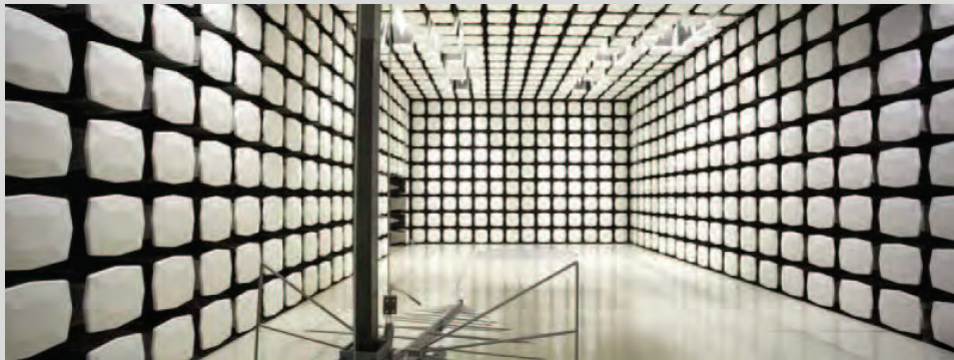




Summit Semiconductor
Model# 444-2216 (Glenwood)

Report #: FOCU0127.1



Report Prepared By Northwest EMC Inc.

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

California – Minnesota – Oregon – New York – Washington



22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test
Last Date of Test: March 23, 2012
Summit Semiconductor
Model: Model# 444-2216 (Glenwood)

Emissions

Test Description	Specification	Test Method	Pass/Fail
Emissions Bandwidth	FCC 15.407:2012	ANSI C63.10:2009	Pass
Maximum Conducted Output Power	FCC 15.407:2012	ANSI C63.10:2009	Pass
Peak Power Spectral Density	FCC 15.407:2012	ANSI C63.10:2009	Pass
Peak Excursion	FCC 15.407:2012	ANSI C63.10:2009	Pass
Duty Cycle, Transmission Pulse Duration	FCC 15.407:2012	ANSI C63.10:2009	Pass
Unwanted Emissions	FCC 15.407:2012	ANSI C63.10:2009	Pass
Unwanted Emissions	FCC 15.209:2012	ANSI C63.10:2009	Pass
Frequency Stability	FCC 15.407:2012	ANSI C63.10:2009	Pass
AC Powerline Conducted Emissions	FCC 15.207:2012	ANSI C63.10:2009	Pass

Deviations From Test Standards

None

Approved By:

Tim O'Shea, Operations Manager



NVLAP Lab Code: 200630-0

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).

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

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



Revision History

Revision Number	Description	Date	Page Number
00	None		

United States

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

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

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

Canada

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

European Union

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

Australia/New Zealand

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

Korea

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

Japan

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

Taiwan

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

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

Singapore

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

Hong Kong

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

Vietnam

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

Russia

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



Oregon

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

California

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

New York

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

Minnesota

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

Washington

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

VCCI

C-1071, R-1025, G-84,
C-2687, T-1658, R-2318

R-1943, G-85,
C-2766, T-1659, G-548

R-3125, G-86,
G-141, C-3464, T-1634

R-871, G-83,
C-3265, T-1511

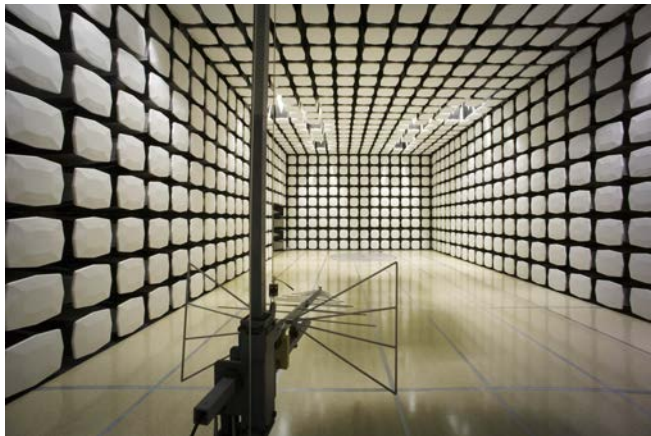
Industry Canada

2834D-1, 2834D-2

2834B-1, 2834B-2, 2834B-3

2834E-1

2834C-1





Product Description

Client and Equipment Under Test (EUT) Information

Company Name:	Summit Semiconductor
Address:	22867 NW Bennett St, Suite 200
City, State, Zip:	Hillsboro, OR 97124
Test Requested By:	Ponnappa Pasura
Model:	Model# 444-2216 (Glenwood)
First Date of Test:	March 13, 2012
Last Date of Test:	March 23, 2012
Receipt Date of Samples:	March 13, 2012
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 limited modular approval of the master under FCC 15.407 for operation in the 5.2, 5.3, and 5.6 GHz bands

Configurations

Configuration 1 FOCU0127

Software/Firmware Running during test	
Description	Version
Hood BIST Monitor	157

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Wireless Audio Board - Direct Connect	Summit Semiconductor	444-2216	02EA060000024

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Developer I/O Board	Summit Semiconductor	None	C0-4
RS-232 Serial Interface	Summit Semiconductor	None	None
DC Block	MCL	BLK-89-S+	15542
AC Adapter	Condor	SA-183A61V	0950

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 cable	No	0.2m	No	Wireless Audio Board - Direct Connect	DC Power / RS-232 Serial Interface
Serial	Yes	2.0m	No	Developer I/O Board	Remote PC
DC Lead	PA	1.8m	PA	AC Adapter	Developer I/O Board
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Configuration 2 FOCU0127

Software/Firmware Running during test	
Description	Version
Hood BIST Monitor	157

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Wireless Audio Board - Radiated	Summit Semiconductor	444-2216	02EA060000012

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Developer I/O Board	Summit Semiconductor	None	C0-4
DC Block	MCL	BLK-89-S+	15542

Remote Equipment Outside of Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
RS-232 Serial Interface	Summit Semiconductor	None	None
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 cable	No	0.2m	No	Wireless Audio Board - Direct Connect	DC Power / RS-232 Serial Interface
Serial	Yes	2.0m	No	Developer I/O Board	Remote PC
DC Lead	PA	1.8m	PA	AC Adapter	Developer I/O Board

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

Configurations

Configuration 3 FOCU0127

Software/Firmware Running during test	
Description	Version
Hood BIST Monitor	157

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Wireless Audio Board - Direct Connect	Summit Semiconductor	444-2216	02EA060000024

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Developer I/O Board	Summit Semiconductor	None	C0-4
RS-232 Serial Interface	Summit Semiconductor	None	None
AC Adapter	Condor	SA-183A61V	0950

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
DC Lead	PA	1.8m	PA	AC Adapter	Developer I/O Board
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Configuration 4 FOCU0127

Software/Firmware Running during test	
Description	Version
Hood BIST Monitor	157

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Wireless Audio Board - Radiated	Summit Semiconductor	444-2216	02EA060000012

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Developer I/O Board	Summit Semiconductor	None	C0-4
DC Power Supply	Topward	6303D	743645

Remote Equipment Outside of Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
RS-232 Serial Interface	Summit Semiconductor	None	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	Developer I/O Board
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	3/13/2012	Duty Cycle, Transmission Pulse 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	3/15/2012	Unwanted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	3/19/2012	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.
4	3/19/2012	Maximum Conducted 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.
5	3/19/2012	Emissions 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.
6	3/19/2012	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.
7	3/20/2012	Frequency Stability	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	3/23/2012	AC Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

EMISSION BANDWIDTH

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
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

FCC Public Notice KDB 789033 D01 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 Occupied Bandwidth measurement function of the analyzer was used to measure x dB -26 dB emission bandwidth

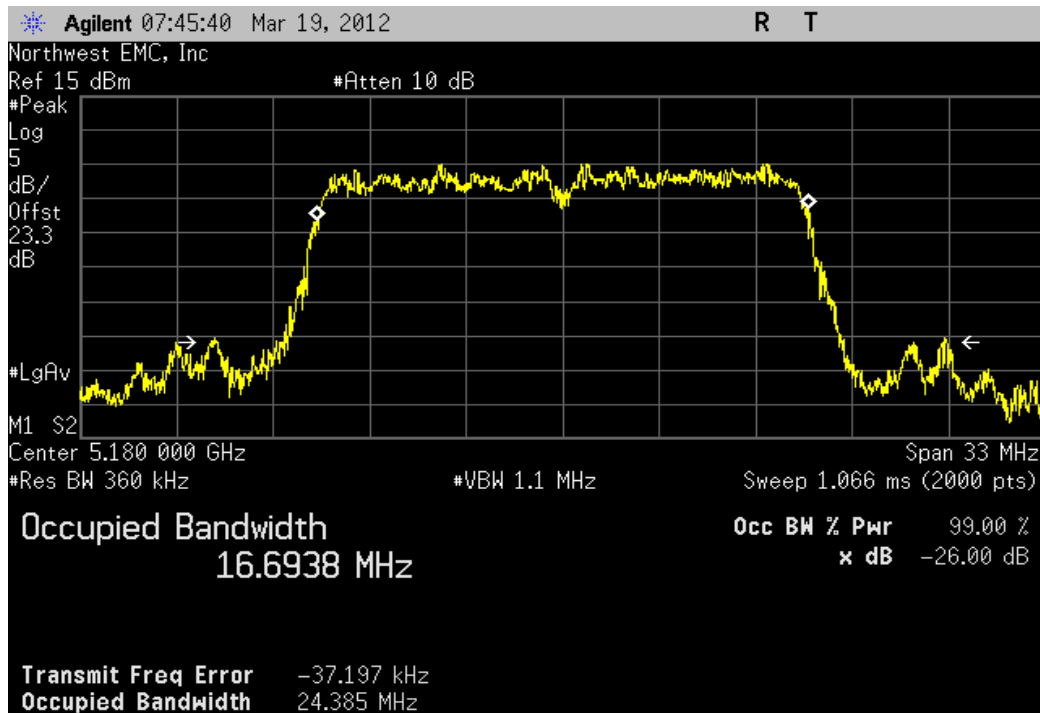


EMISSION BANDWIDTH

EUT: Model# 444-2216 (Glenwood)		Work Order: FOCU0127	
Serial Number: 02EA06000024		Date: 03/19/12	
Customer: Summit Semiconductor		Temperature: 21°C	
Attendees: Ponnappa Pasura		Humidity: 28%	
Project: None		Barometric Pres.: 1013.5 mb	
Tested by: Rod Peloquin		Power: 18 VDC	
		Job Site: EV06	
TEST SPECIFICATIONS		Test Method	
FCC 15.407:2012		ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Rod Peloquin</i>	
		Value	Limit
			Result
6 Mbps			
5150 - 5250 MHz Band			
Channel 36, Low Channel		24.385 MHz	≥ 500 kHz
Channel 48, High Channel		19.665 MHz	≥ 500 kHz
5250 - 5350 MHz Band			
Channel 52, Low Channel		19.602 MHz	≥ 500 kHz
Channel 64, High Channel		19.576 MHz	≥ 500 kHz
5470 - 5725 MHz Band			
Channel 100, Low Channel		21.695 MHz	≥ 500 kHz
Channel 116, Mid Channel		21.565 MHz	≥ 500 kHz
Channel 140, High Channel		25.148 MHz	≥ 500 kHz

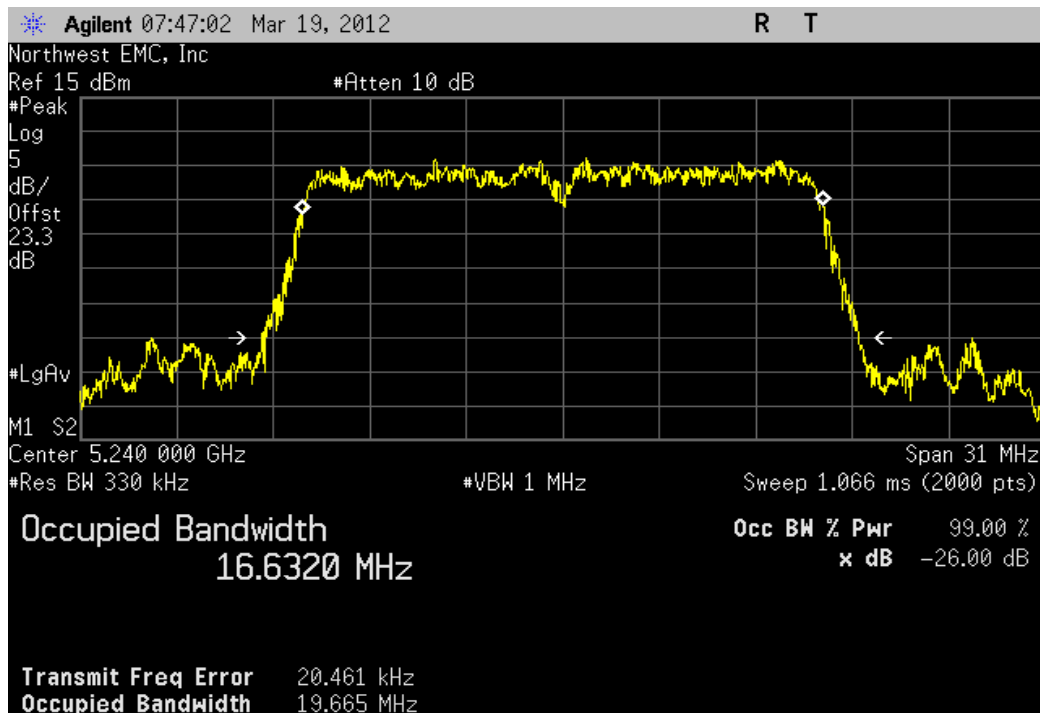
6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

				Value	Limit	Result
				24.385 MHz	≥ 500 kHz	Pass



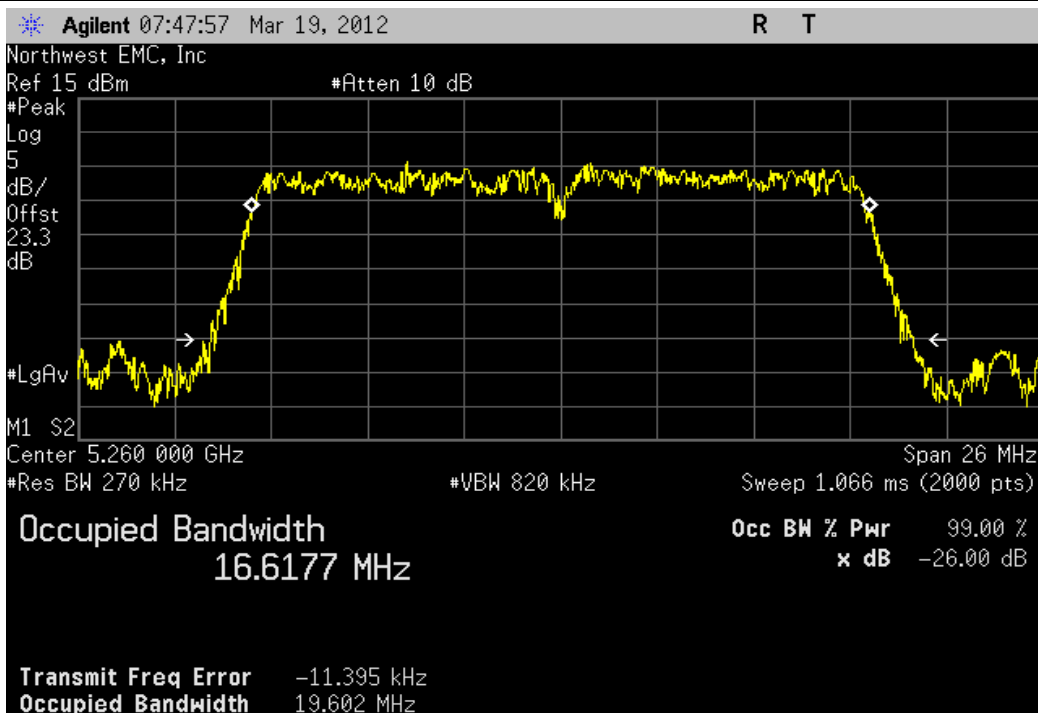
6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

				Value	Limit	Result
				19.665 MHz	≥ 500 kHz	Pass



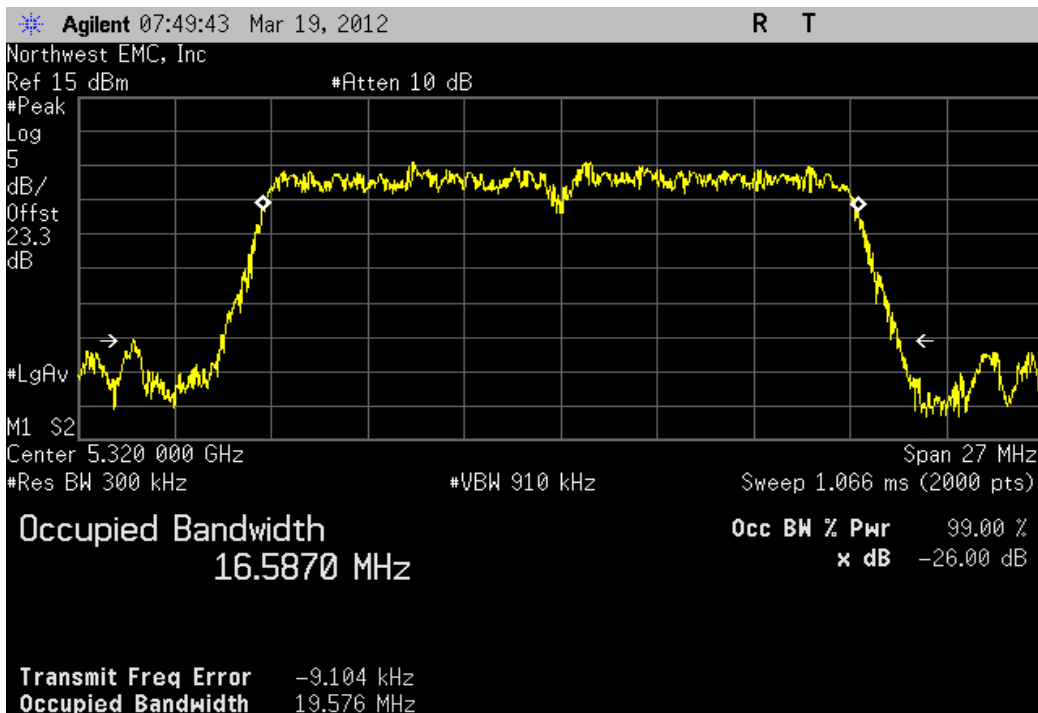
6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

				Value	Limit	Result
				19.602 MHz	≥ 500 kHz	Pass



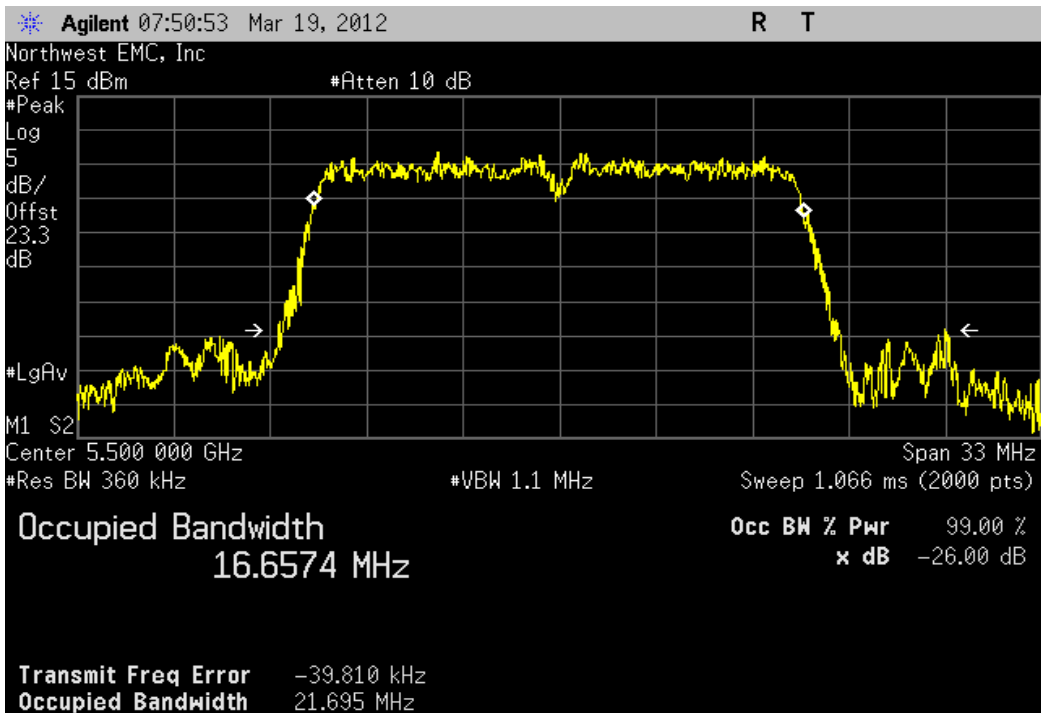
6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

				Value	Limit	Result
				19.576 MHz	≥ 500 kHz	Pass



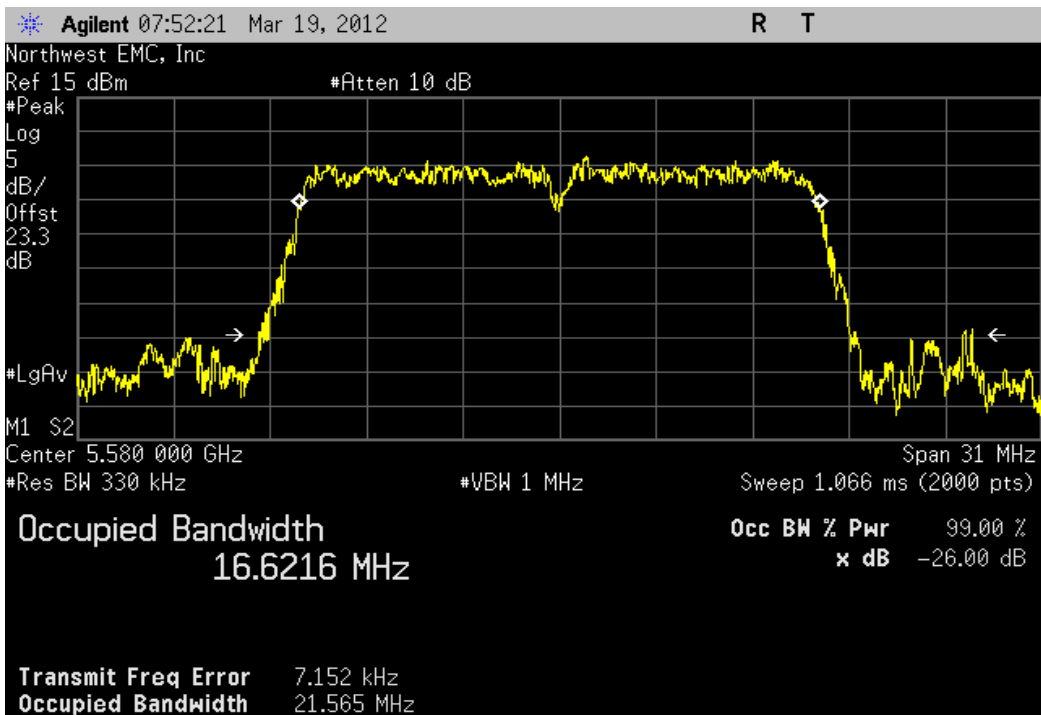
6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

	Value	Limit	Result
	21.695 MHz	≥ 500 kHz	Pass



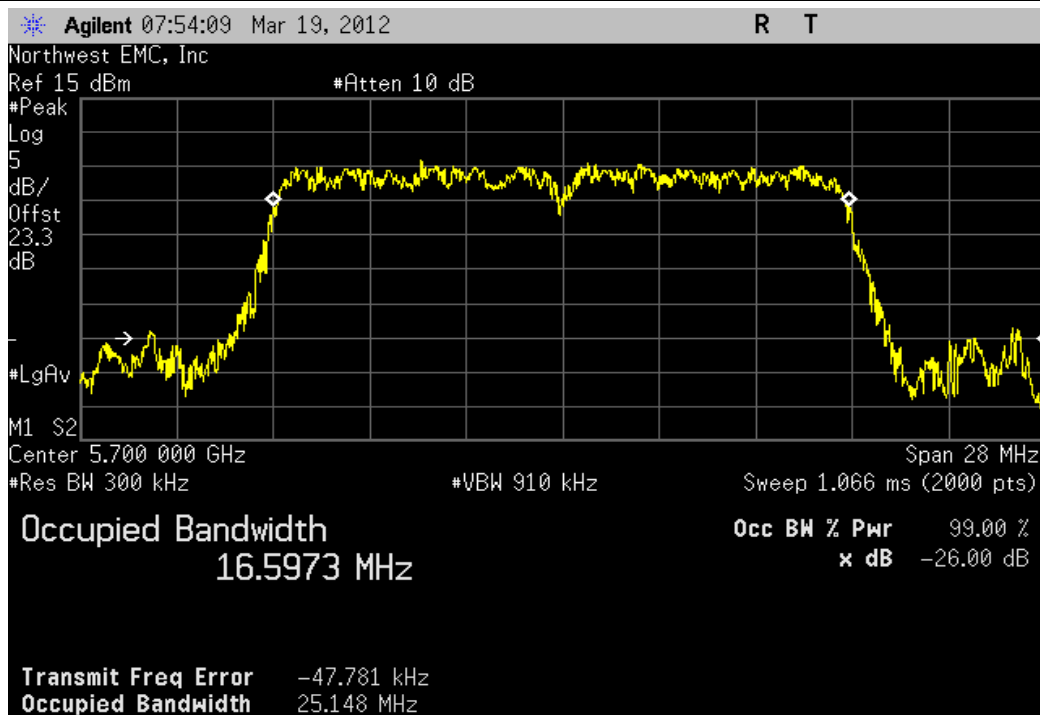
6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel

	Value	Limit	Result
	21.565 MHz	≥ 500 kHz	Pass



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

	Value	Limit	Result
	25.148 MHz	≥ 500 kHz	Pass



MAXIMUM CONDUCTED OUTPUT POWER

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
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
Power Meter	Gigatronics	8651A	SPM	1/9/2012	24
Power Sensor	Gigatronics	80701A	SPL	7/8/2011	24
MXG Vector Signal Generator	Agilent	N5182A	TIF	NCR	0
Attenuator, 6dB	S.M. Electronics	18N-06	AWN	5/5/2011	12

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

FCC KDB 789033 D01 General UNII Test Procedures 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) was measured. The method of measuring the emission bandwidth and the associated data are found elsewhere in this test report

Method SA-2 Alternate (RMS detection with slow sweep across on and off times of the EUT transmission and use of a duty cycle correction factor) was used for this test.

The spectrum analyzer settings were set per the guidance as well as the following specifics:

The number of points was set to 601. This satisfied the requirement of being $> 2 * \text{span} (25) / \text{RBW} (1)$

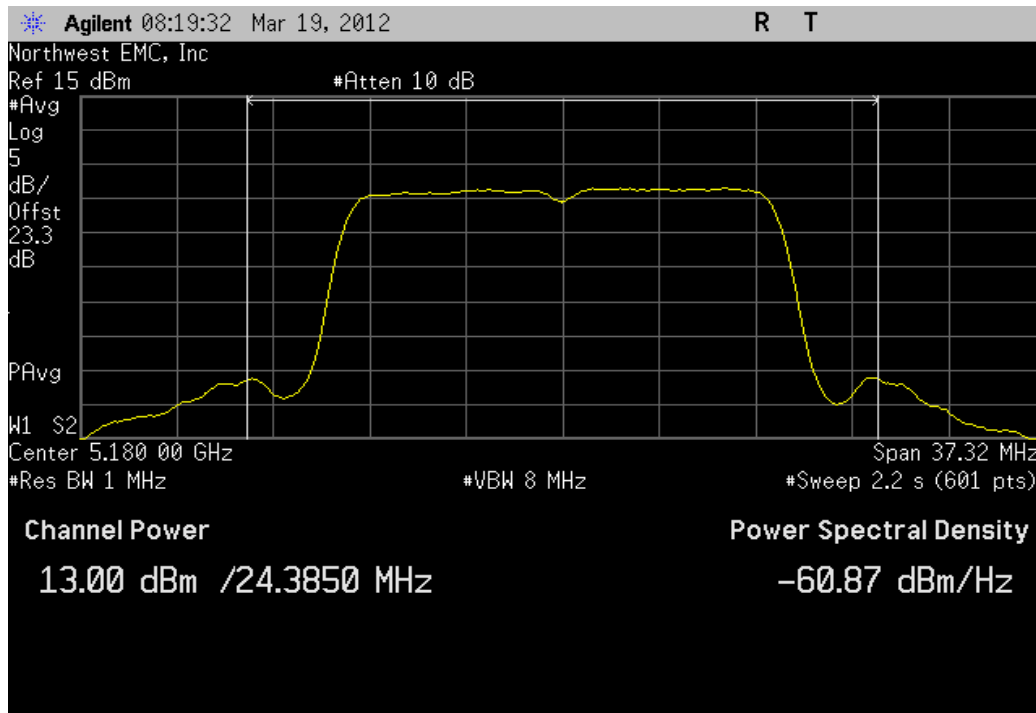
Sweep time was to 2.2 seconds to satisfy the function of $> 10 * (\text{number of points being } 601) * (\text{total transmitter period of } 360 \mu\text{s})$



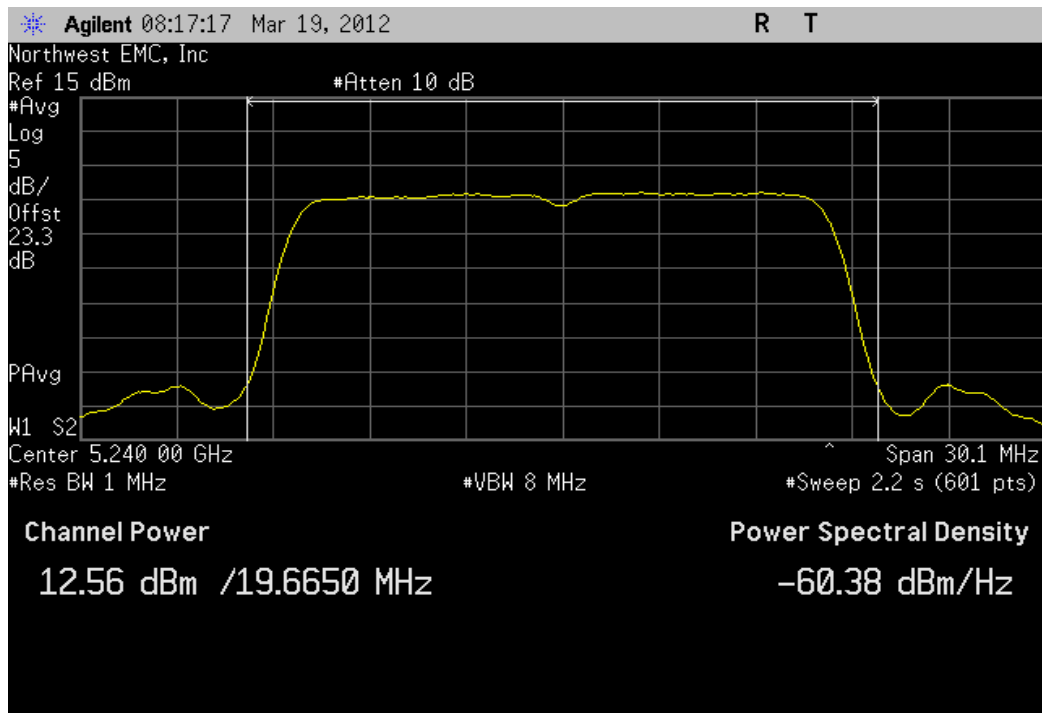
MAXIMUM CONDUCTED OUTPUT POWER

EUT: Model# 444-2216 (Glenwood)		Work Order: FOCU0127					
Serial Number: 02EA06000024		Date: 03/19/12					
Customer: Summit Semiconductor		Temperature: 21°C					
Attendees: Ponnappa Pasura		Humidity: 28%					
Project: None		Barometric Pres.: 1013.5 mb					
Tested by: Rod Peloquin		Power: 18 VDC					
Job Site: EV06							
TEST SPECIFICATIONS		Test Method					
FCC 15.407:2012		ANSI C63.10:2009					
COMMENTS							
None							
DEVIATIONS FROM TEST STANDARD							
None							
Configuration #	1	Signature <i>Rod Peloquin</i>					
		Channel Power dB	Duty Cycle %	Correction dB	Power dBm	Limit dBm	Result
6 Mbps							
5150 - 5250 MHz Band							
Channel 36, Low Channel		13.00	55	2.6	15.6	17	Pass
Channel 48, High Channel		12.56	55	2.6	15.2	17	Pass
5250 - 5350 MHz Band							
Channel 52, Low Channel		12.89	55	2.6	15.5	24	Pass
Channel 64, High Channel		12.41	55	2.6	15.0	24	Pass
5470 - 5725 MHz Band							
Channel 100, Low Channel		12.80	55	2.6	15.4	24	Pass
Channel 116, Mid Channel		12.71	55	2.6	15.3	24	Pass
Channel 140, High Channel		12.83	55	2.6	15.4	24	Pass

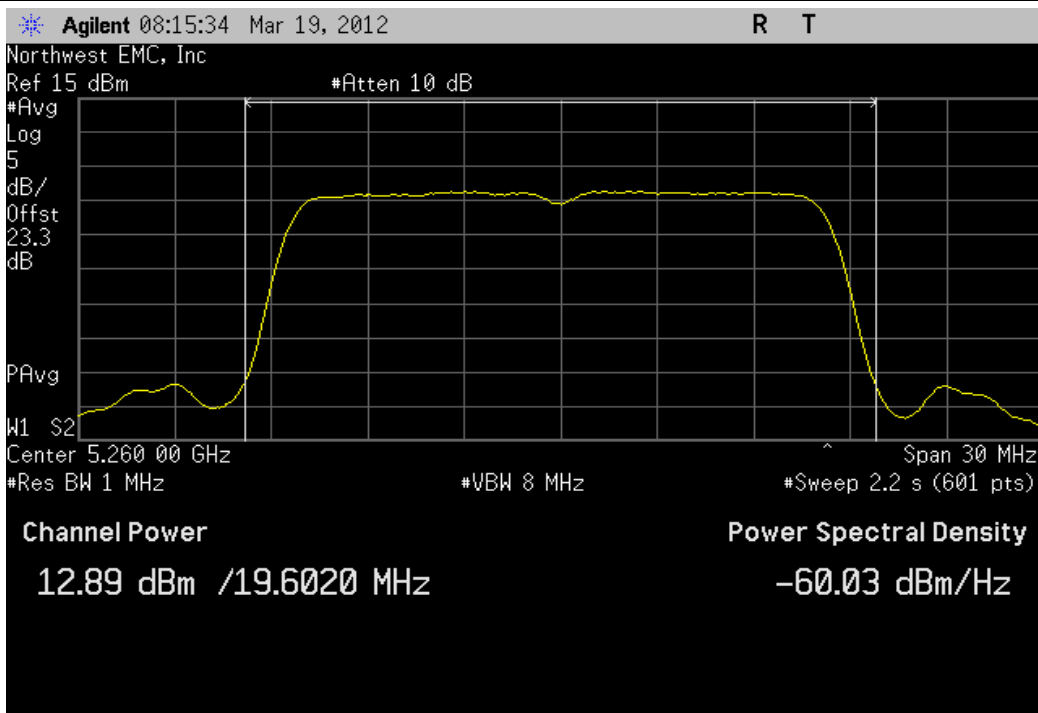
6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel						
Channel Power dB	Duty Cycle %	Correction dB	Power dBm	Limit dBm	Result	
13	55	2.6	15.6	17	Pass	



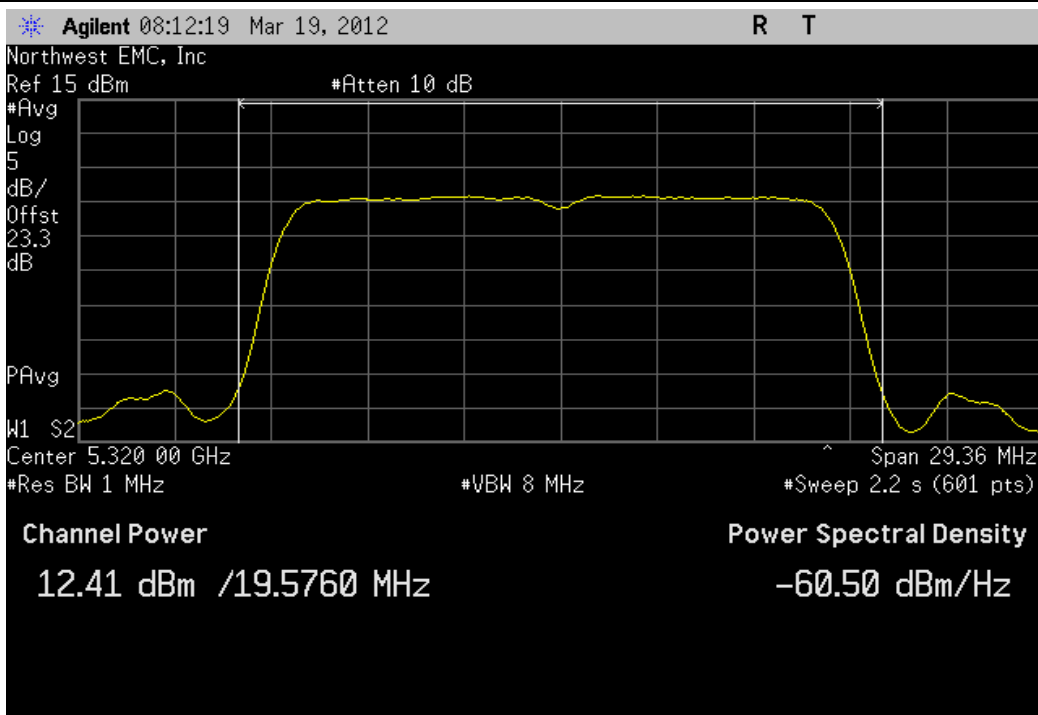
6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel						
Channel Power dB	Duty Cycle %	Correction dB	Power dBm	Limit dBm	Result	
12.56	55	2.6	15.2	17	Pass	



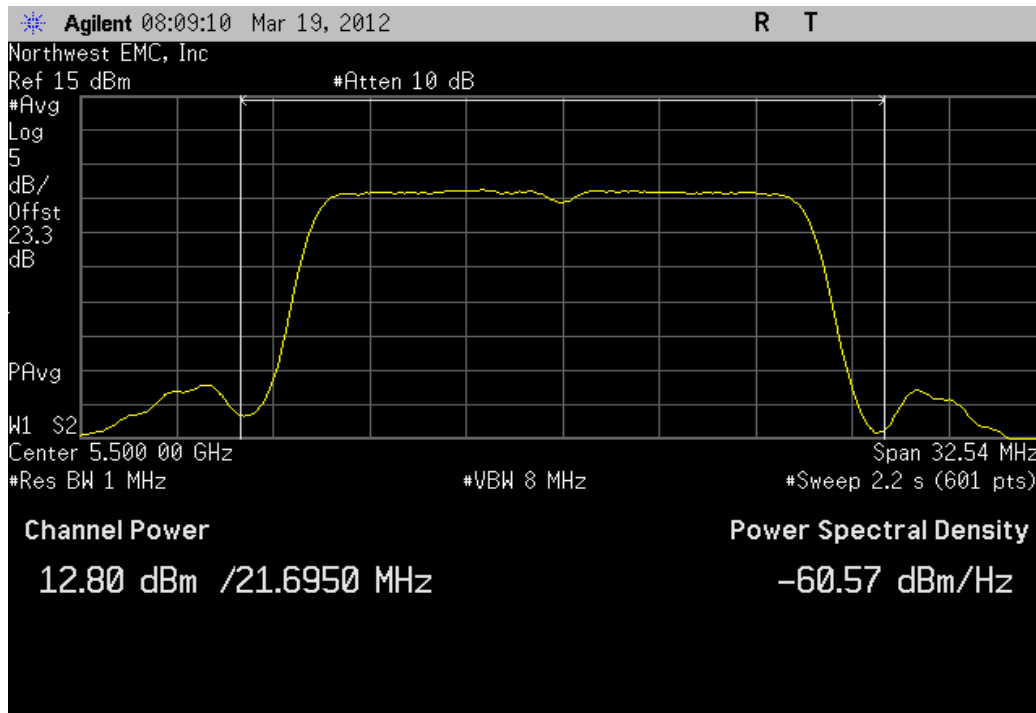
6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel						
Channel Power dB	Duty Cycle %	Correction dB	Power dBm	Limit dBm	Result	
12.89	55	2.6	15.5	24	Pass	



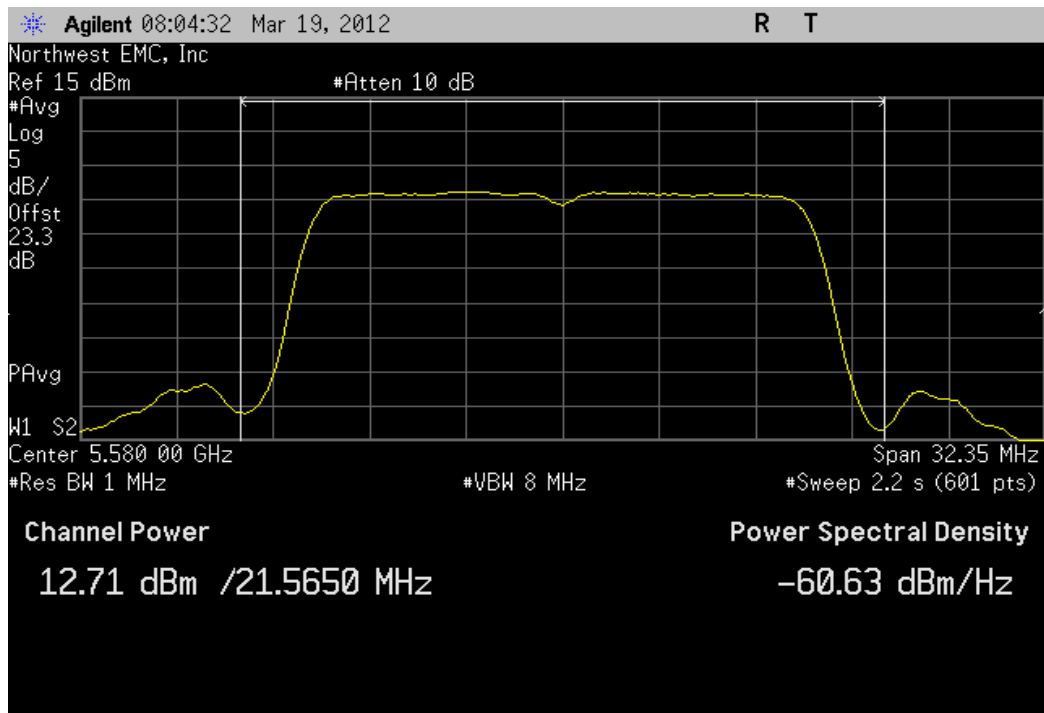
6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel						
Channel Power dB	Duty Cycle %	Correction dB	Power dBm	Limit dBm	Result	
12.41	55	2.6	15.0	24	Pass	



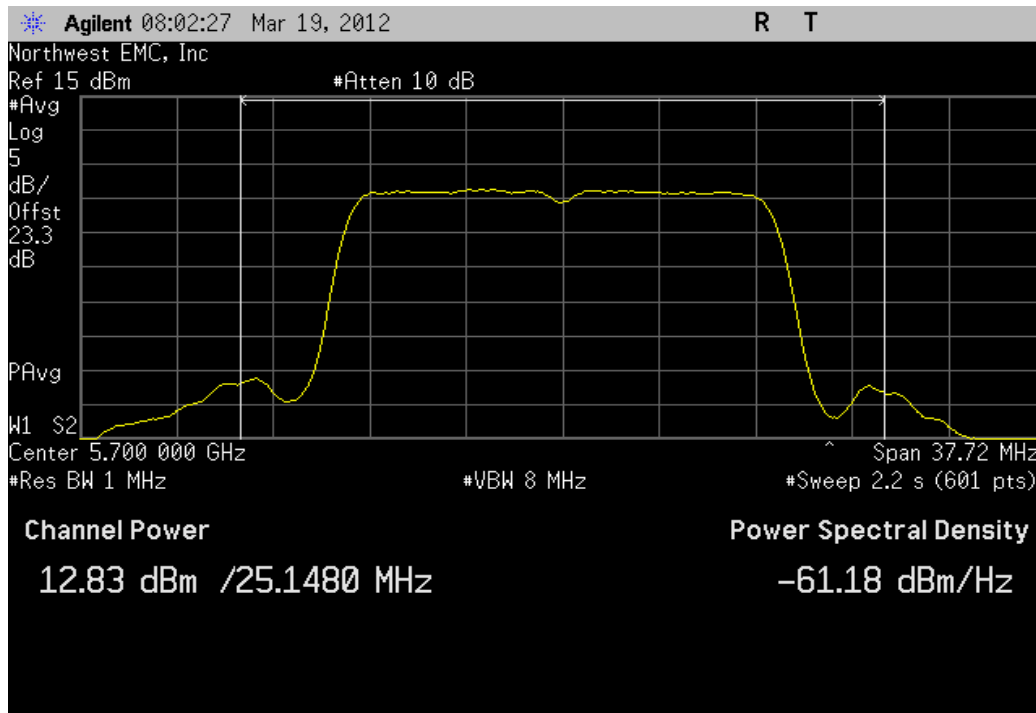
6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel						
Channel Power dB	Duty Cycle %	Correction dB	Power dBm	Limit dBm	Result	
12.8	55	2.6	15.4	24	Pass	



6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel						
Channel Power dB	Duty Cycle %	Correction dB	Power dBm	Limit dBm	Result	
12.71	55	2.6	15.3	24	Pass	



6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel						
Channel Power dB	Duty Cycle %	Correction dB	Power dBm	Limit dBm	Result	
12.83	55	2.6	15.4	24	Pass	



PEAK POWER SPECTRAL DENSITY (PPSD)

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
Power Meter	Gigatronics	8651A	SPM	1/9/2012	24
Power Sensor	Gigatronics	80701A	SPL	7/8/2011	24
MXG Vector Signal Generator	Agilent	N5182A	TIF	NCR	0
Attenuator, 6dB	S.M. Electronics	18N-06	AWN	5/5/2011	12

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

FCC KDB 789033 D01 General UNII Test Procedures 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.

Method SA-2 Alternate (RMS detection with slow sweep across on and off times of the EUT transmission and use of a duty cycle correction factor) was used for this test.

The spectrum analyzer settings were set per the guidance as well as the following specifics:

The number of points was set to 601. This satisfied the requirement of being $> 2 * \text{span} (25) / \text{RBW} (1)$

Sweep time was to 2.2 seconds to satisfy the function of $> 10 * (\text{number of points being } 601) * (\text{total transmitter period of } 360 \mu\text{s})$

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

The duty cycle correction of 2.6 dB was added to the measured value as measured and calculated in the Duty Cycle, Transmission Pulse Duration test module located elsewhere in this report.

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.

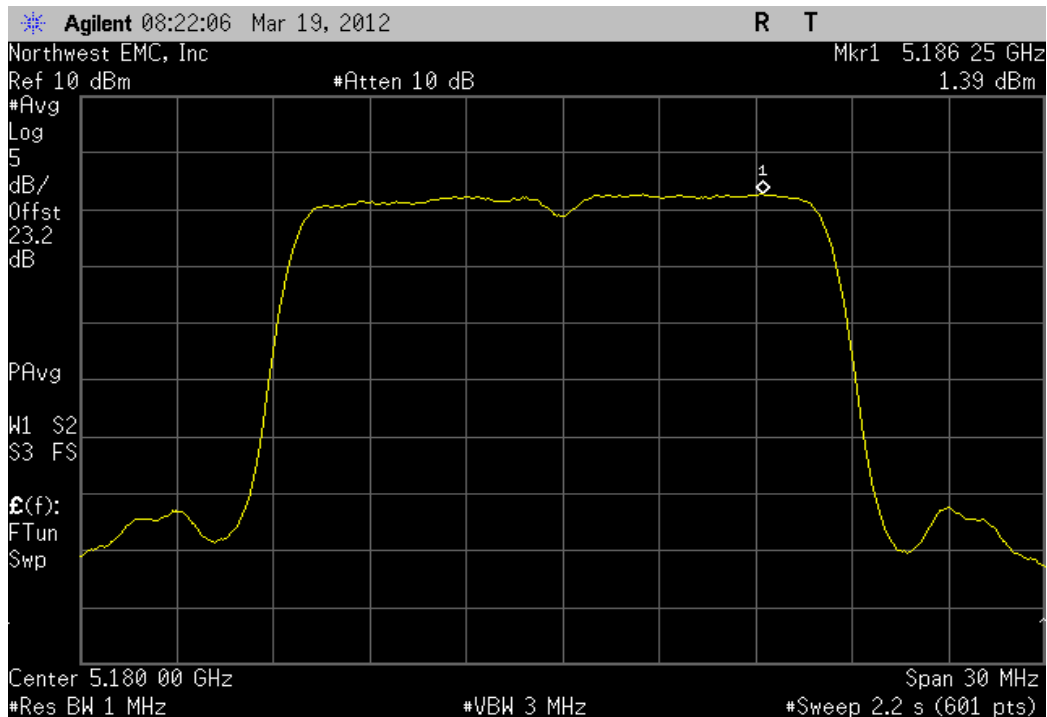
5.47 MHz – 5.725 MHz band - The lesser of 250 mW or 11 dBm + 10 log B, where B is the -26dB emission bandwidth in MHz.



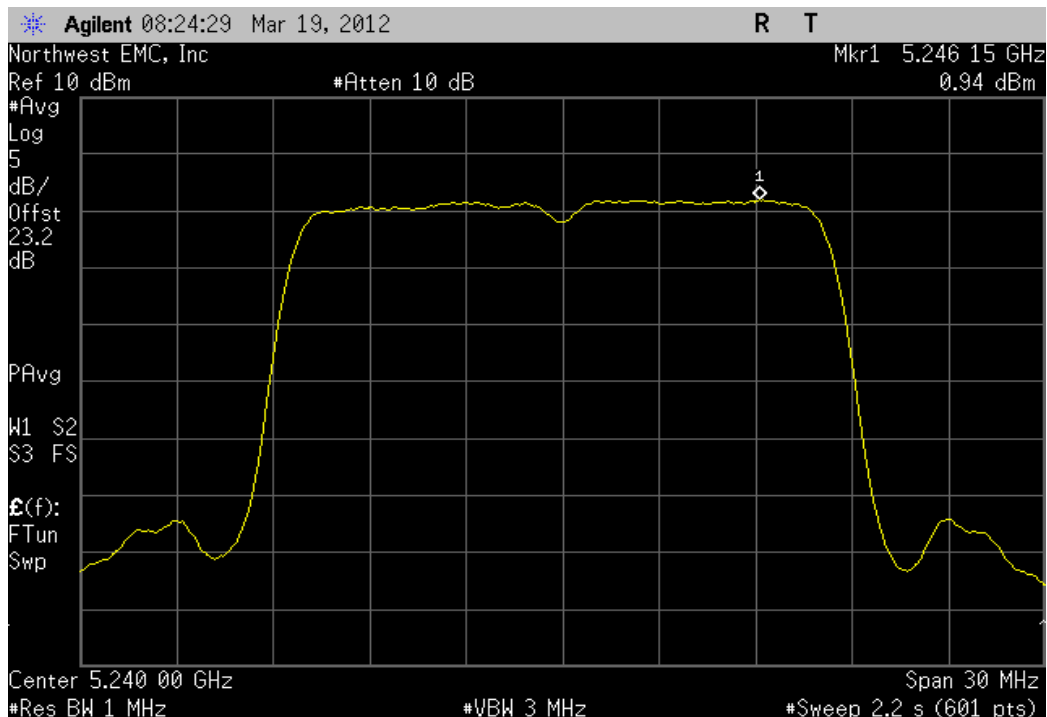
PEAK POWER SPECTRAL DENSITY (PPSD)

EUT: Model# 444-2216 (Glenwood)		Work Order: FOCU0127					
Serial Number: 02EA06000024		Date: 03/19/12					
Customer: Summit Semiconductor		Temperature: 21°C					
Attendees: Ponnappa Pasura		Humidity: 28%					
Project: None		Barometric Pres.: 1013.5 mb					
Tested by: Rod Peloquin		Power: 18 VDC					
Job Site: EV06							
TEST SPECIFICATIONS		Test Method					
FCC 15.407:2012		ANSI C63.10:2009					
COMMENTS							
None							
DEVIATIONS FROM TEST STANDARD							
None							
Configuration #	1	Signature <i>Rod Peloquin</i>					
		Peak dB	Duty Cycle %	Correction dB	PPSD dBm	Limit dBm	Result
6 Mbps							
5150 - 5250 MHz Band							
Channel 36, Low Channel							
Channel 48, High Channel							
5250 - 5350 MHz Band							
Channel 52, Low Channel							
Channel 64, High Channel							
5470 - 5725 MHz Band							
Channel 100, Low Channel							
Channel 116, Mid Channel							
Channel 140, High Channel							

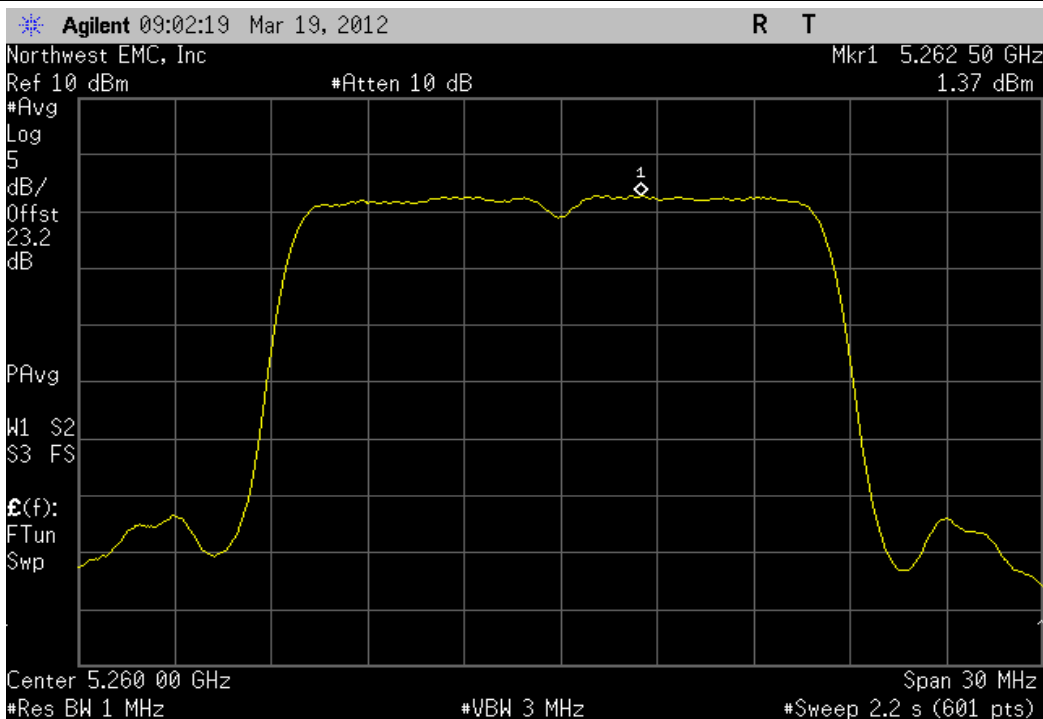
6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel						
	Peak dB	Duty Cycle %	Correction dB	PPSD dBm	Limit dBm	Result
	1.39	55	2.6	4.0	4	Pass



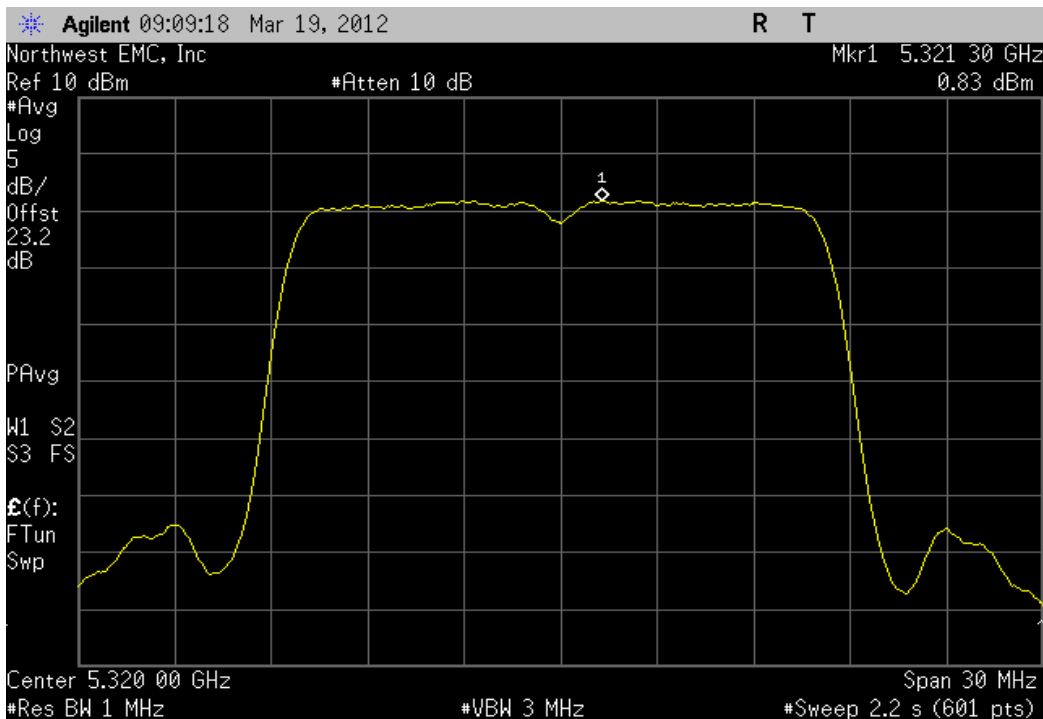
6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel						
	Peak dB	Duty Cycle %	Correction dB	PPSD dBm	Limit dBm	Result
	0.94	55	2.6	3.5	4	Pass



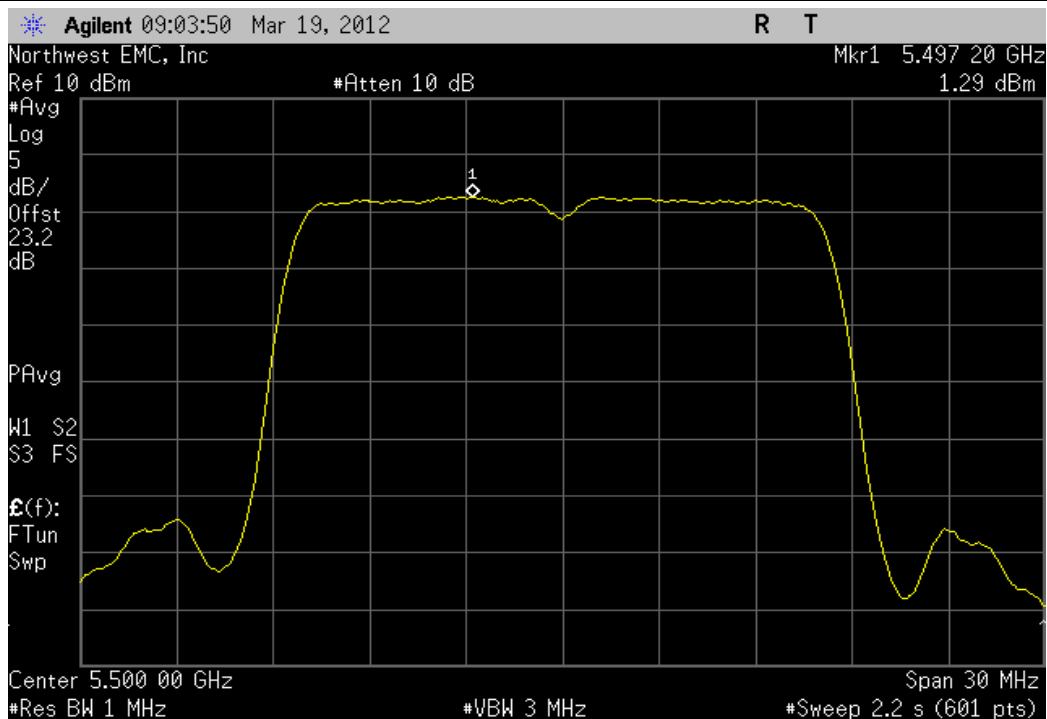
6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel						
	Peak dB	Duty Cycle %	Correction dB	PPSD dBm	Limit dBm	Result
	1.37	55	2.6	4.0	11	Pass



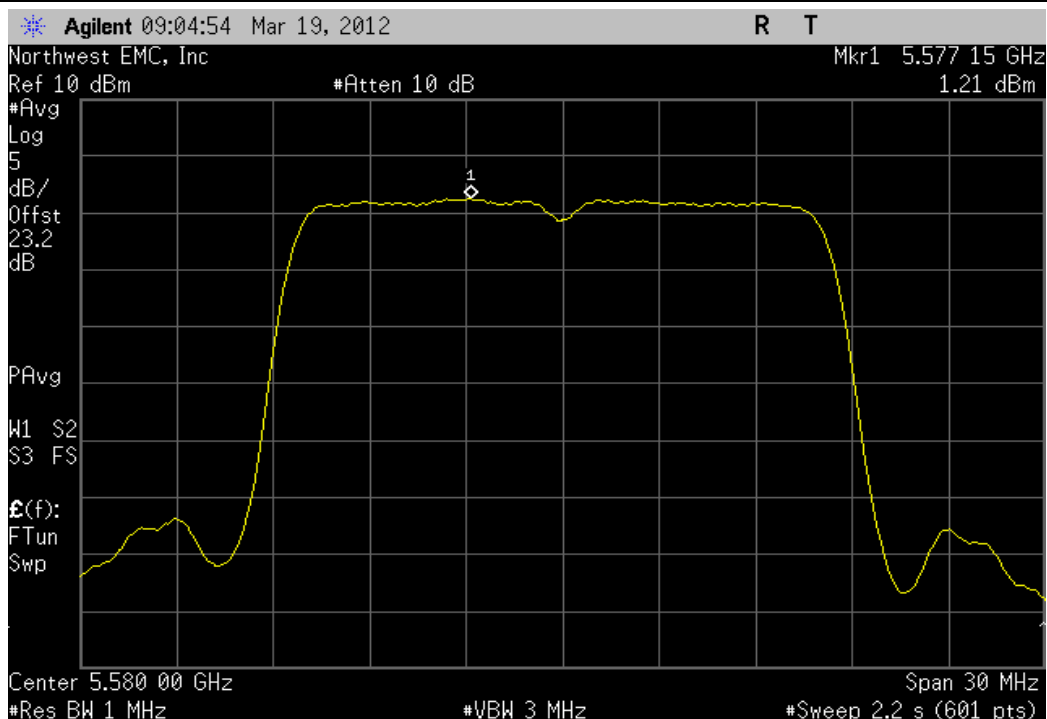
6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel						
	Peak dB	Duty Cycle %	Correction dB	PPSD dBm	Limit dBm	Result
	0.83	55	2.6	3.4	11	Pass



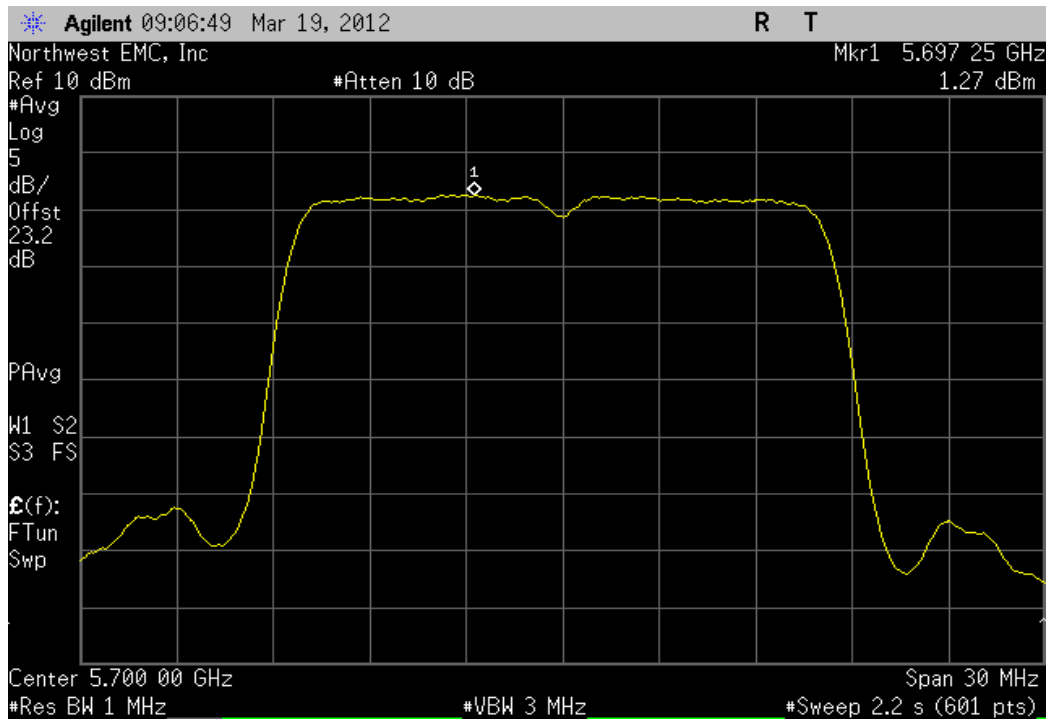
6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel						
	Peak dB	Duty Cycle %	Correction dB	PPSD dBm	Limit dBm	Result
	1.29	55	2.6	3.9	11	Pass



6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel						
	Peak dB	Duty Cycle %	Correction dB	PPSD dBm	Limit dBm	Result
	1.21	55	2.6	3.8	11	Pass



6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel						
	Peak dB	Duty Cycle %	Correction dB	PPSD dBm	Limit dBm	Result
	1.27	55	2.6	3.9	11	Pass



PEAK EXCURSION

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
Power Meter	Gigatronics	8651A	SPM	1/9/2012	24
Power Sensor	Gigatronics	80701A	SPL	7/8/2011	24
MXG Vector Signal Generator	Agilent	N5182A	TIF	NCR	0
Attenuator, 6dB	S.M. Electronics	18N-06	AWN	5/5/2011	12

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

FCC KDB 789033 D01 General UNII Test Procedures was followed to show that the ratio of the maximum peak-max-hold spectrum to the maximum of the average spectrum does not exceed 13 dBm.

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 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:

1st Trace: RBW = 1 MHz, VBW >= 3 MHz with peak detector and trace max-hold..

2nd Trace: The same procedure and settings as was used for peak power spectral density

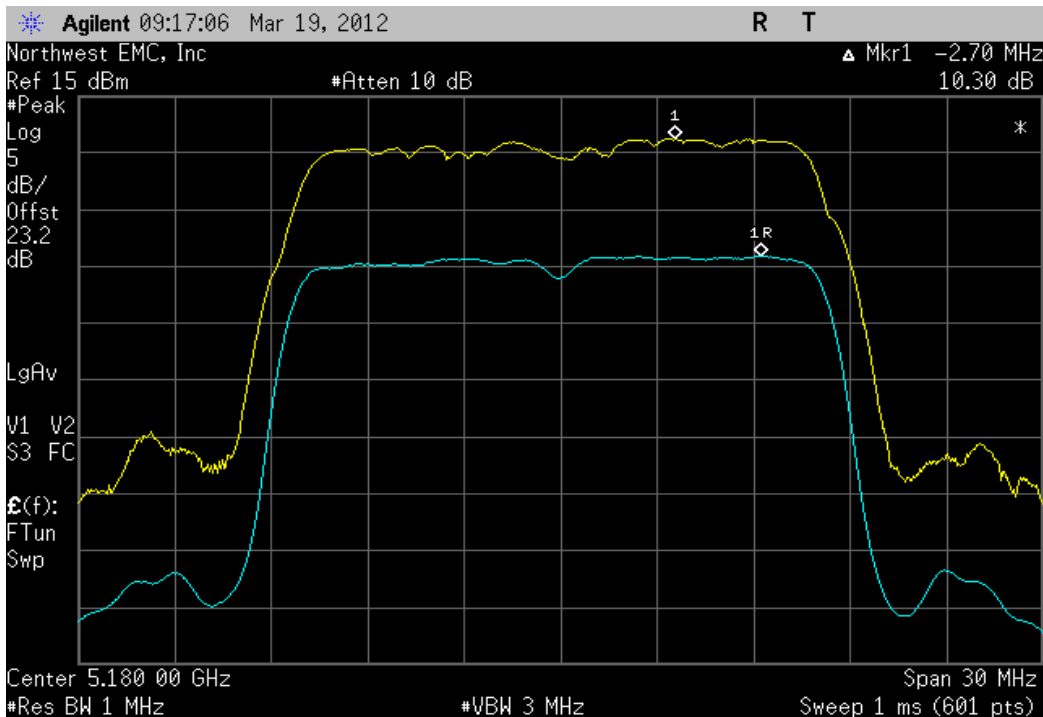


PEAK EXCURSION

EUT: Model# 444-2216 (Glenwood)		Work Order: FOCU0127	
Serial Number: 02EA06000024		Date: 03/19/12	
Customer: Summit Semiconductor		Temperature: 21°C	
Attendees: Ponnappa Pasura		Humidity: 28%	
Project: None		Barometric Pres.: 1013.5 mb	
Tested by: Rod Peloquin		Power: 18 VDC	
		Job Site: EV06	
TEST SPECIFICATIONS		Test Method	
FCC 15.407:2012		ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Rod Peloquin</i>	
		Value dB	Limit dB
		Result	
6 Mbps			
5150 - 5250 MHz Band			
Channel 36, Low Channel		10.3	≤ 13
Channel 48, High Channel		10.47	≤ 13
5250 - 5350 MHz Band			
Channel 52, Low Channel		10.45	≤ 13
Channel 64, High Channel		10.47	≤ 13
5470 - 5725 MHz Band			
Channel 100, Low Channel		10.37	≤ 13
Channel 116, Mid Channel		10.19	≤ 13
Channel 140, High Channel		10.28	≤ 13

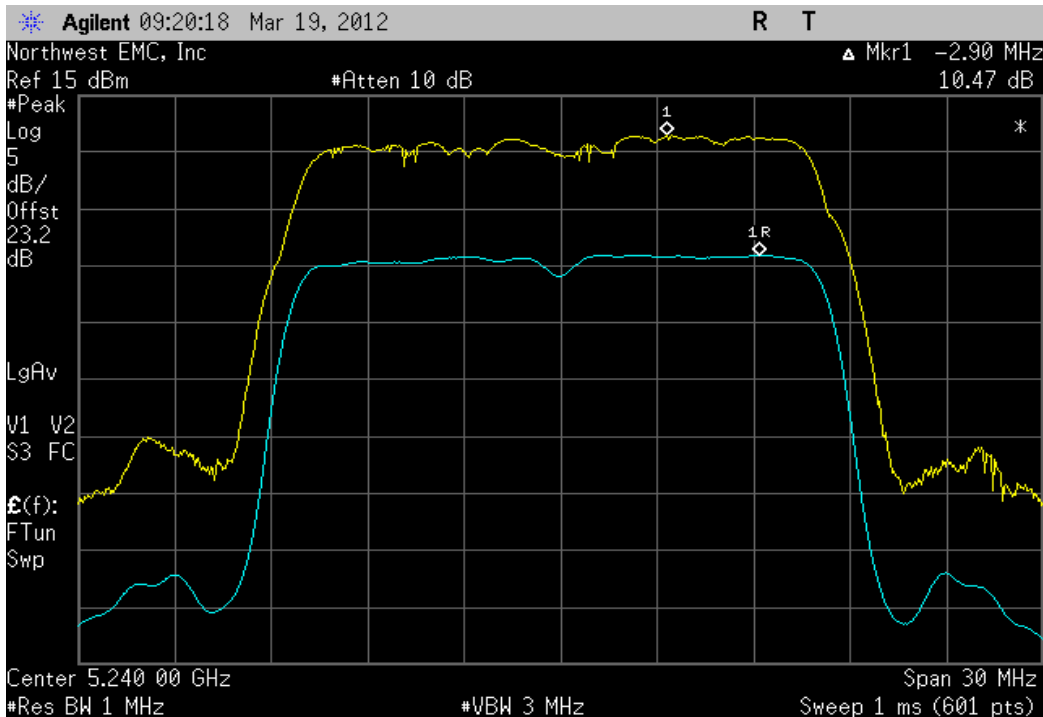
6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Value dB	Limit dB	Result
10.3	≤ 13	Pass



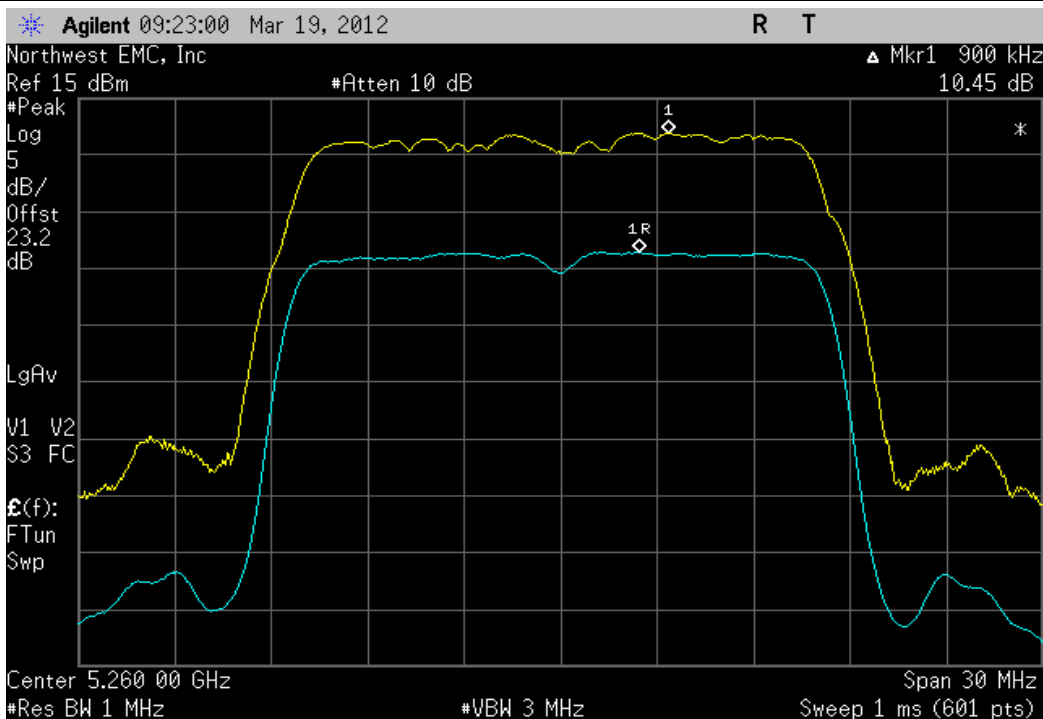
6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Value dB	Limit dB	Result
10.47	≤ 13	Pass



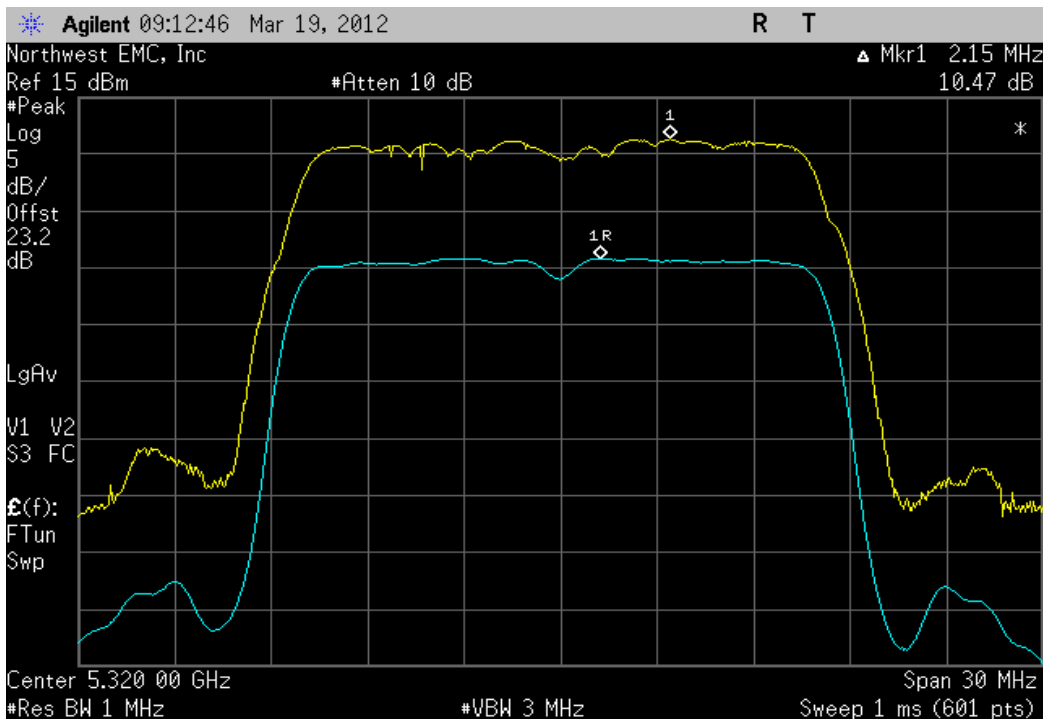
6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Value dB	Limit dB	Result
10.45	≤ 13	Pass



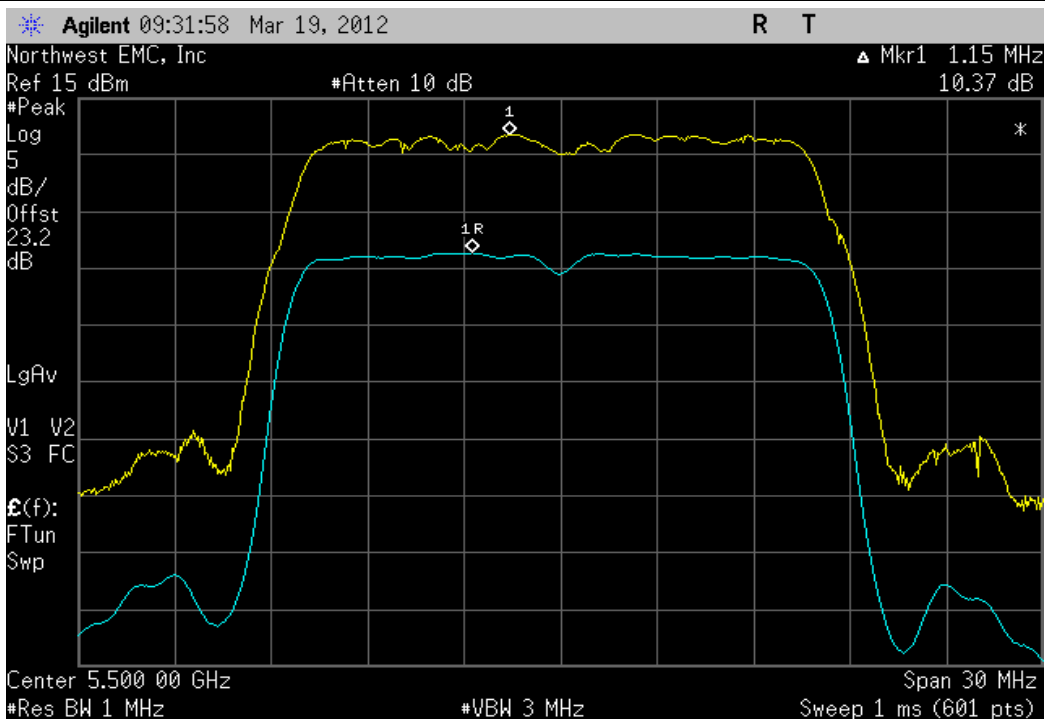
6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Value dB	Limit dB	Result
10.47	≤ 13	Pass



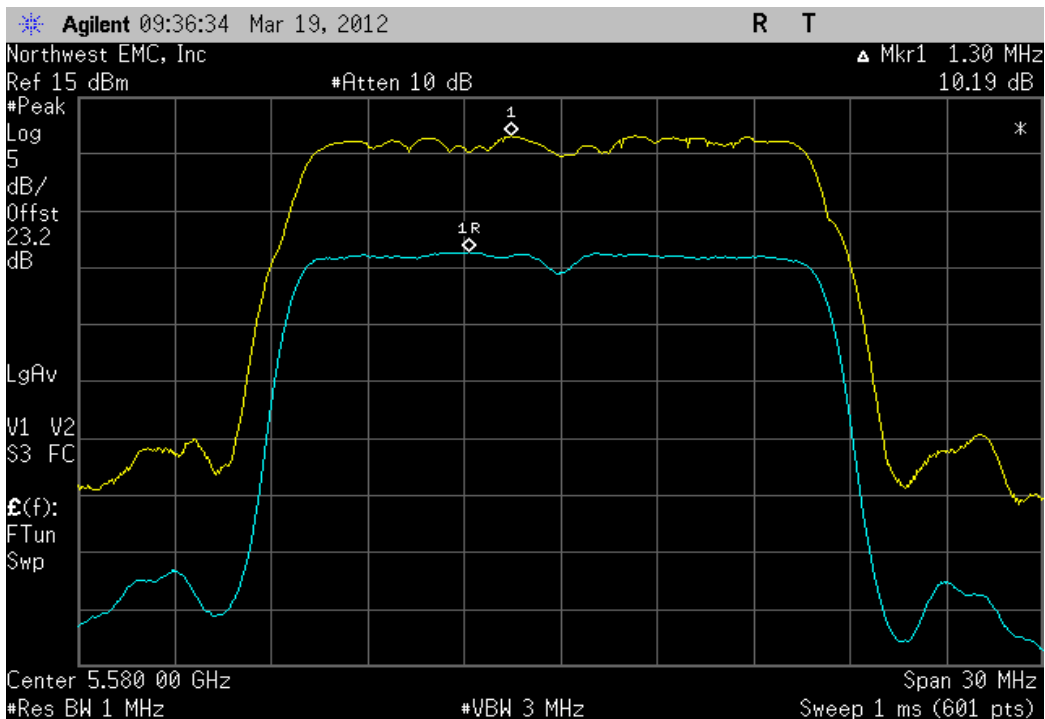
6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Value dB	Limit dB	Result
10.37	≤ 13	Pass



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

Value dB	Limit dB	Result
10.19	≤ 13	Pass



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

Value

Limit

Result

dB

dB

Pass

10.28

≤ 13

Agilent 09:40:02 Mar 19, 2012

R T

Northwest EMC, Inc

Ref 15 dBm

▲ Mkr1 1.05 MHz

#Atten 10 dB

10.28 dB

#Peak

Log

5

dB/

Offst

23.2

dB

LgAv

M1 V2

S3 FC

Ⓔ(f):

FTun

Swp

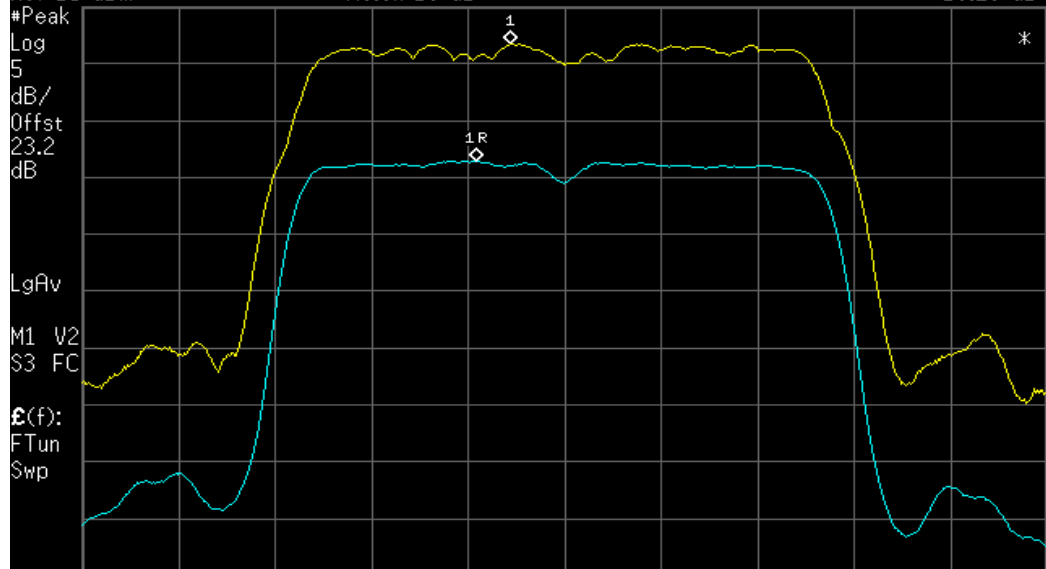
Center 5.700 00 GHz

Span 30 MHz

#Res BW 1 MHz

#VBW 3 MHz

Sweep 1 ms (601 pts)



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

MODES OF OPERATION

Transmitting 55% duty cycle, 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

18 VDC

CONFIGURATIONS INVESTIGATED

FOCU0127 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	40 GHz
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SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAQ	2/7/2012	12
Pre-Amplifier	Miteq	AM-1616-1000	AOL	6/28/2011	12
Antenna, Biconilog	EMCO	3142	AXJ	5/17/2011	12
EV01 Cables	N/A	Bilog Cables	EVA	6/28/2011	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
Antenna, Horn	ETS	3160-07	AHU	NCR	0
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	2/28/2012	12
Antenna, Horn	ETS	3160-08	AHV	NCR	0
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	2/28/2012	12
EV01 Cables	N/A	Standard Gain Horns Cables	EVF	2/28/2012	12
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	EVY	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
5.47-5.725 GHz Notch Filter	Micro-Tronics	BRC50704	HGI	10/8/2010	24
High Pass Filter	Micro-Tronics	HPM50112	HGA	10/8/2010	24

MEASUREMENT BANDWIDTHS

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

Measurements were made using the IF bandwidths and detectors specified. No video filter was used, except in the case of the FCC

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 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.

Average detector measurements as required to satisfy the FCC 15.205 requirements were made with the method called out in the FCC KDB 789033 D01 General UNII Test Procedures. The measurement uses a slow sweep RMS Detector and trace averaging with the final number corrected up in value based on the formula of 10*LOG(duty cycle). The duty cycle test data of the EUT can be found elsewhere in this report



UNWANTED EMISSIONS

PSA 2012.01.13
EMI 2008.1.9

EUT: Model# 444-2216 (Glenwood)	Work Order: FOCU0127
Serial Number: 02EA06000012	Date: 03/15/12
Customer: Summit Semiconductor	Temperature: 22°C
Attendees: None	Humidity: 31%
Project: None	Barometric Pres.: 1005.9 mb
Tested by: Rod Peloquin	Power: 18 VDC
	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 15.209:2012	ANSI C63.10:2009

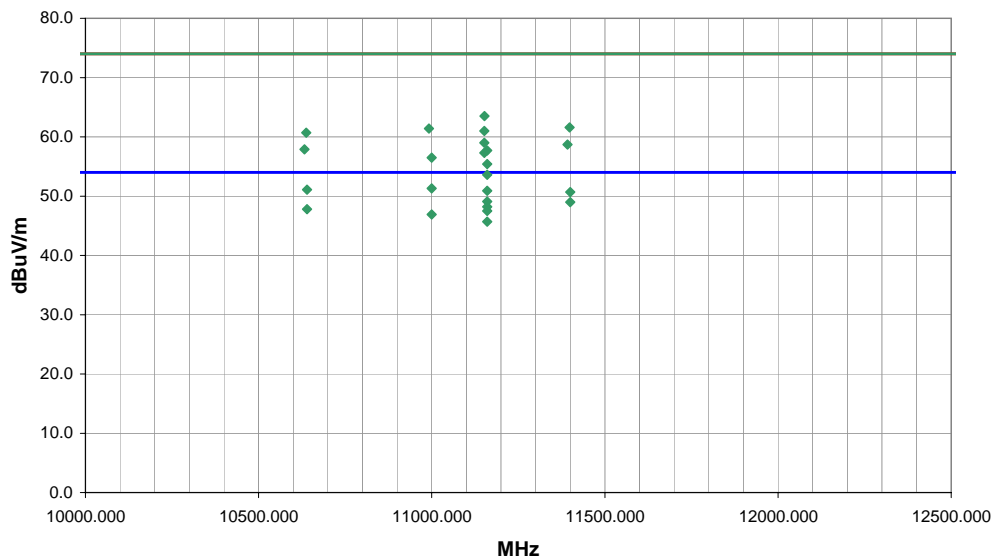
TEST PARAMETERS
Antenna Height(s) (m) 1 - 4 Test Distance (m) 3

COMMENTS
None

Transmitting 55% duty cycle, 6 Mbps

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	1	
Configuration #	2	
Results	Pass	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
11160.000	60.3	-9.3	61.0	1.0	-2.6	0.0	H-Horn	AV	0.0	53.6	54.0	-0.4	Ch. 116 (23), EUT on side
11000.000	59.3	-10.6	57.0	1.2	-2.6	0.0	H-Horn	AV	0.0	51.3	54.0	-2.7	Ch. 100 (19), EUT on side
10640.000	60.3	-11.8	118.0	1.3	-2.6	0.0	H-Horn	AV	0.0	51.1	54.0	-2.9	Ch. 64 (18), EUT on side
11160.000	57.6	-9.3	269.0	1.0	-2.6	0.0	V-Horn	AV	0.0	50.9	54.0	-3.1	Ch. 116 (23), EUT up
11400.000	55.6	-7.5	112.0	1.0	-2.6	0.0	H-Horn	AV	0.0	50.7	54.0	-3.3	Ch. 140 (29), EUT on side
11160.000	55.8	-9.3	242.0	1.0	-2.6	0.0	H-Horn	AV	0.0	49.1	54.0	-4.9	Ch. 116 (23), EUT up
11400.000	53.9	-7.5	288.0	1.1	-2.6	0.0	V-Horn	AV	0.0	49.0	54.0	-5.0	Ch. 140 (29), EUT up
11160.000	54.9	-9.3	100.0	1.4	-2.6	0.0	V-Horn	AV	0.0	48.2	54.0	-5.8	Ch. 116 (23), EUT on side
10640.000	57.0	-11.8	100.0	1.0	-2.6	0.0	V-Horn	AV	0.0	47.8	54.0	-6.2	Ch. 64 (18), EUT up
11160.000	54.2	-9.3	44.0	1.4	-2.6	0.0	V-Horn	AV	0.0	47.5	54.0	-6.5	Ch. 116 (23), EUT horizontal
11000.000	54.9	-10.6	289.0	1.1	-2.6	0.0	V-Horn	AV	0.0	46.9	54.0	-7.1	Ch. 100 (19), EUT up
11160.000	52.4	-9.3	103.0	1.3	-2.6	0.0	H-Horn	AV	0.0	45.7	54.0	-8.3	Ch. 116 (23), EUT horizontal
11152.200	72.8	-9.3	73.0	1.2	0.0	0.0	H-Horn	PK	0.0	63.5	74.0	-10.5	Ch. 116 (23), EUT on side
11397.850	69.1	-7.5	131.0	1.2	0.0	0.0	H-Horn	PK	0.0	61.6	74.0	-12.4	Ch. 140 (29), EUT on side
10992.150	72.0	-10.6	57.0	1.2	0.0	0.0	H-Horn	PK	0.0	61.4	74.0	-12.6	Ch. 100 (19), EUT on side
11151.950	70.3	-9.3	267.0	1.1	0.0	0.0	V-Horn	PK	0.0	61.0	74.0	-13.0	Ch. 116 (23), EUT up
10637.800	72.5	-11.8	118.0	1.3	0.0	0.0	H-Horn	PK	0.0	60.7	74.0	-13.3	Ch. 64 (18), EUT on side
11151.800	68.3	-9.3	242.0	1.0	0.0	0.0	H-Horn	PK	0.0	59.0	74.0	-15.0	Ch. 116 (23), EUT up
11392.000	66.2	-7.5	288.0	1.1	0.0	0.0	V-Horn	PK	0.0	58.7	74.0	-15.3	Ch. 140 (29), EUT up
10632.300	69.7	-11.8	100.0	1.0	0.0	0.0	V-Horn	PK	0.0	57.9	74.0	-16.1	Ch. 64 (18), EUT up



UNWANTED EMISSIONS

PSA 2012.01.13
EMI 2008.1.9

EUT: Model# 444-2216 (Glenwood)	Work Order: FOCU0127
Serial Number: 02EA06000012	Date: 03/15/12
Customer: Summit Semiconductor	Temperature: 22°C
Attendees: None	Humidity: 31%
Project: None	Barometric Pres.: 1005.9 mb
Tested by: Rod Peloquin	Power: 18 VDC
	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 15.407:2012	ANSI C63.10:2009

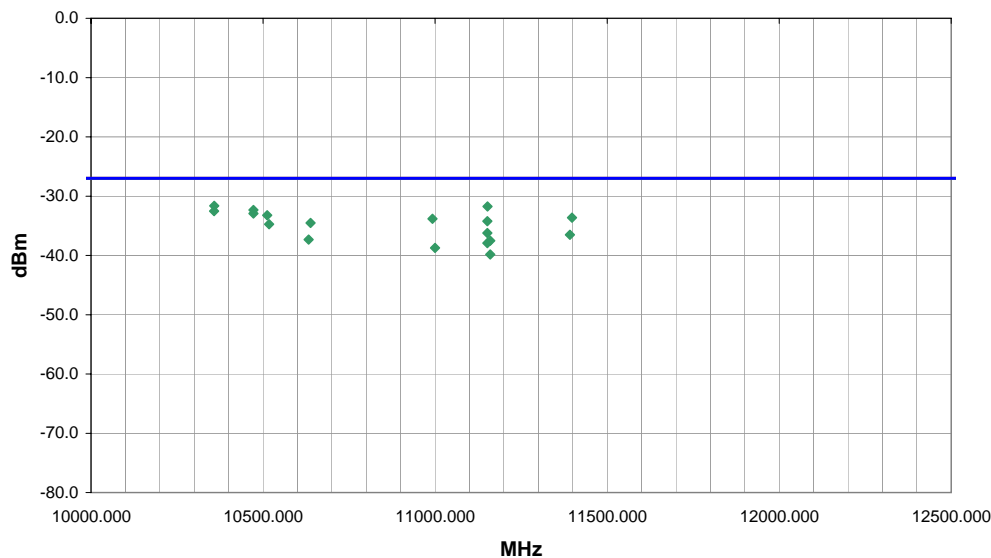
TEST PARAMETERS	
Antenna Height(s) (m)	1 - 4
Test Distance (m)	3

COMMENTS
None

EUT OPERATING MODES
Transmitting 55% duty cycle, 6 Mbps

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	1	
Configuration #	2	
Results	Pass	



Freq (MHz)			Azimuth (degrees)	Height (meters)		Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
10357.900			91.0	1.0		V-Horn	PK	6.87E-07	-31.6	-27.0	-4.6	Ch. 36 (8), EUT up
11152.200			73.0	1.2		H-Horn	PK	6.72E-07	-31.7	-27.0	-4.7	Ch. 116 (23), EUT on side
10471.950			107.0	1.3		H-Horn	PK	5.85E-07	-32.3	-27.0	-5.3	Ch. 48 (14), EUT on side
10357.800			230.0	1.0		H-Horn	PK	5.59E-07	-32.5	-27.0	-5.5	Ch. 52 (15), EUT on side
10471.900			92.0	1.0		V-Horn	PK	5.09E-07	-32.9	-27.0	-5.9	Ch. 48 (14), EUT up
10512.050			99.0	1.1		V-Horn	PK	4.75E-07	-33.2	-27.0	-6.2	Ch. 52 (15), EUT up
11397.850			131.0	1.2		H-Horn	PK	4.34E-07	-33.6	-27.0	-6.6	Ch. 140 (29), EUT on side
10992.150			57.0	1.2		H-Horn	PK	4.14E-07	-33.8	-27.0	-6.8	Ch. 100 (19), EUT on side
11151.950			267.0	1.1		V-Horn	PK	3.78E-07	-34.2	-27.0	-7.2	Ch. 116 (23), EUT up
10637.800			118.0	1.3		H-Horn	PK	3.52E-07	-34.5	-27.0	-7.5	Ch. 64 (18), EUT on side
10517.800			127.0	1.2		H-Horn	PK	3.37E-07	-34.7	-27.0	-7.7	Ch. 64 (18), EUT on side
11151.800			242.0	1.0		H-Horn	PK	2.38E-07	-36.2	-27.0	-9.2	Ch. 116 (23), EUT up
11392.000			288.0	1.1		V-Horn	PK	2.22E-07	-36.5	-27.0	-9.5	Ch. 140 (29), EUT up
10632.300			100.0	1.0		V-Horn	PK	1.85E-07	-37.3	-27.0	-10.3	Ch. 64 (18), EUT up
11160.200			100.0	1.4		V-Horn	PK	1.77E-07	-37.5	-27.0	-10.5	Ch. 116 (23), EUT on side
11152.050			44.0	1.4		V-Horn	PK	1.61E-07	-37.9	-27.0	-10.9	Ch. 116 (23), EUT horizontal
11000.000			289.0	1.1		V-Horn	PK	1.34E-07	-38.7	-27.0	-11.7	Ch. 100 (19), EUT up
11160.050			103.0	1.3		H-Horn	PK	1.04E-07	-39.8	-27.0	-12.8	Ch. 116 (23), EUT horizontal



UNWANTED EMISSIONS

PSA 2012.01.13
EMI 2008.1.9

EUT: Model# 444-2216 (Glenwood)	Work Order: FOCU0127
Serial Number: 02EA06000012	Date: 03/16/12
Customer: Summit Semiconductor	Temperature: 22°C
Attendees: None	Humidity: 31%
Project: None	Barometric Pres.: 1005.9 mb
Tested by: Rod Peloquin	Power: 18 VDC
	Job Site: EV01

TEST SPECIFICATIONS

FCC 15.209:2012

Test Method

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

None

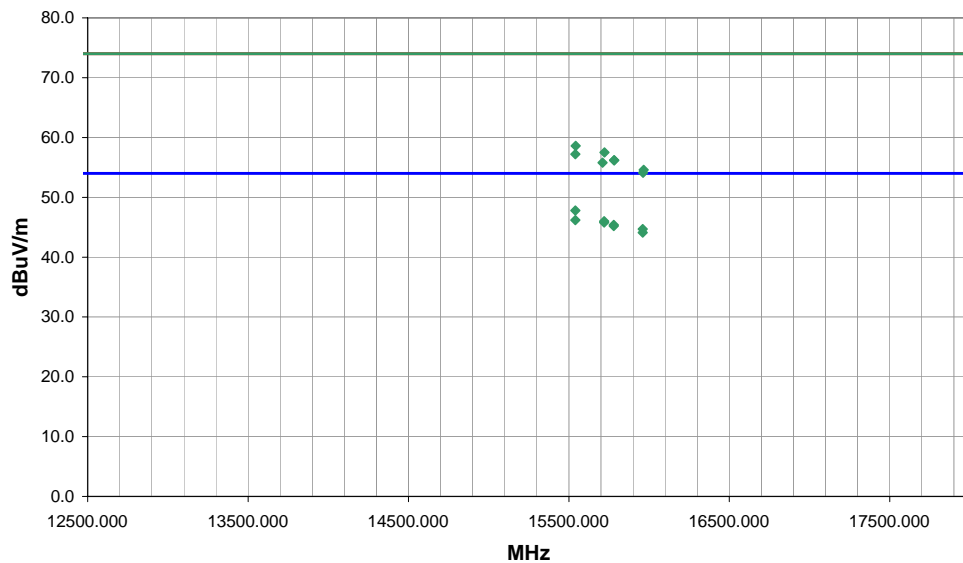
EUT OPERATING MODES

Transmitting 55% duty cycle

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	3	 Signature
Configuration #	2	
Results	Pass	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
15540.000	34.0	11.2	306.0	1.2	-2.6	0.0	V-Horn	AV	0.0	47.8	54.0	-6.2	Ch. 36 (10), EUT up
15540.000	32.4	11.2	100.0	1.2	-2.6	0.0	H-Horn	AV	0.0	46.2	54.0	-7.8	Ch. 36 (10), EUT on side
15720.000	32.5	10.9	322.0	1.2	-2.6	0.0	V-Horn	AV	0.0	46.0	54.0	-8.0	Ch. 48 (14), EUT up
15720.000	32.3	10.9	41.0	1.2	-2.6	0.0	H-Horn	AV	0.0	45.8	54.0	-8.2	Ch. 48 (14), EUT on side
15780.000	32.0	10.8	36.0	1.2	-2.6	0.0	H-Horn	AV	0.0	45.4	54.0	-8.6	Ch. 52 (15), EUT on side
15780.000	31.8	10.8	259.0	1.1	-2.6	0.0	V-Horn	AV	0.0	45.2	54.0	-8.8	Ch. 52 (15), EUT up
15960.000	31.1	11.0	302.0	1.2	-2.6	0.0	V-Horn	AV	0.0	44.7	54.0	-9.3	Ch. 64 (18), EUT up
15960.000	30.5	11.0	89.0	1.3	-2.6	0.0	H-Horn	AV	0.0	44.1	54.0	-9.9	Ch. 64 (18), EUT on side
15542.300	47.4	11.2	307.0	1.2	0.0	0.0	V-Horn	PK	0.0	58.6	68.2	-9.6	Ch. 36 (10), EUT up
15722.250	46.6	10.9	322.0	1.2	0.0	0.0	V-Horn	PK	0.0	57.5	68.2	-10.7	Ch. 48 (14), EUT up
15540.030	46.0	11.2	100.0	1.2	0.0	0.0	H-Horn	PK	0.0	57.2	68.2	-11.0	Ch. 36 (10), EUT on side
15782.000	45.4	10.8	259.0	1.1	0.0	0.0	V-Horn	PK	0.0	56.2	68.2	-12.0	Ch. 52 (15), EUT up
15782.330	45.4	10.8	36.0	1.2	0.0	0.0	H-Horn	PK	0.0	56.2	68.2	-12.0	Ch. 52 (15), EUT on side
15709.540	44.9	10.9	41.0	1.2	0.0	0.0	H-Horn	PK	0.0	55.8	68.2	-12.4	Ch. 48 (14), EUT on side
15965.830	43.6	11.0	302.0	1.2	0.0	0.0	V-Horn	PK	0.0	54.6	68.2	-13.6	Ch. 64 (18), EUT up
15962.170	43.1	11.0	89.0	1.3	0.0	0.0	H-Horn	PK	0.0	54.1	68.2	-14.1	Ch. 64 (18), EUT on side



UNWANTED EMISSIONS

PSA 2012.01.13
EMI 2008.1.9

EUT:	Model# 444-2216 (Glenwood)	Work Order:	FOCU0127
Serial Number:	02EA06000012	Date:	03/16/12
Customer:	Summit Semiconductor	Temperature:	22°C
Attendees:	None	Humidity:	31%
Project:	None	Barometric Pres.:	1005.9 mb
Tested by:	Rod Peloquin	Power:	18 VDC
		Job Site:	EV01

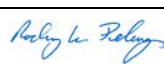
TEST SPECIFICATIONS	Test Method
FCC 15.407:2012	ANSI C63.10:2009

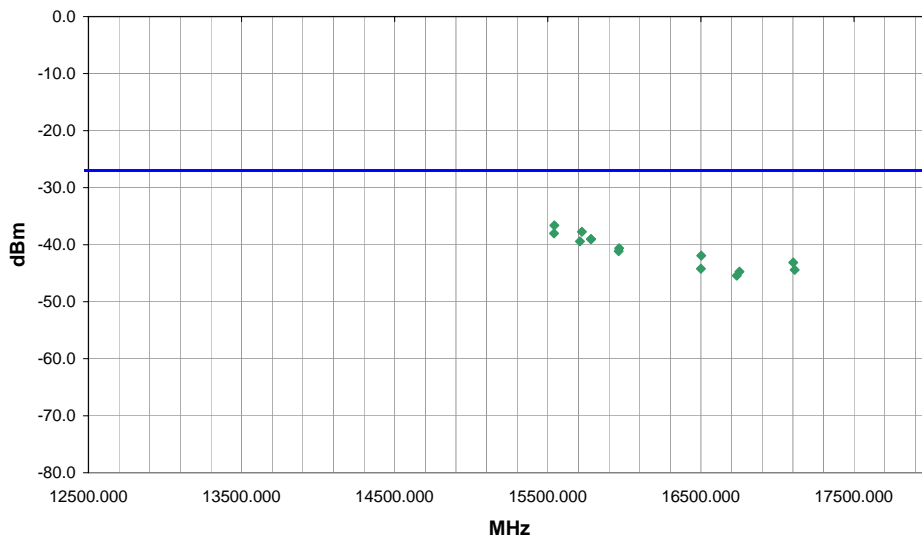
TEST PARAMETERS
Antenna Height(s) (m) 1 - 4 Test Distance (m) 3

COMMENTS
None

EUT OPERATING MODES
Transmitting 55% duty cycle

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	3	
Configuration #	2	
Results	Pass	



Freq (MHz)			Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
15542.300			307.0	1.2			V-Horn	PK	2.17E-07	-36.6	-27.0	-9.6	Ch. 36 (10), EUT up
15722.250			322.0	1.2			V-Horn	PK	1.69E-07	-37.7	-27.0	-10.7	Ch. 48 (14), EUT up
15540.030			100.0	1.2			H-Horn	PK	1.57E-07	-38.0	-27.0	-11.0	Ch. 36 (10), EUT on side
15782.000			259.0	1.1			V-Horn	PK	1.25E-07	-39.0	-27.0	-12.0	Ch. 52 (15), EUT up
15782.330			36.0	1.2			H-Horn	PK	1.25E-07	-39.0	-27.0	-12.0	Ch. 52 (15), EUT on side
15709.540			41.0	1.2			H-Horn	PK	1.14E-07	-39.4	-27.0	-12.4	Ch. 48 (14), EUT on side



UNWANTED EMISSIONS

PSA 2012.01.13
EMI 2008.1.9

EUT: Model# 444-2216 (Glenwood)	Work Order: FOCU0127
Serial Number: 02EA06000012	Date: 03/21/12
Customer: Summit Semiconductor	Temperature: 22°C
Attendees: Ponnappa Pasura	Humidity: 31%
Project: None	Barometric Pres.: 1005.9 mb
Tested by: Rod Peloquin	Power: 18 VDC
	Job Site: EV01

TEST SPECIFICATIONS

FCC 15.209:2012

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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


None

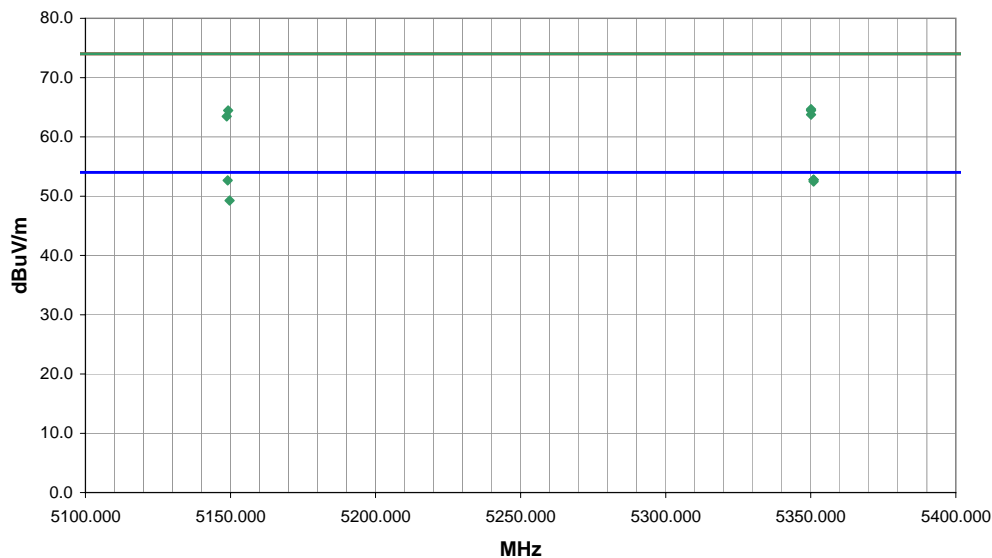
EUT OPERATING MODES

Transmitting 55% duty cycle

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	5	 Signature
Configuration #	2	
Results	Pass	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
5351.000	22.8	36.9	42.0	1.0	-2.6	0.0	H-Horn	AV	-9.5	52.8	54.0	-1.2	Ch. 64 (18), EUT on end
5351.000	22.8	36.9	196.0	1.2	-2.6	0.0	V-Horn	AV	-9.5	52.8	54.0	-1.2	Ch. 64 (18), EUT on side
5149.000	23.3	36.3	74.0	1.0	-2.6	0.0	H-Horn	AV	-9.5	52.7	54.0	-1.3	Ch. 36 (8), EUT on end
5351.000	22.5	36.9	23.0	1.3	-2.6	0.0	H-Horn	AV	-9.5	52.5	54.0	-1.5	Ch. 64 (18), EUT horizontal
5149.707	19.9	36.3	244.0	1.0	-2.6	0.0	V-Horn	AV	-9.5	49.3	54.0	-4.7	Ch. 36 (8), EUT on side
5350.087	37.3	36.9	42.0	1.0	0.0	0.0	H-Horn	PK	-9.5	64.7	74.0	-9.3	Ch. 64 (18), EUT on end
5149.203	37.7	36.3	74.0	1.0	0.0	0.0	H-Horn	PK	-9.5	64.5	74.0	-9.5	Ch. 36 (8), EUT on end
5350.070	37.1	36.9	196.0	1.2	0.0	0.0	V-Horn	PK	-9.5	64.5	74.0	-9.5	Ch. 64 (18), EUT on side
5350.090	36.4	36.9	23.0	1.3	0.0	0.0	H-Horn	PK	-9.5	63.8	74.0	-10.2	Ch. 64 (18), EUT horizontal
5148.707	36.7	36.3	244.0	1.0	0.0	0.0	V-Horn	PK	-9.5	63.5	74.0	-10.5	Ch. 36 (8), EUT on side



UNWANTED EMISSIONS

PSA 2012.01.13
EMI 2008.1.9

EUT: Model# 444-2216 (Glenwood)	Work Order: FOCU0127
Serial Number: 02EA06000012	Date: 03/21/12
Customer: Summit Semiconductor	Temperature: 22°C
Attendees: Ponnappa Pasura	Humidity: 31%
Project: None	Barometric Pres.: 1005.9 mb
Tested by: Rod Peloquin	Power: 18 VDC
	Job Site: EV01

TEST SPECIFICATIONS

FCC 15.407:2012

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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


None

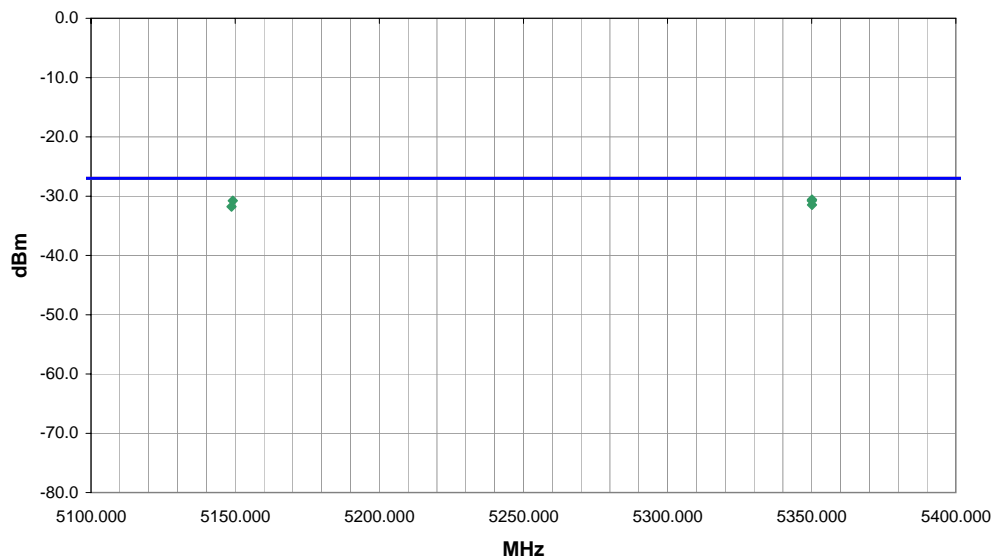
EUT OPERATING MODES

Transmitting 55% duty cycle

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	5	 Signature
Configuration #	2	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
5350.087	42.0	1.0	H-Horn	PK	8.77E-07	-30.6	-27.0	-3.6	Ch. 64 (18), EUT on end
5149.203	74.0	1.0	H-Horn	PK	8.37E-07	-30.8	-27.0	-3.8	Ch. 36 (8), EUT on end
5350.070	196.0	1.2	V-Horn	PK	8.37E-07	-30.8	-27.0	-3.8	Ch. 64 (18), EUT on side
5350.090	23.0	1.3	H-Horn	PK	7.13E-07	-31.5	-27.0	-4.5	Ch. 64 (18), EUT horizontal
5148.707	244.0	1.0	V-Horn	PK	6.65E-07	-31.8	-27.0	-4.8	Ch. 36 (8), EUT on side



UNWANTED EMISSIONS

PSA 2012.01.13
EMI 2008.1.9

EUT: Model# 444-2216 (Glenwood)		Work Order: FOCU0127
Serial Number: 02EA06000012		Date: 03/21/12
Customer: Summit Semiconductor		Temperature: 22°C
Attendees: Ponnappa Pasura		Humidity: 31%
Project: None		Barometric Pres.: 1005.9 mb
Tested by: Rod Peloquin	Power: 18 VDC	Job Site: EV01

TEST SPECIFICATIONS

FCC 15.209:2012

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

None

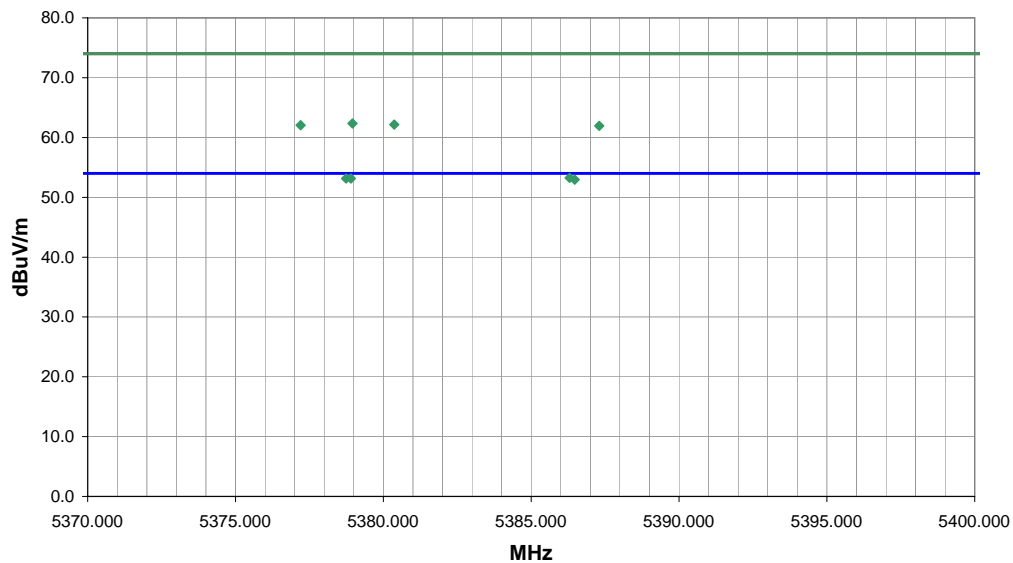
EUT OPERATING MODES

Transmitting 55% duty cycle

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	6	 Signature
Configuration #	2	
Results	Pass	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
5386.300	23.3	36.9	297.0	1.1	-2.6	0.0	H-Horn	AV	-9.5	53.3	54.0	-0.7	Ch. 100 (19), EUT up
5378.737	23.2	36.9	222.0	1.0	-2.6	0.0	V-Horn	AV	-9.5	53.2	54.0	-0.8	Ch. 100 (19), EUT on side
5378.900	23.2	36.9	292.0	1.1	-2.6	0.0	H-Horn	AV	-9.5	53.2	54.0	-0.8	Ch. 52 (15), EUT up
5386.470	23.0	36.9	229.0	1.1	-2.6	0.0	V-Horn	AV	-9.5	53.0	54.0	-1.0	Ch. 52 (15), EUT on side
5378.957	35.0	36.9	222.0	1.1	0.0	0.0	V-Horn	PK	-9.5	62.4	74.0	-11.6	Ch. 100 (19), EUT on side
5380.370	34.8	36.9	292.0	1.1	0.0	0.0	H-Horn	PK	-9.5	62.2	74.0	-11.8	Ch. 52 (15), EUT up
5377.200	34.7	36.9	229.0	1.1	0.0	0.0	V-Horn	PK	-9.5	62.1	74.0	-11.9	Ch. 52 (15), EUT on side
5387.300	34.6	36.9	297.0	1.1	0.0	0.0	H-Horn	PK	-9.5	62.0	74.0	-12.0	Ch. 100 (19), EUT up



UNWANTED EMISSIONS

PSA 2012.01.13
EMI 2008.1.9

EUT: Model# 444-2216 (Glenwood)	Work Order: FOCU0127
Serial Number: 02EA06000012	Date: 03/21/12
Customer: Summit Semiconductor	Temperature: 22°C
Attendees: Ponnappa Pasura	Humidity: 31%
Project: None	Barometric Pres.: 1005.9 mb
Tested by: Rod Peloquin	Power: 18 VDC
	Job Site: EV01

TEST SPECIFICATIONS

FCC 15.407:2012

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

None

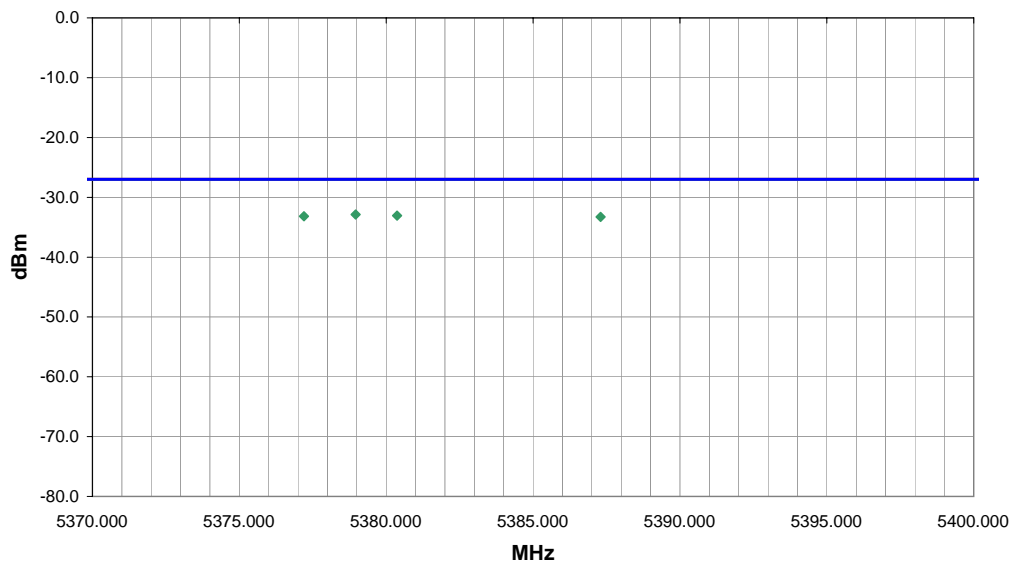
EUT OPERATING MODES

Transmitting 55% duty cycle

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	6	 Signature
Configuration #	2	
Results	Pass	



Freq (MHz)			Azimuth (degrees)	Height (meters)		Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
5378.957			222.0	1.1		V-Horn	PK	5.16E-07	-32.9	-27.0	-5.9	Ch. 100 (19), EUT on side
5380.370			292.0	1.1		H-Horn	PK	4.93E-07	-33.1	-27.0	-6.1	Ch. 52 (15), EUT up
5377.200			229.0	1.1		V-Horn	PK	4.82E-07	-33.2	-27.0	-6.2	Ch. 52 (15), EUT on side
5387.300			297.0	1.1		H-Horn	PK	4.71E-07	-33.3	-27.0	-6.3	Ch. 100 (19), EUT up

DUTY CYCLE, TRANSMISSION PULSE 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
Power Meter	Gigatronics	8651A	SPM	1/9/2012	24
Power Sensor	Gigatronics	80701A	SPL	7/8/2011	24
MXG Vector Signal Generator	Agilent	N5182A	TIF	NCR	0
Attenuator, 6dB	S.M. Electronics	18N-06	AWN	5/5/2011	12

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The transmission pulse duration (T) and Duty Cycle (x) were measured for each of the EUT operating modes per the FCC KDB 789033 D01 General UNII Test Procedures.

The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used

The duty cycle was calculated by dividing the transmission pulse duration (T) by the total period of a single on and total off time.

If the transmit duty cycle < 98 percent, a duty cycle correction factor in dB can be calculated to add to power measurements if required in the method guidance.

$$10 * \text{LOG} (1/x) = \text{dB}$$

$$10 * \text{LOG}(1/.55) = 2.6 \text{ dB}$$

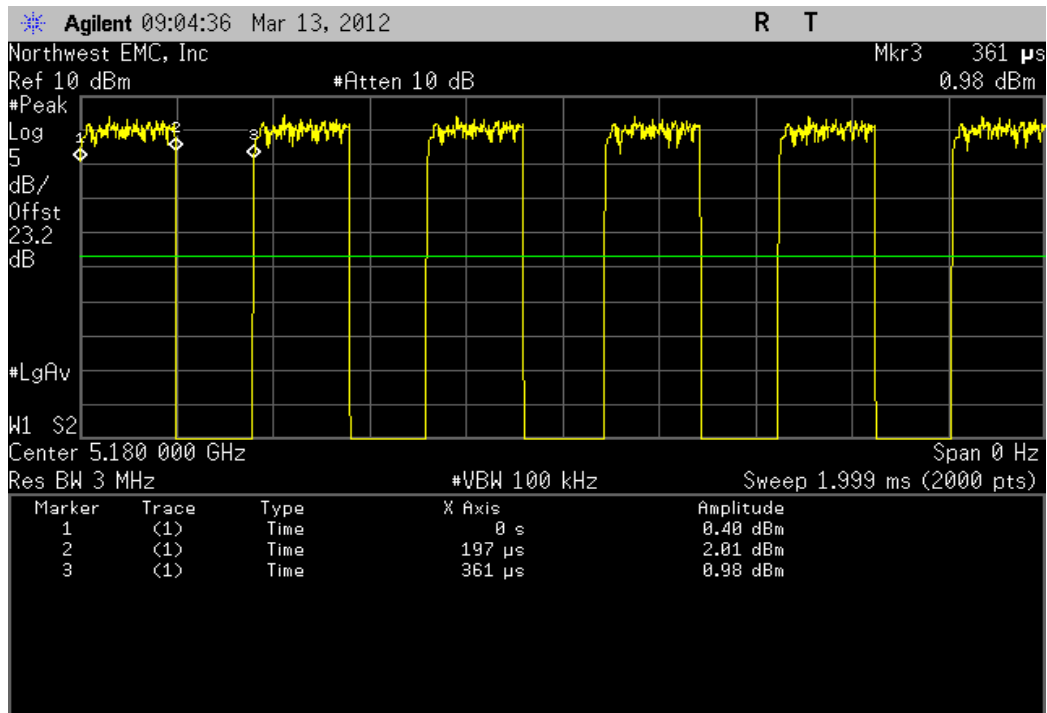


DUTY CYCLE, TRANSMISSION PULSE DURATION

EUT: Model# 444-2216 (Glenwood)		Work Order: FOCU0127	
Serial Number: 02EA06000013		Date: 03/13/12	
Customer: Summit Semiconductor		Temperature: 22°C	
Attendees: Ponnappa Pasura		Humidity: 31%	
Project: None		Barometric Pres.: 1005.9 mb	
Tested by: Rod Peloquin		Power: 18 VDC	
		Job Site: EV06	
TEST SPECIFICATIONS		Test Method	
FCC 15.407:2012		ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Rod Peloquin</i>	
		Transmission	Period
			Result
6 Mbps			
5150 - 5250 MHz Band			
Channel 36, Low Channel		197 µs	361 µs
Channel 48, High Channel		198 µs	361 µs
5250 - 5350 MHz Band			
Channel 52, Low Channel		198 µs	361 µs
Channel 64, High Channel		198 µs	360 µs
5470 - 5725 MHz Band			
Channel 100, Low Channel		199 µs	360 µs
Channel 116, Mid Channel		199 µs	360 µs
Channel 140, High Channel		199 µs	361 µs

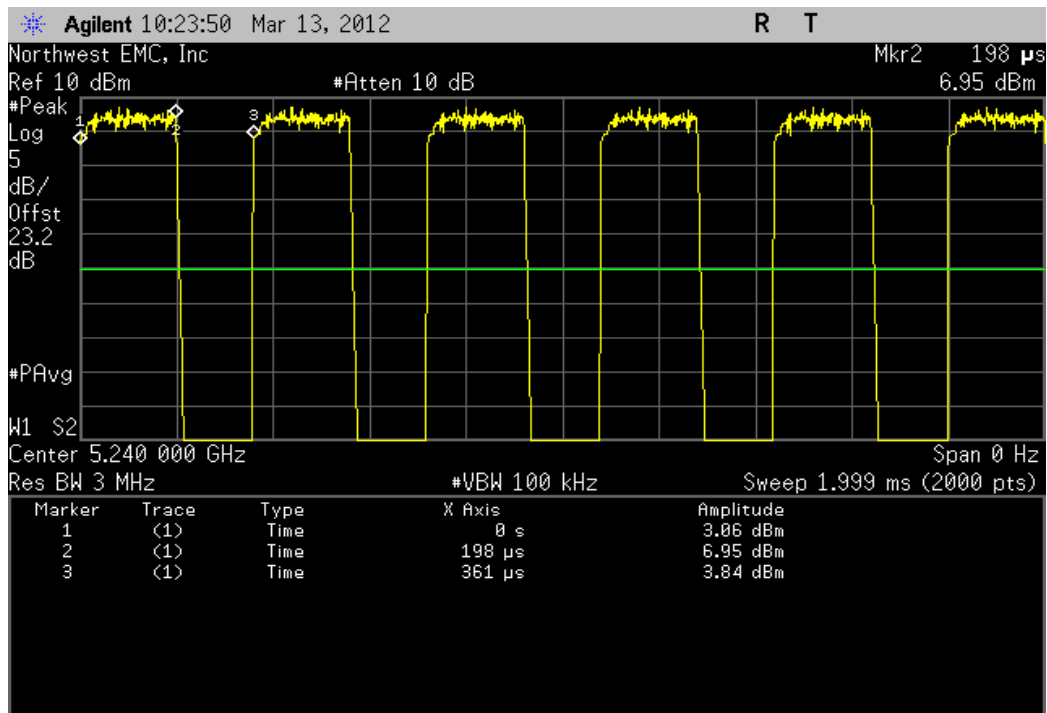
6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Transmission	Period	Result
197 μ s	361 μ s	55%



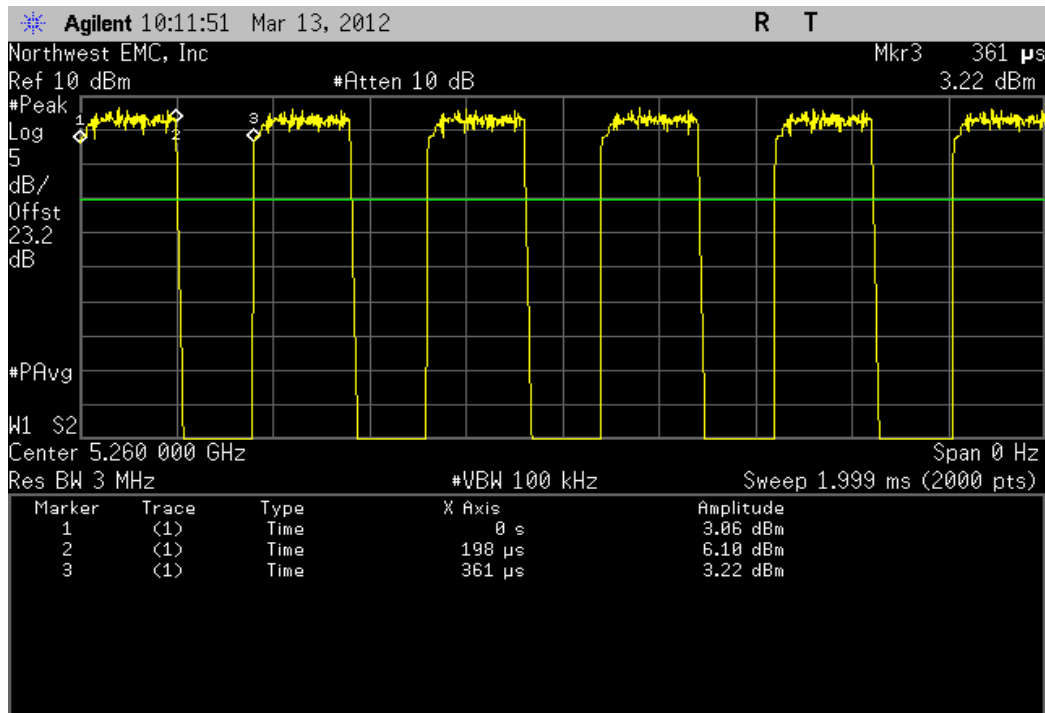
6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Transmission	Period	Result
198 μ s	361 μ s	55%



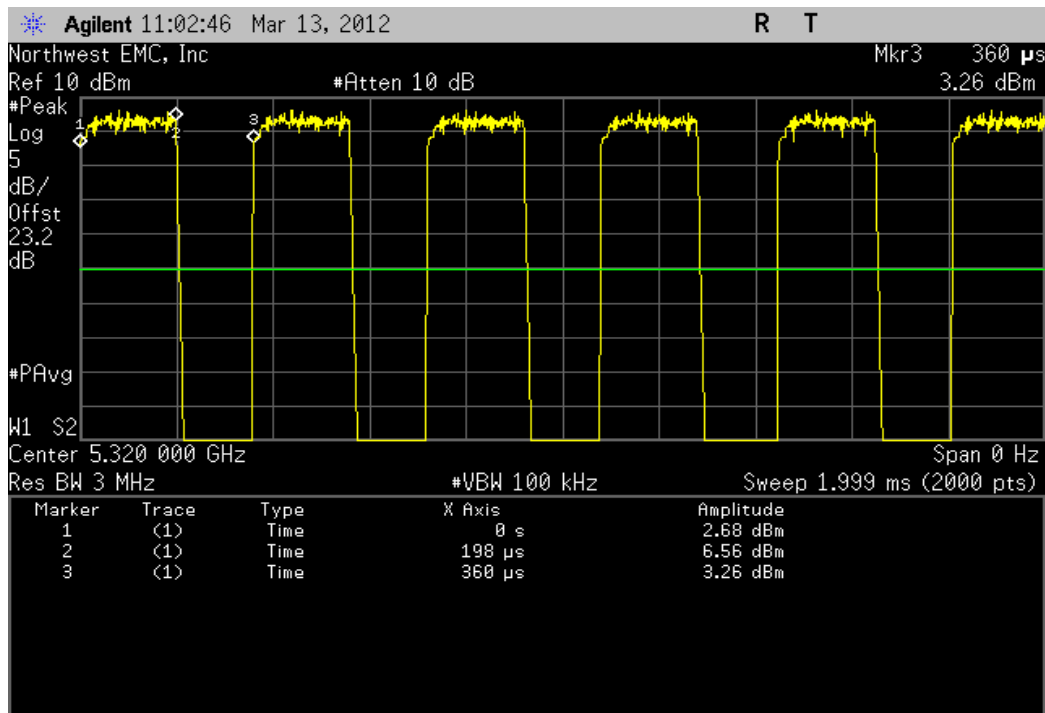
6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Transmission	Period	Result
198 μ s	361 μ s	55%



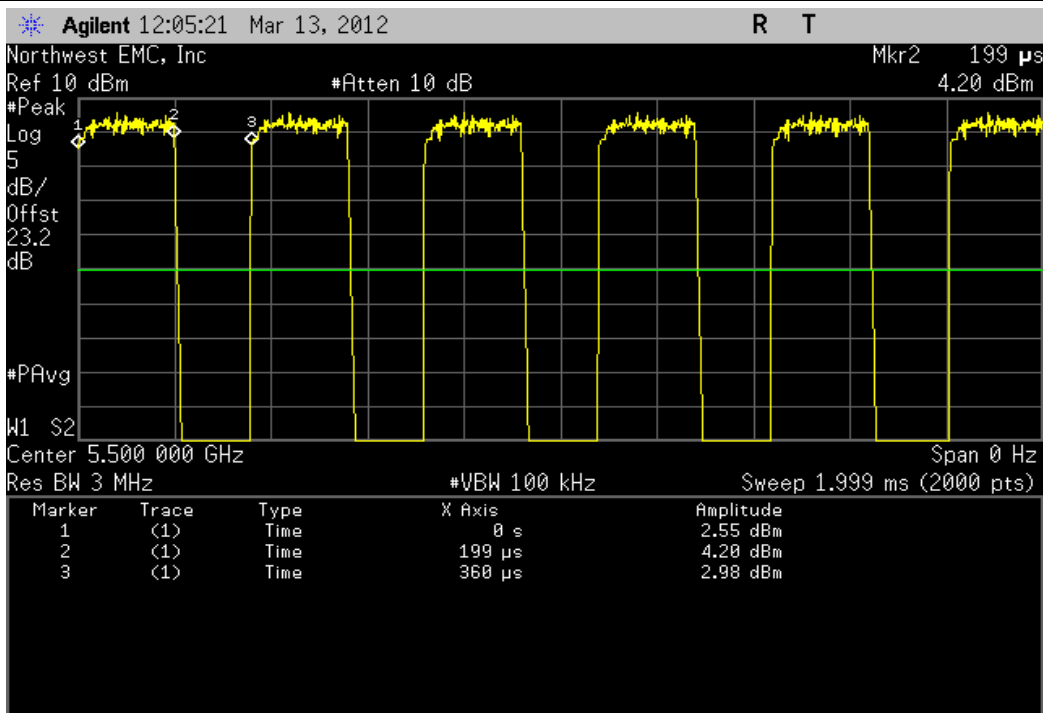
6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Transmission	Period	Result
198 μ s	360 μ s	55%



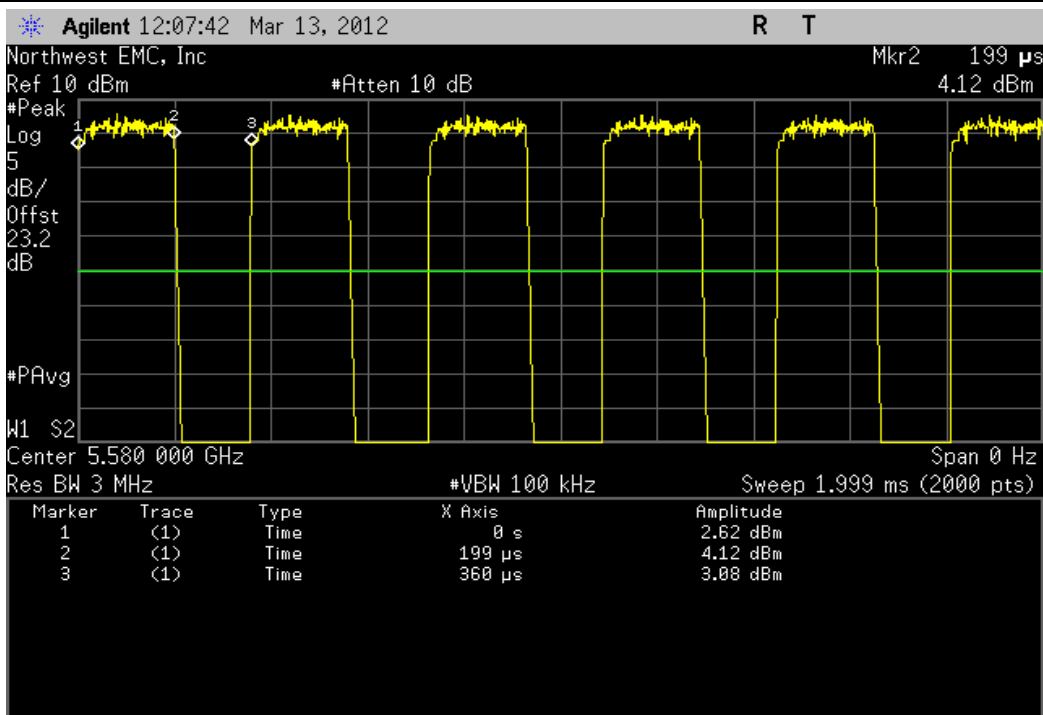
6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Transmission	Period	Result
199 μ s	360 μ s	55%



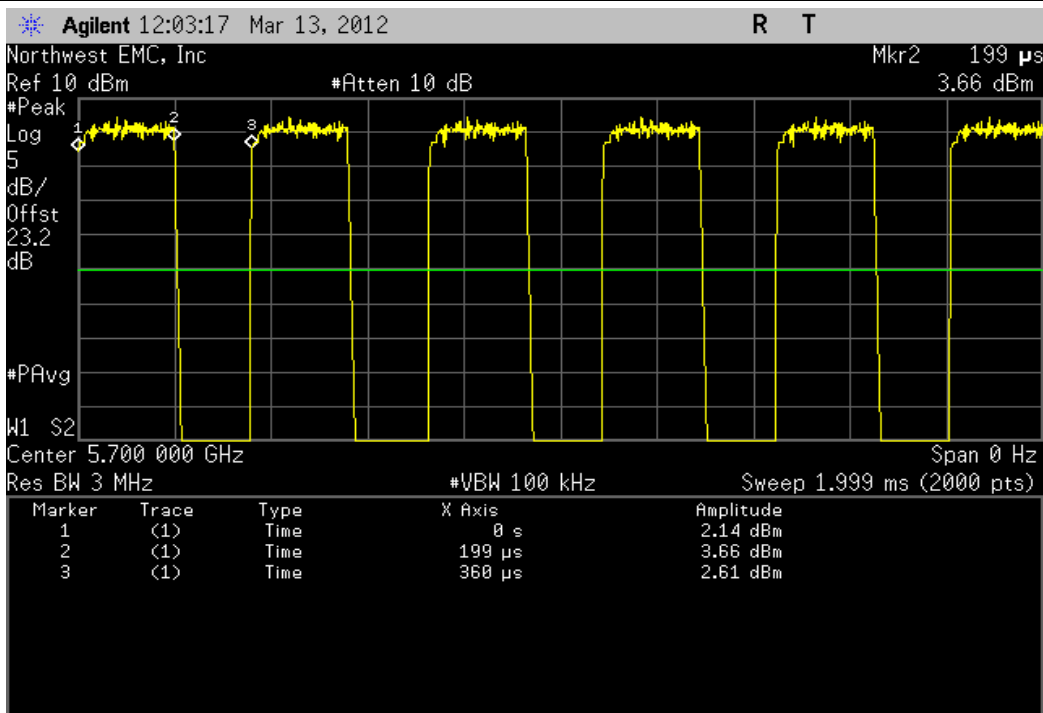
6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel

Transmission	Period	Result
199 μ s	360 μ s	55%



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

Transmission	Period	Result
199 μ s	361 μ s	55%



FREQUENCY STABILITY

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
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
Humidity Temperature Meter	Omegaette	HH311	DTY	3/29/2011	24
Multimeter	Tektronix	DMM912	MMH	1/28/2011	24
DC Power Supply	Topward	TPS-2000	TPD	NCR	0
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

Variation of Supply Voltage

The primary supply voltage was varied from 85% of nominal to 115% of nominal DC voltage of 18 VDC.

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 lowest and highest channel of each band to determine frequency stability.



FREQUENCY STABILITY

EUT: Model# 444-2216 (Glenwood)		Work Order: F06U6127	
Serial Number: 02E A0600024		Date: 03/20/12	
Customer: Summit Semiconductor		Temperature: 21.5°C	
Attendees: None		Humidity: 34%	
Project: None		Barometric Pres.: 1009.5 mb	
Tested by: Rod Peloquin		Power: 18 VDC	
Job Site: ev06 & EV09			
TEST SPECIFICATIONS		Test Method	
FCC 15.407:2012		ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	3	Signature <i>Rod L. Peloquin</i>	

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)
20.7 (115%)	5180.000000	5179.975200	4.79	n/a
18.0 (100%)	5180.000000	5179.975300	4.77	n/a
15.3 (85%)	5180.000000	5179.975590	4.71	n/a

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 18 VDC)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	5180.000000	5179.976150	4.60	n/a
40	5180.000000	5179.966700	6.43	n/a
30	5180.000000	5179.966670	6.05	n/a
20	5180.000000	5179.975300	4.77	n/a
10	5180.000000	5179.982000	3.47	n/a
0	5180.000000	5179.986600	2.59	n/a
-10	5180.000000	5179.985150	2.87	n/a
-20	5180.000000	5179.976400	4.56	n/a
-30	5180.000000	5179.951400	9.38	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)
20.7 (115%)	5320.000000	5319.975300	4.64	n/a
18.0 (100%)	5320.000000	5319.975750	4.56	n/a
15.3 (85%)	5320.000000	5319.975100	4.68	n/a

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 18 VDC)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	5320.000000	5319.975900	4.34	n/a
40	5320.000000	5319.968600	6.28	n/a
30	5320.000000	5319.968700	5.88	n/a
20	5320.000000	5319.975750	4.56	n/a
10	5320.000000	5319.982400	3.31	n/a
0	5320.000000	5319.986830	2.48	n/a
-10	5320.000000	5319.985400	2.74	n/a
-20	5320.000000	5319.976000	4.51	n/a
-30	5320.000000	5319.950800	9.25	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)
20.7 (115%)	5500.000000	5499.974700	4.60	n/a
18.0 (100%)	5500.000000	5499.975100	4.53	n/a
15.3 (85%)	5500.000000	5499.975200	4.51	n/a

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 18 VDC)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	5500.000000	5499.976240	4.32	n/a
40	5500.000000	5499.965700	6.24	n/a
30	5500.000000	5499.967770	5.86	n/a
20	5500.000000	5499.975100	4.53	n/a
10	5500.000000	5499.982300	3.22	n/a
0	5500.000000	5499.986500	2.45	n/a
-10	5500.000000	5499.984800	2.76	n/a
-20	5500.000000	5499.974500	4.64	n/a
-30	5500.000000	5499.948000	9.45	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)
20.7 (115%)	5700.000000	5699.973600	4.63	n/a
18.0 (100%)	5700.000000	5699.975000	4.39	n/a
15.3 (85%)	5700.000000	5699.973400	4.67	n/a

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 18 VDC)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	5700.000000	5699.975020	4.38	n/a
40	5700.000000	5699.964200	6.28	n/a
30	5700.000000	5699.966300	5.91	n/a
20	5700.000000	5699.975000	4.39	n/a
10	5700.000000	5699.981400	3.26	n/a
0	5700.000000	5699.985800	2.49	n/a
-10	5700.000000	5699.983850	2.83	n/a
-20	5700.000000	5699.972400	4.84	n/a
-30	5700.000000	5699.943200	9.96	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 55% duty cycle, Ch. 140 (29) 5700 MHz
Transmitting 55% duty cycle, Ch. 116 (23) 5580 MHz
Transmitting 55% duty cycle, Ch. 100 (19) 5500 MHz
Transmitting 55% duty cycle, Ch. 64 (18) 5320 MHz
Transmitting 55% duty cycle, Ch. 52 (15) 5260 MHz
Transmitting 55% duty cycle, Ch. 48 (14) 5240 MHz
Transmitting 55% duty cycle, Ch. 36 (8) 5180 MHz

POWER SETTINGS INVESTIGATED

18 VDC

CONFIGURATIONS INVESTIGATED

FOCU0127 - 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
Spectrum Analyzer	Agilent	E4440	AFE	1/23/2012	12 mo
High Pass Filter	TTE	H97-100K-50-720B	HFX	2/9/2011	24 mo
Attenuator	Coaxicom	66702 5910-20	RBJ	4/4/2011	12 mo
LISN	Solar	9252-50-R-24-BNC	LIR	11/4/2011	12 mo
EV07 Cables	N/A	Conducted Cables	EVG	6/17/2011	12 mo

MEASUREMENT BANDWIDTHS

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

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

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The EUT will be powered indirectly from the AC power line while operating in a host device. Therefore, conducted emissions measurements were made on the DC input of the EUT, or on the DC input of the device used to power the EUT. The AC power line conducted emissions were measured on a linear power supply providing DC power to the module while providing no filtering of the power inputs to the module.

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 or bands. The EUT was transmitting in the mode which has the highest output power for the band. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.10-2009.



AC POWERLINE CONDUCTED EMISSIONS

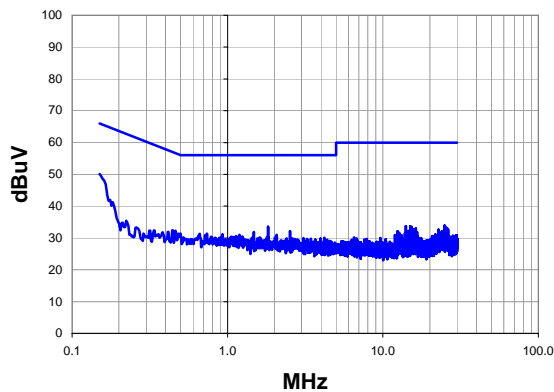
PSA-ESCI 2012.03.08
PSA-ESCI Version 2011.12.21

Work Order:	FOCU0127	Date:	03/23/12	<i>Rod Peloquin</i>
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 36 (8) 5180 MHz			
Deviations:	No deviations.			
Comments:	None			

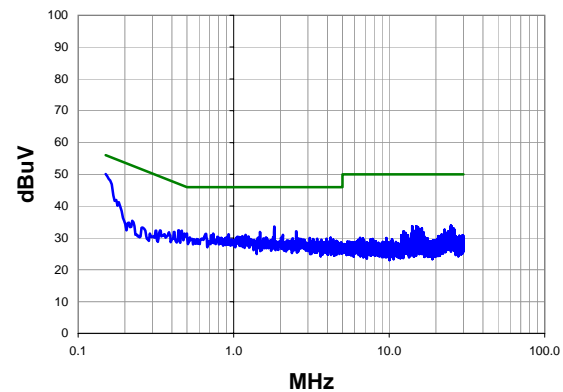
Test Specifications	Test Method
FCC 15.207:2012	ANSI C63.10:2009

Run #	1	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	30.0	20.1	50.1	66.0	-15.9
1.823	13.5	20.1	33.6	56.0	-22.4
2.522	12.0	20.1	32.1	56.0	-23.9
1.477	11.8	20.1	31.9	56.0	-24.1
0.463	12.2	20.1	32.3	56.6	-24.3
0.737	11.3	20.1	31.4	56.0	-24.6
0.442	12.3	20.1	32.4	57.0	-24.6
0.660	11.2	20.1	31.3	56.0	-24.7
0.926	11.1	20.1	31.2	56.0	-24.8
1.192	10.9	20.1	31.0	56.0	-25.0
2.071	10.9	20.1	31.0	56.0	-25.0
1.134	10.5	20.1	30.6	56.0	-25.4
1.159	10.2	20.1	30.3	56.0	-25.7
1.794	10.2	20.1	30.3	56.0	-25.7
0.412	11.8	20.1	31.9	57.6	-25.7
1.611	10.1	20.1	30.2	56.0	-25.8
4.202	10.0	20.1	30.1	56.0	-25.9
1.433	10.0	20.1	30.1	56.0	-25.9
2.019	10.0	20.1	30.1	56.0	-25.9
1.633	9.9	20.1	30.0	56.0	-26.0

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.0	20.1	50.1	56.0	-5.9
1.823	13.5	20.1	33.6	46.0	-12.4
2.522	12.0	20.1	32.1	46.0	-13.9
1.477	11.8	20.1	31.9	46.0	-14.1
0.463	12.2	20.1	32.3	46.6	-14.3
0.737	11.3	20.1	31.4	46.0	-14.6
0.442	12.3	20.1	32.4	47.0	-14.6
0.660	11.2	20.1	31.3	46.0	-14.7
0.926	11.1	20.1	31.2	46.0	-14.8
1.192	10.9	20.1	31.0	46.0	-15.0
2.071	10.9	20.1	31.0	46.0	-15.0
1.134	10.5	20.1	30.6	46.0	-15.4
1.159	10.2	20.1	30.3	46.0	-15.7
1.794	10.2	20.1	30.3	46.0	-15.7
0.412	11.8	20.1	31.9	47.6	-15.7
1.611	10.1	20.1	30.2	46.0	-15.8
4.202	10.0	20.1	30.1	46.0	-15.9
1.433	10.0	20.1	30.1	46.0	-15.9
2.019	10.0	20.1	30.1	46.0	-15.9
1.633	9.9	20.1	30.0	46.0	-16.0



AC POWERLINE CONDUCTED EMISSIONS

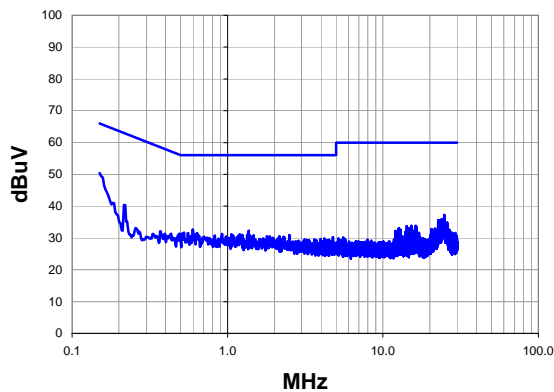
PSA-ESCI 2012.03.08
PSA-ESCI Version 2011.12.21

Work Order:	FOCU0127	Date:	03/23/12	
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 36 (8) 5180 MHz			
Deviations:	No deviations.			
Comments:	None			

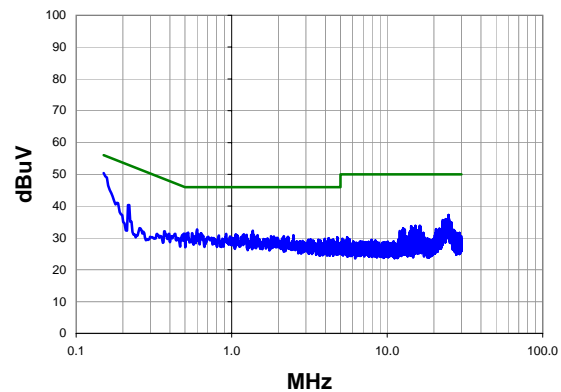
Test Specifications	Test Method
FCC 15.207:2012	ANSI C63.10:2009

Run #	2	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	30.3	20.1	50.4	66.0	-15.6
0.216	20.2	20.1	40.3	63.0	-22.7
24.781	16.3	20.9	37.2	60.0	-22.8
24.825	15.9	21.0	36.9	60.0	-23.1
0.598	12.6	20.1	32.7	56.0	-23.3
1.367	12.2	20.1	32.3	56.0	-23.7
24.986	15.1	21.0	36.1	60.0	-23.9
24.195	15.0	20.9	35.9	60.0	-24.1
23.845	15.0	20.9	35.9	60.0	-24.1
24.071	14.8	20.9	35.7	60.0	-24.3
0.525	11.6	20.1	31.7	56.0	-24.3
22.821	14.8	20.9	35.7	60.0	-24.3
24.898	14.7	21.0	35.7	60.0	-24.3
23.681	14.6	20.9	35.5	60.0	-24.5
0.638	11.4	20.1	31.5	56.0	-24.5
24.355	14.4	20.9	35.3	60.0	-24.7
0.923	11.2	20.1	31.3	56.0	-24.7
0.493	11.3	20.1	31.4	56.1	-24.7
24.537	14.3	20.9	35.2	60.0	-24.8
1.061	11.1	20.1	31.2	56.0	-24.8

Peak Data - vs - Average Limit

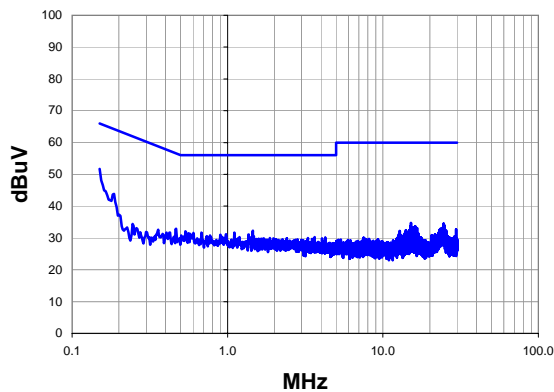
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.3	20.1	50.4	56.0	-5.6
0.216	20.2	20.1	40.3	53.0	-12.7
24.781	16.3	20.9	37.2	50.0	-12.8
24.825	15.9	21.0	36.9	50.0	-13.1
0.598	12.6	20.1	32.7	46.0	-13.3
1.367	12.2	20.1	32.3	46.0	-13.7
24.986	15.1	21.0	36.1	50.0	-13.9
24.195	15.0	20.9	35.9	50.0	-14.1
23.845	15.0	20.9	35.9	50.0	-14.1
24.071	14.8	20.9	35.7	50.0	-14.3
0.525	11.6	20.1	31.7	46.0	-14.3
22.821	14.8	20.9	35.7	50.0	-14.3
24.898	14.7	21.0	35.7	50.0	-14.3
23.681	14.6	20.9	35.5	50.0	-14.5
0.638	11.4	20.1	31.5	46.0	-14.5
24.355	14.4	20.9	35.3	50.0	-14.7
0.923	11.2	20.1	31.3	46.0	-14.7
0.493	11.3	20.1	31.4	46.1	-14.7
24.537	14.3	20.9	35.2	50.0	-14.8
1.061	11.1	20.1	31.2	46.0	-14.8

Work Order:	FOCU0127	Date:	03/23/12	
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 48 (14) 5240 MHz			
Deviations:	No deviations.			
Comments:	None			

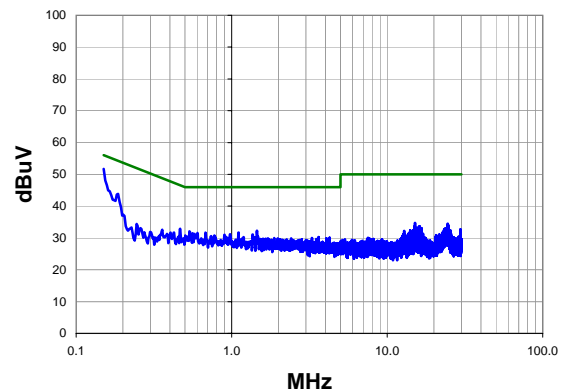
Test Specifications	Test Method
FCC 15.207:2012	ANSI C63.10:2009

Run #	3	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	31.6	20.1	51.7	66.0	-14.3
0.467	12.8	20.1	32.9	56.6	-23.7
1.455	12.2	20.1	32.3	56.0	-23.7
0.536	12.0	20.1	32.1	56.0	-23.9
0.678	11.6	20.1	31.7	56.0	-24.3
1.105	11.6	20.1	31.7	56.0	-24.3
0.602	11.5	20.1	31.6	56.0	-24.4
0.977	11.1	20.1	31.2	56.0	-24.8
1.364	11.0	20.1	31.1	56.0	-24.9
0.897	10.9	20.1	31.0	56.0	-25.0
0.773	10.7	20.1	30.8	56.0	-25.2
15.128	14.2	20.5	34.7	60.0	-25.3
0.737	10.5	20.1	30.6	56.0	-25.4
24.541	13.6	20.9	34.5	60.0	-25.5
1.192	10.2	20.1	30.3	56.0	-25.7
3.630	10.2	20.1	30.3	56.0	-25.7
24.763	13.1	20.9	34.0	60.0	-26.0
4.257	9.9	20.1	30.0	56.0	-26.0
1.874	9.9	20.1	30.0	56.0	-26.0
3.288	9.9	20.1	30.0	56.0	-26.0

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	31.6	20.1	51.7	56.0	-4.3
0.467	12.8	20.1	32.9	46.6	-13.7
1.455	12.2	20.1	32.3	46.0	-13.7
0.536	12.0	20.1	32.1	46.0	-13.9
0.678	11.6	20.1	31.7	46.0	-14.3
1.105	11.6	20.1	31.7	46.0	-14.3
0.602	11.5	20.1	31.6	46.0	-14.4
0.977	11.1	20.1	31.2	46.0	-14.8
1.364	11.0	20.1	31.1	46.0	-14.9
0.897	10.9	20.1	31.0	46.0	-15.0
0.773	10.7	20.1	30.8	46.0	-15.2
15.128	14.2	20.5	34.7	50.0	-15.3
0.737	10.5	20.1	30.6	46.0	-15.4
24.541	13.6	20.9	34.5	50.0	-15.5
1.192	10.2	20.1	30.3	46.0	-15.7
3.630	10.2	20.1	30.3	46.0	-15.7
24.763	13.1	20.9	34.0	50.0	-16.0
4.257	9.9	20.1	30.0	46.0	-16.0
1.874	9.9	20.1	30.0	46.0	-16.0
3.288	9.9	20.1	30.0	46.0	-16.0



AC POWERLINE CONDUCTED EMISSIONS

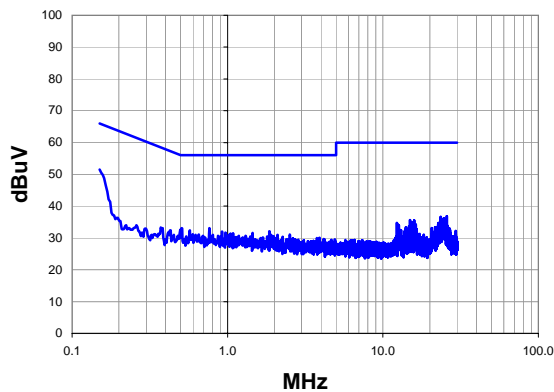
PSA-ESCI 2012.03.08
PSA-ESCI Version 2011.12.21

Work Order:	FOCU0127	Date:	03/23/12	
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 48 (14) 5240 MHz			
Deviations:	No deviations.			
Comments:	None			

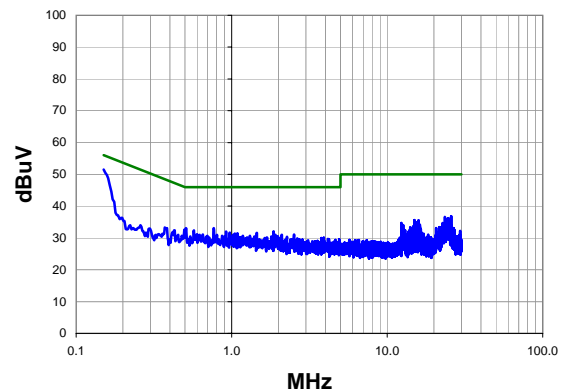
Test Specifications	Test Method
FCC 15.207:2012	ANSI C63.10:2009

Run #	4	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	31.4	20.1	51.5	66.0	-14.5
0.507	13.0	20.1	33.1	56.0	-22.9
0.766	13.0	20.1	33.1	56.0	-22.9
25.787	15.8	21.0	36.8	60.0	-23.2
23.517	15.7	20.9	36.6	60.0	-23.4
0.573	12.3	20.1	32.4	56.0	-23.6
24.730	15.3	20.9	36.2	60.0	-23.8
1.859	12.0	20.1	32.1	56.0	-23.9
0.919	11.9	20.1	32.0	56.0	-24.0
24.053	14.8	20.9	35.7	60.0	-24.3
0.970	11.6	20.1	31.7	56.0	-24.3
1.447	11.5	20.1	31.6	56.0	-24.4
14.964	15.1	20.5	35.6	60.0	-24.4
15.911	15.0	20.5	35.5	60.0	-24.5
1.087	11.4	20.1	31.5	56.0	-24.5
1.046	11.3	20.1	31.4	56.0	-24.6
24.876	14.4	21.0	35.4	60.0	-24.6
23.892	14.4	20.9	35.3	60.0	-24.7
24.362	14.3	20.9	35.2	60.0	-24.8
24.319	14.2	20.9	35.1	60.0	-24.9

Peak Data - vs - Average Limit

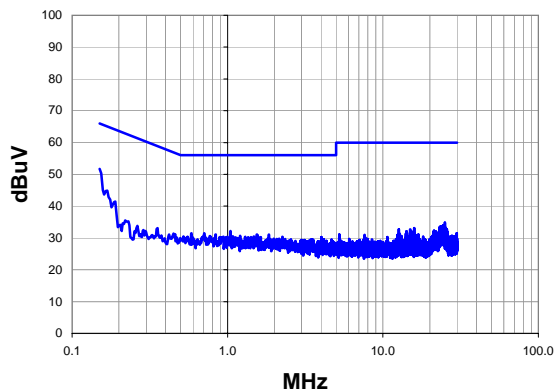
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	31.4	20.1	51.5	56.0	-4.5
0.507	13.0	20.1	33.1	46.0	-12.9
0.766	13.0	20.1	33.1	46.0	-12.9
25.787	15.8	21.0	36.8	50.0	-13.2
23.517	15.7	20.9	36.6	50.0	-13.4
0.573	12.3	20.1	32.4	46.0	-13.6
24.730	15.3	20.9	36.2	50.0	-13.8
1.859	12.0	20.1	32.1	46.0	-13.9
0.919	11.9	20.1	32.0	46.0	-14.0
24.053	14.8	20.9	35.7	50.0	-14.3
0.970	11.6	20.1	31.7	46.0	-14.3
1.447	11.5	20.1	31.6	46.0	-14.4
14.964	15.1	20.5	35.6	50.0	-14.4
15.911	15.0	20.5	35.5	50.0	-14.5
1.087	11.4	20.1	31.5	46.0	-14.5
1.046	11.3	20.1	31.4	46.0	-14.6
24.876	14.4	21.0	35.4	50.0	-14.6
23.892	14.4	20.9	35.3	50.0	-14.7
24.362	14.3	20.9	35.2	50.0	-14.8
24.319	14.2	20.9	35.1	50.0	-14.9

Work Order:	FOCU0127	Date:	03/23/12	
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 52 (15) 5260 MHz			
Deviations:	No deviations.			
Comments:	None			

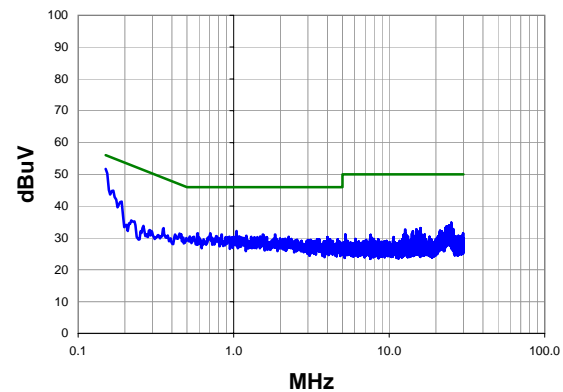
Test Specifications	Test Method
FCC 15.207:2012	ANSI C63.10:2009

Run #	5	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	31.6	20.1	51.7	66.0	-14.3
1.043	12.1	20.1	32.2	56.0	-23.8
0.587	11.4	20.1	31.5	56.0	-24.5
0.708	11.4	20.1	31.5	56.0	-24.5
0.835	11.0	20.1	31.1	56.0	-24.9
1.542	11.0	20.1	31.1	56.0	-24.9
1.845	11.0	20.1	31.1	56.0	-24.9
1.560	10.7	20.1	30.8	56.0	-25.2
25.088	13.8	21.0	34.8	60.0	-25.2
1.203	10.6	20.1	30.7	56.0	-25.3
0.449	11.3	20.1	31.4	56.9	-25.5
1.083	10.4	20.1	30.5	56.0	-25.5
1.480	10.4	20.1	30.5	56.0	-25.5
1.298	10.3	20.1	30.4	56.0	-25.6
2.256	10.3	20.1	30.4	56.0	-25.6
1.418	10.2	20.1	30.3	56.0	-25.7
1.622	10.2	20.1	30.3	56.0	-25.7
4.013	10.2	20.1	30.3	56.0	-25.7
0.354	13.0	20.1	33.1	58.9	-25.8
0.974	10.1	20.1	30.2	56.0	-25.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	31.6	20.1	51.7	56.0	-4.3
1.043	12.1	20.1	32.2	46.0	-13.8
0.587	11.4	20.1	31.5	46.0	-14.5
0.708	11.4	20.1	31.5	46.0	-14.5
0.835	11.0	20.1	31.1	46.0	-14.9
1.542	11.0	20.1	31.1	46.0	-14.9
1.845	11.0	20.1	31.1	46.0	-14.9
1.560	10.7	20.1	30.8	46.0	-15.2
25.088	13.8	21.0	34.8	50.0	-15.2
1.203	10.6	20.1	30.7	46.0	-15.3
0.449	11.3	20.1	31.4	46.9	-15.5
1.083	10.4	20.1	30.5	46.0	-15.5
1.480	10.4	20.1	30.5	46.0	-15.5
1.298	10.3	20.1	30.4	46.0	-15.6
2.256	10.3	20.1	30.4	46.0	-15.6
1.418	10.2	20.1	30.3	46.0	-15.7
1.622	10.2	20.1	30.3	46.0	-15.7
4.013	10.2	20.1	30.3	46.0	-15.7
0.354	13.0	20.1	33.1	48.9	-15.8
0.974	10.1	20.1	30.2	46.0	-15.8



AC POWERLINE CONDUCTED EMISSIONS

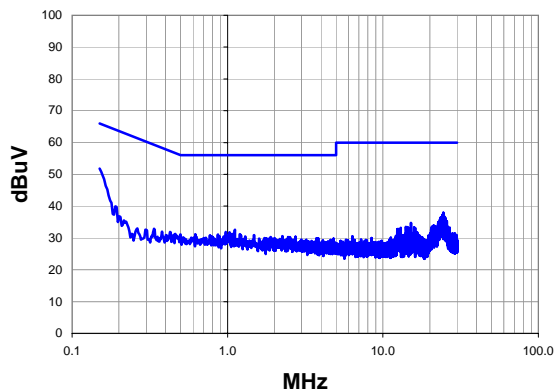
PSA-ESCI 2012.03.08
PSA-ESCI Version 2011.12.21

Work Order:	FOCU0127	Date:	03/23/12	
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 52 (15) 5260 MHz			
Deviations:	No deviations.			
Comments:	None			

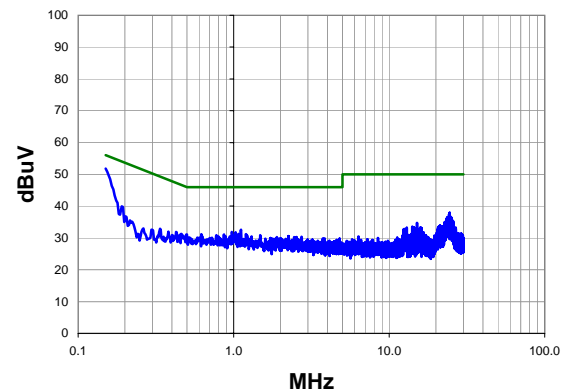
Test Specifications	Test Method
FCC 15.207:2012	ANSI C63.10:2009

Run #	6	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

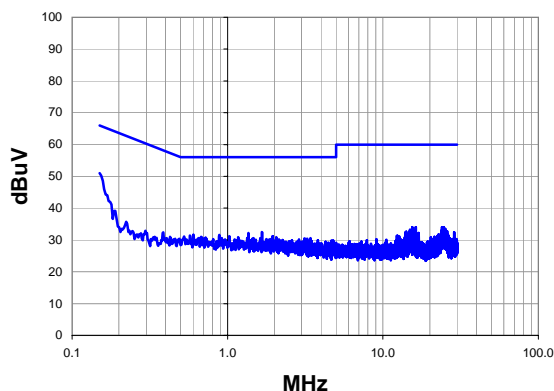
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	31.7	20.1	51.8	66.0	-14.2
24.439	17.0	20.9	37.9	60.0	-22.1
24.275	16.4	20.9	37.3	60.0	-22.7
24.767	15.8	20.9	36.7	60.0	-23.3
1.116	12.5	20.1	32.6	56.0	-23.4
24.355	15.6	20.9	36.5	60.0	-23.5
24.173	15.5	20.9	36.4	60.0	-23.6
23.597	15.5	20.9	36.4	60.0	-23.6
25.215	15.4	21.0	36.4	60.0	-23.6
24.133	15.4	20.9	36.3	60.0	-23.7
23.994	15.4	20.9	36.3	60.0	-23.7
25.004	15.1	21.0	36.1	60.0	-23.9
24.235	15.1	20.9	36.0	60.0	-24.0
23.768	15.1	20.9	36.0	60.0	-24.0
0.974	11.8	20.1	31.9	56.0	-24.1
23.327	15.0	20.9	35.9	60.0	-24.1
1.028	11.7	20.1	31.8	56.0	-24.2
25.299	14.8	21.0	35.8	60.0	-24.2
24.668	14.8	20.9	35.7	60.0	-24.3
24.552	14.8	20.9	35.7	60.0	-24.3

Peak Data - vs - Average Limit

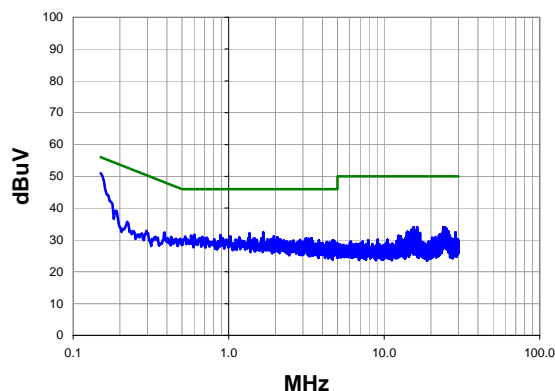
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	31.7	20.1	51.8	56.0	-4.2
24.439	17.0	20.9	37.9	50.0	-12.1
24.275	16.4	20.9	37.3	50.0	-12.7
24.767	15.8	20.9	36.7	50.0	-13.3
1.116	12.5	20.1	32.6	46.0	-13.4
24.355	15.6	20.9	36.5	50.0	-13.5
24.173	15.5	20.9	36.4	50.0	-13.6
23.597	15.5	20.9	36.4	50.0	-13.6
25.215	15.4	21.0	36.4	50.0	-13.6
24.133	15.4	20.9	36.3	50.0	-13.7
23.994	15.4	20.9	36.3	50.0	-13.7
25.004	15.1	21.0	36.1	50.0	-13.9
24.235	15.1	20.9	36.0	50.0	-14.0
23.768	15.1	20.9	36.0	50.0	-14.0
0.974	11.8	20.1	31.9	46.0	-14.1
23.327	15.0	20.9	35.9	50.0	-14.1
1.028	11.7	20.1	31.8	46.0	-14.2
25.299	14.8	21.0	35.8	50.0	-14.2
24.668	14.8	20.9	35.7	50.0	-14.3
24.552	14.8	20.9	35.7	50.0	-14.3

Work Order:	FOCU0127	Date:	03/23/12	<i>Rod Peloquin</i>			
Project:	None	Temperature:	21 °C				
Job Site:	EV07	Humidity:	32% RH				
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar				
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin			
Configuration:	4						
Customer:	Summit Semiconductor						
Attendees:	None						
EUT Power:	18 VDC						
Operating Mode:	Transmitting 55% duty cycle, Ch. 64 (18) 5320 MHz						
Deviations:	No deviations.						
Comments:	None						
Test Specifications		Test Method					
FCC 15.207:2012		ANSI C63.10:2009					
Run #	7	Line:	High Line	Ext. Attenuation:	20	Results	Pass

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit




Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.9	20.1	51.0	66.0	-15.0
1.666	12.4	20.1	32.5	56.0	-23.5
1.360	12.1	20.1	32.2	56.0	-23.8
0.602	11.6	20.1	31.7	56.0	-24.3
0.886	11.5	20.1	31.6	56.0	-24.4
0.573	11.3	20.1	31.4	56.0	-24.6
1.025	11.1	20.1	31.2	56.0	-24.8
1.954	11.1	20.1	31.2	56.0	-24.8
0.675	10.9	20.1	31.0	56.0	-25.0
1.170	10.8	20.1	30.9	56.0	-25.1
2.056	10.8	20.1	30.9	56.0	-25.1
0.722	10.7	20.1	30.8	56.0	-25.2
1.469	10.5	20.1	30.6	56.0	-25.4
1.622	10.5	20.1	30.6	56.0	-25.4
3.412	10.5	20.1	30.6	56.0	-25.4
3.131	10.4	20.1	30.5	56.0	-25.5
1.440	10.3	20.1	30.4	56.0	-25.6
3.251	10.3	20.1	30.4	56.0	-25.6
1.775	10.2	20.1	30.3	56.0	-25.7
1.877	10.2	20.1	30.3	56.0	-25.7

Peak Data - vs - Average Limit

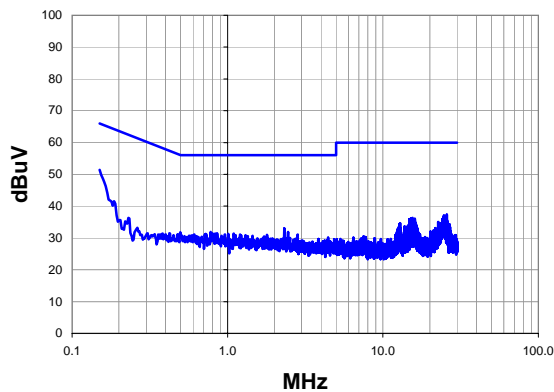
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.9	20.1	51.0	56.0	-5.0
1.666	12.4	20.1	32.5	46.0	-13.5
1.360	12.1	20.1	32.2	46.0	-13.8
0.602	11.6	20.1	31.7	46.0	-14.3
0.886	11.5	20.1	31.6	46.0	-14.4
0.573	11.3	20.1	31.4	46.0	-14.6
1.025	11.1	20.1	31.2	46.0	-14.8
1.954	11.1	20.1	31.2	46.0	-14.8
0.675	10.9	20.1	31.0	46.0	-15.0
1.170	10.8	20.1	30.9	46.0	-15.1
2.056	10.8	20.1	30.9	46.0	-15.1
0.722	10.7	20.1	30.8	46.0	-15.2
1.469	10.5	20.1	30.6	46.0	-15.4
1.622	10.5	20.1	30.6	46.0	-15.4
3.412	10.5	20.1	30.6	46.0	-15.4
3.131	10.4	20.1	30.5	46.0	-15.5
1.440	10.3	20.1	30.4	46.0	-15.6
3.251	10.3	20.1	30.4	46.0	-15.6
1.775	10.2	20.1	30.3	46.0	-15.7
1.877	10.2	20.1	30.3	46.0	-15.7

Work Order:	FOCU0127	Date:	03/23/12	
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 64 (18) 5320 MHz			
Deviations:	No deviations.			
Comments:	None			

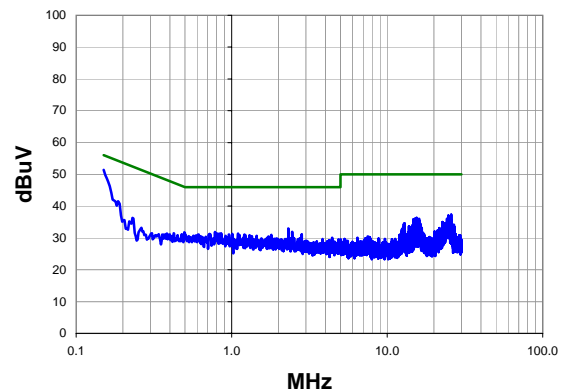
Test Specifications	Test Method
FCC 15.207:2012	ANSI C63.10:2009

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)
0.150	31.3	20.1	51.4	66.0	-14.6
25.795	16.3	21.0	37.3	60.0	-22.7
24.687	16.1	20.9	37.0	60.0	-23.0
2.318	12.9	20.1	33.0	56.0	-23.0
24.752	15.8	20.9	36.7	60.0	-23.3
24.891	15.6	21.0	36.6	60.0	-23.4
15.481	15.8	20.5	36.3	60.0	-23.7
25.314	15.3	21.0	36.3	60.0	-23.7
15.226	15.7	20.5	36.2	60.0	-23.8
16.024	15.5	20.5	36.0	60.0	-24.0
24.249	15.1	20.9	36.0	60.0	-24.0
0.780	11.8	20.1	31.9	56.0	-24.1
2.450	11.8	20.1	31.9	56.0	-24.1
14.895	15.4	20.5	35.9	60.0	-24.1
24.330	14.9	20.9	35.8	60.0	-24.2
14.767	15.3	20.5	35.8	60.0	-24.2
0.496	11.7	20.1	31.8	56.1	-24.3
15.875	15.2	20.5	35.7	60.0	-24.3
15.135	15.2	20.5	35.7	60.0	-24.3
24.792	14.7	20.9	35.6	60.0	-24.4

Peak Data - vs - Average Limit

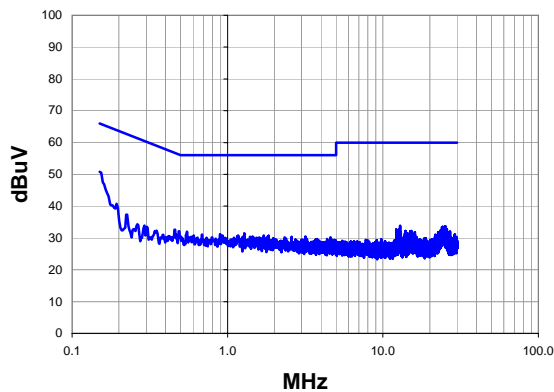
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	31.3	20.1	51.4	56.0	-4.6
25.795	16.3	21.0	37.3	50.0	-12.7
24.687	16.1	20.9	37.0	50.0	-13.0
2.318	12.9	20.1	33.0	46.0	-13.0
24.752	15.8	20.9	36.7	50.0	-13.3
24.891	15.6	21.0	36.6	50.0	-13.4
15.481	15.8	20.5	36.3	50.0	-13.7
25.314	15.3	21.0	36.3	50.0	-13.7
15.226	15.7	20.5	36.2	50.0	-13.8
16.024	15.5	20.5	36.0	50.0	-14.0
24.249	15.1	20.9	36.0	50.0	-14.0
0.780	11.8	20.1	31.9	46.0	-14.1
2.450	11.8	20.1	31.9	46.0	-14.1
14.895	15.4	20.5	35.9	50.0	-14.1
24.330	14.9	20.9	35.8	50.0	-14.2
14.767	15.3	20.5	35.8	50.0	-14.2
0.496	11.7	20.1	31.8	46.1	-14.3
15.875	15.2	20.5	35.7	50.0	-14.3
15.135	15.2	20.5	35.7	50.0	-14.3
24.792	14.7	20.9	35.6	50.0	-14.4

Work Order:	FOCU0127	Date:	03/23/12	
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 100 (19) 5500 MHz			
Deviations:	No deviations.			
Comments:	None			

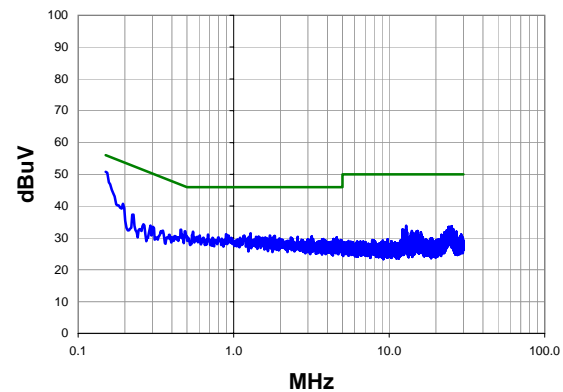
Test Specifications	Test Method
FCC 15.207:2012	ANSI C63.10:2009

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	30.7	20.1	50.8	66.0	-15.2
0.547	11.9	20.1	32.0	56.0	-24.0
0.485	12.0	20.1	32.1	56.2	-24.1
0.456	12.5	20.1	32.6	56.8	-24.2
1.283	11.4	20.1	31.5	56.0	-24.5
0.893	11.1	20.1	31.2	56.0	-24.8
0.686	11.0	20.1	31.1	56.0	-24.9
1.170	10.7	20.1	30.8	56.0	-25.2
1.710	10.7	20.1	30.8	56.0	-25.2
1.837	10.6	20.1	30.7	56.0	-25.3
0.223	17.2	20.1	37.3	62.7	-25.4
1.447	10.4	20.1	30.5	56.0	-25.5
3.175	10.4	20.1	30.5	56.0	-25.5
1.254	10.3	20.1	30.4	56.0	-25.6
1.396	10.3	20.1	30.4	56.0	-25.6
1.804	10.3	20.1	30.4	56.0	-25.6
2.581	10.3	20.1	30.4	56.0	-25.6
1.600	10.1	20.1	30.2	56.0	-25.8
2.333	10.1	20.1	30.2	56.0	-25.8
4.596	10.0	20.2	30.2	56.0	-25.8

Peak Data - vs - Average Limit

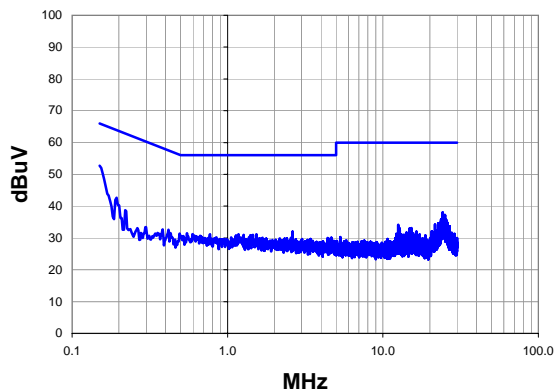
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.7	20.1	50.8	56.0	-5.2
0.547	11.9	20.1	32.0	46.0	-14.0
0.485	12.0	20.1	32.1	46.2	-14.1
0.456	12.5	20.1	32.6	46.8	-14.2
1.283	11.4	20.1	31.5	46.0	-14.5
0.893	11.1	20.1	31.2	46.0	-14.8
0.686	11.0	20.1	31.1	46.0	-14.9
1.170	10.7	20.1	30.8	46.0	-15.2
1.710	10.7	20.1	30.8	46.0	-15.2
1.837	10.6	20.1	30.7	46.0	-15.3
0.223	17.2	20.1	37.3	52.7	-15.4
1.447	10.4	20.1	30.5	46.0	-15.5
3.175	10.4	20.1	30.5	46.0	-15.5
1.254	10.3	20.1	30.4	46.0	-15.6
1.396	10.3	20.1	30.4	46.0	-15.6
1.804	10.3	20.1	30.4	46.0	-15.6
2.581	10.3	20.1	30.4	46.0	-15.6
1.600	10.1	20.1	30.2	46.0	-15.8
2.333	10.1	20.1	30.2	46.0	-15.8
4.596	10.0	20.2	30.2	46.0	-15.8

Work Order:	FOCU0127	Date:	03/23/12	
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 100 (19) 5500 MHz			
Deviations:	No deviations.			
Comments:	None			

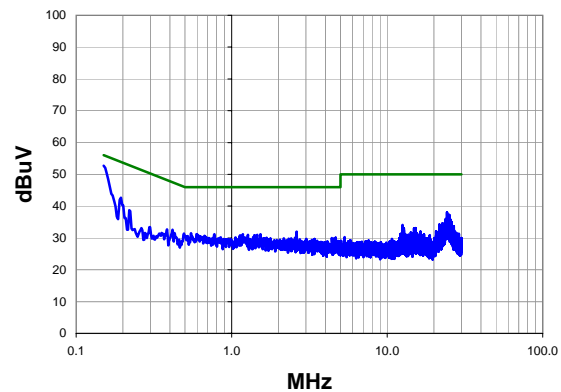
Test Specifications	Test Method
FCC 15.207:2012	ANSI C63.10:2009

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	32.6	20.1	52.7	66.0	-13.3
0.194	22.6	20.1	42.7	63.9	-21.2
24.235	17.1	20.9	38.0	60.0	-22.0
25.051	16.3	21.0	37.3	60.0	-22.7
24.989	16.3	21.0	37.3	60.0	-22.7
24.756	15.9	20.9	36.8	60.0	-23.2
24.829	15.8	21.0	36.8	60.0	-23.2
24.483	15.6	20.9	36.5	60.0	-23.5
24.701	15.3	20.9	36.2	60.0	-23.8
24.789	15.2	20.9	36.1	60.0	-23.9
24.384	15.2	20.9	36.1	60.0	-23.9
24.144	15.2	20.9	36.1	60.0	-23.9
24.275	15.1	20.9	36.0	60.0	-24.0
2.621	11.9	20.1	32.0	56.0	-24.0
24.023	15.0	20.9	35.9	60.0	-24.1
0.219	18.6	20.1	38.7	62.8	-24.1
24.096	14.9	20.9	35.8	60.0	-24.2
23.637	14.9	20.9	35.8	60.0	-24.2
25.558	14.7	21.0	35.7	60.0	-24.3
24.883	14.7	21.0	35.7	60.0	-24.3

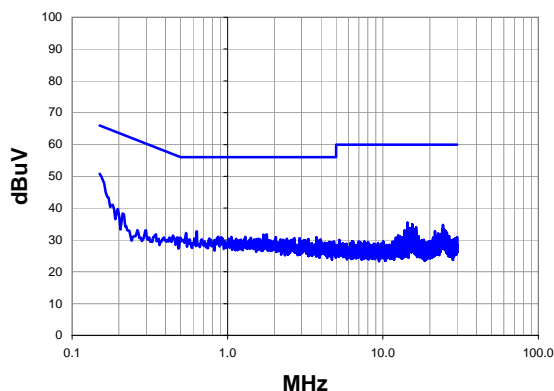
Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	32.6	20.1	52.7	56.0	-3.3
0.194	22.6	20.1	42.7	53.9	-11.2
24.235	17.1	20.9	38.0	50.0	-12.0
25.051	16.3	21.0	37.3	50.0	-12.7
24.989	16.3	21.0	37.3	50.0	-12.7
24.756	15.9	20.9	36.8	50.0	-13.2
24.829	15.8	21.0	36.8	50.0	-13.2
24.483	15.6	20.9	36.5	50.0	-13.5
24.701	15.3	20.9	36.2	50.0	-13.8
24.789	15.2	20.9	36.1	50.0	-13.9
24.384	15.2	20.9	36.1	50.0	-13.9
24.144	15.2	20.9	36.1	50.0	-13.9
24.275	15.1	20.9	36.0	50.0	-14.0
2.621	11.9	20.1	32.0	46.0	-14.0
24.023	15.0	20.9	35.9	50.0	-14.1
0.219	18.6	20.1	38.7	52.8	-14.1
24.096	14.9	20.9	35.8	50.0	-14.2
23.637	14.9	20.9	35.8	50.0	-14.2
25.558	14.7	21.0	35.7	50.0	-14.3
24.883	14.7	21.0	35.7	50.0	-14.3

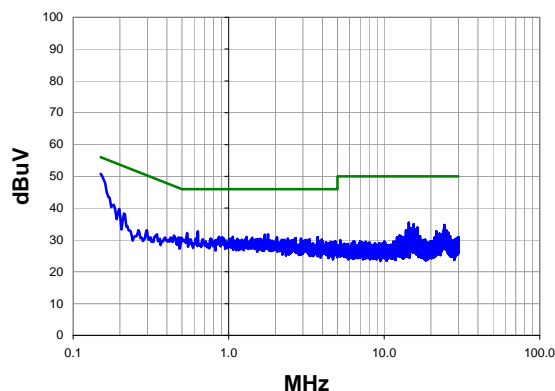
Work Order:	FOCU0127	Date:	03/23/12	
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 116 (23) 5580 MHz			
Deviations:	No deviations.			
Comments:	None			

Test Specifications				Test Method			
FCC 15.207:2012				ANSI C63.10:2009			
Run #	11	Line:	High Line	Ext. Attenuation:	20	Results	Pass

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.7	20.1	50.8	66.0	-15.2
0.631	12.6	20.1	32.7	56.0	-23.3
0.540	12.1	20.1	32.2	56.0	-23.8
0.197	19.6	20.1	39.7	63.7	-24.0
1.790	11.7	20.1	31.8	56.0	-24.2
1.706	11.6	20.1	31.7	56.0	-24.3
14.406	14.9	20.5	35.4	60.0	-24.6
0.212	18.2	20.1	38.3	63.1	-24.8
0.868	10.9	20.1	31.0	56.0	-25.0
1.061	10.9	20.1	31.0	56.0	-25.0
1.302	10.9	20.1	31.0	56.0	-25.0
15.438	14.4	20.5	34.9	60.0	-25.1
2.041	10.8	20.1	30.9	56.0	-25.1
3.732	10.8	20.1	30.9	56.0	-25.1
24.366	13.8	20.9	34.7	60.0	-25.3
1.415	10.6	20.1	30.7	56.0	-25.3
2.694	10.5	20.1	30.6	56.0	-25.4
0.766	10.4	20.1	30.5	56.0	-25.5
2.912	10.4	20.1	30.5	56.0	-25.5
1.138	10.3	20.1	30.4	56.0	-25.6

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.7	20.1	50.8	56.0	-5.2
0.631	12.6	20.1	32.7	46.0	-13.3
0.540	12.1	20.1	32.2	46.0	-13.8
0.197	19.6	20.1	39.7	53.7	-14.0
1.790	11.7	20.1	31.8	46.0	-14.2
1.706	11.6	20.1	31.7	46.0	-14.3
14.406	14.9	20.5	35.4	50.0	-14.6
0.212	18.2	20.1	38.3	53.1	-14.8
0.868	10.9	20.1	31.0	46.0	-15.0
1.061	10.9	20.1	31.0	46.0	-15.0
1.302	10.9	20.1	31.0	46.0	-15.0
15.438	14.4	20.5	34.9	50.0	-15.1
2.041	10.8	20.1	30.9	46.0	-15.1
3.732	10.8	20.1	30.9	46.0	-15.1
24.366	13.8	20.9	34.7	50.0	-15.3
1.415	10.6	20.1	30.7	46.0	-15.3
2.694	10.5	20.1	30.6	46.0	-15.4
0.766	10.4	20.1	30.5	46.0	-15.5
2.912	10.4	20.1	30.5	46.0	-15.5
1.138	10.3	20.1	30.4	46.0	-15.6



AC POWERLINE CONDUCTED EMISSIONS

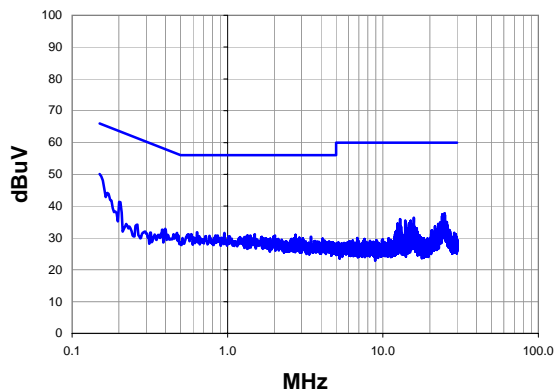
PSA-ESCI 2012.03.08
PSA-ESCI Version 2011.12.21

Work Order:	FOCU0127	Date:	03/23/12	
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 116 (23) 5580 MHz			
Deviations:	No deviations.			
Comments:	None			

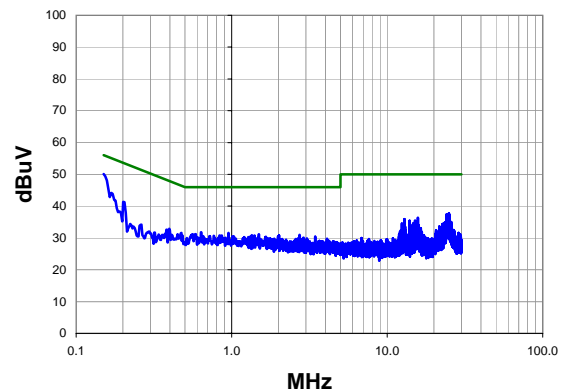
Test Specifications	Test Method
FCC 15.207:2012	ANSI C63.10:2009

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)
0.150	30.0	20.1	50.1	66.0	-15.9
24.971	16.8	21.0	37.8	60.0	-22.2
0.201	21.2	20.1	41.3	63.6	-22.3
24.909	16.5	21.0	37.5	60.0	-22.5
24.140	16.5	20.9	37.4	60.0	-22.6
25.069	16.3	21.0	37.3	60.0	-22.7
24.749	16.3	20.9	37.2	60.0	-22.8
24.027	15.9	20.9	36.8	60.0	-23.2
15.780	15.8	20.5	36.3	60.0	-23.7
12.901	15.5	20.5	36.0	60.0	-24.0
0.635	11.7	20.1	31.8	56.0	-24.2
0.955	11.5	20.1	31.6	56.0	-24.4
13.907	14.9	20.5	35.4	60.0	-24.6
15.110	14.9	20.5	35.4	60.0	-24.6
24.825	14.4	21.0	35.4	60.0	-24.6
24.541	14.4	20.9	35.3	60.0	-24.7
0.584	11.1	20.1	31.2	56.0	-24.8
1.498	11.1	20.1	31.2	56.0	-24.8
24.873	14.1	21.0	35.1	60.0	-24.9
0.398	12.8	20.1	32.9	57.9	-25.0

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.0	20.1	50.1	56.0	-5.9
24.971	16.8	21.0	37.8	50.0	-12.2
0.201	21.2	20.1	41.3	53.6	-12.3
24.909	16.5	21.0	37.5	50.0	-12.5
24.140	16.5	20.9	37.4	50.0	-12.6
25.069	16.3	21.0	37.3	50.0	-12.7
24.749	16.3	20.9	37.2	50.0	-12.8
24.027	15.9	20.9	36.8	50.0	-13.2
15.780	15.8	20.5	36.3	50.0	-13.7
12.901	15.5	20.5	36.0	50.0	-14.0
0.635	11.7	20.1	31.8	46.0	-14.2
0.955	11.5	20.1	31.6	46.0	-14.4
13.907	14.9	20.5	35.4	50.0	-14.6
15.110	14.9	20.5	35.4	50.0	-14.6
24.825	14.4	21.0	35.4	50.0	-14.6
24.541	14.4	20.9	35.3	50.0	-14.7
0.584	11.1	20.1	31.2	46.0	-14.8
1.498	11.1	20.1	31.2	46.0	-14.8
24.873	14.1	21.0	35.1	50.0	-14.9
0.398	12.8	20.1	32.9	47.9	-15.0



AC POWERLINE CONDUCTED EMISSIONS

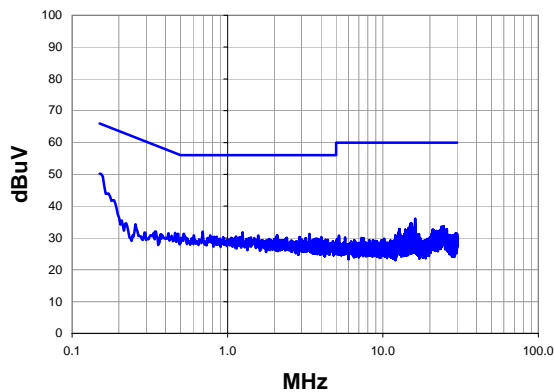
PSA-ESCI 2012.03.08
PSA-ESCI Version 2011.12.21

Work Order:	FOCU0127	Date:	03/23/12	
Project:	None	Temperature:	21 °C	
Job Site:	EV07	Humidity:	32% RH	
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar	
EUT:	Model# 444-2216 (Glenwood)			Tested by: Rod Peloquin
Configuration:	4			
Customer:	Summit Semiconductor			
Attendees:	None			
EUT Power:	18 VDC			
Operating Mode:	Transmitting 55% duty cycle, Ch. 140 (29) 5700 MHz			
Deviations:	No deviations.			
Comments:	None			

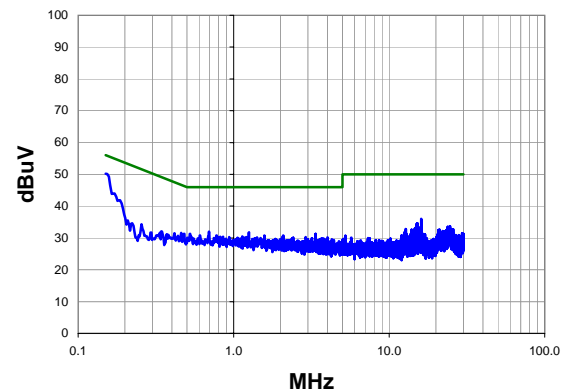
Test Specifications	Test Method
FCC 15.207:2012	ANSI C63.10:2009

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

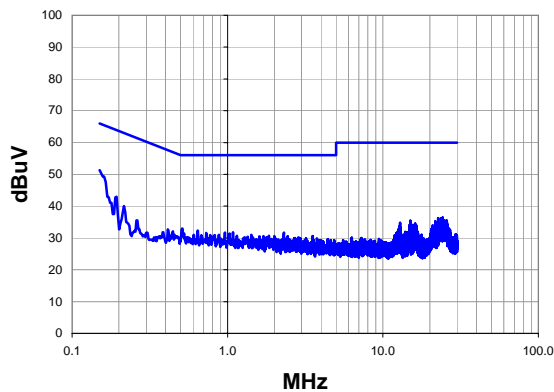
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.1	20.1	50.2	66.0	-15.8
16.097	15.5	20.5	36.0	60.0	-24.0
0.693	11.9	20.1	32.0	56.0	-24.0
1.254	11.7	20.1	31.8	56.0	-24.2
0.522	11.2	20.1	31.3	56.0	-24.7
3.364	11.2	20.1	31.3	56.0	-24.7
0.460	11.5	20.1	31.6	56.7	-25.1
0.773	10.7	20.1	30.8	56.0	-25.2
1.579	10.7	20.1	30.8	56.0	-25.2
2.089	10.7	20.1	30.8	56.0	-25.2
2.071	10.5	20.1	30.6	56.0	-25.4
15.197	14.1	20.5	34.6	60.0	-25.4
1.134	10.4	20.1	30.5	56.0	-25.5
15.091	14.0	20.5	34.5	60.0	-25.5
16.115	13.9	20.5	34.4	60.0	-25.6
0.821	10.3	20.1	30.4	56.0	-25.6
0.937	10.2	20.1	30.3	56.0	-25.7
1.207	10.2	20.1	30.3	56.0	-25.7
2.909	10.2	20.1	30.3	56.0	-25.7
14.993	13.8	20.5	34.3	60.0	-25.7

Peak Data - vs - Average Limit

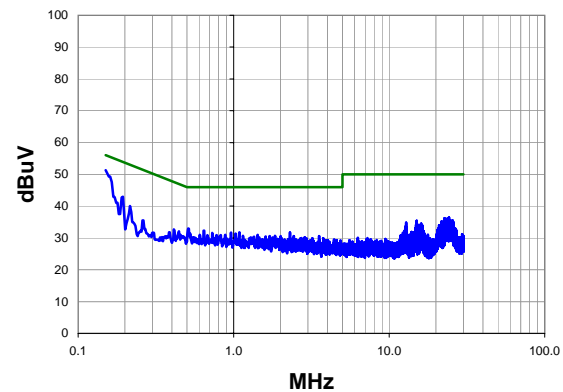
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	30.1	20.1	50.2	56.0	-5.8
16.097	15.5	20.5	36.0	50.0	-14.0
0.693	11.9	20.1	32.0	46.0	-14.0
1.254	11.7	20.1	31.8	46.0	-14.2
0.522	11.2	20.1	31.3	46.0	-14.7
3.364	11.2	20.1	31.3	46.0	-14.7
0.460	11.5	20.1	31.6	46.7	-15.1
0.773	10.7	20.1	30.8	46.0	-15.2
1.579	10.7	20.1	30.8	46.0	-15.2
2.089	10.7	20.1	30.8	46.0	-15.2
2.071	10.5	20.1	30.6	46.0	-15.4
15.197	14.1	20.5	34.6	50.0	-15.4
1.134	10.4	20.1	30.5	46.0	-15.5
15.091	14.0	20.5	34.5	50.0	-15.5
16.115	13.9	20.5	34.4	50.0	-15.6
0.821	10.3	20.1	30.4	46.0	-15.6
0.937	10.2	20.1	30.3	46.0	-15.7
1.207	10.2	20.1	30.3	46.0	-15.7
2.909	10.2	20.1	30.3	46.0	-15.7
14.993	13.8	20.5	34.3	50.0	-15.7

Work Order:	FOCU0127	Date:	03/23/12	<i>Rod Peloquin</i>			
Project:	None	Temperature:	21 °C				
Job Site:	EV07	Humidity:	32% RH				
Serial Number:	02EA06000012	Barometric Pres.:	10411.5 mbar				
EUT:	Model# 444-2216 (Glenwood)						
Configuration:	4						
Customer:	Summit Semiconductor						
Attendees:	None						
EUT Power:	18 VDC						
Operating Mode:	Transmitting 55% duty cycle, Ch. 140 (29) 5700 MHz						
Deviations:	No deviations.						
Comments:	None						
Test Specifications		Test Method					
FCC 15.207:2012		ANSI C63.10:2009					
Run #	14	Line:	Neutral	Ext. Attenuation:	20	Results	Pass

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	31.2	20.1	51.3	66.0	-14.7
0.194	22.9	20.1	43.0	63.9	-20.9
0.216	19.9	20.1	40.0	63.0	-23.0
0.511	12.9	20.1	33.0	56.0	-23.0
24.275	15.5	20.9	36.4	60.0	-23.6
0.642	12.2	20.1	32.3	56.0	-23.7
22.719	15.4	20.9	36.3	60.0	-23.7
23.761	15.3	20.9	36.2	60.0	-23.8
1.087	11.7	20.1	31.8	56.0	-24.2
0.963	11.6	20.1	31.7	56.0	-24.3
2.304	11.6	20.1	31.7	56.0	-24.3
0.729	11.5	20.1	31.6	56.0	-24.4
24.749	14.6	20.9	35.5	60.0	-24.5
25.598	14.5	21.0	35.5	60.0	-24.5
1.028	11.3	20.1	31.4	56.0	-24.6
15.037	14.9	20.5	35.4	60.0	-24.6
21.709	14.4	20.8	35.2	60.0	-24.8
25.139	14.2	21.0	35.2	60.0	-24.8
23.845	14.2	20.9	35.1	60.0	-24.9
0.412	12.6	20.1	32.7	57.6	-24.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.150	31.2	20.1	51.3	56.0	-4.7
0.194	22.9	20.1	43.0	53.9	-10.9
0.216	19.9	20.1	40.0	53.0	-13.0
0.511	12.9	20.1	33.0	46.0	-13.0
24.275	15.5	20.9	36.4	50.0	-13.6
0.642	12.2	20.1	32.3	46.0	-13.7
22.719	15.4	20.9	36.3	50.0	-13.7
23.761	15.3	20.9	36.2	50.0	-13.8
1.087	11.7	20.1	31.8	46.0	-14.2
0.963	11.6	20.1	31.7	46.0	-14.3
2.304	11.6	20.1	31.7	46.0	-14.3
0.729	11.5	20.1	31.6	46.0	-14.4
24.749	14.6	20.9	35.5	50.0	-14.5
25.598	14.5	21.0	35.5	50.0	-14.5
1.028	11.3	20.1	31.4	46.0	-14.6
15.037	14.9	20.5	35.4	50.0	-14.6
21.709	14.4	20.8	35.2	50.0	-14.8
25.139	14.2	21.0	35.2	50.0	-14.8
23.845	14.2	20.9	35.1	50.0	-14.9
0.412	12.6	20.1	32.7	47.6	-14.9