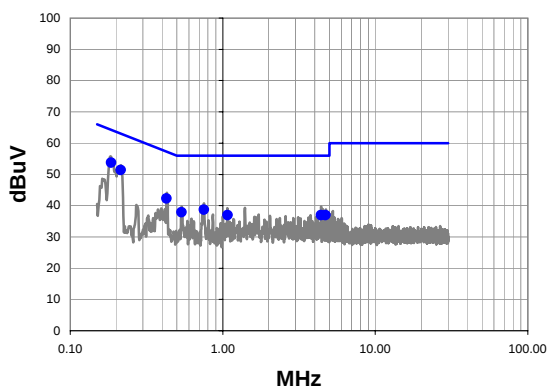
EMC

AC POWERLINE CONDUCTED EMISSIONS

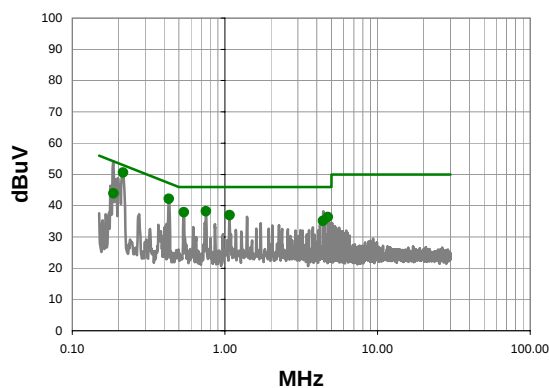
Work Order:	SPAC0447	Date:	11/10/08	
Project:	None	Temperature:	24	
Job Site:	EV07	Humidity:	45	
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by: David DiVergigelis
EUT:	Ultraview SL Wireless Option			
Configuration:	3 - AC Powerline Conducted Emissions			
Customer:	Spacelabs Healthcare			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting 802.11(a), 6 Mbps, Mid Channel 120			
Deviations:	No deviations.			
Comments:	None			

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.186	32.4	21.3	53.7	64.2	-10.5
0.215	30.3	21.1	51.4	63.0	-11.7
0.429	21.3	20.9	42.2	57.3	-15.0
0.753	18.0	20.7	38.7	56.0	-17.3
0.538	17.0	20.9	37.9	56.0	-18.1
1.076	16.4	20.6	37.0	56.0	-19.0
4.732	16.3	20.6	36.9	56.0	-19.1
4.408	16.3	20.6	36.9	56.0	-19.1

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	29.5	21.1	50.6	53.0	-2.5
0.429	21.2	20.9	42.1	47.3	-5.1
0.753	17.4	20.7	38.1	46.0	-7.9
0.538	17.0	20.9	37.9	46.0	-8.1
1.076	16.4	20.6	37.0	46.0	-9.0
4.732	15.7	20.6	36.3	46.0	-9.7
0.186	22.6	21.3	43.9	54.2	-10.3
4.408	14.5	20.6	35.1	46.0	-10.9

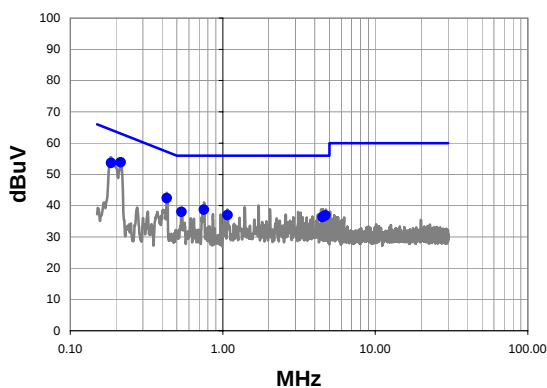
EMC

AC POWERLINE CONDUCTED EMISSIONS

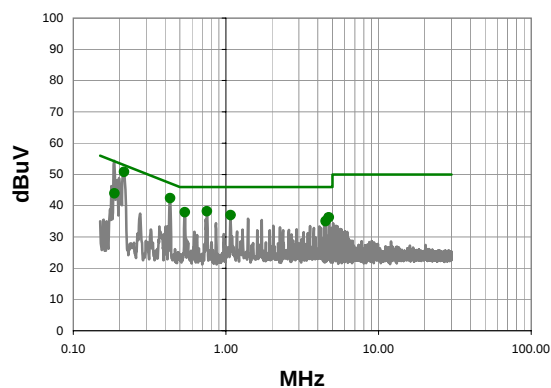
Work Order:	SPAC0447	Date:	11/10/08	<i>David DiVergigelis</i>	
Project:	None	Temperature:	24		
Job Site:	EV07	Humidity:	45		
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by:	David DiVergigelis
EUT:	Ultraview SL Wireless Option				
Configuration:	3 - AC Powerline Conducted Emissions				
Customer:	Spacelabs Healthcare				
Attendees:	None				
EUT Power:	120VAC/60Hz				
Operating Mode:	Transmitting 802.11(a), 6 Mbps, High Channel 140				
Deviations:	No deviations.				
Comments:	None				

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	32.8	21.1	53.9	63.0	-9.2
0.186	32.3	21.3	53.6	64.2	-10.6
0.431	21.4	20.9	42.3	57.2	-14.9
0.753	18.0	20.7	38.7	56.0	-17.3
0.538	17.1	20.9	38.0	56.0	-18.0
1.076	16.4	20.6	37.0	56.0	-19.0
4.732	16.2	20.6	36.8	56.0	-19.2
4.516	15.7	20.6	36.3	56.0	-19.7

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.215	29.7	21.1	50.8	53.0	-2.3
0.431	21.5	20.9	42.4	47.2	-4.8
0.753	17.4	20.7	38.1	46.0	-7.9
0.538	17.0	20.9	37.9	46.0	-8.1
1.076	16.4	20.6	37.0	46.0	-9.0
4.732	15.6	20.6	36.2	46.0	-9.8
0.186	22.6	21.3	43.9	54.2	-10.3
4.516	14.4	20.6	35.0	46.0	-11.0

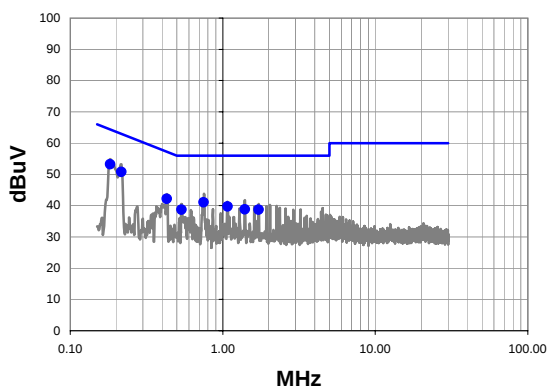
EMC

AC POWERLINE CONDUCTED EMISSIONS

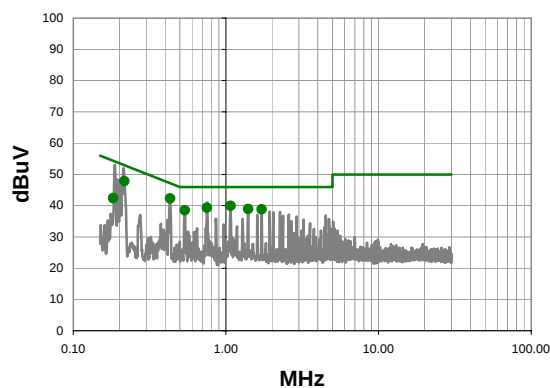
Work Order:	SPAC0447	Date:	11/10/08	<i>David DiVergigelis</i>	
Project:	None	Temperature:	24		
Job Site:	EV07	Humidity:	45		
Serial Number:	Various, see config page	Barometric Pres.:	30.25	Tested by:	David DiVergigelis
EUT:	Ultraview SL Wireless Option				
Configuration:	3 - AC Powerline Conducted Emissions				
Customer:	Spacelabs Healthcare				
Attendees:	None				
EUT Power:	120VAC/60Hz				
Operating Mode:	Transmitting 802.11(a), 6 Mbps, High Channel 140				
Deviations:	No deviations.				
Comments:	None				

Test Specifications	Class B	Test Method
FCC 15.207:2008		ANSI C63.4:2003

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit

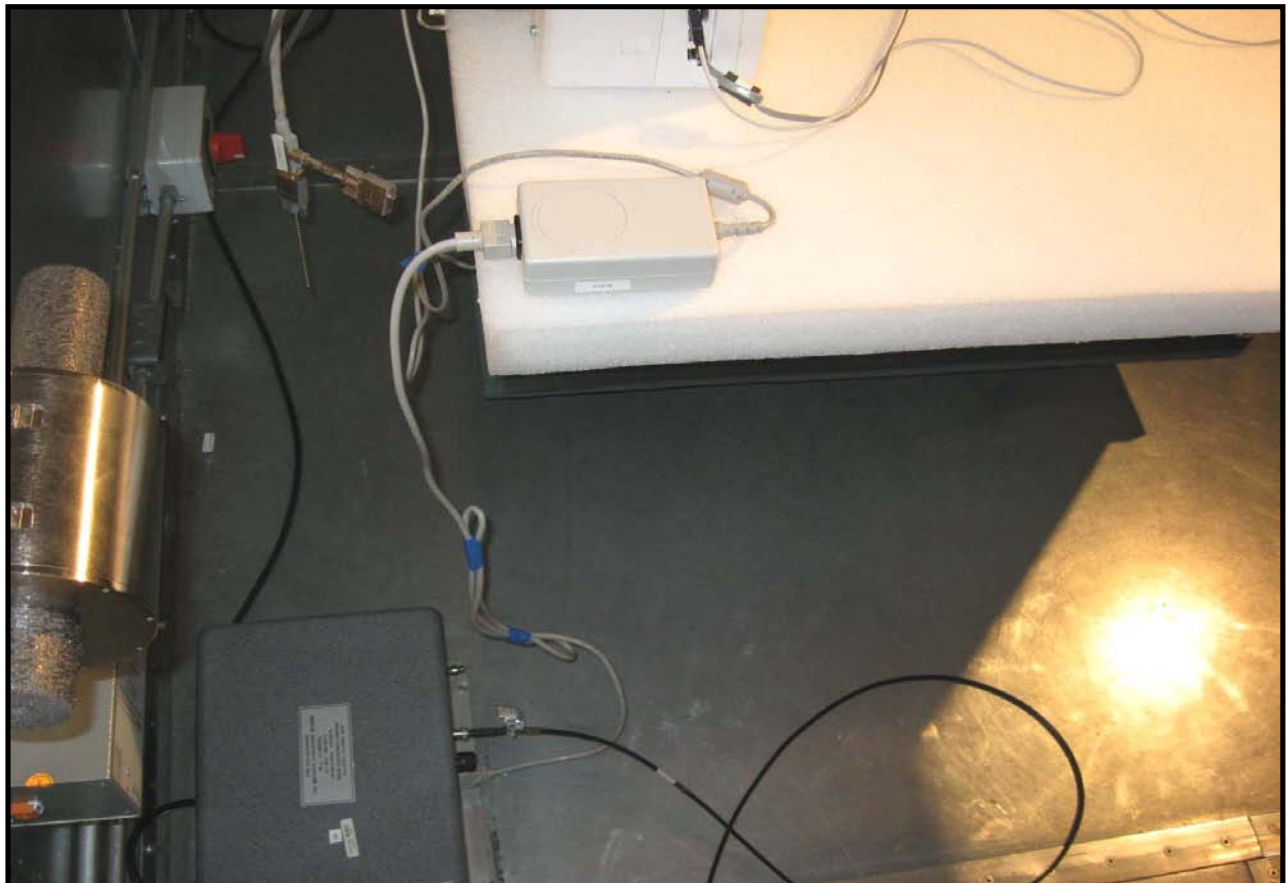


Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.183	31.8	21.4	53.2	64.3	-11.1
0.217	29.7	21.1	50.8	62.9	-12.2
0.751	20.3	20.7	41.0	56.0	-15.0
0.431	21.2	20.9	42.1	57.2	-15.1
1.076	19.1	20.6	39.7	56.0	-16.3
1.400	18.2	20.6	38.8	56.0	-17.2
1.720	18.1	20.6	38.7	56.0	-17.3
0.538	17.8	20.9	38.7	56.0	-17.3

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.431	21.3	20.9	42.2	47.2	-5.0
0.217	26.7	21.1	47.8	52.9	-5.2
1.076	19.3	20.6	39.9	46.0	-6.1
0.751	18.6	20.7	39.3	46.0	-6.7
1.400	18.3	20.6	38.9	46.0	-7.1
1.720	18.2	20.6	38.8	46.0	-7.2
0.538	17.6	20.9	38.5	46.0	-7.5
0.183	21.0	21.4	42.4	54.3	-11.9



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/27/2008	13

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the lowest, a medium, and the highest channel each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

The spectrum analyzer settings were as follows:

- Span = approximately 1.5 to 2 times the emission bandwidth, centered on the transmit channel.
- RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process where an exact match of 1% may not be achieved. The largest value of RBW that came close to 1% of the emission bandwidth was used.
- A peak detector was used.
- The marker-delta function was then used to measure 26 dB emission bandwidth.

EMC

EMISSION BANDWIDTH

EUT:	Ultraview SL Wireless Option	Work Order:	SPAC0447
Serial Number:	Various, see config page	Date:	11/10/08
Customer:	Spacelabs Healthcare	Temperature:	22°C
Attendees:	None	Humidity:	46%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
		Job Site:	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002

COMMENTS
None

DEVIATIONS FROM TEST STANDARD
No Deviations

Configuration #	2	Signature 
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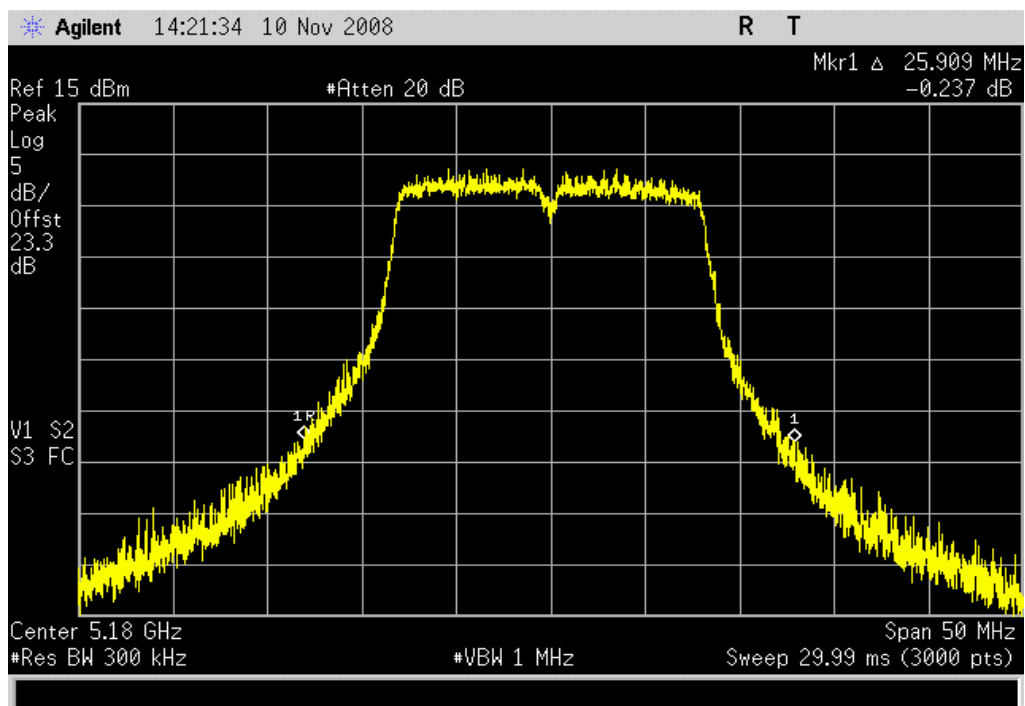
		Value	Limit	Results
802.11(a) 6 Mbps				
	5150 - 5250 MHz Band			
	Channel 36, Low Channel	25.909 MHz	N/A	N/A
	Channel 48, High Channel	26.475 MHz	N/A	N/A
	5250 - 5350 MHz Band			
	Channel 52, Low Channel	34.111 MHz	N/A	N/A
	Channel 64, High Channel	32.114 MHz	N/A	N/A
	5470 - 5725 MHz Band			
	Channel 100, Low Channel	33.111 MHz	N/A	N/A
	Channel 120, Mid Channel	42.164 MHz	N/A	N/A
	Channel 140, High Channel	43.164 MHz	N/A	N/A
802.11(a) 36 Mbps				
	5150 - 5250 MHz Band			
	Channel 36, Low Channel	23.274 MHz	N/A	N/A
	Channel 48, High Channel	23.858 MHz	N/A	N/A
	5250 - 5350 MHz Band			
	Channel 52, Low Channel	24.575 MHz	N/A	N/A
	Channel 64, High Channel	25.242 MHz	N/A	N/A
	5470 - 5725 MHz Band			
	Channel 100, Low Channel	25.692 MHz	N/A	N/A
	Channel 120, Mid Channel	27.192 MHz	N/A	N/A
	Channel 140, High Channel	37.446 MHz	N/A	N/A
802.11(a) 54 Mbps				
	5150 - 5250 MHz Band			
	Channel 36, Low Channel	23.491 MHz	N/A	N/A
	Channel 48, High Channel	23.758 MHz	N/A	N/A
	5250 - 5350 MHz Band			
	Channel 52, Low Channel	23.424 MHz	N/A	N/A
	Channel 64, High Channel	23.558 MHz	N/A	N/A
	5470 - 5725 MHz Band			
	Channel 100, Low Channel	25.075 MHz	N/A	N/A
	Channel 120, Mid Channel	23.908 MHz	N/A	N/A
	Channel 140, High Channel	25.075 MHz	N/A	N/A

802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Result: N/A

Value: 25.909 MHz

Limit: N/A

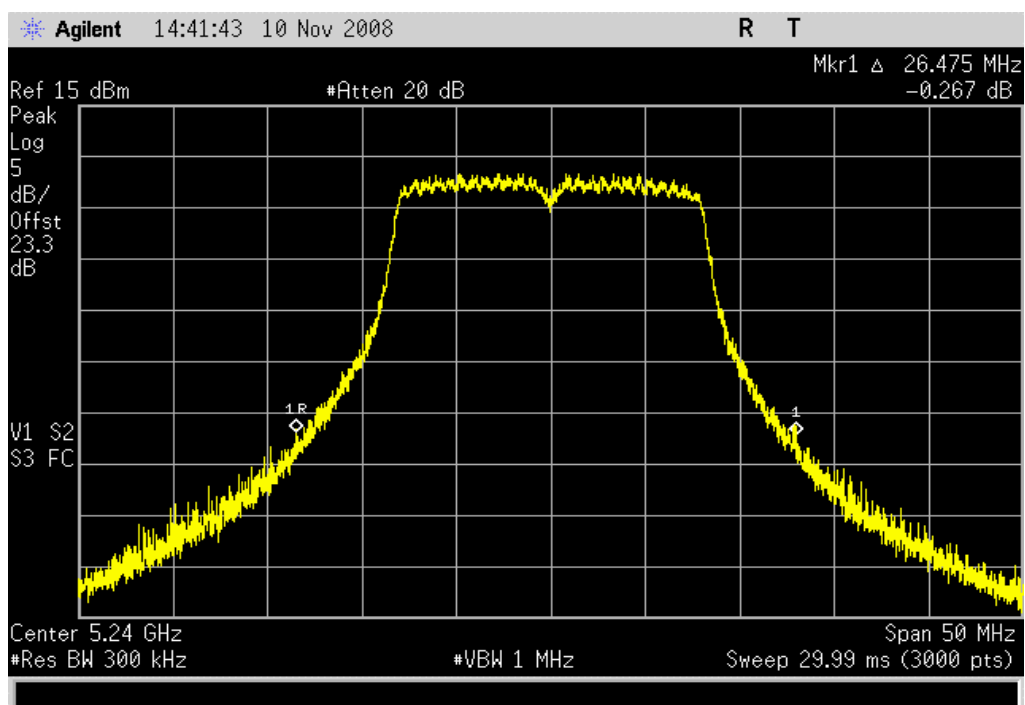


802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Result: N/A

Value: 26.475 MHz

Limit: N/A

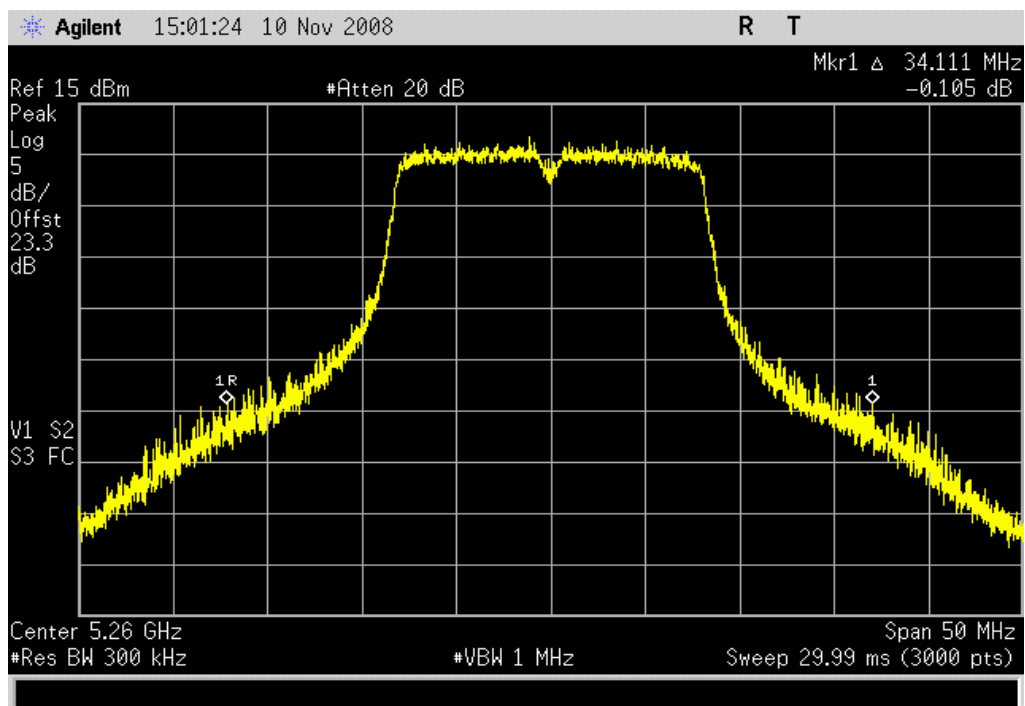


802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Result: N/A

Value: 34.111 MHz

Limit: N/A

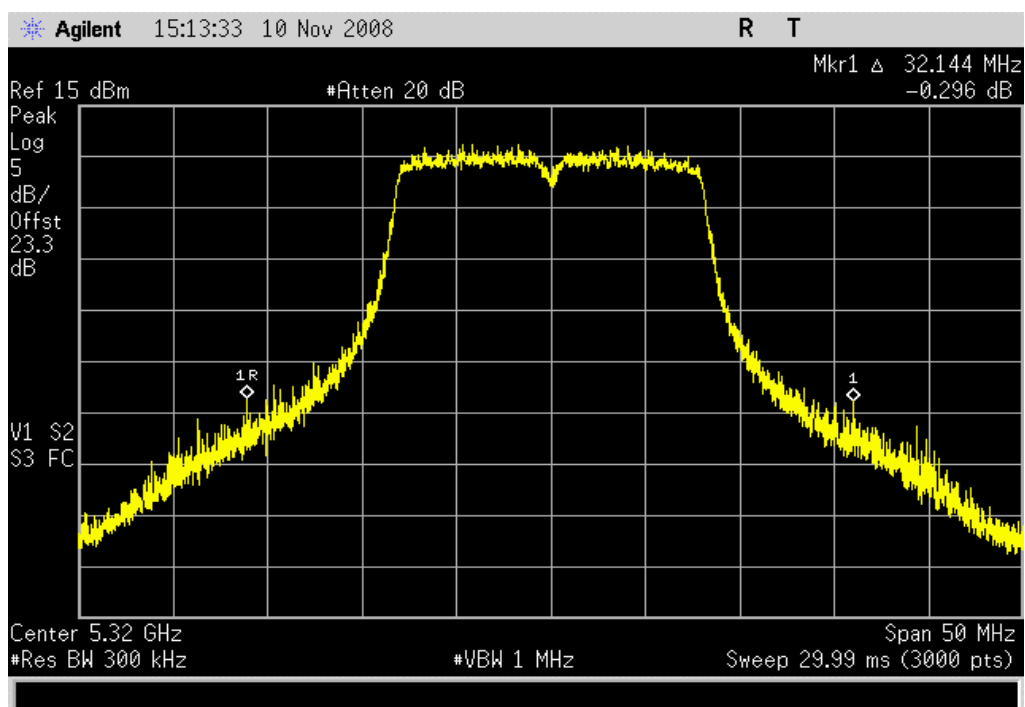


802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Result: N/A

Value: 32.114 MHz

Limit: N/A



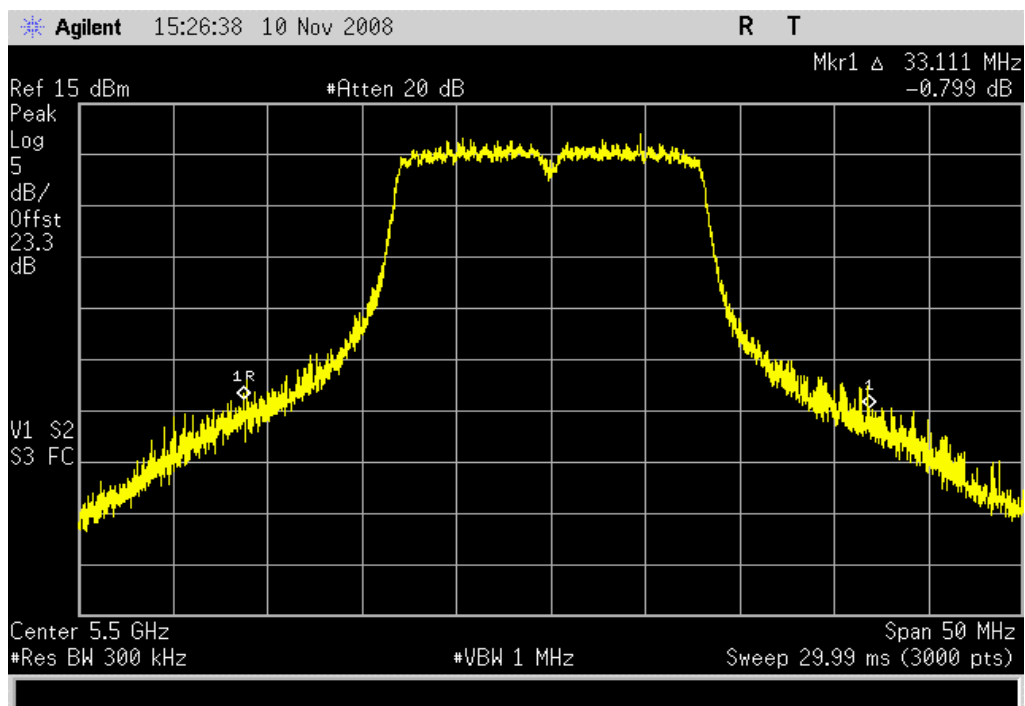
EMISSION BANDWIDTH

802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Result: N/A

Value: 33.111 MHz

Limit: N/A

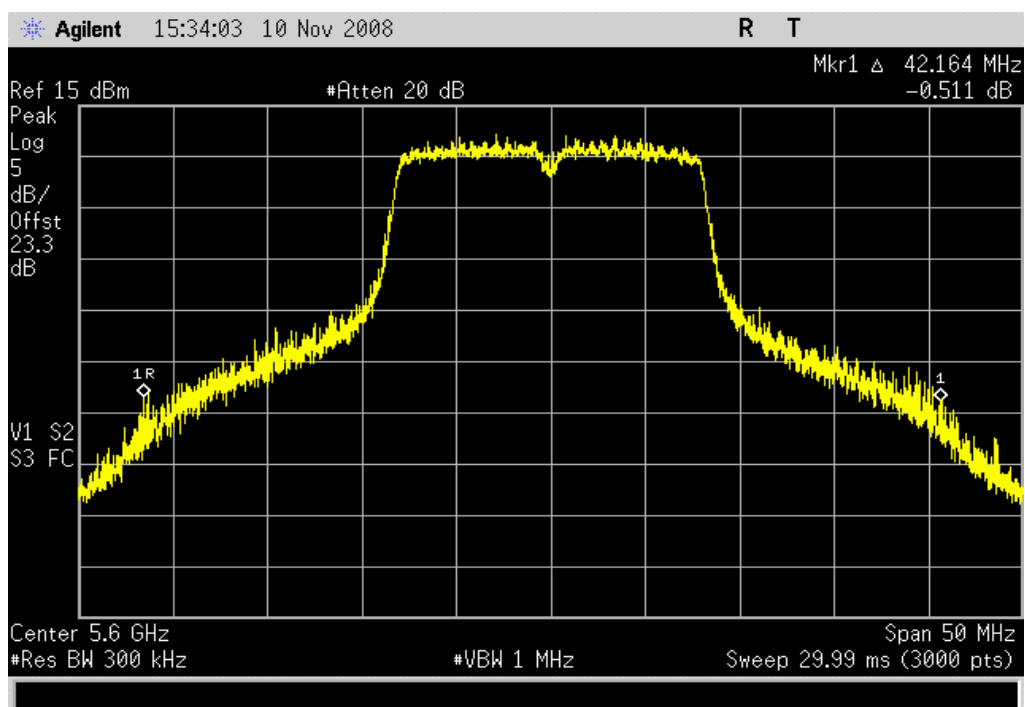


802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 120, Mid Channel

Result: N/A

Value: 42.164 MHz

Limit: N/A

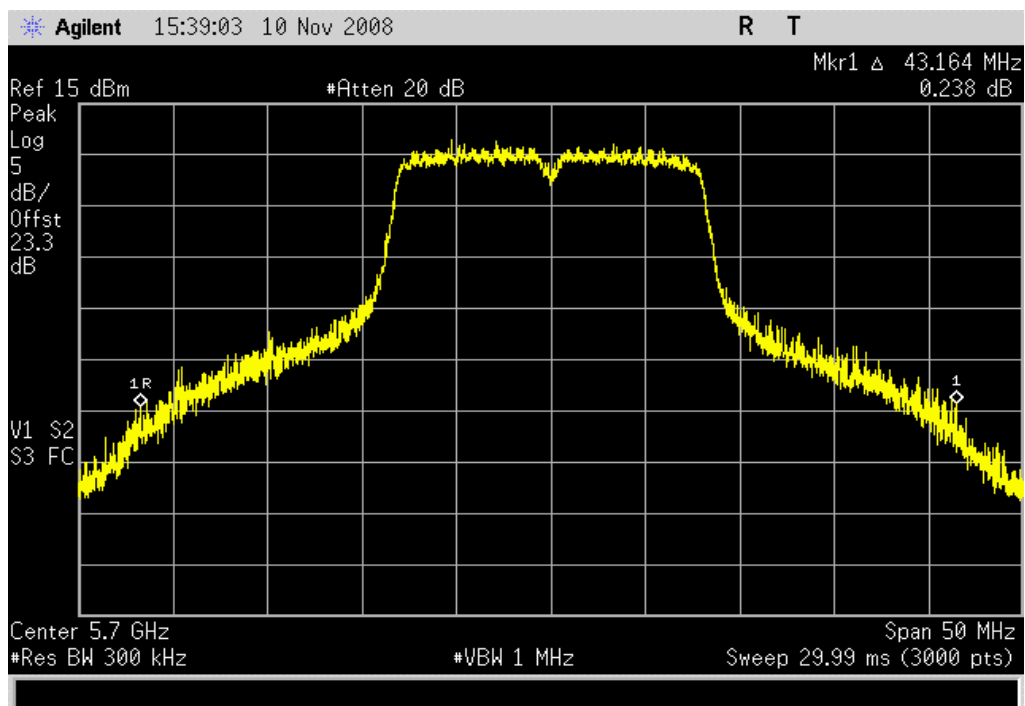


802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Result: N/A

Value: 43.164 MHz

Limit: N/A

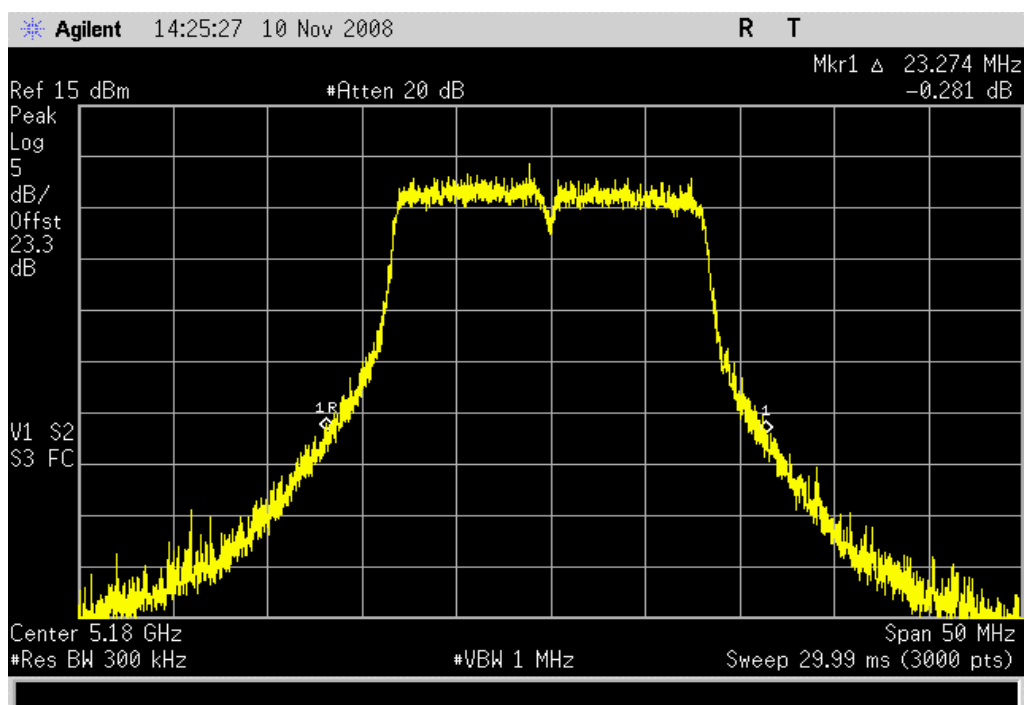


802.11(a) 36 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Result: N/A

Value: 23.274 MHz

Limit: N/A

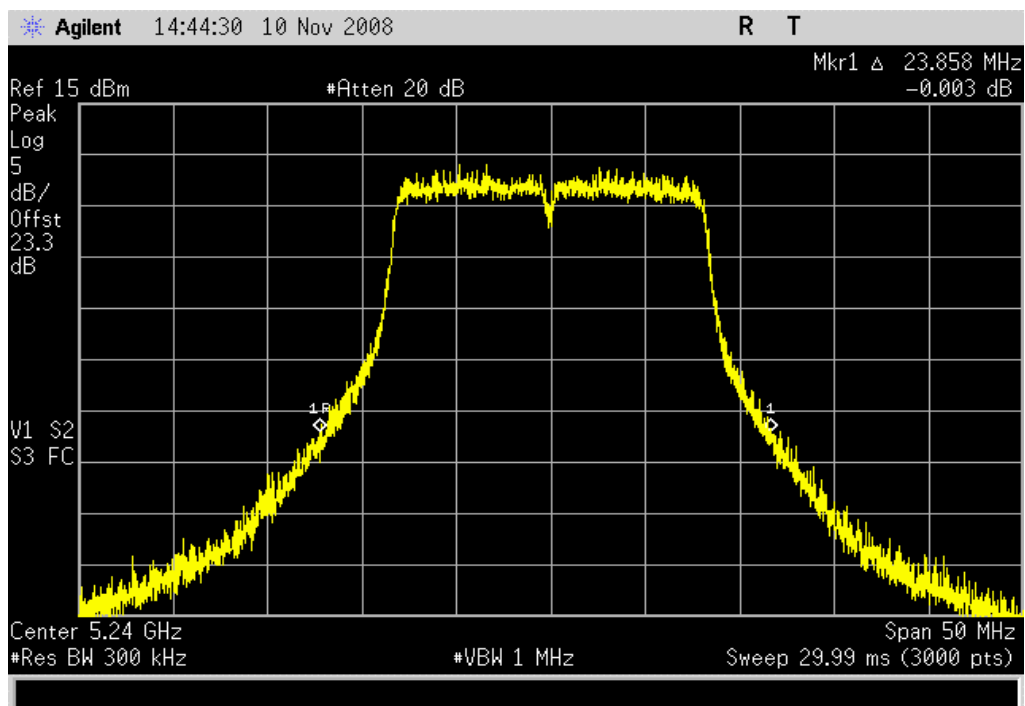


802.11(a) 36 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Result: N/A

Value: 23.858 MHz

Limit: N/A

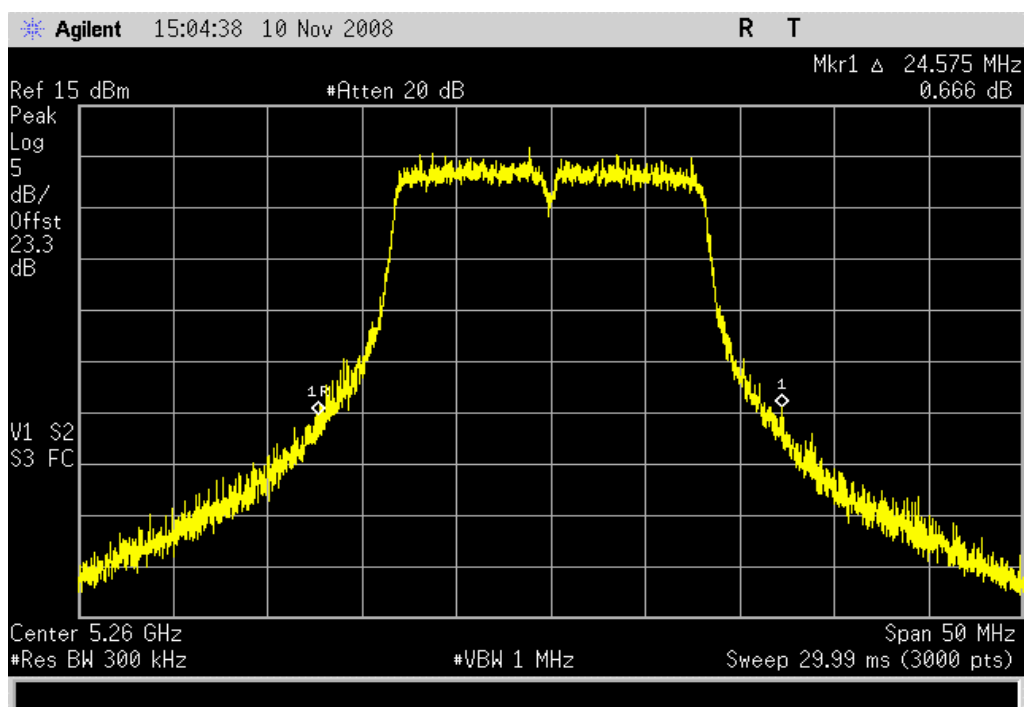


802.11(a) 36 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Result: N/A

Value: 24.575 MHz

Limit: N/A



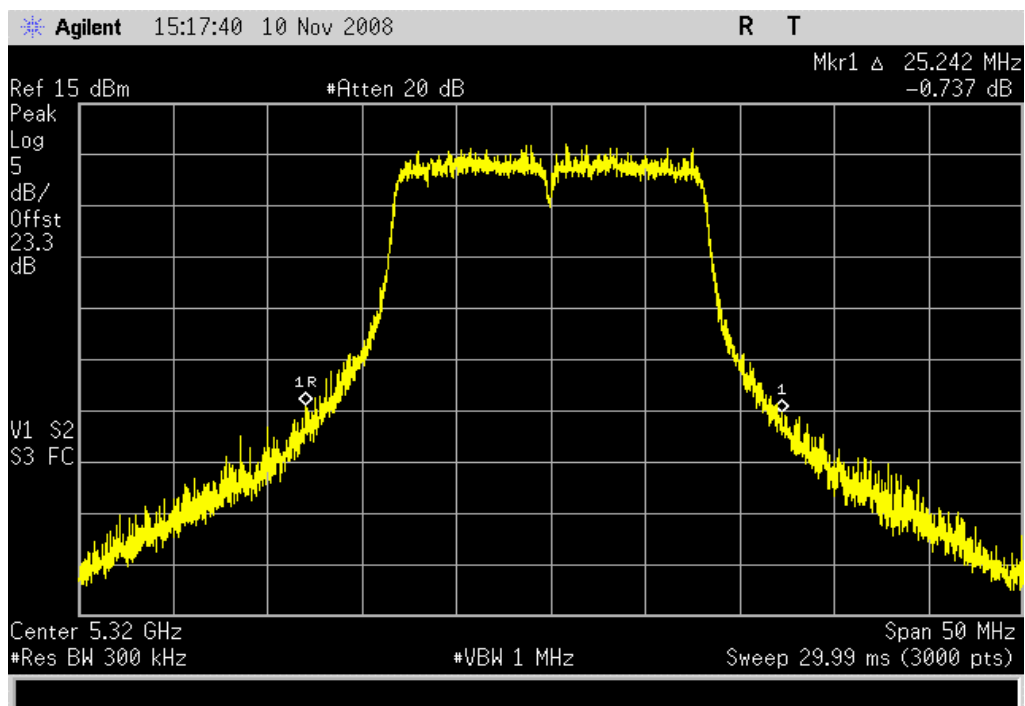
EMISSION BANDWIDTH

802.11(a) 36 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Result: N/A

Value: 25.242 MHz

Limit: N/A

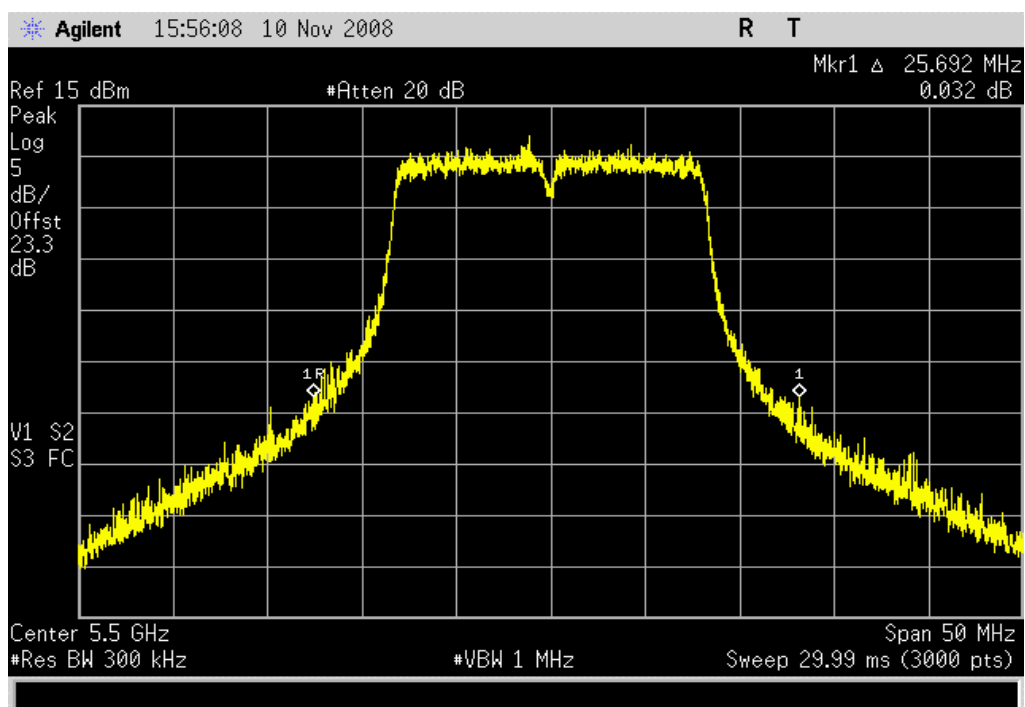


802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Result: N/A

Value: 25.692 MHz

Limit: N/A



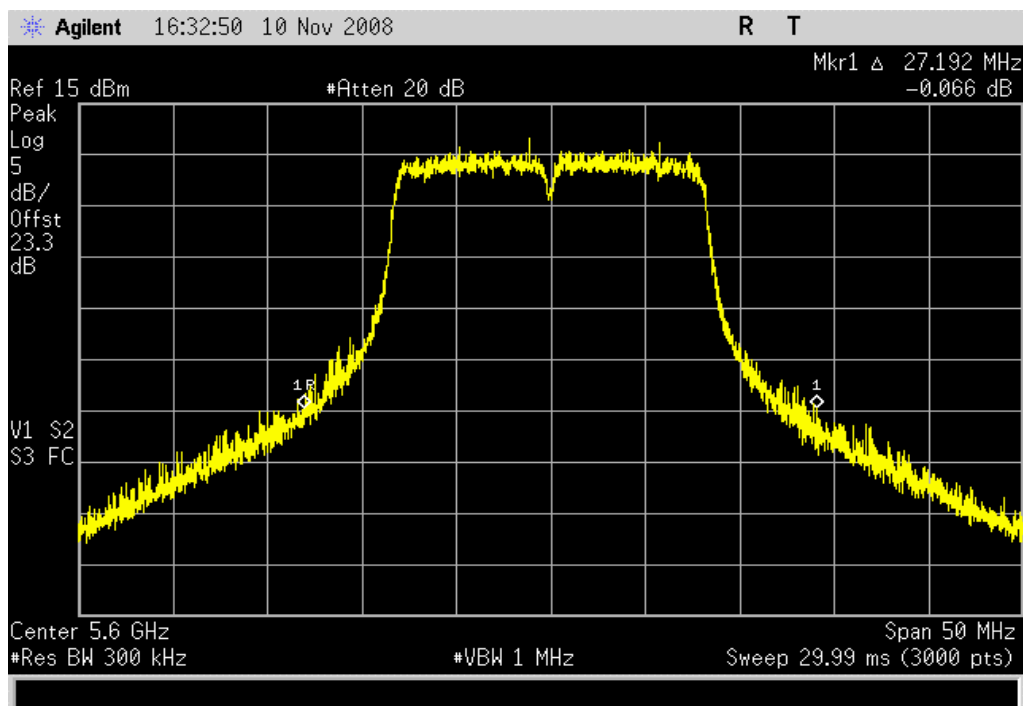
EMISSION BANDWIDTH

802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 120, Mid Channel

Result: N/A

Value: 27.192 MHz

Limit: N/A

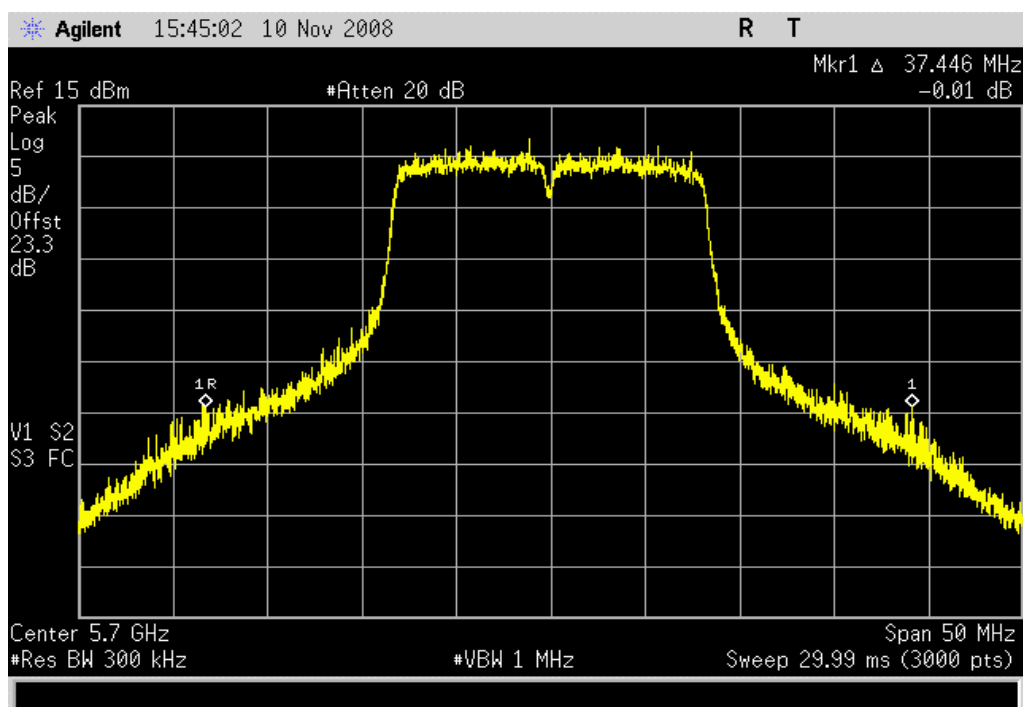


802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Result: N/A

Value: 37.446 MHz

Limit: N/A



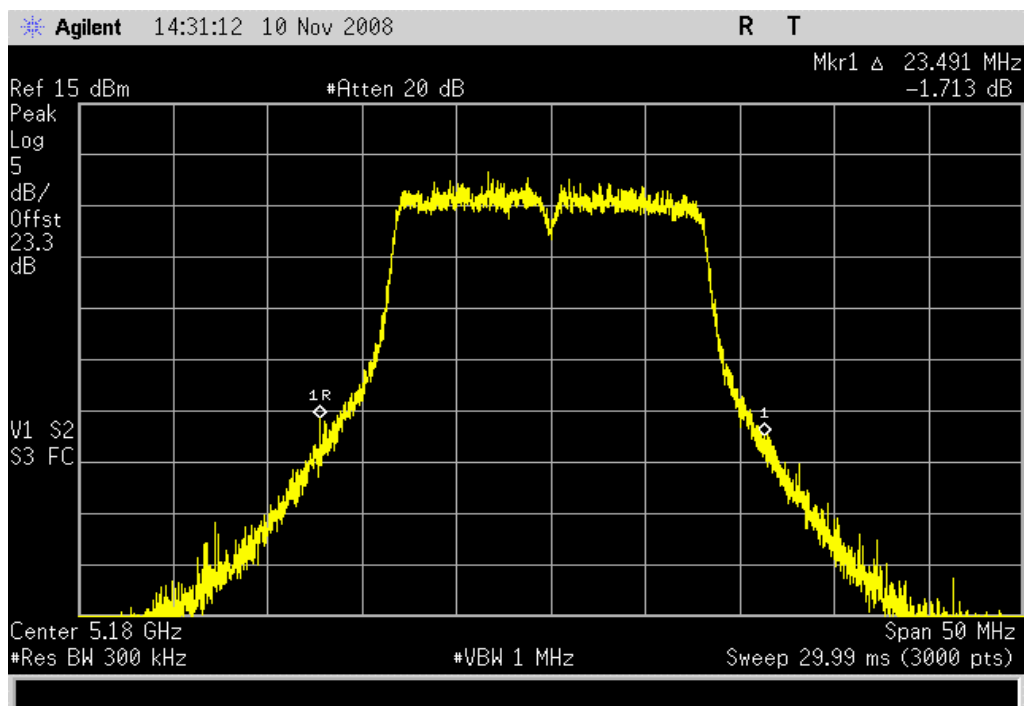
EMISSION BANDWIDTH

802.11(a) 54 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Result: N/A

Value: 23.491 MHz

Limit: N/A

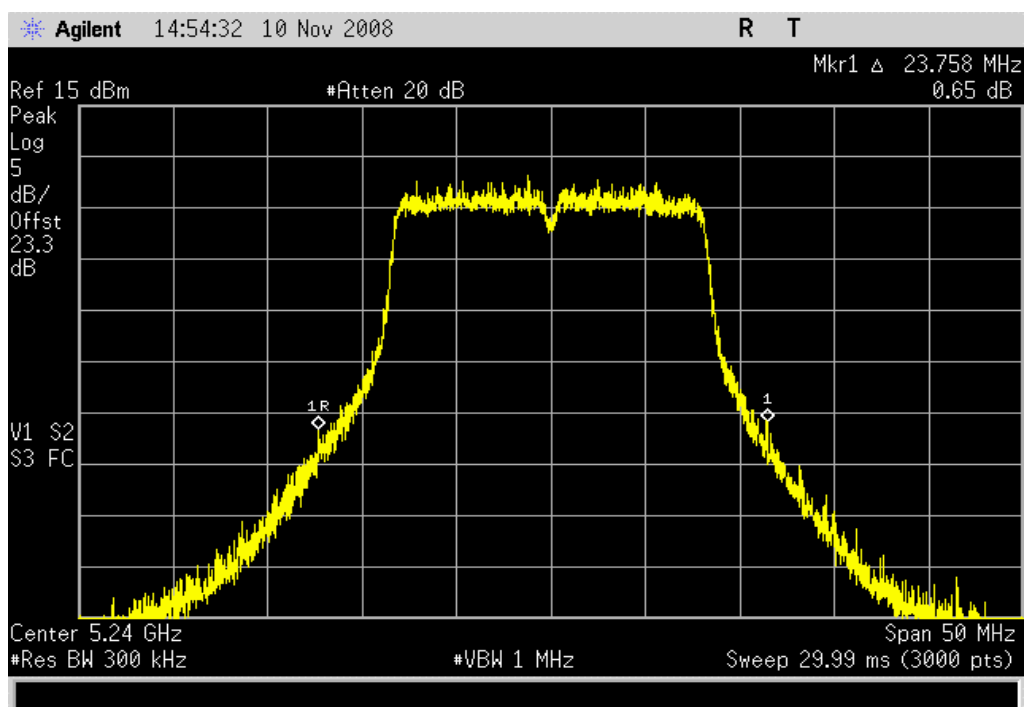


802.11(a) 54 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Result: N/A

Value: 23.758 MHz

Limit: N/A

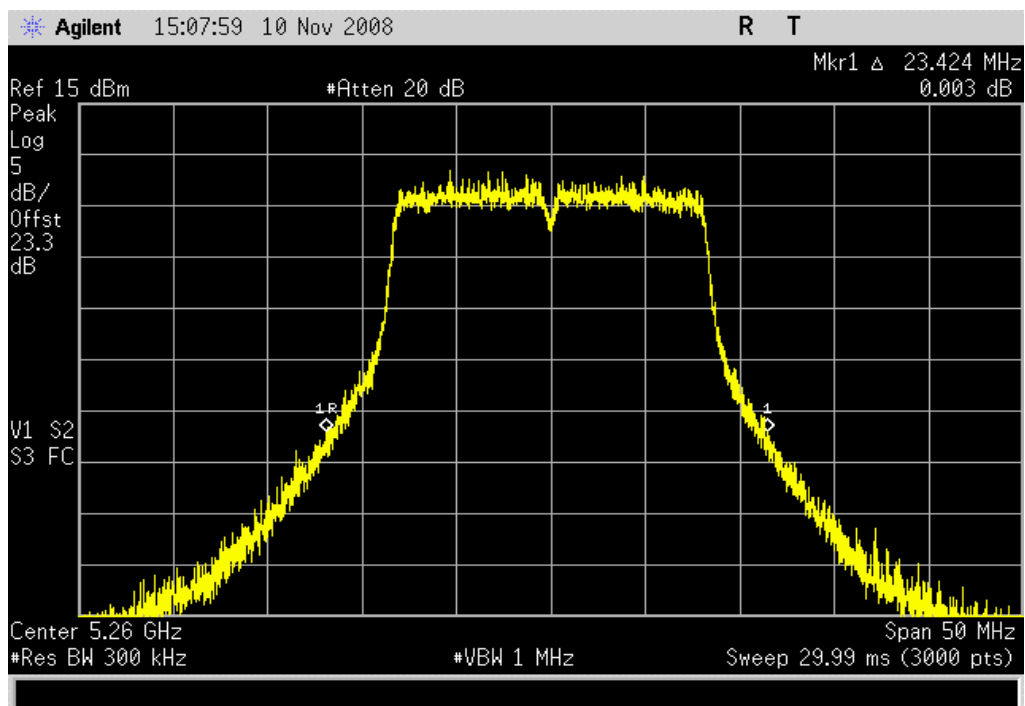


802.11(a) 54 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Result: N/A

Value: 23.424 MHz

Limit: N/A

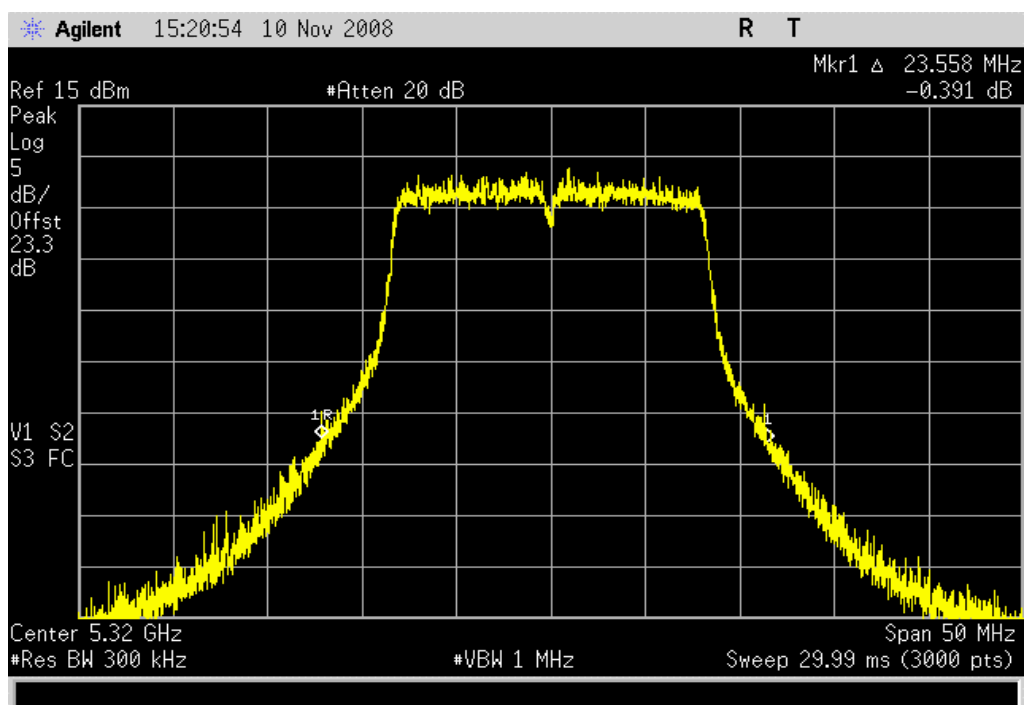


802.11(a) 54 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Result: N/A

Value: 23.558 MHz

Limit: N/A

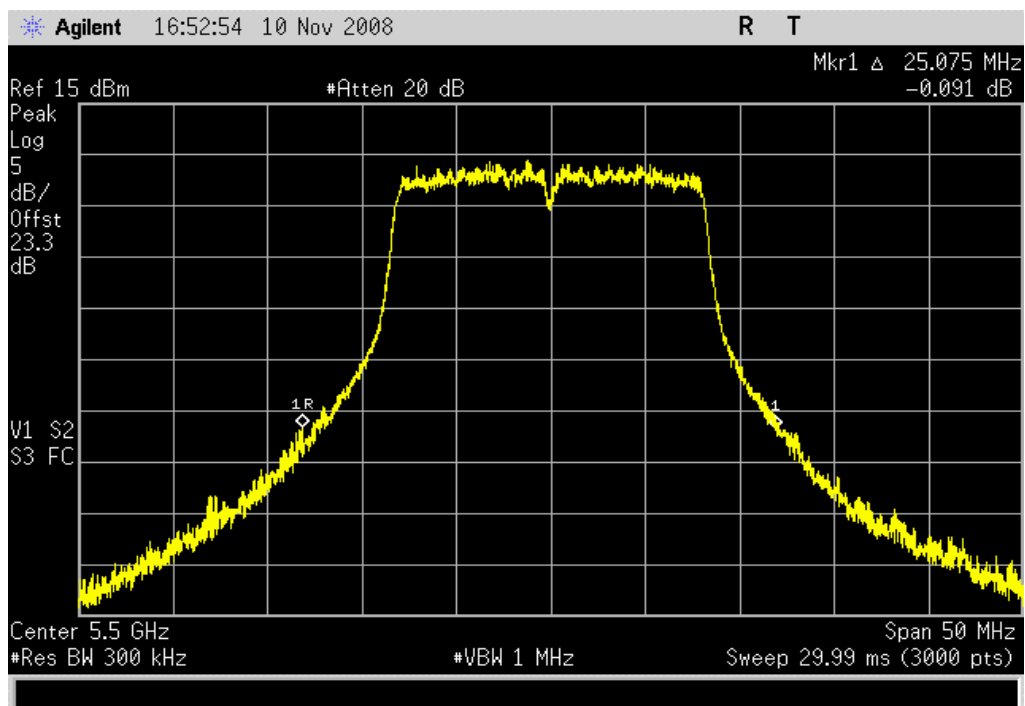


802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Result: N/A

Value: 25.075 MHz

Limit: N/A

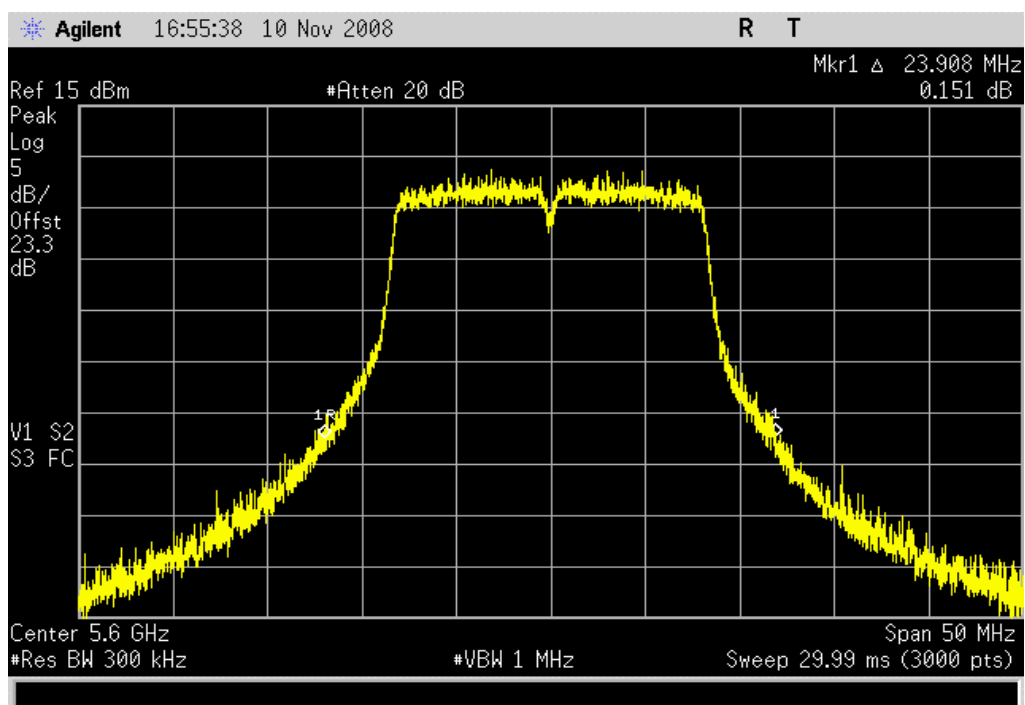


802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 120, Mid Channel

Result: N/A

Value: 23.908 MHz

Limit: N/A

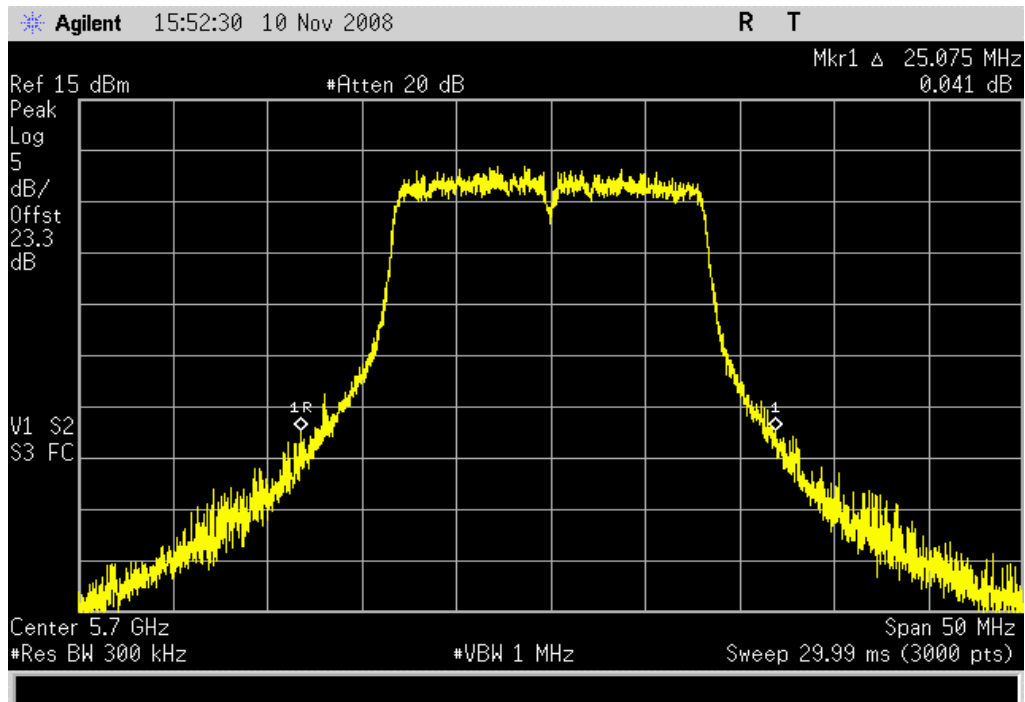


802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Result: N/A

Value: 25.075 MHz

Limit: N/A





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/27/2008	13
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Signal Generator	Agilent	E8257D	TGX	12/7/2007	13

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input. The amplitude accuracy of the spectrum analyzer was further enhanced by calibrating the setup using the power meter and synthesized signal generator.

Prior to measuring peak transmit power; the emission bandwidth (B) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring Peak Transmit Power. The method of measuring the emission bandwidth and the associated data are found elsewhere in this test report. The transmission pulse duration (T) was measured using a zero span on the spectrum analyzer to see the pulses in the time domain.

Method #3 found in FCC Public Notice DA02-2138 was used because the analyzer sweep time was greater than T and the Emission Bandwidth was greater than the largest RBW on the analyzer.

The spectrum analyzer settings were as follows:

- The span was set to encompass entire emission bandwidth (B), centered on the transmit channel.
- The RBW = 1 MHz, VBW $\geq 1/T$
- Sample detector mode because the bin width (span / number of spectral points) < 0.5 RBW.
- Power was integrated across "B", by using the channel power function of the analyzer.

EMC

PEAK TRANSMIT POWER

EUT:	Ultraview SL Wireless Option	Work Order:	SPAC0447
Serial Number:	Various, see config page	Date:	11/11/08
Customer:	Spacelabs Healthcare	Temperature:	22°C
Attendees:	None	Humidity:	47%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
		Job Site:	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.407:2007	ANSI C63.4:2003 DA 02-2138:2002

COMMENTS
None

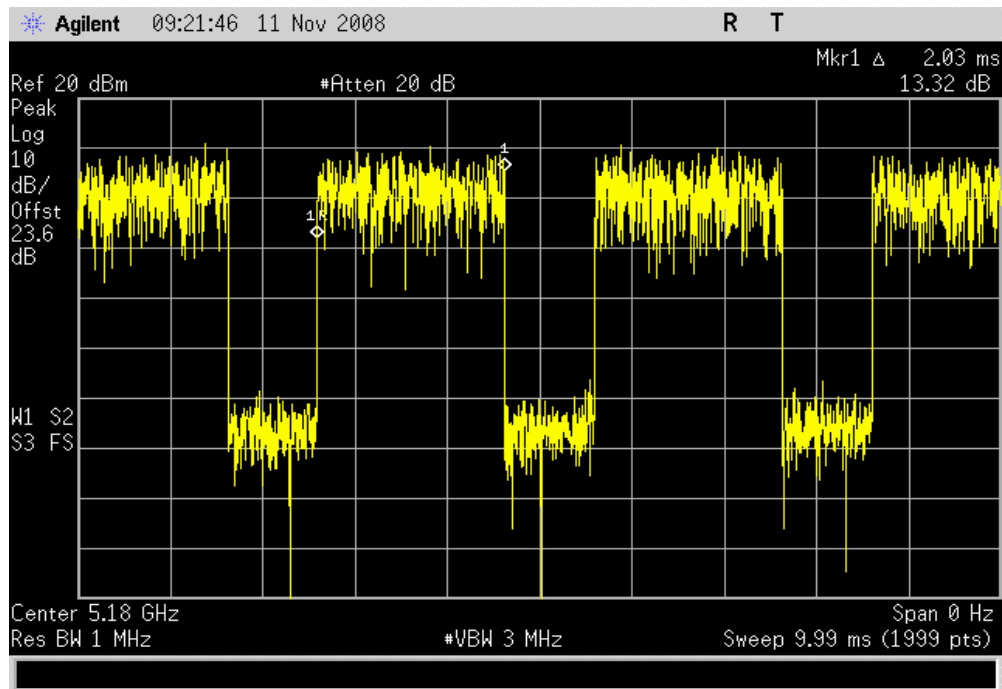
DEVIATIONS FROM TEST STANDARD
No Deviations

Configuration #	2	Signature 
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		Value	Limit	Results
802.11(a) 6 Mbps				
	5150 - 5250 MHz Band			
	Channel 36, Low Channel	12.40 dBm	17 dBm	Pass
	Channel 48, High Channel	12.65 dBm	17 dBm	Pass
	5250 - 5350 MHz Band			
	Channel 52, Low Channel	16.89 dBm	24 dBm	Pass
	Channel 64, High Channel	16.25 dBm	24 dBm	Pass
	5470 - 5725 MHz Band			
	Channel 100, Low Channel	16.34 dBm	24 dBm	Pass
	Channel 120, Mid Channel	17.53 dBm	24 dBm	Pass
	Channel 140, High Channel	16.51 dBm	24 dBm	Pass
802.11(a) 36 Mbps				
	5150 - 5250 MHz Band			
	Channel 36, Low Channel	8.18 dBm	17 dBm	Pass
	Channel 48, High Channel	8.54 dBm	17 dBm	Pass
	5250 - 5350 MHz Band			
	Channel 52, Low Channel	10.67 dBm	24 dBm	Pass
	Channel 64, High Channel	10.87 dBm	24 dBm	Pass
	5470 - 5725 MHz Band			
	Channel 100, Low Channel	12.00 dBm	24 dBm	Pass
	Channel 120, Mid Channel	11.86 dBm	24 dBm	Pass
	Channel 140, High Channel	11.37 dBm	24 dBm	Pass
802.11(a) 54 Mbps				
	5150 - 5250 MHz Band			
	Channel 36, Low Channel	5.01 dBm	17 dBm	Pass
	Channel 48, High Channel	5.91 dBm	17 dBm	Pass
	5250 - 5350 MHz Band			
	Channel 52, Low Channel	6.21 dBm	24 dBm	Pass
	Channel 64, High Channel	6.65 dBm	24 dBm	Pass
	5470 - 5725 MHz Band			
	Channel 100, Low Channel	7.80 dBm	24 dBm	Pass
	Channel 120, Mid Channel	7.48 dBm	24 dBm	Pass
	Channel 140, High Channel	7.40 dBm	24 dBm	Pass

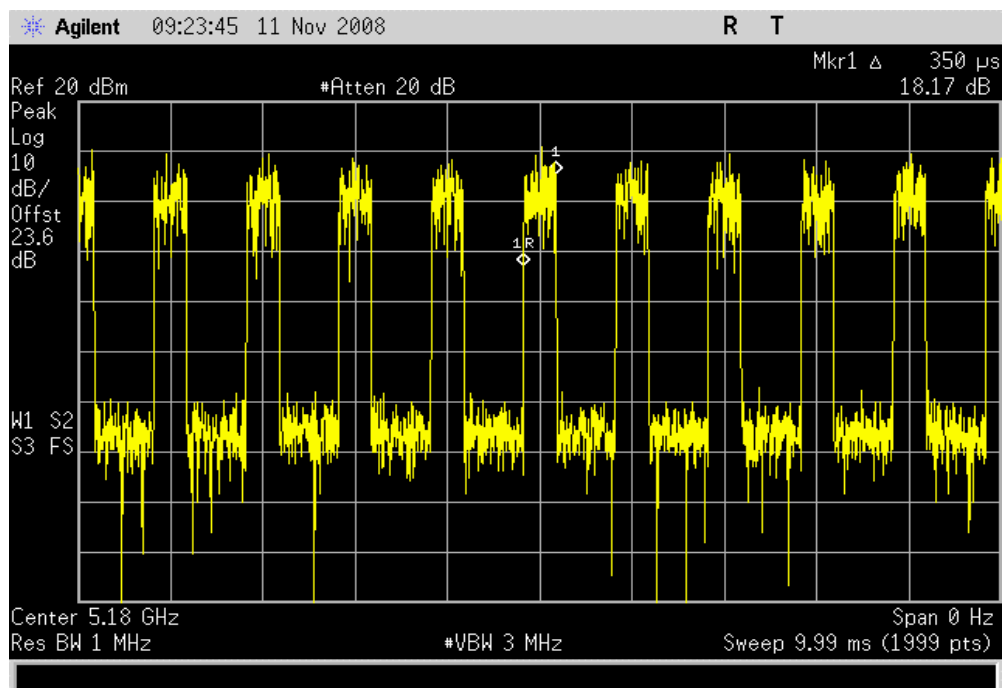
Transmission Burst Duration, 6 Mbps

Value: 2.03 ms



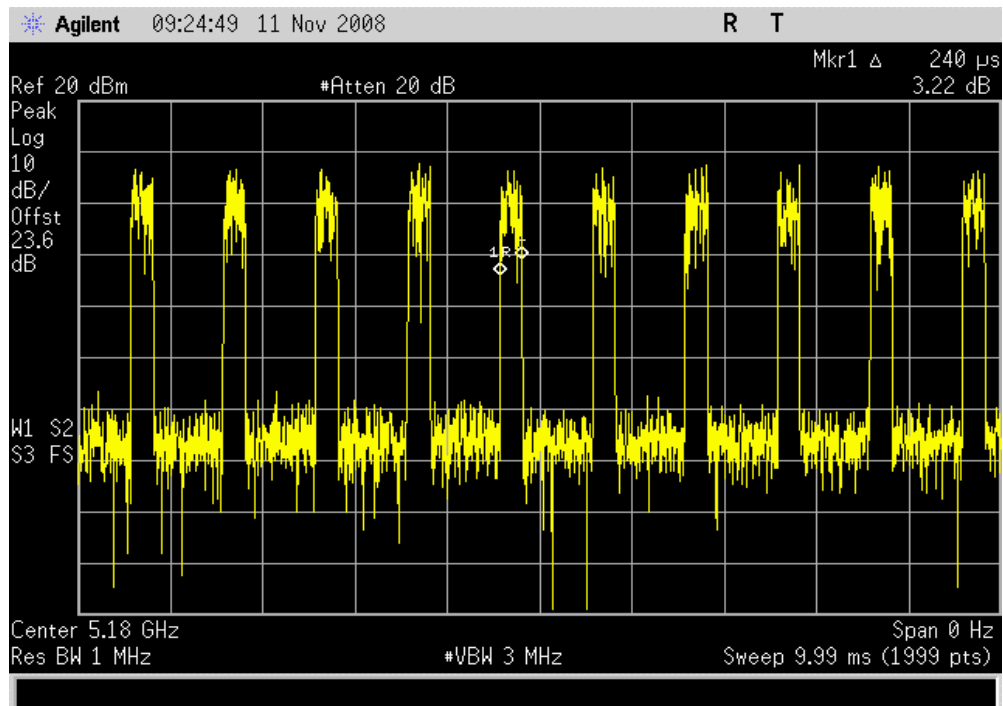
Transmission Burst Duration, 36 Mbps

Value: 0.35 ms



Transmission Burst Duration, 54 Mbps

Value: 0.24 ms



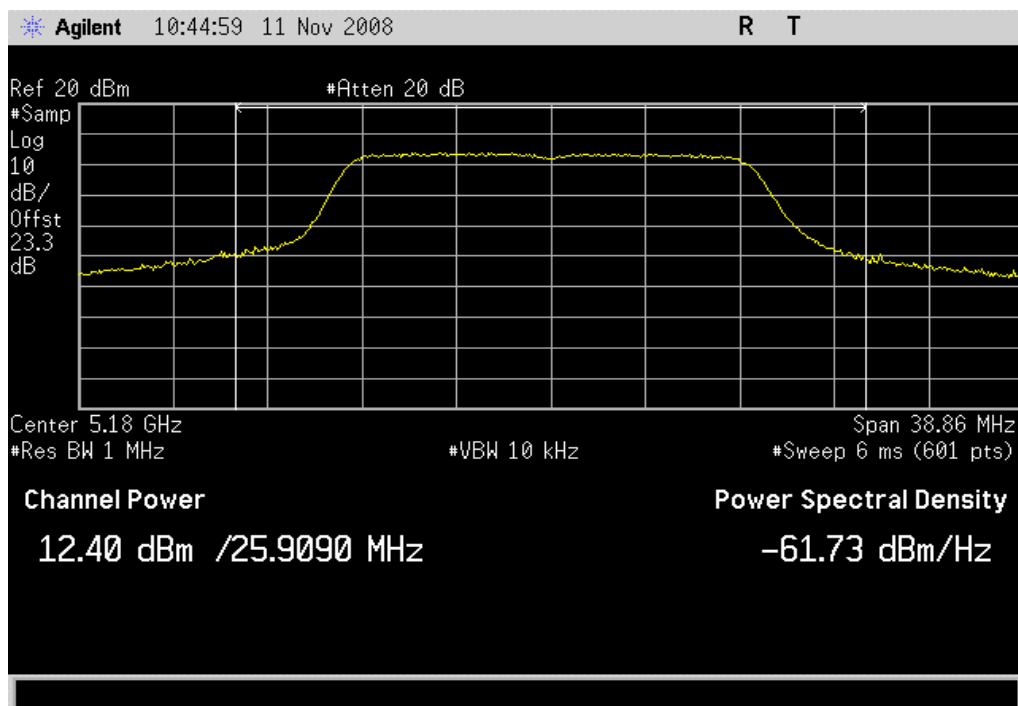
PEAK TRANSMIT POWER

802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Result: Pass

Value: 12.40 dBm

Limit: 17 dBm

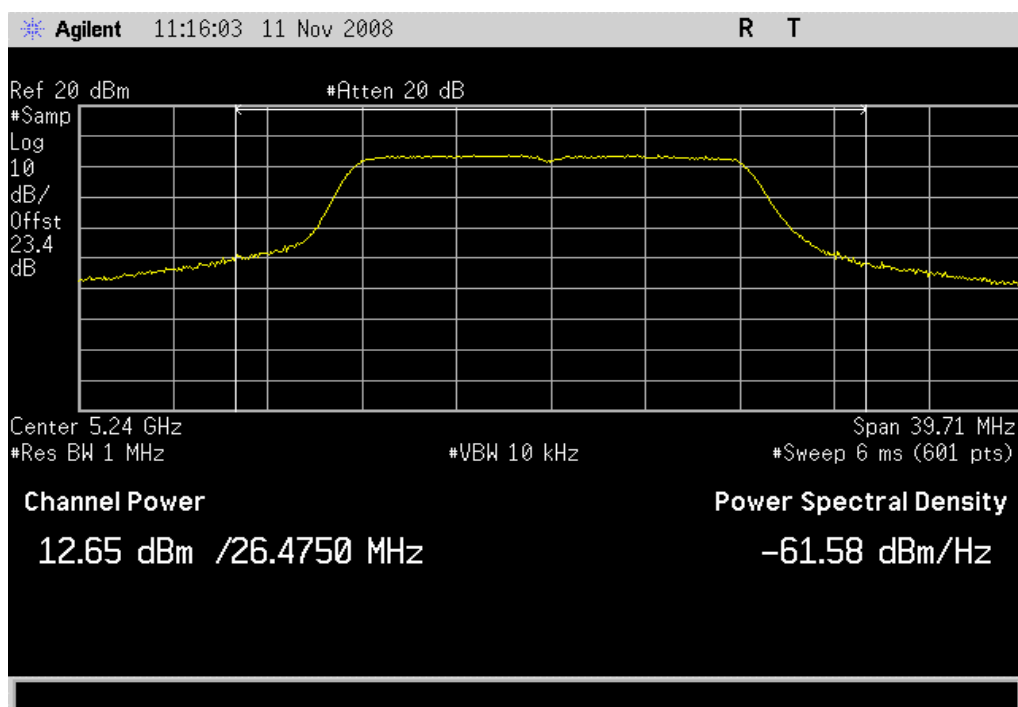


802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Result: Pass

Value: 12.65 dBm

Limit: 17 dBm



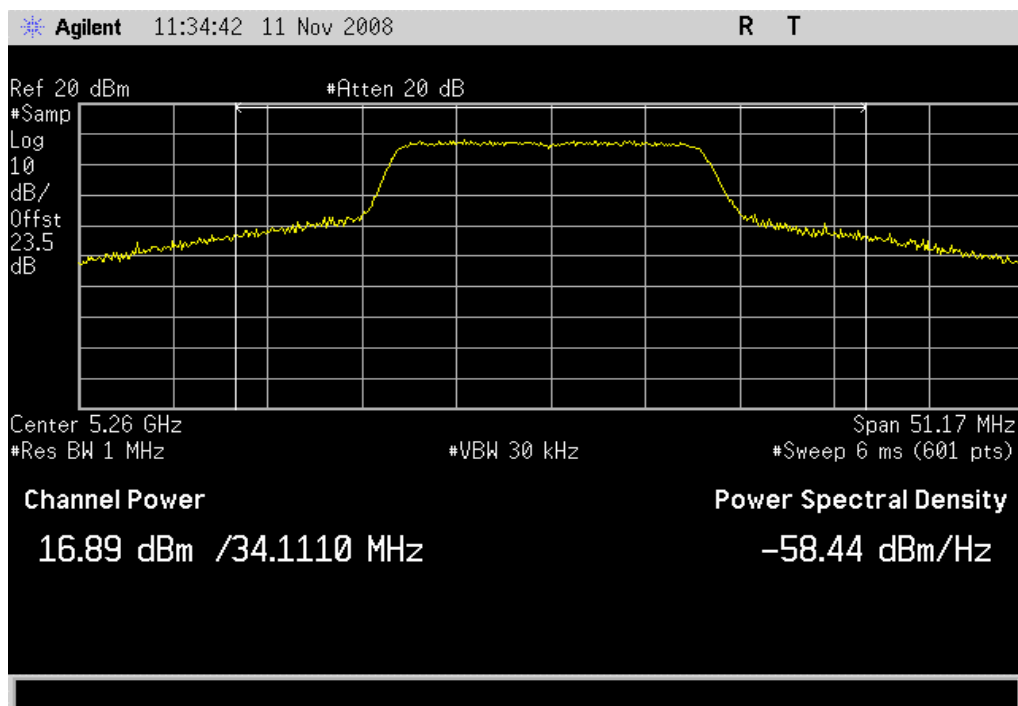
PEAK TRANSMIT POWER

802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Result: Pass

Value: 16.89 dBm

Limit: 24 dBm

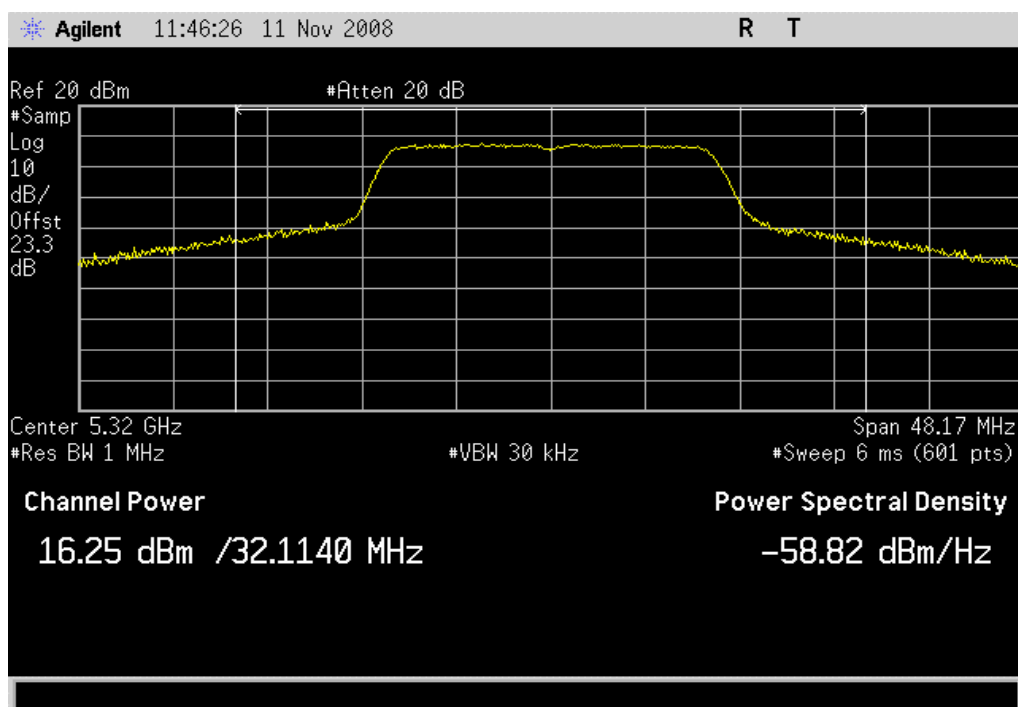


802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Result: Pass

Value: 16.25 dBm

Limit: 24 dBm



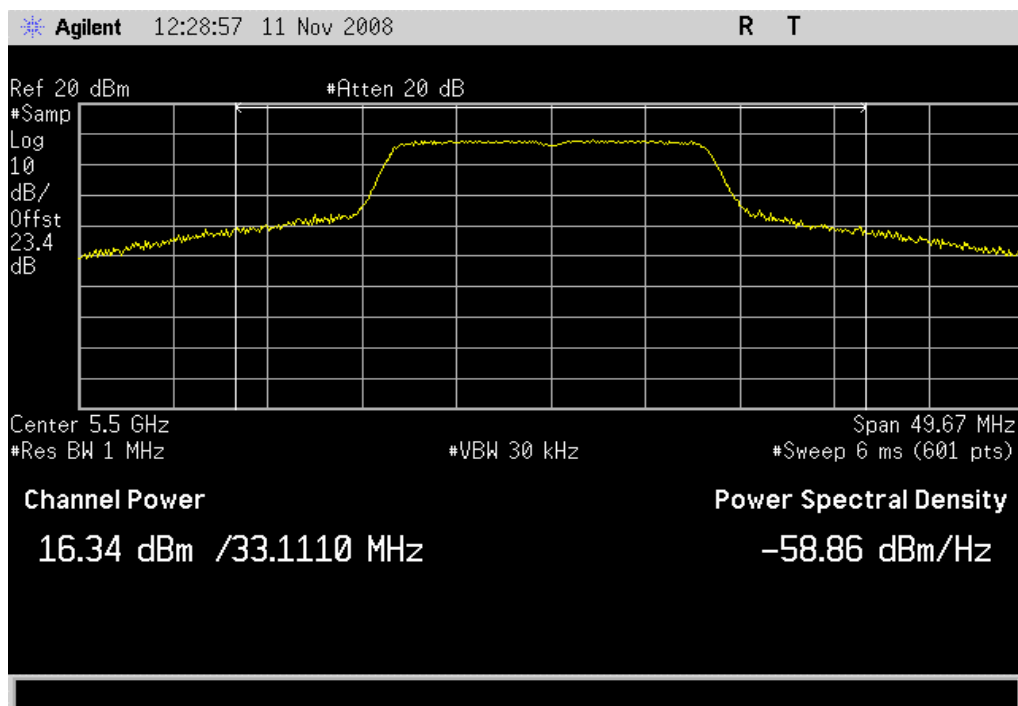
PEAK TRANSMIT POWER

802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Result: Pass

Value: 16.34 dBm

Limit: 24 dBm

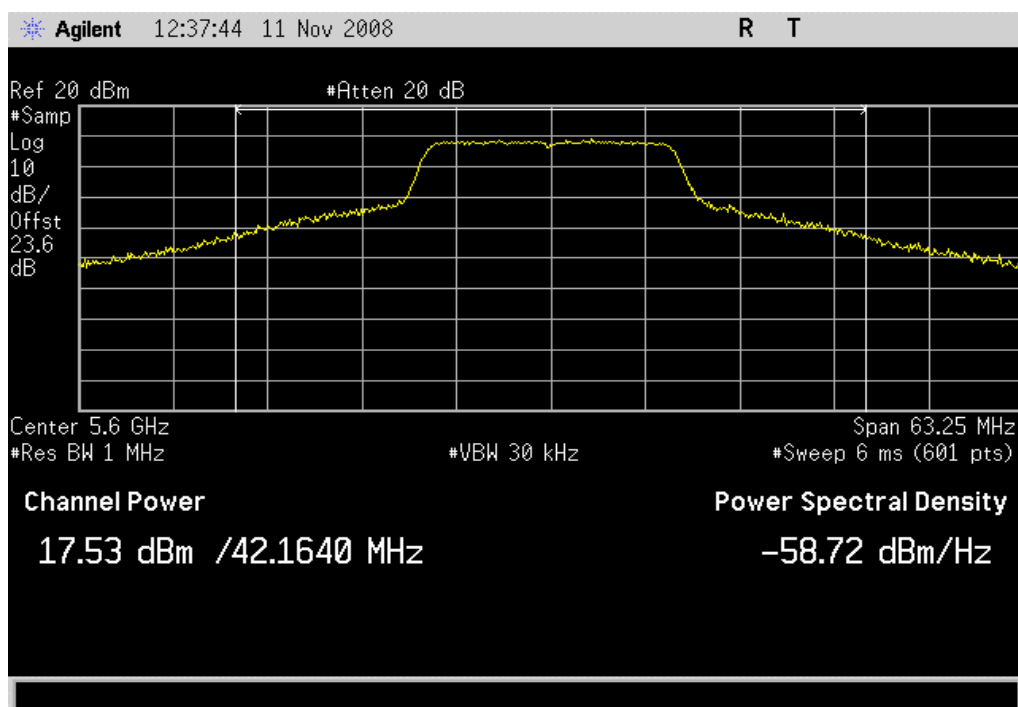


802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 120, Mid Channel

Result: Pass

Value: 17.53 dBm

Limit: 24 dBm



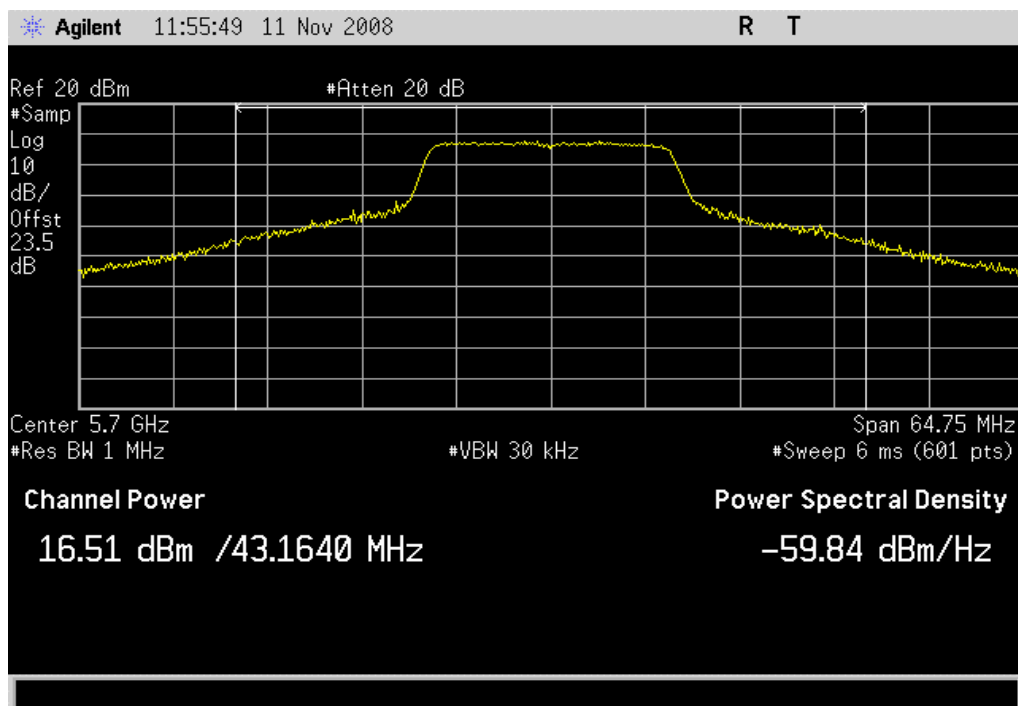
PEAK TRANSMIT POWER

802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Result: Pass

Value: 16.51 dBm

Limit: 24 dBm

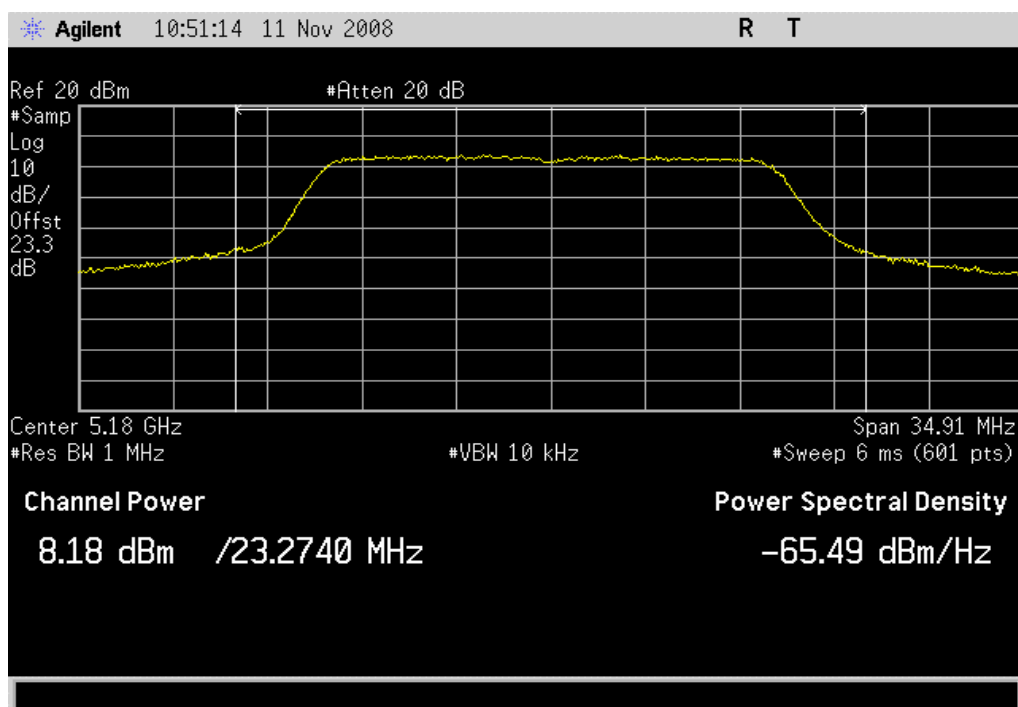


802.11(a) 36 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Result: Pass

Value: 8.18 dBm

Limit: 17 dBm



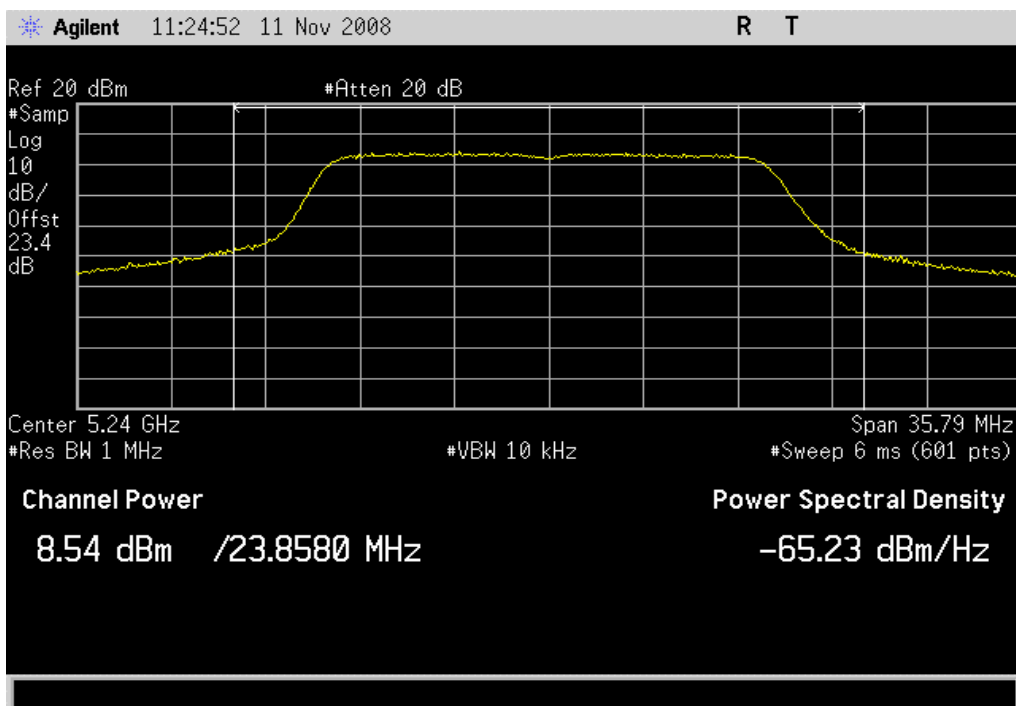
PEAK TRANSMIT POWER

802.11(a) 36 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Result: Pass

Value: 8.54 dBm

Limit: 17 dBm

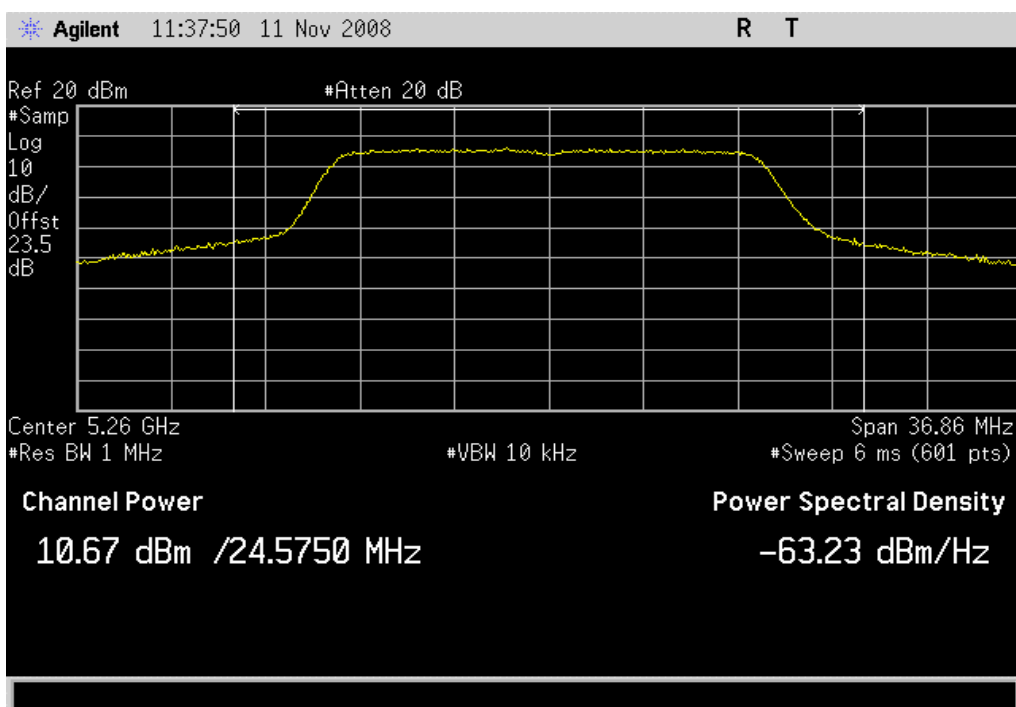


802.11(a) 36 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Result: Pass

Value: 10.67 dBm

Limit: 24 dBm



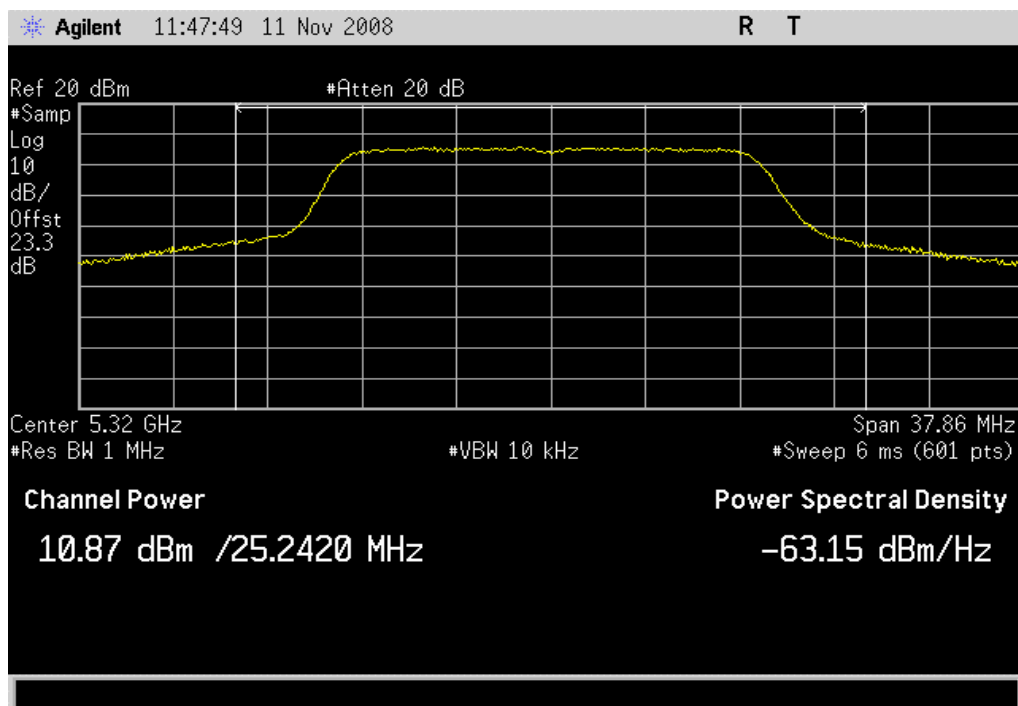
PEAK TRANSMIT POWER

802.11(a) 36 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Result: Pass

Value: 10.87 dBm

Limit: 24 dBm

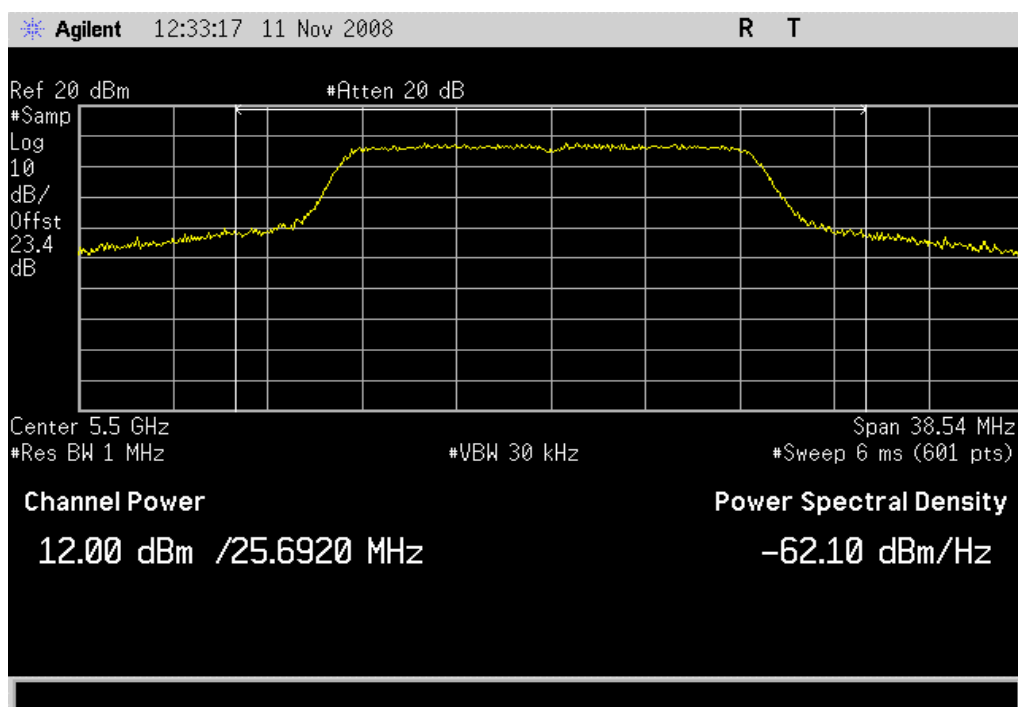


802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Result: Pass

Value: 12.00 dBm

Limit: 24 dBm



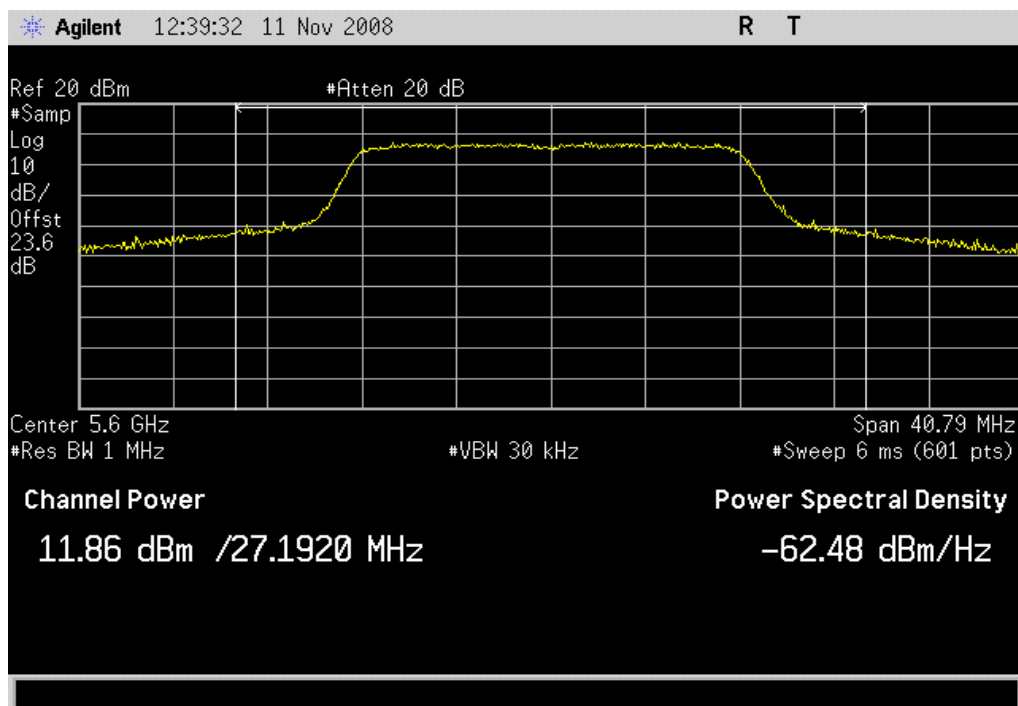
PEAK TRANSMIT POWER

802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 120, Mid Channel

Result: Pass

Value: 11.86 dBm

Limit: 24 dBm

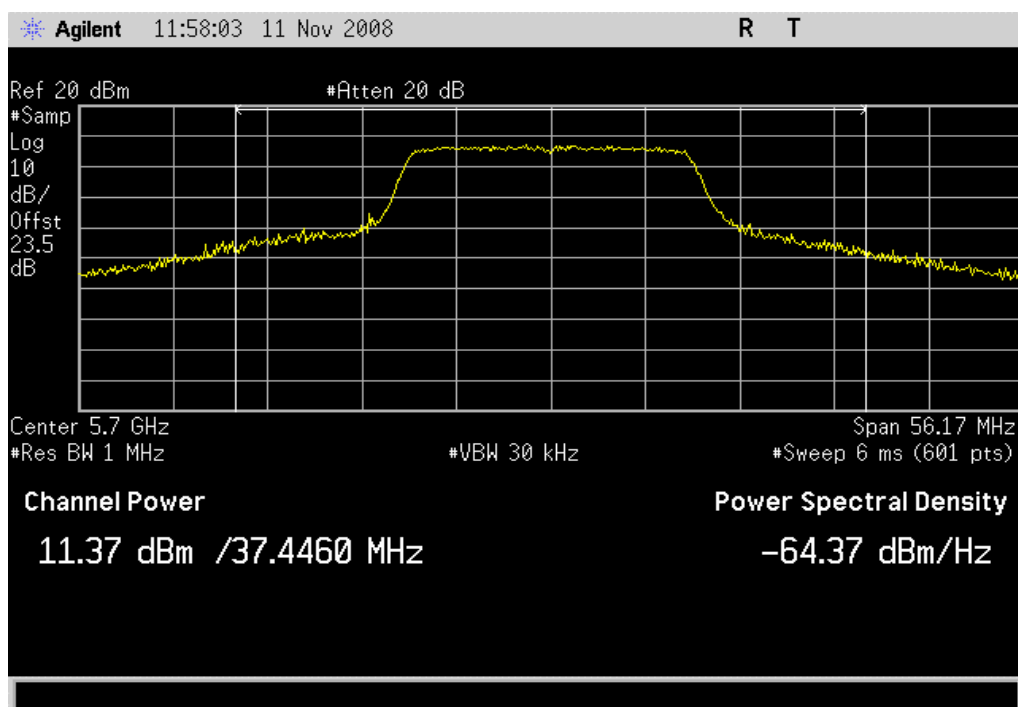


802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Result: Pass

Value: 11.37 dBm

Limit: 24 dBm



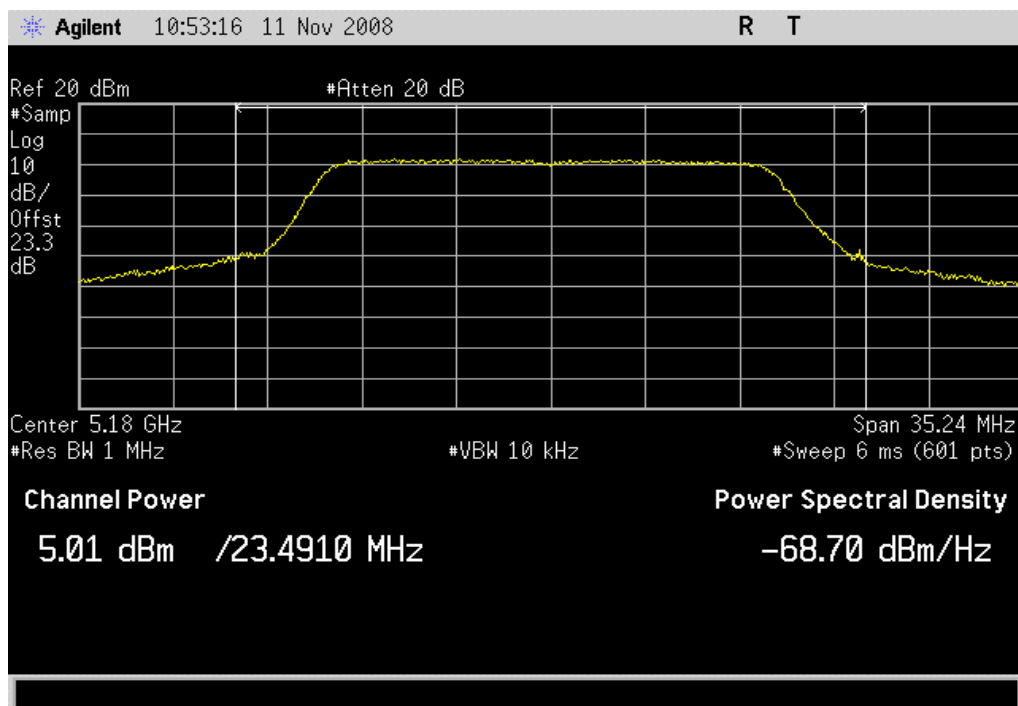
PEAK TRANSMIT POWER

802.11(a) 54 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Result: Pass

Value: 5.01 dBm

Limit: 17 dBm

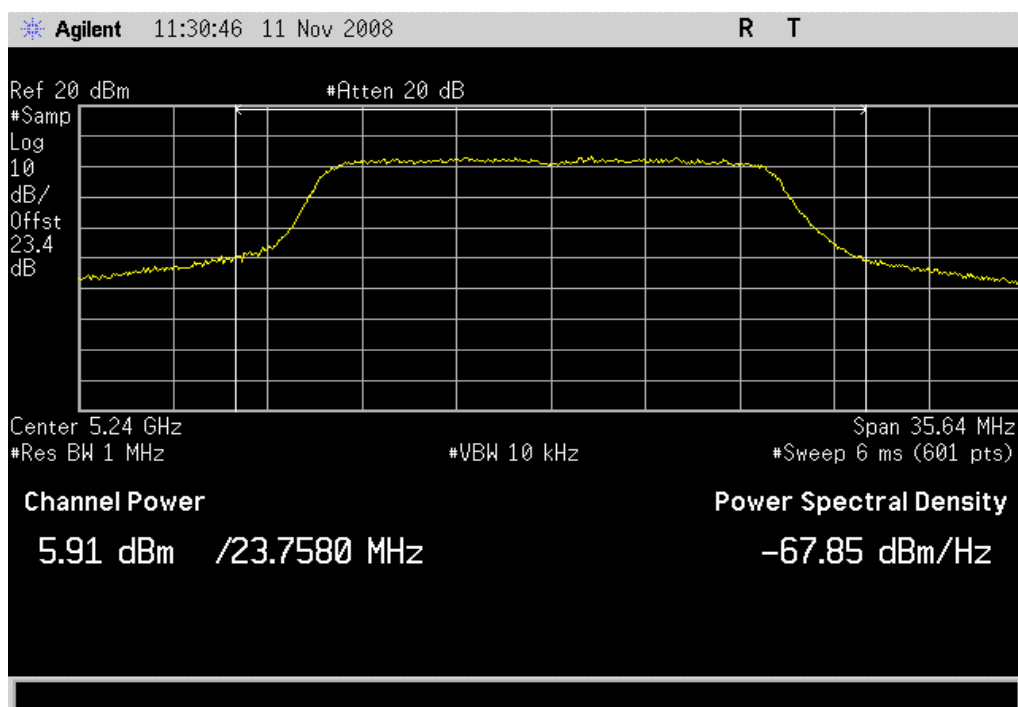


802.11(a) 54 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Result: Pass

Value: 5.91 dBm

Limit: 17 dBm



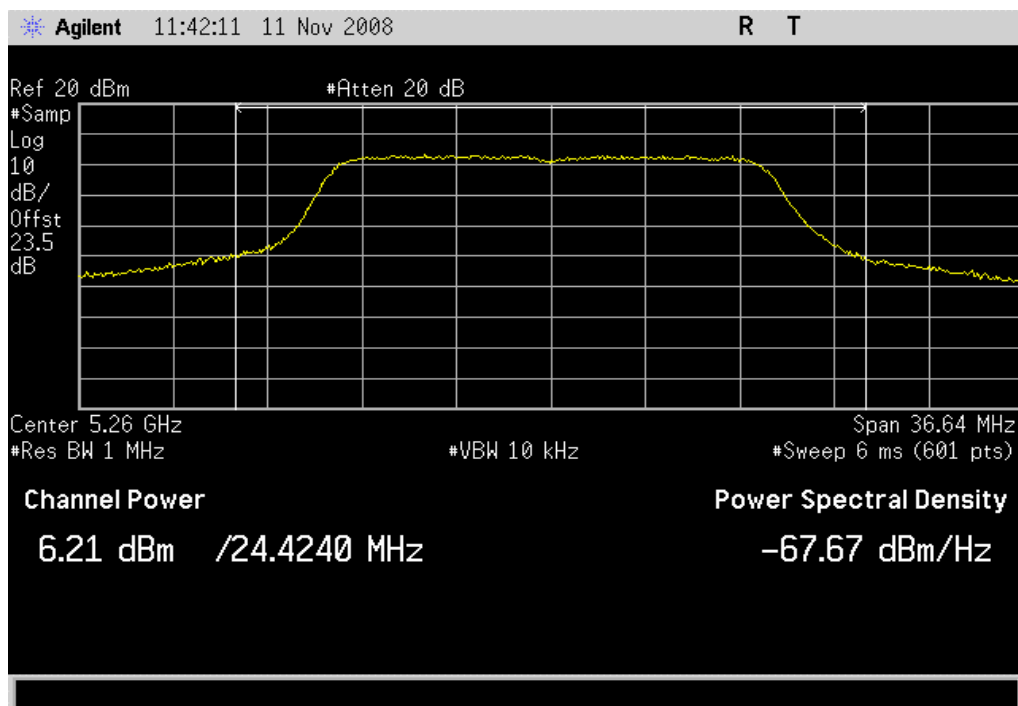
PEAK TRANSMIT POWER

802.11(a) 54 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Result: Pass

Value: 6.21 dBm

Limit: 24 dBm

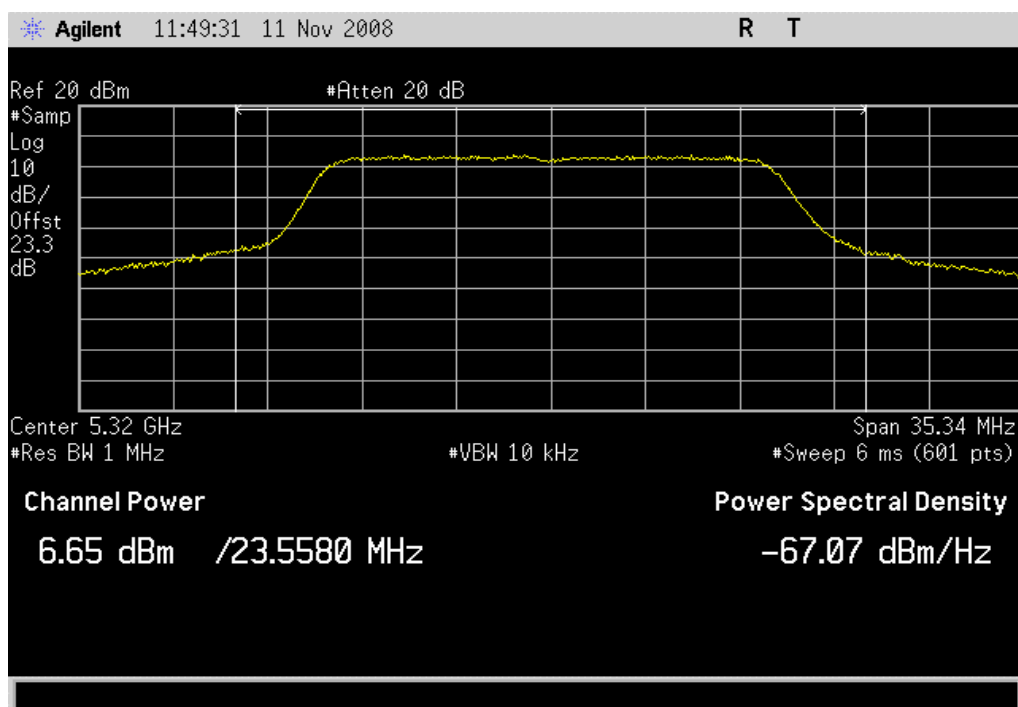


802.11(a) 54 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Result: Pass

Value: 6.65 dBm

Limit: 24 dBm



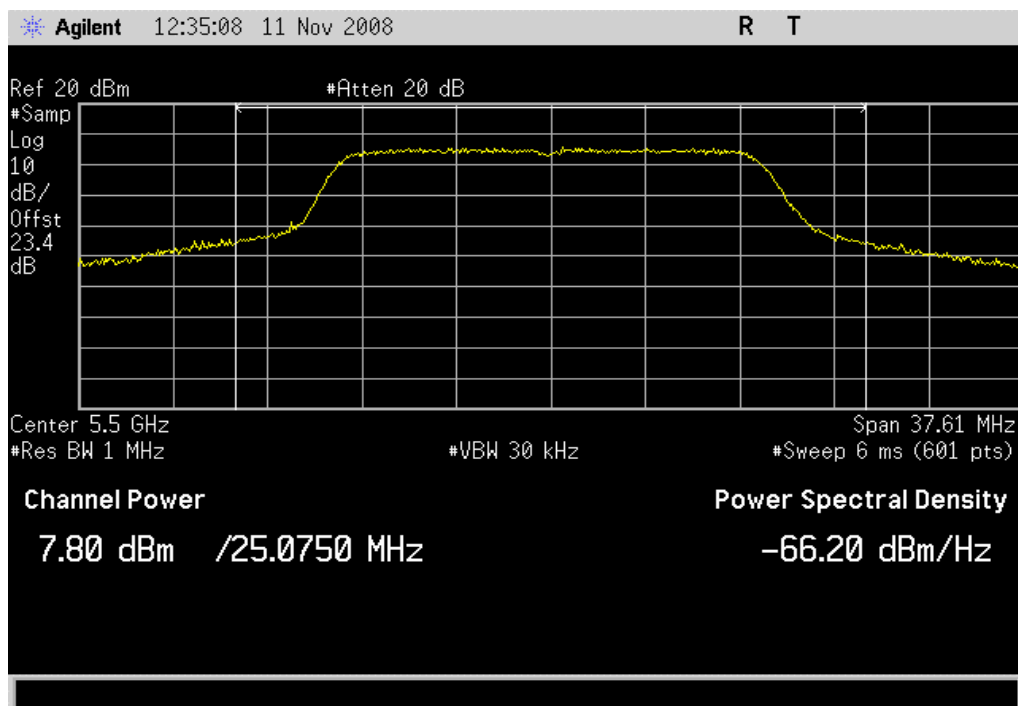
PEAK TRANSMIT POWER

802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Result: Pass

Value: 7.80 dBm

Limit: 24 dBm

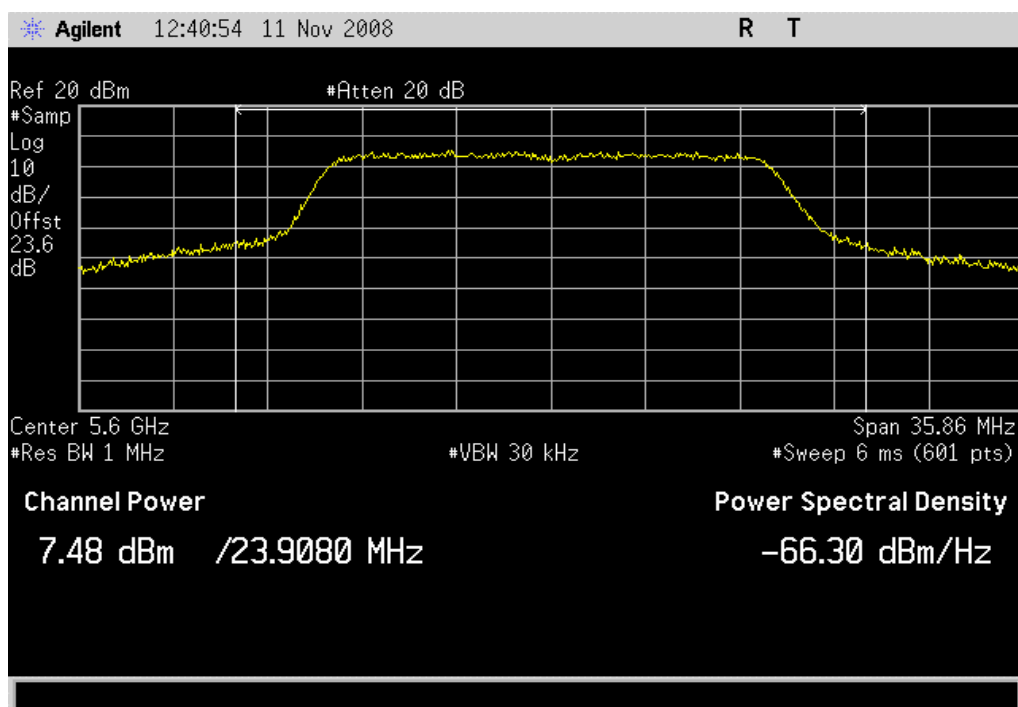


802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 120, Mid Channel

Result: Pass

Value: 7.48 dBm

Limit: 24 dBm



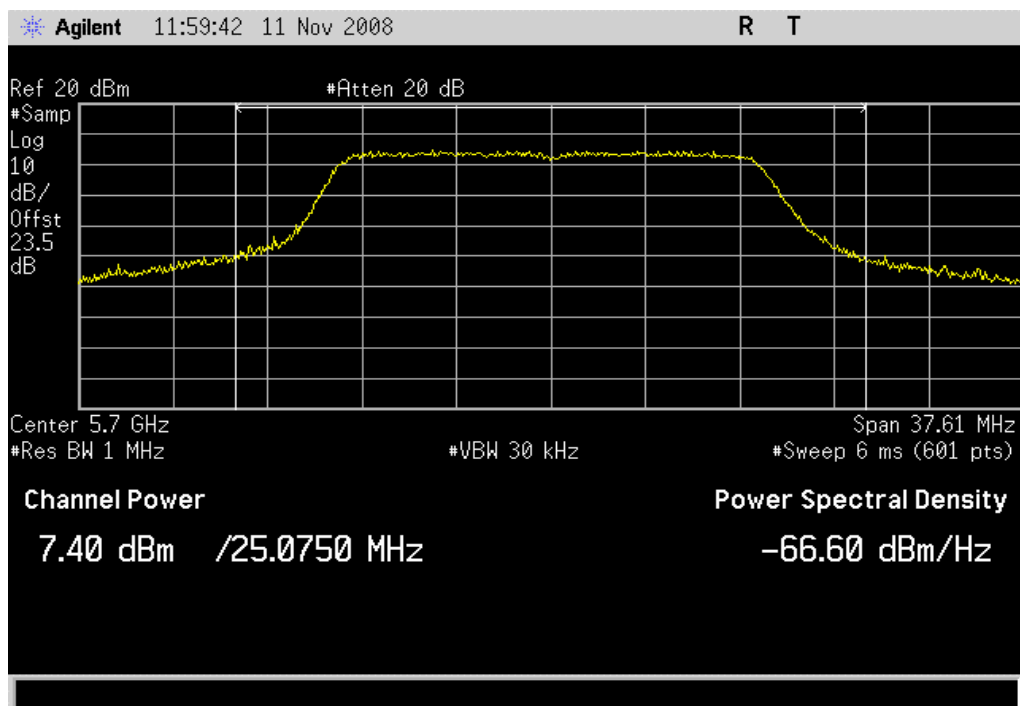
PEAK TRANSMIT POWER

802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Result: Pass

Value: 7.40 dBm

Limit: 24 dBm





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAY	12/18/2007	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/27/2008	13
Signal Generator	Agilent	E8257D	TGX	12/7/2007	13
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. The lowest data rate was measured as it provided the highest output power. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input. The amplitude accuracy of the spectrum analyzer was further enhanced by calibrating the setup using the power meter and synthesized signal generator.

Prior to measuring peak power spectral density, the emission bandwidth (B) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring peak power spectral density. The method of measuring the emission bandwidth and the associated data are found elsewhere in this test report. The transmission pulse duration (T) was measured across a constant amplitude pulse using an RF detector diode and an oscilloscope. The scope photos are found with the peak power measurement data elsewhere in this report.

Method #2 found in FCC Public Notice DA02-2138 was used because the analyzer sweep time was less than or equal to T.

The spectrum analyzer settings were as follows:

- The span was set to encompass entire emission bandwidth (B), centered on the transmit channel.
- RBW = 1 MHz, VBW $\geq$ 3 MHz because the emission bandwidth (B) is greater than 1 MHz
- Sample detector mode because the bin width (span / number of spectral points) $<$ 0.5 RBW.
- Trace average 100 traces in power averaging mode (not video averaging).

The peak power spectral density (PPSD) was determined to be the highest level found across the emission in any 1 MHz band after 100 sweeps of power averaging (not video averaging).

EMC

PEAK POWER SPECTRAL DENSITY

EUT:	Ultraview SL Wireless Option	Work Order:	SPAC0447
Serial Number:	Various, see config page	Date:	11/11/08
Customer:	Spacelabs Healthcare	Temperature:	24°C
Attendees:	None	Humidity:	45%
Project:	None	Barometric Pres.:	30.25
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
		Job Site:	EV12

TEST SPECIFICATIONS	Test Method
FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002

COMMENTS
None

DEVIATIONS FROM TEST STANDARD
No Deviations

Configuration #	2	Signature 
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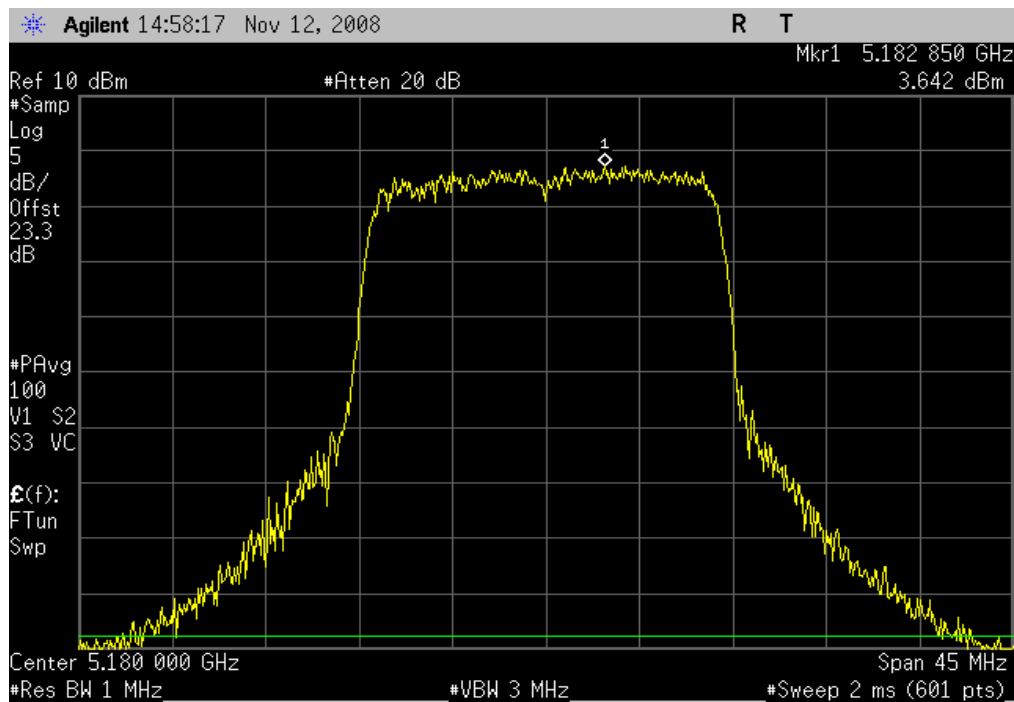
		Value	Limit	Results
802.11(a) 6 Mbps				
	5150 - 5250 MHz Band			
	Channel 36, Low Channel	3.6 dBm	4 dBm	Pass
	Channel 48, High Channel	3.9 dBm	4 dBm	Pass
	5250 - 5350 MHz Band			
	Channel 52, Low Channel	6.4 dBm	11 dBm	Pass
	Channel 64, High Channel	7.0 dBm	11 dBm	Pass
	5470 - 5725 MHz Band			
	Channel 100, Low Channel	7.5 dBm	11 dBm	Pass
	Channel 120, Mid Channel	9.8 dBm	11 dBm	Pass
	Channel 140, High Channel	8.0 dBm	11 dBm	Pass

802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Result: Pass

Value: 3.6 dBm

Limit: 4 dBm

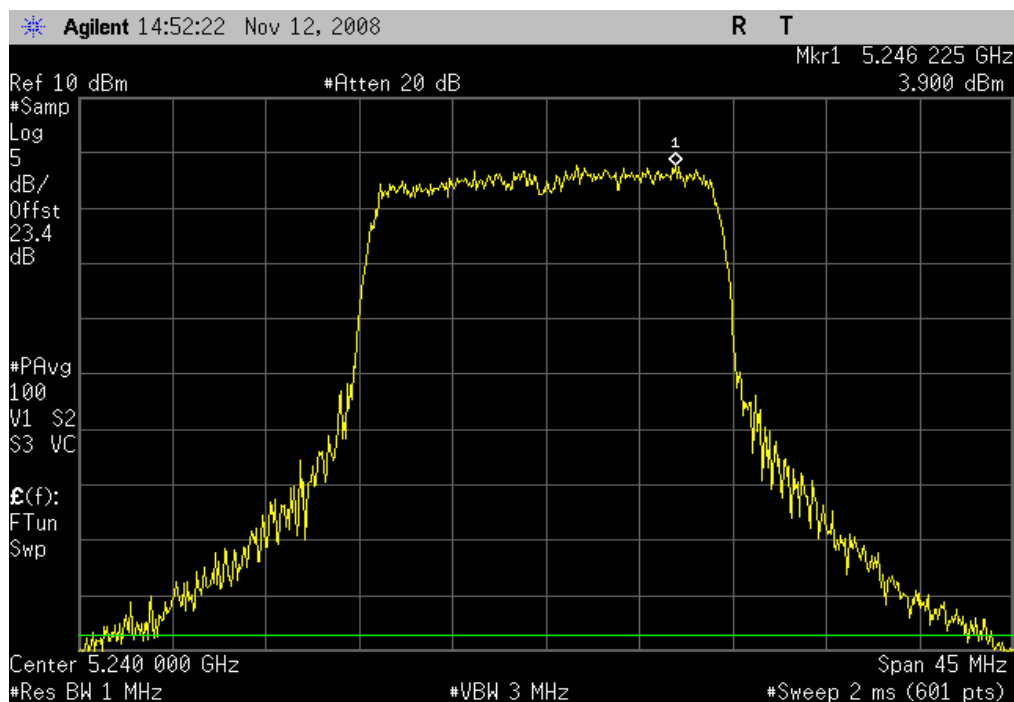


802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Result: Pass

Value: 3.9 dBm

Limit: 4 dBm

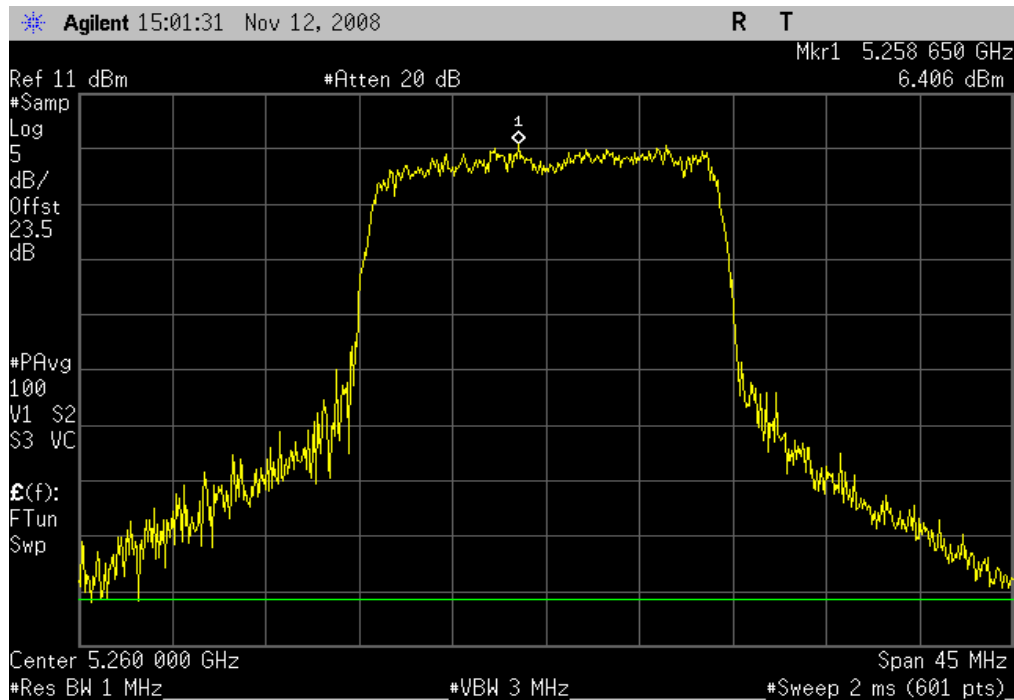


802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Result: Pass

Value: 6.4 dBm

Limit: 11 dBm

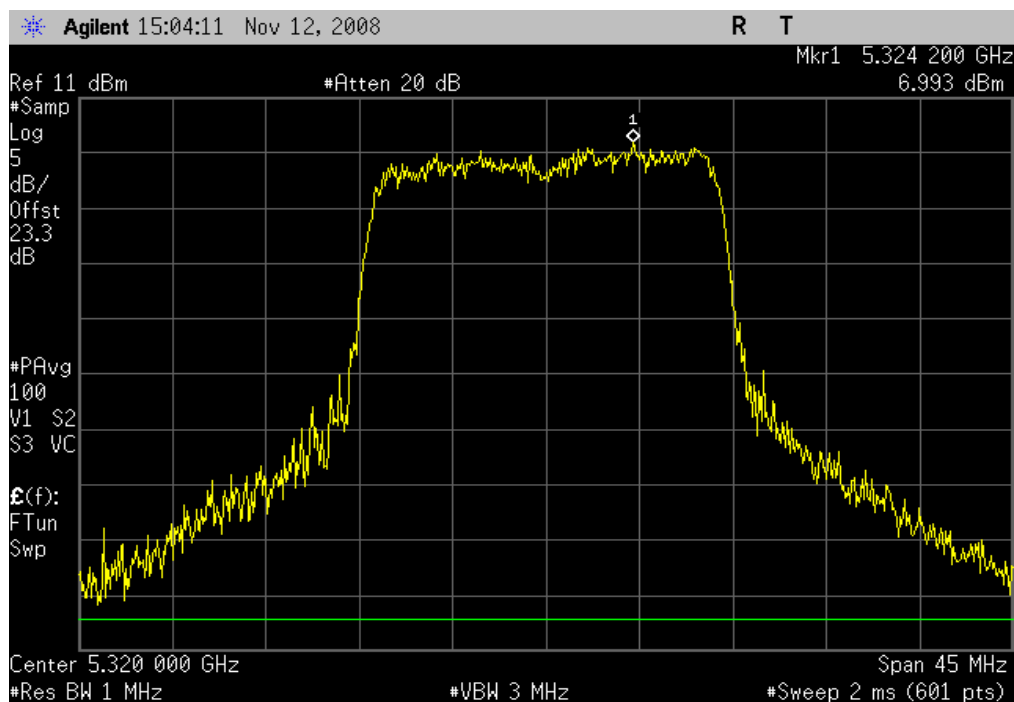


802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Result: Pass

Value: 7.0 dBm

Limit: 11 dBm

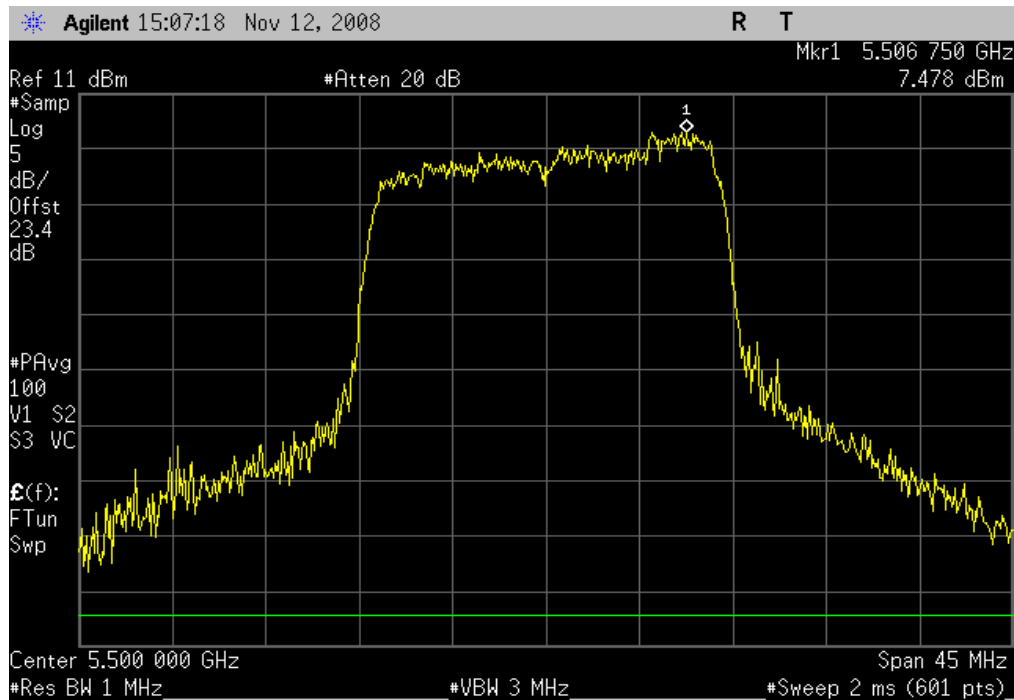


802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Result: Pass

Value: 7.5 dBm

Limit: 11 dBm

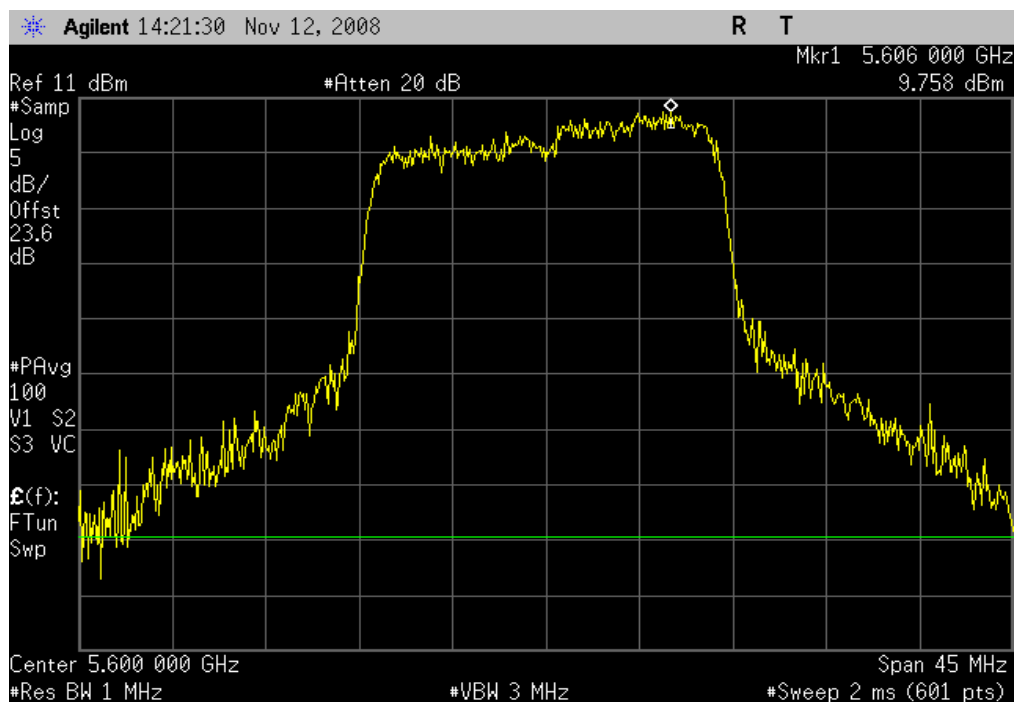


802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 120, Mid Channel

Result: Pass

Value: 9.8 dBm

Limit: 11 dBm



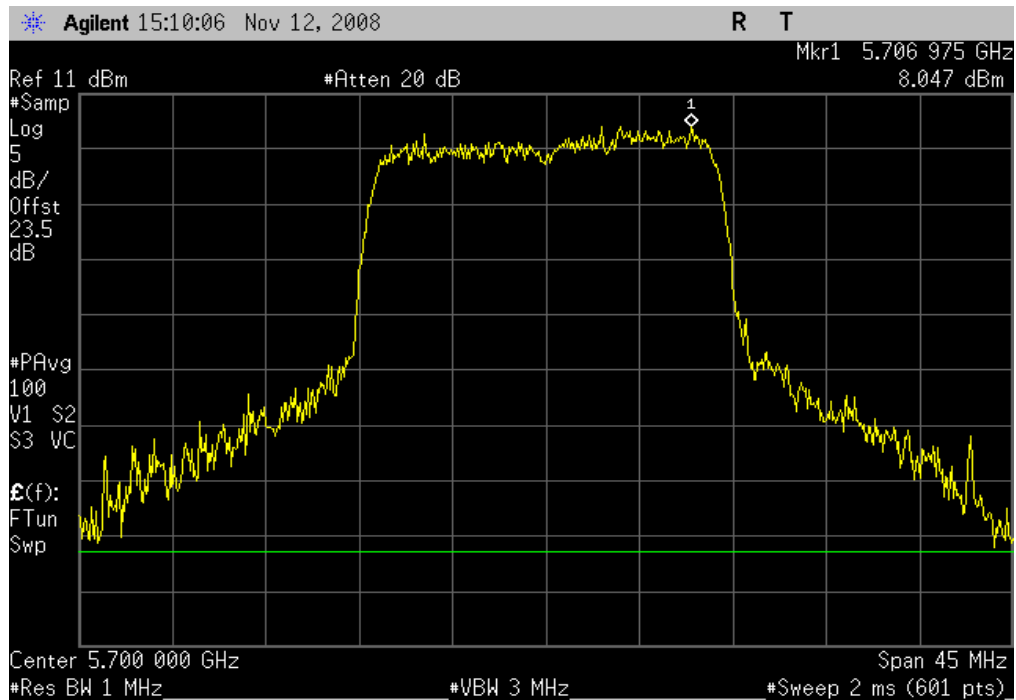
PEAK POWER SPECTRAL DENSITY

802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Result: Pass

Value: 8.0 dBm

Limit: 11 dBm





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/27/2008	13
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Signal Generator	Agilent	E8257D	TGX	12/7/2007	13

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

The spectrum analyzer settings were as follows:

- Span set to encompass the entire emission bandwidth (B), centered on the transmit channel.
- Using the marker delta function, the largest difference between the following two traces was measured:
 - o 1st Trace: RBW = 1 MHz, VBW $\geq$ 3 MHz with peak detector and max-hold settings.
 - o 2nd Trace: Use same settings as were used for peak conducted transmit power. The sample detector was used as well as the VBW being matched to that used on the peak conducted transmit power.

EMC

PEAK EXCURSION

EUT:	Ultraview SL Wireless Option	Work Order:	SPAC0447
Serial Number:	Various, see config page	Date:	11/12/08
Customer:	Spacelabs Healthcare	Temperature:	22°C
Attendees:	None	Humidity:	55%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
		Job Site:	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002

COMMENTS
None

DEVIATIONS FROM TEST STANDARD
No Deviations

Configuration #	2	Signature 
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		Value	Limit	Results
802.11(a) 6 Mbps				
	5150 - 5250 MHz Band			
	Channel 36, Low Channel	9.85 dB	13 dB	Pass
	Channel 48, High Channel	9.64 dB	13 dB	Pass
	5250 - 5350 MHz Band			
	Channel 52, Low Channel	8.84 dB	13 dB	Pass
	Channel 64, High Channel	8.88 dB	13 dB	Pass
	5470 - 5725 MHz Band			
	Channel 100, Low Channel	9.27 dB	13 dB	Pass
	Channel 120, Mid Channel	6.19 dB	13 dB	Pass
	Channel 140, High Channel	8.35 dB	13 dB	Pass
802.11(a) 36 Mbps				
	5150 - 5250 MHz Band			
	Channel 36, Low Channel	9.61 dB	13 dB	Pass
	Channel 48, High Channel	10.12 dB	13 dB	Pass
	5250 - 5350 MHz Band			
	Channel 52, Low Channel	10.21 dB	13 dB	Pass
	Channel 64, High Channel	9.86 dB	13 dB	Pass
	5470 - 5725 MHz Band			
	Channel 100, Low Channel	8.65 dB	13 dB	Pass
	Channel 120, Mid Channel	9.47 dB	13 dB	Pass
	Channel 140, High Channel	8.80 dB	13 dB	Pass
802.11(a) 54 Mbps				
	5150 - 5250 MHz Band			
	Channel 36, Low Channel	10.71 dB	13 dB	Pass
	Channel 48, High Channel	9.75 dB	13 dB	Pass
	5250 - 5350 MHz Band			
	Channel 52, Low Channel	10.46 dB	13 dB	Pass
	Channel 64, High Channel	11.07 dB	13 dB	Pass
	5470 - 5725 MHz Band			
	Channel 100, Low Channel	8.90 dB	13 dB	Pass
	Channel 120, Mid Channel	8.66 dB	13 dB	Pass
	Channel 140, High Channel	8.74 dB	13 dB	Pass

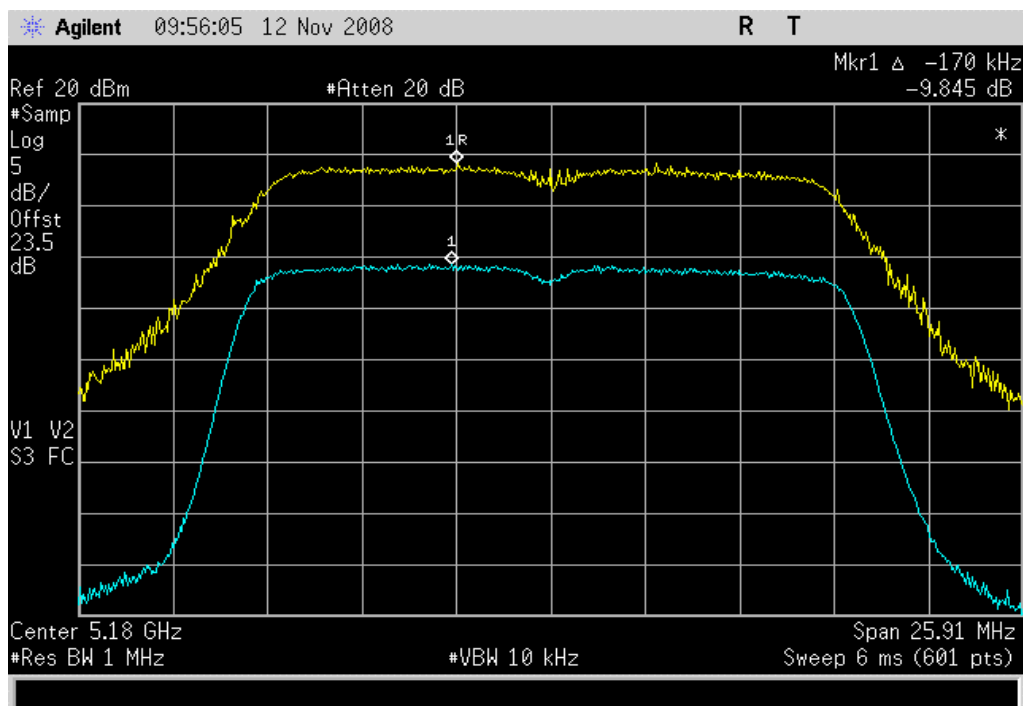
PEAK EXCURSION

802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Result: Pass

Value: 9.85 dB

Limit: 13 dB

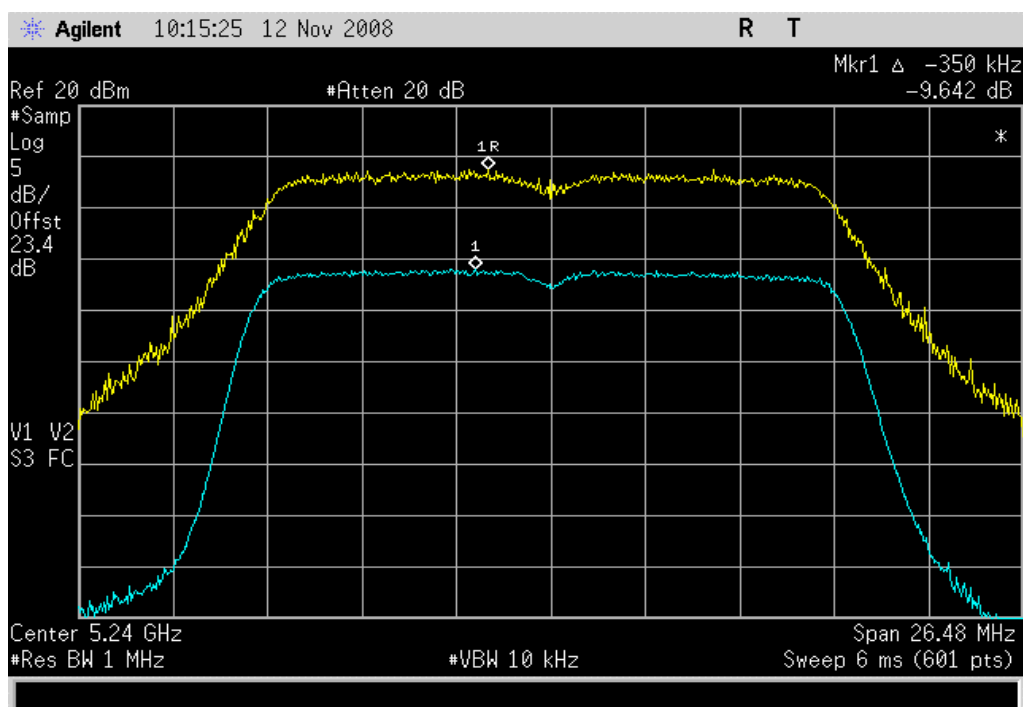


802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Result: Pass

Value: 9.64 dB

Limit: 13 dB



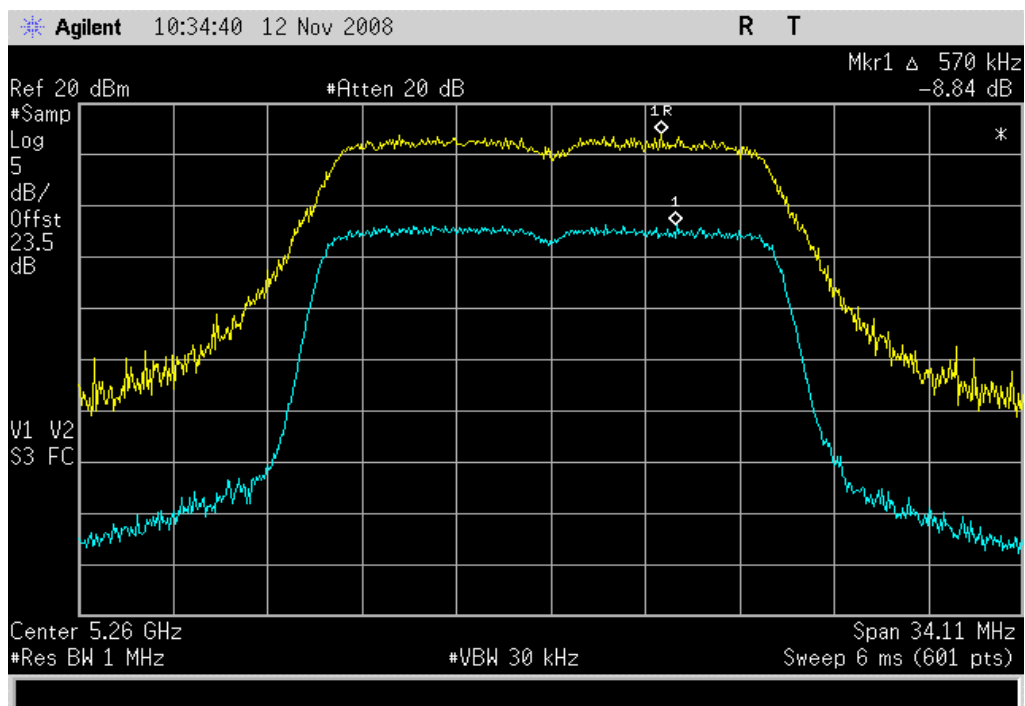
PEAK EXCURSION

802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Result: Pass

Value: 8.84 dB

Limit: 13 dB

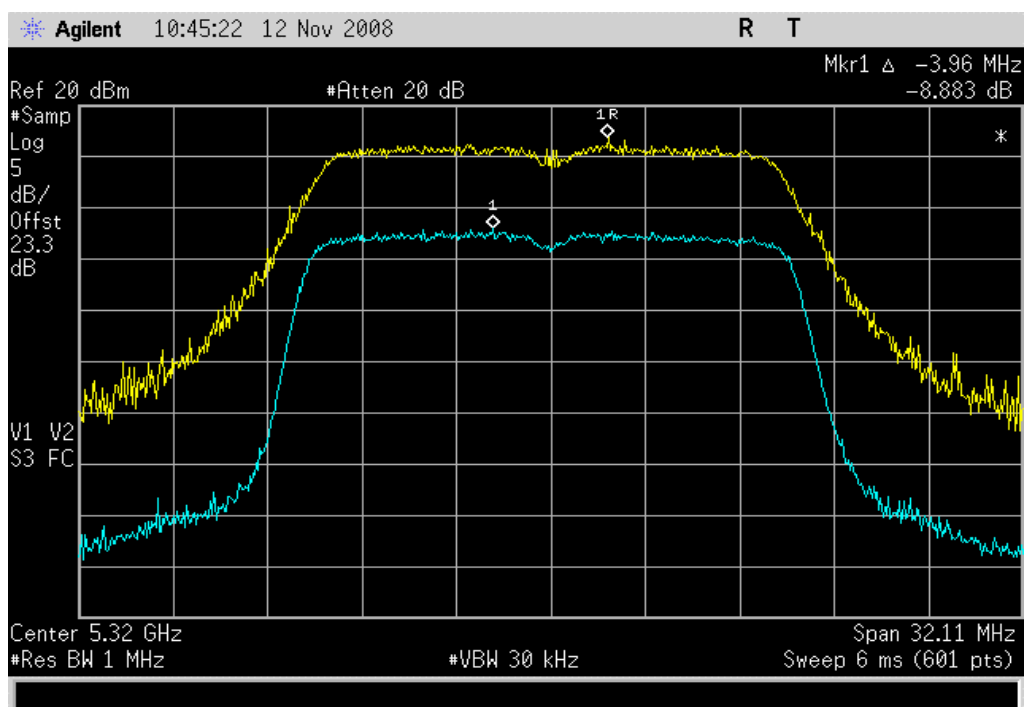


802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Result: Pass

Value: 8.88 dB

Limit: 13 dB

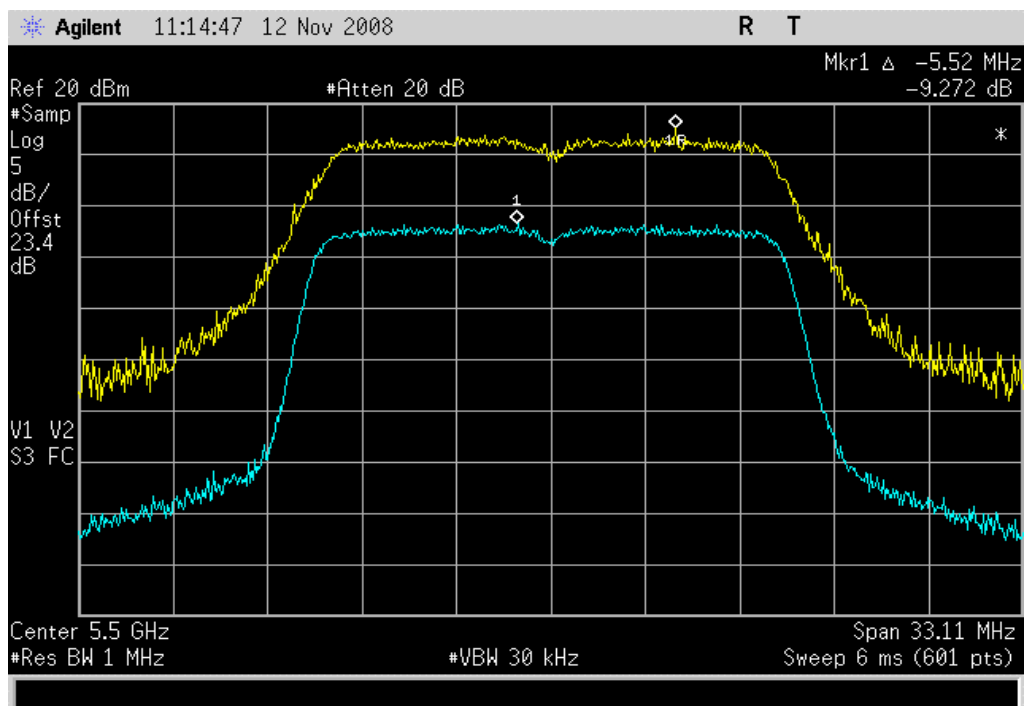


802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Result: Pass

Value: 9.27 dB

Limit: 13 dB

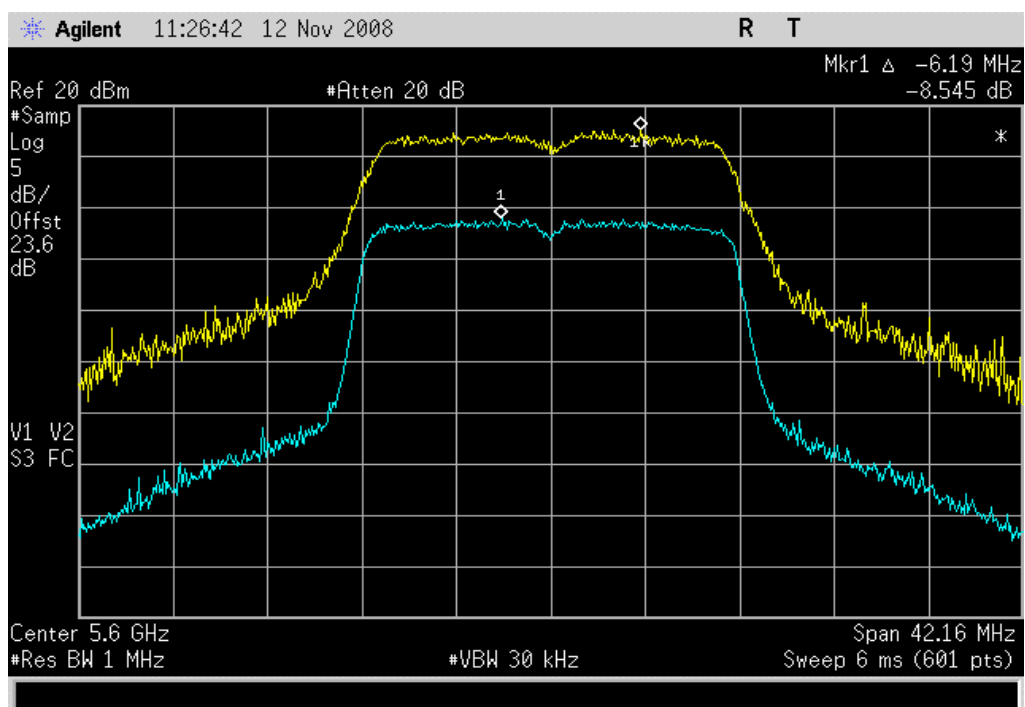


802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 120, Mid Channel

Result: Pass

Value: 6.19 dB

Limit: 13 dB

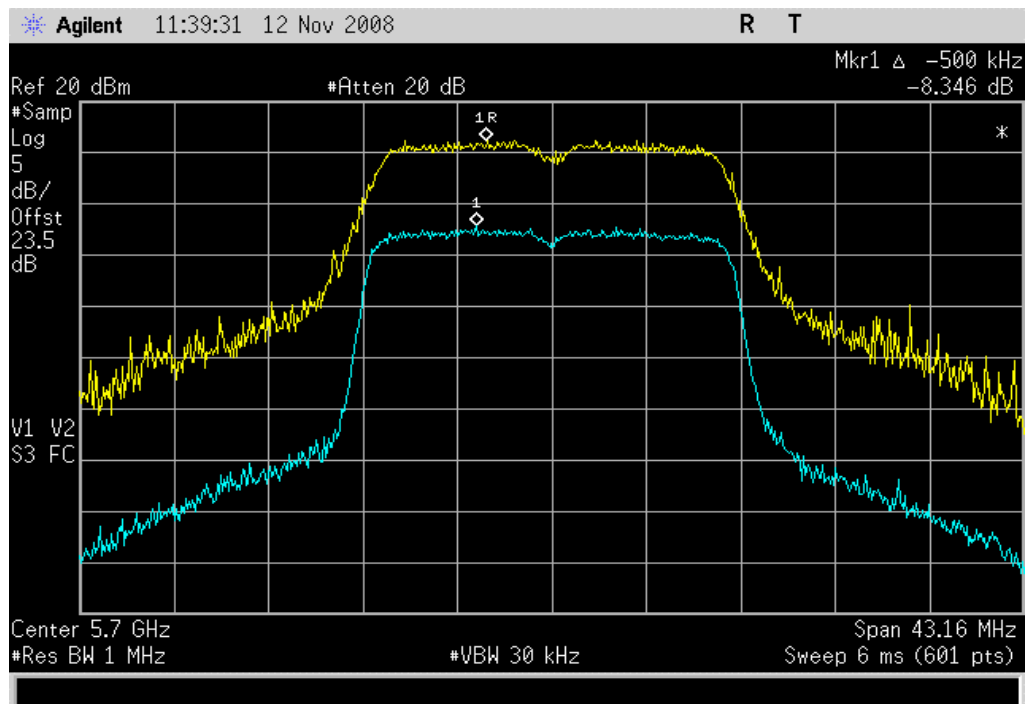


802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Result: Pass

Value: 8.35 dB

Limit: 13 dB

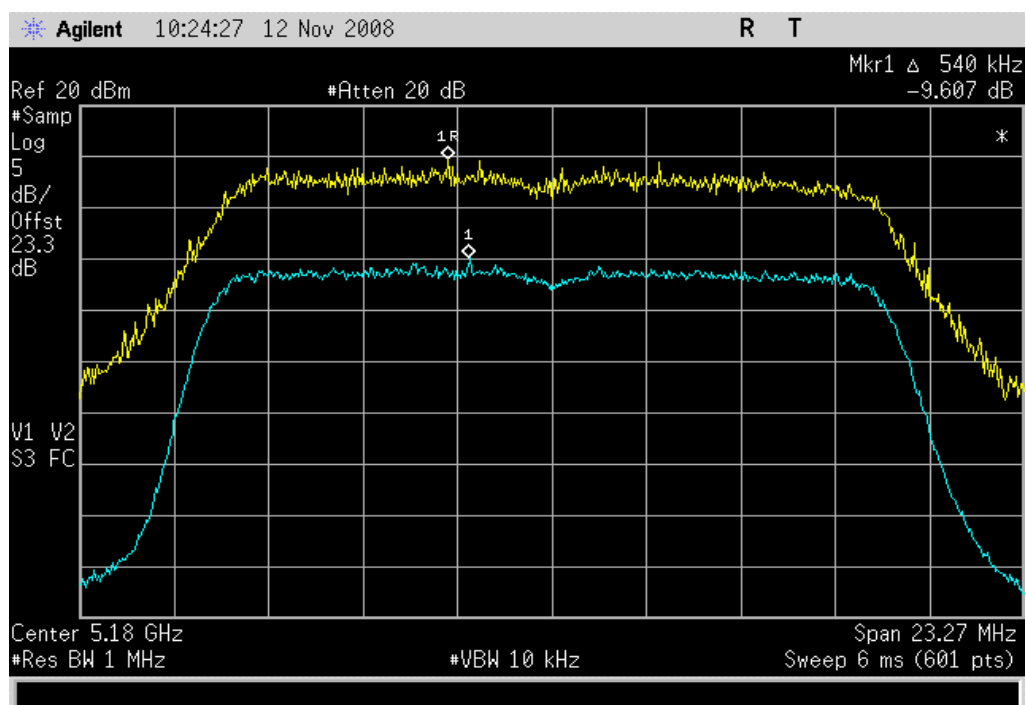


802.11(a) 36 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Result: Pass

Value: 9.61 dB

Limit: 13 dB

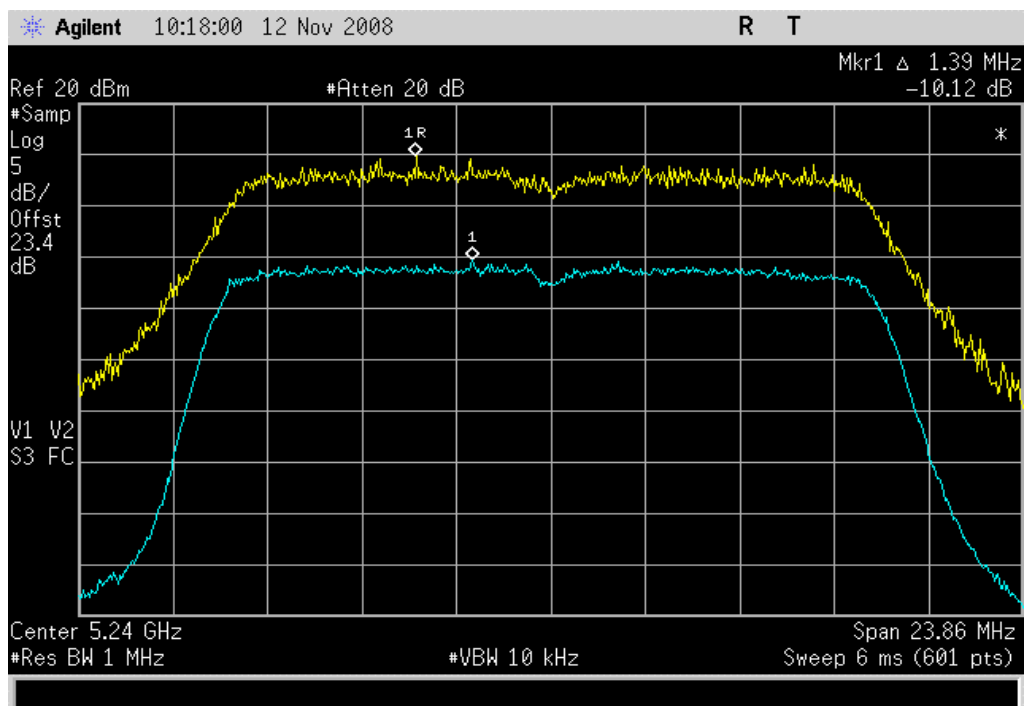


802.11(a) 36 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Result: Pass

Value: 10.12 dB

Limit: 13 dB

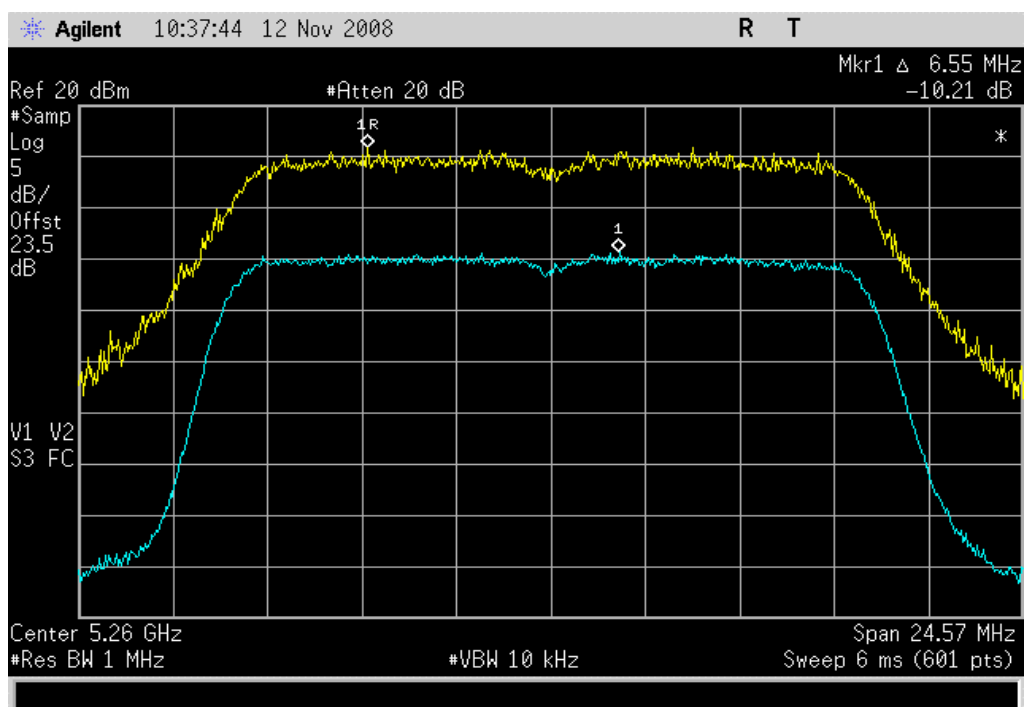


802.11(a) 36 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Result: Pass

Value: 10.21 dB

Limit: 13 dB



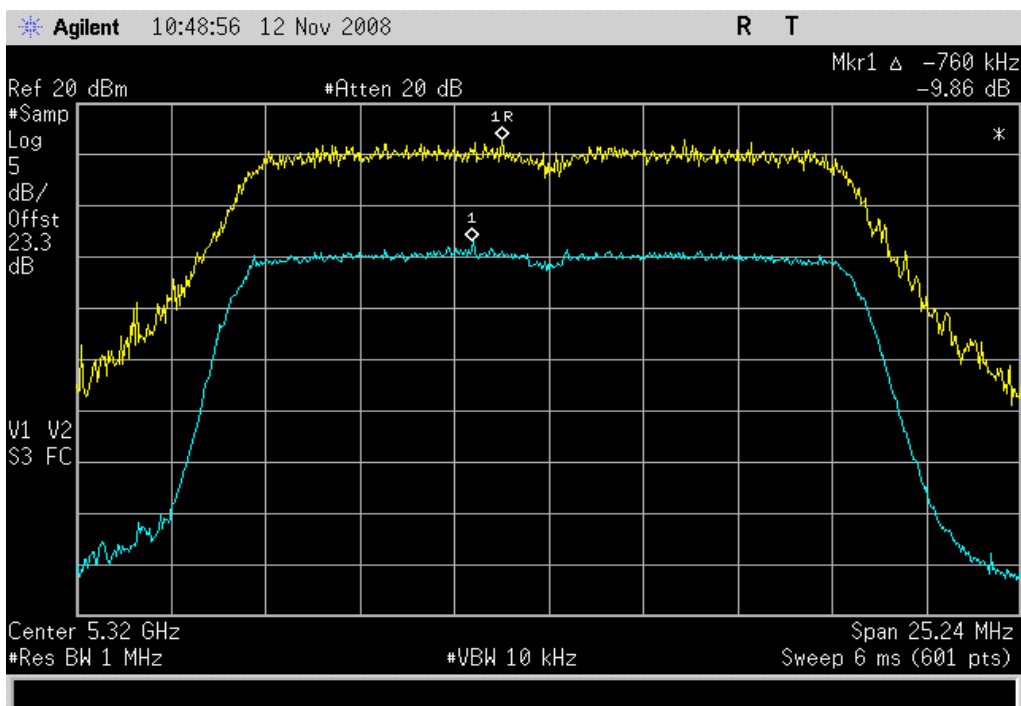
PEAK EXCURSION

802.11(a) 36 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Result: Pass

Value: 9.86 dB

Limit: 13 dB

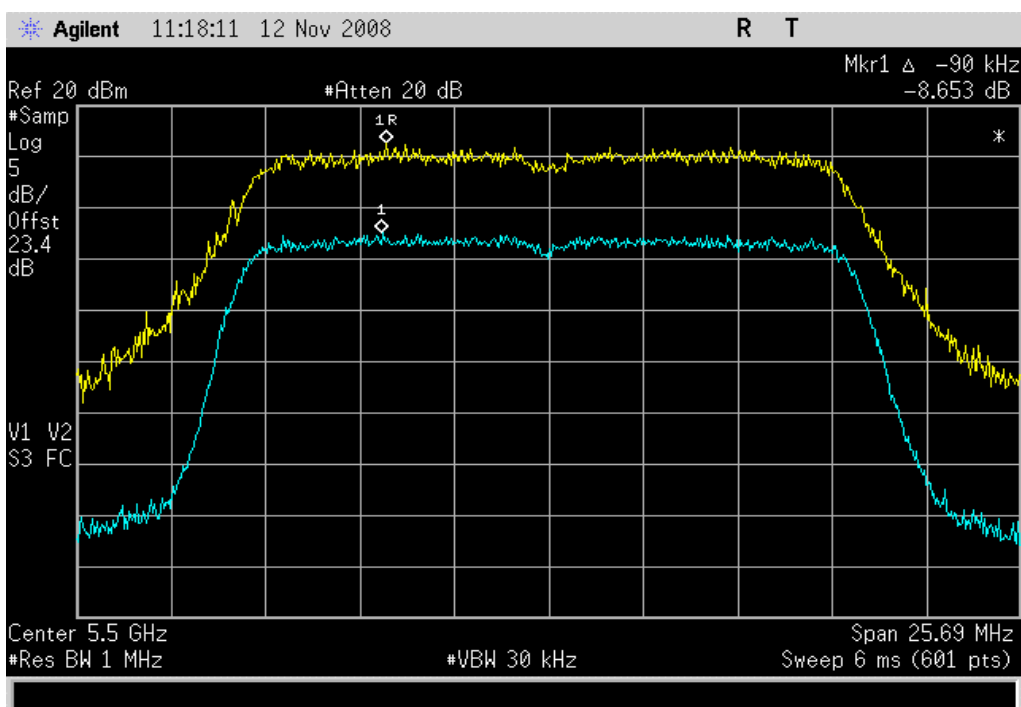


802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Result: Pass

Value: 8.65 dB

Limit: 13 dB

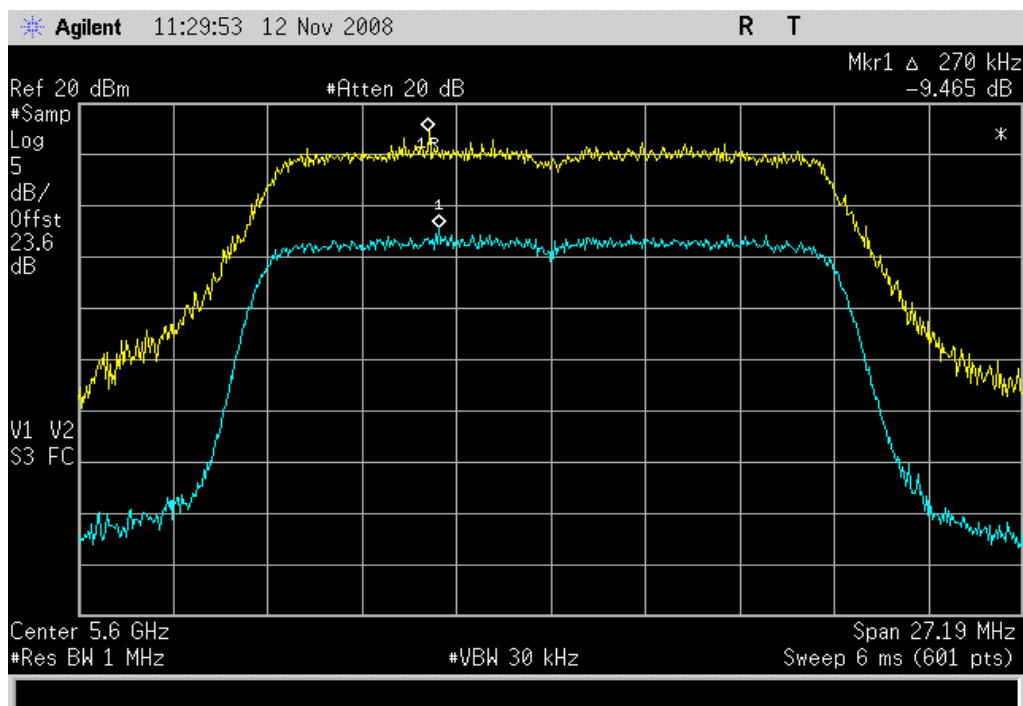


802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 120, Mid Channel

Result: Pass

Value: 9.47 dB

Limit: 13 dB

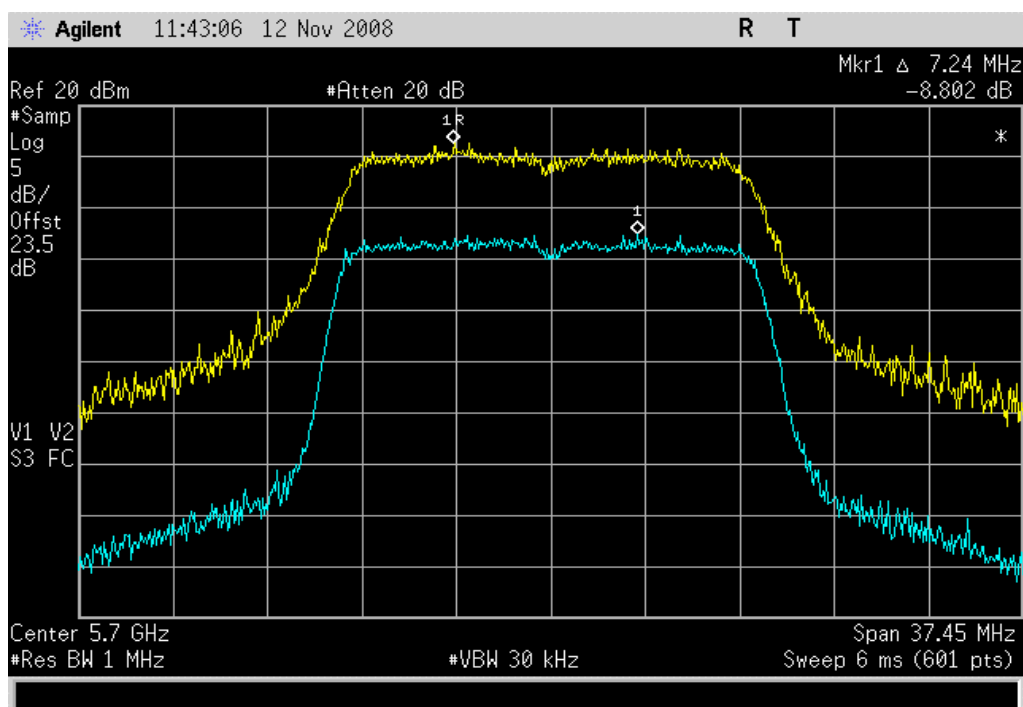


802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Result: Pass

Value: 8.80 dB

Limit: 13 dB



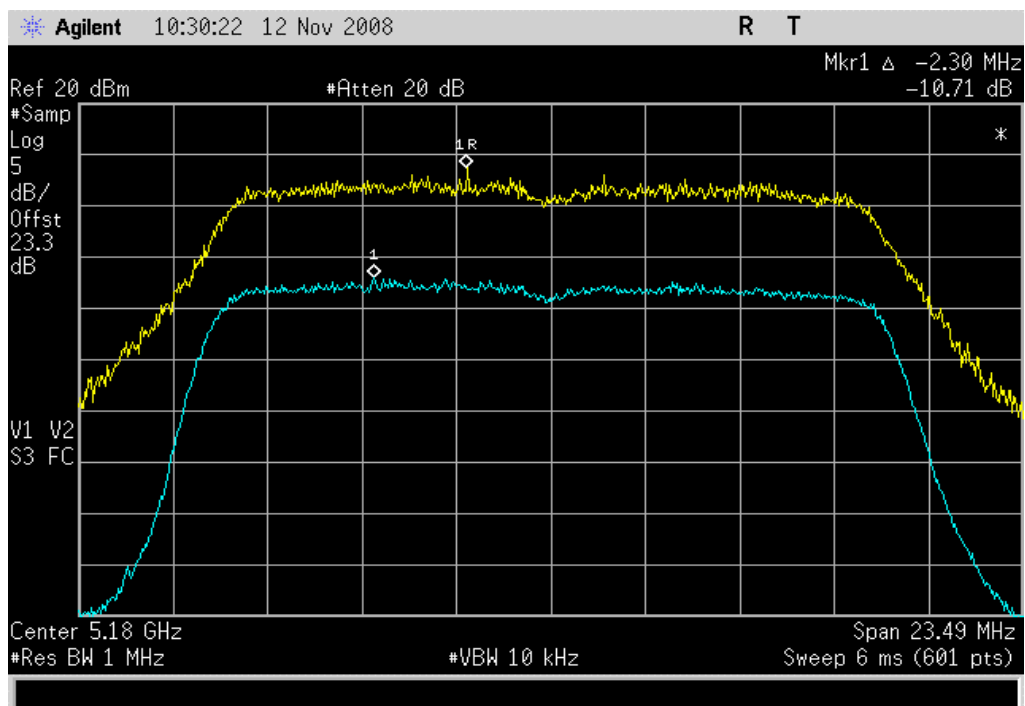
PEAK EXCURSION

802.11(a) 54 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Result: Pass

Value: 10.71 dB

Limit: 13 dB

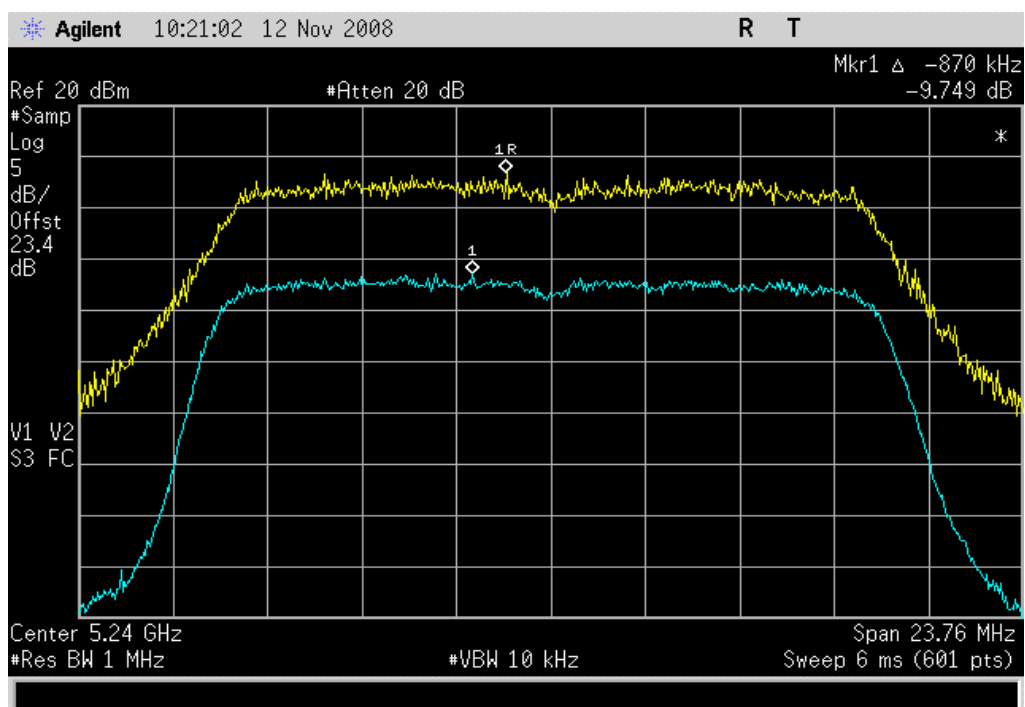


802.11(a) 54 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Result: Pass

Value: 9.75 dB

Limit: 13 dB



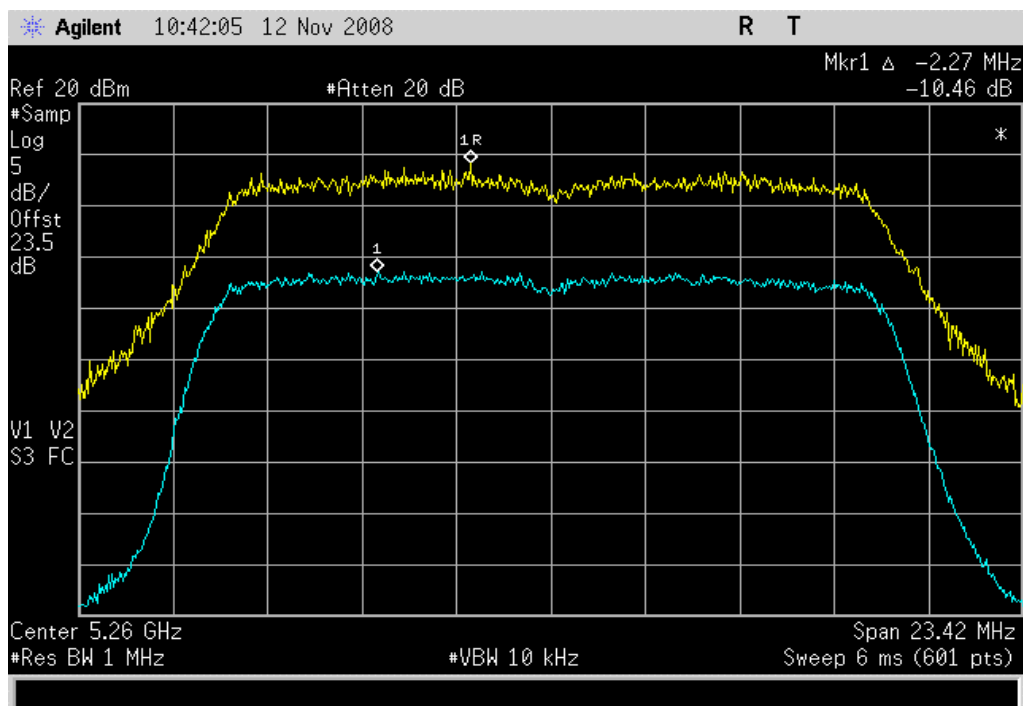
PEAK EXCURSION

802.11(a) 54 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Result: Pass

Value: 10.46 dB

Limit: 13 dB

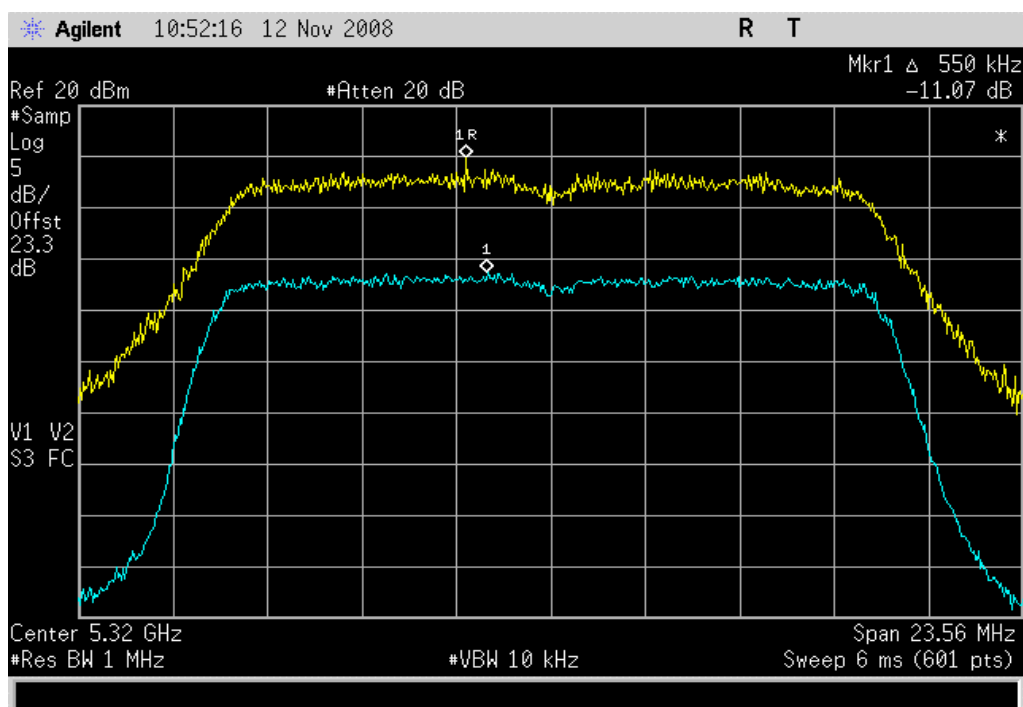


802.11(a) 54 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Result: Pass

Value: 11.07 dB

Limit: 13 dB

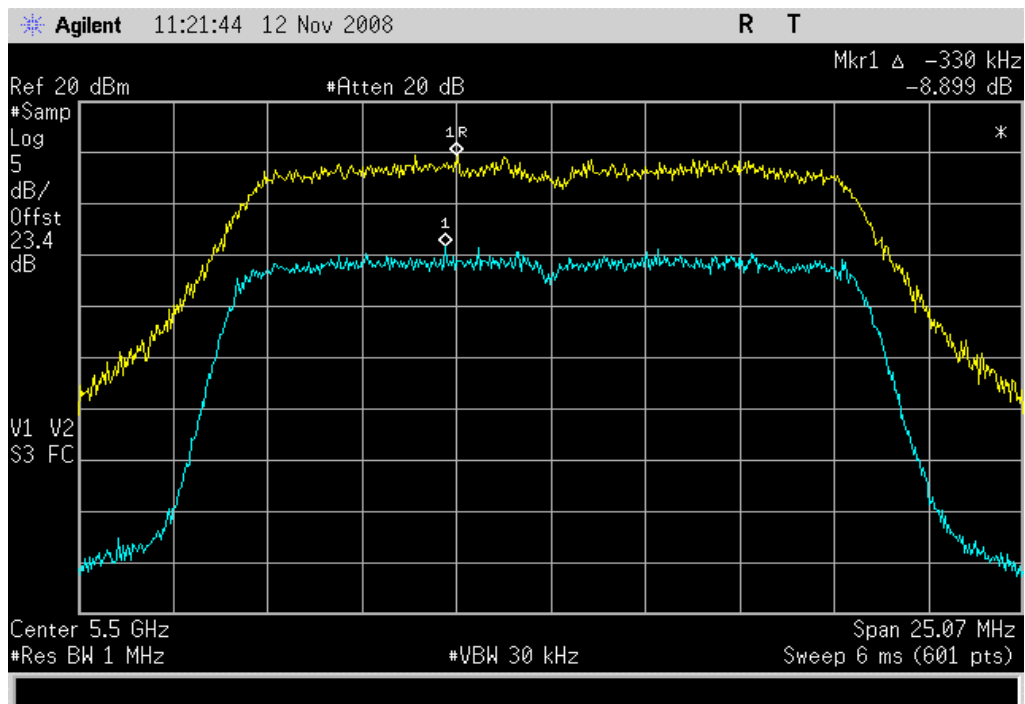


802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Result: Pass

Value: 8.90 dB

Limit: 13 dB

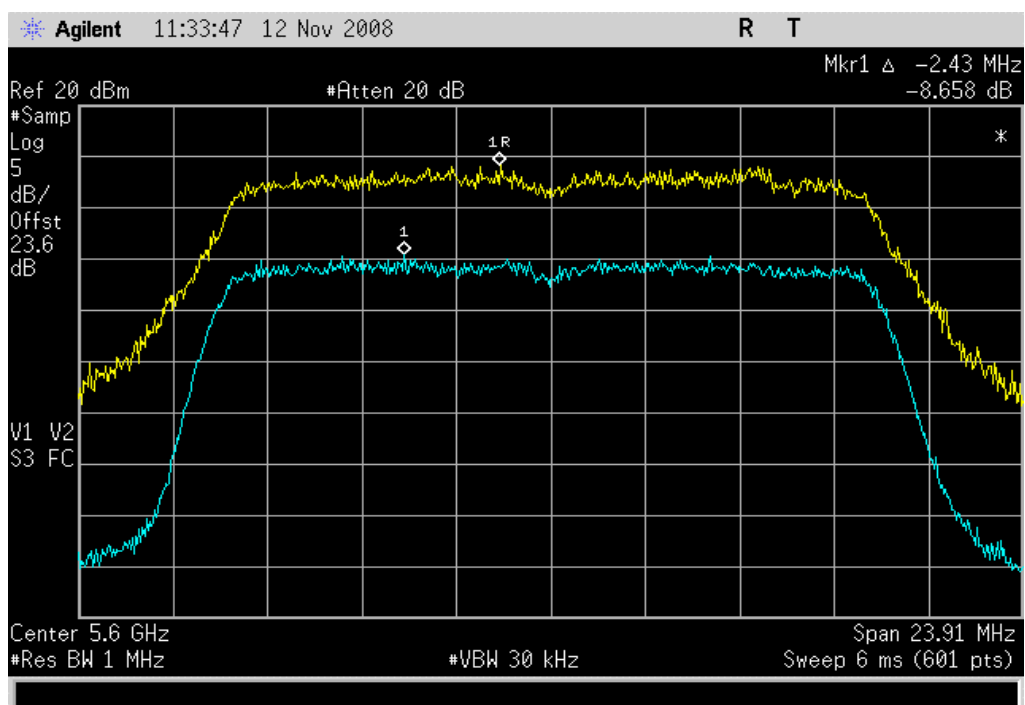


802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 120, Mid Channel

Result: Pass

Value: 8.66 dB

Limit: 13 dB



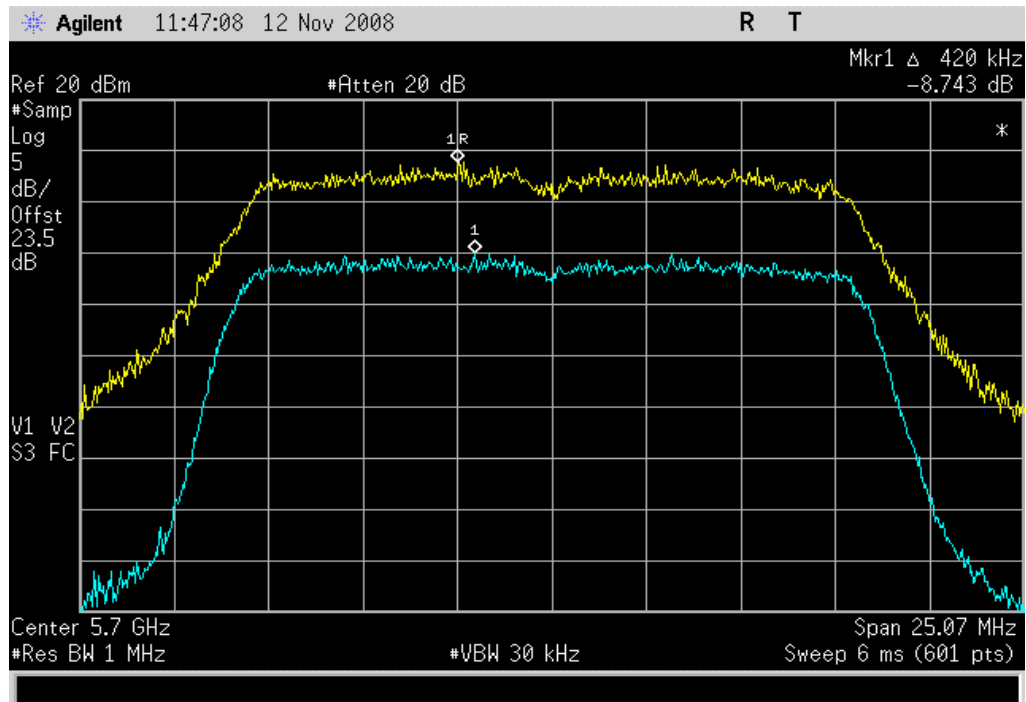
PEAK EXCURSION

802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Result: Pass

Value: 8.74 dB

Limit: 13 dB





SPURIOUS RADIATED EMISSIONS

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

802.11(a), 6Mbps
802.11(a), 36Mbps
802.11(a), 54Mbps

CHANNELS TESTED

Channel 36, 5180 MHz
Channel 48, 5240 MHz
Channel 52, 5260 MHz
Channel 64, 5320 MHz
Channel 100, 5500 MHz
Channel 120, 5600 MHz
Channel 140, 5700 MHz

POWER SETTINGS USED FOR FINAL DATA

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	25 GHz
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CLOCKS AND OSCILLATORS

None Provided

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Antenna, Horn	ETS	3160-10	AIC	NCR	0
26-40GHz Cable		TTBJ141-KMKM-72	EVX	7/30/2008	13
Pre-Amplifier	Miteq	JSW45-26004000-40-5P	AVN	7/30/2008	13
Spectrum Analyzer	Agilent	E4446A	AAY	12/18/2007	12
High Pass Filter	Micro-Tronics	50111	HGE	5/14/2008	13
Attenuator	Pasternack	PE7005-20	AUN	5/10/2008	13
Antenna, Horn	ETS	3160.07	AHZ	10/14/2008	24
Antenna, Horn	EMCO	3160-09	AHG	NCR	0
EV01 Cables		18-26GHz Standard Gain Horn Cable	EVD	7/25/2007	16
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	7/25/2007	16
Antenna, Horn	ETS	3160-08	AIA	NCR	0
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVI	5/14/2008	13
EV12 Cables		Standard Gain Horn Cables	EVU	5/14/2008	13
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVH	5/14/2008	13
Antenna, Horn	ETS	3115	AIB	8/25/2008	24
EV12 Cables		Double Ridge Horn Cables	EVT	6/17/2008	13
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	6/17/2008	13
Antenna, Biconilog	EMCO	3141	AXE	1/15/2008	24
EV12 Cables		Bilog Cables	EVS	6/17/2008	13
Pre-Amplifier	Miteq	AM-1616-1000	AVM	6/17/2008	13

TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT were tested. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. Measurements were made to satisfy the three requirements of 47 CFR 15.407: Field strength under 1GHz, Restricted Bands of 47 CFR 15.205, and EIRP of 47 CFR 15.407. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.4:2003). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

The amplitude and frequency of the highest emissions were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to each of the highest spurious emissions. A signal generator was connected to the dipole (horn antenna for frequencies above 1GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the dipole antenna (or horn) and its gain (dBi); the effective radiated power for each radiated spurious emission was determined.

NORTHWEST EMC		SPURIOUS RADIATED EMISSIONS DATA SHEET		PSA 2007.05.07 EMI 2008.1.9									
EUT: Ultraview SL Wireless Option			Work Order: SPAC0447										
Serial Number: Various, see config page			Date: 11/11/08										
Customer: Spacelabs Healthcare			Temperature: 24										
Attendees: None			Humidity: 45%										
Project: None			Barometric Pres.: 30.25										
Tested by: David DiVergigelis		Power: 120VAC/60Hz		Job Site: EV12									
TEST SPECIFICATIONS			Test Method										
FCC 15.407:2008			ANSI C63.4:2003 DA 02-2138:2002										
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3									
COMMENTS													
None													
EUT OPERATING MODES													
Transmitting 802.11(a)													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #	5												
Configuration #	1												
Results	Pass												
Signature <i>David DiVergigelis</i>													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
10641.230	60.4	-10.7	224.0	1.0	3.0	0.0	V-Horn	PK	0.0	49.7	68.2	-18.5	Device typical position. Channel 64. 6Mbps.
10642.000	59.1	-10.7	235.0	1.0	3.0	0.0	H-Horn	PK	0.0	48.4	68.2	-19.8	Device typical position. Channel 64. 6Mbps.
10524.800	56.3	-10.5	223.0	1.6	3.0	0.0	V-Horn	PK	0.0	45.8	68.2	-22.4	Device typical position. Channel 52. 6Mbps.
10487.470	55.5	-10.4	179.0	1.0	3.0	0.0	V-Horn	PK	0.0	45.1	68.2	-23.1	Device typical position. Channel 48. 6Mbps.
10517.770	54.8	-10.5	307.0	1.0	3.0	0.0	H-Horn	PK	0.0	44.3	68.2	-23.9	Device typical position. Channel 52. 6Mbps.
10478.470	53.4	-10.4	122.0	1.0	3.0	0.0	H-Horn	PK	0.0	43.0	68.2	-25.2	Device typical position. Channel 48. 6Mbps.
10357.230	52.7	-10.6	47.0	1.0	3.0	0.0	H-Horn	PK	0.0	42.1	68.2	-26.1	Device typical position. Channel 36. 6Mbps.
10366.970	52.5	-10.6	218.0	1.0	3.0	0.0	V-Horn	PK	0.0	41.9	68.2	-26.3	Device typical position. Channel 36. 6Mbps.

EUT:	Ultraview SL Wireless Option	Work Order:	SPAC0447
Serial Number:	Various, see config page	Date:	11/11/08
Customer:	Spacelabs Healthcare	Temperature:	24
Attendees:	None	Humidity:	45%
Project:	None	Barometric Pres.:	30.25
Tested by:	David DiVergigelis	Power:	120VAC/60Hz
		Job Site:	EV12

TEST SPECIFICATIONS

FCC 15.209:2008

Test Method

ANSI C63.4:2003

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

None

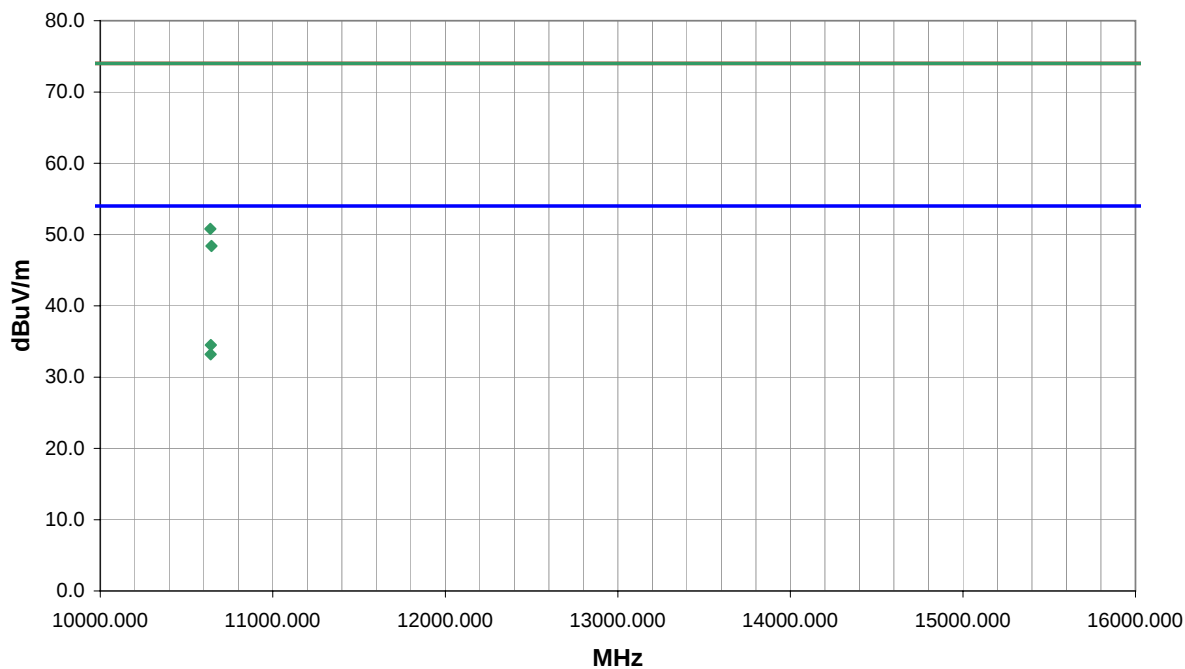
EUT OPERATING MODES

Transmitting 802.11(a)

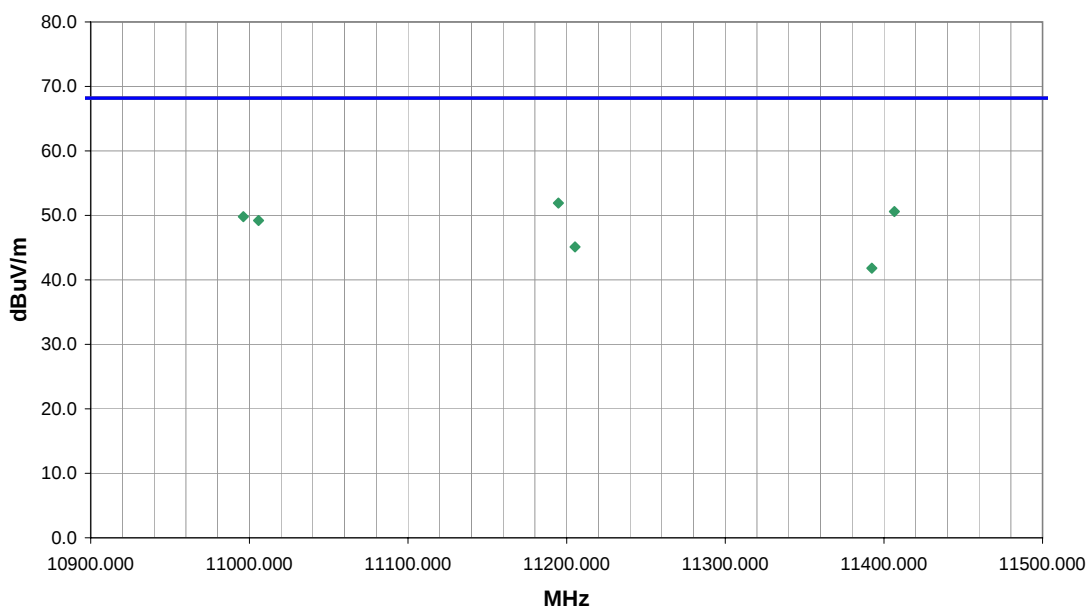
DEVIATIONS FROM TEST STANDARD

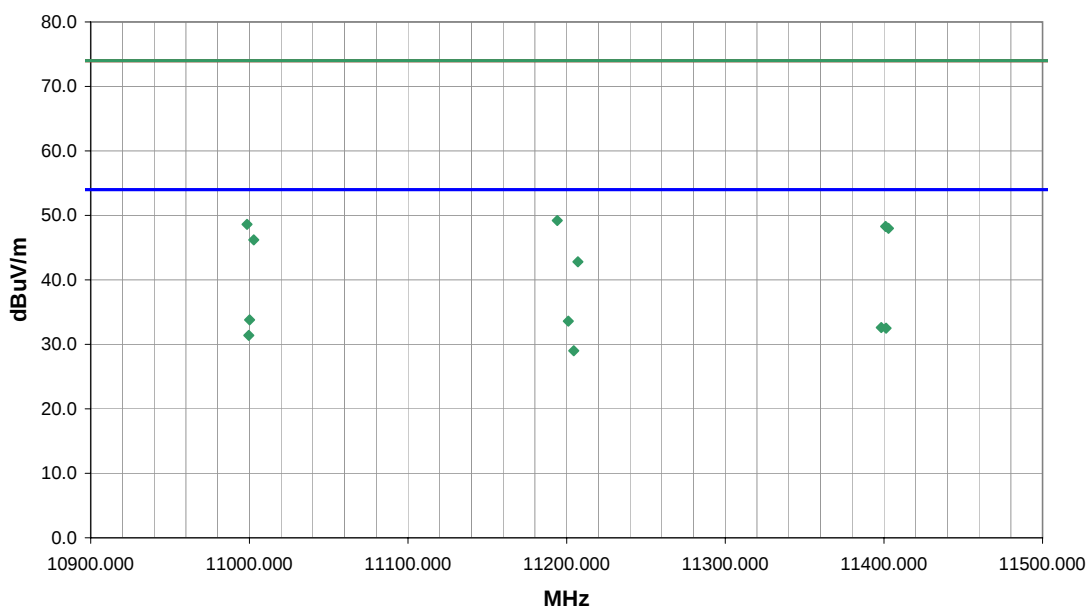
No deviations.

Run #	6	Signature <i>David DiVergigelis</i>
Configuration #	1	
Results	Pass	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
10640.970	45.2	-10.7	236.0	1.0	3.0	0.0	H-Horn	AV	0.0	34.5	54.0	-19.5
10639.700	44.0	-10.8	224.0	1.0	3.0	0.0	V-Horn	AV	0.0	33.2	54.0	-20.8
10638.070	61.5	-10.7	236.0	1.0	3.0	0.0	H-Horn	PK	0.0	50.8	74.0	-23.2
10644.100	59.1	-10.7	224.0	1.0	3.0	0.0	V-Horn	PK	0.0	48.4	74.0	-25.6

NORTHWEST		SPURIOUS RADIATED EMISSIONS DATA SHEET										PSA 2007.05.07	
EMC												EMI 2008.1.9	
EUT: Ultraview SL Wireless Option												Work Order: SPAC0447	
Serial Number: Various, see config page												Date: 11/11/08	
Customer: Spacelabs Healthcare												Temperature: 24	
Attendees: None												Humidity: 45%	
Project: None												Barometric Pres.: 30.25	
Tested by: David DiVergigelis						Power: 120VAC/60Hz			Job Site: EV12				
TEST SPECIFICATIONS												Test Method	
FCC 15.407:2008						ANSI C63.4:2003 DA 02-2138:2002							
TEST PARAMETERS													
Antenna Height(s) (m)						1 - 4		Test Distance (m)		3			
COMMENTS													
See comments below for Channel.													
EUT OPERATING MODES													
Transmitting 802.11(a), 6Mbps													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		7		<i>Signature</i> 									
Configuration #		1											
Results		Pass											
													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
11194.830	63.7	-11.8	222.0	1.0	3.0	0.0	H-Horn	PK	0.0	51.9	68.2	-16.3	Channel 120
11406.620	62.6	-12.0	46.0	1.0	3.0	0.0	H-Horn	PK	0.0	50.6	68.2	-17.6	Channel 140
10996.200	61.4	-11.6	267.0	1.0	3.0	0.0	V-Horn	PK	0.0	49.8	68.2	-18.4	Channel 100
11005.800	60.8	-11.6	286.0	1.0	3.0	0.0	H-Horn	PK	0.0	49.2	68.2	-19.0	Channel 100
11205.290	56.9	-11.8	250.0	1.5	3.0	0.0	V-Horn	PK	0.0	45.1	68.2	-23.1	Channel 120
11392.380	53.8	-12.0	244.0	1.3	3.0	0.0	V-Horn	PK	0.0	41.8	68.2	-26.4	Channel 140

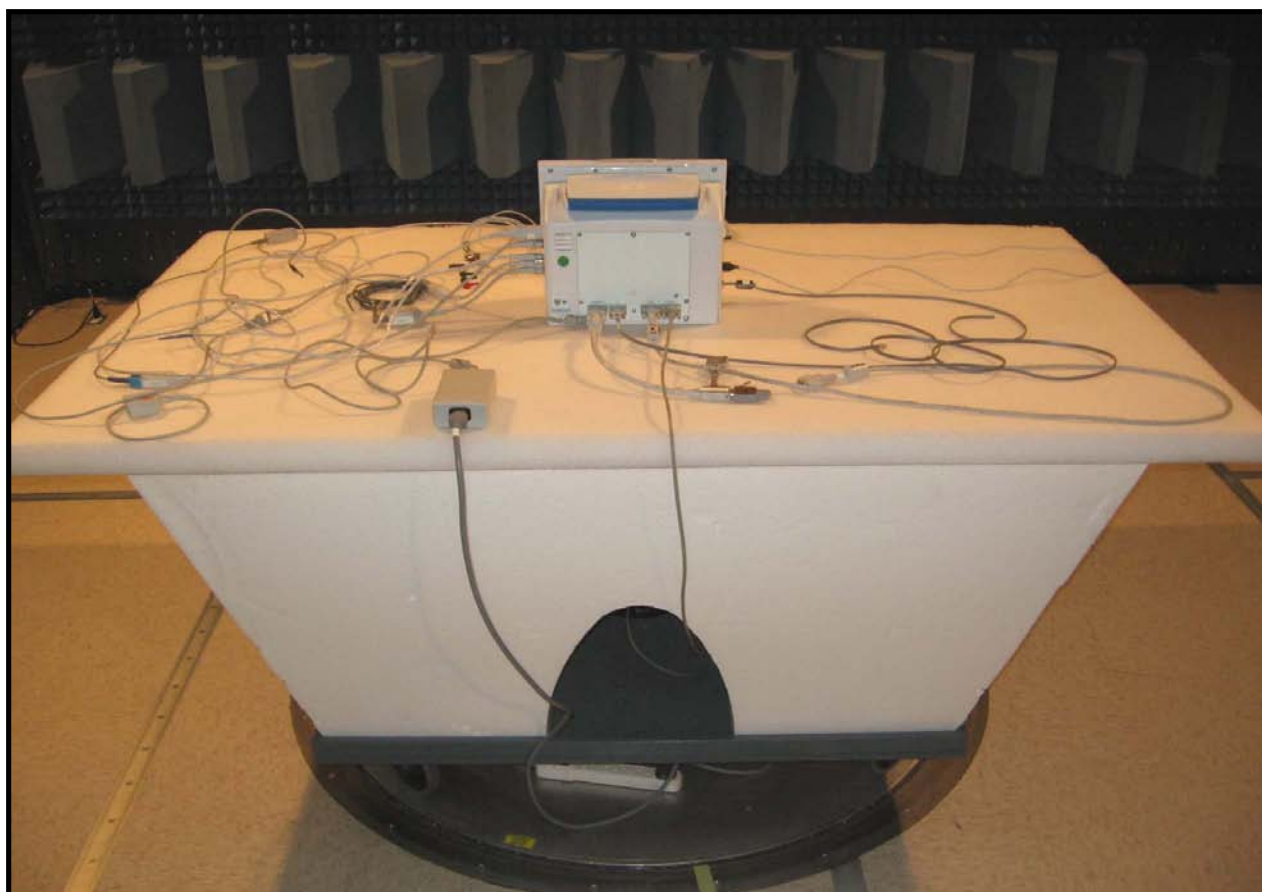
NORTHWEST		SPURIOUS RADIATED EMISSIONS DATA SHEET										PSA 2007.05.07	
EMC												EMI 2008.1.9	
EUT: Ultraview SL Wireless Option										Work Order: SPAC0447			
Serial Number: Various, see config page										Date: 11/11/08			
Customer: Spacelabs Healthcare										Temperature: 24			
Attendees: None										Humidity: 45%			
Project: None										Barometric Pres.: 30.25			
Tested by: David DiVergigelis						Power: 120VAC/60Hz		Job Site: EV12					
TEST SPECIFICATIONS										Test Method			
FCC 15.209:2008						ANSI C63.4:2003							
TEST PARAMETERS													
Antenna Height(s) (m)						1 - 4		Test Distance (m)		3			
COMMENTS													
See comments below for Channel.													
EUT OPERATING MODES													
Transmitting 802.11(a)													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		8		 Signature									
Configuration #		1											
Results		Pass											
													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
11000.200	45.4	-11.6	234.0	1.0	3.0	0.0	V-Horn	AV	0.0	33.8	54.0	-20.2	Channel 100
11201.100	45.4	-11.8	219.0	1.0	3.0	0.0	H-Horn	AV	0.0	33.6	54.0	-20.4	Channel 120
11398.350	44.6	-12.0	294.0	1.0	3.0	0.0	H-Horn	AV	0.0	32.6	54.0	-21.4	Channel 140
11401.400	44.5	-12.0	292.0	1.0	3.0	0.0	V-Horn	AV	0.0	32.5	54.0	-21.5	Channel 140
10999.600	43.0	-11.6	284.0	1.0	3.0	0.0	H-Horn	AV	0.0	31.4	54.0	-22.6	Channel 100
11194.150	61.0	-11.8	219.0	1.0	3.0	0.0	H-Horn	PK	0.0	49.2	74.0	-24.8	Channel 120
11204.500	40.8	-11.8	343.0	1.0	3.0	0.0	V-Horn	AV	0.0	29.0	54.0	-25.0	Channel 120
10998.500	60.2	-11.6	234.0	1.0	3.0	0.0	V-Horn	PK	0.0	48.6	74.0	-25.4	Channel 100
11401.100	60.3	-12.0	292.0	1.0	3.0	0.0	V-Horn	PK	0.0	48.3	74.0	-25.7	Channel 140
11402.900	60.0	-12.0	294.0	1.0	3.0	0.0	H-Horn	PK	0.0	48.0	74.0	-26.0	Channel 140
11002.800	57.8	-11.6	284.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.2	74.0	-27.8	Channel 100
11207.150	54.6	-11.8	343.0	1.0	3.0	0.0	V-Horn	PK	0.0	42.8	74.0	-31.2	Channel 120

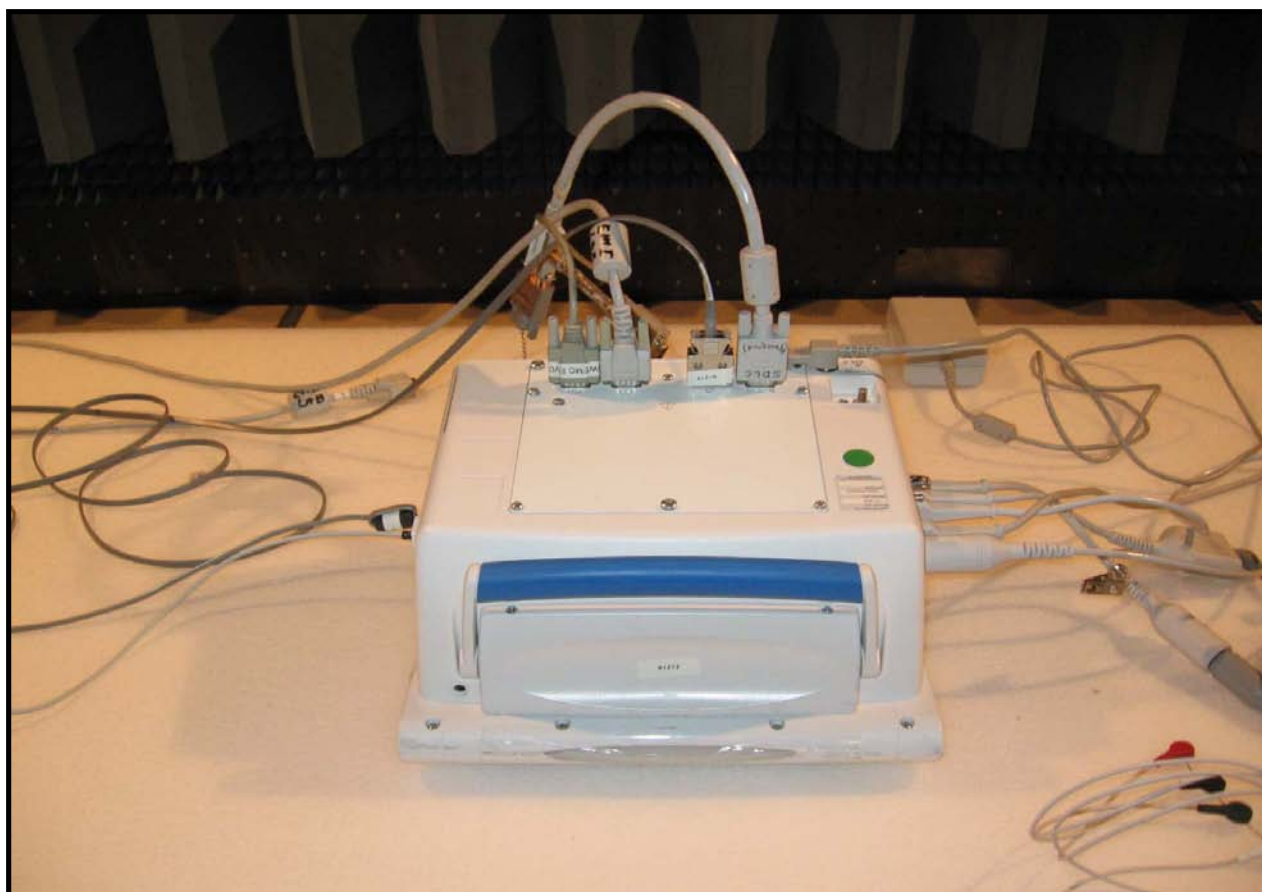
NORTHWEST		SPURIOUS RADIATED EMISSIONS DATA SHEET										PSA 2007.05.07	
EMC												EMI 2008.1.9	
EUT: Ultraview SL Wireless Option												Work Order: SPAC0447	
Serial Number: Various, see config page												Date: 11/11/08	
Customer: Spacelabs Healthcare												Temperature: 24	
Attendees: None												Humidity: 45%	
Project: None												Barometric Pres.: 30.25	
Tested by: David DiVergigelis								Power: 120VAC/60Hz		Job Site: EV12			
TEST SPECIFICATIONS												Test Method	
FCC 15.407:2008												ANSI C63.4:2003 DA 02-2138:2002	
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4				Test Distance (m)		3					
COMMENTS													
See comments below for Channel.													
EUT OPERATING MODES													
Transmitting 802.11(a), 6Mbps													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		9											
Configuration #		1											
Results		Pass											
Signature <i>David DiVergigelis</i>													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
17086.450	50.4	1.1	132.0	1.0	3.0	0.0	V-Horn	PK	0.0	51.5	68.2	-16.7	Channel 140
16795.500	49.5	1.4	215.0	1.0	3.0	0.0	V-Horn	PK	0.0	50.9	68.2	-17.3	Channel 120
16805.000	47.2	1.4	320.0	1.0	3.0	0.0	H-Horn	PK	0.0	48.6	68.2	-19.6	Channel 120
17101.100	46.9	1.1	184.0	1.0	3.0	0.0	H-Horn	PK	0.0	48.0	68.2	-20.2	Channel 140
16510.800	45.0	1.5	304.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.5	68.2	-21.7	Channel 100
16502.300	44.2	1.5	277.0	1.0	3.0	0.0	V-Horn	PK	0.0	45.7	68.2	-22.5	Channel 100

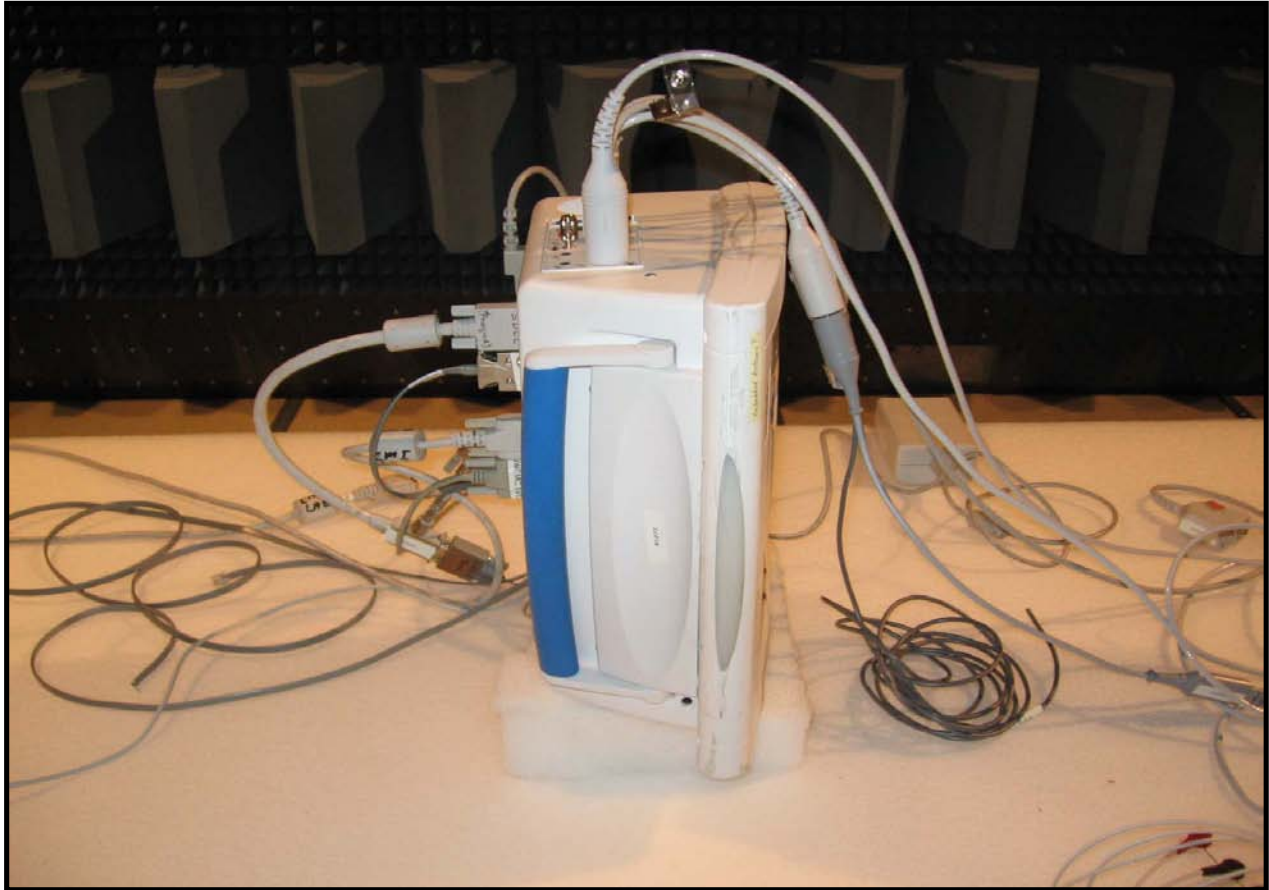
NORTHWEST		PSA 2007.05.07 EMI 2008.7.3											
EMC		SPURIOUS RADIATED EMISSIONS DATA SHEET											
EUT: Ultraview SL Wireless Option		Work Order: SPAC0447											
Serial Number: Various, see config page		Date: 11/12/08											
Customer: Spacelabs Healthcare		Temperature: 24											
Attendees: None		Humidity: 45%											
Project: None		Barometric Pres.: 30.25											
Tested by: David DiVergigelis		Power: 120VAC/60Hz	Job Site: EV12										
TEST SPECIFICATIONS													
FCC 15.209:2008		ANSI C63.4:2003											
TEST PARAMETERS													
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3										
COMMENTS													
EUT OPERATING MODES													
Transmitting 802.11(a), 6Mbps													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #	10	<i>David DiVergigelis</i> Signature											
Configuration #	1												
Results	Pass												
MHz													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
15775.900	34.0	1.5	0.0	1.0	3.0	0.0	V-Horn	AV	0.0	35.5	54.0	-18.5	Channel 52
15778.430	31.7	1.5	339.0	1.0	3.0	0.0	H-Horn	AV	0.0	33.2	54.0	-20.8	Channel 52
15541.830	31.8	1.4	0.0	1.0	3.0	0.0	V-Horn	AV	0.0	33.2	54.0	-20.8	Channel 36
15962.770	31.4	1.6	55.0	1.0	3.0	0.0	H-Horn	AV	0.0	33.0	54.0	-21.0	Channel 64
15540.230	31.5	1.4	287.0	1.0	3.0	0.0	H-Horn	AV	0.0	32.9	54.0	-21.1	Channel 36
15965.600	31.1	1.6	4.0	1.0	3.0	0.0	V-Horn	AV	0.0	32.7	54.0	-21.3	Channel 64
15787.200	50.9	1.5	0.0	1.0	3.0	0.0	V-Horn	PK	0.0	52.4	74.0	-21.6	Channel 52
15715.500	30.6	1.5	102.0	1.8	3.0	0.0	H-Horn	AV	0.0	32.1	54.0	-21.9	Channel 48
15715.870	30.4	1.5	229.0	1.0	3.0	0.0	V-Horn	AV	0.0	31.9	54.0	-22.1	Channel 48
15954.870	45.0	1.6	55.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.6	74.0	-27.4	Channel 64
15955.700	44.2	1.6	4.0	1.0	3.0	0.0	V-Horn	PK	0.0	45.8	74.0	-28.2	Channel 64
15532.800	44.2	1.4	0.0	1.0	3.0	0.0	V-Horn	PK	0.0	45.6	74.0	-28.4	Channel 36
15543.730	44.1	1.4	287.0	1.0	3.0	0.0	H-Horn	PK	0.0	45.5	74.0	-28.5	Channel 36
15778.870	43.7	1.5	339.0	1.0	3.0	0.0	H-Horn	PK	0.0	45.2	74.0	-28.8	Channel 52
15716.070	43.0	1.5	102.0	1.8	3.0	0.0	H-Horn	PK	0.0	44.5	74.0	-29.5	Channel 48
15719.200	43.0	1.5	229.0	1.0	3.0	0.0	V-Horn	PK	0.0	44.5	74.0	-29.5	Channel 48

NORTHWEST		SPURIOUS RADIATED EMISSIONS DATA SHEET		PSA 2007.05.07									
EMC				EMI 2008.7.3									
EUT: Ultraview SL Wireless Option			Work Order: SPAC0447										
Serial Number: Various, see config page			Date: 11/12/08										
Customer: Spacelabs Healthcare			Temperature: 24										
Attendees: None			Humidity: 45%										
Project: None			Barometric Pres.: 30.25										
Tested by: David DiVergigelis			Power: 120VAC/60Hz		Job Site: EV12								
TEST SPECIFICATIONS			Test Method										
FCC 15.407:2008			ANSI C63.4:2003 DA 02-2138:2002										
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3									
COMMENTS													
EUT OPERATING MODES													
Transmitting 802.11(a), 6Mbps													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		10		<i>Signature</i> 									
Configuration #		1											
Results		Pass											
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
15787.200	50.9	1.5	0.0	1.0	3.0	0.0	V-Horn	PK	0.0	52.4	68.2	-15.8	Channel 52
15954.870	45.0	1.6	55.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.6	68.2	-21.6	Channel 64
15955.700	44.2	1.6	4.0	1.0	3.0	0.0	V-Horn	PK	0.0	45.8	68.2	-22.4	Channel 64
15532.800	44.2	1.4	0.0	1.0	3.0	0.0	V-Horn	PK	0.0	45.6	68.2	-22.6	Channel 36
15543.730	44.1	1.4	287.0	1.0	3.0	0.0	H-Horn	PK	0.0	45.5	68.2	-22.7	Channel 36
15778.870	43.7	1.5	339.0	1.0	3.0	0.0	H-Horn	PK	0.0	45.2	68.2	-23.0	Channel 52
15716.070	43.0	1.5	102.0	1.8	3.0	0.0	H-Horn	PK	0.0	44.5	68.2	-23.7	Channel 48
15719.200	43.0	1.5	229.0	1.0	3.0	0.0	V-Horn	PK	0.0	44.5	68.2	-23.7	Channel 48

NORTHWEST EMC		SPURIOUS RADIATED EMISSIONS DATA SHEET										PSA 2007.05.07 EMI 2008.1.9	
EUT: Ultraview SL Wireless Option												Work Order: SPAC0447	
Serial Number: Various, see config page												Date: 11/14/08	
Customer: Spacelabs Healthcare												Temperature: 24	
Attendees: None												Humidity: 45%	
Project: None												Barometric Pres.: 30.25	
Tested by: David DiVergigelis						Power: 120VAC/60Hz			Job Site: EV12				
TEST SPECIFICATIONS												Test Method	
FCC 15.209:2008						ANSI C63.4:2003							
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 2.5				Test Distance (m)		1					
COMMENTS													
None													
EUT OPERATING MODES													
Transmitting 802.11(a), 6Mbps													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		14											
Configuration #		1											
Results		Pass											
Signature <i>David DiVergigelis</i>													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
5149.293	20.3	36.5	360.0	1.0	1.0	0.0	V-Horn	AV	-9.5	47.3	54.0	-6.7	EUT in typical position. Channel 36
5149.315	20.2	36.5	360.0	1.0	1.0	0.0	H-Horn	AV	-9.5	47.2	54.0	-6.8	EUT display down. Channel 36
5149.720	20.2	36.5	360.0	1.0	1.0	0.0	V-Horn	AV	-9.5	47.2	54.0	-6.8	EUT on side. Channel 36
5149.237	20.1	36.5	0.0	1.0	1.0	0.0	V-Horn	AV	-9.5	47.1	54.0	-6.9	EUT display down. Channel 36
5149.408	20.1	36.5	0.0	1.0	1.0	0.0	H-Horn	AV	-9.5	47.1	54.0	-6.9	EUT on side. Channel 36
5360.504	19.7	36.9	0.0	1.0	1.0	0.0	H-Horn	AV	-9.5	47.1	54.0	-6.9	EUT in typical position. Channel 64
5146.166	20.0	36.5	360.0	1.0	1.0	0.0	H-Horn	AV	-9.5	47.0	54.0	-7.0	EUT in typical position. Channel 36
5360.777	19.6	36.9	360.0	1.0	1.0	0.0	V-Horn	AV	-9.5	47.0	54.0	-7.0	EUT in typical position. Channel 64
5149.408	26.1	36.5	0.0	1.0	1.0	0.0	H-Horn	PK	-9.5	53.1	74.0	-20.9	EUT on side. Channel 36
5149.237	25.6	36.5	0.0	1.0	1.0	0.0	V-Horn	PK	-9.5	52.6	74.0	-21.4	EUT display down. Channel 36
5149.315	25.5	36.5	360.0	1.0	1.0	0.0	H-Horn	PK	-9.5	52.5	74.0	-21.5	EUT display down. Channel 36
5149.293	25.3	36.5	360.0	1.0	1.0	0.0	V-Horn	PK	-9.5	52.3	74.0	-21.7	EUT in typical position. Channel 36
5150.067	25.2	36.5	360.0	1.0	1.0	0.0	V-Horn	PK	-9.5	52.2	74.0	-21.8	EUT on side. Channel 36
5360.709	24.8	36.9	0.0	1.0	1.0	0.0	H-Horn	PK	-9.5	52.2	74.0	-21.8	EUT in typical position. Channel 64
5360.777	24.7	36.9	360.0	1.0	1.0	0.0	V-Horn	PK	-9.5	52.1	74.0	-21.9	EUT in typical position. Channel 64
5150.013	24.6	36.5	360.0	1.0	1.0	0.0	H-Horn	PK	-9.5	51.6	74.0	-22.4	EUT in typical position. Channel 36







Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/27/2008	13
AC Power Source	Instek	APS-9050	TPK	NCR	0
Chamber Temp. & Humidity Controller	ESZ / Eurotherm	Dimension II	TBC	7/23/2008	12
Chamber, Temp./Humidity Chamber	Cincinnati Sub Zero (CSZ)	ZH-32-2-2-H/AC	TBA	7/23/2008	12

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

Variation of Supply Voltage

The primary supply voltage was varied from 85% to 115% of nominal. The EUT can only be operated from the public AC mains, so an AC lab supply was used to vary the supply voltage from 115% to 85% of 120 V, 60 Hz.

Variation of Ambient Temperature

Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range (-30° to +50° C) and at 10°C intervals.

Measurements were made at the single transmit frequency. The antenna is integral to the EUT, so a radiated measurement was made using a spectrum analyzer and a near field probe. The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT.

NORTHWEST		FREQUENCY STABILITY		XMIT 2007.06.13	
EMC		EUT: Ultraview SL Wireless Option		Work Order: SPAC0447	
Serial Number: Various, see config page				Date: 11/17/08	
Customer: Spacelabs Healthcare				Temperature: 22°C	
Attendees: None				Humidity: 55%	
Project: None				Barometric Pres.: 30.05	
Tested by: Rod Peloquin		Power: 120VAC/60Hz		Job Site: EV06	
TEST SPECIFICATIONS		Test Method			
FCC 15.407:2008		ANSI C63.4:2003 DA 02-2138:2002			
COMMENTS					
None					
DEVIATIONS FROM TEST STANDARD					
No Deviations					
Configuration #	2	 Signature			
		Value		Limit	Results
Mid Channel, 5150 MHz - 5250 MHz Band					

Frequency Stability with Variation of AC Voltage (Ambient Temperature = 20°C)

Voltage (VAC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
138 (115%)	5200.000000	5199.958600	7.96	n/a
120 (100%)	5200.000000	5199.957400	8.19	n/a
102 (85%)	5200.000000	5199.958200	8.04	n/a

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 120 VAC)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	5200.000000	5199.957500	8.17	n/a
40	5200.000000	5199.952900	9.06	n/a
30	5200.000000	5199.953500	8.94	n/a
20	5200.000000	5199.957400	8.19	n/a
10	5200.000000	5199.960700	7.56	n/a
0	5200.000000	5199.964100	6.90	n/a
-10	5200.000000	5199.962700	7.17	n/a
-20	5200.000000	5199.949700	9.67	n/a
-30	5200.000000	5199.926300	14.17	n/a

Mid Channel, 5250 MHz - 5350 MHz Band

Frequency Stability with Variation of AC Voltage (Ambient Temperature = 20°C)

Voltage (VAC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
138 (115%)	5300.000000	5299.957300	8.06	n/a
120 (100%)	5300.000000	5299.957300	8.06	n/a
102 (85%)	5300.000000	5299.958300	7.87	n/a

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 120 VAC)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	5300.000000	5299.955000	8.49	n/a
40	5300.000000	5299.952400	8.98	n/a
30	5300.000000	5299.954000	8.68	n/a
20	5300.000000	5299.958800	7.77	n/a
10	5300.000000	5299.963000	6.98	n/a
0	5300.000000	5299.963000	6.98	n/a
-10	5300.000000	5299.959400	7.66	n/a
-20	5300.000000	5299.944200	10.53	n/a
-30	5300.000000	5299.923000	14.53	n/a

Mid Channel, 5470 MHz - 5725 MHz Band

Frequency Stability with Variation of AC Voltage (Ambient Temperature = 20°C)

Voltage (VAC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
138 (115%)	5600.000000	5599.956400	7.79	n/a
120 (100%)	5600.000000	5599.956800	7.71	n/a
102 (85%)	5600.000000	5599.955800	7.89	n/a

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 120 VAC)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	5600.000000	5599.953400	8.32	n/a
40	5600.000000	5599.949800	8.96	n/a
30	5600.000000	5599.949400	9.04	n/a
20	5600.000000	5599.954600	8.11	n/a
10	5600.000000	5599.957000	7.68	n/a
0	5600.000000	5599.962000	6.79	n/a
-10	5600.000000	5599.960400	7.07	n/a
-20	5600.000000	5599.944200	9.96	n/a
-30	5600.000000	5599.922100	13.91	n/a

