

NORTHWEST EMC

IrriGreen, Inc.

501101

FCC 15.207:2015

FCC 15.247:2015

Report # IRRI0007



NVLAP Lab Code: 200881-0

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America. This Report may only be duplicated in its entirety

CERTIFICATE OF TEST

Last Date of Test: July 09, 2015
IrriGreen, Inc.
Model: 501101

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2015	ANSI C63.10:2009
FCC 15.247:2015	ANSI C63.10:2009

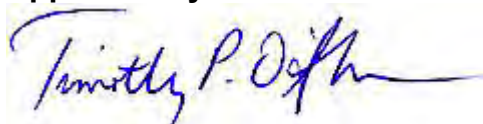
Results

Method Clause	Test Description	Applied	Results	Comments
6.2	AC Powerline Conducted Emissions	Yes	Pass	
6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	
6.7	Spurious Conducted Emissions	Yes	Pass	
6.7	Band Edge Compliance	Yes	Pass	
6.9.1	Occupied Bandwidth	Yes	Pass	
6.10.2	Output Power	Yes	Pass	
6.11.2	Power Spectral Density	Yes	Pass	
7.5	Duty Cycle	Yes	N/A	Characterization of test software operation.

Deviations From Test Standards

None

Approved By:



Tim O'Shea, Operations Manager

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. 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. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.

REVISION HISTORY

Revision Number		Description	Date	Page Number
00		None		

ACCREDITATIONS AND AUTHORIZATIONS

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 17065 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

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

MSIP / 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.

Israel

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

Hong Kong

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

Vietnam

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

SCOPE

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

<http://www.nwemc.com/accreditations/>
<http://gsi.nist.gov/global/docs/cabs/designations.html>

MEASUREMENT UNCERTAINTY

Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

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 (K=2) for each test is on each data sheet. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

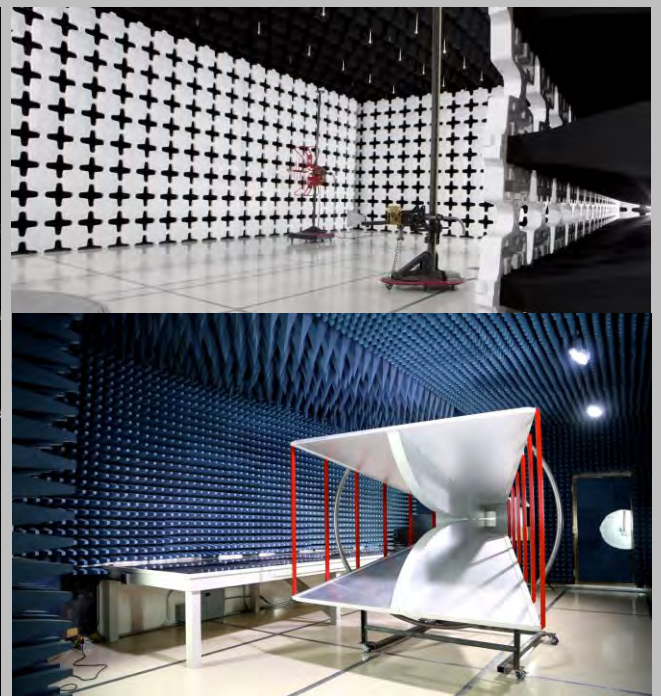
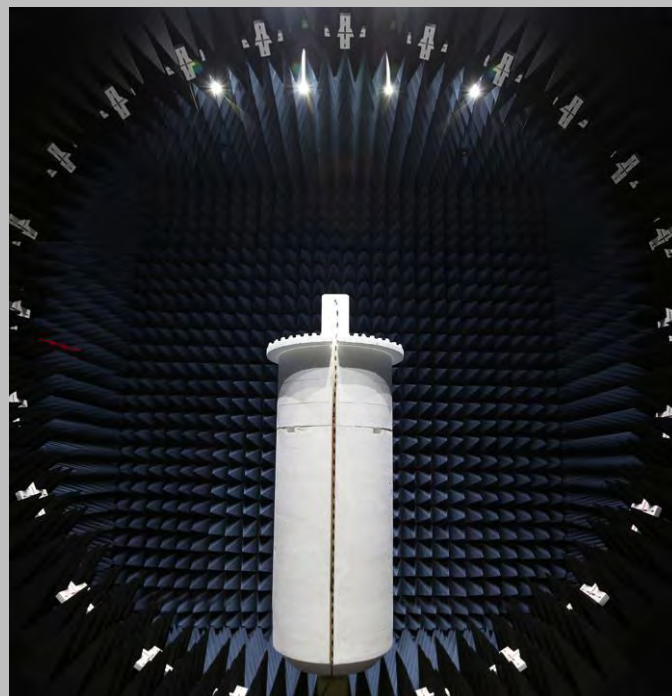
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

FACILITIES



California Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-08, MN10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	New York Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Oregon Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 9801 (425)984-6600
NVLAP					
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0
Industry Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-2	2834G-1	2834F-1
BSMI					
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110
Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRR, MIC, MOC, NCC, OFCA					
US0158	US0175	N/A	US0017	US0191	US0157



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	IrriGreen, Inc.
Address:	5250 West 73rd Street, Suite I
City, State, Zip:	Edina, MN 55439
Test Requested By:	Gary Klinefelter
Model:	501101
First Date of Test:	June 30, 2015
Last Date of Test:	July 09, 2015
Receipt Date of Samples:	March 04, 2015
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

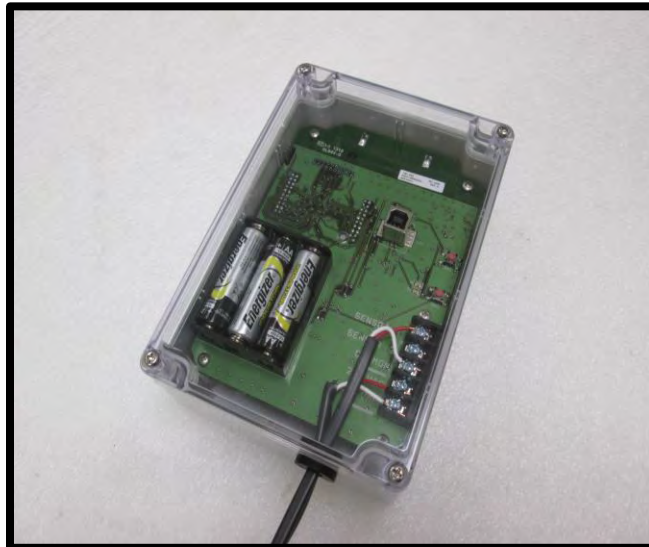
Functional Description of the EUT:

IrriGreen has developed a new box to add to their irrigation system. This box has a 433MHz radio that talks to our IrriGreen Server and also a TI CC3100 WiFi module to talk to a phone. It also has a connection for a flow sensor and a 24 VAC transformer.

Testing Objective:

To demonstrate compliance of the 802.11 radio under FCC 15.247 for operation in the 2.4 GHz band.

EUT Photo



CONFIGURATIONS

Configuration IRRI0007- 1

Software/Firmware Running during test	
Description	Version
TeraTerm	4.86

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Controller	IrriGreen, Inc.	501101	None

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Laptop	Dell	Vostro 3550	F4Q7MR1
Laptop Supply	Dell	LA65NS2-01	0928G4

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB	Yes	1.8m	No	Controller	Laptop
AC Power	No	0.8m	No	Laptop Supply	AC Mains
DC Power	No	1.8m	Yes	Laptop	Laptop Supply

Configuration IRRI0007- 2

Software/Firmware Running during test	
Description	Version
TeraTerm	4.86

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Controller	IrriGreen, Inc.	501101	None

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB	Yes	1.8m	No	Controller	Laptop
AC Power	No	0.8m	No	Laptop Supply	AC Mains
DC Power	No	1.8m	Yes	Laptop	Laptop Supply

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	6/30/2015	AC Powerline Conducted Emission	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	6/30/2015	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.
3	6/30/2015	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.
4	6/30/2015	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	6/30/2015	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	6/30/2015	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	7/9/2015	Spurious Radiated Emissions	Modified from delivered configuration.	Added 3/4 inch absorber AB-5100 placed over module. Modification authorized by Gary.	Scheduled testing was completed.

AC POWERLINE CONDUCTED EMISSIONS

TEST DESCRIPTION

The EUT will be powered either directly or indirectly from the AC power line. Therefore, conducted emissions measurements were made on the AC input of the EUT, or on the AC input of the device used to power the EUT. The AC power line conducted emissions were measured with the EUT operating at the lowest, the highest, and a middle channel in the operational band. The EUT was transmitting at its maximum data rate. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.10.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Attenuator 20dB, BNC	Fairview Microwave	SA01B-20	AQP	7/22/2014	07/22/2015
Receiver	Rohde & Schwarz	ESR7	ARI	5/21/2015	05/21/2016
High Pass Filter	TTE	H97-100K-50-720B	HGN	5/11/2015	05/11/2016
LISN	Solar Electronics	9252-50-R-24-BNC	LIY	3/23/2015	03/23/2016
Cable	ESM Cable Corp.	Conducted Cables	MNC	5/13/2015	05/13/2016

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.4 dB	-2.4 dB

CONFIGURATIONS INVESTIGATED

IRRI0007-2

MODES INVESTIGATED

Low Channel, 2412 MHz
Middle Channel, 2437 MHz
High Channel, 2462 MHz

AC POWERLINE CONDUCTED EMISSIONS

EUT:	501101	Work Order:	IRRI0007
Serial Number:	None	Date:	06/30/2015
Customer:	Irrigreen, Inc.	Temperature:	23.9°C
Attendees:	None	Relative Humidity:	50.7%
Customer Project:	None	Bar. Pressure:	999.8 mb
Tested By:	Mike Sutherland	Job Site:	MN03
Power:	110VAC/60Hz	Configuration:	IRRI0007-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2015	ANSI C63.4:2009

TEST PARAMETERS

Run #:	1	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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COMMENTS

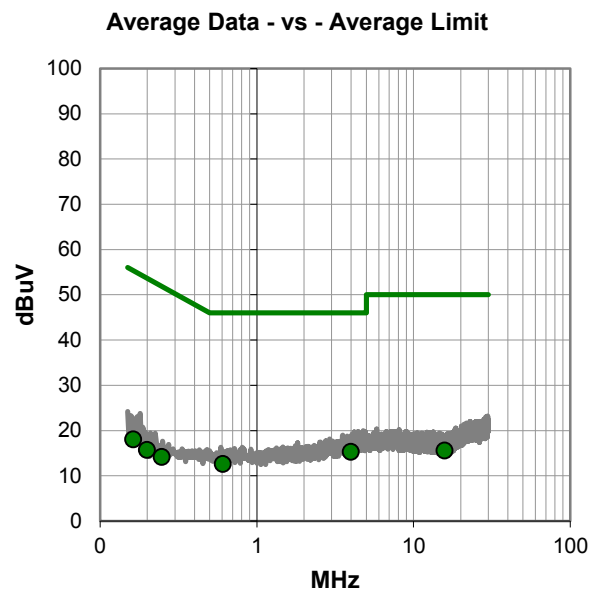
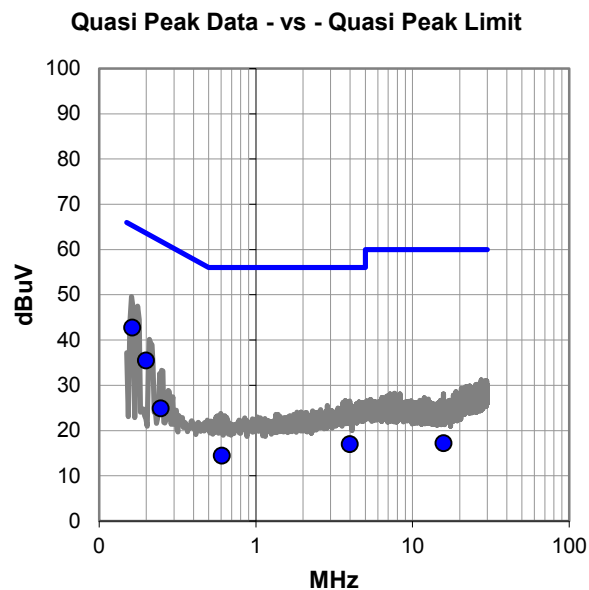
None

EUT OPERATING MODES

Low Channel

DEVIATIONS FROM TEST STANDARD

None



AC POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #1

Quasi Peak Data - vs - Quasi Peak Limit

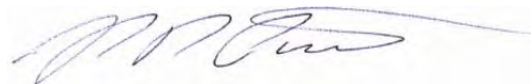
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.163	22.3	20.4	42.7	65.3	-22.6
0.199	15.2	20.3	35.5	63.6	-28.2
0.247	4.6	20.3	24.9	61.9	-37.0
3.978	-3.5	20.4	16.9	56.0	-39.1
0.607	-5.8	20.2	14.4	56.0	-41.6
15.783	-4.0	21.2	17.2	60.0	-42.8

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
3.978	-5.2	20.4	15.2	46.0	-30.8
0.607	-7.6	20.2	12.6	46.0	-33.4
15.783	-5.6	21.2	15.6	50.0	-34.4
0.163	-2.4	20.4	18.0	55.3	-37.3
0.247	-6.1	20.3	14.2	51.9	-37.7
0.199	-4.6	20.3	15.7	53.6	-38.0

CONCLUSION

Pass



Tested By

AC POWERLINE CONDUCTED EMISSIONS

EUT:	501101	Work Order:	IRRI0007
Serial Number:	None	Date:	06/30/2015
Customer:	Irrigreen, Inc.	Temperature:	23.9°C
Attendees:	None	Relative Humidity:	50.7%
Customer Project:	None	Bar. Pressure:	999.8 mb
Tested By:	Mike Sutherland	Job Site:	MN03
Power:	110VAC/60Hz	Configuration:	IRRI0007-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2015	ANSI C63.4:2009

TEST PARAMETERS

Run #:	2	Line:	High Line	Add. Ext. Attenuation (dB):	0
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COMMENTS

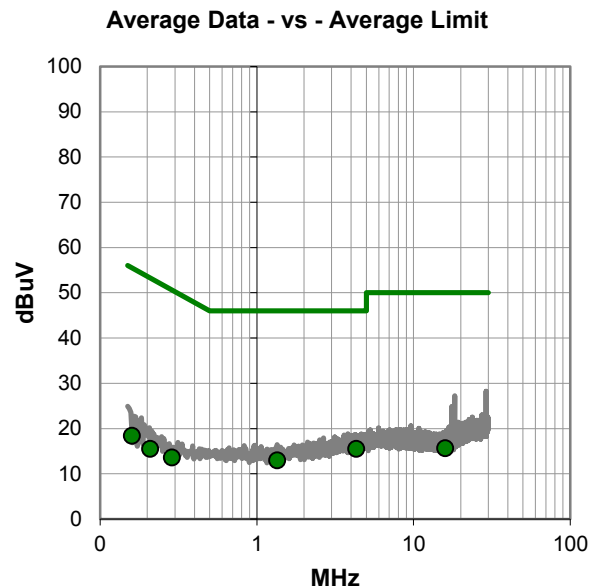
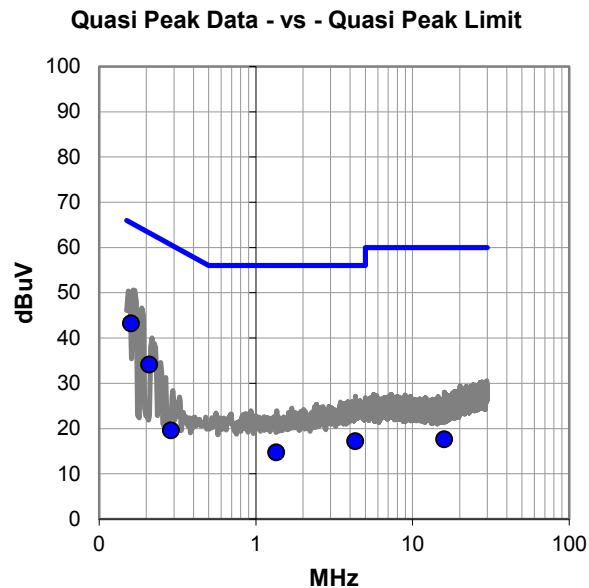
None

EUT OPERATING MODES

Low Channel

DEVIATIONS FROM TEST STANDARD

None



AC POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #2

Quasi Peak Data - vs - Quasi Peak Limit

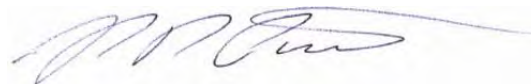
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.159	22.8	20.4	43.2	65.5	-22.3
0.208	13.8	20.3	34.1	63.3	-29.2
4.315	-3.3	20.5	17.2	56.0	-38.8
0.288	-0.7	20.3	19.6	60.6	-41.0
1.351	-5.5	20.2	14.7	56.0	-41.3
15.972	-3.6	21.2	17.6	60.0	-42.4

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
4.315	-5.0	20.5	15.5	46.0	-30.5
1.351	-7.3	20.2	12.9	46.0	-33.1
15.972	-5.6	21.2	15.6	50.0	-34.4
0.288	-6.7	20.3	13.6	50.6	-37.0
0.159	-2.0	20.4	18.4	55.5	-37.1
0.208	-4.8	20.3	15.5	53.3	-37.8

CONCLUSION

Pass



Tested By

AC POWERLINE CONDUCTED EMISSIONS

EUT:	501101	Work Order:	IRRI0007
Serial Number:	None	Date:	06/30/2015
Customer:	Irrigreen, Inc.	Temperature:	23.9°C
Attendees:	None	Relative Humidity:	50.7%
Customer Project:	None	Bar. Pressure:	999.8 mb
Tested By:	Mike Sutherland	Job Site:	MN03
Power:	110VAC/60Hz	Configuration:	IRRI0007-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2015	ANSI C63.4:2009

TEST PARAMETERS

Run #:	3	Line:	High Line	Add. Ext. Attenuation (dB):	0
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COMMENTS

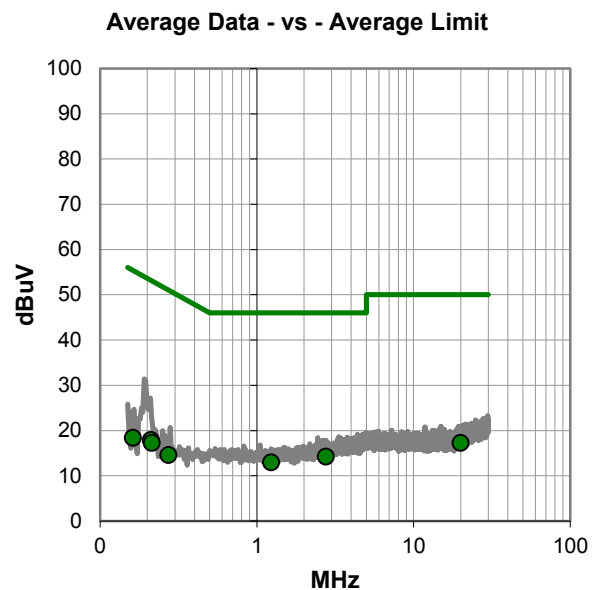
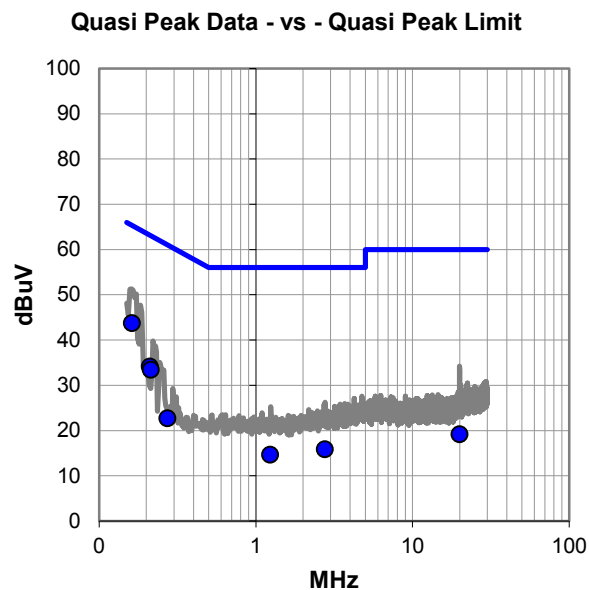
None

EUT OPERATING MODES

Middle Channel

DEVIATIONS FROM TEST STANDARD

none



AC POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #3

Quasi Peak Data - vs - Quasi Peak Limit

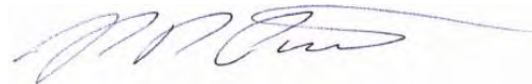
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.162	23.3	20.4	43.7	65.4	-21.7
0.211	13.8	20.3	34.1	63.2	-29.1
0.214	13.1	20.3	33.4	63.0	-29.7
0.274	2.4	20.3	22.7	61.0	-38.3
2.766	-4.5	20.3	15.8	56.0	-40.2
20.016	-2.4	21.5	19.1	60.0	-40.9
1.234	-5.6	20.2	14.6	56.0	-41.4

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
2.766	-6.1	20.3	14.2	46.0	-31.8
20.016	-4.3	21.5	17.2	50.0	-32.8
1.234	-7.3	20.2	12.9	46.0	-33.1
0.211	-2.4	20.3	17.9	53.2	-35.3
0.214	-3.0	20.3	17.3	53.0	-35.8
0.274	-5.7	20.3	14.6	51.0	-36.4
0.162	-2.0	20.4	18.4	55.4	-37.0

CONCLUSION

Pass



Tested By

AC POWERLINE CONDUCTED EMISSIONS

EUT:	501101	Work Order:	IRRI0007
Serial Number:	None	Date:	06/30/2015
Customer:	Irrigreen, Inc.	Temperature:	23.9°C
Attendees:	None	Relative Humidity:	50.7%
Customer Project:	None	Bar. Pressure:	999.8 mb
Tested By:	Mike Sutherland	Job Site:	MN03
Power:	110VAC/60Hz	Configuration:	IRRI0007-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2015	ANSI C63.4:2009

TEST PARAMETERS

Run #:	4	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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COMMENTS

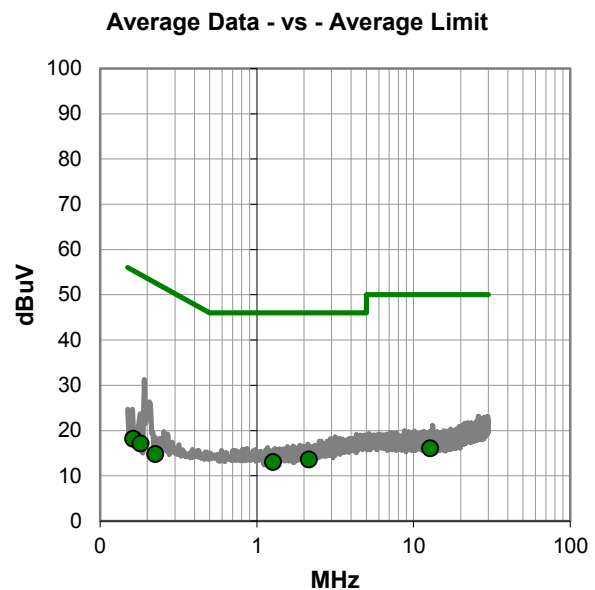
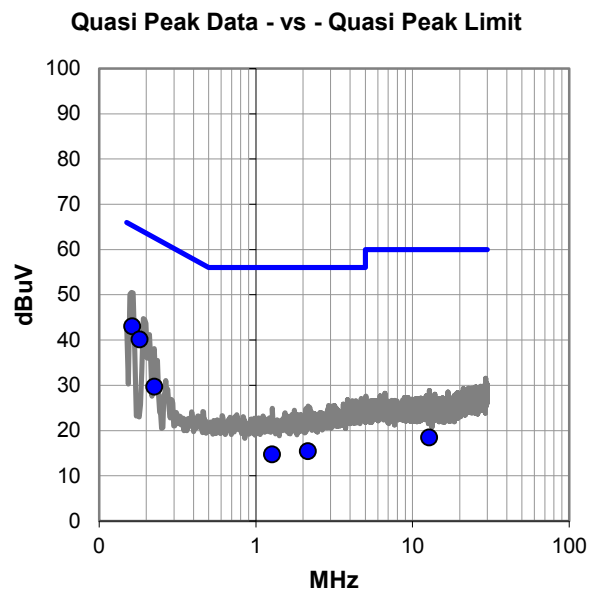
None

EUT OPERATING MODES

Middle Channel

DEVIATIONS FROM TEST STANDARD

none



AC POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit

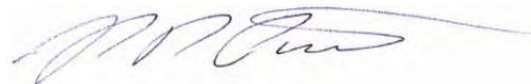
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.163	22.6	20.4	43.0	65.3	-22.3
0.181	19.7	20.4	40.1	64.4	-24.3
0.226	9.4	20.3	29.7	62.6	-32.9
2.155	-4.9	20.3	15.4	56.0	-40.6
1.272	-5.5	20.2	14.7	56.0	-41.3
12.810	-2.5	21.0	18.5	60.0	-41.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
2.155	-6.7	20.3	13.6	46.0	-32.4
1.272	-7.2	20.2	13.0	46.0	-33.0
12.810	-4.9	21.0	16.1	50.0	-33.9
0.163	-2.2	20.4	18.2	55.3	-37.1
0.181	-3.3	20.4	17.1	54.4	-37.3
0.226	-5.5	20.3	14.8	52.6	-37.8

CONCLUSION

Pass



Tested By

AC POWERLINE CONDUCTED EMISSIONS

EUT:	501101	Work Order:	IRRI0007
Serial Number:	None	Date:	06/30/2015
Customer:	Irrigreen, Inc.	Temperature:	23.9°C
Attendees:	None	Relative Humidity:	50.7%
Customer Project:	None	Bar. Pressure:	999.8 mb
Tested By:	Mike Sutherland	Job Site:	MN03
Power:	110VAC/60Hz	Configuration:	IRRI0007-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2015	ANSI C63.4:2009

TEST PARAMETERS

Run #:	5	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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COMMENTS

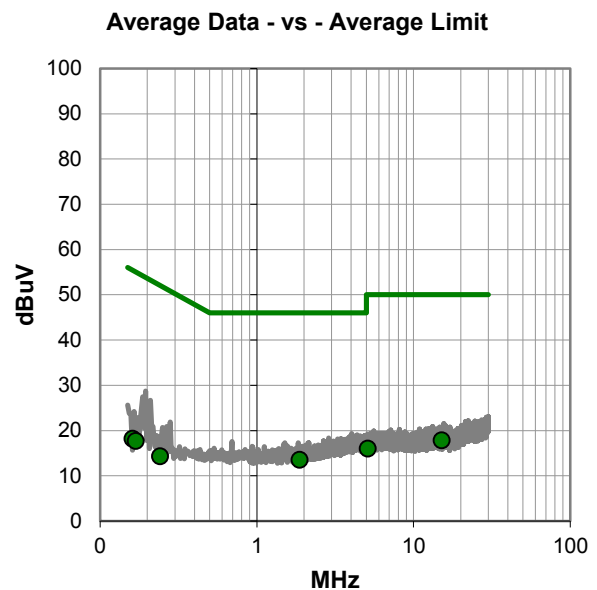
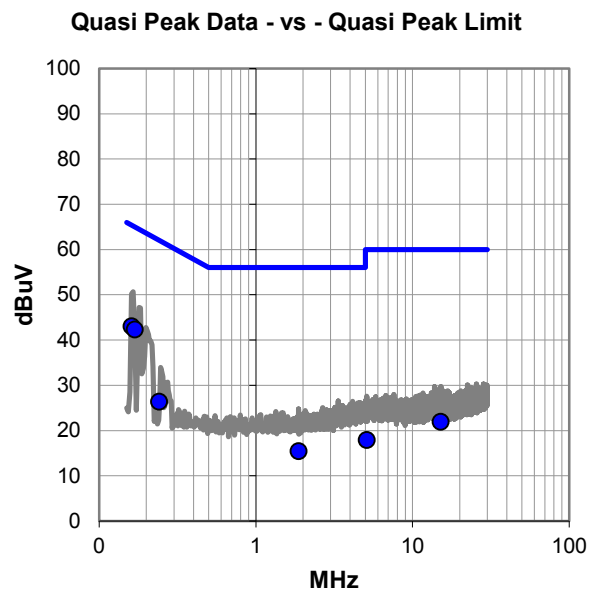
None

EUT OPERATING MODES

High Channel

DEVIATIONS FROM TEST STANDARD

none



AC POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #5

Quasi Peak Data - vs - Quasi Peak Limit

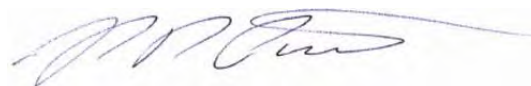
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.161	22.6	20.4	43.0	65.4	-22.4
0.169	21.9	20.4	42.3	65.0	-22.7
0.241	6.1	20.3	26.4	62.1	-35.7
15.174	0.8	21.1	21.9	60.0	-38.1
1.877	-4.9	20.3	15.4	56.0	-40.6
5.106	-2.6	20.5	17.9	60.0	-42.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
15.174	-3.3	21.1	17.8	50.0	-32.2
1.877	-6.8	20.3	13.5	46.0	-32.5
5.106	-4.5	20.5	16.0	50.0	-34.0
0.161	-2.2	20.4	18.2	55.4	-37.2
0.169	-2.7	20.4	17.7	55.0	-37.3
0.241	-6.0	20.3	14.3	52.1	-37.8

CONCLUSION

Pass



Tested By

AC POWERLINE CONDUCTED EMISSIONS

EUT:	501101	Work Order:	IRRI0007
Serial Number:	None	Date:	06/30/2015
Customer:	Irrigreen, Inc.	Temperature:	23.9°C
Attendees:	None	Relative Humidity:	50.7%
Customer Project:	None	Bar. Pressure:	999.8 mb
Tested By:	Mike Sutherland	Job Site:	MN03
Power:	110VAC/60Hz	Configuration:	IRRI0007-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2015	ANSI C63.4:2009

TEST PARAMETERS

Run #:	6	Line:	High Line	Add. Ext. Attenuation (dB):	0
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COMMENTS

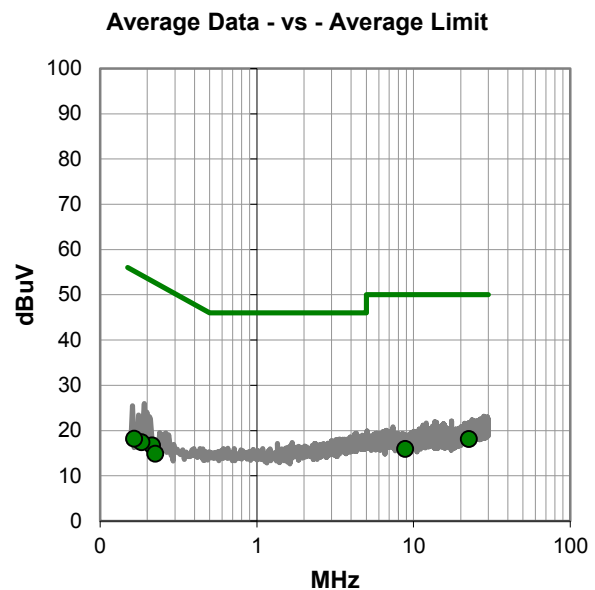
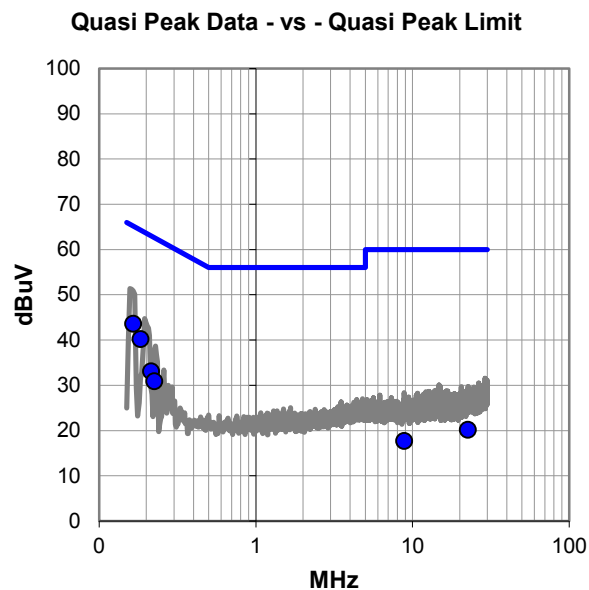
None

EUT OPERATING MODES

High Channel

DEVIATIONS FROM TEST STANDARD

none



AC POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #6

Quasi Peak Data - vs - Quasi Peak Limit

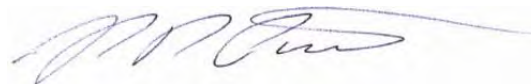
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.165	23.2	20.4	43.6	65.2	-21.6
0.184	19.8	20.4	40.2	64.3	-24.1
0.215	12.8	20.3	33.1	63.0	-29.9
0.225	10.6	20.3	30.9	62.6	-31.8
22.636	-1.7	21.8	20.1	60.0	-39.9
8.859	-3.0	20.7	17.7	60.0	-42.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
22.636	-3.7	21.8	18.1	50.0	-31.9
8.859	-4.8	20.7	15.9	50.0	-34.1
0.215	-3.6	20.3	16.7	53.0	-36.3
0.184	-3.0	20.4	17.4	54.3	-36.9
0.165	-2.2	20.4	18.2	55.2	-37.0
0.225	-5.4	20.3	14.9	52.6	-37.8

CONCLUSION

Pass



Tested By

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, Low, Mid, High Channel, 2412, 2437, 2462 MHz @ 1, 11, 6, 36, 54 Mbit, MCS0, MCS7 (See comments)

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

IRRI0007 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	25 GHz
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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
High Pass Filter, 2.8 - 18 GHz	Micro-Tronics	HPM50111	HGQ	3/2/2015	12 mo
Low Pass Filter, 0 - 1000 MHz	Micro-Tronics	LPM50004	HGK	3/2/2015	12 mo
Attenuator, 20 dB, 'SMA'	S.M. Electronics	SA6-20	REO	3/2/2015	12 mo
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	10/3/2014	12 mo
MN05 Cable	Northwest EMC	18-26GHz Standard Gain	MNP	10/3/2014	12 mo
Antenna, Horn	ETS Lindgren	3160-09	AHG	NCR	0 mo
MN05 Cables	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	5/5/2015	12 mo
Antenna, Horn	ETS Lindgren	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	3/2/2015	12 mo
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	3/2/2015	12 mo
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	3/2/2015	12 mo
MN05 Cables	ESM Cable Corp.	Double Ridge Guide Horn	MNI	5/5/2015	12 mo
Antenna, Horn	ETS Lindgren	3115	AJA	6/3/2014	24 mo
Pre-Amplifier	Miteq	AM-1616-1000	PAD	3/2/2015	12 mo
MN05 Cables	ESM Cable Corp.	Bilog Cables	MNH	3/30/2015	12 mo
Antenna, Biconilog	Teseq	CBL 6141B	AYD	12/17/2013	24 mo
Spectrum Analyzer	Agilent	N9010A	AFI	1/27/2015	12 mo

MEASUREMENT BANDWIDTHS

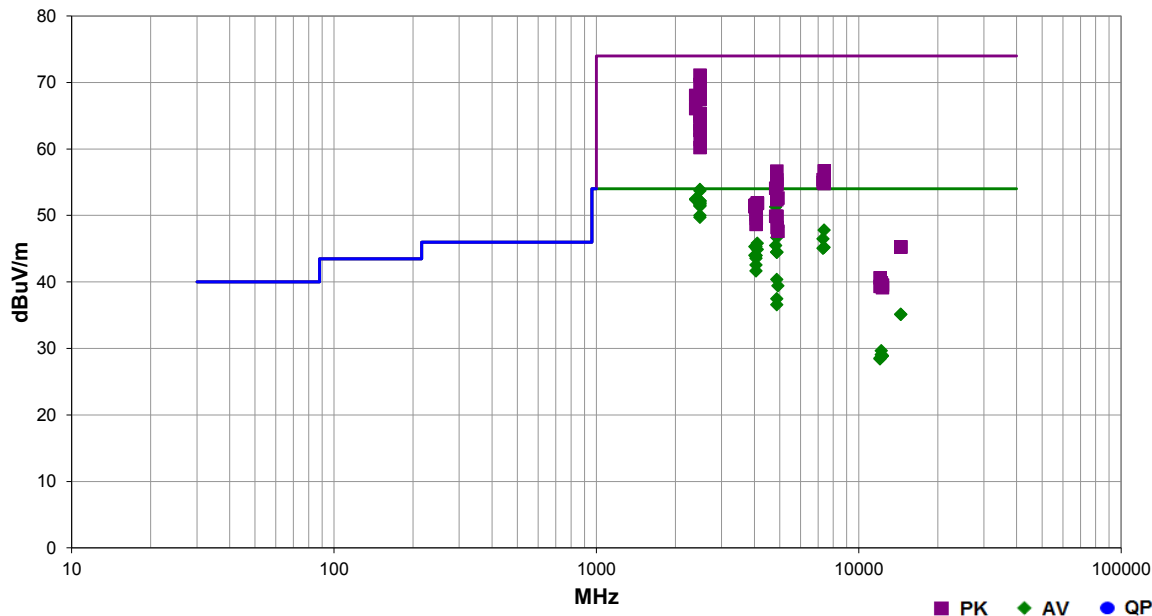
Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

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. A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

Work Order:	IRRI0007	Date:	07/09/15	<i>Trevor Buls</i>
Project:	None	Temperature:	22.9 °C	
Job Site:	MN05	Humidity:	48.5% RH	
Serial Number:	None	Barometric Pres.:	985.4 mbar	
EUT: 501101				Tested by: Trevor Buls
Configuration:	2			
Customer:	IrriGreen, Inc.			
Attendees:	None			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting 802.11, Low, Mid, High Channel, 2412, 2437, 2462 MHz @ 1, 11, 6, 36, 54 Mbit, MCS0, MCS7 (See comments)			
Deviations:	None			
Comments:	3/4 inch absorber AB-5100 placed over module.			

Test Specifications					Test Method		
FCC 15.247:2015					ANSI C63.10:2009		
Run #	8	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	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
2483.517	35.8	-1.9	1.3	306.0	3.0	20.0	Vert	AV	0.0	53.9	54.0	-0.1	EUT Vertical, High Ch, MCS0
2483.583	35.6	-1.9	1.3	306.0	3.0	20.0	Vert	AV	0.0	53.7	54.0	-0.3	EUT Vertical, High Ch, 6 Mbit
2389.967	34.7	-2.2	1.0	353.0	3.0	20.0	Vert	AV	0.0	52.5	54.0	-1.5	EUT Vertical, High Ch, MCS0
2390.000	34.6	-2.2	1.0	353.0	3.0	20.0	Vert	AV	0.0	52.4	54.0	-1.6	EUT Vertical, High Ch, 6 Mbit
2483.600	34.1	-1.9	1.3	306.0	3.0	20.0	Vert	AV	0.0	52.2	54.0	-1.8	EUT Vertical, High Ch, 11 Mbit
2483.508	34.1	-1.9	1.3	306.0	3.0	20.0	Vert	AV	0.0	52.2	54.0	-1.8	EUT Vertical, High Ch, 36 Mbit
2483.500	34.0	-1.9	2.4	296.0	3.0	20.0	Horz	AV	0.0	52.1	54.0	-1.9	EUT Horizontal, High Ch, 6 Mbit
2483.842	33.8	-1.9	1.3	306.0	3.0	20.0	Vert	AV	0.0	51.9	54.0	-2.1	EUT Vertical, High Ch, 1 Mbit
2483.658	33.7	-1.9	1.3	306.0	3.0	20.0	Vert	AV	0.0	51.8	54.0	-2.2	EUT Vertical, High Ch, 54 Mbit
4873.967	45.3	6.5	1.0	65.1	3.0	0.0	Horz	AV	0.0	51.8	54.0	-2.2	EUT Vertical, Mid Ch, 1 Mbit
2483.508	33.6	-1.9	1.3	306.0	3.0	20.0	Vert	AV	0.0	51.7	54.0	-2.3	EUT Vertical, High Ch, MCS7
2483.533	33.4	-1.9	1.6	344.9	3.0	20.0	Horz	AV	0.0	51.5	54.0	-2.5	EUT Vertical, High Ch, 6 Mbit
2483.533	33.3	-1.9	1.7	282.9	3.0	20.0	Horz	AV	0.0	51.4	54.0	-2.6	EUT on Side, High Ch, 6 Mbit
4823.950	44.9	6.4	1.3	64.0	3.0	0.0	Horz	AV	0.0	51.3	54.0	-2.7	EUT Vertical, Low Ch, 1 Mbit
2483.783	53.0	-1.9	1.3	306.0	3.0	20.0	Vert	PK	0.0	71.1	74.0	-2.9	EUT Vertical, High Ch, MCS0
2483.533	31.9	-1.9	2.1	228.1	3.0	20.0	Vert	AV	0.0	50.0	54.0	-4.0	EUT Horizontal, High Ch, 6 Mbit
2483.783	31.6	-1.9	1.0	297.9	3.0	20.0	Vert	AV	0.0	49.7	54.0	-4.3	EUT on Side, High Ch, 6 Mbit
2483.633	51.6	-1.9	1.3	306.0	3.0	20.0	Vert	PK	0.0	69.7	74.0	-4.3	EUT Vertical, High Ch, MCS7
4923.950	41.6	6.6	1.0	55.1	3.0	0.0	Horz	AV	0.0	48.2	54.0	-5.8	EUT Vertical, High Ch, 1 Mbit
2389.642	50.3	-2.2	1.0	353.0	3.0	20.0	Vert	PK	0.0	68.1	74.0	-5.9	EUT Vertical, High Ch, MCS0
7384.833	33.3	14.5	1.3	360.0	3.0	0.0	Horz	AV	0.0	47.8	54.0	-6.2	EUT Vertical, High Ch, 1 Mbit
2484.083	49.6	-1.9	1.3	306.0	3.0	20.0	Vert	PK	0.0	67.7	74.0	-6.3	EUT Vertical, High Ch, 54 Mbit
2483.525	49.4	-1.9	1.3	306.0	3.0	20.0	Vert	PK	0.0	67.5	74.0	-6.5	EUT Vertical, High Ch, 6 Mbit
2483.608	49.3	-1.9	1.3	306.0	3.0	20.0	Vert	PK	0.0	67.4	74.0	-6.6	EUT Vertical, High Ch, 36 Mbit
4874.000	40.2	6.5	1.0	63.0	3.0	0.0	Horz	AV	0.0	46.7	54.0	-7.3	EUT Vertical, Mid Ch, 11 Mbit

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
7311.950	32.3	14.2	1.0	11.1	3.0	0.0	Horz	AV	0.0	46.5	54.0	-7.5	EUT Vertical, Mid Ch, 1 Mbit
2389.392	48.3	-2.2	1.0	353.0	3.0	20.0	Vert	PK	0.0	66.1	74.0	-7.9	EUT Vertical, High Ch, 6 Mbit
4104.683	41.4	4.4	1.0	55.1	3.0	0.0	Vert	AV	0.0	45.8	54.0	-8.2	EUT Vertical, High Ch, 1 Mbit
4823.983	39.1	6.4	1.0	26.1	3.0	0.0	Vert	AV	0.0	45.5	54.0	-8.5	EUT Vertical, Low Ch, 1 Mbit
4060.617	41.1	4.2	1.0	90.0	3.0	0.0	Horz	AV	0.0	45.3	54.0	-8.7	EUT Vertical, Mid Ch, 1 Mbit
4021.067	41.2	4.1	1.2	82.0	3.0	0.0	Horz	AV	0.0	45.3	54.0	-8.7	EUT Vertical, Low Ch, 1 Mbit
2483.583	47.2	-1.9	2.4	296.0	3.0	20.0	Horz	PK	0.0	65.3	74.0	-8.7	EUT Horizontal, High Ch, 6 Mbit
7384.800	30.7	14.5	2.1	300.9	3.0	0.0	Vert	AV	0.0	45.2	54.0	-8.8	EUT Vertical, High Ch, 1 Mbit
7309.783	30.9	14.2	2.4	9.0	3.0	0.0	Vert	AV	0.0	45.1	54.0	-8.9	EUT Vertical, Mid Ch, 1 Mbit
2483.633	46.8	-1.9	1.6	344.9	3.0	20.0	Horz	PK	0.0	64.9	74.0	-9.1	EUT Vertical, High Ch, 6 Mbit
4104.467	40.5	4.4	1.0	59.1	3.0	0.0	Horz	AV	0.0	44.9	54.0	-9.1	EUT Vertical, High Ch, 1 Mbit
4873.950	38.0	6.5	1.0	16.1	3.0	0.0	Vert	AV	0.0	44.5	54.0	-9.5	EUT Vertical, Mid Ch, 1 Mbit
4873.883	38.0	6.5	1.0	63.0	3.0	0.0	Horz	AV	0.0	44.5	54.0	-9.5	EUT Vertical, Mid Ch, 6 Mbit
4873.600	38.0	6.5	1.0	63.0	3.0	0.0	Horz	AV	0.0	44.5	54.0	-9.5	EUT Vertical, Mid Ch, MCS0
4019.017	39.9	4.1	1.2	324.0	3.0	0.0	Vert	AV	0.0	44.0	54.0	-10.0	EUT Vertical, Low Ch, 1 Mbit
4062.717	39.7	4.3	1.0	343.9	3.0	0.0	Vert	AV	0.0	44.0	54.0	-10.0	EUT Vertical, Mid Ch, 1 Mbit
4062.683	39.7	4.3	1.0	150.0	3.0	0.0	Vert	AV	0.0	44.0	54.0	-10.0	EUT on Side, Mid Ch, 1 Mbit
2483.508	45.7	-1.9	1.7	282.9	3.0	20.0	Horz	PK	0.0	63.8	74.0	-10.2	EUT on Side, High Ch, 6 Mbit
4062.633	39.3	4.3	1.7	55.1	3.0	0.0	Horz	AV	0.0	43.6	54.0	-10.4	EUT on Side, Mid Ch, 1 Mbit
2485.008	44.7	-1.9	1.3	306.0	3.0	20.0	Vert	PK	0.0	62.8	74.0	-11.2	EUT Vertical, High Ch, 1 Mbit
2484.275	44.7	-1.9	1.3	306.0	3.0	20.0	Vert	PK	0.0	62.8	74.0	-11.2	EUT Vertical, High Ch, 11 Mbit
4062.767	38.3	4.3	1.0	122.0	3.0	0.0	Vert	AV	0.0	42.6	54.0	-11.4	EUT Horizontal, Mid Ch, 1 Mbit
4062.683	37.4	4.3	1.0	276.9	3.0	0.0	Horz	AV	0.0	41.7	54.0	-12.3	EUT Horizontal, Mid Ch, 1 Mbit
2484.750	43.3	-1.9	2.1	228.1	3.0	20.0	Vert	PK	0.0	61.4	74.0	-12.6	EUT Horizontal, High Ch, 6 Mbit
4871.750	33.9	6.5	1.0	63.0	3.0	0.0	Horz	AV	0.0	40.4	54.0	-13.6	EUT Vertical, Mid Ch, 36 Mbit
2483.917	42.1	-1.9	1.0	297.9	3.0	20.0	Vert	PK	0.0	60.2	74.0	-13.8	EUT on Side, High Ch, 6 Mbit
4924.017	32.8	6.6	1.0	261.0	3.0	0.0	Vert	AV	0.0	39.4	54.0	-14.6	EUT Vertical, High Ch, 1 Mbit
4875.567	31.0	6.5	1.0	63.0	3.0	0.0	Horz	AV	0.0	37.5	54.0	-16.5	EUT Vertical, Mid Ch, 54 Mbit
7384.600	42.2	14.5	1.3	360.0	3.0	0.0	Horz	PK	0.0	56.7	74.0	-17.3	EUT Vertical, High Ch, 1 Mbit
4872.067	50.2	6.5	1.0	63.0	3.0	0.0	Horz	PK	0.0	56.7	74.0	-17.3	EUT Vertical, Mid Ch, MCS0
4872.650	30.1	6.5	1.0	63.0	3.0	0.0	Horz	AV	0.0	36.6	54.0	-17.4	EUT Vertical, Mid Ch, MCS7
7311.767	41.2	14.2	1.0	11.1	3.0	0.0	Horz	PK	0.0	55.4	74.0	-18.6	EUT Vertical, Mid Ch, 1 Mbit
4875.300	48.9	6.5	1.0	63.0	3.0	0.0	Horz	PK	0.0	55.4	74.0	-18.6	EUT Vertical, Mid Ch, 6 Mbit
14468.730	29.7	5.4	1.0	304.9	3.0	0.0	Horz	AV	0.0	35.1	54.0	-18.9	EUT Vertical, High Ch, 1 Mbit
14469.020	29.7	5.4	2.6	322.9	3.0	0.0	Vert	AV	0.0	35.1	54.0	-18.9	EUT Vertical, High Ch, 1 Mbit
7309.350	40.8	14.2	2.4	9.0	3.0	0.0	Vert	PK	0.0	55.0	74.0	-19.0	EUT Vertical, Mid Ch, 1 Mbit
7385.883	40.3	14.5	2.1	300.9	3.0	0.0	Vert	PK	0.0	54.8	74.0	-19.2	EUT Vertical, High Ch, 1 Mbit
4873.883	48.3	6.5	1.0	63.0	3.0	0.0	Horz	PK	0.0	54.8	74.0	-19.2	EUT Vertical, Mid Ch, 11 Mbit
4874.100	48.2	6.5	1.0	65.1	3.0	0.0	Horz	PK	0.0	54.7	74.0	-19.3	EUT Vertical, Mid Ch, 1 Mbit
4823.983	47.7	6.4	1.3	64.0	3.0	0.0	Horz	PK	0.0	54.1	74.0	-19.9	EUT Vertical, Low Ch, 1 Mbit
4924.150	46.0	6.6	1.0	55.1	3.0	0.0	Horz	PK	0.0	52.6	74.0	-21.4	EUT Vertical, High Ch, 1 Mbit
4875.183	45.9	6.5	1.0	63.0	3.0	0.0	Horz	PK	0.0	52.4	74.0	-21.6	EUT Vertical, Mid Ch, 36 Mbit
4104.983	47.5	4.4	1.0	59.1	3.0	0.0	Horz	PK	0.0	51.9	74.0	-22.1	EUT Vertical, High Ch, 1 Mbit
4104.633	47.4	4.4	1.0	55.1	3.0	0.0	Vert	PK	0.0	51.8	74.0	-22.2	EUT Vertical, High Ch, 1 Mbit
4060.300	47.4	4.2	1.0	90.0	3.0	0.0	Horz	PK	0.0	51.6	74.0	-22.4	EUT Vertical, Mid Ch, 1 Mbit
4019.167	47.4	4.1	1.2	82.0	3.0	0.0	Horz	PK	0.0	51.5	74.0	-22.5	EUT Vertical, Low Ch, 1 Mbit
4020.850	47.2	4.1	1.2	324.0	3.0	0.0	Vert	PK	0.0	51.3	74.0	-22.7	EUT Vertical, Low Ch, 1 Mbit
4063.033	46.9	4.3	1.7	55.1	3.0	0.0	Horz	PK	0.0	51.2	74.0	-22.8	EUT on Side, Mid Ch, 1 Mbit
4063.183	46.4	4.3	1.0	343.9	3.0	0.0	Vert	PK	0.0	50.7	74.0	-23.3	EUT Vertical, Mid Ch, 1 Mbit
4060.267	45.9	4.2	1.0	150.0	3.0	0.0	Vert	PK	0.0	50.1	74.0	-23.9	EUT on Side, Mid Ch, 1 Mbit
4824.433	43.5	6.4	1.0	26.1	3.0	0.0	Vert	PK	0.0	49.9	74.0	-24.1	EUT Vertical, Low Ch, 1 Mbit
4875.000	43.4	6.5	1.0	63.0	3.0	0.0	Horz	PK	0.0	49.9	74.0	-24.1	EUT Vertical, Mid Ch, 54 Mbit
4873.717	43.4	6.5	1.0	16.1	3.0	0.0	Vert	PK	0.0	49.9	74.0	-24.1	EUT Vertical, Mid Ch, 1 Mbit
12187.230	32.8	-3.1	1.0	329.0	3.0	0.0	Horz	AV	0.0	29.7	54.0	-24.3	EUT Vertical, Mid Ch, 1 Mbit
4063.500	45.3	4.3	1.0	122.0	3.0	0.0	Vert	PK	0.0	49.6	74.0	-24.4	EUT Horizontal, Mid Ch, 1 Mbit
12187.700	32.2	-3.1	1.8	180.0	3.0	0.0	Vert	AV	0.0	29.1	54.0	-24.9	EUT Vertical, Mid Ch, 1 Mbit
12313.920	31.9	-3.0	3.9	73.1	3.0	0.0	Horz	AV	0.0	28.9	54.0	-25.1	EUT Vertical, High Ch, 1 Mbit
12313.270	31.8	-3.0	1.0	256.0	3.0	0.0	Vert	AV	0.0	28.8	54.0	-25.2	EUT Vertical, High Ch, 1 Mbit
4060.450	44.4	4.2	1.0	276.9	3.0	0.0	Horz	PK	0.0	48.6	74.0	-25.4	EUT Horizontal, Mid Ch, 1 Mbit
12062.520	32.1	-3.6	1.0	217.1	3.0	0.0	Horz	AV	0.0	28.5	54.0	-25.5	EUT Vertical, Low Ch, 1 Mbit
12062.330	32.0	-3.6	1.0	77.1	3.0	0.0	Vert	AV	0.0	28.4	54.0	-25.6	EUT Vertical, Low Ch, 1 Mbit
4878.667	41.7	6.5	1.0	63.0	3.0	0.0	Horz	PK	0.0	48.2	74.0	-25.8	EUT Vertical, Mid Ch, MCS7
4924.250	41.0	6.6	1.0	261.0	3.0	0.0	Vert	PK	0.0	47.6	74.0	-26.4	EUT Vertical, High Ch, 1 Mbit
14470.230	39.9	5.4	1.0	304.9	3.0	0.0	Horz	PK	0.0	45.3	74.0	-28.7	EUT Vertical, High Ch, 1 Mbit
14473.770	39.9	5.3	2.6	322.9	3.0	0.0	Vert	PK	0.0	45.2	74.0	-28.8	EUT Vertical, High Ch, 1 Mbit
12058.680	44.2	-3.6	1.0	217.1	3.0	0.0	Horz	PK	0.0	40.6	74.0	-33.4	EUT Vertical, Low Ch, 1 Mbit
12189.700	43.0	-3.1	1.8	180.0	3.0	0.0	Vert	PK	0.0	39.9	74.0	-34.1	EUT Vertical, Mid Ch, 1 Mbit
12185.520	42.8	-3.2	1.0	329.0	3.0	0.0	Horz	PK	0.0	39.6	74.0	-34.4	EUT Vertical, Mid Ch, 1 Mbit
12311.980	42.5	-3.0	3.9	73.1	3.0	0.0	Horz	PK	0.0	39.5	74.0	-34.5	EUT Vertical, High Ch, 1 Mbit
12063.130	42.9	-3.6	1.0	77.1	3.0	0.0	Vert	PK	0.0	39.3	74.0	-34.7	EUT Vertical, Low Ch, 1 Mbit
12312.520	42.1	-3.0	1.0	256.0	3.0	0.0	Vert	PK	0.0	39.1	74.0	-34.9	EUT Vertical, High Ch, 1 Mbit

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 (mos)
MN08 Direct Connect Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	10/2/2014	12
Attenuator, 20db, 'SMA'	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
DC Block, 40 GHz	Fairview Microwave	SD3379	AMI	10/2/2014	12
Signal Generator MXG	Agilent	N5183A	TIK	10/17/2014	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/20/2015	12

TEST DESCRIPTION

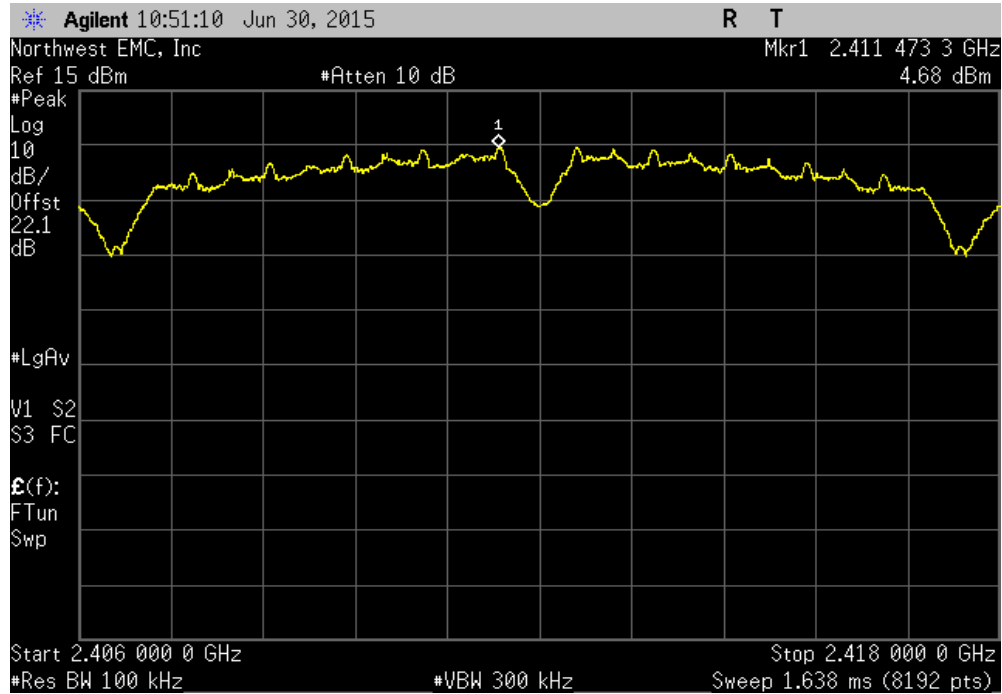
The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at the data rate(s) listed in the datasheet. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

SPURIOUS CONDUCTED EMISSIONS

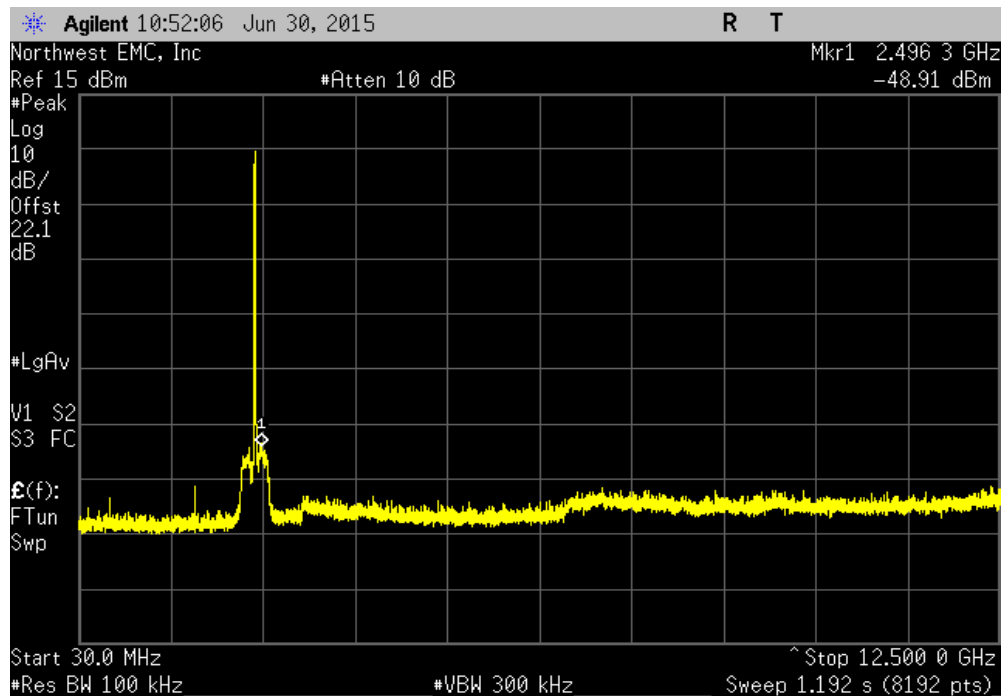
EUT: 501101		Work Order: IRR10007	
Serial Number: None		Date: 06/30/15	
Customer: IrriGreen, Inc.		Temperature: 23.2°C	
Attendees: Gary Klinefelter		Humidity: 52%	
Project: None		Barometric Pres.: 983.9	
Tested by: Trevor Buls		Power: 110VAC/60Hz	
TEST SPECIFICATIONS		Job Site: MN08	
FCC 15.247:2015		Test Method	
		ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Trevor Buls</i>	
		Frequency Range	Value (dBc)
			Limit ≤ (dBc)
			Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	Fundamental	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-53.59
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-56.98
	Mid Channel 6, 2437 MHz	Fundamental	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-53.2
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-56.19
	High Channel 11, 2462 MHz	Fundamental	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-53.2
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-57.29
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	Fundamental	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-54.16
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-58.79
	Mid Channel 6, 2437 MHz	Fundamental	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-54.43
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-59.5
	High Channel 11, 2462 MHz	Fundamental	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-53.9
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-58.78
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	Fundamental	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-50.59
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-54.74
	Mid Channel 6, 2437 MHz	Fundamental	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-54.05
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-57.25
	High Channel 11, 2462 MHz	Fundamental	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-51.87
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-53.85
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	Fundamental	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-50.43
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-51.57
	Mid Channel 6, 2437 MHz	Fundamental	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-52.27
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-55.73
	High Channel 11, 2462 MHz	Fundamental	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-51.26
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-51.22
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	Fundamental	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-49.05
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-51.92
	Mid Channel 6, 2437 MHz	Fundamental	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-52.01
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-53.52
	High Channel 11, 2462 MHz	Fundamental	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-51.63
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-52.44
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	Fundamental	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-52.81
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-54.27
	Mid Channel 6, 2437 MHz	Fundamental	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-53.29
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-57.07
	High Channel 11, 2462 MHz	Fundamental	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-53
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-53.67
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	Fundamental	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-49.33
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-51.06
	Mid Channel 6, 2437 MHz	Fundamental	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-50.61
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-52.83
	High Channel 11, 2462 MHz	Fundamental	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-52.35
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-51.81

SPURIOUS CONDUCTED EMISSIONS

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

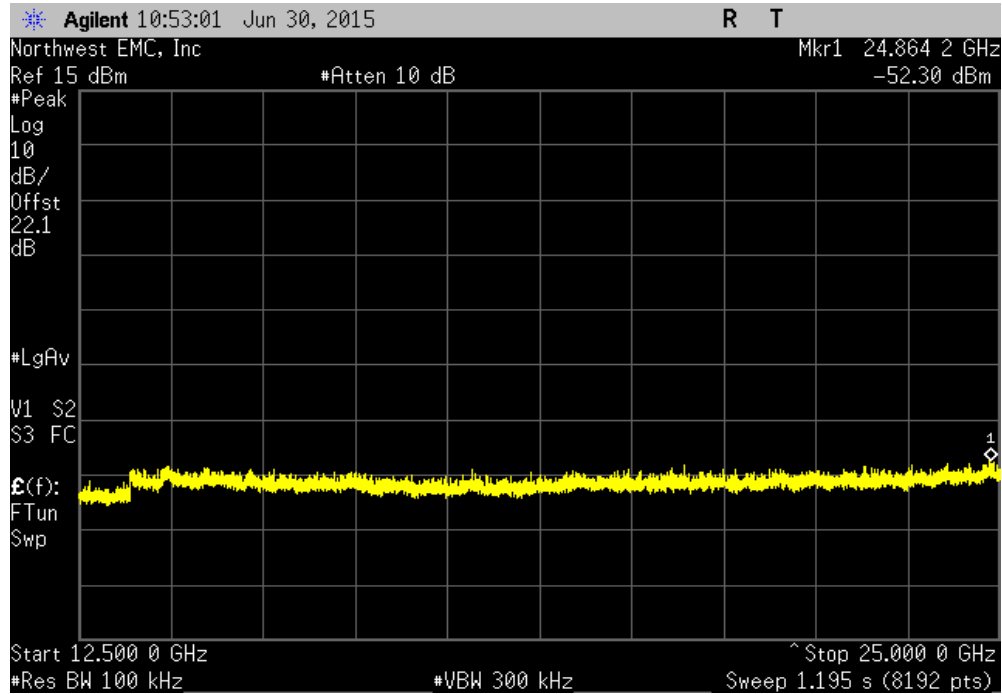


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz		-53.59	-20	Pass		

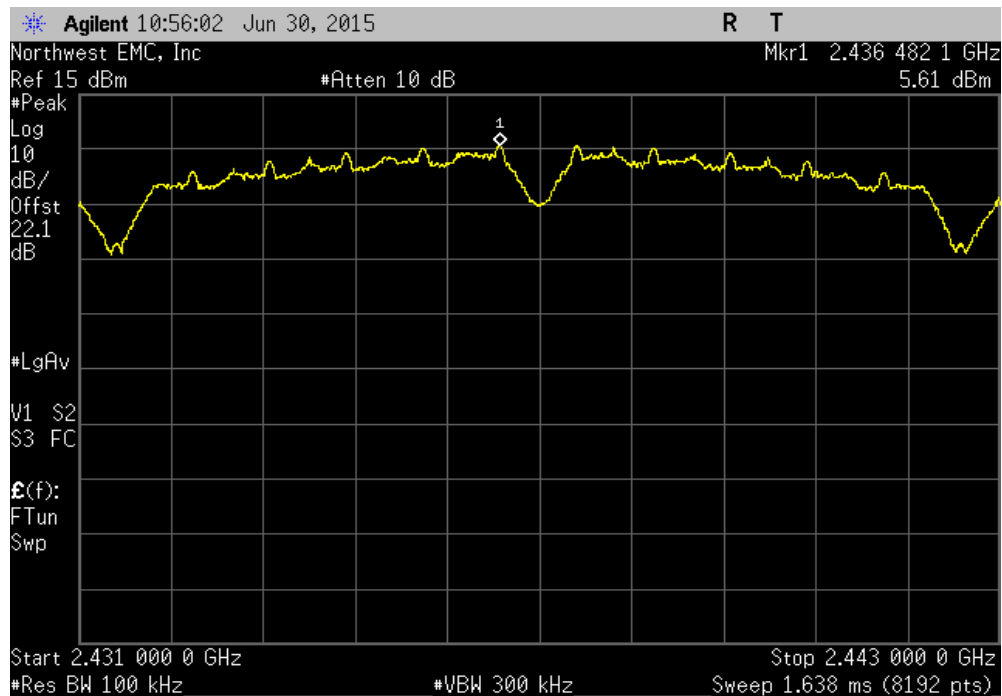


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-56.98	-20	Pass	

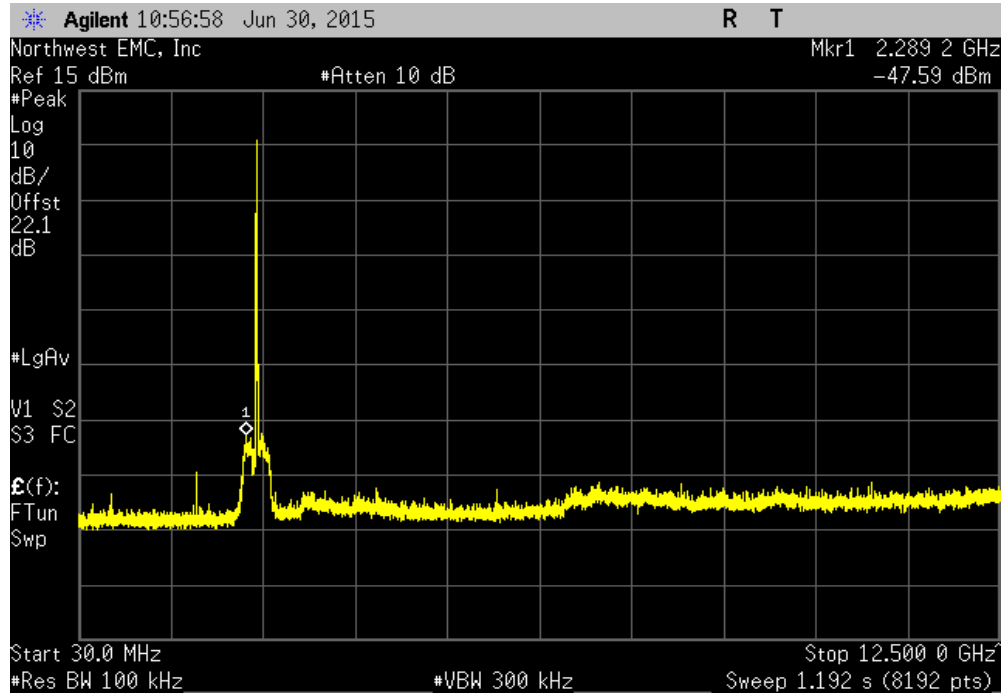


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

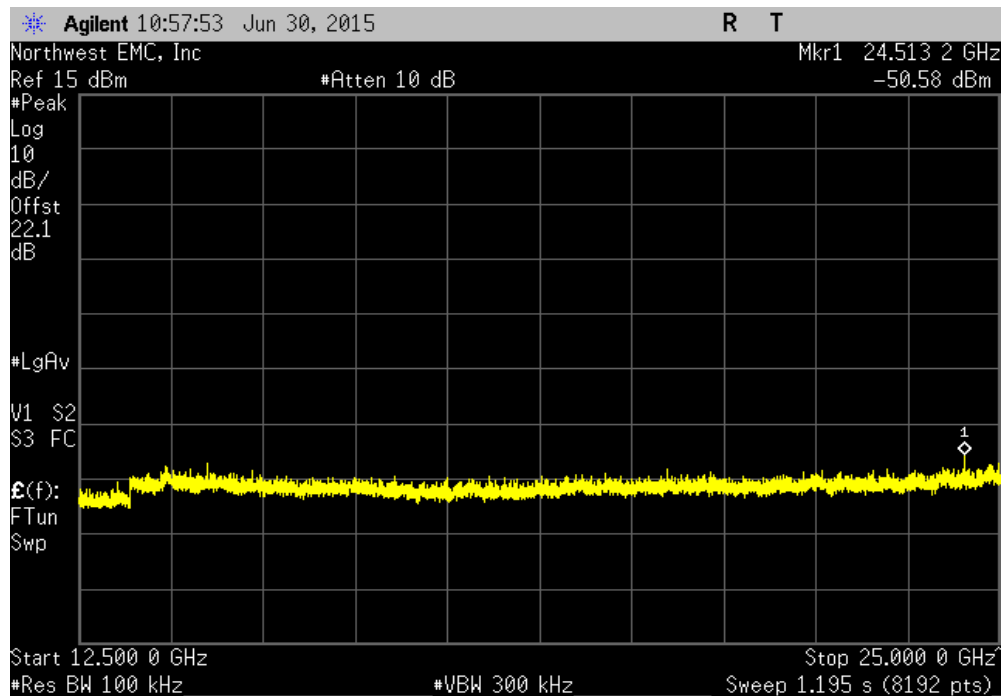


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-53.2	-20	Pass	

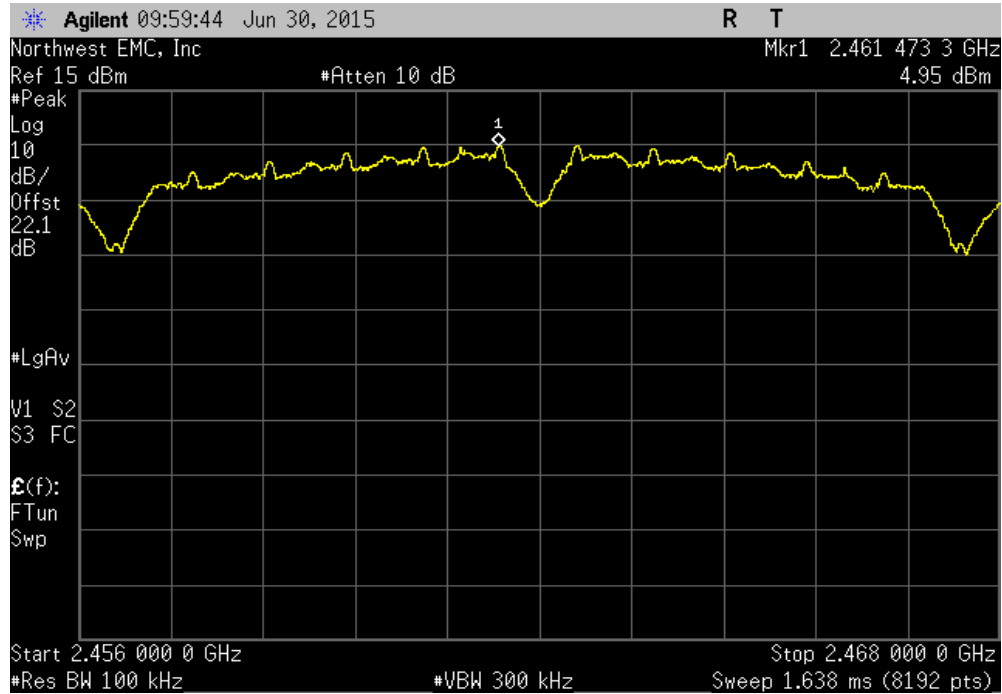


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-56.19	-20	Pass	

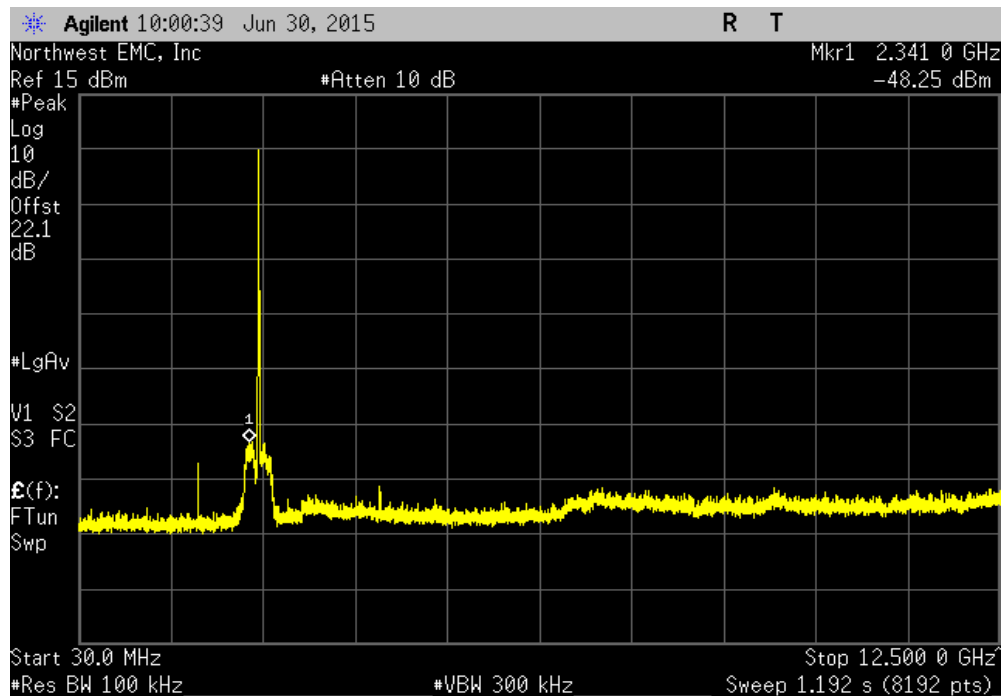


SPURIOUS CONDUCTED EMISSIONS

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

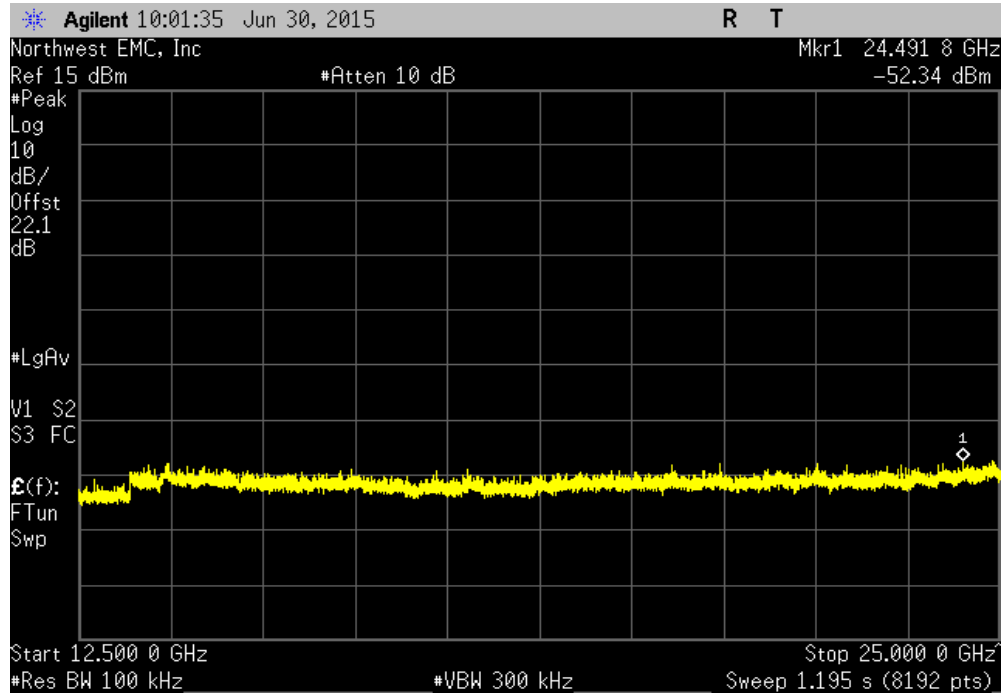


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz		-53.2	-20	Pass		

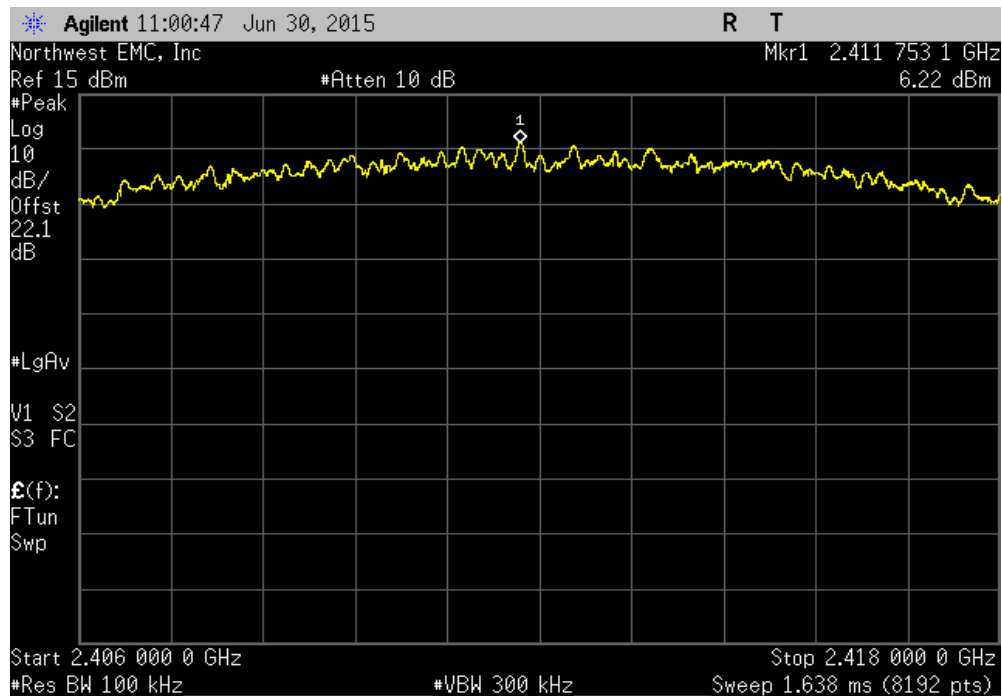


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-57.29	-20	Pass	

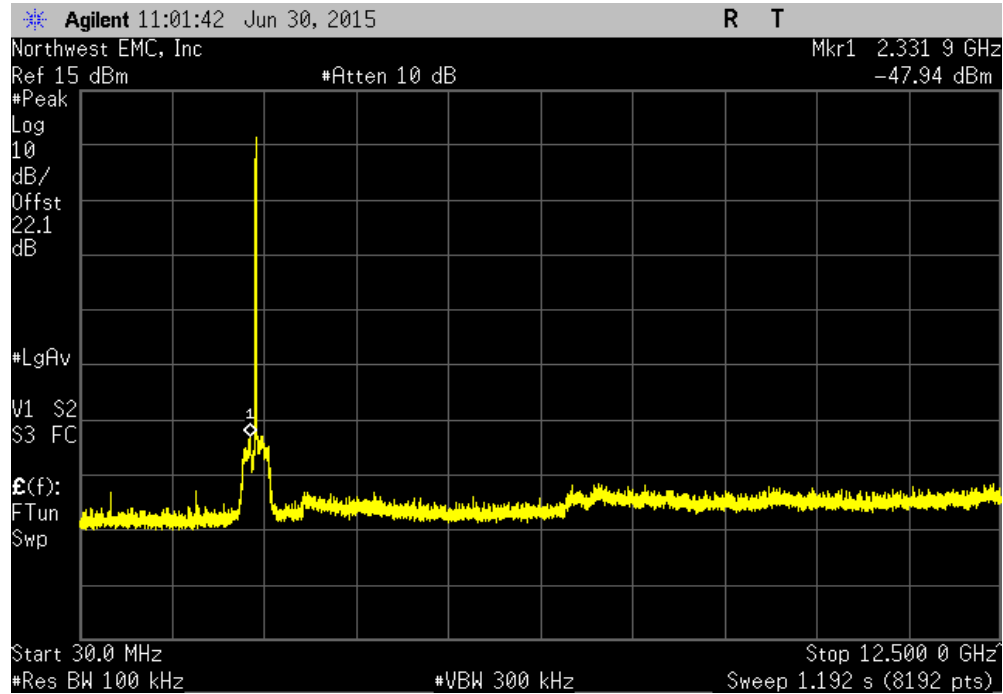


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

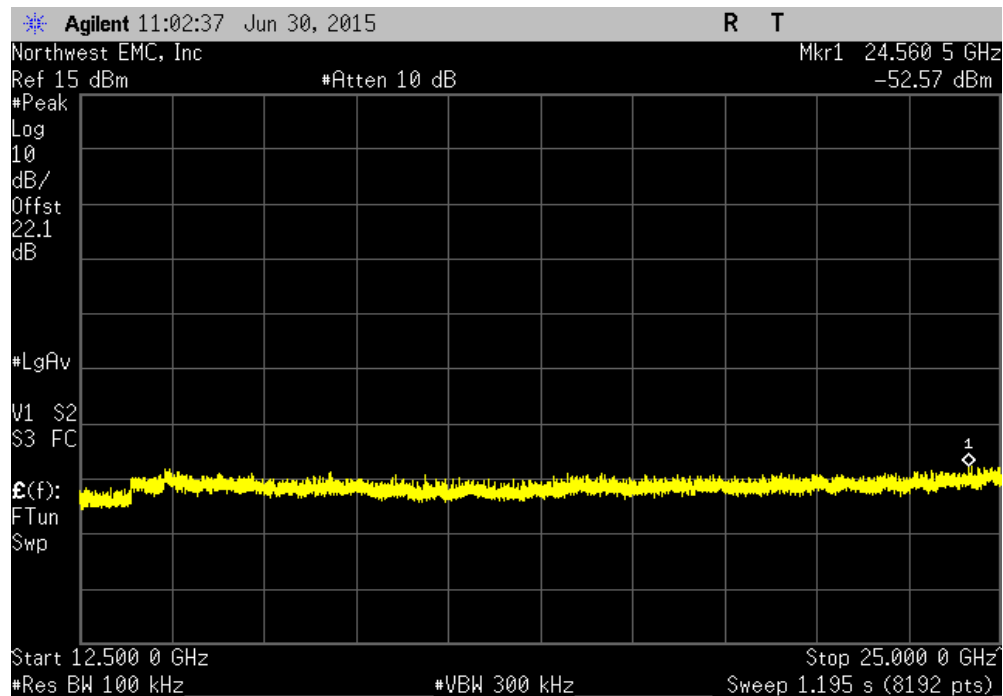


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-54.16	-20	Pass	

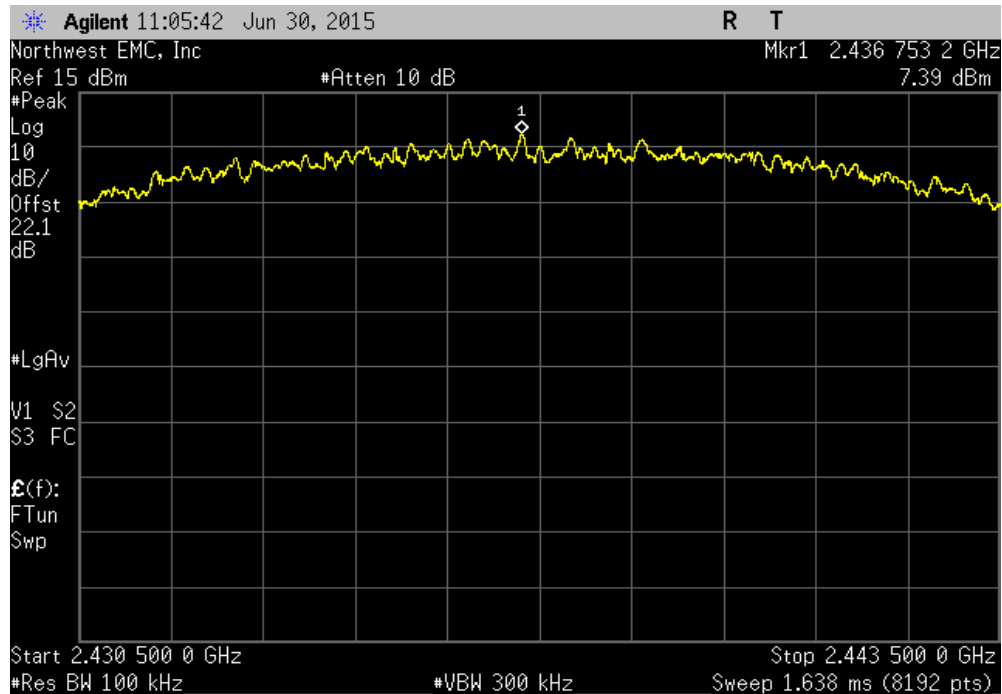


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-58.79	-20	Pass	

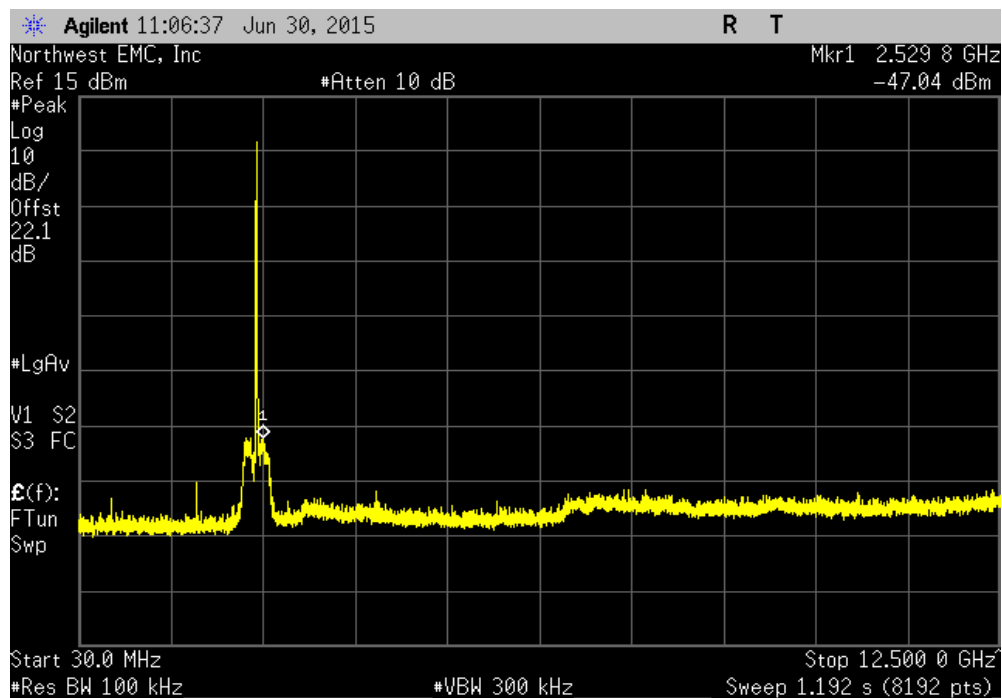


SPURIOUS CONDUCTED EMISSIONS

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

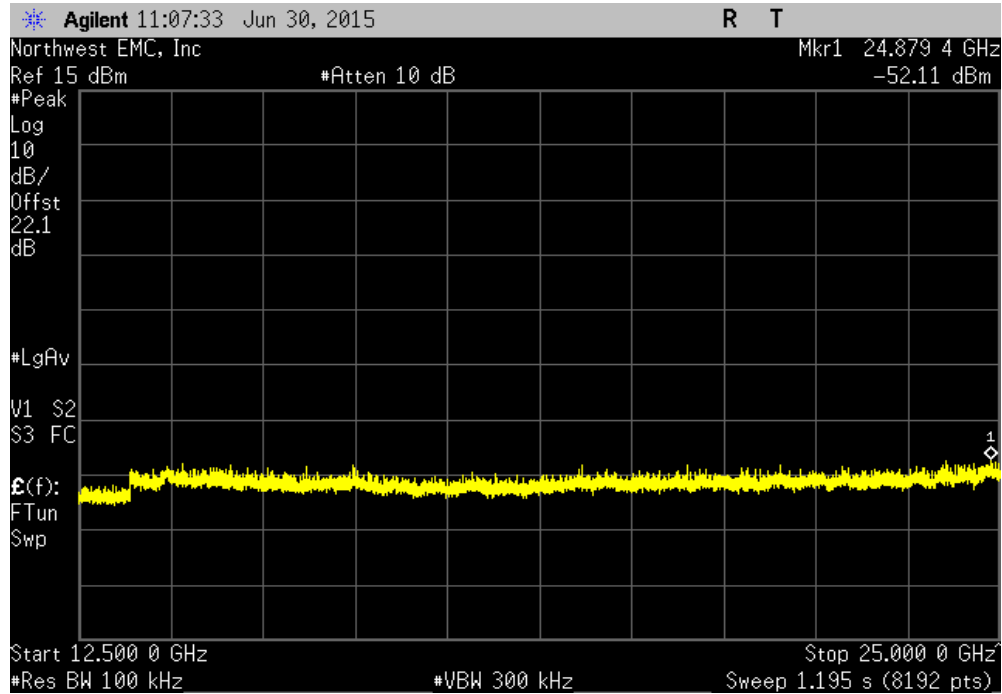


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz		-54.43	-20	Pass		

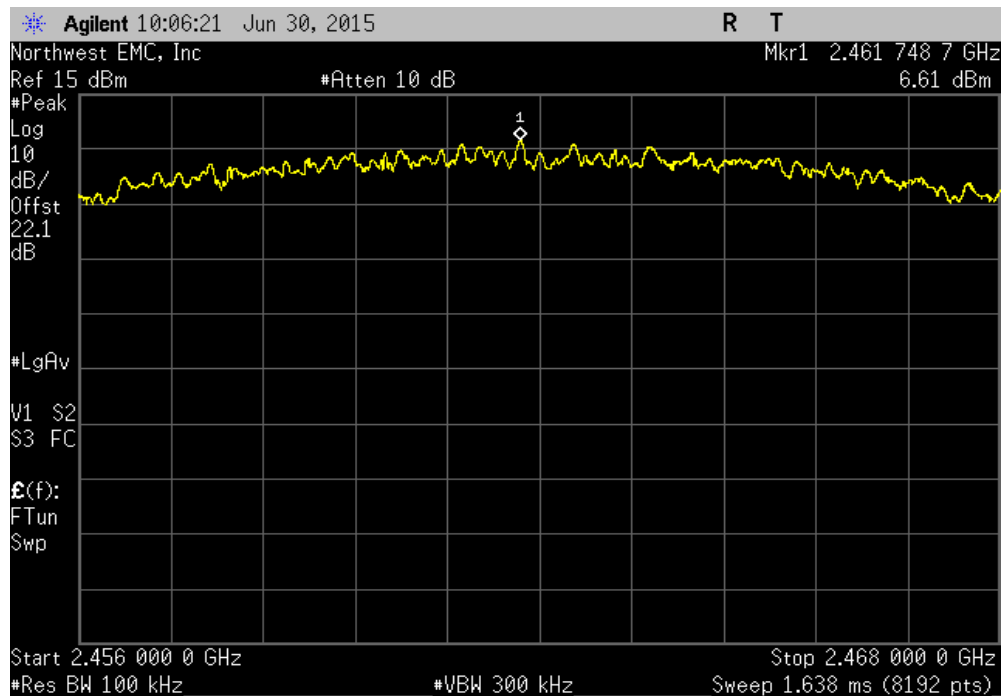


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-59.5	-20	Pass	

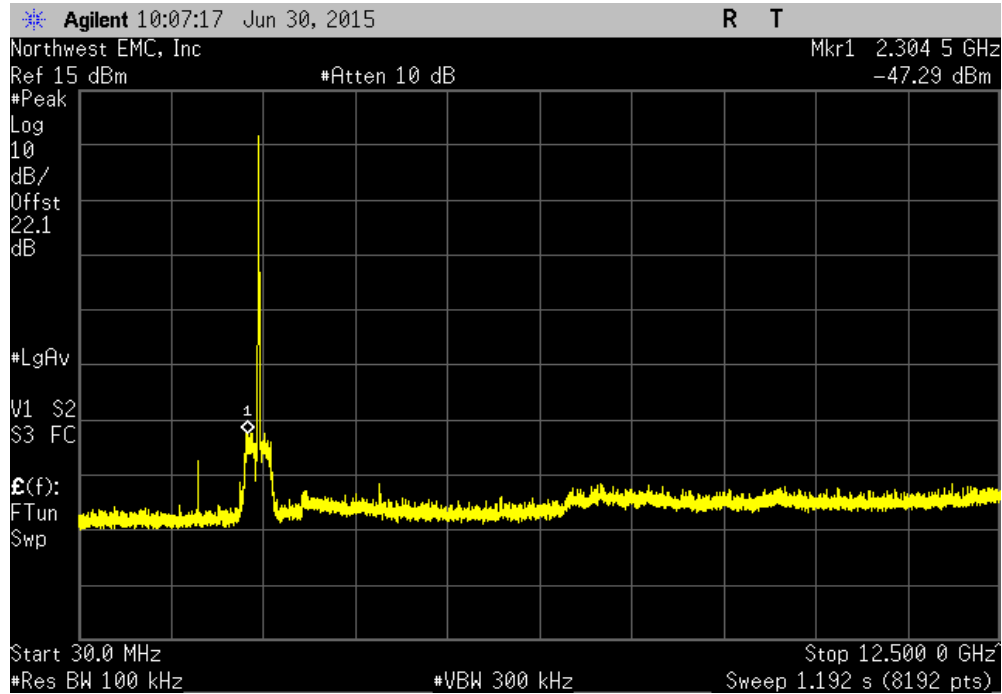


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

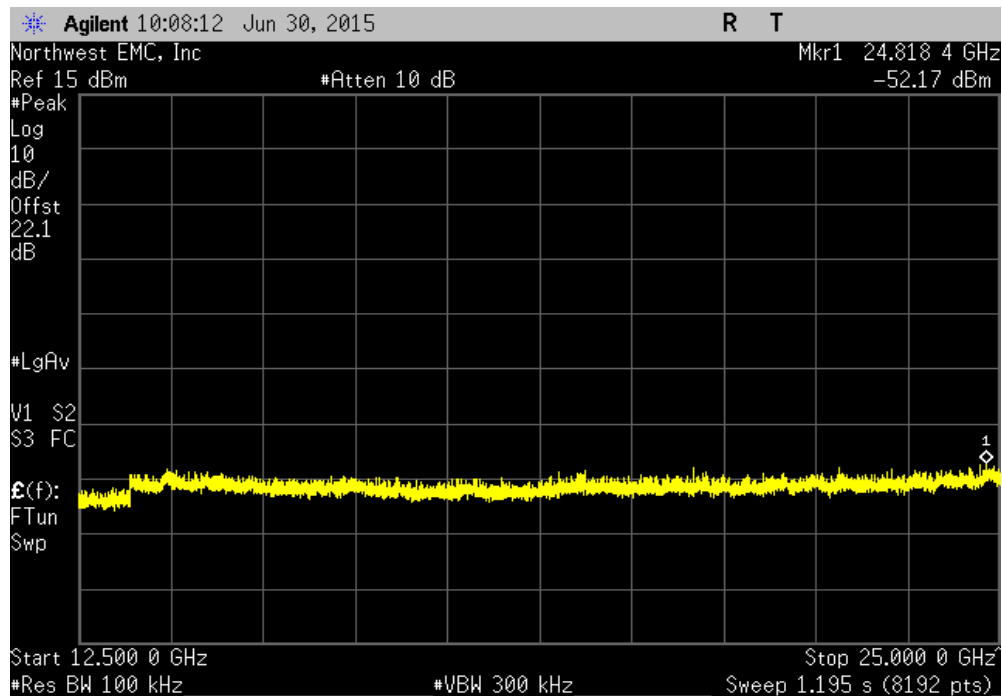


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-53.9	-20	Pass	

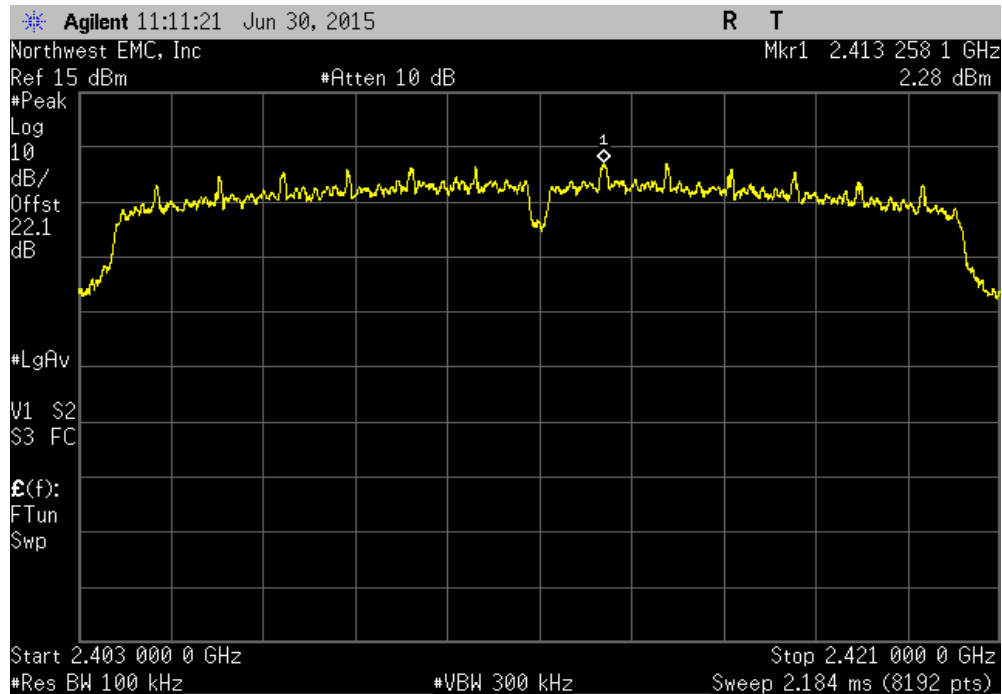


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-58.78	-20	Pass	

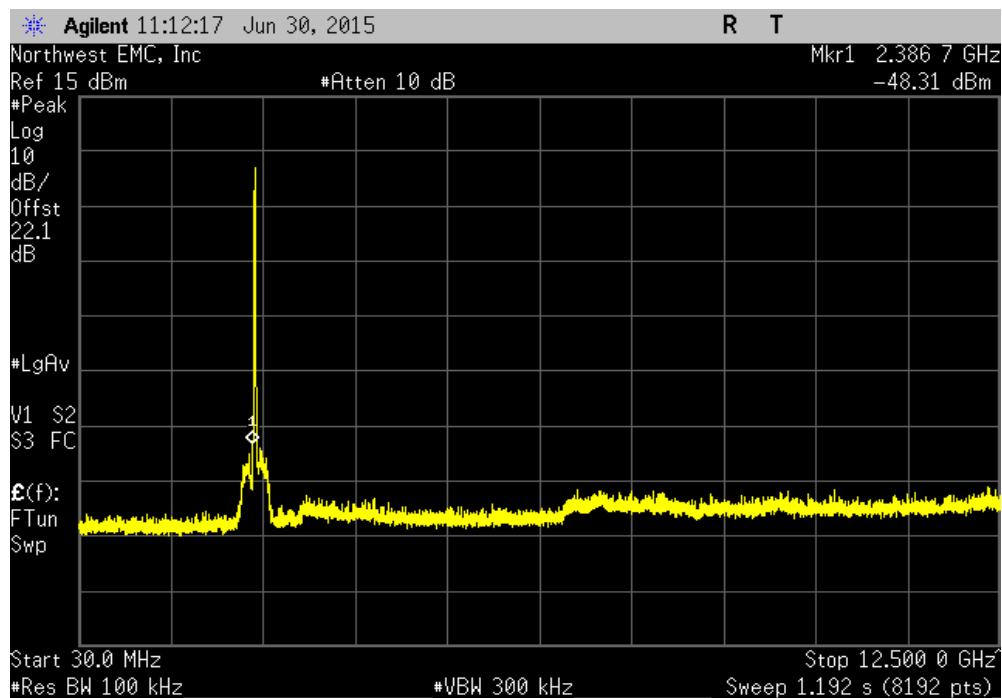


SPURIOUS CONDUCTED EMISSIONS

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

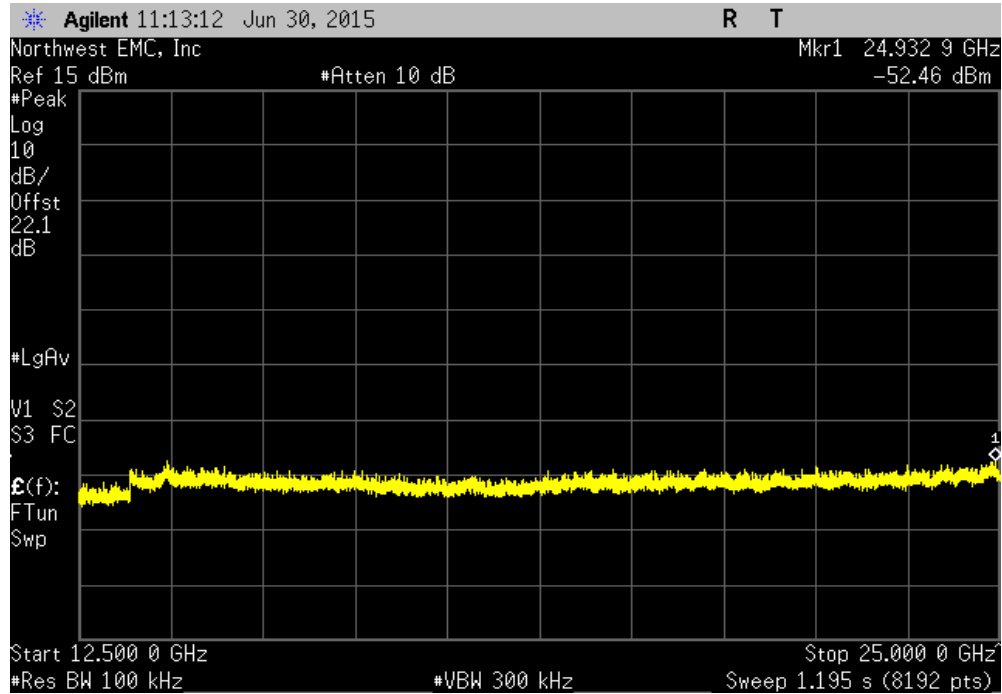


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz		-50.59	-20	Pass		

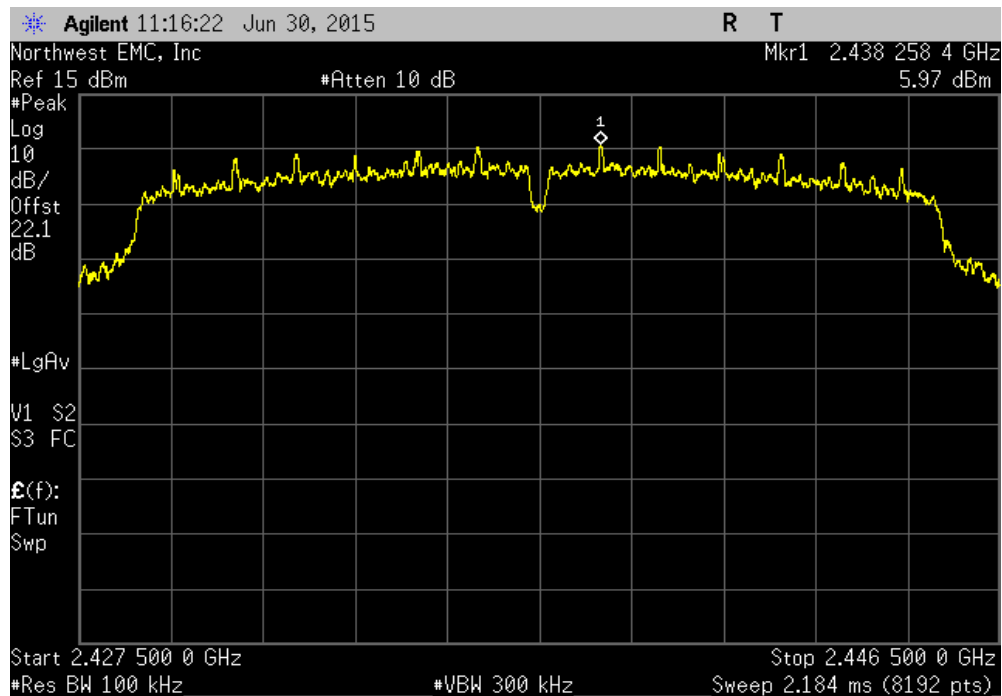


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-54.74	-20	Pass	

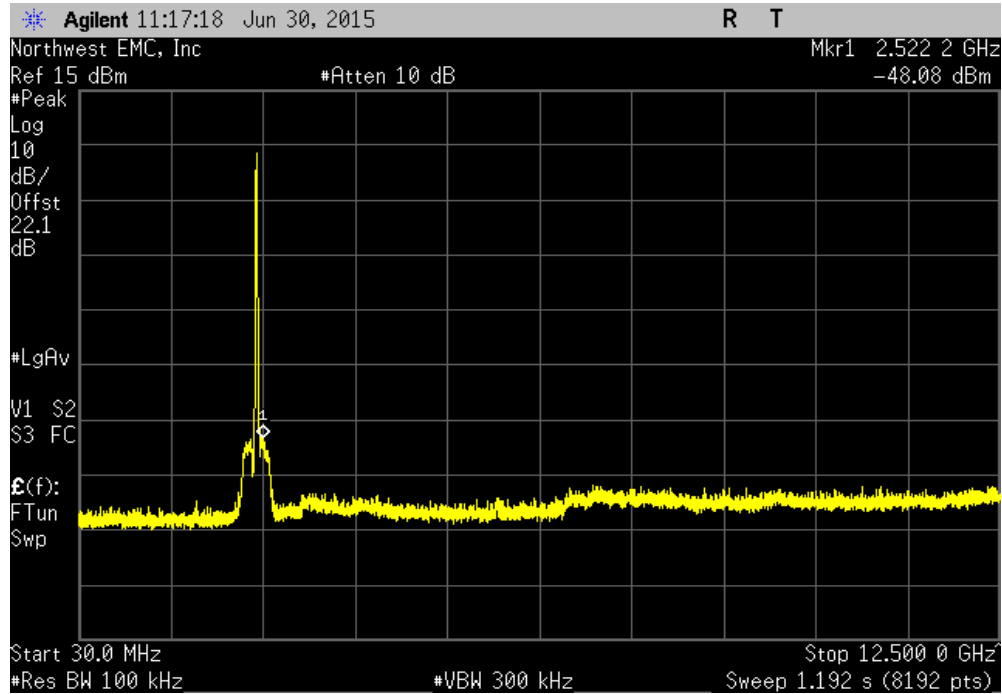


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

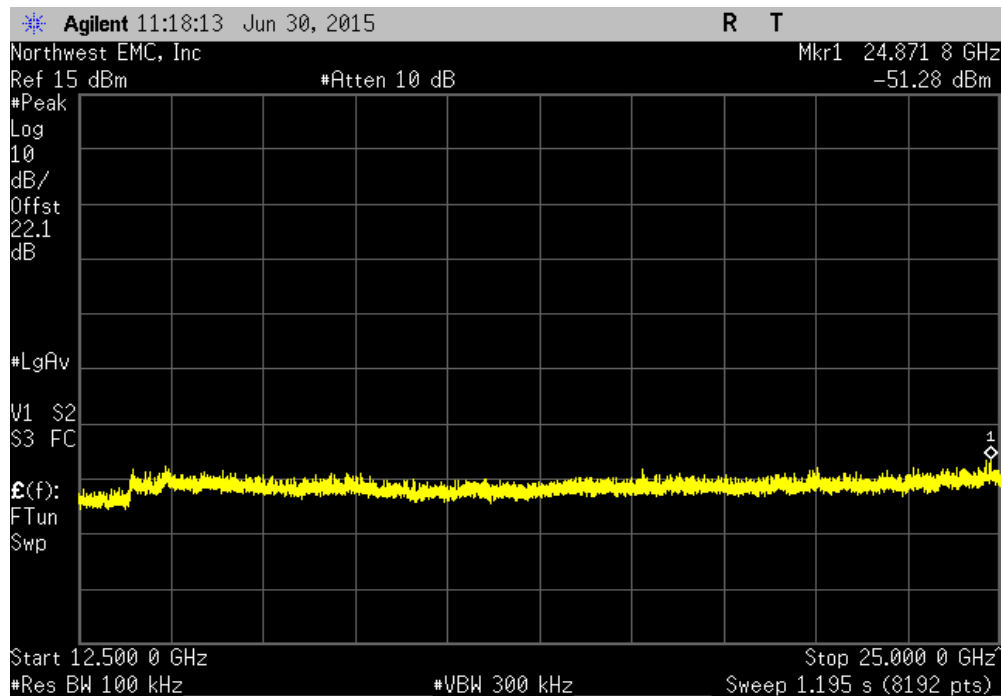


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-54.05	-20	Pass	

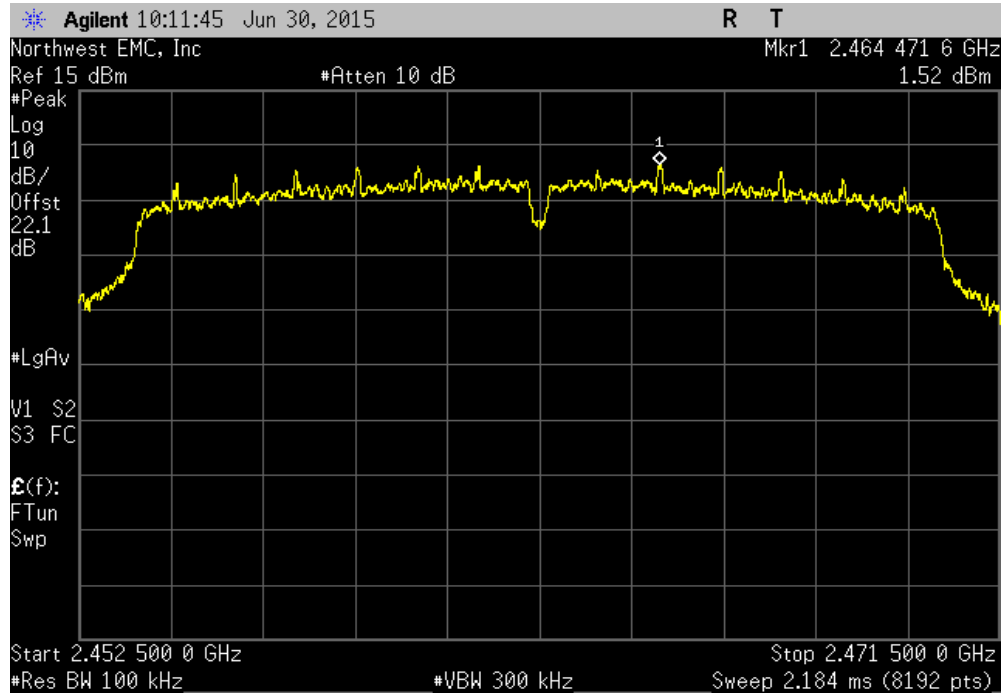


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-57.25	-20	Pass	

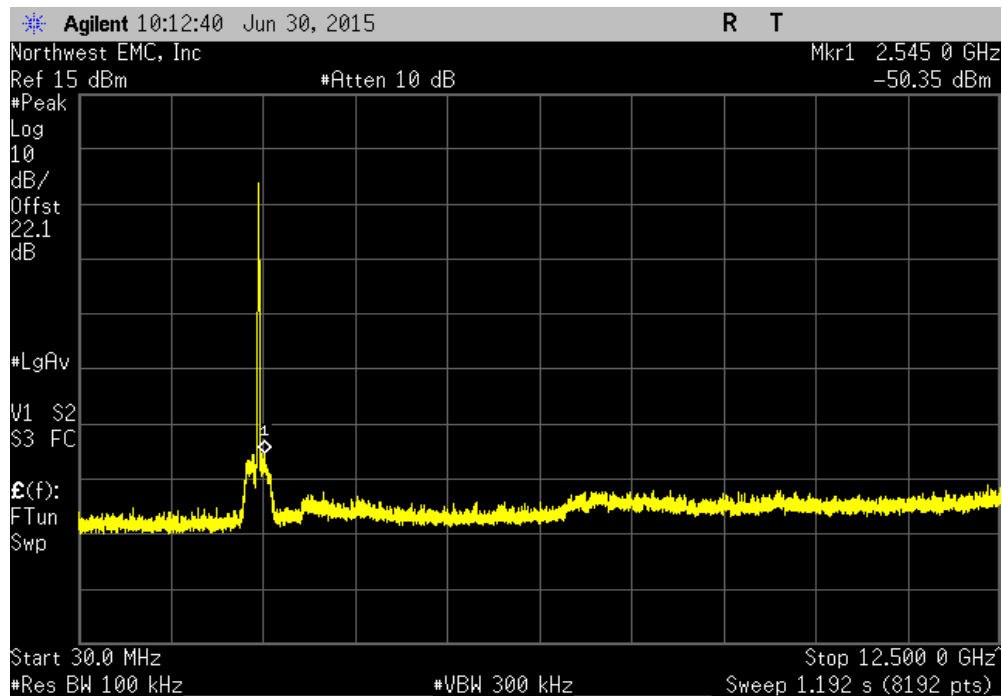


SPURIOUS CONDUCTED EMISSIONS

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

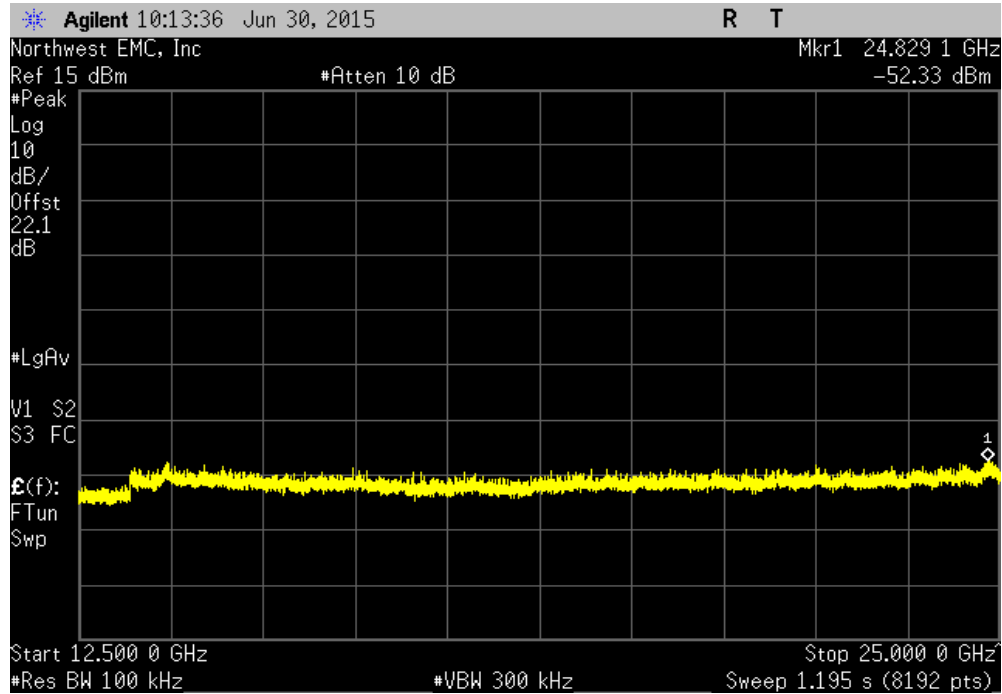


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz		-51.87	-20	Pass		

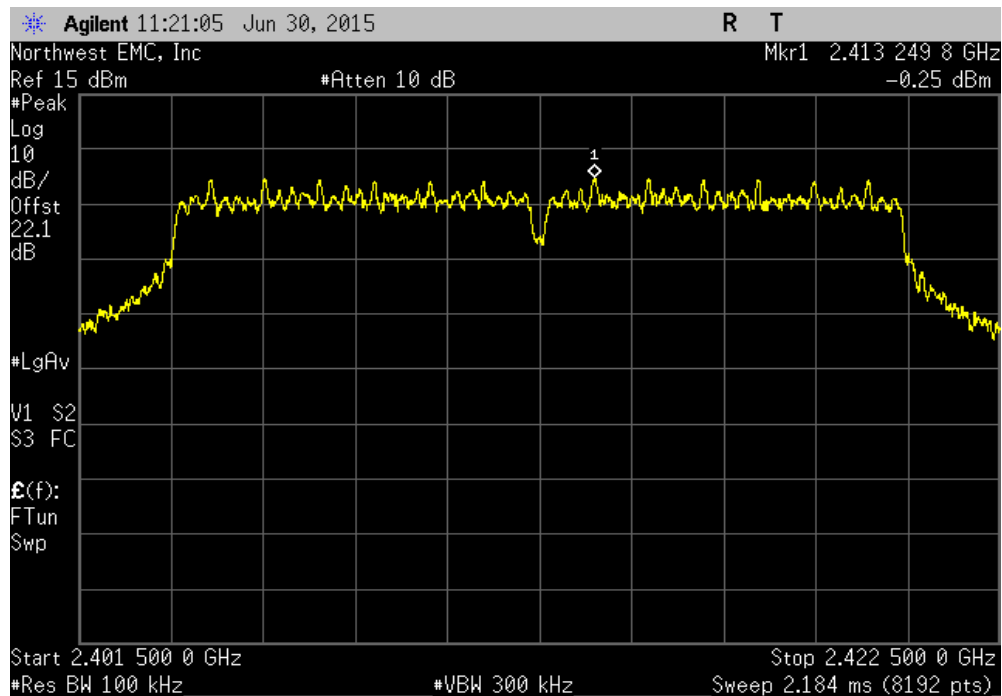


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-53.85	-20	Pass	

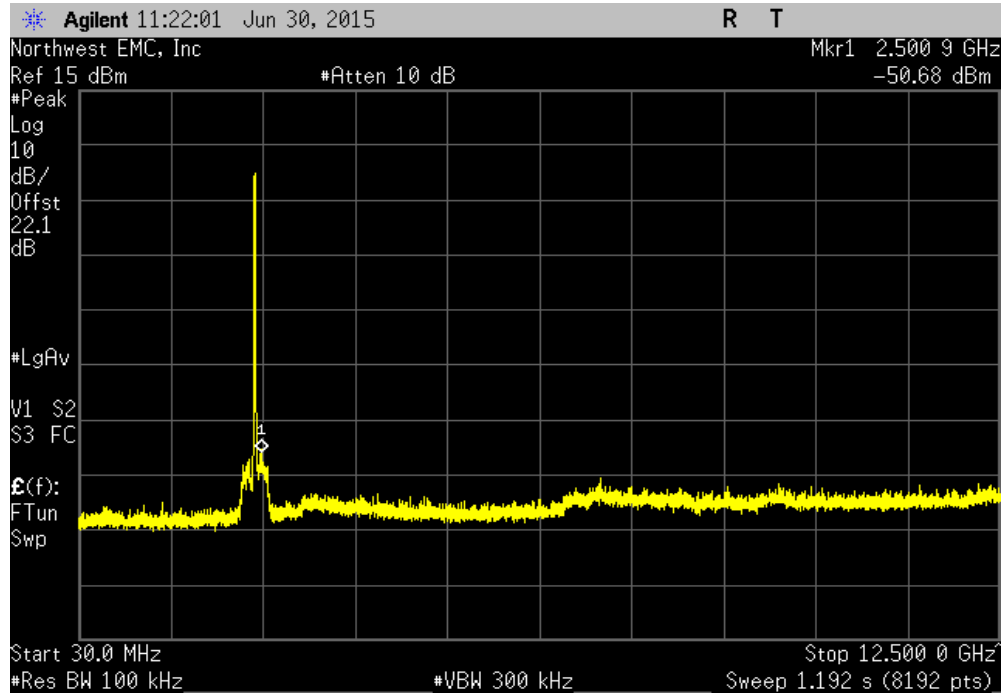


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

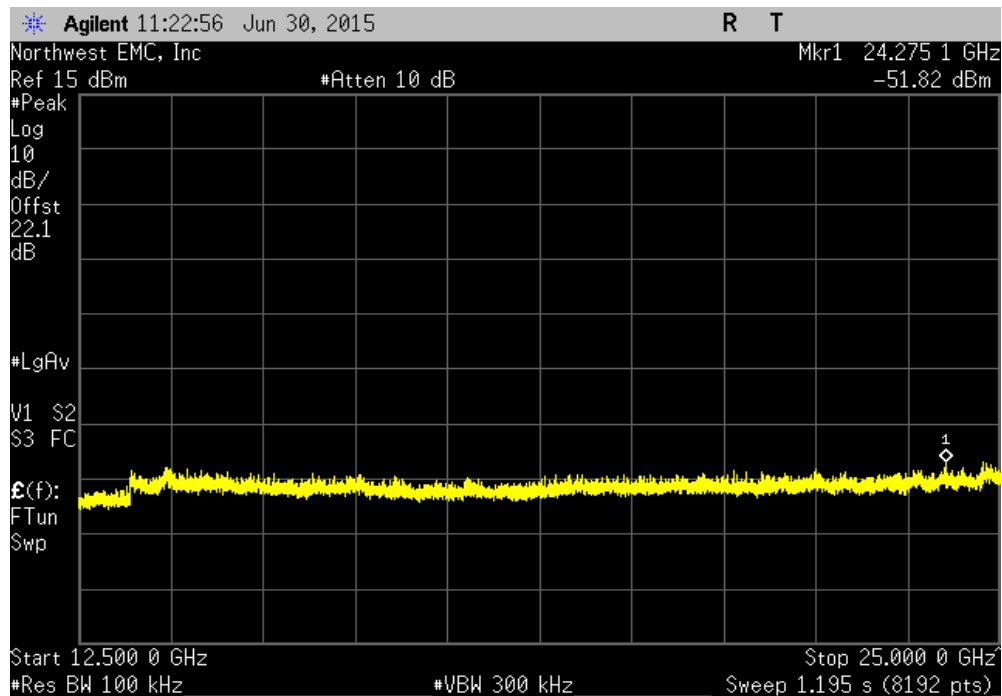


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-50.43	-20	Pass	

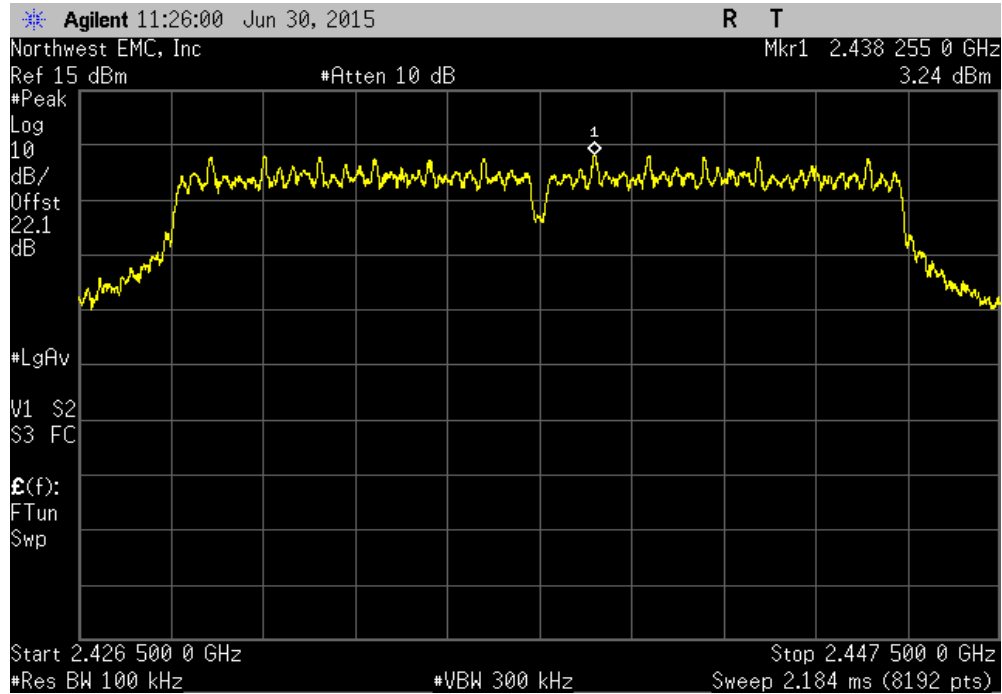


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-51.57	-20	Pass	

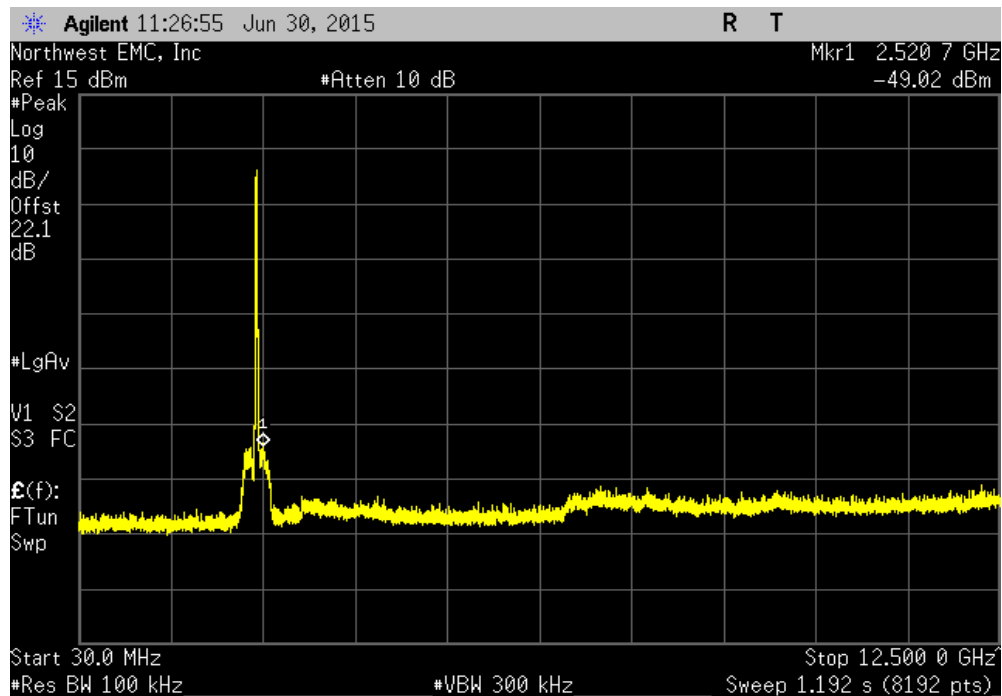


SPURIOUS CONDUCTED EMISSIONS

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

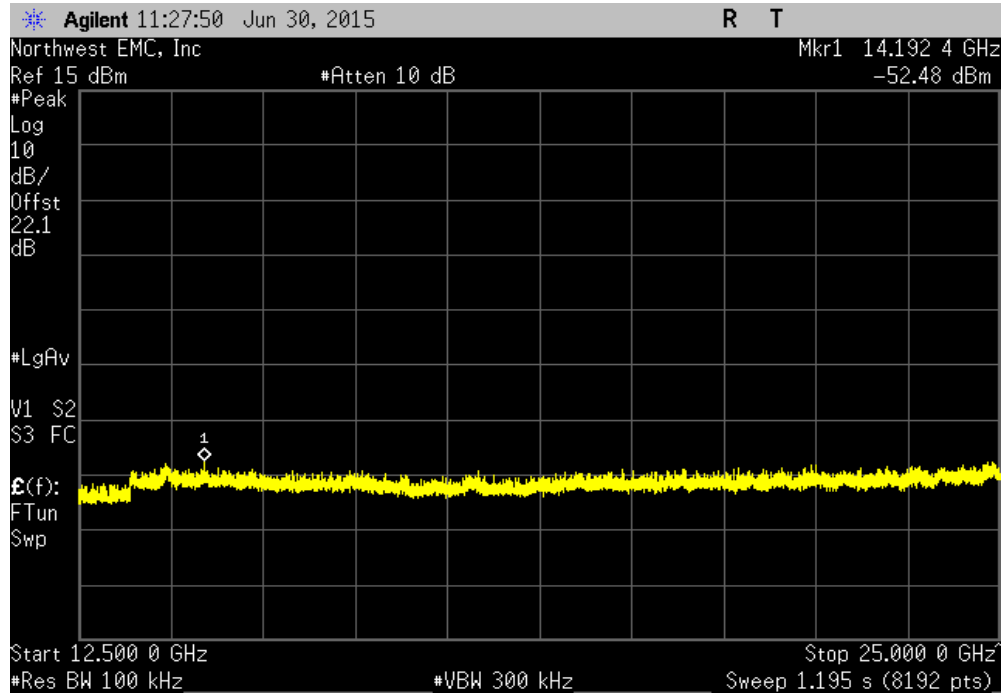


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz		-52.27	-20	Pass		

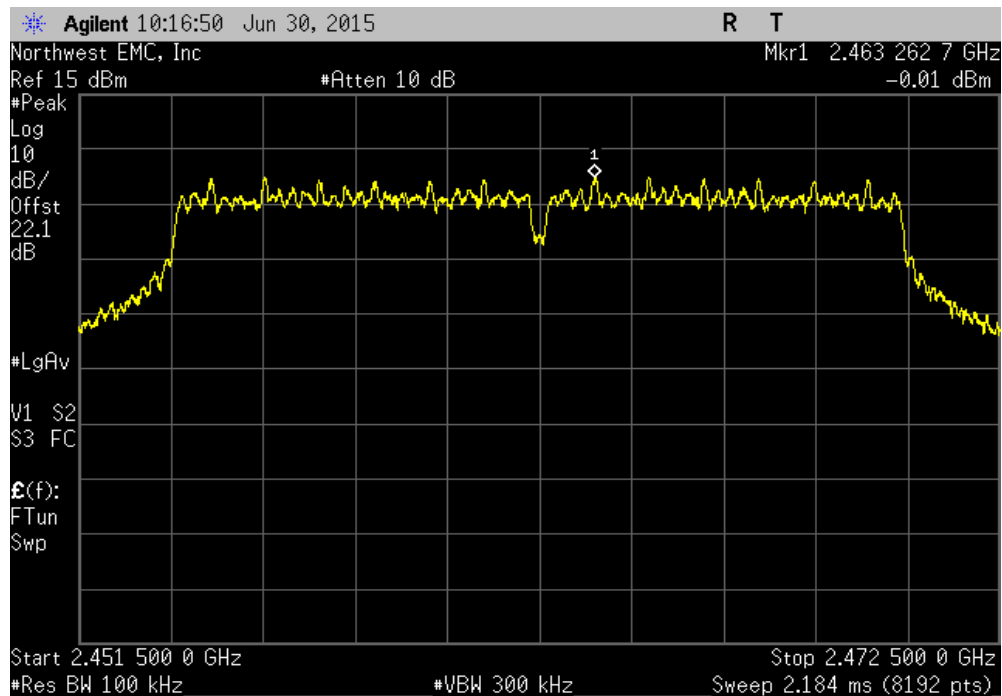


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-55.73	-20	Pass	

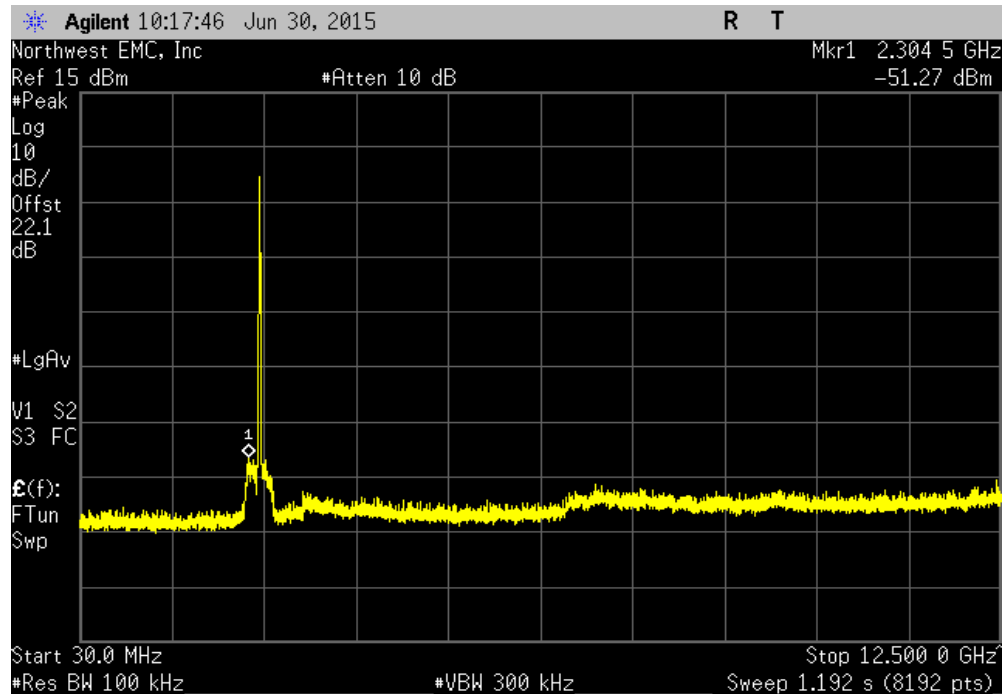


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

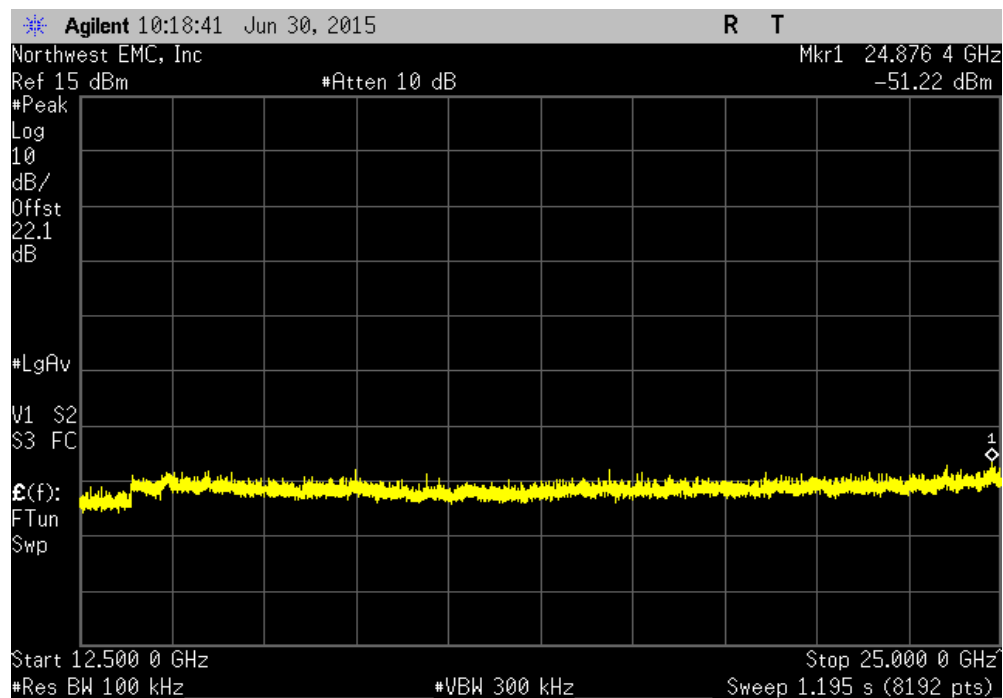


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-51.26	-20	Pass	

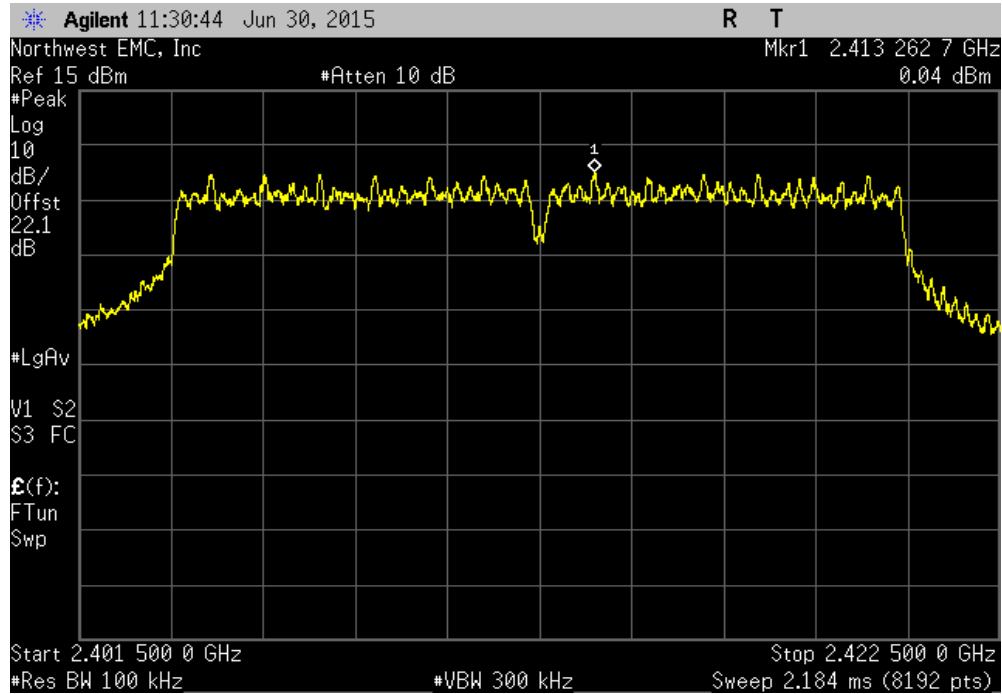


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-51.22	-20	Pass	

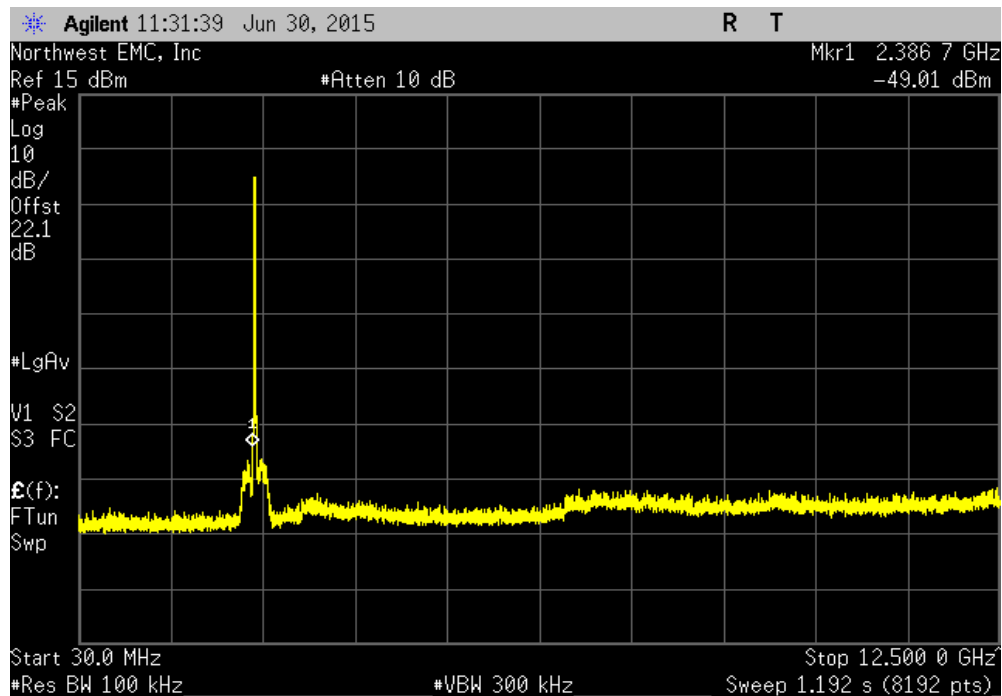


SPURIOUS CONDUCTED EMISSIONS

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

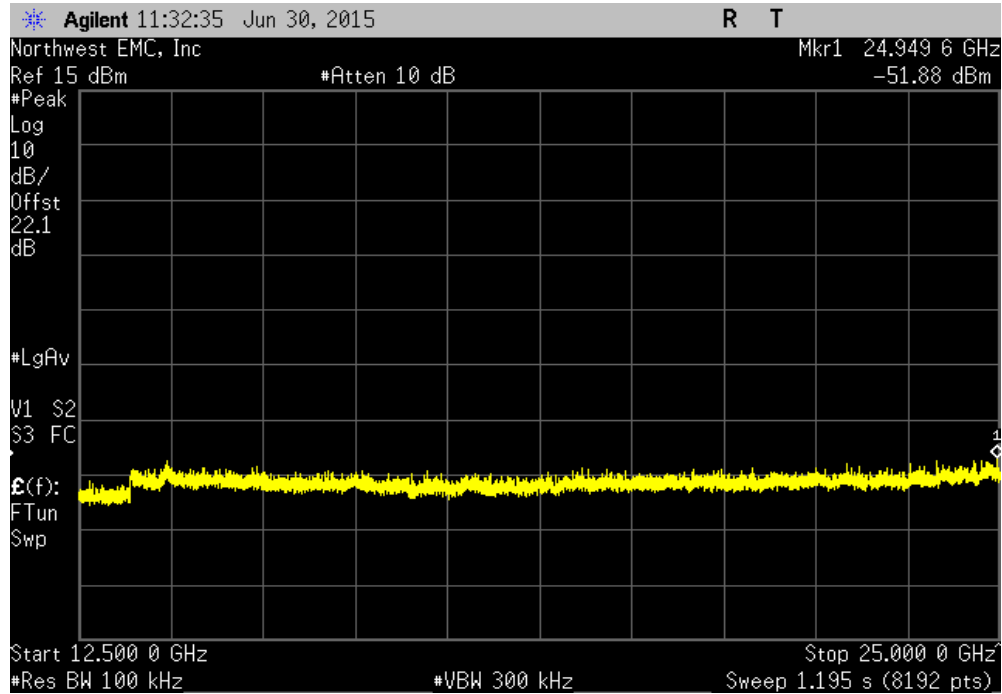


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz		-49.05	-20	Pass		

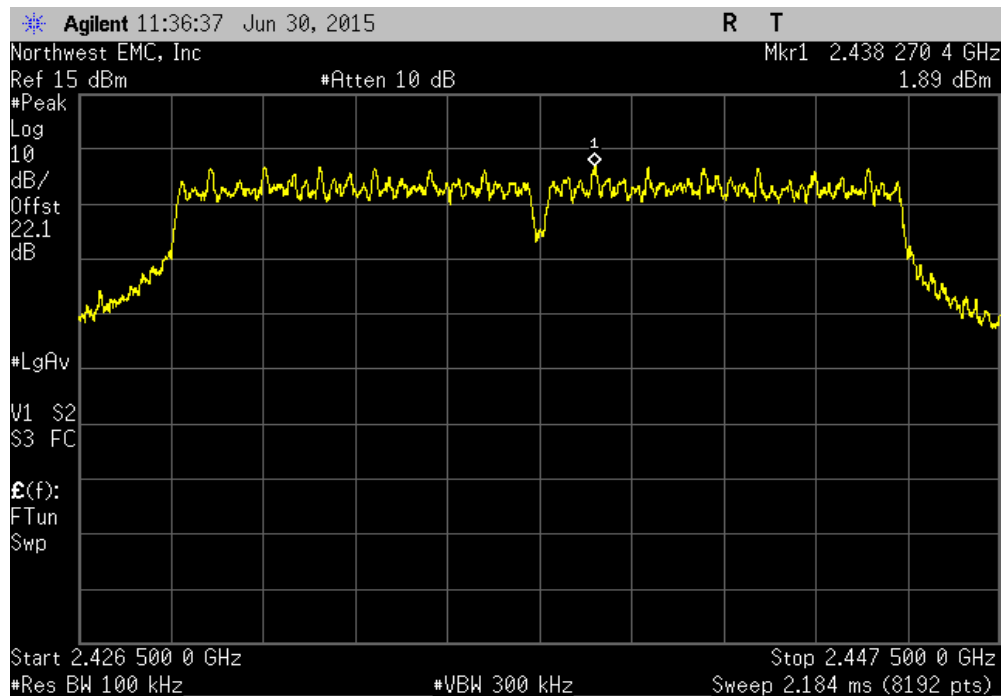


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-51.92	-20	Pass	

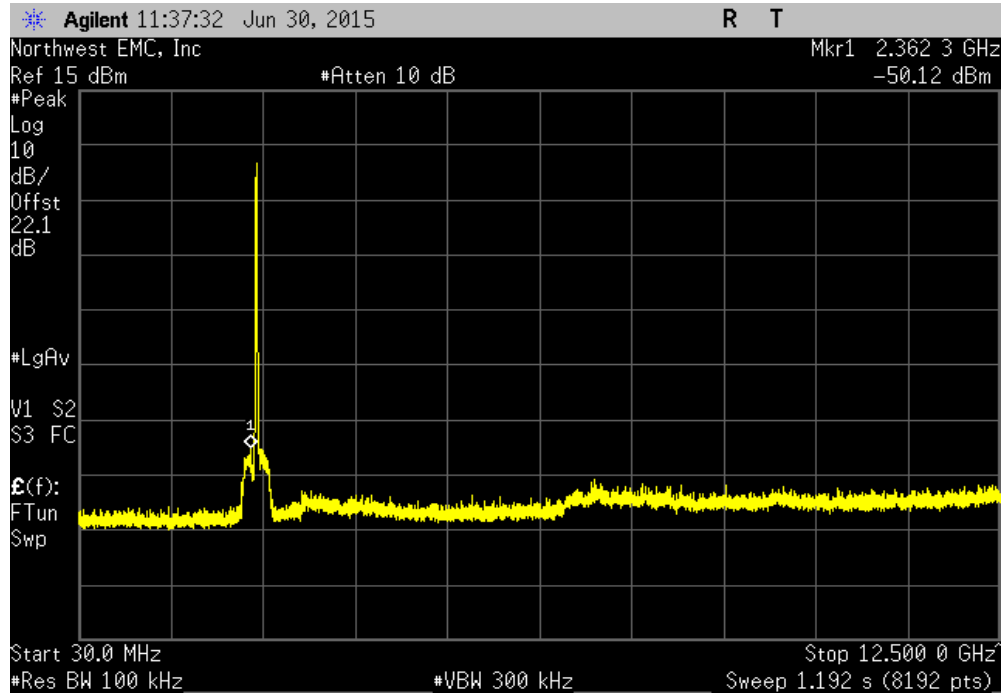


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

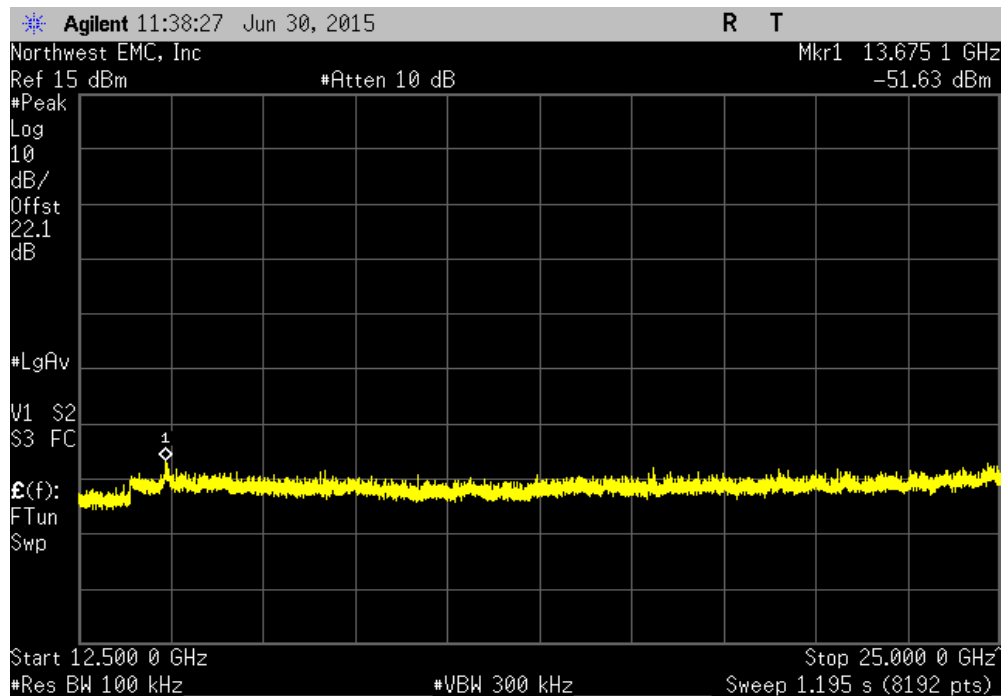


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-52.01	-20	Pass	

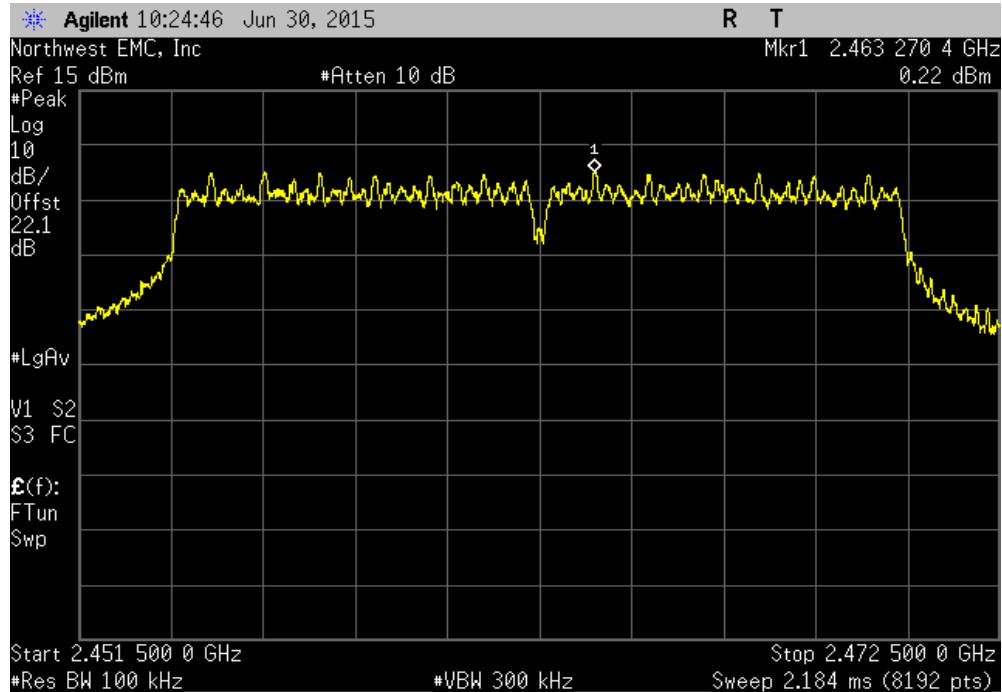


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-53.52	-20	Pass	

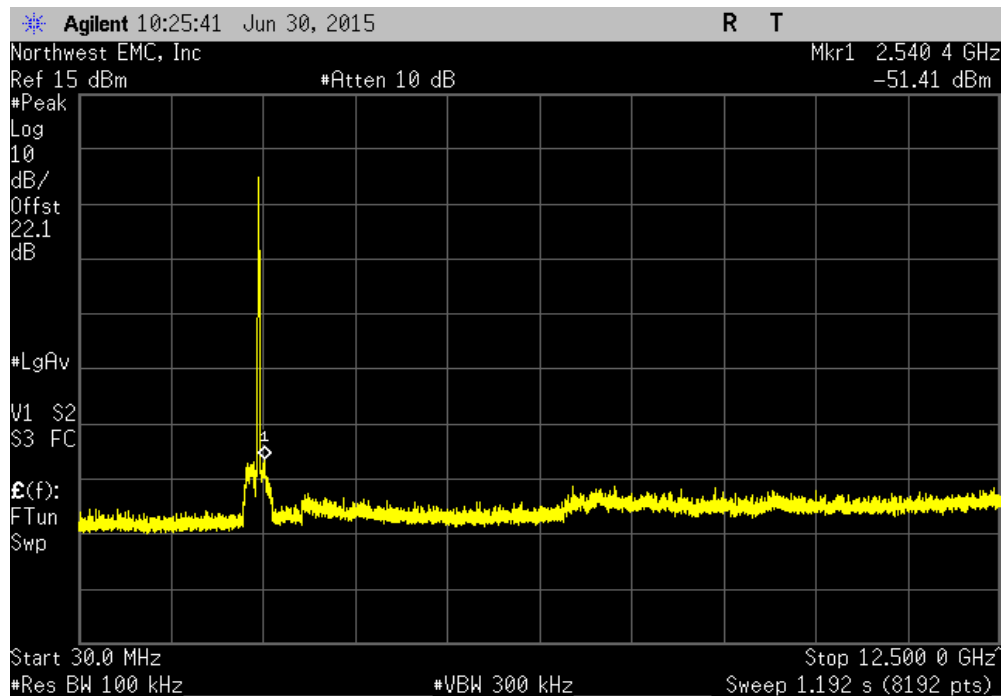


SPURIOUS CONDUCTED EMISSIONS

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

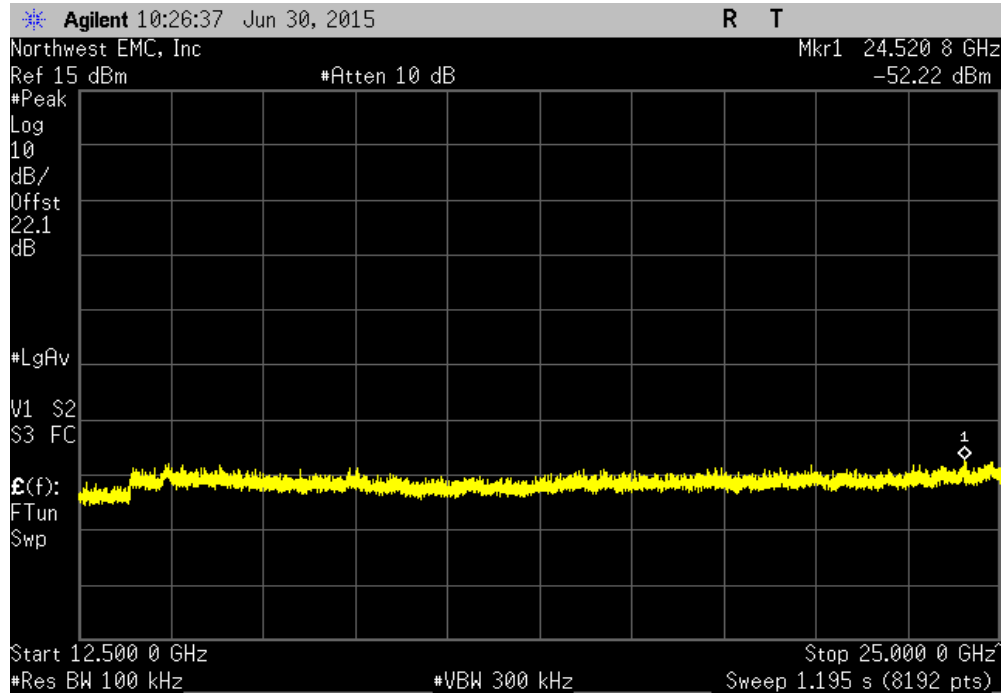


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz		-51.63	-20	Pass		

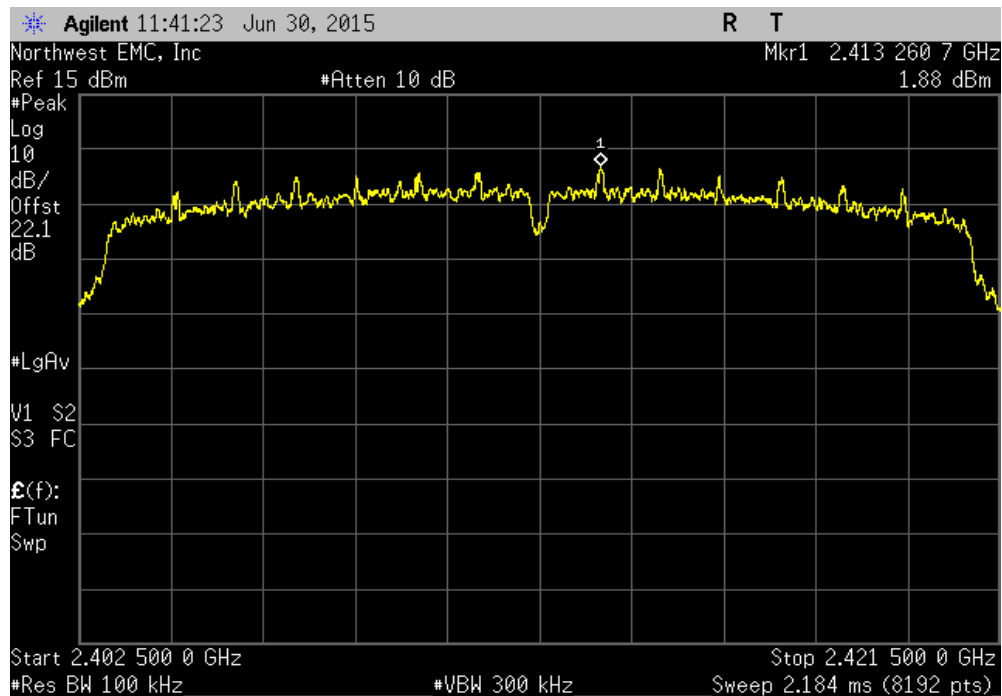


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-52.44	-20	Pass	

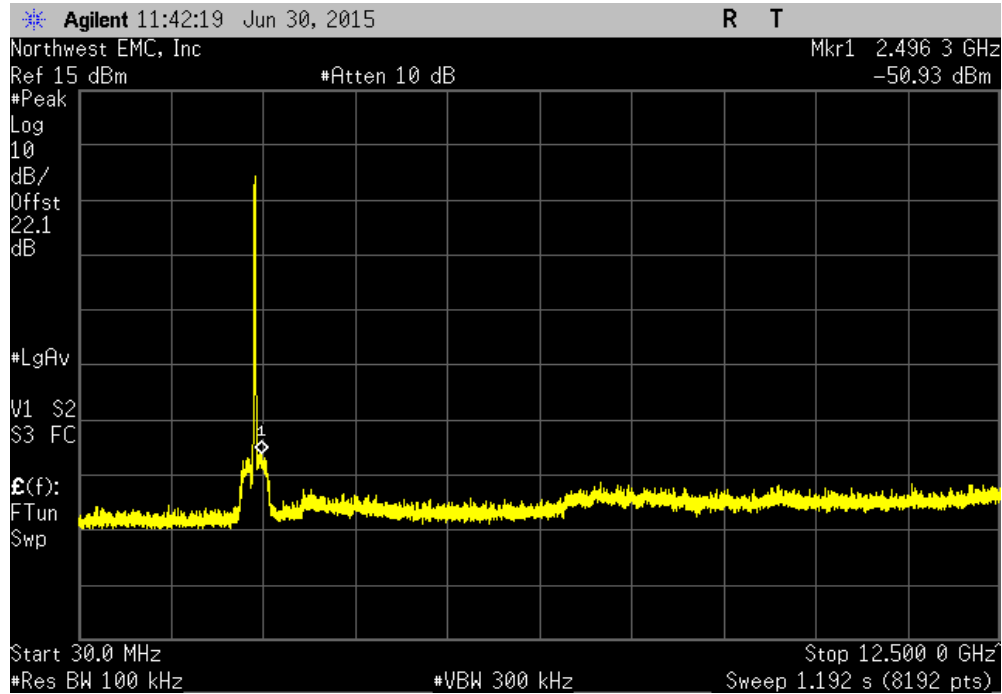


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

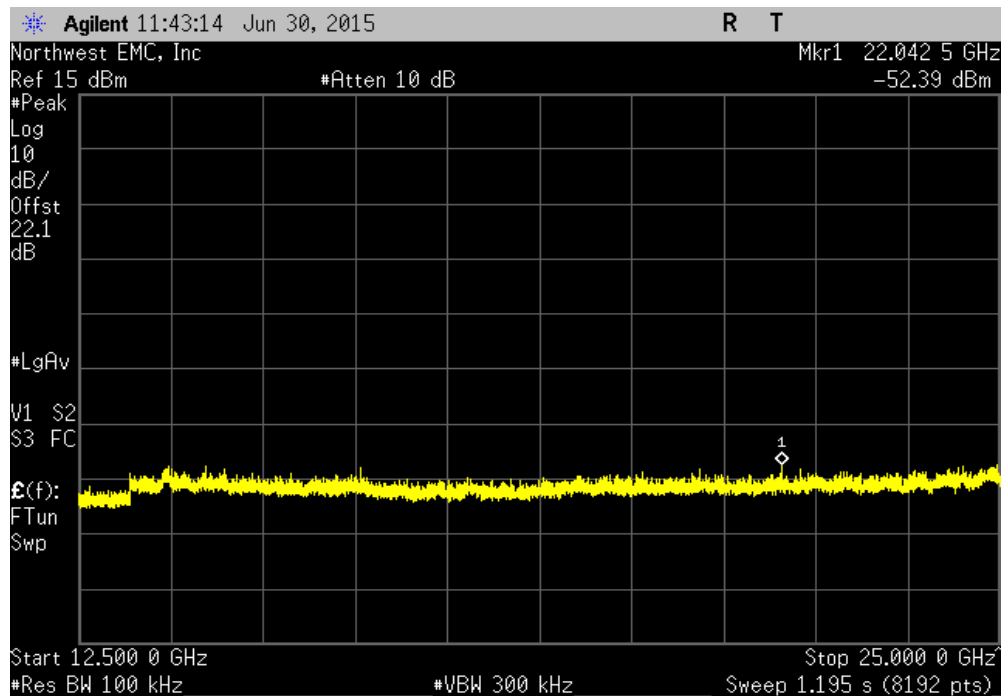


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-52.81	-20	Pass	

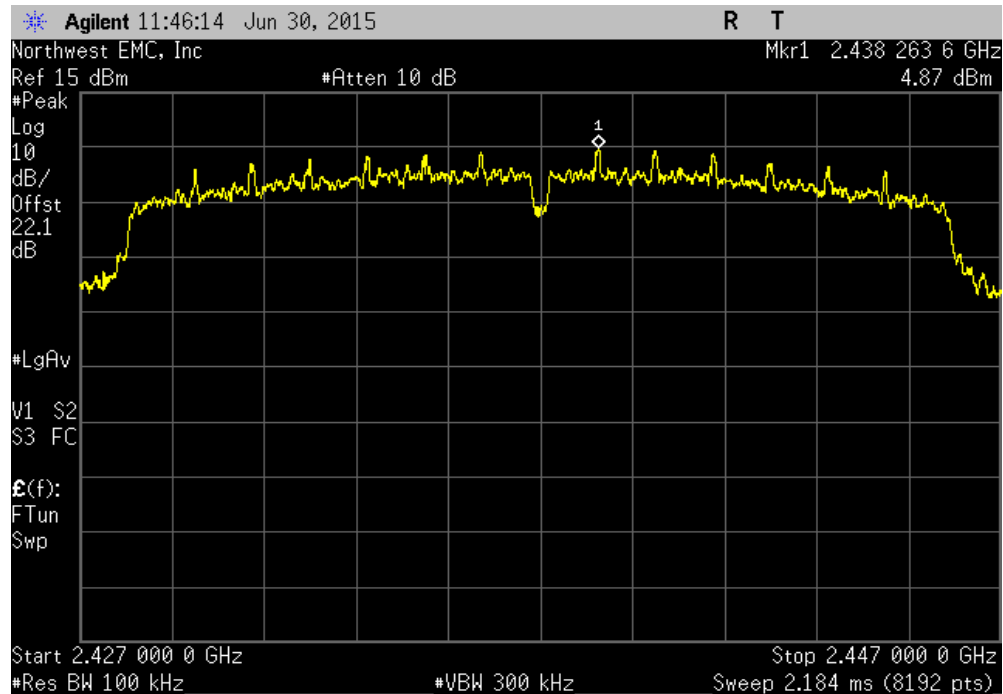


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-54.27	-20	Pass	

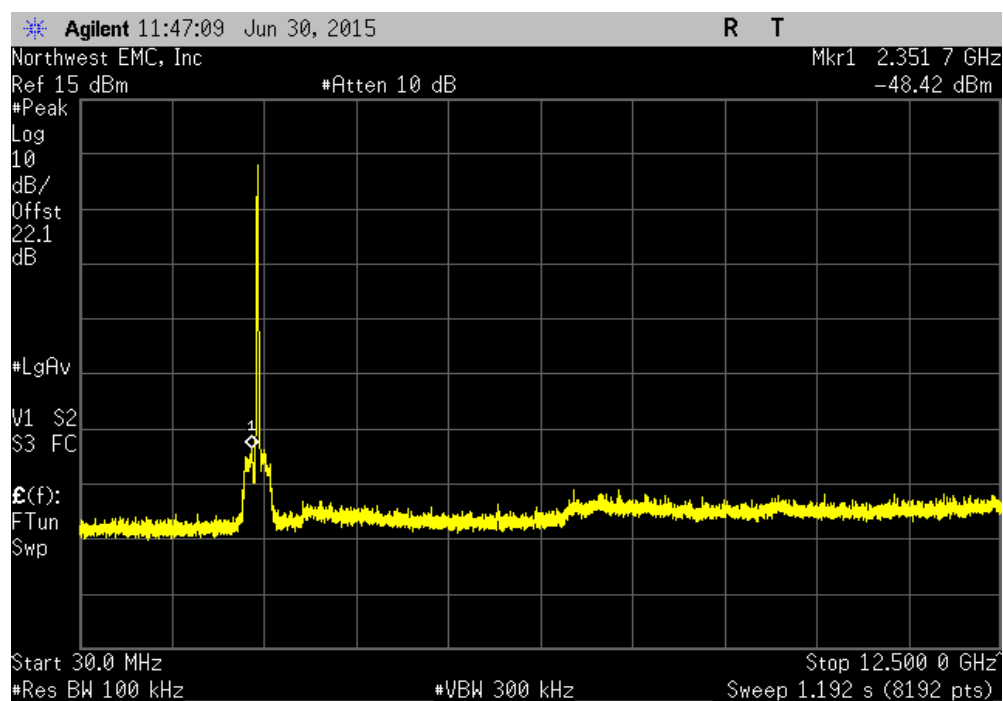


SPURIOUS CONDUCTED EMISSIONS

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

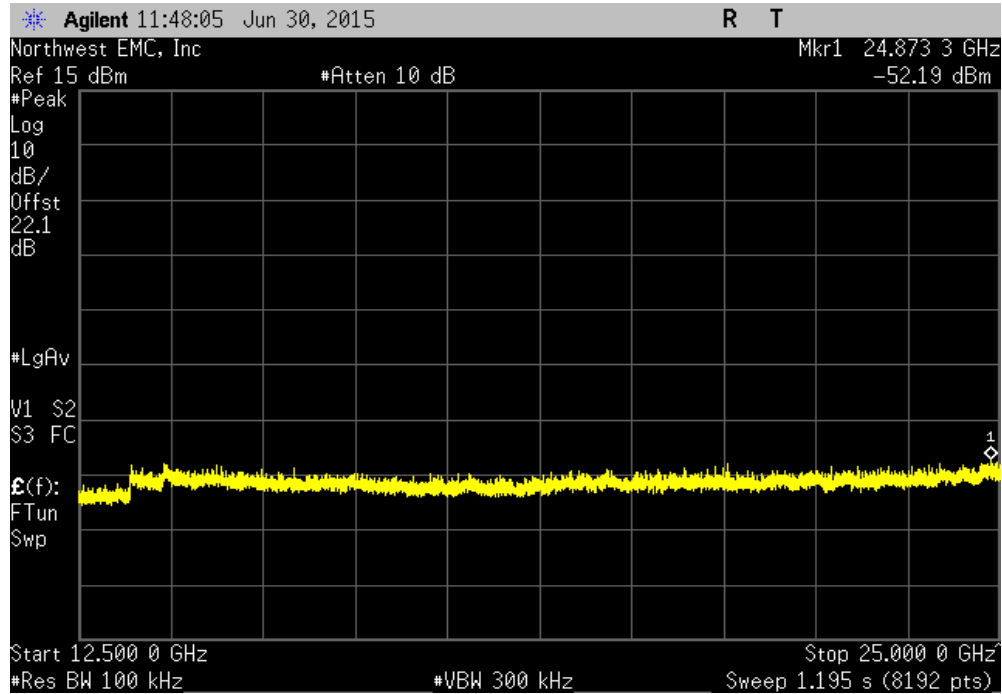


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz		-53.29	-20	Pass		

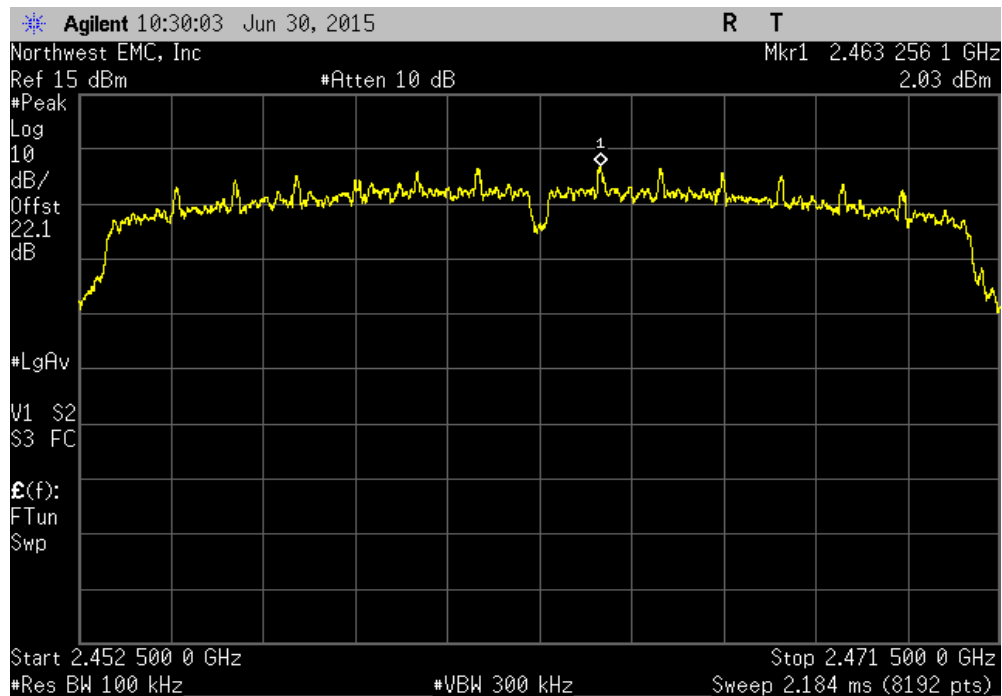


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-57.07	-20	Pass	

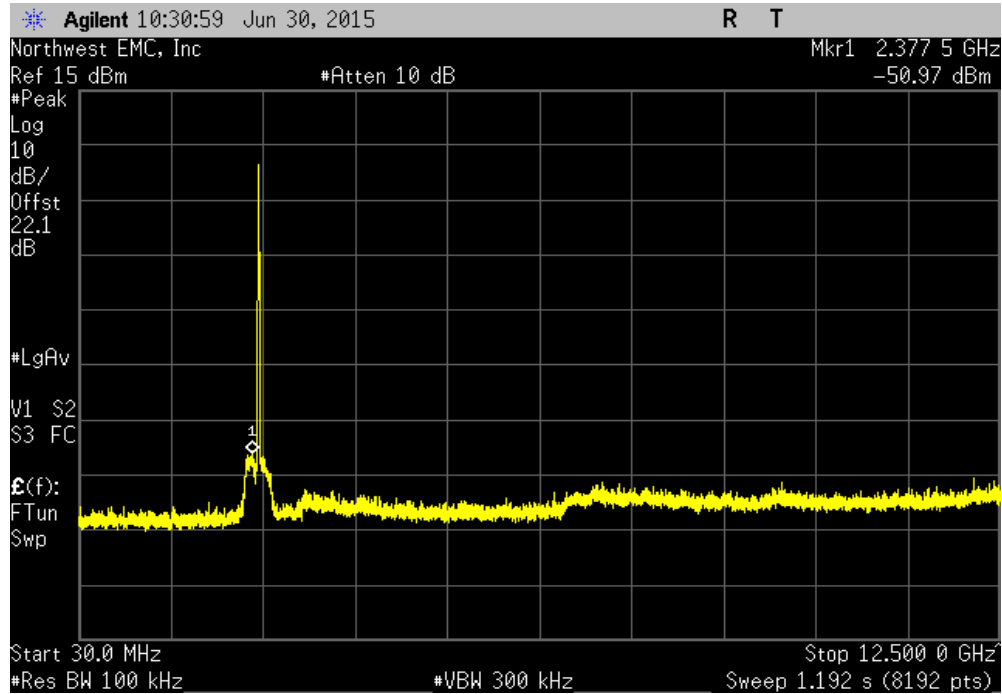


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

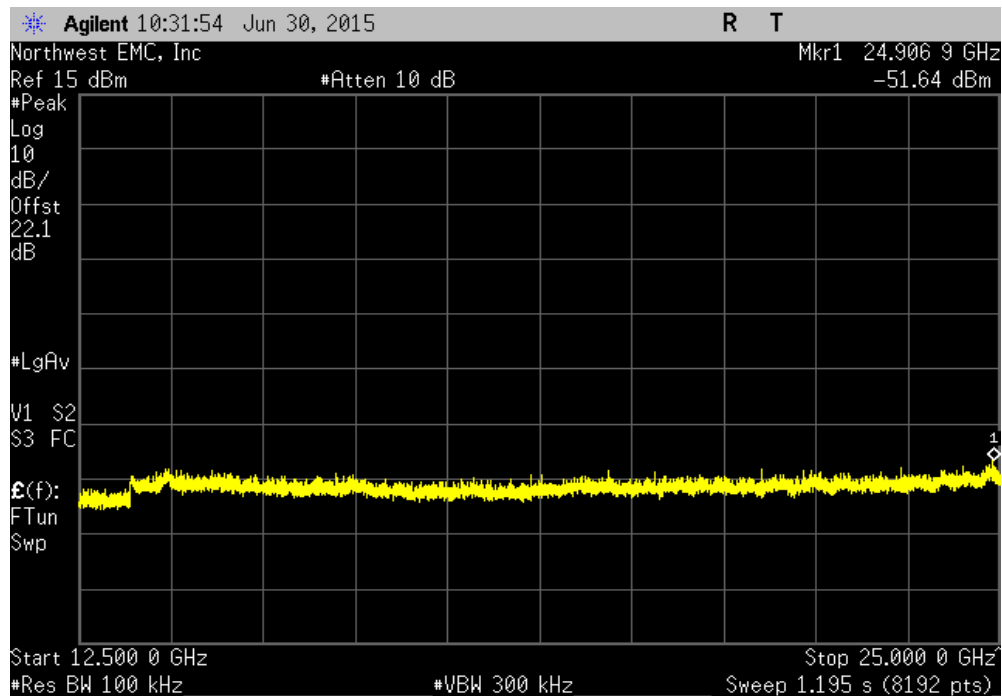


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-53	-20	Pass	

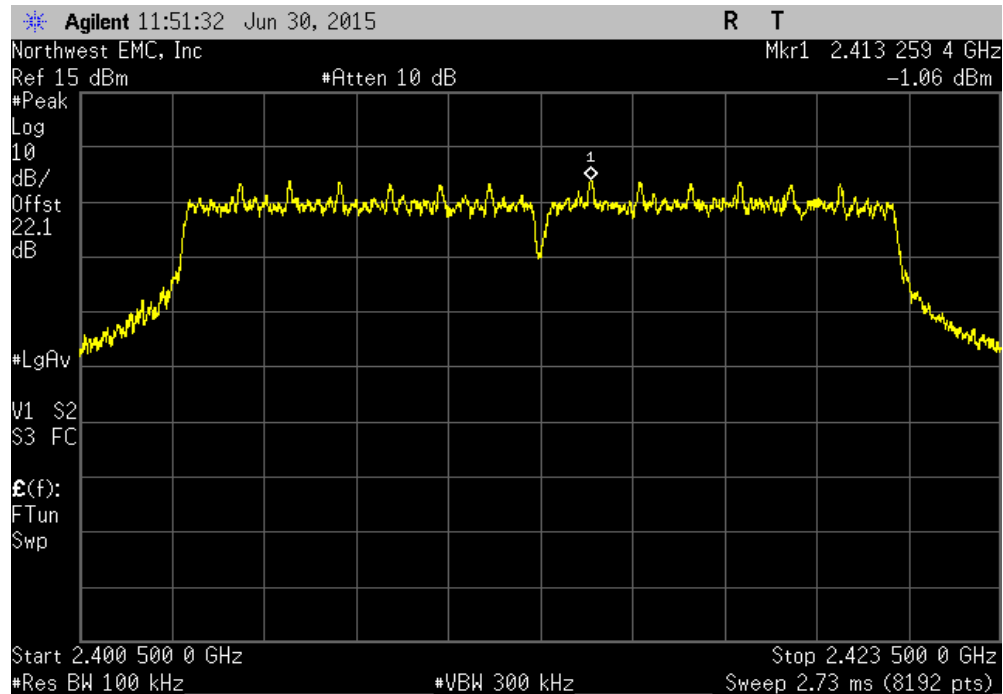


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-53.67	-20	Pass	

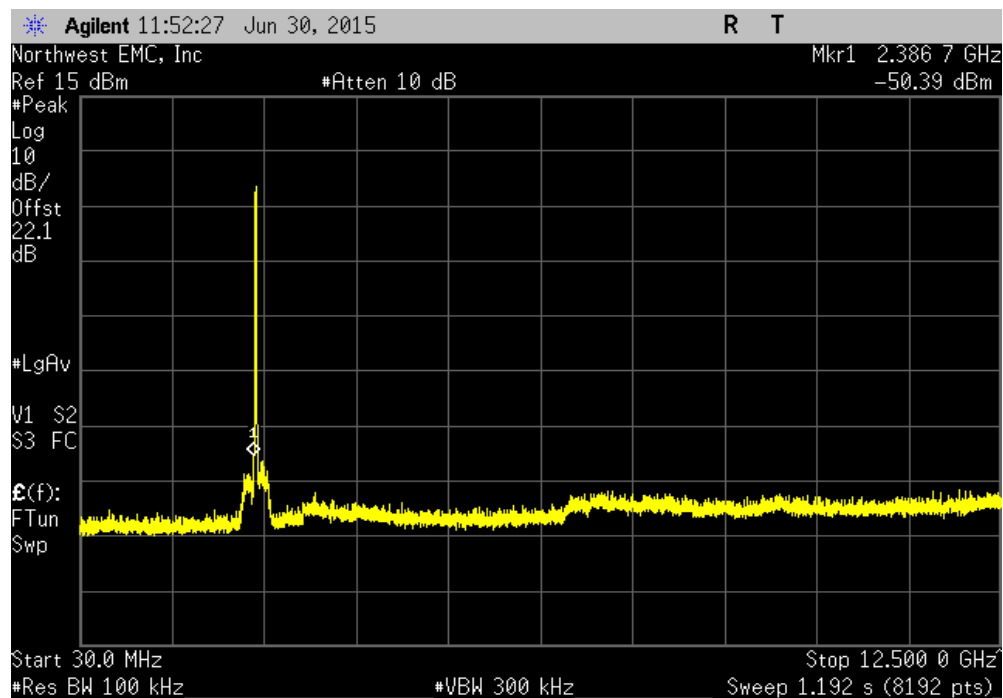


SPURIOUS CONDUCTED EMISSIONS

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

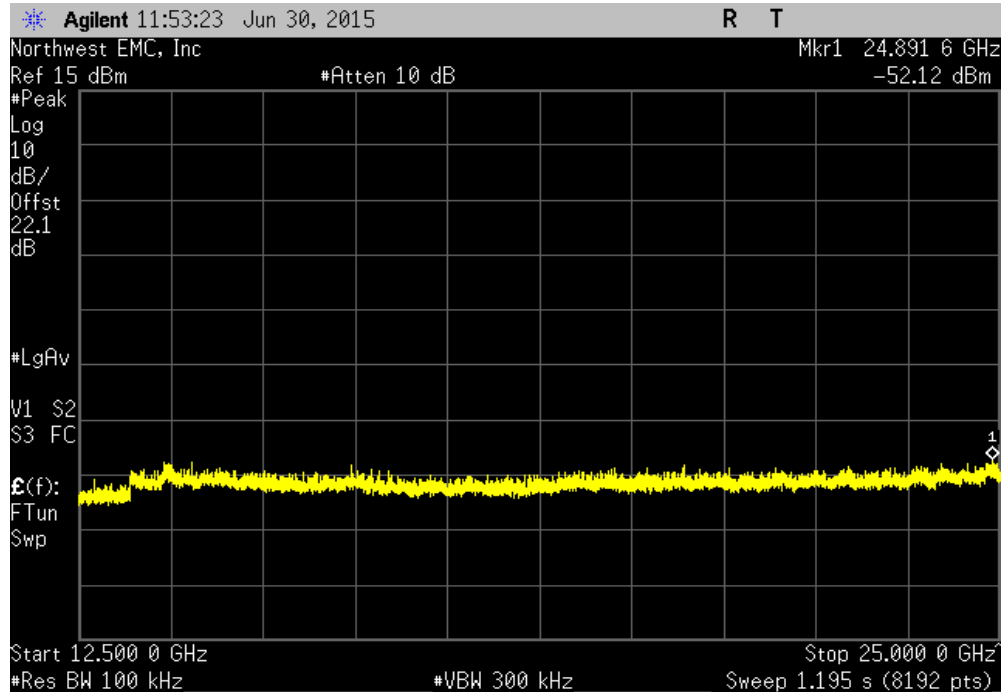


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz		-49.33	-20	Pass		

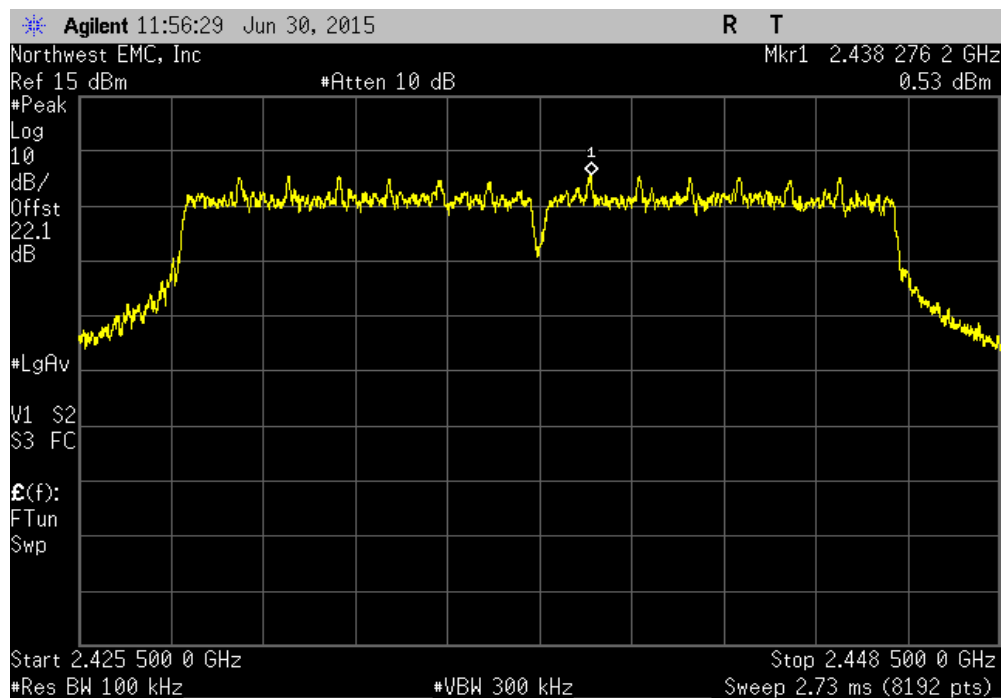


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-51.06	-20	Pass	

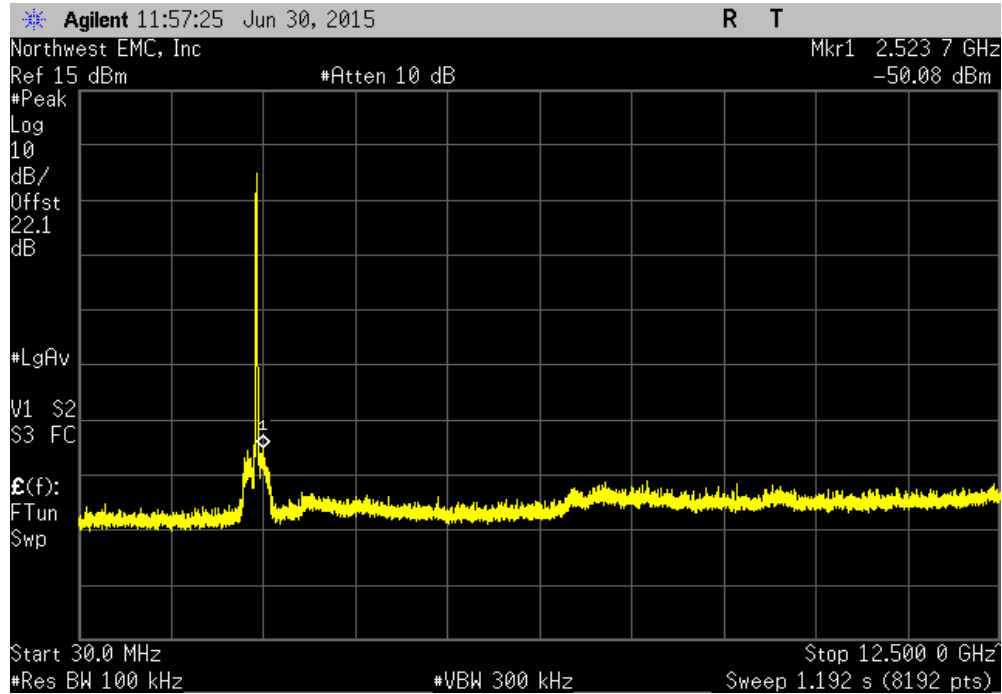


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

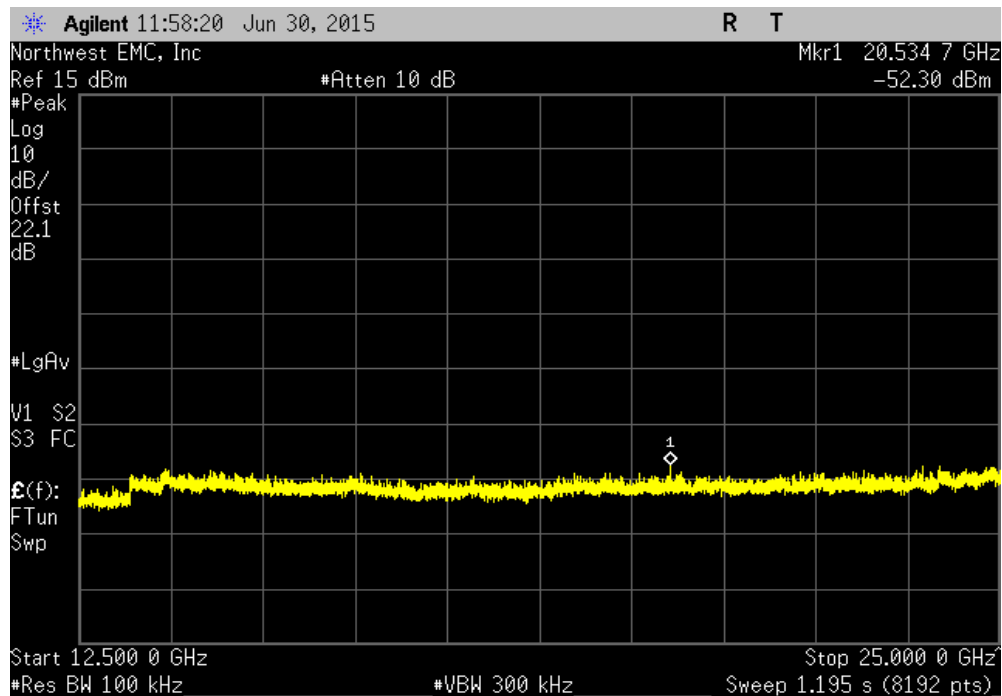


SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-50.61	-20	Pass	

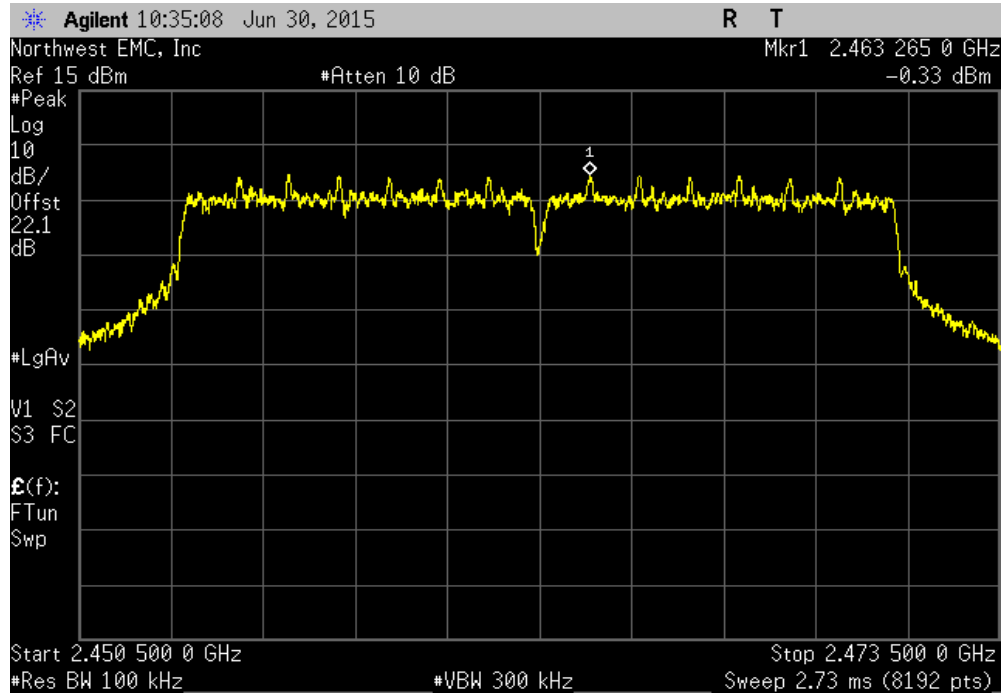


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz				
Frequency Range	Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-52.83	-20	Pass	

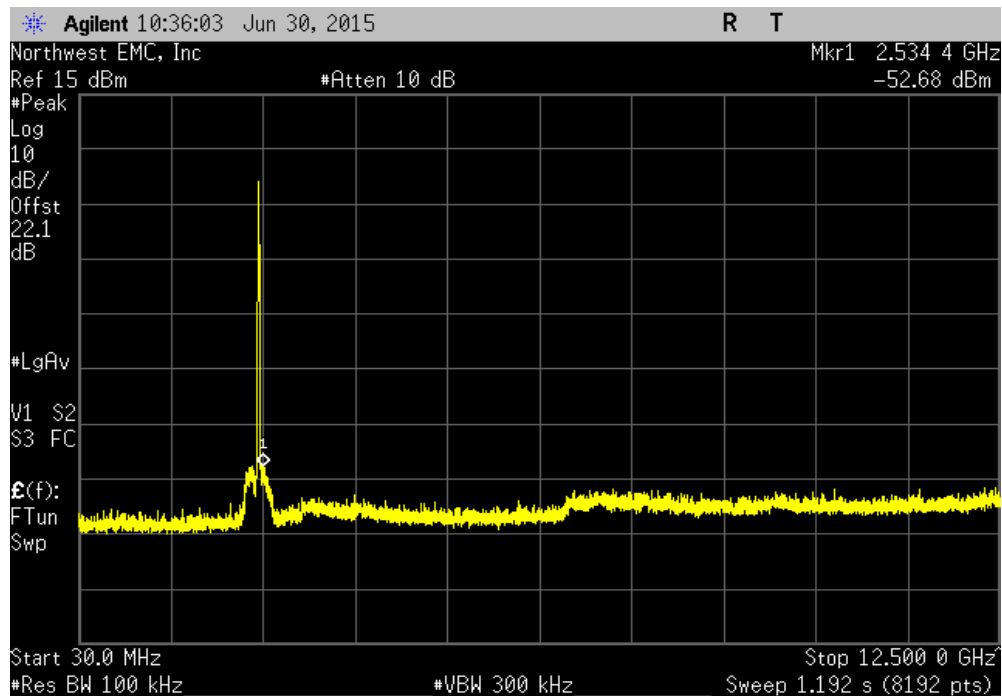


SPURIOUS CONDUCTED EMISSIONS

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

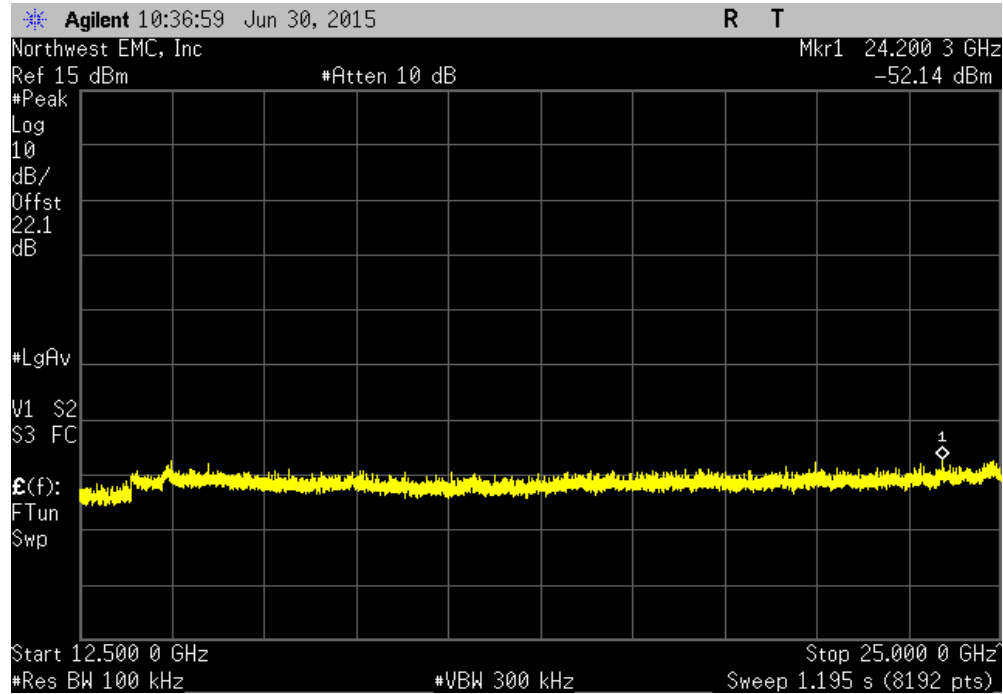


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz		-52.35	-20	Pass		



SPURIOUS CONDUCTED EMISSIONS

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz				
Frequency	Value	Limit		
Range	(dBc)	≤ (dBc)	Result	
12.5 GHz - 25 GHz	-51.81	-20	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 (mos)
MN08 Direct Connect Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	10/2/2014	12
Attenuator, 20db, 'SMA'	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
DC Block, 40 GHz	Fairview Microwave	SD3379	AMI	10/2/2014	12
Signal Generator MXG	Agilent	N5183A	TIK	10/17/2014	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/20/2015	12

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



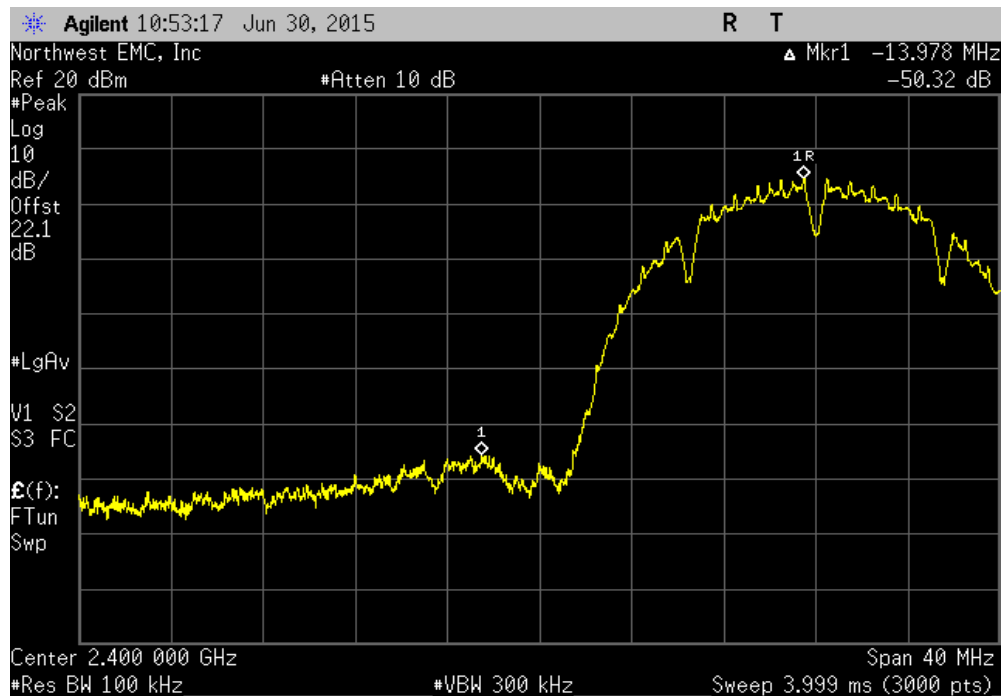
XMR 2015.01.14

EUT: 501101		Work Order: IRR10007	
Serial Number: None		Date: 06/30/15	
Customer: IrriGreen, Inc		Temperature: 23.2°C	
Attendees: Gary Klinefelter		Humidity: 52%	
Project: None		Barometric Pres.: 983.9	
Tested by: Trevor Buls		Power: 110VAC/60Hz	
		Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2015		ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Trevor Buls</i>	
		Value (dBc)	Limit ≤ (dBc) Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz		-50.32	-20 Pass
High Channel 11, 2462 MHz		-53.07	-20 Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz		-43.98	-20 Pass
High Channel 11, 2462 MHz		-53.52	-20 Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz		-30.97	-20 Pass
High Channel 11, 2462 MHz		-47.02	-20 Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz		-31.11	-20 Pass
High Channel 11, 2462 MHz		-45.17	-20 Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz		-31.45	-20 Pass
High Channel 11, 2462 MHz		-45.74	-20 Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz		-32.45	-20 Pass
High Channel 11, 2462 MHz		-47.49	-20 Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz		-30.92	-20 Pass
High Channel 11, 2462 MHz		-45.1	-20 Pass

BAND EDGE COMPLIANCE

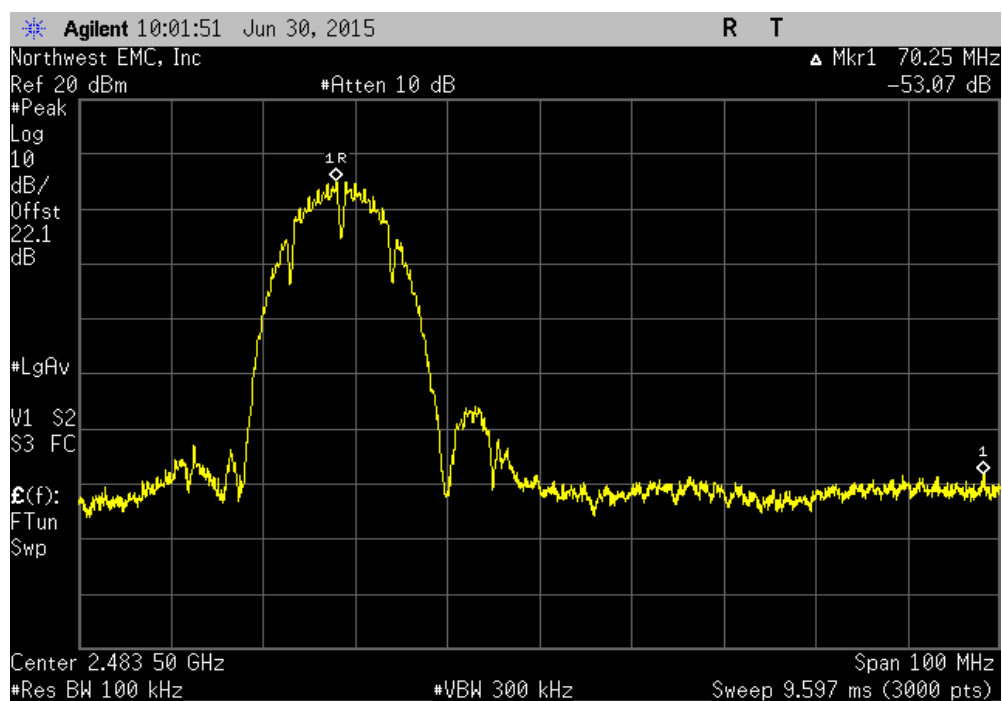
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz

	Value (dBc)	Limit ≤ (dBc)	Result
	-50.32	-20	Pass



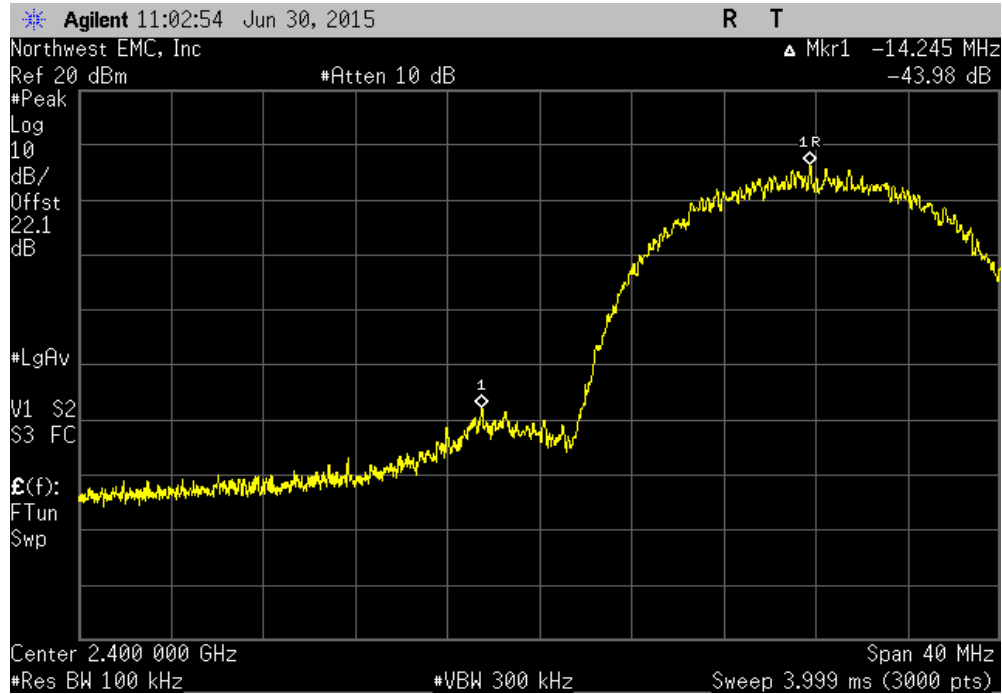
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz

	Value (dBc)	Limit ≤ (dBc)	Result
	-53.07	-20	Pass

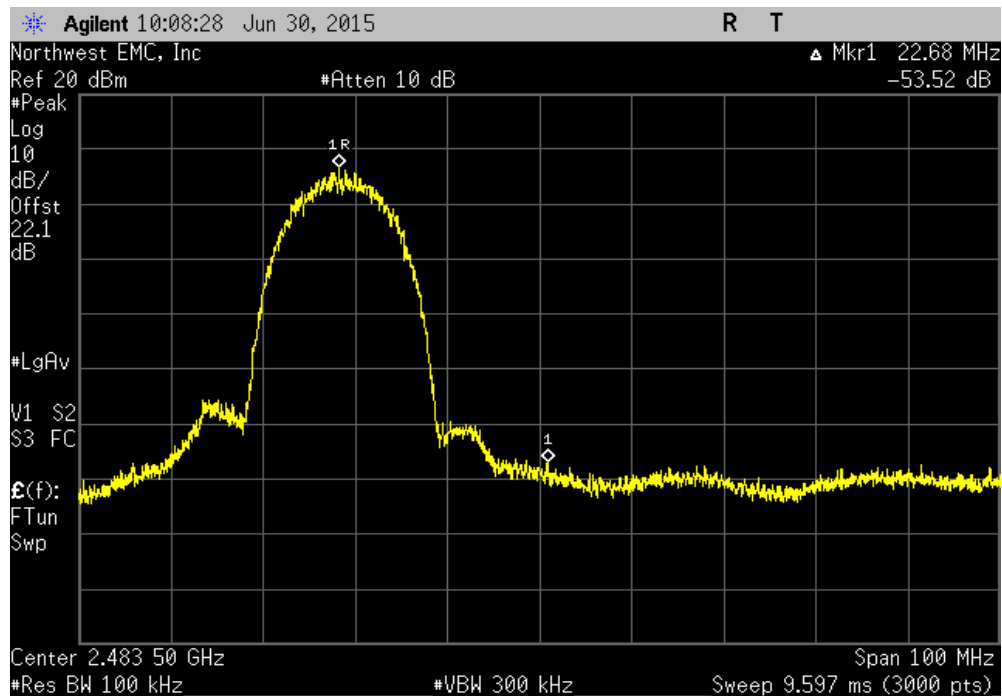


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-43.98	-20	Pass



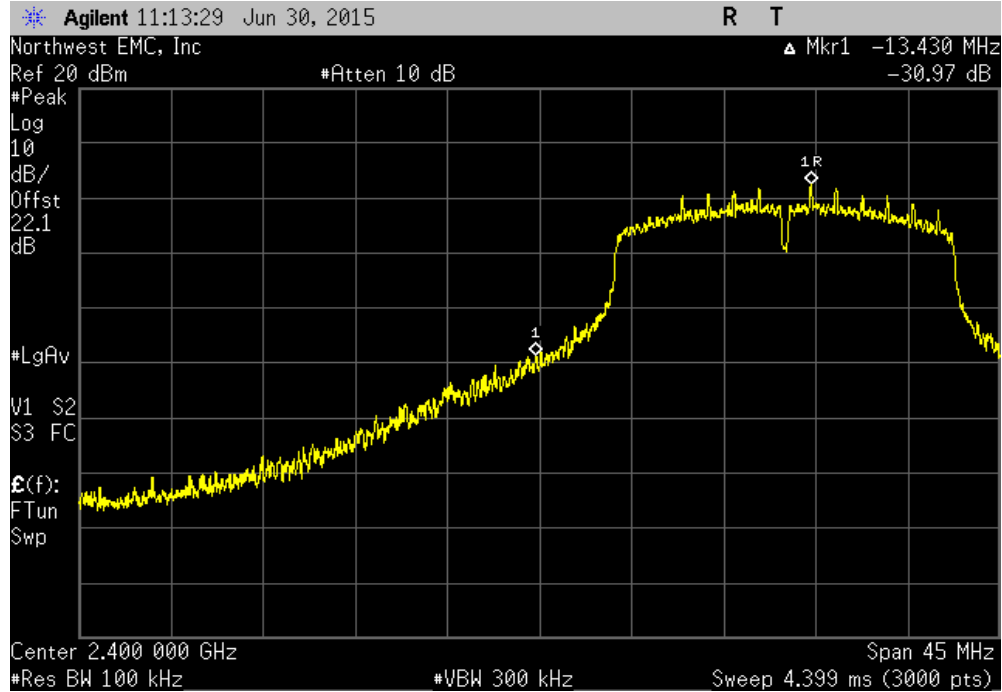
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-53.52	-20	Pass



BAND EDGE COMPLIANCE

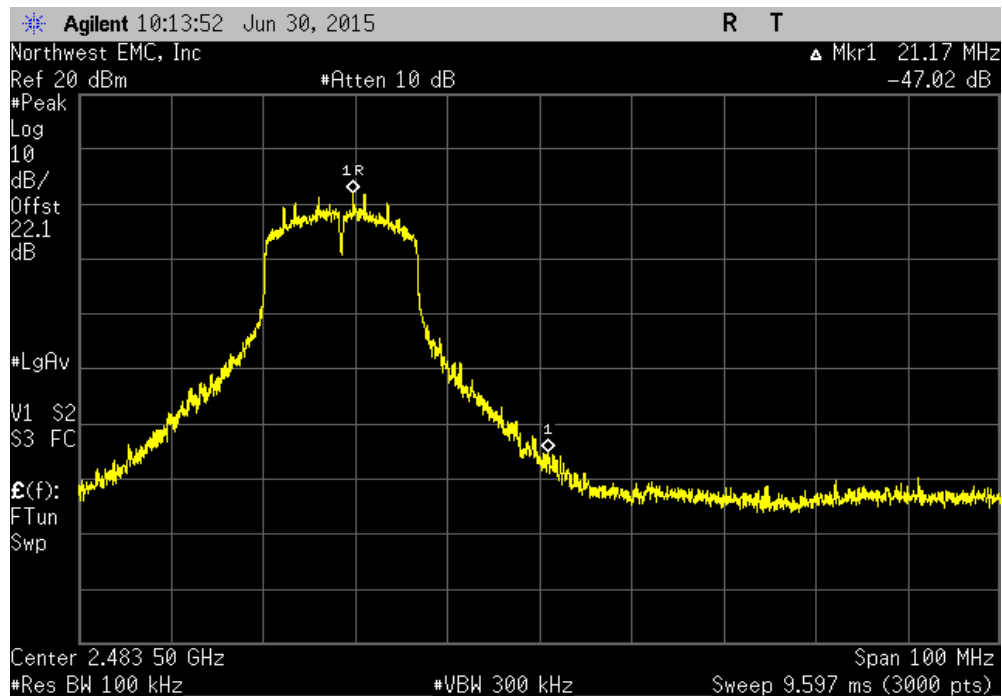
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

				Value (dBc)	Limit ≤ (dBc)	Result
				-30.97	-20	Pass



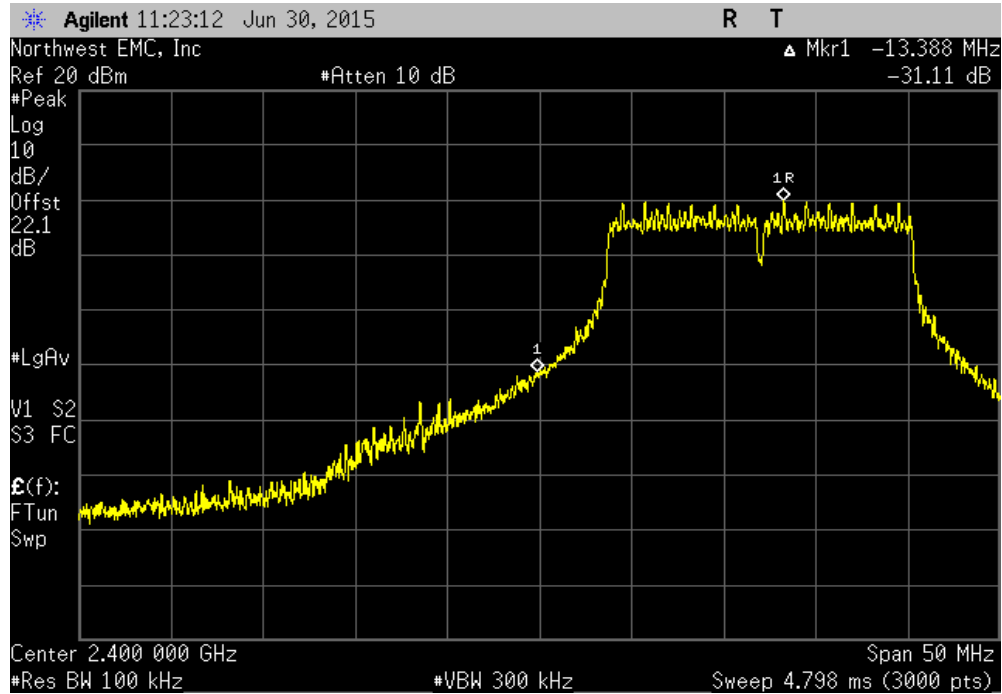
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz

				Value (dBc)	Limit ≤ (dBc)	Result
				-47.02	-20	Pass

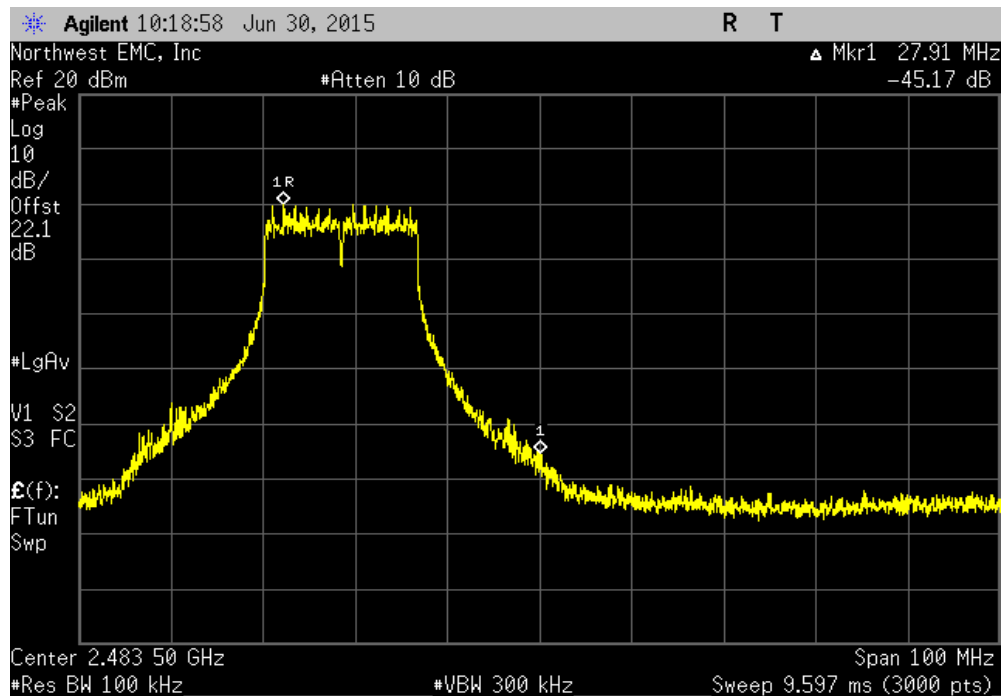


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-31.11	-20	Pass

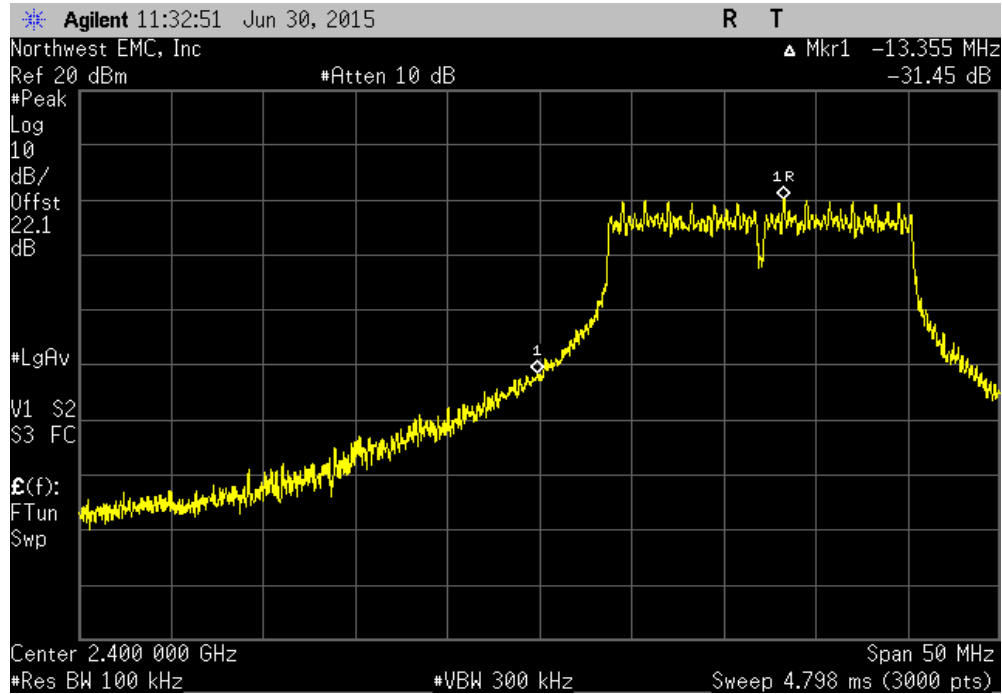


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-45.17	-20	Pass

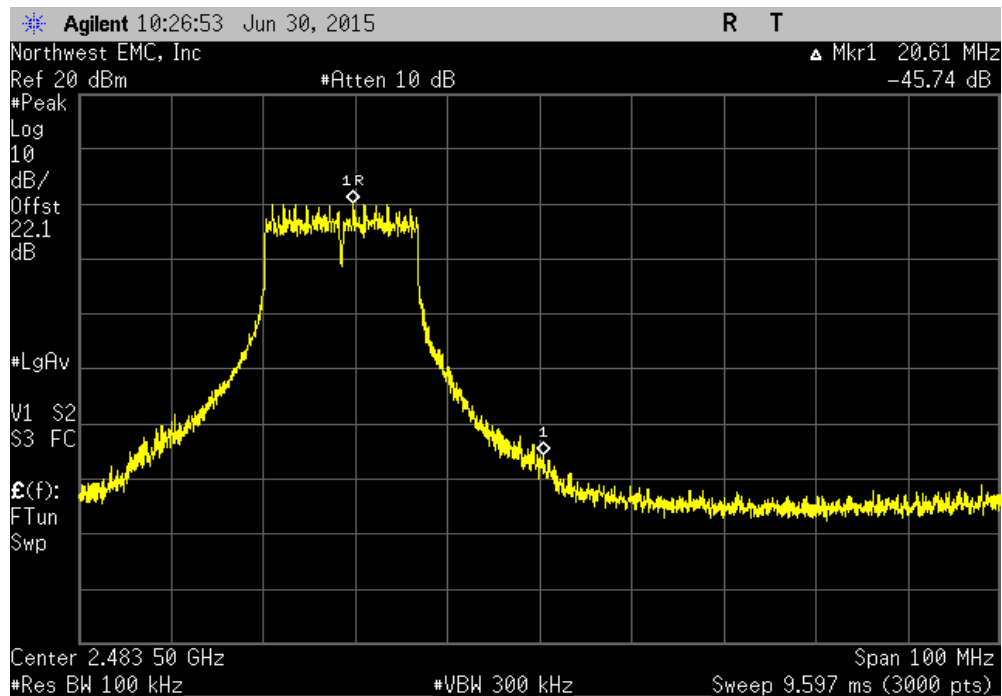


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-31.45	-20	Pass

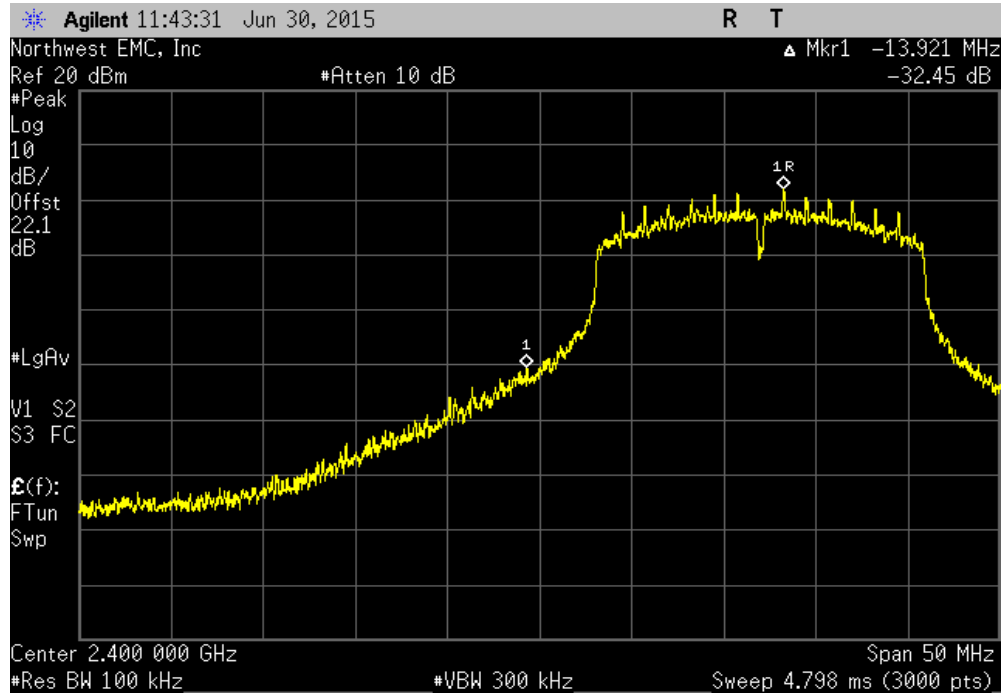


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-45.74	-20	Pass

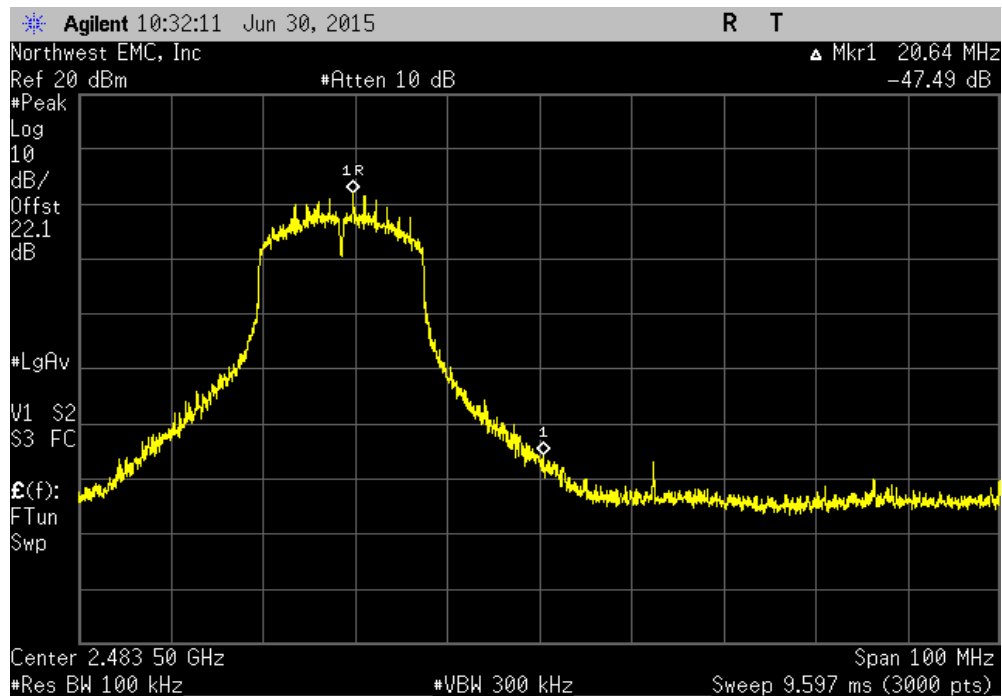


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-32.45	-20	Pass

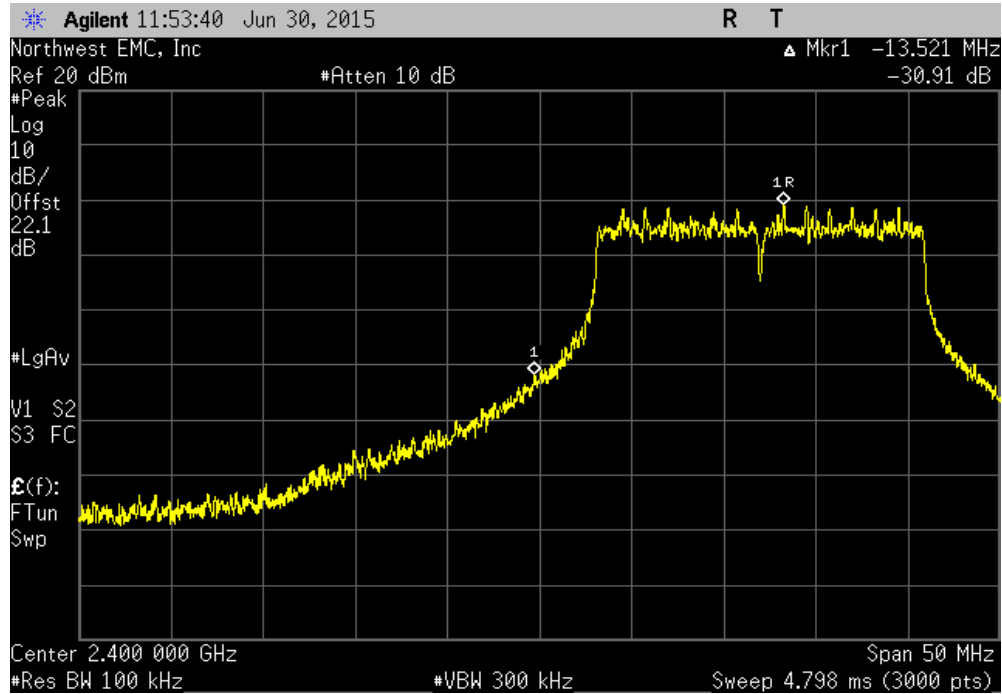


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-47.49	-20	Pass

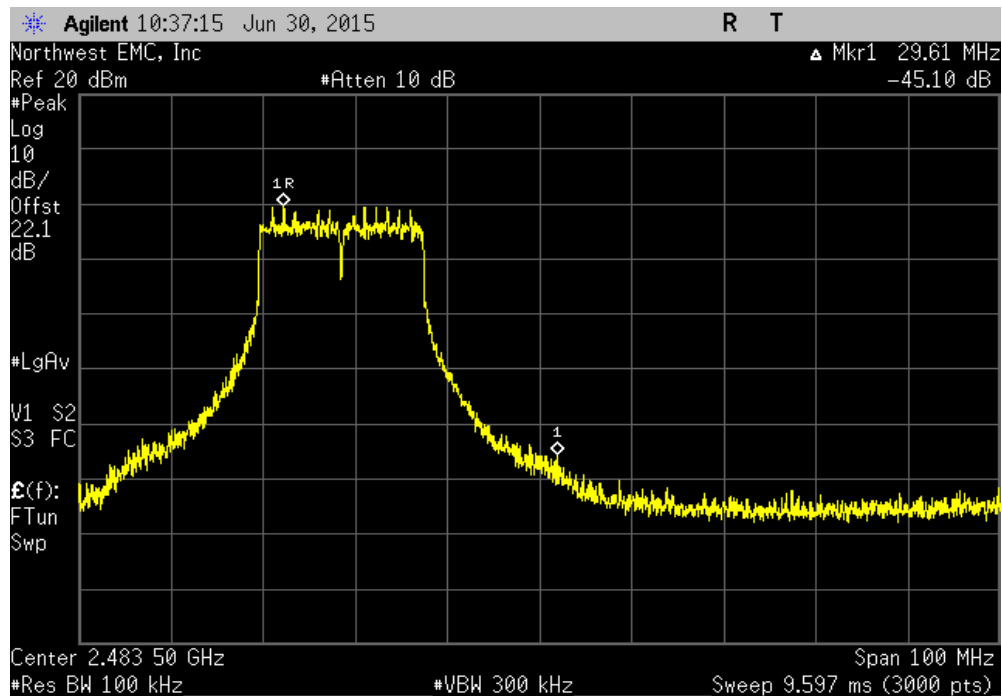


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-30.92	-20	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-45.1	-20	Pass



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 (mos)
MN08 Direct Connect Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	10/2/2014	12
Attenuator, 20db, 'SMA'	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
DC Block, 40 GHz	Fairview Microwave	SD3379	AMI	10/2/2014	12
Signal Generator MXG	Agilent	N5183A	TIK	10/17/2014	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/20/2015	12

TEST DESCRIPTION

The 6dB occupied bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The 99.9% (approximate 26 dB) emission bandwidth (EBW) was also measured at the same time.

The EUT was set to the channels and modes listed in the datasheet. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer.

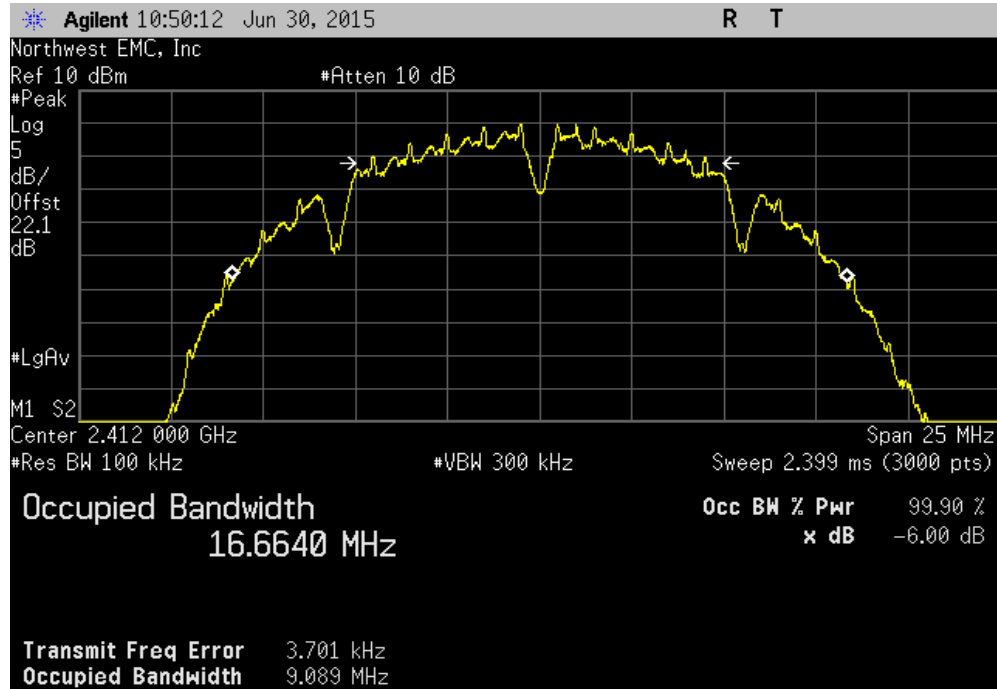
OCCUPIED BANDWIDTH

EUT: 501101		Work Order: IRR10007	
Serial Number: None		Date: 06/30/15	
Customer: IrriGreen, Inc.		Temperature: 23.2°C	
Attendees: Gary Klinefelter		Humidity: 52%	
Project: None		Barometric Pres.: 983.9	
Tested by: Trevor Buls	Power: 110VAC/60Hz	Job Site: MN08	
TEST SPECIFICATIONS			
FCC 15.247:2015		Test Method: ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature: <i>Trevor Buls</i>	
		Value	Limit (>) Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	9.089 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	9.091 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	9.09 MHz	500 kHz Pass
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	9.553 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	9.621 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	9.412 MHz	500 kHz Pass
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	13.89 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	14.715 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	14.762 MHz	500 kHz Pass
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	16.433 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	16.434 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	16.472 MHz	500 kHz Pass
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	16.433 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	16.462 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	16.41 MHz	500 kHz Pass
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	14.974 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	15.243 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	14.886 MHz	500 kHz Pass
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	17.591 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	17.602 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	17.648 MHz	500 kHz Pass

OCCUPIED BANDWIDTH

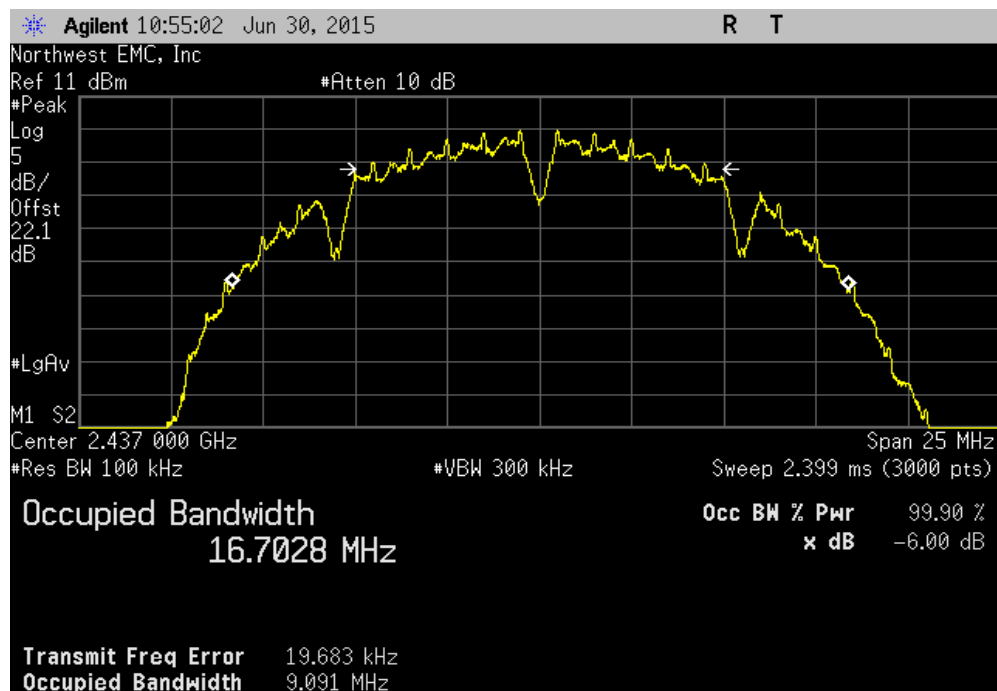
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz

				Value	Limit (>)	Result
				9.089 MHz	500 kHz	Pass



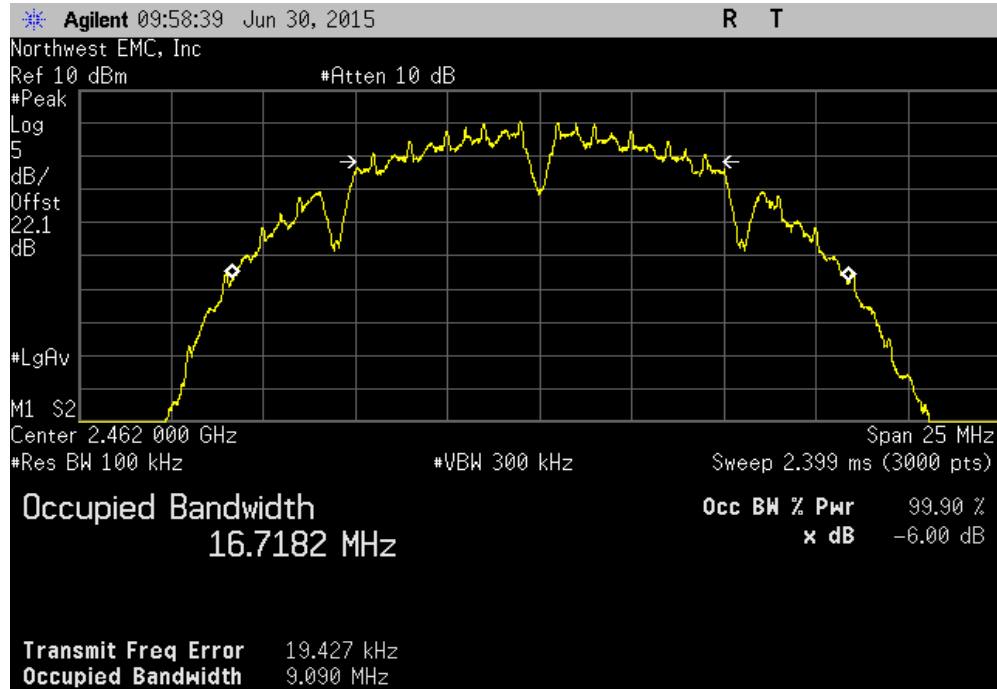
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit (>)	Result
				9.091 MHz	500 kHz	Pass

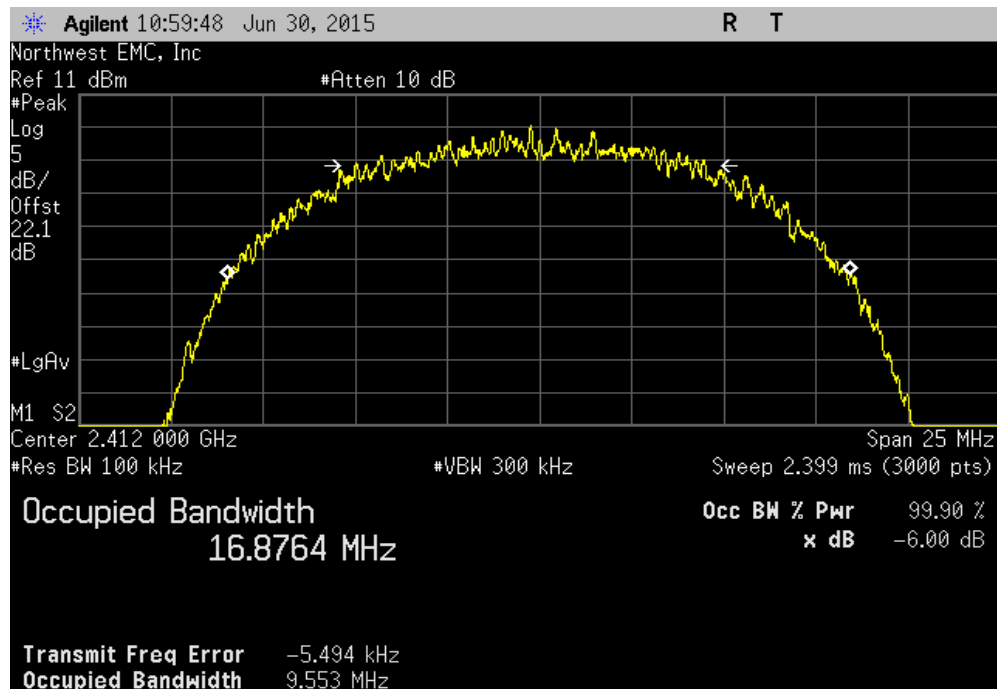


OCCUPIED BANDWIDTH

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



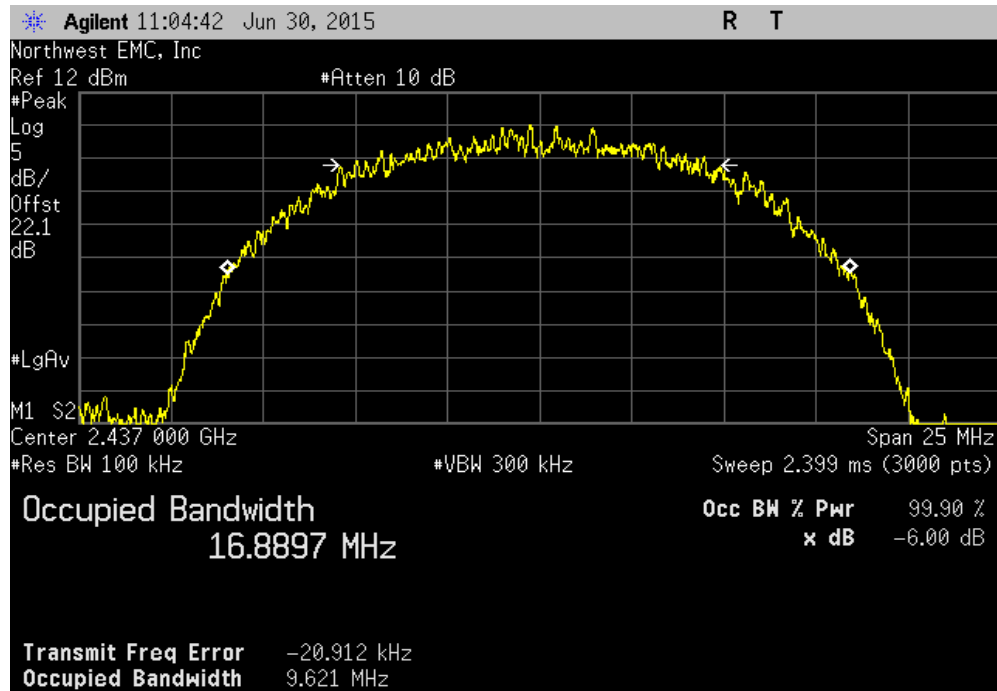
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				9.553 MHz	500 kHz	Pass



OCCUPIED BANDWIDTH

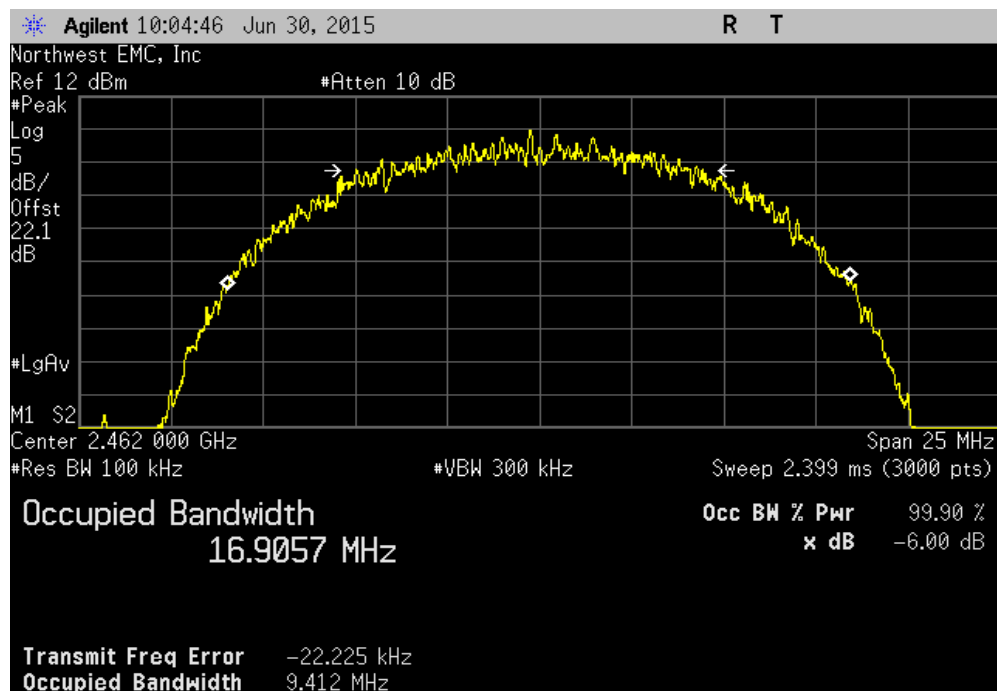
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz

	Value	Limit (>)	Result
	9.621 MHz	500 kHz	Pass



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

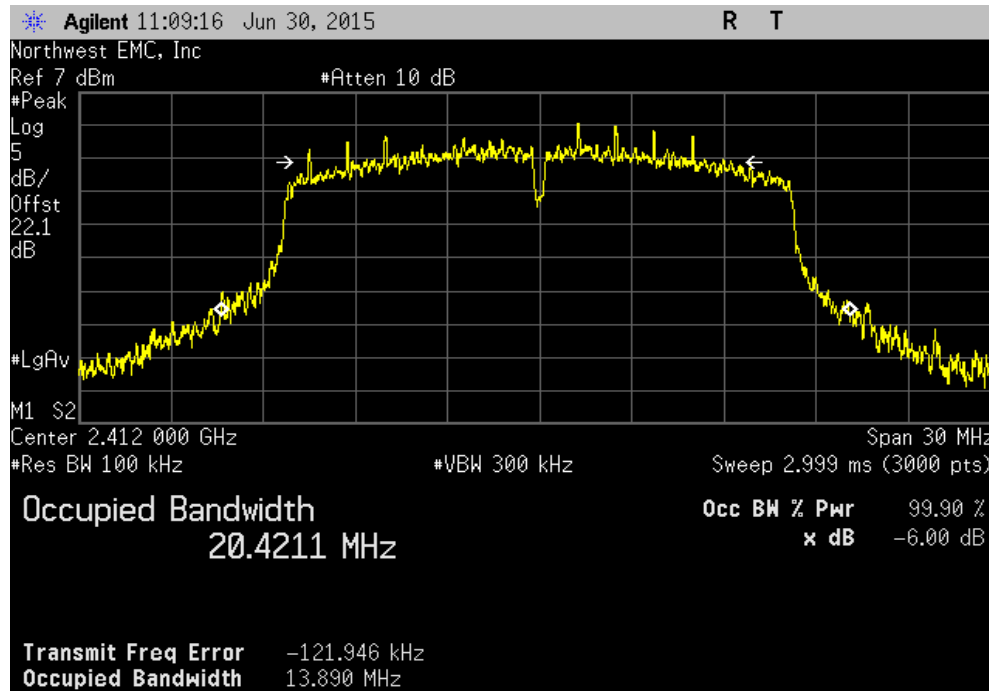
	Value	Limit (>)	Result
	9.412 MHz	500 kHz	Pass



OCCUPIED BANDWIDTH

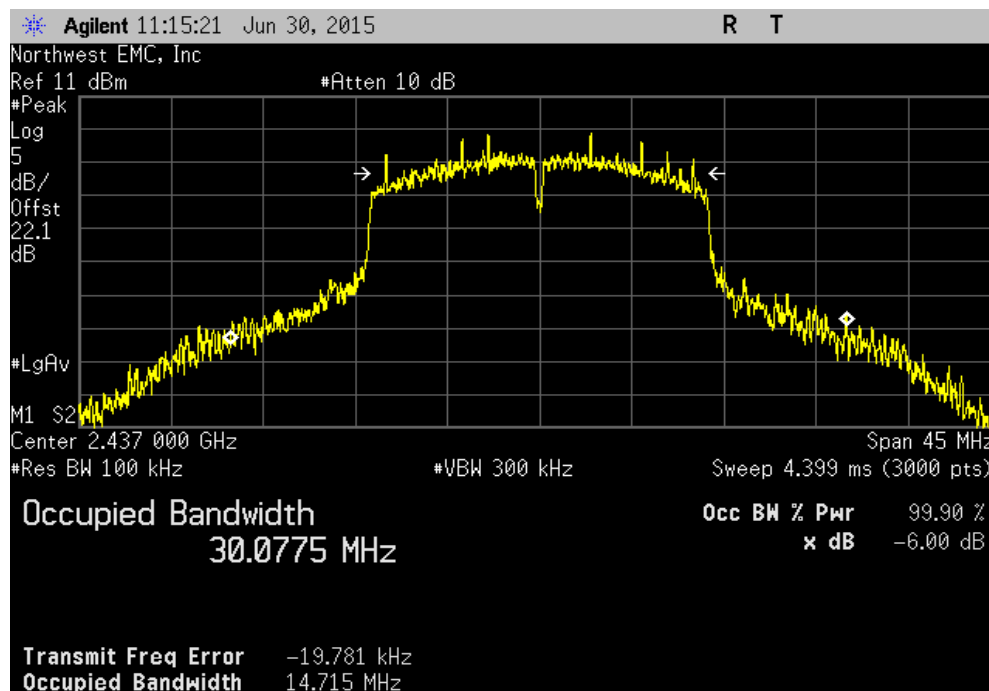
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

	Value	Limit	Result
	13.89 MHz	(> 500 kHz)	Pass



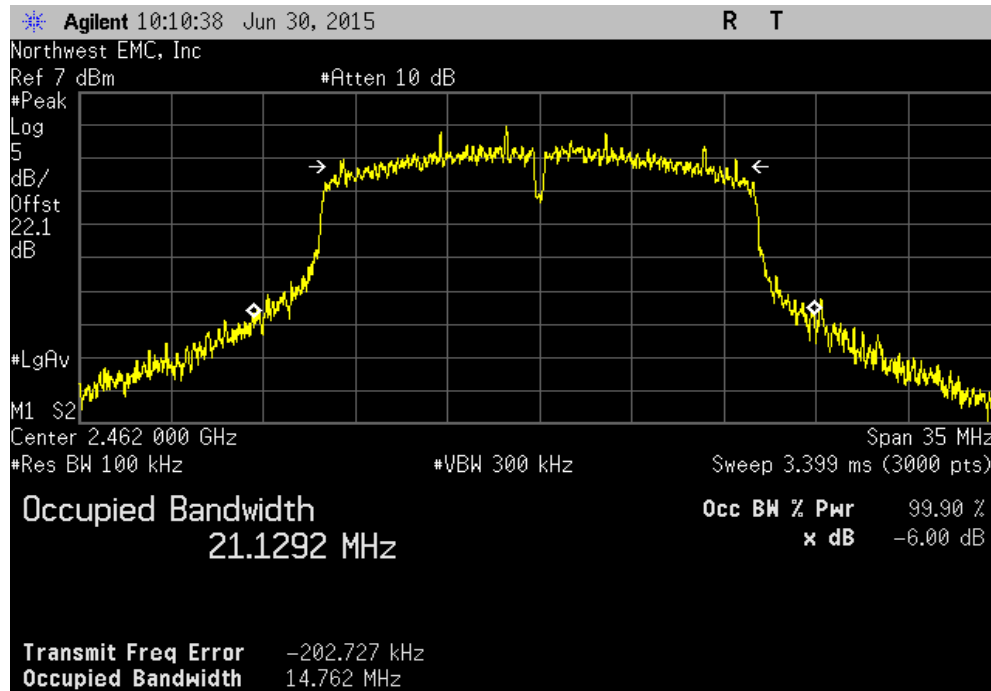
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz

	Value	Limit	Result
	14.715 MHz	(> 500 kHz)	Pass

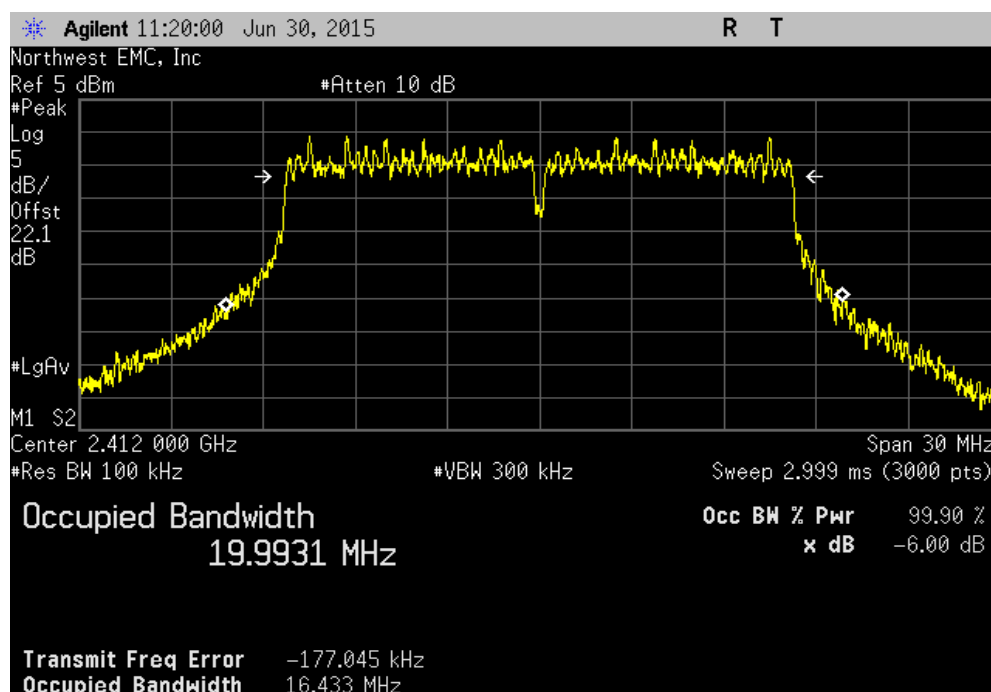


OCCUPIED BANDWIDTH

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

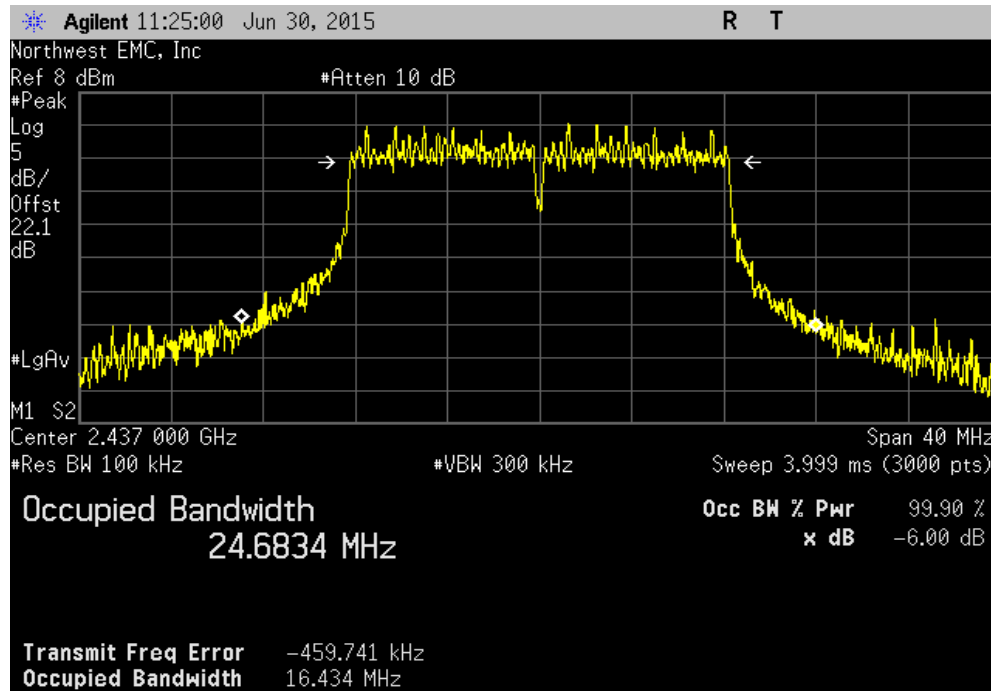


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				16.433 MHz	500 kHz	Pass

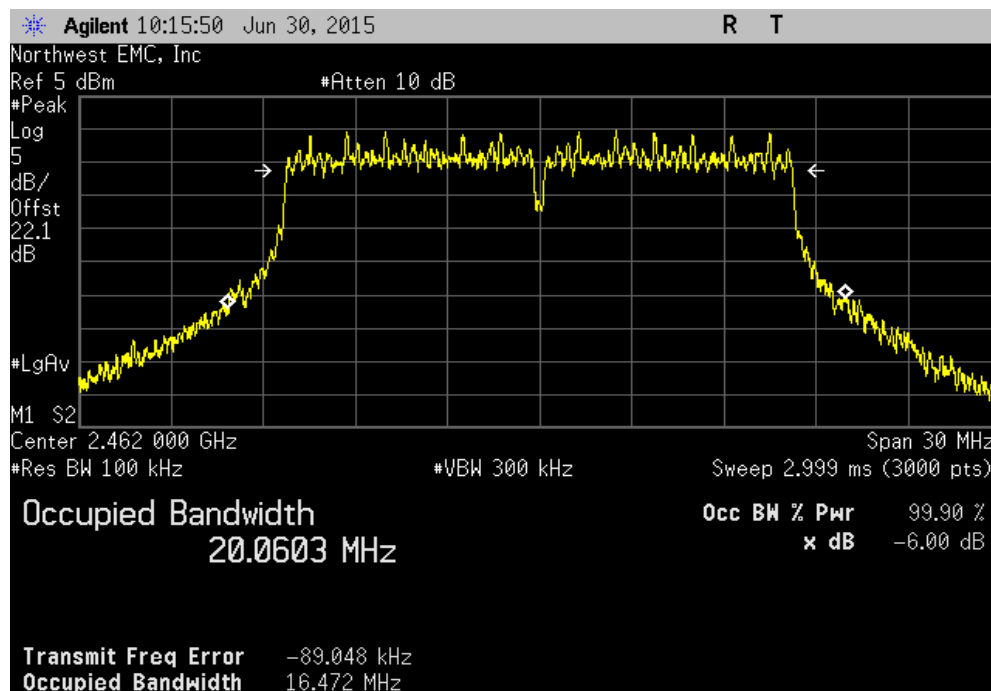


OCCUPIED BANDWIDTH

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

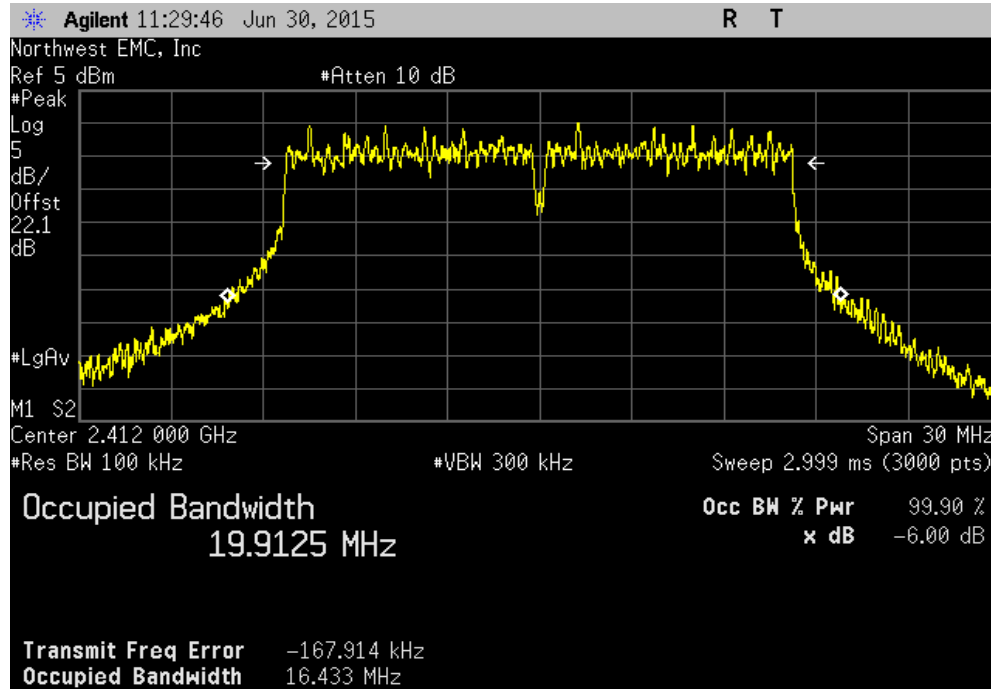


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
				Value	Limit	Result
				16.472 MHz	500 kHz	Pass

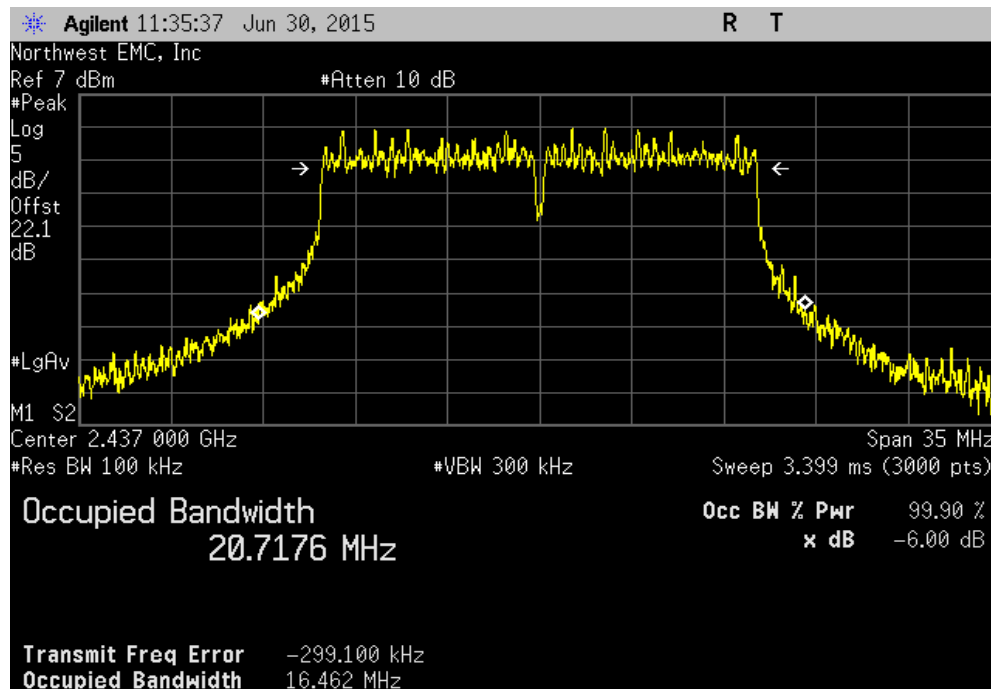


OCCUPIED BANDWIDTH

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

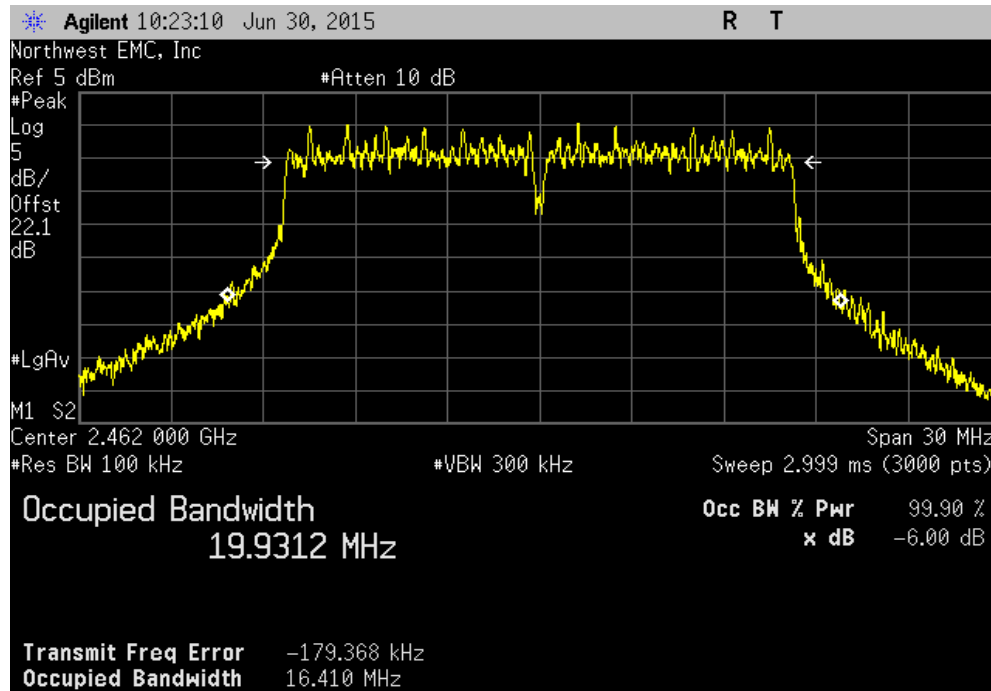


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				16.462 MHz	500 kHz	Pass

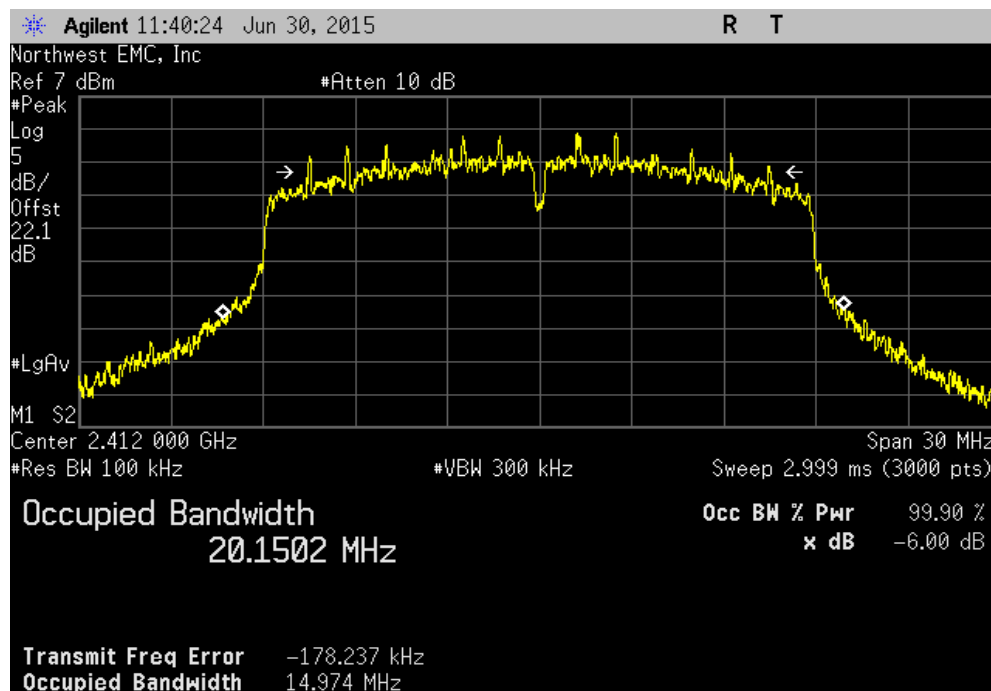


OCCUPIED BANDWIDTH

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

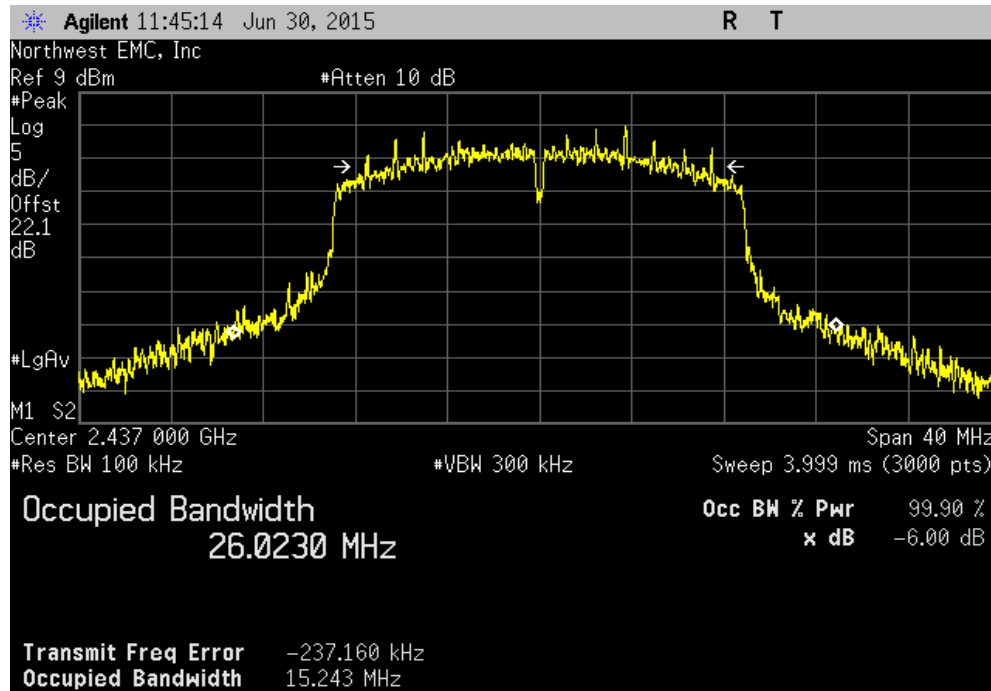


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				14.974 MHz	500 kHz	Pass

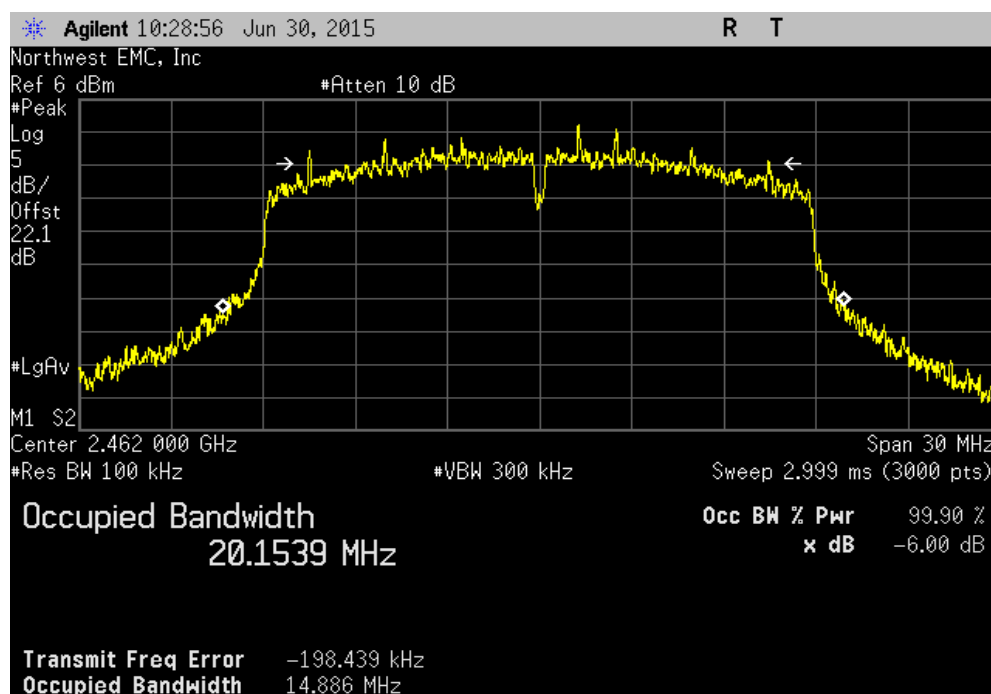


OCCUPIED BANDWIDTH

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

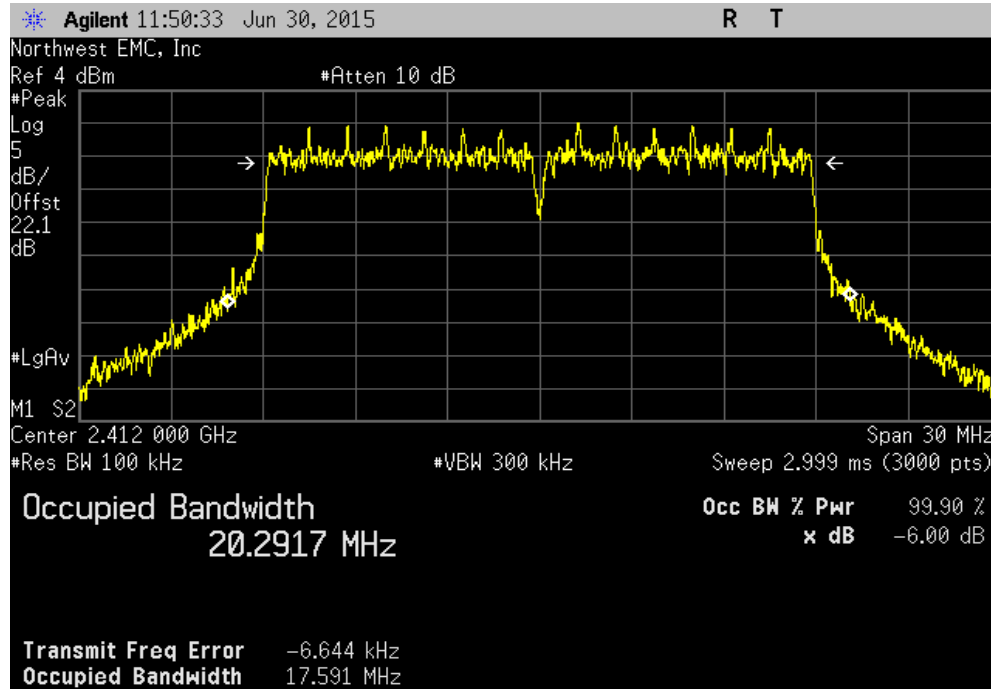


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				14.886 MHz	500 kHz	Pass

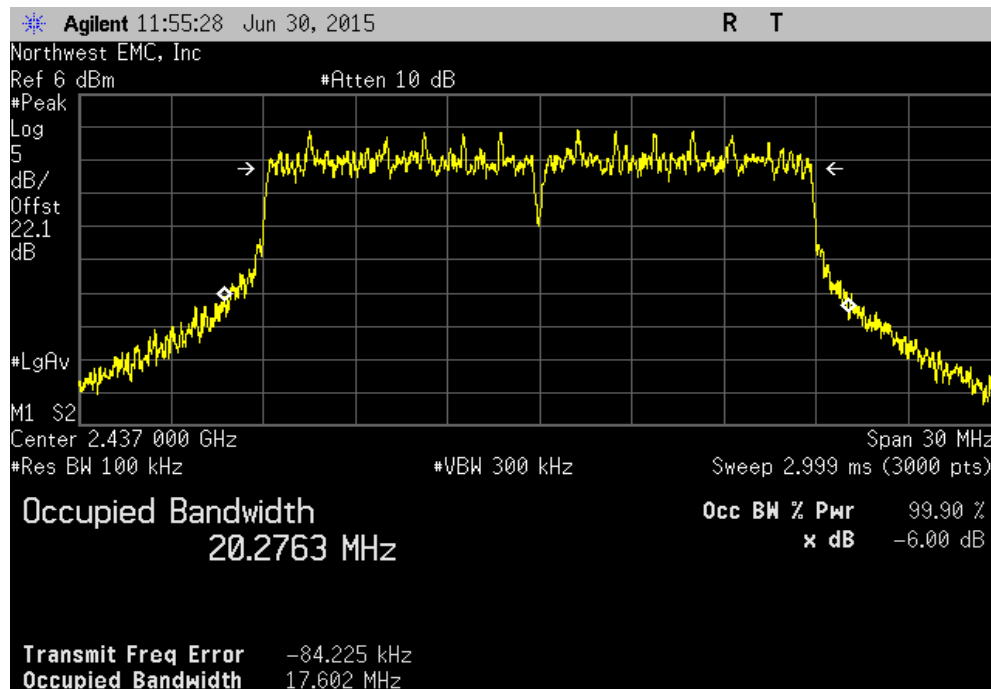


OCCUPIED BANDWIDTH

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

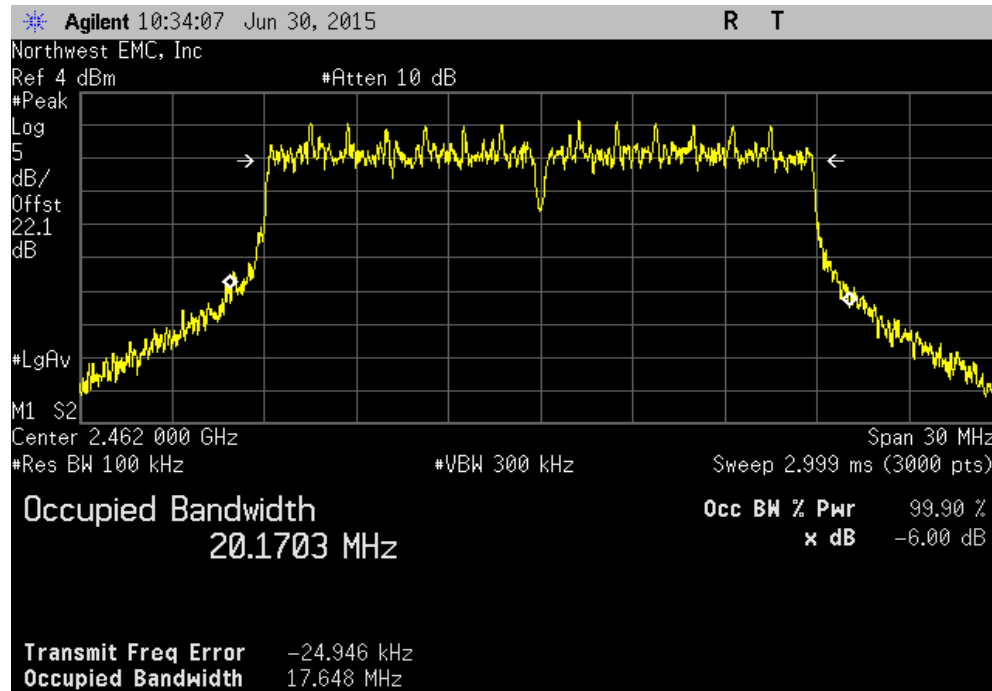


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				17.602 MHz	500 kHz	Pass



OCCUPIED BANDWIDTH

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
Value				Limit	Result	
				(>)		
17.648 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 (mos)
MN08 Direct Connect Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	10/2/2014	12
Attenuator, 20db, 'SMA'	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
DC Block, 40 GHz	Fairview Microwave	SD3379	AMI	10/2/2014	12
Signal Generator MXG	Agilent	N5183A	TIK	10/17/2014	36

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.

The channel power integration method found in KDB 558074 DTS D01 Measurement Section 9.1.2 was used because the DTS Bandwidth of the radio was greater than the RBW on the analyzer.

De Facto EIRP Limit: Per 47 CFR 15.247 (b)(1-3), the EUT meets the de facto EIRP limit of +36 dBm.

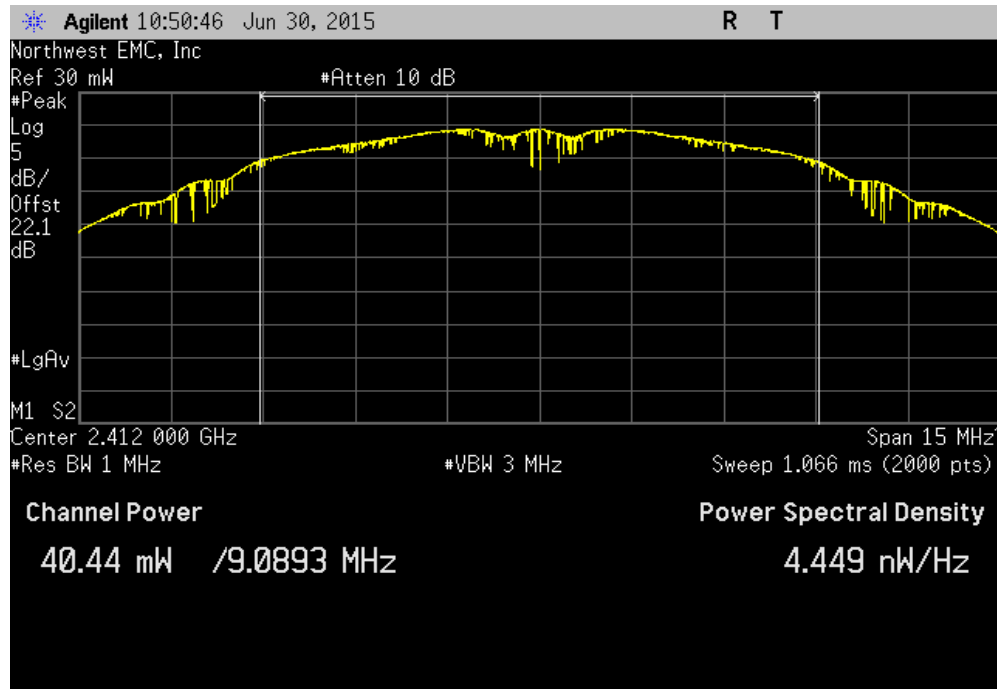
OUTPUT POWER

EUT: 501101		Work Order: IRR10007	
Serial Number: None		Date: 06/30/15	
Customer: IrriGreen, Inc.		Temperature: 23.2°C	
Attendees: Gary Klinefelter		Humidity: 52%	
Project: None		Barometric Pres.: 983.9	
Tested by: Trevor Buls	Power: 110VAC/60Hz	Job Site: MN08	
TEST SPECIFICATIONS			
FCC 15.247:2015		Test Method	
		ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Trevor Buls</i>	
		Value	Limit (<)
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	40.441 mW	1 W
	Mid Channel 6, 2437 MHz	51.023 mW	1 W
	High Channel 11, 2462 MHz	43.584 mW	1 W
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	38.11 mW	1 W
	Mid Channel 6, 2437 MHz	50.594 mW	1 W
	High Channel 11, 2462 MHz	42.302 mW	1 W
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	23.029 mW	1 W
	Mid Channel 6, 2437 MHz	50.152 mW	1 W
	High Channel 11, 2462 MHz	22.285 mW	1 W
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	18.777 mW	1 W
	Mid Channel 6, 2437 MHz	39.066 mW	1 W
	High Channel 11, 2462 MHz	18.426 mW	1 W
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	18.908 mW	1 W
	Mid Channel 6, 2437 MHz	29.313 mW	1 W
	High Channel 11, 2462 MHz	19.017 mW	1 W
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	20.089 mW	1 W
	Mid Channel 6, 2437 MHz	36.027 mW	1 W
	High Channel 11, 2462 MHz	20.82 mW	1 W
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	14.397 mW	1 W
	Mid Channel 6, 2437 MHz	21.974 mW	1 W
	High Channel 11, 2462 MHz	18.66 mW	1 W

OUTPUT POWER

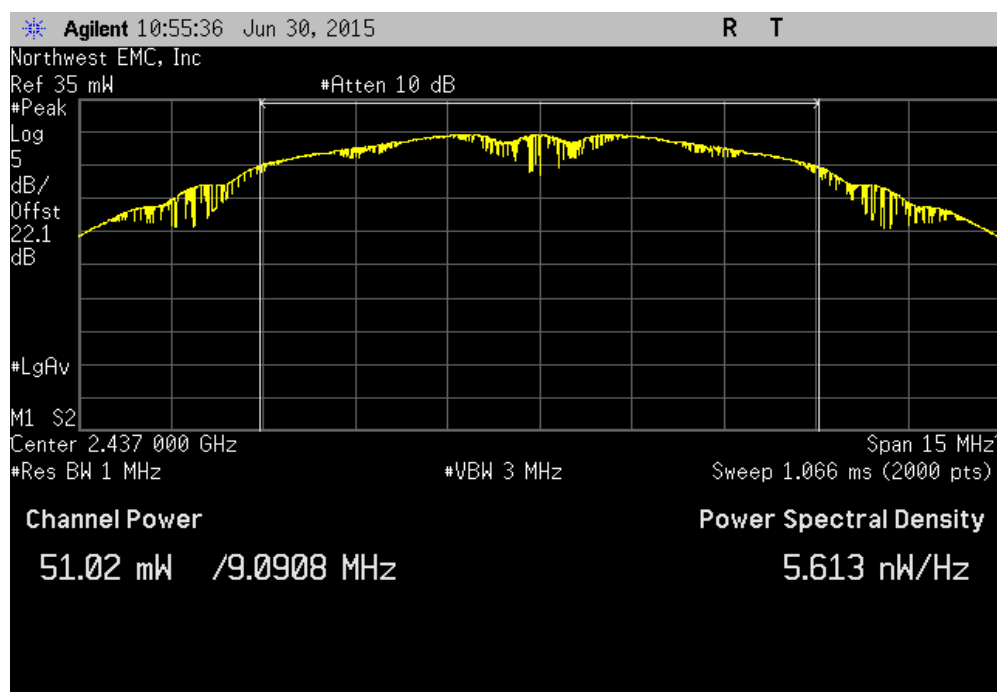
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz

	Value	Limit	Result
	40.441 mW	1 W	Pass



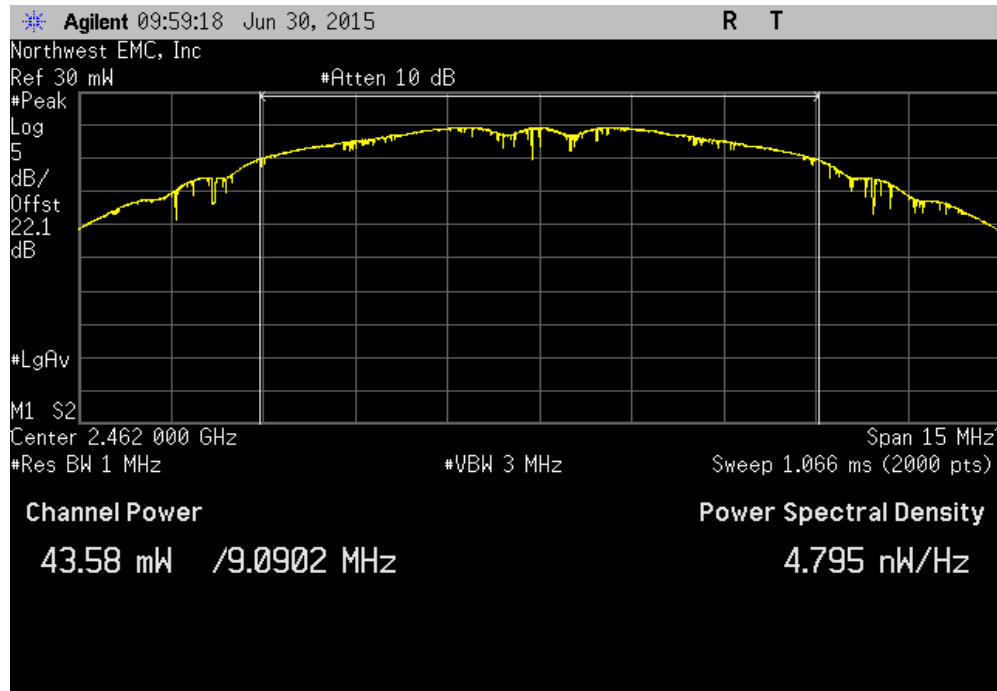
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz

	Value	Limit	Result
	51.023 mW	1 W	Pass

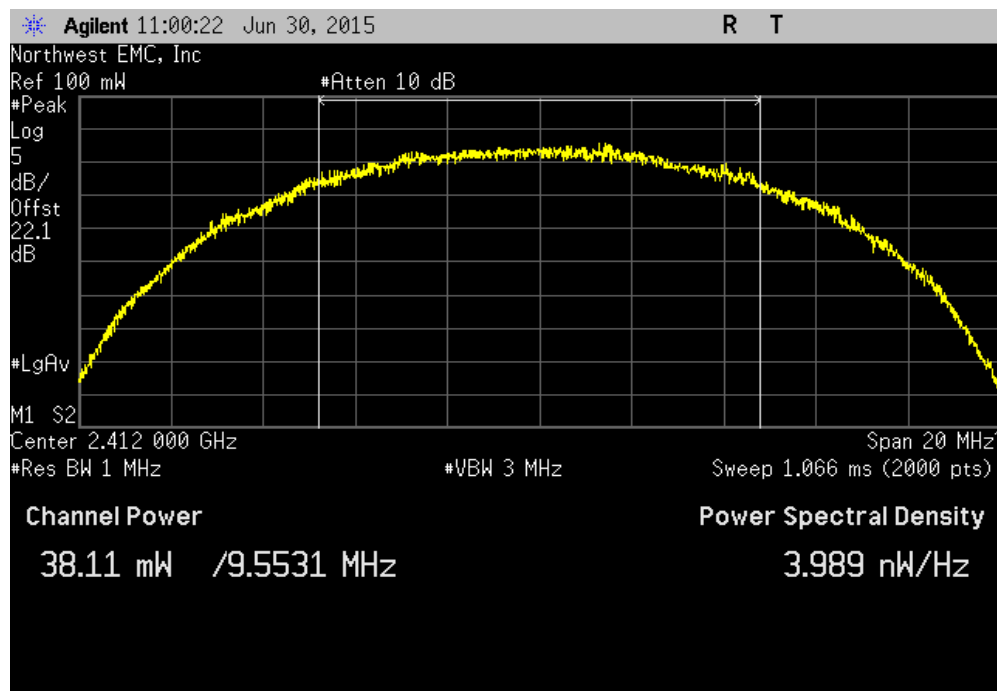


OUTPUT POWER

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

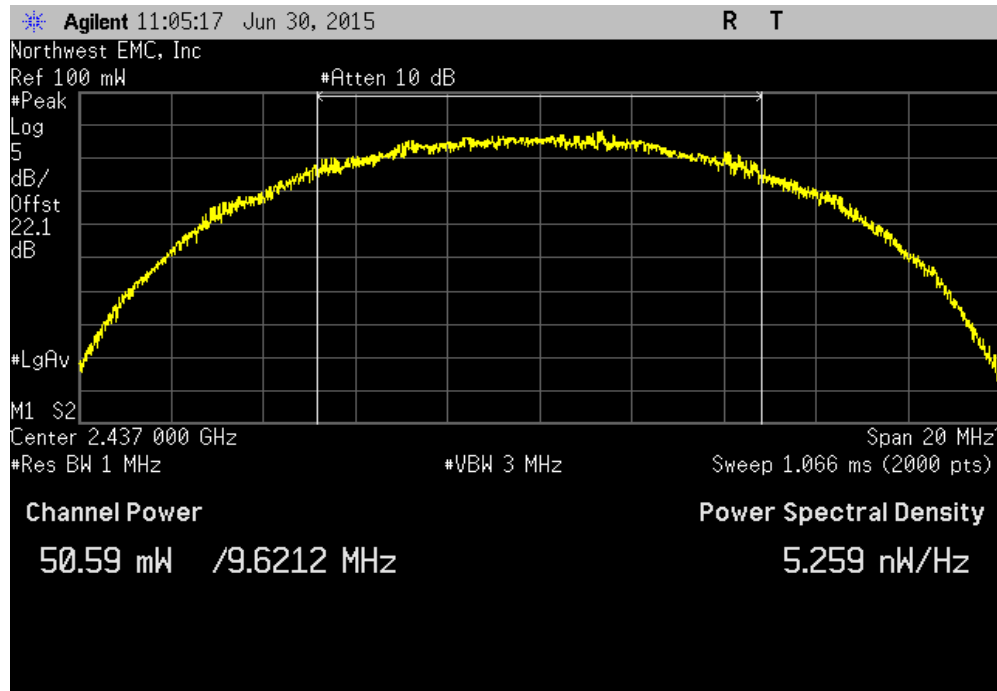


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				38.11 mW	1 W	Pass

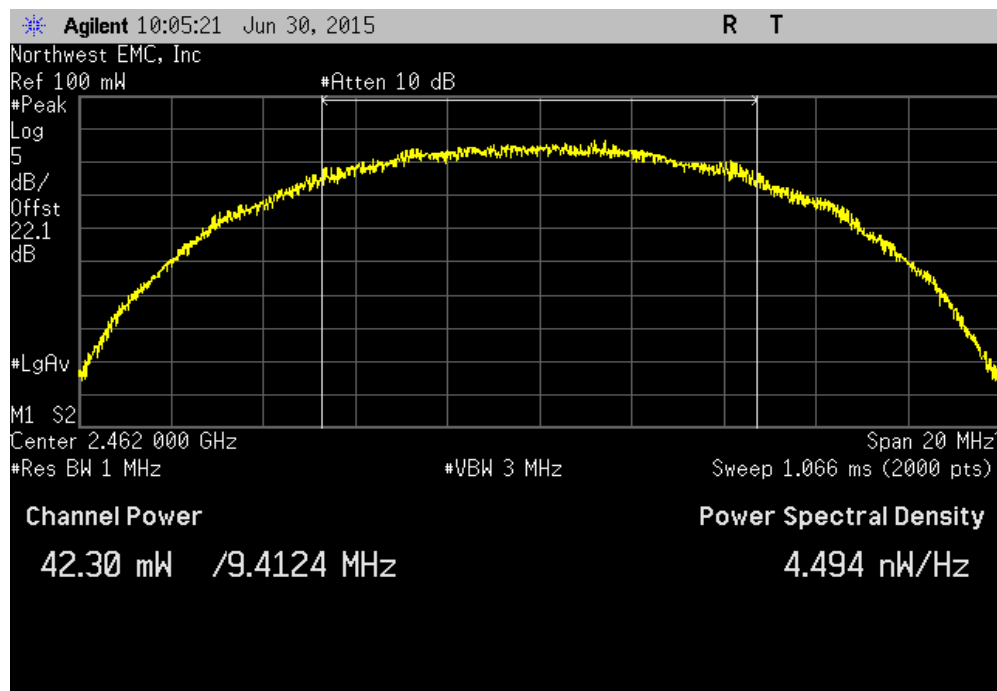


OUTPUT POWER

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

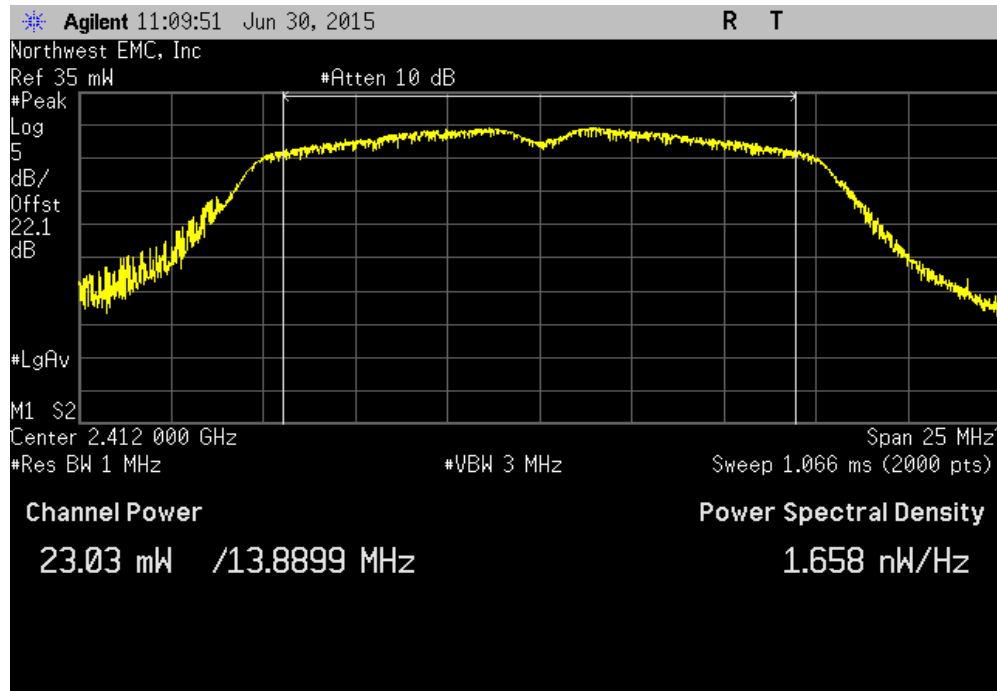


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
				Value	Limit	Result
				42.302 mW	1 W	Pass

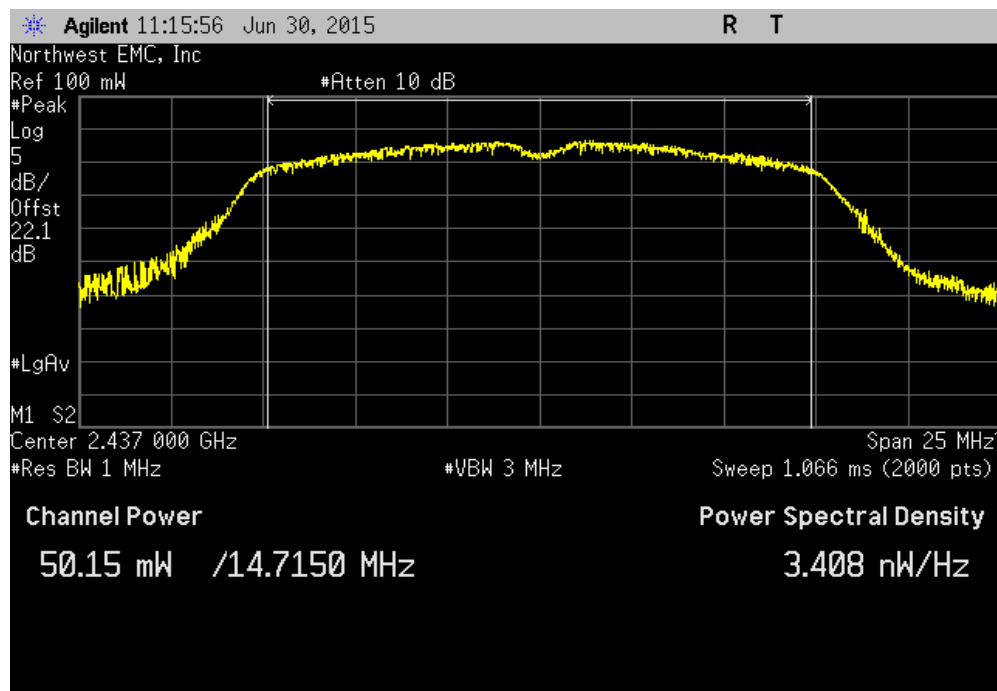


OUTPUT POWER

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

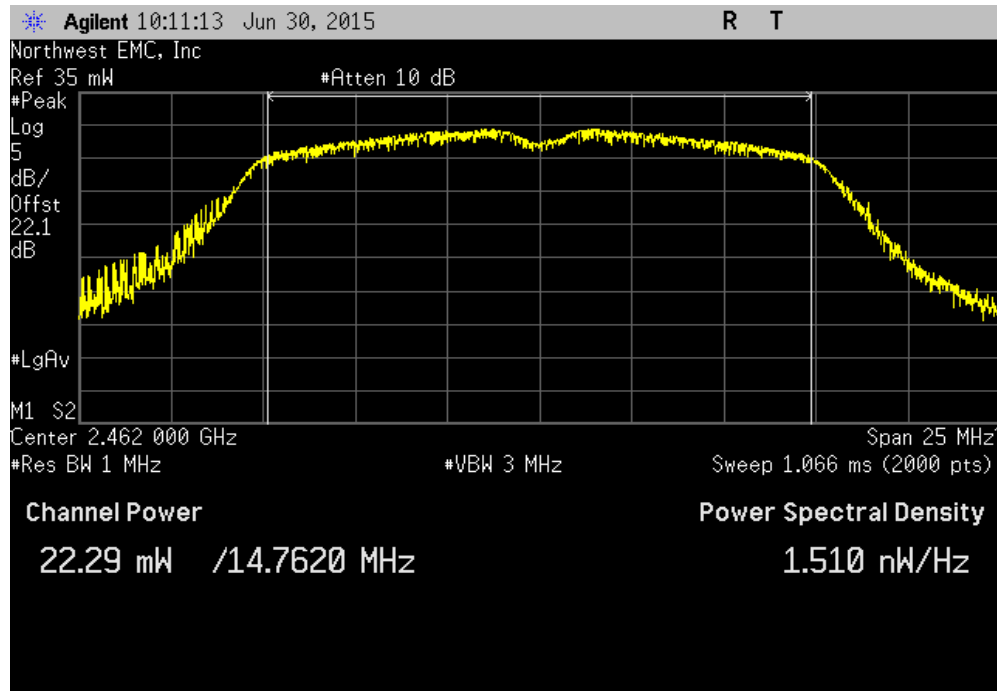


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				50.152 mW	1 W	Pass

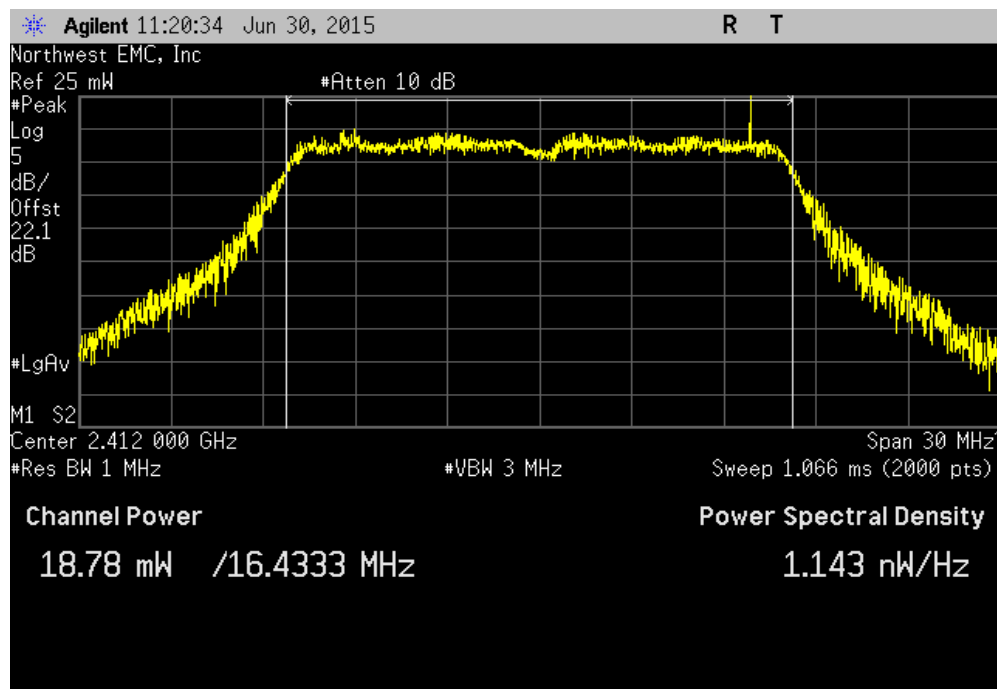


OUTPUT POWER

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



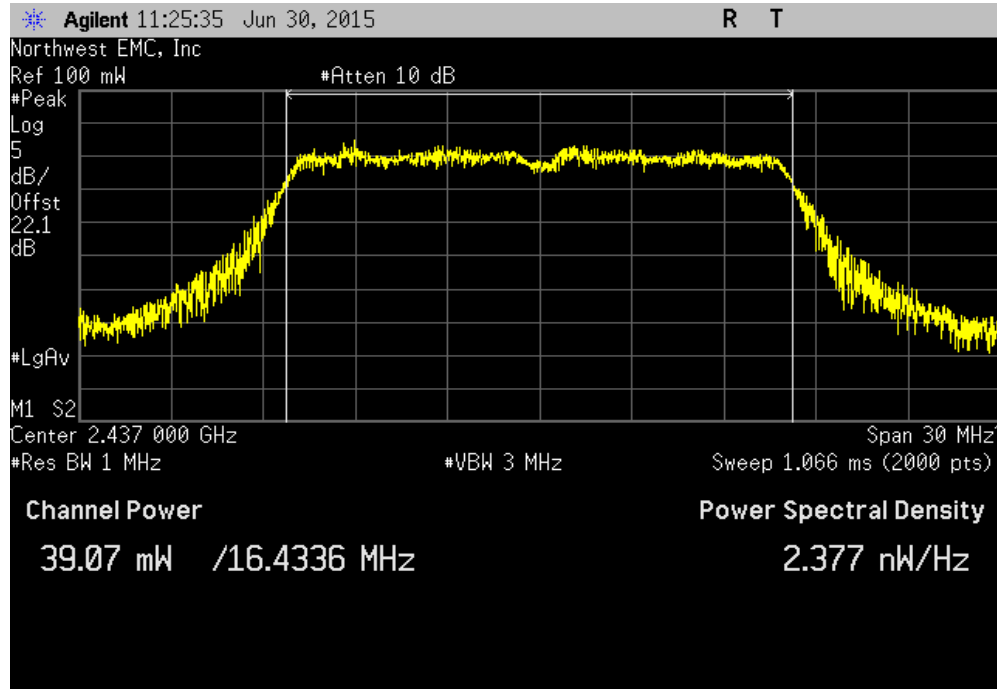
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				(<)		
				18.777 mW	1 W	Pass



OUTPUT POWER

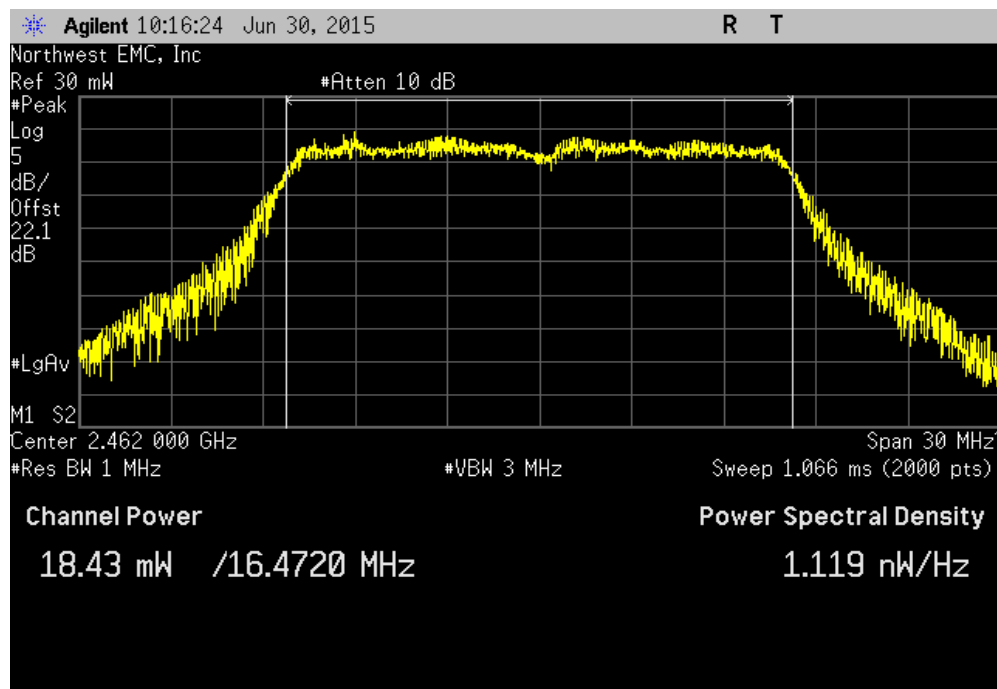
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz

	Value	Limit	Result
	39.066 mW	1 W	Pass



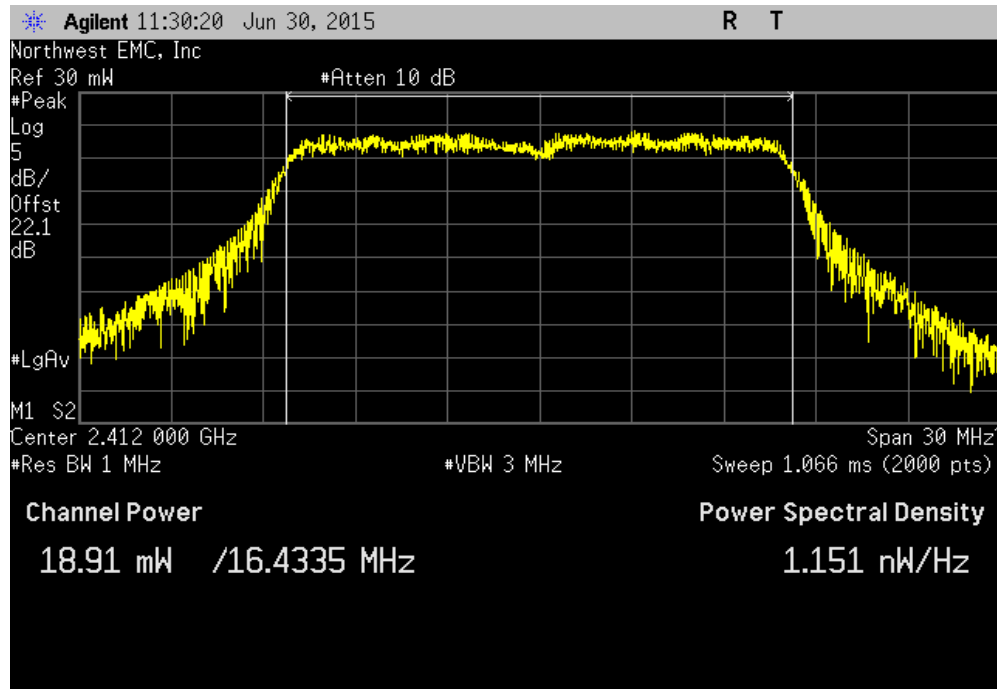
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz

	Value	Limit	Result
	18.426 mW	1 W	Pass

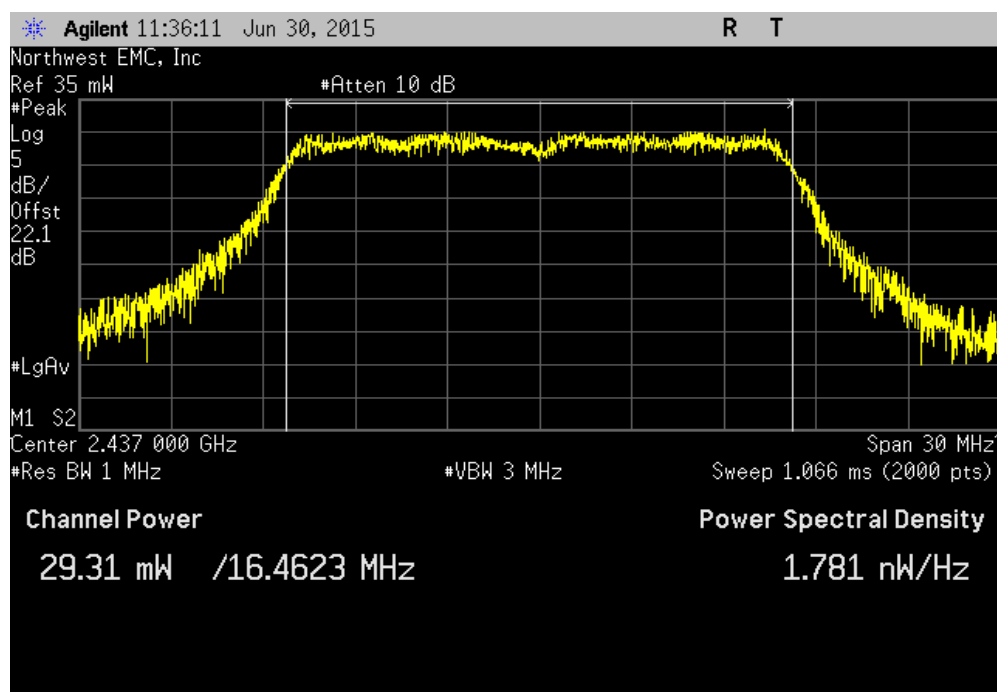


OUTPUT POWER

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

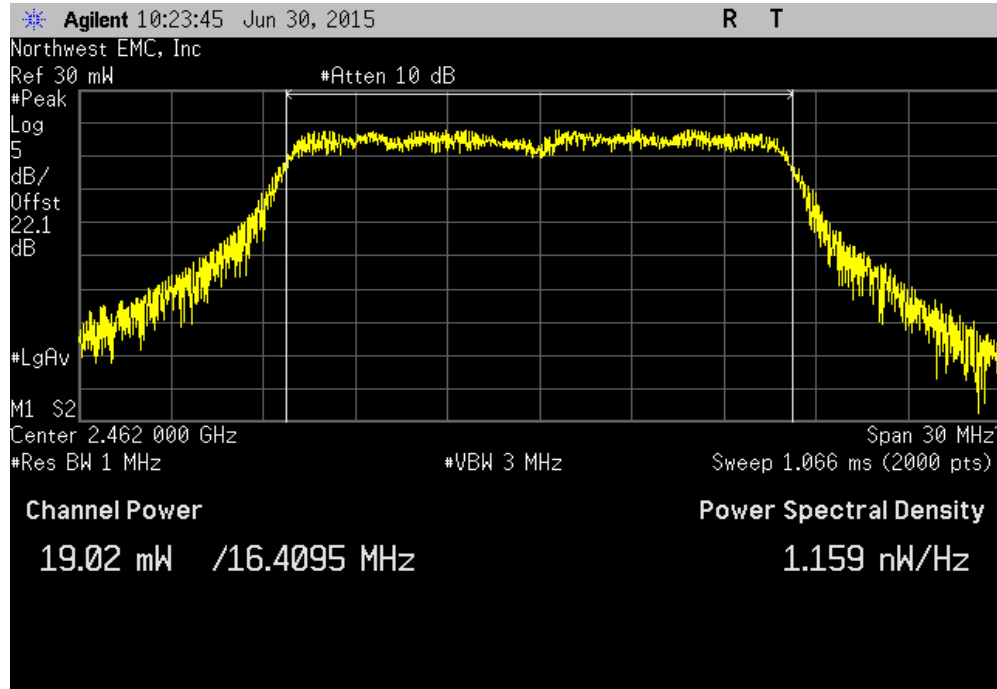


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				(<)		
				29.313 mW	1 W	Pass

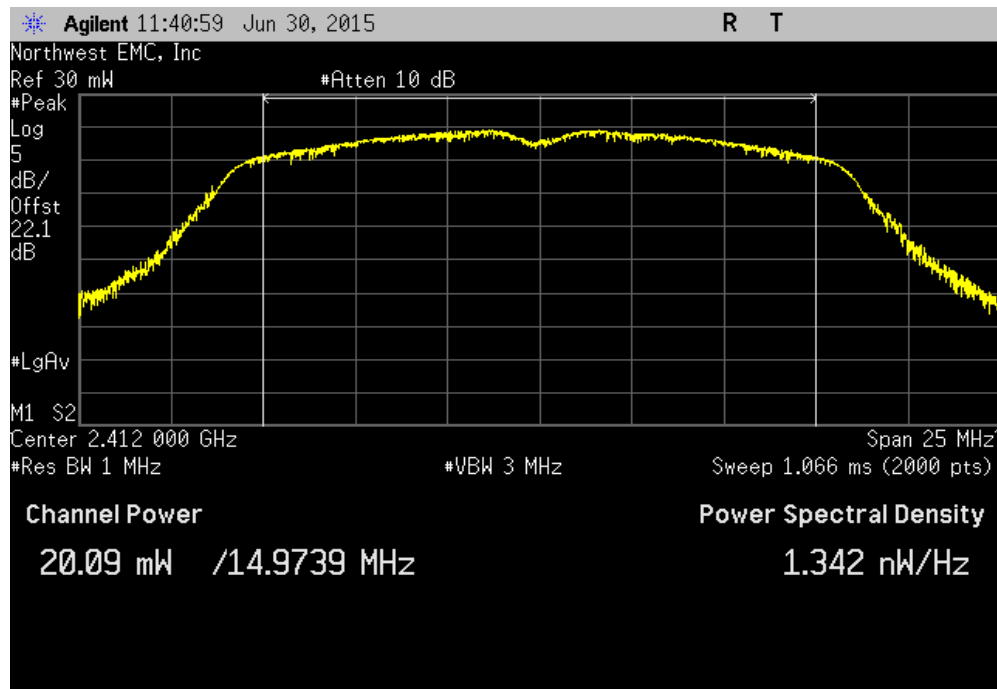


OUTPUT POWER

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

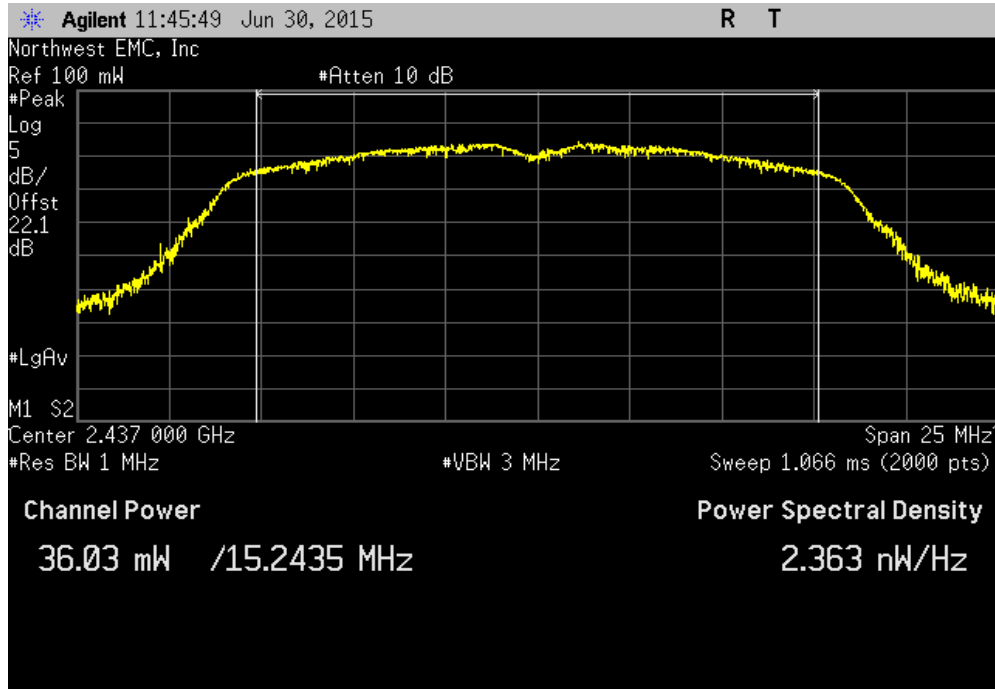


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				(<)		
				20.089 mW	1 W	Pass

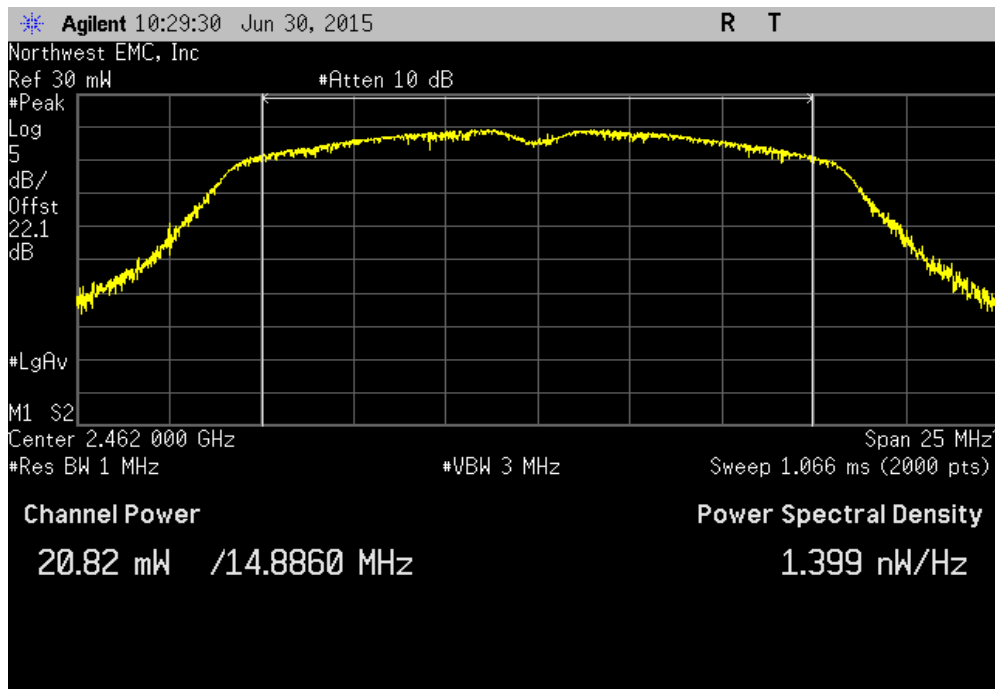


OUTPUT POWER

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



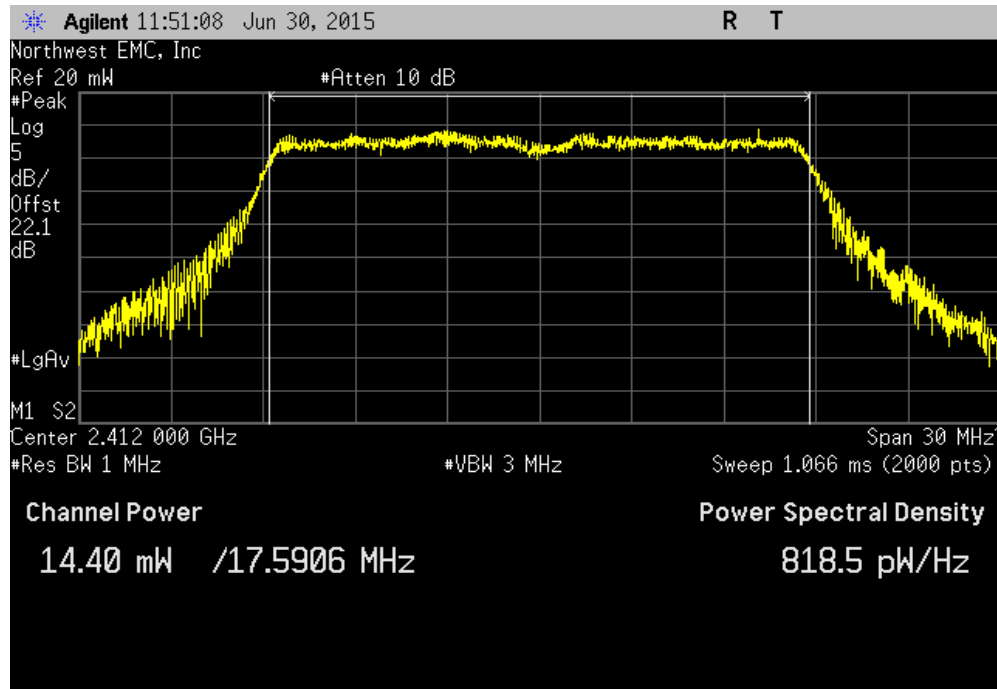
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value	Limit	Result
				20.82 mW	1 W	Pass



OUTPUT POWER

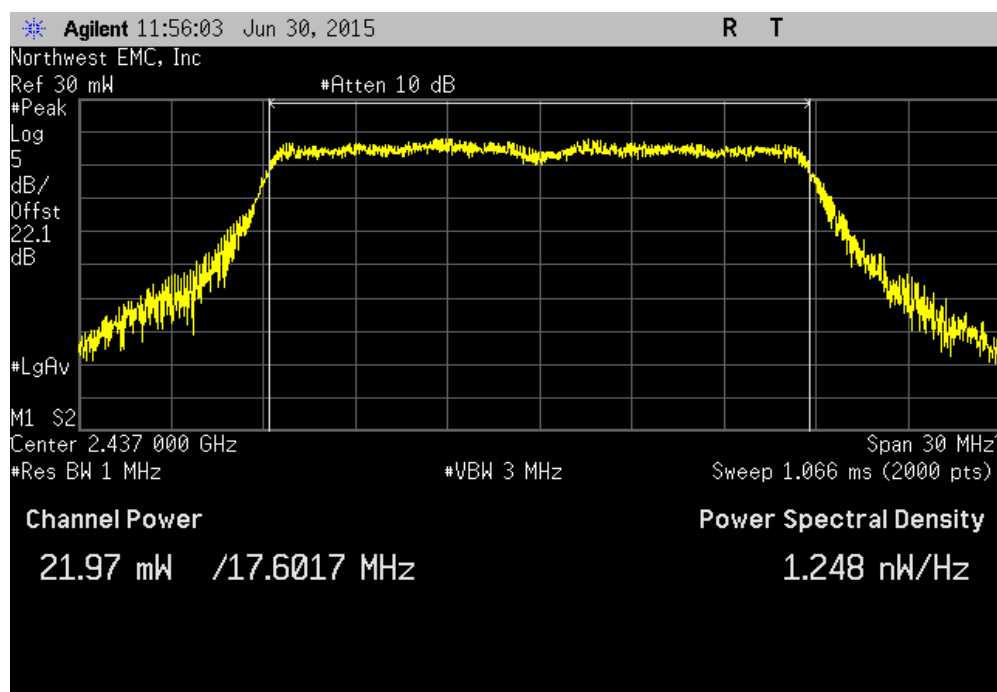
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz

	Value	Limit	Result
	14.397 mW	1 W	Pass



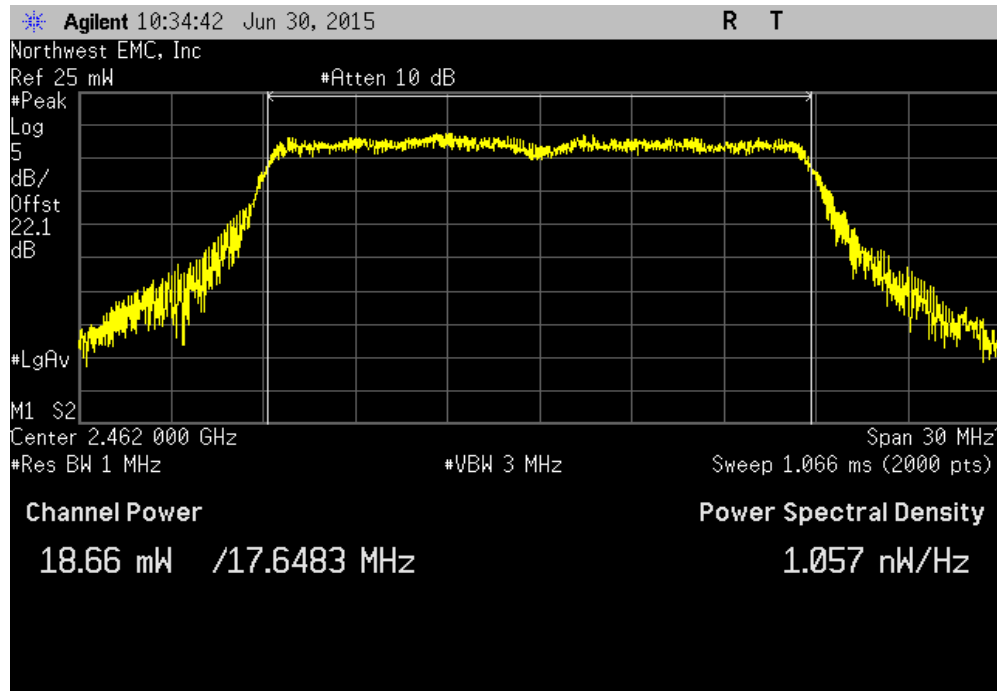
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz

	Value	Limit	Result
	21.974 mW	1 W	Pass



OUTPUT POWER

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
				Value	Limit	Result
				18.66 mW	1 W	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 (mos)
MN08 Direct Connect Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	10/2/2014	12
Attenuator, 20db, 'SMA'	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
DC Block, 40 GHz	Fairview Microwave	SD3379	AMI	10/2/2014	12
Signal Generator MXG	Agilent	N5183A	TIK	10/17/2014	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/20/2015	12

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:

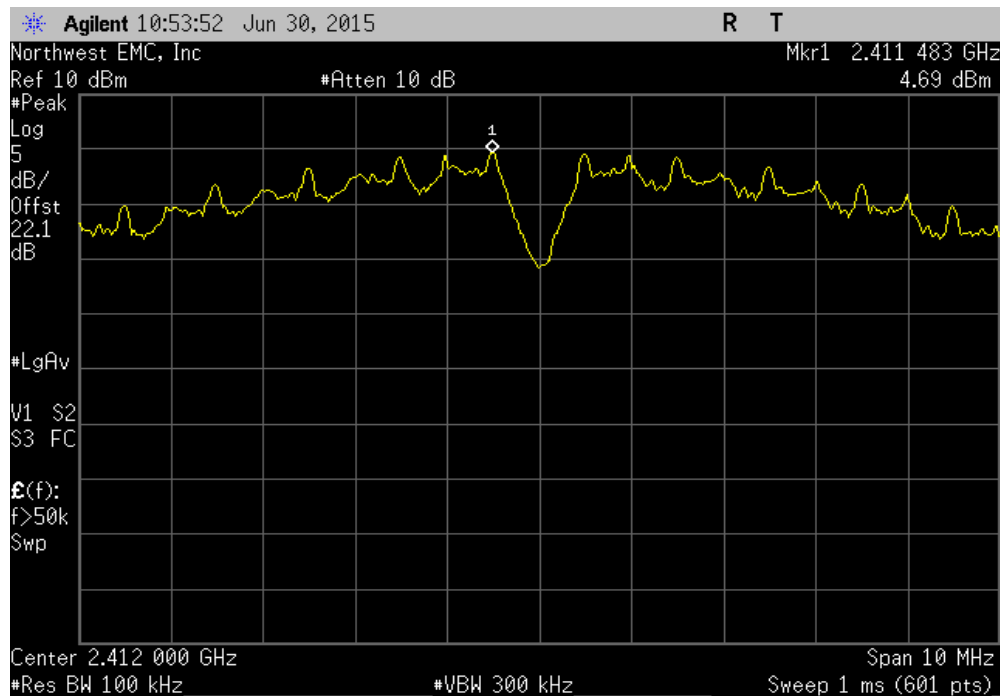
$$\text{BWCF} = 10 \cdot \log(3 \text{ kHz} / 100 \text{ kHz}) = -15.2 \text{ dB}$$

POWER SPECTRAL DENSITY

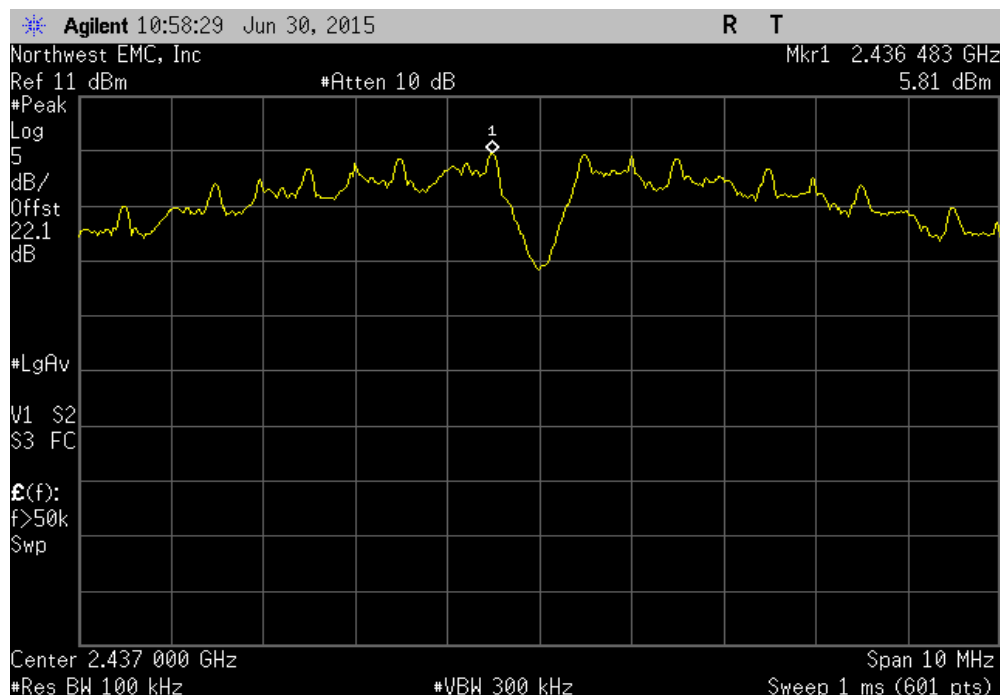
EUT: 501101		Work Order: IRR10007	
Serial Number: None		Date: 06/30/15	
Customer: IrriGreen, Inc.		Temperature: 23.2°C	
Attendees: Gary Klinefelter		Humidity: 52%	
Project: None		Barometric Pres.: 983.9	
Tested by: Trevor Buls	Power: 110VAC/60Hz	Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2015		ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Trevor Buls</i>	
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz
		Value dBm/3kHz	Limit dBm/3kHz
			Results
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	4.692	-15.2
	Mid Channel 6, 2437 MHz	5.811	-15.2
	High Channel 11, 2462 MHz	5.026	-15.2
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	6.326	-15.2
	Mid Channel 6, 2437 MHz	7.45	-15.2
	High Channel 11, 2462 MHz	6.721	-15.2
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	2.446	-15.2
	Mid Channel 6, 2437 MHz	6.127	-15.2
	High Channel 11, 2462 MHz	2.444	-15.2
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	-0.047	-15.2
	Mid Channel 6, 2437 MHz	3.278	-15.2
	High Channel 11, 2462 MHz	0.121	-15.2
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	0.14	-15.2
	Mid Channel 6, 2437 MHz	2.025	-15.2
	High Channel 11, 2462 MHz	0.291	-15.2
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	1.993	-15.2
	Mid Channel 6, 2437 MHz	4.991	-15.2
	High Channel 11, 2462 MHz	1.841	-15.2
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	-0.868	-15.2
	Mid Channel 6, 2437 MHz	0.822	-15.2
	High Channel 11, 2462 MHz	-0.339	-15.2

POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
		To dBm/3kHz				
	4.692	-15.2	-10.508	8	Pass	

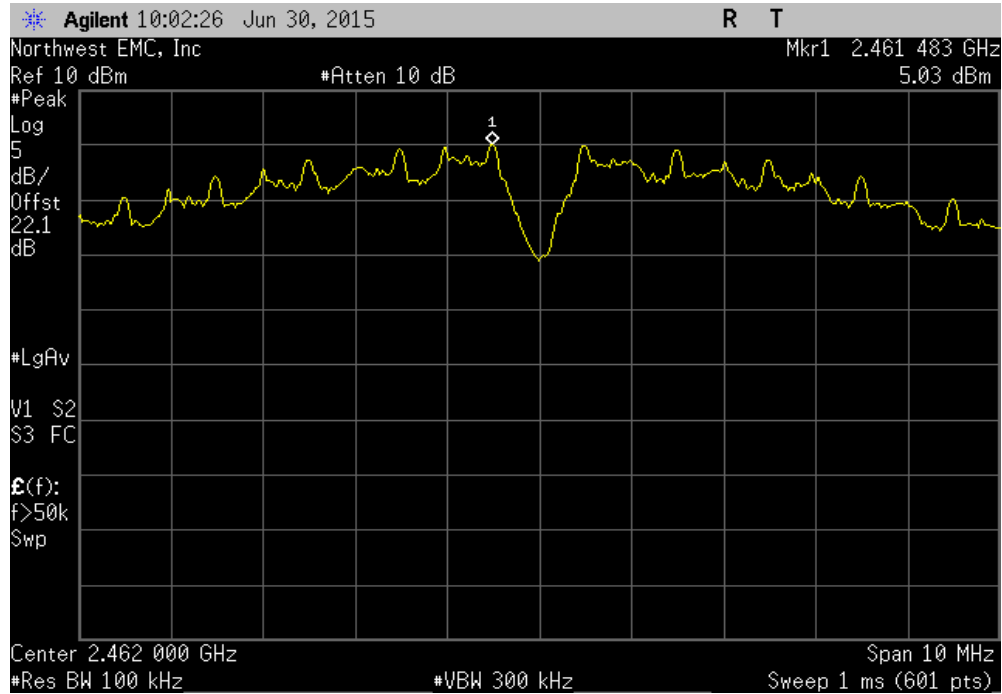


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
		To dBm/3kHz				
	5.811	-15.2	-9.389	8	Pass	

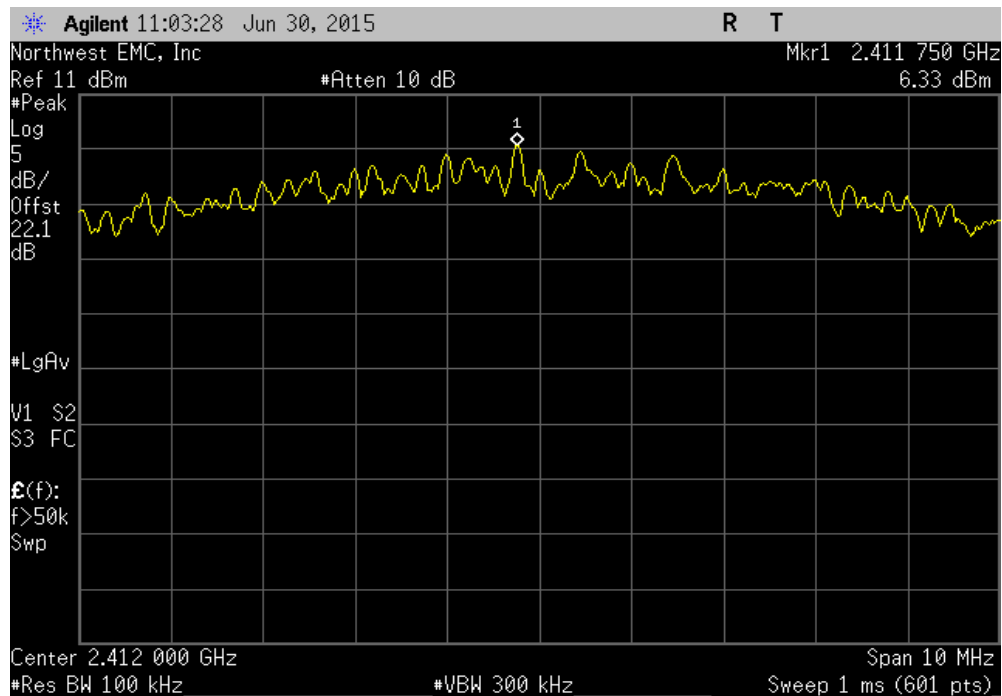


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
		To dBm/3kHz				
	5.026	-15.2	-10.174	8	Pass	

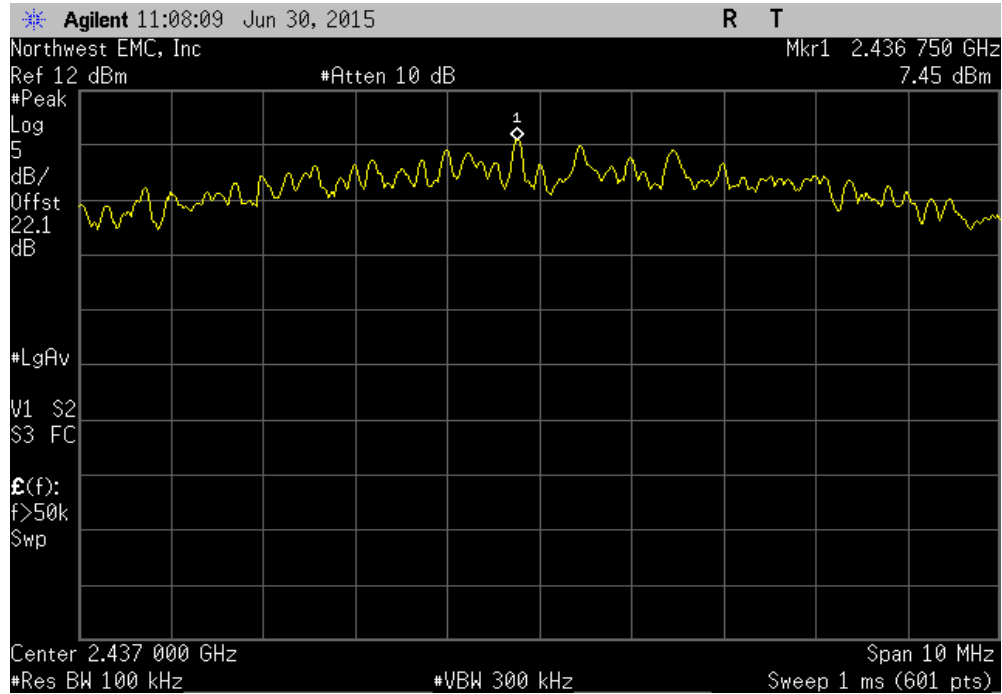


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
		To dBm/3kHz				
	6.326	-15.2	-8.874	8	Pass	

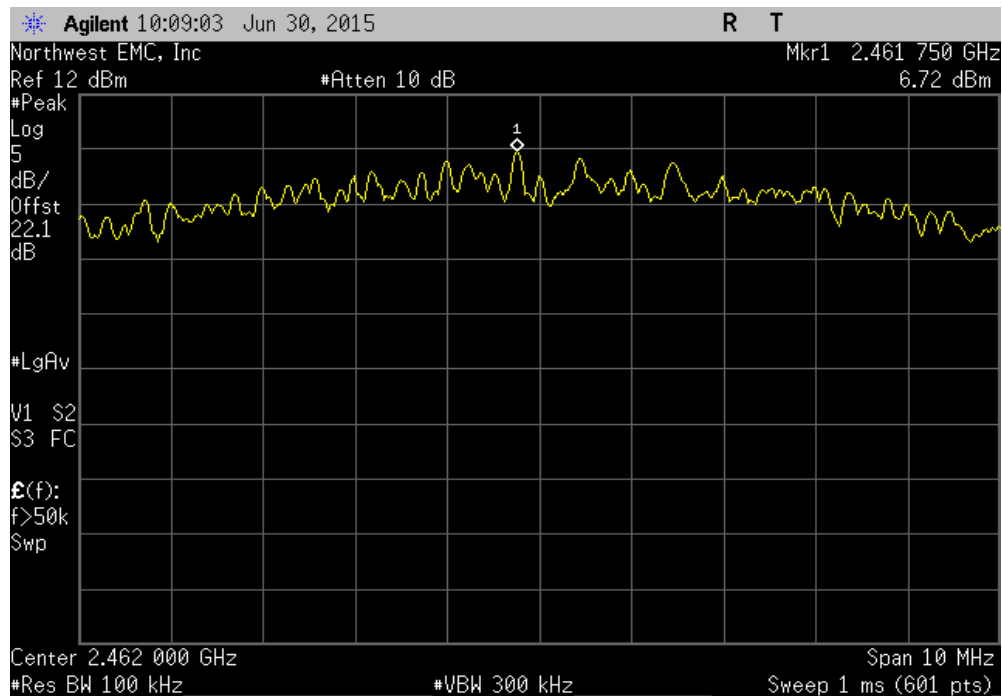


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
		To dBm/3kHz				
	7.45	-15.2	-7.75	8	Pass	

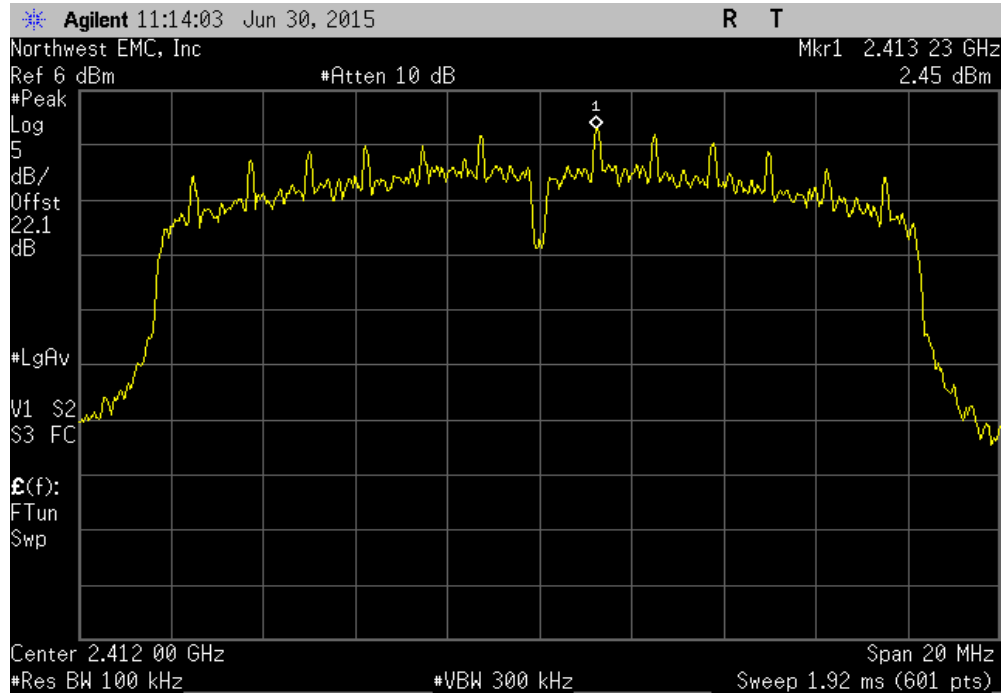


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
		To dBm/3kHz				
	6.721	-15.2	-8.479	8	Pass	

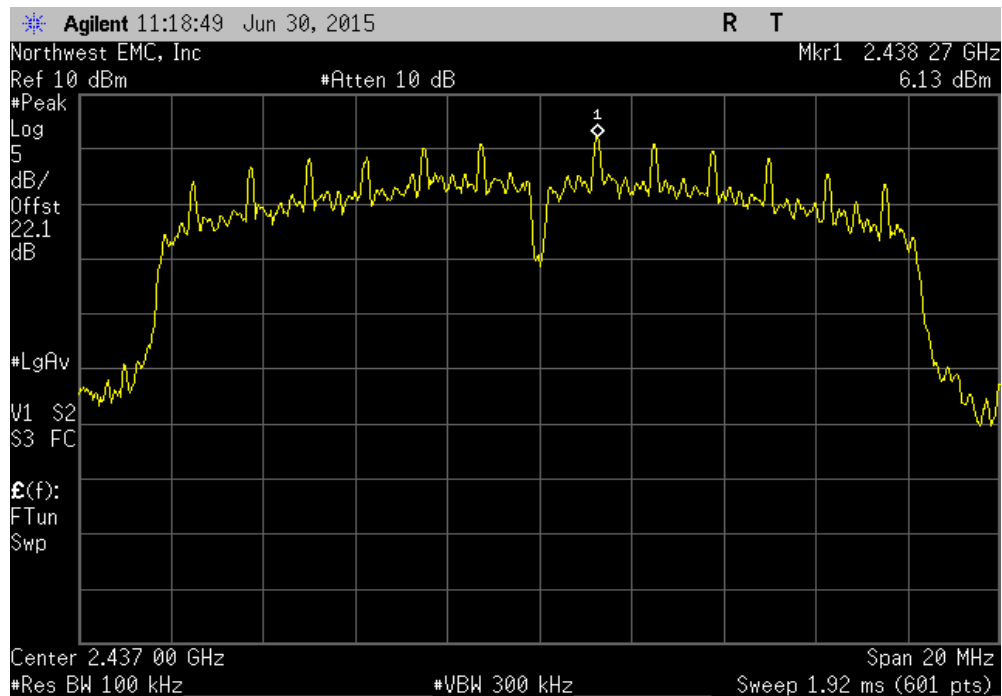


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
	dBm/100kHz	To dBm/3kHz	dBm/3kHz	dBm/3kHz		
	2.446	-15.2	-12.754	8	Pass	

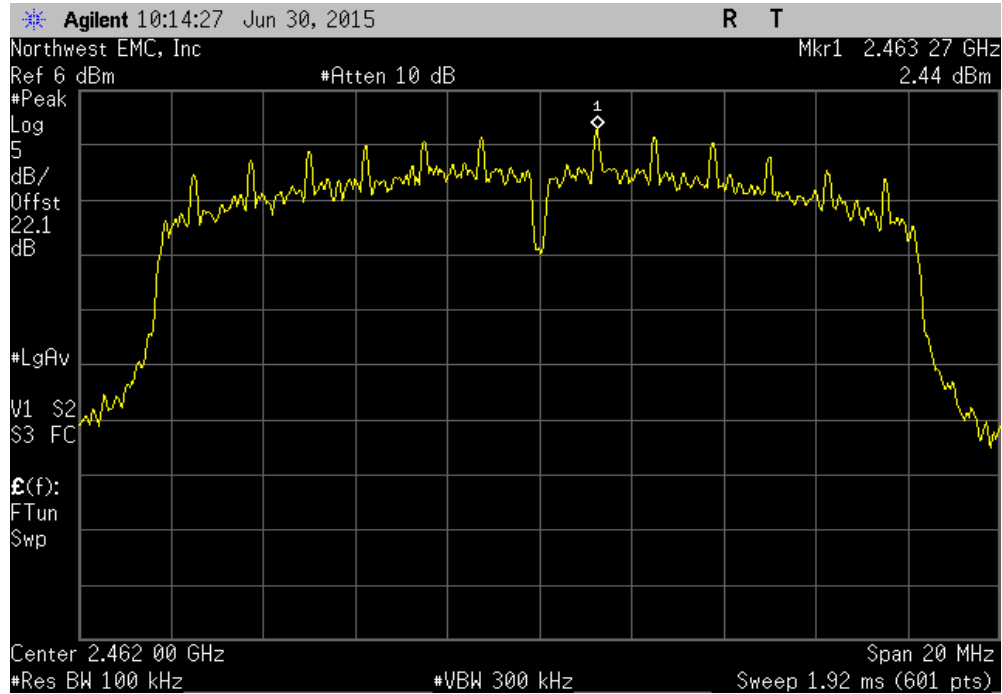


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
	dBm/100kHz	To dBm/3kHz	dBm/3kHz	dBm/3kHz		
	6.127	-15.2	-9.073	8	Pass	

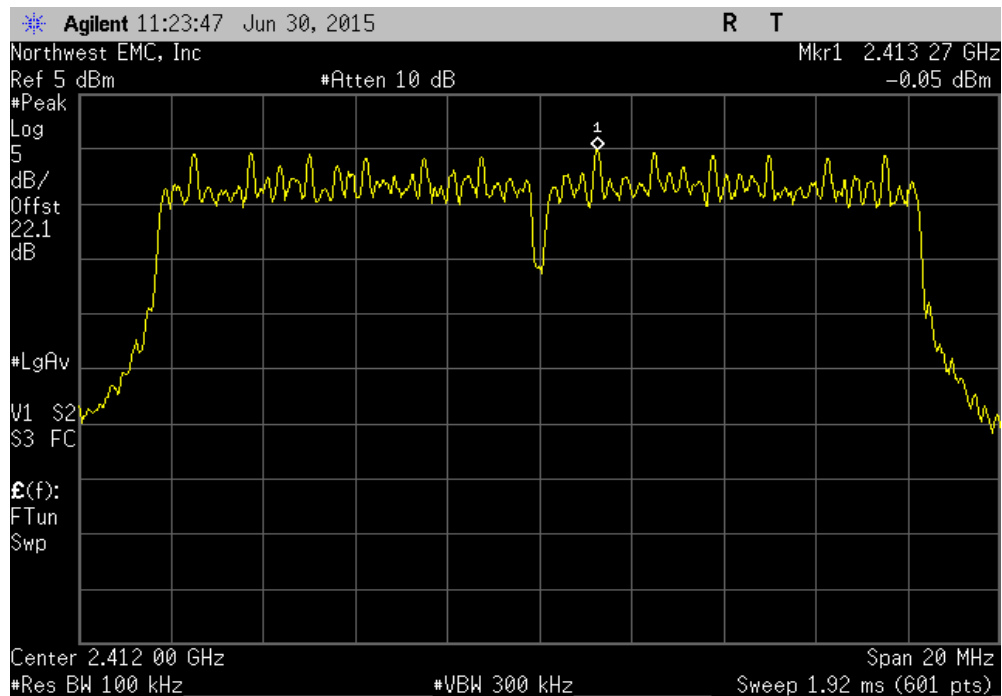


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
	dBm/100kHz	To dBm/3kHz	dBm/3kHz	dBm/3kHz		
	2.444	-15.2	-12.756	8	Pass	

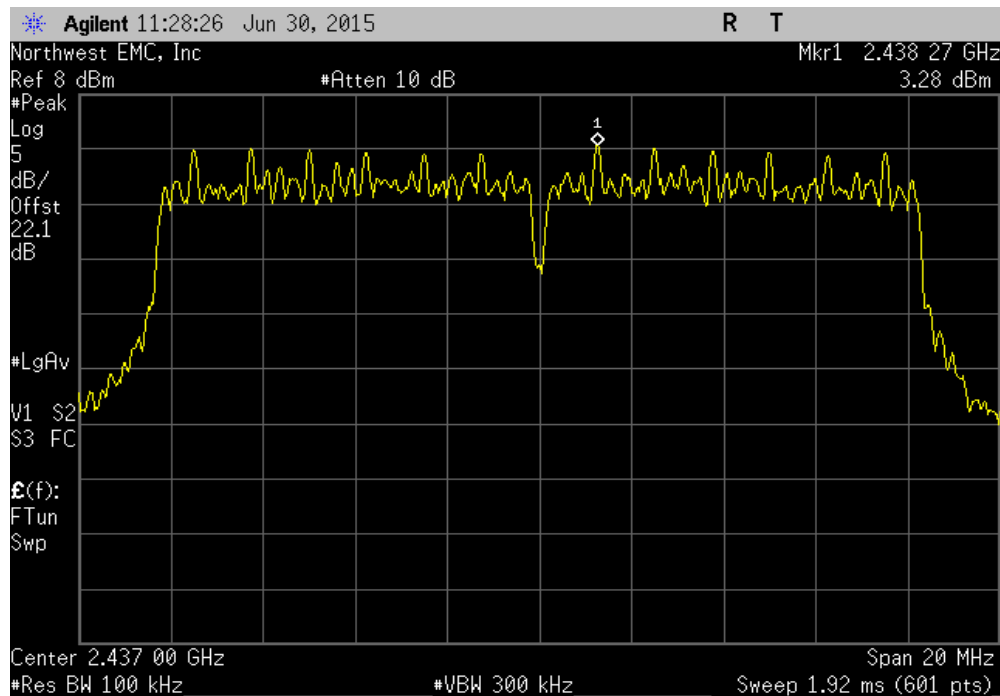


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
	dBm/100kHz	To dBm/3kHz	dBm/3kHz	dBm/3kHz		
	-0.047	-15.2	-15.247	8	Pass	

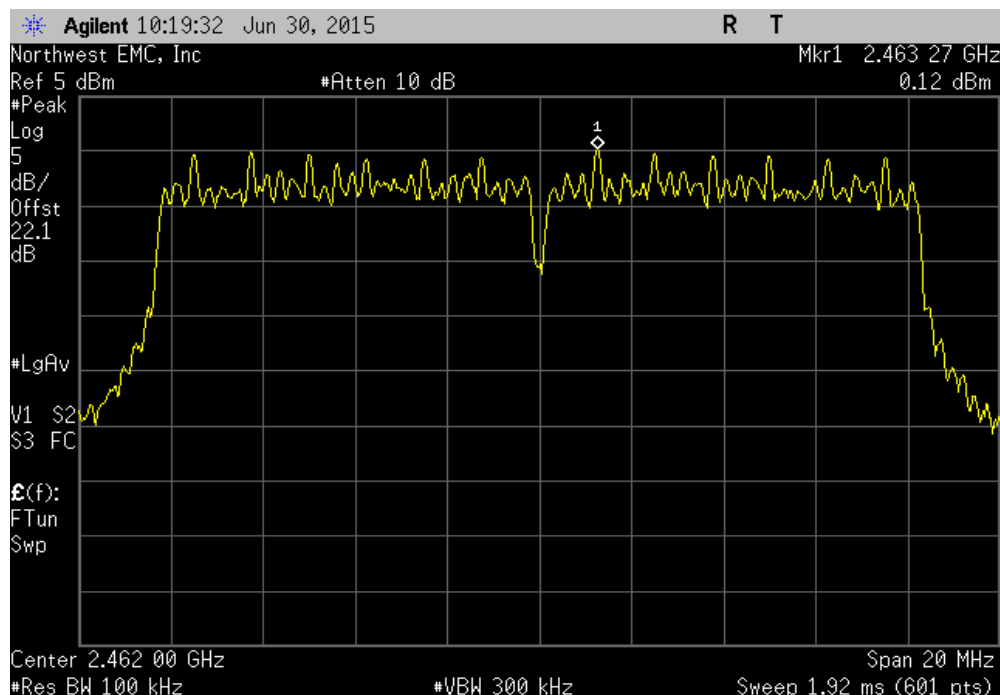


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Value	dBm/100kHz	To dBm/3kHz	Value	Limit	Results
		dBm/100kHz		dBm/3kHz	dBm/3kHz	
		3.278	-15.2	-11.922	8	Pass

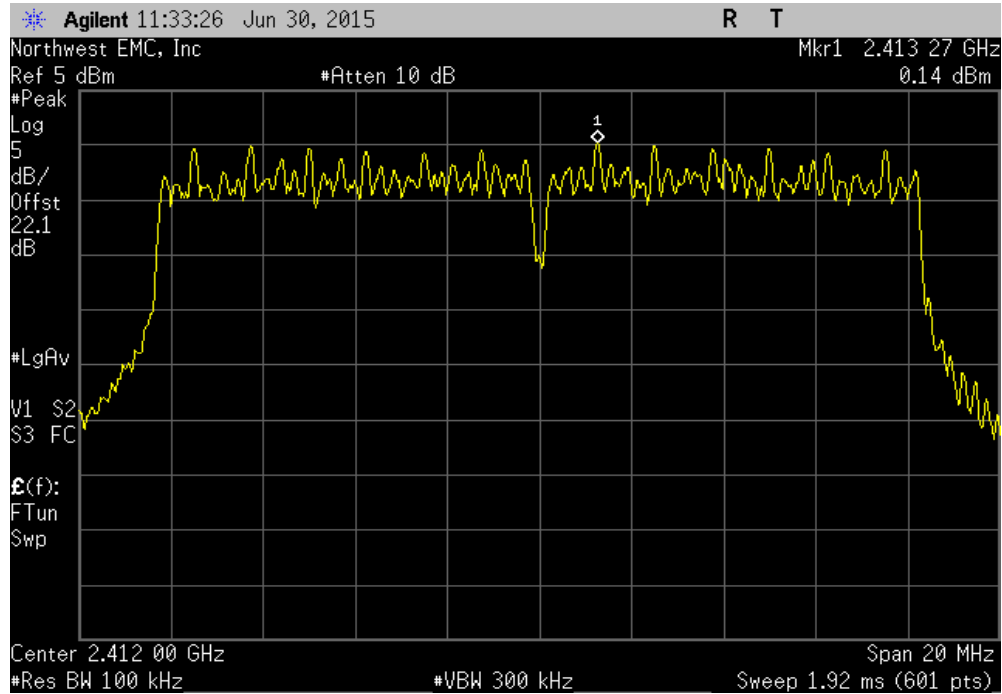


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
	Value	dBm/100kHz	To dBm/3kHz	Value	Limit	Results
		dBm/100kHz		dBm/3kHz	dBm/3kHz	
		0.121	-15.2	-15.079	8	Pass

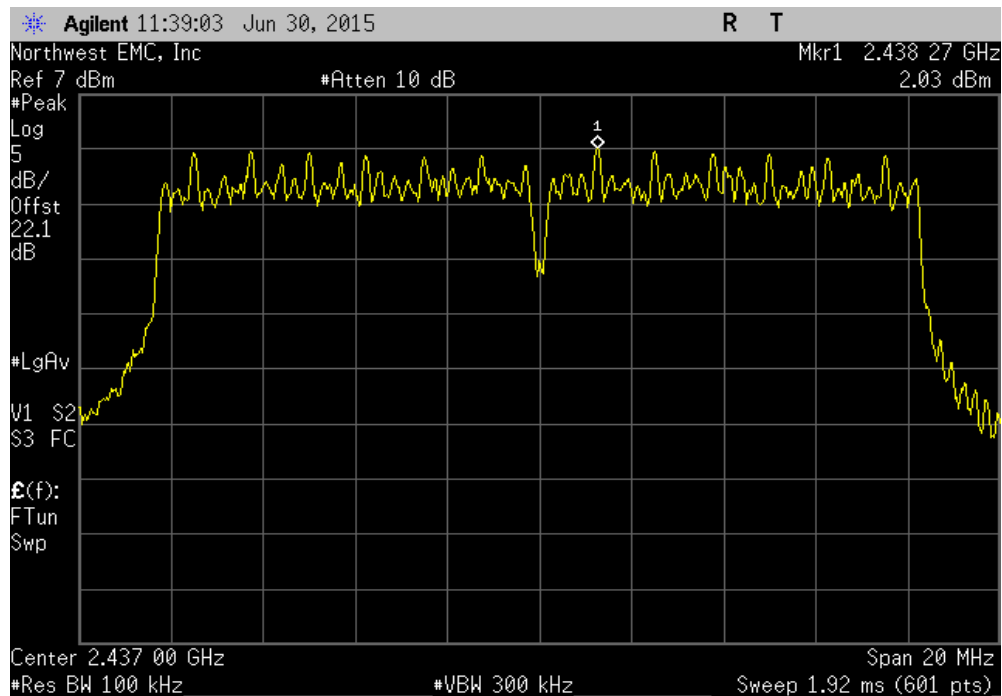


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz					
	Value	dBm/100kHz	Value	Limit	Results
		To dBm/3kHz			
	0.14	-15.2	-15.06	8	Pass

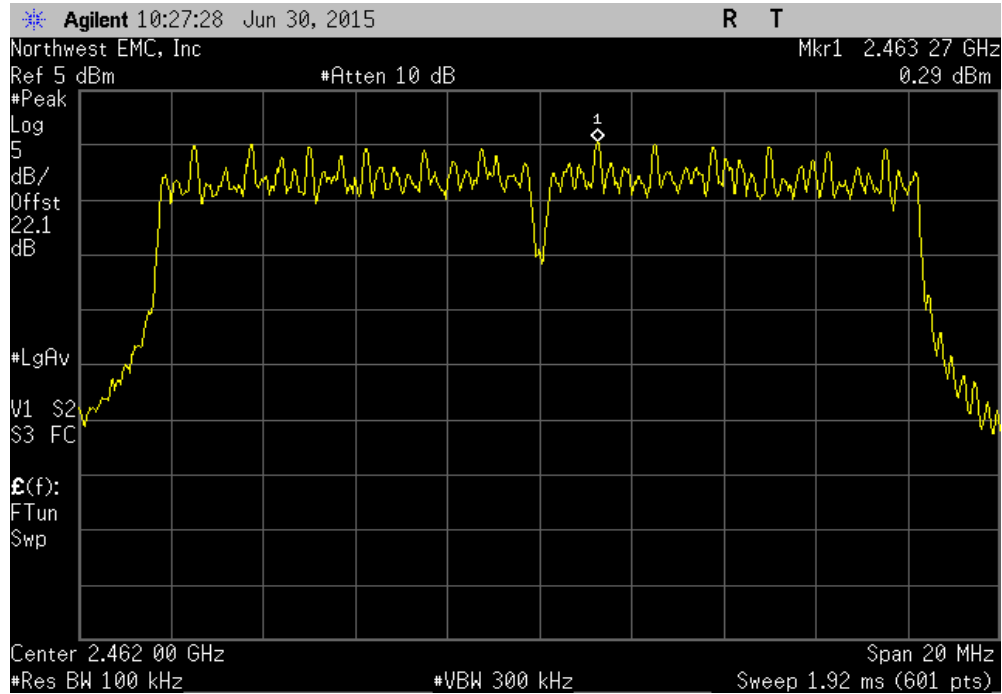


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz					
	Value	dBm/100kHz	Value	Limit	Results
		To dBm/3kHz			
	2.025	-15.2	-13.175	8	Pass

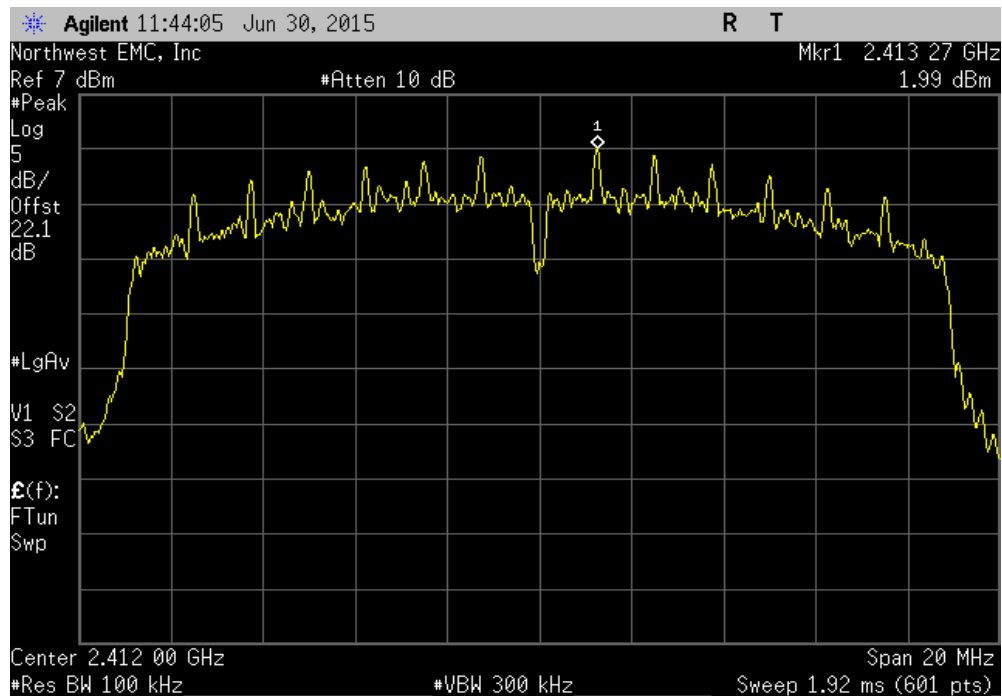


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Value	dBm/100kHz	To dBm/3kHz	Value	Limit	Results
		0.291	-15.2	-14.909	8	Pass

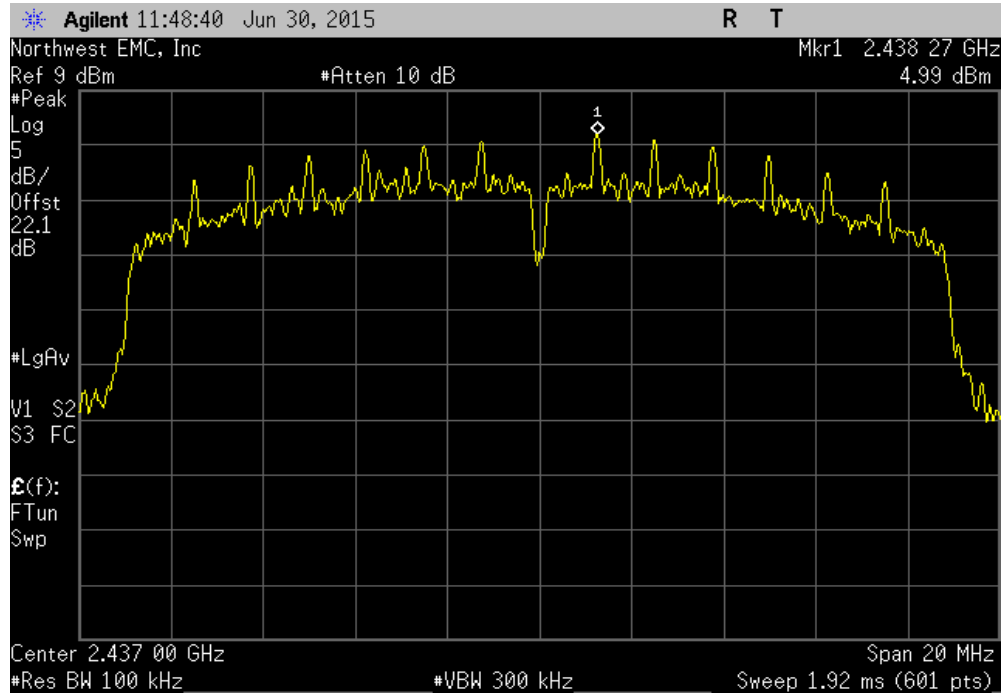


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Value	dBm/100kHz	To dBm/3kHz	Value	Limit	Results
		1.993	-15.2	-13.207	8	Pass

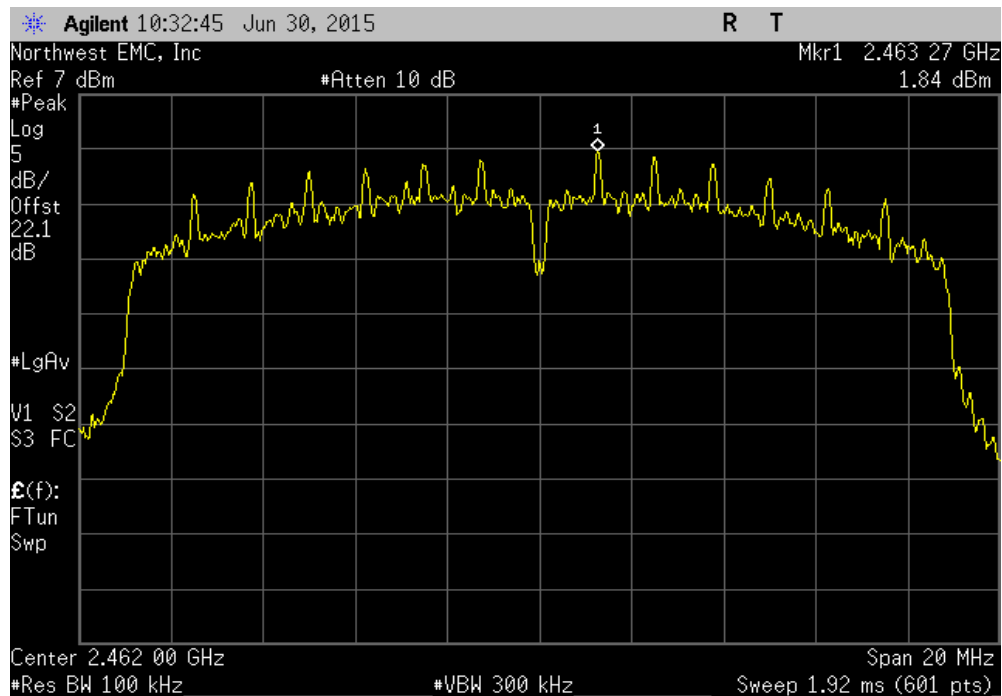


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
	dBm/100kHz	To dBm/3kHz	dBm/3kHz	dBm/3kHz		
	4.991	-15.2	-10.209	8	Pass	

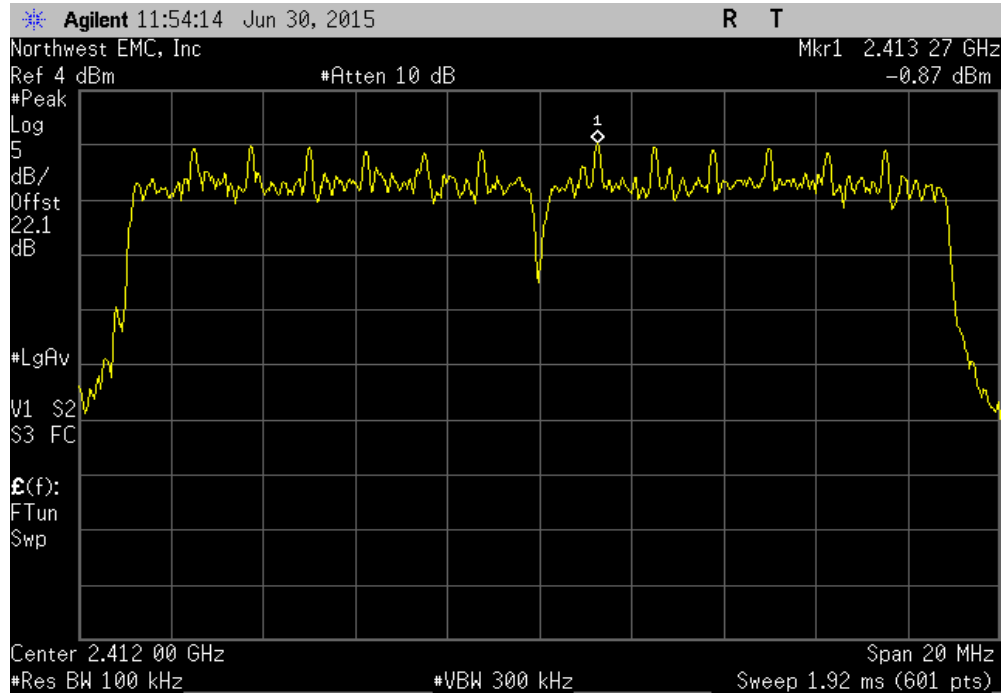


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Value	dBm/100kHz	Value	Limit	Results	
	dBm/100kHz	To dBm/3kHz	dBm/3kHz	dBm/3kHz		
	1.841	-15.2	-13.359	8	Pass	

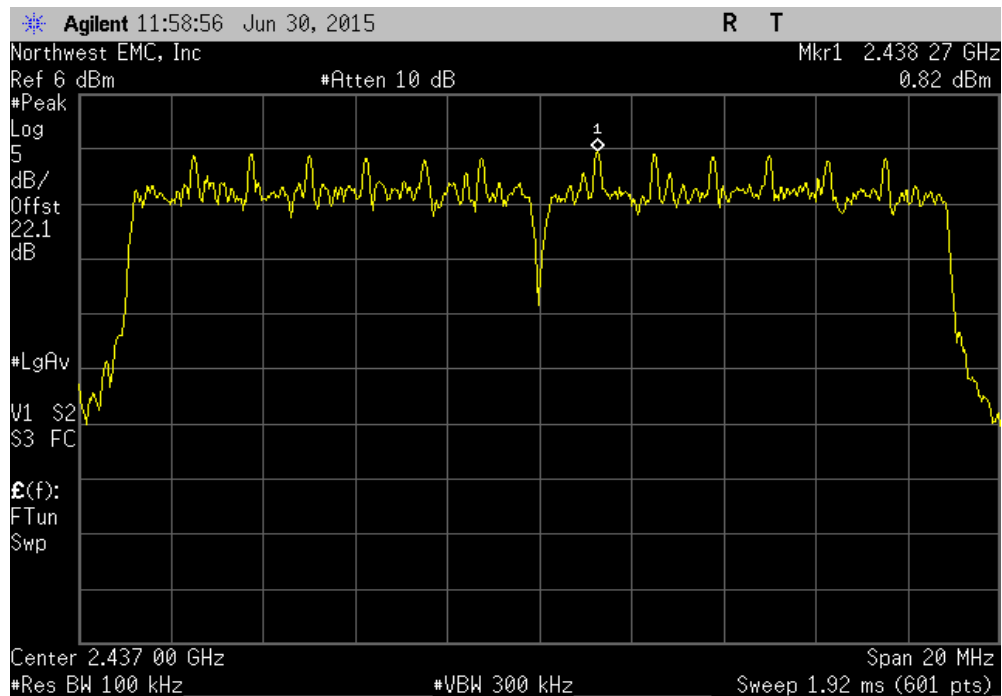


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz					
	Value	dBm/100kHz	Value	Limit	Results
		To dBm/3kHz			
	-0.868	-15.2	-16.068	8	Pass

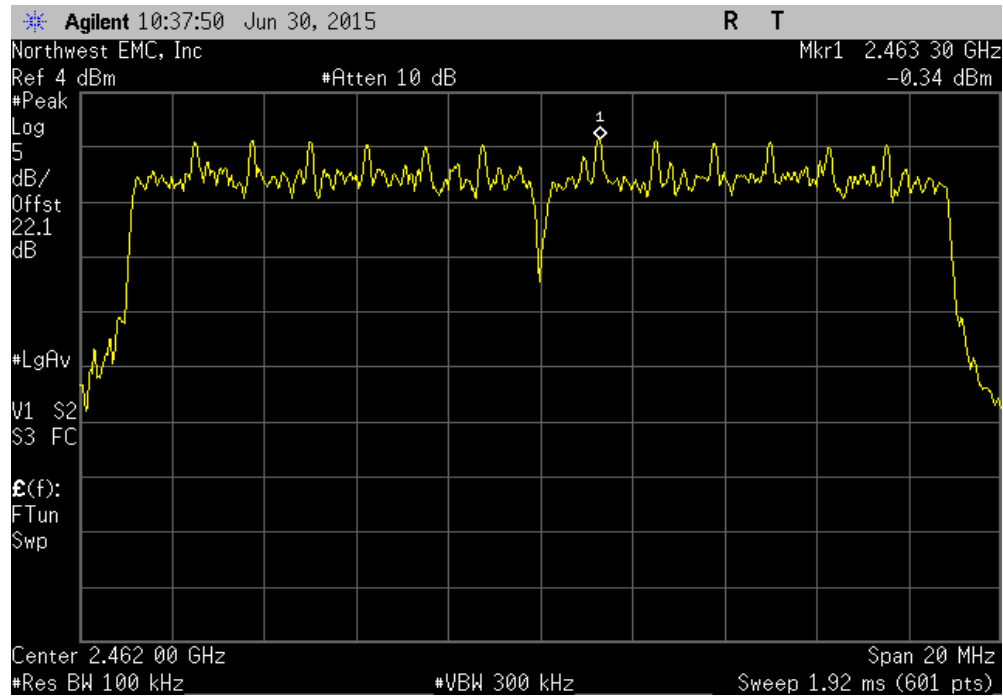


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz					
	Value	dBm/100kHz	Value	Limit	Results
		To dBm/3kHz			
	0.822	-15.2	-14.378	8	Pass



POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz					
	Value	dBm/100kHz	Value	Limit	Results
	dBm/100kHz	To dBm/3kHz	dBm/3kHz	dBm/3kHz	
	-0.339	-15.2	-15.539	8	Pass



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
MN08 Direct Connect Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	10/2/2014	12
Attenuator, 20db, 'SMA'	S.M. Electronics	SA26B-20	RFW	3/10/2015	12
DC Block, 40 GHz	Fairview Microwave	SD3379	AMI	10/2/2014	12
Signal Generator MXG	Agilent	N5183A	TIK	10/17/2014	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/20/2015	12

TEST DESCRIPTION

The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was 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.

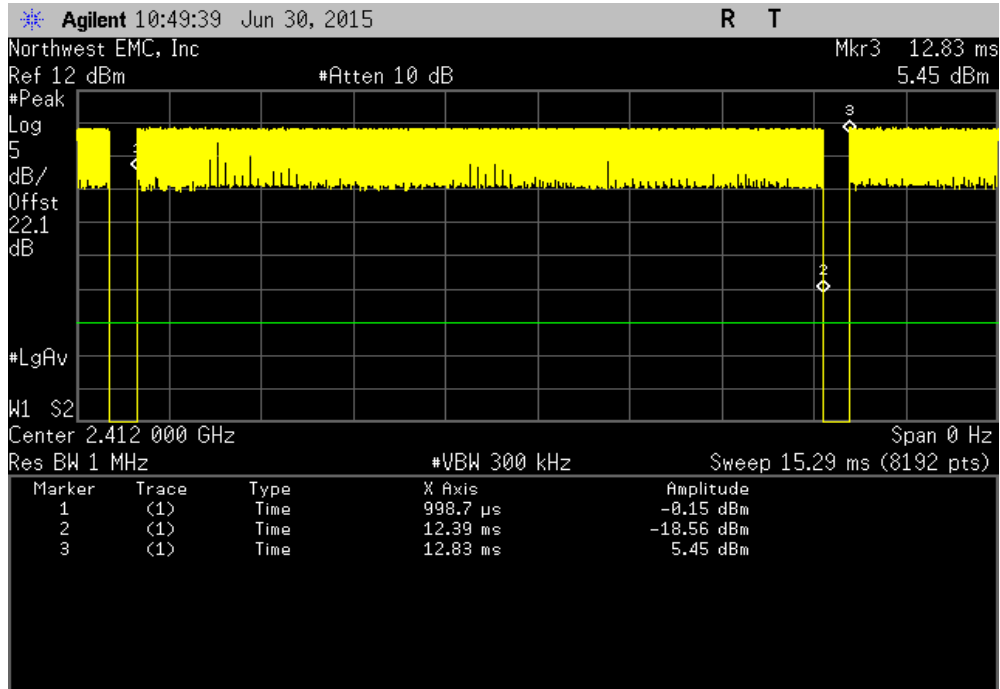
If the transmit duty cycle < 98 percent, burst gating was used during some of the other tests in this report to only measure during the burst duration.

DUTY CYCLE

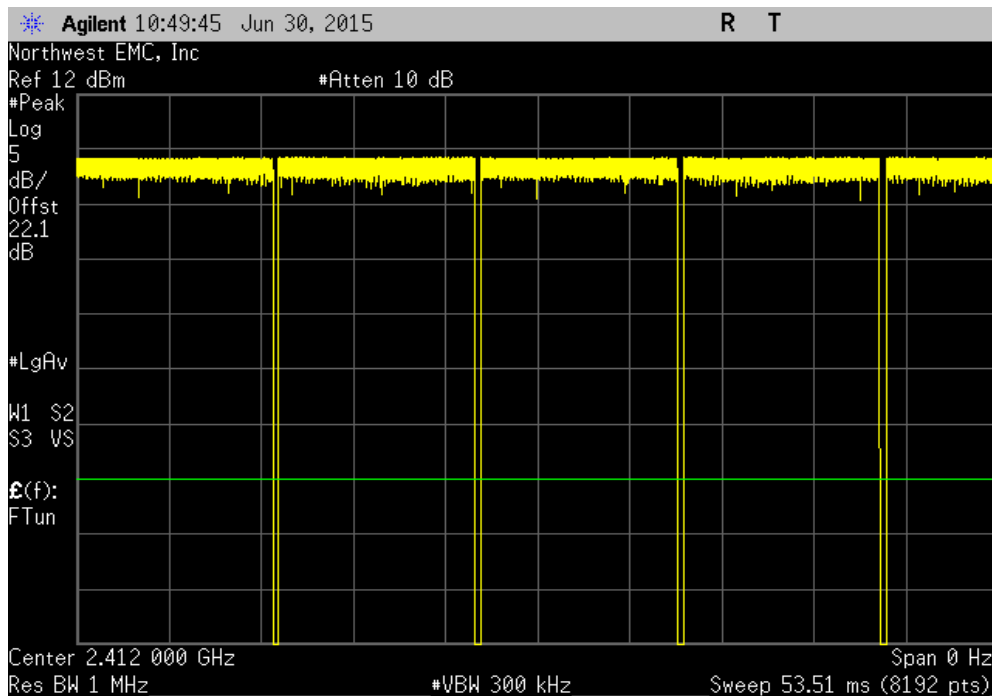
EUT: IrriGreen Genius System - Controller		Work Order: IRR10007	
Serial Number: None		Date: 06/30/15	
Customer: IrriGreen, Inc		Temperature: 23.2°C	
Attendees: Gary Klinefelter		Humidity: 52%	
Project: None		Barometric Pres.: 983.9	
Tested by: Trevor Buls		Power: 110VAC/60Hz	
		Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2015		ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Trevor Buls</i>	
		Pulse Width	Period
		Number of Pulses	Value (%)
		Limit (%)	Results
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	11.394 ms	11.827 ms
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	11.394 ms	11.809 ms
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	11.392 ms	11.754 ms
	High Channel 11, 2462 MHz	N/A	N/A
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	1.211 ms	1.572 ms
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	1.211 ms	1.572 ms
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	1.211 ms	1.554 ms
	High Channel 11, 2462 MHz	N/A	N/A
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	1.886 ms	2.088 ms
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	1.886 ms	1.998 ms
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	1.886 ms	2.115 ms
	High Channel 11, 2462 MHz	N/A	N/A
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	325.4 us	780.3 us
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	325.6 us	780.5 us
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	325.6 us	780.5 us
	High Channel 11, 2462 MHz	N/A	N/A
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	221.6 us	784.9 us
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	221.2 us	784.5 us
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	221.6 us	784.5 us
	High Channel 11, 2462 MHz	N/A	N/A
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	1.757 ms	1.96 ms
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	1.758 ms	1.924 ms
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	1.758 ms	1.879 ms
	High Channel 11, 2462 MHz	N/A	N/A
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	188.2 us	579.7 us
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	188.3 us	561.9 us
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	188.3 us	579.8 us
	High Channel 11, 2462 MHz	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 (%)	Results
	11.394 ms	11.827 ms	1	96.3	N/A	N/A

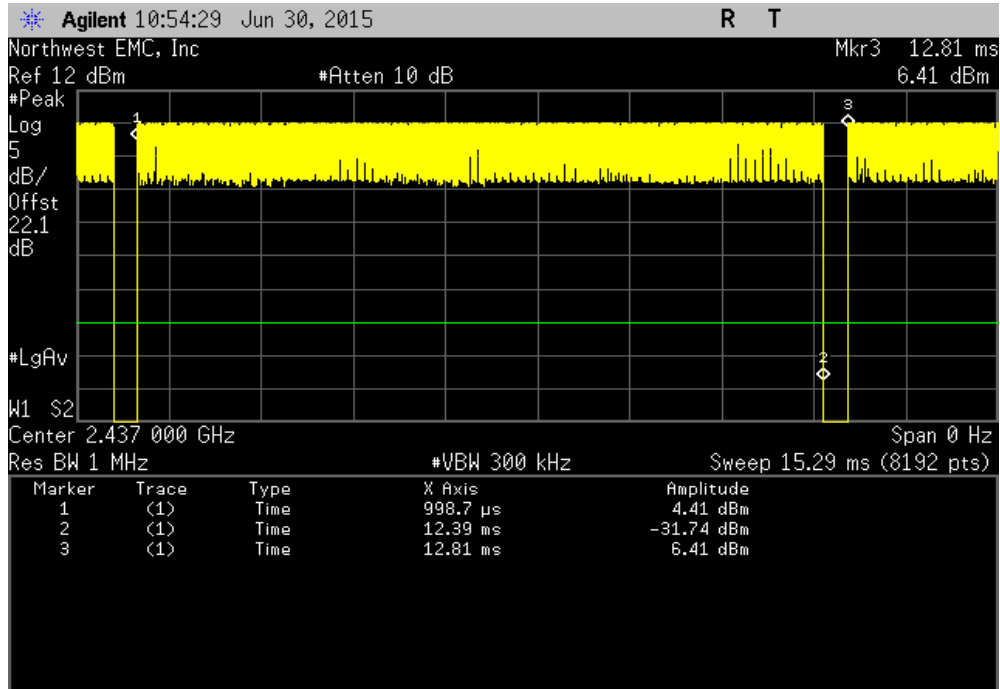


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

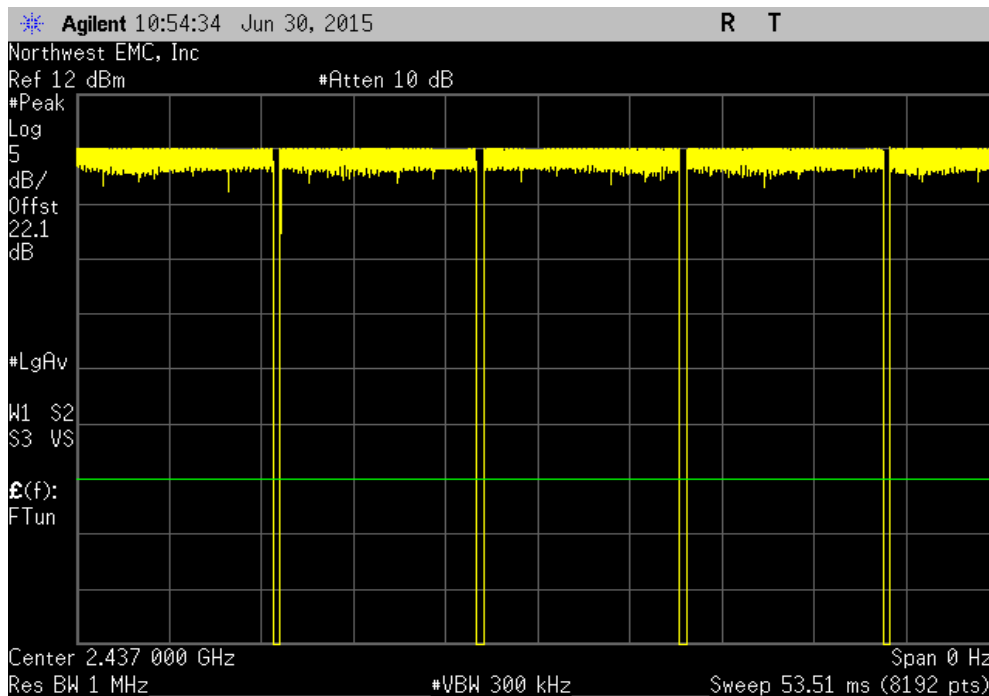


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	11.394 ms	11.809 ms	1	96.5	N/A	N/A

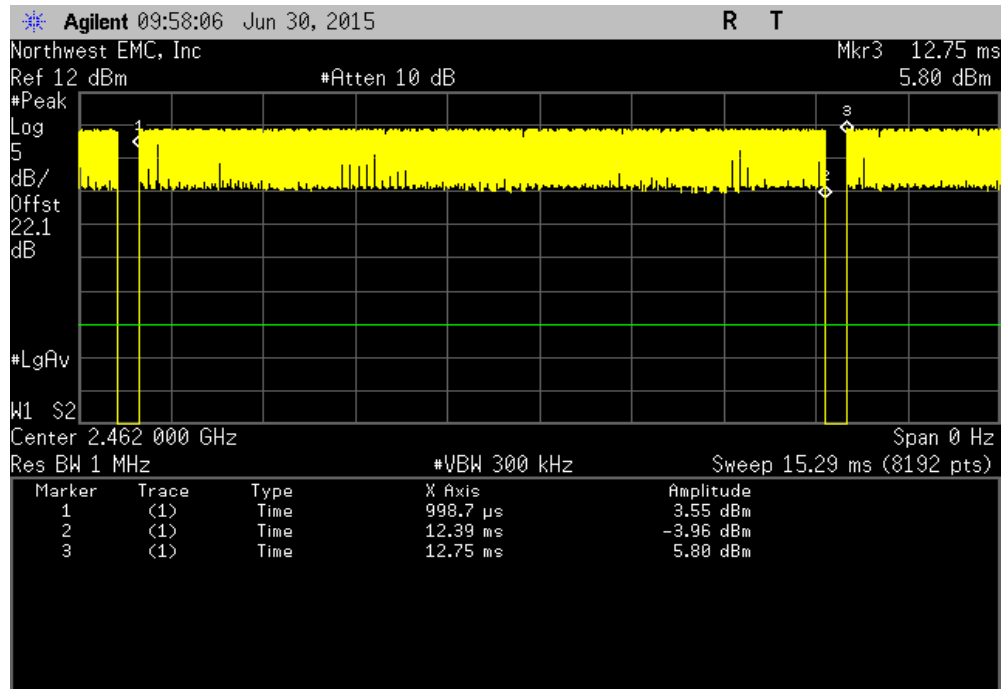


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

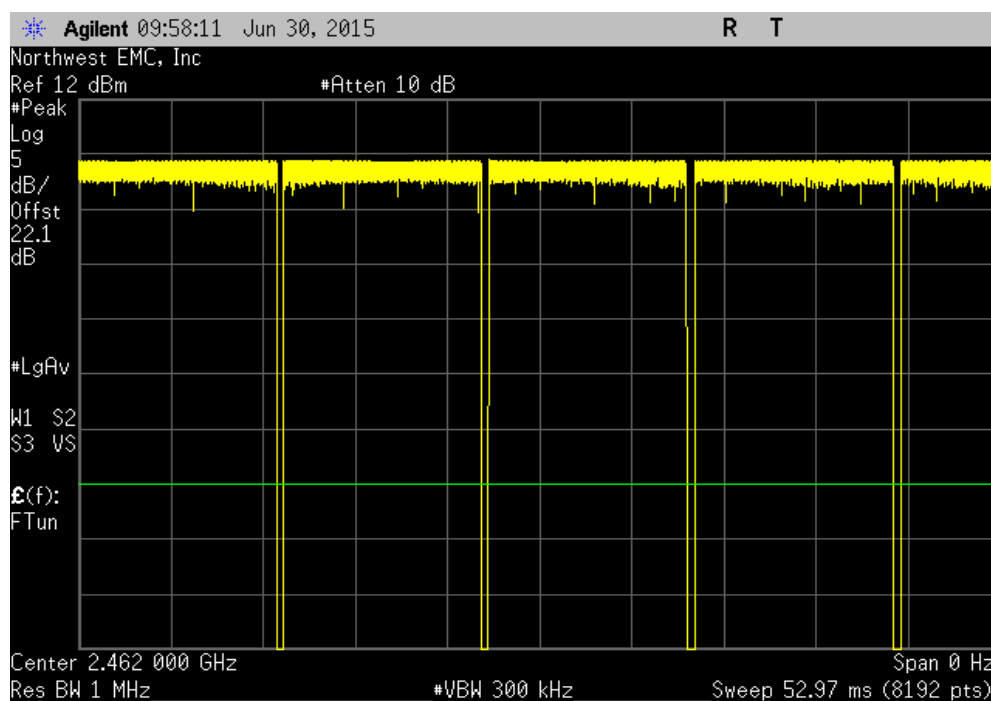


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	11.392 ms	11.754 ms	1	96.9	N/A	N/A

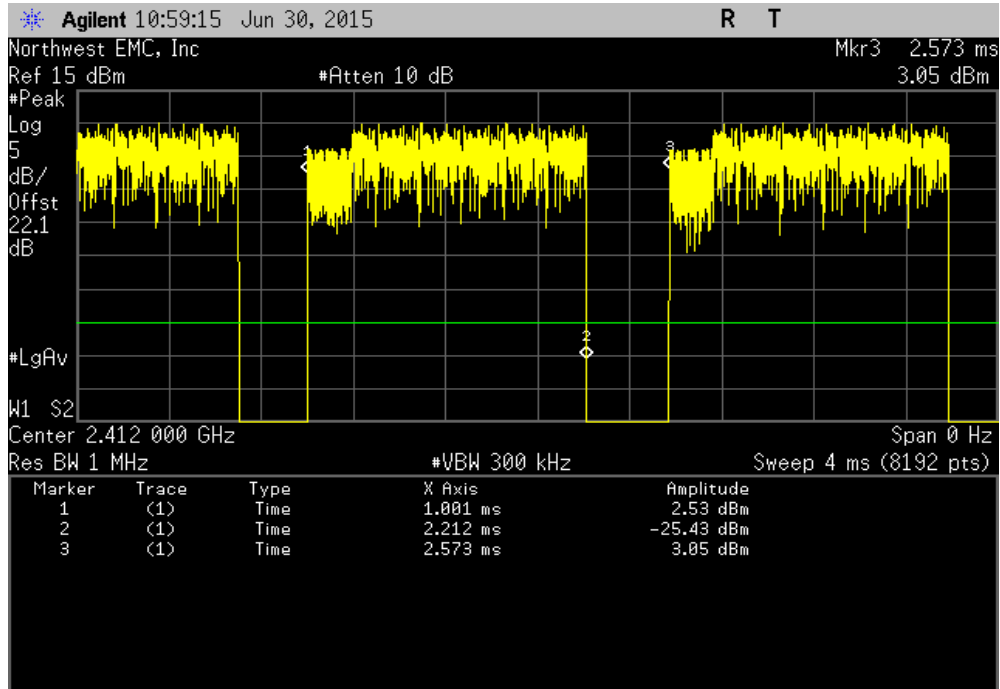


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

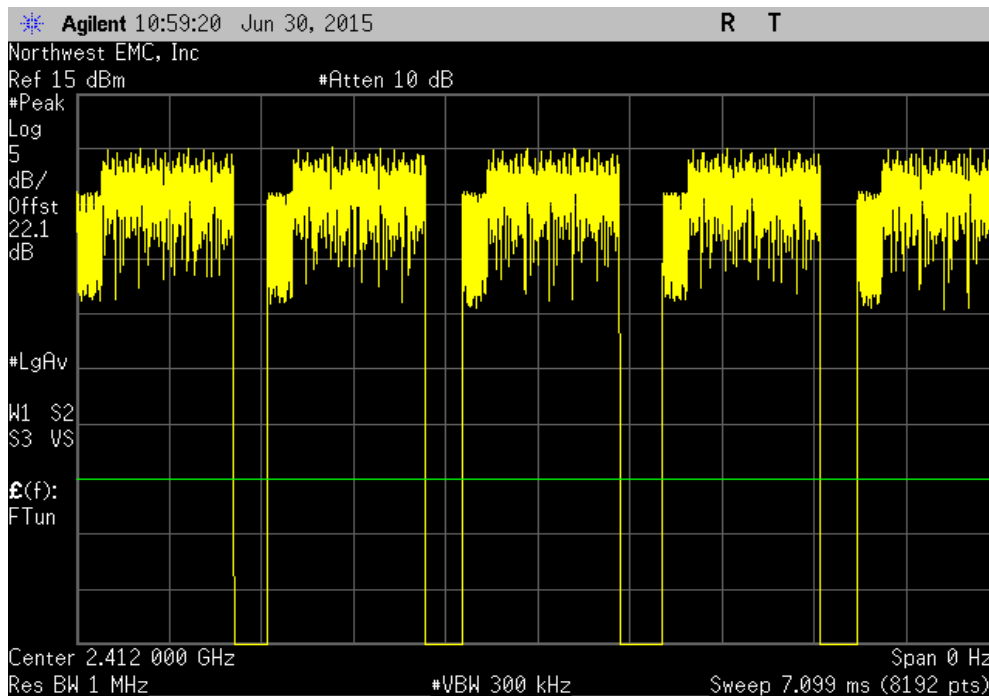


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
1.211 ms	1.572 ms	1	77	N/A	N/A	

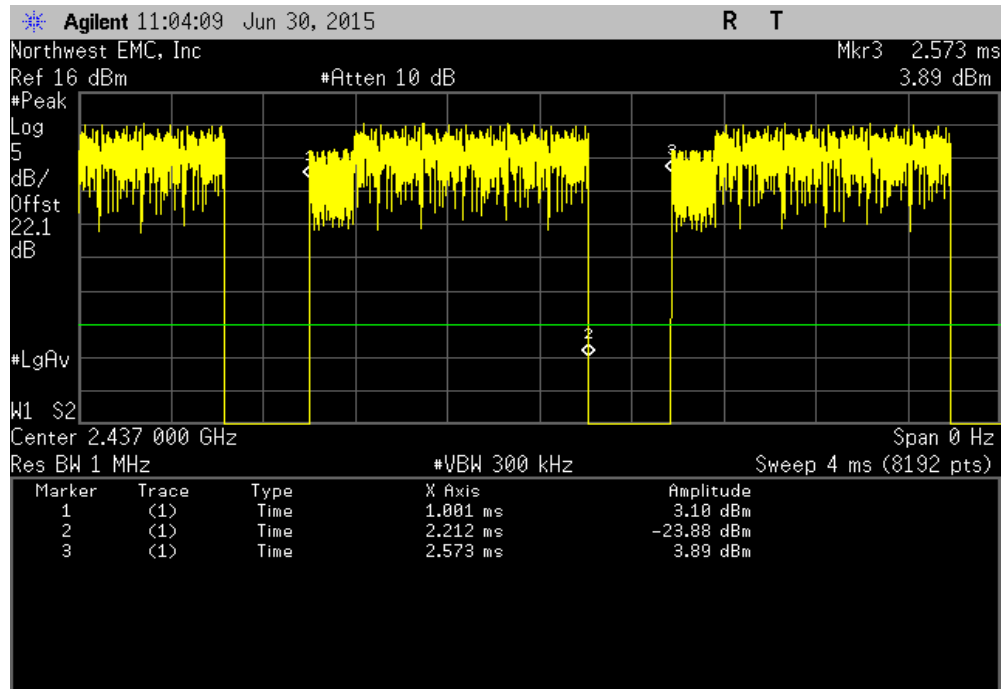


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

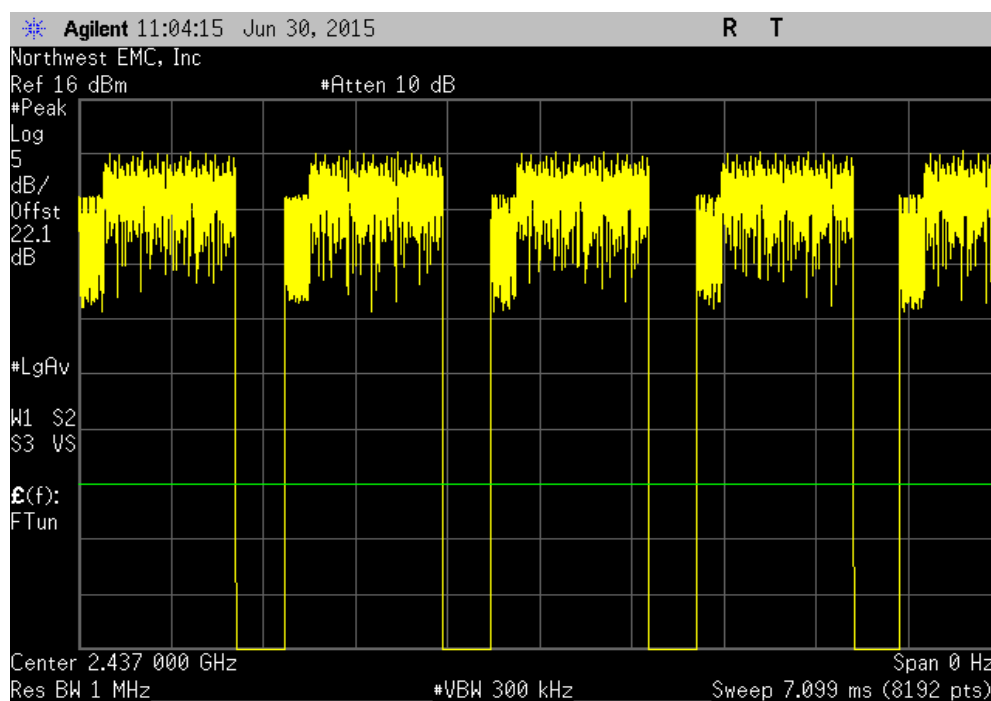


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	1.211 ms	1.572 ms	1	77	N/A	N/A

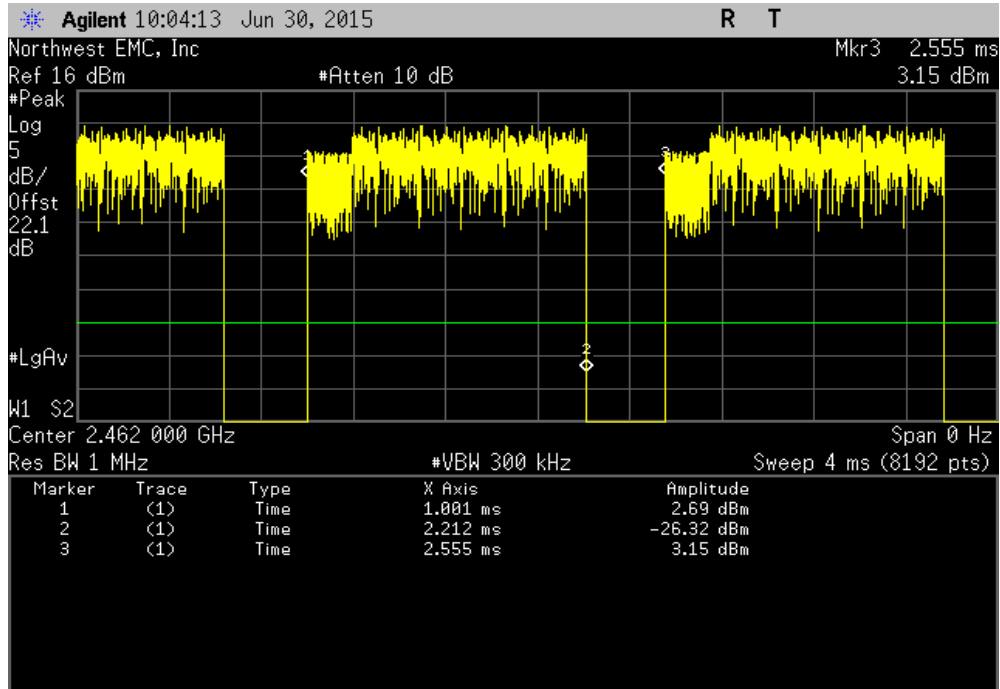


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

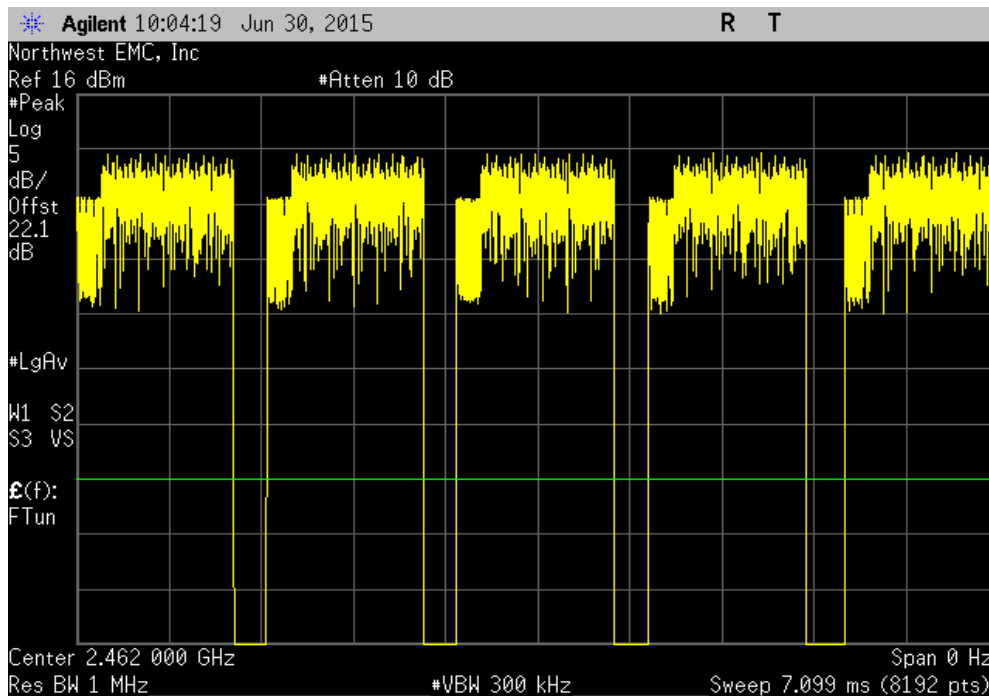


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	1.211 ms	1.554 ms	1	77.9	N/A	N/A

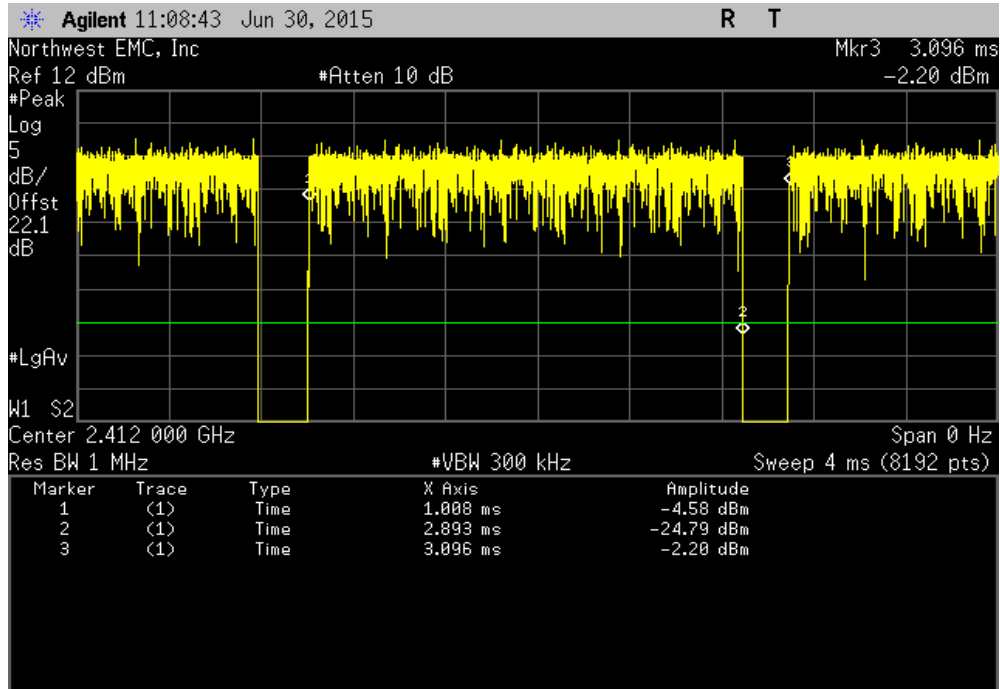


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



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 (%)	Results
	1.886 ms	2.088 ms	1	90.3	N/A	N/A

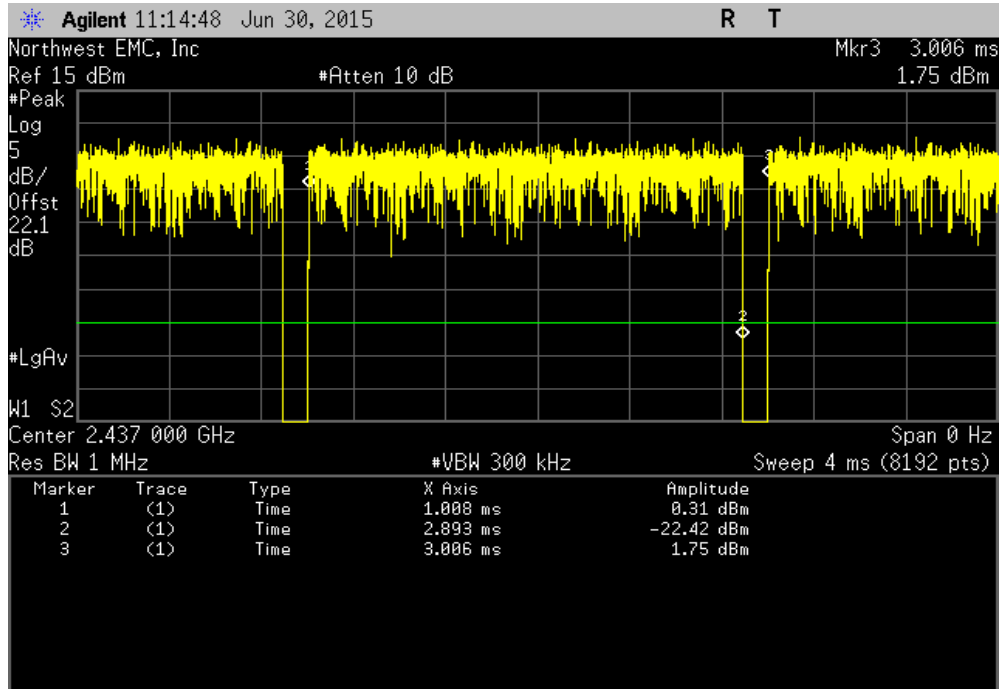


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



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 (%)	Results
	1.886 ms	1.998 ms	1	94.4	N/A	N/A

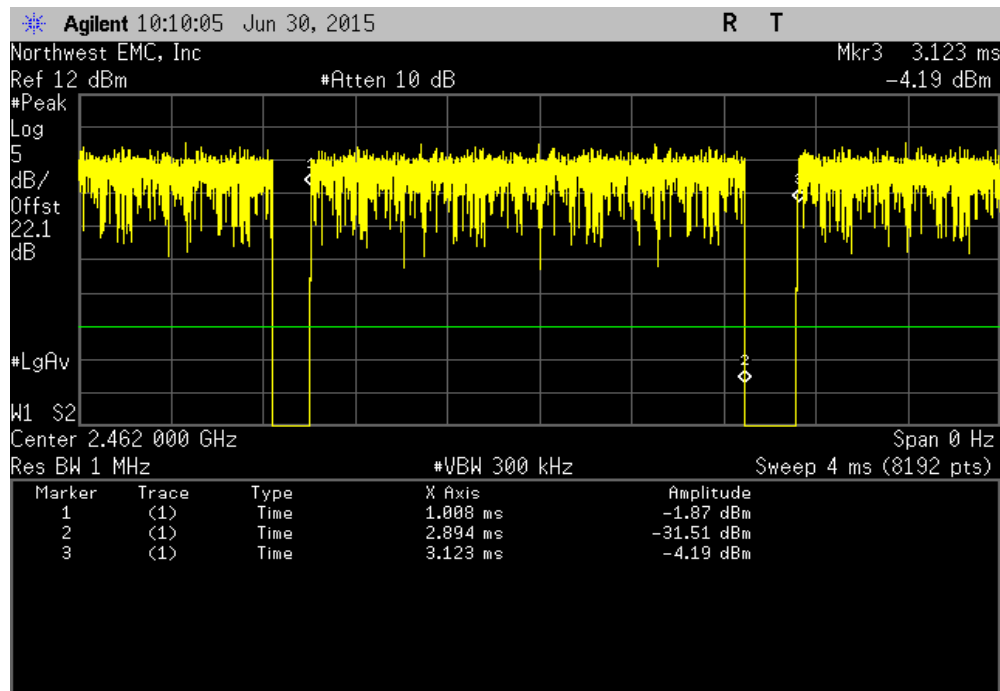


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



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 (%)	Results
	1.886 ms	2.115 ms	1	89.2	N/A	N/A

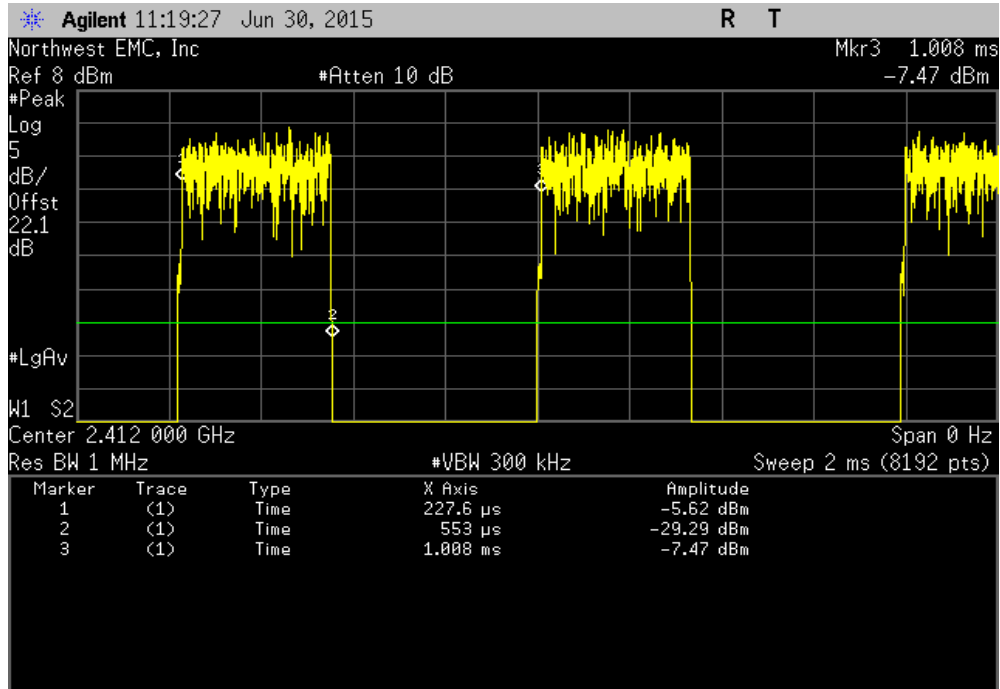


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

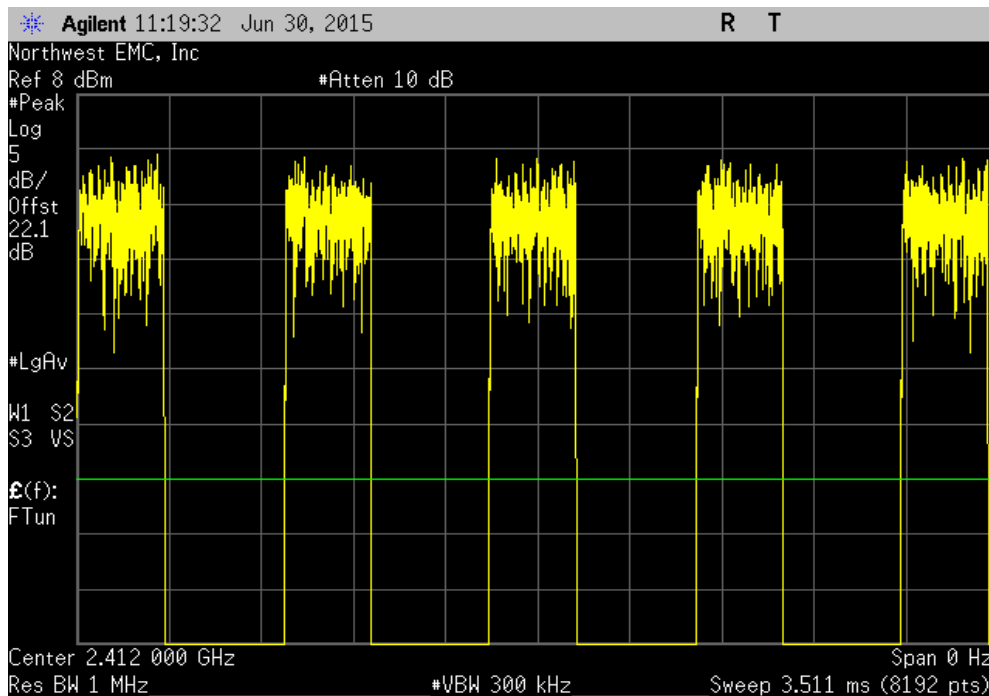


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
325.4 us	780.3 us	1	41.7	N/A	N/A	

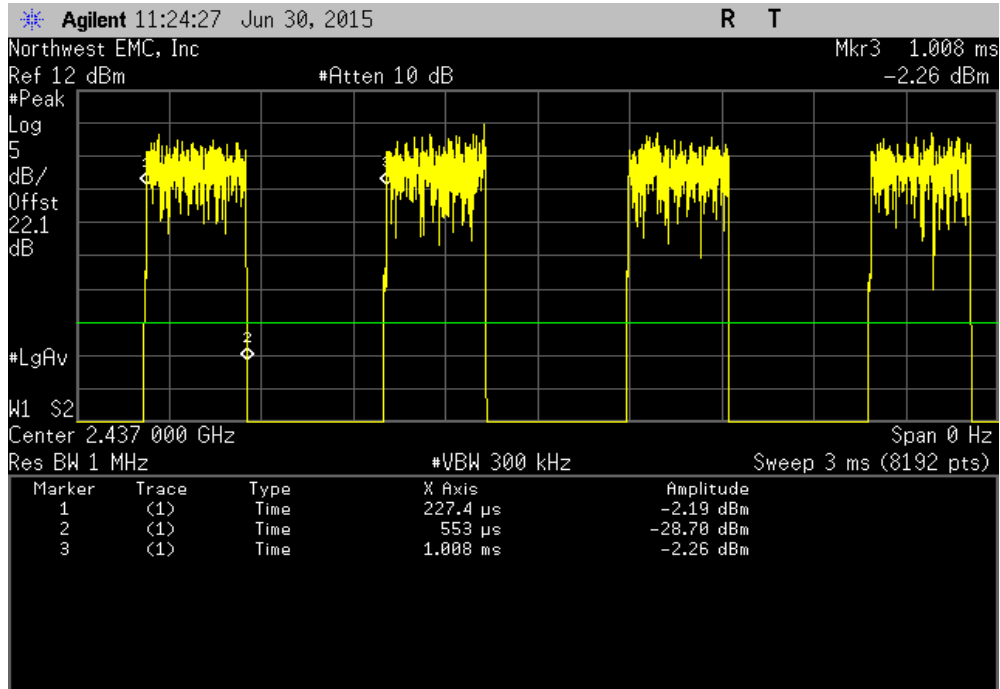


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

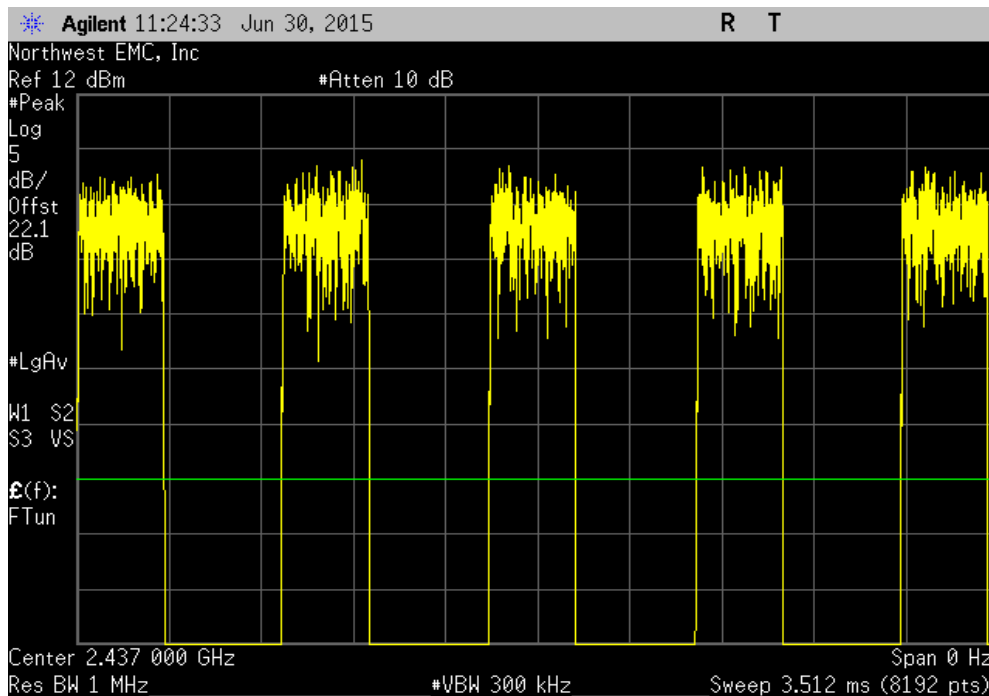


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
325.6 us	780.5 us	1	41.7	N/A	N/A	

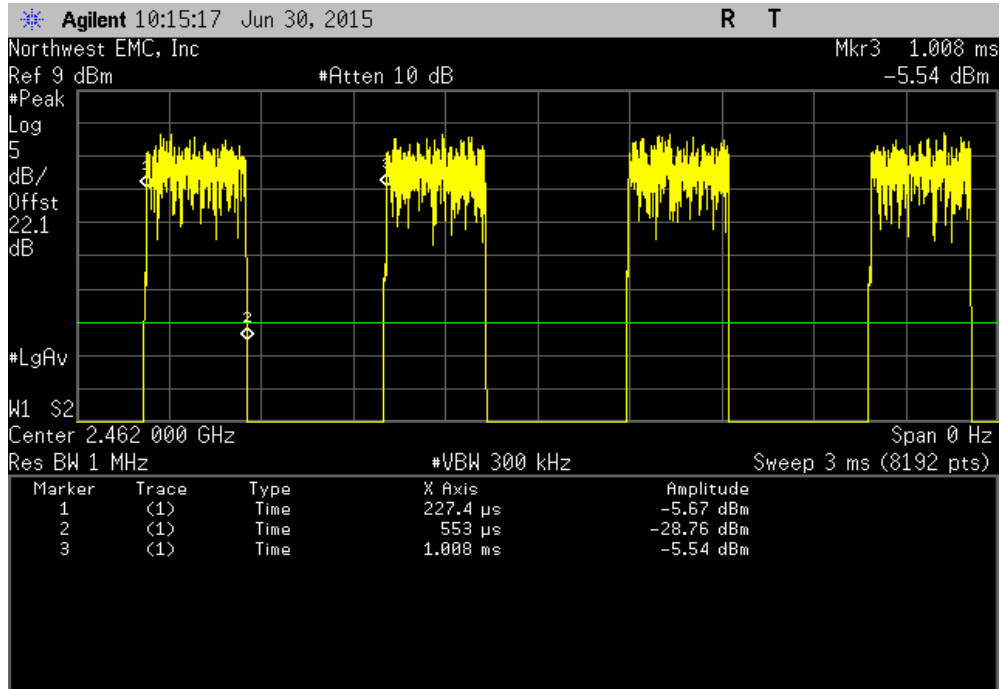


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

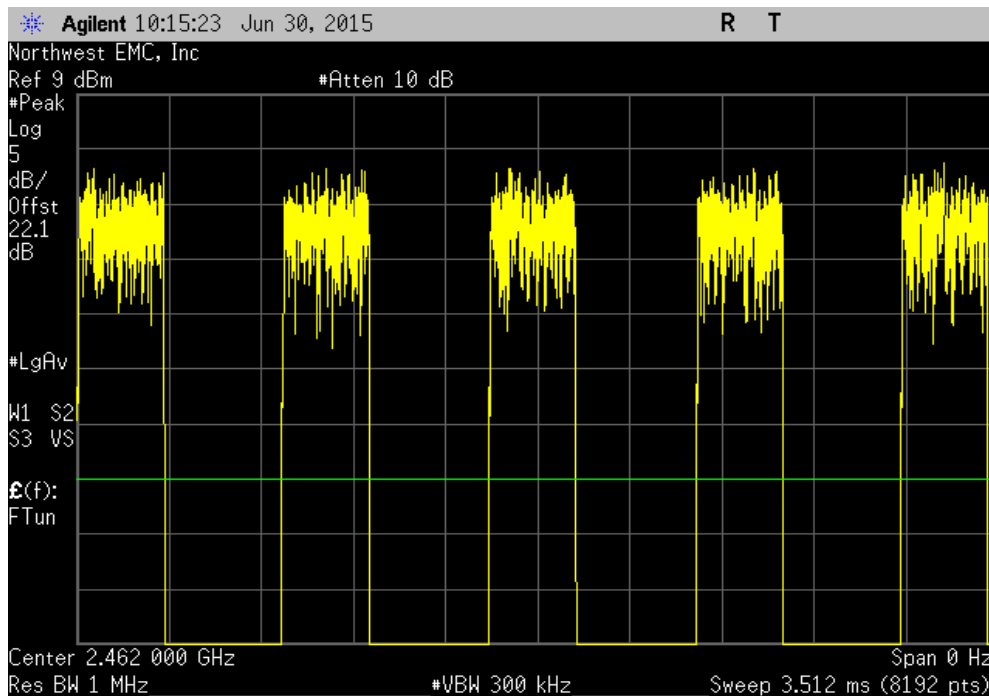


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
325.6 us	780.5 us	1	41.7	N/A	N/A	

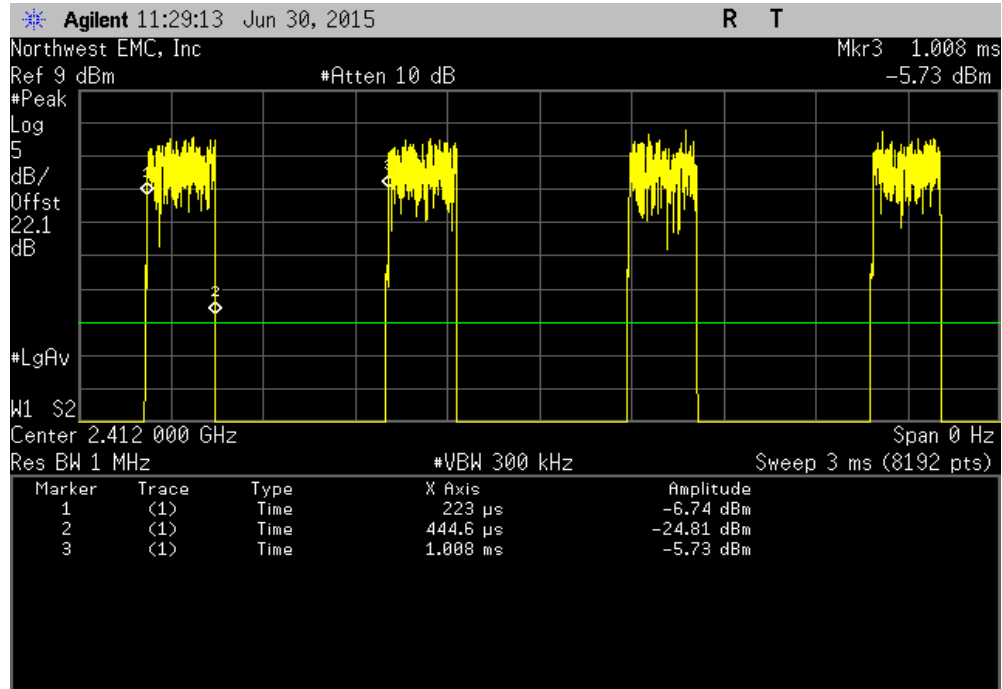


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

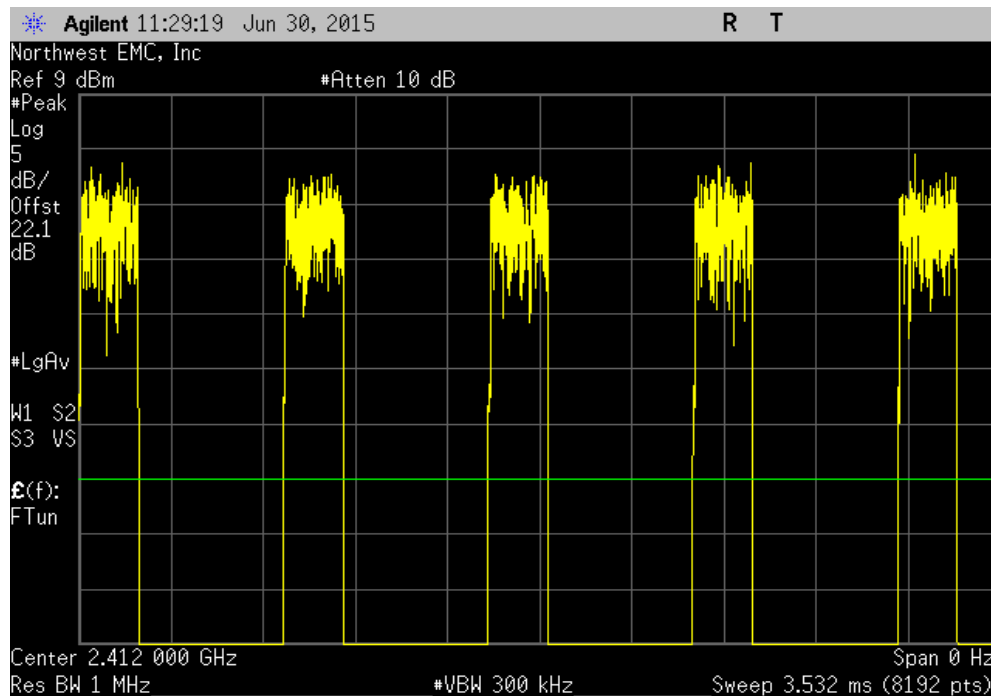


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
221.6 us	784.9 us	1	28.2	N/A	N/A	

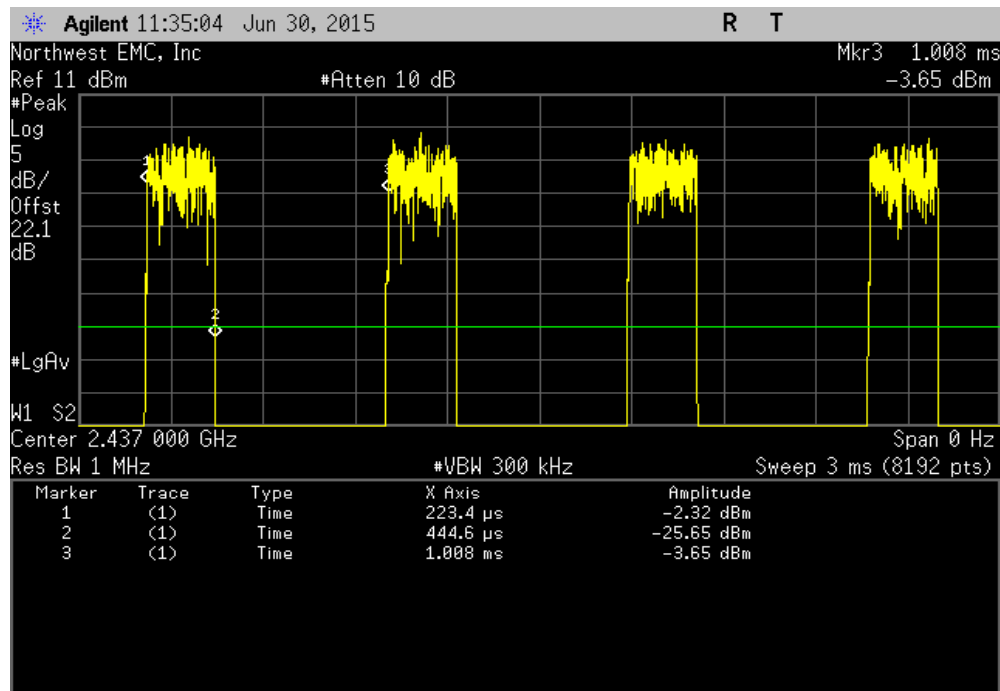


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

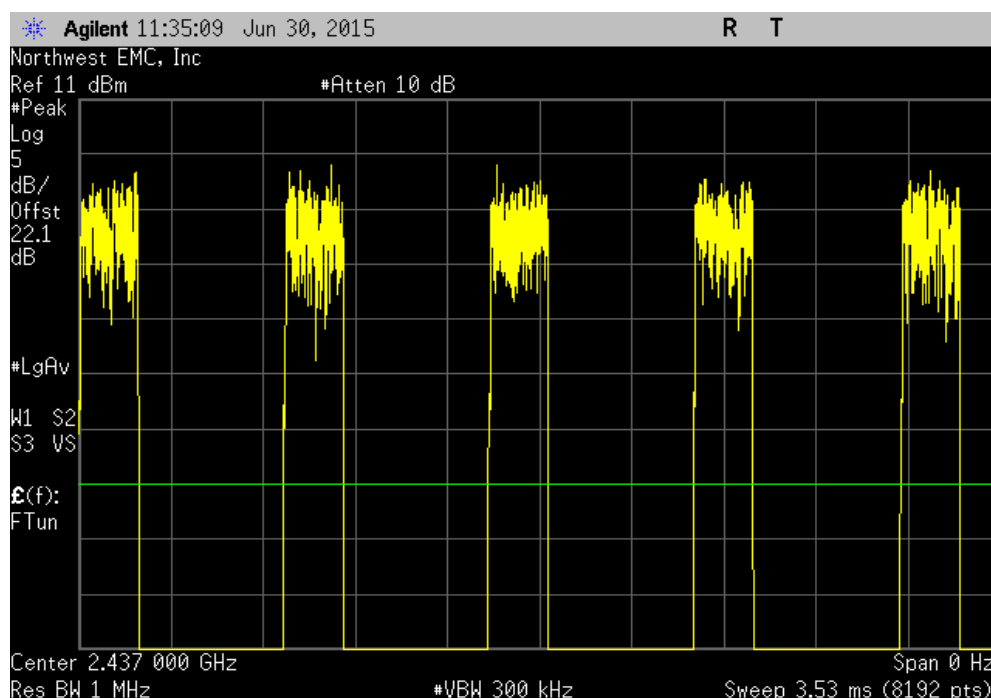


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
221.2 us	784.5 us	1	28.2	N/A	N/A	

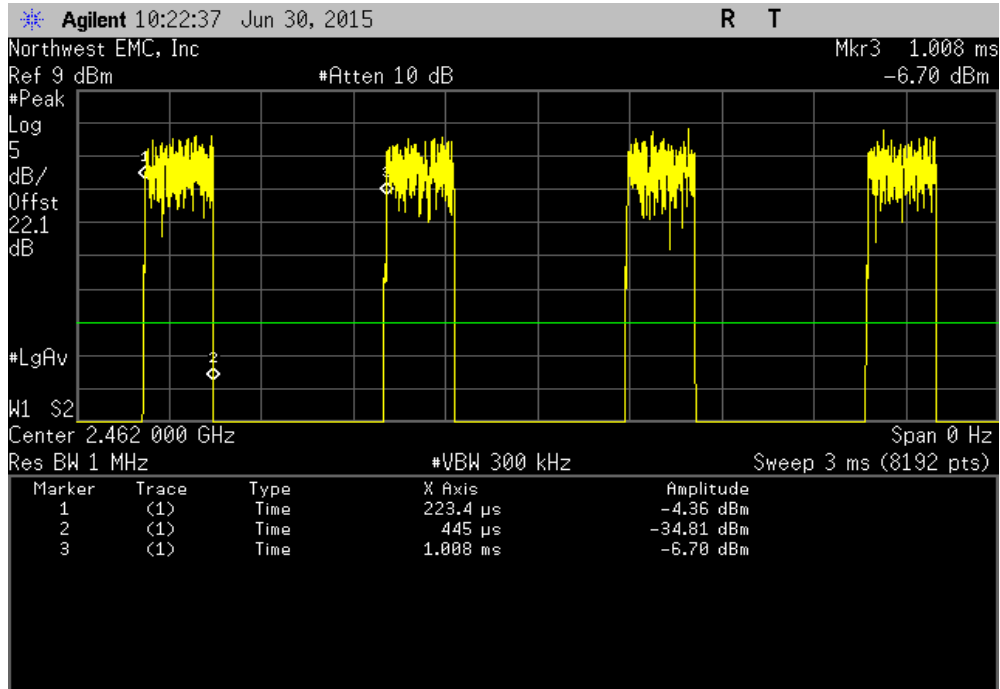


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

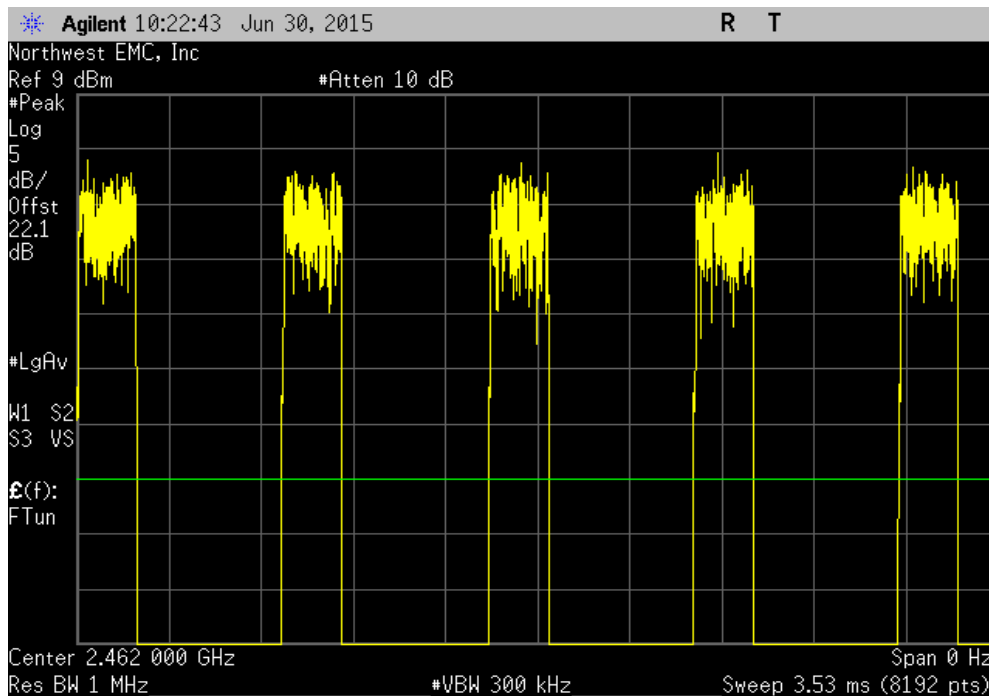


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
221.6 us	784.5 us	1	28.2	N/A	N/A	

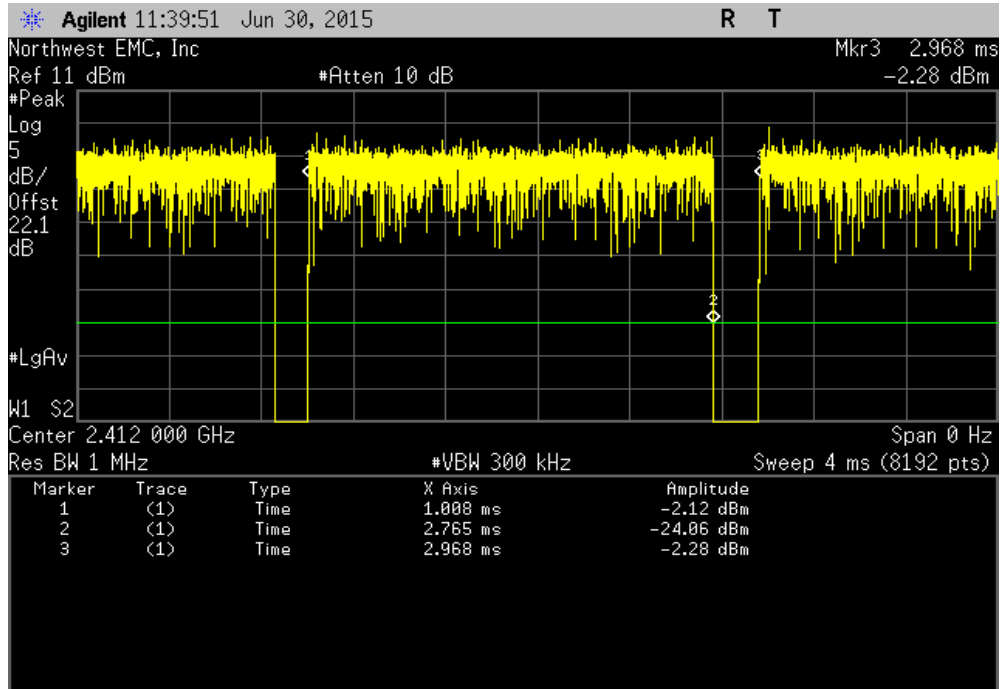


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

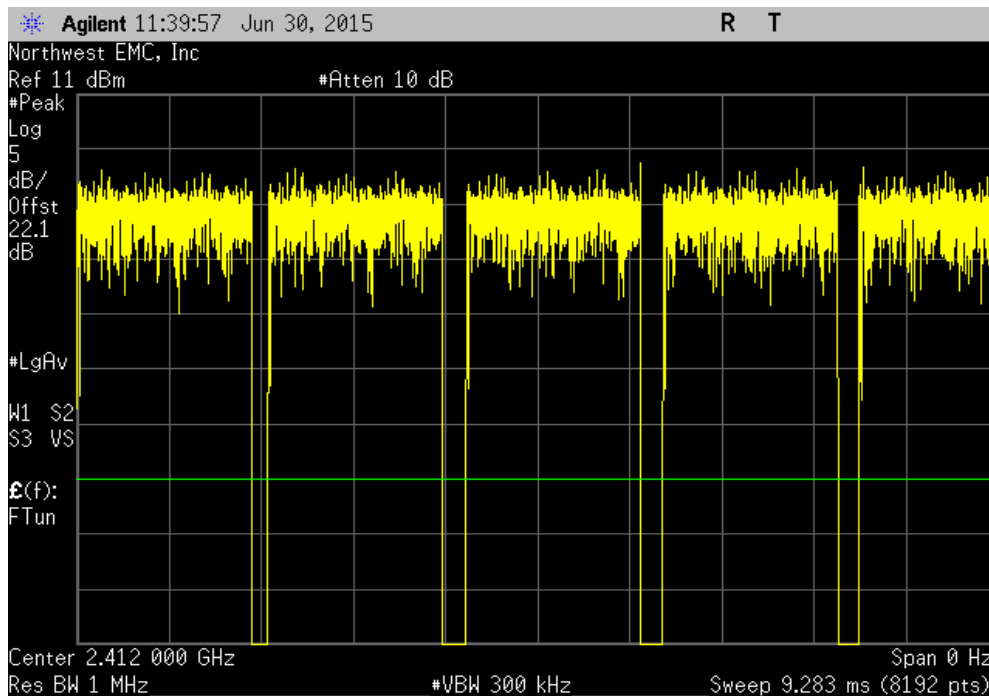


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	1.757 ms	1.96 ms	1	89.7	N/A	N/A

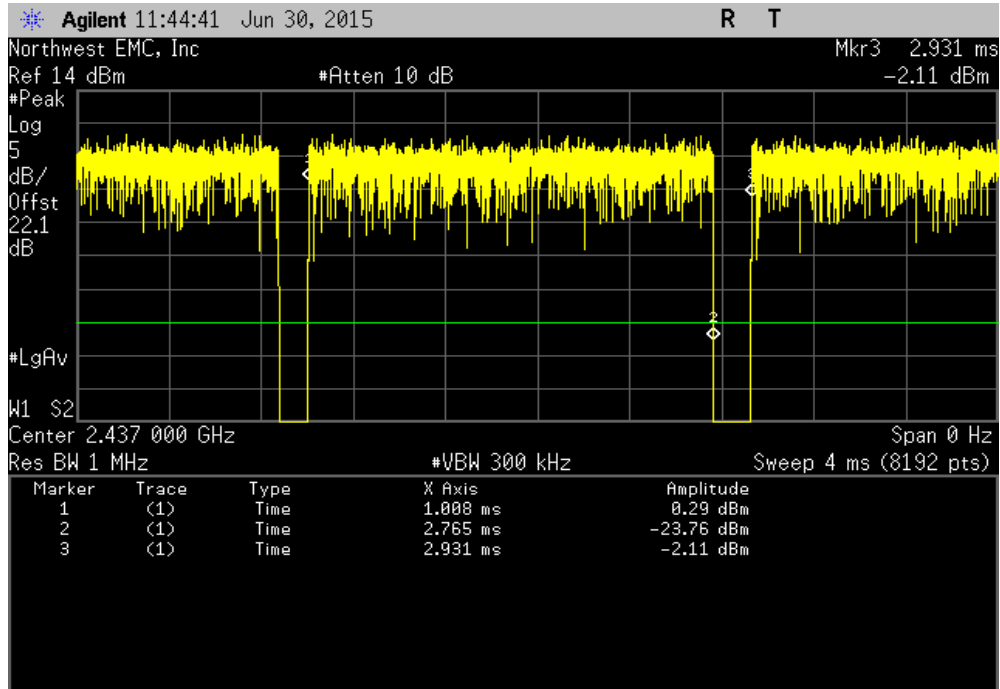


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

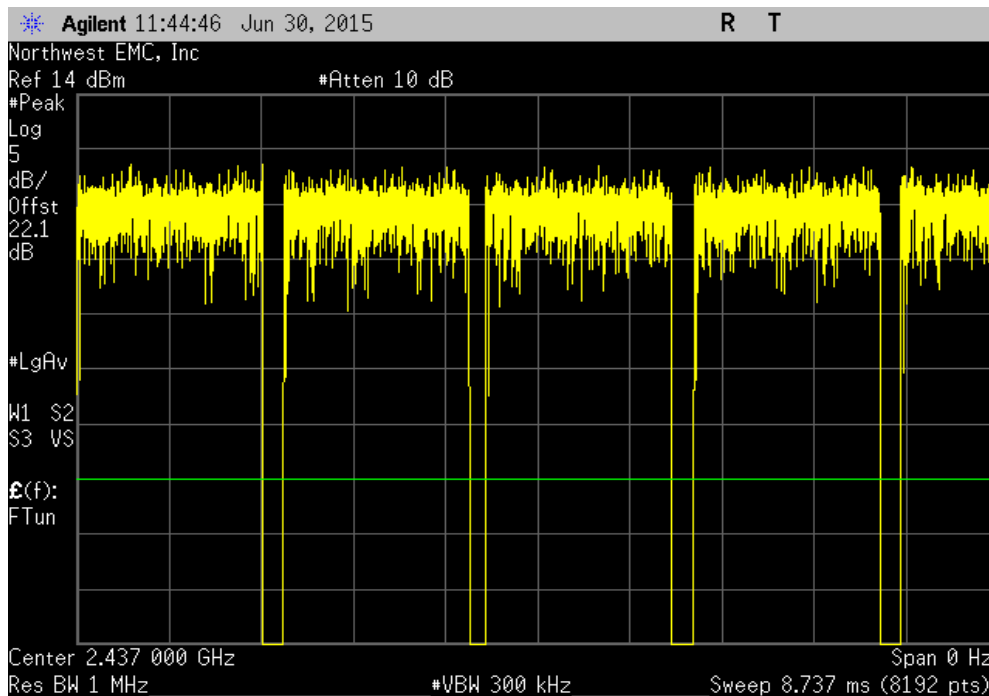


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	1.758 ms	1.924 ms	1	91.4	N/A	N/A

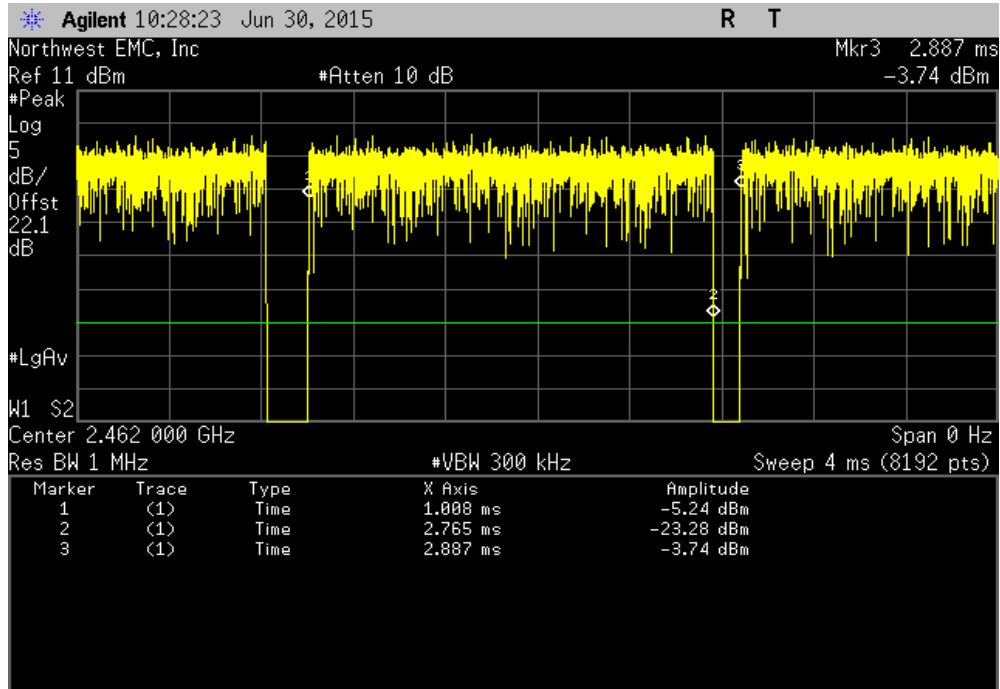


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

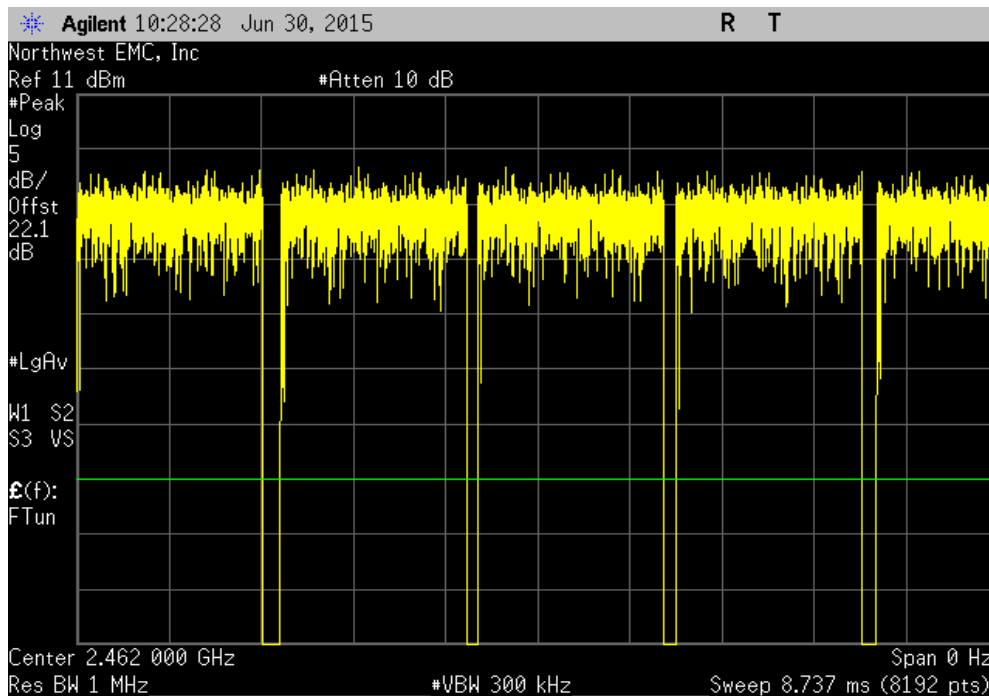


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	1.758 ms	1.879 ms	1	93.6	N/A	N/A

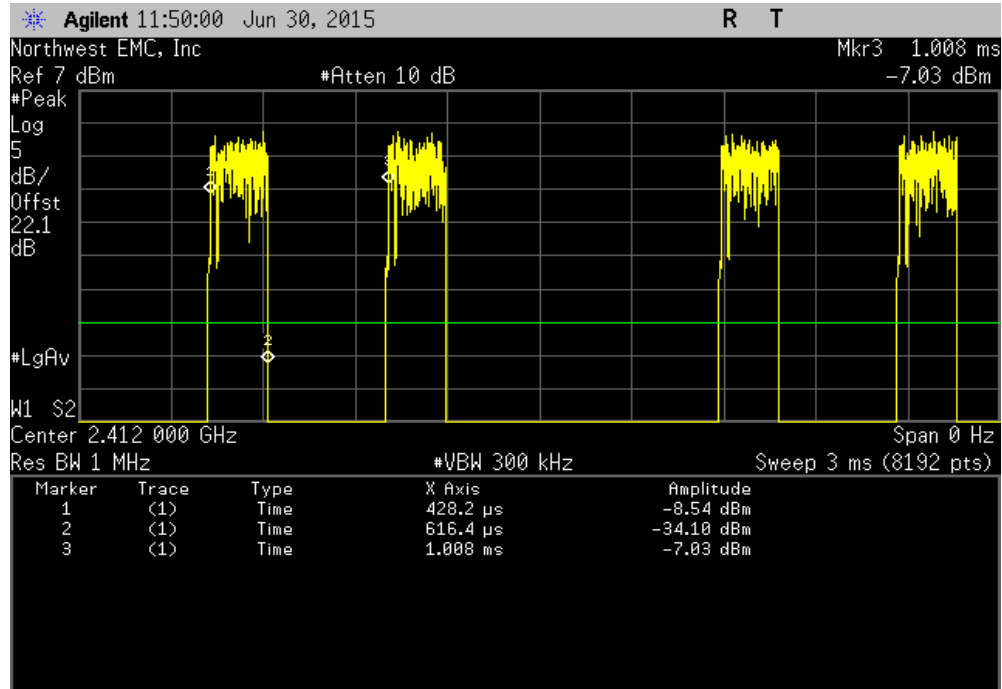


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

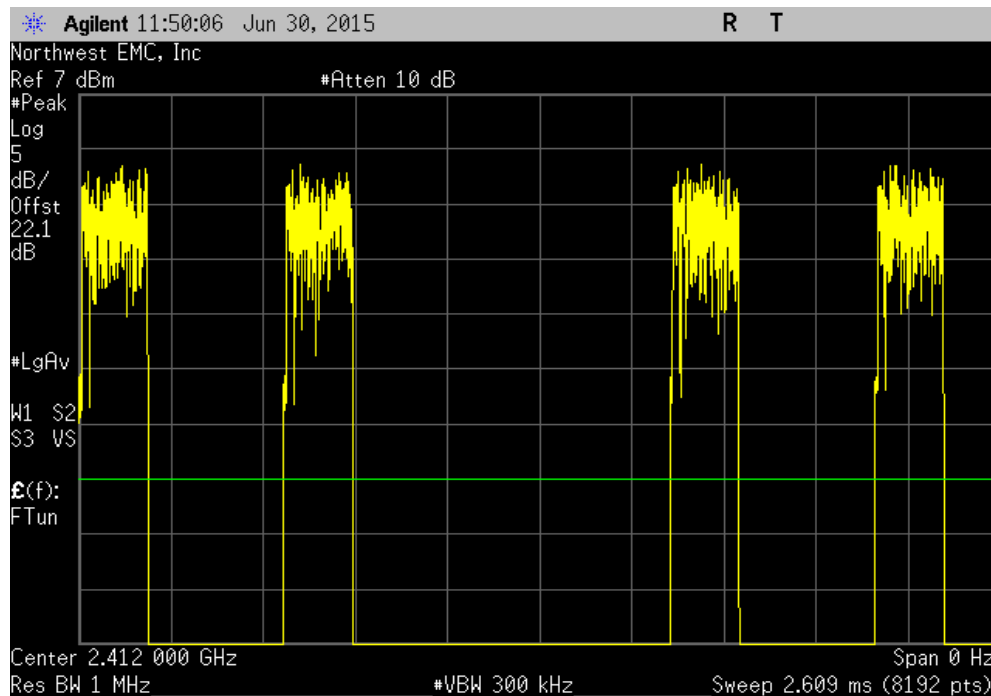


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
188.2 us	579.7 us	1	32.5	N/A	N/A	

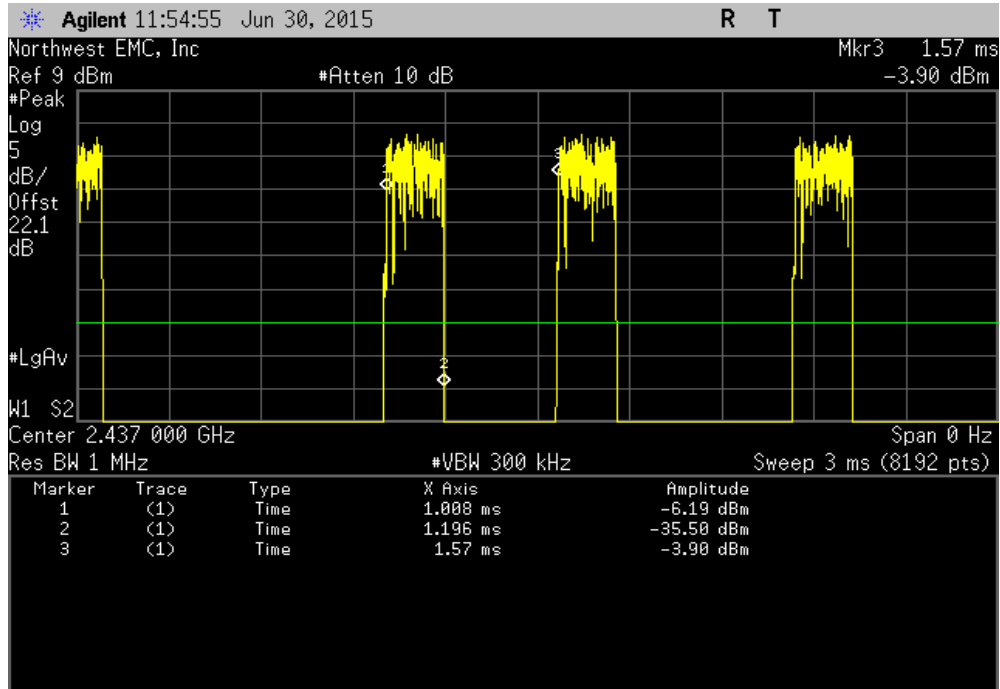


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	4	N/A	N/A	N/A	

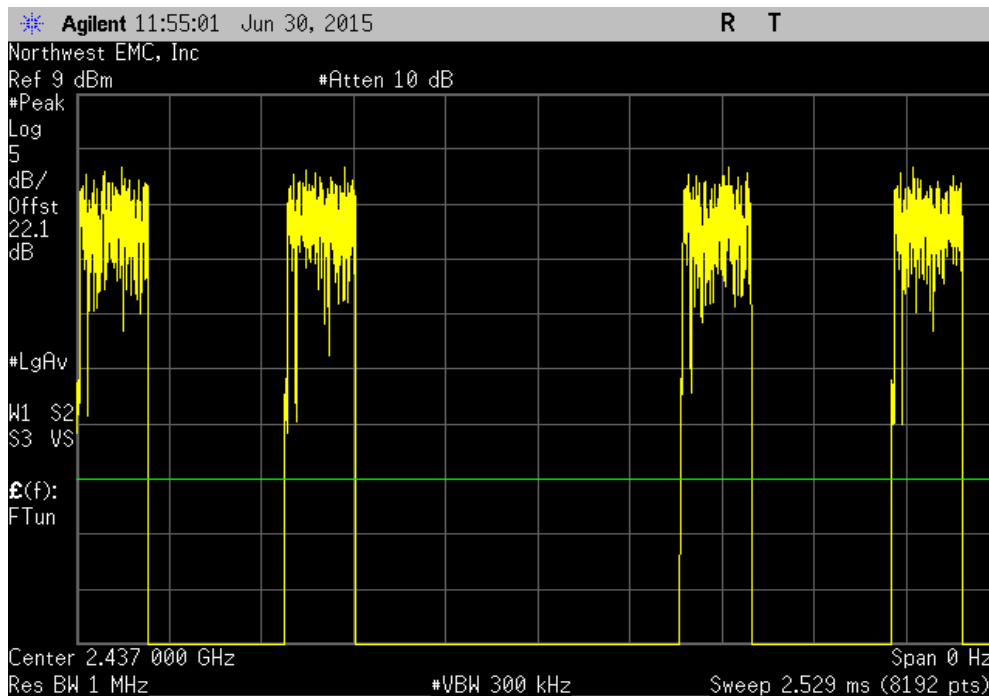


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
188.3 us	561.9 us	1	33.5	N/A	N/A	

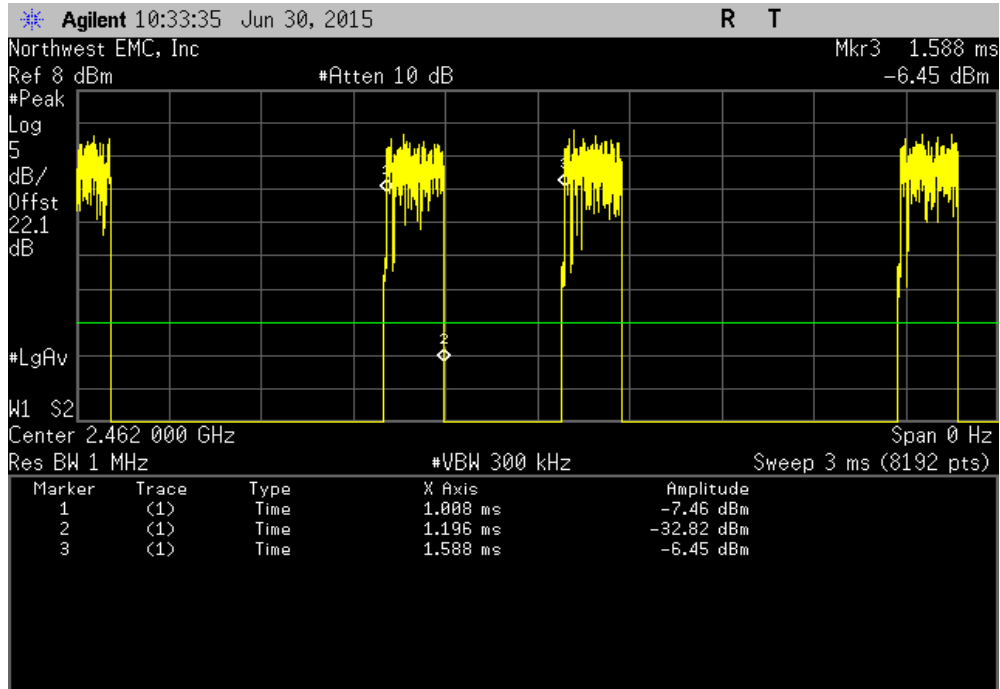


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	4	N/A	N/A	N/A	



DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
188.3 us	579.8 us	1	32.5	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 (%)	Results	
N/A	N/A	3	N/A	N/A	N/A	

