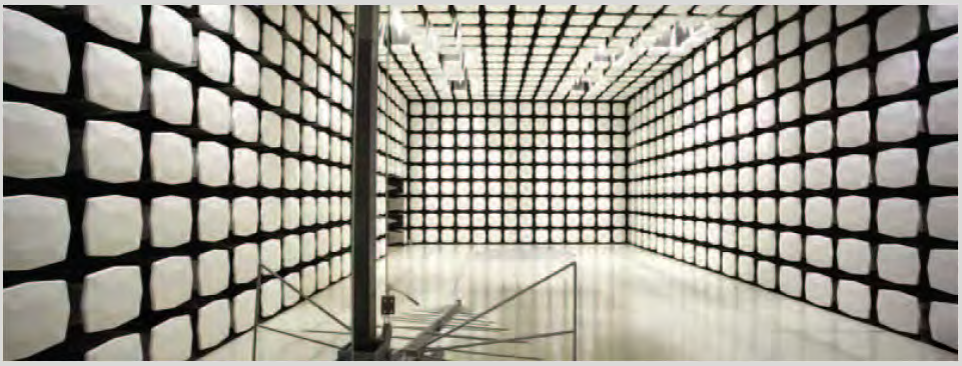
Etherios Design Solutions

ConnectCore6 (i.MX6)

FCC 15.207:2014

FCC 15.247:2014

Report # ETHE0008



NVLAP Lab Code: 200881-0

CERTIFICATE OF TEST

WTD 13.9.30

Last Date of Test: September 10, 2014
Etherios Design Solutions
Model: ConnectCore6 (i.MX6)

Radio Equipment Testing

Standards

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

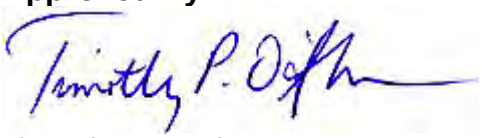
Results

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

Deviations From Test Standards

None

Approved By:



Tim O'Shea, Operations Manager

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

NORTHWEST EMC
REV 2012.08.02

REVISION HISTORY

Revision Number	Description	Date	Page Number
00	None		

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.

NORTHWEST EMC

REV 2014.08.11

ACCREDITATIONS AND AUTHORIZATIONS

United States

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

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

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

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

European Union

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

Australia/New Zealand

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

Korea

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

Japan

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

Taiwan

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

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

Singapore

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

Israel

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

Hong Kong

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

Vietnam

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

SCOPE

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

MEASUREMENT UNCERTAINTY

Measurement Uncertainty

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

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) for each test is on each data sheet. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-1 as applicable), and are available upon request.

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

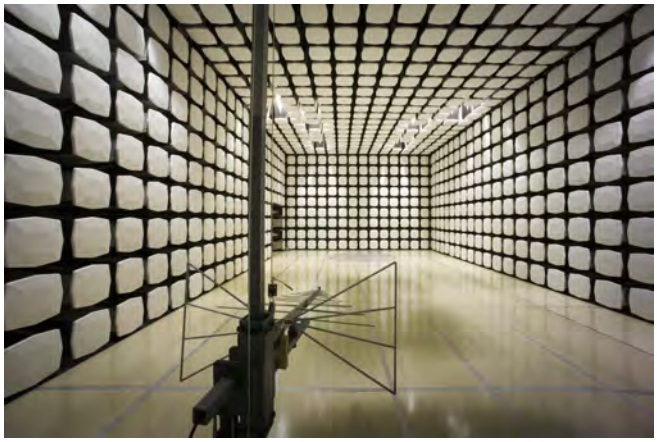
Test	+ MU	- MU
Frequency Accuracy (Hz)	0.12	-0.01
Amplitude Accuracy (dB)	0.49	-0.49
Conducted Power (dB)	0.41	-0.41
Radiated Power via Substitution (dB)	0.69	-0.68
Temperature (degrees C)	0.81	-0.81
Humidity (% RH)	2.89	-2.89
Field Strength (dB)	4.00	-4.00
AC Powerline Conducted Emissions (dB)	2.70	-2.70

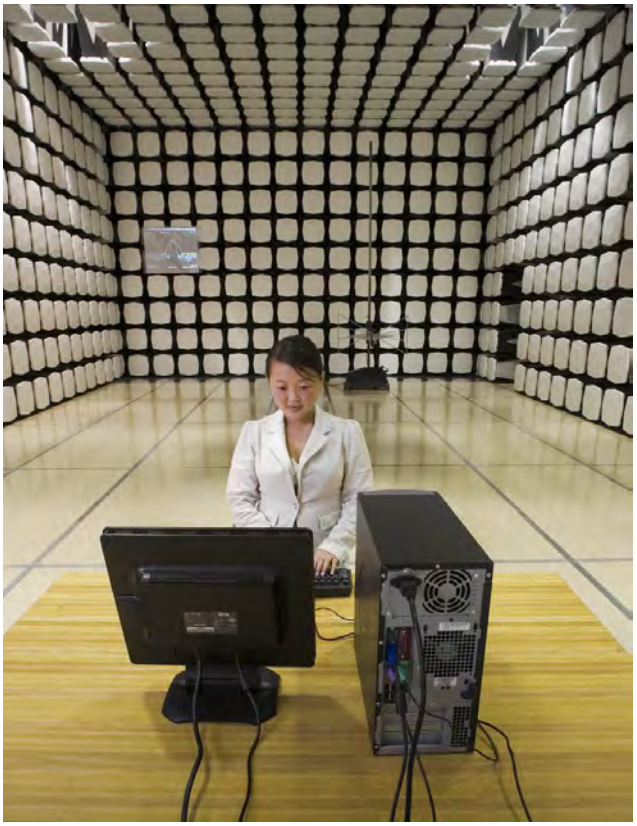
NORTHWEST EMC

REV 2013.06.28

FACILITIES

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





PRODUCT DESCRIPTION

WTD 13.9.30

Client and Equipment Under Test (EUT) Information

Company Name:	Etherios Design Solutions
Address:	110 N 5th Street, Suite 400
City, State, Zip:	Minneapolis, MN 55413
Test Requested By:	Moshe Peri
Model:	ConnectCore6 (i.MX6)
First Date of Test:	August 07, 2014
Last Date of Test:	September 10, 2014
Receipt Date of Samples:	August 05, 2014
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Module with IEEE 802.11a/b/g/n only (BT not populated), Dual Core i.MX6 processor, 1GB DDR3, 4GB eMMC

Testing Objective:
To demonstrate compliance under FCC 15.247 for operation in the 2.4 GHz and 5 GHz bands.

CONFIGURATIONS

Configuration ETHE0008- 1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Module	Etherios Design Solutions	50001876-05	00409D7B8CA2

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Power Supply	EZ	GP-4303D	TPY
Laptop	HP	6701b	CNU8312CSS
Laptop Supply	HP	PPP017L	7Y00871803

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB To Serial	Yes	2.2m	No	Module	Laptop
DC Power	No	1.5m	Yes	Module	Power Supply
DC Power	No	1.8m	Yes	Laptop	Laptop Supply
AC Power	No	1.8m	No	Power Supply	AC Mains
AC Power	No	1.8m	No	Laptop Supply	AC Mains

Configuration ETHE0008- 2

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Module	Etherios Design Solutions	50001876-05	00409D7B8CA2

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Power Supply	EZ	GP-4303D	TPY

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Power	No	1.8m	No	Power Supply	AC Mains
DC Power	No	3.7m	No	Module	Power Supply

Configuration ETHE0008- 4

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Module	Etherios Design Solutions	50001876-05	00409D7B8C92

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Power	No	1.8m	No	Power Supply	AC Mains
DC Power	No	3.7m	No	Module	Power Supply

CONFIGURATIONS

Configuration ETHE0011- 1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Module	Etherios Design Solutions	50001876-05	00409D7B8CA2

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop (Thinkpad)	IBM	IBM Thinkpad	IS490
Power Supply	EZ	GP-4303D	TPY

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
Antenna Cable (x2)	Yes	0.1m	No	2.4GHz Antenna	Module
DC Power	No	1.8m	Yes	Module	Power Supply
AC Mains Cable	No	1.8m	No	AC Mains	Power Supply
USB to Serial Cable	No	65cm	No	Laptop	Serial Cable
Serial Cable	Yes	>3m	No	USB to Serial Cable	Module

MODIFICATIONS

WTD 13.9.30

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	8/7/2014	Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	8/20/2014	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	8/20/2014	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	8/22/2014	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.
5	9/9/2014	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	9/10/2014	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
7	9/10/2014	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWER TABLE

This power table represents the power level settings used in the customer provided radio control test software during testing.

Frequency Band	Channel	Power Setting
2400 to 2483.5 MHz	Ch 1	15
	Ch 6	15
	Ch 11	14
5.725 to 5.85 GHz	Ch 149	18
	Ch 157	18
	Ch 165	18

POWERLINE CONDUCTED EMISSIONS

TEST DESCRIPTION

The EUT will be powered either directly or indirectly from the AC power line. Therefore, conducted emissions measurements were made on the AC input of the EUT, or on the AC input of the device used to power the EUT. The AC power line conducted emissions were measured with the EUT operating at the lowest, the highest, and a middle channel in the operational band. The EUT was transmitting at its maximum data rate. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.10-2009.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
High Pass Filter	TTE	H97-100K-50-720B	HGN	05/23/2014	24 mo
Attenuator 20dB, BNC	Fairview Microwave	SA01B-20	AQP	07/22/2014	12 mo
MN03 Cables	ESM Cable Corp.	Conducted Cables	MNC	12/05/2013	12 mo
LISN	Solar Electronics	9252-50-R-24-BNC	LIY	05/15/2014	12 mo
Receiver	Rohde & Schwarz	ESR7	ARI	05/06/2014	12 mo

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.94 dB	-2.94 dB

CONFIGURATIONS INVESTIGATED

ETHE0008-2

MODES INVESTIGATED

Transmitting 802.11 1 Mbps, Ch 1, 2412 MHz
Transmitting 802.11 1 Mbps, Ch 11, 2462 MHz
Transmitting 802.11 1 Mbps, Ch 6, 2437 MHz
Transmitting 802.11 6 Mbps, Ch 149, 5745 MHz
Transmitting 802.11 6 Mbps, Ch 157, 5785 MHz
Transmitting 802.11 6 Mbps, Ch 165, 5825 MHz

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	2	Line:	Positive Lead	Ext. Attenuation (dB):	20

COMMENTS

None

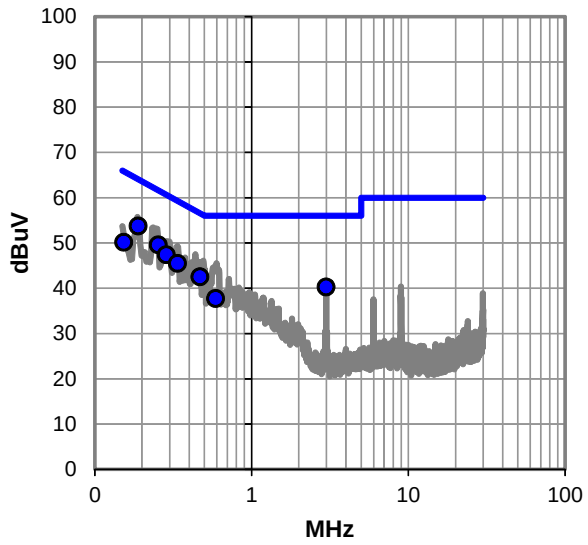
EUT OPERATING MODES

Transmitting 802.11 1 Mbps, Ch 1, 2412 MHz

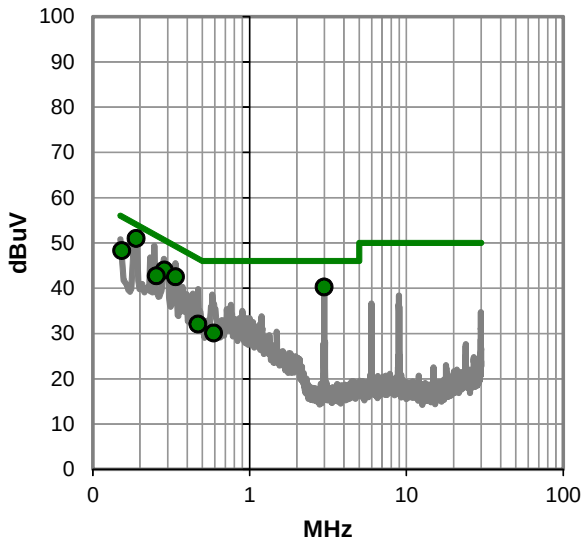
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



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WTD.2013.12.04, PSA-ESCI 2014.06.19, EmiR5 2014.07.09

POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #2

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.189	33.5	20.3	53.8	64.1	-10.3
0.254	29.4	20.2	49.6	61.6	-12.0
0.286	27.2	20.2	47.4	60.6	-13.2
0.337	25.3	20.2	45.5	59.3	-13.8
0.469	22.3	20.2	42.5	56.5	-14.0
0.153	29.8	20.3	50.1	65.9	-15.8
2.995	19.9	20.3	40.2	56.0	-15.8
0.589	17.5	20.2	37.7	56.0	-18.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.189	30.7	20.3	51.0	54.1	-3.1
2.995	19.9	20.3	40.2	46.0	-5.8
0.286	23.8	20.2	44.0	50.6	-6.6
0.337	22.3	20.2	42.5	49.3	-6.8
0.153	28.0	20.3	48.3	55.9	-7.6
0.254	22.5	20.2	42.7	51.6	-8.9
0.469	11.9	20.2	32.1	46.5	-14.4
0.589	9.9	20.2	30.1	46.0	-15.9

CONCLUSION

Pass

Trevor Buls

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	3	Line:	Negative Lead	Ext. Attenuation (dB):	20

COMMENTS

None

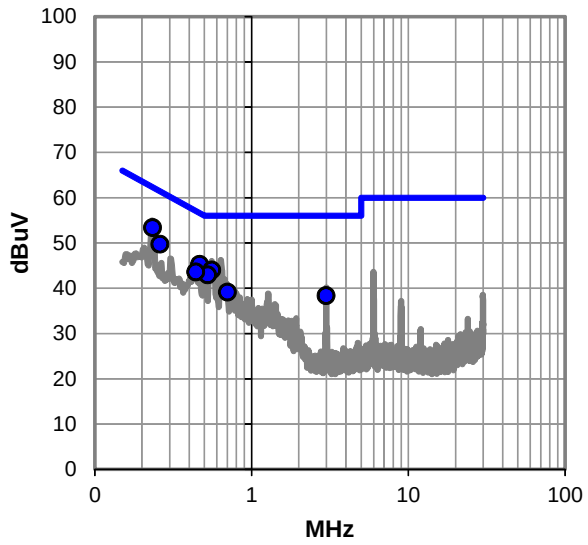
EUT OPERATING MODES

Transmitting 802.11 1 Mbps, Ch 1, 2412 MHz

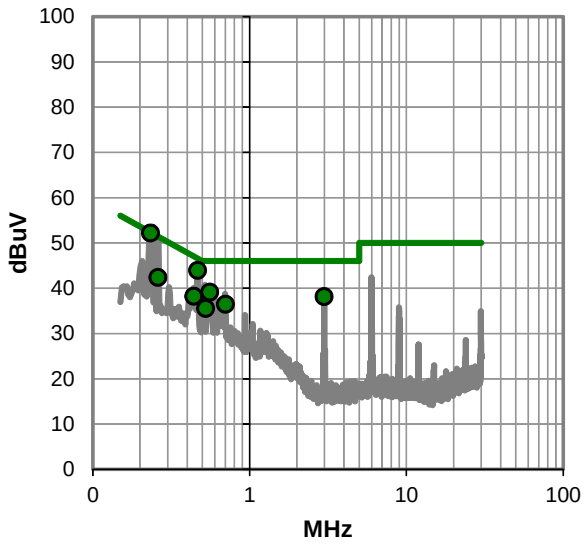
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #3

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.234	33.2	20.2	53.4	62.3	-8.9
0.468	25.1	20.2	45.3	56.6	-11.3
0.261	29.5	20.2	49.7	61.4	-11.7
0.557	23.8	20.2	44.0	56.0	-12.0
0.526	22.7	20.2	42.9	56.0	-13.1
0.441	23.4	20.2	43.6	57.0	-13.4
0.703	18.9	20.2	39.1	56.0	-16.9
2.997	18.0	20.3	38.3	56.0	-17.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.234	32.0	20.2	52.2	52.3	-0.1
0.468	23.7	20.2	43.9	46.6	-2.7
0.557	18.9	20.2	39.1	46.0	-6.9
2.997	17.8	20.3	38.1	46.0	-7.9
0.441	18.0	20.2	38.2	47.0	-8.8
0.261	22.2	20.2	42.4	51.4	-9.0
0.703	16.2	20.2	36.4	46.0	-9.6
0.526	15.3	20.2	35.5	46.0	-10.5

CONCLUSION

Pass

Trevor Buls

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	4	Line:	Negative Lead	Ext. Attenuation (dB):	20

COMMENTS

None

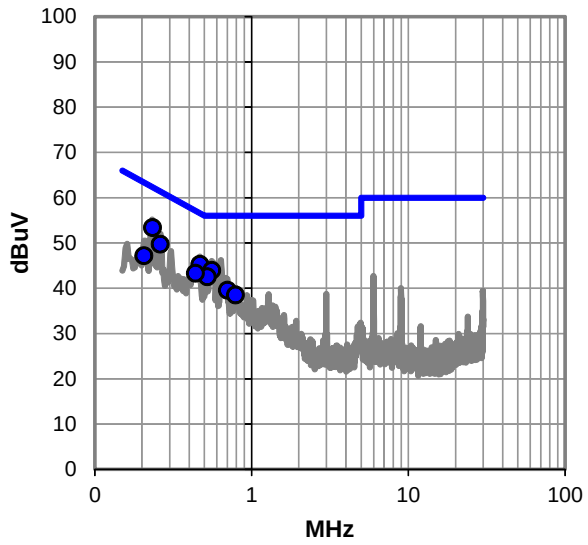
EUT OPERATING MODES

Transmitting 802.11 1 Mbps, Ch 6, 2437 MHz

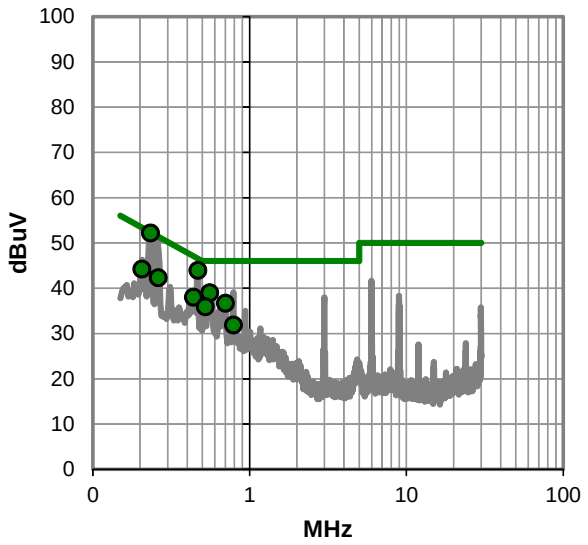
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



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WTD.2013.12.04, PSA-ESCI 2014.06.19, EmiR5 2014.07.09

POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.234	33.2	20.2	53.4	62.3	-8.9
0.468	25.1	20.2	45.3	56.5	-11.2
0.261	29.5	20.2	49.7	61.4	-11.7
0.558	23.7	20.2	43.9	56.0	-12.1
0.524	22.3	20.2	42.5	56.0	-13.5
0.438	23.1	20.2	43.3	57.1	-13.8
0.206	27.0	20.2	47.2	63.4	-16.2
0.702	19.3	20.2	39.5	56.0	-16.5
0.790	18.2	20.3	38.5	56.0	-17.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.234	32.0	20.2	52.2	52.3	-0.1
0.468	23.7	20.2	43.9	46.5	-2.6
0.558	18.8	20.2	39.0	46.0	-7.0
0.261	22.1	20.2	42.3	51.4	-9.1
0.438	17.8	20.2	38.0	47.1	-9.1
0.206	24.0	20.2	44.2	53.4	-9.2
0.702	16.4	20.2	36.6	46.0	-9.4
0.524	15.7	20.2	35.9	46.0	-10.1
0.790	11.6	20.3	31.9	46.0	-14.1

CONCLUSION

Pass

Trevor Buls

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	6	Line:	Positive Lead	Ext. Attenuation (dB):	20

COMMENTS

None

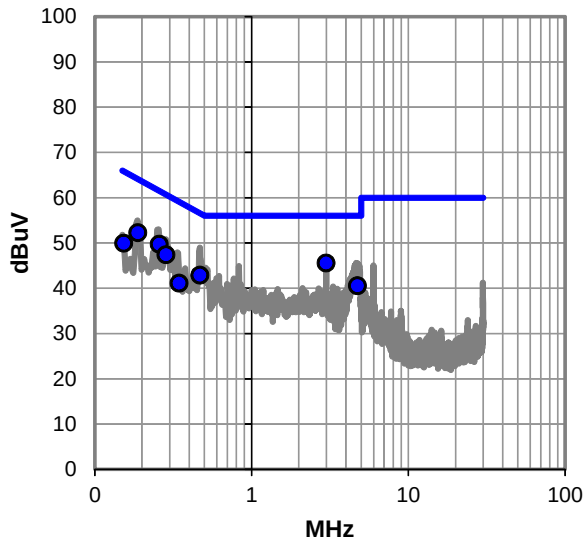
EUT OPERATING MODES

Transmitting 802.11 1 Mbps, Ch 6, 2437 MHz

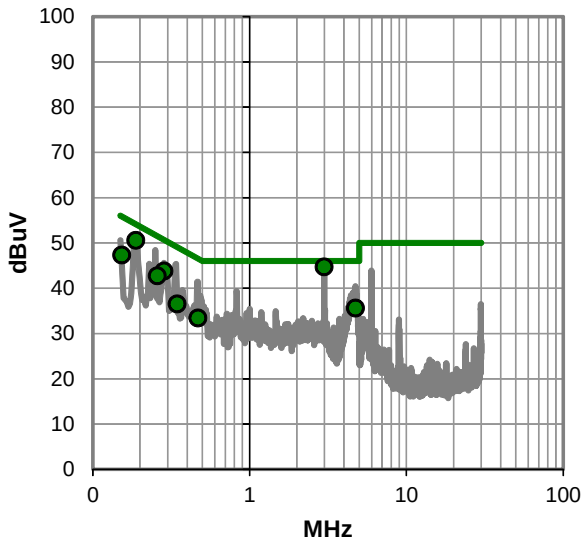
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



NORTHWEST EMC

WTD.2013.12.04, PSA-ESCI 2014.06.19, EmiR5 2014.07.09

POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #6

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
2.995	25.2	20.3	45.5	56.0	-10.5
0.258	29.5	20.2	49.7	61.5	-11.8
0.189	32.0	20.3	52.3	64.1	-11.8
0.284	27.2	20.2	47.4	60.7	-13.3
0.468	22.7	20.2	42.9	56.6	-13.7
4.732	20.1	20.4	40.5	56.0	-15.5
0.153	29.6	20.3	49.9	65.8	-15.9
0.345	20.9	20.2	41.1	59.1	-18.0

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
2.995	24.4	20.3	44.7	46.0	-1.3
0.189	30.3	20.3	50.6	54.1	-3.5
0.284	23.6	20.2	43.8	50.7	-6.9
0.153	27.0	20.3	47.3	55.8	-8.5
0.258	22.5	20.2	42.7	51.5	-8.8
4.732	15.2	20.4	35.6	46.0	-10.4
0.345	16.3	20.2	36.5	49.1	-12.6
0.468	13.2	20.2	33.4	46.6	-13.2

CONCLUSION

Pass

Trevor Buls

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	8	Line:	Positive Lead	Ext. Attenuation (dB):	20

COMMENTS

None

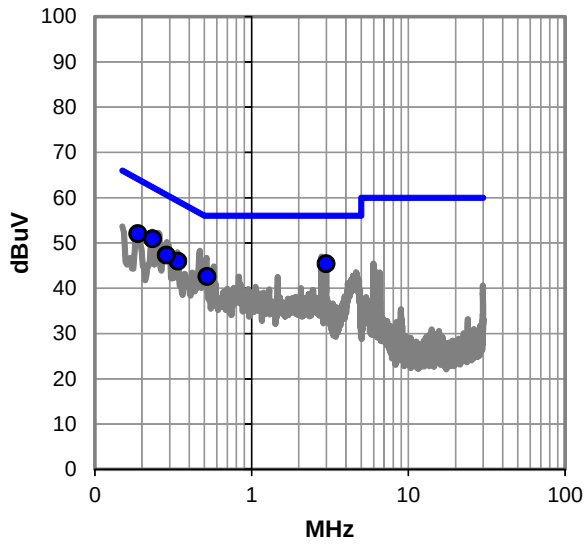
EUT OPERATING MODES

Transmitting 802.11 1 Mbps, Ch 11, 2462 MHz

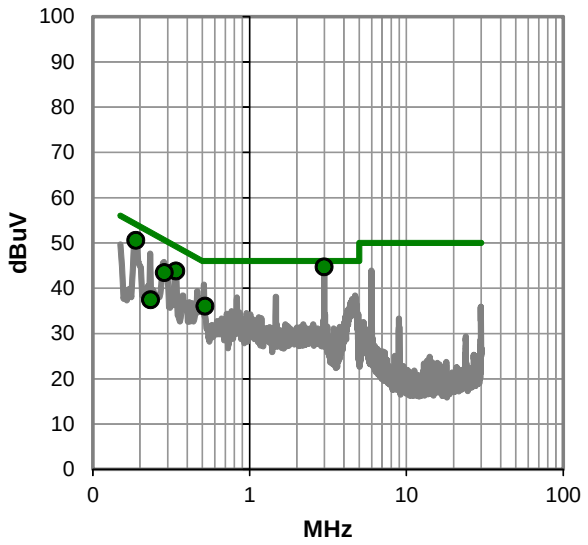
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



NORTHWEST EMC

WTD.2013.12.04, PSA-ESCI 2014.06.19, EmiR5 2014.07.09

POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #8

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
2.996	25.1	20.3	45.4	56.0	-10.6
0.234	30.7	20.2	50.9	62.3	-11.4
0.188	31.8	20.3	52.1	64.1	-12.1
0.339	25.8	20.2	46.0	59.2	-13.2
0.286	27.1	20.2	47.3	60.6	-13.3
0.520	22.4	20.2	42.6	56.0	-13.4

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
2.996	24.4	20.3	44.7	46.0	-1.3
0.188	30.3	20.3	50.6	54.1	-3.6
0.339	23.6	20.2	43.8	49.2	-5.4
0.286	23.2	20.2	43.4	50.6	-7.2
0.520	15.8	20.2	36.0	46.0	-10.0
0.234	17.2	20.2	37.4	52.3	-14.9

CONCLUSION

Pass

Trevor Buls

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	9	Line:	Negative Lead	Ext. Attenuation (dB):	20

COMMENTS

None

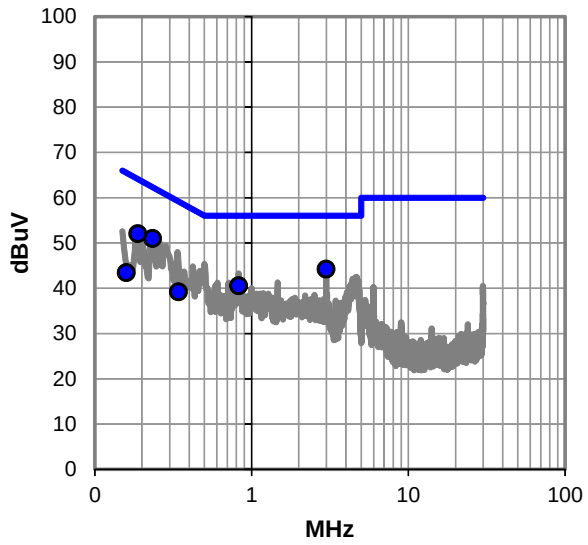
EUT OPERATING MODES

Transmitting 802.11 1 Mbps, Ch 11, 2462 MHz

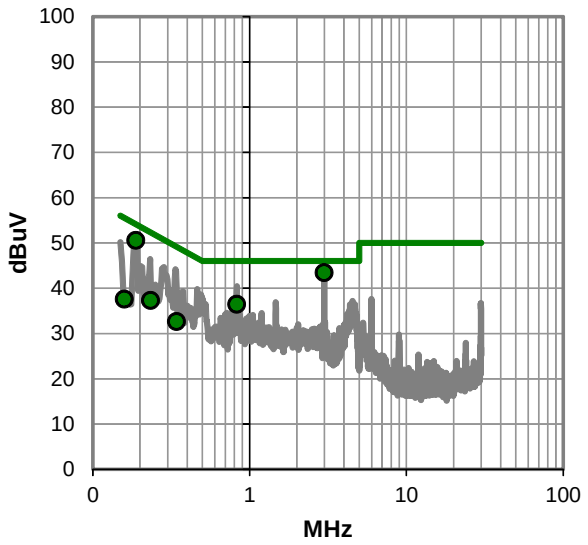
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



NORTHWEST EMC

WTD.2013.12.04, PSA-ESCI 2014.06.19, EmiR5 2014.07.09

POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #9

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.234	30.8	20.2	51.0	62.3	-11.3
2.995	23.9	20.3	44.2	56.0	-11.8
0.188	31.8	20.3	52.1	64.1	-12.0
0.829	20.3	20.3	40.6	56.0	-15.4
0.342	19.0	20.2	39.2	59.2	-20.0
0.159	23.1	20.3	43.4	65.5	-22.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
2.995	23.1	20.3	43.4	46.0	-2.6
0.188	30.3	20.3	50.6	54.1	-3.5
0.829	16.2	20.3	36.5	46.0	-9.5
0.234	17.1	20.2	37.3	52.3	-15.0
0.342	12.4	20.2	32.6	49.2	-16.6
0.159	17.3	20.3	37.6	55.5	-17.9

CONCLUSION

Pass

Trevor Buls

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	10	Line:	Negative Lead	Ext. Attenuation (dB):	20

COMMENTS

None

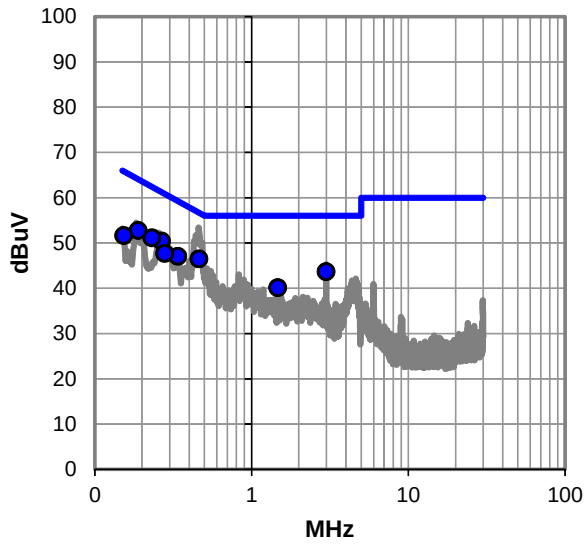
EUT OPERATING MODES

Transmitting 802.11 6 Mbps, Ch 149, 5745 MHz

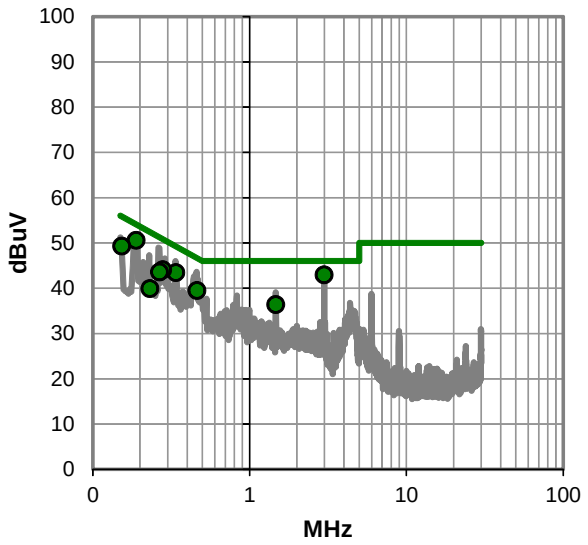
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



NORTHWEST EMC

WTD.2013.12.04, PSA-ESCI 2014.06.19, EmiR5 2014.07.09

POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #10

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.463	26.3	20.2	46.5	56.6	-10.1
0.266	30.2	20.2	50.4	61.2	-10.8
0.231	30.9	20.2	51.1	62.4	-11.3
0.189	32.5	20.3	52.8	64.1	-11.3
0.339	26.8	20.2	47.0	59.2	-12.2
2.996	23.3	20.3	43.6	56.0	-12.4
0.280	27.5	20.2	47.7	60.8	-13.1
0.153	31.3	20.3	51.6	65.8	-14.2
1.469	19.8	20.3	40.1	56.0	-15.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
2.996	22.6	20.3	42.9	46.0	-3.1
0.189	30.3	20.3	50.6	54.1	-3.5
0.339	23.2	20.2	43.4	49.2	-5.8
0.153	29.0	20.3	49.3	55.8	-6.5
0.280	23.9	20.2	44.1	50.8	-6.7
0.463	19.3	20.2	39.5	46.6	-7.1
0.266	23.4	20.2	43.6	51.2	-7.6
1.469	16.1	20.3	36.4	46.0	-9.6
0.231	19.7	20.2	39.9	52.4	-12.5

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	11	Line:	Positive Lead	Ext. Attenuation (dB):	20

COMMENTS

None

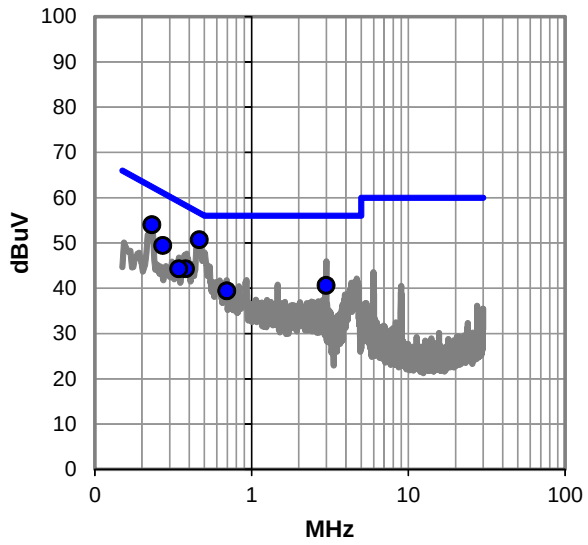
EUT OPERATING MODES

Transmitting 802.11 6 Mbps, Ch 149, 5745 MHz

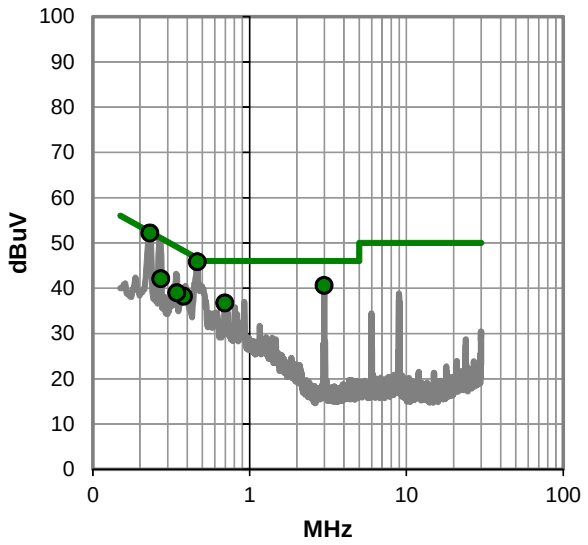
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



NORTHWEST EMC

WTD.2013.12.04, PSA-ESCI 2014.06.19, EmiR5 2014.07.09

POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #11

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.464	30.5	20.2	50.7	56.6	-5.9
0.231	33.8	20.2	54.0	62.4	-8.4
0.271	29.2	20.2	49.4	61.1	-11.7
0.380	24.1	20.2	44.3	58.3	-14.0
0.344	24.1	20.2	44.3	59.1	-14.8
2.997	20.3	20.3	40.6	56.0	-15.4
0.697	19.2	20.2	39.4	56.0	-16.6

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.231	32.0	20.2	52.2	52.4	-0.2
0.464	25.6	20.2	45.8	46.6	-0.8
2.997	20.3	20.3	40.6	46.0	-5.4
0.271	21.9	20.2	42.1	51.1	-9.0
0.697	16.5	20.2	36.7	46.0	-9.3
0.380	18.0	20.2	38.2	48.3	-10.1
0.344	18.8	20.2	39.0	49.1	-10.1

CONCLUSION

Pass

Trevor Buls

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	12	Line:	Positive Lead	Ext. Attenuation (dB):	20

COMMENTS

None

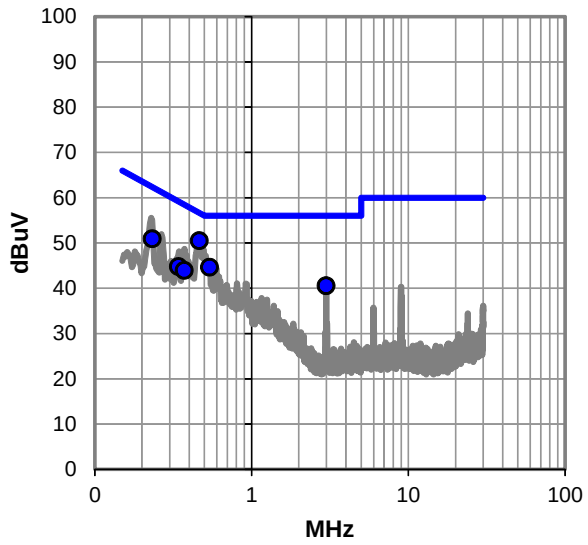
EUT OPERATING MODES

Transmitting 802.11 6 Mbps, Ch 157, 5785 MHz

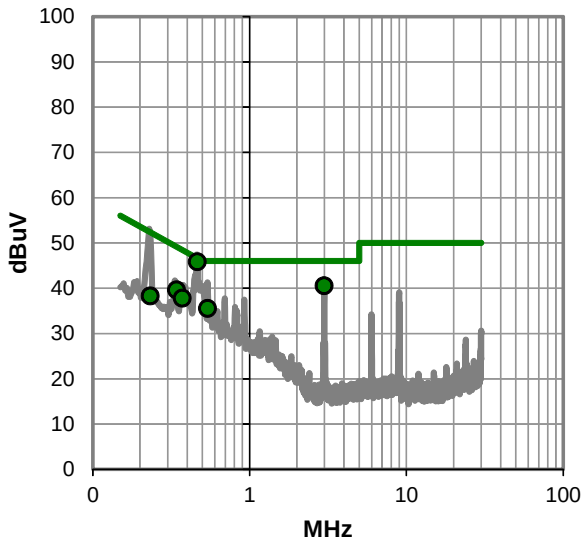
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #12

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.464	30.3	20.2	50.5	56.6	-6.1
0.541	24.4	20.2	44.6	56.0	-11.4
0.233	30.7	20.2	50.9	62.3	-11.4
0.342	24.6	20.2	44.8	59.2	-14.4
0.372	23.7	20.2	43.9	58.5	-14.6
2.997	20.2	20.3	40.5	56.0	-15.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.464	25.6	20.2	45.8	46.6	-0.8
2.997	20.2	20.3	40.5	46.0	-5.5
0.342	19.4	20.2	39.6	49.2	-9.6
0.541	15.3	20.2	35.5	46.0	-10.5
0.372	17.6	20.2	37.8	48.5	-10.7
0.233	18.1	20.2	38.3	52.3	-14.0

CONCLUSION

Pass

Trevor Buls

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	13	Line:	Negative Lead	Ext. Attenuation (dB):	20

COMMENTS

None

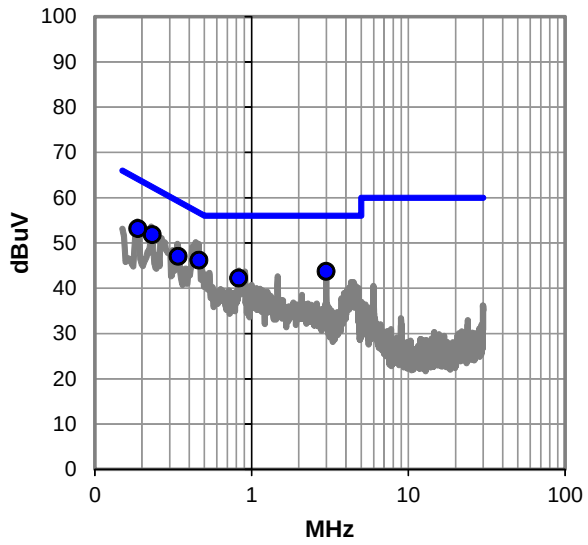
EUT OPERATING MODES

Transmitting 802.11 6 Mbps, Ch 157, 5785 MHz

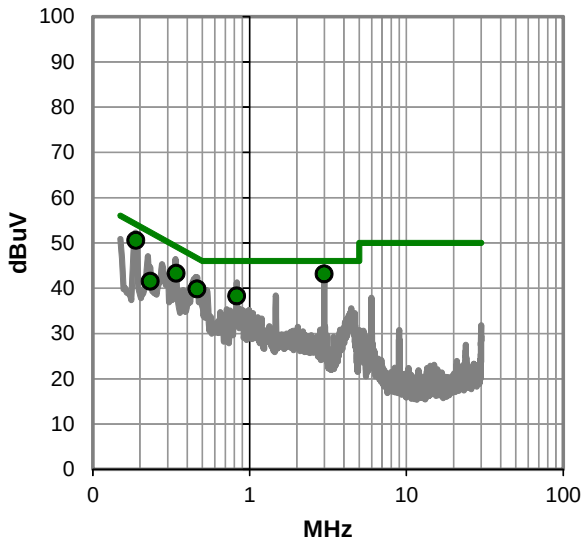
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #13

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.462	26.0	20.2	46.2	56.7	-10.5
0.233	31.6	20.2	51.8	62.4	-10.6
0.188	32.9	20.3	53.2	64.1	-11.0
0.340	26.8	20.2	47.0	59.2	-12.2
2.998	23.4	20.3	43.7	56.0	-12.3
0.829	22.0	20.3	42.3	56.0	-13.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
2.998	22.8	20.3	43.1	46.0	-2.9
0.188	30.3	20.3	50.6	54.1	-3.6
0.340	23.1	20.2	43.3	49.2	-5.9
0.462	19.6	20.2	39.8	46.7	-6.9
0.829	18.0	20.3	38.3	46.0	-7.7
0.233	21.3	20.2	41.5	52.4	-10.9

CONCLUSION

Pass

Trevor Buls

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	14	Line:	Negative Lead	Ext. Attenuation (dB):	20

COMMENTS

None

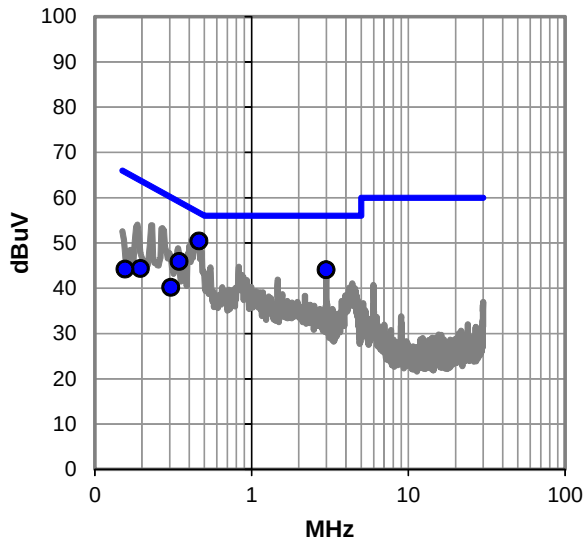
EUT OPERATING MODES

Transmitting 802.11 6 Mbps, Ch 165, 5825 MHz

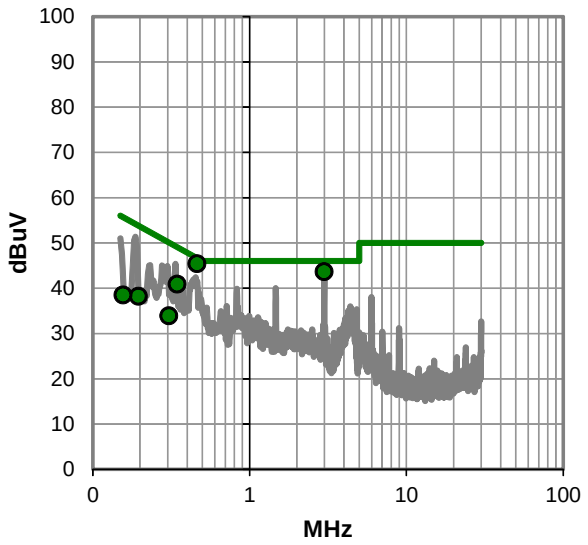
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #14

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.462	30.2	20.2	50.4	56.7	-6.3
2.997	23.7	20.3	44.0	56.0	-12.0
0.345	25.7	20.2	45.9	59.1	-13.2
0.195	24.1	20.2	44.3	63.8	-19.5
0.305	20.0	20.2	40.2	60.1	-19.9
0.156	23.9	20.3	44.2	65.7	-21.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.462	25.2	20.2	45.4	46.7	-1.3
2.997	23.3	20.3	43.6	46.0	-2.4
0.345	20.7	20.2	40.9	49.1	-8.2
0.195	18.0	20.2	38.2	53.8	-15.6
0.305	13.7	20.2	33.9	50.1	-16.2
0.156	18.2	20.3	38.5	55.7	-17.2

CONCLUSION

Pass

Trevor Buls

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	ConnectCore6 (i.MX6)	Work Order:	ETHE0008
Serial Number:	00409D7B8CA2	Date:	08/07/2014
Customer:	Etherios Design Solutions	Temperature:	23.3°C
Attendees:	None	Relative Humidity:	52.7%
Customer Project:	None	Bar. Pressure:	1021.6 mb
Tested By:	Trevor Buls	Job Site:	MN03
Power:	5.0VDC	Configuration:	ETHE0008-2

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	15	Line:	Positive Lead	Ext. Attenuation (dB):	20

COMMENTS

None

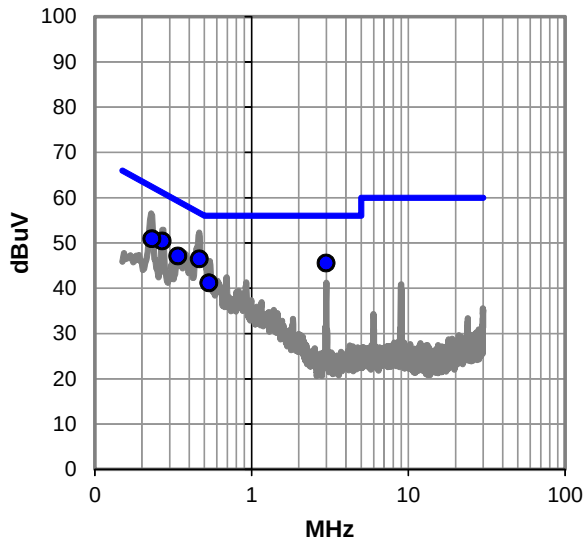
EUT OPERATING MODES

Transmitting 802.11 6 Mbps, Ch 165, 5825 MHz

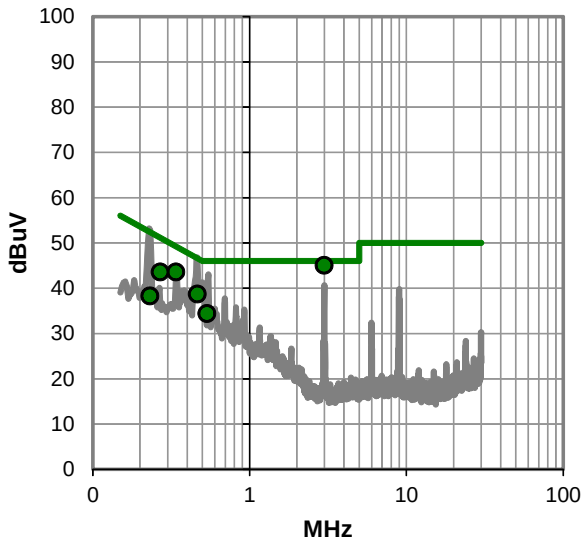
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #15

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.465	26.3	20.2	46.5	56.6	-10.1
2.997	25.2	20.3	45.5	56.0	-10.5
0.269	30.2	20.2	50.4	61.2	-10.8
0.232	30.7	20.2	50.9	62.4	-11.5
0.340	26.9	20.2	47.1	59.2	-12.1
0.536	21.0	20.2	41.2	56.0	-14.8

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
2.997	24.7	20.3	45.0	46.0	-1.0
0.340	23.4	20.2	43.6	49.2	-5.6
0.269	23.4	20.2	43.6	51.2	-7.6
0.465	18.5	20.2	38.7	46.6	-7.9
0.536	14.2	20.2	34.4	46.0	-11.6
0.232	18.1	20.2	38.3	52.4	-14.1

CONCLUSION

Pass

Trevor Buls

Tested By

SPURIOUS RADIATED EMISSIONS - 2.4 GHz

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

Tx, 802.11(b) 1Mbps
Tx, 802.11(b) 11Mbps
Tx, 802.11(g) 6Mbps
Tx, 802.11(g) 36Mbps
Tx, 802.11(g) 54Mbps
Tx, 802.11(n) MCS0
Tx, 802.11(n) MCS7

CHANNELS OF OPERATION

Ch.1 2412MHz
Ch.6 2437MHz
Ch.11 2462MHz

POWER SETTINGS INVESTIGATED

5 VDC

CONFIGURATIONS INVESTIGATED

ETHE0008 - 4

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26 GHz

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Cable	ESM Cable Corp.	KMKM-72	EVY	9/10/2013	12 mo
Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	9/10/2013	12 mo
Antenna, Horn	ETS Lindgren	3160-09	AIV	NCR	0 mo
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	2/18/2014	12 mo
Antenna, Horn	ETS	3160-08	AHV	NCR	0 mo
EV01 Cables	N/A	Standard Gain Horns Cables	EVF	2/18/2014	12 mo
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	2/18/2014	12 mo
Antenna, Horn	ETS	3160-07	AHU	NCR	0 mo
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAG	6/23/2014	12 mo
EV01 Cables	N/A	Double Ridge Horn Cables	EVB	6/23/2014	12 mo
Antenna, Horn	ETS	3115	AIZ	1/24/2014	24 mo
EV01 Cables	N/A	Bilog Cables	EVA	2/18/2014	12 mo
Spectrum Analyzer	Agilent	E4446A	AAQ	1/21/2014	12 mo
Pre-Amplifier	Miteq	AM-1616-1000	AOL	2/18/2014	12 mo
Antenna, Biconilog	EMCO	3141	AXG	4/10/2012	36 mo

MEASUREMENT BANDWIDTHS

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

TEST DESCRIPTION

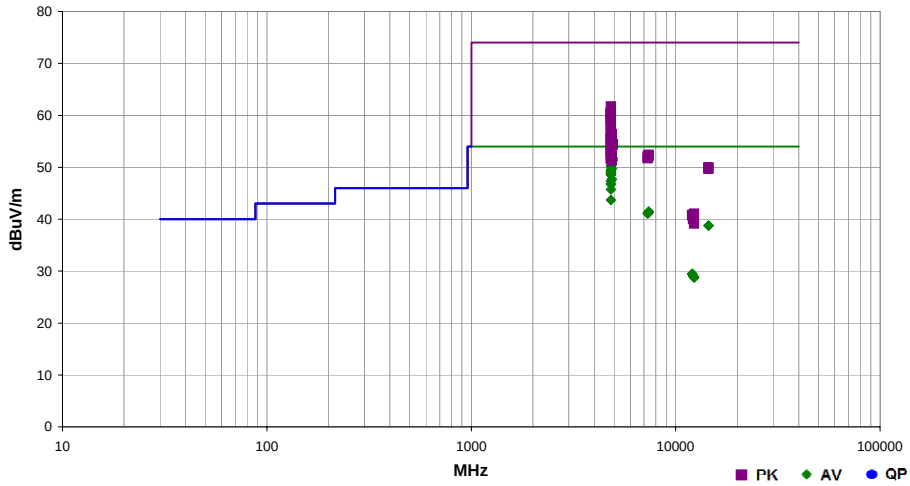
The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization. A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

SPURIOUS RADIATED EMISSIONS - 2.4 GHz

Work Order:	ETHE0008	**Date:**	08/13/14		
Project:	None	**Temperature:**	23.5 °C		
Job Site:	EV01	**Humidity:**	47.1% RH		
Serial Number:	00409D7B8C92	**Barometric Pres.:**	1015 mbar	**Tested by:**	Jared Ison, Brandon Hobbs
EUT:	ConnectCore6 (i.MX6)				
Configuration:	4				
Customer:	Etherios Design Solutions				
Attendees:	None				
EUT Power:	5 VDC				
Operating Mode:	802.11 Continous transmit. Yageo antenna				
Deviations:	None				
Comments:	Reference data comments for channel, frequency, modulation rate, power setting, EUT oreintation and antenna port. A Ethertronics standard dual band WLAN antenna with the highest gain was used.				

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

Run #	19	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4823.962	48.4	4.6	1.2	234.0	3.0	0.0	Vert	AV	0.0	53.0	54.0	-1.0	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
4823.927	48.4	4.6	1.3	128.0	3.0	0.0	Horz	AV	0.0	53.0	54.0	-1.0	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 18, EUT Horizontal
4823.962	48.1	4.6	1.7	86.0	3.0	0.0	Horz	AV	0.0	52.7	54.0	-1.3	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 18, EUT On Side
4873.973	47.6	4.8	1.0	164.0	3.0	0.0	Vert	AV	0.0	52.4	54.0	-1.6	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Vertical
4923.933	46.7	5.0	1.0	163.0	3.0	0.0	Vert	AV	0.0	51.7	54.0	-2.3	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Vertical
4823.930	47.1	4.6	1.4	116.0	3.0	0.0	Horz	AV	0.0	51.7	54.0	-2.3	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4923.917	46.3	5.0	1.0	123.0	3.0	0.0	Horz	AV	0.0	51.3	54.0	-2.7	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Horz
4824.067	46.4	4.6	1.4	116.0	3.0	0.0	Horz	AV	0.0	51.0	54.0	-3.0	Tx 802.11(b) 11Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4824.088	45.6	4.6	1.2	234.0	3.0	0.0	Vert	AV	0.0	50.2	54.0	-3.8	Tx 802.11(b) 11Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
4823.962	45.6	4.6	1.2	334.0	3.0	0.0	Vert	AV	0.0	50.2	54.0	-3.8	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 2, txpwr 15, EUT Vertical
4873.960	44.9	4.8	1.0	164.0	3.0	0.0	Vert	AV	0.0	49.7	54.0	-4.3	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 15, EUT Vertical
4824.053	44.9	4.6	1.0	165.0	3.0	0.0	Vert	AV	0.0	49.5	54.0	-4.5	Tx 802.11(g) 54Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vert
4823.953	44.8	4.6	2.9	25.0	3.0	0.0	Vert	AV	0.0	49.4	54.0	-4.6	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 18, EUT Horizontal
4823.802	44.6	4.6	2.9	44.0	3.0	0.0	Vert	AV	0.0	49.2	54.0	-4.8	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 18, EUT On Side
4824.297	44.5	4.6	1.4	116.0	3.0	0.0	Horz	AV	0.0	49.1	54.0	-4.9	Tx 802.11(g) 36Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4824.090	44.3	4.6	1.4	116.0	3.0	0.0	Horz	AV	0.0	48.9	54.0	-5.1	Tx 802.11(g) 6Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4823.780	44.2	4.6	1.4	116.0	3.0	0.0	Horz	AV	0.0	48.8	54.0	-5.2	Tx 802.11(g) 54Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4824.430	44.1	4.6	1.2	234.0	3.0	0.0	Vert	AV	0.0	48.7	54.0	-5.3	Tx 802.11(g) 36Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
4823.890	43.9	4.6	1.0	165.0	3.0	0.0	Vert	AV	0.0	48.5	54.0	-5.5	Tx 802.11(n) MCS0 Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vert
4873.958	42.9	4.8	1.0	274.0	3.0	0.0	Horz	AV	0.0	47.7	54.0	-6.3	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Horz
4823.942	42.8	4.6	1.9	253.0	3.0	0.0	Horz	AV	0.0	47.4	54.0	-6.6	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 18, EUT Vertical
4824.137	42.2	4.6	1.2	234.0	3.0	0.0	Vert	AV	0.0	46.8	54.0	-7.2	Tx 802.11(g) 6Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
4823.903	42.1	4.6	1.4	116.0	3.0	0.0	Horz	AV	0.0	46.7	54.0	-7.3	Tx 802.11(n) MCS0 Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4823.943	41.1	4.6	1.0	165.0	3.0	0.0	Vert	AV	0.0	45.7	54.0	-8.3	Tx 802.11(n) MCS7 Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vert
4823.803	39.1	4.6	1.4	116.0	3.0	0.0	Horz	AV	0.0	43.7	54.0	-10.3	Tx 802.11(n) MCS7 Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4823.123	57.1	4.6	1.0	165.0	3.0	0.0	Vert	PK	0.0	61.7	74.0	-12.3	Tx 802.11(n) MCS0 Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vert
7385.387	27.8	13.7	1.9	1.0	3.0	0.0	Horz	AV	0.0	41.5	54.0	-12.5	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Horz
7385.243	27.6	13.7	1.0	71.0	3.0	0.0	Vert	AV	0.0	41.3	54.0	-12.7	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Vertical
7310.680	28.0	13.1	1.0	314.0	3.0	0.0	Horz	AV	0.0	41.1	54.0	-12.9	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Horz
7310.510	28.0	13.1	1.2	67.0	3.0	0.0	Vert	AV	0.0	41.1	54.0	-12.9	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Vertical
4824.110	56.0	4.6	1.4	116.0	3.0	0.0	Horz	PK	0.0	60.6	74.0	-13.4	Tx 802.11(g) 6Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4823.290	55.8	4.6	1.4	116.0	3.0	0.0	Horz	PK	0.0	60.4	74.0	-13.6	Tx 802.11(g) 36Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4824.563	55.7	4.6	1.0	165.0	3.0	0.0	Vert	PK	0.0	60.3	74.0	-13.7	Tx 802.11(g) 54Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vert
4824.043	55.5	4.6	1.4	116.0	3.0	0.0	Horz	PK	0.0	60.1	74.0	-13.9	Tx 802.11(g) 54Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4823.960	55.3	4.6	1.2	234.0	3.0	0.0	Vert	PK	0.0	59.9	74.0	-14.1	Tx 802.11(g) 36Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
4824.273	54.6	4.6	1.4	116.0	3.0	0.0	Horz	PK	0.0	59.2	74.0	-14.8	Tx 802.11(n) MCS0 Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4824.473	54.4	4.6	1.2	234.0	3.0	0.0	Vert	PK	0.0	59.0	74.0	-15.0	Tx 802.11(g) 6Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
4823.932	54.2	4.6	1.2	234.0	3.0	0.0	Vert	PK	0.0	58.8	74.0	-15.2	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 17, EUT Vertical
14471.690	27.8	11.0	1.0	1.0	3.0	0.0	Horz	AV	0.0	38.8	54.0	-15.2	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horizontal
14471.280	27.8	11.0	1.0	94.0	3.0	0.0	Vert	AV	0.0	38.8	54.0	-15.2	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
4824.000	53.3	4.6	1.2	234.0	3.0	0.0	Vert	PK	0.0	57.9	74.0	-16.1	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 18, EUT Vertical
4823.417	52.7	4.6	1.0	165.0	3.0	0.0	Vert	PK	0.0	57.3	74.0	-16.7	Tx 802.11(n) MCS7 Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vert
4823.897	52.1	4.6	1.2	234.0	3.0	0.0	Vert	PK	0.0	56.7	74.0	-17.3	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 16, EUT Vertical
4873.853	51.6	4.8	1.0	164.0	3.0	0.0	Vert	PK	0.0	56.4	74.0	-17.6	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 18, EUT Vertical
4873.953	51.5	4.8	1.0	164.0	3.0	0.0	Vert	PK	0.0	56.3	74.0	-17.7	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 17, EUT Vertical
4823.007	51.0	4.6	1.4	116.0	3.0	0.0	Horz	PK	0.0	55.6	74.0	-18.4	Tx 802.11(n) MCS7 Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4823.998	50.9	4.6	1.3	128.0	3.0	0.0	Horz	PK	0.0	55.5	74.0	-18.5	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 18, EUT Horizontal
4823.972	50.9	4.6	1.2	234.0	3.0	0.0	Vert	PK	0.0	55.5	74.0	-18.5	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
4823.887	50.4	4.6	1.7	86.0	3.0	0.0	Horz	PK	0.0	55.0	74.0	-19.0	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 18, EUT On Side
4874.010	50.0	4.8	1.0	164.0	3.0	0.0	Vert	PK	0.0	54.8	74.0	-19.2	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Vertical
4924.027	49.4	5.0	1.0	163.0	3.0	0.0	Vert	PK	0.0	54.4	74.0	-19.6	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Vertical
4924.097	49.3	5.0	1.0	123.0	3.0	0.0	Horz	PK	0.0	54.3	74.0	-19.7	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Horz

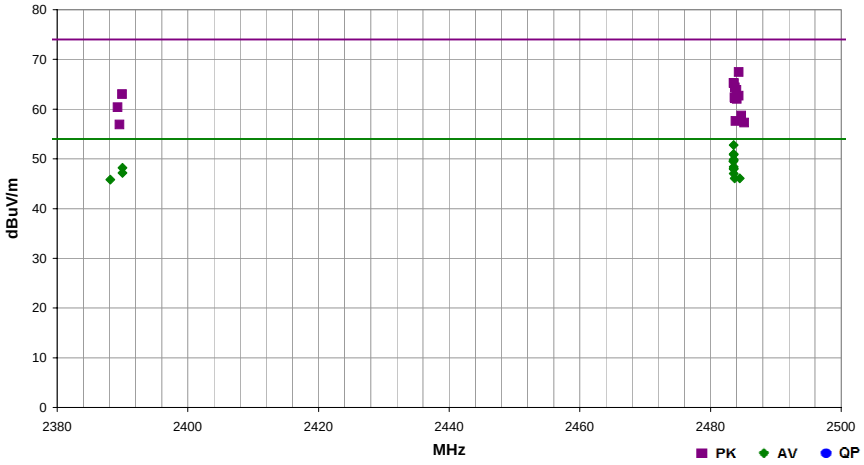
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4823.857	49.7	4.6	1.4	116.0	3.0	0.0	Horz	PK	0.0	54.3	74.0	-19.7	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4823.960	48.9	4.6	1.4	116.0	3.0	0.0	Horz	PK	0.0	53.5	74.0	-20.5	Tx 802.11(b) 11Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
4824.013	48.8	4.6	1.2	334.0	3.0	0.0	Vert	PK	0.0	53.4	74.0	-20.6	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 2, txpwr 15, EUT Vertical
4823.965	48.3	4.6	1.2	234.0	3.0	0.0	Vert	PK	0.0	52.9	74.0	-21.1	Tx 802.11(b) 11Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
4824.013	48.1	4.6	2.9	25.0	3.0	0.0	Vert	PK	0.0	52.7	74.0	-21.3	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 18, EUT Horizontal
4873.800	47.9	4.8	1.0	164.0	3.0	0.0	Vert	PK	0.0	52.7	74.0	-21.3	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 15, EUT Vertical
7385.417	38.7	13.7	1.9	1.0	3.0	0.0	Horz	PK	0.0	52.4	74.0	-21.6	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Horz
7385.567	38.5	13.7	1.0	71.0	3.0	0.0	Vert	PK	0.0	52.2	74.0	-21.8	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Vertical
7310.150	39.0	13.1	1.2	67.0	3.0	0.0	Vert	PK	0.0	52.1	74.0	-21.9	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Vertical
4823.957	47.2	4.6	2.9	44.0	3.0	0.0	Vert	PK	0.0	51.8	74.0	-22.2	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 18, EUT On Side
7310.207	38.6	13.1	1.0	314.0	3.0	0.0	Horz	PK	0.0	51.7	74.0	-22.3	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Horz
4823.998	47.0	4.6	1.9	253.0	3.0	0.0	Horz	PK	0.0	51.6	74.0	-22.4	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 18, EUT Vertical
4873.842	46.5	4.8	1.0	274.0	3.0	0.0	Horz	PK	0.0	51.3	74.0	-22.7	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Horz
14473.450	39.0	11.0	1.0	1.0	3.0	0.0	Horz	PK	0.0	50.0	74.0	-24.0	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horizontal
14470.510	38.7	11.0	1.0	94.0	3.0	0.0	Vert	PK	0.0	49.7	74.0	-24.3	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
12058.570	31.4	-1.9	1.0	156.0	3.0	0.0	Vert	AV	0.0	29.5	54.0	-24.5	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
12058.880	31.3	-1.9	1.0	131.0	3.0	0.0	Horz	AV	0.0	29.4	54.0	-24.6	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
12185.040	30.2	-1.2	2.0	119.0	3.0	0.0	Horz	AV	0.0	29.0	54.0	-25.0	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Horz
12185.020	30.2	-1.2	1.0	64.0	3.0	0.0	Vert	AV	0.0	29.0	54.0	-25.0	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Vertical
12308.790	29.6	-0.8	1.0	134.0	3.0	0.0	Horz	AV	0.0	28.8	54.0	-25.2	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Horz
12310.150	29.6	-0.8	1.0	1.0	3.0	0.0	Vert	AV	0.0	28.8	54.0	-25.2	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Vertical
12308.600	41.9	-0.8	1.0	134.0	3.0	0.0	Horz	PK	0.0	41.1	74.0	-32.9	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Horz
12060.190	42.7	-1.9	1.0	131.0	3.0	0.0	Horz	PK	0.0	40.8	74.0	-33.2	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Horz
12061.120	42.6	-1.9	1.0	156.0	3.0	0.0	Vert	PK	0.0	40.7	74.0	-33.3	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT Vertical
12186.770	41.2	-1.2	1.0	64.0	3.0	0.0	Vert	PK	0.0	40.0	74.0	-34.0	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Vertical
12183.170	41.2	-1.2	2.0	119.0	3.0	0.0	Horz	PK	0.0	40.0	74.0	-34.0	Tx 802.11(b) 1Mbps Mid Channel 2437MHz, Antenna Port 1, txpwr 16, EUT Horz
12308.280	40.0	-0.8	1.0	1.0	3.0	0.0	Vert	PK	0.0	39.2	74.0	-34.8	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Vertical

SPURIOUS RADIATED EMISSIONS - 2.4 GHz

Work Order:	ETHE0008	**Date:**	08/13/14		
Project:	None	**Temperature:**	23.5 °C		
Job Site:	EV01	**Humidity:**	47.1% RH		
Serial Number:	00409D7B8C92	**Barometric Pres.:**	1015 mbar	**Tested by:**	Jared Ison, Brandon Hobbs
EUT:	ConnectCore6 (i.MX6)				
Configuration:	4				
Customer:	Etherios Design Solutions				
Attendees:	None				
EUT Power:	5 VDC				
Operating Mode:	802.11 Continous transmit.				
Deviations:	None				
Comments:	Reference data comments for channel, frequency, modulation rate, power setting, EUT oreintation and antenna port. A Ethertronics standard dual band WLAN antenna with the highest gain was used.				

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

Run #	20	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.537	38.2	-5.4	1.0	313.0	3.0	20.0	Horz	AV	0.0	52.8	54.0	-1.2	Tx 802.11(n) MCS0 High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2483.537	36.4	-5.4	1.0	302.0	3.0	20.0	Horz	AV	0.0	51.0	54.0	-3.0	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2483.527	36.3	-5.4	1.0	294.0	3.0	20.0	Horz	AV	0.0	50.9	54.0	-3.1	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Horizontal
2483.563	35.3	-5.4	1.0	313.0	3.0	20.0	Horz	AV	0.0	49.9	54.0	-4.1	Tx 802.11(b) 36Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2483.523	35.1	-5.4	1.0	167.0	3.0	20.0	Vert	AV	0.0	49.7	54.0	-4.3	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Vertical
2483.500	34.9	-5.4	1.0	248.0	3.0	20.0	Horz	AV	0.0	49.5	54.0	-4.5	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Vertical
2483.527	33.8	-5.4	1.0	81.0	3.0	20.0	Vert	AV	0.0	48.4	54.0	-5.6	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2389.990	33.9	-5.7	1.0	6.0	3.0	20.0	Horz	AV	0.0	48.2	54.0	-5.8	Tx 802.11(n) MCS0 Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT On Side
2483.563	33.5	-5.4	1.7	117.0	3.0	20.0	Vert	AV	0.0	48.1	54.0	-5.9	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Horizontal
2483.540	33.4	-5.4	1.0	313.0	3.0	20.0	Horz	AV	0.0	48.0	54.0	-6.0	Tx 802.11(b) 54Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2484.310	52.9	-5.4	1.0	313.0	3.0	20.0	Horz	PK	0.0	67.5	74.0	-6.5	Tx 802.11(n) MCS0 High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2389.997	32.9	-5.7	1.0	6.0	3.0	20.0	Horz	AV	0.0	47.2	54.0	-6.8	Tx 802.11(g) 6Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT On Side
2483.523	32.5	-5.4	1.0	313.0	3.0	20.0	Horz	AV	0.0	47.1	54.0	-6.9	Tx 802.11(n) MCS7 High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2484.463	31.5	-5.4	1.0	3.0	3.0	20.0	Horz	AV	0.0	46.1	54.0	-7.9	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2483.703	31.5	-5.4	1.0	302.0	3.0	20.0	Horz	AV	0.0	46.1	54.0	-7.9	Tx 802.11(b) 11Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2388.140	31.5	-5.7	1.0	6.0	3.0	20.0	Horz	AV	0.0	45.8	54.0	-8.2	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT On Side
2483.537	50.7	-5.4	1.0	313.0	3.0	20.0	Horz	PK	0.0	65.3	74.0	-8.7	Tx 802.11(b) 36Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2483.577	50.6	-5.4	1.0	294.0	3.0	20.0	Horz	PK	0.0	65.2	74.0	-8.8	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Horizontal
2483.737	49.8	-5.4	1.0	302.0	3.0	20.0	Horz	PK	0.0	64.4	74.0	-9.6	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2483.987	49.3	-5.4	1.0	167.0	3.0	20.0	Vert	PK	0.0	63.9	74.0	-10.1	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Vertical
2389.920	48.7	-5.7	1.0	6.0	3.0	20.0	Horz	PK	0.0	63.0	74.0	-11.0	Tx 802.11(n) MCS0 Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT On Side
2484.323	48.1	-5.4	1.0	248.0	3.0	20.0	Horz	PK	0.0	62.7	74.0	-11.3	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Vertical
2483.670	47.8	-5.4	1.7	117.0	3.0	20.0	Vert	PK	0.0	62.4	74.0	-11.6	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT Horizontal
2483.740	47.6	-5.4	1.0	81.0	3.0	20.0	Vert	PK	0.0	62.2	74.0	-11.8	Tx 802.11(g) 6Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2484.050	47.5	-5.4	1.0	313.0	3.0	20.0	Horz	PK	0.0	62.1	74.0	-11.9	Tx 802.11(b) 54Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2389.280	46.1	-5.7	1.0	6.0	3.0	20.0	Horz	PK	0.0	60.4	74.0	-13.6	Tx 802.11(g) 6Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT On Side
2484.700	44.1	-5.4	1.0	313.0	3.0	20.0	Horz	PK	0.0	58.7	74.0	-15.3	Tx 802.11(n) MCS7 High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2483.833	43.0	-5.4	1.0	302.0	3.0	20.0	Horz	PK	0.0	57.6	74.0	-16.4	Tx 802.11(b) 11Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2485.163	42.7	-5.4	1.0	3.0	3.0	20.0	Horz	PK	0.0	57.3	74.0	-16.7	Tx 802.11(b) 1Mbps High Channel 2462MHz, Antenna Port 1, txpwr 18, EUT On Side
2389.573	42.6	-5.7	1.0	6.0	3.0	20.0	Horz	PK	0.0	56.9	74.0	-17.1	Tx 802.11(b) 1Mbps Low Channel 2412MHz, Antenna Port 1, txpwr 15, EUT On Side

SPURIOUS RADIATED EMISSIONS - 5 GHz

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

Tx 802.11(a) 6Mbps

MODES OF OPERATION

Ch.149 5745MHz
Ch.157 5785MHz
Ch.165 5825MHz

POWER SETTINGS INVESTIGATED

5 VDC

CONFIGURATIONS INVESTIGATED

ETHE0008 - 4

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	40 GHz

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
DC Power Supply	Topward	TPS-2000	TPD	NCR	0 mo
5.725-5.875 Notch Filter	Micro-Tronics	BRC50705	HGJ	2/18/2014	24 mo
LP Filter	Micro-Tronics	LPM50004	LFD	6/18/2014	24 mo
EV Cable	ESM Cable Corp.	KMKM-72	EWB	6/25/2014	12 mo
Pre-Amplifier	Miteq	JSW45-26004000-40-5P	PAE	6/25/2014	12 mo
Antenna, Horn	ETS Lindgren	3160-10	AIW	NCR	0 mo
Cable	ESM Cable Corp.	KMKM-72	EVY	9/10/2013	12 mo
Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	9/10/2013	12 mo
Antenna, Horn	ETS Lindgren	3160-09	AIV	NCR	0 mo
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	2/18/2014	12 mo
Antenna, Horn	ETS	3160-08	AHV	NCR	0 mo
EV01 Cables	N/A	Standard Gain Horns Cables	EVF	2/18/2014	12 mo
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	2/18/2014	12 mo
Antenna, Horn	ETS	3160-07	AHU	NCR	0 mo
EV01 Cables	N/A	Double Ridge Horn Cables	EVB	6/23/2014	12 mo
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAG	6/23/2014	12 mo
Antenna, Horn	ETS	3115	AIZ	1/24/2014	24 mo
EV01 Cables	N/A	Bilog Cables	EVA	2/18/2014	12 mo
Pre-Amplifier	Miteq	AM-1616-1000	AOL	2/18/2014	12 mo
Antenna, Biconilog	EMCO	3141	AXG	4/10/2012	36 mo
Spectrum Analyzer	Agilent	E4446A	AAQ	1/21/2014	12 mo

TEST DESCRIPTION

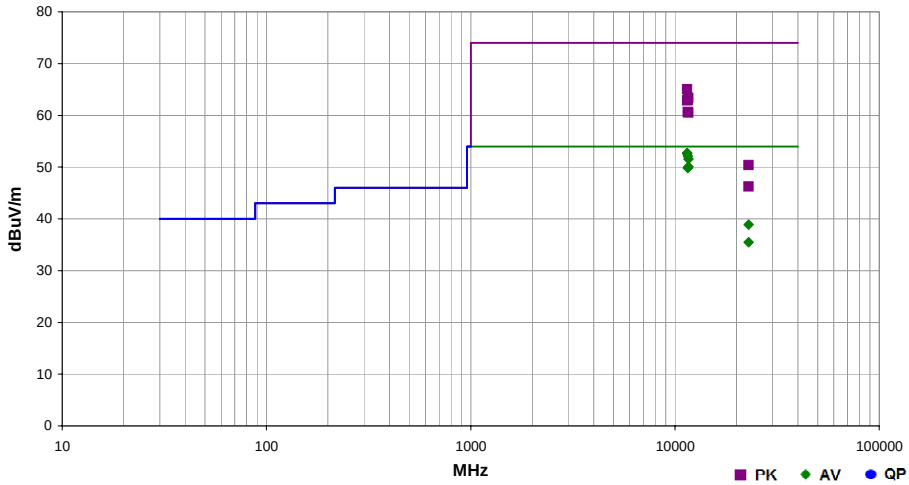
The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization. A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

SPURIOUS RADIATED EMISSIONS - 5 GHz

Work Order:	ETHE0008	**Date:**	08/19/14		
Project:	None	**Temperature:**	24.1 °C		
Job Site:	EV01	**Humidity:**	46.2% RH		
Serial Number:	00409D7B8C92	**Barometric Pres.:**	1010.4 mbar	**Tested by:**	Brandon Hobbs
EUT:	ConnectCore6 (i.MX6)				
Configuration:	4				
Customer:	Etherios Design Solutions				
Attendees:	None				
EUT Power:	5 VDC				
Operating Mode:	Continuous Tx 802.11				
Deviations:	None				
Comments:	Please reference data comments for EUT orientation, frequency, modulation, tx power and antenna port. A Ethertronics standard dual band WLAN antenna with the highest gain was used.				

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

Run #	89	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
11490.120	56.8	-4.1	1.0	313.0	3.0	0.0	Vert	AV	0.0	52.7	54.0	-1.3	Tx 802.11(a) 6Mbps, 5745MHz, Antenna Port 1, txpwr 18, EUT On Side (10Hz)
11490.000	56.7	-4.1	1.1	271.0	3.0	0.0	Horz	AV	0.0	52.6	54.0	-1.4	Tx 802.11(a) 6Mbps, 5745MHz, Antenna Port 1, txpwr 18, EUT On Side
11570.060	55.8	-3.7	1.1	270.0	3.0	0.0	Horz	AV	0.0	52.1	54.0	-1.9	Tx 802.11(a) 6Mbps, 5785MHz, Antenna Port 1, txpwr 18, EUT On Side
11649.940	54.9	-3.3	1.0	311.0	3.0	0.0	Vert	AV	0.0	51.6	54.0	-2.4	Tx 802.11(a) 6Mbps, 5825MHz, Antenna Port 1, txpwr 18, EUT On Side
11650.000	53.4	-3.3	1.1	271.0	3.0	0.0	Horz	AV	0.0	50.1	54.0	-3.9	Tx 802.11(a) 6Mbps, 5825MHz, Antenna Port 1, txpwr 18, EUT On Side
11570.290	53.5	-3.7	1.0	308.0	3.0	0.0	Vert	AV	0.0	49.8	54.0	-4.2	Tx 802.11(a) 6Mbps, 5785MHz, Antenna Port 1, txpwr 18, EUT On Side
11490.000	69.1	-4.1	1.0	313.0	3.0	0.0	Vert	PK	0.0	65.0	74.0	-9.0	Tx 802.11(a) 6Mbps, 5745MHz, Antenna Port 1, txpwr 18, EUT On Side
11651.630	66.7	-3.3	1.0	311.0	3.0	0.0	Vert	PK	0.0	63.4	74.0	-10.6	Tx 802.11(a) 6Mbps, 5825MHz, Antenna Port 1, txpwr 18, EUT On Side
11572.220	66.6	-3.7	1.1	270.0	3.0	0.0	Horz	PK	0.0	62.9	74.0	-11.1	Tx 802.11(a) 6Mbps, 5785MHz, Antenna Port 1, txpwr 18, EUT On Side
11486.210	67.0	-4.1	1.1	271.0	3.0	0.0	Horz	PK	0.0	62.9	74.0	-11.1	Tx 802.11(a) 6Mbps, 5745MHz, Antenna Port 1, txpwr 18, EUT On Side
11572.160	64.3	-3.7	1.0	308.0	3.0	0.0	Vert	PK	0.0	60.6	74.0	-13.4	Tx 802.11(a) 6Mbps, 5785MHz, Antenna Port 1, txpwr 18, EUT On Side
11644.980	63.9	-3.4	1.1	271.0	3.0	0.0	Horz	PK	0.0	60.5	74.0	-13.5	Tx 802.11(a) 6Mbps, 5825MHz, Antenna Port 1, txpwr 18, EUT On Side
22979.820	38.5	0.4	1.2	229.0	3.0	0.0	Vert	AV	0.0	38.9	54.0	-15.1	Tx 802.11(a) 6Mbps, 5745MHz, Antenna Port 1, txpwr 18, EUT On Side
22971.250	35.1	0.4	1.2	3.0	3.0	0.0	Horz	AV	0.0	35.5	54.0	-18.5	Tx 802.11(a) 6Mbps, 5745MHz, Antenna Port 1, txpwr 18, EUT On Side
22980.350	50.0	0.4	1.2	229.0	3.0	0.0	Vert	PK	0.0	50.4	74.0	-23.6	Tx 802.11(a) 6Mbps, 5745MHz, Antenna Port 1, txpwr 18, EUT On Side
22979.530	45.9	0.4	1.2	3.0	3.0	0.0	Horz	PK	0.0	46.3	74.0	-27.7	Tx 802.11(a) 6Mbps, 5745MHz, Antenna Port 1, txpwr 18, EUT On Side

SPURIOUS RADIATED EMISSIONS

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

MODES OF OPERATION

Transmitting 802.11 with 1, 6, 11, 36, 54 Mbps, MCS0 and MCS7 at 2412 MHz, 2437 MHz, 2462 MHz. See additional comments below.

POWER SETTINGS INVESTIGATED

5VDC

CONFIGURATIONS INVESTIGATED

ETHE0011-1

FREQUENCY RANGE INVESTIGATED

Start Frequency	1000 MHz	Stop Frequency	18000 MHz

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
High Pass Filter	Micro-Tronics	HPM50111	HGQ	5/15/2014	24 mo
Attenuator, 20 dB, 'SMA'	SM Electronics	SA6-20	REO	5/15/2014	12 mo
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	3/14/2014	12 mo
Antenna, Horn	ETS Lindgren	3160-08	AIQ	NCR	0 mo
MN05 Cables	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	3/14/2014	12 mo
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	3/14/2014	12 mo
Antenna, Horn	ETS	3160-07	AXP	NCR	0 mo
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	3/14/2014	12 mo
MN05 Cables	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	3/14/2014	12 mo
Antenna, Horn	ETS	3115	AJA	6/3/2014	24 mo
Spectrum Analyzer	Agilent	N9010A	AFI	1/27/2013	24 mo

MEASUREMENT BANDWIDTHS

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

TEST DESCRIPTION

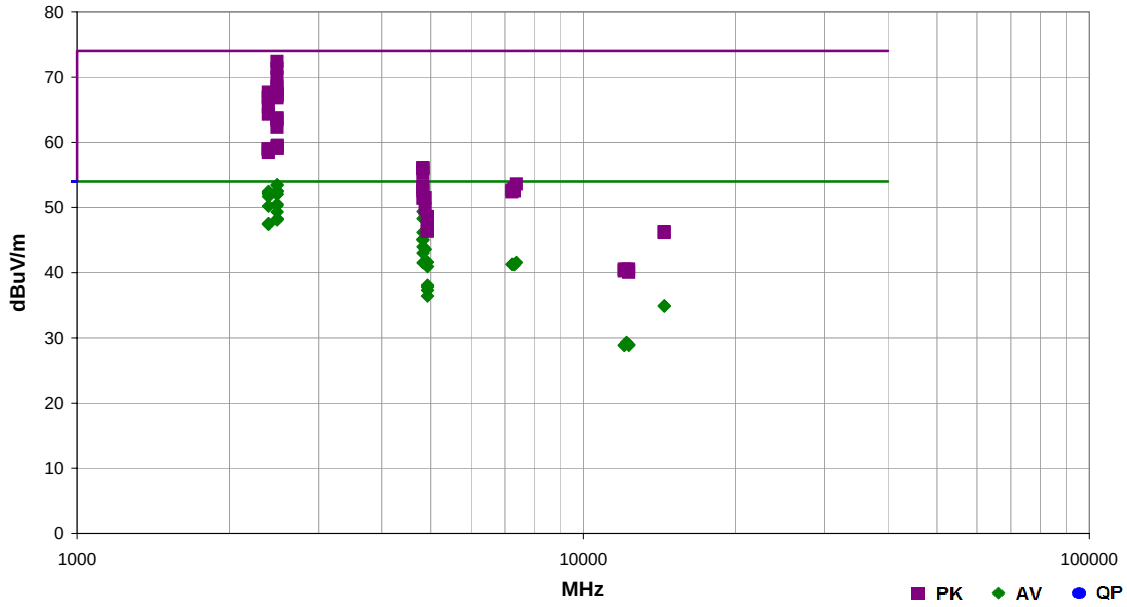
The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured in the modes listed in the datasheet. For each configuration, the spectrum was scanned throughout the specified range. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.10:2009). A preamp was used for this test in order to provide sufficient measurement sensitivity.

SPURIOUS RADIATED EMISSIONS

Work Order:	ETHE0011	**Date:**	09/09/14	Trevor Buls	
Project:	None	**Temperature:**	22.3 °C		
Job Site:	MN05	**Humidity:**	55.8% RH		
Serial Number:	00409D7B8CA2	**Barometric Pres.:**	1013.1 mbar	**Tested by:**	Trevor Buls, Dustin Sparks
EUT:	ConnectCore6 (i.MX6)				
Configuration:	1				
Customer:	Etherios Design Solutions				
Attendees:	None				
EUT Power:	5VDC				
Operating Mode:	Transmitting 802.11 with 1, 6, 11, 36, 54 Mbps, MCS0 and MCS7 at 2412 MHz, 2437 MHz, 2462 MHz. Yageo antenna. See additional comments below.				
Deviations:	None				
Comments:	None				

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

Run #	5	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.558	36.5	-3.0	1.0	162.0	3.0	20.0	Vert	AV	0.0	53.5	54.0	-0.5	MCS0, high ch, Pwr 14, EUT vert
2483.500	36.4	-3.0	1.0	152.0	3.0	20.0	Vert	AV	0.0	53.4	54.0	-0.6	6 Mbps, high ch, Pwr 15, EUT vert
2483.533	35.5	-3.0	1.0	162.0	3.0	20.0	Vert	AV	0.0	52.5	54.0	-1.5	MCS0, high ch, Pwr 13, EUT vert
2483.542	35.5	-3.0	1.2	205.0	3.0	20.0	Horz	AV	0.0	52.5	54.0	-1.5	6 Mbps, high ch, Pwr 15, EUT horz
2483.517	35.5	-3.0	1.0	152.0	3.0	20.0	Vert	AV	0.0	52.5	54.0	-1.5	36 Mbps, high ch, Pwr 15, EUT vert
2390.000	35.8	-3.3	1.0	141.0	3.0	20.0	Vert	AV	0.0	52.5	54.0	-1.5	36 Mbps, low ch, Pwr 15, EUT vert
2484.900	55.4	-3.0	1.0	152.0	3.0	20.0	Vert	PK	0.0	72.4	74.0	-1.6	MCS0, high ch, Pwr 15, EUT vert
2483.508	35.4	-3.0	1.0	213.0	3.0	20.0	Horz	AV	0.0	52.4	54.0	-1.6	6 Mbps, high ch, Pwr 15, EUT on side
2390.000	35.6	-3.3	1.0	141.0	3.0	20.0	Vert	AV	0.0	52.3	54.0	-1.7	MCS0, low ch, Pwr 15, EUT vert
2389.975	35.4	-3.3	1.0	141.0	3.0	20.0	Vert	AV	0.0	52.1	54.0	-1.9	54 Mbps, low ch, Pwr 15, EUT vert
2483.542	35.0	-3.0	1.0	28.0	3.0	20.0	Horz	AV	0.0	52.0	54.0	-2.0	6 Mbps, high ch, Pwr 15, EUT vert
2483.500	35.0	-3.0	1.0	152.0	3.0	20.0	Vert	AV	0.0	52.0	54.0	-2.0	54 Mbps, high ch, Pwr 15, EUT vert
2389.983	35.0	-3.3	1.0	141.0	3.0	20.0	Vert	AV	0.0	51.7	54.0	-2.3	6 Mbps, low ch, Pwr 15, EUT vert
2484.192	54.3	-3.0	1.0	162.0	3.0	20.0	Vert	PK	0.0	71.3	74.0	-2.7	MCS0, high ch, Pwr 15, EUT vert
2483.617	33.5	-3.0	1.0	152.0	3.0	20.0	Vert	AV	0.0	50.5	54.0	-3.5	MCS7, high ch, Pwr 15, EUT vert
2483.525	33.3	-3.0	1.0	266.0	3.0	20.0	Vert	AV	0.0	50.3	54.0	-3.7	6 Mbps, high ch, Pwr 15, EUT on side
2389.983	33.5	-3.3	1.0	141.0	3.0	20.0	Vert	AV	0.0	50.2	54.0	-3.8	MCS7, low ch, Pwr 15, EUT vert
2483.525	53.0	-3.0	1.0	152.0	3.0	20.0	Vert	PK	0.0	70.0	74.0	-4.0	6 Mbps, high ch, Pwr 15, EUT vert
4823.967	44.0	5.4	1.2	62.0	3.0	0.0	Vert	AV	0.0	49.4	54.0	-4.6	1 Mbps, low ch, Pwr 15, EUT vert
2483.567	32.3	-3.0	1.0	162.0	3.0	20.0	Vert	AV	0.0	49.3	54.0	-4.7	MCS0, high ch, Pwr 10, EUT vert
2483.542	51.6	-3.0	1.0	162.0	3.0	20.0	Vert	PK	0.0	68.6	74.0	-5.4	MCS0, high ch, Pwr 14, EUT vert
4823.958	42.9	5.4	1.1	115.0	3.0	0.0	Horz	AV	0.0	48.3	54.0	-5.7	1 Mbps, low ch, Pwr 15, EUT horz
2487.192	31.2	-3.0	1.0	152.0	3.0	20.0	Vert	AV	0.0	48.2	54.0	-5.8	11 Mbps, high ch, Pwr 15, EUT vert
2484.042	31.2	-3.0	1.0	152.0	3.0	20.0	Vert	AV	0.0	48.2	54.0	-5.8	1 Mbps, high ch, Pwr 15, EUT vert
2484.017	51.1	-3.0	1.0	213.0	3.0	20.0	Horz	PK	0.0	68.1	74.0	-5.9	6 Mbps, high ch, Pwr 15, EUT on side
2483.925	31.1	-3.0	1.0	294.0	3.0	20.0	Vert	AV	0.0	48.1	54.0	-5.9	6 Mbps, high ch, Pwr 15, EUT horz
2483.658	50.7	-3.0	1.2	205.0	3.0	20.0	Horz	PK	0.0	67.7	74.0	-6.3	6 Mbps, high ch, Pwr 15, EUT horz

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2389.975	51.0	-3.3	1.0	141.0	3.0	20.0	Vert	PK	0.0	67.7	74.0	-6.3	MCS0, low ch, Pwr 15, EUT vert
2387.275	30.8	-3.3	1.0	141.0	3.0	20.0	Vert	AV	0.0	47.5	54.0	-6.5	11 Mbps, low ch, Pwr 15, EUT vert
2388.808	30.8	-3.3	1.0	141.0	3.0	20.0	Vert	AV	0.0	47.5	54.0	-6.5	1 Mbps, low ch, Pwr 15, EUT vert
2483.717	50.4	-3.0	1.0	152.0	3.0	20.0	Vert	PK	0.0	67.4	74.0	-6.6	36 Mbps, high ch, Pwr 15, EUT vert
2389.983	30.7	-3.3	1.0	153.0	3.0	20.0	Horz	AV	0.0	47.4	54.0	-6.6	1 Mbps, low ch, Pwr 15, EUT vert
2485.183	50.2	-3.0	1.0	162.0	3.0	20.0	Vert	PK	0.0	67.2	74.0	-6.8	MCS0, high ch, Pwr 13, EUT vert
2483.717	50.1	-3.0	1.0	152.0	3.0	20.0	Vert	PK	0.0	67.1	74.0	-6.9	54 Mbps, high ch, Pwr 15, EUT vert
2389.467	50.2	-3.3	1.0	141.0	3.0	20.0	Vert	PK	0.0	66.9	74.0	-7.1	6 Mbps, low ch, Pwr 15, EUT vert
2483.625	49.8	-3.0	1.0	28.0	3.0	20.0	Horz	PK	0.0	66.8	74.0	-7.2	6 Mbps, high ch, Pwr 15, EUT vert
2389.858	50.1	-3.3	1.0	141.0	3.0	20.0	Vert	PK	0.0	66.8	74.0	-7.2	54 Mbps, low ch, Pwr 15, EUT vert
4824.125	40.8	5.4	1.2	62.0	3.0	0.0	Vert	AV	0.0	46.2	54.0	-7.8	11 Mbps, low ch, Pwr 15, EUT vert
4873.925	41.0	5.1	1.0	61.0	3.0	0.0	Vert	AV	0.0	46.1	54.0	-7.9	1 Mbps, mid ch, Pwr 15, EUT vert
2389.017	48.8	-3.3	1.0	141.0	3.0	20.0	Vert	PK	0.0	65.5	74.0	-8.5	36 Mbps, low ch, Pwr 15, EUT vert
4821.642	39.7	5.4	1.2	62.0	3.0	0.0	Vert	AV	0.0	45.1	54.0	-8.9	36 Mbps, low ch, Pwr 15, EUT vert
4823.767	39.6	5.4	1.2	62.0	3.0	0.0	Vert	AV	0.0	45.0	54.0	-9.0	54 Mbps, low ch, Pwr 15, EUT vert
2389.742	47.6	-3.3	1.0	141.0	3.0	20.0	Vert	PK	0.0	64.3	74.0	-9.7	MCS7, low ch, Pwr 15, EUT vert
4824.025	38.6	5.4	1.2	62.0	3.0	0.0	Vert	AV	0.0	44.0	54.0	-10.0	6 Mbps, low ch, Pwr 15, EUT vert
2484.058	46.7	-3.0	1.0	266.0	3.0	20.0	Vert	PK	0.0	63.7	74.0	-10.3	6 Mbps, high ch, Pwr 15, EUT on side
2483.517	46.7	-3.0	1.0	152.0	3.0	20.0	Vert	PK	0.0	63.7	74.0	-10.3	MCS7, high ch, Pwr 15, EUT vert
4873.917	38.5	5.1	1.1	113.0	3.0	0.0	Horz	AV	0.0	43.6	54.0	-10.4	1 Mbps, mid ch, Pwr 15 EUT horz
2483.500	83.7	-3.1	1.0	152.0	3.0	20.0	Vert	PK	0.0	63.4	74.0	-10.6	MCS0, high ch, Pwr 15, EUT vert MD
4823.767	37.6	5.4	1.2	62.0	3.0	0.0	Vert	AV	0.0	43.0	54.0	-11.0	MCS0, low ch, Pwr 15, EUT vert
2483.708	45.3	-3.0	1.0	162.0	3.0	20.0	Vert	PK	0.0	62.3	74.0	-11.7	MCS0, high ch, Pwr 10, EUT vert
4923.940	36.7	4.9	1.2	62.0	3.0	0.0	Vert	AV	0.0	41.6	54.0	-12.4	1 Mbps, high ch, Pwr 15, EUT vert
7383.992	28.8	12.8	1.0	111.0	3.0	0.0	Vert	AV	0.0	41.6	54.0	-12.4	1 Mbps, high ch, Pwr 15, EUT vert
4823.917	36.1	5.4	1.2	62.0	3.0	0.0	Vert	AV	0.0	41.5	54.0	-12.5	MCS7, low ch, Pwr 15, EUT vert
7309.975	29.0	12.3	1.0	84.0	3.0	0.0	Vert	AV	0.0	41.3	54.0	-12.7	1 Mbps, mid ch, Pwr 15, EUT vert
7238.500	29.4	11.9	1.0	331.0	3.0	0.0	Horz	AV	0.0	41.3	54.0	-12.7	1 Mbps, low ch, Pwr 15, EUT horz
7237.625	29.4	11.9	1.0	114.0	3.0	0.0	Vert	AV	0.0	41.3	54.0	-12.7	1 Mbps, low ch, Pwr 15, EUT vert
7312.833	28.9	12.3	1.1	290.0	3.0	0.0	Horz	AV	0.0	41.2	54.0	-12.8	1 Mbps, mid ch, Pwr 15 EUT horz
4924.007	36.0	4.9	1.1	86.0	3.0	0.0	Horz	AV	0.0	40.9	54.0	-13.1	1 Mbps, high ch, Pwr 15, EUT horz
2486.600	42.5	-3.0	1.0	294.0	3.0	20.0	Vert	PK	0.0	59.5	74.0	-14.5	6 Mbps, high ch, Pwr 15, EUT horz
2484.100	42.3	-3.0	1.0	152.0	3.0	20.0	Vert	PK	0.0	59.3	74.0	-14.7	11 Mbps, high ch, Pwr 15, EUT vert
2487.392	42.0	-3.0	1.0	152.0	3.0	20.0	Vert	PK	0.0	59.0	74.0	-15.0	1 Mbps, high ch, Pwr 15, EUT vert
2386.550	42.3	-3.3	1.0	141.0	3.0	20.0	Vert	PK	0.0	59.0	74.0	-15.0	1 Mbps, low ch, Pwr 15, EUT vert
2389.483	42.1	-3.3	1.0	141.0	3.0	20.0	Vert	PK	0.0	58.8	74.0	-15.2	11 Mbps, low ch, Pwr 15, EUT vert
2388.367	41.7	-3.3	1.0	153.0	3.0	20.0	Horz	PK	0.0	58.4	74.0	-15.6	1 Mbps, low ch, Pwr 15, EUT vert
4923.890	33.2	4.9	1.0	123.0	3.0	0.0	Vert	AV	0.0	38.1	54.0	-15.9	1 Mbps, high ch, Pwr 15, EUT on side
4923.940	32.9	4.9	1.2	145.0	3.0	0.0	Horz	AV	0.0	37.8	54.0	-16.2	1 Mbps, high ch, Pwr 15, EUT on side
4924.015	32.4	4.9	1.0	220.0	3.0	0.0	Horz	AV	0.0	37.3	54.0	-16.7	1 Mbps, high ch, Pwr 15, EUT vert
4923.915	31.5	4.9	1.4	281.0	3.0	0.0	Vert	AV	0.0	36.4	54.0	-17.6	1 Mbps, high ch, Pwr 15, EUT horz
4822.200	50.7	5.4	1.2	62.0	3.0	0.0	Vert	PK	0.0	56.1	74.0	-17.9	6 Mbps, low ch, Pwr 15, EUT vert
4822.342	50.6	5.4	1.2	62.0	3.0	0.0	Vert	PK	0.0	56.0	74.0	-18.0	36 Mbps, low ch, Pwr 15, EUT vert
4823.983	50.5	5.4	1.2	62.0	3.0	0.0	Vert	PK	0.0	55.9	74.0	-18.1	54 Mbps, low ch, Pwr 15, EUT vert
4822.925	49.8	5.4	1.2	62.0	3.0	0.0	Vert	PK	0.0	55.2	74.0	-18.8	MCS0, low ch, Pwr 15, EUT vert
14473.930	31.4	3.5	1.0	191.0	3.0	0.0	Horz	AV	0.0	34.9	54.0	-19.1	1 Mbps, low ch, Pwr 15, EUT horz
14474.160	31.4	3.5	1.0	158.0	3.0	0.0	Vert	AV	0.0	34.9	54.0	-19.1	1 Mbps, low ch, Pwr 15, EUT vert
7386.992	40.8	12.8	1.0	111.0	3.0	0.0	Vert	PK	0.0	53.6	74.0	-20.4	1 Mbps, high ch, Pwr 15, EUT vert
4823.975	47.8	5.4	1.2	62.0	3.0	0.0	Vert	PK	0.0	53.2	74.0	-20.8	1 Mbps, low ch, Pwr 15, EUT vert
4822.892	47.7	5.4	1.2	62.0	3.0	0.0	Vert	PK	0.0	53.1	74.0	-20.9	MCS7, low ch, Pwr 15, EUT vert
7308.983	40.6	12.3	1.0	84.0	3.0	0.0	Vert	PK	0.0	52.9	74.0	-21.1	1 Mbps, mid ch, Pwr 15, EUT vert
7234.208	40.8	11.9	1.0	114.0	3.0	0.0	Vert	PK	0.0	52.7	74.0	-21.3	1 Mbps, low ch, Pwr 15, EUT vert
7313.458	40.2	12.3	1.1	290.0	3.0	0.0	Horz	PK	0.0	52.5	74.0	-21.5	1 Mbps, mid ch, Pwr 15 EUT horz
4823.983	47.1	5.4	1.1	115.0	3.0	0.0	Horz	PK	0.0	52.5	74.0	-21.5	1 Mbps, low ch, Pwr 15, EUT horz
7235.833	40.5	11.9	1.0	331.0	3.0	0.0	Horz	PK	0.0	52.4	74.0	-21.6	1 Mbps, low ch, Pwr 15, EUT horz
4873.883	46.4	5.1	1.0	61.0	3.0	0.0	Vert	PK	0.0	51.5	74.0	-22.5	1 Mbps, mid ch, Pwr 15, EUT vert
4823.933	46.0	5.4	1.2	62.0	3.0	0.0	Vert	PK	0.0	51.4	74.0	-22.6	11 Mbps, low ch, Pwr 15, EUT vert
4874.333	44.7	5.1	1.1	113.0	3.0	0.0	Horz	PK	0.0	49.8	74.0	-24.2	1 Mbps, mid ch, Pwr 15 EUT horz
12187.180	34.3	-5.0	1.0	304.0	3.0	0.0	Horz	AV	0.0	29.3	54.0	-24.7	1 Mbps, mid ch, Pwr 15, EUT horz
12186.590	34.2	-5.0	1.0	80.0	3.0	0.0	Horz	AV	0.0	29.2	54.0	-24.8	1 Mbps, mid ch, Pwr 15, EUT vert
12311.380	33.9	-4.9	1.0	23.0	3.0	0.0	Horz	AV	0.0	29.0	54.0	-25.0	1 Mbps, high ch, Pwr 15, EUT horz
12311.790	33.8	-4.9	1.0	38.0	3.0	0.0	Vert	AV	0.0	28.9	54.0	-25.1	1 Mbps, high ch, Pwr 15, EUT vert
12061.000	34.0	-5.2	1.0	107.0	3.0	0.0	Horz	AV	0.0	28.8	54.0	-25.2	1 Mbps, low ch, Pwr 15, EUT horz
12059.280	34.0	-5.2	4.0	358.0	3.0	0.0	Vert	AV	0.0	28.8	54.0	-25.2	1 Mbps, low ch, Pwr 15, EUT vert
4924.048	43.7	4.9	1.1	86.0	3.0	0.0	Horz	PK	0.0	48.6	74.0	-25.4	1 Mbps, high ch, Pwr 15, EUT horz
4924.065	43.7	4.9	1.2	62.0	3.0	0.0	Vert	PK	0.0	48.6	74.0	-25.4	1 Mbps, high ch, Pwr 15, EUT vert
4924.390	42.0	4.9	1.0	123.0	3.0	0.0	Vert	PK	0.0	46.9	74.0	-27.1	1 Mbps, high ch, Pwr 15, EUT on side
4923.965	41.8	4.9	1.0	220.0	3.0	0.0	Horz	PK	0.0	46.7	74.0	-27.3	1 Mbps, high ch, Pwr 15, EUT vert
4924.157	41.7	4.9	1.2	145.0	3.0	0.0	Horz	PK	0.0	46.6	74.0	-27.4	1 Mbps, high ch, Pwr 15, EUT on side
4923.773	41.4	4.9	1.4	281.0	3.0	0.0	Vert	PK	0.0	46.3	74.0	-27.7	1 Mbps, high ch, Pwr 15, EUT horz
14469.940	42.7	3.6	1.0	158.0	3.0	0.0	Vert	PK	0.0	46.3	74.0	-27.7	1 Mbps, low ch, Pwr 15, EUT vert
14473.540	42.6	3.5	1.0	191.0	3.0	0.0	Horz	PK	0.0	46.1	74.0	-27.9	1 Mbps, low ch, Pwr 15, EUT horz
12311.510	45.5	-4.9	1.0	23.0	3.0	0.0	Horz	PK	0.0	40.6	74.0	-33.4	1 Mbps, high ch, Pwr 15, EUT horz
12061.710	45.7	-5.1	1.0	107.0	3.0	0.0	Horz	PK	0.0	40.6	74.0	-33.4	1 Mbps, low ch, Pwr 15, EUT horz
12185.750	45.5	-5.0	1.0	304.0	3.0	0.0	Horz	PK	0.0	40.5	74.0	-33.5	1 Mbps, mid ch, Pwr 15, EUT horz
12186.610	45.5	-5.0	1.0	80.0	3.0	0.0	Horz	PK	0.0	40.5	74.0	-33.5	1 Mbps, mid ch, Pwr 15, EUT vert
12061.690	45.4	-5.1	4.0	358.0	3.0	0.0	Vert	PK	0.0	40.3	74.0	-33.7	1 Mbps, low ch, Pwr 15, EUT vert
12310.130	45.0	-4.9	1.0	38.0	3.0	0.0	Vert	PK	0.0	40.1	74.0	-33.9	1 Mbps, high ch, Pwr 15, EUT vert

BAND EDGE COMPLIANCE

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/28/2014	12

TEST DESCRIPTION

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

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

BAND EDGE COMPLIANCE

EUT:	ConnectCore6 (i.MX6)			**Work Order:**	ETHE0008
Serial Number:	00409D7B8CA2			**Date:**	08/20/14
Customer:	Etherios Design Solutions			**Temperature:**	23.1°C
Attendees:	None			**Humidity:**	54%
Project:	None			**Barometric Pres.:**	1013.8
Tested by:	Trevor Buls	**Power:**	5.0VDC	**Job Site:**	MN08

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

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

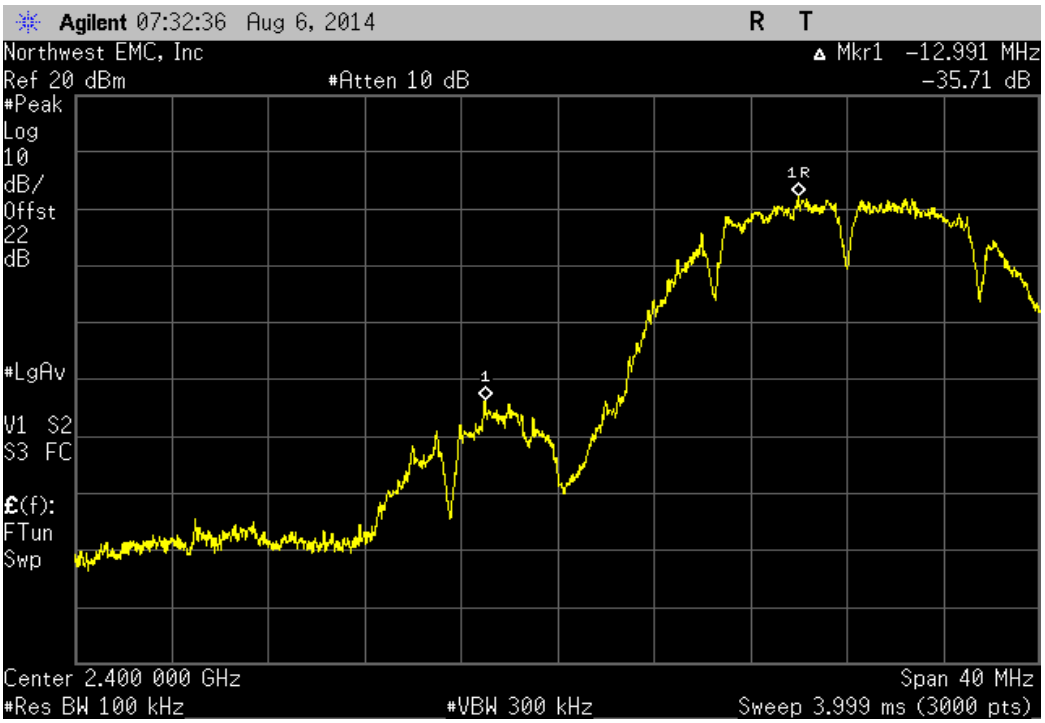
None

Configuration #	1	Signature	Trevor Buls

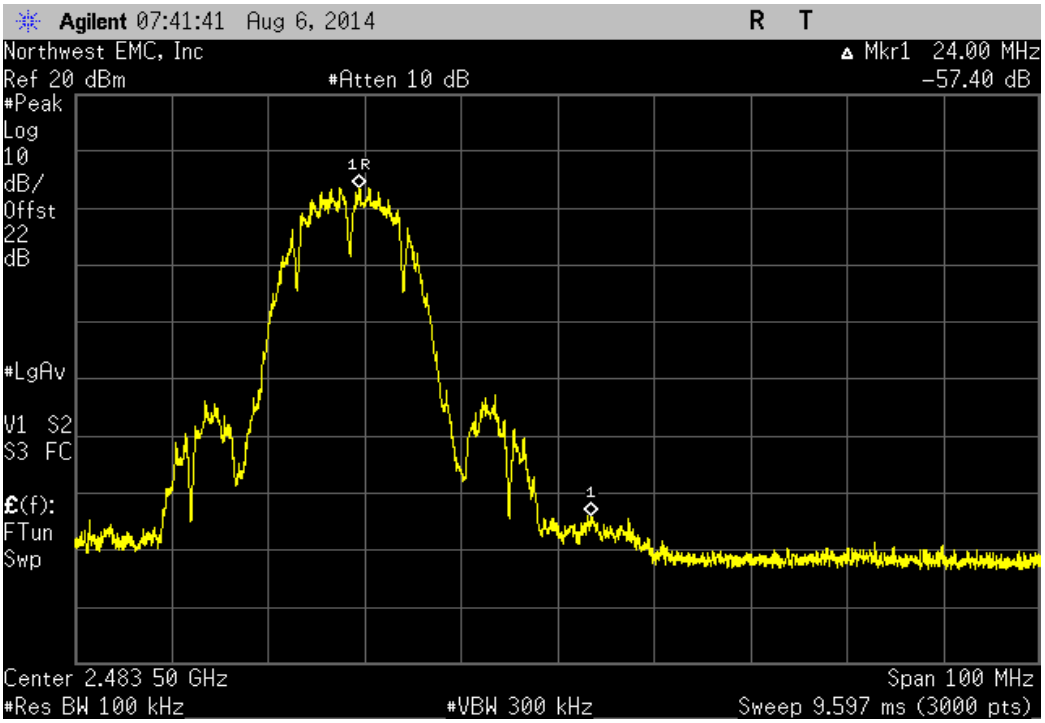
		Value (dBc)	Limit ≤ (dBc)	Result
Port 1				
	802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	-35.71	-20	Pass
	High Channel 11, 2462 MHz	-57.4	-20	Pass
	802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	-35.74	-20	Pass
	High Channel 11, 2462 MHz	-57.18	-20	Pass
	802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	-25.75	-20	Pass
	High Channel 11, 2462 MHz	-38.77	-20	Pass
	802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	-25.71	-20	Pass
	High Channel 11, 2462 MHz	-40.68	-20	Pass
	802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	-24.07	-20	Pass
	High Channel 11, 2462 MHz	-40.97	-20	Pass
	802.11(n) MCS0			
	Low Channel 1, 2412 MHz	-26.54	-20	Pass
	High Channel 11, 2462 MHz	-39.17	-20	Pass
	802.11(n) MCS7			
	Low Channel 1, 2412 MHz	-24.83	-20	Pass
	High Channel 11, 2462 MHz	-37.66	-20	Pass
	802.11(a) 6 Mbps			
	Low Channel 149, 5745 MHz	-27.41	-20	Pass
	High Channel 165, 5825 MHz	-31.71	-20	Pass
	802.11(a) 36 Mbps			
	Low Channel 149, 5745 MHz	-26.28	-20	Pass
	High Channel 165, 5825 MHz	-28.33	-20	Pass
	802.11(a) 54 Mbps			
	Low Channel 149, 5745 MHz	-24.46	-20	Pass
	High Channel 165, 5825 MHz	-30.32	-20	Pass
	802.11(n) MCS0 - UNII			
	Low Channel 149, 5745 MHz	-26.05	-20	Pass
	High Channel 165, 5825 MHz	-32.22	-20	Pass
	802.11(n) MCS7 - UNII			
	Low Channel 149, 5745 MHz	-24.6	-20	Pass
	High Channel 165, 5825 MHz	-28.83	-20	Pass

BAND EDGE COMPLIANCE

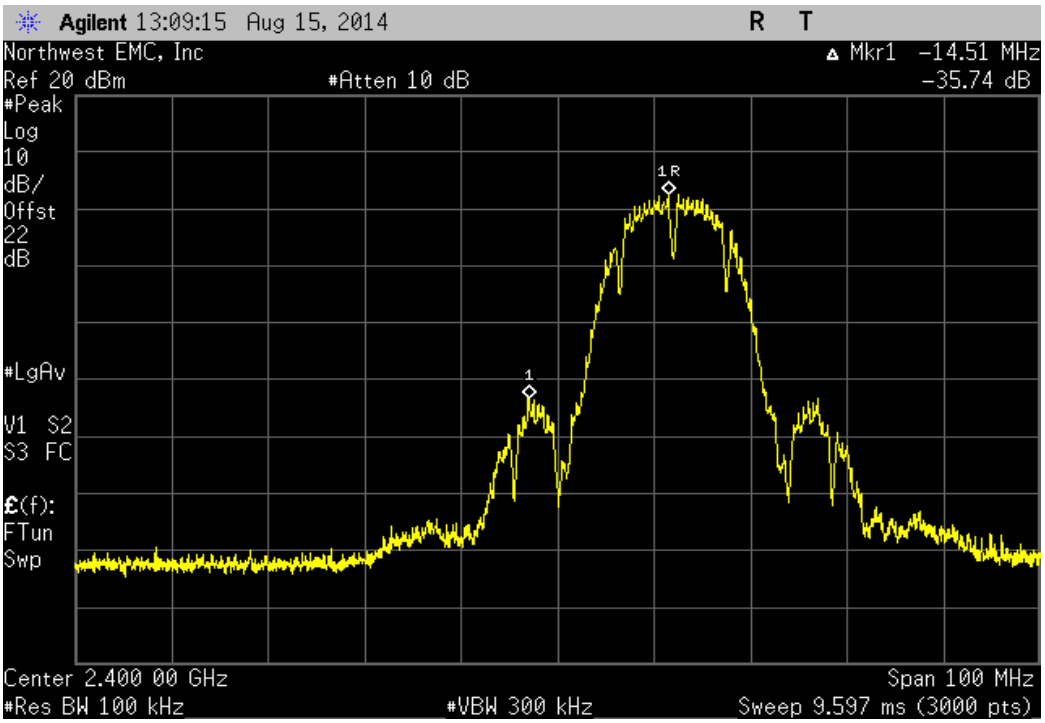
Port 1, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-35.71	-20	Pass



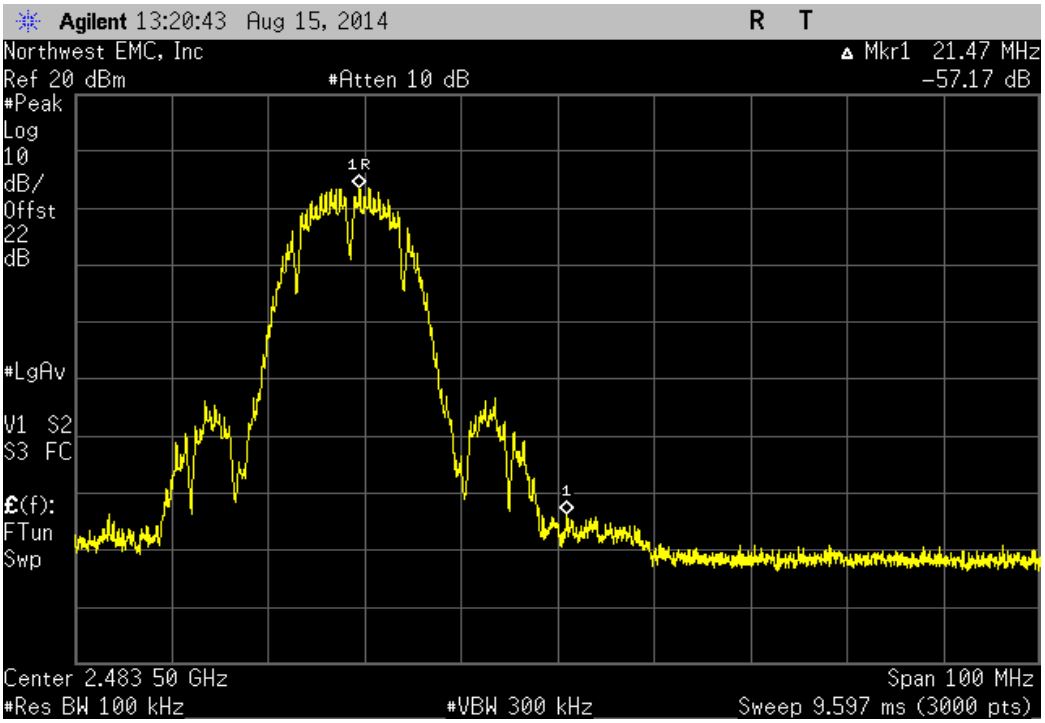
Port 1, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-57.4	-20	Pass



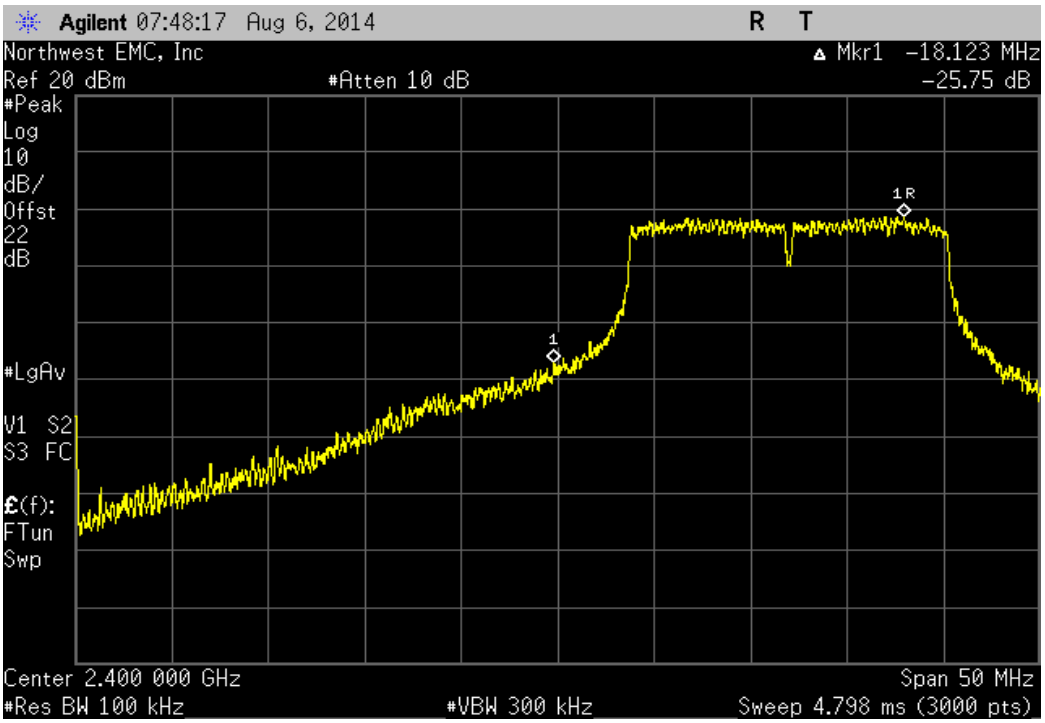
Port 1, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-35.74	-20	Pass



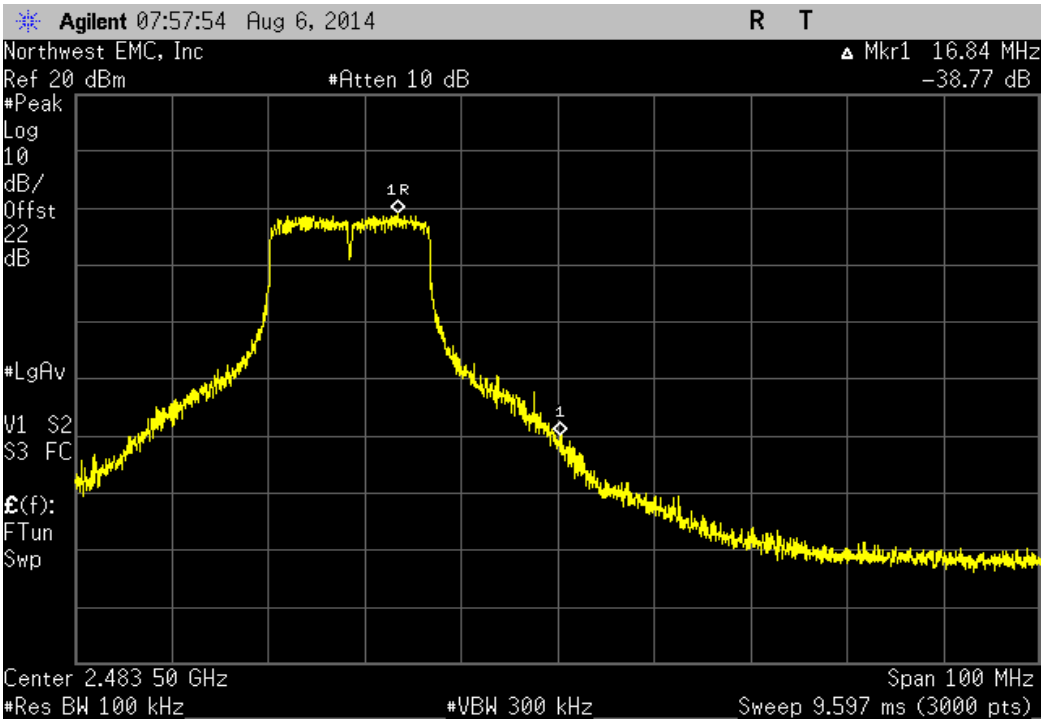
Port 1, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-57.18	-20	Pass



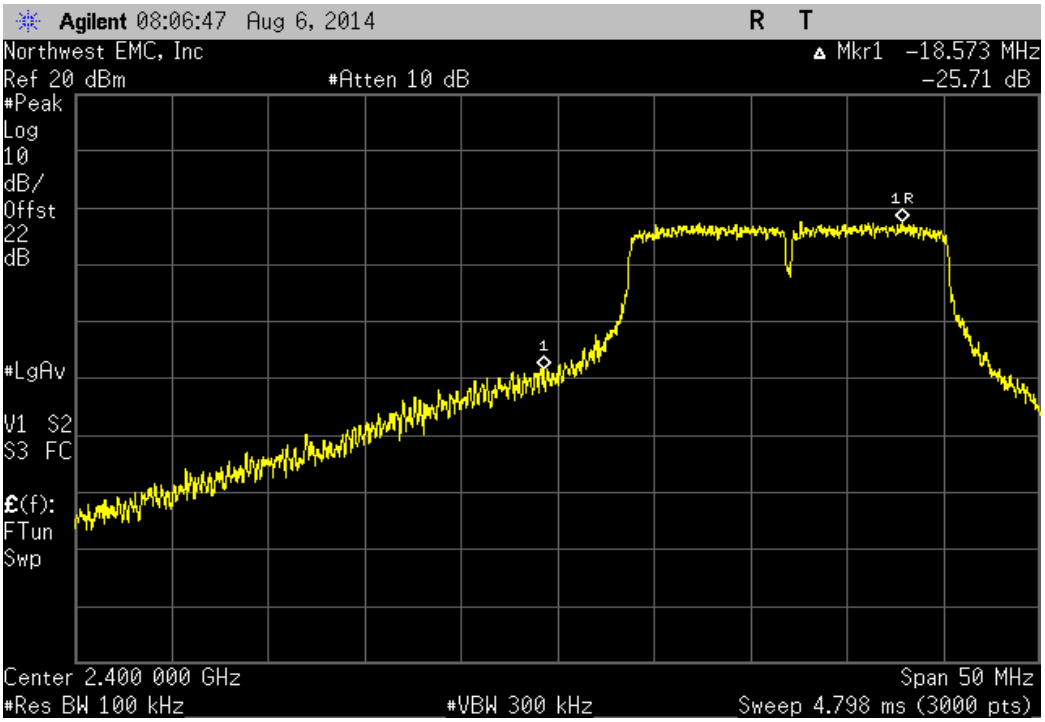
Port 1, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-25.75	-20	Pass



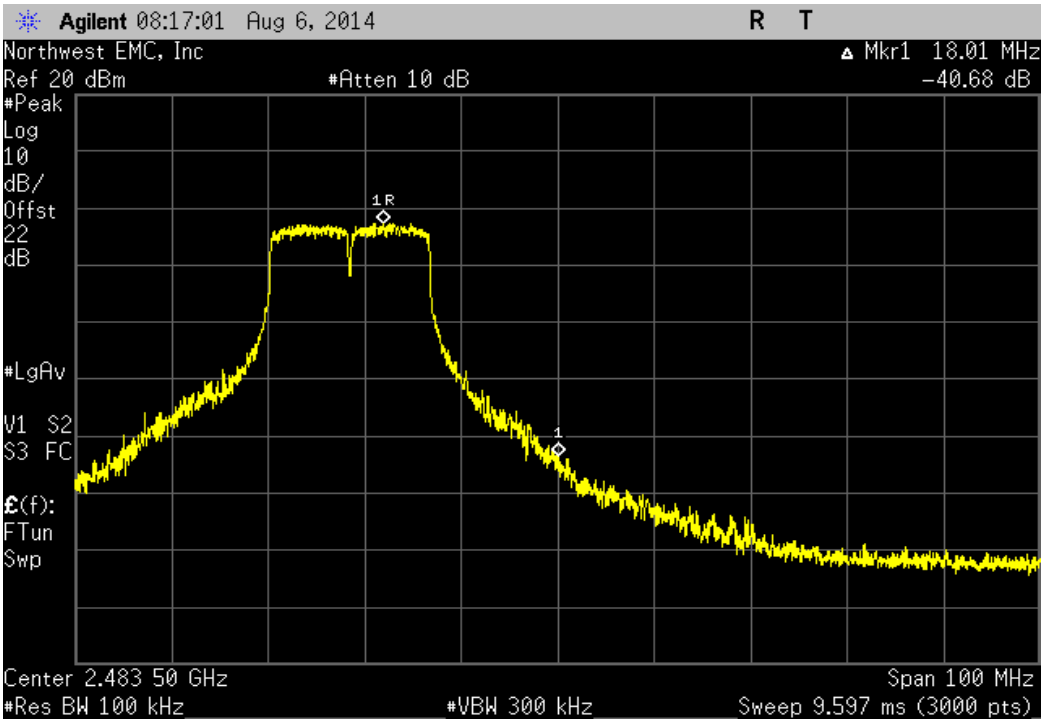
Port 1, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-38.77	-20	Pass



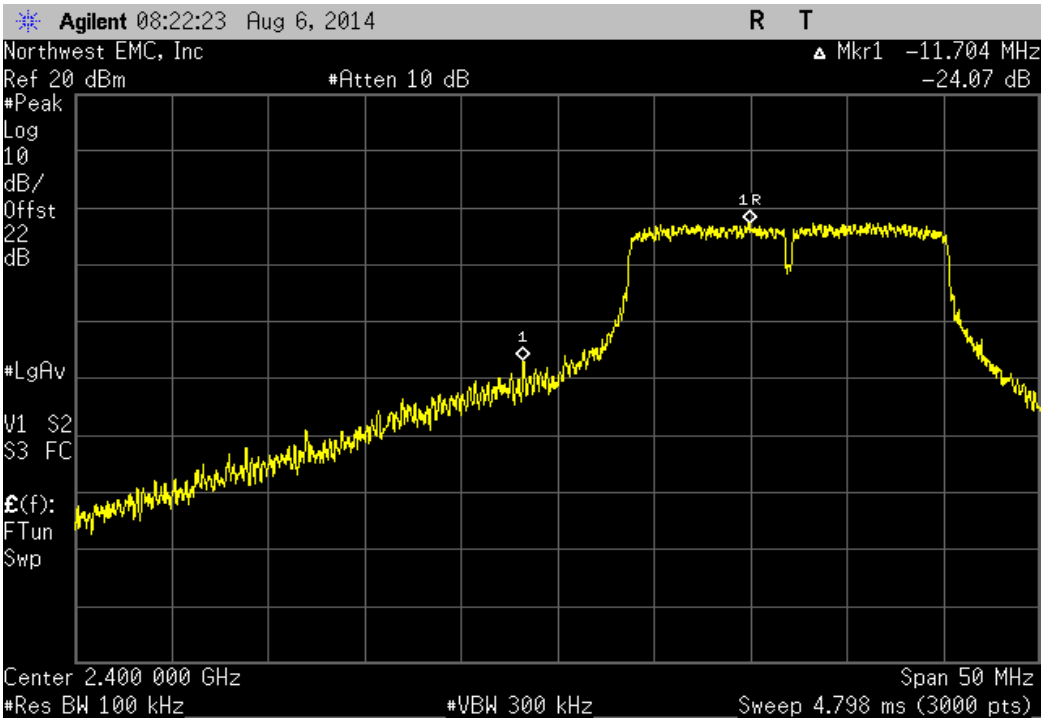
Port 1, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-25.71	-20	Pass



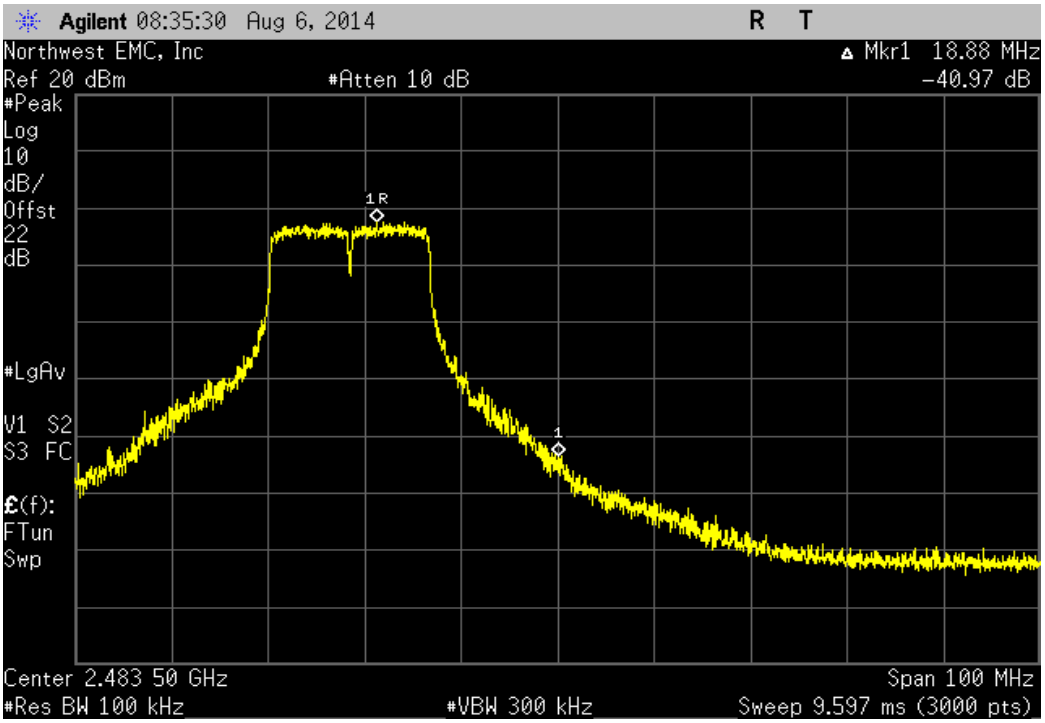
Port 1, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-40.68	-20	Pass



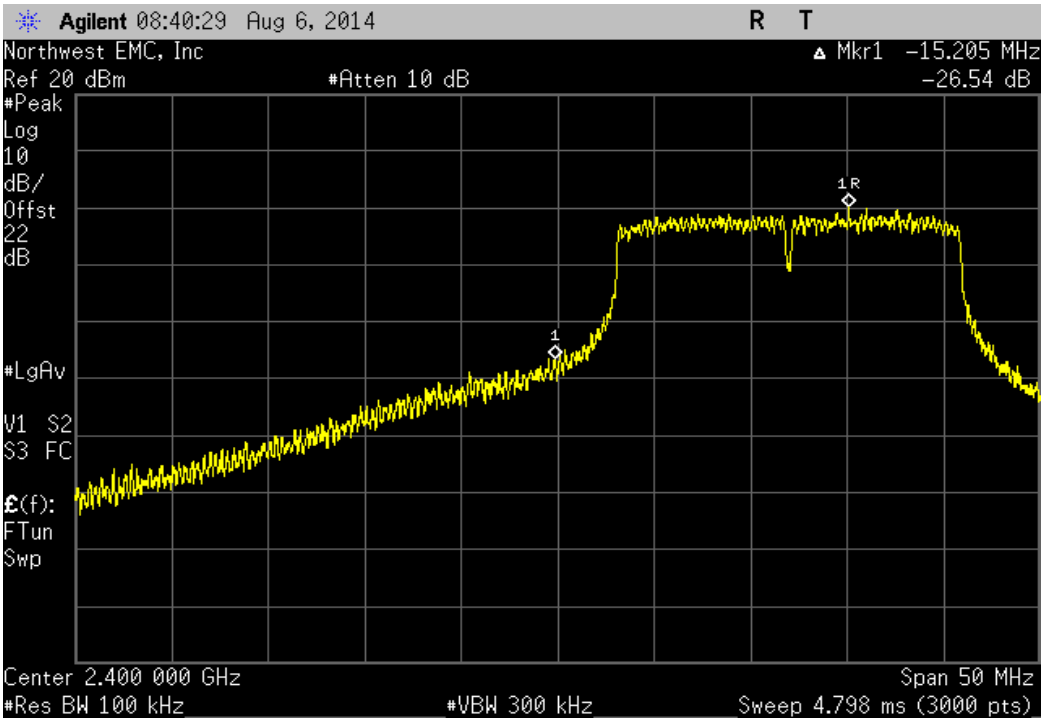
Port 1, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-24.07	-20	Pass



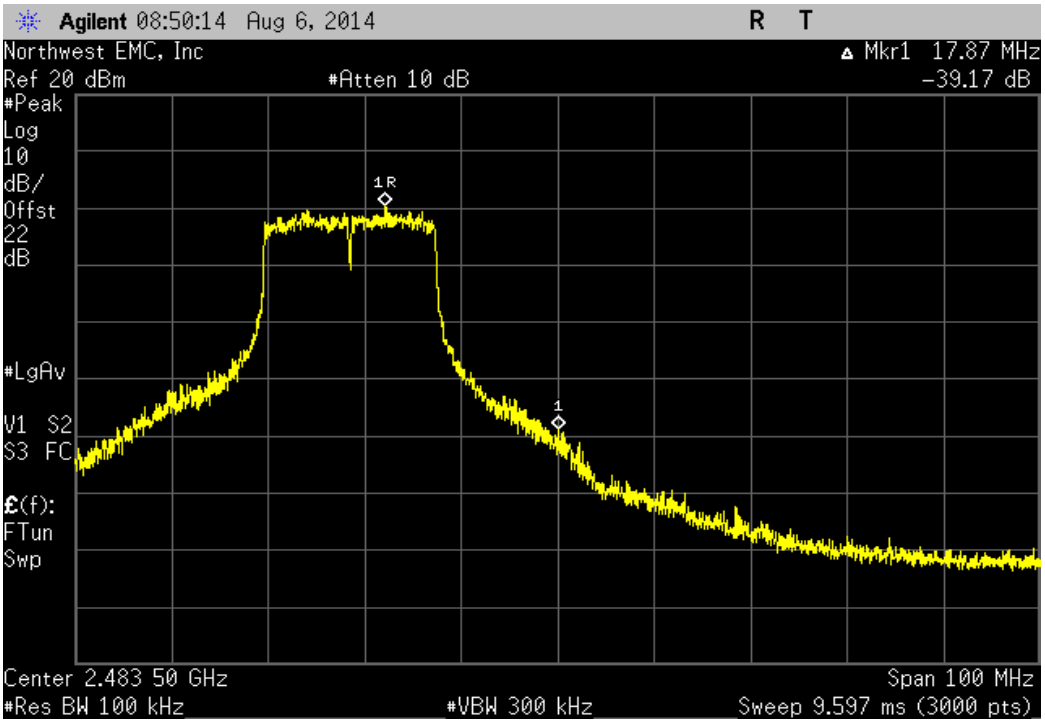
Port 1, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-40.97	-20	Pass



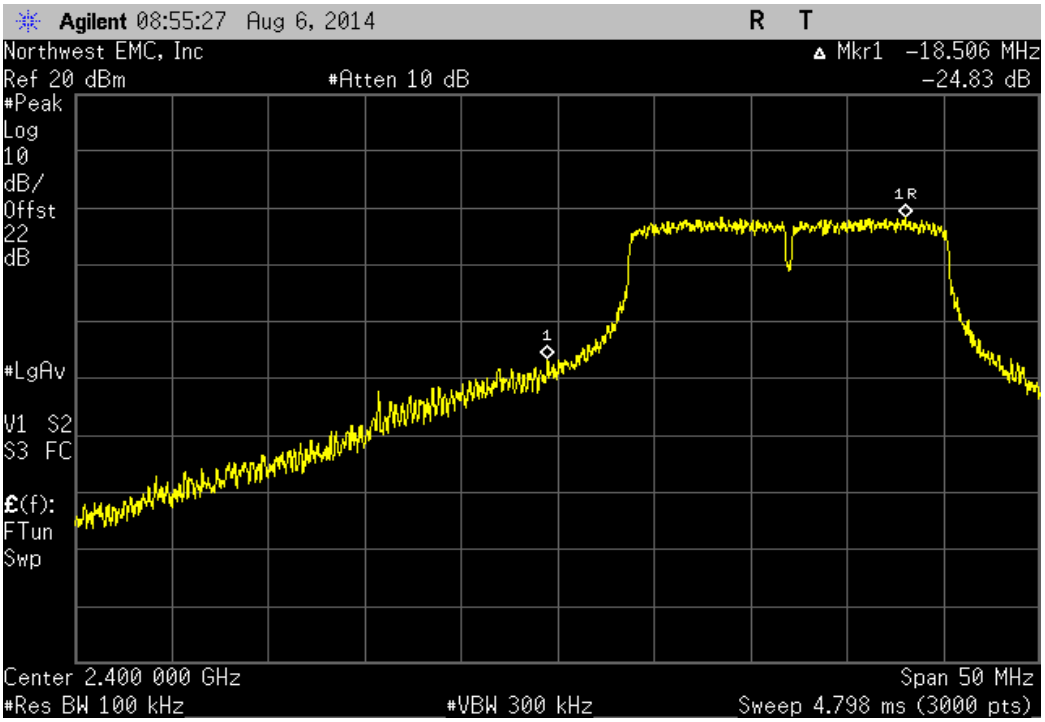
Port 1, 802.11(n) MCS0, Low Channel 1, 2412 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-26.54	-20	Pass



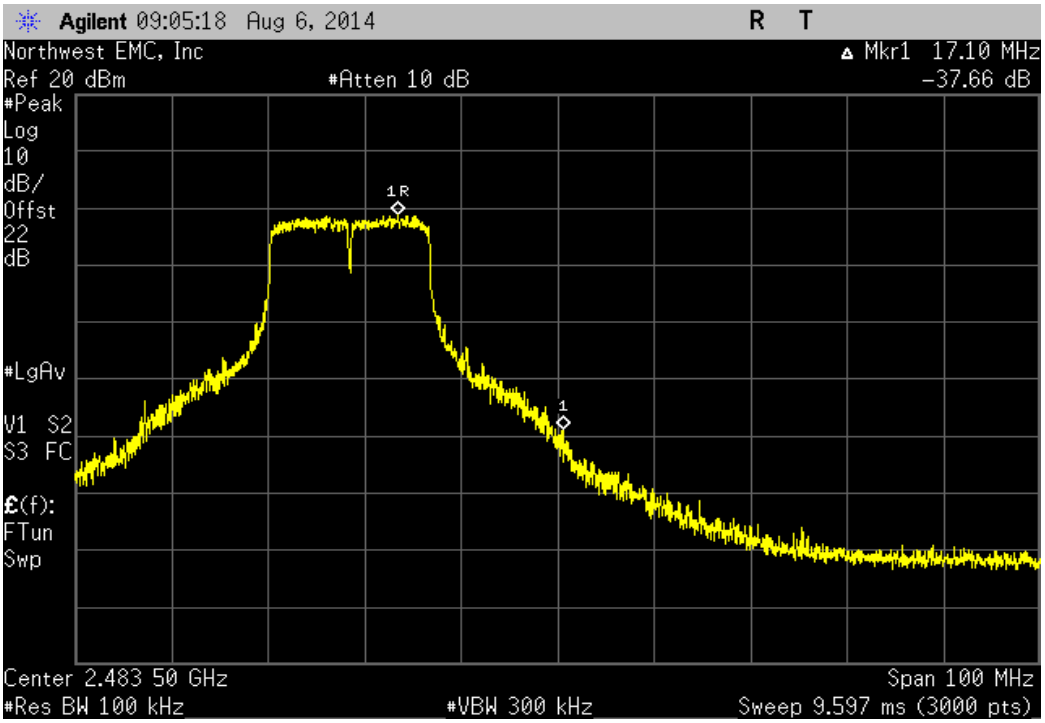
Port 1, 802.11(n) MCS0, High Channel 11, 2462 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-39.17	-20	Pass



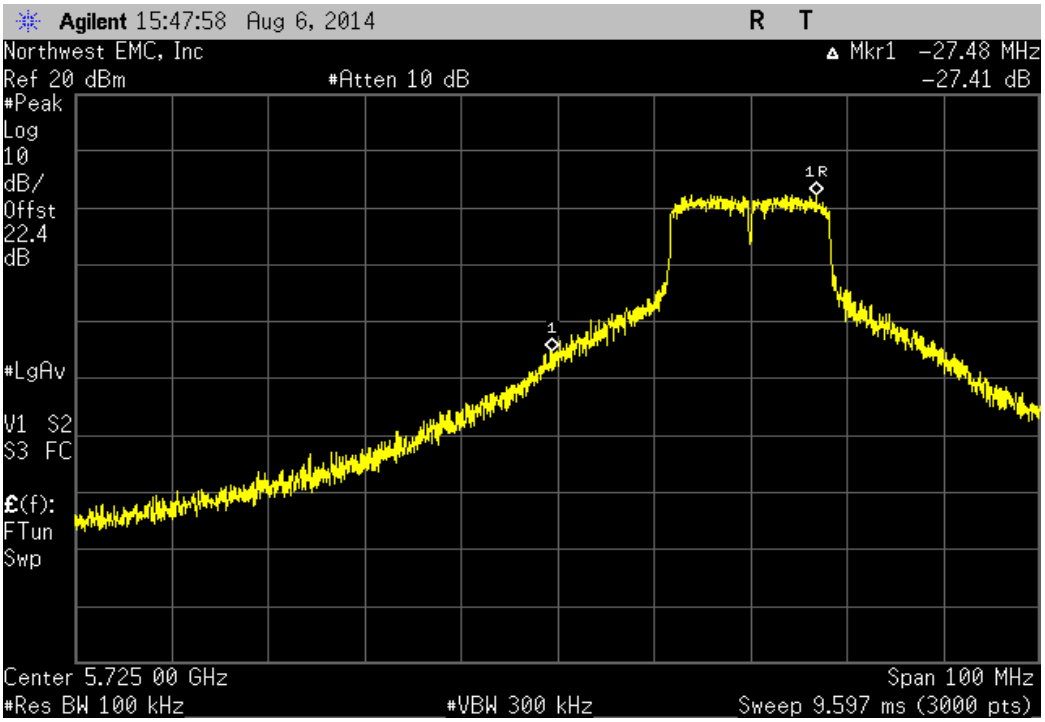
Port 1, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-24.83	-20	Pass



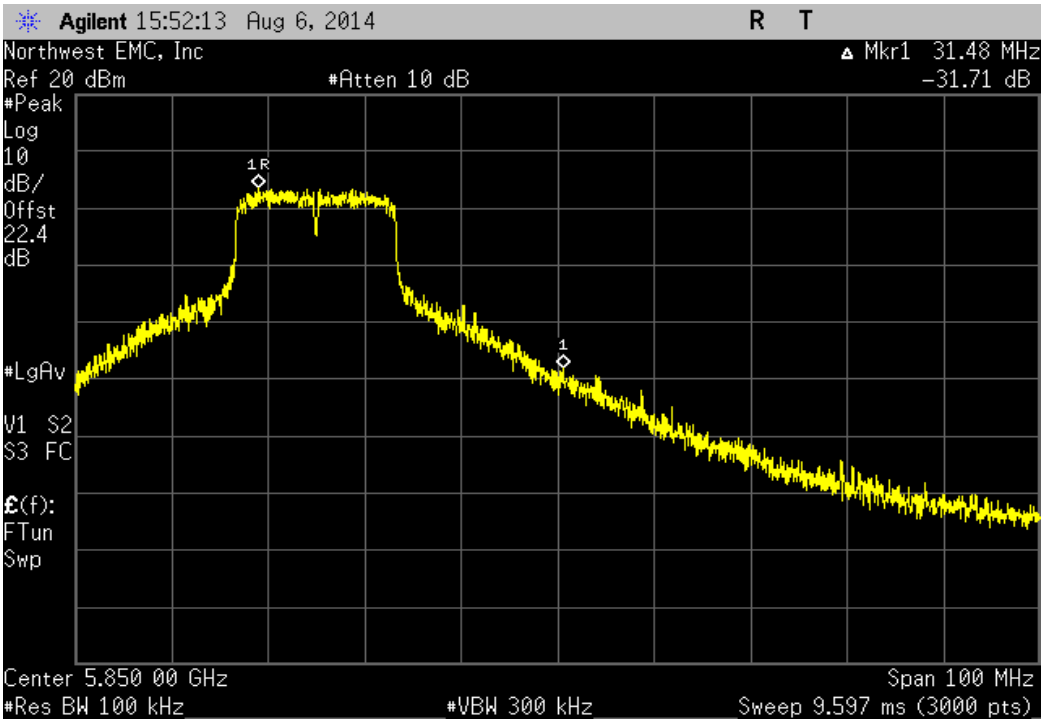
Port 1, 802.11(n) MCS7, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-37.66	-20	Pass



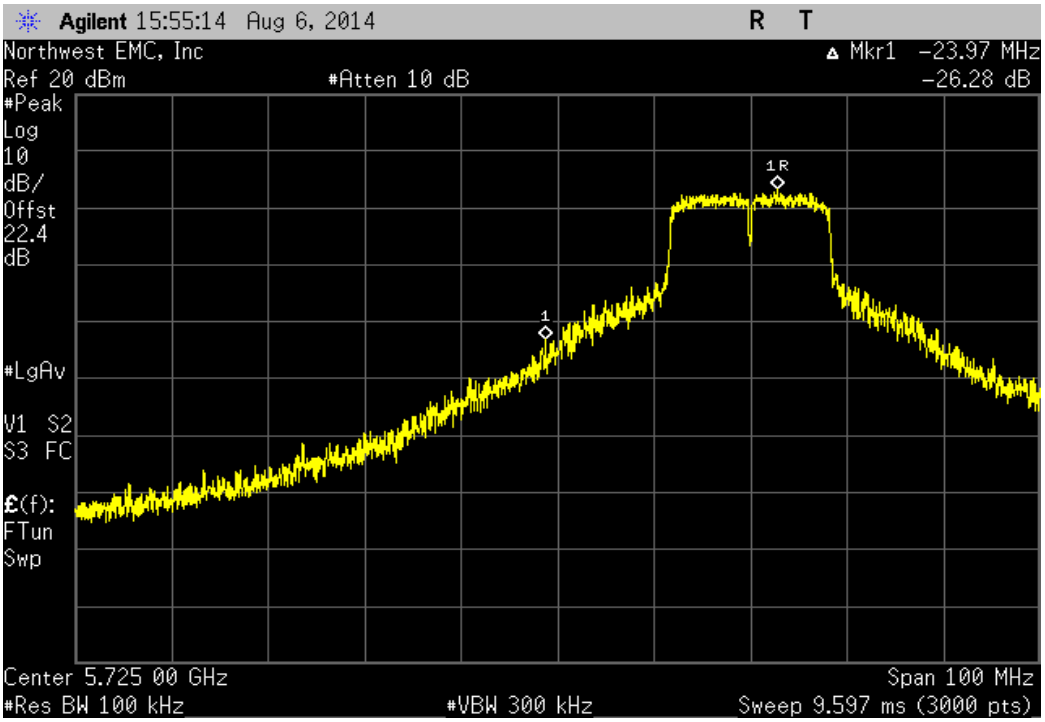
Port 1, 802.11(a) 6 Mbps, Low Channel 149, 5745 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-27.41	-20	Pass



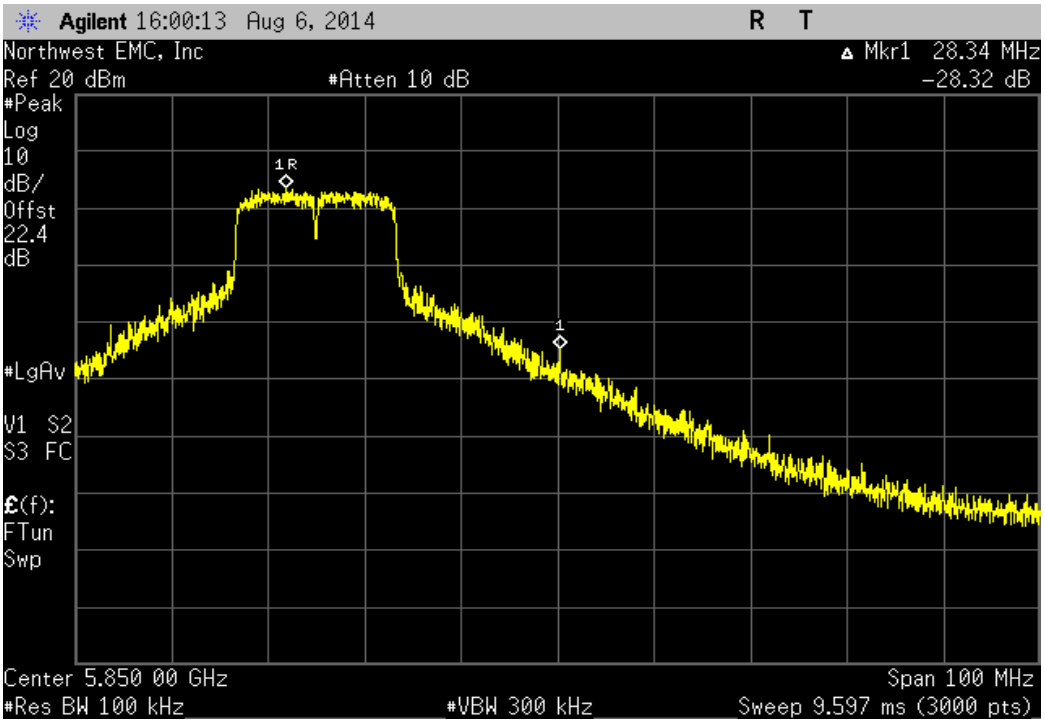
Port 1, 802.11(a) 6 Mbps, High Channel 165, 5825 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-31.71	-20	Pass



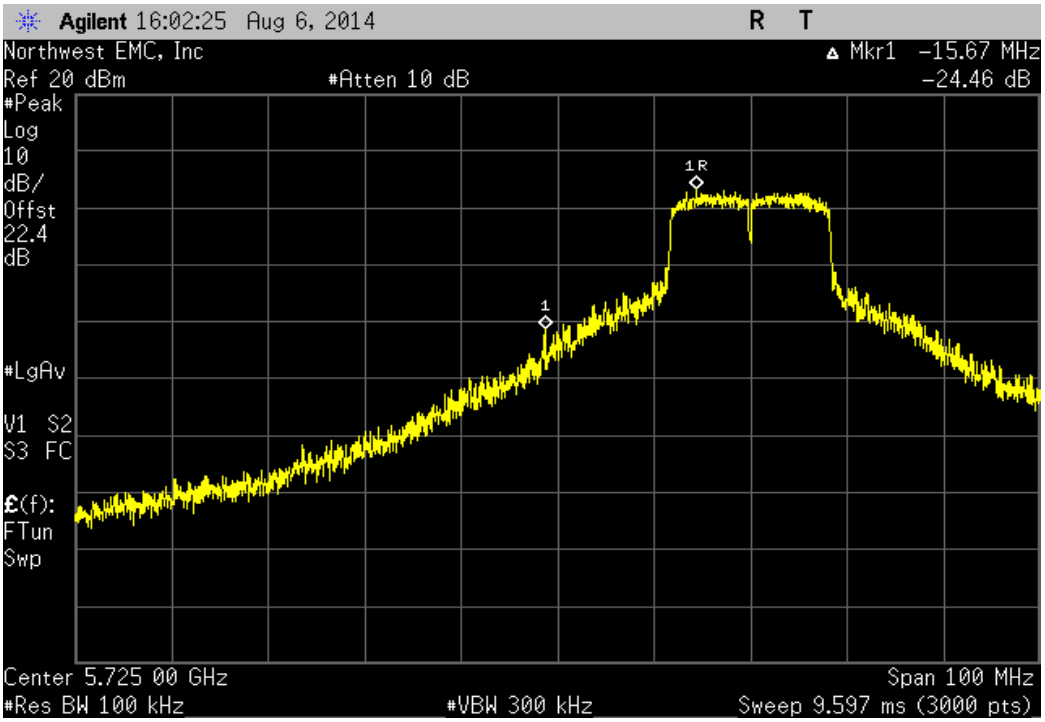
Port 1, 802.11(a) 36 Mbps, Low Channel 149, 5745 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-26.28	-20	Pass



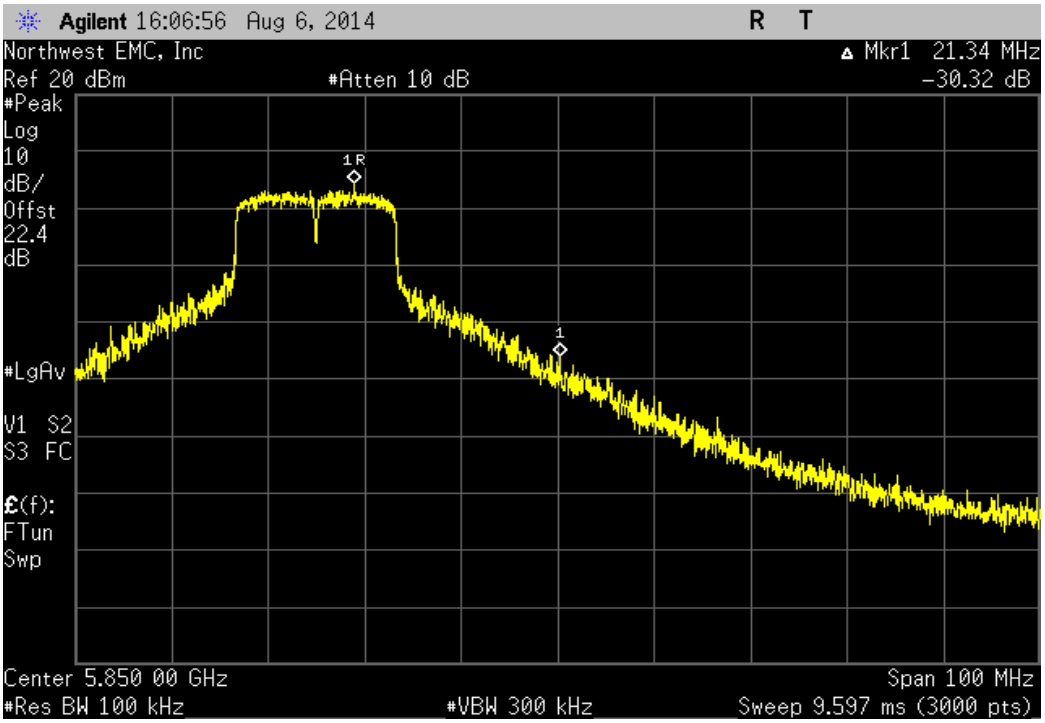
Port 1, 802.11(a) 36 Mbps, High Channel 165, 5825 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-28.33	-20	Pass



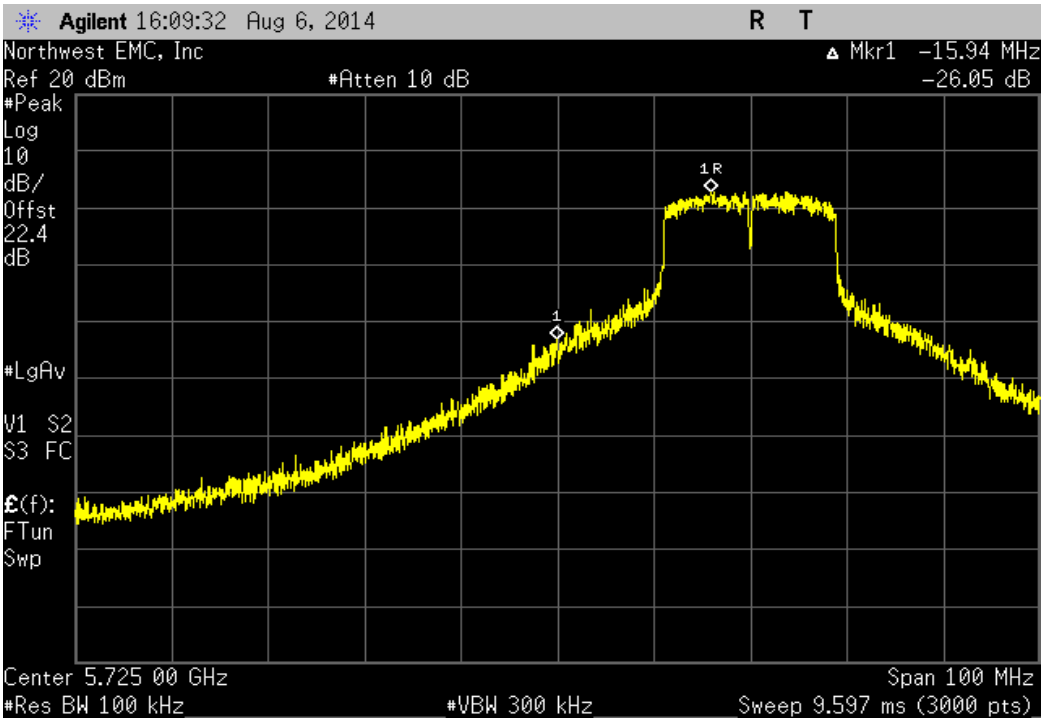
Port 1, 802.11(a) 54 Mbps, Low Channel 149, 5745 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-24.46	-20	Pass



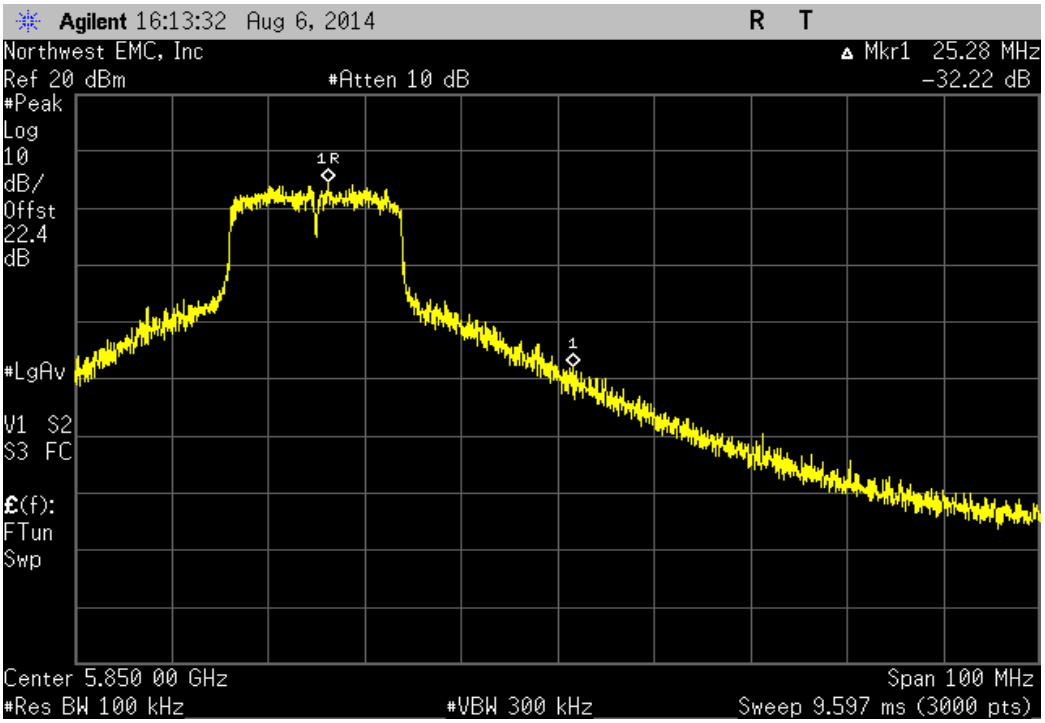
Port 1, 802.11(a) 54 Mbps, High Channel 165, 5825 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-30.32	-20	Pass



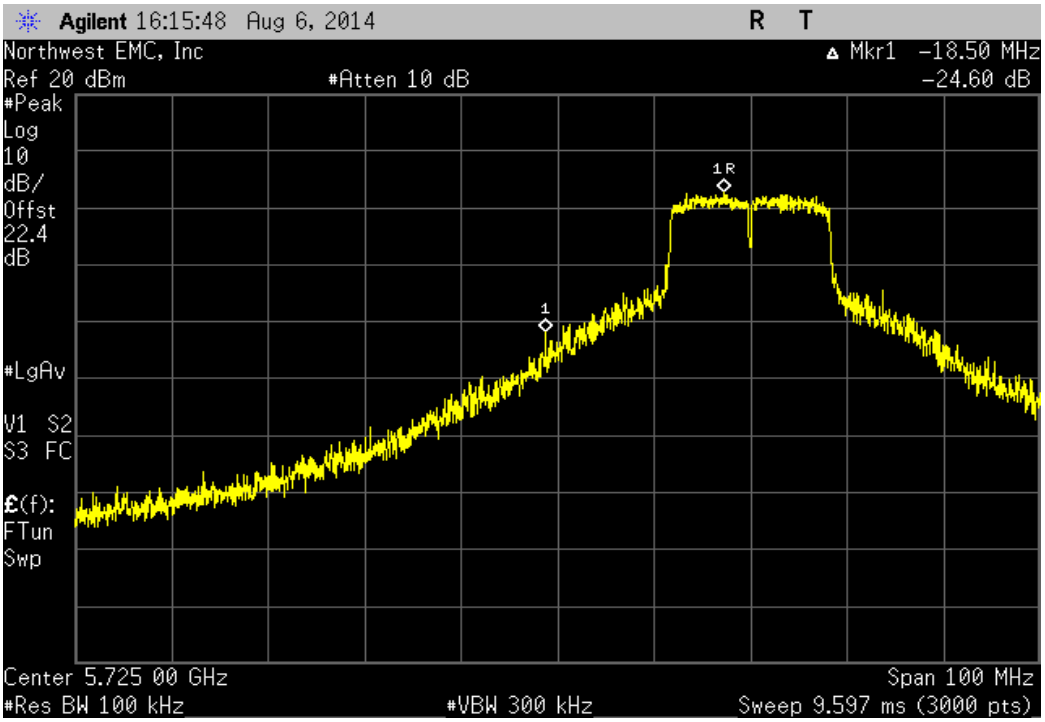
Port 1, 802.11(n) MCS0 - UNII, Low Channel 149, 5745 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-26.05	-20	Pass



Port 1, 802.11(n) MCS0 - UNII, High Channel 165, 5825 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-32.22	-20	Pass



Port 1, 802.11(n) MCS7 - UNII, Low Channel 149, 5745 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-24.6	-20	Pass



Port 1, 802.11(n) MCS7 - UNII, High Channel 165, 5825 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-28.83	-20	Pass