Intermec Technologies Corporation

Model: RC12

Tested to the following Specifications:

FCC 15.247:2010
FCC 15.207:2010

Report No. INMC0575

Report Prepared By

NORTHWEST EMC

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

© 2010 Northwest EMC, Inc

EMC Test Report

22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test

Last Date of Test: August 11, 2010
Intermec Technologies Corporation
Model: RC12

Emissions			
Test Description	**Specification**	**Test Method**	**Pass/Fail**
Occupied Bandwidth	FCC 15.247:2010	ANSI C63.10:2009	**Pass**
Output Power – Channel Power	FCC 15.247:2010	ANSI C63.10:2009	**Pass**
Band Edge Compliance	FCC 15.247:2010	ANSI C63.10:2009	**Pass**
Spurious Conducted Emissions	FCC 15.247:2010	ANSI C63.10:2009	**Pass**
Power Spectral Density	FCC 15.247:2010	ANSI C63.10:2009	**Pass**
Spurious Radiated Emissions	FCC 15.247:2010	ANSI C63.10:2009	**Pass**
AC Powerline Conducted Emissions	FCC 15.207:2010	ANSI C63.10:2009	**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:

Don Facteau, IS 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
00	None		

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.

Accreditations and Authorizations

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
NVLAP LAB CODE 200881-0

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, Brooklyn Park: 2834E-1)*

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.

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).

Accreditations and Authorizations

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, G-84, C-2687, T-1658, and R-2318, Irvine: R-1943, G-85, C-2766, and T-1659, Sultan: R-871, G-83, C-1784, and T-1511, Brooklyn Park: R-3125, G-86, G-141, C-3464, and T-1634).*

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

KCC

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

VIETNAM

Vietnam MIC has approved Northwest EMC as an accredited test lab. Per Decision No. 194/QD-QLCL (dated December 15, 2009), Northwest EMC test reports can be used for Vietnam approval submissions.

SCOPE

For details on the Scopes of our Accreditations, please visit:
http://www.nwemc.com/accreditations/

Northwest EMC Locations

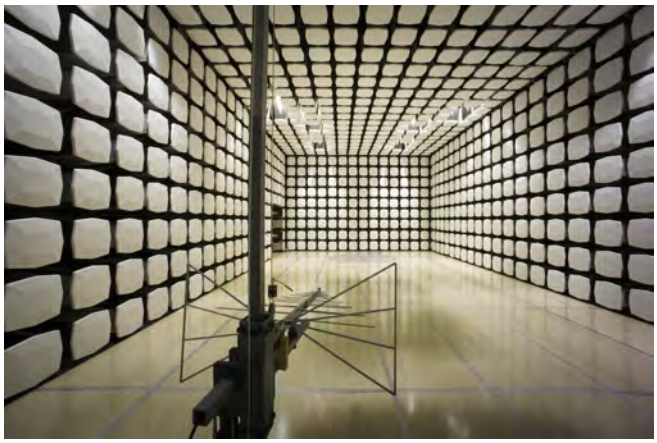
Oregon
Labs EV01-EV12
22975 NW Evergreen Pkwy
Suite 400
Hillsboro, OR 97124
(503) 844-4066

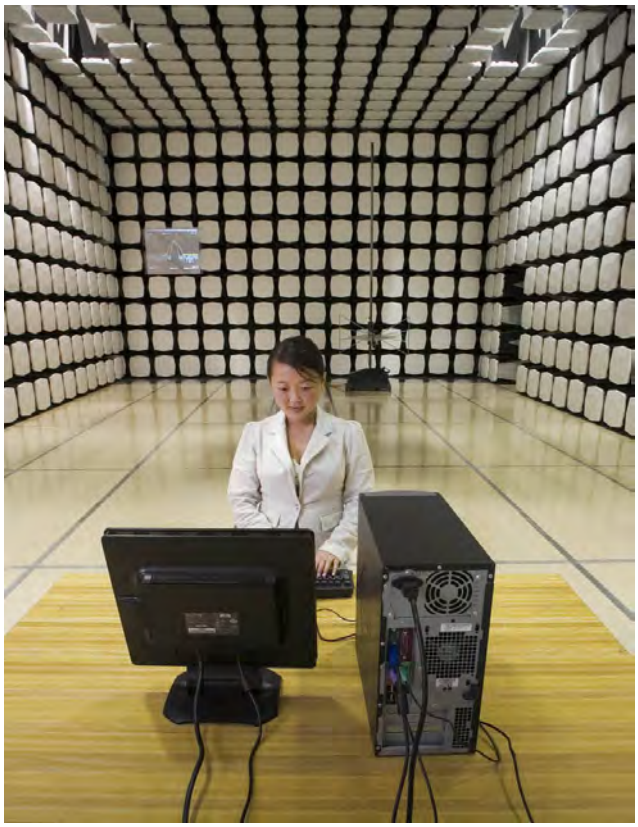
California
Labs OC01-OC13
41 Tesla
Irvine, CA 92618
(949) 861-8918

Minnesota
Labs MN01-MN08
9349 W Broadway Ave.
Brooklyn Park,
MN 55445
(763) 425-2281

Washington
Labs SU01-SU07
14128 339th Ave. SE
Sultan, WA 98294
(360) 793-8675

New York
Labs WA01-WA04
4939 Jordan Rd.
Elbridge, NY 13060
(315) 685-0796





Party Requesting the Test

Company Name:	Intermec Technologies Corporation
Address:	6001 36th Avenue West
City, State, Zip:	Everett, WA 98203-1264
Test Requested By:	Wayne Rieger
Model:	RC12
First Date of Test:	July 29, 2010
Last Date of Test:	August 11, 2010
Receipt Date of Samples:	July 27, 2010
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT (Equipment Under Test):
One combination 802.11a/b/g/n - Bluetooth radio seeking modular approval.

Testing Objective:
Seeking to demonstrate compliance of the 802.11a/b/g/n portion of the radio module to FCC 15.247 specifications in the 2.4 and 5.8 GHz bands.

CONFIGURATION 1 INMC0575

Software/Firmware Running during test	
Description	**Version**
Regulatory Test Tool	RTT_1.01.00.0007

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Galileo 802.11abgn and Bluetooth radio module	Intermec Technologies Corporation	ES5	R14

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Shuttle Board	Intermec Technologies Corporation	145-375-001	None
AC Adapter	Intermec Technologies Corporation	074749	None
Laird PIFA Antenna	Laird	CAF94400	None
Modular Antenna PCB Assembly	Centurion Wireless Technologies, Inc.	CAF94337	None
Power Supply	Topward Electric Instruments Co., LTD.	TPS-2000	946425

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Remote PC	Dell	Latitude D600	3XJ3H51

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC power	PA	1.85m	PA	AC Adapter	Shuttle Board
USB	Yes	5.0m	No	Shuttle Board	Remote PC
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

CONFIGURATION 2 INMC0575

Software/Firmware Running during test	
Description	**Version**
Regulatory Test Tool	RTT_1.01.00.0007

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Galileo 802.11abgn and Bluetooth radio module	Intermec Technologies Corporation	ES5	R11

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Shuttle Board	Intermec Technologies Corporation	145-375-001	None
AC Adapter	Intermec Technologies Corporation	074749	None
Laird PIFA Antenna	Laird	CAF94400	None
Modular Antenna PCB Assembly	Centurion Wireless Technologies, Inc.	CAF94337	None
Power Supply	Topward Electric Instruments Co., LTD.	TPS-2000	946425

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Remote PC	Dell	Inspiron 6000	NW EMC IS386

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC power	PA	1.85m	PA	AC Adapter	Shuttle Board
USB	Yes	3.0m	No	Shuttle Board	Remote PC
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

CONFIGURATION 3 INMC0575

Software/Firmware Running during test	
Description	**Version**
Regulatory Test Tool	RTT_1.01.00.0007

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Galileo 802.11abgn and Bluetooth radio module	Intermec Technologies Corporation	ES5	R11

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Shuttle Board	Intermec Technologies Corporation	145-375-001	None
Laird PIFA Antenna	Laird	CAF94400	None
Modular Antenna PCB Assembly	Centurion Wireless Technologies, Inc.	CAF94337	None
Power Supply	Topward Electric Instruments Co., LTD.	TPS-2000	946425

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Remote PC	Dell	Inspiron 6000	NW EMC IS386

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC power	PA	0.55m	PA	Power Supply	Shuttle Board
AC power	No	1.0m	No	Power Supply	AC Mains
USB	Yes	3.0m	No	Shuttle Board	Remote PC
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	7/29/2010	Output Power – Channel 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.
2	7/29/2010	Occupied 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.
3	7/30/2010	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.
4	8/2/2010	Band Edge Compliance	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	8/5/2010	Spurious 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.
6	8/5/2010	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	8/11/2010	AC Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

OCCUPIED BANDWIDTH

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	E4440A	AFD	6/1/2009	24
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/21/2009	13
26 GHz DC Block, SMA	Pasternack	PE8210	AME	10/19/2009	13
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

The occupied bandwidth was measured with the EUT set to low, medium, and high transmit frequencies in the FCC 15.247 2.4 GHz and 5 GHz bands. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at the required data rates available in 802.11(a)/(b)/(g)/(n).

NORTHWEST EMC

OCCUPIED BANDWIDTH

XMit 2010.07.29

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R11	Date:	07/29/10
Customer:	Intermec Technologies Corporation	Temperature:	23°C
Attendees:	none	Humidity:	42%
Project:	None	Barometric Pres.:	1019.3 mb
Tested by:	Rod Peloquin	Power: 5VDC	Job Site: EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

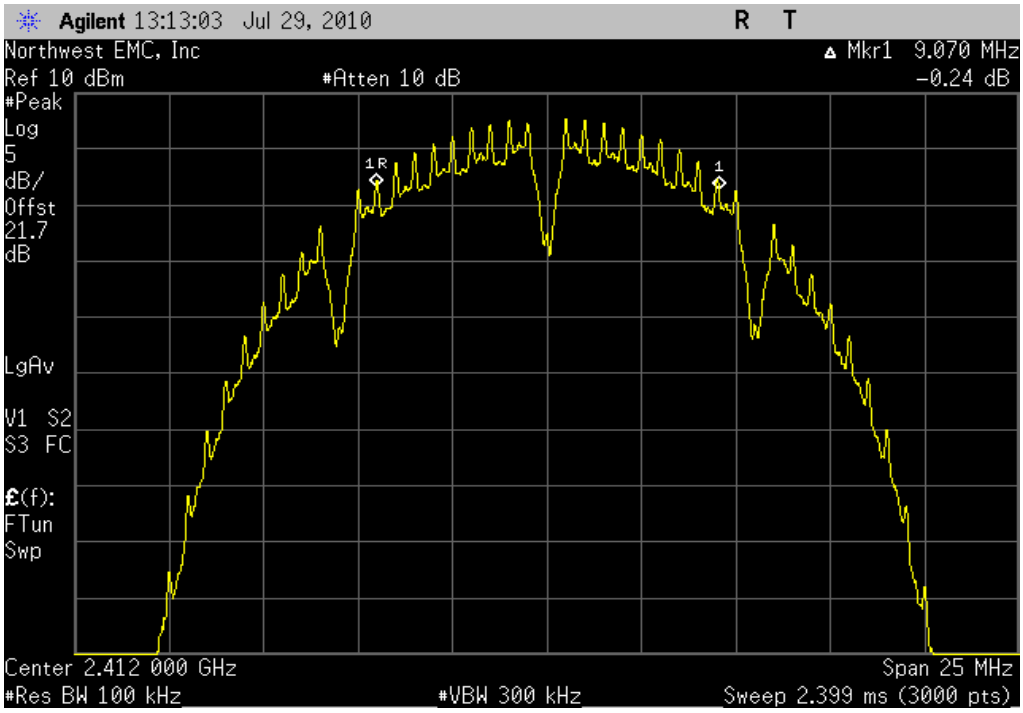
No Deviations

Configuration #	2	Signature

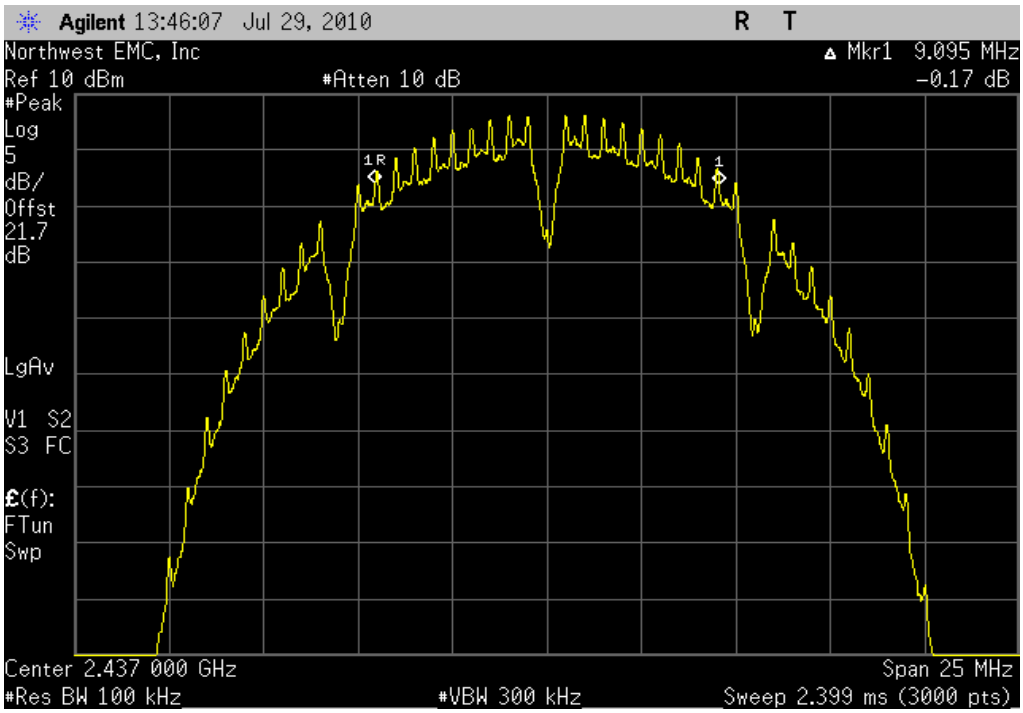
	Value	Limit	Results
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	9.070 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	9.095 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	9.095 MHz	> 500 kHz	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz	10.037 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	10.512 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	10.420 MHz	> 500 kHz	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	15.447 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	15.463 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	15.338 MHz	> 500 kHz	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz	16.389 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	16.339 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	16.372 MHz	> 500 kHz	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz	16.389 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	16.405 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	16.405 MHz	> 500 kHz	Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz	15.547 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	15.205 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	15.138 MHz	> 500 kHz	Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz	17.256 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	17.256 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	16.914 MHz	> 500 kHz	Pass
5725 MHz - 5850 MHz Band			
802.11(a) 6 Mbps			
Low Channel 149, 5745 MHz	15.480 MHz	> 500 kHz	Pass
Mid Channel 157, 5785 MHz	15.388 MHz	> 500 kHz	Pass
High Channel 165, 5825 MHz	15.789 MHz	> 500 kHz	Pass
802.11(a) 36 Mbps			
Low Channel 149, 5745 MHz	16.364 MHz	> 500 kHz	Pass
Mid Channel 157, 5785 MHz	16.339 MHz	> 500 kHz	Pass
High Channel 165, 5825 MHz	16.130 MHz	> 500 kHz	Pass
802.11(a) 54 Mbps			
Low Channel 149, 5745 MHz	16.422 MHz	> 500 kHz	Pass
Mid Channel 157, 5785 MHz	16.447 MHz	> 500 kHz	Pass
High Channel 165, 5825 MHz	16.397 MHz	> 500 kHz	Pass
802.11(n) MCS0			
Low Channel 149, 5745 MHz	15.689 MHz	> 500 kHz	Pass
Mid Channel 157, 5785 MHz	15.463 MHz	> 500 kHz	Pass
High Channel 165, 5825 MHz	15.739 MHz	> 500 kHz	Pass
802.11(n) MCS7			
Low Channel 149, 5745 MHz	17.256 MHz	> 500 kHz	Pass
Mid Channel 157, 5785 MHz	17.606 MHz	> 500 kHz	Pass
High Channel 165, 5825 MHz	17.156 MHz	> 500 kHz	Pass

OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	9.070 MHz	**Limit:**	> 500 kHz

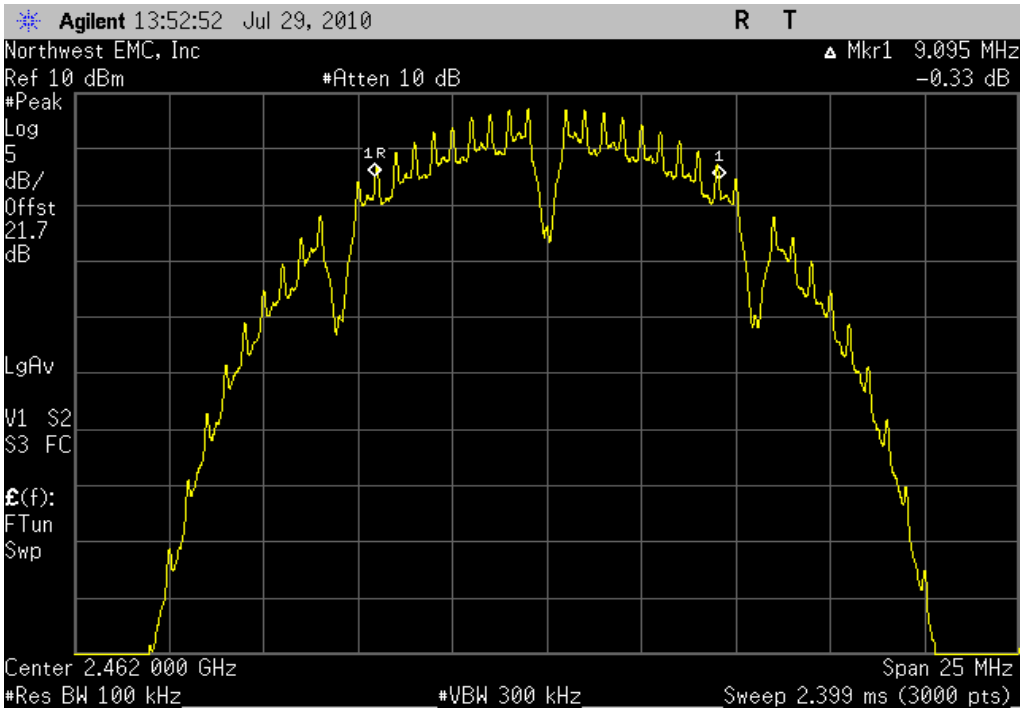


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	9.095 MHz	**Limit:**	> 500 kHz

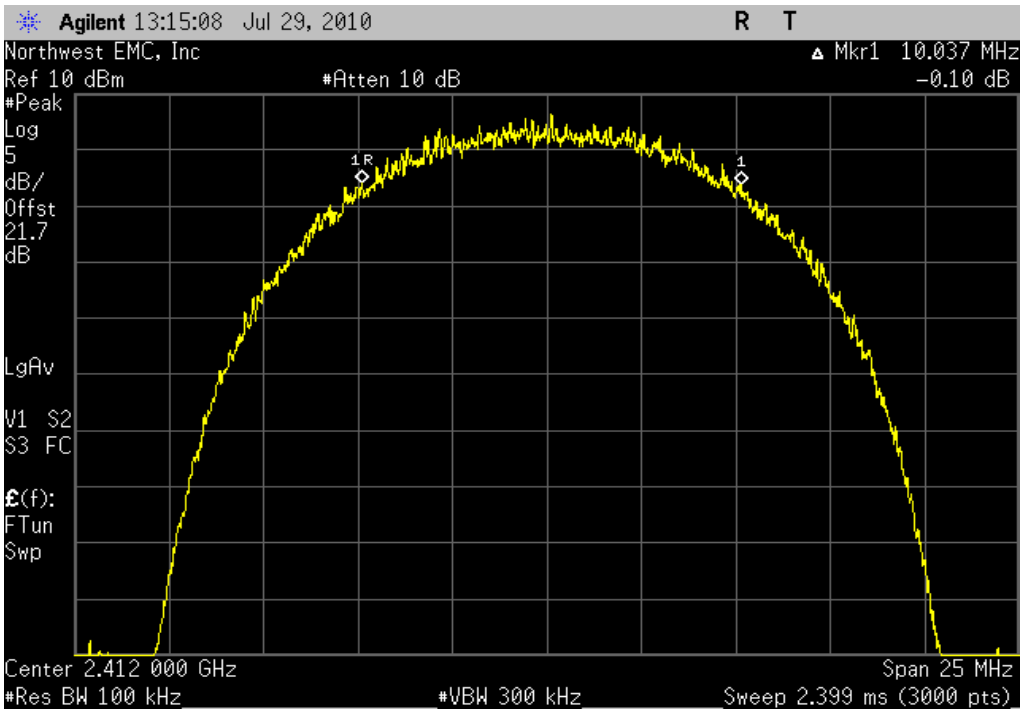


OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	9.095 MHz	**Limit:**	> 500 kHz

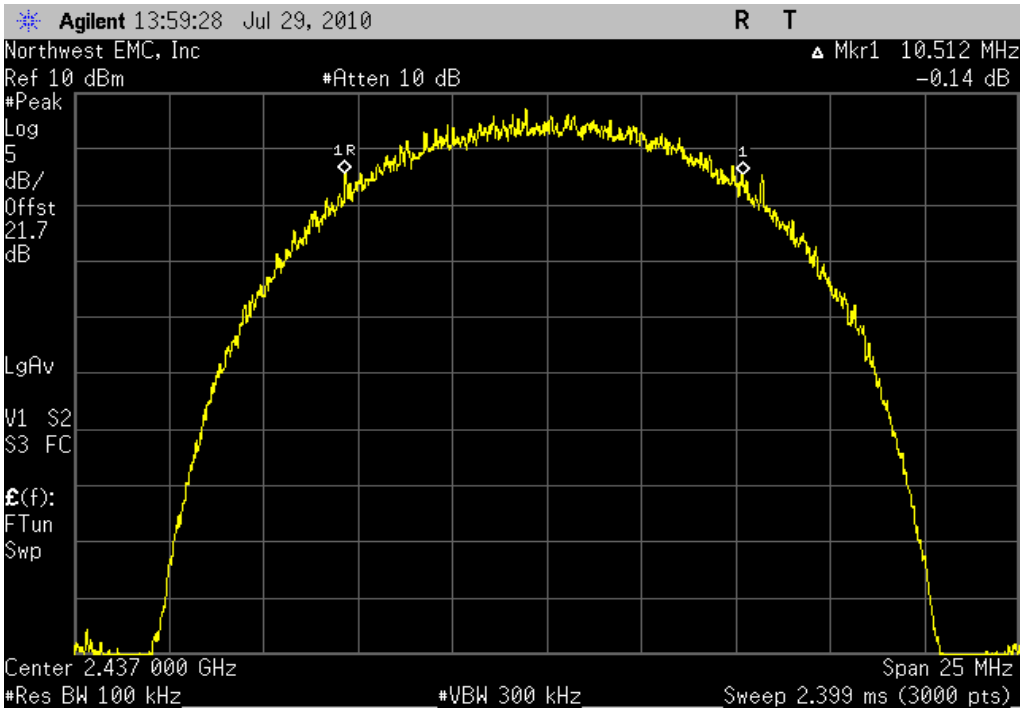


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	10.037 MHz	**Limit:**	> 500 kHz

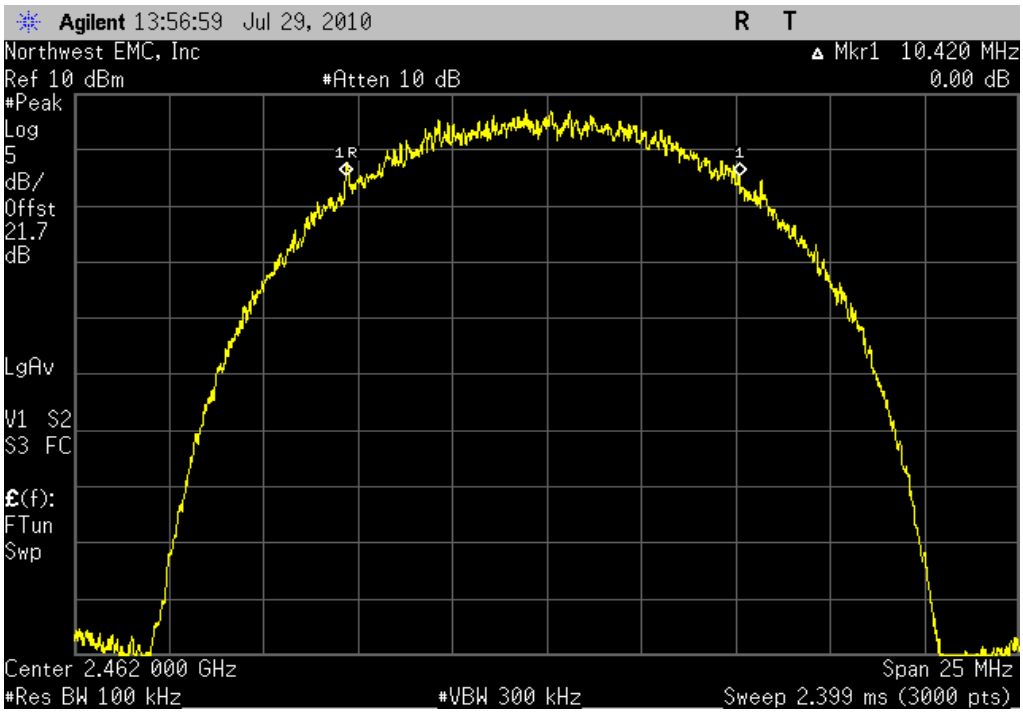


OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	10.512 MHz	**Limit:**	> 500 kHz

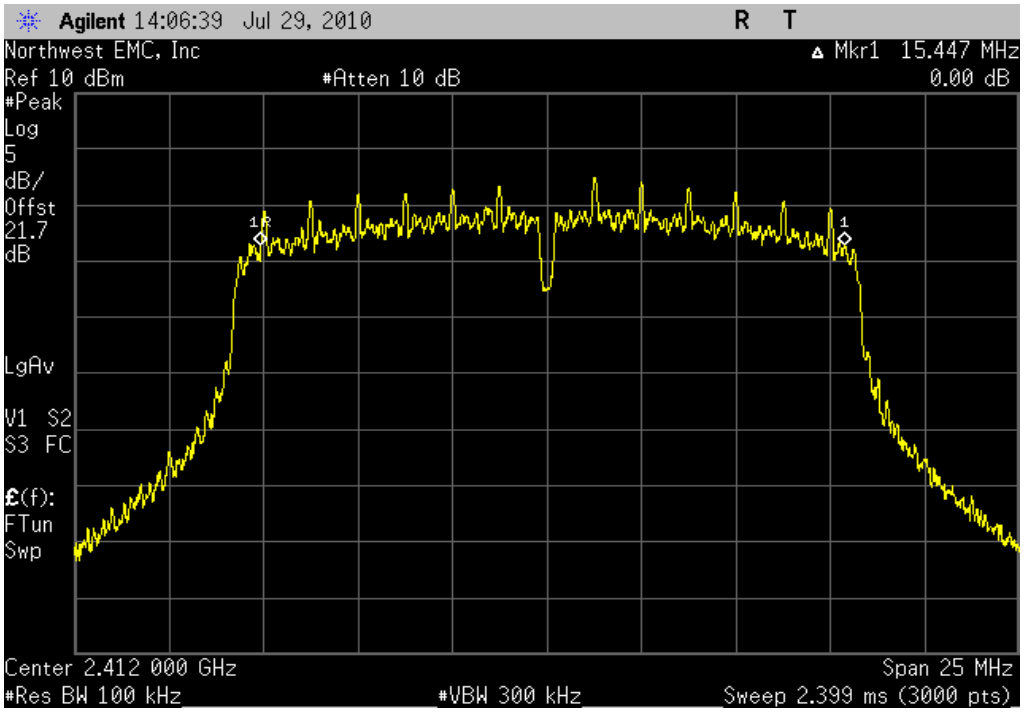


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	10.420 MHz	**Limit:**	> 500 kHz

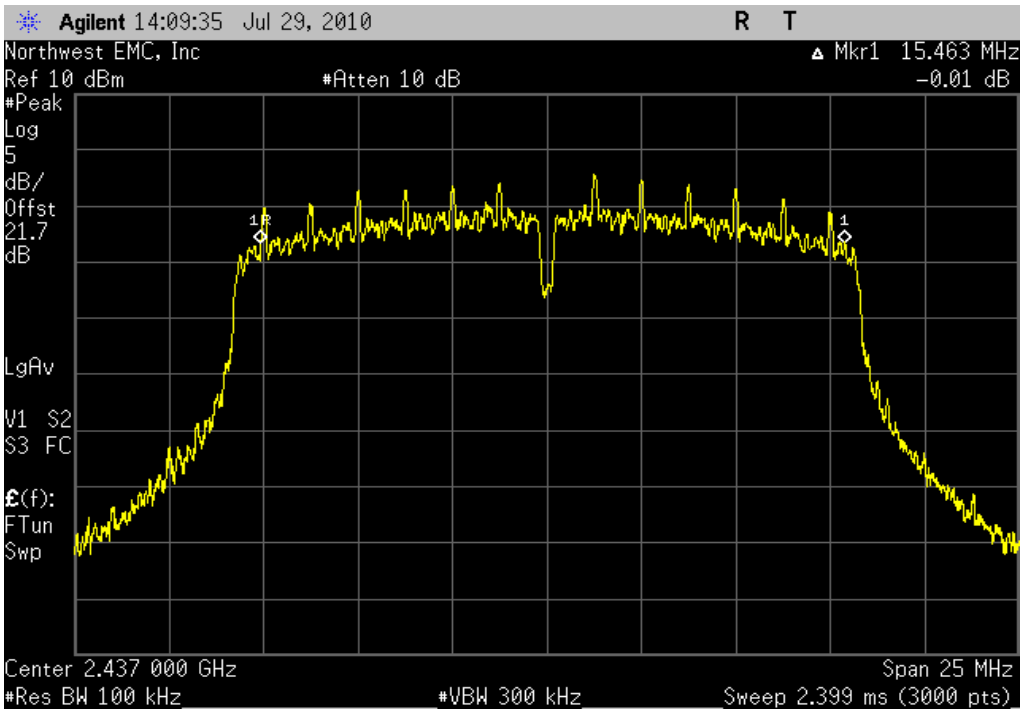


OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	15.447 MHz	**Limit:**	> 500 kHz

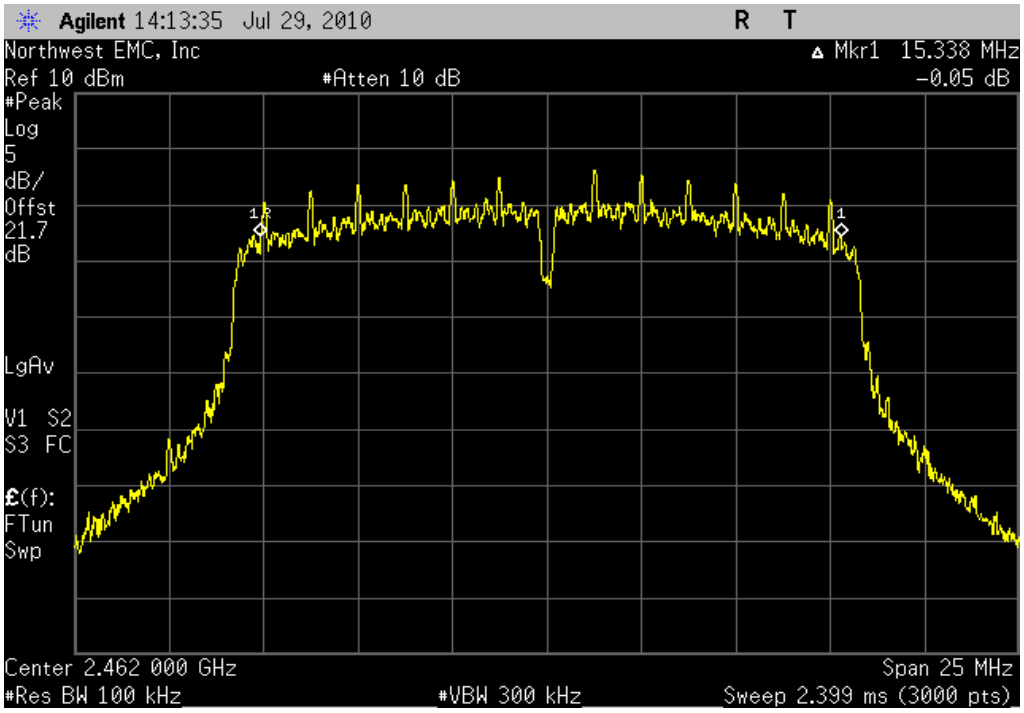


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	15.463 MHz	**Limit:**	> 500 kHz

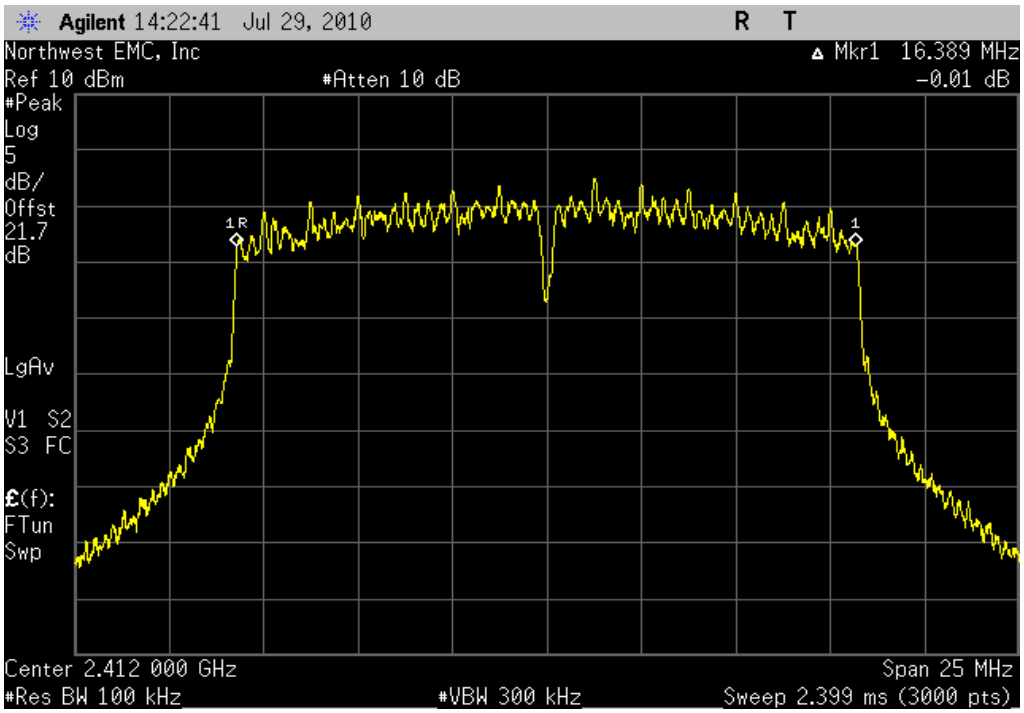


OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	15.338 MHz	**Limit:**	> 500 kHz

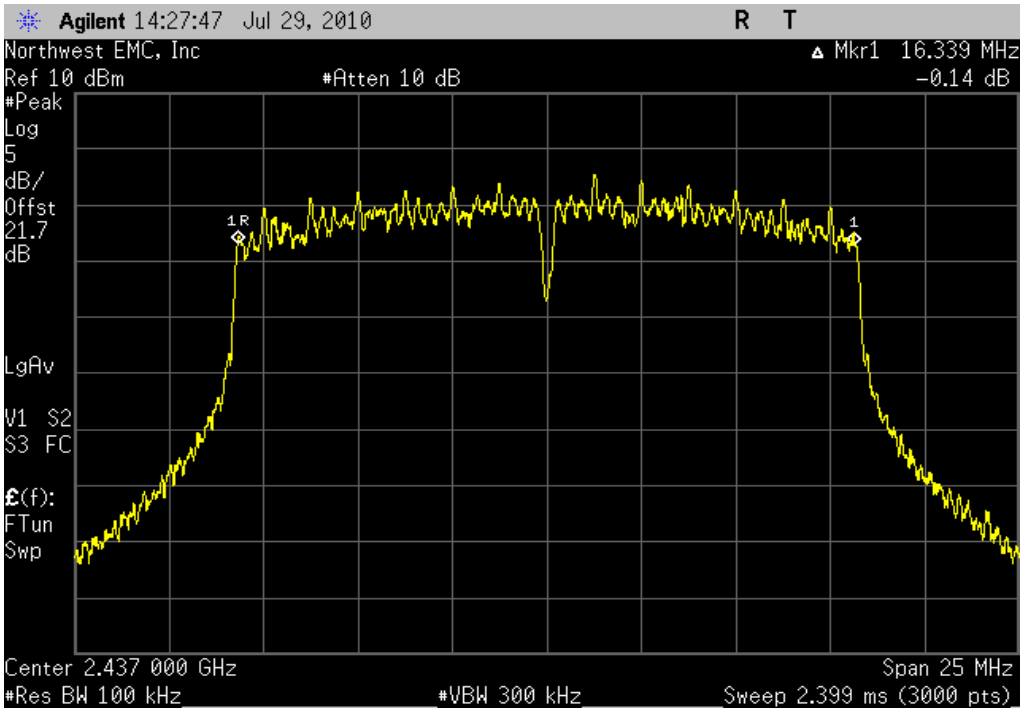


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	16.389 MHz	**Limit:**	> 500 kHz

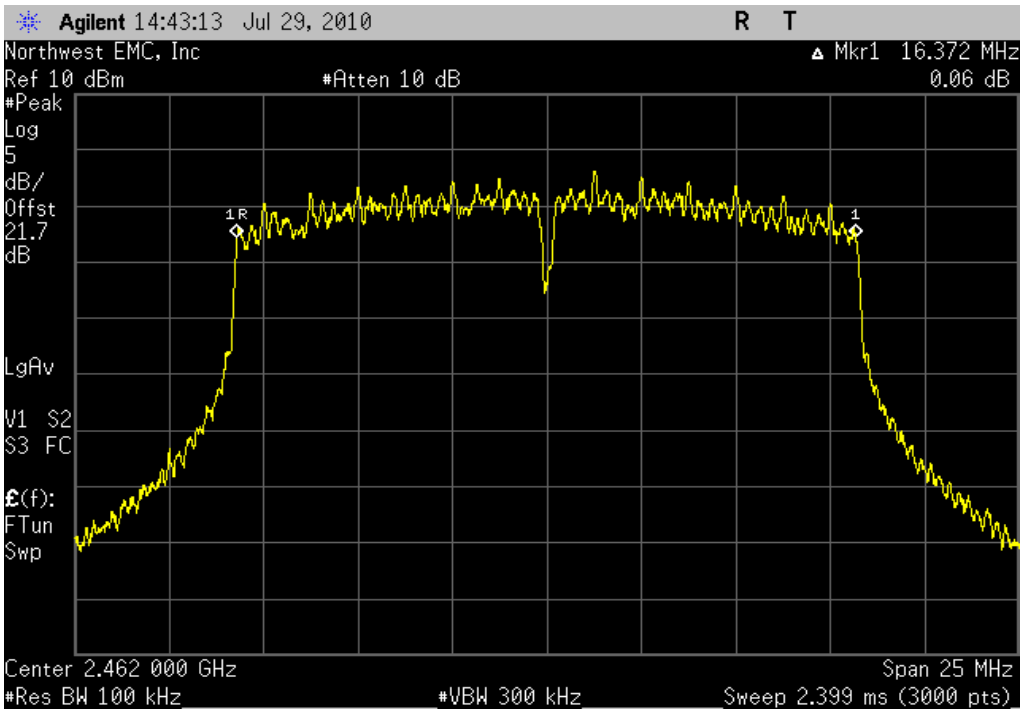


OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	16.339 MHz	**Limit:**	> 500 kHz

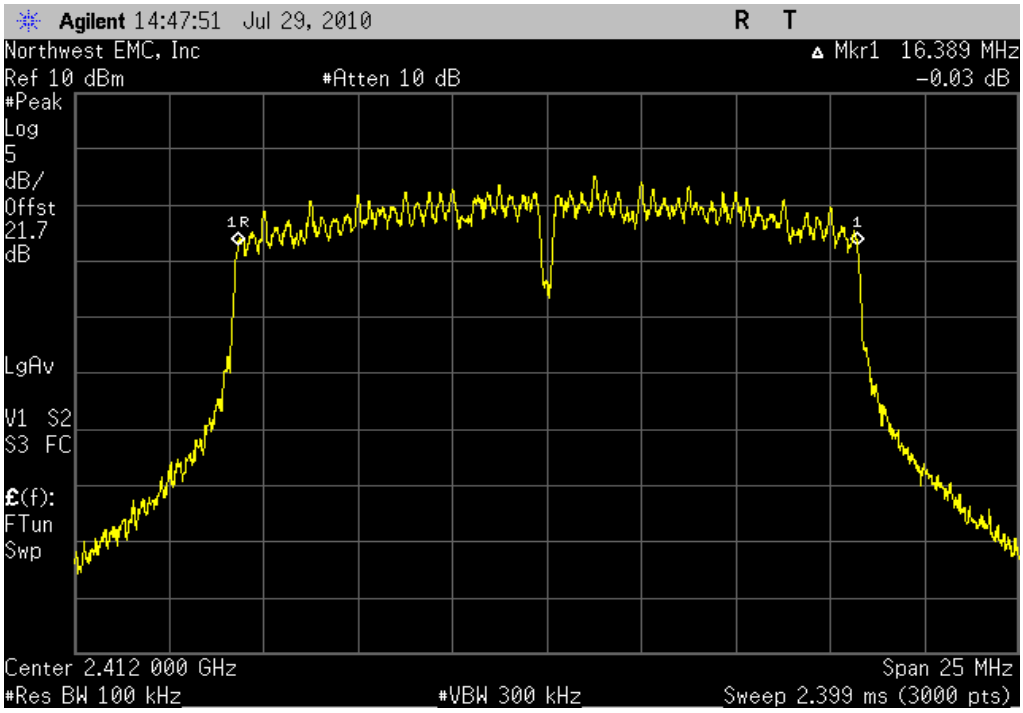


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	16.372 MHz	**Limit:**	> 500 kHz

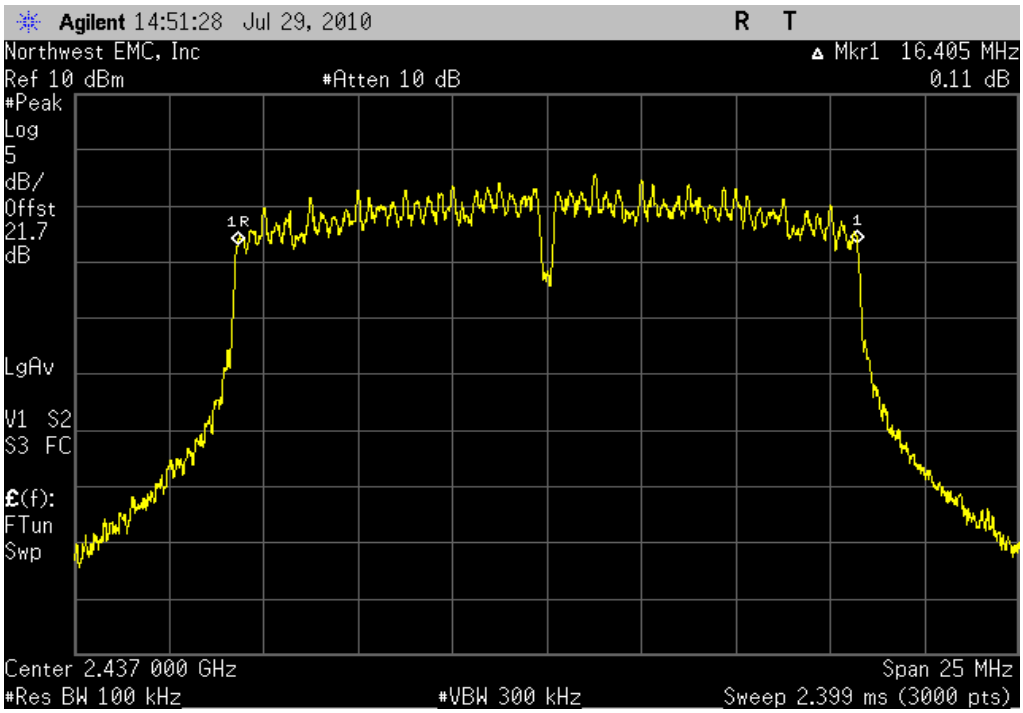


OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	16.389 MHz	**Limit:**	> 500 kHz

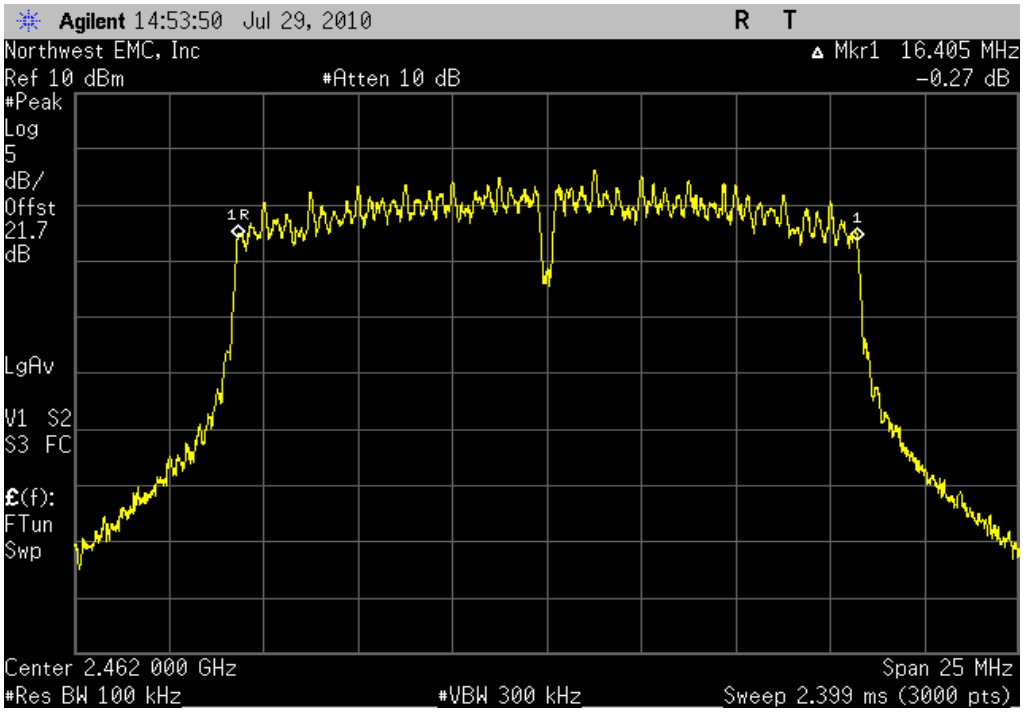


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	16.405 MHz	**Limit:**	> 500 kHz

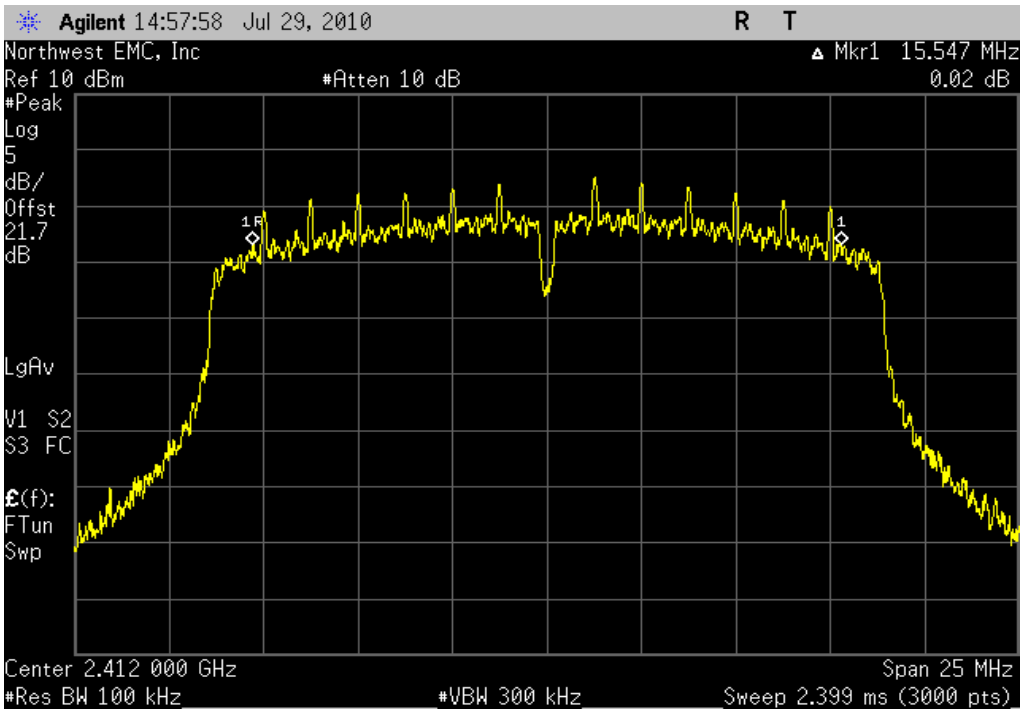


OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	16.405 MHz	**Limit:**	> 500 kHz

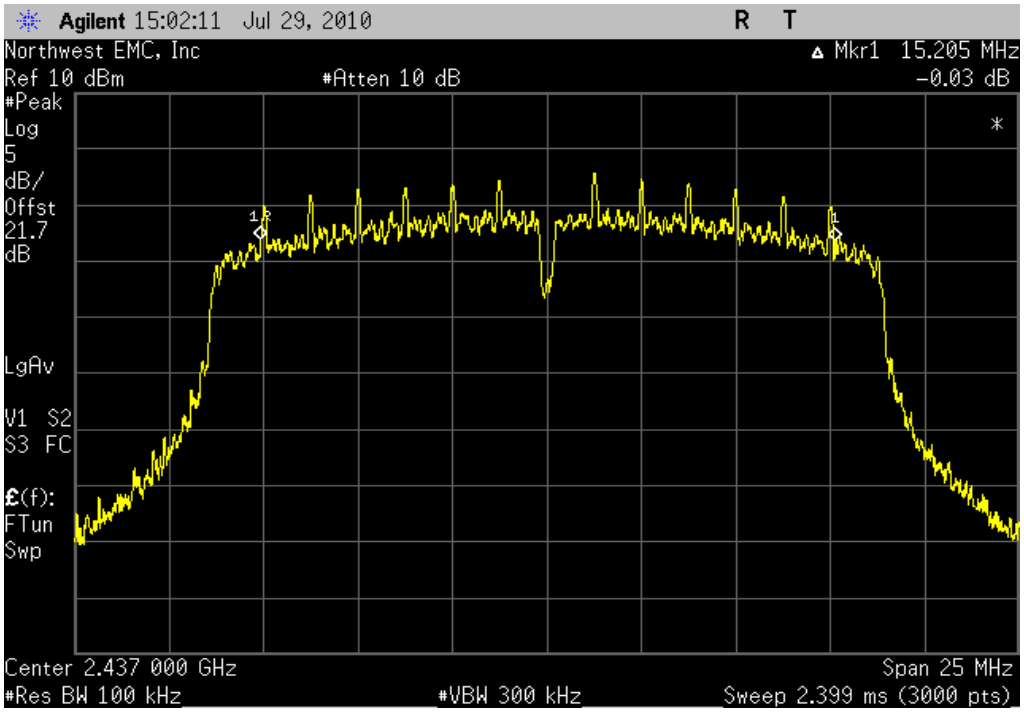


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	15.547 MHz	**Limit:**	> 500 kHz

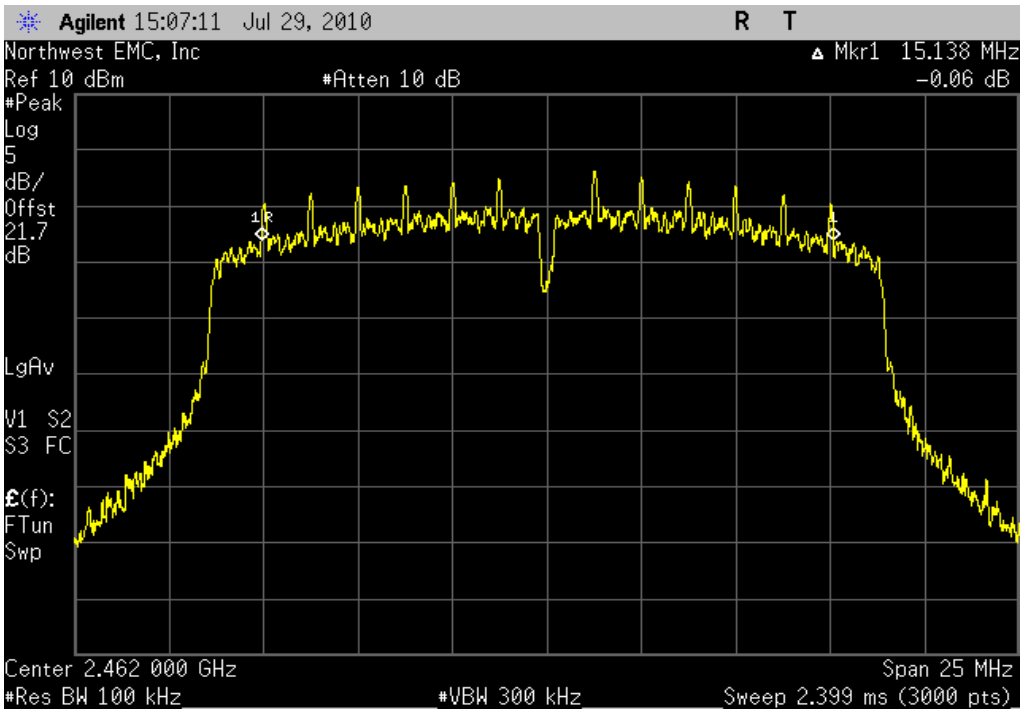


OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	15.205 MHz	**Limit:**	> 500 kHz

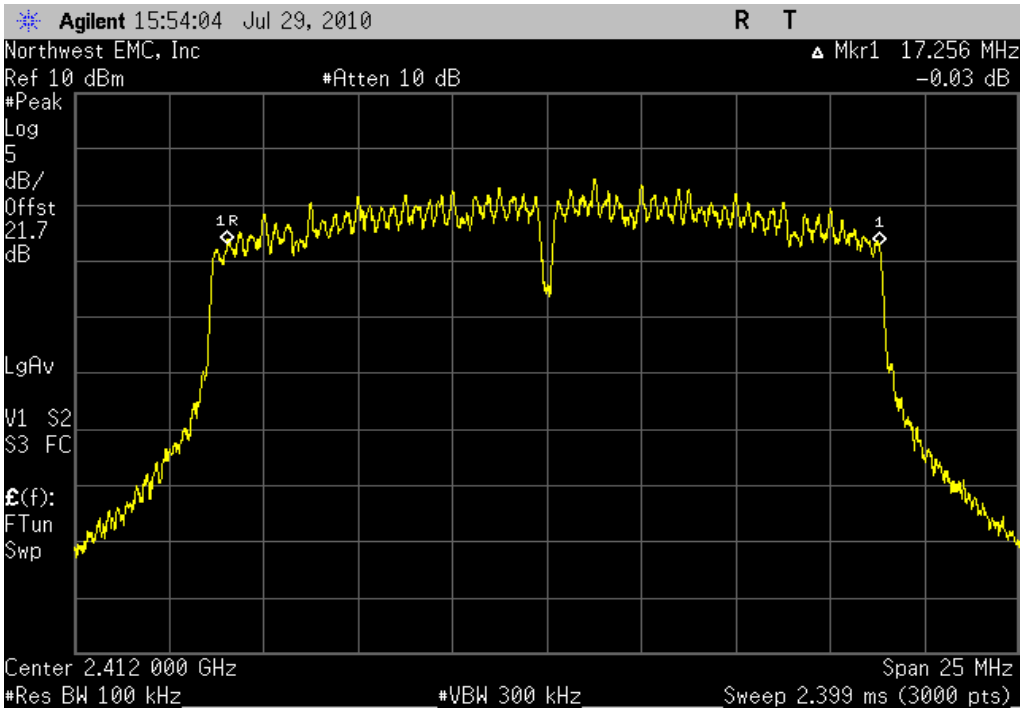


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	15.138 MHz	**Limit:**	> 500 kHz

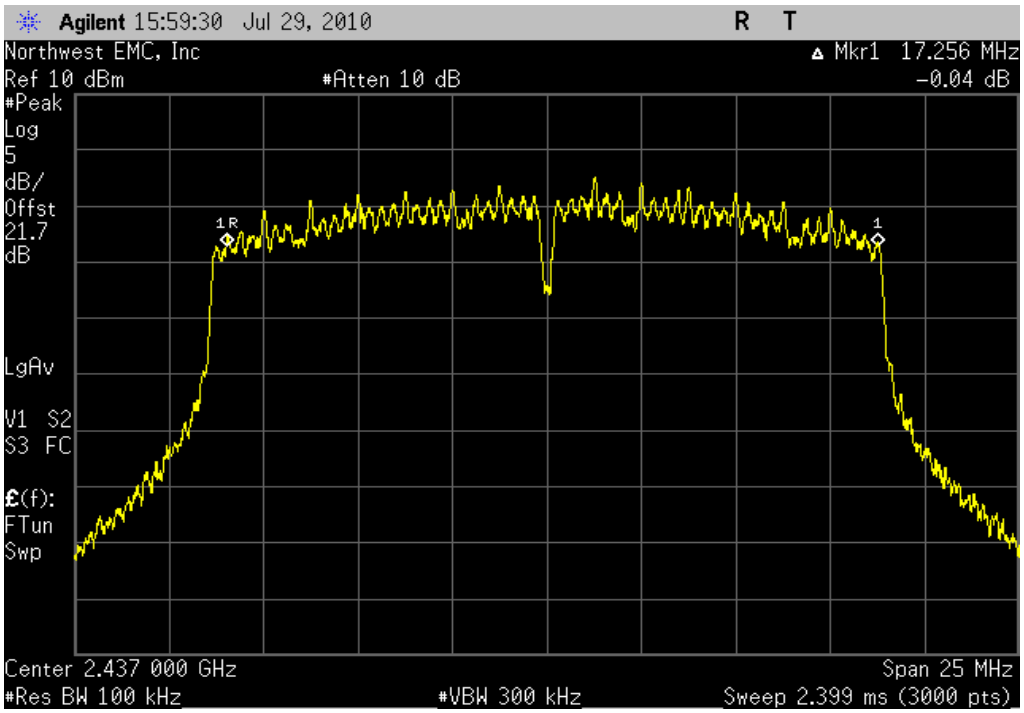


OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	17.256 MHz	**Limit:**	> 500 kHz

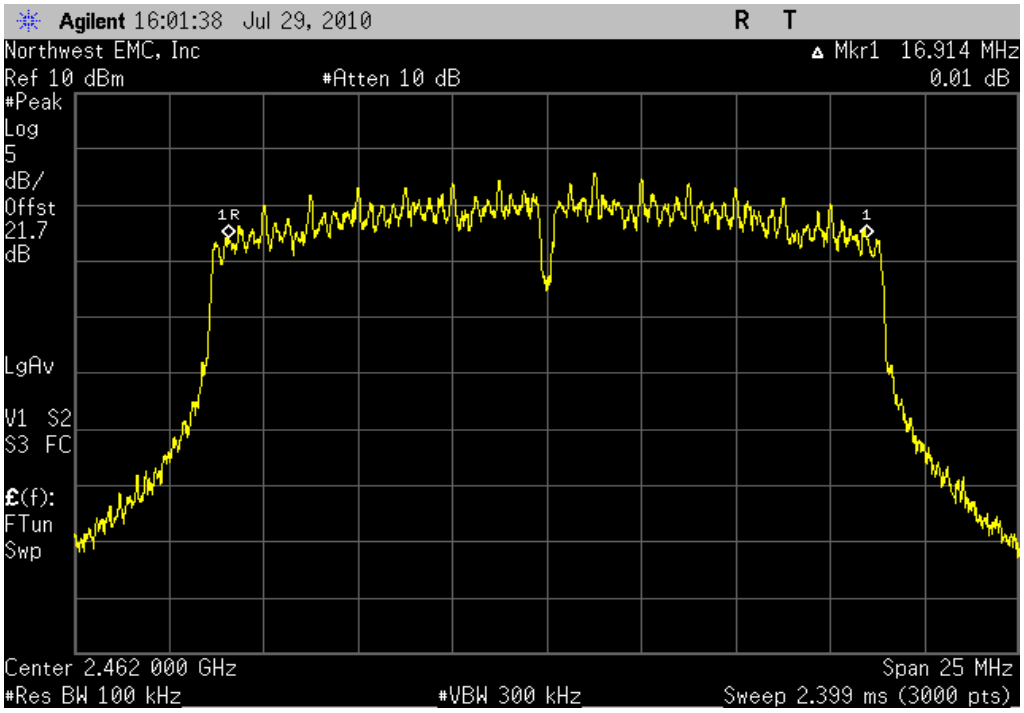


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	17.256 MHz	**Limit:**	> 500 kHz

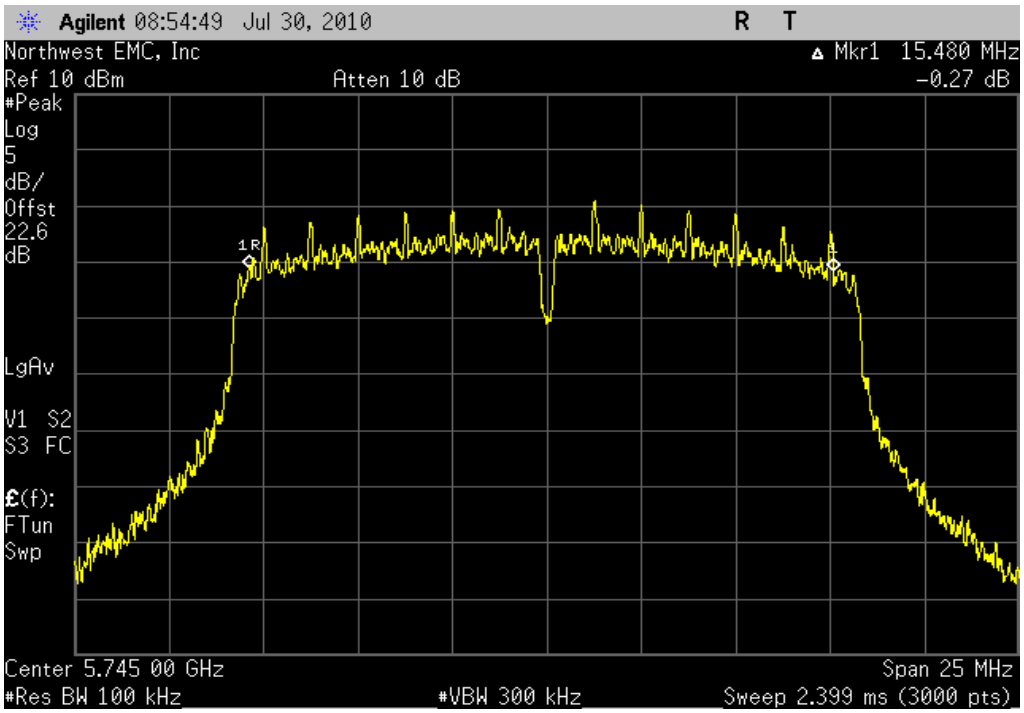


OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	16.914 MHz	**Limit:**	> 500 kHz

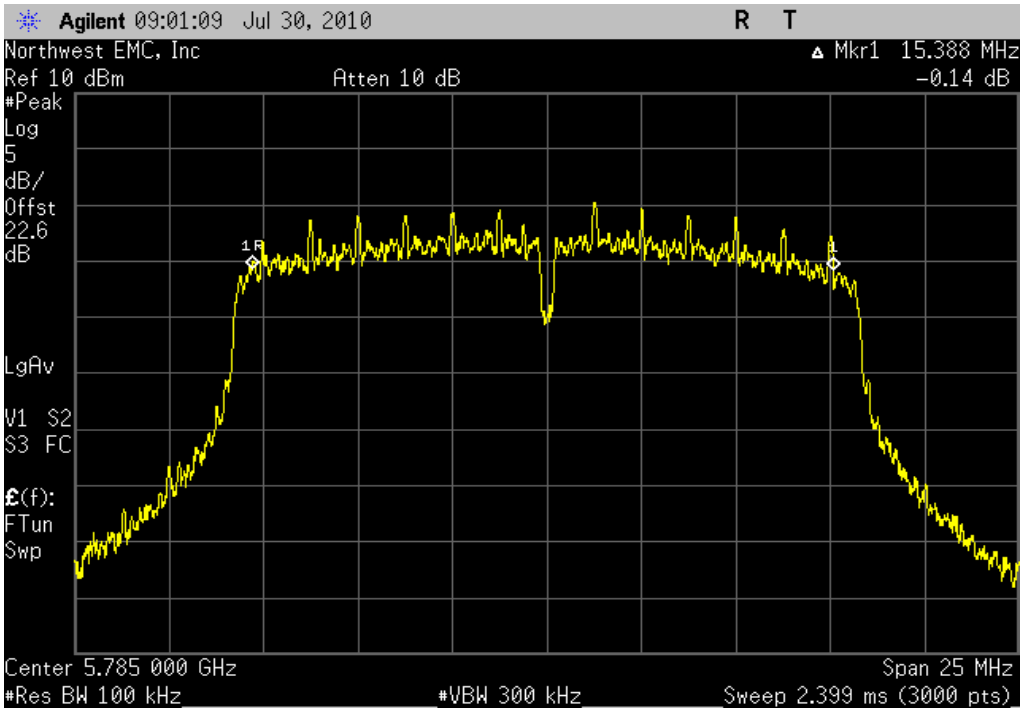


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	15.480 MHz	**Limit:**	> 500 kHz

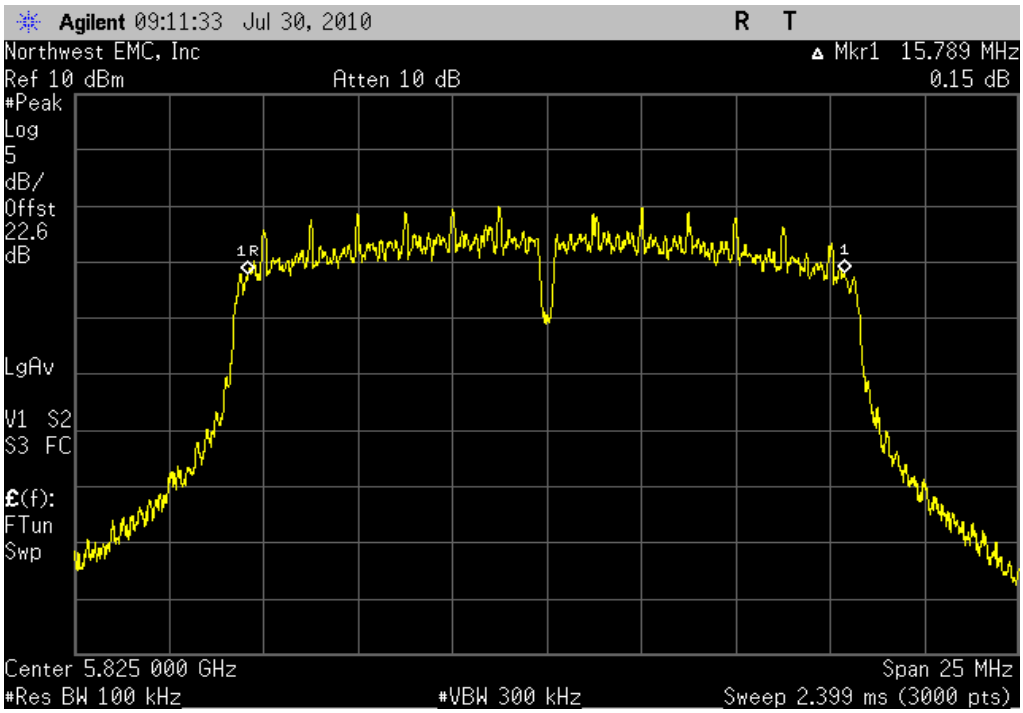


OCCUPIED BANDWIDTH

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	15.388 MHz	**Limit:**	> 500 kHz

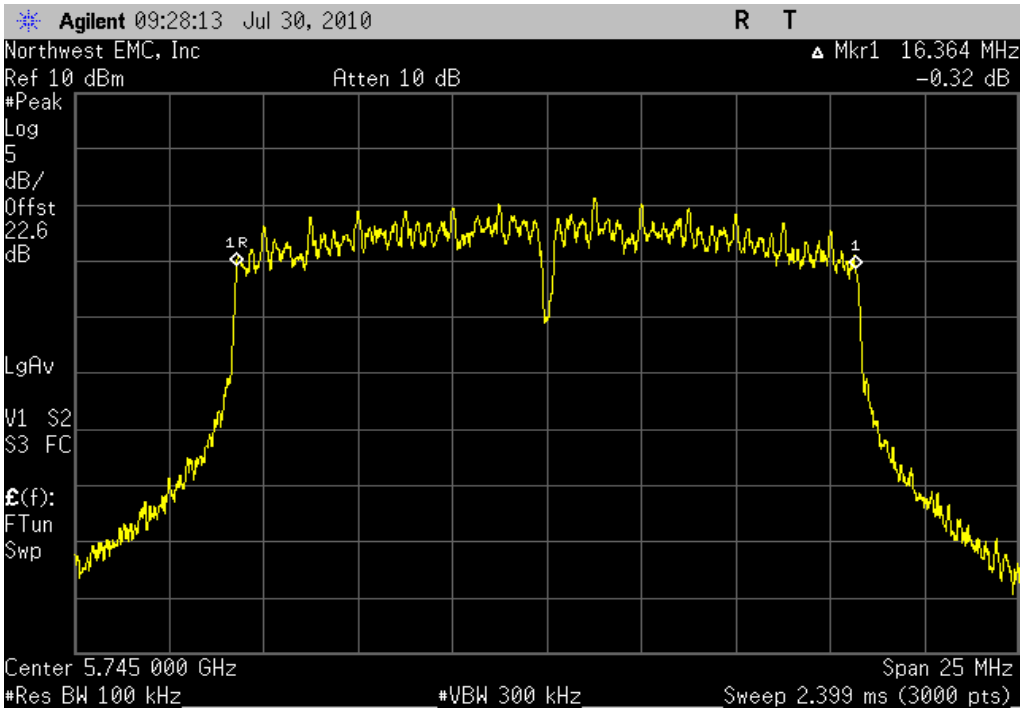


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	15.789 MHz	**Limit:**	> 500 kHz

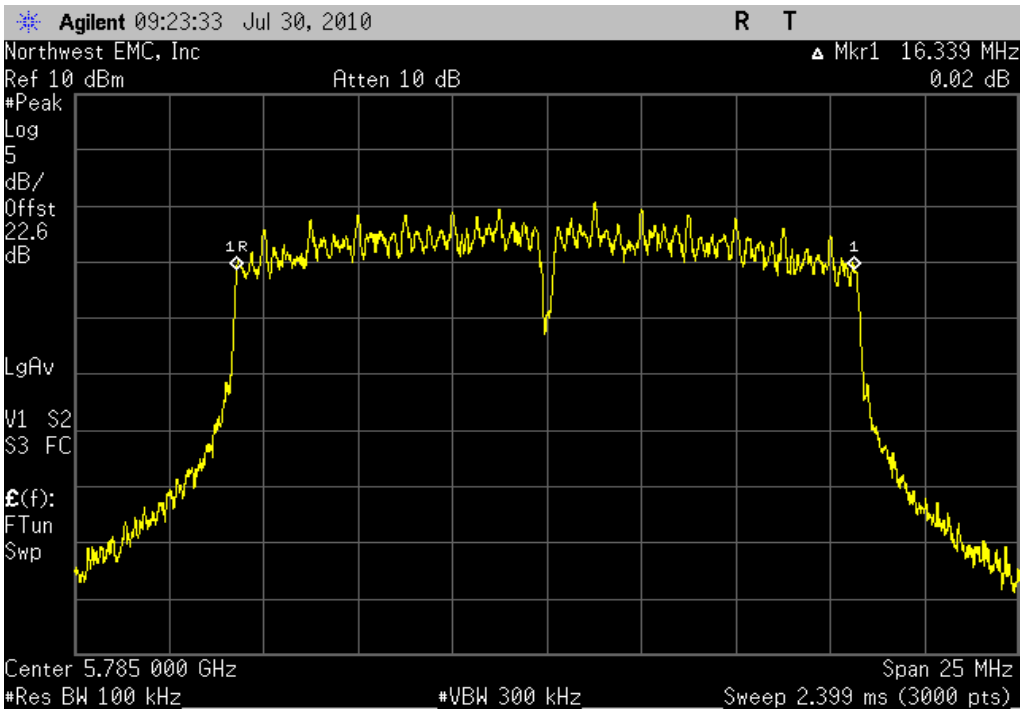


OCCUPIED BANDWIDTH

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	16.364 MHz	**Limit:**	> 500 kHz

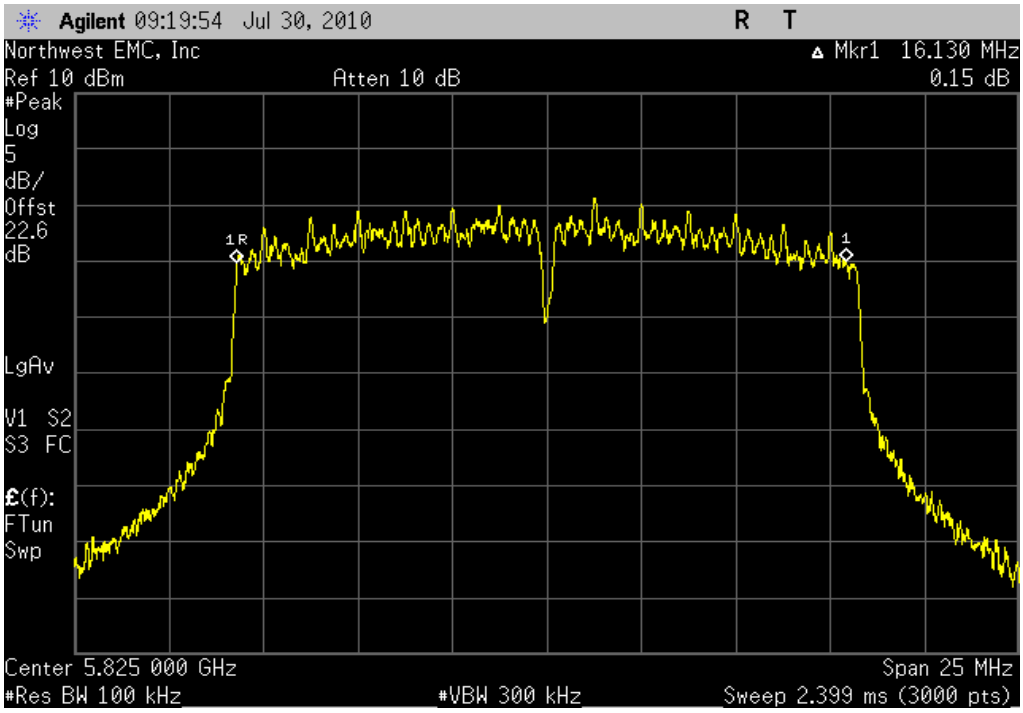


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	16.339 MHz	**Limit:**	> 500 kHz

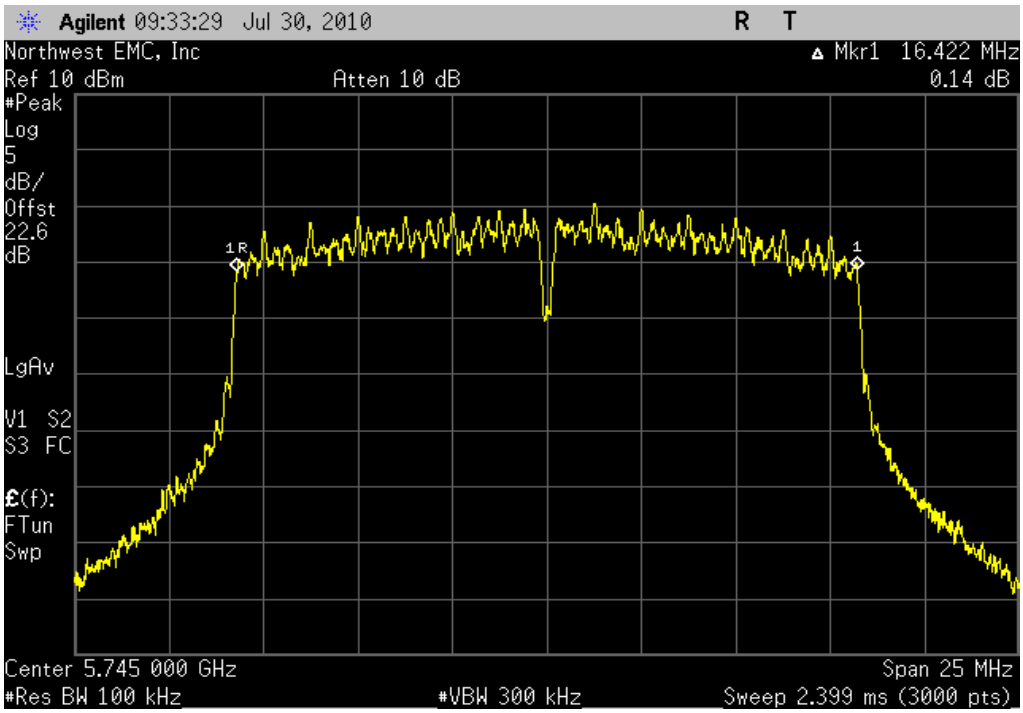


OCCUPIED BANDWIDTH

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	16.130 MHz	**Limit:**	> 500 kHz

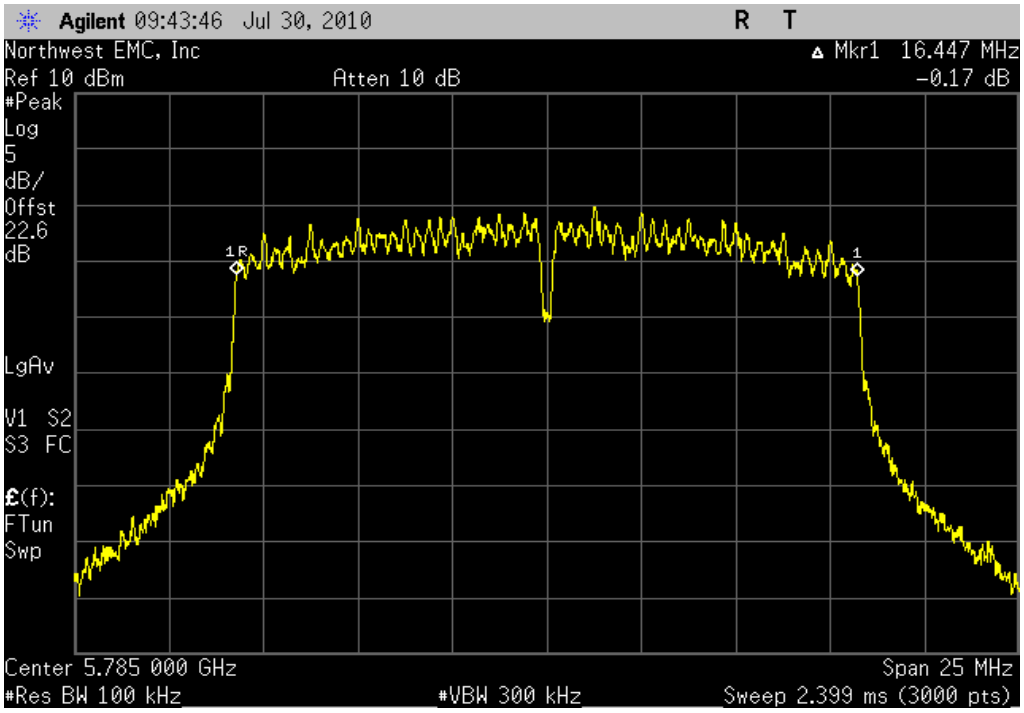


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	16.422 MHz	**Limit:**	> 500 kHz

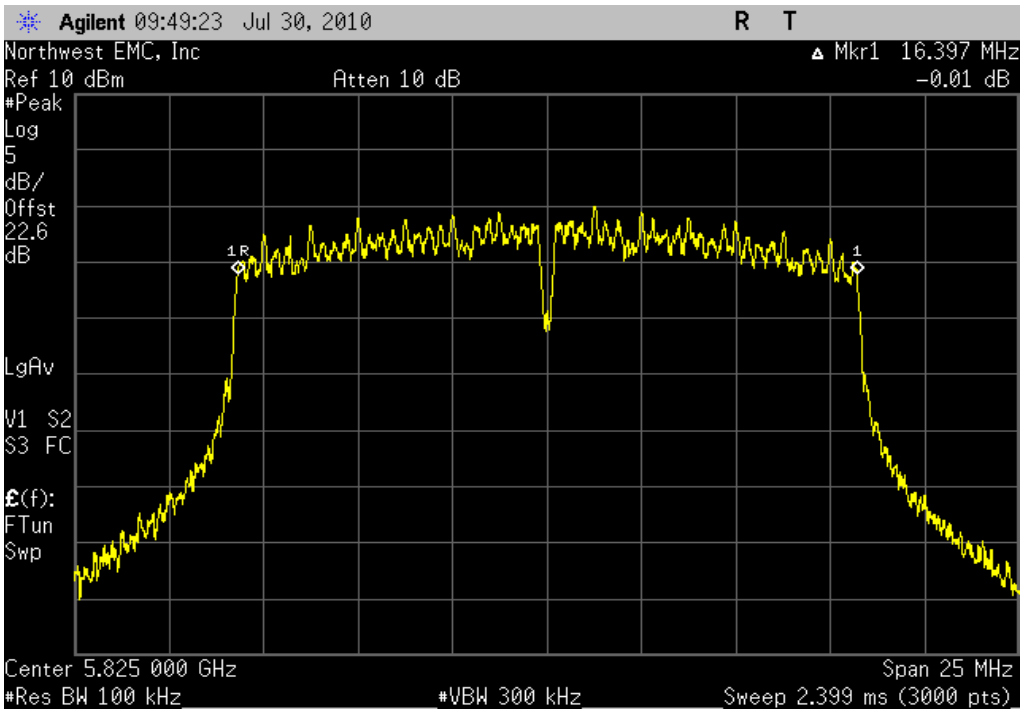


OCCUPIED BANDWIDTH

5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	16.447 MHz	**Limit:**	> 500 kHz

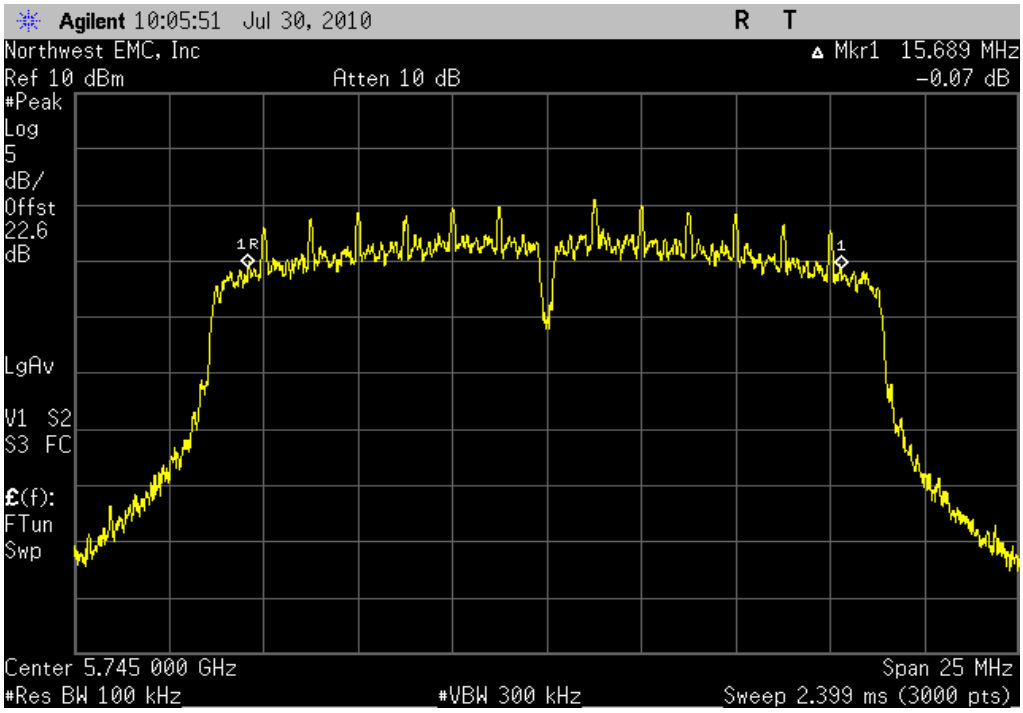


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	16.397 MHz	**Limit:**	> 500 kHz

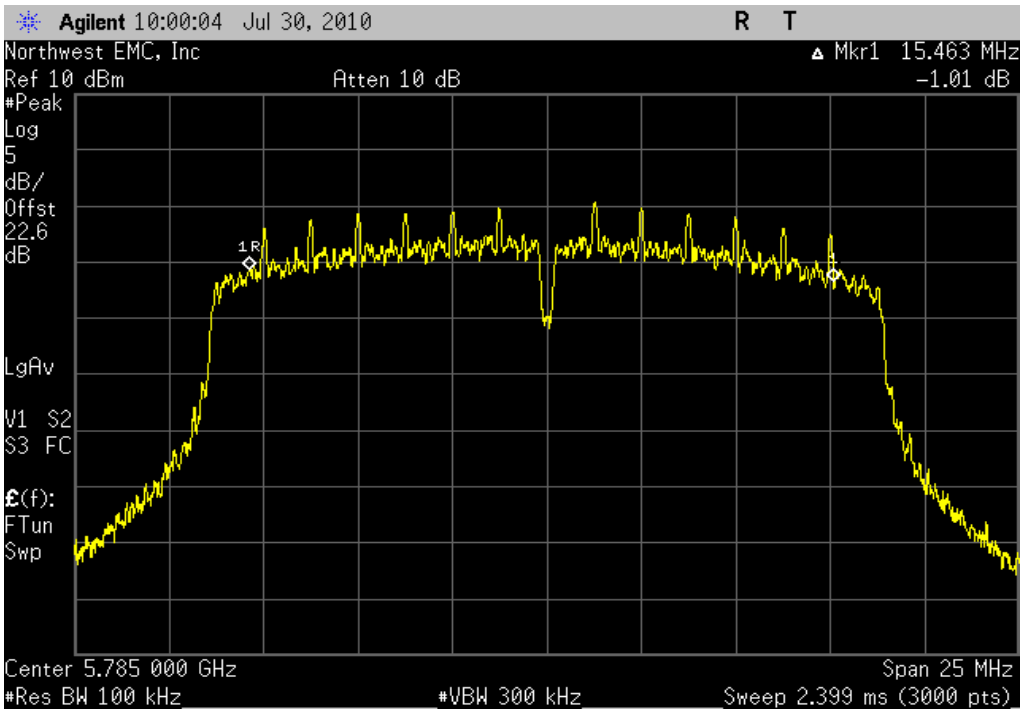


OCCUPIED BANDWIDTH

5725 MHz - 5850 MHz Band, 802.11(n) MCS0, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	15.689 MHz	**Limit:**	> 500 kHz

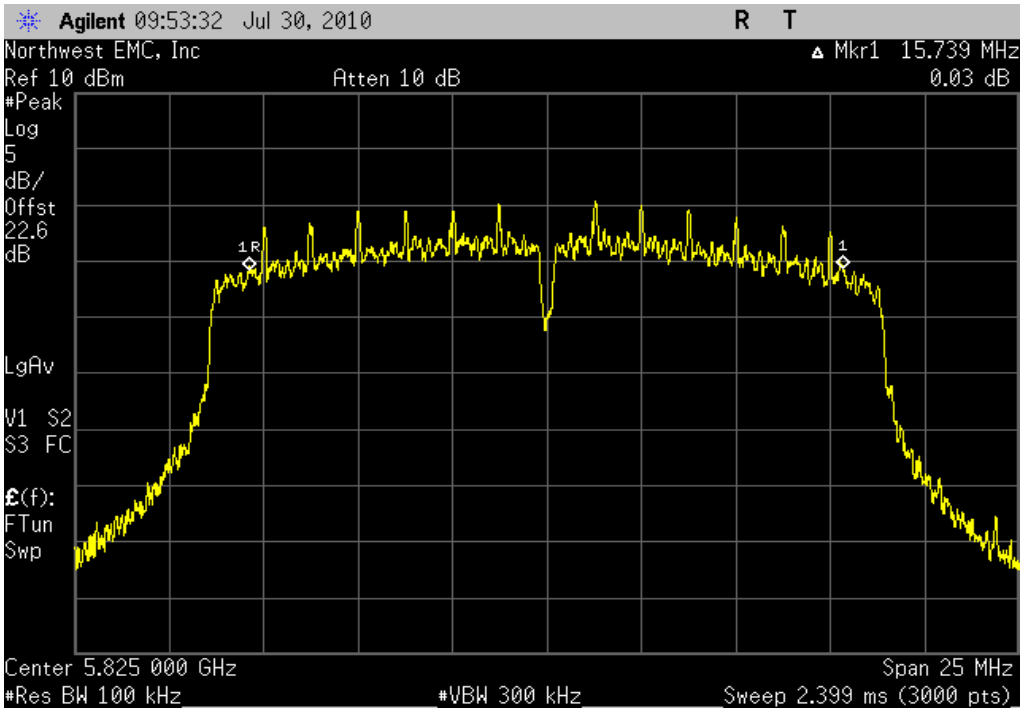


5725 MHz - 5850 MHz Band, 802.11(n) MCS0, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	15.463 MHz	**Limit:**	> 500 kHz

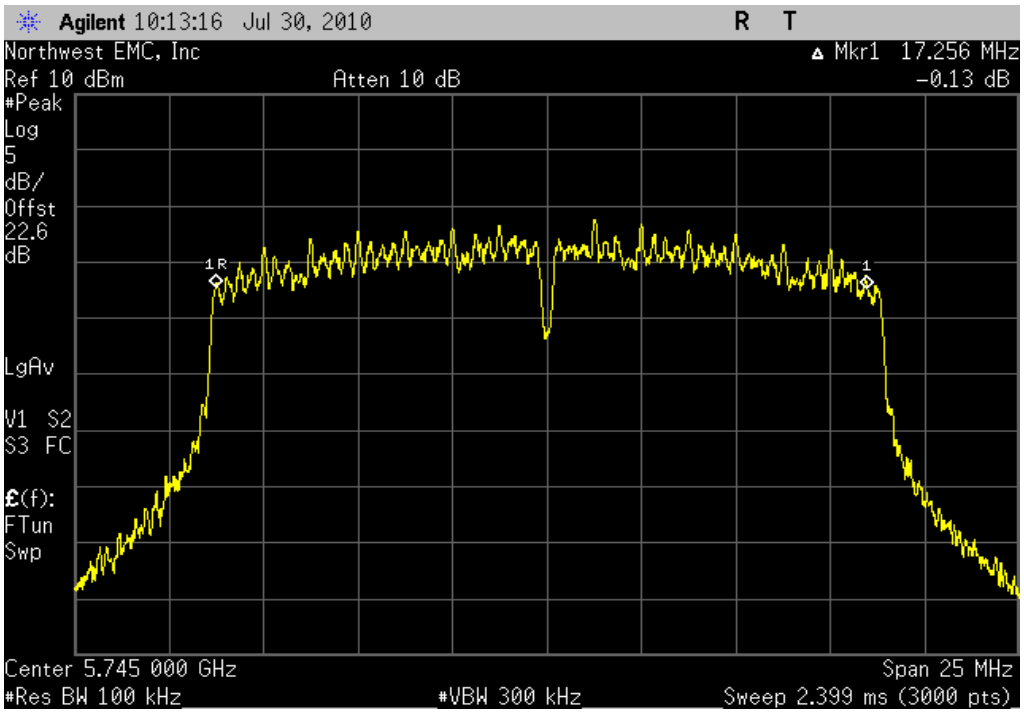


OCCUPIED BANDWIDTH

5725 MHz - 5850 MHz Band, 802.11(n) MCS0, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	15.739 MHz	**Limit:**	> 500 kHz

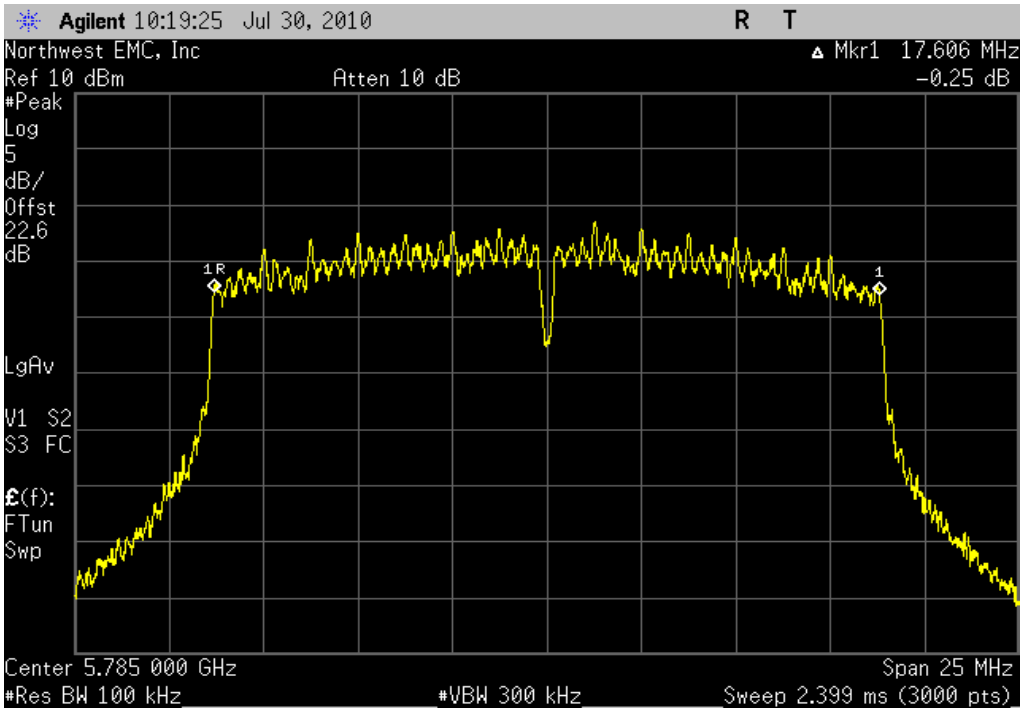


5725 MHz - 5850 MHz Band, 802.11(n) MCS7, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	17.256 MHz	**Limit:**	> 500 kHz

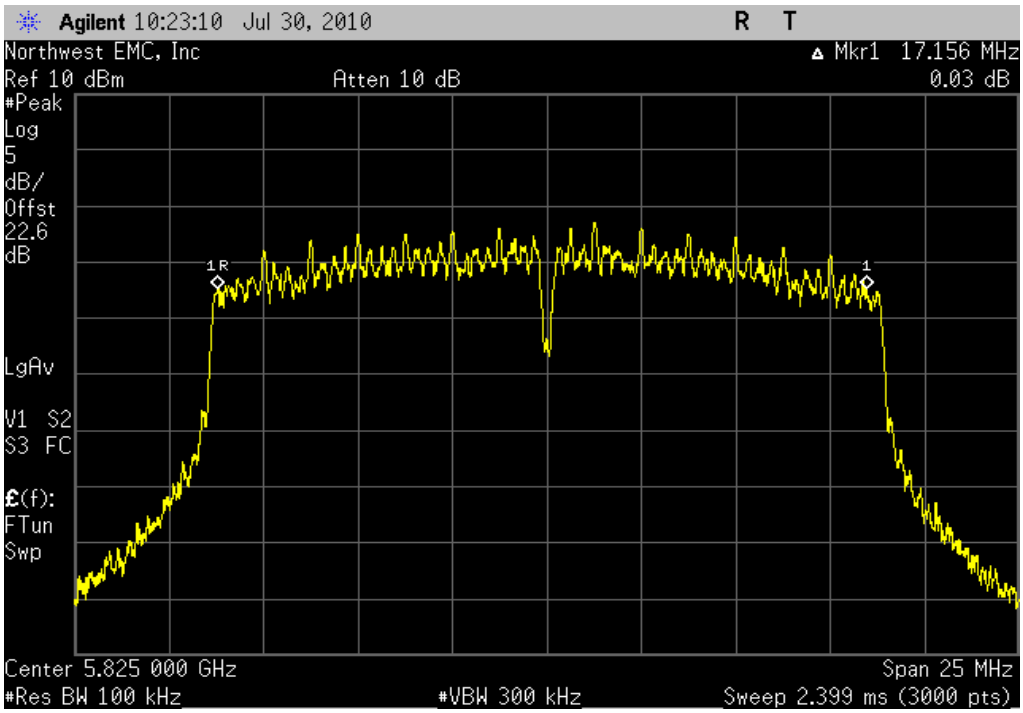


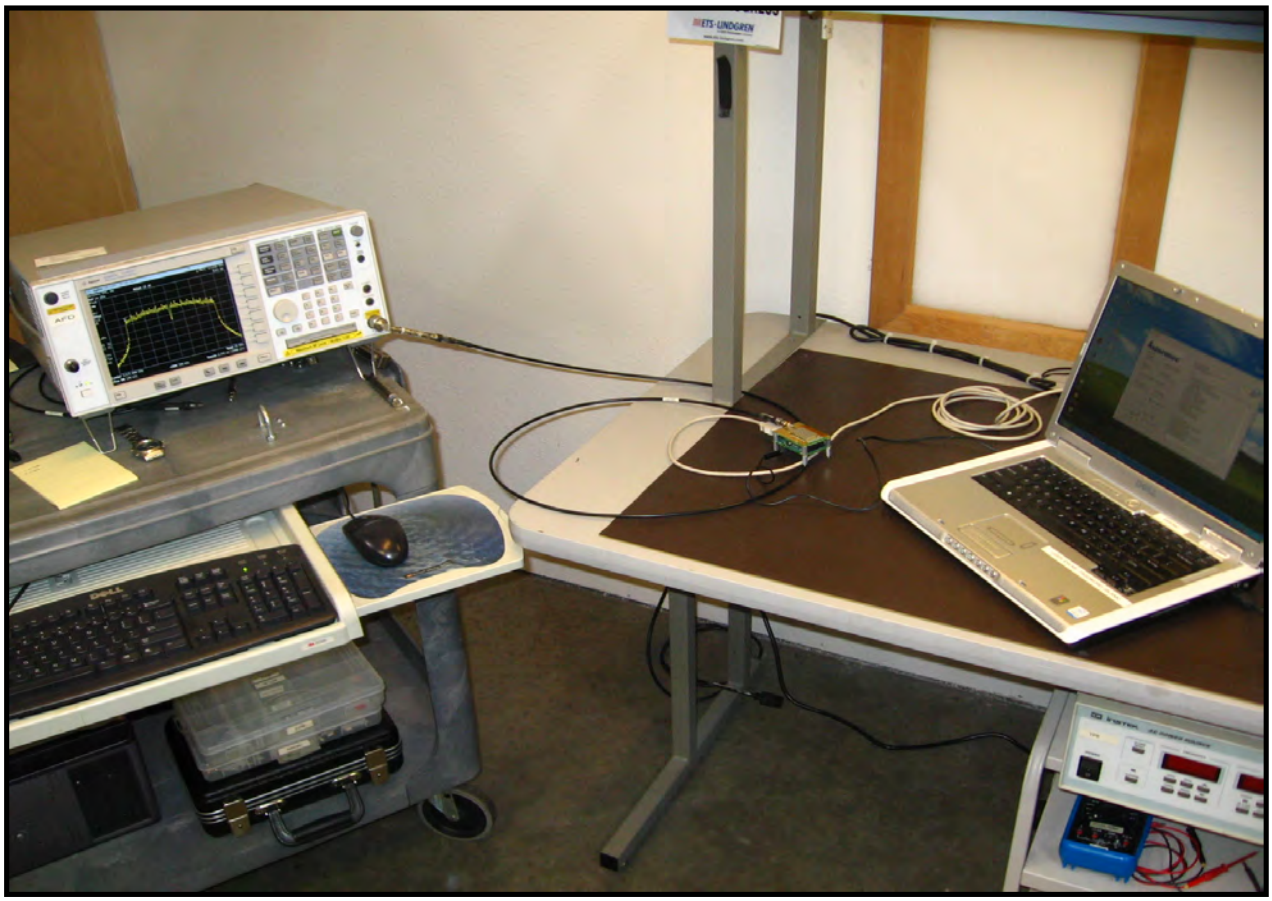
OCCUPIED BANDWIDTH

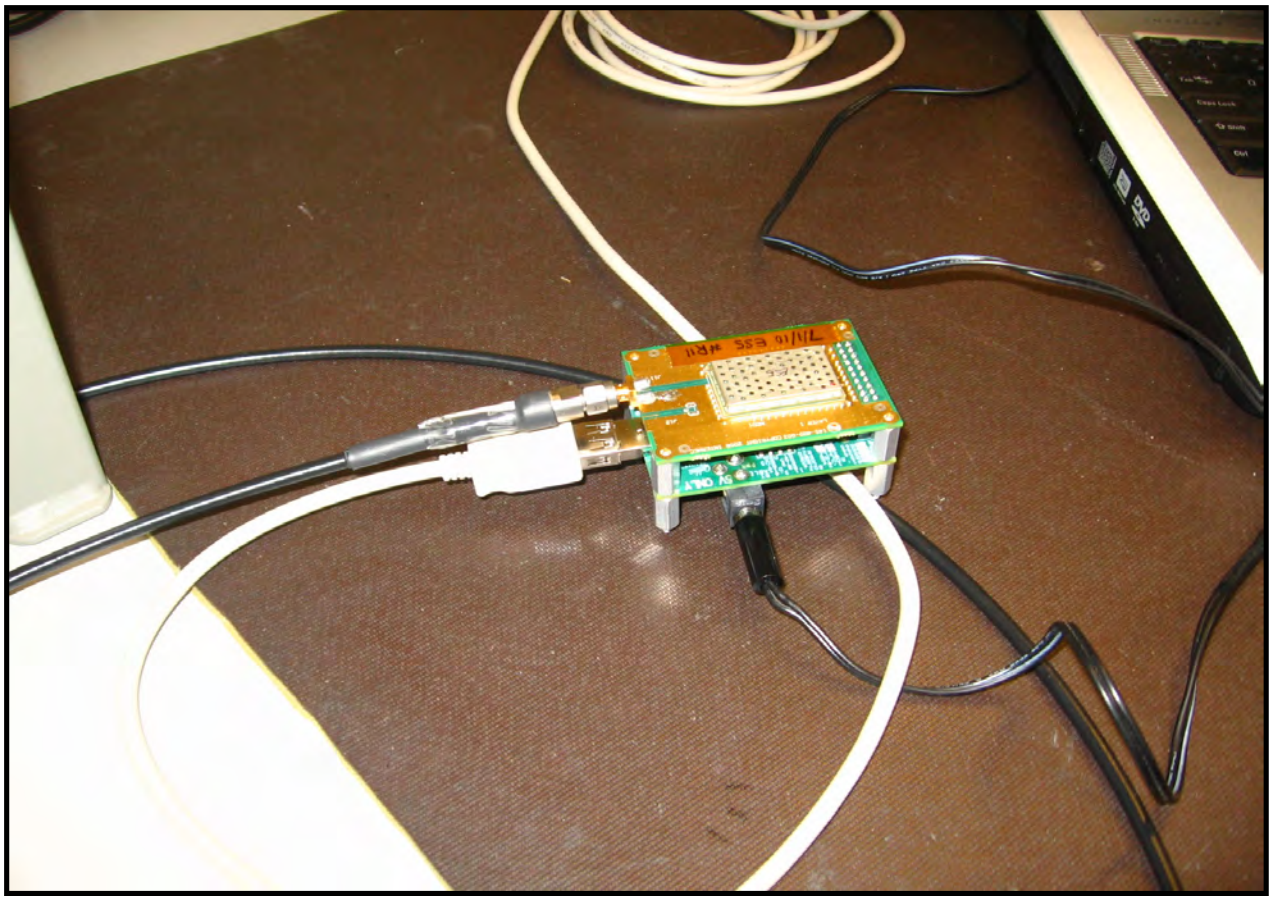
5725 MHz - 5850 MHz Band, 802.11(n) MCS7, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	17.606 MHz	**Limit:**	> 500 kHz



5725 MHz - 5850 MHz Band, 802.11(n) MCS7, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	17.156 MHz	**Limit:**	> 500 kHz







OUTPUT POWER - CHANNEL POWER

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
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0
Spectrum Analyzer	Agilent	E4440A	AFD	6/1/2009	24
26 GHz DC Block, SMA	Pasternack	PE8210	AME	10/19/2009	13
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/21/2009	13
Attenuator, 6 dB, 'SMA'	N/A	93459 3330A-6	AUF	4/1/2010	13
Power Meter	Gigatronics	8651A	SPM	1/7/2010	13
Power Sensor	Gigatronics	80701A	SPL	1/7/2010	13
Signal Generator	Agilent	E8257D	TGX	12/10/2008	24

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

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 Maximum Conducted Output Power. 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 ANSI C63.10 section 6.10.2.2 was used because the analyzer sweep time was greater than T for the operating mode which has the shortest transmission pulse duration 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 = Autocoupled by analyzer firmware
- 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.

NORTHWEST EMC

OUTPUT POWER - CHANNEL POWER

XMit 2010.01.14

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R11	Date:	07/29/10
Customer:	Intermec Technologies Corporation	Temperature:	20°C
Attendees:	none	Humidity:	47%
Project:	None	Barometric Pres.:	1019.3 mb
Tested by:	Rod Peloquin	Power: 5VDC	Job Site: EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

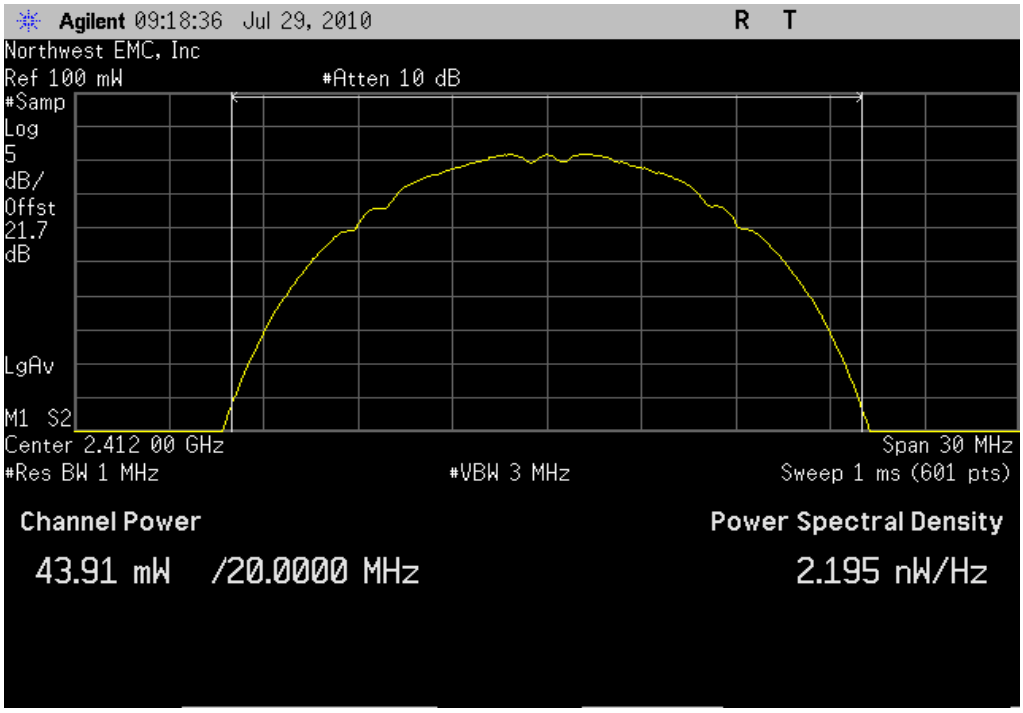
No Deviations

Configuration #	2	Signature

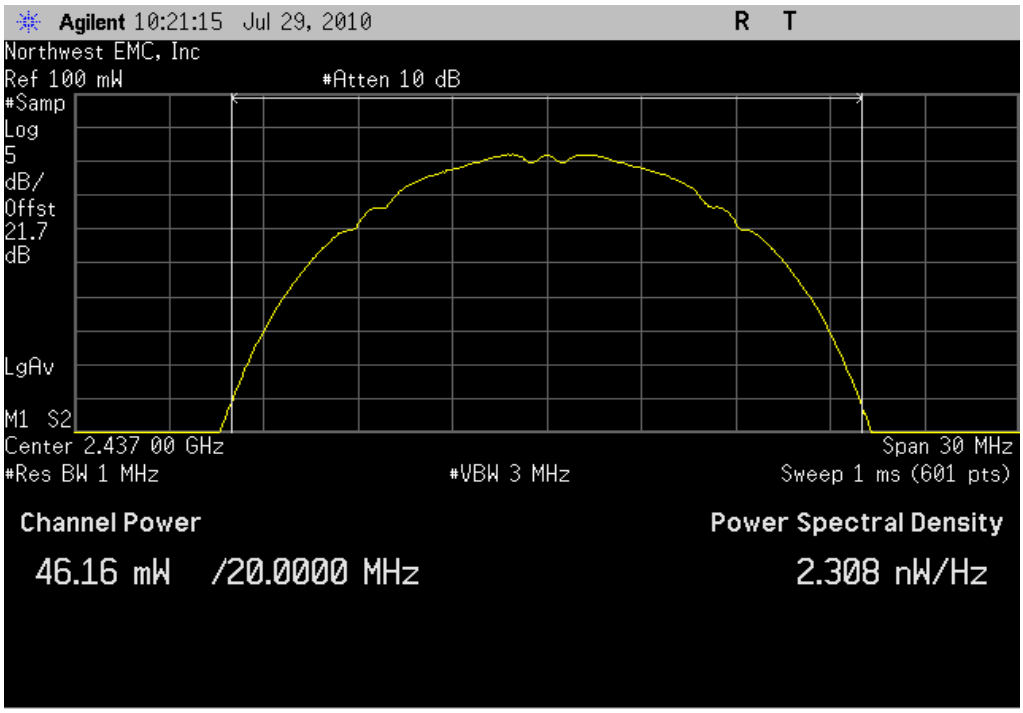
	Value	Limit	Results
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	43.9 mW	1 W	Pass
Mid Channel 6, 2437 MHz	46.2 mW	1 W	Pass
High Channel 11, 2462 MHz	51.1 mW	1 W	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz	44.8 mW	1 W	Pass
Mid Channel 6, 2437 MHz	48.7 mW	1 W	Pass
High Channel 11, 2462 MHz	53.2 mW	1 W	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	21.3 mW	1 W	Pass
Mid Channel 6, 2437 MHz	22.7 mW	1 W	Pass
High Channel 11, 2462 MHz	22.7 mW	1 W	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz	22.2 mW	1 W	Pass
Mid Channel 6, 2437 MHz	21.1 mW	1 W	Pass
High Channel 11, 2462 MHz	22.9 mW	1 W	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz	20.2 mW	1 W	Pass
Mid Channel 6, 2437 MHz	22.0 mW	1 W	Pass
High Channel 11, 2462 MHz	24.3 mW	1 W	Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz	20.8 mW	1 W	Pass
Mid Channel 6, 2437 MHz	21.6 mW	1 W	Pass
High Channel 11, 2462 MHz	23.4 mW	1 W	Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz	18.1 mW	1 W	Pass
Mid Channel 6, 2437 MHz	18.9 mW	1 W	Pass
High Channel 11, 2462 MHz	19.9 mW	1 W	Pass
5725 MHz - 5850 MHz Band			
802.11(a) 6 Mbps			
Low Channel 149, 5745 MHz	15.7 mW	1 W	Pass
Mid Channel 157, 5785 MHz	16.1 mW	1 W	Pass
High Channel 165, 5825 MHz	15.9 mW	1 W	Pass
802.11(a) 36 Mbps			
Low Channel 149, 5745 MHz	16.8 mW	1 W	Pass
Mid Channel 157, 5785 MHz	16.0 mW	1 W	Pass
High Channel 165, 5825 MHz	15.7 mW	1 W	Pass
802.11(a) 54 Mbps			
Low Channel 149, 5745 MHz	13.8 mW	1 W	Pass
Mid Channel 157, 5785 MHz	13.9 mW	1 W	Pass
High Channel 165, 5825 MHz	13.6 mW	1 W	Pass
802.11(n) MCS0			
Low Channel 149, 5745 MHz	17.0 mW	1 W	Pass
Mid Channel 157, 5785 MHz	16.7 mW	1 W	Pass
High Channel 165, 5825 MHz	16.5 mW	1 W	Pass
802.11(n) MCS7			
Low Channel 149, 5745 MHz	10.3 mw	1 W	Pass
Mid Channel 157, 5785 MHz	10.1 mW	1 W	Pass
High Channel 165, 5825 MHz	10.3 mW	1 W	Pass

OUTPUT POWER - CHANNEL POWER

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	43.9 mW	**Limit:**	1 W

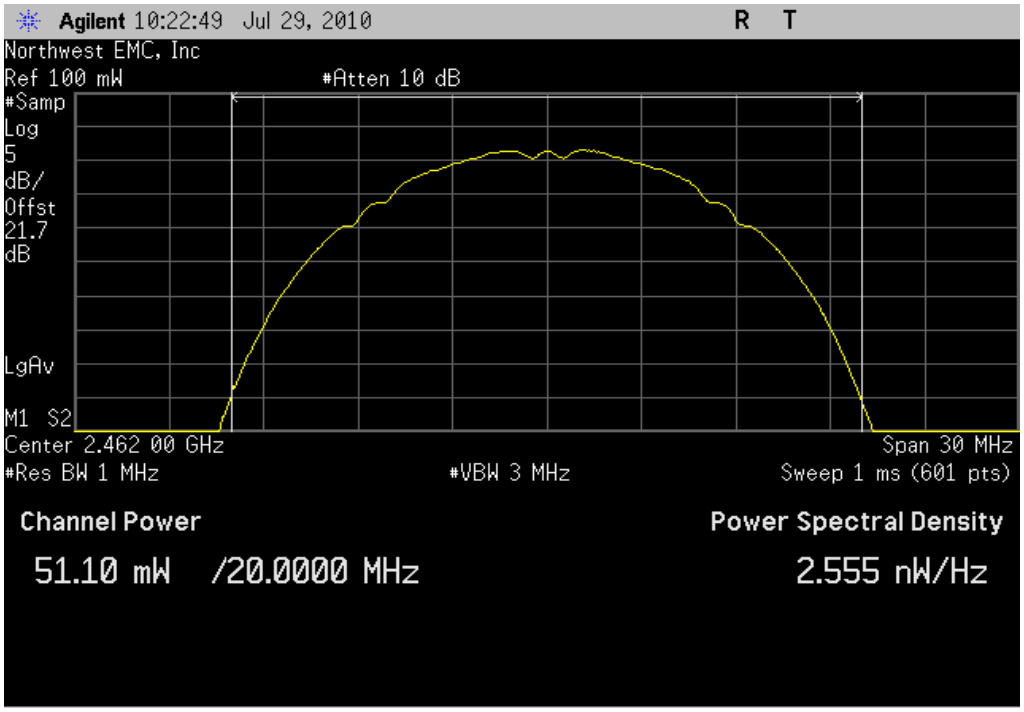


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	46.2 mW	**Limit:**	1 W

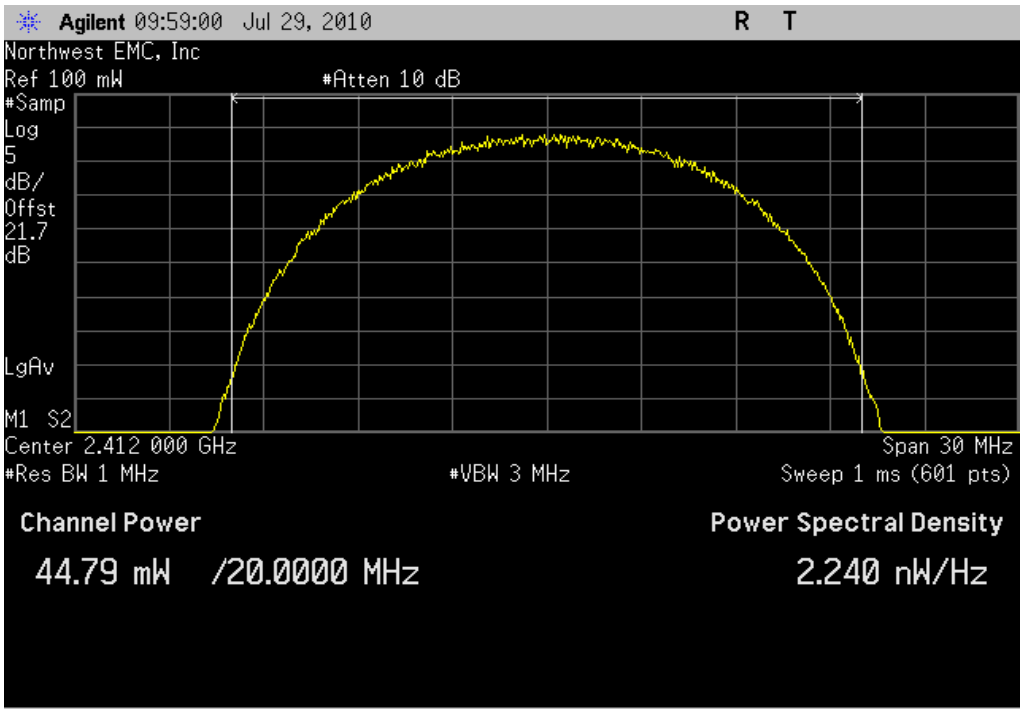


OUTPUT POWER - CHANNEL POWER

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	51.1 mW	**Limit:**	1 W

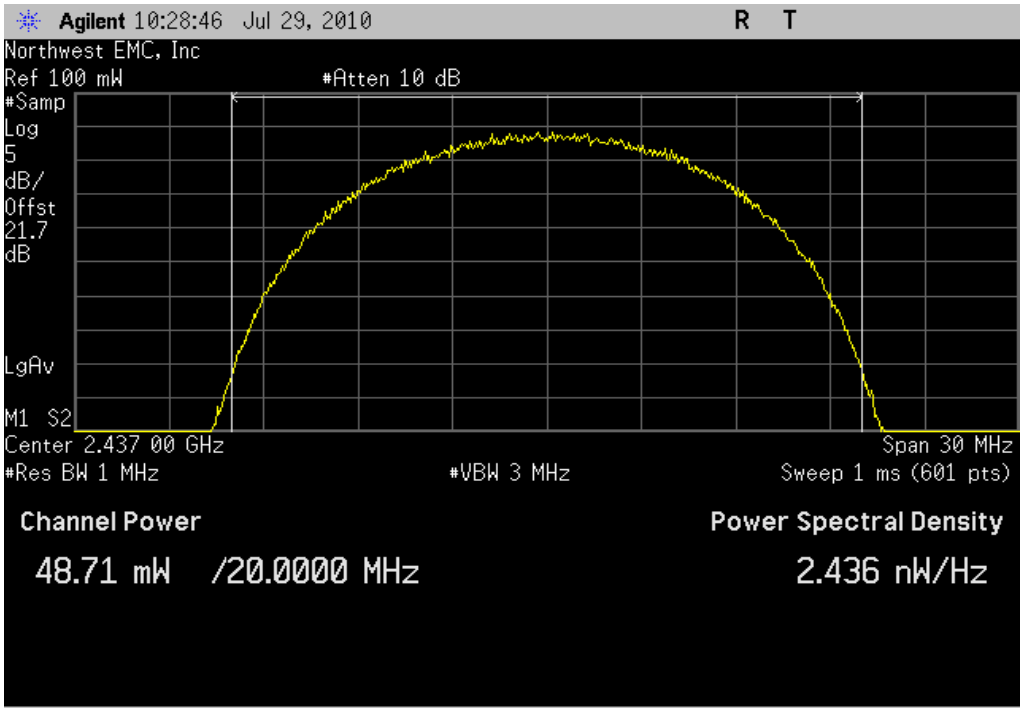


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	44.8 mW	**Limit:**	1 W

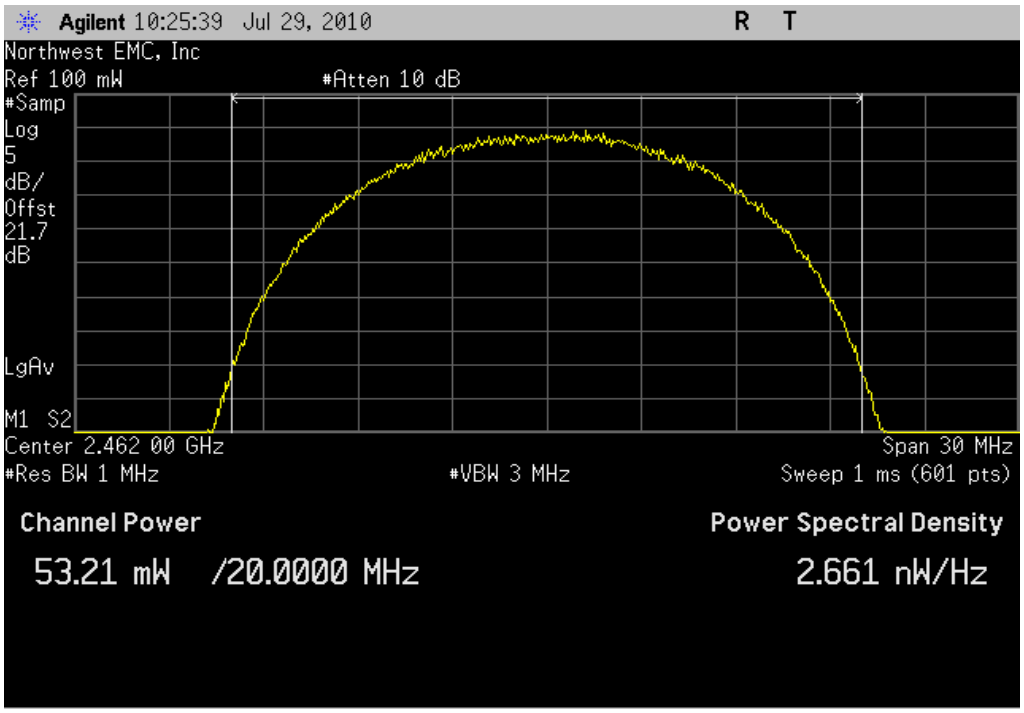


OUTPUT POWER - CHANNEL POWER

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	48.7 mW	**Limit:**	1 W

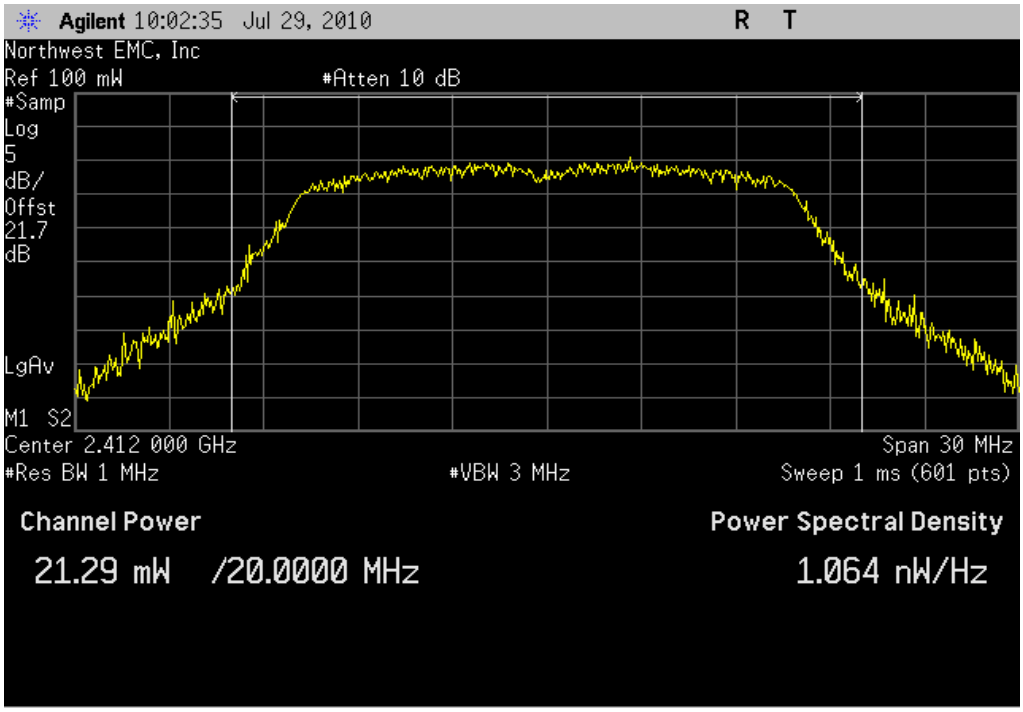


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	53.2 mW	**Limit:**	1 W

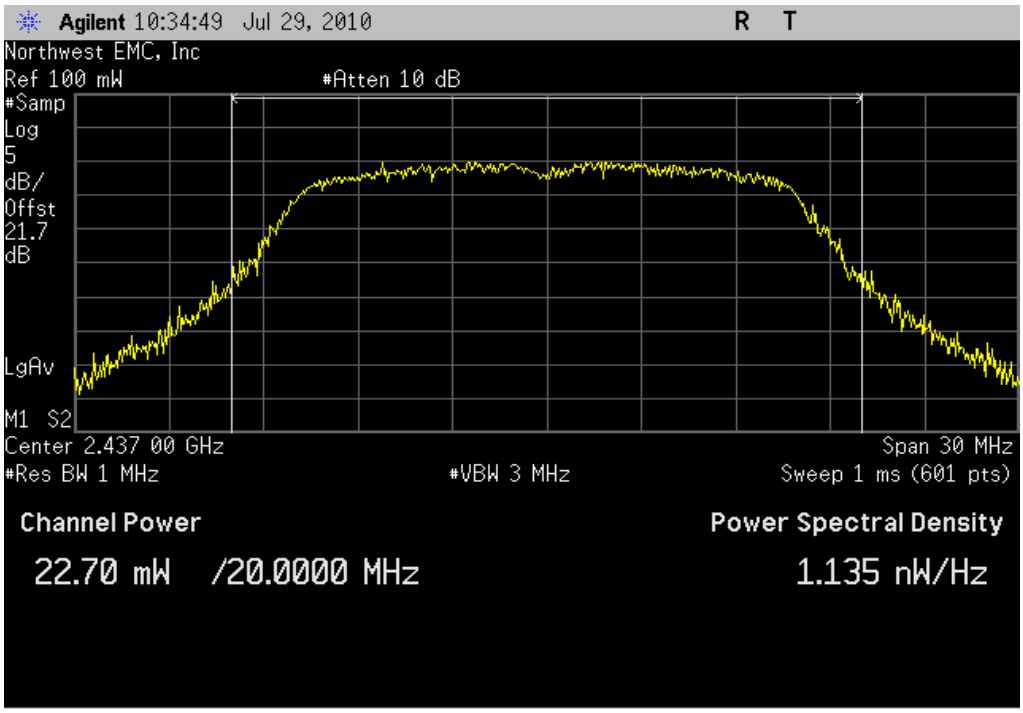


OUTPUT POWER - CHANNEL POWER

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	21.3 mW	**Limit:**	1 W

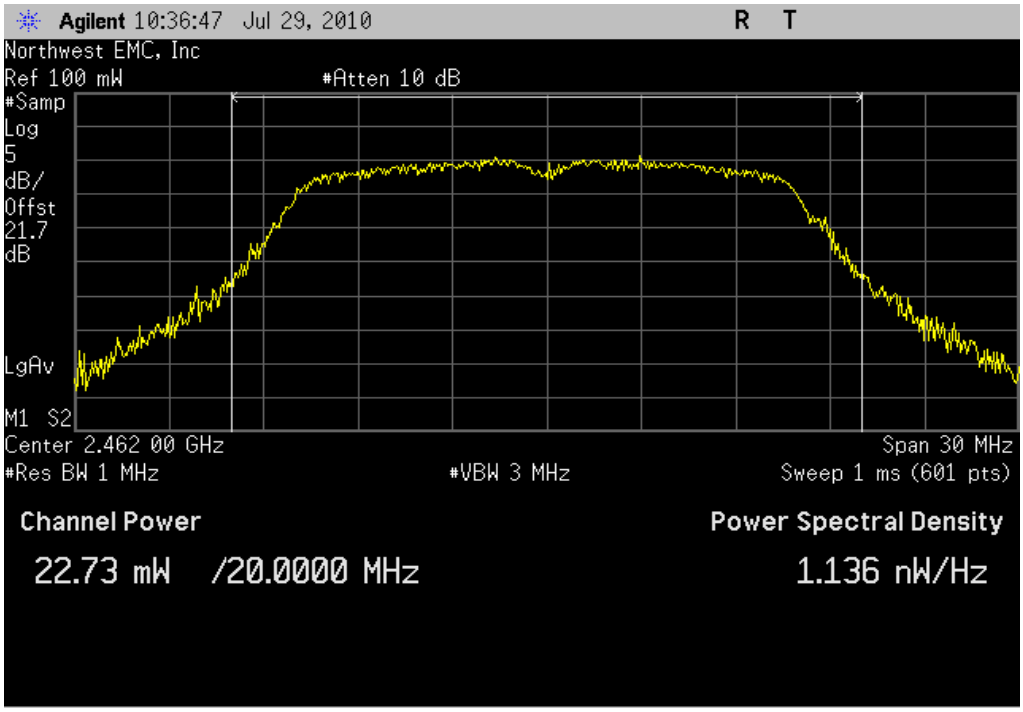


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	22.7 mW	**Limit:**	1 W

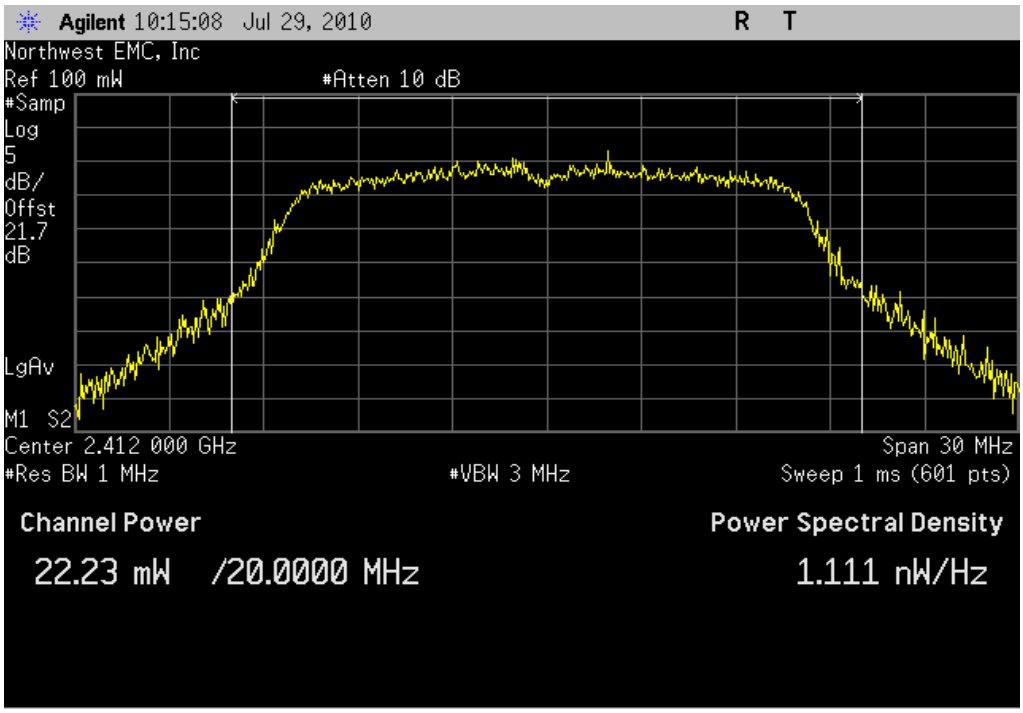


OUTPUT POWER - CHANNEL POWER

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	22.7 mW	**Limit:**	1 W

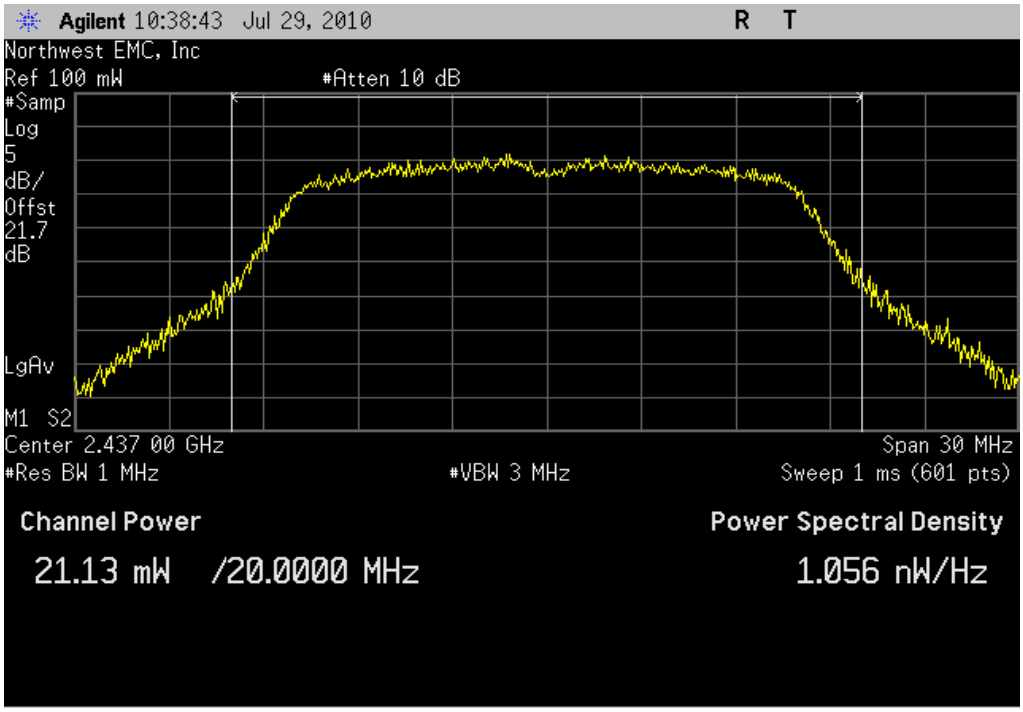


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	22.2 mW	**Limit:**	1 W

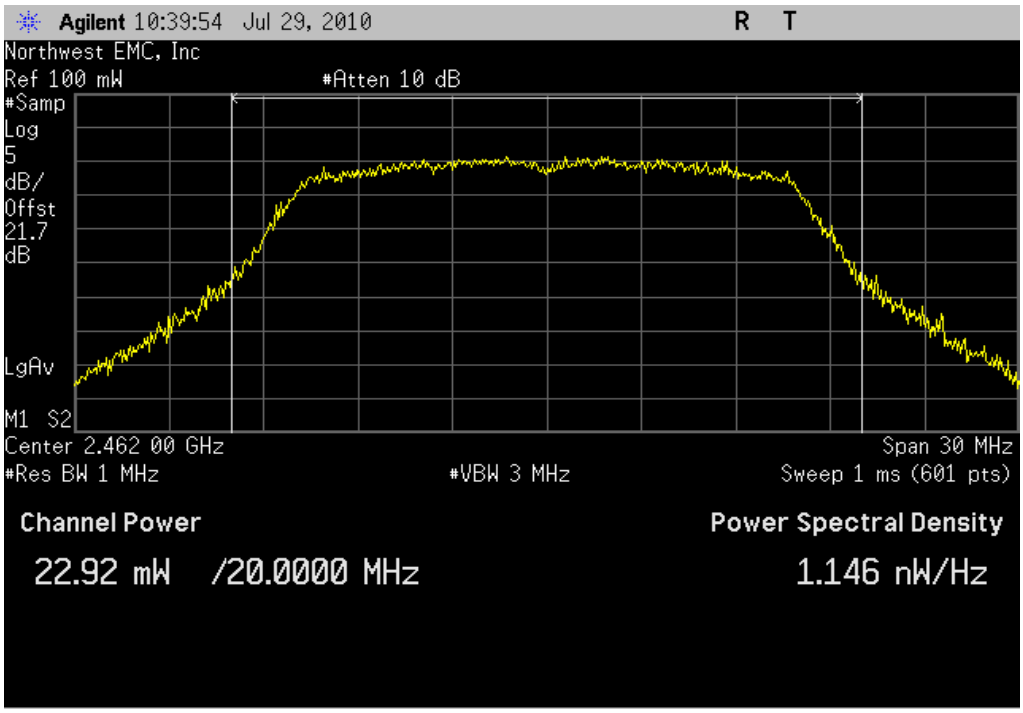


OUTPUT POWER - CHANNEL POWER

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	21.1 mW	**Limit:**	1 W

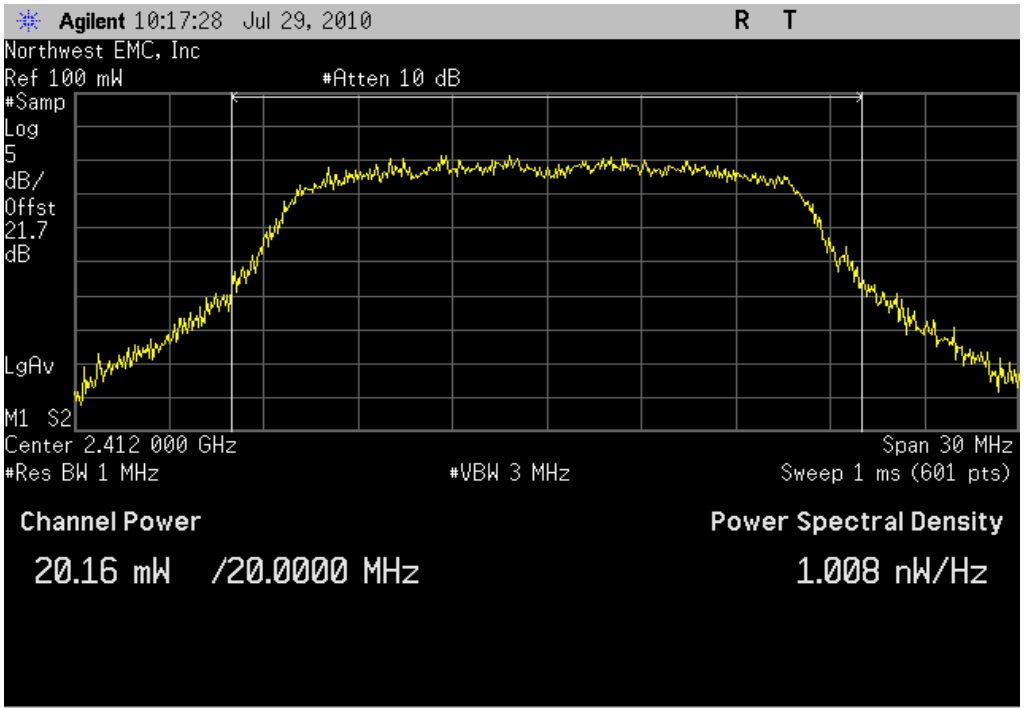


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	22.9 mW	**Limit:**	1 W

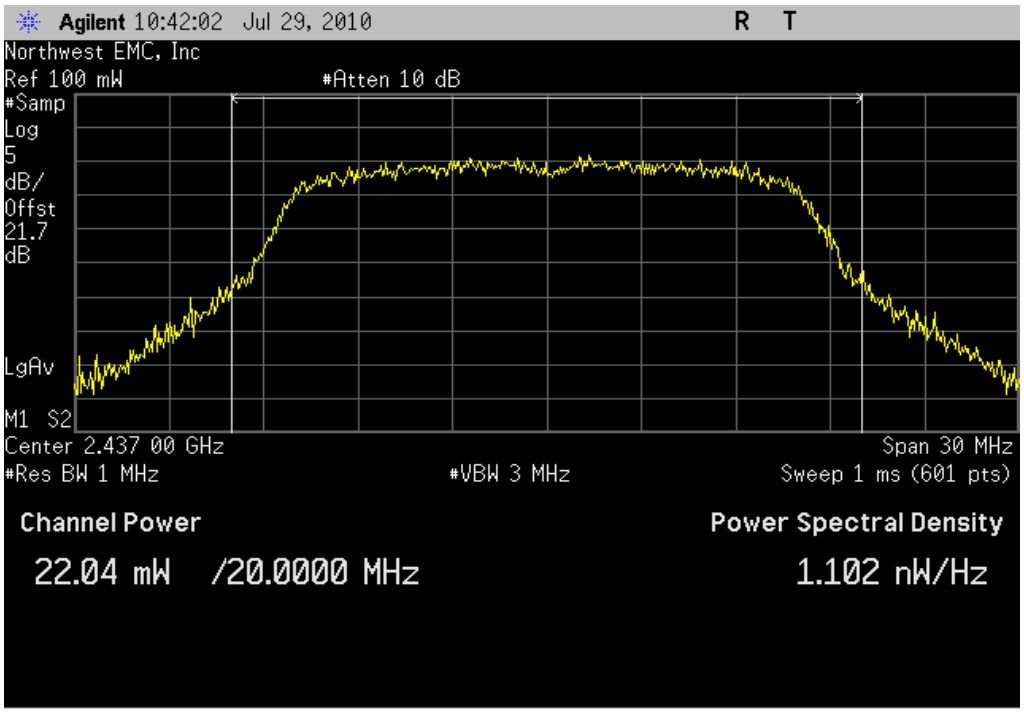


OUTPUT POWER - CHANNEL POWER

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	20.2 mW	**Limit:**	1 W

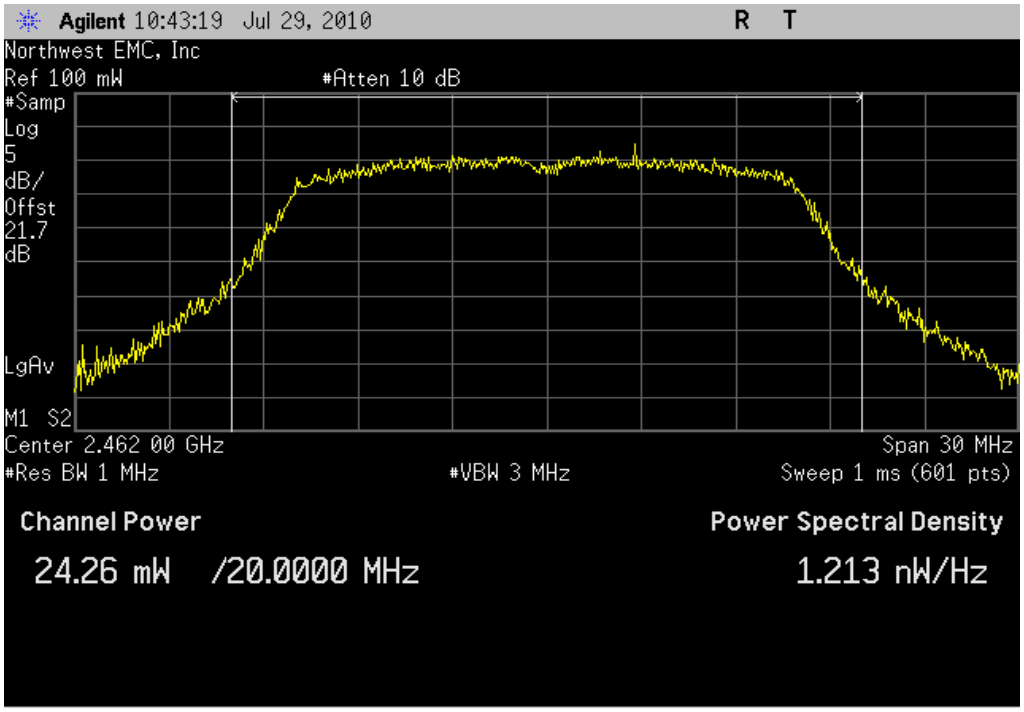


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	22.0 mW	**Limit:**	1 W

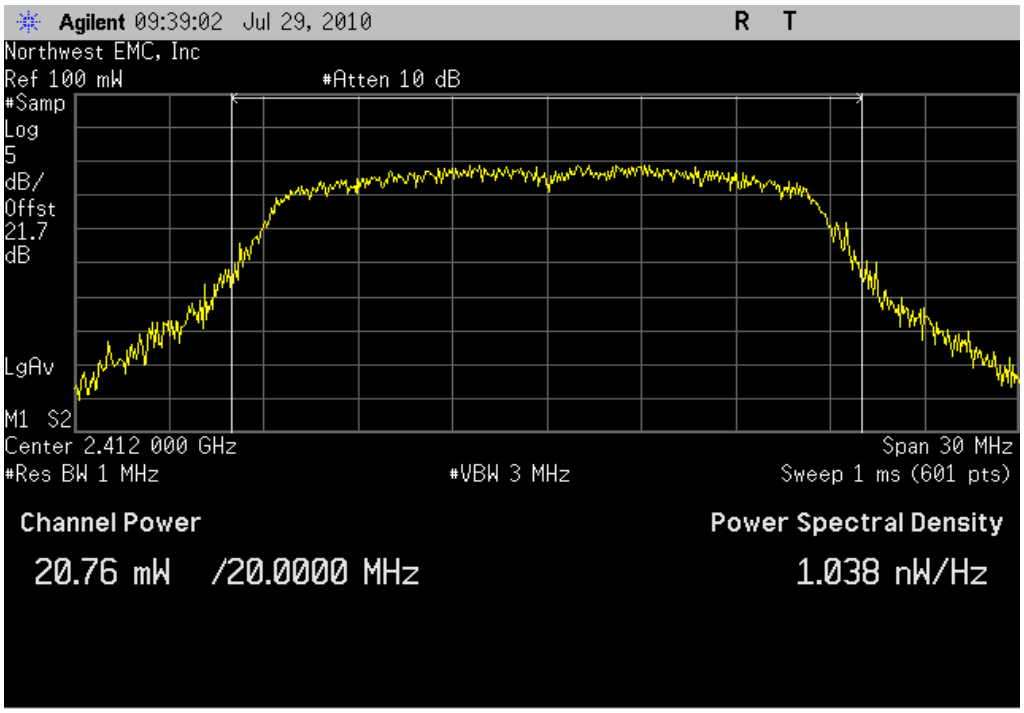


OUTPUT POWER - CHANNEL POWER

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	24.3 mW	**Limit:**	1 W

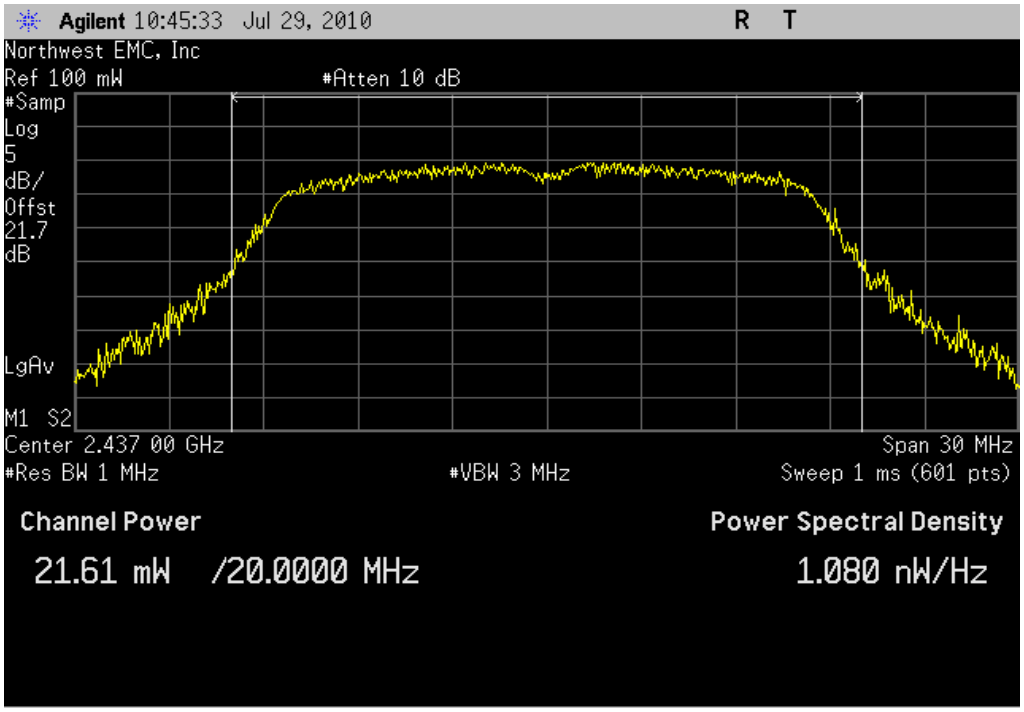


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	20.8 mW	**Limit:**	1 W

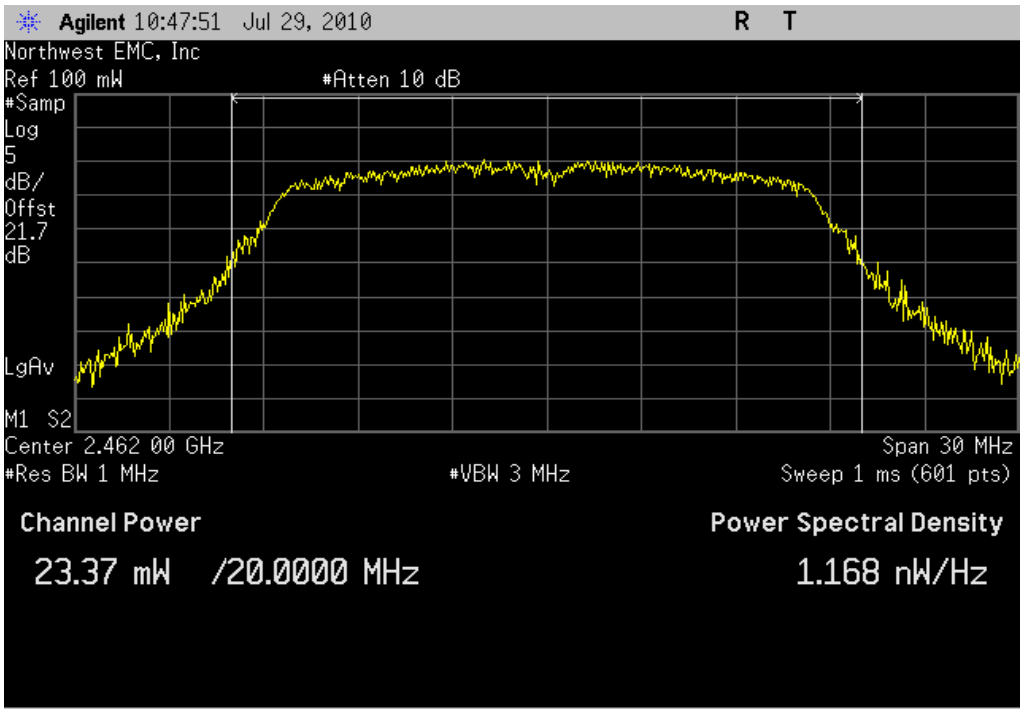


OUTPUT POWER - CHANNEL POWER

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	21.6 mW	**Limit:**	1 W

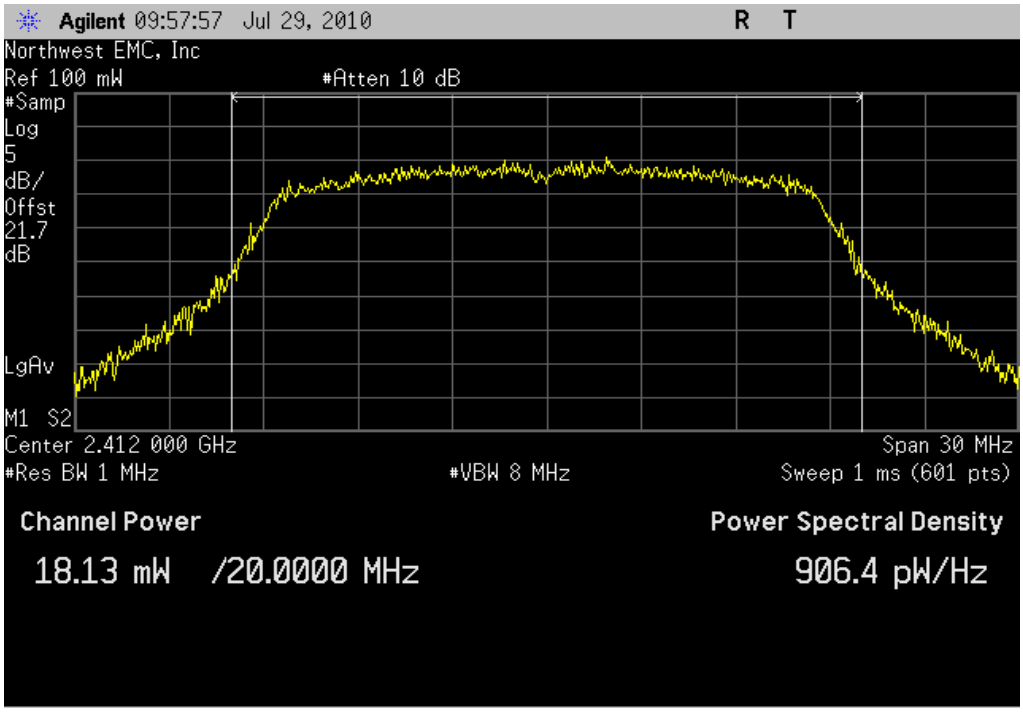


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	23.4 mW	**Limit:**	1 W

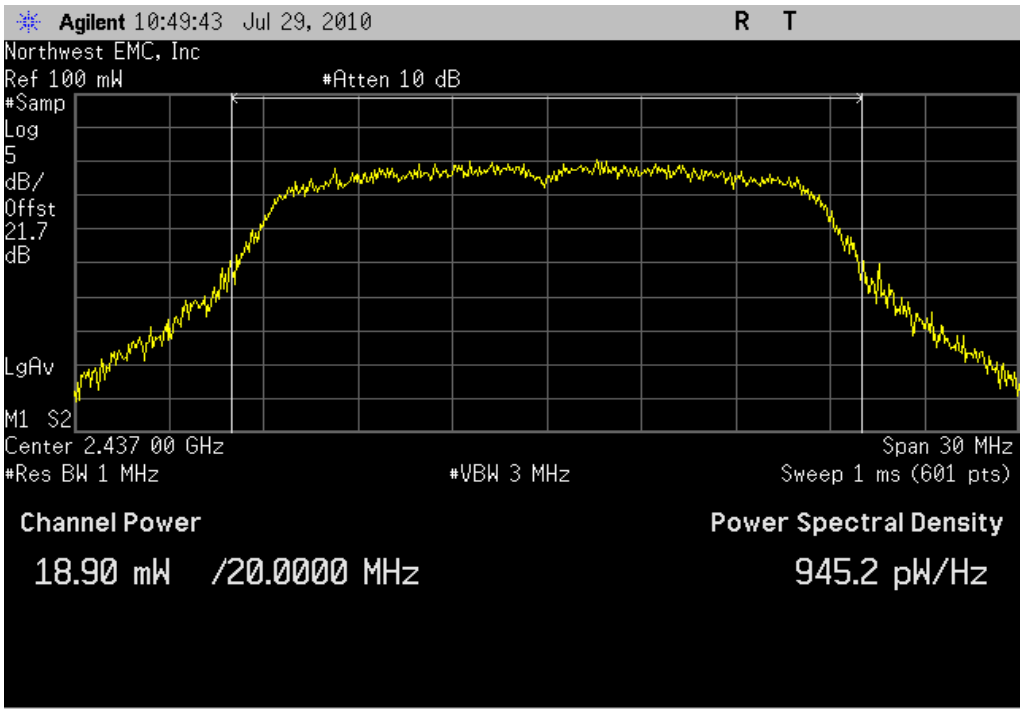


OUTPUT POWER - CHANNEL POWER

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	18.1 mW	**Limit:**	1 W

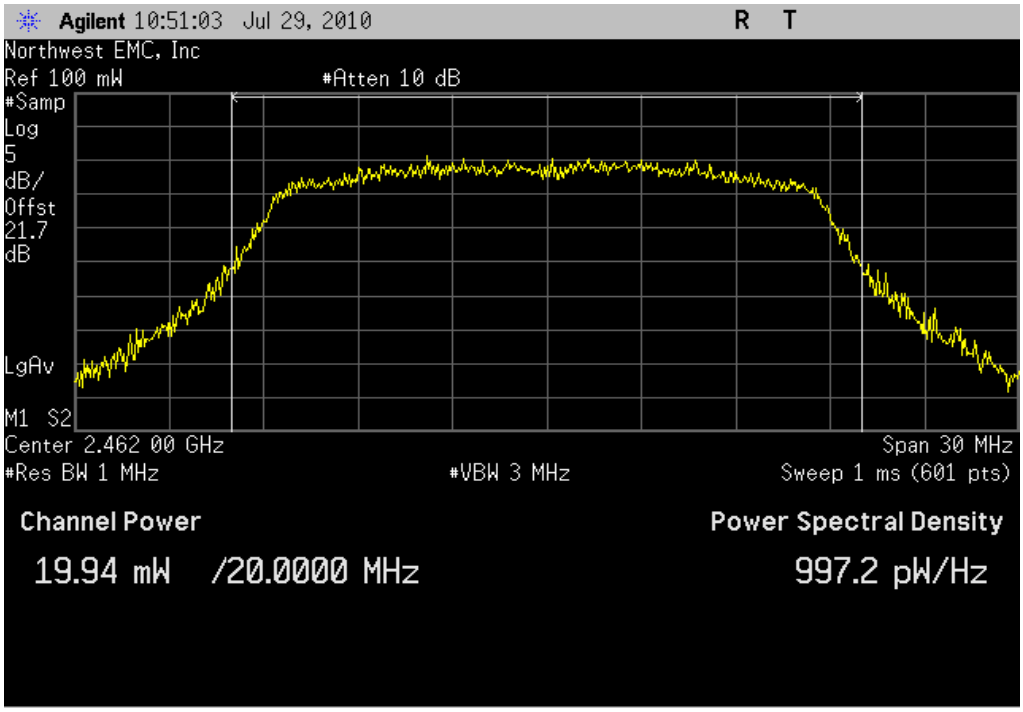


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	18.9 mW	**Limit:**	1 W

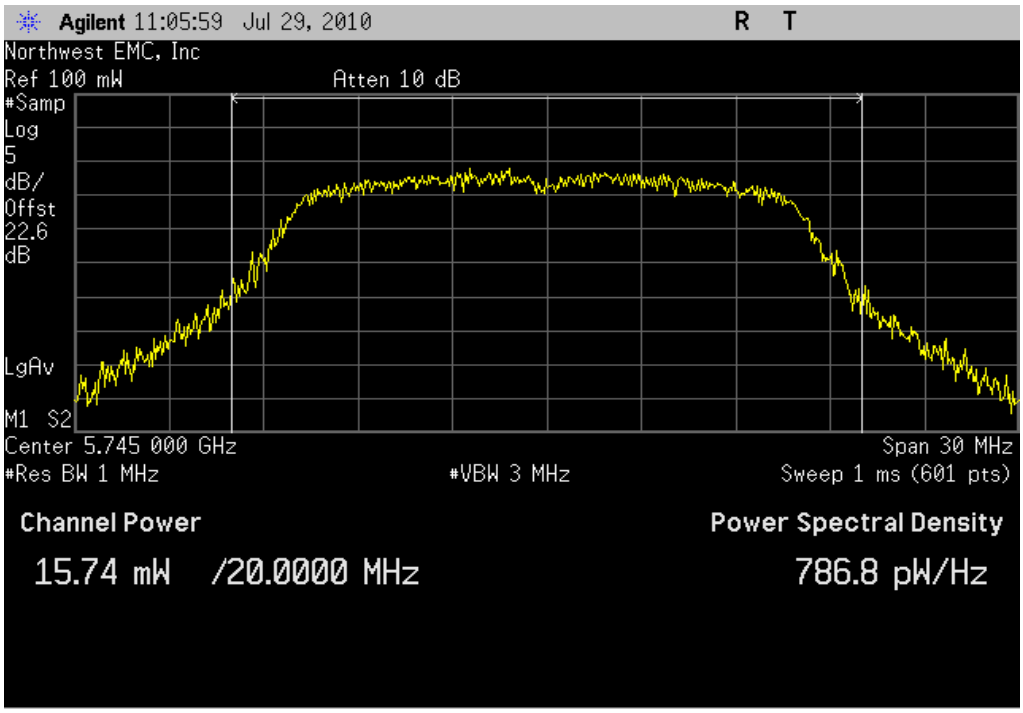


OUTPUT POWER - CHANNEL POWER

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	19.9 mW	**Limit:**	1 W

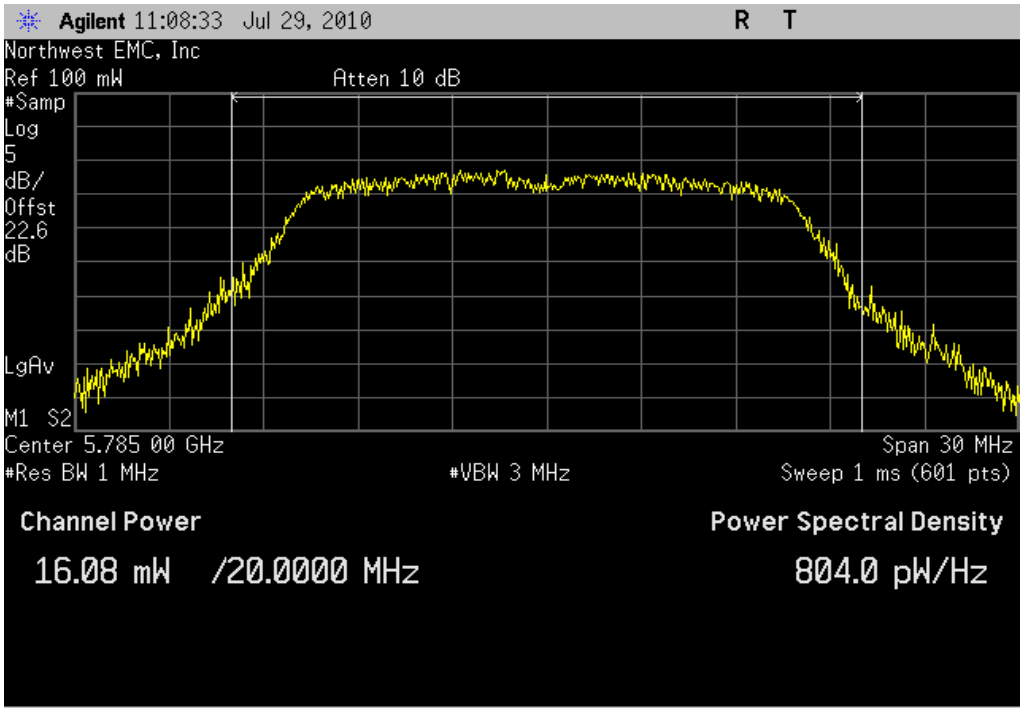


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	15.7 mW	**Limit:**	1 W

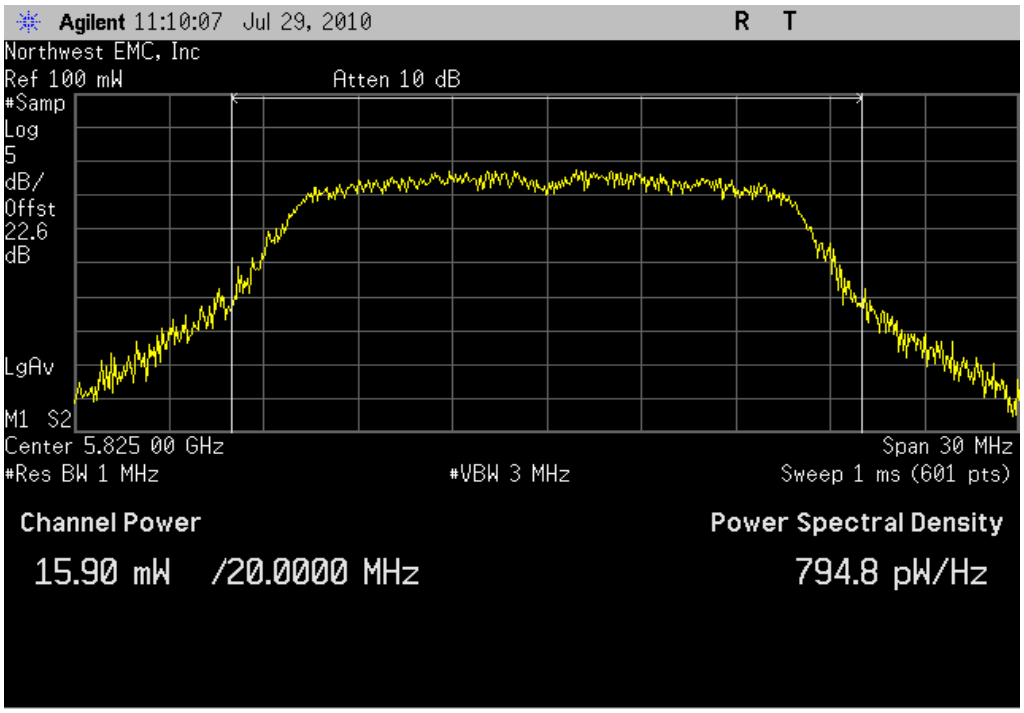


OUTPUT POWER - CHANNEL POWER

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz		
Result: Pass	**Value:** 16.1 mW	**Limit:** 1 W

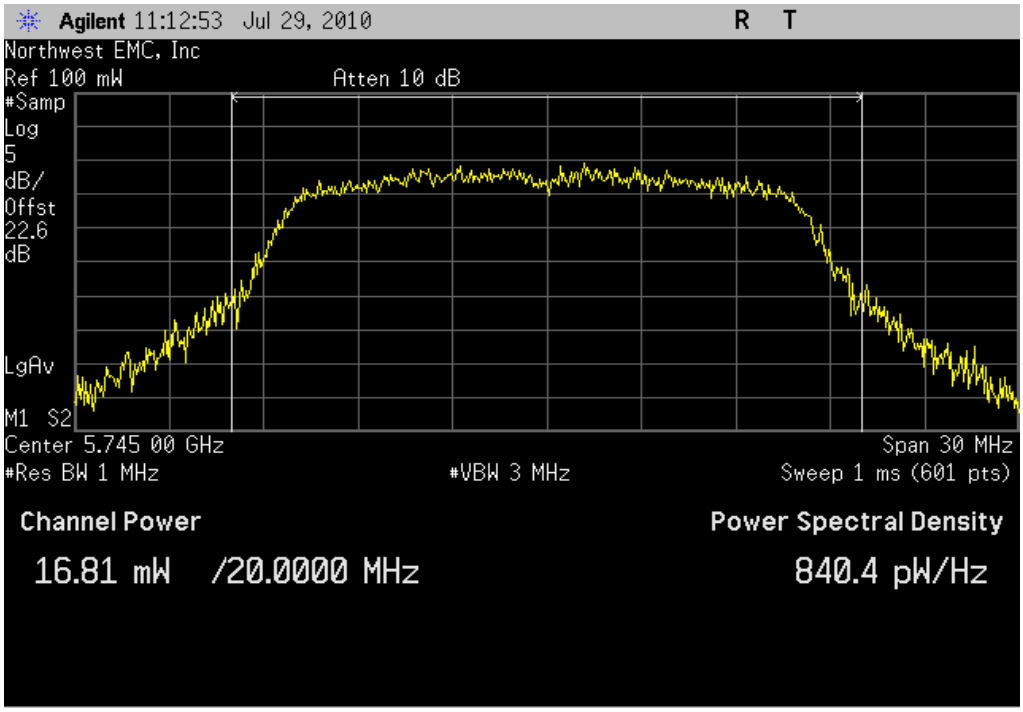


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz		
Result: Pass	**Value:** 15.9 mW	**Limit:** 1 W

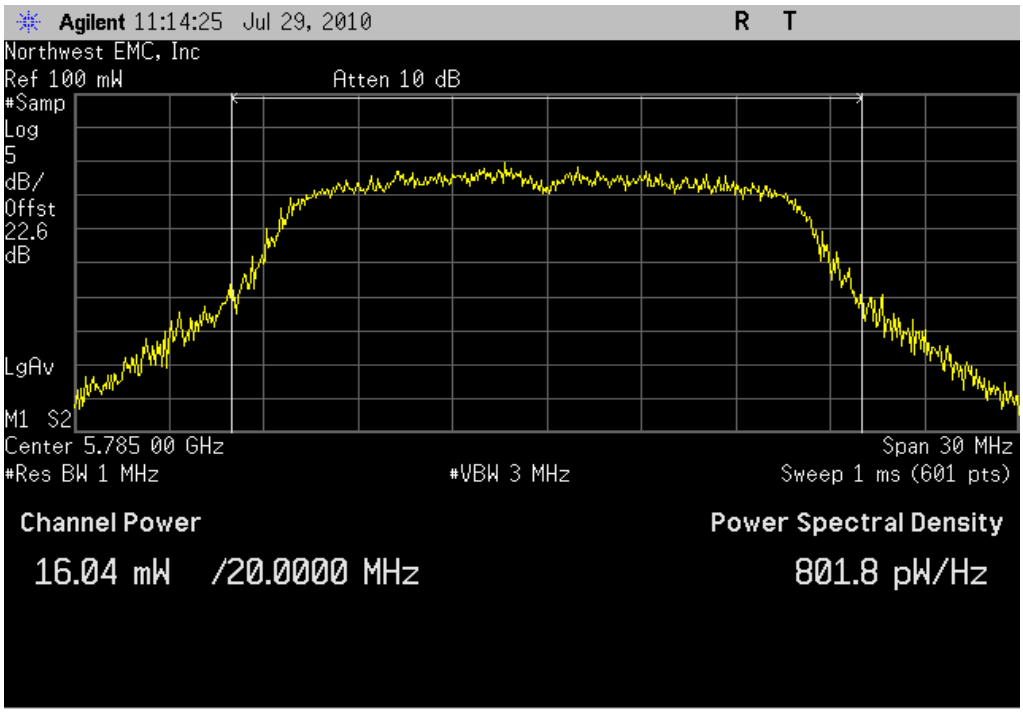


OUTPUT POWER - CHANNEL POWER

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	16.8 mW	**Limit:**	1 W

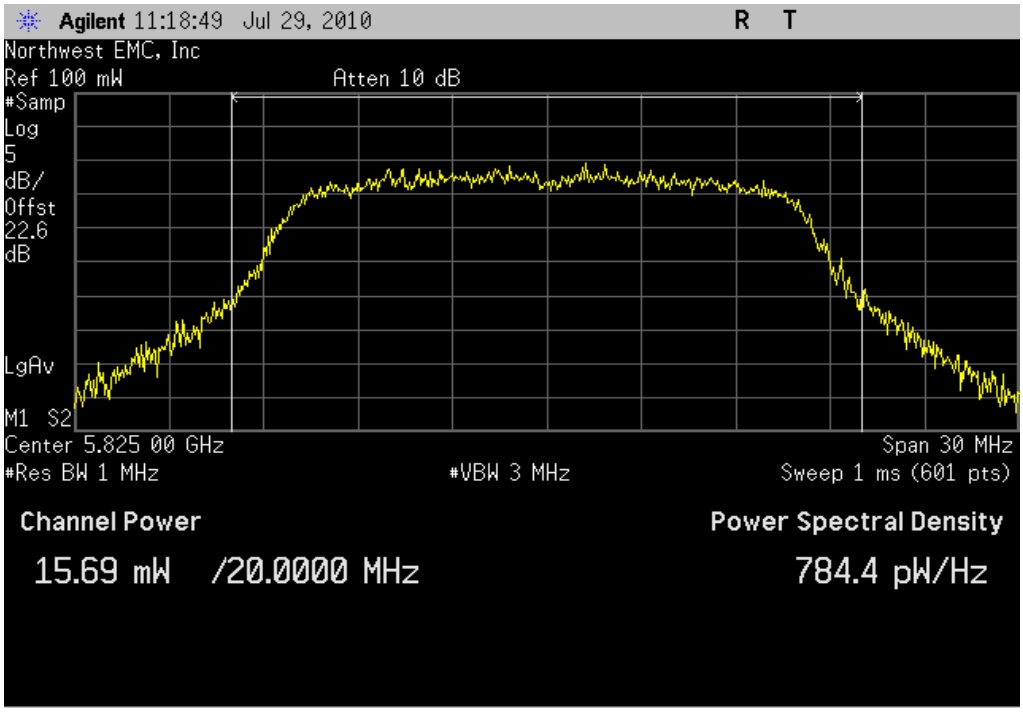


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	16.0 mW	**Limit:**	1 W

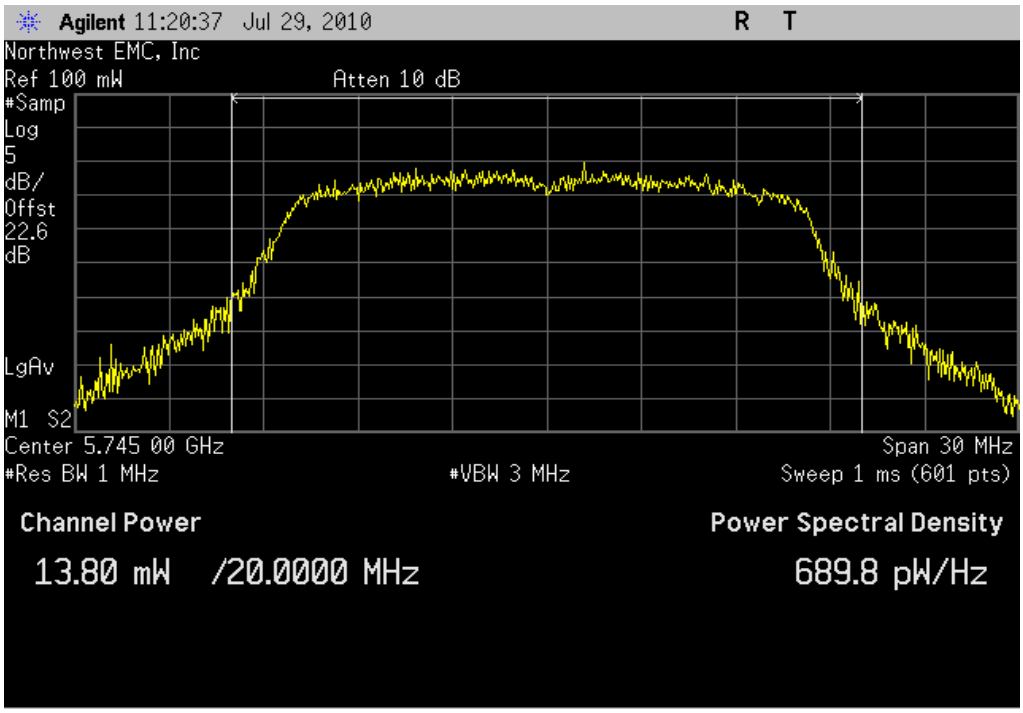


OUTPUT POWER - CHANNEL POWER

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	15.7 mW	**Limit:**	1 W

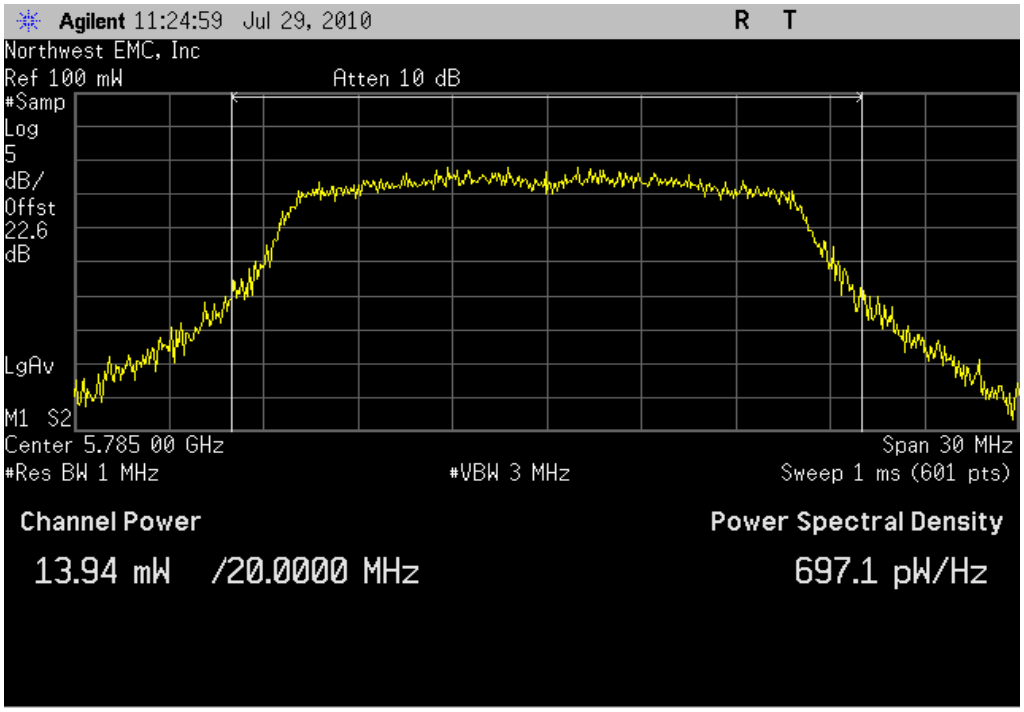


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	13.8 mW	**Limit:**	1 W

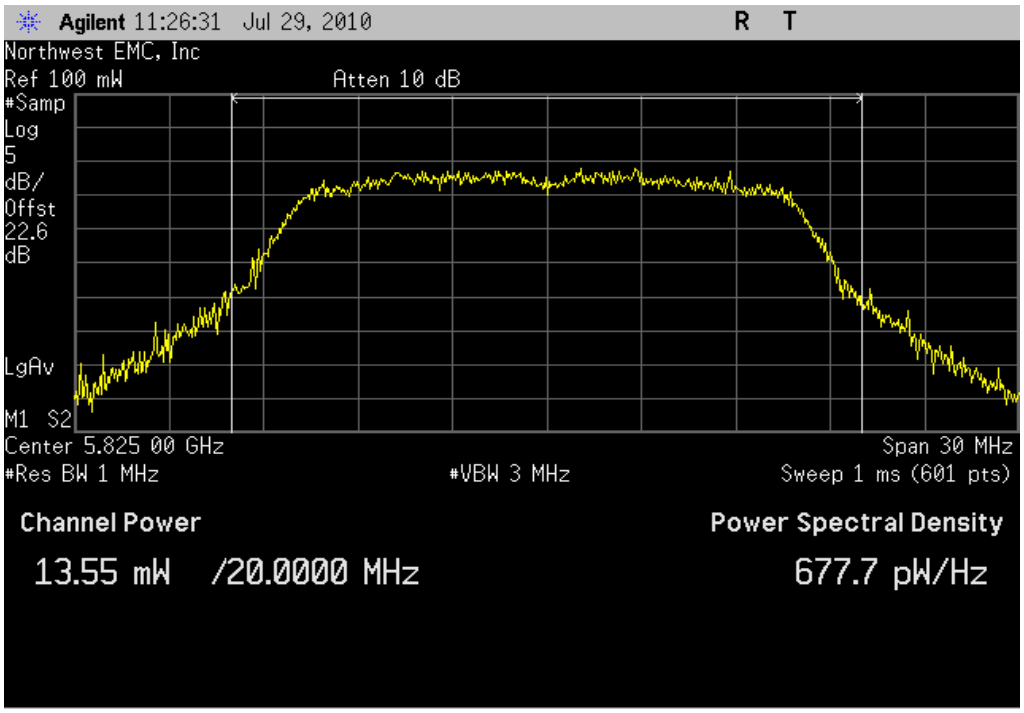


OUTPUT POWER - CHANNEL POWER

5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	13.9 mW	**Limit:**	1 W

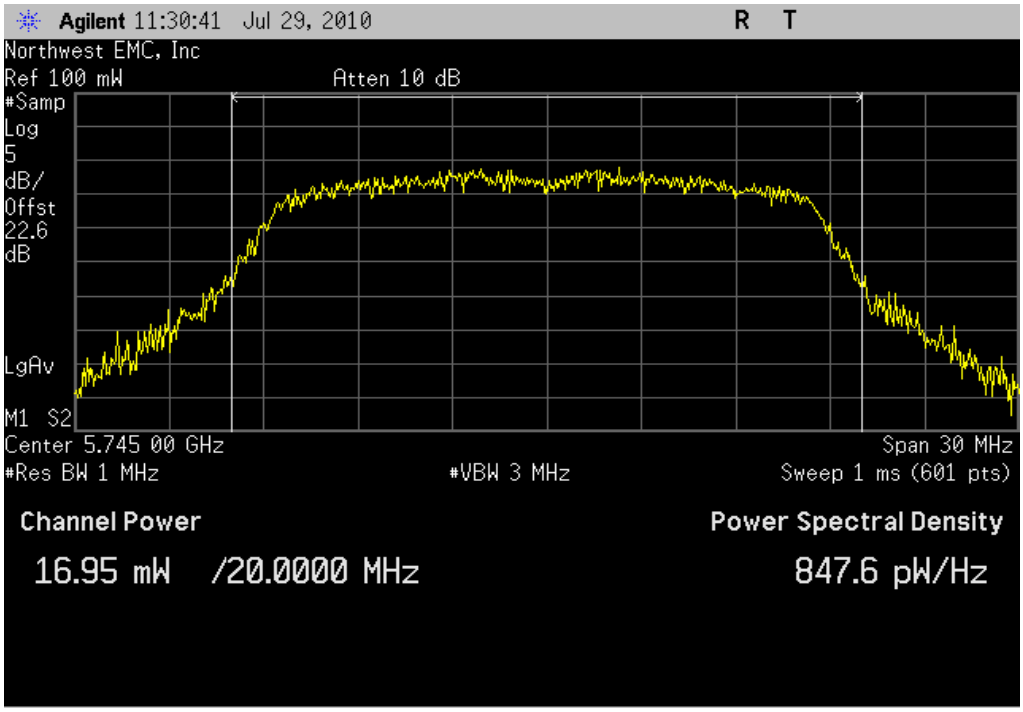


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	13.6 mW	**Limit:**	1 W

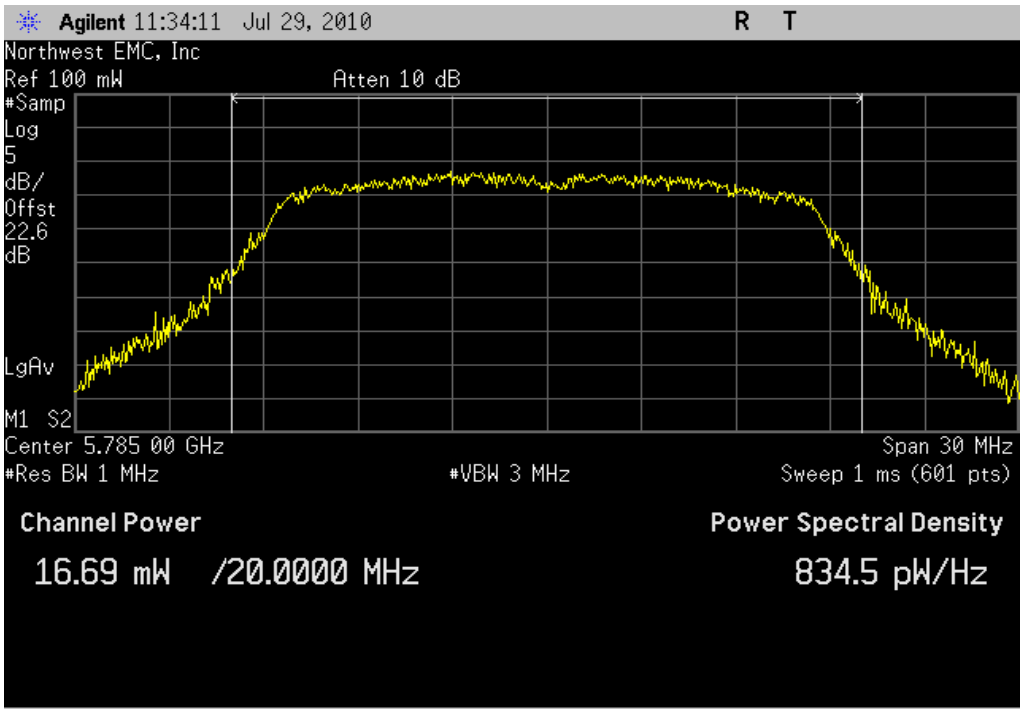


OUTPUT POWER - CHANNEL POWER

5725 MHz - 5850 MHz Band, 802.11(n) MCS0, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	17.0 mW	**Limit:**	1 W

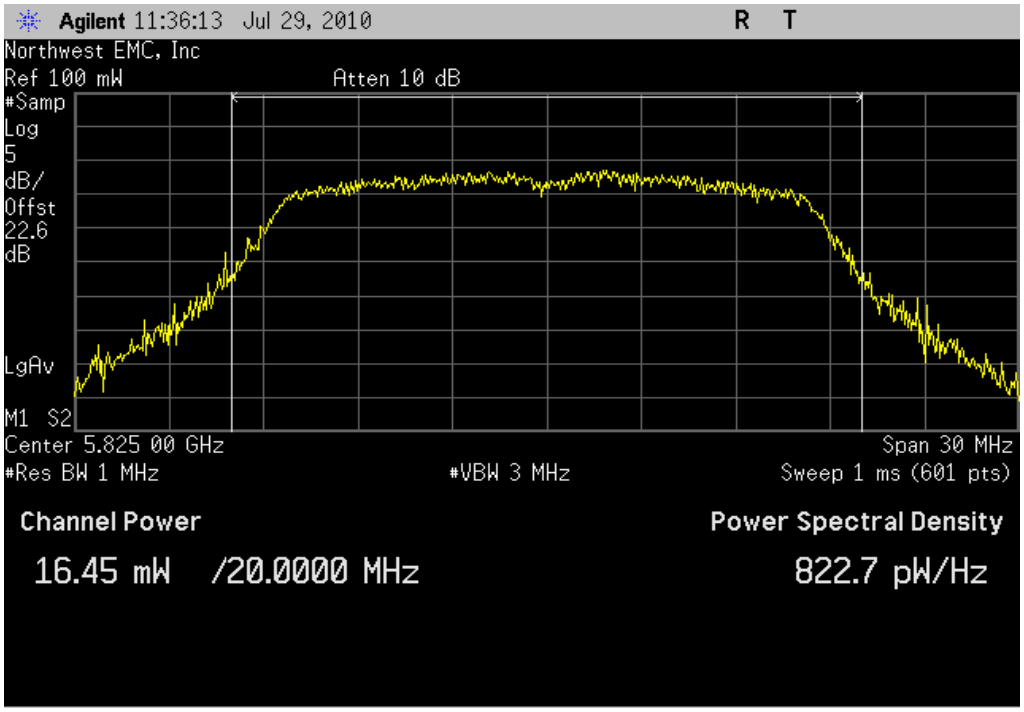


5725 MHz - 5850 MHz Band, 802.11(n) MCS0, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	16.7 mW	**Limit:**	1 W

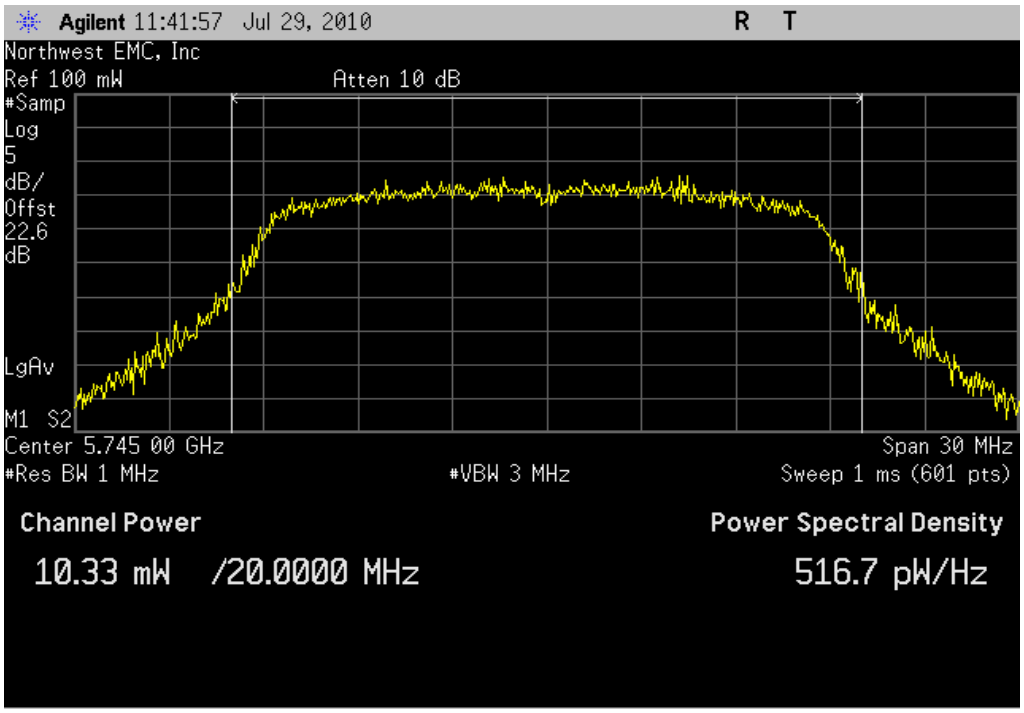


OUTPUT POWER - CHANNEL POWER

5725 MHz - 5850 MHz Band, 802.11(n) MCS0, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	16.5 mW	**Limit:**	1 W

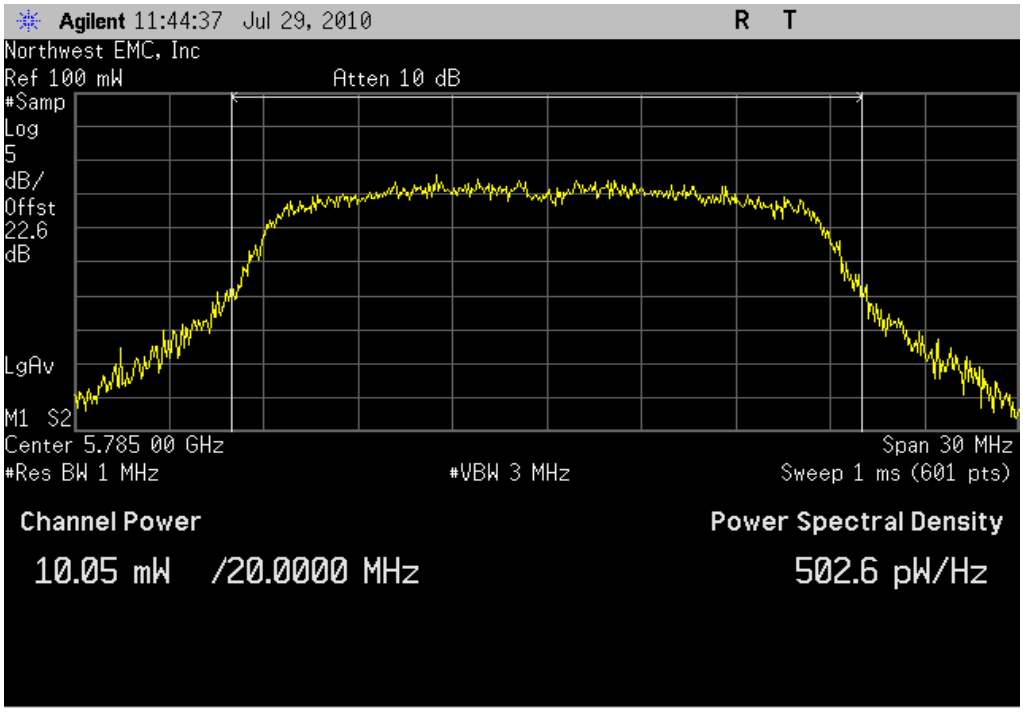


5725 MHz - 5850 MHz Band, 802.11(n) MCS7, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	10.3 mw	**Limit:**	1 W

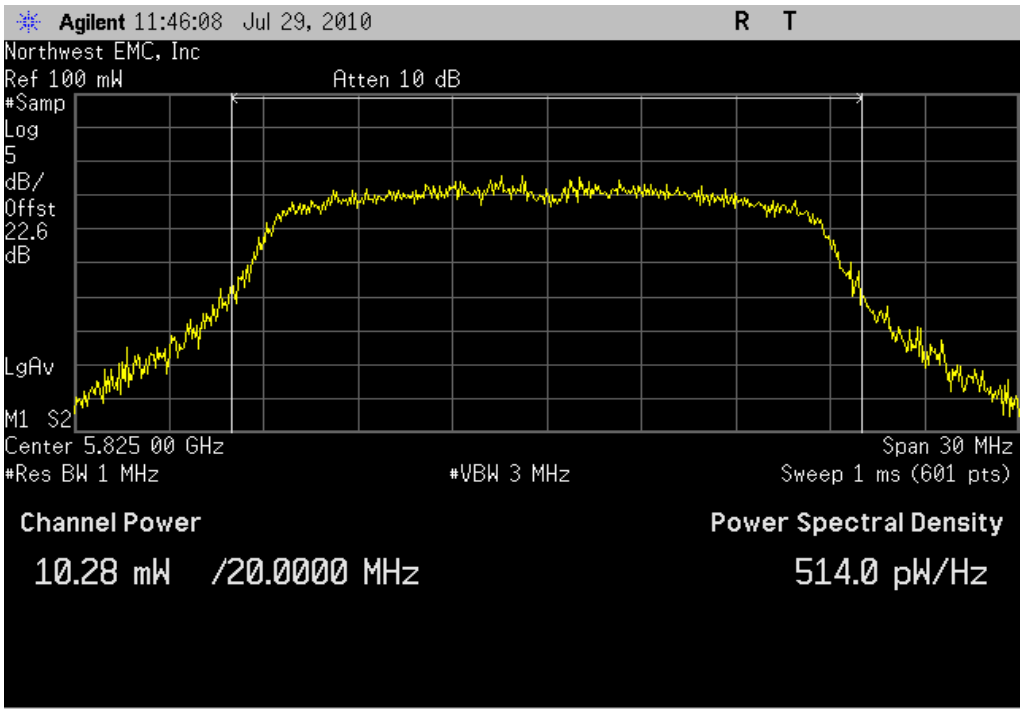


OUTPUT POWER - CHANNEL POWER

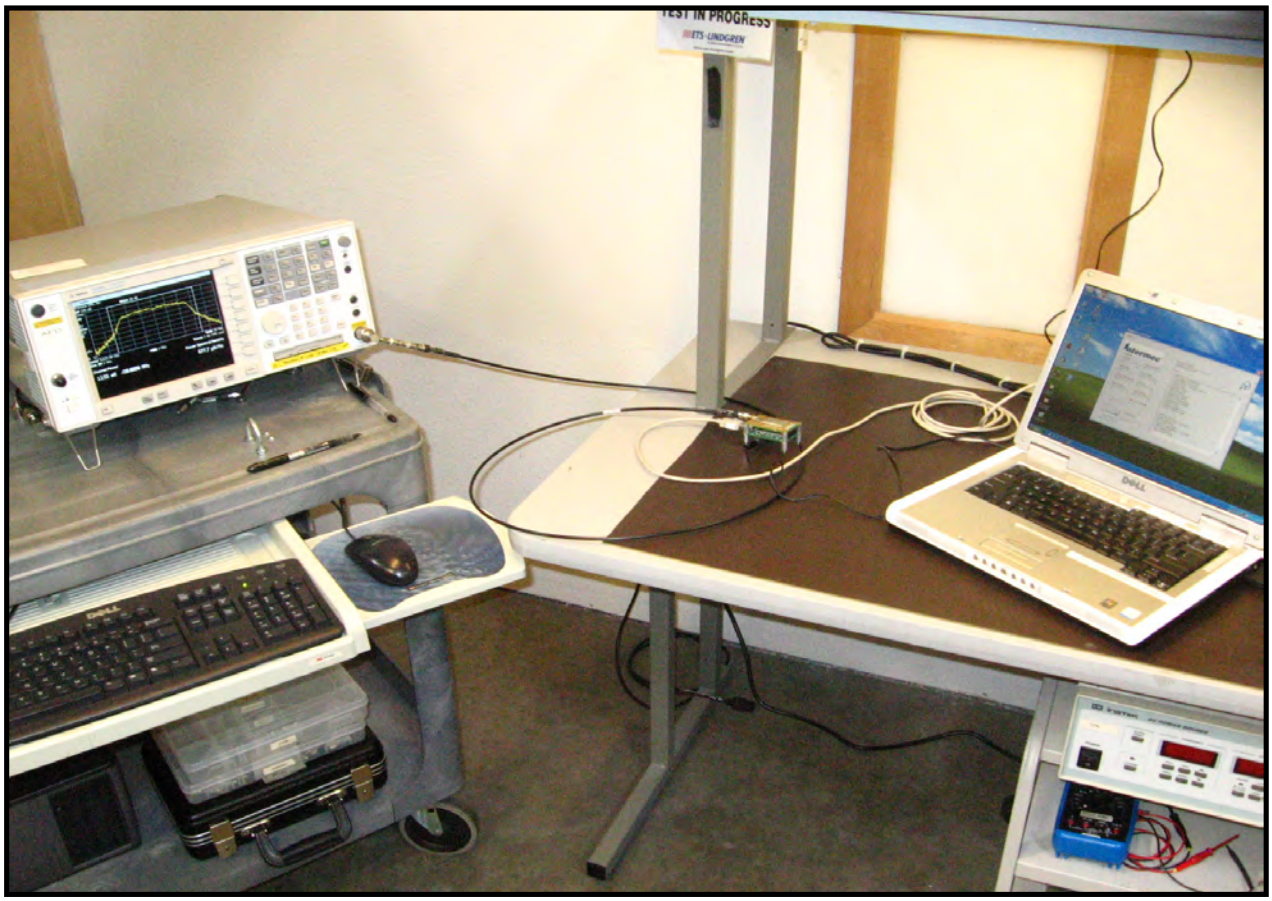
5725 MHz - 5850 MHz Band, 802.11(n) MCS7, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	10.1 mW	**Limit:**	1 W

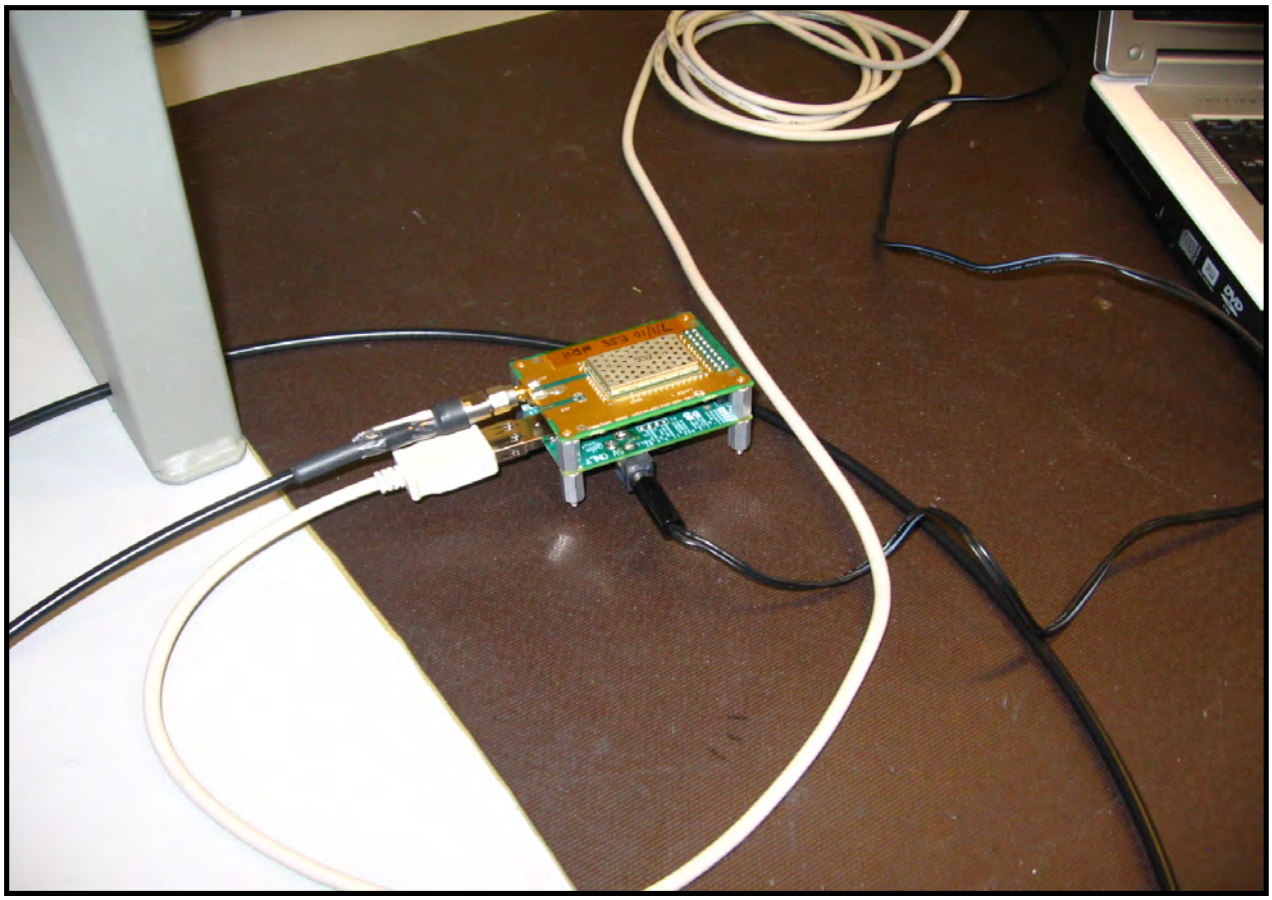


5725 MHz - 5850 MHz Band, 802.11(n) MCS7, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	10.3 mW	**Limit:**	1 W



OUTPUT POWER - CHANNEL POWER





BAND EDGE COMPLIANCE

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	E4440A	AFD	6/1/2009	24
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/21/2009	13
26 GHz DC Block, SMA	Pasternack	PE8210	AME	10/19/2009	13
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in each available band. The channels closest to the band edges were selected. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its lowest, middle, and maximum data rate available.

The spectrum was scanned across each band edge from at least 25 MHz below the band edge to 25 MHz above the band edge.

NORTHWEST EMC

BAND EDGE COMPLIANCE

XMit 2010.07.29

EUT:	RC12			Work Order:	INMC0575
Serial Number:	R11			Date:	08/02/10
Customer:	Intermec Technologies Corporation			Temperature:	23°C
Attendees:	none			Humidity:	38%
Project:	None			Barometric Pres.:	1015.3 mb
Tested by:	Rod Peloquin	Power:	5VDC	Job Site:	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

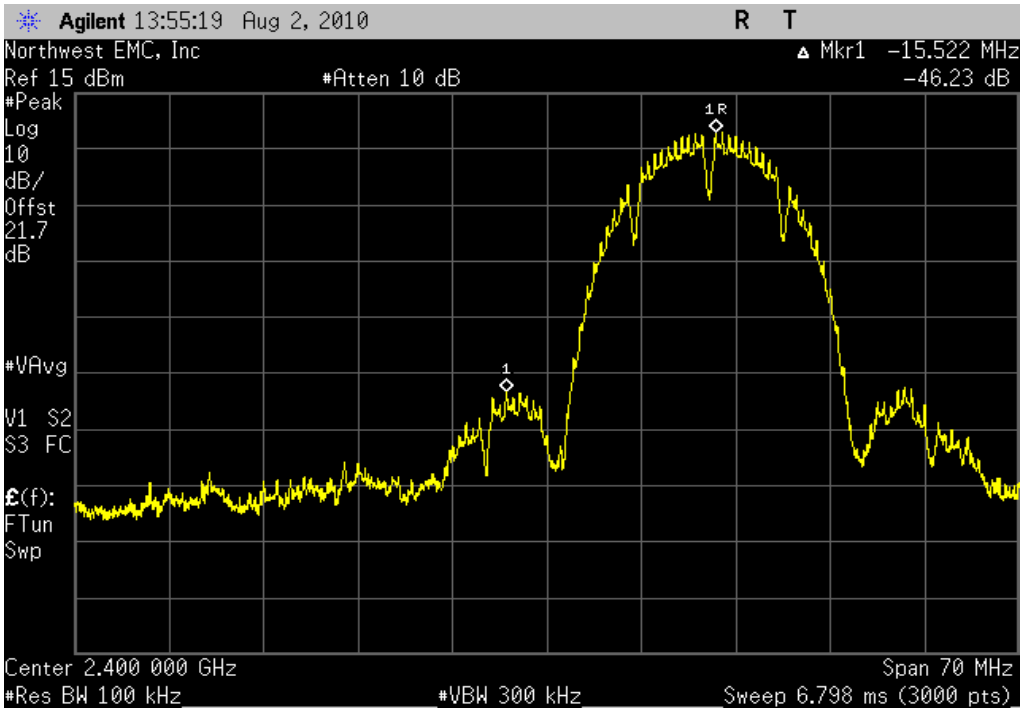
No Deviations

Configuration #	2	Signature

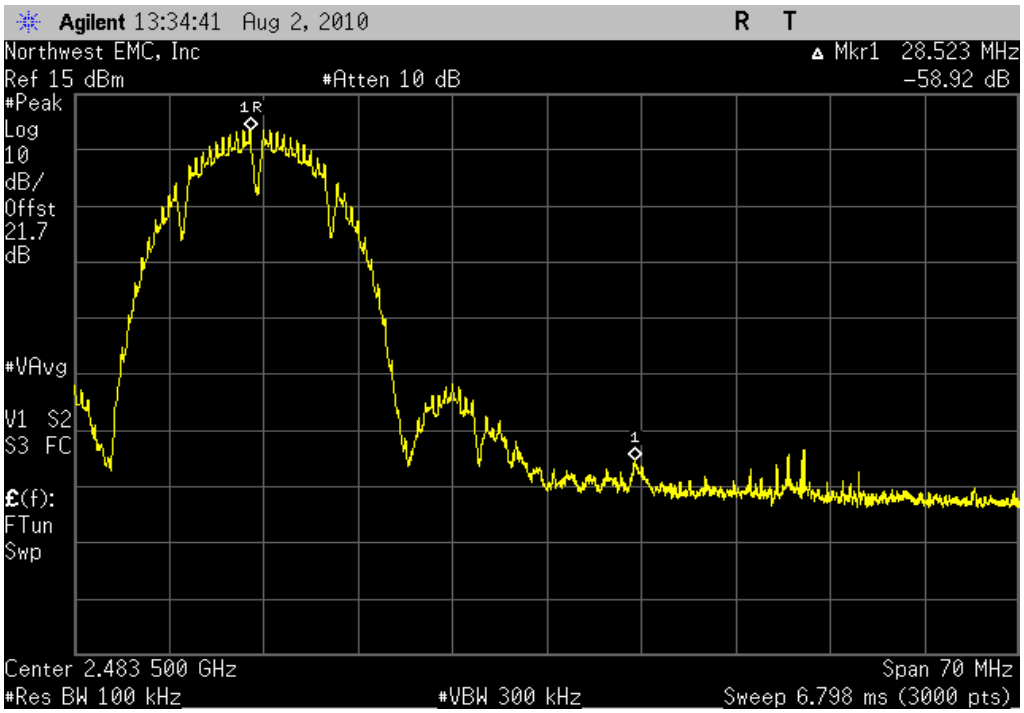
	Value	Limit	Results
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	-46.23 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-58.92 dBc	≤ -20 dBc	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz	-45.61 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-58.92 dBc	≤ -20 dBc	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	-30.69 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-48.30 dBc	≤ -20 dBc	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz	-32.44 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-49.04 dBc	≤ -20 dBc	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz	-33.39 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-47.88 dBc	≤ -20 dBc	Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz	-31.30 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-45.78 dBc	≤ -20 dBc	Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz	-32.20 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-50.07 dBc	≤ -20 dBc	Pass
5725 MHz - 5850 MHz Band			
802.11(a) 6 Mbps			
Low Channel 149, 5745 MHz	-42.86 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	-51.19 dBc	≤ -20 dBc	Pass
802.11(a) 36 Mbps			
Low Channel 149, 5745 MHz	-42.86 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	-50.87 dBc	≤ -20 dBc	Pass
802.11(a) 54 Mbps			
Low Channel 149, 5745 MHz	-46.26 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	-52.78 dBc	≤ -20 dBc	Pass
802.11(n) MCS0			
Low Channel 149, 5745 MHz	-41.33 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	-49.42 dBc	≤ -20 dBc	Pass
802.11(n) MCS7			
Low Channel 149, 5745 MHz	-47.00 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	-51.58 dBc	≤ -20 dBc	Pass

BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-46.23 dBc	**Limit:**	≤ -20 dBc

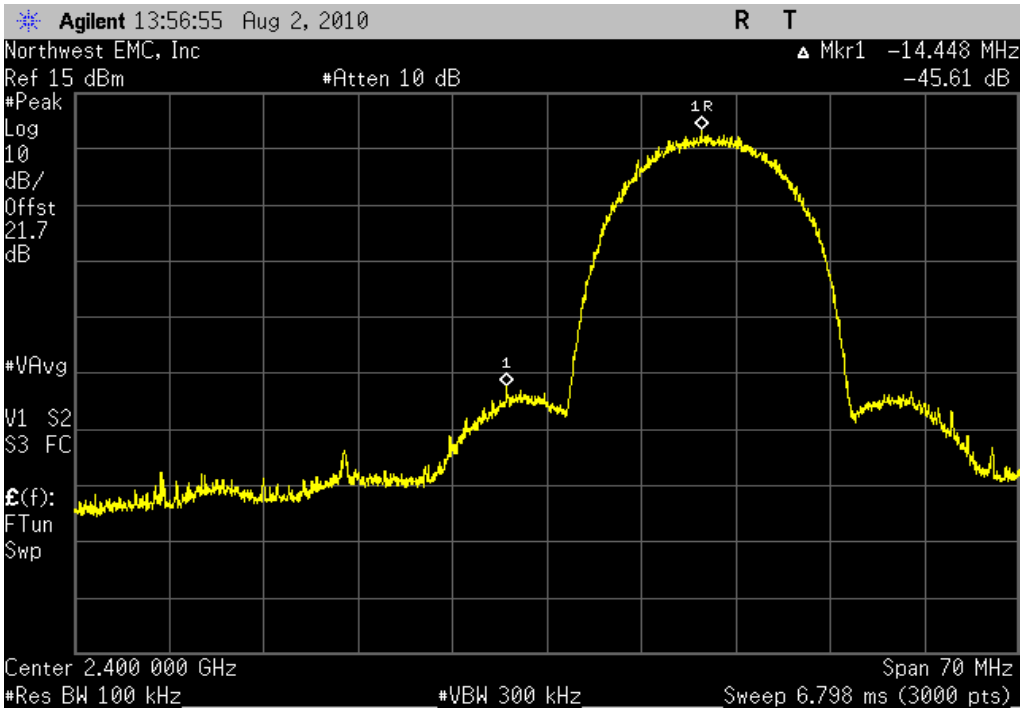


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-58.92 dBc	**Limit:**	≤ -20 dBc

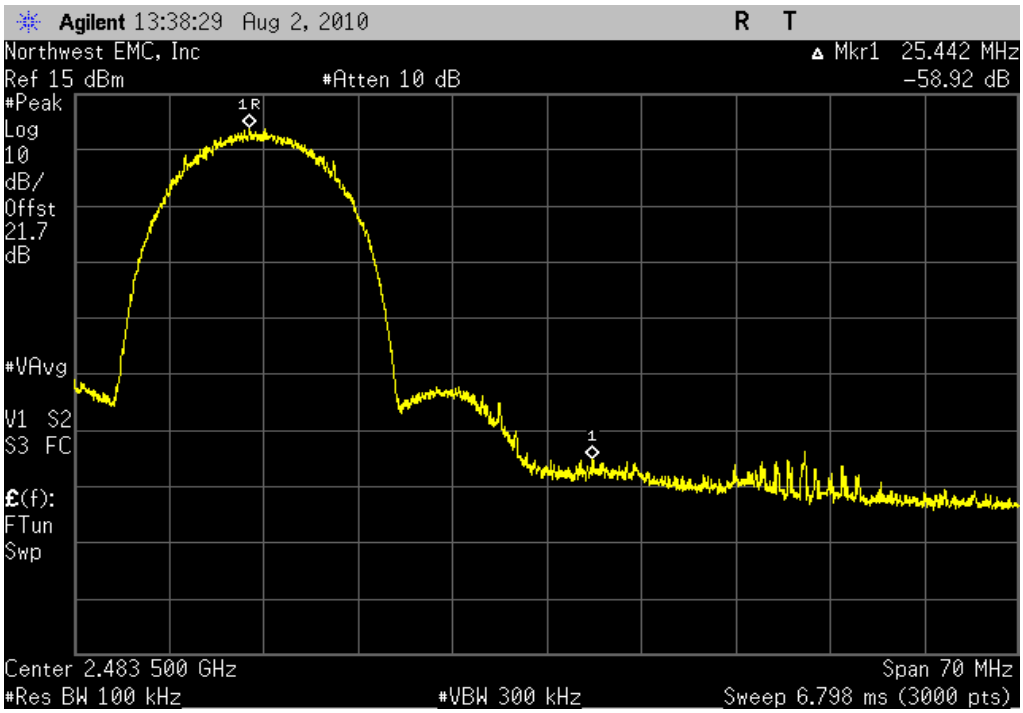


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-45.61 dBc	**Limit:**	≤ -20 dBc

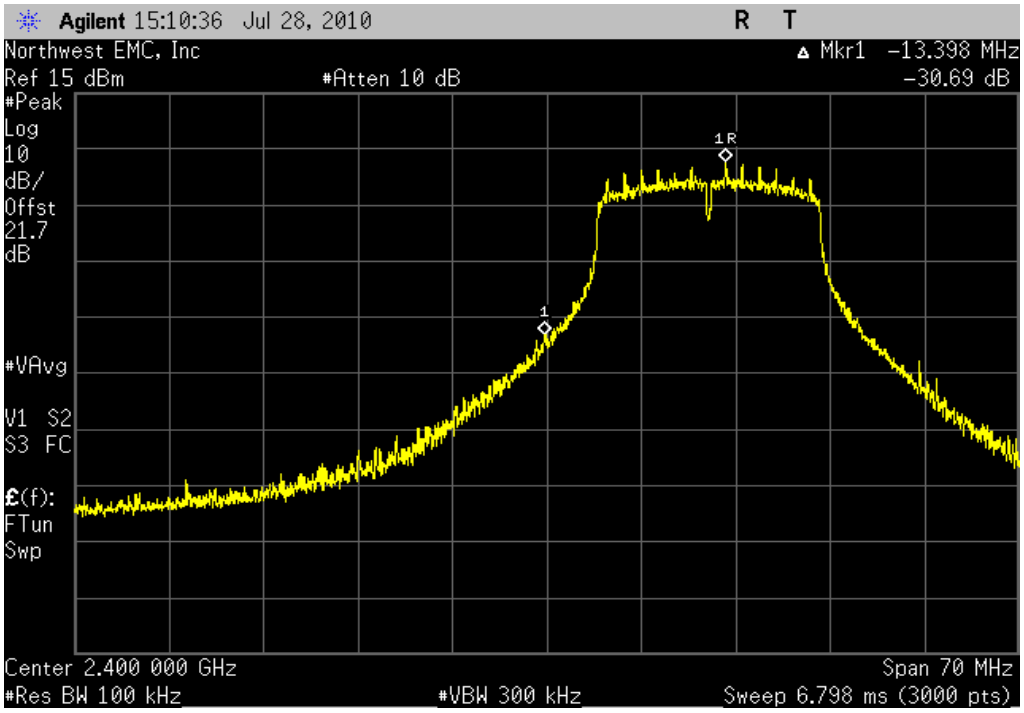


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-58.92 dBc	**Limit:**	≤ -20 dBc

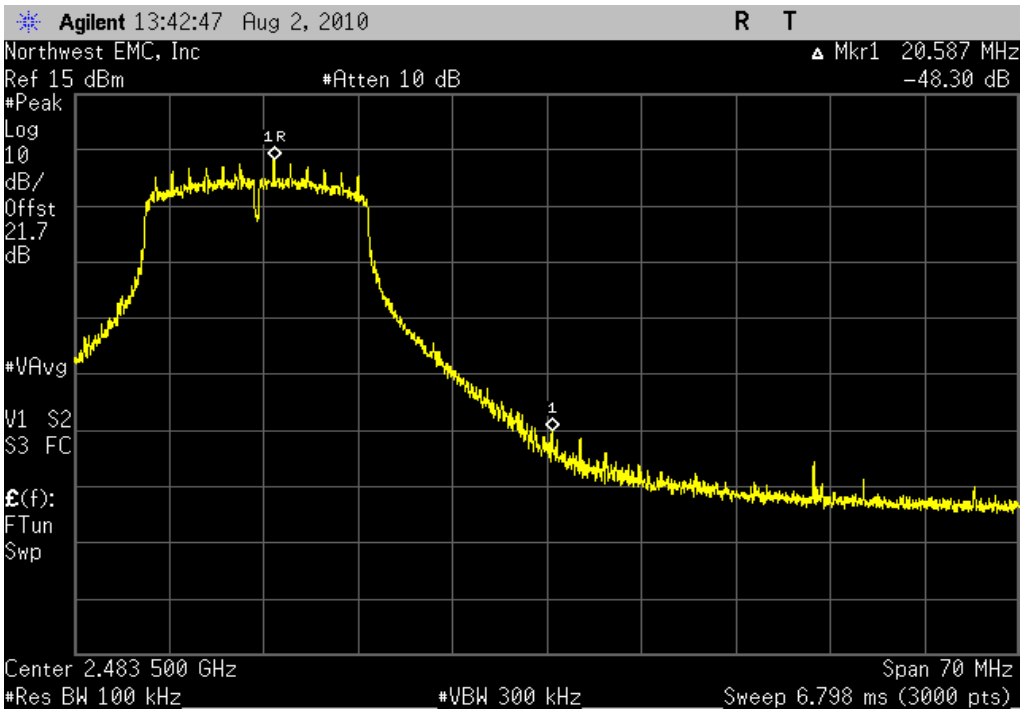


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-30.69 dBc	**Limit:**	≤ -20 dBc

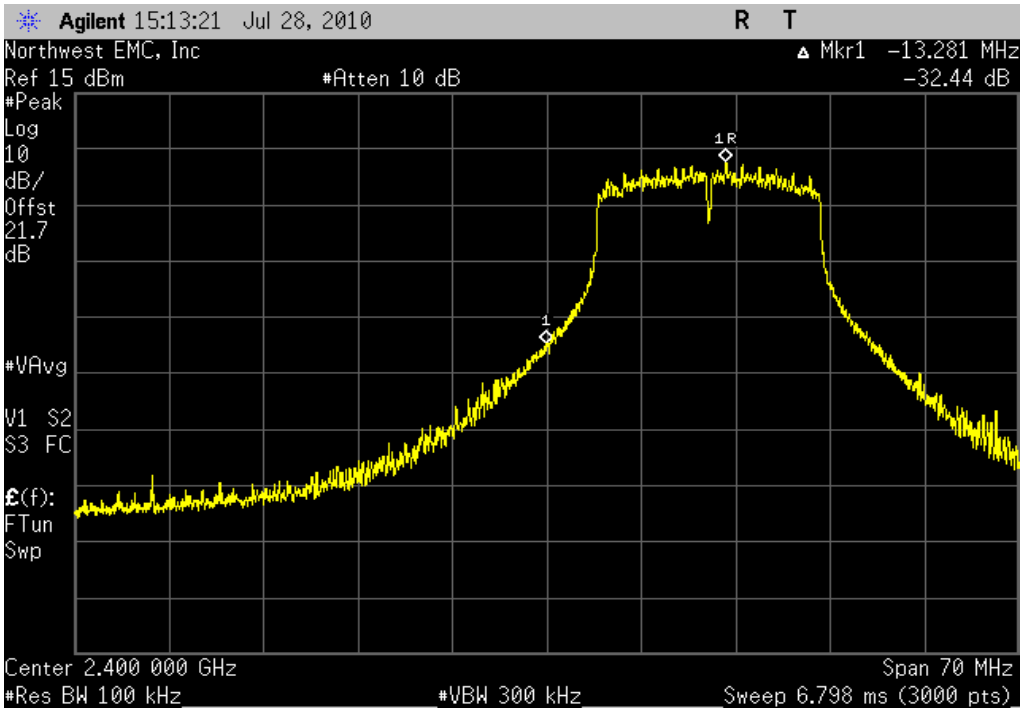


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-48.30 dBc	**Limit:**	≤ -20 dBc

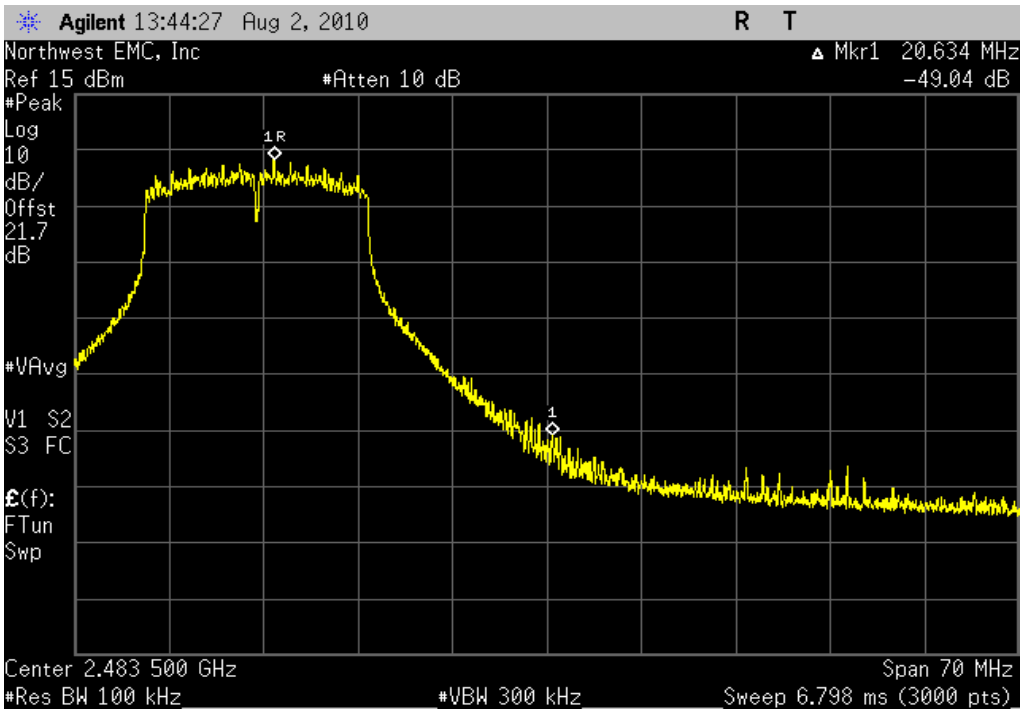


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-32.44 dBc	**Limit:**	≤ -20 dBc

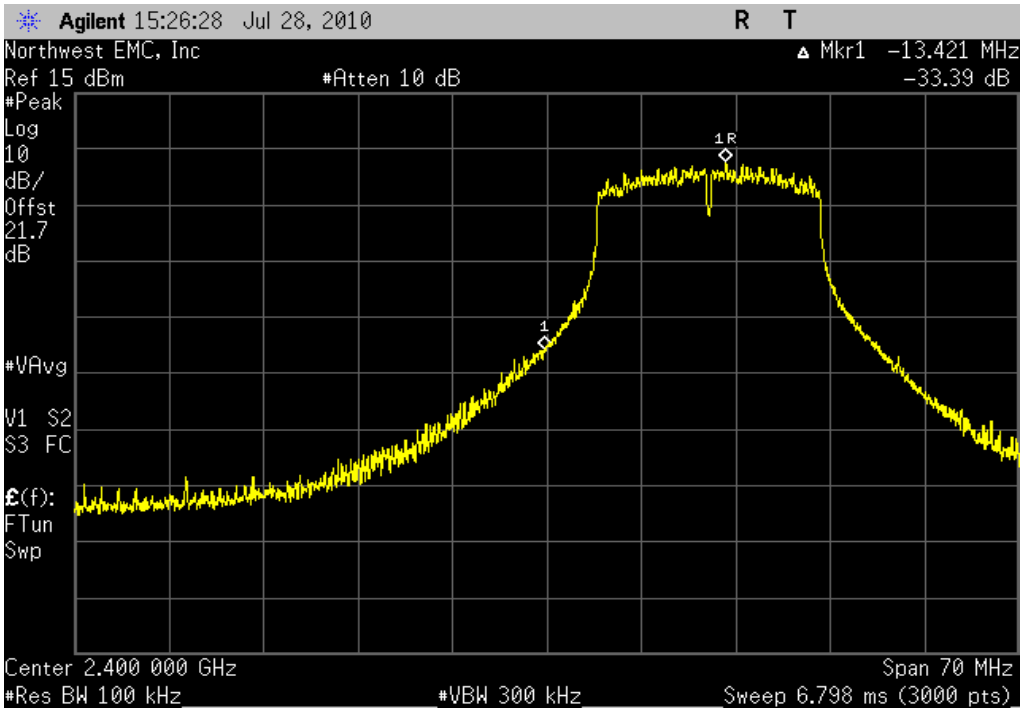


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-49.04 dBc	**Limit:**	≤ -20 dBc

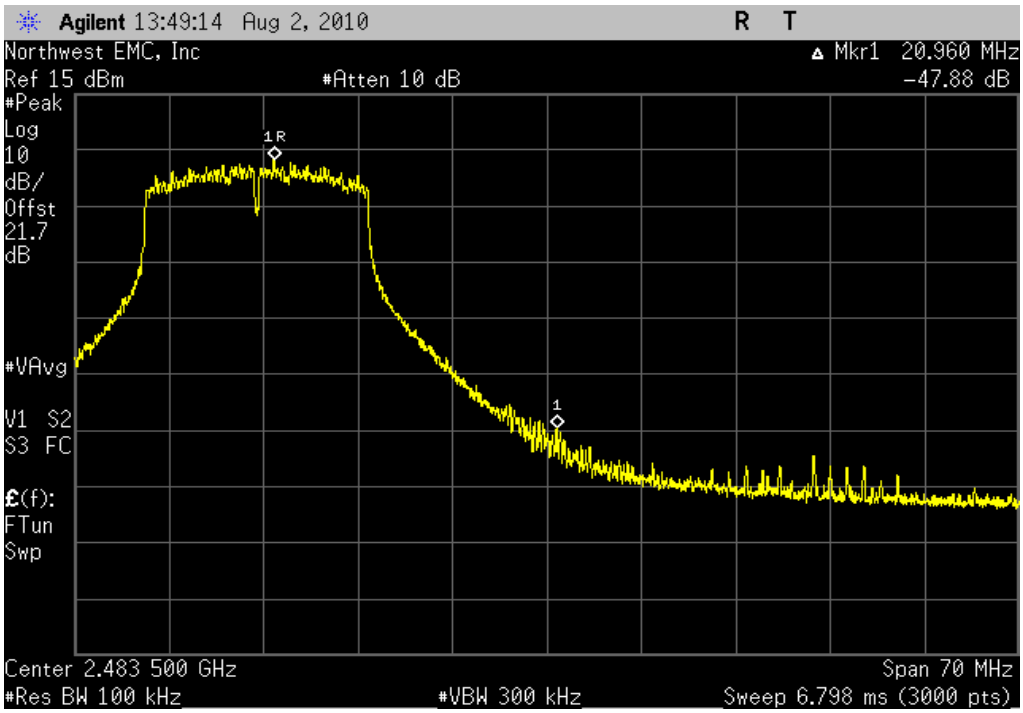


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-33.39 dBc	**Limit:**	≤ -20 dBc

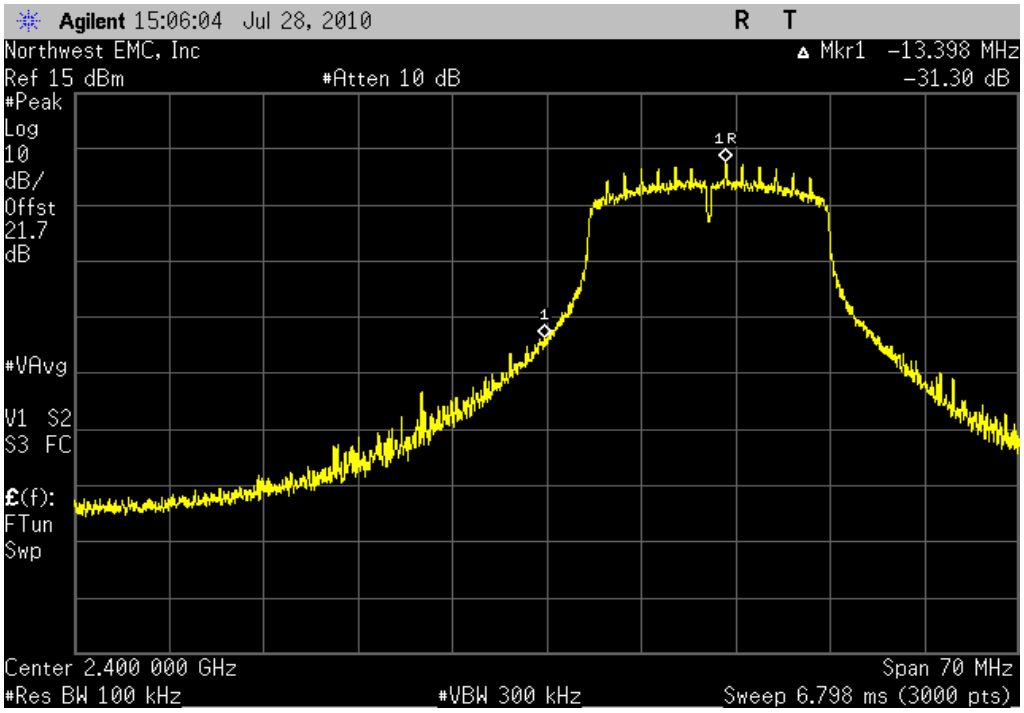


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-47.88 dBc	**Limit:**	≤ -20 dBc

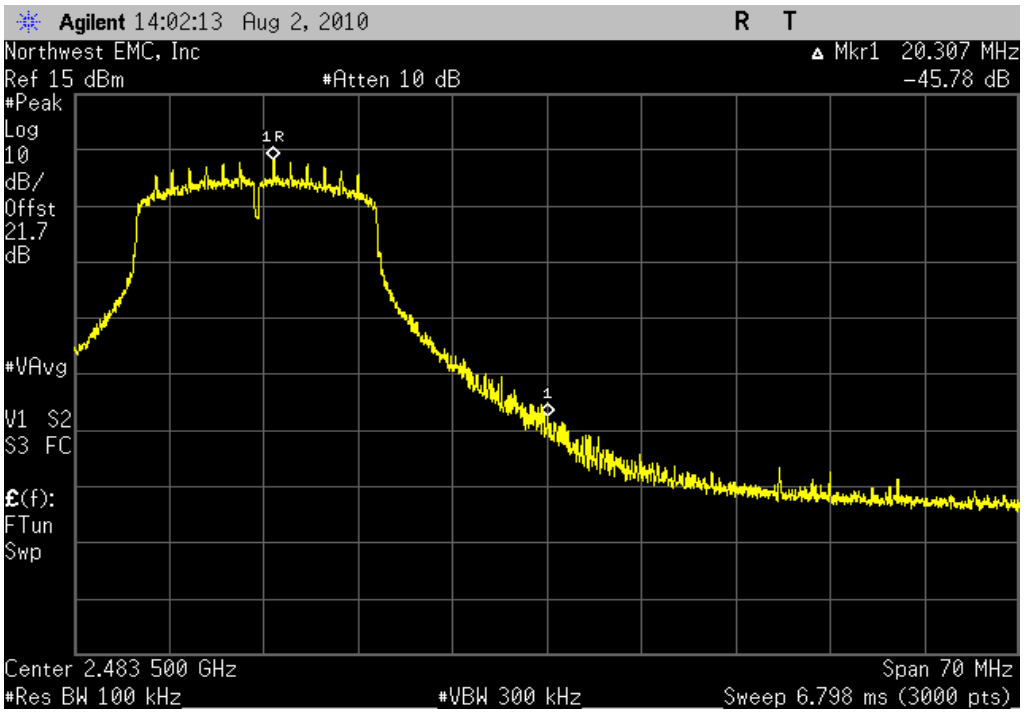


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-31.30 dBc	**Limit:**	≤ -20 dBc

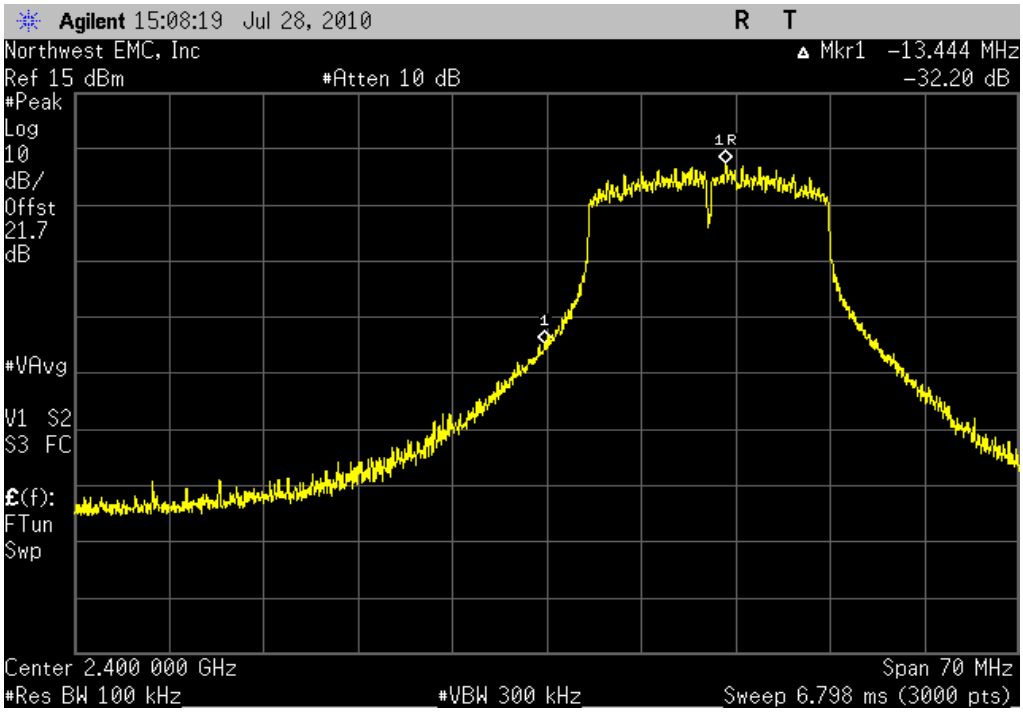


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-45.78 dBc	**Limit:**	≤ -20 dBc

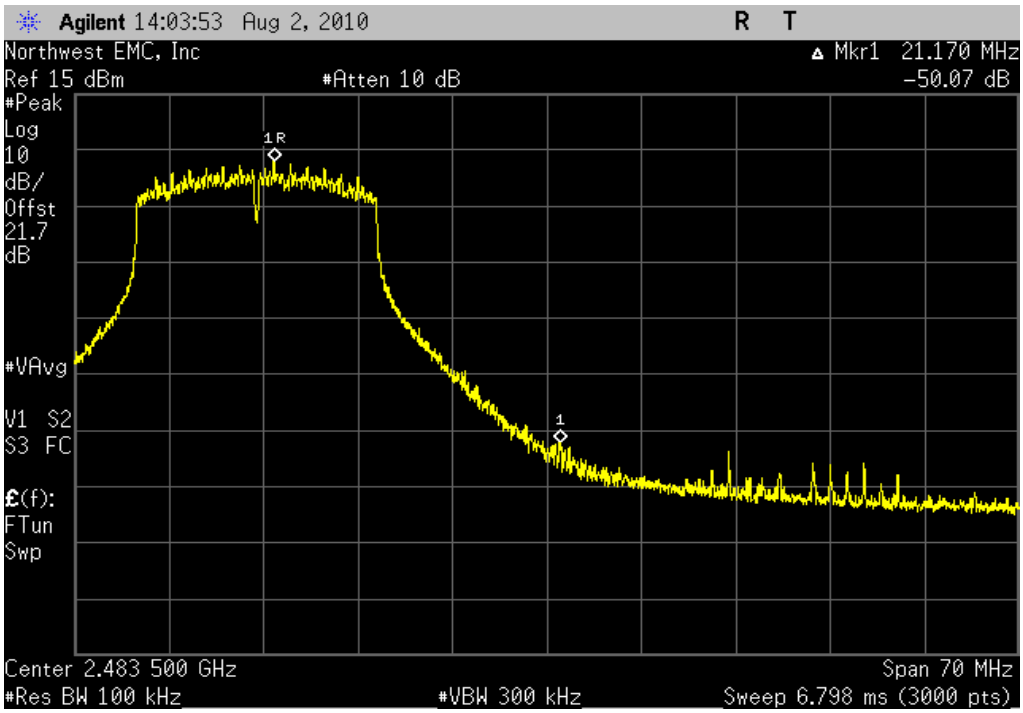


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-32.20 dBc	**Limit:**	≤ -20 dBc

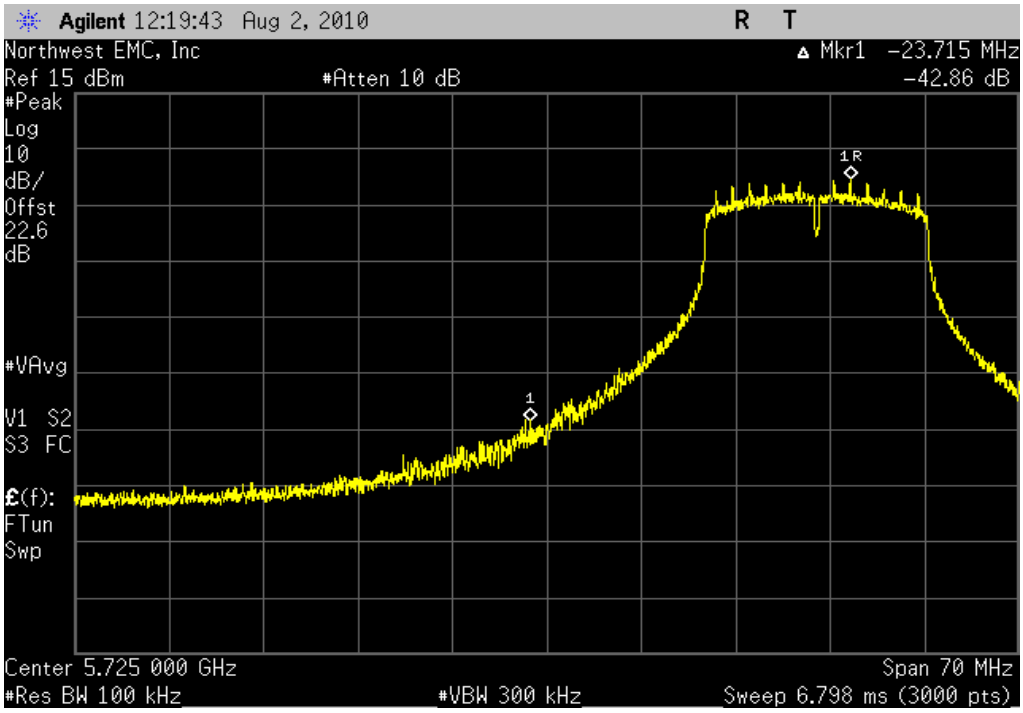


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-50.07 dBc	**Limit:**	≤ -20 dBc

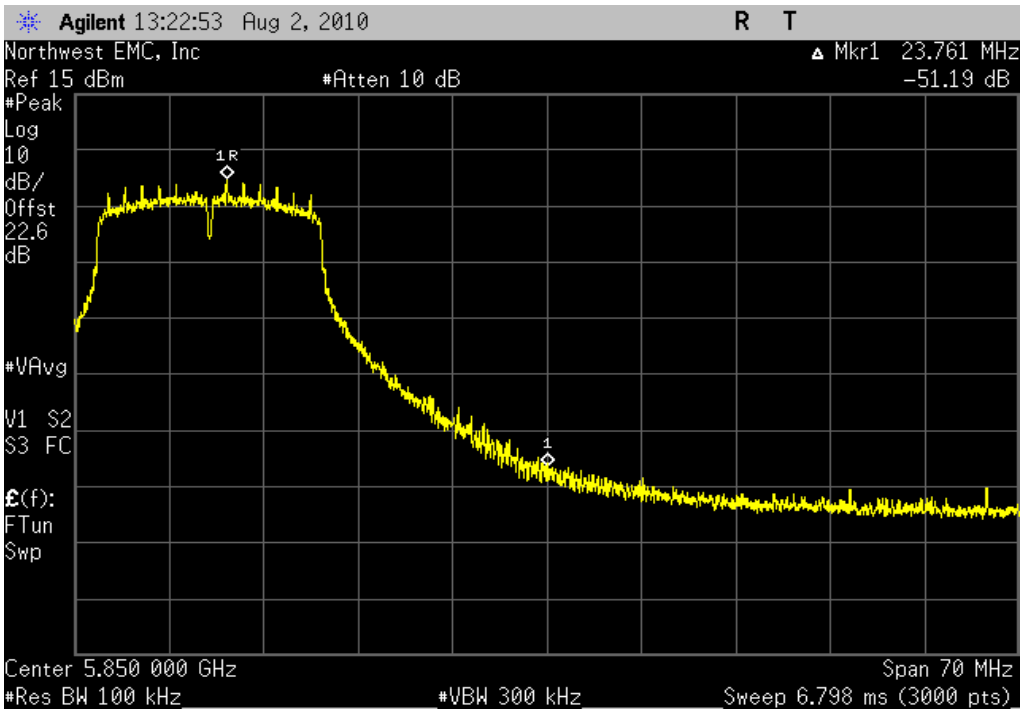


BAND EDGE COMPLIANCE

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	-42.86 dBc	**Limit:**	≤ -20 dBc

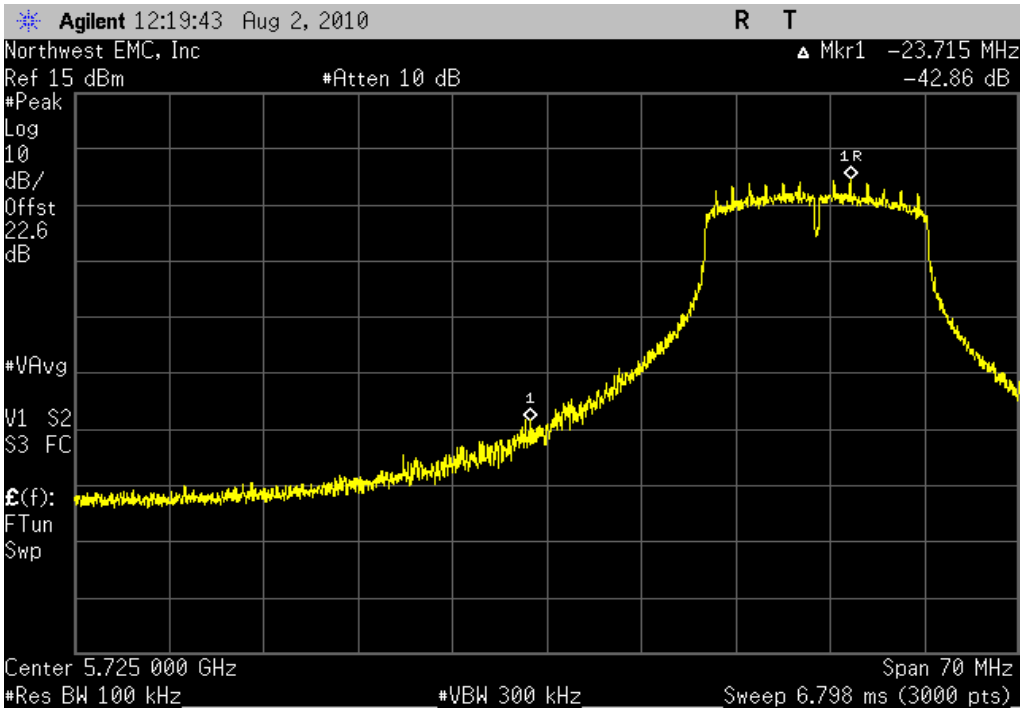


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	-51.19 dBc	**Limit:**	≤ -20 dBc

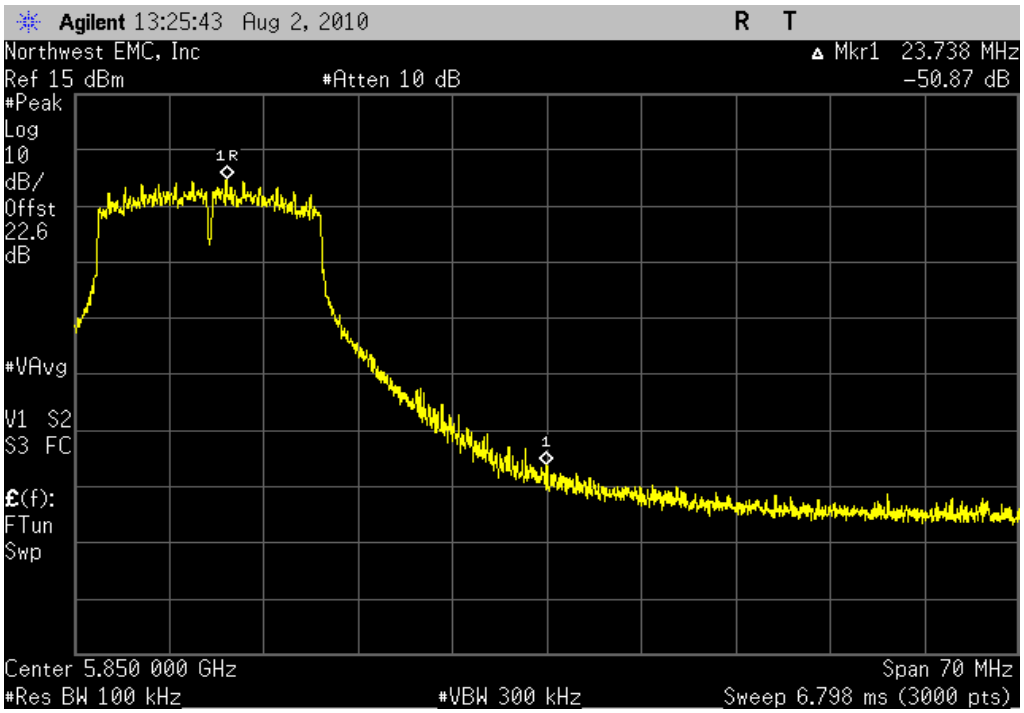


BAND EDGE COMPLIANCE

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	-42.86 dBc	**Limit:**	≤ -20 dBc

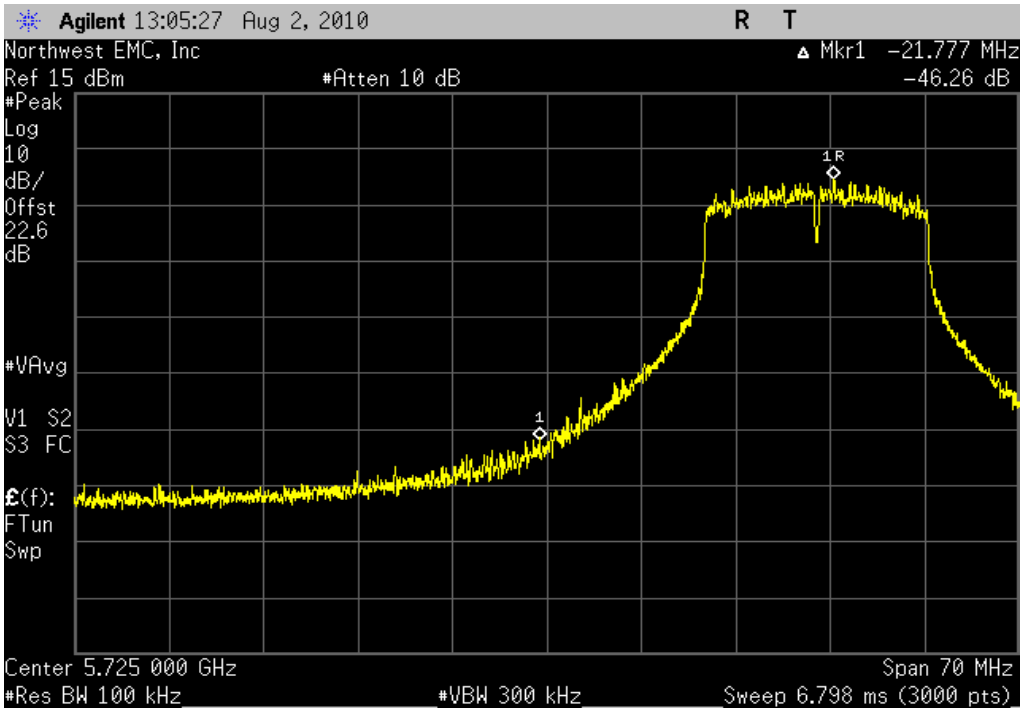


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	-50.87 dBc	**Limit:**	≤ -20 dBc

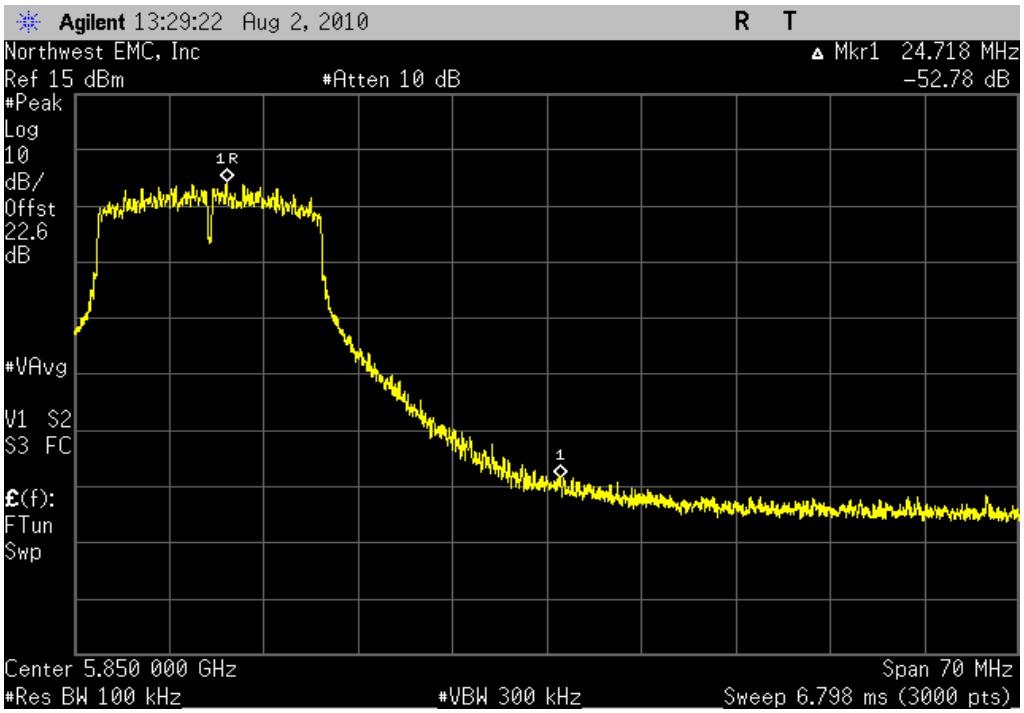


BAND EDGE COMPLIANCE

5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	-46.26 dBc	**Limit:**	≤ -20 dBc

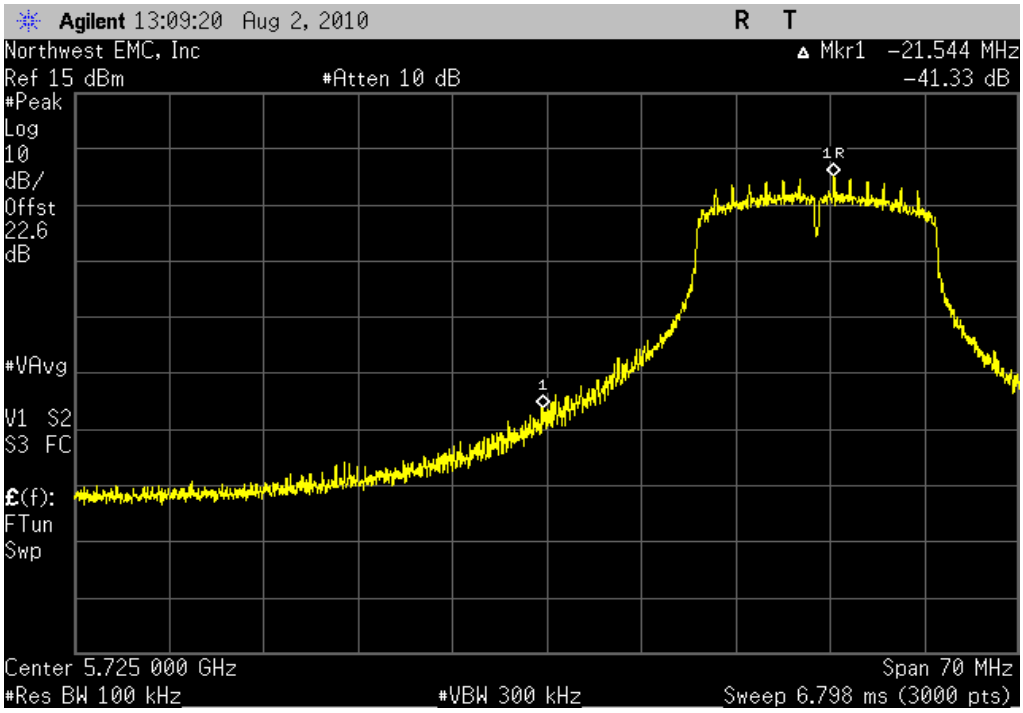


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	-52.78 dBc	**Limit:**	≤ -20 dBc

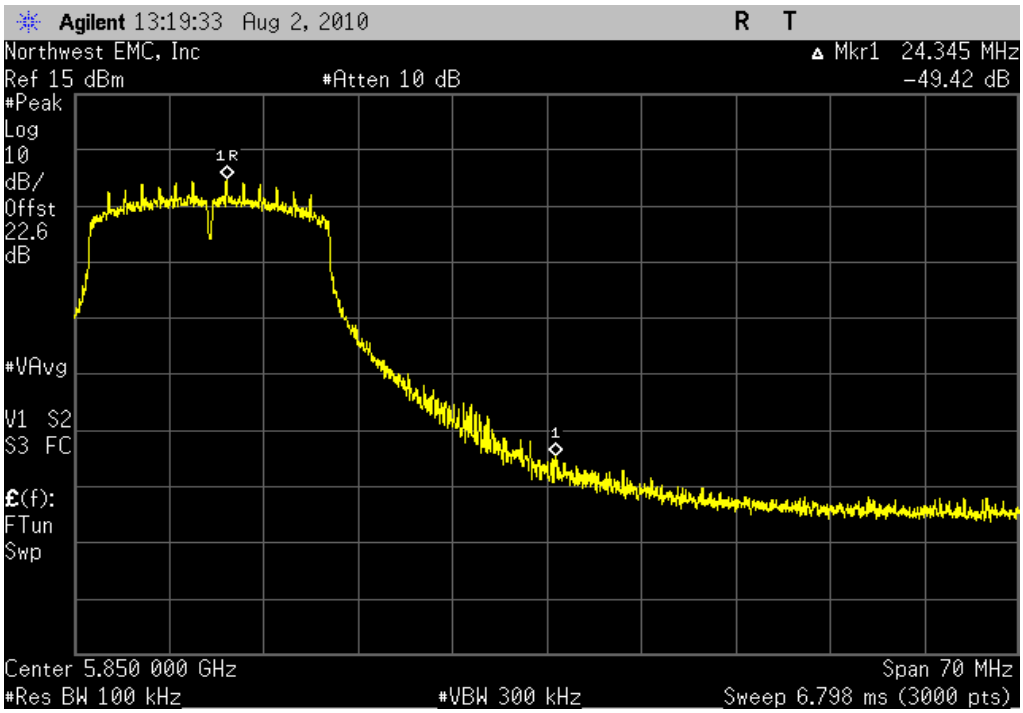


BAND EDGE COMPLIANCE

5725 MHz - 5850 MHz Band, 802.11(n) MCS0, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	-41.33 dBc	**Limit:**	≤ -20 dBc

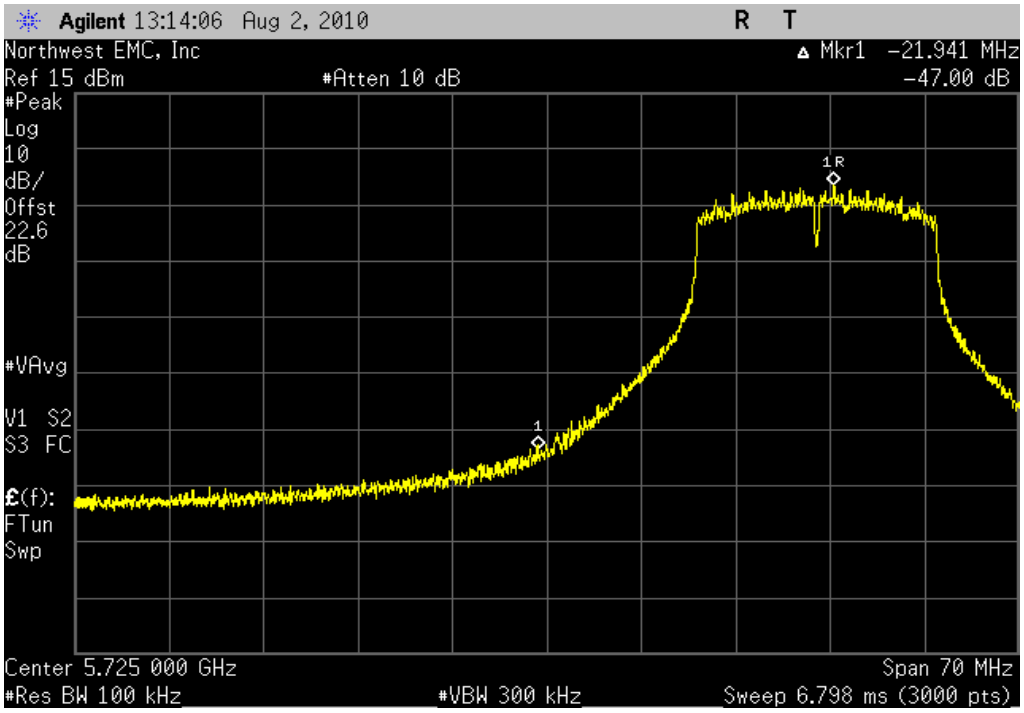


5725 MHz - 5850 MHz Band, 802.11(n) MCS0, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	-49.42 dBc	**Limit:**	≤ -20 dBc

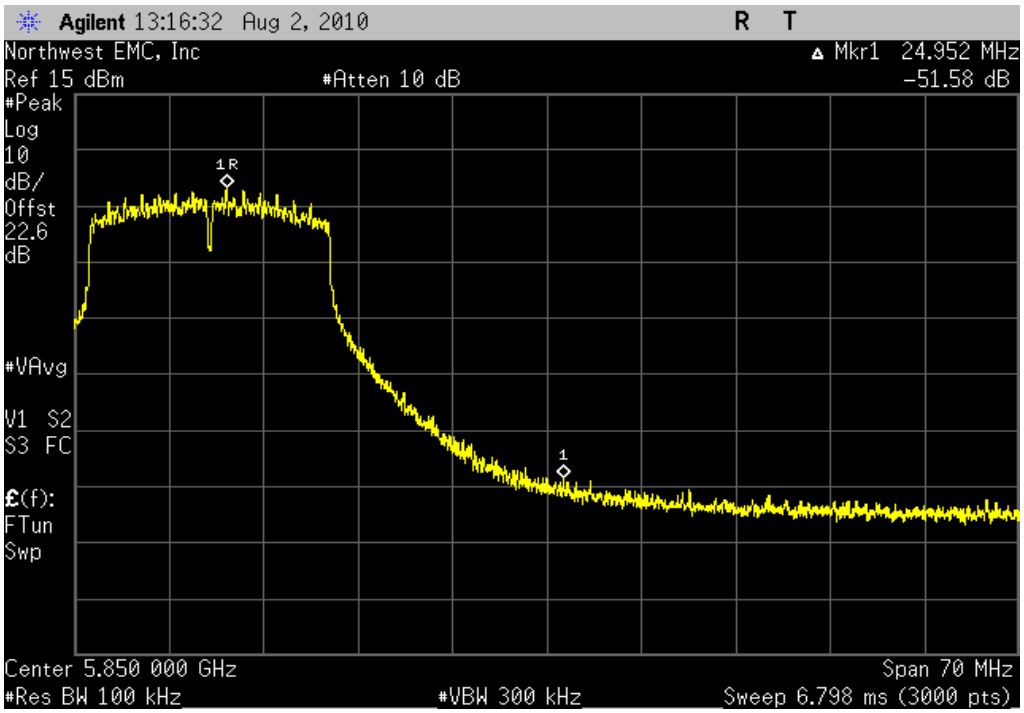


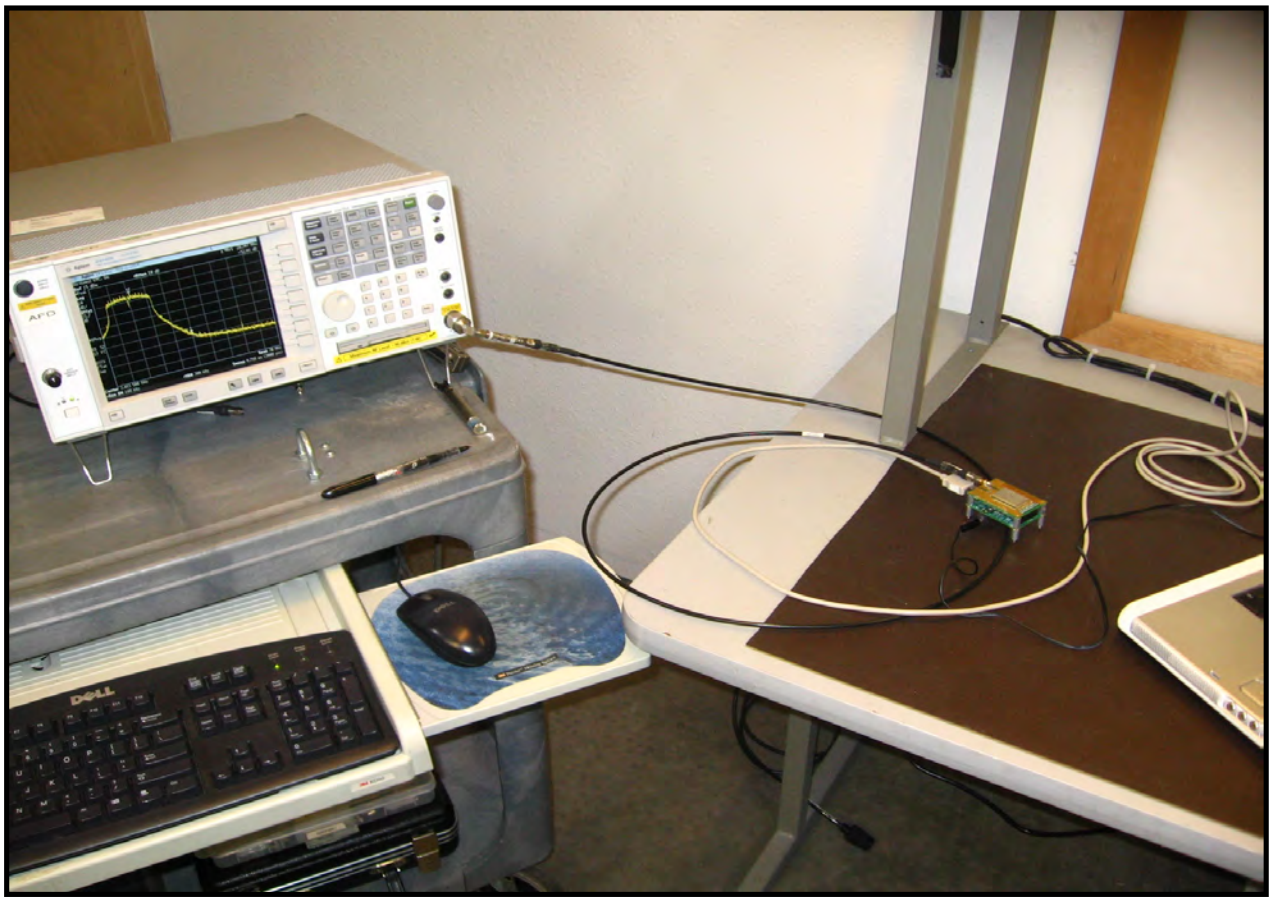
BAND EDGE COMPLIANCE

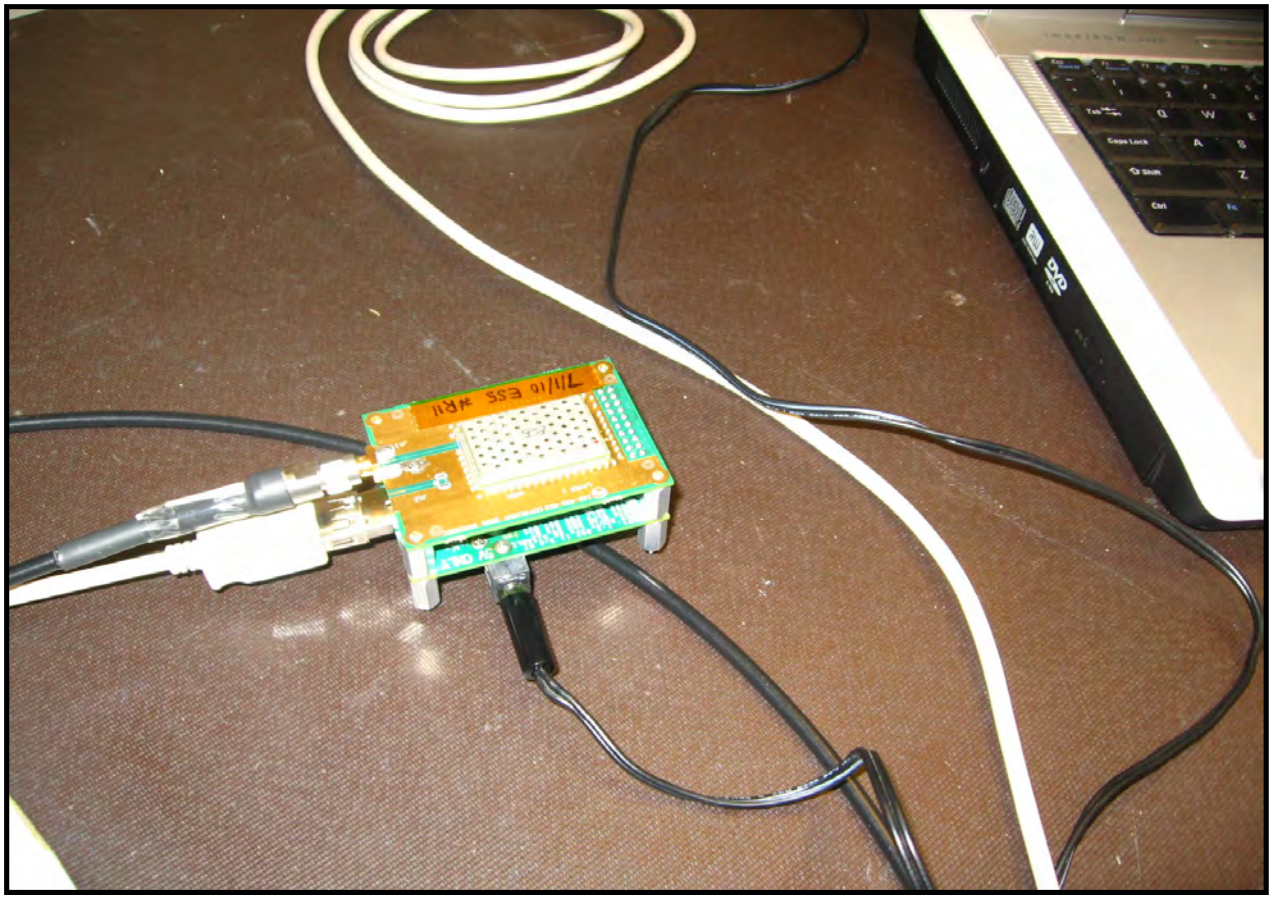
5725 MHz - 5850 MHz Band, 802.11(n) MCS7, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	-47.00 dBc	**Limit:**	≤ -20 dBc



5725 MHz - 5850 MHz Band, 802.11(n) MCS7, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	-51.58 dBc	**Limit:**	≤ -20 dBc







SPURIOUS CONDUCTED 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AFD	6/1/2009	24
26 GHz DC Block, SMA	Pasternack	PE8210	AME	10/19/2009	13
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/21/2009	13
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

The spurious RF conducted emissions were measured with the EUT set to low, medium, and high transmit frequencies. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate for each of its available modulations. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

XMit 2010.07.29

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R11	Date:	08/05/10
Customer:	Intermec Technologies Corporation	Temperature:	22°C
Attendees:	None	Humidity:	38%
Project:	None	Barometric Pres.:	1015.5 mb
Tested by:	Rod Peloquin	Power: 5VDC	Job Site: EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

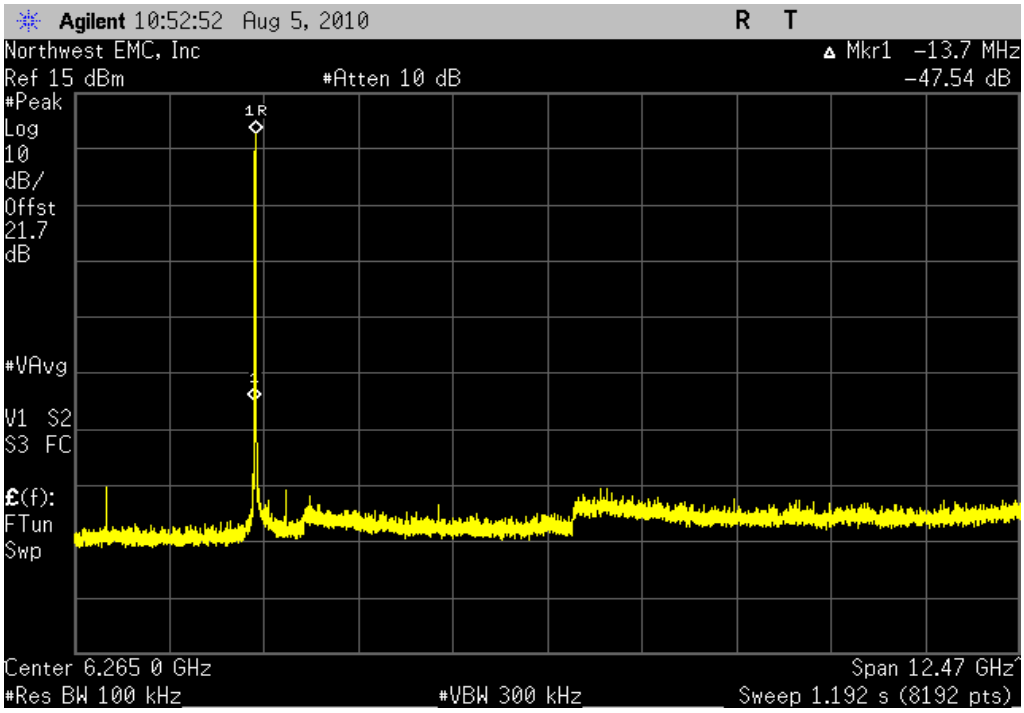
No Deviations

Configuration #	2	Signature

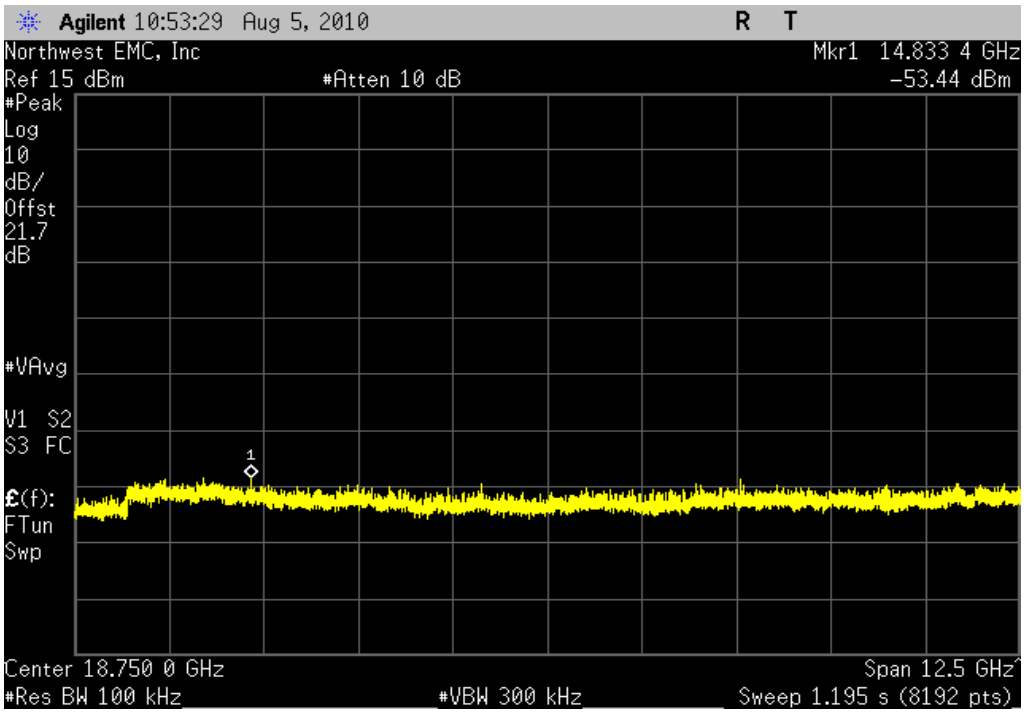
	Value	Limit	Results
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz			
30 MHz - 12.5 GHz	-47.5 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.4 dBc	< -20 dBc	Pass
Mid Channel 6, 2437 MHz			
30 MHz - 12.5 GHz	-63.6 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.2 dBc	< -20 dBc	Pass
High Channel 11, 2462 MHz			
30 MHz - 12.5 GHz	-60.6 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-52.7 dBc	< -20 dBc	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz			
30 MHz - 12.5 GHz	-46.3 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.0 dBc	< -20 dBc	Pass
Mid Channel 6, 2437 MHz			
30 MHz - 12.5 GHz	-51.3 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.0 dBc	< -20 dBc	Pass
High Channel 11, 2462 MHz			
30 MHz - 12.5 GHz	-56.9 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.2 dBc	< -20 dBc	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz			
30 MHz - 12.5 GHz	-32.2 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-52.3 dBc	< -20 dBc	Pass
Mid Channel 6, 2437 MHz			
30 MHz - 12.5 GHz	-55.6 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.0 dBc	< -20 dBc	Pass
High Channel 11, 2462 MHz			
30 MHz - 12.5 GHz	-49.8 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.5 dBc	< -20 dBc	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz			
30 MHz - 12.5 GHz	-34.1 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.1 dBc	< -20 dBc	Pass
Mid Channel 6, 2437 MHz			
30 MHz - 12.5 GHz	-48.9 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.3 dBc	< -20 dBc	Pass
High Channel 11, 2462 MHz			
30 MHz - 12.5 GHz	-49.5 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.1 dBc	< -20 dBc	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz			
30 MHz - 12.5 GHz	-35.7 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-52.0 dBc	< -20 dBc	Pass
Mid Channel 6, 2437 MHz			
30 MHz - 12.5 GHz	-53.4 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-52.3 dBc	< -20 dBc	Pass
High Channel 11, 2462 MHz			
30 MHz - 12.5 GHz	-51.1 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.4 dBc	< -20 dBc	Pass
802.11(n) 20 MHz, MCS0			
Low Channel 1, 2412 MHz			
30 MHz - 12.5 GHz	-28.8 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.5 dBc	< -20 dBc	Pass
Mid Channel 6, 2437 MHz			
30 MHz - 12.5 GHz	-49.1 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-52.6 dBc	< -20 dBc	Pass
High Channel 11, 2462 MHz			
30 MHz - 12.5 GHz	-48.8 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.1 dBc	< -20 dBc	Pass
802.11(n) 20 MHz, MCS7			
Low Channel 1, 2412 MHz			
30 MHz - 12.5 GHz	-34.8 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-52.3 dBc	< -20 dBc	Pass
Mid Channel 6, 2437 MHz			
30 MHz - 12.5 GHz	-49.0 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.6 dBc	< -20 dBc	Pass
High Channel 11, 2462 MHz			
30 MHz - 12.5 GHz	-51.1 dBc	< -20 dBc	Pass
12.5 GHz - 25 GHz	-53.0 dBc	< -20 dBc	Pass

SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-47.5 dBc	**Limit:**	< -20 dBc

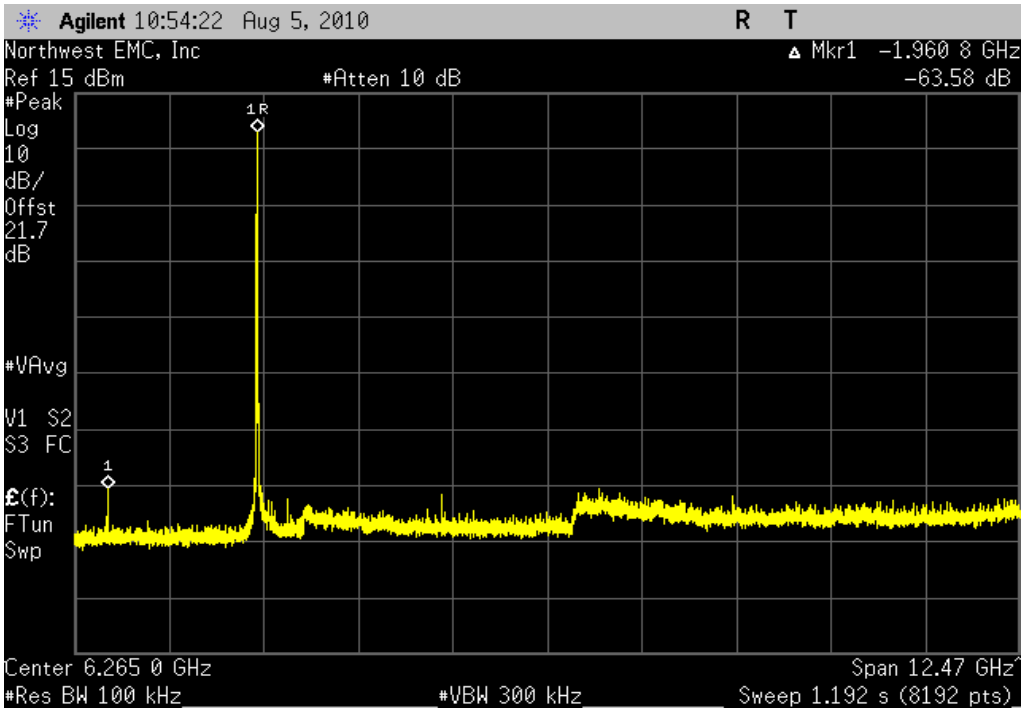


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.4 dBc	**Limit:**	< -20 dBc

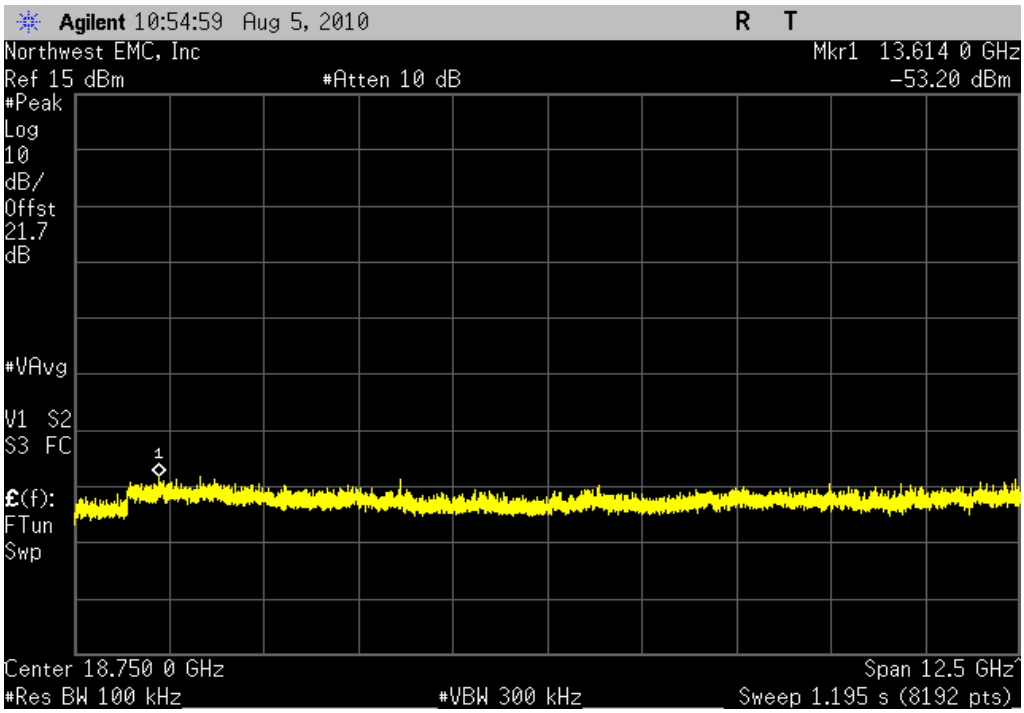


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-63.6 dBc	**Limit:**	< -20 dBc

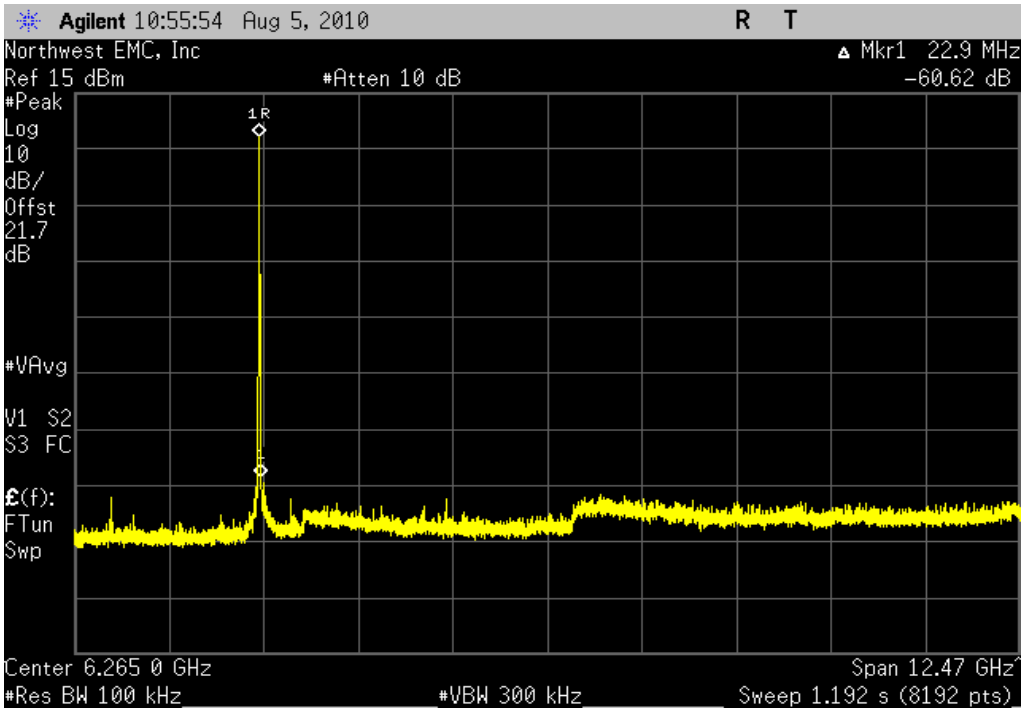


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.2 dBc	**Limit:**	< -20 dBc

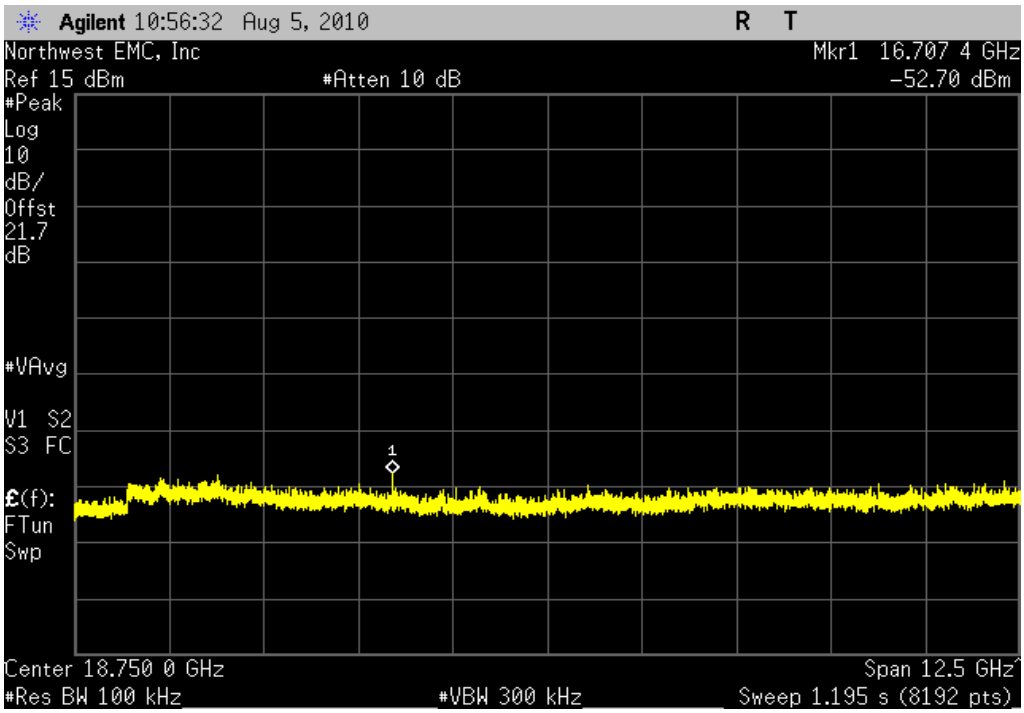


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-60.6 dBc	**Limit:**	< -20 dBc

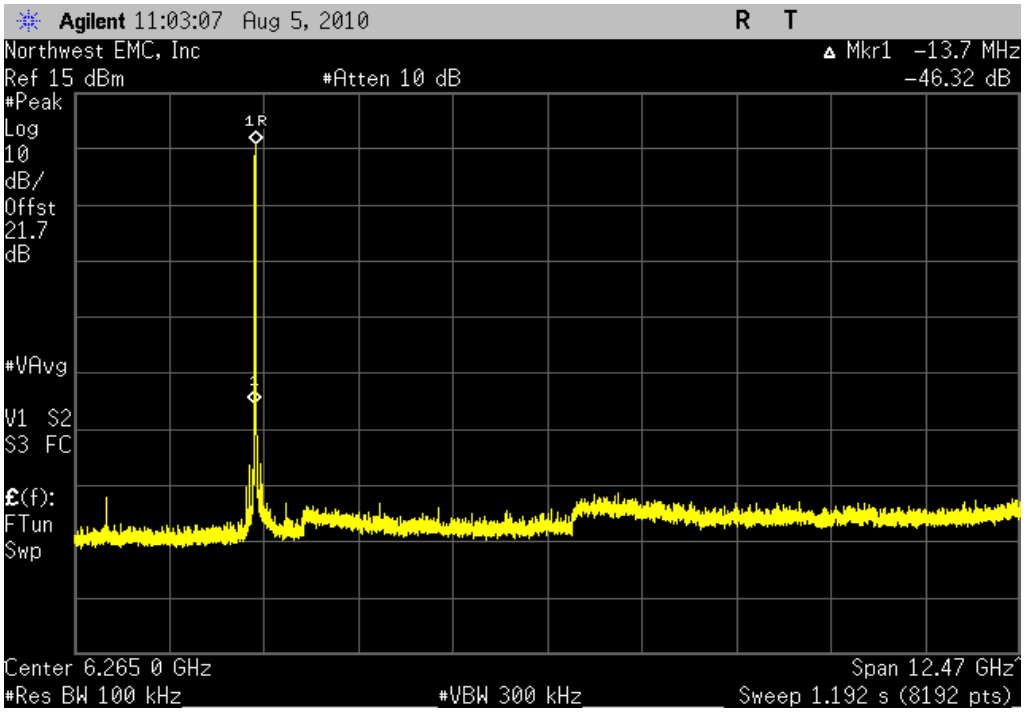


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-52.7 dBc	**Limit:**	< -20 dBc

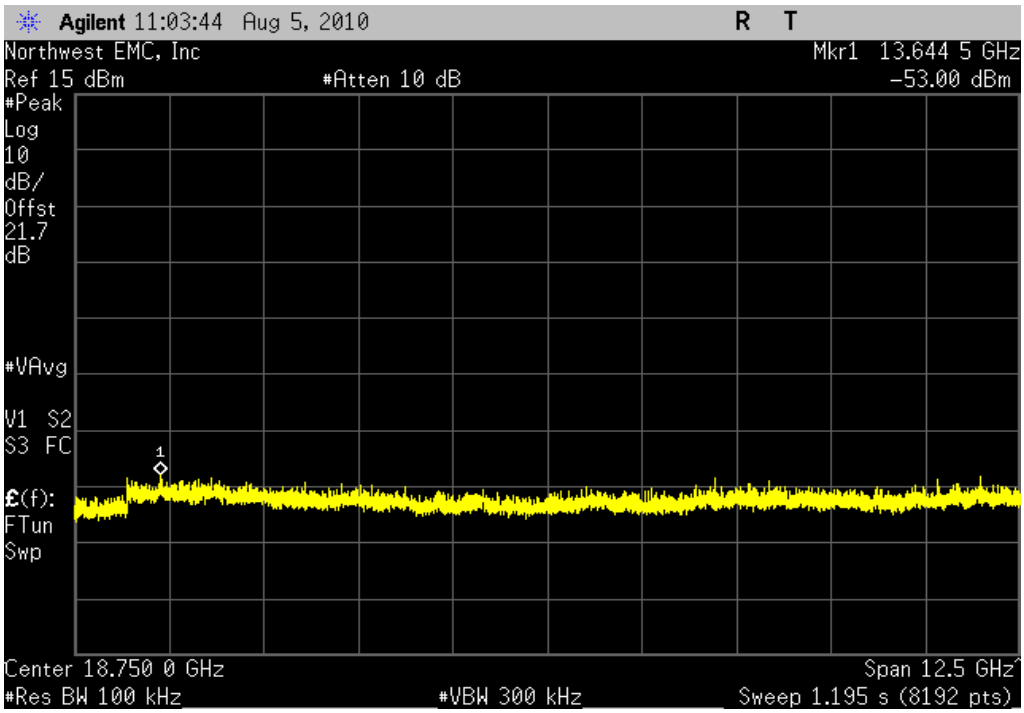


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-46.3 dBc	**Limit:**	< -20 dBc

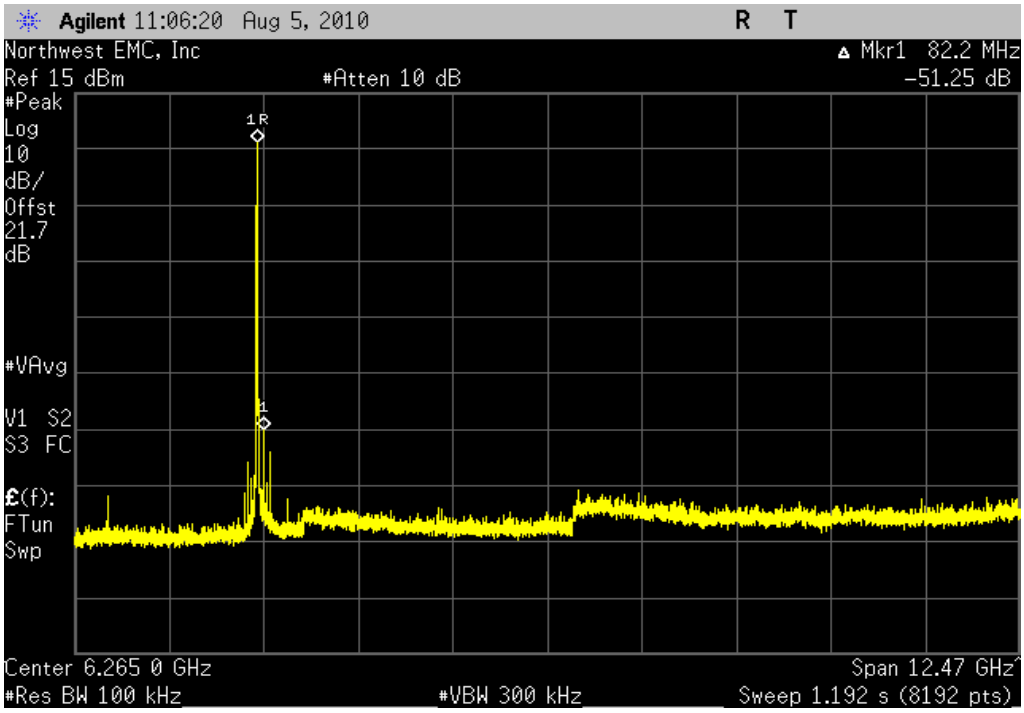


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.0 dBc	**Limit:**	< -20 dBc

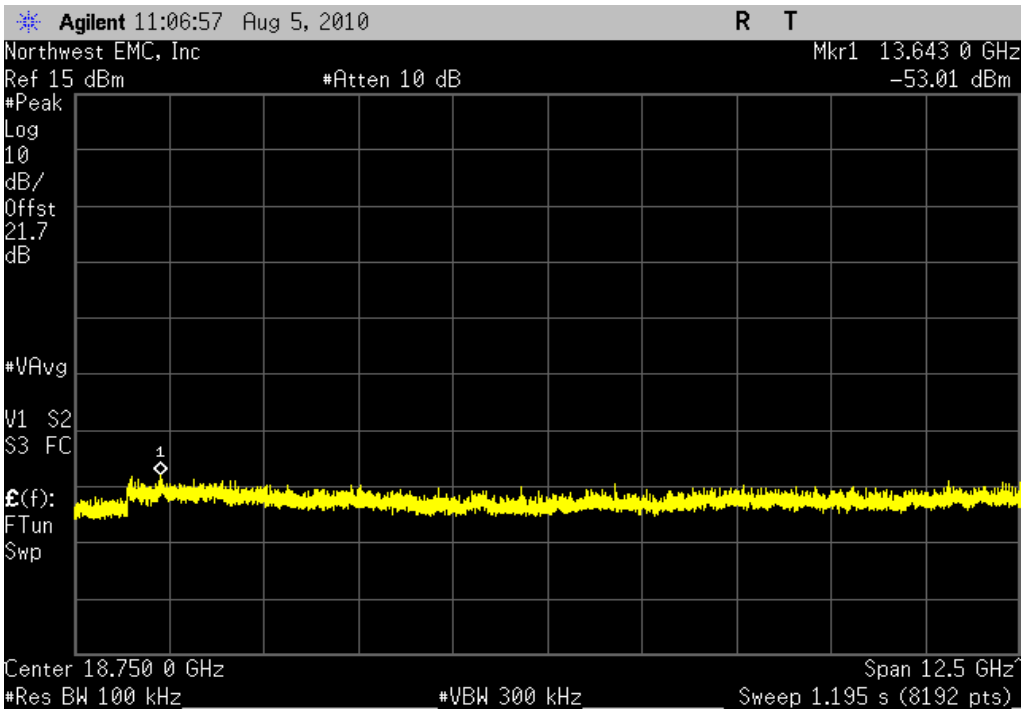


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-51.3 dBc	**Limit:**	< -20 dBc

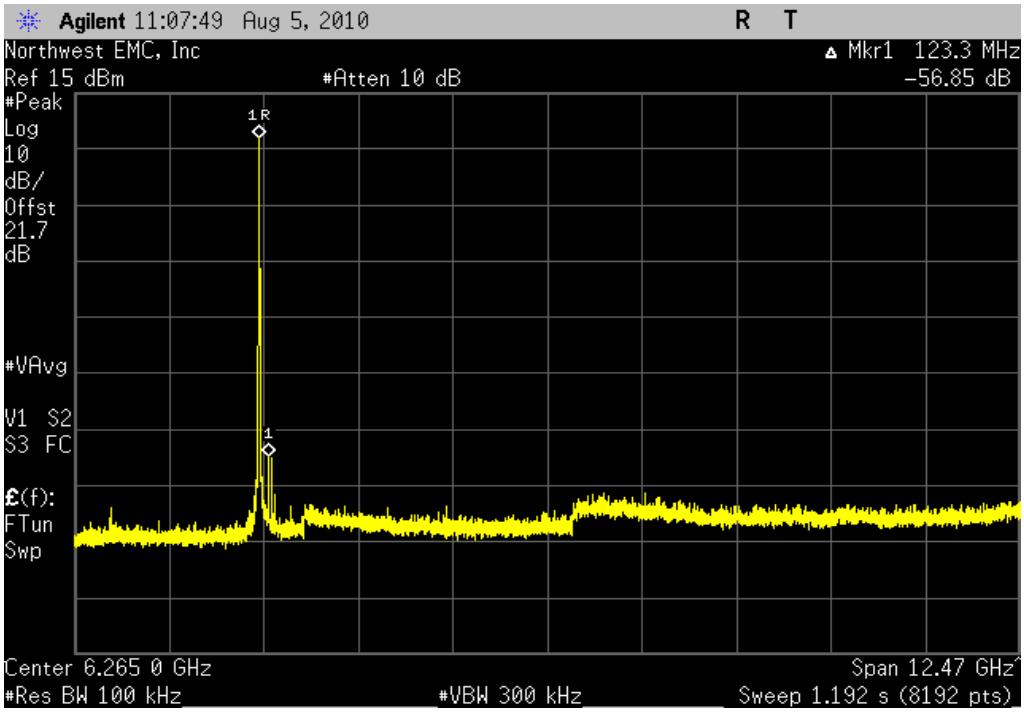


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.0 dBc	**Limit:**	< -20 dBc

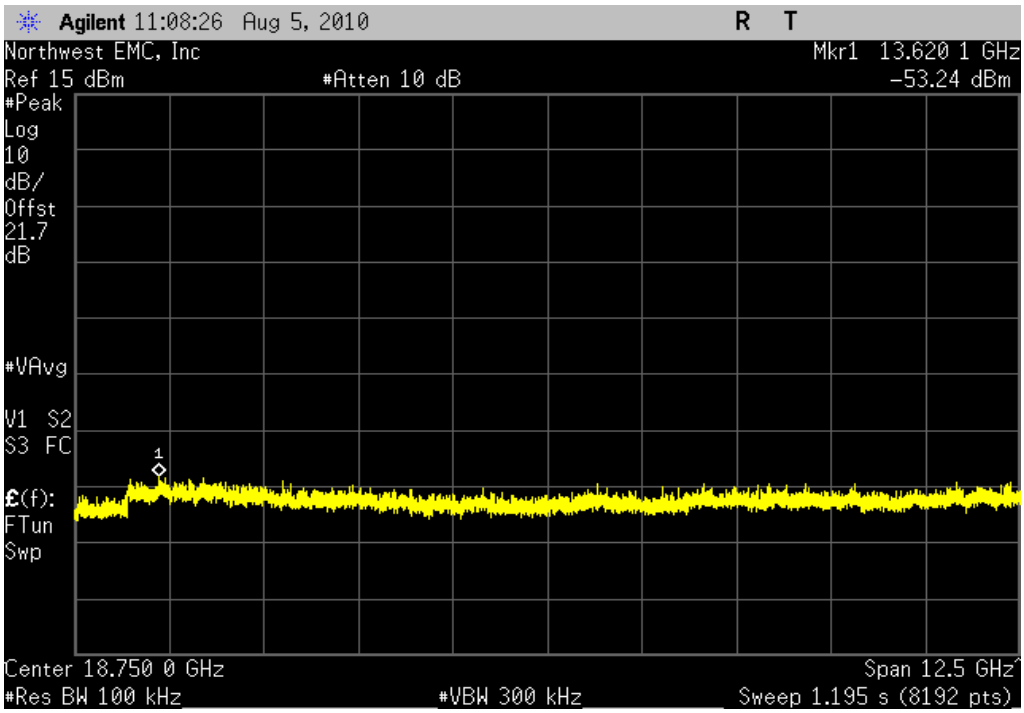


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-56.9 dBc	**Limit:**	< -20 dBc

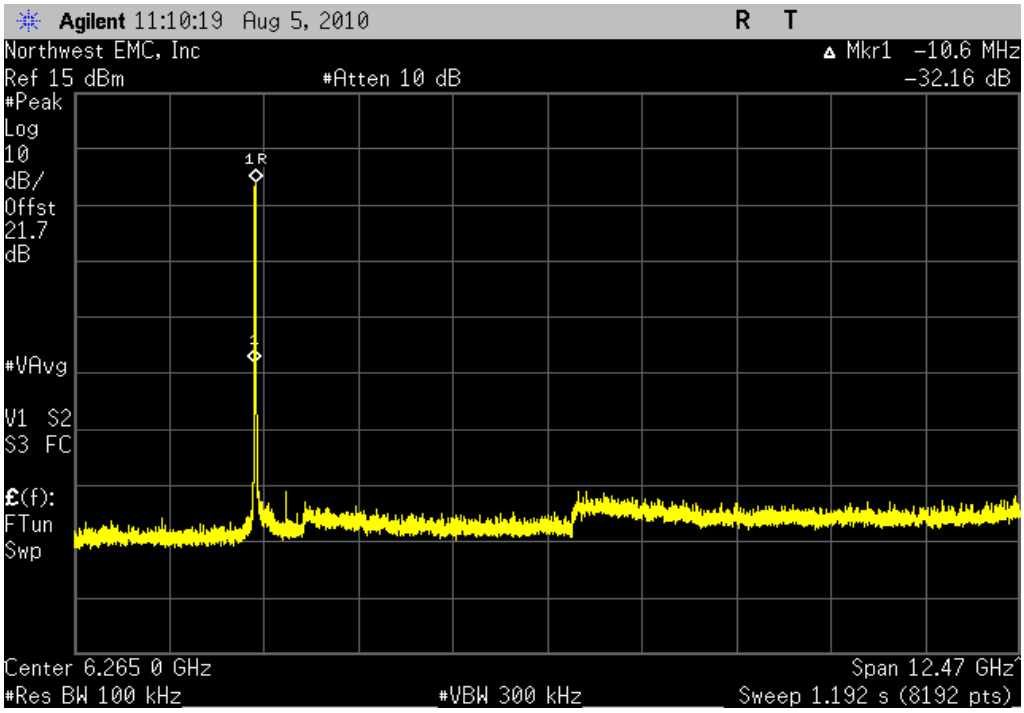


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.2 dBc	**Limit:**	< -20 dBc

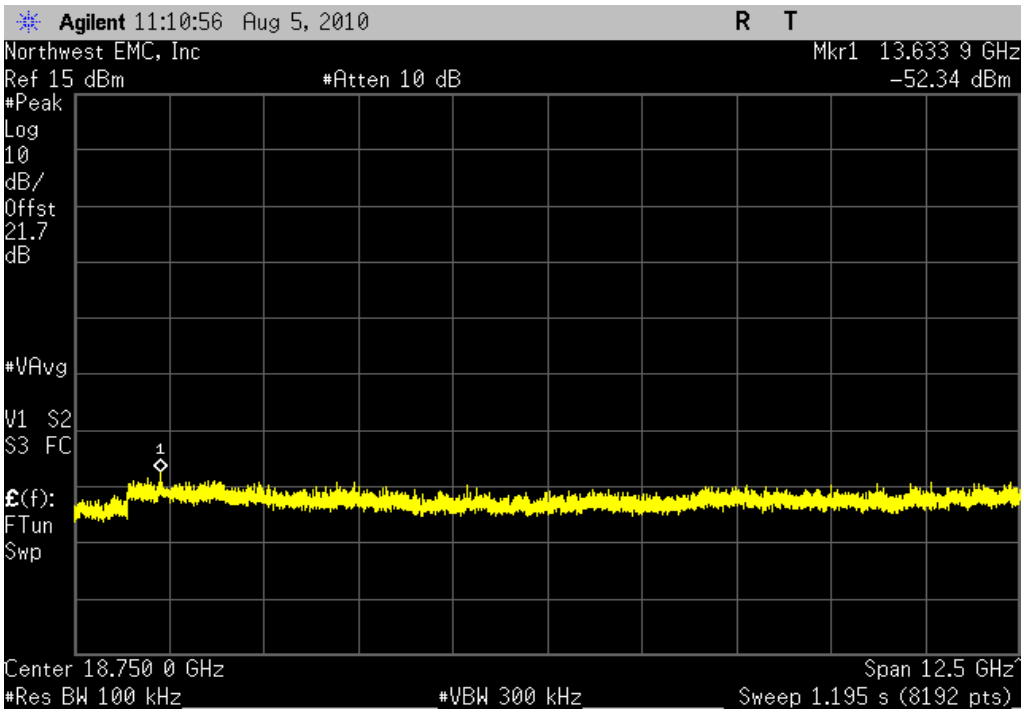


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-32.2 dBc	**Limit:**	< -20 dBc

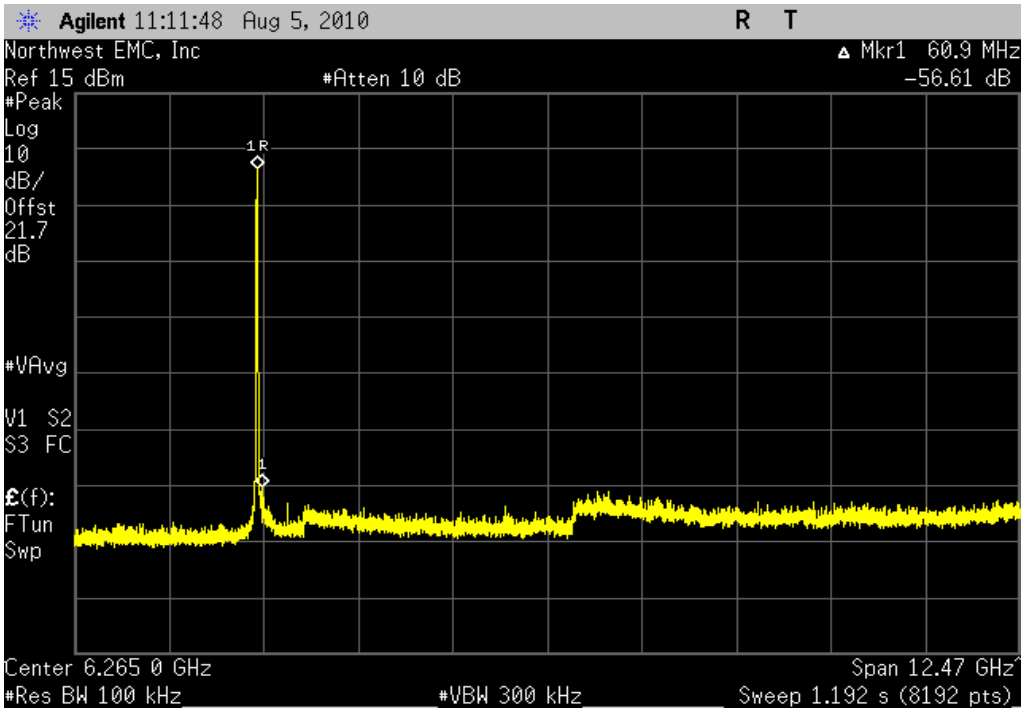


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-52.3 dBc	**Limit:**	< -20 dBc

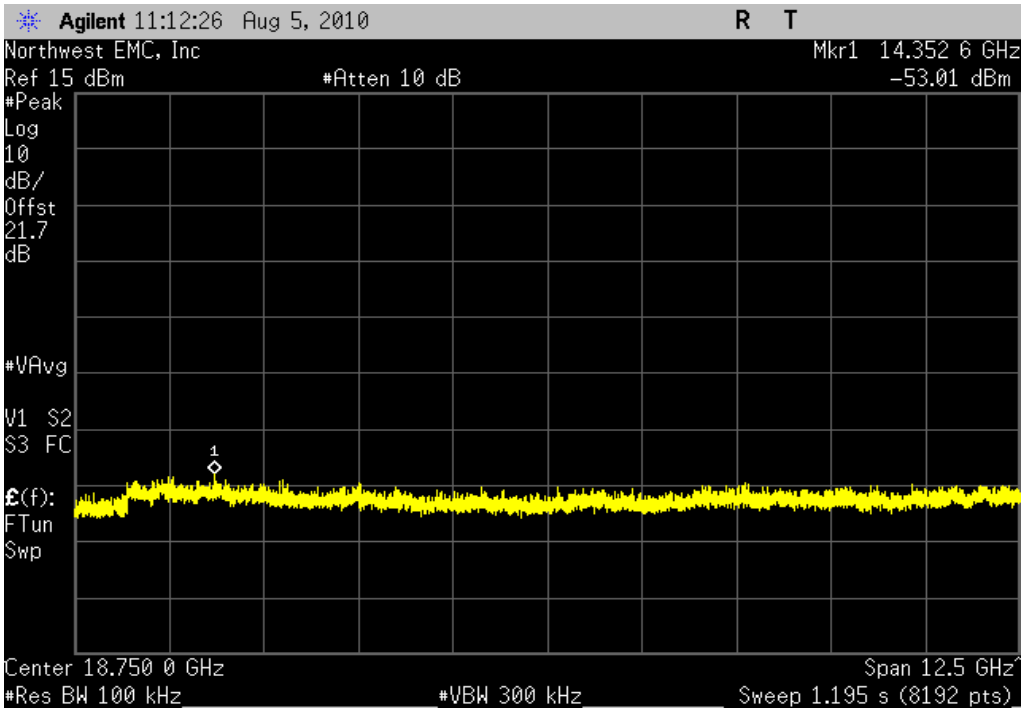


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-55.6 dBc	**Limit:**	< -20 dBc

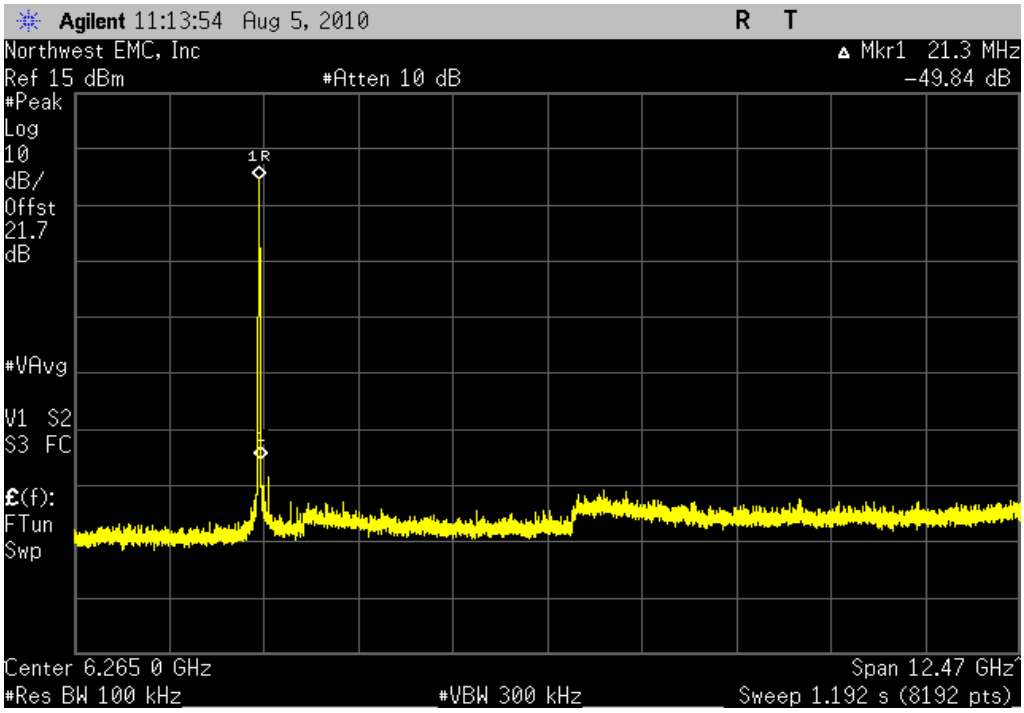


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.0 dBc	**Limit:**	< -20 dBc

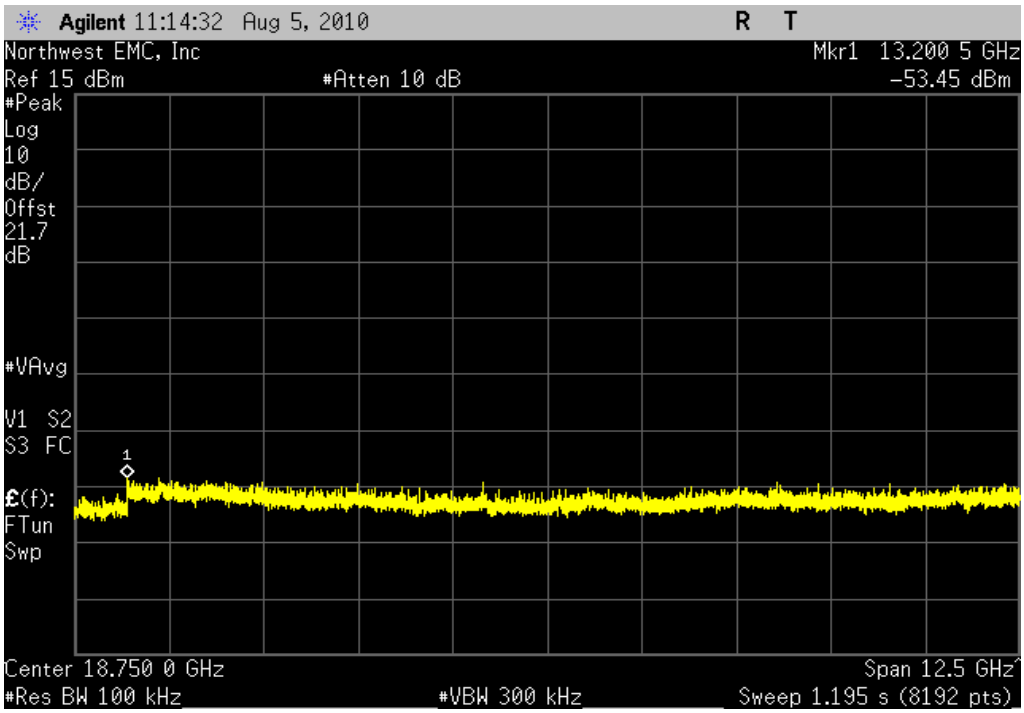


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-49.8 dBc	**Limit:**	< -20 dBc

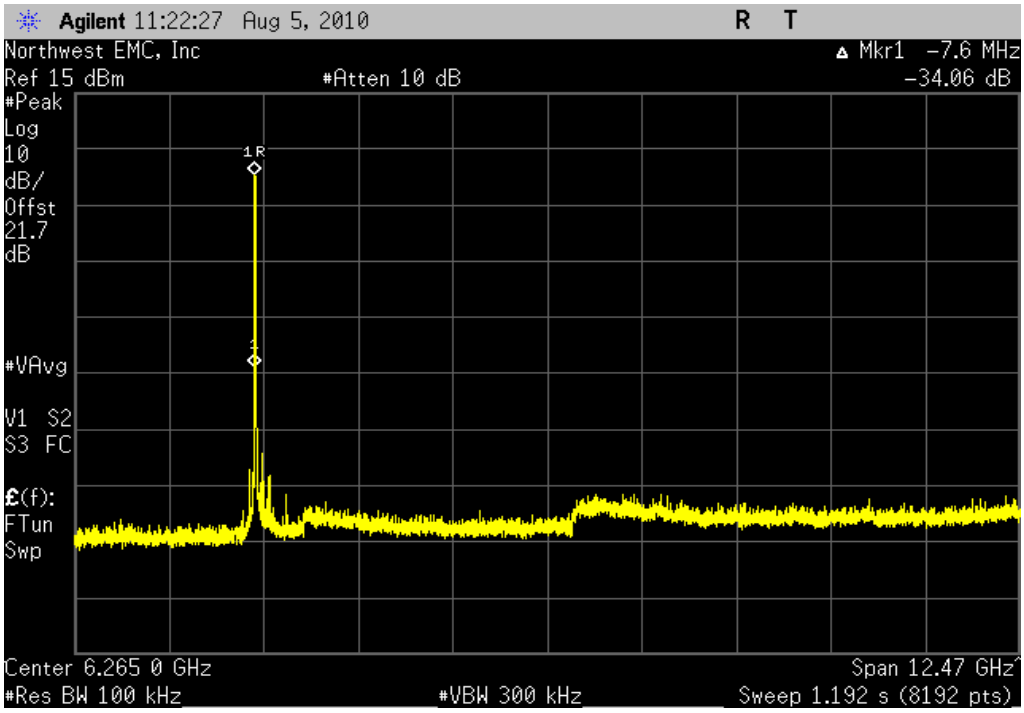


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.5 dBc	**Limit:**	< -20 dBc

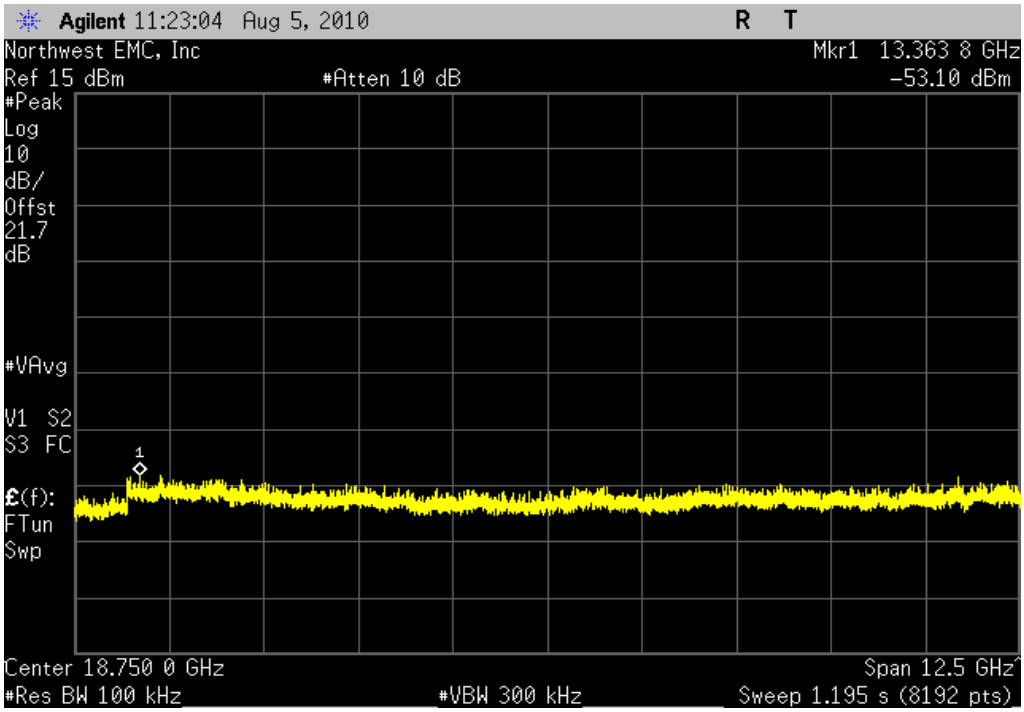


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-34.1 dBc	**Limit:**	< -20 dBc

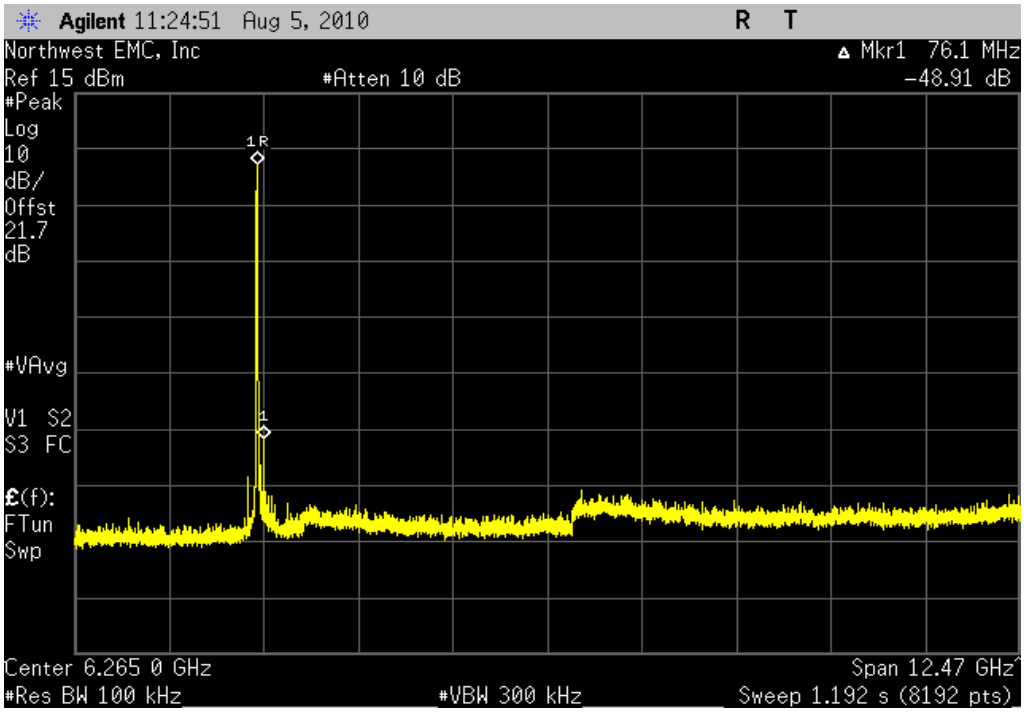


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.1 dBc	**Limit:**	< -20 dBc

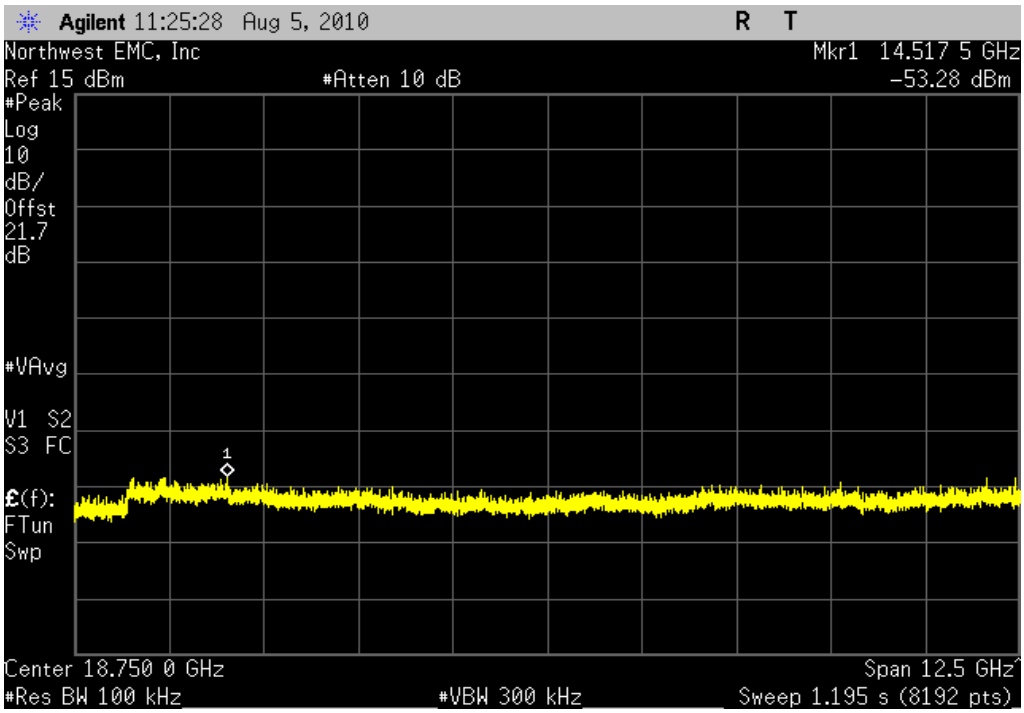


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-48.9 dBc	**Limit:**	< -20 dBc

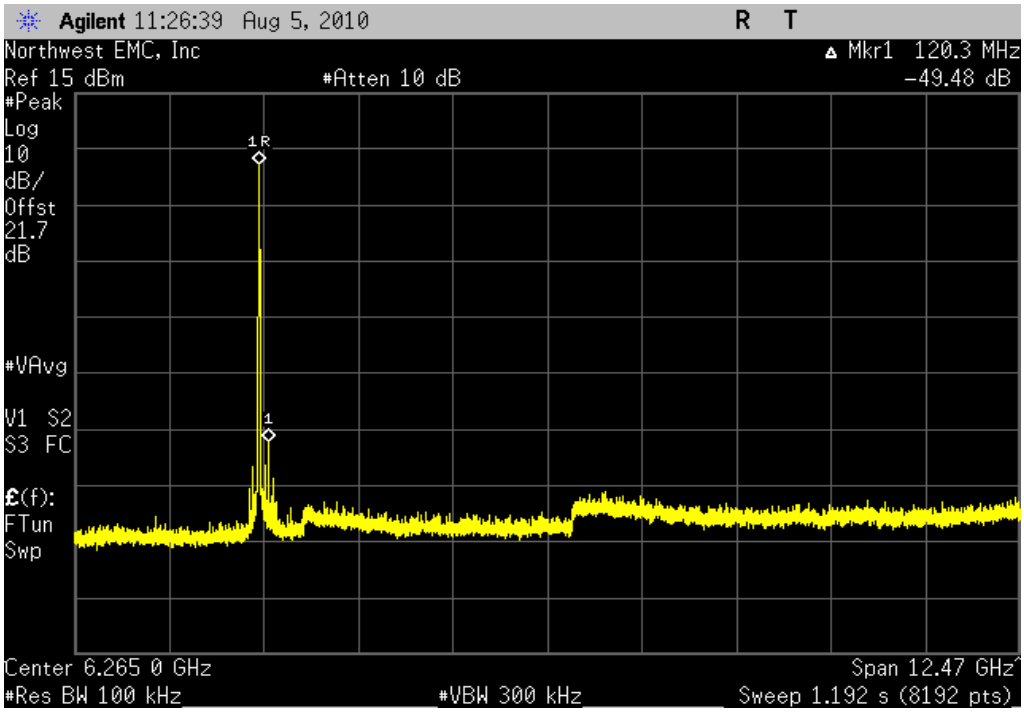


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.3 dBc	**Limit:**	< -20 dBc

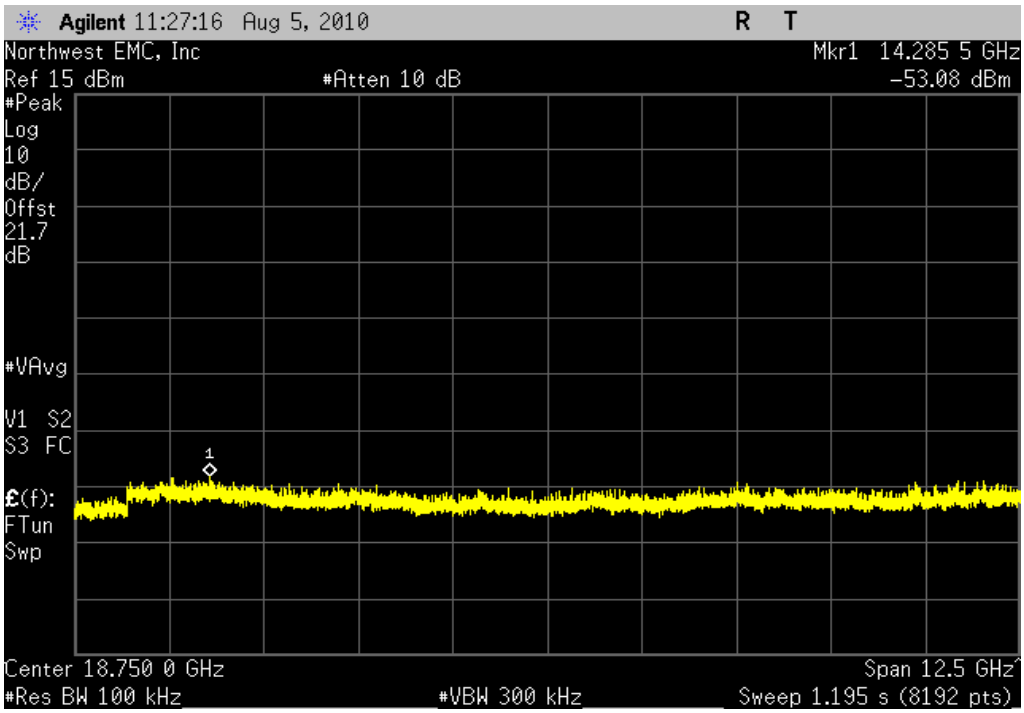


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-49.5 dBc	**Limit:**	< -20 dBc

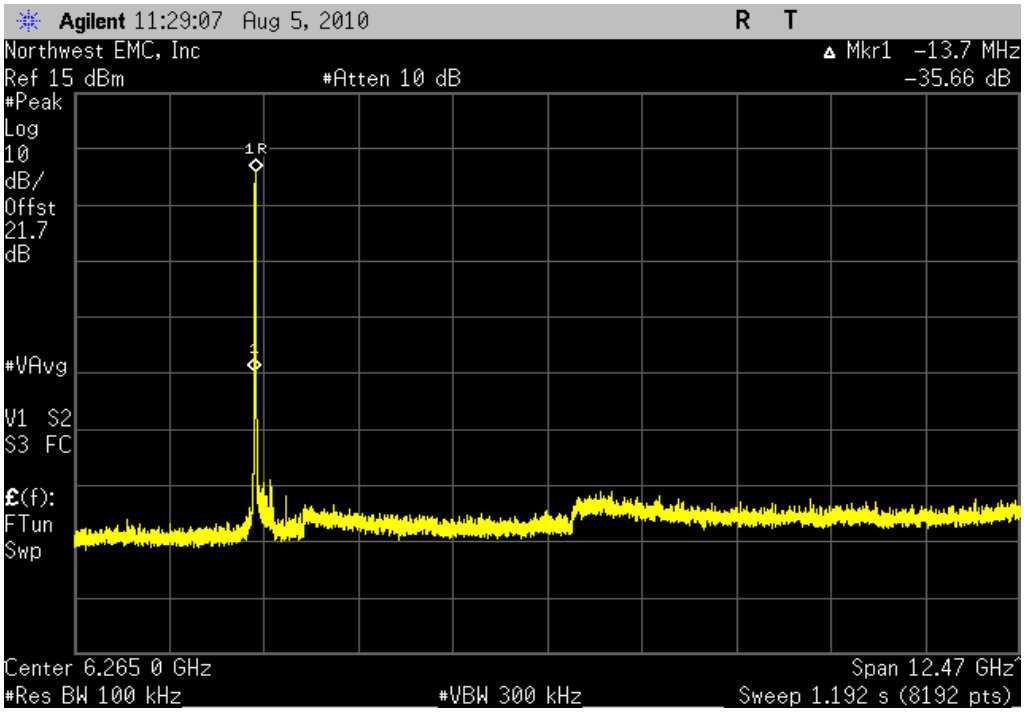


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.1 dBc	**Limit:**	< -20 dBc

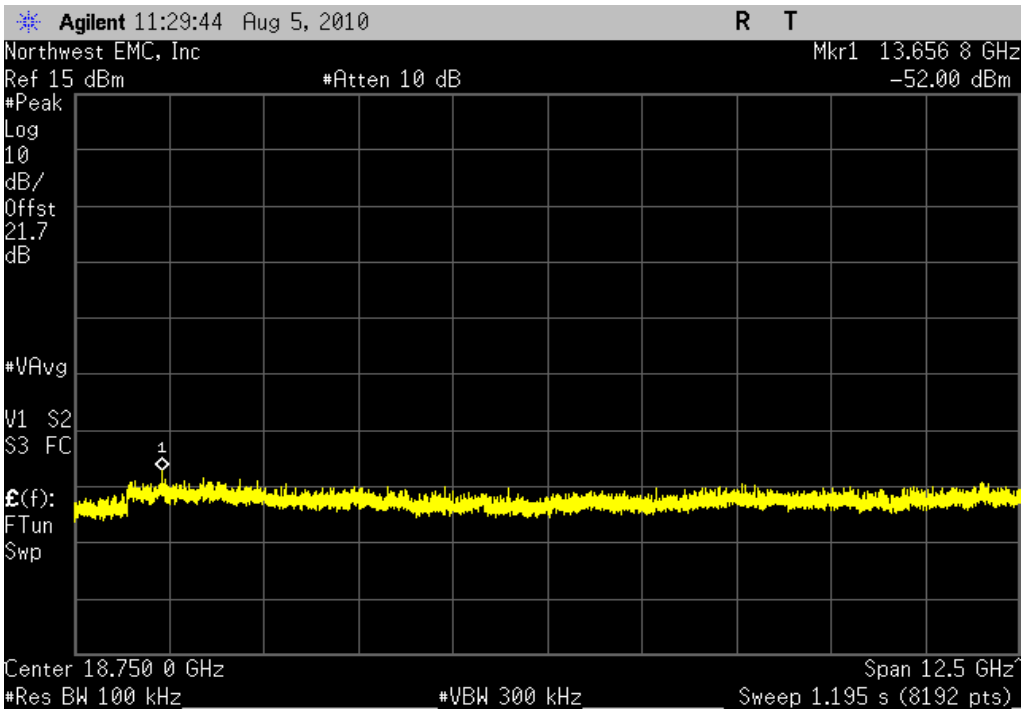


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-35.7 dBc	**Limit:**	< -20 dBc

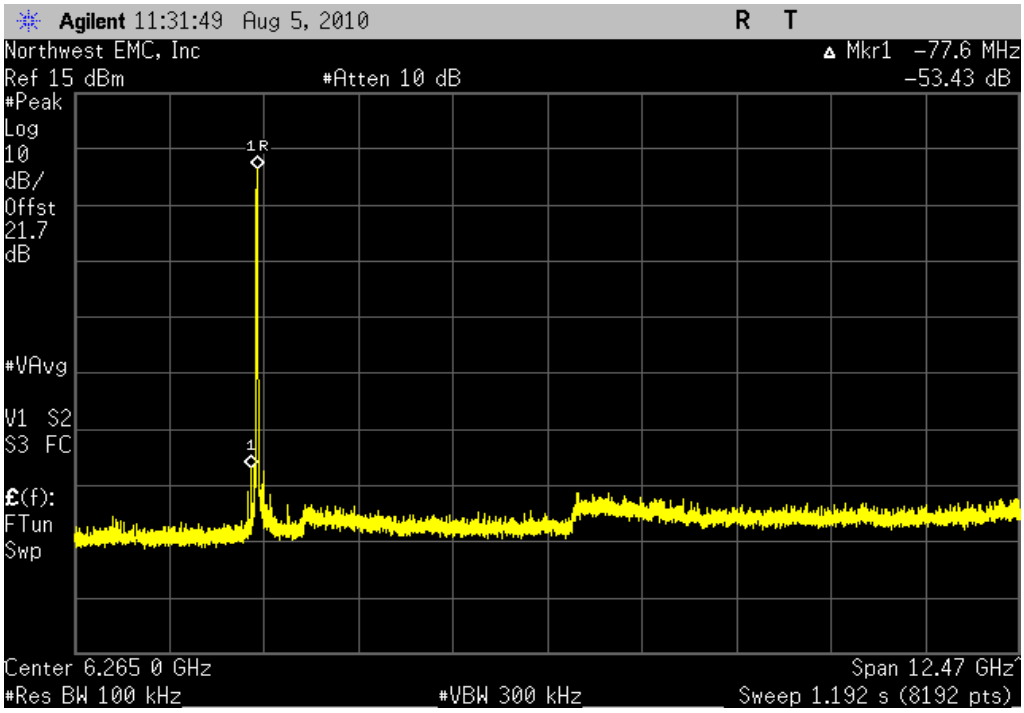


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-52.0 dBc	**Limit:**	< -20 dBc

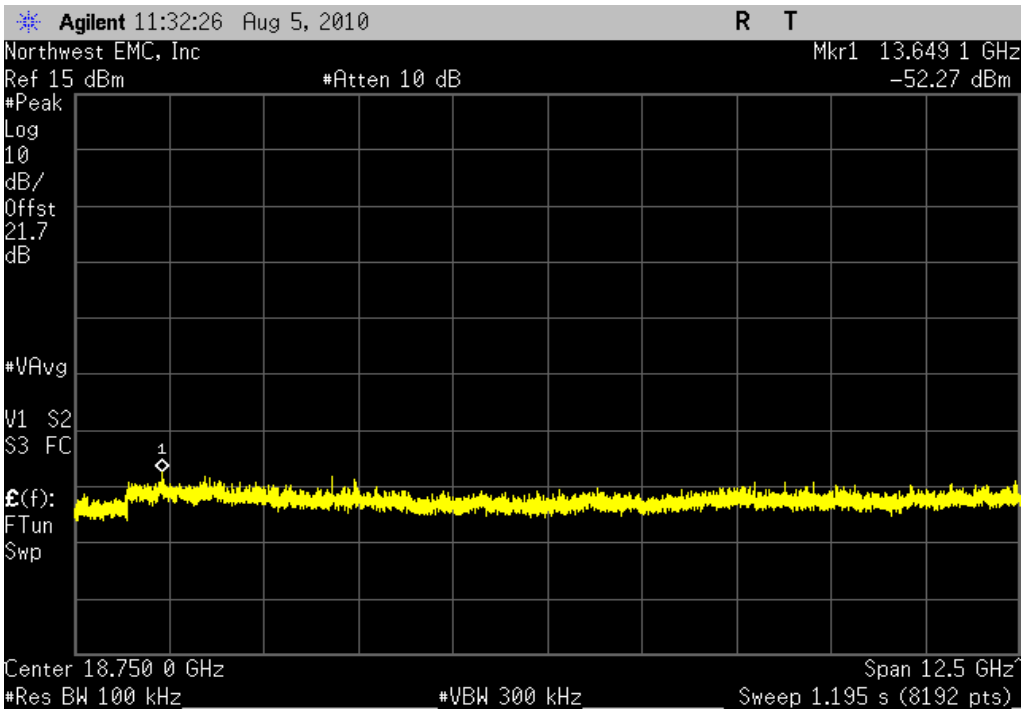


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-53.4 dBc	**Limit:**	< -20 dBc

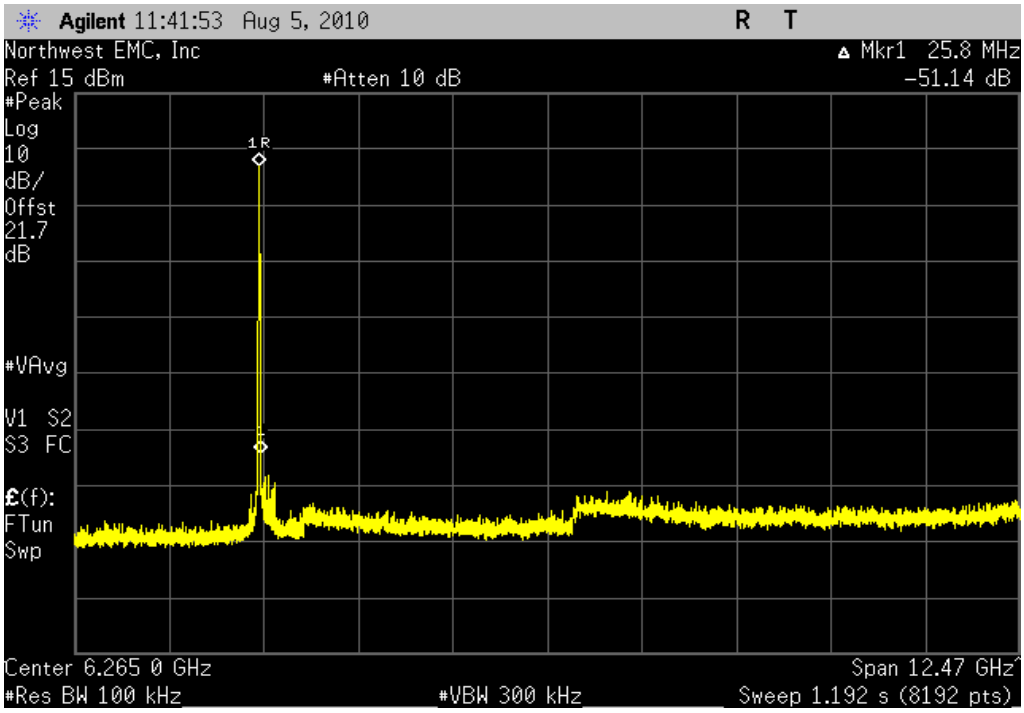


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-52.3 dBc	**Limit:**	< -20 dBc

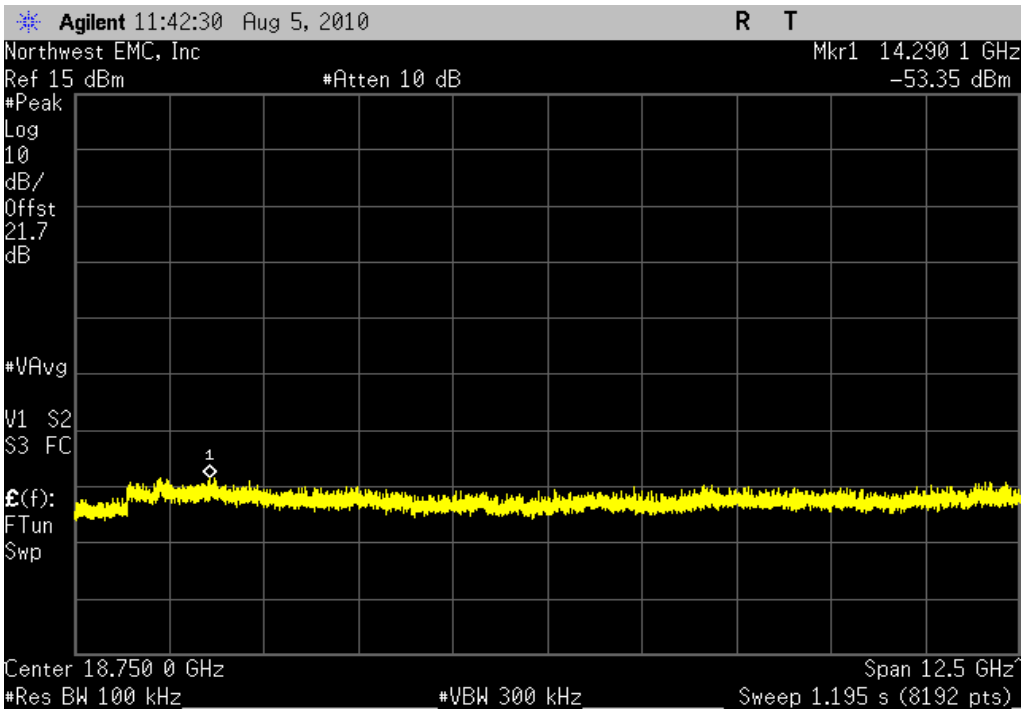


SPURIOUS CONDUCTED EMISSIONS

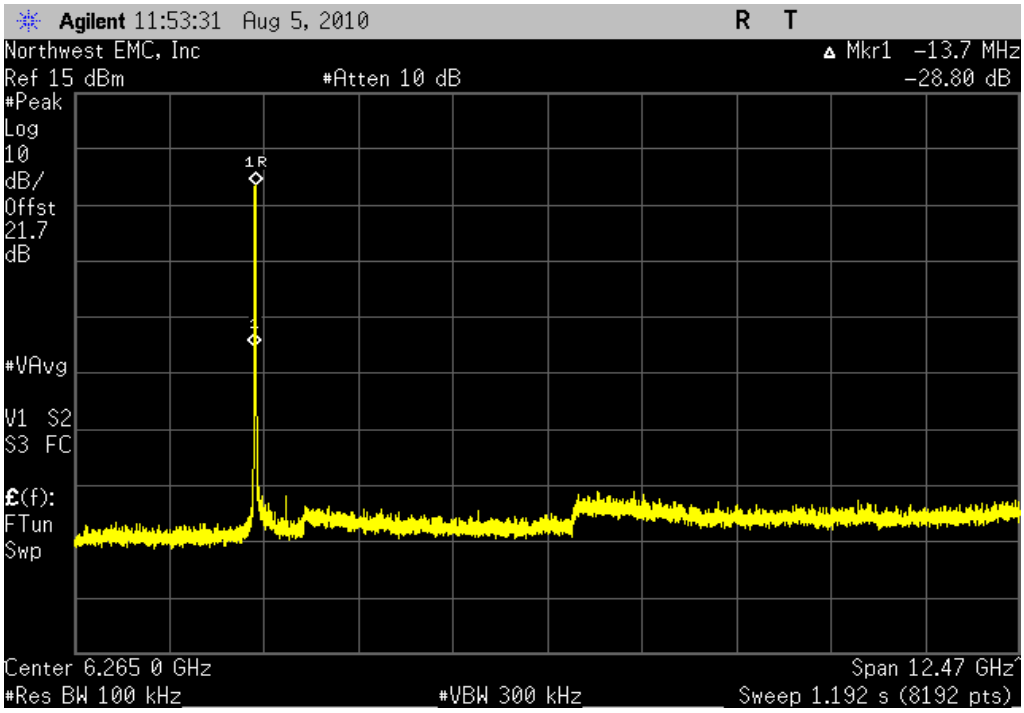
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-51.1 dBc	**Limit:**	< -20 dBc



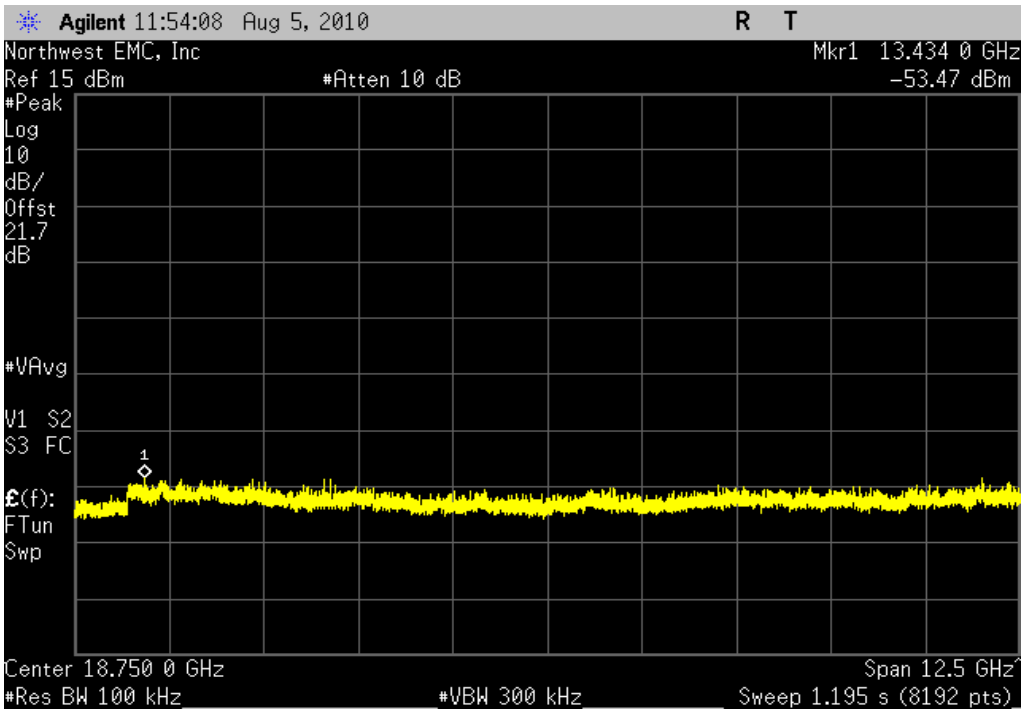
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.4 dBc	**Limit:**	< -20 dBc



2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS0, Low Channel 1, 2412 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-28.8 dBc	**Limit:**	< -20 dBc

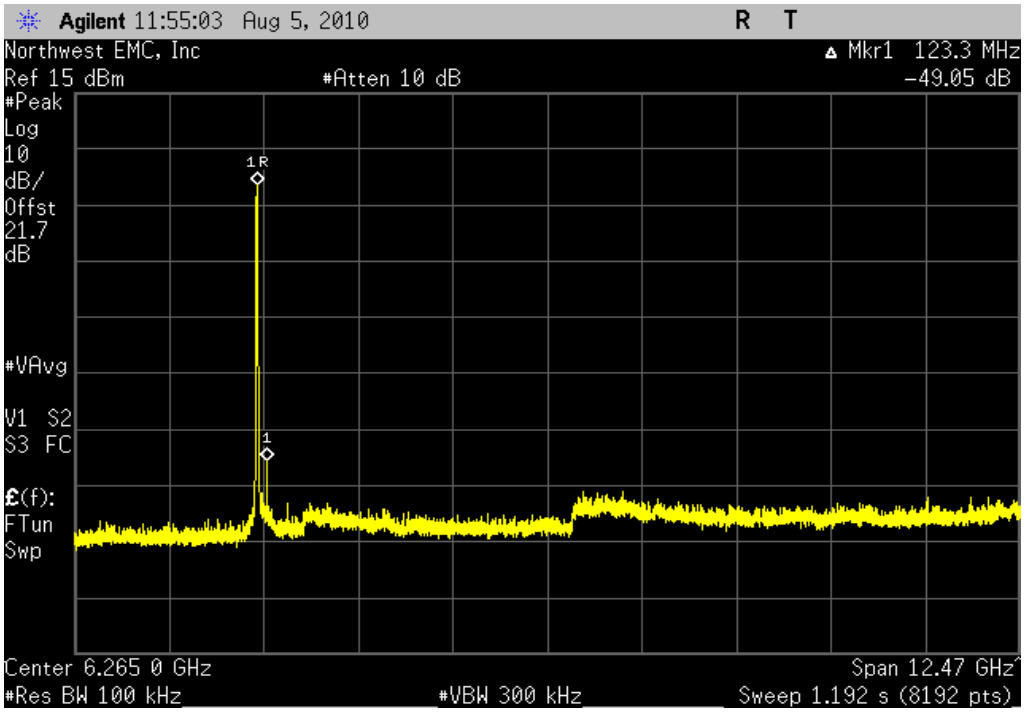


2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS0, Low Channel 1, 2412 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.5 dBc	**Limit:**	< -20 dBc

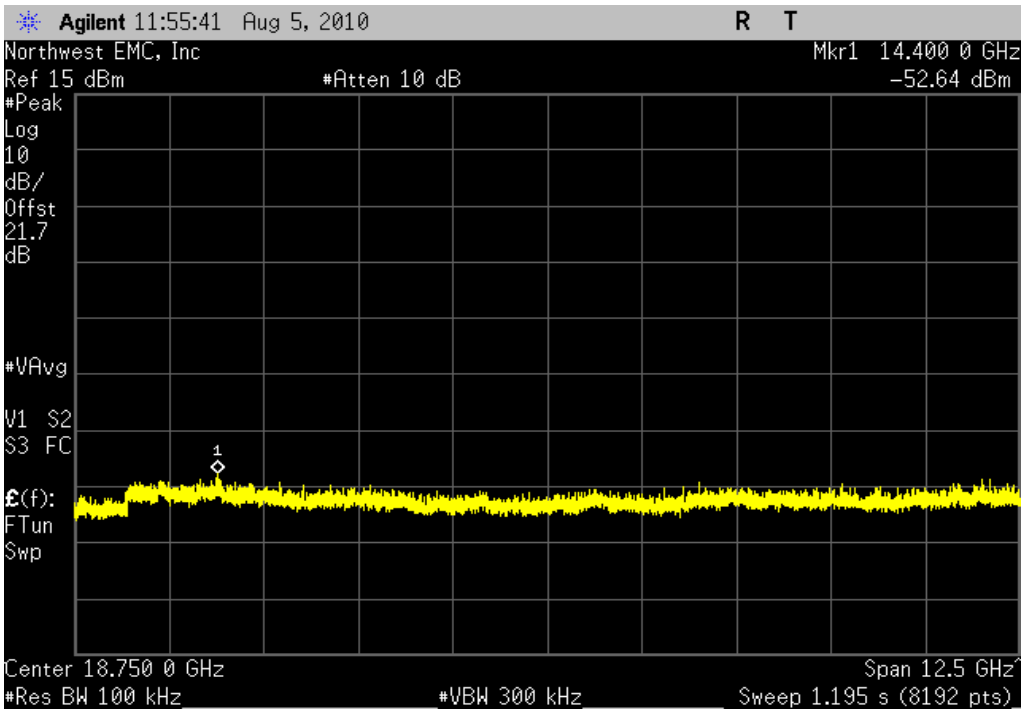


SPURIOUS CONDUCTED EMISSIONS

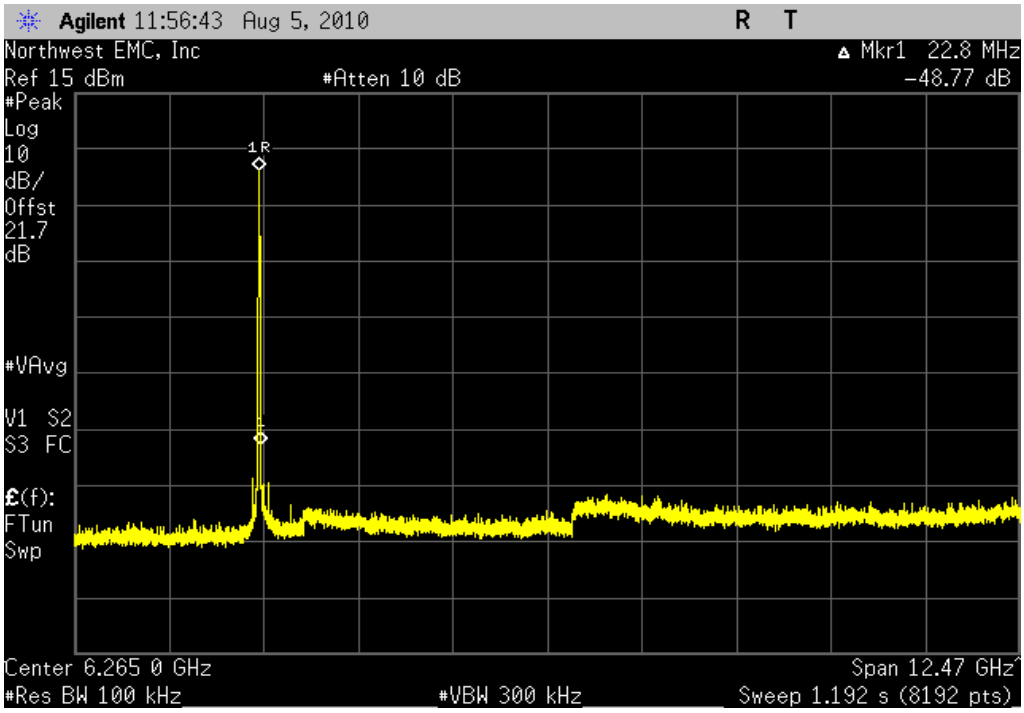
2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS0, Mid Channel 6, 2437 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-49.1 dBc	**Limit:**	< -20 dBc



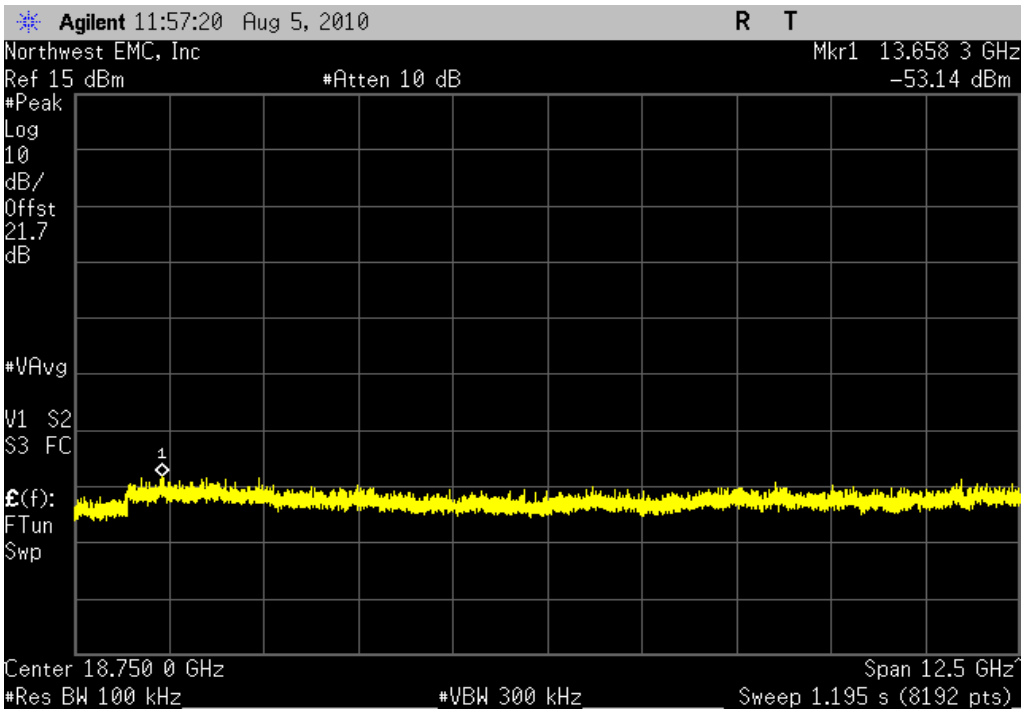
2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS0, Mid Channel 6, 2437 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-52.6 dBc	**Limit:**	< -20 dBc



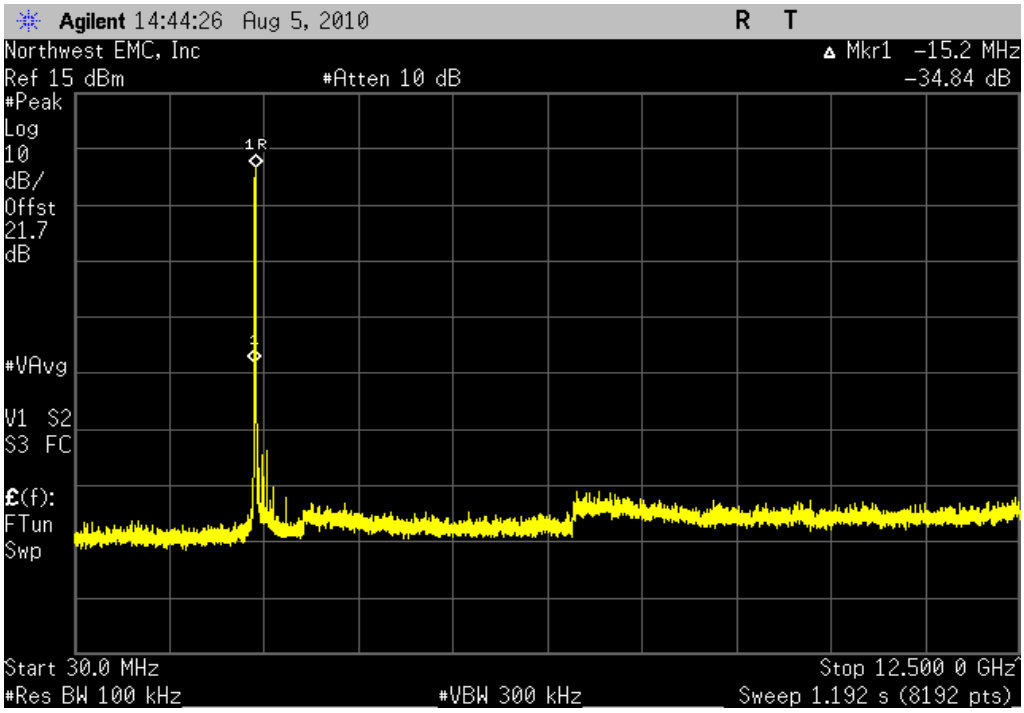
2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS0, High Channel 11, 2462 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-48.8 dBc	**Limit:**	< -20 dBc



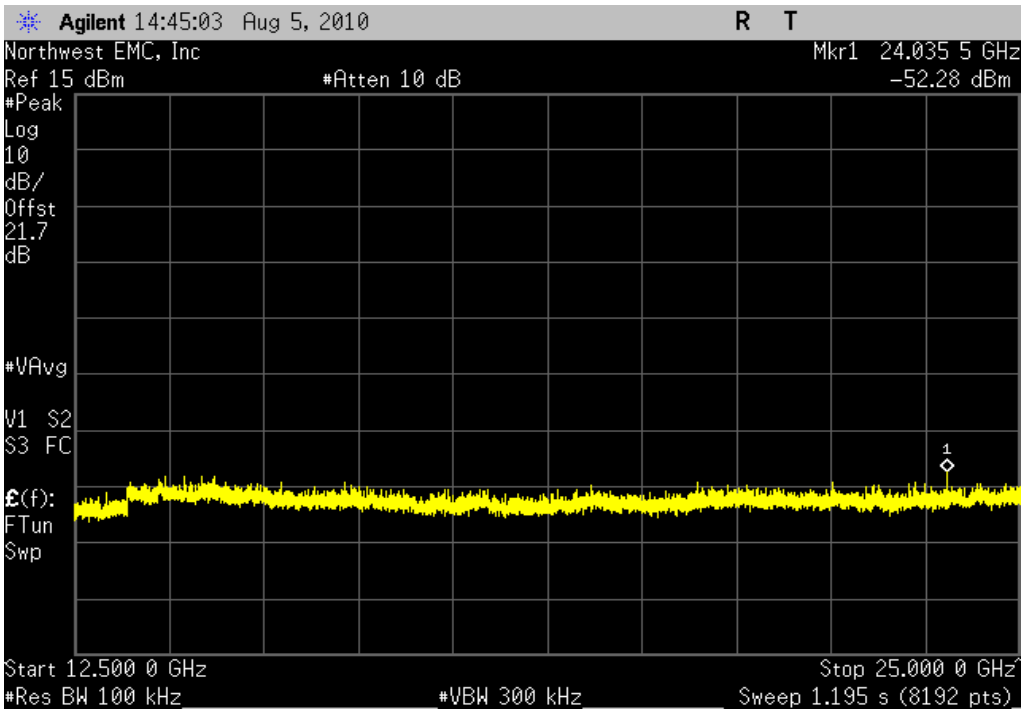
2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS0, High Channel 11, 2462 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.1 dBc	**Limit:**	< -20 dBc



2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS7, Low Channel 1, 2412 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-34.8 dBc	**Limit:**	< -20 dBc

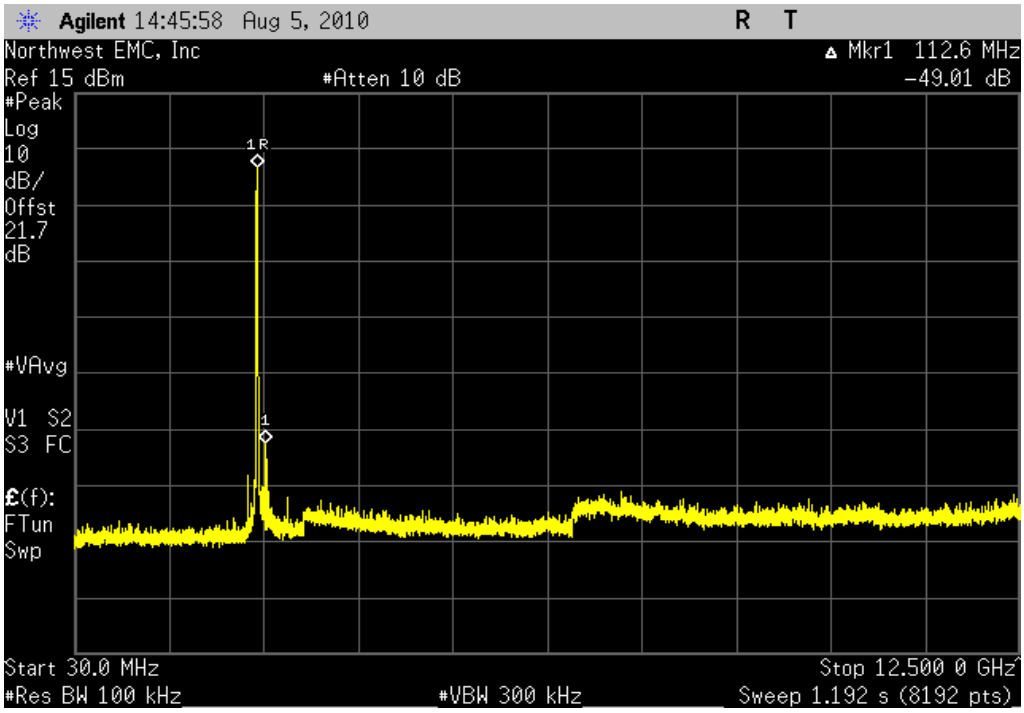


2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS7, Low Channel 1, 2412 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-52.3 dBc	**Limit:**	< -20 dBc

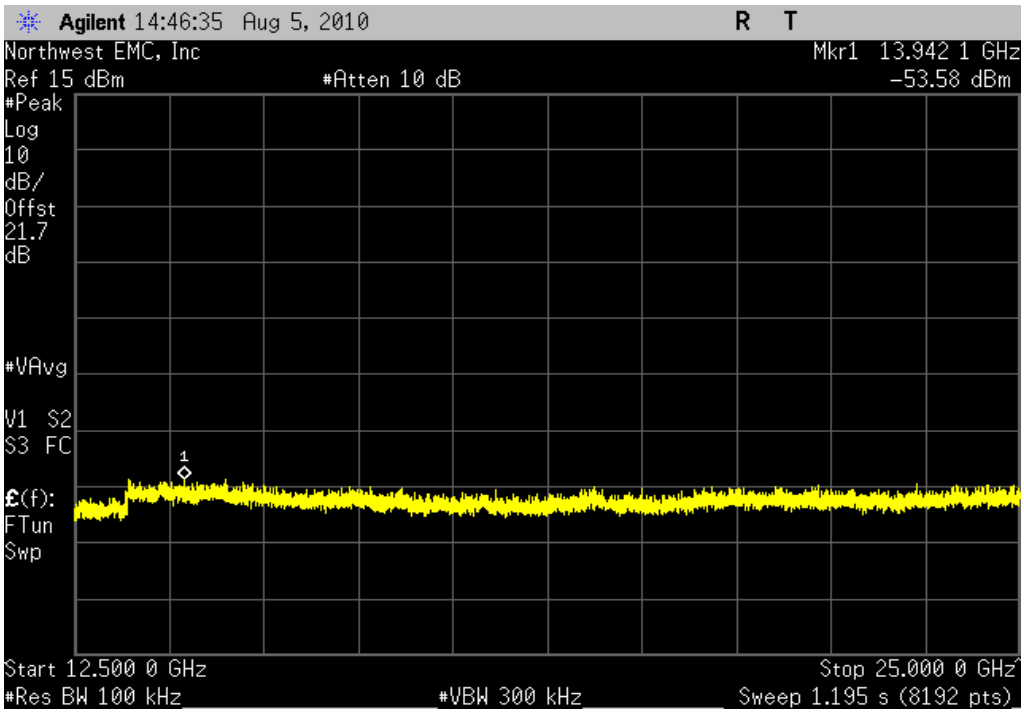


SPURIOUS CONDUCTED EMISSIONS

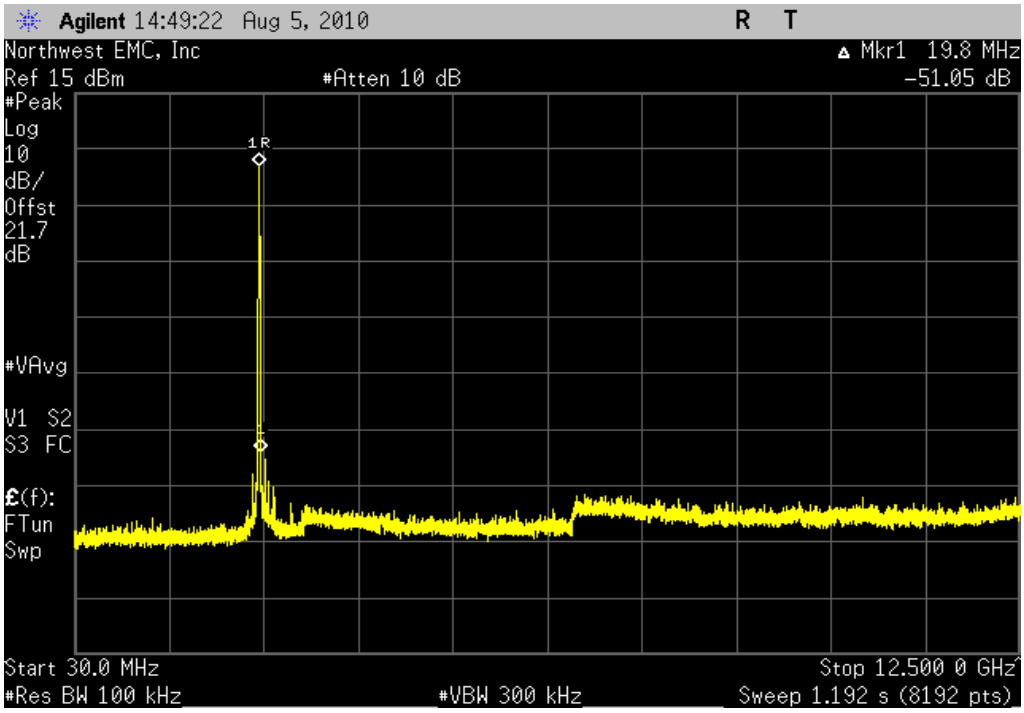
2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS7, Mid Channel 6, 2437 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-49.0 dBc	**Limit:**	< -20 dBc



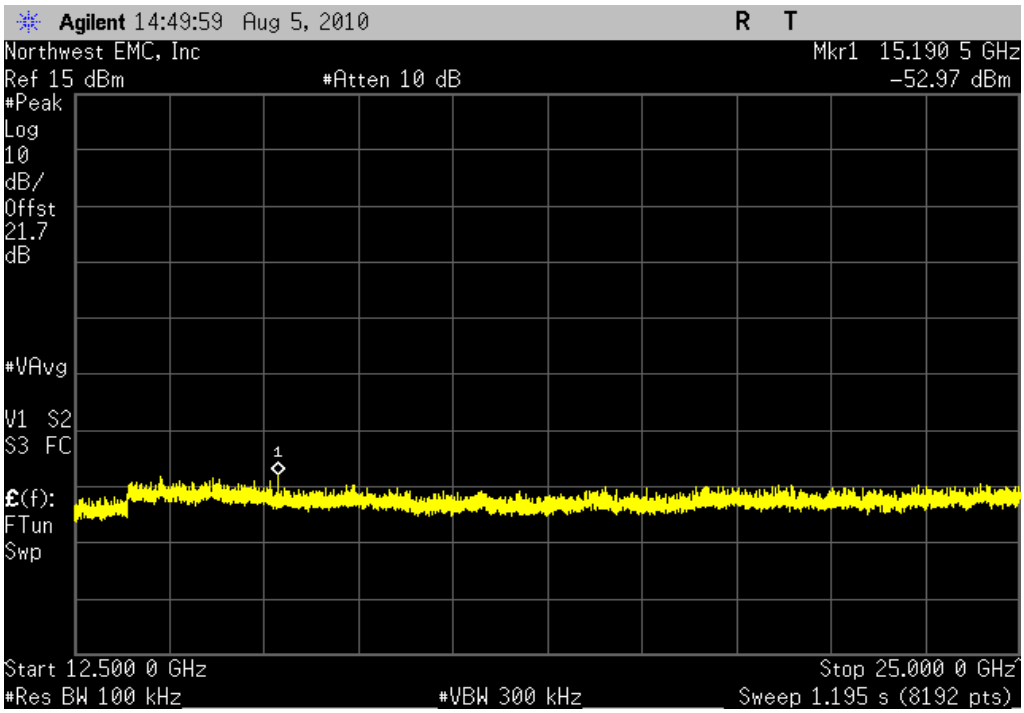
2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS7, Mid Channel 6, 2437 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.6 dBc	**Limit:**	< -20 dBc



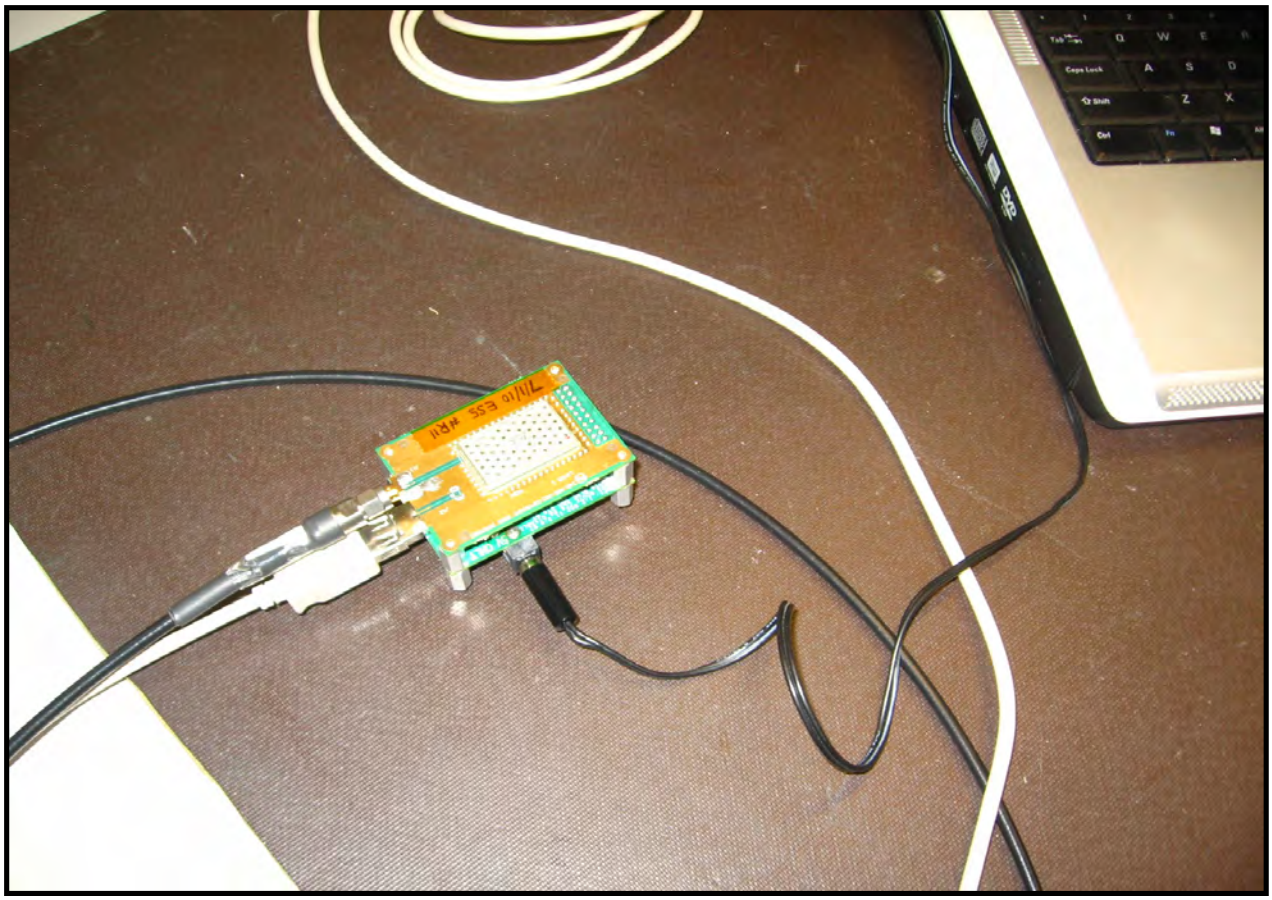
2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS7, High Channel 11, 2462 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-51.1 dBc	**Limit:**	< -20 dBc



2400 MHz - 2483.5 MHz Band, 802.11(n) 20 MHz, MCS7, High Channel 11, 2462 MHz, 12.5 GHz - 25 GHz					
Result:	Pass	**Value:**	-53.0 dBc	**Limit:**	< -20 dBc



SPURIOUS CONDUCTED EMISSIONS



SPURIOUS CONDUCTED 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAQ	1/6/2010	12
40GHz DC Block	Miteq	DCB4000	AMD	8/19/2009	13
Attenuator	Weinschel Corp.	54A-20	RBL	10/9/2009	13
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

The spurious RF conducted emissions were measured with the EUT set to low, medium, and high transmit frequencies. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at each required data rate for the different modulations available. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

XMit 2010.07.29

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R11	Date:	08/05/10
Customer:	Intermec Technologies Corporation	Temperature:	23°C
Attendees:	none	Humidity:	36%
Project:	None	Barometric Pres.:	1015.5 mb
Tested by:	Rod Peloquin	Power: 5VDC	Job Site: EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

COMMENTS

None

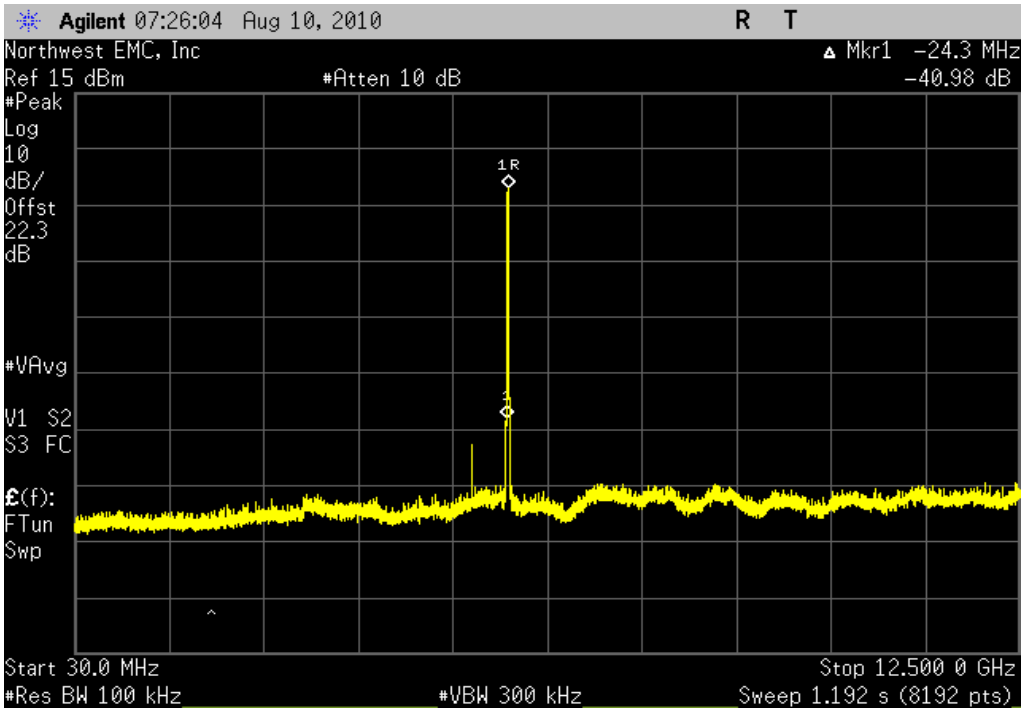
DEVIATIONS FROM TEST STANDARD

No Deviations

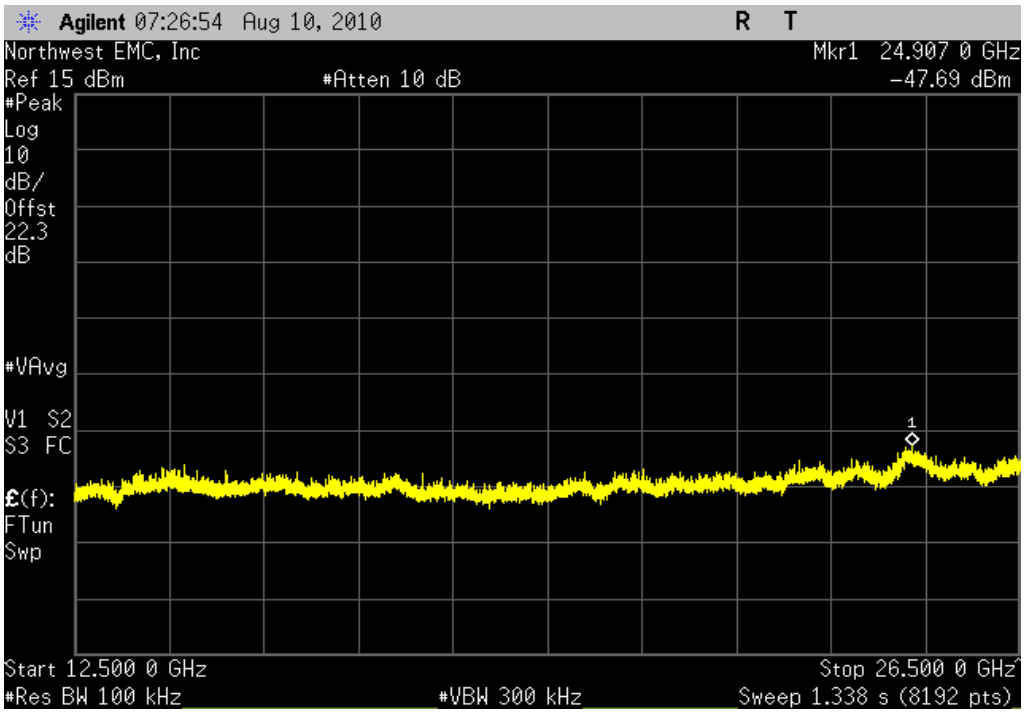
Configuration #	2	Signature

	Value	Limit	Results
5725 MHz - 5850 MHz Band			
802.11(a) 6 Mbps			
Low Channel 149, 5745 MHz			
30 MHz - 12.5 GHz	-41.0 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.7 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-48.9 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.0 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz			
30 MHz - 12.5 GHz	-45.7 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.5 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-49.0 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.4 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz			
30 MHz - 12.5 GHz	-44.3 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.1 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-48.2 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.3 dBc	≤ -20 dBc	Pass
802.11(a) 36 Mbps			
Low Channel 149, 5745 MHz			
30 MHz - 12.5 GHz	-47.7 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.9 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-49.0 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.1 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz			
30 MHz - 12.5 GHz	-47.7 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.9 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-48.9 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.7 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz			
30 MHz - 12.5 GHz	-47.0 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-48.3 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-49.1 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.4 dBc	≤ -20 dBc	Pass
802.11(a) 54 Mbps			
Low Channel 149, 5745 MHz			
30 MHz - 12.5 GHz	-47.5 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.1 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-48.6 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-34.6 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz			
30 MHz - 12.5 GHz	-47.4 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.3 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-48.7 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.4 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz			
30 MHz - 12.5 GHz	-46.5 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.3 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-49.1 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.8 dBc	≤ -20 dBc	Pass
802.11(n) 20 MHz, MCS0			
Low Channel 149, 5745 MHz			
30 MHz - 12.5 GHz	-39.8 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.7 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-48.4 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.8 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz			
30 MHz - 12.5 GHz	-44.9 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.5 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-48.9 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.1 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz			
30 MHz - 12.5 GHz	-44.8 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.6 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-48.8 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.1 dBc	≤ -20 dBc	Pass
802.11(n) 20 MHz, MCS7			
Low Channel 149, 5745 MHz			
30 MHz - 12.5 GHz	-45.9 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.3 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-48.6 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.4 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz			
30 MHz - 12.5 GHz	-45.5 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-48.1 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-48.7 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-35.6 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz			
30 MHz - 12.5 GHz	-44.1 dBc	≤ -20 dBc	Pass
12.5 GHz - 26.5 GHz	-47.1 dBc	≤ -20 dBc	Pass
26.5 GHz - 31 GHz	-48.4 dBc	≤ -20 dBc	Pass
31 GHz - 40 GHz	-33.9 dBc	≤ -20 dBc	Pass

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-41.0 dBc	**Limit:**	≤ -20 dBc

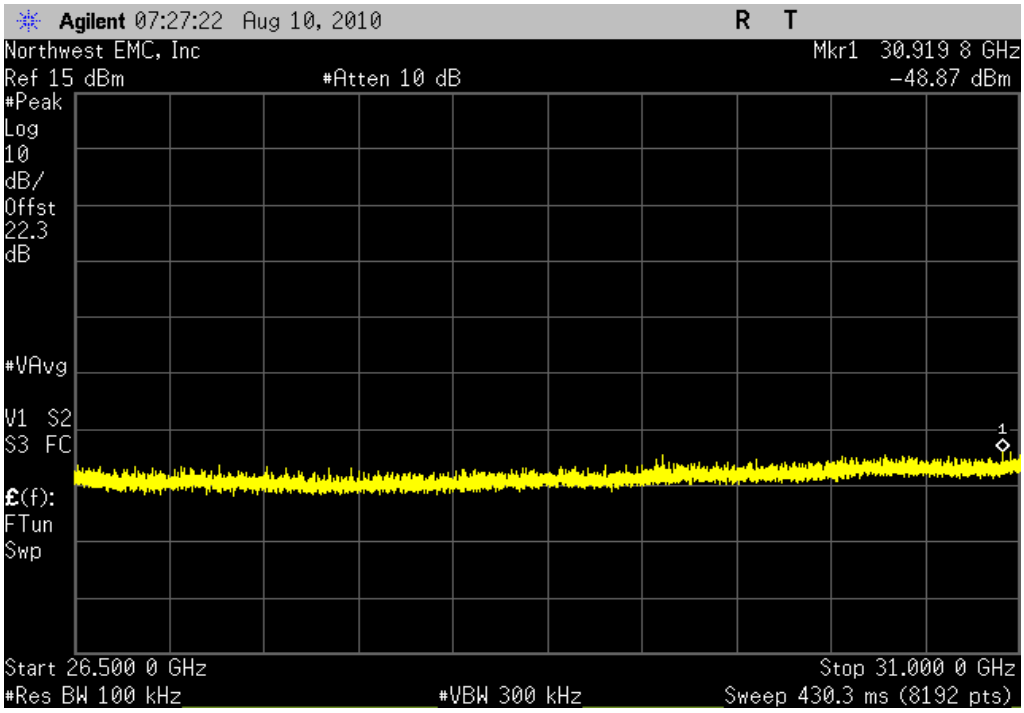


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.7 dBc	**Limit:**	≤ -20 dBc

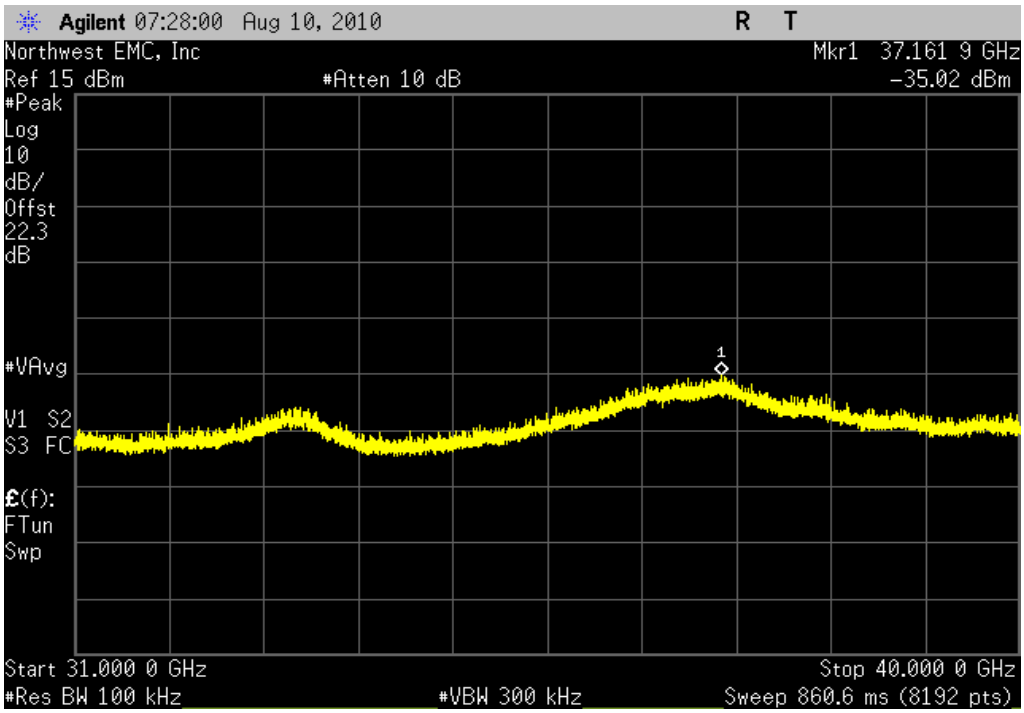


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-48.9 dBc	**Limit:**	≤ -20 dBc

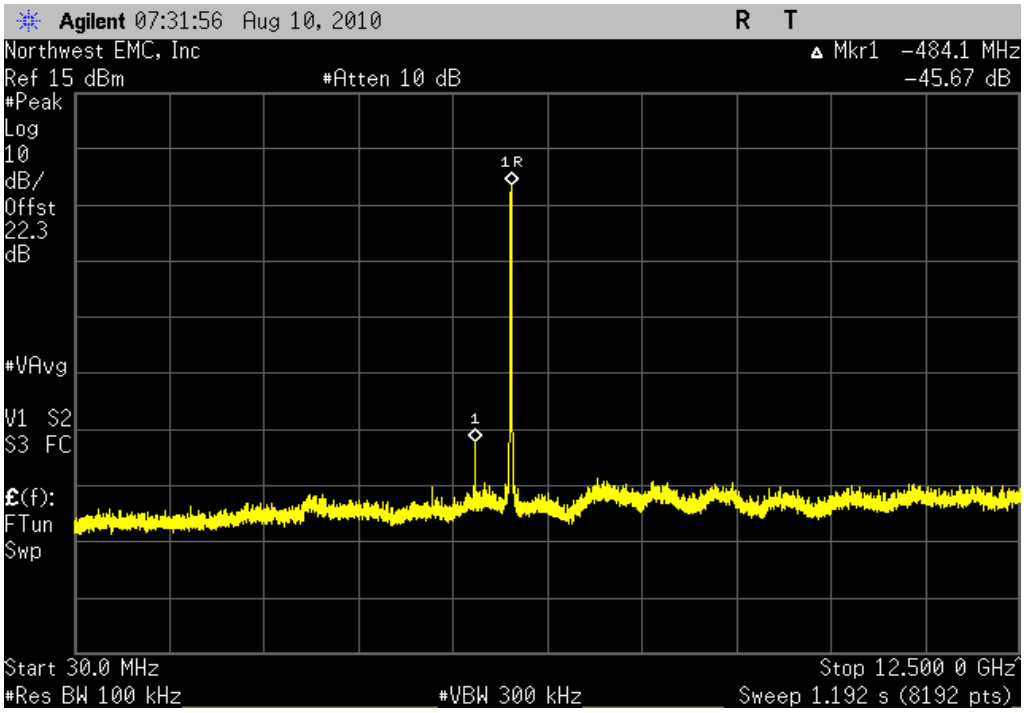


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.0 dBc	**Limit:**	≤ -20 dBc

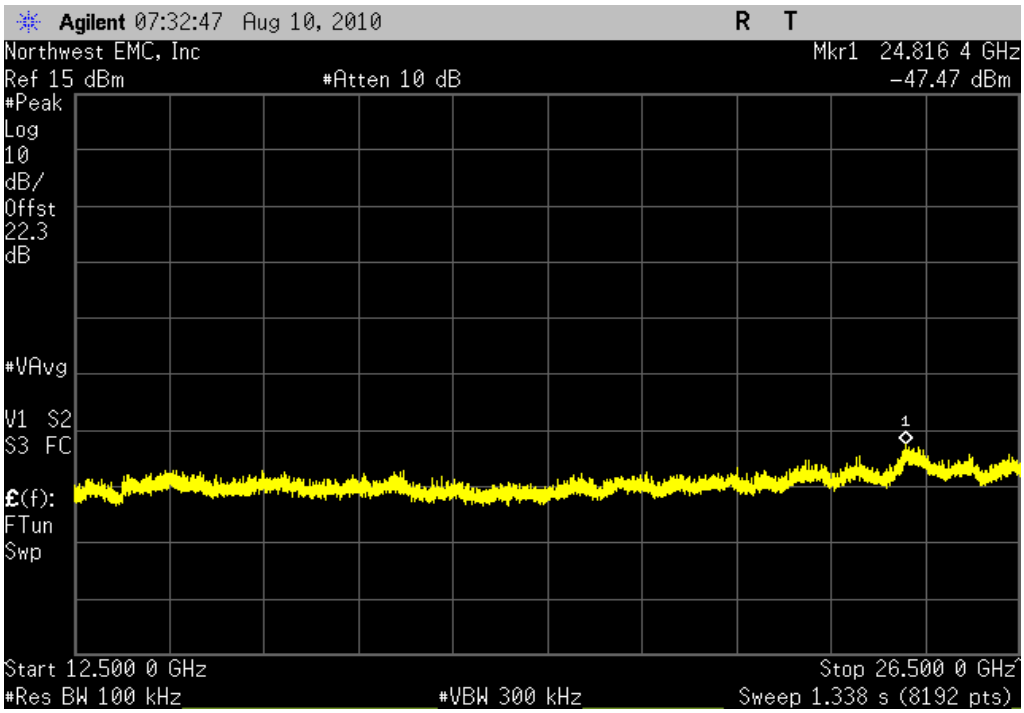


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-45.7 dBc	**Limit:**	≤ -20 dBc

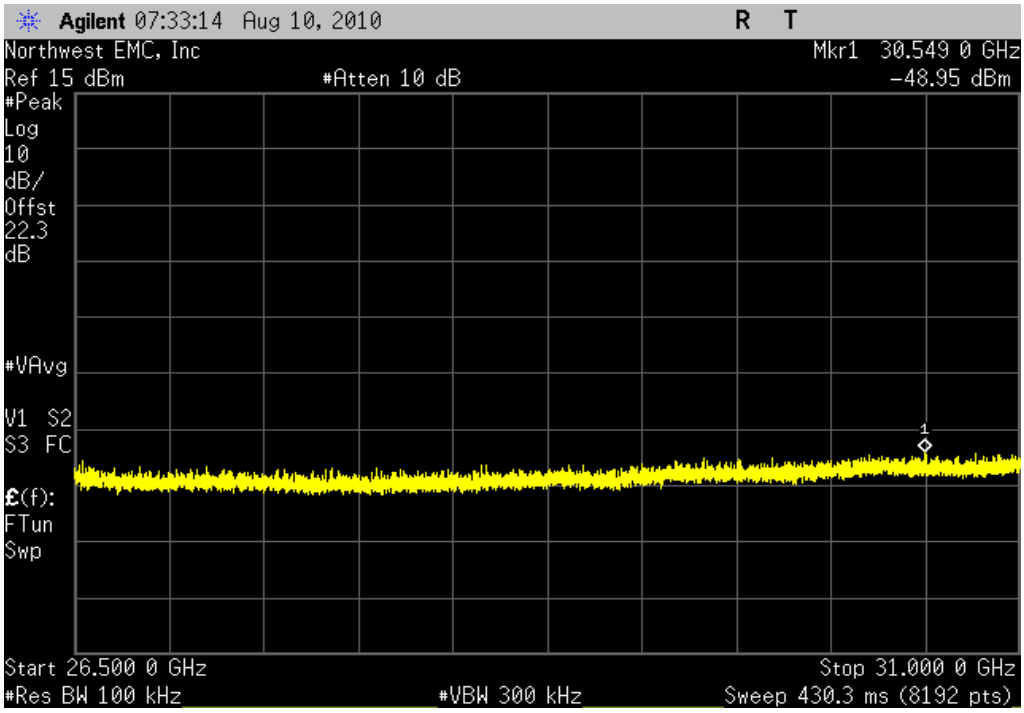


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.5 dBc	**Limit:**	≤ -20 dBc

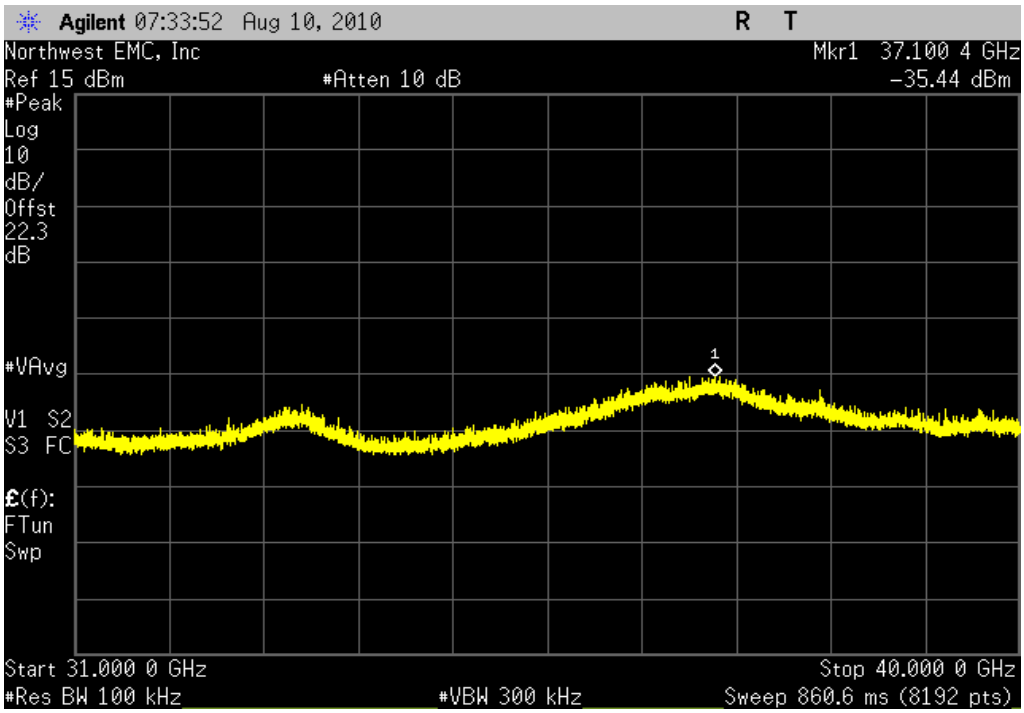


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-49.0 dBc	**Limit:**	≤ -20 dBc

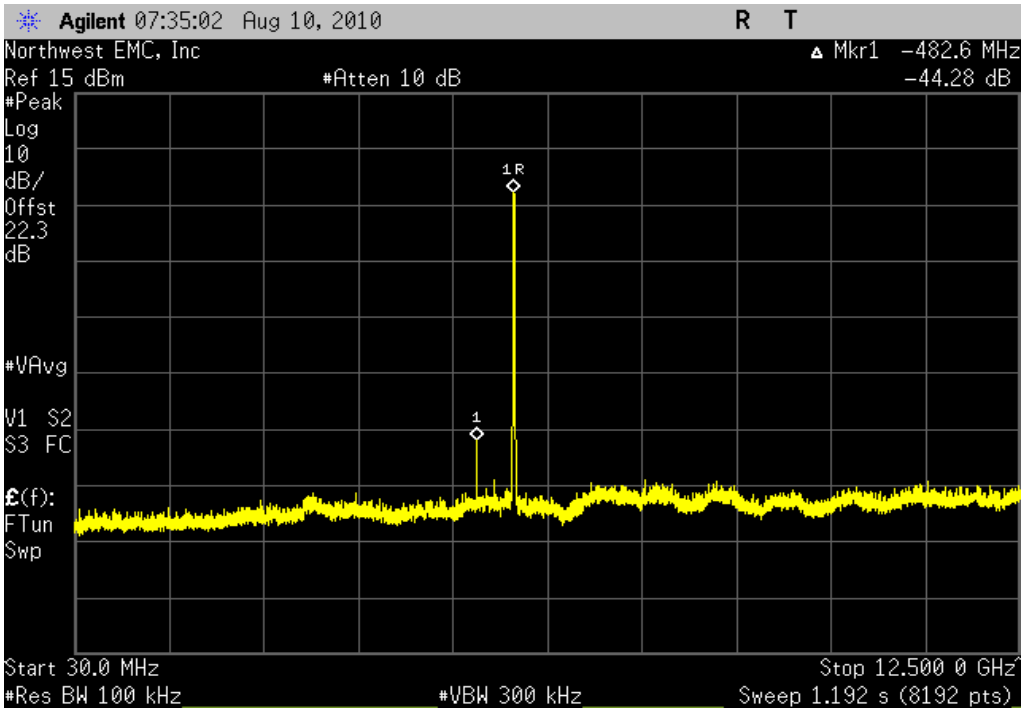


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.4 dBc	**Limit:**	≤ -20 dBc

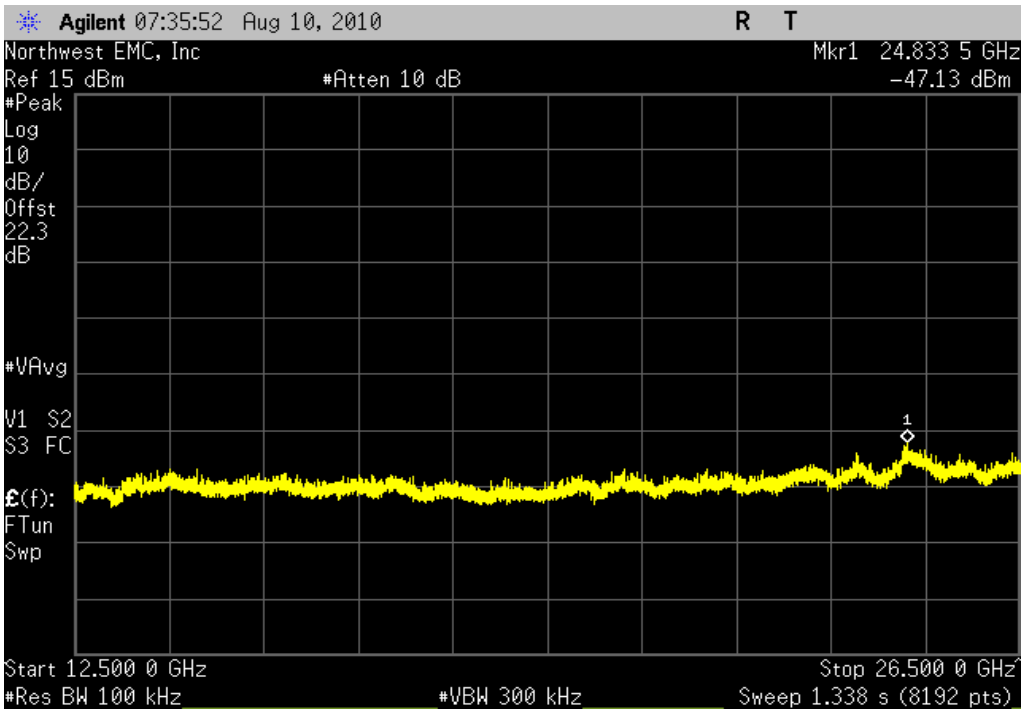


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-44.3 dBc	**Limit:**	≤ -20 dBc

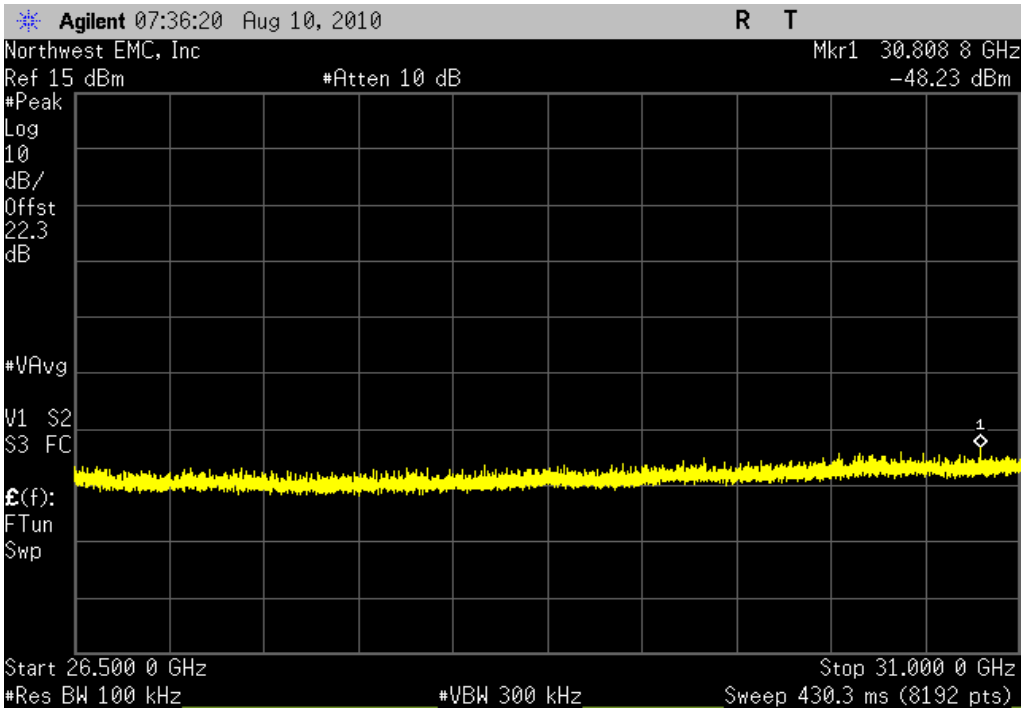


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.1 dBc	**Limit:**	≤ -20 dBc

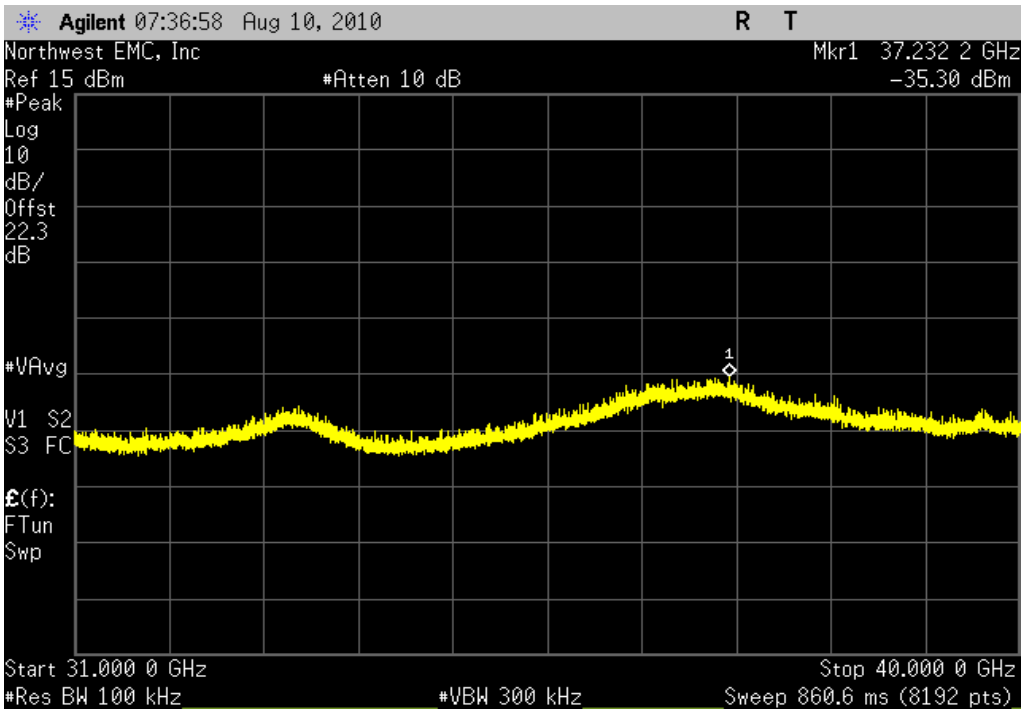


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-48.2 dBc	**Limit:**	≤ -20 dBc

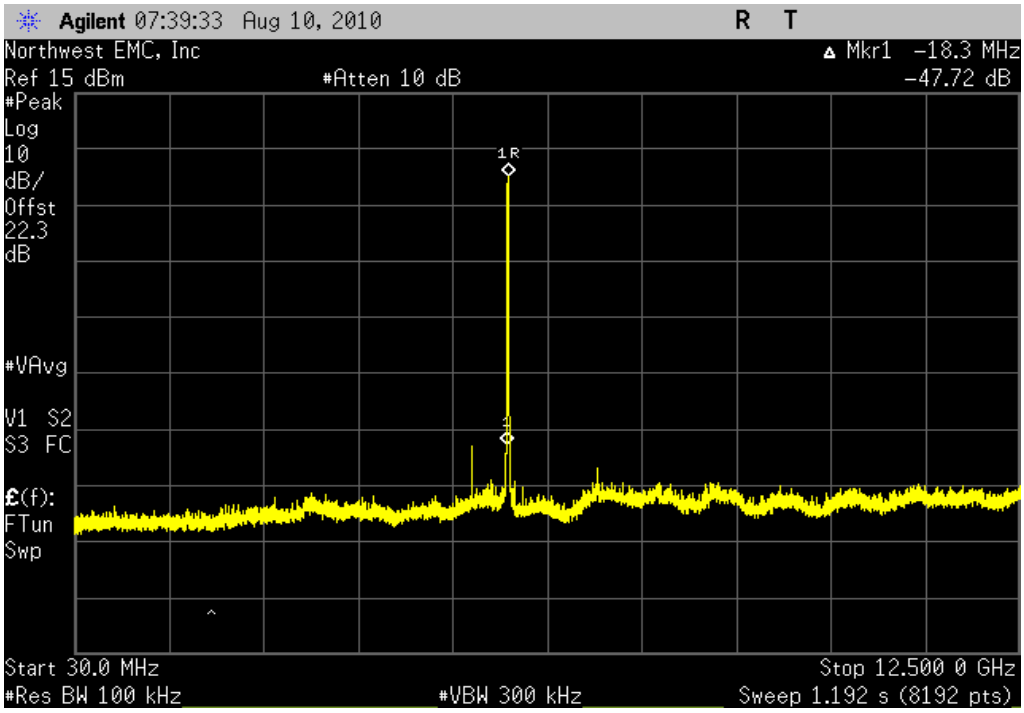


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.3 dBc	**Limit:**	≤ -20 dBc

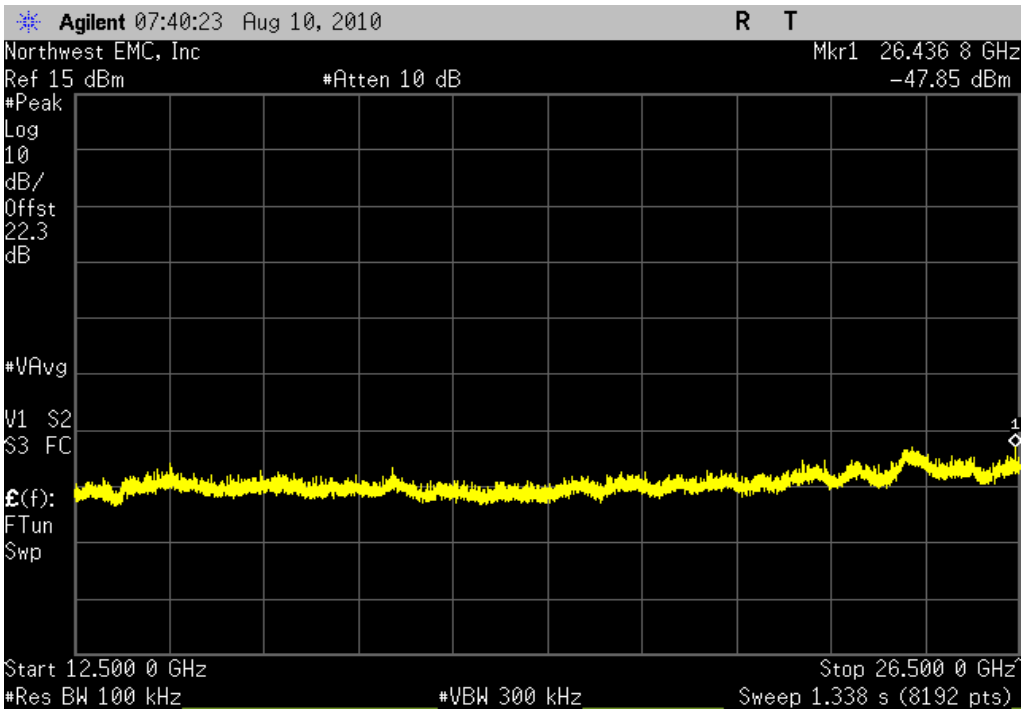


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-47.7 dBc	**Limit:**	≤ -20 dBc

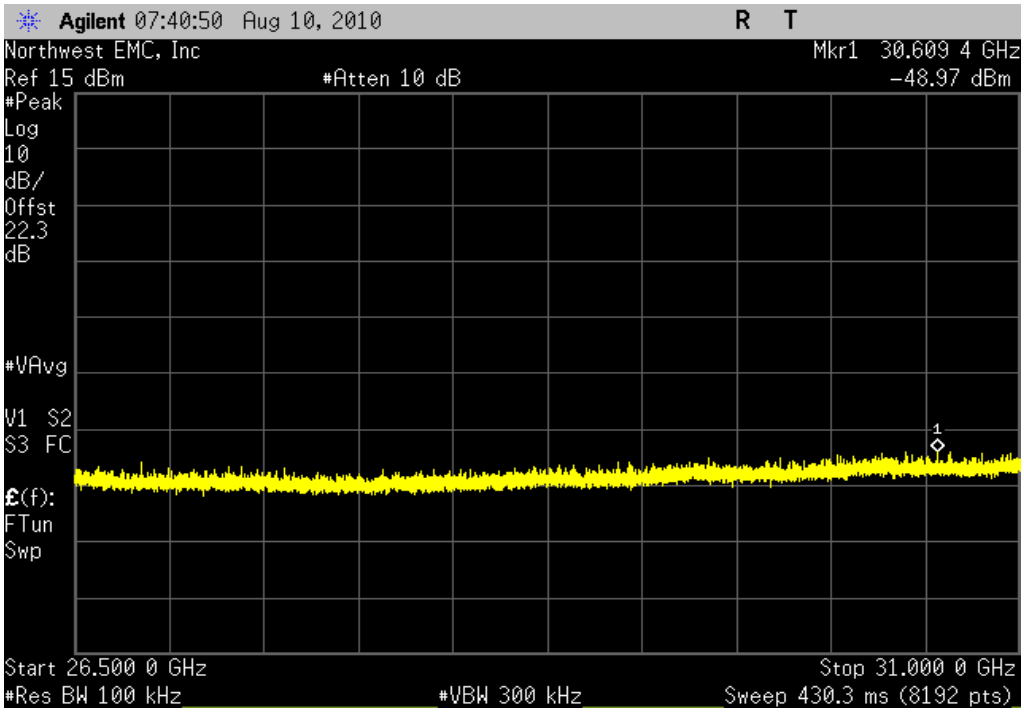


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.9 dBc	**Limit:**	≤ -20 dBc

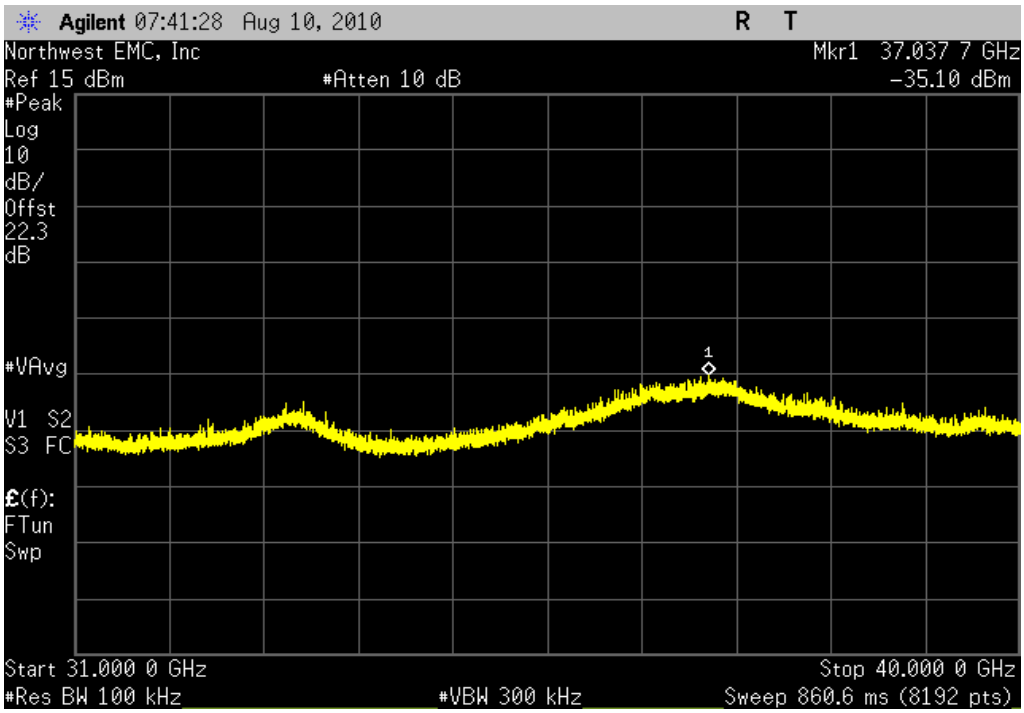


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-49.0 dBc	**Limit:**	≤ -20 dBc

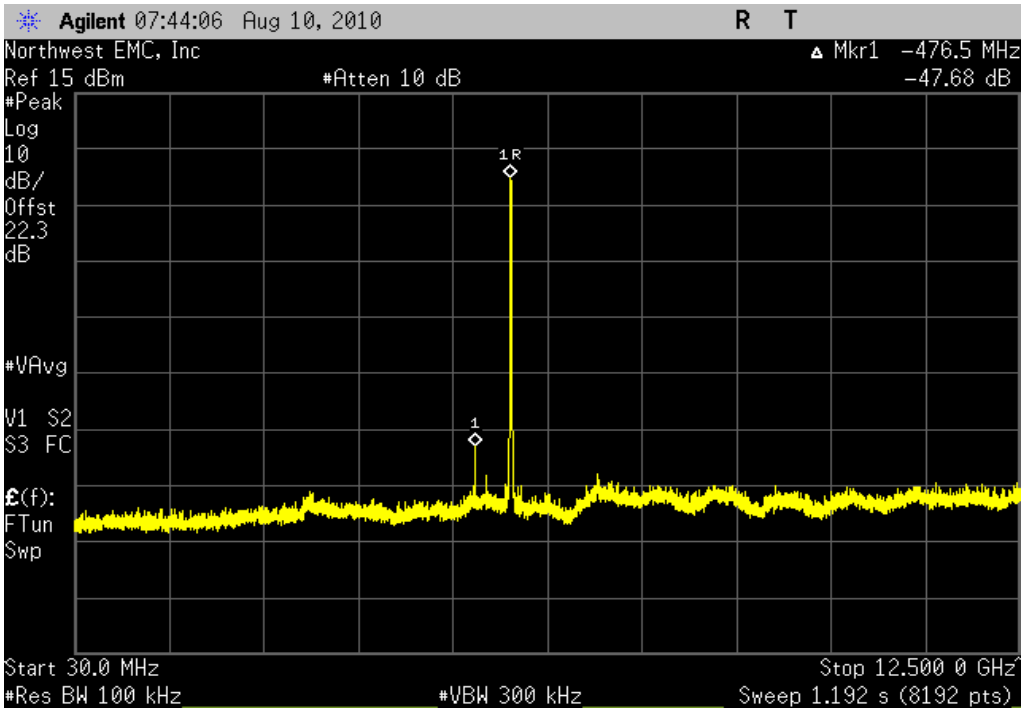


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.1 dBc	**Limit:**	≤ -20 dBc

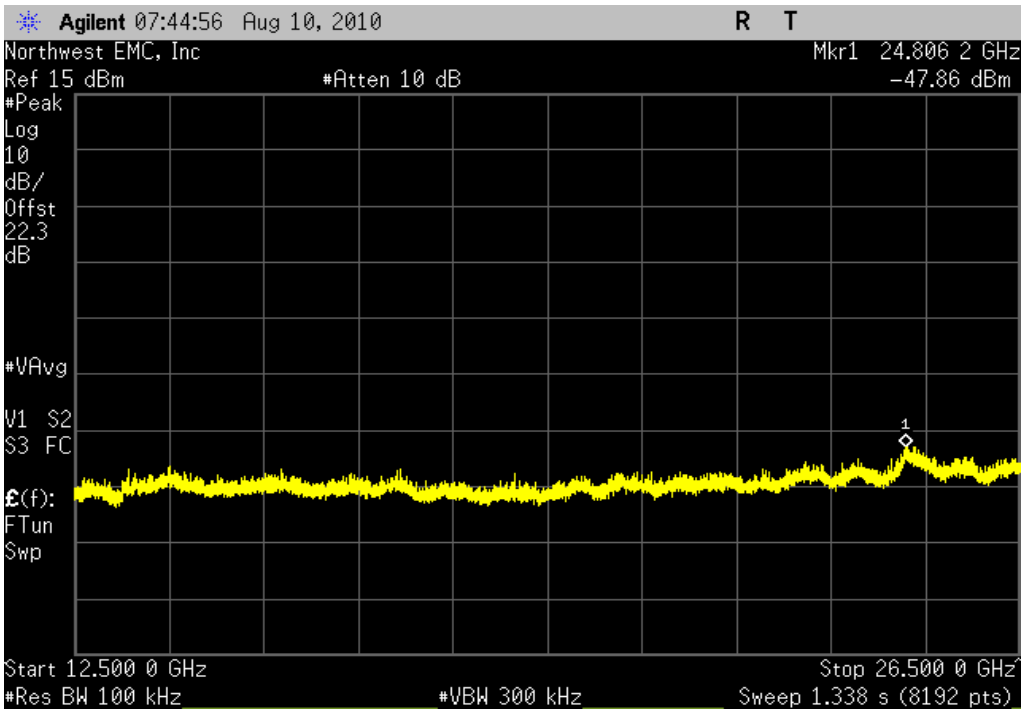


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-47.7 dBc	**Limit:**	≤ -20 dBc

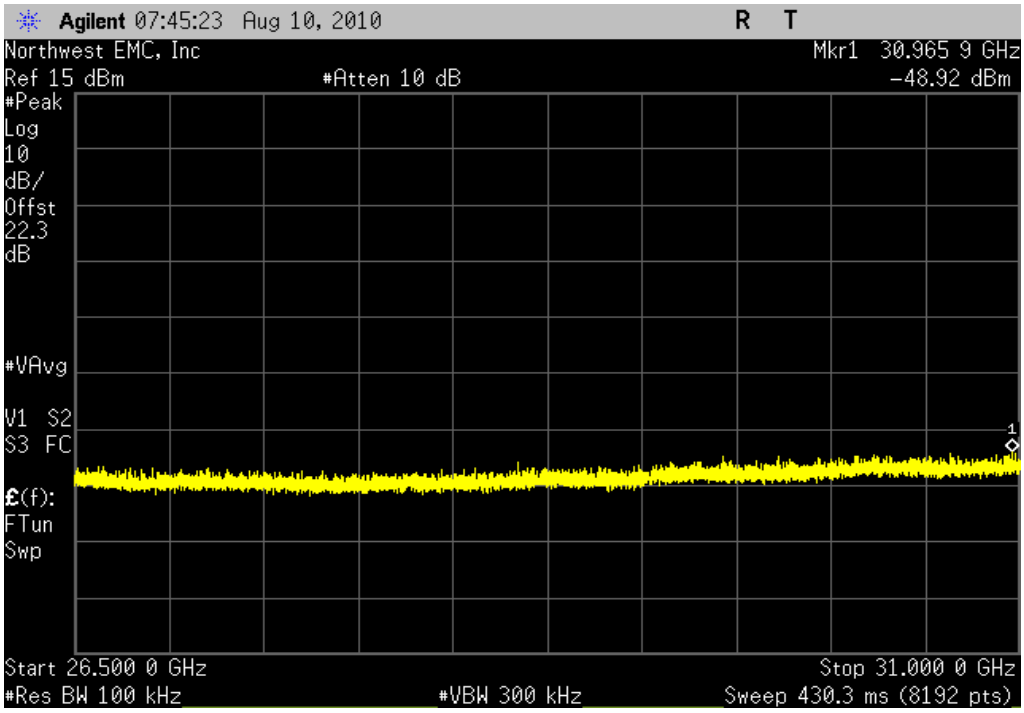


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.9 dBc	**Limit:**	≤ -20 dBc

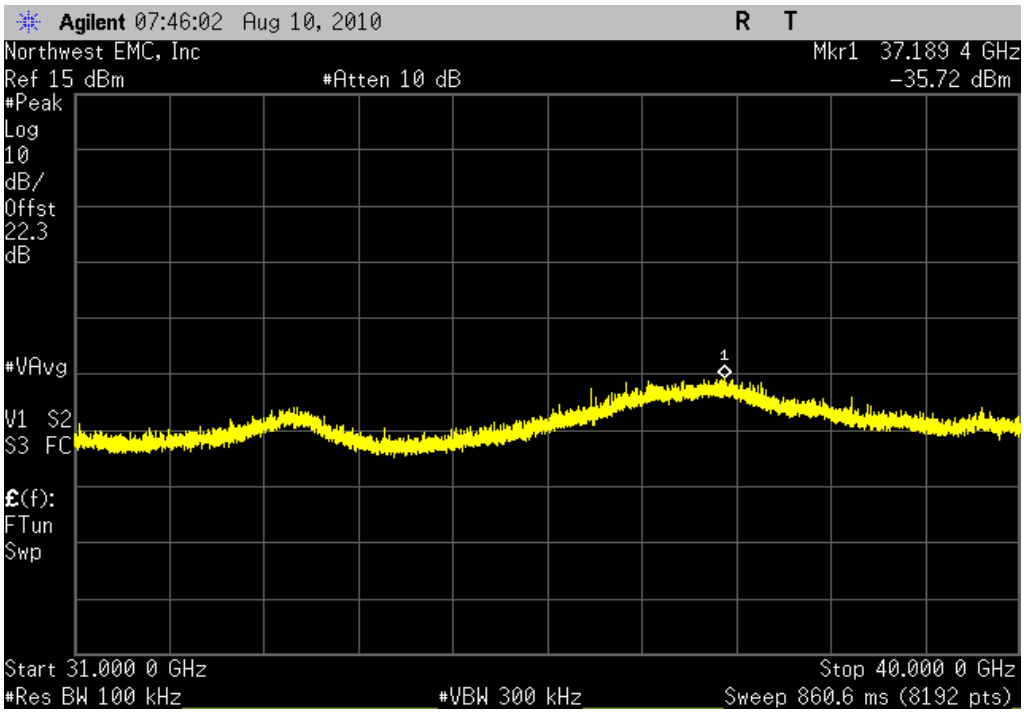


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-48.9 dBc	**Limit:**	≤ -20 dBc

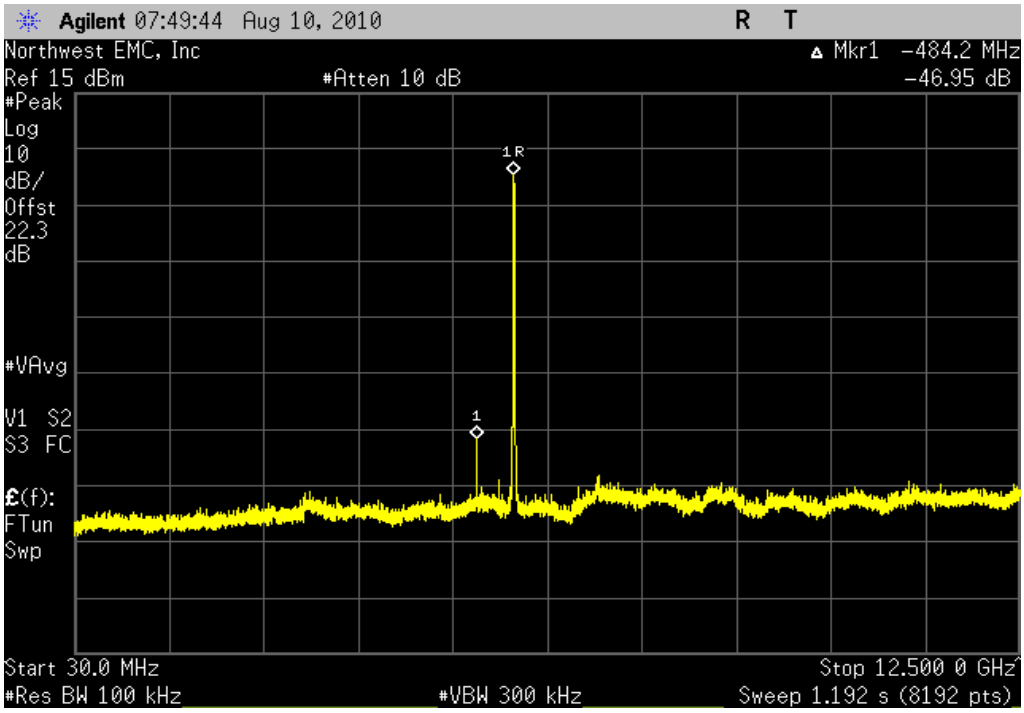


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.7 dBc	**Limit:**	≤ -20 dBc

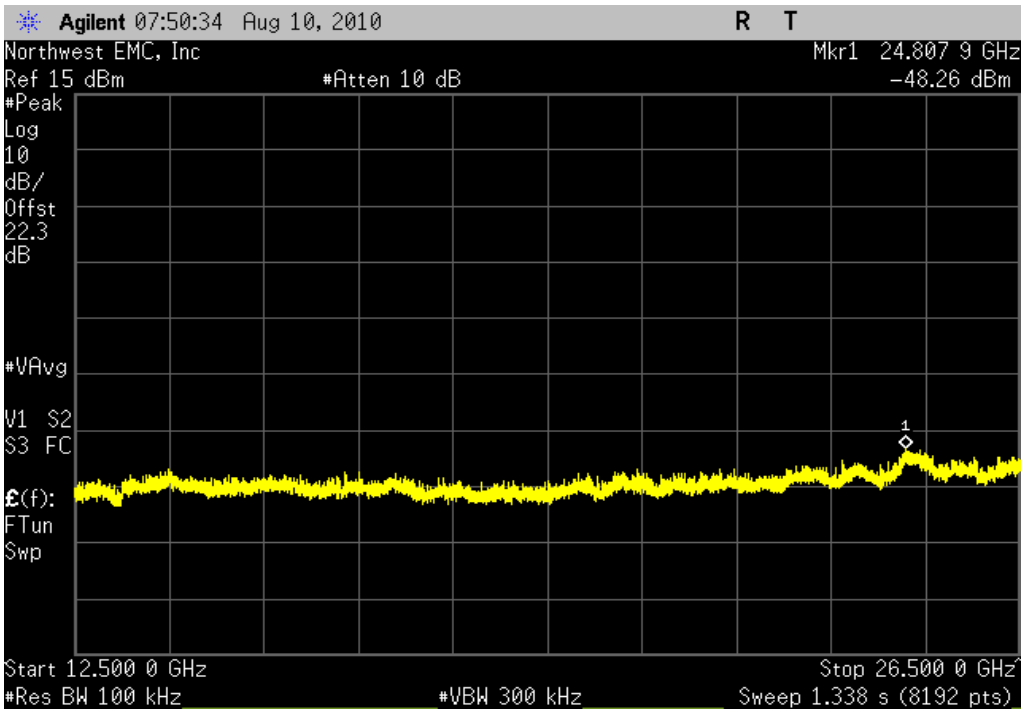


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-47.0 dBc	**Limit:**	≤ -20 dBc

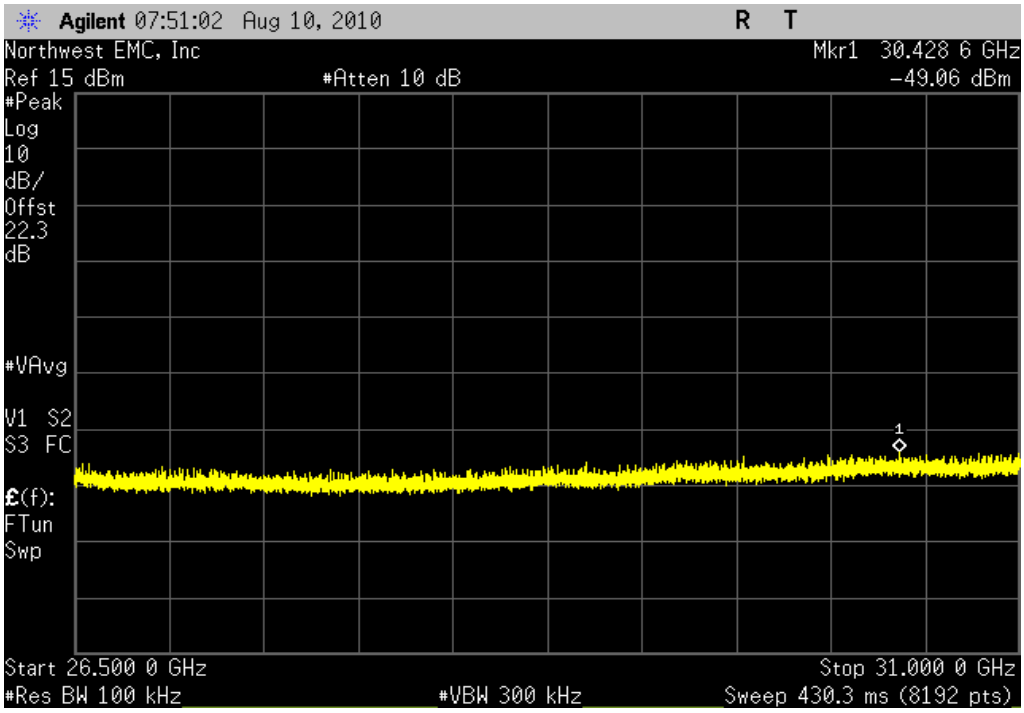


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-48.3 dBc	**Limit:**	≤ -20 dBc

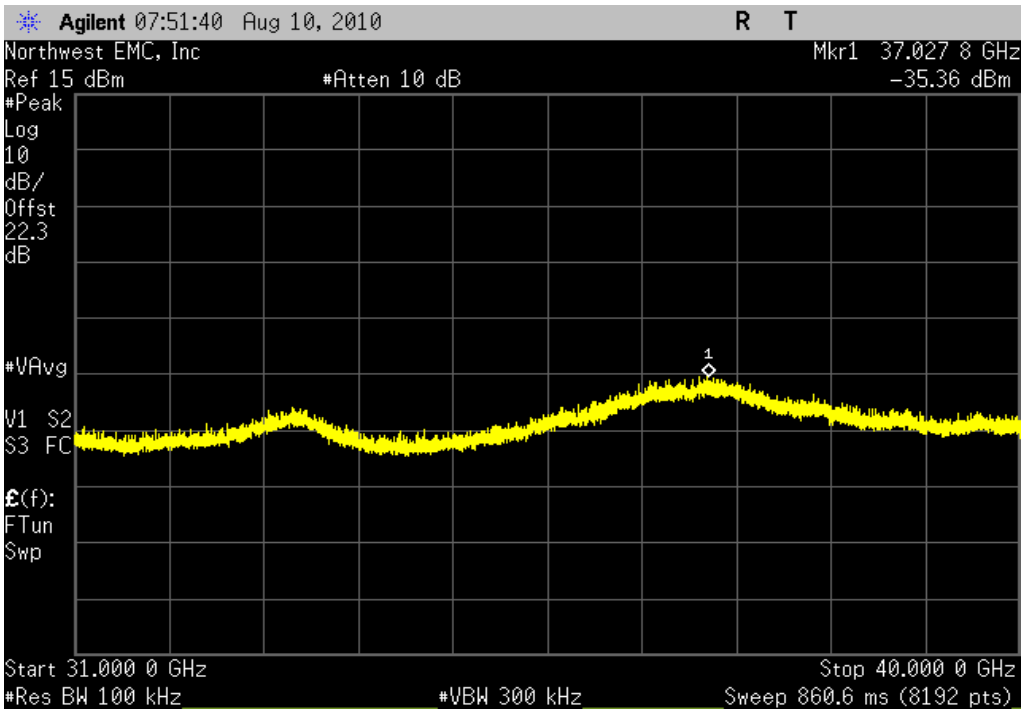


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-49.1 dBc	**Limit:**	≤ -20 dBc

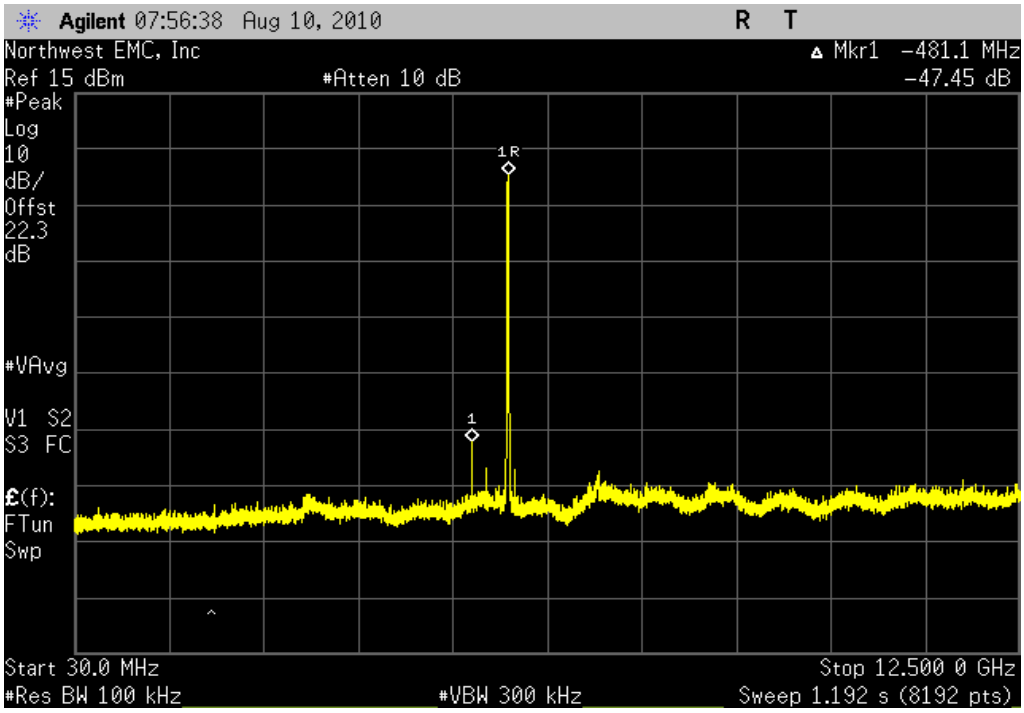


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.4 dBc	**Limit:**	≤ -20 dBc

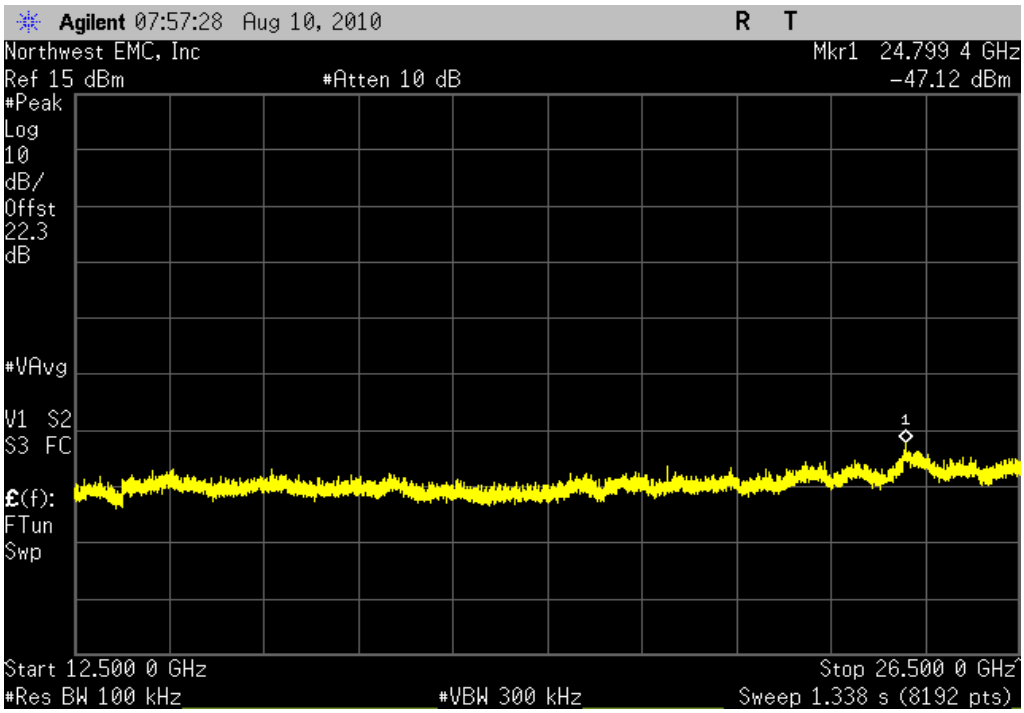


SPURIOUS CONDUCTED EMISSIONS

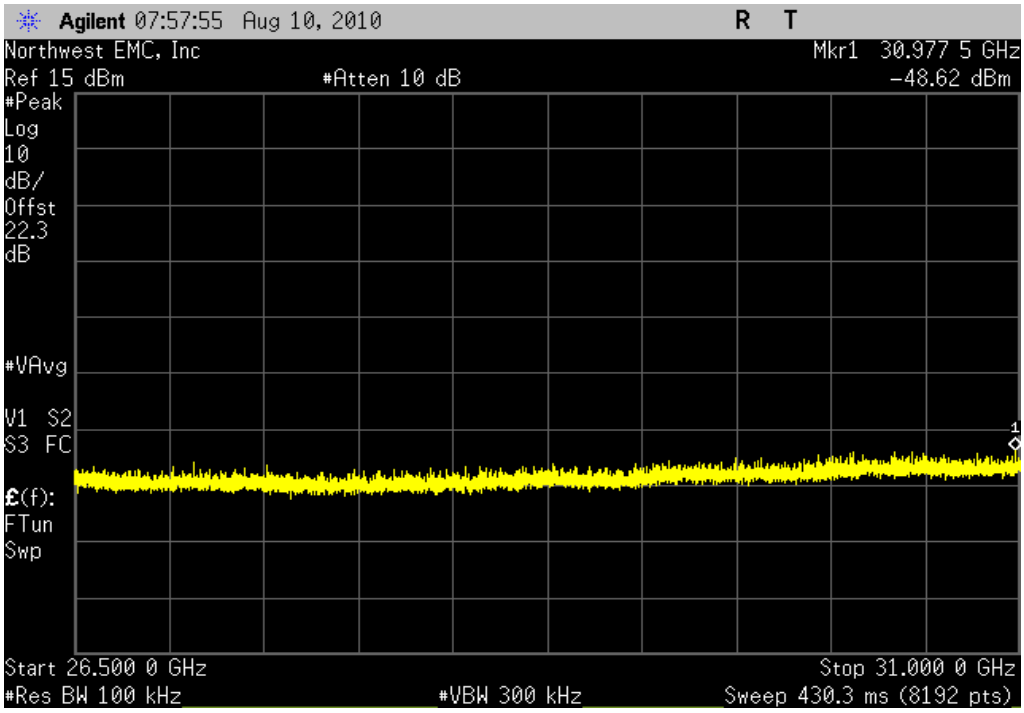
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-47.5 dBc	**Limit:**	≤ -20 dBc



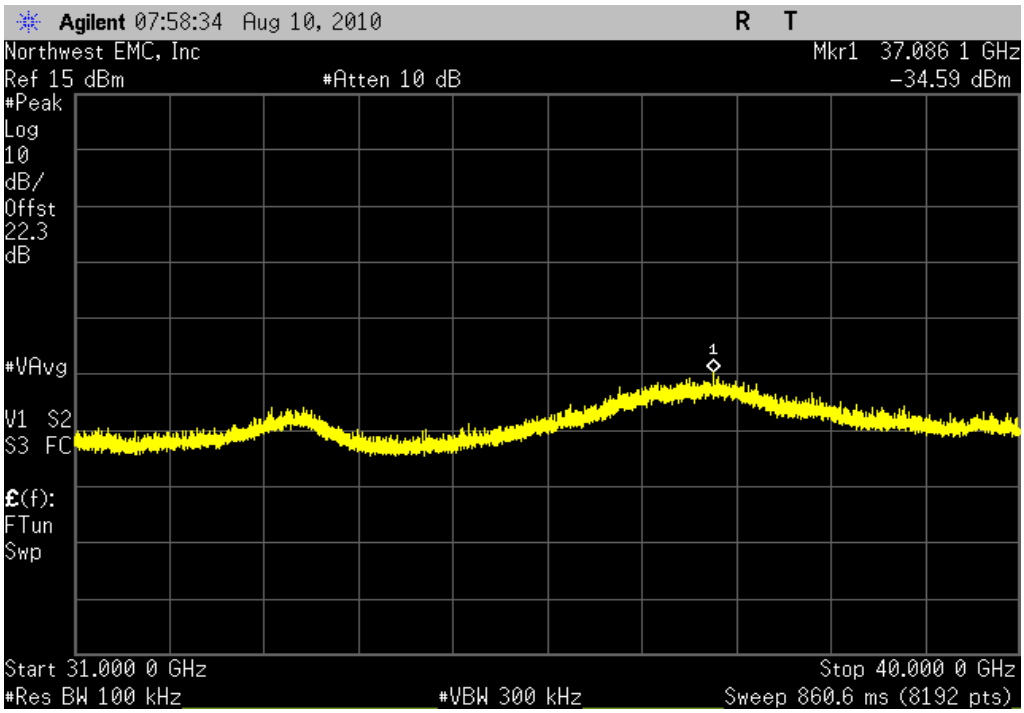
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.1 dBc	**Limit:**	≤ -20 dBc



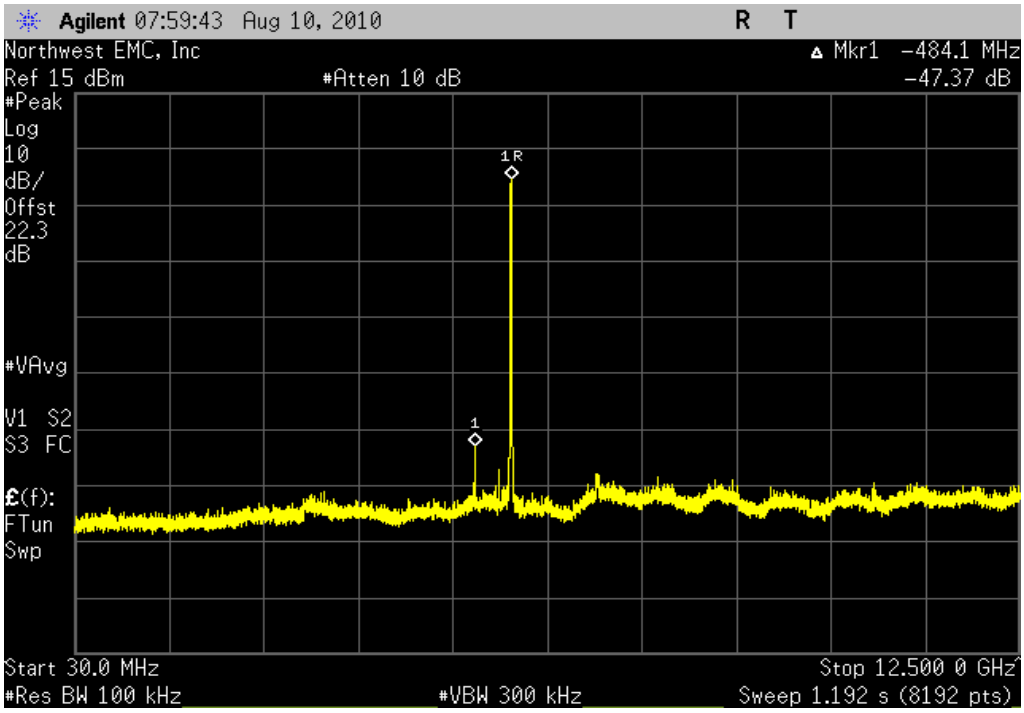
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-48.6 dBc	**Limit:**	≤ -20 dBc



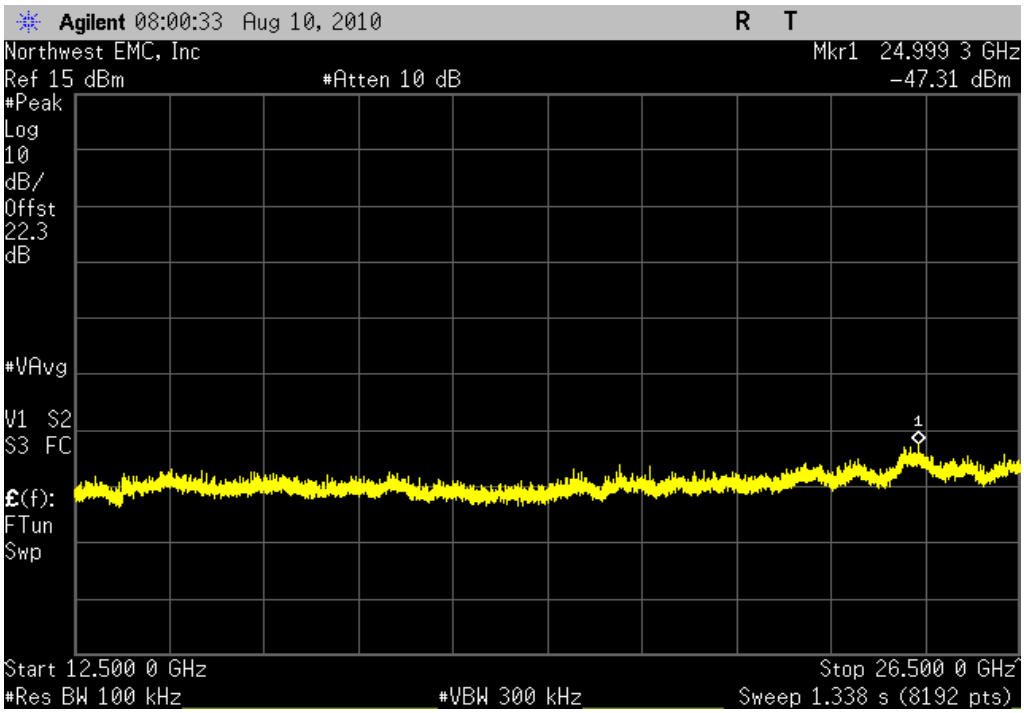
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-34.6 dBc	**Limit:**	≤ -20 dBc



5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-47.4 dBc	**Limit:**	≤ -20 dBc

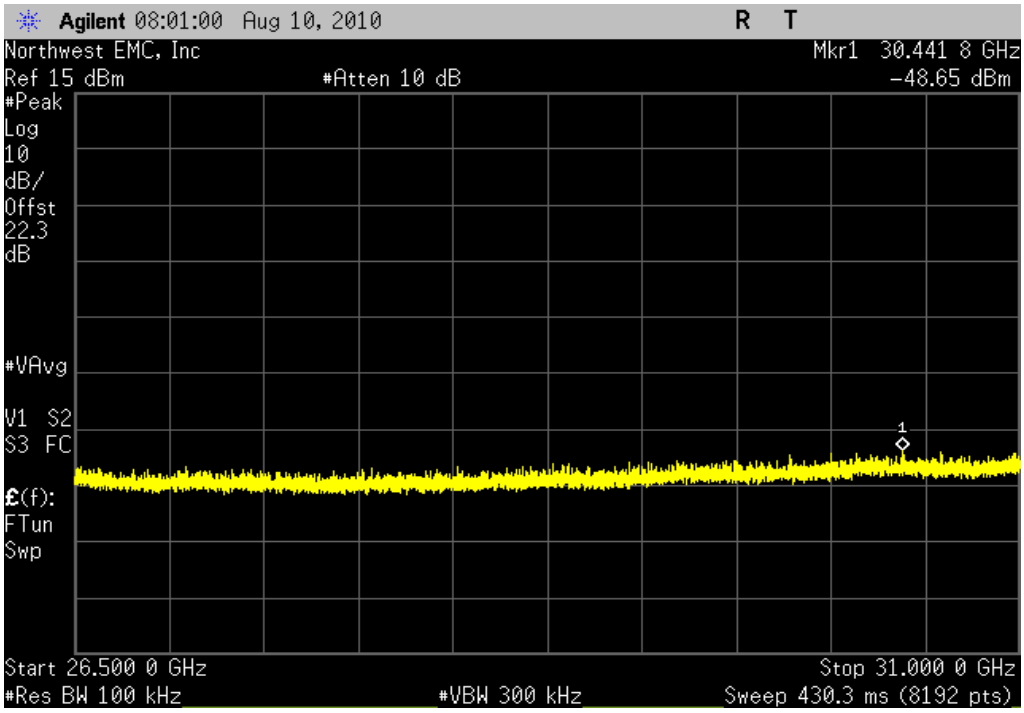


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.3 dBc	**Limit:**	≤ -20 dBc

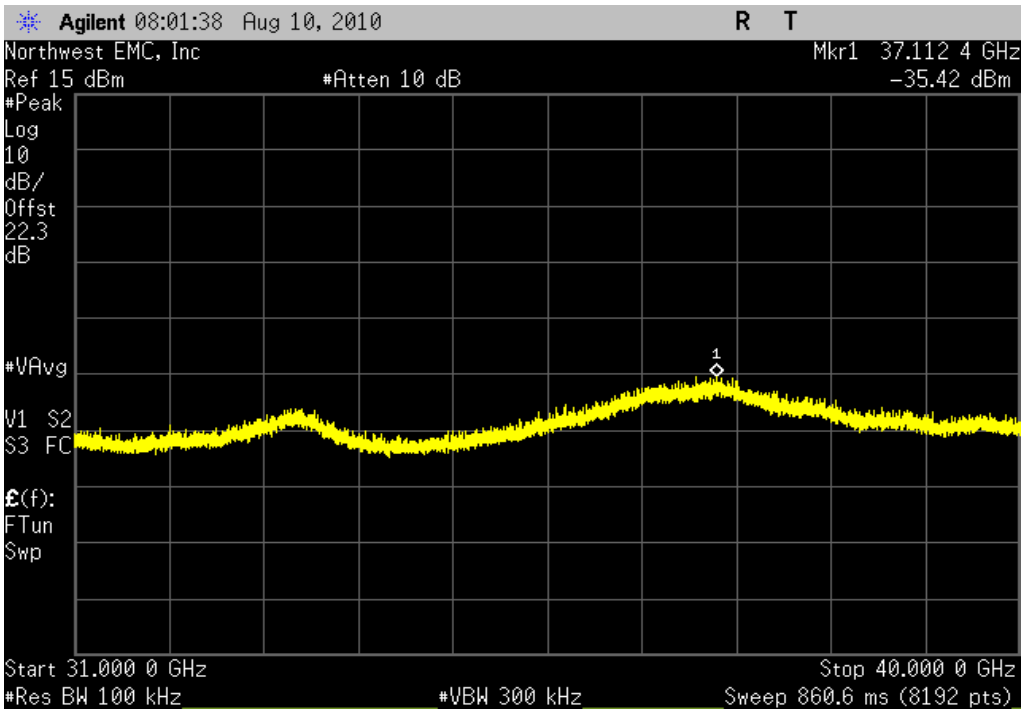


SPURIOUS CONDUCTED EMISSIONS

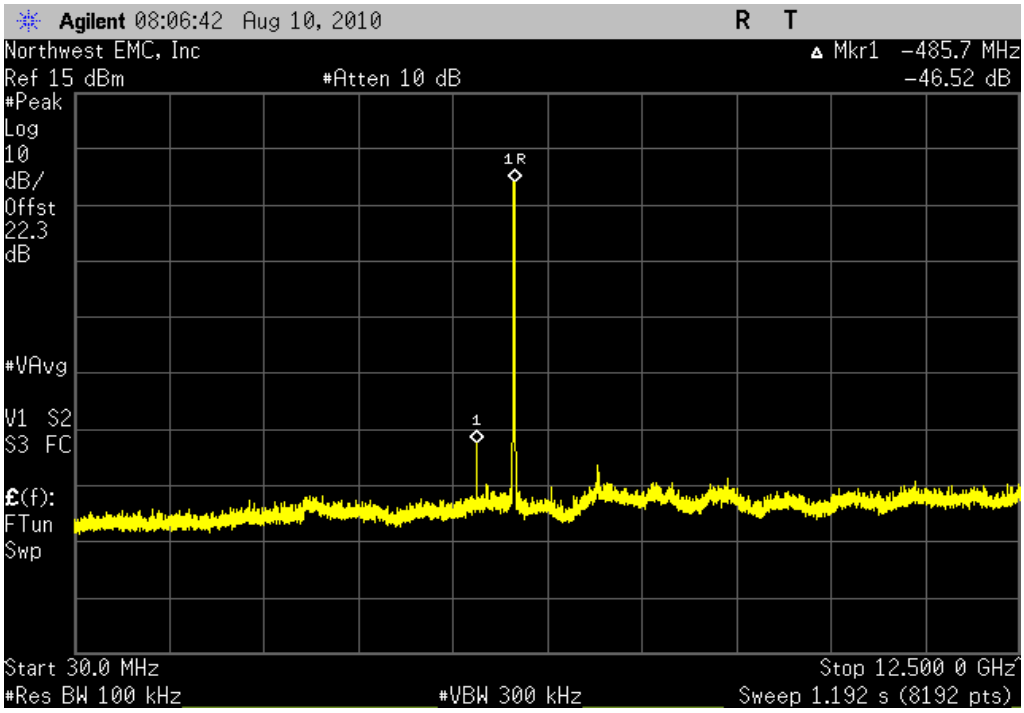
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-48.7 dBc	**Limit:**	≤ -20 dBc



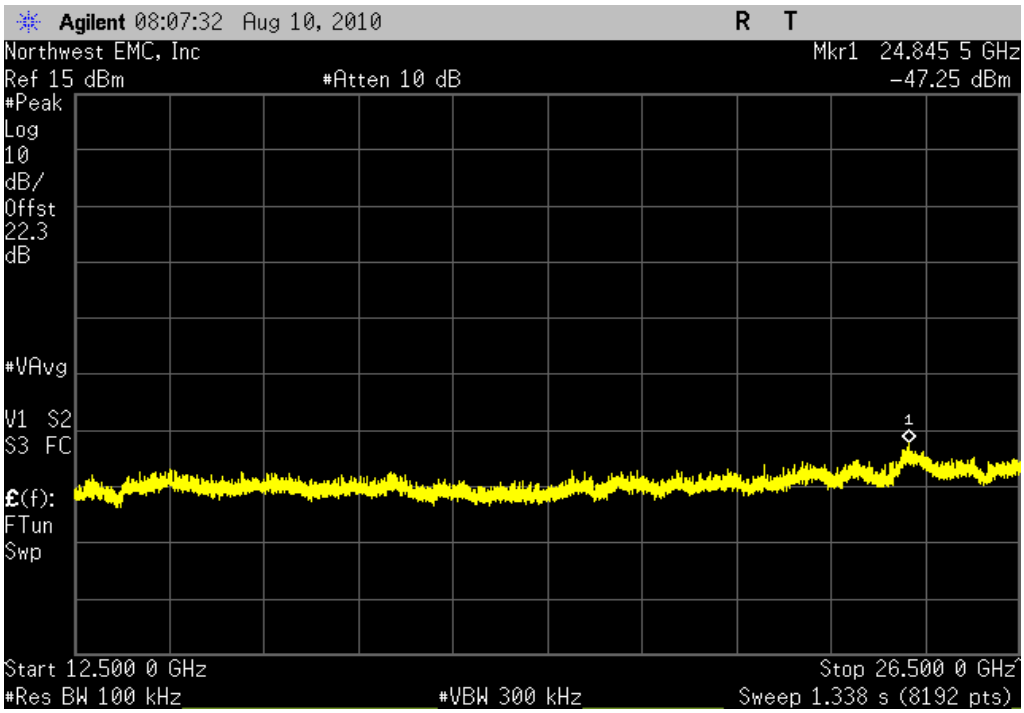
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.4 dBc	**Limit:**	≤ -20 dBc



5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-46.5 dBc	**Limit:**	≤ -20 dBc

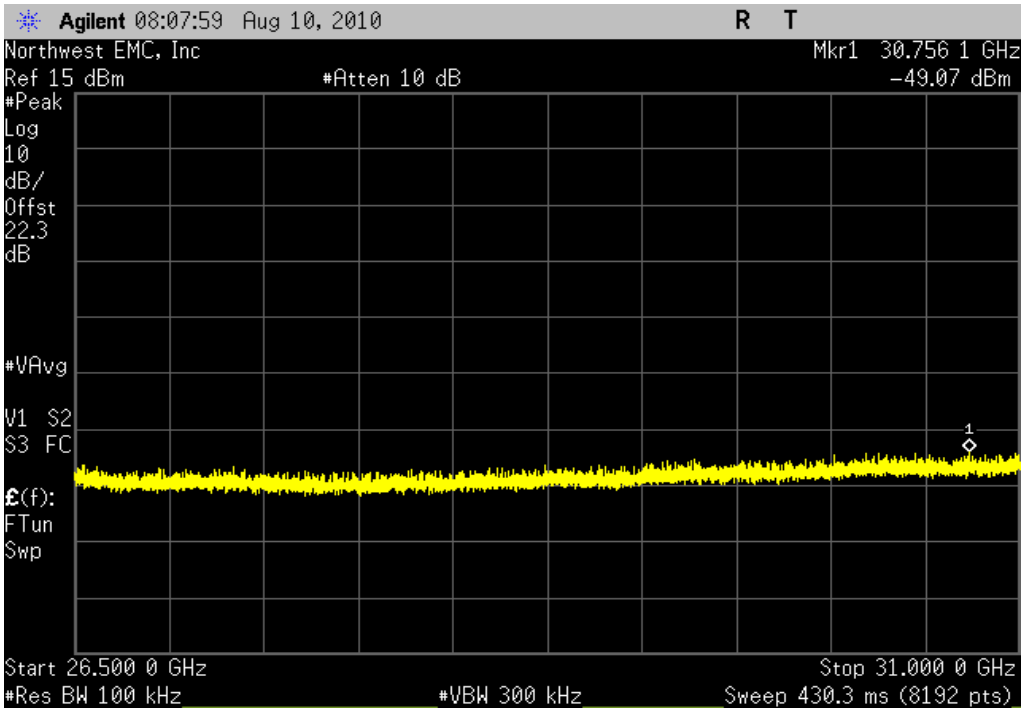


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.3 dBc	**Limit:**	≤ -20 dBc

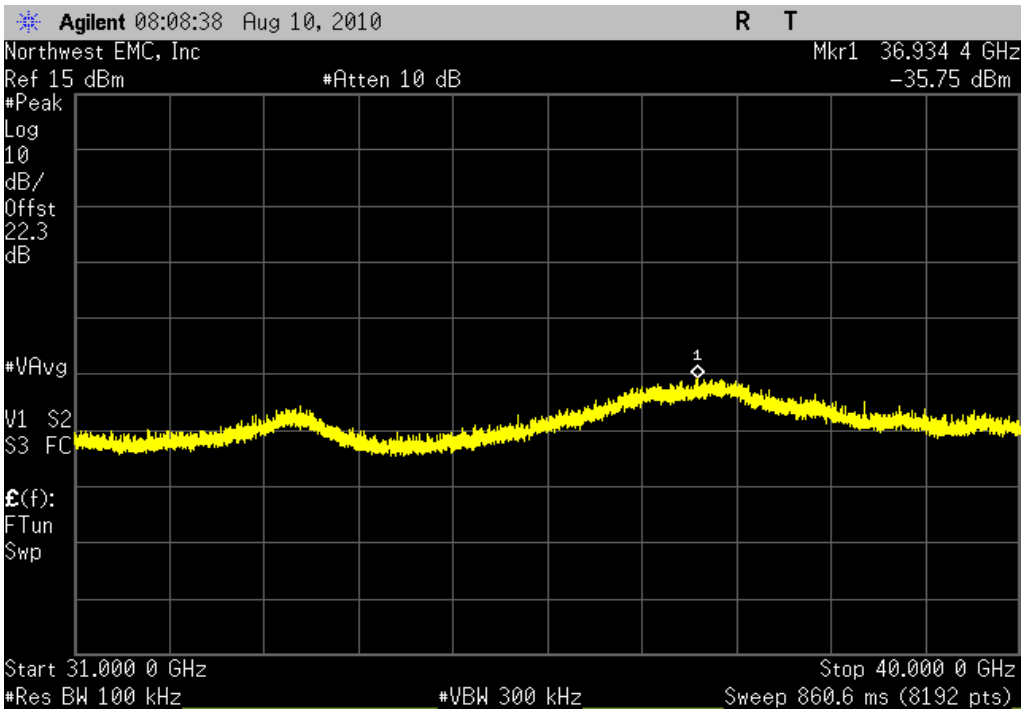


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-49.1 dBc	**Limit:**	≤ -20 dBc

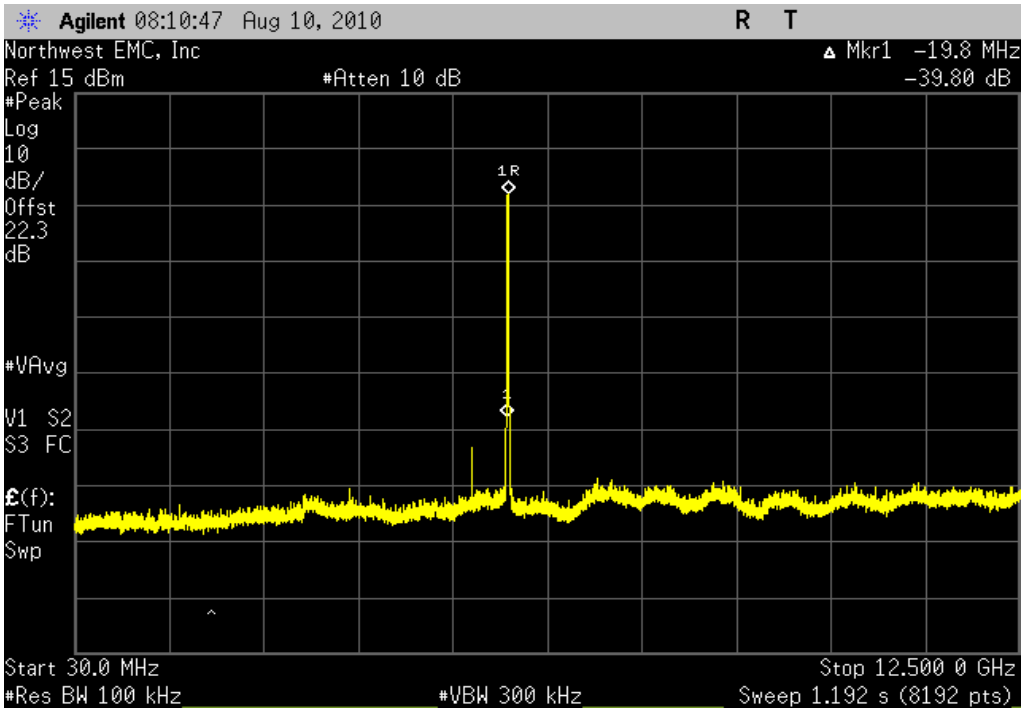


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.8 dBc	**Limit:**	≤ -20 dBc

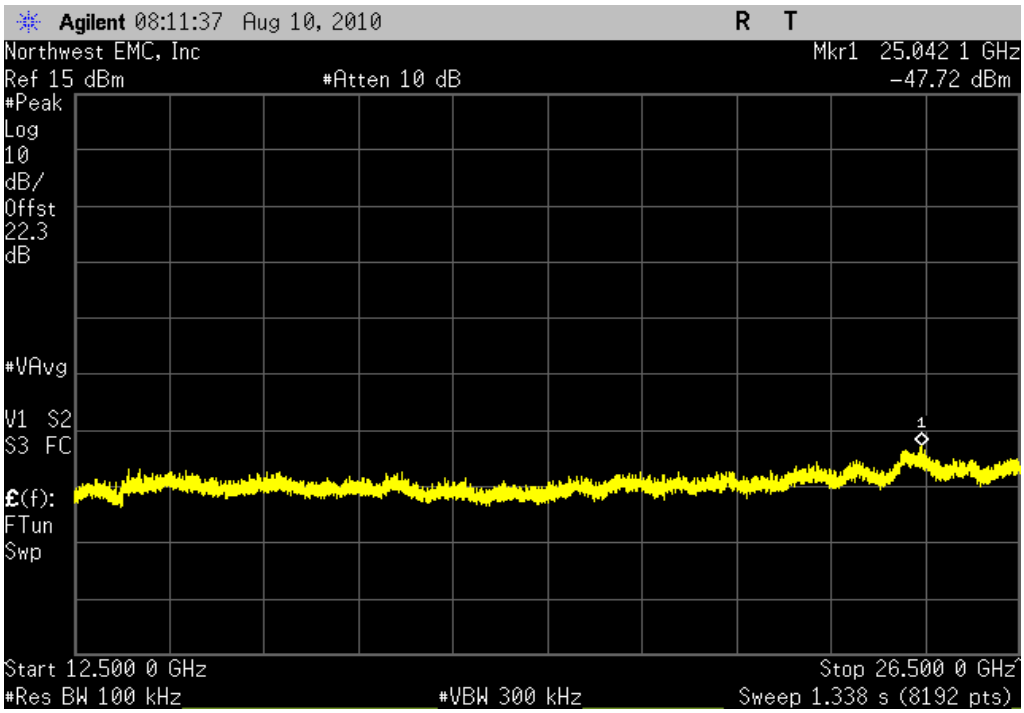


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, Low Channel 149, 5745 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-39.8 dBc	**Limit:**	≤ -20 dBc

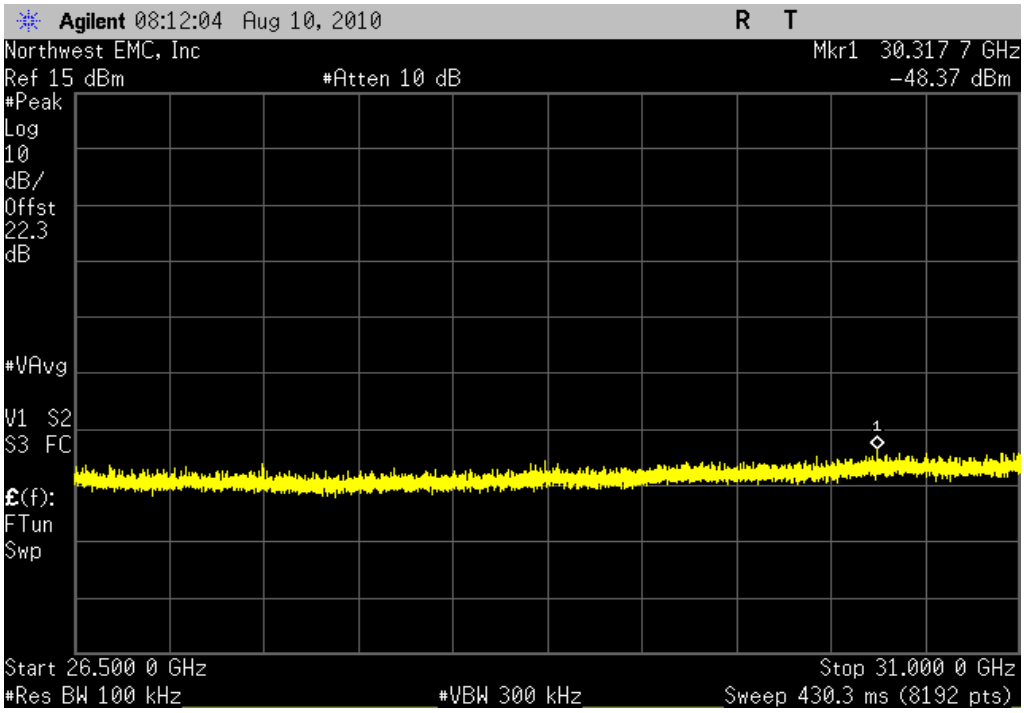


5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, Low Channel 149, 5745 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.7 dBc	**Limit:**	≤ -20 dBc

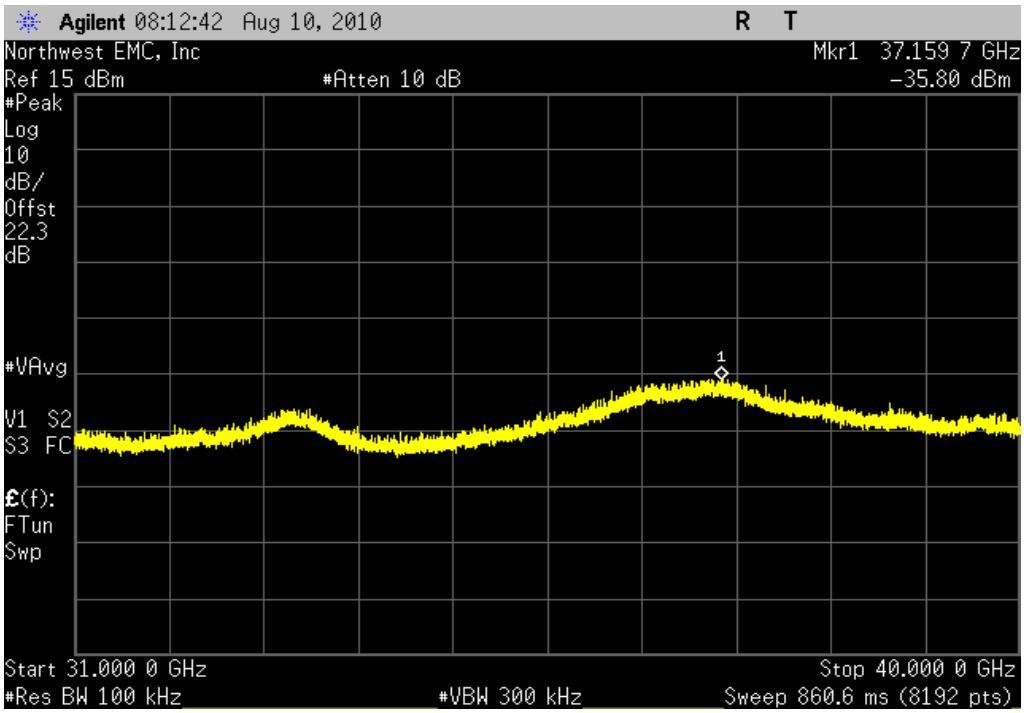


SPURIOUS CONDUCTED EMISSIONS

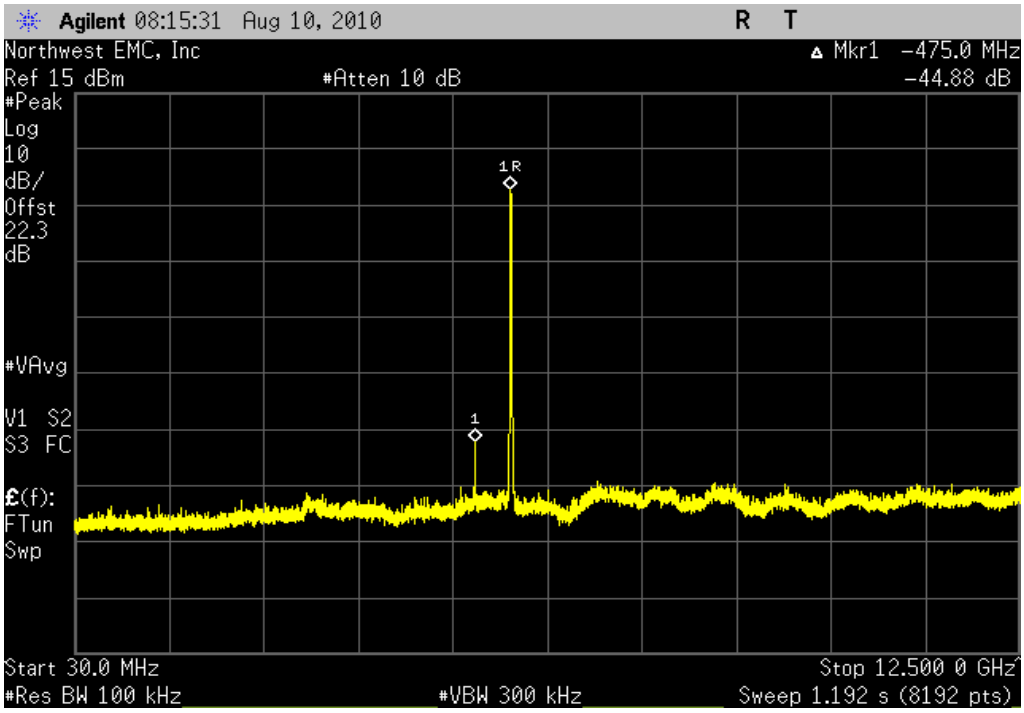
5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, Low Channel 149, 5745 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-48.4 dBc	**Limit:**	≤ -20 dBc



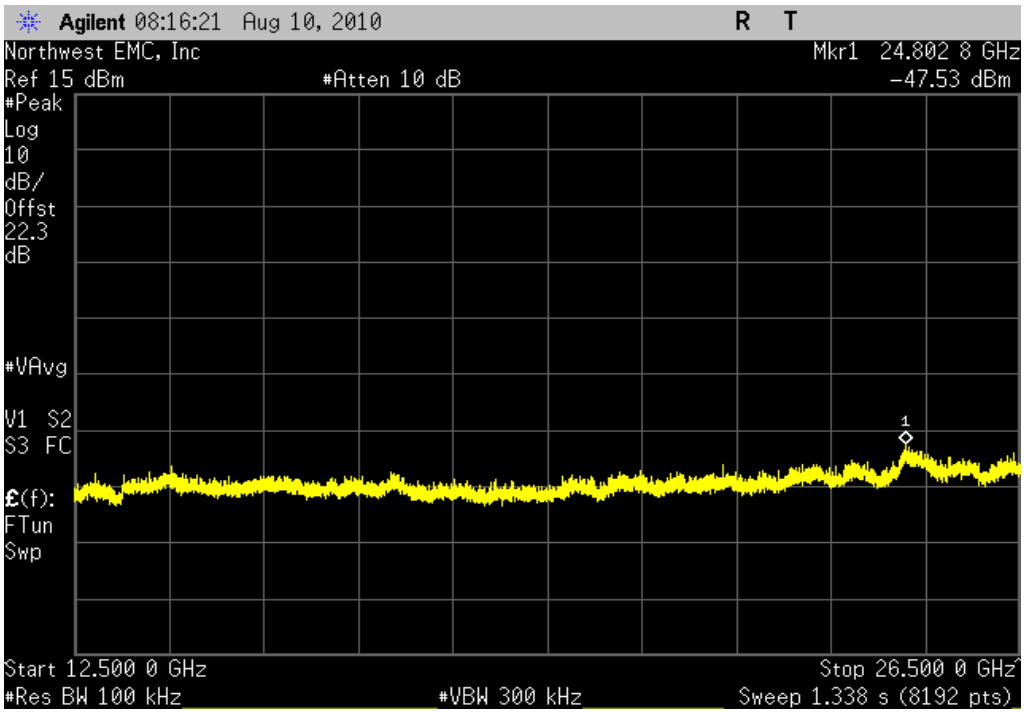
5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, Low Channel 149, 5745 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.8 dBc	**Limit:**	≤ -20 dBc



5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, Mid Channel 157, 5785 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-44.9 dBc	**Limit:**	≤ -20 dBc

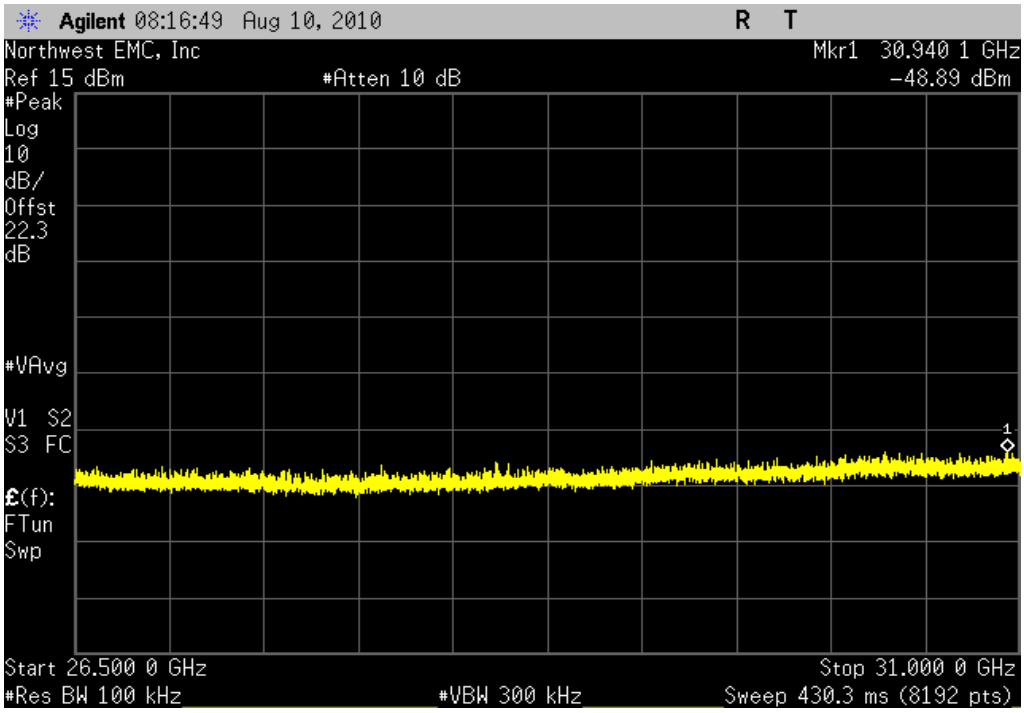


5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, Mid Channel 157, 5785 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.5 dBc	**Limit:**	≤ -20 dBc

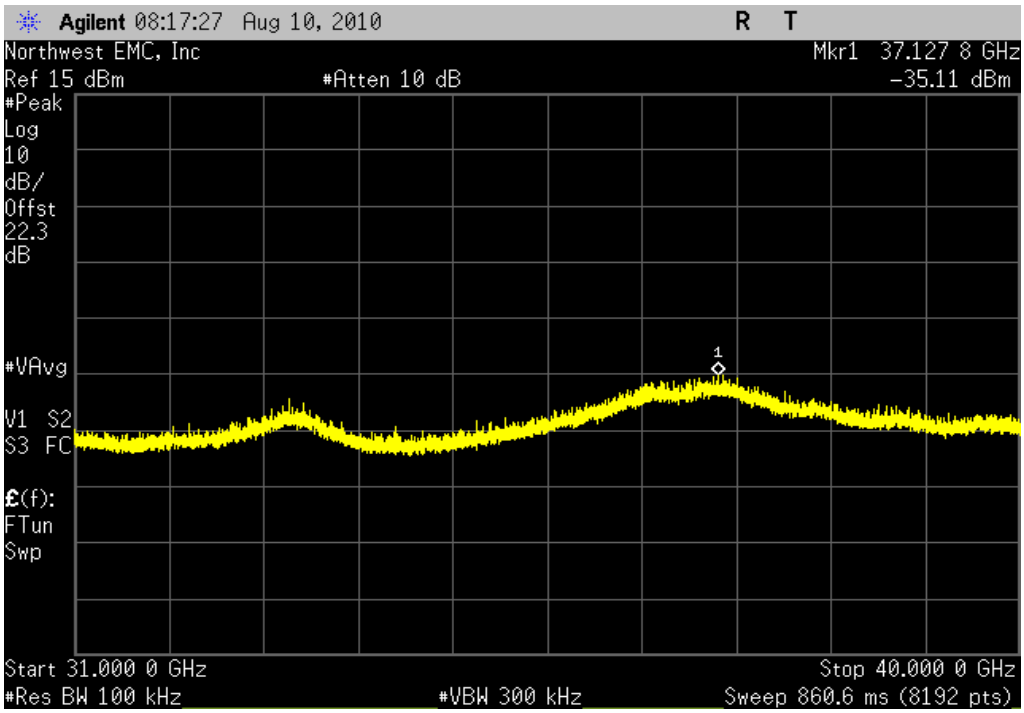


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, Mid Channel 157, 5785 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-48.9 dBc	**Limit:**	≤ -20 dBc

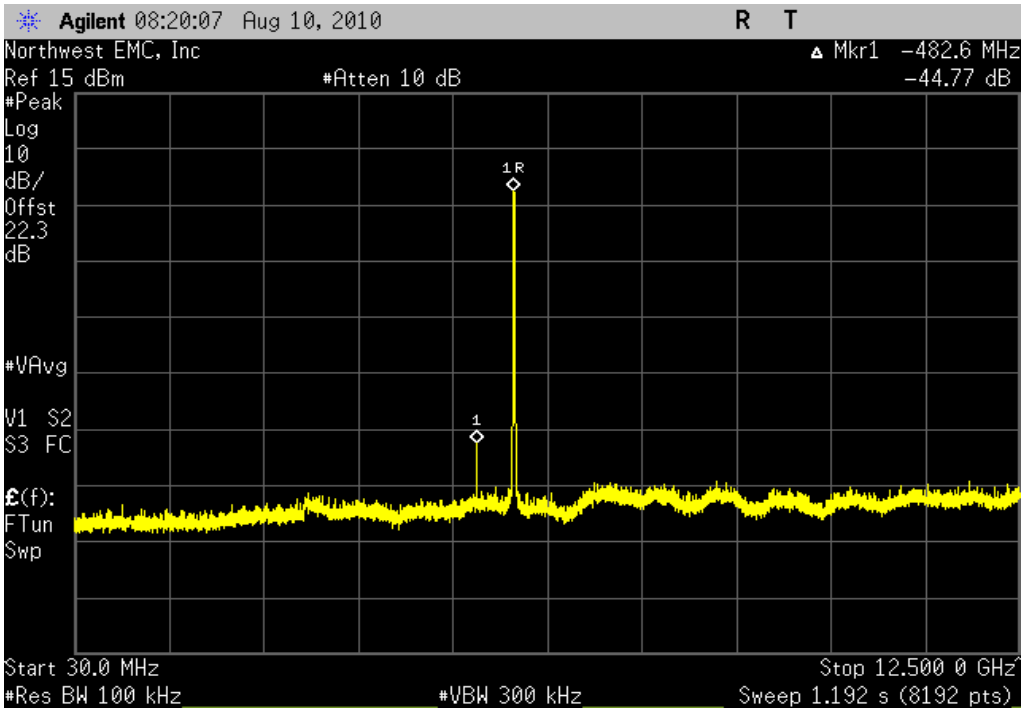


5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, Mid Channel 157, 5785 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.1 dBc	**Limit:**	≤ -20 dBc

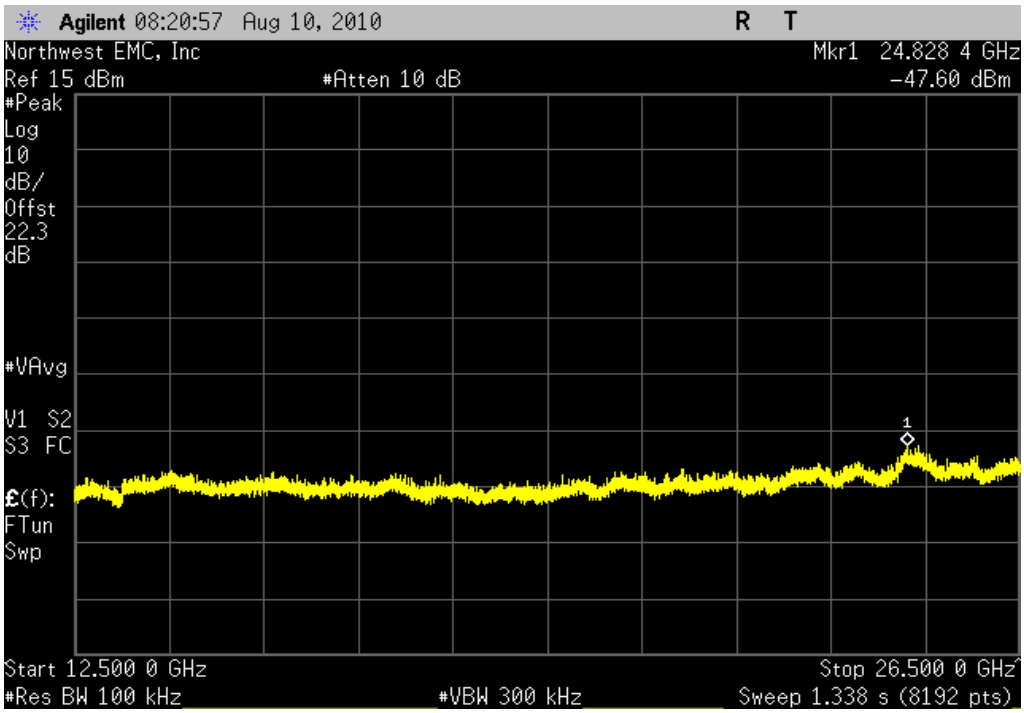


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, High Channel 165, 5825 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-44.8 dBc	**Limit:**	≤ -20 dBc

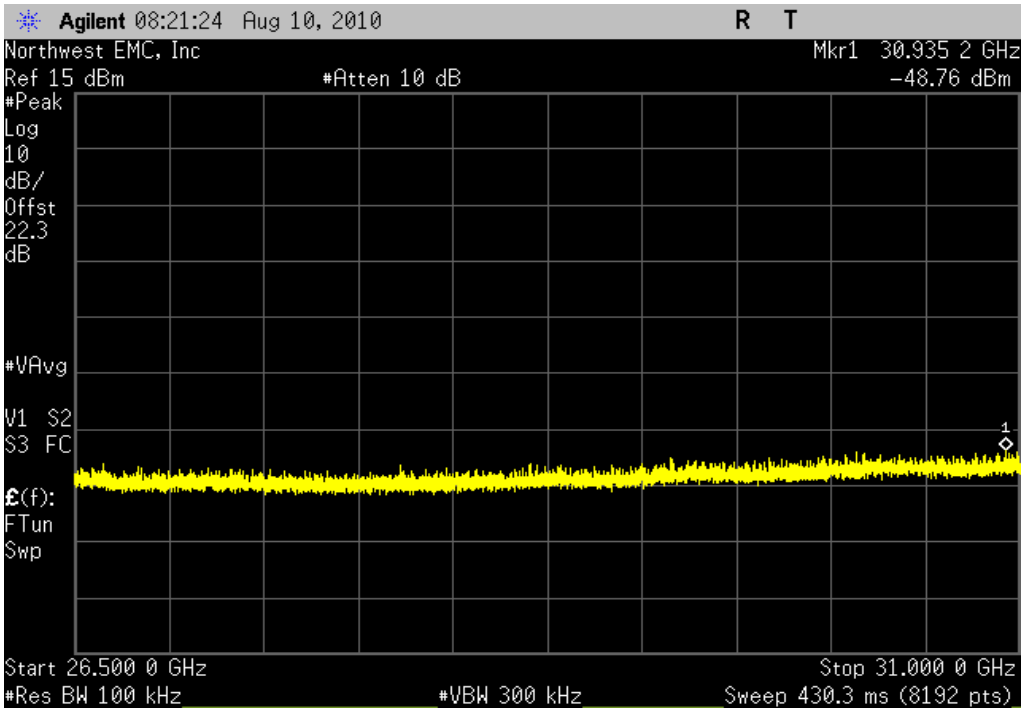


5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, High Channel 165, 5825 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.6 dBc	**Limit:**	≤ -20 dBc

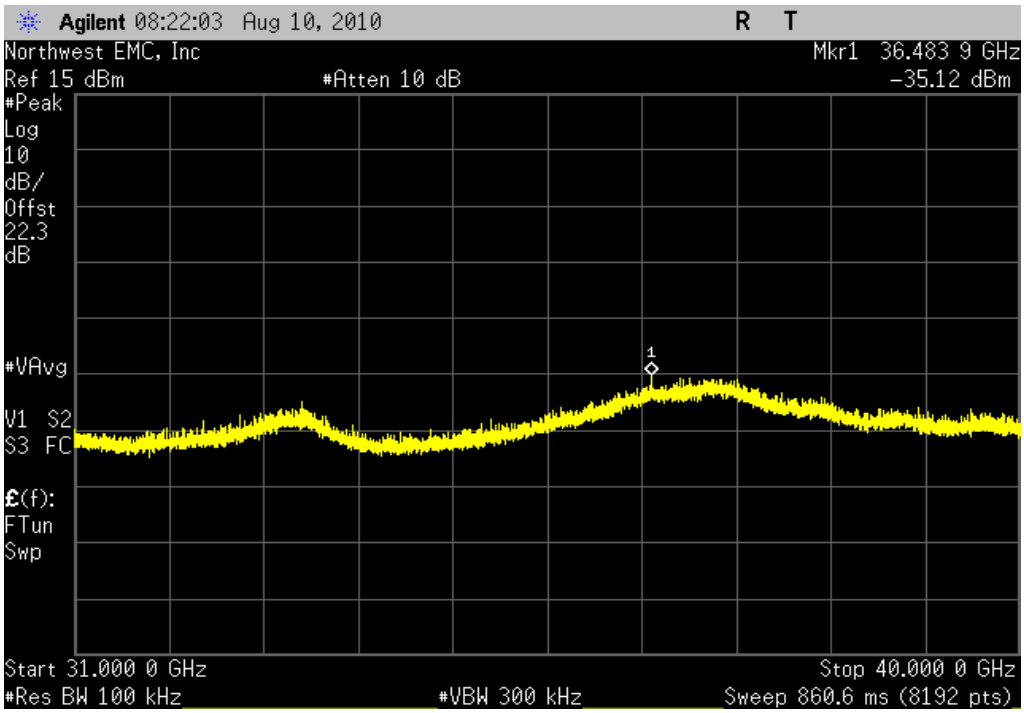


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, High Channel 165, 5825 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-48.8 dBc	**Limit:**	≤ -20 dBc

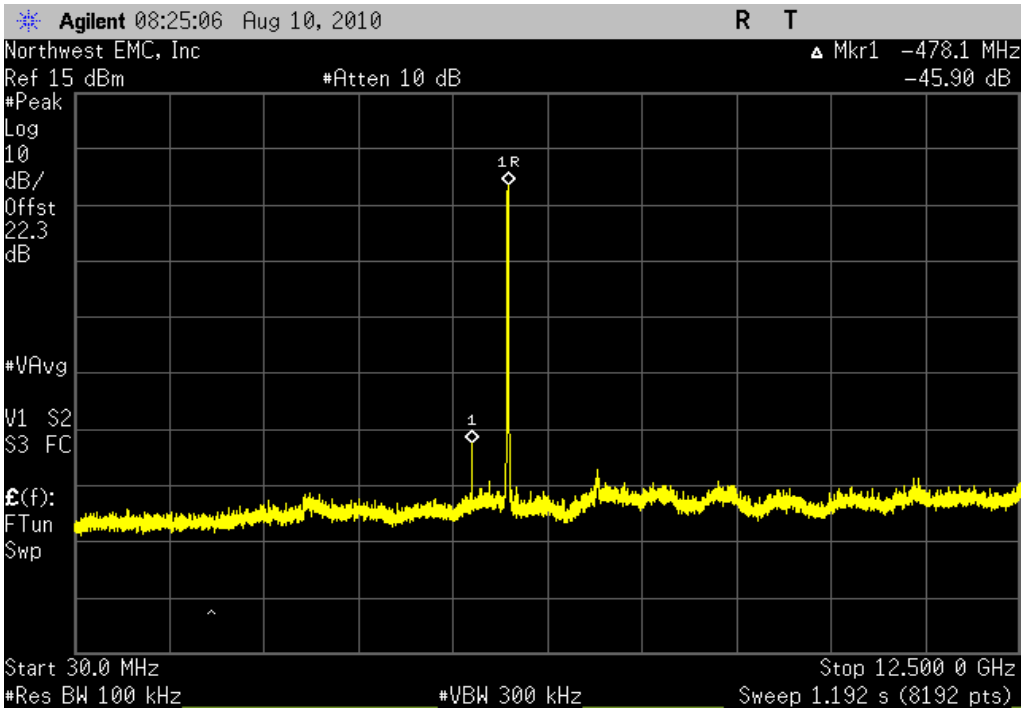


5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS0, High Channel 165, 5825 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.1 dBc	**Limit:**	≤ -20 dBc

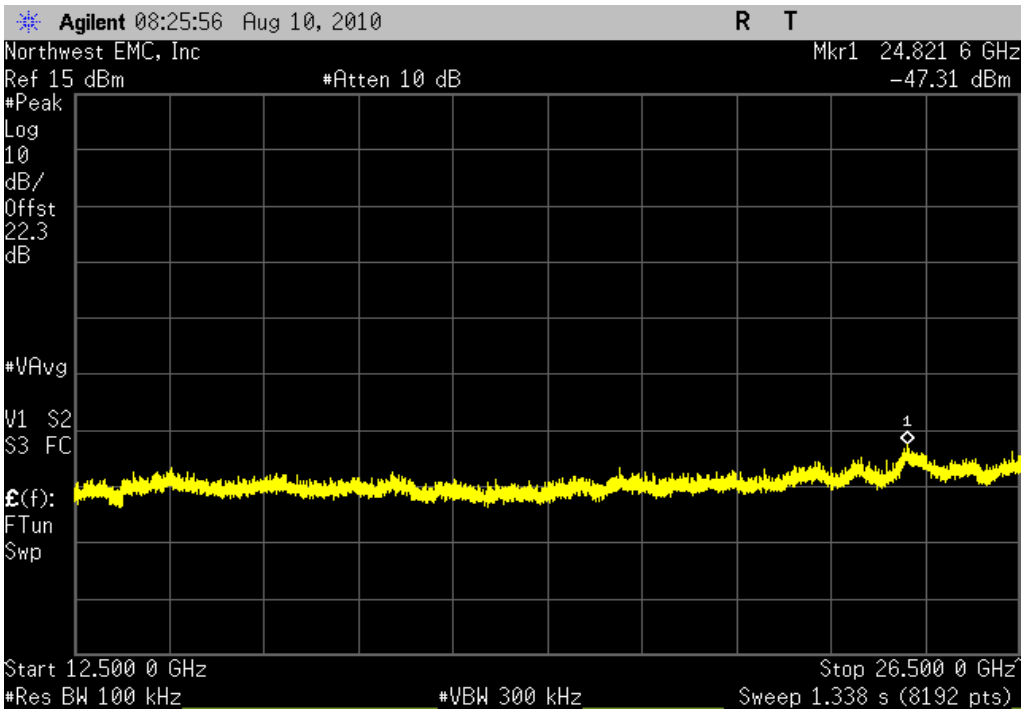


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, Low Channel 149, 5745 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-45.9 dBc	**Limit:**	≤ -20 dBc

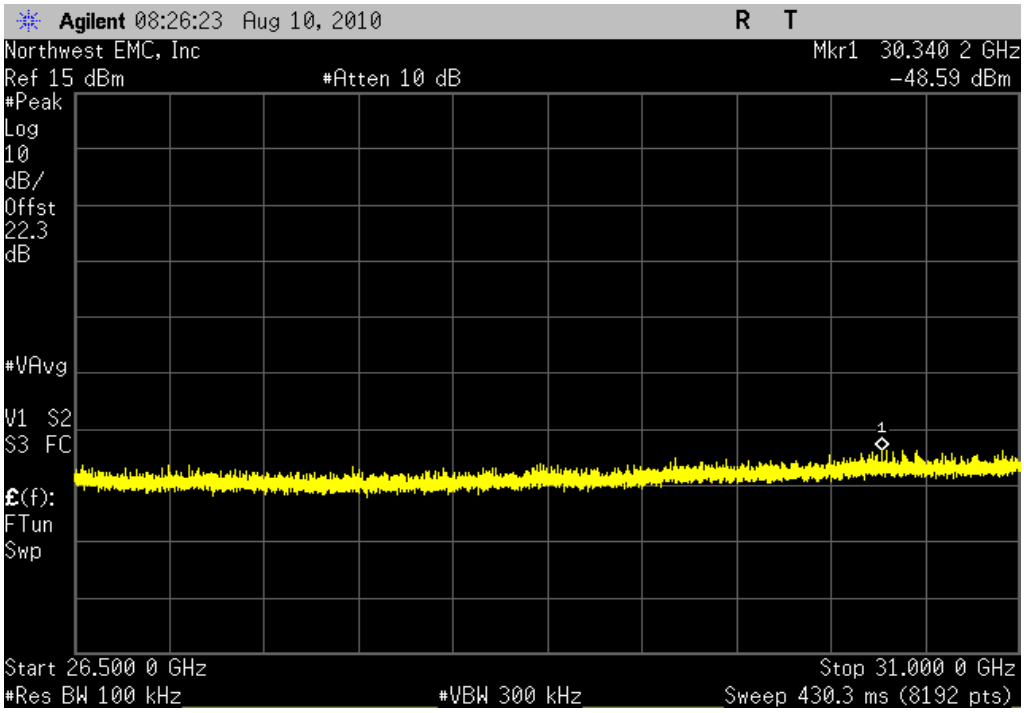


5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, Low Channel 149, 5745 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.3 dBc	**Limit:**	≤ -20 dBc

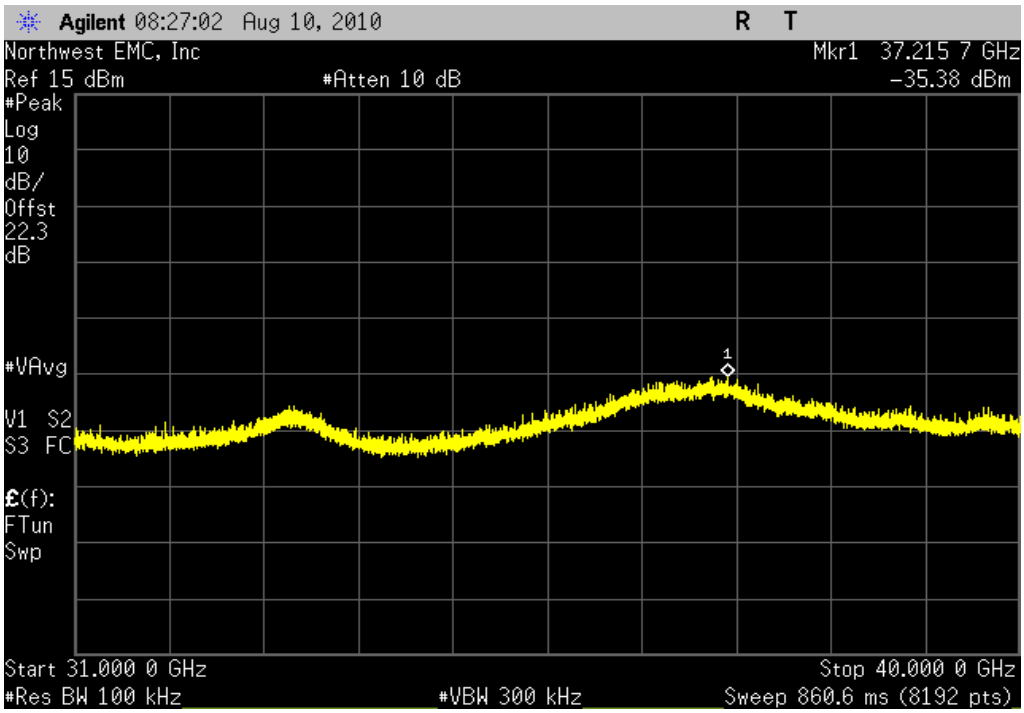


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, Low Channel 149, 5745 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-48.6 dBc	**Limit:**	≤ -20 dBc

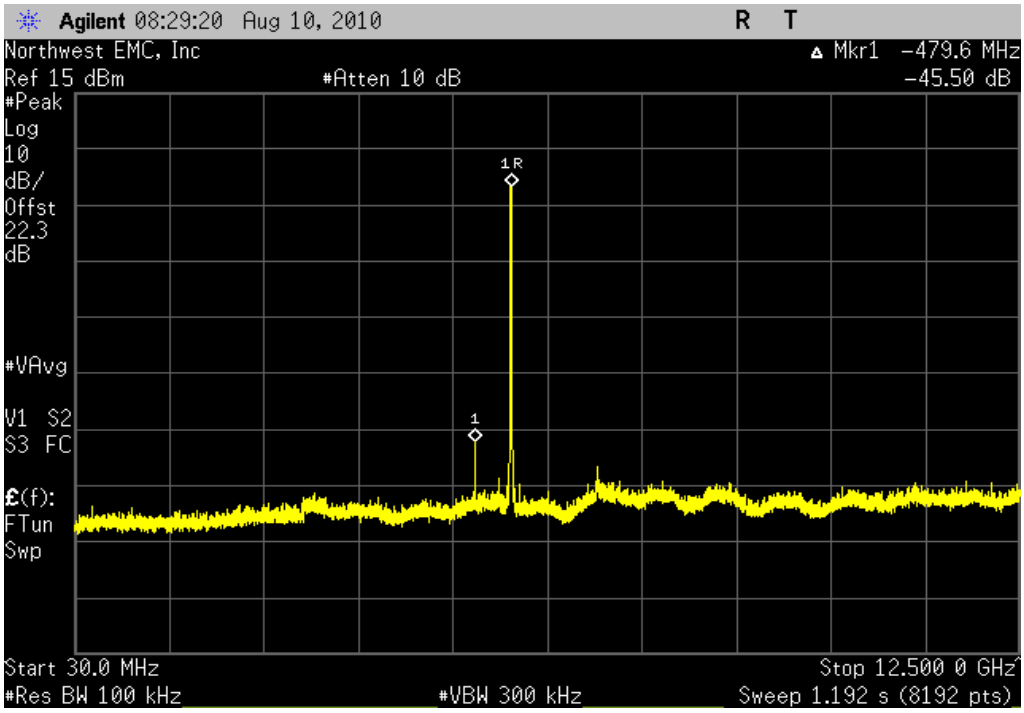


5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, Low Channel 149, 5745 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.4 dBc	**Limit:**	≤ -20 dBc

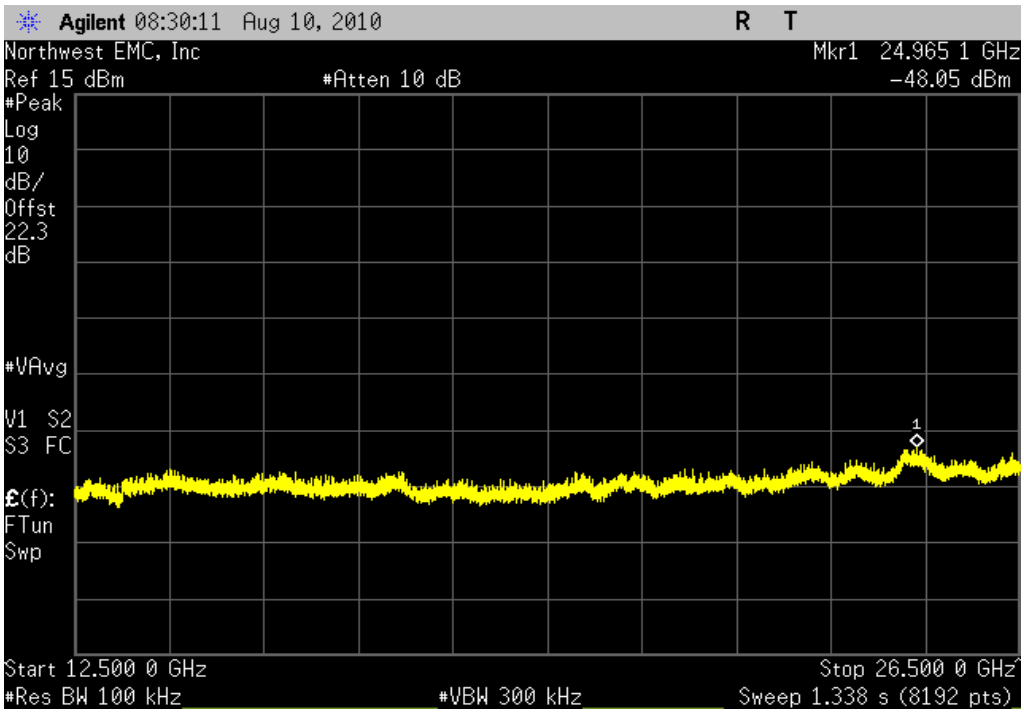


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, Mid Channel 157, 5785 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-45.5 dBc	**Limit:**	≤ -20 dBc

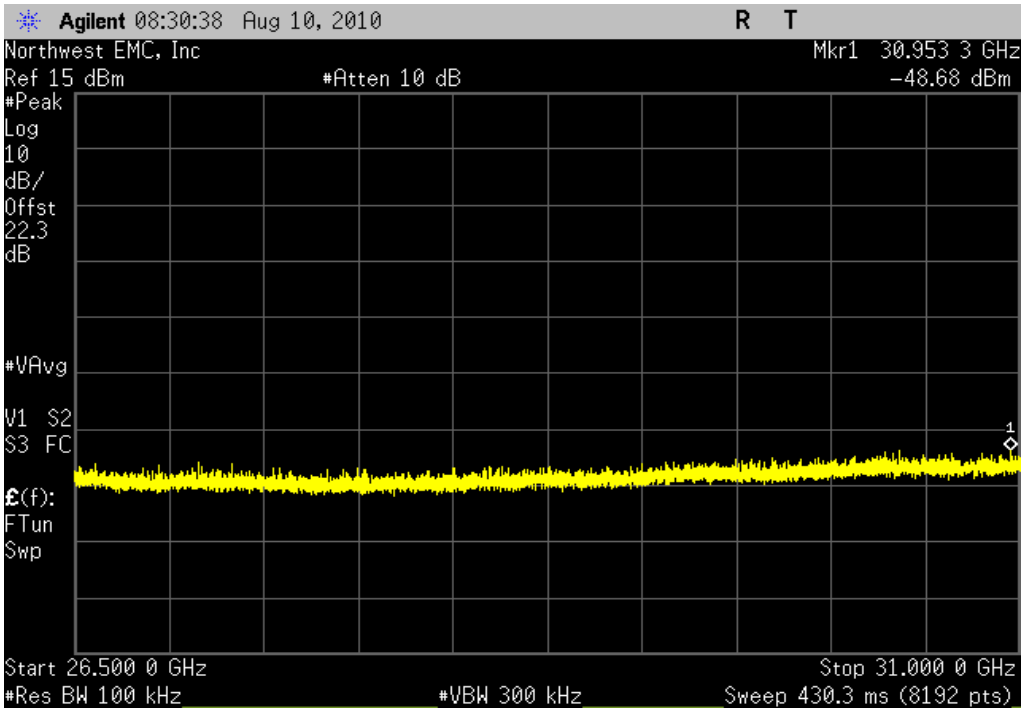


5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, Mid Channel 157, 5785 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-48.1 dBc	**Limit:**	≤ -20 dBc

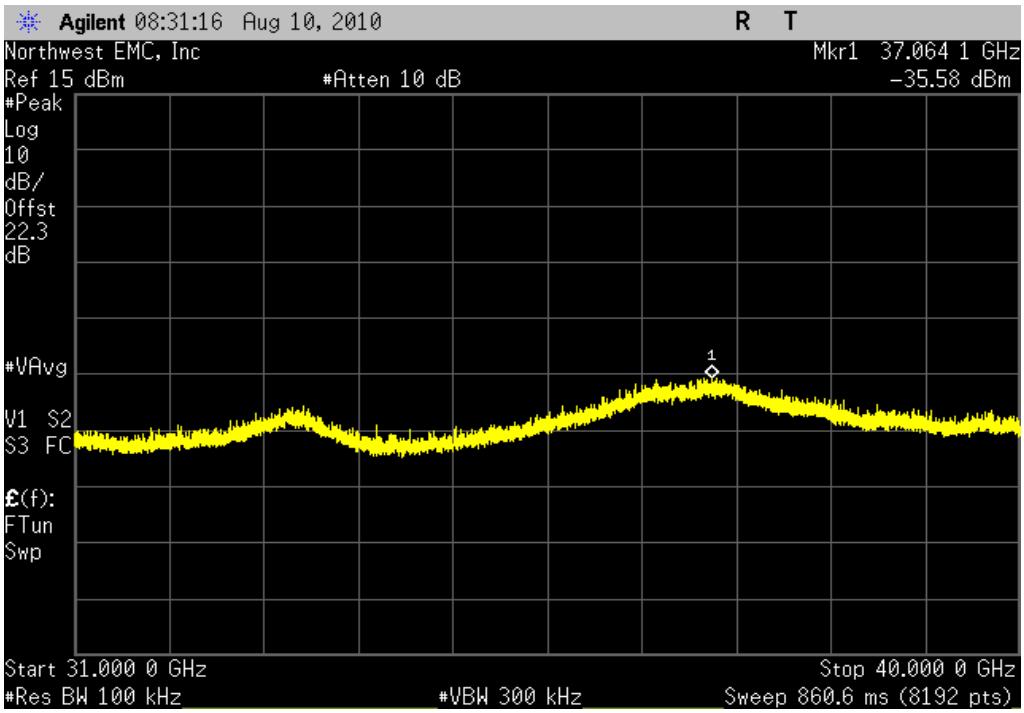


SPURIOUS CONDUCTED EMISSIONS

5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, Mid Channel 157, 5785 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-48.7 dBc	**Limit:**	≤ -20 dBc

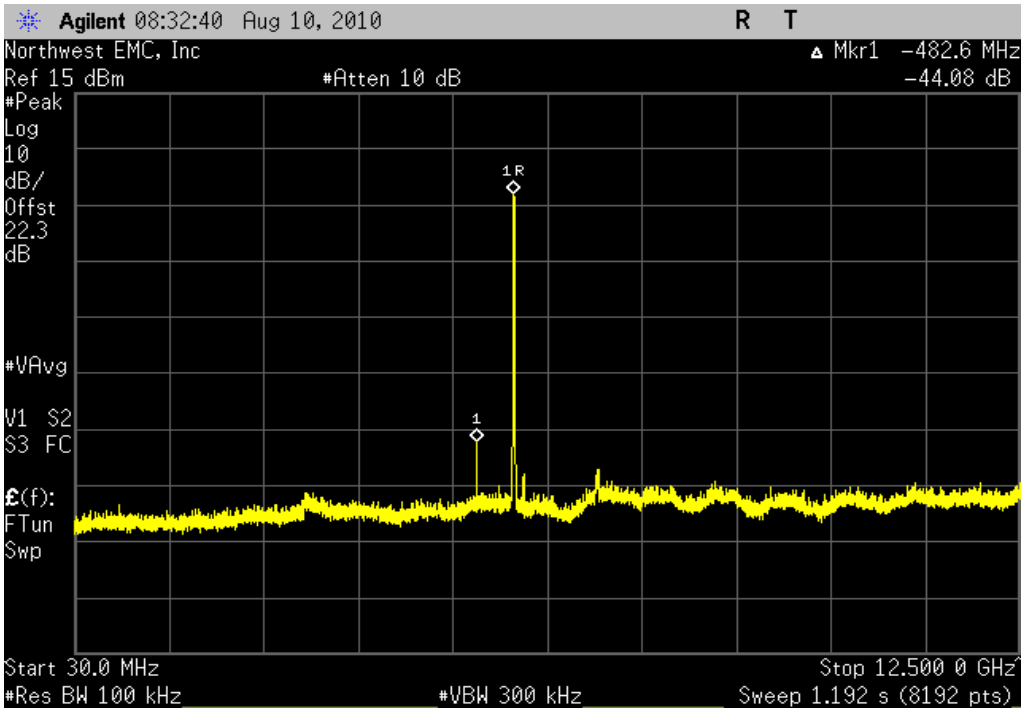


5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, Mid Channel 157, 5785 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-35.6 dBc	**Limit:**	≤ -20 dBc

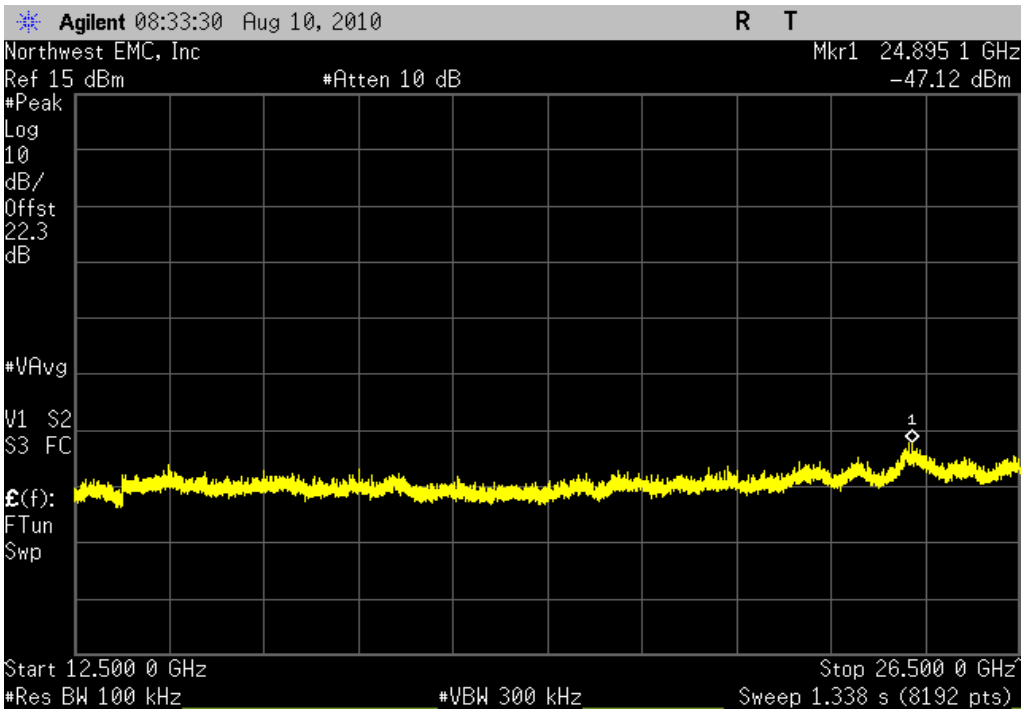


SPURIOUS CONDUCTED EMISSIONS

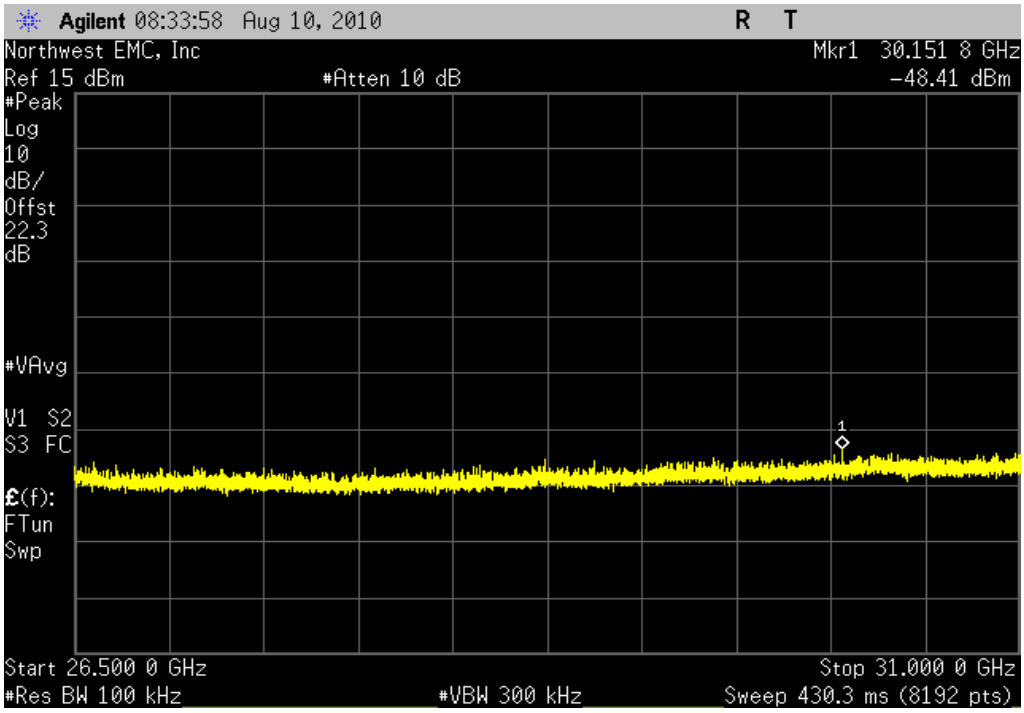
5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, High Channel 165, 5825 MHz, 30 MHz - 12.5 GHz					
Result:	Pass	**Value:**	-44.1 dBc	**Limit:**	≤ -20 dBc



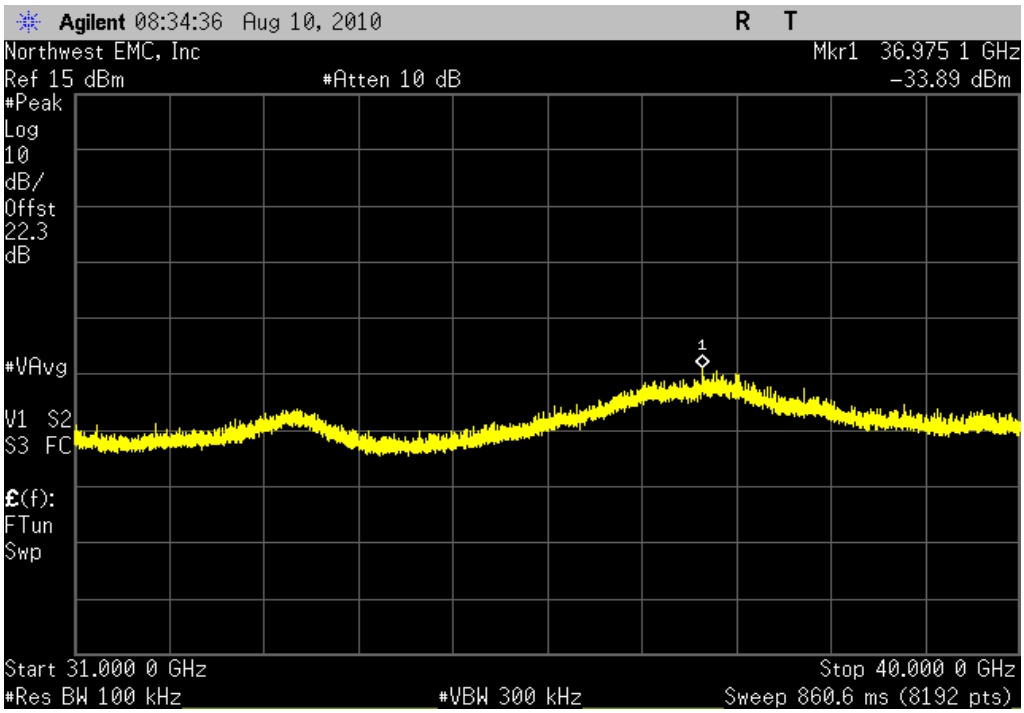
5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, High Channel 165, 5825 MHz, 12.5 GHz - 26.5 GHz					
Result:	Pass	**Value:**	-47.1 dBc	**Limit:**	≤ -20 dBc

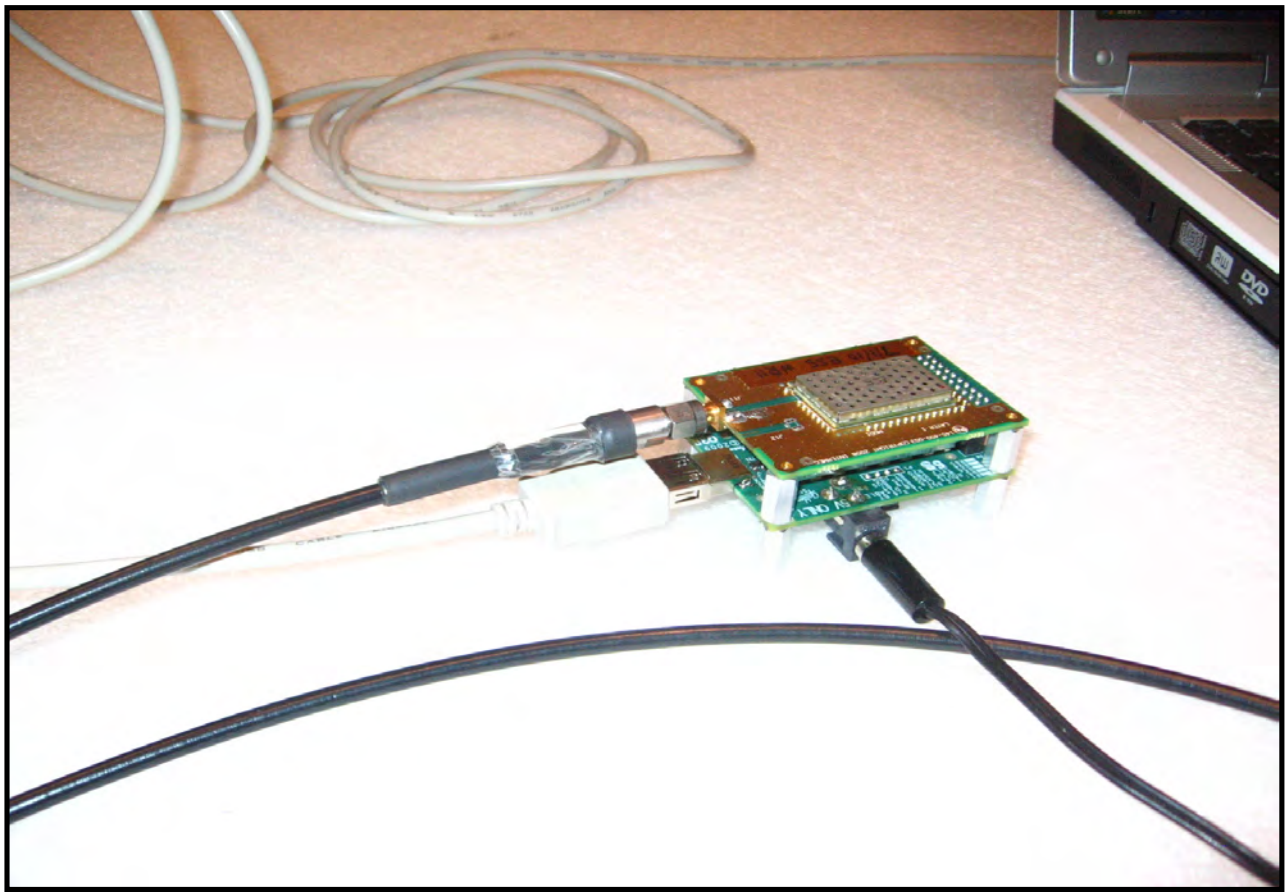


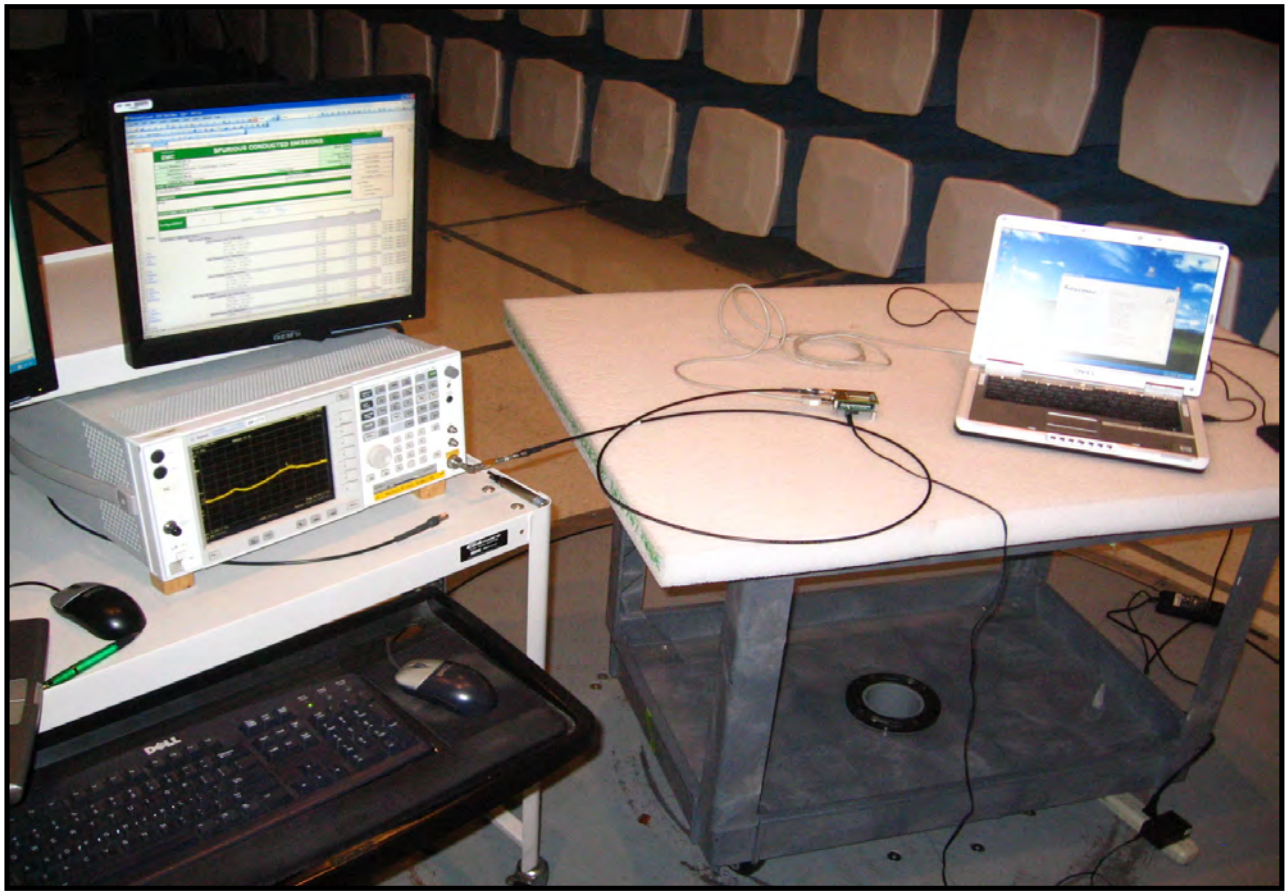
5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, High Channel 165, 5825 MHz, 26.5 GHz - 31 GHz					
Result:	Pass	**Value:**	-48.4 dBc	**Limit:**	≤ -20 dBc



5725 MHz - 5850 MHz Band, 802.11(n) 20 MHz, MCS7, High Channel 165, 5825 MHz, 31 GHz - 40 GHz					
Result:	Pass	**Value:**	-33.9 dBc	**Limit:**	≤ -20 dBc







POWER SPECTRAL DENSITY

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	E4440A	AFD	6/1/2009	24
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0
26 GHz DC Block, SMA	Pasternack	PE8210	AME	10/19/2009	13
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/21/2009	13
Attenuator, 6 dB, 'SMA'	N/A	93459 3330A-6	AUF	4/1/2010	13
Power Meter	Gigatronics	8651A	SPM	1/7/2010	13
Power Sensor	Gigatronics	80701A	SPL	1/7/2010	13
Signal Generator	Agilent	E8257D	TGX	12/10/2008	24

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

The power spectral density measurements were measured with the EUT set to low, mid, and high transmit frequencies for each of the bands. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate for each modulation type available. ANSI C63.10:2009, Section 6.11.2.3 was followed.

The spectrum analyzer was set as follows:

The emission peak was located and zoomed in on within the passband.

a) RBW = 3 kHz

b) VBW = 10 kHz

c) Span = 300 kHz

d) Sweep time = 100s

e) Trace set to MAX

f) The 1 hz Marker Noise function on the analyzer was used. The data was corrected to 3 kHz by adding 34.8 dB to the reading.

NORTHWEST EMC

POWER SPECTRAL DENSITY

XMit 2010.07.29

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R11	Date:	07/30/10
Customer:	Intermec Technologies Corporation	Temperature:	20°C
Attendees:	none	Humidity:	47%
Project:	None	Barometric Pres.:	1019.3 mb
Tested by:	Rod Peloquin	Power: 5VDC	Job Site: EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

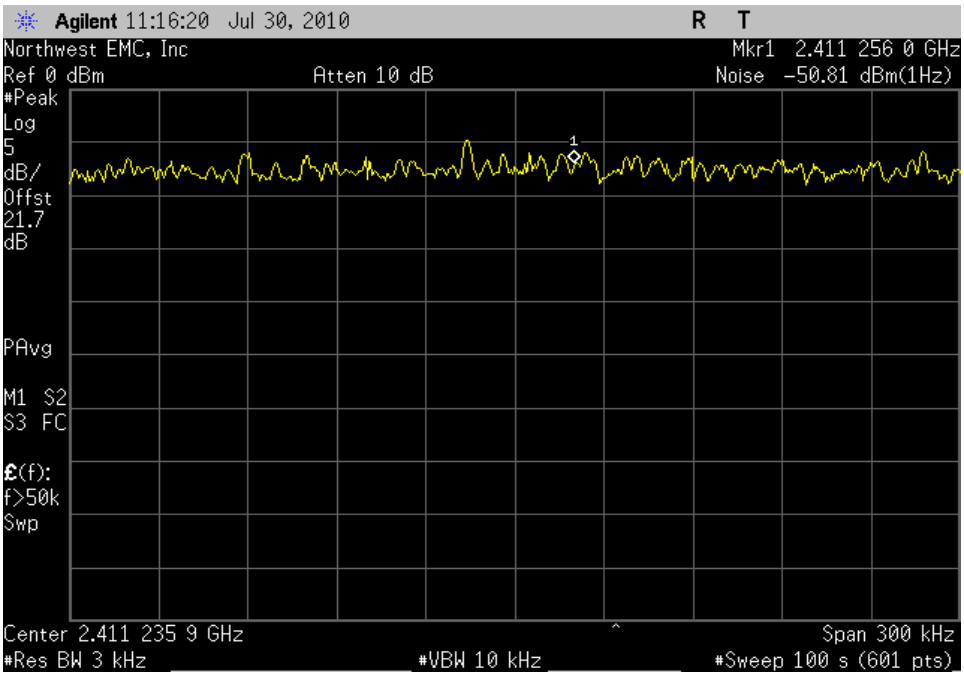
No Deviations

Configuration #	2	Signature

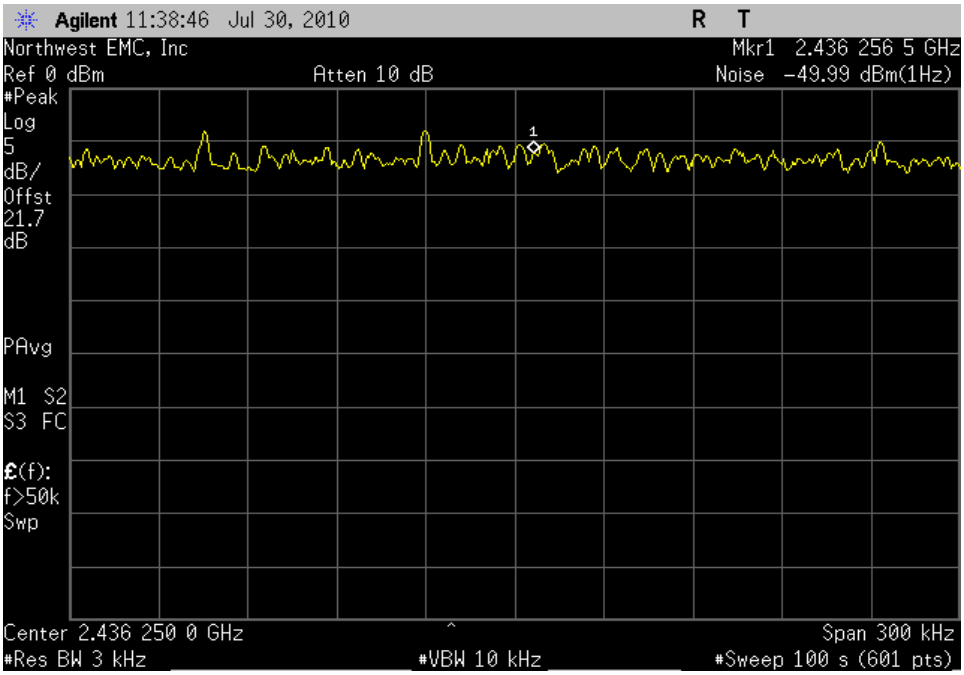
	Value	Limit	Results
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	-16.0 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 6, 2437 MHz	-15.2 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel 11, 2462 MHz	-14.9 dBm / 3 kHz	8 dBm / 3 kHz	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz	-17.3 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 6, 2437 MHz	-17.0 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel 11, 2462 MHz	-16.4 dBm / 3 kHz	8 dBm / 3 kHz	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	-21.8 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 6, 2437 MHz	-21.5 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel 11, 2462 MHz	-21.2 dBm / 3 kHz	8 dBm / 3 kHz	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz	-22.6 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 6, 2437 MHz	-22.4 dBm / 3 kHz	8 dBm / 3 kHz	pass
High Channel 11, 2462 MHz	-22.0 dBm / 3 kHz	8 dBm / 3 kHz	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz	-22.3 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 6, 2437 MHz	-22.1 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel 11, 2462 MHz	-21.6 dBm / 3 kHz	8 dBm / 3 kHz	Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz	21.7 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 6, 2437 MHz	-21.4 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel 11, 2462 MHz	-21.1 dBm / 3 kHz	8 dBm / 3 kHz	Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz	-22.7 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 6, 2437 MHz	-22.3 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel 11, 2462 MHz	-22.0 dBm / 3 kHz	8 dBm / 3 kHz	Pass
5725 MHz - 5850 MHz Band			
802.11(a) 6 Mbps			
Low Channel 149, 5745 MHz	-24.0 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 157, 5785 MHz	-24.5 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel 165, 5825 MHz	-24.5 dBm / 3 kHz	8 dBm / 3 kHz	Pass
802.11(a) 36 Mbps			
Low Channel 149, 5745 MHz	-24.7 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 157, 5785 MHz	-25.1 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel 165, 5825 MHz	-24.9 dBm / 3 kHz	8 dBm / 3 kHz	Pass
802.11(a) 54 Mbps			
Low Channel 149, 5745 MHz	-24.8 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 157, 5785 MHz	-25.0 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel 165, 5825 MHz	-25.2 dBm / 3 kHz	8 dBm / 3 kHz	Pass
802.11(n) MCS0			
Low Channel 149, 5745 MHz	-23.9 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 157, 5785 MHz	-24.2 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel 165, 5825 MHz	-24.1 dBm / 3 kHz	8 dBm / 3 kHz	Pass
802.11(n) MCS7			
Low Channel 149, 5745 MHz	-25.9 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel 157, 5785 MHz	-26.3 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel 165, 5825 MHz	-26.1 dBm / 3 kHz	8 dBm / 3 kHz	Pass

POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-16.0 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

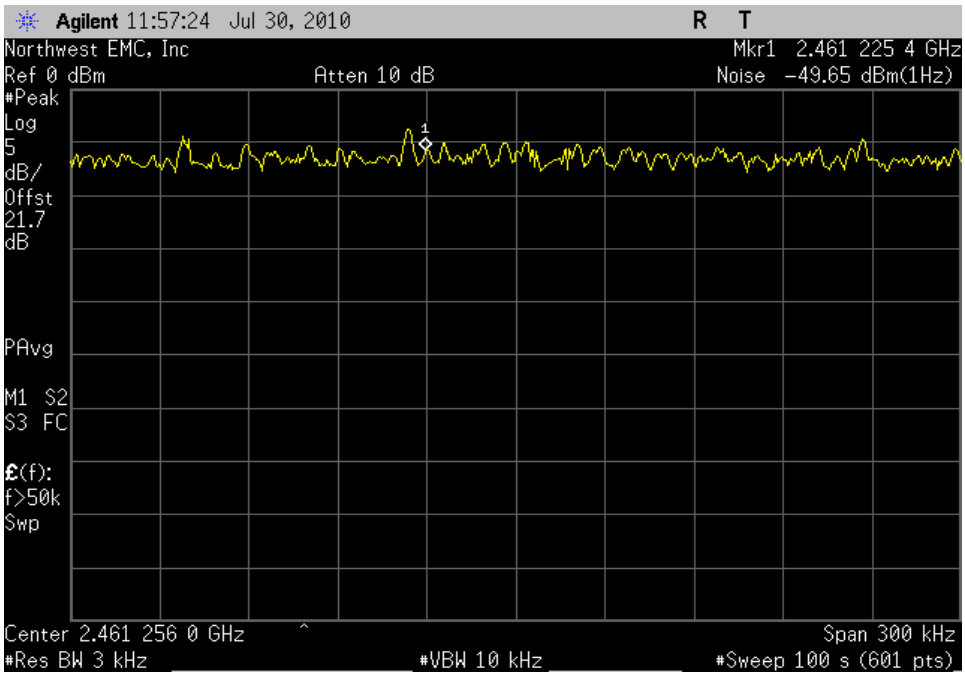


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	-15.2 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

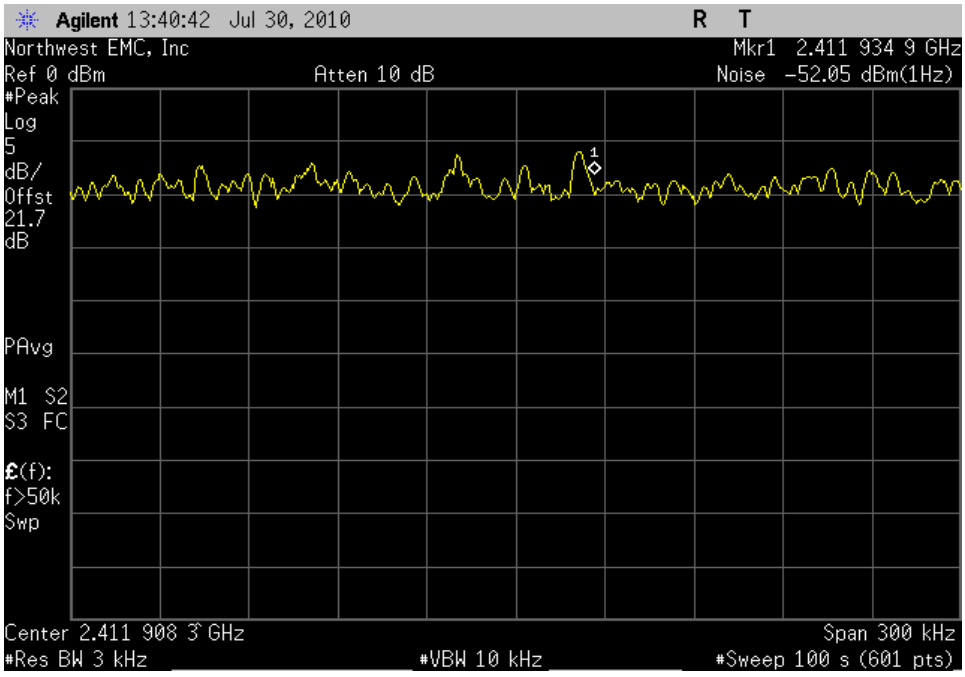


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-14.9 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

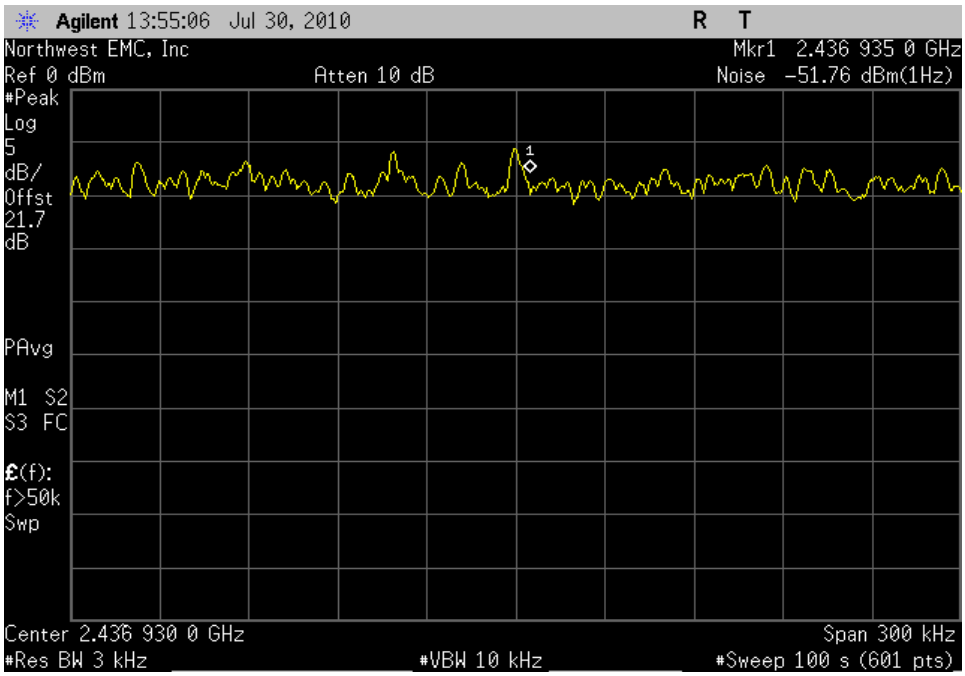


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-17.3 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

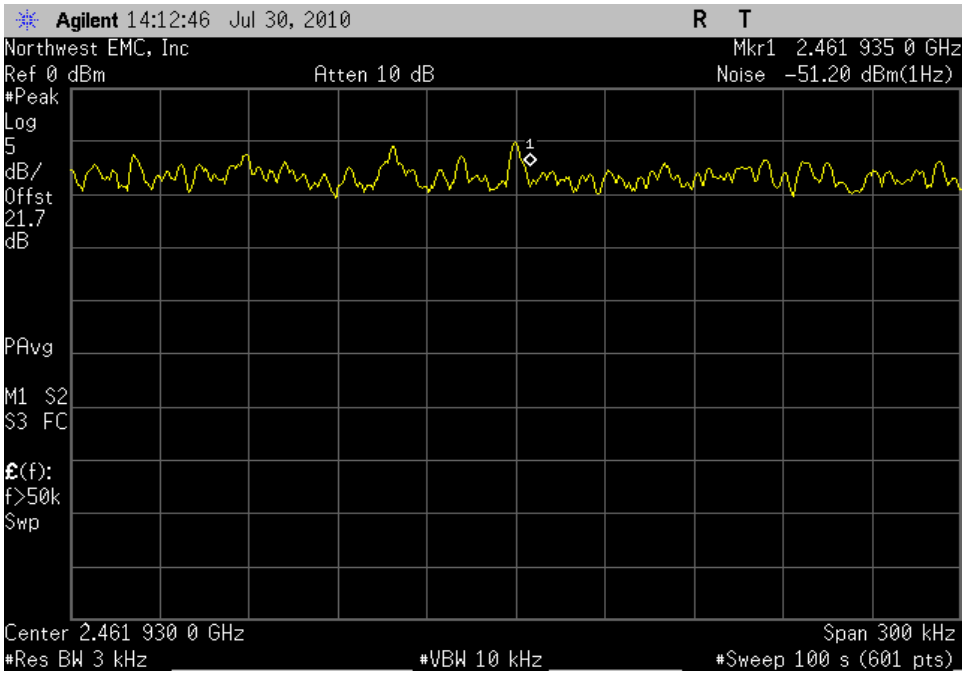


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	-17.0 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

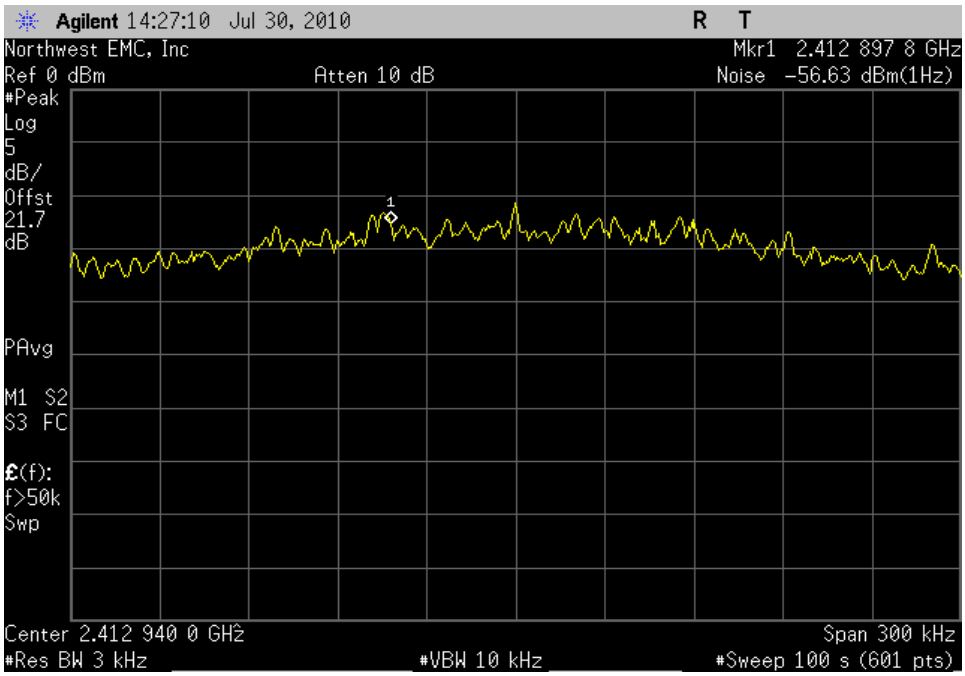


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-16.4 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

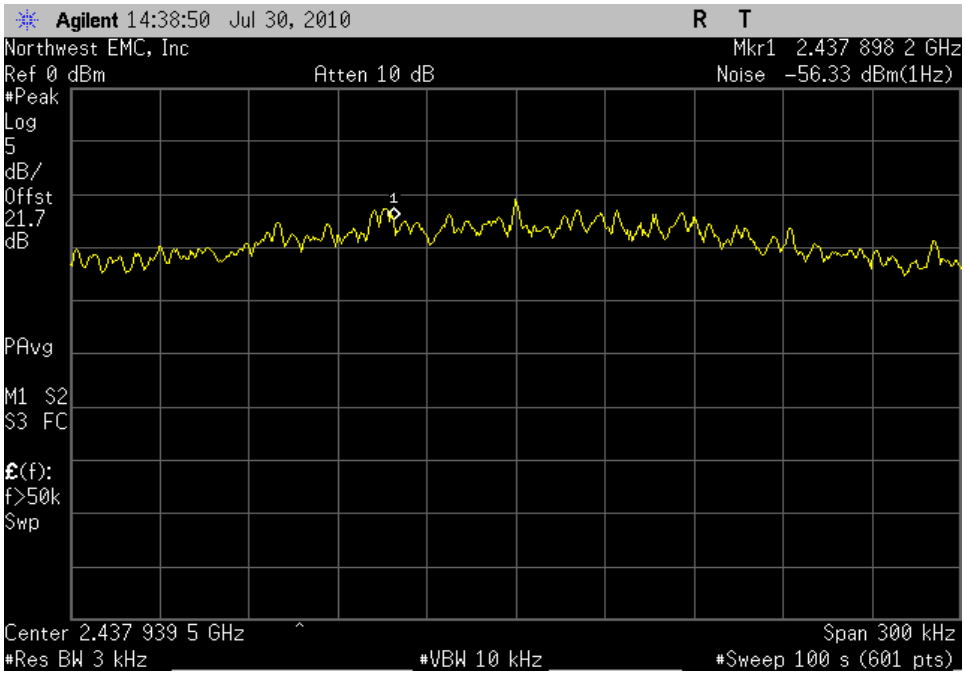


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-21.8 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

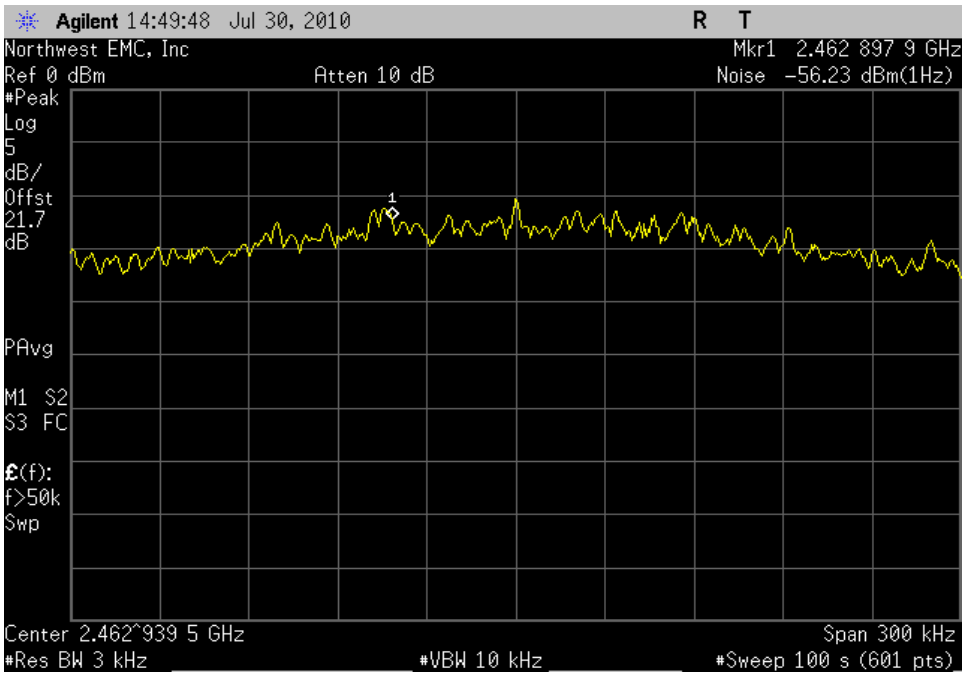


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	-21.5 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

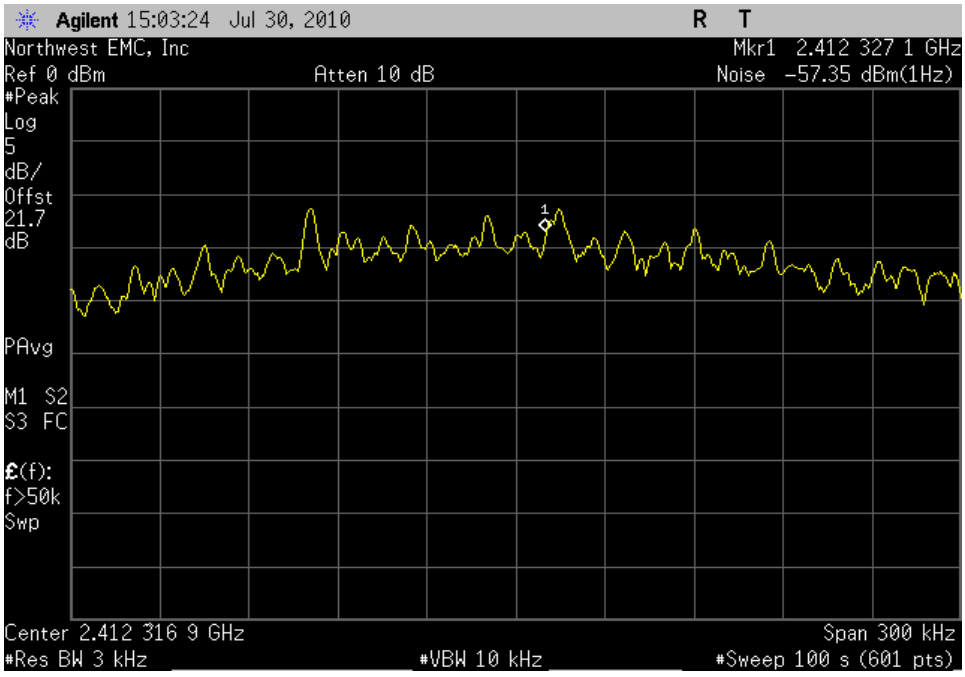


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-21.2 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

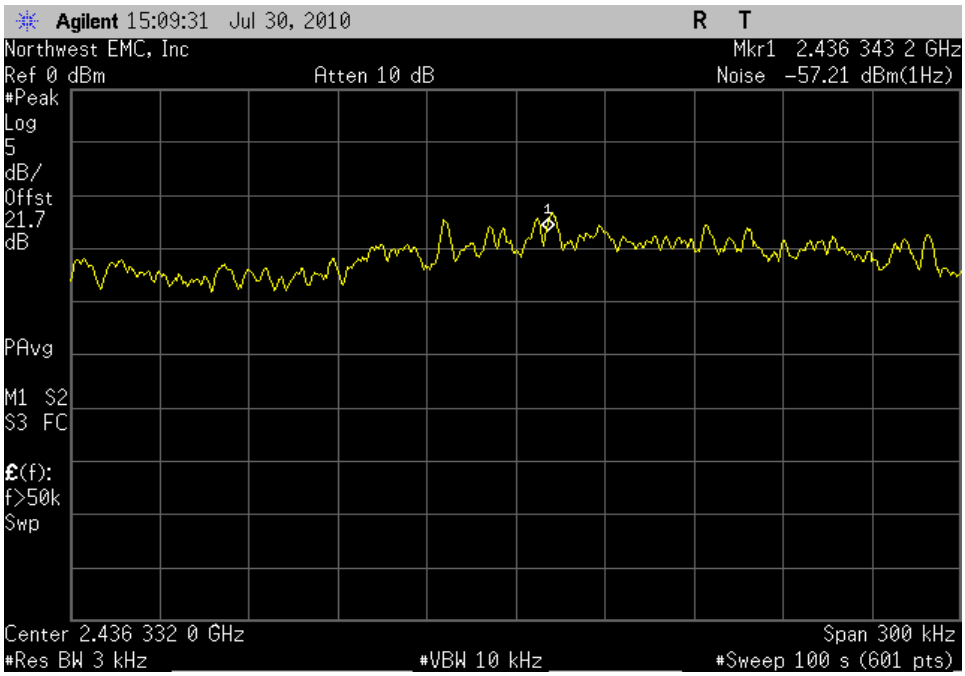


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-22.6 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

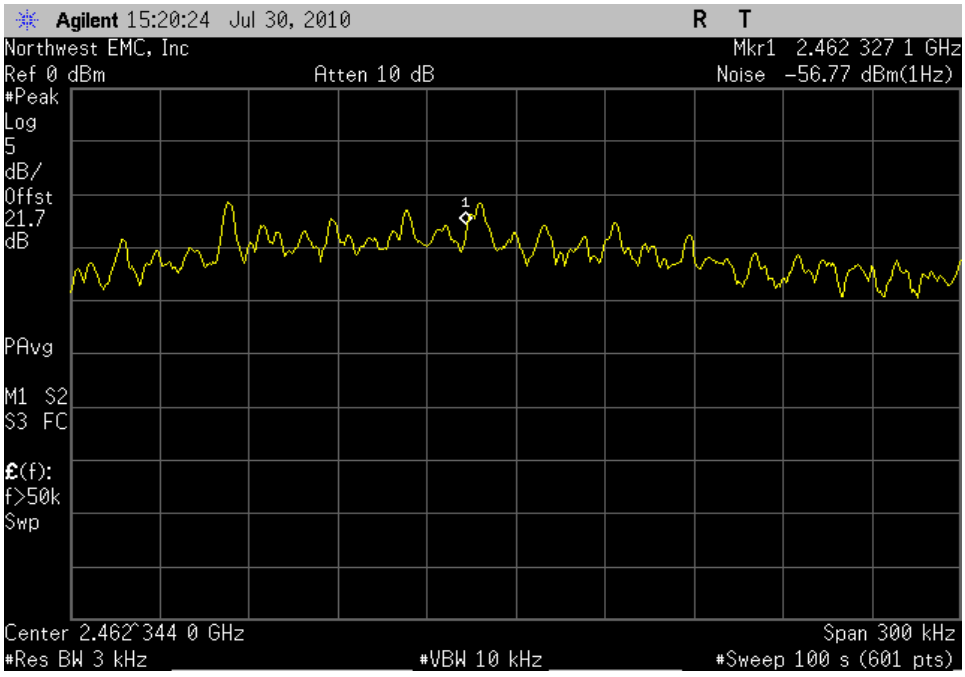


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz					
Result:	pass	**Value:**	-22.4 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

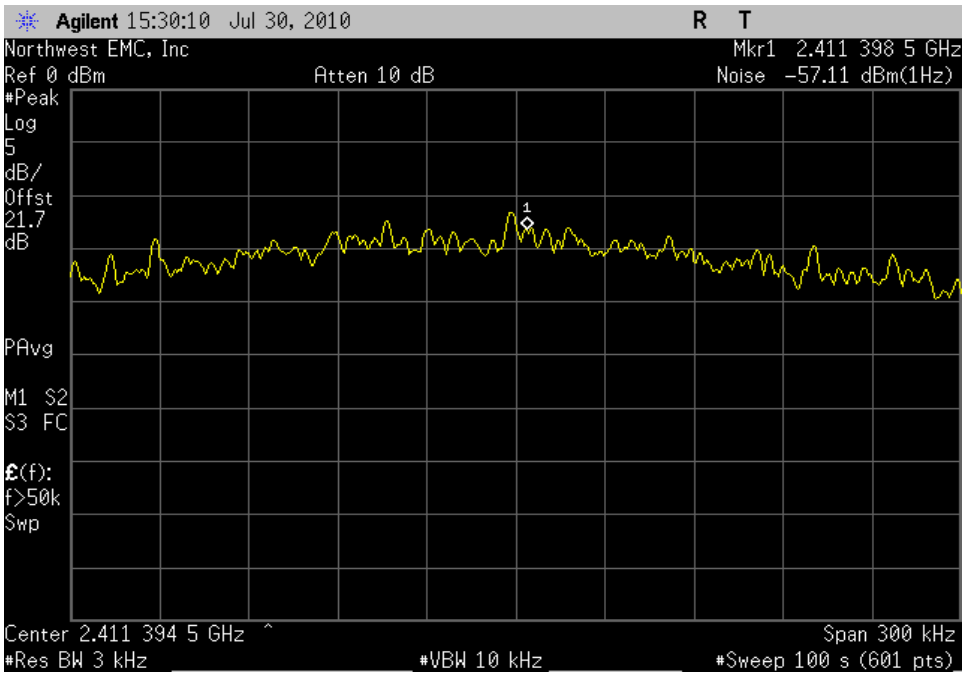


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-22.0 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

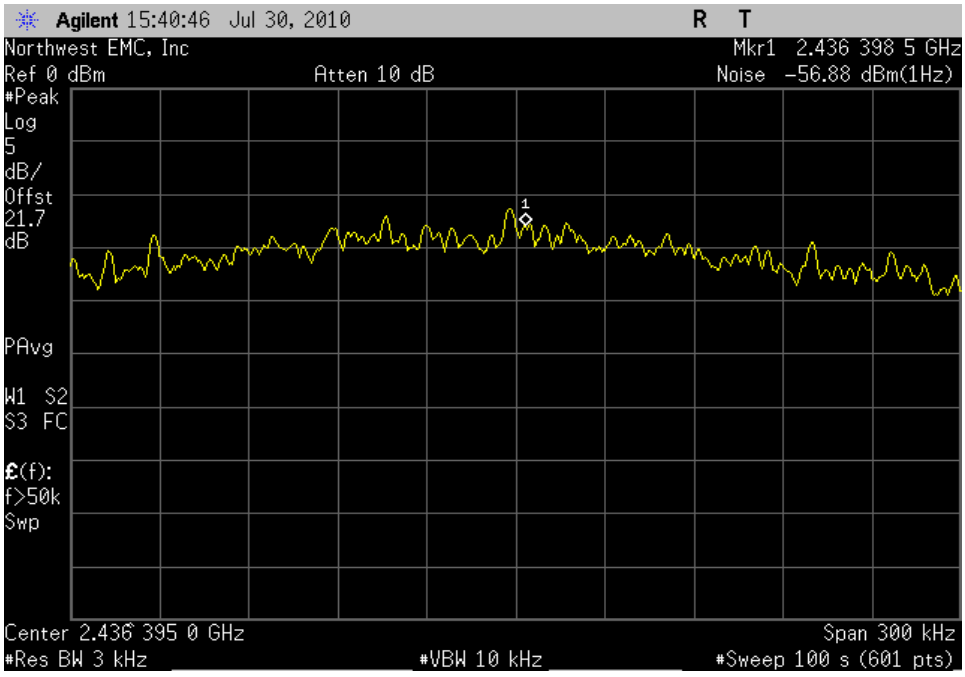


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-22.3 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

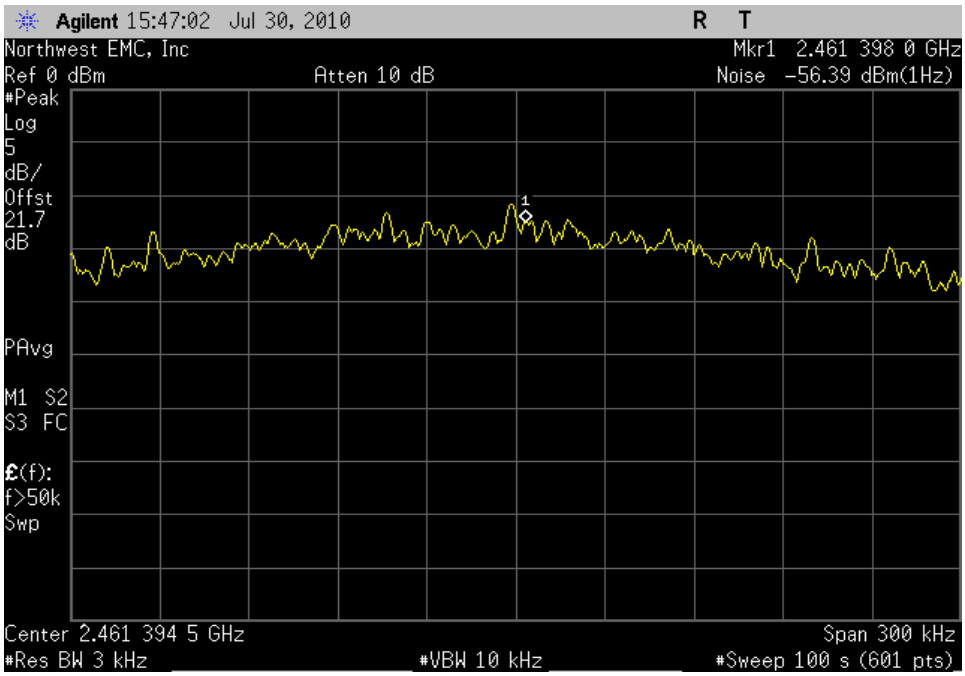


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	-22.1 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

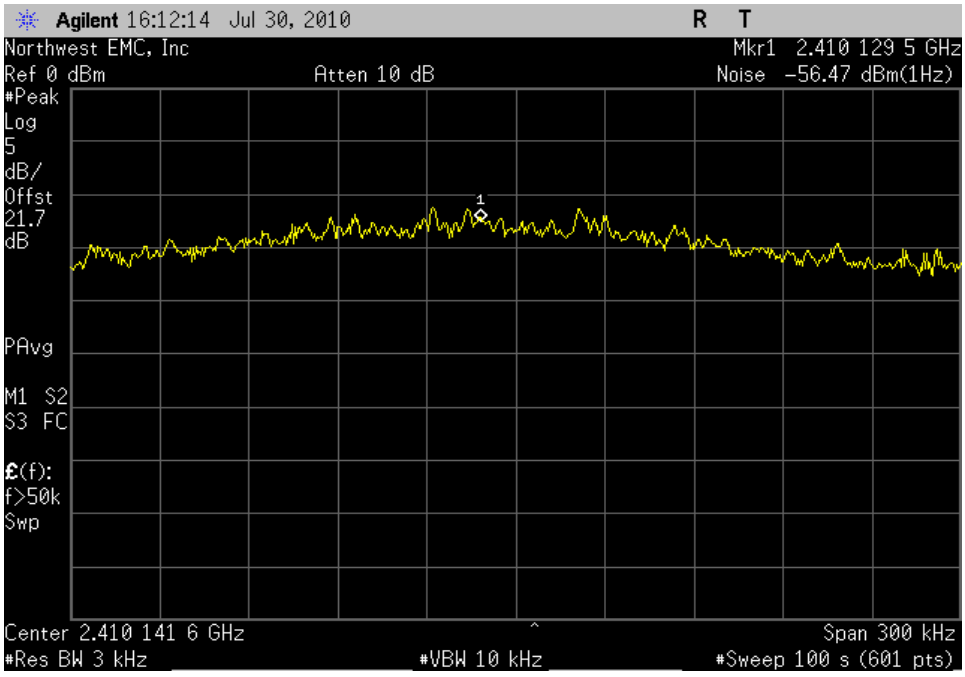


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-21.6 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

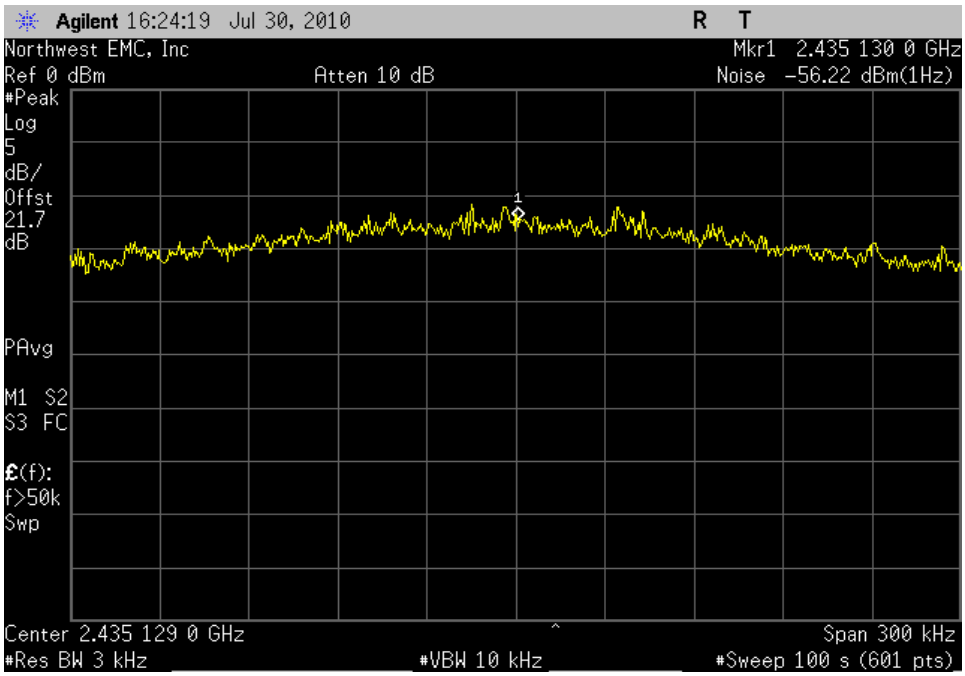


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	21.7 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

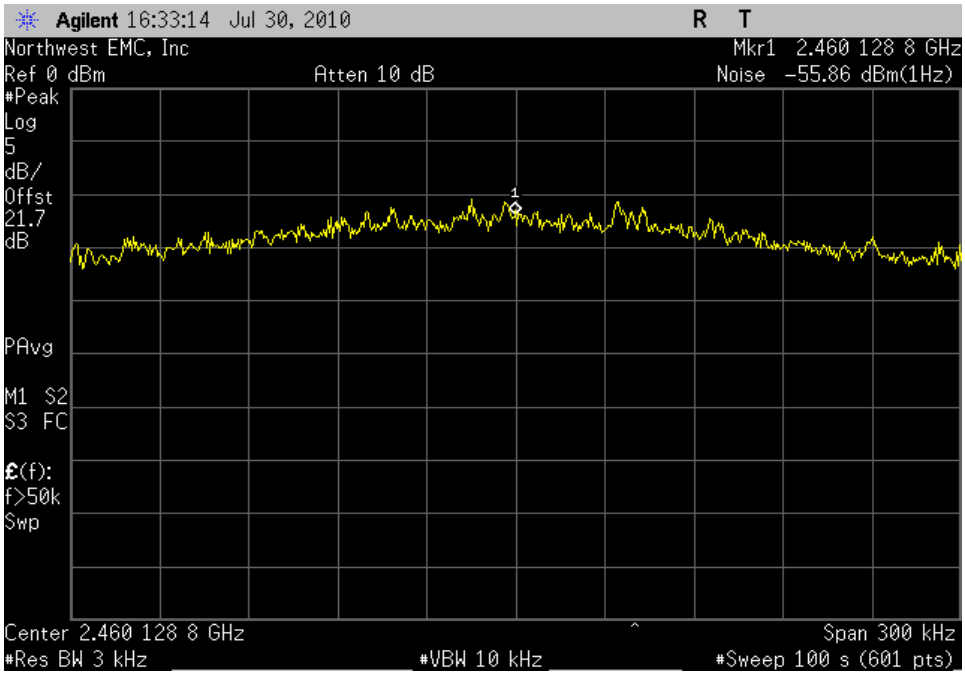


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	-21.4 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

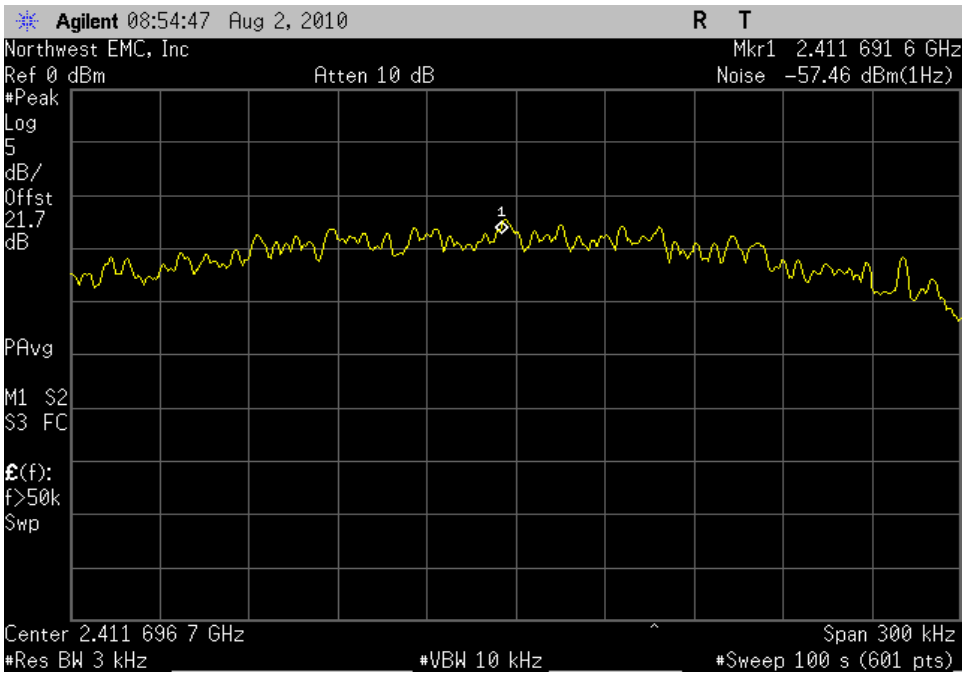


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-21.1 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

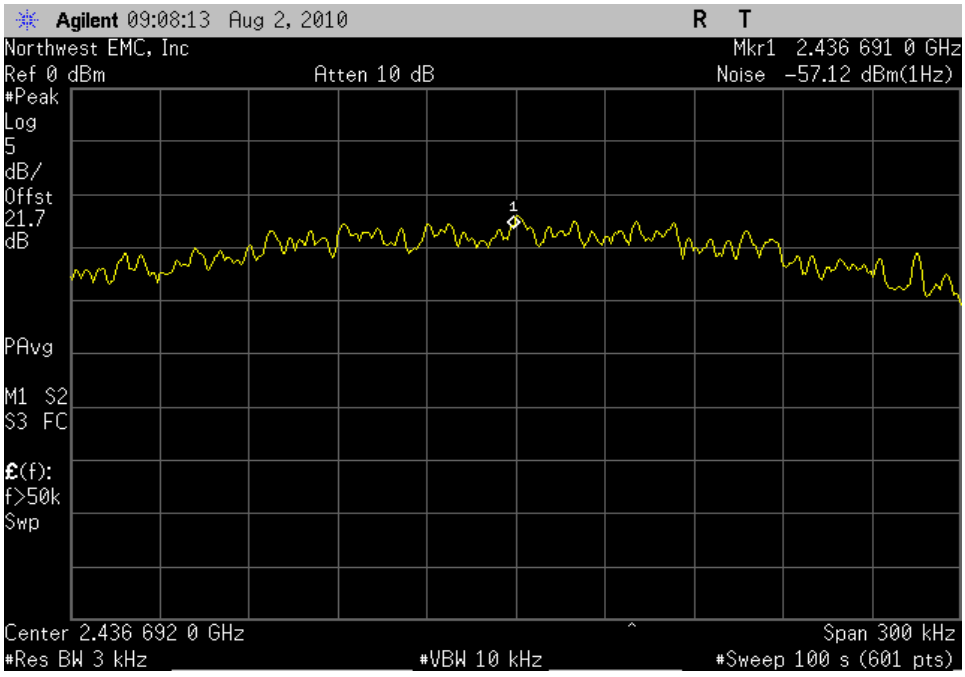


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz					
Result:	Pass	**Value:**	-22.7 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

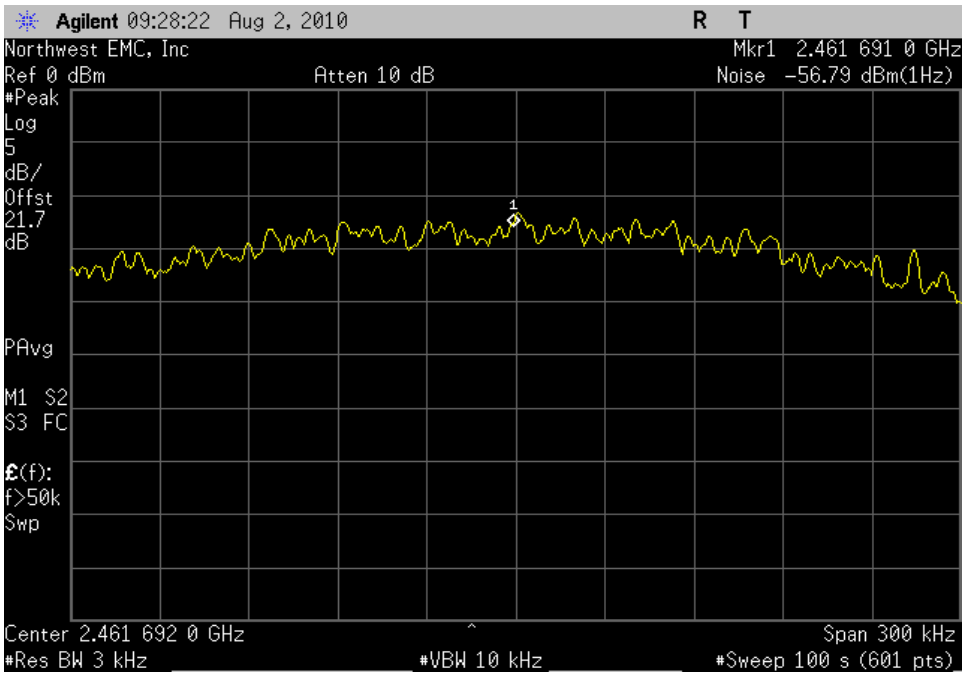


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz					
Result:	Pass	**Value:**	-22.3 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

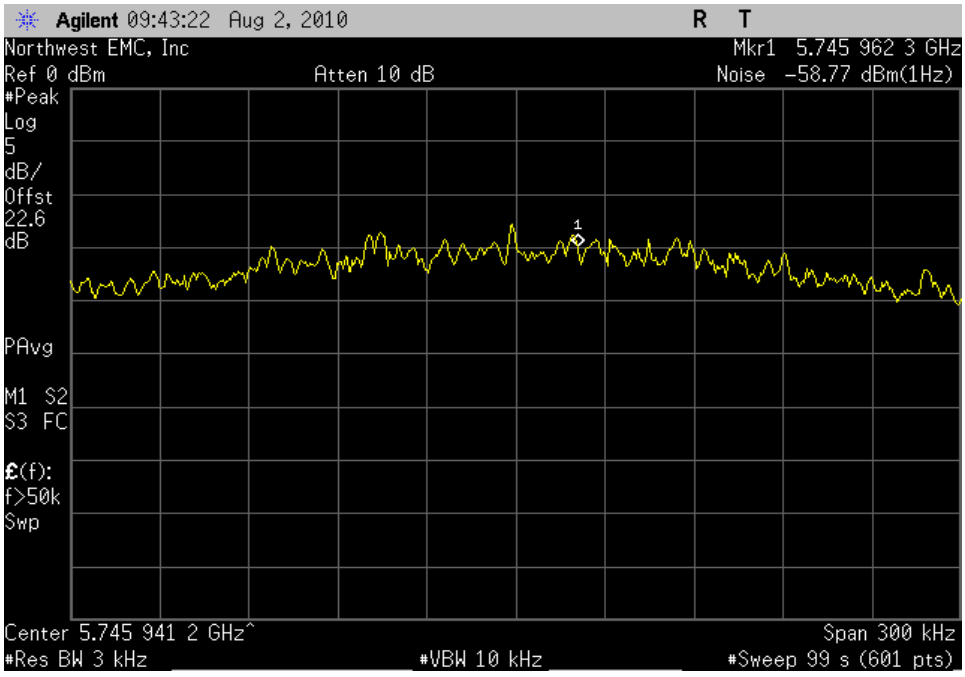


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz					
Result:	Pass	**Value:**	-22.0 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

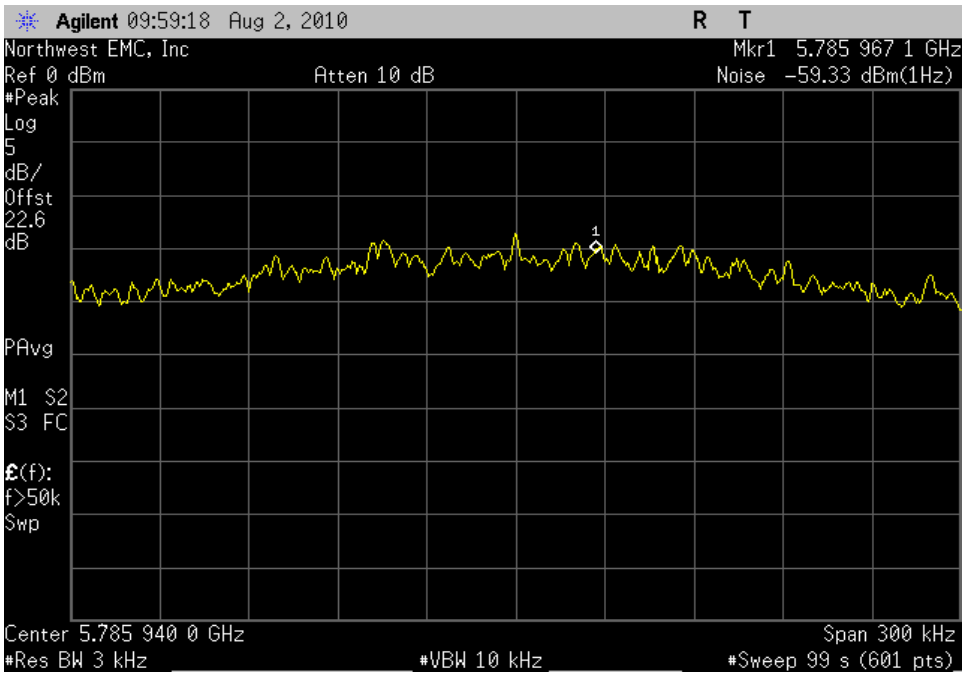


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	-24.0 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

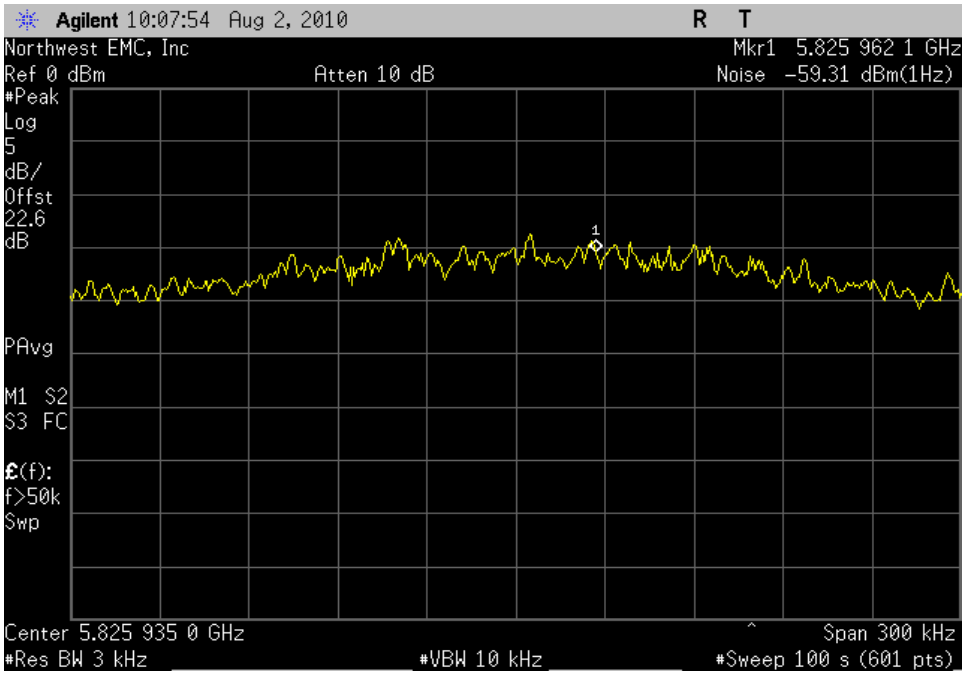


POWER SPECTRAL DENSITY

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	-24.5 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

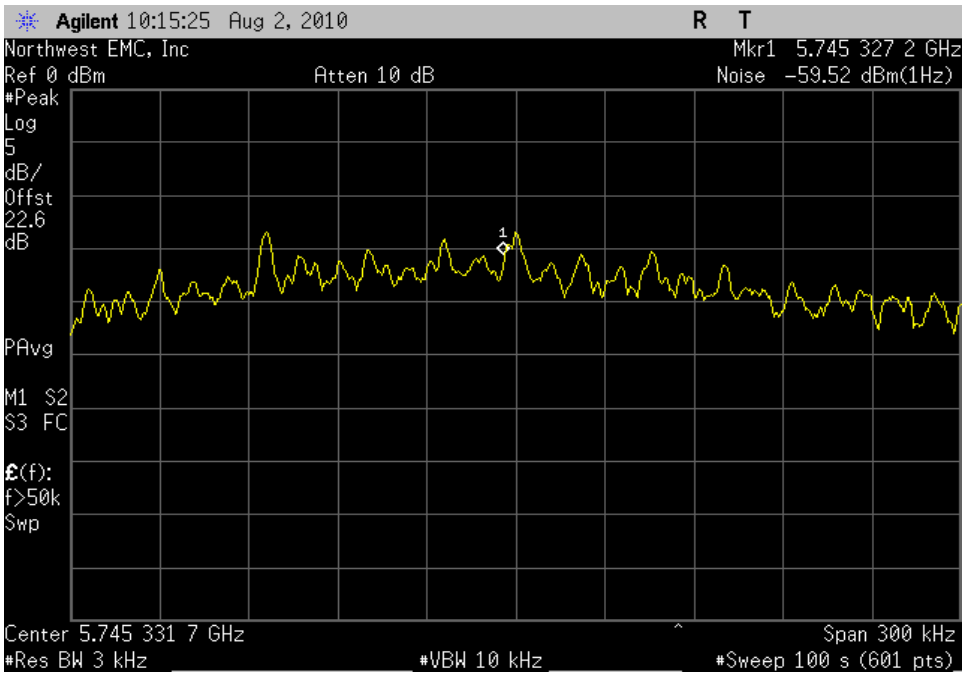


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	-24.5 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

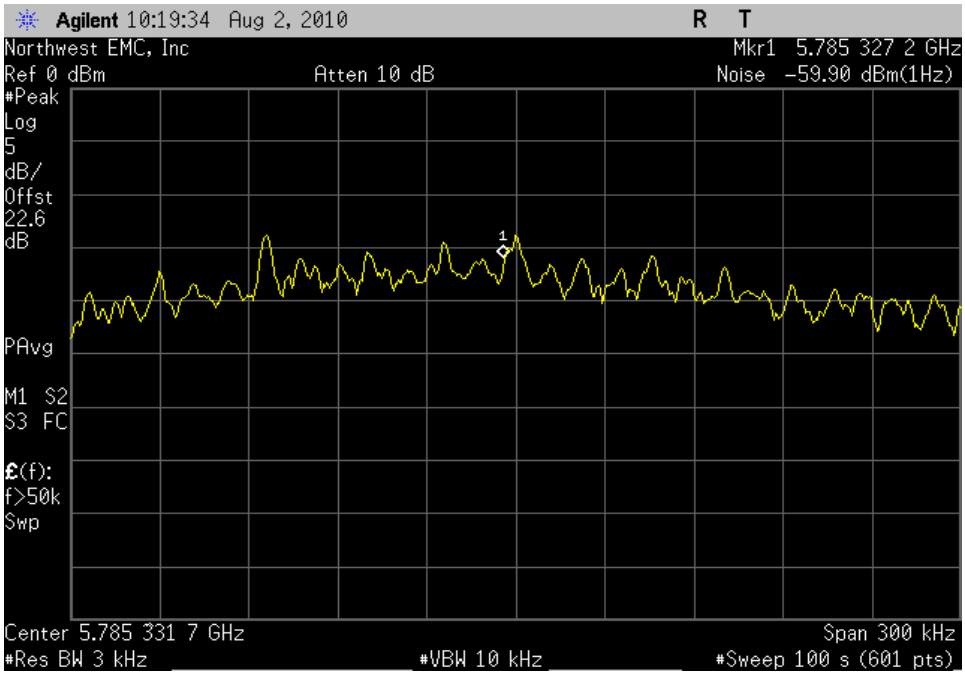


POWER SPECTRAL DENSITY

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	-24.7 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

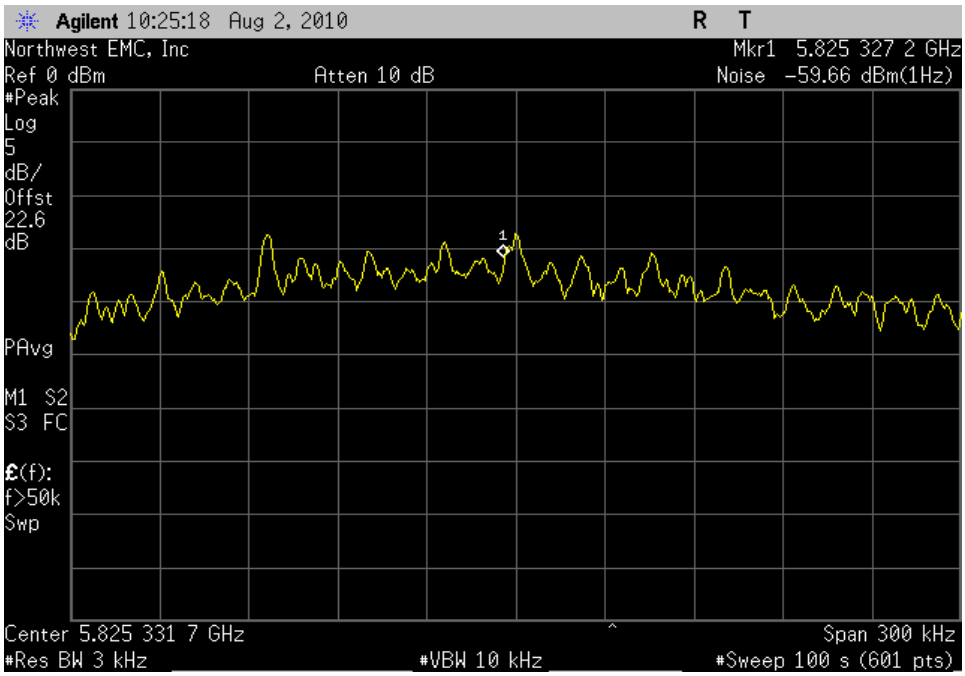


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	-25.1 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

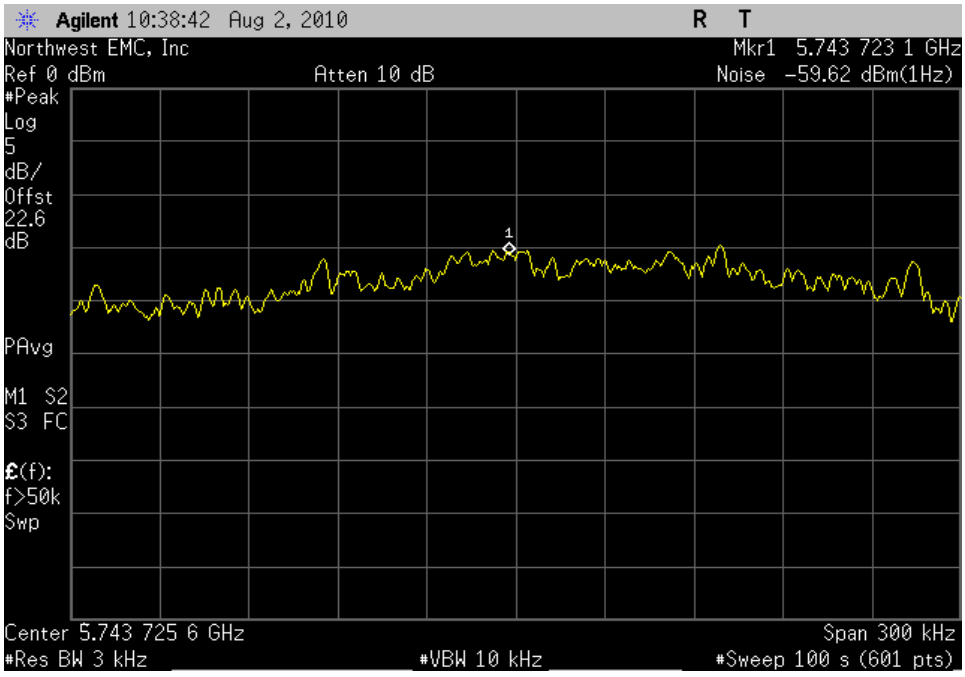


POWER SPECTRAL DENSITY

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	-24.9 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

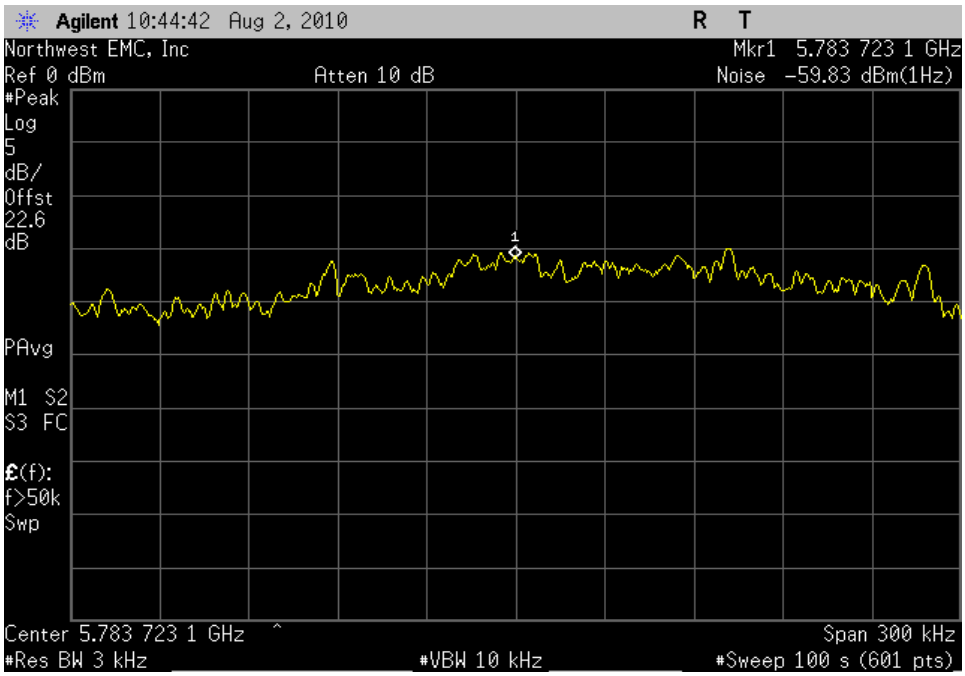


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	-24.8 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

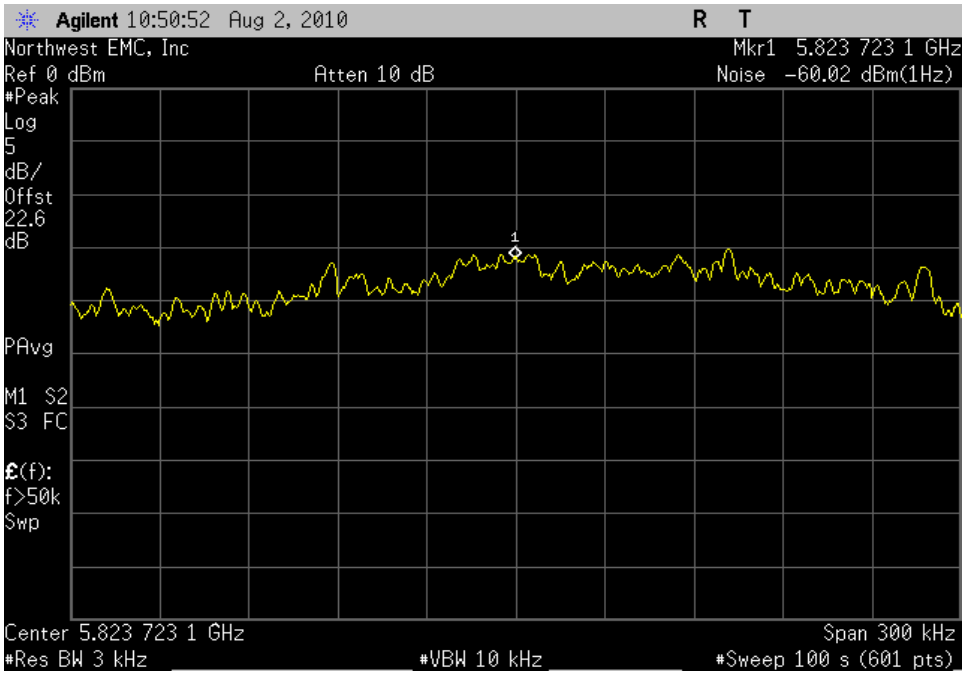


POWER SPECTRAL DENSITY

5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	-25.0 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

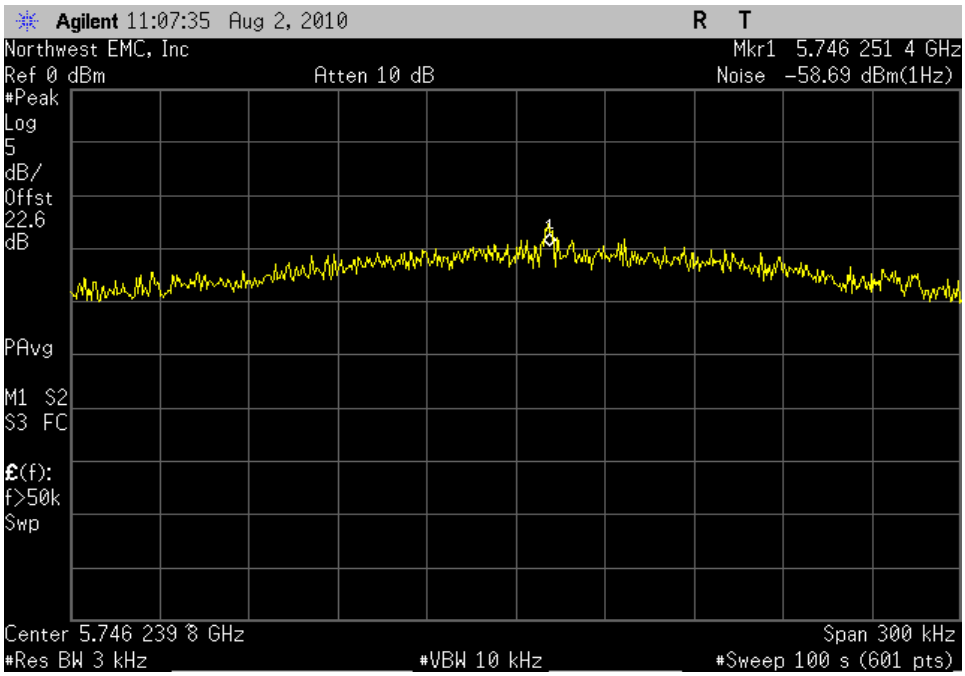


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	-25.2 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

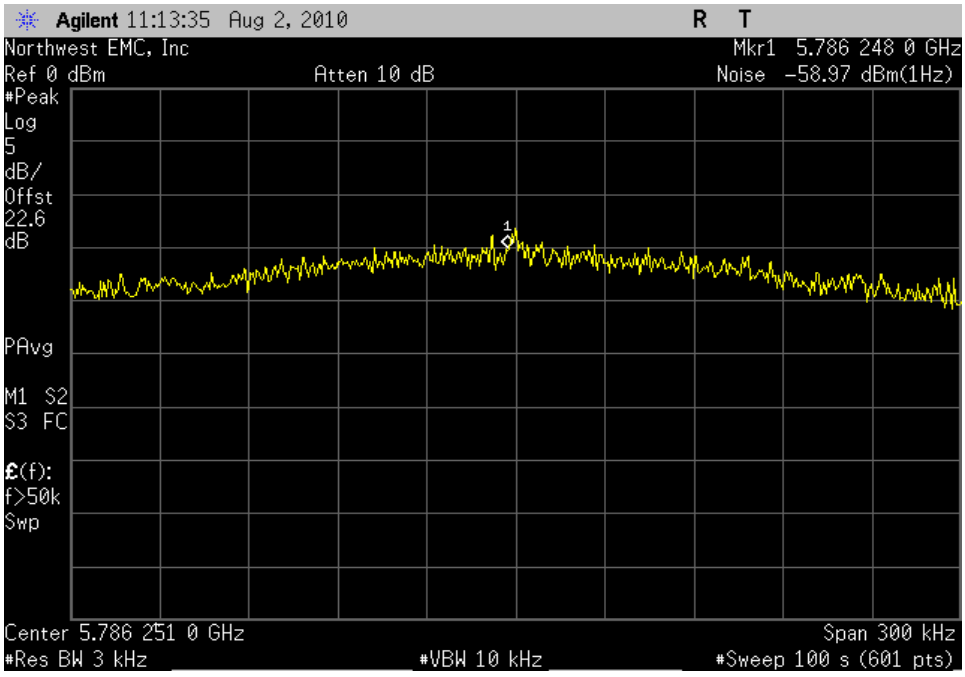


POWER SPECTRAL DENSITY

5725 MHz - 5850 MHz Band, 802.11(n) MCS0, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	-23.9 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

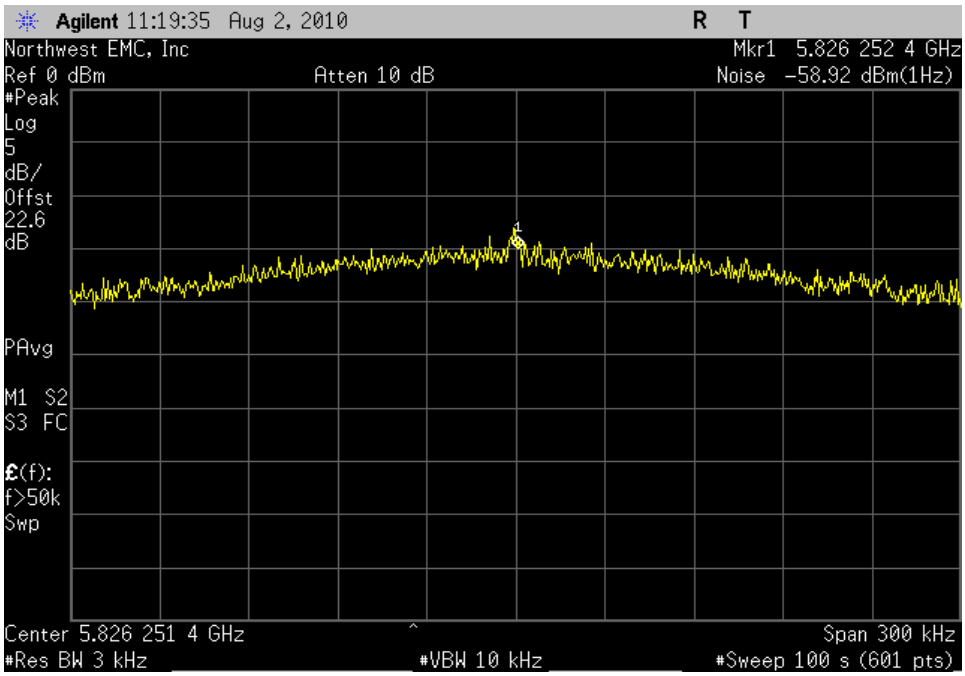


5725 MHz - 5850 MHz Band, 802.11(n) MCS0, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	-24.2 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

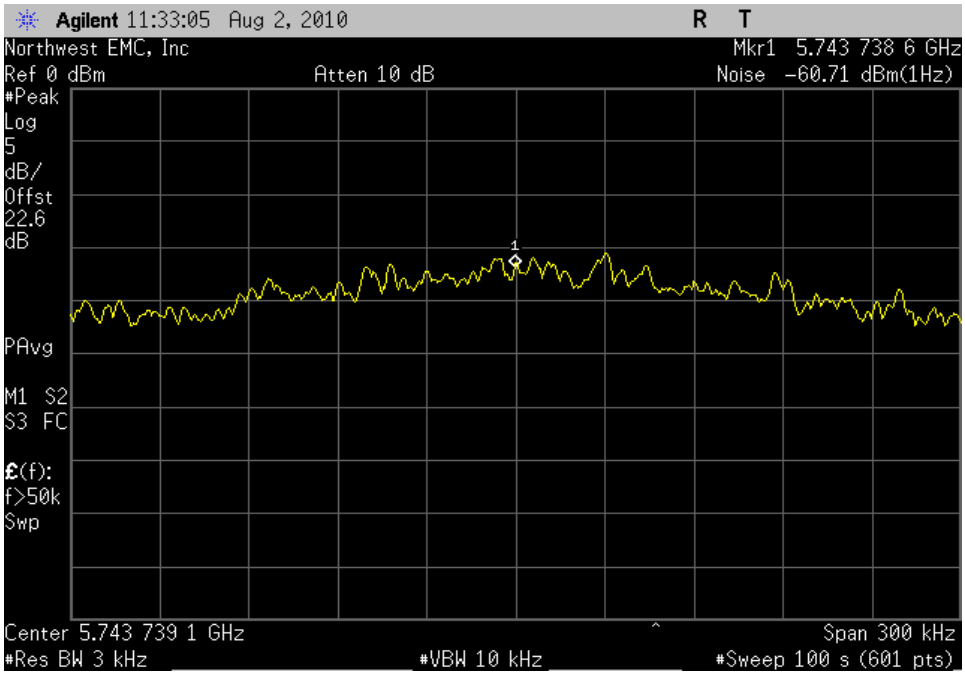


POWER SPECTRAL DENSITY

5725 MHz - 5850 MHz Band, 802.11(n) MCS0, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	-24.1 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

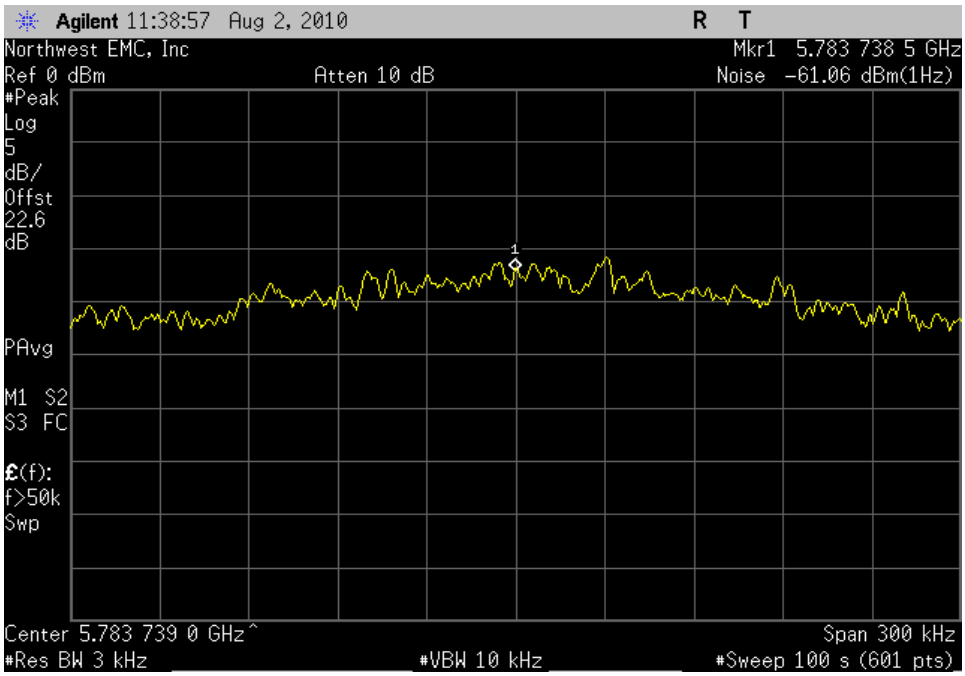


5725 MHz - 5850 MHz Band, 802.11(n) MCS7, Low Channel 149, 5745 MHz					
Result:	Pass	**Value:**	-25.9 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz

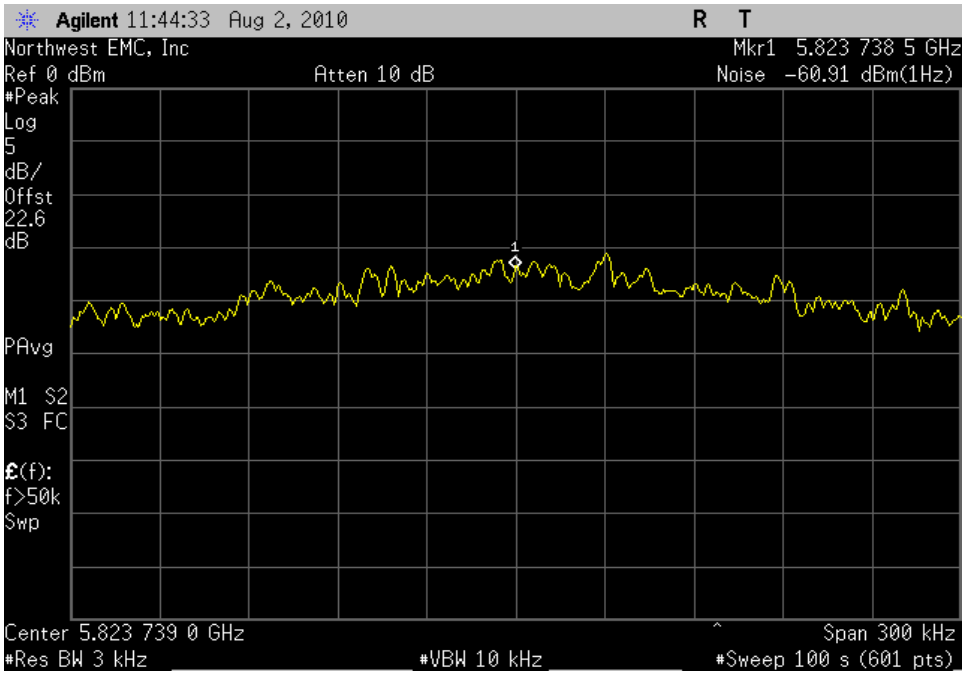


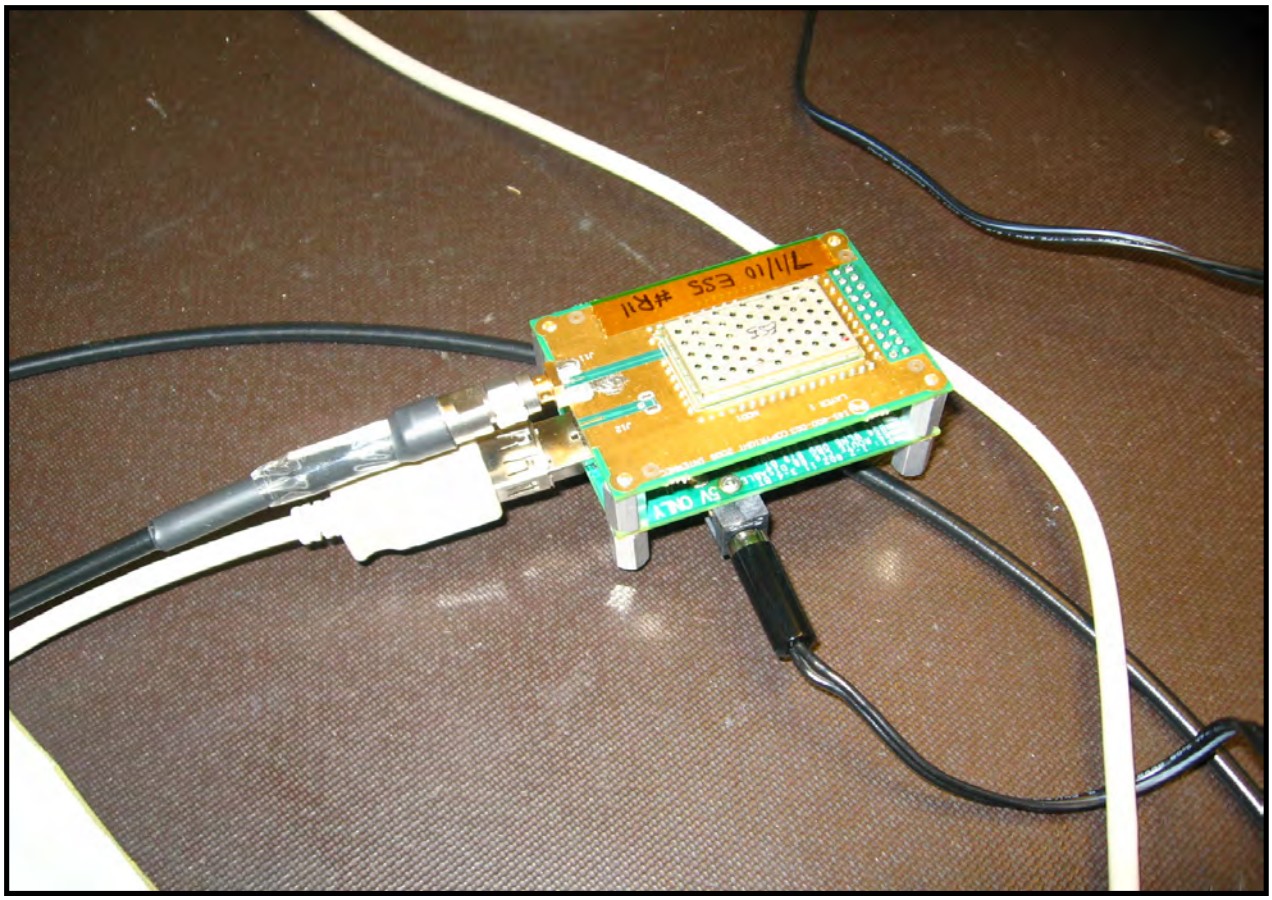
POWER SPECTRAL DENSITY

5725 MHz - 5850 MHz Band, 802.11(n) MCS7, Mid Channel 157, 5785 MHz					
Result:	Pass	**Value:**	-26.3 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz



5725 MHz - 5850 MHz Band, 802.11(n) MCS7, High Channel 165, 5825 MHz					
Result:	Pass	**Value:**	-26.1 dBm / 3 kHz	**Limit:**	8 dBm / 3 kHz





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
Continuous Tx. 802.11a, 6Mbps
Continuous Tx. 802.11 5GHz
Continuous Tx. 802.11
Continuous Tx.

MODE USED FOR FINAL DATA
Continuous Tx. 802.11

POWER SETTINGS INVESTIGATED
5VDC

FREQUENCY RANGE INVESTIGATED			
Start Frequency	30 MHz	Stop Frequency	40 GHz

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
Spectrum Analyzer	Agilent	E4446A	AAQ	1/6/2010	12
Spectrum Analyzer	Agilent	E4440A	AAX	5/14/2010	12
High Pass Filter	Micro-Tronics	HPM50112	HGA	10/1/2009	13
5.725-5.875 Notch Filter	Micro-Tronics	BRC50705	HGJ	7/31/2009	13
5.47-5.725 Notch Filter	Micro-Tronics	BRC50704	HGI	10/1/2009	13
5.25 GHz Notch Filter	K&L Microwave	8N50-5250/X200-0/0	HFK	4/2/2010	13
OC Cable	ESM Cable Corp.	KMKM-72	OCV	11/3/2009	13
Cable	ESM Cable Corp.	KMKM-72	EVY	11/3/2009	13
EV12 Cables	N/A	Standard Gain Horn Cables	EVU	7/14/2010	13
EV12 Cables	N/A	Double Ridge Horn Cables	EVT	10/23/2009	13
EV12 Cables	N/A	Bilog Cables	EVS	7/14/2010	13
Pre-Amplifier	Miteq	JSW45-26004000-40-5P	AVR	6/22/2010	13
Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	5/19/2009	16
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVI	7/14/2010	13
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVH	7/14/2010	13
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	7/14/2010	13
Pre-Amplifier	Miteq	AM-1616-1000	AVM	7/14/2010	13
Antenna, Horn	ETS Lindgren	3160-10	AIW	NCR	0
Antenna, Horn	ETS Lindgren	3160-09	AIV	NCR	0
Antenna, Horn	ETS	3160-08	AIA	NCR	0
Antenna, Horn	ETS	3160.07	AHZ	10/14/2008	24
Antenna, Horn	ETS	3115	AIB	8/25/2008	24
Antenna, Biconilog	EMCO	3141	AXG	2/15/2010	13

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation is available upon request.

TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.10:2009). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2008.07.21
EMI 2008.1.9

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R14	Date:	07/28/10
Customer:	Intermec Technologies Corporation	Temperature:	21.7 °C
Attendees:	none	Humidity:	53%
Project:	None	Barometric Pres.:	1015.4 mb
Tested by:	Dan Haas	Power: 5VDC	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

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

COMMENTS

See note for Channel, Data rate, EUT and antenna orientations.

EUT OPERATING MODES

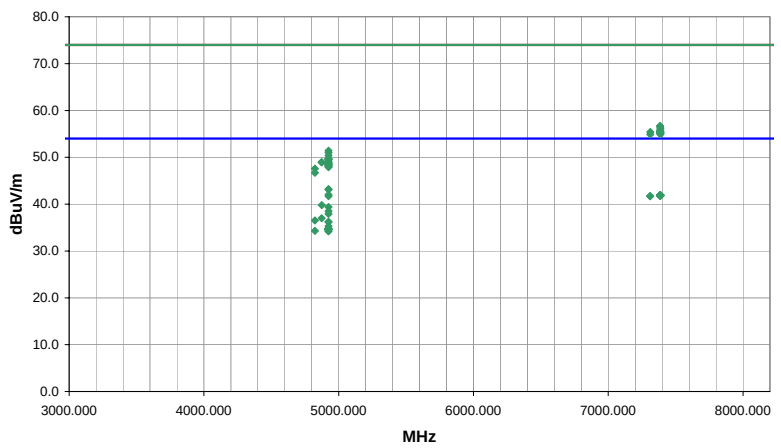
Continuous Tx.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	1
Configuration #	1
Results	Pass

Signature



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
4924.053	33.8	9.4	223.0	1.5	3.0	0.0	H-Horn	AV	0.0	43.2	54.0	-10.8	802.11b Ch:11 (2462MHz), 1Mbps, EUT horizontal, Antenna Vertical.
4924.003	33.7	9.4	319.0	1.3	3.0	0.0	H-Horn	AV	0.0	43.1	54.0	-10.9	802.11b Ch:11 (2462MHz), 1Mbps, EUT on side, Antenna Vertical.
4924.023	32.6	9.4	265.0	1.2	3.0	0.0	V-Horn	AV	0.0	42.0	54.0	-12.0	802.11b Ch:11 (2462MHz), 1Mbps, EUT vertical, Antenna horizontal.
7385.490	24.1	17.8	328.0	1.0	3.0	0.0	H-Horn	AV	0.0	41.9	54.0	-12.1	802.11g Ch:11 (2462MHz), 54Mbps, EUT horizontal, Antenna Vertical.
7385.493	24.1	17.8	243.0	1.4	3.0	0.0	V-Horn	AV	0.0	41.9	54.0	-12.1	802.11b Ch:11 (2462MHz), 11Mbps, EUT vertical, Antenna horizontal.
7385.613	24.1	17.8	243.0	1.4	3.0	0.0	V-Horn	AV	0.0	41.9	54.0	-12.1	802.11g Ch:11 (2462MHz), 36Mbps, EUT vertical, Antenna horizontal.
7385.827	24.1	17.8	243.0	1.4	3.0	0.0	V-Horn	AV	0.0	41.9	54.0	-12.1	802.11g Ch:11 (2462MHz), 54Mbps, EUT vertical, Antenna horizontal.
7385.953	24.1	17.8	243.0	1.4	3.0	0.0	V-Horn	AV	0.0	41.9	54.0	-12.1	802.11g Ch:11 (2462MHz), 6Mbps, EUT vertical, Antenna horizontal.
7385.963	24.1	17.8	243.0	1.4	3.0	0.0	V-Horn	AV	0.0	41.9	54.0	-12.1	802.11n Ch:11 (2462MHz), MCS7, EUT vertical, Antenna horizontal.
7385.967	24.1	17.8	243.0	1.4	3.0	0.0	V-Horn	AV	0.0	41.9	54.0	-12.1	802.11n Ch:11 (2462MHz), MCS0, EUT vertical, Antenna horizontal.
7386.243	24.1	17.8	243.0	1.4	3.0	0.0	V-Horn	AV	0.0	41.9	54.0	-12.1	802.11b Ch:11 (2462MHz), 1Mbps, EUT horizontal, Antenna Vertical.
7384.983	24.0	17.8	328.0	1.0	3.0	0.0	H-Horn	AV	0.0	41.8	54.0	-12.2	802.11b Ch:11 (2462MHz), 1Mbps, EUT horizontal, Antenna Vertical.
7385.287	24.0	17.8	328.0	1.0	3.0	0.0	H-Horn	AV	0.0	41.8	54.0	-12.2	802.11n Ch:11 (2462MHz), MCS0, EUT horizontal, Antenna Vertical.
7386.073	24.0	17.8	328.0	1.0	3.0	0.0	H-Horn	AV	0.0	41.8	54.0	-12.2	802.11b Ch:11 (2462MHz), 11Mbps, EUT horizontal, Antenna Vertical.
7386.340	24.0	17.8	328.0	1.0	3.0	0.0	H-Horn	AV	0.0	41.8	54.0	-12.2	802.11g Ch:11 (2462MHz), 36Mbps, EUT horizontal, Antenna Vertical.
7386.453	24.0	17.8	328.0	1.0	3.0	0.0	H-Horn	AV	0.0	41.8	54.0	-12.2	802.11g Ch:11 (2462MHz), 6Mbps, EUT horizontal, Antenna Vertical.
7386.487	24.0	17.8	328.0	1.0	3.0	0.0	H-Horn	AV	0.0	41.8	54.0	-12.2	802.11n Ch:11 (2462MHz), MCS7, EUT horizontal, Antenna Vertical.
7310.367	24.1	17.6	317.0	1.0	3.0	0.0	V-Horn	AV	0.0	41.7	54.0	-12.3	802.11b Ch:6 (2437MHz), 1Mbps, EUT horizontal, Antenna Vertical.
7311.257	24.1	17.6	293.0	1.0	3.0	0.0	H-Horn	AV	0.0	41.7	54.0	-12.3	802.11b Ch:6 (2437MHz), 1Mbps, EUT horizontal, Antenna Vertical.
4924.000	32.3	9.4	274.0	1.2	3.0	0.0	V-Horn	AV	0.0	41.7	54.0	-12.3	802.11b Ch:11 (2462MHz), 1Mbps, EUT Vertical, Antenna horizontal.

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2008.07.21
EMI 2008.1.9

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R14	Date:	07/29/10
Customer:	Intermec Technologies Corporation	Temperature:	20.6 °C
Attendees:	none	Humidity:	50%
Project:	None	Barometric Pres.:	1019.1 mb
Tested by:	Dan Haas	Job Site:	EV12
Power:	5VDC		

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

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

COMMENTS

See note for Channel, Data rate, EUT and antenna orientations.

EUT OPERATING MODES

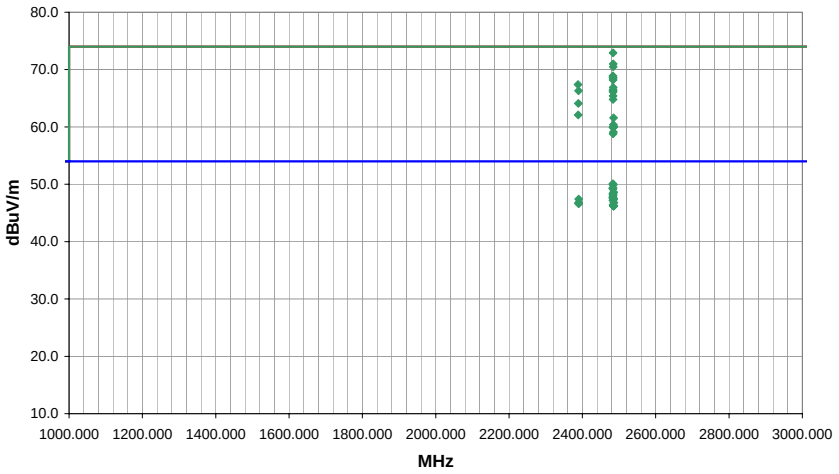
Continuous Tx.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	2
Configuration #	1
Results	Pass

Signature



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
2483.697	53.2	-0.3	344.0	1.1	3.0	20.0	H-Horn	PK	0.0	72.9	74.0	-1.1	802.11n, Ch:11, MCS0, EUT on side, antenna vertical.
2484.300	51.3	-0.3	242.0	1.0	3.0	20.0	H-Horn	PK	0.0	71.0	74.0	-3.0	802.11g, Ch:11, 36Mbps, EUT on side, antenna vertical.
2484.337	50.8	-0.3	12.0	1.0	3.0	20.0	V-Horn	PK	0.0	70.5	74.0	-3.5	802.11n, Ch:11, MCS0, EUT vertical, antenna horizontal.
2483.517	30.4	-0.3	242.0	1.0	3.0	20.0	H-Horn	AV	0.0	50.1	54.0	-3.9	802.11g, Ch:11, 36Mbps, EUT on side, antenna vertical.
2483.510	30.3	-0.3	226.0	1.0	3.0	20.0	H-Horn	AV	0.0	50.0	54.0	-4.0	802.11n, Ch:11, MCS7, EUT on side, antenna vertical.
2484.240	30.2	-0.3	344.0	1.1	3.0	20.0	H-Horn	AV	0.0	49.9	54.0	-4.1	802.11n, Ch:11, MCS0, EUT on side, antenna vertical.
2483.510	29.7	-0.3	235.0	1.0	3.0	20.0	H-Horn	AV	0.0	49.4	54.0	-4.6	802.11g, Ch:11, 54Mbps, EUT on side, antenna vertical.
2483.513	29.6	-0.3	222.0	1.0	3.0	20.0	H-Horn	AV	0.0	49.3	54.0	-4.7	802.11g, Ch:11, 6Mbps, EUT on side, antenna vertical.
2483.517	29.5	-0.3	12.0	1.0	3.0	20.0	V-Horn	AV	0.0	49.2	54.0	-4.8	802.11n, Ch:11, MCS0, EUT vertical, antenna horizontal.
2483.510	49.2	-0.3	226.0	1.0	3.0	20.0	H-Horn	PK	0.0	68.9	74.0	-5.1	802.11n, Ch:11, MCS7, EUT on side, antenna vertical.
2485.423	28.9	-0.3	223.0	1.1	3.0	20.0	H-Horn	AV	0.0	48.6	54.0	-5.4	802.11b, Ch:11, 11Mbps, EUT on side, antenna vertical.
2483.550	48.9	-0.3	43.0	1.1	3.0	20.0	H-Horn	PK	0.0	68.6	74.0	-5.4	802.11n, Ch:11, MCS0, EUT vertical, antenna horizontal.
2483.843	48.9	-0.3	235.0	1.0	3.0	20.0	H-Horn	PK	0.0	68.6	74.0	-5.4	802.11g, Ch:11, 54Mbps, EUT on side, antenna vertical.
2483.507	28.7	-0.3	349.0	1.9	3.0	20.0	V-Horn	AV	0.0	48.4	54.0	-5.6	802.11g, Ch:11, 36Mbps, EUT vertical, antenna horizontal.
2483.550	28.5	-0.3	52.0	1.9	3.0	20.0	V-Horn	AV	0.0	48.2	54.0	-5.8	802.11g, Ch:11, 6Mbps, EUT vertical, antenna horizontal.
2483.937	48.5	-0.3	222.0	1.0	3.0	20.0	H-Horn	PK	0.0	68.2	74.0	-5.8	802.11g, Ch:11, 6Mbps, EUT on side, antenna vertical.
2483.593	28.4	-0.3	59.0	1.9	3.0	20.0	V-Horn	AV	0.0	48.1	54.0	-5.9	802.11g, Ch:11, 54Mbps, EUT vertical, antenna horizontal.
2483.520	28.1	-0.3	87.0	1.0	3.0	20.0	H-Horn	AV	0.0	47.8	54.0	-6.2	802.11n, Ch:11, MCS0, EUT horizontal, antenna vertical.
2483.510	28.0	-0.3	0.0	1.4	3.0	20.0	H-Horn	AV	0.0	47.7	54.0	-6.3	802.11b, Ch:11, 1Mbps, EUT on side, antenna vertical.
2483.543	27.9	-0.3	148.0	1.0	3.0	20.0	V-Horn	AV	0.0	47.6	54.0	-6.4	802.11n, Ch:11, MCS0, EUT horizontal, antenna vertical.

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2008.07.21
EMI 2008.1.9

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R14	Date:	07/30/10
Customer:	Intermec Technologies Corporation	Temperature:	19.3 °C
Attendees:	none	Humidity:	61%
Project:	None	Barometric Pres.:	1017.9 mb
Tested by:	Dan Haas	Power: 5VDC	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

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

COMMENTS

See note for Channel, Data rate, EUT and antenna orientations.

EUT OPERATING MODES

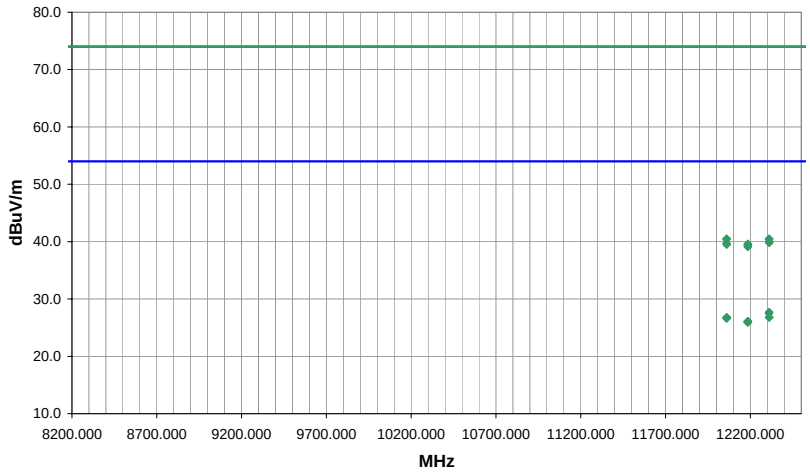
Continuous Tx.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	3
Configuration #	1
Results	Pass

Signature



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
12310.750	37.0	-9.3	301.0	1.0	3.0	0.0	H-Horn	AV	0.0	27.7	54.0	-26.3	802.11b, CH:11, 1Mbps, EUT vertical, antenna horizontal.
12309.080	36.8	-9.3	97.0	1.0	3.0	0.0	H-Horn	AV	0.0	27.5	54.0	-26.5	802.11b, CH:11, 1Mbps, EUT horizontal, antenna vertical.
12060.140	36.2	-9.4	108.0	1.0	3.0	0.0	V-Horn	AV	0.0	26.8	54.0	-27.2	802.11b, CH:1, 1Mbps, EUT vertical, antenna horizontal.
12310.590	36.1	-9.3	223.0	1.7	3.0	0.0	V-Horn	AV	0.0	26.8	54.0	-27.2	802.11b, CH:11, 1Mbps, EUT horizontal, antenna vertical.
12311.160	36.1	-9.3	251.0	1.7	3.0	0.0	V-Horn	AV	0.0	26.8	54.0	-27.2	802.11b, CH:11, 1Mbps, EUT vertical, antenna horizontal.
12060.040	36.1	-9.4	20.0	1.9	3.0	0.0	H-Horn	AV	0.0	26.7	54.0	-27.3	802.11b, CH:1, 1Mbps, EUT horizontal, antenna vertical.
12061.540	36.1	-9.4	265.0	1.9	3.0	0.0	H-Horn	AV	0.0	26.7	54.0	-27.3	802.11b, CH:1, 1Mbps, EUT vertical, antenna horizontal.
12060.340	36.0	-9.4	15.0	1.0	3.0	0.0	V-Horn	AV	0.0	26.6	54.0	-27.4	802.11b, CH:1, 1Mbps, EUT horizontal, antenna vertical.
12184.970	35.4	-9.3	113.0	1.0	3.0	0.0	V-Horn	AV	0.0	26.1	54.0	-27.9	802.11b, CH:6, 1Mbps, EUT vertical, antenna horizontal.
12185.120	35.4	-9.3	226.0	1.0	3.0	0.0	H-Horn	AV	0.0	26.1	54.0	-27.9	802.11b, CH:6, 1Mbps, EUT vertical, antenna horizontal.
12185.210	35.3	-9.3	180.0	1.0	3.0	0.0	V-Horn	AV	0.0	26.0	54.0	-28.0	802.11b, CH:6, 1Mbps, EUT horizontal, antenna vertical.
12184.840	35.2	-9.3	212.0	1.0	3.0	0.0	H-Horn	AV	0.0	25.9	54.0	-28.1	802.11b, CH:6, 1Mbps, EUT horizontal, antenna vertical.
12060.830	49.9	-9.4	108.0	1.0	3.0	0.0	V-Horn	PK	0.0	40.5	74.0	-33.5	802.11b, CH:1, 1Mbps, EUT vertical, antenna horizontal.
12310.720	49.8	-9.3	223.0	1.7	3.0	0.0	V-Horn	PK	0.0	40.5	74.0	-33.5	802.11b, CH:11, 1Mbps, EUT horizontal, antenna vertical.
12059.650	49.8	-9.4	15.0	1.0	3.0	0.0	V-Horn	PK	0.0	40.4	74.0	-33.6	802.11b, CH:1, 1Mbps, EUT horizontal, antenna vertical.
12310.000	49.7	-9.3	301.0	1.0	3.0	0.0	H-Horn	PK	0.0	40.4	74.0	-33.6	802.11b, CH:11, 1Mbps, EUT vertical, antenna horizontal.
12310.660	49.3	-9.3	251.0	1.7	3.0	0.0	V-Horn	PK	0.0	40.0	74.0	-34.0	802.11b, CH:11, 1Mbps, EUT vertical, antenna horizontal.
12310.960	49.1	-9.3	97.0	1.0	3.0	0.0	H-Horn	PK	0.0	39.8	74.0	-34.2	802.11b, CH:11, 1Mbps, EUT horizontal, antenna vertical.
12059.650	49.1	-9.4	20.0	1.9	3.0	0.0	H-Horn	PK	0.0	39.7	74.0	-34.3	802.11b, CH:1, 1Mbps, EUT horizontal, antenna vertical.
12184.970	48.9	-9.3	180.0	1.0	3.0	0.0	V-Horn	PK	0.0	39.6	74.0	-34.4	802.11b, CH:6, 1Mbps, EUT horizontal, antenna vertical.

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2008.07.21
EMI 2008.1.9

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R14	Date:	07/30/10
Customer:	Intermec Technologies Corporation	Temperature:	19.3 °C
Attendees:	none	Humidity:	61%
Project:	None	Barometric Pres.:	1017.9 mb
Tested by:	Dan Haas	Job Site:	EV12
Power:	5VDC		

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

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

COMMENTS

See note for Channel, Data rate, EUT and antenna orientations.

EUT OPERATING MODES

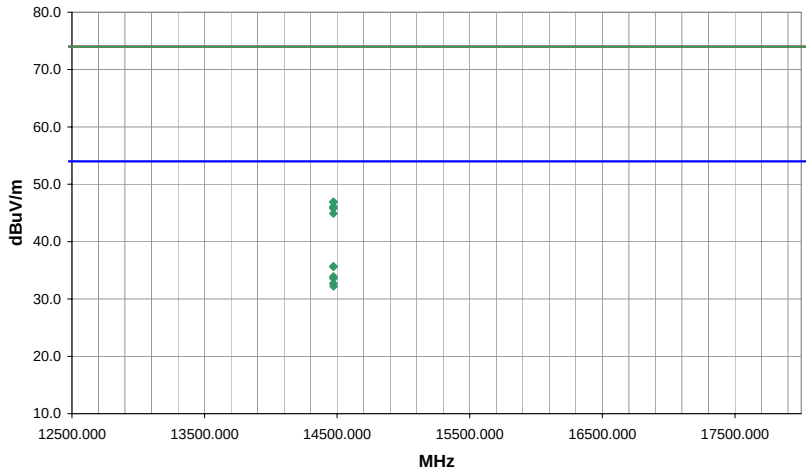
Continuous Tx.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	4
Configuration #	1
Results	Pass

Signature



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
14471.970	32.2	3.5	263.0	1.3	3.0	0.0	H-Horn	AV	0.0	35.7	54.0	-18.3	802.11b, CH:1, 1Mbps, EUT horizontal, antenna vertical.
14472.070	32.1	3.5	360.0	1.3	3.0	0.0	V-Horn	AV	0.0	35.6	54.0	-18.4	802.11b, CH:1, 1Mbps, EUT horizontal, antenna vertical.
14472.010	30.4	3.5	54.0	1.3	3.0	0.0	V-Horn	AV	0.0	33.9	54.0	-20.1	802.11b, CH:1, 1Mbps, EUT vertical., antenna horizontal
14472.180	30.1	3.5	20.0	1.3	3.0	0.0	V-Horn	AV	0.0	33.6	54.0	-20.4	802.11b, CH:1, 11Mbps, EUT horizontal, antenna vertical.
14472.180	29.2	3.5	239.0	1.3	3.0	0.0	H-Horn	AV	0.0	32.7	54.0	-21.3	802.11b, CH:1, 11Mbps, EUT horizontal, antenna vertical.
14473.350	28.7	3.5	112.0	1.3	3.0	0.0	H-Horn	AV	0.0	32.2	54.0	-21.8	802.11b, CH:1, 1Mbps, EUT vertical., antenna horizontal
14471.910	43.4	3.5	360.0	1.3	3.0	0.0	V-Horn	PK	0.0	46.9	74.0	-27.1	802.11b, CH:1, 1Mbps, EUT horizontal, antenna vertical.
14472.040	43.4	3.5	263.0	1.3	3.0	0.0	H-Horn	PK	0.0	46.9	74.0	-27.1	802.11b, CH:1, 1Mbps, EUT horizontal, antenna vertical.
14471.990	42.6	3.5	20.0	1.3	3.0	0.0	V-Horn	PK	0.0	46.1	74.0	-27.9	802.11b, CH:1, 11Mbps, EUT horizontal, antenna vertical.
14471.880	42.5	3.5	54.0	1.3	3.0	0.0	V-Horn	PK	0.0	46.0	74.0	-28.0	802.11b, CH:1, 1Mbps, EUT vertical., antenna horizontal
14471.750	42.3	3.5	239.0	1.3	3.0	0.0	H-Horn	PK	0.0	45.8	74.0	-28.2	802.11b, CH:1, 11Mbps, EUT horizontal, antenna vertical.
14471.240	41.4	3.5	112.0	1.3	3.0	0.0	H-Horn	PK	0.0	44.9	74.0	-29.1	802.11b, CH:1, 1Mbps, EUT vertical., antenna horizontal

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2008.07.21
EMI 2008.1.9

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R14	Date:	08/04/10
Customer:	Intermec Technologies Corporation	Temperature:	23.2 °C
Attendees:	none	Humidity:	50%
Project:	None	Barometric Pres.:	1017.5 mb
Tested by:	Dan Haas	Power: 5VDC	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 2	Test Distance (m)	3

COMMENTS

See comments for channel and EUT orientaion.

EUT OPERATING MODES

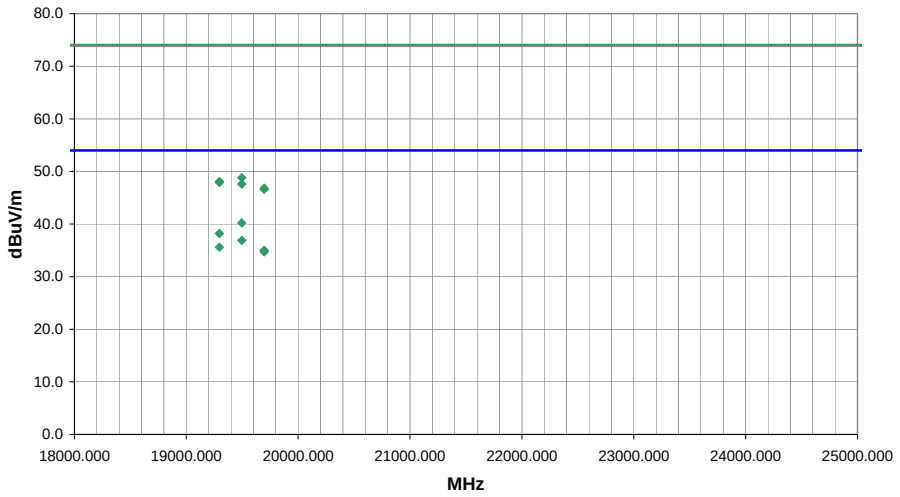
Continuous Tx. 802.11

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	10
Configuration #	1
Results	Pass

Signature



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
19496.020	48.7	-8.5	55.0	1.1	3.0	0.0	H - Horn	AV	0.0	40.2	54.0	-13.8	Ch:6, 1Mbps, EUT vertical, antenna horizontal.
19296.040	46.7	-8.5	51.0	1.1	3.0	0.0	H - Horn	AV	0.0	38.2	54.0	-15.8	Ch:1, 1Mbps, EUT vertical, antenna horizontal.
19496.010	45.4	-8.5	65.0	1.1	3.0	0.0	V - Horn	AV	0.0	36.9	54.0	-17.1	Ch:6, 1Mbps, EUT horizontal, antenna vertical.
19296.040	44.1	-8.5	73.0	1.2	3.0	0.0	V - Horn	AV	0.0	35.6	54.0	-18.4	Ch:1, 1Mbps, EUT horizontal, antenna vertical.
19696.030	43.5	-8.5	53.0	1.0	3.0	0.0	H - Horn	AV	0.0	35.0	54.0	-19.0	Ch:11, 1Mbps, EUT vertical, antenna horizontal.
19696.040	43.2	-8.5	66.0	1.1	3.0	0.0	V - Horn	AV	0.0	34.7	54.0	-19.3	Ch:11, 1Mbps, EUT horizontal, antenna vertical.
19495.730	57.3	-8.5	55.0	1.1	3.0	0.0	H - Horn	PK	0.0	48.8	74.0	-25.2	Ch:6, 1Mbps, EUT vertical, antenna horizontal.
19295.730	56.6	-8.5	73.0	1.2	3.0	0.0	V - Horn	PK	0.0	48.1	74.0	-25.9	Ch:1, 1Mbps, EUT horizontal, antenna vertical.
19296.060	56.4	-8.5	51.0	1.1	3.0	0.0	H - Horn	PK	0.0	47.9	74.0	-26.1	Ch:1, 1Mbps, EUT vertical, antenna horizontal.
19496.410	56.1	-8.5	65.0	1.1	3.0	0.0	V - Horn	PK	0.0	47.6	74.0	-26.4	Ch:6, 1Mbps, EUT horizontal, antenna vertical.
19695.900	55.3	-8.5	53.0	1.0	3.0	0.0	H - Horn	PK	0.0	46.8	74.0	-27.2	Ch:11, 1Mbps, EUT vertical, antenna horizontal.
19695.600	55.1	-8.5	66.0	1.1	3.0	0.0	V - Horn	PK	0.0	46.6	74.0	-27.4	Ch:11, 1Mbps, EUT horizontal, antenna vertical.

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2008.07.21
EMI 2008.1.9

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R14	Date:	08/03/10
Customer:	Intermec Technologies Corporation	Temperature:	21.4 °C
Attendees:	none	Humidity:	56%
Project:	None	Barometric Pres.:	1019.1 mb
Tested by:	Dan Haas	Job Site:	EV12
Power:	5VDC		

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	0

COMMENTS

See notes for channel and EUTorientation.

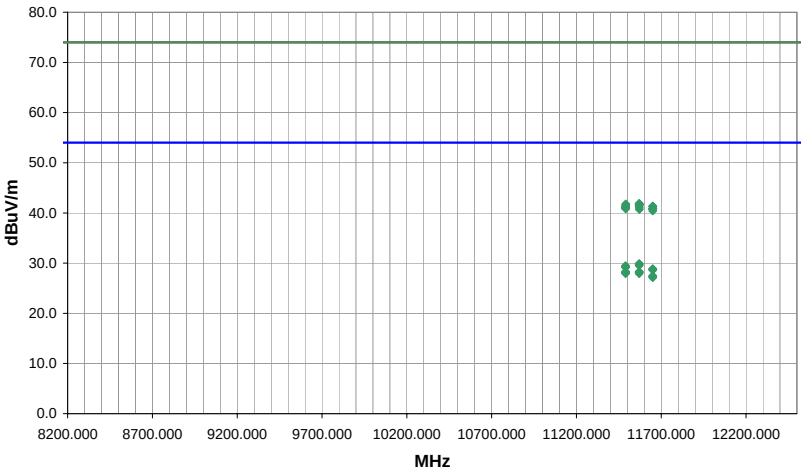
EUT OPERATING MODES

Continuous Tx. 802.11 5GHz

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	7	
Configuration #	1	
Results	Pass	Signature



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
11570.030	39.6	-9.7	296.0	1.0	0.0	0.0	H-Horn	AV	0.0	29.9	54.0	-24.1	802.11n MCS7, Ch:157, EUT vertical, antenna horizontal.
11570.030	39.5	-9.7	296.0	1.0	0.0	0.0	H-Horn	AV	0.0	29.8	54.0	-24.2	802.11a 54Mbps, Ch:157, EUT vertical, antenna horizontal.
11570.040	39.5	-9.7	296.0	1.0	0.0	0.0	H-Horn	AV	0.0	29.8	54.0	-24.2	802.11n MCS0, Ch:157, EUT vertical, antenna horizontal.
11570.020	39.4	-9.7	296.0	1.0	0.0	0.0	H-Horn	AV	0.0	29.7	54.0	-24.3	802.11a 36Mbps, Ch:157, EUT vertical, antenna horizontal.
11570.010	39.2	-9.7	296.0	1.0	0.0	0.0	H-Horn	AV	0.0	29.5	54.0	-24.5	802.11a 6Mbps, Ch:157, EUT vertical, antenna horizontal.
11490.020	39.3	-9.8	295.0	1.0	0.0	0.0	H-Horn	AV	0.0	29.5	54.0	-24.5	802.11n MCS7, Ch:149, EUT vertical, antenna horizontal.
11490.010	39.1	-9.8	295.0	1.0	0.0	0.0	H-Horn	AV	0.0	29.3	54.0	-24.7	802.11n MCS0, Ch:149, EUT vertical, antenna horizontal.
11490.020	39.1	-9.8	295.0	1.0	0.0	0.0	H-Horn	AV	0.0	29.3	54.0	-24.7	802.11a 36Mbps, Ch:149, EUT vertical, antenna horizontal.
11490.040	39.1	-9.8	295.0	1.0	0.0	0.0	H-Horn	AV	0.0	29.3	54.0	-24.7	802.11a 54Mbps, Ch:149, EUT vertical, antenna horizontal.
11490.050	38.9	-9.8	295.0	1.0	0.0	0.0	H-Horn	AV	0.0	29.1	54.0	-24.9	802.11a 6Mbps, Ch:149, EUT vertical, antenna horizontal.
11650.030	38.6	-9.7	294.0	1.0	0.0	0.0	H-Horn	AV	0.0	28.9	54.0	-25.1	802.11n MCS7, Ch:165, EUT vertical, antenna horizontal.
11650.000	38.5	-9.7	294.0	1.0	0.0	0.0	H-Horn	AV	0.0	28.8	54.0	-25.2	802.11n MCS0, Ch:165, EUT vertical, antenna horizontal.
11650.000	38.5	-9.7	294.0	1.0	0.0	0.0	H-Horn	AV	0.0	28.8	54.0	-25.2	802.11a 54Mbps, Ch:165, EUT vertical, antenna horizontal.
11650.010	38.4	-9.7	294.0	1.0	0.0	0.0	H-Horn	AV	0.0	28.7	54.0	-25.3	802.11a 36Mbps, Ch:165, EUT vertical, antenna horizontal.
11650.030	38.3	-9.7	294.0	1.0	0.0	0.0	H-Horn	AV	0.0	28.6	54.0	-25.4	802.11a 6Mbps, Ch:165, EUT vertical, antenna horizontal.
11570.100	38.0	-9.7	129.0	1.2	0.0	0.0	V-Horn	AV	0.0	28.3	54.0	-25.7	802.11n MCS7, Ch:157, EUT horizontal, antenna vertical.
11490.030	38.1	-9.8	94.0	1.1	0.0	0.0	V-Horn	AV	0.0	28.3	54.0	-25.7	802.11n MCS7, Ch:149, EUT horizontal, antenna vertical.
11569.970	37.9	-9.7	129.0	1.2	0.0	0.0	V-Horn	AV	0.0	28.2	54.0	-25.8	802.11a 54Mbps, Ch:157, EUT horizontal, antenna vertical.
11570.000	37.9	-9.7	129.0	1.2	0.0	0.0	V-Horn	AV	0.0	28.2	54.0	-25.8	802.11n MCS0, Ch:157, EUT horizontal, antenna vertical.
11570.070	37.9	-9.7	129.0	1.2	0.0	0.0	V-Horn	AV	0.0	28.2	54.0	-25.8	802.11a 36Mbps, Ch:157, EUT horizontal, antenna vertical.

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2008.07.21
EMI 2008.1.9

EUT:	RC12	Work Order:	INMC0575
Serial Number:	R14	Date:	08/05/10
Customer:	Intermec Technologies Corporation	Temperature:	23.2 °C
Attendees:	none	Humidity:	50%
Project:	None	Barometric Pres.:	1017.5 mb
Tested by:	Dan Haas	Job Site:	EV12
Power:	5VDC		

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 2	Test Distance (m)	3

COMMENTS

See comments for channel and EUT orientation.

EUT OPERATING MODES

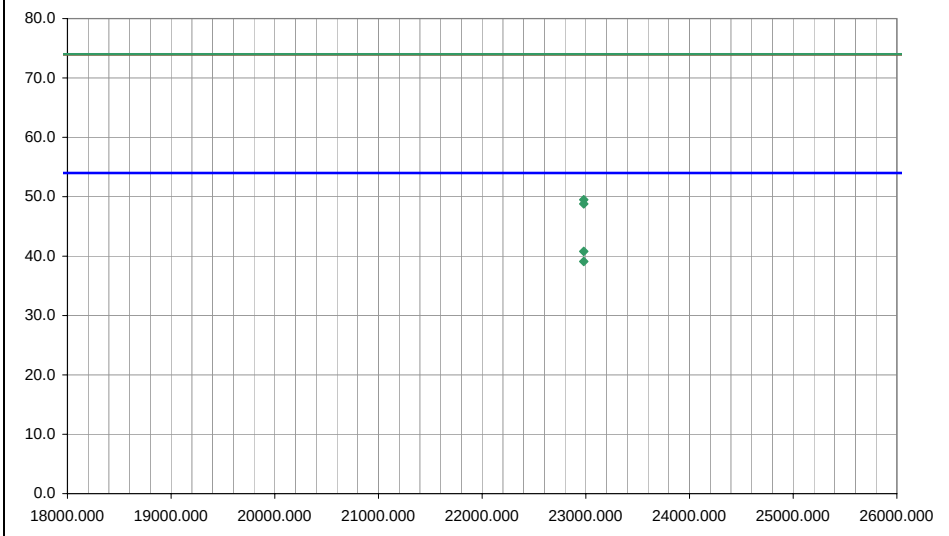
Continuous Tx. 802.11a, 6Mbps

DEVIATIONS FROM TEST STANDARD

No deviations.

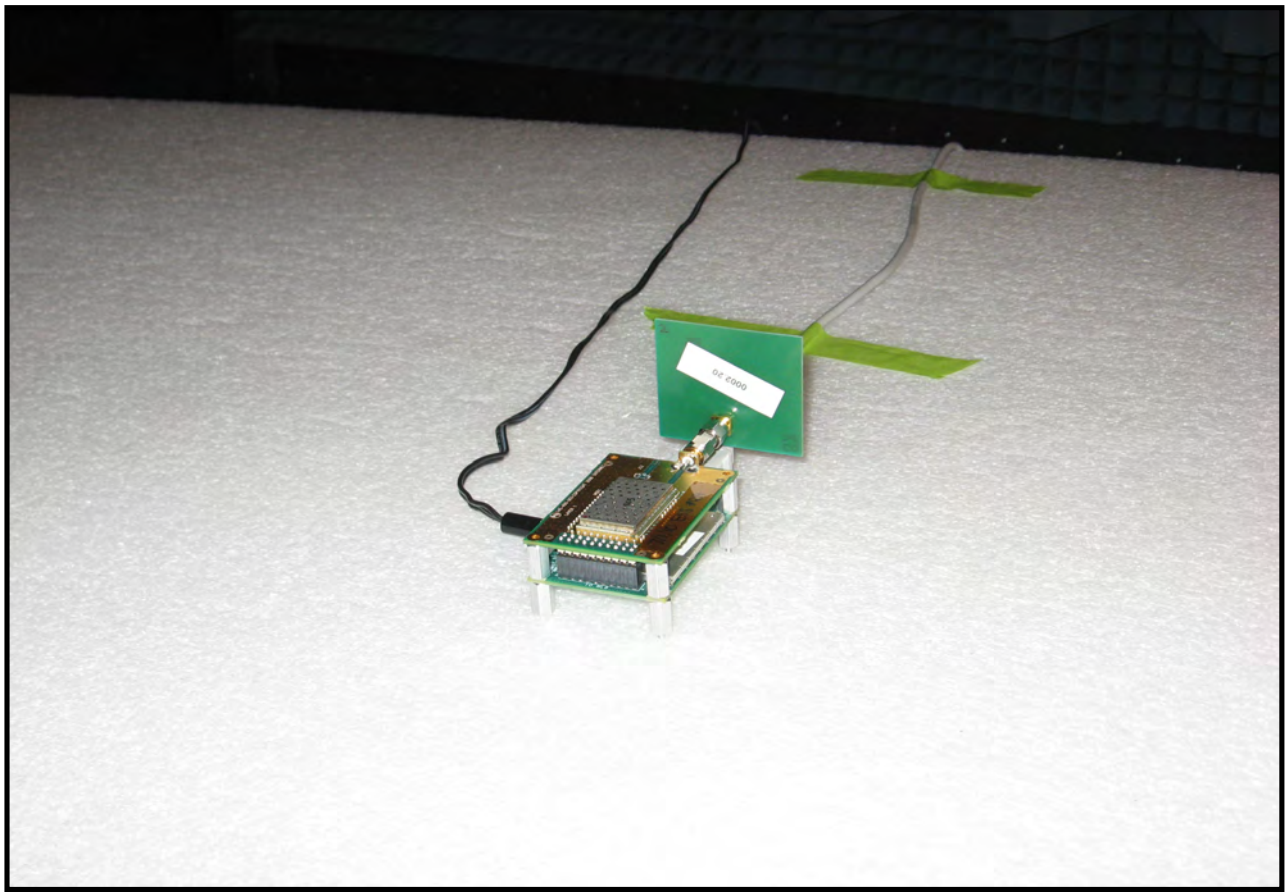
Run #	12
Configuration #	1
Results	Pass

Signature

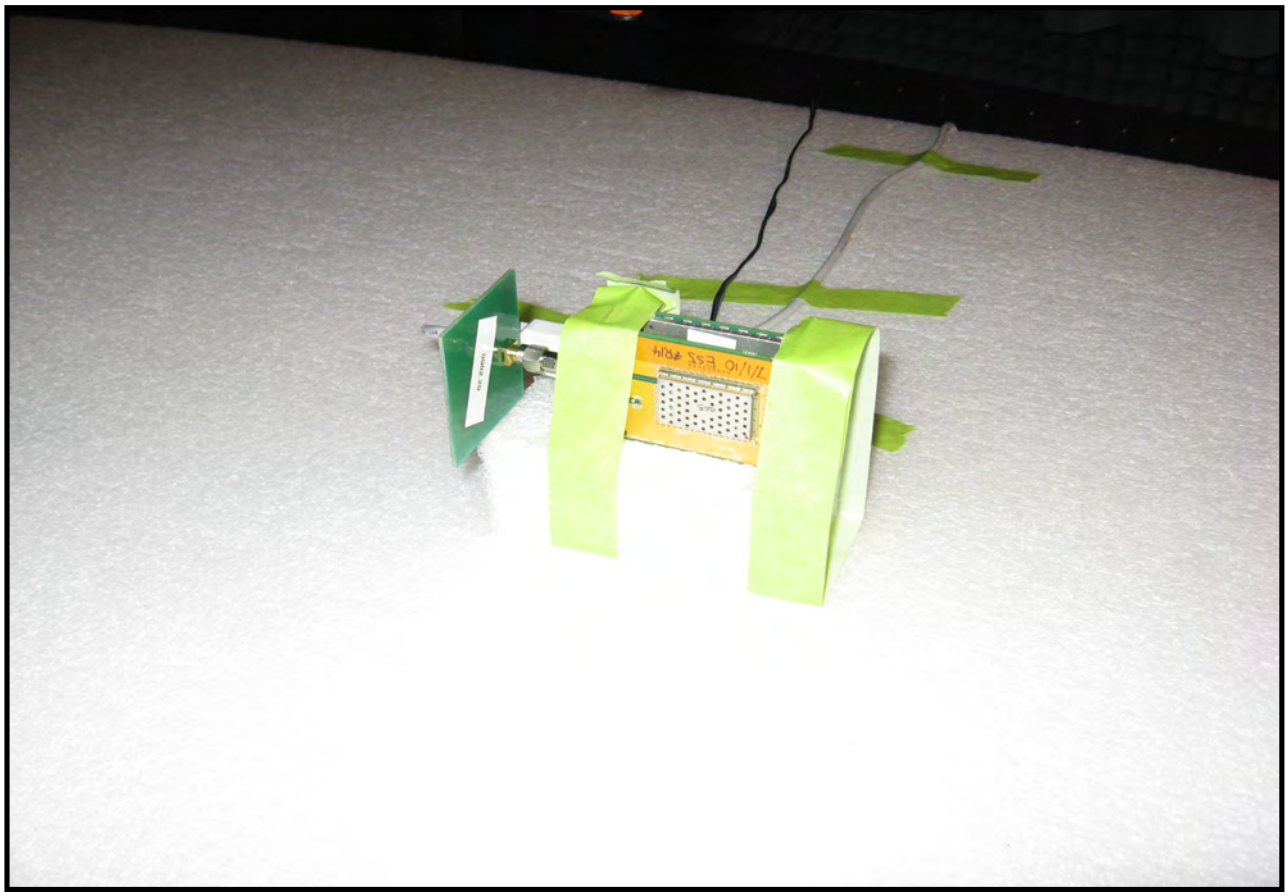


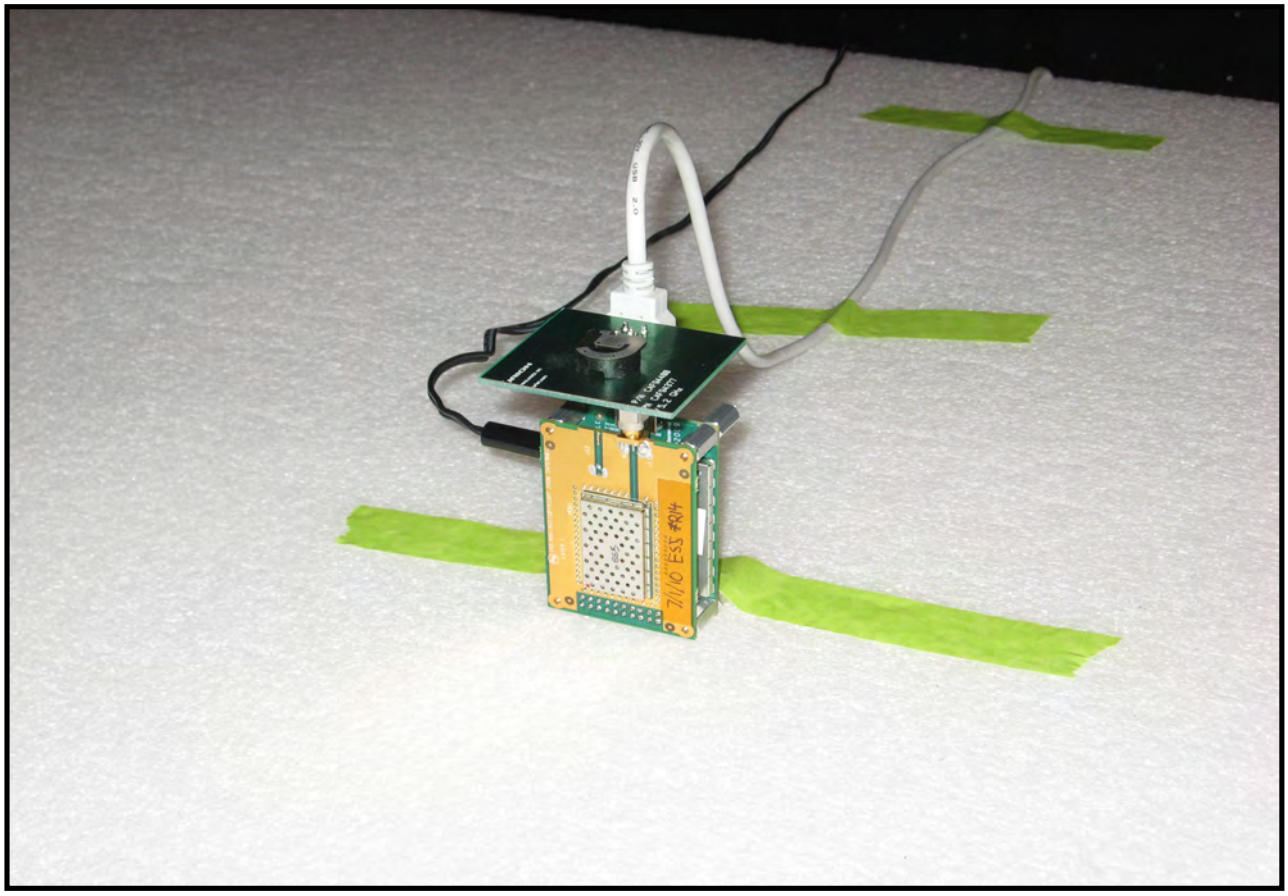
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
22980.040	49.8	-9.0	21.0	1.0	3.0	0.0	-High Horr	AV	0.0	40.8	54.0	-13.2	Ch:149, EUT vertical, antenna horizontal.
22980.050	48.1	-9.0	36.0	1.3	3.0	0.0	√-High Horr	AV	0.0	39.1	54.0	-14.9	Ch:149, EUT on side, antenna vertical.
22980.010	58.5	-9.0	21.0	1.0	3.0	0.0	-High Horr	PK	0.0	49.5	74.0	-24.5	Ch:149, EUT vertical, antenna horizontal.
22979.990	57.8	-9.0	36.0	1.3	3.0	0.0	√-High Horr	PK	0.0	48.8	74.0	-25.2	Ch:149, EUT on side, antenna vertical.

Spurious Radiated Emissions



Spurious Radiated Emissions





AC POWERLINE CONDUCTED 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
Transmitting. 802.11(a), 6 Mbps, High Channel, 165
Transmitting. 802.11(a), 6 Mbps, Mid Channel, 157
Transmitting. 802.11(a), 6 Mbps, Low Channel, 149
Transmitting. 802.11(b), 1 Mbps, High Channel
Transmitting. 802.11(b), 1 Mbps, Mid Channel
Transmitting. 802.11(b), 1 Mbps, Low Channel

POWER SETTINGS INVESTIGATED
3.3 VDC from 120VAC

CONFIGURATIONS INVESTIGATED
INMC0575 - 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
Receiver	Rohde & Schwarz	ESCI	ARE	4/29/2010	12 mo
High Pass Filter	TTE	H97-100K-50-720B	HFX	2/16/2010	13 mo
Attenuator	Coaxicom	66702 2910-20	ATO	7/21/2009	13 mo
EV07 Cables	N/A	Conducted Cables	EVG	6/21/2010	13 mo
LISN	Solar	9252-50-R-24-BNC	LIR	3/2/2010	12 mo
LISN	Solar	9252-50-R-24-BNC	LIN	5/27/2010	12 mo

MEASUREMENT BANDWIDTHS

	Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

The EUT will be powered indirectly from the AC power line while operating in a host device. Therefore, conducted emissions measurements were made on the DC input of the EUT, or on the DC input of the device used to power the EUT. The AC power line conducted emissions were measured on a linear power supply providing DC power to the module while providing no filtering of the power inputs to the module.

The AC power line conducted emissions were measured with the EUT operating at the lowest, the highest, and a middle channel in the operational band or bands. The EUT was transmitting in the mode which has the highest output power for the band. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.10-2009.

NORTHWEST

EMC

AC POWERLINE CONDUCTED EMISSIONS

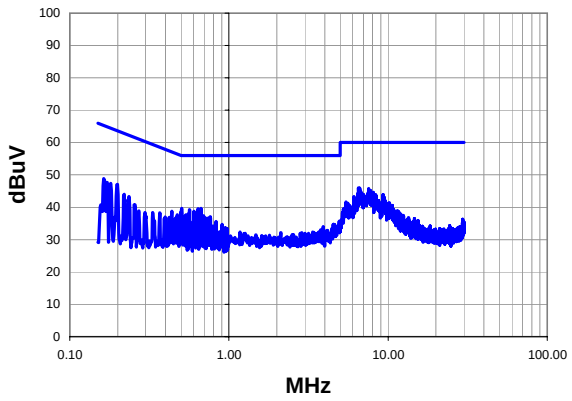
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(b), 1 Mbps, Low Channel				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

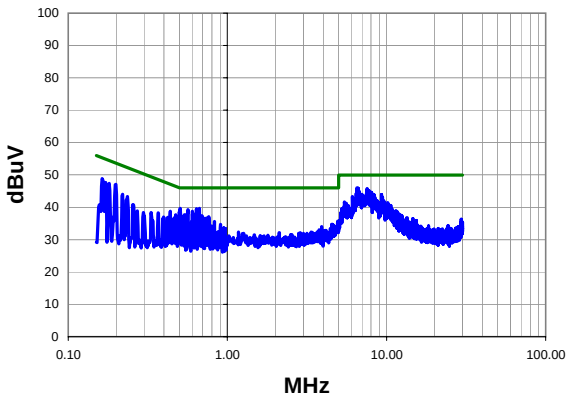
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	1	**Line:**	High Line	**Ext. Attenuation:**	20	**Results**	Pass

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
6.520	25.7	20.3	46.0	60.0	-14.0
6.630	25.6	20.3	45.9	60.0	-14.1
7.540	25.4	20.4	45.8	60.0	-14.2
7.770	24.7	20.4	45.1	60.0	-14.9
6.720	24.6	20.4	45.0	60.0	-15.0
8.060	24.2	20.4	44.6	60.0	-15.4
6.440	24.0	20.3	44.3	60.0	-15.7
7.000	23.6	20.4	44.0	60.0	-16.0
9.310	23.5	20.4	43.9	60.0	-16.1
8.360	23.4	20.4	43.8	60.0	-16.2
0.669	19.5	20.2	39.7	56.0	-16.3
0.505	19.5	20.2	39.7	56.0	-16.3
0.164	28.7	20.2	48.9	65.3	-16.4
0.640	19.4	20.2	39.6	56.0	-16.4
0.199	26.9	20.2	47.1	63.6	-16.6
8.320	23.0	20.4	43.4	60.0	-16.6
0.565	19.1	20.2	39.3	56.0	-16.7
6.110	23.0	20.3	43.3	60.0	-16.7
8.220	22.8	20.4	43.2	60.0	-16.8
9.440	22.7	20.4	43.1	60.0	-16.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
6.520	25.7	20.3	46.0	50.0	-4.0
6.630	25.6	20.3	45.9	50.0	-4.1
7.540	25.4	20.4	45.8	50.0	-4.2
7.770	24.7	20.4	45.1	50.0	-4.9
6.720	24.6	20.4	45.0	50.0	-5.0
8.060	24.2	20.4	44.6	50.0	-5.4
6.440	24.0	20.3	44.3	50.0	-5.7
7.000	23.6	20.4	44.0	50.0	-6.0
9.310	23.5	20.4	43.9	50.0	-6.1
8.360	23.4	20.4	43.8	50.0	-6.2
0.669	19.5	20.2	39.7	46.0	-6.3
0.505	19.5	20.2	39.7	46.0	-6.3
0.164	28.7	20.2	48.9	55.3	-6.4
0.640	19.4	20.2	39.6	46.0	-6.4
0.199	26.9	20.2	47.1	53.6	-6.6
8.320	23.0	20.4	43.4	50.0	-6.6
0.565	19.1	20.2	39.3	46.0	-6.7
6.110	23.0	20.3	43.3	50.0	-6.7
8.220	22.8	20.4	43.2	50.0	-6.8
9.440	22.7	20.4	43.1	50.0	-6.9

NORTHWEST
EMC

AC POWERLINE CONDUCTED EMISSIONS

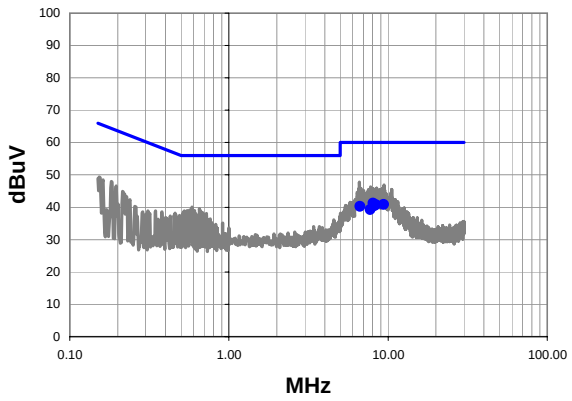
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(b), 1 Mbps, Low Channel				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

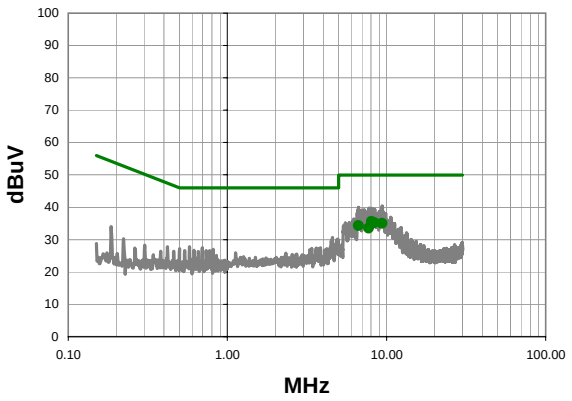
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	2	**Line:**	Neutral	**Ext. Attenuation:**	20	**Results**	Pass

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)
8.048	20.8	20.4	41.2	60.0	-18.8
9.382	20.4	20.4	40.8	60.0	-19.2
8.418	20.3	20.4	40.7	60.0	-19.3
8.206	20.0	20.4	40.4	60.0	-19.6
6.660	19.9	20.3	40.2	60.0	-19.8
7.738	18.9	20.4	39.3	60.0	-20.7

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
8.048	15.2	20.4	35.6	50.0	-14.4
8.418	14.8	20.4	35.2	50.0	-14.8
8.206	14.7	20.4	35.1	50.0	-14.9
9.382	14.6	20.4	35.0	50.0	-15.0
6.660	14.0	20.3	34.3	50.0	-15.7
7.738	13.1	20.4	33.5	50.0	-16.5

NORTHWEST
EMC

AC POWERLINE CONDUCTED EMISSIONS

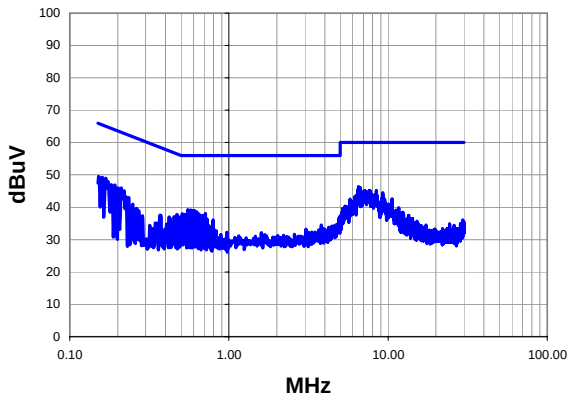
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(b), 1 Mbps, Mid Channel				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

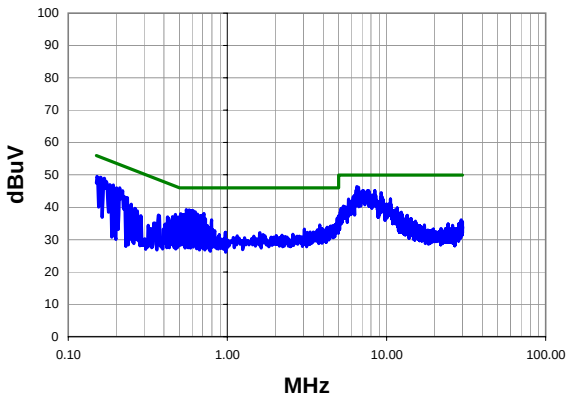
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	3	**Line:**	High Line	**Ext. Attenuation:**	20	**Results**	Pass

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
6.520	26.1	20.3	46.4	60.0	-13.6
6.670	25.8	20.3	46.1	60.0	-13.9
8.430	24.7	20.4	45.1	60.0	-14.9
7.740	24.7	20.4	45.1	60.0	-14.9
7.640	24.7	20.4	45.1	60.0	-14.9
7.140	24.7	20.4	45.1	60.0	-14.9
7.200	24.4	20.4	44.8	60.0	-15.2
6.770	24.2	20.4	44.6	60.0	-15.4
9.270	24.1	20.4	44.5	60.0	-15.5
7.780	24.1	20.4	44.5	60.0	-15.5
0.169	28.8	20.2	49.0	65.0	-16.1
8.190	23.4	20.4	43.8	60.0	-16.2
0.160	29.1	20.2	49.3	65.5	-16.2
8.030	23.3	20.4	43.7	60.0	-16.3
0.152	29.4	20.2	49.6	65.9	-16.3
8.540	23.2	20.4	43.6	60.0	-16.4
6.300	23.3	20.3	43.6	60.0	-16.4
9.330	22.9	20.4	43.3	60.0	-16.7
0.553	19.1	20.2	39.3	56.0	-16.7
6.180	23.0	20.3	43.3	60.0	-16.7

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
6.520	26.1	20.3	46.4	50.0	-3.6
6.670	25.8	20.3	46.1	50.0	-3.9
8.430	24.7	20.4	45.1	50.0	-4.9
7.740	24.7	20.4	45.1	50.0	-4.9
7.640	24.7	20.4	45.1	50.0	-4.9
7.140	24.7	20.4	45.1	50.0	-4.9
7.200	24.4	20.4	44.8	50.0	-5.2
6.770	24.2	20.4	44.6	50.0	-5.4
9.270	24.1	20.4	44.5	50.0	-5.5
7.780	24.1	20.4	44.5	50.0	-5.5
0.169	28.8	20.2	49.0	55.0	-6.1
8.190	23.4	20.4	43.8	50.0	-6.2
0.160	29.1	20.2	49.3	55.5	-6.2
8.030	23.3	20.4	43.7	50.0	-6.3
0.152	29.4	20.2	49.6	55.9	-6.3
8.540	23.2	20.4	43.6	50.0	-6.4
6.300	23.3	20.3	43.6	50.0	-6.4
9.330	22.9	20.4	43.3	50.0	-6.7
0.553	19.1	20.2	39.3	46.0	-6.7
6.180	23.0	20.3	43.3	50.0	-6.7

NORTHWEST
EMC

AC POWERLINE CONDUCTED EMISSIONS

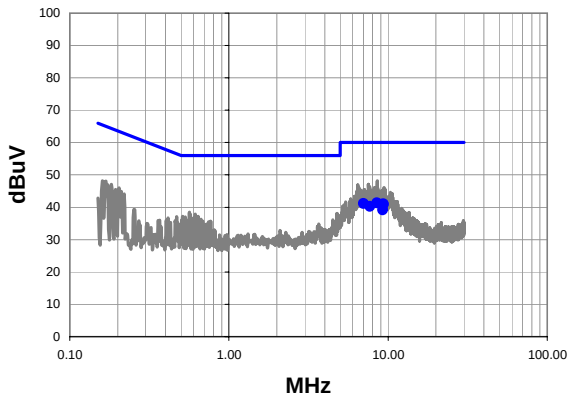
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(b), 1 Mbps, Mid Channel				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

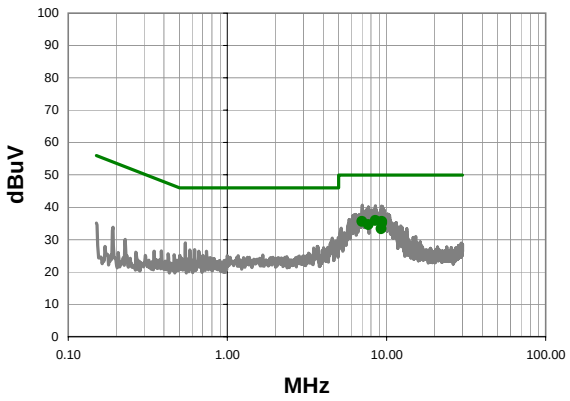
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	4	**Line:**	Neutral	**Ext. Attenuation:**	20	**Results**	Pass

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)
8.504	20.9	20.4	41.3	60.0	-18.7
7.018	20.8	20.4	41.2	60.0	-18.8
9.342	20.6	20.4	41.0	60.0	-19.0
9.358	20.3	20.4	40.7	60.0	-19.3
7.678	19.8	20.4	40.2	60.0	-19.8
9.268	18.7	20.4	39.1	60.0	-20.9

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
8.504	15.5	20.4	35.9	50.0	-14.1
9.342	15.2	20.4	35.6	50.0	-14.4
7.018	15.2	20.4	35.6	50.0	-14.4
9.358	14.7	20.4	35.1	50.0	-14.9
7.678	14.2	20.4	34.6	50.0	-15.4
9.268	12.9	20.4	33.3	50.0	-16.7

NORTHWEST

EMC

AC POWERLINE CONDUCTED EMISSIONS

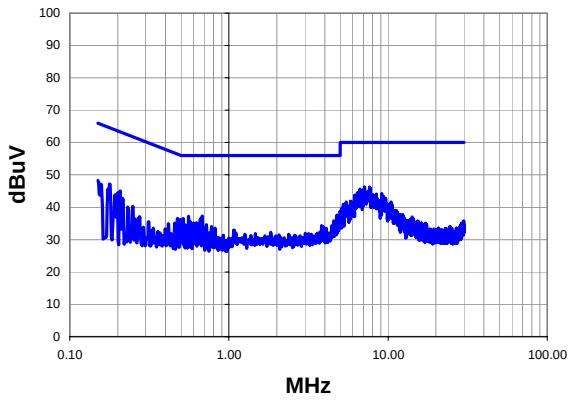
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(b), 1 Mbps, High Channel				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

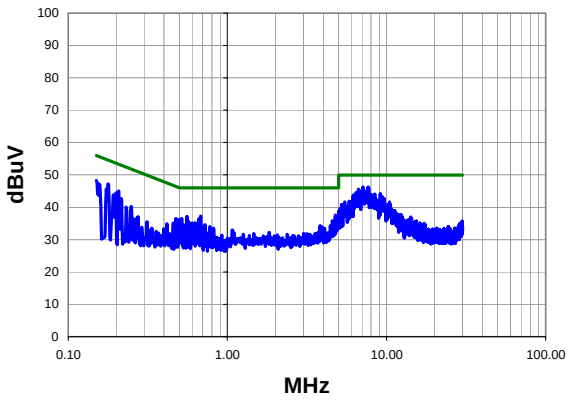
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	5	**Line:**	High Line	**Ext. Attenuation:**	20	**Results**	Pass

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
7.120	25.9	20.4	46.3	60.0	-13.7
7.660	25.8	20.4	46.2	60.0	-13.8
7.740	25.6	20.4	46.0	60.0	-14.0
6.670	25.3	20.3	45.6	60.0	-14.4
7.040	25.1	20.4	45.5	60.0	-14.5
6.640	24.7	20.3	45.0	60.0	-15.0
6.430	24.2	20.3	44.5	60.0	-15.5
9.120	23.7	20.4	44.1	60.0	-15.9
8.430	23.6	20.4	44.0	60.0	-16.0
8.030	23.5	20.4	43.9	60.0	-16.1
7.850	23.4	20.4	43.8	60.0	-16.2
6.190	23.4	20.3	43.7	60.0	-16.3
6.330	23.3	20.3	43.6	60.0	-16.4
9.400	22.9	20.4	43.3	60.0	-16.7
5.000	18.5	20.3	38.8	56.0	-17.2
8.510	22.3	20.4	42.7	60.0	-17.3
9.650	22.2	20.4	42.6	60.0	-17.4
0.177	27.0	20.2	47.2	64.6	-17.5
0.150	28.1	20.2	48.3	66.0	-17.7
6.090	21.7	20.3	42.0	60.0	-18.0

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
7.120	25.9	20.4	46.3	50.0	-3.7
7.660	25.8	20.4	46.2	50.0	-3.8
7.740	25.6	20.4	46.0	50.0	-4.0
6.670	25.3	20.3	45.6	50.0	-4.4
7.040	25.1	20.4	45.5	50.0	-4.5
6.640	24.7	20.3	45.0	50.0	-5.0
6.430	24.2	20.3	44.5	50.0	-5.5
9.120	23.7	20.4	44.1	50.0	-5.9
8.430	23.6	20.4	44.0	50.0	-6.0
8.030	23.5	20.4	43.9	50.0	-6.1
7.850	23.4	20.4	43.8	50.0	-6.2
6.190	23.4	20.3	43.7	50.0	-6.3
6.330	23.3	20.3	43.6	50.0	-6.4
9.400	22.9	20.4	43.3	50.0	-6.7
5.000	18.5	20.3	38.8	46.0	-7.2
8.510	22.3	20.4	42.7	50.0	-7.3
9.650	22.2	20.4	42.6	50.0	-7.4
0.177	27.0	20.2	47.2	54.6	-7.5
0.150	28.1	20.2	48.3	56.0	-7.7
6.090	21.7	20.3	42.0	50.0	-8.0

NORTHWEST

EMC

AC POWERLINE CONDUCTED EMISSIONS

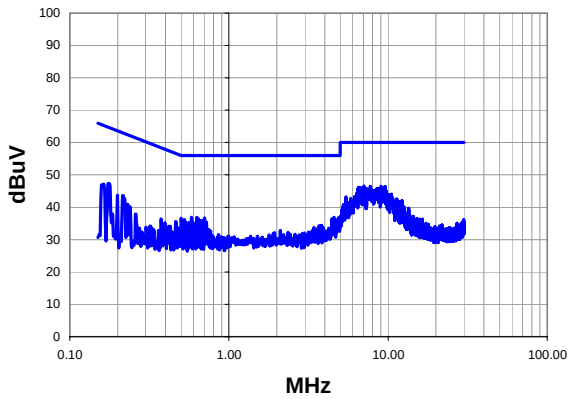
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(b), 1 Mbps, High Channel				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

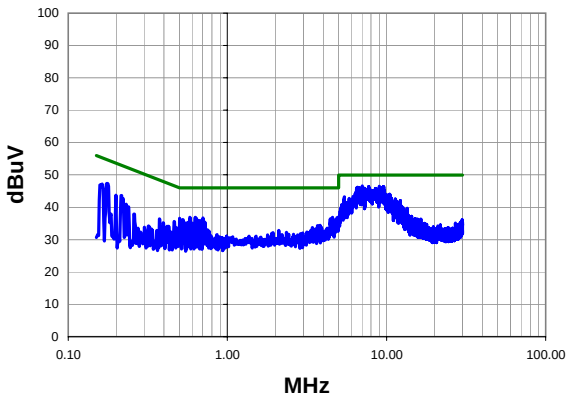
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	6	**Line:**	Neutral	**Ext. Attenuation:**	20	**Results**	Pass

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
7.030	26.2	20.4	46.6	60.0	-13.4
9.020	26.1	20.4	46.5	60.0	-13.5
7.730	26.0	20.4	46.4	60.0	-13.6
9.610	25.9	20.4	46.3	60.0	-13.7
9.510	25.9	20.4	46.3	60.0	-13.7
6.580	25.9	20.3	46.2	60.0	-13.8
6.510	25.7	20.3	46.0	60.0	-14.0
6.730	25.6	20.4	46.0	60.0	-14.0
7.230	25.5	20.4	45.9	60.0	-14.1
8.520	25.4	20.4	45.8	60.0	-14.2
8.590	25.4	20.4	45.8	60.0	-14.2
7.840	25.3	20.4	45.7	60.0	-14.3
7.380	25.2	20.4	45.6	60.0	-14.4
7.080	25.1	20.4	45.5	60.0	-14.5
9.700	24.7	20.4	45.1	60.0	-14.9
8.030	24.7	20.4	45.1	60.0	-14.9
8.820	24.5	20.4	44.9	60.0	-15.1
6.410	24.4	20.3	44.7	60.0	-15.3
6.830	24.1	20.4	44.5	60.0	-15.5
9.810	23.7	20.4	44.1	60.0	-15.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
7.030	26.2	20.4	46.6	50.0	-3.4
9.020	26.1	20.4	46.5	50.0	-3.5
7.730	26.0	20.4	46.4	50.0	-3.6
9.610	25.9	20.4	46.3	50.0	-3.7
9.510	25.9	20.4	46.3	50.0	-3.7
6.580	25.9	20.3	46.2	50.0	-3.8
6.510	25.7	20.3	46.0	50.0	-4.0
6.730	25.6	20.4	46.0	50.0	-4.0
7.230	25.5	20.4	45.9	50.0	-4.1
8.520	25.4	20.4	45.8	50.0	-4.2
8.590	25.4	20.4	45.8	50.0	-4.2
7.840	25.3	20.4	45.7	50.0	-4.3
7.380	25.2	20.4	45.6	50.0	-4.4
7.080	25.1	20.4	45.5	50.0	-4.5
9.700	24.7	20.4	45.1	50.0	-4.9
8.030	24.7	20.4	45.1	50.0	-4.9
8.820	24.5	20.4	44.9	50.0	-5.1
6.410	24.4	20.3	44.7	50.0	-5.3
6.830	24.1	20.4	44.5	50.0	-5.5
9.810	23.7	20.4	44.1	50.0	-5.9

NORTHWEST
EMC

AC POWERLINE CONDUCTED EMISSIONS

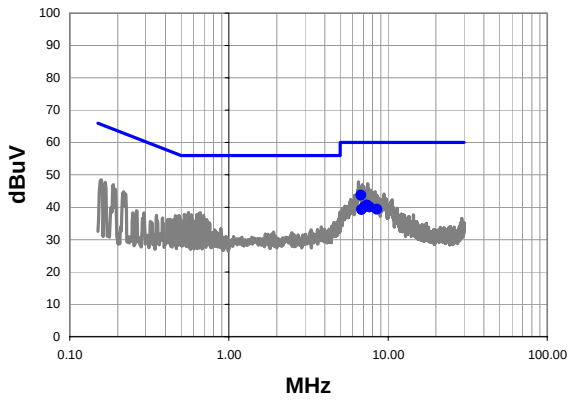
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(a), 6 Mbps, Low Channel, 149				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

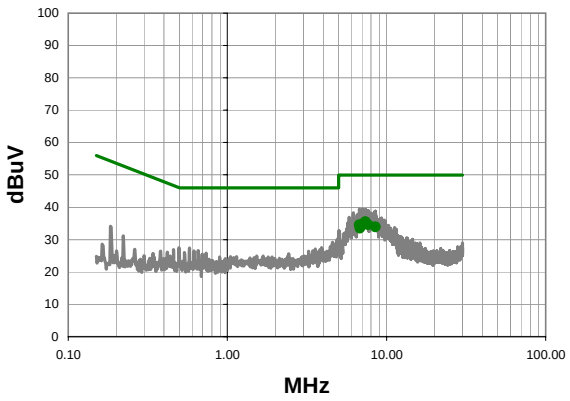
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	7	**Line:**	High Line	**Ext. Attenuation:**	20	**Results**	Pass

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)
6.758	23.4	20.4	43.8	60.0	-16.2
7.384	20.3	20.4	40.7	60.0	-19.3
7.102	19.8	20.4	40.2	60.0	-19.8
7.662	19.7	20.4	40.1	60.0	-19.9
8.508	19.0	20.4	39.4	60.0	-20.6
6.822	18.9	20.4	39.3	60.0	-20.7

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
7.384	15.1	20.4	35.5	50.0	-14.5
7.102	14.4	20.4	34.8	50.0	-15.2
7.662	14.2	20.4	34.6	50.0	-15.4
6.758	14.2	20.4	34.6	50.0	-15.4
8.508	13.5	20.4	33.9	50.0	-16.1
6.822	13.2	20.4	33.6	50.0	-16.4

NORTHWEST
EMC

AC POWERLINE CONDUCTED EMISSIONS

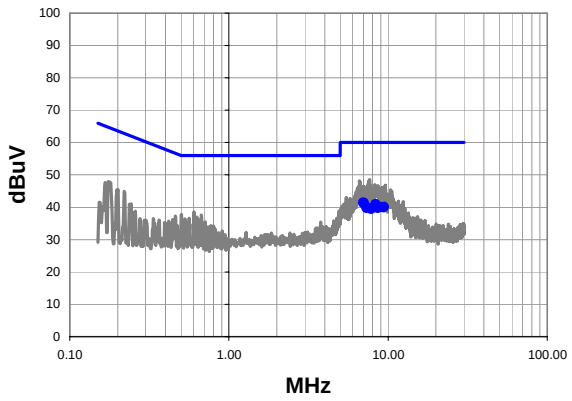
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(a), 6 Mbps, Low Channel, 149				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

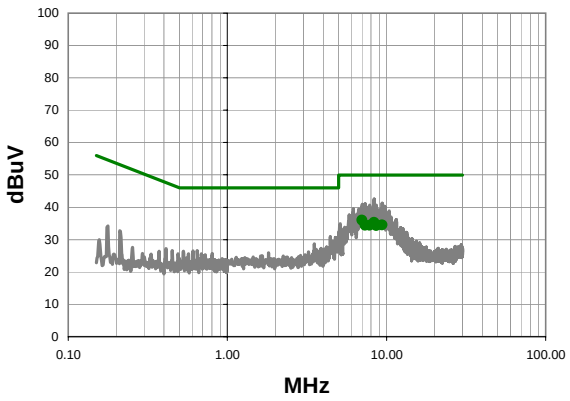
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	8	**Line:**	Neutral	**Ext. Attenuation:**	20	**Results**	Pass

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)
7.018	21.0	20.4	41.4	60.0	-18.6
8.358	20.4	20.4	40.8	60.0	-19.2
9.384	19.6	20.4	40.0	60.0	-20.0
8.632	19.5	20.4	39.9	60.0	-20.1
7.348	19.5	20.4	39.9	60.0	-20.1
7.828	19.2	20.4	39.6	60.0	-20.4

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
7.018	15.6	20.4	36.0	50.0	-14.0
8.358	14.9	20.4	35.3	50.0	-14.7
9.384	14.1	20.4	34.5	50.0	-15.5
7.828	14.0	20.4	34.4	50.0	-15.6
7.348	14.0	20.4	34.4	50.0	-15.6
8.632	13.9	20.4	34.3	50.0	-15.7

NORTHWEST
EMC

AC POWERLINE CONDUCTED EMISSIONS

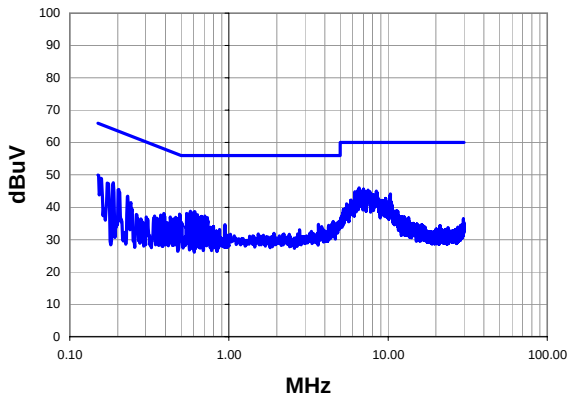
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(a), 6 Mbps, Mid Channel, 157				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

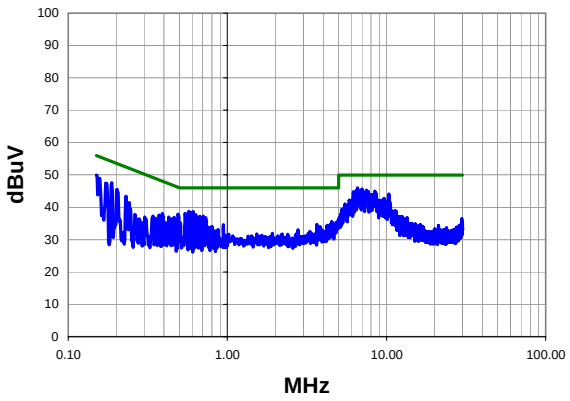
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	9	**Line:**	High Line	**Ext. Attenuation:**	20	**Results**	Pass

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
6.560	25.7	20.3	46.0	60.0	-14.0
6.590	25.3	20.3	45.6	60.0	-14.4
7.010	25.2	20.4	45.6	60.0	-14.4
7.470	24.9	20.4	45.3	60.0	-14.7
6.460	24.9	20.3	45.2	60.0	-14.8
6.740	24.7	20.4	45.1	60.0	-14.9
8.450	24.6	20.4	45.0	60.0	-15.0
7.680	24.4	20.4	44.8	60.0	-15.2
6.180	24.5	20.3	44.8	60.0	-15.2
7.170	24.3	20.4	44.7	60.0	-15.3
8.540	24.1	20.4	44.5	60.0	-15.5
6.670	24.1	20.3	44.4	60.0	-15.6
6.410	24.0	20.3	44.3	60.0	-15.7
10.330	23.7	20.4	44.1	60.0	-15.9
8.560	23.7	20.4	44.1	60.0	-15.9
0.150	29.8	20.2	50.0	66.0	-16.0
8.050	23.5	20.4	43.9	60.0	-16.1
10.280	23.3	20.4	43.7	60.0	-16.3
0.187	27.4	20.2	47.6	64.2	-16.6
0.157	28.8	20.2	49.0	65.6	-16.7

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
6.560	25.7	20.3	46.0	50.0	-4.0
6.590	25.3	20.3	45.6	50.0	-4.4
7.010	25.2	20.4	45.6	50.0	-4.4
7.470	24.9	20.4	45.3	50.0	-4.7
6.460	24.9	20.3	45.2	50.0	-4.8
6.740	24.7	20.4	45.1	50.0	-4.9
8.450	24.6	20.4	45.0	50.0	-5.0
7.680	24.4	20.4	44.8	50.0	-5.2
6.180	24.5	20.3	44.8	50.0	-5.2
7.170	24.3	20.4	44.7	50.0	-5.3
8.540	24.1	20.4	44.5	50.0	-5.5
6.670	24.1	20.3	44.4	50.0	-5.6
6.410	24.0	20.3	44.3	50.0	-5.7
10.330	23.7	20.4	44.1	50.0	-5.9
8.560	23.7	20.4	44.1	50.0	-5.9
0.150	29.8	20.2	50.0	56.0	-6.0
8.050	23.5	20.4	43.9	50.0	-6.1
10.280	23.3	20.4	43.7	50.0	-6.3
0.187	27.4	20.2	47.6	54.2	-6.6
0.157	28.8	20.2	49.0	55.6	-6.7

NORTHWEST
EMC

AC POWERLINE CONDUCTED EMISSIONS

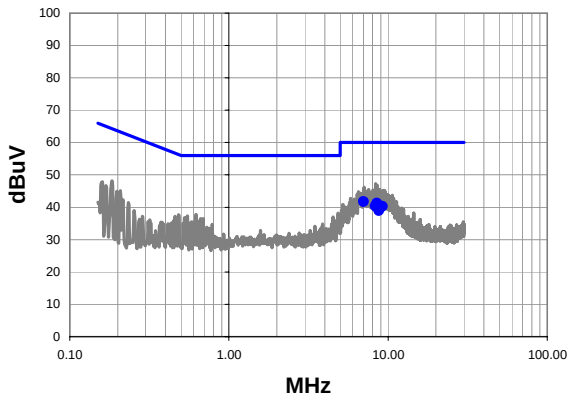
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(a), 6 Mbps, Mid Channel, 157				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

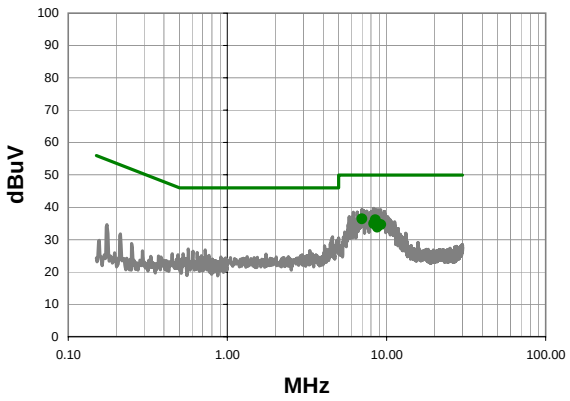
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	10	**Line:**	Neutral	**Ext. Attenuation:**	20	**Results**	Pass

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)
7.018	21.3	20.4	41.7	60.0	-18.3
8.498	20.8	20.4	41.2	60.0	-18.8
8.322	19.9	20.4	40.3	60.0	-19.7
9.198	19.8	20.4	40.2	60.0	-19.8
8.846	19.5	20.4	39.9	60.0	-20.1
8.762	18.6	20.4	39.0	60.0	-21.0

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
7.018	16.0	20.4	36.4	50.0	-13.6
8.498	15.7	20.4	36.1	50.0	-13.9
8.322	14.5	20.4	34.9	50.0	-15.1
8.846	14.4	20.4	34.8	50.0	-15.2
9.198	14.2	20.4	34.6	50.0	-15.4
8.762	13.4	20.4	33.8	50.0	-16.2

NORTHWEST
EMC

AC POWERLINE CONDUCTED EMISSIONS

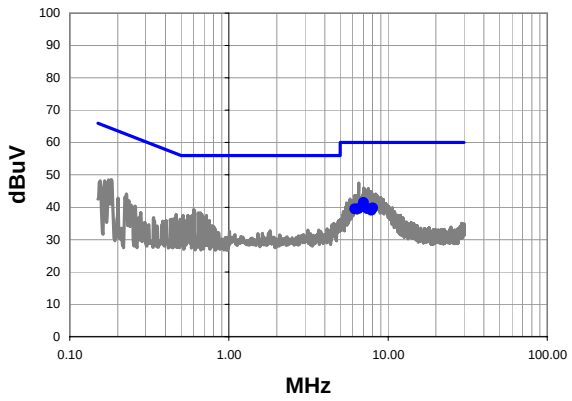
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(a), 6 Mbps, High Channel, 165				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

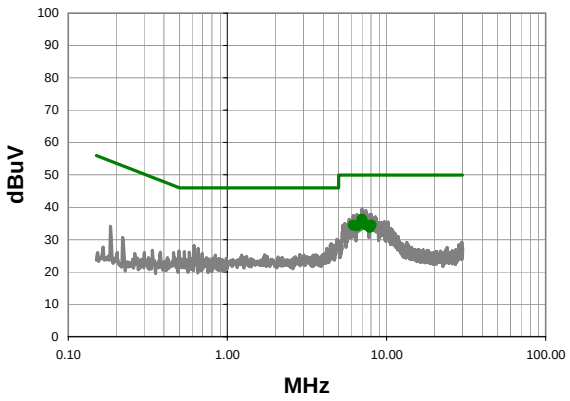
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	11	**Line:**	High Line	**Ext. Attenuation:**	20	**Results**	Pass

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)
7.022	21.1	20.4	41.5	60.0	-18.5
8.018	19.4	20.4	39.8	60.0	-20.2
7.414	19.2	20.4	39.6	60.0	-20.4
6.532	19.2	20.3	39.5	60.0	-20.5
6.184	19.2	20.3	39.5	60.0	-20.5
7.858	18.7	20.4	39.1	60.0	-20.9

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
7.022	15.9	20.4	36.3	50.0	-13.7
8.018	14.1	20.4	34.5	50.0	-15.5
7.414	14.1	20.4	34.5	50.0	-15.5
6.184	14.1	20.3	34.4	50.0	-15.6
6.532	13.9	20.3	34.2	50.0	-15.8
7.858	13.3	20.4	33.7	50.0	-16.3

NORTHWEST

EMC

AC POWERLINE CONDUCTED EMISSIONS

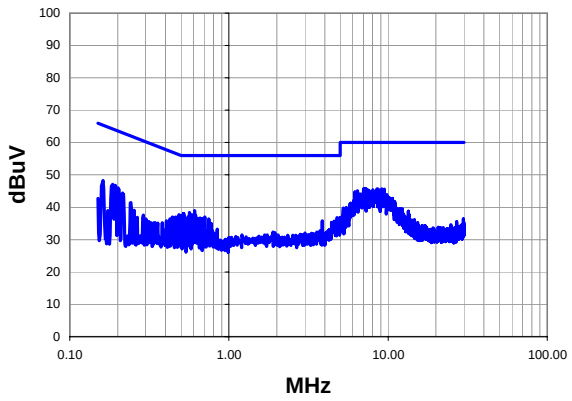
PSA-ESCI 2010.04.06
Version 2010.3.17

Work Order:	INMC0575	**Date:**	08/11/10		
Project:	None	**Temperature:**	22 °C		
Job Site:	EV07	**Humidity:**	53		
Serial Number:	R11	**Barometric Pres.:**	1014.8 mb	**Tested by:**	Rod Peloquin
EUT:	RC12				
Configuration:	3 - AC Power Conducted Emissions				
Customer:	Intermec Technologies Corporation				
Attendees:	none				
EUT Power:	3.3 VDC from 120VAC				
Operating Mode:	Transmitting. 802.11(a), 6 Mbps, High Channel, 165				
Deviations:	No deviations.				
Comments:	Linear lab power supply				

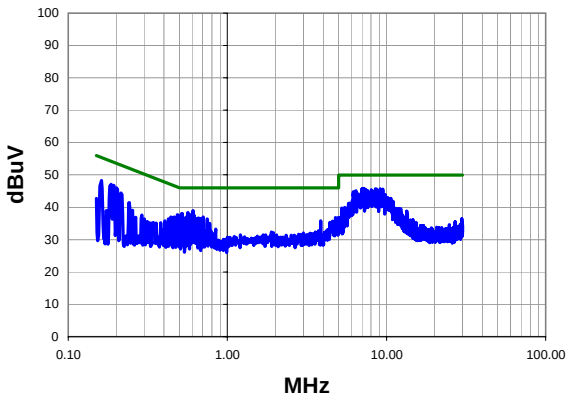
Test Specifications	**Test Method**
FCC 15.207:2010	ANSI C63.10:2009

Run #	12	**Line:**	Neutral	**Ext. Attenuation:**	20	**Results**	Pass

Peak Data - vs - Quasi Peak Limit

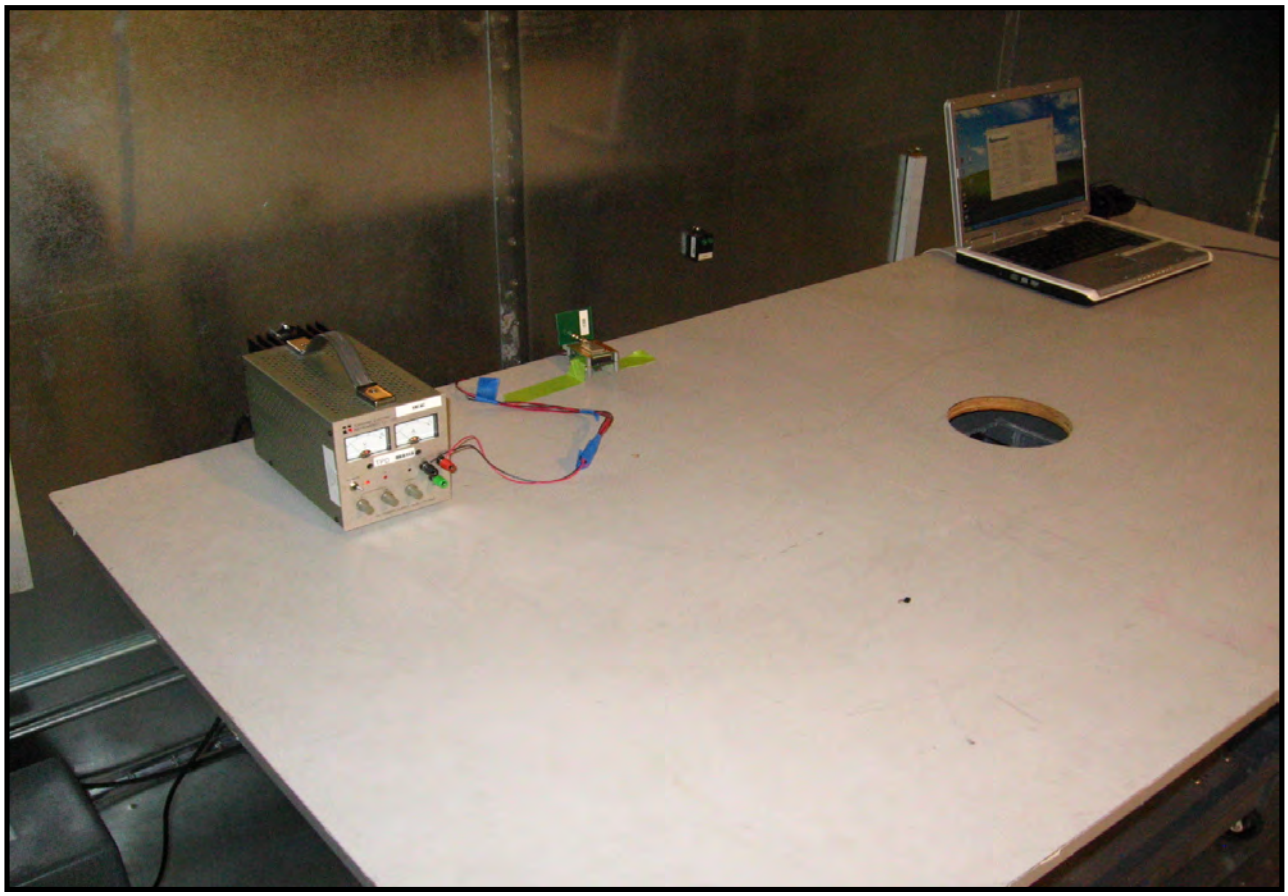
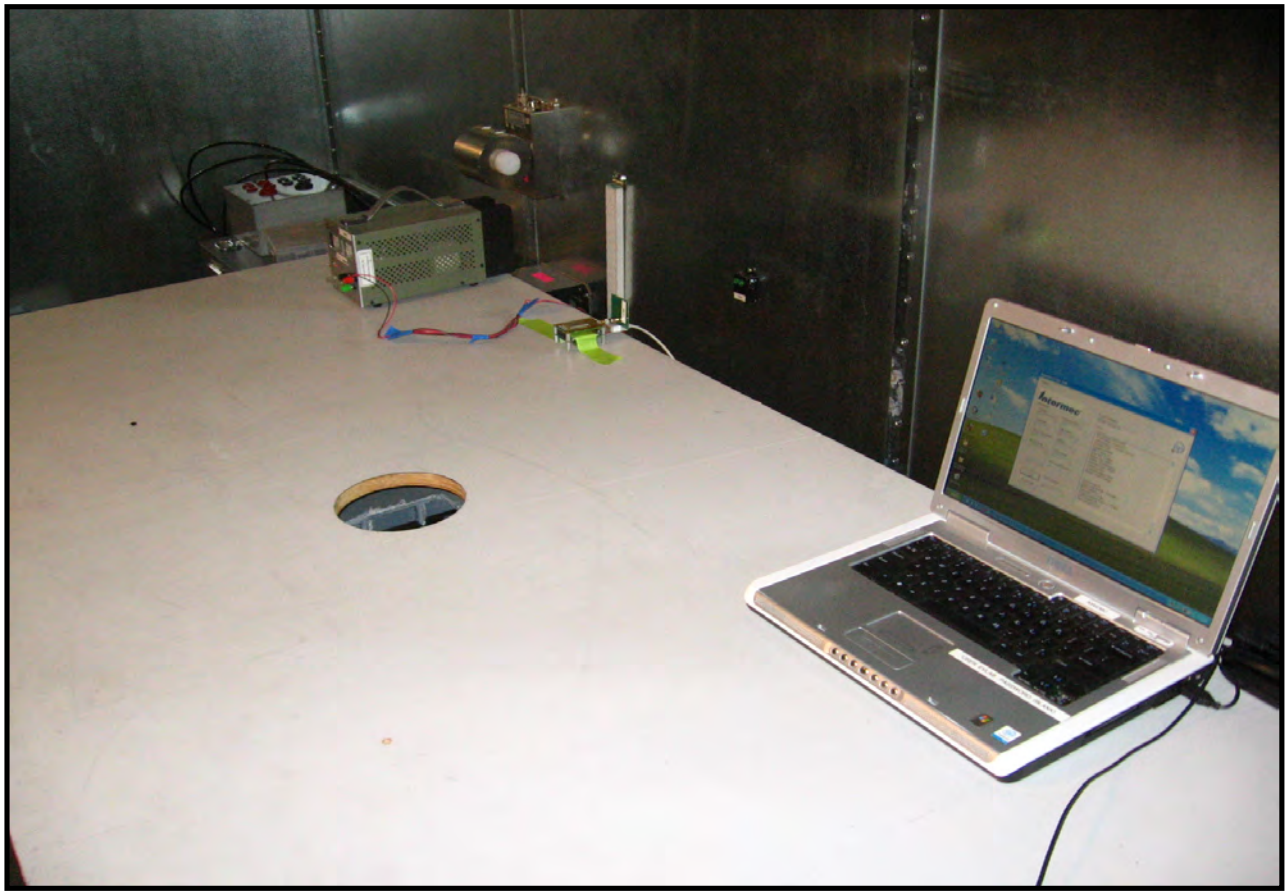
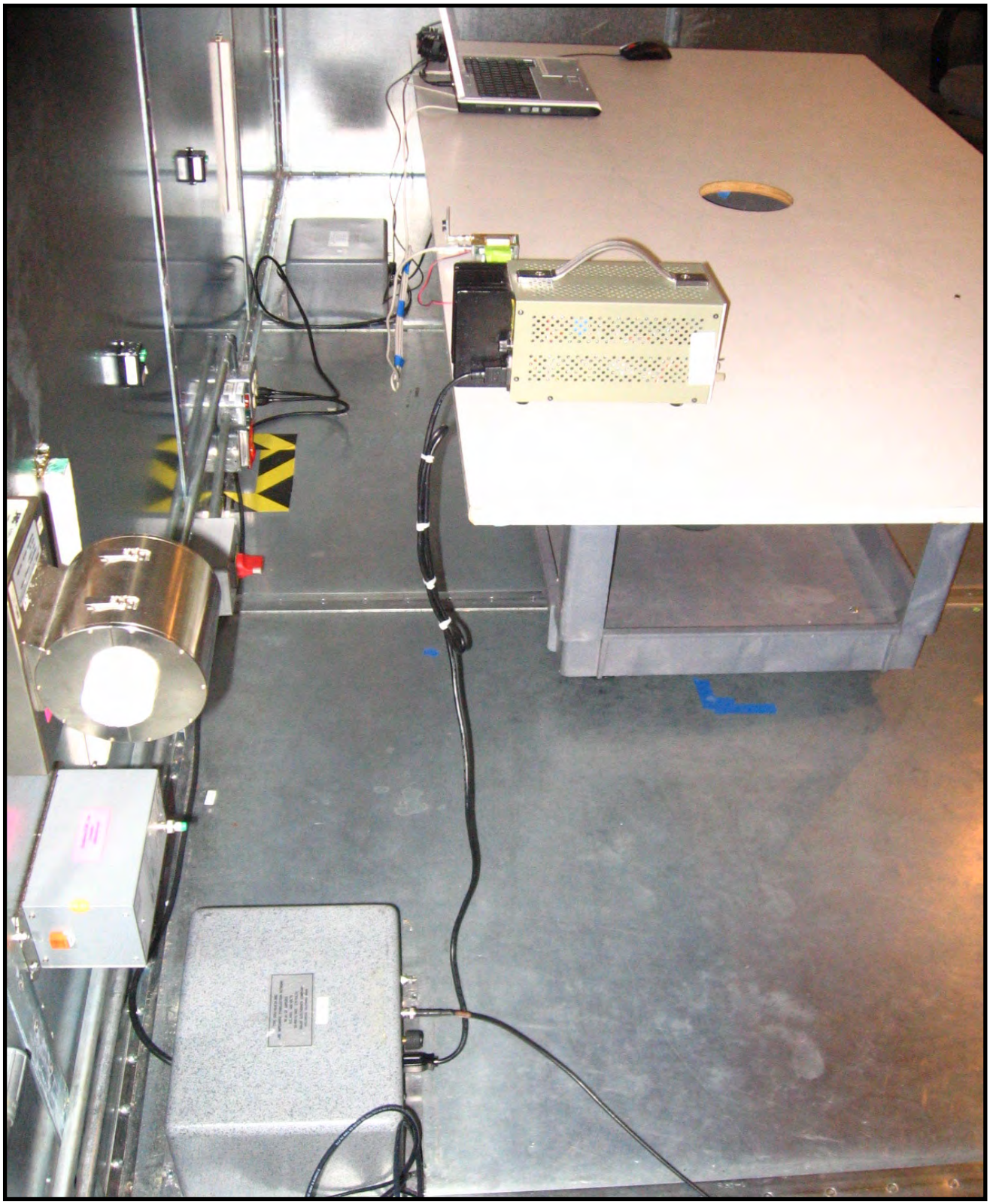


Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
7.210	25.4	20.4	45.8	60.0	-14.2
7.140	25.4	20.4	45.8	60.0	-14.2
9.110	25.3	20.4	45.7	60.0	-14.3
8.500	25.3	20.4	45.7	60.0	-14.3
7.040	25.3	20.4	45.7	60.0	-14.3
9.460	25.2	20.4	45.6	60.0	-14.4
8.690	25.2	20.4	45.6	60.0	-14.4
7.420	25.1	20.4	45.5	60.0	-14.5
8.030	25.0	20.4	45.4	60.0	-14.6
9.130	24.7	20.4	45.1	60.0	-14.9
7.580	24.7	20.4	45.1	60.0	-14.9
6.430	24.8	20.3	45.1	60.0	-14.9
9.430	24.6	20.4	45.0	60.0	-15.0
9.050	24.6	20.4	45.0	60.0	-15.0
6.180	24.5	20.3	44.8	60.0	-15.2
8.360	24.3	20.4	44.7	60.0	-15.3
8.780	24.2	20.4	44.6	60.0	-15.4
9.330	24.0	20.4	44.4	60.0	-15.6
8.870	23.8	20.4	44.2	60.0	-15.8
7.780	23.8	20.4	44.2	60.0	-15.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
7.210	25.4	20.4	45.8	50.0	-4.2
7.140	25.4	20.4	45.8	50.0	-4.2
9.110	25.3	20.4	45.7	50.0	-4.3
8.500	25.3	20.4	45.7	50.0	-4.3
7.040	25.3	20.4	45.7	50.0	-4.3
9.460	25.2	20.4	45.6	50.0	-4.4
8.690	25.2	20.4	45.6	50.0	-4.4
7.420	25.1	20.4	45.5	50.0	-4.5
8.030	25.0	20.4	45.4	50.0	-4.6
9.130	24.7	20.4	45.1	50.0	-4.9
7.580	24.7	20.4	45.1	50.0	-4.9
6.430	24.8	20.3	45.1	50.0	-4.9
9.430	24.6	20.4	45.0	50.0	-5.0
9.050	24.6	20.4	45.0	50.0	-5.0
6.180	24.5	20.3	44.8	50.0	-5.2
8.360	24.3	20.4	44.7	50.0	-5.3
8.780	24.2	20.4	44.6	50.0	-5.4
9.330	24.0	20.4	44.4	50.0	-5.6
8.870	23.8	20.4	44.2	50.0	-5.8
7.780	23.8	20.4	44.2	50.0	-5.8