

Summit Semiconductor

Ice Axe - Slave Module

Model: 444-2213

Report No. FOCU0115.1

Report Prepared By



www.nwemc.com

1-888-EMI-CERT

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EMC Test Report



22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test
Last Date of Test: September 20, 2011
Summit Semiconductor
Model: Ice Axe - Slave Module

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Emission Bandwidth	FCC 15.407:2011	ANSI C63.10:2009	Pass
Peak Transmit Power	FCC 15.407:2011	ANSI C63.10:2009	Pass
Peak Power Spectral Density	FCC 15.407:2011	ANSI C63.10:2009	Pass
Peak Excursion	FCC 15.407:2011	ANSI C63.10:2009	Pass
Unwanted Emissions	FCC 15.407:2011	ANSI C63.10:2009	Pass
Unwanted Emissions	FCC 15.209:2011	ANSI C63.10:2009	Pass
Frequency Stability	FCC 15.407:2011	ANSI C63.10:2009	Pass
Transmissions Burst Duration	FCC 15.407:2011	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.
22975 NW Evergreen Parkway, Suite 400
Hillsboro, OR 97124

Phone: (503) 844-4066 Fax: 844-3826

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

Approved By:

Don Fecteau, IS Manager



NVLAP Lab Code: 200630-0

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

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

Revision Number	Description	Date	Page Number
00	None		

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.



Accreditations and Authorizations

FCC

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

NVLAP

Northwest EMC, Inc. is accredited under the 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-3265, 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



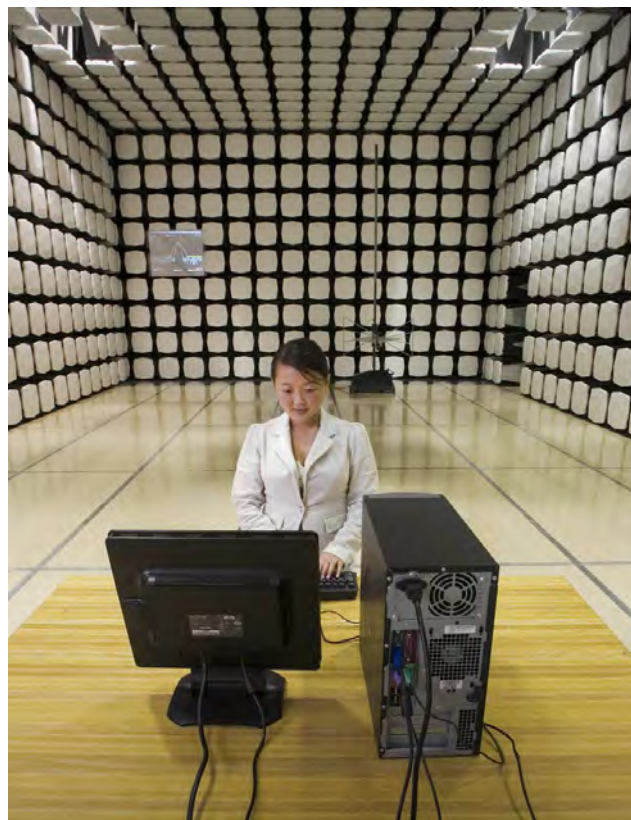
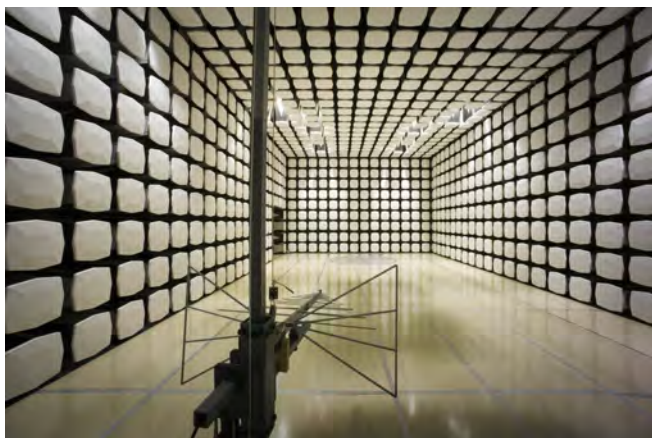
Oregon
Labs EV01-EV12
22975 NW Evergreen Pkwy
Suite 400
Hillsboro, OR 97124
(503) 844-4066

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:	Summit Semiconductor
Address:	22867 NW Bennett St, Suite 200
City, State, Zip:	Hillsboro, OR 97124
Test Requested By:	Ponnappa Pasura
Model:	Ice Axe - Slave Module
First Date of Test:	September 12, 2011
Last Date of Test:	September 20, 2011
Receipt Date of Samples:	September 12, 2011
Equipment Design Stage:	Preproduction
Equipment Condition:	No Damage

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

UNII radio module

Testing Objective:

Seeking modular approval of the client under FCC 15.407 for operation in the 5.2, 5.3, and 5.6 GHz bands.

CONFIGURATION 1 FOCU0115**Software/Firmware Running during test**

Description	Version
Hood BIST Monitor	157

EUT

Description	Manufacturer	Model/Part Number	Serial Number
Wireless Audio Slave Board - Direct Connect	Summit Semiconductor	Ice Axe - Slave Module	03 EA 12 00 5A 6D

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
DC Power / RS-232 Serial Interface	Summit Semiconductor	Unknown	None
DC Block	MCL	BLK-89-S+	15542
AC Adapter	PHIHONG	PSA21R-033	C22300479A8

Remote Equipment Outside of Test Setup Boundary

Description	Manufacturer	Model/Part Number	Serial Number
Remote PC	Dell	Latitude D820	2006-00516

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Multi-pin flex cable	No	0.3m	No	Wireless Audio Slave Board - Direct Connect	DC Power / RS-232 Serial Interface
Serial	Yes	2.0m	No	DC Power / RS-232 Serial Interface	Remote PC
DC Lead	PA	1.8m	PA	AC Adapter	DC Power / RS-232 Serial Interface

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

CONFIGURATION 2 FOCU0115**Software/Firmware Running during test**

Description	Version
Hood BIST Monitor	157

EUT

Description	Manufacturer	Model/Part Number	Serial Number
Wireless Audio Slave Board - Direct Connect	Summit Semiconductor	Ice Axe - Slave Module	03 EA 12 00 5A 6D

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
DC Power / RS-232 Serial Interface	Summit Semiconductor	Unknown	None
DC Block	MCL	BLK-89-S+	15542

Remote Equipment Outside of Test Setup Boundary

Description	Manufacturer	Model/Part Number	Serial Number
Remote PC	Dell	Latitude D820	2006-00516
DC Power Supply	Topward	6303D	743645

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Multi-pin flex cable	No	0.3m	No	Wireless Audio Slave Board - Direct Connect	DC Power / RS-232 Serial Interface
Serial	Yes	2.0m	No	DC Power / RS-232 Serial Interface	Remote PC
DC Lead	PA	1.8m	PA	AC Adapter	DC Power / RS-232 Serial Interface

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

CONFIGURATION 3 FOCU0115**Software/Firmware Running during test**

Description	Version
Hood BIST Monitor	157

EUT

Description	Manufacturer	Model/Part Number	Serial Number
Wireless Audio Slave Board - Radiated	Summit Semiconductor	Ice Axe - Slave Module	02 EA 12 00 5A 67

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	PHIHONG	PSA21R-033	C22300479A8

Remote Equipment Outside of Test Setup Boundary

Description	Manufacturer	Model/Part Number	Serial Number
DC Power / RS-232 Serial Interface	Summit Semiconductor	Unknown	None
Remote PC	Dell	Latitude D820	2006-00516

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Lead	PA	1.8m	PA	AC Adapter	DC Power / RS-232 Serial Interface
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

CONFIGURATION 4 FOCU0115**Software/Firmware Running during test**

Description	Version
Hood BIST Monitor	157

EUT

Description	Manufacturer	Model/Part Number	Serial Number
Wireless Audio Slave Board - Radiated	Summit Semiconductor	Ice Axe - Slave Module	02 EA 12 00 5A 67

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
DC Power Supply	Topward	6303D	743645

Remote Equipment Outside of Test Setup Boundary

Description	Manufacturer	Model/Part Number	Serial Number
DC Power / RS-232 Serial Interface	Summit Semiconductor	Unknown	None
Remote PC	Dell	Latitude D820	2006-00516

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Lead	PA	1.8m	PA	AC Adapter	DC Power / RS-232 Serial Interface
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	9/12/2011	Burst Duration	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	9/12/2011	Emission Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	9/12/2011	Peak Excursion	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	9/12/2011	Peak Transmit 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.
5	9/12/2011	Peak Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	9/13/2011	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
7	9/13/2011	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.
8	9/20/2011	AC Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

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	7/5/2011	12
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0
40GHz DC Block	Miteq	DCB4000	AMD	8/12/2011	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	8/2/2011	12
Attenuator, 6dB	S.M. Electronics	18N-06	AWN	5/5/2011	12
Power Meter	Gigatronics	8651A	SPM	1/7/2010	24
Power Sensor	Gigatronics	80701A	SPL	7/8/2011	24
MXG Vector Signal 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

FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the lowest, a medium, and the highest channels in each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured if available. 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 spectrum analyzer settings were as follows:

- Span = approximately 1.5 to 2 times the emission bandwidth, centered on the transmit channel.
- RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process where an exact match of 1% may not be achieved. The largest value of RBW that came close to 1% of the emission bandwidth was used.
- A peak detector was used.

The marker-delta function was then used to measure 26 dB emission bandwidth

NORTHWEST

EMC

Emission Bandwidth

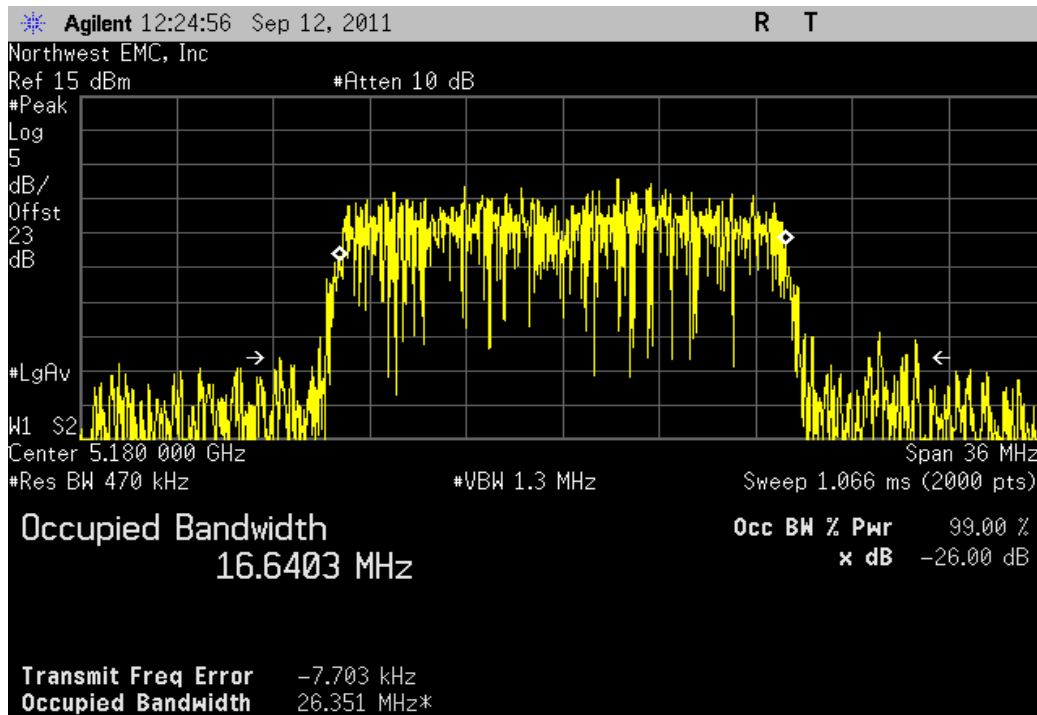
XMit 2011.08.04
PsaTx 2011.09.07

EUT: Ice Axe - Slave Module		Work Order: FOCU0115	
Serial Number: 03 EA 12 00 5A 6D		Date: 09/12/11	
Customer: Summit Semiconductor		Temperature: 23.7°C	
Attendees: Ponnappa Pasura		Humidity: 47%	
Project: None		Barometric Pres.: 30.11	
Tested by: Rod Peloquin	Power: 3.3 VDC	Job Site: EV06	
TEST SPECIFICATIONS		Test Method	
FCC 15.407:2011		ANSI C63.10:2009	
COMMENTS			
Operated per TPC power table, data randomization enabled.			
DEVIATIONS FROM TEST STANDARD			
No Deviations			
Configuration #	1	Signature 	

	Value	Limit	Result
6 Mbps			
5150 - 5250 MHz Band			
Channel 36, Low Channel	26.351 MHz	> 500 kHz	Pass
Channel 48, High Channel	22.237 MHz	> 500 kHz	Pass
5250 - 5350 MHz Band			
Channel 52, Low Channel	22.581 MHz	> 500 kHz	Pass
Channel 64, High Channel	21.741 MHz	> 500 kHz	Pass
5470 - 5725 MHz Band			
Channel 100, Low Channel	22.341 MHz	> 500 kHz	Pass
Channel 116, Mid Channel	23.282 MHz	> 500 kHz	Pass
Channel 140, High Channel	20.529 MHz	> 500 kHz	Pass

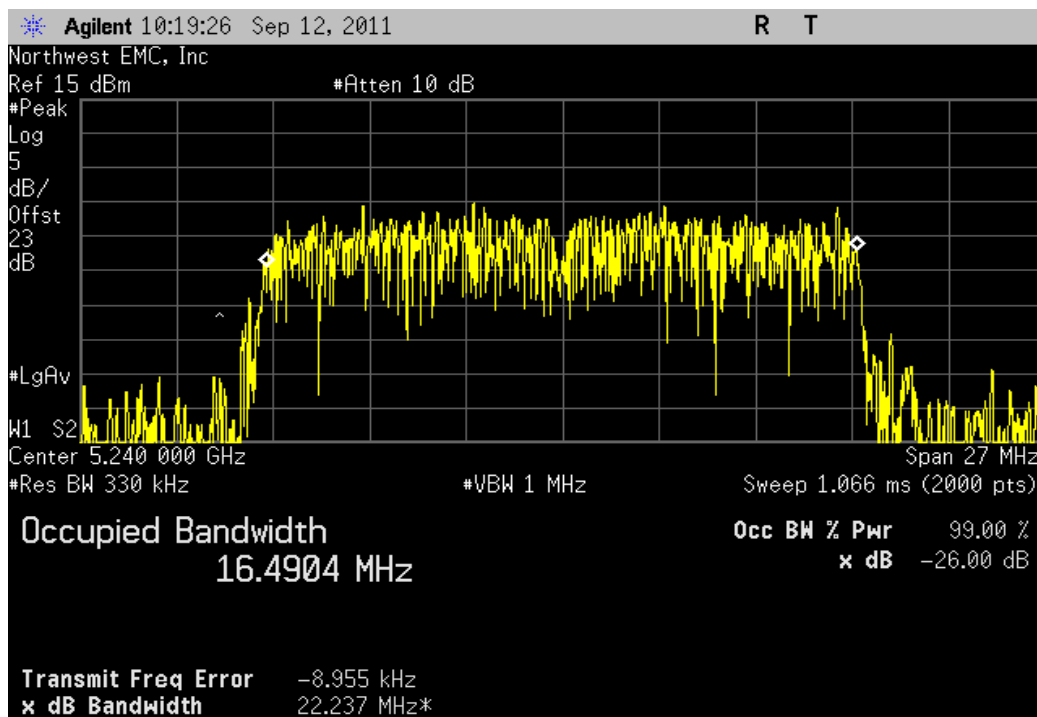
6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

				Value	Limit	Result
				26.351 MHz	> 500 kHz	Pass



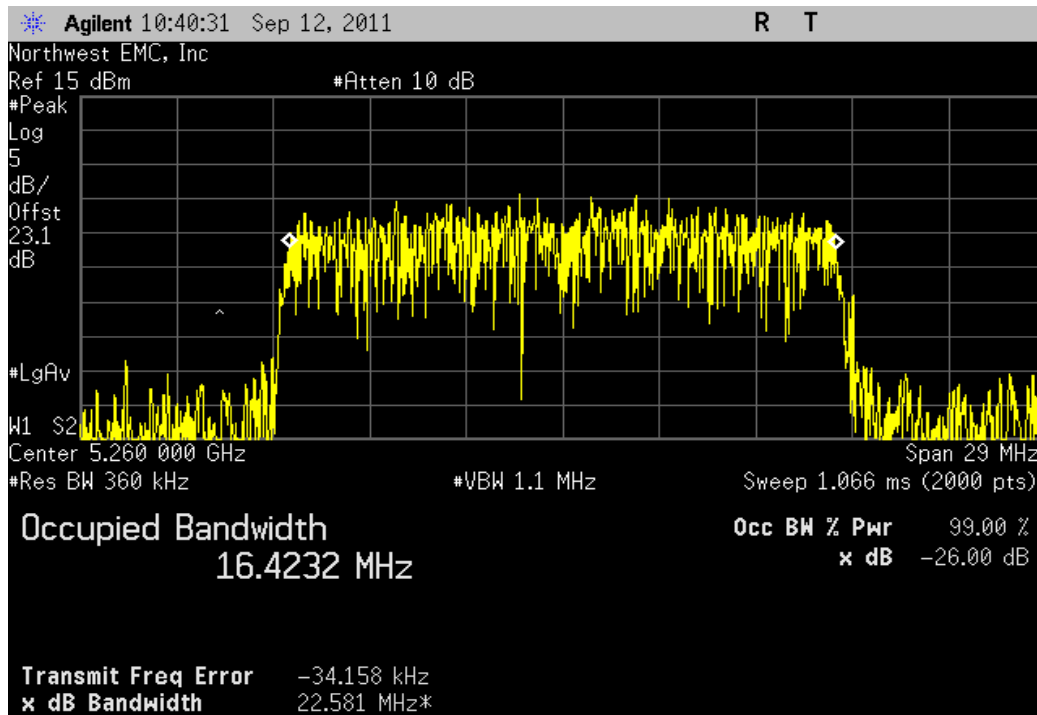
6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

				Value	Limit	Result
				22.237 MHz	> 500 kHz	Pass



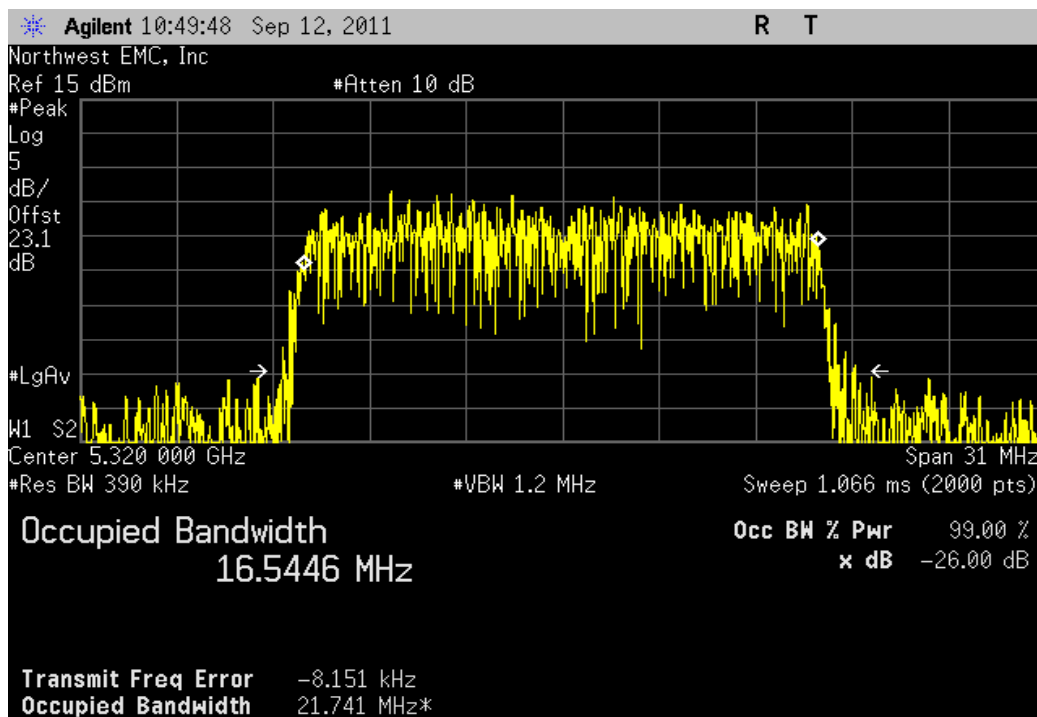
6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

				Value	Limit	Result
				22.581 MHz	> 500 kHz	Pass



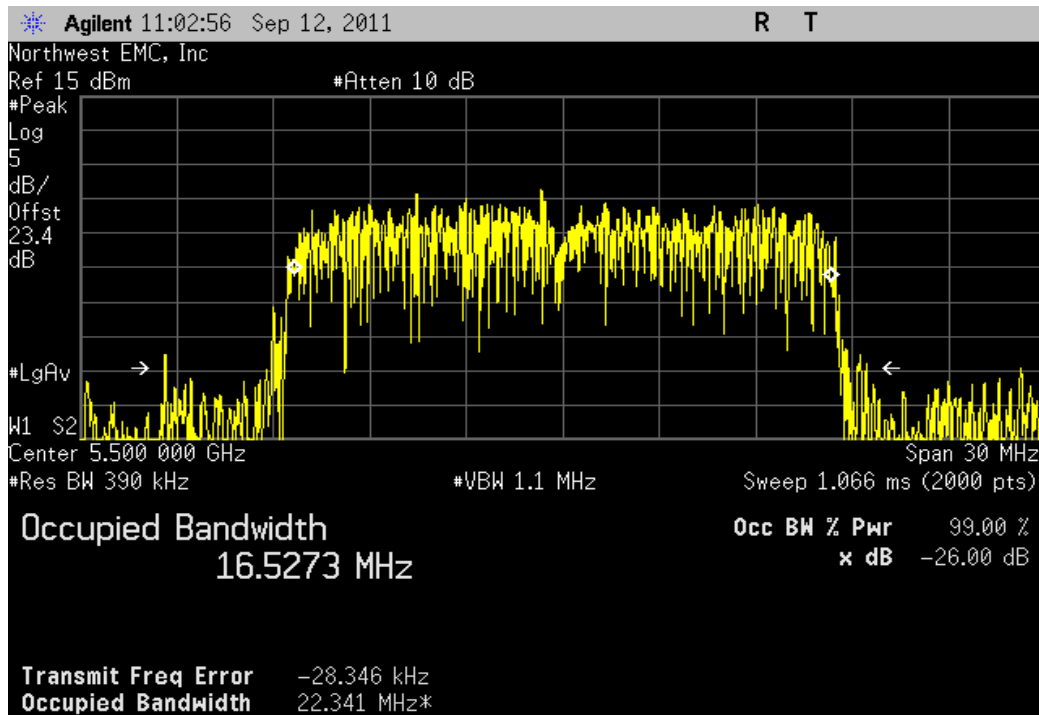
6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

				Value	Limit	Result
				21.741 MHz	> 500 kHz	Pass



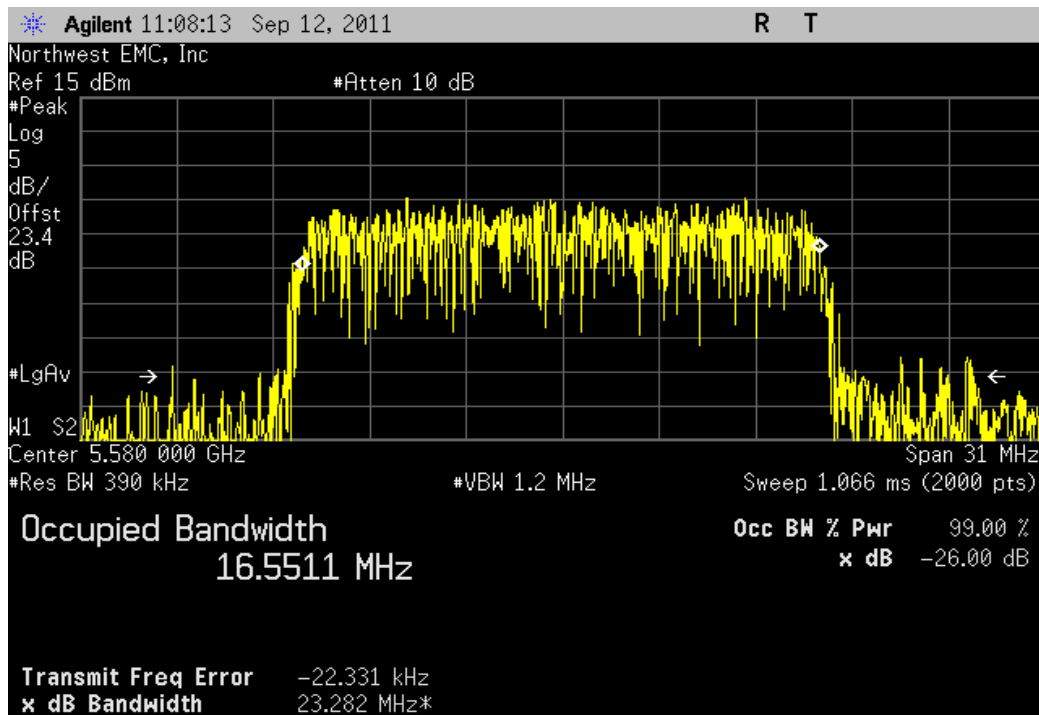
6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

				Value	Limit	Result
				22.341 MHz	> 500 kHz	Pass



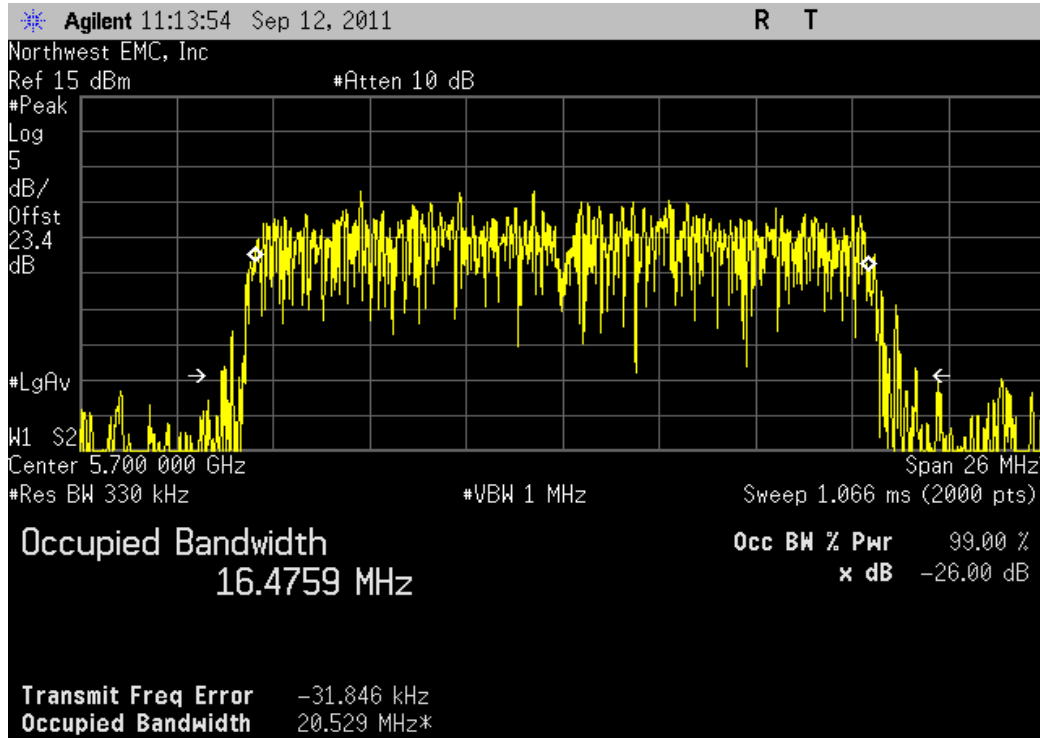
6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel

				Value	Limit	Result
				23.282 MHz	> 500 kHz	Pass



6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

				Value	Limit	Result
				20.529 MHz	> 500 kHz	Pass



Peak Transmit Power

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

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AFD	7/5/2011	12
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0
40GHz DC Block	Miteq	DCB4000	AMD	8/12/2011	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	8/2/2011	12
Attenuator, 6dB	S.M. Electronics	18N-06	AWN	5/5/2011	12
Power Meter	Gigatronics	8651A	SPM	1/7/2010	24
Power Sensor	Gigatronics	80701A	SPL	7/8/2011	24
MXG Vector Signal 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

ANSI C63.10 was followed. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input. The amplitude accuracy of the spectrum analyzer was further enhanced by calibrating the setup using the power meter and synthesized signal generator.

Prior to measuring peak transmit power; the emission bandwidth (B) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring Peak Transmit Power. The method of measuring the emission bandwidth and the associated data are found elsewhere in this test report. The transmission pulse duration (T) was measured using a zero span on the spectrum analyzer to see the pulses in the time domain.

Method #3 was used because the analyzer sweep time was greater than T for the operating mode which has the shortest transmission pulse duration and the Emission Bandwidth was greater than the largest RBW on the analyzer.

The spectrum analyzer settings were as follows:

The span was set to encompass entire emission bandwidth (B), centered on the transmit channel.

Sample detector mode because the bin width (span / number of spectral points) < 0.5 RBW.

Power was integrated across "B", by using the channel power function of the analyzer.

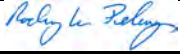
The power limits are based on the following formulas:

5.15 MHz – 5.25 MHz band - The lesser of 50 mW or 4 dBm + 10 log B, where B is the -26dB emission bandwidth in MHz.

5.25 MHz – 5.35 MHz band - The lesser of 250 mW or 11 dBm + 10 log B, where B is the -26dB emission bandwidth in MHz.

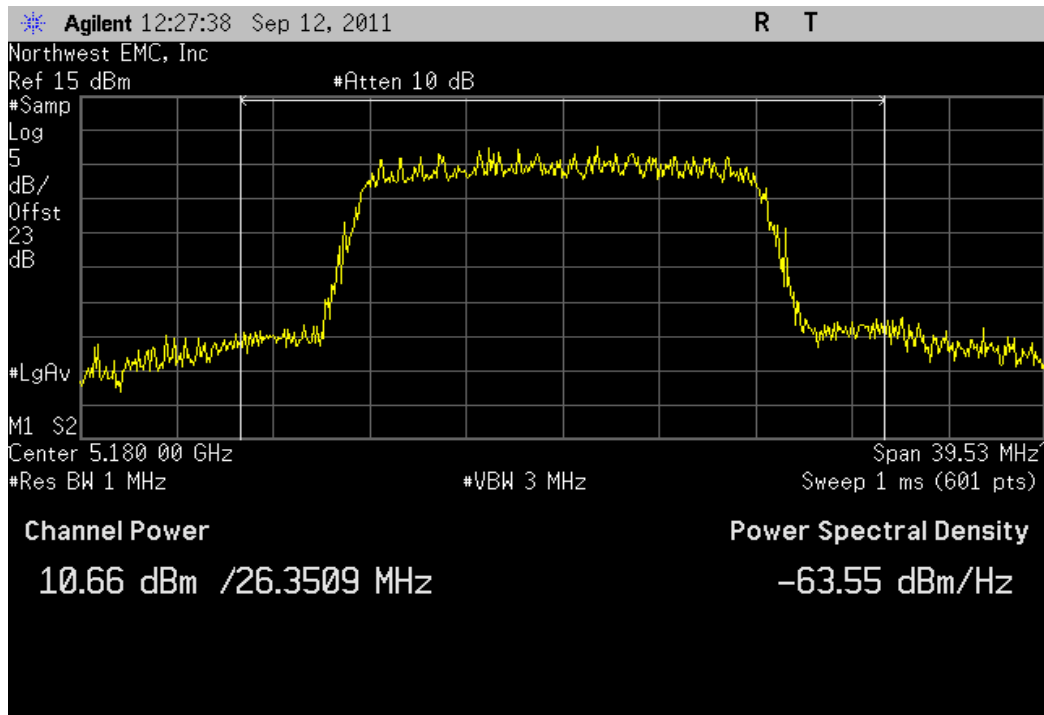
5.47 MHz – 5.725 MHz band - The lesser of 250 mW or 11 dBm + 10 log B, where B is the -26dB emission bandwidth in MHz.

In each case the output power is lower if the -26dB emission bandwidth is less than 20 MHz.

NORTHWEST		Peak Transmit Power		XMit 2011.08.04 PsaTx 2011.09.07	
EMC					
EUT: Ice Axe - Slave Module		Work Order: FOCU0115			
Serial Number: 03 EA 12 00 5A 6D		Date: 09/12/11			
Customer: Summit Semiconductor		Temperature: 23.7°C			
Attendees: Ponnappa Pasura		Humidity: 47%			
Project: None		Barometric Pres.: 30.11			
Tested by: Rod Peloquin		Power: 3.3 VDC		Job Site: EV06	
TEST SPECIFICATIONS		Test Method			
FCC 15.407:2011		ANSI C63.10:2009			
COMMENTS					
Operated per TPC power table, data randomization enabled.					
DEVIATIONS FROM TEST STANDARD					
No Deviation					
Configuration #	1	 Signature			
		Value	Limit	Result	
802.11(a) 6 Mbps					
5150 - 5250 MHz Band					
Channel 36, Low Channel, 5180 MHz		10.655 dBm	< 17 dBm	Pass	
Channel 48, High Channel, 5240 MHz		10.249 dBm	< 17 dBm	Pass	
5250 - 5350 MHz Band					
Channel 52, Low Channel, 5260 MHz		10.244 dBm	< 24 dBm	Pass	
Channel 64, High Channel, 5320 MHz		10.532 dBm	< 24 dBm	Pass	
5470 - 5725 MHz Band					
Channel 100, Low Channel, 5500 MHz		10.331 dBm	< 24 dBm	Pass	
Channel 116, Mid Channel, 5580 MHz		10.569 dBm	< 24 dBm	Pass	
Channel 140, High Channel, 5700 MHz		10.856 dBm	< 24 dBm	Pass	

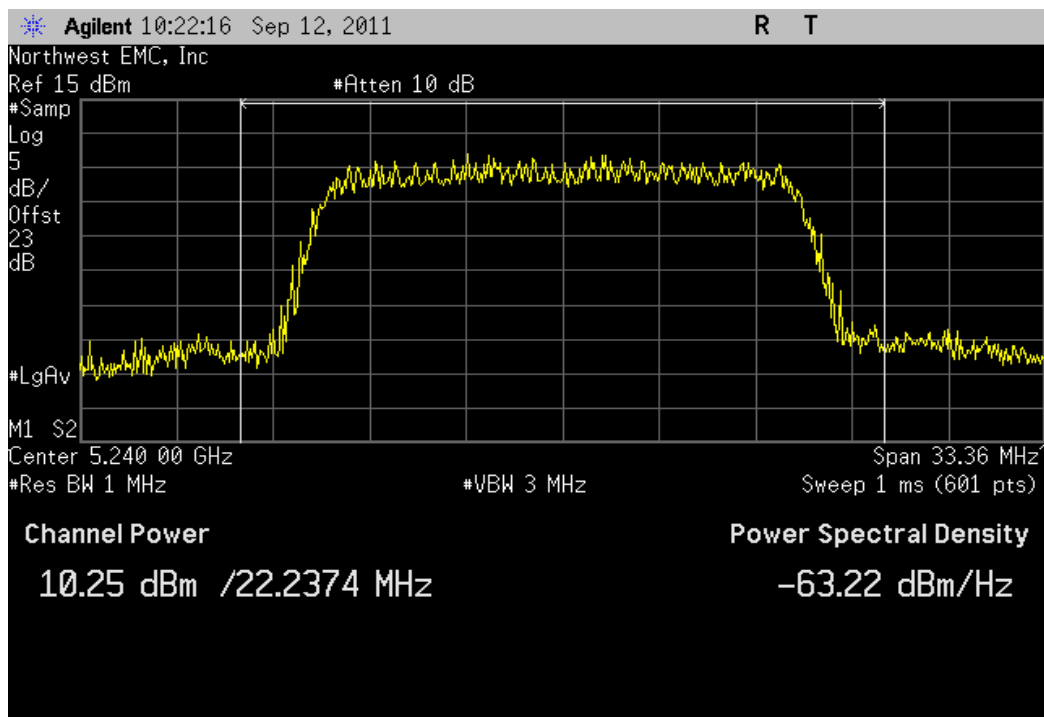
802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel, 5180 MHz

				Value	Limit	Result
				10.655 dBm	< 17 dBm	Pass



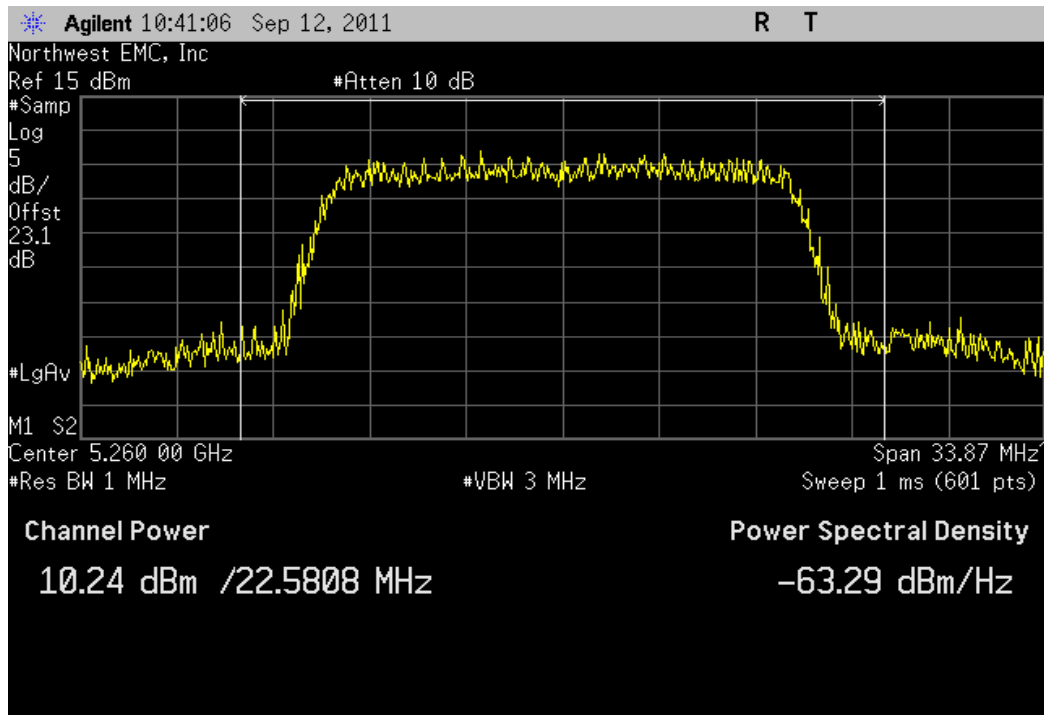
802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel, 5240 MHz

				Value	Limit	Result
				10.249 dBm	< 17 dBm	Pass



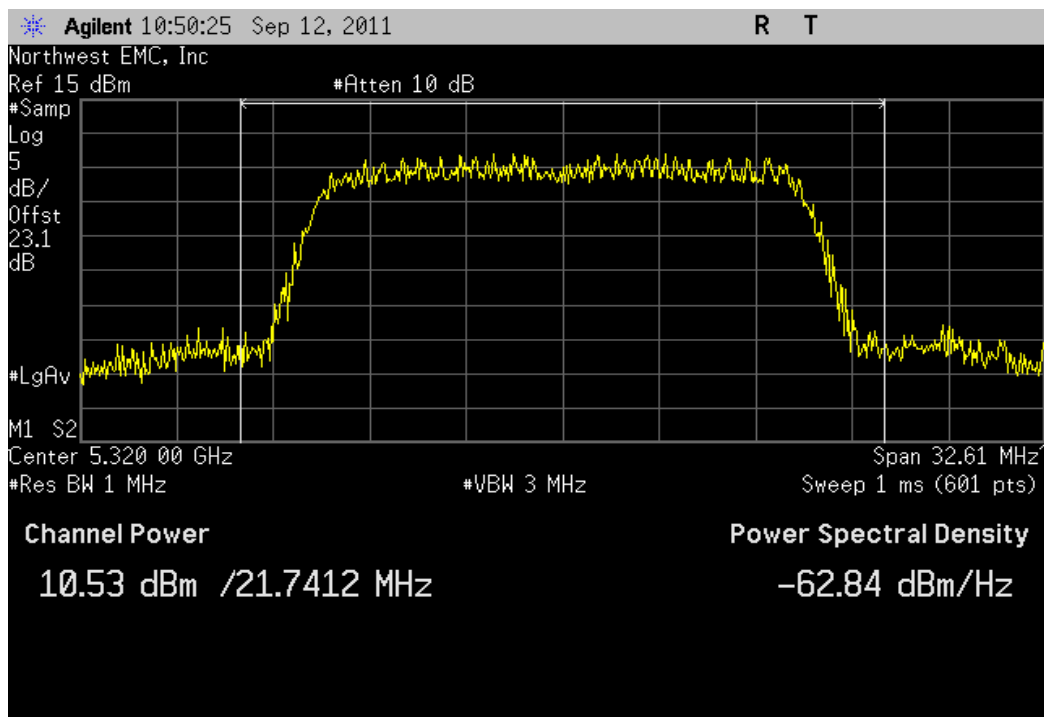
802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel, 5260 MHz

	Value	Limit	Result
	10.244 dBm	< 24 dBm	Pass



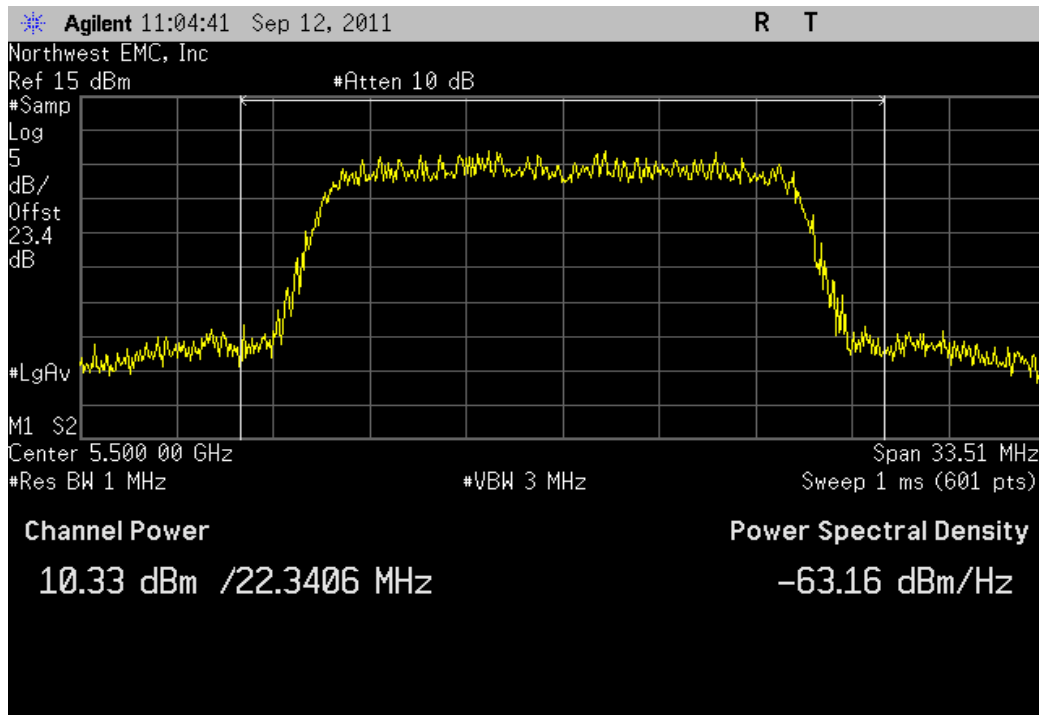
802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel, 5320 MHz

	Value	Limit	Result
	10.532 dBm	< 24 dBm	Pass



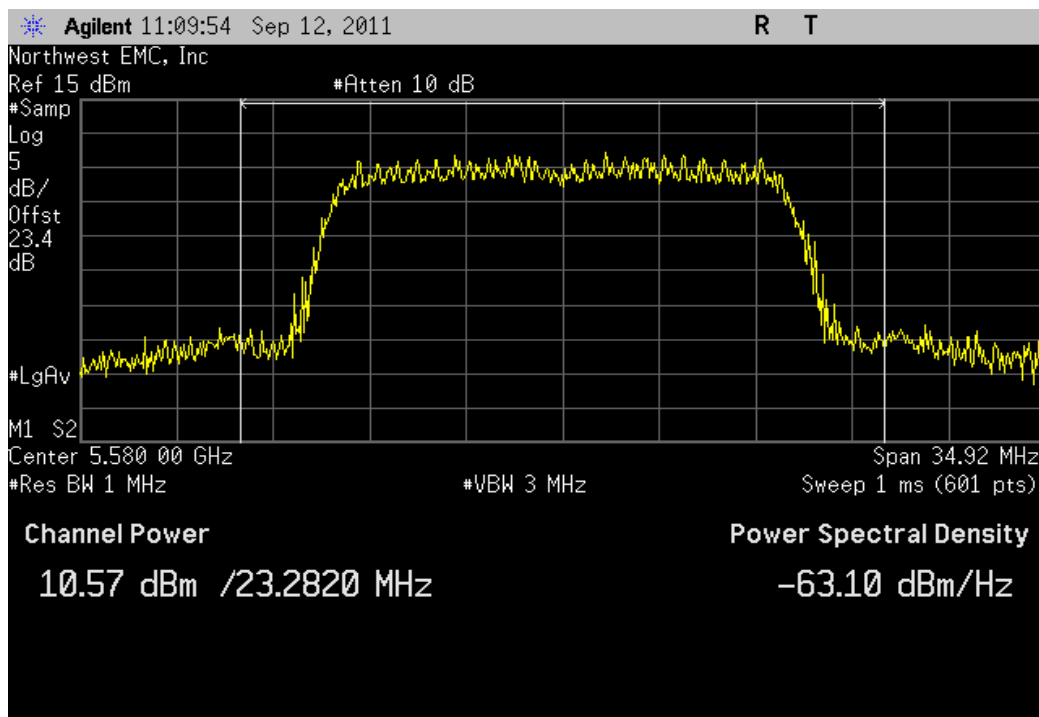
802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel, 5500 MHz

	Value	Limit	Result
	10.331 dBm	< 24 dBm	Pass



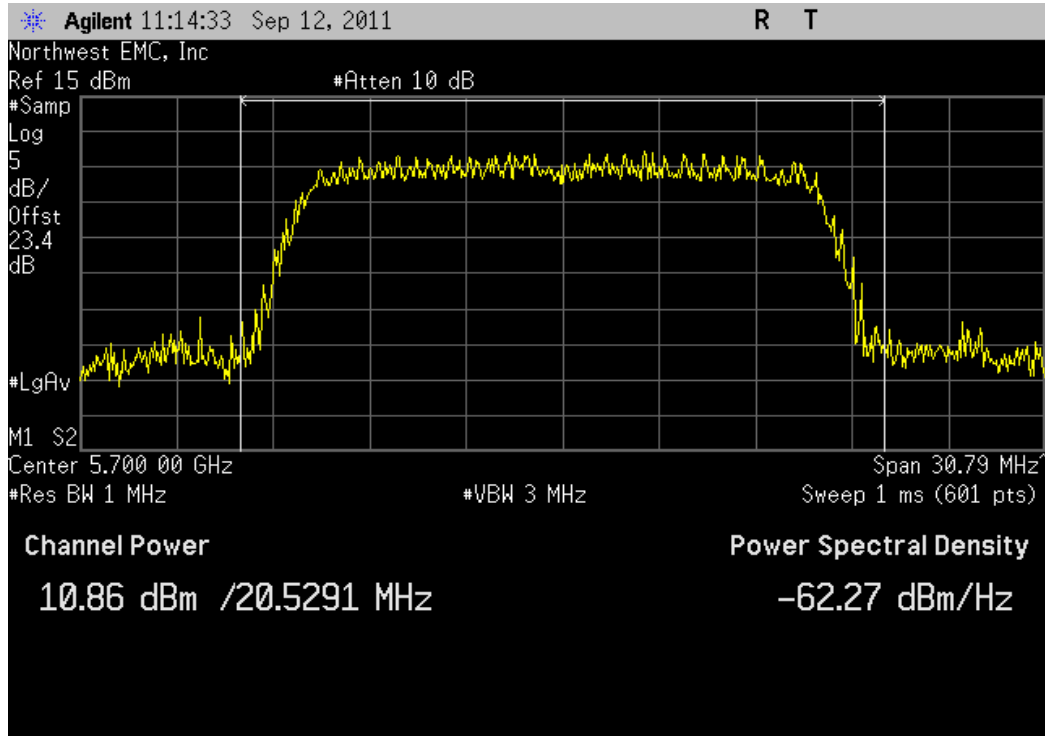
802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel, 5580 MHz

	Value	Limit	Result
	10.569 dBm	< 24 dBm	Pass



802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel, 5700 MHz

Value	Limit	Result
10.856 dBm	< 24 dBm	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	7/5/2011	12
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0
40GHz DC Block	Miteq	DCB4000	AMD	8/12/2011	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	8/2/2011	12
Attenuator, 6dB	S.M. Electronics	18N-06	AWN	5/5/2011	12
Power Meter	Gigatronics	8651A	SPM	1/7/2010	24
Power Sensor	Gigatronics	80701A	SPL	7/8/2011	24
MXG Vector Signal 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

ANSI C63.10 was followed. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. The lowest data rate was measured as it provided the highest output power. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input. The amplitude accuracy of the spectrum analyzer was further enhanced by calibrating the setup using the power meter and synthesized signal generator.

Prior to measuring peak power spectral density, the transmission pulse duration (T) were measured. The transmission pulse duration and the associated data are found elsewhere in this test report.

Method #2 was used.

The spectrum analyzer settings were as follows:

- The span was set to encompass entire emission bandwidth (B), centered on the transmit channel.
- RBW = 1 MHz, VBW >= 3 MHz because the emission bandwidth (B) is greater than 1 MHz
- Sample detector mode because the bin width (span / number of spectral points) < 0.5 RBW.
- Trace average 100 traces in power averaging mode (not video averaging).

The peak power spectral density (PPSD) was determined to be the highest level found across the emission in any 1 MHz band after 100 sweeps of power averaging (not video averaging).

NORTHWEST

EMC

Peak Power Spectral Density

XMit 2011.08.04
PsaTx 2011.09.07

EUT: Ice Axe - Slave Module		Work Order: FOCU0115	
Serial Number: 03 EA 12 00 5A 6D		Date: 09/12/11	
Customer: Summit Semiconductor		Temperature: 23.7°C	
Attendees: Ponnappa Pasura		Humidity: 47%	
Project: None		Barometric Pres.: 30.11	
Tested by: Rod Peloquin	Power: 3.3 VDC	Job Site: EV06	

TEST SPECIFICATIONS

FCC 15.407:2011

Test Method

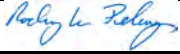
ANSI C63.10:2009

COMMENTS

Operated per TPC power table, data randomization enabled.

DEVIATIONS FROM TEST STANDARD

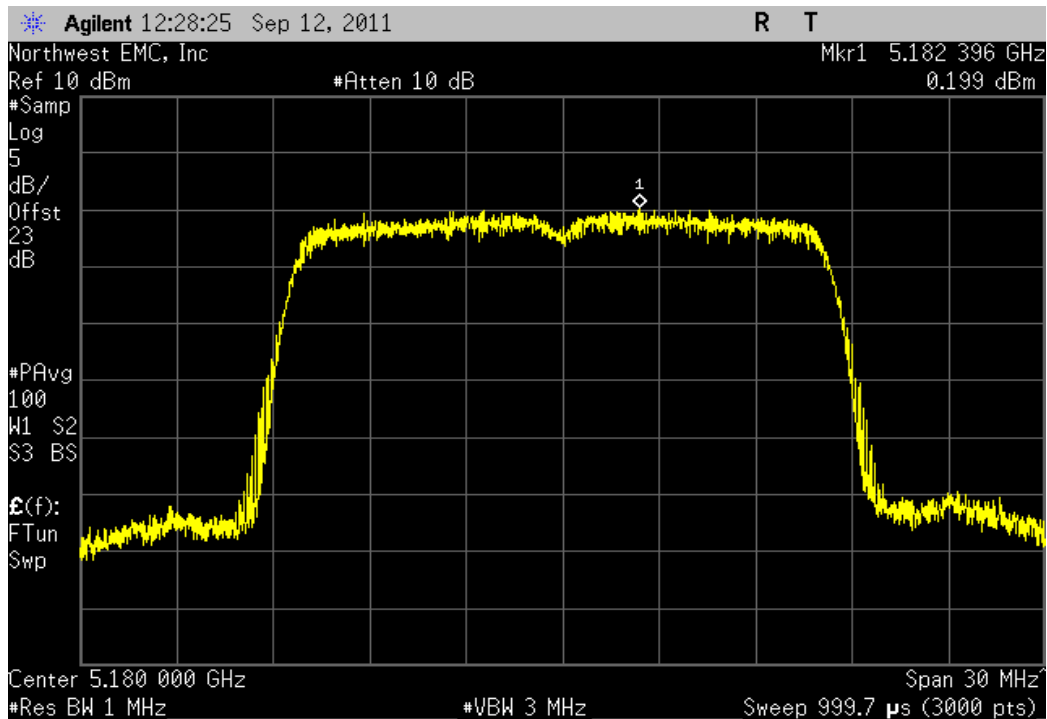
No Deviations

Configuration #	1	Signature 
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	Value (dBm / MHz)	Limit (dBm / MHz)	Result
6 Mbps			
5150 - 5250 MHz Band			
Channel 36, Low Channel, 5180 MHz	0.199	4	Pass
Channel 48, High Channel, 5240 MHz	-0.367	4	Pass
5250 - 5350 MHz Band			
Channel 52, Low Channel, 5260 MHz	-0.221	4	Pass
Channel 64, High Channel, 5320 MHz	0.345	4	Pass
5470 - 5725 MHz Band			
Channel 100, Low Channel, 5500 MHz	0.011	4	Pass
Channel 116, Mid Channel, 5580 MHz	0.113	4	Pass
Channel 140, High Channel, 5700 MHz	0.492	4	Pass

6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel, 5180 MHz

	Value (dBm / MHz)	Limit (dBm / MHz)	Result
	0.199	4	Pass



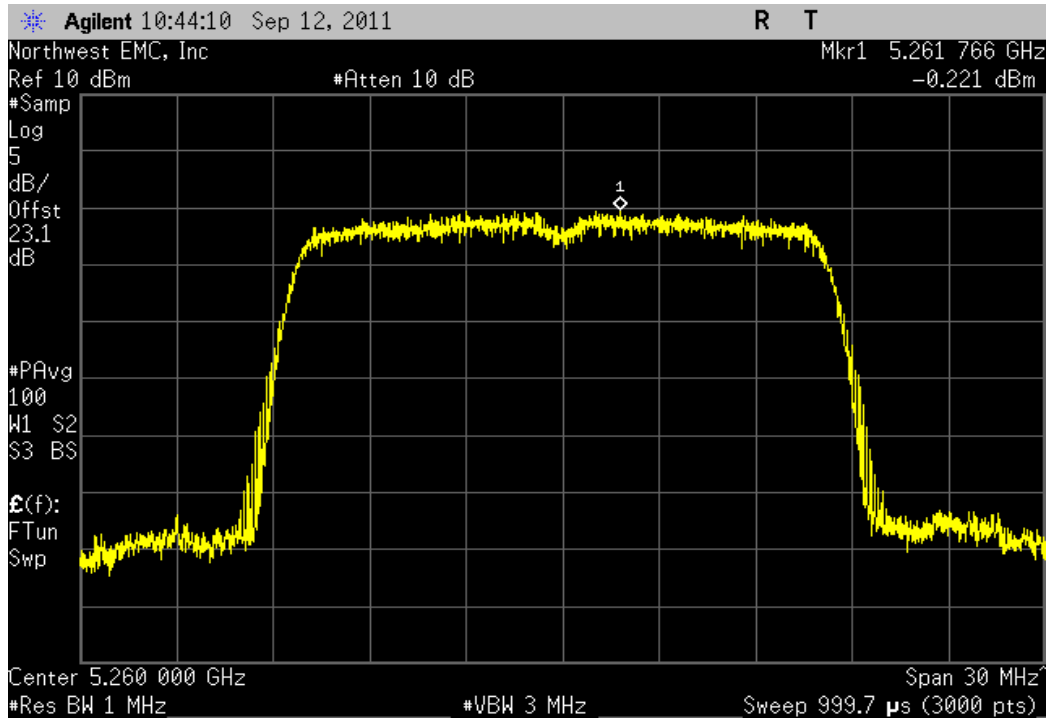
6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel, 5240 MHz

	Value (dBm / MHz)	Limit (dBm / MHz)	Result
	-0.367	4	Pass



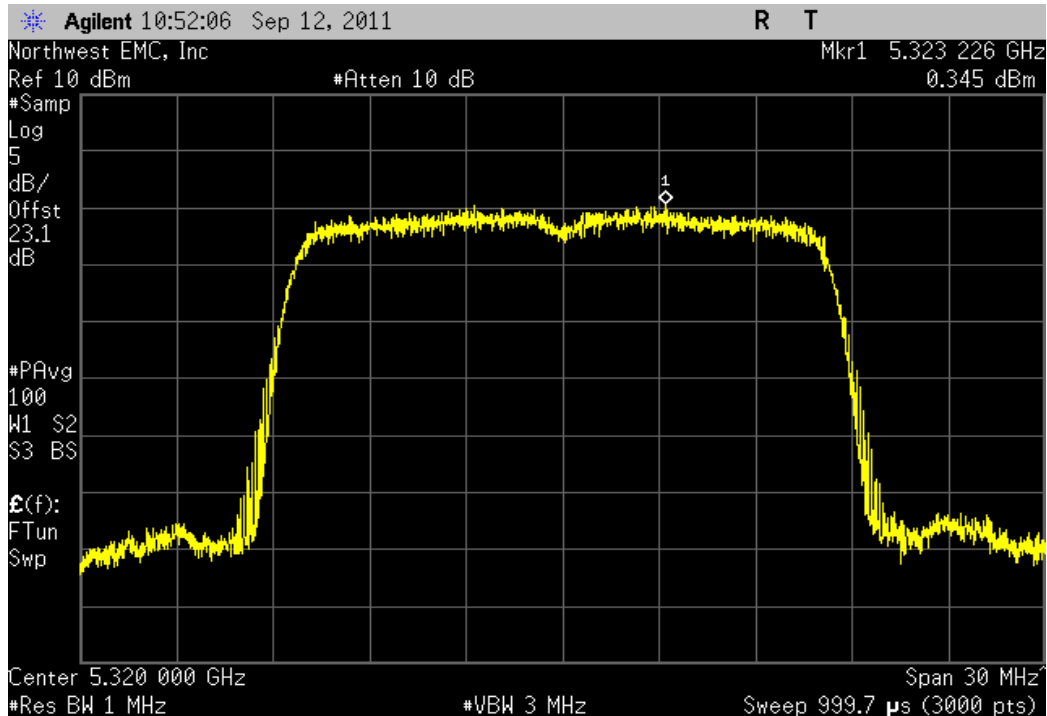
6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel, 5260 MHz

	Value (dBm / MHz)	Limit (dBm / MHz)	Result
	-0.221	4	Pass



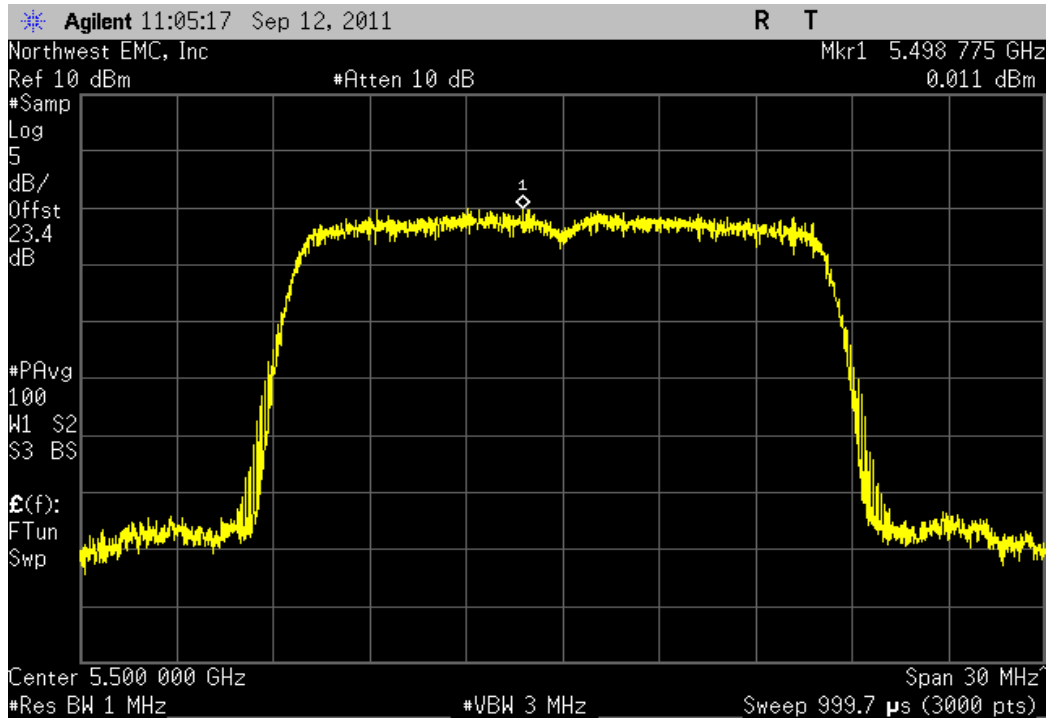
6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel, 5320 MHz

	Value (dBm / MHz)	Limit (dBm / MHz)	Result
	0.345	4	Pass



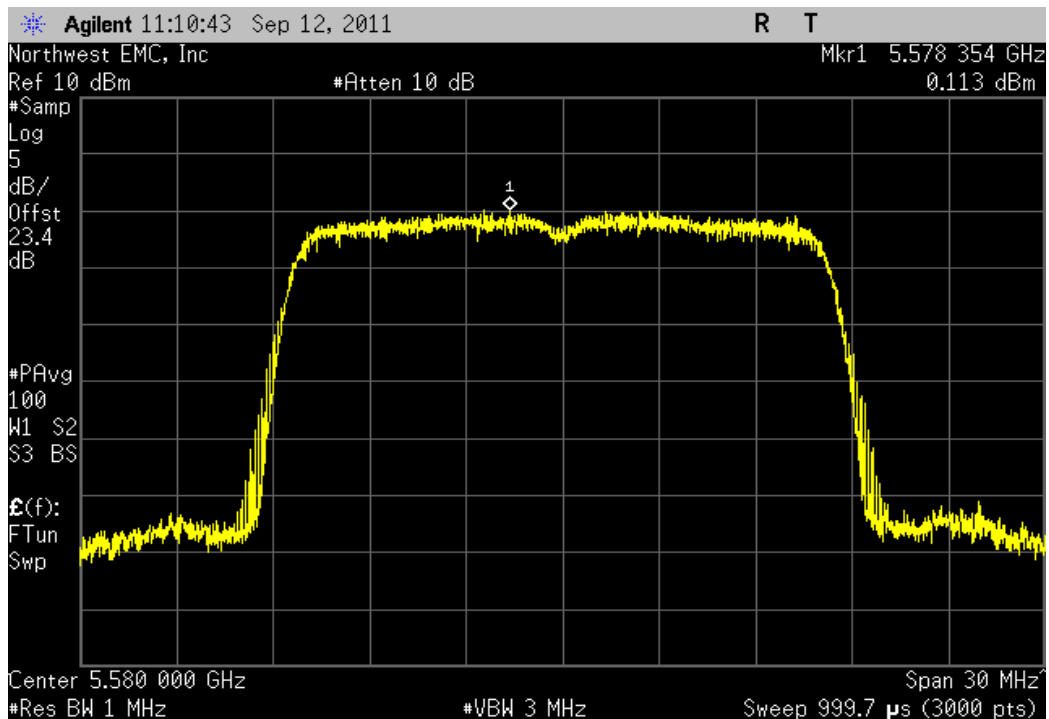
6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel, 5500 MHz

				Value (dBm / MHz)	Limit (dBm / MHz)	Result
				0.011	4	Pass



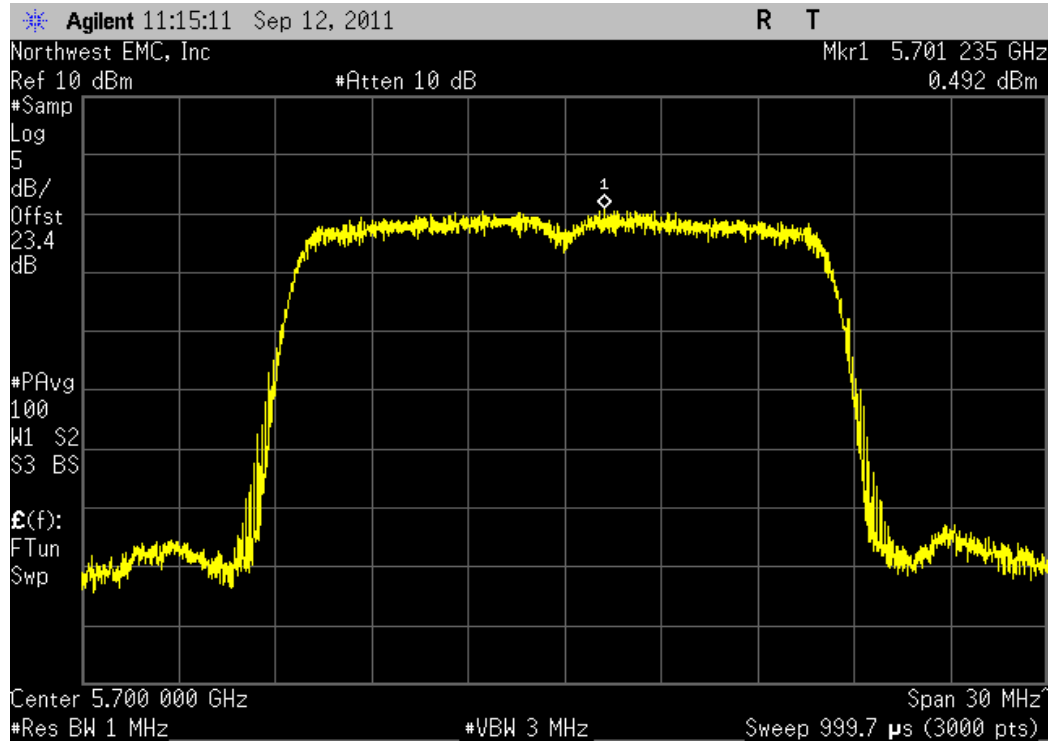
6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel, 5580 MHz

				Value (dBm / MHz)	Limit (dBm / MHz)	Result
				0.113	4	Pass



6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel, 5700 MHz

				Value	Limit	Result
				(dBm / MHz)	(dBm / MHz)	
				0.492	4	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	7/5/2011	12
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0
40GHz DC Block	Miteq	DCB4000	AMD	8/12/2011	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	8/2/2011	12
Attenuator, 6dB	S.M. Electronics	18N-06	AWN	5/5/2011	12
Power Meter	Gigatronics	8651A	SPM	1/7/2010	24
Power Sensor	Gigatronics	80701A	SPL	7/8/2011	24
MXG Vector Signal 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

FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured. 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 spectrum analyzer settings were as follows:

- Span set to encompass the entire emission bandwidth (B), centered on the transmit channel.
- Using the marker delta function, the largest difference between the following two traces was measured:
 - o 1st Trace: RBW = 1 MHz, VBW >= 3 MHz with peak detector and max-hold settings.
 - o 2nd Trace: Use same settings as were used for peak conducted transmit power. The sample detector was used as well as the VBW being matched to that used on the peak conducted transmit power.

NORTHWEST

EMC

Peak Excursion

XMit 2011.08.04
PsaTx 2011.09.07

EUT: Ice Axe - Slave Module		Work Order: FOCU0115	
Serial Number: 03 EA 12 00 5A 6D		Date: 09/12/11	
Customer: Summit Semiconductor		Temperature: 23.7°C	
Attendees: Ponnappa Pasura		Humidity: 47%	
Project: None		Barometric Pres.: 30.11	
Tested by: Rod Peloquin	Power: 3.3 VDC	Job Site: EV06	

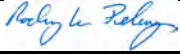
TEST SPECIFICATIONS		Test Method	
FCC 15.407:2011		ANSI C63.10:2009	

COMMENTS

Operated per TPC power table, data randomization enabled.

DEVIATIONS FROM TEST STANDARD

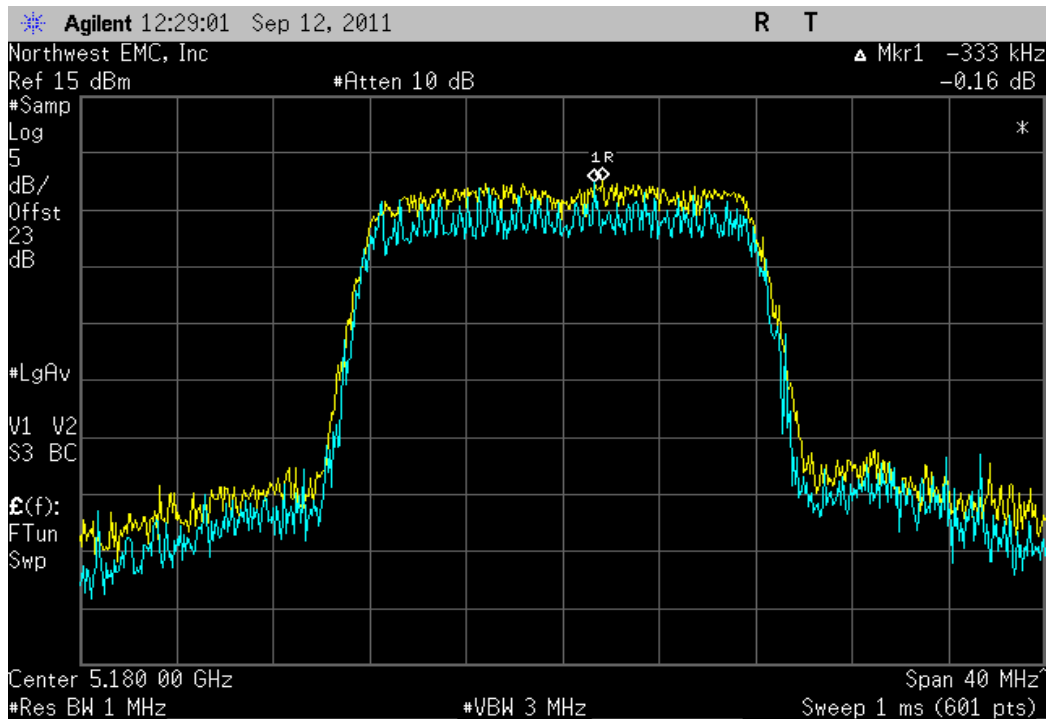
No Deviation

Configuration #	1	Signature 
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	Value	Limit	Result
6 Mbps			
5150 - 5250 MHz Band			
Channel 36, Low Channel, 5180 MHz	0.157 dB	≤ 13 dB	Pass
Channel 48, High Channel, 5240 MHz	0.553 dB	≤ 13 dB	Pass
5250 - 5350 MHz Band			
Channel 52, Low Channel, 5260 MHz	0.671 dB	≤ 13 dB	Pass
Channel 64, High Channel, 5320 MHz	0.197 dB	≤ 13 dB	Pass
5470 - 5725 MHz Band			
Channel 100, Low Channel, 5500 MHz	0.018 dB	≤ 13 dB	Pass
Channel 116, Mid Channel, 5580 MHz	0.777 dB	≤ 13 dB	Pass
Channel 140, High Channel, 5700 MHz	0.527 dB	≤ 13 dB	Pass

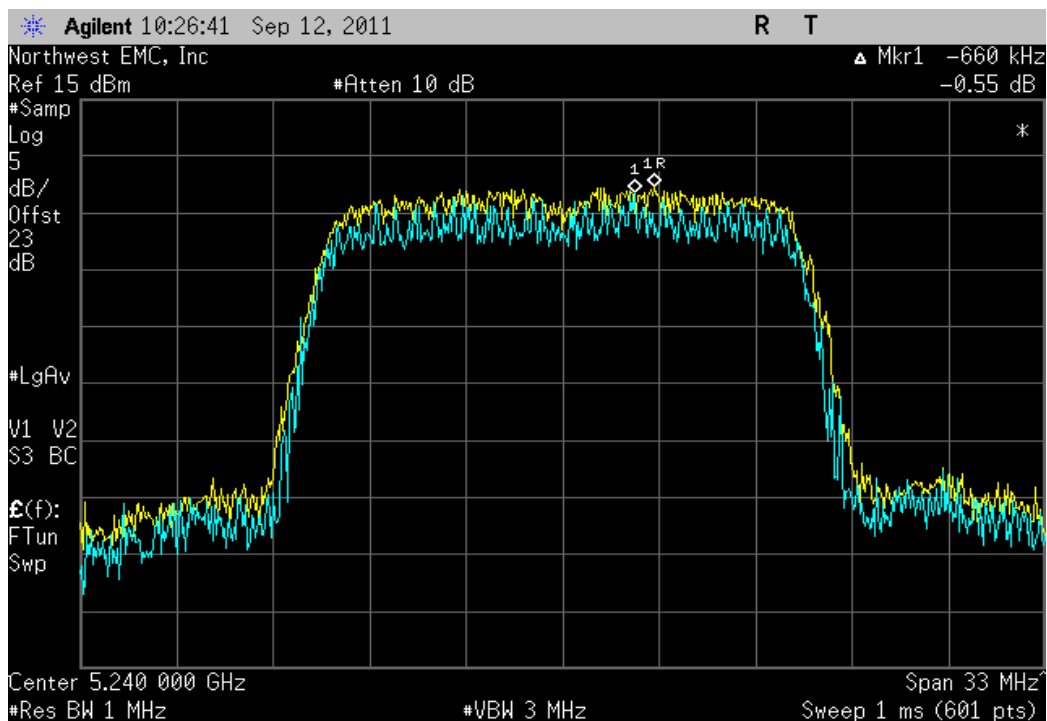
6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel, 5180 MHz

				Value	Limit	Result
				0.157 dB	≤ 13 dB	Pass



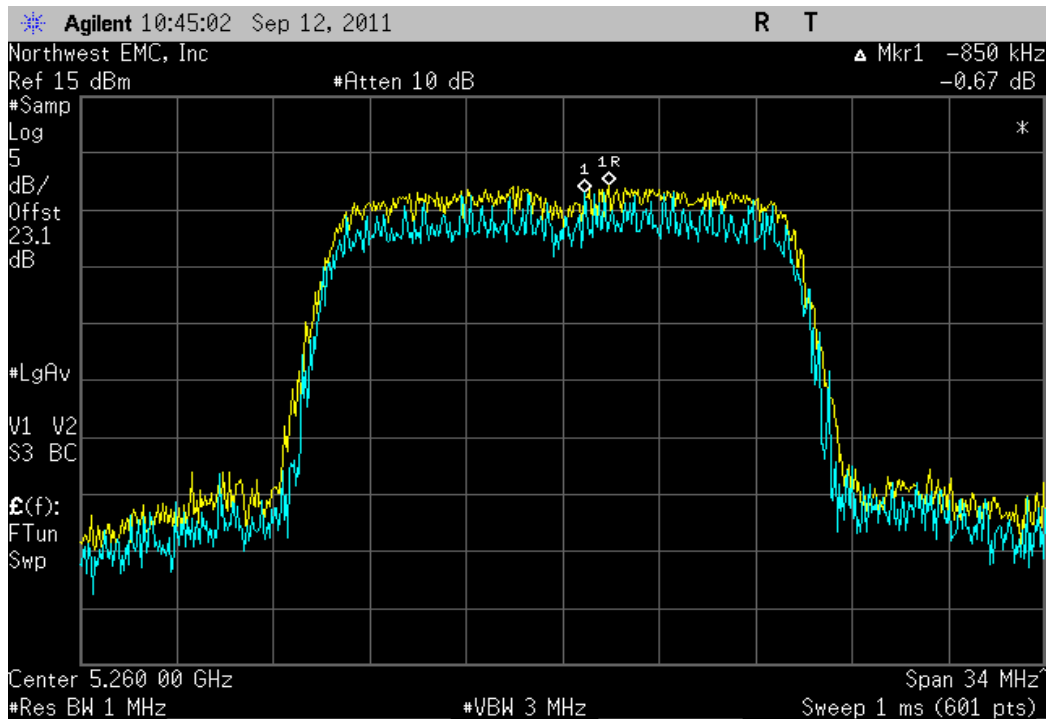
6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel, 5240 MHz

				Value	Limit	Result
				0.553 dB	≤ 13 dB	Pass



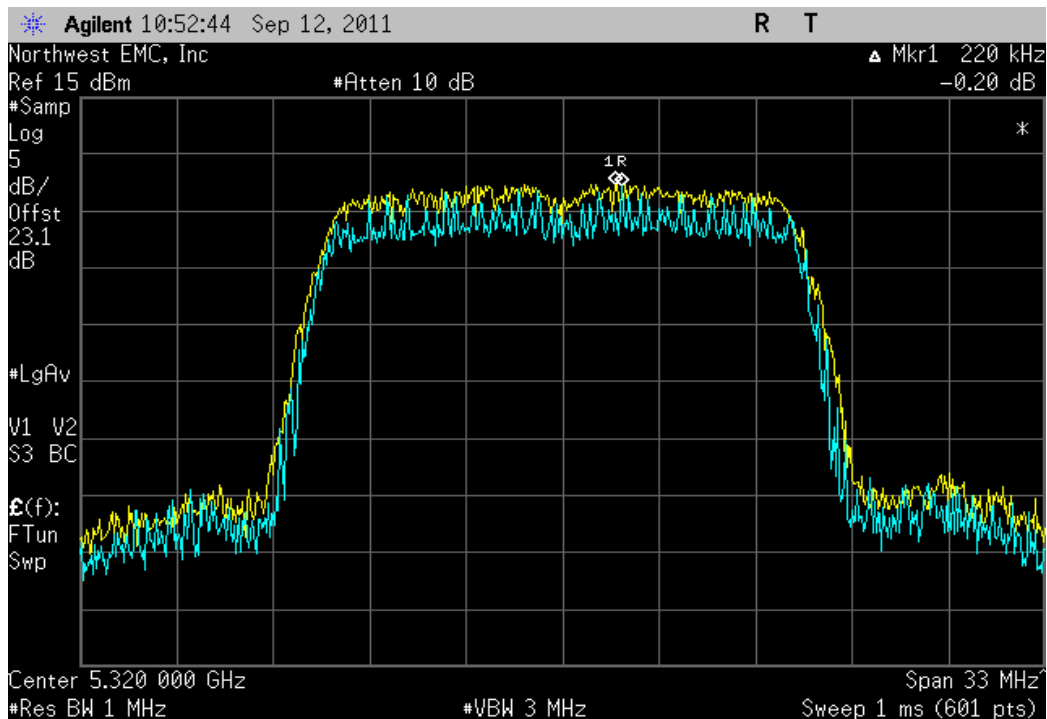
6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel, 5260 MHz

	Value	Limit	Result
	0.671 dB	≤ 13 dB	Pass



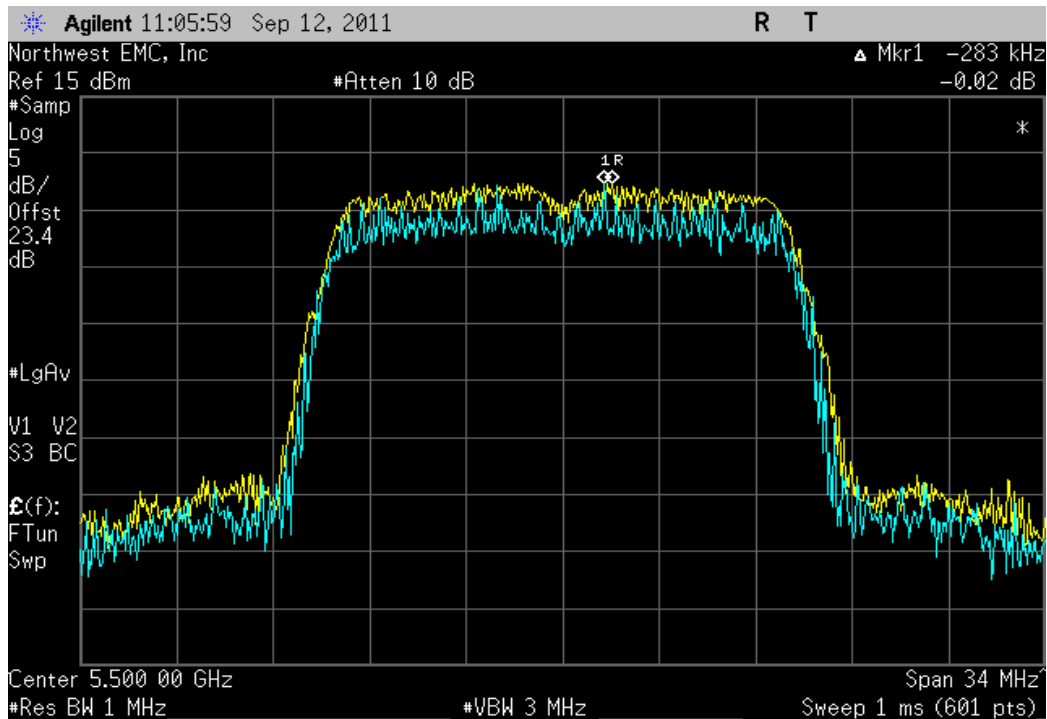
6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel, 5320 MHz

	Value	Limit	Result
	0.197 dB	≤ 13 dB	Pass



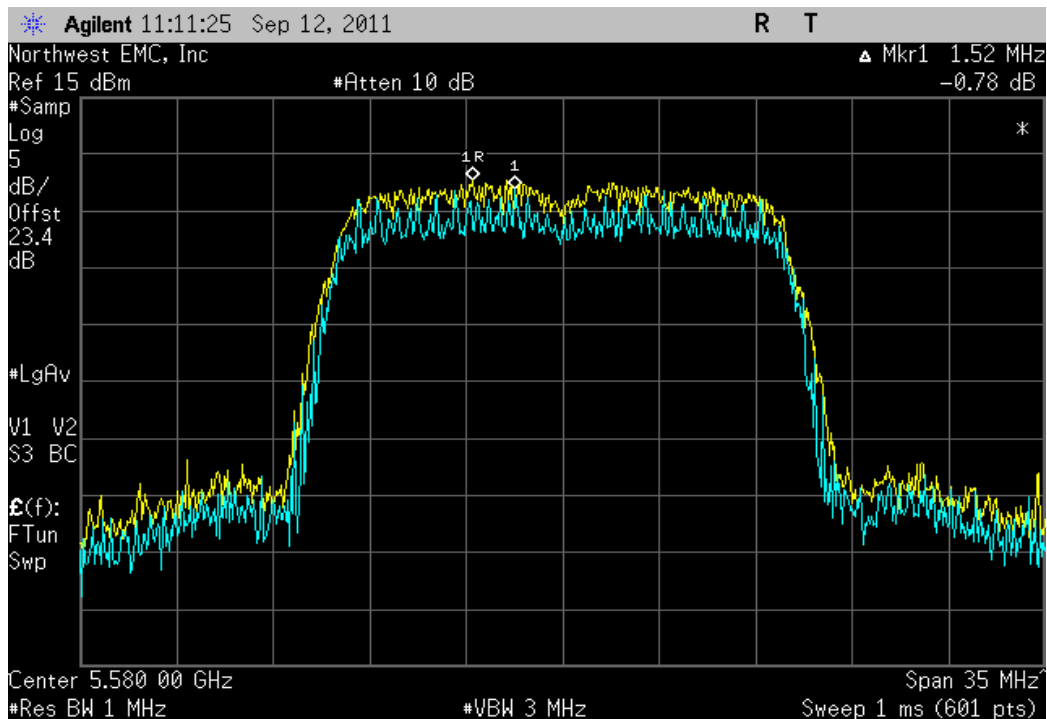
6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel, 5500 MHz

	Value	Limit	Result
	0.018 dB	≤ 13 dB	Pass



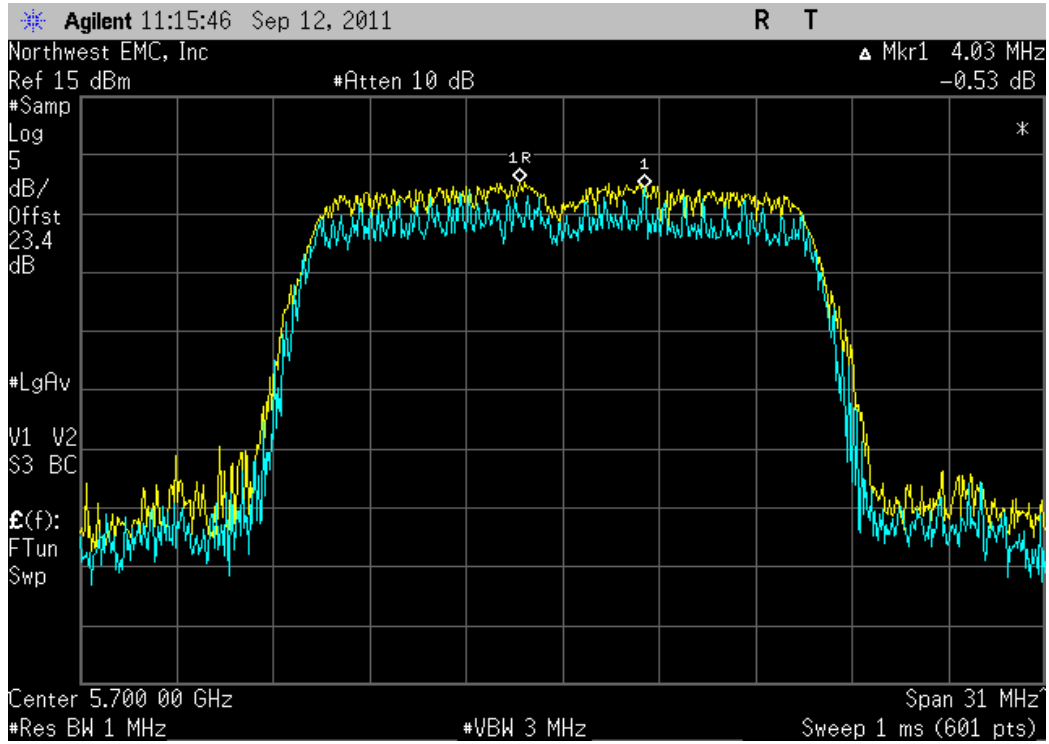
6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel, 5580 MHz

	Value	Limit	Result
	0.777 dB	≤ 13 dB	Pass



6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel, 5700 MHz

				Value	Limit	Result
				0.527 dB	≤ 13 dB	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.

MODES OF OPERATION

Transmitting 6 Mbps

CHANNELS TESTED

Channel 36 (8), 5180 MHz
Channel 48 (10), 5240 MHz
Channel 52 (14), 5260 MHz
Channel 64 (18), 5320 MHz
Channel 100 (19), 5500 MHz
Channel 116 (23), 5580 MHz
Channel 140 (29), 5700 MHz

POWER SETTINGS INVESTIGATED

3.3 VDC

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
EV01 Cables	N/A	Bilog Cables	EVA	6/28/2011	12
Spectrum Analyzer	Agilent	E4446A	AAQ	6/24/2011	12
Antenna, Bilog	Teseq	CBL 6141B	AXR	11/29/2010	12
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	6/28/2011	12
Antenna, Horn	ETS	3115	AIZ	1/24/2011	24
EV01 Cables	N/A	Double Ridge Horn Cables	EVB	6/28/2011	12
EV01 Cables	N/A	Standard Gain Horns Cables	EVF	3/2/2011	12
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	3/2/2011	12
Antenna, Horn	ETS	3160-08	AHV	NCR	0
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	3/2/2011	12
Antenna, Horn	ETS	3160-07	AHU	NCR	0
Antenna, Horn	ETS Lindgren	3160-09	AIV	NCR	0
Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	9/12/2011	12
Cable	ESM Cable Corp.	KMKM-72	EYV	9/12/2011	12
Pre-Amplifier	Miteq	JSW45-26004000-40-5P	AVR	7/1/2011	12
Antenna, Horn	ETS Lindgren	3160-10	AIW	NCR	0
OC Cable	ESM Cable Corp.	KMKM-72	OCV	7/1/2011	12
5.25 GHz Notch Filter	K&L Microwave	8N50-5250/X200-0/0	HFK	4/2/2010	24
High Pass Filter	Micro-Tronics	HPM50112	HGA	10/8/2010	24
5.47-5.725 Notch Filter	Micro-Tronics	BRC50704	HGI	10/8/2010	24
High Pass Filter	Micro-Tronics	HPM50112	HGA	10/8/2010	24
Power Meter	Gigatronics	8651A	SPM	1/7/2010	24
Power Sensor	Gigatronics	80701A	SPL	7/8/2011	24
Pre-Amplifier (FOR REFERENCE ONLY)	Hewlett-Packard	83017A	APL	NCR	0
Antenna, Horn	EMCO	3115	AHE	10/22/2009	24
Antenna, Dipole	ETS	3121C-DB4	ADH	3/6/2009	36
MXG Vector Signal Generator	Agilent	N5182A	TIF	NCR	0

MEASUREMENT BANDWIDTHS

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

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

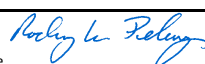
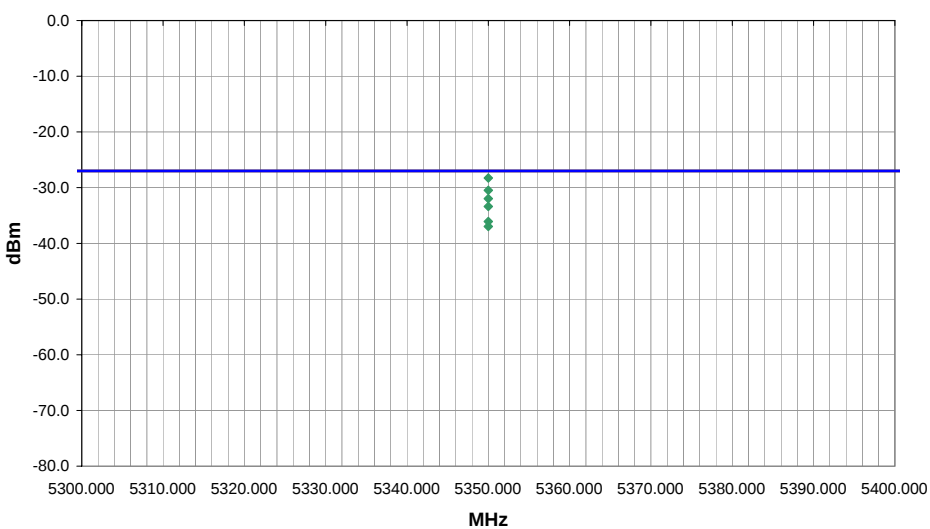
MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT were tested. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. Measurements were made to satisfy the three requirements of 47 CFR 15.407: Field strength under 1GHz, Restricted Bands of 47 CFR 15.205, and EIRP of 47 CFR 15.407. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.10:2009). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

The amplitude and frequency of the highest emissions were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to each of the highest spurious emissions. A signal generator was connected to the dipole (horn antenna for frequencies above 1GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the dipole antenna (or horn) and its gain (dBi); the effective radiated power for each radiated spurious emission was determined.

NORTHWEST		UNWANTED EMISSIONS		PSA 2011.05.11 EMI 2008.1.9								
EMC												
EUT: Ice Axe - Slave Module		Work Order: FOCU0115										
Serial Number: 02 EA 12 00 5A 67		Date: 09/14/11										
Customer: Summit Semiconductor		Temperature: 23°C										
Attendees: Ponnappa Pasura		Humidity: 49%										
Project: None		Barometric Pres.: 30.05										
Tested by: Rod Peloquin		Power: 3.3 VDC		Job Site: EV01								
TEST SPECIFICATIONS		Test Method										
FCC 15.407:2011		ANSI C63.10:2009										
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4		Test Distance (m) 1								
COMMENTS												
Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs												
EUT OPERATING MODES												
Transmitting Channel 64 (18) 5320 MHz												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	2	 Signature										
Configuration #	3											
Results	Pass											
												
Freq (MHz)			Azimuth (degrees)	Height (meters)		Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
5316.600			236.0	1.2		H-Horn	PK	2.15E-02	13.3			Fundamental, Ch 64, EUT on side
5350.000									-28.3	-27.0	-1.3	EUT on side, Marker Delta Method: Peak 13.3 + -41.6 = -28.3
5321.970			229.0	1.2		H-Horn	PK	1.18E-02	10.7			Fundamental, Ch 64, EUT horizontal
5350.000									-30.5	-27.0	-3.5	EUT on horizontal, Marker Delta Method: Peak 10.7 + -41.2 = -30.5
5316.570			226.0	1.2		V-Horn	PK	9.84E-03	9.9			Fundamental, Ch 64, EUT vertical
5350.000									-32.0	-27.0	-5.0	EUT vertical, Marker Delta Method: Peak 9.9 + -41.9 = -32.0
5316.970			27.0	1.0		H-Horn	PK	6.50E-03	8.1			Fundamental, Ch 64, EUT vertical
5350.000									-33.4	-27.0	-6.4	EUT vertical, Marker Delta Method: Peak 8.1 + -41.5 = -33.4
5321.130			131.0	1.1		V-Horn	PK	1.79E-03	2.5			Fundamental, EUT horizontal
5350.000									-36.1	-27.0	-9.1	EUT horizontal, Marker Delta Method: Peak 2.5 + -38.6 = -36.1

EMC

UNWANTED EMISSIONS

EUT:	Ice Axe - Slave Module	Work Order:	FOCU0115
Serial Number:	02 EA 12 00 5A 67	Date:	09/14/11
Customer:	Summit Semiconductor	Temperature:	23°C
Attendees:	Ponnappa Pasura	Humidity:	49%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	3.3 VDC
		Job Site:	EV01

TEST SPECIFICATIONS

FCC 15.407:2011, FCC 15.209:2011

Test Method

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 1.5	Test Distance (m)	1
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COMMENTS

Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs

EUT OPERATING MODES

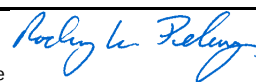
Transmitting Channel 64 (18) 5320 MHz

DEVIATIONS FROM TEST STANDARD

No deviations.

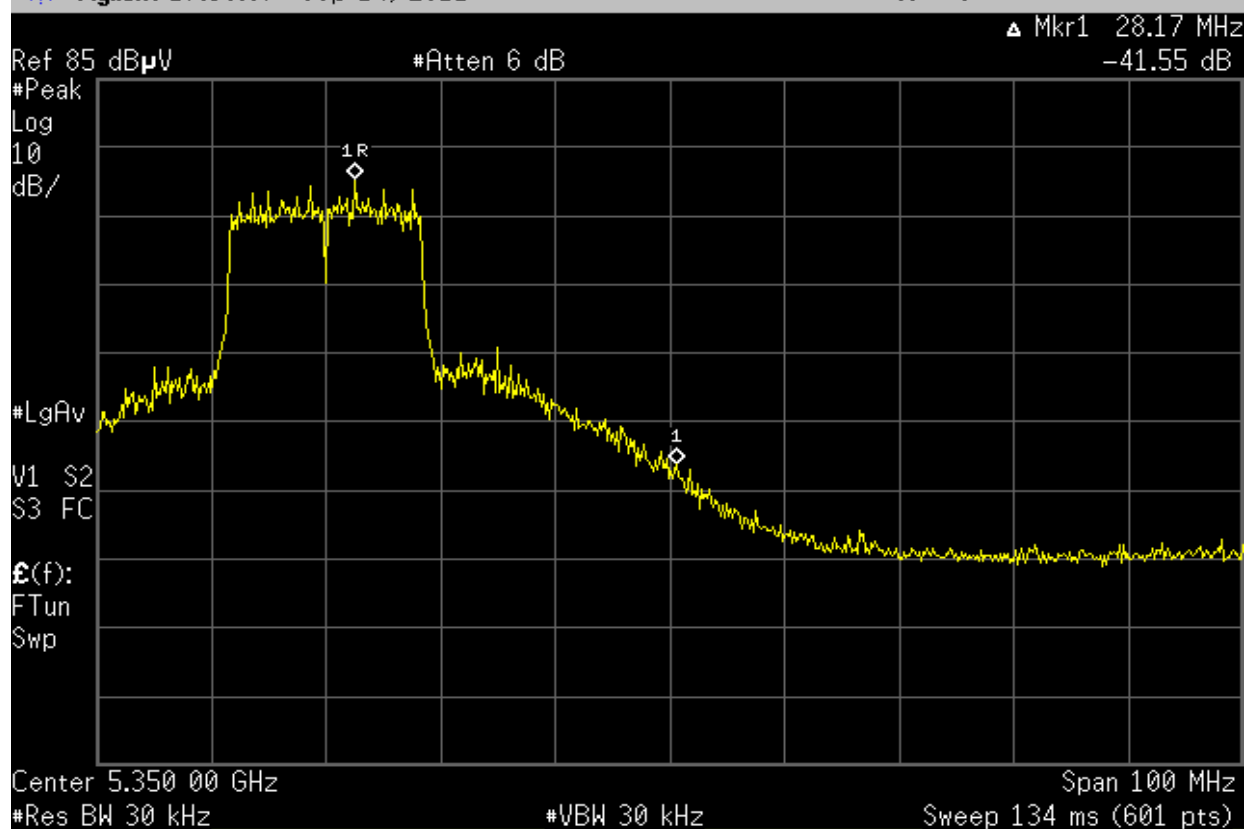
Run #	2
Configuration #	3
Results	Pass

Signature



Agilent 17:39:07 Sep 14, 2011

R T



EMC

UNWANTED EMISSIONS

EUT:	Ice Axe - Slave Module	Work Order:	FOCU0115
Serial Number:	02 EA 12 00 5A 67	Date:	09/14/11
Customer:	Summit Semiconductor	Temperature:	23°C
Attendees:	Ponnappa Pasura	Humidity:	49%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	3.3 VDC
		Job Site:	EV01

TEST SPECIFICATIONS

FCC 15.407:2011, FCC 15.209:2011

Test Method

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 1.5	Test Distance (m)	1
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COMMENTS

Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs

EUT OPERATING MODES

Transmitting Channel 64 (18) 5320 MHz

DEVIATIONS FROM TEST STANDARD

No deviations.

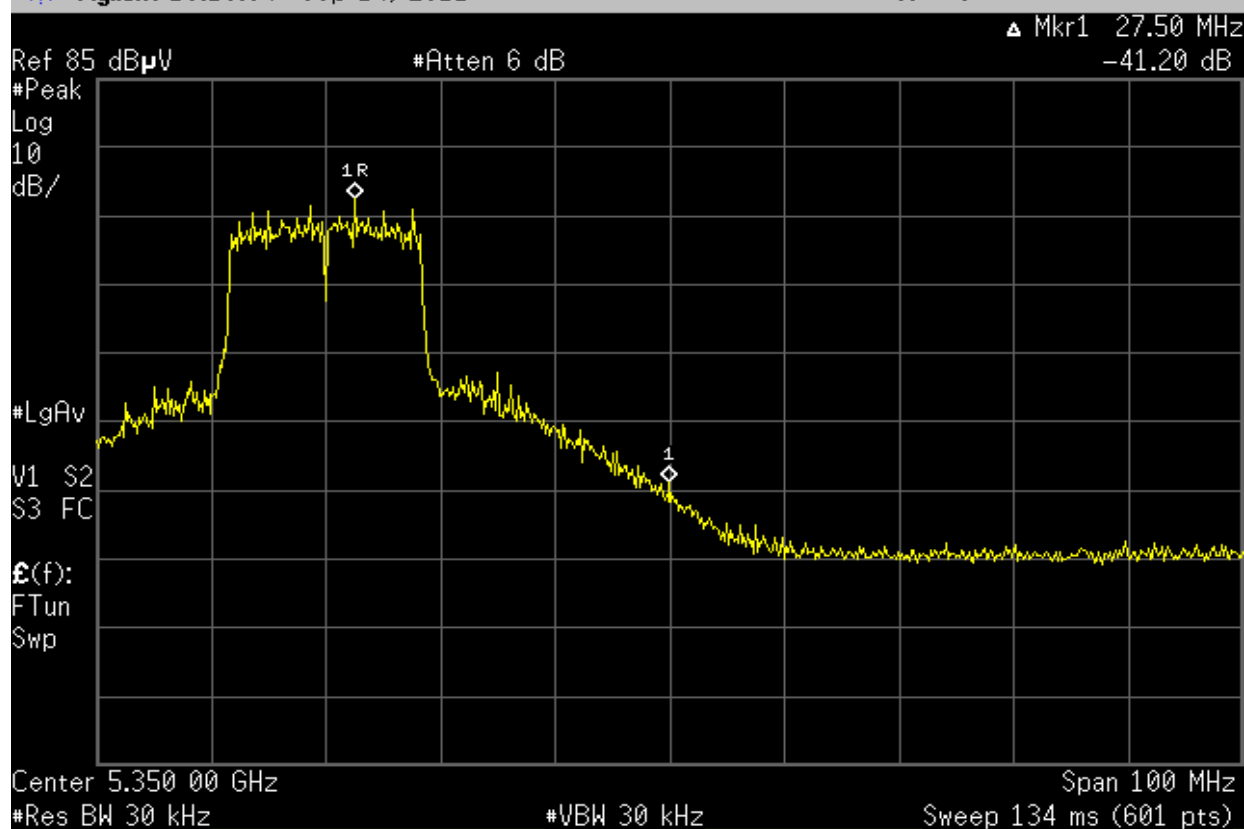
Run #	2
Configuration #	3
Results	Pass

Signature

Rocky Le Pellego

* Agilent 16:16:04 Sep 14, 2011

R T



EMC

UNWANTED EMISSIONS

EUT:	Ice Axe - Slave Module	Work Order:	FOCU0115
Serial Number:	02 EA 12 00 5A 67	Date:	09/14/11
Customer:	Summit Semiconductor	Temperature:	23°C
Attendees:	Ponnappa Pasura	Humidity:	49%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	3.3 VDC
		Job Site:	EV01

TEST SPECIFICATIONS

FCC 15.407:2011, FCC 15.209:2011

Test Method

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 1.5	Test Distance (m)	1
-----------------------	---------	-------------------	---

COMMENTS

Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs

EUT OPERATING MODES

Transmitting Channel 64 (18) 5320 MHz

DEVIATIONS FROM TEST STANDARD

No deviations.

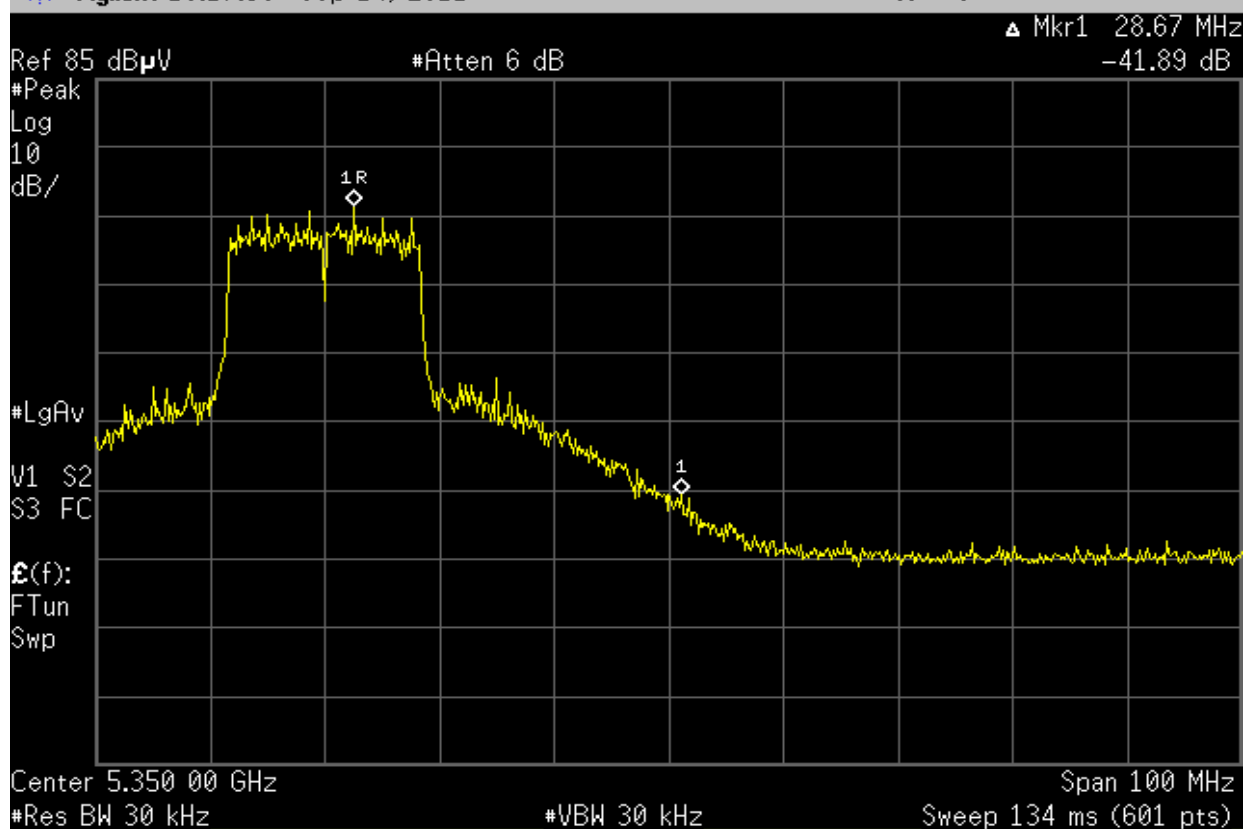
Run #	2
Configuration #	3
Results	Pass

Signature

Rod Peloquin

* Agilent 18:17:30 Sep 14, 2011

R T



EMC

UNWANTED EMISSIONS

EUT:	Ice Axe - Slave Module	Work Order:	FOCU0115
Serial Number:	02 EA 12 00 5A 67	Date:	09/14/11
Customer:	Summit Semiconductor	Temperature:	23°C
Attendees:	Ponnappa Pasura	Humidity:	49%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	3.3 VDC
		Job Site:	EV01

TEST SPECIFICATIONS

FCC 15.407:2011, FCC 15.209:2011

Test Method

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 1.5	Test Distance (m)	1
-----------------------	---------	-------------------	---

COMMENTS

Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs

EUT OPERATING MODES

Transmitting Channel 64 (18) 5320 MHz

DEVIATIONS FROM TEST STANDARD

No deviations.

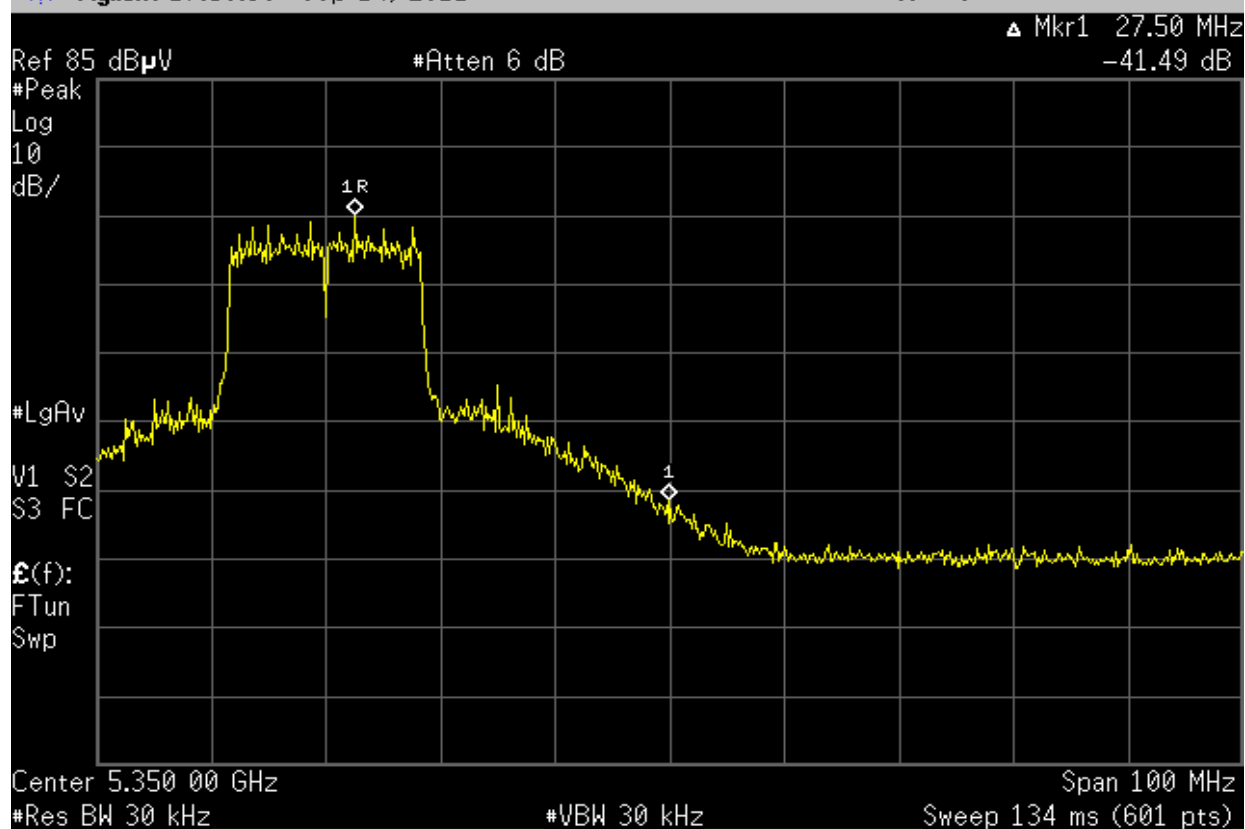
Run #	2
Configuration #	3
Results	Pass

Signature

Rocky Le Pellego

Agilent 17:59:39 Sep 14, 2011

R T



EMC

UNWANTED EMISSIONS

EUT:	Ice Axe - Slave Module	Work Order:	FOCU0115
Serial Number:	02 EA 12 00 5A 67	Date:	09/14/11
Customer:	Summit Semiconductor	Temperature:	23°C
Attendees:	Ponnappa Pasura	Humidity:	49%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	3.3 VDC
		Job Site:	EV01

TEST SPECIFICATIONS

Test Method

FCC 15.407:2011, FCC 15.209:2011

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 1.5	Test Distance (m)	1
-----------------------	---------	-------------------	---

COMMENTS

Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs

EUT OPERATING MODES

Transmitting Channel 64 (18) 5320 MHz

DEVIATIONS FROM TEST STANDARD

No deviations.

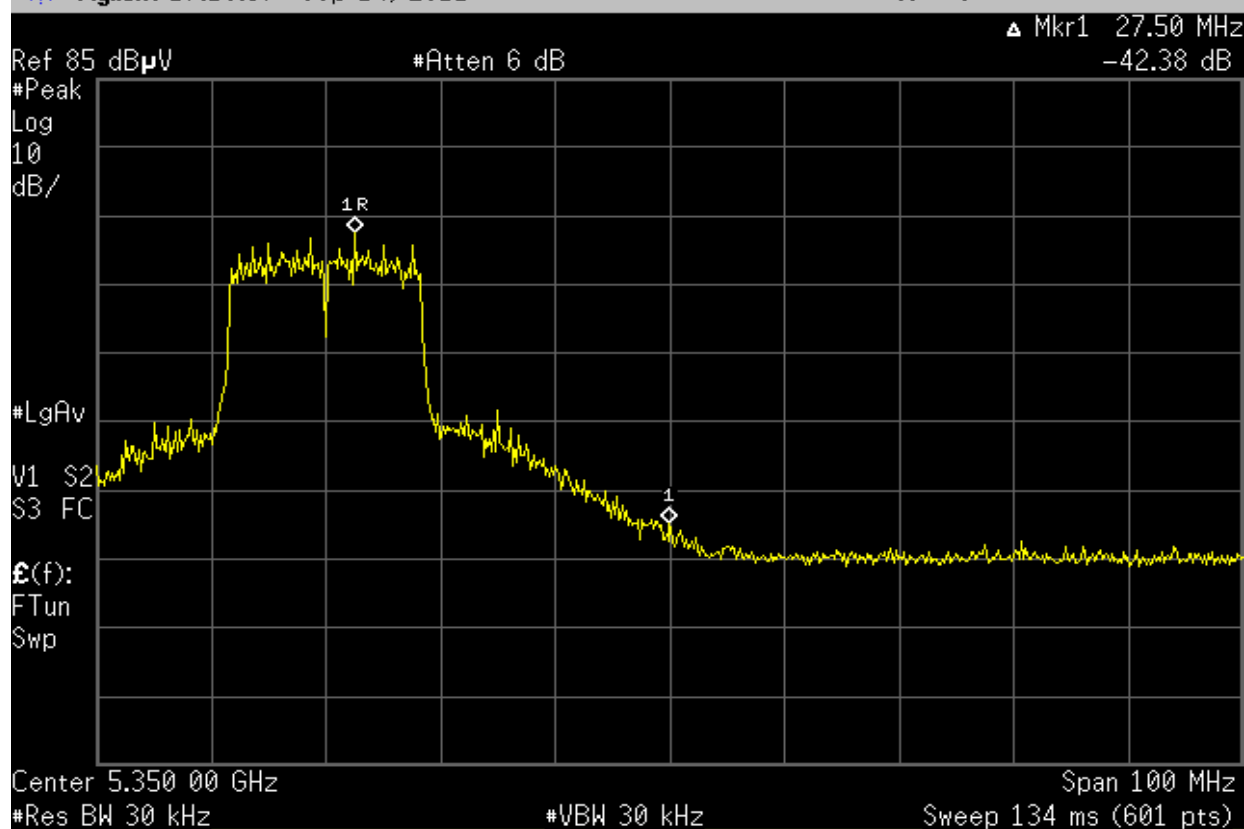
Run #	2
Configuration #	3
Results	Pass

Signature

Rocky Le Pellego

Agilent 17:19:37 Sep 14, 2011

R T



EMC

UNWANTED EMISSIONS

EUT:	Ice Axe - Slave Module	Work Order:	FOCU0115
Serial Number:	02 EA 12 00 5A 67	Date:	09/14/11
Customer:	Summit Semiconductor	Temperature:	23°C
Attendees:	Ponnappa Pasura	Humidity:	49%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	3.3 VDC
		Job Site:	EV01

TEST SPECIFICATIONS

FCC 15.407:2011, FCC 15.209:2011

Test Method

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 1.5	Test Distance (m)	1
-----------------------	---------	-------------------	---

COMMENTS

Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs

EUT OPERATING MODES

Transmitting Channel 64 (18) 5320 MHz

DEVIATIONS FROM TEST STANDARD

No deviations.

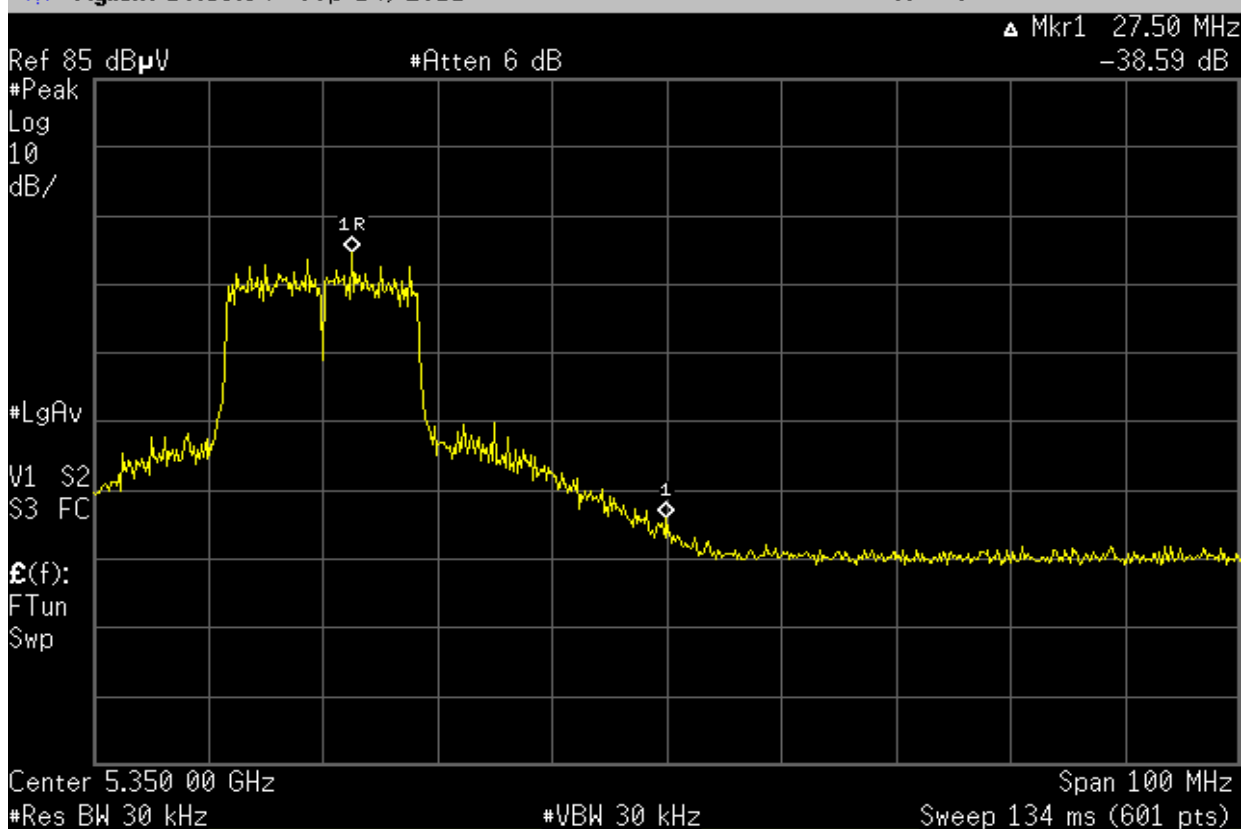
Run #	2
Configuration #	3
Results	Pass

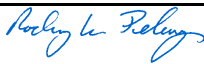
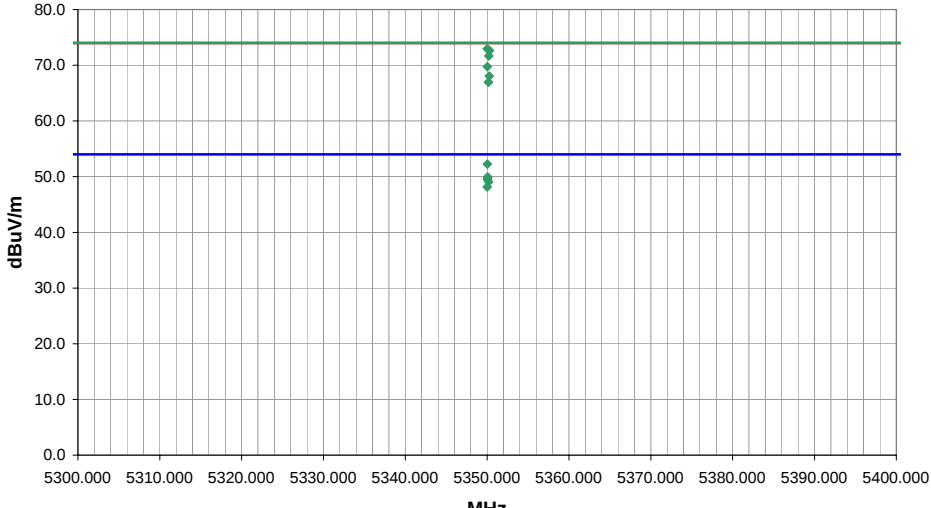
Signature

Rod Peloquin

Agilent 16:53:34 Sep 14, 2011

R T



NORTHWEST		UNWANTED EMISSIONS		PSA 2011.05.11									
EMC				EMI 2008.1.9									
EUT: Ice Axe - Slave Module		Work Order: FOCU0115											
Serial Number: 02 EA 12 00 5A 67		Date: 09/14/11											
Customer: Summit Semiconductor		Temperature: 23°C											
Attendees: Ponnappa Pasura		Humidity: 49%											
Project: None		Barometric Pres.: 30.05											
Tested by: Rod Peloquin		Power: 3.3 VDC		Job Site: EV01									
TEST SPECIFICATIONS		Test Method											
FCC 15.209:2011		ANSI C63.10:2009											
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m)									
				1									
COMMENTS													
Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs													
EUT OPERATING MODES													
Transmitting Channel 64 (18) 5320 MHz													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		2		 Signature									
Configuration #		3											
Results		Pass											
													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
5316.600	81.4	36.7	236.0	1.2	1.0	0.0	H-Horn	PK	-9.5	108.6			Fundamental, Ch 64, EUT on side
5350.160			236.0	1.2	1.0	0.0	H-Horn	PK		67.0	74.0	-7.0	EUT on side, Marker Delta Method: Peak 108.6 + -41.6 = -67.0
5350.000	45.6	36.9	238.0	1.1	1.0	0.0	V-Horn	PK	-9.5	73.0	74.0	-1.0	Ch 64, EUT vertical
5350.300	45.3	36.9	25.0	1.0	1.0	0.0	H-Horn	PK	-9.5	72.7	74.0	-1.3	Ch 64, EUT vertical
5350.037	24.9	36.9	236.0	1.2	1.0	0.0	H-Horn	AV	-9.5	52.3	54.0	-1.7	Ch 64, EUT on side
5350.210	44.3	36.9	263.0	1.0	1.0	0.0	H-Horn	PK	-9.5	71.7	74.0	-2.3	Ch 64, EUT horizontal
5350.067	22.6	36.9	238.0	1.1	1.0	0.0	V-Horn	AV	-9.5	50.0	54.0	-4.0	Ch 64, EUT vertical
5350.063	22.4	36.9	25.0	1.0	1.0	0.0	H-Horn	AV	-9.5	49.8	54.0	-4.2	Ch 64, EUT vertical
5350.037	42.4	36.9	154.0	1.3	1.0	0.0	V-Horn	PK	-9.5	69.8	74.0	-4.2	Ch 64, EUT on side

EMC

UNWANTED EMISSIONS

EUT:	Ice Axe - Slave Module	Work Order:	FOCU0115
Serial Number:	02 EA 12 00 5A 67	Date:	09/14/11
Customer:	Summit Semiconductor	Temperature:	23°C
Attendees:	Ponnappa Pasura	Humidity:	49%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	3.3 VDC
		Job Site:	EV01

TEST SPECIFICATIONS

FCC 15.407:2011, FCC 15.209:2011

Test Method

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 1.5	Test Distance (m)	1
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COMMENTS

Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs

EUT OPERATING MODES

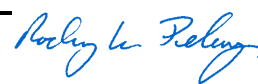
Transmitting Channel 64 (18) 5320 MHz

DEVIATIONS FROM TEST STANDARD

No deviations.

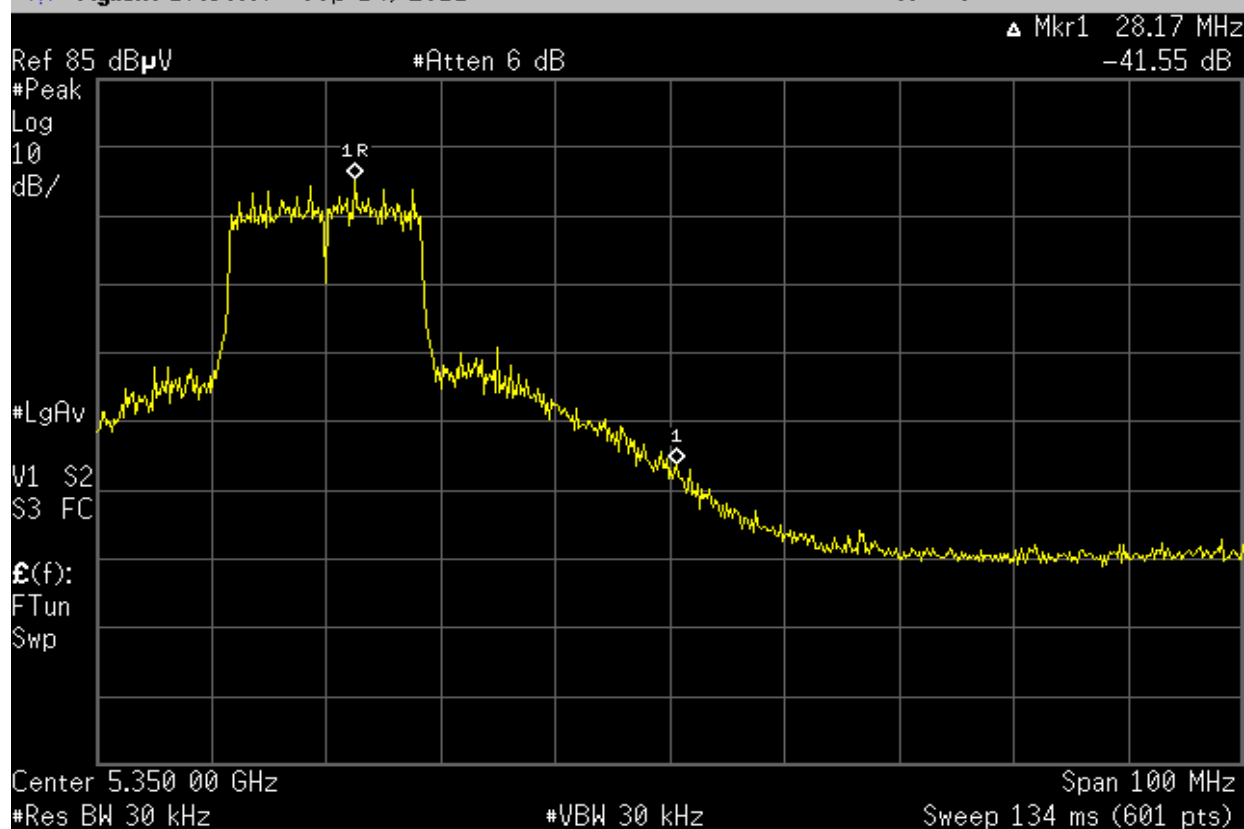
Run #	2
Configuration #	3
Results	Pass

Signature



Agilent 17:39:07 Sep 14, 2011

R T



EMC

UNWANTED EMISSIONS

EUT:	Ice Axe - Slave Module	Work Order:	FOCU0115
Serial Number:	02 EA 12 00 5A 67	Date:	09/16/11
Customer:	Summit Semiconductor	Temperature:	24
Attendees:	Ponnappa Pasura	Humidity:	47%
Project:	None	Barometric Pres.:	1011.2
Tested by:	Rod Peloquin	Power:	3.3 VDC
		Job Site:	EV01

TEST SPECIFICATIONS

Test Method

FCC 15.209:2011

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	1
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COMMENTS

Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs

EUT OPERATING MODES

Transmitting Channel 36 (8) 5180 MHz

DEVIATIONS FROM TEST STANDARD

No deviations.

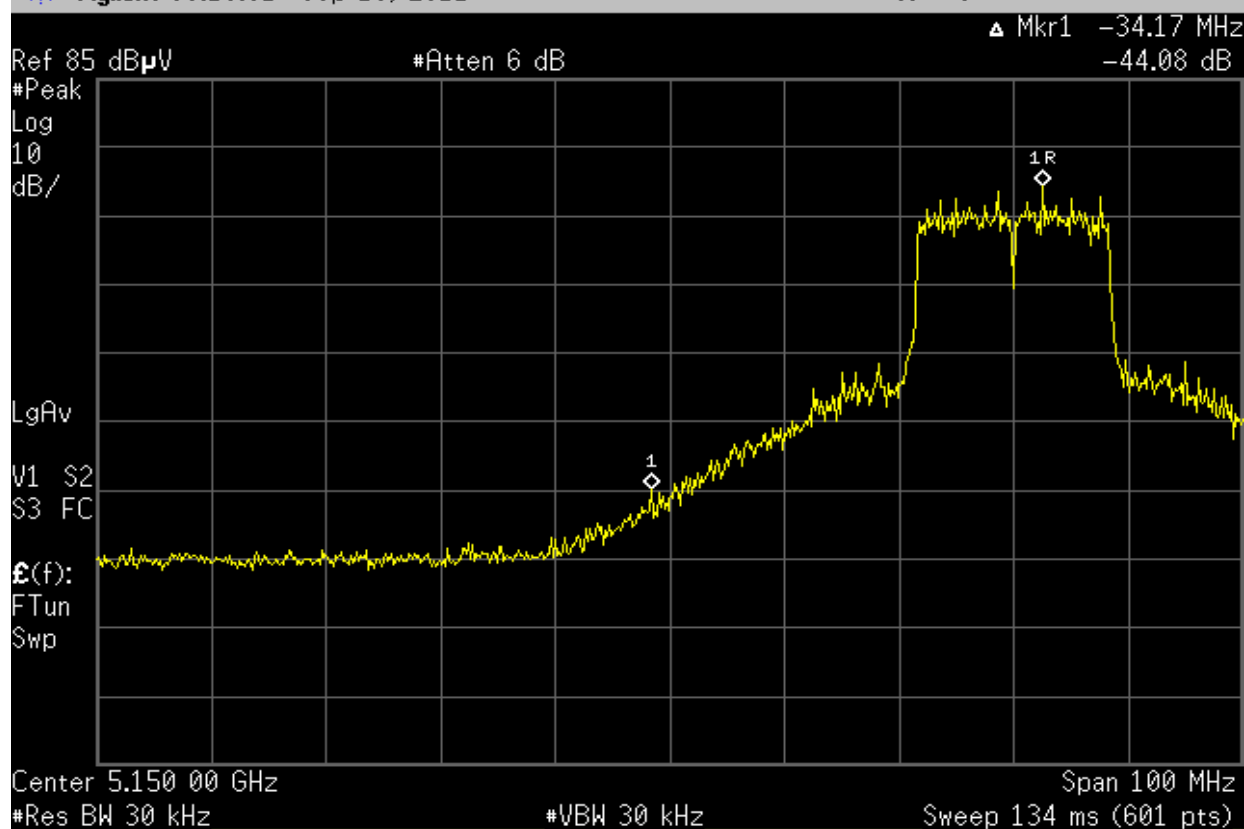
Run #	3
Configuration #	3
Results	Pass

Signature

Rod Peloquin

Agilent 09:10:01 Sep 16, 2011

R T



EMC

UNWANTED EMISSIONS

EUT:	Ice Axe - Slave Module	Work Order:	FOCU0115
Serial Number:	02 EA 12 00 5A 67	Date:	09/16/11
Customer:	Summit Semiconductor	Temperature:	24
Attendees:	Ponnappa Pasura	Humidity:	47%
Project:	None	Barometric Pres.:	1011.2
Tested by:	Rod Peloquin	Power:	3.3 VDC
		Job Site:	EV01

TEST SPECIFICATIONS

Test Method

FCC 15.209:2011

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	1
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COMMENTS

Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs

EUT OPERATING MODES

Transmitting Channel 36 (8) 5180 MHz

DEVIATIONS FROM TEST STANDARD

No deviations.

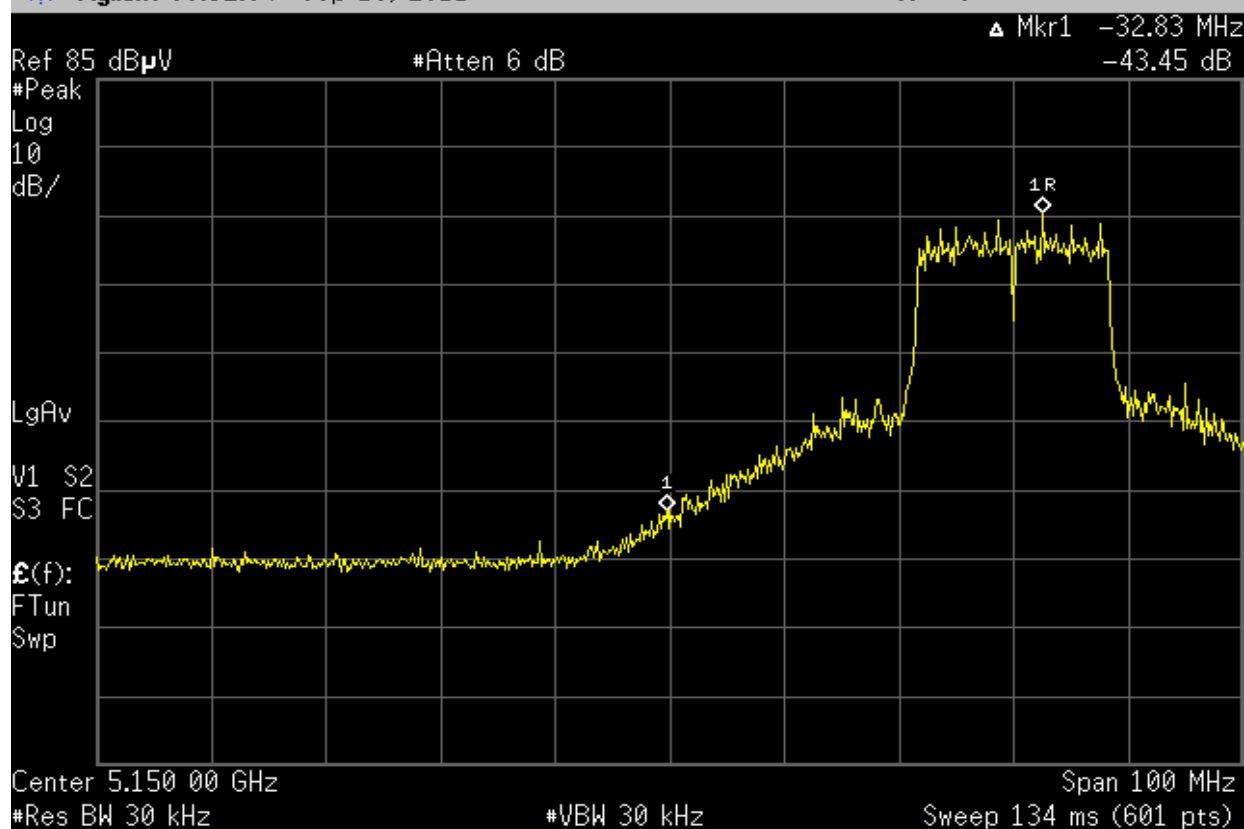
Run #	3
Configuration #	3
Results	Pass

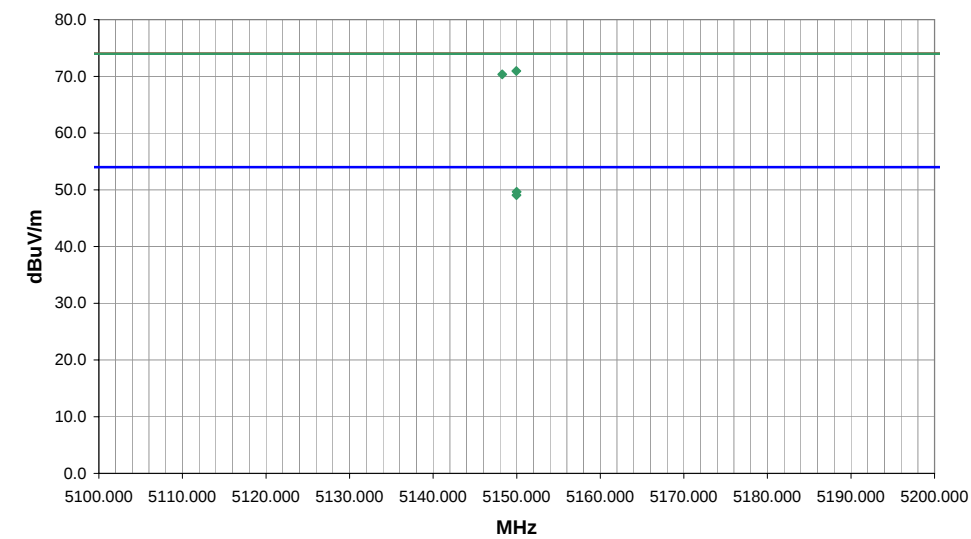
Signature

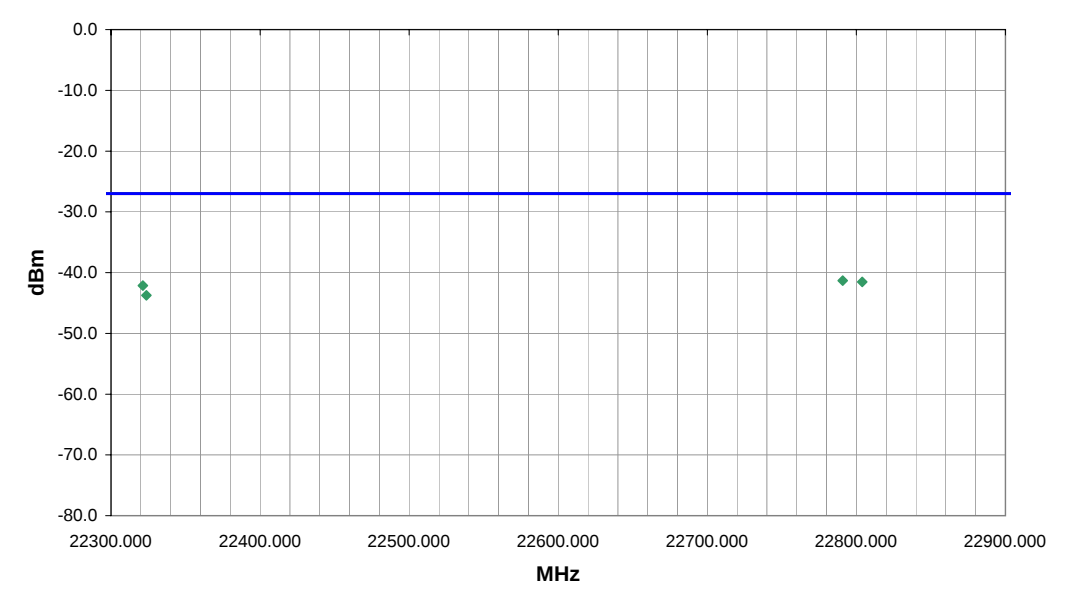
Rod Peloquin

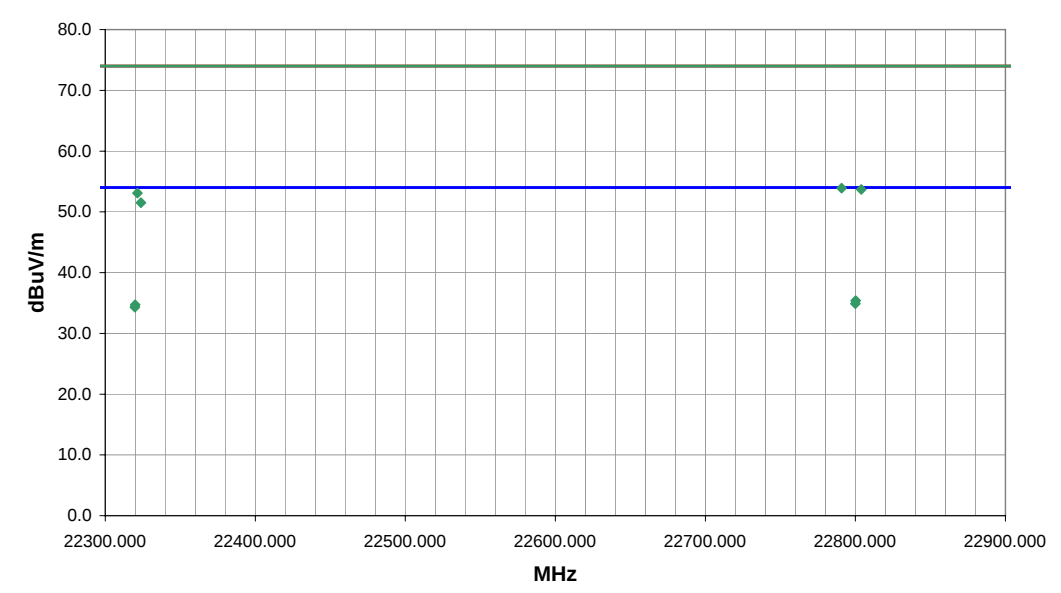
Agilent 09:32:04 Sep 16, 2011

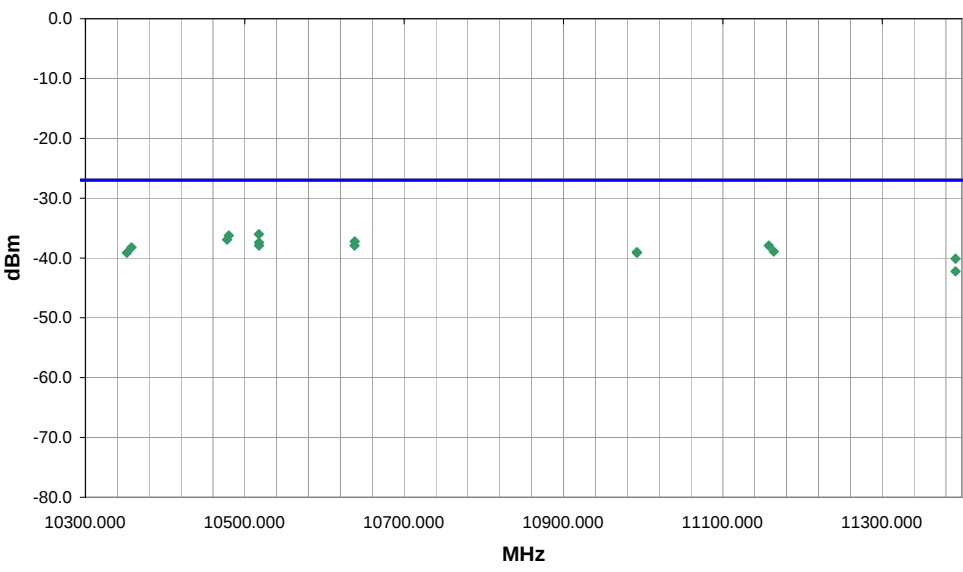
R T

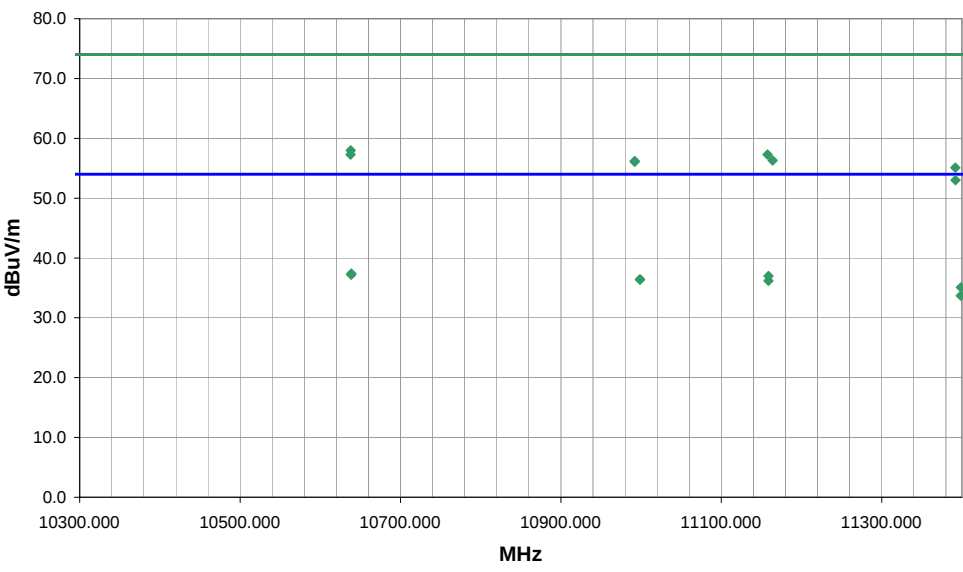


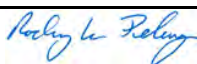
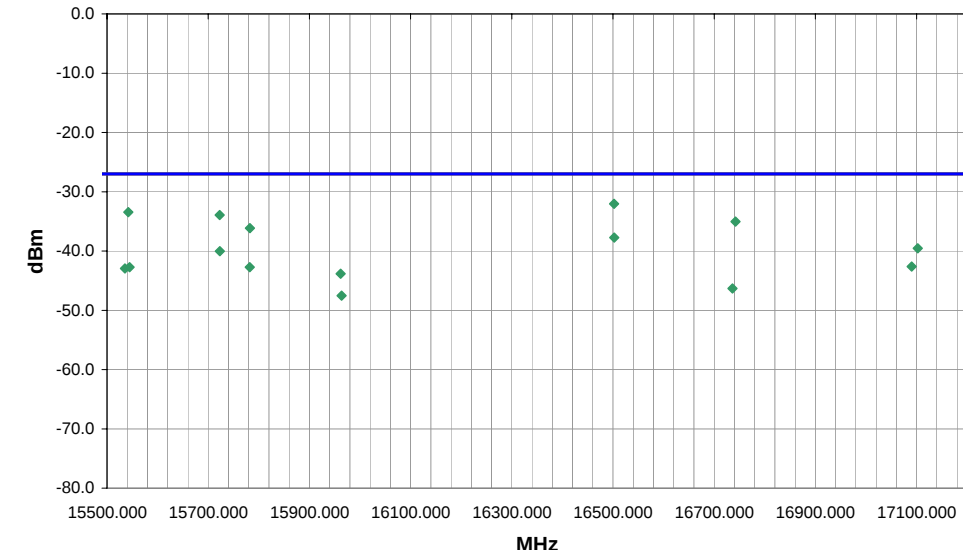
NORTHWEST		UNWANTED EMISSIONS		PSA 2011.05.11 EMI 2008.1.9									
EMC													
EUT: Ice Axe - Slave Module		Work Order: FOCU0115											
Serial Number: 02 EA 12 00 5A 67		Date: 09/16/11											
Customer: Summit Semiconductor		Temperature: 24											
Attendees: Ponnappa Pasura		Humidity: 47%											
Project: None		Barometric Pres.: 1011.2											
Tested by: Rod Peloquin		Power: 3.3 VDC		Job Site: EV01									
TEST SPECIFICATIONS		Test Method											
FCC 15.209:2011		ANSI C63.10:2009											
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m) 1									
COMMENTS													
Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs													
EUT OPERATING MODES													
Transmitting Channel 36 (8) 5180 MHz													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #	3	 Signature											
Configuration #	3												
Results	Pass												
													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
5149.943	44.2	36.3	244.0	1.3	1.0	0.0	H-Horn	PK	-9.5	71.0	74.0	-3.0	Ch 36, EUT horizontal on side
5148.270	43.6	36.3	213.0	1.0	1.0	0.0	V-Horn	PK	-9.5	70.4	74.0	-3.6	Ch 36, EUT vertical
5149.997	22.9	36.3	240.0	1.3	1.0	0.0	H-Horn	AV	-9.5	49.7	54.0	-4.3	Ch 36, EUT horizontal on side
5149.963	22.3	36.3	213.0	1.0	1.0	0.0	V-Horn	AV	-9.5	49.1	54.0	-4.9	Ch 36, EUT vertical

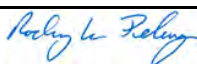
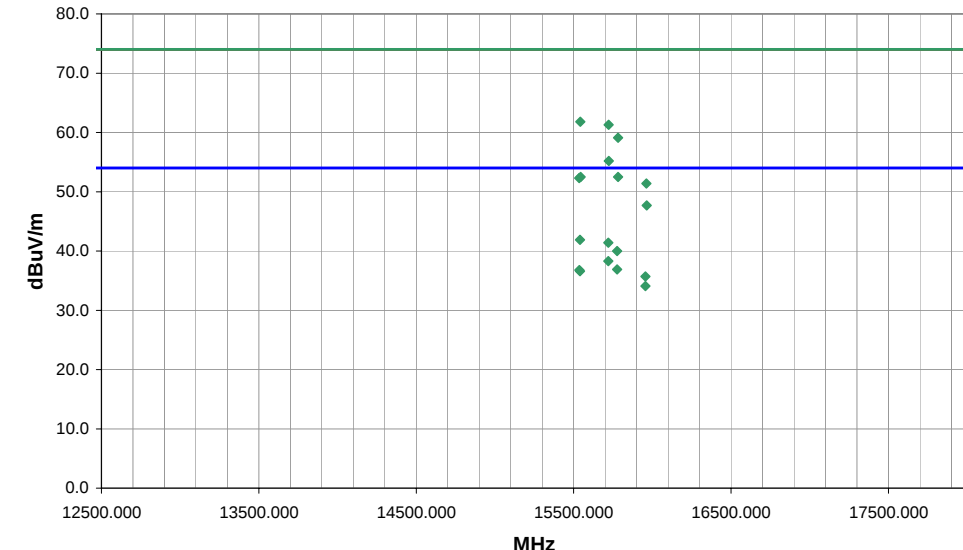
NORTHWEST		UNWANTED EMISSIONS		PSA 2011.05.11 EMI 2008.1.9																																																																		
EMC																																																																						
EUT: Ice Axe - Slave Module		Work Order: FOCU0115																																																																				
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Customer: Summit Semiconductor		Temperature: 24																																																																				
Attendees: Ponnappa Pasura		Humidity: 47%																																																																				
Project: None		Barometric Pres.: 1011.2																																																																				
Tested by: Rod Peloquin		Power: 3.3 VDC		Job Site: EV01																																																																		
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FCC 15.407:2011				ANSI C63.10:2009																																																																		
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Antenna Height(s) (m)		1 - 4		Test Distance (m) 3																																																																		
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Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs																																																																						
EUT OPERATING MODES																																																																						
Transmitting 6 Mbps																																																																						
DEVIATIONS FROM TEST STANDARD																																																																						
No deviations.																																																																						
Run #		6		 Signature																																																																		
Configuration #		3																																																																				
Results		Pass																																																																				
																																																																						
<table border="1"> <thead> <tr> <th>Freq (MHz)</th> <th></th> <th></th> <th>Azimuth (degrees)</th> <th>Height (meters)</th> <th></th> <th>Polarity</th> <th>Detector</th> <th>EIRP (Watts)</th> <th>EIRP (dBm)</th> <th>Spec. Limit (dBm)</th> <th>Compared to Spec. (dB)</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>22790.800</td> <td></td> <td></td> <td>131.0</td> <td>1.3</td> <td></td> <td>V-High Horr</td> <td>PK</td> <td>7.36E-08</td> <td>-41.3</td> <td>-27.0</td> <td>-14.3</td> <td>Ch 120, EUT vertical</td> </tr> <tr> <td>22803.920</td> <td></td> <td></td> <td>285.0</td> <td>1.3</td> <td></td> <td>H-High Horr</td> <td>PK</td> <td>7.03E-08</td> <td>-41.5</td> <td>-27.0</td> <td>-14.5</td> <td>Ch 140, EUT vertical</td> </tr> <tr> <td>22321.400</td> <td></td> <td></td> <td>126.0</td> <td>1.3</td> <td></td> <td>V-High Horr</td> <td>PK</td> <td>6.13E-08</td> <td>-42.1</td> <td>-27.0</td> <td>-15.1</td> <td>Ch 116, EUT vertical</td> </tr> <tr> <td>22323.760</td> <td></td> <td></td> <td>285.0</td> <td>1.3</td> <td></td> <td>H-High Horr</td> <td>PK</td> <td>4.24E-08</td> <td>-43.7</td> <td>-27.0</td> <td>-16.7</td> <td>Ch 116, EUT vertical</td> </tr> </tbody> </table>						Freq (MHz)			Azimuth (degrees)	Height (meters)		Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments	22790.800			131.0	1.3		V-High Horr	PK	7.36E-08	-41.3	-27.0	-14.3	Ch 120, EUT vertical	22803.920			285.0	1.3		H-High Horr	PK	7.03E-08	-41.5	-27.0	-14.5	Ch 140, EUT vertical	22321.400			126.0	1.3		V-High Horr	PK	6.13E-08	-42.1	-27.0	-15.1	Ch 116, EUT vertical	22323.760			285.0	1.3		H-High Horr	PK	4.24E-08	-43.7	-27.0	-16.7	Ch 116, EUT vertical
Freq (MHz)			Azimuth (degrees)	Height (meters)		Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments																																																										
22790.800			131.0	1.3		V-High Horr	PK	7.36E-08	-41.3	-27.0	-14.3	Ch 120, EUT vertical																																																										
22803.920			285.0	1.3		H-High Horr	PK	7.03E-08	-41.5	-27.0	-14.5	Ch 140, EUT vertical																																																										
22321.400			126.0	1.3		V-High Horr	PK	6.13E-08	-42.1	-27.0	-15.1	Ch 116, EUT vertical																																																										
22323.760			285.0	1.3		H-High Horr	PK	4.24E-08	-43.7	-27.0	-16.7	Ch 116, EUT vertical																																																										

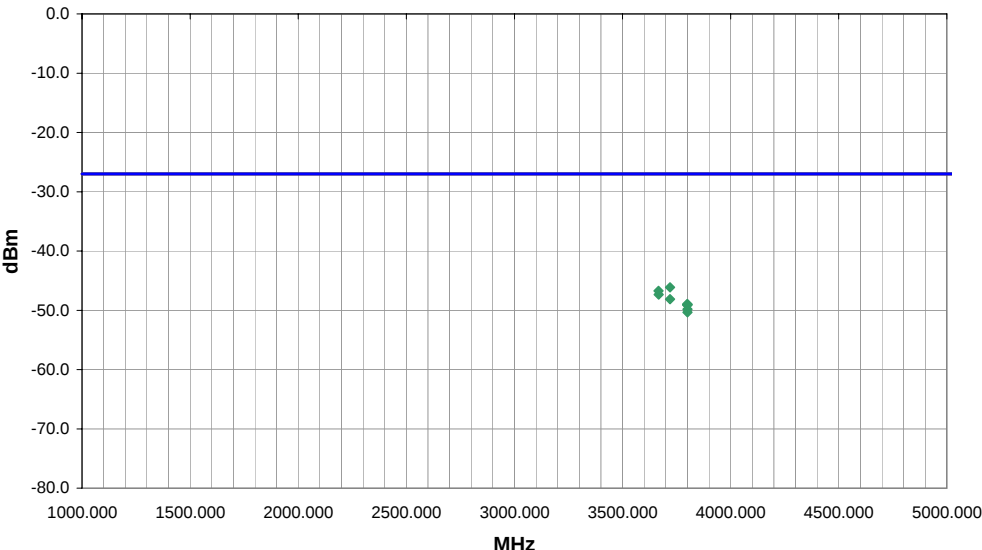
NORTHWEST		UNWANTED EMISSIONS		PSA 2011.05.11 EMI 2008.1.9									
EMC													
EUT: Ice Axe - Slave Module			Work Order: FOCU0115										
Serial Number: 02 EA 12 00 5A 67			Date: 09/16/11										
Customer: Summit Semiconductor			Temperature: 24										
Attendees: Ponnappa Pasura			Humidity: 47%										
Project: None			Barometric Pres.: 1011.2										
Tested by: Rod Peloquin		Power: 3.3 VDC		Job Site: EV01									
TEST SPECIFICATIONS			Test Method										
FCC 15.209:2011			ANSI C63.10:2009										
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3									
COMMENTS													
Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs													
EUT OPERATING MODES													
Transmitting 6 Mbps													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		6		 Signature									
Configuration #		3											
Results		Pass											
													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
22800.200	43.1	-7.7	131.0	1.3	3.0	0.0	V-High Horr	AV	0.0	35.4	54.0	-18.6	Ch 120, EUT vertical
22800.000	42.6	-7.7	285.0	1.3	3.0	0.0	+High Horr	AV	0.0	34.9	54.0	-19.1	Ch 120, EUT vertical
22319.920	42.7	-8.0	126.0	1.3	3.0	0.0	V-High Horr	AV	0.0	34.7	54.0	-19.3	Ch 116, EUT vertical
22319.760	42.3	-8.0	285.0	1.3	3.0	0.0	+High Horr	AV	0.0	34.3	54.0	-19.7	Ch 116, EUT vertical
22790.800	61.6	-7.7	131.0	1.3	3.0	0.0	V-High Horr	PK	0.0	53.9	74.0	-20.1	Ch 120, EUT vertical
22803.920	61.4	-7.7	285.0	1.3	3.0	0.0	+High Horr	PK	0.0	53.7	74.0	-20.3	Ch 140, EUT vertical
22321.400	61.1	-8.0	126.0	1.3	3.0	0.0	V-High Horr	PK	0.0	53.1	74.0	-20.9	Ch 116, EUT vertical
22323.760	59.5	-8.0	285.0	1.3	3.0	0.0	+High Horr	PK	0.0	51.5	74.0	-22.5	Ch 116, EUT vertical

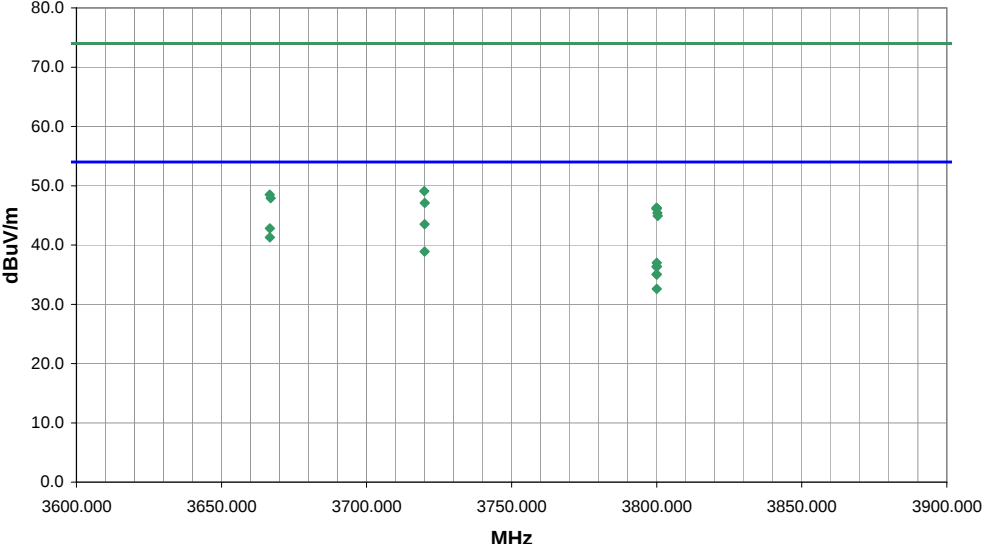
NORTHWEST EMC										UNWANTED EMISSIONS										PSA 2011.05.11 EMI 2008.1.9	
EUT: Ice Axe - Slave Module										Work Order: FOCU0115											
Serial Number: 02 EA 12 00 5A 67										Date: 09/19/11											
Customer: Summit Semiconductor										Temperature: 23°C											
Attendees: None										Humidity: 49%											
Project: None										Barometric Pres.: 30.05											
Tested by: Rod Peloquin					Power: 3.3 VDC					Job Site: EV01											
TEST SPECIFICATIONS										Test Method											
FCC 15.407:2011										ANSI C63.10:2009											
TEST PARAMETERS																					
Antenna Height(s) (m)					1 - 4					Test Distance (m)					3						
COMMENTS																					
Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs																					
EUT OPERATING MODES																					
Continuous Transmitting.																					
DEVIATIONS FROM TEST STANDARD																					
No deviations.																					
Run #		8		 Signature																	
Configuration #		3																			
Results		Pass																			
																					
Freq (MHz)			Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments								
10517.750			355.0	1.3			V-Horn	PK	2.50E-07	-36.0	-27.0	-9.0	Ch. 52 (15), EUT on side								
10479.960			355.0	1.3			V-Horn	PK	2.38E-07	-36.2	-27.0	-9.2	Ch. 48 (14), EUT on side								
10477.750			353.0	1.4			H-Horn	PK	2.03E-07	-36.9	-27.0	-9.9	Ch. 48 (14), EUT vertical								
10637.870			337.0	1.4			V-Horn	PK	1.89E-07	-37.2	-27.0	-10.2	Ch. 64 (18), EUT on side								
10517.960			323.0	1.3			H-Horn	PK	1.81E-07	-37.4	-27.0	-10.4	Ch. 52 (15), EUT vertical								
10637.830			323.0	1.3			H-Horn	PK	1.61E-07	-37.9	-27.0	-10.9	Ch. 64 (18), EUT vertical								
10517.960			353.0	1.4			H-Horn	PK	1.61E-07	-37.9	-27.0	-10.9	Ch. 52 (15), EUT vertical								
11157.710			323.0	1.3			H-Horn	PK	1.61E-07	-37.9	-27.0	-10.9	Ch. 116 (23), EUT vertical								
10357.870			353.0	1.4			H-Horn	PK	1.50E-07	-38.2	-27.0	-11.2	Ch. 36 (8), EUT vertical								
11163.920			338.0	1.4			V-Horn	PK	1.28E-07	-38.9	-27.0	-11.9	Ch. 116 (23), EUT on side								
10992.000			360.0	1.3			V-Horn	PK	1.25E-07	-39.0	-27.0	-12.0	Ch. 100 (19), EUT on side								
10352.040			332.0	1.3			V-Horn	PK	1.22E-07	-39.1	-27.0	-12.1	Ch. 36 (8), EUT on side								
10992.080			315.0	1.1			H-Horn	PK	1.22E-07	-39.1	-27.0	-12.1	Ch. 100 (19), EUT vertical								
11391.870			354.0	1.3			H-Horn	PK	9.71E-08	-40.1	-27.0	-13.1	Ch. 140 (29), EUT vertical								
11392.040			337.0	1.6			V-Horn	PK	5.99E-08	-42.2	-27.0	-15.2	Ch. 149 (30), EUT on side								

NORTHWEST										PSA 2011.05.11			
EMC										UNWANTED EMISSIONS			
EUT: Ice Axe - Slave Module										Work Order: FOCU0115			
Serial Number: 02 EA 12 00 5A 67										Date: 09/19/11			
Customer: Summit Semiconductor										Temperature: 23°C			
Attendees: None										Humidity: 49%			
Project: None										Barometric Pres.: 30.05			
Tested by: Rod Peloquin						Power: 3.3 VDC		Job Site: EV01					
TEST SPECIFICATIONS										Test Method			
FCC 15.209:2011										ANSI C63.10:2009			
TEST PARAMETERS													
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Results		Pass											
													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
10637.870	69.7	-11.7	337.0	1.4	3.0	0.0	V-Horn	PK	0.0	58.0	74.0	-16.0	Ch. 64 (18), EUT on side
10638.670	49.1	-11.7	337.0	1.4	3.0	0.0	V-Horn	AV	0.0	37.4	54.0	-16.6	Ch. 64 (18), EUT on side
10637.830	69.0	-11.7	323.0	1.3	3.0	0.0	H-Horn	PK	0.0	57.3	74.0	-16.7	Ch. 64 (18), EUT vertical
11157.710	66.2	-8.9	323.0	1.3	3.0	0.0	H-Horn	PK	0.0	57.3	74.0	-16.7	Ch. 116 (23), EUT vertical
10638.460	48.9	-11.7	323.0	1.3	3.0	0.0	H-Horn	AV	0.0	37.2	54.0	-16.8	Ch. 64 (18), EUT vertical
11158.750	45.9	-8.9	323.0	1.3	3.0	0.0	H-Horn	AV	0.0	37.0	54.0	-17.0	Ch. 116 (23), EUT vertical
10998.580	46.0	-9.6	315.0	1.1	3.0	0.0	H-Horn	AV	0.0	36.4	54.0	-17.6	Ch. 100 (19), EUT vertical
10998.710	46.0	-9.6	360.0	1.3	3.0	0.0	V-Horn	AV	0.0	36.4	54.0	-17.6	Ch. 100 (19), EUT on side
11163.920	65.2	-8.9	338.0	1.4	3.0	0.0	V-Horn	PK	0.0	56.3	74.0	-17.7	Ch. 116 (23), EUT on side
10992.000	65.8	-9.6	360.0	1.3	3.0	0.0	V-Horn	PK	0.0	56.2	74.0	-17.8	Ch. 100 (19), EUT on side
11158.750	45.1	-8.9	338.0	1.4	3.0	0.0	V-Horn	AV	0.0	36.2	54.0	-17.8	Ch. 116 (23), EUT on side
10992.080	65.7	-9.6	315.0	1.1	3.0	0.0	H-Horn	PK	0.0	56.1	74.0	-17.9	Ch. 100 (19), EUT vertical
11398.750	43.1	-8.0	354.0	1.3	3.0	0.0	H-Horn	AV	0.0	35.1	54.0	-18.9	Ch. 140 (29), EUT vertical

NORTHWEST		UNWANTED EMISSIONS		PSA 2011.05.11																																																																																																																																																																																																																																	
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<table border="1"> <thead> <tr> <th>Freq (MHz)</th> <th></th> <th></th> <th>Azimuth (degrees)</th> <th>Height (meters)</th> <th></th> <th></th> <th>Polarity</th> <th>Detector</th> <th>EIRP (Watts)</th> <th>EIRP (dBm)</th> <th>Spec. Limit (dBm)</th> <th>Compared to Spec. (dB)</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>16502.120</td> <td></td> <td></td> <td>111.0</td> <td>1.1</td> <td></td> <td></td> <td>H-Horn</td> <td>PK</td> <td>6.27E-07</td> <td>-32.0</td> <td>-27.0</td> <td>-5.0</td> <td>Ch. 100 (19), EUT vertical</td> </tr> <tr> <td>15542.100</td> <td></td> <td></td> <td>107.0</td> <td>1.2</td> <td></td> <td></td> <td>H-Horn</td> <td>PK</td> <td>4.54E-07</td> <td>-33.4</td> <td>-27.0</td> <td>-6.4</td> <td>Ch. 36 (8), EUT vertical</td> </tr> <tr> <td>15722.620</td> <td></td> <td></td> <td>107.0</td> <td>1.2</td> <td></td> <td></td> <td>H-Horn</td> <td>PK</td> <td>4.05E-07</td> <td>-33.9</td> <td>-27.0</td> <td>-6.9</td> <td>Ch. 48 (14), EUT vertical</td> </tr> <tr> <td>16742.080</td> <td></td> <td></td> <td>111.0</td> <td>1.1</td> <td></td> <td></td> <td>H-Horn</td> <td>PK</td> <td>3.14E-07</td> <td>-35.0</td> <td>-27.0</td> <td>-8.0</td> <td>Ch. 116 (23), EUT vertical</td> </tr> <tr> <td>15782.280</td> <td></td> <td></td> <td>107.0</td> <td>1.2</td> <td></td> <td></td> <td>H-Horn</td> <td>PK</td> <td>2.44E-07</td> <td>-36.1</td> <td>-27.0</td> <td>-9.1</td> <td>Ch. 52 (15), EUT vertical</td> </tr> <tr> <td>16502.510</td> <td></td> <td></td> <td>178.0</td> <td>1.1</td> <td></td> <td></td> <td>V-Horn</td> <td>PK</td> <td>1.69E-07</td> <td>-37.7</td> <td>-27.0</td> <td>-10.7</td> <td>Ch. 100 (100), EUT on side</td> </tr> <tr> <td>17102.400</td> <td></td> <td></td> <td>93.0</td> <td>1.1</td> <td></td> <td></td> <td>H-Horn</td> <td>PK</td> <td>1.11E-07</td> <td>-39.5</td> <td>-27.0</td> <td>-12.5</td> <td>Ch. 140 (29), EUT vertical</td> </tr> <tr> <td>15722.920</td> <td></td> <td></td> <td>176.0</td> <td>1.2</td> <td></td> <td></td> <td>V-Horn</td> <td>PK</td> <td>9.93E-08</td> <td>-40.0</td> <td>-27.0</td> <td>-13.0</td> <td>Ch. 48 (14), EUT on side</td> </tr> <tr> <td>17090.280</td> <td></td> <td></td> <td>17.0</td> <td>1.0</td> <td></td> <td></td> <td>V-Horn</td> <td>PK</td> <td>5.46E-08</td> <td>-42.6</td> <td>-27.0</td> <td>-15.6</td> <td>Ch. 140 (29), EUT on side</td> </tr> <tr> <td>15544.430</td> <td></td> <td></td> <td>113.0</td> <td>1.0</td> <td></td> <td></td> <td>V-Horn</td> <td>PK</td> <td>5.33E-08</td> <td>-42.7</td> <td>-27.0</td> <td>-15.7</td> <td>Ch. 36 (8), EUT on side</td> </tr> <tr> <td>15782.160</td> <td></td> <td></td> <td>176.0</td> <td>1.2</td> <td></td> <td></td> <td>V-Horn</td> <td>PK</td> <td>5.33E-08</td> <td>-42.7</td> <td>-27.0</td> <td>-15.7</td> <td>Ch. 52 (15), EUT on side</td> </tr> <tr> <td>15535.280</td> <td></td> <td></td> <td>107.0</td> <td>1.2</td> <td></td> <td></td> <td>V-Horn</td> <td>PK</td> <td>5.09E-08</td> <td>-42.9</td> <td>-27.0</td> <td>-15.9</td> <td>Ch. 36 (8), EUT vertical</td> </tr> <tr> <td>15961.750</td> <td></td> <td></td> <td>112.0</td> <td>1.2</td> <td></td> <td></td> <td>H-Horn</td> <td>PK</td> <td>4.14E-08</td> <td>-43.8</td> <td>-27.0</td> <td>-16.8</td> <td>Ch. 64 (18), EUT vertical</td> </tr> <tr> <td>16736.040</td> <td></td> <td></td> <td>13.0</td> <td>1.1</td> <td></td> <td></td> <td>V-Horn</td> <td>PK</td> <td>2.33E-08</td> <td>-46.3</td> <td>-27.0</td> <td>-19.3</td> <td>Ch. 116 (23), EUT on side</td> </tr> <tr> <td>15963.560</td> <td></td> <td></td> <td>174.0</td> <td>1.2</td> <td></td> <td></td> <td>V-Horn</td> <td>PK</td> <td>1.77E-08</td> <td>-47.5</td> <td>-27.0</td> <td>-20.5</td> <td>Ch. 64 (18), EUT on side</td> </tr> </tbody> </table>						Freq (MHz)			Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments	16502.120			111.0	1.1			H-Horn	PK	6.27E-07	-32.0	-27.0	-5.0	Ch. 100 (19), EUT vertical	15542.100			107.0	1.2			H-Horn	PK	4.54E-07	-33.4	-27.0	-6.4	Ch. 36 (8), EUT vertical	15722.620			107.0	1.2			H-Horn	PK	4.05E-07	-33.9	-27.0	-6.9	Ch. 48 (14), EUT vertical	16742.080			111.0	1.1			H-Horn	PK	3.14E-07	-35.0	-27.0	-8.0	Ch. 116 (23), EUT vertical	15782.280			107.0	1.2			H-Horn	PK	2.44E-07	-36.1	-27.0	-9.1	Ch. 52 (15), EUT vertical	16502.510			178.0	1.1			V-Horn	PK	1.69E-07	-37.7	-27.0	-10.7	Ch. 100 (100), EUT on side	17102.400			93.0	1.1			H-Horn	PK	1.11E-07	-39.5	-27.0	-12.5	Ch. 140 (29), EUT vertical	15722.920			176.0	1.2			V-Horn	PK	9.93E-08	-40.0	-27.0	-13.0	Ch. 48 (14), EUT on side	17090.280			17.0	1.0			V-Horn	PK	5.46E-08	-42.6	-27.0	-15.6	Ch. 140 (29), EUT on side	15544.430			113.0	1.0			V-Horn	PK	5.33E-08	-42.7	-27.0	-15.7	Ch. 36 (8), EUT on side	15782.160			176.0	1.2			V-Horn	PK	5.33E-08	-42.7	-27.0	-15.7	Ch. 52 (15), EUT on side	15535.280			107.0	1.2			V-Horn	PK	5.09E-08	-42.9	-27.0	-15.9	Ch. 36 (8), EUT vertical	15961.750			112.0	1.2			H-Horn	PK	4.14E-08	-43.8	-27.0	-16.8	Ch. 64 (18), EUT vertical	16736.040			13.0	1.1			V-Horn	PK	2.33E-08	-46.3	-27.0	-19.3	Ch. 116 (23), EUT on side	15963.560			174.0	1.2			V-Horn	PK	1.77E-08	-47.5	-27.0	-20.5	Ch. 64 (18), EUT on side
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17102.400			93.0	1.1			H-Horn	PK	1.11E-07	-39.5	-27.0	-12.5	Ch. 140 (29), EUT vertical																																																																																																																																																																																																																								
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EMC				EMI 2008.1.9									
EUT: Ice Axe - Slave Module		Work Order: FOCU0115											
Serial Number: 02 EA 12 00 5A 67		Date: 09/19/11											
Customer: Summit Semiconductor		Temperature: 23°C											
Attendees: Ponnappa Pasura		Humidity: 49%											
Project: None		Barometric Pres.: 30.05											
Tested by: Rod Peloquin		Power: 3.3 VDC		Job Site: EV01									
TEST SPECIFICATIONS		Test Method											
FCC 15.209:2011		ANSI C63.10:2009											
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m)									
				3									
COMMENTS													
Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs													
EUT OPERATING MODES													
Continuous Transmitting.													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		9											
Configuration #		3											
Results		Pass											
 Signature													
													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
15539.770	35.8	6.1	107.0	1.2	3.0	0.0	H-Horn	AV	0.0	41.9	54.0	-12.1	Ch. 36 (8), EUT vertical
15542.100	55.6	6.2	107.0	1.2	3.0	0.0	H-Horn	PK	0.0	61.8	74.0	-12.2	Ch. 36 (8), EUT vertical
15719.650	35.6	5.8	107.0	1.2	3.0	0.0	H-Horn	AV	0.0	41.4	54.0	-12.6	Ch. 48 (14), EUT vertical
15722.620	55.5	5.8	107.0	1.2	3.0	0.0	H-Horn	PK	0.0	61.3	74.0	-12.7	Ch. 48 (14), EUT vertical
15776.320	34.2	5.8	107.0	1.2	3.0	0.0	H-Horn	AV	0.0	40.0	54.0	-14.0	Ch. 52 (15), EUT vertical
15782.280	53.3	5.8	107.0	1.2	3.0	0.0	H-Horn	PK	0.0	59.1	74.0	-14.9	Ch. 52 (15), EUT vertical
15719.830	32.5	5.8	176.0	1.2	3.0	0.0	V-Horn	AV	0.0	38.3	54.0	-15.7	Ch. 48 (14), EUT on side
15776.210	31.1	5.8	179.0	1.2	3.0	0.0	V-Horn	AV	0.0	36.9	54.0	-17.1	Ch. 52 (15), EUT on side
15536.270	30.6	6.2	107.0	1.2	3.0	0.0	V-Horn	AV	0.0	36.8	54.0	-17.2	Ch. 36 (8), EUT vertical
15539.880	30.5	6.1	113.0	1.0	3.0	0.0	V-Horn	AV	0.0	36.6	54.0	-17.4	Ch. 36 (8), EUT on side
15956.210	29.5	6.2	112.0	1.2	3.0	0.0	H-Horn	AV	0.0	35.7	54.0	-18.3	Ch. 64 (18), EUT vertical
15722.920	49.4	5.8	176.0	1.2	3.0	0.0	V-Horn	PK	0.0	55.2	74.0	-18.8	Ch. 48 (14), EUT on side
15956.320	27.9	6.2	174.0	1.2	3.0	0.0	V-Horn	AV	0.0	34.1	54.0	-19.9	Ch. 64 (18), EUT on side
15544.430	46.4	6.1	113.0	1.0	3.0	0.0	V-Horn	PK	0.0	52.5	74.0	-21.5	Ch. 36 (8), EUT on side

NORTHWEST		PSA 2011.05.11									
EMC		EMI 2008.1.9									
UNWANTED EMISSIONS											
EUT: Ice Axe - Slave Module		Work Order: FOCU0115									
Serial Number: 02 EA 12 00 5A 67		Date: 09/20/11									
Customer: Summit Semiconductor		Temperature: 23°C									
Attendees: Ponnappa Pasura		Humidity: 49%									
Project: None		Barometric Pres.: 30.05									
Tested by: Rod Peloquin		Power: 3.3 VDC									
Job Site: EV01											
TEST SPECIFICATIONS		Test Method									
FCC 15.407:2011		ANSI C63.10:2009									
TEST PARAMETERS											
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3								
COMMENTS											
Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs											
EUT OPERATING MODES											
Continuous Transmitting.											
DEVIATIONS FROM TEST STANDARD											
No deviations.											
Run #	10	 Signature									
Configuration #	3										
Results	Pass										
											
Freq (MHz)		Azimuth (degrees)	Height (meters)		Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
3719.890		350.0	1.1		V-Horn	PK	2.44E-08	-46.1	-27.0	-19.1	Ch. 116 (23), EUT on side
3666.627		39.0	1.1		V-Horn	PK	2.12E-08	-46.7	-27.0	-19.7	Ch. 100 (19), EUT on side
3666.929		2.0	1.1		H-Horn	PK	1.85E-08	-47.3	-27.0	-20.3	Ch. 100 (19), EUT vertical
3720.073		102.0	1.1		H-Horn	PK	1.54E-08	-48.1	-27.0	-21.1	Ch. 116 (23), EUT vertical
3799.938		66.0	1.1		H-Horn	PK	1.28E-08	-48.9	-27.0	-21.9	Ch. 140 (29), EUT on side
3799.993		346.0	1.0		V-Horn	PK	1.25E-08	-49.0	-27.0	-22.0	Ch. 140 (29), EUT vertical
3800.013		348.0	1.1		V-Horn	PK	1.25E-08	-49.0	-27.0	-22.0	Ch. 140 (29), EUT on side
3799.918		178.0	1.0		H-Horn	PK	1.22E-08	-49.1	-27.0	-22.1	Ch. 140 (29), EUT vertical
3800.248		165.0	1.0		V-Horn	PK	1.04E-08	-49.8	-27.0	-22.8	Ch. 140 (29), EUT horizontal
3800.333		117.0	1.0		H-Horn	PK	9.27E-09	-50.3	-27.0	-23.3	Ch. 140 (29), EUT horizontal

EMC										UNWANTED EMISSIONS										PSA 2011.05.11 EMI 2008.1.9	
EUT: Ice Axe - Slave Module										Work Order: FOCU0115											
Serial Number: 02 EA 12 00 5A 67										Date: 09/20/11											
Customer: Summit Semiconductor										Temperature: 23°C											
Attendees: Ponnappa Pasura										Humidity: 49%											
Project: None										Barometric Pres.: 30.05											
Tested by: Rod Peloquin					Power: 3.3 VDC					Job Site: EV01											
TEST SPECIFICATIONS										Test Method											
FCC 15.209:2011										ANSI C63.10:2009											
TEST PARAMETERS																					
Antenna Height(s) (m)					1 - 4					Test Distance (m)					3						
COMMENTS																					
Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs																					
EUT OPERATING MODES																					
Continuous Transmitting.																					
DEVIATIONS FROM TEST STANDARD																					
No deviations.																					
Run #		10		 Signature																	
Configuration #		3																			
Results		Pass																			
																					
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments								
3720.003	37.3	6.2	350.0	1.1	3.0	0.0	V-Horn	AV	0.0	43.5	54.0	-10.5	Ch. 116 (23), EUT on side								
3666.675	36.9	5.9	39.0	1.1	3.0	0.0	V-Horn	AV	0.0	42.8	54.0	-11.2	Ch. 100 (19), EUT on side								
3666.687	35.4	5.9	2.0	1.1	3.0	0.0	H-Horn	AV	0.0	41.3	54.0	-12.7	Ch. 100 (19), EUT vertical								
3719.996	32.7	6.2	102.0	1.1	3.0	0.0	H-Horn	AV	0.0	38.9	54.0	-15.1	Ch. 116 (23), EUT vertical								
3800.003	30.4	6.6	348.0	1.1	3.0	0.0	V-Horn	AV	0.0	37.0	54.0	-17.0	Ch. 140 (29), EUT on side								
3800.003	29.8	6.6	178.0	1.0	3.0	0.0	H-Horn	AV	0.0	36.4	54.0	-17.6	Ch. 140 (29), EUT vertical								
3799.968	29.7	6.6	346.0	1.0	3.0	0.0	V-Horn	AV	0.0	36.3	54.0	-17.7	Ch. 140 (29), EUT vertical								
3799.958	28.5	6.6	165.0	1.0	3.0	0.0	V-Horn	AV	0.0	35.1	54.0	-18.9	Ch. 140 (29), EUT horizontal								
3800.003	28.4	6.6	66.0	1.1	3.0	0.0	H-Horn	AV	0.0	35.0	54.0	-19.0	Ch. 140 (29), EUT on side								
3800.003	26.0	6.6	117.0	1.0	3.0	0.0	H-Horn	AV	0.0	32.6	54.0	-21.4	Ch. 140 (29), EUT horizontal								
3719.890	42.9	6.2	350.0	1.1	3.0	0.0	V-Horn	PK	0.0	49.1	74.0	-24.9	Ch. 116 (23), EUT on side								
3666.627	42.6	5.9	39.0	1.1	3.0	0.0	V-Horn	PK	0.0	48.5	74.0	-25.5	Ch. 100 (19), EUT on side								
3666.929	42.0	5.9	2.0	1.1	3.0	0.0	H-Horn	PK	0.0	47.9	74.0	-26.1	Ch. 100 (19), EUT vertical								
3720.073	40.9	6.2	102.0	1.1	3.0	0.0	H-Horn	PK	0.0	47.1	74.0	-26.9	Ch. 116 (23), EUT vertical								
3799.938	39.7	6.6	66.0	1.1	3.0	0.0	H-Horn	PK	0.0	46.3	74.0	-27.7	Ch. 140 (29), EUT on side								
3799.993	39.6	6.6	346.0	1.0	3.0	0.0	V-Horn	PK	0.0	46.2	74.0	-27.8	Ch. 140 (29), EUT vertical								
3800.013	39.6	6.6	348.0	1.1	3.0	0.0	V-Horn	PK	0.0	46.2	74.0	-27.8	Ch. 140 (29), EUT on side								
3799.918	39.5	6.6	178.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.1	74.0	-27.9	Ch. 140 (29), EUT vertical								
3800.248	38.8	6.6	165.0	1.0	3.0	0.0	V-Horn	PK	0.0	45.4	74.0	-28.6	Ch. 140 (29), EUT horizontal								
3800.333	38.3	6.6	117.0	1.0	3.0	0.0	H-Horn	PK	0.0	44.9	74.0	-29.1	Ch. 140 (29), EUT horizontal								

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	7/5/2011	12
40GHz DC Block	Miteq	DCB4000	AMD	8/12/2011	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	8/2/2011	12
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0
Multimeter	Tektronix	DMM912	MMH	1/28/2011	24
DC Power Supply	Topward	TPS-2000	TPD	NCR	0
Chamber Temp. & Humidity Controller	ESZ / Eurotherm	Dimension II	TBC	NCR	0
Chamber, Temp./Humidity Chamber	Cincinnati Sub Zero (CSZ)	ZH-32-2-2-H/AC	TBA	8/20/2010	24

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

Variation of Supply Voltage

The primary supply voltage was varied over the range of 80 % to 110 % of the nominal DC voltage of the intended supply.

Variation of Ambient Temperature

Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range (-30 ° to +50° C) and at 10°C intervals.

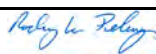
A direct connect measurement was made between the EUT's antenna cable and a spectrum analyzer. The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT. Measurements were made at the mid channel of each band to determine frequency stability. If the frequency variation is less than 100 ppm, the EUT will meet the requirement of 15.407(g), that the emissions are maintained within the band of operation.

NORTHWEST

EMC

FREQUENCY STABILITY

XMIT 2010.11.03

EUT: Ice Axe - Slave Module		Work Order: FOCU0115
Serial Number: 03 EA 12 00 5A 6D		Date: 09/13/11
Customer: Summit Semiconductor		Temperature: 23.7°C
Attendees: Ponnappa Pasura		Humidity: 48%
Project: None		Barometric Pres.: 30.11 in
Tested by: Rod Peloquin		Power: 3.3 VDC Nominal
TEST SPECIFICATIONS		Test Method
FCC 15.407:2011		ANSI C63.10:2009
COMMENTS		
Operated per TPC power table		
DEVIATIONS FROM TEST STANDARD		
No Deviation		
Configuration #	2	Signature 

Low Channel, 5150 MHz - 5250 MHz Band

Frequency Stability with Variation of DC Voltage (Ambient Temperature = 20° C)

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
3.6 (110%)	5180.000000	5179.986350	2.64	n/a
3.3 (100%)	5180.000000	5179.978500	4.15	n/a
3.0 (90%)	5180.000000	5179.969150	5.96	n/a

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 3.3 VDC)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	5180.000000	5179.982000	3.47	n/a
40	5180.000000	5179.975350	4.76	n/a
30	5180.000000	5179.973850	5.05	n/a
20	5180.000000	5179.978500	4.15	n/a
10	5180.000000	5179.984150	3.06	n/a
0	5180.000000	5179.988550	2.21	n/a
-10	5180.000000	5179.987800	2.36	n/a
-20	5180.000000	5179.979000	4.05	n/a
-30	5180.000000	5179.961435	7.44	n/a

High Channel, 5250 MHz - 5350 MHz Band

Frequency Stability with Variation of DC Voltage (Ambient Temperature = 20° C)

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
3.6 (110%)	5320.000000	5319.986250	2.58	n/a
3.3 (100%)	5320.000000	5319.978550	4.03	n/a
3.0 (90%)	5320.000000	5319.968800	5.86	n/a

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 3.3 VDC)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	5320.000000	5319.981500	3.48	n/a
40	5320.000000	5319.974750	4.75	n/a
30	5320.000000	5319.973400	5.00	n/a
20	5320.000000	5319.978550	4.03	n/a
10	5320.000000	5319.984200	2.97	n/a
0	5320.000000	5319.988450	2.17	n/a
-10	5320.000000	5319.987600	2.33	n/a
-20	5320.000000	5319.979074	3.93	n/a
-30	5320.000000	5319.958950	7.72	n/a

Low Channel, 5470 MHz - 5725 MHz Band

Frequency Stability with Variation of DC Voltage (Ambient Temperature = 20° C)

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
3.6 (110%)	5500.000000	5499.985950	2.55	n/a
3.3 (100%)	5500.000000	5499.977200	4.15	n/a
3.0 (90%)	5500.000000	5499.967950	5.83	n/a

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 3.3 VDC)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	5500.000000	5499.981000	3.45	n/a
40	5500.000000	5499.974000	4.73	n/a
30	5500.000000	5499.972550	4.99	n/a
20	5500.000000	5499.977200	4.15	n/a
10	5500.000000	5499.983700	2.96	n/a
0	5500.000000	5499.988150	2.15	n/a
-10	5500.000000	5499.987000	2.36	n/a
-20	5500.000000	5499.978450	3.92	n/a
-30	5500.000000	5499.957950	7.65	n/a

High Channel, 5470 MHz - 5725 MHz Band

Frequency Stability with Variation of DC Voltage (Ambient Temperature = 20° C)

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
3.6 (110%)	5700.000000	5699.985150	2.61	n/a
3.3 (100%)	5700.000000	5699.976500	4.12	n/a
3.0 (90%)	5700.000000	5699.967000	5.79	n/a

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 3.3 VDC)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	5700.000000	5699.984000	2.81	n/a
40	5700.000000	5699.973000	4.74	n/a
30	5700.000000	5699.971548	4.99	n/a
20	5700.000000	5699.976500	4.12	n/a
10	5700.000000	5699.983080	2.97	n/a
0	5700.000000	5699.987530	2.19	n/a
-10	5700.000000	5699.986200	2.42	n/a
-20	5700.000000	5699.977900	3.88	n/a
-30	5700.000000	5699.957000	7.54	n/a

Transmissions Burst Duration

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	7/5/2011	12
40GHz DC Block	Miteq	DCB4000	AMD	8/12/2011	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	8/2/2011	12
EV06 Direct Connect Cable	ESM Cable Corp.	TT	ECA	NCR	0

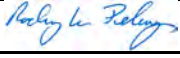
MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

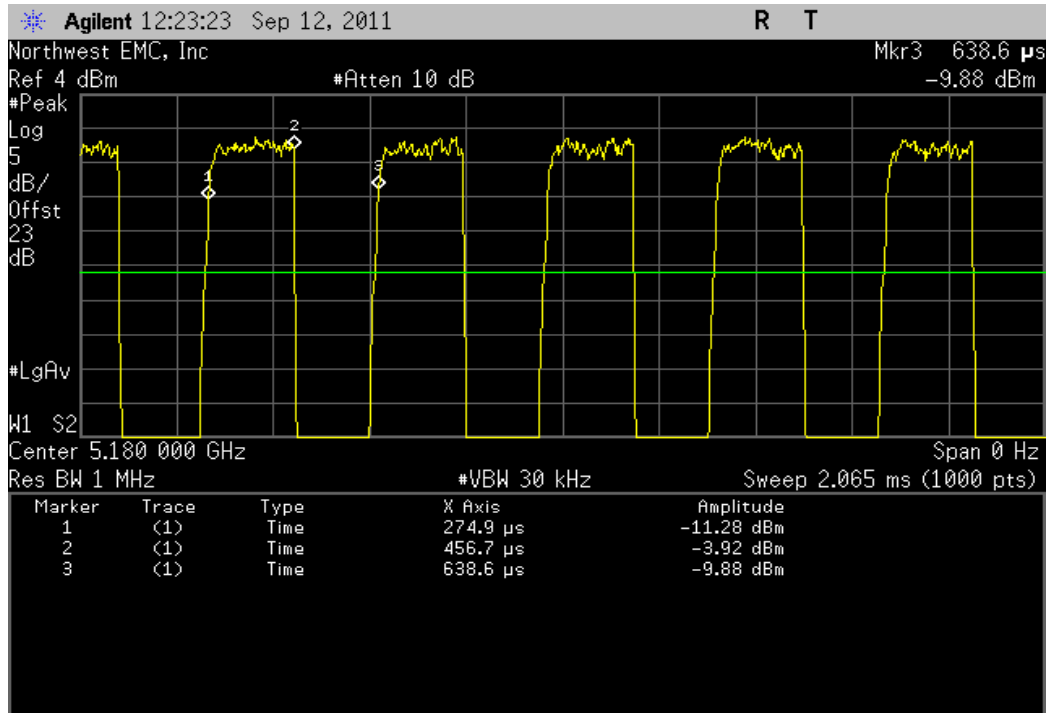
The transmission pulse duration (T) were measured for each of the EUT operating modes. The transmission pulse duration (T) was measured using a zero span on the spectrum analyzer to see the pulses in the time domain.

The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used.

NORTHWEST		EMC		Transmissions Burst Duration		XMit 2011.08.04 PsaTx 2011.09.07	
EUT: Ice Axe - Slave Module				Work Order: FOCU0115			
Serial Number: 03 EA 12 00 5A 6D				Date: 09/12/11			
Customer: Summit Semiconductor				Temperature: 23.7°C			
Attendees: Ponnappa Pasura				Humidity: 47%			
Project: None				Barometric Pres.: 30.11			
Tested by: Rod Peloquin		Power: 3.3 VDC		Job Site: EV06			
TEST SPECIFICATIONS				Test Method			
FCC 15.407:2011				ANSI C63.10:2009			
COMMENTS							
Operated per TPC power table, data randomization enabled.							
DEVIATIONS FROM TEST STANDARD							
No Deviations							
Configuration #	1	 Signature					
		Number of Pulses	Value	Limit	Result		
802.11(a) 6 Mbps							
5150 - 5250 MHz Band							
	Channel 36, Low Channel	1	0.182 ms	N/A	N/A		
	Channel 36, Low Channel	5		N/A	N/A		
	Channel 48, High Channel	1	0.182 ms	N/A	N/A		
	Channel 48, High Channel	5		N/A	N/A		
5250 - 5350 MHz Band							
	Channel 52, Low Channel	1	0.186 ms	N/A	N/A		
	Channel 52, Low Channel	5		N/A	N/A		
	Channel 64, High Channel	1	0.184 ms	N/A	N/A		
	Channel 64, High Channel	5		N/A	N/A		
5470 - 5725 MHz Band							
	Channel 100, Low Channel	1	0.182 ms	N/A	N/A		
	Channel 100, Low Channel	5		N/A	N/A		
	Channel 116, Mid Channel	1	0.182 ms	N/A	N/A		
	Channel 116, Mid Channel	5		N/A	N/A		
	Channel 140, High Channel	1	0.182 ms	N/A	N/A		
	Channel 140, High Channel	5		N/A	N/A		

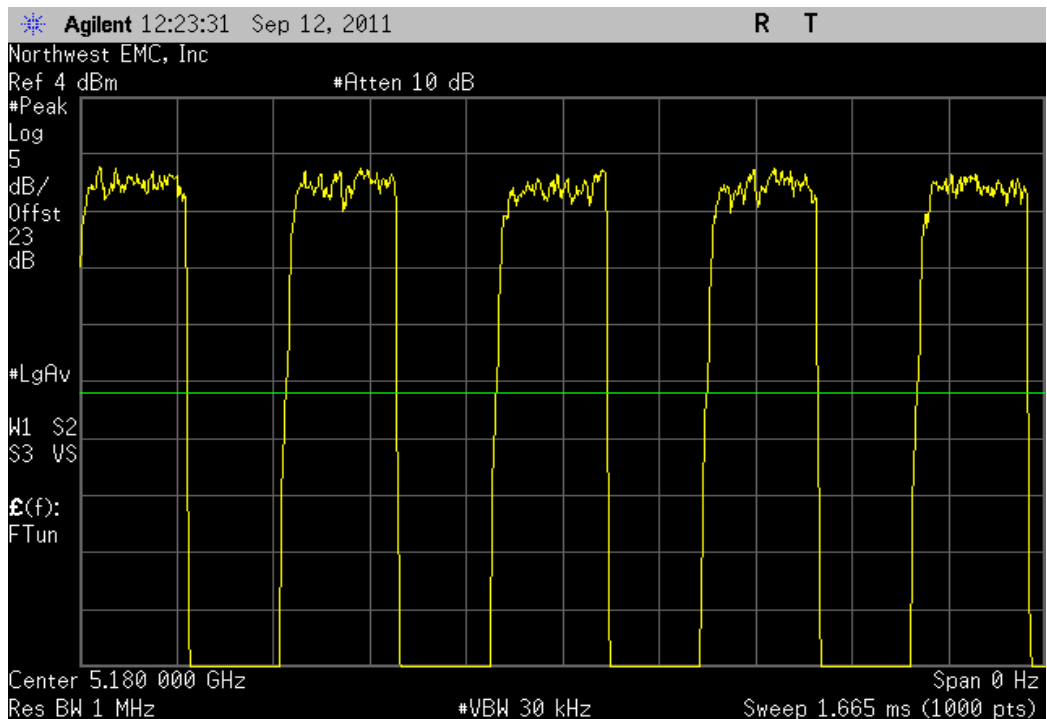
802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Number of Pulses				Value	Limit	Result
				1	0.182 ms	N/A



802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Number of Pulses				Value	Limit	Result
				5	N/A	N/A



802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Number of
Pulses

Value

Limit

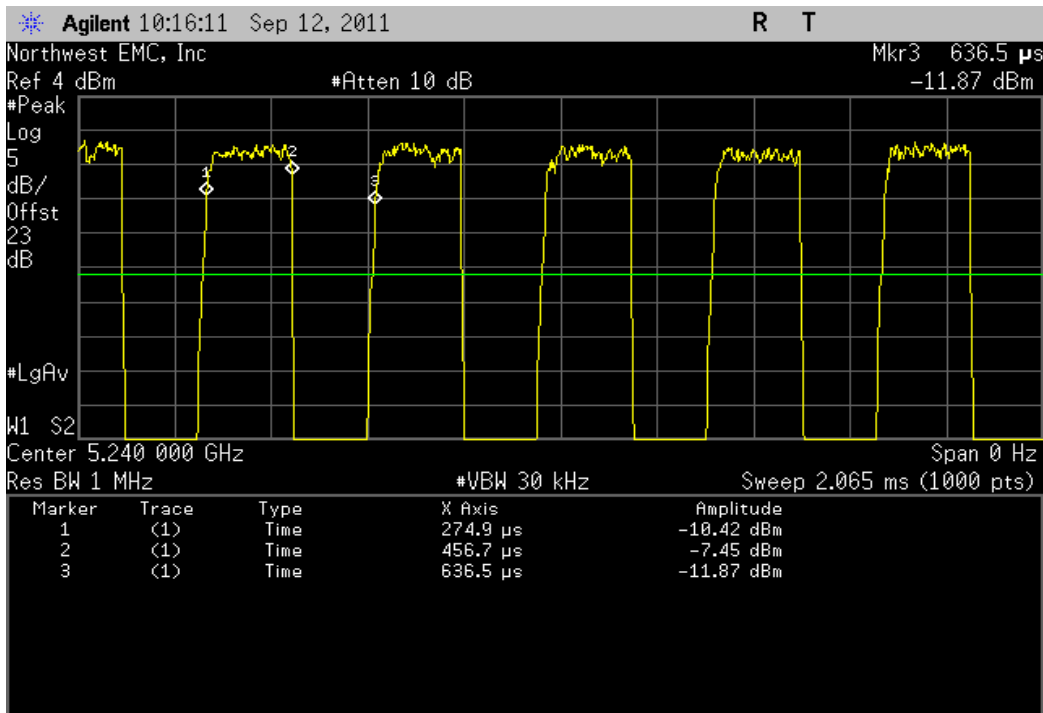
Result

1

0.182 ms

N/A

N/A



802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Number of
Pulses

Value

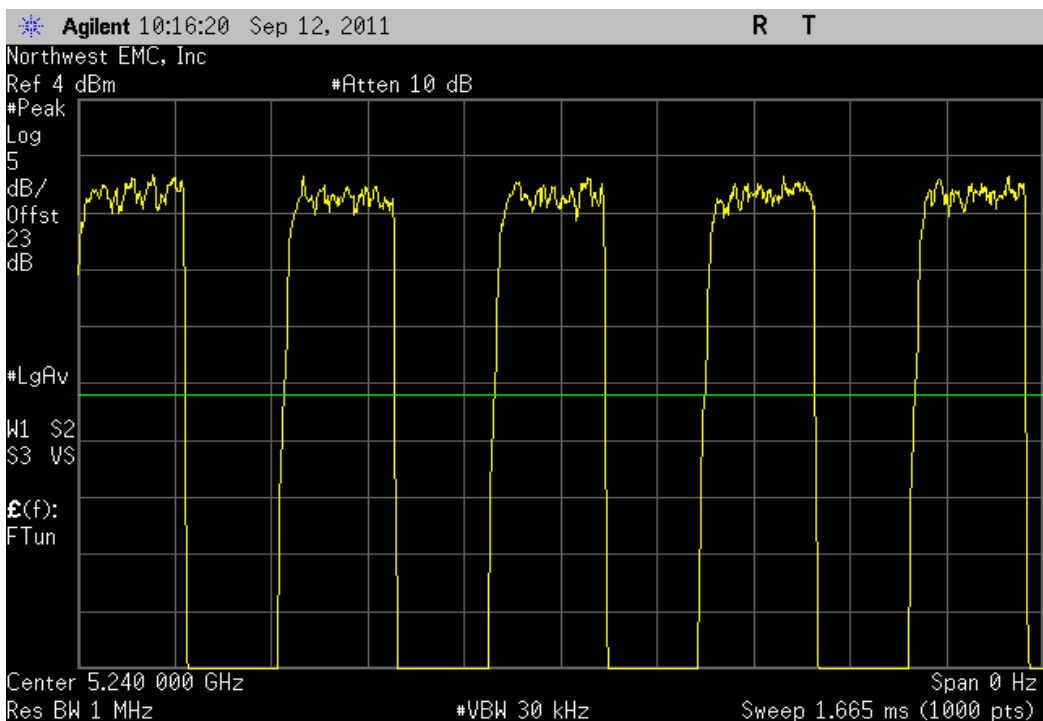
Limit

Result

5

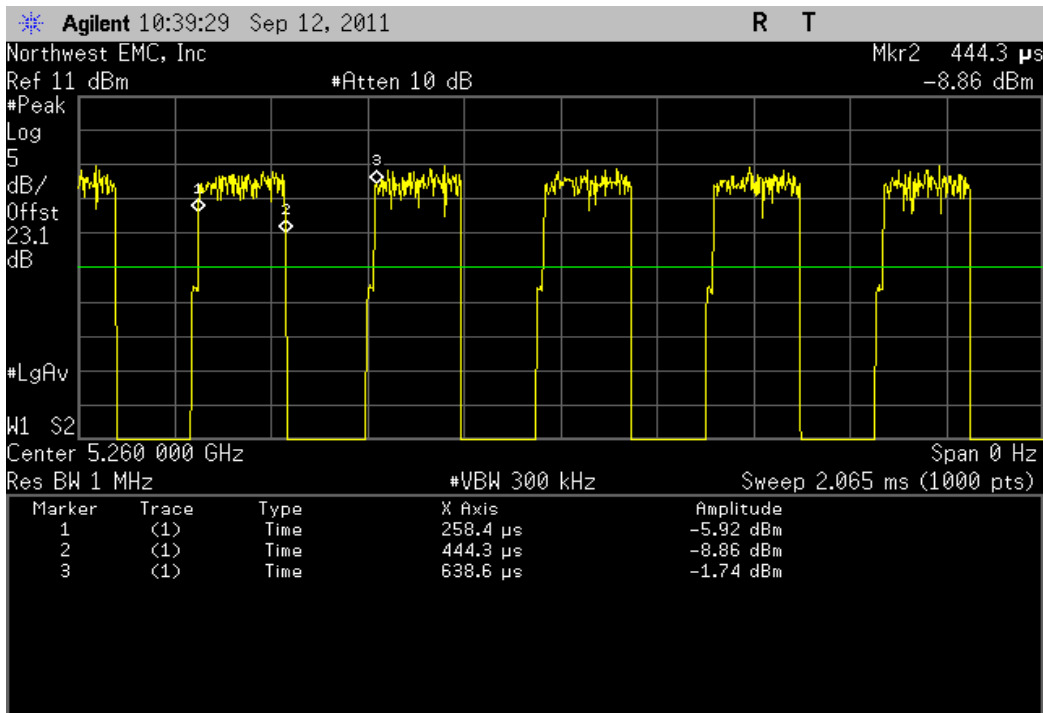
N/A

N/A



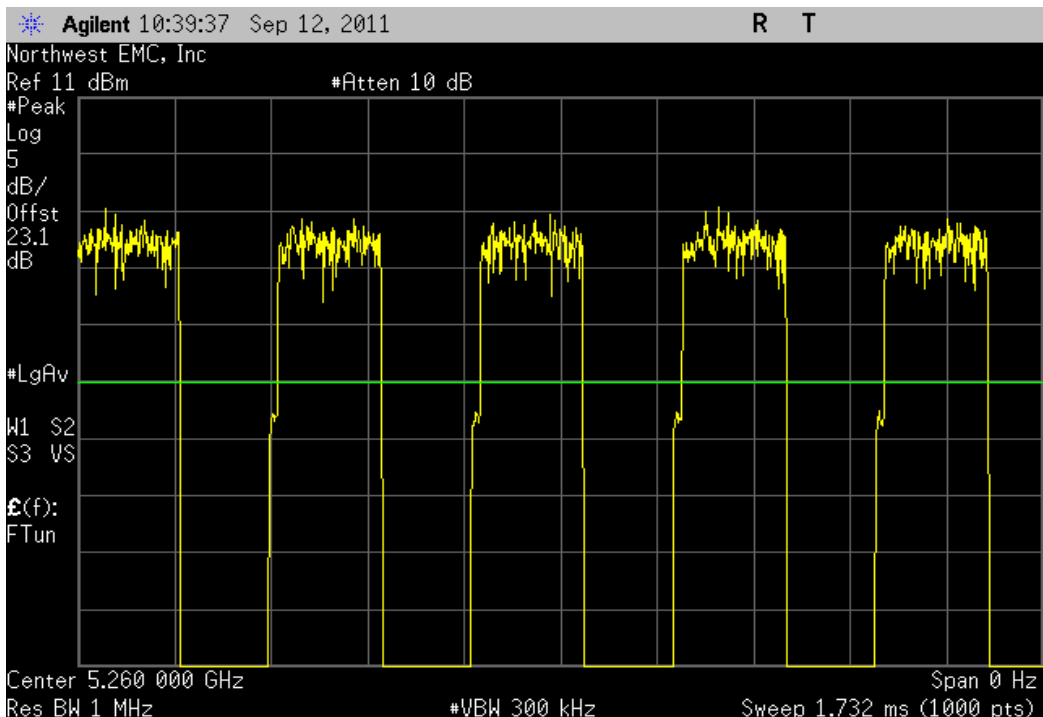
802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Number of Pulses	Value	Limit	Result
1	0.186 ms	N/A	N/A



802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Number of Pulses	Value	Limit	Result
5		N/A	N/A



802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Number of
Pulses

Value

Limit

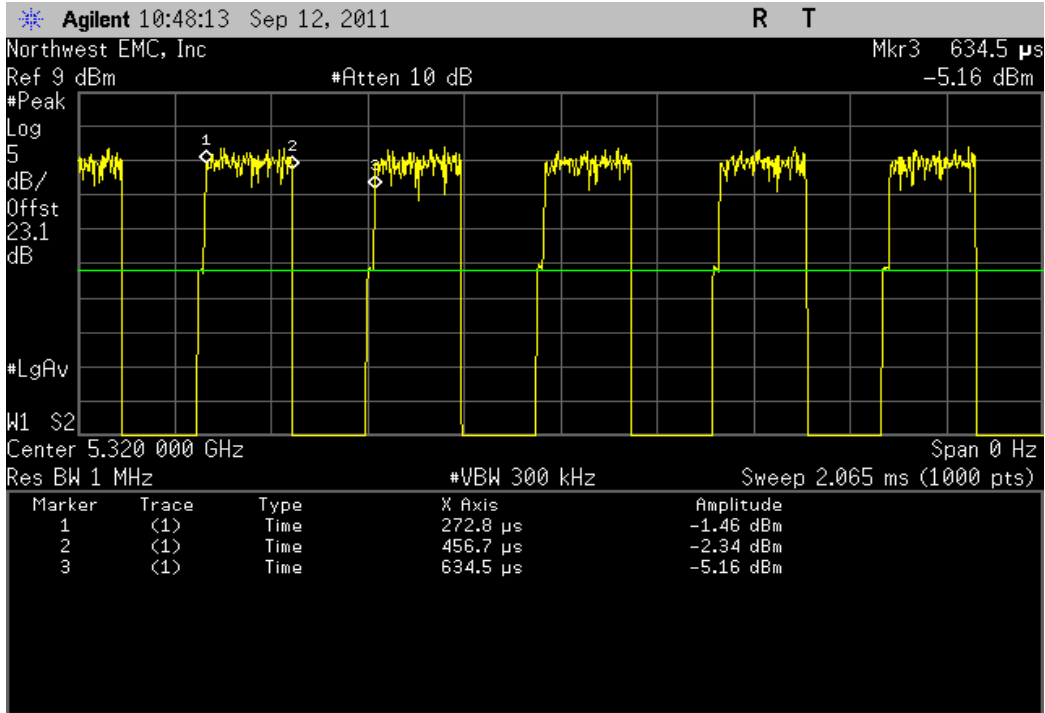
Result

1

0.184 ms

N/A

N/A



802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Number of
Pulses

Value

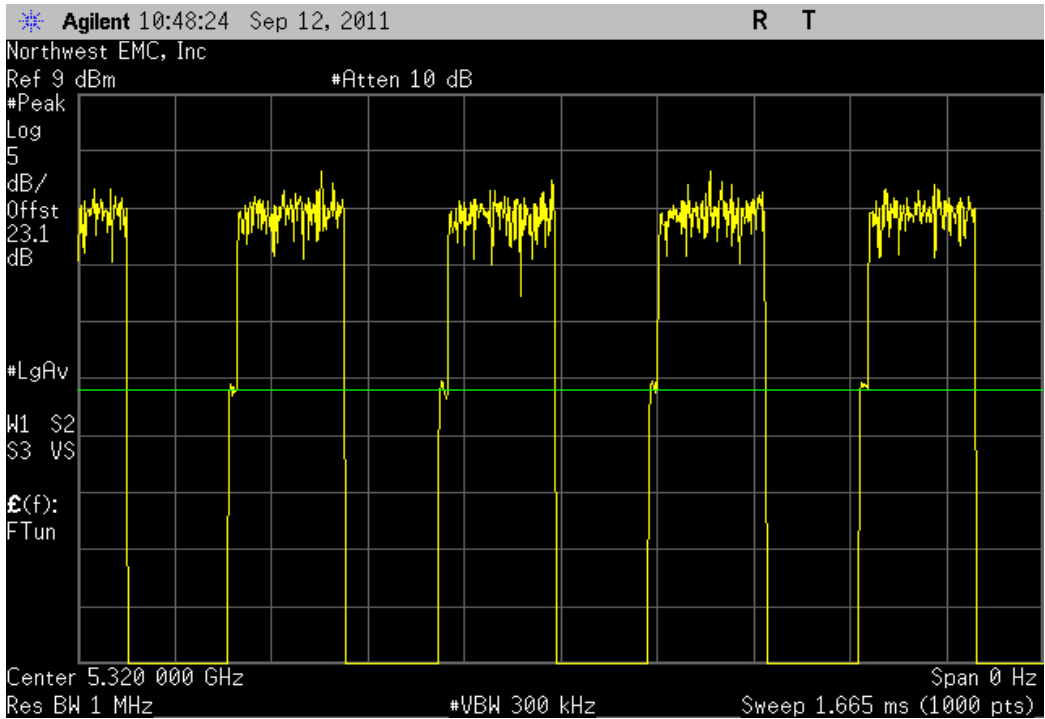
Limit

Result

5

N/A

N/A



Transmissions Burst Duration

802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Number of
Pulses

Value

Limit

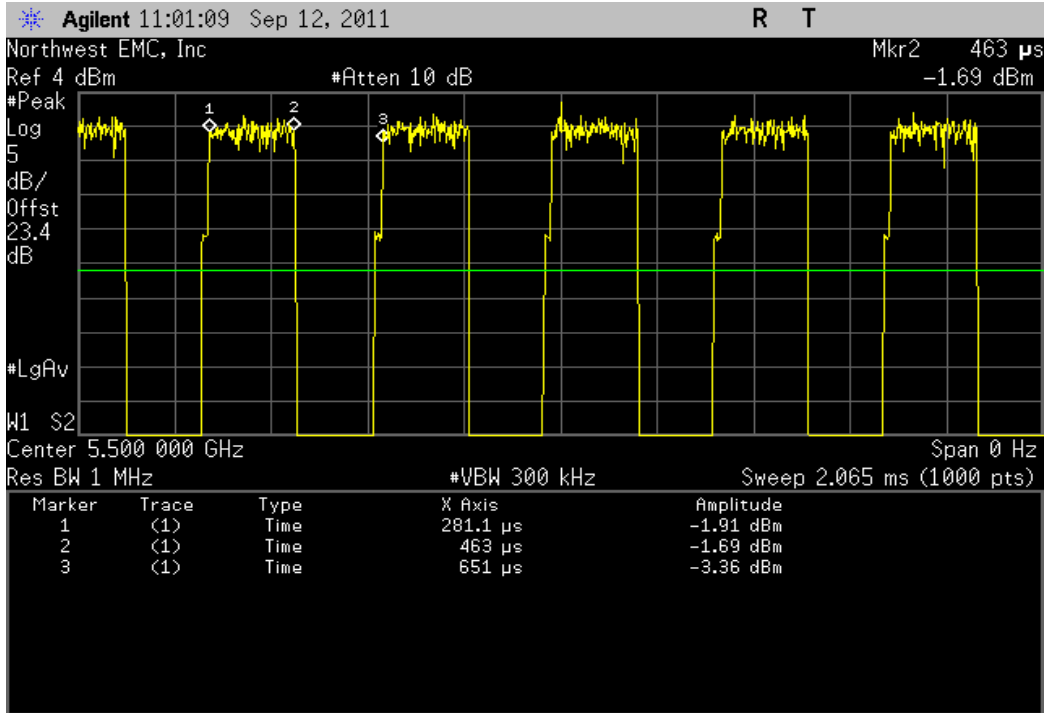
Result

1

0.182 ms

N/A

N/A



802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Number of
Pulses

Value

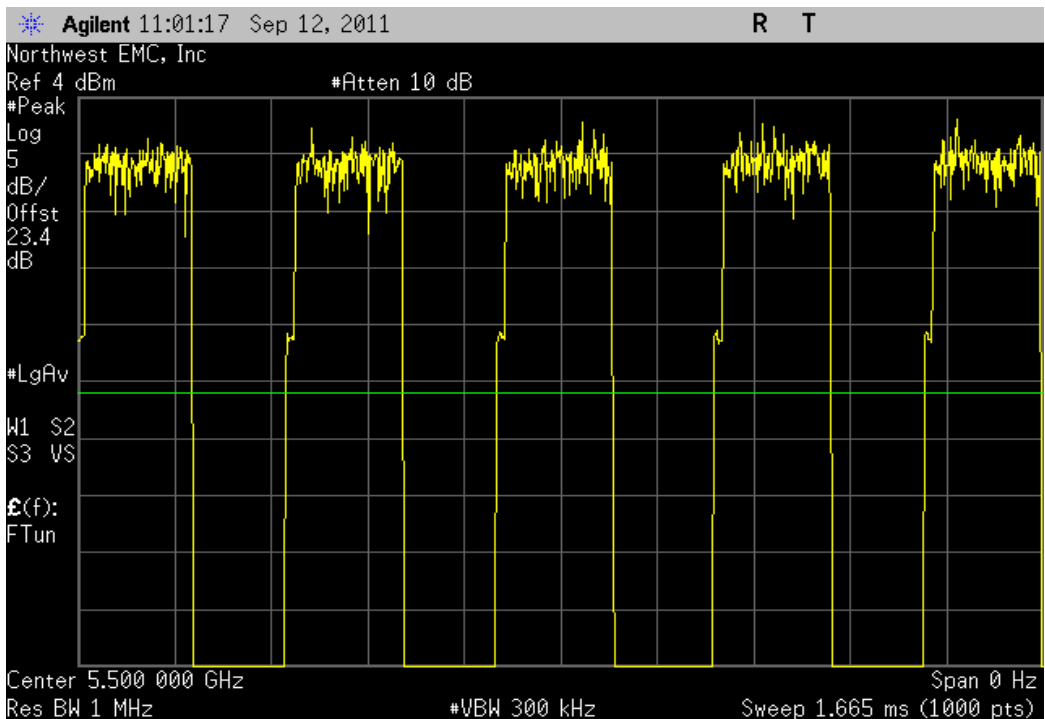
Limit

Result

5

N/A

N/A



802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel

Number of
Pulses

Value

Limit

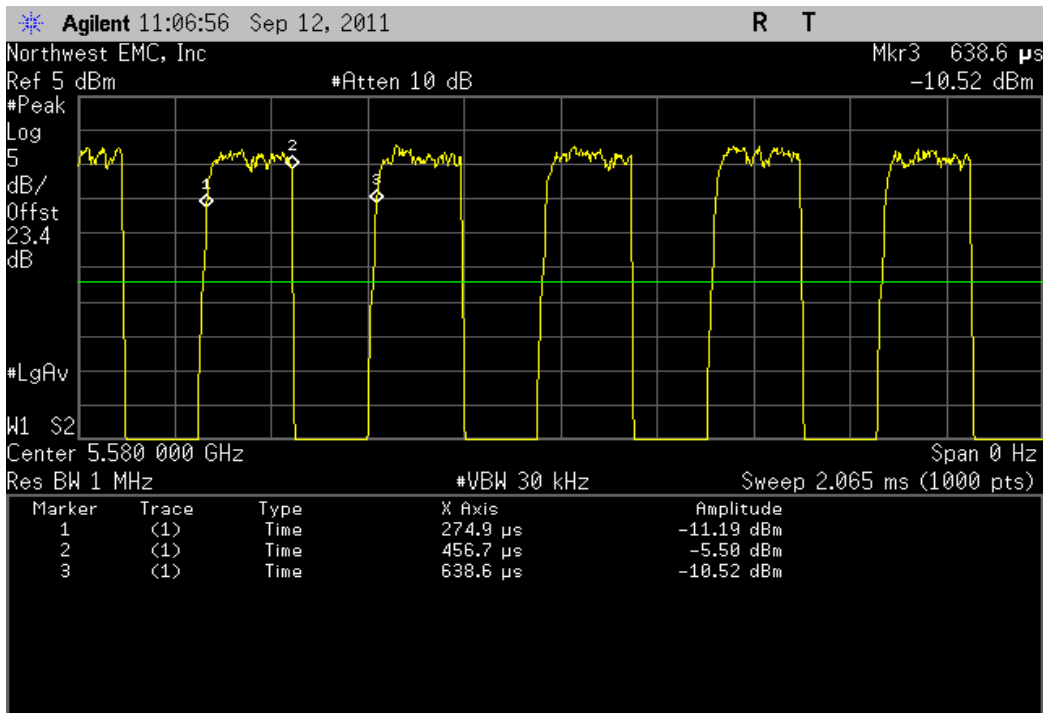
Result

1

0.182 ms

N/A

N/A



802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel

Number of
Pulses

Value

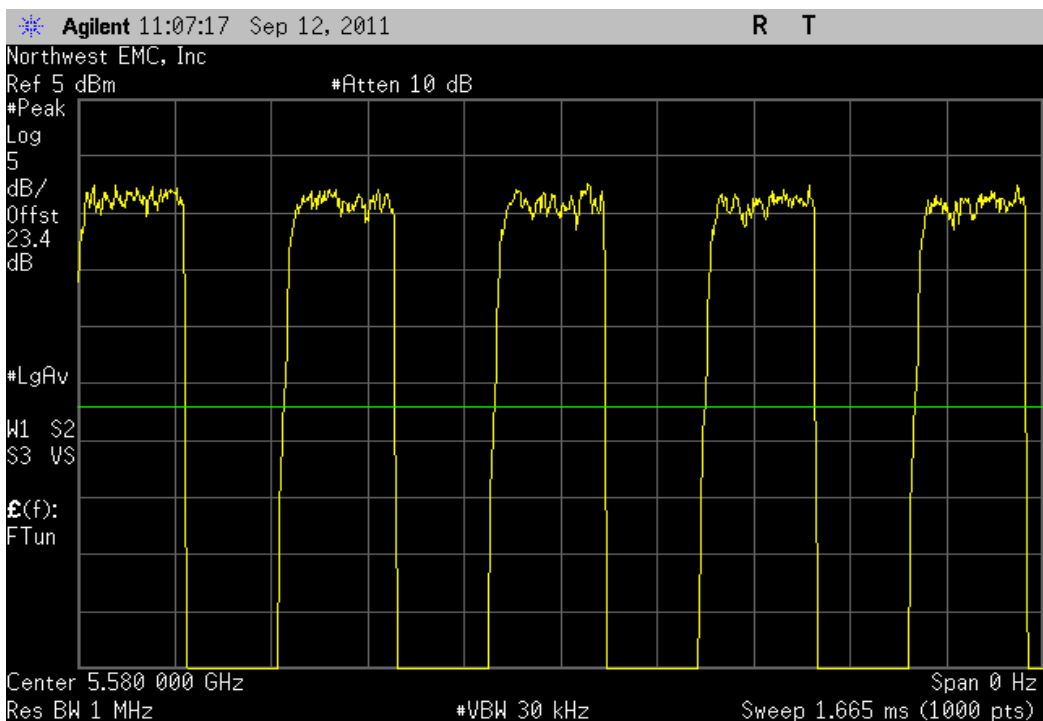
Limit

Result

5

N/A

N/A



Transmissions Burst Duration

802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Number of
Pulses

Value

Limit

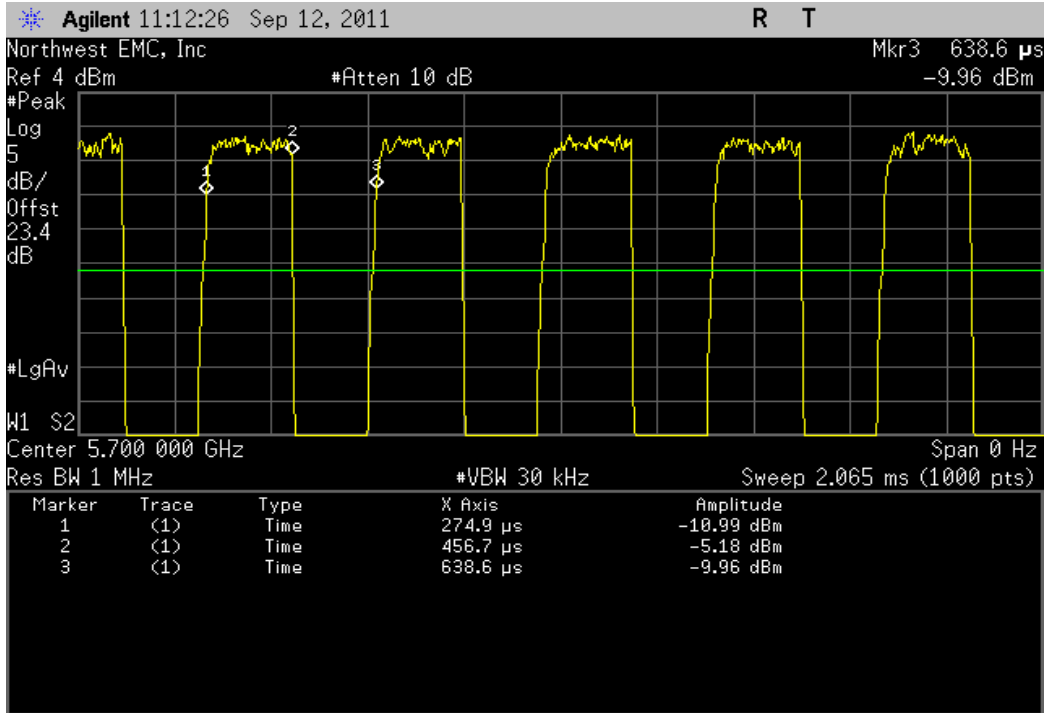
Result

1

0.182 ms

N/A

N/A



802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Number of
Pulses

Value

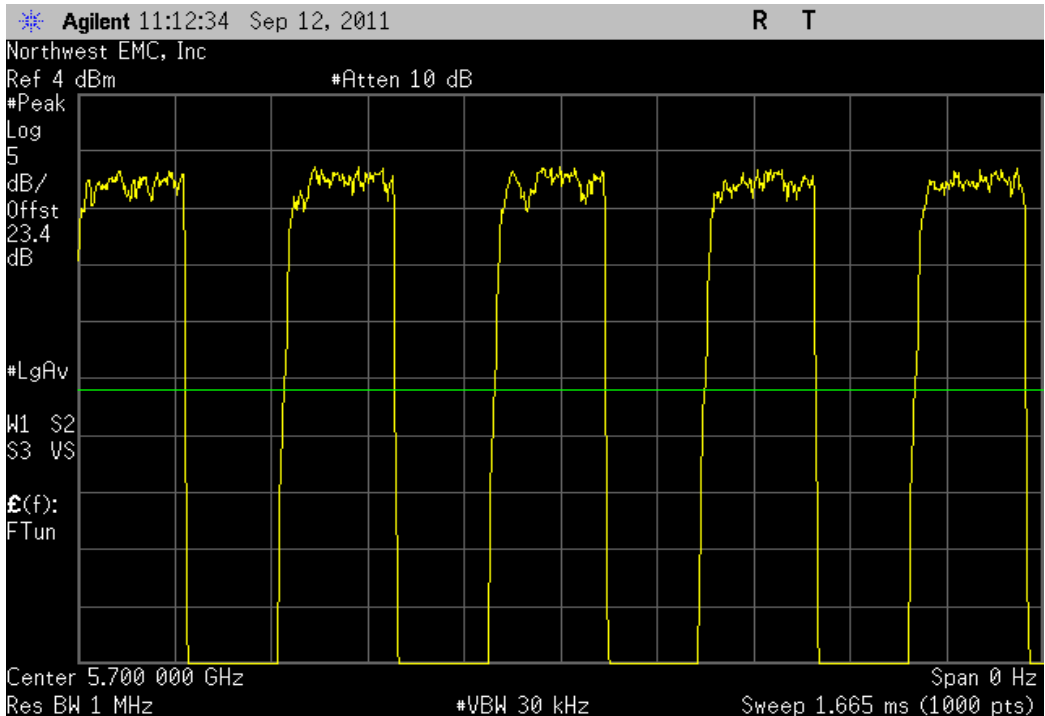
Limit

Result

5

N/A

N/A



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 140 (29) 5700 MHz
Transmitting Channel 116 (23) 5580 MHz
Transmitting Channel 100 (19) 5500 MHz
Transmitting Channel 64 (18) 5230 MHz
Transmitting Channel 52 (15) 5260 MHz
Transmitting Channel 48 (14) 5240 MHz
Transmitting Channel 36 (8) 5180 MHz

POWER SETTINGS INVESTIGATED

3.3 VDC via 120VAC/60Hz

CONFIGURATIONS INVESTIGATED

FOCU0115 - 4

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Receiver	Rohde & Schwarz	ESCI	ARH	3/30/2011	12 mo
High Pass Filter	TTE	H97-100K-50-720B	HFX	2/9/2011	24 mo
Attenuator	Coaxicom	66702 2910-20	ATO	7/20/2011	12 mo
LISN	Solar	9252-50-R-24-BNC	LIR	2/17/2011	12 mo
EV07 Cables	N/A	Conducted Cables	EVG	6/17/2011	12 mo

MEASUREMENT BANDWIDTHS

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

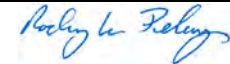
A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 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

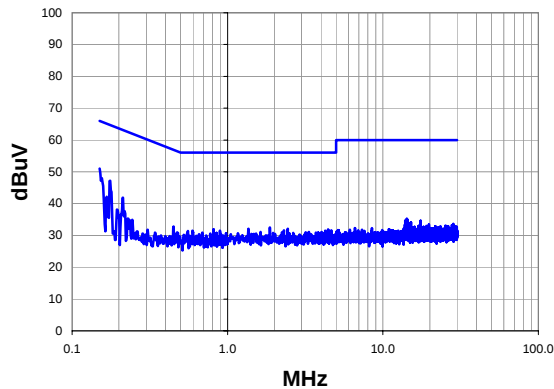
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	FOCU0115	Date:	09/15/11	
Project:	None	Temperature:	23.5 °C	
Job Site:	EV07	Humidity:	44% RH	
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar	
				Tested by: Rod Peloquin
EUT:	Ice Axe - Slave Module			
Configuration:	4 - Powerline Conducted Emissions			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	3.3 VDC via 120VAC/60Hz			
Operating Mode:	Transmitting Channel 36 (8) 5180 MHz			
Deviations:	No deviations.			
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs			

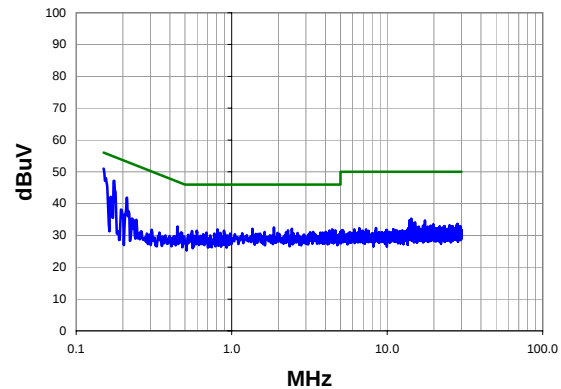
Test Specifications
FCC 15.207:2011Test Method
ANSI C63.10:2009

Run #	7	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



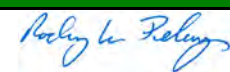
Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.9	20.1	51.0	66.0	-15.0
0.176	27.1	20.1	47.2	64.7	-17.5
0.211	21.8	20.1	41.9	63.2	-21.3
0.167	22.1	20.1	42.2	65.1	-22.9
1.872	12.4	20.1	32.5	56.0	-23.5
1.360	12.0	20.1	32.1	56.0	-23.9
2.440	12.0	20.1	32.1	56.0	-23.9
0.449	12.7	20.1	32.8	56.9	-24.1
0.813	11.8	20.1	31.9	56.0	-24.1
4.432	11.7	20.2	31.9	56.0	-24.1
2.304	11.5	20.1	31.6	56.0	-24.4
4.456	11.4	20.2	31.6	56.0	-24.4
4.648	11.4	20.2	31.6	56.0	-24.4
0.595	11.4	20.1	31.5	56.0	-24.5
0.895	11.4	20.1	31.5	56.0	-24.5
4.248	11.3	20.2	31.5	56.0	-24.5
0.556	11.3	20.1	31.4	56.0	-24.6
14.270	14.6	20.6	35.2	60.0	-24.8
1.632	11.0	20.1	31.1	56.0	-24.9
3.344	10.9	20.2	31.1	56.0	-24.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.9	20.1	51.0	56.0	-5.0
0.176	27.1	20.1	47.2	54.7	-7.5
0.211	21.8	20.1	41.9	53.2	-11.3
0.167	22.1	20.1	42.2	55.1	-12.9
1.872	12.4	20.1	32.5	46.0	-13.5
1.360	12.0	20.1	32.1	46.0	-13.9
2.440	12.0	20.1	32.1	46.0	-13.9
0.449	12.7	20.1	32.8	46.9	-14.1
0.813	11.8	20.1	31.9	46.0	-14.1
4.432	11.7	20.2	31.9	46.0	-14.1
2.304	11.5	20.1	31.6	46.0	-14.4
4.456	11.4	20.2	31.6	46.0	-14.4
4.648	11.4	20.2	31.6	46.0	-14.4
0.595	11.4	20.1	31.5	46.0	-14.5
0.895	11.4	20.1	31.5	46.0	-14.5
4.248	11.3	20.2	31.5	46.0	-14.5
0.556	11.3	20.1	31.4	46.0	-14.6
14.270	14.6	20.6	35.2	50.0	-14.8
1.632	11.0	20.1	31.1	46.0	-14.9
3.344	10.9	20.2	31.1	46.0	-14.9

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	FOCU0115	Date:	09/15/11		
Project:	None	Temperature:	23.5 °C		
Job Site:	EV07	Humidity:	44% RH		
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar		
				Tested by:	Rod Peloquin
EUT:	Ice Axe - Slave Module				
Configuration:	4 - Powerline Conducted Emissions				
Customer:	Summit Semiconductor				
Attendees:	None				
EUT Power:	3.3 VDC via 120VAC/60Hz				
Operating Mode:	Transmitting Channel 36 (8) 5180 MHz				
Deviations:	No deviations.				
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs				

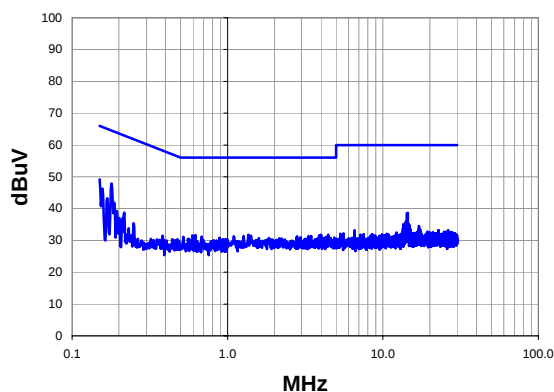
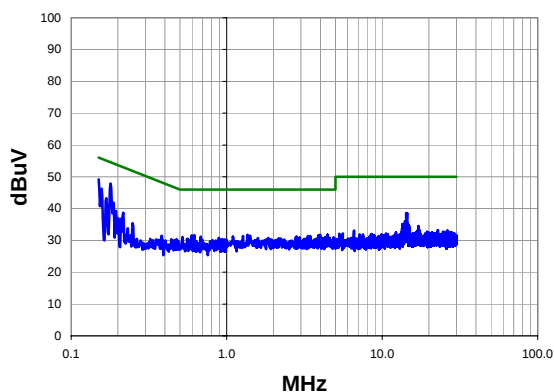
Test Specifications

FCC 15.207:2011

Test Method

ANSI C63.10:2009

Run #	8	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit**Peak Data - vs - Average Limit****Peak Data - vs - Quasi Peak Limit**

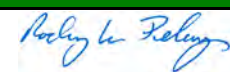
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.179	27.8	20.1	47.9	64.5	-16.6
0.150	29.1	20.1	49.2	66.0	-16.8
0.157	26.2	20.1	46.3	65.6	-19.3
14.440	18.0	20.6	38.6	60.0	-21.4
14.280	17.9	20.6	38.5	60.0	-21.5
0.169	23.2	20.1	43.3	65.0	-21.7
0.187	21.8	20.1	41.9	64.2	-22.3
14.360	16.9	20.6	37.5	60.0	-22.5
14.020	15.3	20.6	35.9	60.0	-24.1
1.360	11.7	20.1	31.8	56.0	-24.2
3.992	11.6	20.2	31.8	56.0	-24.2
4.448	11.6	20.2	31.8	56.0	-24.2
0.216	18.6	20.1	38.7	63.0	-24.3
0.619	11.6	20.1	31.7	56.0	-24.3
0.595	11.5	20.1	31.6	56.0	-24.4
3.880	11.4	20.2	31.6	56.0	-24.4
1.416	11.4	20.1	31.5	56.0	-24.5
1.272	11.3	20.1	31.4	56.0	-24.6
3.328	11.2	20.2	31.4	56.0	-24.6
3.448	11.2	20.2	31.4	56.0	-24.6

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.179	27.8	20.1	47.9	54.5	-6.6
0.150	29.1	20.1	49.2	56.0	-6.8
0.157	26.2	20.1	46.3	55.6	-9.3
14.440	18.0	20.6	38.6	50.0	-11.4
14.280	17.9	20.6	38.5	50.0	-11.5
0.169	23.2	20.1	43.3	55.0	-11.7
0.187	21.8	20.1	41.9	54.2	-12.3
14.360	16.9	20.6	37.5	50.0	-12.5
14.020	15.3	20.6	35.9	50.0	-14.1
1.360	11.7	20.1	31.8	46.0	-14.2
3.992	11.6	20.2	31.8	46.0	-14.2
4.448	11.6	20.2	31.8	46.0	-14.2
0.216	18.6	20.1	38.7	53.0	-14.3
0.619	11.6	20.1	31.7	46.0	-14.3
0.595	11.5	20.1	31.6	46.0	-14.4
3.880	11.4	20.2	31.6	46.0	-14.4
1.416	11.4	20.1	31.5	46.0	-14.5
1.272	11.3	20.1	31.4	46.0	-14.6
3.328	11.2	20.2	31.4	46.0	-14.6
3.448	11.2	20.2	31.4	46.0	-14.6

EMC

AC POWERLINE CONDUCTED EMISSIONS

Work Order:	FOCU0115	Date:	09/15/11		
Project:	None	Temperature:	23.5 °C		
Job Site:	EV07	Humidity:	44% RH		
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar		
				Tested by:	Rod Peloquin
EUT:	Ice Axe - Slave Module				
Configuration:	4 - Powerline Conducted Emissions				
Customer:	Summit Semiconductor				
Attendees:	None				
EUT Power:	3.3 VDC via 120VAC/60Hz				
Operating Mode:	Transmitting Channel 48 (14) 5240 MHz				
Deviations:	No deviations.				
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs				

Test Specifications

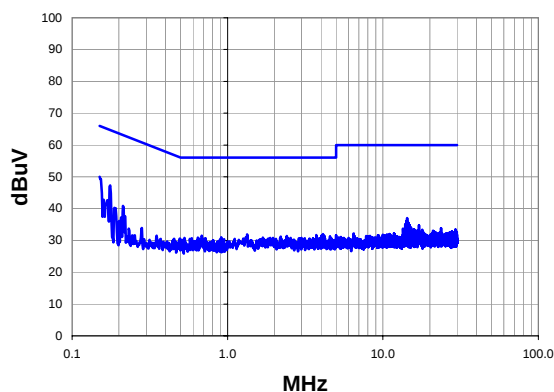
FCC 15.207:2011

Test Method

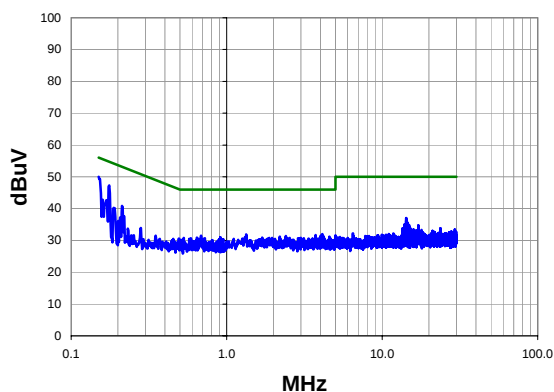
ANSI C63.10:2009

Run #	9	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

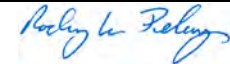
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	29.9	20.1	50.0	66.0	-16.0
0.176	27.2	20.1	47.3	64.7	-17.4
0.213	20.7	20.1	40.8	63.1	-22.3
0.169	22.6	20.1	42.7	65.0	-22.3
0.160	22.7	20.1	42.8	65.5	-22.7
14.290	16.4	20.6	37.0	60.0	-23.0
14.260	15.6	20.6	36.2	60.0	-23.8
0.187	20.1	20.1	40.2	64.2	-24.0
4.120	11.8	20.2	32.0	56.0	-24.0
1.336	11.8	20.1	31.9	56.0	-24.1
3.728	11.5	20.2	31.7	56.0	-24.3
5.000	11.4	20.2	31.6	56.0	-24.4
0.684	11.4	20.1	31.5	56.0	-24.5
4.024	11.3	20.2	31.5	56.0	-24.5
14.600	14.9	20.6	35.5	60.0	-24.5
2.408	11.3	20.1	31.4	56.0	-24.6
4.192	11.2	20.2	31.4	56.0	-24.6
14.520	14.7	20.6	35.3	60.0	-24.7
2.200	11.1	20.1	31.2	56.0	-24.8
4.568	11.0	20.2	31.2	56.0	-24.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	29.9	20.1	50.0	56.0	-6.0
0.176	27.2	20.1	47.3	54.7	-7.4
0.213	20.7	20.1	40.8	53.1	-12.3
0.169	22.6	20.1	42.7	55.0	-12.3
0.160	22.7	20.1	42.8	55.5	-12.7
14.290	16.4	20.6	37.0	50.0	-13.0
14.260	15.6	20.6	36.2	50.0	-13.8
0.187	20.1	20.1	40.2	54.2	-14.0
4.120	11.8	20.2	32.0	46.0	-14.0
1.336	11.8	20.1	31.9	46.0	-14.1
3.728	11.5	20.2	31.7	46.0	-14.3
5.000	11.4	20.2	31.6	46.0	-14.4
0.684	11.4	20.1	31.5	46.0	-14.5
4.024	11.3	20.2	31.5	46.0	-14.5
14.600	14.9	20.6	35.5	50.0	-14.5
2.408	11.3	20.1	31.4	46.0	-14.6
4.192	11.2	20.2	31.4	46.0	-14.6
14.520	14.7	20.6	35.3	50.0	-14.7
2.200	11.1	20.1	31.2	46.0	-14.8
4.568	11.0	20.2	31.2	46.0	-14.8

EMC

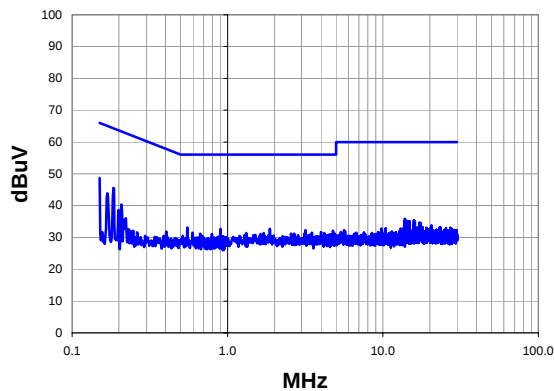
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	FOCU0115	Date:	09/15/11		
Project:	None	Temperature:	23.5 °C		
Job Site:	EV07	Humidity:	44% RH		
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar		
				Tested by:	Rod Peloquin
EUT:	Ice Axe - Slave Module				
Configuration:	4 - Powerline Conducted Emissions				
Customer:	Summit Semiconductor				
Attendees:	None				
EUT Power:	3.3 VDC via 120VAC/60Hz				
Operating Mode:	Transmitting Channel 48 (14) 5240 MHz				
Deviations:	No deviations.				
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs				

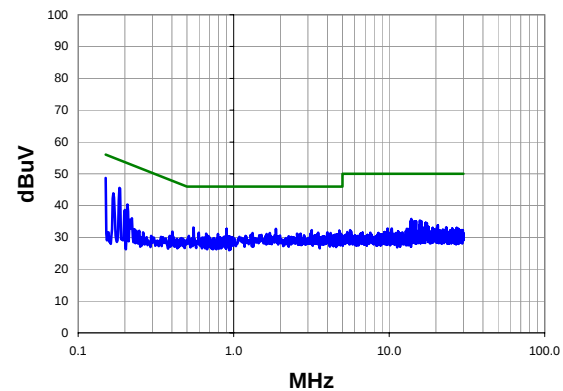
Test Specifications
FCC 15.207:2011Test Method
ANSI C63.10:2009

Run #	10	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



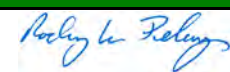
Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	28.6	20.1	48.7	66.0	-17.3
0.184	25.5	20.1	45.6	64.3	-18.7
0.169	23.8	20.1	43.9	65.0	-21.1
0.551	13.0	20.1	33.1	56.0	-22.9
0.208	20.2	20.1	40.3	63.3	-23.0
0.901	12.6	20.1	32.7	56.0	-23.3
1.872	12.6	20.1	32.7	56.0	-23.3
3.176	12.1	20.2	32.3	56.0	-23.7
4.776	11.9	20.2	32.1	56.0	-23.9
13.840	15.2	20.6	35.8	60.0	-24.2
4.000	11.4	20.2	31.6	56.0	-24.4
0.595	11.4	20.1	31.5	56.0	-24.5
3.488	11.3	20.2	31.5	56.0	-24.5
1.320	11.3	20.1	31.4	56.0	-24.6
1.712	11.3	20.1	31.4	56.0	-24.6
4.200	11.2	20.2	31.4	56.0	-24.6
13.920	14.8	20.6	35.4	60.0	-24.6
15.790	14.7	20.6	35.3	60.0	-24.7
0.667	11.1	20.1	31.2	56.0	-24.8
2.560	11.1	20.1	31.2	56.0	-24.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	28.6	20.1	48.7	56.0	-7.3
0.184	25.5	20.1	45.6	54.3	-8.7
0.169	23.8	20.1	43.9	55.0	-11.1
0.551	13.0	20.1	33.1	46.0	-12.9
0.208	20.2	20.1	40.3	53.3	-13.0
0.901	12.6	20.1	32.7	46.0	-13.3
1.872	12.6	20.1	32.7	46.0	-13.3
3.176	12.1	20.2	32.3	46.0	-13.7
4.776	11.9	20.2	32.1	46.0	-13.9
13.840	15.2	20.6	35.8	50.0	-14.2
4.000	11.4	20.2	31.6	46.0	-14.4
0.595	11.4	20.1	31.5	46.0	-14.5
3.488	11.3	20.2	31.5	46.0	-14.5
1.320	11.3	20.1	31.4	46.0	-14.6
1.712	11.3	20.1	31.4	46.0	-14.6
4.200	11.2	20.2	31.4	46.0	-14.6
13.920	14.8	20.6	35.4	50.0	-14.6
15.790	14.7	20.6	35.3	50.0	-14.7
0.667	11.1	20.1	31.2	46.0	-14.8
2.560	11.1	20.1	31.2	46.0	-14.8

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	FOCU0115	Date:	09/15/11		
Project:	None	Temperature:	23.5 °C		
Job Site:	EV07	Humidity:	44% RH		
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar		
				Tested by:	Rod Peloquin
EUT:	Ice Axe - Slave Module				
Configuration:	4 - Powerline Conducted Emissions				
Customer:	Summit Semiconductor				
Attendees:	None				
EUT Power:	3.3 VDC via 120VAC/60Hz				
Operating Mode:	Transmitting Channel 52 (15) 5260 MHz				
Deviations:	No deviations.				
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs				

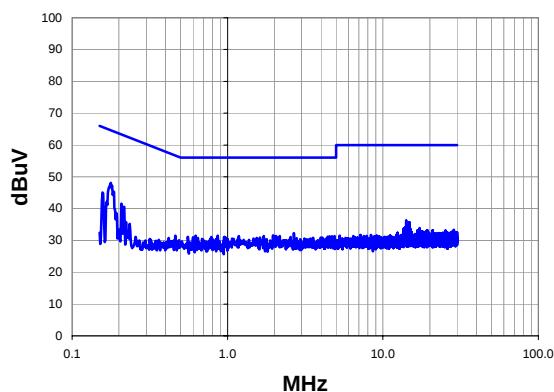
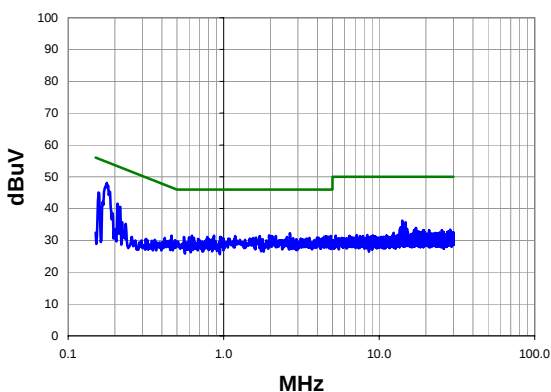
Test Specifications

FCC 15.207:2011

Test Method

ANSI C63.10:2009

Run #	11	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit**Peak Data - vs - Average Limit****Peak Data - vs - Quasi Peak Limit**

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.177	28.0	20.1	48.1	64.6	-16.5
0.157	25.0	20.1	45.1	65.6	-20.5
0.208	21.4	20.1	41.5	63.3	-21.8
0.216	20.4	20.1	40.5	63.0	-22.5
2.672	12.2	20.1	32.3	56.0	-23.7
14.090	15.6	20.6	36.2	60.0	-23.8
14.780	15.1	20.6	35.7	60.0	-24.3
1.960	11.5	20.1	31.6	56.0	-24.4
0.624	11.4	20.1	31.5	56.0	-24.5
0.866	11.4	20.1	31.5	56.0	-24.5
1.184	11.3	20.1	31.4	56.0	-24.6
1.712	11.3	20.1	31.4	56.0	-24.6
2.040	11.3	20.1	31.4	56.0	-24.6
2.168	11.3	20.1	31.4	56.0	-24.6
4.888	11.2	20.2	31.4	56.0	-24.6
2.056	11.2	20.1	31.3	56.0	-24.7
4.552	11.1	20.2	31.3	56.0	-24.7
4.424	11.0	20.2	31.2	56.0	-24.8
4.696	11.0	20.2	31.2	56.0	-24.8
0.555	11.0	20.1	31.1	56.0	-24.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.177	28.0	20.1	48.1	54.6	-6.5
0.157	25.0	20.1	45.1	55.6	-10.5
0.208	21.4	20.1	41.5	53.3	-11.8
0.216	20.4	20.1	40.5	53.0	-12.5
2.672	12.2	20.1	32.3	46.0	-13.7
14.090	15.6	20.6	36.2	50.0	-13.8
14.780	15.1	20.6	35.7	50.0	-14.3
1.960	11.5	20.1	31.6	46.0	-14.4
0.624	11.4	20.1	31.5	46.0	-14.5
0.866	11.4	20.1	31.5	46.0	-14.5
1.184	11.3	20.1	31.4	46.0	-14.6
1.712	11.3	20.1	31.4	46.0	-14.6
2.040	11.3	20.1	31.4	46.0	-14.6
2.168	11.3	20.1	31.4	46.0	-14.6
4.888	11.2	20.2	31.4	46.0	-14.6
2.056	11.2	20.1	31.3	46.0	-14.7
4.552	11.1	20.2	31.3	46.0	-14.7
4.424	11.0	20.2	31.2	46.0	-14.8
4.696	11.0	20.2	31.2	46.0	-14.8
0.555	11.0	20.1	31.1	46.0	-14.9

EMC

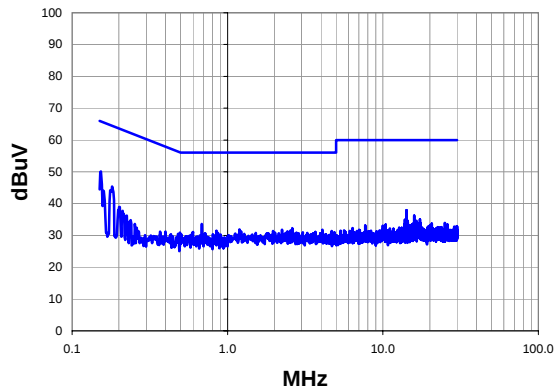
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	FOCU0115	Date:	09/15/11	
Project:	None	Temperature:	23.5 °C	
Job Site:	EV07	Humidity:	44% RH	
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar	
				Tested by: Rod Peloquin
EUT:	Ice Axe - Slave Module			
Configuration:	4 - Powerline Conducted Emissions			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	3.3 VDC via 120VAC/60Hz			
Operating Mode:	Transmitting Channel 52 (15) 5260 MHz			
Deviations:	No deviations.			
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs			

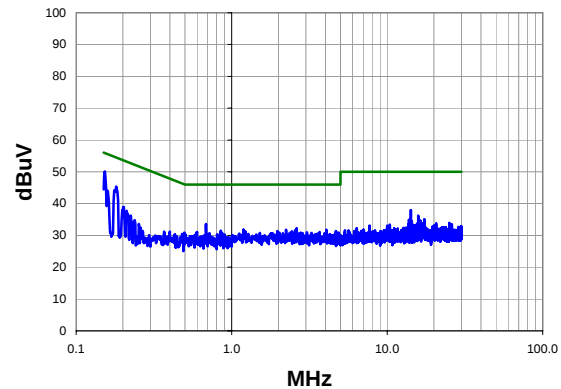
Test Specifications
FCC 15.207:2011Test Method
ANSI C63.10:2009

Run #	12	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.153	30.0	20.1	50.1	65.8	-15.7
0.181	25.3	20.1	45.4	64.5	-19.1
0.159	24.0	20.1	44.1	65.5	-21.4
14.180	17.3	20.6	37.9	60.0	-22.1
0.684	13.5	20.1	33.6	56.0	-22.4
2.616	12.2	20.1	32.3	56.0	-23.7
15.870	15.6	20.6	36.2	60.0	-23.8
1.192	11.8	20.1	31.9	56.0	-24.1
2.240	11.7	20.1	31.8	56.0	-24.2
4.072	11.6	20.2	31.8	56.0	-24.2
2.552	11.5	20.1	31.6	56.0	-24.4
0.850	11.4	20.1	31.5	56.0	-24.5
1.968	11.3	20.1	31.4	56.0	-24.6
4.680	11.2	20.2	31.4	56.0	-24.6
0.201	18.8	20.1	38.9	63.6	-24.7
2.432	11.2	20.1	31.3	56.0	-24.7
0.599	11.0	20.1	31.1	56.0	-24.9
3.672	10.9	20.2	31.1	56.0	-24.9
4.712	10.9	20.2	31.1	56.0	-24.9
17.320	14.3	20.7	35.0	60.0	-25.0

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.153	30.0	20.1	50.1	55.8	-5.7
0.181	25.3	20.1	45.4	54.5	-9.1
0.159	24.0	20.1	44.1	55.5	-11.4
14.180	17.3	20.6	37.9	50.0	-12.1
0.684	13.5	20.1	33.6	46.0	-12.4
2.616	12.2	20.1	32.3	46.0	-13.7
15.870	15.6	20.6	36.2	50.0	-13.8
1.192	11.8	20.1	31.9	46.0	-14.1
2.240	11.7	20.1	31.8	46.0	-14.2
4.072	11.6	20.2	31.8	46.0	-14.2
2.552	11.5	20.1	31.6	46.0	-14.4
0.850	11.4	20.1	31.5	46.0	-14.5
1.968	11.3	20.1	31.4	46.0	-14.6
4.680	11.2	20.2	31.4	46.0	-14.6
0.201	18.8	20.1	38.9	53.6	-14.7
2.432	11.2	20.1	31.3	46.0	-14.7
0.599	11.0	20.1	31.1	46.0	-14.9
3.672	10.9	20.2	31.1	46.0	-14.9
4.712	10.9	20.2	31.1	46.0	-14.9
17.320	14.3	20.7	35.0	50.0	-15.0

EMC

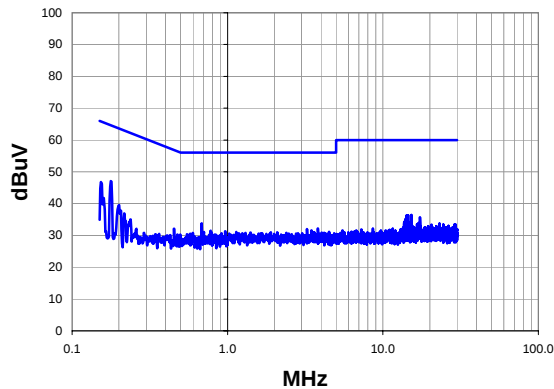
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	FOCU0115	Date:	09/15/11	
Project:	None	Temperature:	23.5 °C	
Job Site:	EV07	Humidity:	44% RH	
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar	
				Tested by: Rod Peloquin
EUT:	Ice Axe - Slave Module			
Configuration:	4 - Powerline Conducted Emissions			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	3.3 VDC via 120VAC/60Hz			
Operating Mode:	Transmitting Channel 64 (18) 5230 MHz			
Deviations:	No deviations.			
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs			

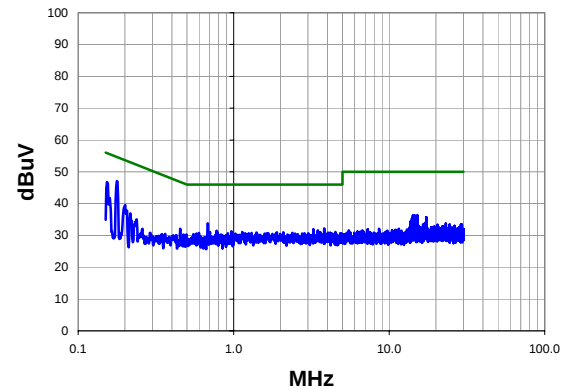
Test Specifications
FCC 15.207:2011Test Method
ANSI C63.10:2009

Run #	13	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.177	27.0	20.1	47.1	64.6	-17.5
0.153	26.7	20.1	46.8	65.8	-19.0
0.682	13.7	20.1	33.8	56.0	-22.2
15.200	15.8	20.6	36.4	60.0	-23.6
14.520	15.7	20.6	36.3	60.0	-23.7
3.816	12.0	20.2	32.2	56.0	-23.8
14.190	15.6	20.6	36.2	60.0	-23.8
3.248	11.8	20.2	32.0	56.0	-24.0
0.201	19.4	20.1	39.5	63.6	-24.1
17.340	15.0	20.7	35.7	60.0	-24.3
3.472	11.4	20.2	31.6	56.0	-24.4
0.777	11.4	20.1	31.5	56.0	-24.5
14.280	14.8	20.6	35.4	60.0	-24.6
14.370	14.8	20.6	35.4	60.0	-24.6
0.966	11.2	20.1	31.3	56.0	-24.7
0.453	12.0	20.1	32.1	56.8	-24.7
14.010	14.6	20.6	35.2	60.0	-24.8
0.704	11.0	20.1	31.1	56.0	-24.9
1.136	11.0	20.1	31.1	56.0	-24.9
4.504	10.9	20.2	31.1	56.0	-24.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.177	27.0	20.1	47.1	54.6	-7.5
0.153	26.7	20.1	46.8	55.8	-9.0
0.682	13.7	20.1	33.8	46.0	-12.2
15.200	15.8	20.6	36.4	50.0	-13.6
14.520	15.7	20.6	36.3	50.0	-13.7
3.816	12.0	20.2	32.2	46.0	-13.8
14.190	15.6	20.6	36.2	50.0	-13.8
3.248	11.8	20.2	32.0	46.0	-14.0
0.201	19.4	20.1	39.5	53.6	-14.1
17.340	15.0	20.7	35.7	50.0	-14.3
3.472	11.4	20.2	31.6	46.0	-14.4
0.777	11.4	20.1	31.5	46.0	-14.5
14.280	14.8	20.6	35.4	50.0	-14.6
14.370	14.8	20.6	35.4	50.0	-14.6
0.966	11.2	20.1	31.3	46.0	-14.7
0.453	12.0	20.1	32.1	46.8	-14.7
14.010	14.6	20.6	35.2	50.0	-14.8
0.704	11.0	20.1	31.1	46.0	-14.9
1.136	11.0	20.1	31.1	46.0	-14.9
4.504	10.9	20.2	31.1	46.0	-14.9

EMC

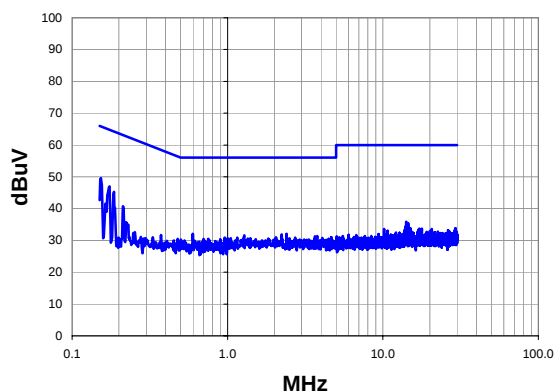
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	FOCU0115	Date:	09/15/11		
Project:	None	Temperature:	23.5 °C		
Job Site:	EV07	Humidity:	44% RH		
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar		
				Tested by:	Rod Peloquin
EUT:	Ice Axe - Slave Module				
Configuration:	4 - Powerline Conducted Emissions				
Customer:	Summit Semiconductor				
Attendees:	None				
EUT Power:	3.3 VDC via 120VAC/60Hz				
Operating Mode:	Transmitting Channel 64 (18) 5230 MHz				
Deviations:	No deviations.				
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs				

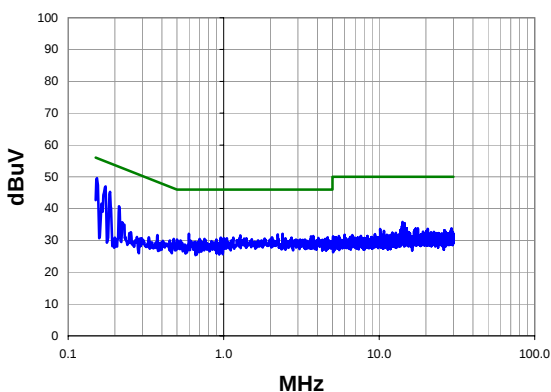
Test Specifications
FCC 15.207:2011Test Method
ANSI C63.10:2009

Run #	14	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.153	29.5	20.1	49.6	65.8	-16.2
0.174	26.9	20.1	47.0	64.8	-17.8
0.186	25.2	20.1	45.3	64.2	-18.9
0.213	20.6	20.1	40.7	63.1	-22.4
0.597	12.0	20.1	32.1	56.0	-23.9
2.392	12.0	20.1	32.1	56.0	-23.9
2.232	11.8	20.1	31.9	56.0	-24.1
14.100	15.2	20.6	35.8	60.0	-24.2
1.280	11.5	20.1	31.6	56.0	-24.4
3.776	11.2	20.2	31.4	56.0	-24.6
14.530	14.8	20.6	35.4	60.0	-24.6
3.648	11.1	20.2	31.3	56.0	-24.7
14.440	14.6	20.6	35.2	60.0	-24.8
4.656	10.8	20.2	31.0	56.0	-25.0
0.957	10.8	20.1	30.9	56.0	-25.1
1.152	10.8	20.1	30.9	56.0	-25.1
2.728	10.8	20.1	30.9	56.0	-25.1
4.072	10.6	20.2	30.8	56.0	-25.2
1.000	10.6	20.1	30.7	56.0	-25.3
1.048	10.6	20.1	30.7	56.0	-25.3

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.153	29.5	20.1	49.6	55.8	-6.2
0.174	26.9	20.1	47.0	54.8	-7.8
0.186	25.2	20.1	45.3	54.2	-8.9
0.213	20.6	20.1	40.7	53.1	-12.4
0.597	12.0	20.1	32.1	46.0	-13.9
2.392	12.0	20.1	32.1	46.0	-13.9
2.232	11.8	20.1	31.9	46.0	-14.1
14.100	15.2	20.6	35.8	50.0	-14.2
1.280	11.5	20.1	31.6	46.0	-14.4
3.776	11.2	20.2	31.4	46.0	-14.6
14.530	14.8	20.6	35.4	50.0	-14.6
3.648	11.1	20.2	31.3	46.0	-14.7
14.440	14.6	20.6	35.2	50.0	-14.8
4.656	10.8	20.2	31.0	46.0	-15.0
0.957	10.8	20.1	30.9	46.0	-15.1
1.152	10.8	20.1	30.9	46.0	-15.1
2.728	10.8	20.1	30.9	46.0	-15.1
4.072	10.6	20.2	30.8	46.0	-15.2
1.000	10.6	20.1	30.7	46.0	-15.3
1.048	10.6	20.1	30.7	46.0	-15.3

EMC

AC POWERLINE CONDUCTED EMISSIONS

Work Order:	FOCU0115	Date:	09/15/11	
Project:	None	Temperature:	23.5 °C	
Job Site:	EV07	Humidity:	44% RH	
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar	
				Tested by: Rod Peloquin
EUT:	Ice Axe - Slave Module			
Configuration:	4 - Powerline Conducted Emissions			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	3.3 VDC via 120VAC/60Hz			
Operating Mode:	Transmitting Channel 100 (19) 5500 MHz			
Deviations:	No deviations.			
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs			

Test Specifications

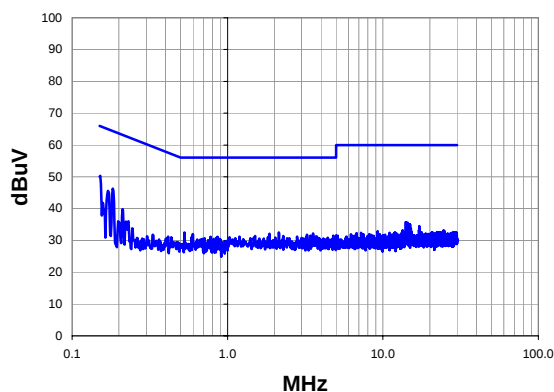
FCC 15.207:2011

Test Method

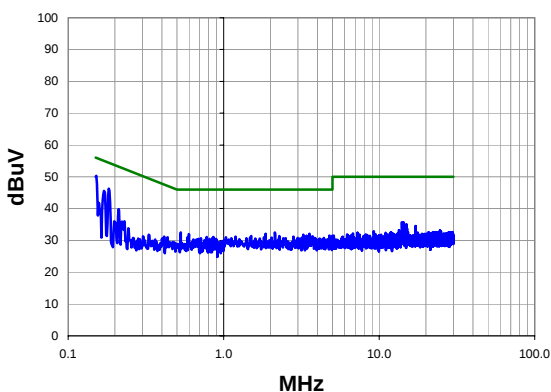
ANSI C63.10:2009

Run #	15	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

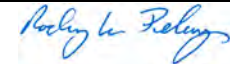
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.152	30.2	20.1	50.3	65.9	-15.6
0.182	26.2	20.1	46.3	64.4	-18.1
0.170	25.5	20.1	45.6	64.9	-19.3
0.211	19.7	20.1	39.8	63.2	-23.4
0.529	12.4	20.1	32.5	56.0	-23.5
2.136	12.4	20.1	32.5	56.0	-23.5
0.157	21.8	20.1	41.9	65.6	-23.7
1.864	12.0	20.1	32.1	56.0	-23.9
3.552	11.9	20.2	32.1	56.0	-23.9
0.597	11.9	20.1	32.0	56.0	-24.0
3.248	11.6	20.2	31.8	56.0	-24.2
14.030	15.1	20.6	35.7	60.0	-24.3
14.350	15.0	20.6	35.6	60.0	-24.4
3.416	11.3	20.2	31.5	56.0	-24.5
4.784	11.3	20.2	31.5	56.0	-24.5
1.504	11.3	20.1	31.4	56.0	-24.6
2.280	11.3	20.1	31.4	56.0	-24.6
14.270	14.7	20.6	35.3	60.0	-24.7
1.192	11.1	20.1	31.2	56.0	-24.8
2.808	11.1	20.1	31.2	56.0	-24.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.152	30.2	20.1	50.3	55.9	-5.6
0.182	26.2	20.1	46.3	54.4	-8.1
0.170	25.5	20.1	45.6	54.9	-9.3
0.211	19.7	20.1	39.8	53.2	-13.4
0.529	12.4	20.1	32.5	46.0	-13.5
2.136	12.4	20.1	32.5	46.0	-13.5
0.157	21.8	20.1	41.9	55.6	-13.7
1.864	12.0	20.1	32.1	46.0	-13.9
3.552	11.9	20.2	32.1	46.0	-13.9
0.597	11.9	20.1	32.0	46.0	-14.0
3.248	11.6	20.2	31.8	46.0	-14.2
14.030	15.1	20.6	35.7	50.0	-14.3
14.350	15.0	20.6	35.6	50.0	-14.4
3.416	11.3	20.2	31.5	46.0	-14.5
4.784	11.3	20.2	31.5	46.0	-14.5
1.504	11.3	20.1	31.4	46.0	-14.6
2.280	11.3	20.1	31.4	46.0	-14.6
14.270	14.7	20.6	35.3	50.0	-14.7
1.192	11.1	20.1	31.2	46.0	-14.8
2.808	11.1	20.1	31.2	46.0	-14.8

EMC

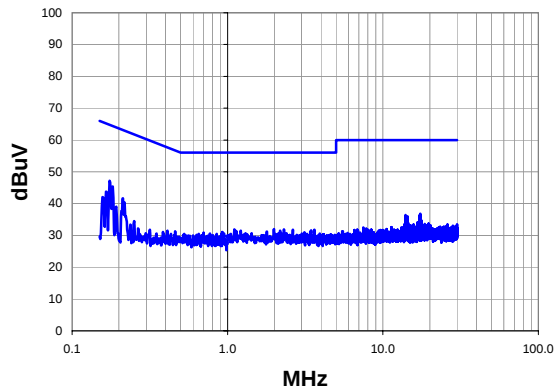
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	FOCU0115	Date:	09/15/11	
Project:	None	Temperature:	23.5 °C	
Job Site:	EV07	Humidity:	44% RH	
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar	
		Tested by:		Rod Peloquin
EUT:	Ice Axe - Slave Module			
Configuration:	4 - Powerline Conducted Emissions			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	3.3 VDC via 120VAC/60Hz			
Operating Mode:	Transmitting Channel 100 (19) 5500 MHz			
Deviations:	No deviations.			
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs			

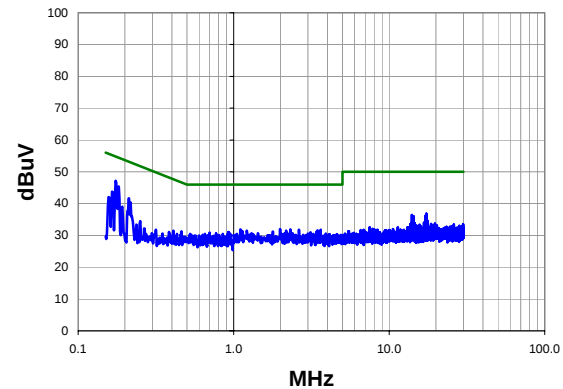
Test Specifications
FCC 15.207:2011Test Method
ANSI C63.10:2009

Run #	16	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.174	27.1	20.1	47.2	64.8	-17.6
0.182	25.3	20.1	45.4	64.4	-19.0
0.165	23.7	20.1	43.8	65.2	-21.4
0.211	21.6	20.1	41.7	63.2	-21.5
0.216	20.2	20.1	40.3	63.0	-22.7
17.350	16.1	20.7	36.8	60.0	-23.2
0.157	22.0	20.1	42.1	65.6	-23.5
14.010	15.8	20.6	36.4	60.0	-23.6
17.160	15.5	20.7	36.2	60.0	-23.8
1.992	11.9	20.1	32.0	56.0	-24.0
14.350	15.4	20.6	36.0	60.0	-24.0
1.104	11.8	20.1	31.9	56.0	-24.1
2.312	11.8	20.1	31.9	56.0	-24.1
2.632	11.7	20.1	31.8	56.0	-24.2
3.624	11.6	20.2	31.8	56.0	-24.2
14.180	15.1	20.6	35.7	60.0	-24.3
3.456	11.4	20.2	31.6	56.0	-24.4
1.216	11.4	20.1	31.5	56.0	-24.5
2.176	11.4	20.1	31.5	56.0	-24.5
1.784	11.1	20.1	31.2	56.0	-24.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.174	27.1	20.1	47.2	54.8	-7.6
0.182	25.3	20.1	45.4	54.4	-9.0
0.165	23.7	20.1	43.8	55.2	-11.4
0.211	21.6	20.1	41.7	53.2	-11.5
0.216	20.2	20.1	40.3	53.0	-12.7
17.350	16.1	20.7	36.8	50.0	-13.2
0.157	22.0	20.1	42.1	55.6	-13.5
14.010	15.8	20.6	36.4	50.0	-13.6
17.160	15.5	20.7	36.2	50.0	-13.8
1.992	11.9	20.1	32.0	46.0	-14.0
14.350	15.4	20.6	36.0	50.0	-14.0
1.104	11.8	20.1	31.9	46.0	-14.1
2.312	11.8	20.1	31.9	46.0	-14.1
2.632	11.7	20.1	31.8	46.0	-14.2
3.624	11.6	20.2	31.8	46.0	-14.2
14.180	15.1	20.6	35.7	50.0	-14.3
3.456	11.4	20.2	31.6	46.0	-14.4
1.216	11.4	20.1	31.5	46.0	-14.5
2.176	11.4	20.1	31.5	46.0	-14.5
1.784	11.1	20.1	31.2	46.0	-14.8

EMC

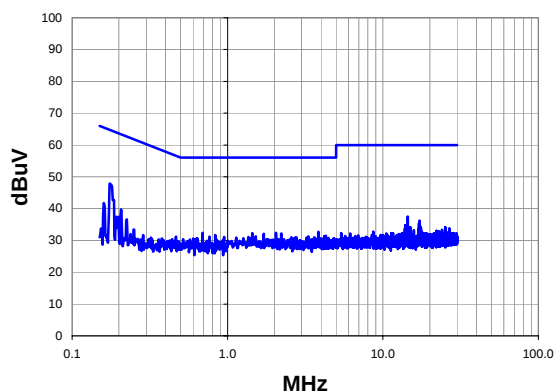
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	FOCU0115	Date:	09/15/11	
Project:	None	Temperature:	23.5 °C	
Job Site:	EV07	Humidity:	44% RH	
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar	
			Tested by:	Rod Peloquin
EUT:	Ice Axe - Slave Module			
Configuration:	4 - Powerline Conducted Emissions			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	3.3 VDC via 120VAC/60Hz			
Operating Mode:	Transmitting Channel 116 (23) 5580 MHz			
Deviations:	No deviations.			
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs			

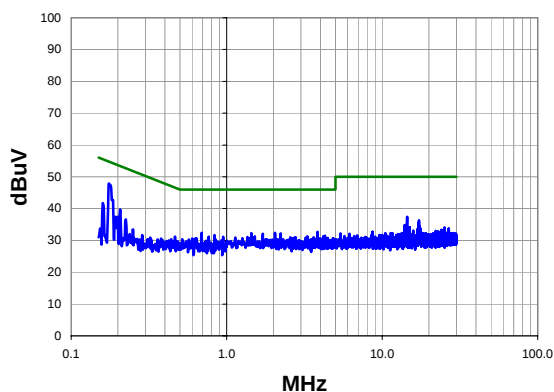
Test Specifications
FCC 15.207:2011Test Method
ANSI C63.10:2009

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



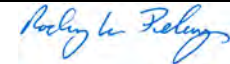
Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.176	27.8	20.1	47.9	64.7	-16.8
14.440	16.8	20.6	37.4	60.0	-22.6
3.848	12.5	20.2	32.7	56.0	-23.3
0.691	12.3	20.1	32.4	56.0	-23.6
2.048	12.3	20.1	32.4	56.0	-23.6
0.160	21.7	20.1	41.8	65.5	-23.7
0.206	19.6	20.1	39.7	63.4	-23.7
1.440	12.2	20.1	32.3	56.0	-23.7
17.260	15.5	20.7	36.2	60.0	-23.8
2.224	12.1	20.1	32.2	56.0	-23.8
1.712	12.0	20.1	32.1	56.0	-23.9
0.833	11.6	20.1	31.7	56.0	-24.3
4.288	11.3	20.2	31.5	56.0	-24.5
3.304	11.1	20.2	31.3	56.0	-24.7
4.192	11.1	20.2	31.3	56.0	-24.7
17.080	14.6	20.7	35.3	60.0	-24.7
0.765	11.1	20.1	31.2	56.0	-24.8
0.949	11.0	20.1	31.1	56.0	-24.9
2.568	10.9	20.1	31.0	56.0	-25.0
2.776	10.9	20.1	31.0	56.0	-25.0

Peak Data - vs - Average Limit

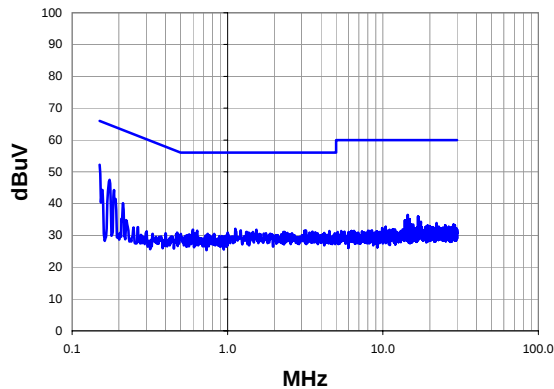
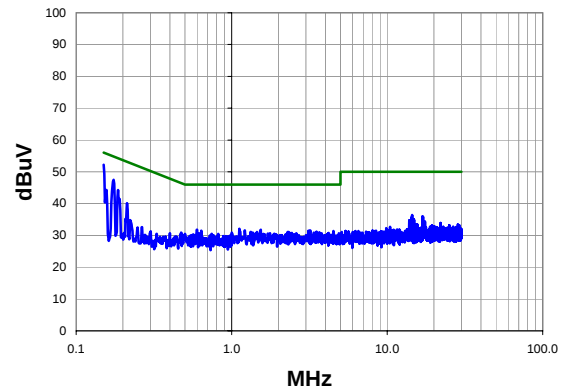
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.176	27.8	20.1	47.9	54.7	-6.8
14.440	16.8	20.6	37.4	50.0	-12.6
3.848	12.5	20.2	32.7	46.0	-13.3
0.691	12.3	20.1	32.4	46.0	-13.6
2.048	12.3	20.1	32.4	46.0	-13.6
0.160	21.7	20.1	41.8	55.5	-13.7
0.206	19.6	20.1	39.7	53.4	-13.7
1.440	12.2	20.1	32.3	46.0	-13.7
17.260	15.5	20.7	36.2	50.0	-13.8
2.224	12.1	20.1	32.2	46.0	-13.8
1.712	12.0	20.1	32.1	46.0	-13.9
0.833	11.6	20.1	31.7	46.0	-14.3
4.288	11.3	20.2	31.5	46.0	-14.5
3.304	11.1	20.2	31.3	46.0	-14.7
4.192	11.1	20.2	31.3	46.0	-14.7
17.080	14.6	20.7	35.3	50.0	-14.7
0.765	11.1	20.1	31.2	46.0	-14.8
0.949	11.0	20.1	31.1	46.0	-14.9
2.568	10.9	20.1	31.0	46.0	-15.0
2.776	10.9	20.1	31.0	46.0	-15.0

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	FOCU0115	Date:	09/15/11	
Project:	None	Temperature:	23.5 °C	
Job Site:	EV07	Humidity:	44% RH	
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar	
		Tested by:		Rod Peloquin
EUT:	Ice Axe - Slave Module			
Configuration:	4 - Powerline Conducted Emissions			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	3.3 VDC via 120VAC/60Hz			
Operating Mode:	Transmitting Channel 116 (23) 5580 MHz			
Deviations:	No deviations.			
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs			

Test Specifications
FCC 15.207:2011**Test Method**
ANSI C63.10:2009

Run #	18	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit**Peak Data - vs - Average Limit****Peak Data - vs - Quasi Peak Limit**

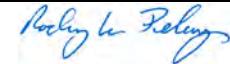
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	32.1	20.1	52.2	66.0	-13.8
0.174	27.4	20.1	47.5	64.8	-17.3
0.186	24.2	20.1	44.3	64.2	-19.9
0.155	24.2	20.1	44.3	65.7	-21.4
0.213	20.0	20.1	40.1	63.1	-23.0
14.440	15.8	20.6	36.4	60.0	-23.6
1.120	12.0	20.1	32.1	56.0	-23.9
16.820	15.2	20.7	35.9	60.0	-24.1
0.597	11.7	20.1	31.8	56.0	-24.2
1.536	11.7	20.1	31.8	56.0	-24.2
17.000	15.1	20.7	35.8	60.0	-24.2
14.360	15.1	20.6	35.7	60.0	-24.3
1.216	11.5	20.1	31.6	56.0	-24.4
3.192	11.4	20.2	31.6	56.0	-24.4
0.638	11.4	20.1	31.5	56.0	-24.5
3.120	11.3	20.2	31.5	56.0	-24.5
4.520	11.2	20.2	31.4	56.0	-24.6
3.512	11.0	20.2	31.2	56.0	-24.8
1.320	11.0	20.1	31.1	56.0	-24.9
1.456	11.0	20.1	31.1	56.0	-24.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	32.1	20.1	52.2	56.0	-3.8
0.174	27.4	20.1	47.5	54.8	-7.3
0.186	24.2	20.1	44.3	54.2	-9.9
0.155	24.2	20.1	44.3	55.7	-11.4
0.213	20.0	20.1	40.1	53.1	-13.0
14.440	15.8	20.6	36.4	50.0	-13.6
1.120	12.0	20.1	32.1	46.0	-13.9
16.820	15.2	20.7	35.9	50.0	-14.1
0.597	11.7	20.1	31.8	46.0	-14.2
1.536	11.7	20.1	31.8	46.0	-14.2
17.000	15.1	20.7	35.8	50.0	-14.2
14.360	15.1	20.6	35.7	50.0	-14.3
1.216	11.5	20.1	31.6	46.0	-14.4
3.192	11.4	20.2	31.6	46.0	-14.4
0.638	11.4	20.1	31.5	46.0	-14.5
3.120	11.3	20.2	31.5	46.0	-14.5
4.520	11.2	20.2	31.4	46.0	-14.6
3.512	11.0	20.2	31.2	46.0	-14.8
1.320	11.0	20.1	31.1	46.0	-14.9
1.456	11.0	20.1	31.1	46.0	-14.9

EMC

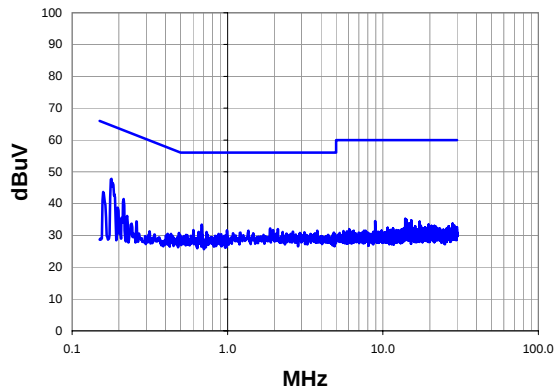
AC POWERLINE CONDUCTED EMISSIONS

Work Order:	FOCU0115	Date:	09/15/11	
Project:	None	Temperature:	23.5 °C	
Job Site:	EV07	Humidity:	44% RH	
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar	
				Tested by: Rod Peloquin
EUT:	Ice Axe - Slave Module			
Configuration:	4 - Powerline Conducted Emissions			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	3.3 VDC via 120VAC/60Hz			
Operating Mode:	Transmitting Channel 140 (29) 5700 MHz			
Deviations:	No deviations.			
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs			

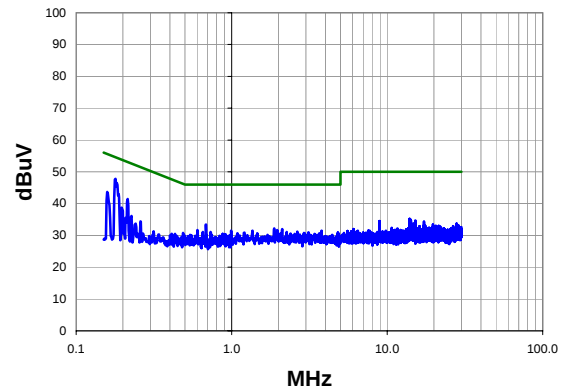
Test Specifications
FCC 15.207:2011Test Method
ANSI C63.10:2009

Run #	19	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



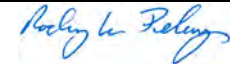
Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.179	27.7	20.1	47.8	64.5	-16.7
0.215	21.3	20.1	41.4	63.0	-21.6
0.159	23.6	20.1	43.7	65.5	-21.8
0.682	13.3	20.1	33.4	56.0	-22.6
1.880	12.1	20.1	32.2	56.0	-23.8
2.112	11.9	20.1	32.0	56.0	-24.0
0.602	11.6	20.1	31.7	56.0	-24.3
1.960	11.6	20.1	31.7	56.0	-24.3
0.991	11.4	20.1	31.5	56.0	-24.5
1.360	11.4	20.1	31.5	56.0	-24.5
3.784	11.3	20.2	31.5	56.0	-24.5
2.640	11.1	20.1	31.2	56.0	-24.8
13.920	14.6	20.6	35.2	60.0	-24.8
0.652	11.0	20.1	31.1	56.0	-24.9
0.733	11.0	20.1	31.1	56.0	-24.9
2.264	11.0	20.1	31.1	56.0	-24.9
14.100	14.4	20.6	35.0	60.0	-25.0
3.120	10.8	20.2	31.0	56.0	-25.0
0.196	18.6	20.1	38.7	63.8	-25.1
4.824	10.7	20.2	30.9	56.0	-25.1

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.179	27.7	20.1	47.8	54.5	-6.7
0.215	21.3	20.1	41.4	53.0	-11.6
0.159	23.6	20.1	43.7	55.5	-11.8
0.682	13.3	20.1	33.4	46.0	-12.6
1.880	12.1	20.1	32.2	46.0	-13.8
2.112	11.9	20.1	32.0	46.0	-14.0
0.602	11.6	20.1	31.7	46.0	-14.3
1.960	11.6	20.1	31.7	46.0	-14.3
0.991	11.4	20.1	31.5	46.0	-14.5
1.360	11.4	20.1	31.5	46.0	-14.5
3.784	11.3	20.2	31.5	46.0	-14.5
2.640	11.1	20.1	31.2	46.0	-14.8
13.920	14.6	20.6	35.2	50.0	-14.8
0.652	11.0	20.1	31.1	46.0	-14.9
0.733	11.0	20.1	31.1	46.0	-14.9
2.264	11.0	20.1	31.1	46.0	-14.9
14.100	14.4	20.6	35.0	50.0	-15.0
3.120	10.8	20.2	31.0	46.0	-15.0
0.196	18.6	20.1	38.7	53.8	-15.1
4.824	10.7	20.2	30.9	46.0	-15.1

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	FOCU0115	Date:	09/15/11		
Project:	None	Temperature:	23.5 °C		
Job Site:	EV07	Humidity:	44% RH		
Serial Number:	02 EA 12 00 5A 67	Barometric Pres.:	1015.9 mbar		
				Tested by:	Rod Peloquin
EUT:	Ice Axe - Slave Module				
Configuration:	4 - Powerline Conducted Emissions				
Customer:	Summit Semiconductor				
Attendees:	None				
EUT Power:	3.3 VDC via 120VAC/60Hz				
Operating Mode:	Transmitting Channel 140 (29) 5700 MHz				
Deviations:	No deviations.				
Comments:	Operated per TPC power table, data randomization enabled. RF Shield soldered on 4 tabs				

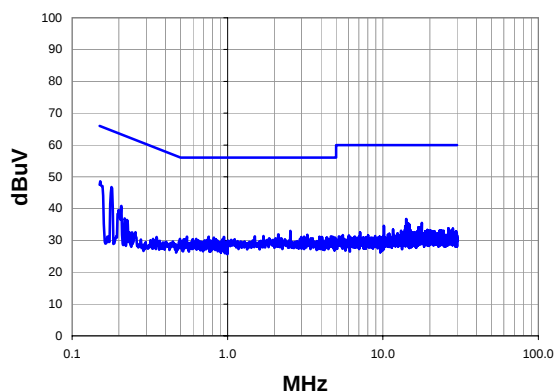
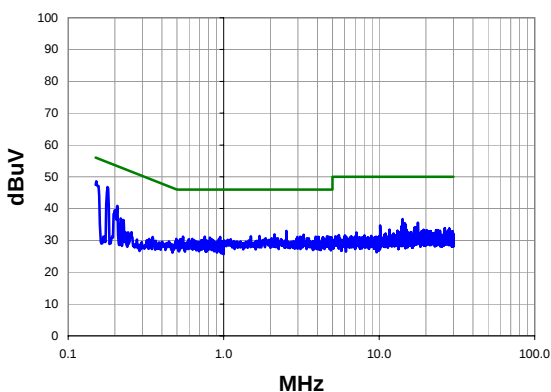
Test Specifications

FCC 15.207:2011

Test Method

ANSI C63.10:2009

Run #	20	Line:	Neutral	Ext. Attenuation:	20	Results	Pass
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Peak Data - vs - Quasi Peak Limit**Peak Data - vs - Average Limit****Peak Data - vs - Quasi Peak Limit**

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.152	28.5	20.1	48.6	65.9	-17.3
0.179	26.7	20.1	46.8	64.5	-17.7
0.208	20.7	20.1	40.8	63.3	-22.5
2.536	12.9	20.1	33.0	56.0	-23.0
14.100	16.1	20.6	36.7	60.0	-23.3
2.120	11.8	20.1	31.9	56.0	-24.1
3.264	11.6	20.2	31.8	56.0	-24.2
17.770	14.8	20.7	35.5	60.0	-24.5
1.704	11.3	20.1	31.4	56.0	-24.6
14.520	14.8	20.6	35.4	60.0	-24.6
1.496	11.2	20.1	31.3	56.0	-24.7
4.624	11.1	20.2	31.3	56.0	-24.7
0.548	11.1	20.1	31.2	56.0	-24.8
0.757	11.1	20.1	31.2	56.0	-24.8
3.912	11.0	20.2	31.2	56.0	-24.8
4.736	11.0	20.2	31.2	56.0	-24.8
3.104	11.0	20.2	31.2	56.0	-24.8
0.947	11.0	20.1	31.1	56.0	-24.9
4.064	10.9	20.2	31.1	56.0	-24.9
14.700	14.5	20.6	35.1	60.0	-24.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.152	28.5	20.1	48.6	55.9	-7.3
0.179	26.7	20.1	46.8	54.5	-7.7
0.208	20.7	20.1	40.8	53.3	-12.5
2.536	12.9	20.1	33.0	46.0	-13.0
14.100	16.1	20.6	36.7	50.0	-13.3
2.120	11.8	20.1	31.9	46.0	-14.1
3.264	11.6	20.2	31.8	46.0	-14.2
17.770	14.8	20.7	35.5	50.0	-14.5
1.704	11.3	20.1	31.4	46.0	-14.6
14.520	14.8	20.6	35.4	50.0	-14.6
1.496	11.2	20.1	31.3	46.0	-14.7
4.624	11.1	20.2	31.3	46.0	-14.7
0.548	11.1	20.1	31.2	46.0	-14.8
0.757	11.1	20.1	31.2	46.0	-14.8
3.912	11.0	20.2	31.2	46.0	-14.8
4.736	11.0	20.2	31.2	46.0	-14.8
3.104	11.0	20.2	31.2	46.0	-14.8
0.947	11.0	20.1	31.1	46.0	-14.9
4.064	10.9	20.2	31.1	46.0	-14.9
14.700	14.5	20.6	35.1	50.0	-14.9