Honeywell, Automation and Control Solutions

TH6320WF

Report #: HNYW0015

Report Prepared By Northwest EMC Inc.

NORTHWEST EMC – (888) 364-2378 – www.nwemc.com

California – Minnesota – Oregon – New York – Washington

CERTIFICATE OF TEST

WTD 12.5.23

Last Date of Test: August 16, 2012
Honeywell, Automation and Control Solutions
Model: TH6320WF

Emissions

Test Description	Specification	Test Method	Pass/Fail
Duty Cycle	FCC 15.247:2012	ANSI C63.10:2009	Pass
Occupied Bandwidth	FCC 15.247:2012	ANSI C63.10:2009	Pass
Output Power	FCC 15.247:2012	ANSI C63.10:2009	Pass
Band Edge Compliance	FCC 15.247:2012	ANSI C63.10:2009	Pass
Spurious Conducted Emissions	FCC 15.247:2012	ANSI C63.10:2009	Pass
Power Spectral Density	FCC 15.247:2012	ANSI C63.10:2009	Pass
Spurious Radiated Emissions	FCC 15.247:2012	ANSI C63.10:2009	Pass
AC Powerline Conducted Emissions	FCC 15.207:2012	ANSI C63.10:2009	Pass

Deviations From Test Standards

None

Approved By:

Tim O'Shea, Operations Manager

NVLAP Lab Code: 200881-0

Test Facility

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

Northwest EMC, Inc
9349 West Broadway Ave
Brooklyn Park, MN 55445

Phone: (763) 425-2281 Fax: (503) 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 #2834E-1).

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 History

Revision Number	Description	Date	Page Number
00	None		

United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Accredited by A2LA to ISO / IEC Guide 65 as a product certifier. This allows Northwest EMC to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025. The scope includes radio, ITE, and medical standards from around the world. See: http://www.nwemc.com/accreditations/

Canada

IC - Recognized by Industry Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with IC.

European Union

European Commission – Validated by the European Commission as a Conformity Assessment Body (CAB) under the EMC directive and as a Notified Body under the R&TTE Directive.

Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

Korea

KCC / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

Hong Kong

OFTA – Recognized by OFTA as a CAB for the acceptance of test data.

Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

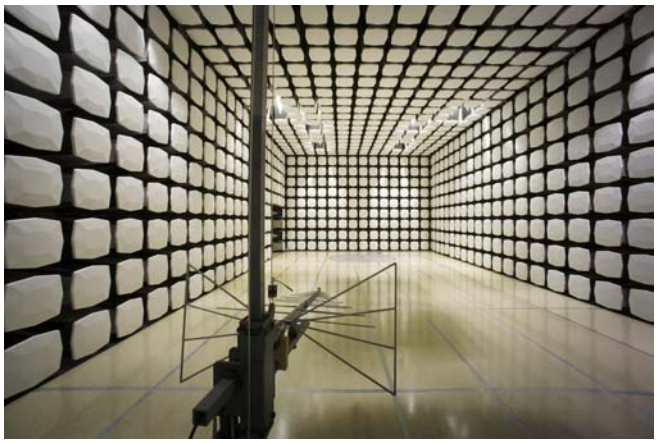
Russia

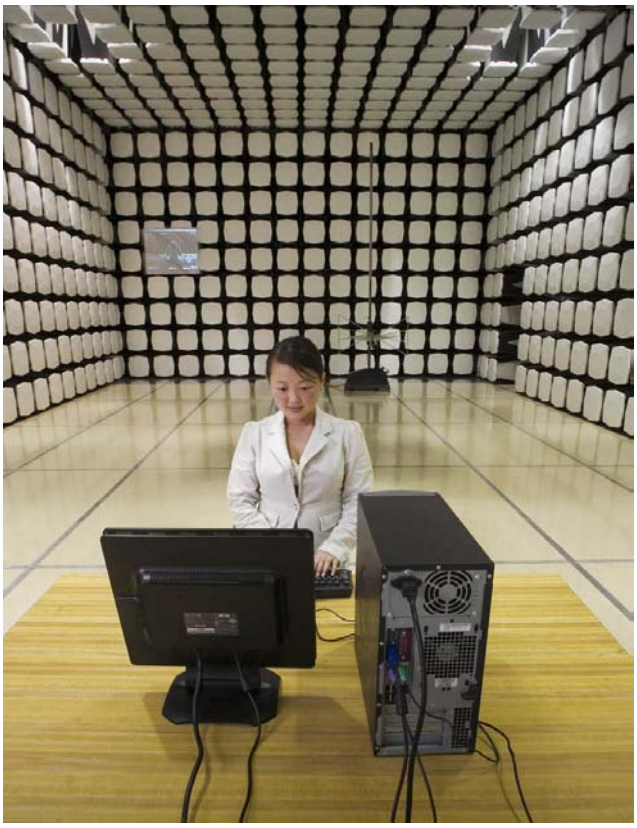
GOST – Accredited by Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC to perform EMC and Hygienic testing for Information Technology products to GOST standards**.**

Locations

Revision 8/3/12

Oregon Labs EV01-EV12 22975 NW Evergreen Pkwy, #400 Hillsboro, OR 97124 (503) 844-4066	**California** Labs OC01-OC13 41 Tesla Irvine, CA 92618 (949) 861-8918	**New York** Labs WA01-WA04 4939 Jordan Rd. Elbridge, NY 13060 (315) 685-0796	**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
VCCI				
A-0108	A-0029		A-0109	A-0110
Industry Canada				
2834D-1, 2834D-2	2834B-1, 2834B-2, 2834B-3		2834E-1	2834C-1





PRODUCT DESCRIPTION

WTD 12.5.23

Client and Equipment Under Test (EUT) Information

Company Name:	Honeywell, Automation and Control Solutions
Address:	1985 Douglas Drive North
City, State, Zip:	Golden Valley, MN 55422-3992
Test Requested By:	Dave Mulhouse
Model:	TH6320WF
First Date of Test:	August 14, 2012
Last Date of Test:	August 16, 2012
Receipt Date of Samples:	August 14, 2012
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT (Equipment Under Test):

802.11bgn SISO radio module

Testing Objective:

To demonstrate compliance under FCC 15.247 for operation in the 2.4GHz band.

EUT Photo

CONFIGURATIONS

Configuration HNYW0015- 1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Thermostat	Honeywell, Automation and Control Solutions	TH6320WF	3642

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AC Transformer	Atlas	MW57-2402080A	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
Power Cable	No	2.3m	No	Thermostat	AC Transformer
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Configuration HNYW0015- 2

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Thermostat	Honeywell, Automation and Control Solutions	TH6320WF	3619

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AC Transformer	Atlas	MW57-2402080A	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
Power Cable	No	1.1m	No	Thermostat	AC Transformer
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	8/14/2012	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.
2	8/15/2012	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.
3	8/15/2012	Duty Cycle	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	8/15/2012	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.
5	8/15/2012	Output 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.
6	8/15/2012	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.
7	8/15/2012	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.
8	8/16/2012	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.

Duty Cycle

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
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/12/2011	12
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	12
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/19/2012	12
Signal Generator	Agilent	N5183A	TIA	1/27/2012	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 Duty Cycle (x) were measured for each of the EUT operating modes. The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. 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 duty cycle was calculated by dividing the transmission pulse duration (T) by the total period of a single on and total off time.

If the transmit duty cycle < 98 percent, burst gating was used during some of the other tests in this report to only measure during the burst duration.

Duty Cycle

EUT:	TH6320WF	**Work Order:**	HNYW0015
Serial Number:	3642	**Date:**	08/15/12
Customer:	Honeywell, Automation and Control Solutions	**Temperature:**	23.46°C
Attendees:	None	**Humidity:**	52%
Project:	None	**Barometric Pres.:**	1007.9
Tested by:	Johnathan Lee	**Power:** 110VAC/60Hz	**Job Site:** MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2012	ANSI C63.10:2009

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

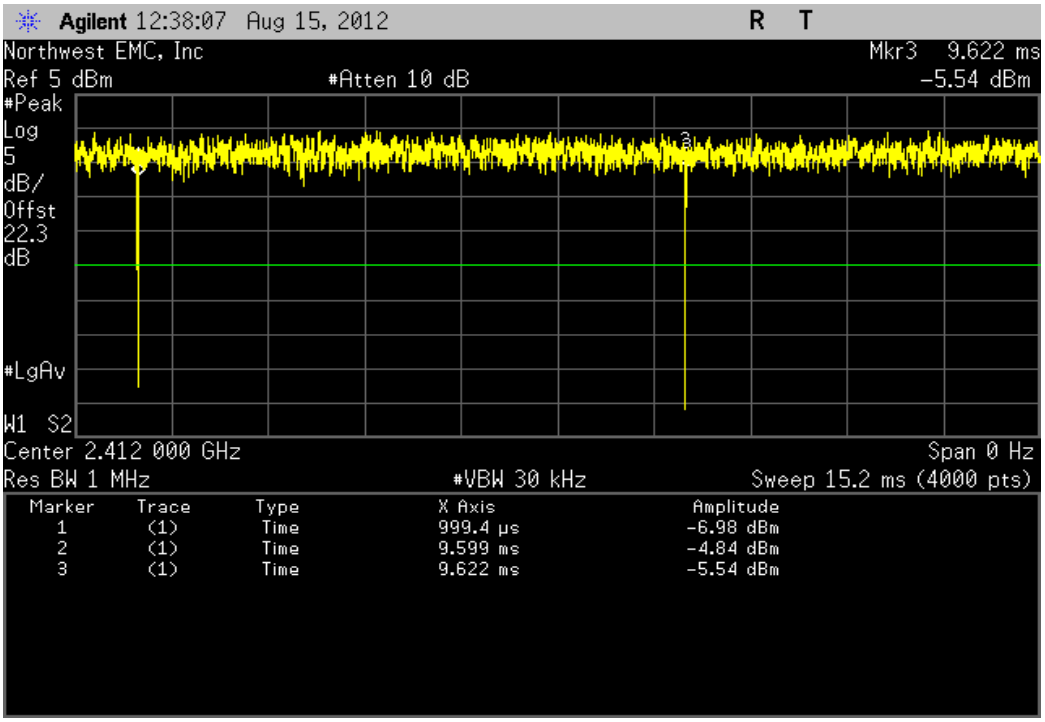
Configuration # 2

Signature

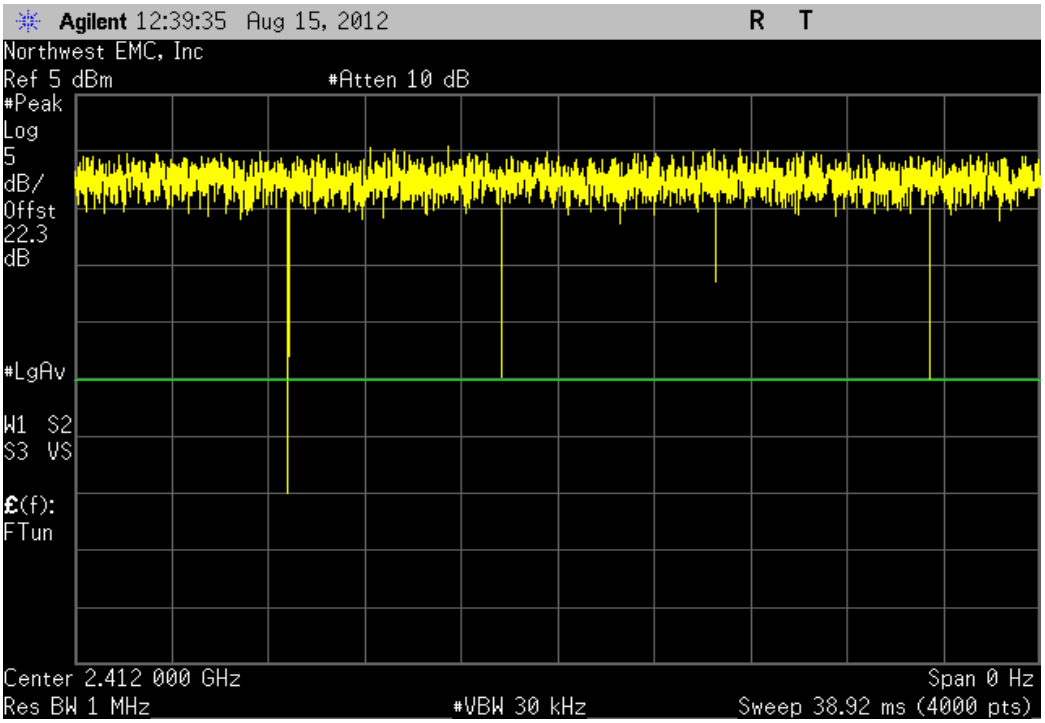
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
2400 MHz - 2483.5 MHz Band						
802.11(b) 1 Mbps						
Low Channel 1, 2412 MHz	8.599 mS	8.622 mS	1	99.7	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	2	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	11.17 mS	11.208 mS	1	99.7	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	1	N/A	N/A	N/A
High Channel 11, 2462 MHz	8.594 mS	8.628 mS	1	99.6	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	1	N/A	N/A	N/A
802.11(b) 11 Mbps						
Low Channel 1, 2412 MHz	846.4 uS	870.9 uS	1	97.2	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	849.5 uS	874 uS	1	97.2	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	846.4 uS	874 uS	1	96.8	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 6 Mbps						
Low Channel 1, 2412 MHz	1.415 mS	1.448 mS	1	97.7	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	1.415 mS	1.444 mS	1	98	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	1.415 mS	1.444 mS	1	98	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 36 Mbps						
Low Channel 1, 2412 MHz	246 uS	274.9 uS	1	89.5	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	243.9 uS	272.8 uS	1	89.4	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	243.9 uS	272.8 uS	1	89.4	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 54 Mbps						
Low Channel 1, 2412 MHz	167.4 uS	196.3 uS	1	85.3	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	167.4 uS	198.4 uS	1	84.4	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	167.4 uS	198.4 uS	1	84.4	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(n) MCS0						
Low Channel 1, 2412 MHz	1.322 mS	1.354 mS	1	97.6	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	1.326 mS	1.354 mS	1	97.9	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	1.326 mS	1.354 mS	1	97.9	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(n) MCS7						
Low Channel 1, 2412 MHz	155 uS	186 uS	1	83.3	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	157 uS	188 uS	1	83.5	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	155 uS	186 uS	1	83.3	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A

Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	8.599 mS	8.622 mS	1	99.7	N/A	N/A

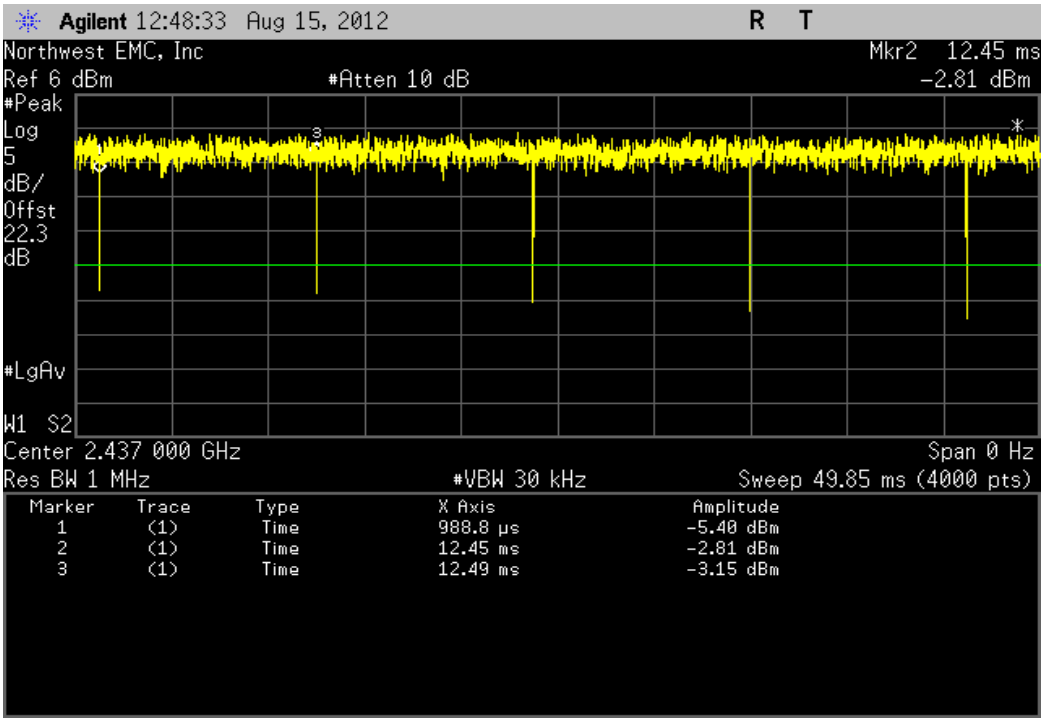


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	2	N/A	N/A	N/A

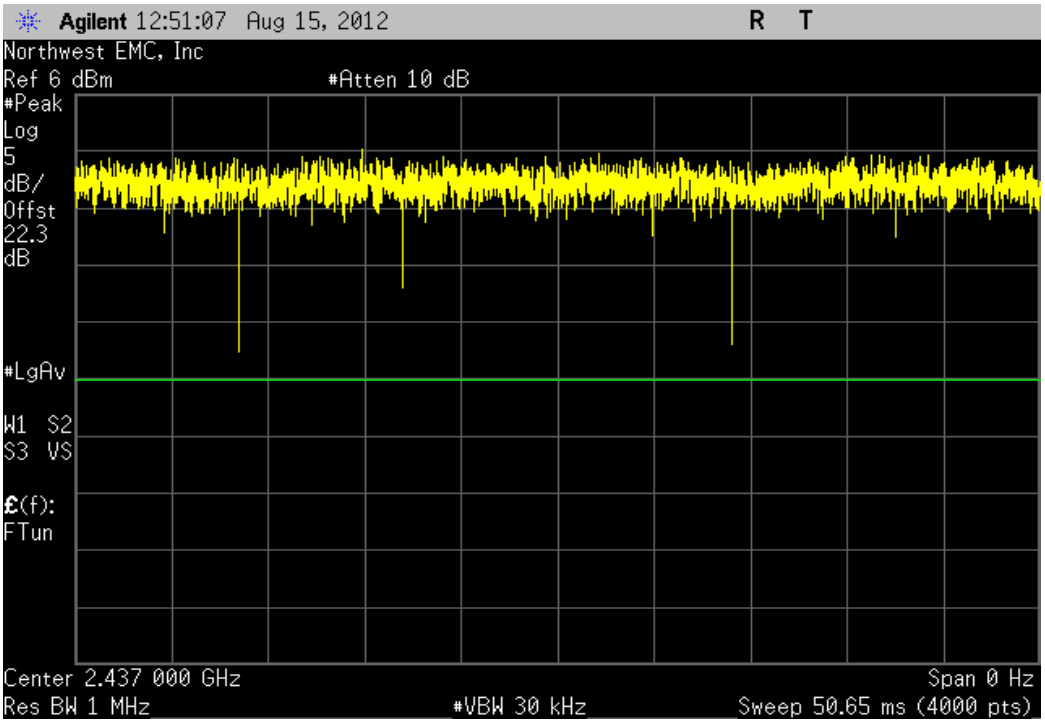


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	11.17 mS	11.208 mS	1	99.7	N/A	N/A



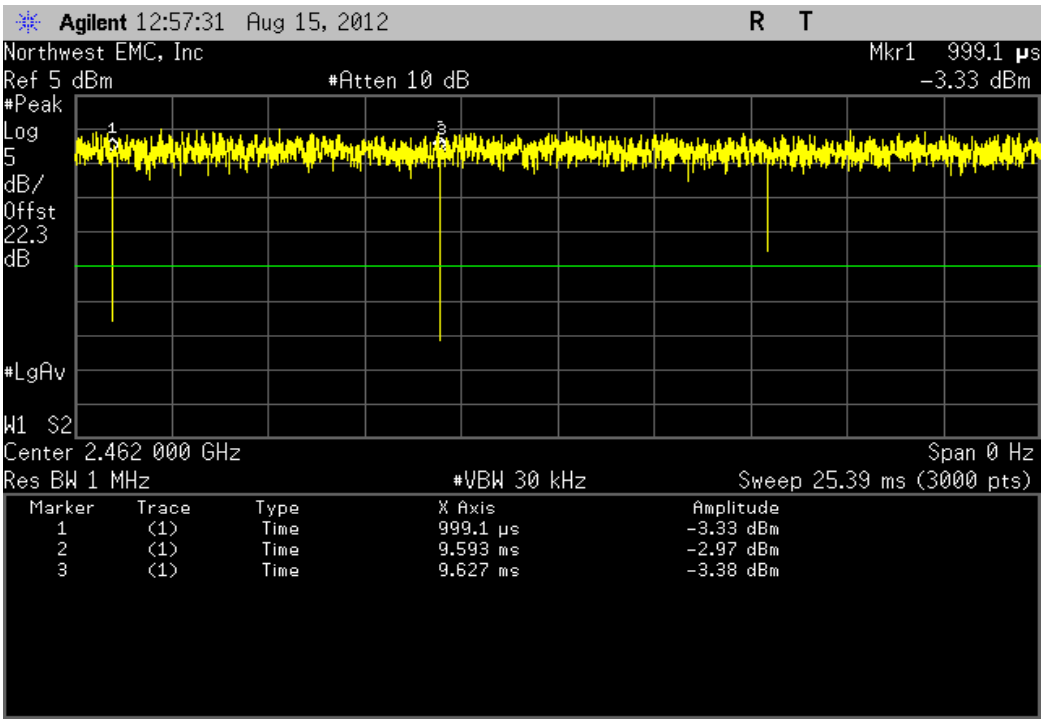
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	1	N/A	N/A	N/A



Duty Cycle

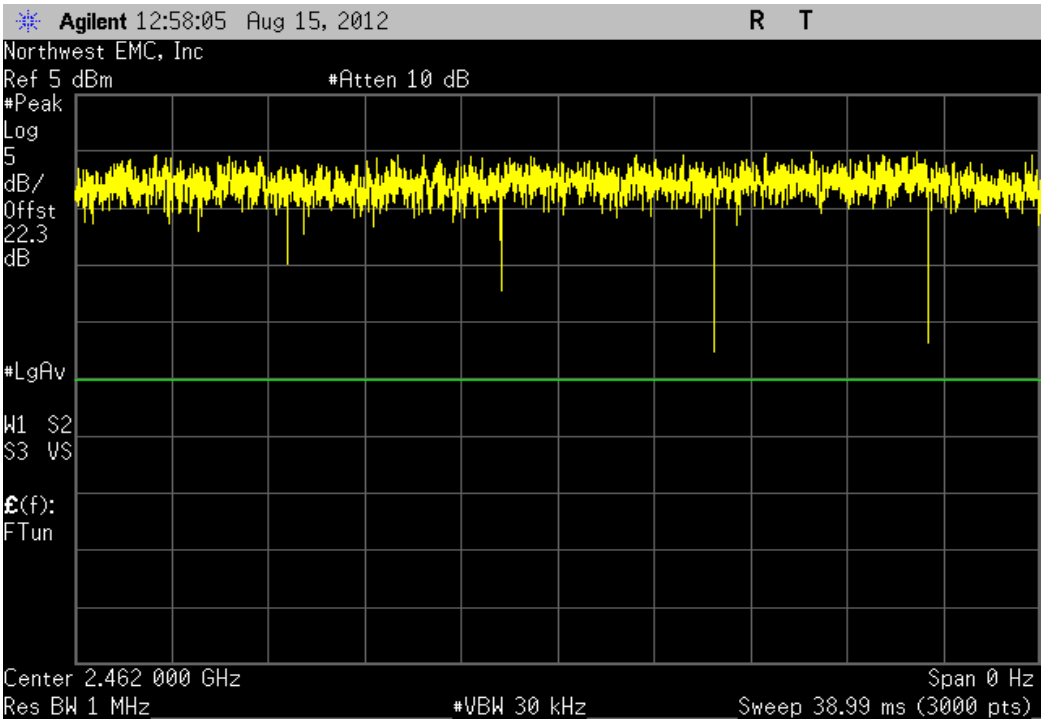
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz

Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
8.594 mS	8.628 mS	1	99.6	N/A	N/A



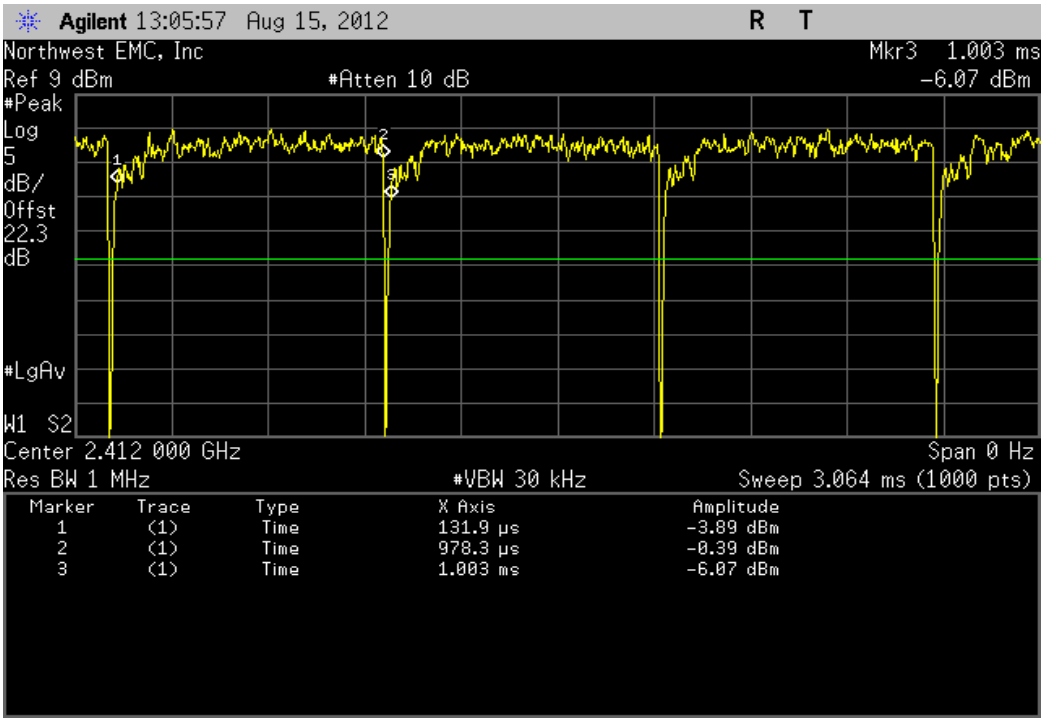
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz

Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
N/A	N/A	1	N/A	N/A	N/A

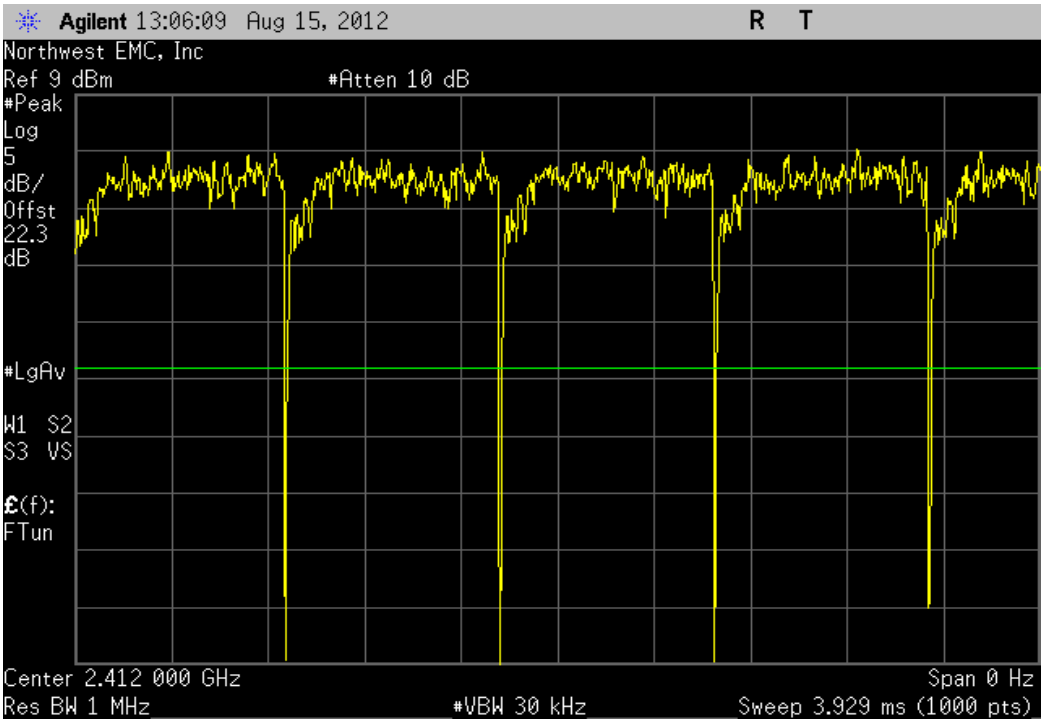


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	846.4 uS	870.9 uS	1	97.2	N/A	N/A

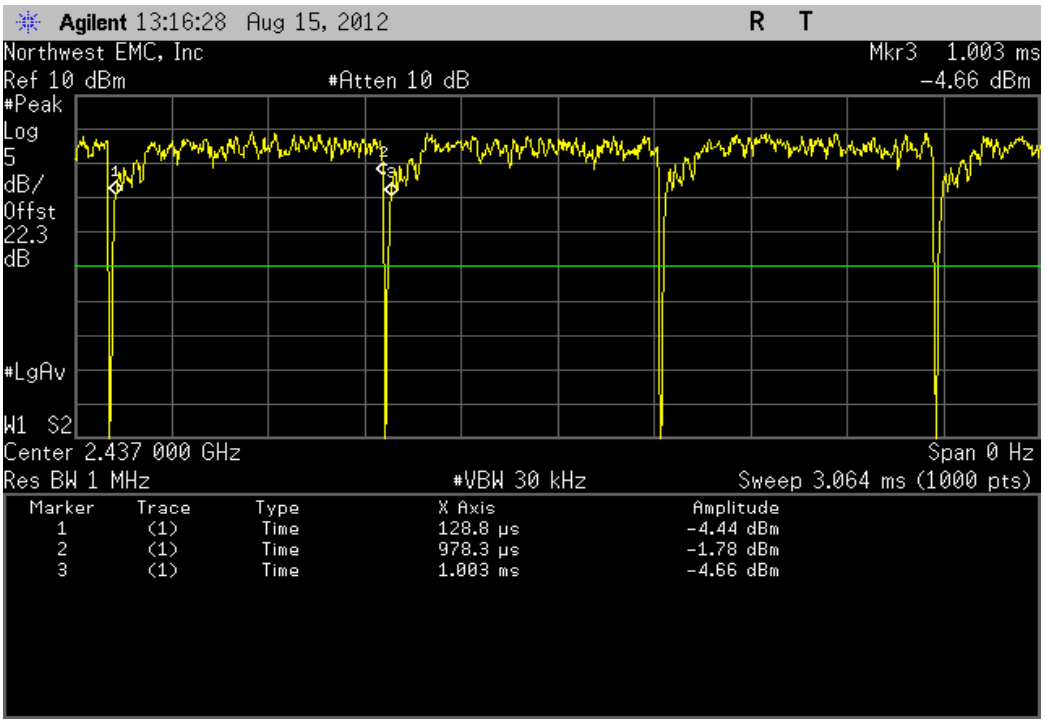


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

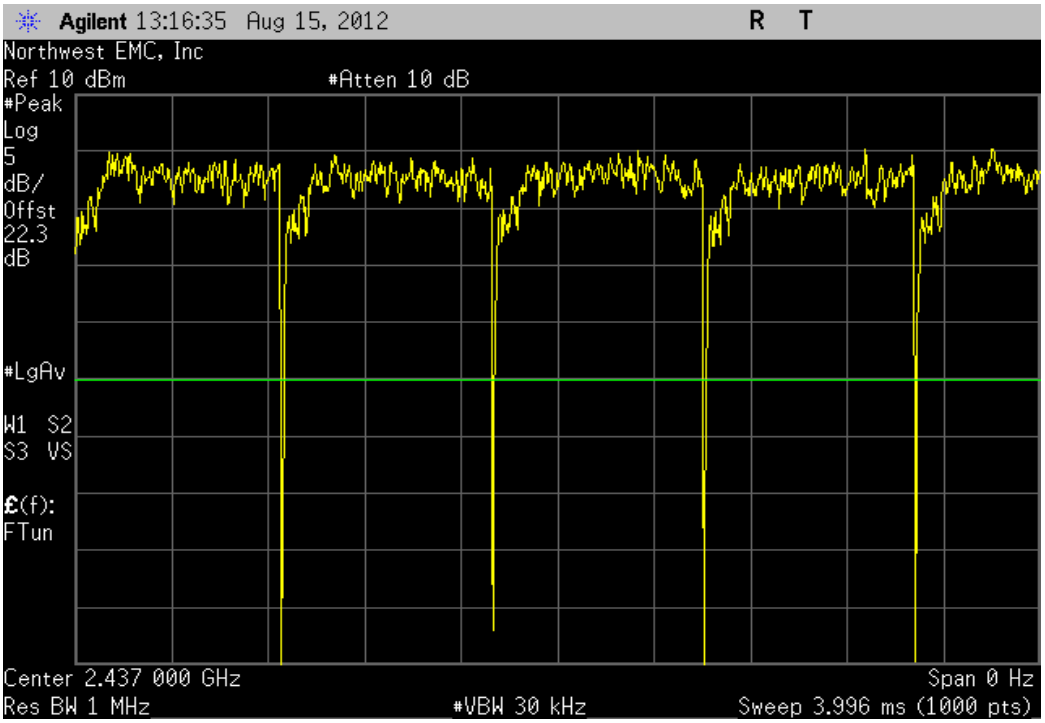


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	849.5 uS	874 uS	1	97.2	N/A	N/A

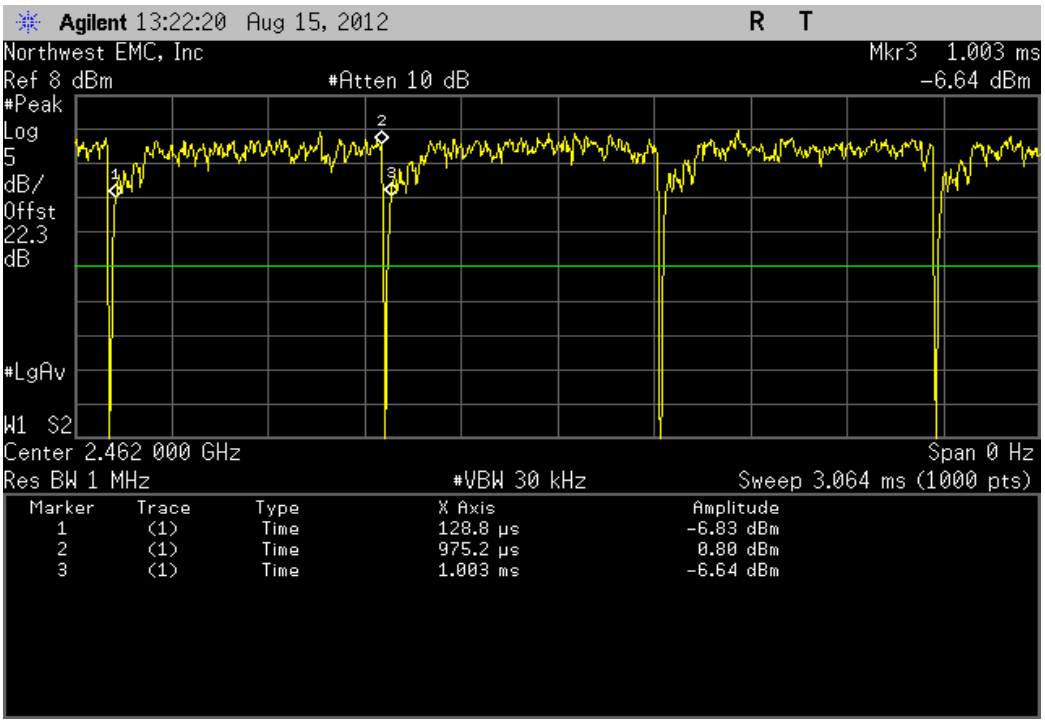


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

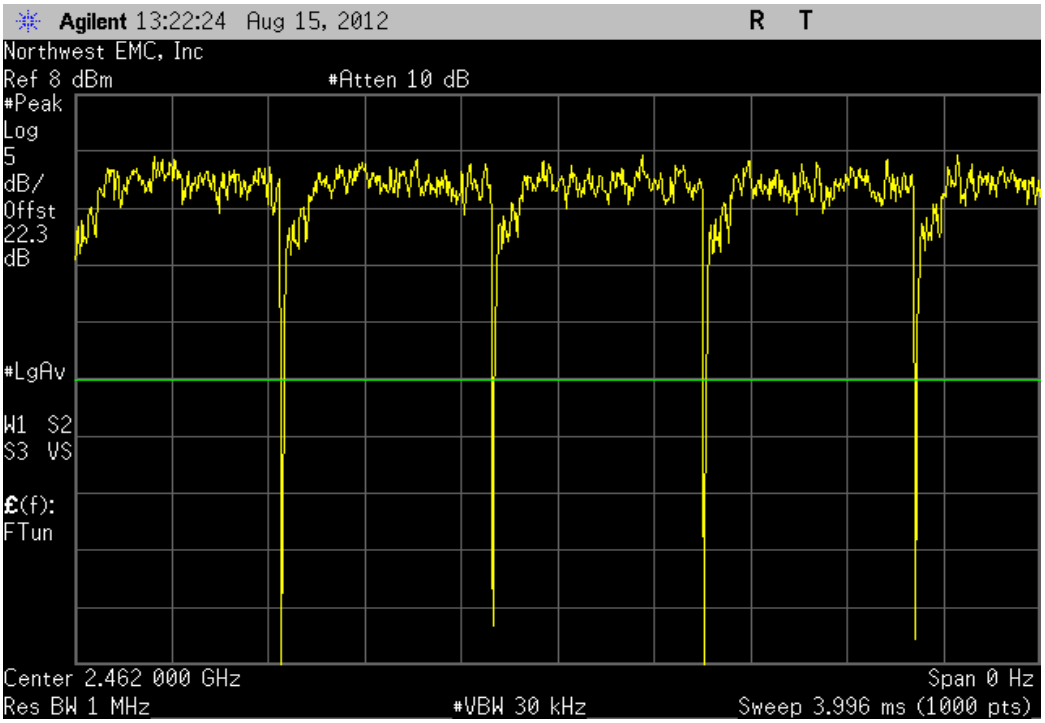


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	846.4 uS	874 uS	1	96.8	N/A	N/A

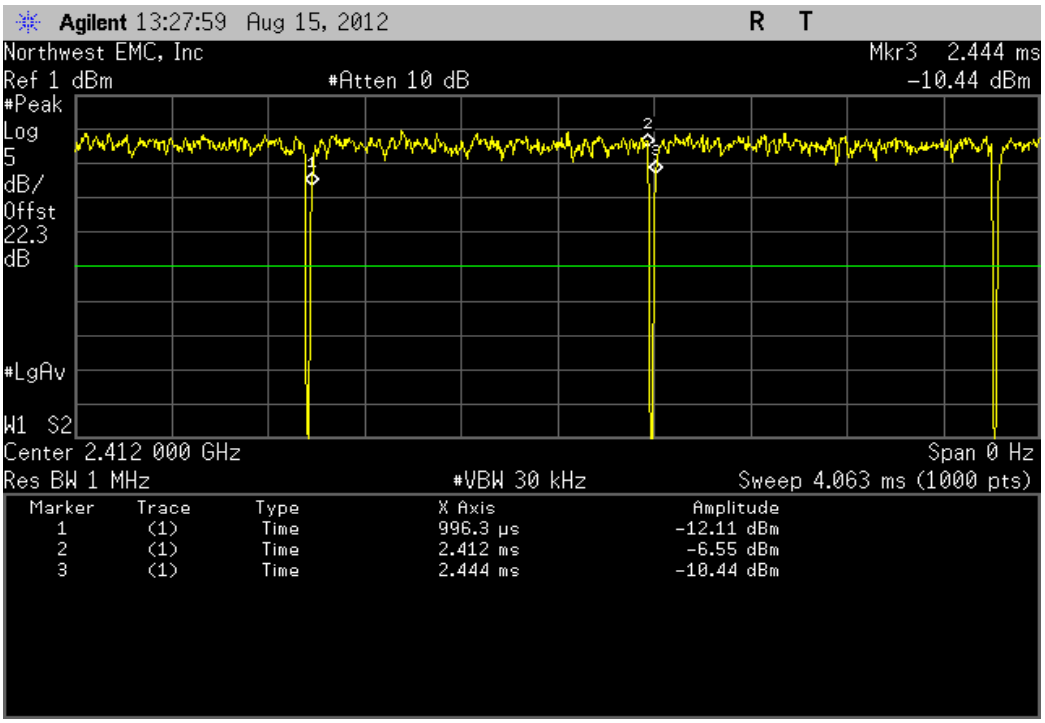


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

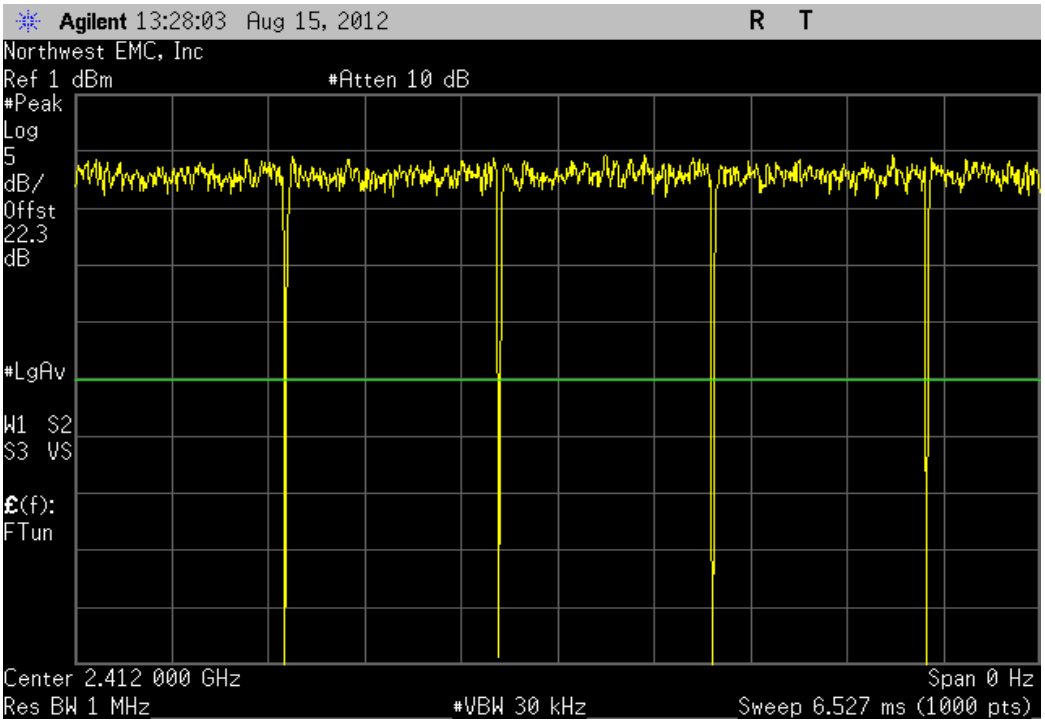


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.415 mS	1.448 mS	1	97.7	N/A	N/A

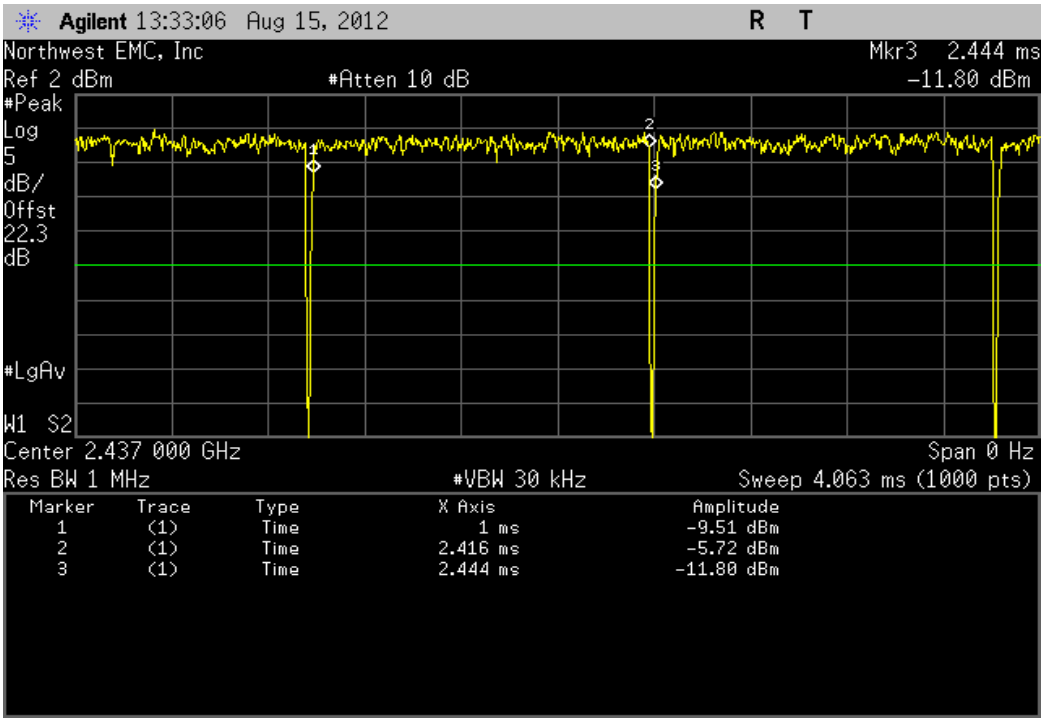


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

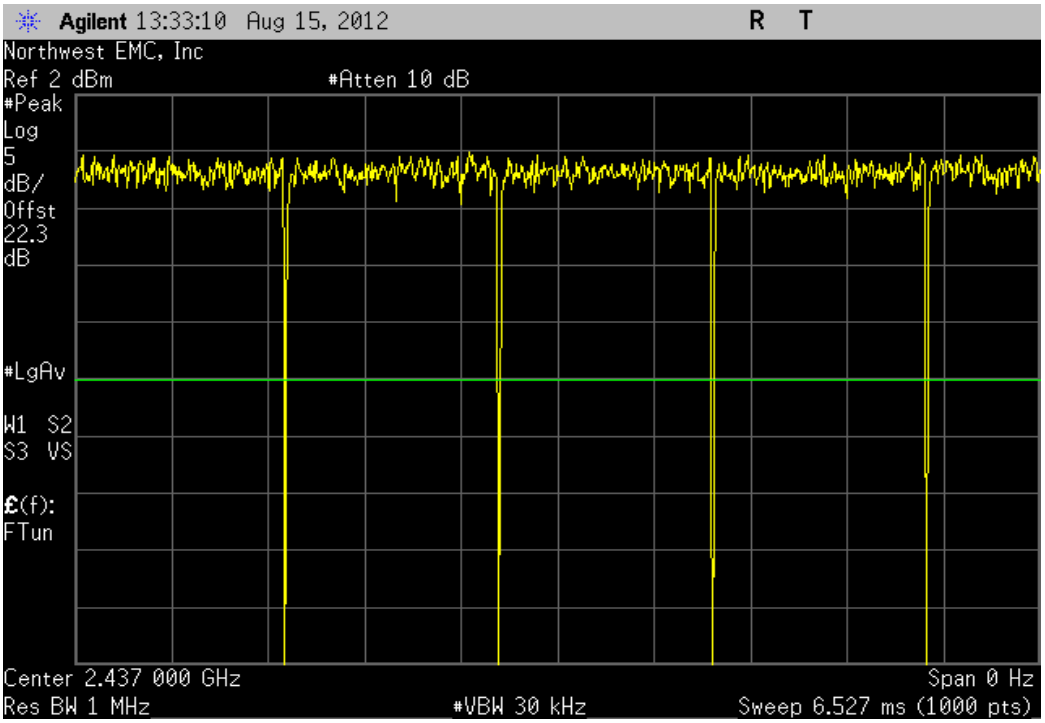


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.415 mS	1.444 mS	1	98	N/A	N/A

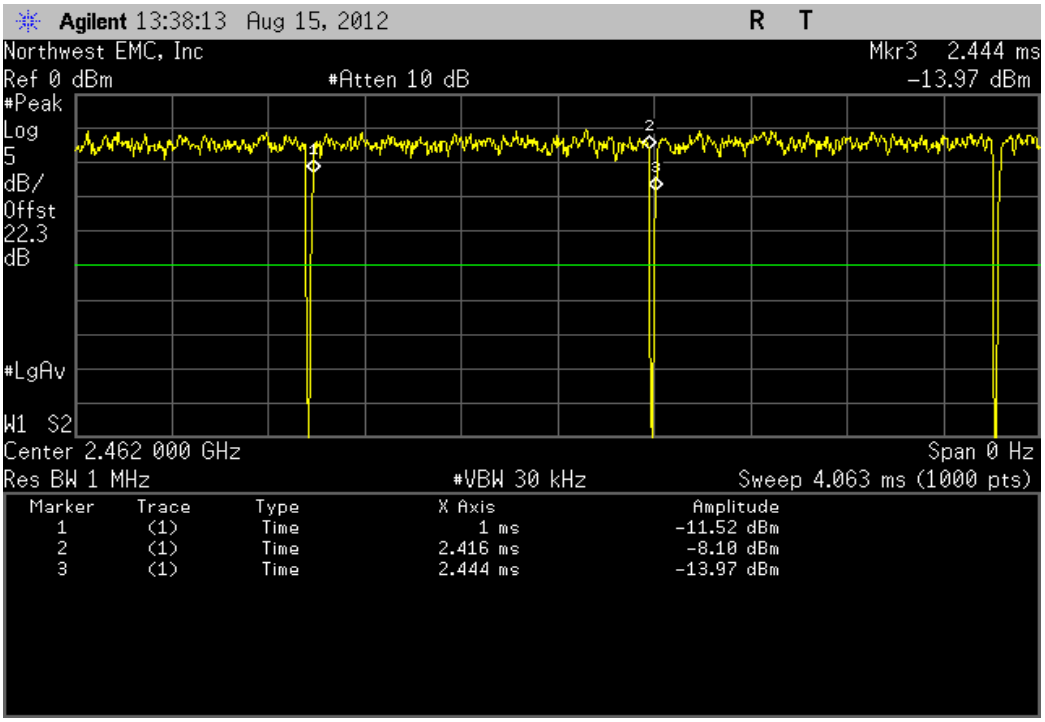


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

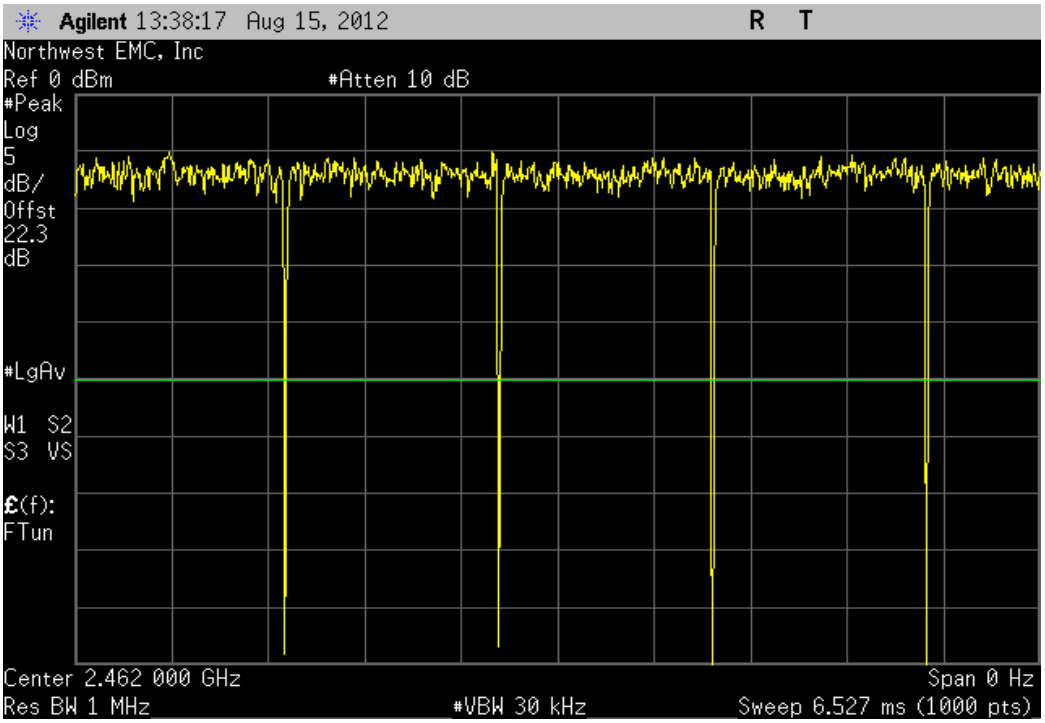


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.415 mS	1.444 mS	1	98	N/A	N/A

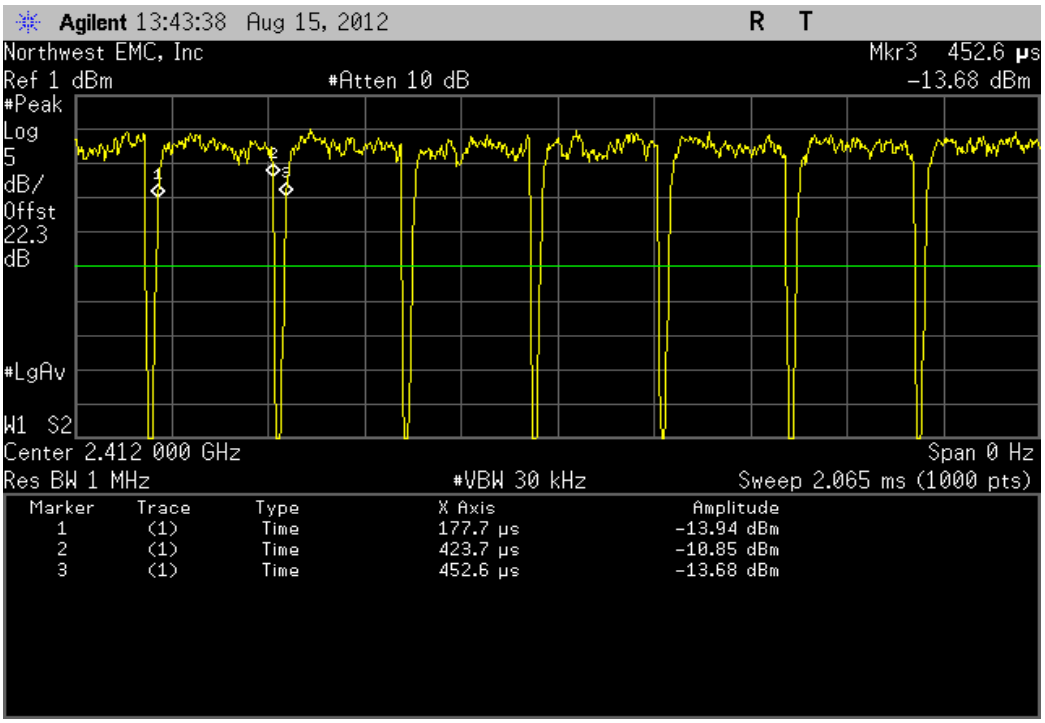


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

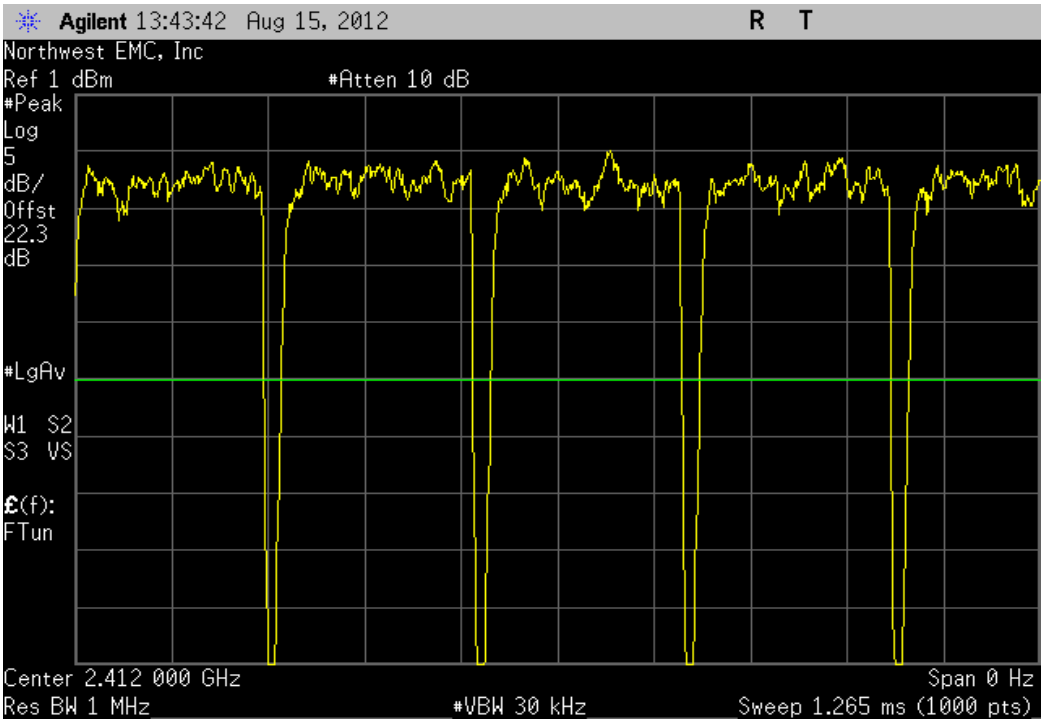


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	246 uS	274.9 uS	1	89.5	N/A	N/A

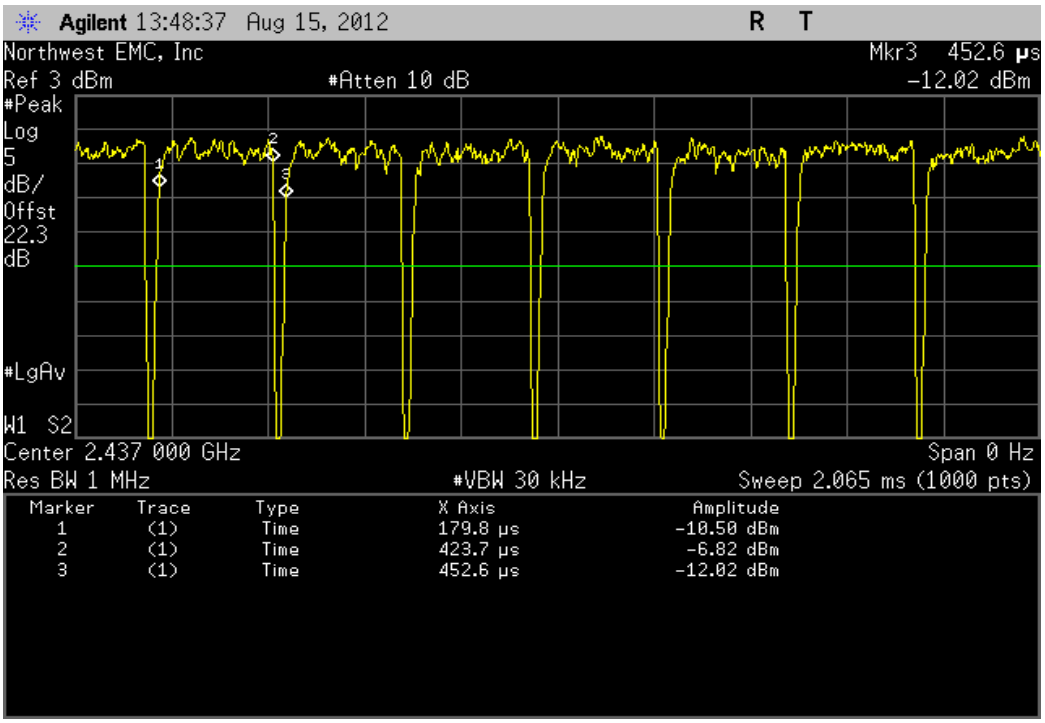


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

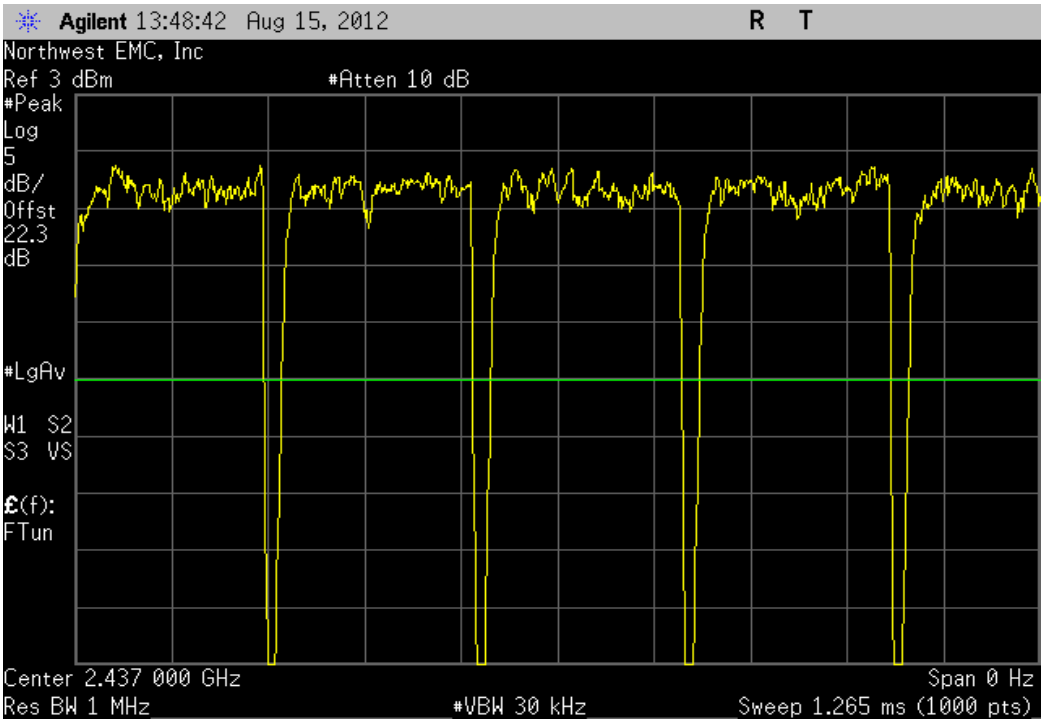


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	243.9 uS	272.8 uS	1	89.4	N/A	N/A



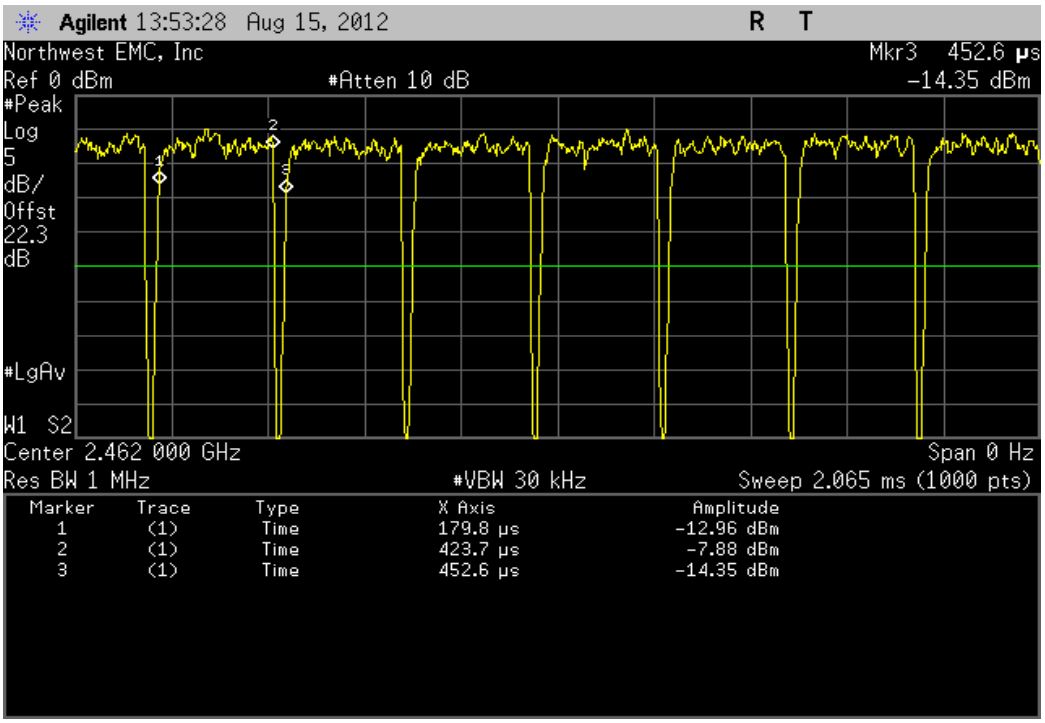
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A



Duty Cycle

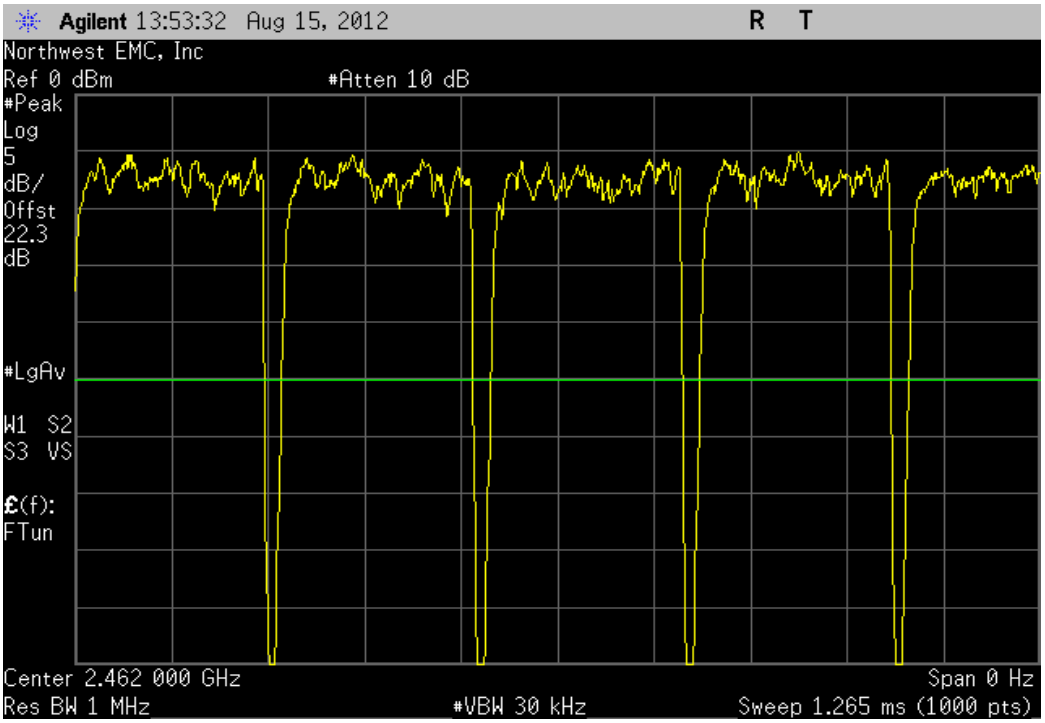
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz

Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
243.9 uS	272.8 uS	1	89.4	N/A	N/A

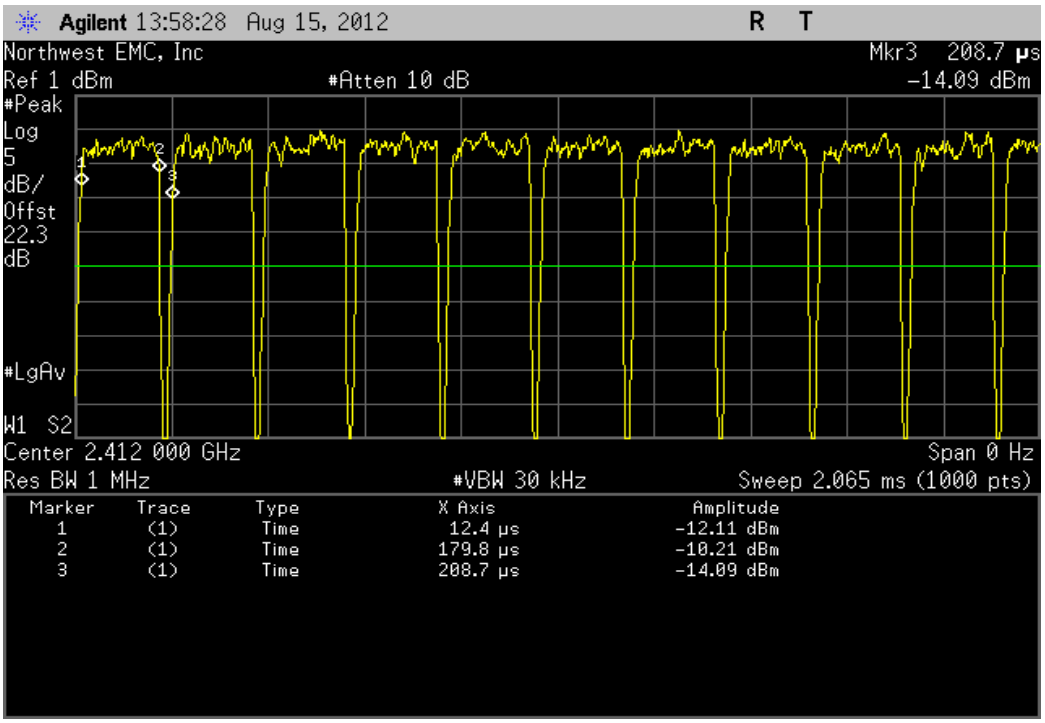


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz

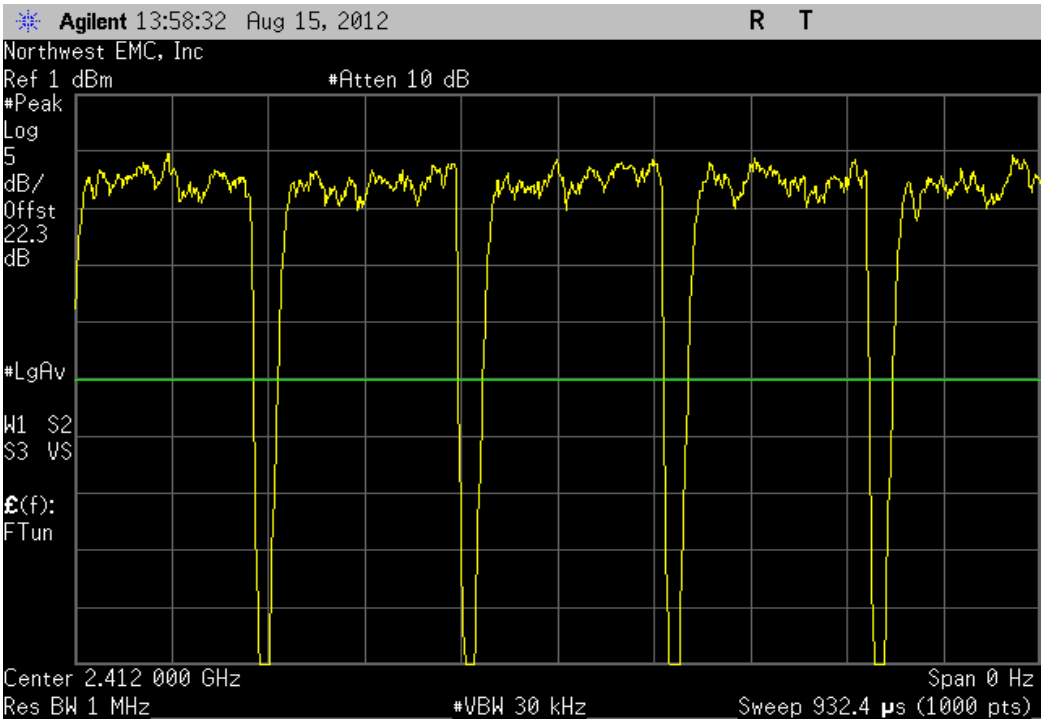
Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
N/A	N/A	5	N/A	N/A	N/A



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	167.4 uS	196.3 uS	1	85.3	N/A	N/A

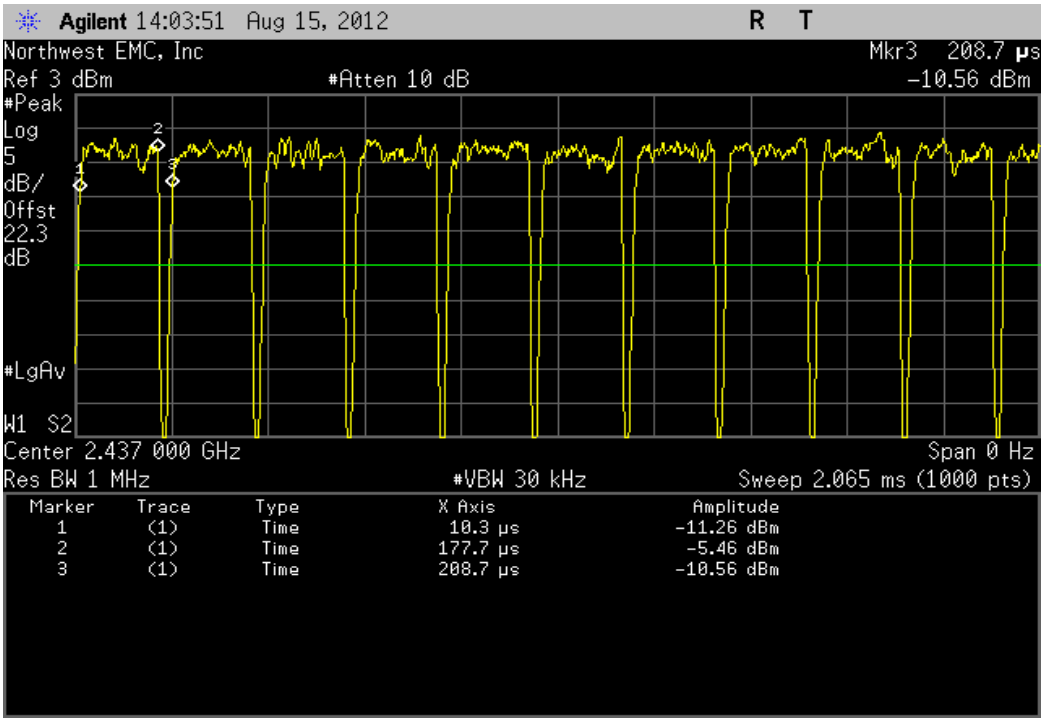


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

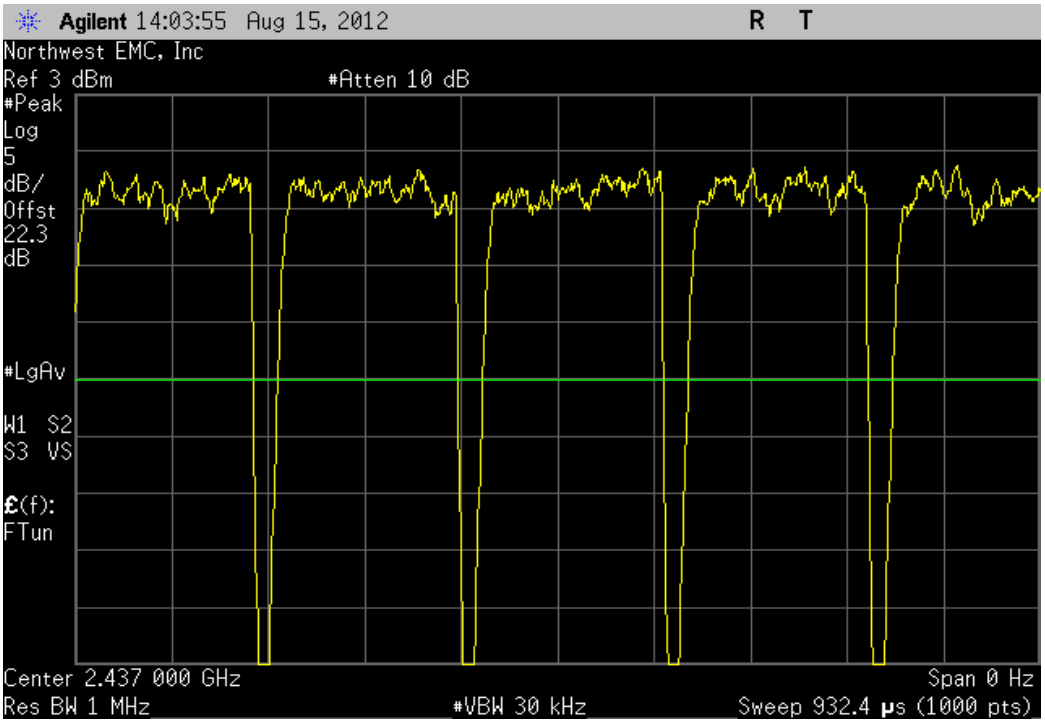


Duty Cycle

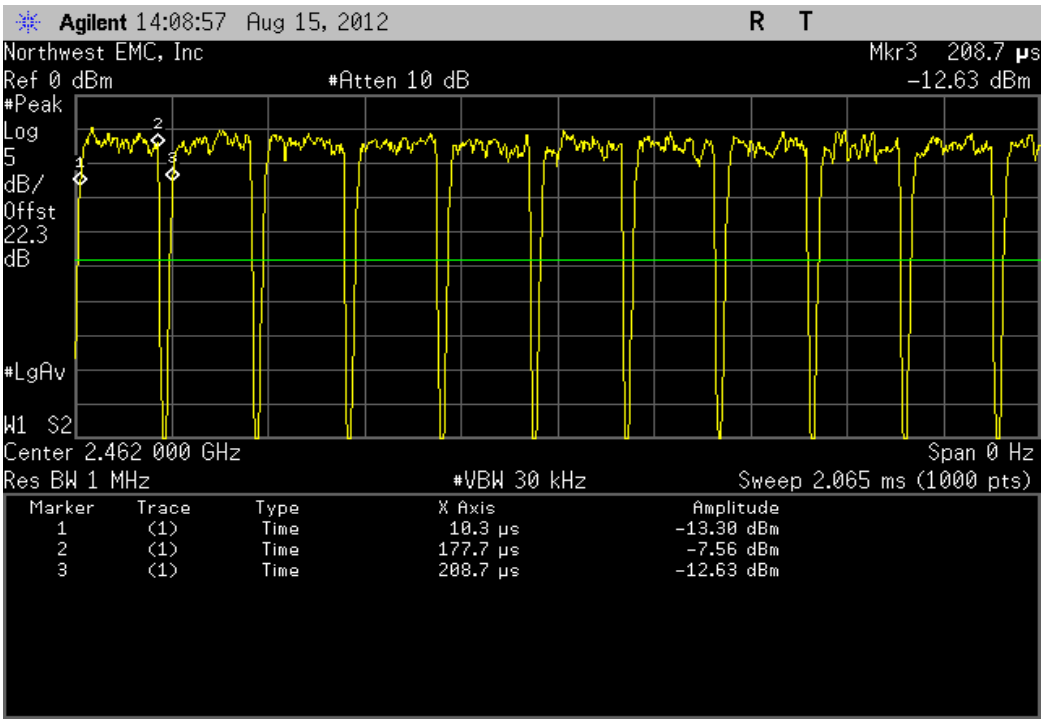
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	167.4 uS	198.4 uS	1	84.4	N/A	N/A



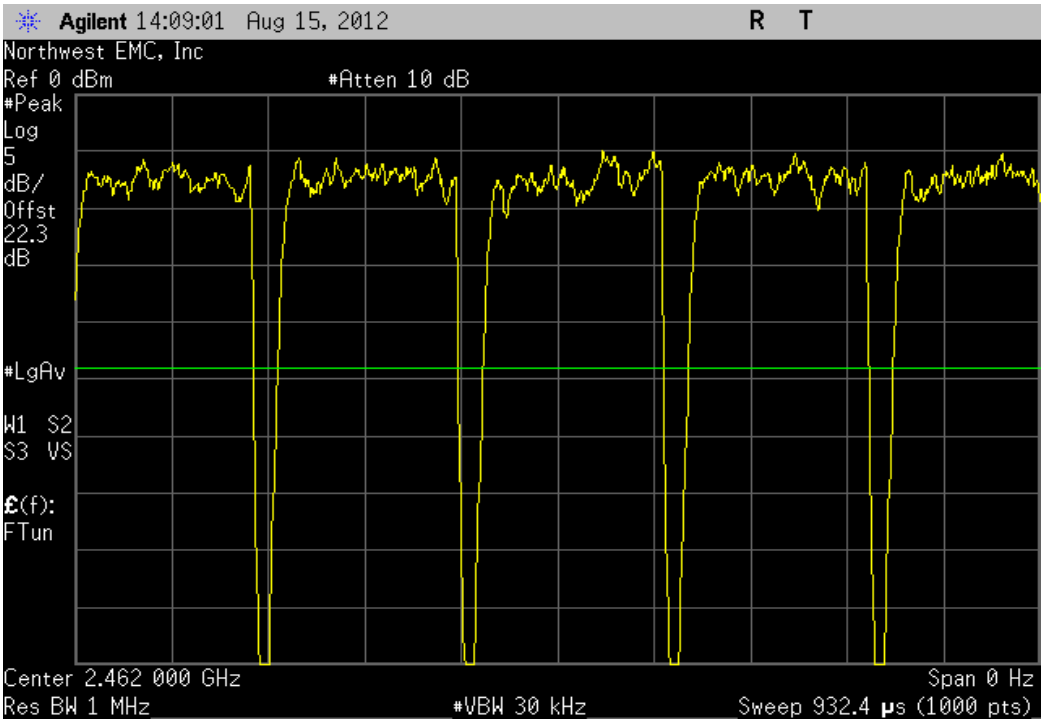
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	167.4 uS	198.4 uS	1	84.4	N/A	N/A

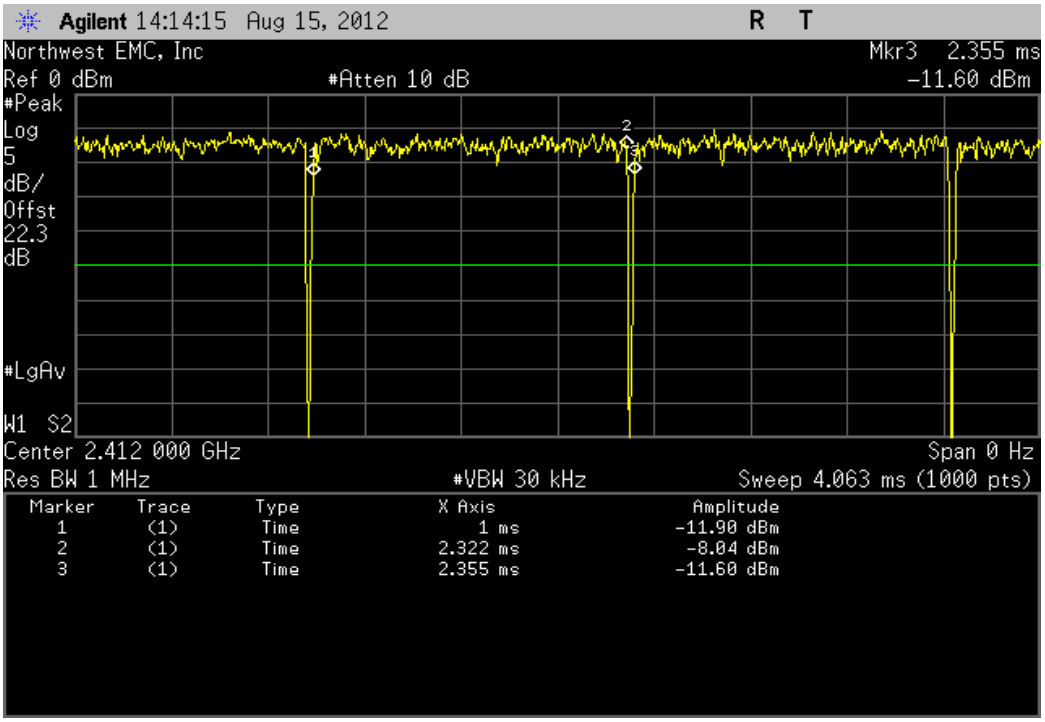


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

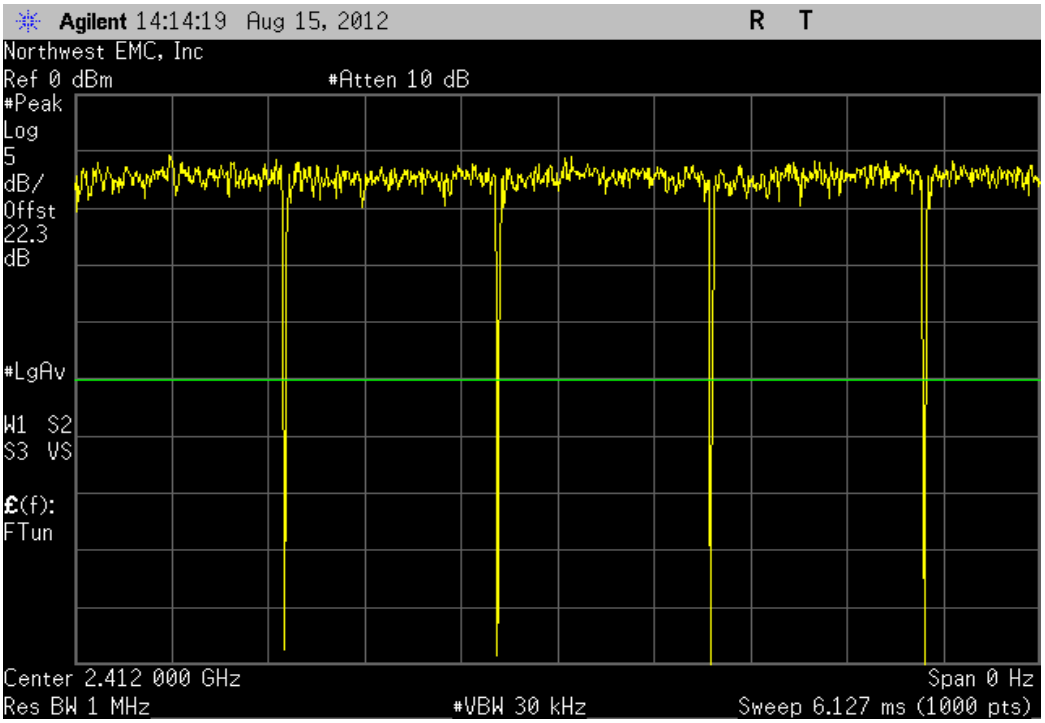


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.322 mS	1.354 mS	1	97.6	N/A	N/A

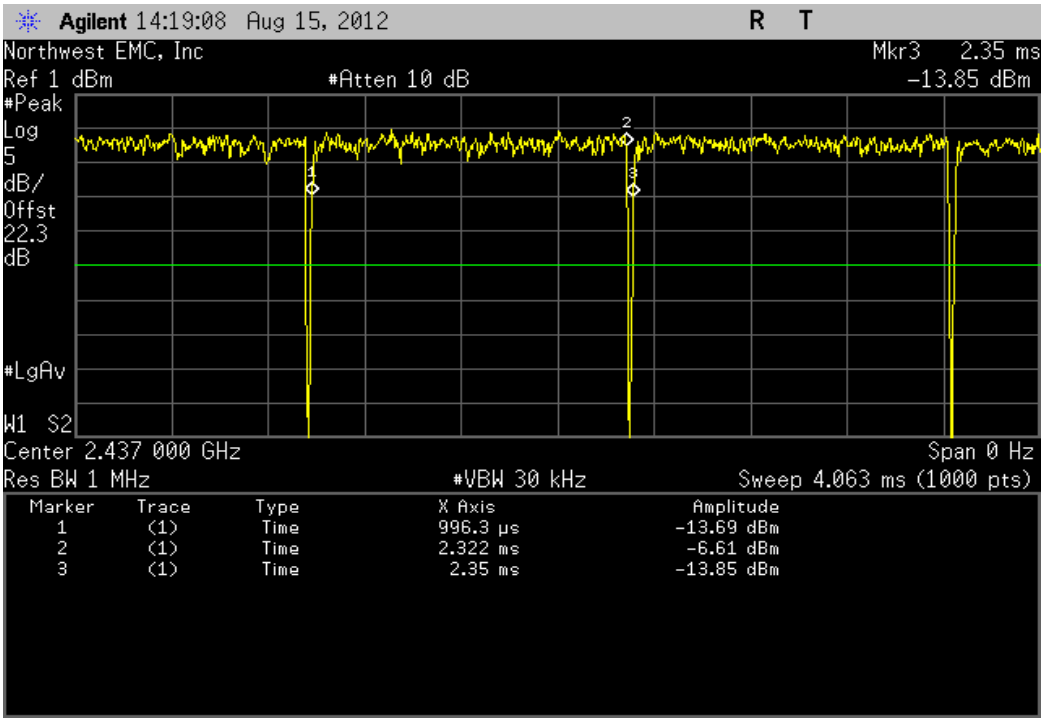


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

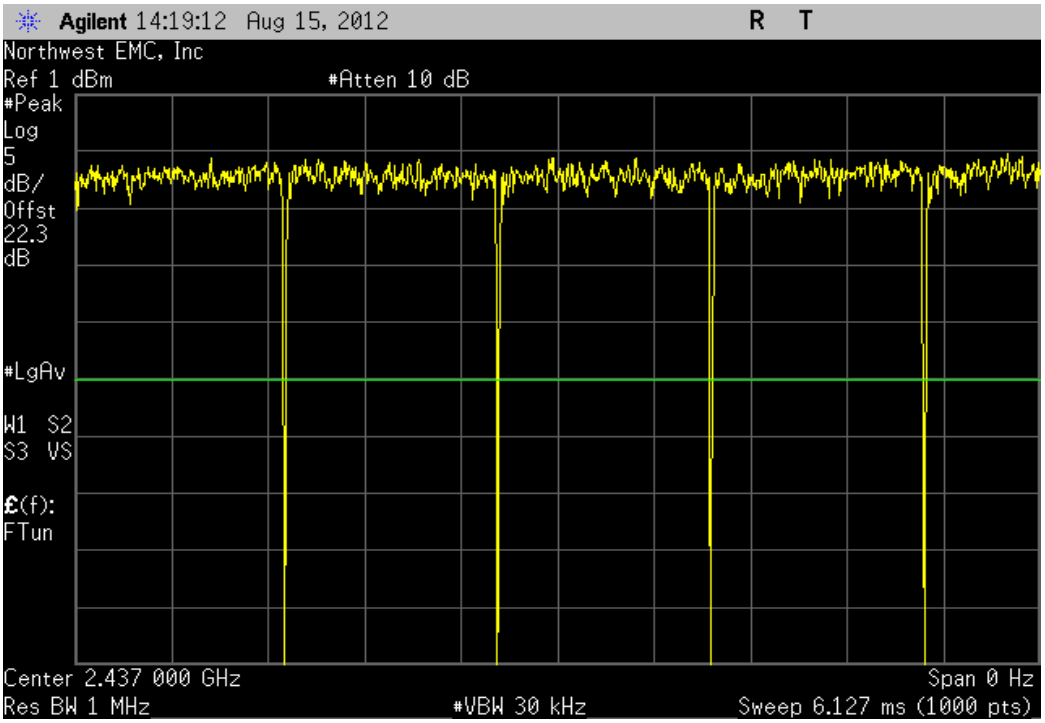


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.326 mS	1.354 mS	1	97.9	N/A	N/A

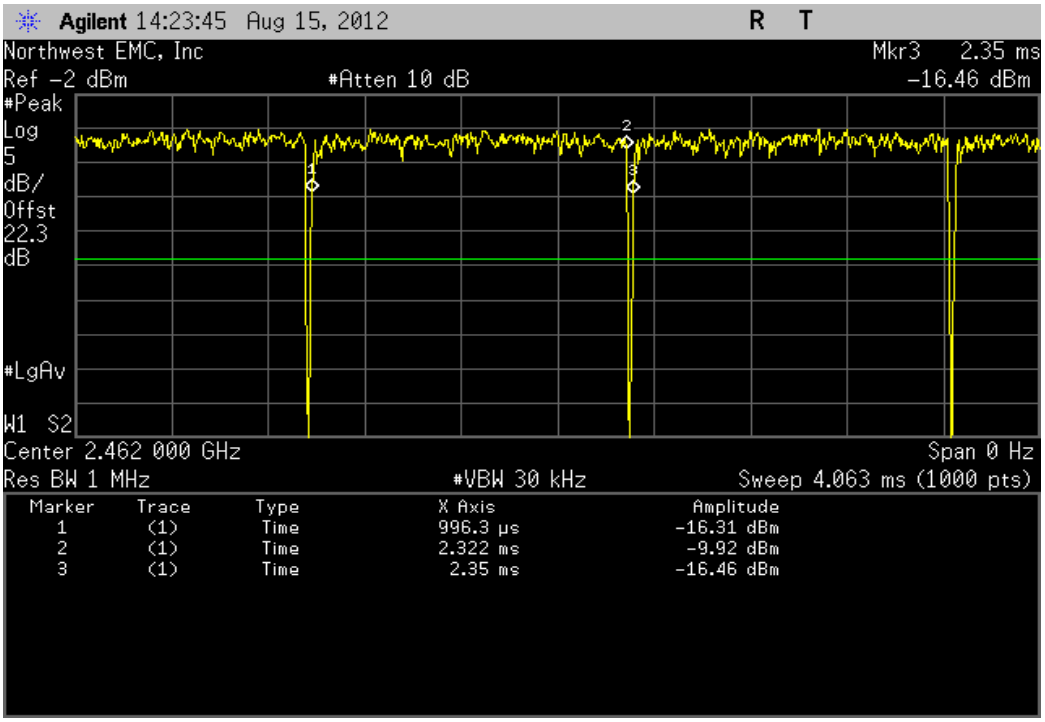


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

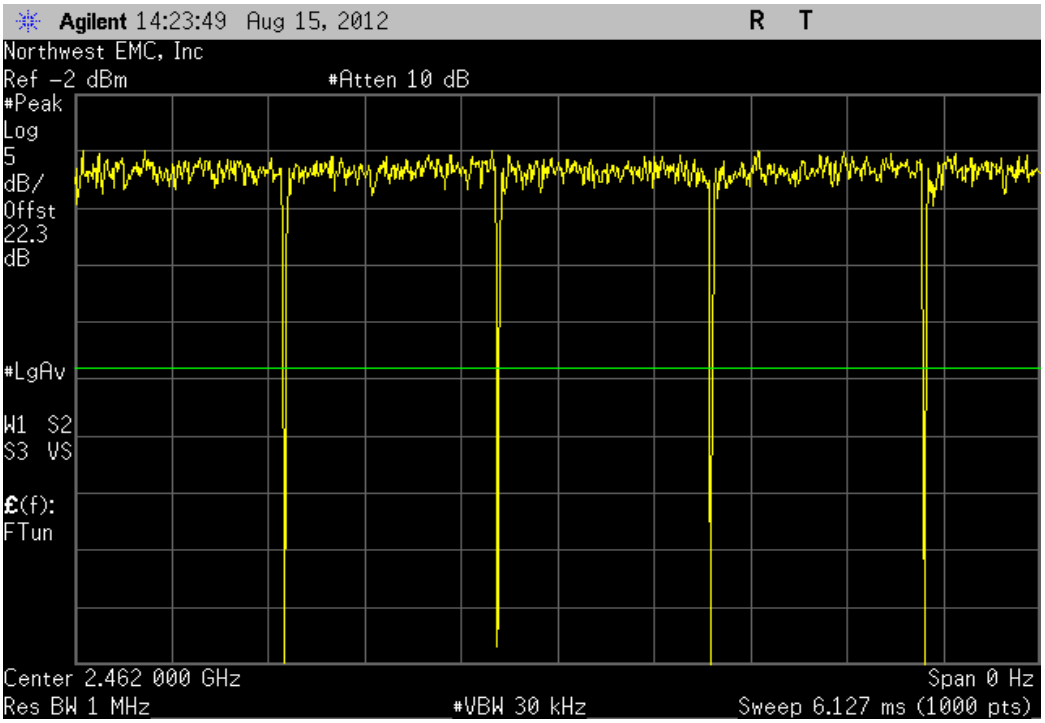


Duty Cycle

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.326 mS	1.354 mS	1	97.9	N/A	N/A

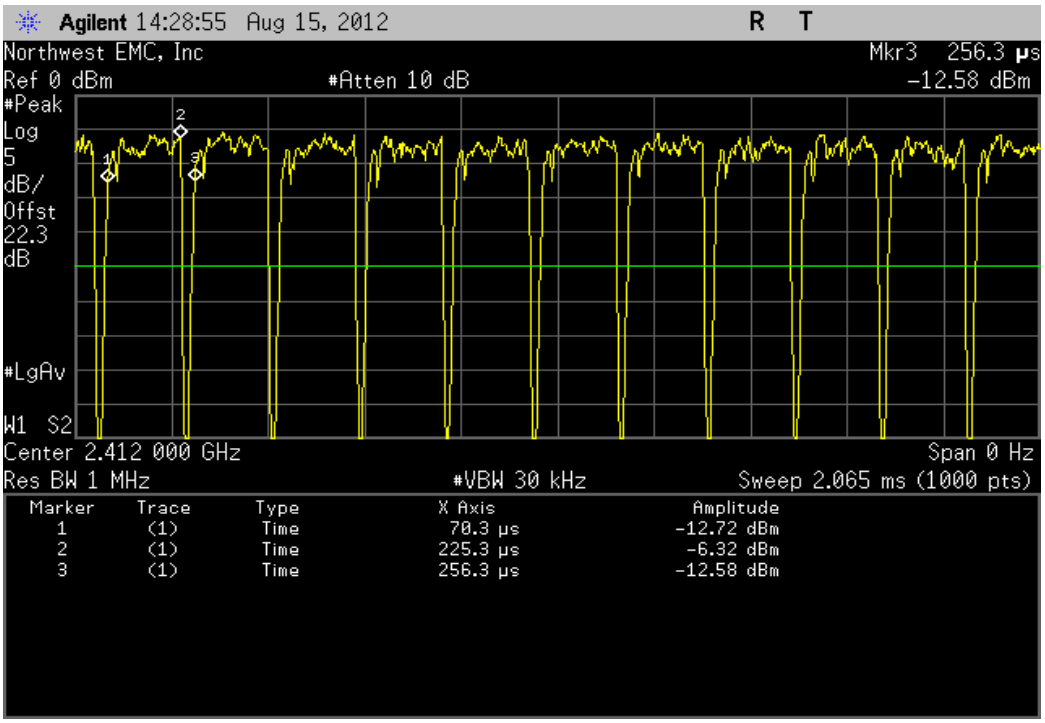


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

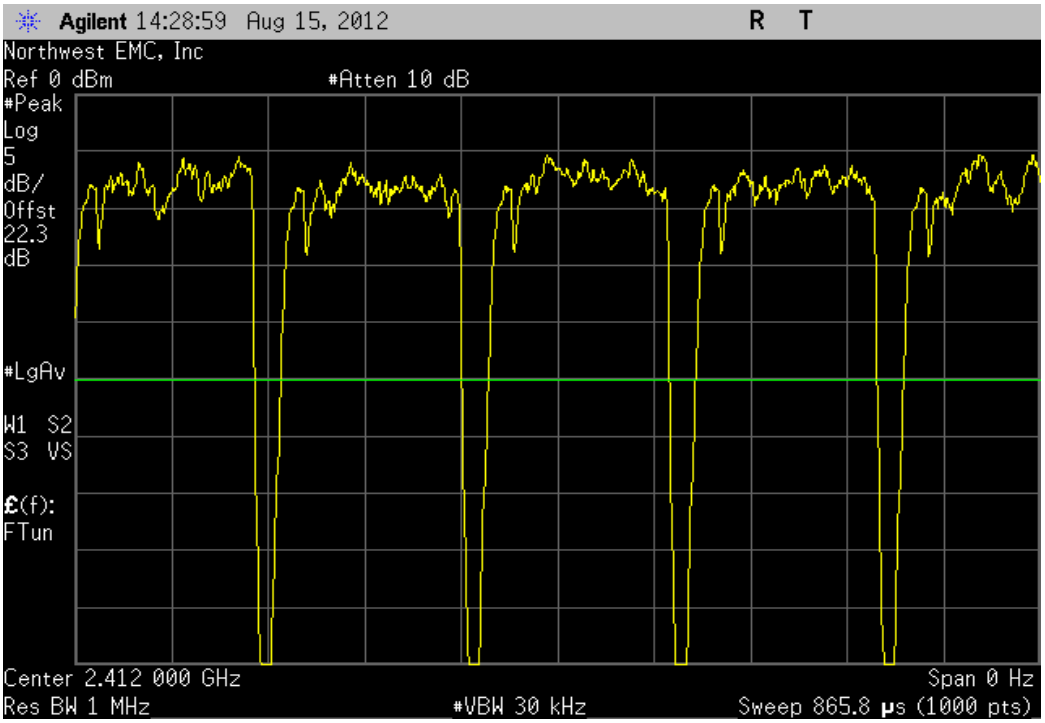


Duty Cycle

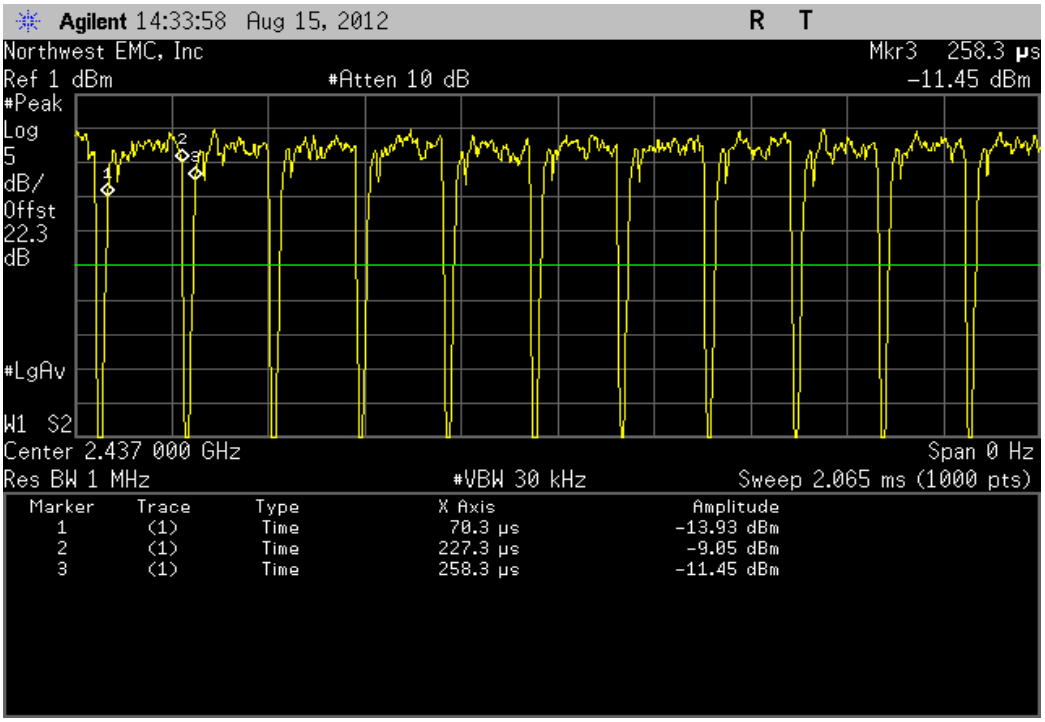
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	155 uS	186 uS	1	83.3	N/A	N/A



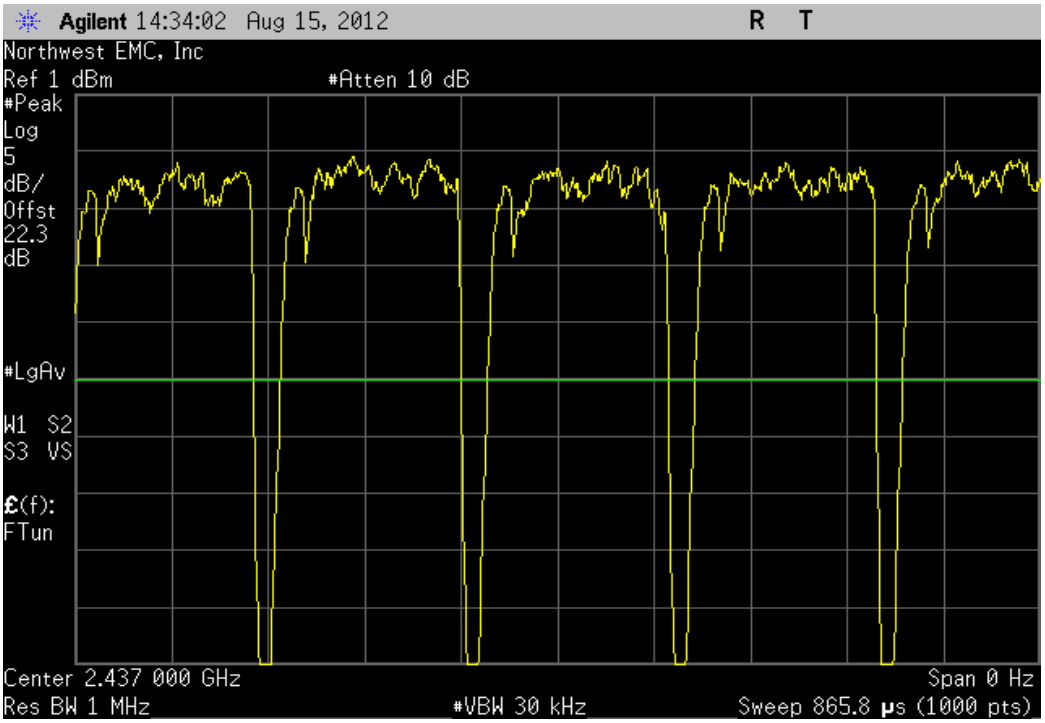
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A



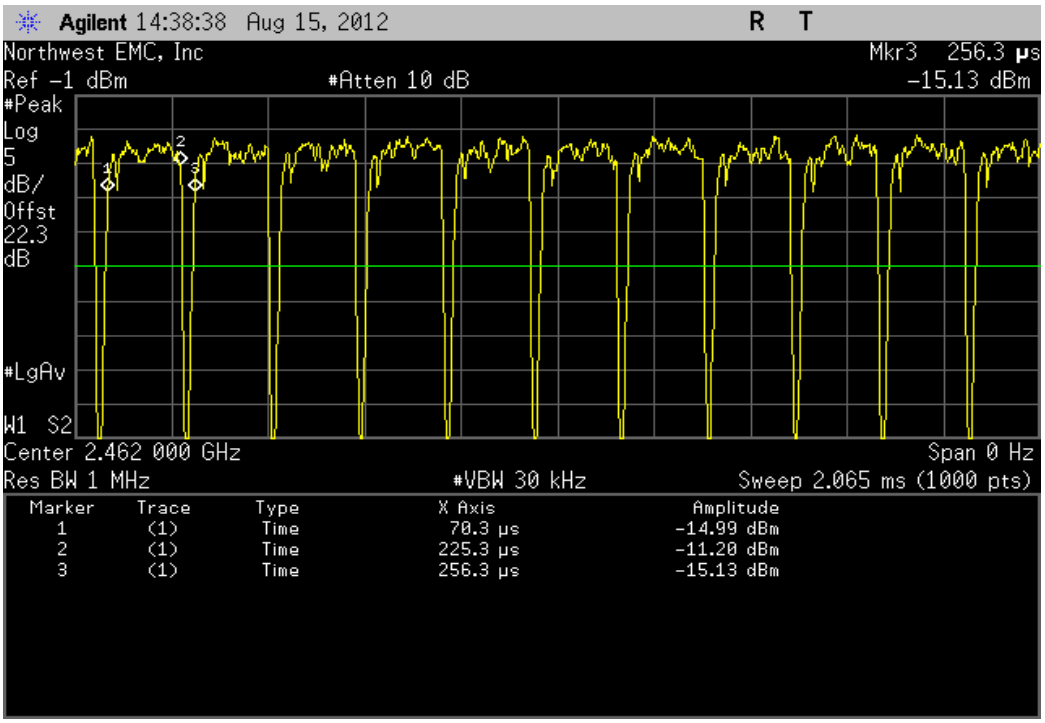
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	157 uS	188 uS	1	83.5	N/A	N/A



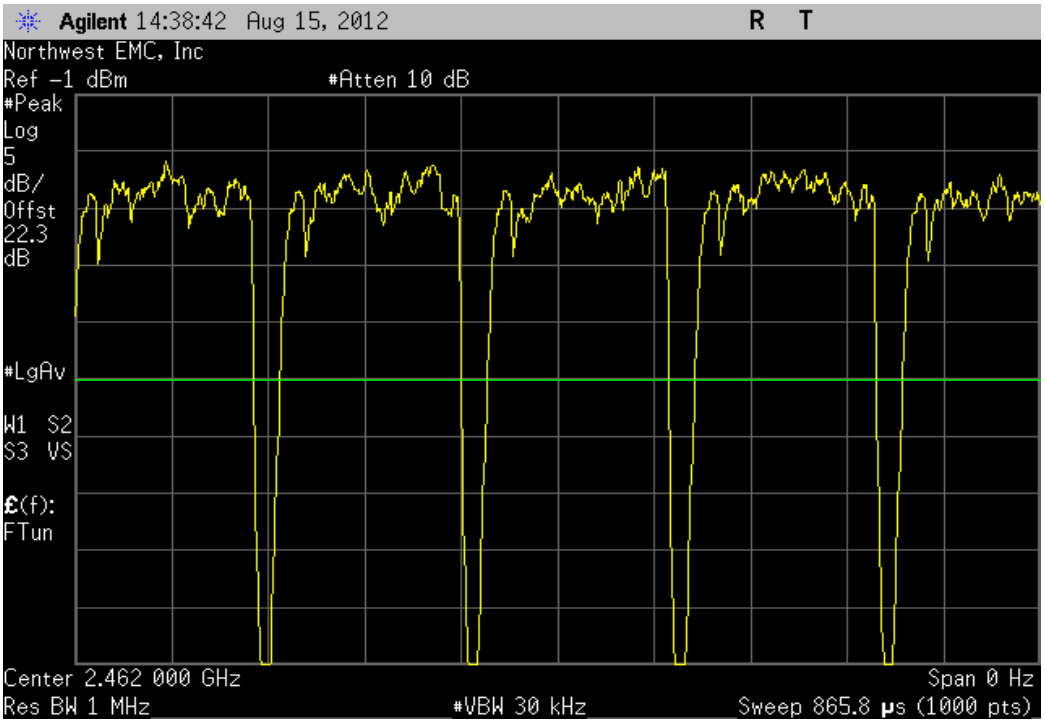
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	155 uS	186 uS	1	83.3	N/A	N/A



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A



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
Signal Generator	Agilent	N5183A	TIA	1/27/2012	24
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	12
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/19/2012	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/12/2011	12

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. 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 data rate(s) listed in the datasheet.

Occupied Bandwidth

EUT:	TH6320WF			**Work Order:**	HNYW0015
Serial Number:	3642			**Date:**	08/15/12
Customer:	Honeywell, Automation and Control Solutions			**Temperature:**	23.48°C
Attendees:	None			**Humidity:**	52%
Project:	None			**Barometric Pres.:**	1007.9
Tested by:	Johnathan Lee	**Power:**	110VAC/60Hz	**Job Site:**	MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2012	ANSI C63.10:2009

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

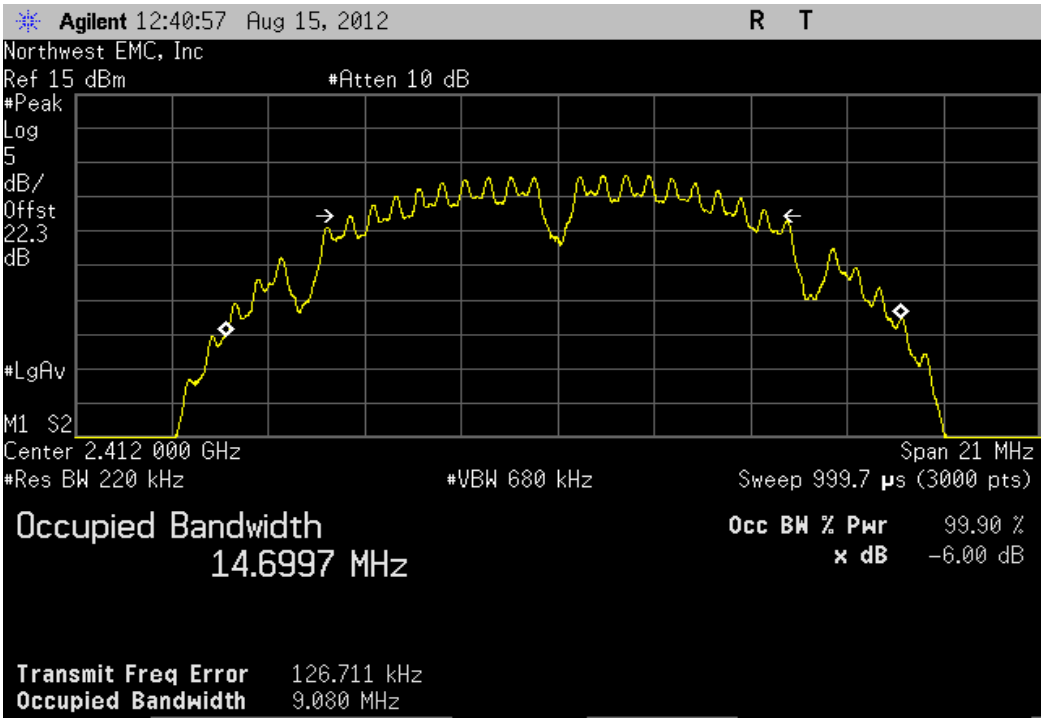
None

Configuration #	2	Signature

	Value	Limit	Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	9.08 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	8.645 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	9.099 MHz	> 500 kHz	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz	8.563 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	9.037 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	8.876 MHz	> 500 kHz	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	16.12 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	16.177 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	16.094 MHz	> 500 kHz	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz	15.812 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	16.13 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	16.08 MHz	> 500 kHz	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz	15.803 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	16.121 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	16.067 MHz	> 500 kHz	Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz	16.922 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	17.207 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	17.22 MHz	> 500 kHz	Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz	17.132 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	16.432 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	17.297 MHz	> 500 kHz	Pass

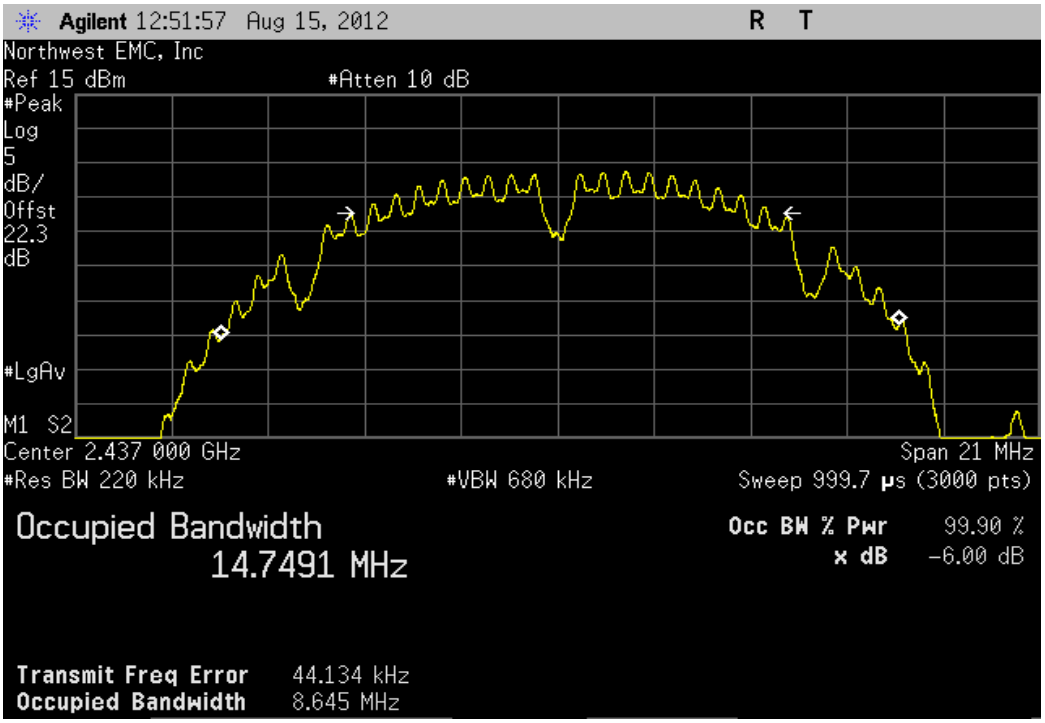
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				9.08 MHz	> 500 kHz	Pass



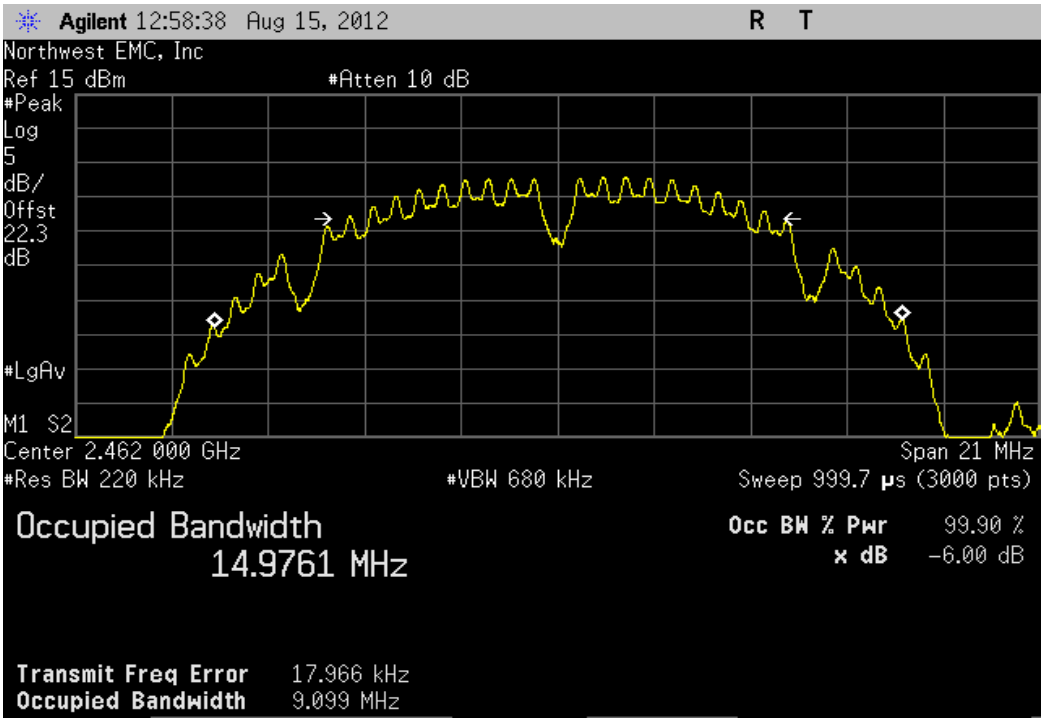
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				8.645 MHz	> 500 kHz	Pass



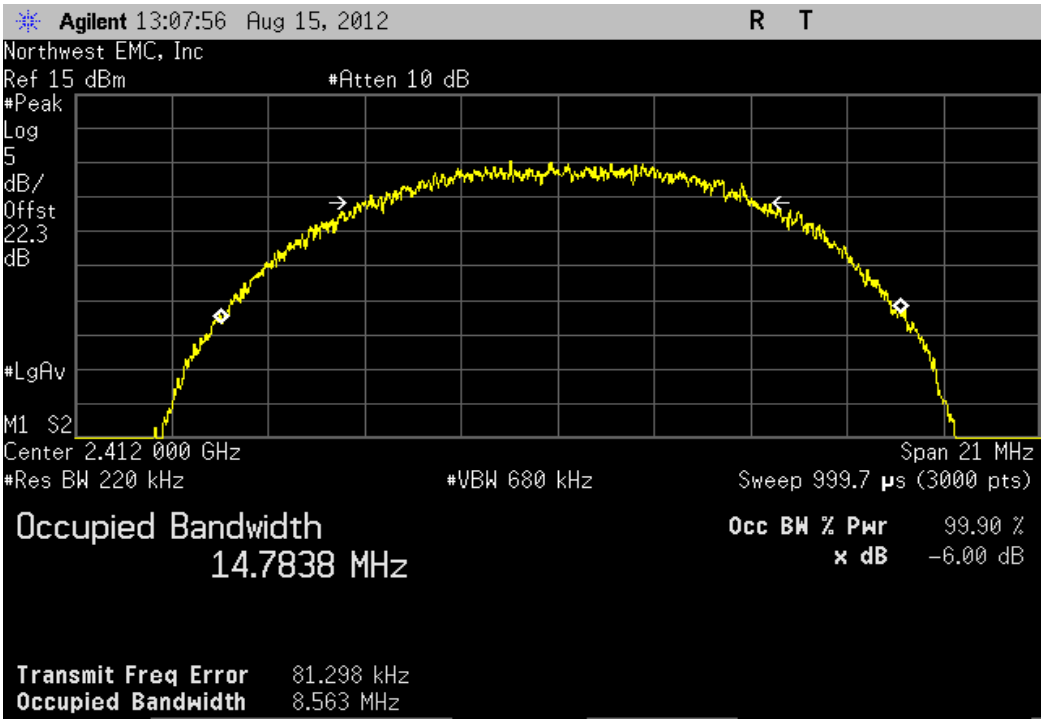
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				9.099 MHz	> 500 kHz	Pass



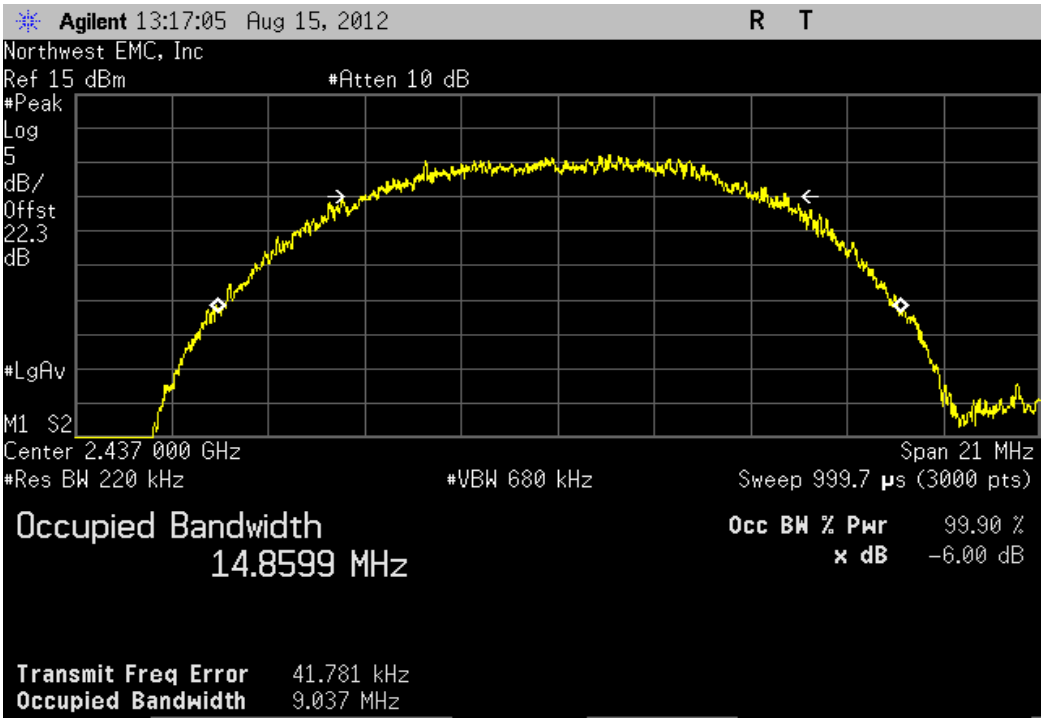
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				8.563 MHz	> 500 kHz	Pass



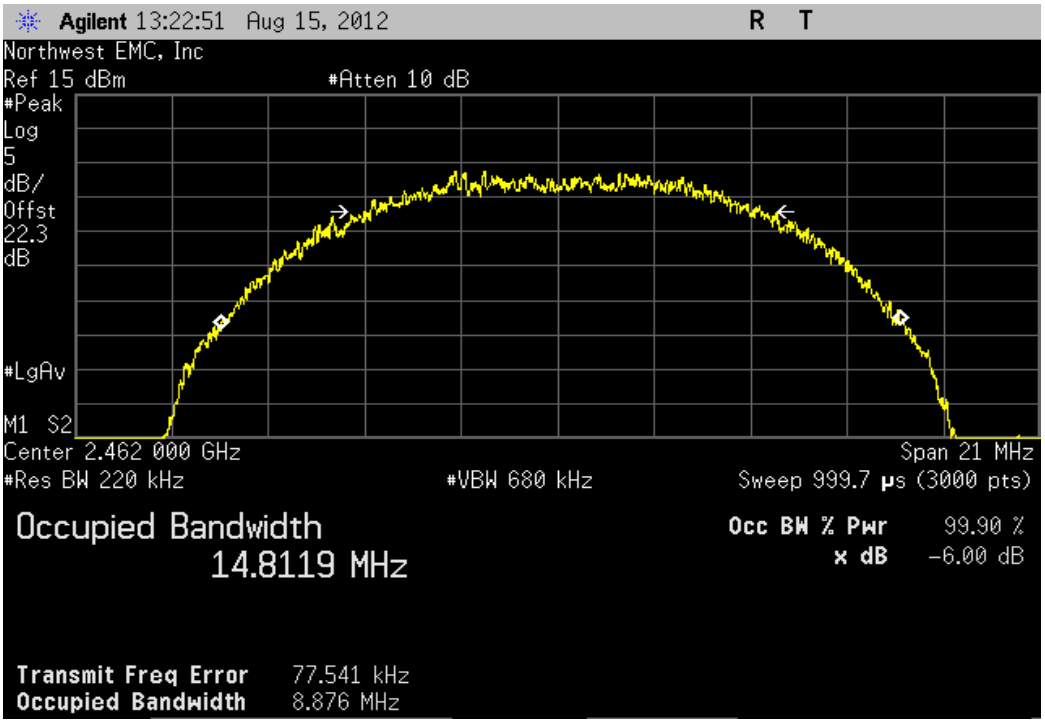
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				9.037 MHz	> 500 kHz	Pass



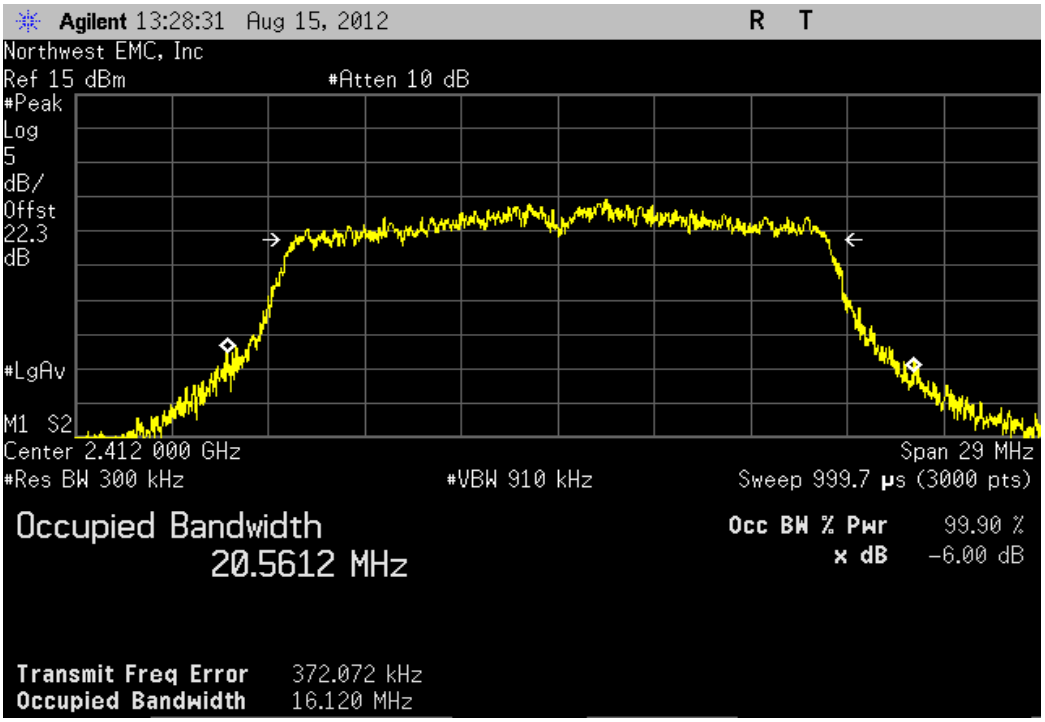
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				8.876 MHz	> 500 kHz	Pass



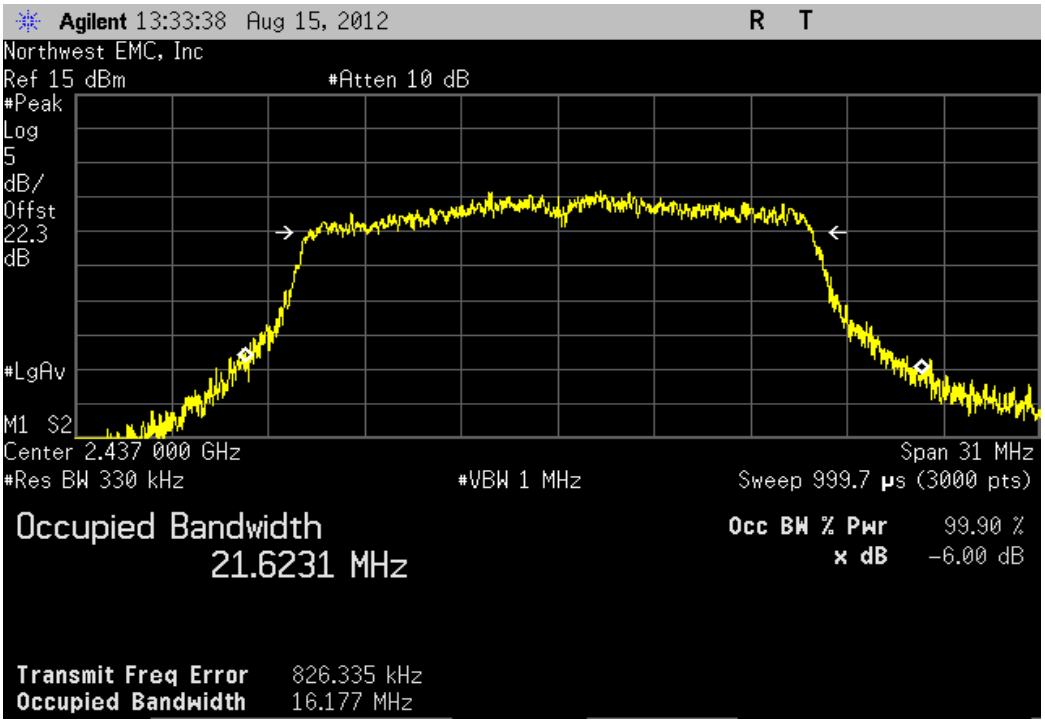
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				16.12 MHz	> 500 kHz	Pass



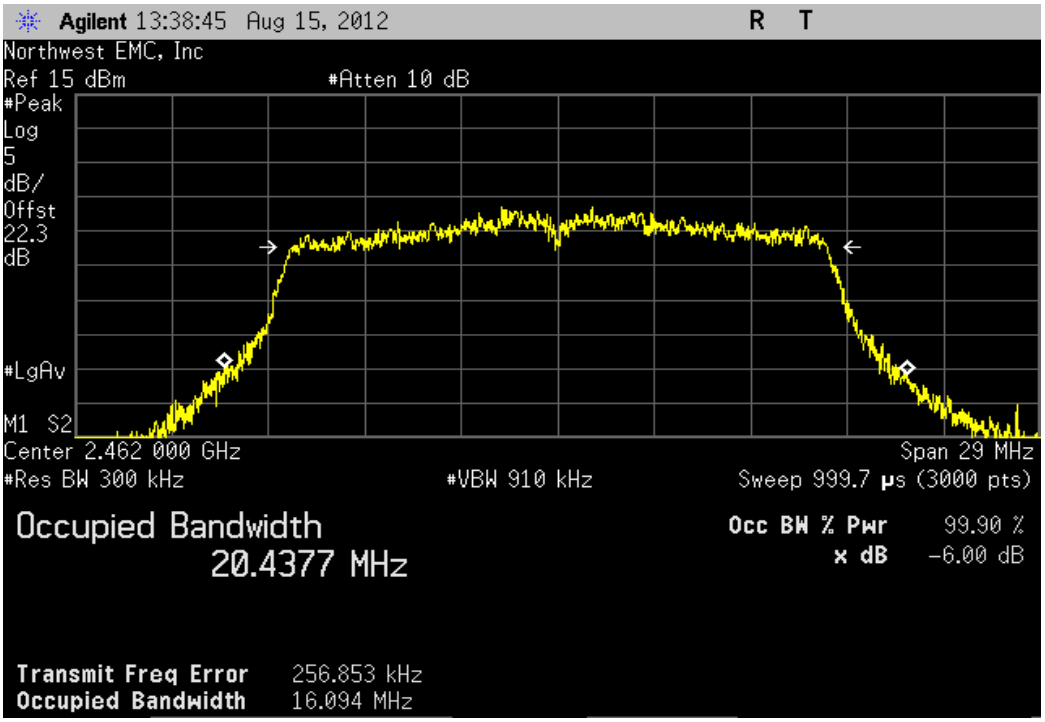
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				16.177 MHz	> 500 kHz	Pass



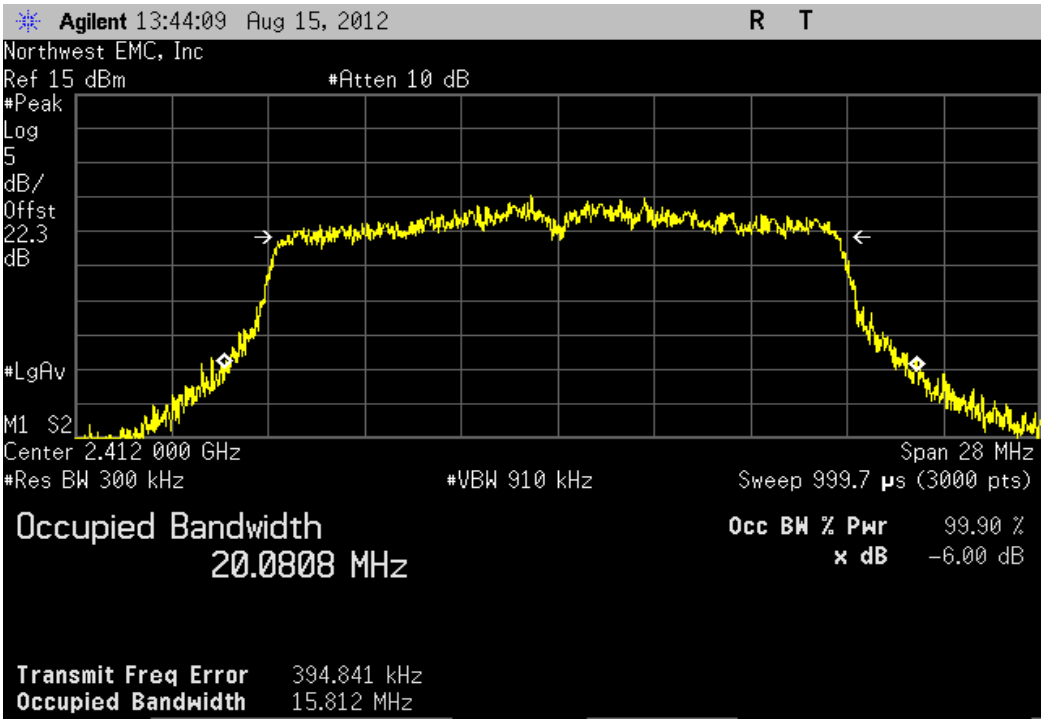
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				16.094 MHz	> 500 kHz	Pass



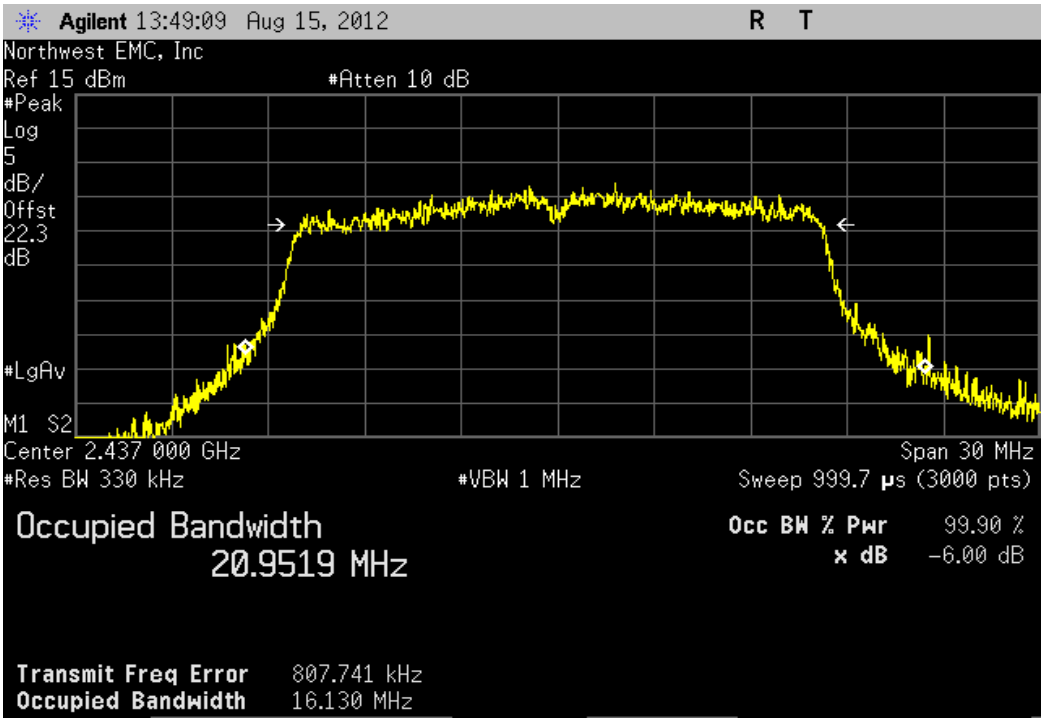
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				15.812 MHz	> 500 kHz	Pass



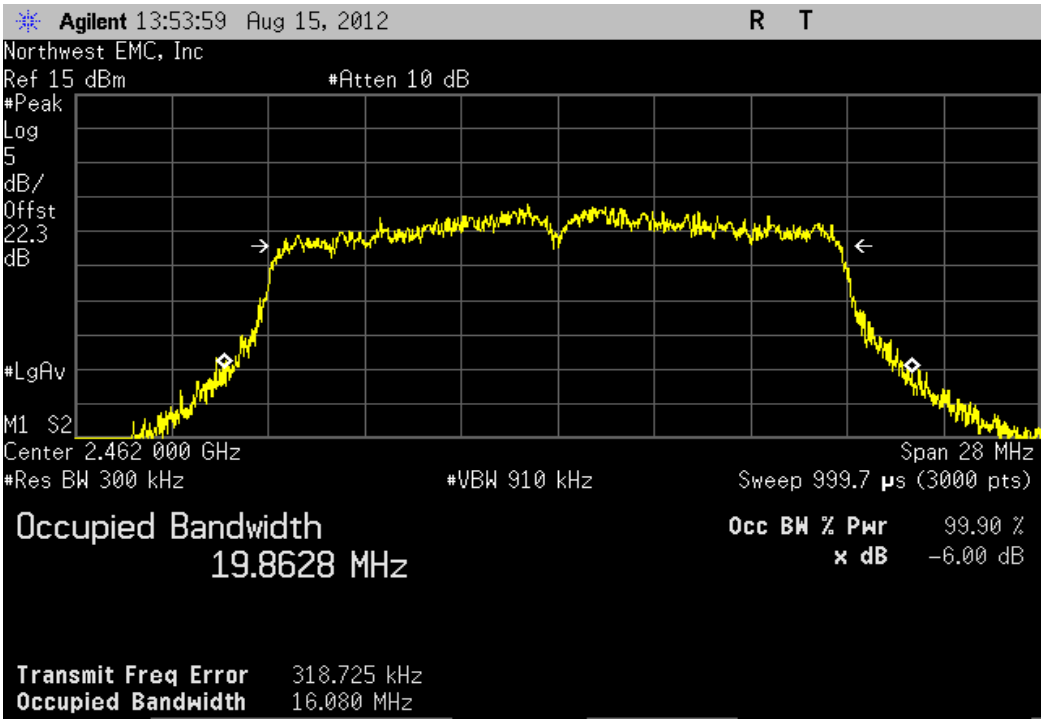
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				16.13 MHz	> 500 kHz	Pass



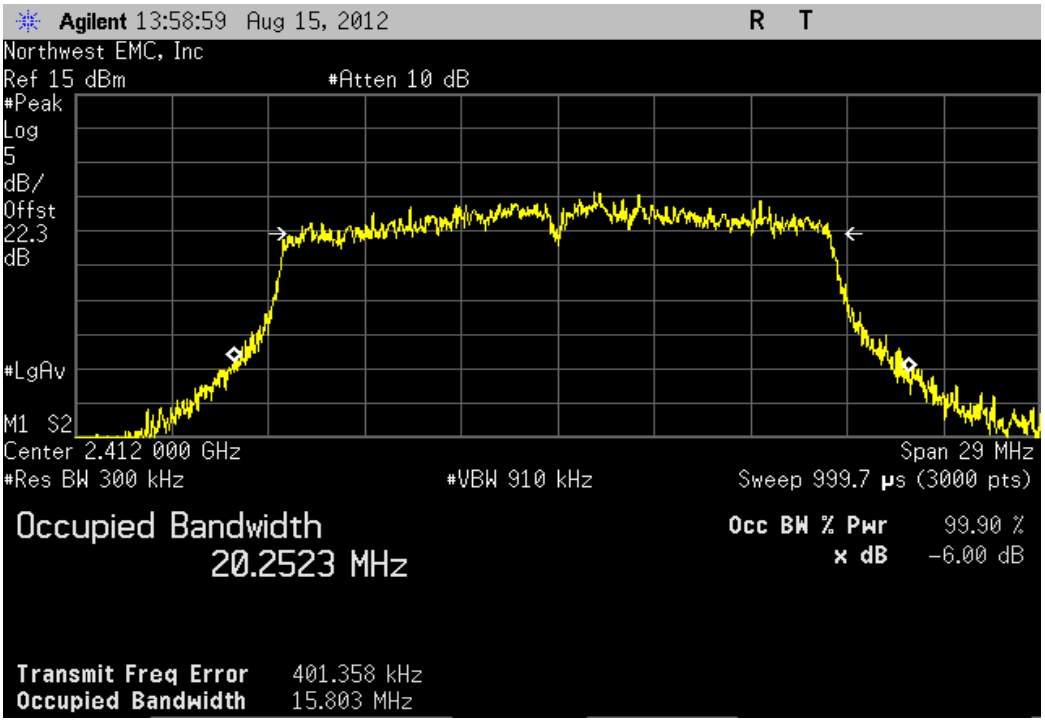
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				16.08 MHz	> 500 kHz	Pass



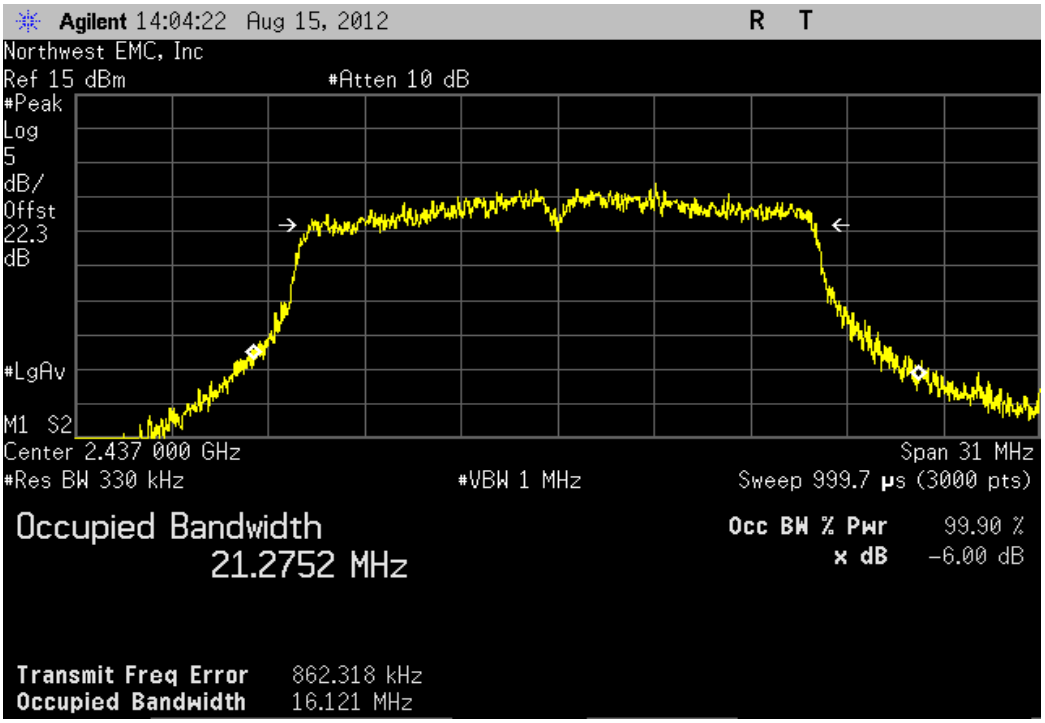
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				15.803 MHz	> 500 kHz	Pass



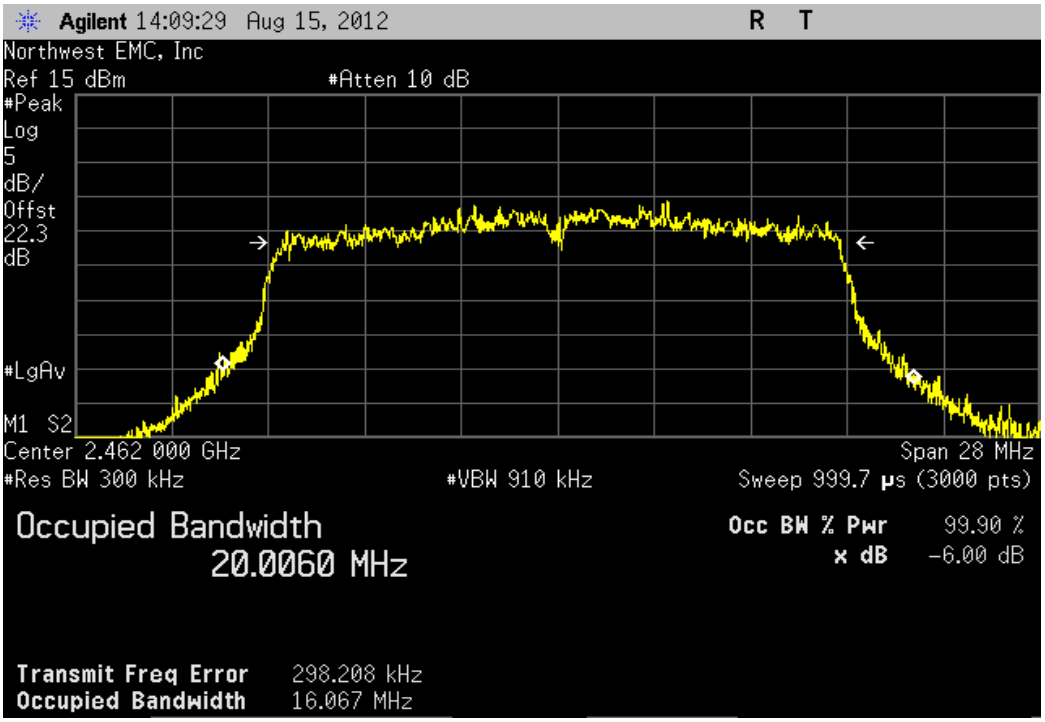
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				16.121 MHz	> 500 kHz	Pass



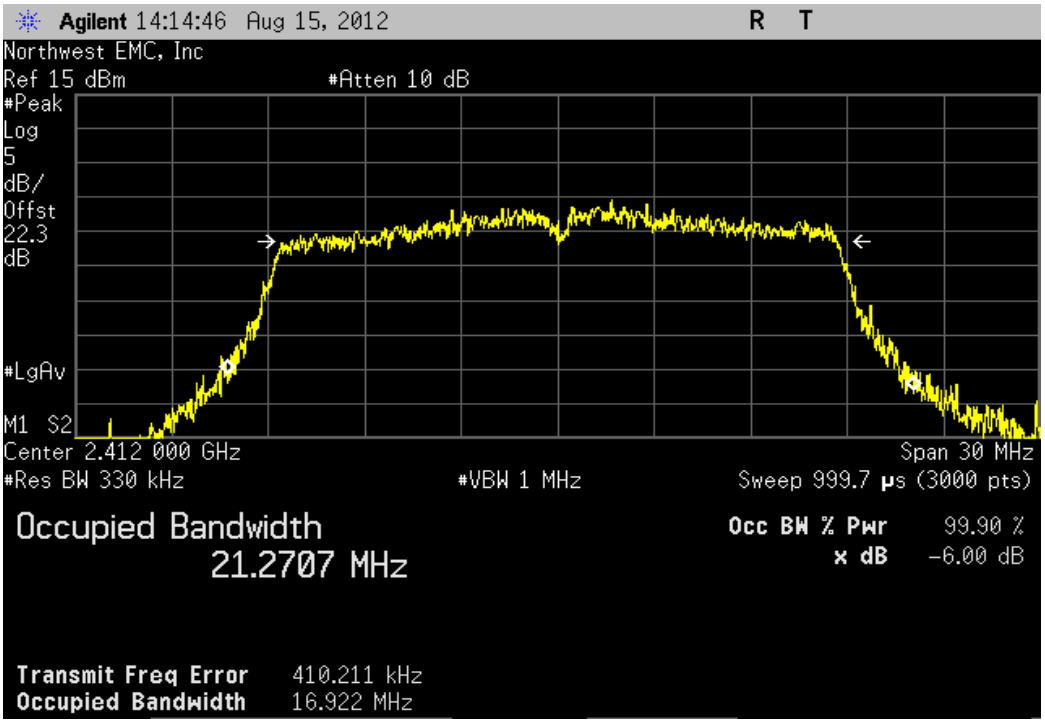
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				16.067 MHz	> 500 kHz	Pass



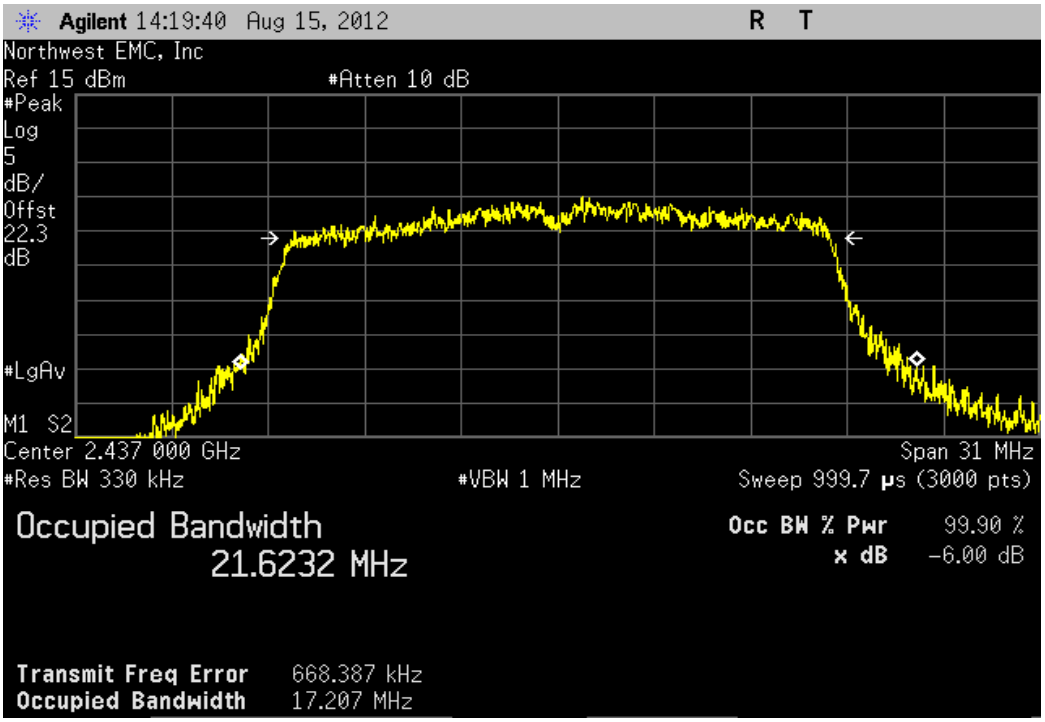
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz

				Value	Limit	Result
				16.922 MHz	> 500 kHz	Pass



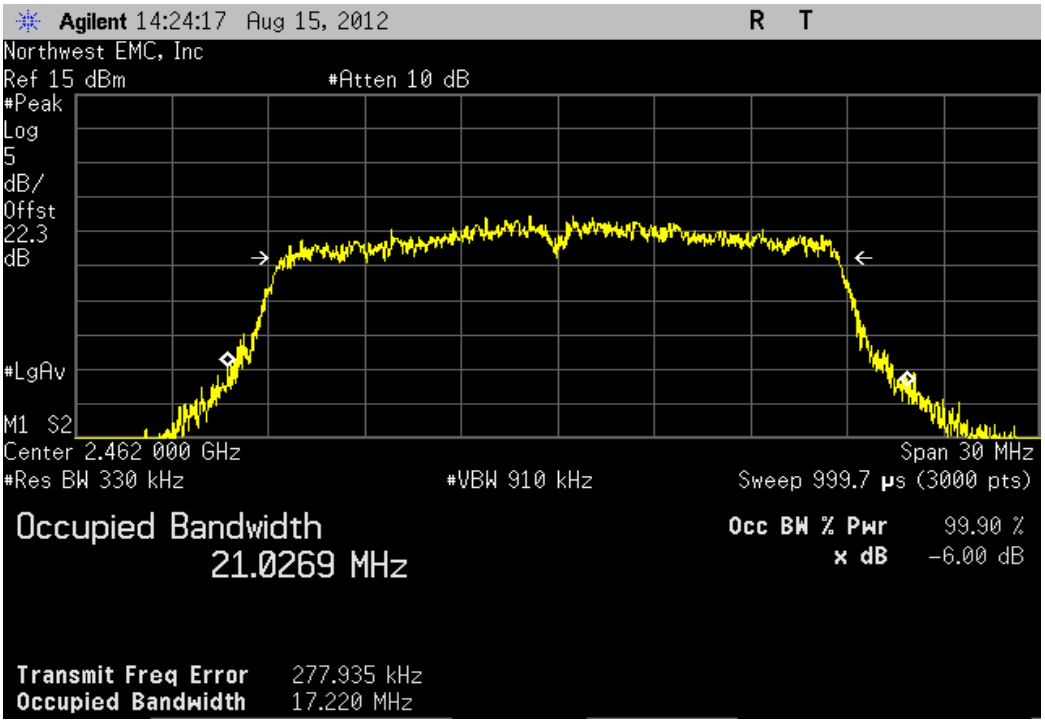
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				17.207 MHz	> 500 kHz	Pass



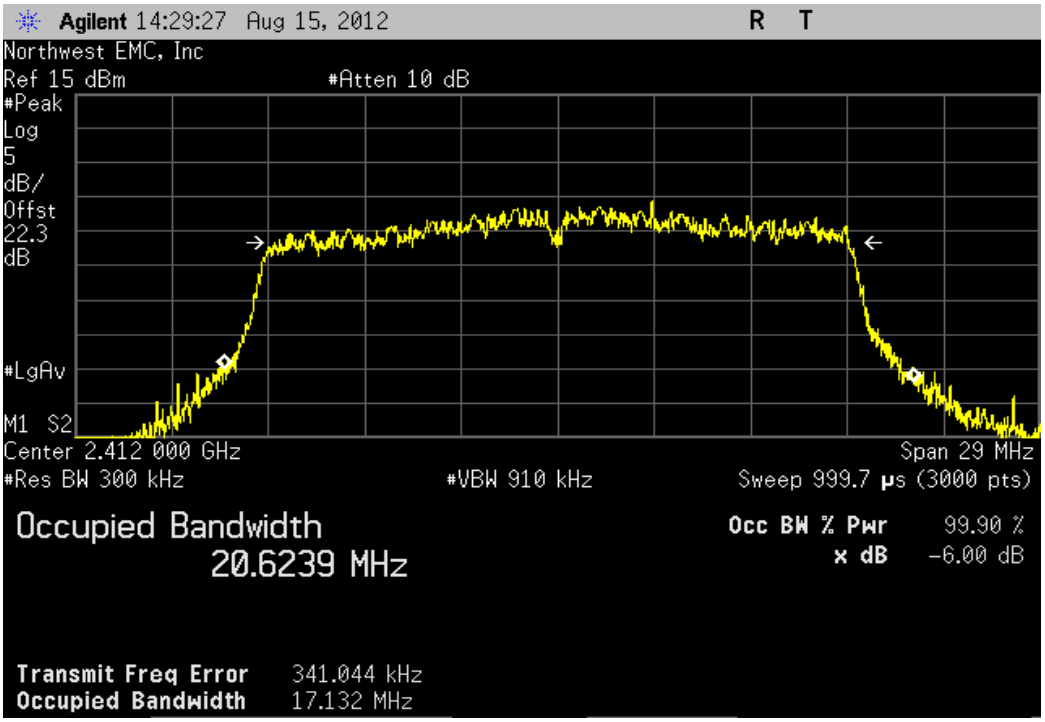
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz

				Value	Limit	Result
				17.22 MHz	> 500 kHz	Pass



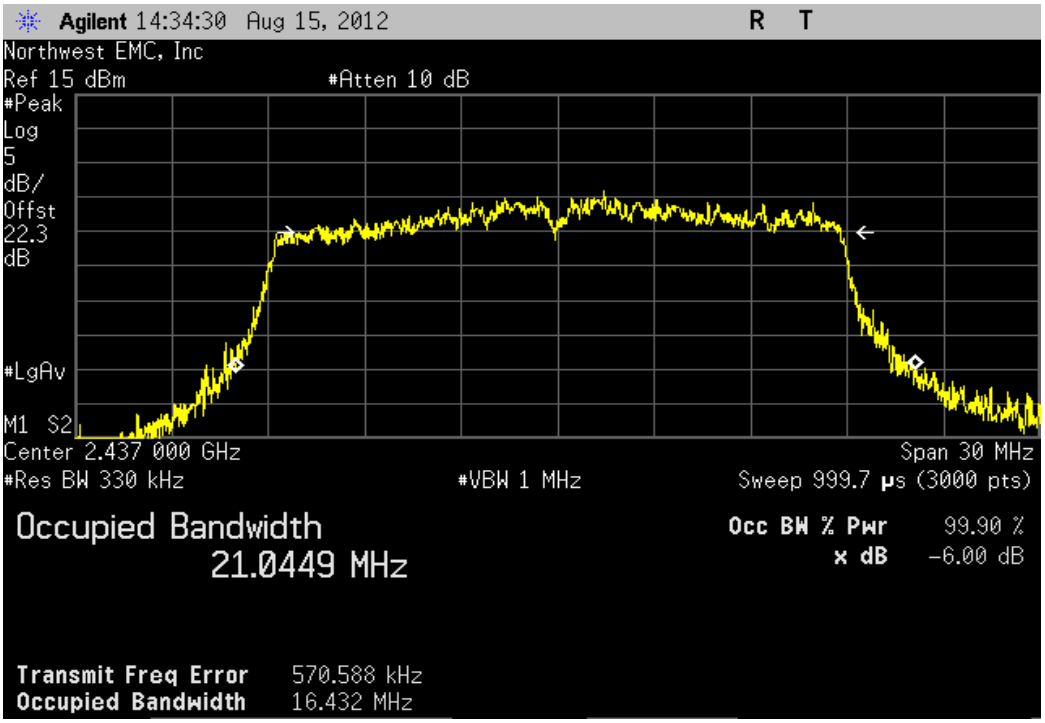
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz

				Value	Limit	Result
				17.132 MHz	> 500 kHz	Pass



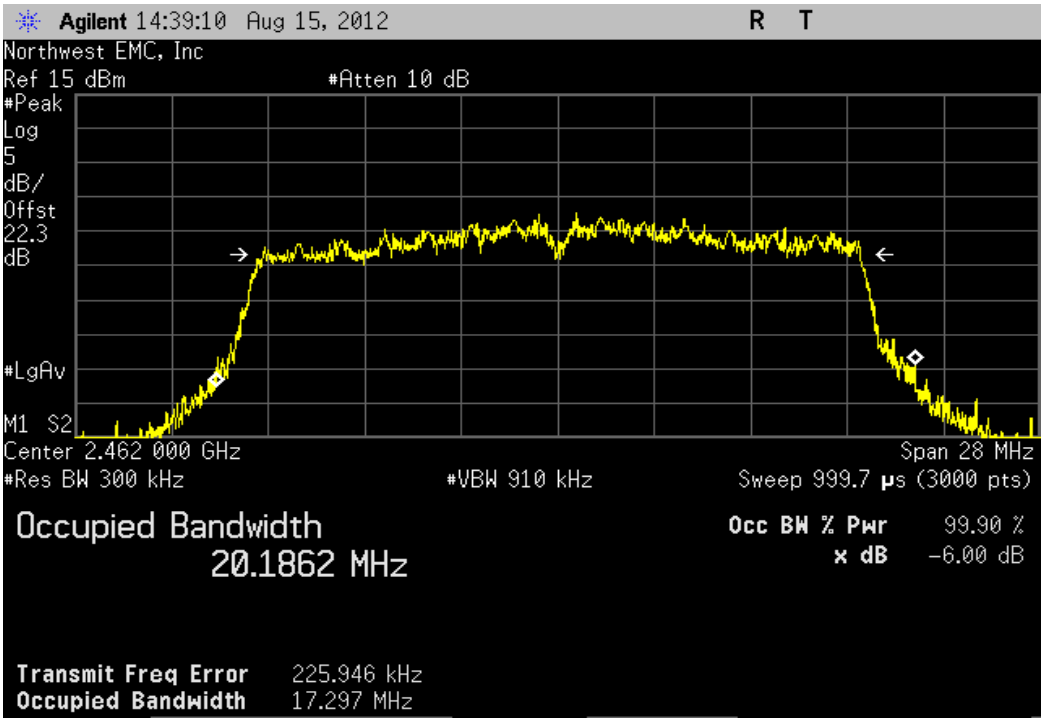
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				16.432 MHz	> 500 kHz	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz

				Value	Limit	Result
				17.297 MHz	> 500 kHz	Pass



Output 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
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/12/2011	12
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	12
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/19/2012	12
Signal Generator	Agilent	N5183A	TIA	1/27/2012	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.

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 PK2 found in KDB 558074 DTS D01 Measurement Section 5.2.1.2 was used because 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 = 3 MHz.
- 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.

Output Power

EUT:	TH6320WF			**Work Order:**	HNYW0015
Serial Number:	3642			**Date:**	08/15/12
Customer:	Honeywell, Automation and Control Solutions			**Temperature:**	23.48°C
Attendees:	None			**Humidity:**	52%
Project:	None			**Barometric Pres.:**	1007.9
Tested by:	Johnathan Lee	**Power:**	110VAC/60Hz	**Job Site:**	MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2012	ANSI C63.10:2009

COMMENTS

None

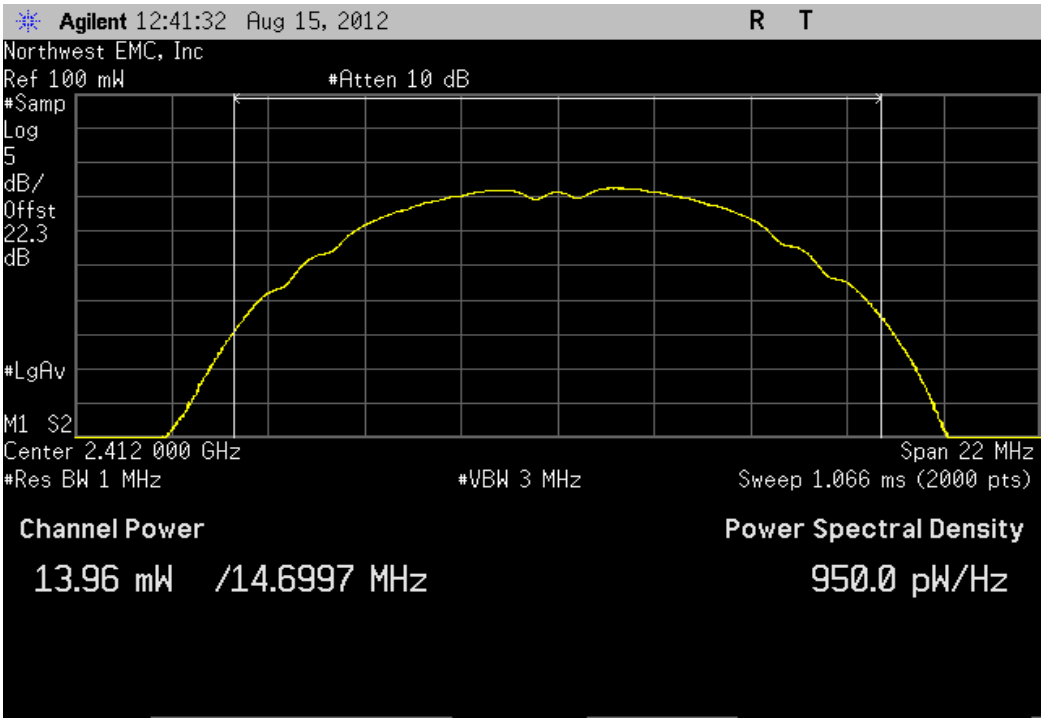
DEVIATIONS FROM TEST STANDARD

None

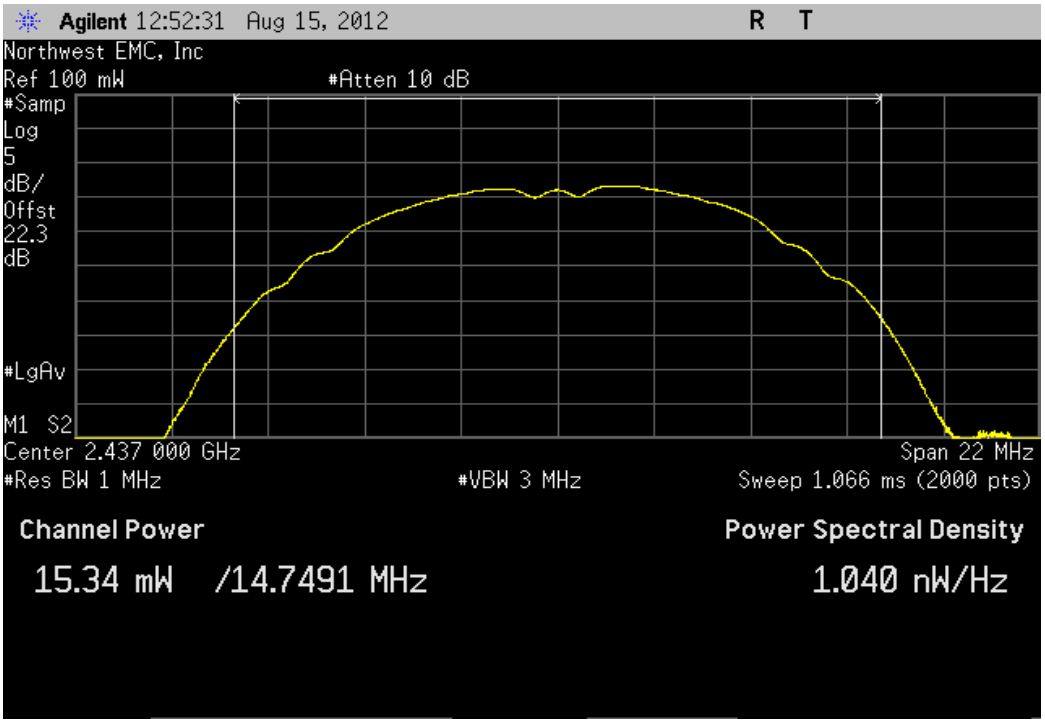
Configuration #	2	Signature

	Value	Limit	Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	13.964 mW	< 1 W	Pass
Mid Channel 6, 2437 MHz	15.337 mW	< 1 W	Pass
High Channel 11, 2462 MHz	12.944 mW	< 1 W	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz	14.817 mW	< 1 W	Pass
Mid Channel 6, 2437 MHz	18.71 mW	< 1 W	Pass
High Channel 11, 2462 MHz	10.878 mW	< 1 W	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	5.025 mW	< 1 W	Pass
Mid Channel 6, 2437 MHz	6.723 mW	< 1 W	Pass
High Channel 11, 2462 MHz	4.065 mW	< 1 W	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz	4.839 mW	< 1 W	Pass
Mid Channel 6, 2437 MHz	6.557 mW	< 1 W	Pass
High Channel 11, 2462 MHz	3.9 mW	< 1 W	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz	4.688 mW	< 1 W	Pass
Mid Channel 6, 2437 MHz	6.316 mW	< 1 W	Pass
High Channel 11, 2462 MHz	3.788 mW	< 1 W	Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz	4.184 mW	< 1 W	Pass
Mid Channel 6, 2437 MHz	5.567 mW	< 1 W	Pass
High Channel 11, 2462 MHz	2.992 mW	< 1 W	Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz	4.045 mW	< 1 W	Pass
Mid Channel 6, 2437 MHz	5.187 mW	< 1 W	Pass
High Channel 11, 2462 MHz	2.772 mW	< 1 W	Pass

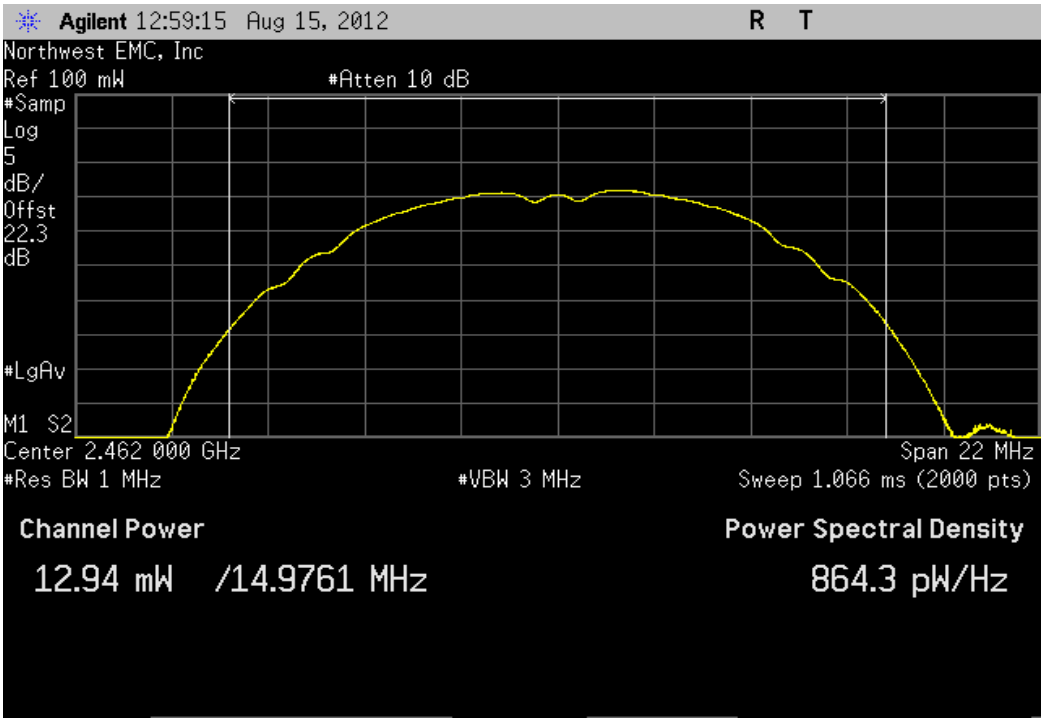
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				13.964 mW	< 1 W	Pass



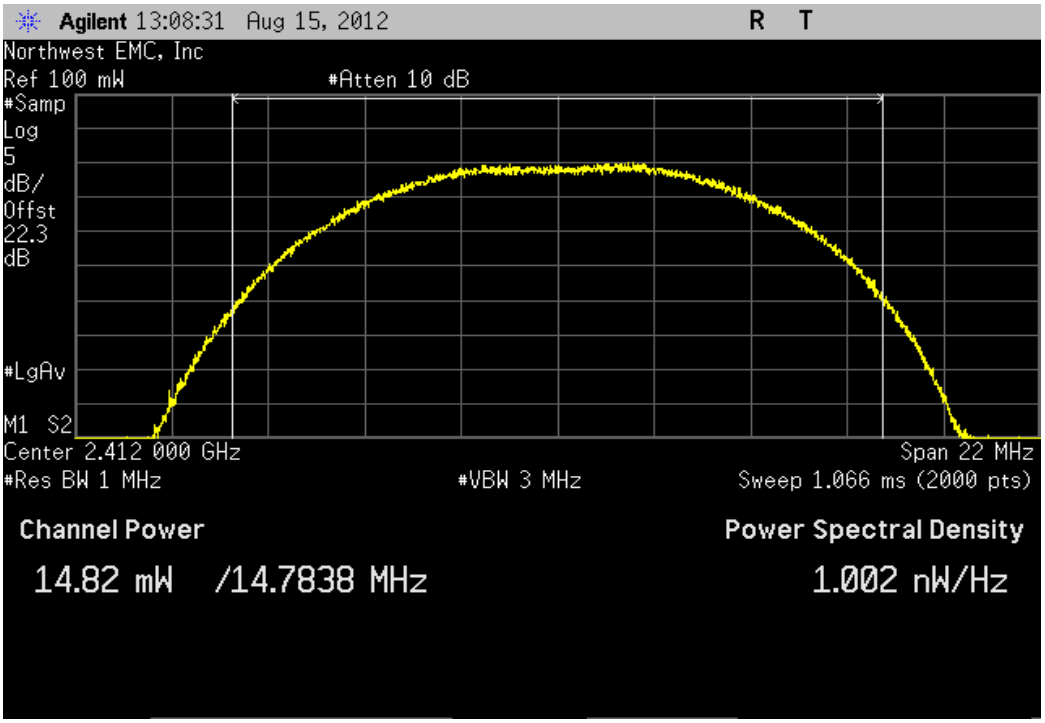
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				15.337 mW	< 1 W	Pass



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

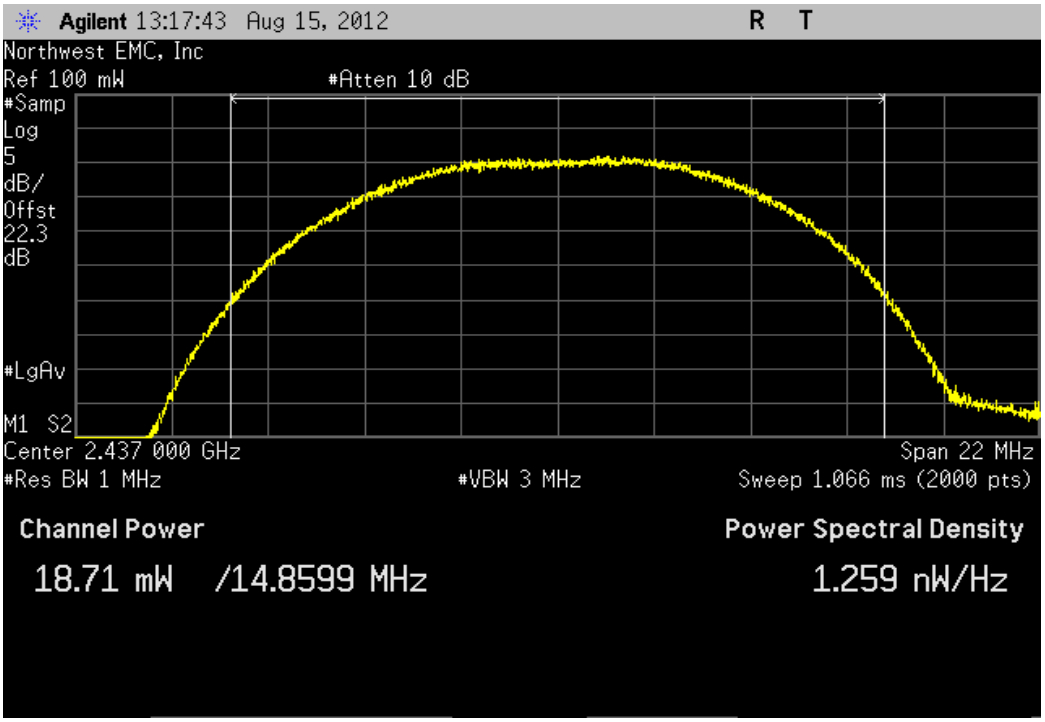


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				14.817 mW	< 1 W	Pass

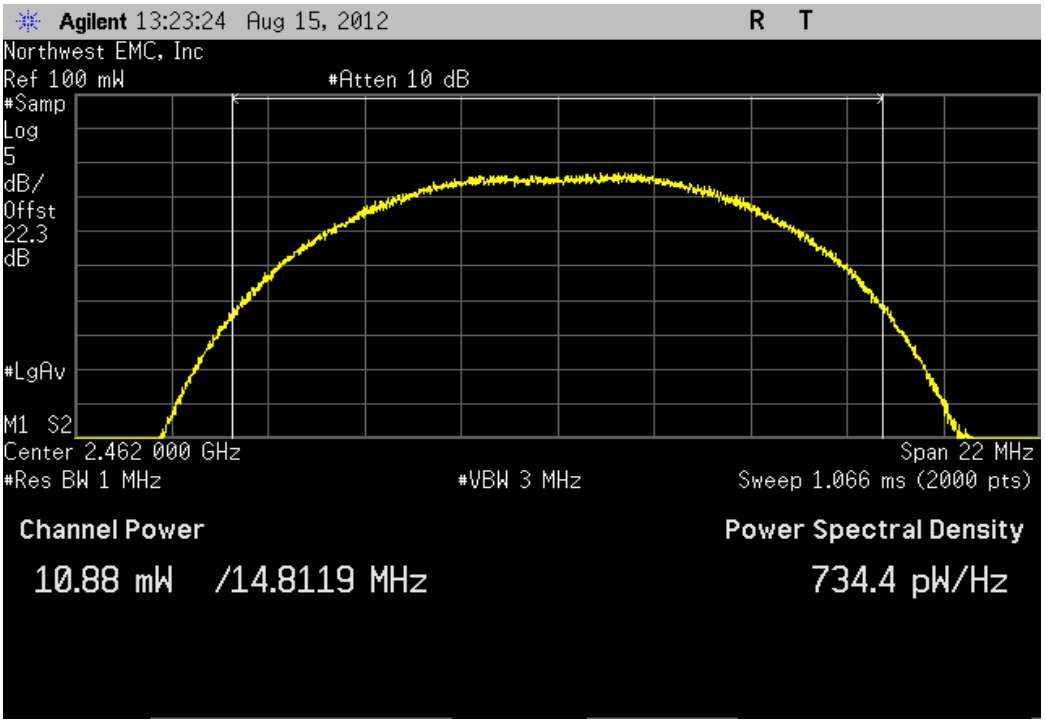


Output Power

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

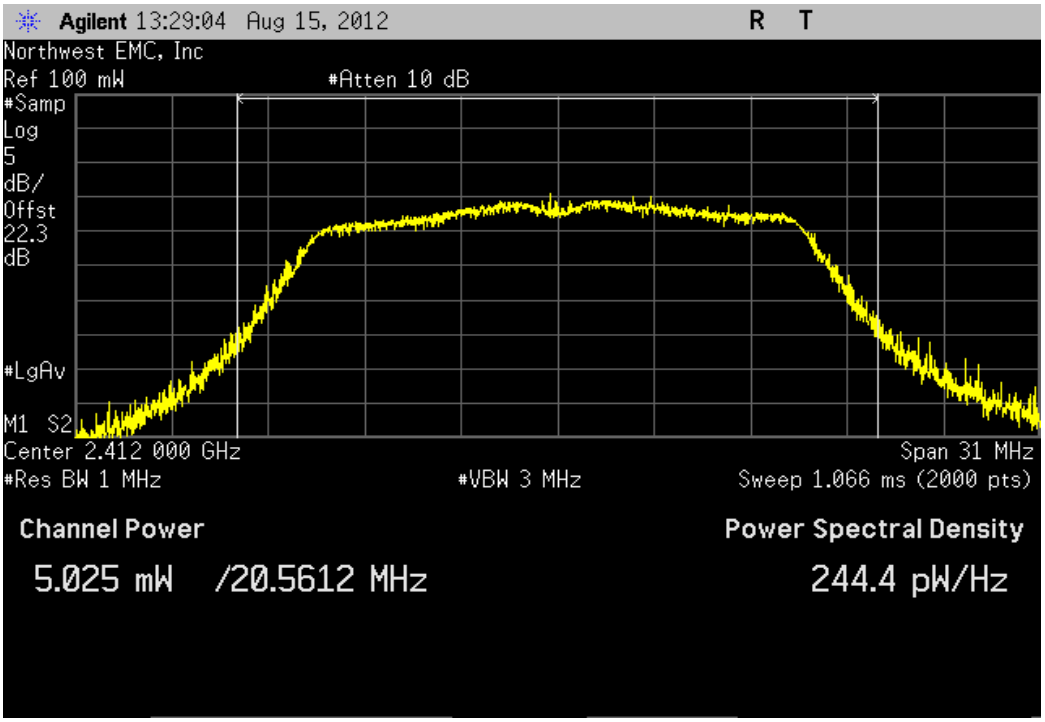


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
				Value	Limit	Result
				10.878 mW	< 1 W	Pass



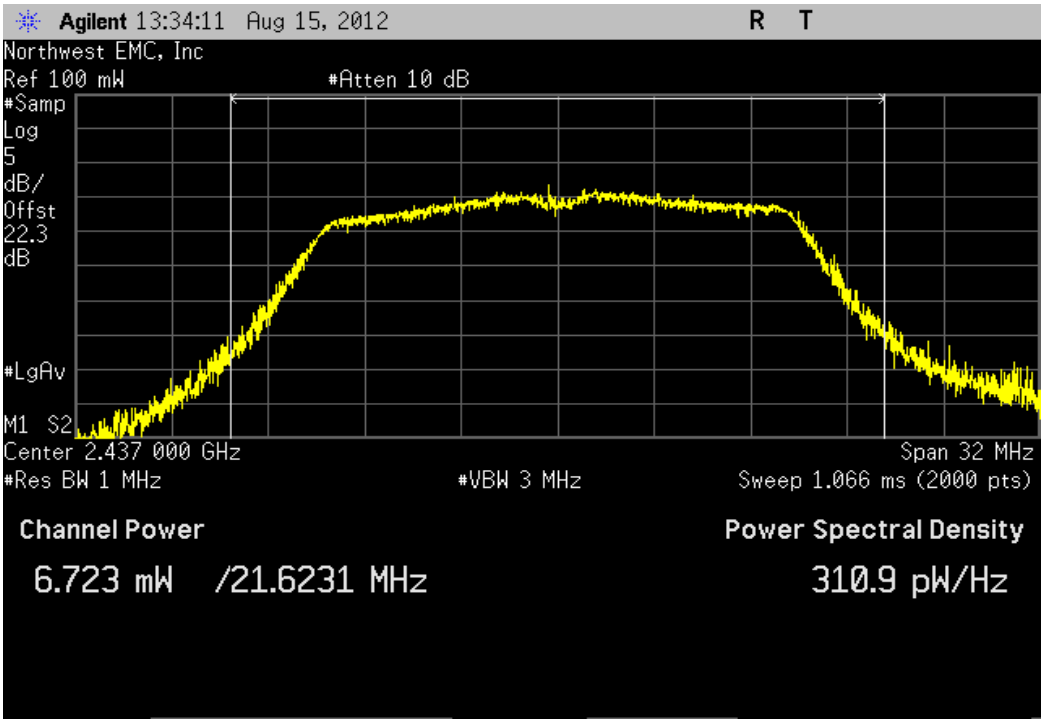
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				5.025 mW	< 1 W	Pass



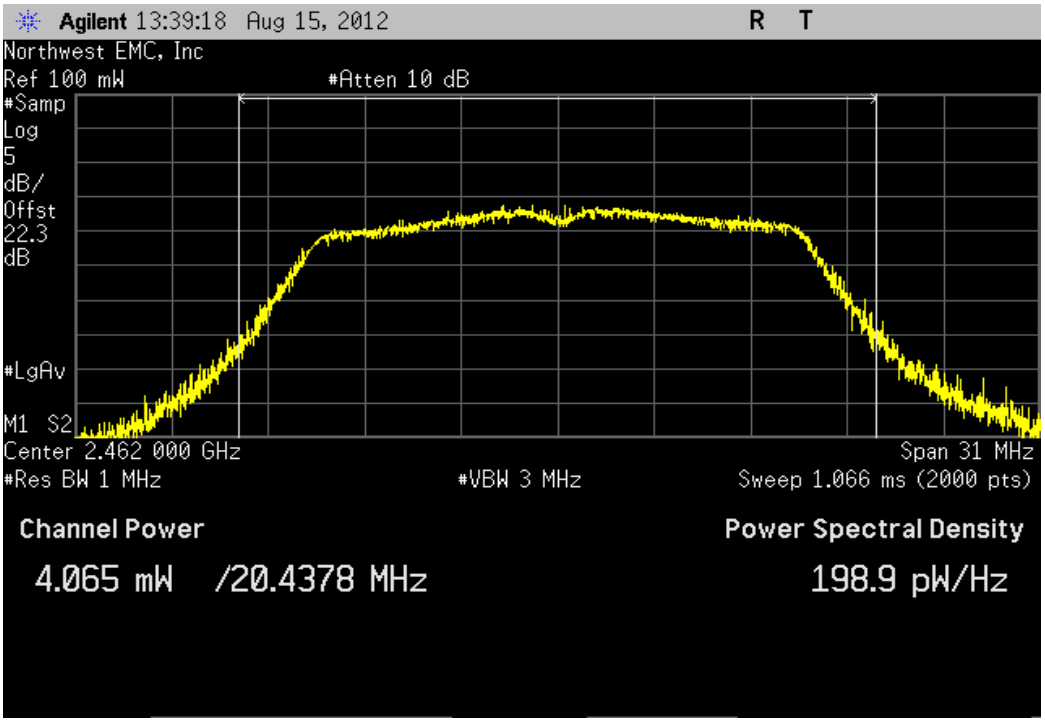
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				6.723 mW	< 1 W	Pass



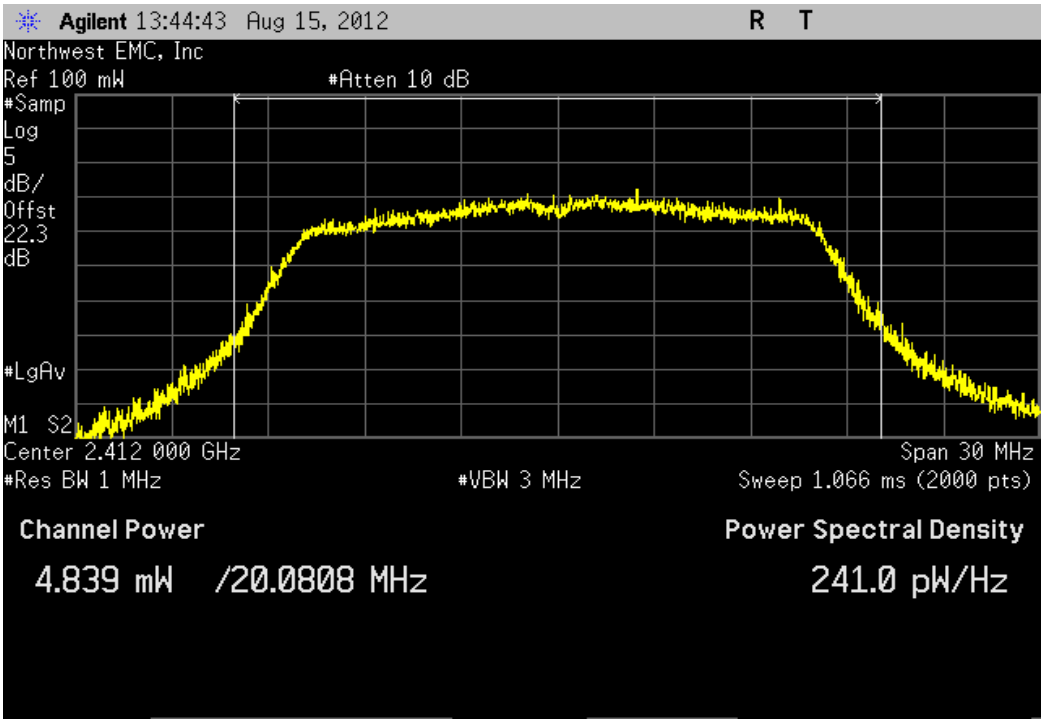
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				4.065 mW	< 1 W	Pass



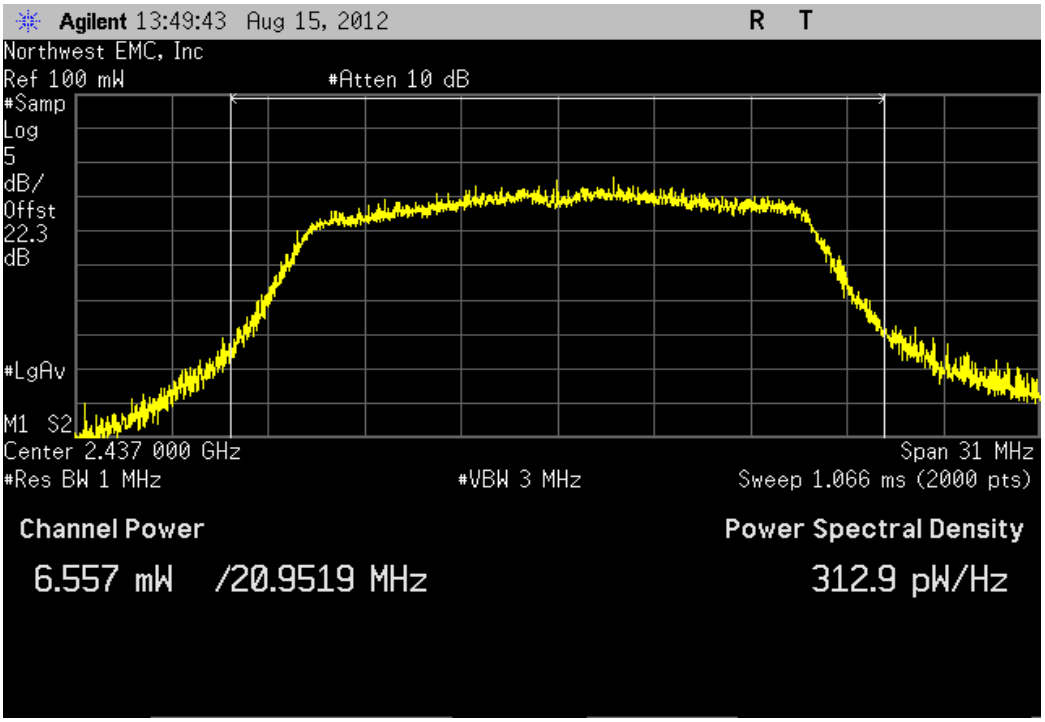
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				4.839 mW	< 1 W	Pass



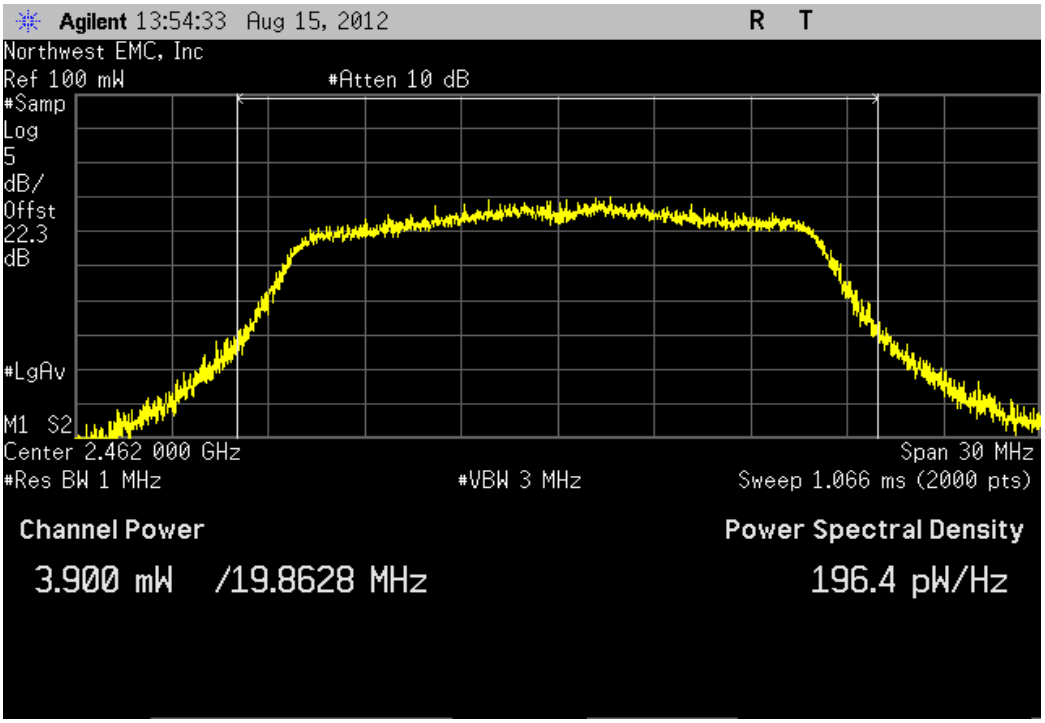
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				6.557 mW	< 1 W	Pass

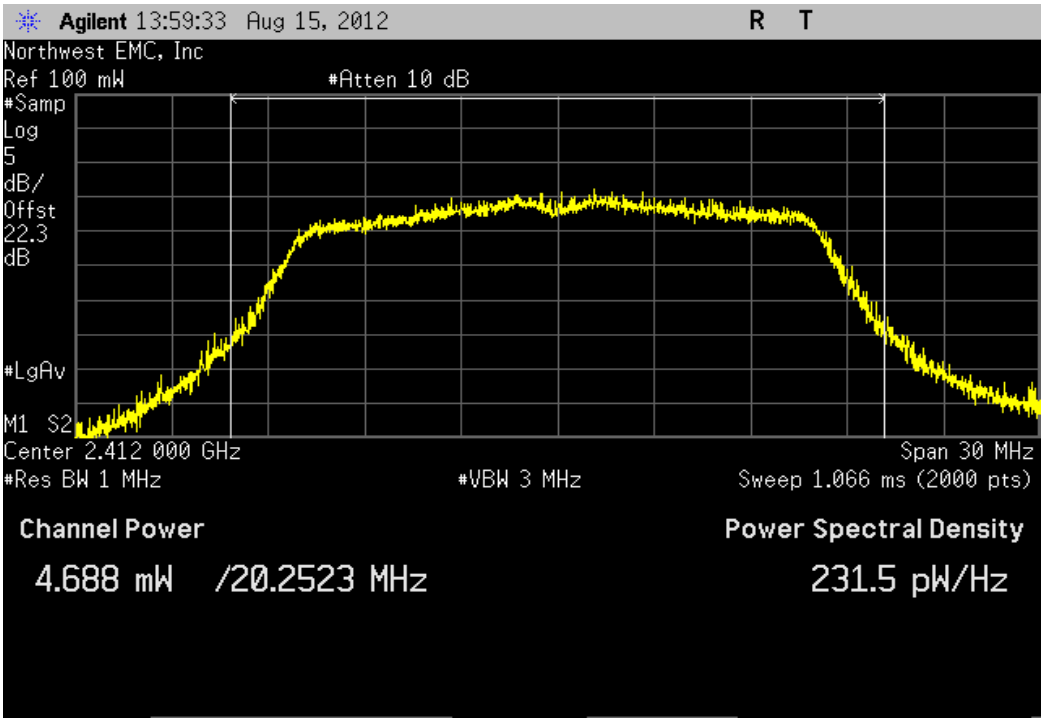


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz

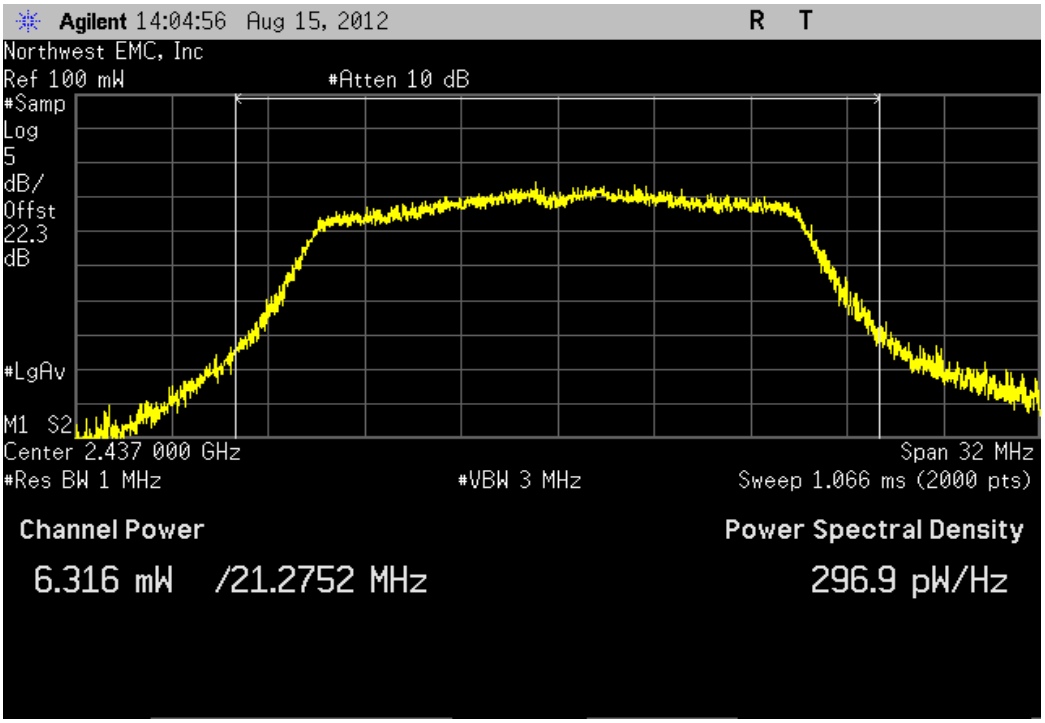
				Value	Limit	Result
				3.9 mW	< 1 W	Pass



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

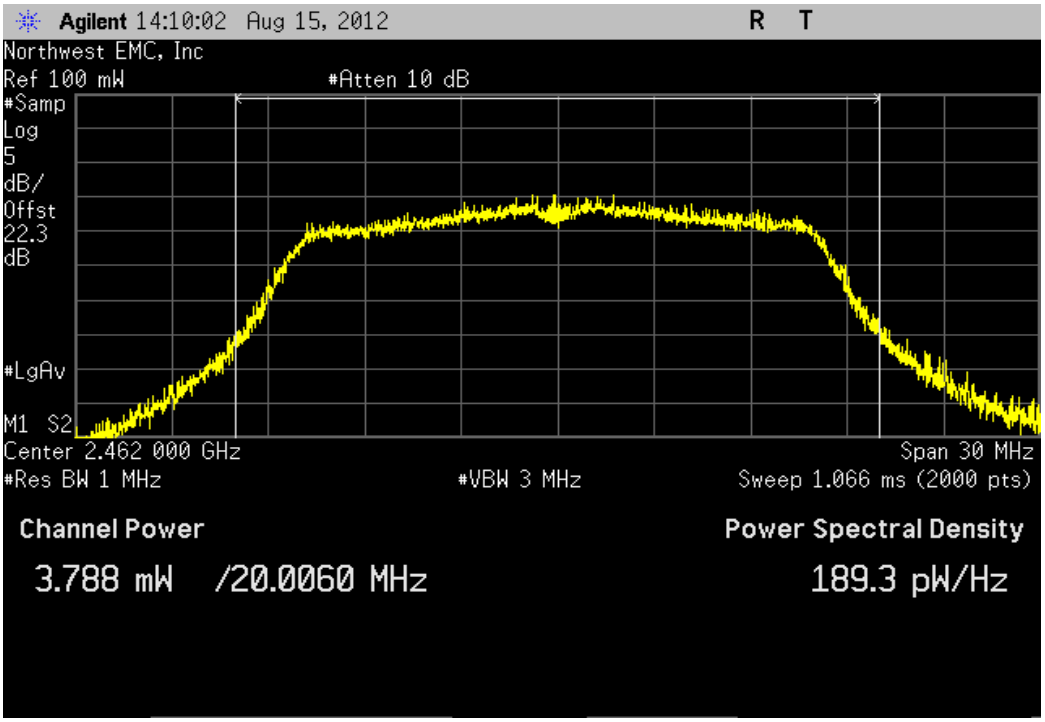


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				6.316 mW	< 1 W	Pass



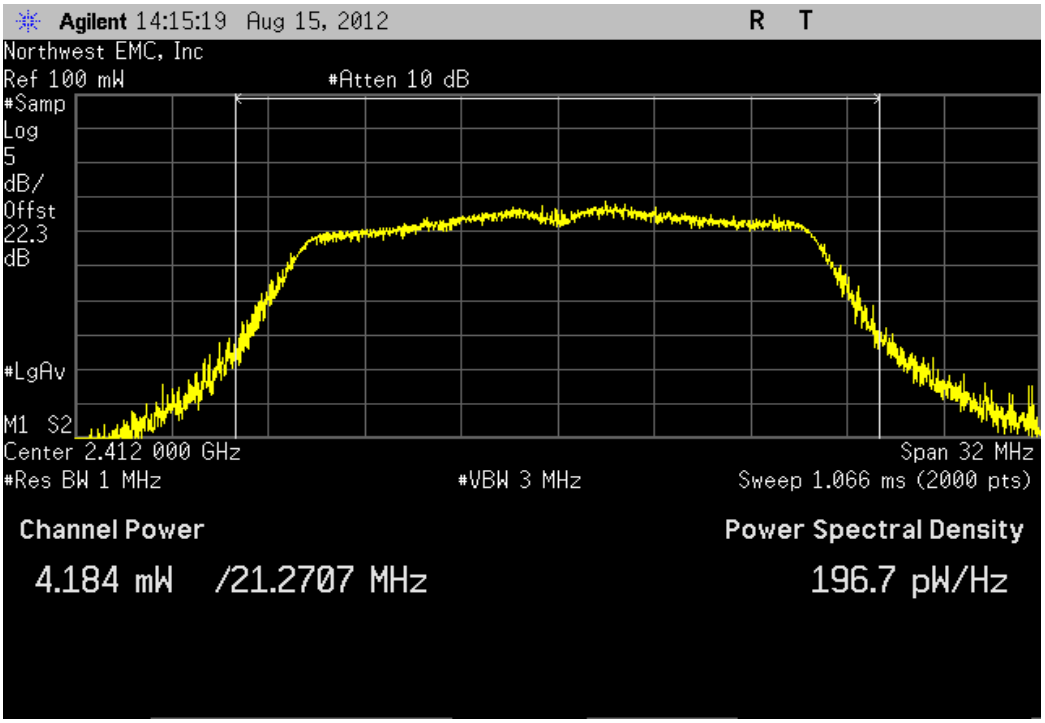
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				3.788 mW	< 1 W	Pass

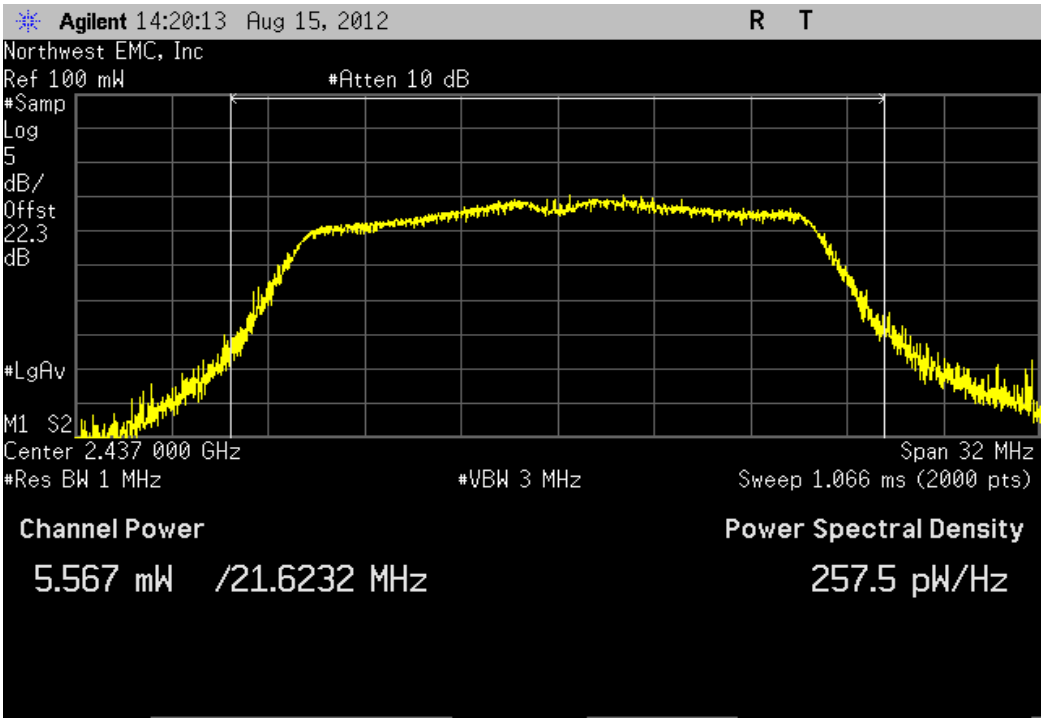


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz

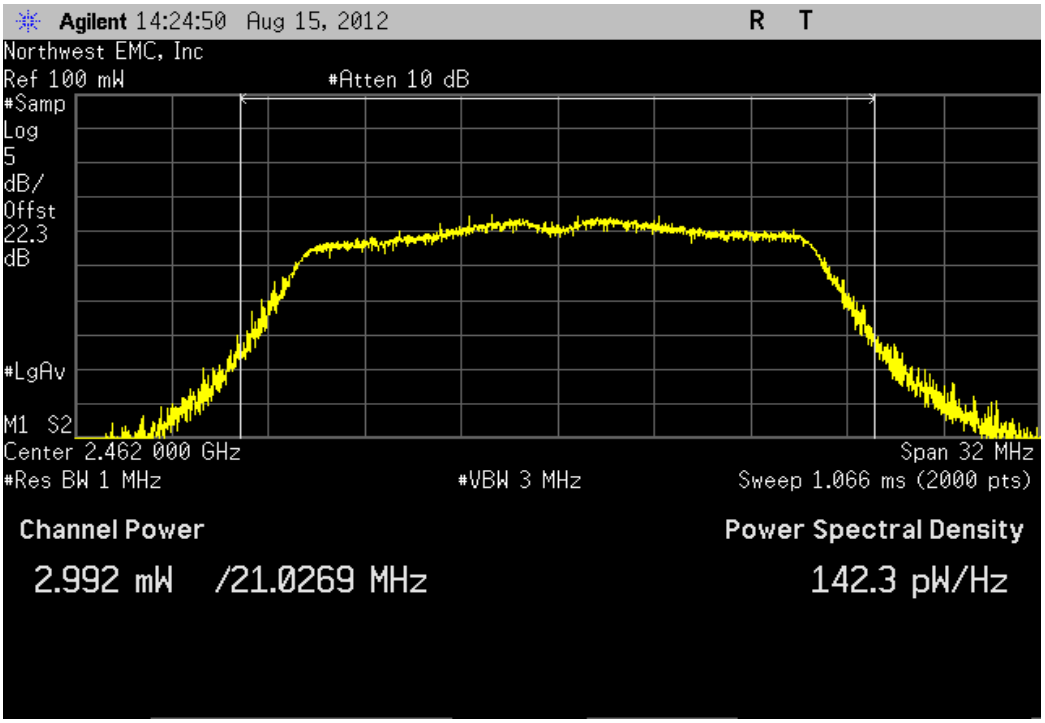
				Value	Limit	Result
				4.184 mW	< 1 W	Pass



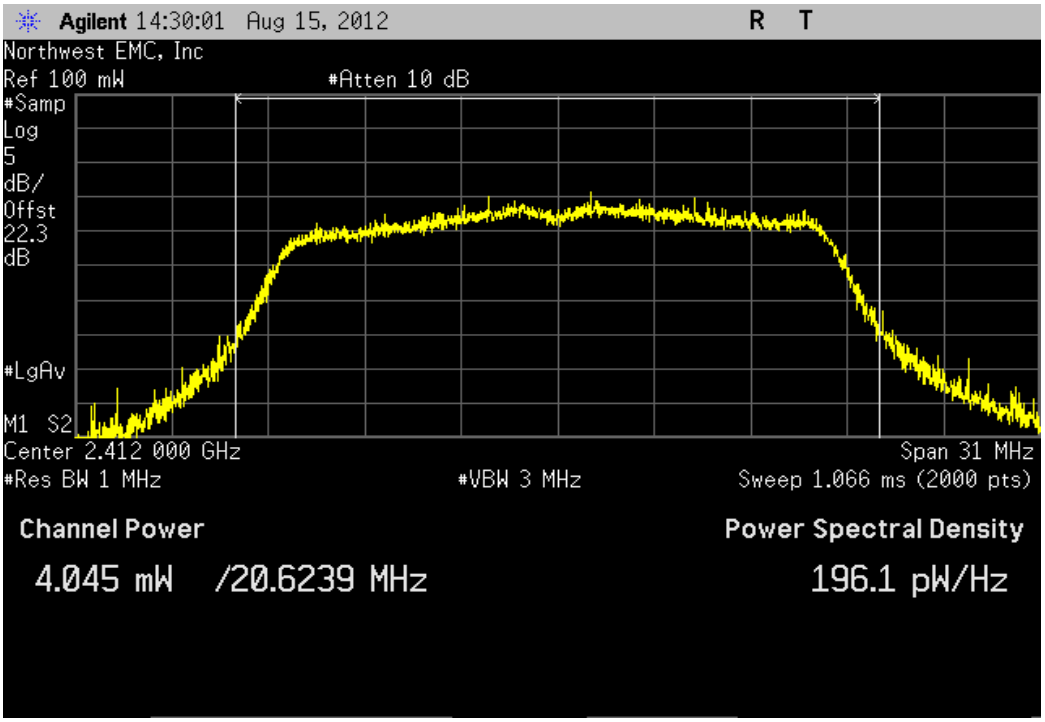
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				5.567 mW	< 1 W	Pass



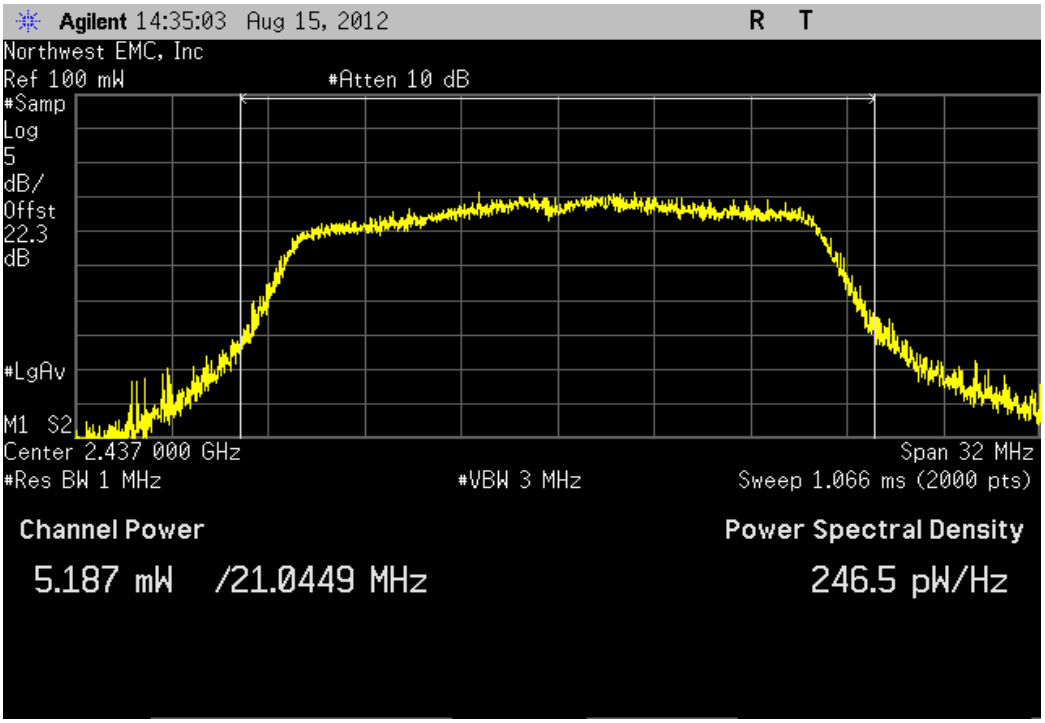
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value	Limit	Result
				2.992 mW	< 1 W	Pass



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

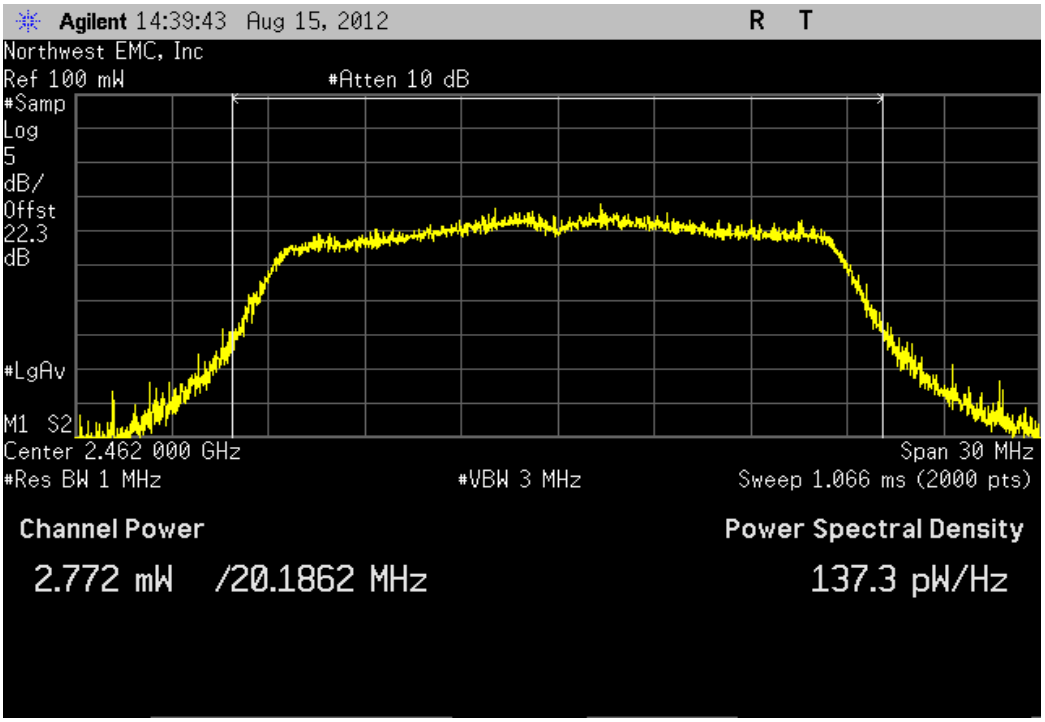


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				5.187 mW	< 1 W	Pass



Output Power

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



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
Signal Generator	Agilent	N5183A	TIA	1/27/2012	24
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/12/2011	12
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/19/2012	12
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	12

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 the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

Band Edge Compliance

EUT:	TH6320WF			**Work Order:**	HNYW0015
Serial Number:	3642			**Date:**	08/15/12
Customer:	Honeywell, Automation and Control Solutions			**Temperature:**	23.48c°C
Attendees:	None			**Humidity:**	52%
Project:	None			**Barometric Pres.:**	1007.9
Tested by:	Johnathan Lee	**Power:**	110VAC/60Hz	**Job Site:**	MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2012	ANSI C63.10:2009

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

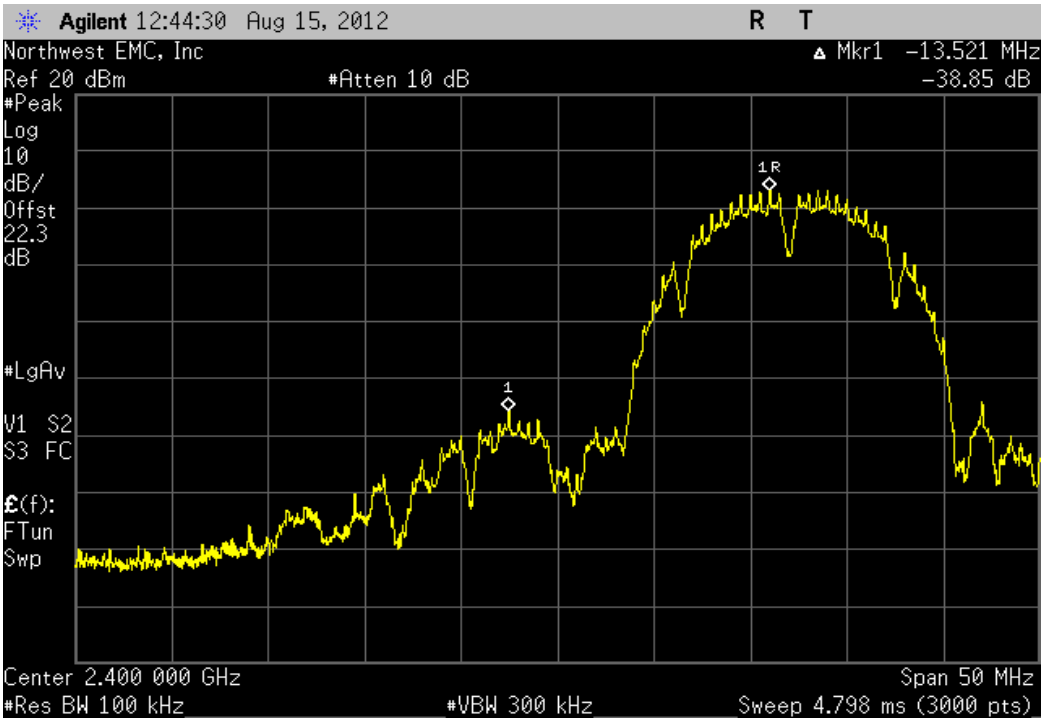
None

Configuration #	2	Signature

	Value	Limit	Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	-38.85 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-55.22 dBc	≤ -20 dBc	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz	-39.48 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-57.92 dBc	≤ -20 dBc	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	-34.94 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-46.26 dBc	≤ -20 dBc	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz	-35.33 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-47.12 dBc	≤ -20 dBc	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz	-36.95 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-46.07 dBc	≤ -20 dBc	Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz	-35.66 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-44.67 dBc	≤ -20 dBc	Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz	-36.09 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-44.25 dBc	≤ -20 dBc	Pass

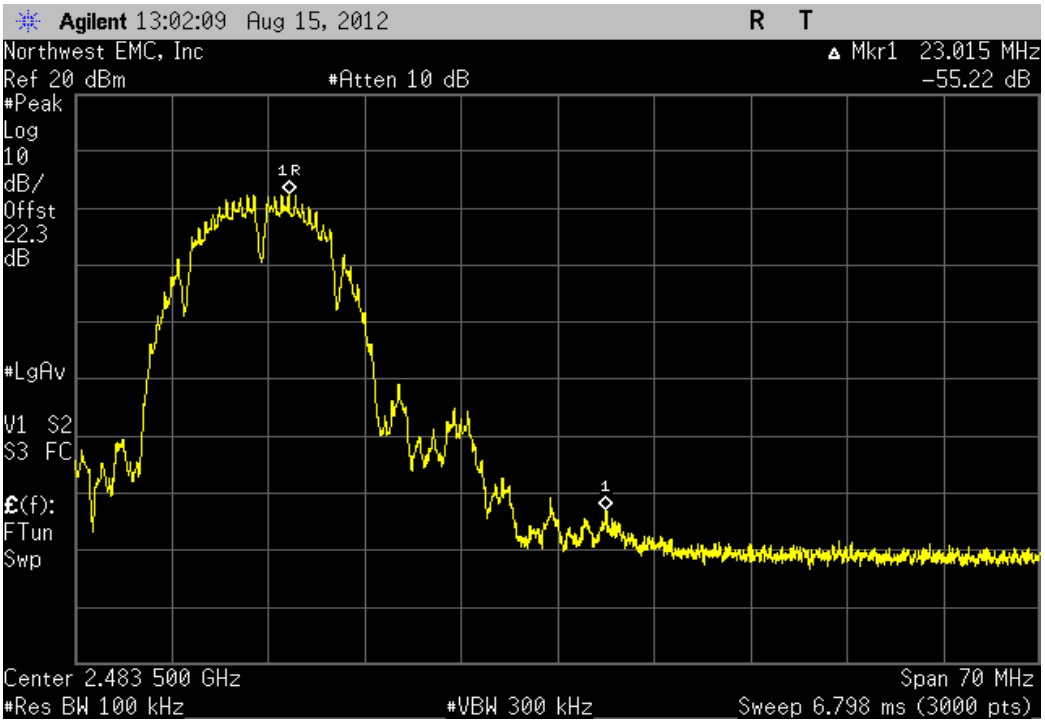
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz

Value	Limit	Result
-38.85 dBc	≤ -20 dBc	Pass



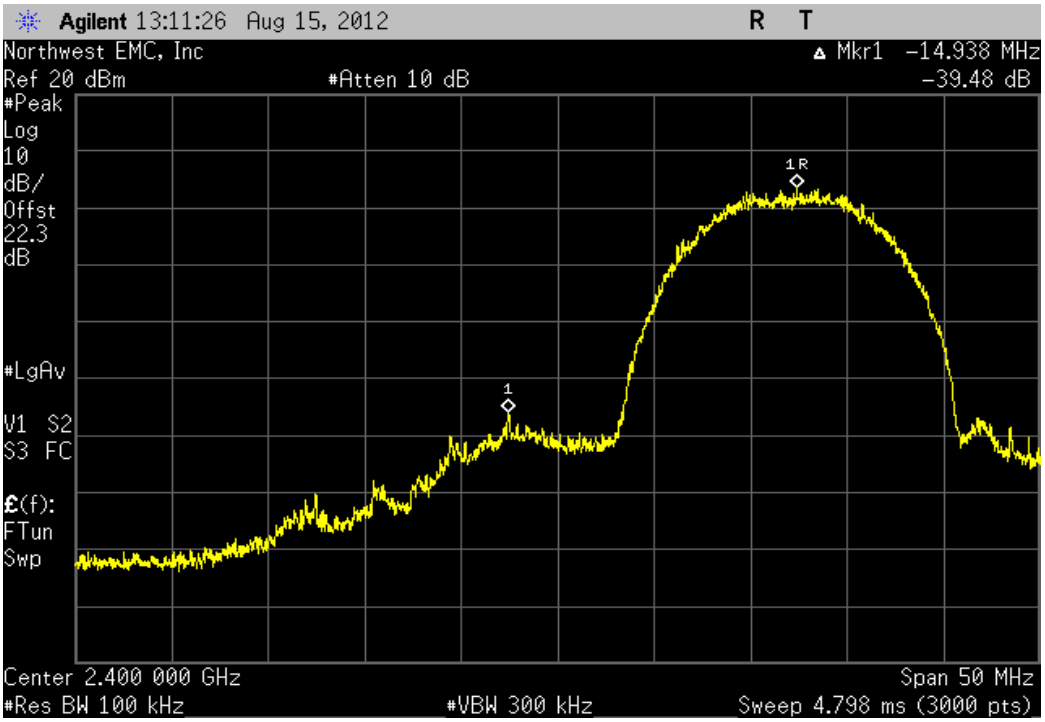
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz

Value	Limit	Result
-55.22 dBc	≤ -20 dBc	Pass



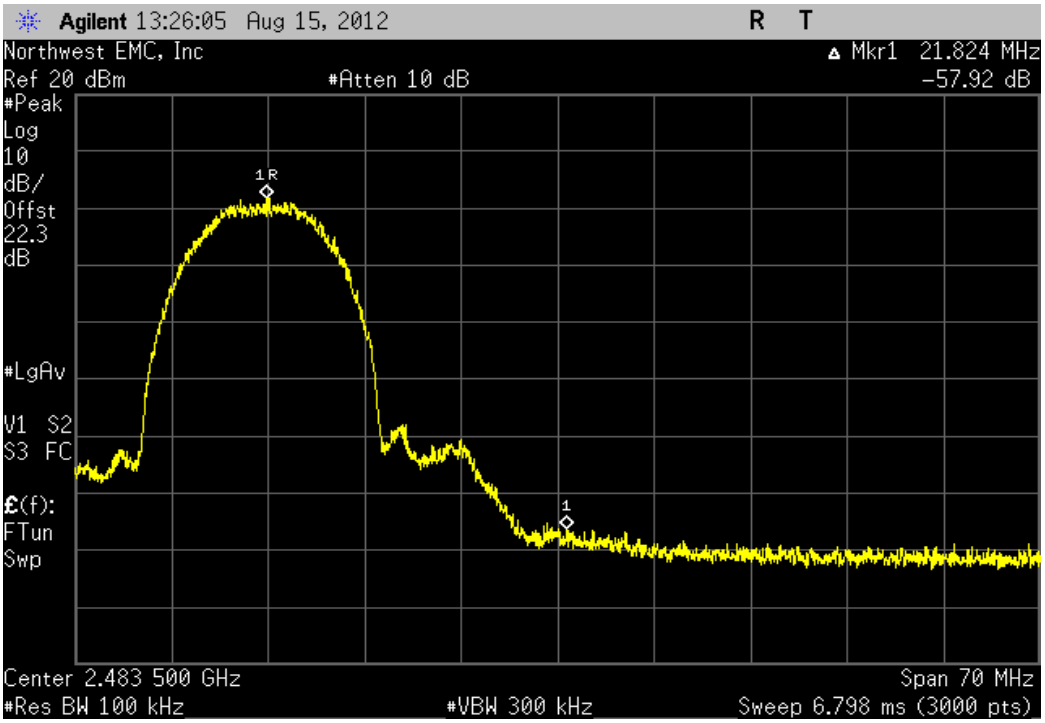
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				-39.48 dBc	≤ -20 dBc	Pass



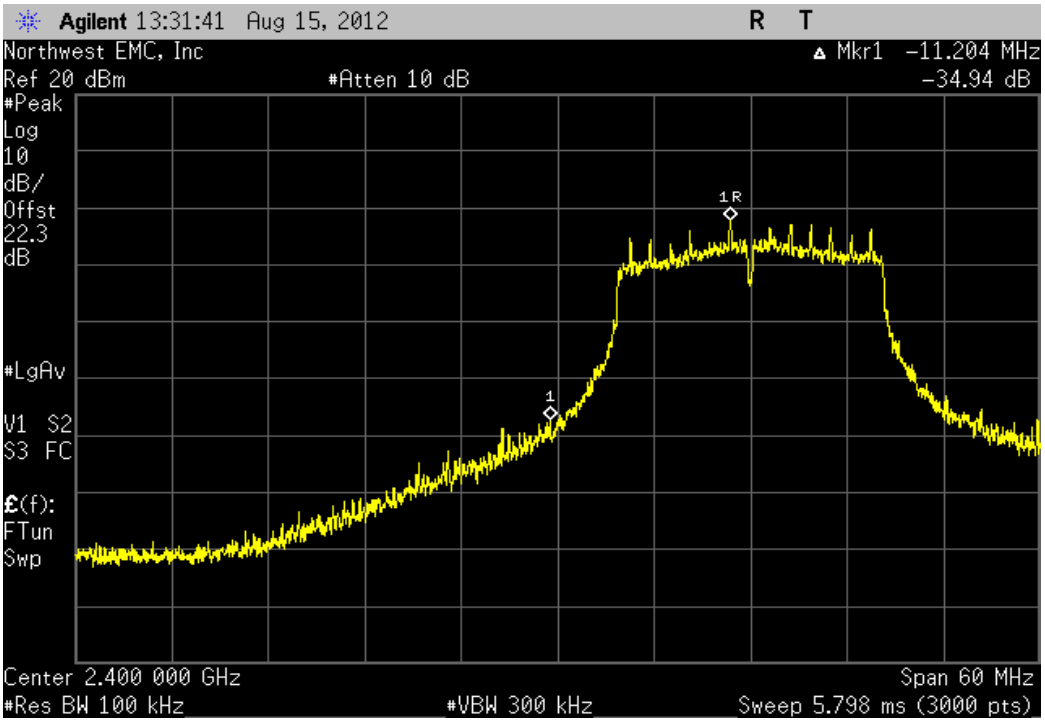
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				-57.92 dBc	≤ -20 dBc	Pass



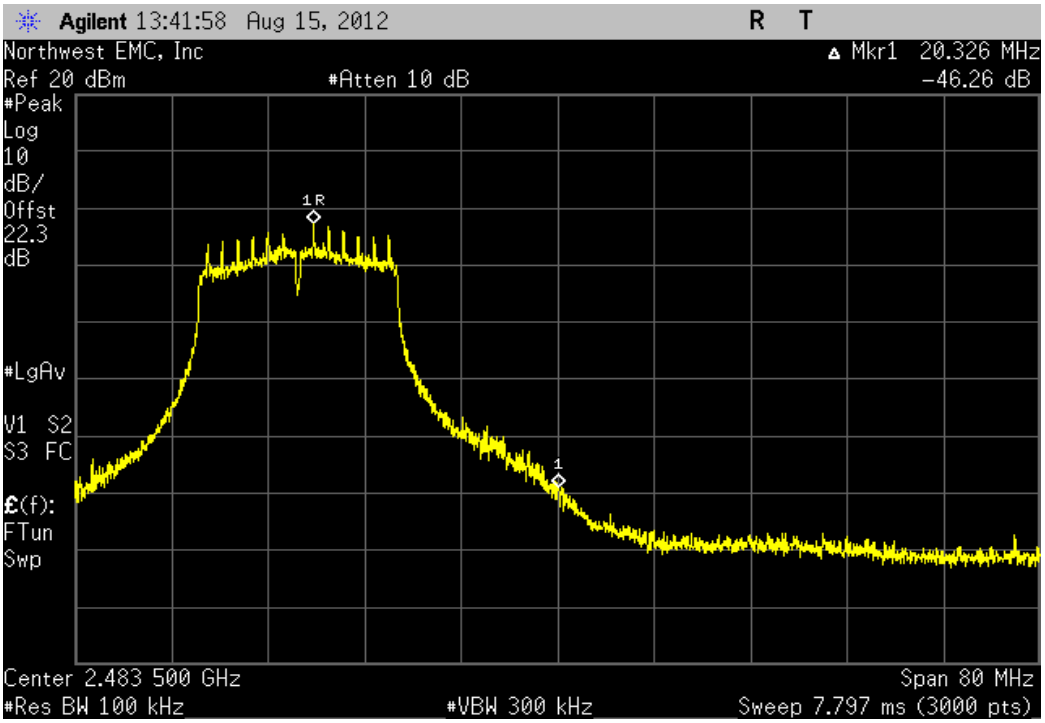
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				-34.94 dBc	≤ -20 dBc	Pass



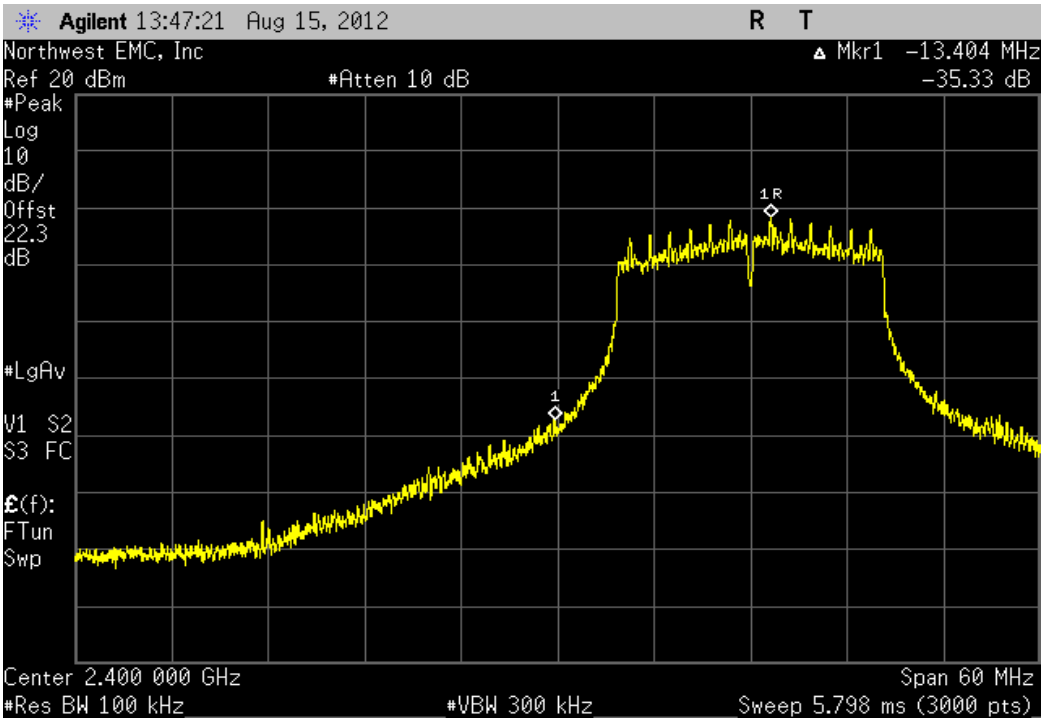
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				-46.26 dBc	≤ -20 dBc	Pass



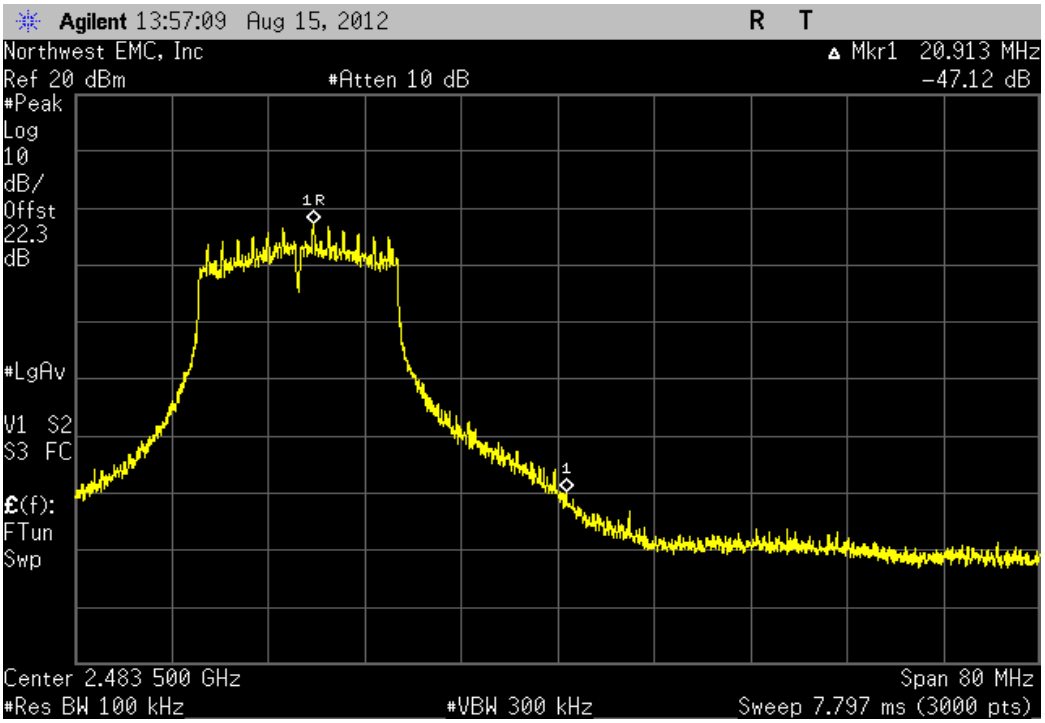
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				-35.33 dBc	≤ -20 dBc	Pass



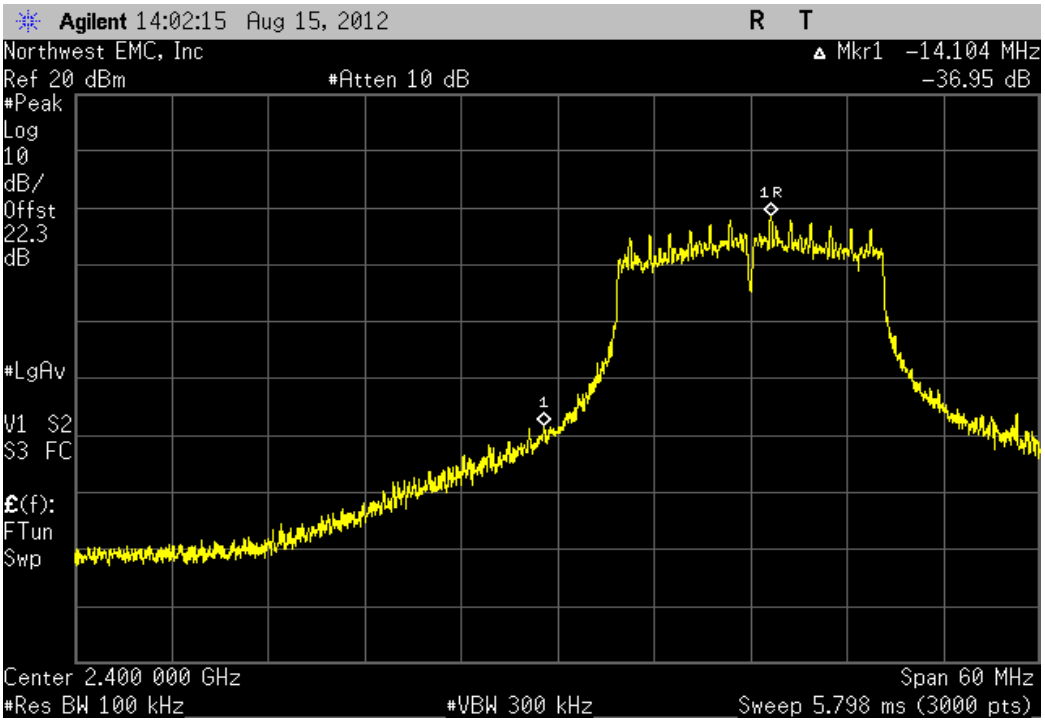
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				-47.12 dBc	≤ -20 dBc	Pass



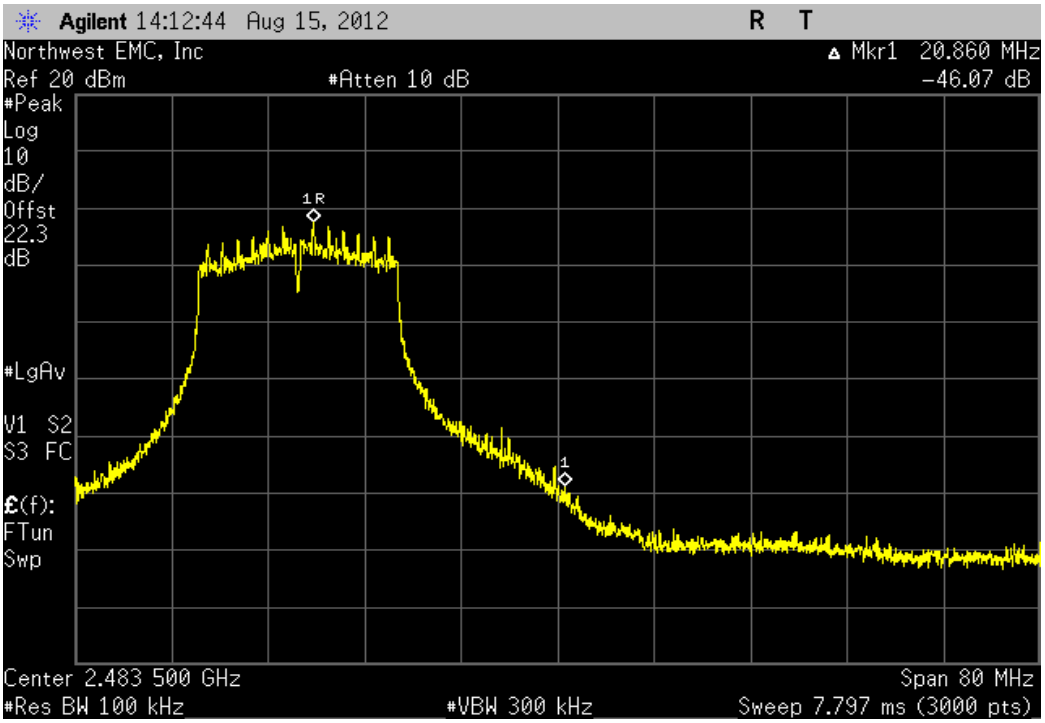
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				-36.95 dBc	≤ -20 dBc	Pass



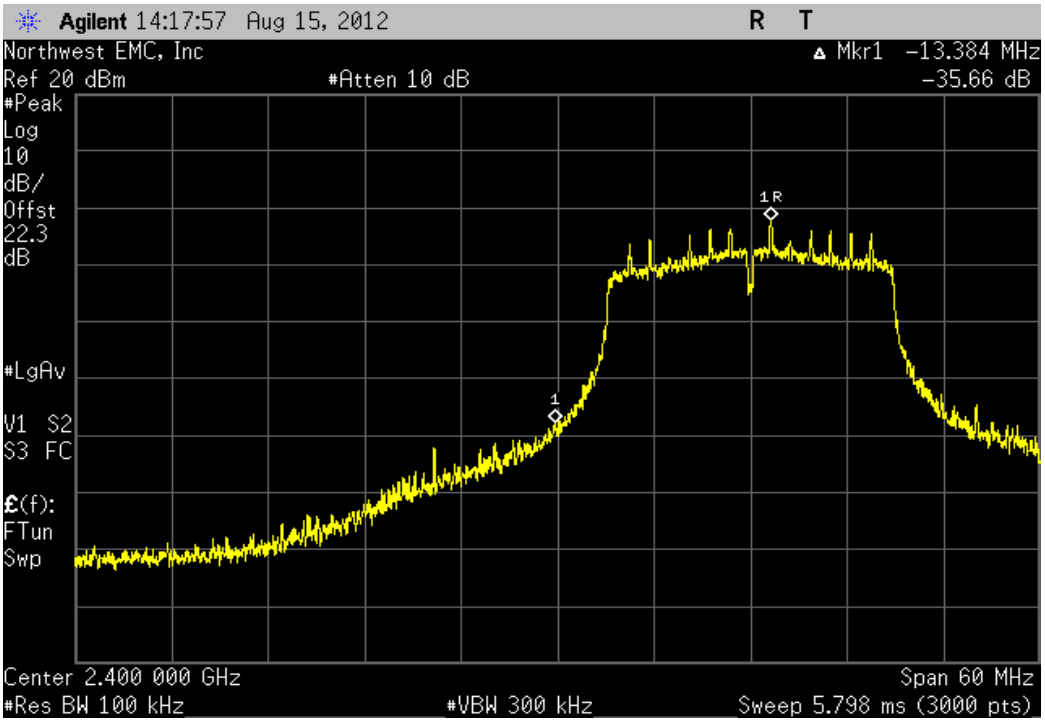
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				-46.07 dBc	≤ -20 dBc	Pass



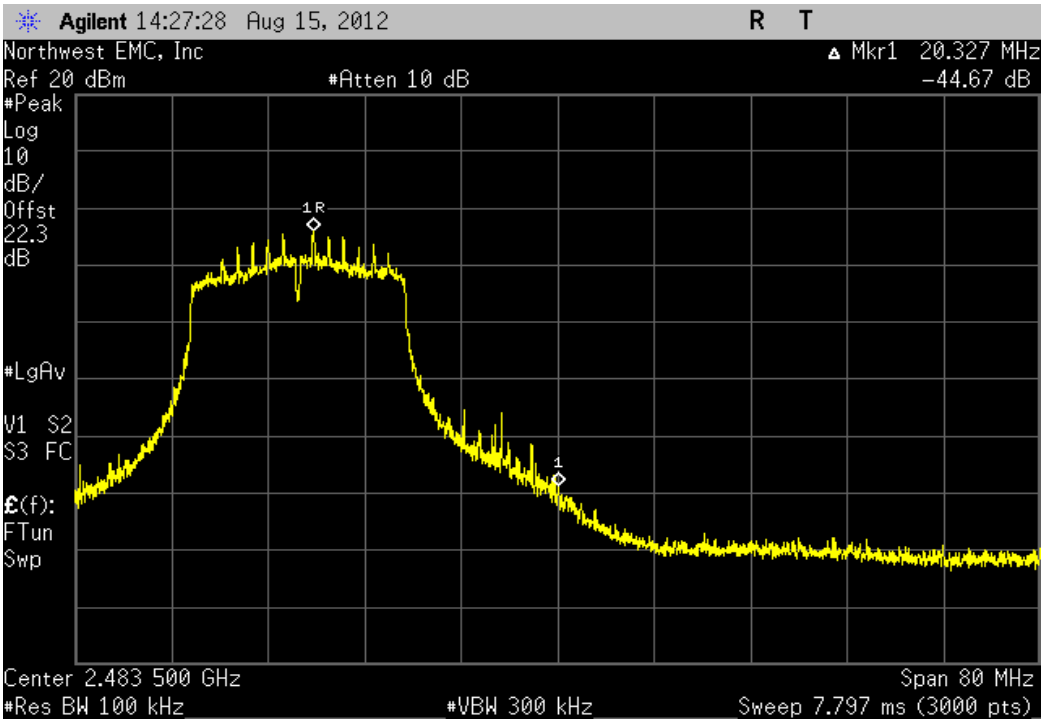
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz

				Value	Limit	Result
				-35.66 dBc	≤ -20 dBc	Pass



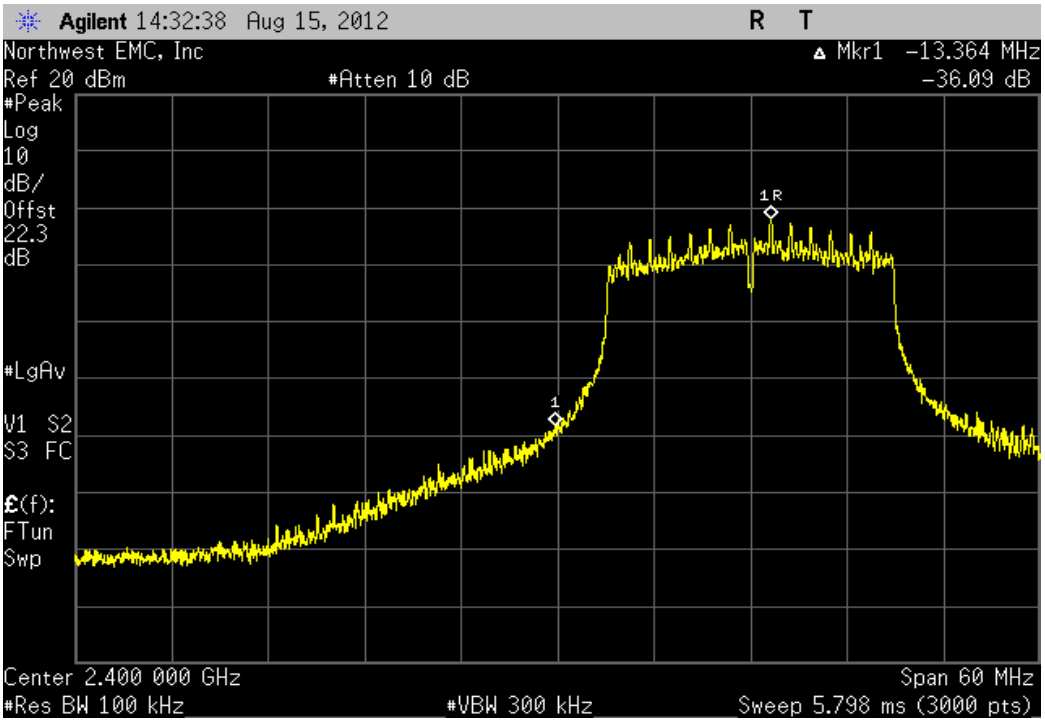
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz

				Value	Limit	Result
				-44.67 dBc	≤ -20 dBc	Pass



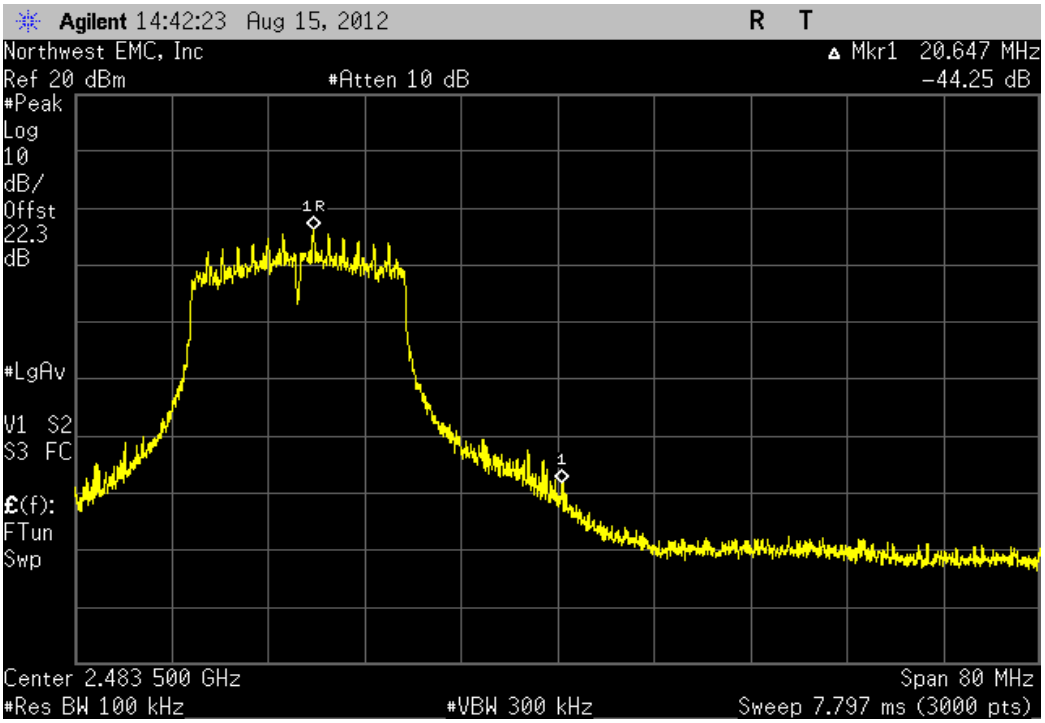
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz

Value	Limit	Result
-36.09 dBc	≤ -20 dBc	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz

Value	Limit	Result
-44.25 dBc	≤ -20 dBc	Pass



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
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/12/2011	12
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	12
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/19/2012	12
Signal Generator	Agilent	N5183A	TIA	1/27/2012	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 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 the data rate(s) listed in the datasheet. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

Spurious Conducted Emissions

EUT:	TH6320WF			**Work Order:**	HNYW0015
Serial Number:	3642			**Date:**	08/15/12
Customer:	Honeywell, Automation and Control Solutions			**Temperature:**	23.45°C
Attendees:	None			**Humidity:**	52%
Project:	None			**Barometric Pres.:**	1007.9
Tested by:	Johnathan Lee	**Power:**	110VAC/60Hz	**Job Site:**	MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2012	ANSI C63.10:2009

COMMENTS

None

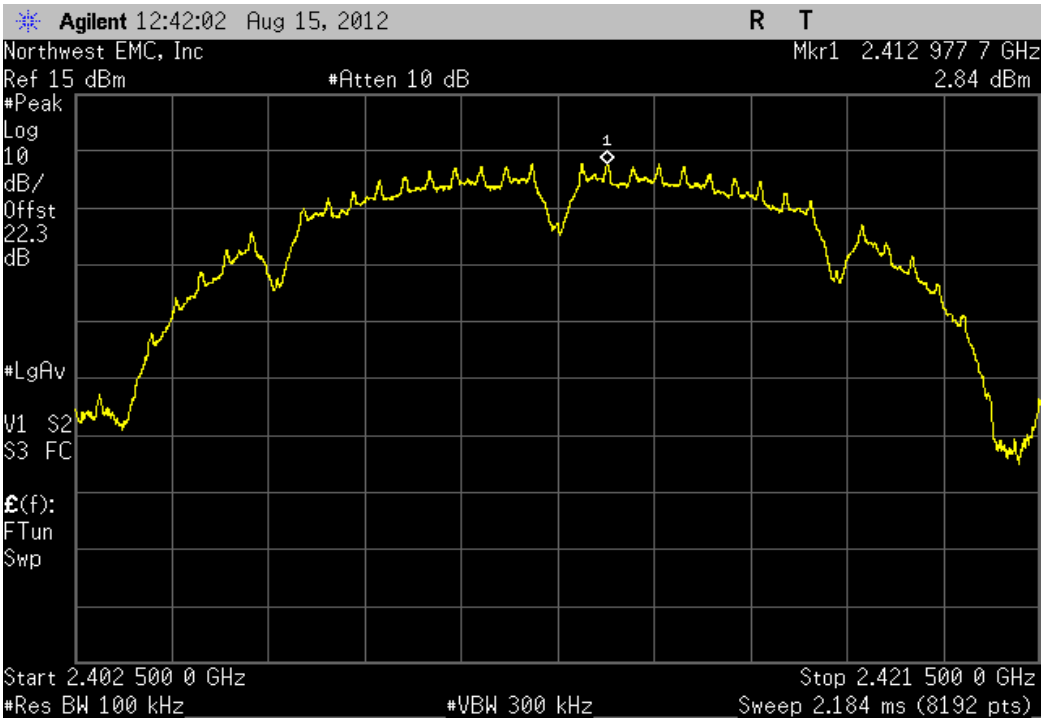
DEVIATIONS FROM TEST STANDARD

None

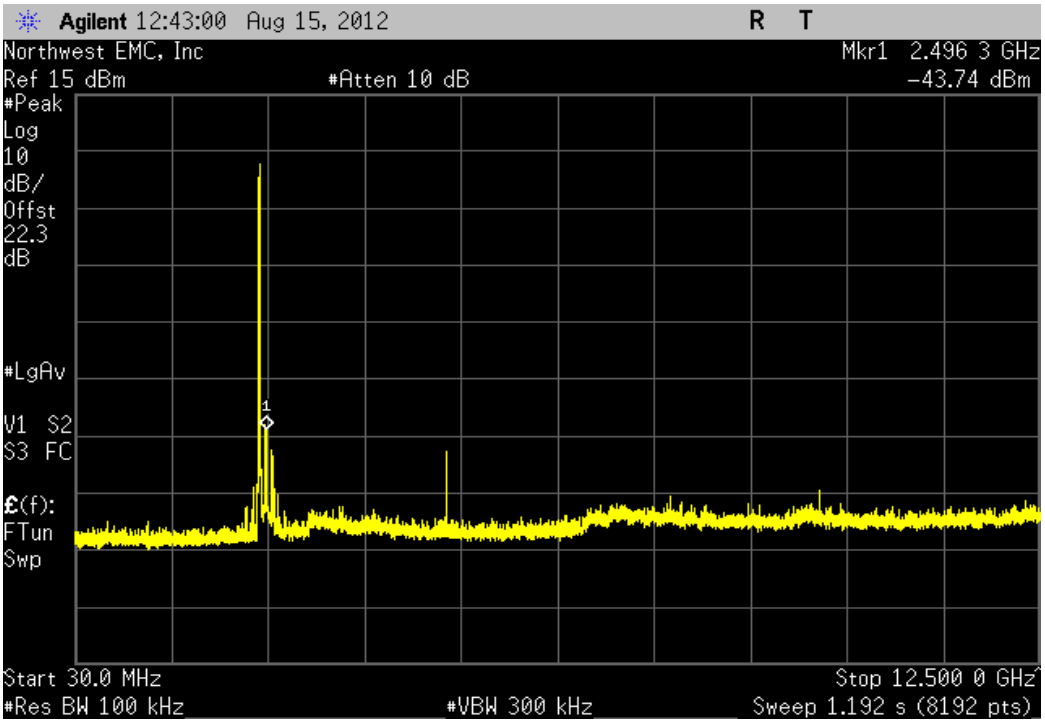
Configuration #	2	Signature

		Frequency Range	Value	Limit	Result
2400 MHz - 2483.5 MHz Band					
	802.11(b) 1 Mbps				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-46.58 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-55.15 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-50.96 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-55.75 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-52.39 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-54.71 dBc	≤ -20 dBc	Pass
	802.11(b) 11 Mbps				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-50.26 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-55.56 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-51.46 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-56.26 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-52.53 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-53.47 dBc	≤ -20 dBc	Pass
	802.11(g) 6 Mbps				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-46.78 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-50.55 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-46.45 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-51.39 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-52.36 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-49.22 dBc	≤ -20 dBc	Pass
	802.11(g) 36 Mbps				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-42.63 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-50.77 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-47.82 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-51.51 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-49.92 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-49.2 dBc	≤ -20 dBc	Pass
	802.11(g) 54 Mbps				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-41.46 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-50.88 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-46.55 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-51.25 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-49.17 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-49.5 dBc	≤ -20 dBc	Pass
	802.11(n) MCS0				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-44.1 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-49.93 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-49.42 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-51.58 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-50.23 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-48.39 dBc	≤ -20 dBc	Pass
	802.11(n) MCS7				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-41.94 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-49.47 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-46.18 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-50.26 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-50.98 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-48.34 dBc	≤ -20 dBc	Pass

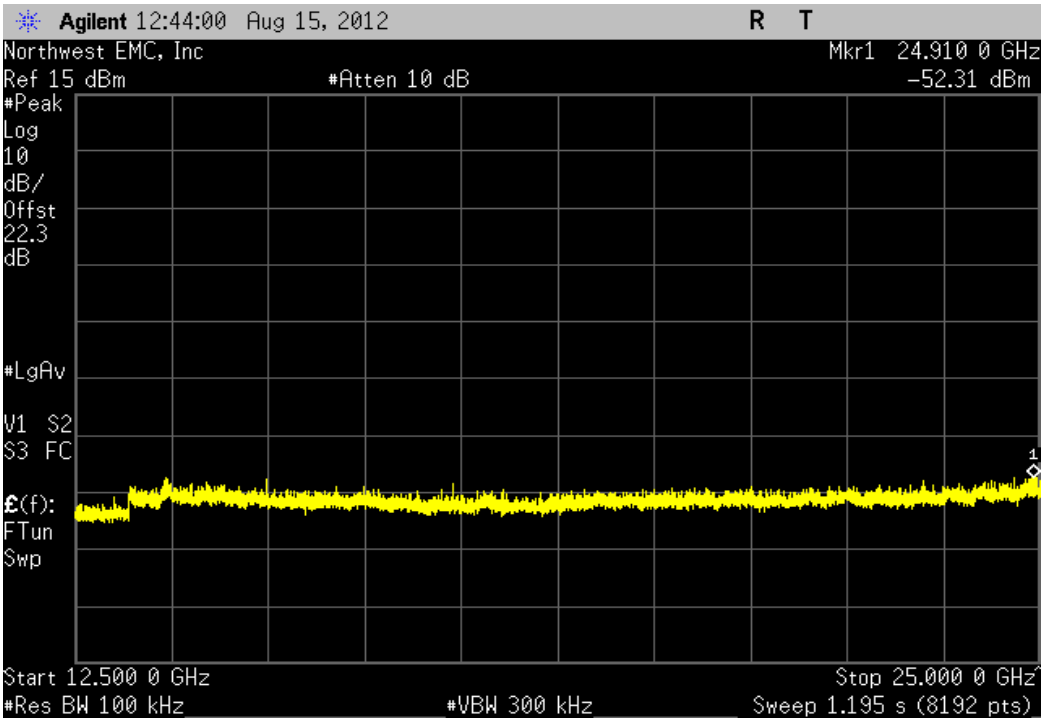
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



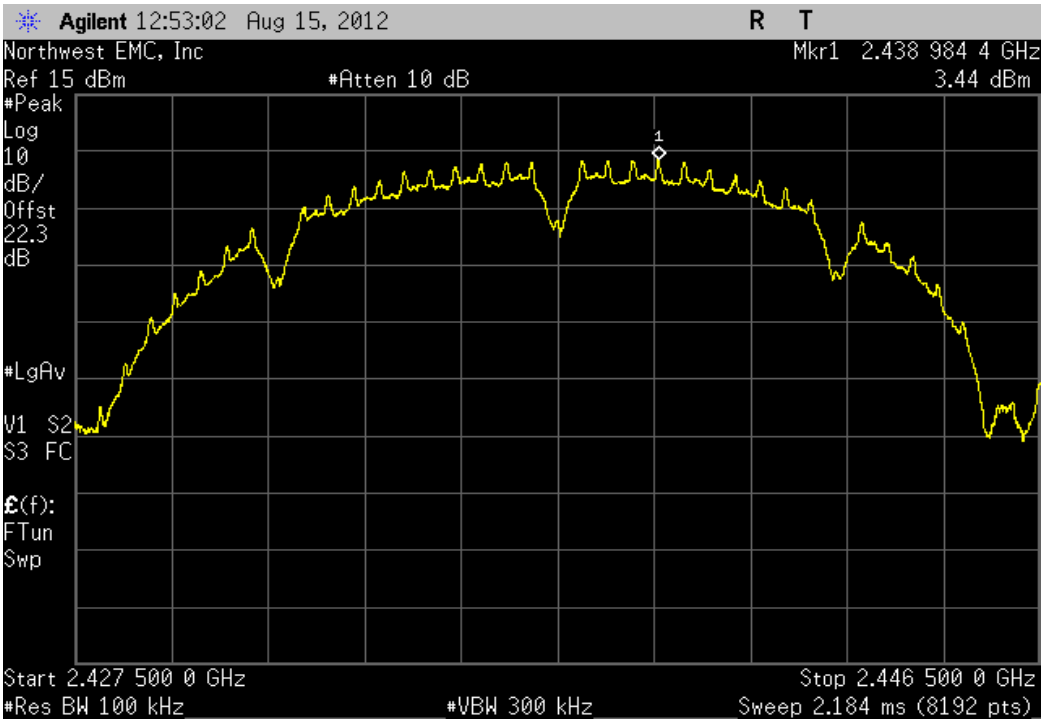
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-46.58 dBc	≤ -20 dBc	Pass



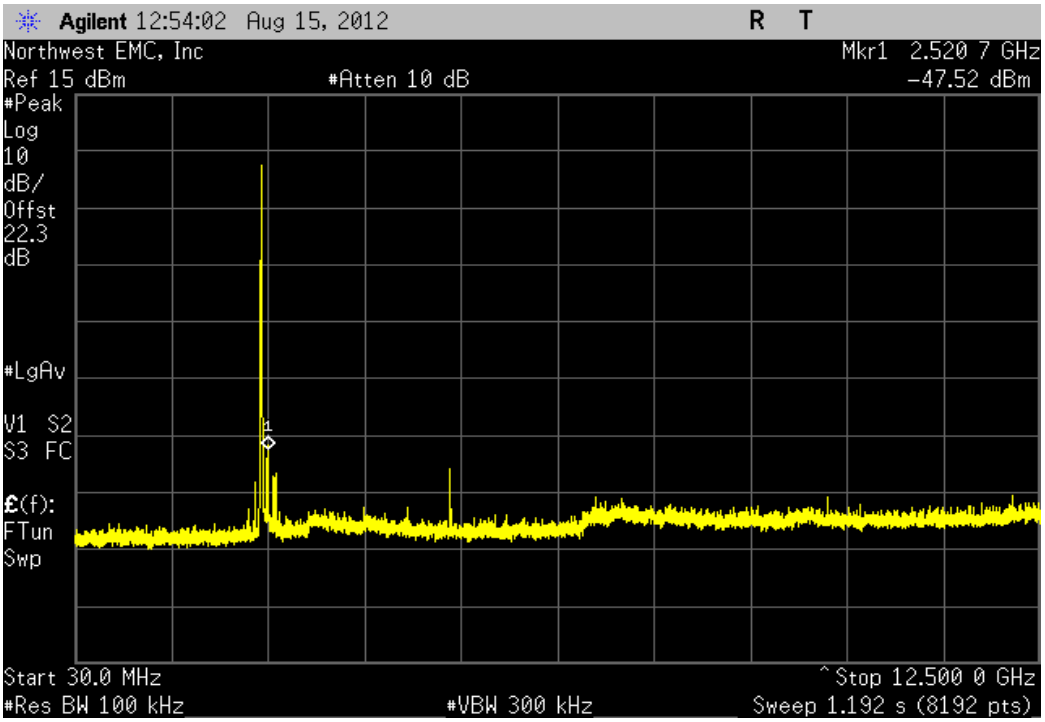
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		Value	Limit	Result
12.5 GHz - 25 GHz		-55.15 dBc	≤ -20 dBc	Pass



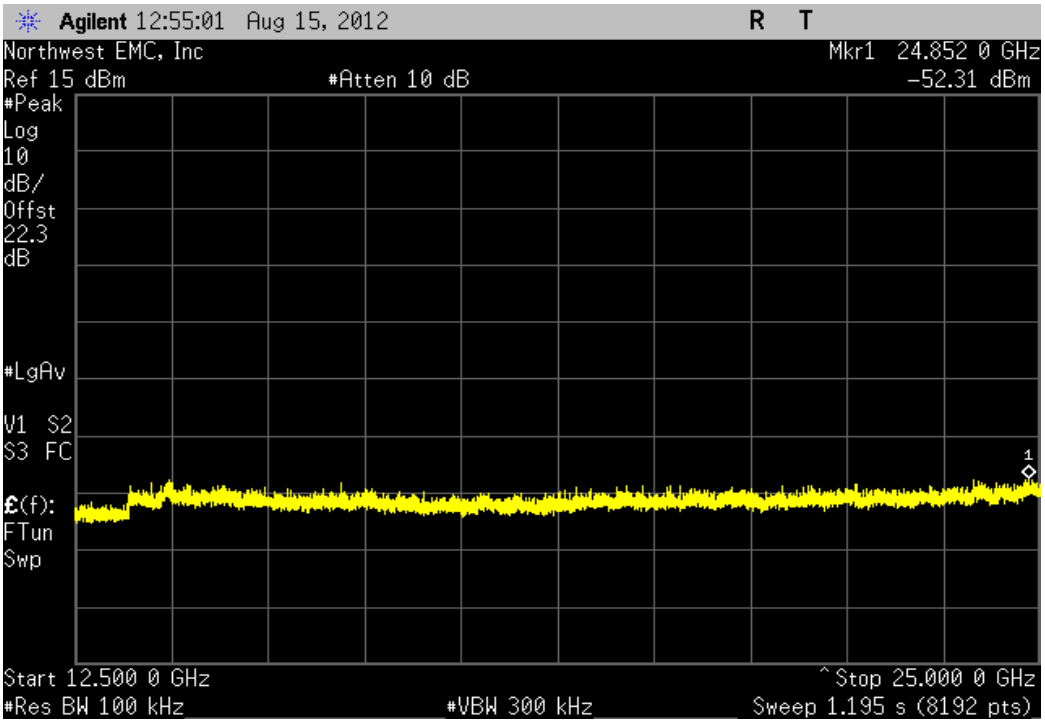
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
Frequency Range				Value	Limit	Result
	Fundamental			N/A	N/A	N/A



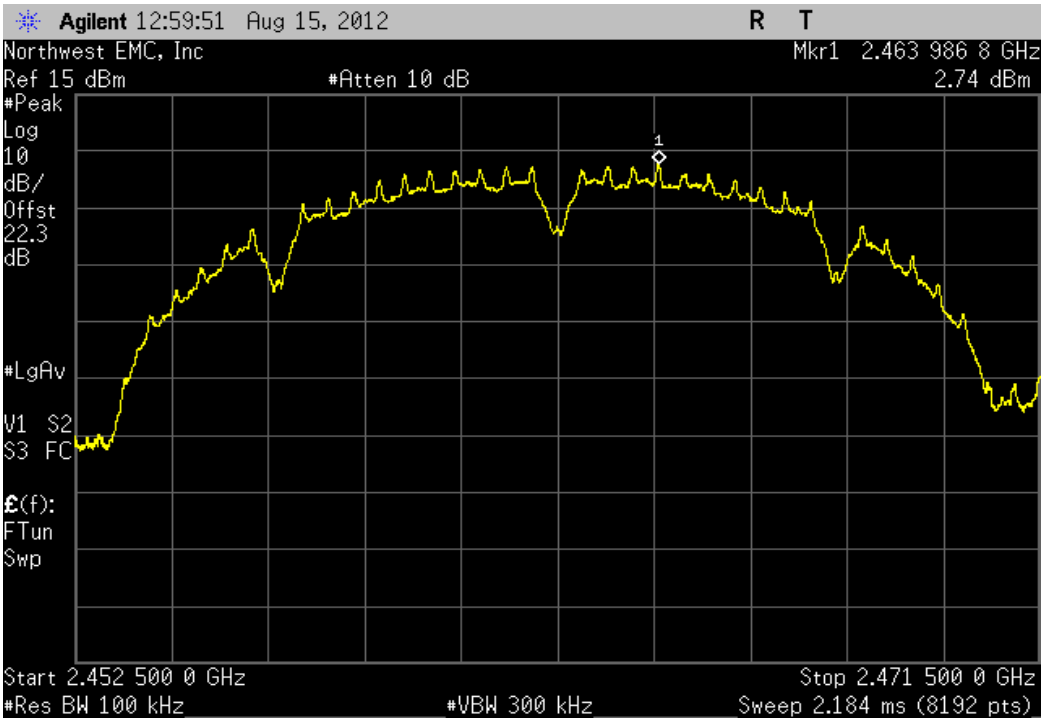
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-50.96 dBc	≤ -20 dBc	Pass



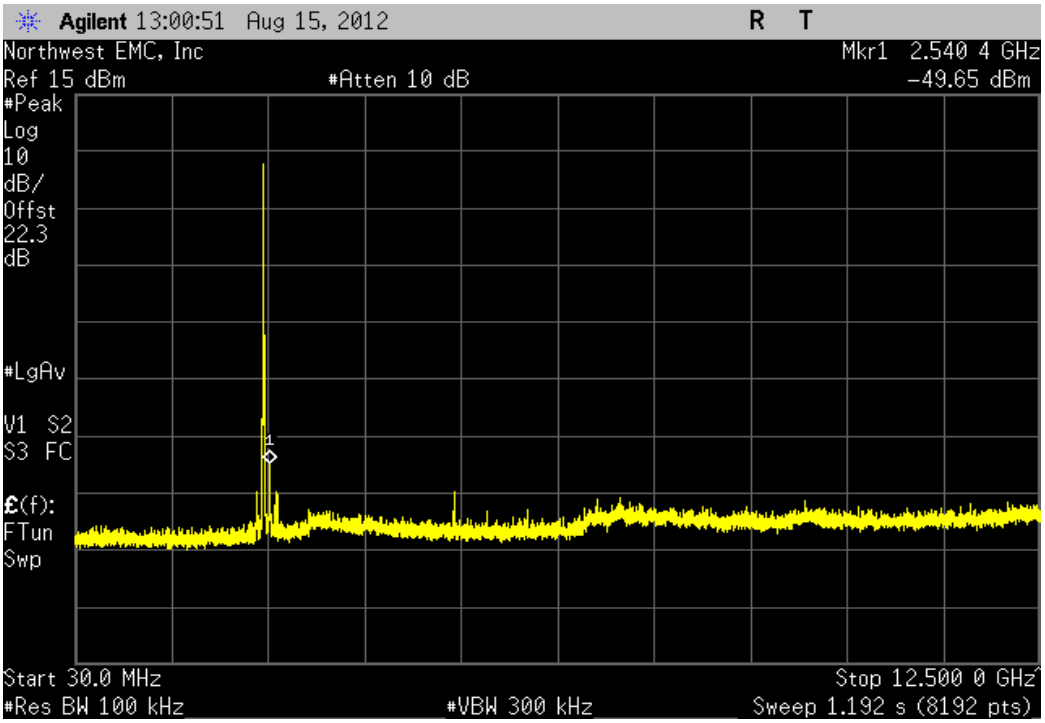
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-55.75 dBc	≤ -20 dBc	Pass



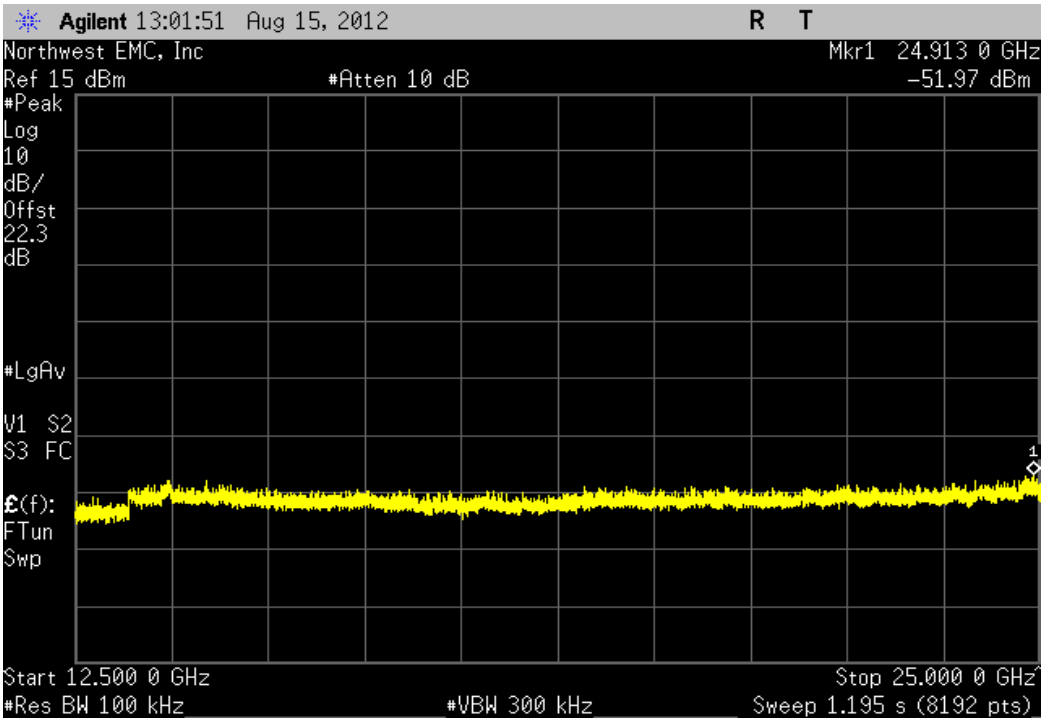
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



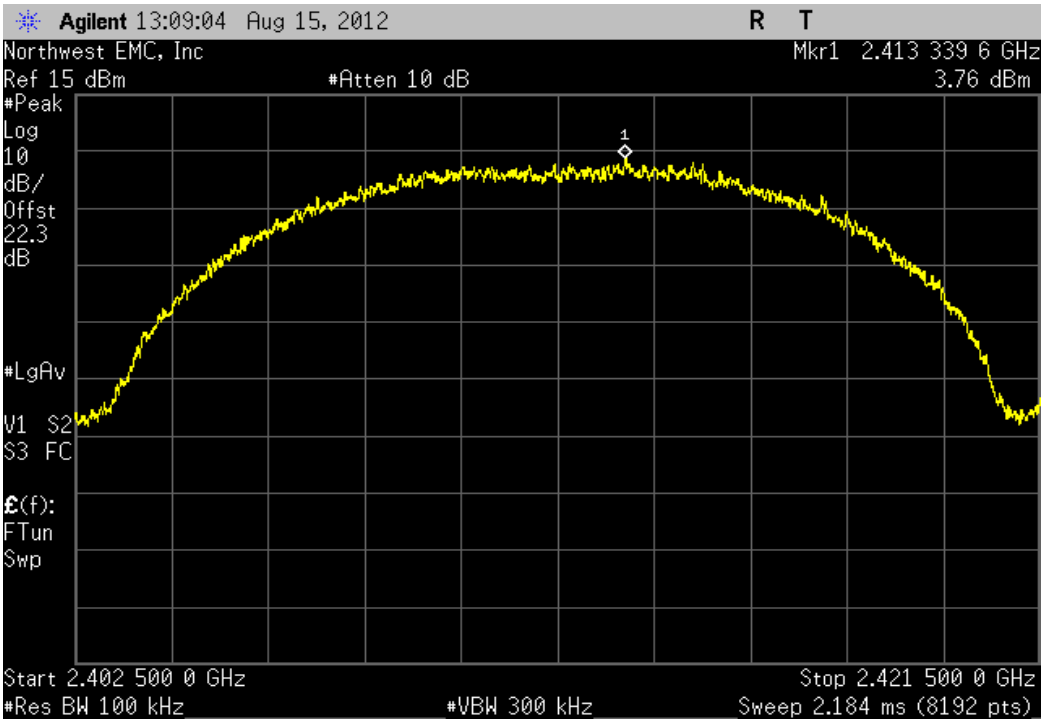
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-52.39 dBc	≤ -20 dBc	Pass



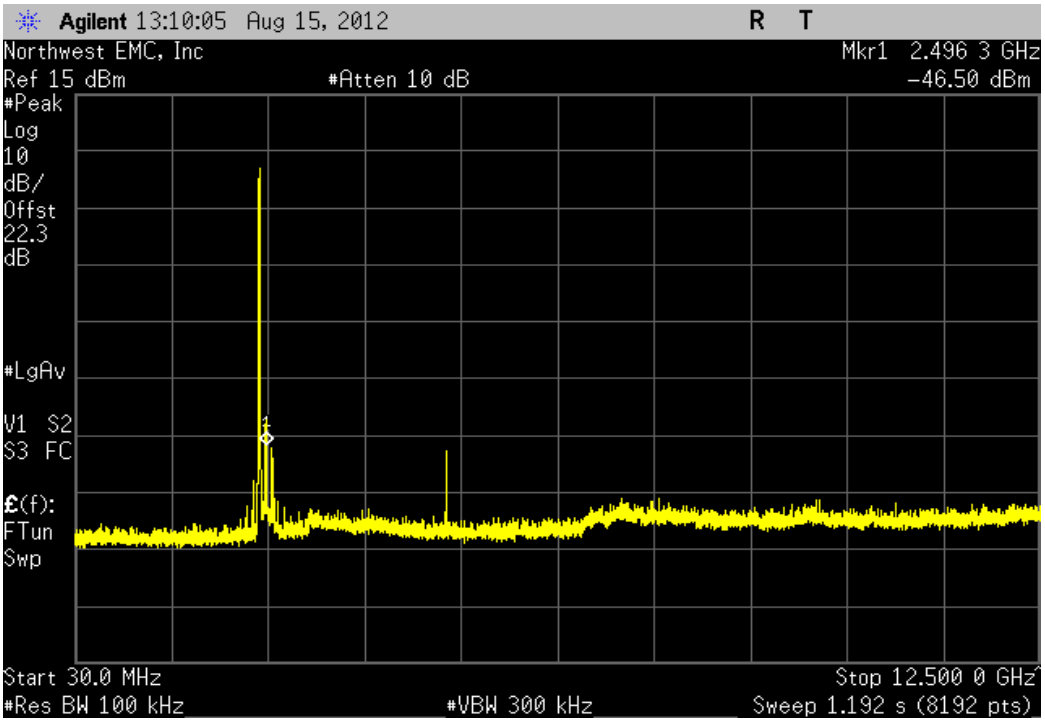
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-54.71 dBc	≤ -20 dBc	Pass



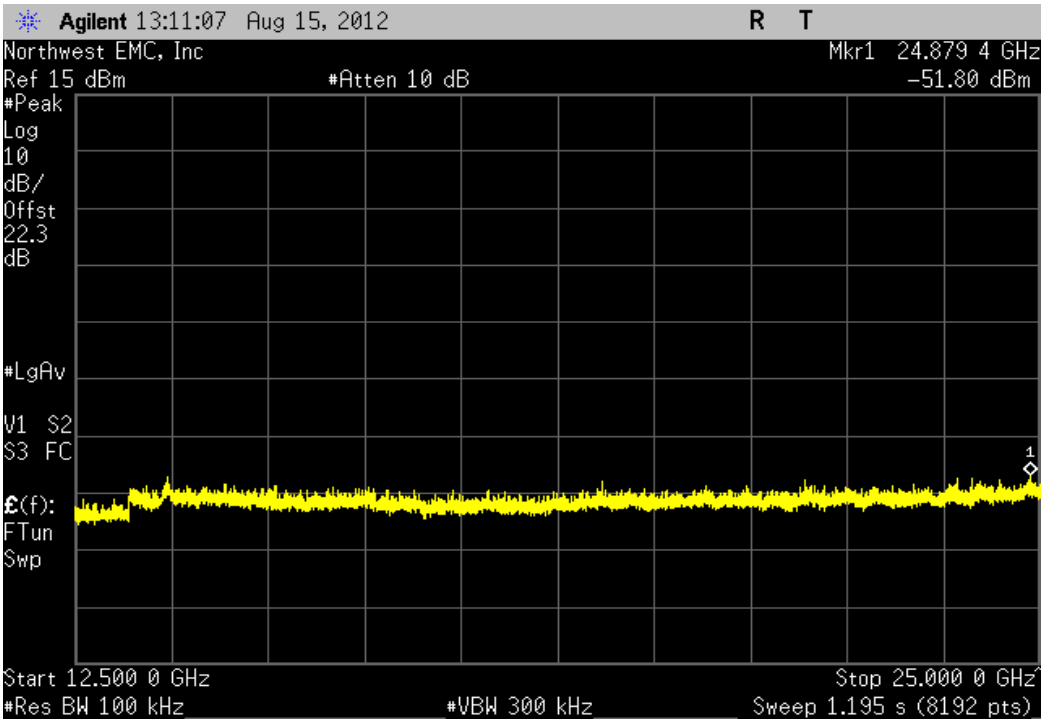
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-50.26 dBc	≤ -20 dBc	Pass

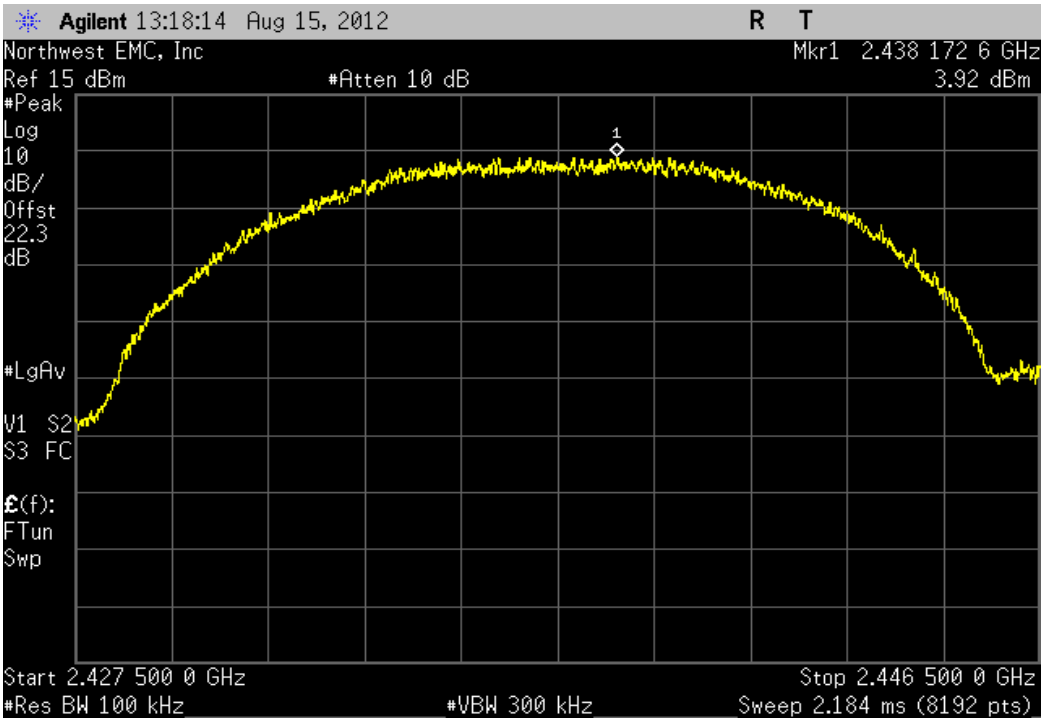


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-55.56 dBc	≤ -20 dBc	Pass

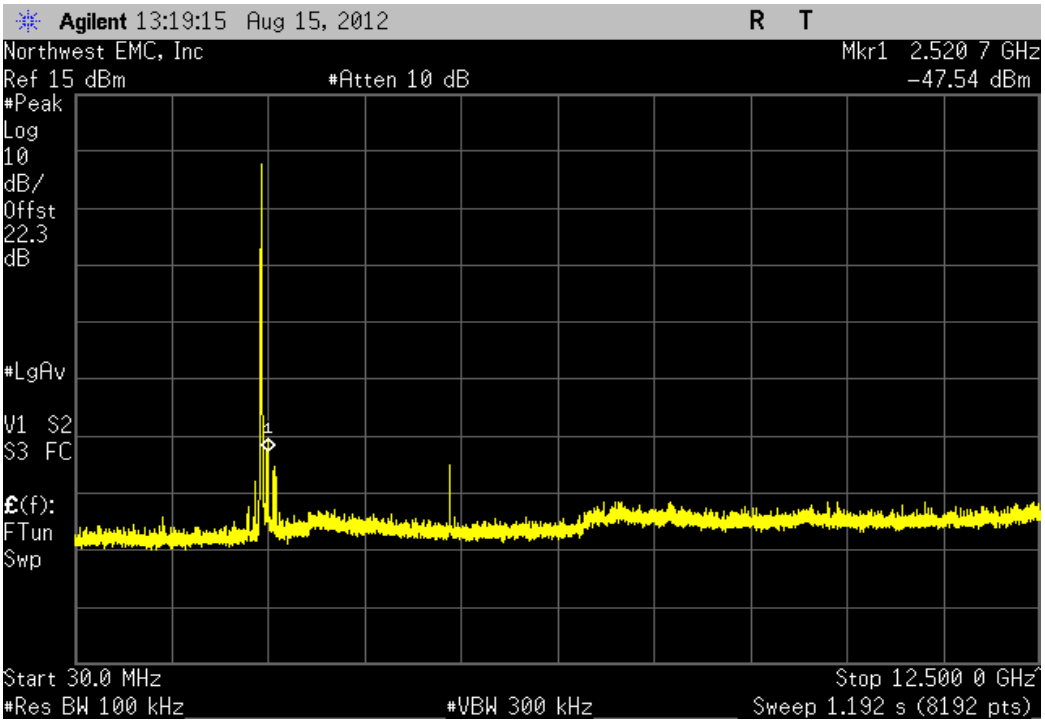


Spurious Conducted Emissions

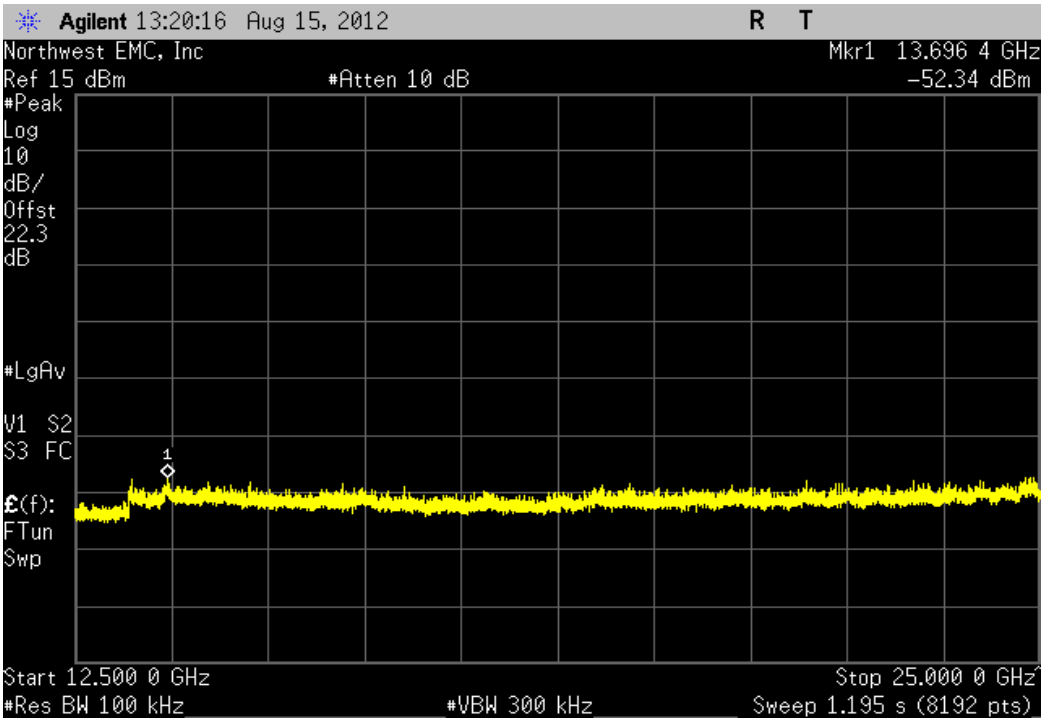
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



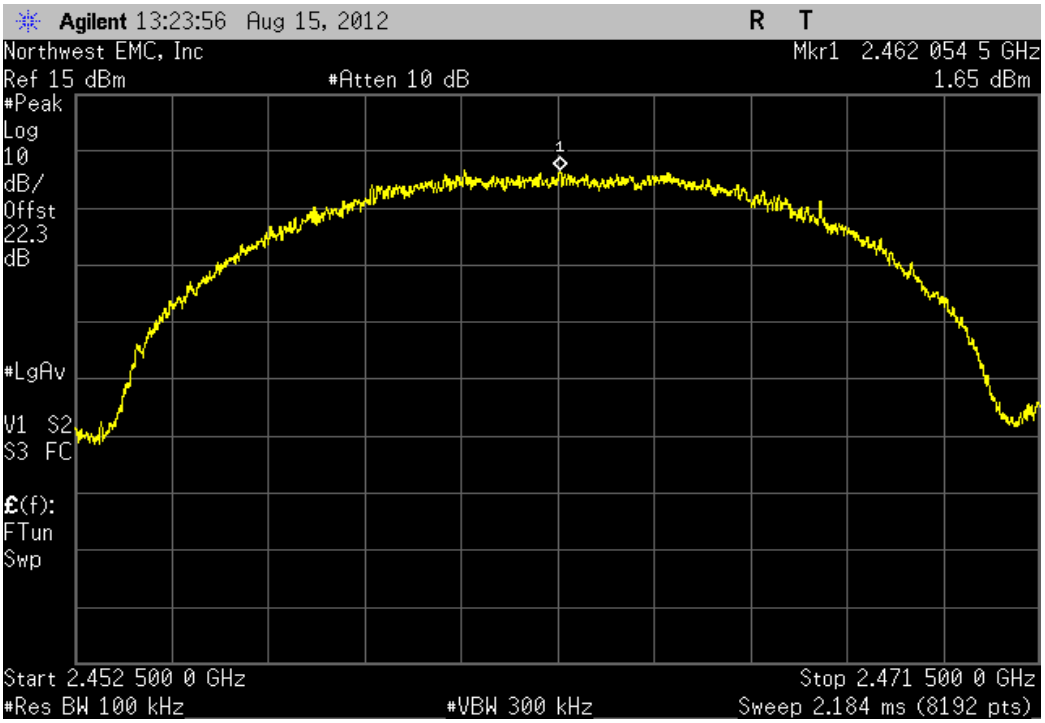
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-51.46 dBc	≤ -20 dBc	Pass



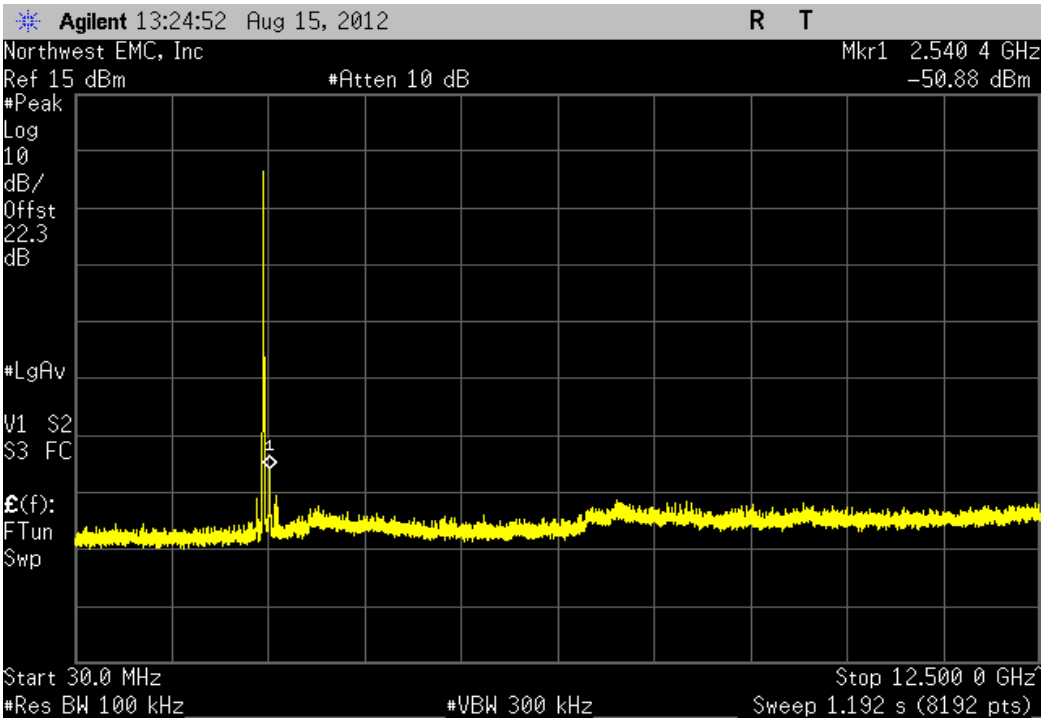
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		Value	Limit	Result
12.5 GHz - 25 GHz		-56.26 dBc	≤ -20 dBc	Pass



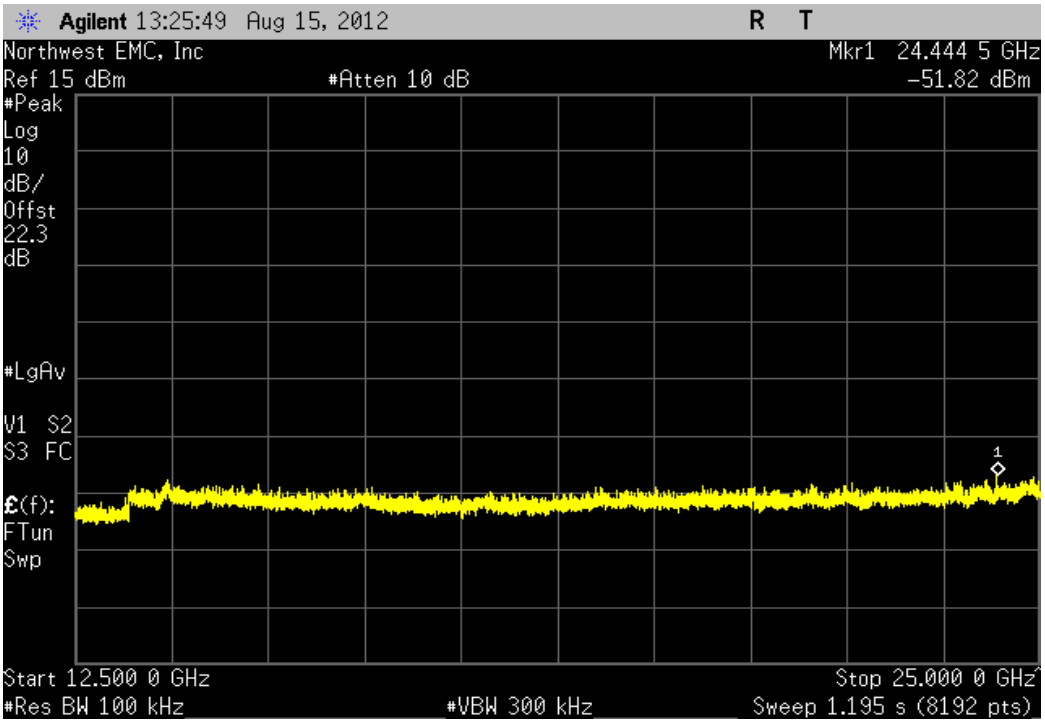
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



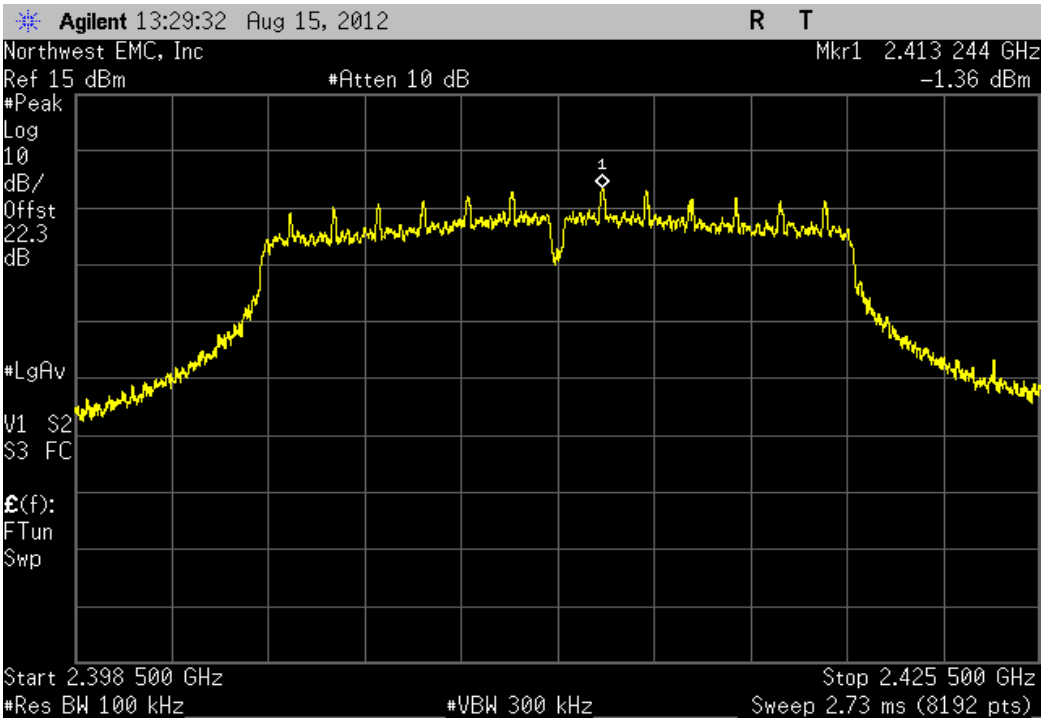
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-52.53 dBc	≤ -20 dBc	Pass



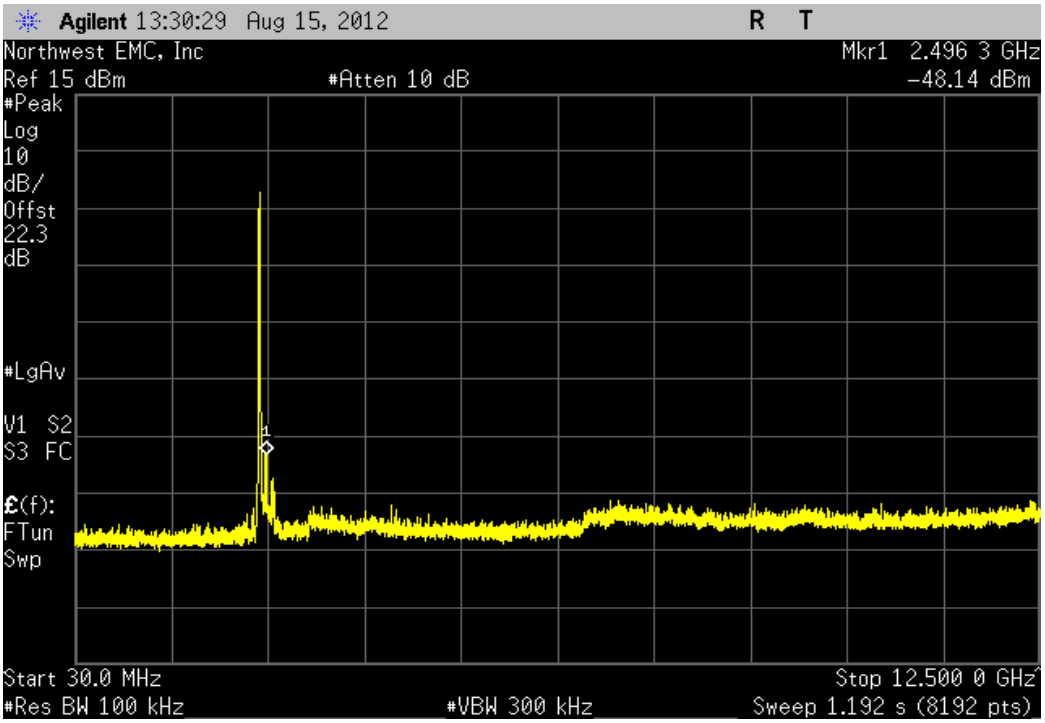
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-53.47 dBc	≤ -20 dBc	Pass



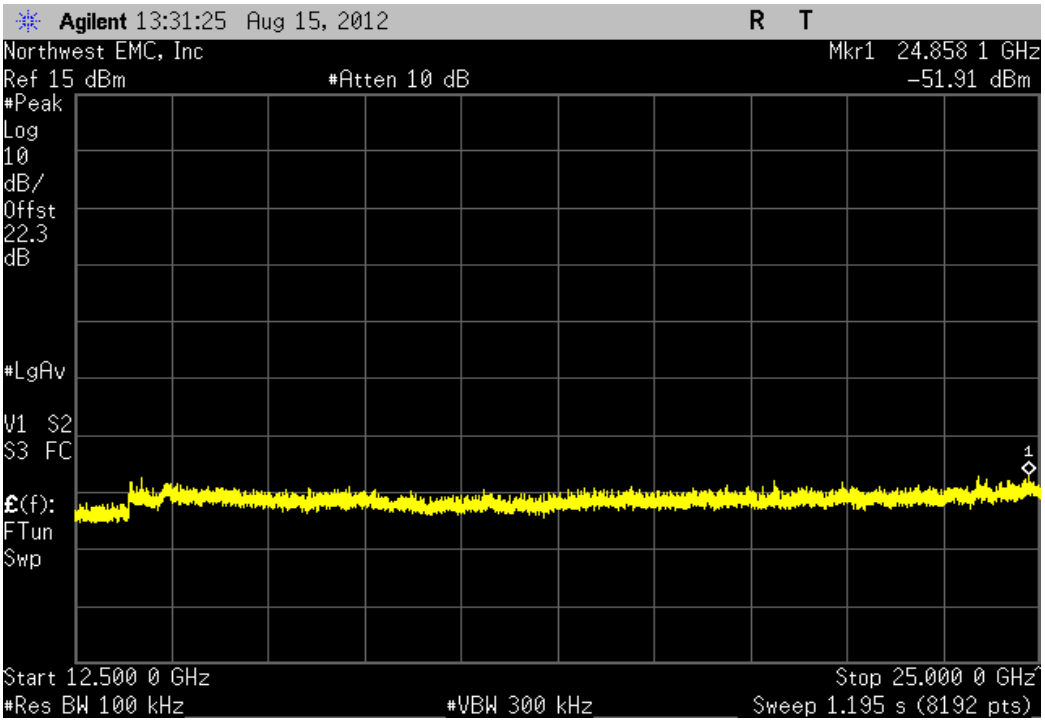
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



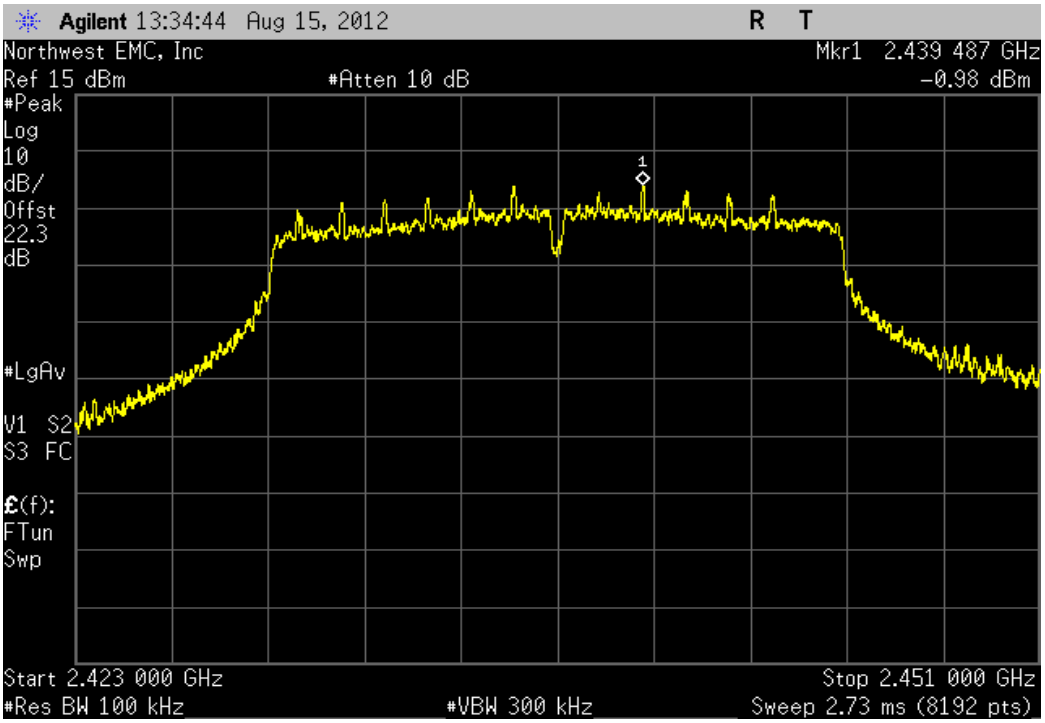
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-46.78 dBc	≤ -20 dBc	Pass



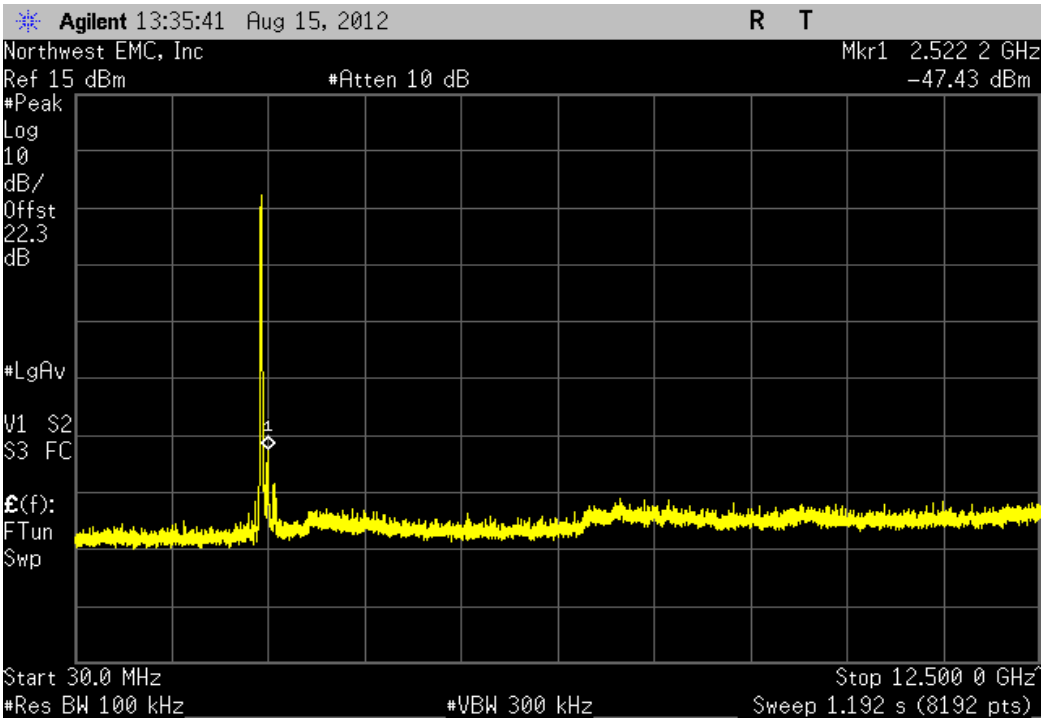
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		Value	Limit	Result
12.5 GHz - 25 GHz		-50.55 dBc	≤ -20 dBc	Pass



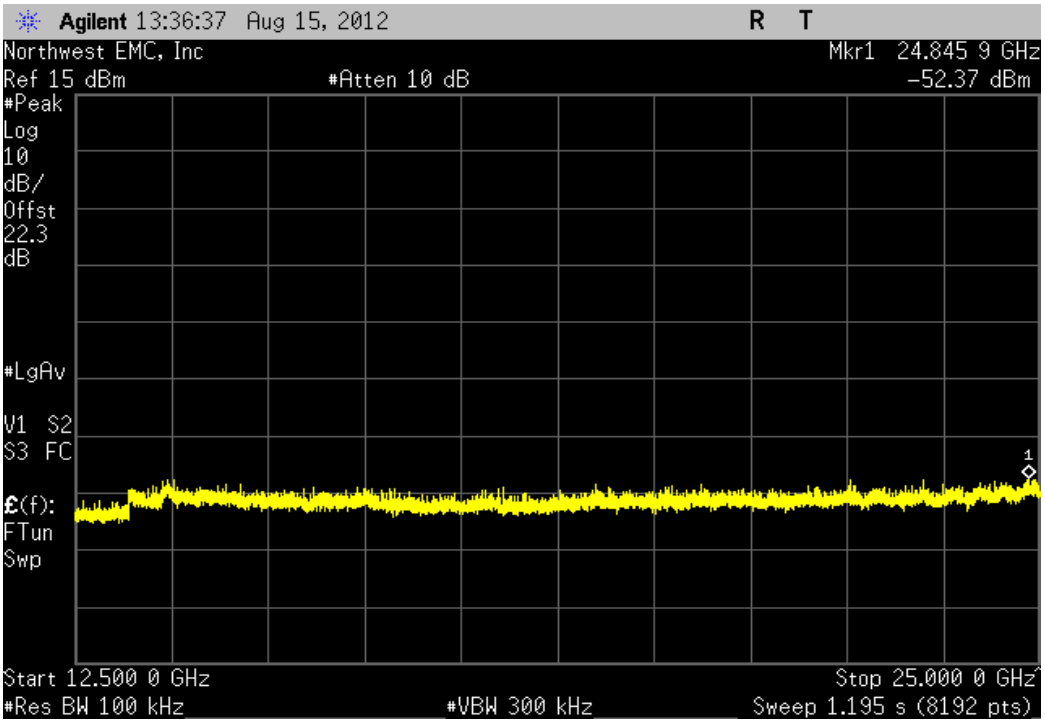
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



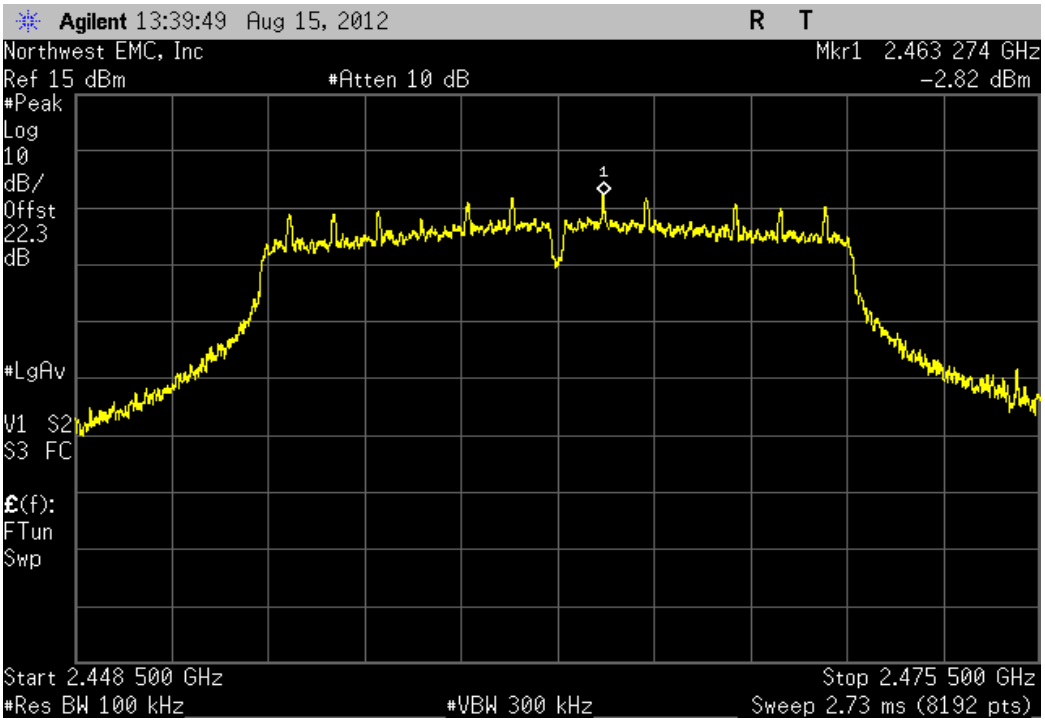
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-46.45 dBc	≤ -20 dBc	Pass



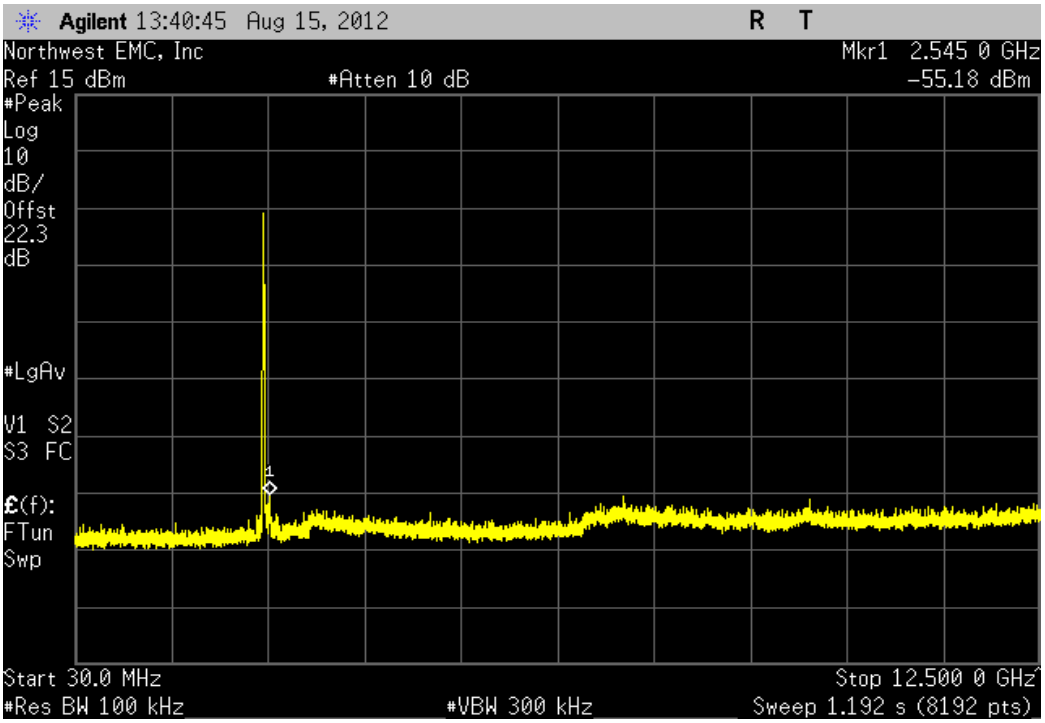
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-51.39 dBc	≤ -20 dBc	Pass



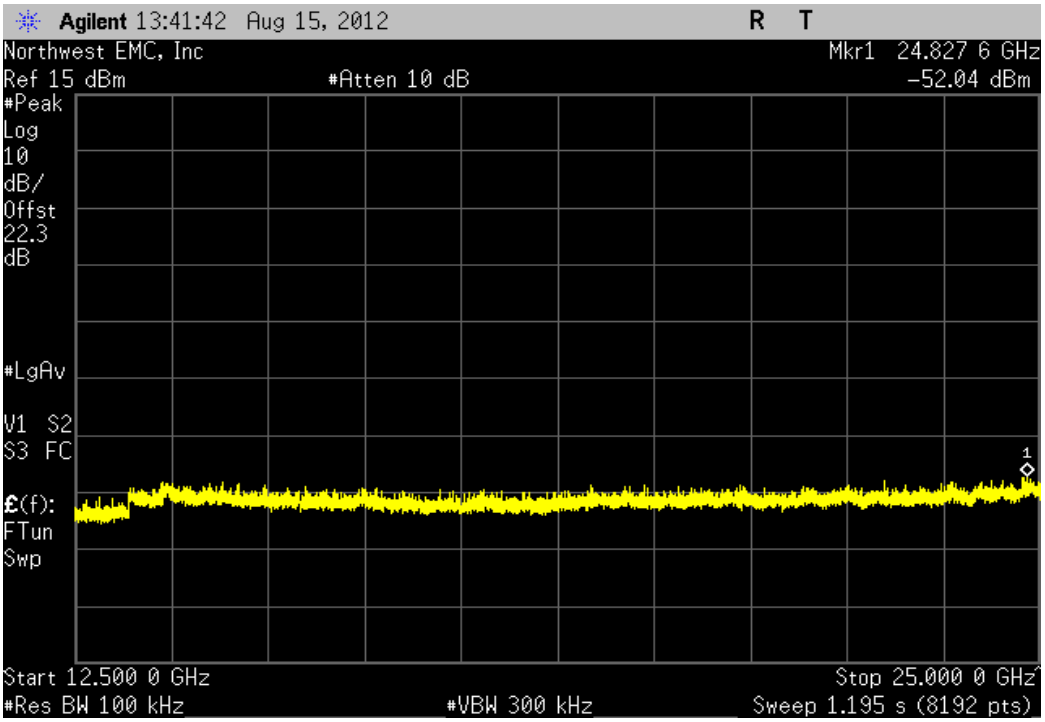
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



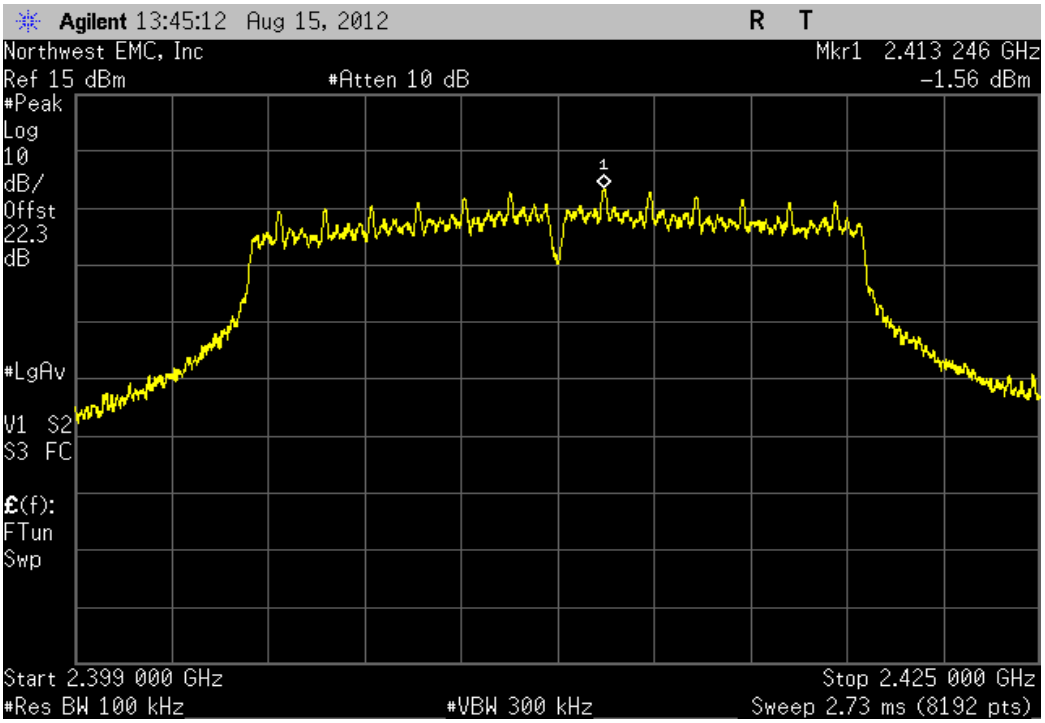
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-52.36 dBc	≤ -20 dBc	Pass



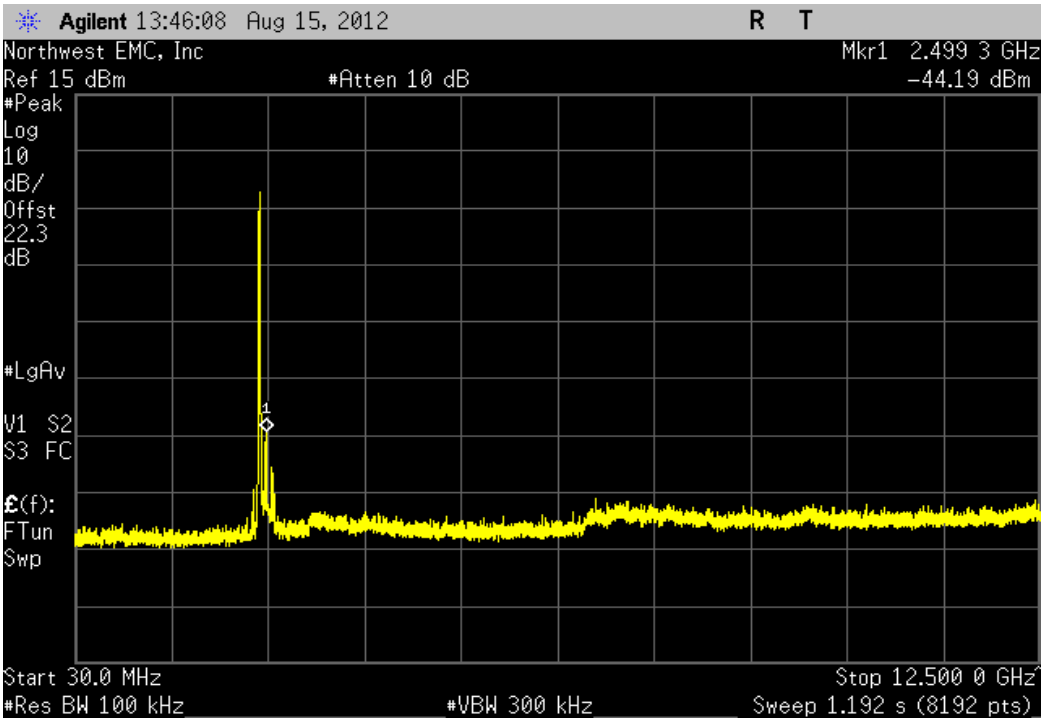
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-49.22 dBc	≤ -20 dBc	Pass



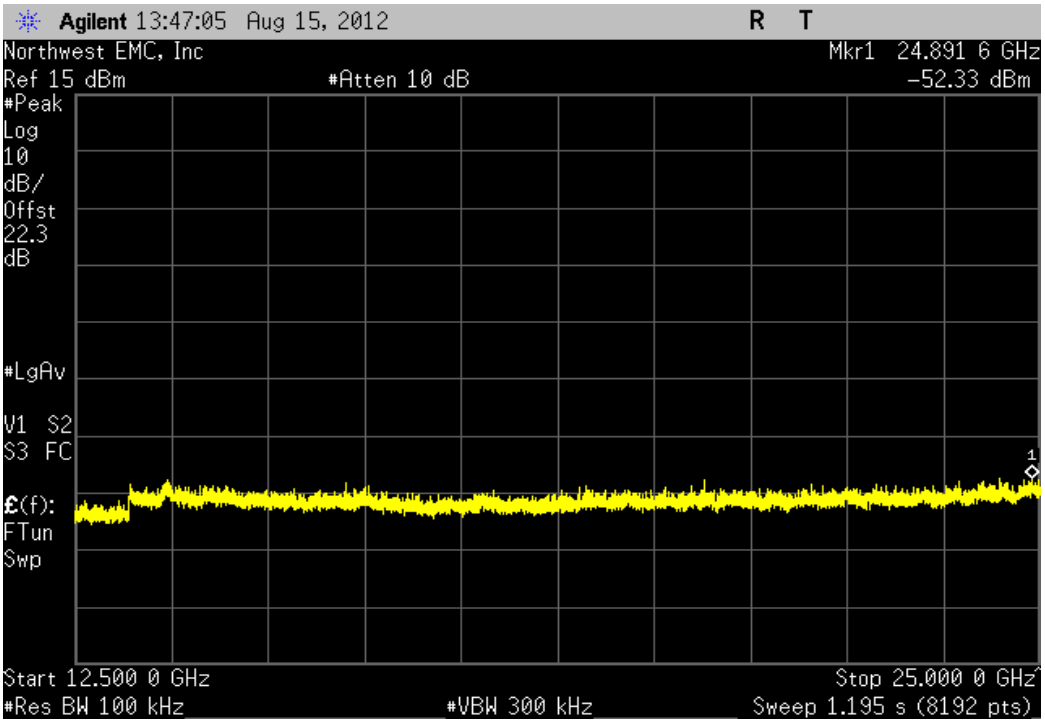
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



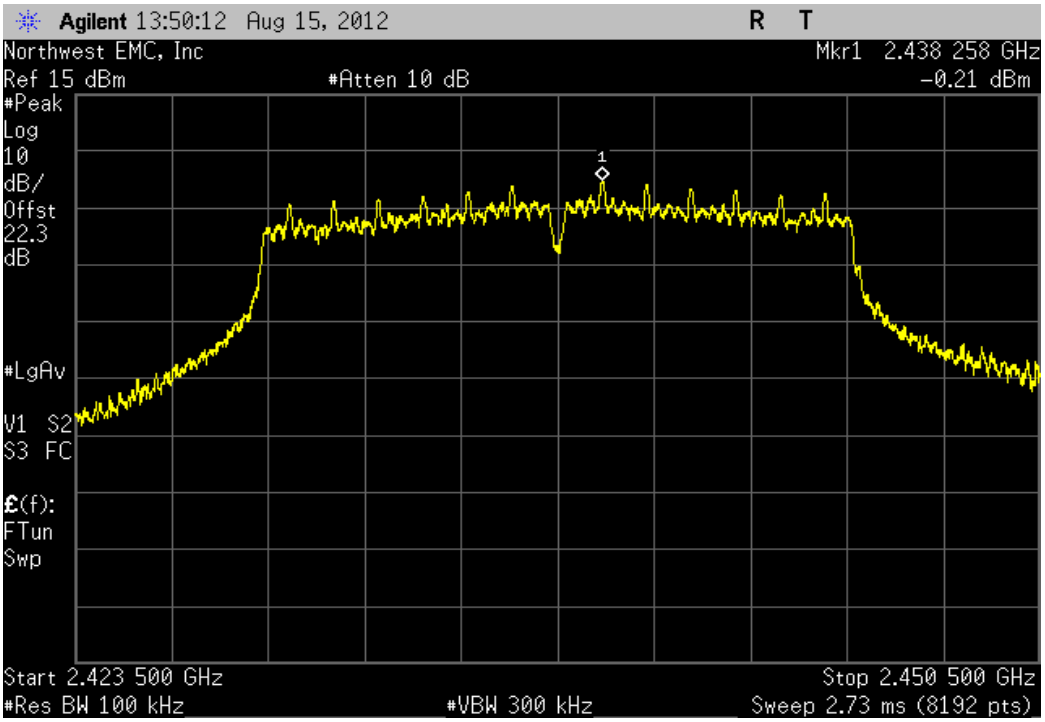
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-42.63 dBc	≤ -20 dBc	Pass



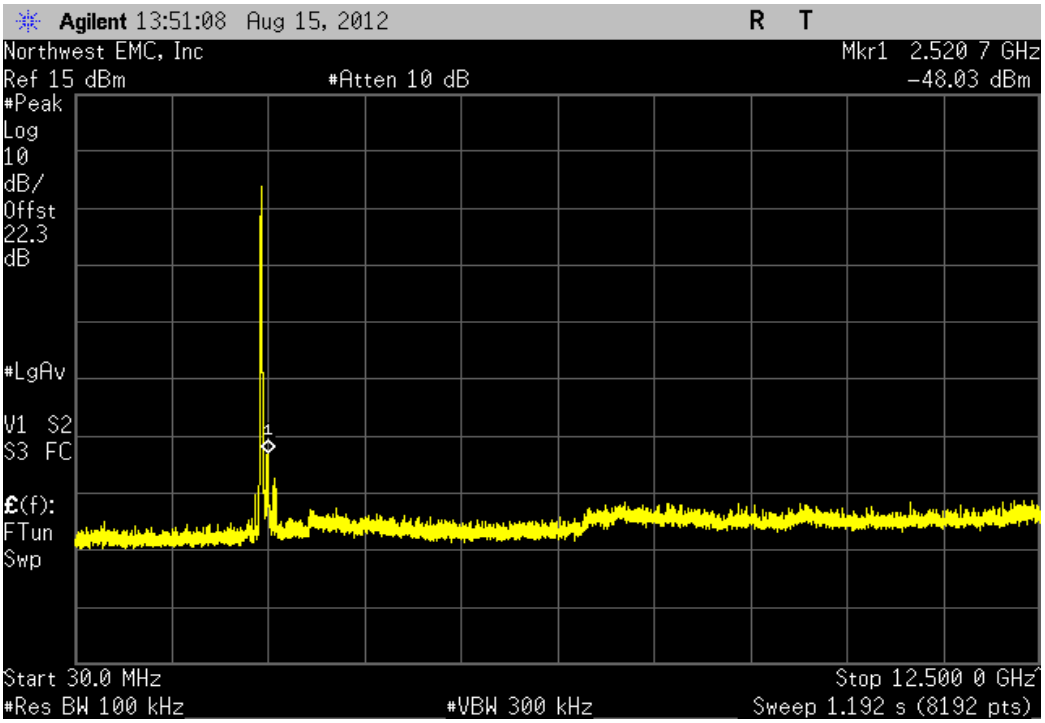
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-50.77 dBc	≤ -20 dBc	Pass



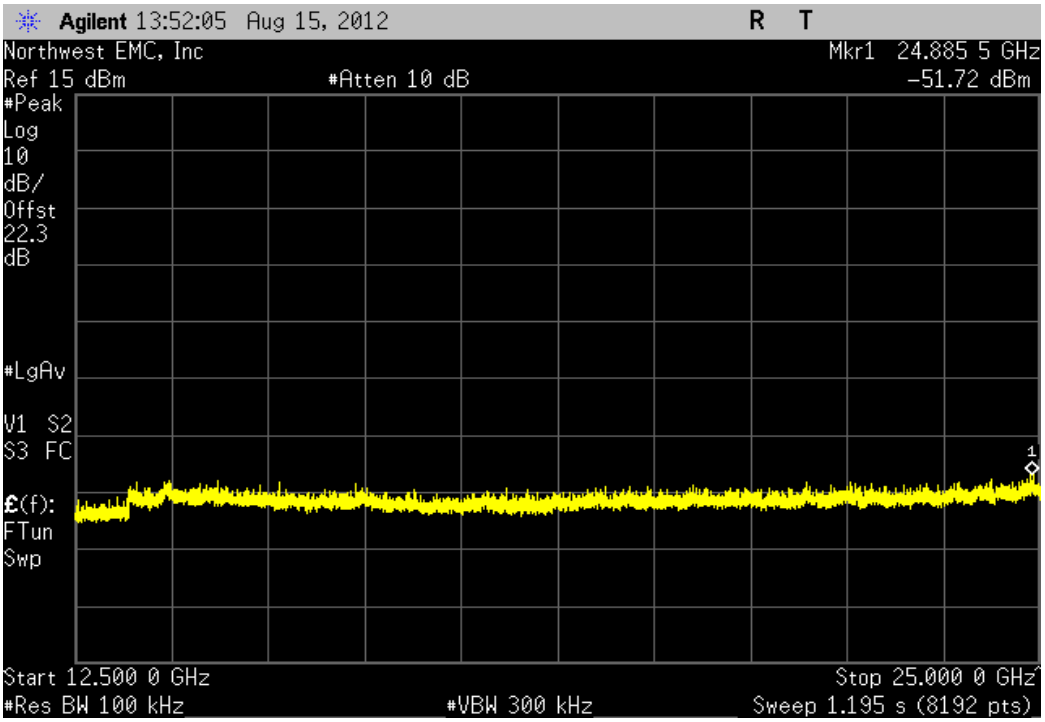
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



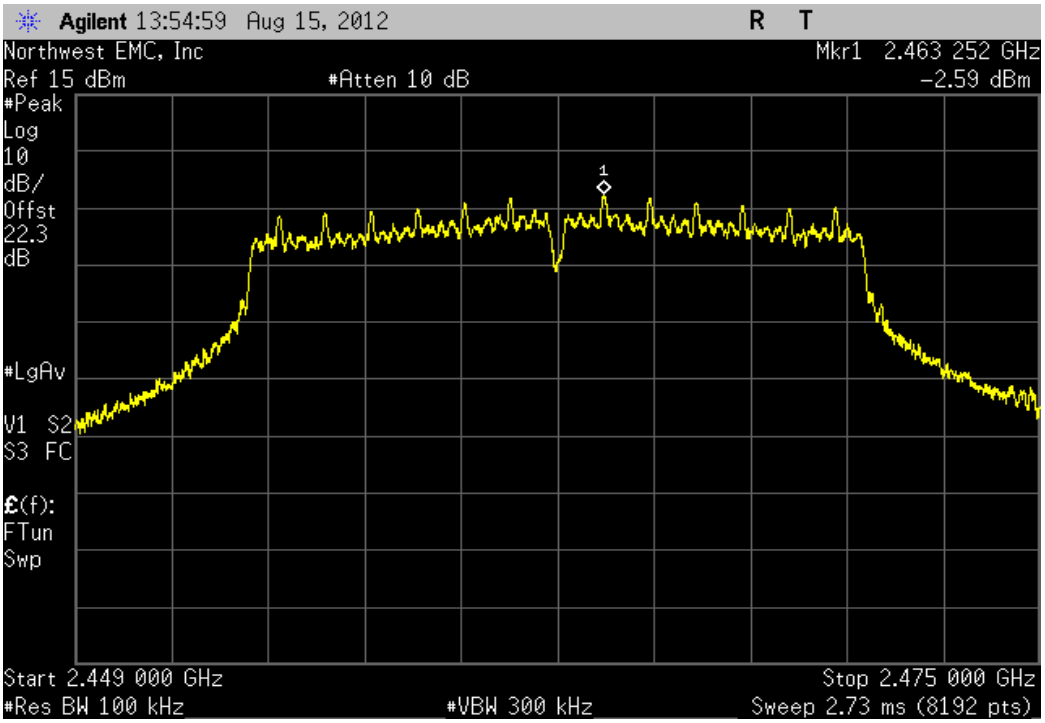
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-47.82 dBc	≤ -20 dBc	Pass



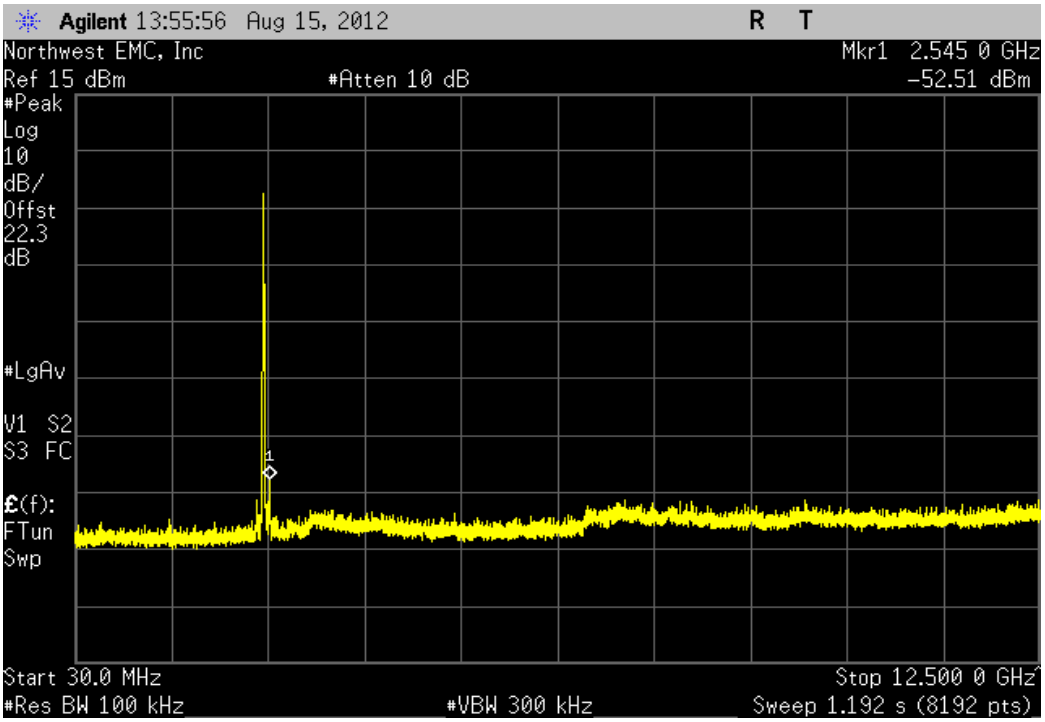
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-51.51 dBc	≤ -20 dBc	Pass



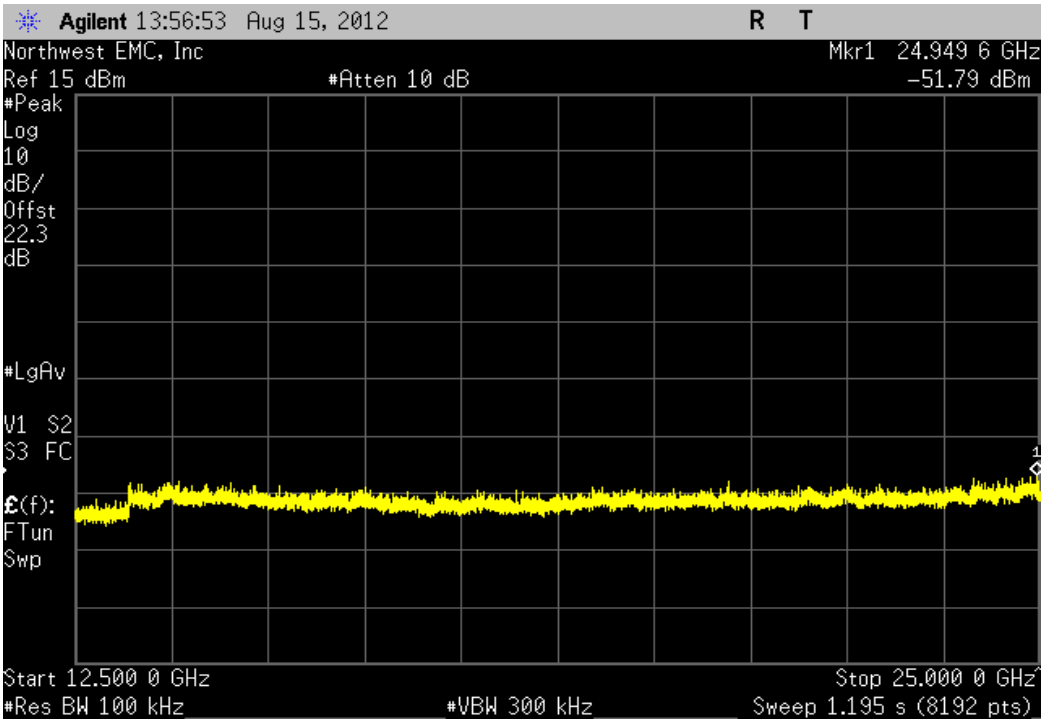
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



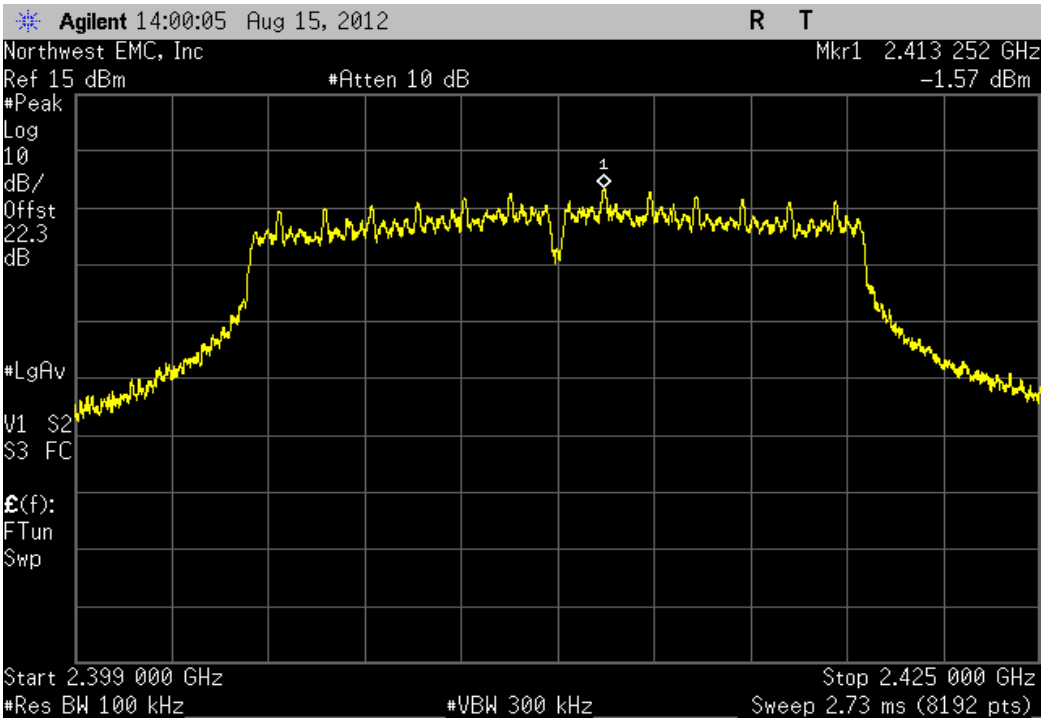
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-49.92 dBc	≤ -20 dBc	Pass



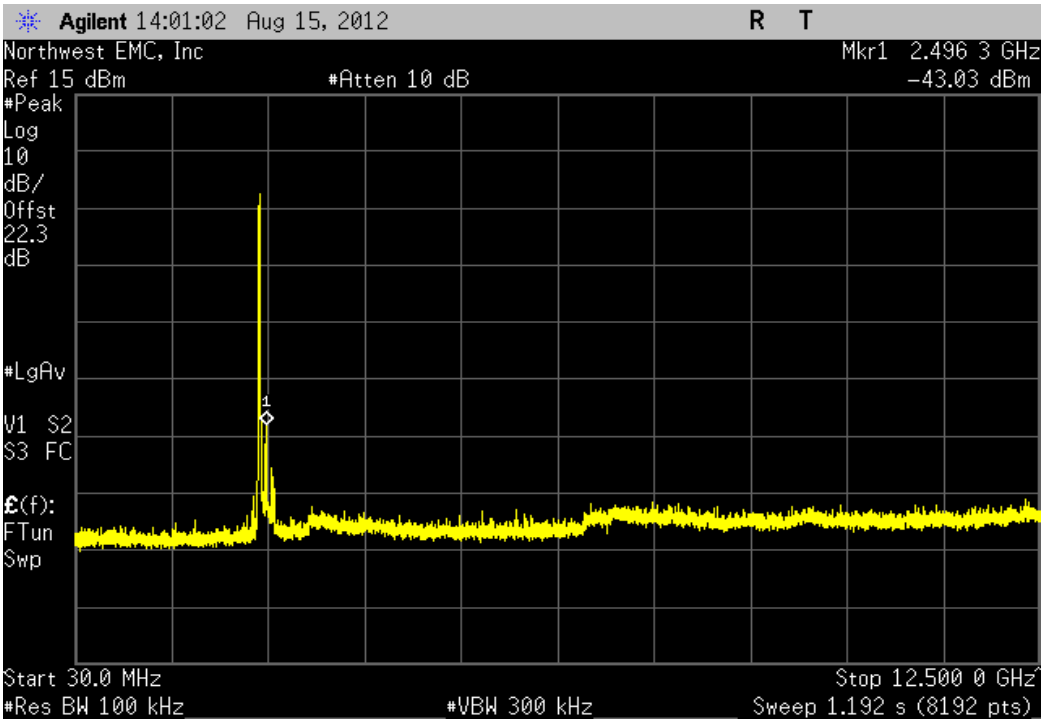
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-49.2 dBc	≤ -20 dBc	Pass



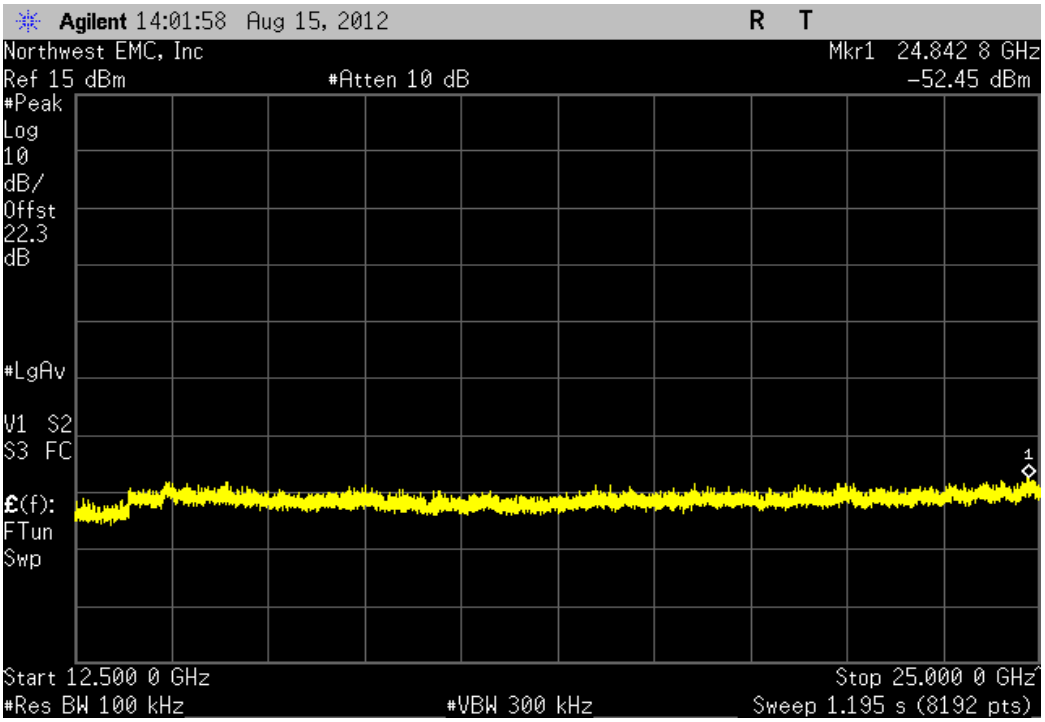
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
Frequency Range				Value	Limit	Result
	Fundamental			N/A	N/A	N/A



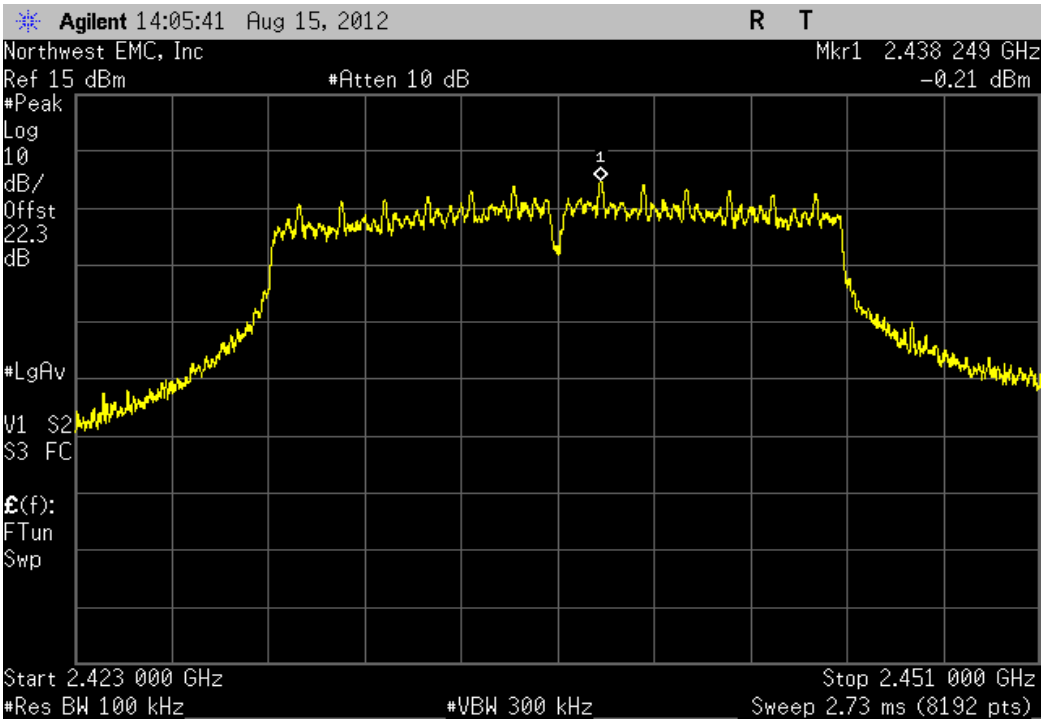
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz					
Frequency Range		Value	Limit	Result	
30 MHz - 12.5 GHz		-41.46 dBc	≤ -20 dBc	Pass	



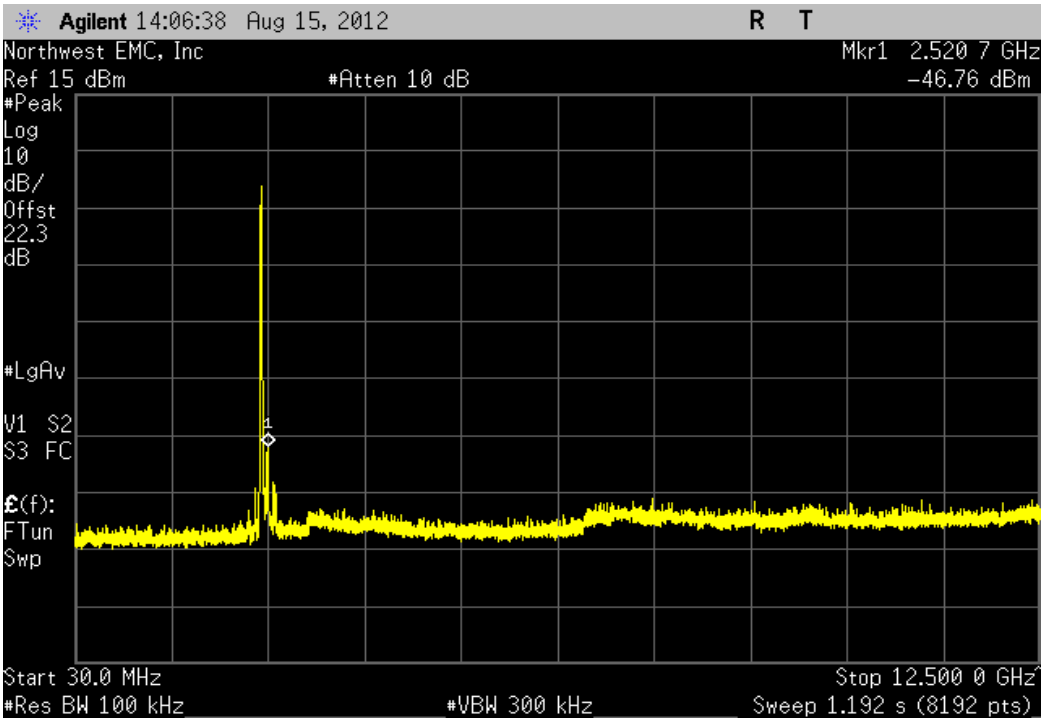
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		Value	Limit	Result
12.5 GHz - 25 GHz		-50.88 dBc	≤ -20 dBc	Pass



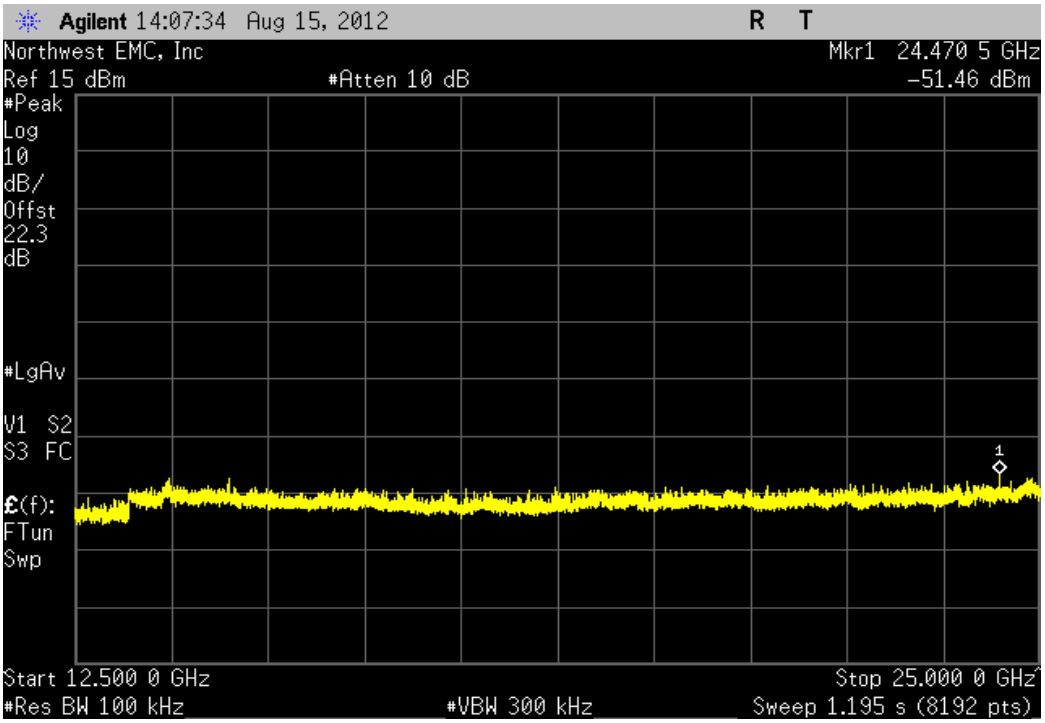
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



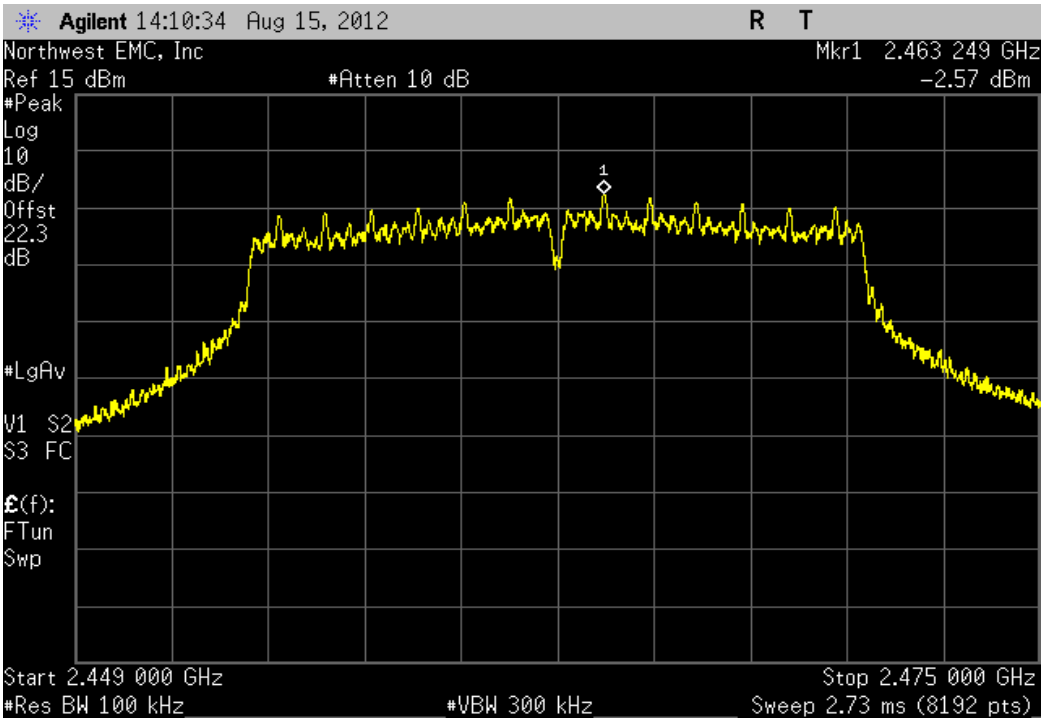
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-46.55 dBc	≤ -20 dBc	Pass



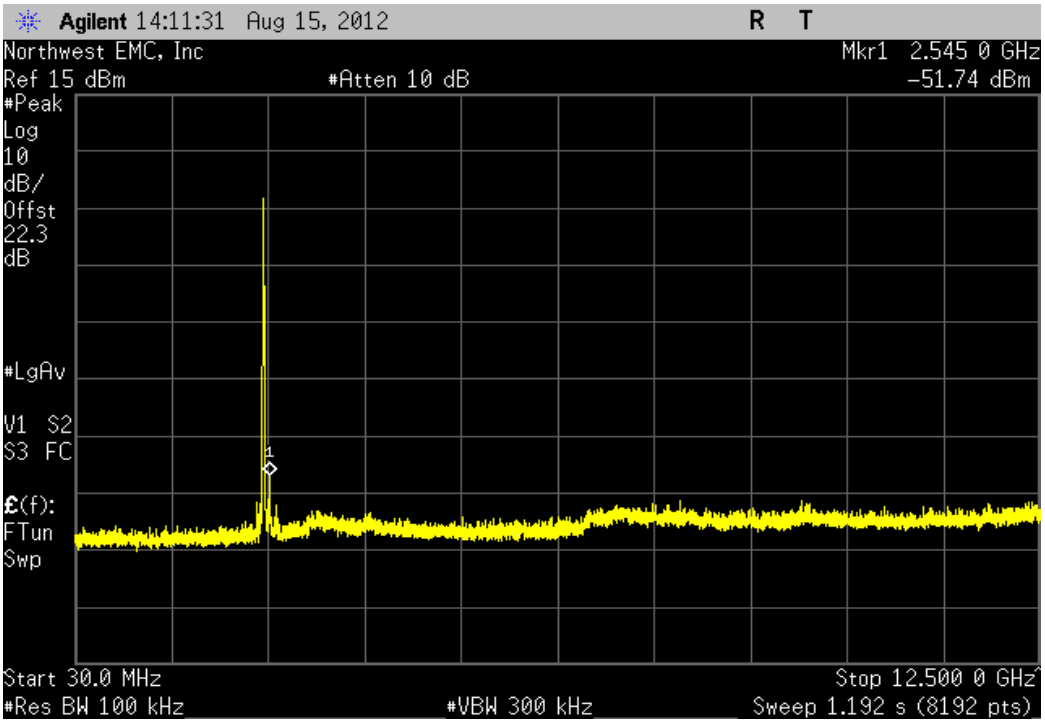
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-51.25 dBc	≤ -20 dBc	Pass



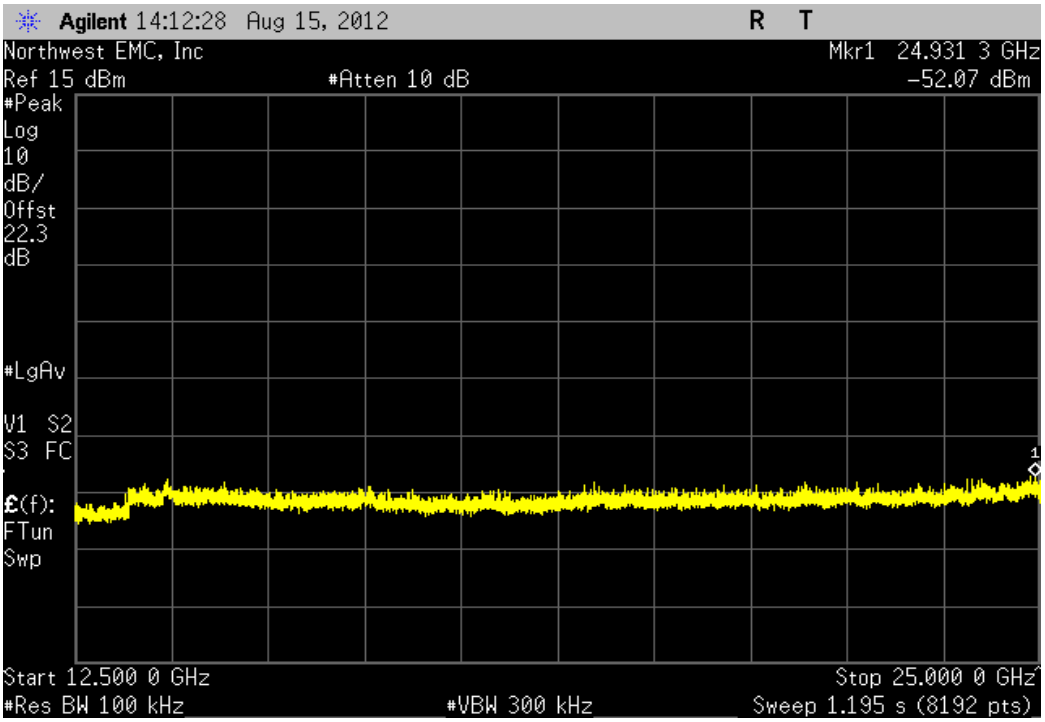
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



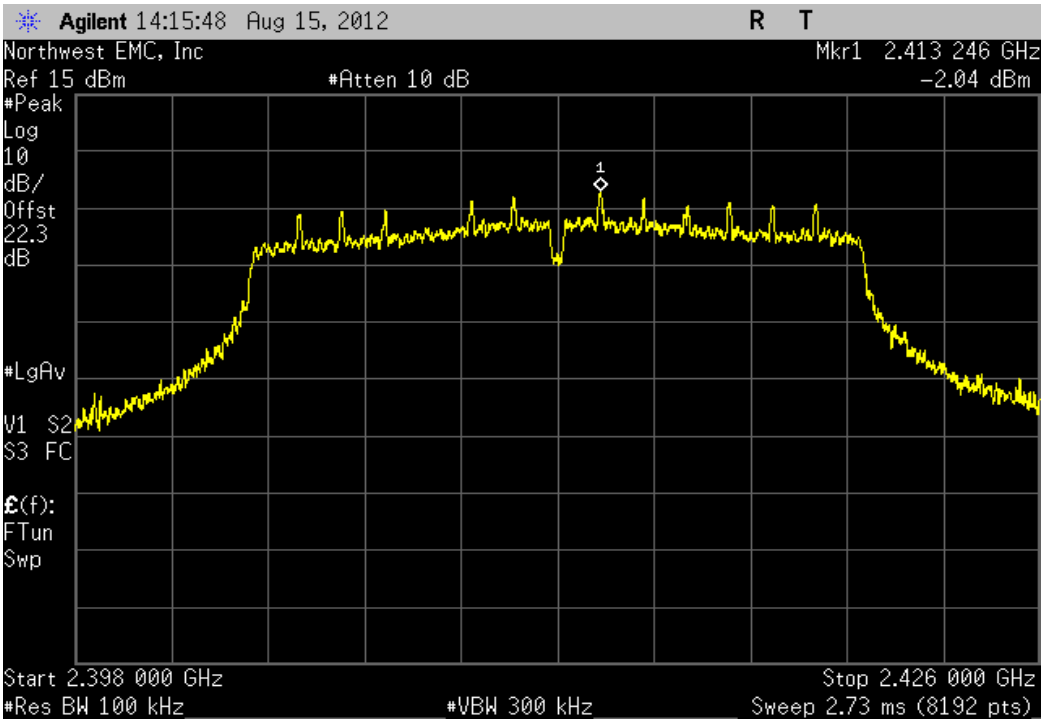
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-49.17 dBc	≤ -20 dBc	Pass



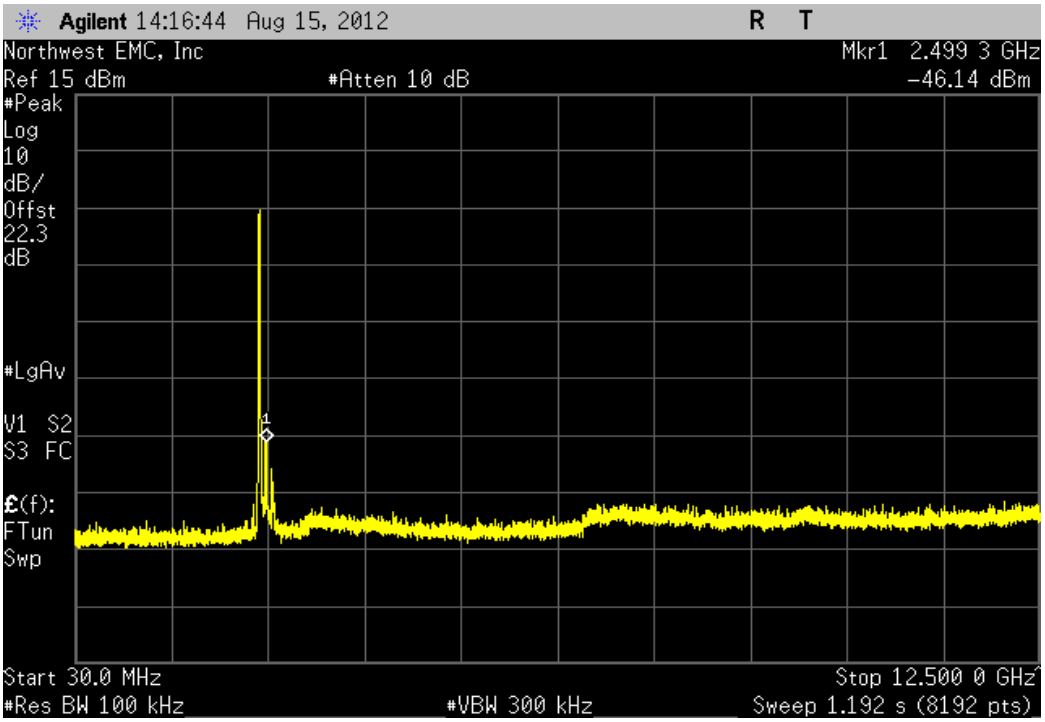
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-49.5 dBc	≤ -20 dBc	Pass



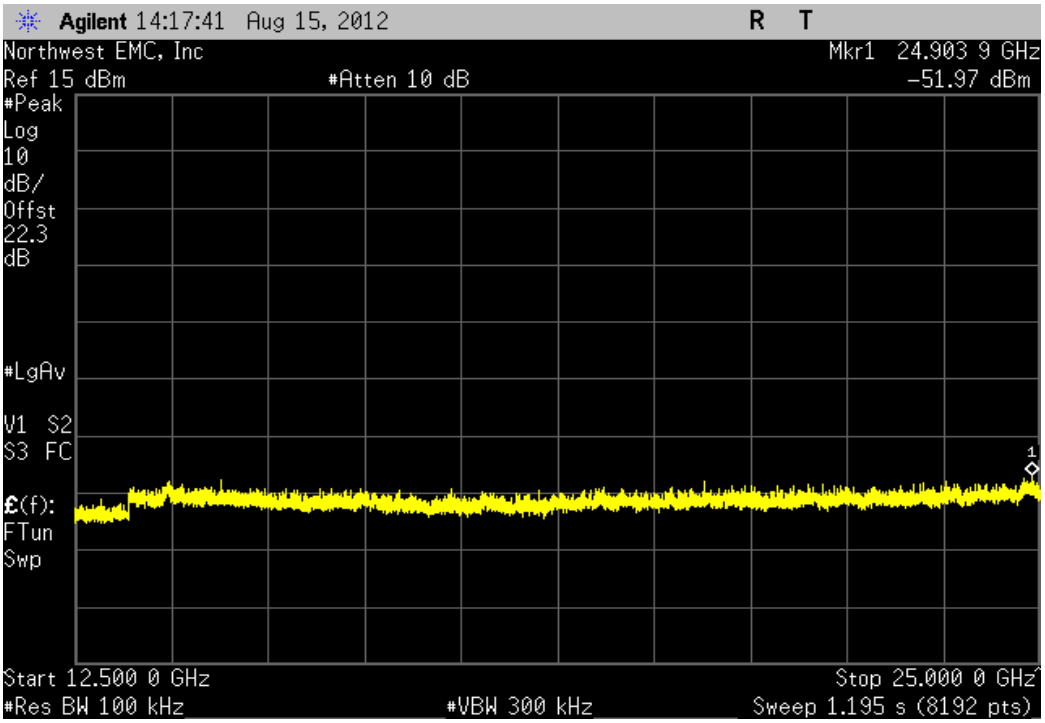
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



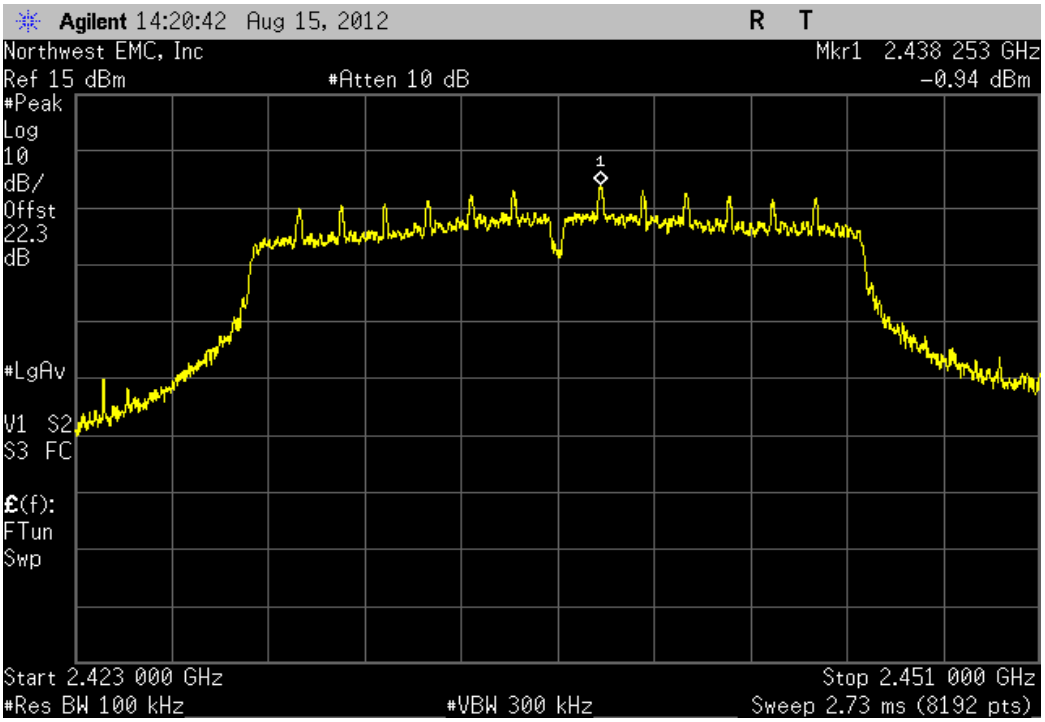
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz				
Frequency Range		Value	Limit	Result
30 MHz - 12.5 GHz		-44.1 dBc	≤ -20 dBc	Pass



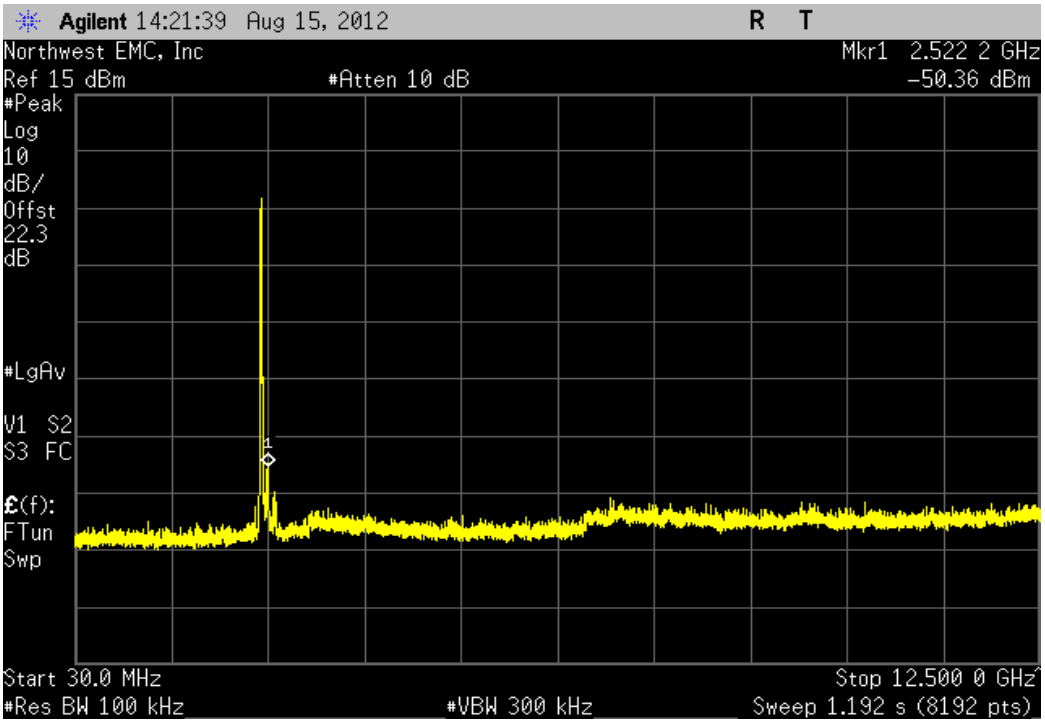
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz				
Frequency Range		Value	Limit	Result
12.5 GHz - 25 GHz		-49.93 dBc	≤ -20 dBc	Pass



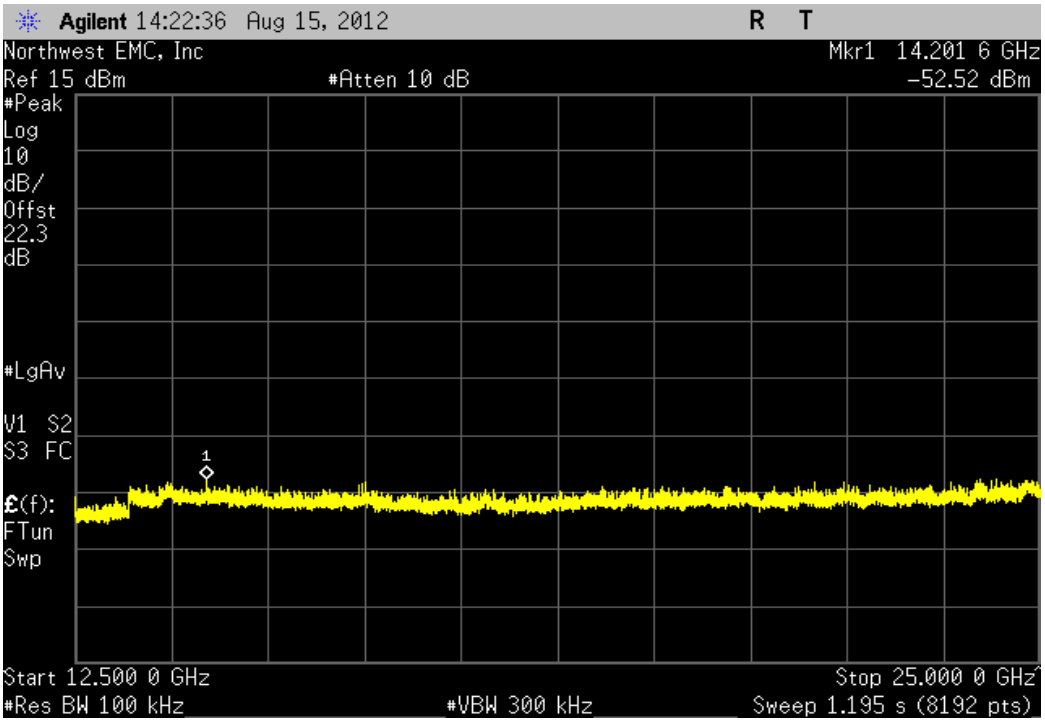
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
Frequency Range				Value	Limit	Result
	Fundamental			N/A	N/A	N/A



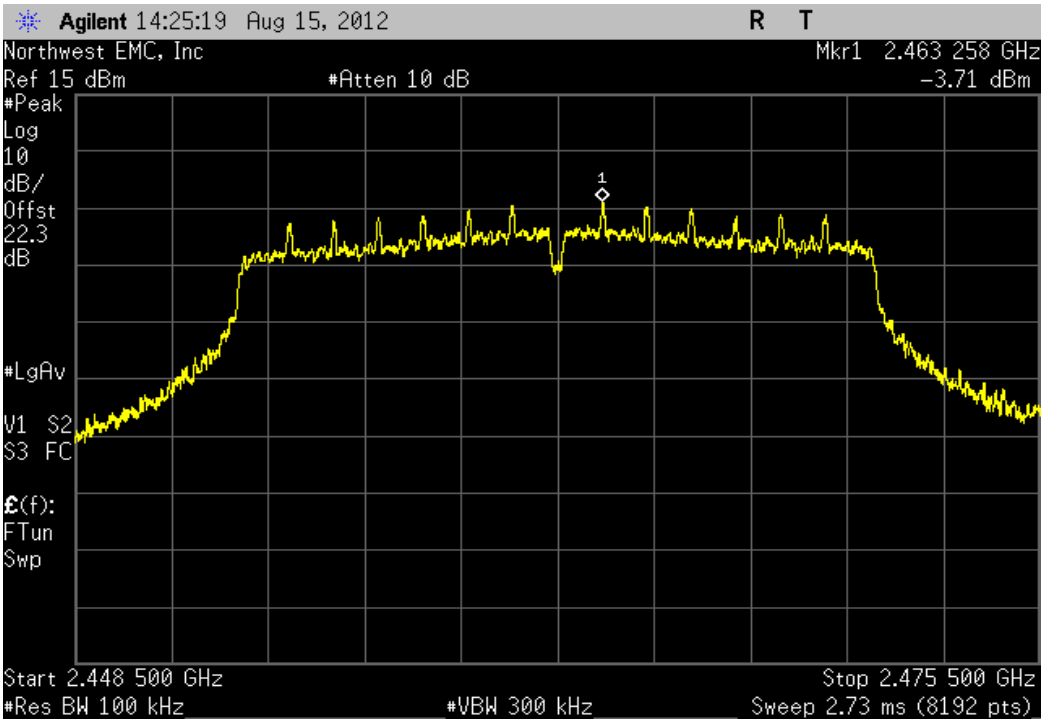
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-49.42 dBc	≤ -20 dBc	Pass



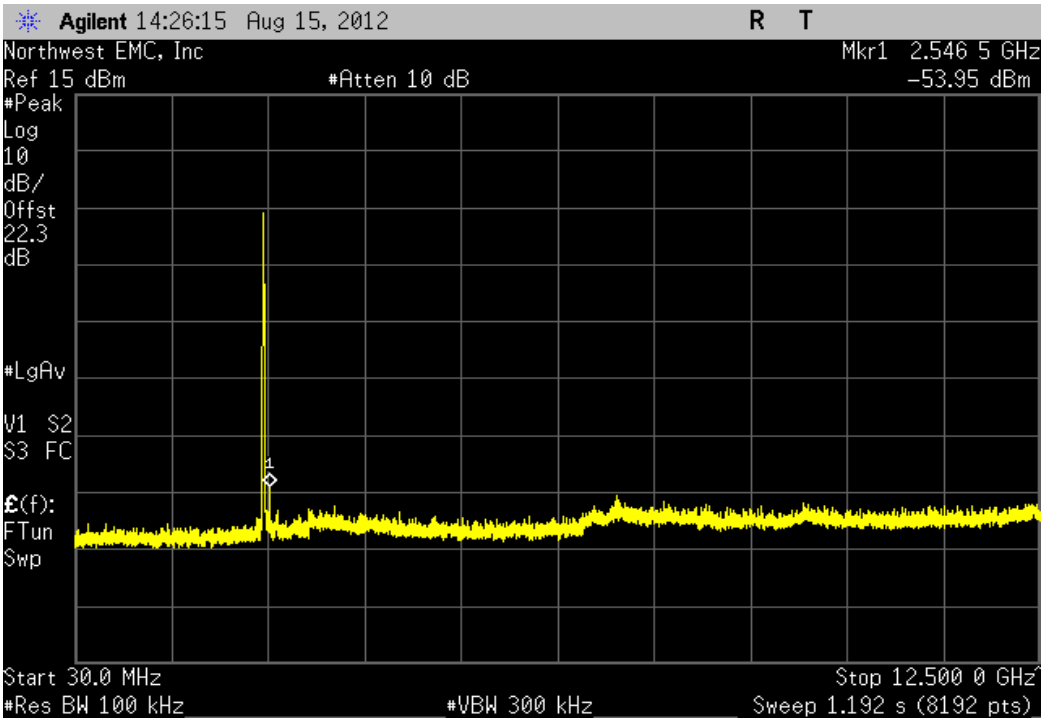
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz				
Frequency Range		Value	Limit	Result
12.5 GHz - 25 GHz		-51.58 dBc	≤ -20 dBc	Pass



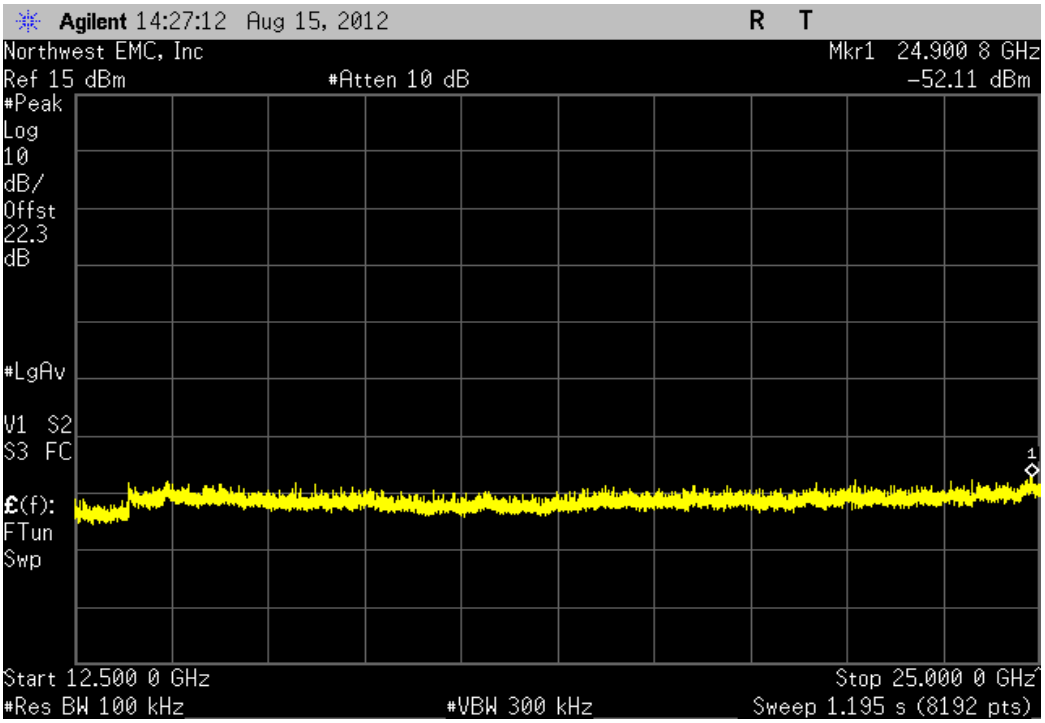
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



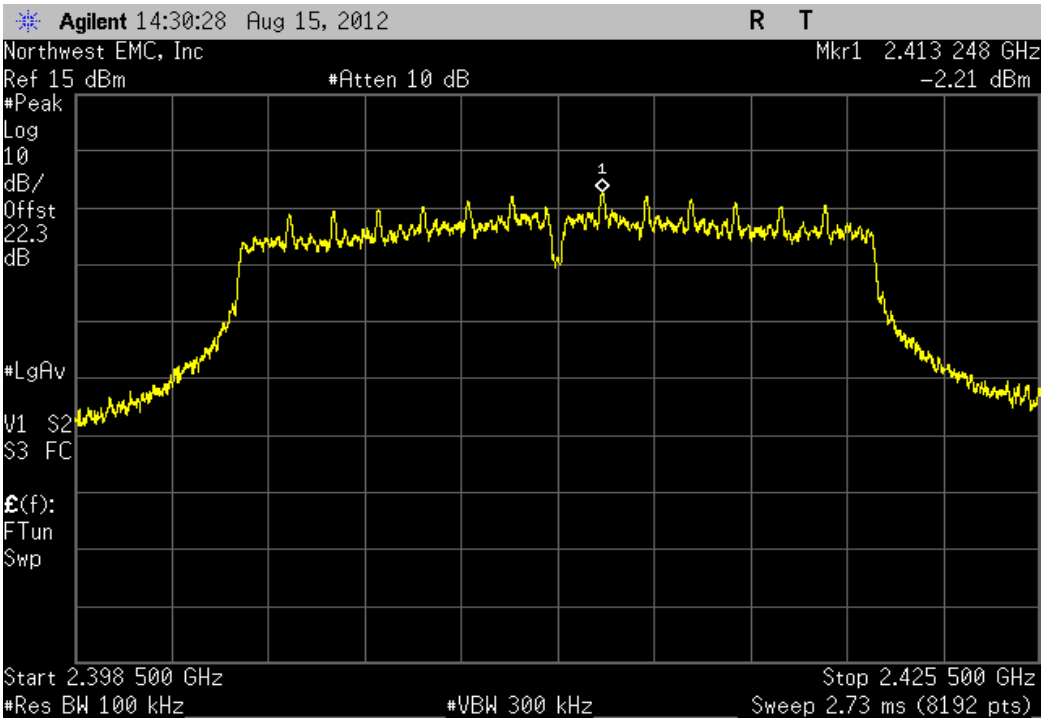
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz				
Frequency Range		Value	Limit	Result
30 MHz - 12.5 GHz		-50.23 dBc	≤ -20 dBc	Pass



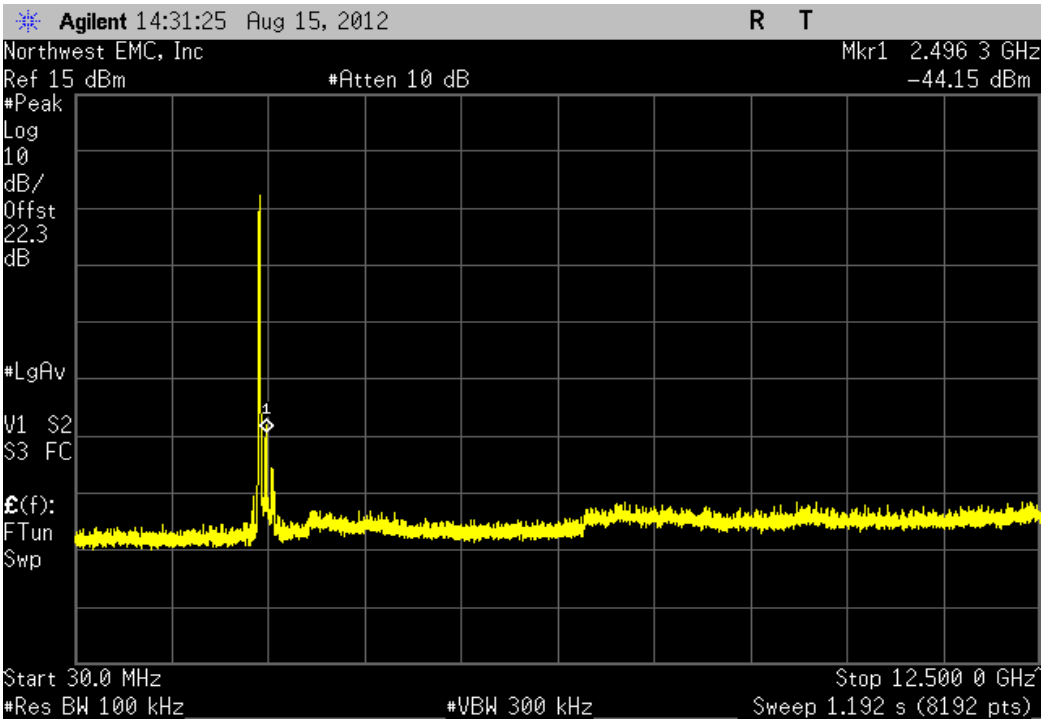
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz				
Frequency Range		Value	Limit	Result
12.5 GHz - 25 GHz		-48.39 dBc	≤ -20 dBc	Pass



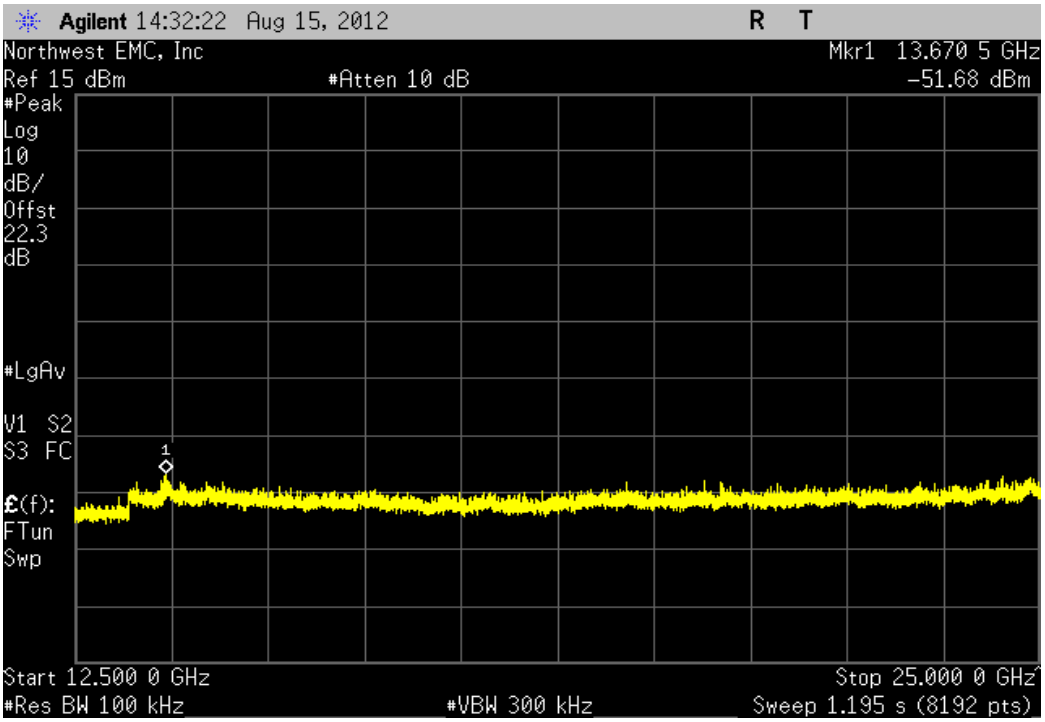
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
Frequency Range				Value	Limit	Result
	Fundamental			N/A	N/A	N/A



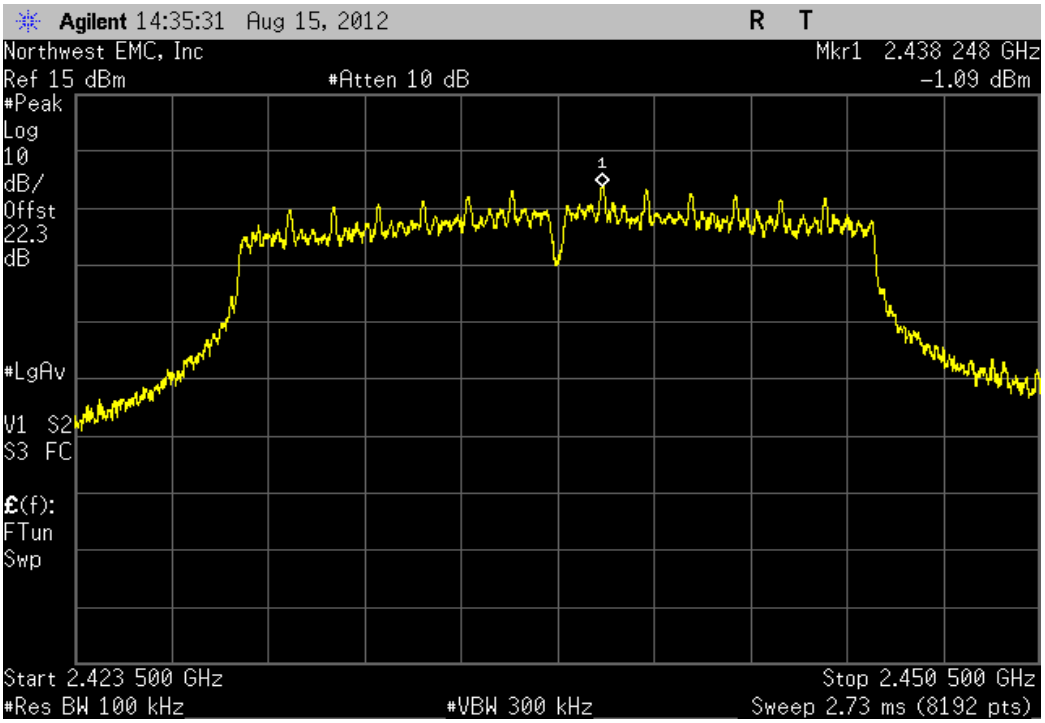
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-41.94 dBc	≤ -20 dBc	Pass



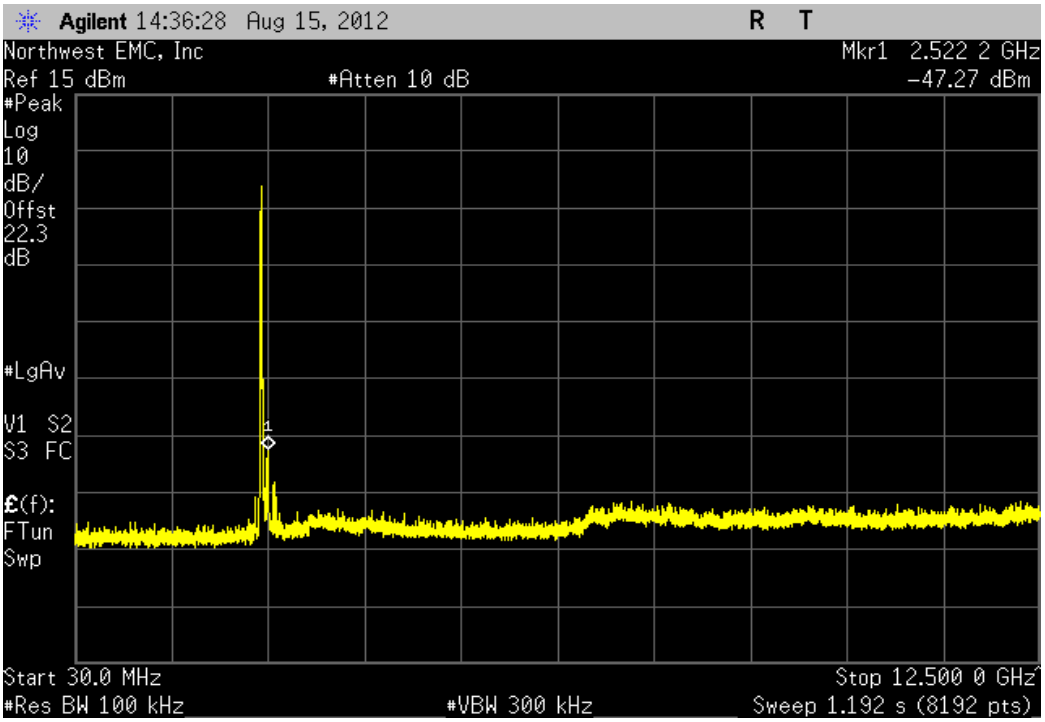
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz				
Frequency Range		Value	Limit	Result
12.5 GHz - 25 GHz		-49.47 dBc	≤ -20 dBc	Pass



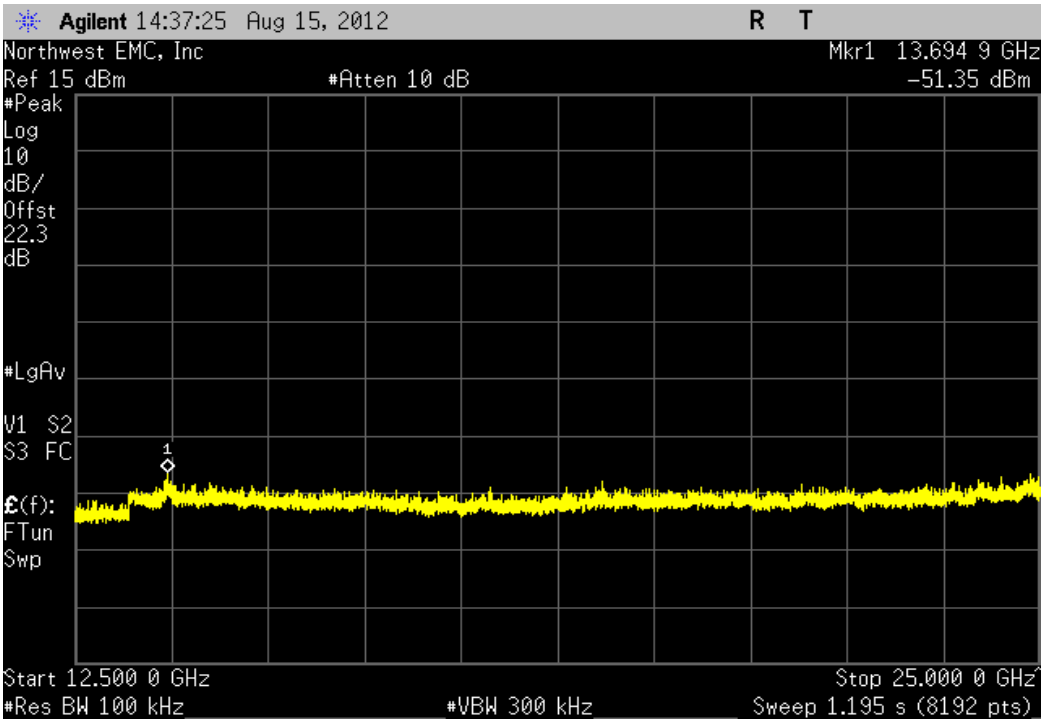
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



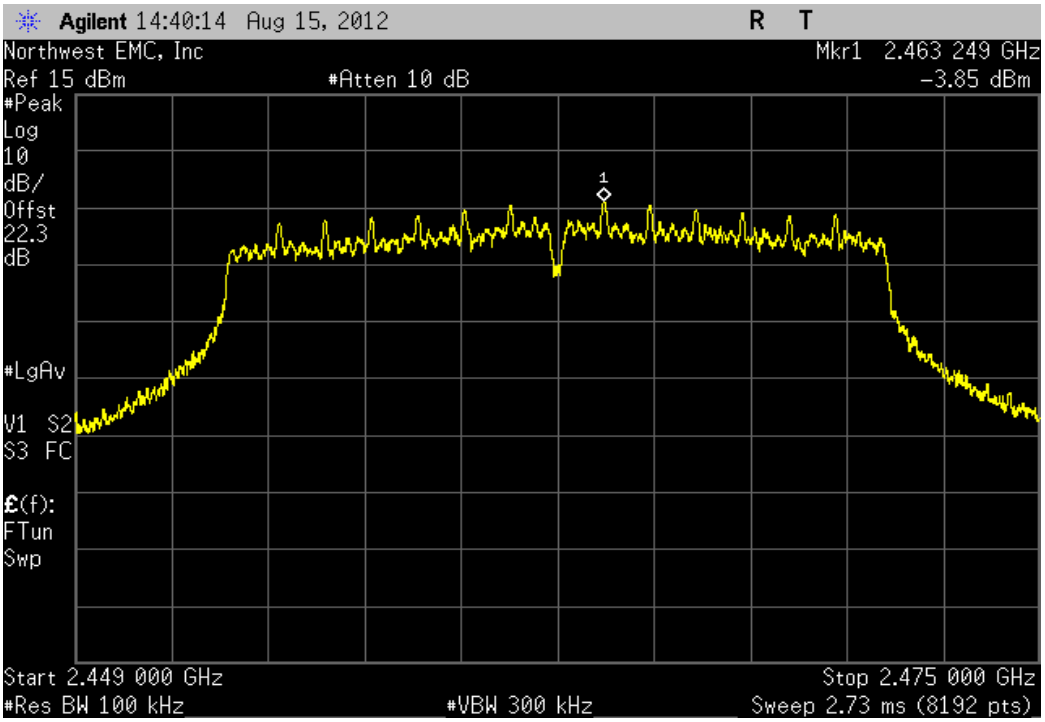
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-46.18 dBc	≤ -20 dBc	Pass



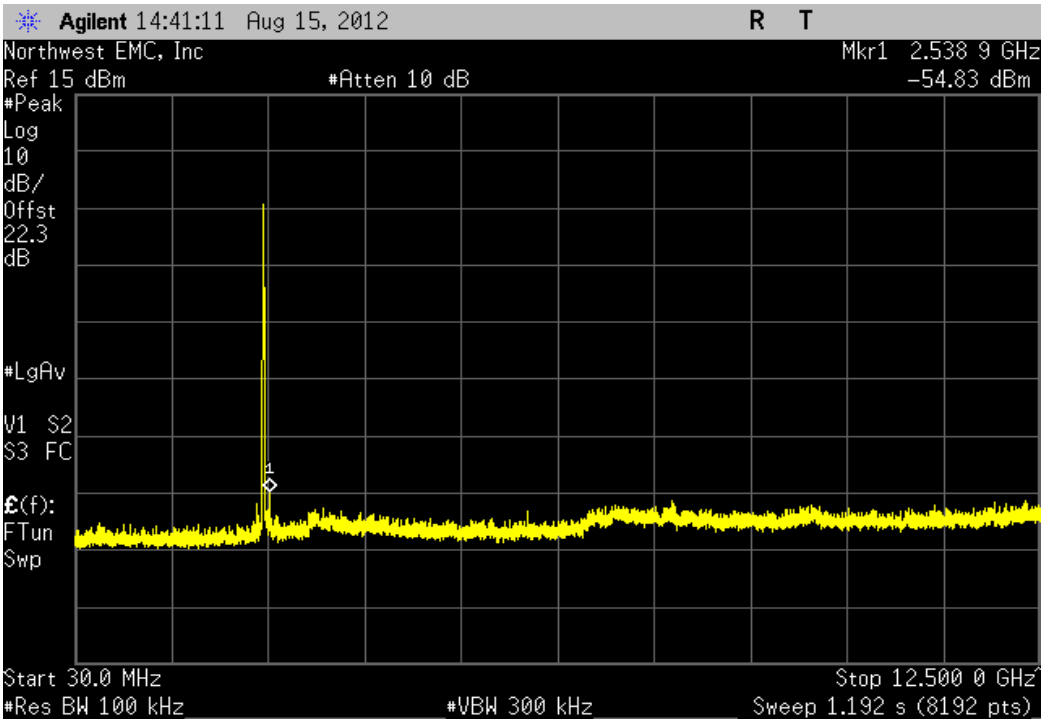
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-50.26 dBc	≤ -20 dBc	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A

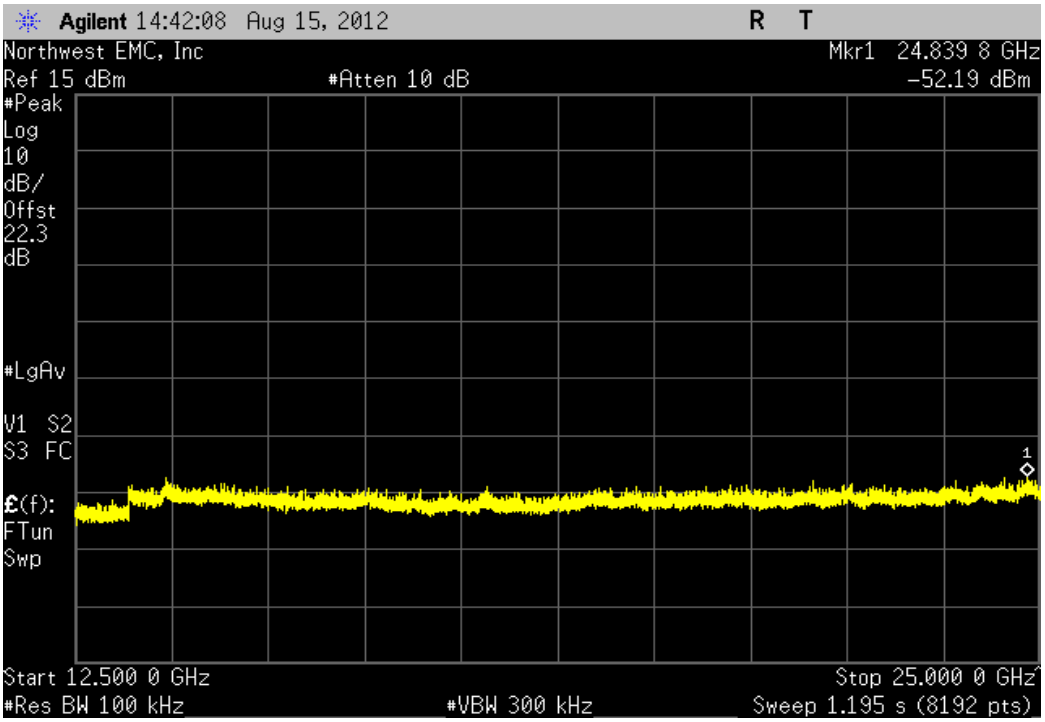


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-50.98 dBc	≤ -20 dBc	Pass



Spurious Conducted Emissions

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-48.34 dBc	≤ -20 dBc	Pass



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
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/12/2011	12
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	12
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/19/2012	12
Signal Generator	Agilent	N5183A	TIA	1/27/2012	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 maximum power spectral density measurements were measured with the EUT set to the required transmit frequencies in each band. 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 lowest, middle, and maximum data rate for each modulation type available.

Per the procedure outlined in FCC KDB 558074 D01 DTS Measurement Section 5.3.1, the spectrum analyzer was used as follows:

- RBW = 100 kHz
- VBW = 300 kHz
- Detector = Peak (to match method used for power measurement)
- Trace = Max hold

The observed power level is then scaled to an equivalent value in 3 kHz by adding a Bandwidth Correction Factor (BWCF) where:

BWCF = 10*LOG (3 kHz / 100 kHz) = -15.2 dB

Power Spectral Density

EUT:	TH6320WF			**Work Order:**	HNYW0015
Serial Number:	3642			**Date:**	08/15/12
Customer:	Honeywell, Automation and Control Solutions			**Temperature:**	23.45°C
Attendees:	None			**Humidity:**	52%
Project:	None			**Barometric Pres.:**	1007.9
Tested by:	Johnathan Lee	**Power:**	110VAC/60Hz	**Job Site:**	MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2012	ANSI C63.10:2009

COMMENTS

None

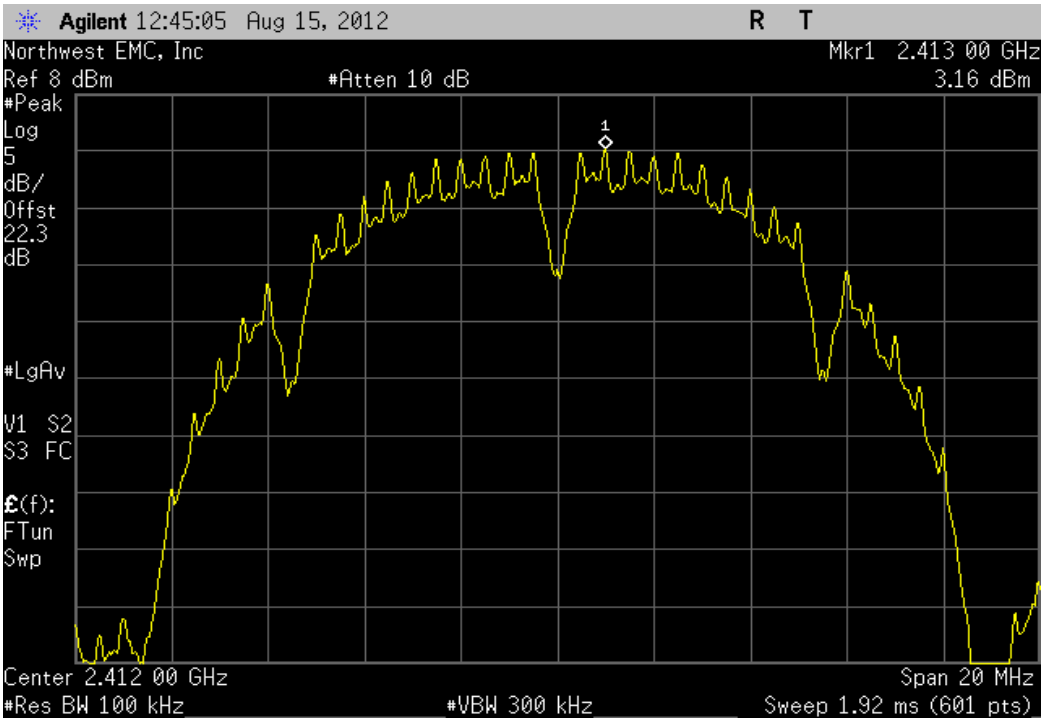
DEVIATIONS FROM TEST STANDARD

None

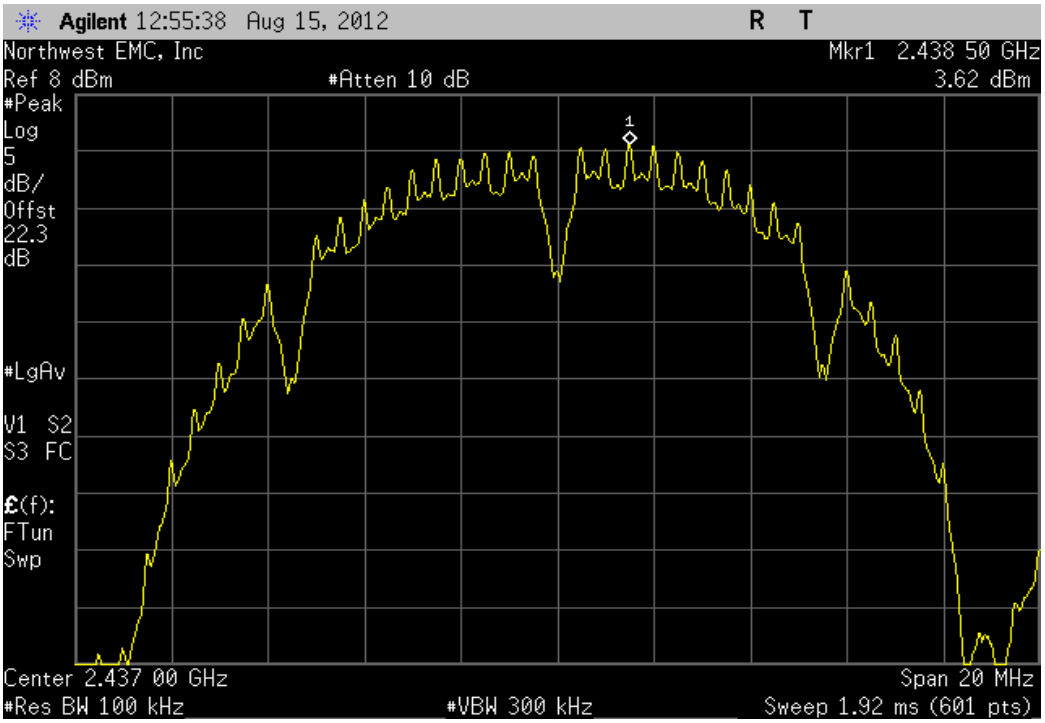
Configuration #	2	Signature

	Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
2400 MHz - 2483.5 MHz Band					
802.11(b) 1 Mbps					
Low Channel 1, 2412 MHz	3.164	-15.2	-12.036	8	Pass
Mid Channel 6, 2437 MHz	3.62	-15.2	-11.58	8	Pass
High Channel 11, 2462 MHz	2.803	-15.2	-12.397	8	Pass
802.11(b) 11 Mbps					
Low Channel 1, 2412 MHz	3.952	-15.2	-11.248	8	Pass
Mid Channel 6, 2437 MHz	4.517	-15.2	-10.683	8	Pass
High Channel 11, 2462 MHz	1.792	-15.2	-13.408	8	Pass
802.11(g) 6 Mbps					
Low Channel 1, 2412 MHz	-1.372	-15.2	-16.572	8	Pass
Mid Channel 6, 2437 MHz	-0.092	-15.2	-15.292	8	Pass
High Channel 11, 2462 MHz	-2.584	-15.2	-17.784	8	Pass
802.11(g) 36 Mbps					
Low Channel 1, 2412 MHz	-1.297	-15.2	-16.497	8	Pass
Mid Channel 6, 2437 MHz	-0.186	-15.2	-15.386	8	Pass
High Channel 11, 2462 MHz	-2.531	-15.2	-17.731	8	Pass
802.11(g) 54 Mbps					
Low Channel 1, 2412 MHz	-1.316	-15.2	-16.516	8	Pass
Mid Channel 6, 2437 MHz	-0.221	-15.2	-15.421	8	Pass
High Channel 11, 2462 MHz	-2.525	-15.2	-17.725	8	Pass
802.11(n) MCS0					
Low Channel 1, 2412 MHz	-2.154	-15.2	-17.354	8	Pass
Mid Channel 6, 2437 MHz	-1.029	-15.2	-16.229	8	Pass
High Channel 11, 2462 MHz	-3.71	-15.2	-18.91	8	Pass
802.11(n) MCS7					
Low Channel 1, 2412 MHz	-2.013	-15.2	-17.213	8	Pass
Mid Channel 6, 2437 MHz	-1.062	-15.2	-16.262	8	Pass
High Channel 11, 2462 MHz	-3.798	-15.2	-18.998	8	Pass

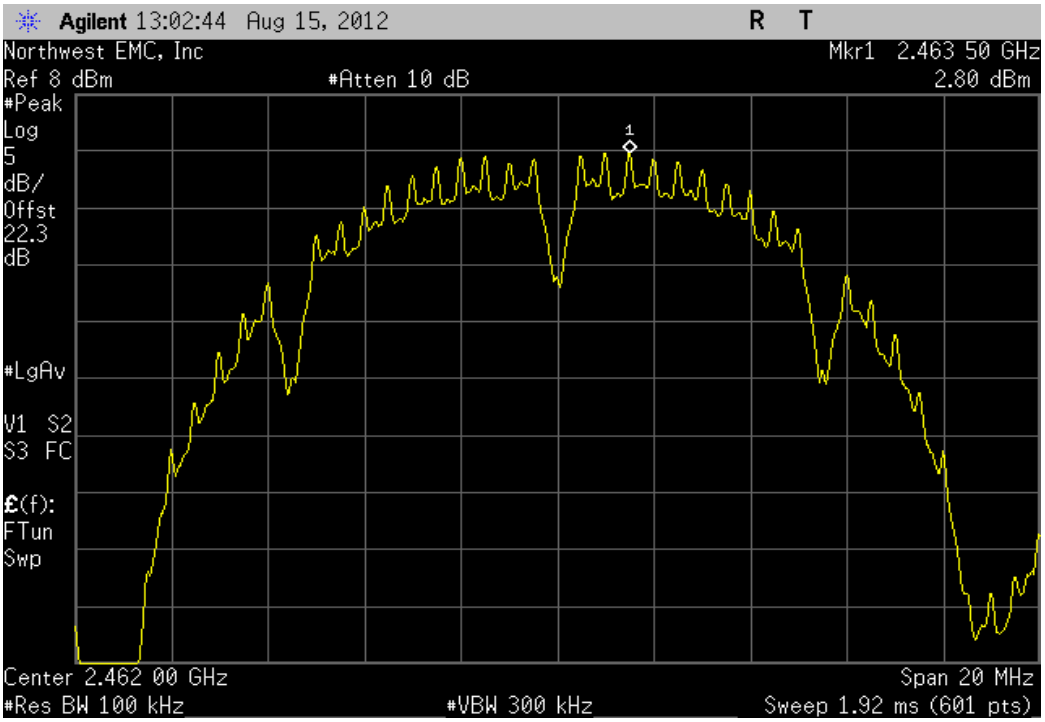
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		3.164	-15.2	-12.036	8	Pass



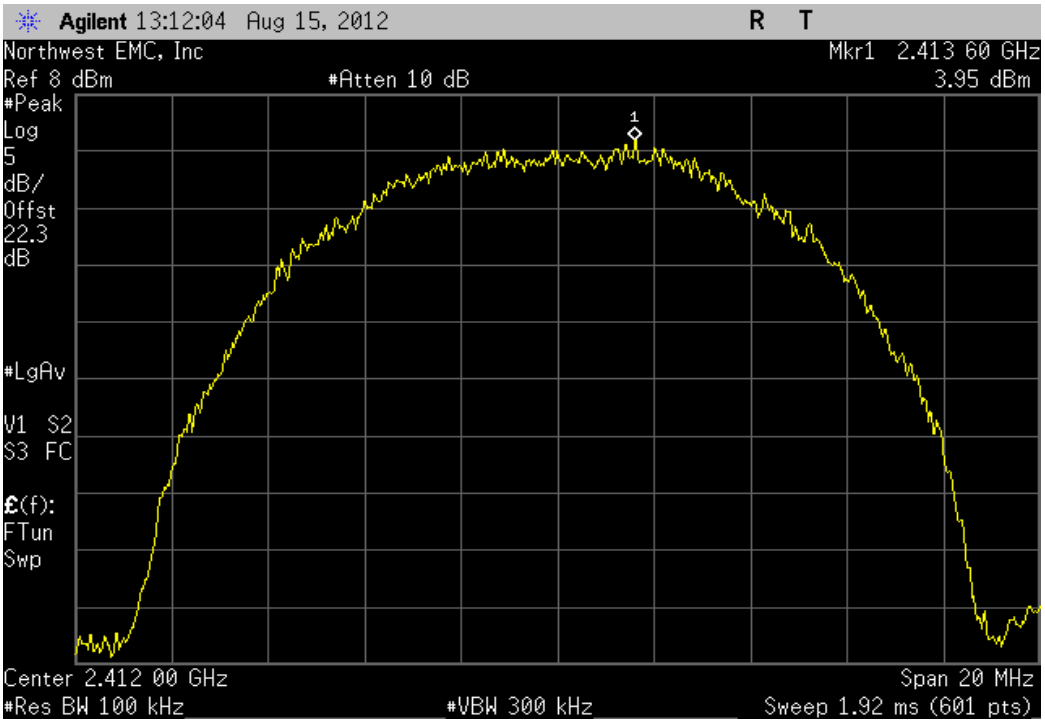
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		3.62	-15.2	-11.58	8	Pass



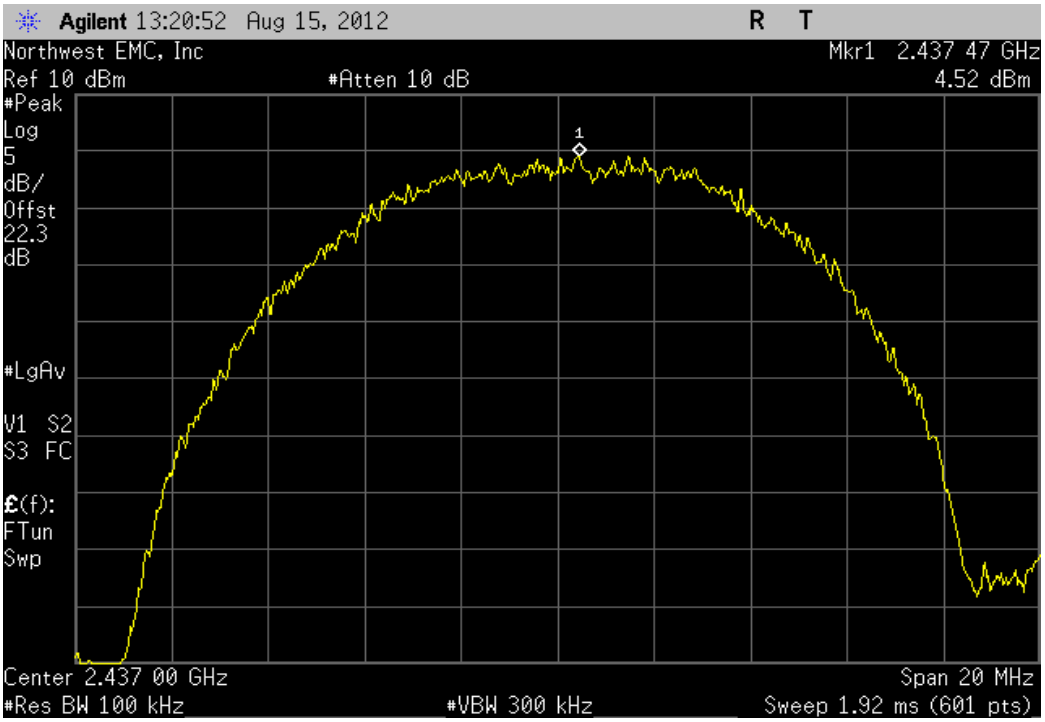
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		2.803	-15.2	-12.397	8	Pass



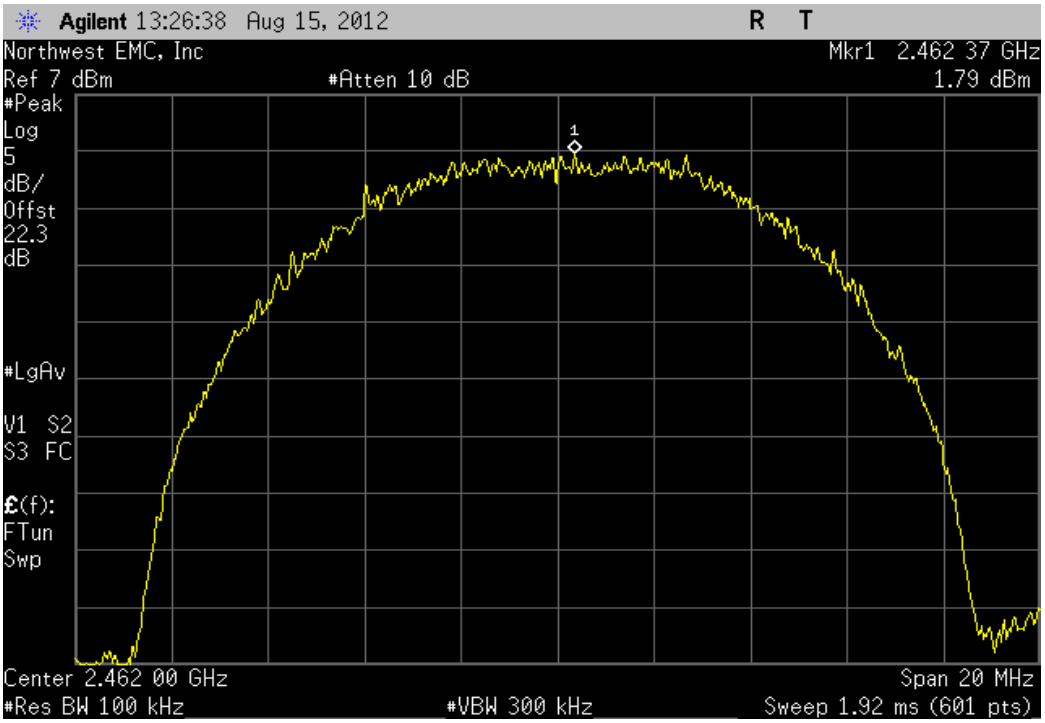
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		3.952	-15.2	-11.248	8	Pass



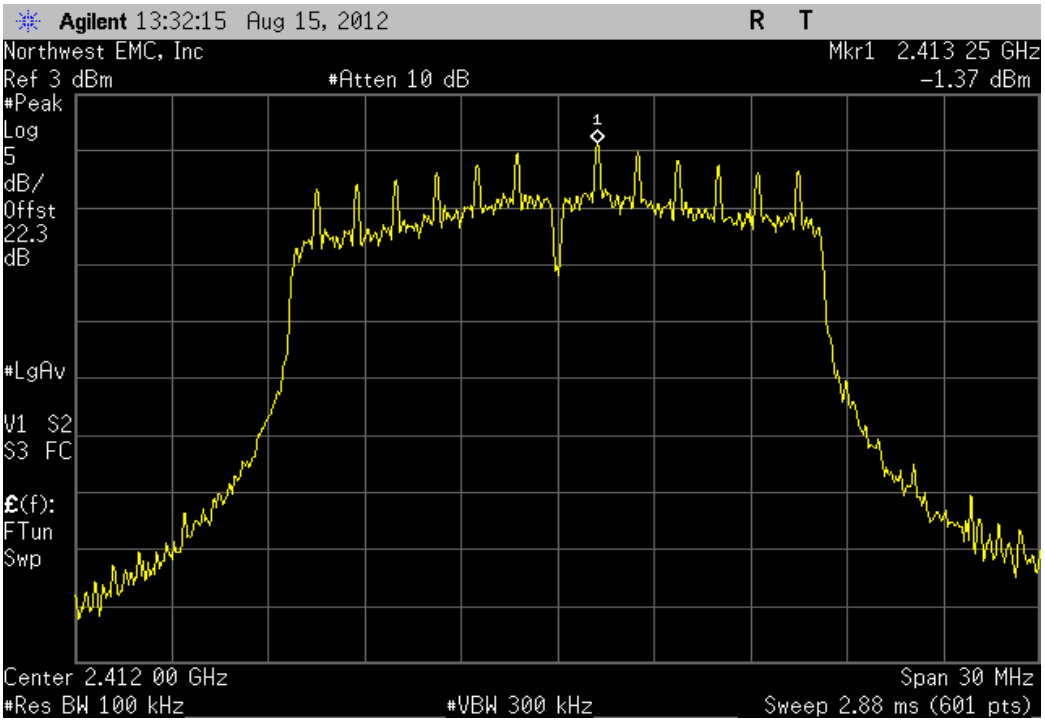
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		4.517	-15.2	-10.683	8	Pass



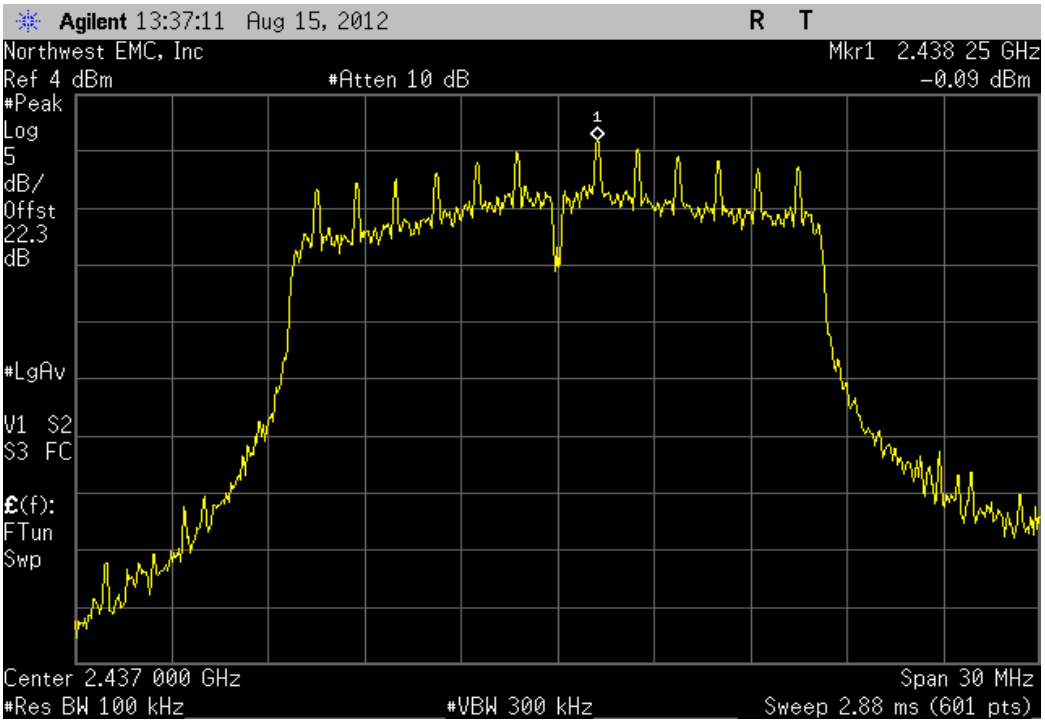
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		1.792	-15.2	-13.408	8	Pass



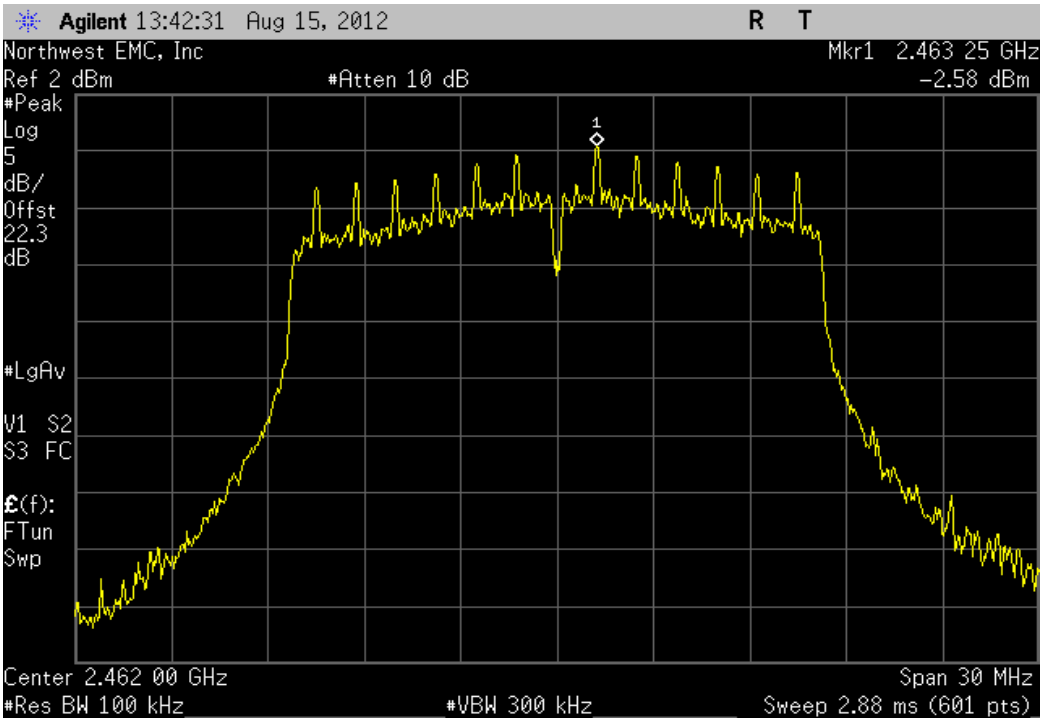
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-1.372	-15.2	-16.572	8	Pass



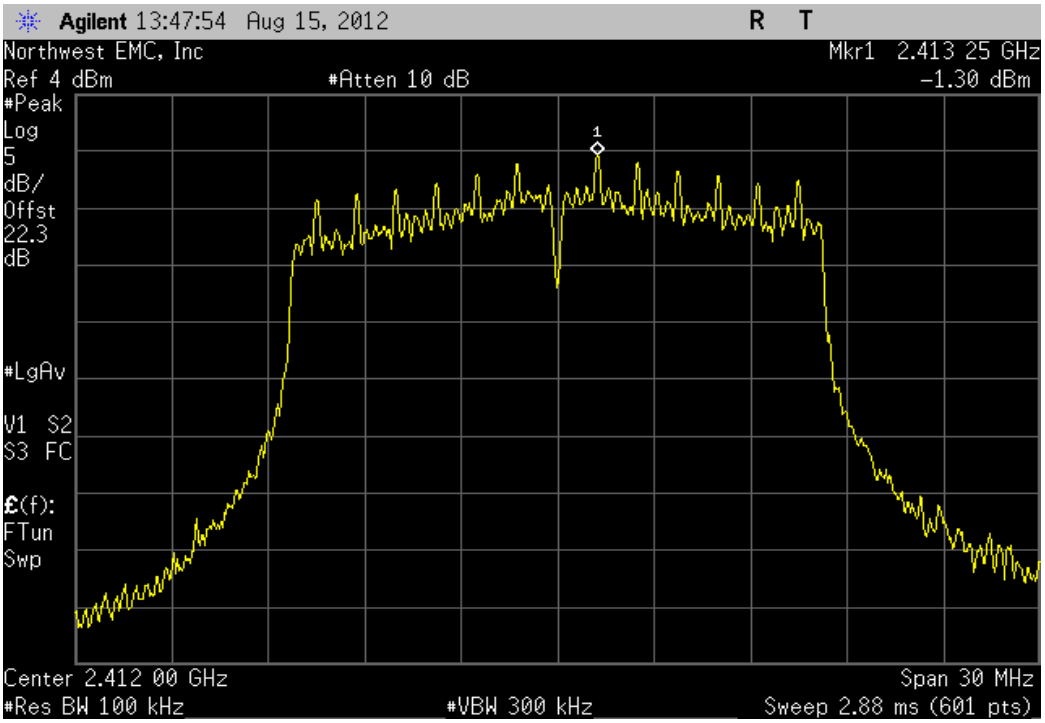
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-0.092	-15.2	-15.292	8	Pass



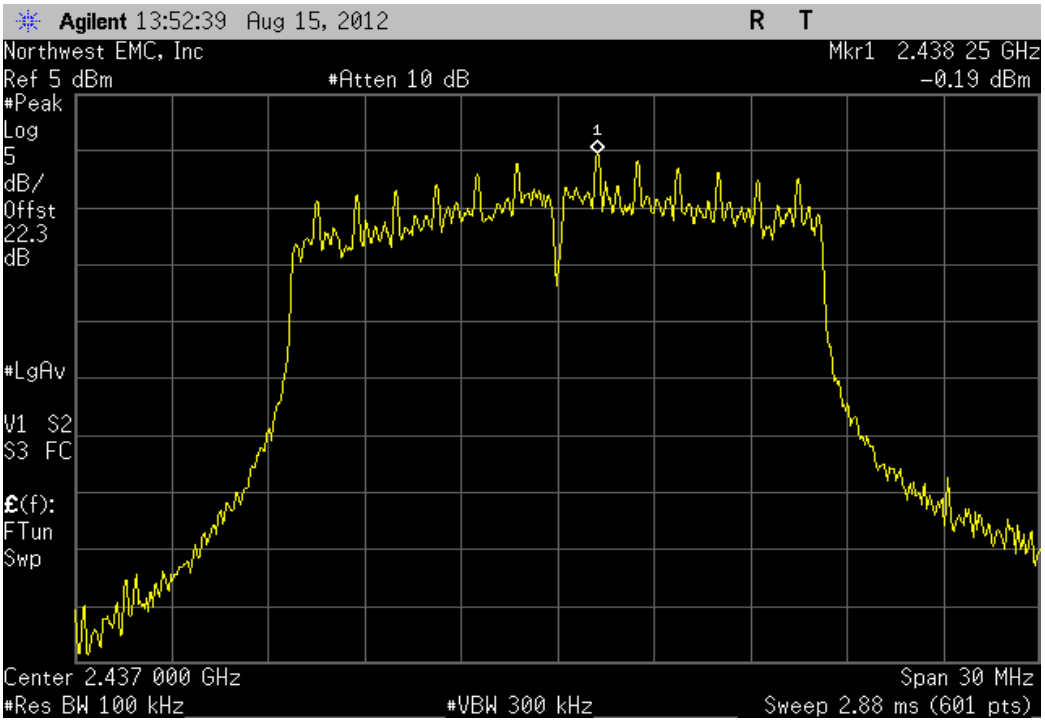
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-2.584	-15.2	-17.784	8	Pass



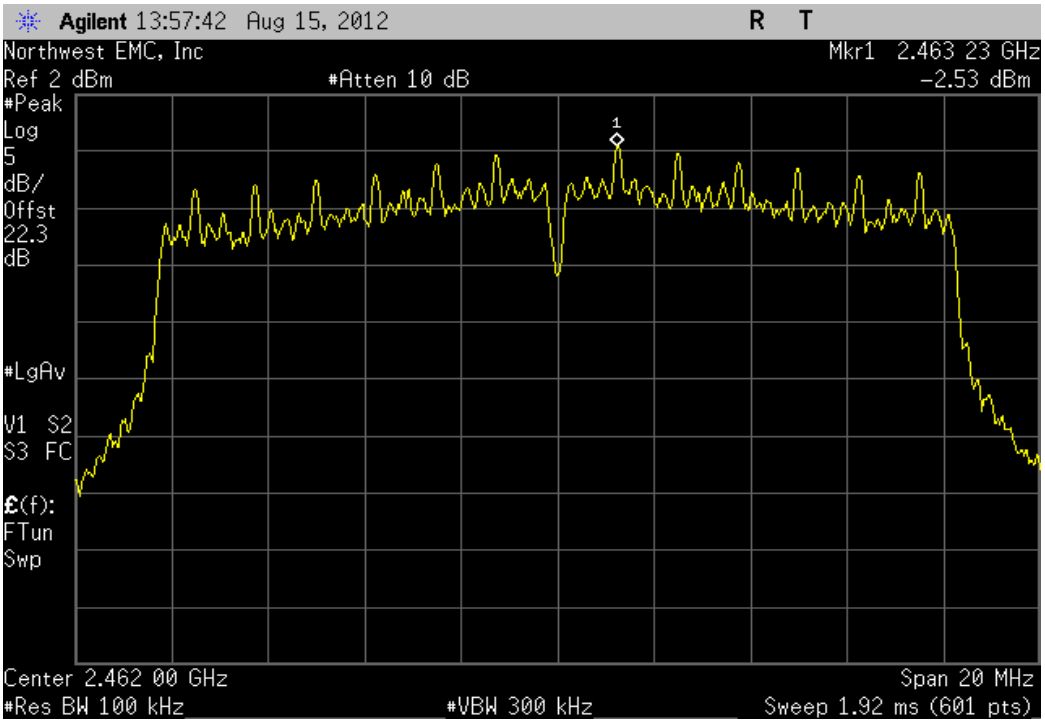
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-1.297	-15.2	-16.497	8	Pass



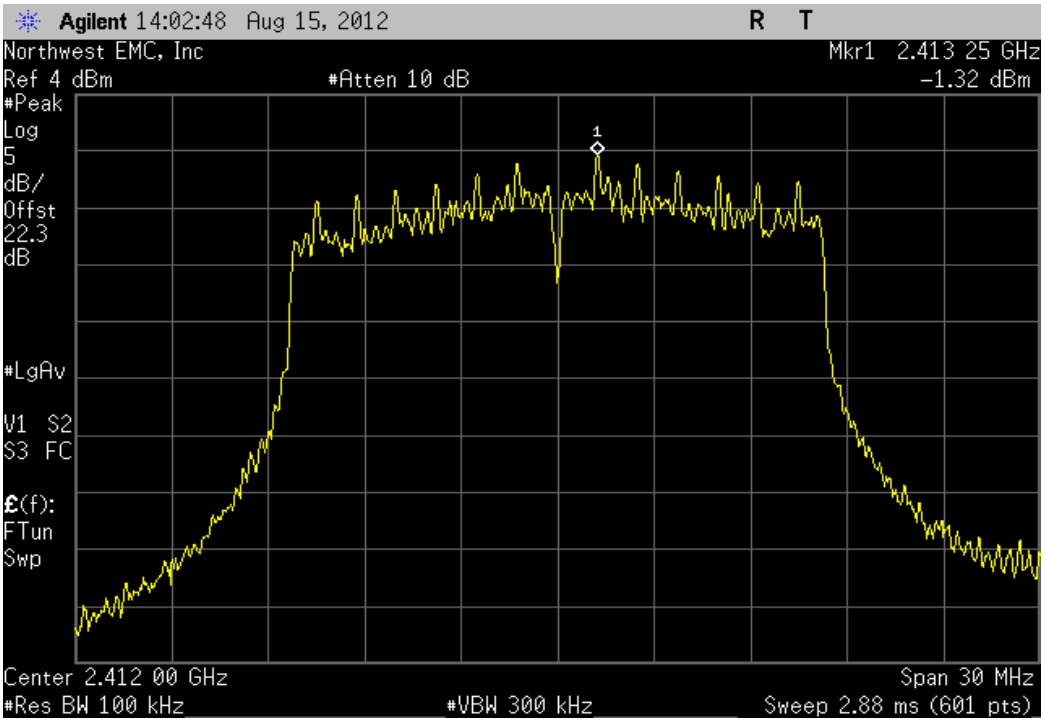
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-0.186	-15.2	-15.386	8	Pass



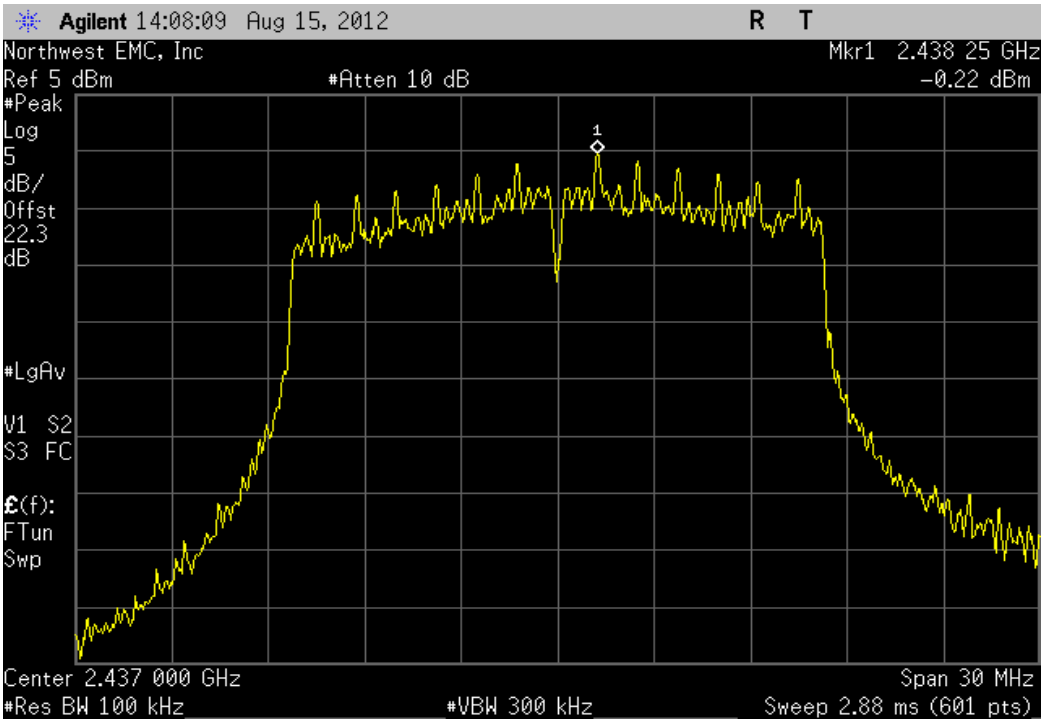
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-2.531	-15.2	-17.731	8	Pass



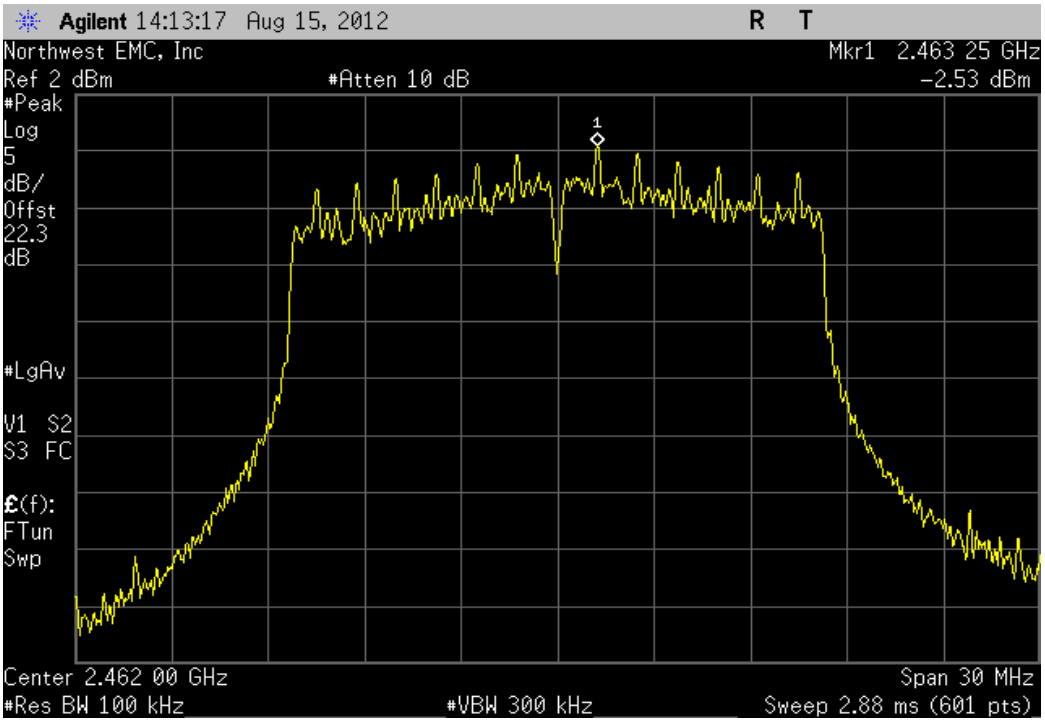
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-1.316	-15.2	-16.516	8	Pass



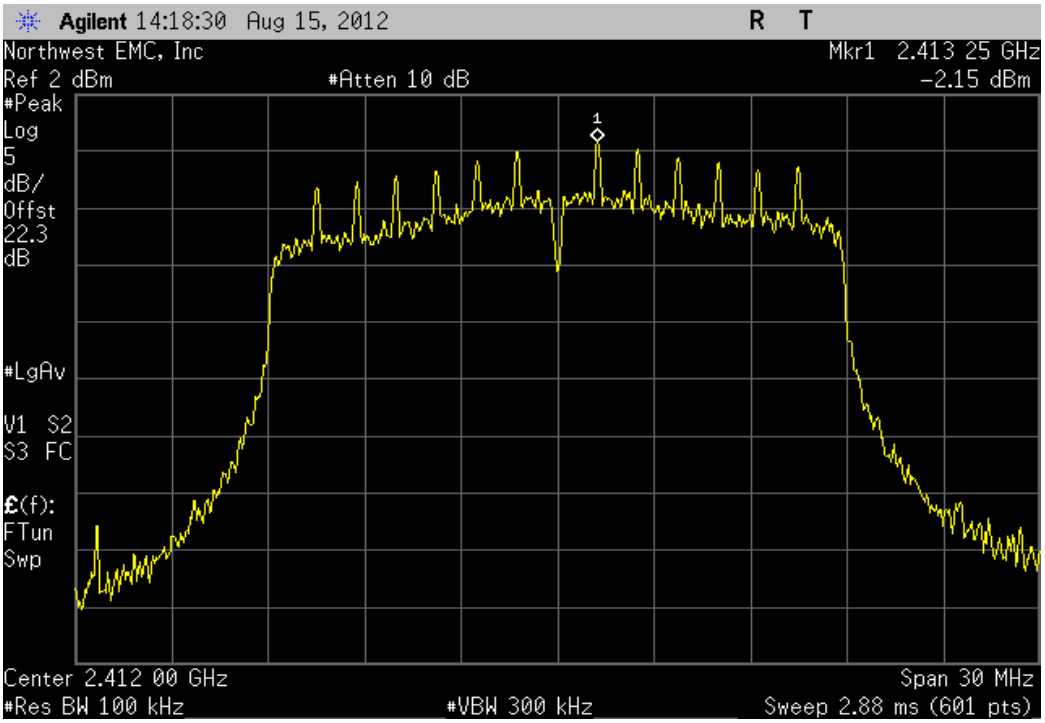
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-0.221	-15.2	-15.421	8	Pass



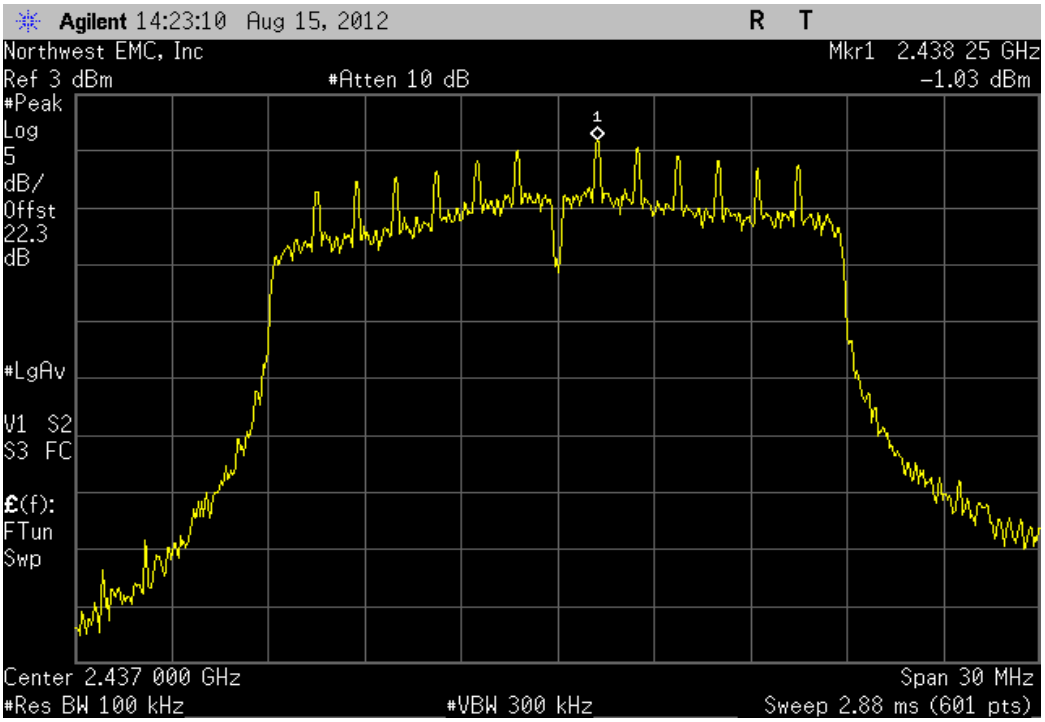
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-2.525	-15.2	-17.725	8	Pass



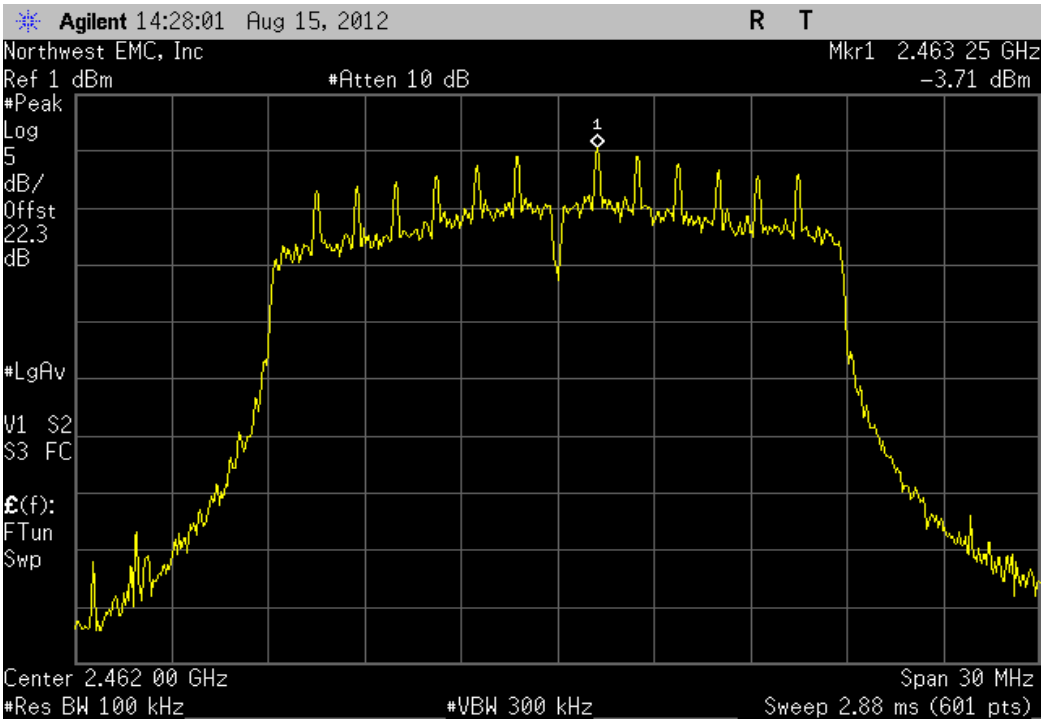
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-2.154	-15.2	-17.354	8	Pass



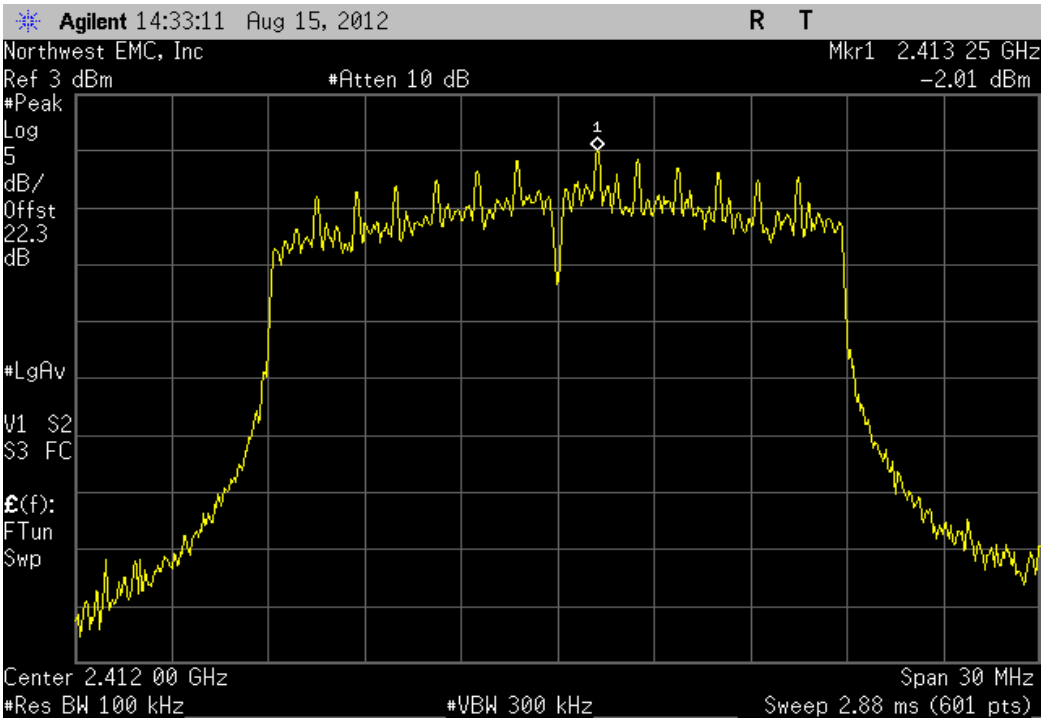
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-1.029	-15.2	-16.229	8	Pass



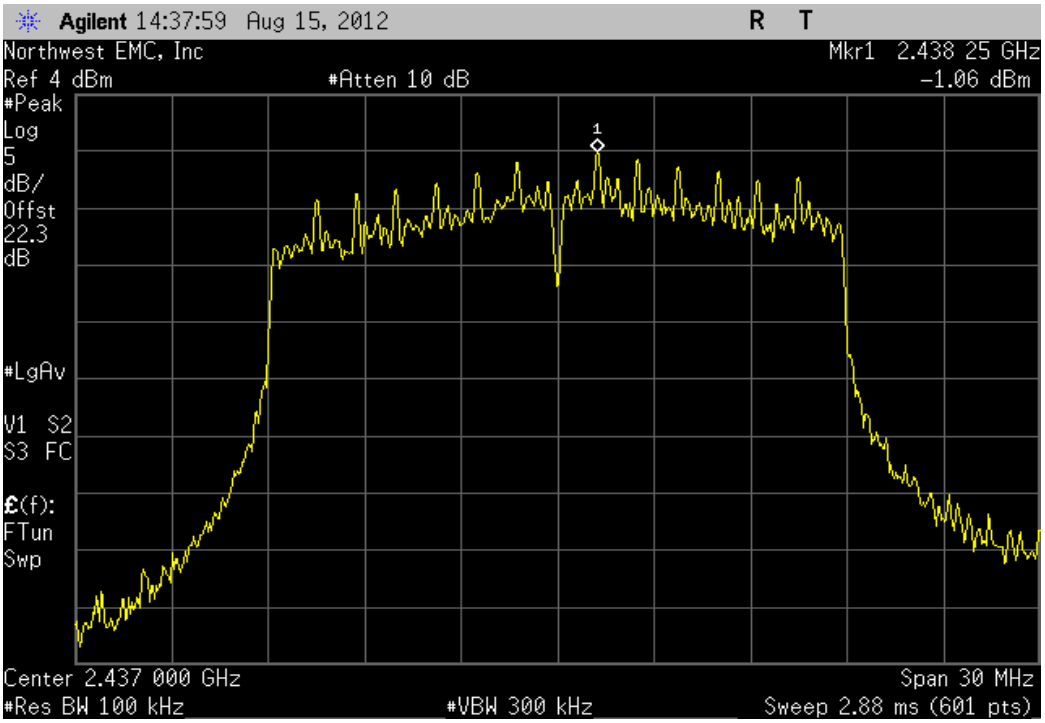
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-3.71	-15.2	-18.91	8	Pass



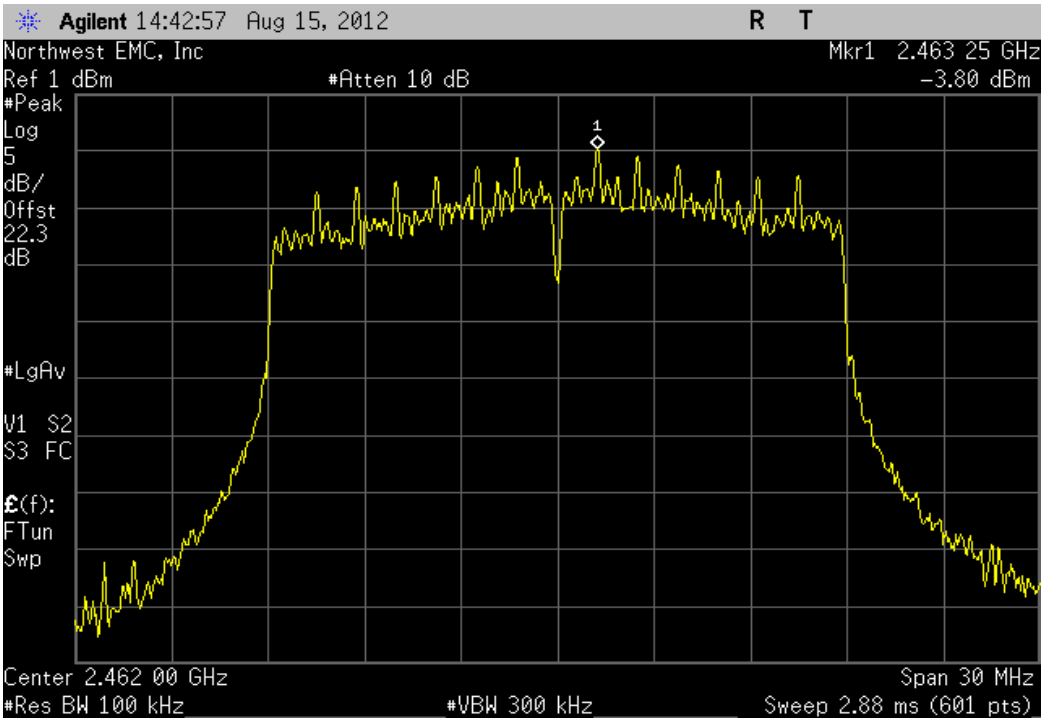
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-2.013	-15.2	-17.213	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-1.062	-15.2	-16.262	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		-3.798	-15.2	-18.998	8	Pass



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. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

MODES OF OPERATION

Transmitting 802.11 Antenna 1, Ch 1, 6, 11: 2412, 2437, 2462 at 1, 11, 6, 36, 54 Mbps, MCS0, MCS7 with varying power levels (See comments)

Transmitting 802.11 Antenna 0, Ch 1, 6, 11: 2412, 2437, 2462 at 1, 11, 6, 36, 54 Mbps, MCS0, MCS7 with varying power levels (See comments)

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

HNYW0015 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	25 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
Low Pass Filter	Micro-Tronics	LPM50004	HGK	5/31/2012	24 mo
High Pass Filter	Micro-Tronics	HPM50111	HGQ	6/1/2012	24 mo
Attenuator, 20 dB, 'SMA'	SM Electronics	SA6-20	REO	5/31/2012	12 mo
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	2/6/2012	12 mo
MN05 Cables	N/A	6GHz Standard Gain Horn C	EVD	2/6/2012	12 mo
Antenna, Horn	ETS	3160-09	AHG	NCR	0 mo
Antenna, Horn	ETS	3160-07	AXP	NCR	0 mo
Antenna, Horn	ETS Lindgren	3160-08	AIQ	NCR	0 mo
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	5/30/2012	12 mo
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	5/30/2012	12 mo
MN05 Cables	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	5/30/2012	12 mo
MN05 Cables	ESM Cable Corp.	uble Ridge Guide Horn Cabl	MNI	5/30/2012	12 mo
Antenna, Horn (DRG)	ETS Lindgren	3115	AIP	6/29/2011	24 mo
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	5/30/2012	12 mo
Pre-Amplifier	Miteq	AM-1616-1000	AVY	5/31/2012	12 mo
MN05 Cables	ESM Cable Corp.	Bilog Cables	MNH	5/31/2012	12 mo
Antenna, Bilog	Teseq	CBL 6141B	AYD	12/19/2011	12 mo
Spectrum Analyzer	Agilent	E4446A	AAT	6/28/2012	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

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

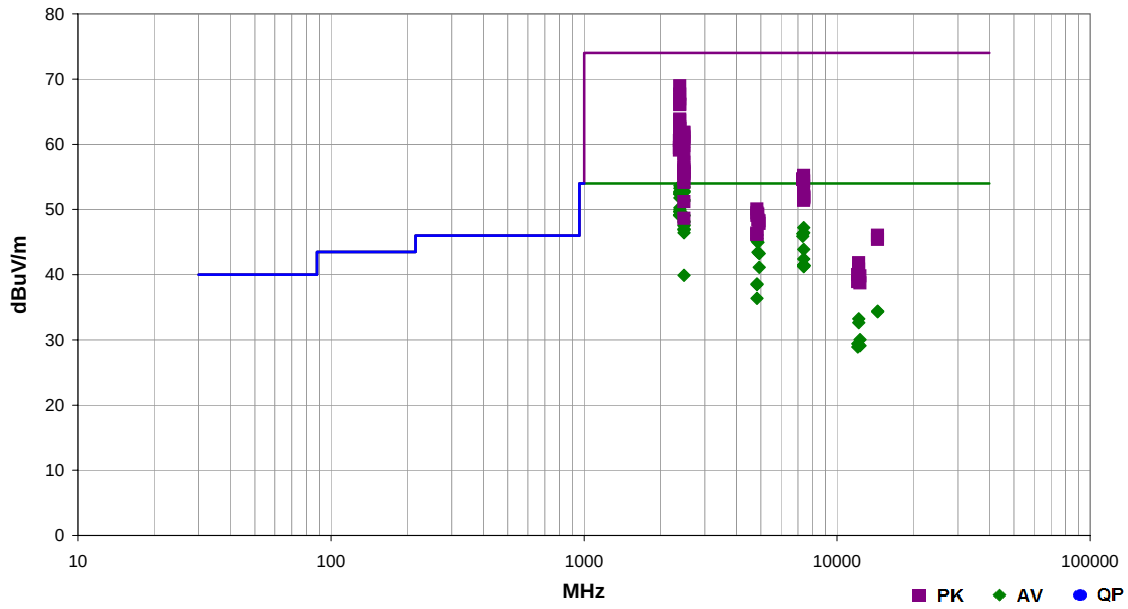
The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify 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.

Spurious Radiated Emissions

Work Order:	HNYW0015	**Date:**	08/15/12	Trevor Buls	
Project:	None	**Temperature:**	23.16 °C		
Job Site:	MN05	**Humidity:**	47.96% RH		
Serial Number:	3642	**Barometric Pres.:**	1010.1 mbar	**Tested by:**	Trevor Buls
EUT:	TH6320WF				
Configuration:	1				
Customer:	Honeywell, Automation and Control Solutions				
Attendees:	None				
EUT Power:	110VAC/60Hz				
Operating Mode:	Transmitting 802.11 Antenna 0, Ch 1, 6, 11: 2412, 2437, 2462 at 1, 11, 6, 36, 54 Mbps, MCS0, MCS7 with varying power levels (See comments)				
Deviations:	None				
Comments:	"MD" means that the point was taken with the marker-delta method (See comments below)				

Test Specifications	**Class B**	**Test Method**	
FCC 15.247:2012		ANSI C63.10:2009	

Run #	50	**Test Distance (m)**	3	**Antenna Height(s)**	1-4m	**Results**	Pass



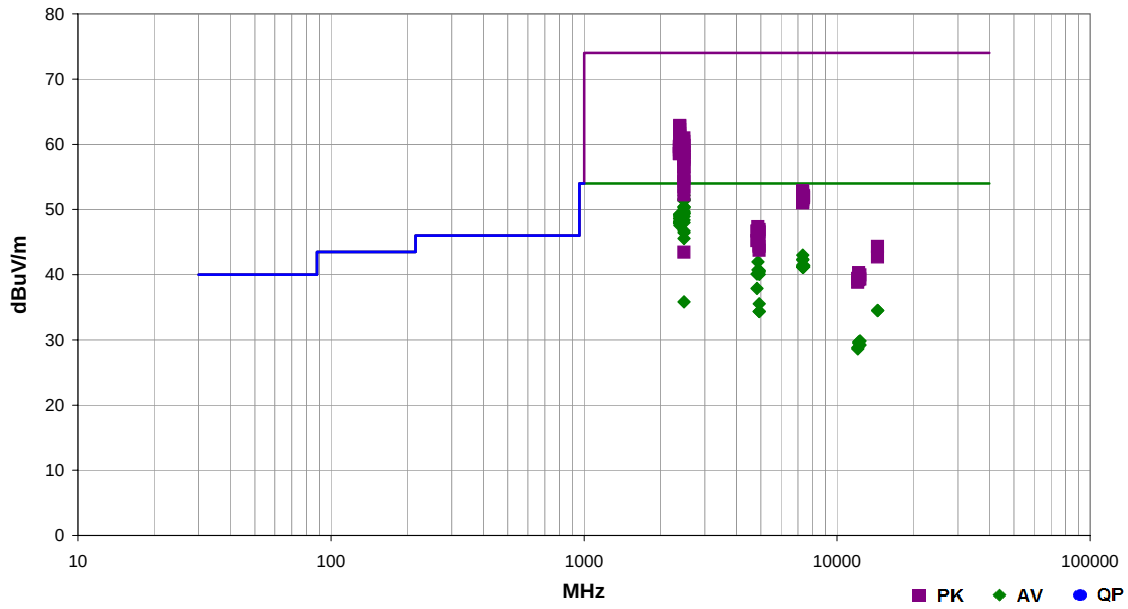
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2389.908	37.7	-4.0	1.4	353.0	3.0	20.0	Horz	AV	0.0	53.7	54.0	-0.3	EUT Horz, MCS0, Pwr 40
2483.500	53.5		1.2	257.0	3.0		Horz	AV	0.0	53.5	54.0	-0.5	MD EUT Horz, 6 Mbps, Pwr 40
2483.500	53.4		1.3	259.0	3.0		Horz	AV	0.0	53.4	54.0	-0.6	MD EUT Horz, 11 Mbps, Pwr 50
2389.992	37.3	-4.0	1.4	353.0	3.0	20.0	Horz	AV	0.0	53.3	54.0	-0.7	EUT Horz, 6 Mbps, Pwr 43
2483.500	52.8		1.3	259.0	3.0		Horz	AV	0.0	52.8	54.0	-1.2	MD EUT Horz, MCS7, Pwr 37
2483.500	52.8		1.3	259.0	3.0		Horz	AV	0.0	52.8	54.0	-1.2	MD EUT Horz, MCS0, Pwr 37
2389.983	36.8	-4.0	1.4	353.0	3.0	20.0	Horz	AV	0.0	52.8	54.0	-1.2	EUT Horz, 36 Mbps, Pwr 43
2389.958	36.7	-4.0	1.4	353.0	3.0	20.0	Horz	AV	0.0	52.7	54.0	-1.3	EUT Horz, MCS7, Pwr 40
2483.500	52.6		1.3	259.0	3.0		Horz	AV	0.0	52.6	54.0	-1.4	MD EUT Horz, 1 Mbps, Pwr 54
2389.883	36.6	-4.0	1.4	353.0	3.0	20.0	Horz	AV	0.0	52.6	54.0	-1.4	EUT Horz, 54 Mbps, Pwr 43
2386.725	36.4	-4.0	1.4	353.0	3.0	20.0	Horz	AV	0.0	52.4	54.0	-1.6	EUT Horz, 1 Mbps, Pwr 51
2389.958	35.8	-4.0	1.4	353.0	3.0	20.0	Horz	AV	0.0	51.8	54.0	-2.2	EUT Horz, 11 Mbps, Pwr 54
2483.500	51.5		1.3	259.0	3.0		Horz	AV	0.0	51.5	54.0	-2.5	MD EUT Horz, 36 Mbps, Pwr 40
2483.500	51.3		1.3	259.0	3.0		Horz	AV	0.0	51.3	54.0	-2.7	MD EUT Horz, 54 Mbps, Pwr 40
2389.992	34.3	-4.0	1.0	344.0	3.0	20.0	Vert	AV	0.0	50.3	54.0	-3.7	EUT on Side, MCS0, Pwr 40
2389.992	34.0	-4.0	1.0	344.0	3.0	20.0	Vert	AV	0.0	50.0	54.0	-4.0	EUT on Side, 36 Mbps, Pwr 43
2389.975	33.7	-4.0	1.0	344.0	3.0	20.0	Vert	AV	0.0	49.7	54.0	-4.3	EUT on Side, MCS7, Pwr 40
2389.983	33.7	-4.0	1.0	344.0	3.0	20.0	Vert	AV	0.0	49.7	54.0	-4.3	EUT on Side, 6 Mbps, Pwr 43
2389.983	33.7	-4.0	1.0	344.0	3.0	20.0	Vert	AV	0.0	49.7	54.0	-4.3	EUT on Side, 54 Mbps, Pwr 43
2387.067	33.2	-4.0	1.0	344.0	3.0	20.0	Vert	AV	0.0	49.2	54.0	-4.8	EUT on Side, 1 Mbps, Pwr 51

Spurious Radiated Emissions

Work Order:	HNYW0015	**Date:**	08/15/12	Trevor Buls	
Project:	None	**Temperature:**	23.16 °C		
Job Site:	MN05	**Humidity:**	47.96% RH		
Serial Number:	3642	**Barometric Pres.:**	1010.1 mbar	**Tested by:**	Trevor Buls
EUT:	TH6320WF				
Configuration:	1				
Customer:	Honeywell, Automation and Control Solutions				
Attendees:	None				
EUT Power:	110VAC/60Hz				
Operating Mode:	Transmitting 802.11 Antenna 1, Ch 1, 6, 11: 2412, 2437, 2462 at 1, 11, 6, 36, 54 Mbps, MCS0, MCS7 with varying power levels (See comments)				
Deviations:	None				
Comments:	"MD" means that the point was taken with the marker-delta method (See comments below)				

Test Specifications	**Class B**	**Test Method**	
FCC 15.247:2012		ANSI C63.10:2009	

Run #	54	**Test Distance (m)**	3	**Antenna Height(s)**	1-4m	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.500	52.2		1.0	242.0	3.0		Horz	AV	0.0	52.2	54.0	-1.8	MD EUT Horz, 11 Mbps, Pwr 50
2483.500	51.6		1.0	223.0	3.0		Horz	AV	0.0	51.6	54.0	-2.4	MD EUT Horz, MCS0, Pwr 37
2483.500	51.5		1.0	242.0	3.0		Horz	AV	0.0	51.5	54.0	-2.5	MD EUT Horz, MCS7, Pwr 37
2483.500	51.4		1.0	242.0	3.0		Horz	AV	0.0	51.4	54.0	-2.6	MD EUT Horz, 1 Mbps, Pwr 54
2483.500	51.3		1.0	223.0	3.0		Horz	AV	0.0	51.3	54.0	-2.7	MD EUT Horz, 6 Mbps, Pwr 40
2483.500	50.4		1.0	223.0	3.0		Horz	AV	0.0	50.4	54.0	-3.6	MD EUT Horz, 36 Mbps, Pwr 40
2483.500	50.4		1.0	223.0	3.0		Horz	AV	0.0	50.4	54.0	-3.6	MD EUT Horz, 54 Mbps, Pwr 40
2483.500	50.2		1.0	351.0	3.0		Vert	AV	0.0	50.2	54.0	-3.8	MD EUT on Side, 11 Mbps, Pwr 50
2483.500	49.7		1.0	351.0	3.0		Vert	AV	0.0	49.7	54.0	-4.3	MD EUT on Side, MCS0, Pwr 37
2483.500	49.5		1.0	351.0	3.0		Vert	AV	0.0	49.5	54.0	-4.5	MD EUT on Side, MCS7, Pwr 37
2483.500	49.4		1.0	351.0	3.0		Vert	AV	0.0	49.4	54.0	-4.6	MD EUT on Side, 6 Mbps, Pwr 40
2483.500	49.3		1.0	351.0	3.0		Vert	AV	0.0	49.3	54.0	-4.7	MD EUT on Side, 1 Mbps, Pwr 54
2389.942	33.3	-4.0	1.0	111.0	3.0	20.0	Horz	AV	0.0	49.3	54.0	-4.7	EUT Horz, 6 Mbps, Pwr 43
2389.942	33.3	-4.0	1.0	111.0	3.0	20.0	Horz	AV	0.0	49.3	54.0	-4.7	EUT Horz, MCS0, Pwr 40
2386.583	33.2	-4.0	1.0	111.0	3.0	20.0	Horz	AV	0.0	49.2	54.0	-4.8	EUT Horz, 1 Mbps, Pwr 51
2389.992	33.2	-4.0	1.0	111.0	3.0	20.0	Horz	AV	0.0	49.2	54.0	-4.8	EUT Horz, MCS7, Pwr 40
2389.992	33.0	-4.0	1.0	111.0	3.0	20.0	Horz	AV	0.0	49.0	54.0	-5.0	EUT Horz, 36 Mbps, Pwr 43
2483.500	48.9		1.0	214.0	3.0		Horz	AV	0.0	48.9	54.0	-5.1	MD EUT on Side, 6 Mbps, Pwr 40
2390.000	32.9	-4.0	1.0	111.0	3.0	20.0	Horz	AV	0.0	48.9	54.0	-5.1	EUT Horz, 54 Mbps, Pwr 43
2386.883	32.6	-4.0	1.0	111.0	3.0	20.0	Horz	AV	0.0	48.6	54.0	-5.4	EUT Horz, 11 Mbps, Pwr 54

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

Wi-Fi, High channel, 1 Mbps
Wi-Fi, Mid channel, 1 Mbps
Wi-Fi, low channel, 1 Mbps

POWER SETTINGS INVESTIGATED

24VAC

CONFIGURATIONS INVESTIGATED

HNYW0015 - 1

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
LISN	Solar Electronics	9252-50-R-24-BNC	LIY	5/30/2012	12 mo
MN03 Cables	ESM Cable Corp.	Conducted Cables	MNC	4/16/2012	12 mo
High Pass Filter	TTE	H97-100K-50-720B	HGN	5/31/2012	24 mo
Attenuator, 20 dB	SM Electronics	SA01B-20	REF	12/21/2011	12 mo
Receiver	Rohde & Schwarz	ESCI	ARG	3/22/2012	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

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

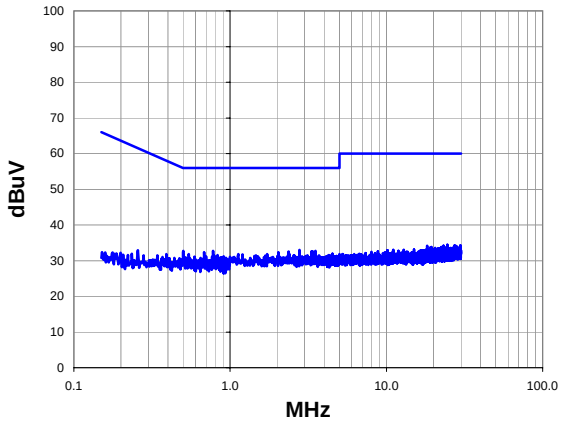
CONDUCTED EMISSIONS

Work Order:	HNYW0015	**Date:**	08/16/12		
Project:	None	**Temperature:**	23.42 °C		
Job Site:	MN02	**Humidity:**	48.34% RH		
Serial Number:	3642	**Barometric Pres.:**	1011.4 mbar	**Tested by:**	Johnathan Lee
EUT:	TH6320WF				
Configuration:	1				
Customer:	Honeywell, Automation and Control Solutions				
Attendees:	None				
EUT Power:	24VAC				
Operating Mode:	Wi-Fi, low channel, 1 Mbps				
Deviations:	None				
Comments:	None				

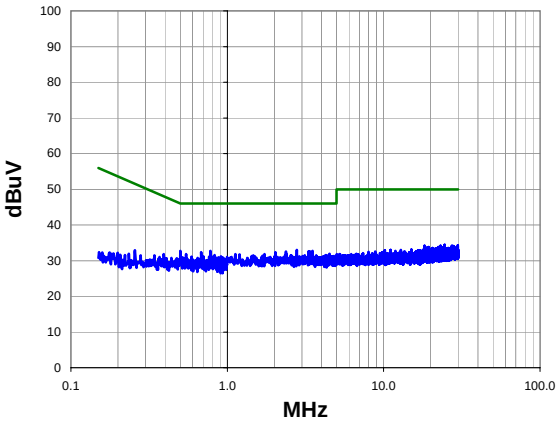
Test Specifications	**Test Method**
FCC 15.207:2012	ANSI C63.10:2009

Run #	3	**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)
2.784	12.7	20.3	33.0	56.0	-23.0
3.512	12.4	20.4	32.8	56.0	-23.2
0.502	12.5	20.2	32.7	56.0	-23.3
0.779	12.5	20.2	32.7	56.0	-23.3
3.320	12.3	20.3	32.6	56.0	-23.4
3.392	12.2	20.3	32.5	56.0	-23.5
2.368	12.2	20.3	32.5	56.0	-23.5
3.344	12.1	20.3	32.4	56.0	-23.6
2.032	12.1	20.3	32.4	56.0	-23.6
0.682	12.2	20.2	32.4	56.0	-23.6
4.512	11.5	20.4	31.9	56.0	-24.1
1.728	11.6	20.3	31.9	56.0	-24.1
1.128	11.6	20.2	31.8	56.0	-24.2
0.544	11.6	20.2	31.8	56.0	-24.2
0.830	11.4	20.2	31.6	56.0	-24.4
4.280	11.2	20.4	31.6	56.0	-24.4
3.720	11.0	20.4	31.4	56.0	-24.6
0.793	11.1	20.2	31.3	56.0	-24.7
0.703	11.0	20.2	31.2	56.0	-24.8
0.910	11.0	20.2	31.2	56.0	-24.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
2.784	12.7	20.3	33.0	46.0	-13.0
3.512	12.4	20.4	32.8	46.0	-13.2
0.502	12.5	20.2	32.7	46.0	-13.3
0.779	12.5	20.2	32.7	46.0	-13.3
3.320	12.3	20.3	32.6	46.0	-13.4
3.392	12.2	20.3	32.5	46.0	-13.5
2.368	12.2	20.3	32.5	46.0	-13.5
3.344	12.1	20.3	32.4	46.0	-13.6
2.032	12.1	20.3	32.4	46.0	-13.6
0.682	12.2	20.2	32.4	46.0	-13.6
4.512	11.5	20.4	31.9	46.0	-14.1
1.728	11.6	20.3	31.9	46.0	-14.1
1.128	11.6	20.2	31.8	46.0	-14.2
0.544	11.6	20.2	31.8	46.0	-14.2
0.830	11.4	20.2	31.6	46.0	-14.4
4.280	11.2	20.4	31.6	46.0	-14.4
3.720	11.0	20.4	31.4	46.0	-14.6
0.793	11.1	20.2	31.3	46.0	-14.7
0.703	11.0	20.2	31.2	46.0	-14.8
0.910	11.0	20.2	31.2	46.0	-14.8

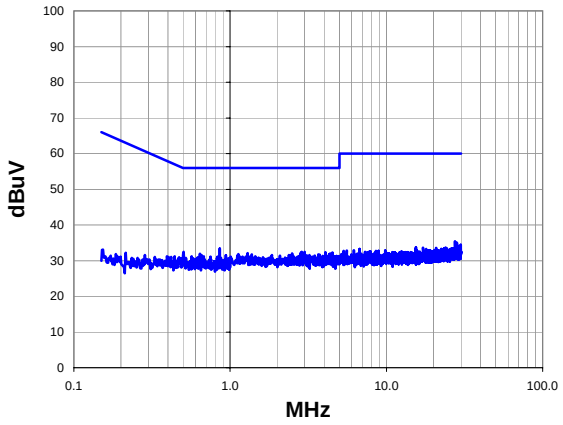
CONDUCTED EMISSIONS

Work Order:	HNYW0015	**Date:**	08/16/12		
Project:	None	**Temperature:**	23.42 °C		
Job Site:	MN02	**Humidity:**	48.34% RH		
Serial Number:	3642	**Barometric Pres.:**	1011.4 mbar	**Tested by:**	Johnathan Lee
EUT:	TH6320WF				
Configuration:	1				
Customer:	Honeywell, Automation and Control Solutions				
Attendees:	None				
EUT Power:	24VAC				
Operating Mode:	Wi-Fi, low channel, 1 Mbps				
Deviations:	None				
Comments:	None				

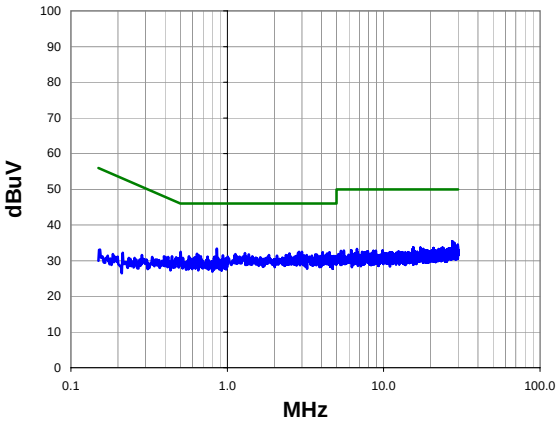
Test Specifications	**Test Method**
FCC 15.207:2012	ANSI C63.10:2009

Run #	4	**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)
0.859	13.2	20.2	33.4	56.0	-22.6
0.504	12.3	20.2	32.5	56.0	-23.5
3.000	12.1	20.3	32.4	56.0	-23.6
2.872	12.1	20.3	32.4	56.0	-23.6
4.072	12.0	20.4	32.4	56.0	-23.6
4.504	11.9	20.4	32.3	56.0	-23.7
2.832	11.9	20.3	32.2	56.0	-23.8
1.296	11.9	20.2	32.1	56.0	-23.9
2.496	11.7	20.3	32.0	56.0	-24.0
4.360	11.6	20.4	32.0	56.0	-24.0
0.640	11.7	20.2	31.9	56.0	-24.1
3.672	11.4	20.4	31.8	56.0	-24.2
3.744	11.3	20.4	31.7	56.0	-24.3
0.657	11.4	20.2	31.6	56.0	-24.4
1.848	11.3	20.3	31.6	56.0	-24.4
3.216	11.2	20.3	31.5	56.0	-24.5
0.939	11.3	20.2	31.5	56.0	-24.5
27.530	13.3	22.1	35.4	60.0	-24.6
0.568	11.0	20.2	31.2	56.0	-24.8
0.748	10.9	20.2	31.1	56.0	-24.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.859	13.2	20.2	33.4	46.0	-12.6
0.504	12.3	20.2	32.5	46.0	-13.5
3.000	12.1	20.3	32.4	46.0	-13.6
2.872	12.1	20.3	32.4	46.0	-13.6
4.072	12.0	20.4	32.4	46.0	-13.6
4.504	11.9	20.4	32.3	46.0	-13.7
2.832	11.9	20.3	32.2	46.0	-13.8
1.296	11.9	20.2	32.1	46.0	-13.9
2.496	11.7	20.3	32.0	46.0	-14.0
4.360	11.6	20.4	32.0	46.0	-14.0
0.640	11.7	20.2	31.9	46.0	-14.1
3.672	11.4	20.4	31.8	46.0	-14.2
3.744	11.3	20.4	31.7	46.0	-14.3
0.657	11.4	20.2	31.6	46.0	-14.4
1.848	11.3	20.3	31.6	46.0	-14.4
3.216	11.2	20.3	31.5	46.0	-14.5
0.939	11.3	20.2	31.5	46.0	-14.5
27.530	13.3	22.1	35.4	50.0	-14.6
0.568	11.0	20.2	31.2	46.0	-14.8
0.748	10.9	20.2	31.1	46.0	-14.9

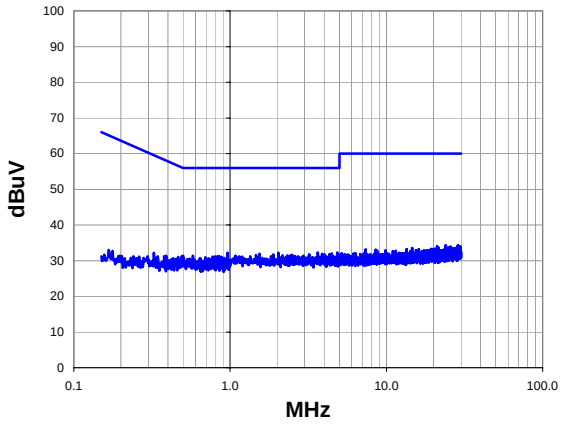
CONDUCTED EMISSIONS

Work Order:	HNYW0015	**Date:**	08/16/12		
Project:	None	**Temperature:**	23.42 °C		
Job Site:	MN02	**Humidity:**	48.34% RH		
Serial Number:	3642	**Barometric Pres.:**	1011.4 mbar	**Tested by:**	Johnathan Lee
EUT:	TH6320WF				
Configuration:	1				
Customer:	Honeywell, Automation and Control Solutions				
Attendees:	None				
EUT Power:	24VAC				
Operating Mode:	Wi-Fi, Mid channel, 1 Mbps				
Deviations:	None				
Comments:	None				

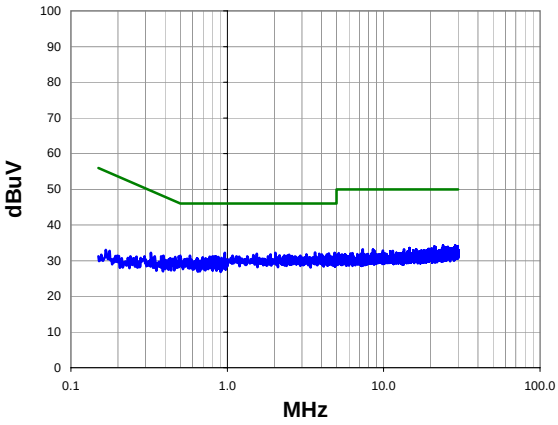
Test Specifications	**Test Method**
FCC 15.207:2012	ANSI C63.10:2009

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)
3.640	11.9	20.4	32.3	56.0	-23.7
2.032	11.9	20.3	32.2	56.0	-23.8
0.963	12.0	20.2	32.2	56.0	-23.8
4.848	11.8	20.4	32.2	56.0	-23.8
4.464	11.6	20.4	32.0	56.0	-24.0
3.880	11.6	20.4	32.0	56.0	-24.0
1.544	11.7	20.3	32.0	56.0	-24.0
4.904	11.4	20.4	31.8	56.0	-24.2
1.888	11.5	20.3	31.8	56.0	-24.2
4.328	11.4	20.4	31.8	56.0	-24.2
3.200	11.4	20.3	31.7	56.0	-24.3
2.488	11.3	20.3	31.6	56.0	-24.4
0.500	11.2	20.2	31.4	56.0	-24.6
0.578	11.2	20.2	31.4	56.0	-24.6
0.804	11.0	20.2	31.2	56.0	-24.8
0.830	11.0	20.2	31.2	56.0	-24.8
0.850	11.0	20.2	31.2	56.0	-24.8
0.772	10.9	20.2	31.1	56.0	-24.9
0.879	10.8	20.2	31.0	56.0	-25.0
0.696	10.7	20.2	30.9	56.0	-25.1

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
3.640	11.9	20.4	32.3	46.0	-13.7
2.032	11.9	20.3	32.2	46.0	-13.8
0.963	12.0	20.2	32.2	46.0	-13.8
4.848	11.8	20.4	32.2	46.0	-13.8
4.464	11.6	20.4	32.0	46.0	-14.0
3.880	11.6	20.4	32.0	46.0	-14.0
1.544	11.7	20.3	32.0	46.0	-14.0
4.904	11.4	20.4	31.8	46.0	-14.2
1.888	11.5	20.3	31.8	46.0	-14.2
4.328	11.4	20.4	31.8	46.0	-14.2
3.200	11.4	20.3	31.7	46.0	-14.3
2.488	11.3	20.3	31.6	46.0	-14.4
0.500	11.2	20.2	31.4	46.0	-14.6
0.578	11.2	20.2	31.4	46.0	-14.6
0.804	11.0	20.2	31.2	46.0	-14.8
0.830	11.0	20.2	31.2	46.0	-14.8
0.850	11.0	20.2	31.2	46.0	-14.8
0.772	10.9	20.2	31.1	46.0	-14.9
0.879	10.8	20.2	31.0	46.0	-15.0
0.696	10.7	20.2	30.9	46.0	-15.1

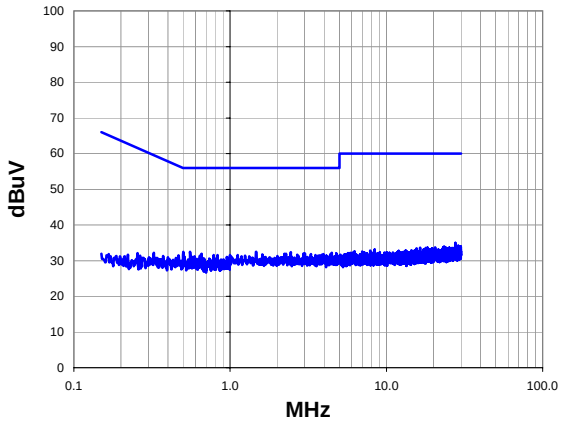
CONDUCTED EMISSIONS

Work Order:	HNYW0015	**Date:**	08/16/12		
Project:	None	**Temperature:**	23.42 °C		
Job Site:	MN02	**Humidity:**	48.34% RH		
Serial Number:	3642	**Barometric Pres.:**	1011.4 mbar	**Tested by:**	Johnathan Lee
EUT:	TH6320WF				
Configuration:	1				
Customer:	Honeywell, Automation and Control Solutions				
Attendees:	None				
EUT Power:	24VAC				
Operating Mode:	Wi-Fi, Mid channel, 1 Mbps				
Deviations:	None				
Comments:	None				

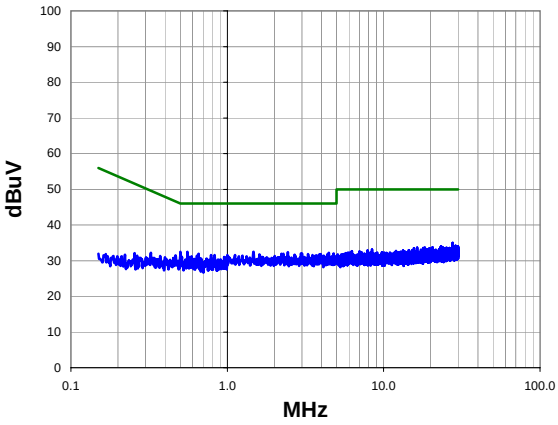
Test Specifications	**Test Method**
FCC 15.207:2012	ANSI C63.10:2009

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)
0.502	12.3	20.2	32.5	56.0	-23.5
0.555	12.3	20.2	32.5	56.0	-23.5
1.472	12.2	20.2	32.4	56.0	-23.6
2.440	12.1	20.3	32.4	56.0	-23.6
4.464	11.8	20.4	32.2	56.0	-23.8
3.008	11.7	20.3	32.0	56.0	-24.0
4.776	11.6	20.4	32.0	56.0	-24.0
2.280	11.6	20.3	31.9	56.0	-24.1
0.655	11.7	20.2	31.9	56.0	-24.1
3.960	11.5	20.4	31.9	56.0	-24.1
3.288	11.5	20.3	31.8	56.0	-24.2
2.688	11.3	20.3	31.6	56.0	-24.4
0.786	11.4	20.2	31.6	56.0	-24.4
0.830	11.4	20.2	31.6	56.0	-24.4
0.640	11.2	20.2	31.4	56.0	-24.6
0.590	11.0	20.2	31.2	56.0	-24.8
0.954	10.8	20.2	31.0	56.0	-25.0
27.640	12.8	22.2	35.0	60.0	-25.0
0.468	11.3	20.2	31.5	56.6	-25.1
0.680	10.4	20.2	30.6	56.0	-25.4

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.502	12.3	20.2	32.5	46.0	-13.5
0.555	12.3	20.2	32.5	46.0	-13.5
1.472	12.2	20.2	32.4	46.0	-13.6
2.440	12.1	20.3	32.4	46.0	-13.6
4.464	11.8	20.4	32.2	46.0	-13.8
3.008	11.7	20.3	32.0	46.0	-14.0
4.776	11.6	20.4	32.0	46.0	-14.0
2.280	11.6	20.3	31.9	46.0	-14.1
0.655	11.7	20.2	31.9	46.0	-14.1
3.960	11.5	20.4	31.9	46.0	-14.1
3.288	11.5	20.3	31.8	46.0	-14.2
2.688	11.3	20.3	31.6	46.0	-14.4
0.786	11.4	20.2	31.6	46.0	-14.4
0.830	11.4	20.2	31.6	46.0	-14.4
0.640	11.2	20.2	31.4	46.0	-14.6
0.590	11.0	20.2	31.2	46.0	-14.8
0.954	10.8	20.2	31.0	46.0	-15.0
27.640	12.8	22.2	35.0	50.0	-15.0
0.468	11.3	20.2	31.5	46.6	-15.1
0.680	10.4	20.2	30.6	46.0	-15.4

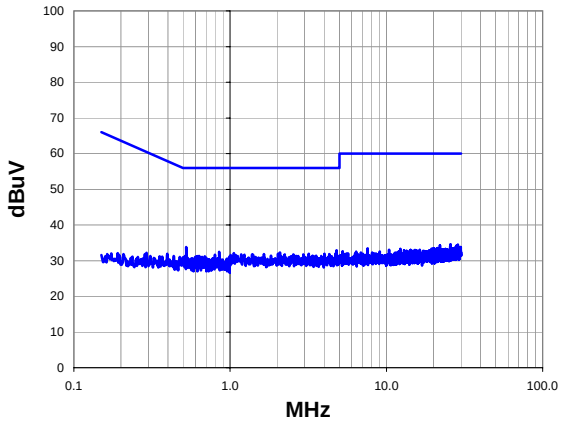
CONDUCTED EMISSIONS

Work Order:	HNYW0015	**Date:**	08/16/12		
Project:	None	**Temperature:**	23.42 °C		
Job Site:	MN02	**Humidity:**	48.34% RH		
Serial Number:	3642	**Barometric Pres.:**	1011.4 mbar	**Tested by:**	Johnathan Lee
EUT:	TH6320WF				
Configuration:	1				
Customer:	Honeywell, Automation and Control Solutions				
Attendees:	None				
EUT Power:	24VAC				
Operating Mode:	Wi-Fi, High channel, 1 Mbps				
Deviations:	None				
Comments:	None				

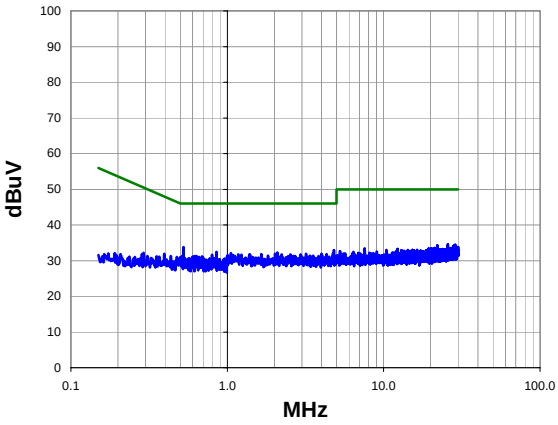
Test Specifications	**Test Method**
FCC 15.207:2012	ANSI C63.10:2009

Run #	7	**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)
0.524	13.6	20.2	33.8	56.0	-22.2
4.808	12.5	20.4	32.9	56.0	-23.1
0.852	12.3	20.2	32.5	56.0	-23.5
2.088	12.0	20.3	32.3	56.0	-23.7
1.056	11.9	20.2	32.1	56.0	-23.9
4.008	11.6	20.4	32.0	56.0	-24.0
3.192	11.6	20.3	31.9	56.0	-24.1
4.312	11.5	20.4	31.9	56.0	-24.1
1.648	11.6	20.3	31.9	56.0	-24.1
1.384	11.5	20.2	31.7	56.0	-24.3
2.944	11.4	20.3	31.7	56.0	-24.3
2.536	11.4	20.3	31.7	56.0	-24.3
2.232	11.4	20.3	31.7	56.0	-24.3
0.799	11.5	20.2	31.7	56.0	-24.3
3.544	11.0	20.4	31.4	56.0	-24.6
0.514	11.1	20.2	31.3	56.0	-24.7
0.624	11.1	20.2	31.3	56.0	-24.7
3.832	10.9	20.4	31.3	56.0	-24.7
0.609	11.0	20.2	31.2	56.0	-24.8
0.689	11.0	20.2	31.2	56.0	-24.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.524	13.6	20.2	33.8	46.0	-12.2
4.808	12.5	20.4	32.9	46.0	-13.1
0.852	12.3	20.2	32.5	46.0	-13.5
2.088	12.0	20.3	32.3	46.0	-13.7
1.056	11.9	20.2	32.1	46.0	-13.9
4.008	11.6	20.4	32.0	46.0	-14.0
3.192	11.6	20.3	31.9	46.0	-14.1
4.312	11.5	20.4	31.9	46.0	-14.1
1.648	11.6	20.3	31.9	46.0	-14.1
1.384	11.5	20.2	31.7	46.0	-14.3
2.944	11.4	20.3	31.7	46.0	-14.3
2.536	11.4	20.3	31.7	46.0	-14.3
2.232	11.4	20.3	31.7	46.0	-14.3
0.799	11.5	20.2	31.7	46.0	-14.3
3.544	11.0	20.4	31.4	46.0	-14.6
0.514	11.1	20.2	31.3	46.0	-14.7
0.624	11.1	20.2	31.3	46.0	-14.7
3.832	10.9	20.4	31.3	46.0	-14.7
0.609	11.0	20.2	31.2	46.0	-14.8
0.689	11.0	20.2	31.2	46.0	-14.8

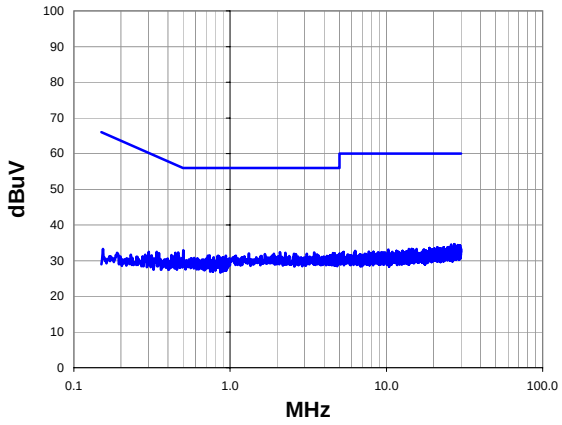
CONDUCTED EMISSIONS

Work Order:	HNYW0015	**Date:**	08/16/12		
Project:	None	**Temperature:**	23.42 °C		
Job Site:	MN02	**Humidity:**	48.34% RH		
Serial Number:	3642	**Barometric Pres.:**	1011.4 mbar	**Tested by:**	Johnathan Lee
EUT:	TH6320WF				
Configuration:	1				
Customer:	Honeywell, Automation and Control Solutions				
Attendees:	None				
EUT Power:	24VAC				
Operating Mode:	Wi-Fi, High channel, 1 Mbps				
Deviations:	None				
Comments:	None				

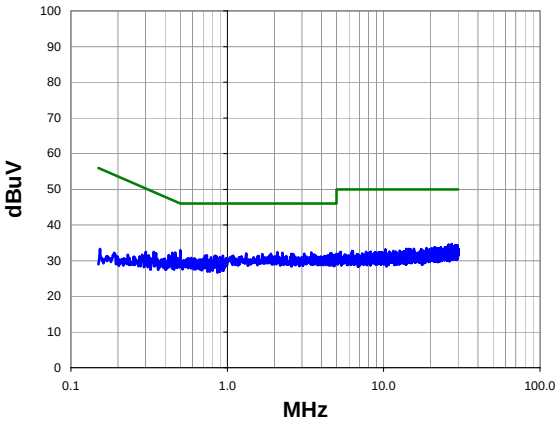
Test Specifications	**Test Method**
FCC 15.207:2012	ANSI C63.10:2009

Run #	8	**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)
0.502	12.7	20.2	32.9	56.0	-23.1
2.088	12.1	20.3	32.4	56.0	-23.6
3.448	11.9	20.3	32.2	56.0	-23.8
2.256	11.9	20.3	32.2	56.0	-23.8
4.560	11.7	20.4	32.1	56.0	-23.9
1.320	11.8	20.2	32.0	56.0	-24.0
4.664	11.6	20.4	32.0	56.0	-24.0
2.568	11.6	20.3	31.9	56.0	-24.1
2.640	11.5	20.3	31.8	56.0	-24.2
3.592	11.4	20.4	31.8	56.0	-24.2
0.465	12.1	20.2	32.3	56.6	-24.3
0.738	11.3	20.2	31.5	56.0	-24.5
0.719	11.2	20.2	31.4	56.0	-24.6
0.837	11.2	20.2	31.4	56.0	-24.6
0.937	11.2	20.2	31.4	56.0	-24.6
0.446	12.0	20.2	32.2	57.0	-24.8
0.786	10.7	20.2	30.9	56.0	-25.1
0.900	10.7	20.2	30.9	56.0	-25.1
0.589	10.6	20.2	30.8	56.0	-25.2
0.889	10.6	20.2	30.8	56.0	-25.2

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.502	12.7	20.2	32.9	46.0	-13.1
2.088	12.1	20.3	32.4	46.0	-13.6
3.448	11.9	20.3	32.2	46.0	-13.8
2.256	11.9	20.3	32.2	46.0	-13.8
4.560	11.7	20.4	32.1	46.0	-13.9
1.320	11.8	20.2	32.0	46.0	-14.0
4.664	11.6	20.4	32.0	46.0	-14.0
2.568	11.6	20.3	31.9	46.0	-14.1
2.640	11.5	20.3	31.8	46.0	-14.2
3.592	11.4	20.4	31.8	46.0	-14.2
0.465	12.1	20.2	32.3	46.6	-14.3
0.738	11.3	20.2	31.5	46.0	-14.5
0.719	11.2	20.2	31.4	46.0	-14.6
0.837	11.2	20.2	31.4	46.0	-14.6
0.937	11.2	20.2	31.4	46.0	-14.6
0.446	12.0	20.2	32.2	47.0	-14.8
0.786	10.7	20.2	30.9	46.0	-15.1
0.900	10.7	20.2	30.9	46.0	-15.1
0.589	10.6	20.2	30.8	46.0	-15.2
0.889	10.6	20.2	30.8	46.0	-15.2