

Logitech, Inc.

S-00112

Report No. LABT0415

Report Prepared By



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

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EMC Test Report

Certificate of Test
Last Date of Test: March 29, 2011
Logitech, Inc.
Model: S-00112

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Occupied Bandwidth	FCC 15.247:2011	ANSI C63.10:2009	Pass
Output Power – Channel Power	FCC 15.247:2011	ANSI C63.10:2009	Pass
Band Edge Compliance	FCC 15.247:2011	ANSI C63.10:2009	Pass
Spurious Conducted Emissions	FCC 15.247:2011	ANSI C63.10:2009	Pass
Power Spectral Density	FCC 15.247:2011	ANSI C63.10:2009	Pass
Spurious Radiated Emissions	FCC 15.247:2011	ANSI C63.10:2009	Pass
AC Powerline Conducted Emissions	FCC 15.207:2011	ANSI C63.10:2009	Pass

Modifications made to the product
See the Modifications section of this report

Test Facility

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

Northwest EMC, Inc.
9349 W Broadway Ave.
Brooklyn Park, MN 55445

Phone: (763) 425-2281 Fax: (763) 424-3469

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada (Site filing #2834E-1).

Approved By:



Tim O'Shea, Operations Manager



NVLAP Lab Code: 200881-0

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

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

Revision Number	Description	Date	Page Number
00	None		

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.



Accreditations and Authorizations

FCC

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

NVLAP

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

Industry Canada

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

CAB

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

Australia/New Zealand

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



Accreditations and Authorizations

VCCI

Accepted as an Associate Member to the VCCI, Acceptance No. 564. Conducted and radiated measurement facilities have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. (*Registration Numbers. - Hillsboro: C-1071, R-1025, G-84, C-2687, T-1658, and R-2318, Irvine: R-1943, G-85, C-2766, and T-1659, Sultan: R-871, G-83, C-1784, and T-1511, Brooklyn Park: R-3125, G-86, G-141, C-3464, and T-1634.*)

BSMI

Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement (US0017).

GOST

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

KCC

Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (*Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157, Brooklyn Park: US0175*)

VIETNAM

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

SCOPE

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

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



Northwest EMC Locations



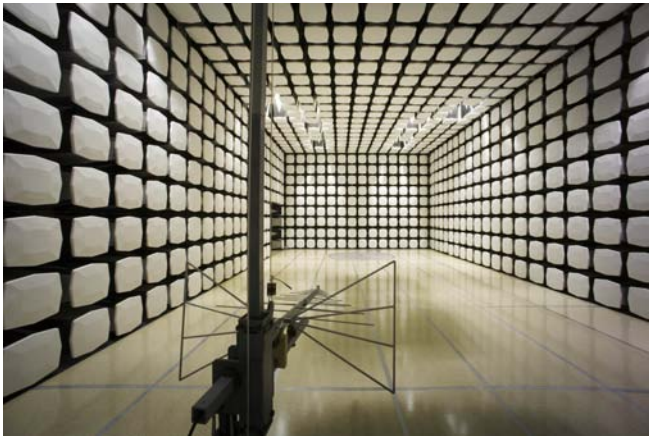
Oregon
Labs EV01-EV12
22975 NW Evergreen Pkwy
Suite 400
Hillsboro, OR 97124
(503) 844-4066

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

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

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

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



Party Requesting the Test

Company Name:	Logitech, Inc.
Address:	4700 NW Camas Meadows Dr
City, State, Zip:	Camas, WA 98607
Test Requested By:	Aaron Cohen
Model:	S-00112
First Date of Test:	March 7, 2011
Last Date of Test:	March 29, 2011
Receipt Date of Samples:	February 28, 2011
Equipment Design Stage:	Prototype
Equipment Condition:	No Damage

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

Logitech proprietary radio.

The proprietary radio shall never use the IEEE 802.11b protocol during the normal operation of Logitech's Model Number S-00112. The communication from the host device never uses IEEE 802.11b modulations or data rates when communicating with Logitech's Model Number S-00112.

Furthermore, the user will never be able to force the S-00112 to connect to an 802.11b network. Firmware for the radio limits operation to 802.11g and 802.11a data rates of 6 – 24 Mbps only. No higher data rates are possible.

The equipment is limited to operation in the 2.4 GHz - 2.4835 GHz, 5.15 GHz – 5.25 GHz and 5.725 – 5.825 GHz bands.

Testing Objective:

To demonstrate compliance under FCC 15.247 for operation in the 2.4 and 5.8 GHz bands

CONFIGURATION 1 LABT0415

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Power Supply	PI Electronics	AD631MC	534-000410
EUT PCB	Logitech, Inc.	S-00112	C001

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Laptop	Asus	1015PE-BBK	LP 200000833024389
Laptop Adapter	Asus	ADP-40PH AB	LP 200000833024389
Right Speaker	Logitech, Inc.	S-00098	880-000146
Left Speaker	Logitech, Inc.	S-00098	880-000146
DC Adapter	Logitech, Inc.	EFS00901000070UL	534-000299

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
RCA	No	1.80m	No	EUT	Unterminated
DC Power	No	1.80m	No	EUT	Power Supply
AC Power	No	1.80m	No	Power Supply	AC Mains
USB	No	1.75m	No	Laptop	EUT
DC Power	No	1.75m	No	Laptop Adapter	Laptop
AC Power	No	1.45m	No	Laptop Adapter	AC Mains
DC Power	No	1.80m	No	DC Adapter	Right Speaker
AC Power	No	0.80m	No	DC Adapter	AC Mains
Audio	No	1.35m	No	EUT	Right Speaker
Audio	No	1.10m	No	Right Speaker	Left Speaker

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

CONFIGURATION 2 LABT0415

EUT

Description	Manufacturer	Model/Part Number	Serial Number
EUT	Logitech, Inc.	S-00112	R001
Power Supply	PI Electronics	AD631MC	534-000410

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
Right Speaker	Logitech, Inc.	S-00098	880-000146
Left Speaker	Logitech, Inc.	S-00098	880-000146
DC Adapter	Logitech, Inc.	EFS00901000070UL	534-000299

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
RCA	No	1.80m	No	EUT	Unterminated
DC Power	No	1.80m	No	EUT	Power Supply
AC Power	No	1.80m	No	Power Supply	AC Mains
DC Power	No	1.80m	No	DC Adapter	Right Speaker
AC Power	No	0.80m	No	DC Adapter	AC Mains
Audio	No	1.35m	No	EUT	Right Speaker
Audio	No	1.10m	No	Right Speaker	Left Speaker

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

CONFIGURATION 4 LABT0415

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
EUT	Logitech, Inc.	S-00112	R001

Remote Equipment Outside of Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Adjustable Power Supply	EZ	GP-4303D	0907005
Alternate Speaker R	Logitech, Inc.	S-00026	880-000065
Alternate Speaker L	Logitech, Inc.	S-00026	880-000065

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
RCA	No	1.80m	No	EUT	Unterminated
DC Power	No	1.80m	No	EUT	Power Supply
AC Power	No	1.80m	No	Power Supply	AC Mains
AC Power	No	1.40m	No	Alternate Speaker L	AC Mains
Audio	No	1.20m	No	Alternate Speaker R	Alternate Speaker L
Audio	No	1.40m	No	Alternate Speaker R	EUT

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

CONFIGURATION 5 LABT0415

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
EUT	Logitech, Inc.	S-00112	C011

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
EUT PCB	Logitech, Inc.	S-00112	C001

Remote Equipment Outside of Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Remote PC	Dell	Inspiron 600	IS386

Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	3/7/2011	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	3/7/2011	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	3/7/2011	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	3/8/2011	AC Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	3/25/2011	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.
6	3/29/2011	Output Power – Channel Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
7	3/29/2011	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

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
Multimeter	Fluke	114	MMU	7/13/2009	24
DC Power Supply	EZ Digital Co	GP-4303D	TPY	NCR	0
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	7/19/2010	13
40 GHz DC block	Fairview Microwave	SD3379	AMI	11/1/2010	13
Signal Generator	Agilent	N5183A	TIA	1/18/2011	24
Spectrum Analyzer	Agilent	E4440A	AAX	5/14/2010	12
Spectrum Analyzer	Agilent	E4446A	AAT	2/15/2011	12

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The occupied bandwidth was measured with the EUT set to low, medium, and high transmit frequencies in the ISM 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 required data rates available in 802.11(g)/(a).

EUT: S-00112	Work Order: LABT0415
Serial Number: C001	Date: 03/07/11
Customer: Logitech, Inc.	Temperature: 23.23°C
Attendees: None	Humidity: 15%
Project: None	Barometric Pres.: 1022.1
Tested by: Trevor Buls	Power: 120VAC/60Hz
	Job Site: MN04
TEST SPECIFICATIONS	
FCC 15.247:2011	Test Method
	ANSI C63.10:2009

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

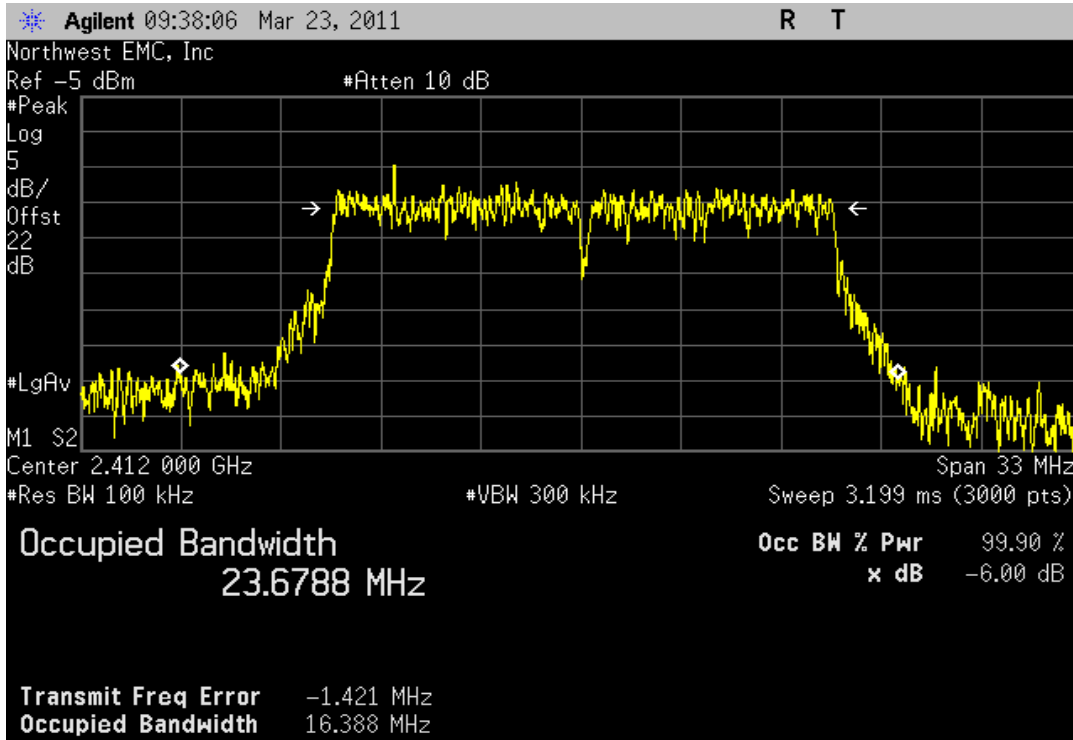
No Deviations

Configuration #	1	Signature <i>Trevor Buls</i>
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	Value	Limit	Result
2400 MHz - 2483.5 MHz Band			
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	16.388 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	16.425 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	16.319 MHz	> 500 kHz	Pass
802.11(g) 24 Mbps			
Low Channel 1, 2412 MHz	15.975 MHz	> 500 kHz	Pass
Mid Channel 6, 2437 MHz	16.461 MHz	> 500 kHz	Pass
High Channel 11, 2462 MHz	16.403 MHz	> 500 kHz	Pass
5725 MHz - 5850 MHz Band			
802.11(a) 6 Mbps			
Low Channel 149, 5745 MHz	16.364 MHz	> 500 kHz	Pass
Mid Channel 157, 5785 MHz	16.342 MHz	> 500 kHz	Pass
High Channel 165, 5825 MHz	16.439 MHz	> 500 kHz	Pass
802.11(a) 24 Mbps			
Low Channel 149, 5745 MHz	15.691 MHz	> 500 kHz	Pass
Mid Channel 157, 5785 MHz	15.924 MHz	> 500 kHz	Pass
High Channel 165, 5825 MHz	16.388 MHz	> 500 kHz	Pass

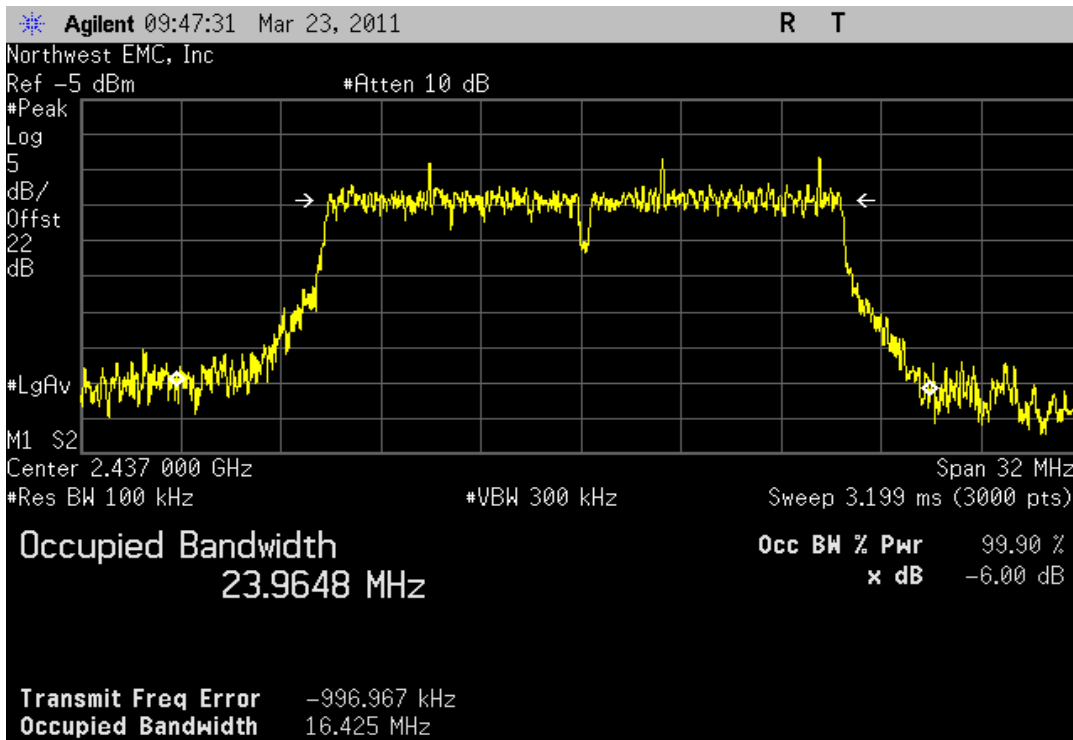
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

Value	Limit	Result
16.388 MHz	> 500 kHz	Pass



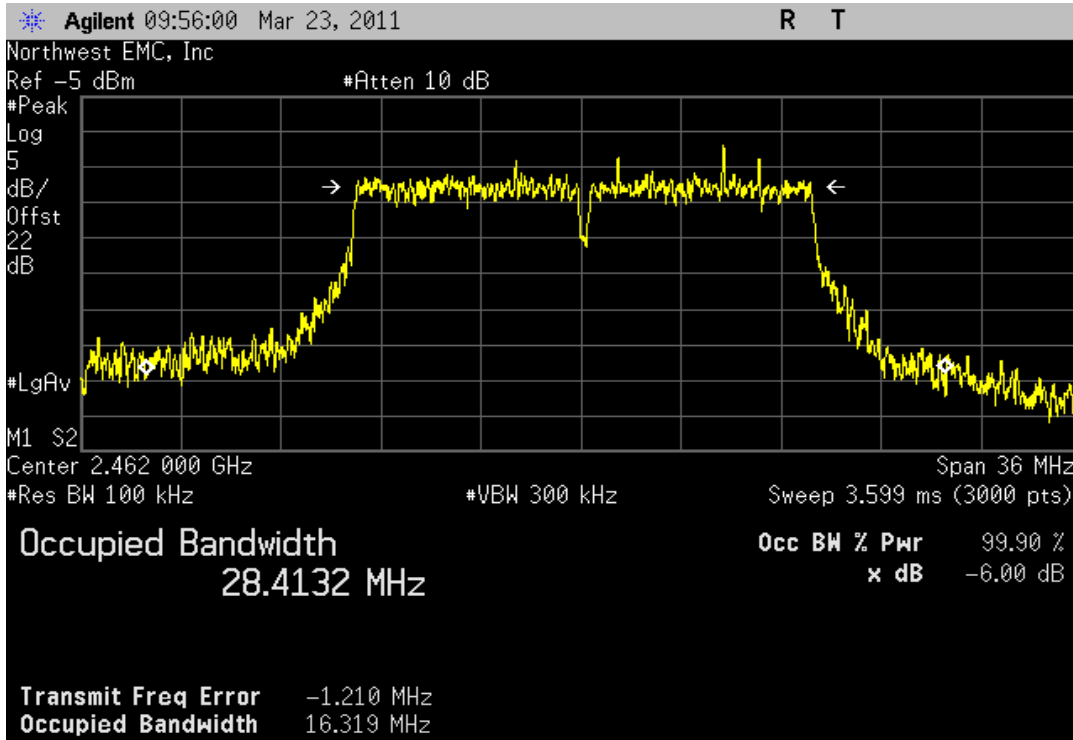
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz

Value	Limit	Result
16.425 MHz	> 500 kHz	Pass



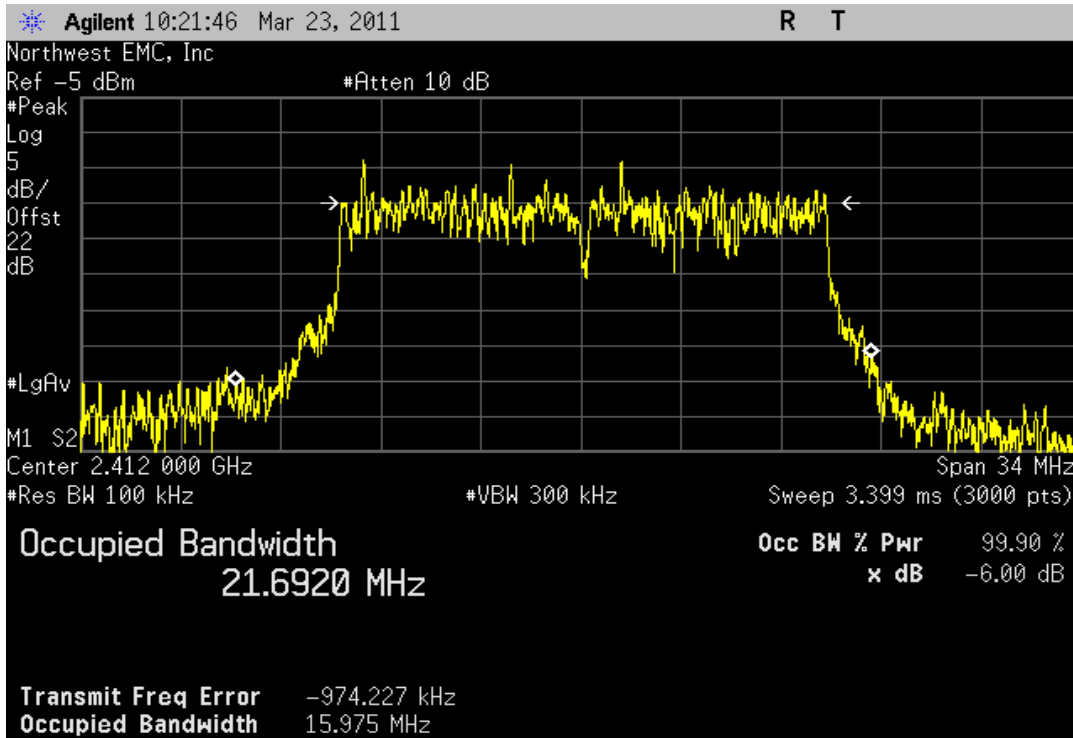
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz

Value	Limit	Result
16.319 MHz	> 500 kHz	Pass



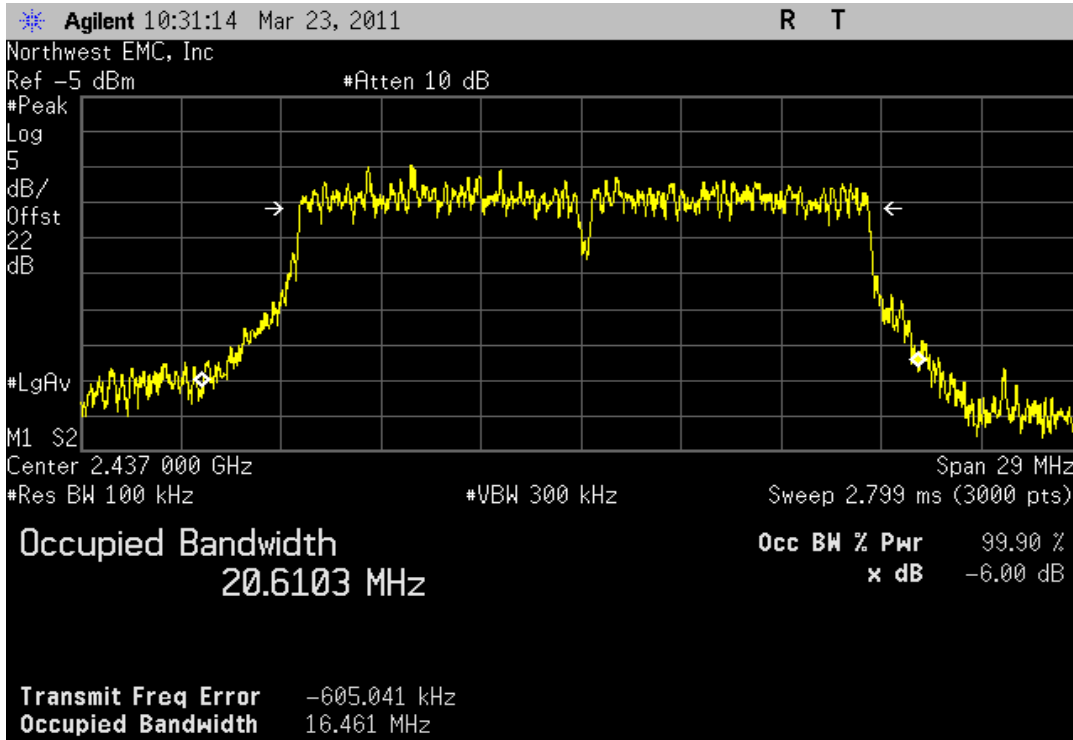
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, Low Channel 1, 2412 MHz

Value	Limit	Result
15.975 MHz	> 500 kHz	Pass



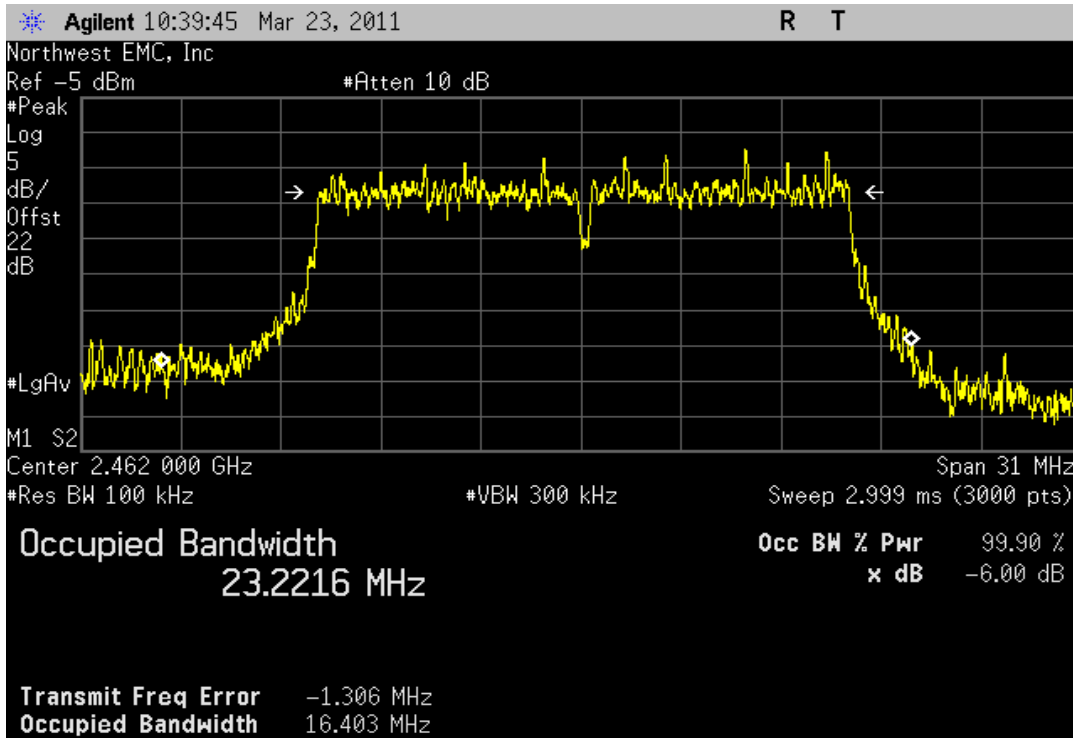
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, Mid Channel 6, 2437 MHz

Value	Limit	Result
16.461 MHz	> 500 kHz	Pass



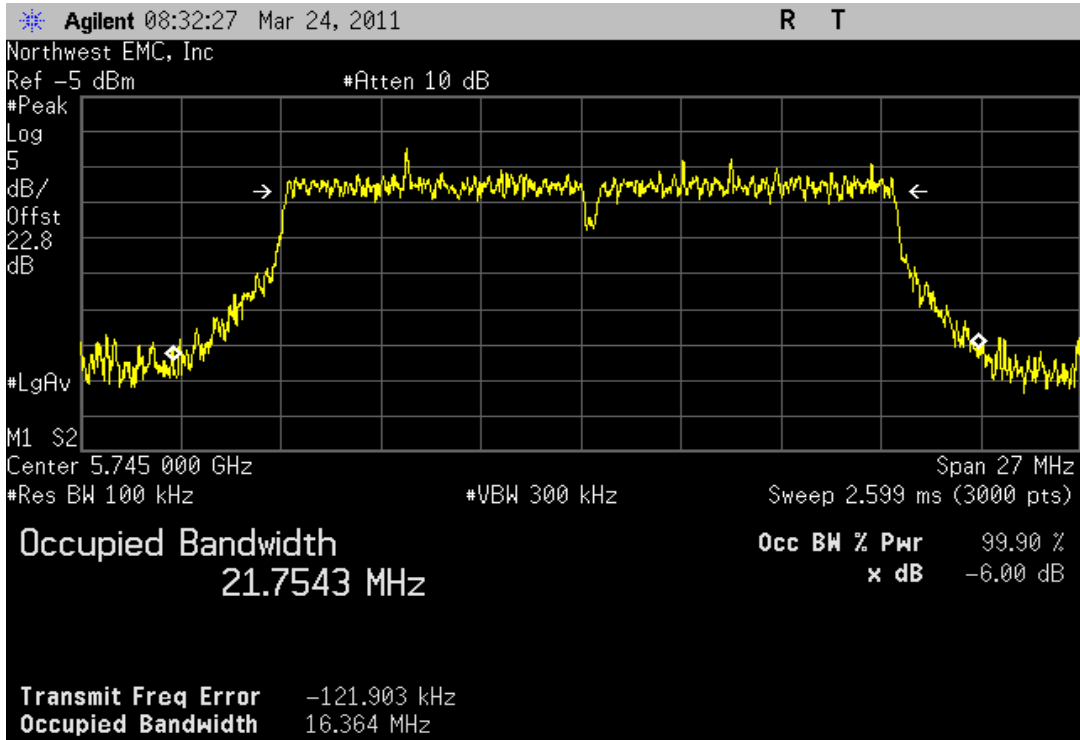
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, High Channel 11, 2462 MHz

Value	Limit	Result
16.403 MHz	> 500 kHz	Pass



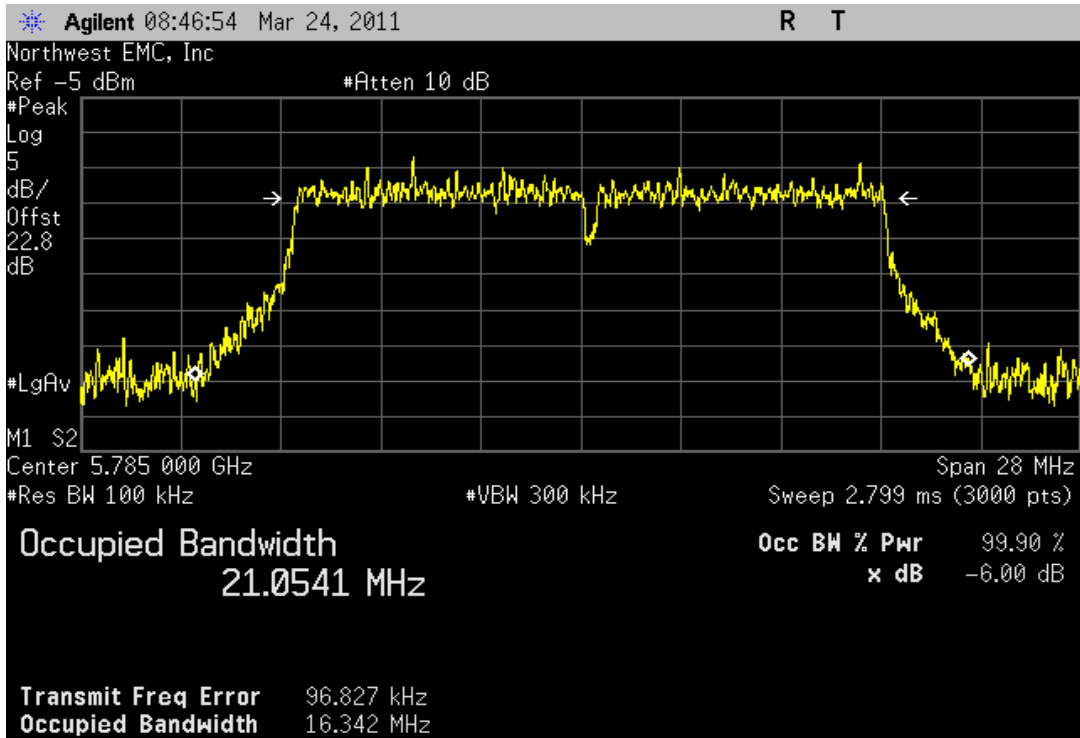
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
16.364 MHz	> 500 kHz	Pass



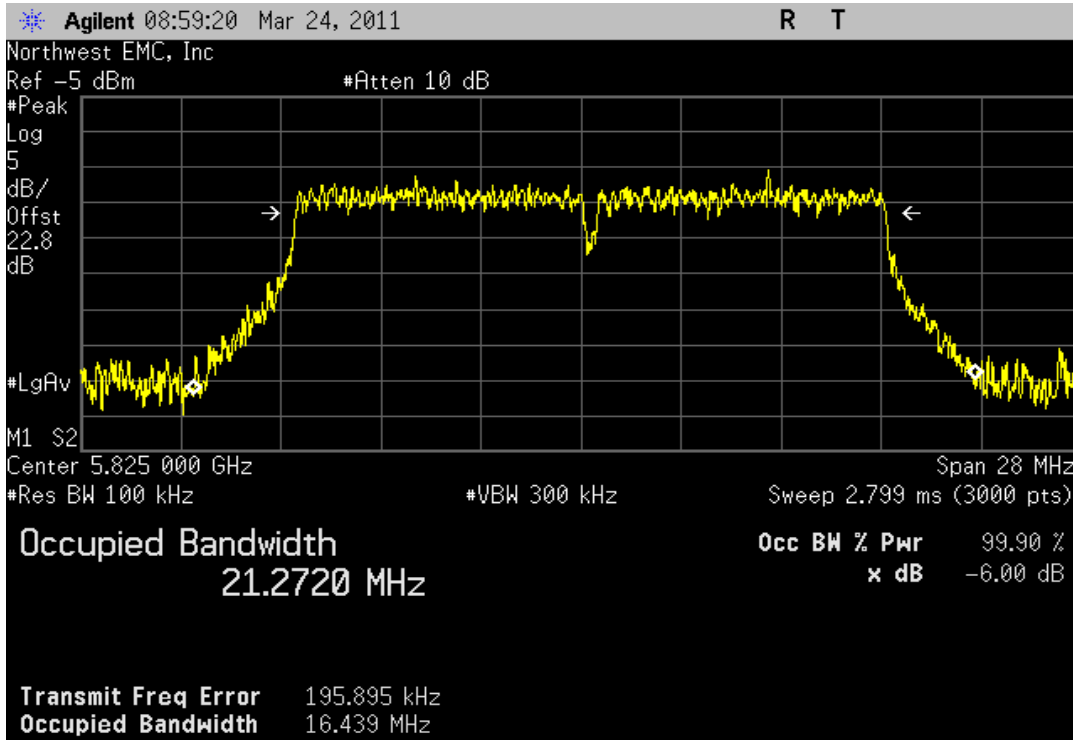
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz

Value	Limit	Result
16.342 MHz	> 500 kHz	Pass



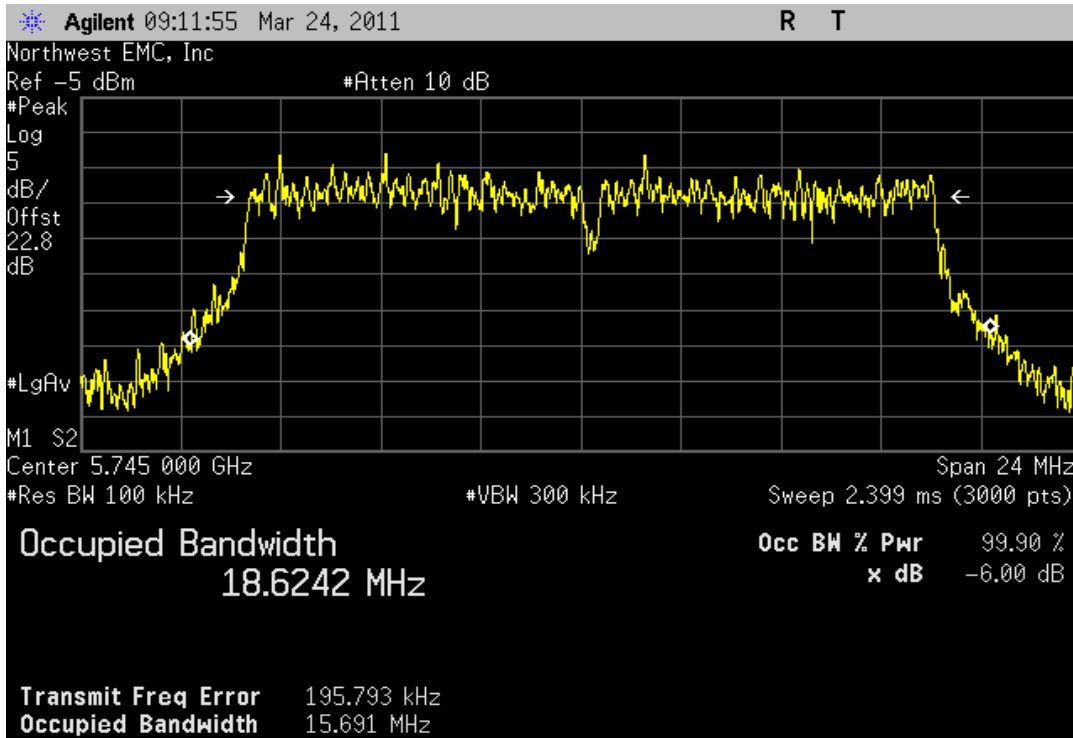
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
16.439 MHz	> 500 kHz	Pass



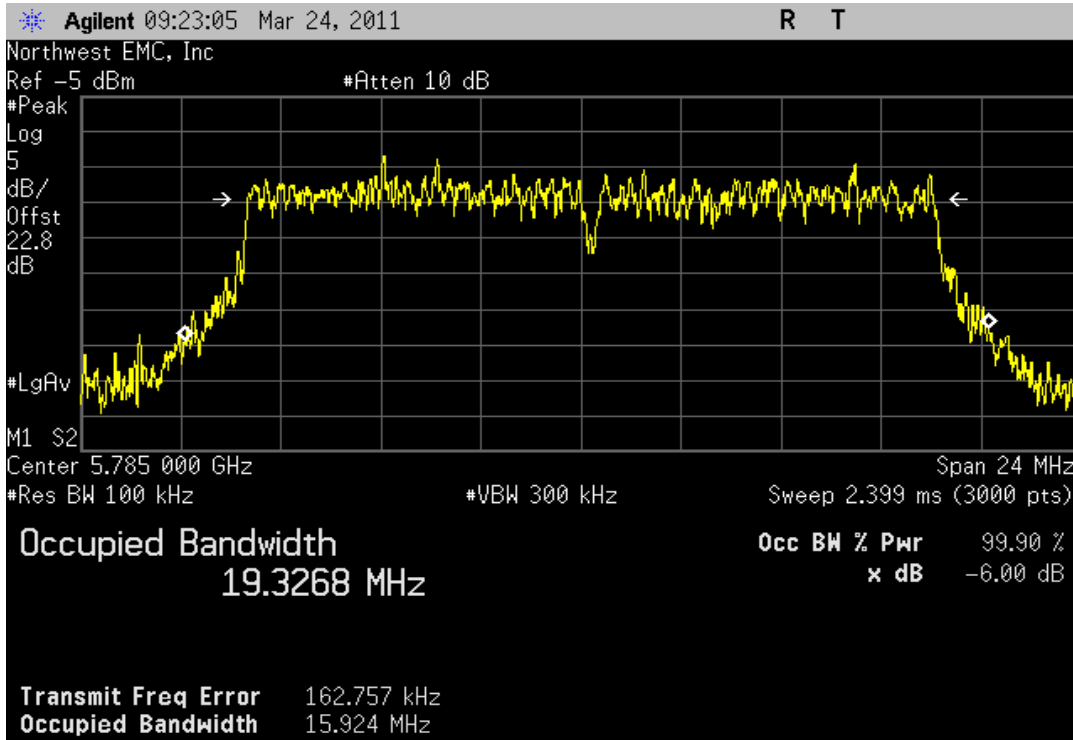
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
15.691 MHz	> 500 kHz	Pass



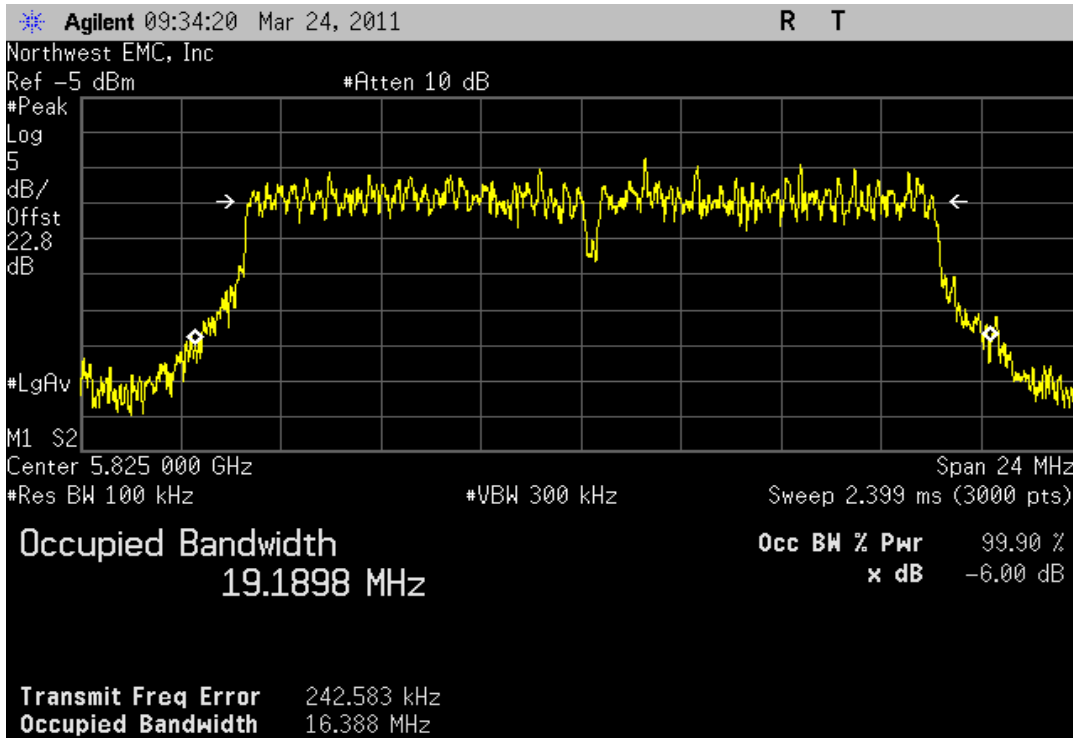
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Mid Channel 157, 5785 MHz

Value	Limit	Result
15.924 MHz	> 500 kHz	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
16.388 MHz	> 500 kHz	Pass



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

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AFD	6/1/2009	24
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	8/6/2010	12
40GHz DC Block	Miteq	DCB4000	AMD	8/5/2010	13
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0
MXG Vector Singal Generator	Agilent	N5182A	TIF	NCR	0
Power Meter	Gigatronics	8651A	SPM	1/7/2010	24
Power Sensor	Gigatronics	80701A	SPL	1/7/2010	16

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

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

- RF gating was used on the analyzer to sweep only during the high time of the burst duration.
- Power was integrated across "B", by using the channel power function of the spectrum analyzer and its default bandwidths.

EMC

OUTPUT POWER - CHANNEL POWER

EUT: S-00112	Work Order: LABT0415
Serial Number: C011	Date: 03/29/11
Customer: Logitech, Inc.	Temperature: 22.8°C
Attendees: none	Humidity: 36%
Project: None	Barometric Pres.: 30.08 in
Tested by: Rod Peloquin	Power: 5 VDC
	Job Site: EV06

TEST SPECIFICATIONS		Test Method
FCC 15.247:2011		ANSI C63.10:2009

COMMENTS
Utilizing RF gating on the spectrum analyzer to capture the high time during the transmission burst

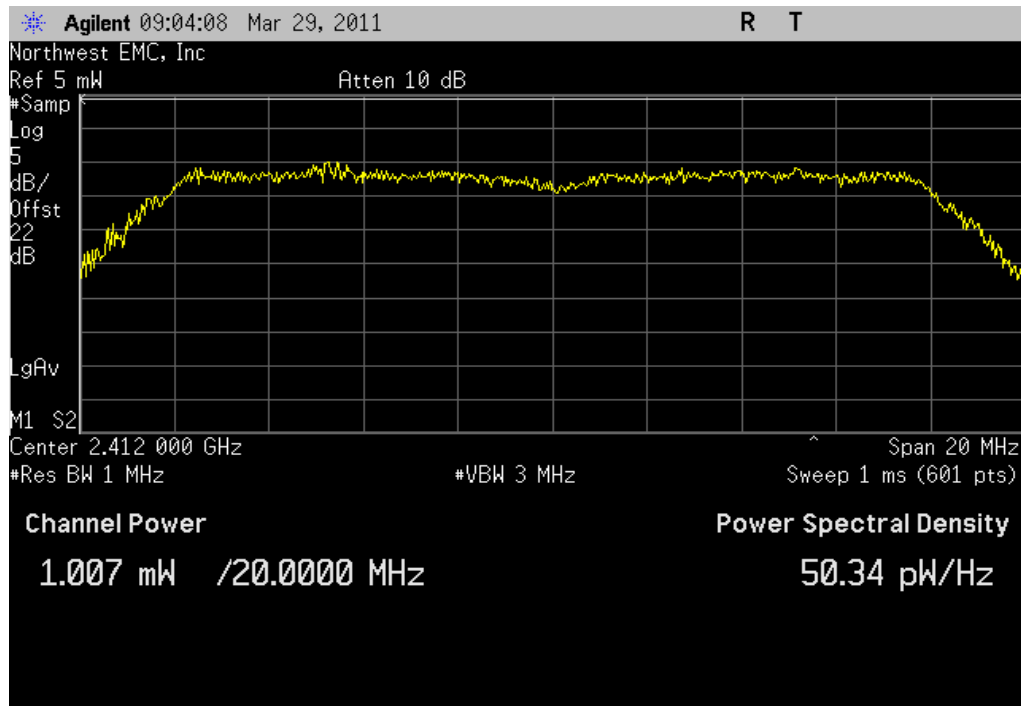
DEVIATIONS FROM TEST STANDARD
No Deviations

Configuration #	5	<i>Rod Peloquin</i> Signature
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		Value	Limit	Results
2400 MHz - 2483.5 MHz Band				
	802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	1.007 mW	1 W	Pass
	Mid Channel 6, 2437 MHz	1.009 mW	1 W	Pass
	High Channel 11, 2462 MHz	1.029 mW	1 W	Pass
	802.11(g) 24 Mbps			
	Low Channel 1, 2412 MHz	1.025 mW	1 W	Pass
	Mid Channel 6, 2437 MHz	1.032 mW	1 W	Pass
	High Channel 11, 2462 MHz	1.019 mW	1 W	Pass
5725 MHz - 5850 MHz Band				
	802.11(a) 6 Mbps			
	Low Channel 149, 5745 MHz	0.730 mW	1 W	Pass
	Mid Channel 157, 5785 MHz	0.640 mW	1 W	Pass
	High Channel 165, 5825 MHz	0.627 mW	1 W	Pass
	802.11(a) 24 Mbps			
	Low Channel 149, 5745 MHz	0.723 mW	1 W	Pass
	Mid Channel 157, 5785 MHz	0.764 mW	1 W	Pass
	High Channel 165, 5825 MHz	0.726 mW	1 W	Pass

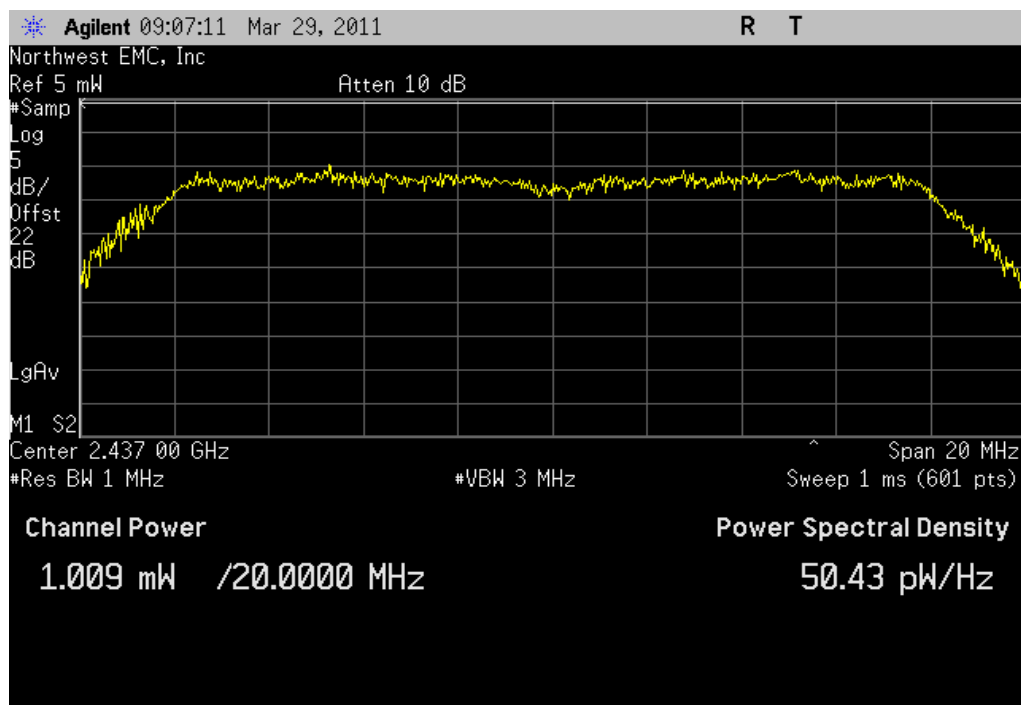
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

Result: Pass	Value: 1.007 mW	Limit: 1 W
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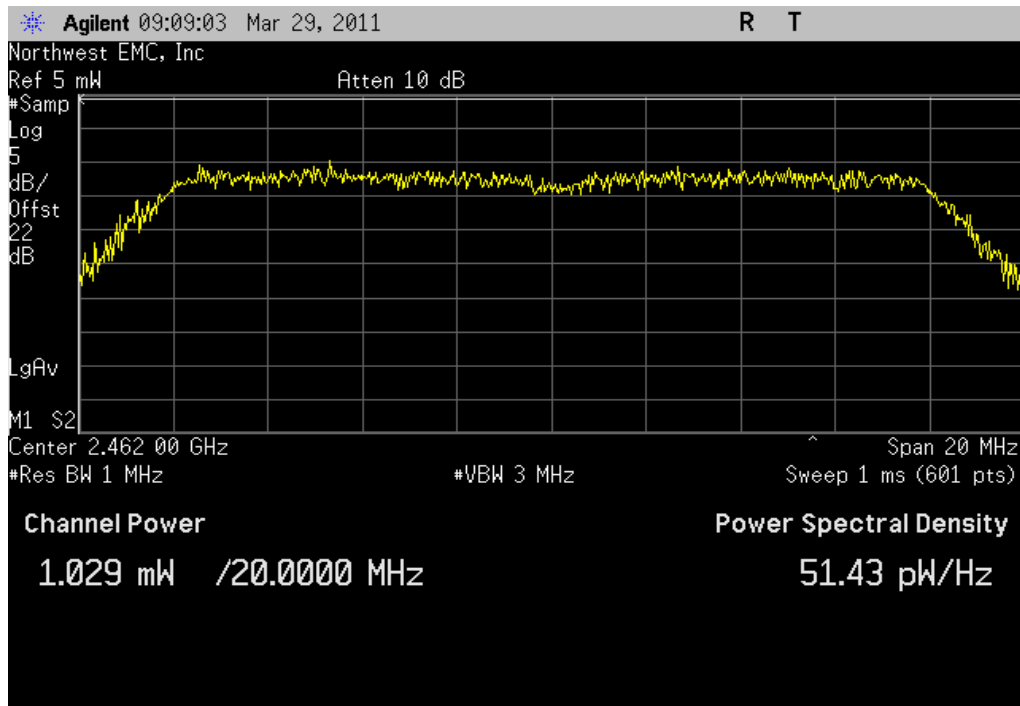
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz

Result: Pass	Value: 1.009 mW	Limit: 1 W
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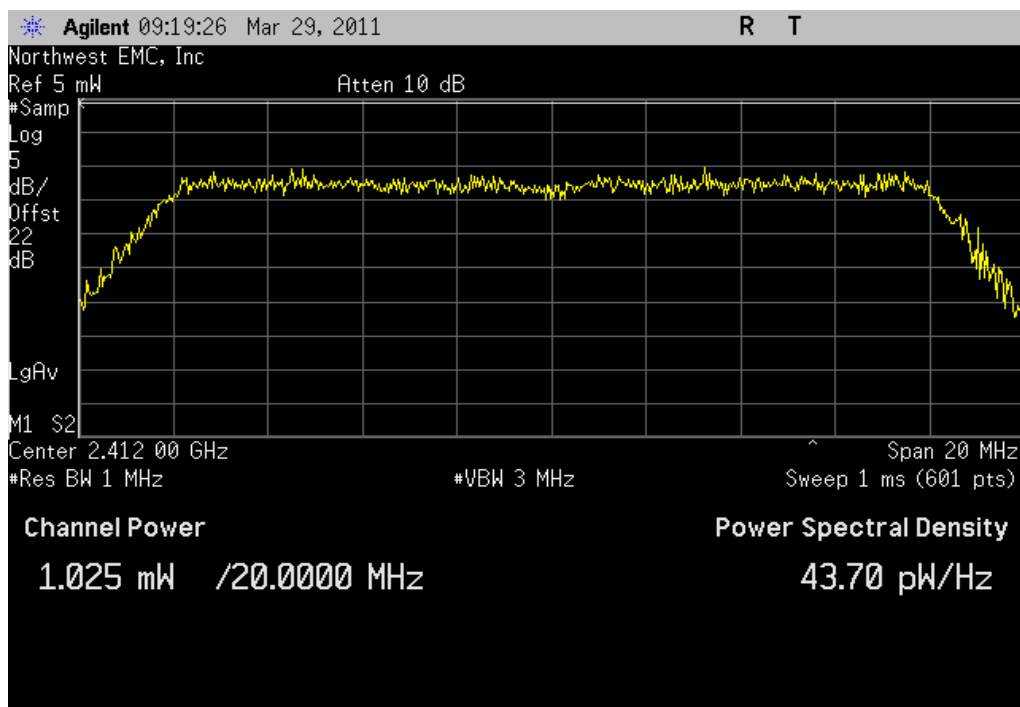
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz

Result: Pass **Value:** 1.029 mW **Limit:** 1 W



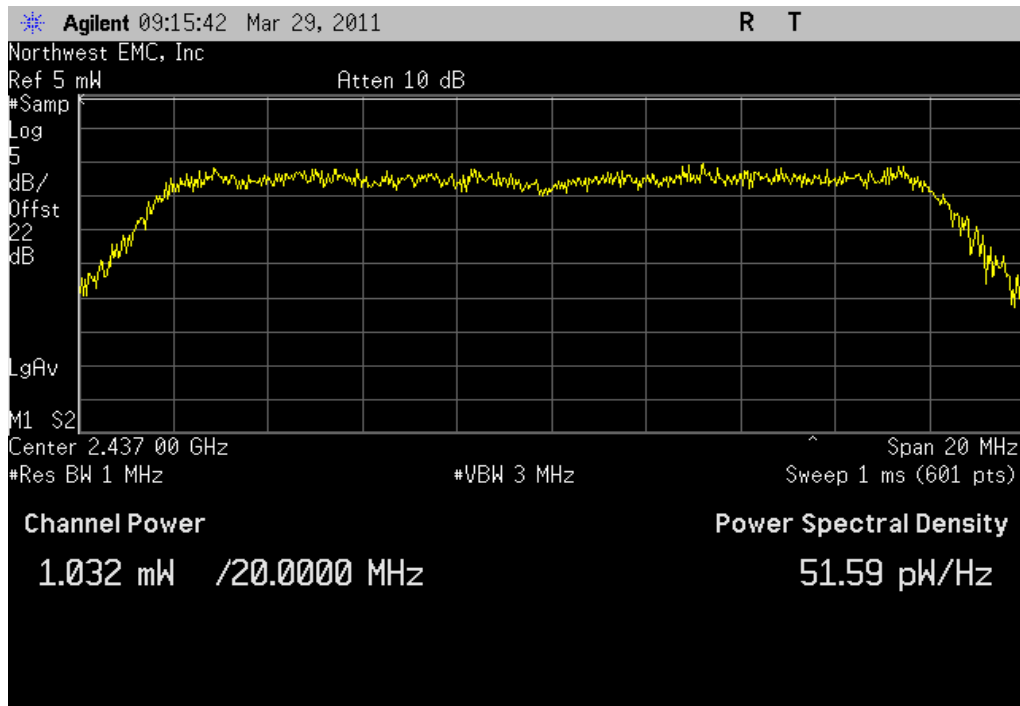
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, Low Channel 1, 2412 MHz

Result: Pass **Value:** 1.025 mW **Limit:** 1 W



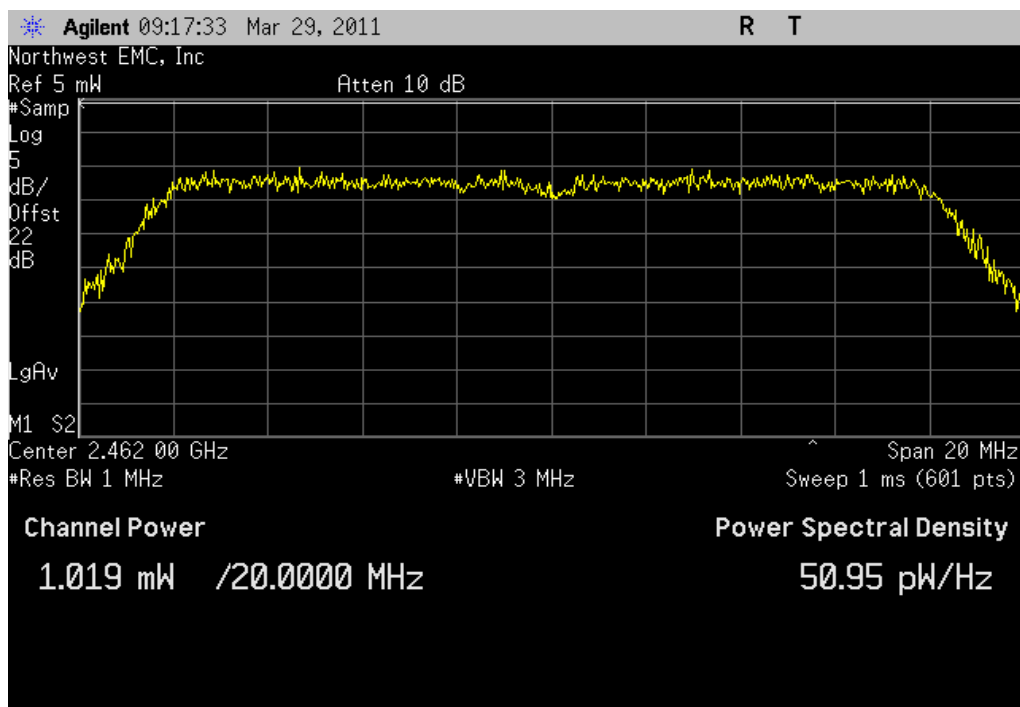
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, Mid Channel 6, 2437 MHz

Result: Pass **Value:** 1.032 mW **Limit:** 1 W



2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, High Channel 11, 2462 MHz

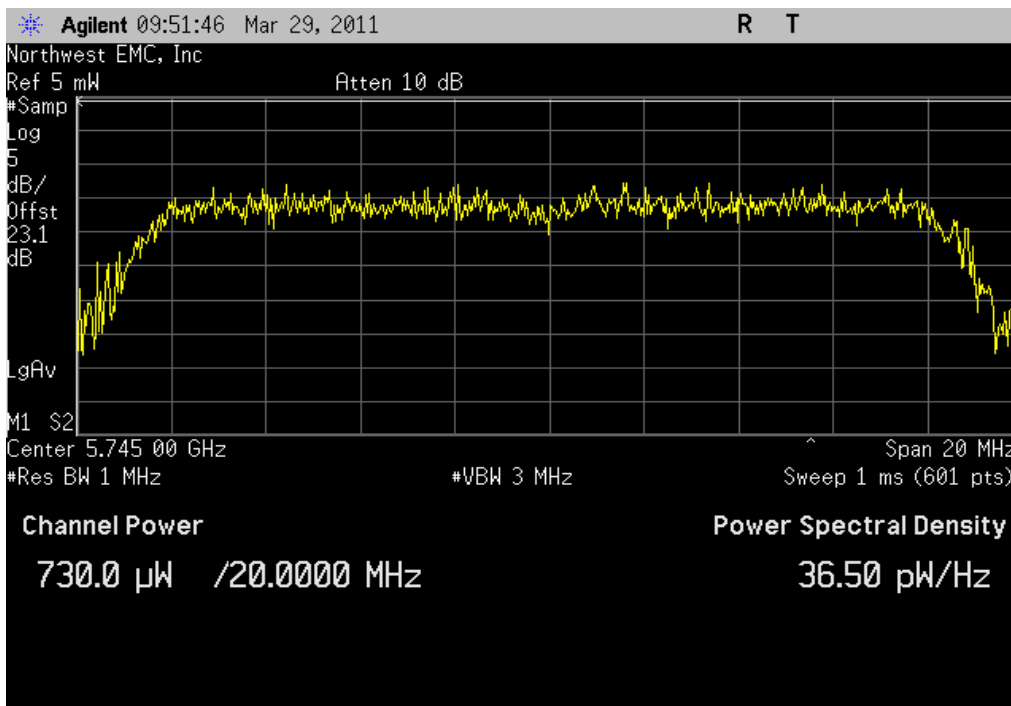
Result: Pass **Value:** 1.019 mW **Limit:** 1 W



OUTPUT POWER - CHANNEL POWER

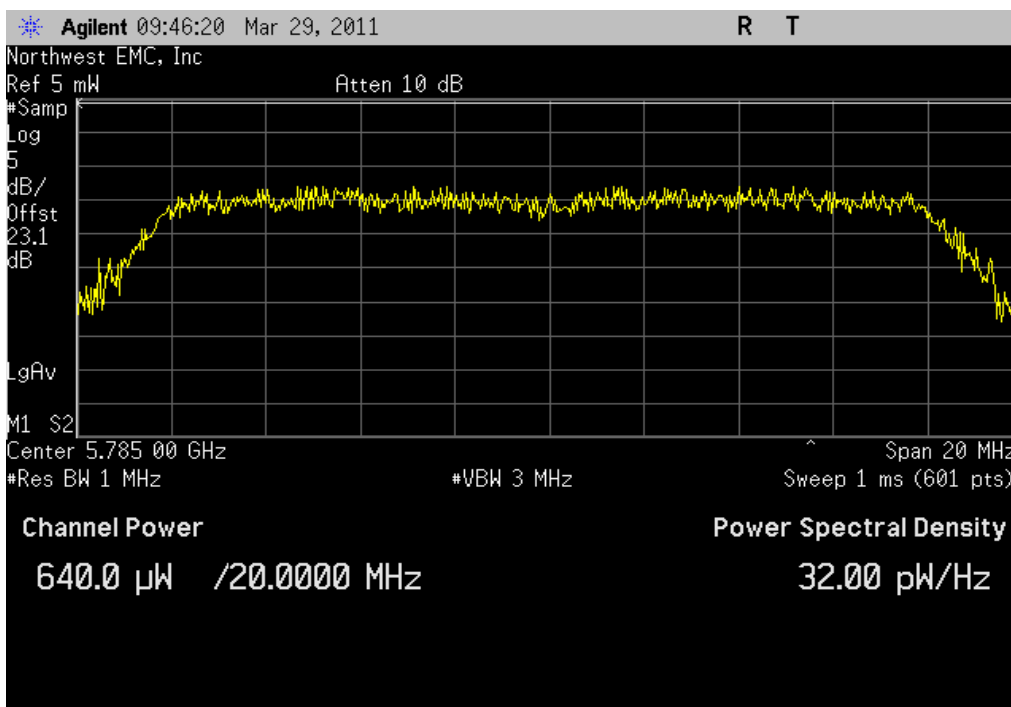
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz

Result: Pass **Value:** 0.730 mW **Limit:** 1 W



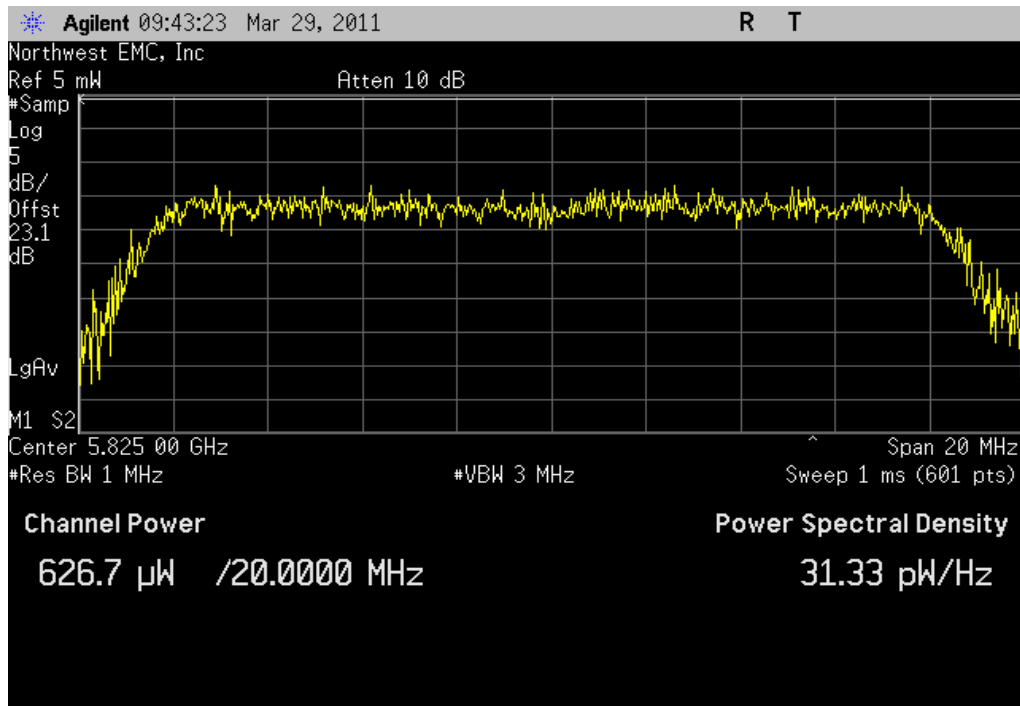
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz

Result: Pass **Value:** 0.640 mW **Limit:** 1 W



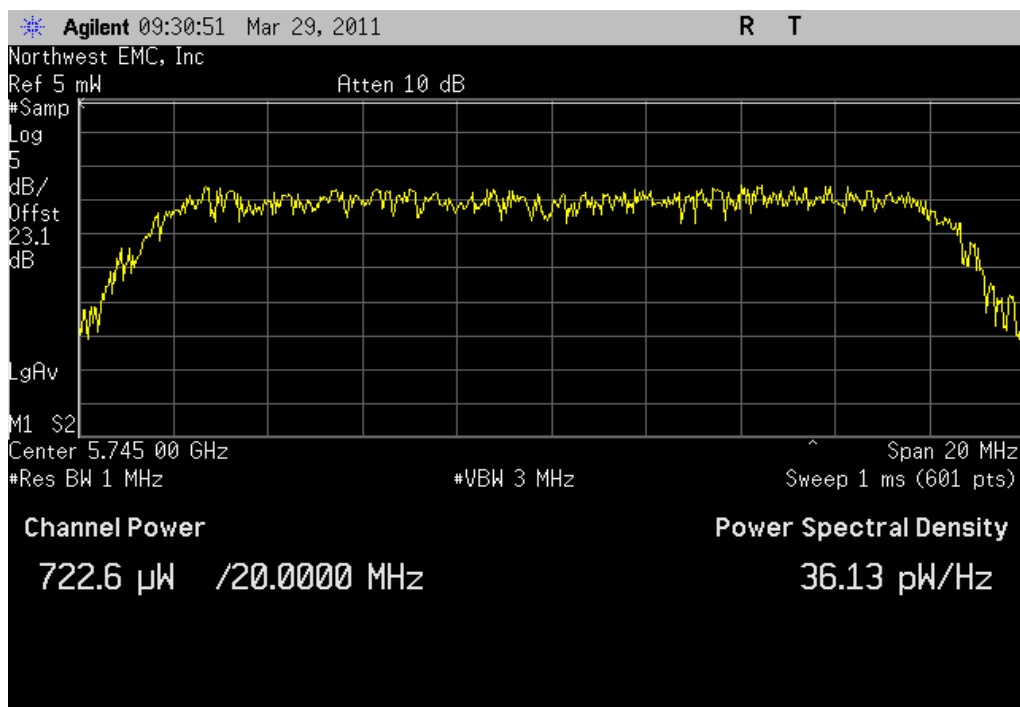
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz

Result: Pass **Value:** 0.627 mW **Limit:** 1 W



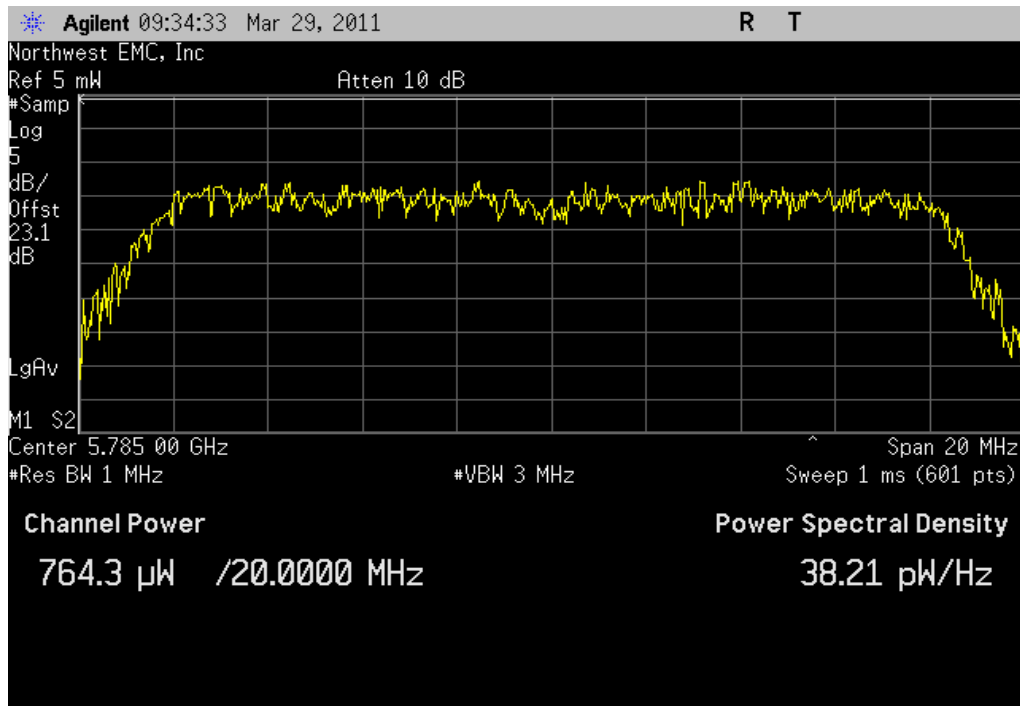
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Low Channel 149, 5745 MHz

Result: Pass **Value:** 0.723 mW **Limit:** 1 W



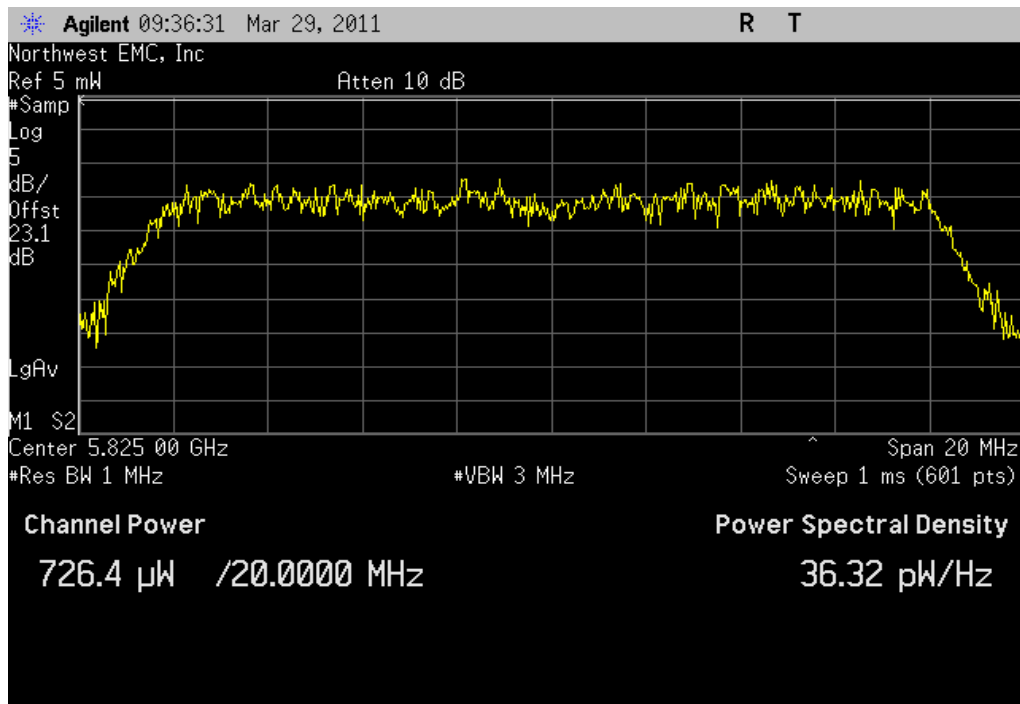
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Mid Channel 157, 5785 MHz

Result: Pass **Value:** 0.764 mW **Limit:** 1 W



5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, High Channel 165, 5825 MHz

Result: Pass **Value:** 0.726 mW **Limit:** 1 W



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
Multimeter	Fluke	114	MMU	7/13/2009	24
DC Power Supply	EZ Digital Co	GP-4303D	TPY	NCR	0
Signal Generator	Agilent	N5183A	TIA	1/18/2011	24
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	7/19/2010	13
40 GHz DC block	Fairview Microwave	SD3379	AMI	11/1/2010	13
Spectrum Analyzer	Agilent	E4440A	AAX	5/14/2010	12
Spectrum Analyzer	Agilent	E4446A	AAT	2/15/2011	12

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in the ISM 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 required data rates available in 802.11(g)/(a).

The spectrum was scanned across each band edge from 30 MHz below the band edge to 30 MHz above the band edge.

EUT: S-00112	Work Order: LABT0415
Serial Number: C001	Date: 03/07/11
Customer: Logitech, Inc.	Temperature: 23.23°C
Attendees: None	Humidity: 15%
Project: None	Barometric Pres.: 1022.1
Tested by: Trevor Buls	Power: 120VAC/60Hz
	Job Site: MN04
TEST SPECIFICATIONS	
FCC 15.247:2011	Test Method
	ANSI C63.10:2009

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

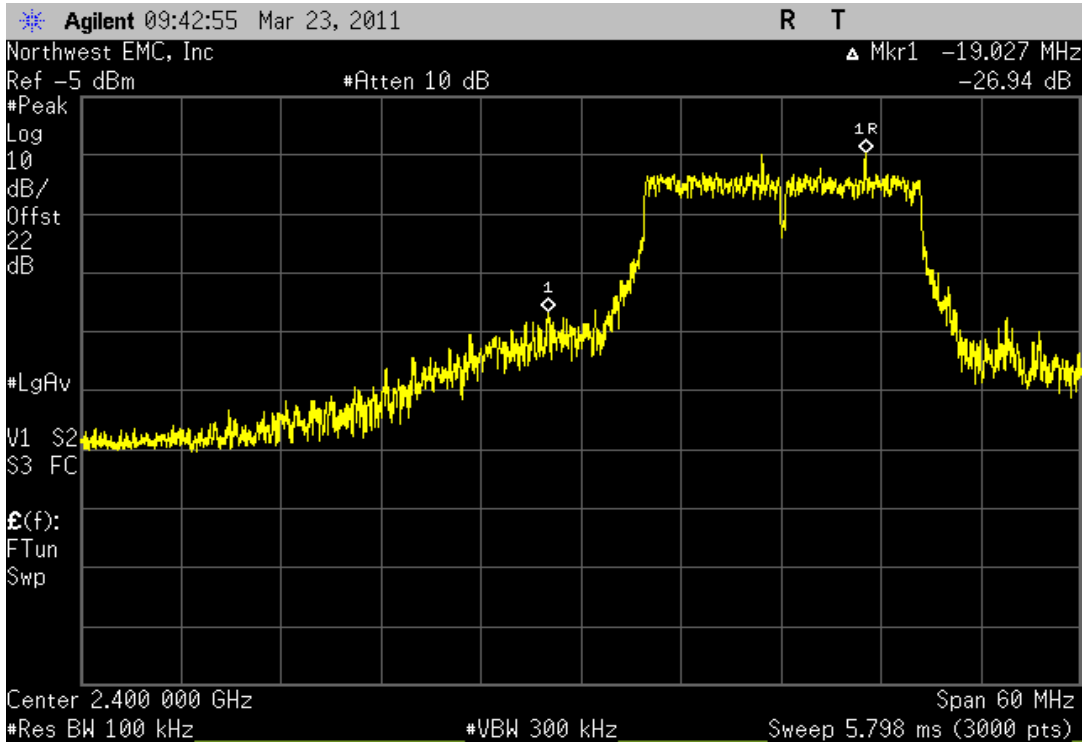
None

Configuration #	1	Signature <i>Trevor Buls</i>
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	Value	Limit	Result
2400 MHz - 2483.5 MHz Band			
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	-26.94 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-39.13 dBc	≤ -20 dBc	Pass
802.11(g) 24 Mbps			
Low Channel 1, 2412 MHz	-28.32 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	-39.86 dBc	≤ -20 dBc	Pass
5725 MHz - 5850 MHz Band			
802.11(a) 6 Mbps			
Low Channel 149, 5745 MHz	-36.51 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	-39.98 dBc	≤ -20 dBc	Pass
802.11(a) 24 Mbps			
Low Channel 149, 5745 MHz	-34.38 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	-41.39 dBc	≤ -20 dBc	Pass

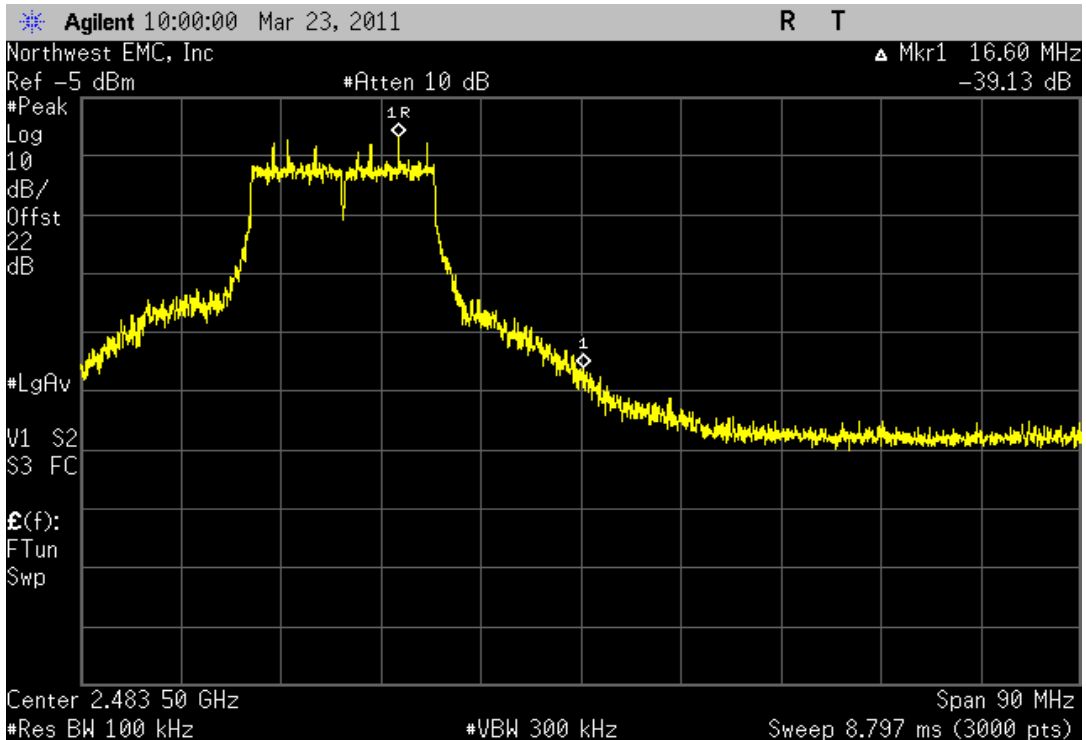
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

Value	Limit	Result
-26.94 dBc	≤ -20 dBc	Pass



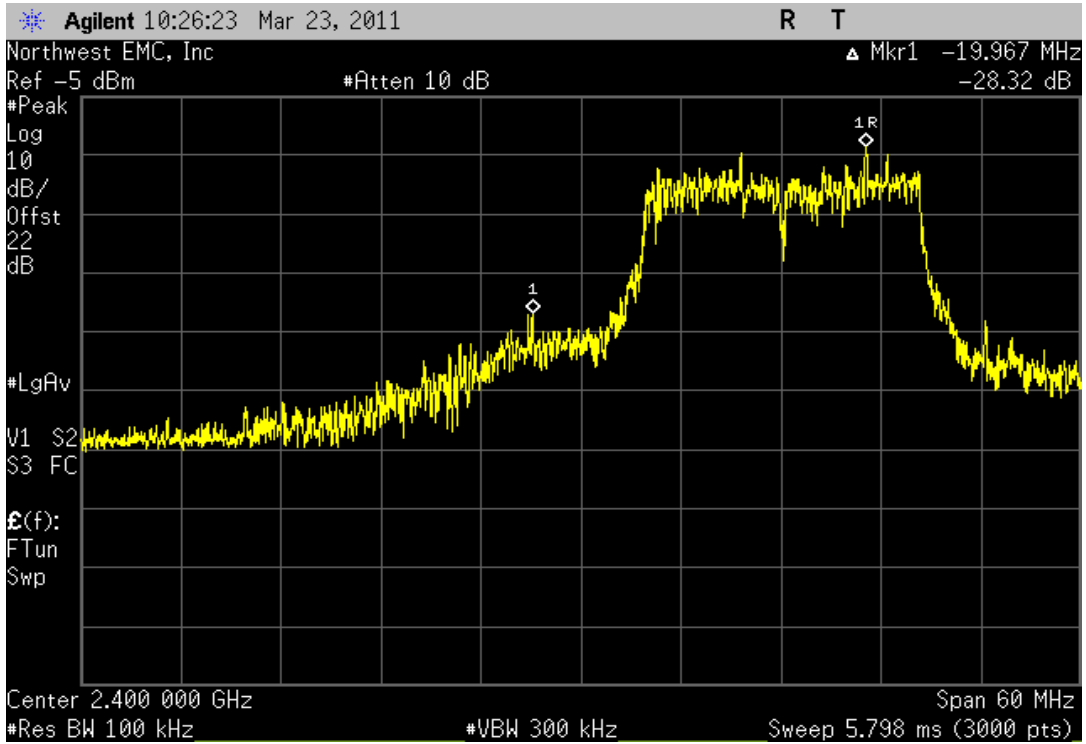
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz

Value	Limit	Result
-39.13 dBc	≤ -20 dBc	Pass



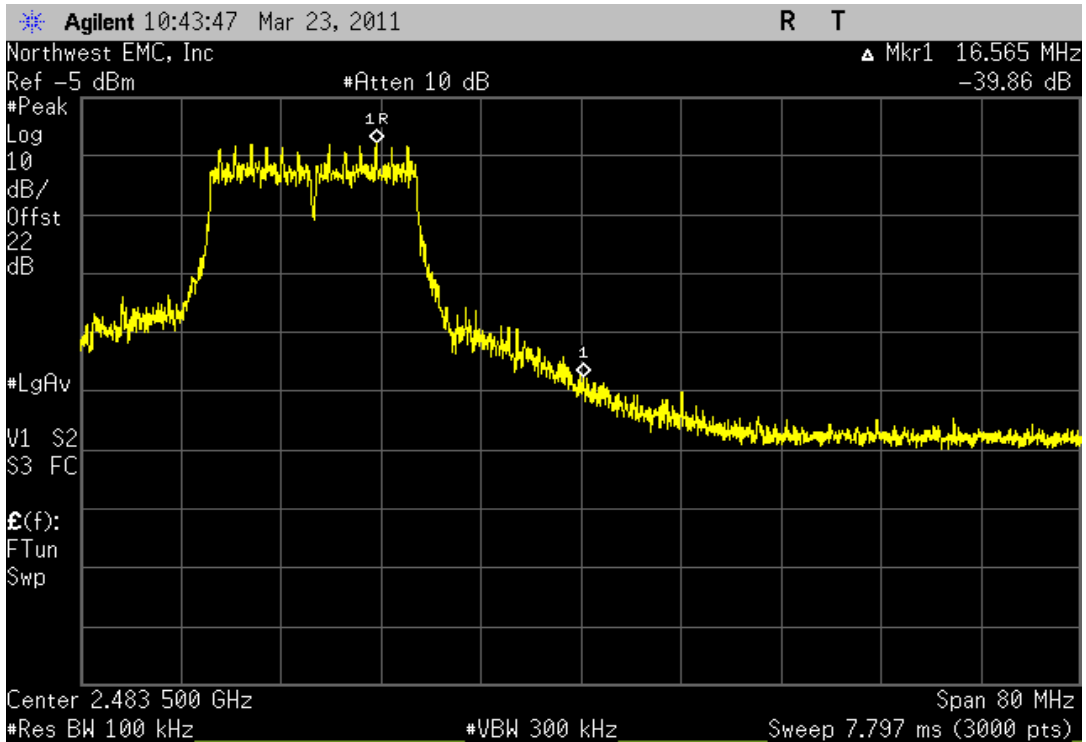
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, Low Channel 1, 2412 MHz

Value	Limit	Result
-28.32 dBc	≤ -20 dBc	Pass



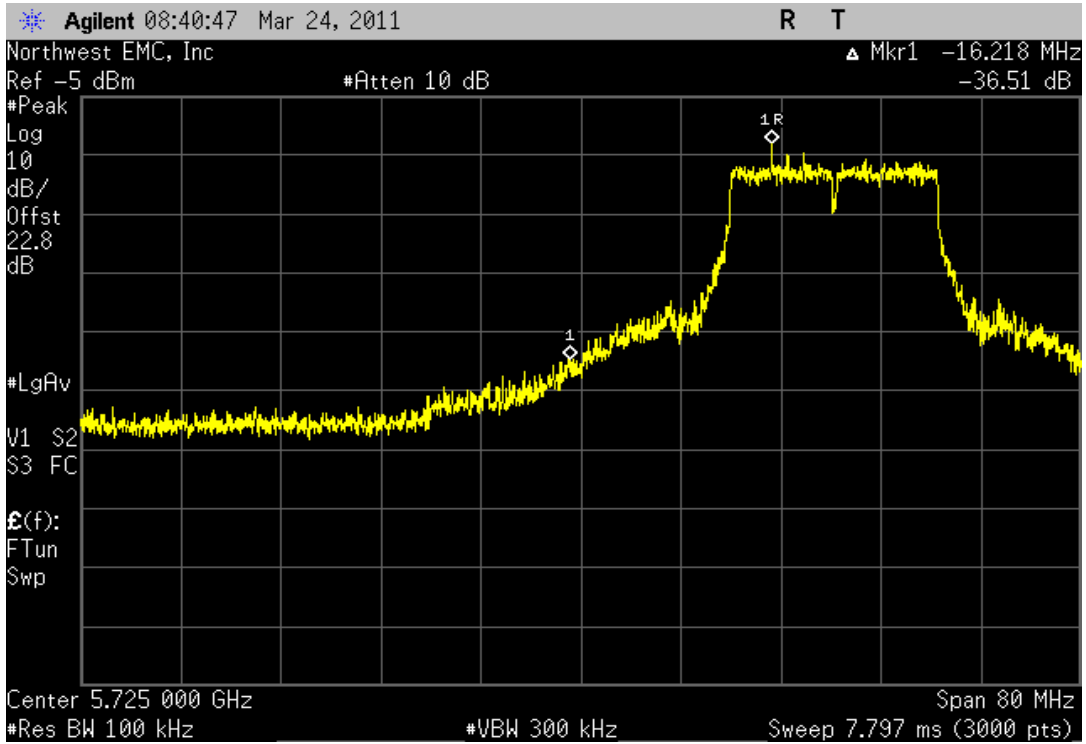
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, High Channel 11, 2462 MHz

Value	Limit	Result
-39.86 dBc	≤ -20 dBc	Pass



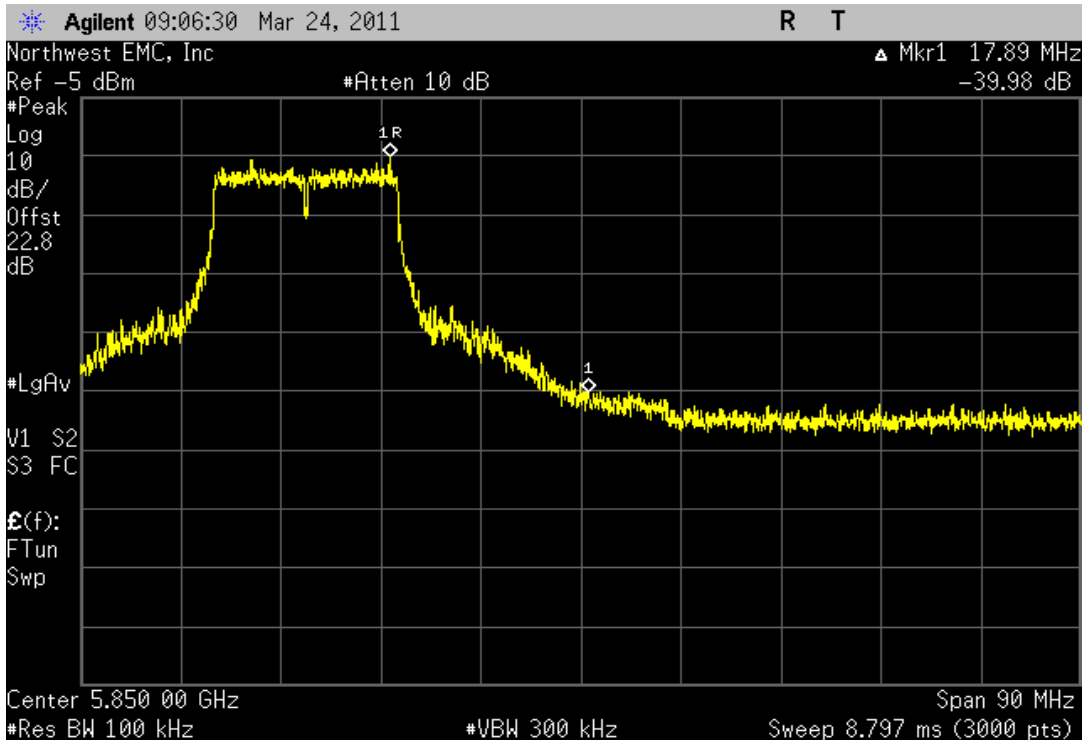
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
-36.51 dBc	≤ -20 dBc	Pass



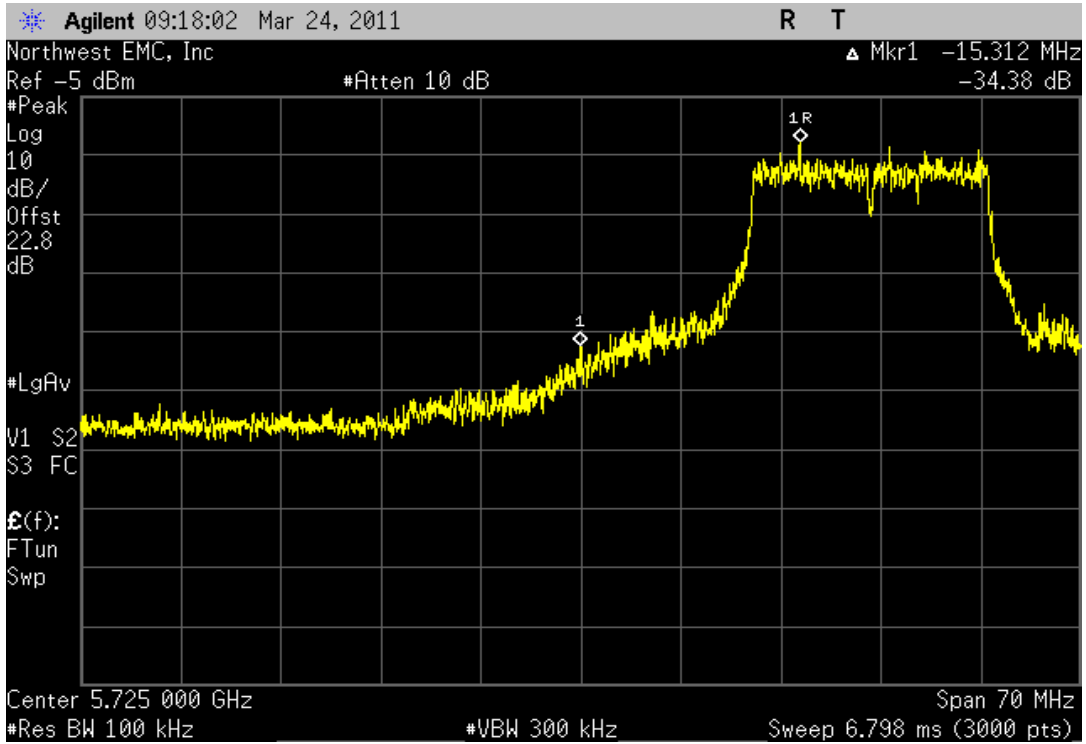
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
-39.98 dBc	≤ -20 dBc	Pass



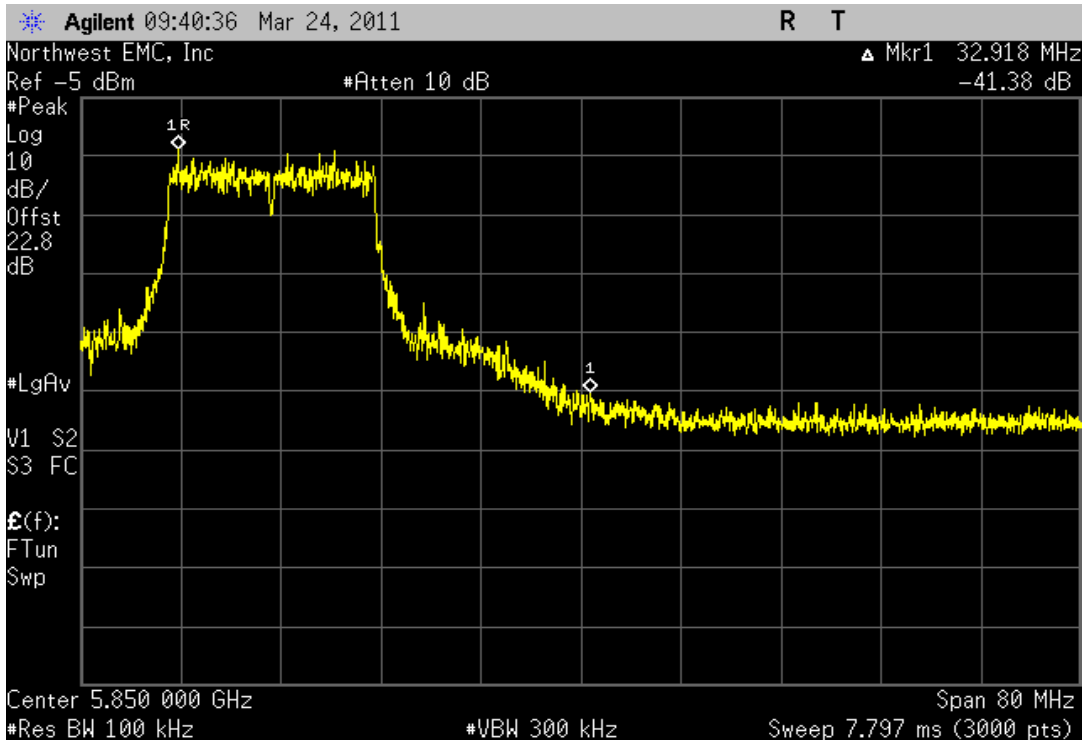
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
-34.38 dBc	≤ -20 dBc	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
-41.39 dBc	≤ -20 dBc	Pass



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
Multimeter	Fluke	114	MMU	7/13/2009	24
DC Power Supply	EZ Digital Co	GP-4303D	TPY	NCR	0
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	7/19/2010	13
40 GHz DC block	Fairview Microwave	SD3379	AMI	11/1/2010	13
Signal Generator	Agilent	N5183A	TIA	1/18/2011	24
Spectrum Analyzer	Agilent	E4440A	AAX	5/14/2010	12
Spectrum Analyzer	Agilent	E4446A	AAT	2/15/2011	12

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

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

EUT: S-00112	Work Order: LABT0415
Serial Number: C001	Date: 03/07/11
Customer: Logitech, Inc.	Temperature: 23.23°C
Attendees: None	Humidity: 15%
Project: None	Barometric Pres.: 1022.1
Tested by: Trevor Buls	Power: 120VAC/60Hz
	Job Site: MN04

TEST SPECIFICATIONS	Test Method
FCC 15.247:2011	ANSI C63.10:2009

COMMENTS
None

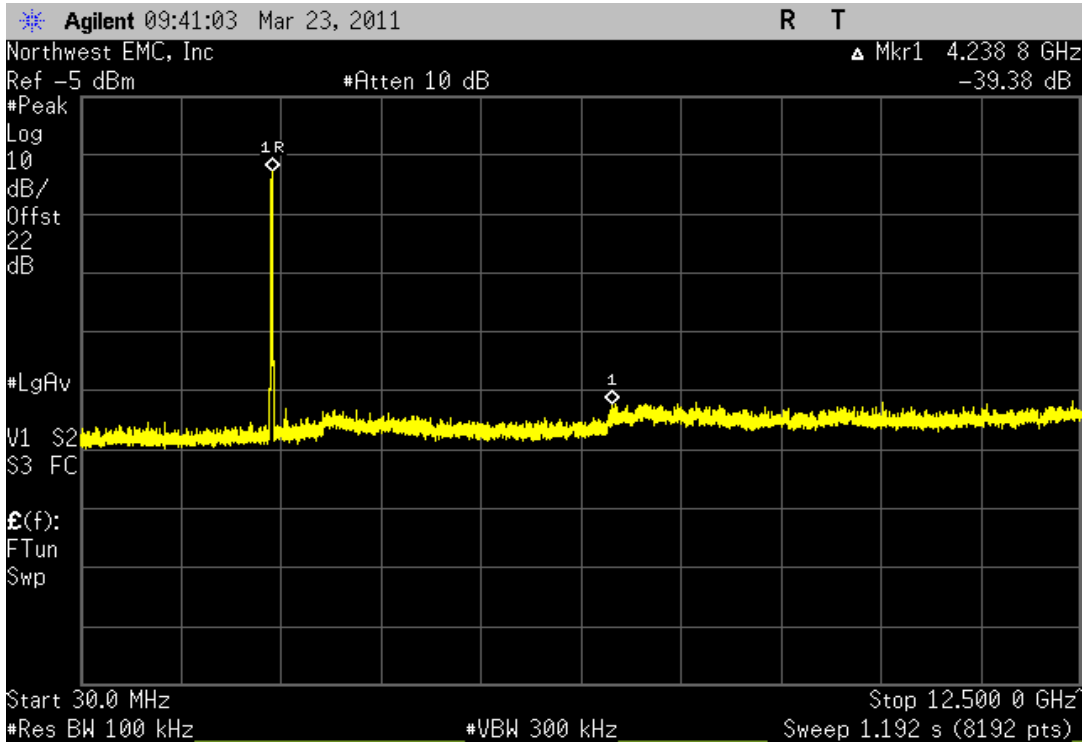
DEVIATIONS FROM TEST STANDARD
None

Configuration #	1	Signature <i>Trevor Buls</i>
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Range	Value	Limit	Result	
2400 MHz - 2483.5 MHz Band				
802.11(g) 6 Mbps				
Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-39.38 dBc	≤ -20 dBc	Pass
Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-34.4 dBc	≤ -20 dBc	Pass
Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-43.27 dBc	≤ -20 dBc	Pass
Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-38.31 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-43.01 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-38.46 dBc	≤ -20 dBc	Pass
802.11(g) 24 Mbps				
Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-42.74 dBc	≤ -20 dBc	Pass
Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-38.91 dBc	≤ -20 dBc	Pass
Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-42.57 dBc	≤ -20 dBc	Pass
Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-38.25 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-42.93 dBc	≤ -20 dBc	Pass
High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-38.38 dBc	≤ -20 dBc	Pass
5725 MHz - 5850 MHz Band				
802.11(a) 6 Mbps				
Low Channel 149, 5745 MHz	30 MHz - 12.5 GHz	-37.26 dBc	≤ -20 dBc	Pass
Low Channel 149, 5745 MHz	12.5 GHz - 25 GHz	-32.45 dBc	≤ -20 dBc	Pass
Low Channel 149, 5745 MHz	25 GHz - 32 GHz	-29.47 dBc	≤ -20 dBc	Pass
Low Channel 149, 5745 MHz	32 GHz - 40 GHz	-26.4 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz	30 MHz - 12.5 GHz	-37.95 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz	12.5 GHz - 25 GHz	-34.3 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz	25 GHz - 32 GHz	-31.16 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz	32 GHz - 40 GHz	-27.86 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	30 MHz - 12.5 GHz	-39.01 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	12.5 GHz - 25 GHz	-34.74 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	25 GHz - 32 GHz	-30.87 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	32 GHz - 40 GHz	-27.59 dBc	≤ -20 dBc	Pass
802.11(a) 24 Mbps				
Low Channel 149, 5745 MHz	30 MHz - 12.5 GHz	-38.99 dBc	≤ -20 dBc	Pass
Low Channel 149, 5745 MHz	12.5 GHz - 25 GHz	-35.49 dBc	≤ -20 dBc	Pass
Low Channel 149, 5745 MHz	25 GHz - 32 GHz	-32.94 dBc	≤ -20 dBc	Pass
Low Channel 149, 5745 MHz	32 GHz - 40 GHz	-28.84 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz	30 MHz - 12.5 GHz	-38.29 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz	12.5 GHz - 25 GHz	-34.83 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz	25 GHz - 32 GHz	-32.16 dBc	≤ -20 dBc	Pass
Mid Channel 157, 5785 MHz	32 GHz - 40 GHz	-29 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	30 MHz - 12.5 GHz	-38.31 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	12.5 GHz - 25 GHz	-33.86 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	25 GHz - 32 GHz	-30.69 dBc	≤ -20 dBc	Pass
High Channel 165, 5825 MHz	32 GHz - 40 GHz	-27.67 dBc	≤ -20 dBc	Pass

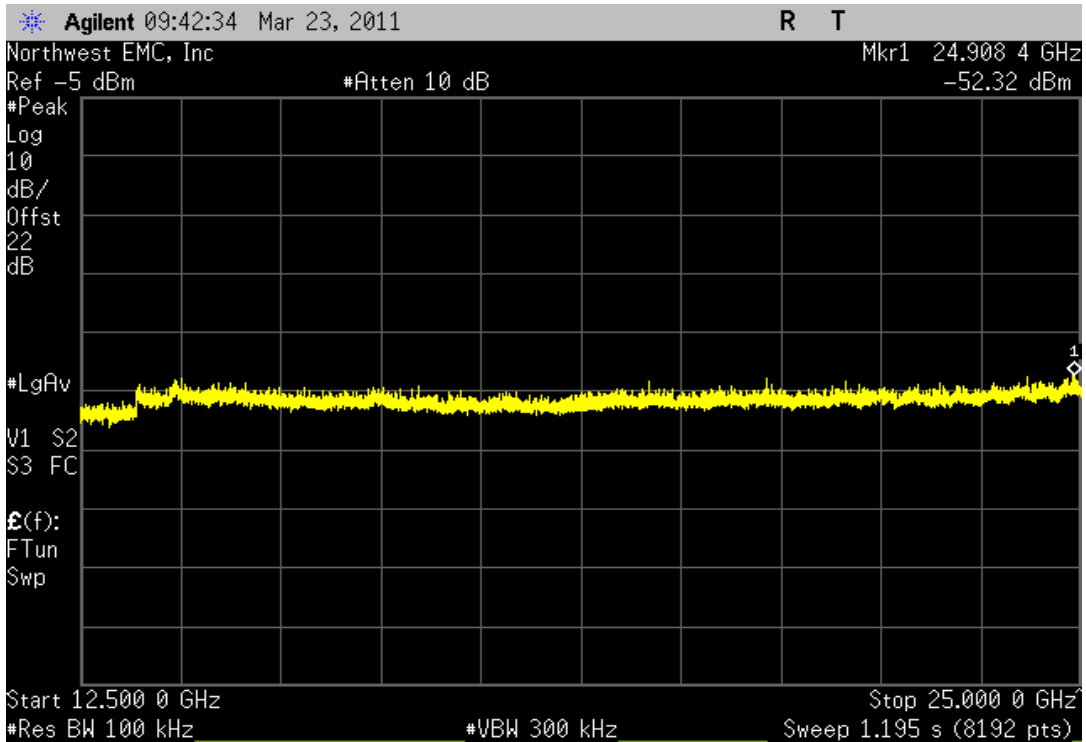
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

Value	Limit	Result
-39.38 dBc	≤ -20 dBc	Pass



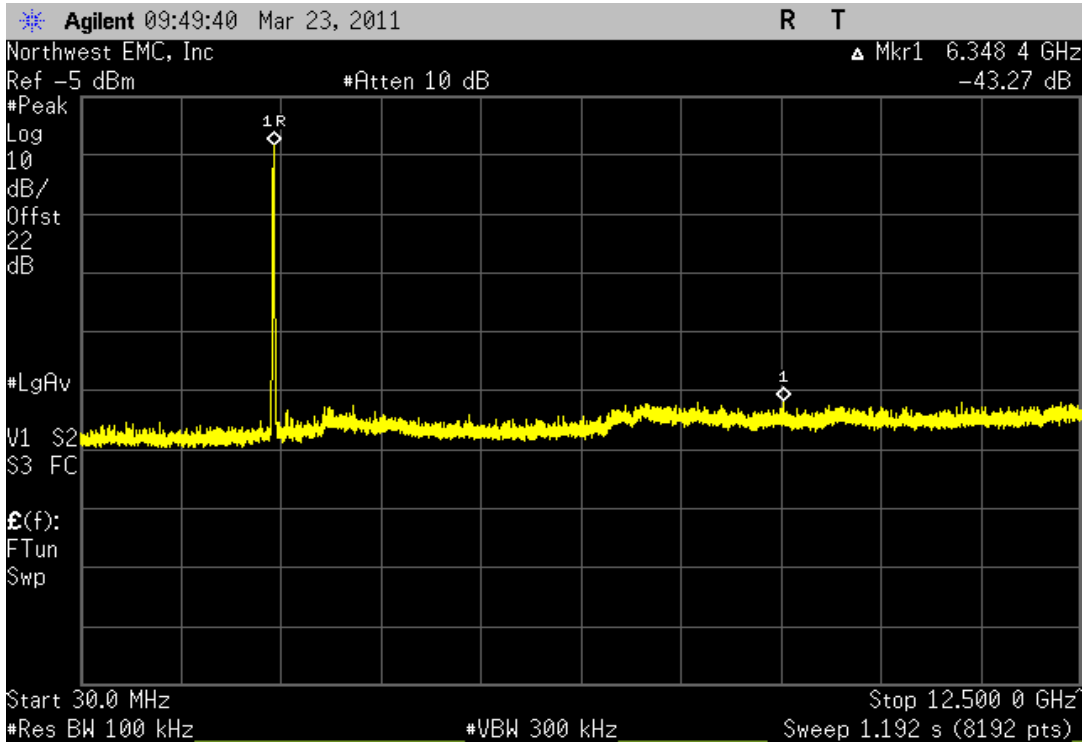
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz

Value	Limit	Result
-34.4 dBc	≤ -20 dBc	Pass



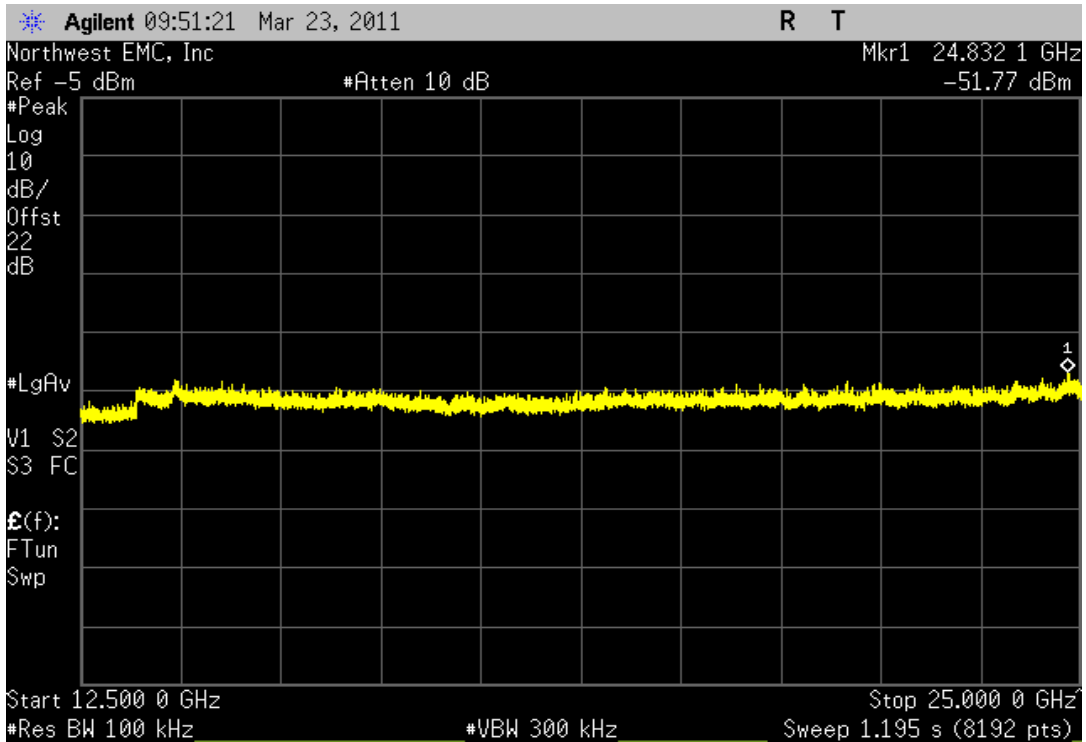
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz

Value	Limit	Result
-43.27 dBc	≤ -20 dBc	Pass



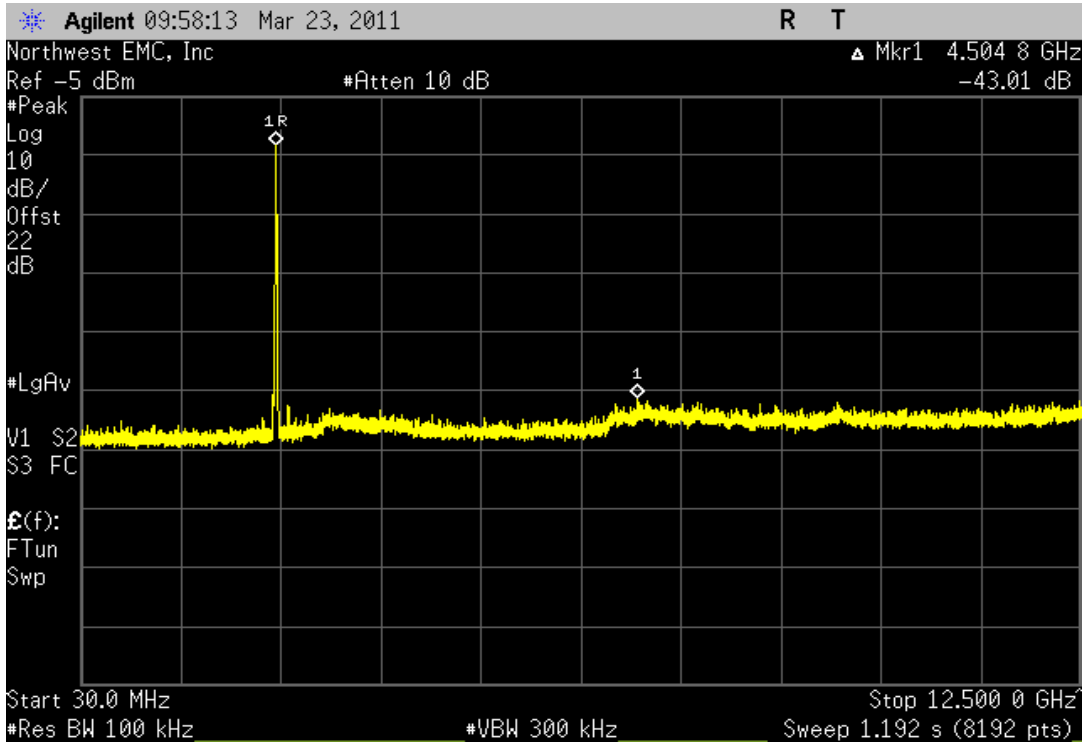
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz

Value	Limit	Result
-38.31 dBc	≤ -20 dBc	Pass



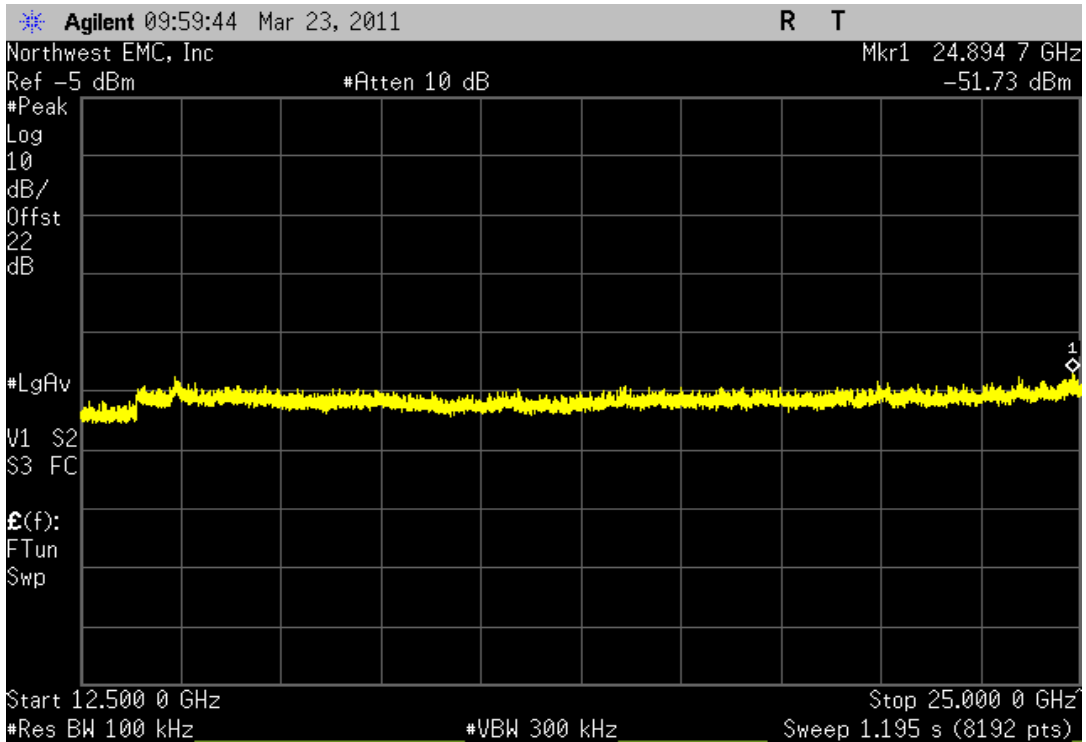
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz

Value	Limit	Result
-43.01 dBc	≤ -20 dBc	Pass



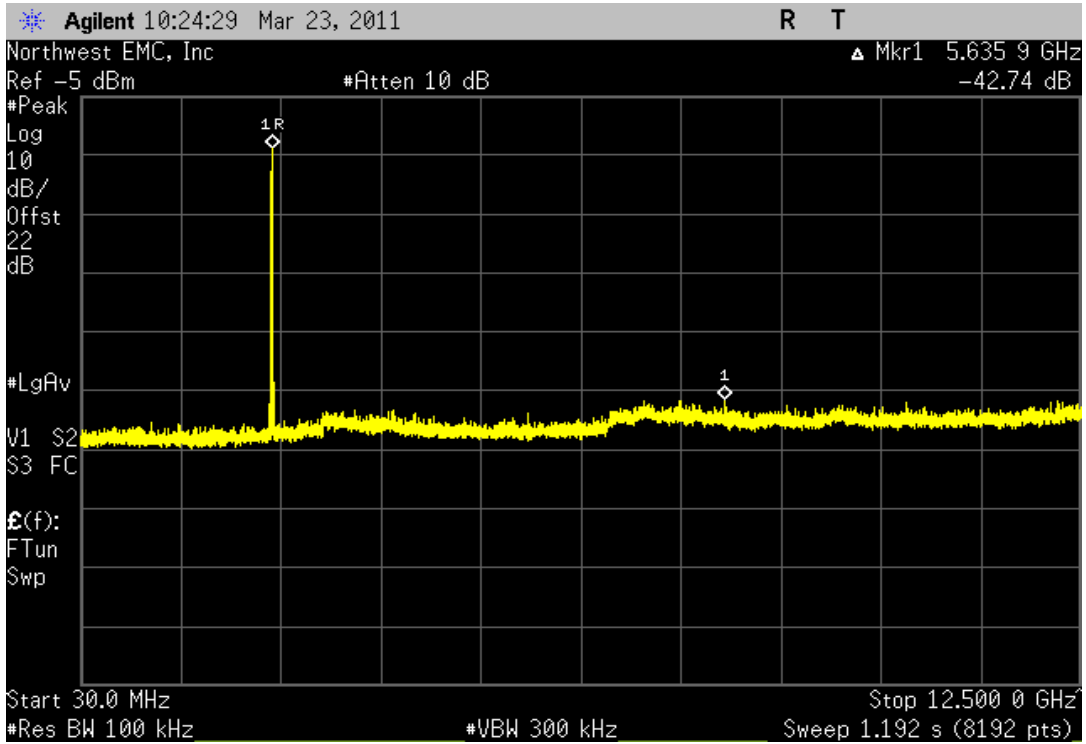
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz

Value	Limit	Result
-38.46 dBc	≤ -20 dBc	Pass



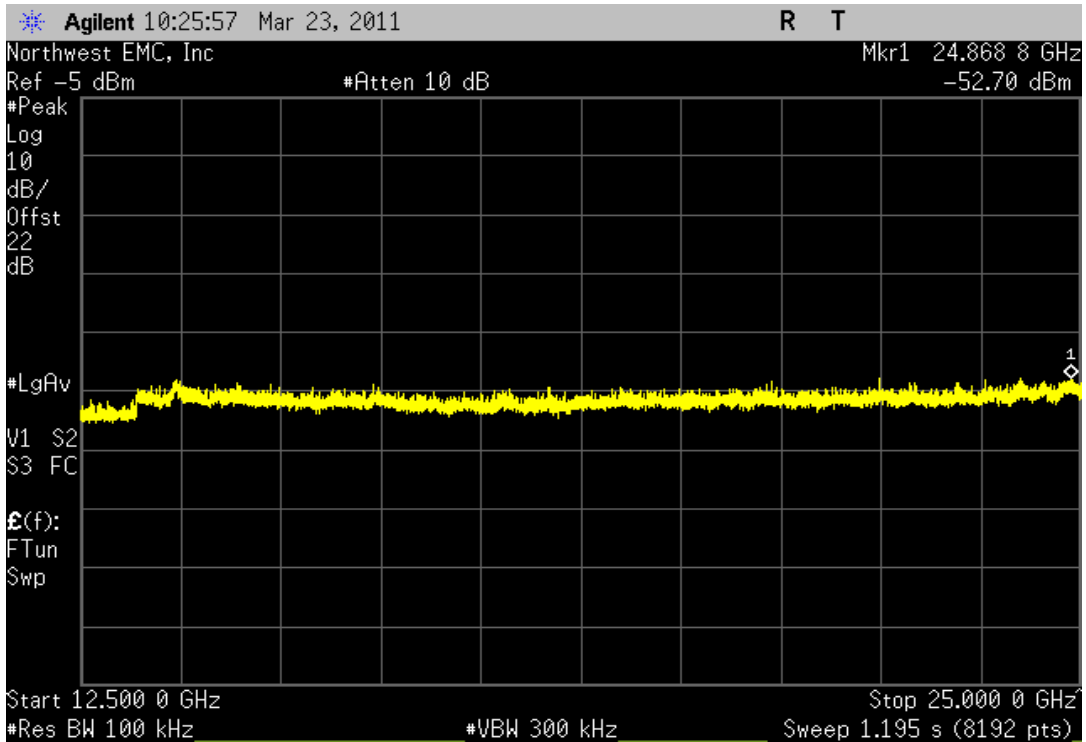
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, Low Channel 1, 2412 MHz

Value	Limit	Result
-42.74 dBc	≤ -20 dBc	Pass



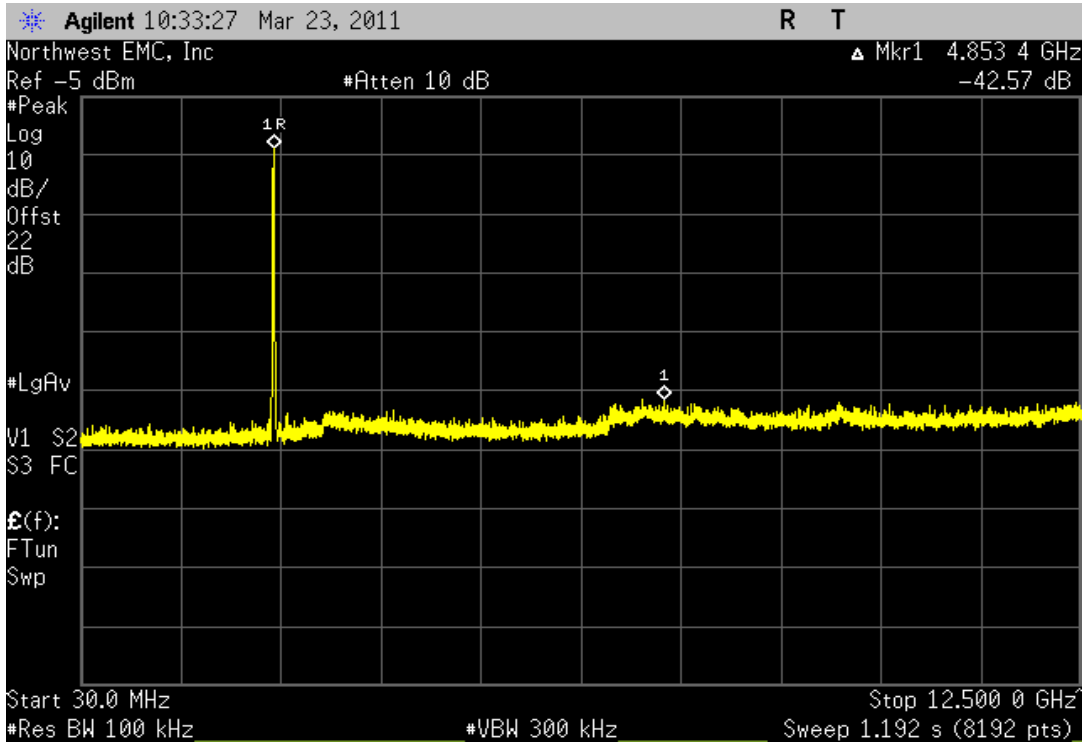
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, Low Channel 1, 2412 MHz

Value	Limit	Result
-38.91 dBc	≤ -20 dBc	Pass



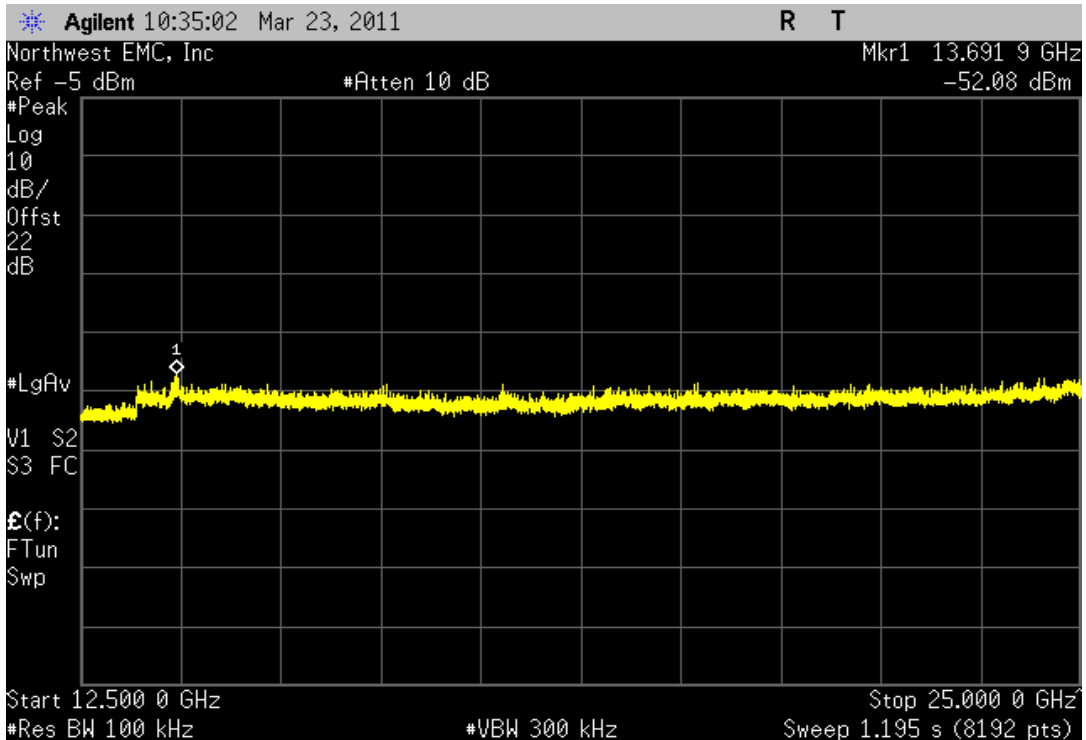
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, Mid Channel 6, 2437 MHz

Value	Limit	Result
-42.57 dBc	≤ -20 dBc	Pass



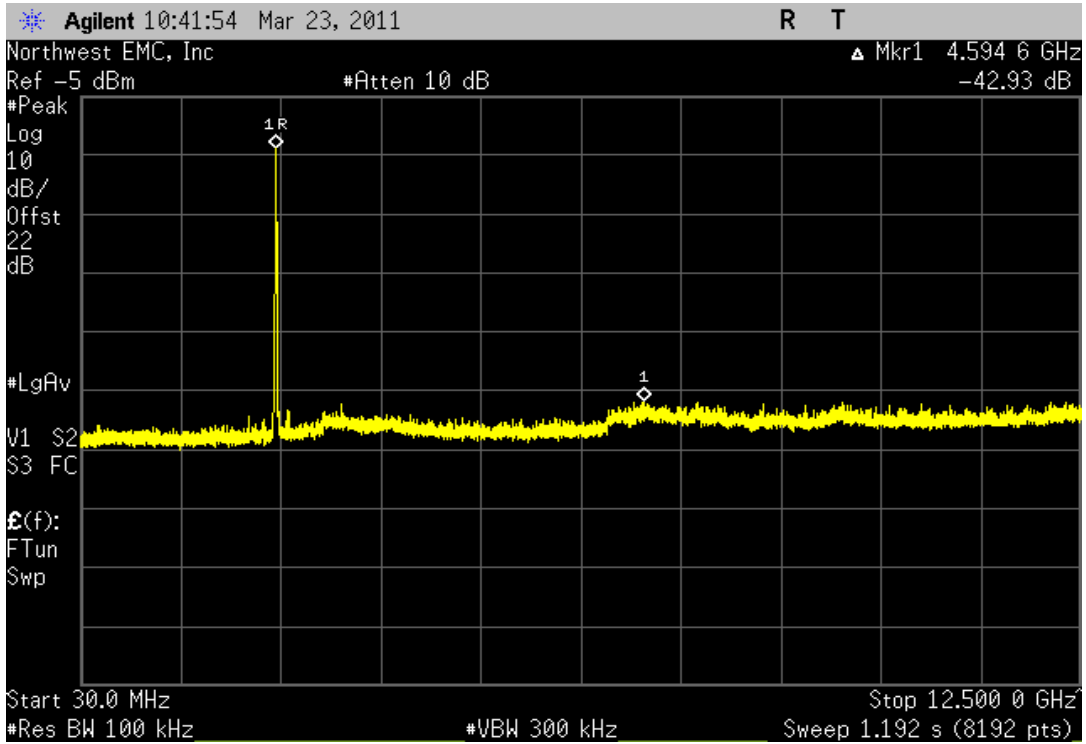
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, Mid Channel 6, 2437 MHz

Value	Limit	Result
-38.25 dBc	≤ -20 dBc	Pass



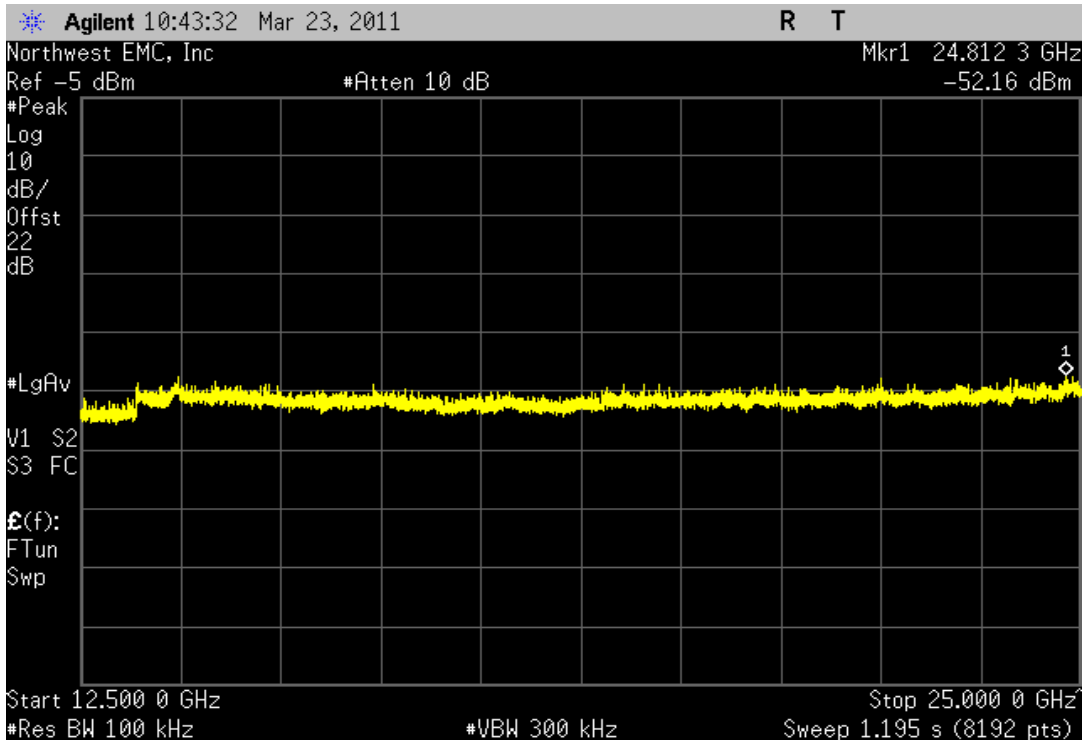
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, High Channel 11, 2462 MHz

Value	Limit	Result
-42.93 dBc	≤ -20 dBc	Pass



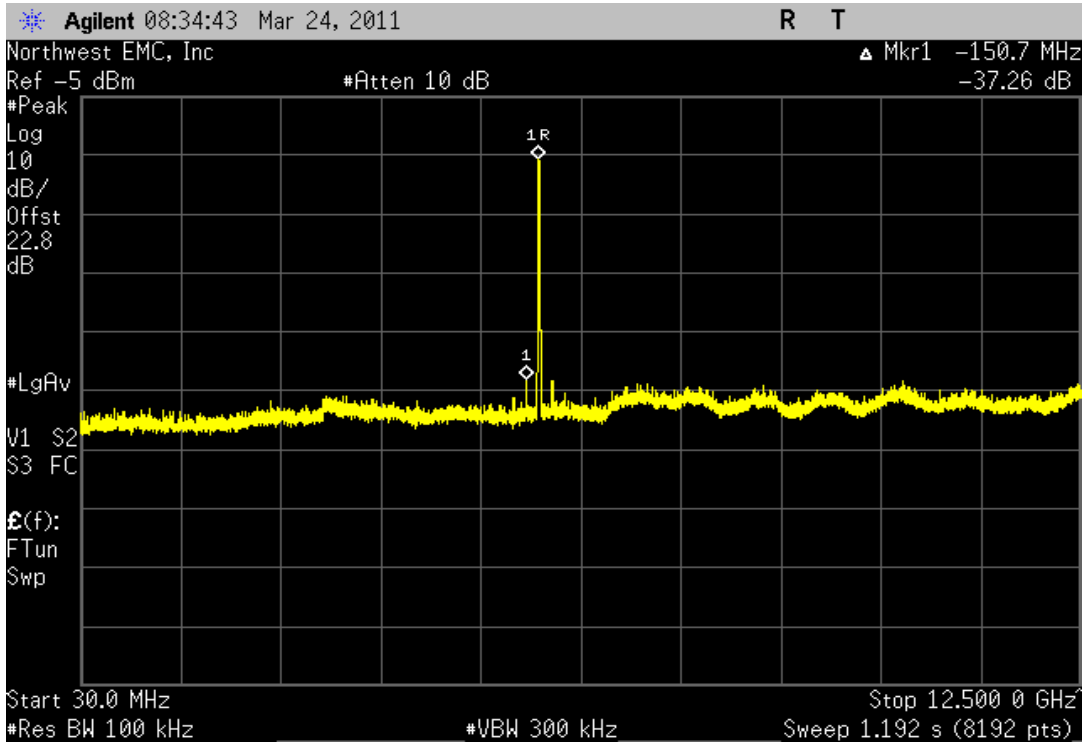
2400 MHz - 2483.5 MHz Band, 802.11(g) 24 Mbps, High Channel 11, 2462 MHz

Value	Limit	Result
-38.38 dBc	≤ -20 dBc	Pass



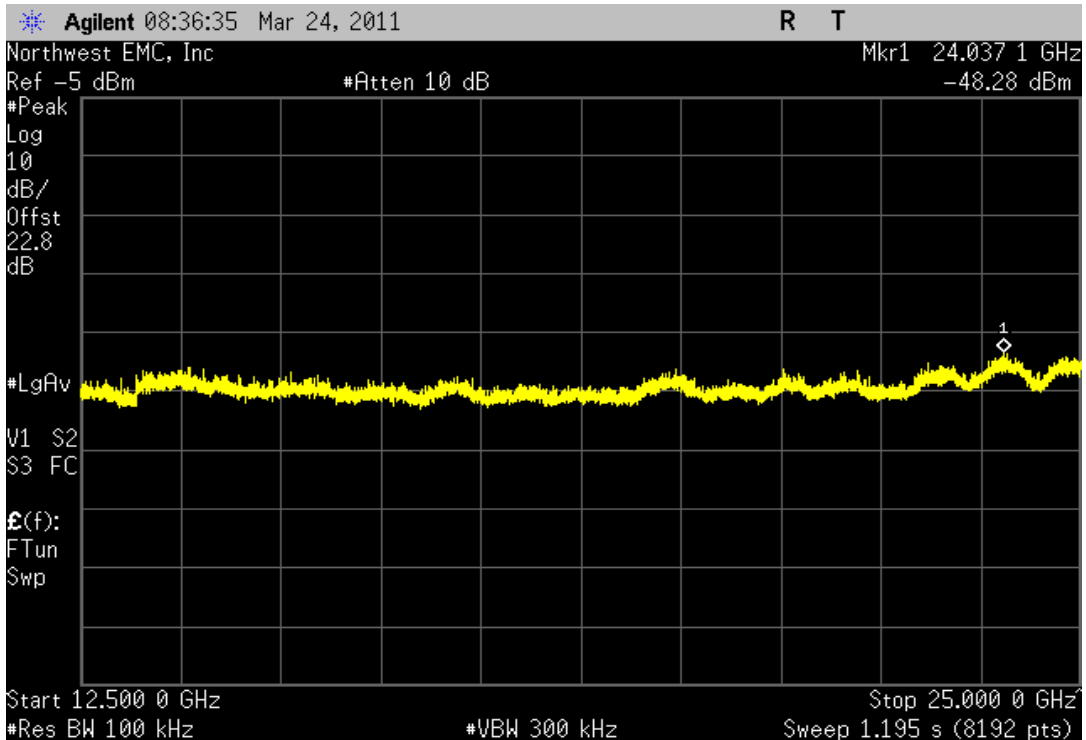
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
-37.26 dBc	≤ -20 dBc	Pass



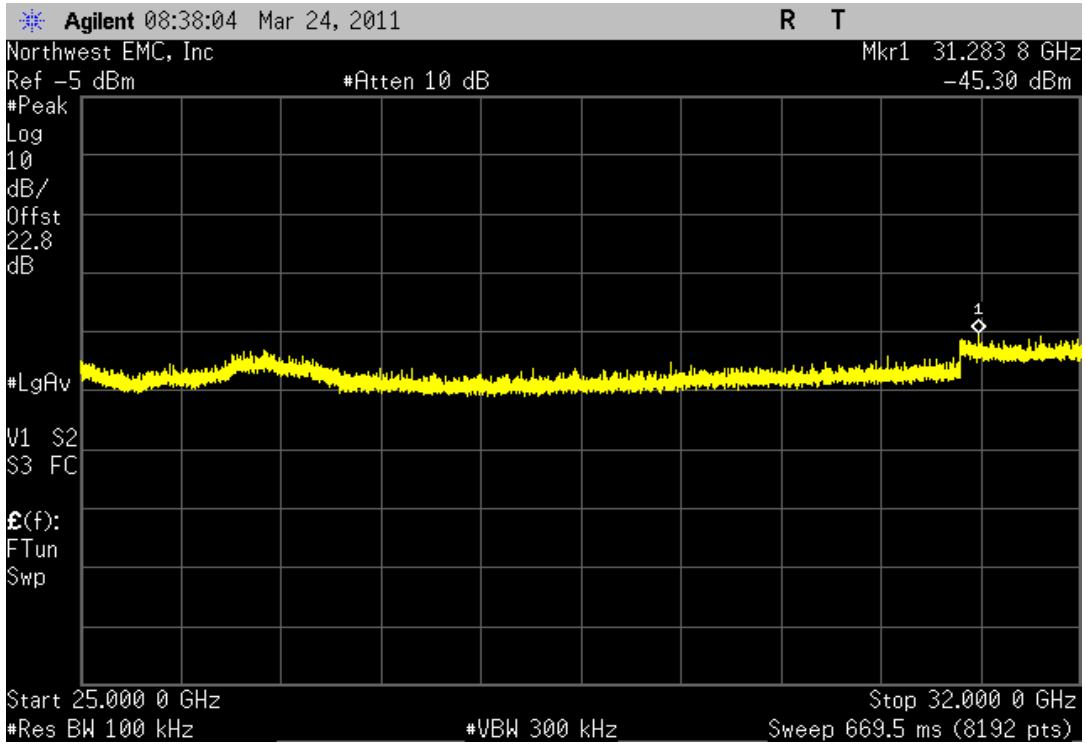
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
-32.45 dBc	≤ -20 dBc	Pass



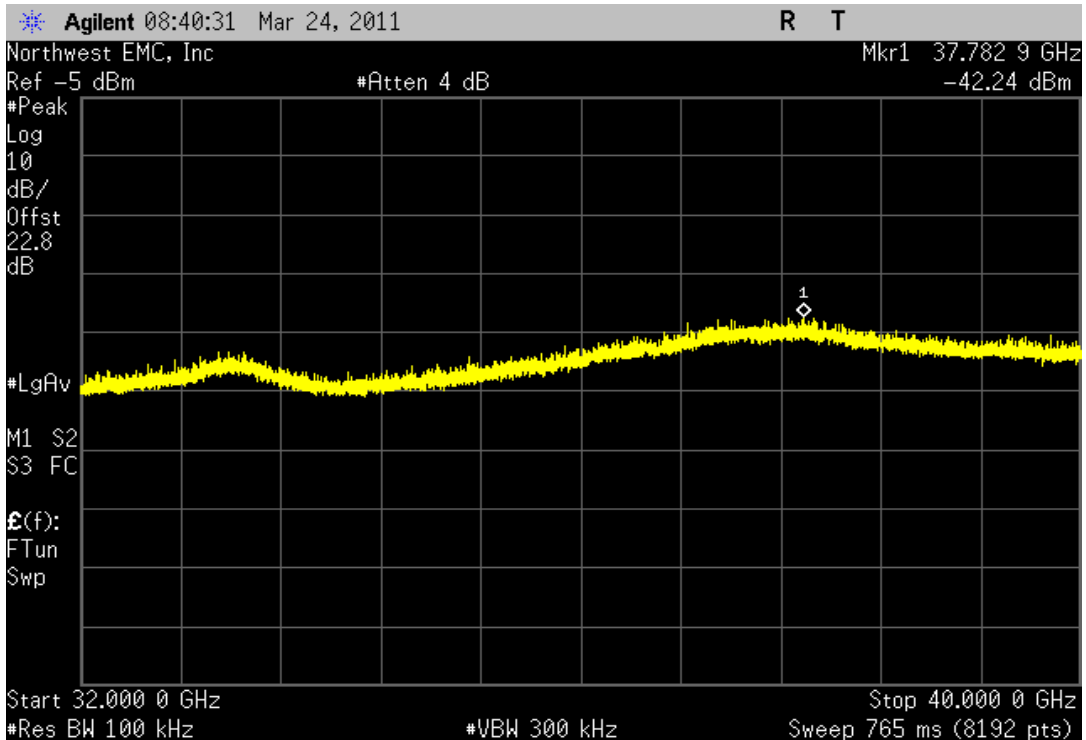
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
-29.47 dBc	≤ -20 dBc	Pass



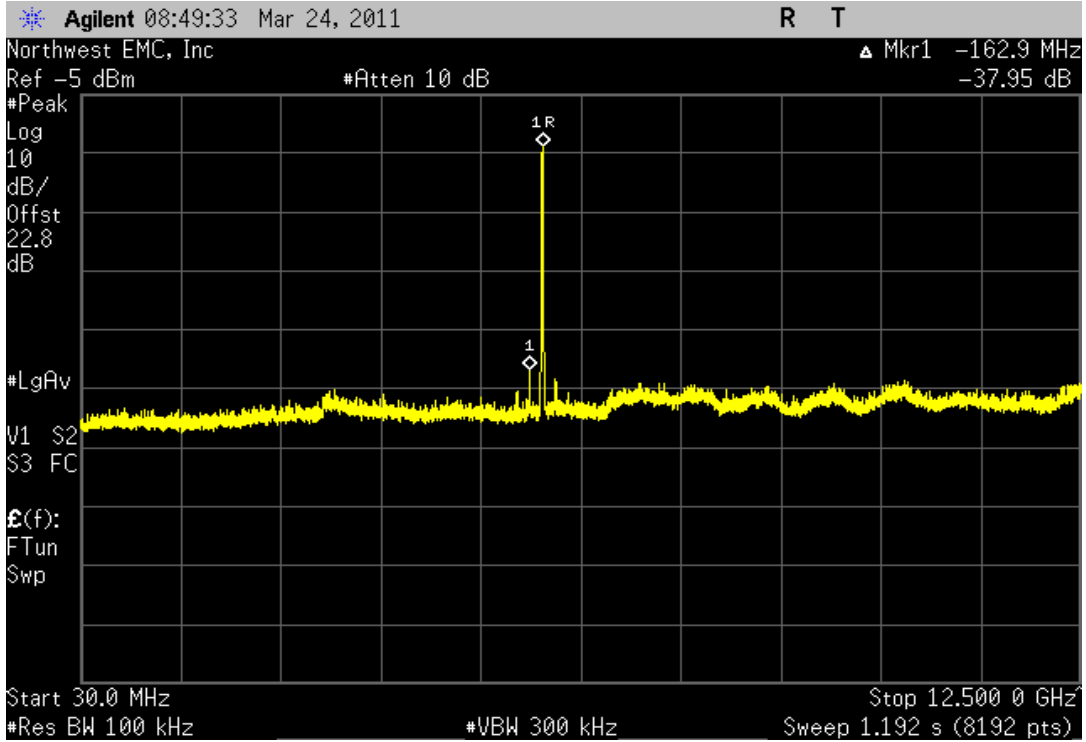
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
-26.4 dBc	≤ -20 dBc	Pass



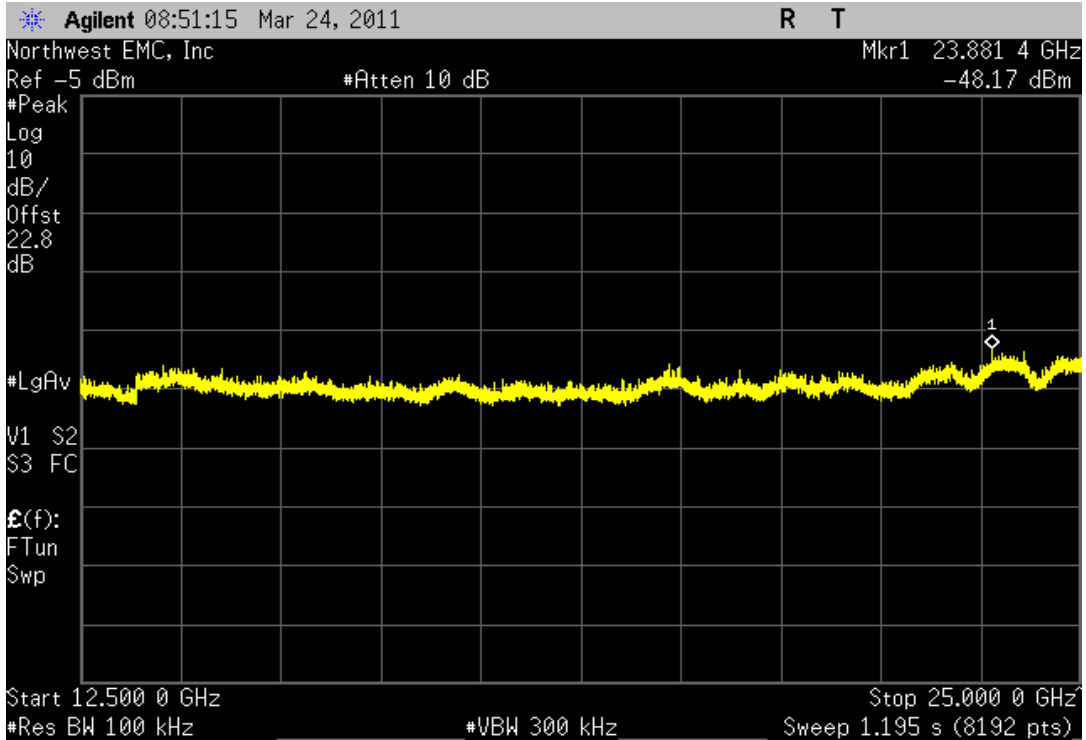
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz

Value	Limit	Result
-37.95 dBc	≤ -20 dBc	Pass



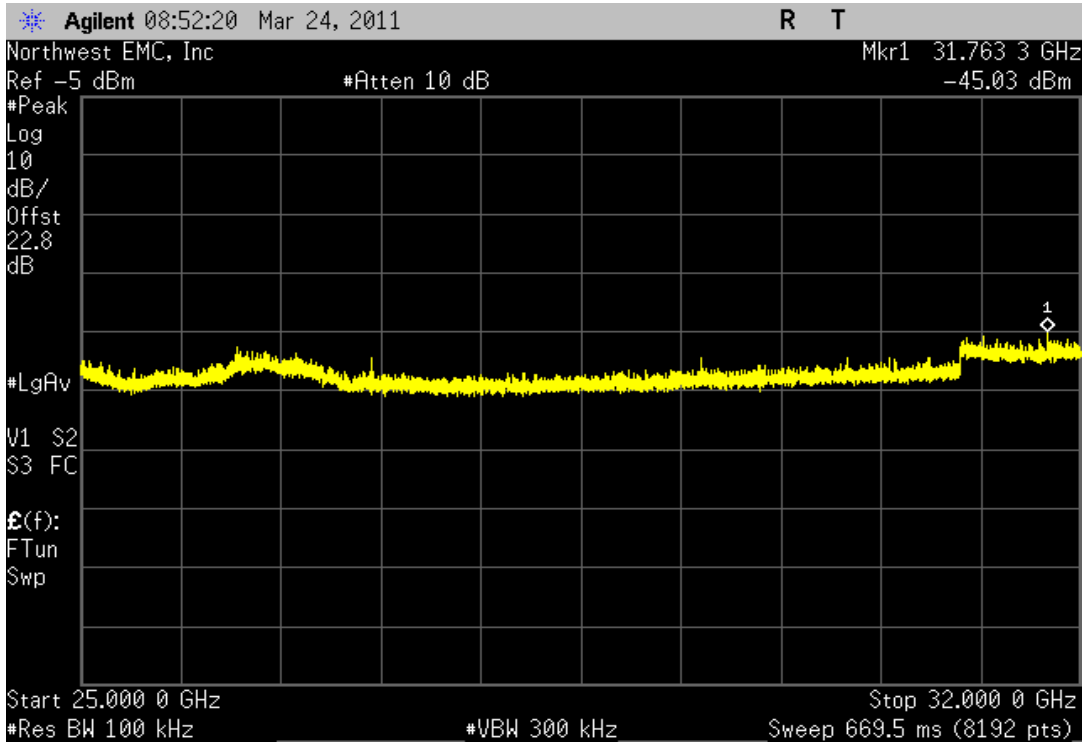
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz

Value	Limit	Result
-34.3 dBc	≤ -20 dBc	Pass



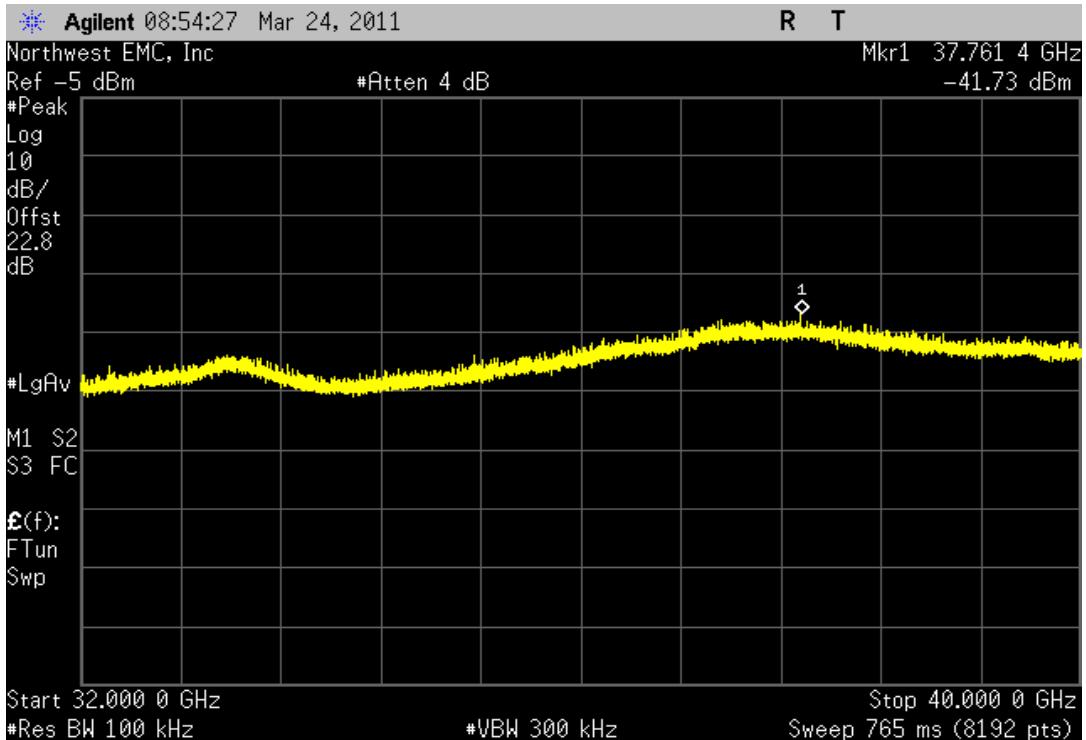
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz

Value	Limit	Result
-31.16 dBc	≤ -20 dBc	Pass



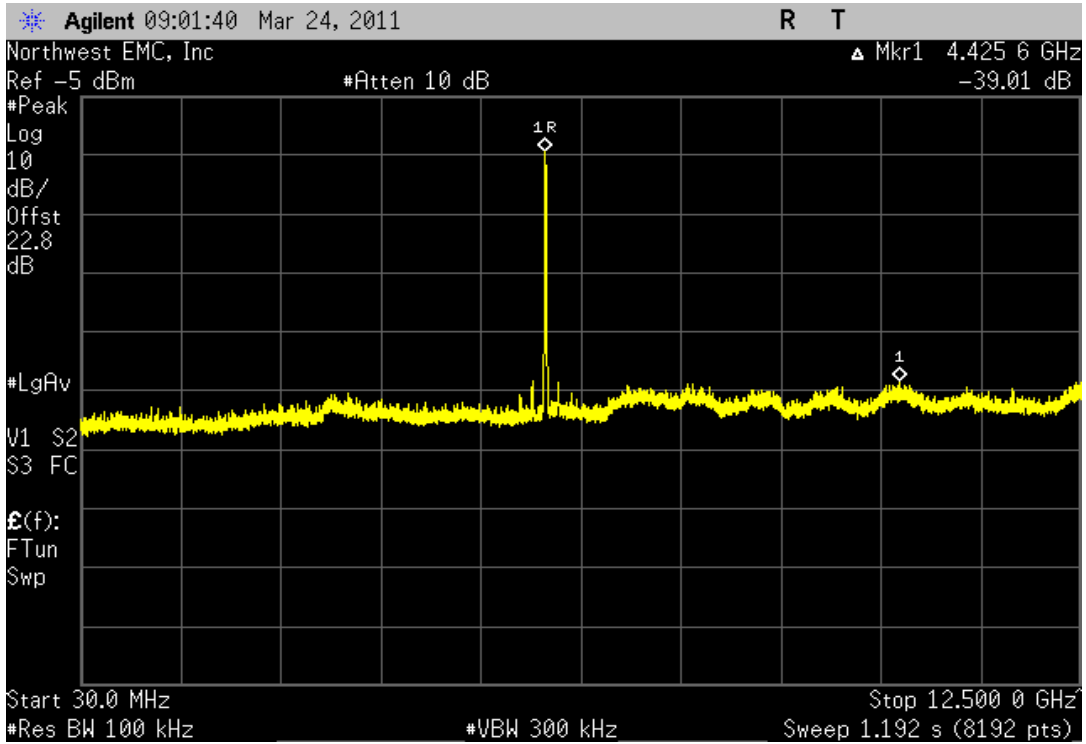
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Mid Channel 157, 5785 MHz

Value	Limit	Result
-27.86 dBc	≤ -20 dBc	Pass



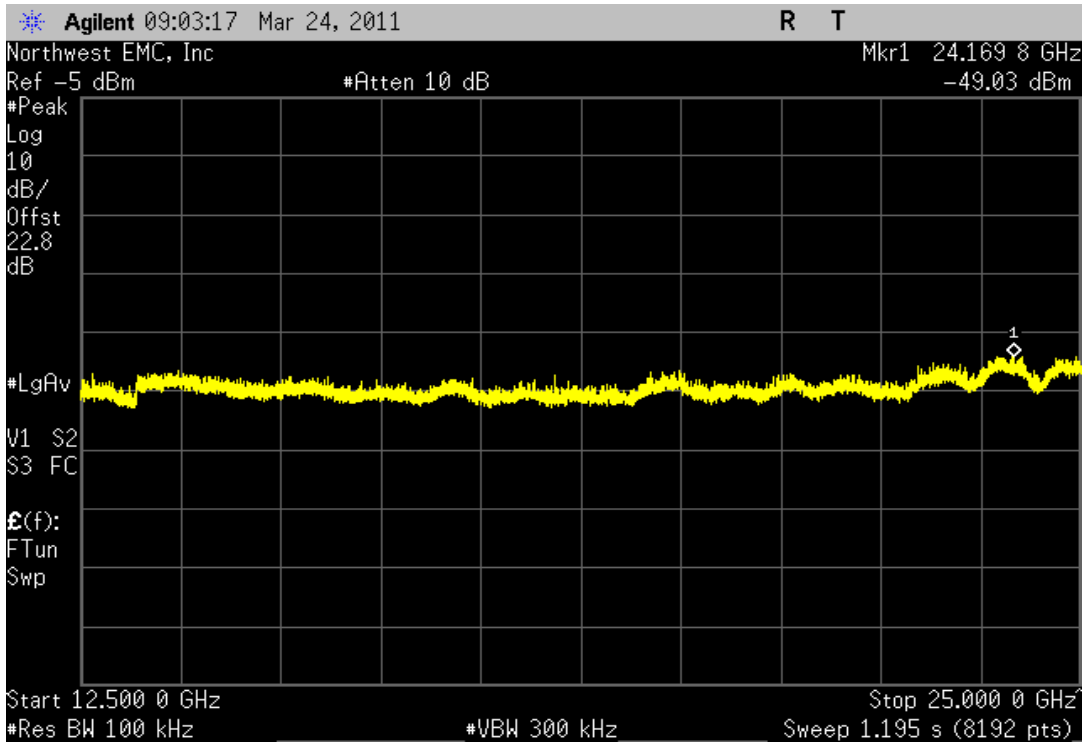
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
-39.01 dBc	≤ -20 dBc	Pass



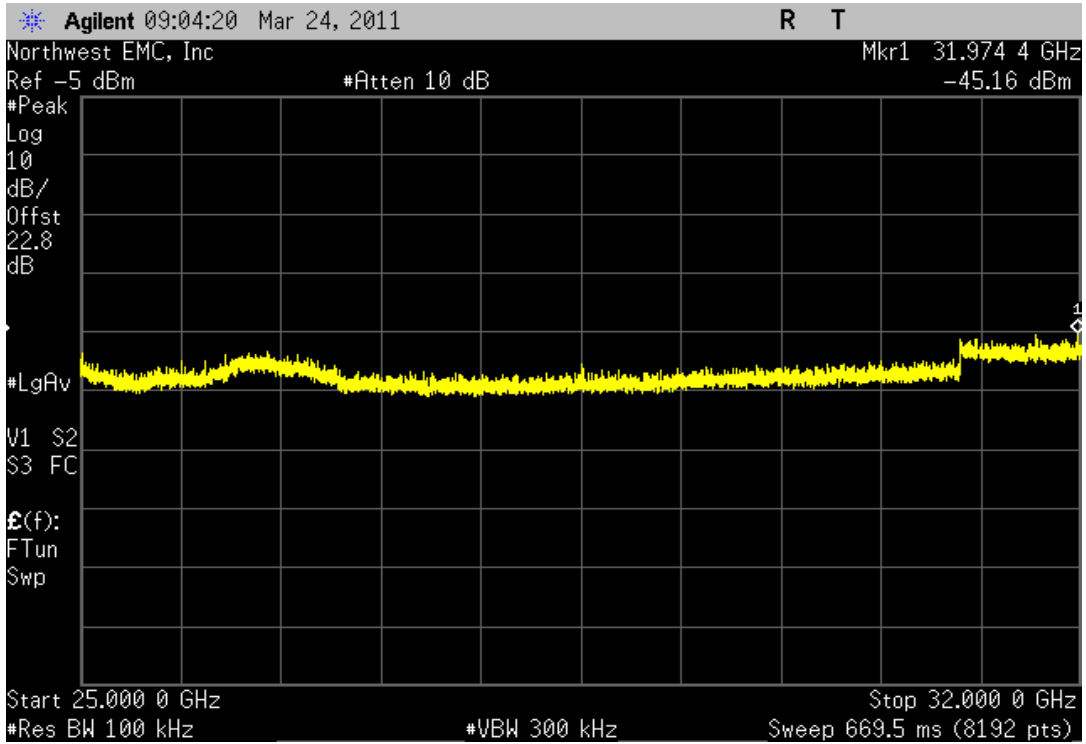
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
-34.74 dBc	≤ -20 dBc	Pass



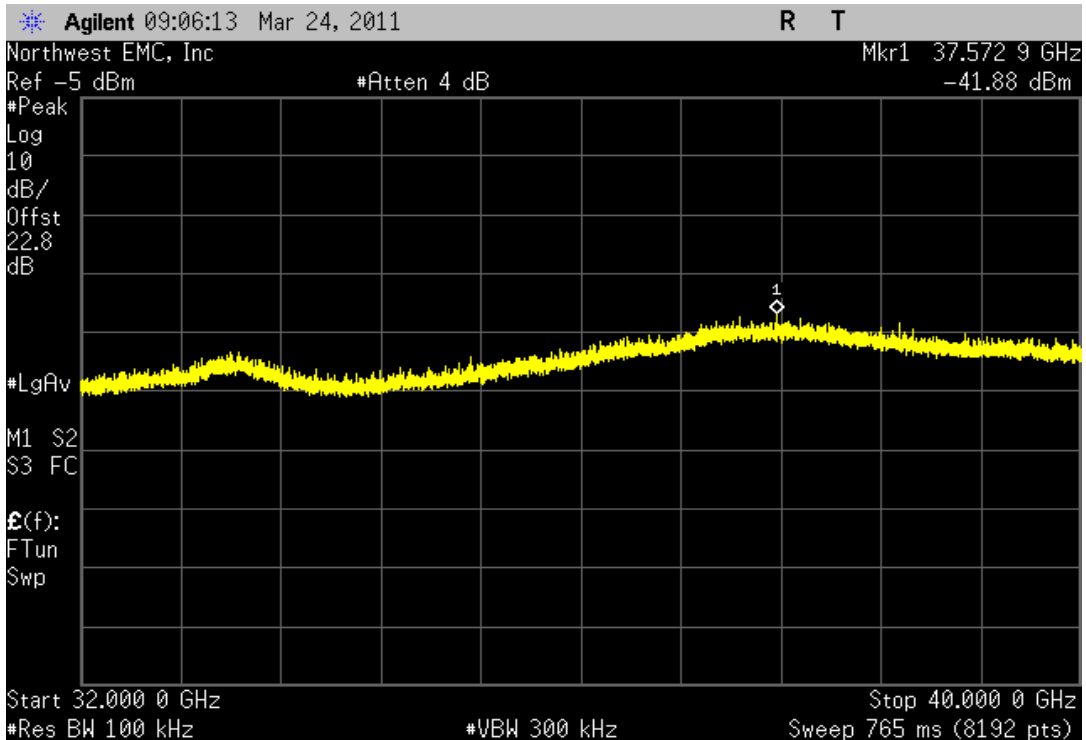
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
-30.87 dBc	≤ -20 dBc	Pass



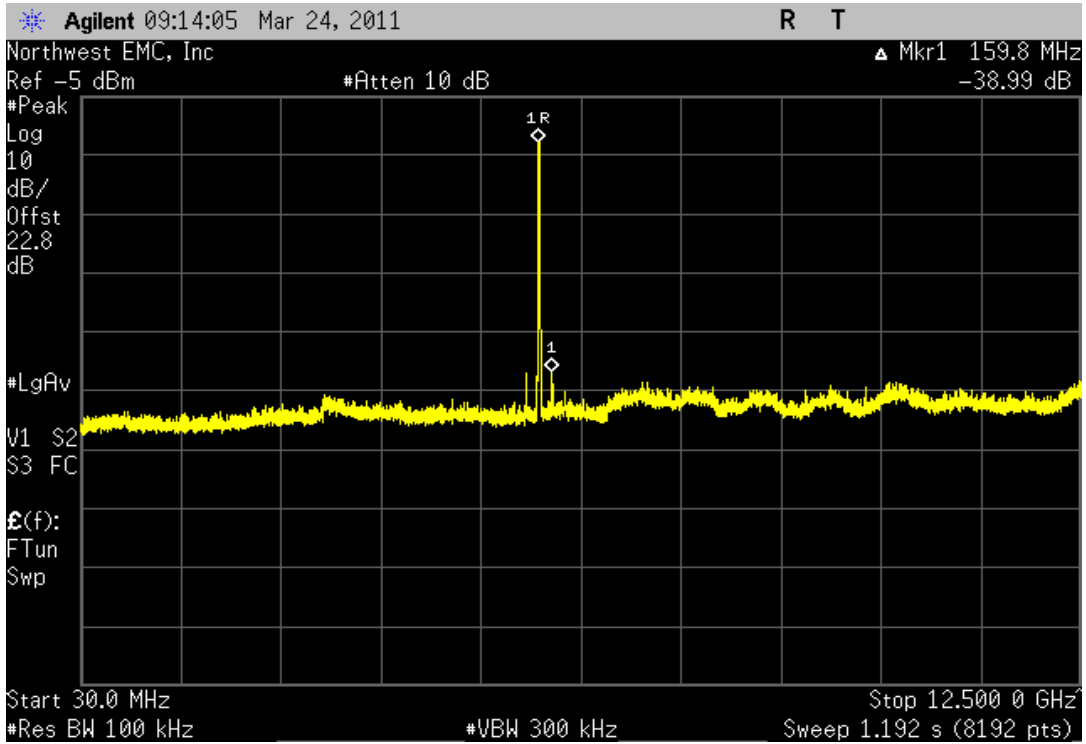
5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
-27.59 dBc	≤ -20 dBc	Pass



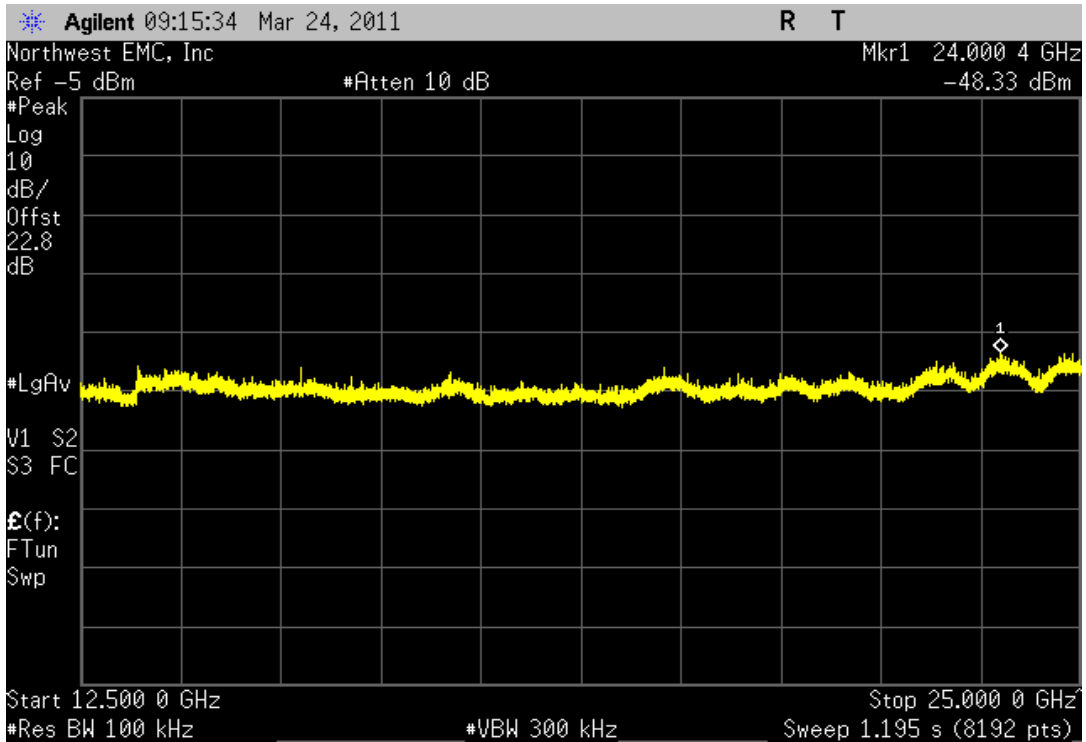
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
-38.99 dBc	≤ -20 dBc	Pass



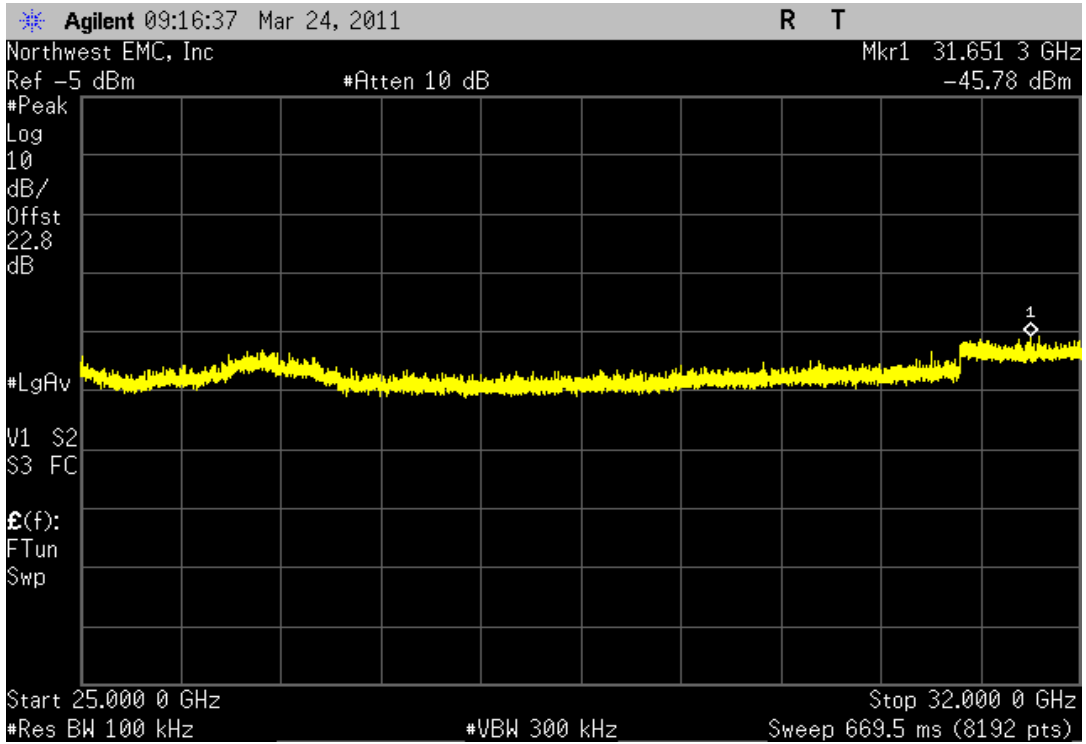
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
-35.49 dBc	≤ -20 dBc	Pass



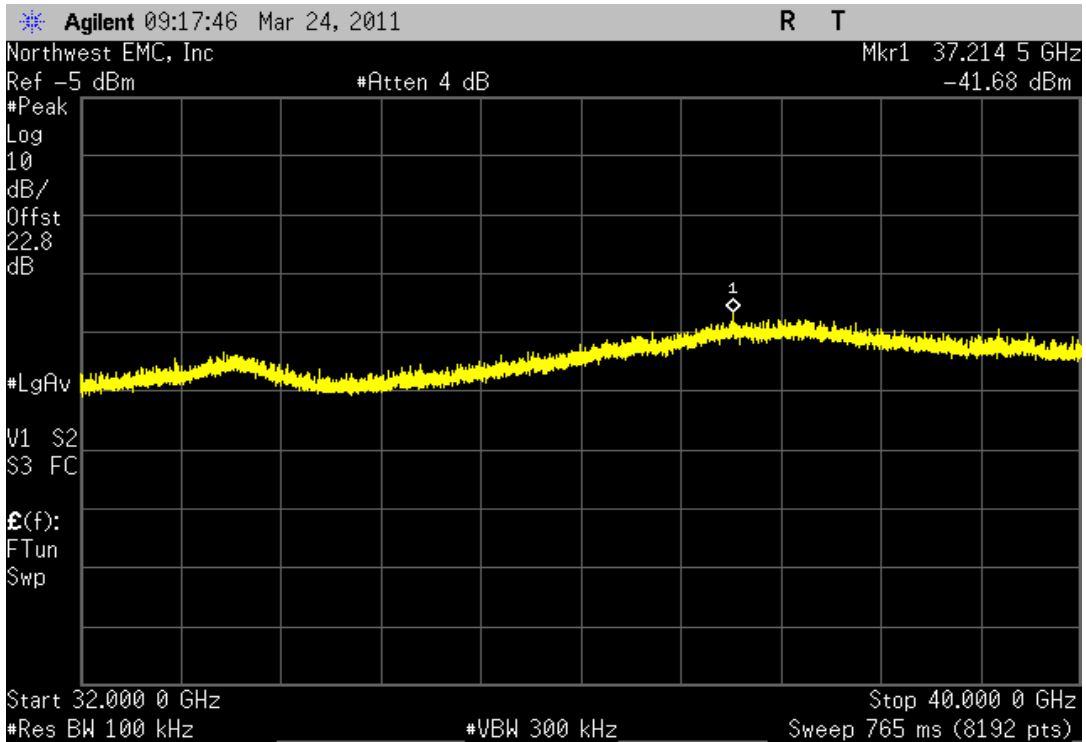
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
-32.94 dBc	≤ -20 dBc	Pass



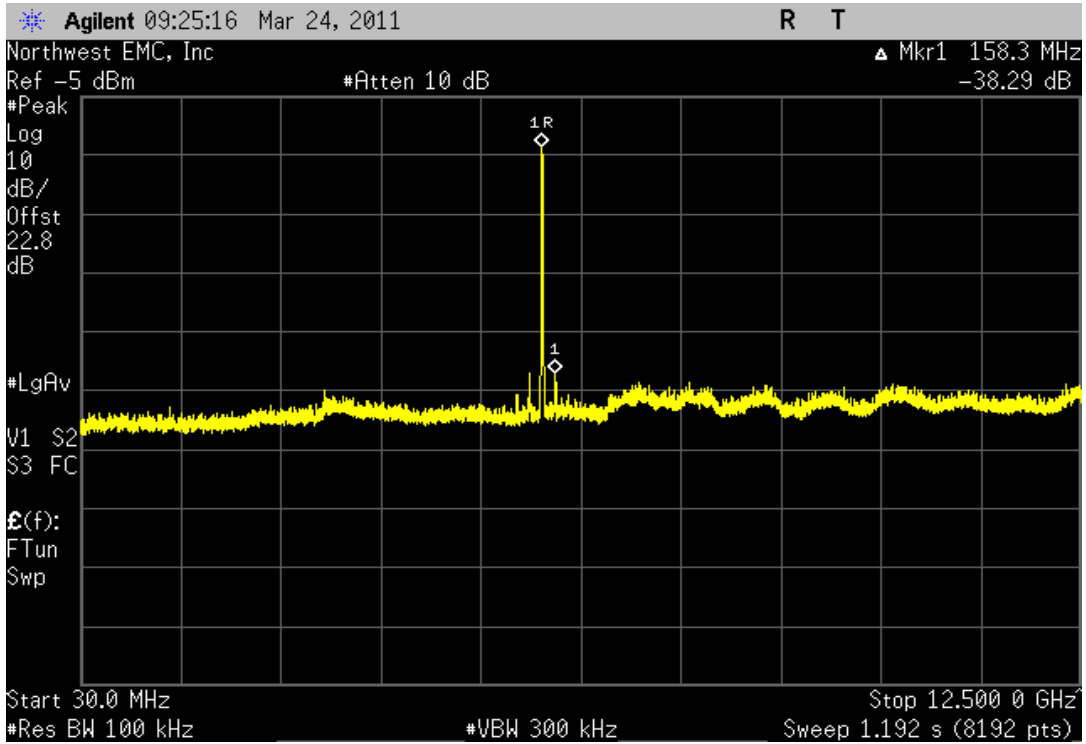
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Low Channel 149, 5745 MHz

Value	Limit	Result
-28.84 dBc	≤ -20 dBc	Pass



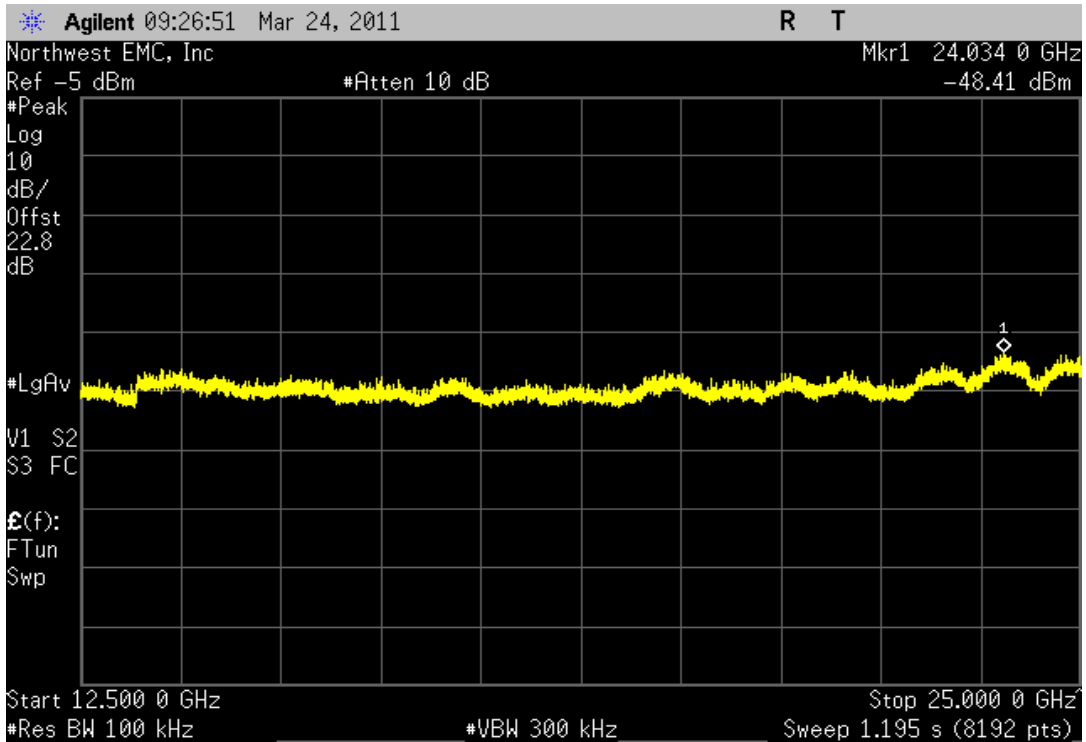
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Mid Channel 157, 5785 MHz

Value	Limit	Result
-38.29 dBc	≤ -20 dBc	Pass



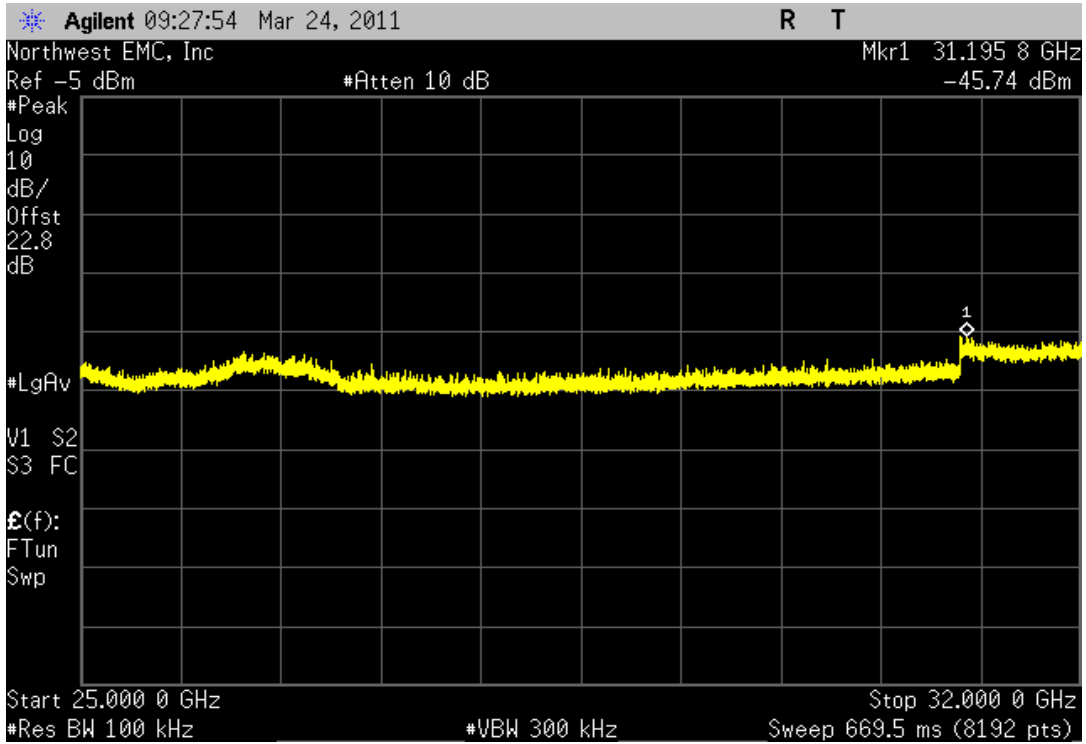
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Mid Channel 157, 5785 MHz

Value	Limit	Result
-34.83 dBc	≤ -20 dBc	Pass



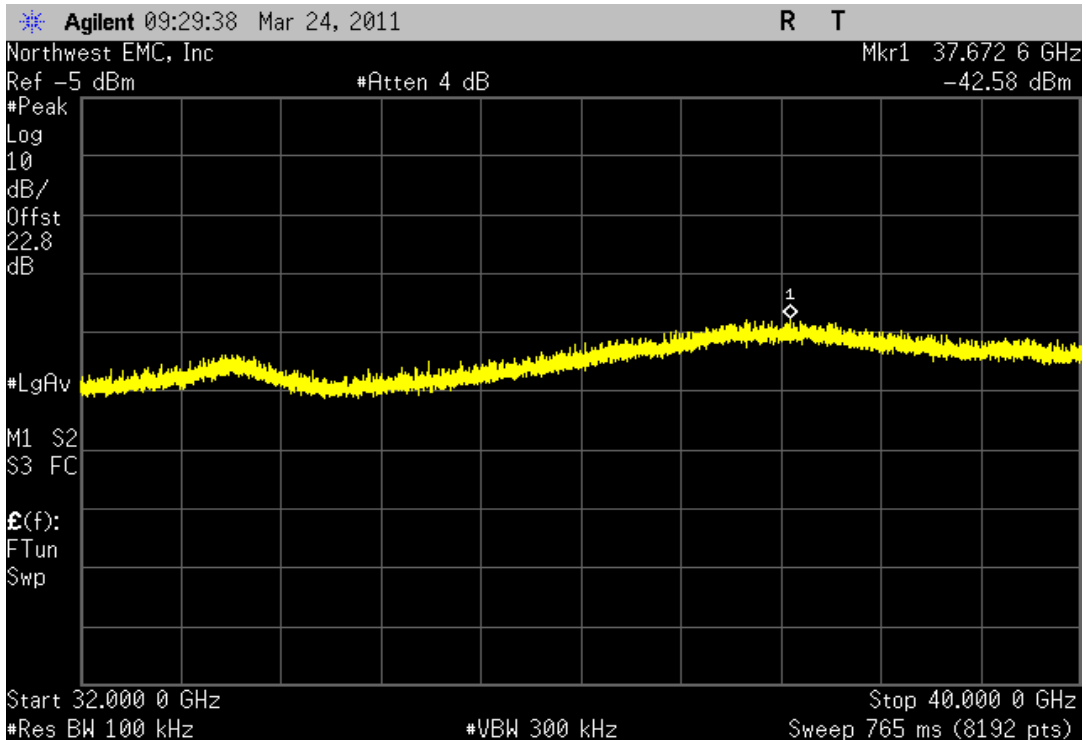
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Mid Channel 157, 5785 MHz

Value	Limit	Result
-32.16 dBc	≤ -20 dBc	Pass



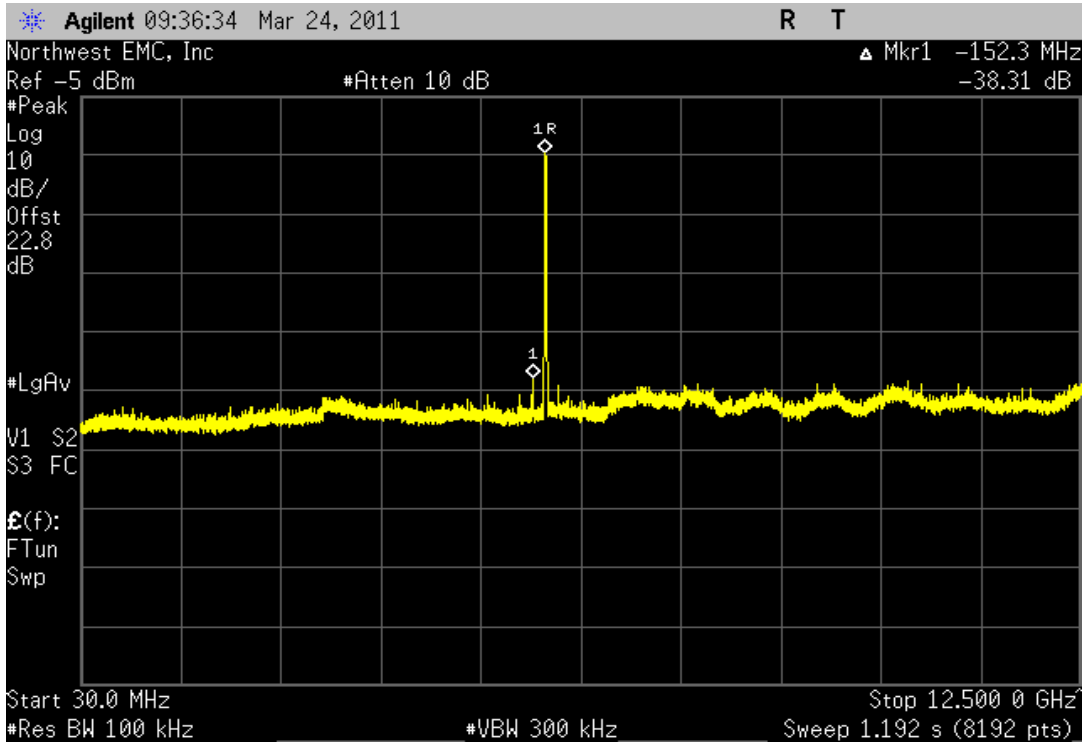
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, Mid Channel 157, 5785 MHz

Value	Limit	Result
-29 dBc	≤ -20 dBc	Pass



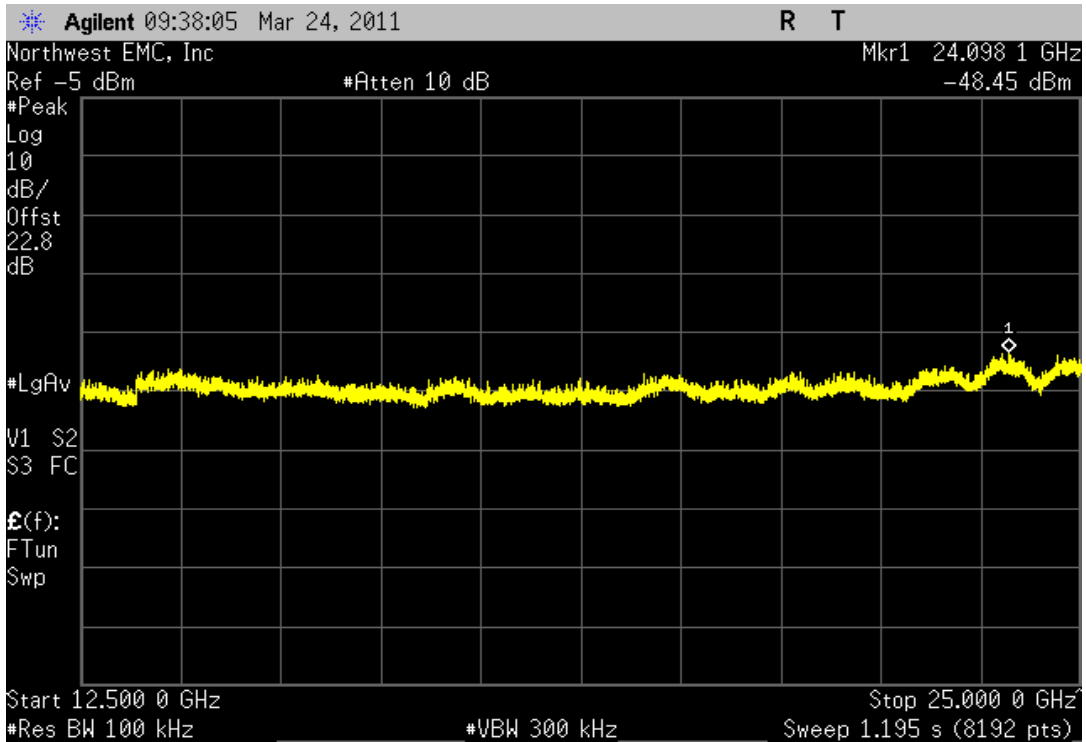
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
-38.31 dBc	≤ -20 dBc	Pass



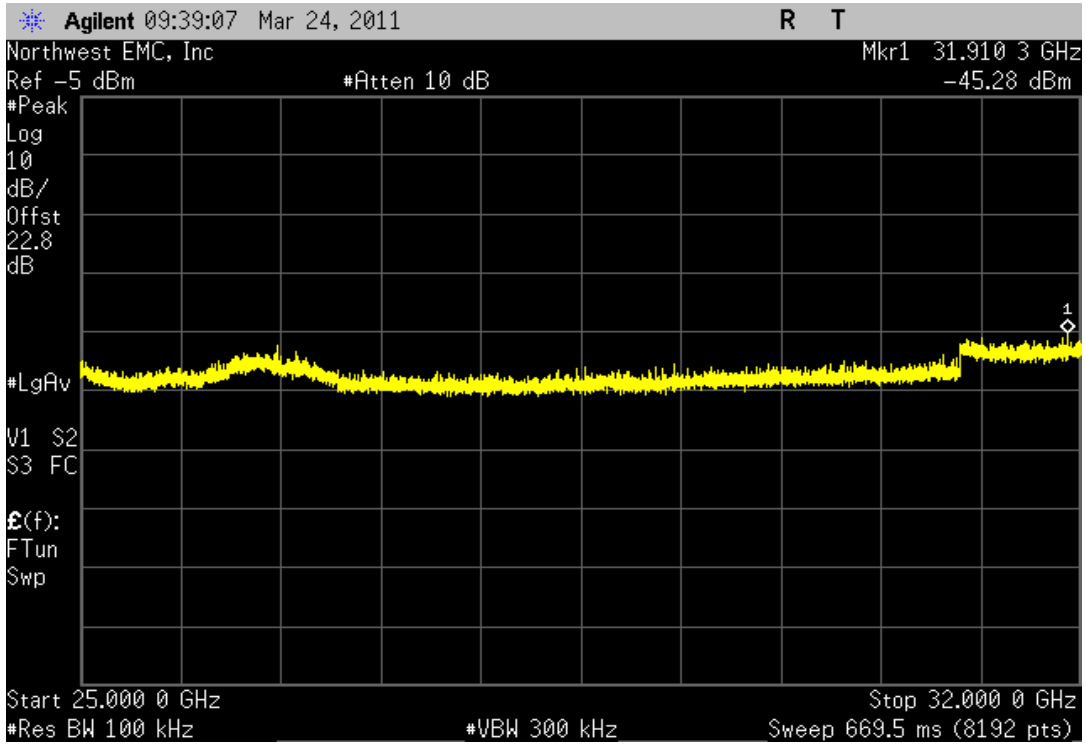
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
-33.86 dBc	≤ -20 dBc	Pass



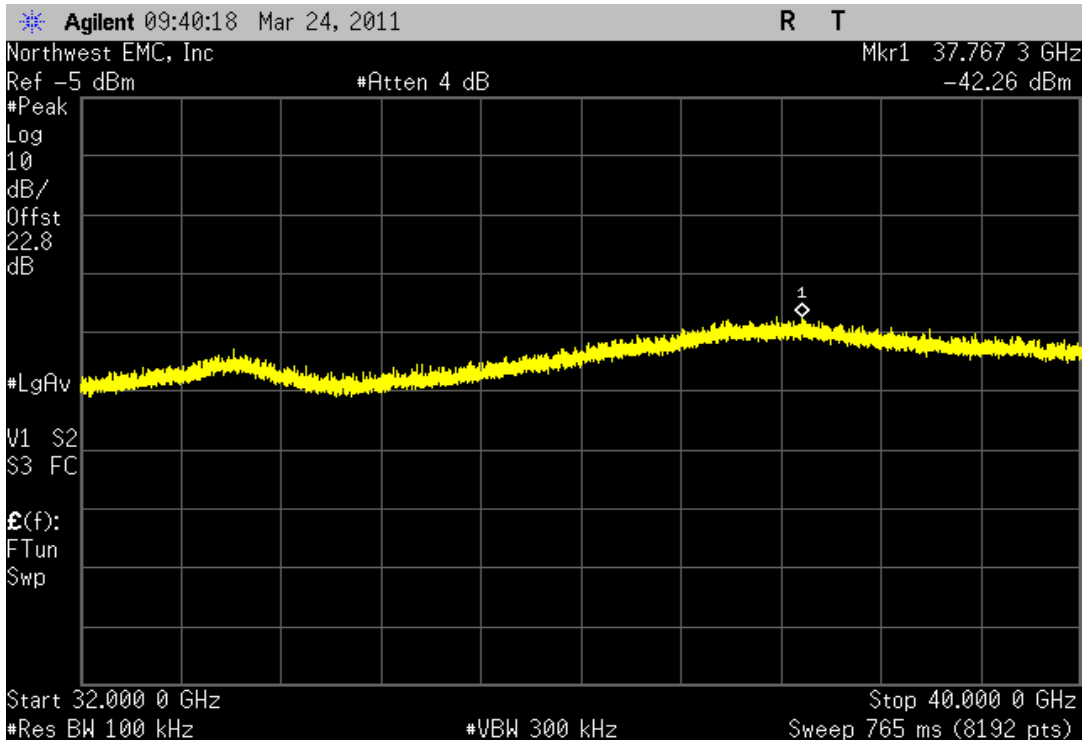
5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
-30.69 dBc	≤ -20 dBc	Pass



5725 MHz - 5850 MHz Band, 802.11(a) 24 Mbps, High Channel 165, 5825 MHz

Value	Limit	Result
-27.67 dBc	≤ -20 dBc	Pass



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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AFD	6/1/2009	24
40GHz DC Block	Miteq	DCB4000	AMD	8/5/2010	13
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	8/6/2010	12
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0
Power Meter	Gigatronics	8651A	SPM	1/7/2010	24
Power Sensor	Gigatronics	80701A	SPL	1/7/2010	24
MXG Vector Singal Generator	Agilent	N5182A	TIF	NCR	0

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The power spectral density measurements were measured with the EUT set to low, mid, 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 its maximum data rate for each modulation type available. Since the average output power was measured as defined in section 6.10.2.2 of ANSI C63.10:2009, Section 6.11.2.4 was followed.

The spectrum analyzer was set as follows:

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

- a) RBW = 3 kHz
- b) VBW = 10 kHz
- c) Sweep time = Automatic
- d) Peak Detector
- e) RF gating
- f) Trace average 100 traces in power averaging mode.

EMC

POWER SPECTRAL DENSITY

EUT: S-00112	Work Order: LABT0415
Serial Number: C011	Date: 03/29/11
Customer: Logitech, Inc.	Temperature: 22.8°C
Attendees: none	Humidity: 36%
Project: None	Barometric Pres.: 30.08 in
Tested by: Rod Peloquin	Power: 5 VDC
	Job Site: EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247:2011	ANSI C63.10:2009

COMMENTS
Utilizing RF gating on the spectrum analyzer to capture the high time during the transmission burst. 6 Mbps tested due to being the worst case output power

DEVIATIONS FROM TEST STANDARD
None

Configuration #	5	<i>Rod Peloquin</i> Signature
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		Value	Limit	Results
2400 MHz - 2483.5 MHz Band				
	802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	-29.1 dBm / 3 kHz	8 dBm / 3 kHz	Pass
	Mid Channel 6, 2437 MHz	-28.8 dBm / 3 kHz	8 dBm / 3 kHz	Pass
	High Channel 11, 2462 MHz	-28.9 dBm / 3 kHz	8 dBm / 3 kHz	Pass
5725 MHz - 5850 MHz Band				
	802.11(a) 6 Mbps			
	Low Channel 149, 5745 MHz	-29.9 dBm / 3 kHz	8 dBm / 3 kHz	Pass
	Mid Channel 157, 5785 MHz	-30.2 dBm / 3 kHz	8 dBm / 3 kHz	Pass
	High Channel 165, 5825 MHz	-30.4 dBm / 3 kHz	8 dBm / 3 kHz	Pass

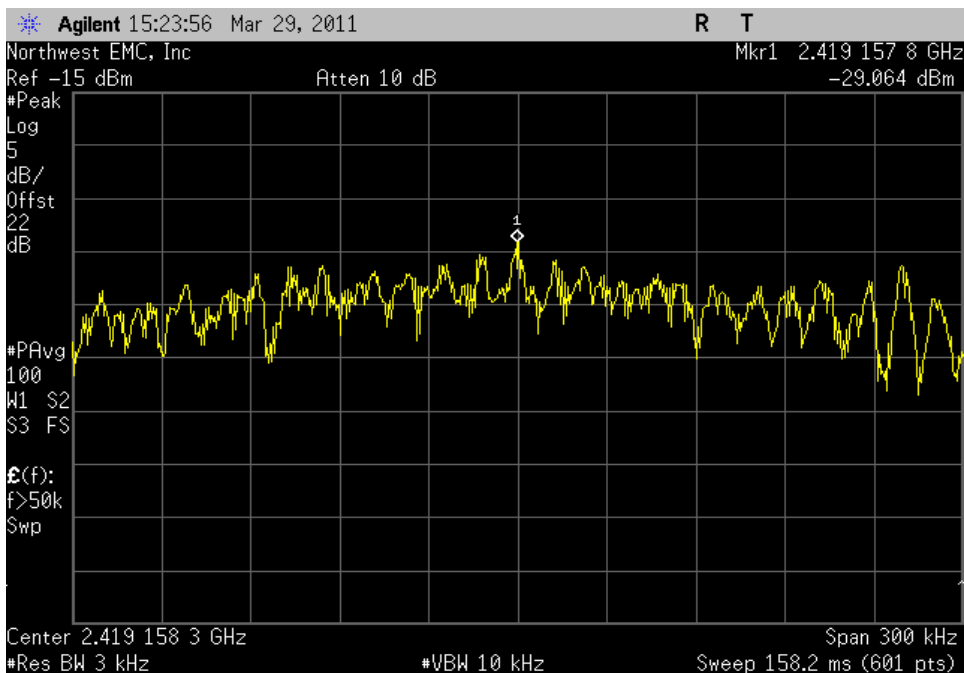
POWER SPECTRAL DENSITY

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

Result: Pass

Value: -29.1 dBm / 3 kHz

Limit: 8 dBm / 3 kHz

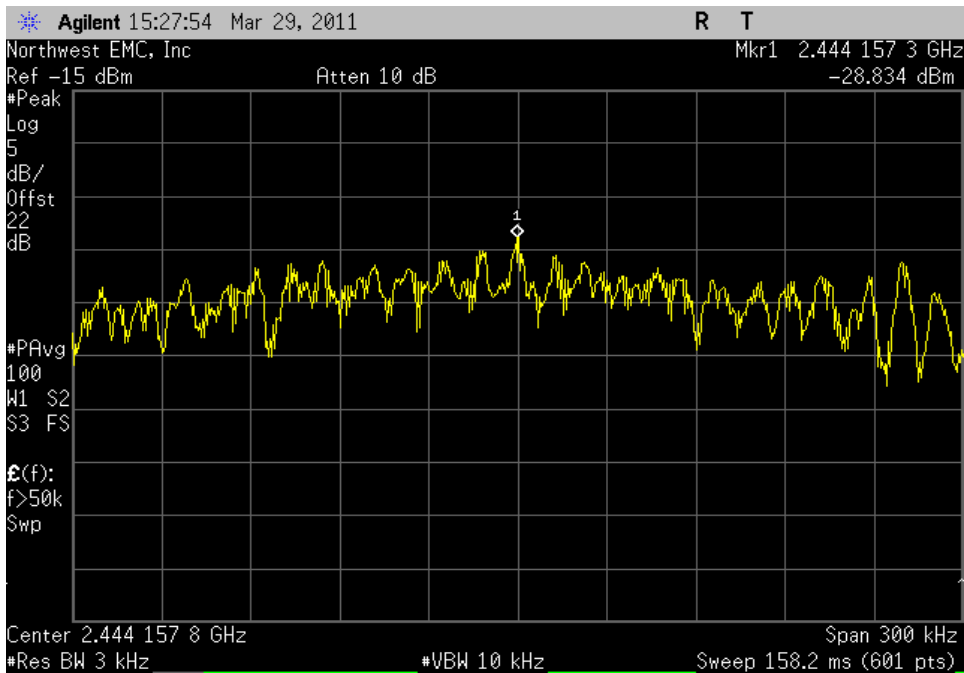


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz

Result: Pass

Value: -28.8 dBm / 3 kHz

Limit: 8 dBm / 3 kHz



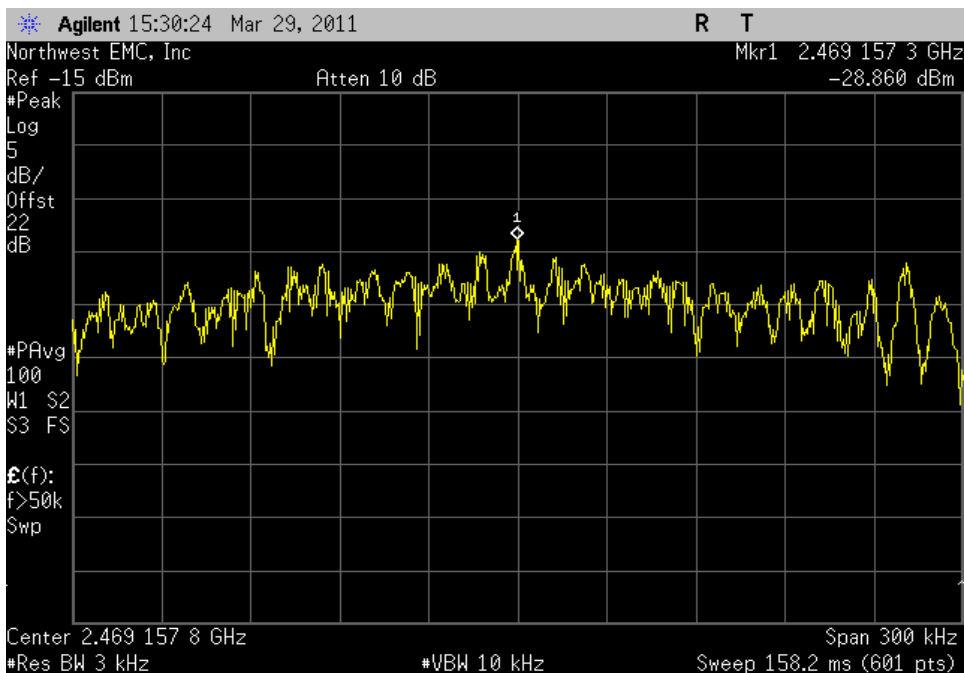
POWER SPECTRAL DENSITY

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

Result: Pass

Value: -28.9 dBm / 3 kHz

Limit: 8 dBm / 3 kHz

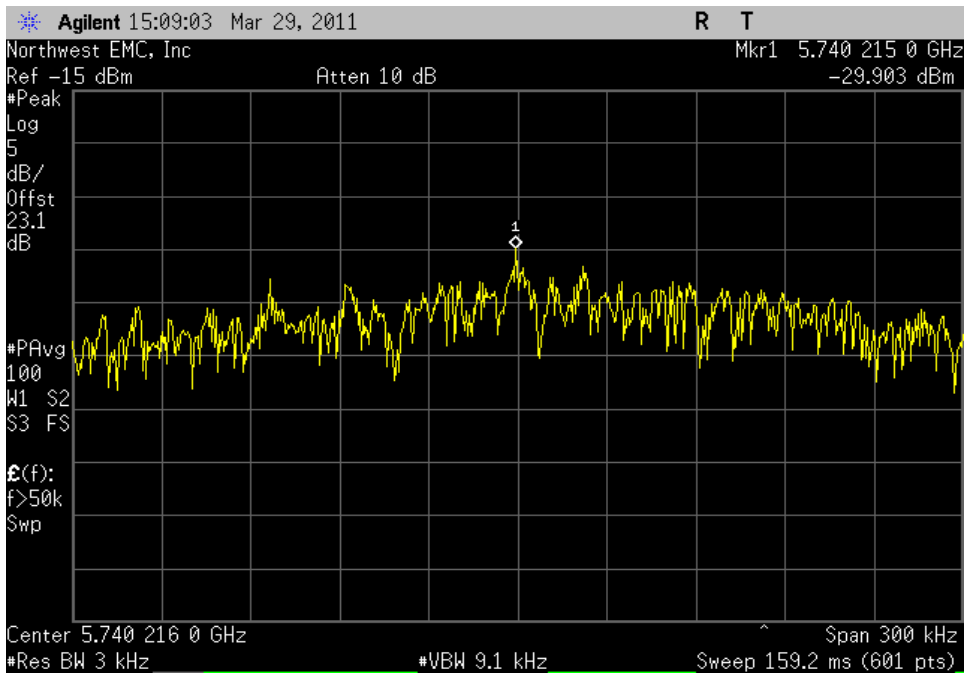


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz

Result: Pass

Value: -29.9 dBm / 3 kHz

Limit: 8 dBm / 3 kHz



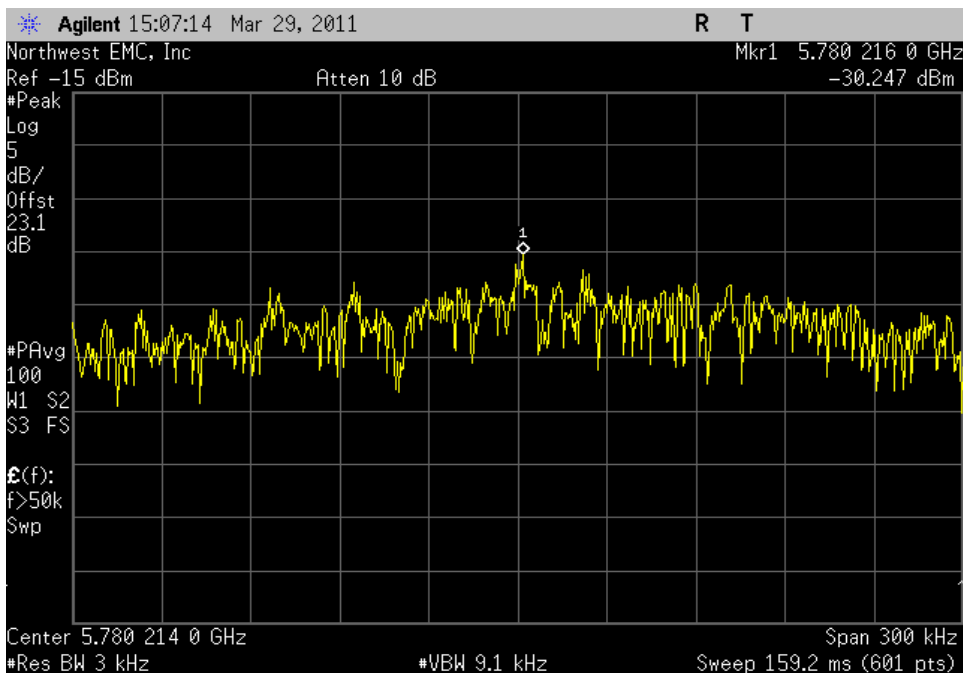
POWER SPECTRAL DENSITY

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

Result: Pass

Value: -30.2 dBm / 3 kHz

Limit: 8 dBm / 3 kHz

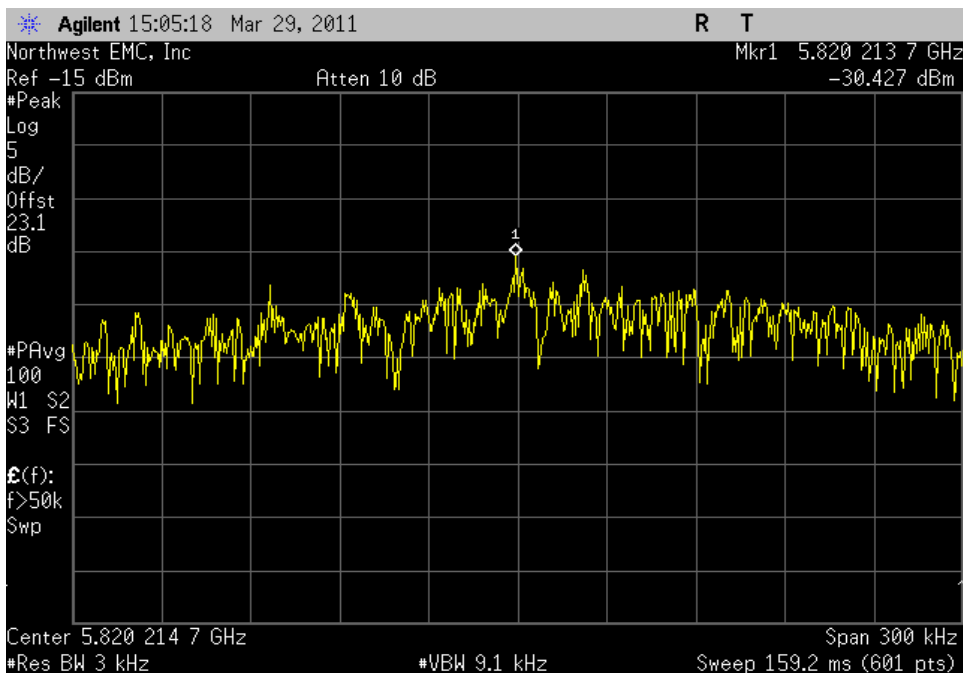


5725 MHz - 5850 MHz Band, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz

Result: Pass

Value: -30.4 dBm / 3 kHz

Limit: 8 dBm / 3 kHz



EMC**Spurious Radiated Emissions**

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

MODES OF OPERATION

Transmitting Channel 11, modulated signal.
Transmitting Channel 6, modulated signal.
Transmitting Channel 1, modulated signal.
Transmitting, channel 149, modulated signal
Transmitting, channel 157, modulated signal
Transmitting, channel 165, modulated signal

POWER SETTINGS INVESTIGATED

120VAC/60Hz

CONFIGURATIONS INVESTIGATED

LABT0415 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	40 GHz
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SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Low Pass Filter	Micro-Tronics	LPM50004	HGK	7/9/2010	24 mo
MN05 Cables	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	7/19/2010	12 mo
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	7/19/2010	12 mo
Antenna, Horn	ETS	3160-07	AXP	NCR	0 mo
Pre-Amplifier	Miteq	AM-1616-1000	AVY	7/19/2010	12 mo
MN05 Cables	ESM Cable Corp.	Bilog Cables	MNH	2/2/2011	12 mo
Antenna, Biconilog	ETS Lindgren	3142D	AXN	12/30/2009	24 mo
Pre-Amplifier	Miteq	JSW45-26004000-40-5P	AVN	11/8/2010	12 mo
26-40GHz Cable	N/A	TTBJ141-KMKM-72	E VX	11/5/2010	12 mo
Antenna, Horn	ETS	3160-10	AIC	NCR	0 mo
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	7/19/2010	12 mo
MN05 Cables	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	7/19/2010	12 mo
Antenna, Horn (DRG)	ETS Lindgren	3115	AIP	12/22/2009	24 mo
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	1/27/2010	16 mo
MN05 Cables	N/A	18-26GHz Standard Gain Horn Cable	EVD	1/27/2010	16 mo
Antenna, Horn	ETS	3160-09	AHG	NCR	0 mo
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	7/19/2010	12 mo
Spectrum Analyzer	Agilent	E4446A	AAT	2/15/2011	12 mo
Attenuator, 20 dB, 'SMA'	SM Electronics	SA6-20	REO	7/9/2010	12 mo
Multimeter	Fluke	114	MMU	7/13/2009	24 mo
DC Power Supply	EZ Digital Co	GP-4303D	TPY	NCR	0 mo
Antenna, Horn	ETS Lindgren	3160-08	AIQ	NCR	0 mo
High Pass Filter	Micro-Tronics	HPM50111	HGQ	7/9/2010	13 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 IF bandwidths and detectors specified. No video filter was used, except in the case of the FCC Average Measurements above 1GHz. In that case, a peak detector with a 10Hz video bandwidth was used.

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The 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 axes, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.10:2009). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

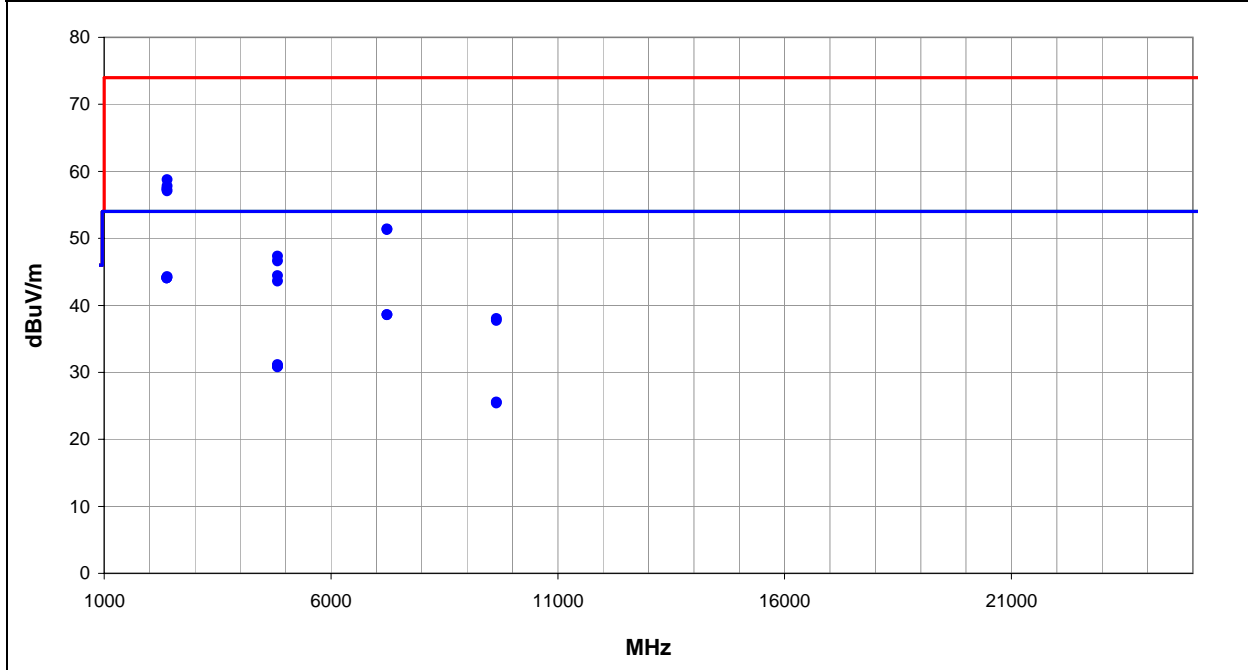
EMC

Spurious Radiated Emissions

Work Order:	LABT0415	Date:	03/09/11	<i>Trevor Bults</i>
Project:	None	Temperature:	23.82°C	
Job Site:	MN05	Humidity:	20.57	
Serial Number:	R001	Barometric Pres.:	1017.5	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 1, modulated signal.			
Deviations:	None			
Comments:	EUT Horizontal			

Test Specifications FCC 15.247:2011	Test Method ANSI C63.10:2009
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Run #	7	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2389.533	28.7	-4.4	1.3	164.0	3.0	20.0	Horz	AV	0.0	44.3	54.0	-9.7	6 Mbps
2385.233	28.5	-4.4	1.0	132.0	3.0	20.0	Vert	AV	0.0	44.1	54.0	-9.9	24 Mbps
2385.333	28.5	-4.4	2.5	51.0	3.0	20.0	Horz	AV	0.0	44.1	54.0	-9.9	24 Mbps
2385.933	28.5	-4.4	3.4	353.0	3.0	20.0	Vert	AV	0.0	44.1	54.0	-9.9	6 Mbps
2389.575	43.2	-4.4	1.3	164.0	3.0	20.0	Horz	PK	0.0	58.8	74.0	-15.2	6 Mbps
7236.933	27.5	11.1	1.0	210.0	3.0	0.0	Horz	AV	0.0	38.6	54.0	-15.4	24 Mbps
7236.558	27.5	11.1	1.0	60.0	3.0	0.0	Vert	AV	0.0	38.6	54.0	-15.4	24 Mbps
2386.367	42.2	-4.4	2.5	51.0	3.0	20.0	Horz	PK	0.0	57.8	74.0	-16.2	24 Mbps
2385.400	41.8	-4.4	3.4	353.0	3.0	20.0	Vert	PK	0.0	57.4	74.0	-16.6	6 Mbps
2386.667	41.5	-4.4	1.0	132.0	3.0	20.0	Vert	PK	0.0	57.1	74.0	-16.9	24 Mbps
7235.808	40.3	11.1	1.0	210.0	3.0	0.0	Horz	PK	0.0	51.4	74.0	-22.6	24 Mbps
7236.225	40.2	11.1	1.0	60.0	3.0	0.0	Vert	PK	0.0	51.3	74.0	-22.7	24 Mbps
4824.420	27.5	3.6	1.0	41.0	3.0	0.0	Horz	AV	0.0	31.1	54.0	-22.9	6 Mbps
4821.742	27.3	3.6	1.1	17.0	3.0	0.0	Horz	AV	0.0	30.9	54.0	-23.1	24 Mbps
4821.608	27.3	3.6	1.0	304.0	3.0	0.0	Vert	AV	0.0	30.9	54.0	-23.1	24 Mbps
4824.130	27.2	3.6	1.6	316.0	3.0	0.0	Vert	AV	0.0	30.8	54.0	-23.2	6 Mbps
4823.776	43.7	3.6	1.0	41.0	3.0	0.0	Horz	PK	0.0	47.3	74.0	-26.7	6 Mbps
4823.208	43.0	3.6	1.0	304.0	3.0	0.0	Vert	PK	0.0	46.6	74.0	-27.4	24 Mbps
9648.750	34.8	-9.3	1.0	221.0	3.0	0.0	Vert	AV	0.0	25.5	54.0	-28.5	24 Mbps
9646.358	34.7	-9.3	1.0	141.0	3.0	0.0	Horz	AV	0.0	25.4	54.0	-28.6	24 Mbps

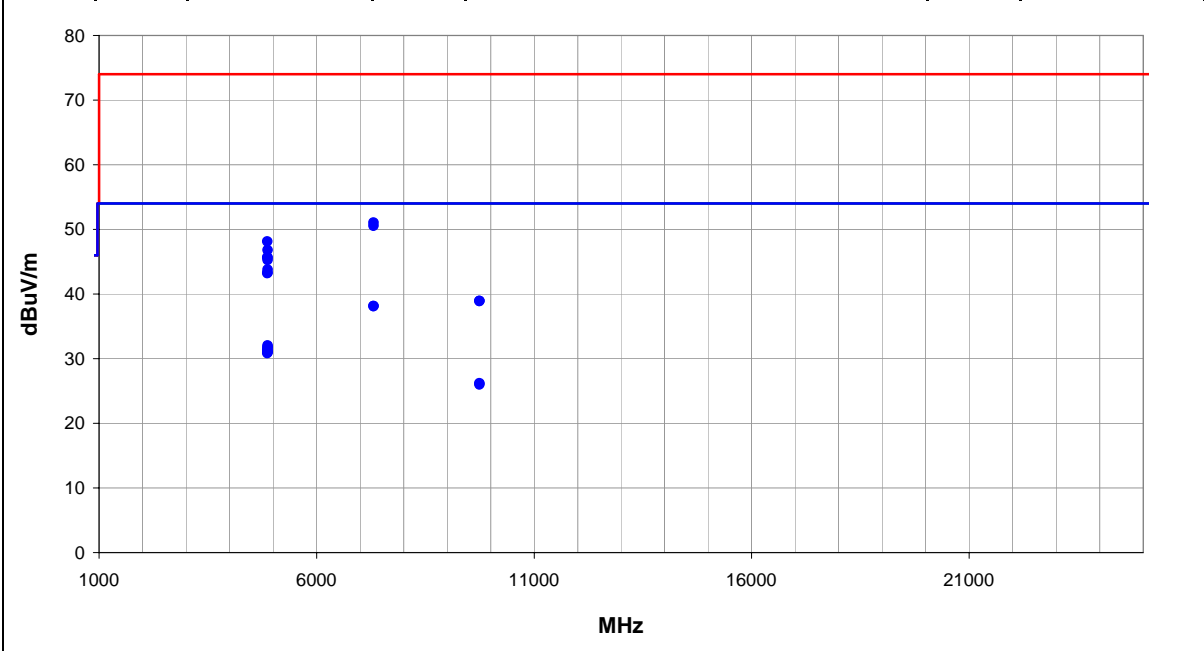
EMC

Spurious Radiated Emissions

Work Order:	LABT0415	Date:	03/09/11	<i>Trevor Bult</i> Tested by: Nick Blake
Project:	None	Temperature:	23.82°C	
Job Site:	MN05	Humidity:	20.57	
Serial Number:	R001	Barometric Pres.:	1017.5	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 6, modulated signal.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.247:2011	Test Method ANSI C63.10:2009
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Run #	1	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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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
7313.350	26.5	11.6	1.0	12.0	3.0	0.0	Vert	AV	0.0	38.1	54.0	-15.9	24 Mbps, EUT Horizontal
7312.767	26.5	11.6	1.0	205.0	3.0	0.0	Horz	AV	0.0	38.1	54.0	-15.9	24 Mbps, EUT Horizontal
4874.065	28.2	3.9	1.0	41.0	3.0	0.0	Horz	AV	0.0	32.1	54.0	-21.9	6 Mbps, EUT Horizontal
4875.717	27.9	3.9	1.2	12.0	3.0	0.0	Horz	AV	0.0	31.8	54.0	-22.2	24 Mbps, EUT Horizontal
4874.082	27.8	3.9	1.1	346.0	3.0	0.0	Vert	AV	0.0	31.7	54.0	-22.3	6 Mbps, EUT Horizontal
4872.208	27.5	3.8	1.2	304.0	3.0	0.0	Vert	AV	0.0	31.3	54.0	-22.7	24 Mbps, EUT on Side
4876.075	27.4	3.9	1.2	302.0	3.0	0.0	Vert	AV	0.0	31.3	54.0	-22.7	24 Mbps, EUT Horizontal
4874.092	27.2	3.9	1.0	346.0	3.0	0.0	Horz	AV	0.0	31.1	54.0	-22.9	24 Mbps, EUT on Side
7308.967	39.4	11.6	1.0	12.0	3.0	0.0	Vert	PK	0.0	51.0	74.0	-23.0	24 Mbps, EUT Horizontal
4875.500	27.1	3.9	1.0	238.0	3.0	0.0	Horz	AV	0.0	31.0	54.0	-23.0	24 Mbps, EUT Vertical
4872.208	27.0	3.8	1.3	351.0	3.0	0.0	Vert	AV	0.0	30.8	54.0	-23.2	24 Mbps, EUT Vertical
7312.075	38.9	11.6	1.0	205.0	3.0	0.0	Horz	PK	0.0	50.5	74.0	-23.5	24 Mbps, EUT Horizontal
4872.133	44.3	3.8	1.2	12.0	3.0	0.0	Horz	PK	0.0	48.1	74.0	-25.9	24 Mbps, EUT Horizontal
4876.344	42.9	3.9	1.0	41.0	3.0	0.0	Horz	PK	0.0	46.8	74.0	-27.2	6 Mbps, EUT Horizontal
9745.933	35.3	-9.1	1.0	59.0	3.0	0.0	Vert	AV	0.0	26.2	54.0	-27.8	24 Mbps, EUT Horizontal
9745.667	35.1	-9.1	1.0	325.0	3.0	0.0	Horz	AV	0.0	26.0	54.0	-28.0	24 Mbps, EUT Horizontal
4873.775	41.8	3.8	1.2	304.0	3.0	0.0	Vert	PK	0.0	45.6	74.0	-28.4	24 Mbps, EUT on Side
4871.917	41.8	3.8	1.2	302.0	3.0	0.0	Vert	PK	0.0	45.6	74.0	-28.4	24 Mbps, EUT Horizontal
4875.076	41.4	3.9	1.1	346.0	3.0	0.0	Vert	PK	0.0	45.3	74.0	-28.7	6 Mbps, EUT Horizontal
4873.233	39.9	3.8	1.0	346.0	3.0	0.0	Horz	PK	0.0	43.7	74.0	-30.3	24 Mbps, EUT on Side

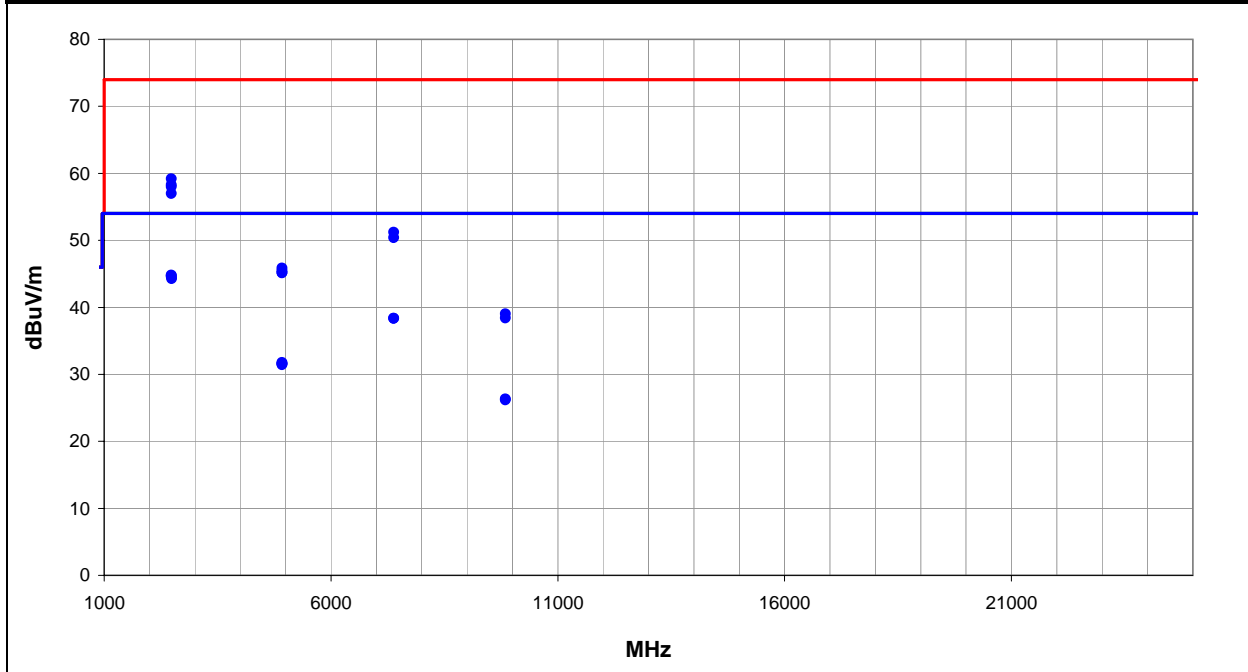
EMC

Spurious Radiated Emissions

Work Order:	LABT0415	Date:	03/09/11	<i>Trevor Bults</i>
Project:	None	Temperature:	23.82°C	
Job Site:	MN05	Humidity:	20.57	
Serial Number:	R001	Barometric Pres.:	1017.5	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 11, modulated signal.			
Deviations:	None			
Comments:	EUT Horizontal			

Test Specifications FCC 15.247:2011	Test Method ANSI C63.10:2009
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Run #	12	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.625	29.2	-4.4	1.0	353.0	3.0	20.0	Horz	AV	0.0	44.8	54.0	-9.2	24 Mbps
2483.642	29.1	-4.4	1.0	144.0	3.0	20.0	Horz	AV	0.0	44.7	54.0	-9.3	6 Mbps
2483.500	29.0	-4.4	1.0	194.0	3.0	20.0	Vert	AV	0.0	44.6	54.0	-9.4	6 Mbps
2485.858	28.7	-4.4	3.7	187.0	3.0	20.0	Vert	AV	0.0	44.3	54.0	-9.7	24 Mbps
2483.742	43.6	-4.4	1.0	353.0	3.0	20.0	Horz	PK	0.0	59.2	74.0	-14.8	24 Mbps
7383.692	26.4	12.0	2.1	34.0	3.0	0.0	Vert	AV	0.0	38.4	54.0	-15.6	24 Mbps
7383.500	26.4	12.0	1.0	83.0	3.0	0.0	Horz	AV	0.0	38.4	54.0	-15.6	24 Mbps
2483.725	42.7	-4.4	1.0	194.0	3.0	20.0	Vert	PK	0.0	58.3	74.0	-15.7	6 Mbps
2484.858	42.4	-4.4	1.0	144.0	3.0	20.0	Horz	PK	0.0	58.0	74.0	-16.0	6 Mbps
2483.842	41.4	-4.4	3.6	187.0	3.0	20.0	Vert	PK	0.0	57.0	74.0	-17.0	24 Mbps
4924.152	27.7	4.1	1.0	27.0	3.0	0.0	Horz	AV	0.0	31.8	54.0	-22.2	6 Mbps
4924.129	27.5	4.1	1.0	170.0	3.0	0.0	Vert	AV	0.0	31.6	54.0	-22.4	6 Mbps
4922.532	27.5	4.0	1.0	31.0	3.0	0.0	Horz	AV	0.0	31.5	54.0	-22.5	24 Mbps
4922.599	27.4	4.0	1.0	359.0	3.0	0.0	Vert	AV	0.0	31.4	54.0	-22.6	24 Mbps
7386.917	39.2	12.0	2.1	34.0	3.0	0.0	Vert	PK	0.0	51.2	74.0	-22.8	24 Mbps
7387.417	38.4	12.0	1.0	83.0	3.0	0.0	Horz	PK	0.0	50.4	74.0	-23.6	24 Mbps
9845.742	35.2	-8.9	1.0	89.0	3.0	0.0	Vert	AV	0.0	26.3	54.0	-27.7	24 Mbps
9845.608	35.1	-8.9	1.7	335.0	3.0	0.0	Horz	AV	0.0	26.2	54.0	-27.8	24 Mbps
4924.840	41.8	4.1	1.0	27.0	3.0	0.0	Horz	PK	0.0	45.9	74.0	-28.1	6 Mbps
4925.756	41.4	4.1	1.0	359.0	3.0	0.0	Vert	PK	0.0	45.5	74.0	-28.5	24 Mbps

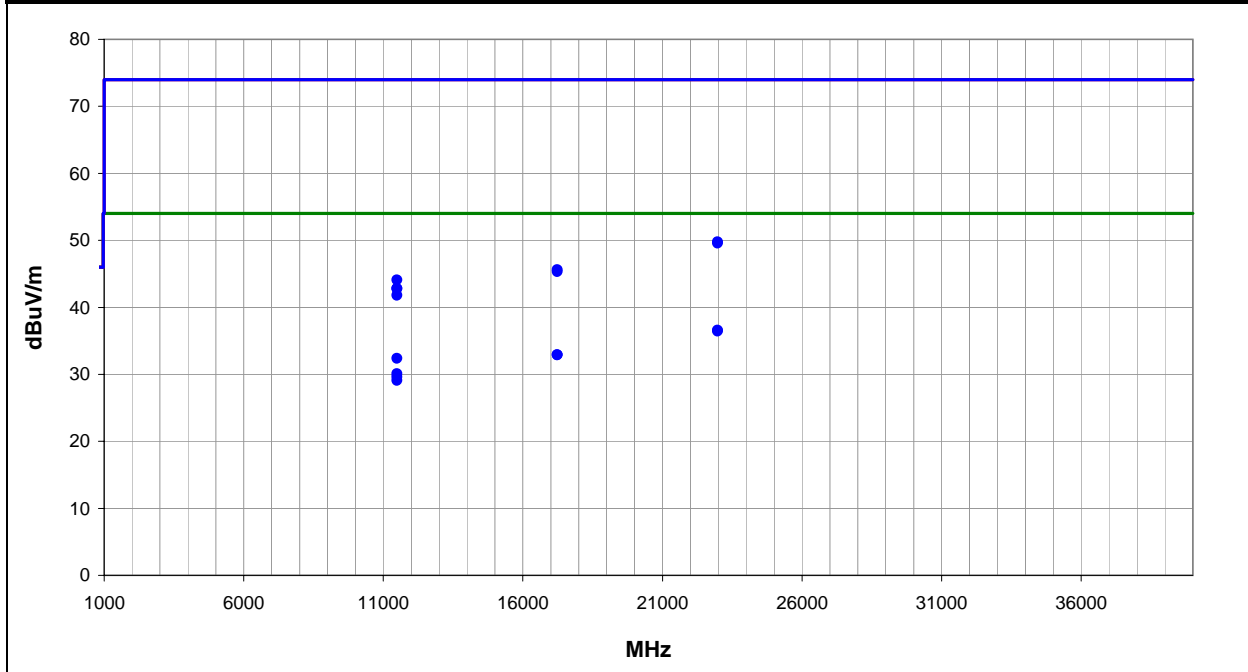
EMC

Spurious Radiated Emissions

Work Order:	LABT0415	Date:	03/25/11	<i>Trevor Buls</i>
Project:	None	Temperature:	22.95°C	
Job Site:	MN05	Humidity:	15.78	
Serial Number:	R001	Barometric Pres.:	1022.5	
EUT:	S-00112			
Configuration:	4 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting UNII, channel 149.			
Deviations:	None			
Comments:	EUT on Side			

Test Specifications FCC 15.247:2011	Test Method ANSI C63.10:2009
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Run #	23	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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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
22981.690	26.9	9.7	1.3	0.0	3.0	0.0	Vert	AV	0.0	36.6	54.0	-17.4	6 Mbps
22980.600	26.8	9.7	1.3	0.0	3.0	0.0	Horz	AV	0.0	36.5	54.0	-17.5	6 Mbps
11490.540	38.3	-5.9	1.1	71.0	3.0	0.0	Horz	AV	0.0	32.4	54.0	-21.6	6 Mbps
17237.130	42.4	3.2	1.9	18.0	3.0	0.0	Vert	PK	0.0	45.6	68.2	-22.6	6 Mbps
17234.290	42.1	3.2	1.0	91.0	3.0	0.0	Horz	PK	0.0	45.3	68.2	-22.9	6 Mbps
11490.610	36.0	-5.9	1.0	74.0	3.0	0.0	Horz	AV	0.0	30.1	54.0	-23.9	24 Mbps
22980.590	40.1	9.7	1.3	0.0	3.0	0.0	Vert	PK	0.0	49.8	74.0	-24.2	6 Mbps
11490.540	35.5	-5.9	1.0	320.0	3.0	0.0	Vert	AV	0.0	29.6	54.0	-24.4	6 Mbps
22980.330	39.9	9.7	1.3	0.0	3.0	0.0	Horz	PK	0.0	49.6	74.0	-24.4	6 Mbps
11490.480	35.0	-5.9	1.0	296.0	3.0	0.0	Vert	AV	0.0	29.1	54.0	-24.9	24 Mbps
11490.300	50.0	-5.9	1.1	71.0	3.0	0.0	Horz	PK	0.0	44.1	74.0	-29.9	6 Mbps
11490.460	48.7	-5.9	1.0	296.0	3.0	0.0	Vert	PK	0.0	42.8	74.0	-31.2	24 Mbps
11489.970	48.7	-5.9	1.0	74.0	3.0	0.0	Horz	PK	0.0	42.8	74.0	-31.2	24 Mbps
11490.890	47.7	-5.9	1.0	320.0	3.0	0.0	Vert	PK	0.0	41.8	74.0	-32.2	6 Mbps
17237.280	29.7	3.2	1.9	18.0	3.0	0.0	Vert	AV	0.0	32.9	68.2	-35.3	6 Mbps
17237.480	29.7	3.2	1.0	91.0	3.0	0.0	Horz	AV	0.0	32.9	68.2	-35.3	6 Mbps

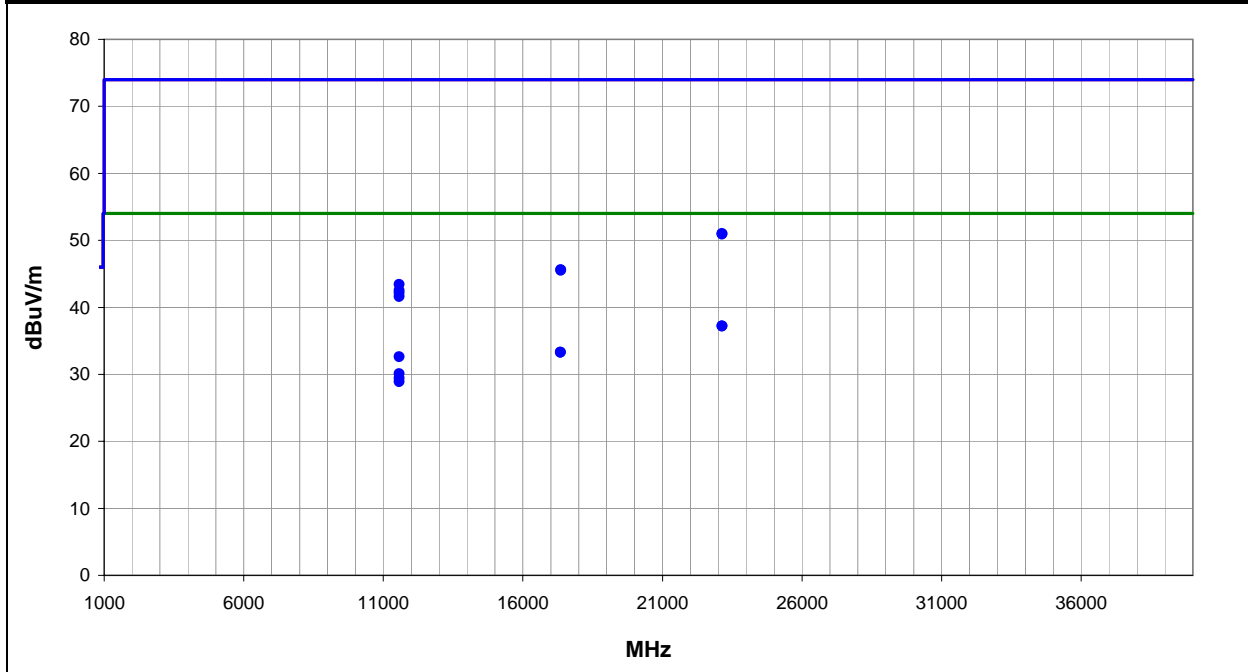
EMC

Spurious Radiated Emissions

Work Order:	LABT0415	Date:	03/25/11	<i>Trevor Buls</i>
Project:	None	Temperature:	22.95°C	
Job Site:	MN05	Humidity:	15.78	
Serial Number:	R001	Barometric Pres.:	1022.5	
Tested by:	Trevor Buls			
EUT:	S-00112			
Configuration:	4 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting UNII, channel 157.			
Deviations:	None			
Comments:	EUT on Side			

Test Specifications FCC 15.247:2011	Test Method ANSI C63.10:2009
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Run #	24	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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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
23141.060	27.4	9.8	1.0	0.0	3.0	0.0	Vert	AV	0.0	37.2	54.0	-16.8	6 Mbps
23138.930	27.4	9.8	1.3	0.0	3.0	0.0	Horz	AV	0.0	37.2	54.0	-16.8	6 Mbps
11570.550	38.5	-5.9	1.0	129.0	3.0	0.0	Horz	AV	0.0	32.6	54.0	-21.4	6 Mbps
17353.280	42.5	3.1	1.0	271.0	3.0	0.0	Vert	PK	0.0	45.6	68.2	-22.6	6 Mbps
17355.470	42.4	3.1	1.0	171.0	3.0	0.0	Horz	PK	0.0	45.5	68.2	-22.7	6 Mbps
23141.060	41.2	9.8	1.0	0.0	3.0	0.0	Vert	PK	0.0	51.0	74.0	-23.0	6 Mbps
23138.190	41.1	9.8	1.3	0.0	3.0	0.0	Horz	PK	0.0	50.9	74.0	-23.1	6 Mbps
11570.580	36.0	-5.9	1.0	68.0	3.0	0.0	Horz	AV	0.0	30.1	54.0	-23.9	24 Mbps
11570.600	35.3	-5.9	1.0	267.0	3.0	0.0	Vert	AV	0.0	29.4	54.0	-24.6	6 Mbps
11570.630	34.8	-5.9	1.0	350.0	3.0	0.0	Vert	AV	0.0	28.9	54.0	-25.1	24 Mbps
11570.620	49.3	-5.9	1.0	129.0	3.0	0.0	Horz	PK	0.0	43.4	74.0	-30.6	6 Mbps
11570.270	48.4	-5.9	1.0	68.0	3.0	0.0	Horz	PK	0.0	42.5	74.0	-31.5	24 Mbps
11570.390	48.0	-5.9	1.0	267.0	3.0	0.0	Vert	PK	0.0	42.1	74.0	-31.9	6 Mbps
11571.350	47.5	-5.9	1.0	350.0	3.0	0.0	Vert	PK	0.0	41.6	74.0	-32.4	24 Mbps
17352.530	30.2	3.1	1.0	171.0	3.0	0.0	Horz	AV	0.0	33.3	68.2	-34.9	6 Mbps
17352.500	30.2	3.1	1.0	271.0	3.0	0.0	Vert	AV	0.0	33.3	68.2	-34.9	6 Mbps

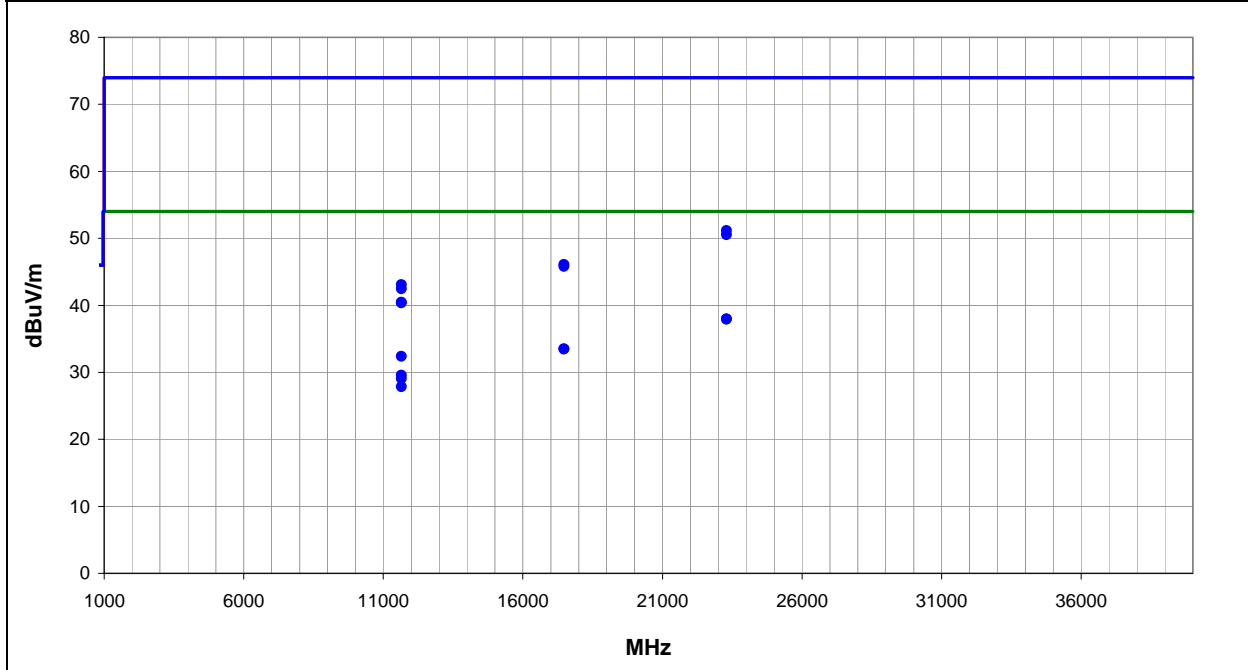
EMC

Spurious Radiated Emissions

Work Order:	LABT0415	Date:	03/25/11	<i>Trevor Buls</i>
Project:	None	Temperature:	22.95°C	
Job Site:	MN05	Humidity:	15.78	
Serial Number:	R001	Barometric Pres.:	1022.5	
EUT:	S-00112			
Configuration:	4 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting UNII, channel 165.			
Deviations:	None			
Comments:	EUT on Side			

Test Specifications FCC 15.247:2011	Test Method ANSI C63.10:2009
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Run #	25	Test Distance (m)	3	Antenna Height(s)	1-4m	Results	Pass
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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
23300.820	28.0	9.9	1.3	0.0	3.0	0.0	Vert	AV	0.0	37.9	54.0	-16.1	6 Mbps
23297.960	28.0	9.9	1.3	0.0	3.0	0.0	Horz	AV	0.0	37.9	54.0	-16.1	6 Mbps
11650.590	38.3	-5.9	1.0	128.0	3.0	0.0	Horz	AV	0.0	32.4	54.0	-21.6	6 Mbps
17475.910	43.1	3.0	1.0	56.0	3.0	0.0	Horz	PK	0.0	46.1	68.2	-22.1	6 Mbps
17475.780	42.8	3.0	1.0	286.0	3.0	0.0	Vert	PK	0.0	45.8	68.2	-22.4	6 Mbps
23301.380	41.2	9.9	1.3	0.0	3.0	0.0	Vert	PK	0.0	51.1	74.0	-22.9	6 Mbps
23299.690	40.6	9.9	1.3	0.0	3.0	0.0	Horz	PK	0.0	50.5	74.0	-23.5	6 Mbps
11650.550	35.5	-5.9	1.0	79.0	3.0	0.0	Horz	AV	0.0	29.6	54.0	-24.4	24 Mbps
11650.490	35.0	-5.9	1.2	302.0	3.0	0.0	Vert	AV	0.0	29.1	54.0	-24.9	6 Mbps
11647.820	33.8	-5.9	1.0	27.0	3.0	0.0	Vert	AV	0.0	27.9	54.0	-26.1	24 Mbps
11650.880	49.0	-5.9	1.0	128.0	3.0	0.0	Horz	PK	0.0	43.1	74.0	-30.9	6 Mbps
11650.550	48.4	-5.9	1.0	79.0	3.0	0.0	Horz	PK	0.0	42.5	74.0	-31.5	24 Mbps
11651.450	46.4	-5.9	1.2	302.0	3.0	0.0	Vert	PK	0.0	40.5	74.0	-33.5	6 Mbps
11648.940	46.3	-5.9	1.0	27.0	3.0	0.0	Vert	PK	0.0	40.4	74.0	-33.6	24 Mbps
17473.070	30.5	3.0	1.0	286.0	3.0	0.0	Vert	AV	0.0	33.5	68.2	-34.7	6 Mbps
17473.330	30.5	3.0	1.0	56.0	3.0	0.0	Horz	AV	0.0	33.5	68.2	-34.7	6 Mbps

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

MODES OF OPERATION

Transmitting Channel 165, 6 Mbps.
 Transmitting Channel 157, 6 Mbps.
 Transmitting Channel 149, 6 Mbps.
 Transmitting Channel 11, 24 Mbps.
 Transmitting Channel 6, 24 Mbps.
 Transmitting Channel 1, 24 Mbps.

POWER SETTINGS INVESTIGATED

120VAC/60Hz

CONFIGURATIONS INVESTIGATED

LABT0415 - 2

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator, 20 dB	SM Electronics	SA01B-20	REF	1/3/2011	13 mo
High Pass Filter	TTE	H97-100K-50-720B	HGN	6/28/2010	13 mo
MN03 Cables	ESM Cable Corp.	Conducted Cables	MNC	6/8/2010	13 mo
LISN	Solar	9252-50-R-24-BNC	LIO	3/12/2010	12 mo
LISN	Solar Electronics	9252-50-R-24-BNC	LIY	8/3/2010	12 mo
Receiver	Rohde & Schwarz	ESCI	ARF	3/30/2010	12 mo

MEASUREMENT BANDWIDTHS

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

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

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The EUT will be powered 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.

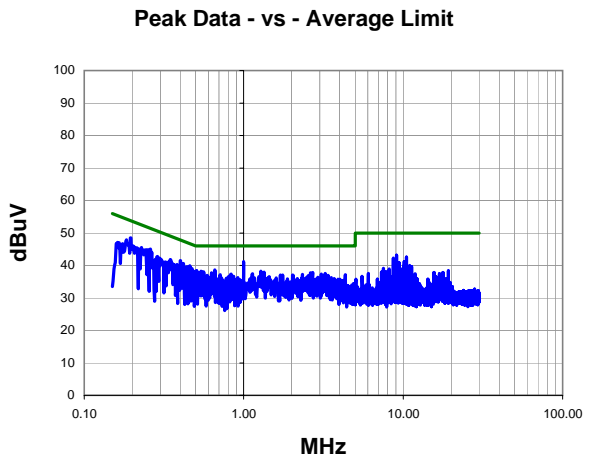
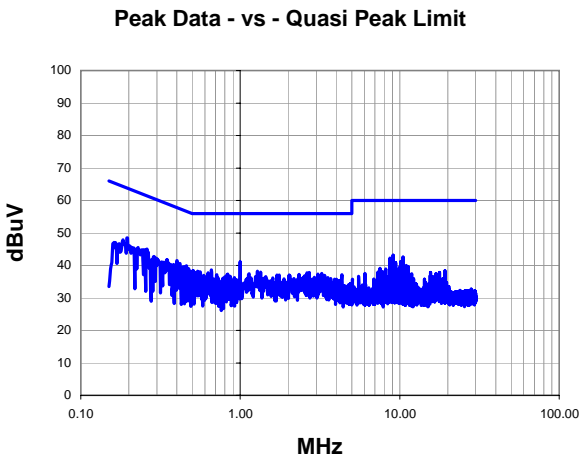
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 1, 24 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	1	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.998	21.0	20.1	41.1	56.0	-14.9
0.194	28.4	20.1	48.5	63.9	-15.4
0.400	21.4	20.1	41.5	57.9	-16.4
0.184	27.8	20.1	47.9	64.3	-16.4
0.259	24.9	20.1	45.0	61.5	-16.5
0.459	19.8	20.1	39.9	56.7	-16.8
9.080	22.7	20.5	43.2	60.0	-16.8
0.417	20.5	20.1	40.6	57.5	-16.9
0.250	24.7	20.1	44.8	61.7	-16.9
0.228	25.4	20.1	45.5	62.5	-17.0
0.349	21.7	20.1	41.8	59.0	-17.2
0.451	19.5	20.1	39.6	56.9	-17.3
0.660	18.6	20.0	38.6	56.0	-17.4
10.500	22.1	20.5	42.6	60.0	-17.4
0.475	18.9	20.1	39.0	56.4	-17.4
0.439	19.5	20.1	39.6	57.1	-17.5
0.509	18.2	20.1	38.3	56.0	-17.7
8.660	21.8	20.4	42.2	60.0	-17.8
1.280	18.1	20.1	38.2	56.0	-17.8
0.288	22.7	20.1	42.8	60.6	-17.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.998	21.0	20.1	41.1	46.0	-4.9
0.194	28.4	20.1	48.5	53.9	-5.4
0.400	21.4	20.1	41.5	47.9	-6.4
0.184	27.8	20.1	47.9	54.3	-6.4
0.259	24.9	20.1	45.0	51.5	-6.5
0.459	19.8	20.1	39.9	46.7	-6.8
9.080	22.7	20.5	43.2	50.0	-6.8
0.417	20.5	20.1	40.6	47.5	-6.9
0.250	24.7	20.1	44.8	51.7	-6.9
0.228	25.4	20.1	45.5	52.5	-7.0
0.349	21.7	20.1	41.8	49.0	-7.2
0.451	19.5	20.1	39.6	46.9	-7.3
0.660	18.6	20.0	38.6	46.0	-7.4
10.500	22.1	20.5	42.6	50.0	-7.4
0.475	18.9	20.1	39.0	46.4	-7.4
0.439	19.5	20.1	39.6	47.1	-7.5
0.509	18.2	20.1	38.3	46.0	-7.7
8.660	21.8	20.4	42.2	50.0	-7.8
1.280	18.1	20.1	38.2	46.0	-7.8
0.288	22.7	20.1	42.8	50.6	-7.8

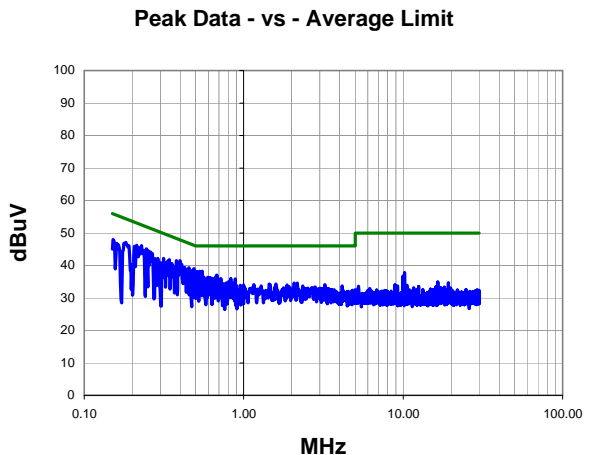
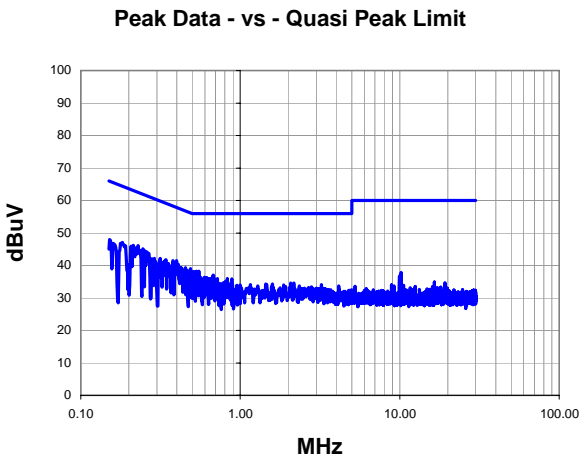
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 1, 24 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	2	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.398	21.4	20.1	41.5	57.9	-16.4
0.228	26.0	20.1	46.1	62.5	-16.4
0.245	25.0	20.1	45.1	61.9	-16.8
0.378	21.4	20.1	41.5	58.3	-16.8
0.213	26.1	20.1	46.2	63.1	-16.9
0.488	18.9	20.1	39.0	56.2	-17.2
0.254	24.3	20.1	44.4	61.6	-17.2
0.182	27.0	20.1	47.1	64.4	-17.3
0.261	24.0	20.1	44.1	61.4	-17.3
0.342	21.7	20.1	41.8	59.2	-17.4
0.388	20.6	20.1	40.7	58.1	-17.4
0.206	25.8	20.1	45.9	63.4	-17.5
0.453	19.2	20.1	39.3	56.8	-17.5
0.315	22.1	20.1	42.2	59.8	-17.6
0.337	21.4	20.1	41.5	59.3	-17.8
0.550	18.1	20.1	38.2	56.0	-17.8
0.531	18.1	20.1	38.2	56.0	-17.8
0.509	18.0	20.1	38.1	56.0	-17.9
0.152	27.9	20.1	48.0	65.9	-17.9
0.425	19.3	20.1	39.4	57.3	-17.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.398	21.4	20.1	41.5	47.9	-6.4
0.228	26.0	20.1	46.1	52.5	-6.4
0.245	25.0	20.1	45.1	51.9	-6.8
0.378	21.4	20.1	41.5	48.3	-6.8
0.213	26.1	20.1	46.2	53.1	-6.9
0.488	18.9	20.1	39.0	46.2	-7.2
0.254	24.3	20.1	44.4	51.6	-7.2
0.182	27.0	20.1	47.1	54.4	-7.3
0.261	24.0	20.1	44.1	51.4	-7.3
0.342	21.7	20.1	41.8	49.2	-7.4
0.388	20.6	20.1	40.7	48.1	-7.4
0.206	25.8	20.1	45.9	53.4	-7.5
0.453	19.2	20.1	39.3	46.8	-7.5
0.315	22.1	20.1	42.2	49.8	-7.6
0.337	21.4	20.1	41.5	49.3	-7.8
0.550	18.1	20.1	38.2	46.0	-7.8
0.531	18.1	20.1	38.2	46.0	-7.8
0.509	18.0	20.1	38.1	46.0	-7.9
0.152	27.9	20.1	48.0	55.9	-7.9
0.425	19.3	20.1	39.4	47.3	-7.9

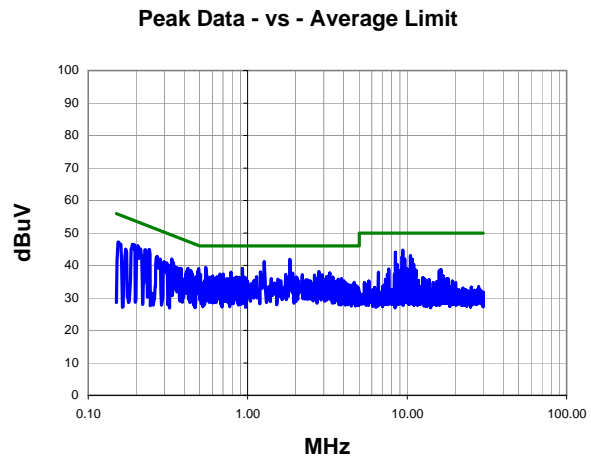
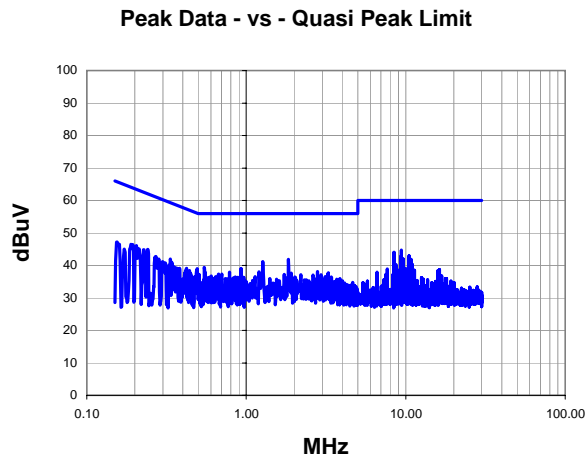
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 6, 24 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	3	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
1.840	21.7	20.2	41.9	56.0	-14.1
1.272	21.1	20.1	41.2	56.0	-14.8
9.370	24.3	20.5	44.8	60.0	-15.2
8.450	23.6	20.4	44.0	60.0	-16.0
0.546	19.3	20.1	39.4	56.0	-16.6
10.500	22.5	20.5	43.0	60.0	-17.0
0.927	18.9	20.1	39.0	56.0	-17.0
0.492	18.9	20.1	39.0	56.1	-17.1
0.240	24.8	20.1	44.9	62.1	-17.2
9.310	22.2	20.5	42.7	60.0	-17.3
0.204	26.0	20.1	46.1	63.4	-17.3
0.334	21.9	20.1	42.0	59.4	-17.4
0.189	26.4	20.1	46.5	64.1	-17.6
0.227	24.7	20.1	44.8	62.6	-17.8
2.792	17.9	20.2	38.1	56.0	-17.9
1.200	17.9	20.1	38.0	56.0	-18.0
9.660	21.5	20.5	42.0	60.0	-18.0
0.784	17.9	20.1	38.0	56.0	-18.0
10.790	21.4	20.5	41.9	60.0	-18.1
9.520	21.4	20.5	41.9	60.0	-18.1

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
1.840	21.7	20.2	41.9	46.0	-4.1
1.272	21.1	20.1	41.2	46.0	-4.8
9.370	24.3	20.5	44.8	50.0	-5.2
8.450	23.6	20.4	44.0	50.0	-6.0
0.546	19.3	20.1	39.4	46.0	-6.6
10.500	22.5	20.5	43.0	50.0	-7.0
0.927	18.9	20.1	39.0	46.0	-7.0
0.492	18.9	20.1	39.0	46.1	-7.1
0.240	24.8	20.1	44.9	52.1	-7.2
9.310	22.2	20.5	42.7	50.0	-7.3
0.204	26.0	20.1	46.1	53.4	-7.3
0.334	21.9	20.1	42.0	49.4	-7.4
0.189	26.4	20.1	46.5	54.1	-7.6
0.227	24.7	20.1	44.8	52.6	-7.8
2.792	17.9	20.2	38.1	46.0	-7.9
1.200	17.9	20.1	38.0	46.0	-8.0
9.660	21.5	20.5	42.0	50.0	-8.0
0.784	17.9	20.1	38.0	46.0	-8.0
10.790	21.4	20.5	41.9	50.0	-8.1
9.520	21.4	20.5	41.9	50.0	-8.1

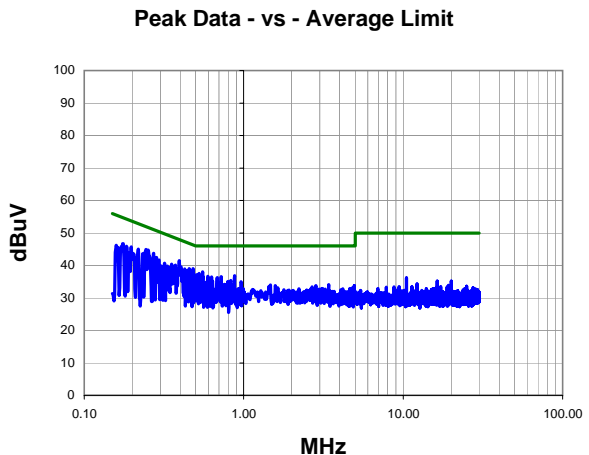
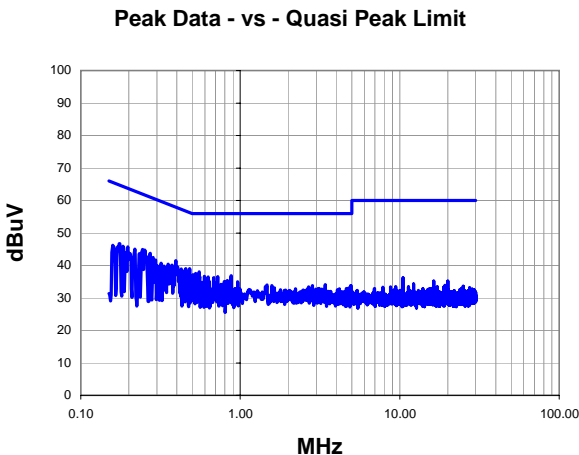
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 6, 24 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	4	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.395	21.4	20.1	41.5	58.0	-16.5
0.252	24.6	20.1	44.7	61.7	-17.0
0.243	24.8	20.1	44.9	62.0	-17.1
0.482	18.9	20.1	39.0	56.3	-17.3
0.272	23.6	20.1	43.7	61.0	-17.3
0.456	18.9	20.1	39.0	56.8	-17.8
0.218	24.9	20.1	45.0	62.9	-17.9
0.553	17.9	20.1	38.0	56.0	-18.0
0.198	25.6	20.1	45.7	63.7	-18.0
0.174	26.6	20.1	46.7	64.8	-18.1
0.284	22.4	20.1	42.5	60.7	-18.2
0.373	20.0	20.1	40.1	58.4	-18.3
0.184	25.8	20.1	45.9	64.3	-18.4
0.427	18.8	20.1	38.9	57.3	-18.4
0.470	18.0	20.1	38.1	56.5	-18.4
0.526	17.4	20.1	37.5	56.0	-18.5
0.352	20.3	20.1	40.4	58.9	-18.5
0.295	21.6	20.1	41.7	60.4	-18.7
0.233	23.5	20.1	43.6	62.3	-18.7
0.444	18.1	20.1	38.2	57.0	-18.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.395	21.4	20.1	41.5	48.0	-6.5
0.252	24.6	20.1	44.7	51.7	-7.0
0.243	24.8	20.1	44.9	52.0	-7.1
0.482	18.9	20.1	39.0	46.3	-7.3
0.272	23.6	20.1	43.7	51.0	-7.3
0.456	18.9	20.1	39.0	46.8	-7.8
0.218	24.9	20.1	45.0	52.9	-7.9
0.553	17.9	20.1	38.0	46.0	-8.0
0.198	25.6	20.1	45.7	53.7	-8.0
0.174	26.6	20.1	46.7	54.8	-8.1
0.284	22.4	20.1	42.5	50.7	-8.2
0.373	20.0	20.1	40.1	48.4	-8.3
0.184	25.8	20.1	45.9	54.3	-8.4
0.427	18.8	20.1	38.9	47.3	-8.4
0.470	18.0	20.1	38.1	46.5	-8.4
0.526	17.4	20.1	37.5	46.0	-8.5
0.352	20.3	20.1	40.4	48.9	-8.5
0.295	21.6	20.1	41.7	50.4	-8.7
0.233	23.5	20.1	43.6	52.3	-8.7
0.444	18.1	20.1	38.2	47.0	-8.8

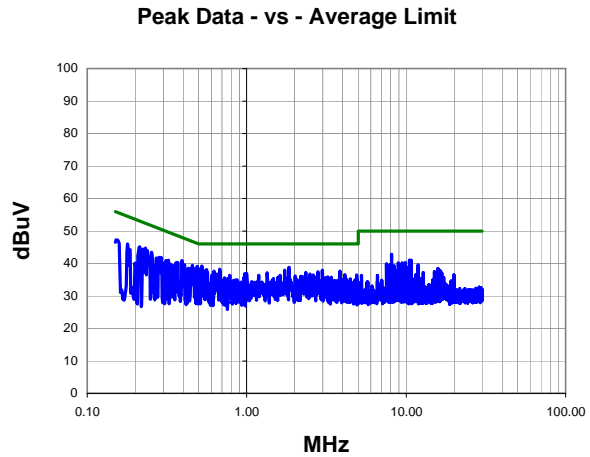
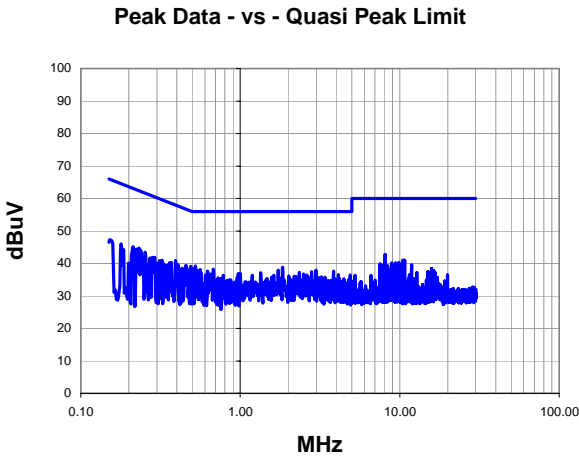
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 11, 24 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	5	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.524	19.1	20.1	39.2	56.0	-16.8
0.490	19.0	20.1	39.1	56.2	-17.1
0.393	20.8	20.1	40.9	58.0	-17.1
1.848	18.6	20.2	38.8	56.0	-17.2
8.100	22.3	20.4	42.7	60.0	-17.3
0.458	19.3	20.1	39.4	56.7	-17.3
0.232	24.6	20.1	44.7	62.4	-17.7
0.509	18.2	20.1	38.3	56.0	-17.7
0.679	18.2	20.0	38.2	56.0	-17.8
0.561	18.0	20.1	38.1	56.0	-17.9
0.213	25.0	20.1	45.1	63.1	-18.0
1.728	17.8	20.2	38.0	56.0	-18.0
0.534	17.8	20.1	37.9	56.0	-18.1
2.984	17.7	20.2	37.9	56.0	-18.1
0.407	19.5	20.1	39.6	57.7	-18.1
0.369	20.2	20.1	40.3	58.5	-18.2
0.254	23.3	20.1	43.4	61.6	-18.2
0.225	24.3	20.1	44.4	62.6	-18.2
0.238	23.8	20.1	43.9	62.2	-18.3
0.624	17.6	20.1	37.7	56.0	-18.3

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.524	19.1	20.1	39.2	46.0	-6.8
0.490	19.0	20.1	39.1	46.2	-7.1
0.393	20.8	20.1	40.9	48.0	-7.1
1.848	18.6	20.2	38.8	46.0	-7.2
8.100	22.3	20.4	42.7	50.0	-7.3
0.458	19.3	20.1	39.4	46.7	-7.3
0.232	24.6	20.1	44.7	52.4	-7.7
0.509	18.2	20.1	38.3	46.0	-7.7
0.679	18.2	20.0	38.2	46.0	-7.8
0.561	18.0	20.1	38.1	46.0	-7.9
0.213	25.0	20.1	45.1	53.1	-8.0
1.728	17.8	20.2	38.0	46.0	-8.0
0.534	17.8	20.1	37.9	46.0	-8.1
2.984	17.7	20.2	37.9	46.0	-8.1
0.407	19.5	20.1	39.6	47.7	-8.1
0.369	20.2	20.1	40.3	48.5	-8.2
0.254	23.3	20.1	43.4	51.6	-8.2
0.225	24.3	20.1	44.4	52.6	-8.2
0.238	23.8	20.1	43.9	52.2	-8.3
0.624	17.6	20.1	37.7	46.0	-8.3

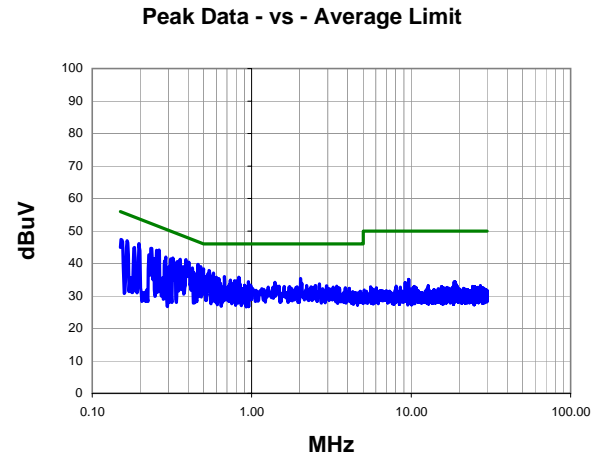
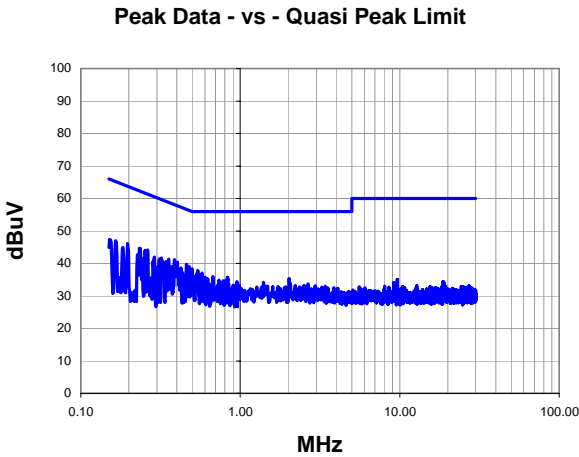
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 11, 24 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	6	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.388	21.1	20.1	41.2	58.1	-16.9
0.459	19.6	20.1	39.7	56.7	-17.0
0.262	24.0	20.1	44.1	61.4	-17.3
0.478	18.9	20.1	39.0	56.4	-17.4
0.403	20.3	20.1	40.4	57.8	-17.4
0.356	21.2	20.1	41.3	58.8	-17.5
0.254	23.9	20.1	44.0	61.6	-17.6
0.196	26.0	20.1	46.1	63.8	-17.7
0.499	18.2	20.1	38.3	56.0	-17.7
0.233	24.5	20.1	44.6	62.3	-17.7
0.320	21.6	20.1	41.7	59.7	-18.0
0.541	17.7	20.1	37.8	56.0	-18.2
0.165	26.9	20.1	47.0	65.2	-18.2
0.487	17.7	20.1	37.8	56.2	-18.4
0.152	27.3	20.1	47.4	65.9	-18.5
0.289	21.9	20.1	42.0	60.5	-18.5
0.342	20.5	20.1	40.6	59.2	-18.6
0.310	21.3	20.1	41.4	60.0	-18.6
0.425	18.5	20.1	38.6	57.3	-18.7
0.575	16.9	20.1	37.0	56.0	-19.0

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.388	21.1	20.1	41.2	48.1	-6.9
0.459	19.6	20.1	39.7	46.7	-7.0
0.262	24.0	20.1	44.1	51.4	-7.3
0.478	18.9	20.1	39.0	46.4	-7.4
0.403	20.3	20.1	40.4	47.8	-7.4
0.356	21.2	20.1	41.3	48.8	-7.5
0.254	23.9	20.1	44.0	51.6	-7.6
0.196	26.0	20.1	46.1	53.8	-7.7
0.499	18.2	20.1	38.3	46.0	-7.7
0.233	24.5	20.1	44.6	52.3	-7.7
0.320	21.6	20.1	41.7	49.7	-8.0
0.541	17.7	20.1	37.8	46.0	-8.2
0.165	26.9	20.1	47.0	55.2	-8.2
0.487	17.7	20.1	37.8	46.2	-8.4
0.152	27.3	20.1	47.4	55.9	-8.5
0.289	21.9	20.1	42.0	50.5	-8.5
0.342	20.5	20.1	40.6	49.2	-8.6
0.310	21.3	20.1	41.4	50.0	-8.6
0.425	18.5	20.1	38.6	47.3	-8.7
0.575	16.9	20.1	37.0	46.0	-9.0

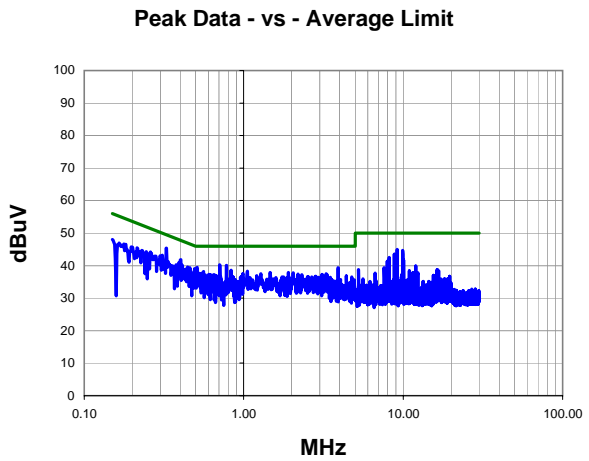
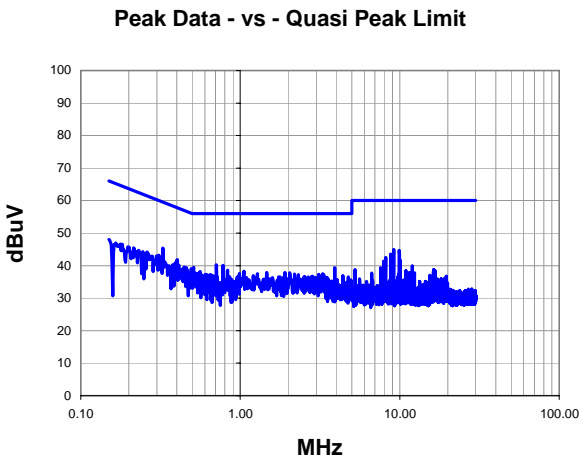
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 149, 6 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	17	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit						Peak Data - vs - Average Limit					
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)	Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.327	25.3	20.1	45.4	59.5	-14.1	0.327	25.3	20.1	45.4	49.5	-4.1
9.160	24.5	20.5	45.0	60.0	-15.0	9.160	24.5	20.5	45.0	50.0	-5.0
9.940	24.2	20.5	44.7	60.0	-15.3	9.940	24.2	20.5	44.7	50.0	-5.3
0.708	20.2	20.0	40.2	56.0	-15.8	0.708	20.2	20.0	40.2	46.0	-5.8
0.781	20.0	20.1	40.1	56.0	-15.9	0.781	20.0	20.1	40.1	46.0	-5.9
0.403	21.7	20.1	41.8	57.8	-16.0	0.403	21.7	20.1	41.8	47.8	-6.0
8.810	23.1	20.5	43.6	60.0	-16.4	8.810	23.1	20.5	43.6	50.0	-6.4
0.510	19.4	20.1	39.5	56.0	-16.5	0.510	19.4	20.1	39.5	46.0	-6.5
3.904	19.2	20.2	39.4	56.0	-16.6	3.904	19.2	20.2	39.4	46.0	-6.6
0.308	23.1	20.1	43.2	60.0	-16.8	0.308	23.1	20.1	43.2	50.0	-6.8
0.493	19.0	20.1	39.1	56.1	-17.0	0.493	19.0	20.1	39.1	46.1	-7.0
0.261	24.1	20.1	44.2	61.4	-17.2	0.261	24.1	20.1	44.2	51.4	-7.2
0.391	20.7	20.1	40.8	58.0	-17.2	0.391	20.7	20.1	40.8	48.0	-7.2
0.300	22.9	20.1	43.0	60.3	-17.3	0.300	22.9	20.1	43.0	50.3	-7.3
0.459	19.3	20.1	39.4	56.7	-17.3	0.459	19.3	20.1	39.4	46.7	-7.3
0.444	19.5	20.1	39.6	57.0	-17.4	0.444	19.5	20.1	39.6	47.0	-7.4
0.412	20.1	20.1	40.2	57.6	-17.4	0.412	20.1	20.1	40.2	47.6	-7.4
0.833	18.5	20.1	38.6	56.0	-17.4	0.833	18.5	20.1	38.6	46.0	-7.4
8.160	22.1	20.4	42.5	60.0	-17.5	8.160	22.1	20.4	42.5	50.0	-7.5
0.215	25.4	20.1	45.5	63.0	-17.5	0.215	25.4	20.1	45.5	53.0	-7.5

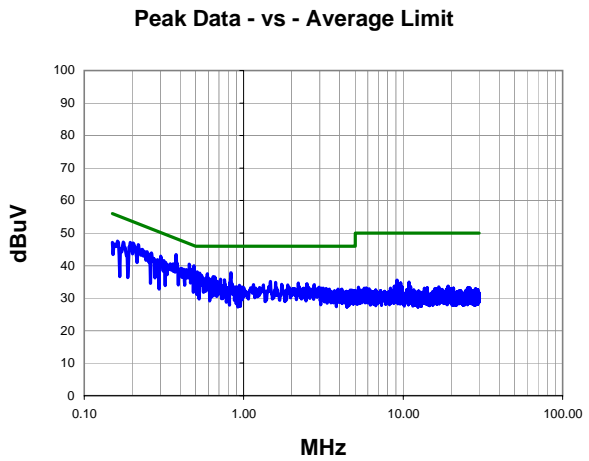
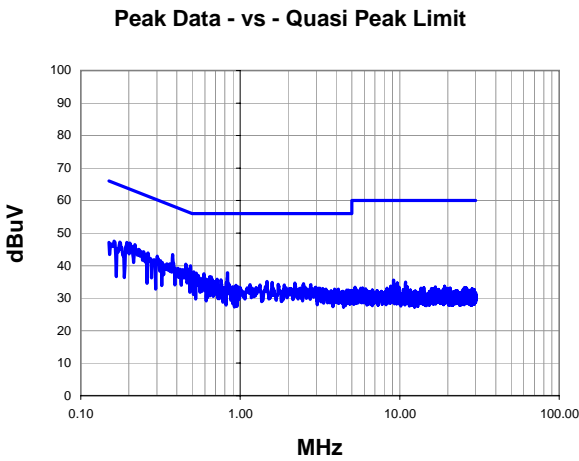
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 149, 6 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	20	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.376	23.3	20.1	43.4	58.4	-15.0
0.488	19.9	20.1	40.0	56.2	-16.2
0.456	20.4	20.1	40.5	56.8	-16.3
0.218	26.4	20.1	46.5	62.9	-16.4
0.203	26.8	20.1	46.9	63.5	-16.6
0.194	27.0	20.1	47.1	63.9	-16.8
0.301	22.8	20.1	42.9	60.2	-17.3
0.264	23.8	20.1	43.9	61.3	-17.4
0.176	27.1	20.1	47.2	64.7	-17.5
0.475	18.8	20.1	38.9	56.4	-17.5
0.162	27.4	20.1	47.5	65.4	-17.9
0.512	18.0	20.1	38.1	56.0	-18.2
0.833	17.7	20.1	37.8	56.0	-18.2
0.529	17.6	20.1	37.7	56.0	-18.3
0.317	21.4	20.1	41.5	59.8	-18.3
0.592	17.4	20.1	37.5	56.0	-18.5
0.407	19.1	20.1	39.2	57.7	-18.5
0.325	20.8	20.1	40.9	59.6	-18.7
0.288	21.7	20.1	41.8	60.6	-18.8
0.150	27.0	20.1	47.1	66.0	-18.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.376	23.3	20.1	43.4	48.4	-5.0
0.488	19.9	20.1	40.0	46.2	-6.2
0.456	20.4	20.1	40.5	46.8	-6.3
0.218	26.4	20.1	46.5	52.9	-6.4
0.203	26.8	20.1	46.9	53.5	-6.6
0.194	27.0	20.1	47.1	53.9	-6.8
0.301	22.8	20.1	42.9	50.2	-7.3
0.264	23.8	20.1	43.9	51.3	-7.4
0.176	27.1	20.1	47.2	54.7	-7.5
0.475	18.8	20.1	38.9	46.4	-7.5
0.162	27.4	20.1	47.5	55.4	-7.9
0.512	18.0	20.1	38.1	46.0	-7.9
0.833	17.7	20.1	37.8	46.0	-8.2
0.529	17.6	20.1	37.7	46.0	-8.3
0.317	21.4	20.1	41.5	49.8	-8.3
0.592	17.4	20.1	37.5	46.0	-8.5
0.407	19.1	20.1	39.2	47.7	-8.5
0.325	20.8	20.1	40.9	49.6	-8.7
0.288	21.7	20.1	41.8	50.6	-8.8
0.150	27.0	20.1	47.1	56.0	-8.9

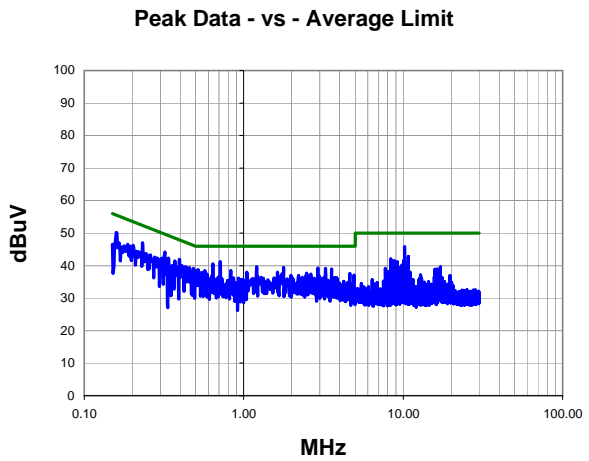
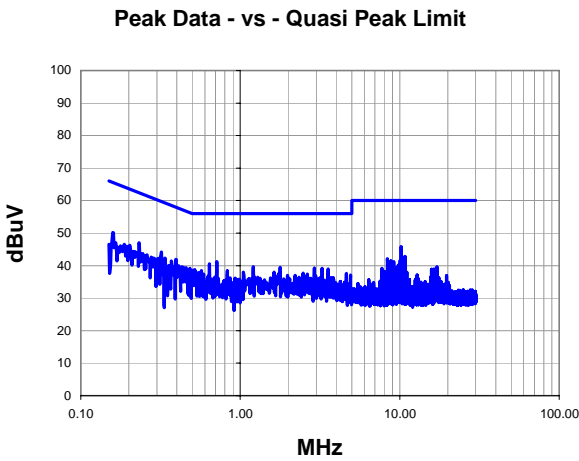
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 157, 6 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	21	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
10.210	25.4	20.5	45.9	60.0	-14.1
0.713	21.2	20.0	41.2	56.0	-14.8
0.159	30.1	20.1	50.2	65.5	-15.3
0.232	26.9	20.1	47.0	62.4	-15.4
0.640	20.5	20.0	40.5	56.0	-15.5
0.320	24.1	20.1	44.2	59.7	-15.5
0.395	21.8	20.1	41.9	58.0	-16.1
1.208	19.5	20.1	39.6	56.0	-16.4
1.776	19.3	20.2	39.5	56.0	-16.5
2.912	19.1	20.2	39.3	56.0	-16.7
3.256	19.0	20.2	39.2	56.0	-16.8
0.337	22.2	20.1	42.3	59.3	-17.0
3.552	18.8	20.2	39.0	56.0	-17.0
0.483	19.1	20.1	39.2	56.3	-17.1
0.369	21.3	20.1	41.4	58.5	-17.1
0.517	18.7	20.1	38.8	56.0	-17.2
0.203	26.2	20.1	46.3	63.5	-17.2
10.790	22.3	20.5	42.8	60.0	-17.2
0.458	19.3	20.1	39.4	56.7	-17.3
0.507	18.5	20.1	38.6	56.0	-17.4

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
10.210	25.4	20.5	45.9	50.0	-4.1
0.713	21.2	20.0	41.2	46.0	-4.8
0.159	30.1	20.1	50.2	55.5	-5.3
0.232	26.9	20.1	47.0	52.4	-5.4
0.640	20.5	20.0	40.5	46.0	-5.5
0.320	24.1	20.1	44.2	49.7	-5.5
0.395	21.8	20.1	41.9	48.0	-6.1
1.208	19.5	20.1	39.6	46.0	-6.4
1.776	19.3	20.2	39.5	46.0	-6.5
2.912	19.1	20.2	39.3	46.0	-6.7
3.256	19.0	20.2	39.2	46.0	-6.8
0.337	22.2	20.1	42.3	49.3	-7.0
3.552	18.8	20.2	39.0	46.0	-7.0
0.483	19.1	20.1	39.2	46.3	-7.1
0.369	21.3	20.1	41.4	48.5	-7.1
0.517	18.7	20.1	38.8	46.0	-7.2
0.203	26.2	20.1	46.3	53.5	-7.2
10.790	22.3	20.5	42.8	50.0	-7.2
0.458	19.3	20.1	39.4	46.7	-7.3
0.507	18.5	20.1	38.6	46.0	-7.4

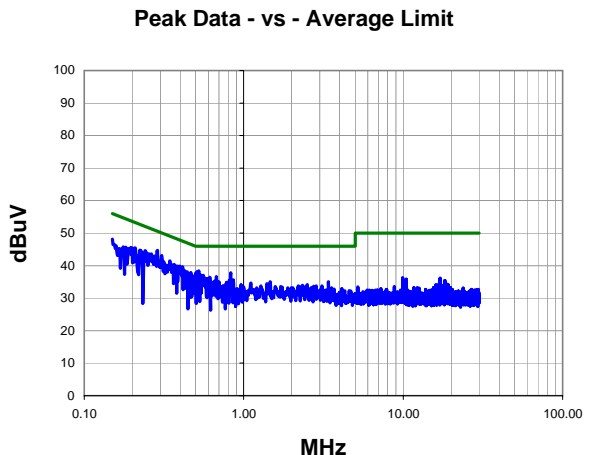
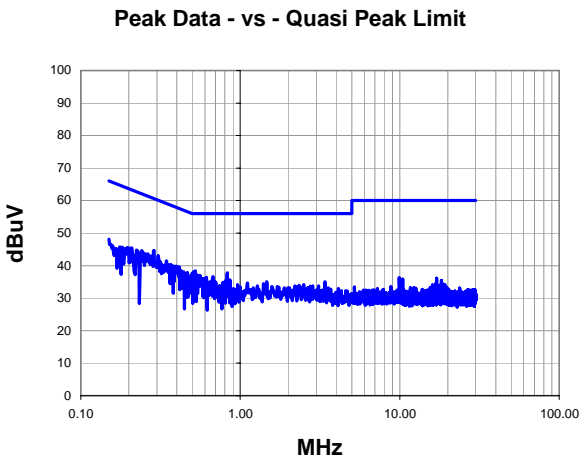
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 157, 6 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	22	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.288	24.6	20.1	44.7	60.6	-15.9
0.306	23.0	20.1	43.1	60.1	-17.0
0.240	24.5	20.1	44.6	62.1	-17.5
0.522	18.3	20.1	38.4	56.0	-17.6
0.344	21.3	20.1	41.4	59.1	-17.7
0.208	25.4	20.1	45.5	63.3	-17.8
0.512	18.1	20.1	38.2	56.0	-17.8
0.414	19.6	20.1	39.7	57.6	-17.9
0.150	28.0	20.1	48.1	66.0	-17.9
0.223	24.7	20.1	44.8	62.7	-17.9
0.255	23.5	20.1	43.6	61.6	-18.0
0.397	19.8	20.1	39.9	57.9	-18.0
0.366	20.3	20.1	40.4	58.6	-18.2
0.828	17.7	20.1	37.8	56.0	-18.2
0.383	19.8	20.1	39.9	58.2	-18.3
0.499	17.6	20.1	37.7	56.0	-18.3
0.194	25.4	20.1	45.5	63.9	-18.4
0.182	25.6	20.1	45.7	64.4	-18.7
0.466	17.8	20.1	37.9	56.6	-18.7
0.424	18.5	20.1	38.6	57.4	-18.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.288	24.6	20.1	44.7	50.6	-5.9
0.306	23.0	20.1	43.1	50.1	-7.0
0.240	24.5	20.1	44.6	52.1	-7.5
0.522	18.3	20.1	38.4	46.0	-7.6
0.344	21.3	20.1	41.4	49.1	-7.7
0.208	25.4	20.1	45.5	53.3	-7.8
0.512	18.1	20.1	38.2	46.0	-7.8
0.414	19.6	20.1	39.7	47.6	-7.9
0.150	28.0	20.1	48.1	56.0	-7.9
0.223	24.7	20.1	44.8	52.7	-7.9
0.255	23.5	20.1	43.6	51.6	-8.0
0.397	19.8	20.1	39.9	47.9	-8.0
0.366	20.3	20.1	40.4	48.6	-8.2
0.828	17.7	20.1	37.8	46.0	-8.2
0.383	19.8	20.1	39.9	48.2	-8.3
0.499	17.6	20.1	37.7	46.0	-8.3
0.194	25.4	20.1	45.5	53.9	-8.4
0.182	25.6	20.1	45.7	54.4	-8.7
0.466	17.8	20.1	37.9	46.6	-8.7
0.424	18.5	20.1	38.6	47.4	-8.8

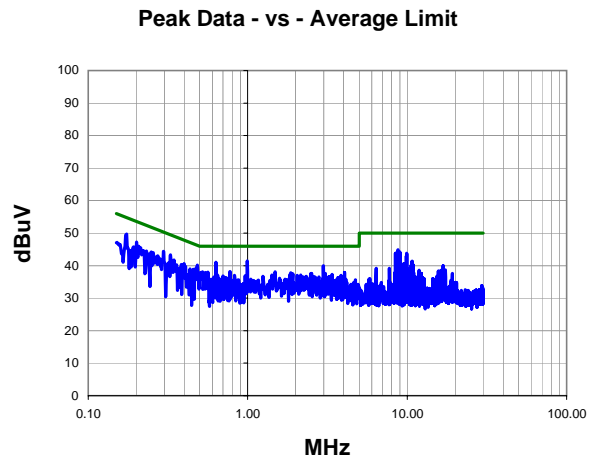
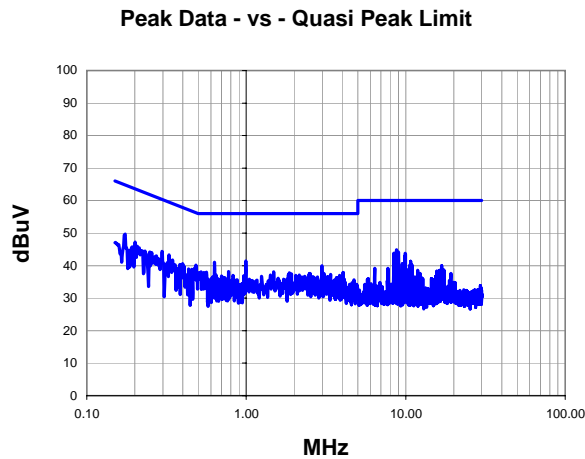
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 165, 6 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	23	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.993	21.3	20.1	41.4	56.0	-14.6
0.633	21.0	20.0	41.0	56.0	-15.0
0.174	29.6	20.1	49.7	64.8	-15.1
8.740	24.4	20.4	44.8	60.0	-15.2
9.020	23.7	20.5	44.2	60.0	-15.8
0.296	24.3	20.1	44.4	60.3	-15.9
2.984	19.8	20.2	40.0	56.0	-16.0
0.483	20.1	20.1	40.2	56.3	-16.1
8.450	23.4	20.4	43.8	60.0	-16.2
0.329	23.2	20.1	43.3	59.5	-16.2
9.940	23.3	20.5	43.8	60.0	-16.2
0.201	27.1	20.1	47.2	63.6	-16.4
9.870	22.4	20.5	42.9	60.0	-17.1
0.475	19.2	20.1	39.3	56.4	-17.1
8.800	22.3	20.5	42.8	60.0	-17.2
0.400	20.5	20.1	40.6	57.9	-17.3
0.208	25.9	20.1	46.0	63.3	-17.3
0.346	21.6	20.1	41.7	59.1	-17.4
0.255	23.9	20.1	44.0	61.6	-17.6
0.249	24.1	20.1	44.2	61.8	-17.6

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.993	21.3	20.1	41.4	46.0	-4.6
0.633	21.0	20.0	41.0	46.0	-5.0
0.174	29.6	20.1	49.7	54.8	-5.1
8.740	24.4	20.4	44.8	50.0	-5.2
9.020	23.7	20.5	44.2	50.0	-5.8
0.296	24.3	20.1	44.4	50.3	-5.9
2.984	19.8	20.2	40.0	46.0	-6.0
0.483	20.1	20.1	40.2	46.3	-6.1
8.450	23.4	20.4	43.8	50.0	-6.2
0.329	23.2	20.1	43.3	49.5	-6.2
9.940	23.3	20.5	43.8	50.0	-6.2
0.201	27.1	20.1	47.2	53.6	-6.4
9.870	22.4	20.5	42.9	50.0	-7.1
0.475	19.2	20.1	39.3	46.4	-7.1
8.800	22.3	20.5	42.8	50.0	-7.2
0.400	20.5	20.1	40.6	47.9	-7.3
0.208	25.9	20.1	46.0	53.3	-7.3
0.346	21.6	20.1	41.7	49.1	-7.4
0.255	23.9	20.1	44.0	51.6	-7.6
0.249	24.1	20.1	44.2	51.8	-7.6

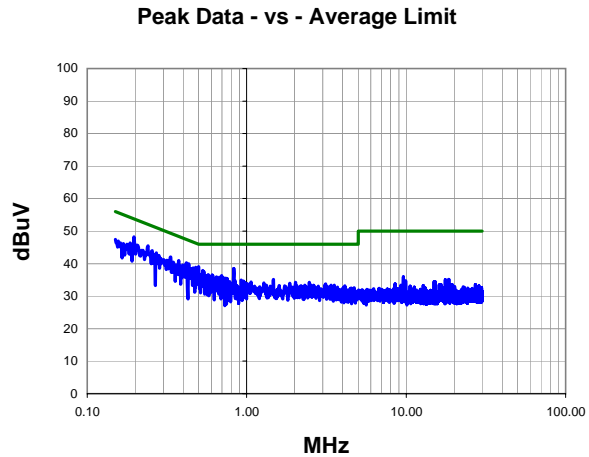
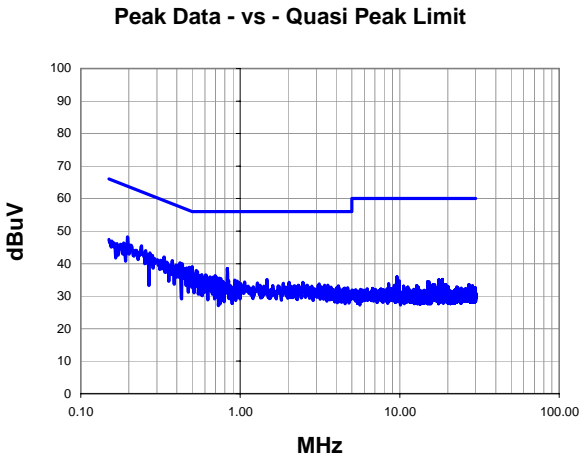
EMC

AC Powerline Conducted Emissions

Work Order:	LABT0415	Date:	03/08/11	<i>Trevor Buls</i> Tested by: Trevor Buls
Project:	None	Temperature:	23.18°C	
Job Site:	MN03	Humidity:	16.58	
Serial Number:	R001	Barometric Pres.:	1025.2	
EUT:	S-00112			
Configuration:	2 - LABT0415			
Customer:	Logitech, Inc.			
Attendees:	None			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting Channel 165, 6 Mbps.			
Deviations:	None			
Comments:	None			

Test Specifications FCC 15.207:2011	Test Method ANSI C63.10:2009
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Run #	24	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.196	28.1	20.1	48.2	63.8	-15.6
0.240	25.4	20.1	45.5	62.1	-16.6
0.499	19.0	20.1	39.1	56.0	-16.9
0.419	20.2	20.1	40.3	57.5	-17.2
0.432	19.9	20.1	40.0	57.2	-17.2
0.332	21.9	20.1	42.0	59.4	-17.4
0.480	18.8	20.1	38.9	56.3	-17.4
0.374	20.8	20.1	40.9	58.4	-17.5
0.830	18.4	20.1	38.5	56.0	-17.5
0.255	23.9	20.1	44.0	61.6	-17.6
0.271	23.2	20.1	43.3	61.1	-17.8
0.186	26.3	20.1	46.4	64.2	-17.8
0.461	18.6	20.1	38.7	56.7	-18.0
0.529	17.8	20.1	37.9	56.0	-18.1
0.397	19.5	20.1	39.6	57.9	-18.3
0.538	17.5	20.1	37.6	56.0	-18.4
0.347	20.4	20.1	40.5	59.0	-18.5
0.150	27.3	20.1	47.4	66.0	-18.6
0.177	25.9	20.1	46.0	64.6	-18.6
0.169	26.1	20.1	46.2	65.0	-18.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.196	28.1	20.1	48.2	53.8	-5.6
0.240	25.4	20.1	45.5	52.1	-6.6
0.499	19.0	20.1	39.1	46.0	-6.9
0.419	20.2	20.1	40.3	47.5	-7.2
0.432	19.9	20.1	40.0	47.2	-7.2
0.332	21.9	20.1	42.0	49.4	-7.4
0.480	18.8	20.1	38.9	46.3	-7.4
0.374	20.8	20.1	40.9	48.4	-7.5
0.830	18.4	20.1	38.5	46.0	-7.5
0.255	23.9	20.1	44.0	51.6	-7.6
0.271	23.2	20.1	43.3	51.1	-7.8
0.186	26.3	20.1	46.4	54.2	-7.8
0.461	18.6	20.1	38.7	46.7	-8.0
0.529	17.8	20.1	37.9	46.0	-8.1
0.397	19.5	20.1	39.6	47.9	-8.3
0.538	17.5	20.1	37.6	46.0	-8.4
0.347	20.4	20.1	40.5	49.0	-8.5
0.150	27.3	20.1	47.4	56.0	-8.6
0.177	25.9	20.1	46.0	54.6	-8.6
0.169	26.1	20.1	46.2	55.0	-8.8