Masimo Corporation

RDS7A/ROOT V2

FCC 15.207:2014
FCC 15.247:2014

Report # MASI0237.2

NVLAP Lab Code: 200676-0

NORTHWEST EMC

WTD 13.9.30

CERTIFICATE OF TEST

Last Date of Test: September 16, 2014
Masimo Corporation
Model: RDS7A/ROOT V2

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2014	ANSI C63.10:2009
FCC 15.247:2014	ANSI C63.10:2009

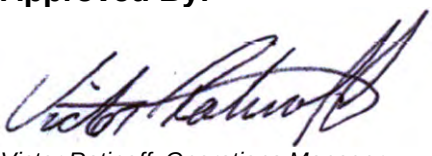
Results

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	

Deviations From Test Standards

None

Approved By:



Victor Ratinoff, 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.

NORTHWEST EMC
REV 2012.08.02

REVISION HISTORY

Revision Number	Description	Date	Page Number
00	None		

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.

NORTHWEST EMC

REV 2014.08.11

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 Guide 65 as a product certifier. This allows Northwest EMC to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

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

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

Vietnam

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

SCOPE

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

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 listed below. 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 16-4-1 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.

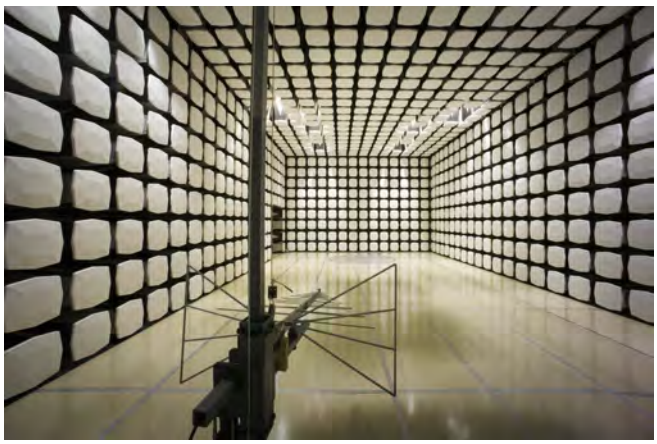
Test	+ MU	- MU
Frequency Accuracy (Hz)	0.12	-0.01
Amplitude Accuracy (dB)	0.49	-0.49
Conducted Power (dB)	0.41	-0.41
Radiated Power via Substitution (dB)	0.69	-0.68
Temperature (degrees C)	0.81	-0.81
Humidity (% RH)	2.89	-2.89
Field Strength (dB)	3.80	-3.80
AC Powerline Conducted Emissions (dB)	2.94	-2.94

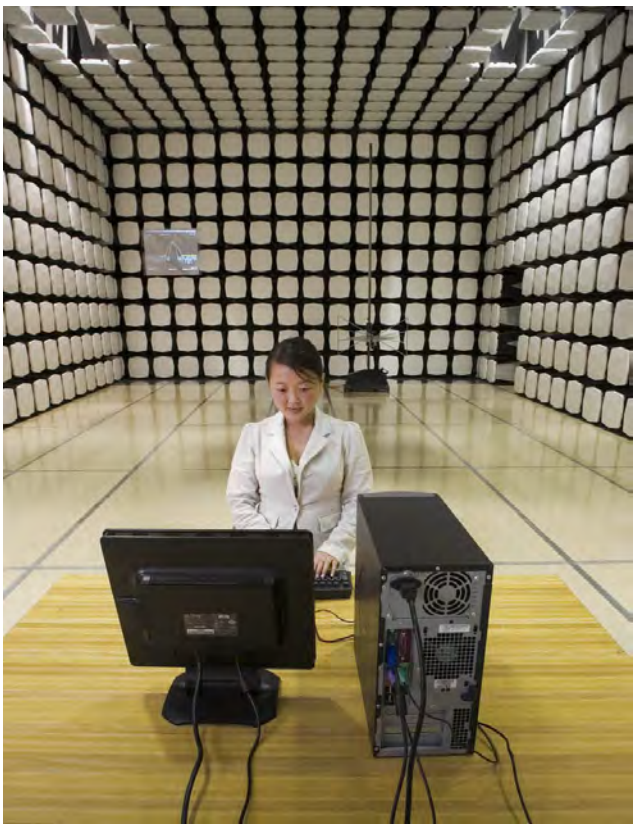
NORTHWEST EMC

REV 2013.06.28

FACILITIES

Oregon	California	New York	Minnesota	Washington
Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 685-0796	Labs MN01-08 9349 W Broadway Ave. Brooklyn Park, MN 55445 (763) 425-2281	Labs NC01-05,SU02,SU07 19201 120th Ave. NE Bothell, WA 98011 (425) 984-6600
VCCI				
A-0108	A-0029		A-0109	A-0110
Industry Canada				
2834D-1, 2834D-*2*	2834B-1, 2834B-2, 2834B-3		2834E-1	2834F-1
NVLAP				
NVLAP Lab Code: 200630-0	NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200629-0





PRODUCT DESCRIPTION

WTD 13.9.30

Client and Equipment Under Test (EUT) Information

Company Name:	Masimo Corporation
Address:	40 Parker
City, State, Zip:	Irvine, CA 92618
Test Requested By:	Michael Clark
Model:	RDS7A/ROOT V2
First Date of Test:	January 29, 2014
Last Date of Test:	September 17, 2014
Receipt Date of Samples:	January 19, 2014
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Pulse Co-Oximeter. 802.11(a/b/g) radio module. 1 stream and 1 antenna.

Client Justification:
The radio contained within Model RAD7A/Radical 7 V2 is Identical to the radio contained within Model RDS7A/ROOT V2

Testing Objective:
To demonstrate compliance under FCC 15.247 for operation in the 2.4 GHz and 5.8 GHz band(s).

CONFIGURATIONS

Configuration MASI0151- 1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Pulse Co-Oximeter	Masimo Corporation	RAD7A/Radical 7 V2	1000000349
Wireless Radio	Broadcom	BCM 4334/Azurewave AW-AH634	24514

Configuration MASI0237- 1

Software/Firmware Running during test	
Description	**Version**
putty	0.62.0.0

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Wireless Docking Station	Masimo Corporation	RDS7A/ROOT V2 (v1.1.3.6 i)	1000000020
Wireless Radio	Broadcom	BCM 4334/Azurewave AW-AH634	36811 Rev C

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Pulse Co-Oximeter	Masimo Corporation	RAD7A/Radical 7 V2 (v1.3.0.6 i-EN)	1000031805
Patient Sensor	Masimo Corporation	DCI	4A175
EEG patent cable and sensor	Masimo Corporation	SedLine	6001730
USB Memory Stick #1	Lexar	3813S	LJDV20-8GB-000-101A
USB Memory Stick #2	Lexar	3813S	LJDV20-8GB-000-103A

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Remote Laptop	Hewlett Packard	Probook 4420s	CNF0335MJG
Ethernet Router	Netgear	WGR614v10	28T1027D25470
AC/DC Power Supply	Netgear	AD661F	3010181421011408RR
AC Adapter	Hewlett Packard	PPP014H-S	4016-7021468F5-001

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Cable	No	3.0m	No	RDS7A/ROOT V2	AC Mains
Patient Sensor Cable	No	4.5m	No	RAD7A/Radical 7 V2	Patient Sensor
Ethernet Cable (x4)	No	0.9m	No	RDS7A/ROOT V2	Terminated
Nurse Call Cable	Yes	1.8m	No	RDS7A/ROOT V2	Unterminated
SedLine Cable	No	5.0m	No	RDS7A/ROOT V2	Terminated
Ethernet Cable	No	10.0m	No	RDS7A/ROOT V2	Ethernet Router
Ethernet Cable	No	1.0m	No	Ethernet Router	Remote Laptop
DC Cable	No	1.6m	No	Ethernet Router	AC/DC Power Supply (AC Mains)
DC Cable	No	1.4m	Yes	Remote Laptop	AC Adapter
AC Cable	No	1.6m	No	AC Adapter	AC Mains

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	01/29/2014	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.
2	01/29/2014	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	01/29/2014	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.
4	01/29/2014	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	01/29/2014	Duty Cycle	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	01/29/2014	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.
7	09/11/2014	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
8	09/17/2014	AC Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

AC POWERLINE CONDUCTED EMISSIONS

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

MODES OF OPERATION

Continuously Transmitting 802.11b: Low Channel 1, 2412 MHz, 1Mbps
Continuously Transmitting 802.11b: Mid Channel 6, 2437 MHz, 1Mbps
Continuously Transmitting 802.11b: High Channel 11, 2462 MHz, 1Mbps
Continuously Transmitting 802.11a: Low Channel 149, 5745 MHz, 6Mbps
Continuously Transmitting 802.11a: Mid Channel 157, 5785 MHz, 6Mbps
Continuously Transmitting 802.11a: High Channel 165, 5825 MHz, 6Mbps

POWER SETTINGS INVESTIGATED

120VAC/60Hz

CONFIGURATIONS INVESTIGATED

MASI0237 - 1

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
LISN	Solar	9252-50-24-BNC	LIA	4/22/2014	12 mo
Attenuator	Pasternack	6N10W-20	AWC	1/3/2014	12 mo
HP Filter	TTE	H97-100K-50-720B	HFP	3/1/2012	36 mo
OC06 Cables	N/A	Telecom Cables	OCP	8/15/2014	12 mo
Receiver	Rohde & Schwarz	ESCI	ARG	5/13/2014	12 mo

MEASUREMENT BANDWIDTHS

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

Measurements were made using the bandwidths and detectors specified. No video filter was used.

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 C63.10-2009.

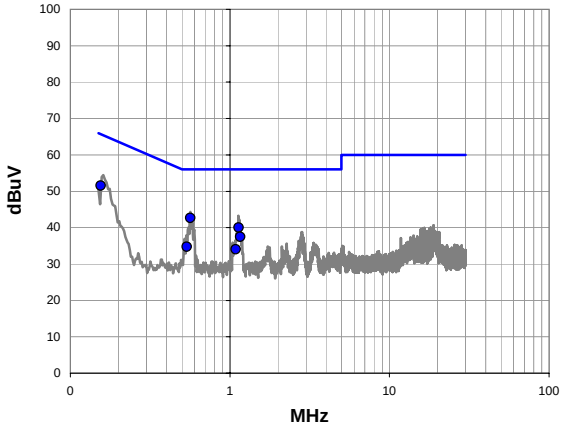
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/16/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11b: Low Channel 1, 2412 MHz, 1Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 90. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

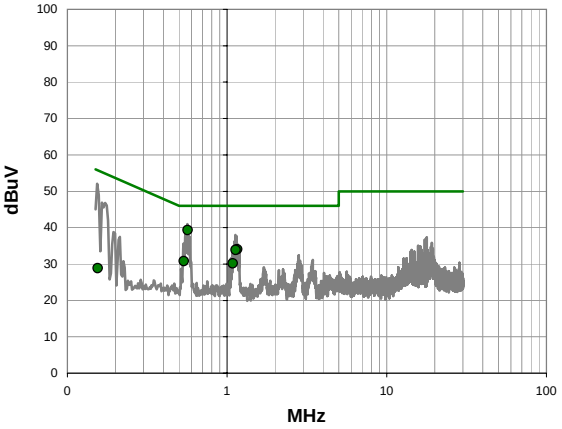
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

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

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	22.5	20.2	42.7	56.0	-13.3
0.155	31.1	20.5	51.6	65.7	-14.2
1.133	19.8	20.2	40.0	56.0	-16.0
1.161	17.3	20.2	37.5	56.0	-18.5
0.537	14.5	20.2	34.7	56.0	-21.3
1.087	13.8	20.2	34.0	56.0	-22.0

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	19.1	20.2	39.3	46.0	-6.7
1.161	13.8	20.2	34.0	46.0	-12.0
1.133	13.7	20.2	33.9	46.0	-12.1
0.537	10.6	20.2	30.8	46.0	-15.2
1.087	10.0	20.2	30.2	46.0	-15.8
0.155	8.4	20.5	28.9	55.7	-26.9

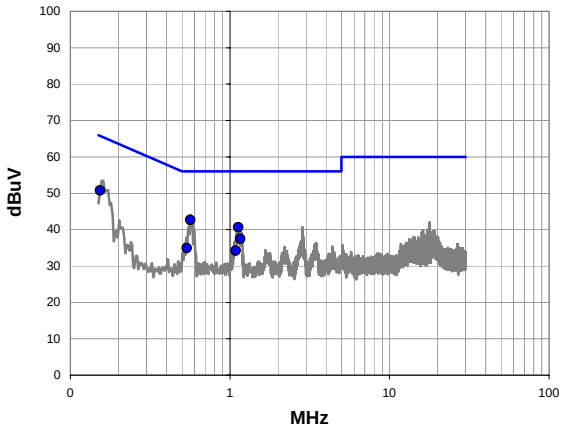
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/16/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11b: Low Channel 1, 2412 MHz, 1Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 90. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

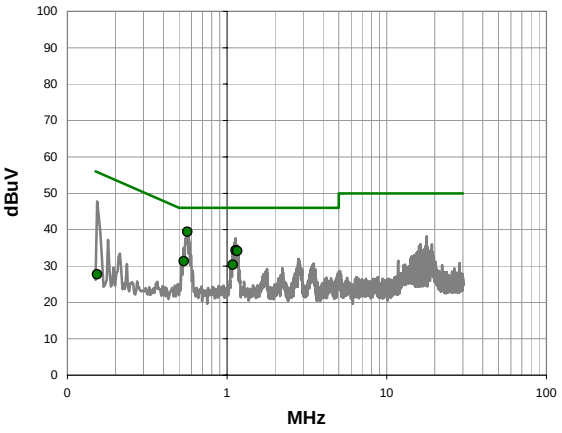
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

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

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.565	22.5	20.2	42.7	56.0	-13.3
0.154	30.3	20.4	50.7	65.8	-15.0
1.131	20.4	20.2	40.6	56.0	-15.4
1.162	17.3	20.2	37.5	56.0	-18.5
0.537	14.7	20.2	34.9	56.0	-21.1
1.086	14.0	20.2	34.2	56.0	-21.8

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.565	19.2	20.2	39.4	46.0	-6.6
1.131	14.1	20.2	34.3	46.0	-11.7
1.162	13.9	20.2	34.1	46.0	-11.9
0.537	11.1	20.2	31.3	46.0	-14.7
1.086	10.1	20.2	30.3	46.0	-15.7
0.154	7.3	20.4	27.7	55.8	-28.0

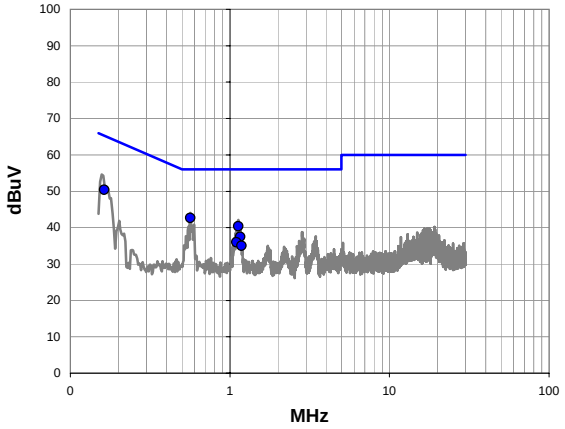
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/16/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11b: Mid Channel 6, 2437 MHz, 1Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 90. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

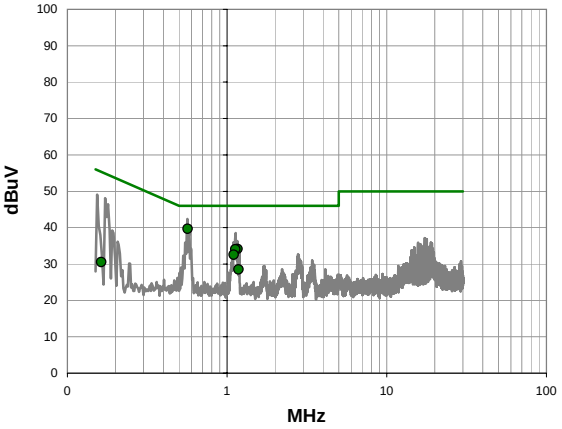
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

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

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	22.5	20.2	42.7	56.0	-13.3
0.163	29.9	20.5	50.4	65.3	-14.9
1.130	20.2	20.2	40.4	56.0	-15.6
1.163	17.3	20.2	37.5	56.0	-18.5
1.101	15.8	20.2	36.0	56.0	-20.0
1.181	14.8	20.2	35.0	56.0	-21.0

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	19.5	20.2	39.7	46.0	-6.3
1.163	13.9	20.2	34.1	46.0	-11.9
1.130	13.8	20.2	34.0	46.0	-12.0
1.101	12.3	20.2	32.5	46.0	-13.5
1.181	8.3	20.2	28.5	46.0	-17.5
0.163	10.0	20.5	30.5	55.3	-24.8

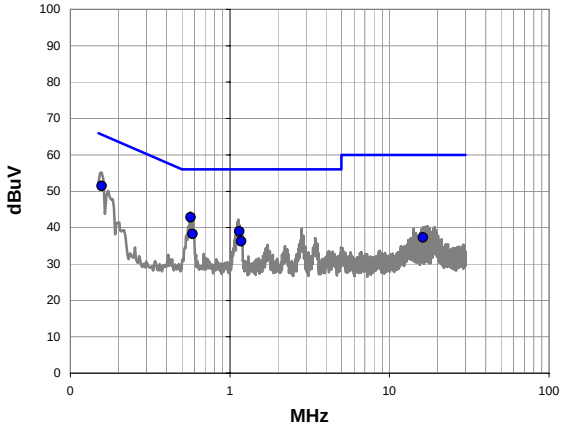
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/16/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11b: Mid Channel 6, 2437 MHz, 1Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 90. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

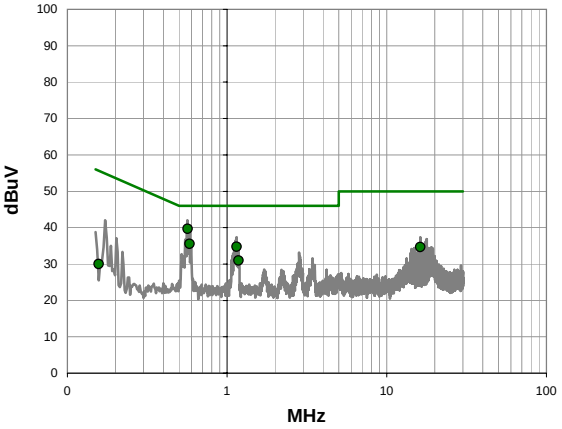
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

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

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	22.6	20.2	42.8	56.0	-13.2
0.157	31.0	20.5	51.5	65.6	-14.1
1.147	18.8	20.2	39.0	56.0	-17.0
0.584	18.1	20.2	38.3	56.0	-17.7
1.179	16.0	20.2	36.2	56.0	-19.8
16.218	16.2	21.0	37.2	60.0	-22.8

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	19.5	20.2	39.7	46.0	-6.3
0.584	15.3	20.2	35.5	46.0	-10.5
1.147	14.5	20.2	34.7	46.0	-11.3
1.179	10.8	20.2	31.0	46.0	-15.0
16.218	13.6	21.0	34.6	50.0	-15.4
0.157	9.5	20.5	30.0	55.6	-25.6

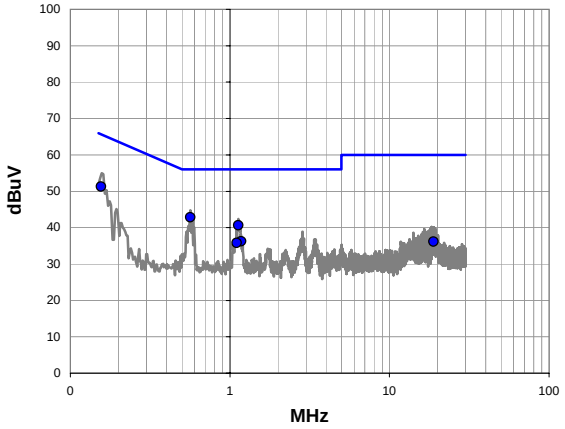
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/16/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11b: High Channel 11, 2462 MHz, 1Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 90. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

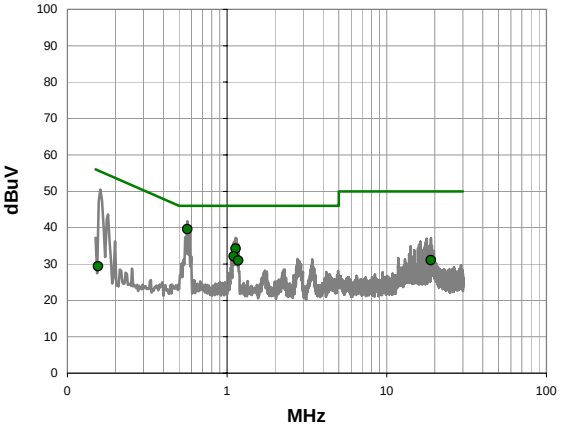
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

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

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.565	22.6	20.2	42.8	56.0	-13.2
0.156	30.8	20.5	51.3	65.7	-14.4
1.131	20.4	20.2	40.6	56.0	-15.4
1.178	16.0	20.2	36.2	56.0	-19.8
1.102	15.6	20.2	35.8	56.0	-20.2
18.870	14.9	21.3	36.2	60.0	-23.8

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.565	19.4	20.2	39.6	46.0	-6.4
1.131	14.0	20.2	34.2	46.0	-11.8
1.102	11.9	20.2	32.1	46.0	-13.9
1.178	10.8	20.2	31.0	46.0	-15.0
18.870	9.8	21.3	31.1	50.0	-18.9
0.156	8.9	20.5	29.4	55.7	-26.3

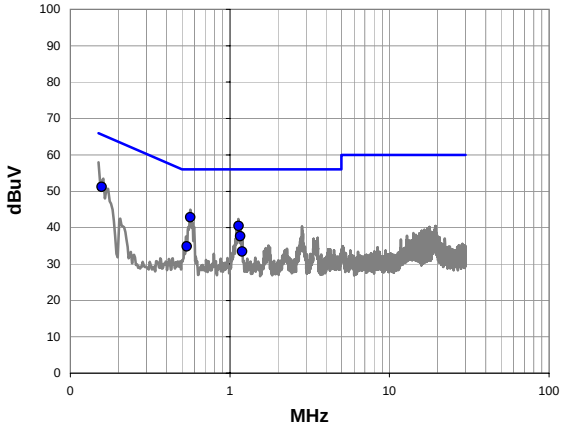
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/16/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11b: High Channel 11, 2462 MHz, 1Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 90. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

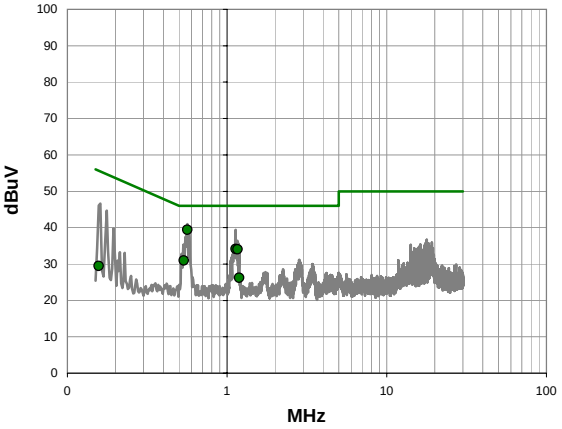
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

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

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.565	22.6	20.2	42.8	56.0	-13.2
0.157	30.7	20.5	51.2	65.6	-14.4
1.132	20.3	20.2	40.5	56.0	-15.5
1.163	17.4	20.2	37.6	56.0	-18.4
0.537	14.6	20.2	34.8	56.0	-21.2
1.192	13.2	20.2	33.4	56.0	-22.6

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.565	19.2	20.2	39.4	46.0	-6.6
1.132	13.9	20.2	34.1	46.0	-11.9
1.163	13.8	20.2	34.0	46.0	-12.0
0.537	10.8	20.2	31.0	46.0	-15.0
1.192	6.0	20.2	26.2	46.0	-19.8
0.157	9.0	20.5	29.5	55.6	-26.1

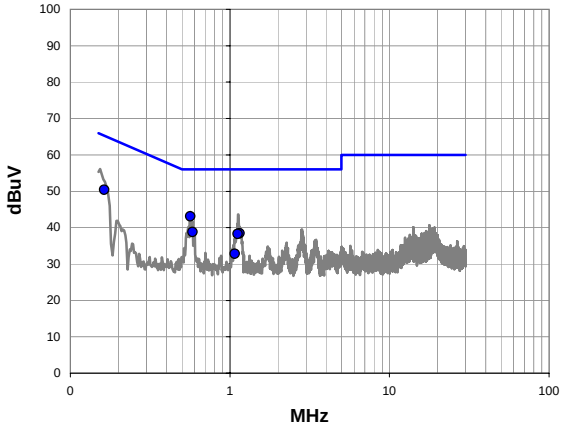
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/16/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11a: Low Channel 149, 5745 MHz, 6Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 20. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

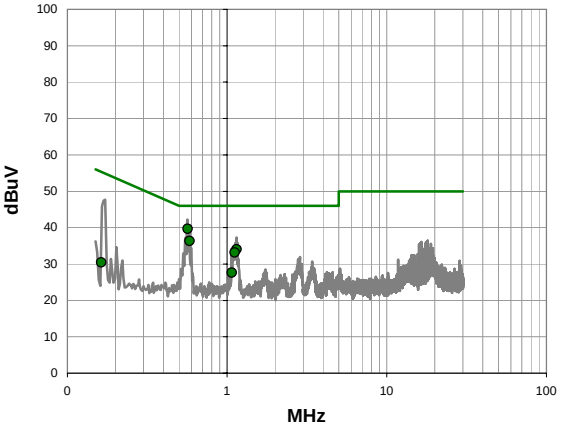
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

Run #	17	**Line:**	High Line	**Ext. Attenuation:**	20	**Results**	Pass

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	22.9	20.2	43.1	56.0	-12.9
0.163	29.9	20.5	50.4	65.3	-14.9
0.584	18.6	20.2	38.8	56.0	-17.2
1.149	18.2	20.2	38.4	56.0	-17.6
1.118	18.1	20.2	38.3	56.0	-17.7
1.072	12.6	20.2	32.8	56.0	-23.2

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	19.5	20.2	39.7	46.0	-6.3
0.584	16.1	20.2	36.3	46.0	-9.7
1.149	13.8	20.2	34.0	46.0	-12.0
1.118	13.0	20.2	33.2	46.0	-12.8
1.072	7.4	20.2	27.6	46.0	-18.4
0.163	9.9	20.5	30.4	55.3	-24.9

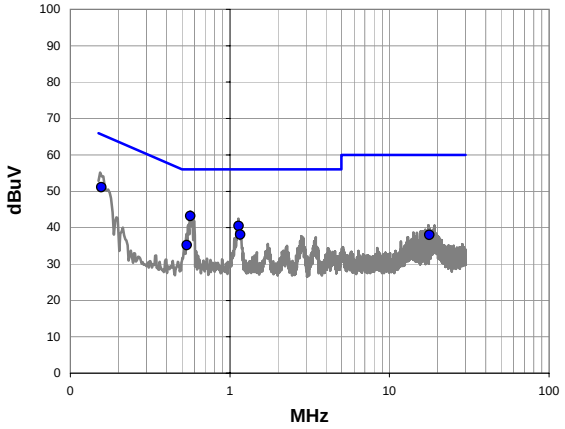
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/16/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11a: Low Channel 149, 5745 MHz, 6Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 20. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

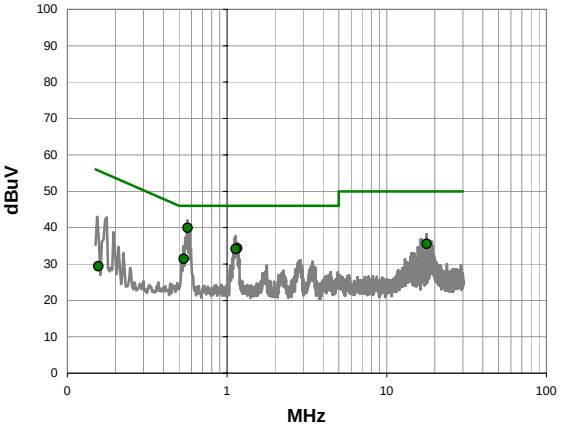
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

Run #	18	**Line:**	Neutral	**Ext. Attenuation:**	20	**Results**	Pass

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	23.0	20.2	43.2	56.0	-12.8
0.157	30.6	20.5	51.1	65.6	-14.6
1.133	20.3	20.2	40.5	56.0	-15.5
1.162	17.9	20.2	38.1	56.0	-17.9
0.537	15.0	20.2	35.2	56.0	-20.8
17.809	16.8	21.2	38.0	60.0	-22.0

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	19.7	20.2	39.9	46.0	-6.1
1.162	14.1	20.2	34.3	46.0	-11.7
1.133	13.9	20.2	34.1	46.0	-11.9
17.809	14.4	21.2	35.6	50.0	-14.4
0.537	11.2	20.2	31.4	46.0	-14.6
0.157	8.9	20.5	29.4	55.6	-26.3

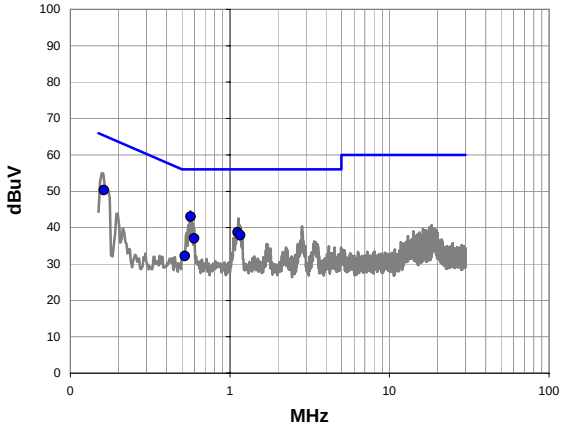
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/16/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11a: Mid Channel 157, 5785 MHz, 6Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 20. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

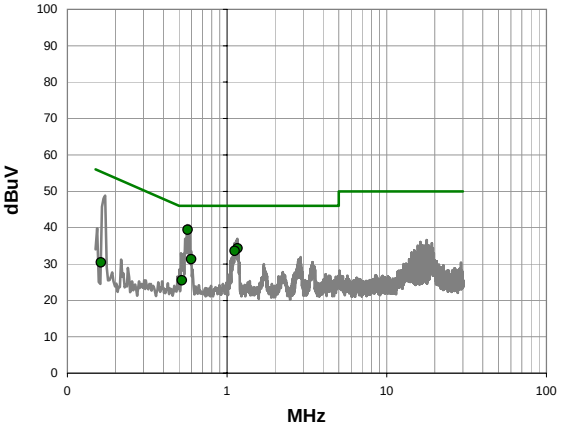
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

Run #	19	**Line:**	High Line	**Ext. Attenuation:**	20	**Results**	Pass

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.567	22.8	20.2	43.0	56.0	-13.0
0.163	29.8	20.5	50.3	65.3	-15.0
1.117	18.5	20.2	38.7	56.0	-17.3
1.164	17.7	20.2	37.9	56.0	-18.1
0.596	16.8	20.2	37.0	56.0	-19.0
0.521	12.0	20.2	32.2	56.0	-23.8

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.567	19.2	20.2	39.4	46.0	-6.6
1.164	14.1	20.2	34.3	46.0	-11.7
1.117	13.4	20.2	33.6	46.0	-12.4
0.596	11.1	20.2	31.3	46.0	-14.7
0.521	5.3	20.2	25.5	46.0	-20.5
0.163	9.9	20.5	30.4	55.3	-24.9

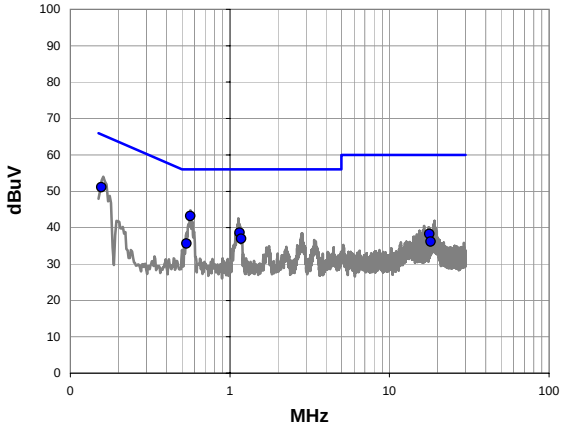
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/17/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11a: Mid Channel 157, 5785 MHz, 6Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 20. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

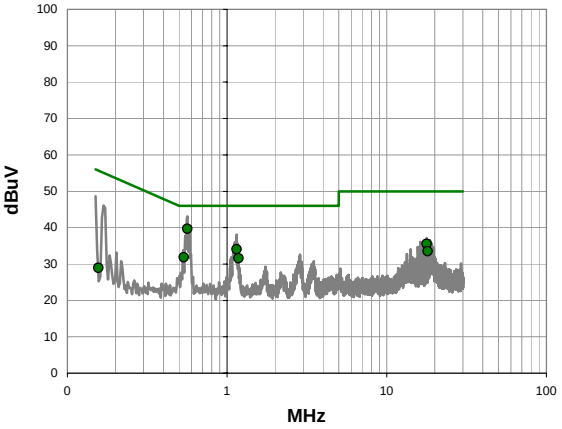
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

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

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.565	23.0	20.2	43.2	56.0	-12.8
0.156	30.6	20.5	51.1	65.7	-14.6
1.149	18.4	20.2	38.6	56.0	-17.4
1.179	16.7	20.2	36.9	56.0	-19.1
0.536	15.4	20.2	35.6	56.0	-20.4
17.809	17.1	21.2	38.3	60.0	-21.7
18.074	15.0	21.2	36.2	60.0	-23.8

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.565	19.5	20.2	39.7	46.0	-6.3
1.149	13.8	20.2	34.0	46.0	-12.0
0.536	11.6	20.2	31.8	46.0	-14.2
1.179	11.4	20.2	31.6	46.0	-14.4
17.809	14.4	21.2	35.6	50.0	-14.4
18.074	12.3	21.2	33.5	50.0	-16.5
0.156	8.5	20.5	29.0	55.7	-26.7

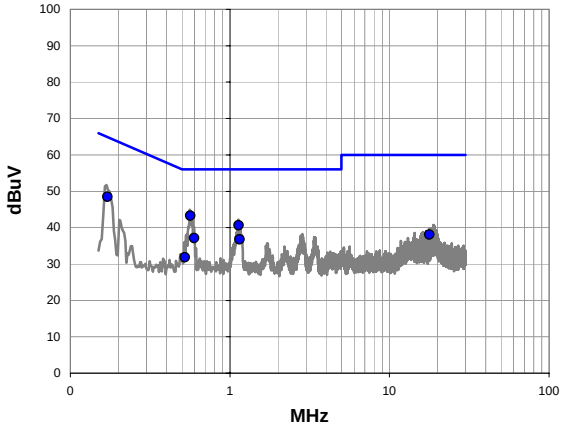
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/17/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11a: High Channel 165, 5825 MHz, 6Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 20. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

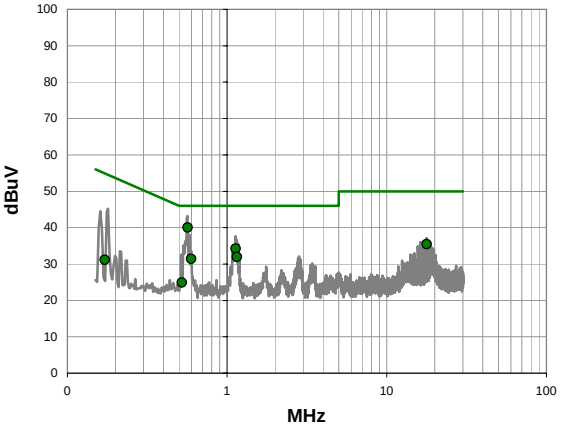
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

Run #	21	**Line:**	High Line	**Ext. Attenuation:**	20	**Results**	Pass

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	23.1	20.2	43.3	56.0	-12.7
1.133	20.4	20.2	40.6	56.0	-15.4
0.171	28.0	20.5	48.5	64.9	-16.4
0.597	16.9	20.2	37.1	56.0	-18.9
1.151	16.6	20.2	36.8	56.0	-19.2
17.808	16.9	21.2	38.1	60.0	-21.9
0.522	11.6	20.2	31.8	56.0	-24.2

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	19.8	20.2	40.0	46.0	-6.0
1.133	14.0	20.2	34.2	46.0	-11.8
1.151	11.7	20.2	31.9	46.0	-14.1
17.808	14.3	21.2	35.5	50.0	-14.5
0.597	11.2	20.2	31.4	46.0	-14.6
0.522	4.7	20.2	24.9	46.0	-21.1
0.171	10.6	20.5	31.1	54.9	-23.8

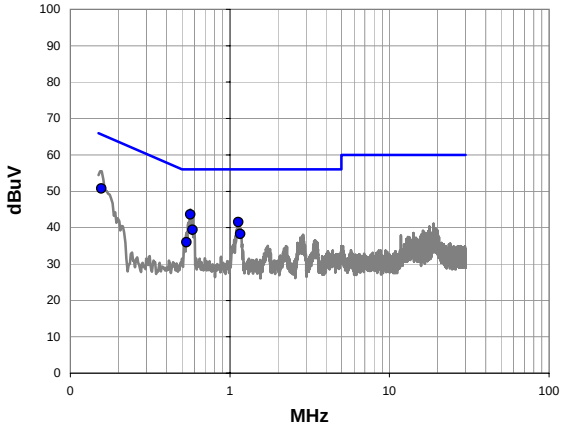
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	MASI0237	**Date:**	09/17/14		
Project:	None	**Temperature:**	27.1 °C		
Job Site:	OC06	**Humidity:**	38.9% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Mark Baytan
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting 802.11a: High Channel 165, 5825 MHz, 6Mbps				
Deviations:	None				
Comments:	Using Max Power Setting 20. RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B.				

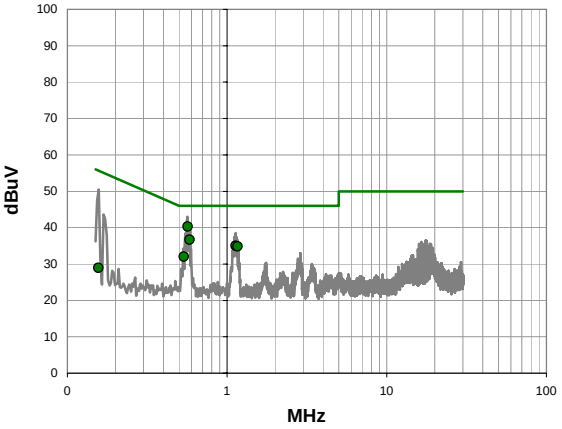
Test Specifications	**Test Method**
FCC 15.207:2014	ANSI C63.10:2009

Run #	22	**Line:**	Neutral	**Ext. Attenuation:**	20	**Results**	Pass

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



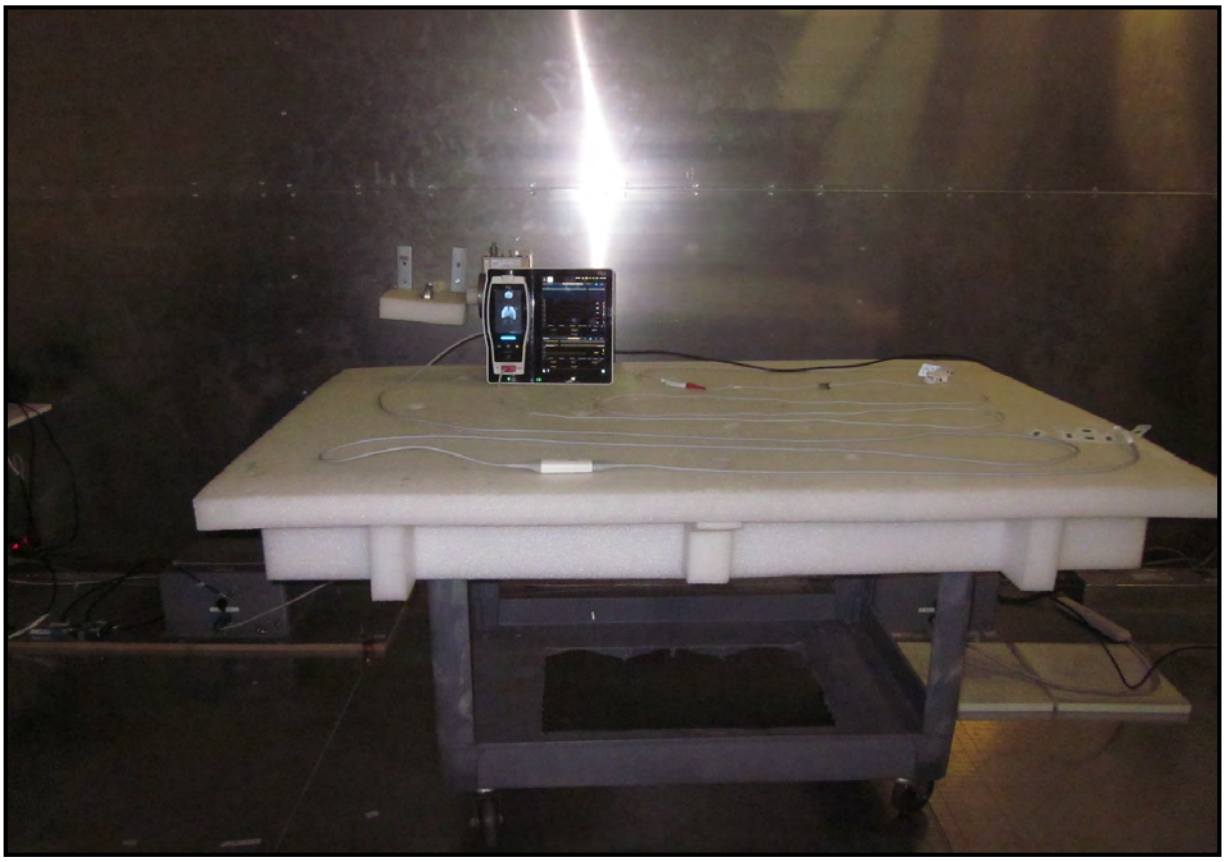
Quasi Peak Data - vs - Quasi Peak Limit

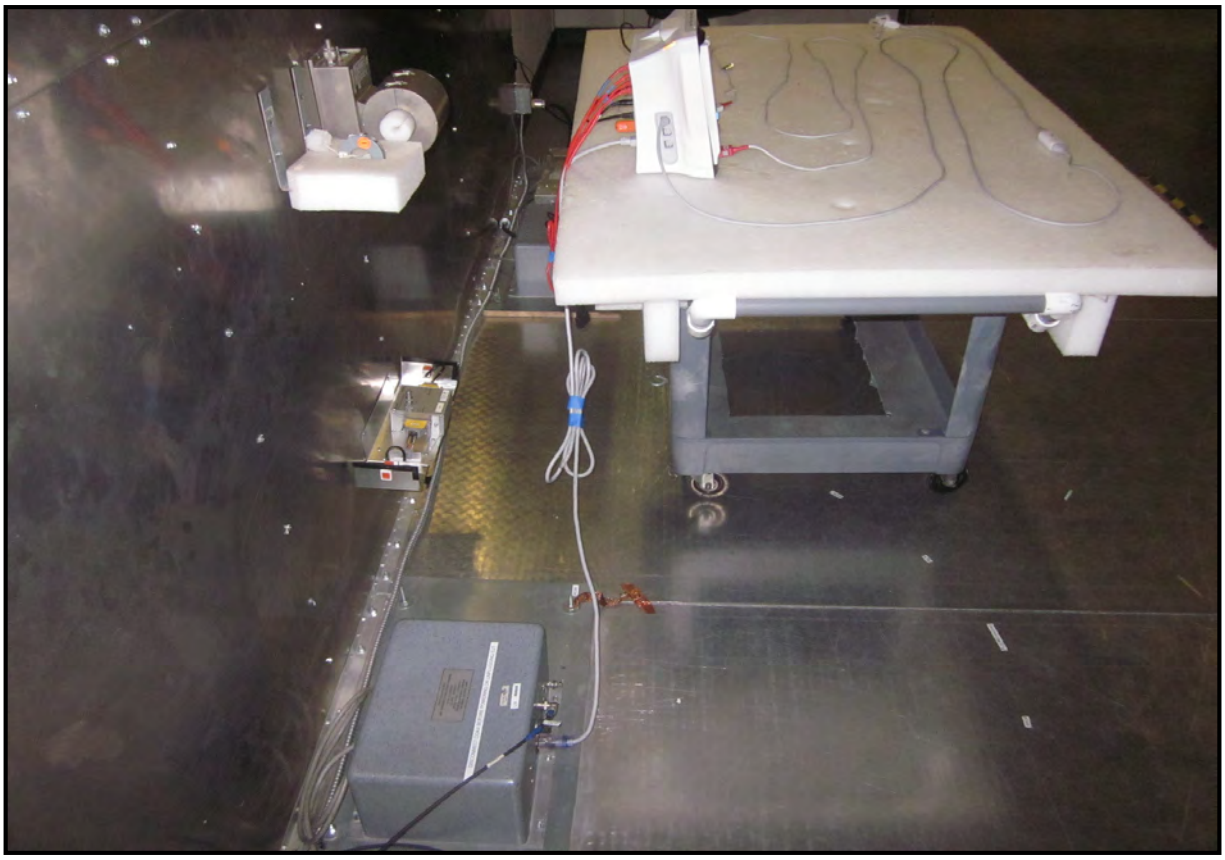
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	23.4	20.2	43.6	56.0	-12.4
1.132	21.3	20.2	41.5	56.0	-14.5
0.157	30.3	20.5	50.8	65.6	-14.9
0.584	19.2	20.2	39.4	56.0	-16.6
1.163	18.1	20.2	38.3	56.0	-17.7
0.536	15.8	20.2	36.0	56.0	-20.0

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.566	20.1	20.2	40.3	46.0	-5.7
0.584	16.5	20.2	36.7	46.0	-9.3
1.132	14.8	20.2	35.0	46.0	-11.0
1.163	14.6	20.2	34.8	46.0	-11.2
0.536	11.8	20.2	32.0	46.0	-14.0
0.157	8.5	20.5	29.0	55.6	-26.7

AC POWERLINE CONDUCTED EMISSIONS





SPURIOUS RADIATED EMISSIONS

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

MODES OF OPERATION

Continuously Transmitting at Low Ch 149 - 5785 MHz, Mid Ch 157 - 5785 MHz, & High Ch 165 - 5825 MHz
Continuously Transmitting at Low Channel 1 - 2412 MHz & High Channel 11 - 2462 MHz (Band Edge)
Continuously Transmitting at Low Channel 1 - 2412 MHz, Mid Channel 6 - 2437 MHz, & High Channel 11 - 2462 MHz

POWER SETTINGS INVESTIGATED

120VAC/60Hz

CONFIGURATIONS INVESTIGATED

MASI0237 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	40 GHz

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator, 20db, 'SMA'	Weinschel Corp	4H-20	AWB	4/28/2014	12 mo
BP Filter	Micro-Tronics	BRC50705	HFQ	7/26/2012	36 mo
HP Filter	Micro-Tronics	HPM50108	HFW	4/2/2012	36 mo
HP Filter	Micro-Tronics	HPM50111	HGC	11/27/2012	36 mo
Pre-Amplifier	Miteq	JSW45-26004000-40-5P	AVQ	1/10/2014	12 mo
Antenna, Horn	ETS	3115	AIZ	1/24/2014	24 mo
Cable	ESM Cable Corp.	KMKM-72	OC1	1/9/2014	12 mo
Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AOI	1/10/2014	12 mo
Antenna, Horn	EMCO	3160-09	AHN	NCR	0 mo
OC floating Cable	N/A	18-26GHz RE Cables	OCK	2/6/2014	12 mo
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVP	10/24/2013	12 mo
Antenna, Horn	EMCO	3160-08	AHK	NCR	0 mo
OC07 Cables	ESM Cable Corp.	8-18GHz cables	OCY	3/27/2014	12 mo
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVL	10/24/2013	12 mo
Antenna, Horn	ETS	3160-07	AHX	NCR	0 mo
OC07 Cables	ESM Cable Corp.	1-8GHz cables	OCX	3/27/2014	12 mo
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	10/24/2013	12 mo
Antenna, Horn	ETS	3117	AHQ	9/12/2012	36 mo
OC07 Cables	ESM Cable Corp.	30-1GHz cables	OCW	7/15/2014	12 mo
Pre-Amplifier	Miteq	AM-1402	AOZ	7/15/2014	12 mo
Antenna, Biconilog	EMCO	3142	AXA	11/25/2013	24 mo
Spectrum Analyzer	Agilent	E4446A	AAY	2/22/2013	24 mo

TEST DESCRIPTION

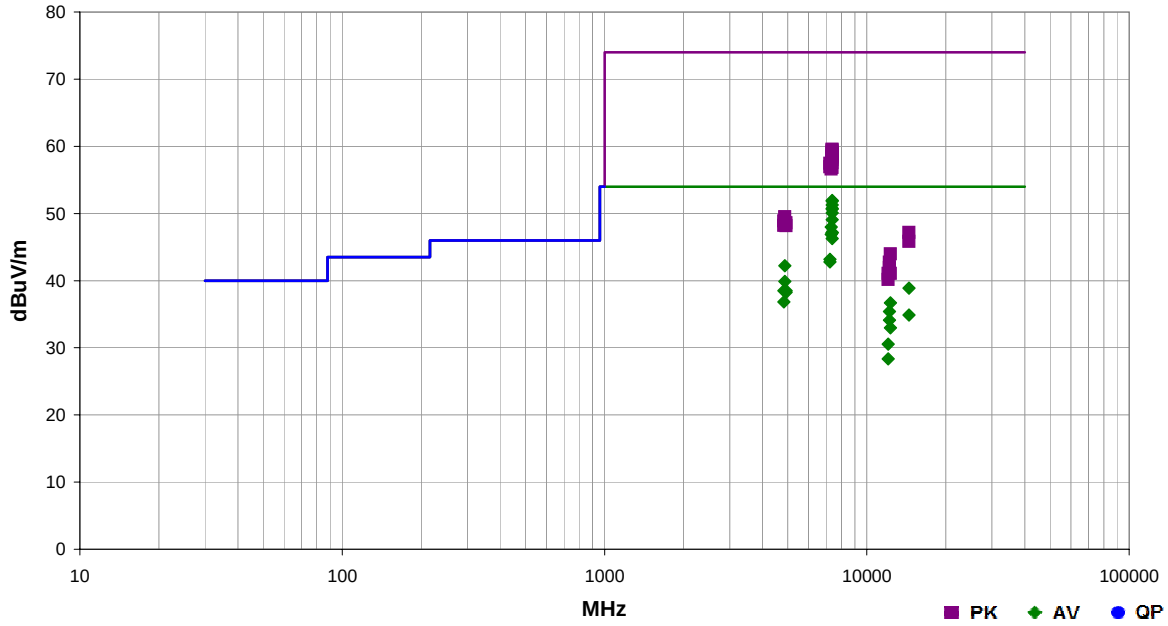
The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify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

SPURIOUS RADIATED EMISSIONS

Work Order:	MASI0237	**Date:**	09/10/14		
Project:	None	**Temperature:**	24.9 °C		
Job Site:	OC07	**Humidity:**	45.5% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1013 mbar	**Tested by:**	Johnny Candelas
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting at Low Channel 1 - 2412 MHz, Mid Channel 6 - 2437 MHz, & High Channel 11 - 2462 MHz				
Deviations:	None				
Comments:	Using Max Power Setting 90 RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B				

Test Specifications	**Test Method**
FCC 15.247:2014	ANSI C63.10:2009

Run #	13	**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
7386.883	33.9	18.1	1.0	134.0	3.0	0.0	Vert	AV	0.0	52.0	54.0	-2.0	High Ch, 11Mbps, EUT Vert
7385.250	33.8	18.1	1.0	130.0	3.0	0.0	Vert	AV	0.0	51.9	54.0	-2.1	High Ch, 1Mbps, EUT Vert
7386.833	33.2	18.1	1.2	167.0	3.0	0.0	Horz	AV	0.0	51.3	54.0	-2.7	High Ch, 1Mbps, EUT Horiz
7385.117	32.7	18.1	1.2	105.0	3.0	0.0	Vert	AV	0.0	50.8	54.0	-3.2	High Ch, 1Mbps, EUT on Side
7385.217	32.6	18.1	1.2	280.0	3.0	0.0	Horz	AV	0.0	50.7	54.0	-3.3	High Ch, 1Mbps, EUT on Side
7385.033	32.0	18.1	1.0	121.0	3.0	0.0	Horz	AV	0.0	50.1	54.0	-3.9	High Ch, 1Mbps, EUT Vert
7386.750	31.0	18.1	1.1	317.0	3.0	0.0	Vert	AV	0.0	49.1	54.0	-4.9	High Ch, 1Mbps, EUT on Side
7311.933	30.1	17.9	1.0	230.0	3.0	0.0	Horz	AV	0.0	48.0	54.0	-6.0	Mid Ch, 1Mbps, EUT Horiz
7386.533	29.1	18.1	1.8	182.0	3.0	0.0	Vert	AV	0.0	47.2	54.0	-6.8	High Ch, 6Mbps, EUT Vert
7382.017	29.1	18.0	1.4	181.0	3.0	0.0	Vert	AV	0.0	47.1	54.0	-6.9	High Ch, 36Mbps, EUT Vert
7311.883	29.0	17.9	1.0	37.0	3.0	0.0	Vert	AV	0.0	46.9	54.0	-7.1	Mid Ch, 1Mbps, EUT Vert
7386.633	28.2	18.1	1.2	320.0	3.0	0.0	Vert	AV	0.0	46.3	54.0	-7.7	High Ch, 54Mbps, EUT Vert
7236.842	25.7	17.5	1.2	179.0	3.0	0.0	Vert	AV	0.0	43.2	54.0	-10.8	Low Ch, 1Mbps, EUT Vert
7236.825	25.3	17.5	1.2	206.0	3.0	0.0	Horz	AV	0.0	42.8	54.0	-11.2	Low Ch, 1Mbps, EUT Horiz
4874.017	31.8	10.4	1.0	213.0	3.0	0.0	Horz	AV	0.0	42.2	54.0	-11.8	Mid Ch, 1Mbps, EUT Horiz
4874.067	29.5	10.4	1.0	200.0	3.0	0.0	Vert	AV	0.0	39.9	54.0	-14.1	Mid Ch, 1Mbps, EUT Vert
7385.100	41.5	18.1	1.0	134.0	3.0	0.0	Vert	PK	0.0	59.6	74.0	-14.4	High Ch, 11Mbps, EUT Vert
7387.267	41.4	18.1	1.0	130.0	3.0	0.0	Vert	PK	0.0	59.5	74.0	-14.5	High Ch, 1Mbps, EUT Vert
7384.183	41.2	18.1	1.2	167.0	3.0	0.0	Horz	PK	0.0	59.3	74.0	-14.7	High Ch, 1Mbps, EUT Horiz
7385.583	41.0	18.1	1.2	280.0	3.0	0.0	Horz	PK	0.0	59.1	74.0	-14.9	High Ch, 1Mbps, EUT on Side
7388.567	40.8	18.1	1.4	181.0	3.0	0.0	Vert	PK	0.0	58.9	74.0	-15.1	High Ch, 36Mbps, EUT Vert
14472.050	35.2	3.7	1.3	171.0	3.0	0.0	Horz	AV	0.0	38.9	54.0	-15.1	Low Ch, 1Mbps, EUT Horiz
7387.000	40.5	18.1	1.2	105.0	3.0	0.0	Vert	PK	0.0	58.6	74.0	-15.4	High Ch, 1Mbps, EUT on Side
4824.017	28.3	10.2	1.2	253.0	3.0	0.0	Vert	AV	0.0	38.5	54.0	-15.5	Low Ch, 1Mbps, EUT Vert

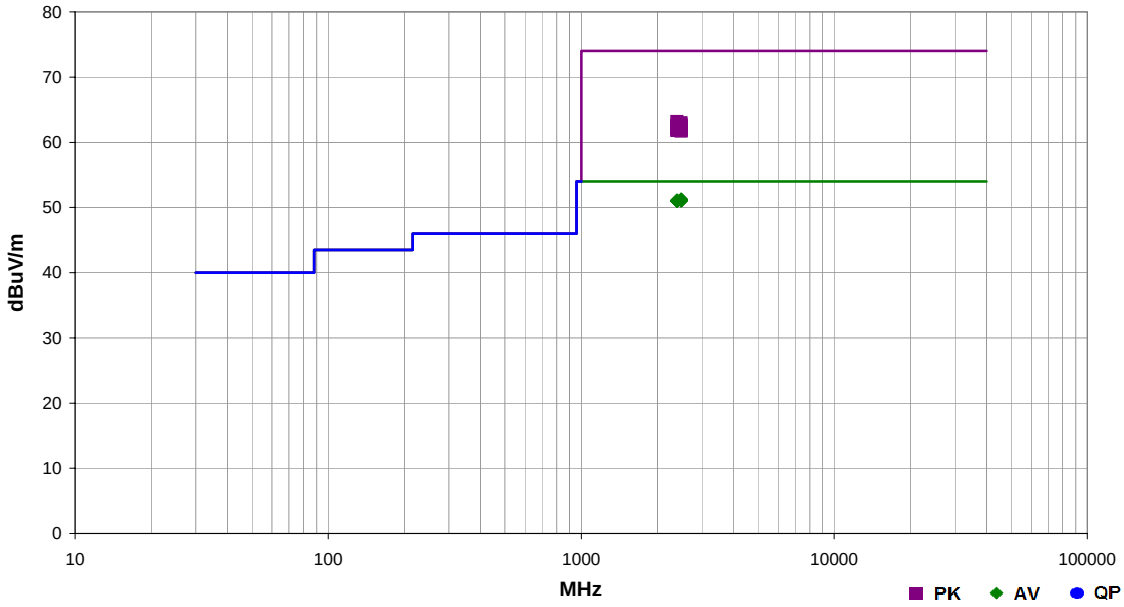
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4923.905	27.9	10.6	1.2	88.0	3.0	0.0	Vert	AV	0.0	38.5	54.0	-15.5	High Ch, 1Mbps, EUT Vert
7386.800	40.3	18.1	1.0	121.0	3.0	0.0	Horz	PK	0.0	58.4	74.0	-15.6	High Ch, 1Mbps, EUT Vert
4924.150	27.7	10.6	1.2	0.0	3.0	0.0	Horz	AV	0.0	38.3	54.0	-15.7	High Ch, 1Mbps, EUT Horiz
7386.717	40.0	18.1	1.1	317.0	3.0	0.0	Vert	PK	0.0	58.1	74.0	-15.9	High Ch, 1Mbps, EUT on Side
7383.317	39.5	18.0	1.8	182.0	3.0	0.0	Vert	PK	0.0	57.5	74.0	-16.5	High Ch, 6Mbps, EUT Vert
7233.833	40.0	17.4	1.2	179.0	3.0	0.0	Vert	PK	0.0	57.4	74.0	-16.6	Low Ch, 1Mbps, EUT Vert
7310.917	39.1	17.9	1.0	230.0	3.0	0.0	Horz	PK	0.0	57.0	74.0	-17.0	Mid Ch, 1Mbps, EUT Horiz
7236.050	39.5	17.5	1.2	206.0	3.0	0.0	Horz	PK	0.0	57.0	74.0	-17.0	Low Ch, 1Mbps, EUT Horiz
7385.717	38.8	18.1	1.2	320.0	3.0	0.0	Vert	PK	0.0	56.9	74.0	-17.1	High Ch, 54Mbps, EUT Vert
4824.000	26.6	10.2	1.2	147.0	3.0	0.0	Horz	AV	0.0	36.8	54.0	-17.2	Low Ch, 1Mbps, EUT Horiz
12310.980	45.8	-9.1	1.1	141.0	3.0	0.0	Horz	AV	0.0	36.7	54.0	-17.3	High Ch, 1Mbps, EUT Horiz
7313.867	38.7	17.9	1.0	37.0	3.0	0.0	Vert	PK	0.0	56.6	74.0	-17.4	Mid Ch, 1Mbps, EUT Vert
12186.020	44.7	-9.3	1.0	228.0	3.0	0.0	Horz	AV	0.0	35.4	54.0	-18.6	Mid Ch, 1Mbps, EUT Horiz
14472.090	31.2	3.7	1.2	167.0	3.0	0.0	Vert	AV	0.0	34.9	54.0	-19.1	Low Ch, 1Mbps, EUT Vert
12186.000	43.4	-9.3	1.0	220.0	3.0	0.0	Vert	AV	0.0	34.1	54.0	-19.9	Mid Ch, 1Mbps, EUT Vert
12310.950	42.1	-9.1	1.2	208.0	3.0	0.0	Vert	AV	0.0	33.0	54.0	-21.0	High Ch, 1Mbps, EUT Vert
12060.830	40.0	-9.4	1.2	220.0	3.0	0.0	Vert	AV	0.0	30.6	54.0	-23.4	Low Ch, 1Mbps, EUT Vert
4874.708	39.1	10.4	1.0	213.0	3.0	0.0	Horz	PK	0.0	49.5	74.0	-24.5	Mid Ch, 1Mbps, EUT Horiz
4824.108	38.7	10.2	1.2	253.0	3.0	0.0	Vert	PK	0.0	48.9	74.0	-25.1	Low Ch, 1Mbps, EUT Vert
4874.058	38.2	10.4	1.0	200.0	3.0	0.0	Vert	PK	0.0	48.6	74.0	-25.4	Mid Ch, 1Mbps, EUT Vert
4923.830	38.0	10.6	1.2	0.0	3.0	0.0	Horz	PK	0.0	48.6	74.0	-25.4	High Ch, 1Mbps, EUT Horiz
12060.830	37.8	-9.4	1.1	180.0	3.0	0.0	Horz	AV	0.0	28.4	54.0	-25.6	Low Ch, 1Mbps, EUT Horiz
4823.717	38.0	10.2	1.2	147.0	3.0	0.0	Horz	PK	0.0	48.2	74.0	-25.8	Low Ch, 1Mbps, EUT Horiz
4924.320	37.6	10.6	1.2	88.0	3.0	0.0	Vert	PK	0.0	48.2	74.0	-25.8	High Ch, 1Mbps, EUT Vert
14472.460	43.5	3.7	1.3	171.0	3.0	0.0	Horz	PK	0.0	47.2	74.0	-26.8	Low Ch, 1Mbps, EUT Horiz
14471.640	42.2	3.7	1.2	167.0	3.0	0.0	Vert	PK	0.0	45.9	74.0	-28.1	Low Ch, 1Mbps, EUT Vert
12309.130	53.1	-9.1	1.1	141.0	3.0	0.0	Horz	PK	0.0	44.0	74.0	-30.0	High Ch, 1Mbps, EUT Horiz
12186.330	52.0	-9.3	1.0	228.0	3.0	0.0	Horz	PK	0.0	42.7	74.0	-31.3	Mid Ch, 1Mbps, EUT Horiz
12183.730	51.2	-9.3	1.0	220.0	3.0	0.0	Vert	PK	0.0	41.9	74.0	-32.1	Mid Ch, 1Mbps, EUT Vert
12311.730	50.2	-9.1	1.2	208.0	3.0	0.0	Vert	PK	0.0	41.1	74.0	-32.9	High Ch, 1Mbps, EUT Vert
12060.750	50.5	-9.4	1.2	220.0	3.0	0.0	Vert	PK	0.0	41.1	74.0	-32.9	Low Ch, 1Mbps, EUT Vert
12061.320	49.6	-9.4	1.1	180.0	3.0	0.0	Horz	PK	0.0	40.2	74.0	-33.8	Low Ch, 1Mbps, EUT Horiz

SPURIOUS RADIATED EMISSIONS

Work Order:	MASI0237	**Date:**	09/10/14		
Project:	None	**Temperature:**	24.9 °C		
Job Site:	OC07	**Humidity:**	45.5% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1013 mbar	**Tested by:**	Johnny Candelas
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting at Low Channel 1 - 2412 MHz & High Channel 11 - 2462 MHz (Band Edge)				
Deviations:	None				
Comments:	Using Max Power Setting 90 RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B				

Test Specifications	**Test Method**
FCC 15.247:2014	ANSI C63.10:2009

Run #	21	**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
2484.060	28.1	3.2	1.2	132.0	3.0	20.0	Vert	AV	0.0	51.3	54.0	-2.7	High Ch, 6Mbps, EUT on Side
2483.953	28.0	3.2	1.2	277.0	3.0	20.0	Vert	AV	0.0	51.2	54.0	-2.8	High Ch, 6Mbps, EUT Horiz
2483.543	28.0	3.2	1.2	132.0	3.0	20.0	Vert	AV	0.0	51.2	54.0	-2.8	High Ch, 1Mbps, EUT on Side
2484.010	27.9	3.2	1.2	261.0	3.0	20.0	Horz	AV	0.0	51.1	54.0	-2.9	High Ch, 6Mbps, EUT Vert
2483.867	27.9	3.2	1.2	132.0	3.0	20.0	Vert	AV	0.0	51.1	54.0	-2.9	High Ch, 36Mbps, EUT on Side
2483.790	27.9	3.2	1.2	1.0	3.0	20.0	Horz	AV	0.0	51.1	54.0	-2.9	High Ch, 6Mbps, EUT on Side
2483.810	27.9	3.2	1.2	132.0	3.0	20.0	Vert	AV	0.0	51.1	54.0	-2.9	High Ch, 11Mbps, EUT on Side
2483.730	27.9	3.2	1.2	360.0	3.0	20.0	Horz	AV	0.0	51.1	54.0	-2.9	High Ch, 6Mbps, EUT Horiz
2483.745	27.9	3.2	1.2	332.0	3.0	20.0	Vert	AV	0.0	51.1	54.0	-2.9	High Ch, 6Mbps, EUT Vert
2389.532	28.0	3.1	1.2	155.0	3.0	20.0	Vert	AV	0.0	51.1	54.0	-2.9	Low Ch, 6Mbps, EUT Vert
2389.400	28.0	3.1	1.2	155.0	3.0	20.0	Vert	AV	0.0	51.1	54.0	-2.9	Low Ch, 1Mbps, EUT Vert
2389.038	28.0	3.1	1.2	155.0	3.0	20.0	Vert	AV	0.0	51.1	54.0	-2.9	Low Ch, 54Mbps, EUT Vert
2483.687	27.8	3.2	1.2	132.0	3.0	20.0	Vert	AV	0.0	51.0	54.0	-3.0	High Ch, 54Mbps, EUT on Side
2389.813	27.9	3.1	1.2	101.0	3.0	20.0	Vert	AV	0.0	51.0	54.0	-3.0	Low Ch, 6Mbps, EUT on Side
2389.810	27.9	3.1	1.2	195.0	3.0	20.0	Vert	AV	0.0	51.0	54.0	-3.0	Low Ch, 6Mbps, EUT Horiz
2389.397	27.9	3.1	1.2	0.0	3.0	20.0	Horz	AV	0.0	51.0	54.0	-3.0	Low Ch, 6Mbps, EUT on Side
2389.452	27.9	3.1	1.2	155.0	3.0	20.0	Vert	AV	0.0	51.0	54.0	-3.0	Low Ch, 36Mbps, EUT Vert
2389.433	27.9	3.1	1.2	155.0	3.0	20.0	Horz	AV	0.0	51.0	54.0	-3.0	Low Ch, 6Mbps, EUT Vert
2389.173	27.9	3.1	1.2	155.0	3.0	20.0	Vert	AV	0.0	51.0	54.0	-3.0	Low Ch, 11Mbps, EUT Vert
2389.038	27.9	3.1	1.2	290.0	3.0	20.0	Horz	AV	0.0	51.0	54.0	-3.0	Low Ch, 6Mbps, EUT Horiz
2389.957	40.1	3.1	1.2	155.0	3.0	20.0	Vert	PK	0.0	63.2	74.0	-10.8	Low Ch, 11Mbps, EUT Vert
2483.822	39.8	3.2	1.2	332.0	3.0	20.0	Vert	PK	0.0	63.0	74.0	-11.0	High Ch, 6Mbps, EUT Vert
2483.647	39.5	3.2	1.2	1.0	3.0	20.0	Horz	PK	0.0	62.7	74.0	-11.3	High Ch, 6Mbps, EUT on Side
2483.967	39.4	3.2	1.2	132.0	3.0	20.0	Vert	PK	0.0	62.6	74.0	-11.4	High Ch, 36Mbps, EUT on Side
2389.725	39.5	3.1	1.2	155.0	3.0	20.0	Vert	PK	0.0	62.6	74.0	-11.4	Low Ch, 54Mbps, EUT Vert
2389.978	39.4	3.1	1.2	195.0	3.0	20.0	Vert	PK	0.0	62.5	74.0	-11.5	Low Ch, 6Mbps, EUT Horiz
2389.143	39.4	3.1	1.2	155.0	3.0	20.0	Vert	PK	0.0	62.5	74.0	-11.5	Low Ch, 6Mbps, EUT Vert

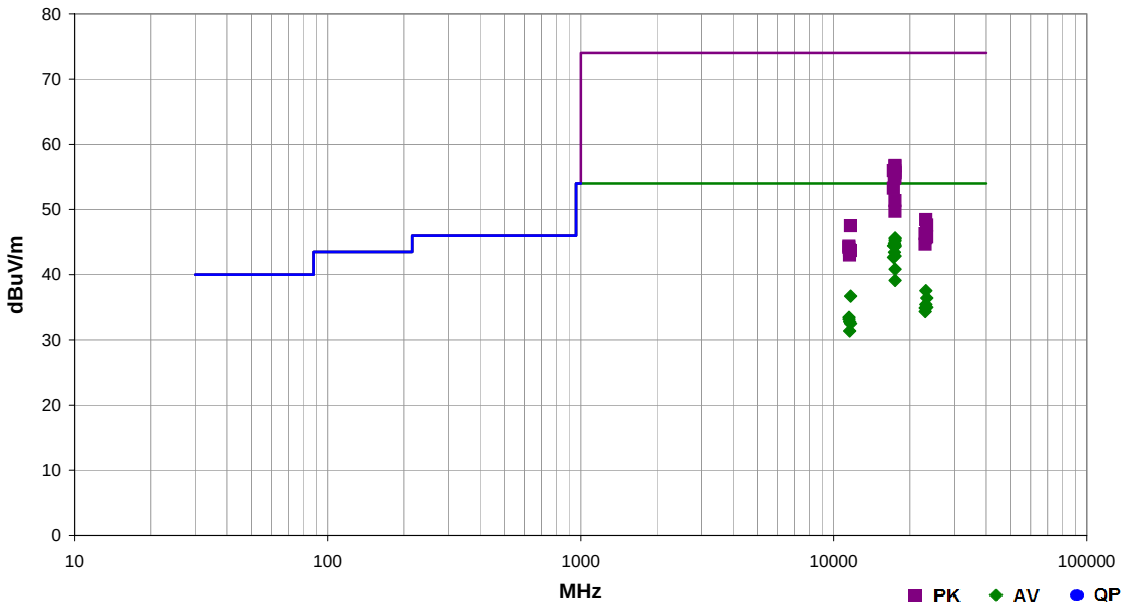
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2484.158	39.2	3.2	1.2	360.0	3.0	20.0	Horz	PK	0.0	62.4	74.0	-11.6	High Ch, 6Mbps, EUT Horiz
2389.370	39.2	3.1	1.2	155.0	3.0	20.0	Vert	PK	0.0	62.3	74.0	-11.7	Low Ch, 36Mbps, EUT Vert
2389.017	39.2	3.1	1.2	290.0	3.0	20.0	Horz	PK	0.0	62.3	74.0	-11.7	Low Ch, 6Mbps, EUT Horiz
2484.032	39.0	3.2	1.2	132.0	3.0	20.0	Vert	PK	0.0	62.2	74.0	-11.8	High Ch, 54Mbps, EUT on Side
2483.717	39.0	3.2	1.2	132.0	3.0	20.0	Vert	PK	0.0	62.2	74.0	-11.8	High Ch, 6Mbps, EUT on Side
2389.757	39.0	3.1	1.2	101.0	3.0	20.0	Vert	PK	0.0	62.1	74.0	-11.9	Low Ch, 6Mbps, EUT on Side
2389.358	39.0	3.1	1.2	155.0	3.0	20.0	Horz	PK	0.0	62.1	74.0	-11.9	Low Ch, 6Mbps, EUT Vert
2483.558	38.8	3.2	1.2	261.0	3.0	20.0	Horz	PK	0.0	62.0	74.0	-12.0	High Ch, 6Mbps, EUT Vert
2389.302	38.9	3.1	1.2	155.0	3.0	20.0	Vert	PK	0.0	62.0	74.0	-12.0	Low Ch, 1Mbps, EUT Vert
2484.285	38.6	3.2	1.2	132.0	3.0	20.0	Vert	PK	0.0	61.8	74.0	-12.2	High Ch, 11Mbps, EUT on Side
2483.865	38.6	3.2	1.2	132.0	3.0	20.0	Vert	PK	0.0	61.8	74.0	-12.2	High Ch, 1Mbps, EUT on Side
2389.405	38.7	3.1	1.2	0.0	3.0	20.0	Horz	PK	0.0	61.8	74.0	-12.2	Low Ch, 6Mbps, EUT on Side
2484.030	38.5	3.2	1.2	277.0	3.0	20.0	Vert	PK	0.0	61.7	74.0	-12.3	High Ch, 6Mbps, EUT Horiz

SPURIOUS RADIATED EMISSIONS

Work Order:	MASI0237	**Date:**	09/11/14		
Project:	None	**Temperature:**	24.6 °C		
Job Site:	OC07	**Humidity:**	45.2% RH		
Serial Number:	1000000020	**Barometric Pres.:**	1011 mbar	**Tested by:**	Johnny Candelas
EUT:	RDS7A/ROOT V2				
Configuration:	1				
Customer:	Masimo Corporation				
Attendees:	Michael Clark				
EUT Power:	120VAC/60Hz				
Operating Mode:	Continuously Transmitting at Low Ch 149 - 5785 MHz, Mid Ch 157 - 5785 MHz, & High Ch 165 - 5825 MHz				
Deviations:	None				
Comments:	Using Max Power Setting 90 RDS7A, Radio=36235 Rev A, Radio Chip= 24412 Rev B				

Test Specifications	**Test Method**
FCC 15.247:2014	ANSI C63.10:2009

Run #	9	**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
17474.830	40.1	5.5	1.0	169.0	3.0	0.0	Vert	AV	0.0	45.6	54.0	-8.4	High Ch, 6Mbps, EUT on Side
17472.790	29.1	16.4	1.0	169.0	3.0	0.0	Vert	AV	0.0	45.5	54.0	-8.5	High Ch, 36Mbps, EUT on Side
17473.570	28.8	16.4	1.0	169.0	3.0	0.0	Vert	AV	0.0	45.2	54.0	-8.8	High Ch, 54Mbps, EUT on Side
17357.580	39.2	5.6	1.0	167.0	3.0	0.0	Vert	AV	0.0	44.8	54.0	-9.2	Mid Ch, 6Mbps, EUT on Side
17477.930	39.0	5.5	1.2	360.0	3.0	0.0	Vert	AV	0.0	44.5	54.0	-9.5	High Ch, 6Mbps, EUT Horiz
17235.420	38.7	5.7	1.0	166.0	3.0	0.0	Vert	AV	0.0	44.4	54.0	-9.6	Low Ch, 6Mbps, EUT on Side
17475.030	38.8	5.5	1.0	167.0	3.0	0.0	Horz	AV	0.0	44.3	54.0	-9.7	High Ch, 6Mbps, EUT on Side
17357.770	37.8	5.6	1.0	170.0	3.0	0.0	Horz	AV	0.0	43.4	54.0	-10.6	Mid Ch, 6Mbps, EUT on Side
17477.530	37.3	5.5	1.0	148.0	3.0	0.0	Horz	AV	0.0	42.8	54.0	-11.2	High Ch, 6Mbps, EUT Vert
17235.270	36.9	5.7	1.0	143.0	3.0	0.0	Horz	AV	0.0	42.6	54.0	-11.4	Low Ch, 6Mbps, EUT on Side
17472.020	35.3	5.5	1.0	187.0	3.0	0.0	Vert	AV	0.0	40.8	54.0	-13.2	High Ch, 6Mbps, EUT Vert
17478.720	33.6	5.5	1.0	243.0	3.0	0.0	Horz	AV	0.0	39.1	54.0	-14.9	High Ch, 6Mbps, EUT Horiz
23141.680	40.0	-2.5	1.1	267.0	3.0	0.0	Vert	AV	0.0	37.5	54.0	-16.5	Mid Ch, 6Mbps, EUT on Side
17472.730	40.3	16.4	1.0	169.0	3.0	0.0	Vert	PK	0.0	56.7	74.0	-17.3	High Ch, 54Mbps, EUT on Side
11651.320	45.4	-8.7	1.0	154.0	3.0	0.0	Horz	AV	0.0	36.7	54.0	-17.3	High Ch, 6Mbps, EUT on Side
17475.970	51.1	5.5	1.0	169.0	3.0	0.0	Vert	PK	0.0	56.6	74.0	-17.4	High Ch, 6Mbps, EUT on Side
23299.980	38.8	-2.4	1.1	151.0	3.0	0.0	Vert	AV	0.0	36.4	54.0	-17.6	High Ch, 6Mbps, EUT on Side
17237.200	50.2	5.7	1.0	166.0	3.0	0.0	Vert	PK	0.0	55.9	74.0	-18.1	Low Ch, 6Mbps, EUT on Side
17476.330	39.5	16.4	1.0	169.0	3.0	0.0	Vert	PK	0.0	55.9	74.0	-18.1	High Ch, 36Mbps, EUT on Side
17357.670	50.3	5.6	1.0	167.0	3.0	0.0	Vert	PK	0.0	55.9	74.0	-18.1	Mid Ch, 6Mbps, EUT on Side
17476.220	50.1	5.5	1.2	360.0	3.0	0.0	Vert	PK	0.0	55.6	74.0	-18.4	High Ch, 6Mbps, EUT Horiz
17472.900	50.1	5.5	1.0	167.0	3.0	0.0	Horz	PK	0.0	55.6	74.0	-18.4	High Ch, 6Mbps, EUT on Side
23140.080	37.9	-2.5	1.1	281.0	3.0	0.0	Horz	AV	0.0	35.4	54.0	-18.6	Mid Ch, 6Mbps, EUT on Side
23300.290	37.4	-2.4	1.1	178.0	3.0	0.0	Horz	AV	0.0	35.0	54.0	-19.0	High Ch, 6Mbps, EUT on Side
17479.830	49.4	5.5	1.0	148.0	3.0	0.0	Horz	PK	0.0	54.9	74.0	-19.1	High Ch, 6Mbps, EUT Vert
22980.180	37.4	-2.5	1.1	118.0	3.0	0.0	Horz	AV	0.0	34.9	54.0	-19.1	Low Ch, 6Mbps, EUT on Side
17359.170	49.1	5.6	1.0	170.0	3.0	0.0	Horz	PK	0.0	54.7	74.0	-19.3	Mid Ch, 6Mbps, EUT on Side

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
22979.820	36.9	-2.5	1.1	219.0	3.0	0.0	Vert	AV	0.0	34.4	54.0	-19.6	Low Ch, 6Mbps, EUT on Side
11490.100	42.6	-9.1	1.0	119.0	3.0	0.0	Horz	AV	0.0	33.5	54.0	-20.5	Low Ch, 6Mbps, EUT on Side
17230.980	47.5	5.7	1.0	143.0	3.0	0.0	Horz	PK	0.0	53.2	74.0	-20.8	Low Ch, 6Mbps, EUT on Side
11490.100	42.3	-9.1	1.0	192.0	3.0	0.0	Vert	AV	0.0	33.2	54.0	-20.8	Low Ch, 6Mbps, EUT on Side
11568.620	41.7	-8.9	1.0	139.0	3.0	0.0	Horz	AV	0.0	32.8	54.0	-21.2	Mid Ch, 6Mbps, EUT on Side
11650.570	41.2	-8.7	1.0	119.0	3.0	0.0	Vert	AV	0.0	32.5	54.0	-21.5	High Ch, 6Mbps, EUT on Side
11570.050	40.3	-8.9	1.0	133.0	3.0	0.0	Vert	AV	0.0	31.4	54.0	-22.6	Mid Ch, 6Mbps, EUT on Side
17479.150	45.8	5.5	1.0	187.0	3.0	0.0	Vert	PK	0.0	51.3	74.0	-22.7	High Ch, 6Mbps, EUT Vert
17478.130	44.2	5.5	1.0	243.0	3.0	0.0	Horz	PK	0.0	49.7	74.0	-24.3	High Ch, 6Mbps, EUT Horiz
23139.610	50.9	-2.5	1.1	267.0	3.0	0.0	Vert	PK	0.0	48.4	74.0	-25.6	Mid Ch, 6Mbps, EUT on Side
23297.870	50.0	-2.4	1.1	151.0	3.0	0.0	Vert	PK	0.0	47.6	74.0	-26.4	High Ch, 6Mbps, EUT on Side
11646.470	56.2	-8.7	1.0	154.0	3.0	0.0	Horz	PK	0.0	47.5	74.0	-26.5	High Ch, 6Mbps, EUT on Side
22982.460	48.8	-2.5	1.1	118.0	3.0	0.0	Horz	PK	0.0	46.3	74.0	-27.7	Low Ch, 6Mbps, EUT on Side
23297.990	48.2	-2.4	1.1	178.0	3.0	0.0	Horz	PK	0.0	45.8	74.0	-28.2	High Ch, 6Mbps, EUT on Side
23140.860	48.1	-2.5	1.1	281.0	3.0	0.0	Horz	PK	0.0	45.6	74.0	-28.4	Mid Ch, 6Mbps, EUT on Side
22980.260	47.2	-2.5	1.1	219.0	3.0	0.0	Vert	PK	0.0	44.7	74.0	-29.3	Low Ch, 6Mbps, EUT on Side
11490.650	53.5	-9.1	1.0	119.0	3.0	0.0	Horz	PK	0.0	44.4	74.0	-29.6	Low Ch, 6Mbps, EUT on Side
11494.100	53.3	-9.1	1.0	192.0	3.0	0.0	Vert	PK	0.0	44.2	74.0	-29.8	Low Ch, 6Mbps, EUT on Side
11572.870	52.7	-8.9	1.0	139.0	3.0	0.0	Horz	PK	0.0	43.8	74.0	-30.2	Mid Ch, 6Mbps, EUT on Side
11646.800	52.4	-8.7	1.0	119.0	3.0	0.0	Vert	PK	0.0	43.7	74.0	-30.3	High Ch, 6Mbps, EUT on Side
11574.680	51.9	-8.9	1.0	133.0	3.0	0.0	Vert	PK	0.0	43.0	74.0	-31.0	Mid Ch, 6Mbps, EUT on Side

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)
Spectrum Analyzer	Agilent	E4446A	AAY	2/22/2013	24
OC13 Cables	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	0
Attenuator, 20db, 'SMA'	Weinschel Corp	4H-20	AWB	6/7/2013	12
40GHz DC Block	Miteq	DCB4000	AMD	5/16/2013	12
Power Meter	Hewlett Packard	E4418A	SPA	4/11/2012	24
Power Sensor	Agilent	E4412A	SQE	4/11/2012	24
Signal Generator	Agilent	E8257D	TGU	2/1/2012	36

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:	RAD7A/Radical 7 V2	**Work Order:**	MASI0151
Serial Number:	1000000349	**Date:**	01/29/14
Customer:	Masimo Corporation	**Temperature:**	24.3°C
Attendees:	Mike Clark	**Humidity:**	41%
Project:	None	**Barometric Pres.:**	1011
Tested by:	Jaemi Suh	**Power:** Battery	**Job Site:** OC13

TEST SPECIFICATIONS	Test Method
FCC 15.247:2014	ANSI C63.10:2009

COMMENTS

TX Power set to 90.

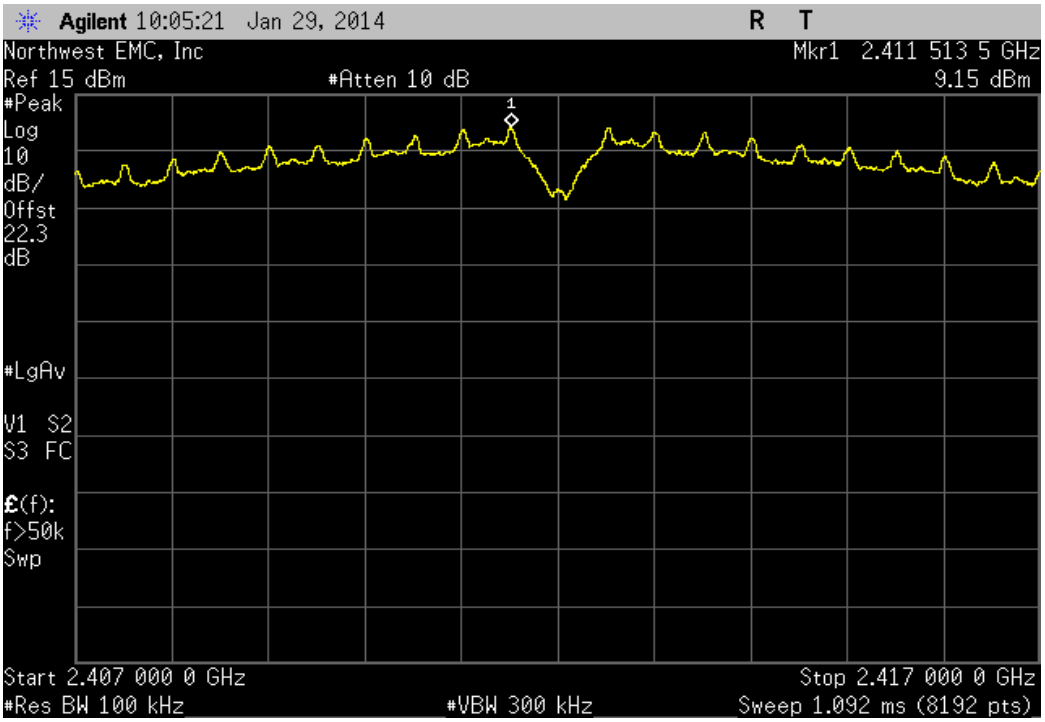
DEVIATIONS FROM TEST STANDARD

None

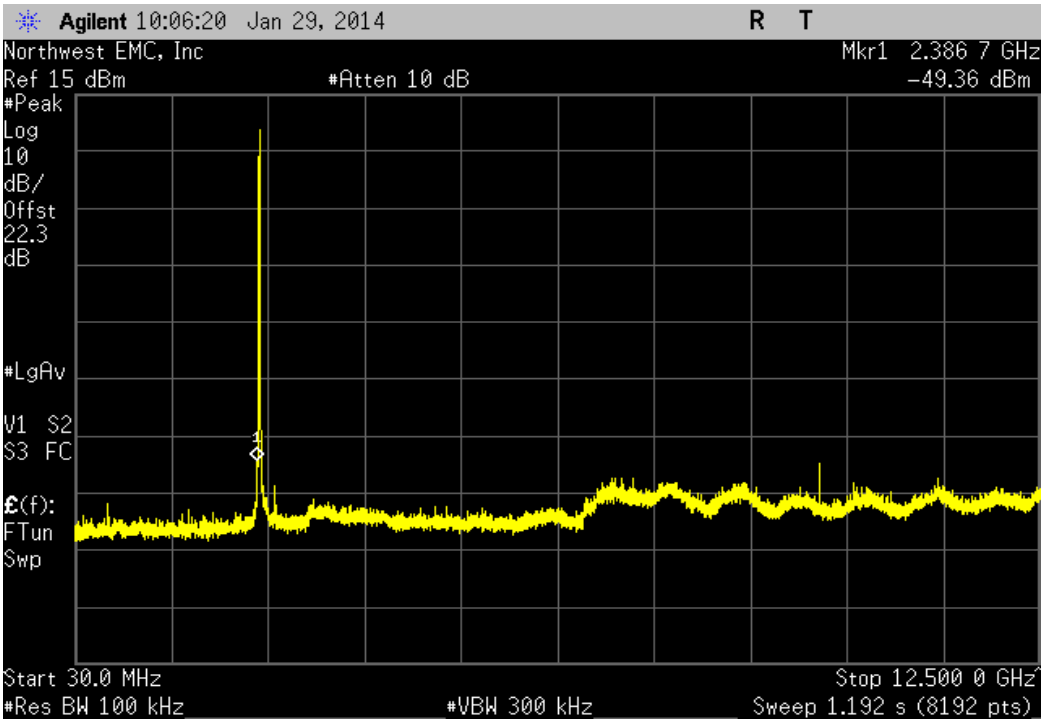
Configuration #	1	Signature

		Frequency Range	Value	Limit	Result
2400 MHz - 2483.5 MHz Band					
	802.11(b) 1 Mbps				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-58.51 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-56.72 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-59.85 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-55.54 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-61.62 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-56.75 dBc	≤ -20 dBc	Pass
	802.11(b) 11 Mbps				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-60.42 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-56.07 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-61.51 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-57.78 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-61.55 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-56.38 dBc	≤ -20 dBc	Pass
	802.11(g) 6 Mbps				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-46.5 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-53.09 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-58.18 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-53.56 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-57.08 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-52.47 dBc	≤ -20 dBc	Pass
	802.11(g) 36 Mbps				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-46.34 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-52.86 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-58.64 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-53.68 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-57.58 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-53.81 dBc	≤ -20 dBc	Pass
	802.11(g) 54 Mbps				
	Low Channel 1, 2412 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-46.03 dBc	≤ -20 dBc	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-53.93 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-58.35 dBc	≤ -20 dBc	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-53.71 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	Fundamental	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-56.87 dBc	≤ -20 dBc	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-54.45 dBc	≤ -20 dBc	Pass
5725 MHz - 5850 MHz Band					
	802.11(a) 6 Mbps				
	Low Channel 149, 5745 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 149, 5745 MHz	30 MHz - 12.5 GHz	-49.2 dBc	≤ -20 dBc	Pass
	Low Channel 149, 5745 MHz	12.5 GHz - 25 GHz	-55.27 dBc	≤ -20 dBc	Pass
	Low Channel 149, 5745 MHz	25 GHz - 32 GHz	-54.29 dBc	≤ -20 dBc	Pass
	Low Channel 149, 5745 MHz	32 GHz - 40 GHz	-47.64 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 157, 5785 MHz	30 MHz - 12.5 GHz	-57.01 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	12.5 GHz - 25 GHz	-53.88 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	25 GHz - 32 GHz	-53.66 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	32 GHz - 40 GHz	-46.08 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	Fundamental	N/A	N/A	N/A
	High Channel 165, 5825 MHz	30 MHz - 12.5 GHz	-52.45 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	12.5 GHz - 25 GHz	-54.6 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	25 GHz - 32 GHz	-53.55 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	32 GHz - 40 GHz	-46.16 dBc	≤ -20 dBc	Pass
	802.11(a) 36 Mbps				
	Low Channel 149, 5745 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 149, 5745 MHz	30 MHz - 12.5 GHz	-47.66 dBc	≤ -20 dBc	Pass
	Low Channel 149, 5745 MHz	12.5 GHz - 25 GHz	-54.39 dBc	≤ -20 dBc	Pass
	Low Channel 149, 5745 MHz	25 GHz - 32 GHz	-54.26 dBc	≤ -20 dBc	Pass
	Low Channel 149, 5745 MHz	32 GHz - 40 GHz	-46.84 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 157, 5785 MHz	30 MHz - 12.5 GHz	-56.73 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	12.5 GHz - 25 GHz	-54.17 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	25 GHz - 32 GHz	-53.62 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	32 GHz - 40 GHz	-46.13 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	Fundamental	N/A	N/A	N/A
	High Channel 165, 5825 MHz	30 MHz - 12.5 GHz	-51.78 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	12.5 GHz - 25 GHz	-54.86 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	25 GHz - 32 GHz	-53.93 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	32 GHz - 40 GHz	-46.01 dBc	≤ -20 dBc	Pass
	802.11(a) 54 Mbps				
	Low Channel 149, 5745 MHz	Fundamental	N/A	N/A	N/A
	Low Channel 149, 5745 MHz	30 MHz - 12.5 GHz	-48.33 dBc	≤ -20 dBc	Pass
	Low Channel 149, 5745 MHz	12.5 GHz - 25 GHz	-54.56 dBc	≤ -20 dBc	Pass
	Low Channel 149, 5745 MHz	25 GHz - 32 GHz	-54.69 dBc	≤ -20 dBc	Pass
	Low Channel 149, 5745 MHz	32 GHz - 40 GHz	-46.78 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel 157, 5785 MHz	30 MHz - 12.5 GHz	-56.03 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	12.5 GHz - 25 GHz	-55.19 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	25 GHz - 32 GHz	-53.92 dBc	≤ -20 dBc	Pass
	Mid Channel 157, 5785 MHz	32 GHz - 40 GHz	-46.5 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	Fundamental	N/A	N/A	N/A
	High Channel 165, 5825 MHz	30 MHz - 12.5 GHz	-51.01 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	12.5 GHz - 25 GHz	-53.65 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	25 GHz - 32 GHz	-54.27 dBc	≤ -20 dBc	Pass
	High Channel 165, 5825 MHz	32 GHz - 40 GHz	-45.96 dBc	≤ -20 dBc	Pass

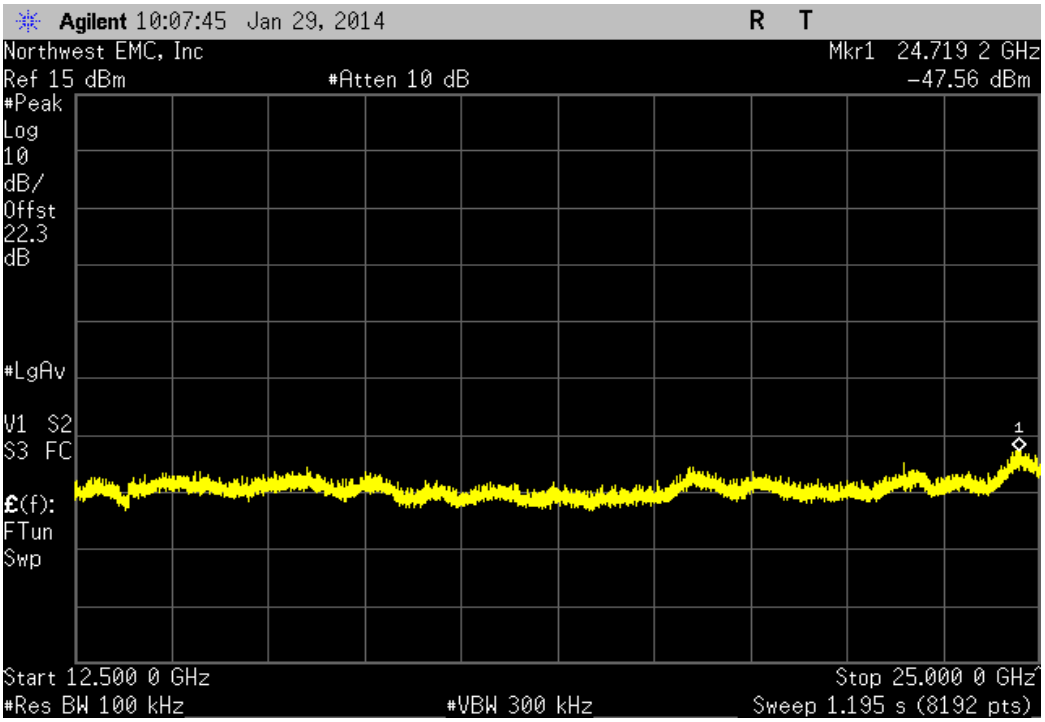
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



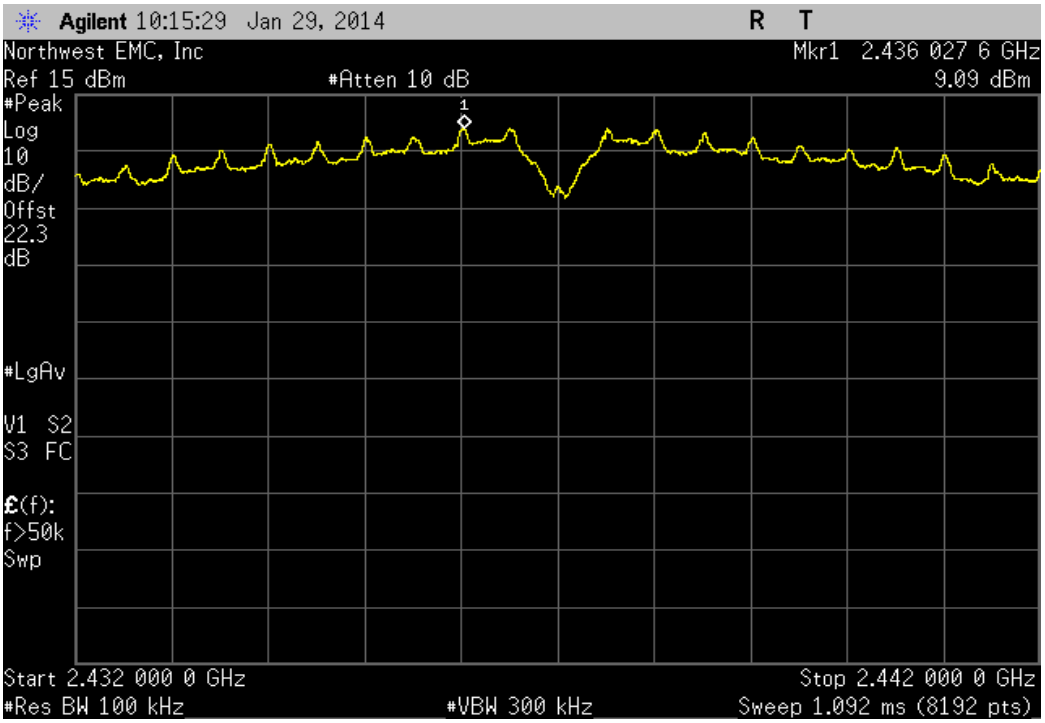
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-58.51 dBc	≤ -20 dBc	Pass



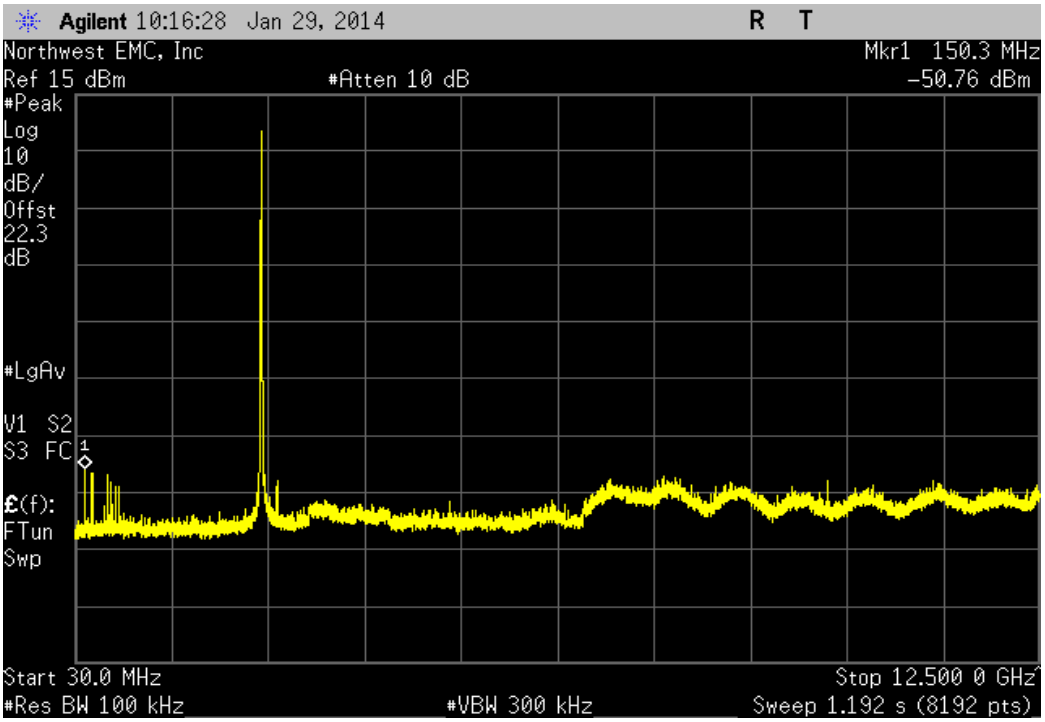
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-56.72 dBc	≤ -20 dBc	Pass



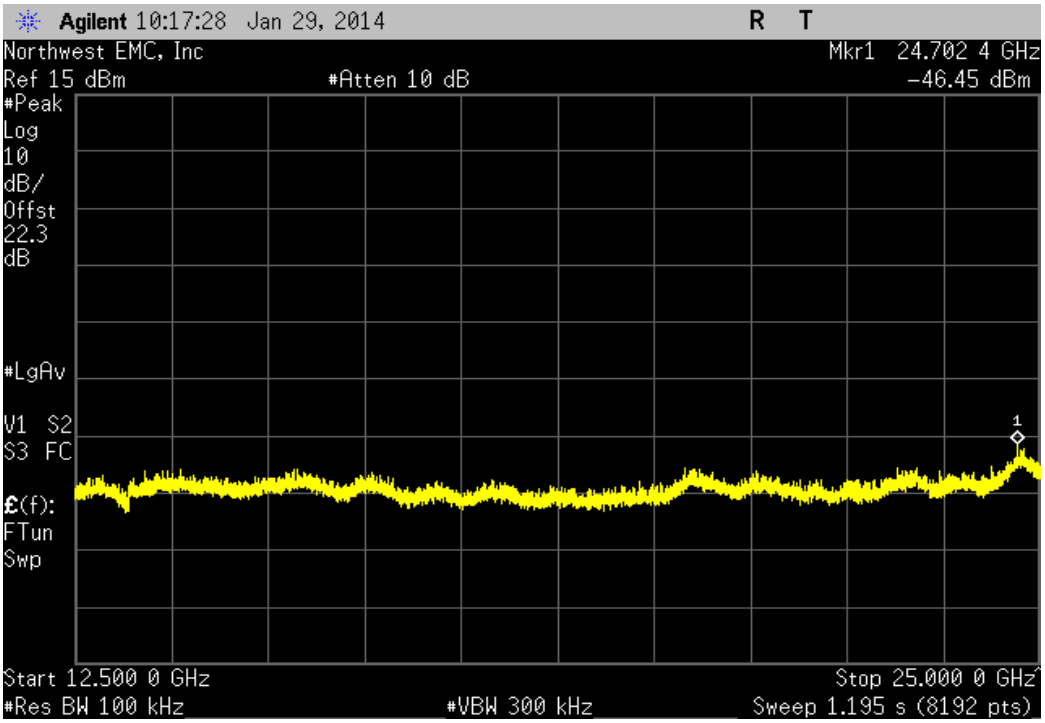
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



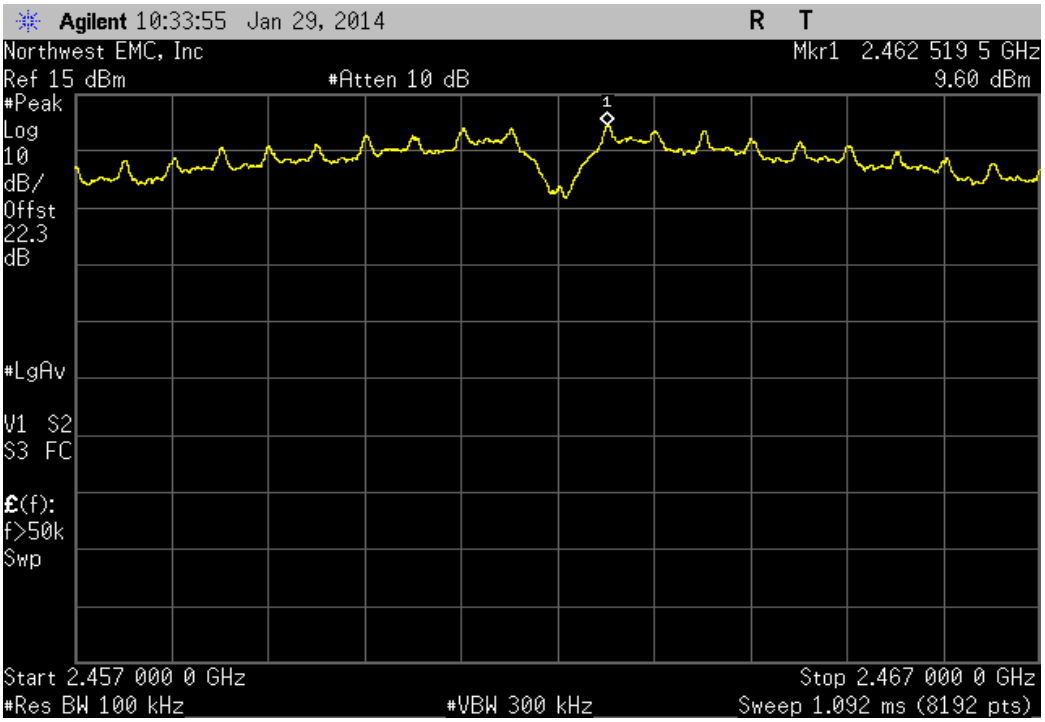
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-59.85 dBc	≤ -20 dBc	Pass



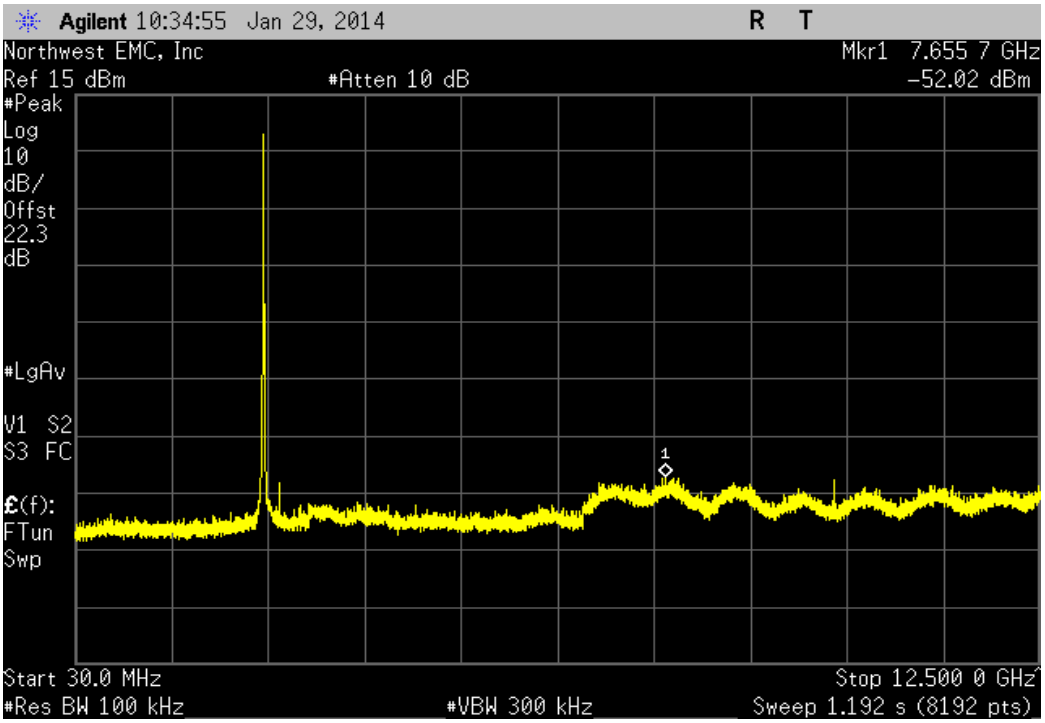
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-55.54 dBc	≤ -20 dBc	Pass



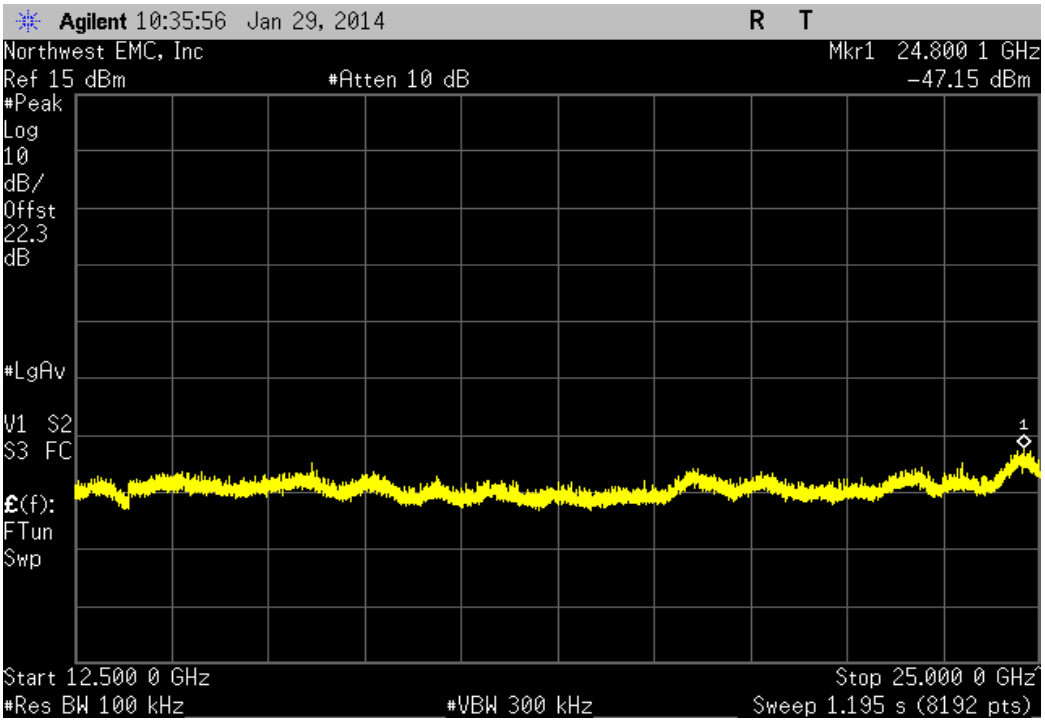
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
Frequency Range				Value	Limit	Result
	Fundamental			N/A	N/A	N/A



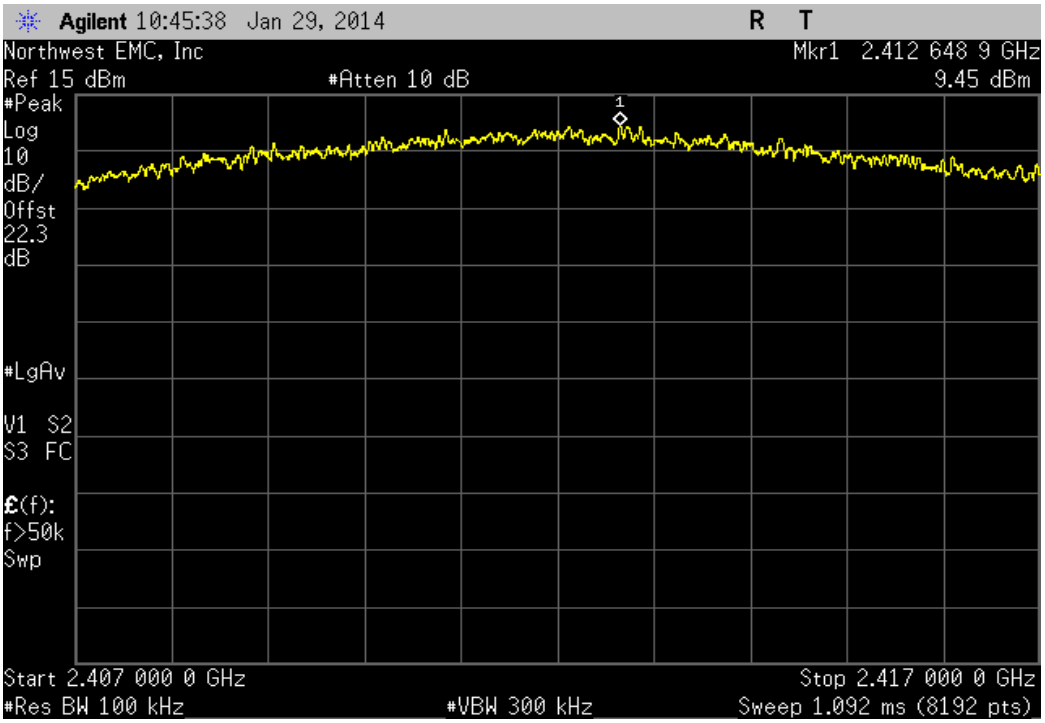
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-61.62 dBc	≤ -20 dBc	Pass



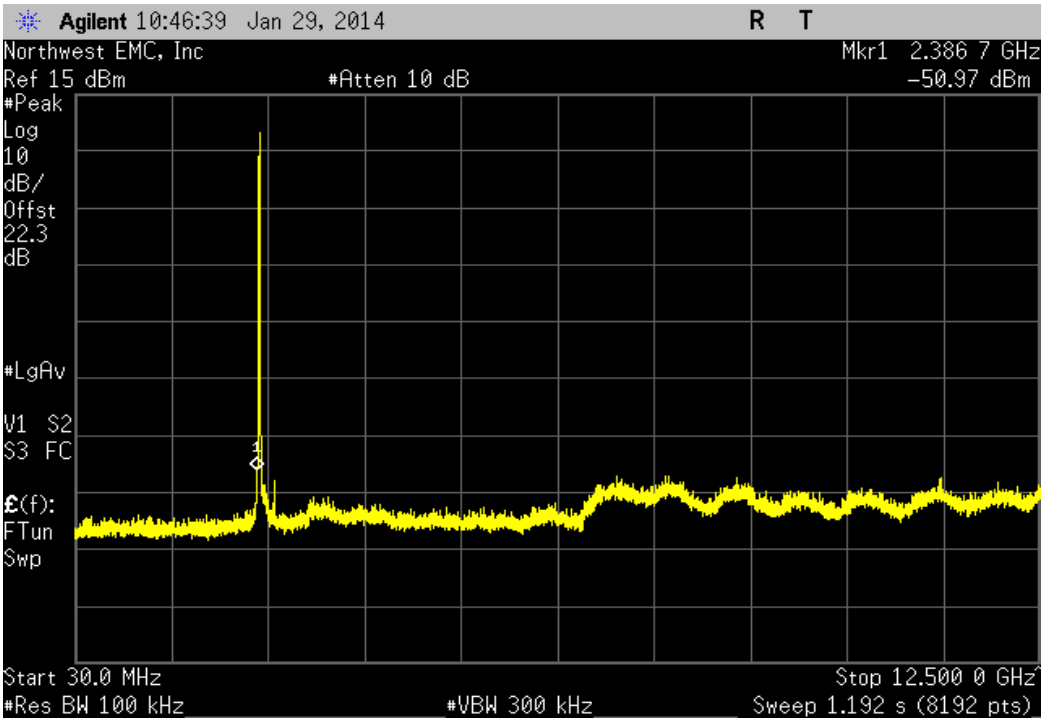
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-56.75 dBc	≤ -20 dBc	Pass



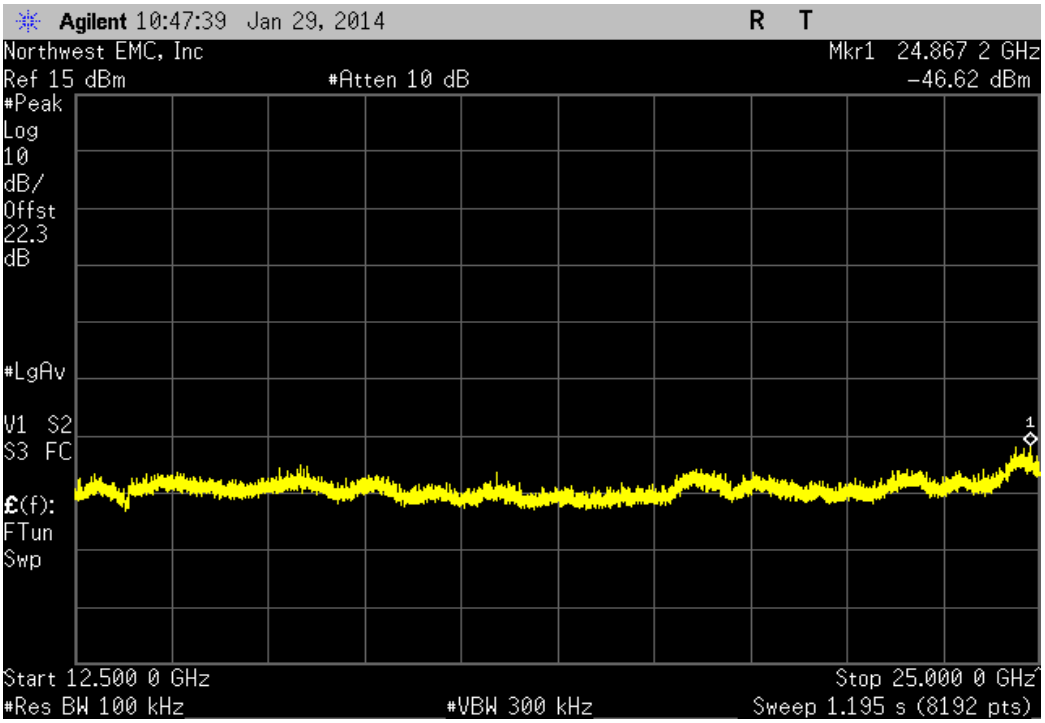
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



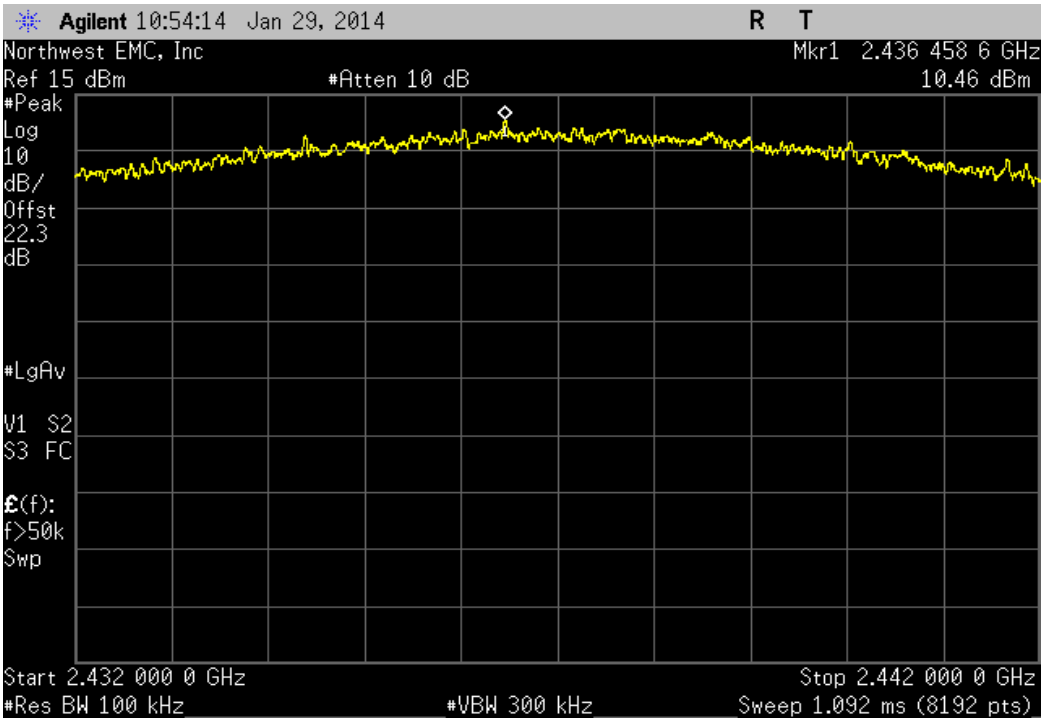
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-60.42 dBc	≤ -20 dBc	Pass



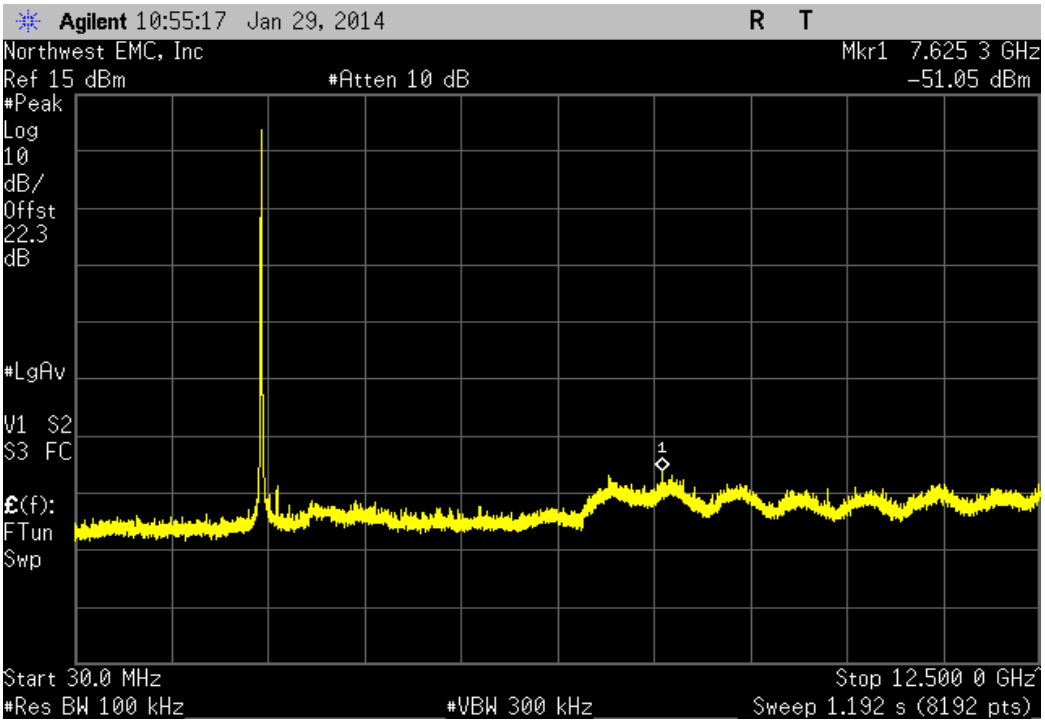
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-56.07 dBc	≤ -20 dBc	Pass



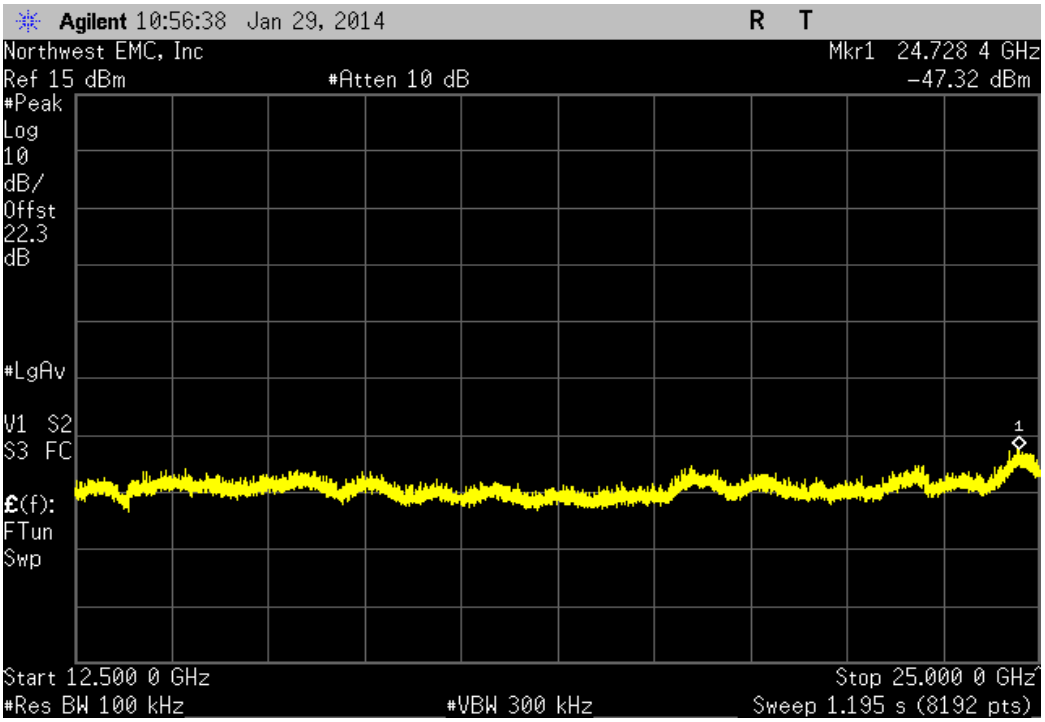
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



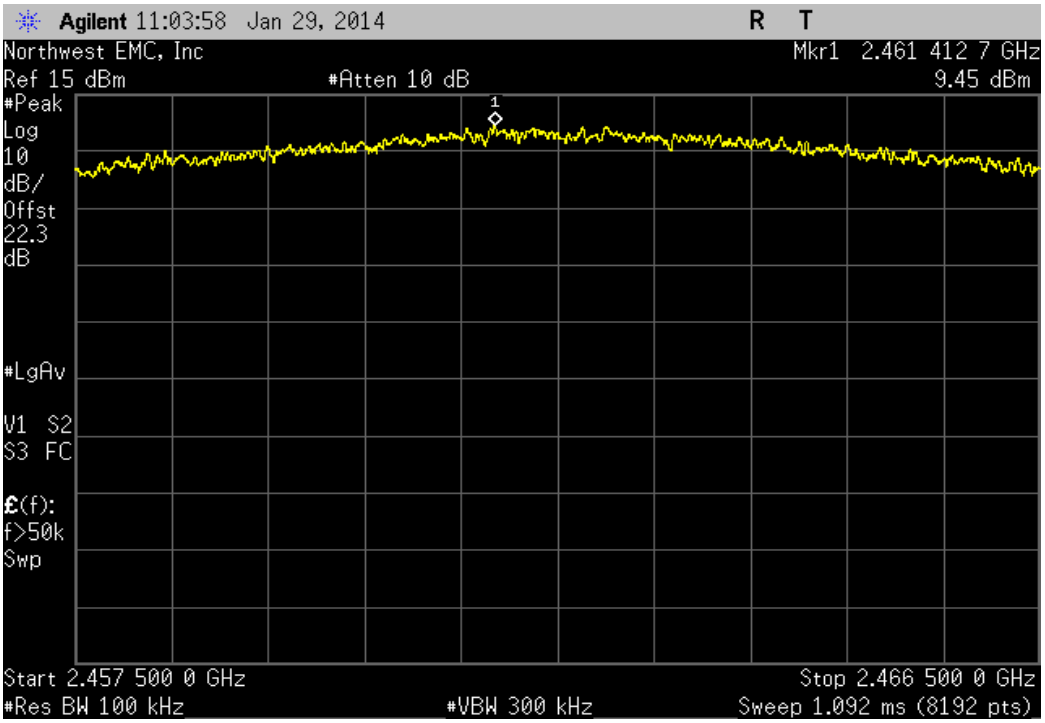
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-61.51 dBc	≤ -20 dBc	Pass



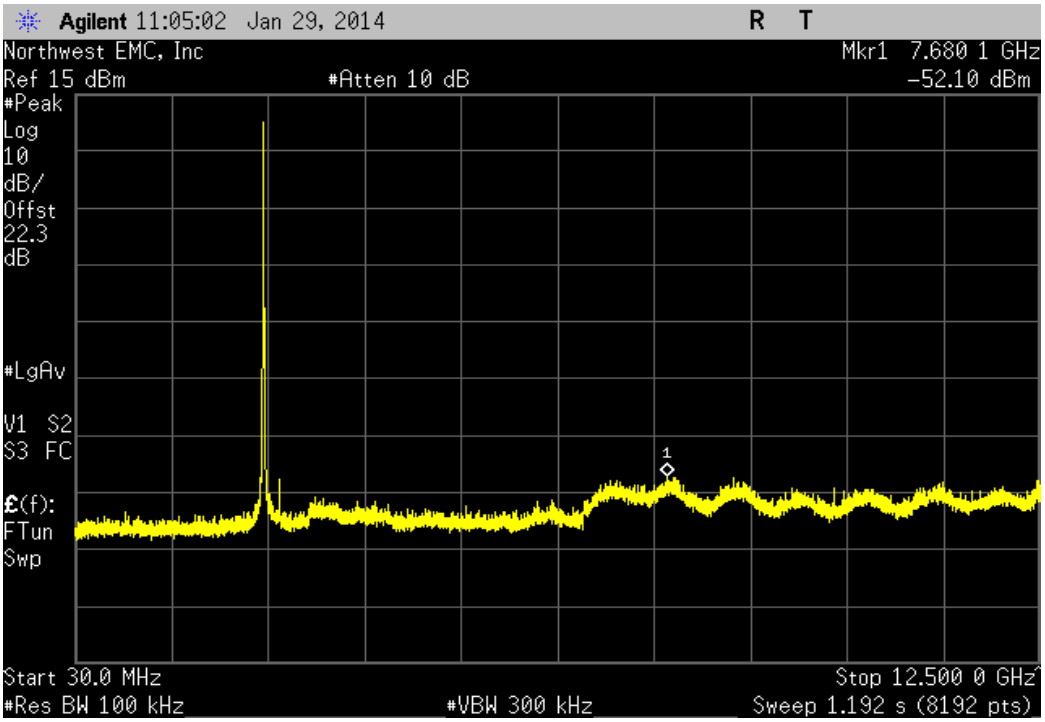
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-57.78 dBc	≤ -20 dBc	Pass



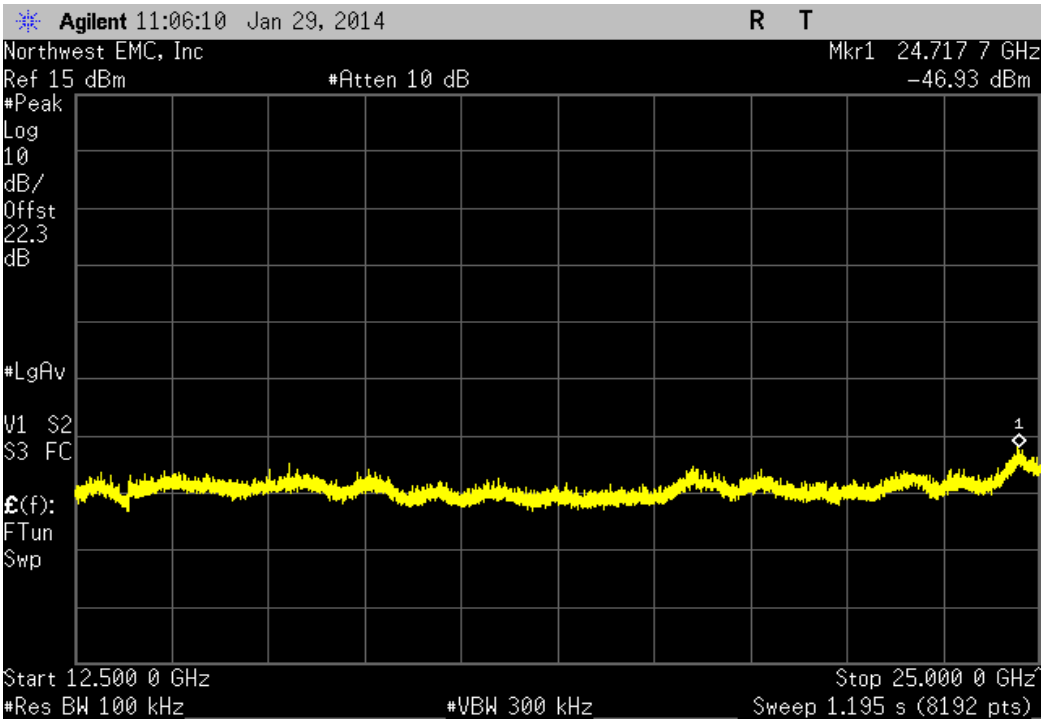
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



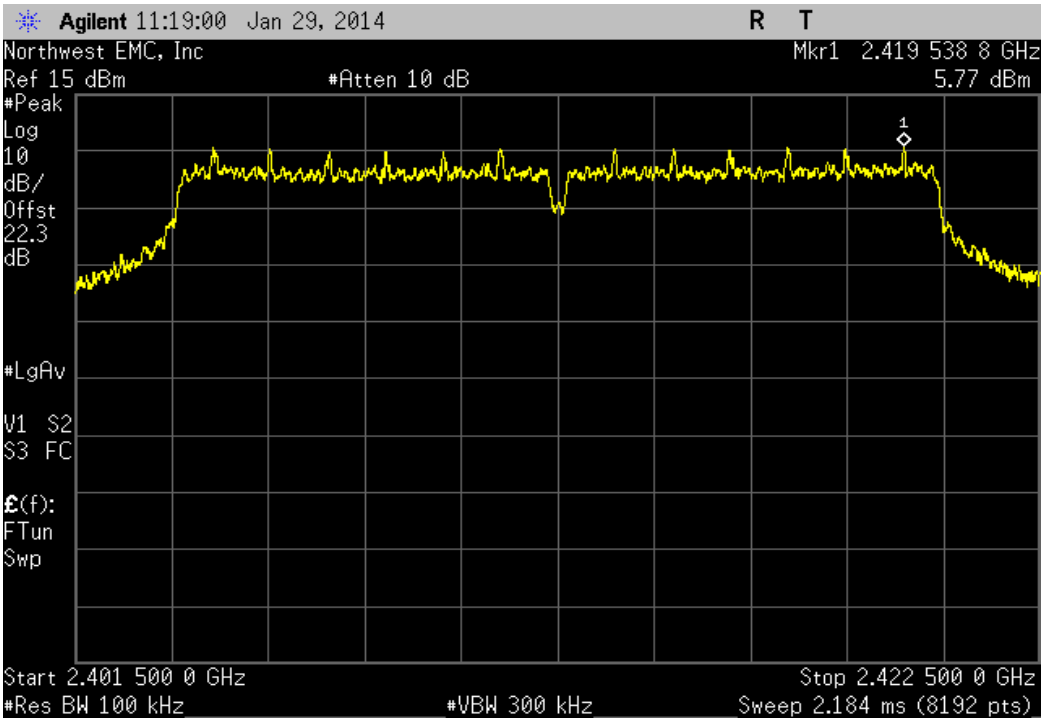
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-61.55 dBc	≤ -20 dBc	Pass



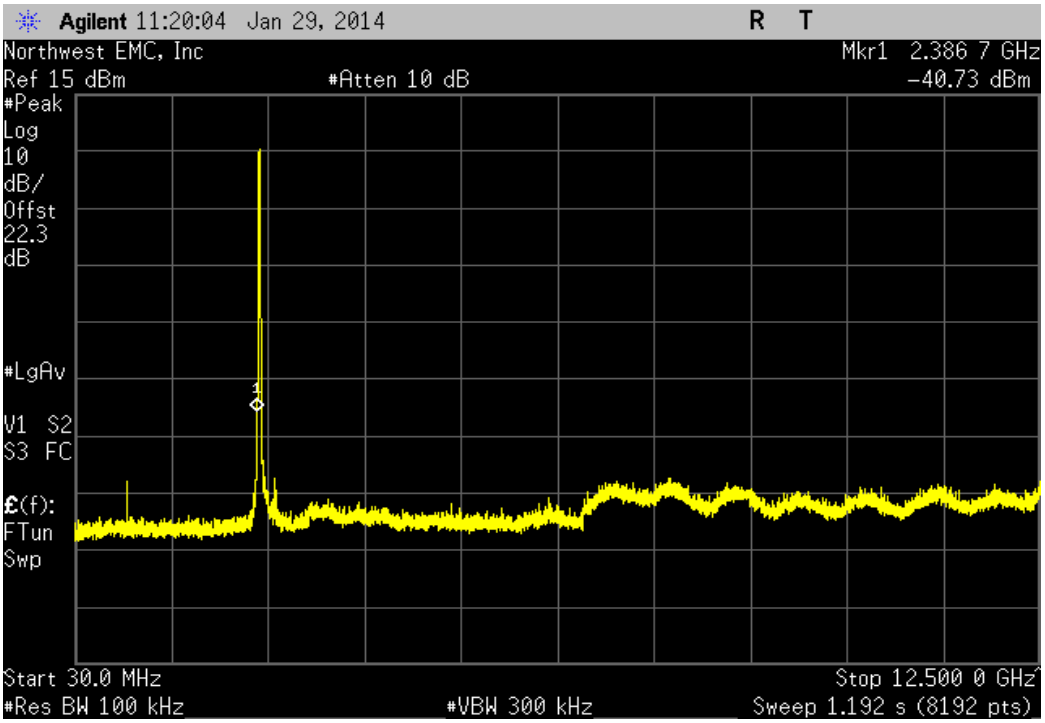
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-56.38 dBc	≤ -20 dBc	Pass



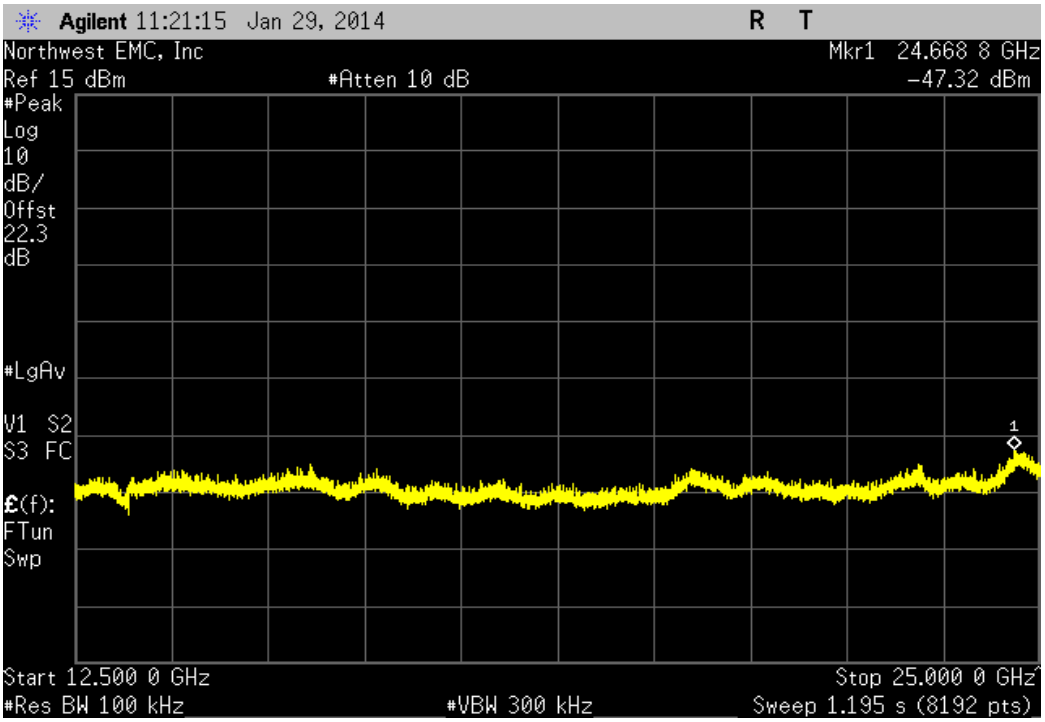
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



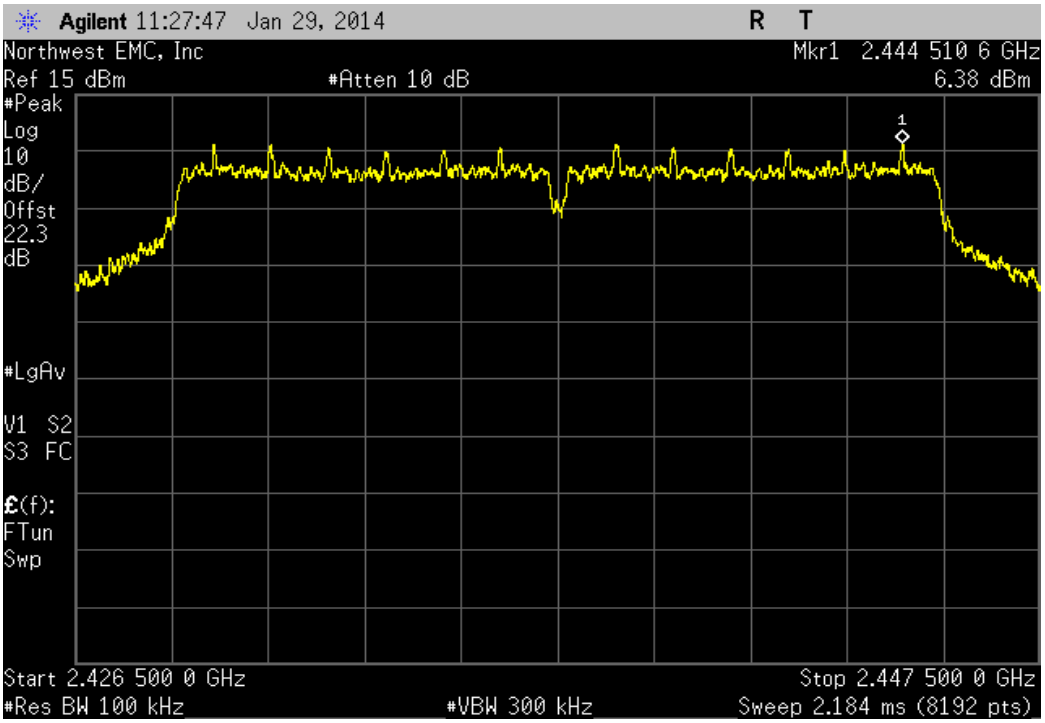
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-46.5 dBc	≤ -20 dBc	Pass



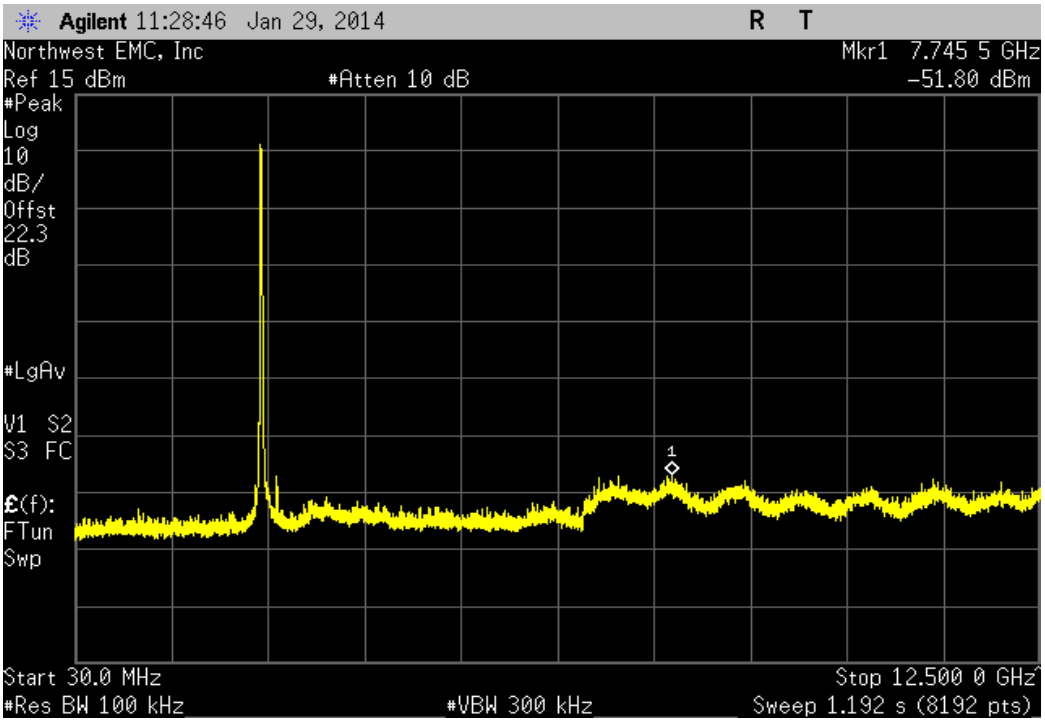
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-53.09 dBc	≤ -20 dBc	Pass



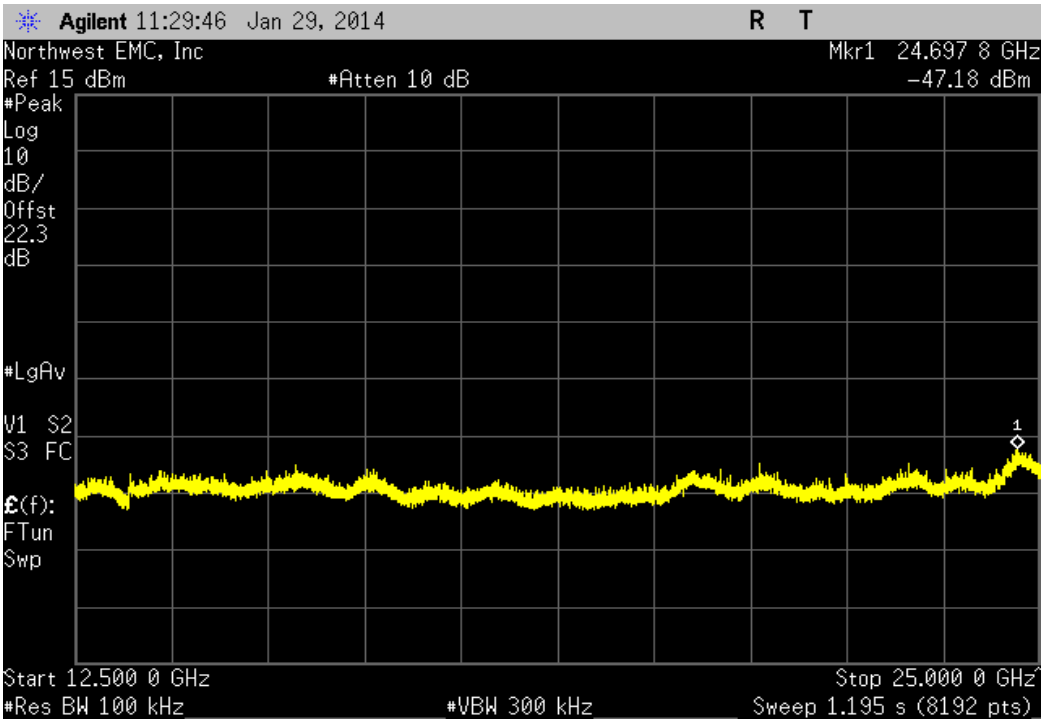
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



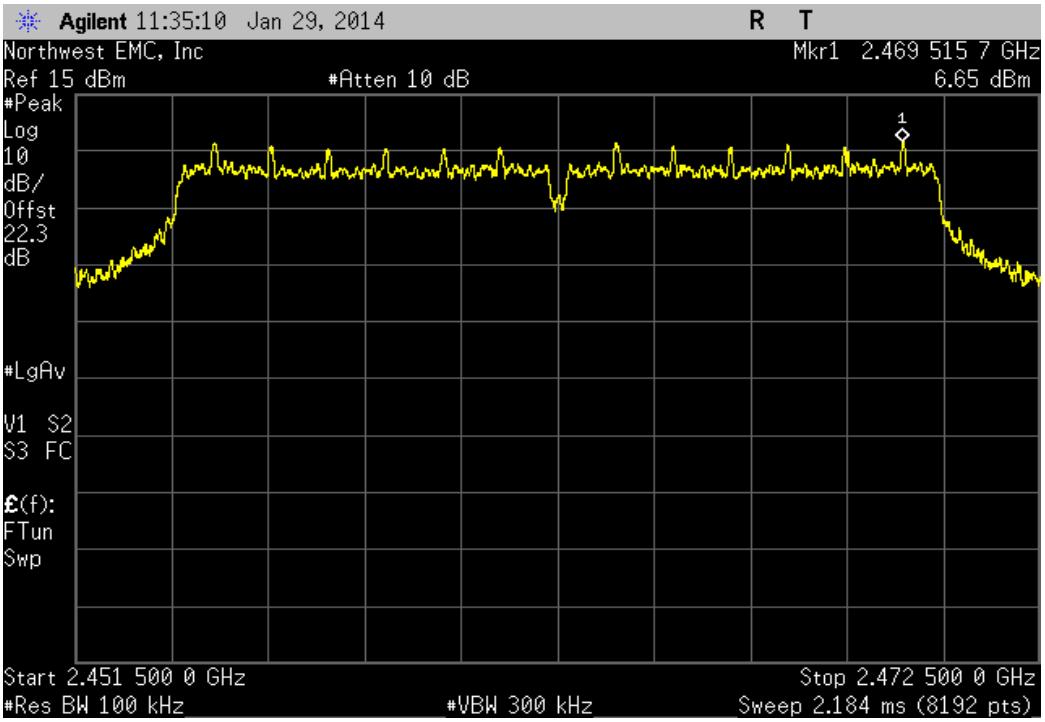
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-58.18 dBc	≤ -20 dBc	Pass



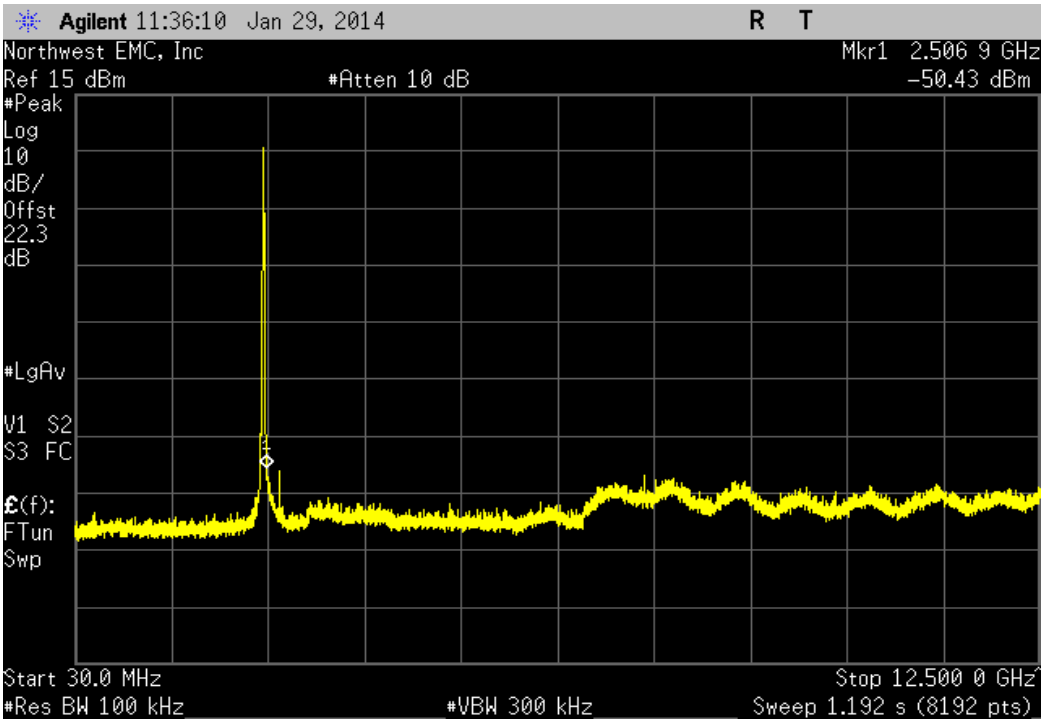
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-53.56 dBc	≤ -20 dBc	Pass



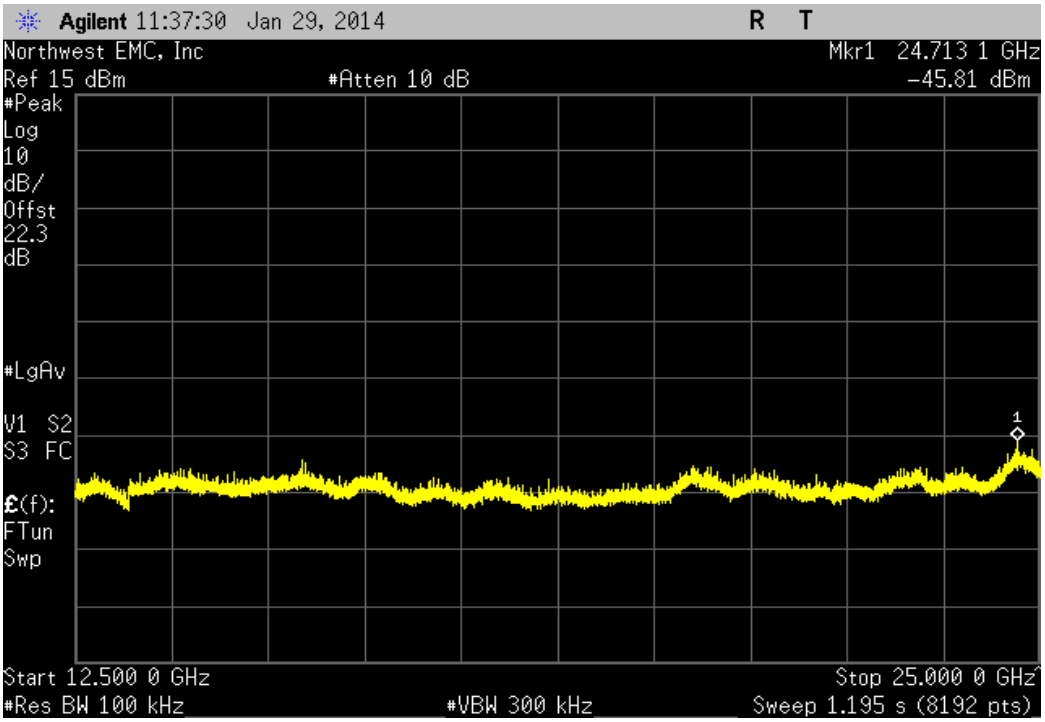
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



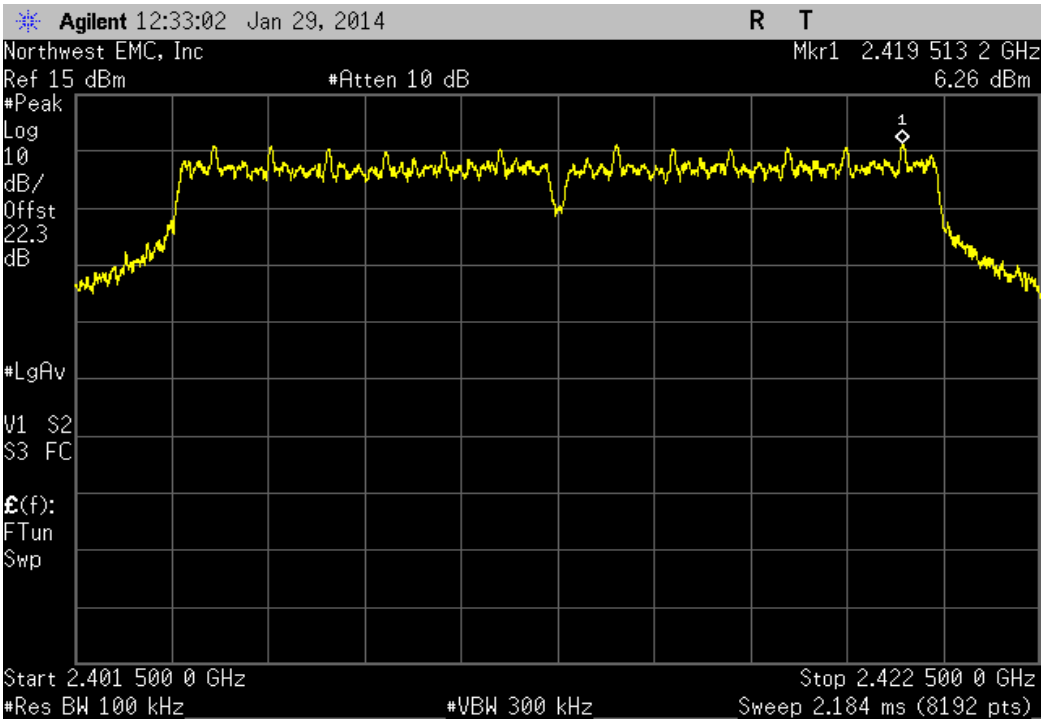
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-57.08 dBc	≤ -20 dBc	Pass



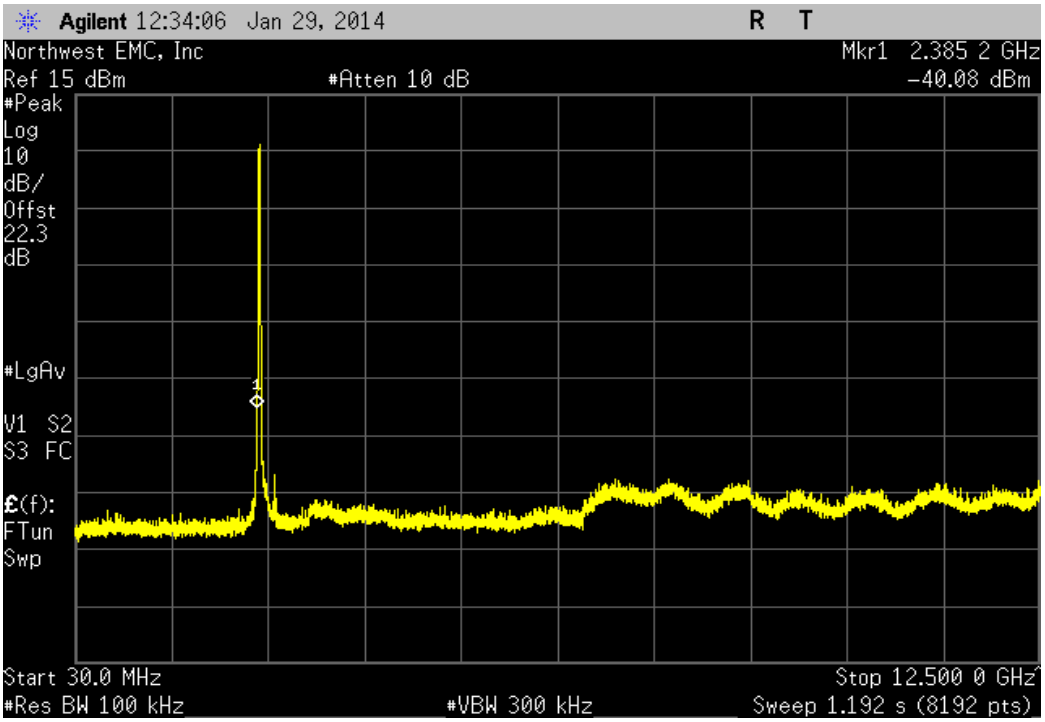
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-52.47 dBc	≤ -20 dBc	Pass



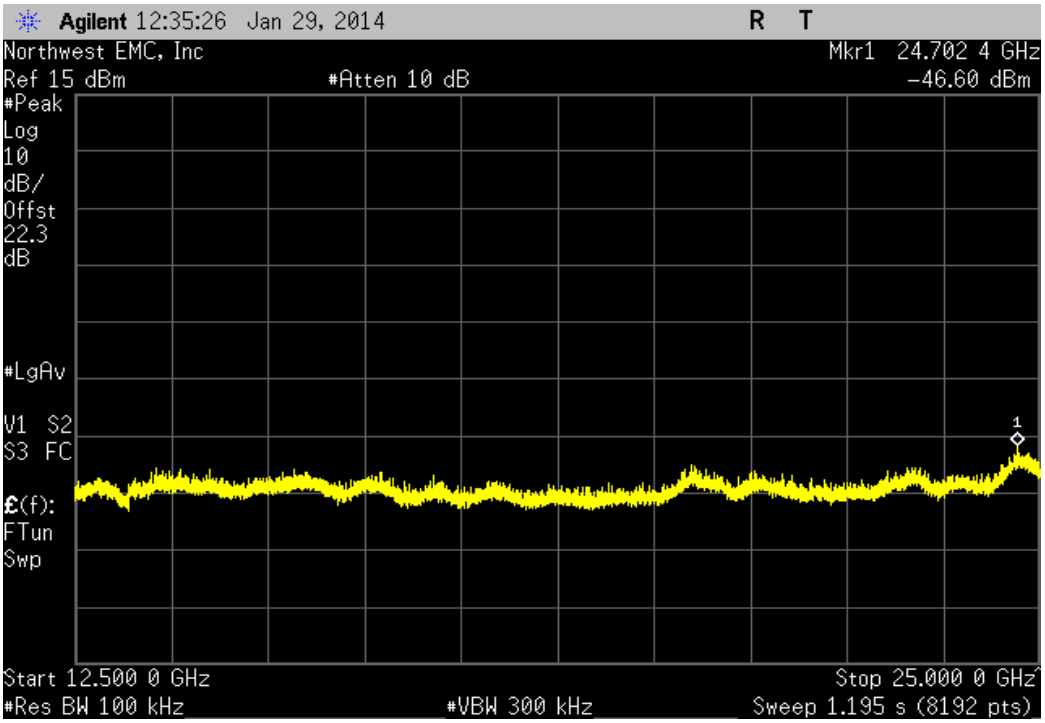
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



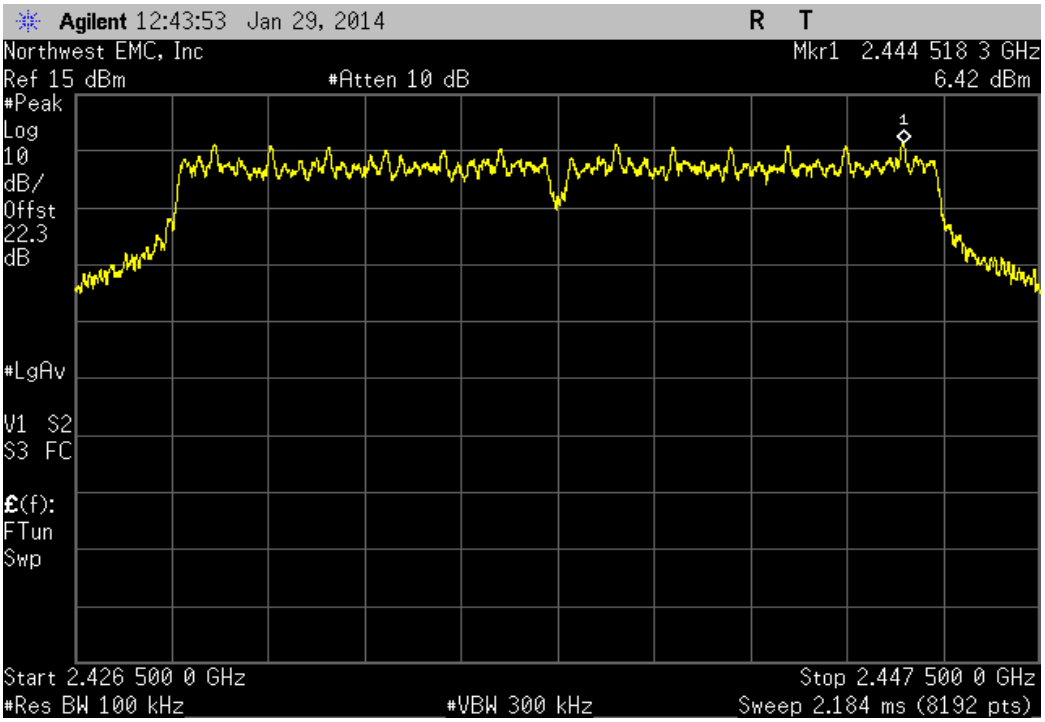
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-46.34 dBc	≤ -20 dBc	Pass



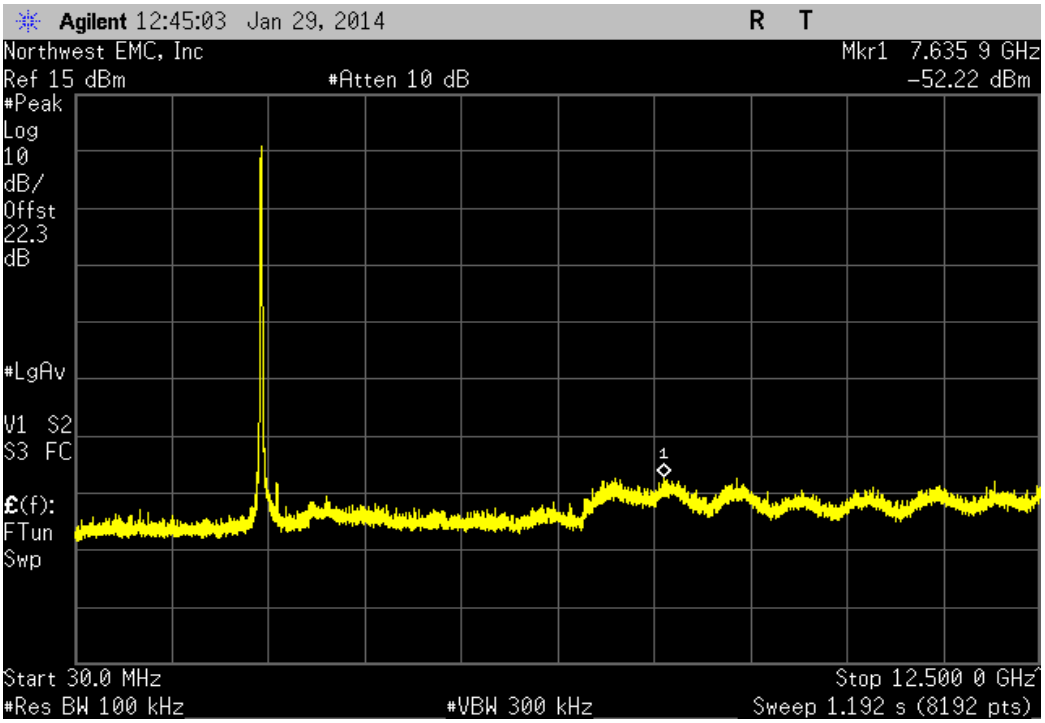
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-52.86 dBc	≤ -20 dBc	Pass



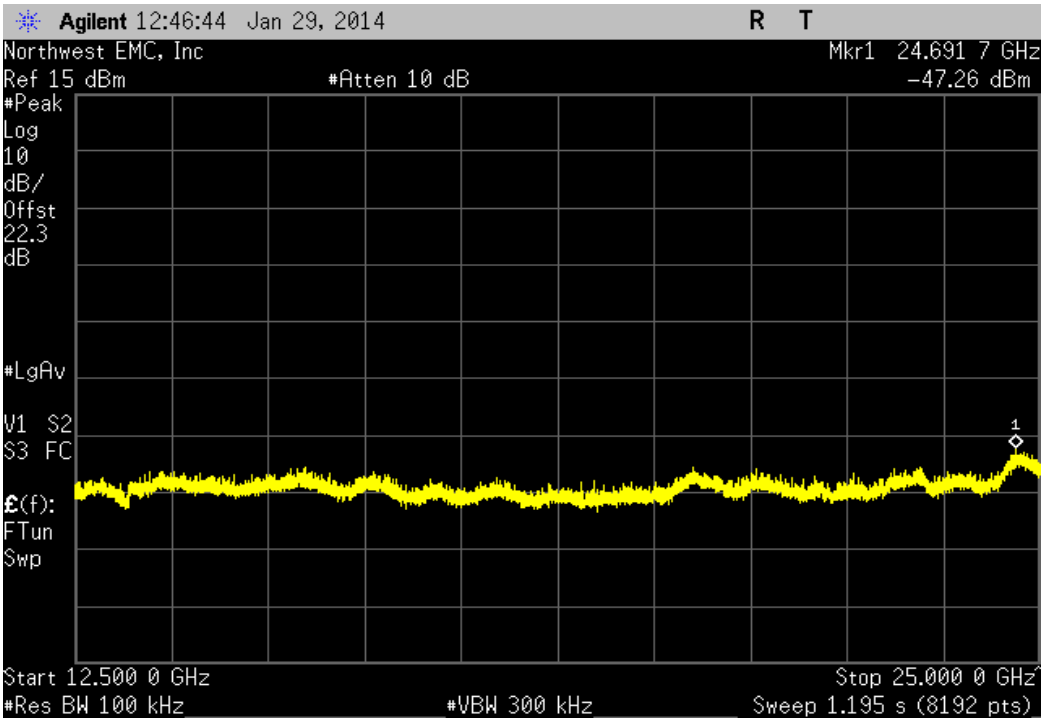
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



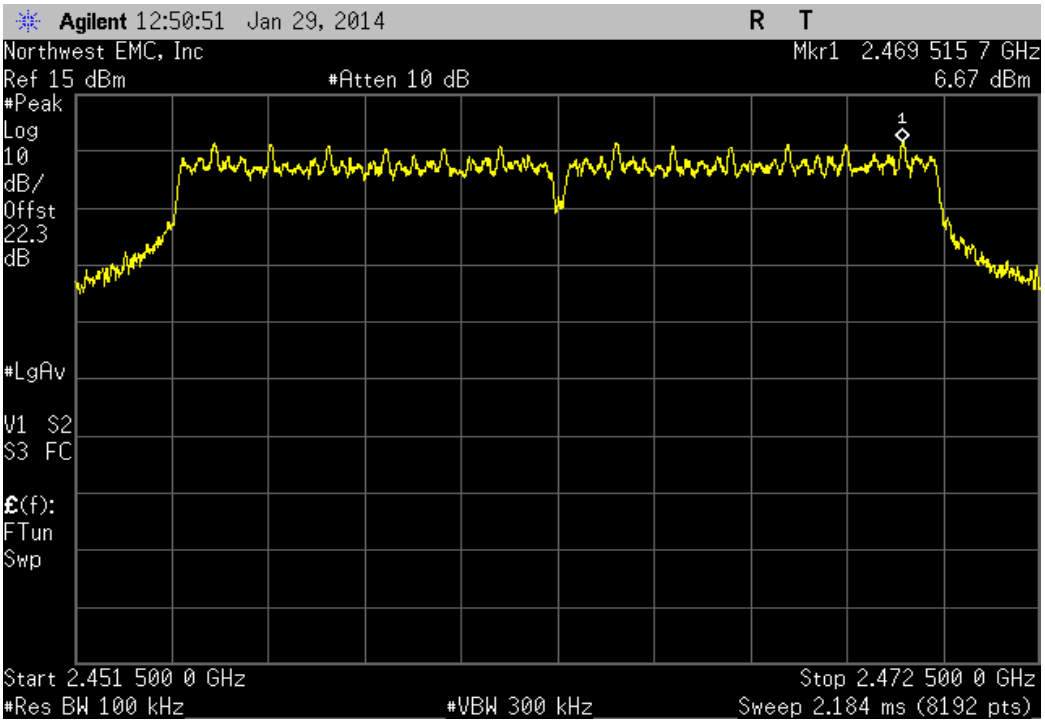
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-58.64 dBc	≤ -20 dBc	Pass



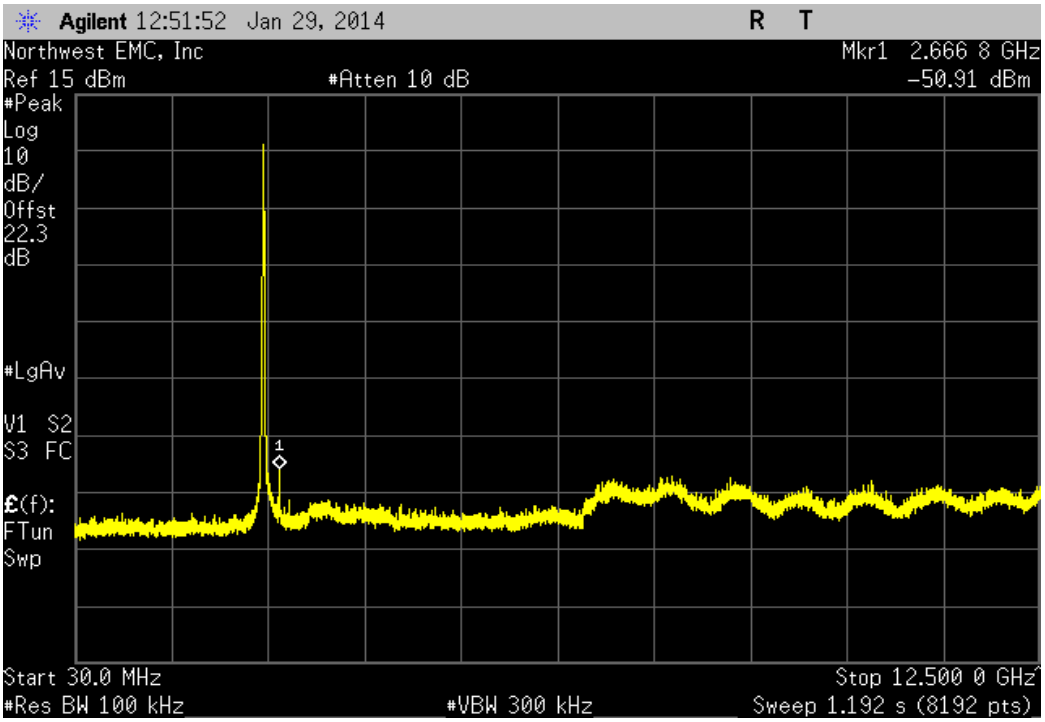
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-53.68 dBc	≤ -20 dBc	Pass



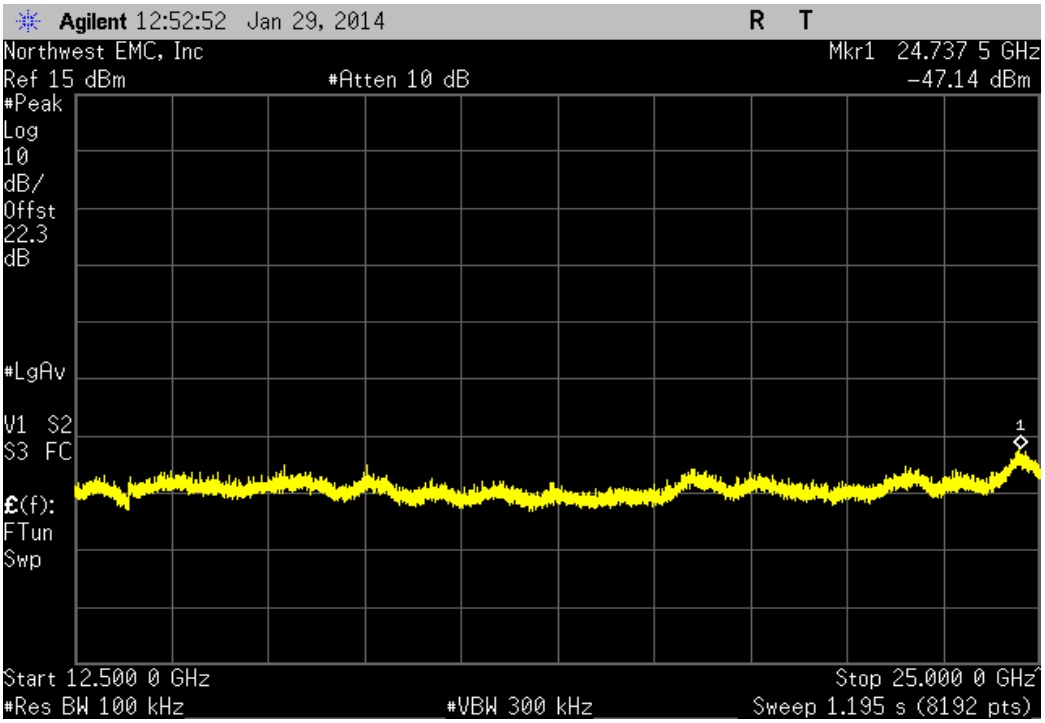
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



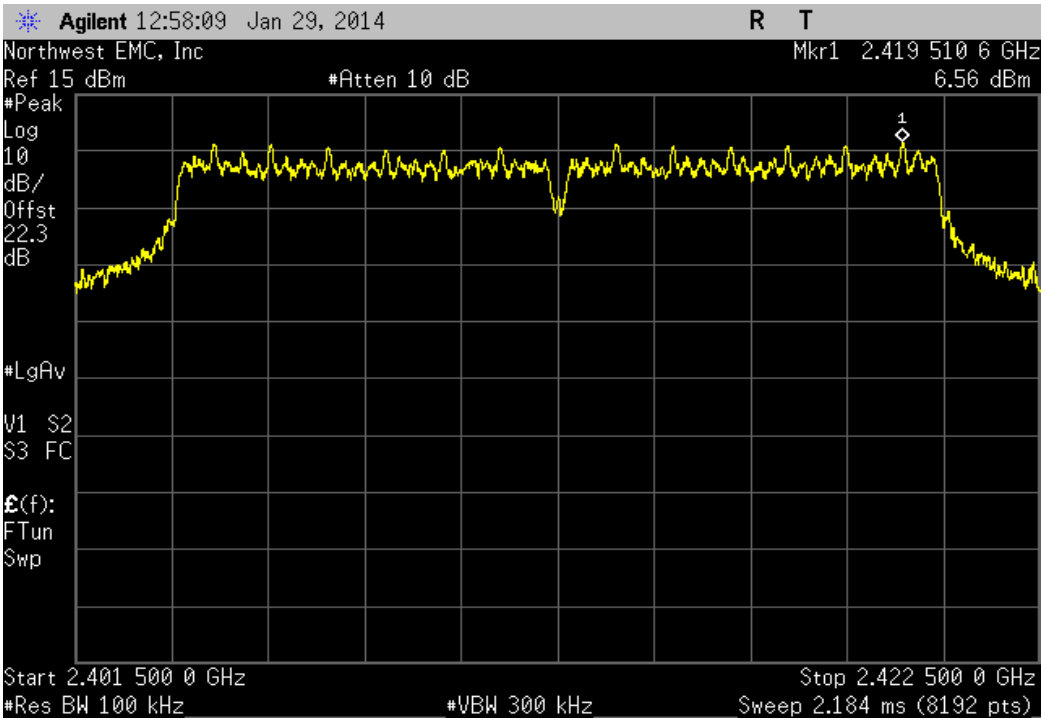
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-57.58 dBc	≤ -20 dBc	Pass



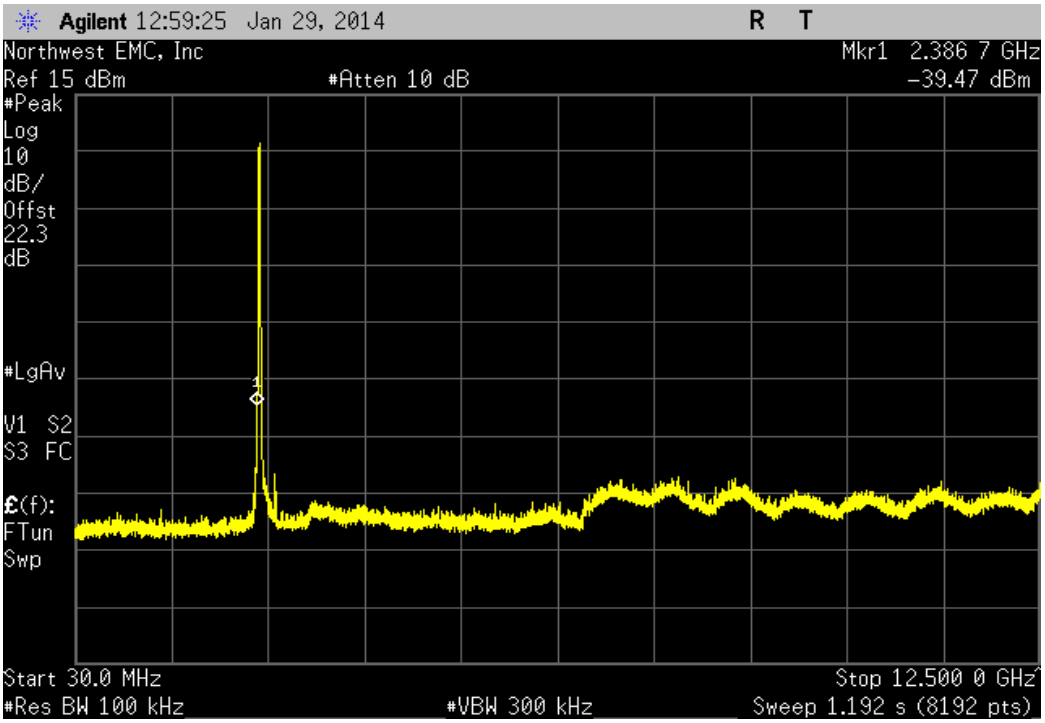
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-53.81 dBc	≤ -20 dBc	Pass



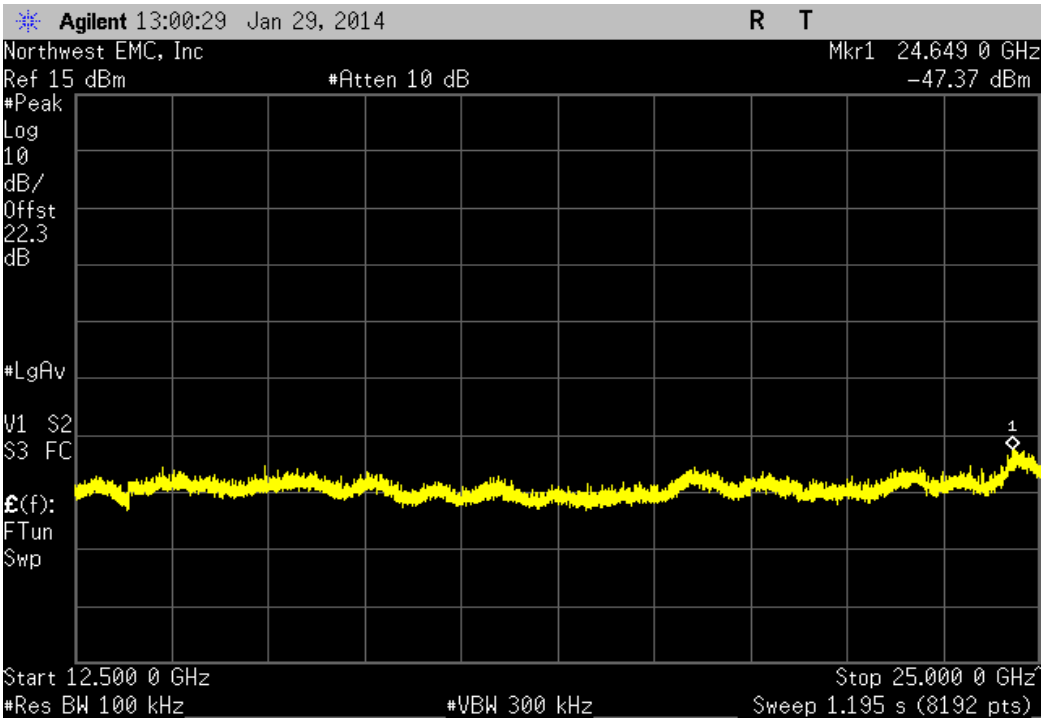
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



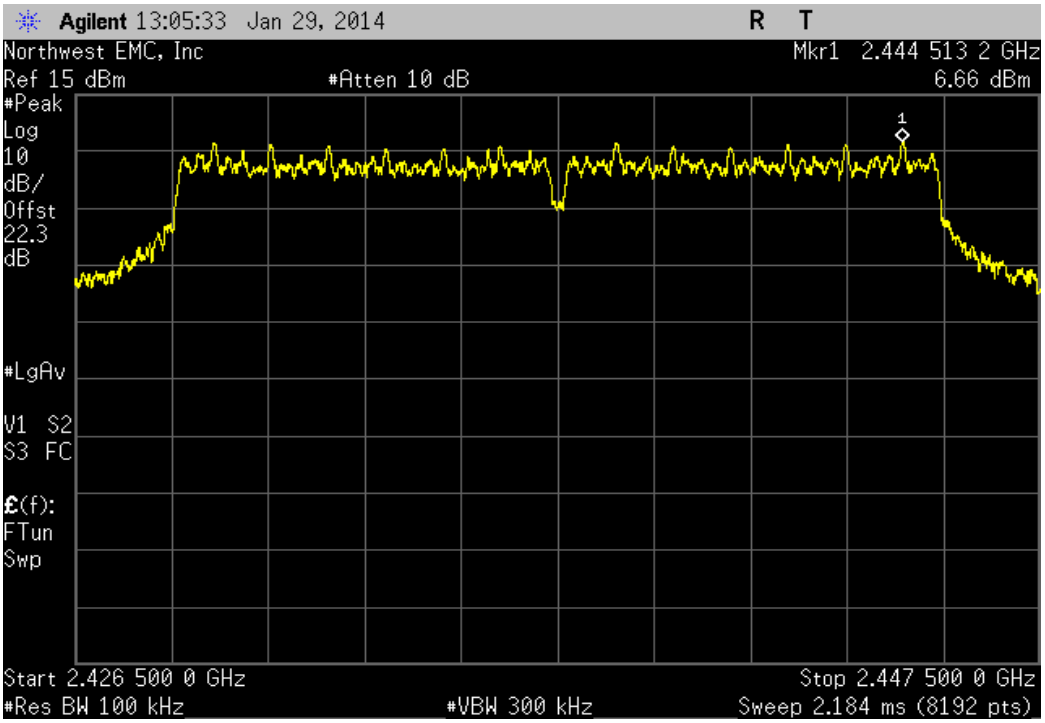
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-46.03 dBc	≤ -20 dBc	Pass



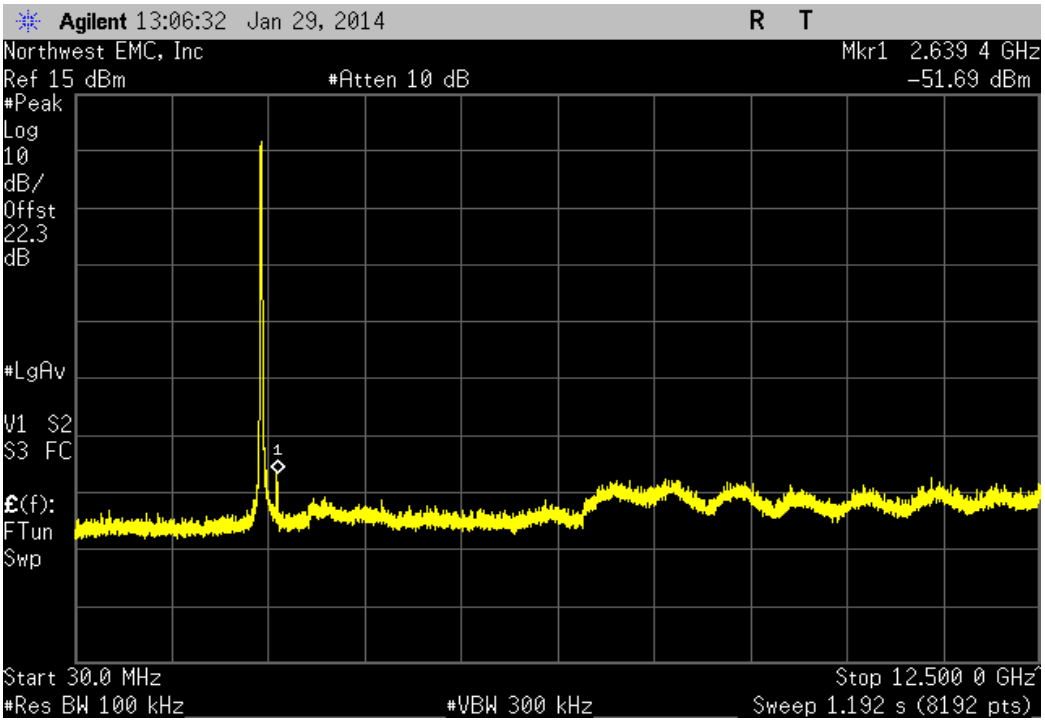
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-53.93 dBc	≤ -20 dBc	Pass



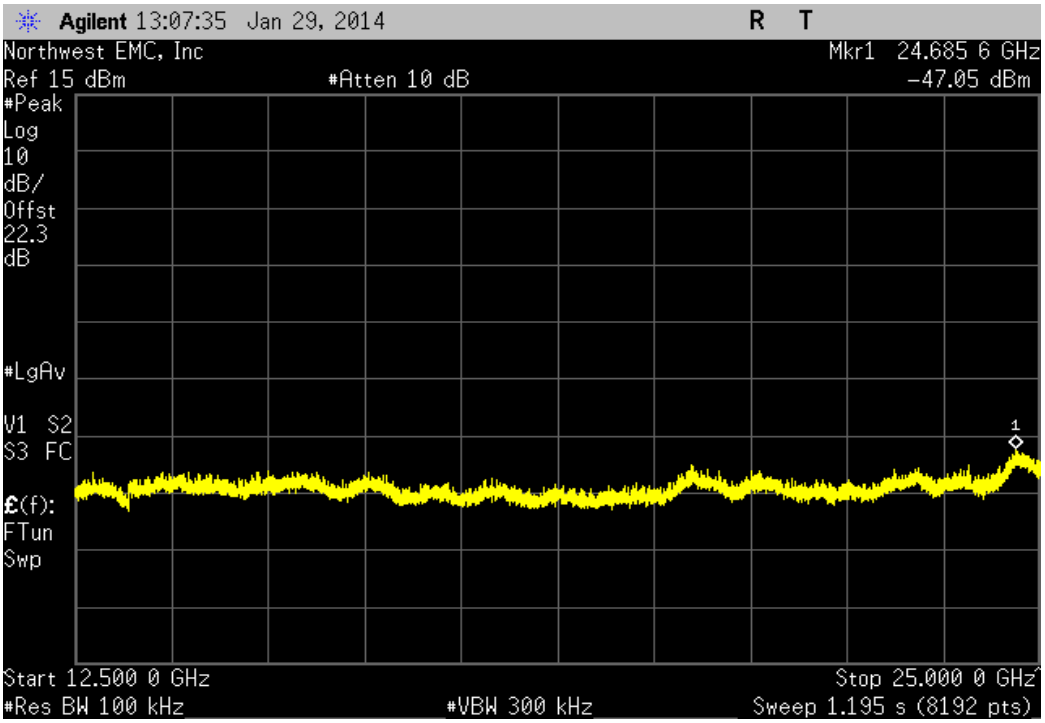
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



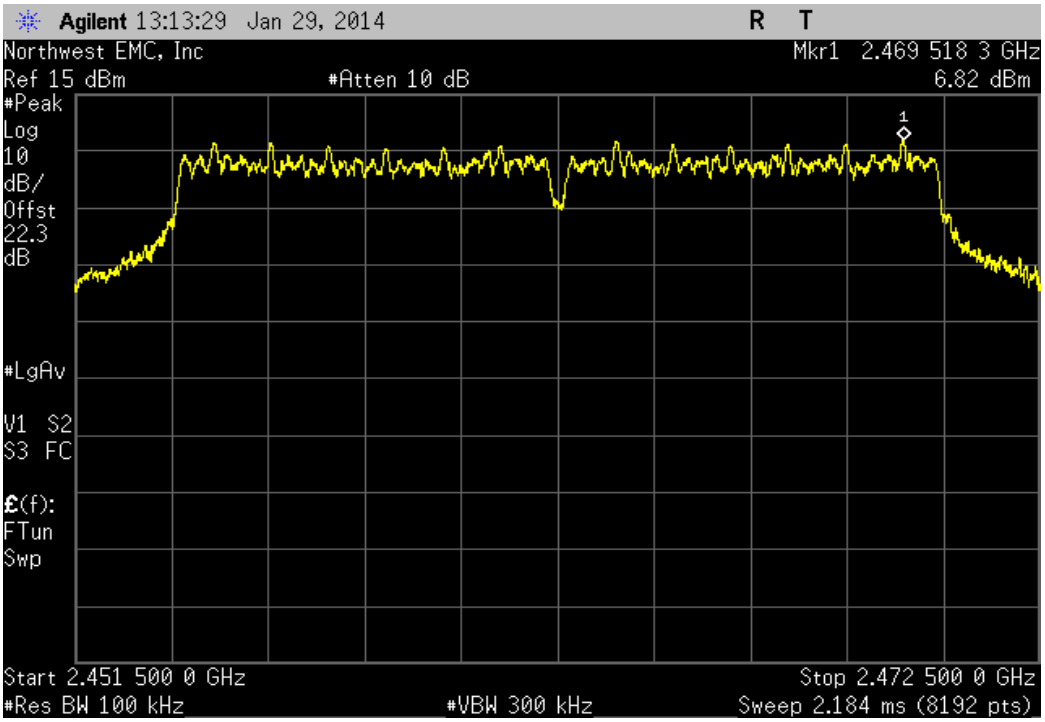
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-58.35 dBc	≤ -20 dBc	Pass



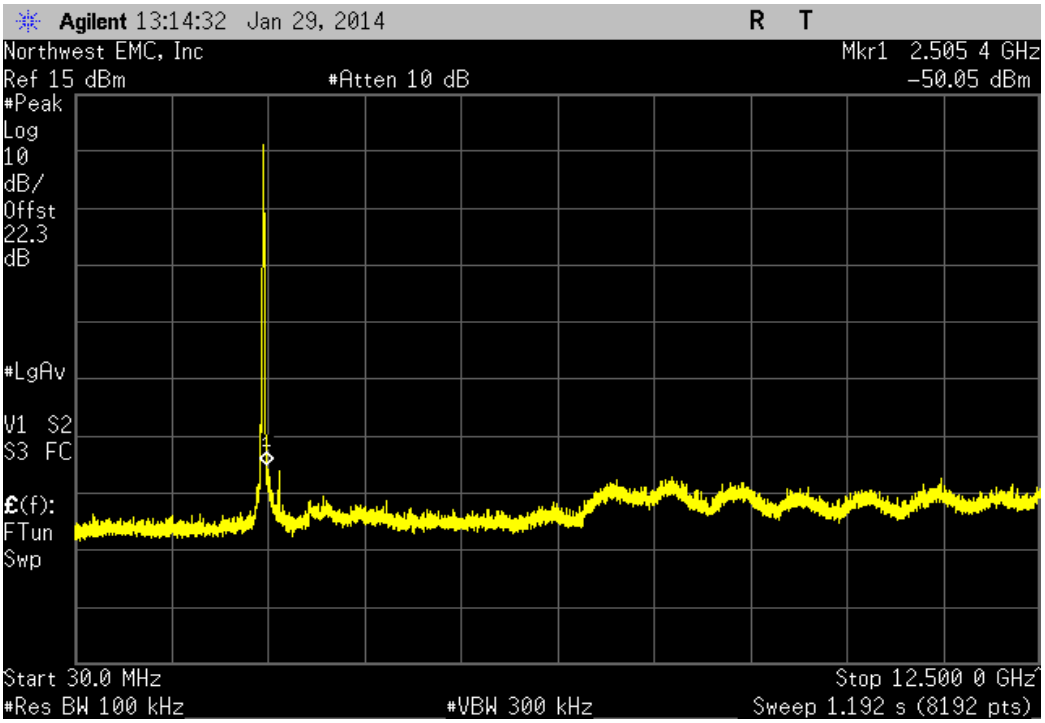
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-53.71 dBc	≤ -20 dBc	Pass



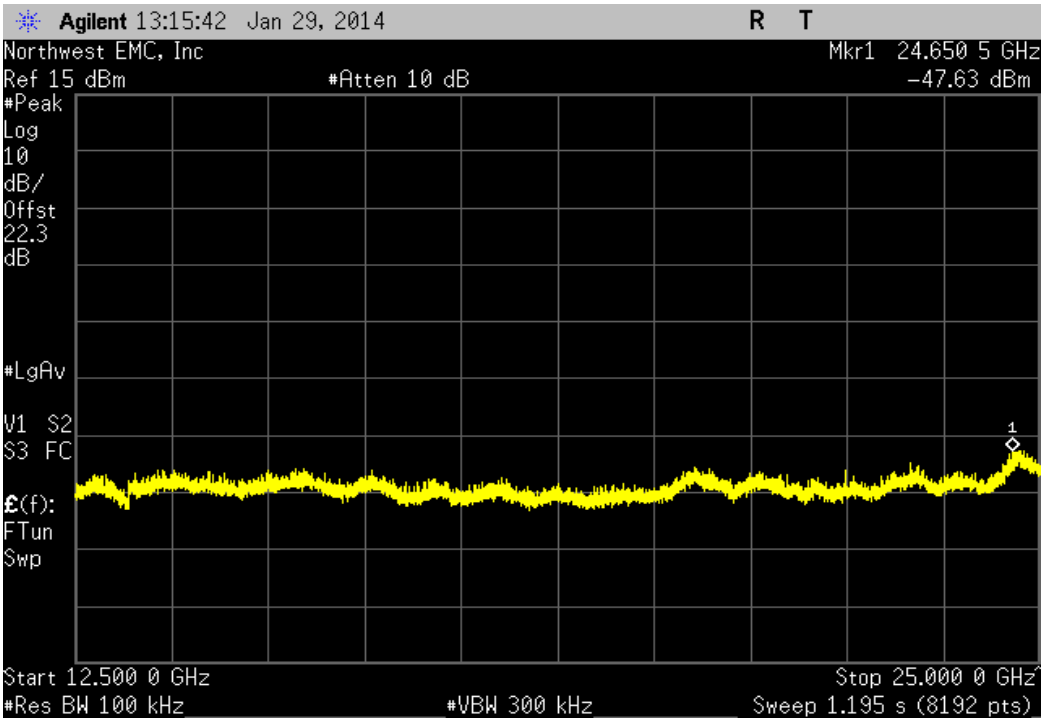
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



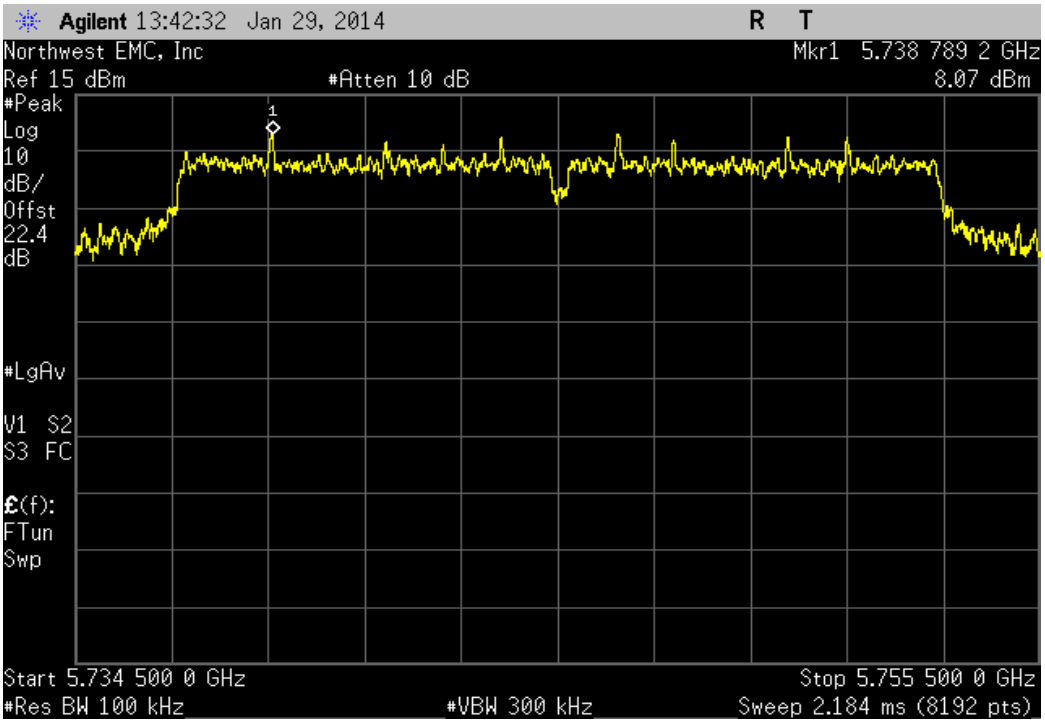
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz					
Frequency Range		Value	Limit	Result
30 MHz - 12.5 GHz		-56.87 dBc	≤ -20 dBc	Pass



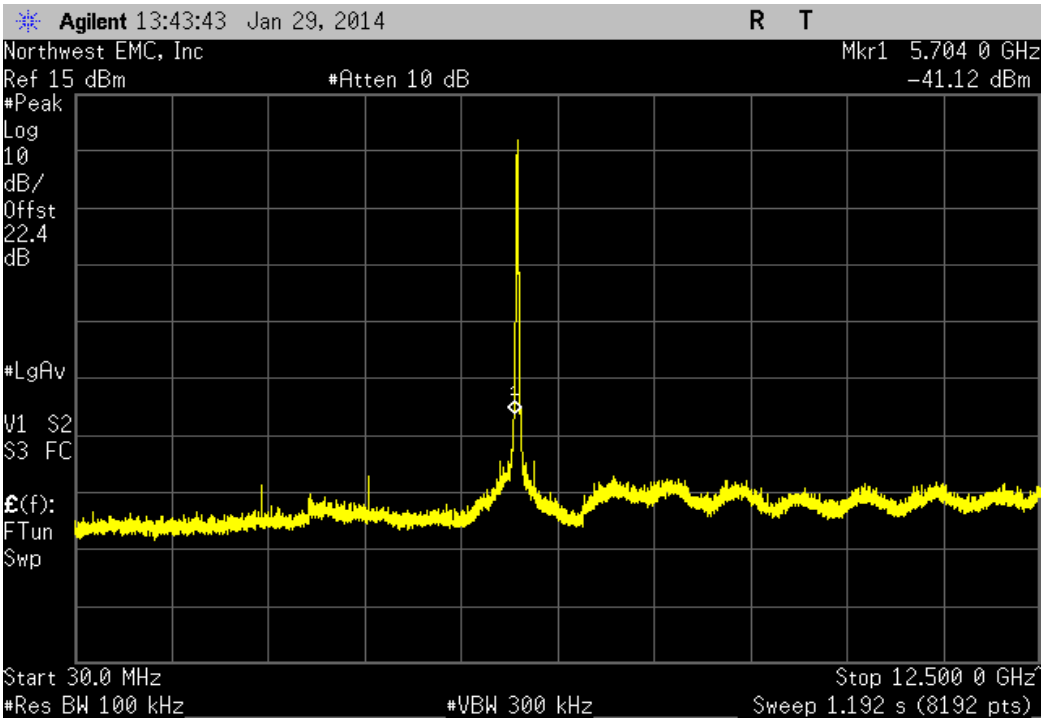
2400 MHz - 483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-54.45 dBc	≤ -20 dBc	Pass



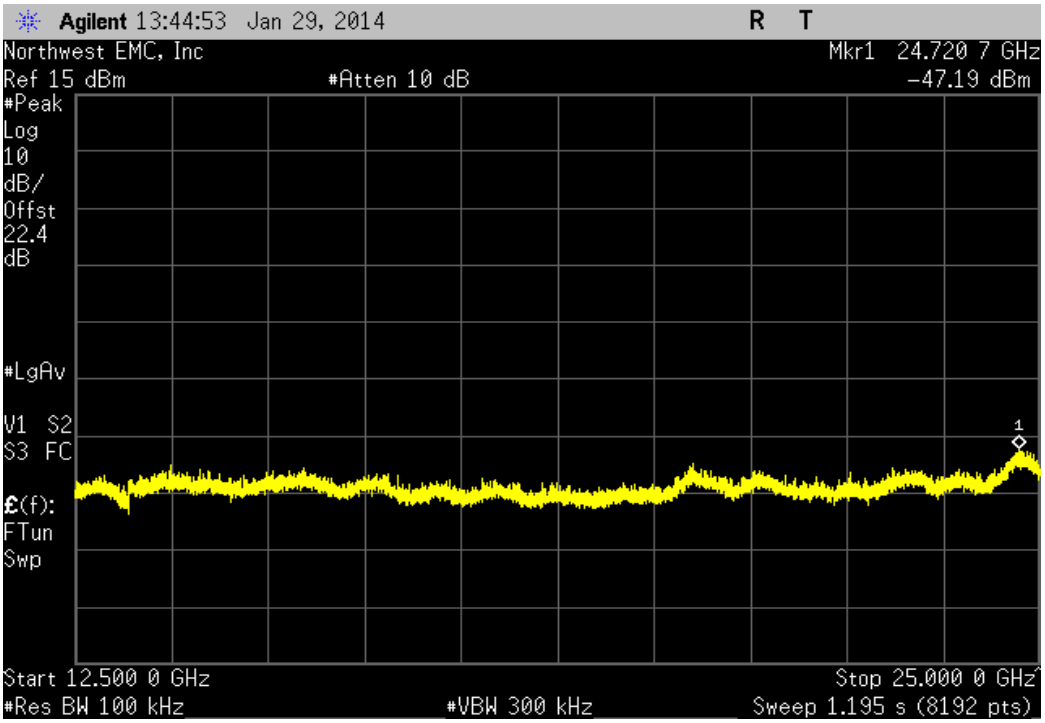
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz						
	Frequency Range			**Value**	**Limit**	**Result**
	Fundamental			N/A	N/A	N/A



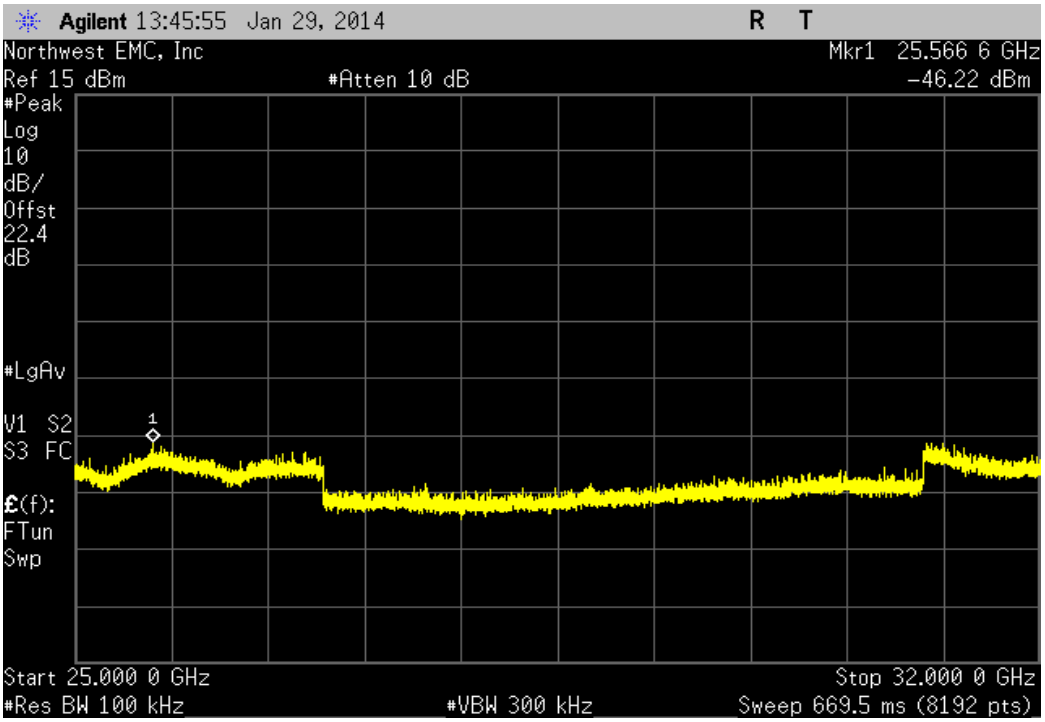
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-49.2 dBc	≤ -20 dBc	Pass



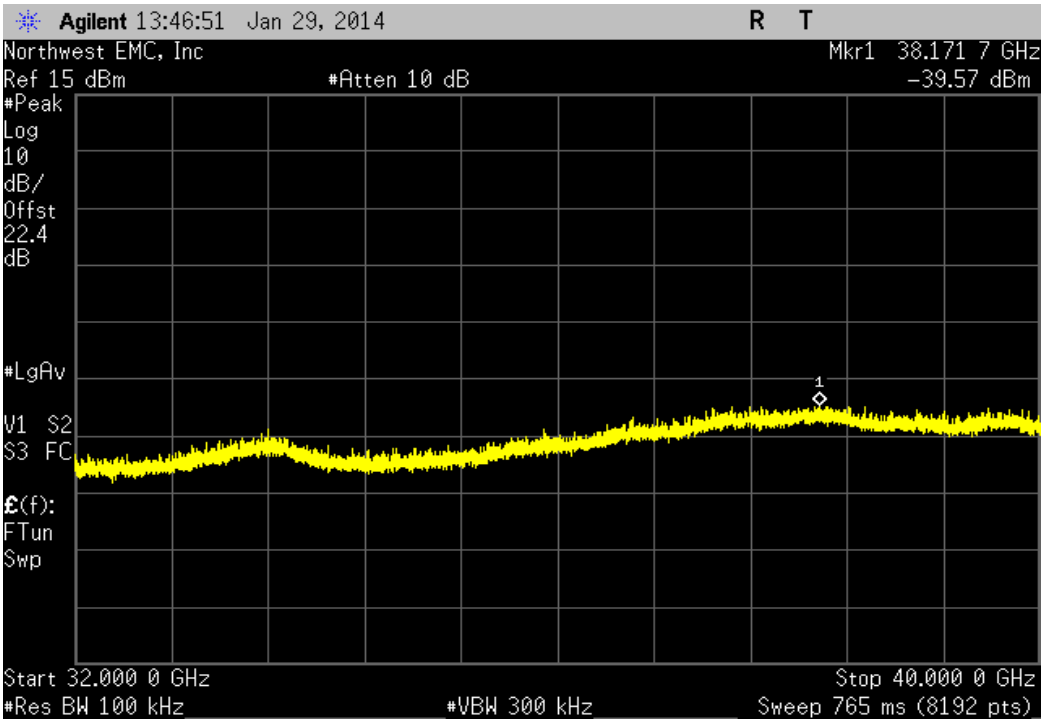
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-55.27 dBc	≤ -20 dBc	Pass



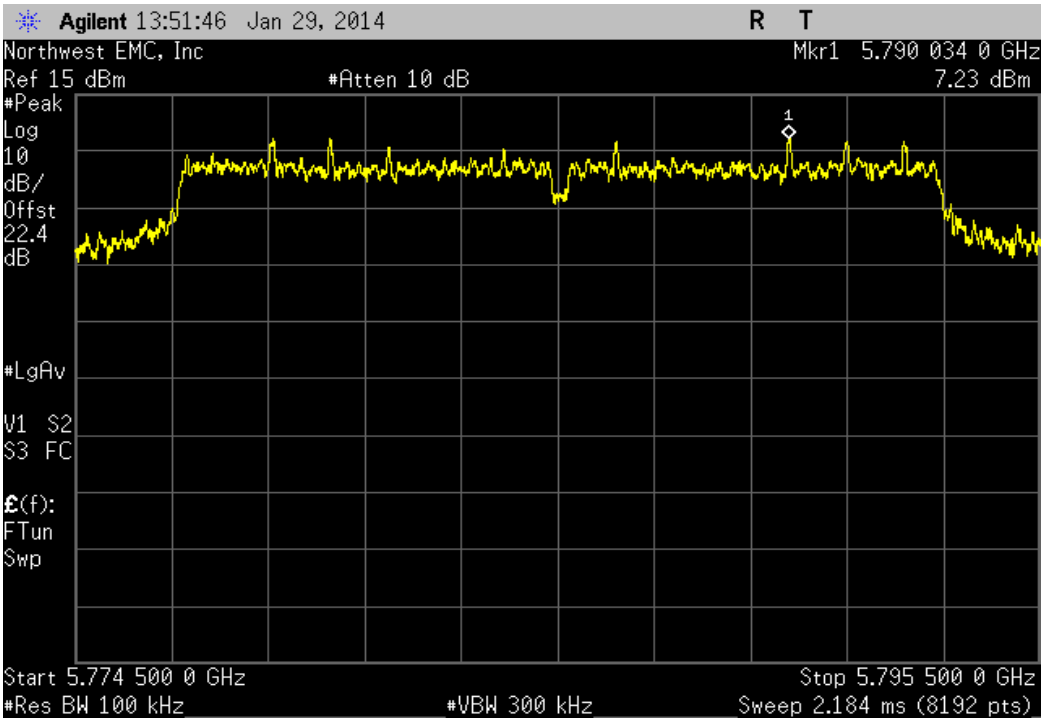
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz					
	Frequency Range		Value	Limit	Result
	25 GHz - 32 GHz		-54.29 dBc	≤ -20 dBc	Pass



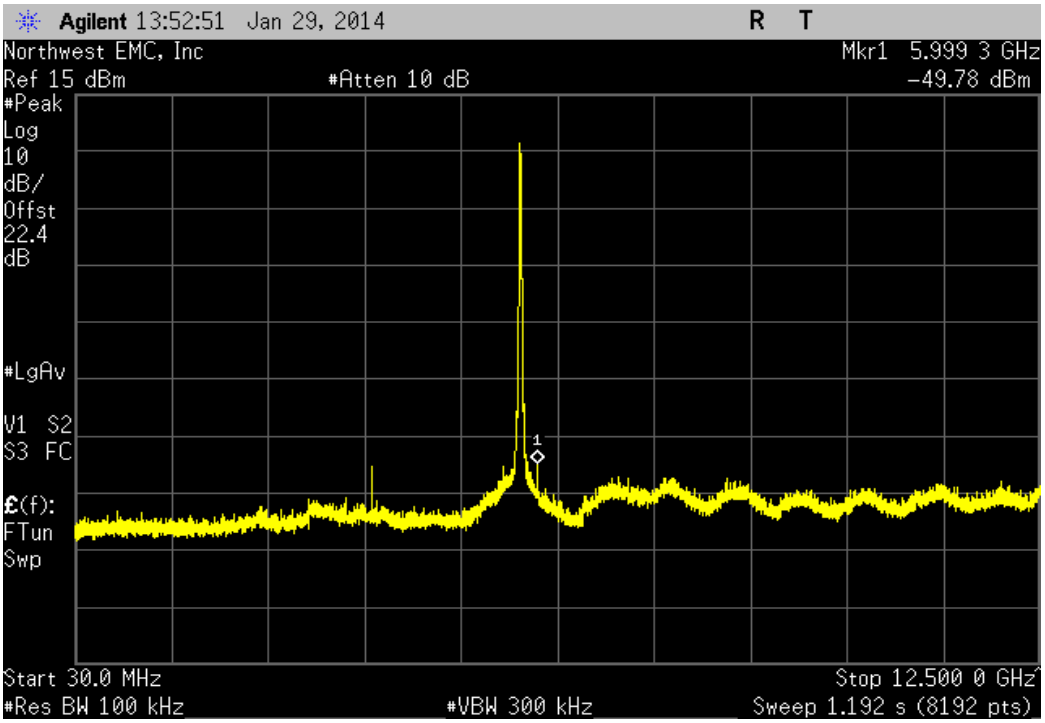
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz					
	Frequency Range		Value	Limit	Result
	32 GHz - 40 GHz		-47.64 dBc	≤ -20 dBc	Pass



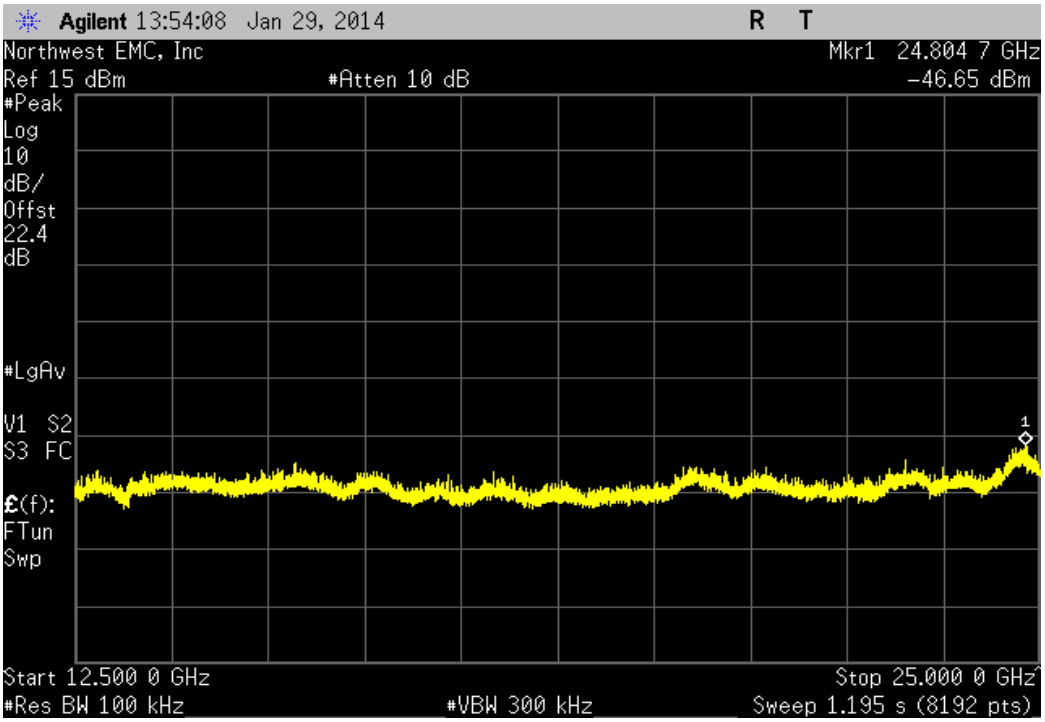
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



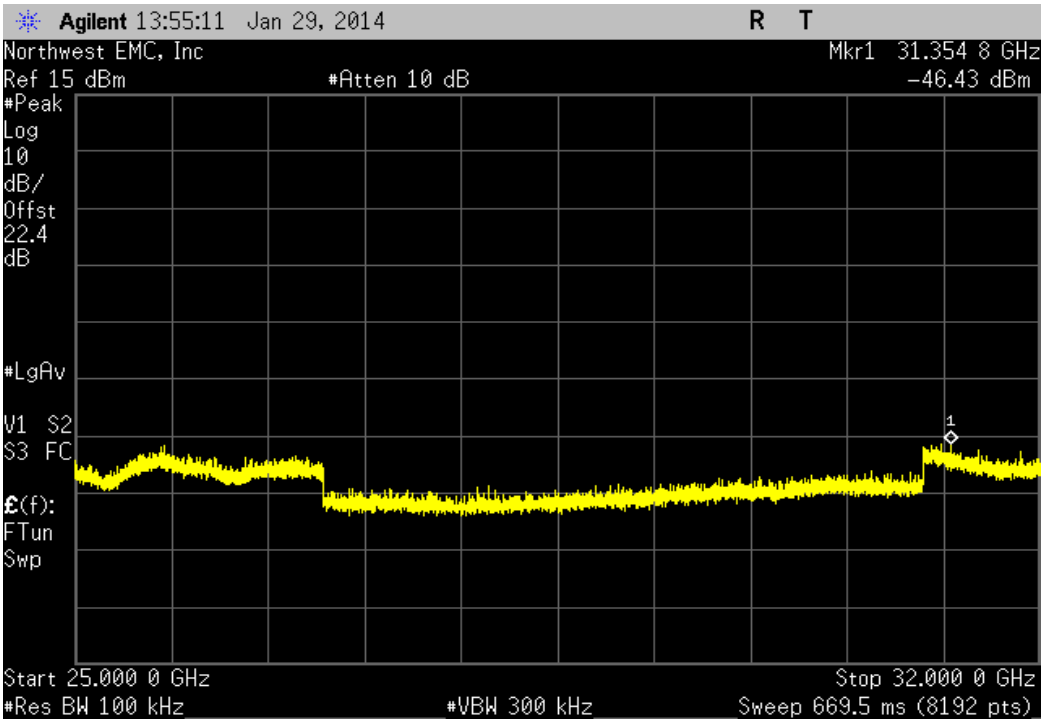
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz					
Frequency Range		Value	Limit	Result
30 MHz - 12.5 GHz		-57.01 dBc	≤ -20 dBc	Pass



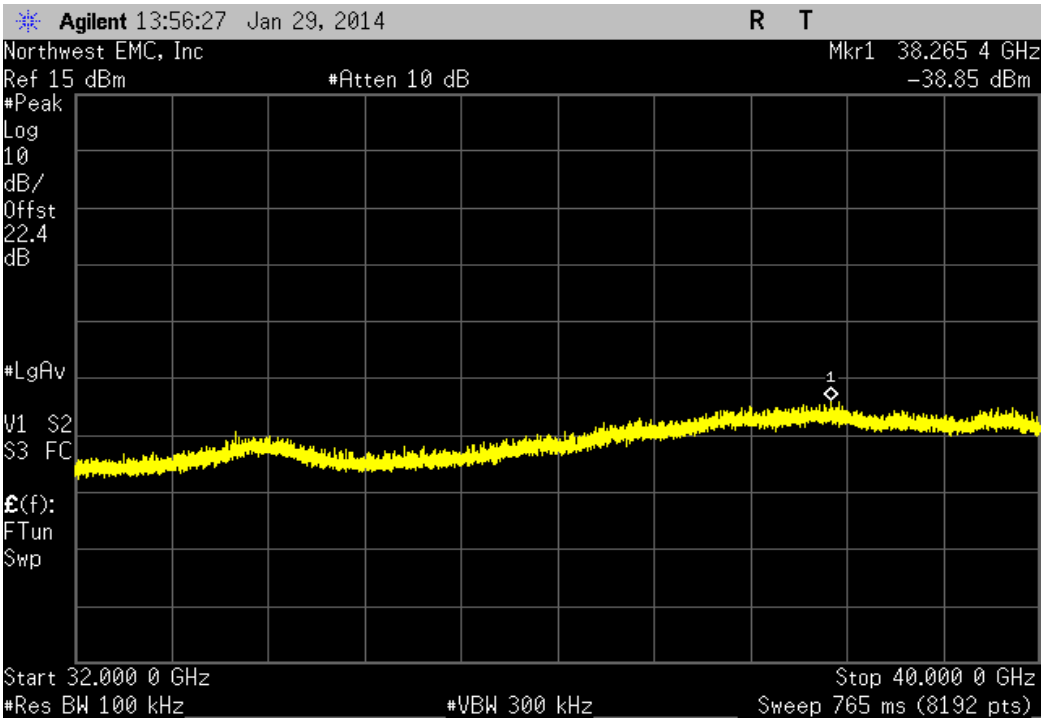
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-53.88 dBc	≤ -20 dBc	Pass



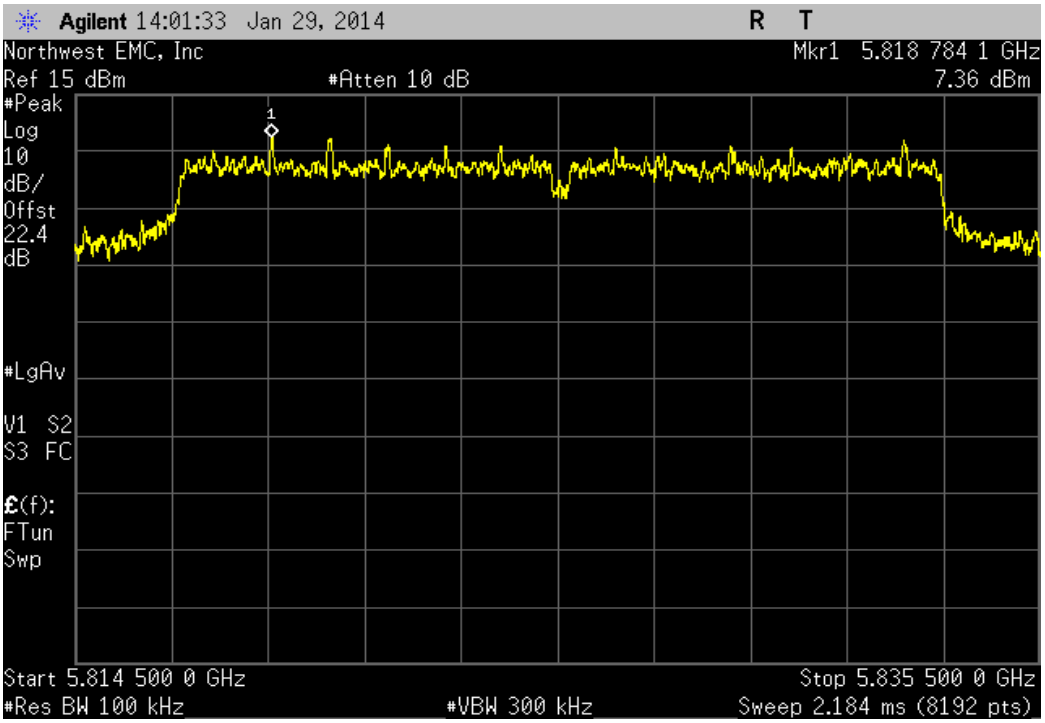
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz				
Frequency Range		**Value**	**Limit**	**Result**
25 GHz - 32 GHz		-53.66 dBc	≤ -20 dBc	Pass



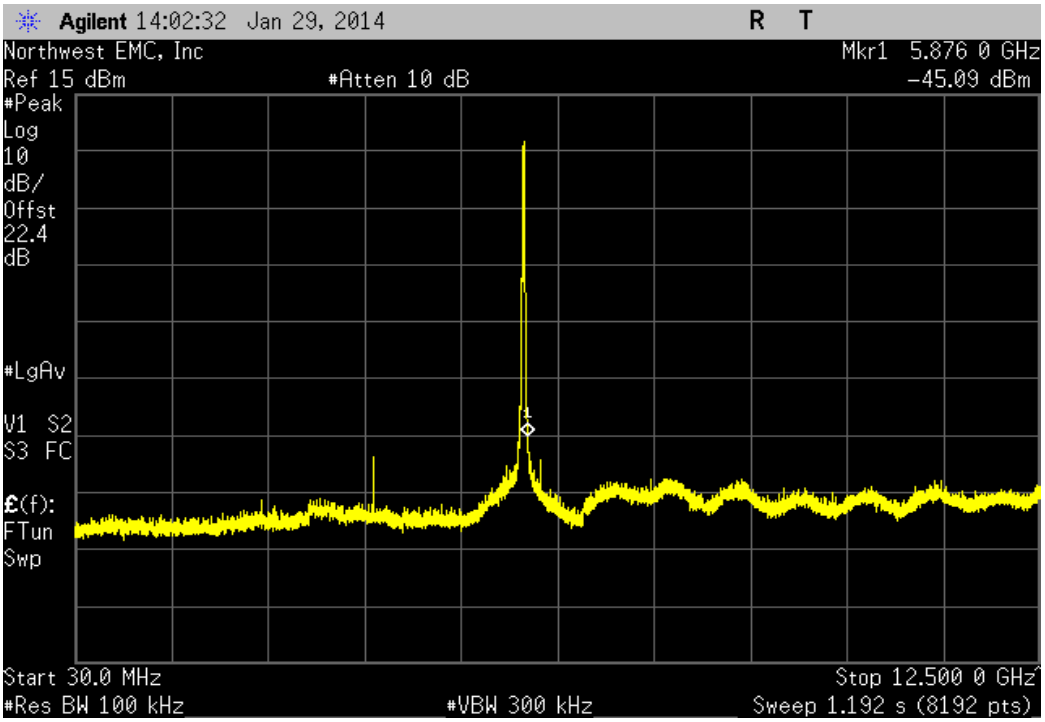
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz					
	Frequency Range		Value	Limit	Result
	32 GHz - 40 GHz		-46.08 dBc	≤ -20 dBc	Pass



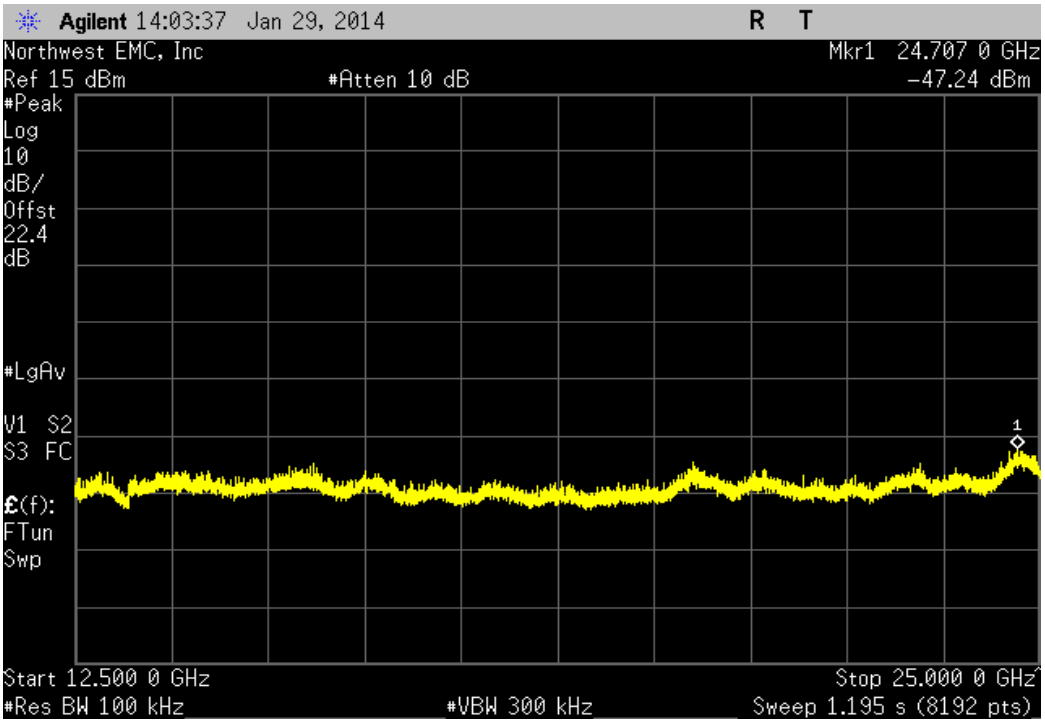
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz					
	Frequency Range		Value	Limit	Result
	Fundamental		N/A	N/A	N/A



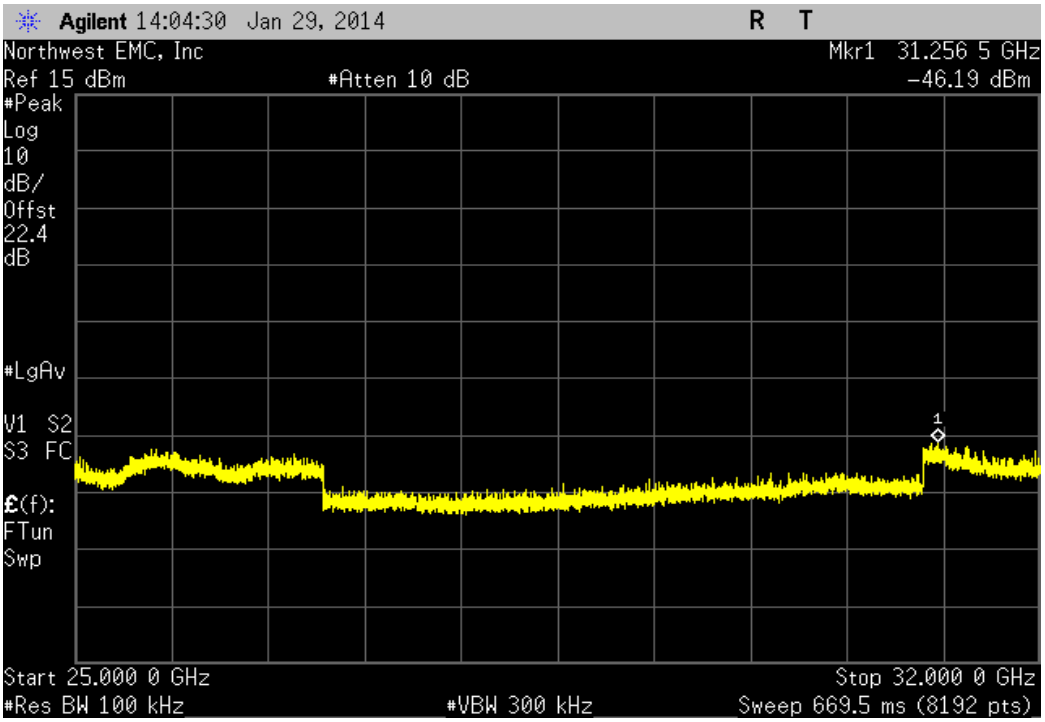
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-52.45 dBc	≤ -20 dBc	Pass



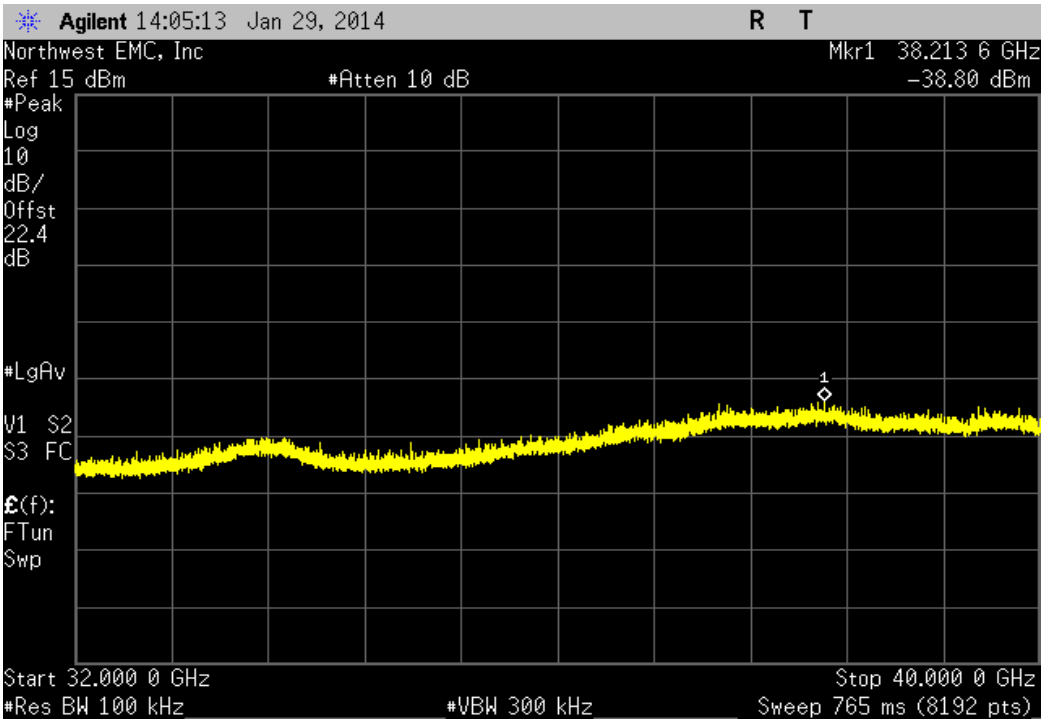
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-54.6 dBc	≤ -20 dBc	Pass



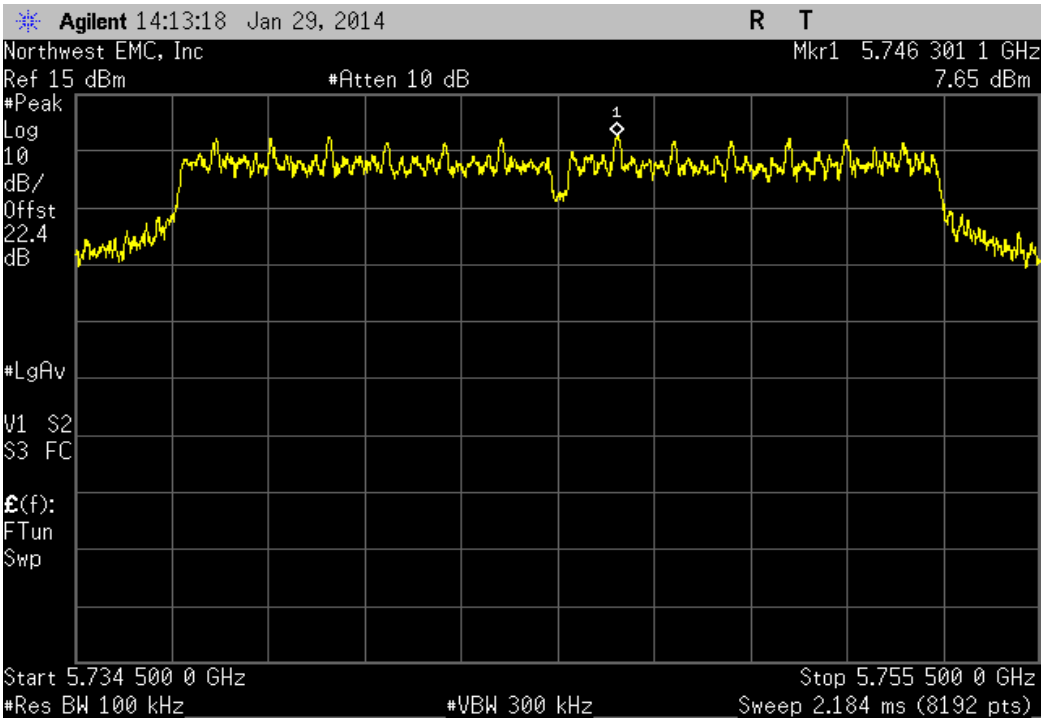
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz					
	Frequency Range		Value	Limit	Result
	25 GHz - 32 GHz		-53.55 dBc	≤ -20 dBc	Pass



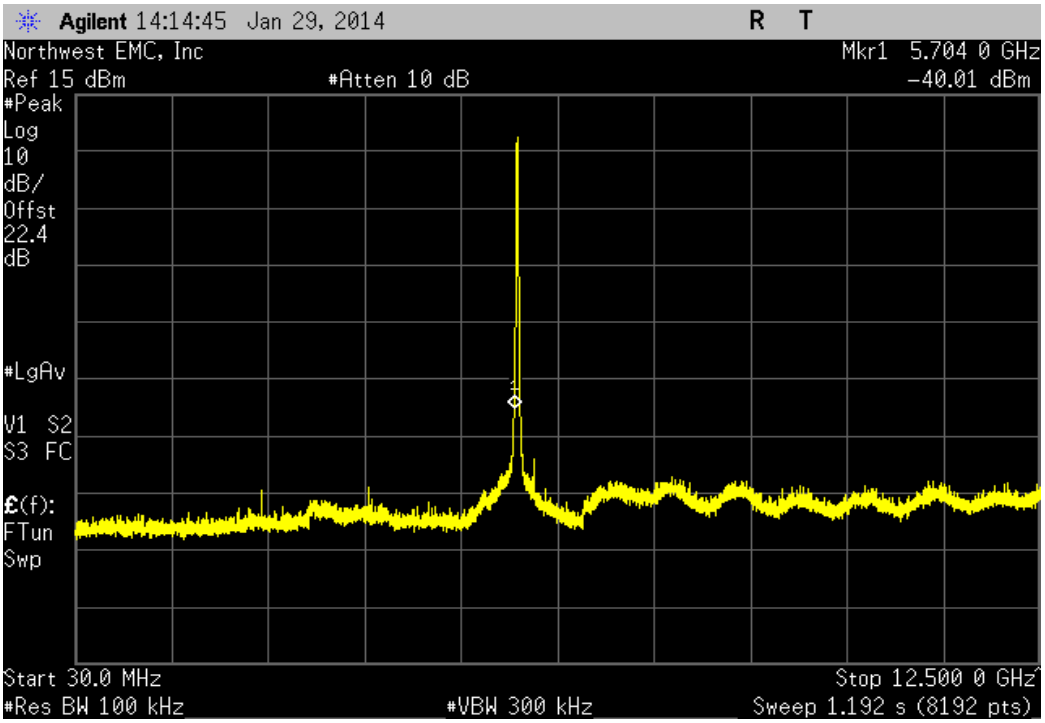
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz					
	Frequency Range		Value	Limit	Result
	32 GHz - 40 GHz		-46.16 dBc	≤ -20 dBc	Pass



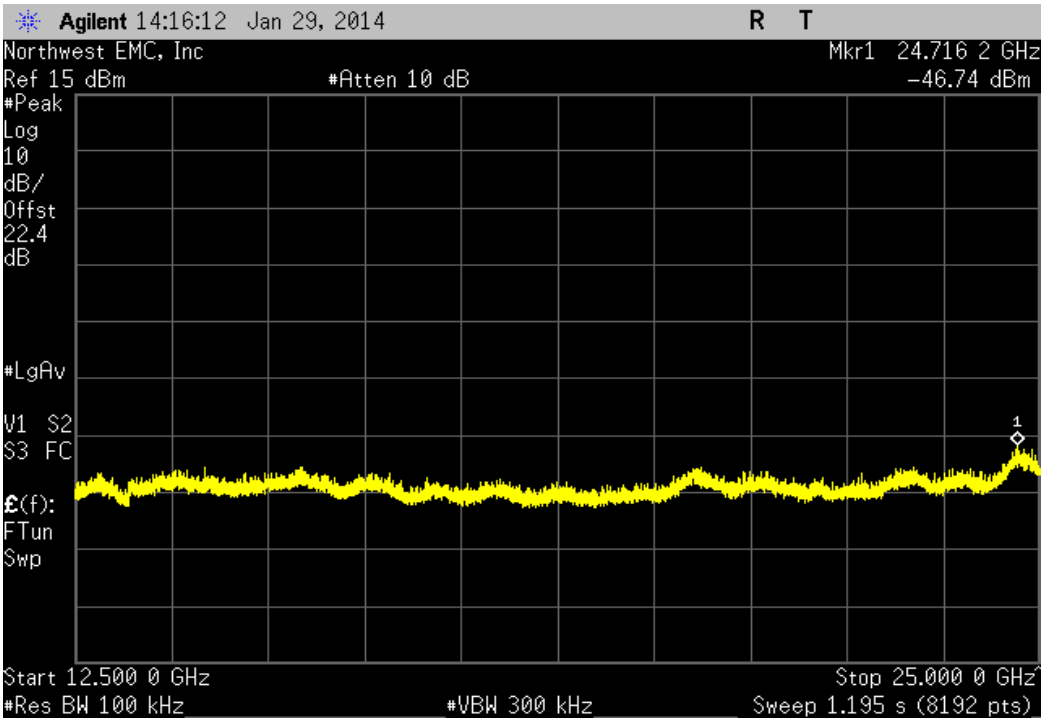
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



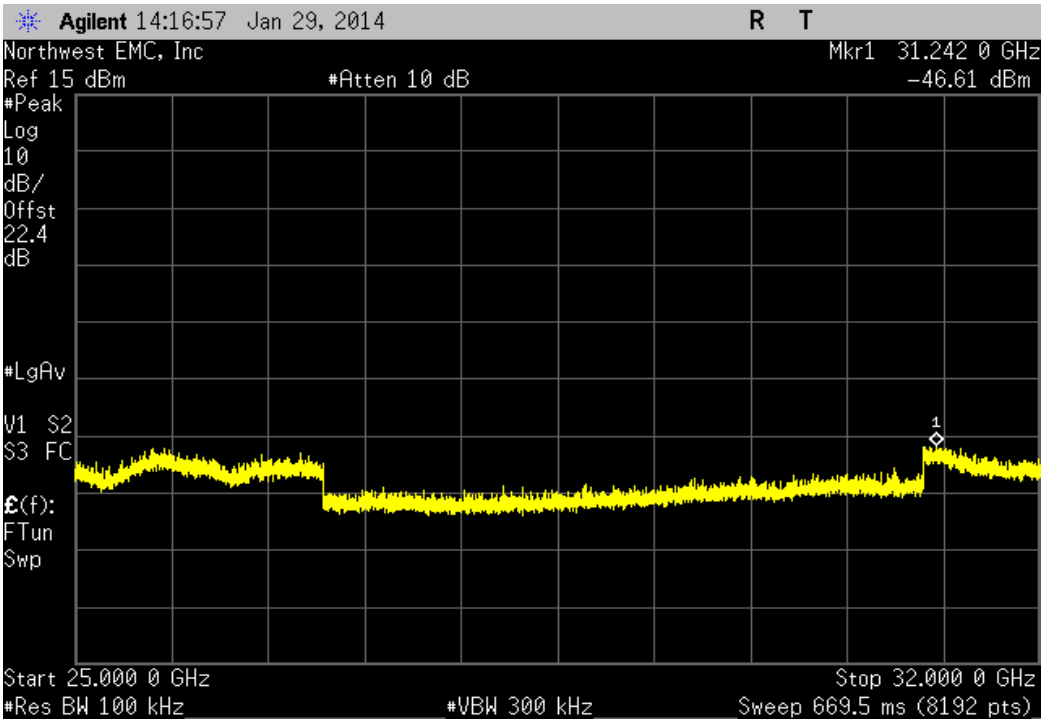
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz					
Frequency Range		Value	Limit	Result
30 MHz - 12.5 GHz		-47.66 dBc	≤ -20 dBc	Pass



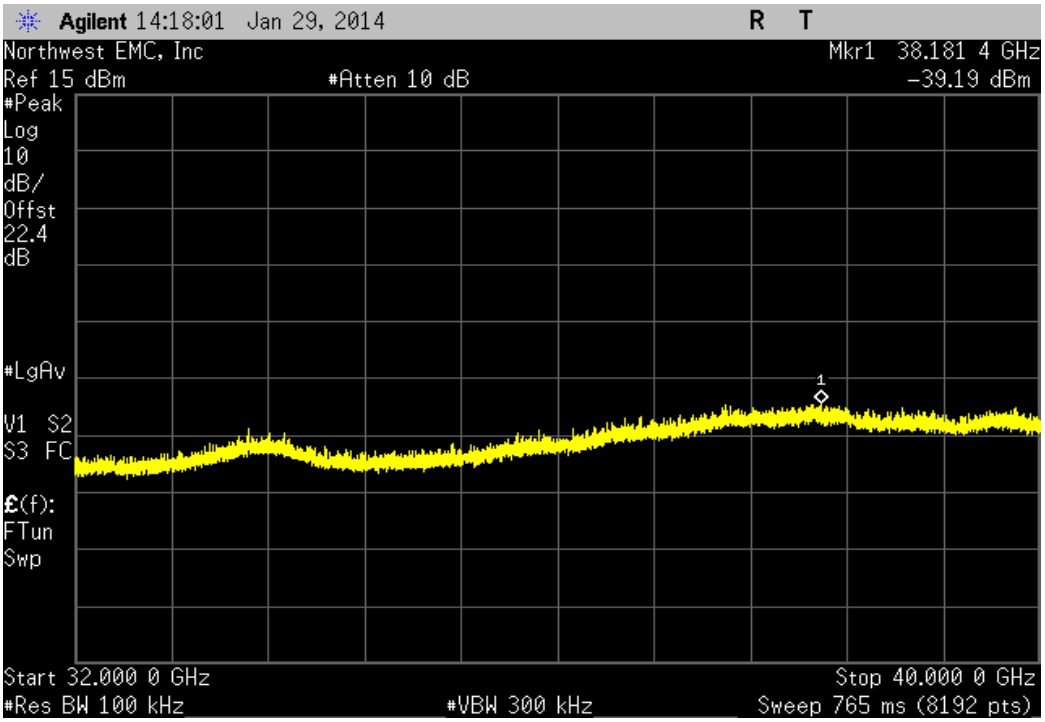
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-54.39 dBc	≤ -20 dBc	Pass



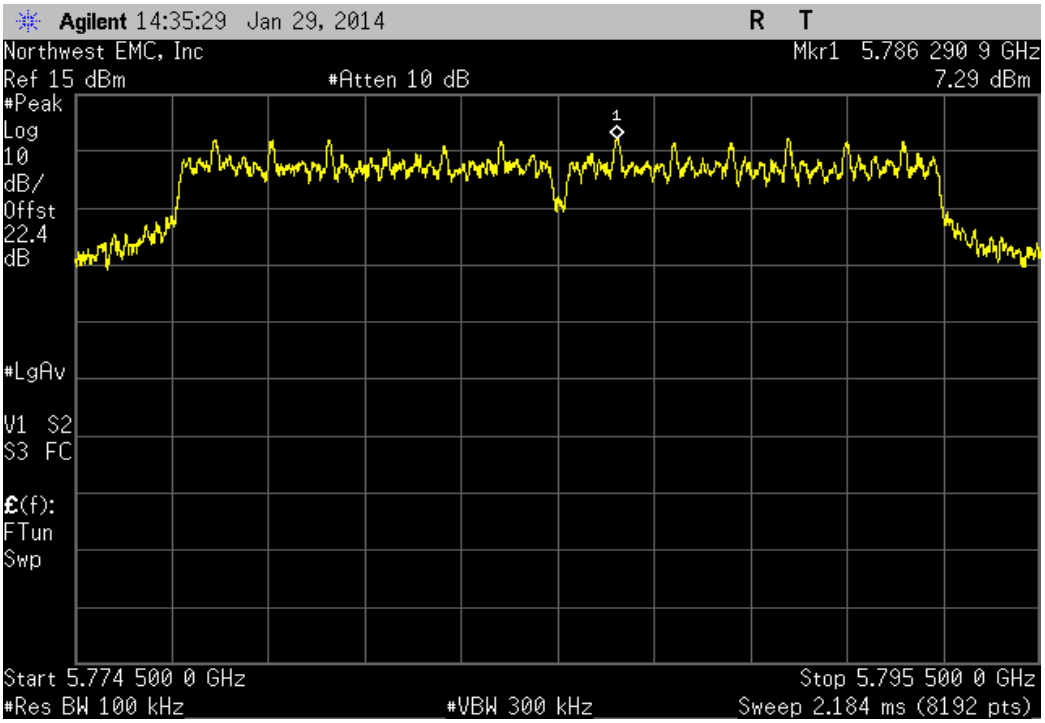
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz				
Frequency Range		**Value**	**Limit**	**Result**
25 GHz - 32 GHz		-54.26 dBc	≤ -20 dBc	Pass



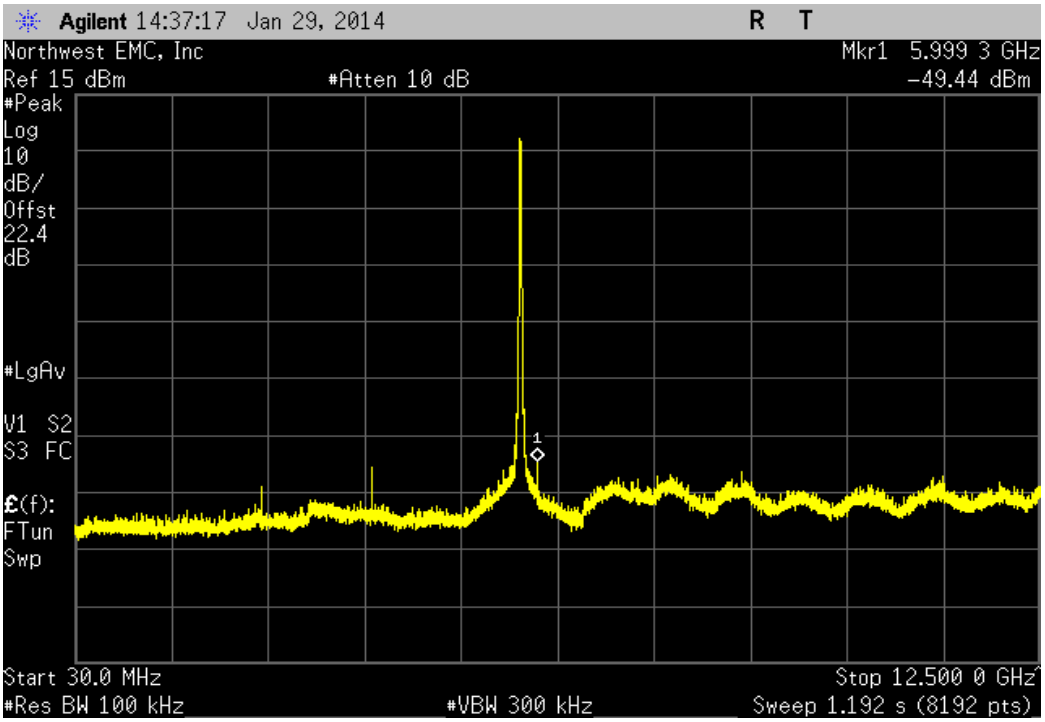
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz					
Frequency Range			Value	Limit	Result
32 GHz - 40 GHz			-46.84 dBc	≤ -20 dBc	Pass



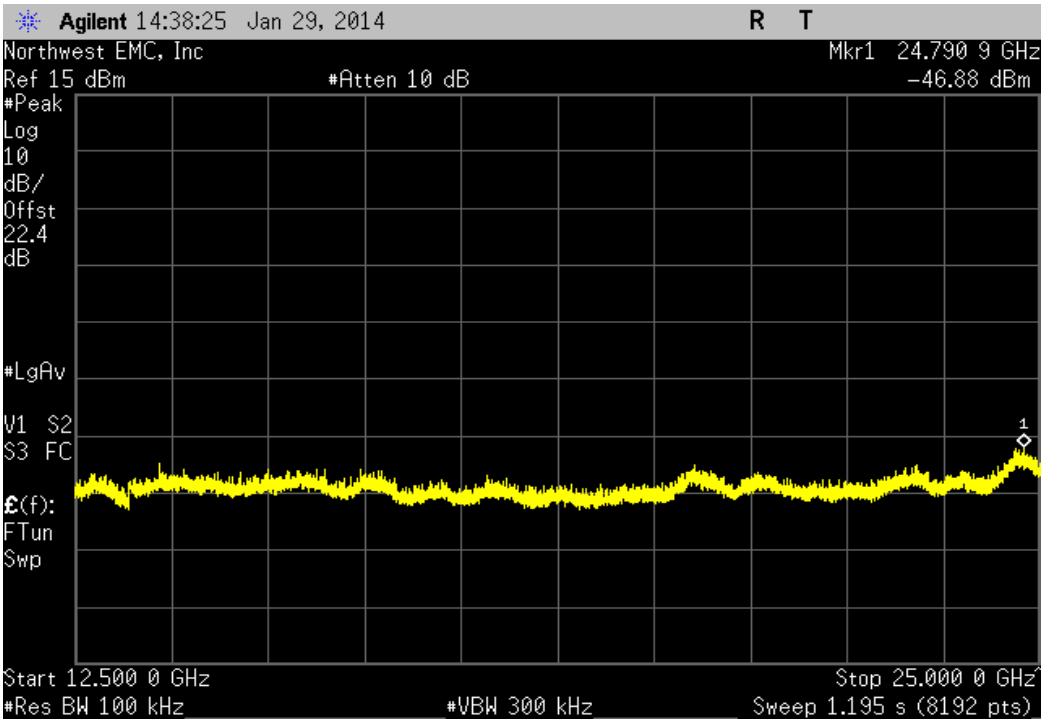
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz					
Frequency Range			Value	Limit	Result
Fundamental			N/A	N/A	N/A



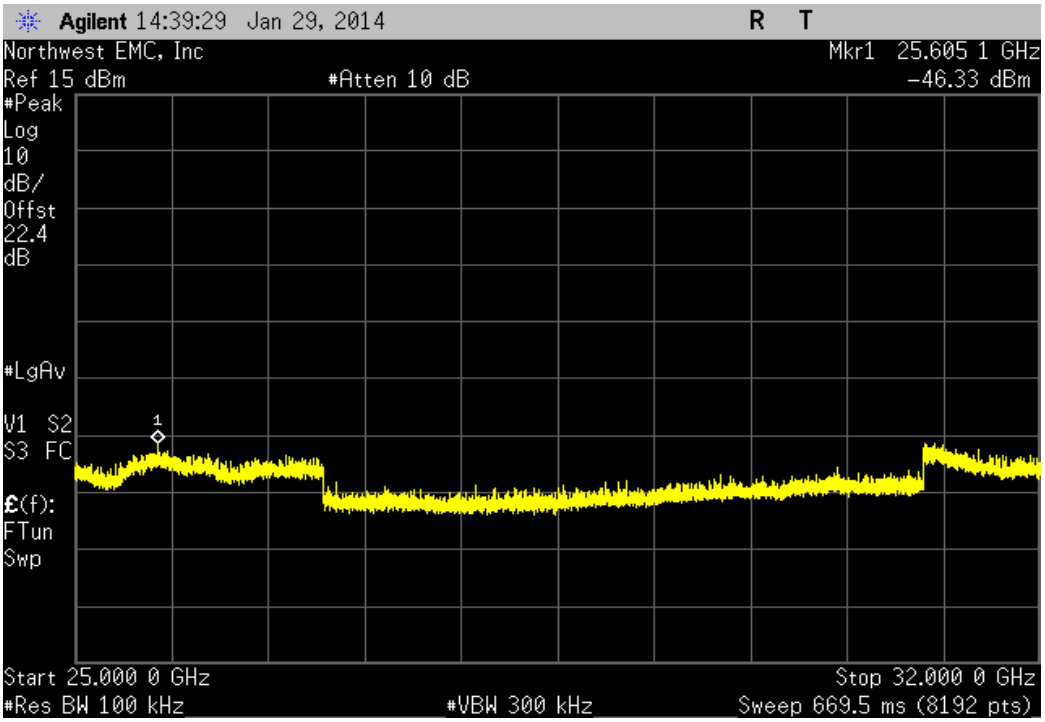
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-56.73 dBc	≤ -20 dBc	Pass



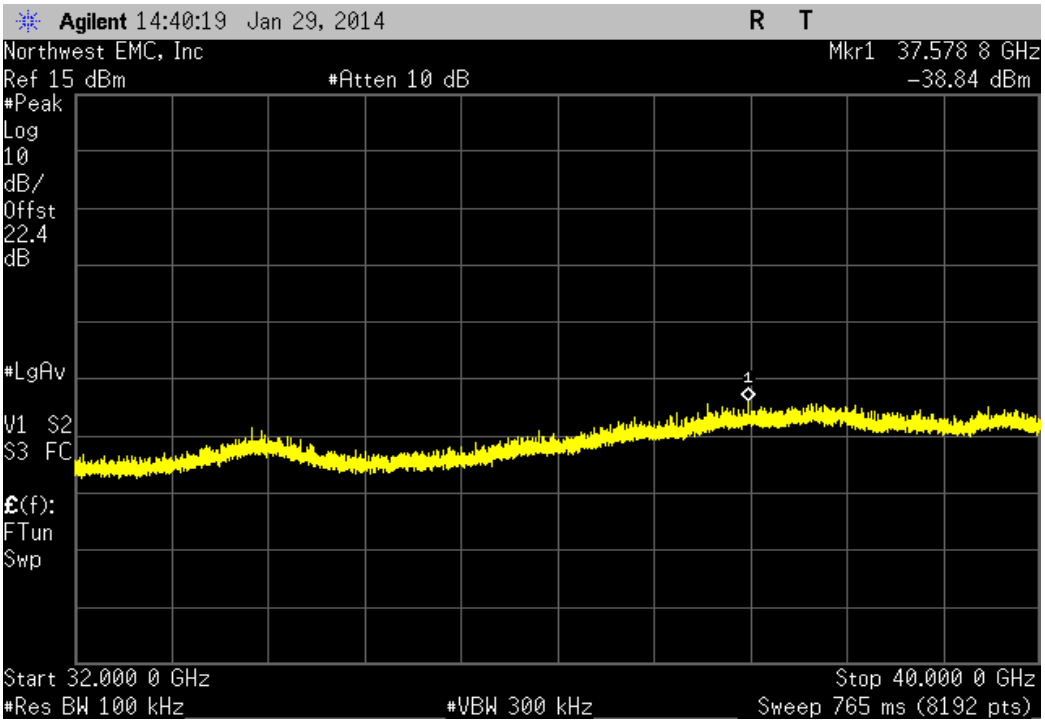
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-54.17 dBc	≤ -20 dBc	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz				
Frequency Range		Value	Limit	Result
25 GHz - 32 GHz		-53.62 dBc	≤ -20 dBc	Pass

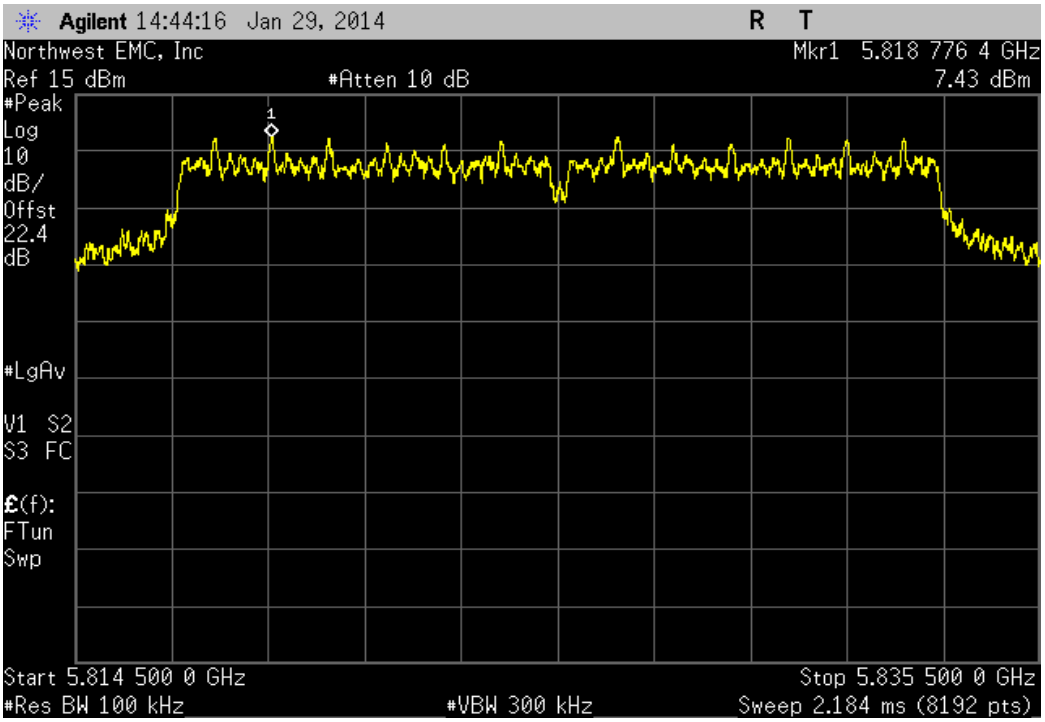


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz				
Frequency Range		Value	Limit	Result
32 GHz - 40 GHz		-46.13 dBc	≤ -20 dBc	Pass

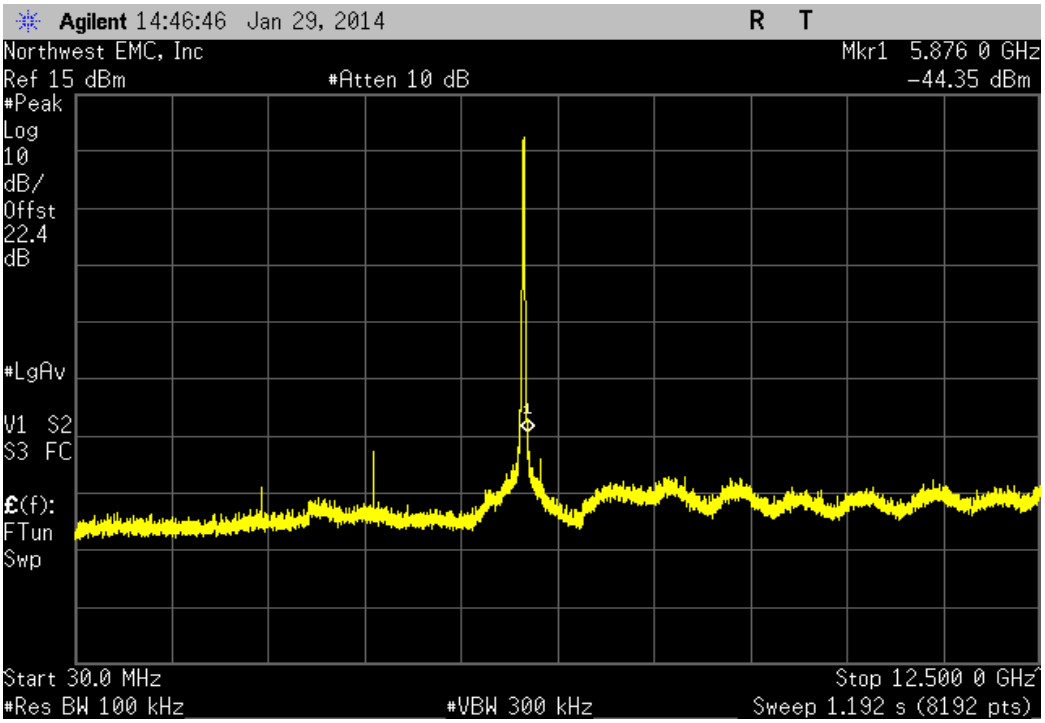


SPURIOUS CONDUCTED EMISSIONS

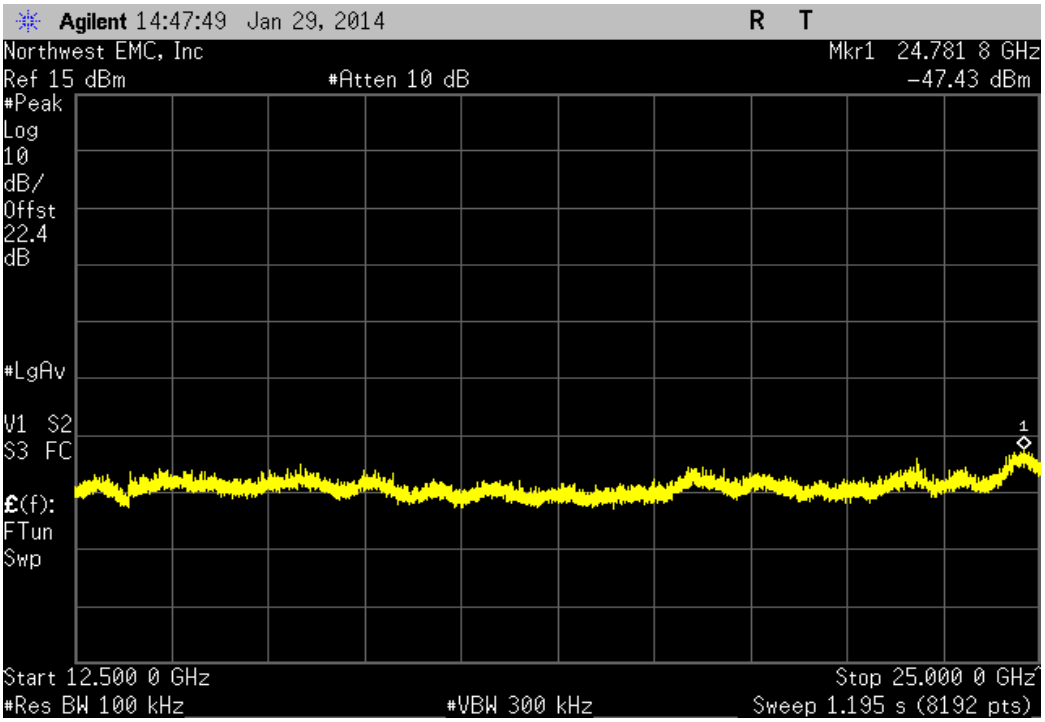
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



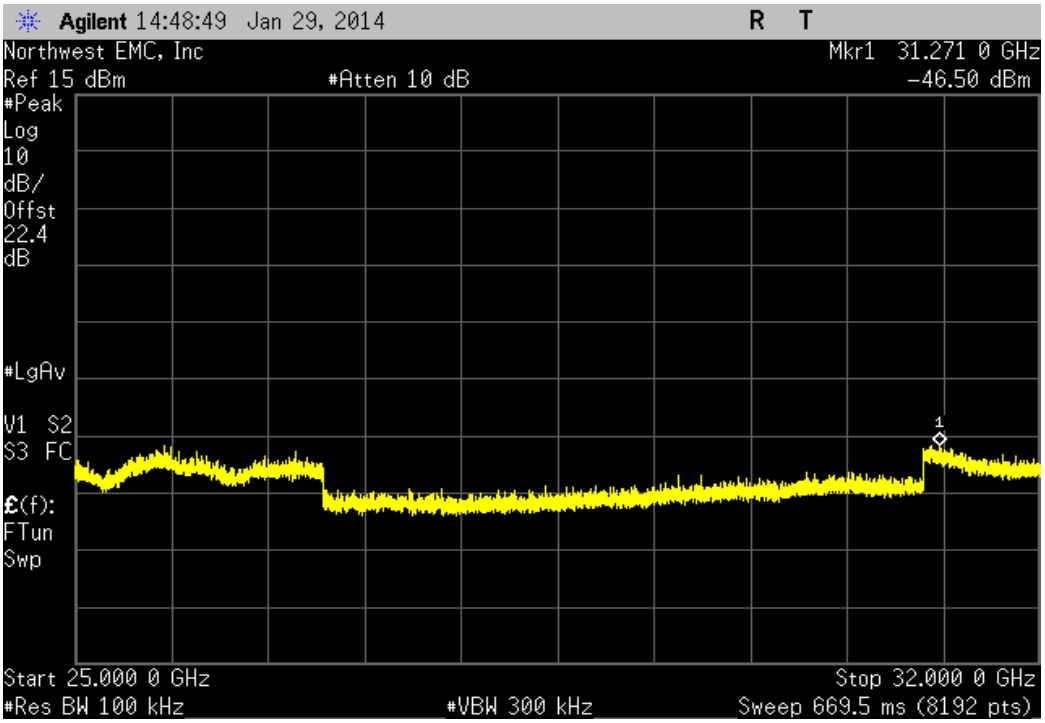
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz					
Frequency Range			Value	Limit	Result
30 MHz - 12.5 GHz			-51.78 dBc	≤ -20 dBc	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-54.86 dBc	≤ -20 dBc	Pass

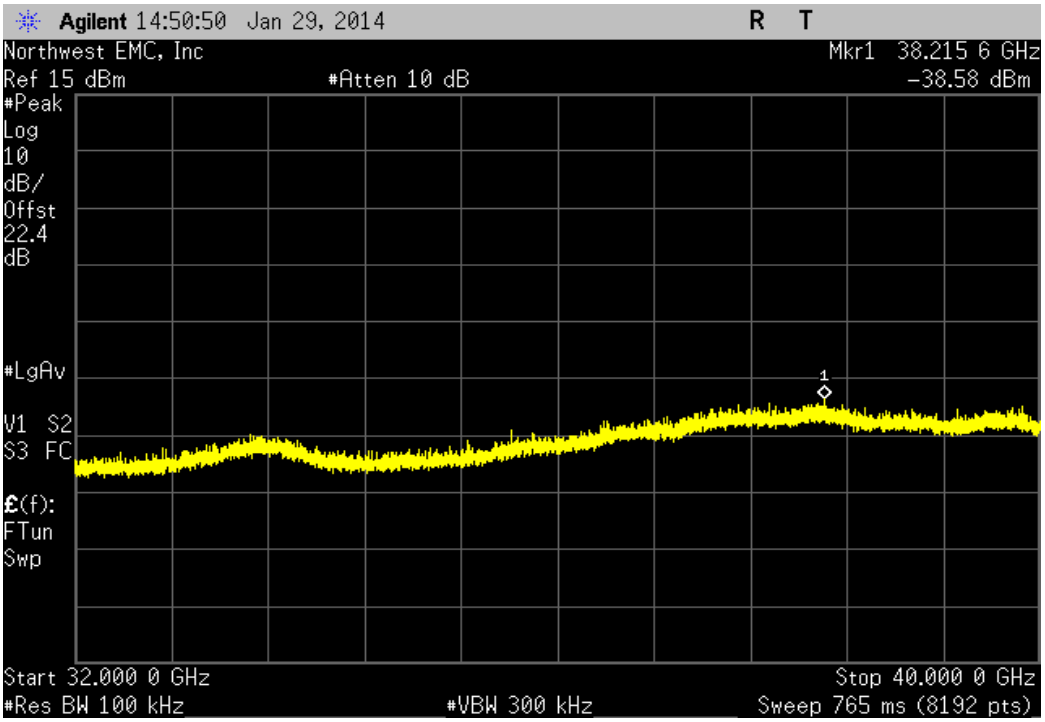


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz				
Frequency Range		**Value**	**Limit**	**Result**
25 GHz - 32 GHz		-53.93 dBc	≤ -20 dBc	Pass

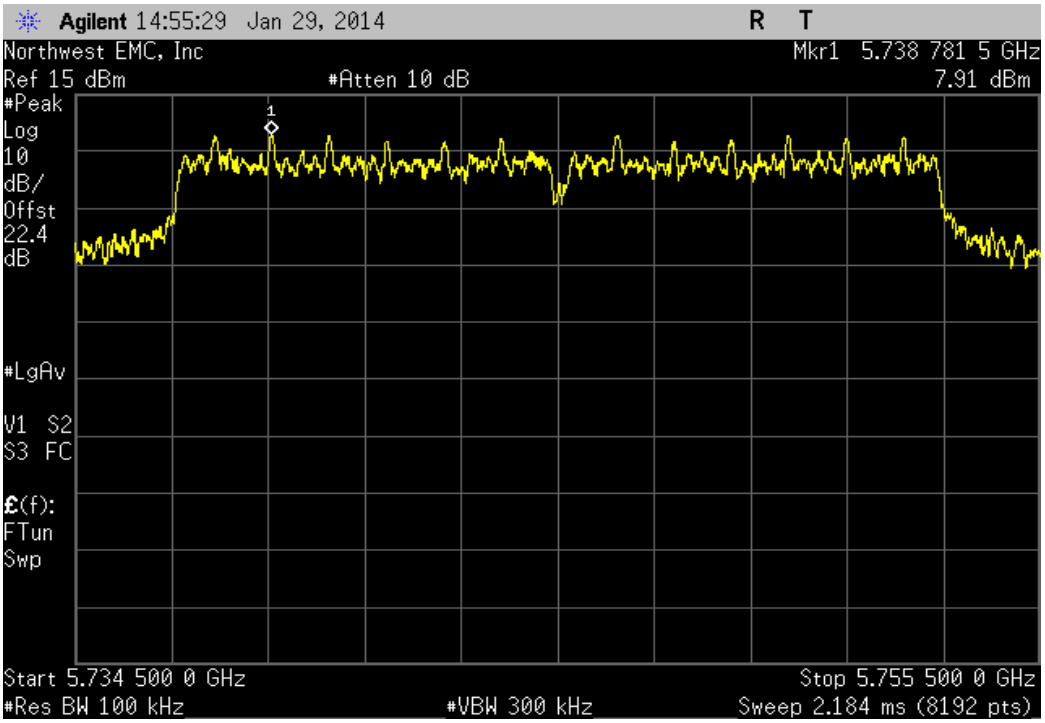


SPURIOUS CONDUCTED EMISSIONS

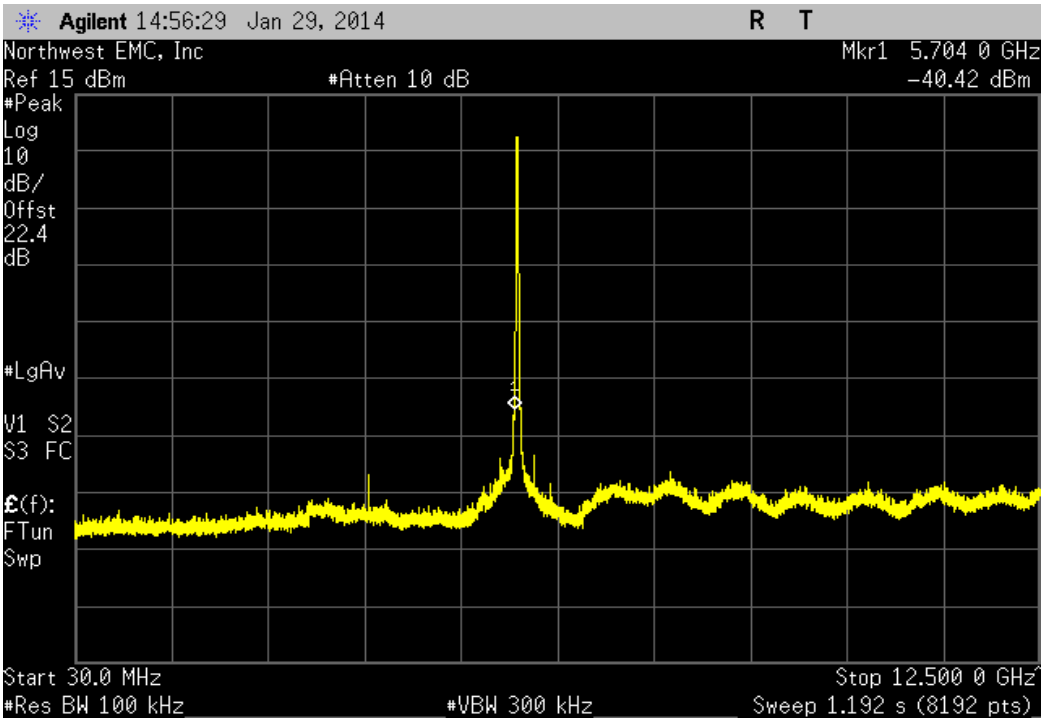
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz					
Frequency Range			Value	Limit	Result
32 GHz - 40 GHz			-46.01 dBc	≤ -20 dBc	Pass



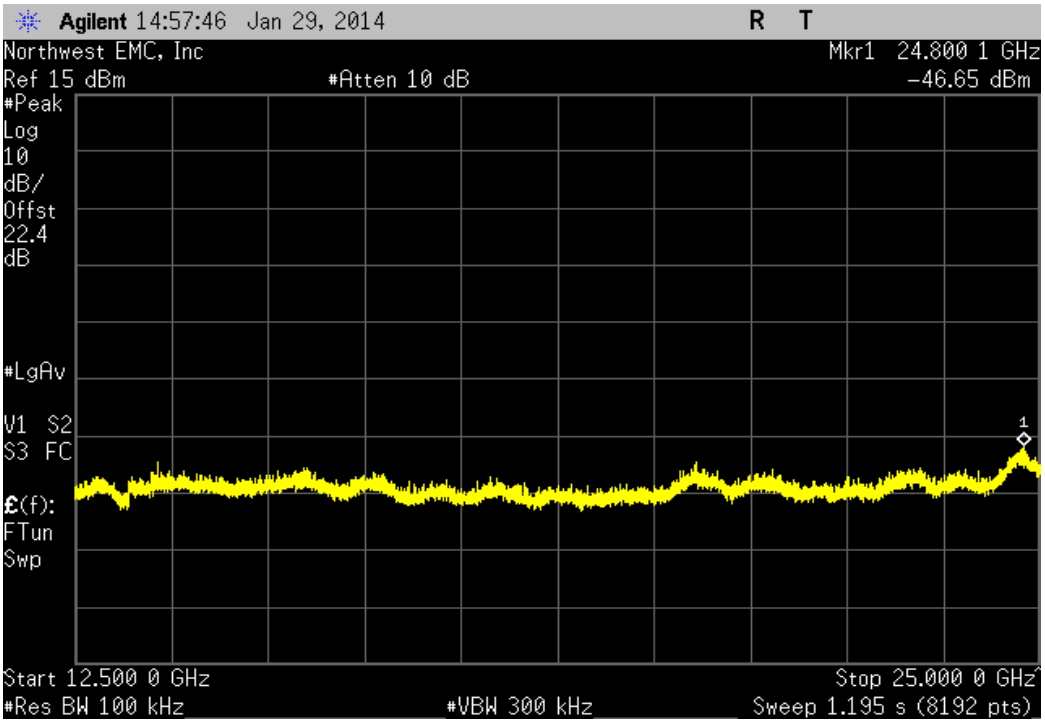
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz					
Frequency Range			Value	Limit	Result
Fundamental			N/A	N/A	N/A



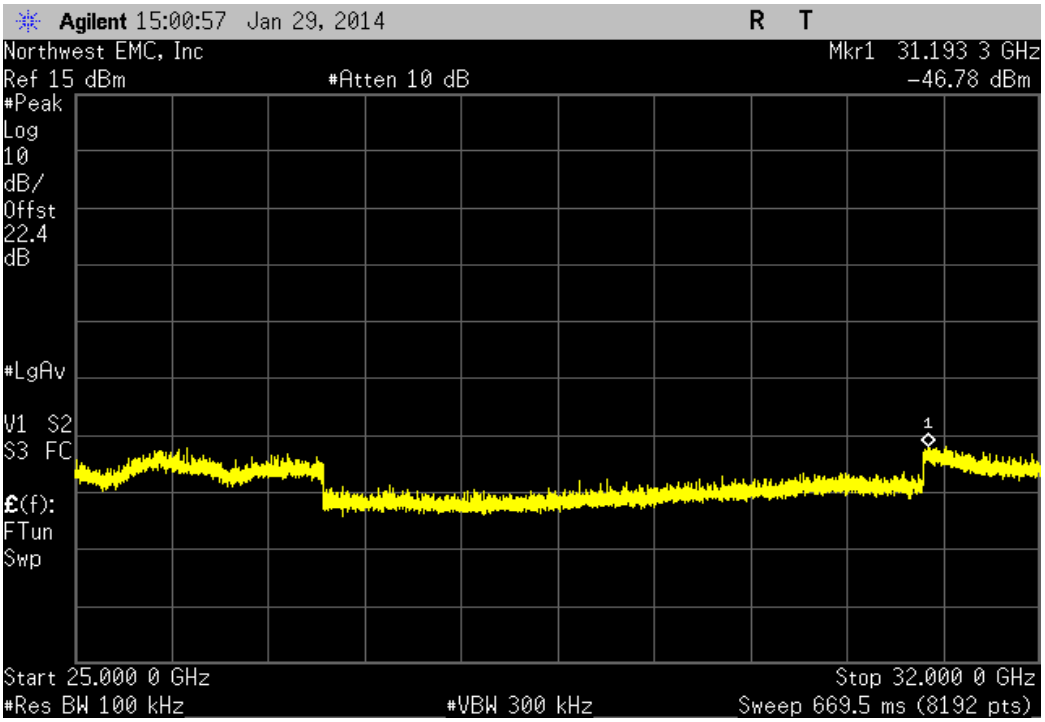
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-48.33 dBc	≤ -20 dBc	Pass



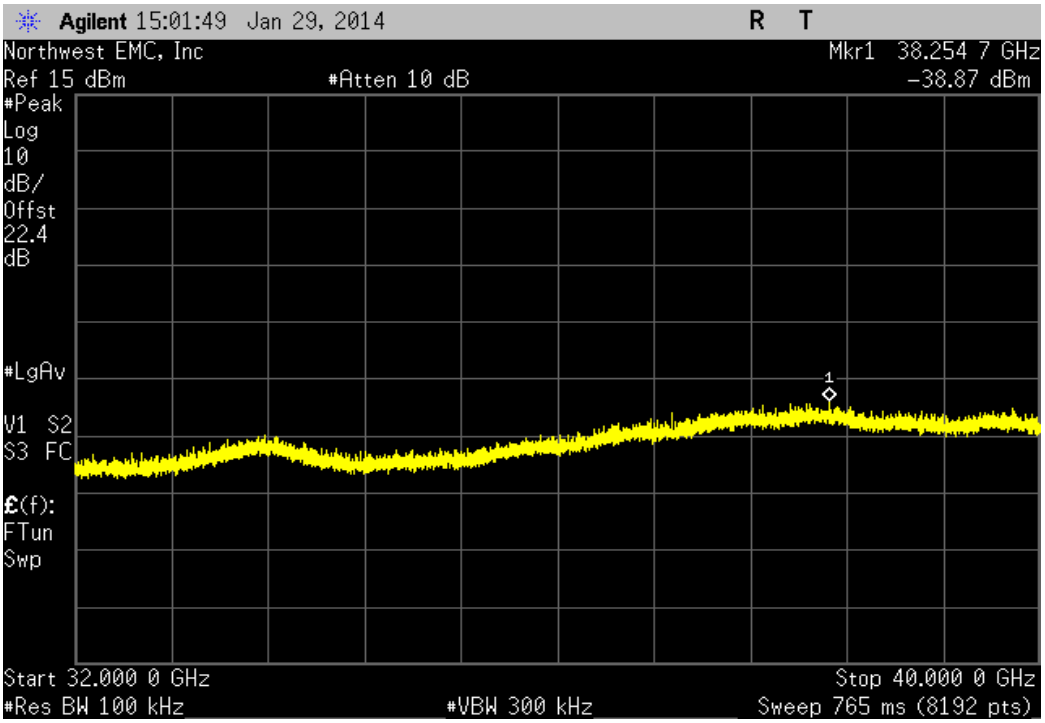
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-54.56 dBc	≤ -20 dBc	Pass



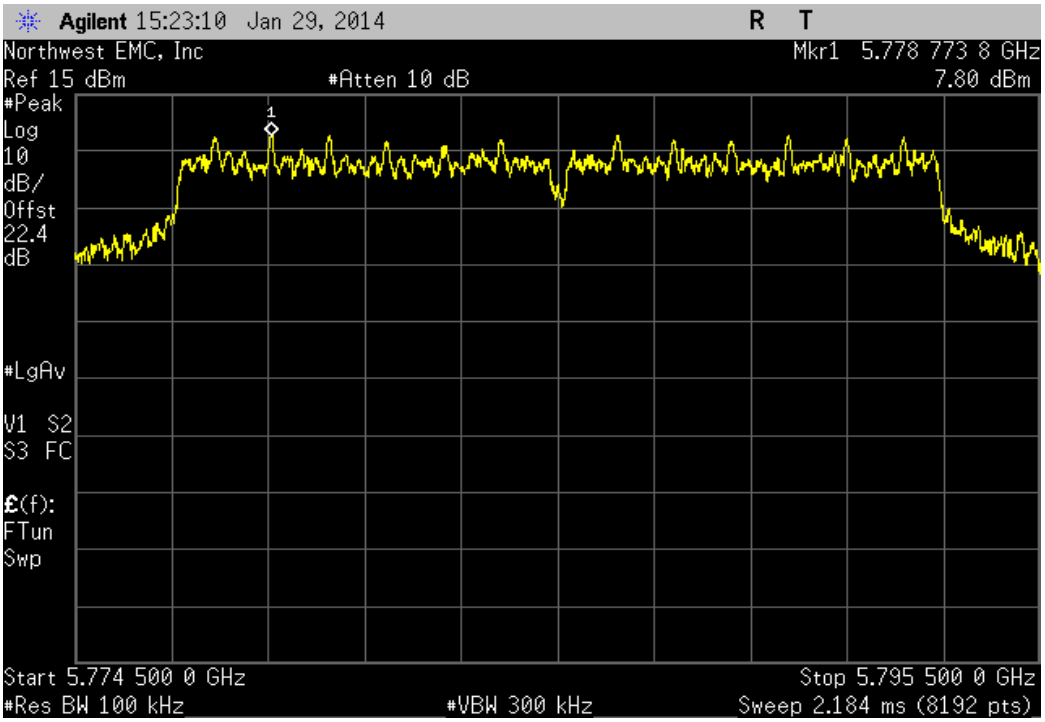
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz					
	Frequency Range		**Value**	**Limit**	**Result**
	25 GHz - 32 GHz		-54.69 dBc	≤ -20 dBc	Pass



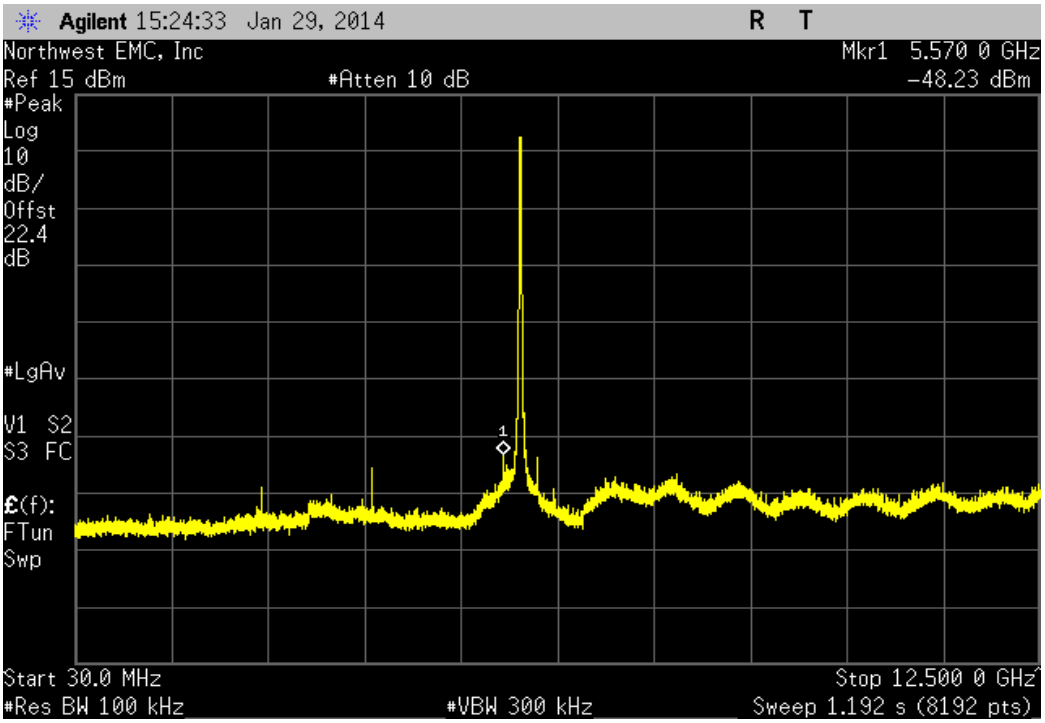
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz					
	Frequency Range		**Value**	**Limit**	**Result**
	32 GHz - 40 GHz		-46.78 dBc	≤ -20 dBc	Pass



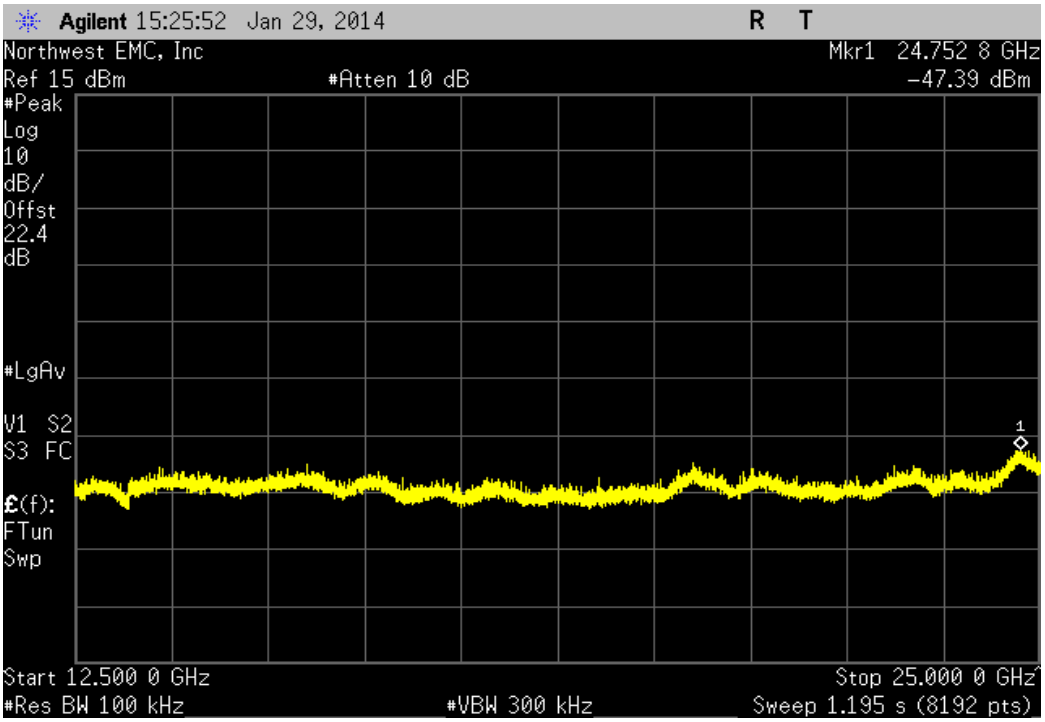
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz						
	Frequency Range			Value	Limit	Result
	Fundamental			N/A	N/A	N/A



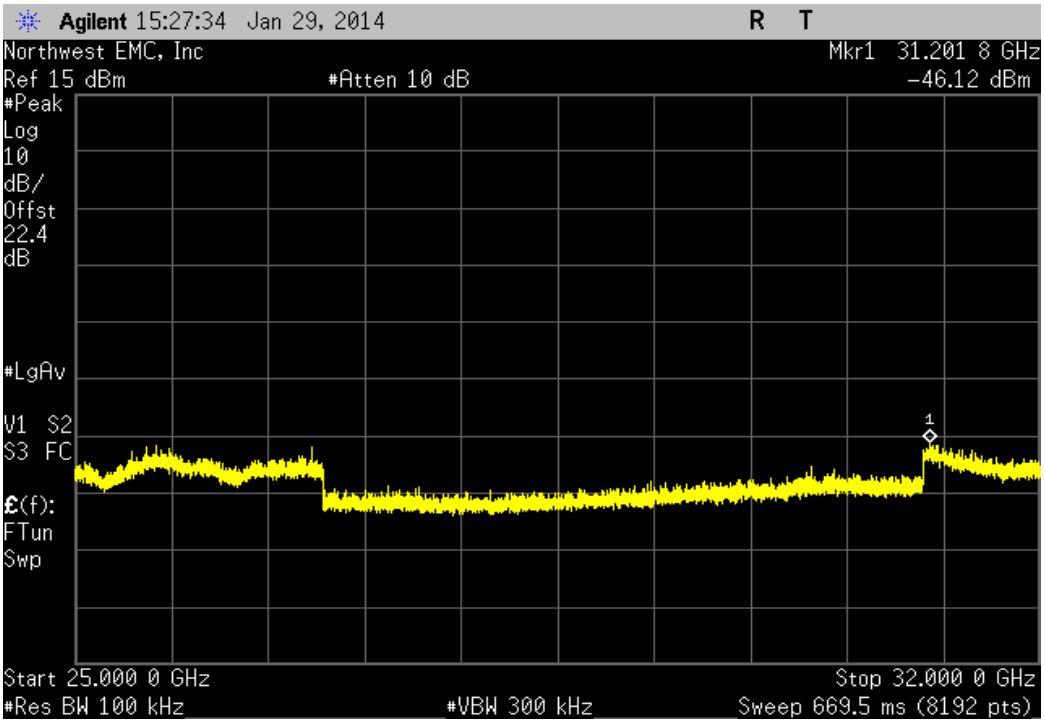
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz					
Frequency Range		Value	Limit	Result
30 MHz - 12.5 GHz		-56.03 dBc	≤ -20 dBc	Pass



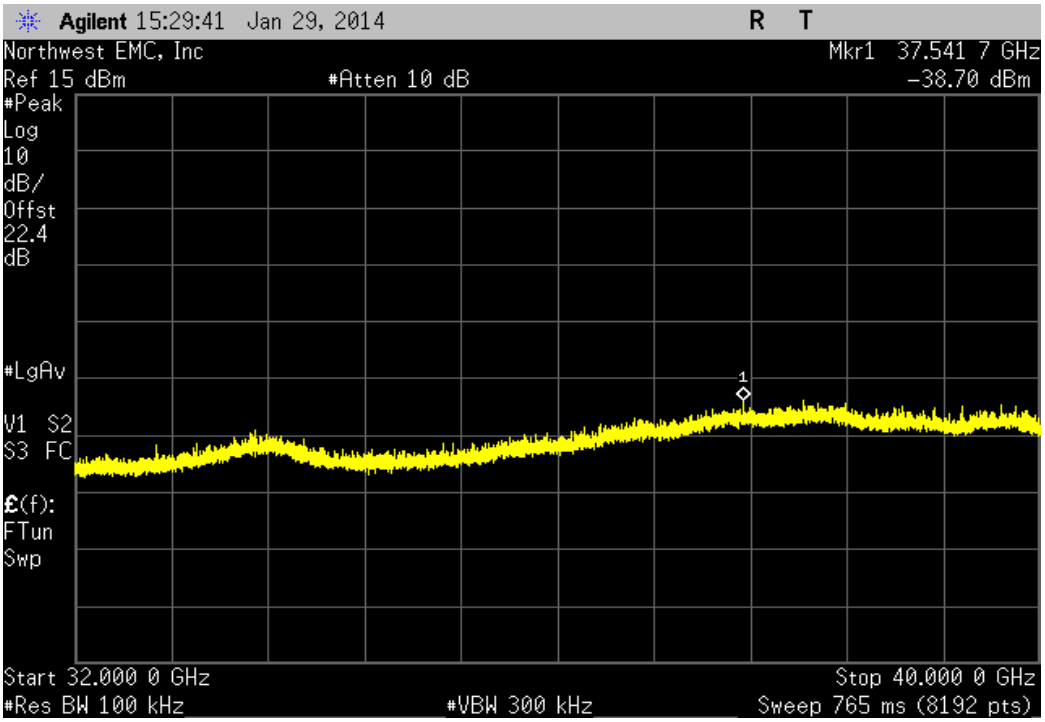
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-55.19 dBc	≤ -20 dBc	Pass



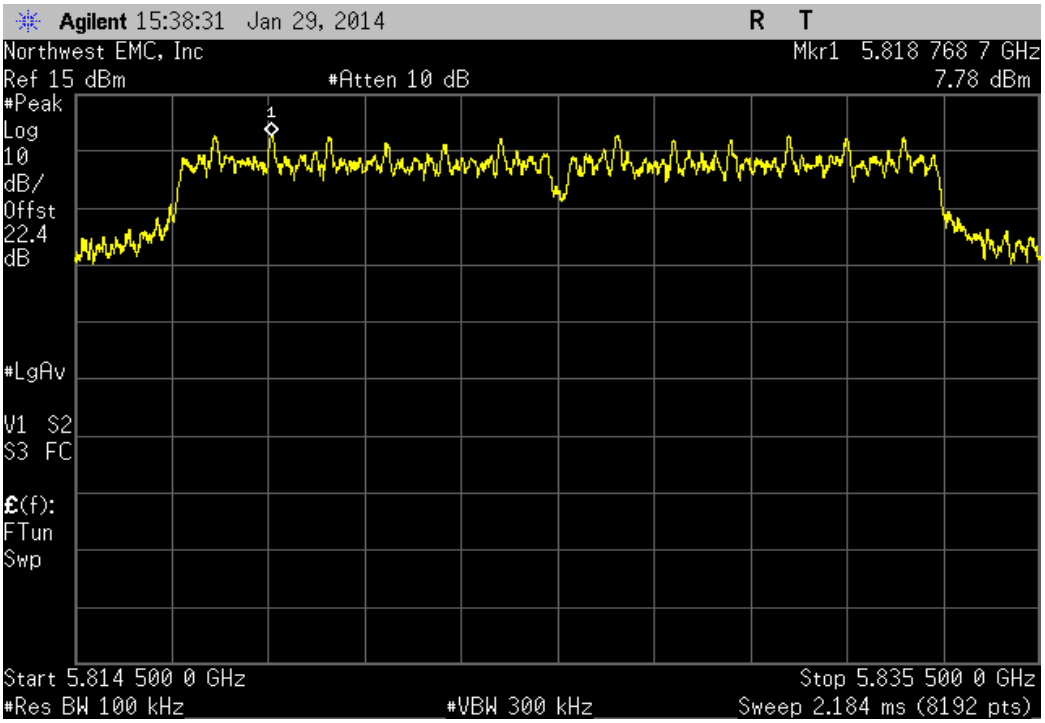
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz				
Frequency Range		**Value**	**Limit**	**Result**
25 GHz - 32 GHz		-53.92 dBc	≤ -20 dBc	Pass



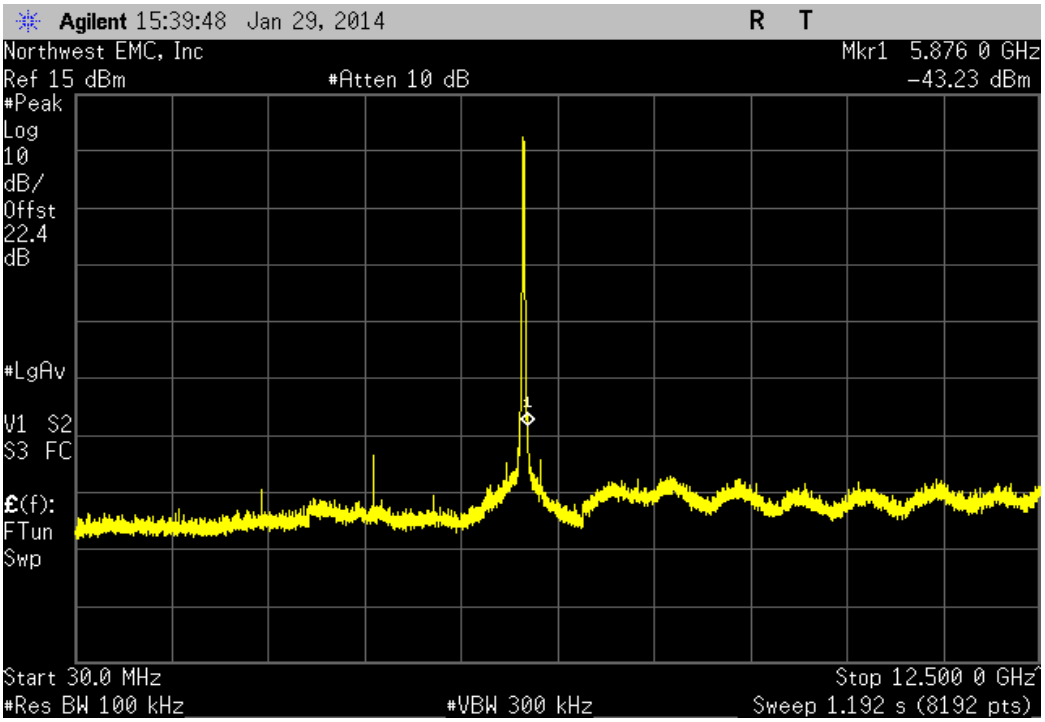
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz					
	Frequency Range		Value	Limit	Result
	32 GHz - 40 GHz		-46.5 dBc	≤ -20 dBc	Pass



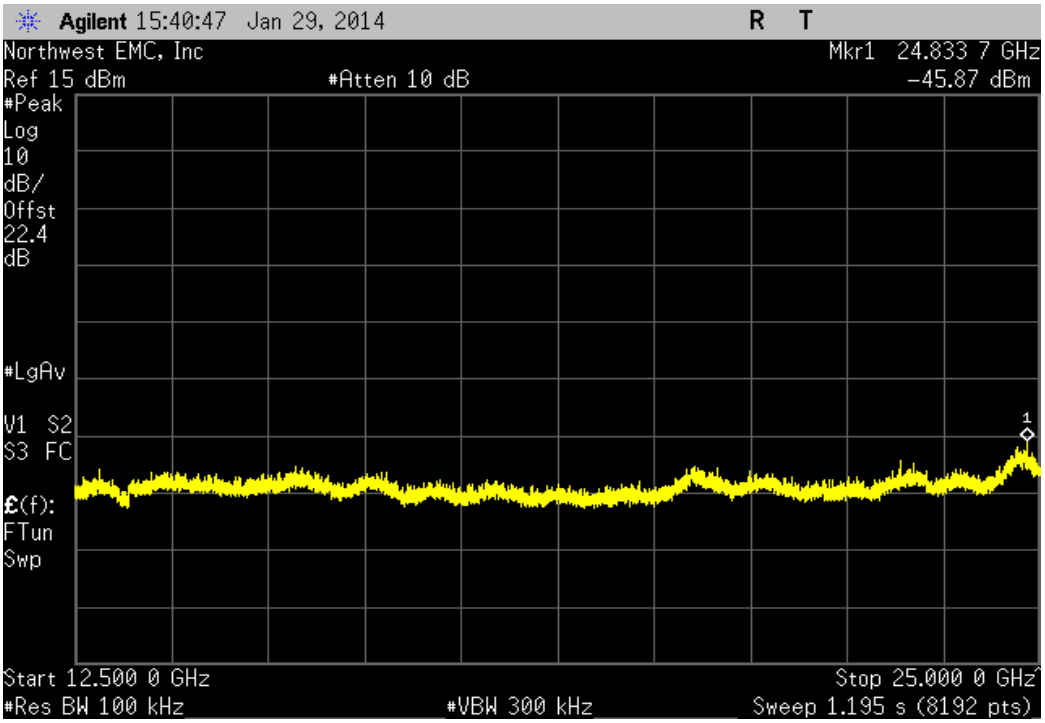
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz					
	Frequency Range		Value	Limit	Result
	Fundamental		N/A	N/A	N/A



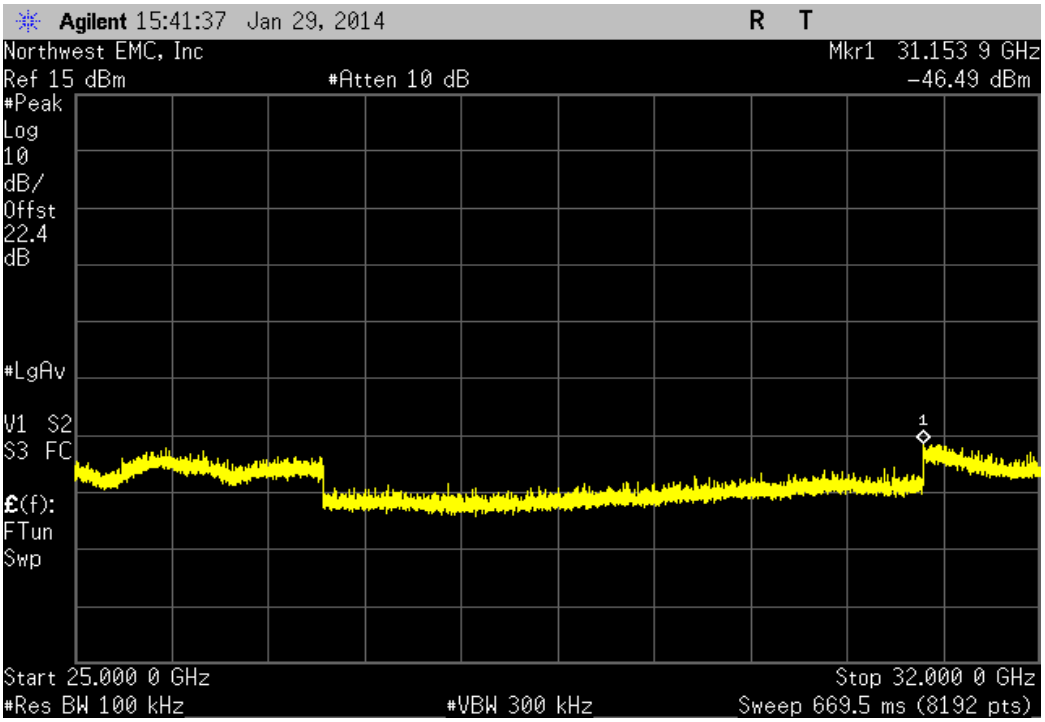
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz				
Frequency Range		**Value**	**Limit**	**Result**
30 MHz - 12.5 GHz		-51.01 dBc	≤ -20 dBc	Pass



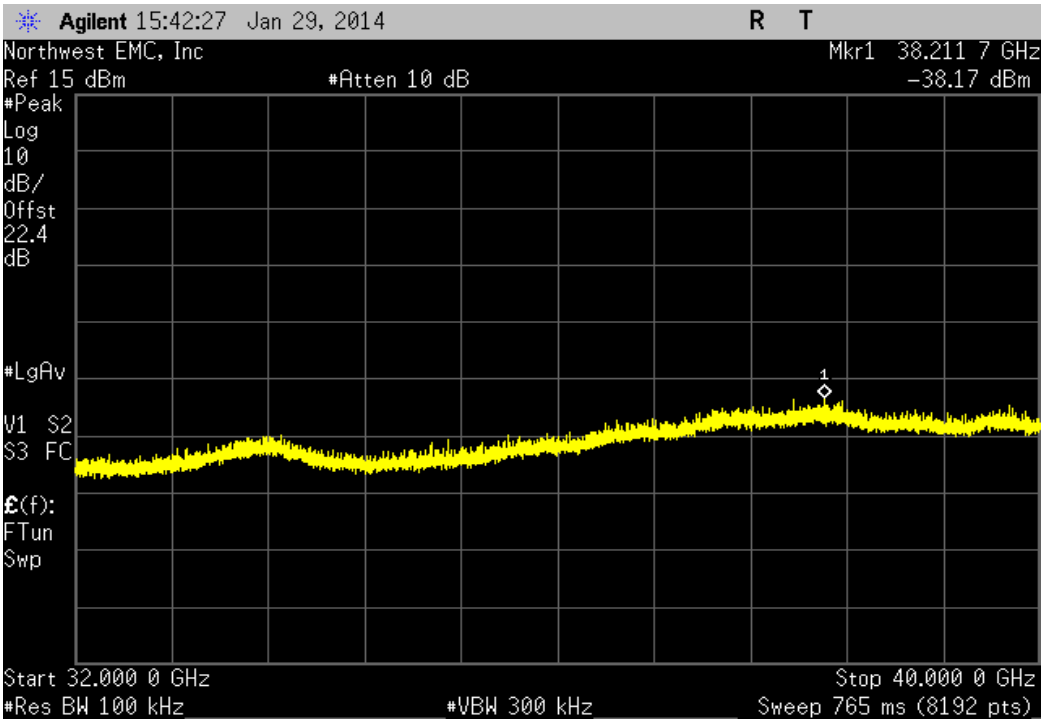
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz				
Frequency Range		**Value**	**Limit**	**Result**
12.5 GHz - 25 GHz		-53.65 dBc	≤ -20 dBc	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz					
	Frequency Range		Value	Limit	Result
	25 GHz - 32 GHz		-54.27 dBc	≤ -20 dBc	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz					
	Frequency Range		Value	Limit	Result
	32 GHz - 40 GHz		-45.96 dBc	≤ -20 dBc	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)
Spectrum Analyzer	Agilent	E4446A	AAY	2/22/2013	24
OC13 Cables	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	0
Attenuator, 20db, 'SMA'	Weinschel Corp	4H-20	AWB	6/7/2013	12
40GHz DC Block	Miteq	DCB4000	AMD	5/16/2013	12
Power Meter	Hewlett Packard	E4418A	SPA	4/11/2012	24
Power Sensor	Agilent	E4412A	SQE	4/11/2012	24
Signal Generator	Agilent	E8257D	TGU	2/1/2012	36

TEST DESCRIPTION

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

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

BAND EDGE COMPLIANCE

EUT:	RAD7A/Radical 7 V2			**Work Order:**	MASI0151
Serial Number:	1000000349			**Date:**	01/29/14
Customer:	Masimo Corporation			**Temperature:**	24.3°C
Attendees:	Mike Clark			**Humidity:**	41%
Project:	None			**Barometric Pres.:**	1011
Tested by:	Jaemi Suh	**Power:**	Battery	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 15.247:2014	ANSI C63.10:2009

COMMENTS

TX Power set to 90.

DEVIATIONS FROM TEST STANDARD

None

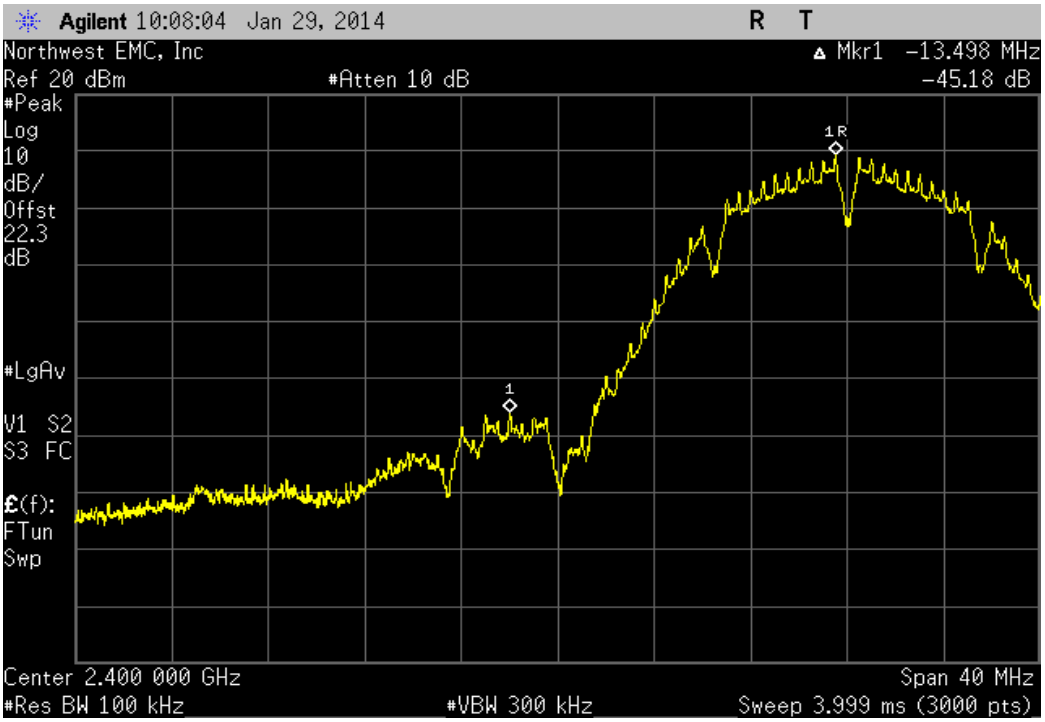
Configuration #	1	Signature

	Value	Limit	Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	-45.18 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-56.58 dBc	≤ -20 dBc	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz	-45.41 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-56.67 dBc	≤ -20 dBc	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	-24.88 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-35.6 dBc	≤ -20 dBc	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz	-25.66 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-34.85 dBc	≤ -20 dBc	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz	-24.73 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-36.16 dBc	≤ -20 dBc	Pass
5725 MHz - 5850 MHz Band			
802.11(a) 6 Mbps			
Low Channel 149, 5745 MHz	-26.92 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	-33.1 dBc	≤ -20 dBc	Pass
802.11(a) 36 Mbps			
Low Channel 149, 5745 MHz	-28.06 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	-34.77 dBc	≤ -20 dBc	Pass
802.11(a) 54 Mbps			
Low Channel 149, 5745 MHz	-26.83 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	-36.08 dBc	≤ -20 dBc	Pass

BAND EDGE COMPLIANCE

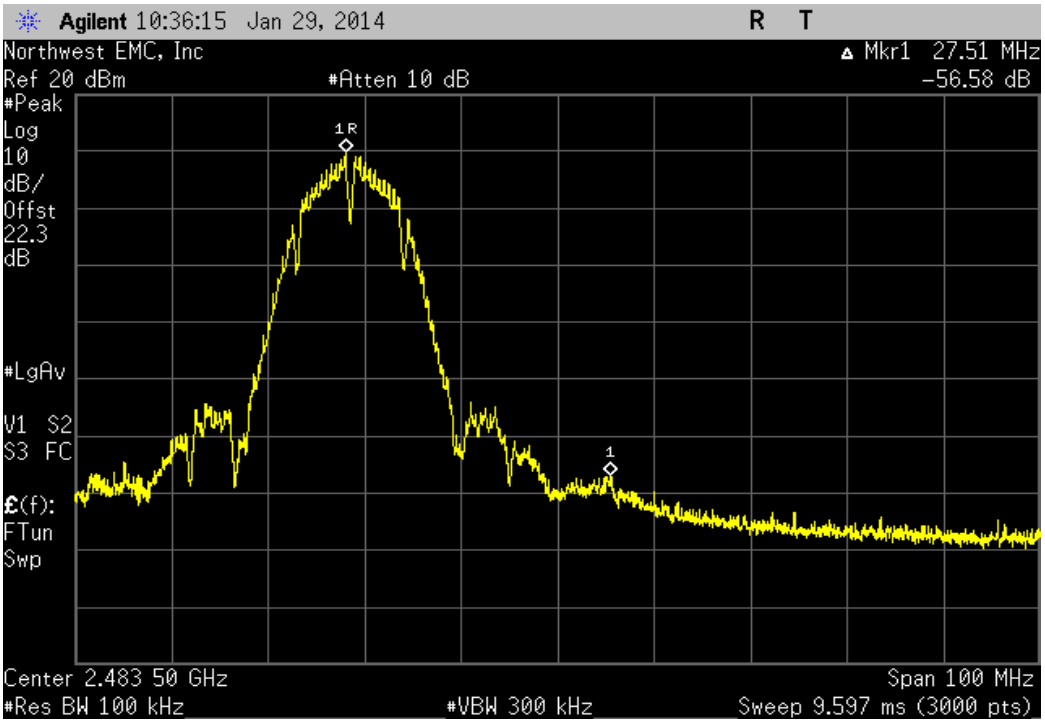
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				-45.18 dBc	≤ -20 dBc	Pass



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

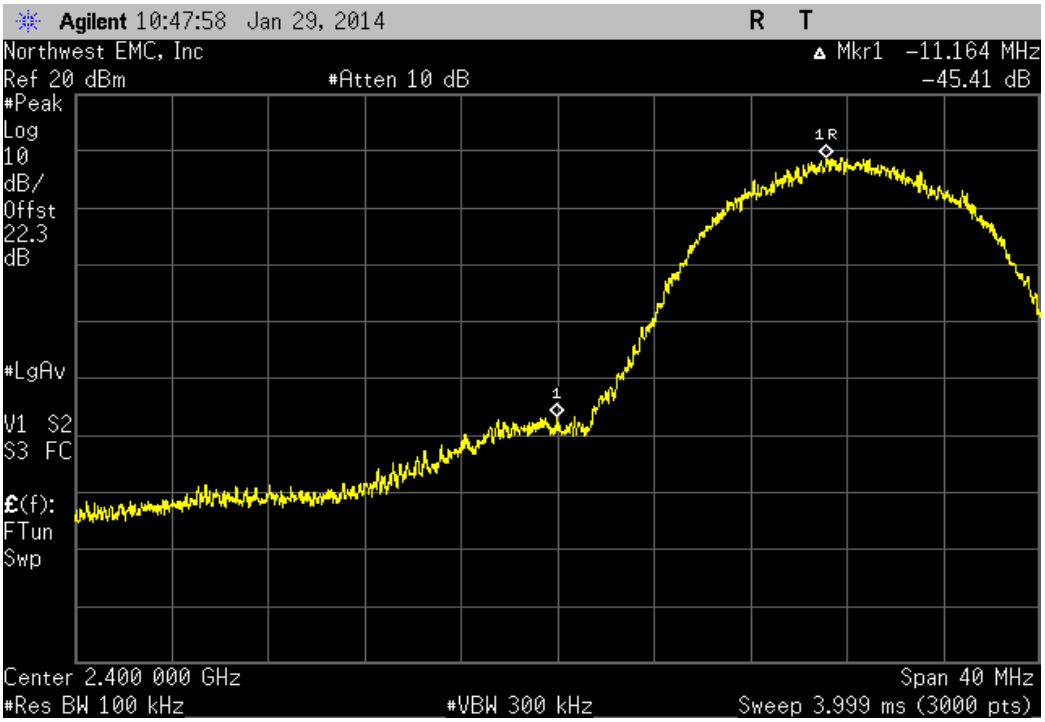
				Value	Limit	Result
				-56.58 dBc	≤ -20 dBc	Pass



BAND EDGE COMPLIANCE

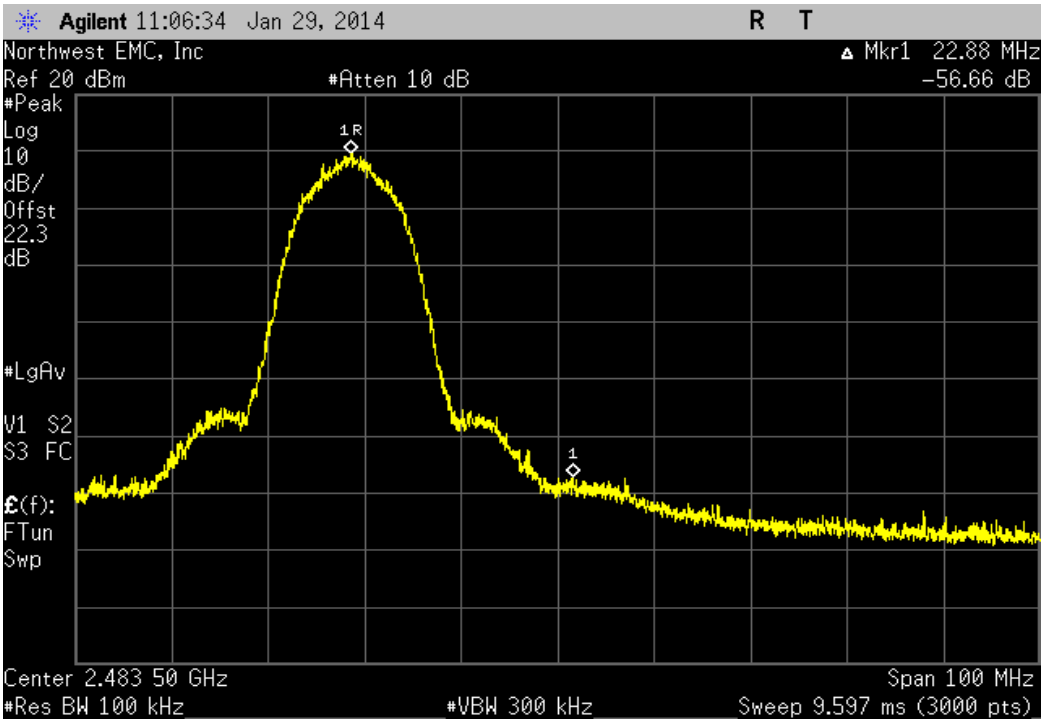
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				-45.41 dBc	≤ -20 dBc	Pass



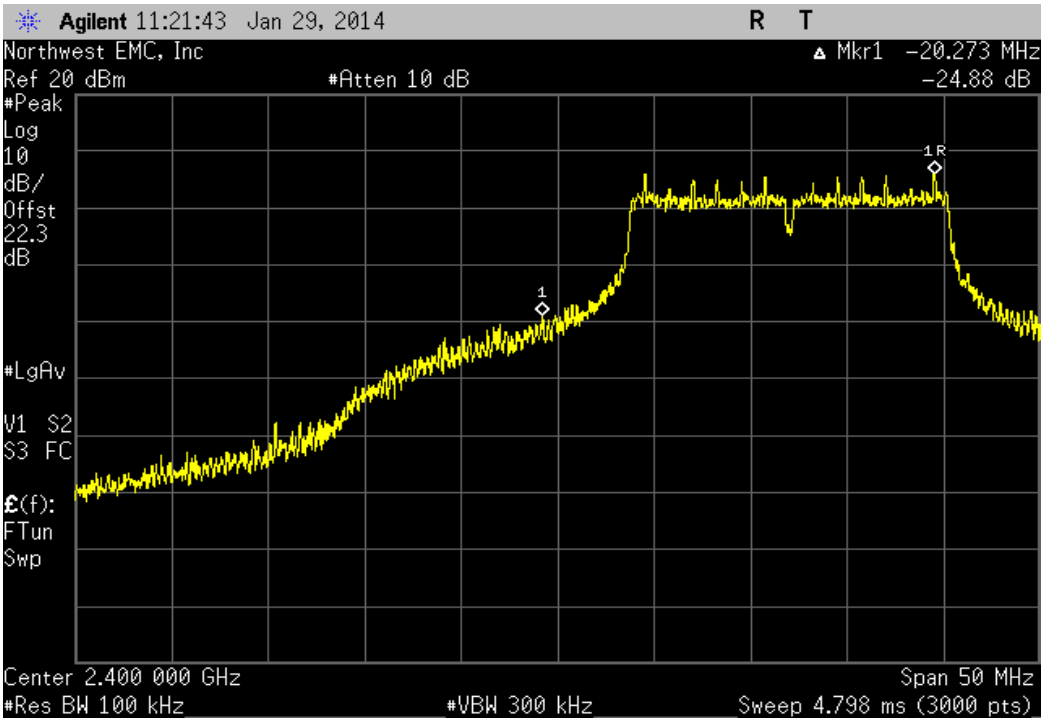
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				-56.67 dBc	≤ -20 dBc	Pass

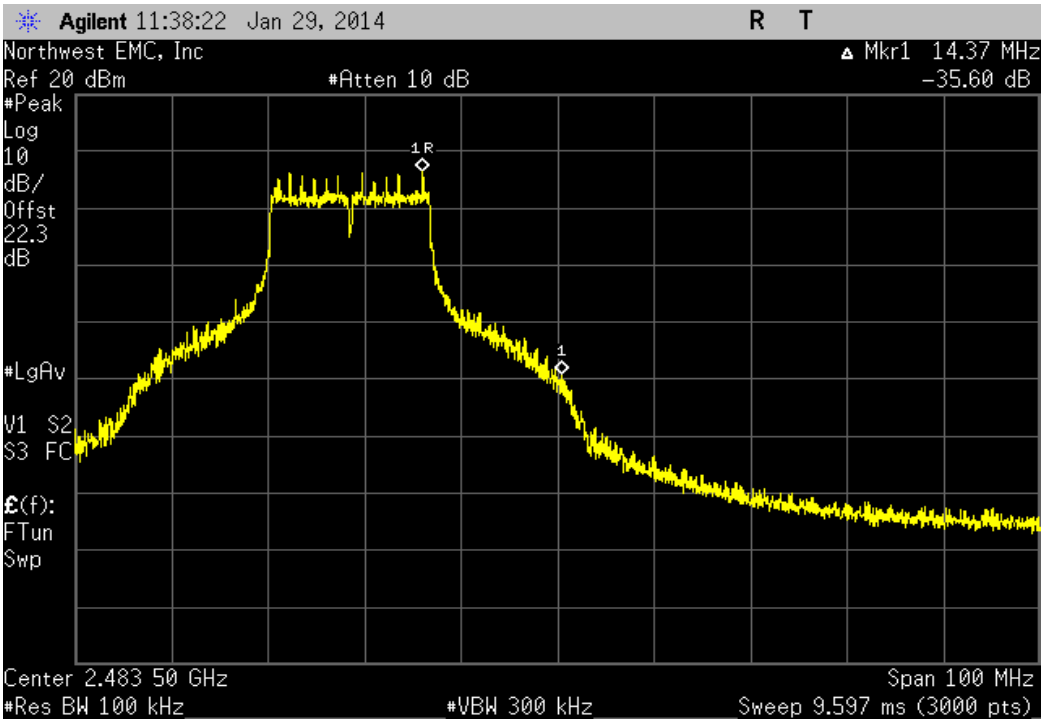


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				-24.88 dBc	≤ -20 dBc	Pass

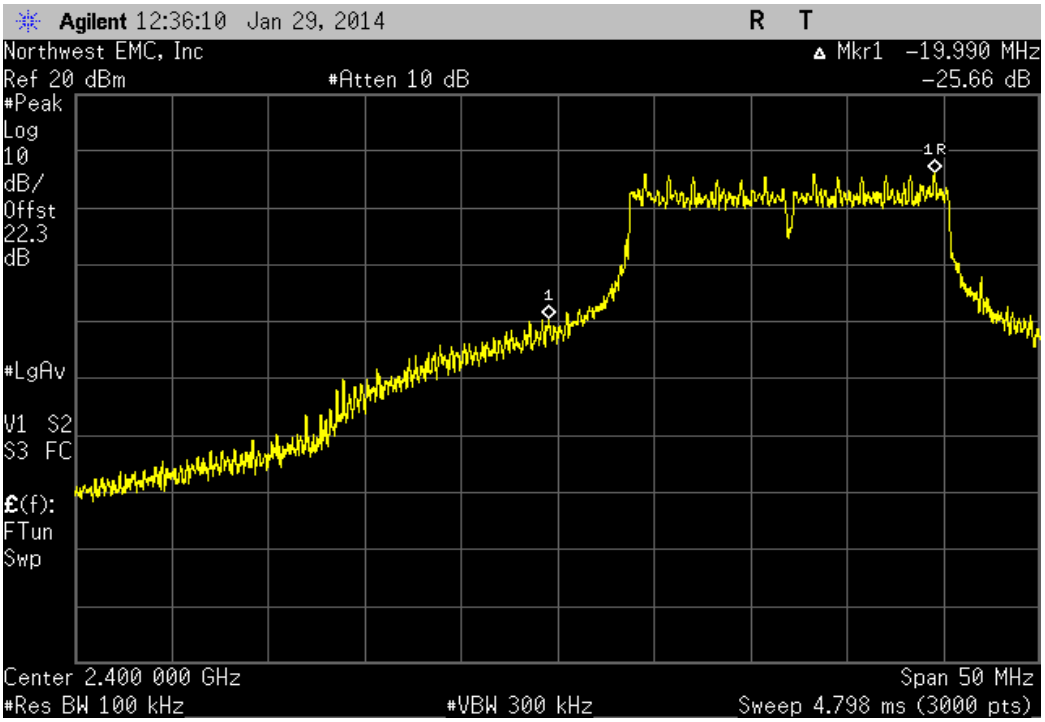


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
				Value	Limit	Result
				-35.6 dBc	≤ -20 dBc	Pass

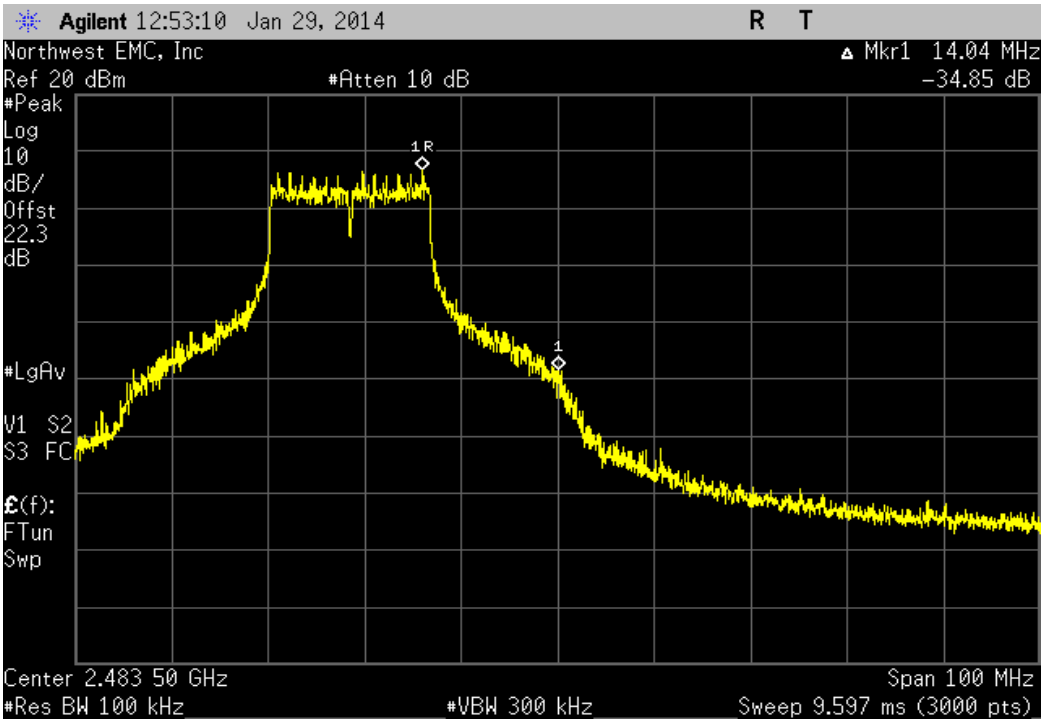


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				-25.66 dBc	≤ -20 dBc	Pass

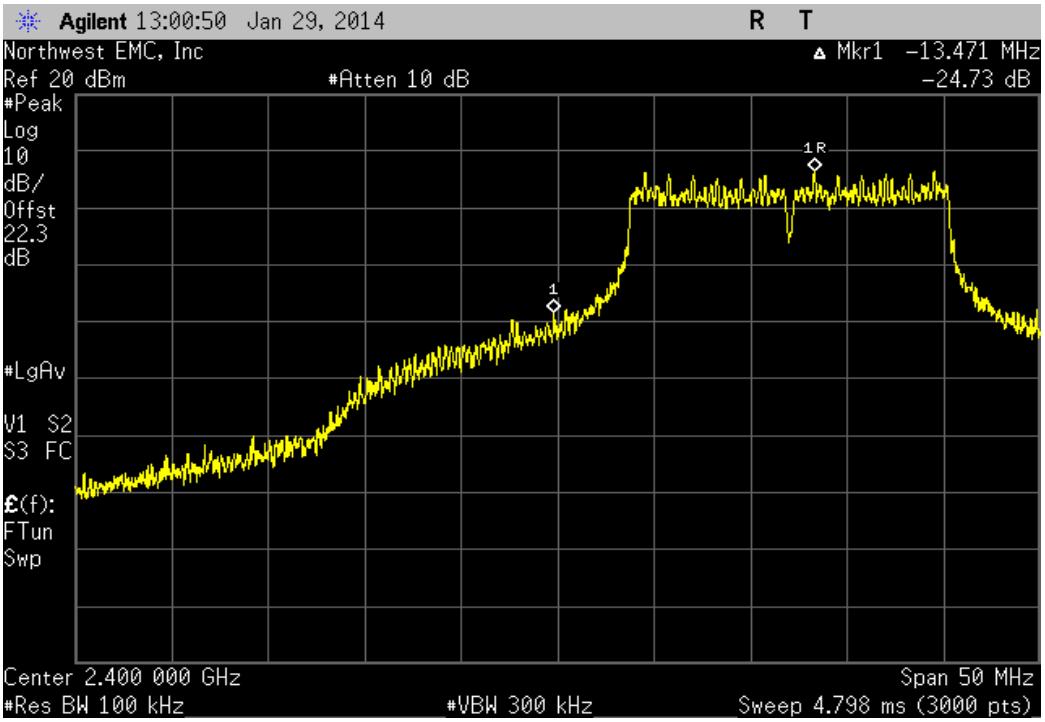


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
				Value	Limit	Result
				-34.85 dBc	≤ -20 dBc	Pass

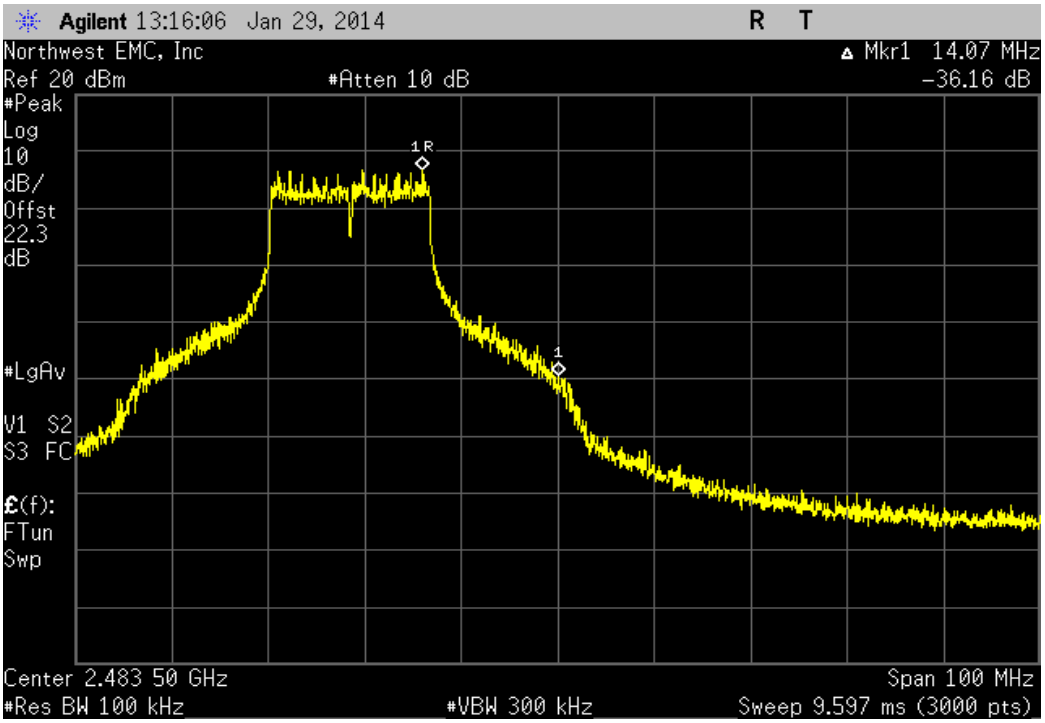


BAND EDGE COMPLIANCE

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				-24.73 dBc	≤ -20 dBc	Pass



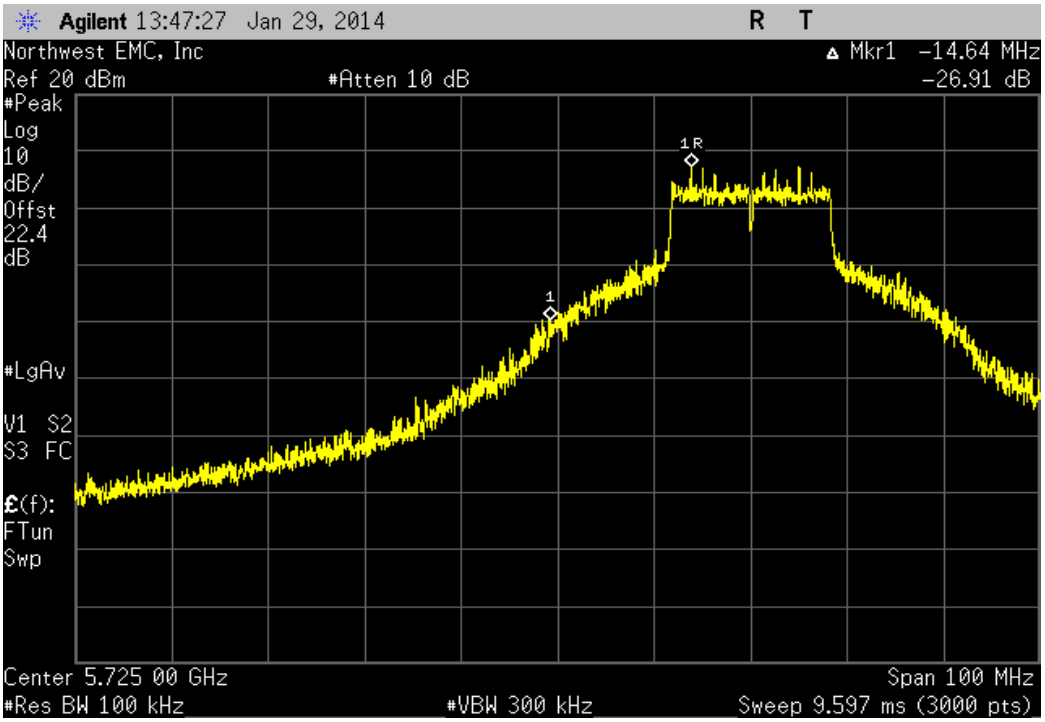
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
				Value	Limit	Result
				-36.16 dBc	≤ -20 dBc	Pass



BAND EDGE COMPLIANCE

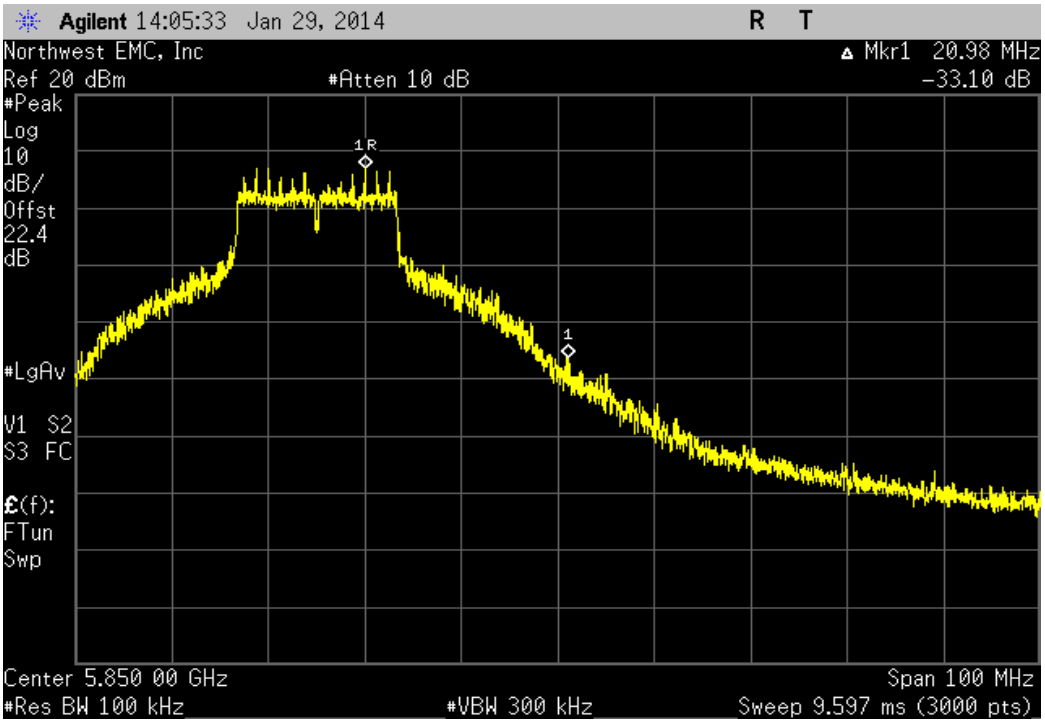
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz

				Value	Limit	Result
				-26.92 dBc	≤ -20 dBc	Pass

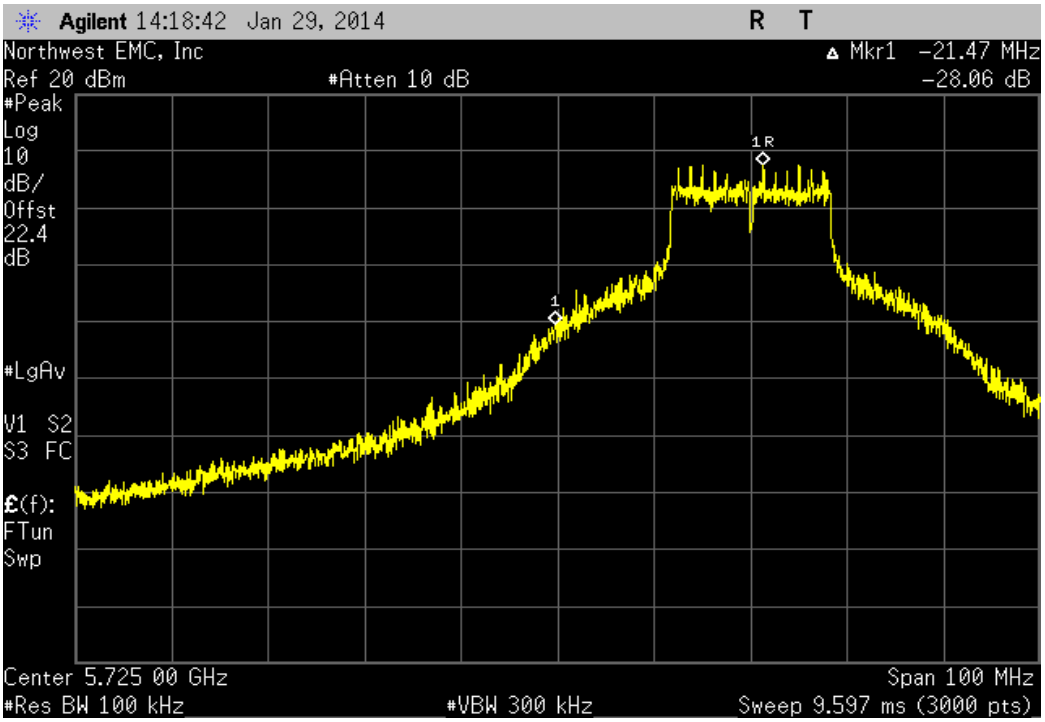


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz

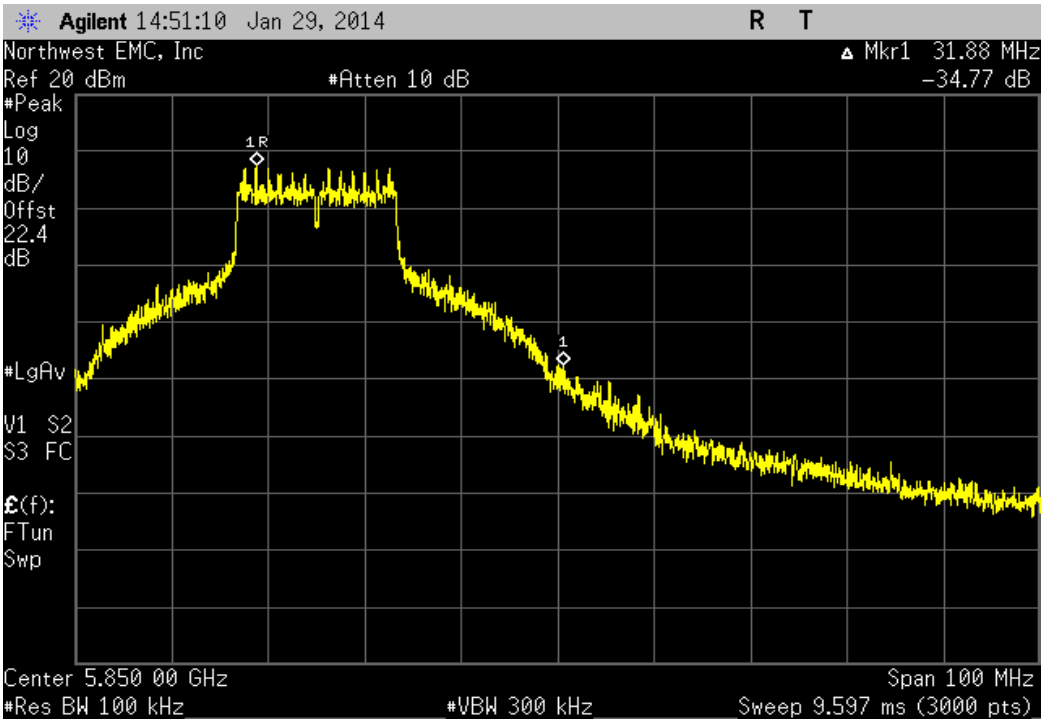
				Value	Limit	Result
				-33.1 dBc	≤ -20 dBc	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz						
				Value	Limit	Result
				-28.06 dBc	≤ -20 dBc	Pass



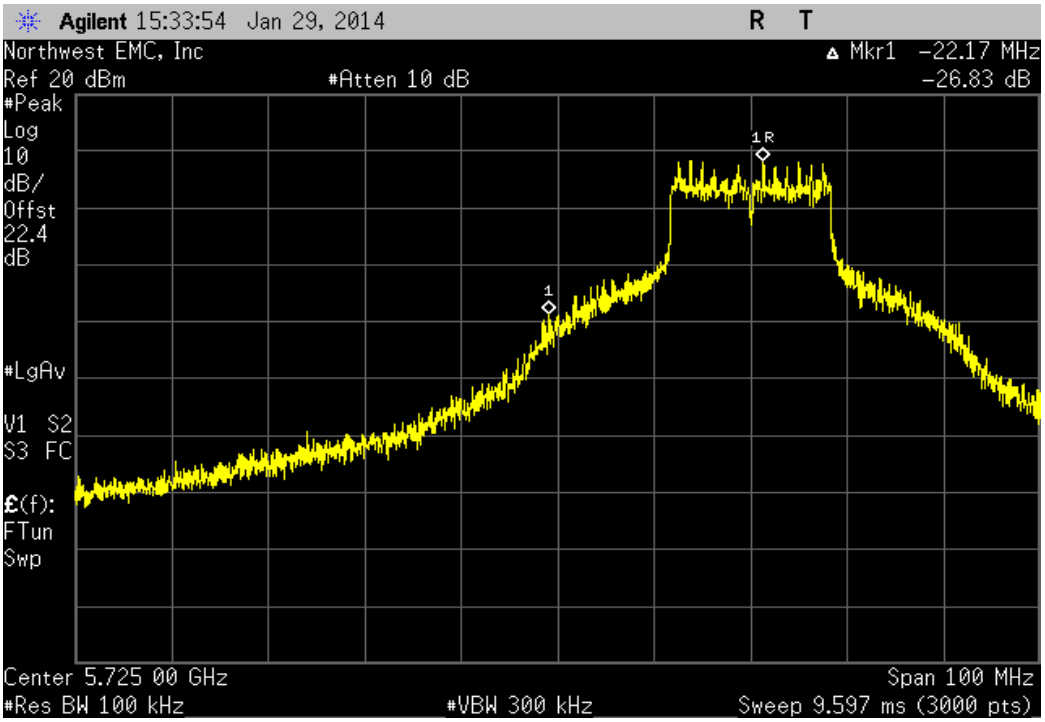
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz						
				Value	Limit	Result
				-34.77 dBc	≤ -20 dBc	Pass



BAND EDGE COMPLIANCE

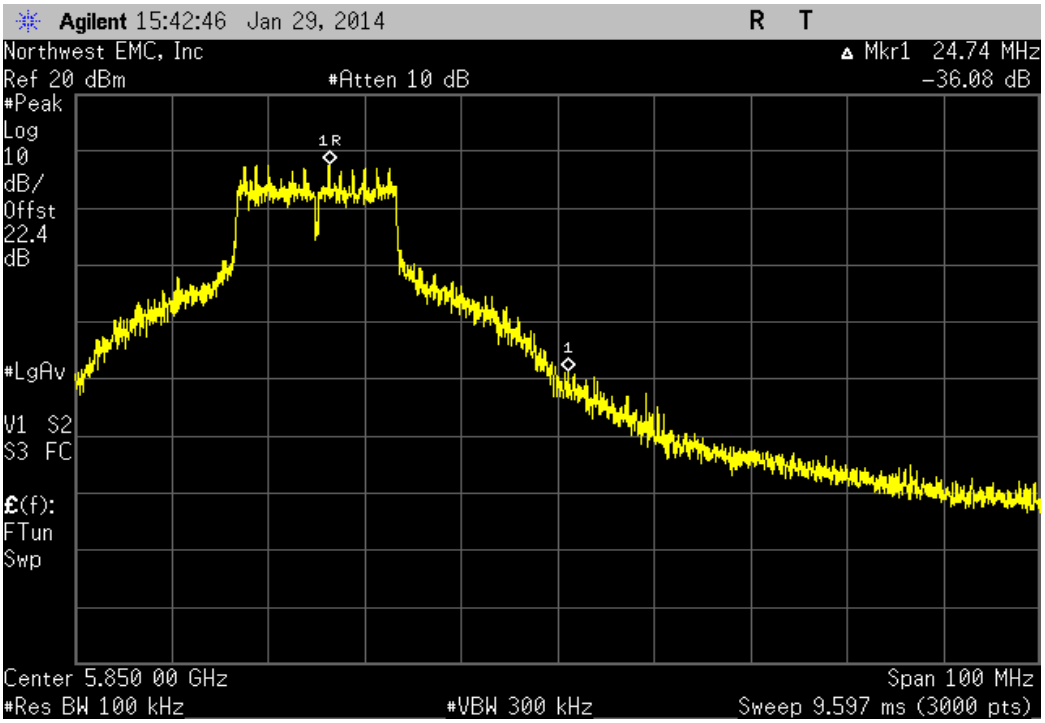
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz

				Value	Limit	Result
				-26.83 dBc	≤ -20 dBc	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz

				Value	Limit	Result
				-36.08 dBc	≤ -20 dBc	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)
Spectrum Analyzer	Agilent	E4446A	AAY	2/22/2013	24
OC13 Cables	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	0
Attenuator, 20db, 'SMA'	Weinschel Corp	4H-20	AWB	6/7/2013	12
40GHz DC Block	Miteq	DCB4000	AMD	5/16/2013	12
Power Meter	Hewlett Packard	E4418A	SPA	4/11/2012	24
Power Sensor	Agilent	E4412A	SQE	4/11/2012	24
Signal Generator	Agilent	E8257D	TGU	2/1/2012	36

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 low, medium and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at the data rate(s) listed in the datasheet.

OCCUPIED BANDWIDTH

EUT:	RAD7A/Radical 7 V2			**Work Order:**	MASI0151
Serial Number:	1000000349			**Date:**	01/29/14
Customer:	Masimo Corporation			**Temperature:**	24.3°C
Attendees:	Mike Clark			**Humidity:**	41%
Project:	None			**Barometric Pres.:**	1011
Tested by:	Jaemi Suh	**Power:**	Battery	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 15.247:2014	ANSI C63.10:2009

COMMENTS

TX Power set to 90.

DEVIATIONS FROM TEST STANDARD

None

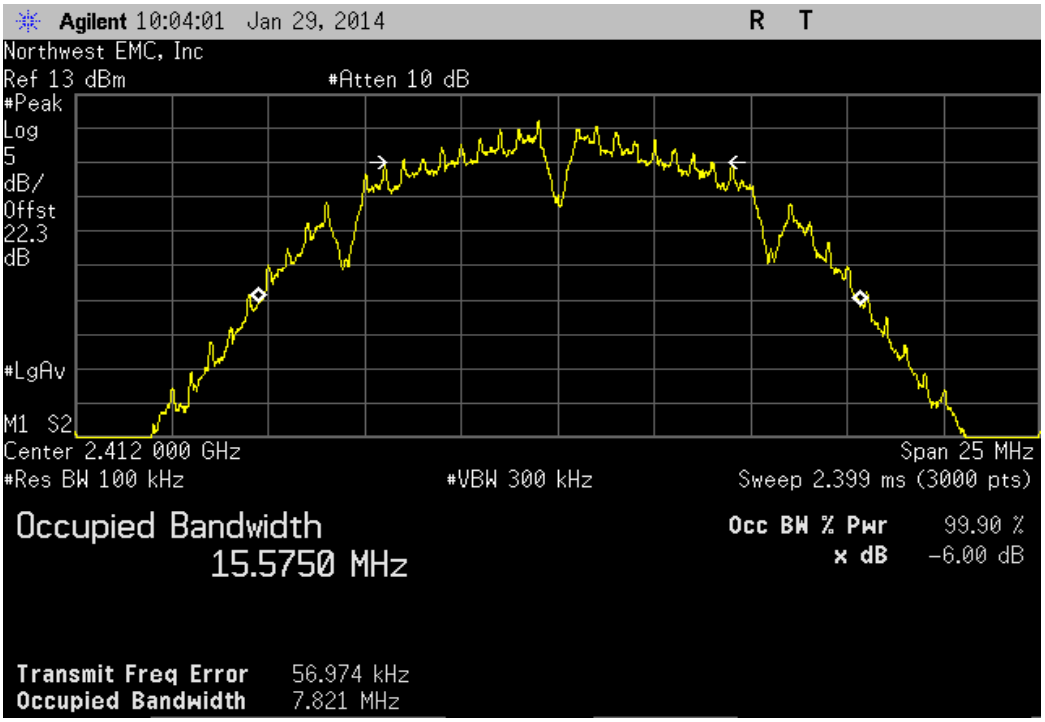
Configuration #	1	Signature

		Value	Limit	Result
2400 MHz - 2483.5 MHz Band				
	802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	7.821 MHz	> 500 kHz	Pass
	Mid Channel 6, 2437 MHz	7.616 MHz	> 500 kHz	Pass
	High Channel 11, 2462 MHz	7.56 MHz	> 500 kHz	Pass
	802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	7.521 MHz	> 500 kHz	Pass
	Mid Channel 6, 2437 MHz	7.863 MHz	> 500 kHz	Pass
	High Channel 11, 2462 MHz	7.177 MHz	> 500 kHz	Pass
	802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	16.381 MHz	> 500 kHz	Pass
	Mid Channel 6, 2437 MHz	16.406 MHz	> 500 kHz	Pass
	High Channel 11, 2462 MHz	16.396 MHz	> 500 kHz	Pass
	802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	16.45 MHz	> 500 kHz	Pass
	Mid Channel 6, 2437 MHz	16.459 MHz	> 500 kHz	Pass
	High Channel 11, 2462 MHz	16.487 MHz	> 500 kHz	Pass
	802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	16.478 MHz	> 500 kHz	Pass
	Mid Channel 6, 2437 MHz	16.475 MHz	> 500 kHz	Pass
	High Channel 11, 2462 MHz	16.45 MHz	> 500 kHz	Pass
5725 MHz - 5850 MHz Band				
	802.11(a) 6 Mbps			
	Low Channel 149, 5745 MHz	16.366 MHz	> 500 kHz	Pass
	Mid Channel 157, 5785 MHz	16.175 MHz	> 500 kHz	Pass
	High Channel 165, 5825 MHz	16.445 MHz	> 500 kHz	Pass
	802.11(a) 36 Mbps			
	Low Channel 149, 5745 MHz	16.352 MHz	> 500 kHz	Pass
	Mid Channel 157, 5785 MHz	16.276 MHz	> 500 kHz	Pass
	High Channel 165, 5825 MHz	16.334 MHz	> 500 kHz	Pass
	802.11(a) 54 Mbps			
	Low Channel 149, 5745 MHz	16.283 MHz	> 500 kHz	Pass
	Mid Channel 157, 5785 MHz	16.444 MHz	> 500 kHz	Pass
	High Channel 165, 5825 MHz	16.361 MHz	> 500 kHz	Pass

OCCUPIED BANDWIDTH

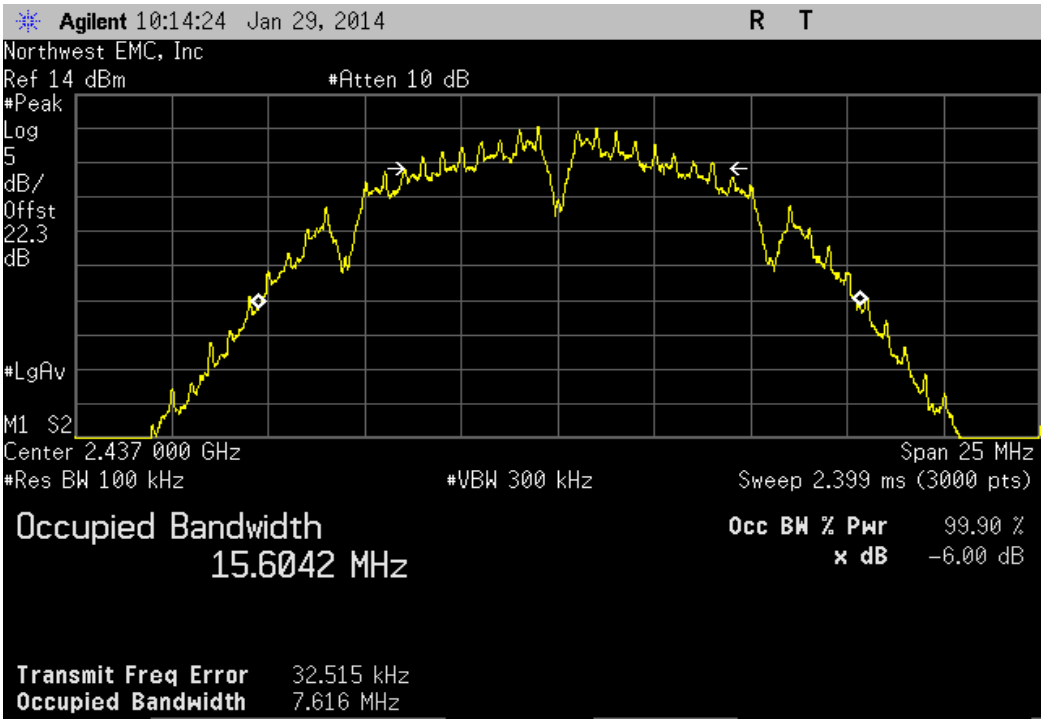
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				7.821 MHz	> 500 kHz	Pass



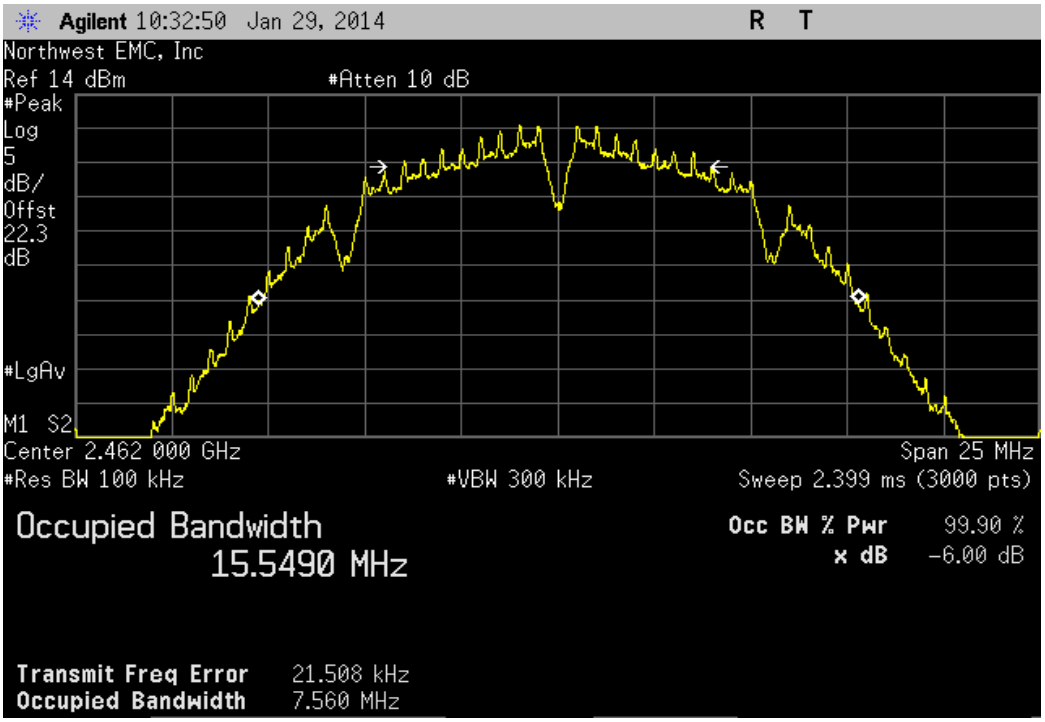
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				7.616 MHz	> 500 kHz	Pass



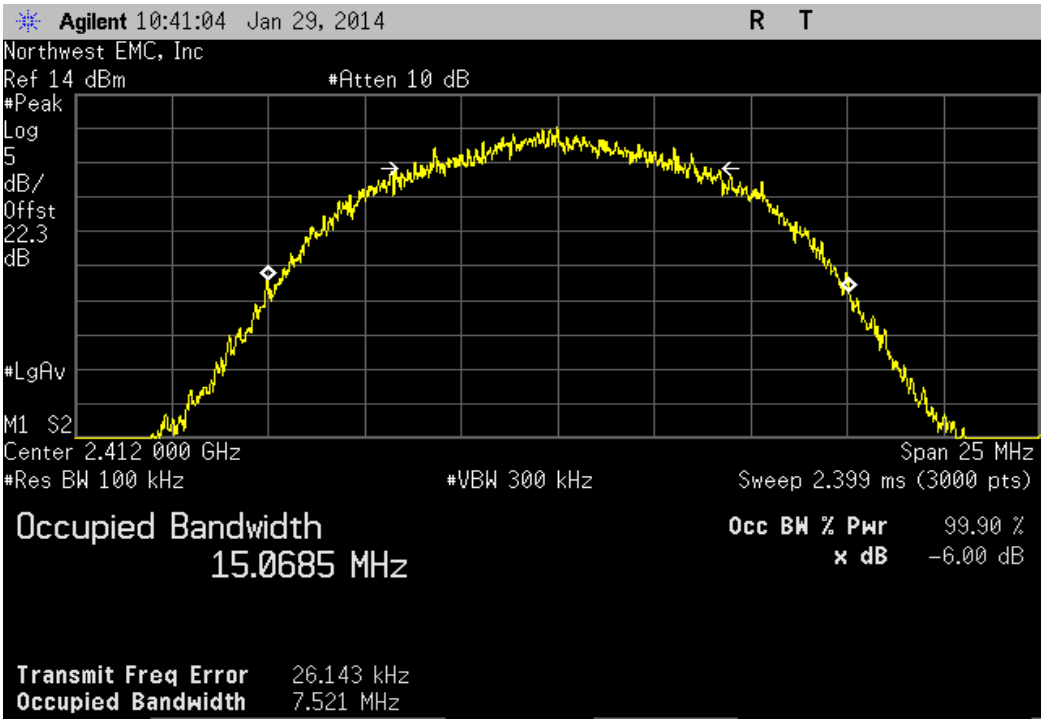
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				7.56 MHz	> 500 kHz	Pass



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

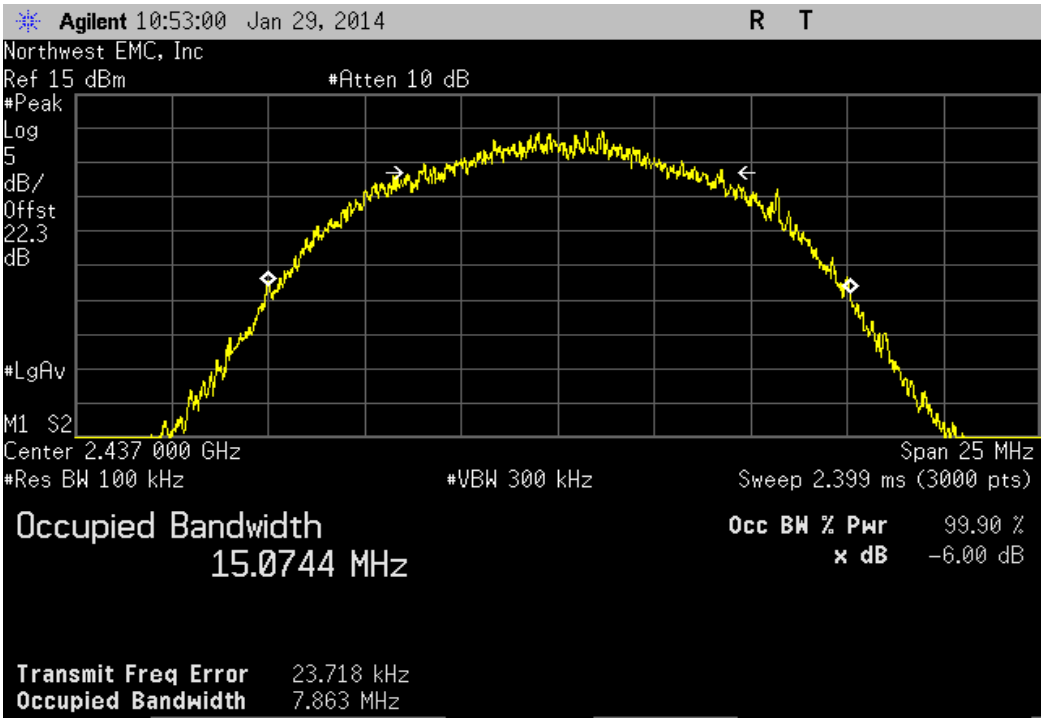
				Value	Limit	Result
				7.521 MHz	> 500 kHz	Pass



OCCUPIED BANDWIDTH

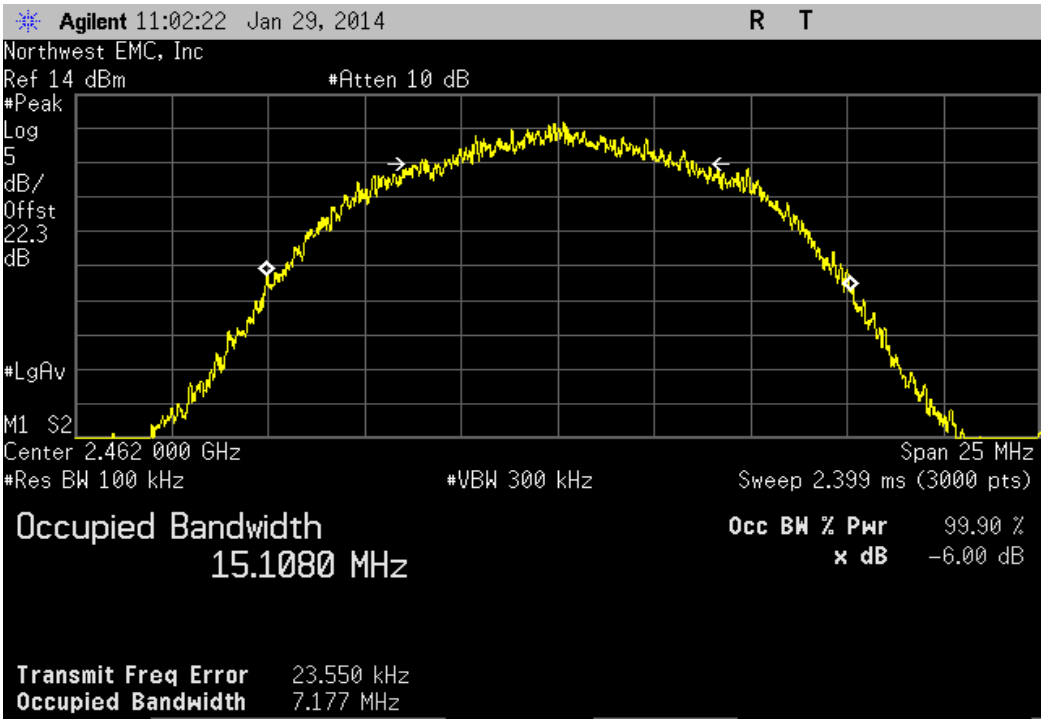
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				7.863 MHz	> 500 kHz	Pass



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

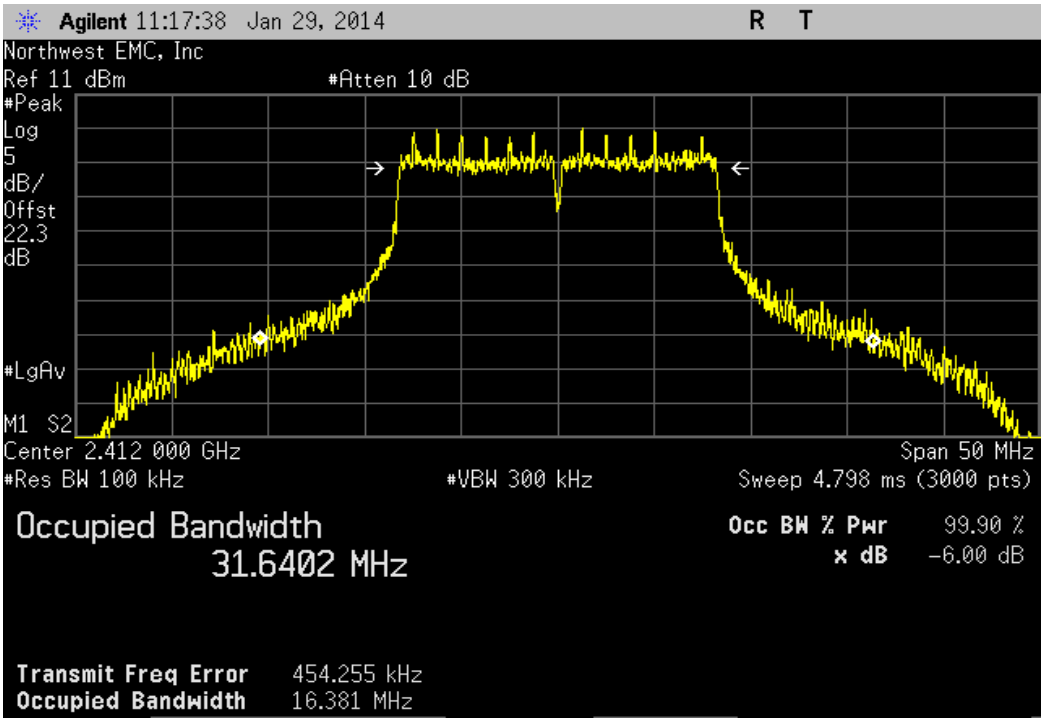
				Value	Limit	Result
				7.177 MHz	> 500 kHz	Pass



OCCUPIED BANDWIDTH

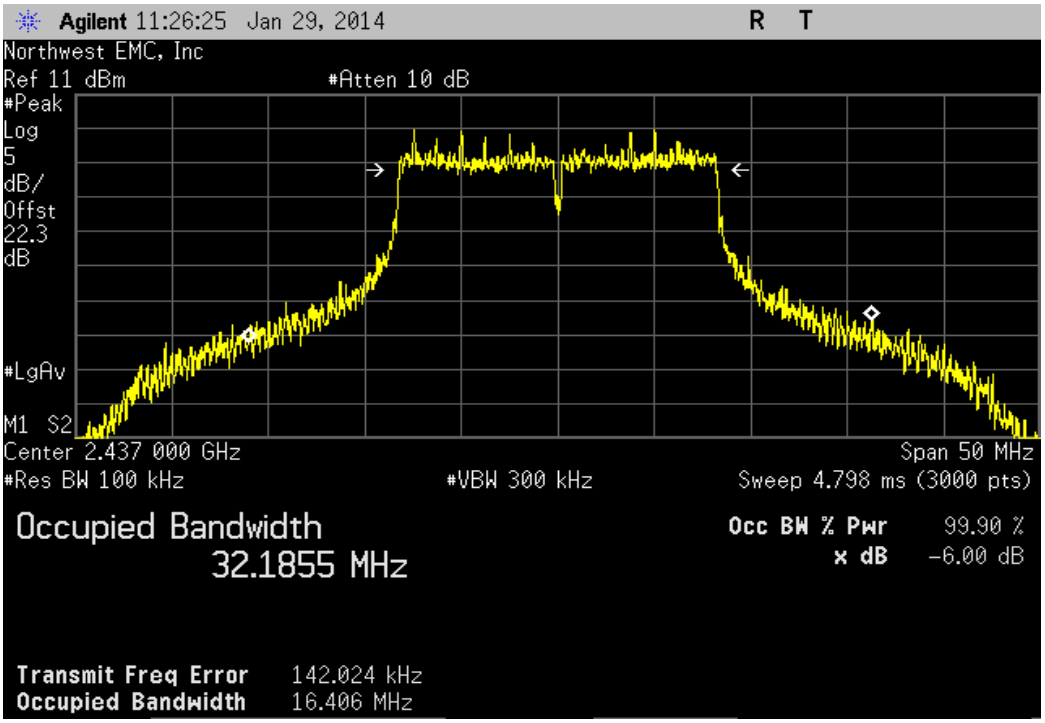
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				16.381 MHz	> 500 kHz	Pass



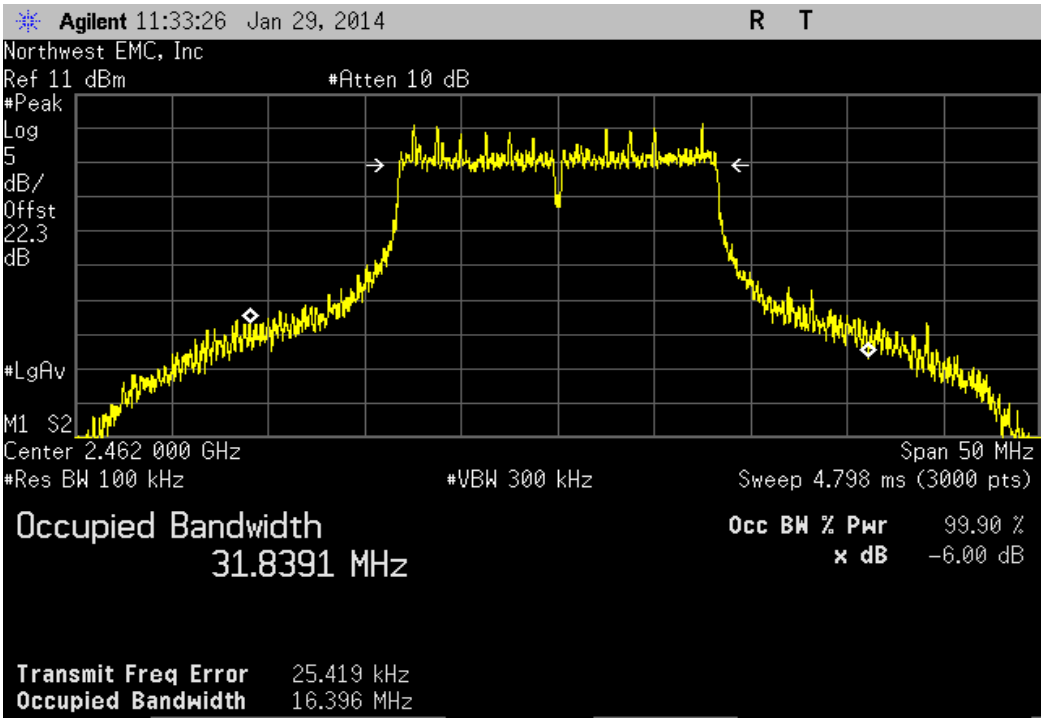
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				16.406 MHz	> 500 kHz	Pass



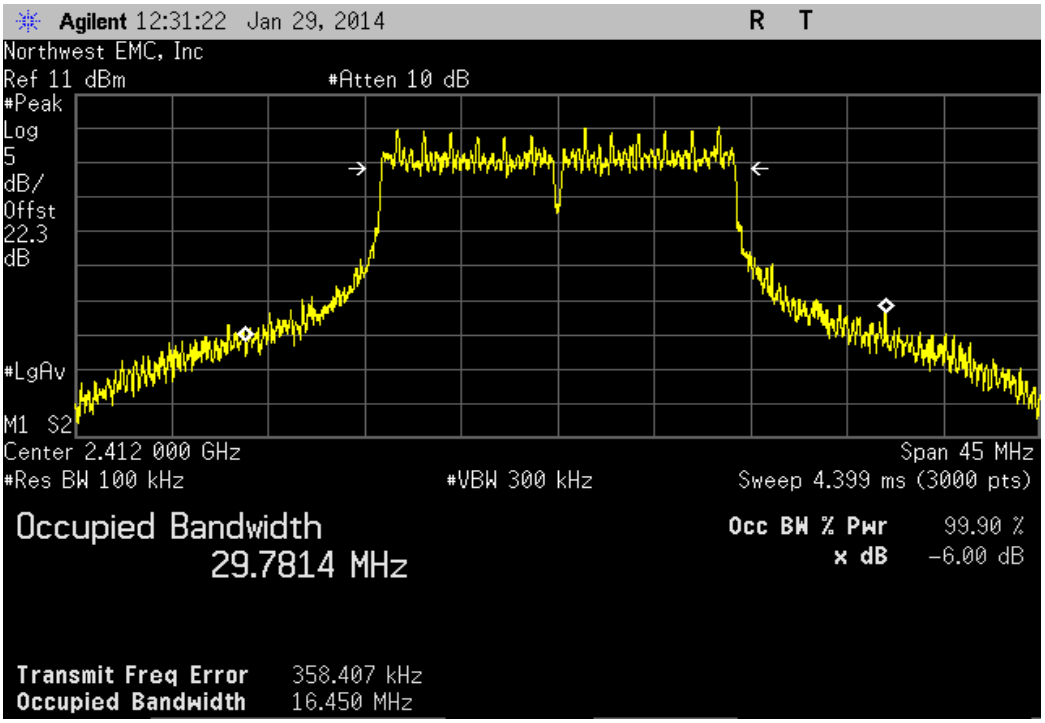
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				16.396 MHz	> 500 kHz	Pass



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

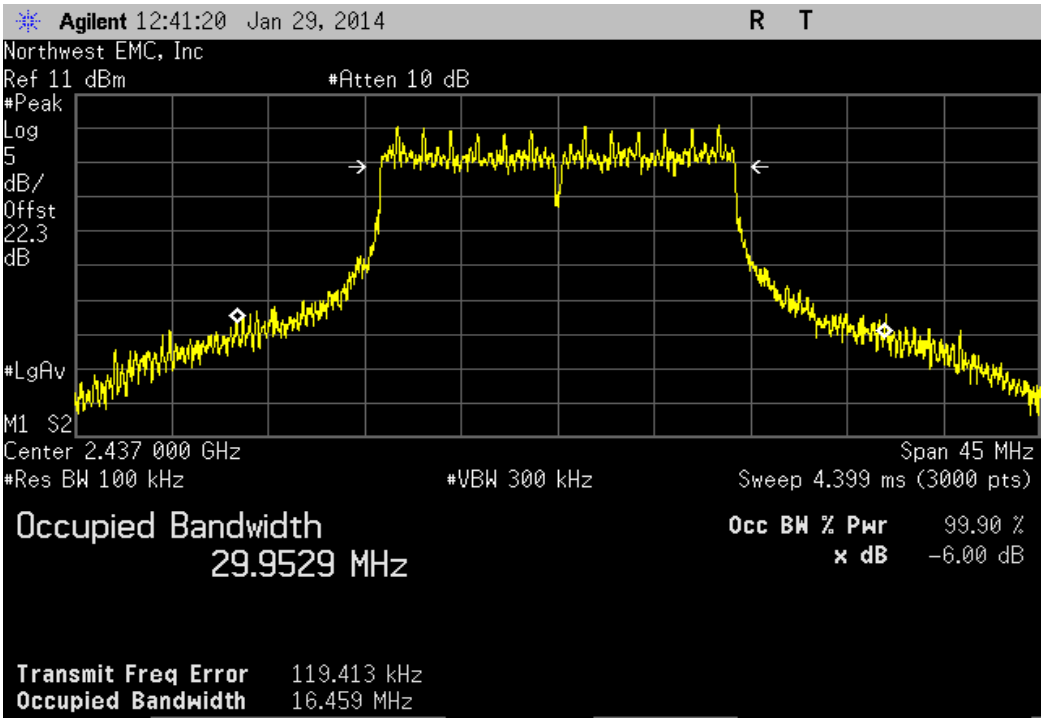
				Value	Limit	Result
				16.45 MHz	> 500 kHz	Pass



OCCUPIED BANDWIDTH

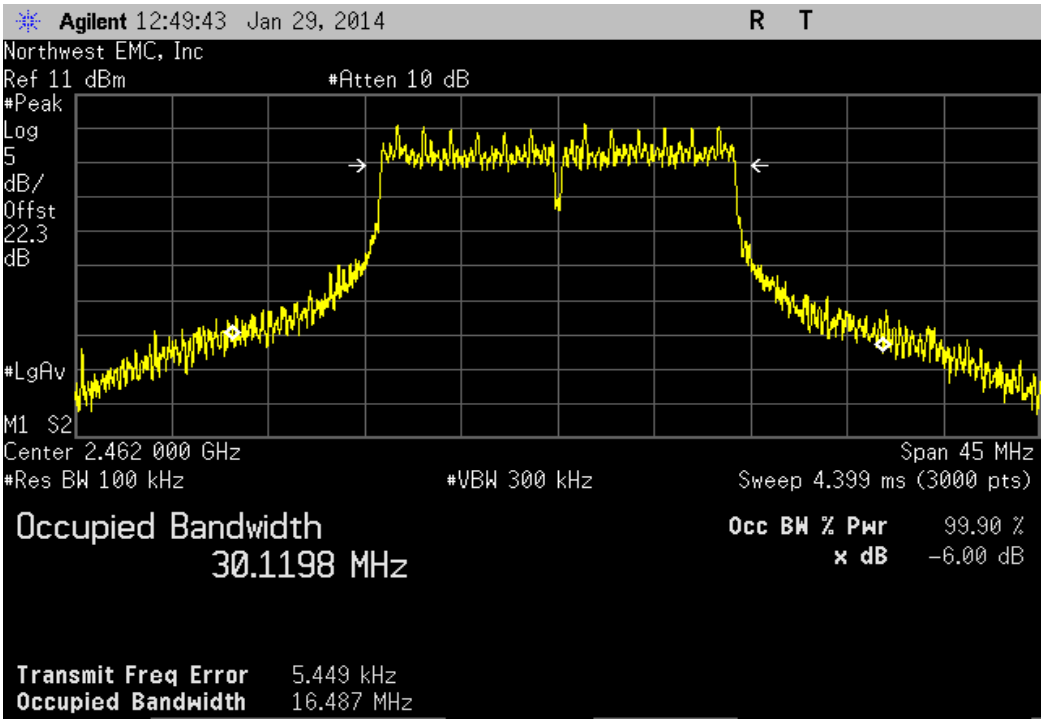
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				16.459 MHz	> 500 kHz	Pass



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

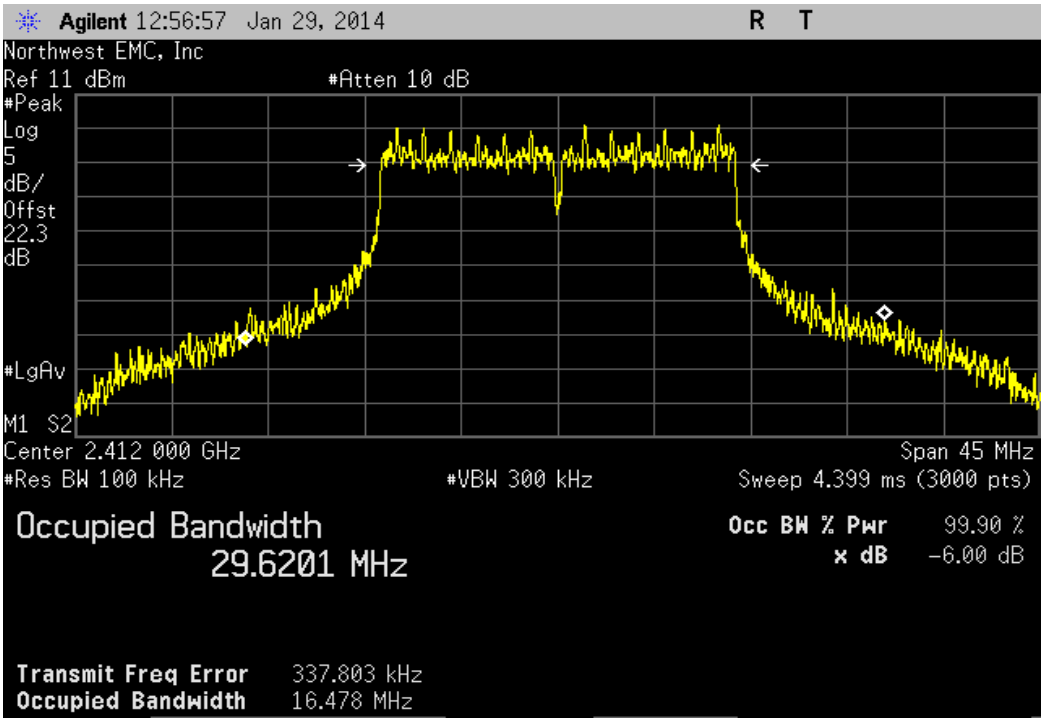
				Value	Limit	Result
				16.487 MHz	> 500 kHz	Pass



OCCUPIED BANDWIDTH

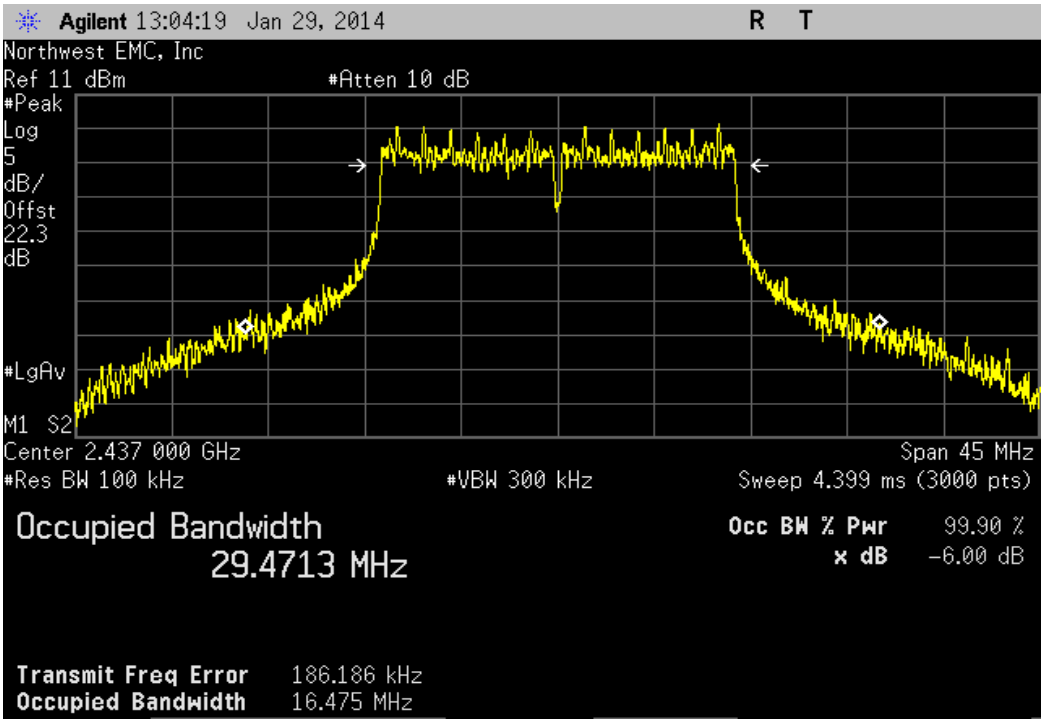
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				16.478 MHz	> 500 kHz	Pass



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

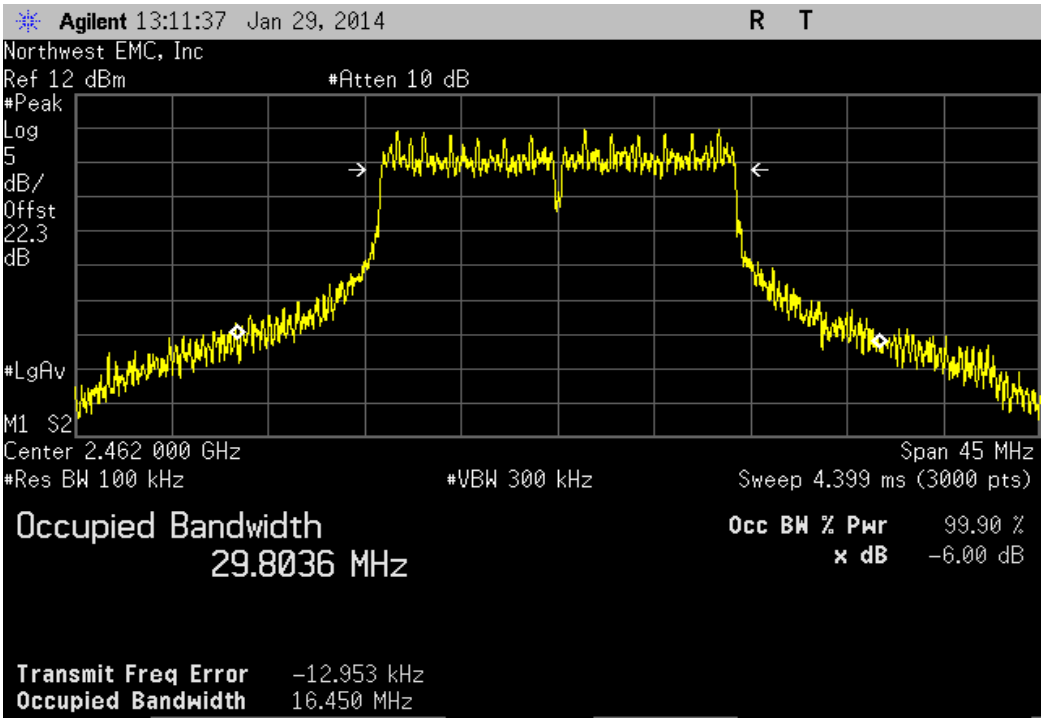
				Value	Limit	Result
				16.475 MHz	> 500 kHz	Pass



OCCUPIED BANDWIDTH

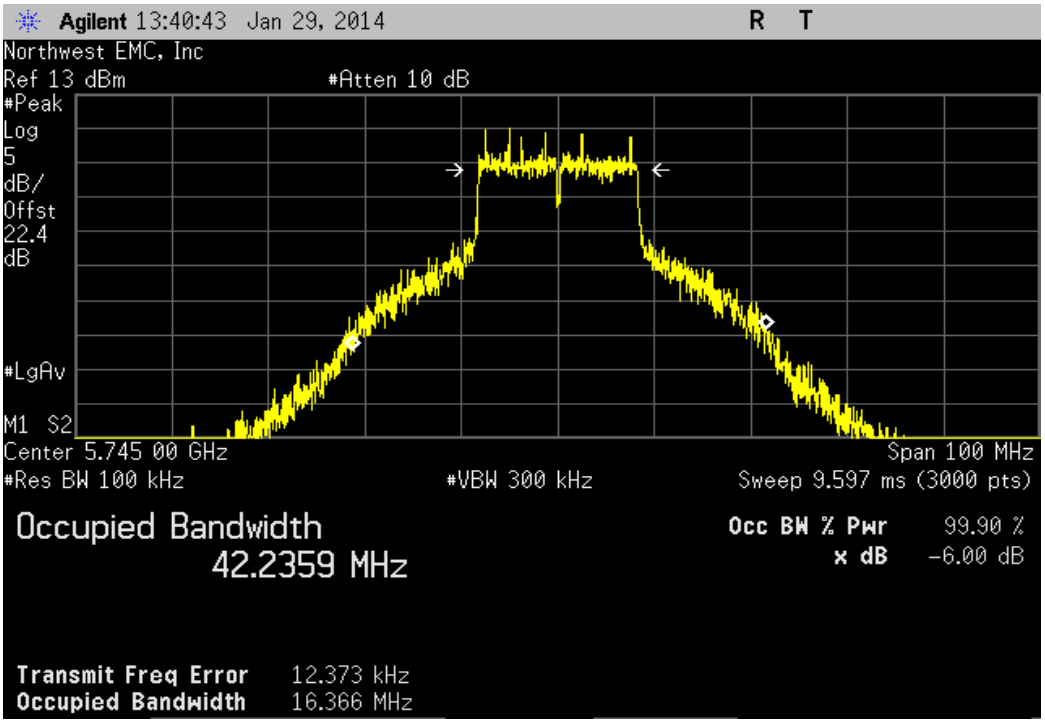
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				16.45 MHz	> 500 kHz	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz

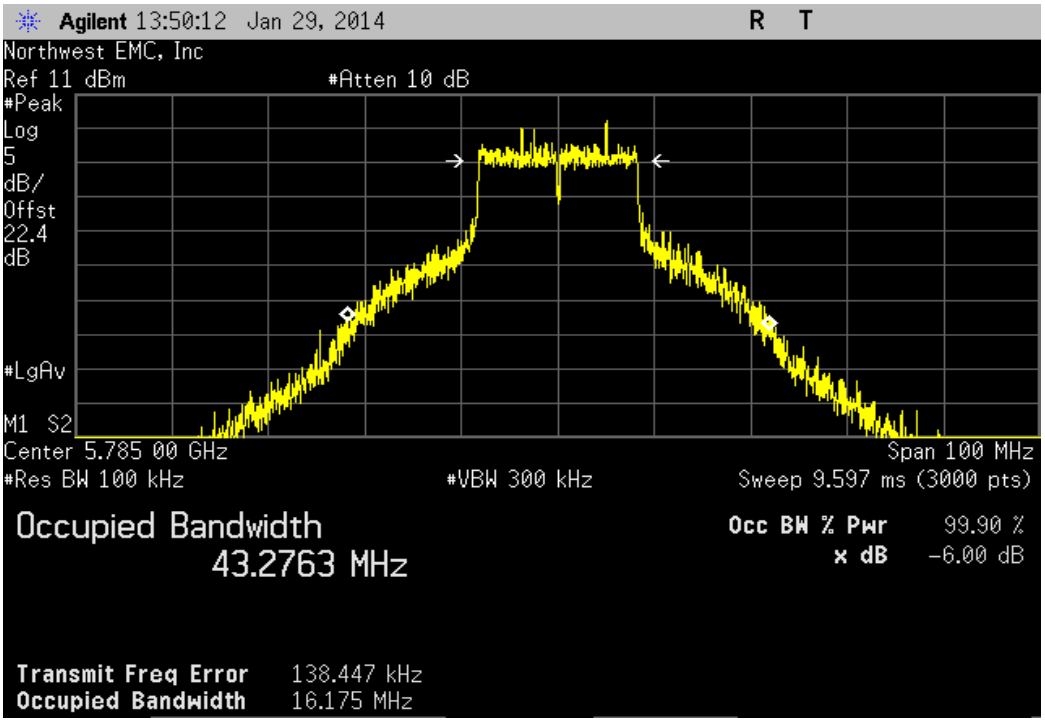
				Value	Limit	Result
				16.366 MHz	> 500 kHz	Pass



OCCUPIED BANDWIDTH

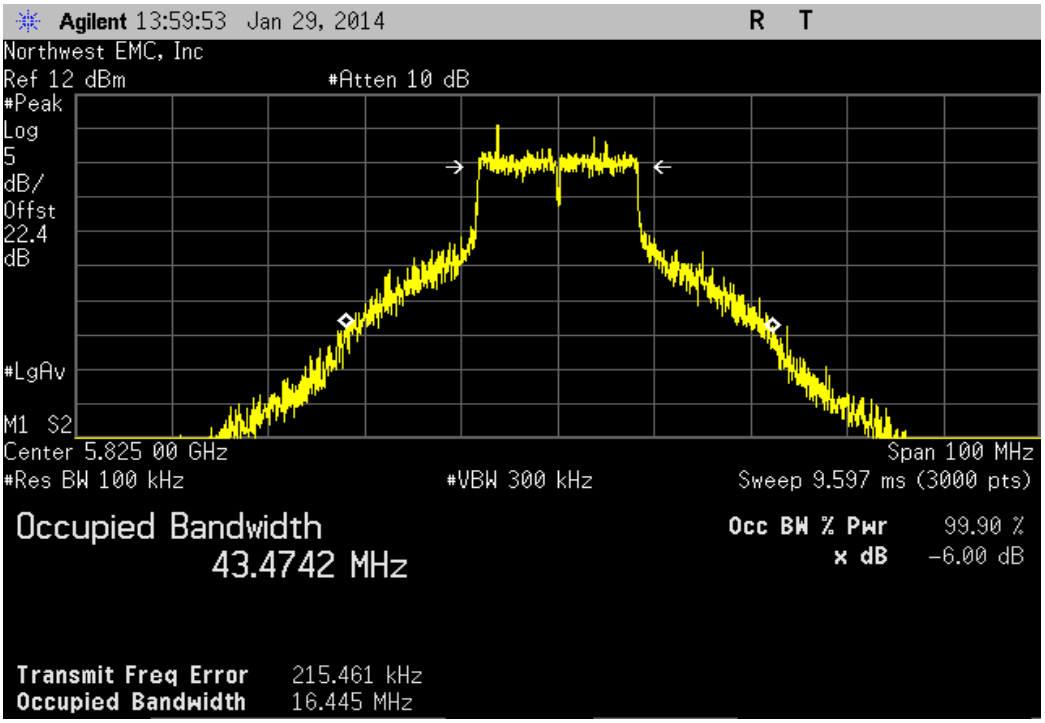
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz

				Value	Limit	Result
				16.175 MHz	> 500 kHz	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz

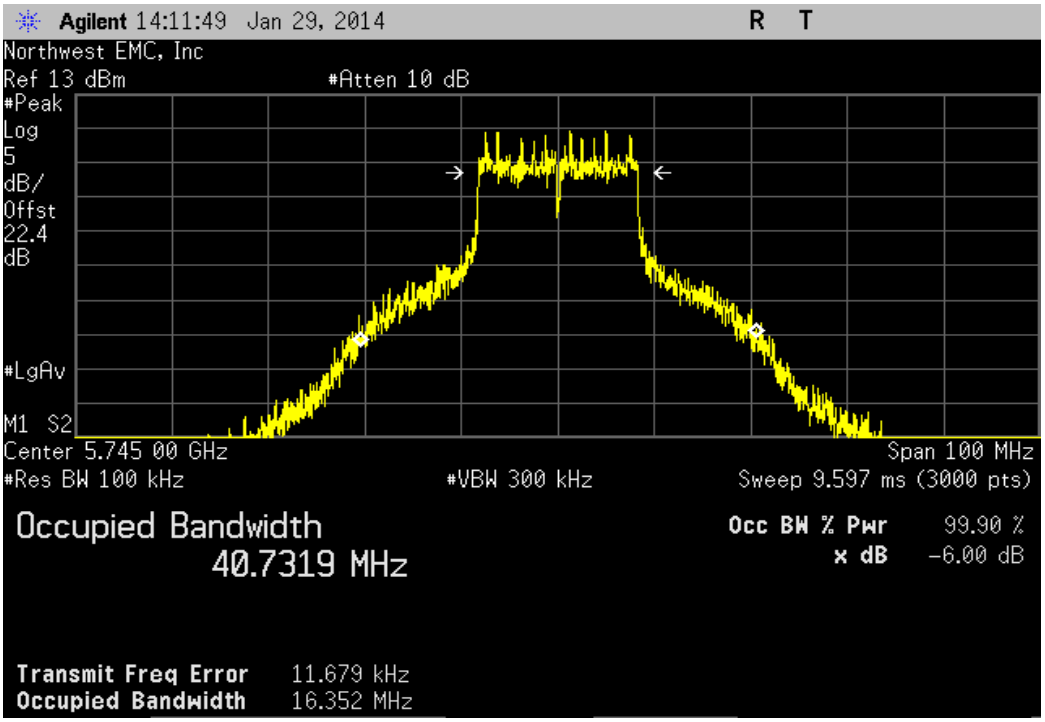
				Value	Limit	Result
				16.445 MHz	> 500 kHz	Pass



OCCUPIED BANDWIDTH

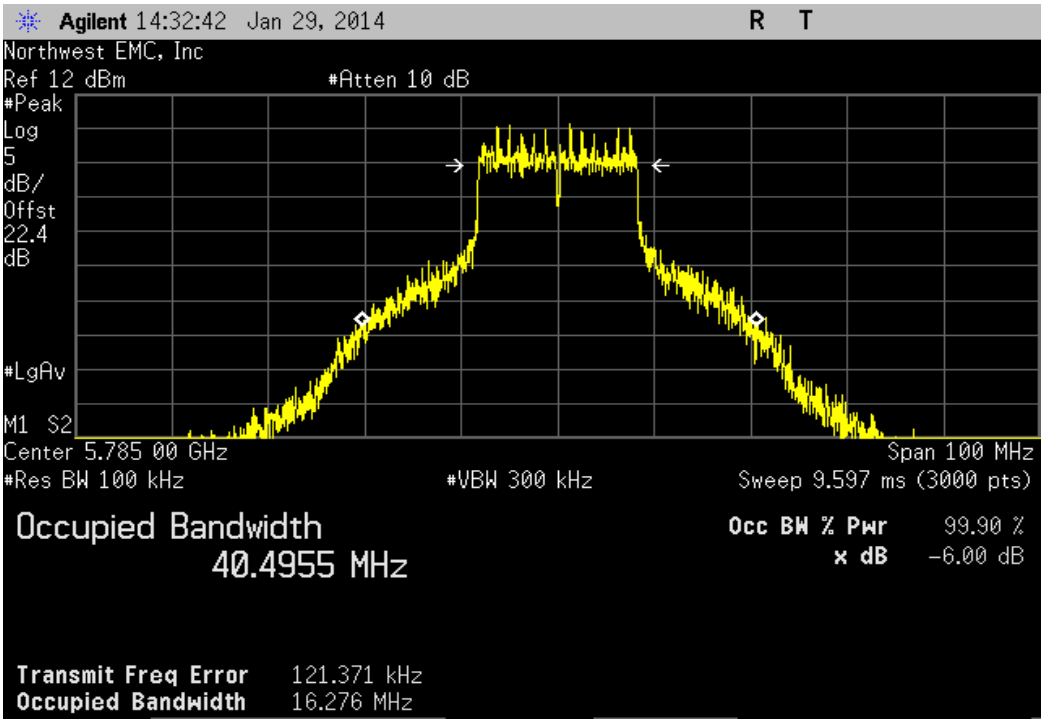
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz

				Value	Limit	Result
				16.352 MHz	> 500 kHz	Pass



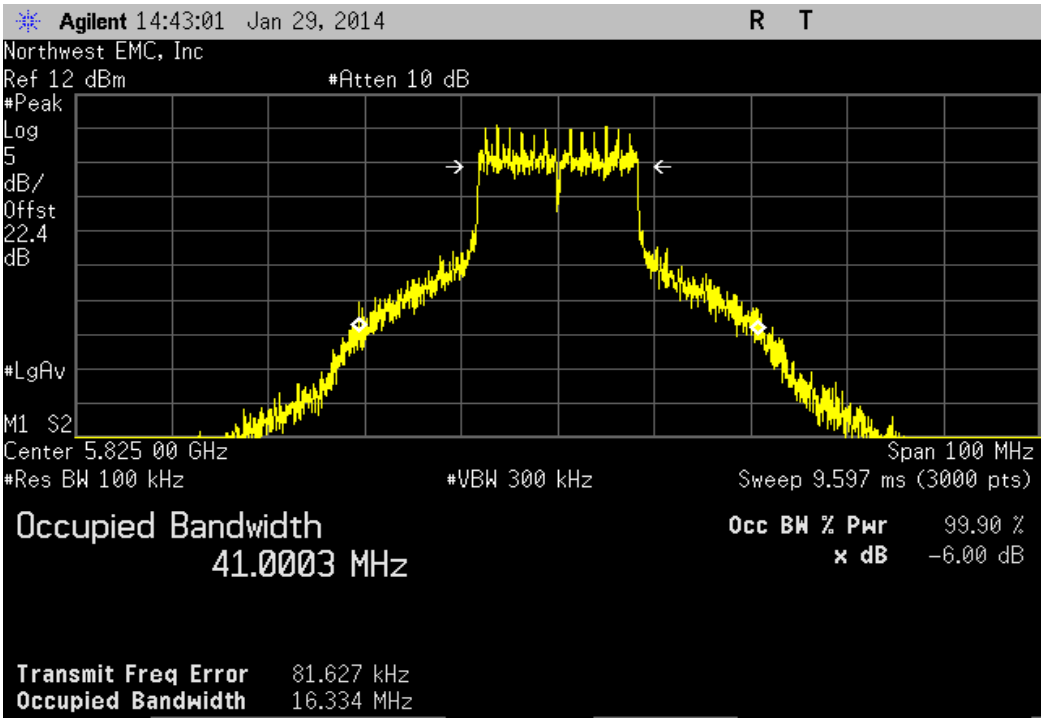
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz

				Value	Limit	Result
				16.276 MHz	> 500 kHz	Pass

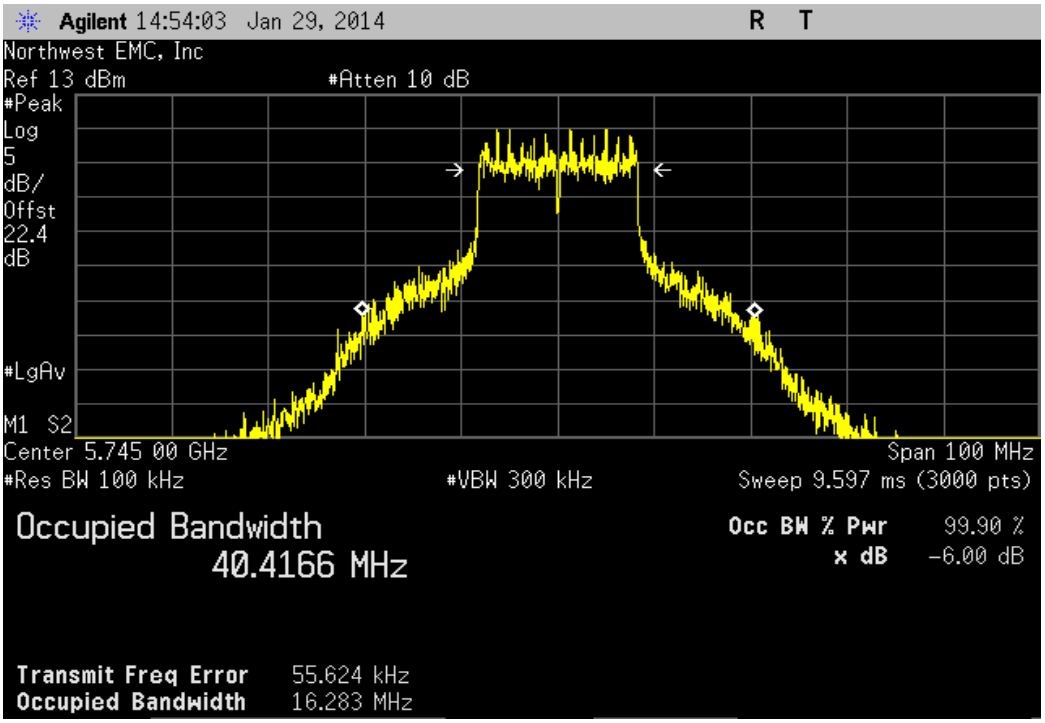


OCCUPIED BANDWIDTH

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



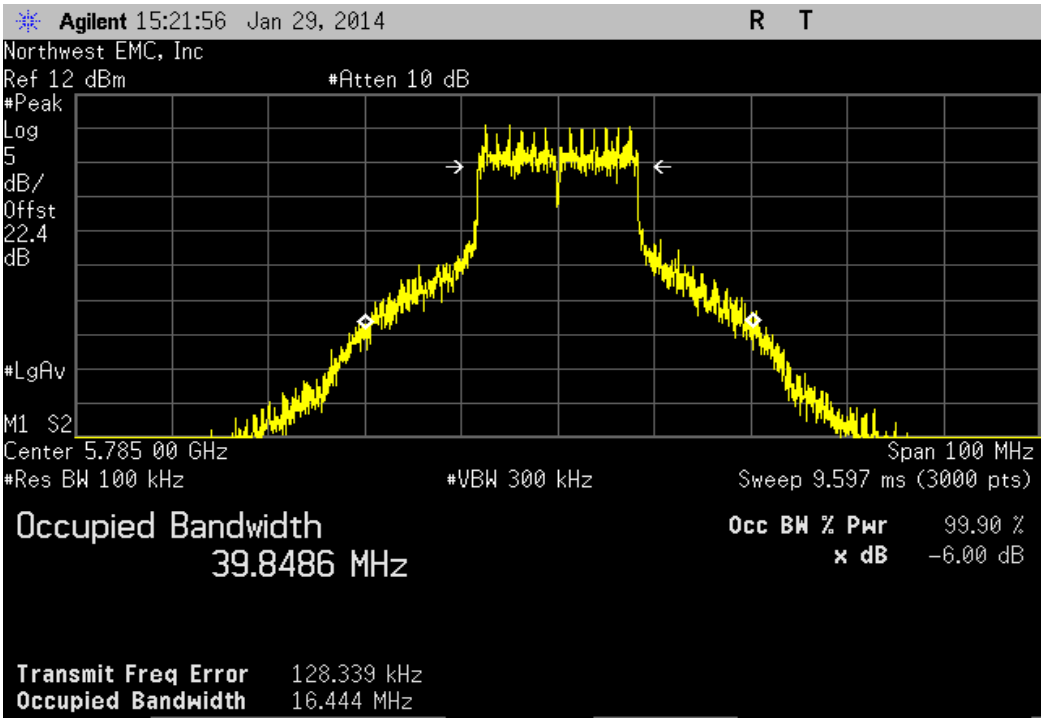
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz						
				Value	Limit	Result
				16.283 MHz	> 500 kHz	Pass



OCCUPIED BANDWIDTH

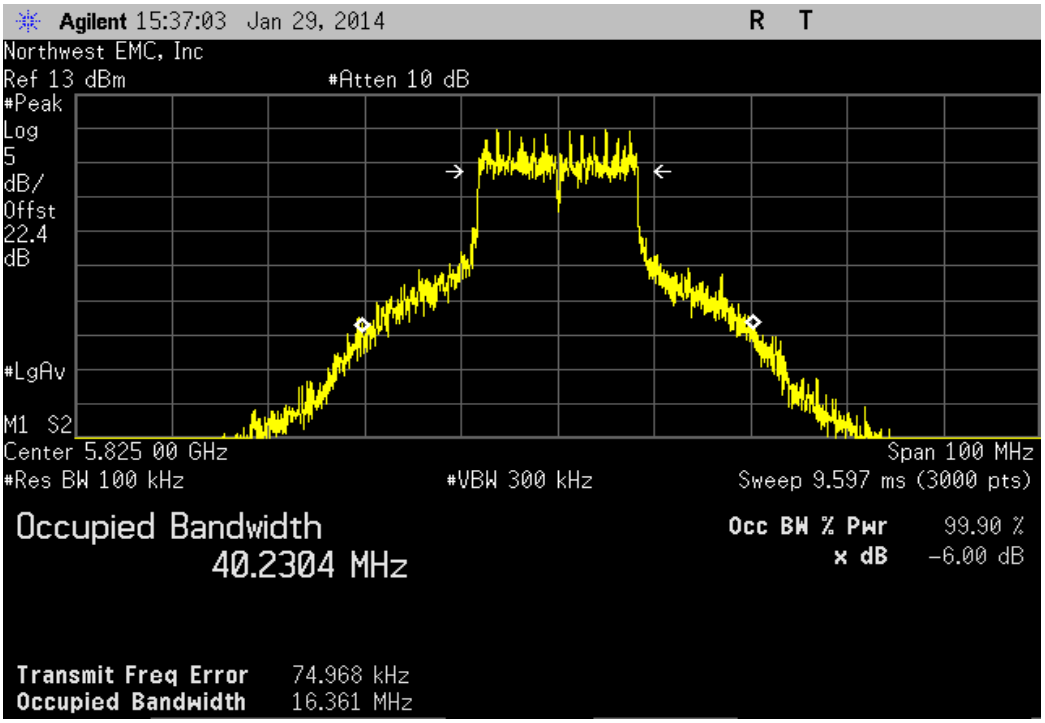
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz

				Value	Limit	Result
				16.444 MHz	> 500 kHz	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz

				Value	Limit	Result
				16.361 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)
Spectrum Analyzer	Agilent	E4446A	AAY	2/22/2013	24
OC13 Cables	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	0
Attenuator, 20db, 'SMA'	Weinschel Corp	4H-20	AWB	6/7/2013	12
40GHz DC Block	Miteq	DCB4000	AMD	5/16/2013	12
Power Meter	Hewlett Packard	E4418A	SPA	4/11/2012	24
Power Sensor	Agilent	E4412A	SQE	4/11/2012	24
Signal Generator	Agilent	E8257D	TGU	2/1/2012	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.

Method Option 1 found in KDB 558074 DTS D01 Measurement Section 8.1.1 was used because the RBW on the analyzer was greater than the Emission Bandwidth of the radio.

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:	RAD7A/Radical 7 V2			**Work Order:**	MASI0151
Serial Number:	1000000349			**Date:**	01/29/14
Customer:	Masimo Corporation			**Temperature:**	24.3°C
Attendees:	Mike Clark			**Humidity:**	41%
Project:	None			**Barometric Pres.:**	1011
Tested by:	Jaemi Suh	**Power:**	Battery	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 15.247:2014	ANSI C63.10:2009

COMMENTS

TX Power set to 90.

DEVIATIONS FROM TEST STANDARD

None

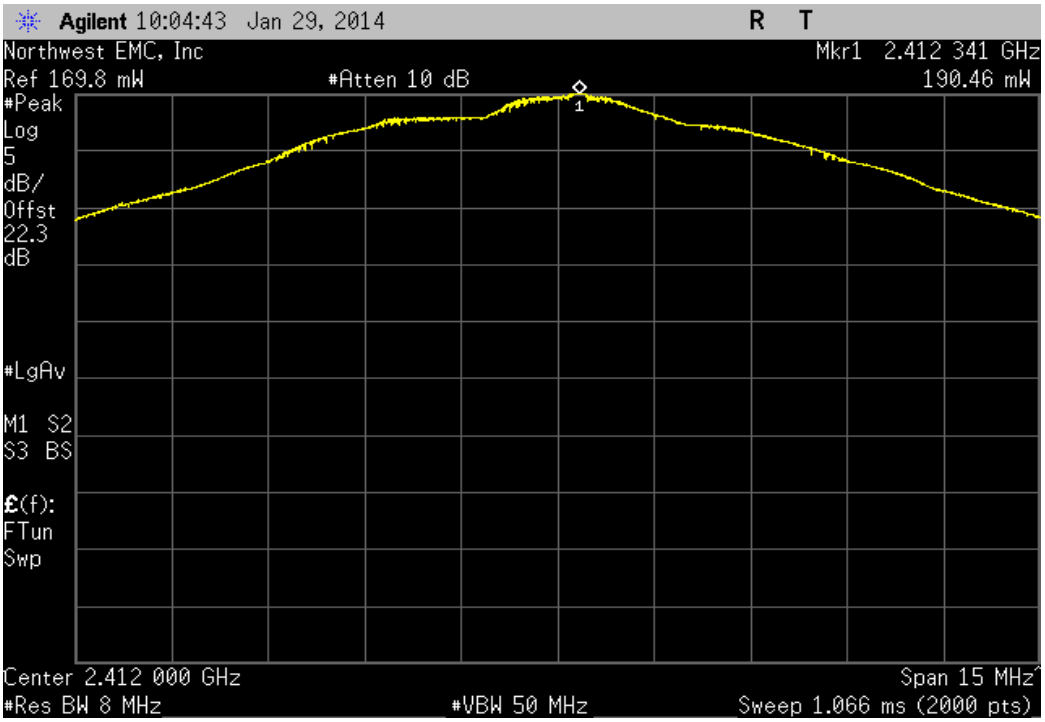
Configuration #	1	Signature

		Value	Limit	Result
2400 MHz - 2483.5 MHz Band				
	802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	190.458 mW	< 1 W	Pass
	Mid Channel 6, 2437 MHz	210.863 mW	< 1 W	Pass
	High Channel 11, 2462 MHz	207.348 mW	< 1 W	Pass
	802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	198.244 mW	< 1 W	Pass
	Mid Channel 6, 2437 MHz	212.373 mW	< 1 W	Pass
	High Channel 11, 2462 MHz	218.022 mW	< 1 W	Pass
	802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	63.982 mW	< 1 W	Pass
	Mid Channel 6, 2437 MHz	65.27 mW	< 1 W	Pass
	High Channel 11, 2462 MHz	70.604 mW	< 1 W	Pass
	802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	65.864 mW	< 1 W	Pass
	Mid Channel 6, 2437 MHz	73.602 mW	< 1 W	Pass
	High Channel 11, 2462 MHz	77.876 mW	< 1 W	Pass
	802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	69.613 mW	< 1 W	Pass
	Mid Channel 6, 2437 MHz	74.864 mW	< 1 W	Pass
	High Channel 11, 2462 MHz	77.88 mW	< 1 W	Pass
5725 MHz - 5850 MHz Band				
	802.11(a) 6 Mbps			
	Low Channel 149, 5745 MHz	101.181 mW	< 1 W	Pass
	Mid Channel 157, 5785 MHz	83.416 mW	< 1 W	Pass
	High Channel 165, 5825 MHz	89.013 mW	< 1 W	Pass
	802.11(a) 36 Mbps			
	Low Channel 149, 5745 MHz	82.675 mW	< 1 W	Pass
	Mid Channel 157, 5785 MHz	73.935 mW	< 1 W	Pass
	High Channel 165, 5825 MHz	83.747 mW	< 1 W	Pass
	802.11(a) 54 Mbps			
	Low Channel 149, 5745 MHz	88.183 mW	< 1 W	Pass
	Mid Channel 157, 5785 MHz	66.807 mW	< 1 W	Pass
	High Channel 165, 5825 MHz	88.736 mW	< 1 W	Pass

OUTPUT POWER

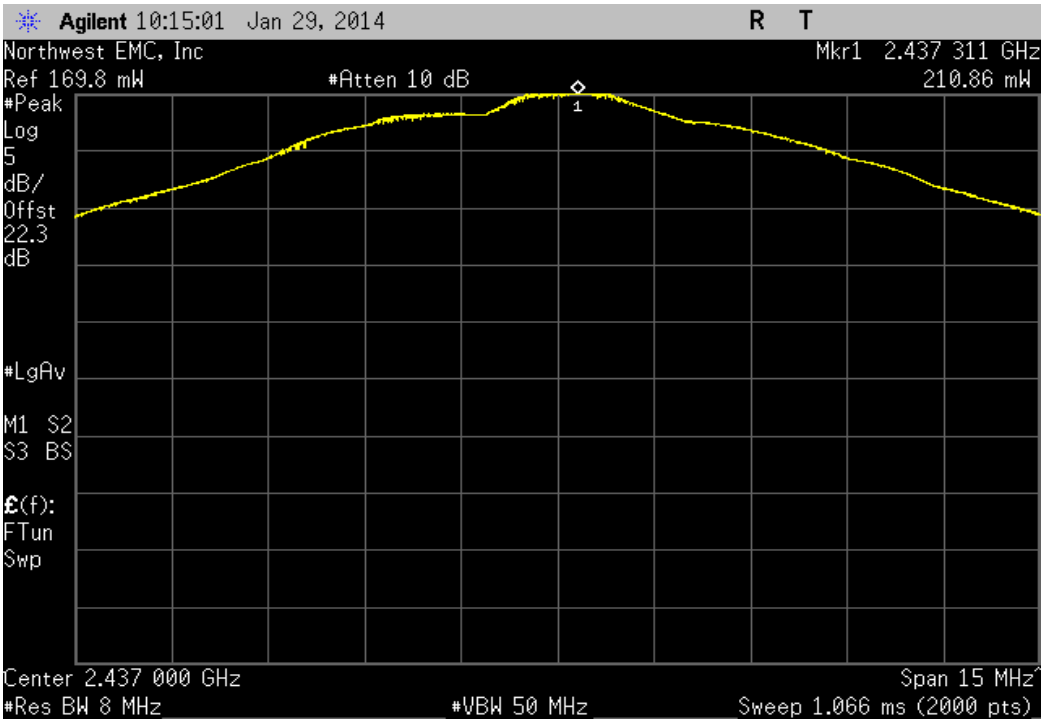
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				190.458 mW	< 1 W	Pass



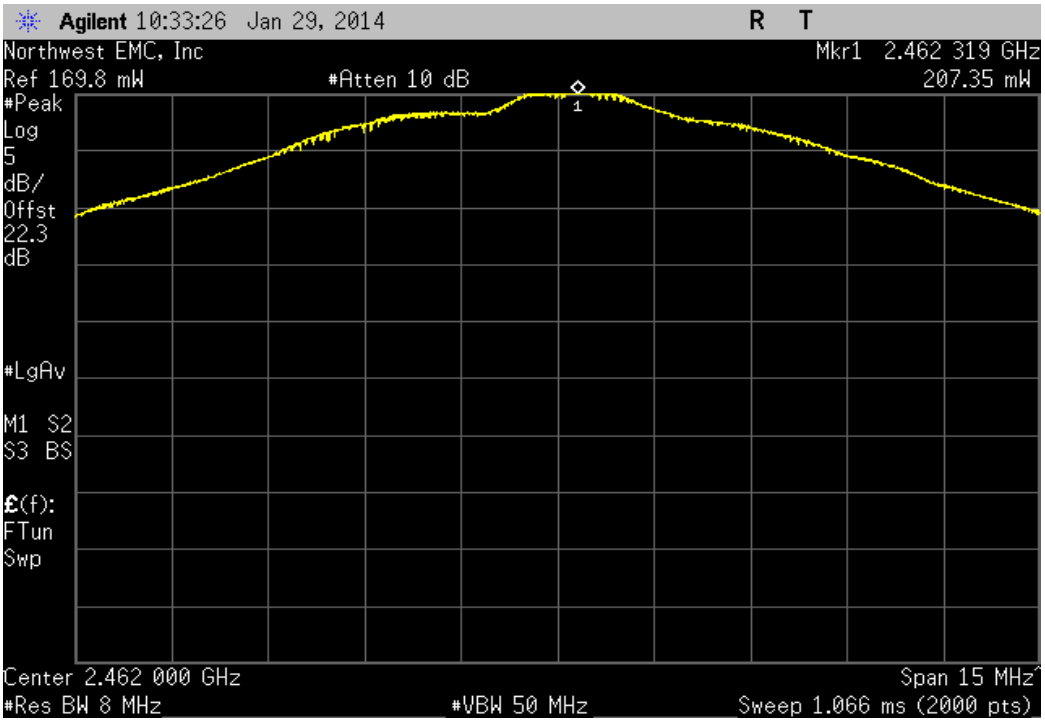
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				210.863 mW	< 1 W	Pass

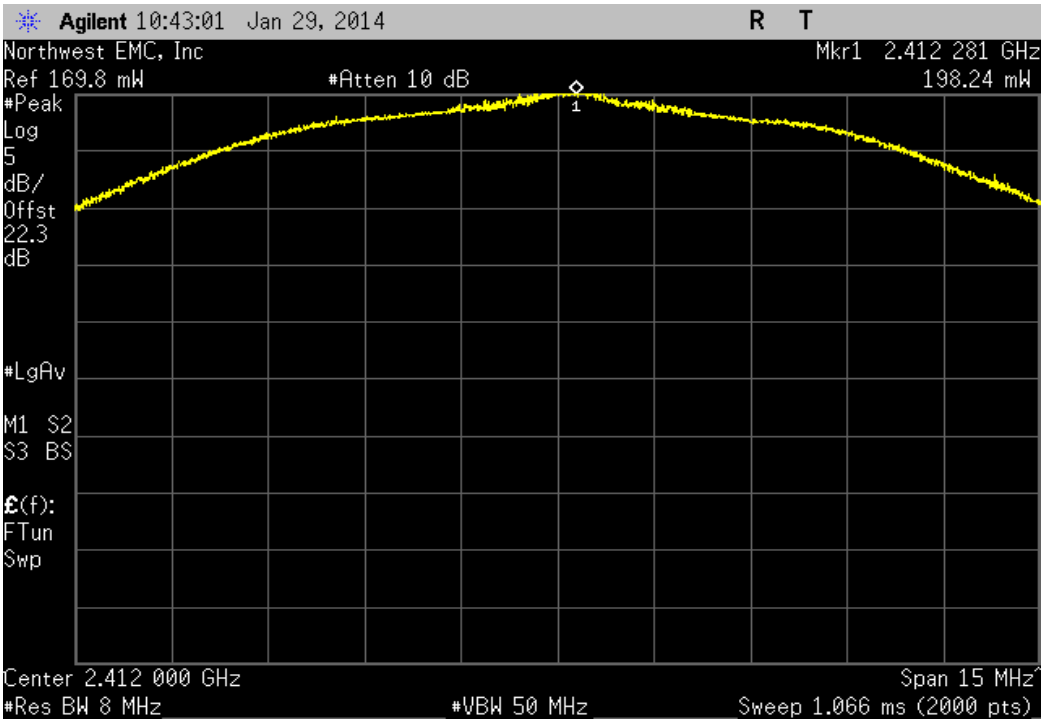


OUTPUT POWER

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



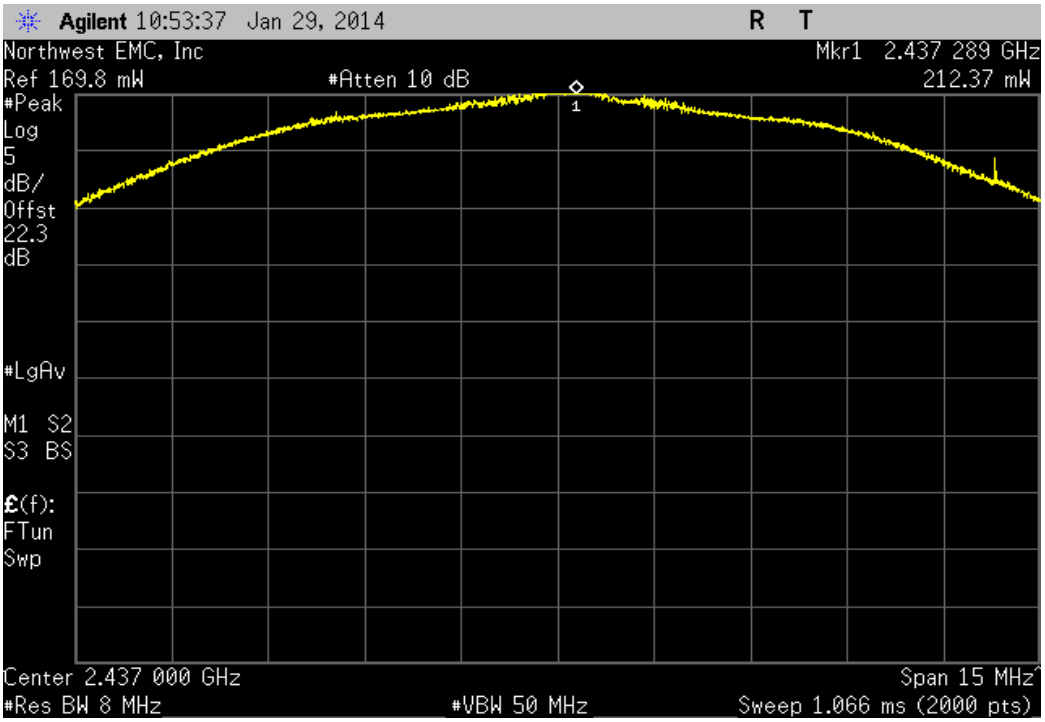
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				198.244 mW	< 1 W	Pass



OUTPUT POWER

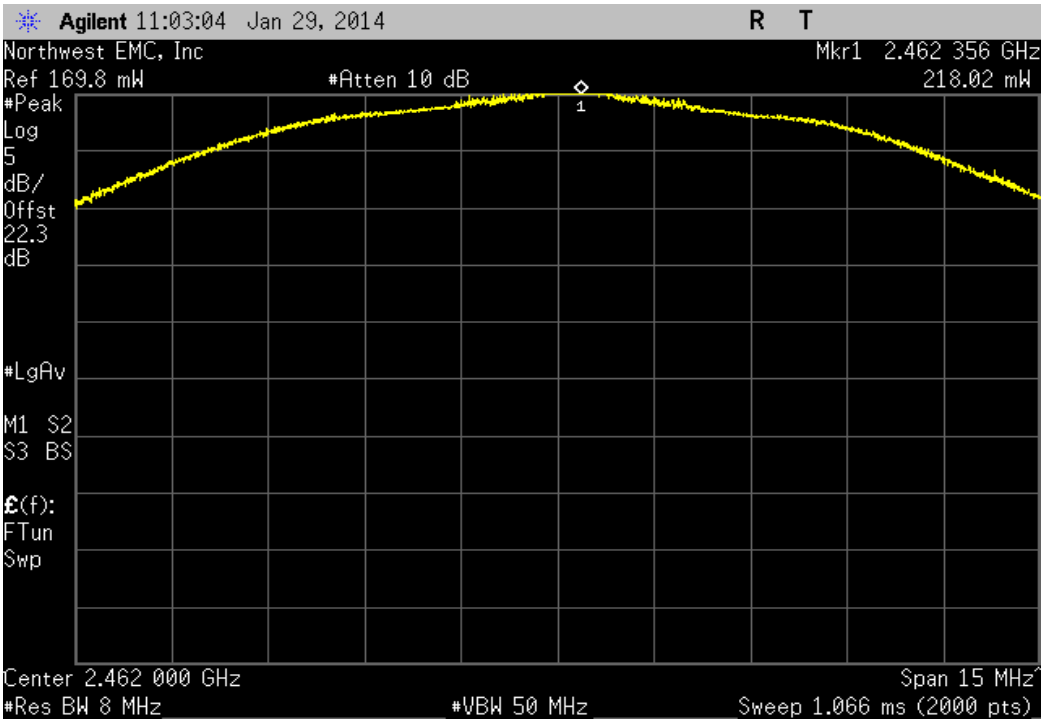
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				212.373 mW	< 1 W	Pass



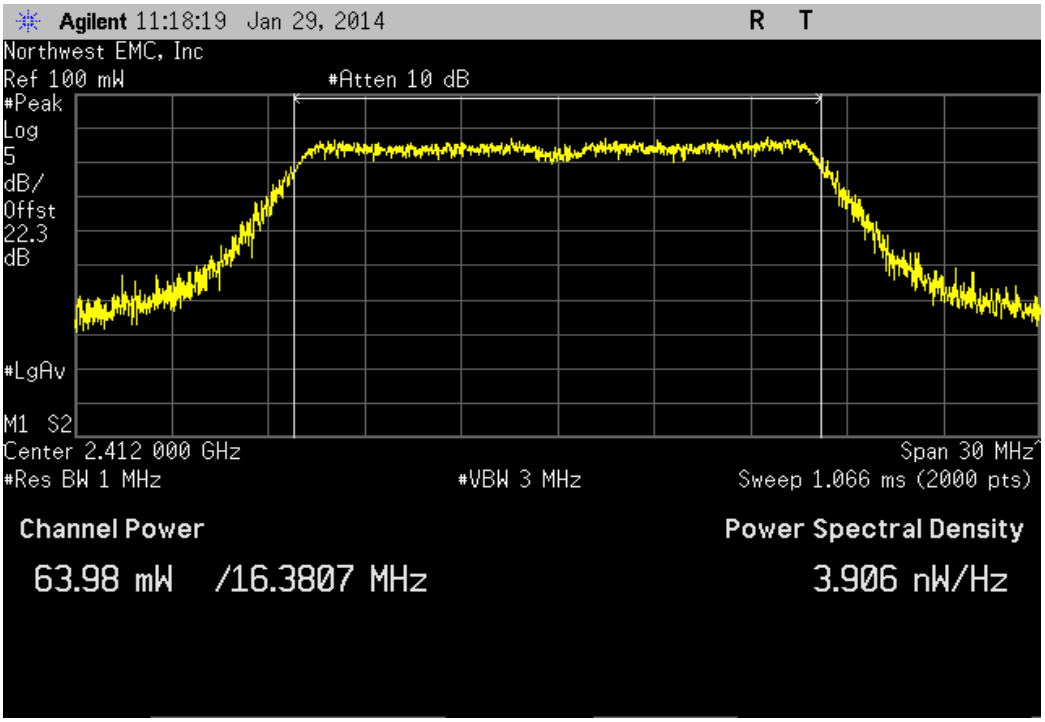
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				218.022 mW	< 1 W	Pass



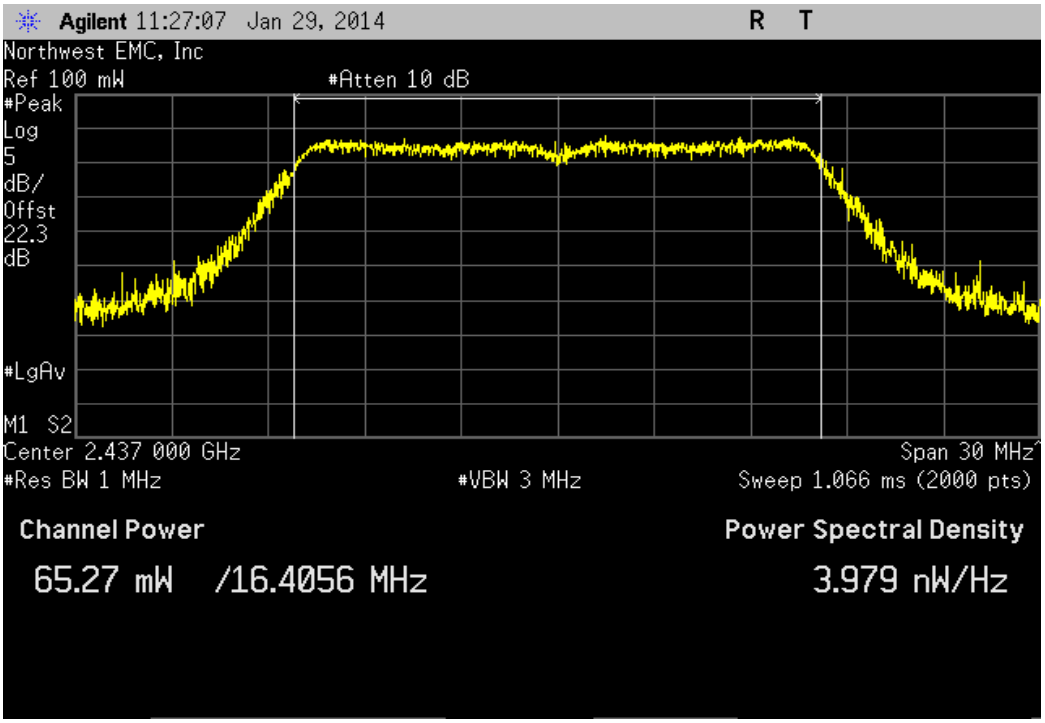
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				63.982 mW	< 1 W	Pass



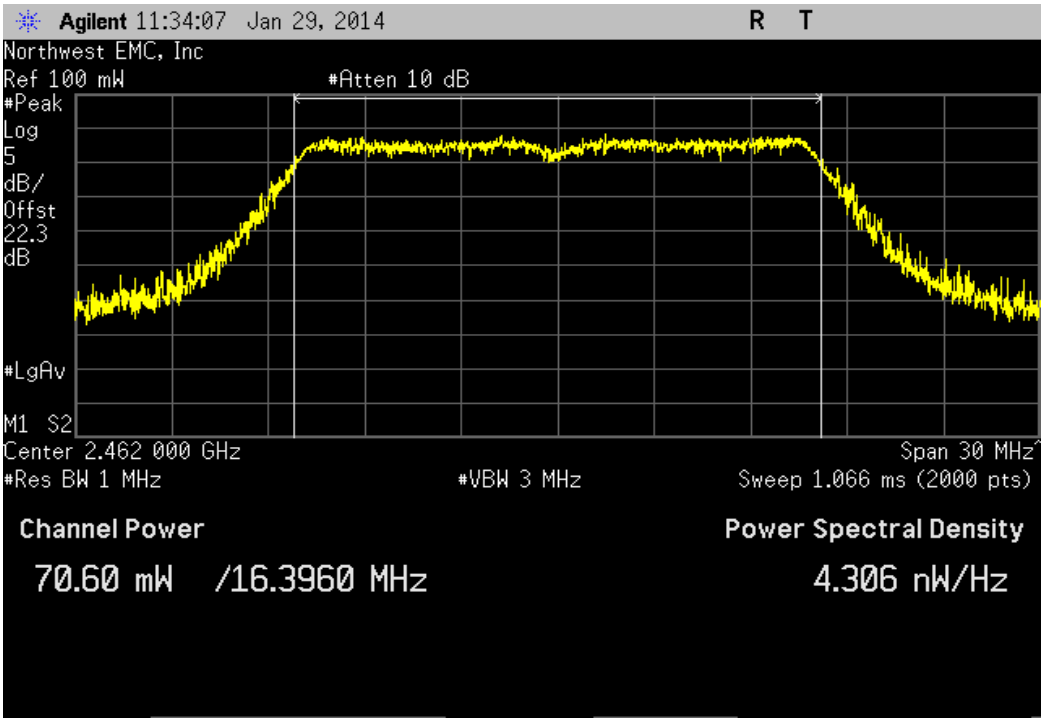
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				65.27 mW	< 1 W	Pass



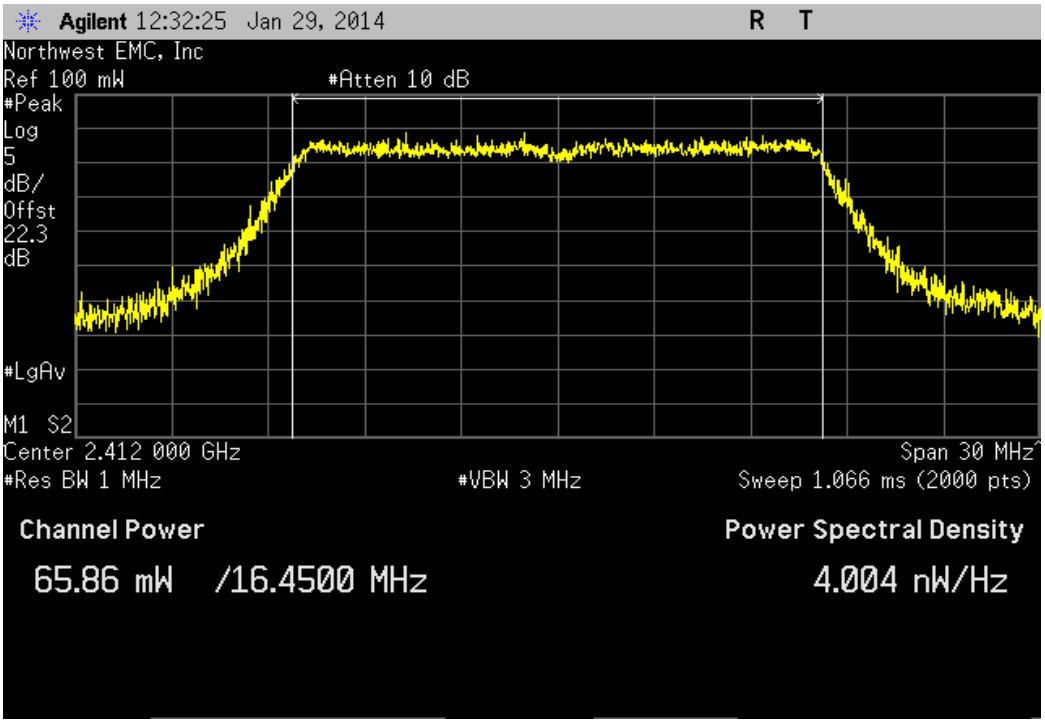
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				70.604 mW	< 1 W	Pass



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

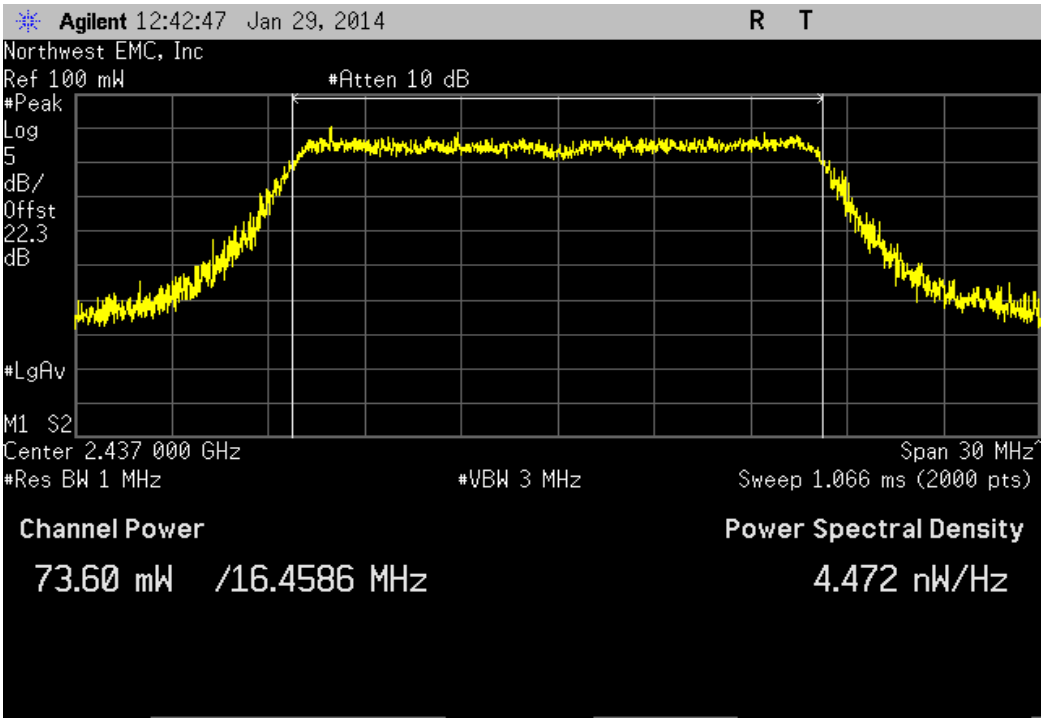
				Value	Limit	Result
				65.864 mW	< 1 W	Pass



OUTPUT POWER

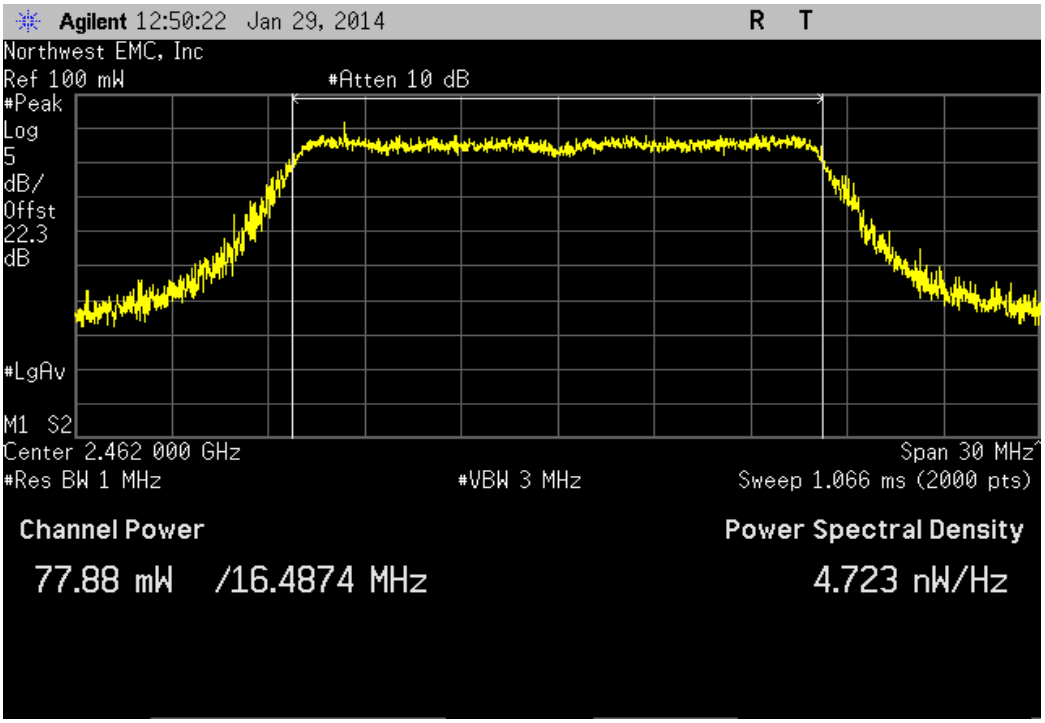
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				73.602 mW	< 1 W	Pass



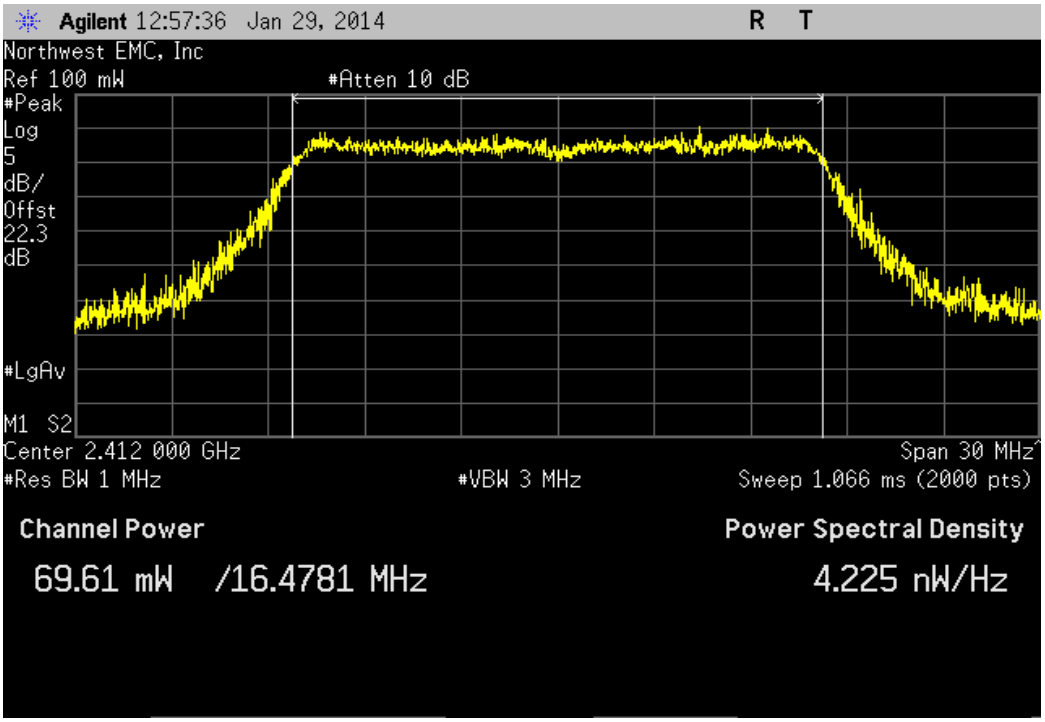
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				77.876 mW	< 1 W	Pass



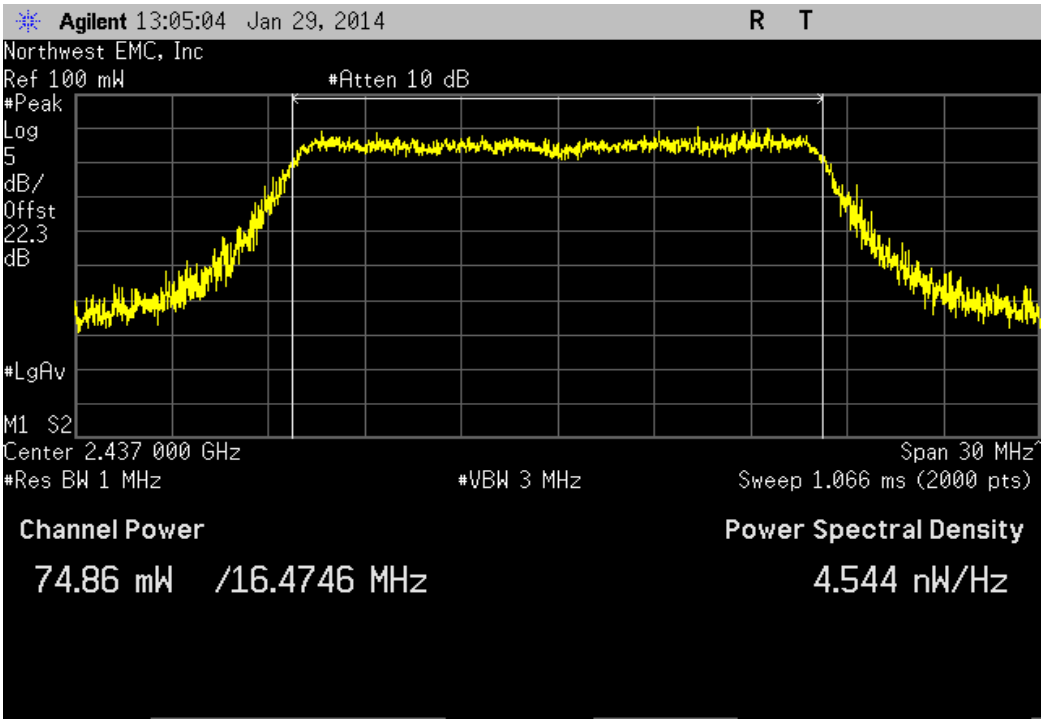
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz

				Value	Limit	Result
				69.613 mW	< 1 W	Pass



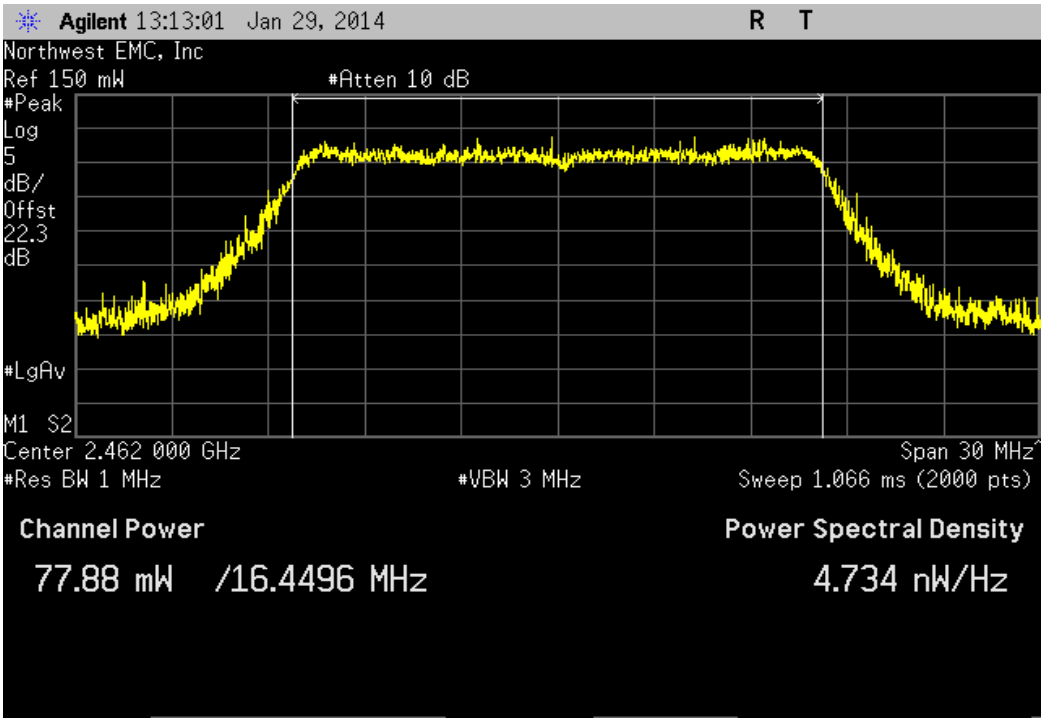
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz

				Value	Limit	Result
				74.864 mW	< 1 W	Pass



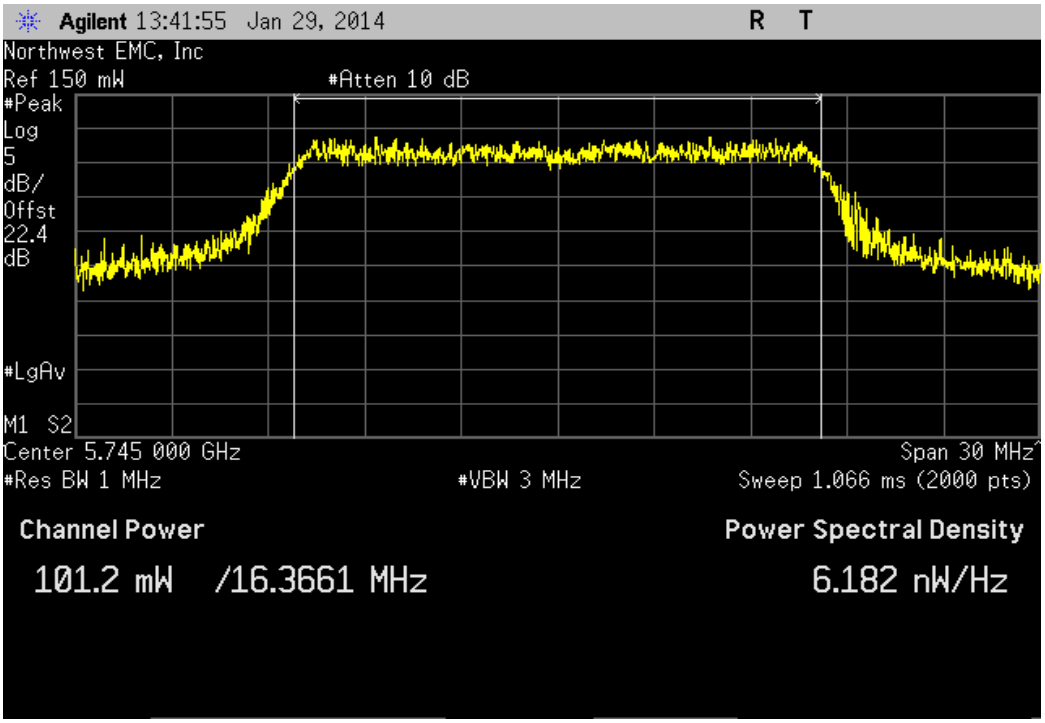
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz

				Value	Limit	Result
				77.88 mW	< 1 W	Pass



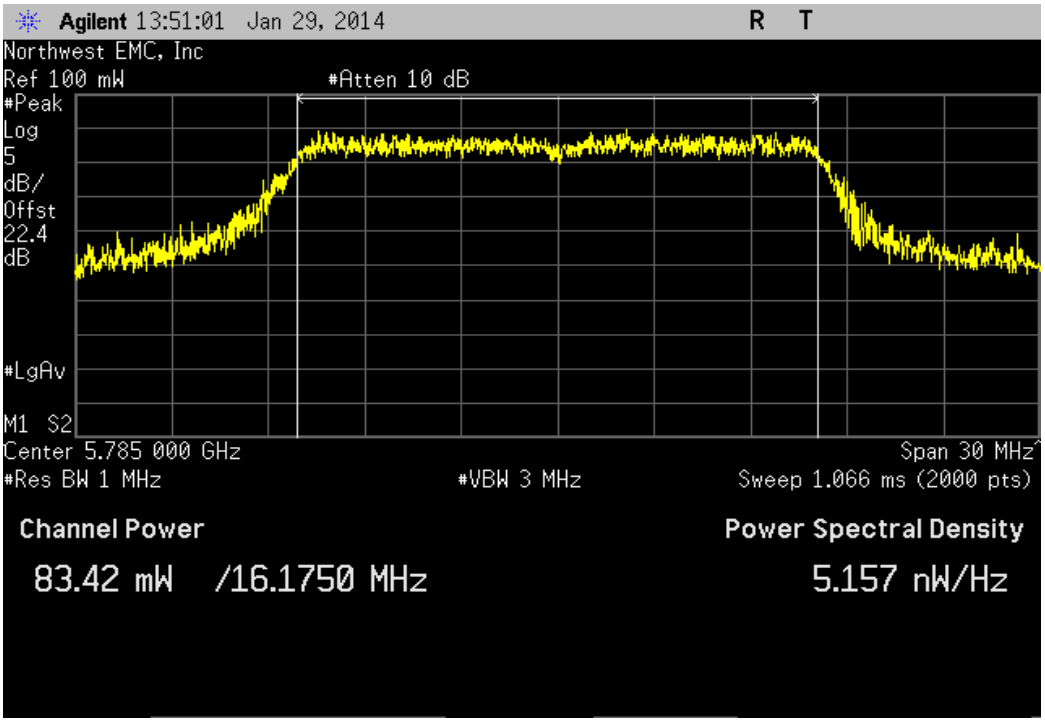
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz

				Value	Limit	Result
				101.181 mW	< 1 W	Pass



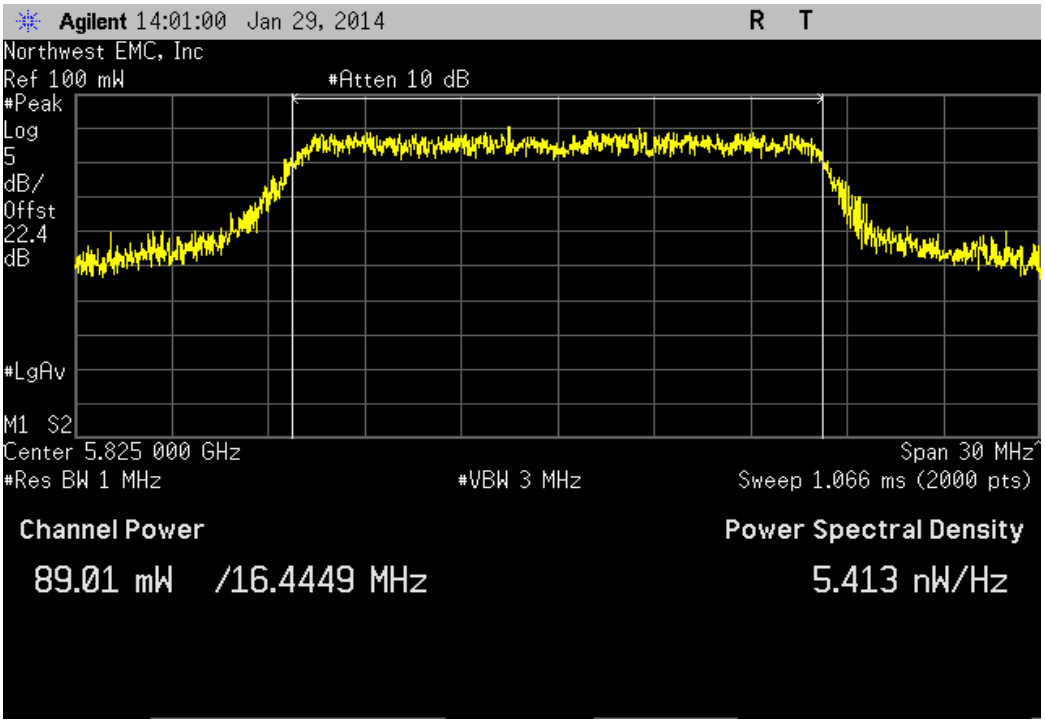
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz

				Value	Limit	Result
				83.416 mW	< 1 W	Pass



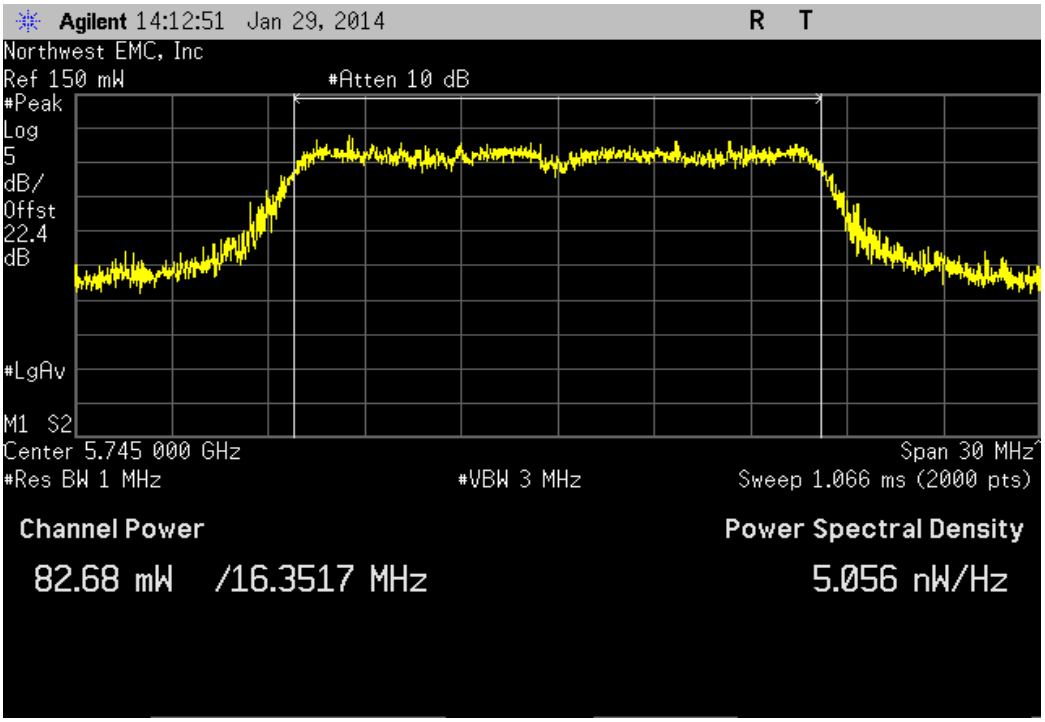
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz

				Value	Limit	Result
				89.013 mW	< 1 W	Pass

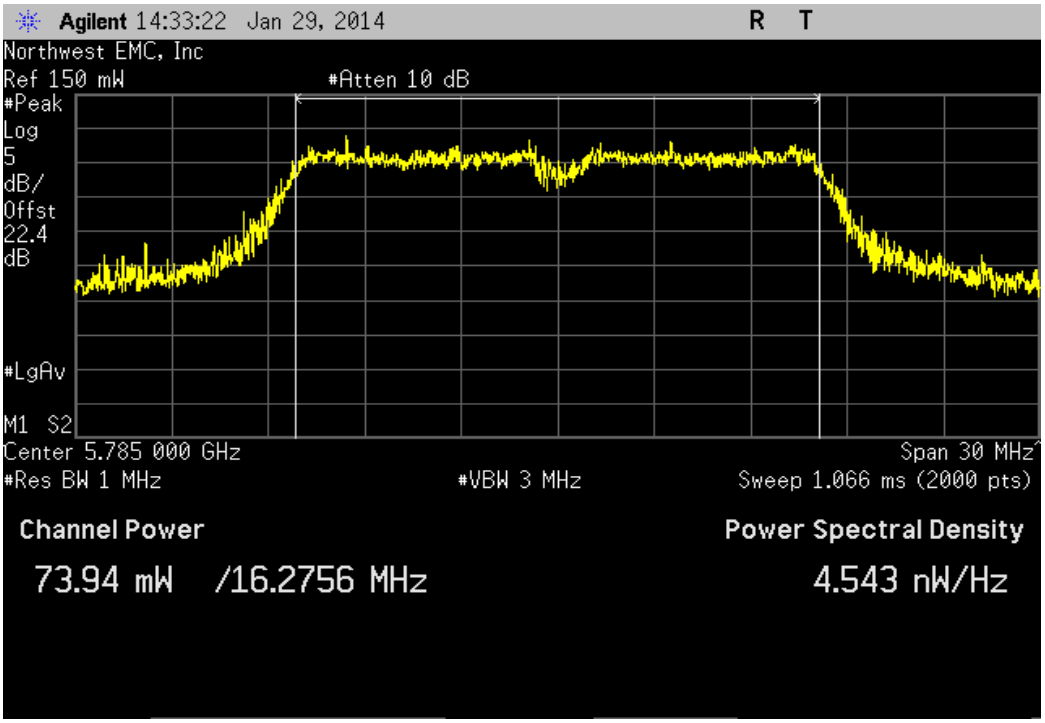


OUTPUT POWER

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



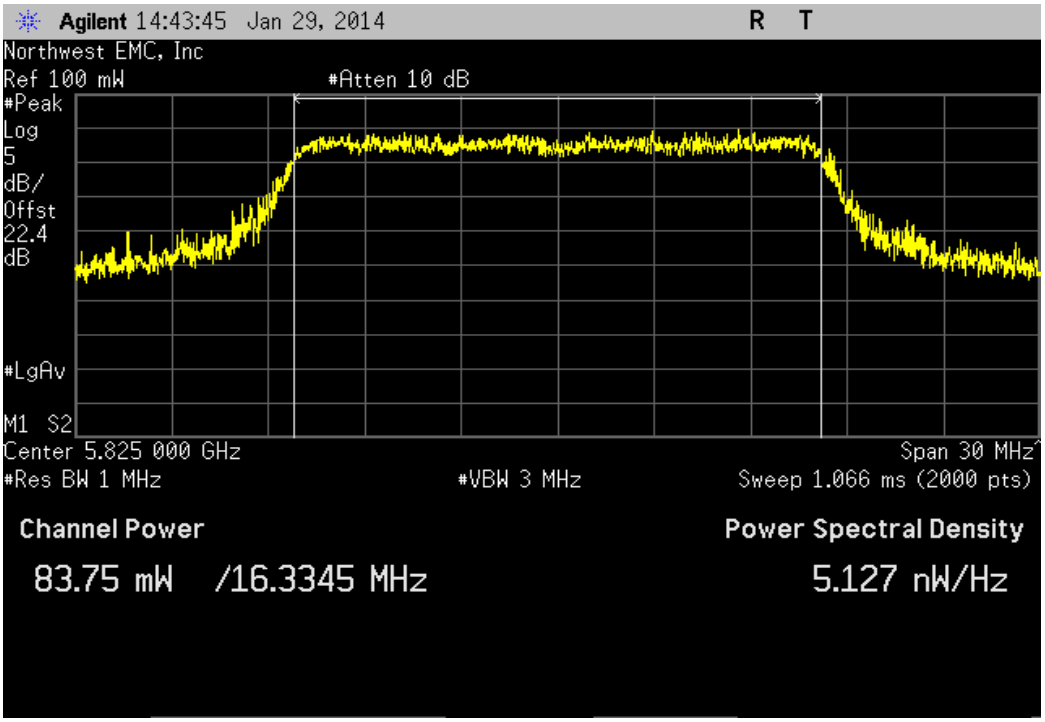
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz						
				Value	Limit	Result
				73.935 mW	< 1 W	Pass



OUTPUT POWER

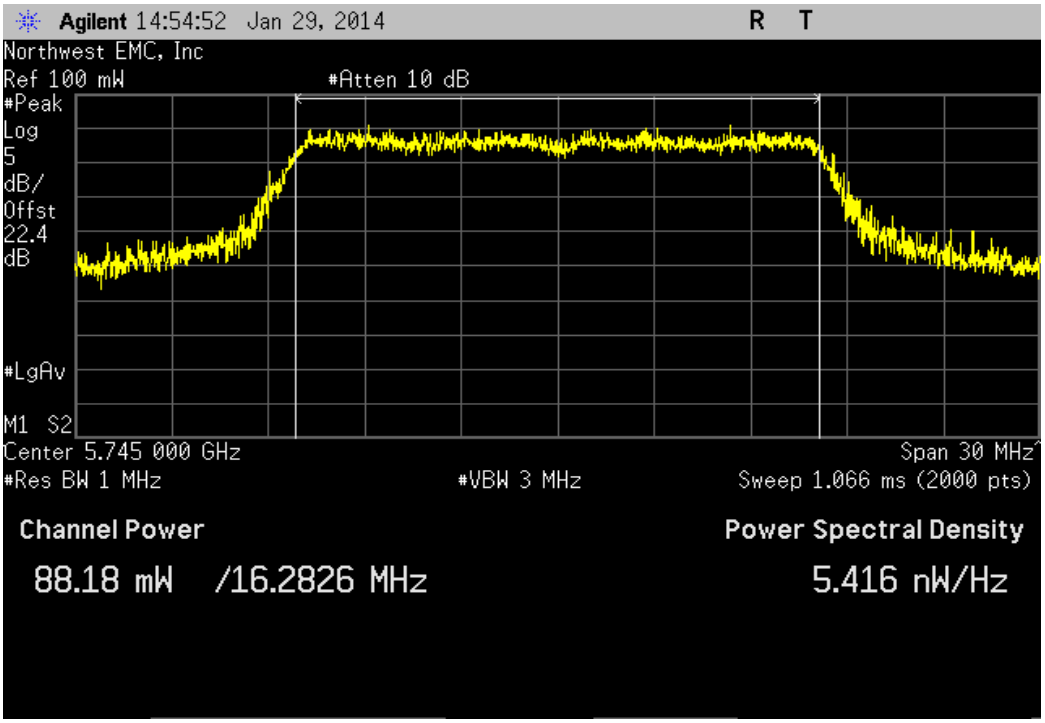
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz

				Value	Limit	Result
				83.747 mW	< 1 W	Pass

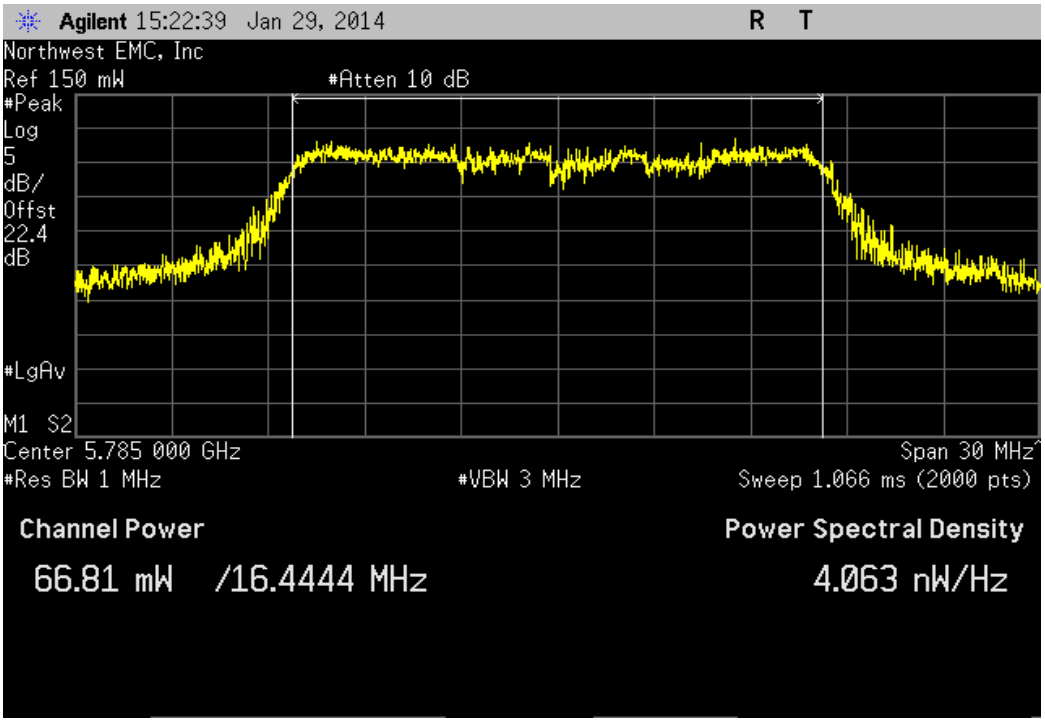


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz

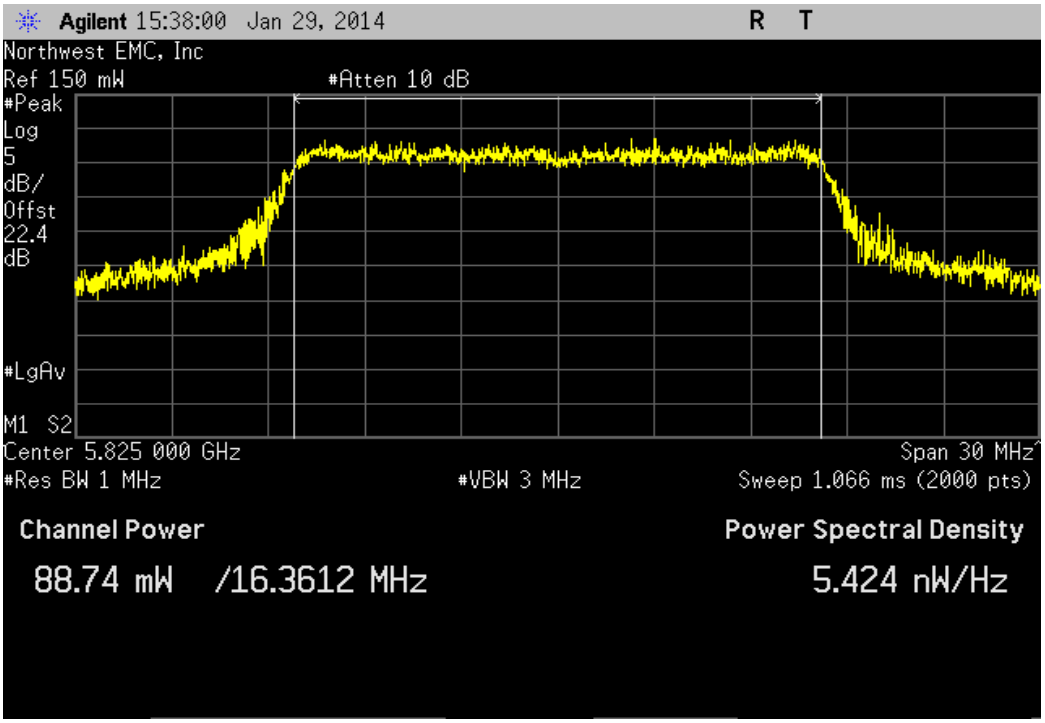
				Value	Limit	Result
				88.183 mW	< 1 W	Pass



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



5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz						
				Value	Limit	Result
				88.736 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)
Spectrum Analyzer	Agilent	E4446A	AAY	2/22/2013	24
OC13 Cables	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	0
Attenuator, 20db, 'SMA'	Weinschel Corp	4H-20	AWB	6/7/2013	12
40GHz DC Block	Miteq	DCB4000	AMD	5/16/2013	12
Power Meter	Hewlett Packard	E4418A	SPA	4/11/2012	24
Power Sensor	Agilent	E4412A	SQE	4/11/2012	24
Signal Generator	Agilent	E8257D	TGU	2/1/2012	36

TEST DESCRIPTION

The maximum power spectral density measurements were measured with the EUT set to the required transmit frequencies in each band. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at the lowest, middle, and maximum data rate for each modulation type available.

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

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

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

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

POWER SPECTRAL DENSITY

EUT:	RAD7A/Radical 7 V2			**Work Order:**	MASI0151
Serial Number:	1000000349			**Date:**	01/29/14
Customer:	Masimo Corporation			**Temperature:**	24.3°C
Attendees:	Mike Clark			**Humidity:**	41%
Project:	None			**Barometric Pres.:**	1011
Tested by:	Jaemi Suh	**Power:**	Battery	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 15.247:2014	ANSI C63.10:2009

COMMENTS

TX Power set to 90.

DEVIATIONS FROM TEST STANDARD

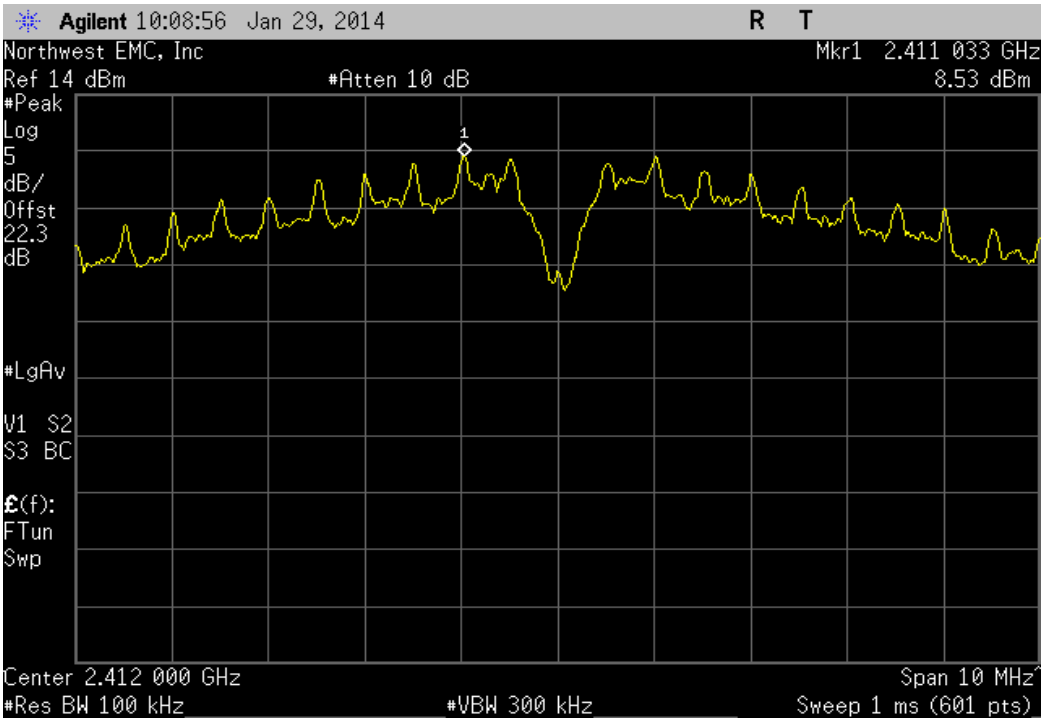
None

Configuration #	1	Signature

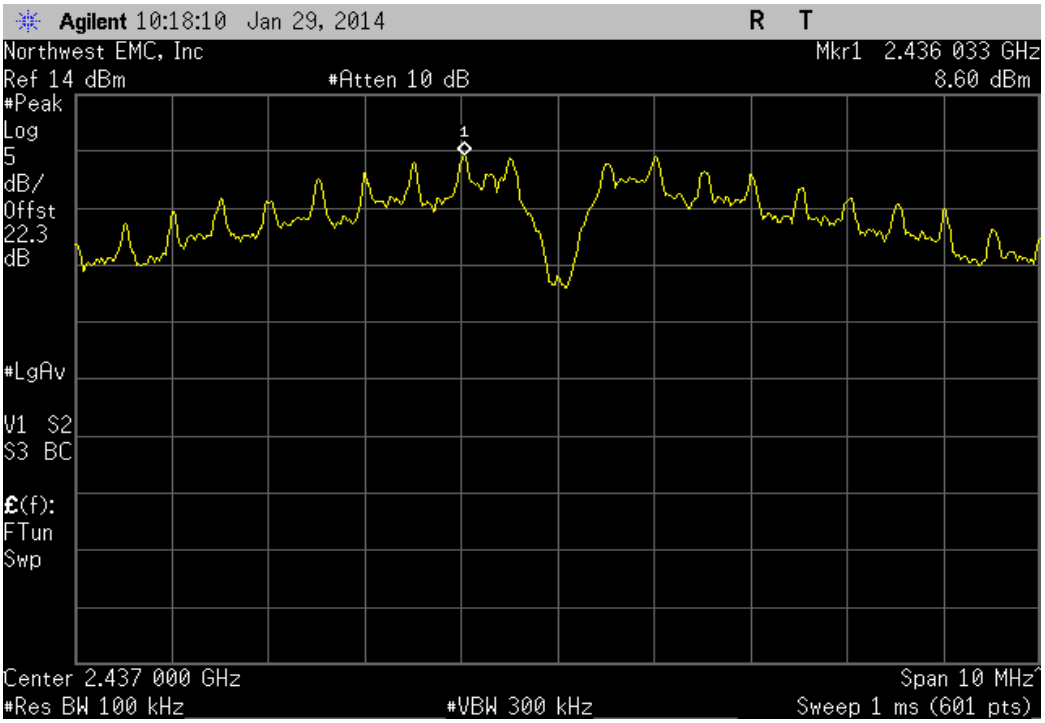
	Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
2400 MHz - 2483.5 MHz Band					
802.11(b) 1 Mbps					
Low Channel 1, 2412 MHz	8.527	-15.2	-6.673	8	Pass
Mid Channel 6, 2437 MHz	8.603	-15.2	-6.597	8	Pass
High Channel 11, 2462 MHz	8.935	-15.2	-6.265	8	Pass
802.11(b) 11 Mbps					
Low Channel 1, 2412 MHz	9.227	-15.2	-5.973	8	Pass
Mid Channel 6, 2437 MHz	9.375	-15.2	-5.825	8	Pass
High Channel 11, 2462 MHz	9.644	-15.2	-5.556	8	Pass
802.11(g) 6 Mbps					
Low Channel 1, 2412 MHz	5.416	-15.2	-9.784	8	Pass
Mid Channel 6, 2437 MHz	5.982	-15.2	-9.218	8	Pass
High Channel 11, 2462 MHz	6.11	-15.2	-9.09	8	Pass
802.11(g) 36 Mbps					
Low Channel 1, 2412 MHz	5.511	-15.2	-9.689	8	Pass
Mid Channel 6, 2437 MHz	5.895	-15.2	-9.305	8	Pass
High Channel 11, 2462 MHz	4.879	-15.2	-10.321	8	Pass
802.11(g) 54 Mbps					
Low Channel 1, 2412 MHz	4.82	-15.2	-10.38	8	Pass
Mid Channel 6, 2437 MHz	5.739	-15.2	-9.461	8	Pass
High Channel 11, 2462 MHz	5.803	-15.2	-9.397	8	Pass
5725 MHz - 5850 MHz Band					
802.11(a) 6 Mbps					
Low Channel 149, 5745 MHz	5.479	-15.2	-9.721	8	Pass
Mid Channel 157, 5785 MHz	7.373	-15.2	-7.827	8	Pass
High Channel 165, 5825 MHz	4.124	-15.2	-11.076	8	Pass
802.11(a) 36 Mbps					
Low Channel 149, 5745 MHz	5.129	-15.2	-10.071	8	Pass
Mid Channel 157, 5785 MHz	5.135	-15.2	-10.065	8	Pass
High Channel 165, 5825 MHz	4.93	-15.2	-10.27	8	Pass
802.11(a) 54 Mbps					
Low Channel 149, 5745 MHz	6.333	-15.2	-8.867	8	Pass
Mid Channel 157, 5785 MHz	6.271	-15.2	-8.929	8	Pass
High Channel 165, 5825 MHz	5.322	-15.2	-9.878	8	Pass

POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		8.527	-15.2	-6.673	8	Pass

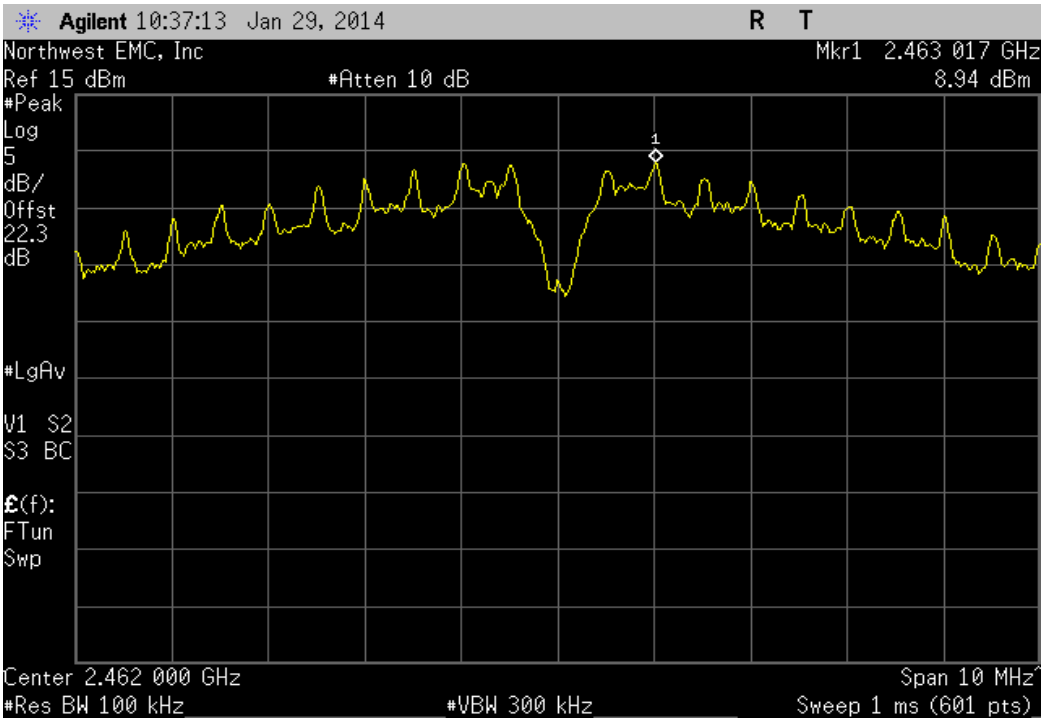


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		8.603	-15.2	-6.597	8	Pass

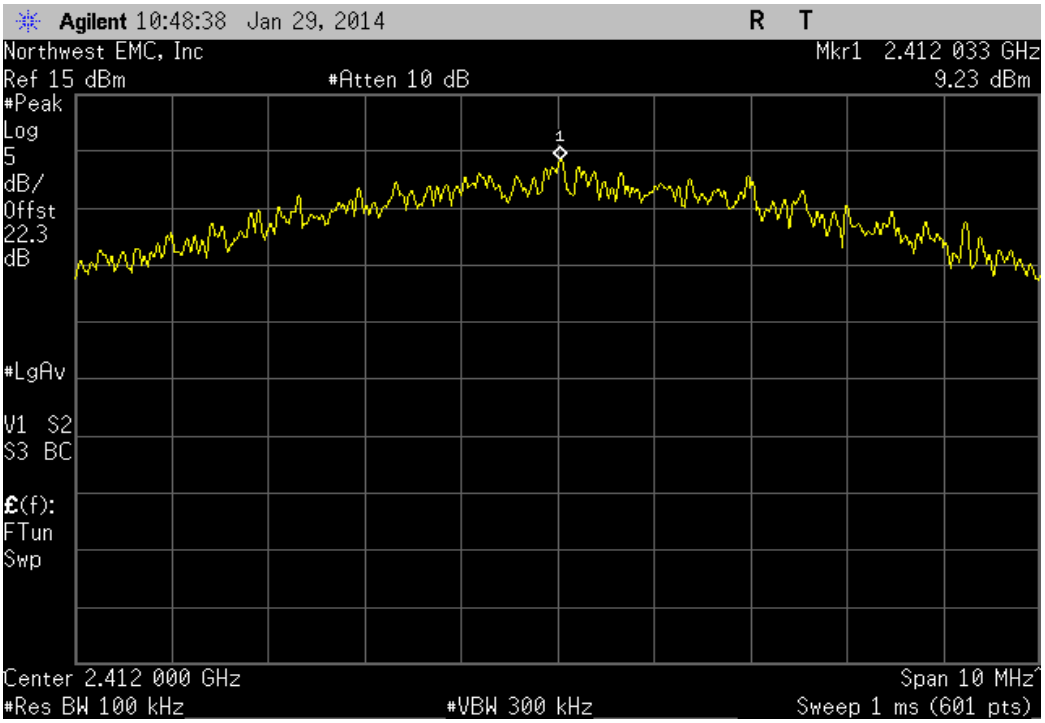


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		8.935	-15.2	-6.265	8	Pass

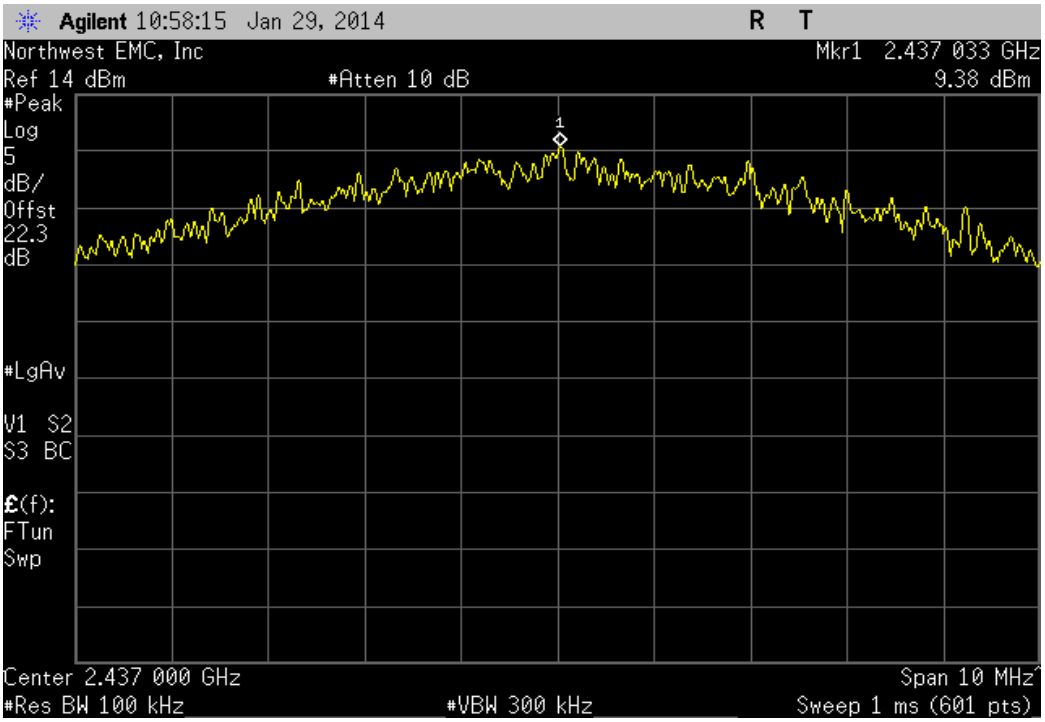


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		9.227	-15.2	-5.973	8	Pass

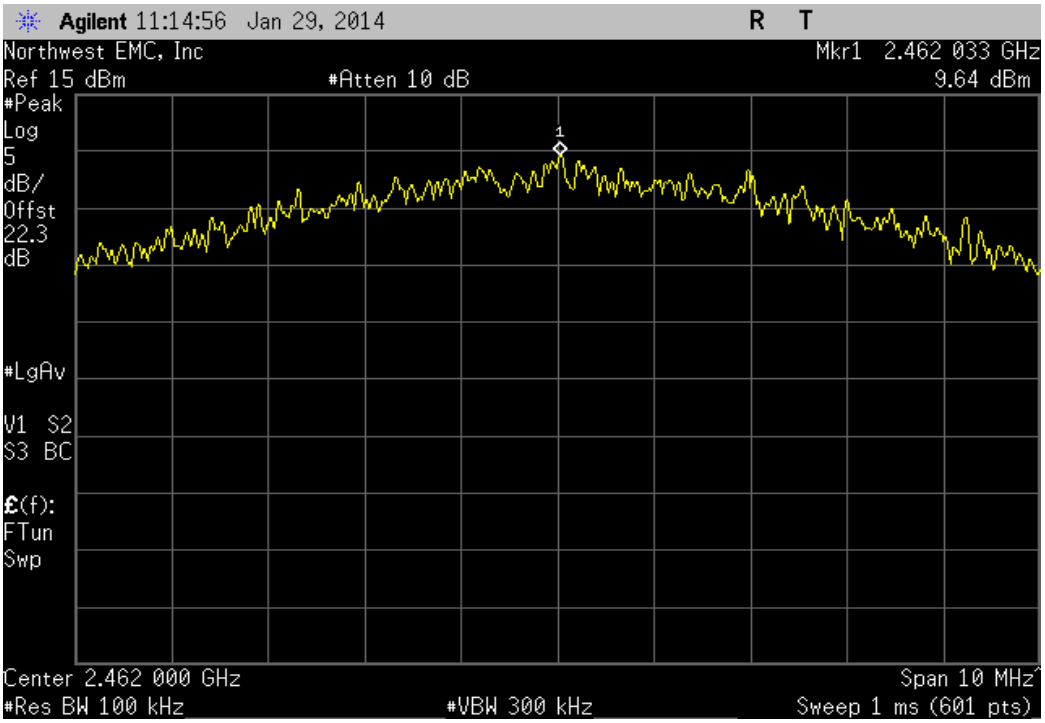


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		9.375	-15.2	-5.825	8	Pass

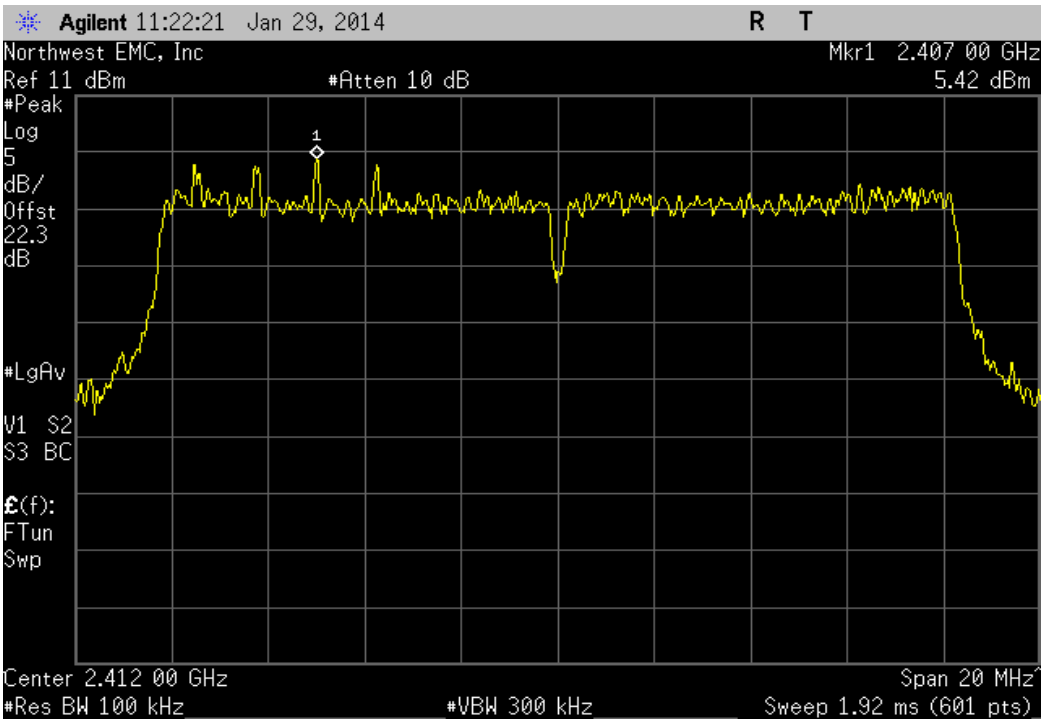


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		9.644	-15.2	-5.556	8	Pass

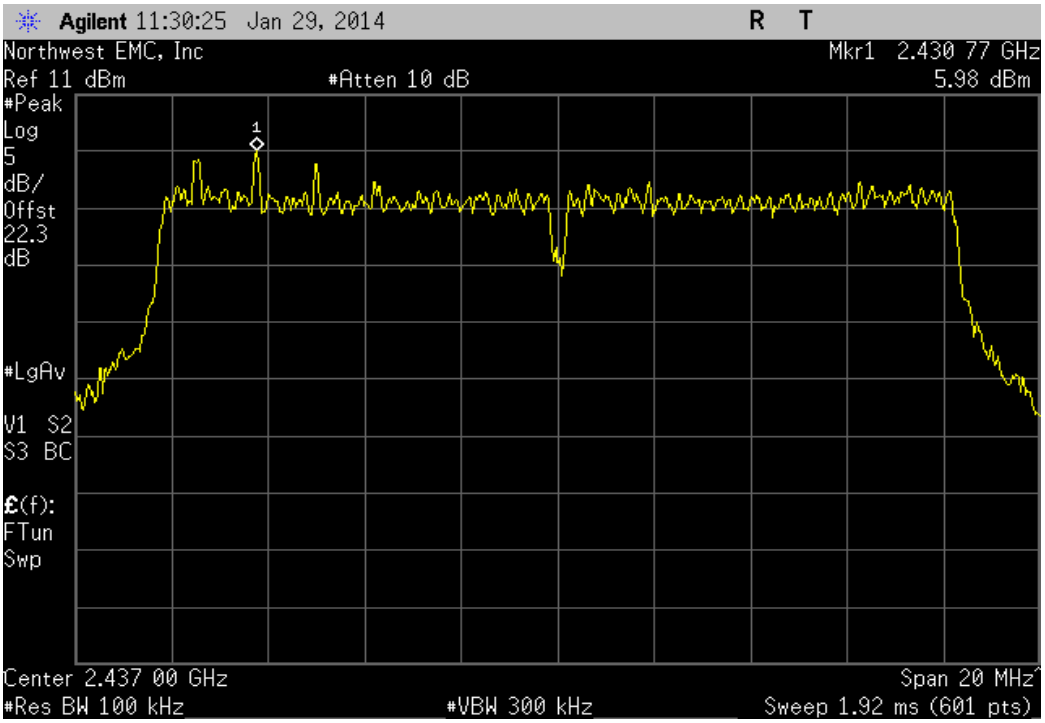


POWER SPECTRAL DENSITY

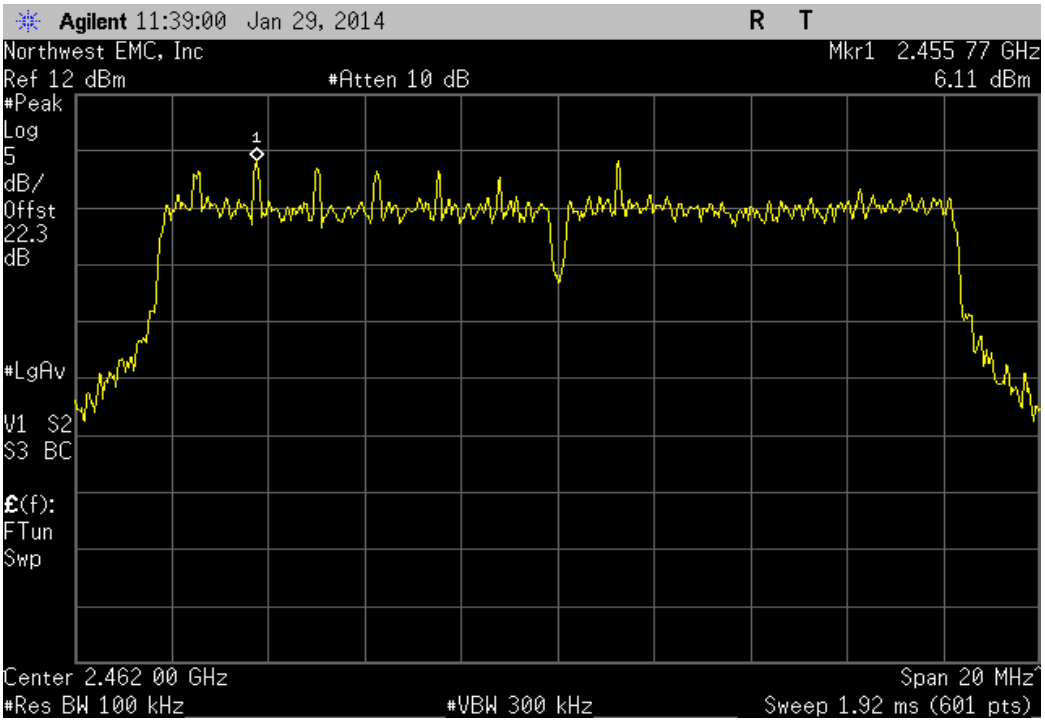
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		5.416	-15.2	-9.784	8	Pass



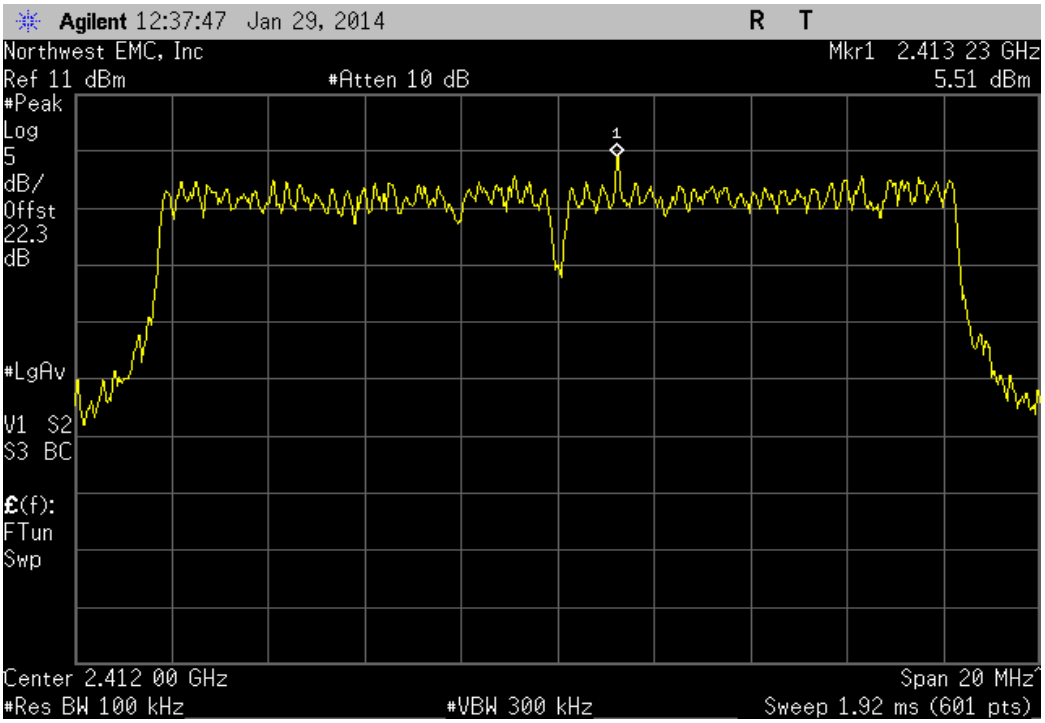
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		5.982	-15.2	-9.218	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		6.11	-15.2	-9.09	8	Pass

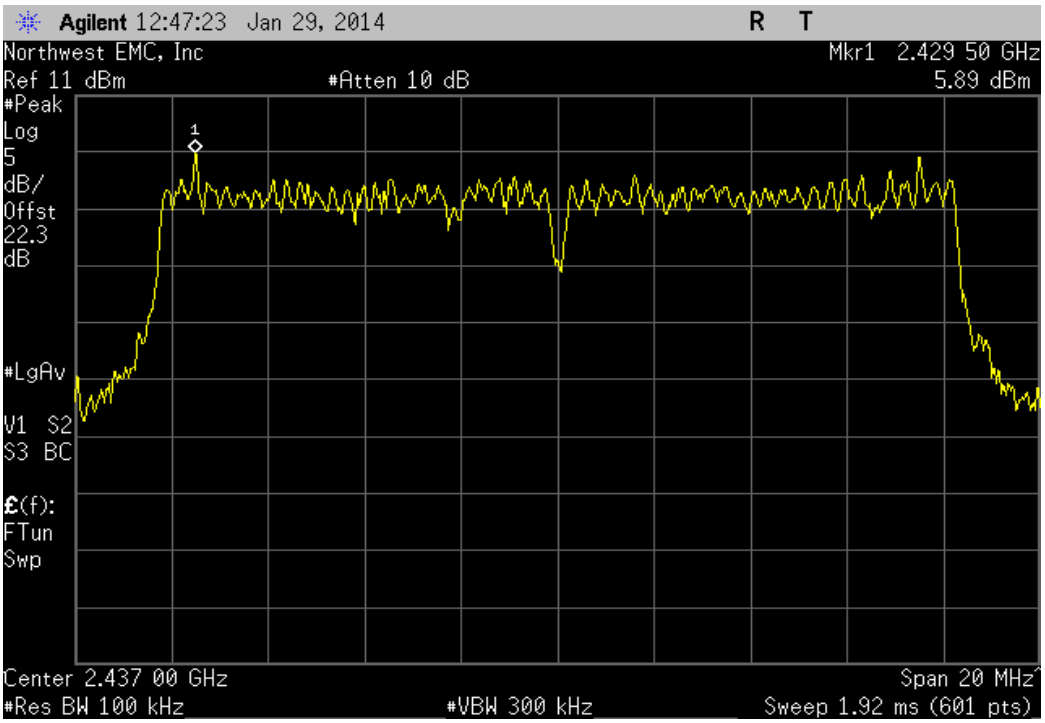


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		5.511	-15.2	-9.689	8	Pass

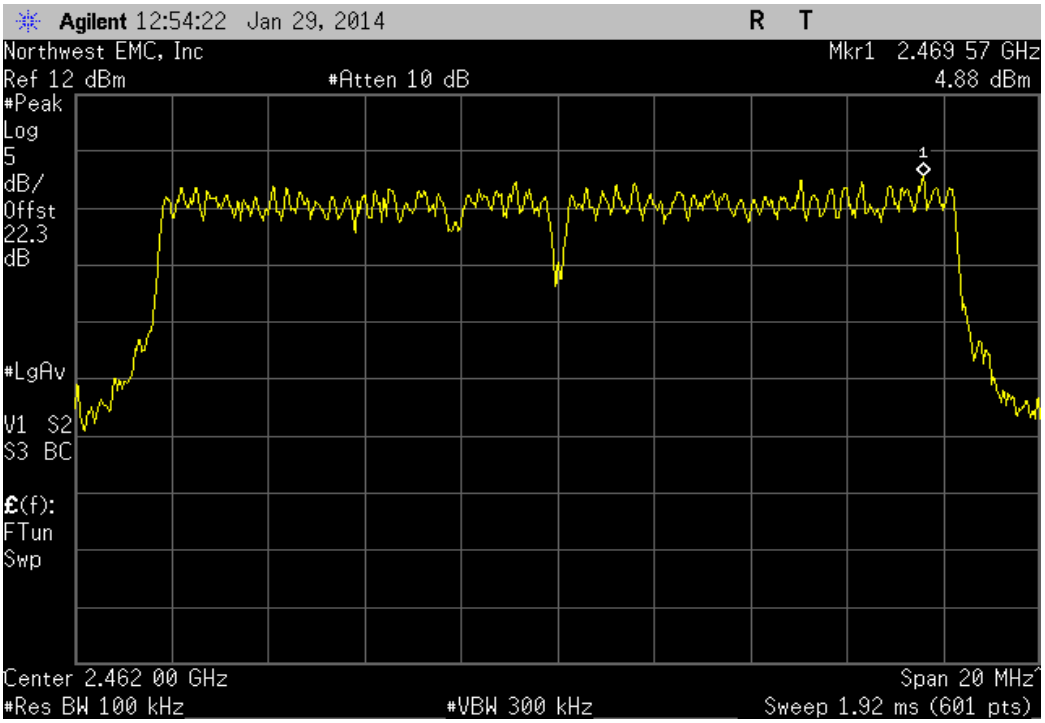


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		5.895	-15.2	-9.305	8	Pass

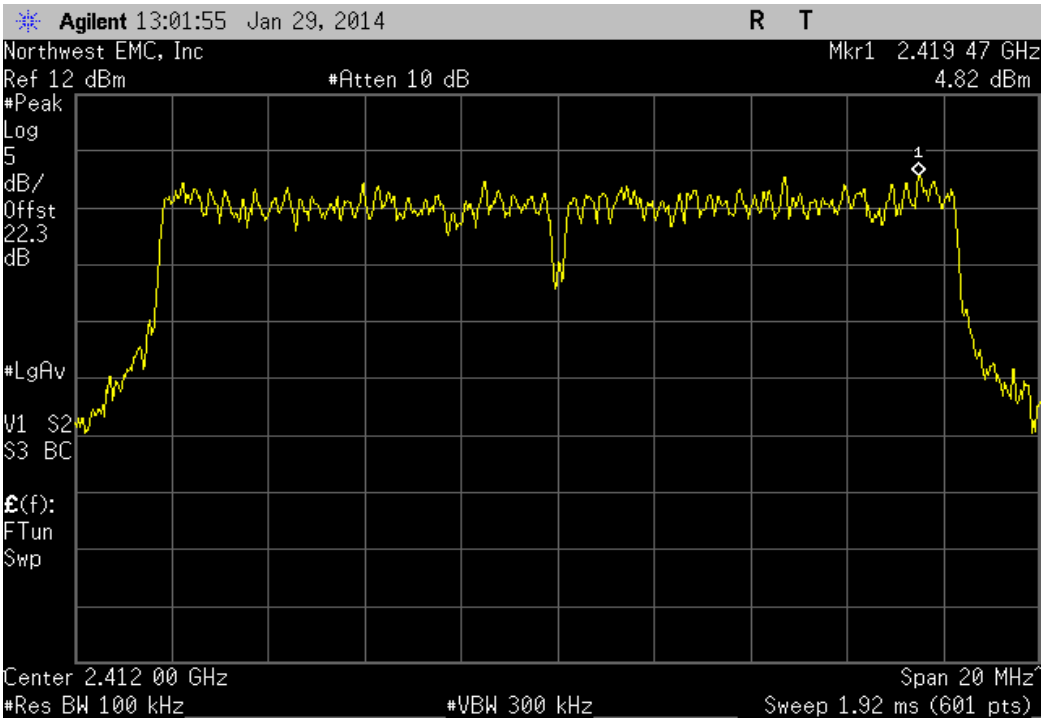


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		4.879	-15.2	-10.321	8	Pass

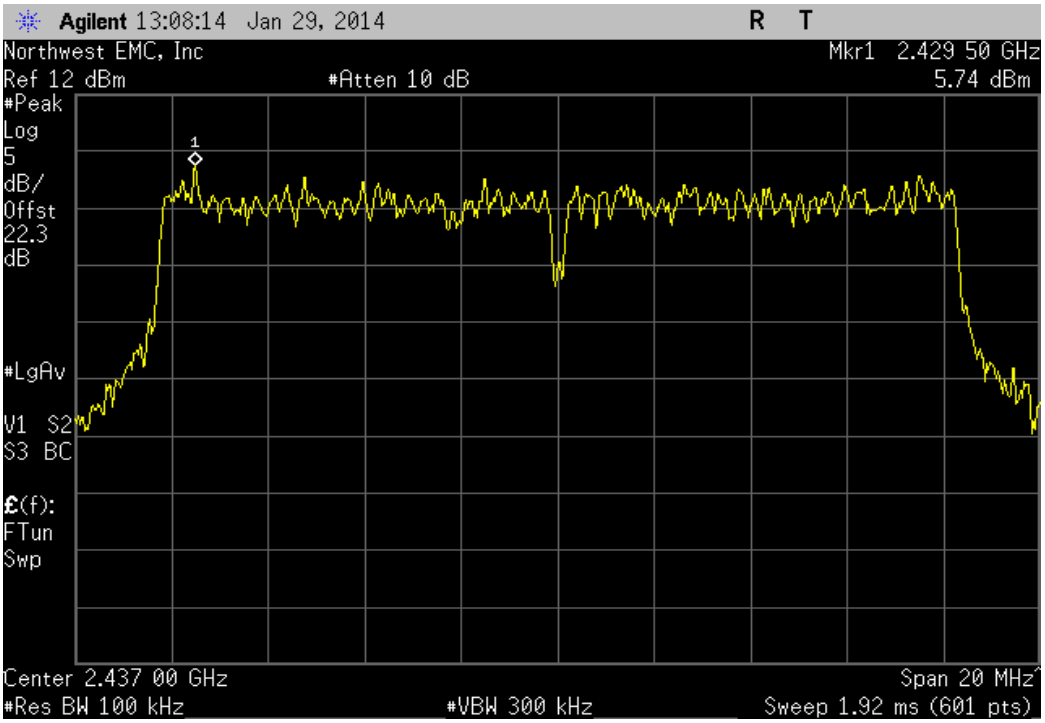


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		4.82	-15.2	-10.38	8	Pass

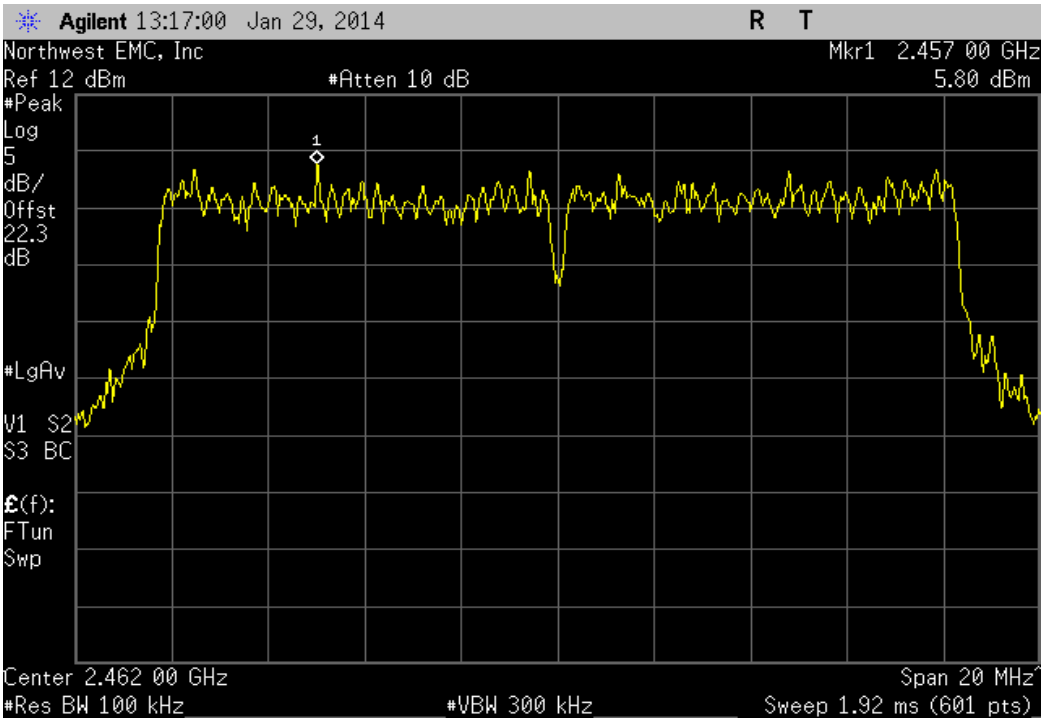


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		5.739	-15.2	-9.461	8	Pass

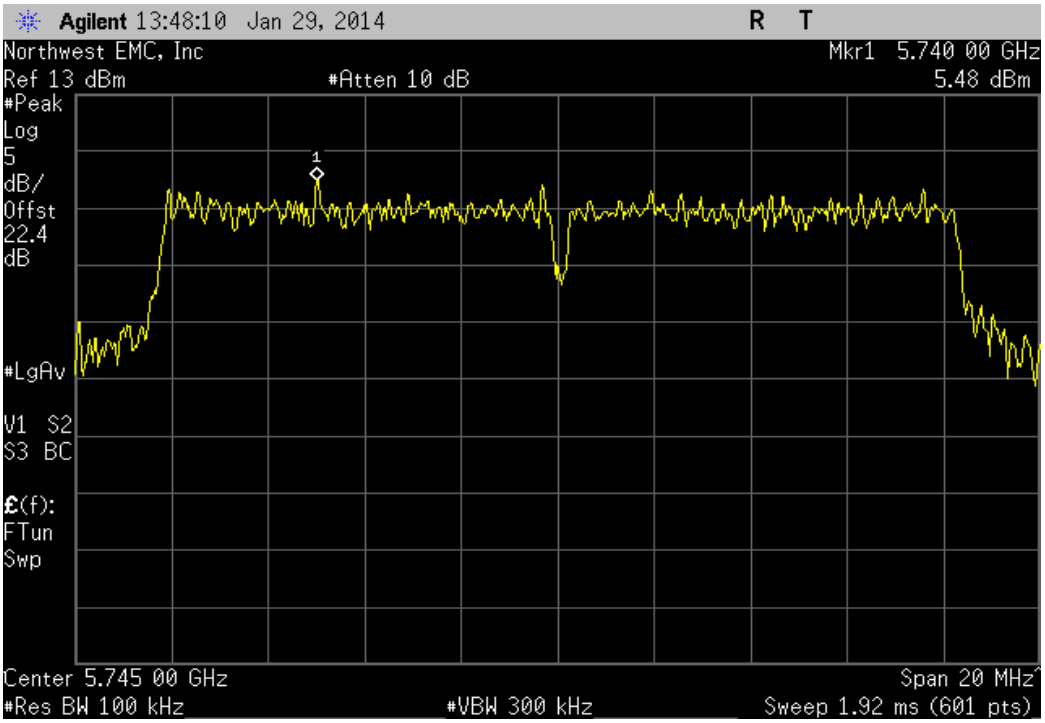


POWER SPECTRAL DENSITY

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		5.803	-15.2	-9.397	8	Pass

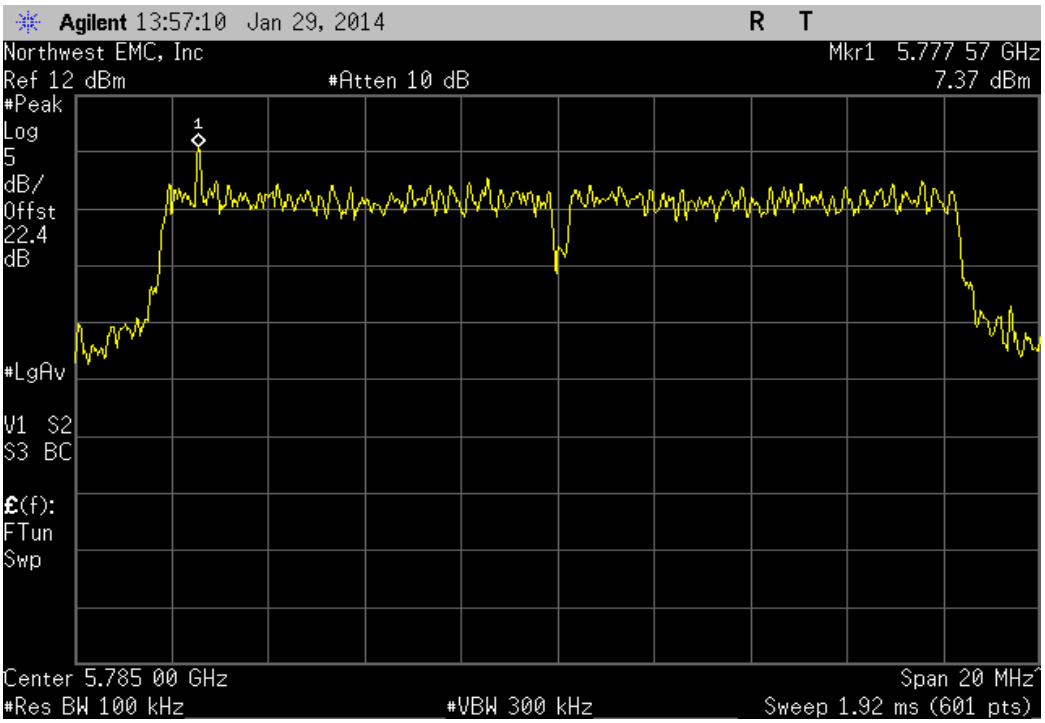


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		5.479	-15.2	-9.721	8	Pass

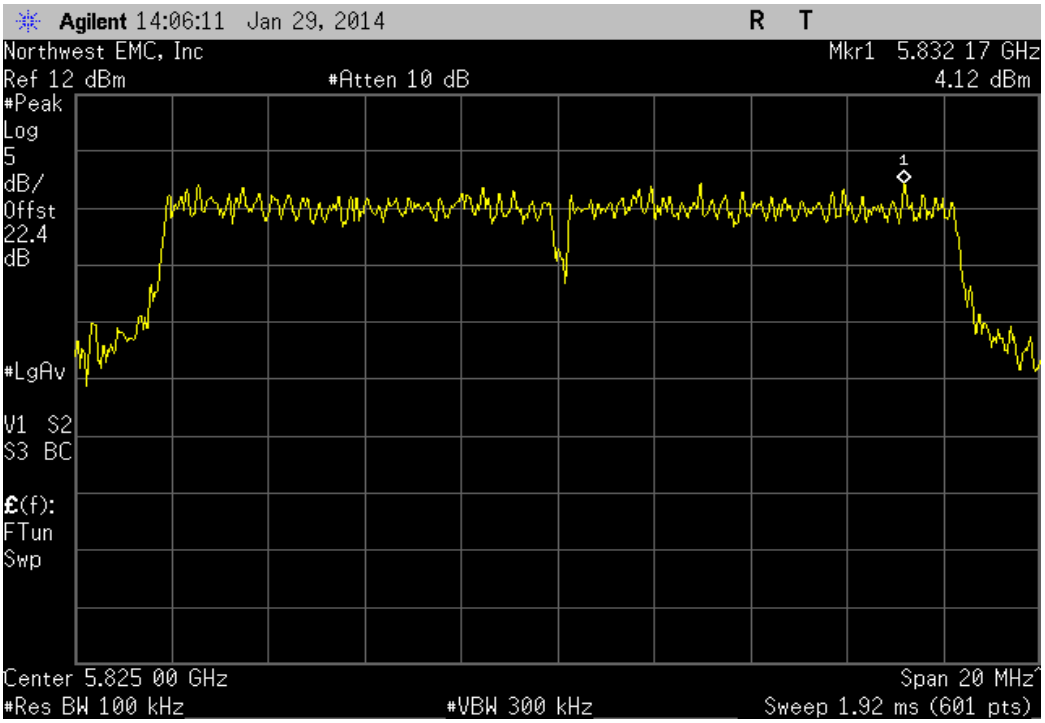


POWER SPECTRAL DENSITY

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		7.373	-15.2	-7.827	8	Pass

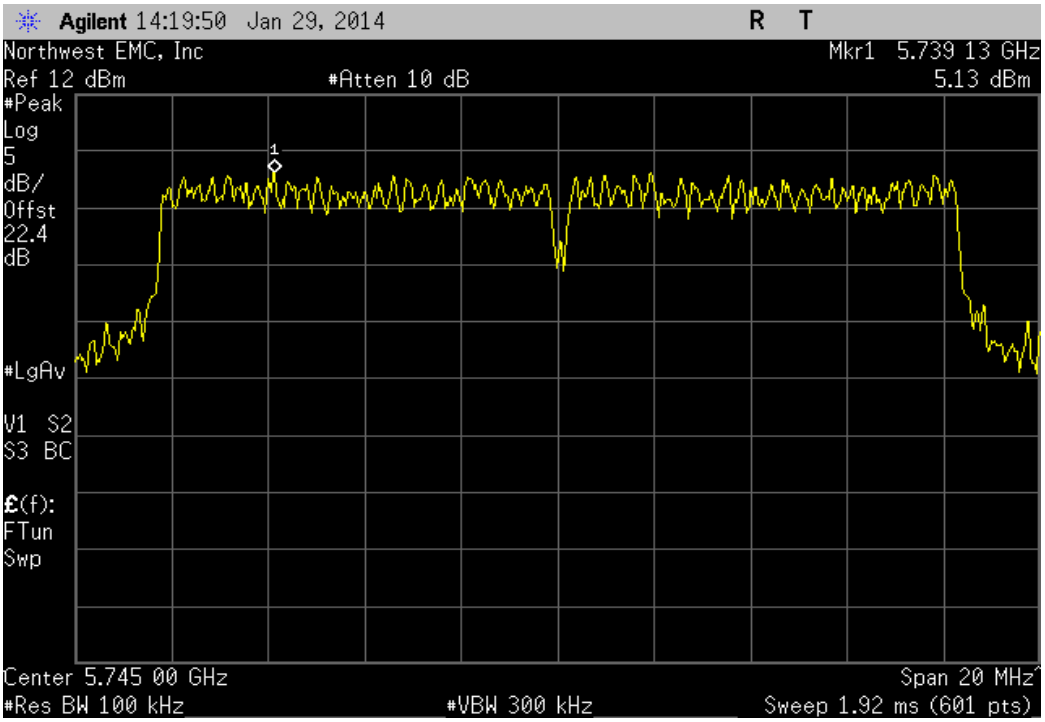


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		4.124	-15.2	-11.076	8	Pass

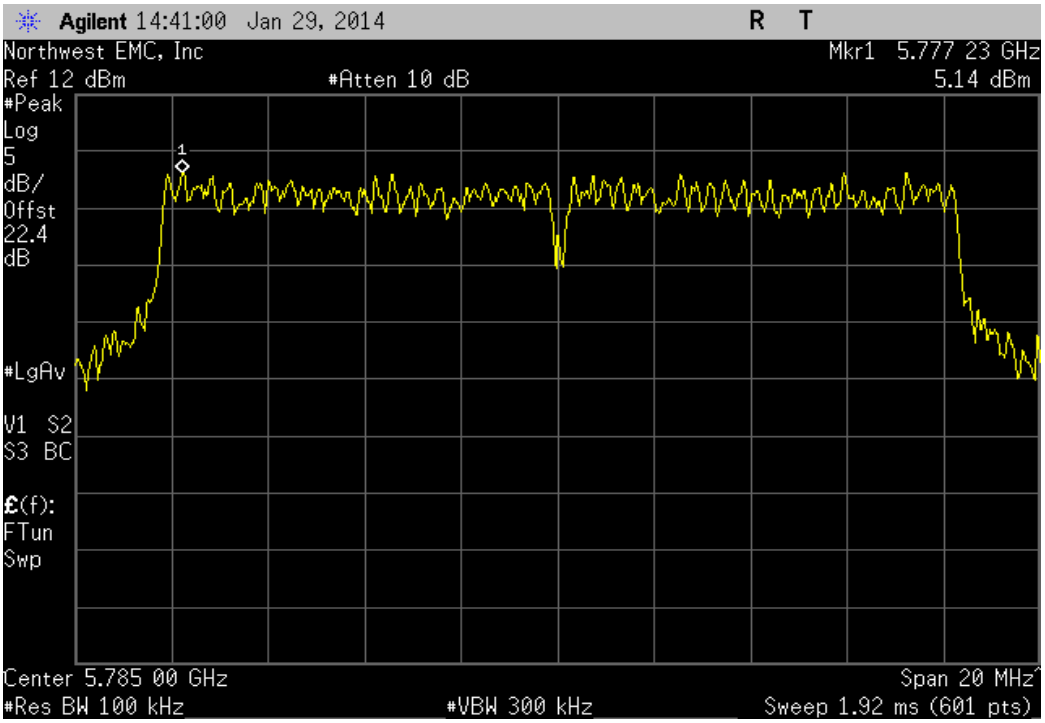


POWER SPECTRAL DENSITY

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		5.129	-15.2	-10.071	8	Pass

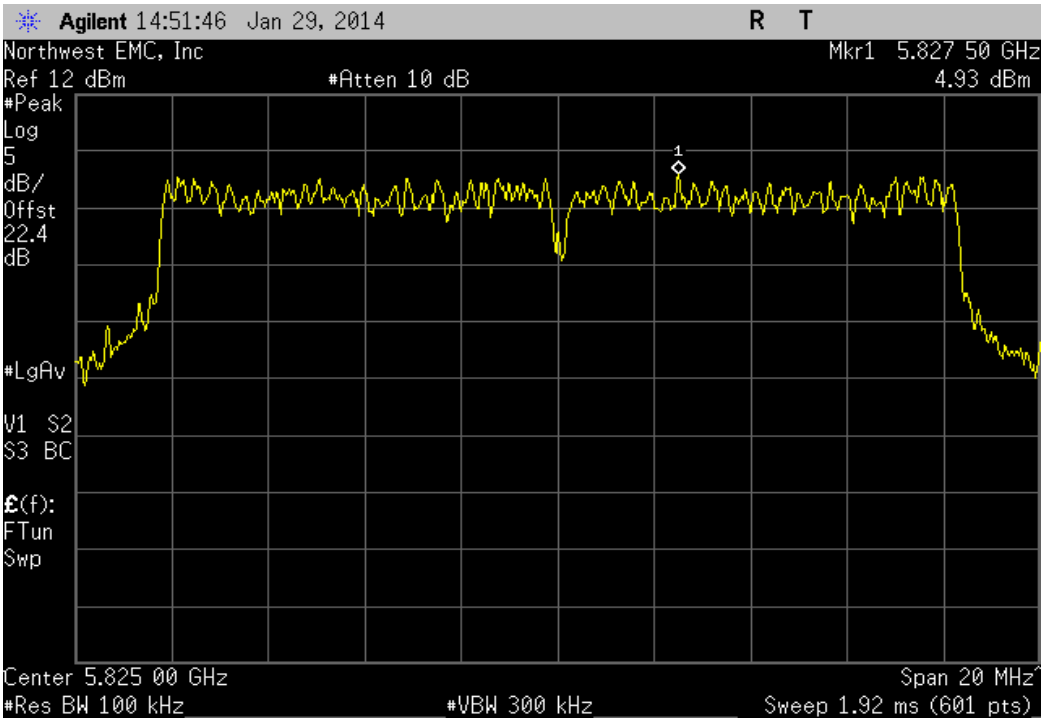


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		5.135	-15.2	-10.065	8	Pass

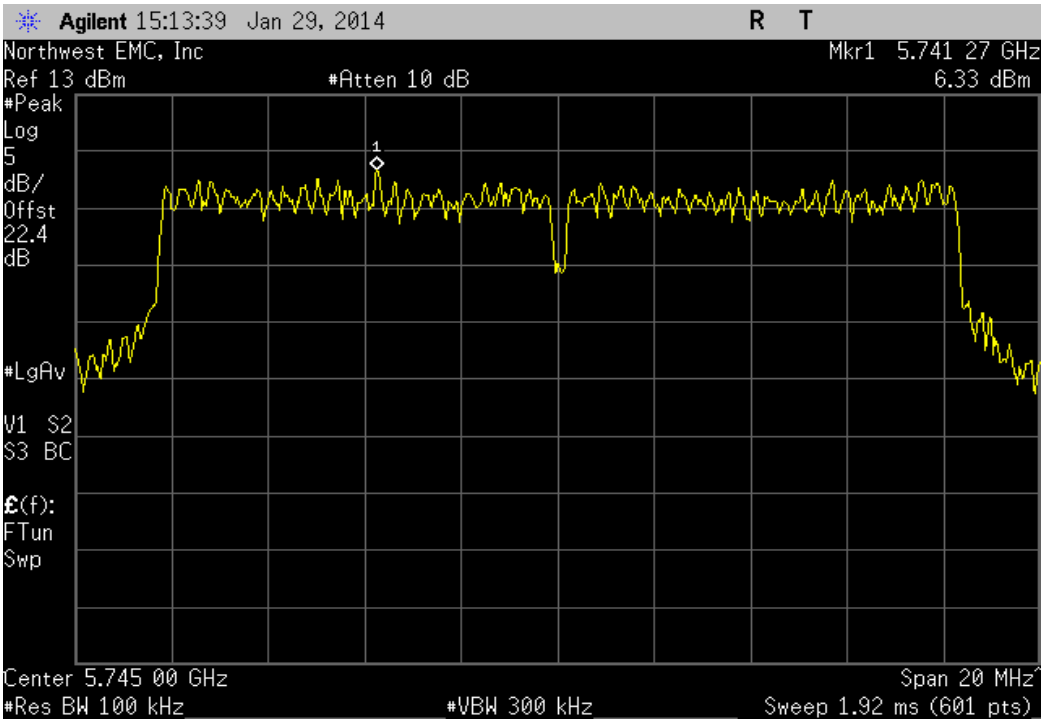


POWER SPECTRAL DENSITY

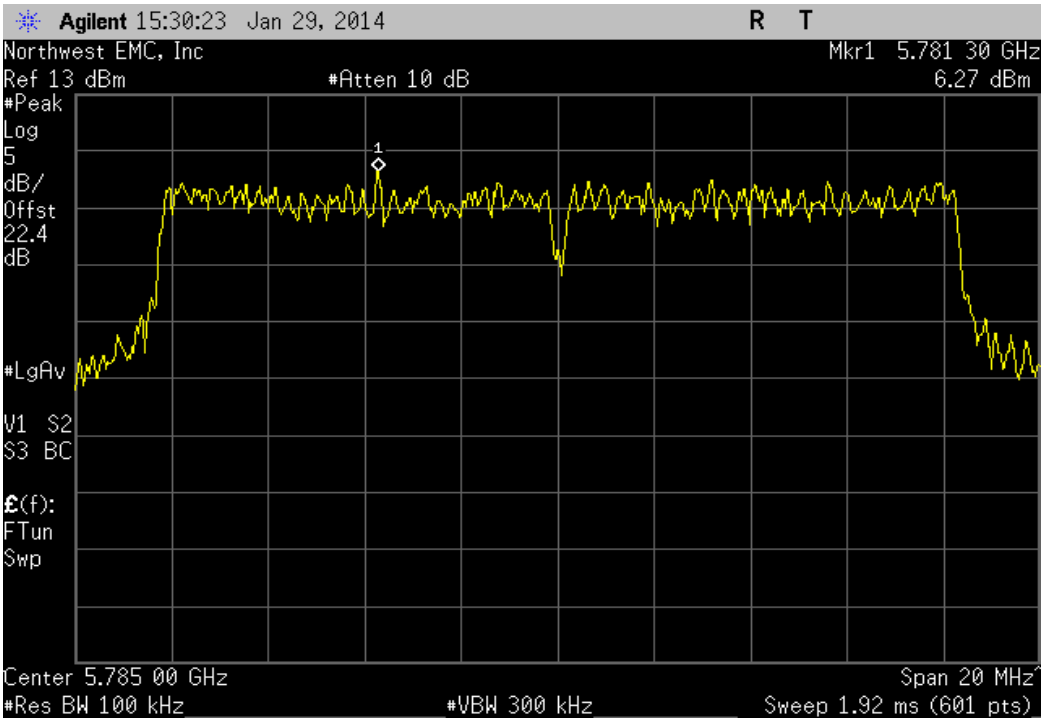
5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		4.93	-15.2	-10.27	8	Pass



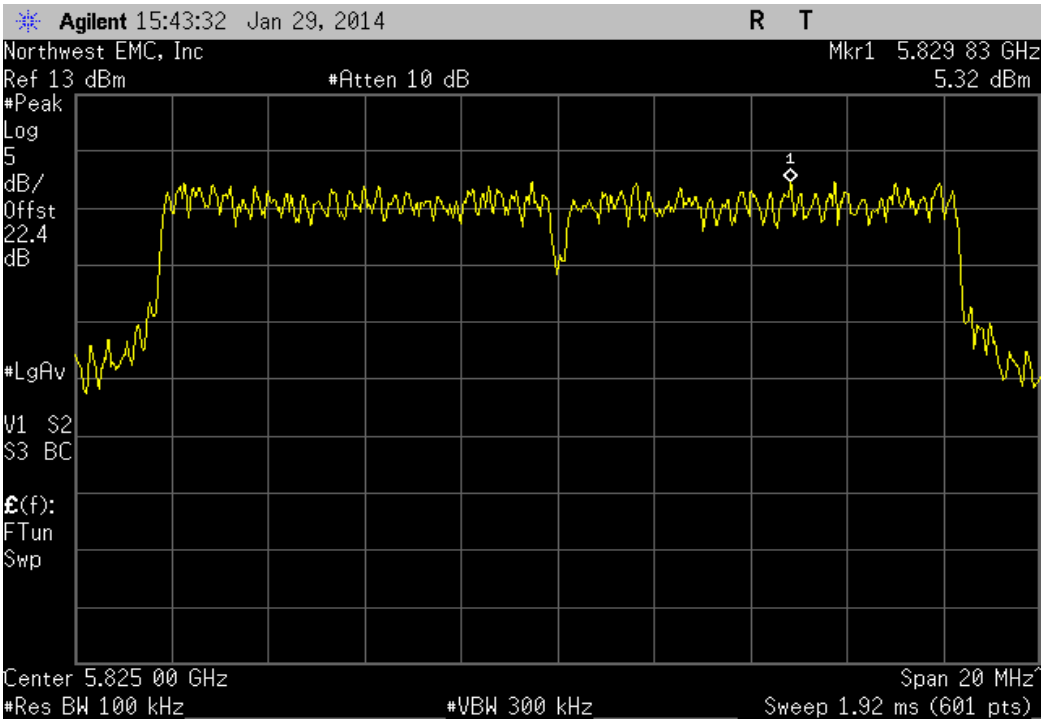
5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		6.333	-15.2	-8.867	8	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		6.271	-15.2	-8.929	8	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Result
		5.322	-15.2	-9.878	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 (mos)
Spectrum Analyzer	Agilent	E4446A	AAY	2/22/2013	24
OC13 Cables	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	0
Attenuator, 20db, 'SMA'	Weinschel Corp	4H-20	AWB	6/7/2013	12
40GHz DC Block	Miteq	DCB4000	AMD	5/16/2013	12
Power Meter	Hewlett Packard	E4418A	SPA	4/11/2012	24
Power Sensor	Agilent	E4412A	SQE	4/11/2012	24
Signal Generator	Agilent	E8257D	TGU	2/1/2012	36

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:	RAD7A/Radical 7 V2	**Work Order:**	MASI0151
Serial Number:	1000000349	**Date:**	01/29/14
Customer:	Masimo Corporation	**Temperature:**	24.3°C
Attendees:	Mike Clark	**Humidity:**	41%
Project:	None	**Barometric Pres.:**	1011
Tested by:	Jaemi Suh	**Power:** Battery	**Job Site:** OC13

TEST SPECIFICATIONS	Test Method
FCC 15.247:2014	ANSI C63.10:2009

COMMENTS

TX Power set to 90.

DEVIATIONS FROM TEST STANDARD

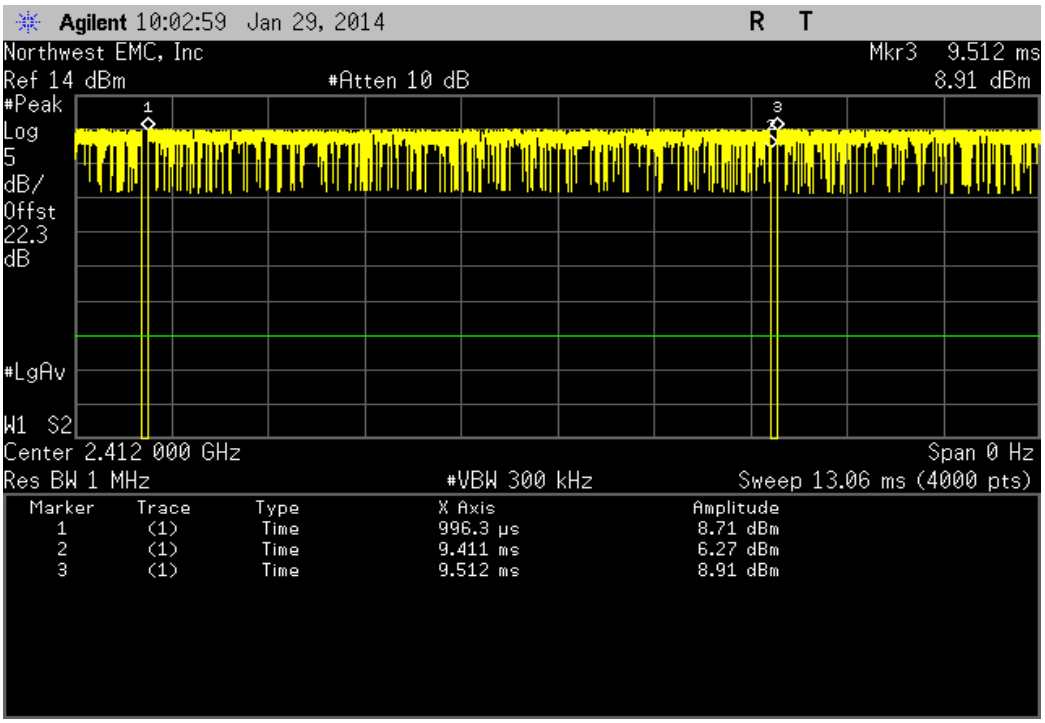
None

Configuration #	1	Signature

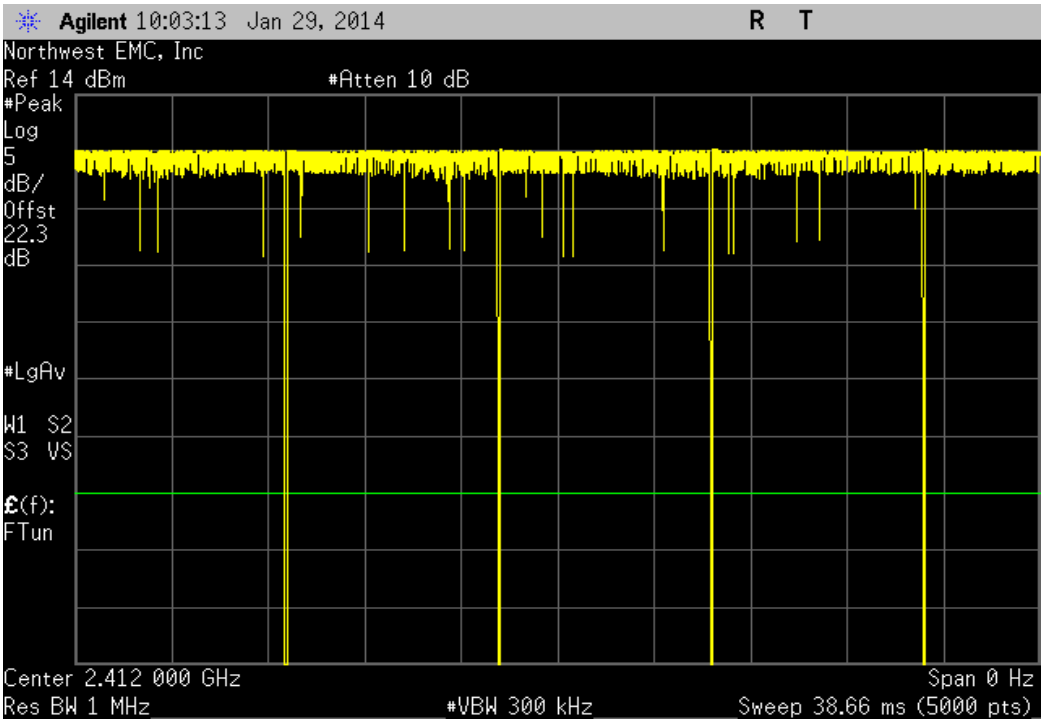
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
2400 MHz - 2483.5 MHz Band						
802.11(b) 1 Mbps						
Low Channel 1, 2412 MHz	8.415 mS	8.516 mS	1	98.8	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	8.415 mS	8.516 mS	1	98.8	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	6	N/A	N/A	N/A
High Channel 11, 2462 MHz	8.415 mS	8.516 mS	1	98.8	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	6	N/A	N/A	N/A
802.11(b) 11 Mbps						
Low Channel 1, 2412 MHz	841.8 uS	943 uS	1	89.3	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	841.8 uS	943 uS	1	89.3	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	841.8 uS	943 uS	1	89.3	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 6 Mbps						
Low Channel 1, 2412 MHz	1.388 mS	1.494 mS	1	92.9	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	1.388 mS	1.496 mS	1	92.8	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	1.39 mS	1.496 mS	1	92.9	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 36 Mbps						
Low Channel 1, 2412 MHz	244 uS	351 uS	1	69.5	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	244 uS	352 uS	1	69.3	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	244 uS	351 uS	1	69.5	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 54 Mbps						
Low Channel 1, 2412 MHz	169 uS	276 uS	1	61.2	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	169 uS	276 uS	1	61.2	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	168 uS	275 uS	1	61.1	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
5725 MHz - 5850 MHz Band						
802.11(a) 6 Mbps						
Low Channel 149, 5745 MHz	1.388 mS	1.494 mS	1	92.9	N/A	N/A
Low Channel 149, 5745 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 157, 5785 MHz	1.388 mS	1.494 mS	1	92.9	N/A	N/A
Mid Channel 157, 5785 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 165, 5825 MHz	1.388 mS	1.494 mS	1	92.9	N/A	N/A
High Channel 165, 5825 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(a) 36 Mbps						
Low Channel 149, 5745 MHz	244 uS	350 uS	1	69.7	N/A	N/A
Low Channel 149, 5745 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 157, 5785 MHz	245 uS	351 uS	1	69.8	N/A	N/A
Mid Channel 157, 5785 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 165, 5825 MHz	244 uS	350 uS	1	69.7	N/A	N/A
High Channel 165, 5825 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(a) 54 Mbps						
Low Channel 149, 5745 MHz	169 uS	275 uS	1	61.5	N/A	N/A
Low Channel 149, 5745 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 157, 5785 MHz	169 uS	275 uS	1	61.5	N/A	N/A
Mid Channel 157, 5785 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 165, 5825 MHz	169 uS	274 uS	1	61.7	N/A	N/A
High Channel 165, 5825 MHz	N/A	N/A	5	N/A	N/A	N/A

DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	8.415 mS	8.516 mS	1	98.8	N/A	N/A

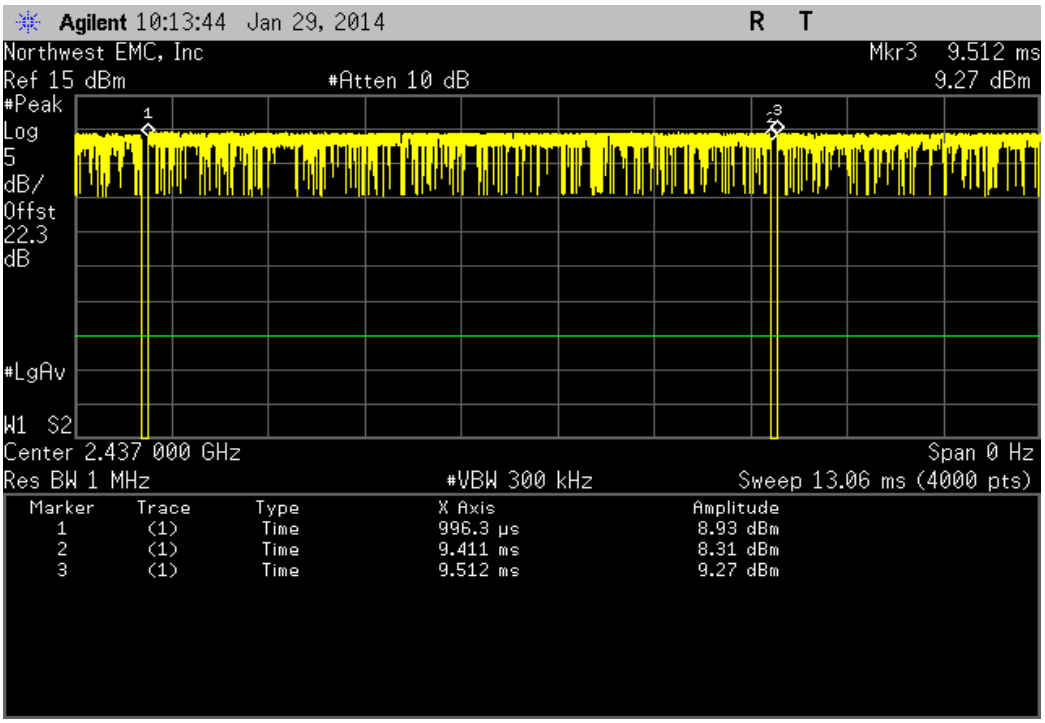


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

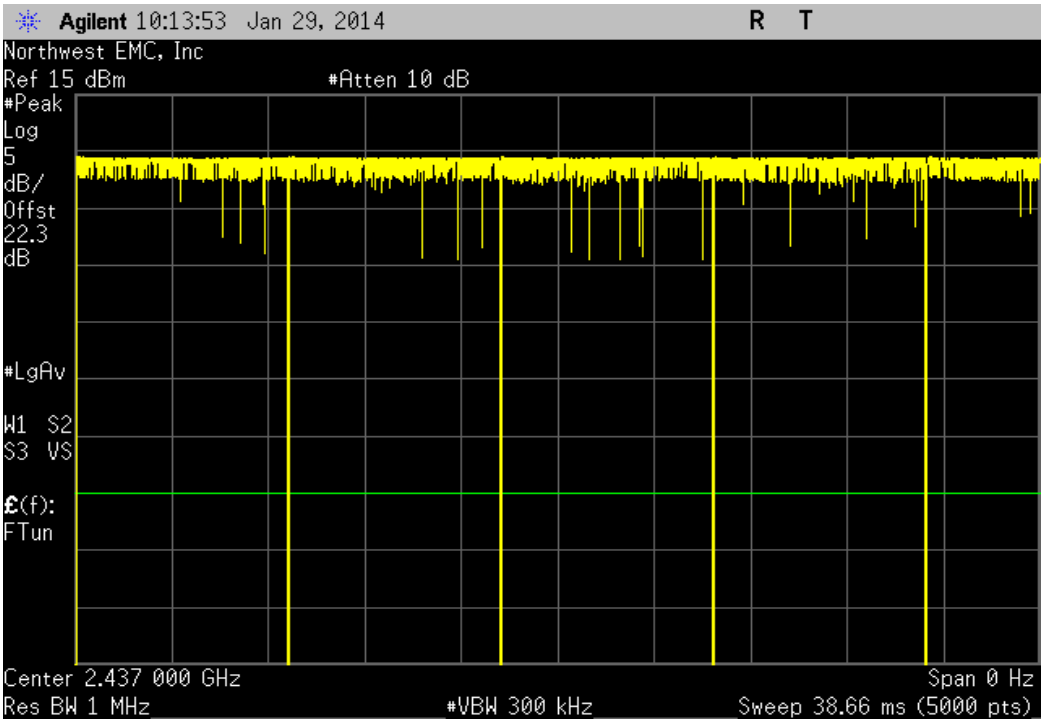


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	8.415 mS	8.516 mS	1	98.8	N/A	N/A

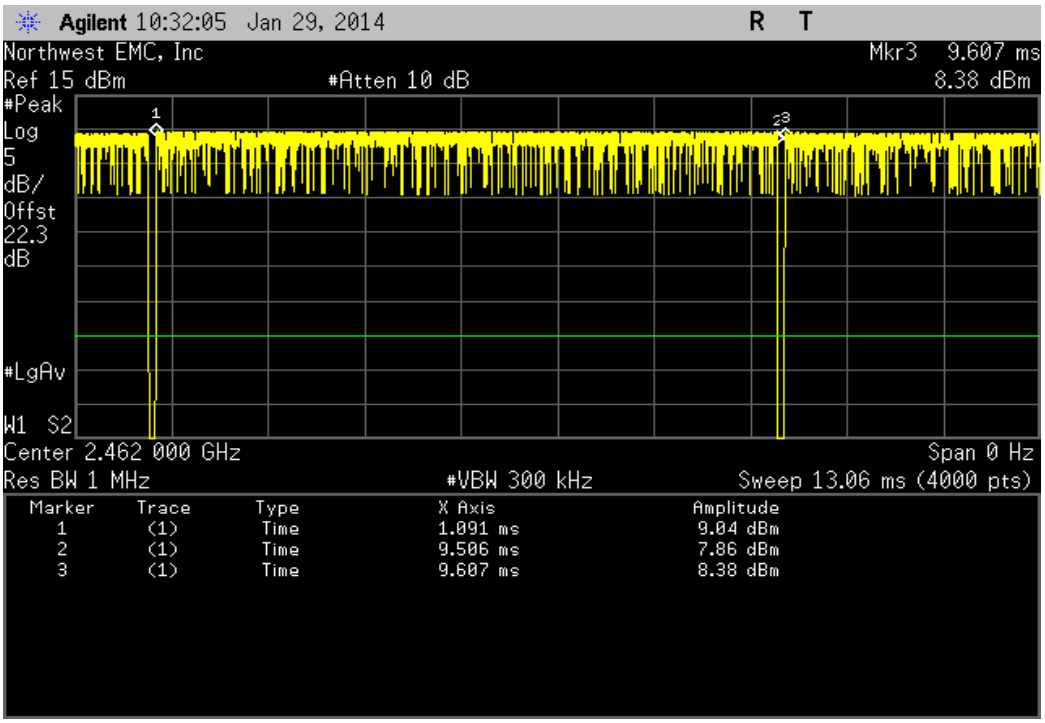


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	6	N/A	N/A	N/A

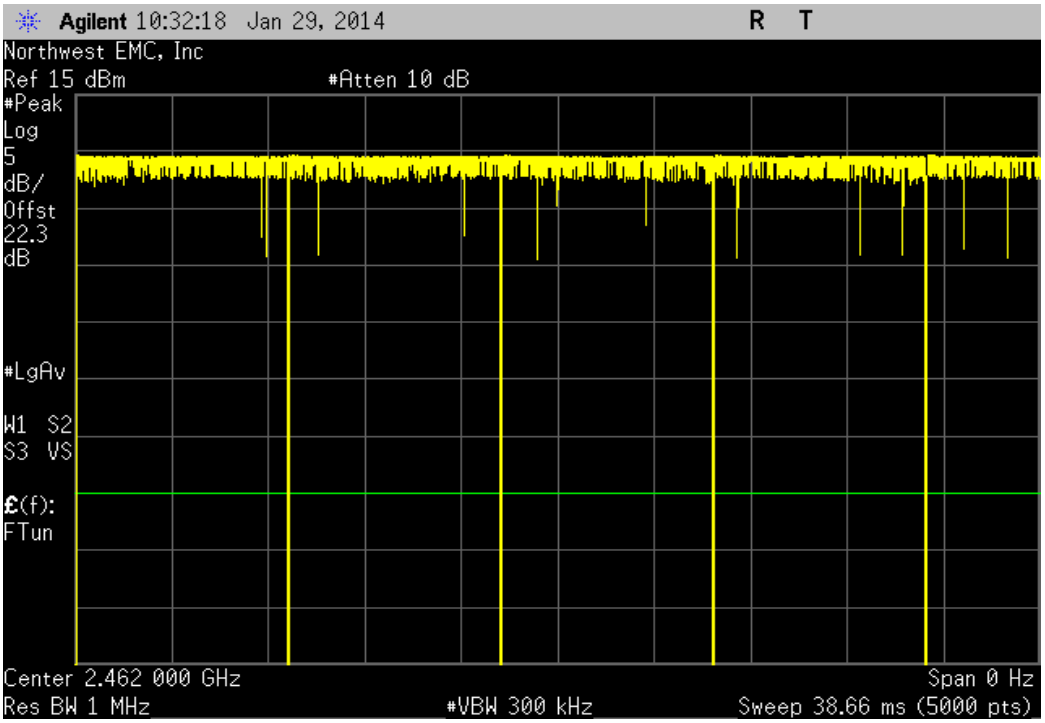


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	8.415 mS	8.516 mS	1	98.8	N/A	N/A

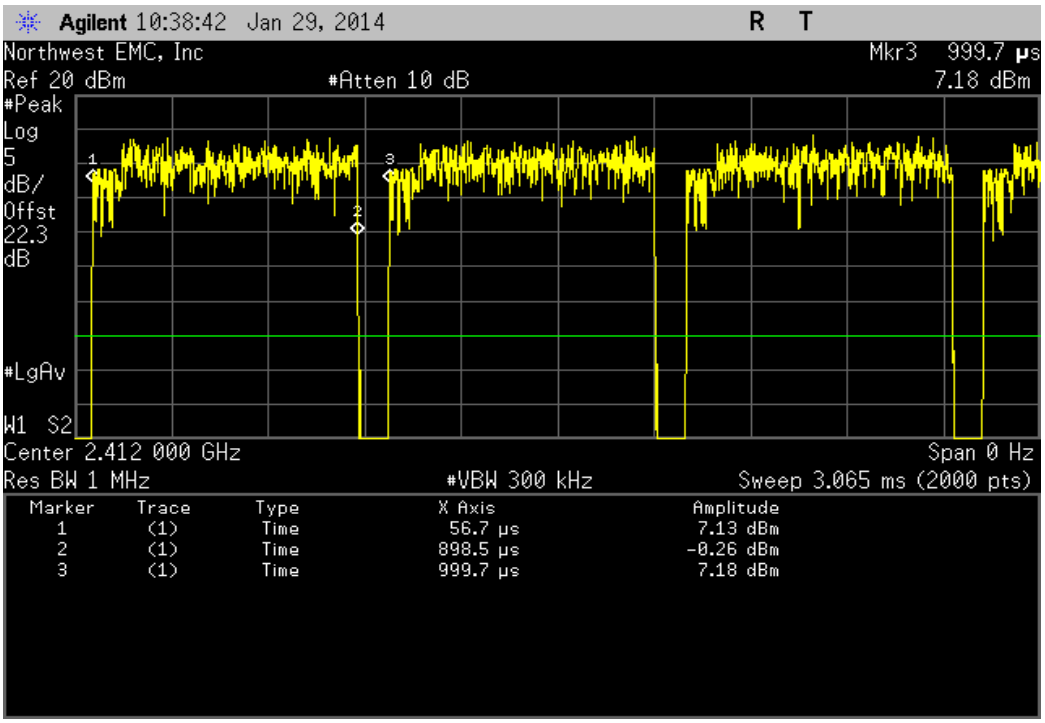


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	6	N/A	N/A	N/A

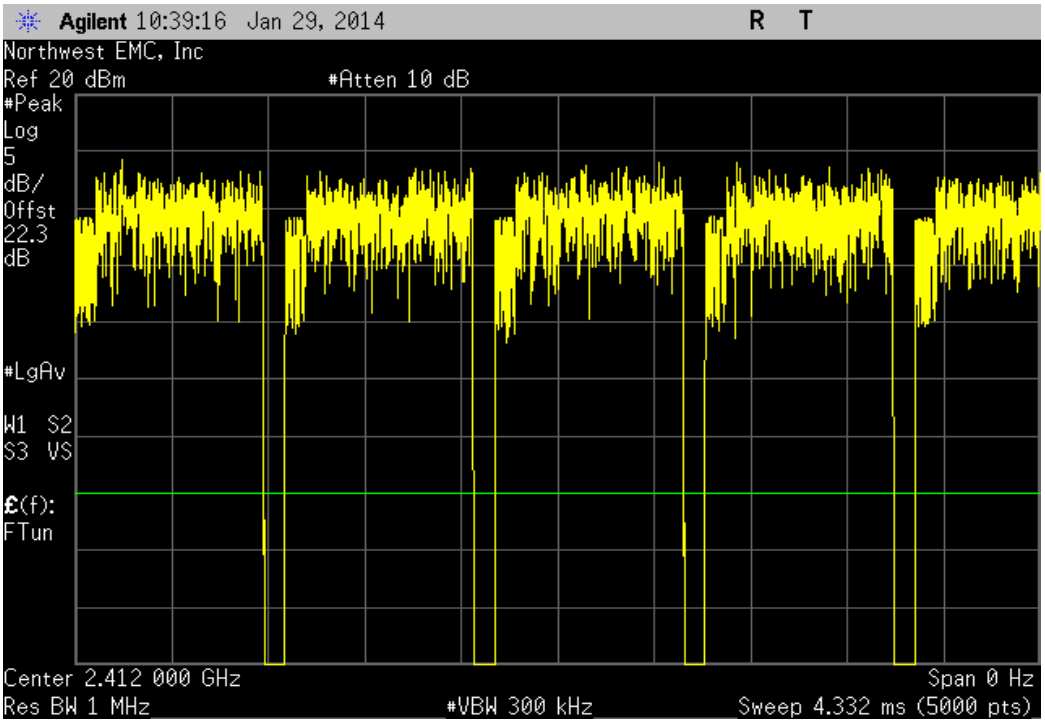


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	841.8 uS	943 uS	1	89.3	N/A	N/A

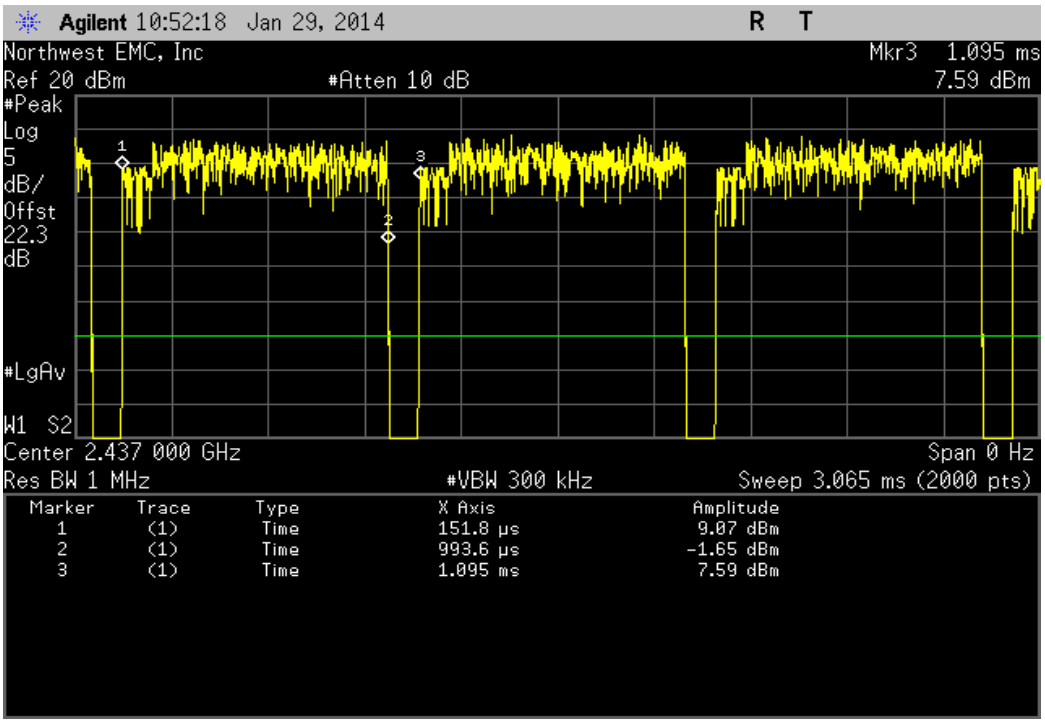


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

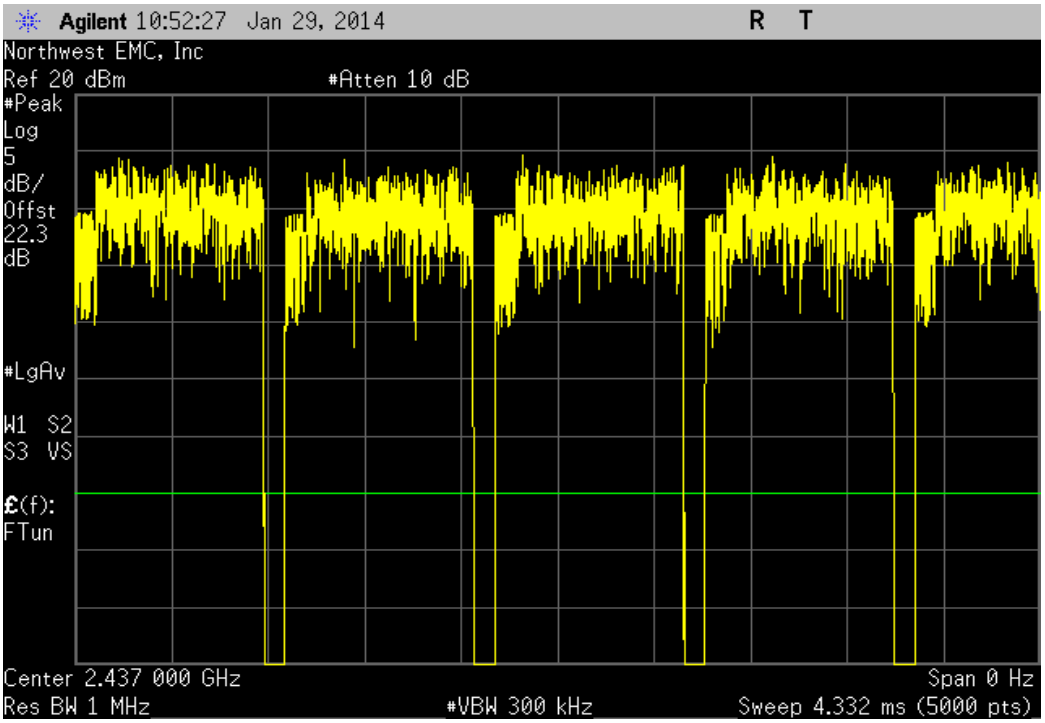


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	841.8 uS	943 uS	1	89.3	N/A	N/A

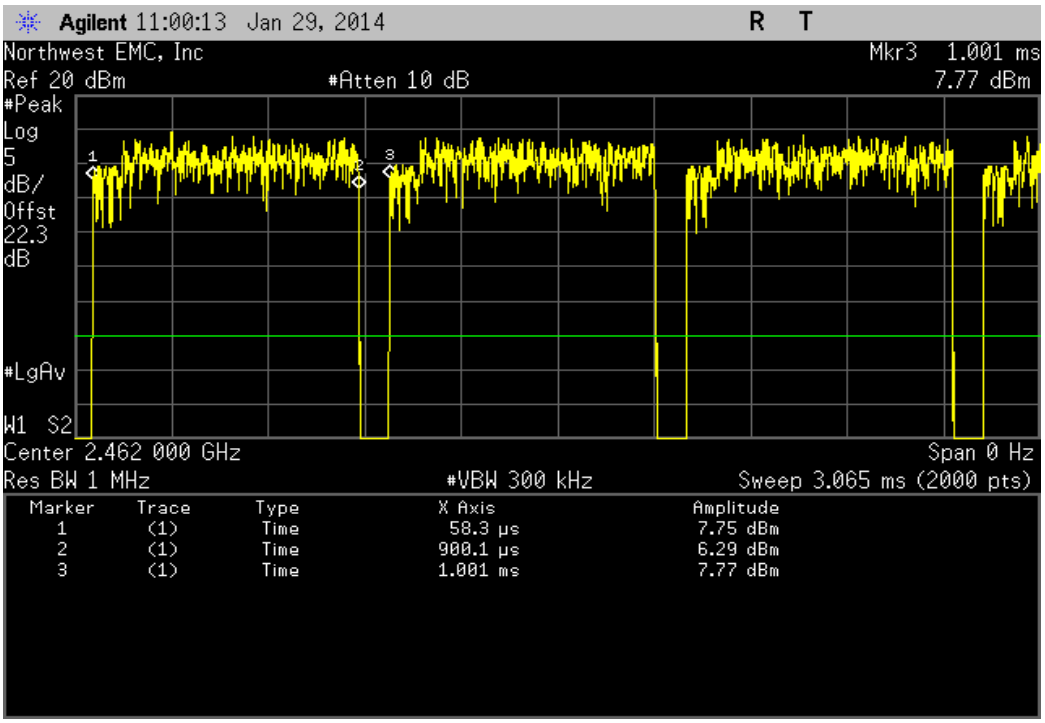


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

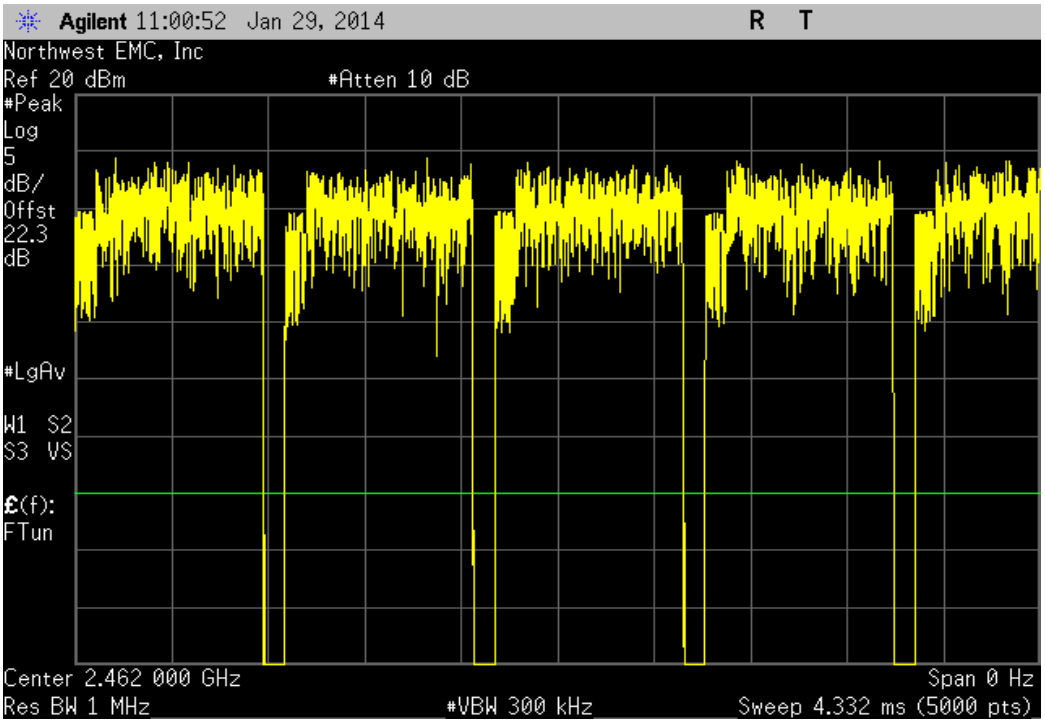


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	841.8 uS	943 uS	1	89.3	N/A	N/A

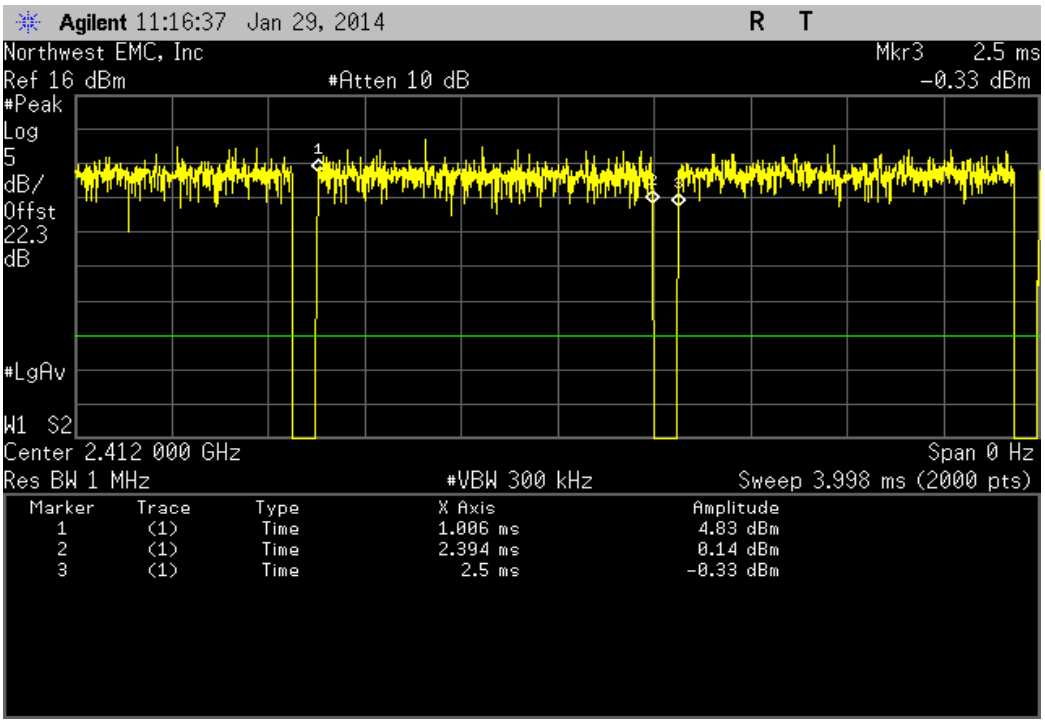


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

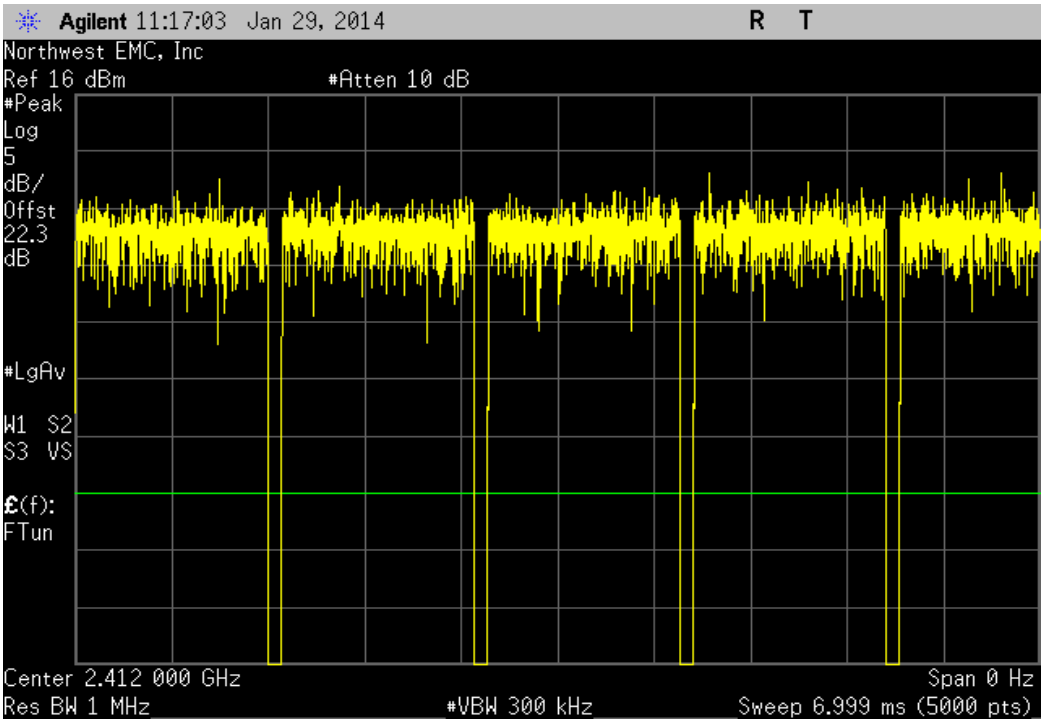


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.388 mS	1.494 mS	1	92.9	N/A	N/A

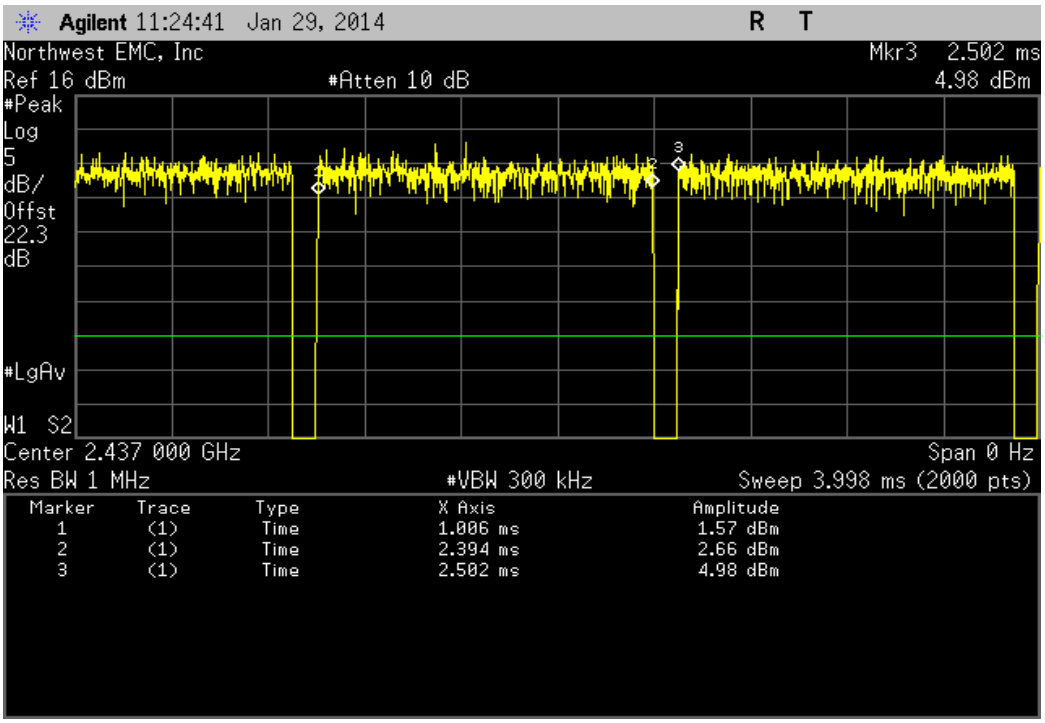


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

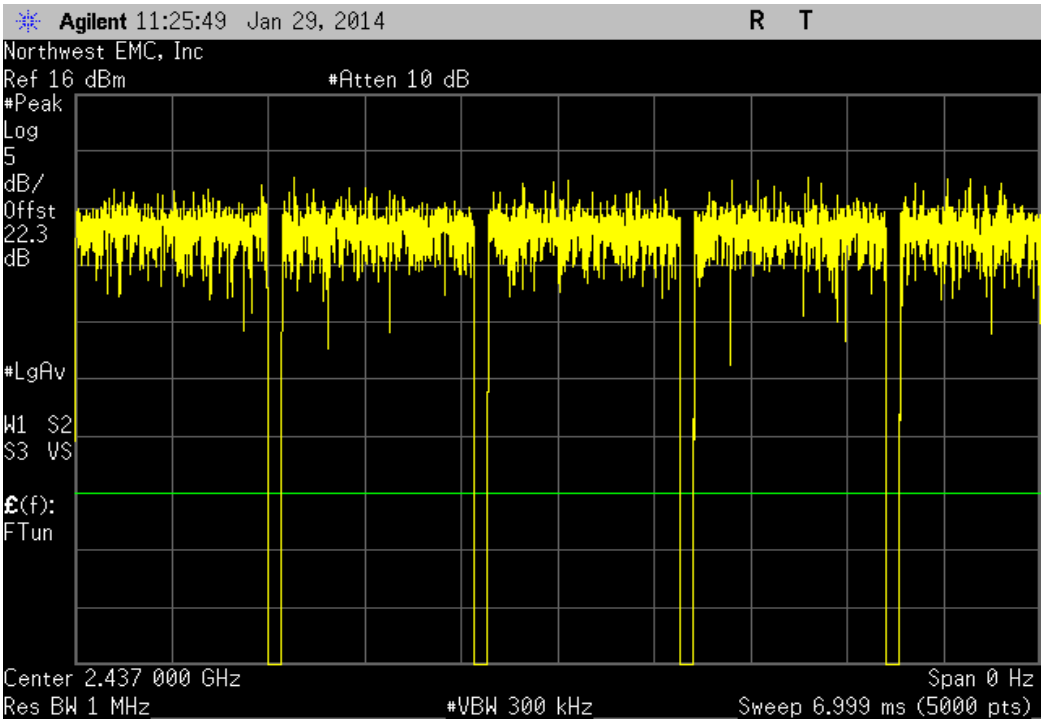


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.388 mS	1.496 mS	1	92.8	N/A	N/A

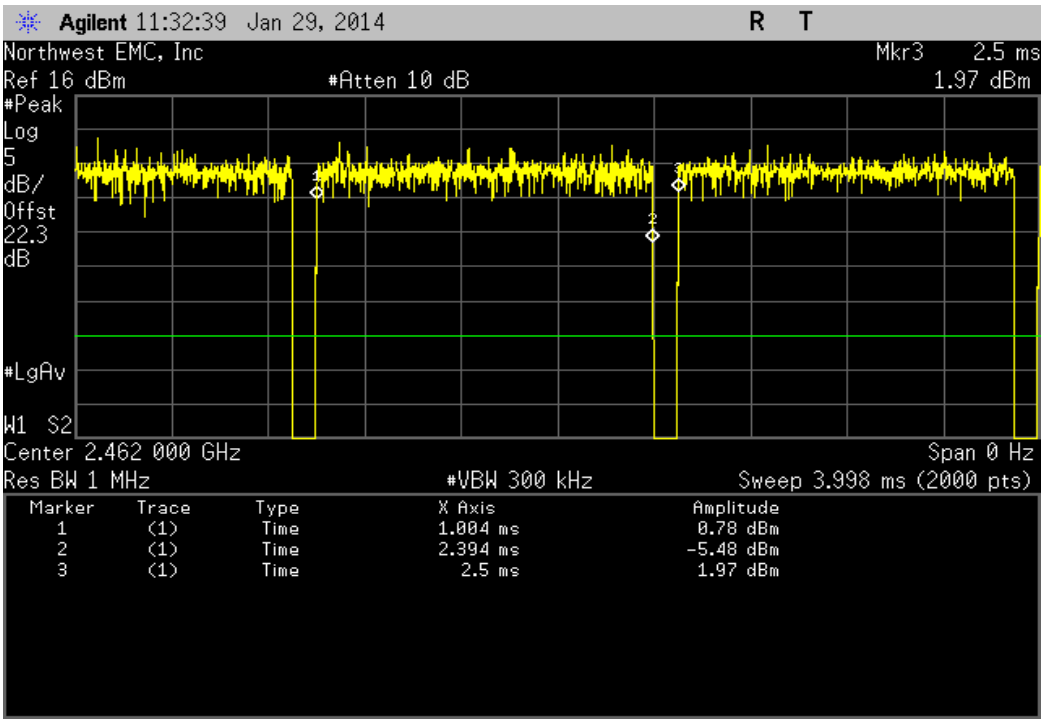


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

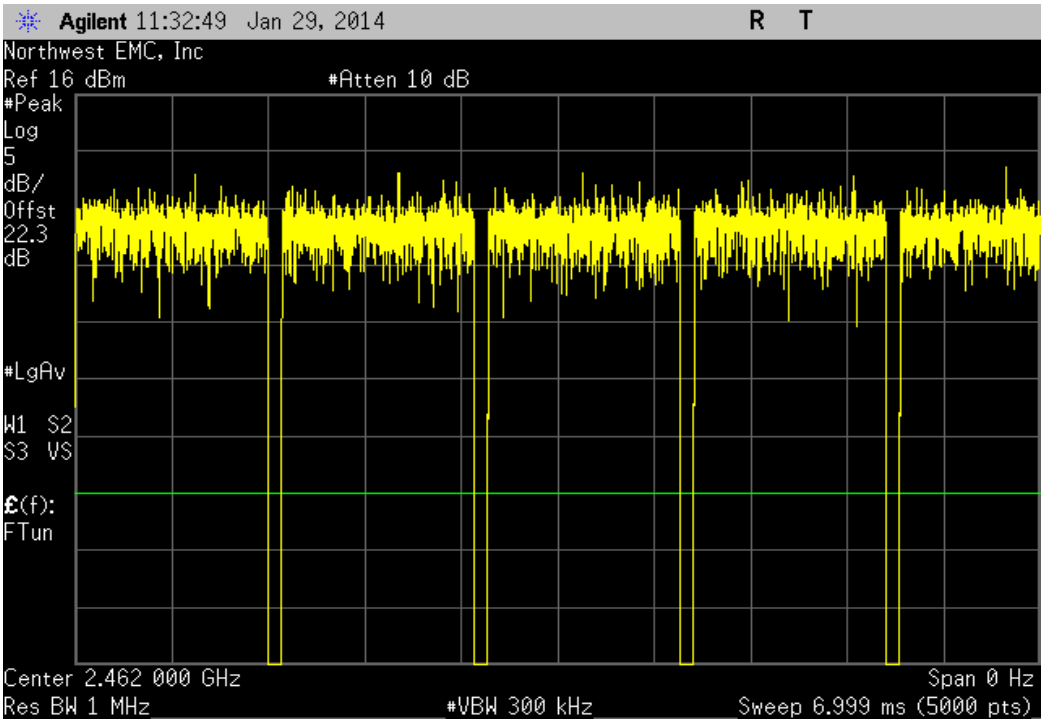


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.39 mS	1.496 mS	1	92.9	N/A	N/A

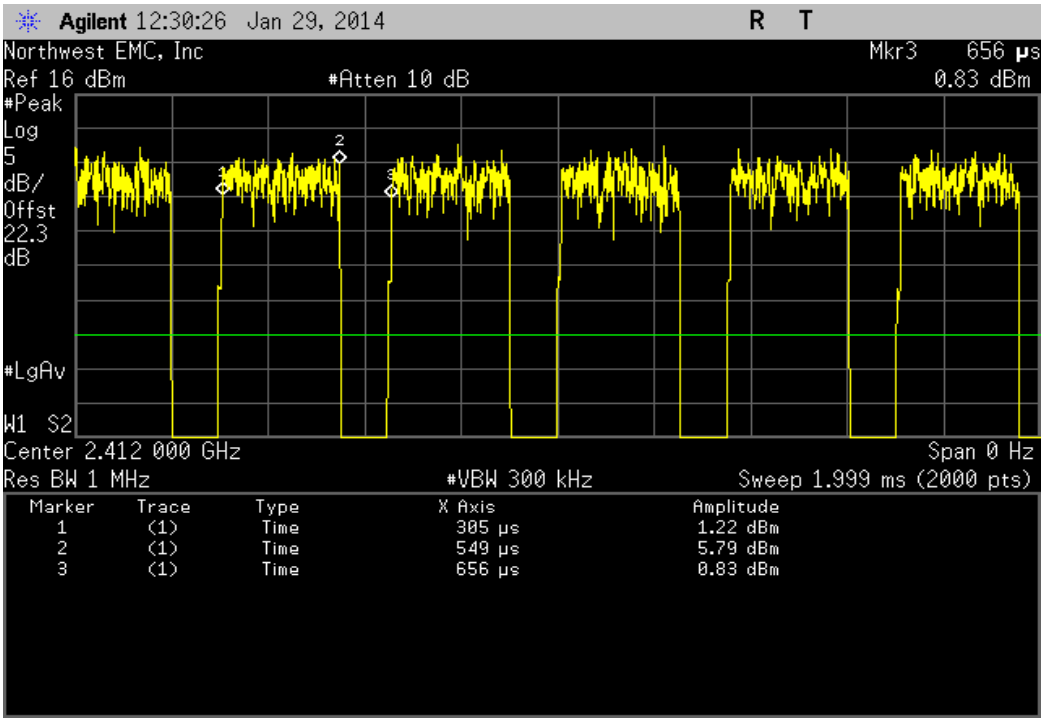


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

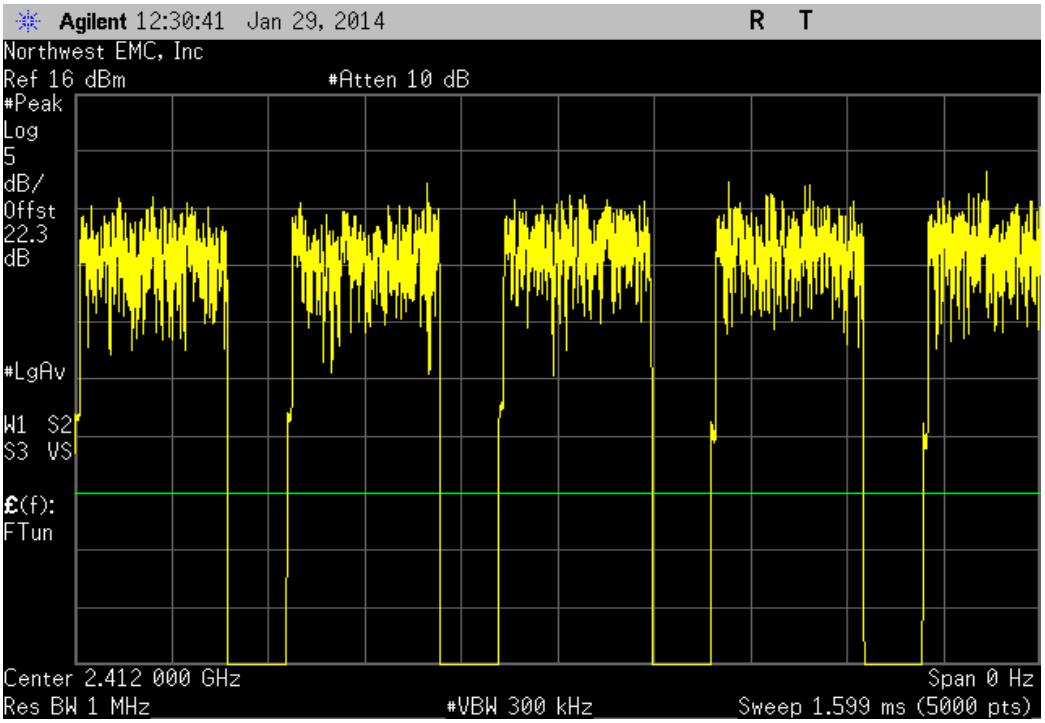


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	244 uS	351 uS	1	69.5	N/A	N/A

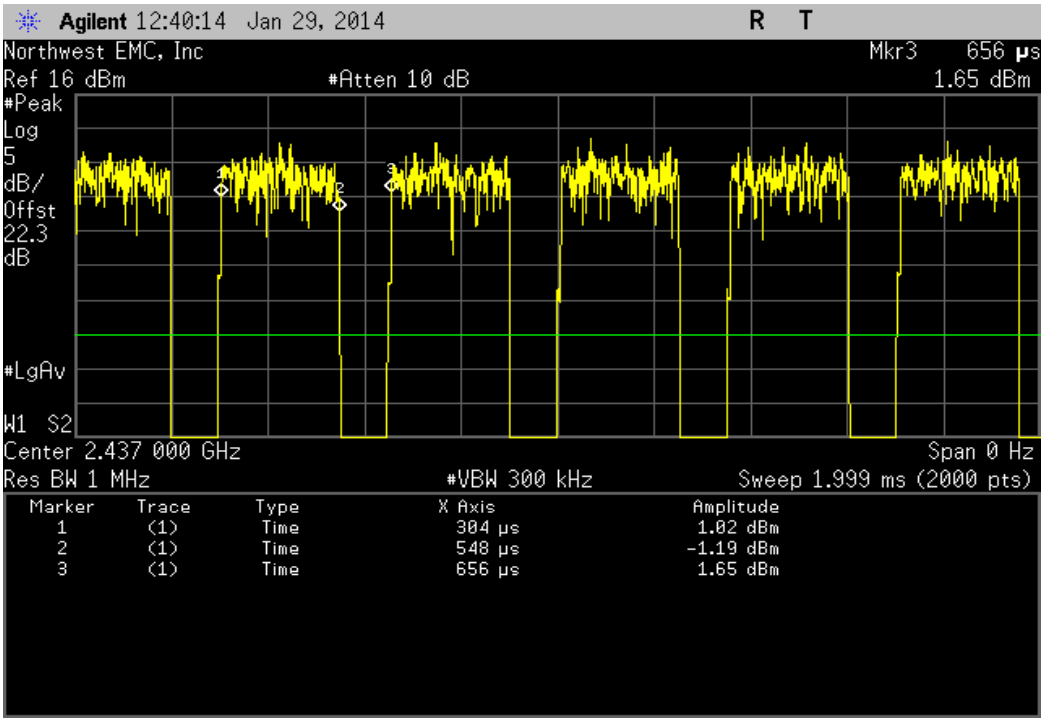


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

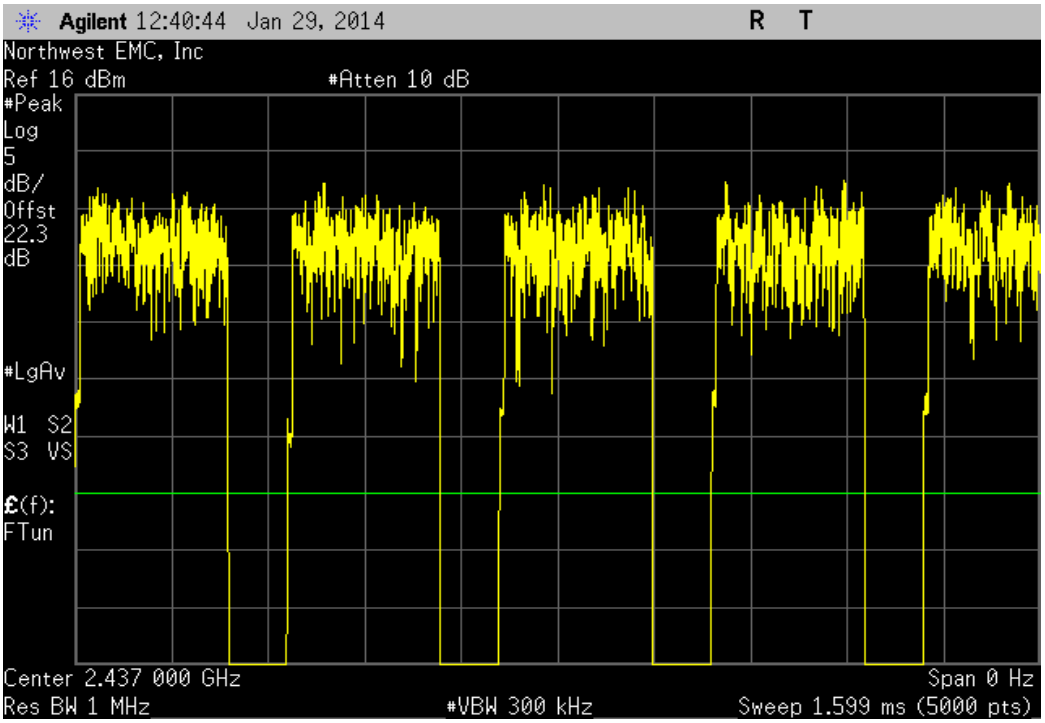


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	244 uS	352 uS	1	69.3	N/A	N/A

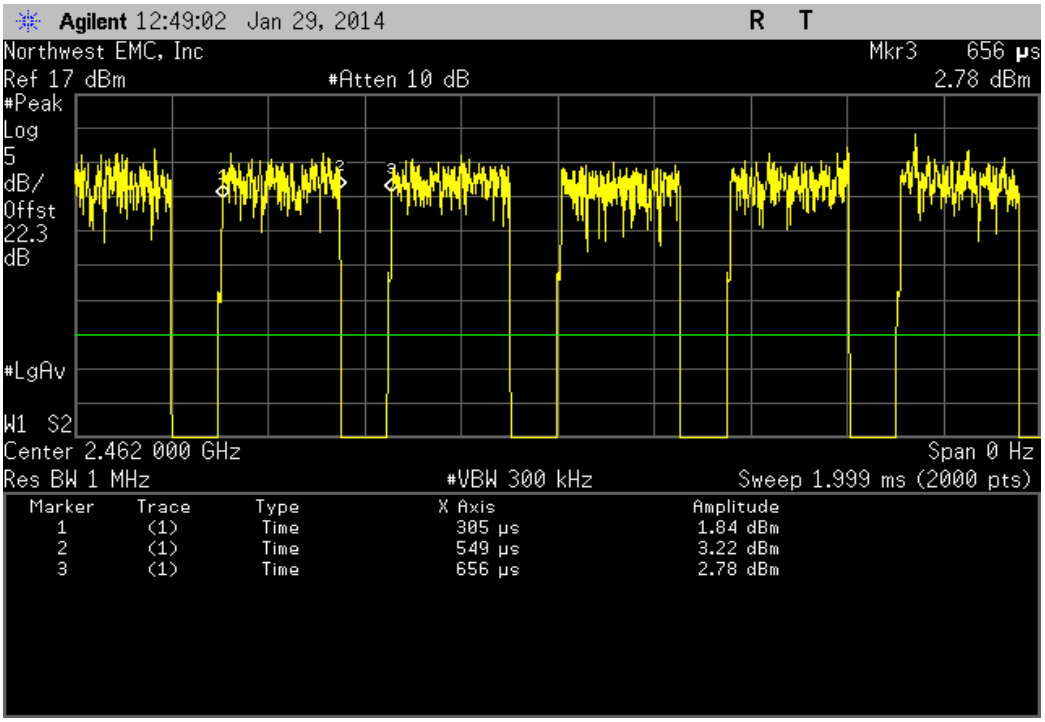


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

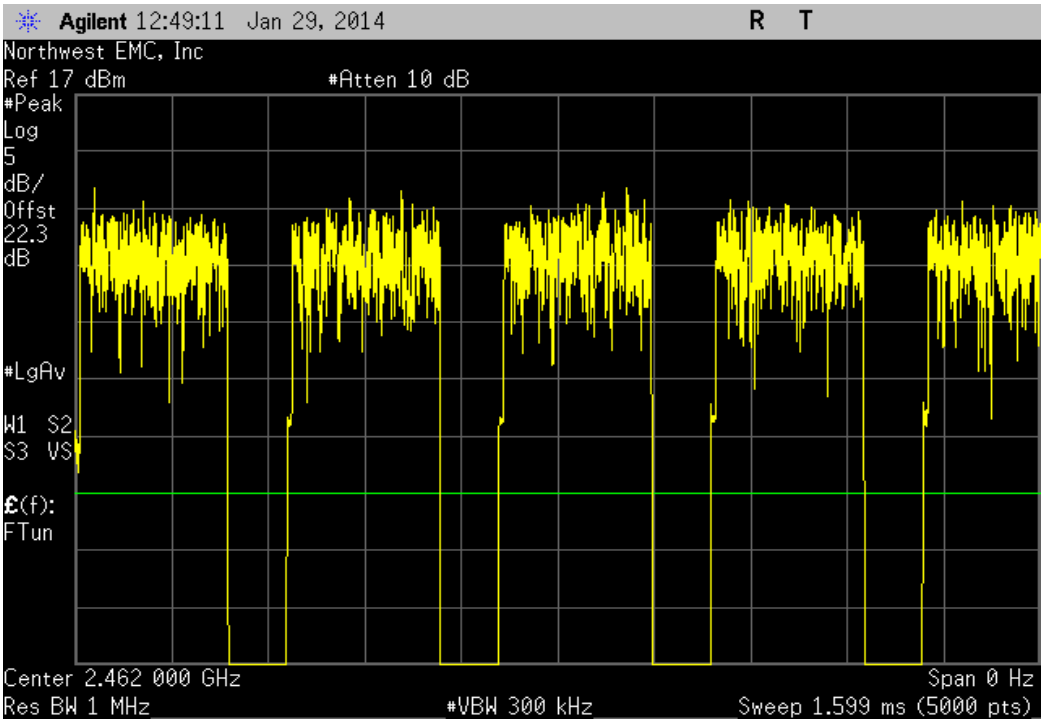


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	244 uS	351 uS	1	69.5	N/A	N/A

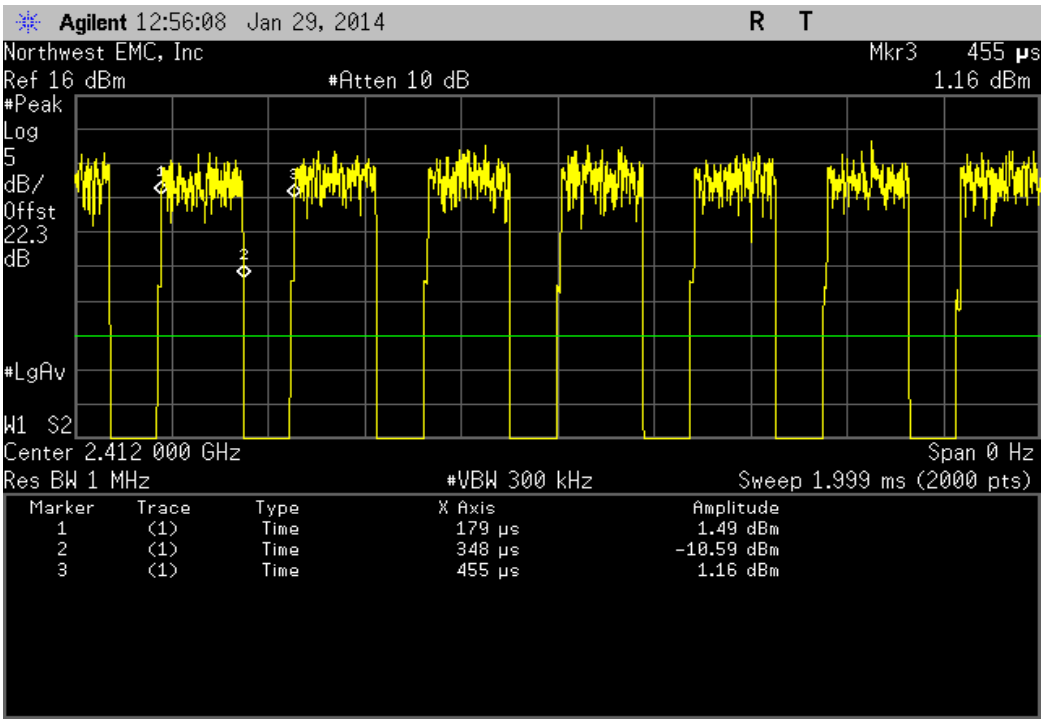


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

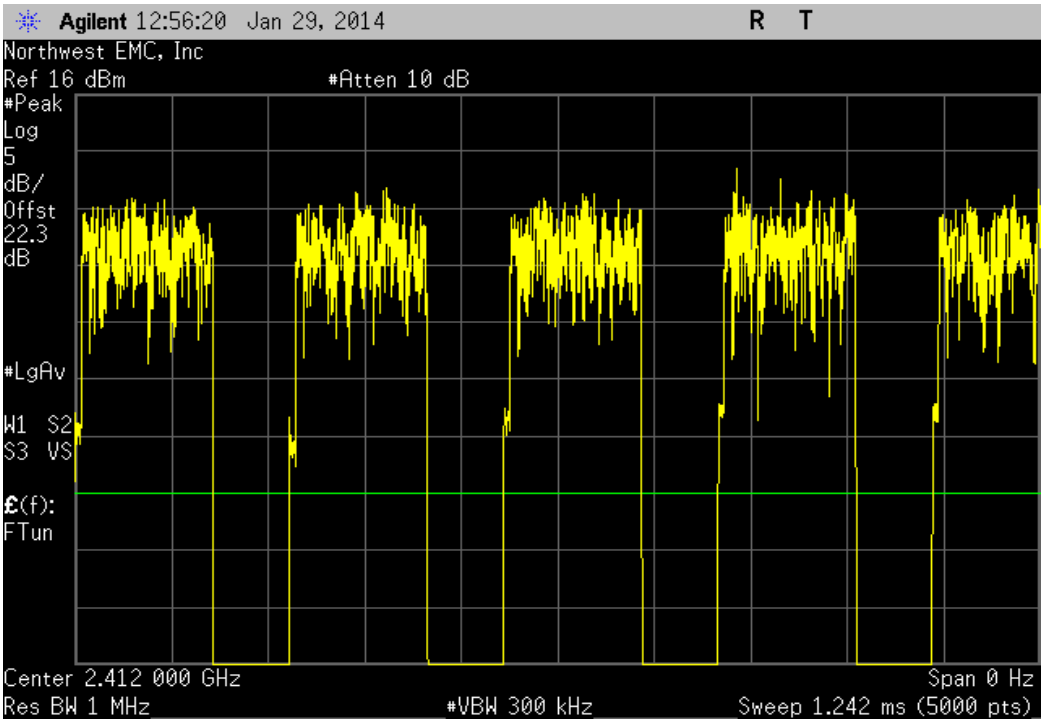


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	169 uS	276 uS	1	61.2	N/A	N/A

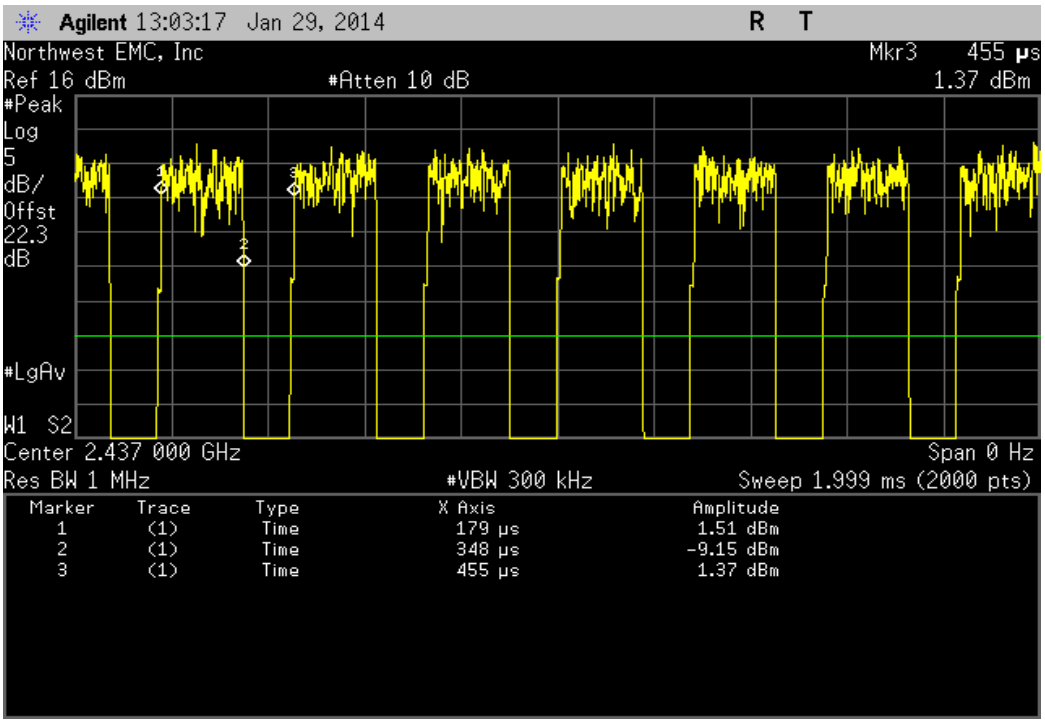


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

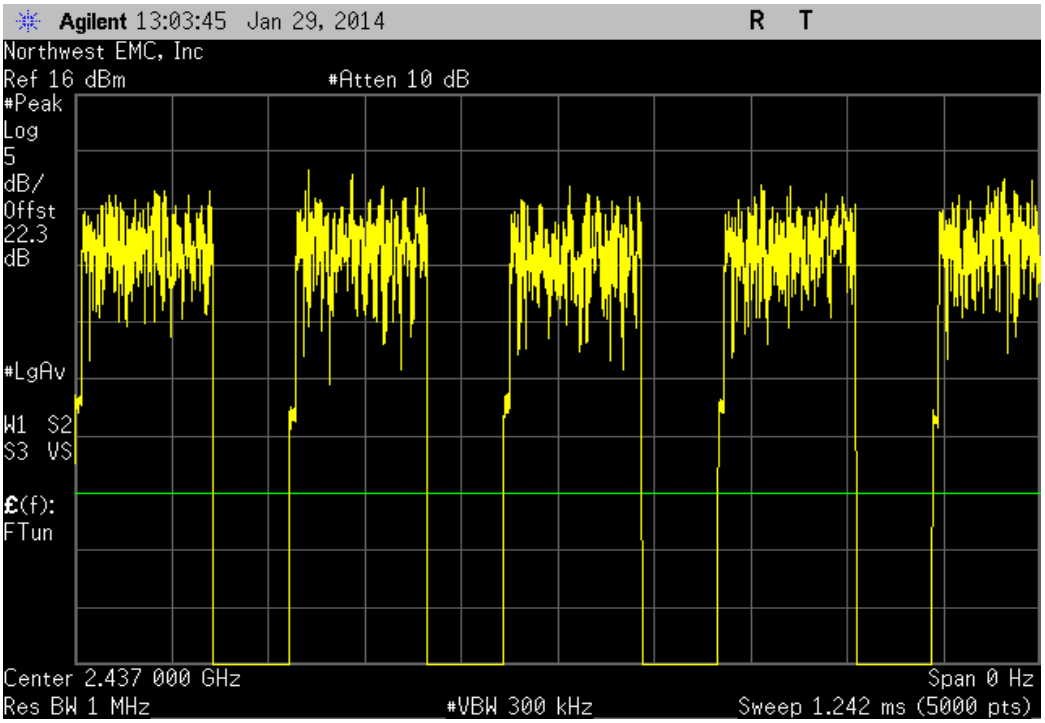


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	169 uS	276 uS	1	61.2	N/A	N/A

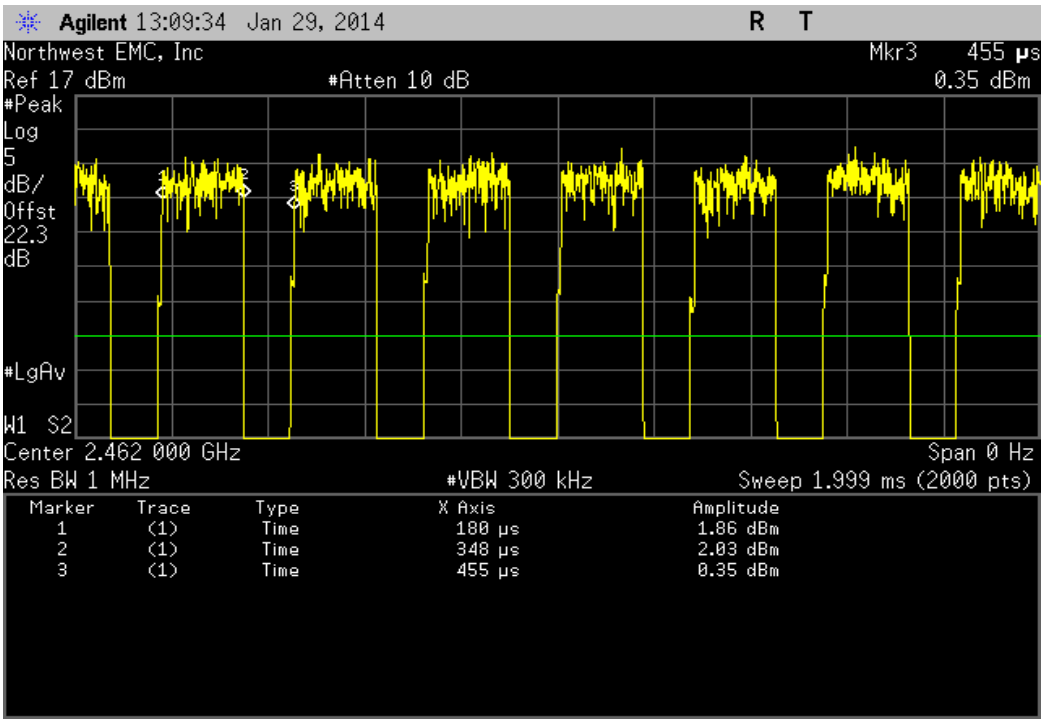


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

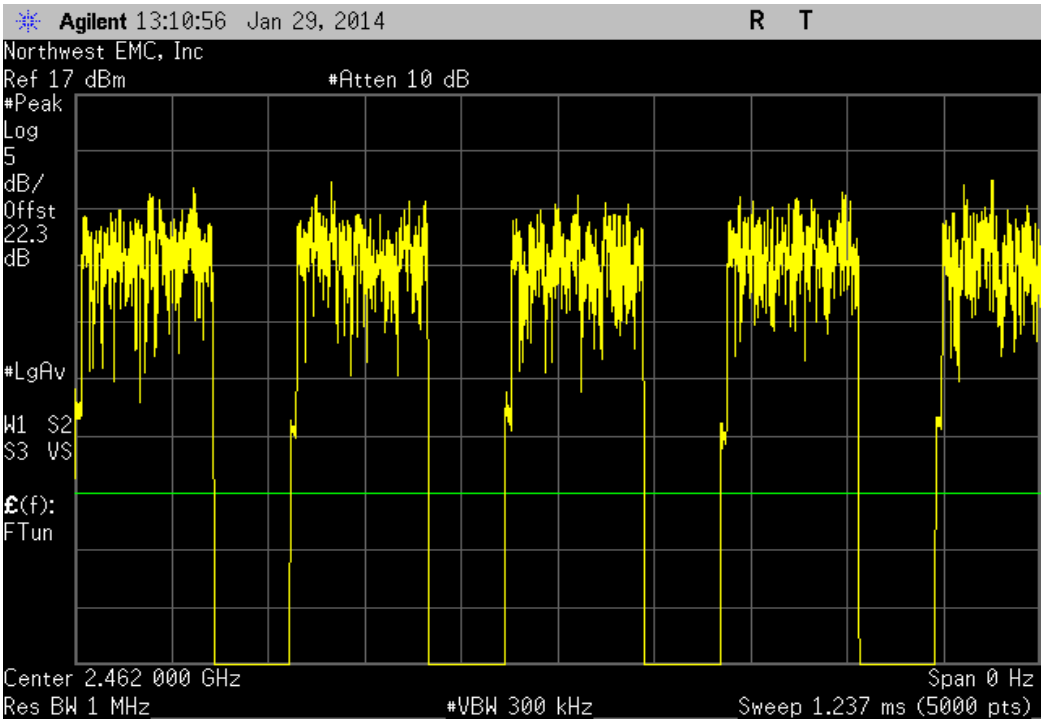


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	168 uS	275 uS	1	61.1	N/A	N/A

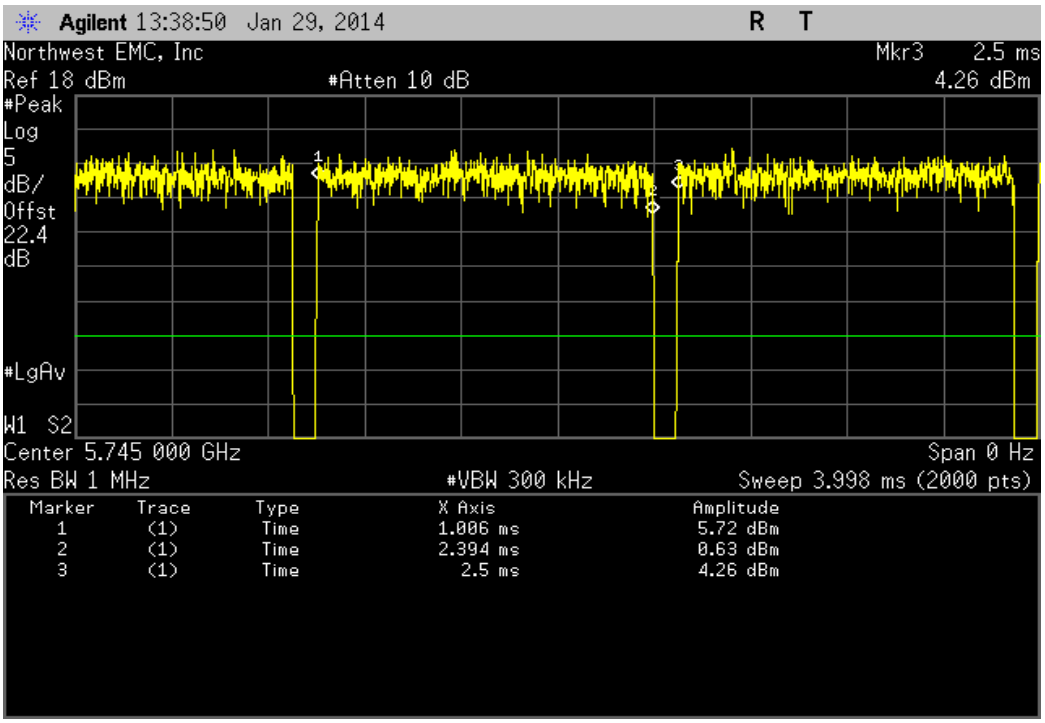


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

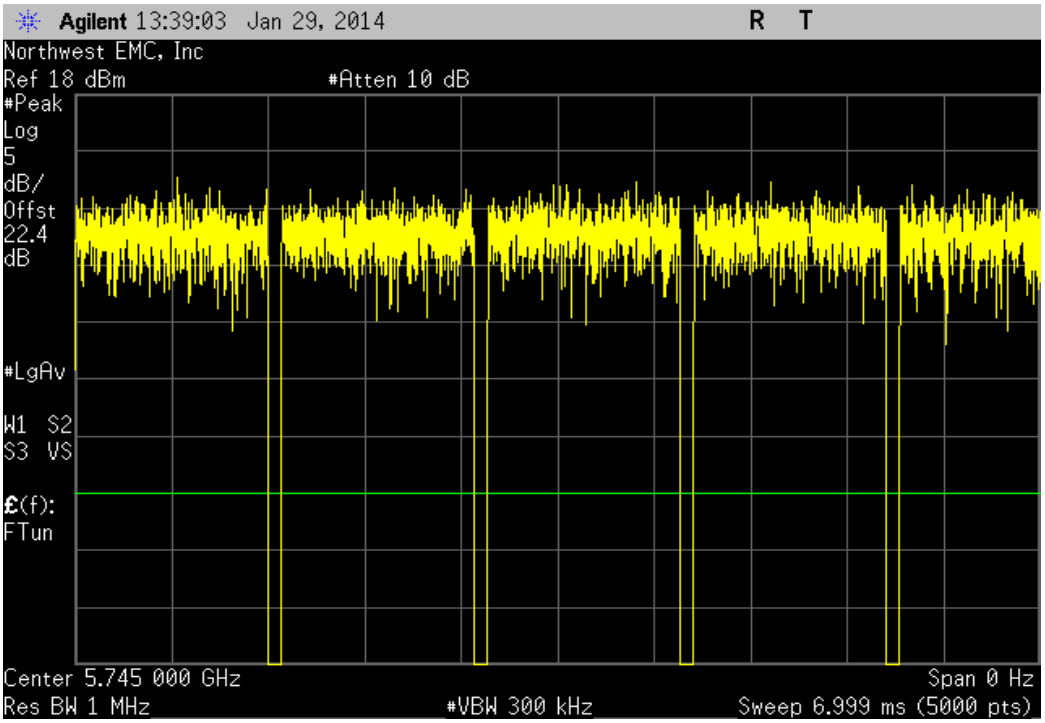


DUTY CYCLE

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.388 mS	1.494 mS	1	92.9	N/A	N/A

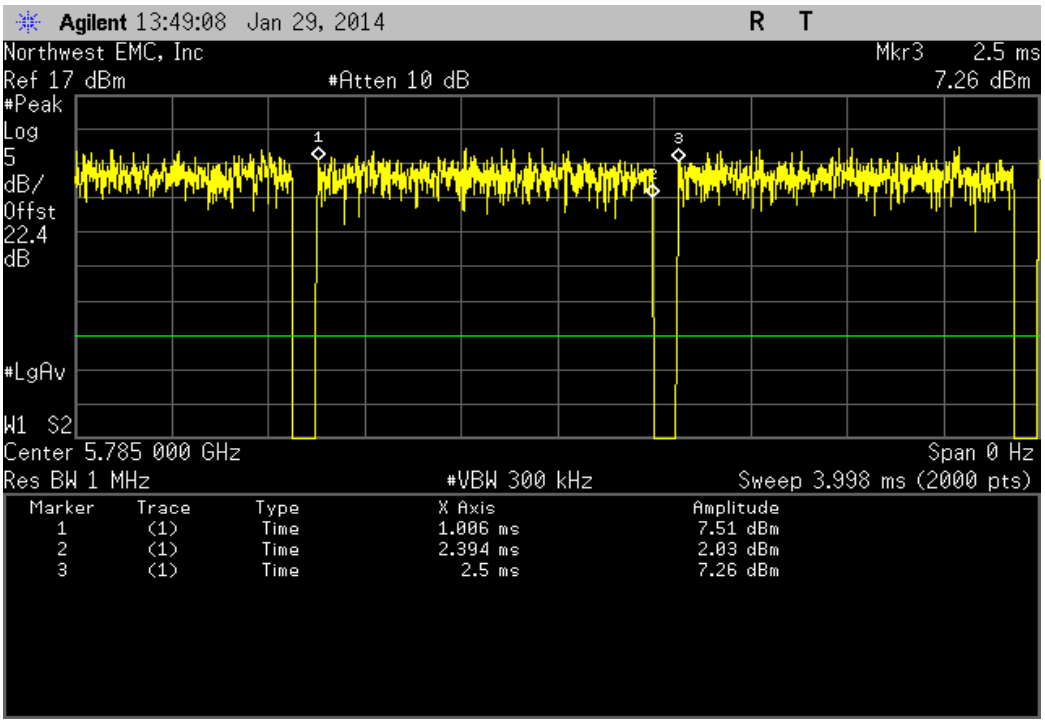


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

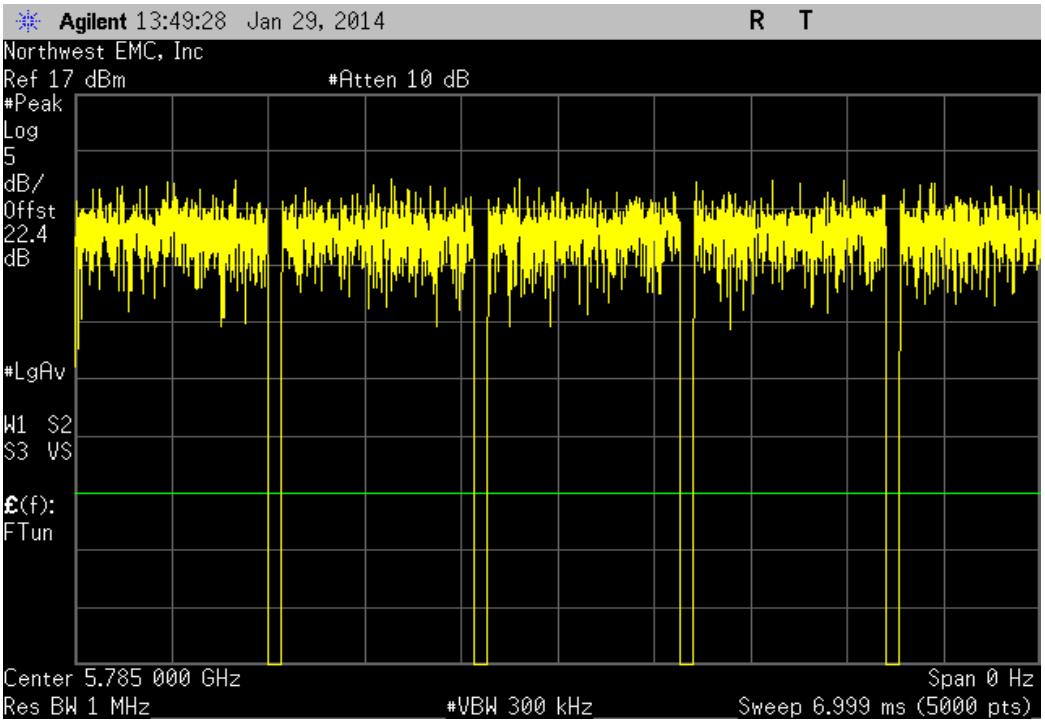


DUTY CYCLE

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.388 mS	1.494 mS	1	92.9	N/A	N/A

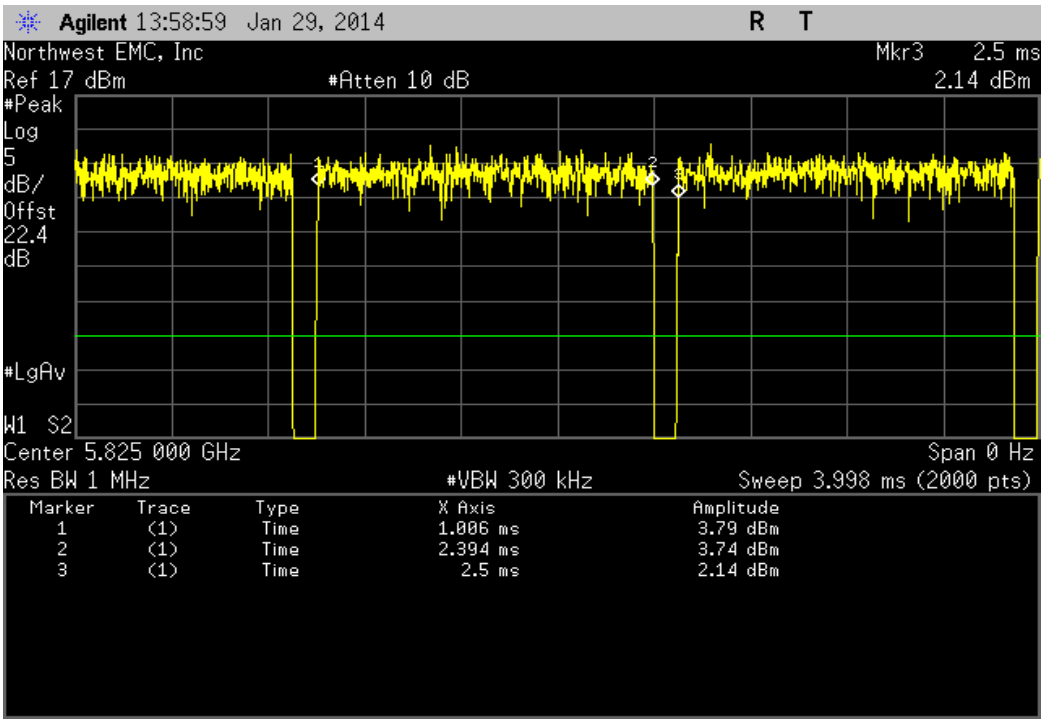


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

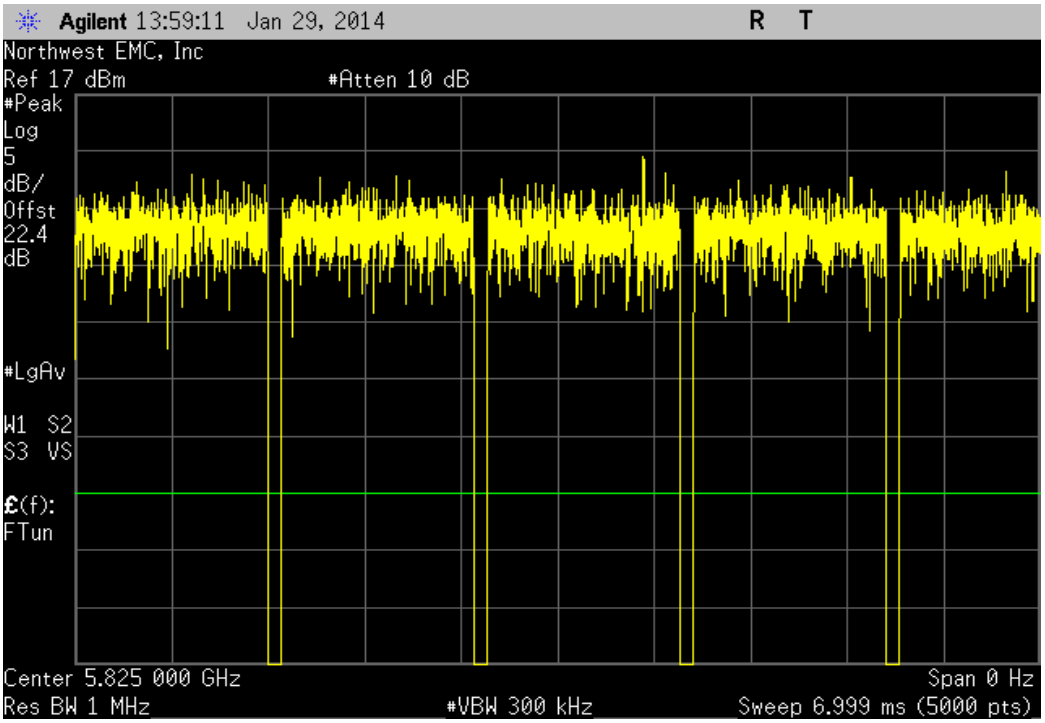


DUTY CYCLE

5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	1.388 mS	1.494 mS	1	92.9	N/A	N/A

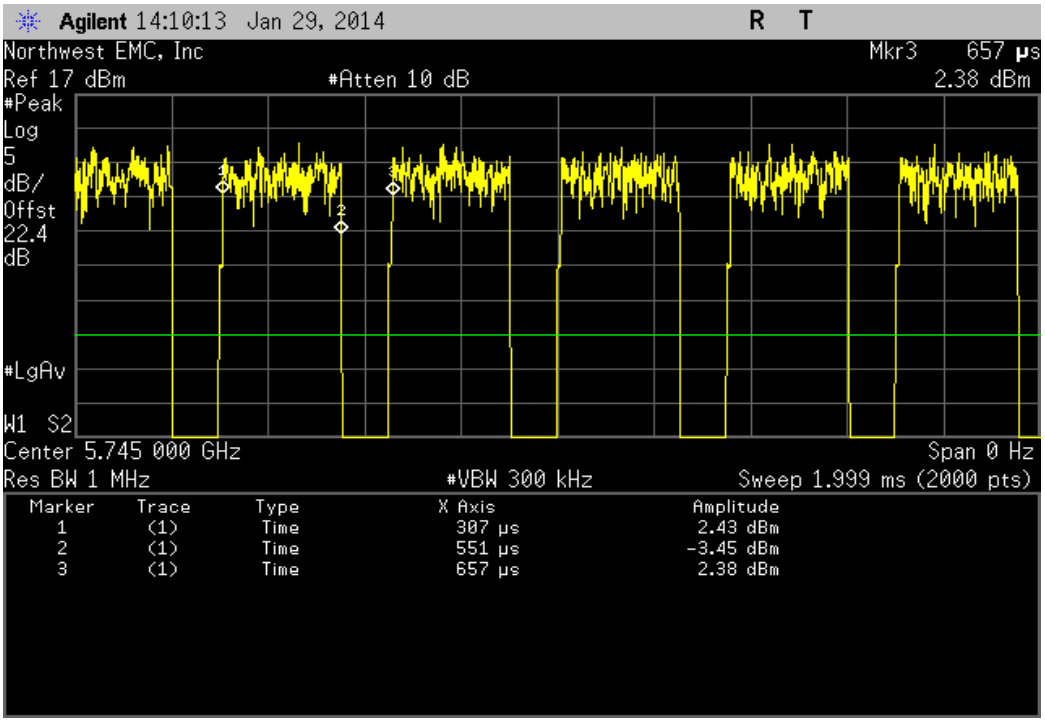


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

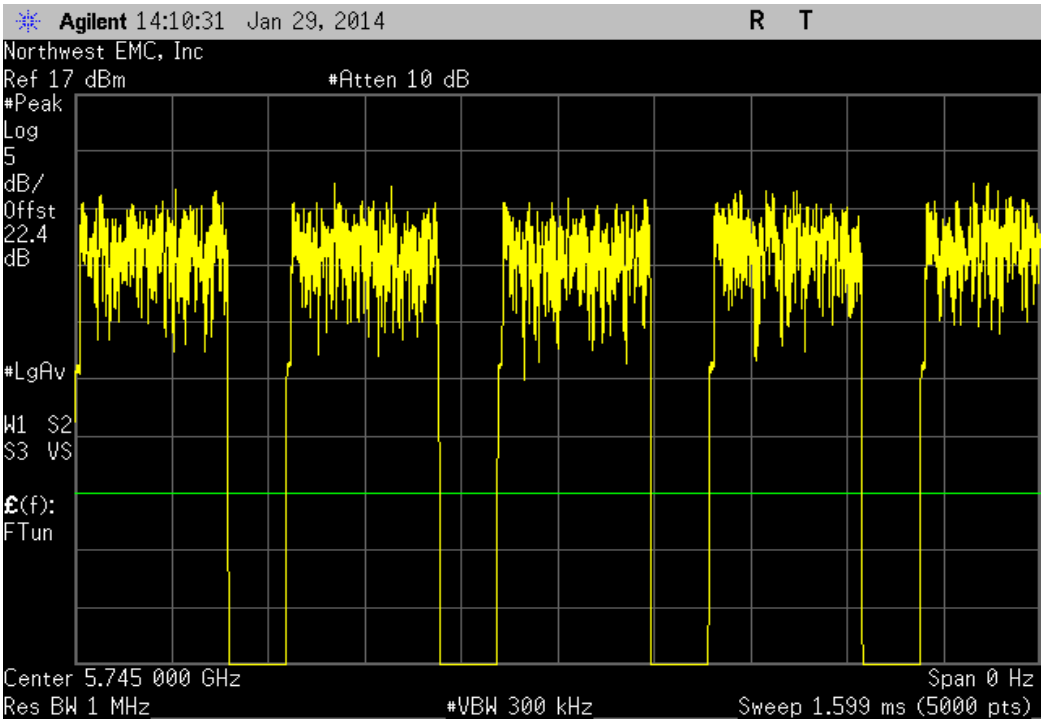


DUTY CYCLE

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	244 uS	350 uS	1	69.7	N/A	N/A

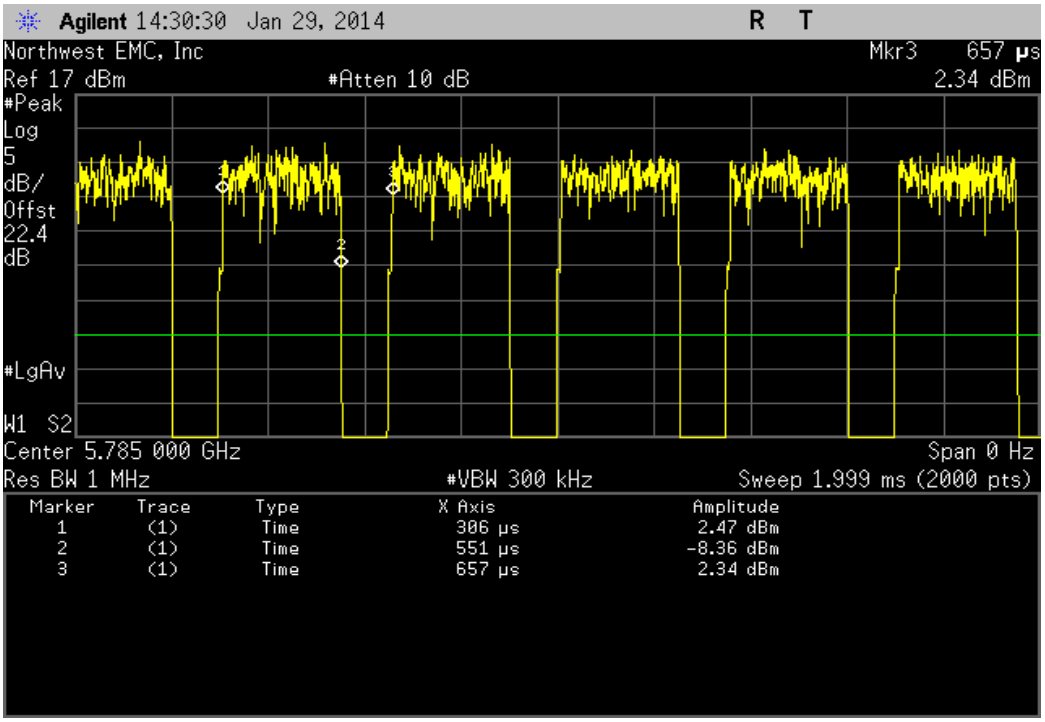


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

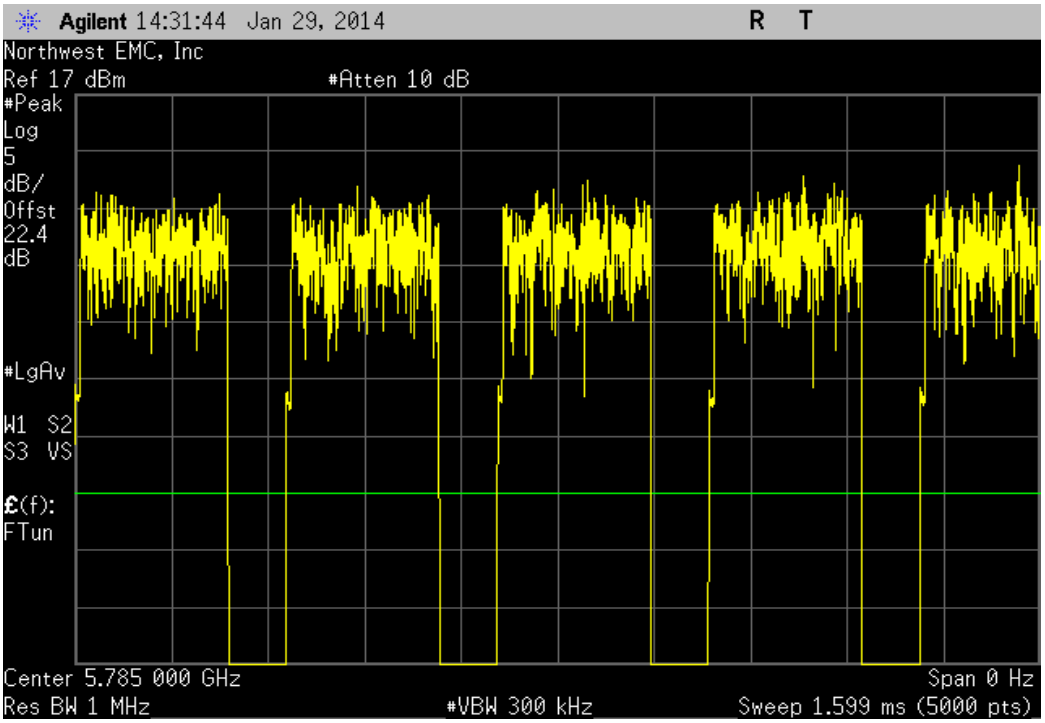


DUTY CYCLE

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	245 uS	351 uS	1	69.8	N/A	N/A

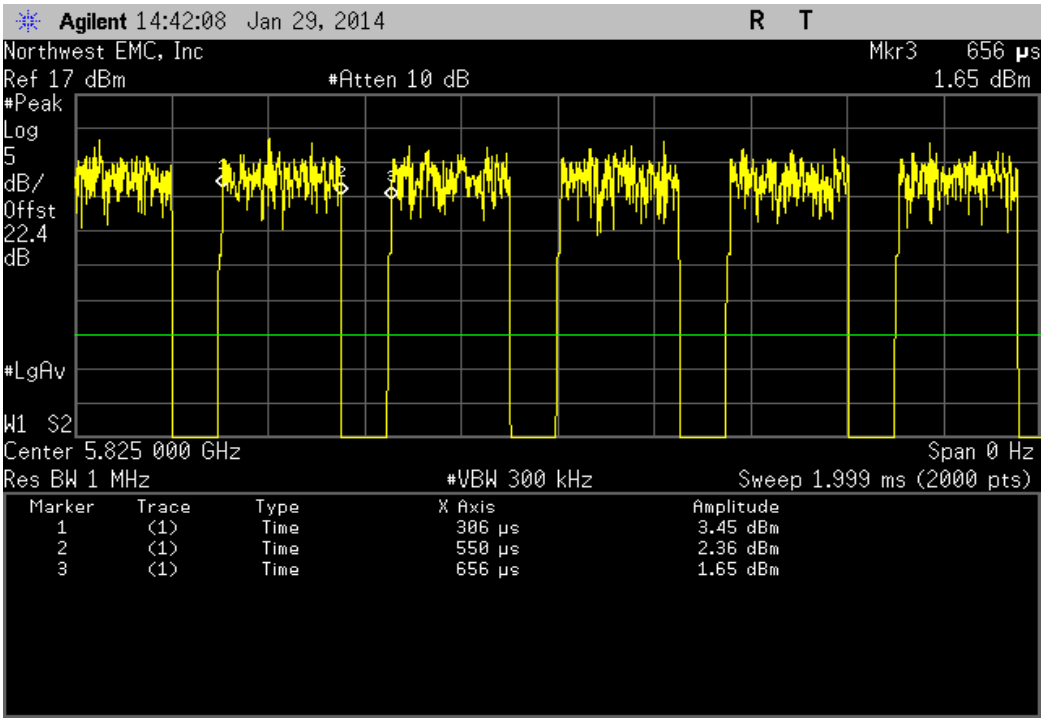


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, Mid Channel 157, 5785 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

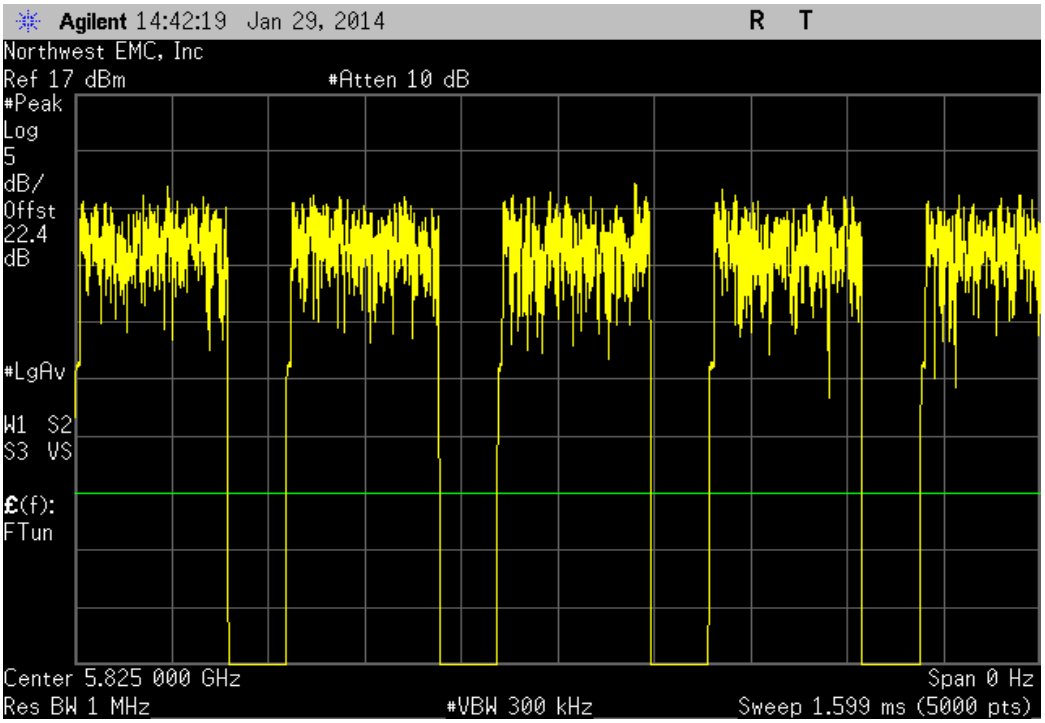


DUTY CYCLE

5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	244 uS	350 uS	1	69.7	N/A	N/A

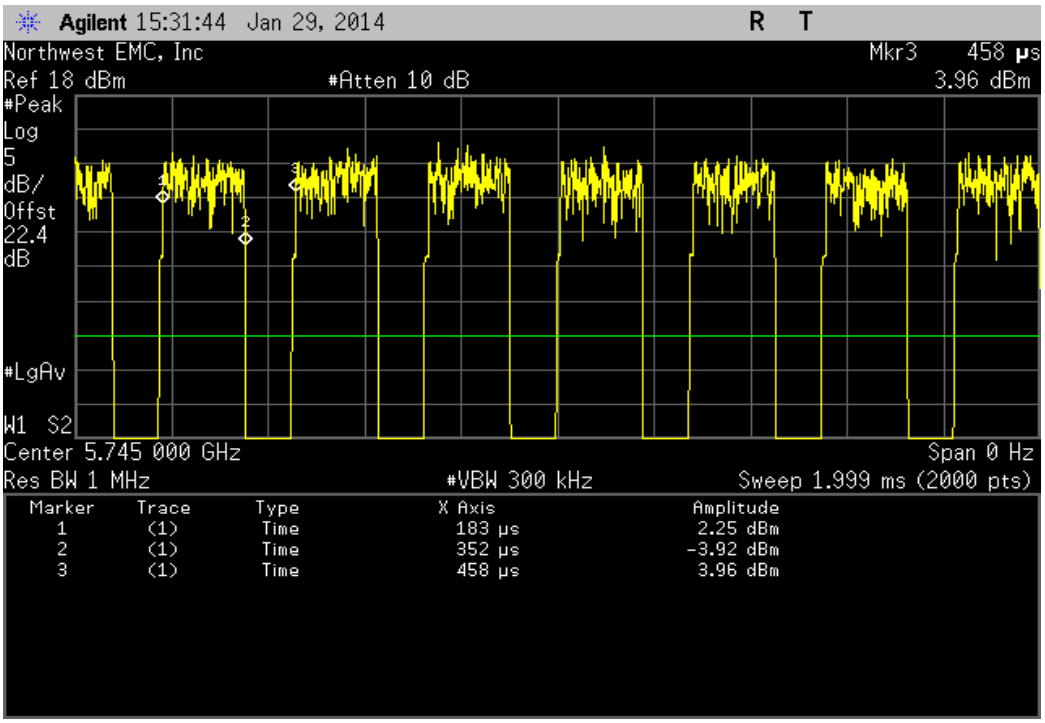


5725 MHz - 5850 MHz Band, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

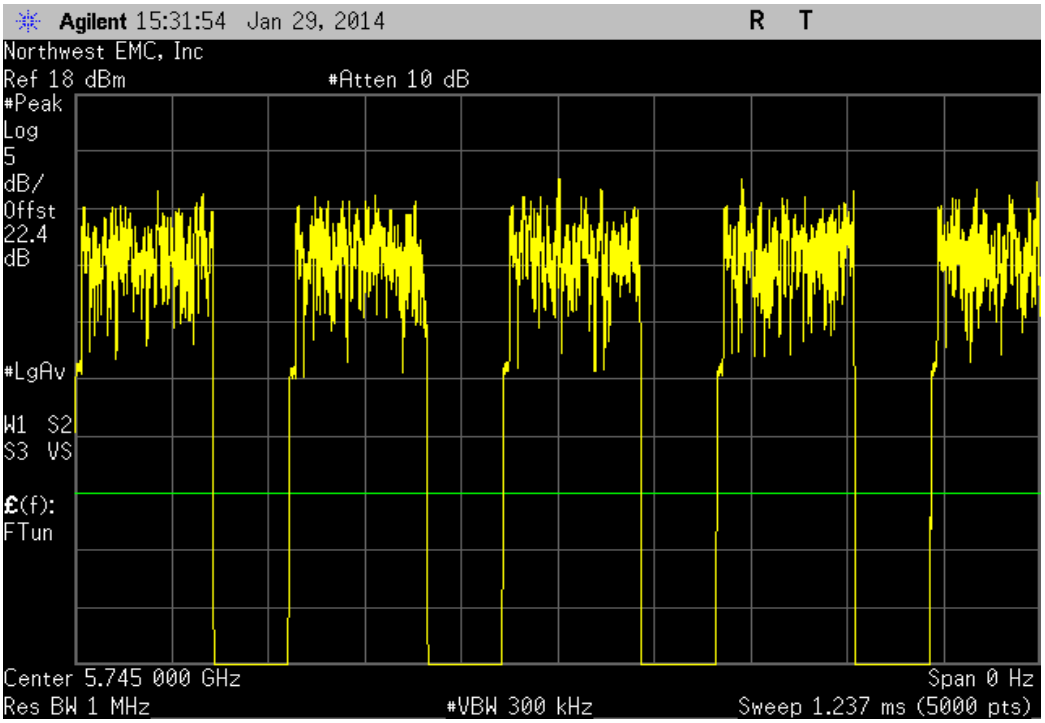


DUTY CYCLE

5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	169 uS	275 uS	1	61.5	N/A	N/A

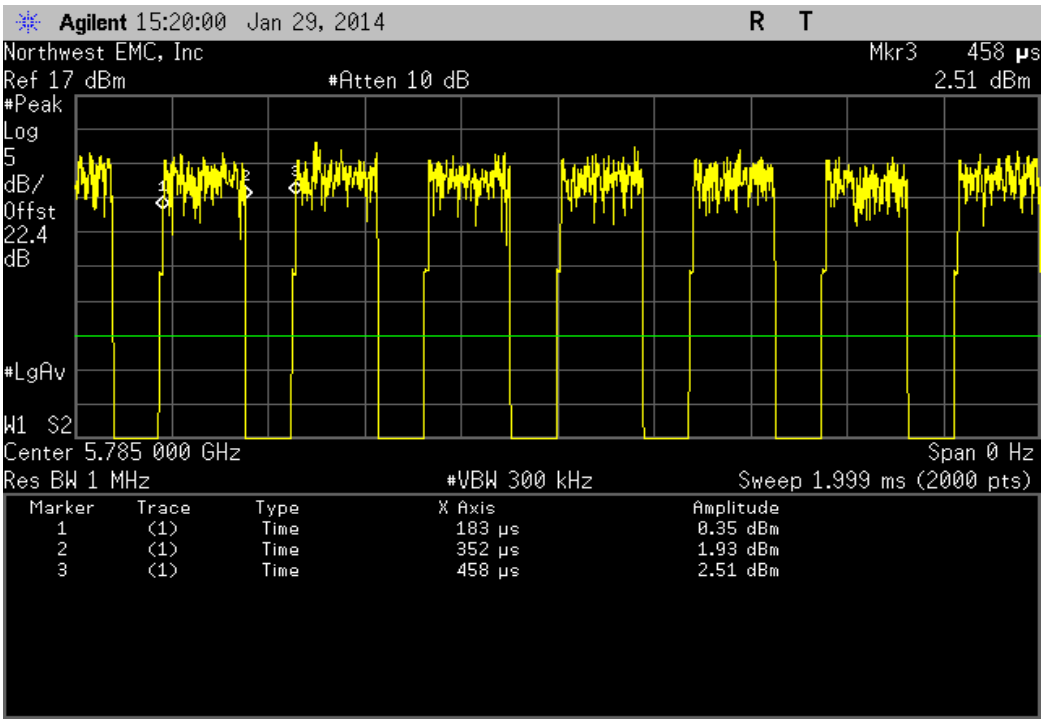


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A

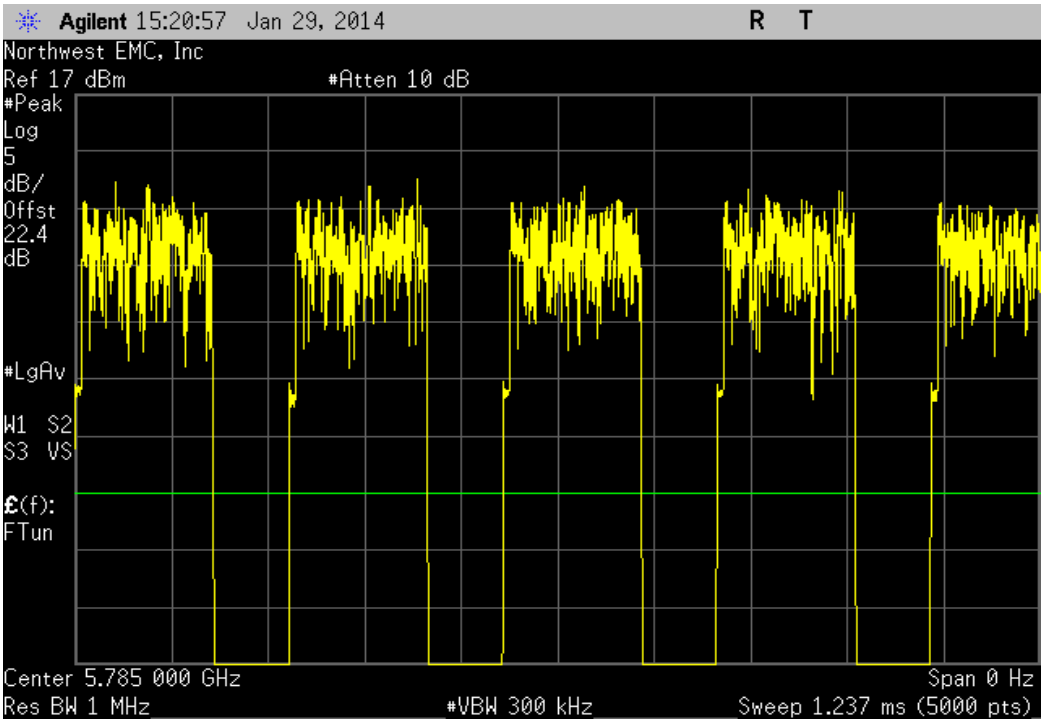


DUTY CYCLE

5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	169 uS	275 uS	1	61.5	N/A	N/A

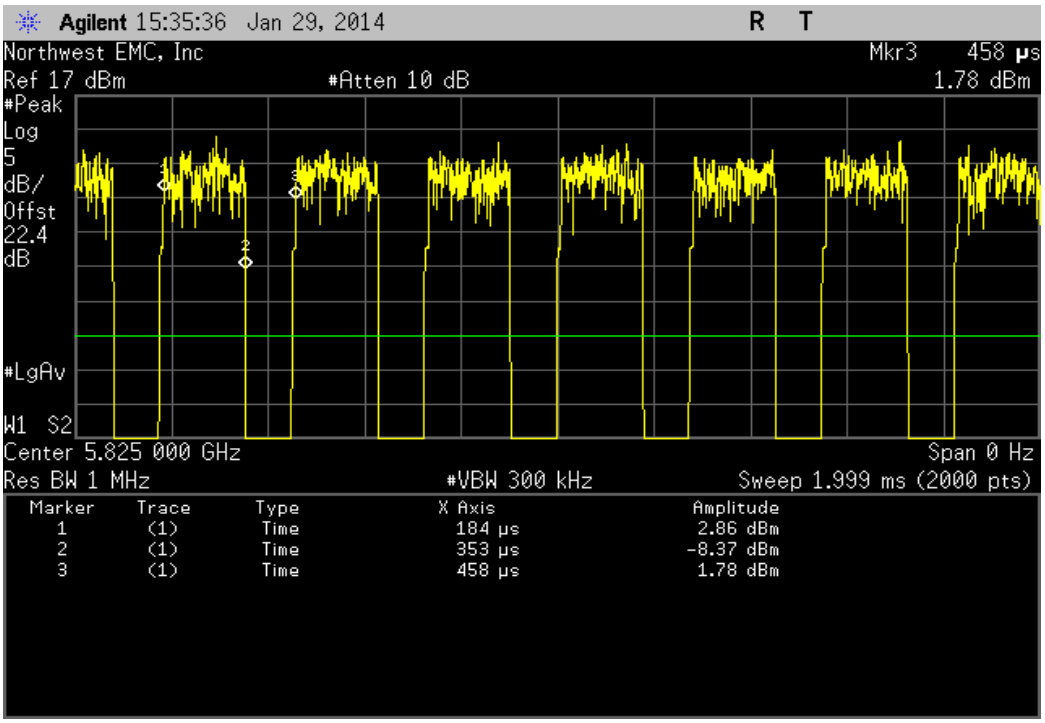


5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, Mid Channel 157, 5785 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A



DUTY CYCLE

5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	169 uS	274 uS	1	61.7	N/A	N/A



5725 MHz - 5850 MHz Band, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit	Result
	N/A	N/A	5	N/A	N/A	N/A