NORTHWEST EMC

Summit Semiconductor LLC

SherwoodXD (extended distance)

FCC 15.407:2015
FCC 15.407:2016
802.11a SISO radio module

Report # FOCU0216

NVLAP Lab Code: 200630-0

CERTIFICATE OF TEST

NORTHWEST EMC
2014-12-10

Last Date of Test: January 22, 2016
Summit Semiconductor LLC
Model: SherwoodXD (extended distance)

Radio Equipment Testing

Standards

Specification	Method
FCC 15.407:2014	ANSI C63.10:2013
FCC 15.407:2015	
FCC 15.407:2016	

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	
6.8	Frequency Stability	Yes	Pass	
6.9.1	Emission Bandwidth	Yes	Pass	
6.9.1	Occupied Bandwidth	Yes	Pass	
6.10.3	Maximum Conducted Output Power	Yes	Pass	
6.11.1	Maximum Power Spectral Density	Yes	Pass	
7.5	Duty Cycle	Yes	Pass	

Deviations From Test Standards

None

Approved By:

Kyle Holgate, 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. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.

REVISION HISTORY

NORTHWEST EMC
REV 2014.10.14

Revision Number	Description	Date	Page Number
00	None		

ACCREDITATIONS AND AUTHORIZATIONS

REV 2015.2.19

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 17065 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

OFCA – Recognized by OFCA 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/
http://gsi.nist.gov/global/docs/cabs/designations.html

MEASUREMENT UNCERTAINTY

TMU.2015.07.10

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 16-4-2 as applicable), and are available upon request.

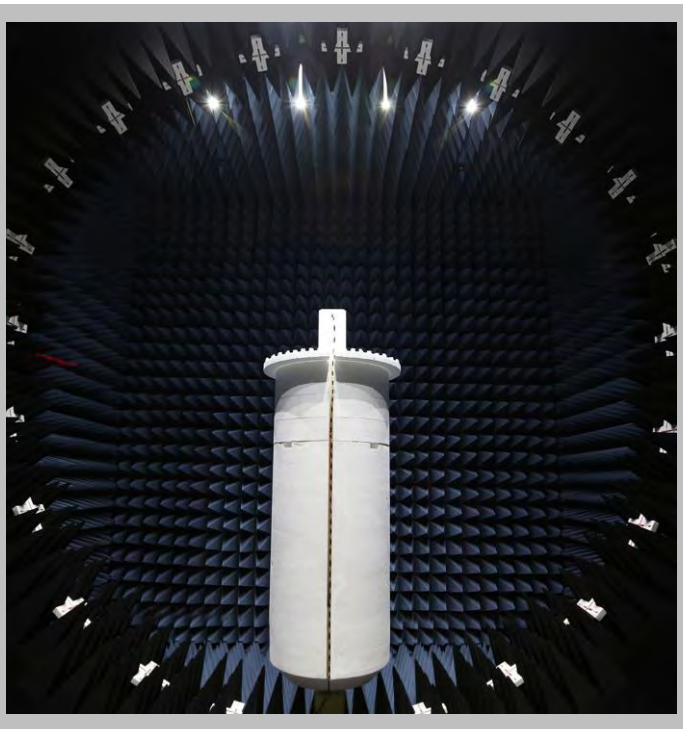
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

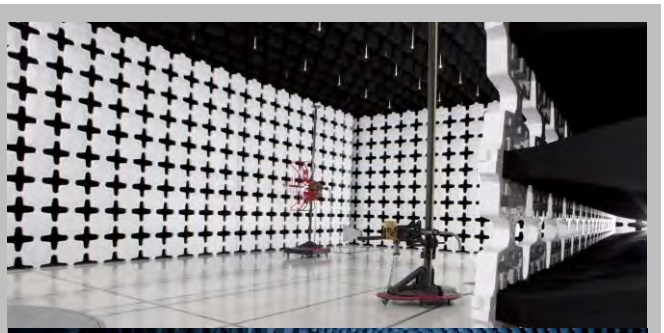
Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

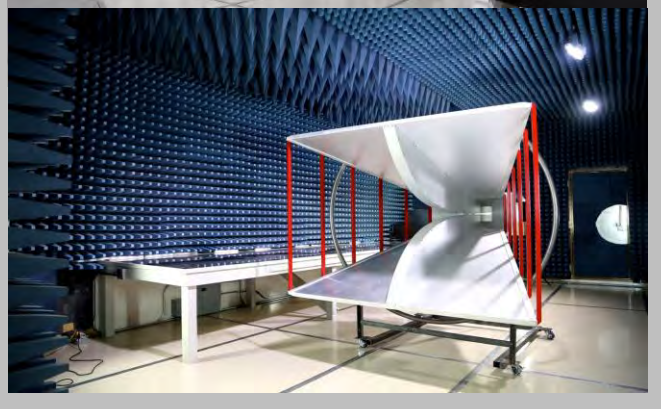
FACILITIES

NORTHWEST EMC
REV 2015.2.19

California	Minnesota	New York	Oregon	Texas	Washington
Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-08, MN10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Labs NC01-05 19201 120th Ave NE Bothell, WA 98011 (425)984-6600
NVLAP					
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0
Industry Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-*2*	2834G-1	2834F-1
BSMI					
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110
Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA					
US0158	US0175	N/A	US0017	US0191	US0157







PRODUCT DESCRIPTION

NORTHWEST EMC
2014-12-10

Client and Equipment Under Test (EUT) Information

Company Name:	Summit Semiconductor LLC
Address:	20575 NW Von Neumann Dr.
City, State, Zip:	Beaverton, OR 97006
Test Requested By:	Kenneth Boehlke
Model:	Sherwood XD (extended distance)
First Date of Test:	June 11, 2014
Last Date of Test:	January 22, 2016
Receipt Date of Samples:	September 21, 2015
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Previously certified master device modified to increase the output power.

Testing Objective:
To demonstrate compliance of the 802.11 radio after an increase in output power under FCC 15.407 for operation in the 5 GHz band(s).

CONFIGURATIONS

NORTHWEST EMC 2014-12-10

Configuration FOCU0169- 3

The client attests that the data from FOCU0169 is representative of this device. It is electrically and mechanically identical other than the exact output power setting.

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Digital Wireless Master Module	Summit Semiconductor LLC	444-2251	02EA4F000062

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Glenwood-Bridge	Summit Semiconductor LLC	088R104	None
AC/DC Adapter (DELL)	Dell	DPN-6C3W2	None
Laptop Computer Radiated	Dell	PP04X	CN-0HN341-48643-79E-0502
Ethernet Hub	D-Link	DGS-2205	P1BH481000045

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB to Serial Adapter	Yes	1m	No	Glenwood-Bridge	Laptop
DC Power Cable	No	1.2m	Yes	Laptop	AC/DC Power Adapter
AC Power Cable	No	.9m	No	AC/DC Power Adapter	AC Mains
Ethernet	No	1m	No	Laptop	Ethernet Hub
DC Power Cable	No	2m	No	Glenwood-Bridge	DC Power Supply

CONFIGURATIONS

NORTHWEST EMC 2014-12-10

Configuration FOCU0169- 8

The client attests that the data from FOCU0169 is representative of this device. It is electrically and mechanically identical other than the exact output power setting.

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Digital Wireless Master Module	Summit Semiconductor LLC	444-2251	02EA4F000062
Digital Wireless Master Module	Summit Semiconductor LLC	444-2251	02EA4F000063

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Glenwood-Bridge	Summit Semiconductor LLC	088R104	None
Laptop Computer Direct Connect	Dell	Latitude E5540	61FHTY1
AC/DC Adapter (DELL)	Dell	DPN-6C3W2	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB to Serial Adapter	Yes	1m	No	Glenwood-Bridge	Laptop
DC Power Cable	No	1.4m	Yes	Glenwood-Bridge	AC/DC Power Adapter
AC Power Cable x2	No	.9m	No	AC/DC Power Adapter	AC Mains
DC Power Cable	No	1.2m	Yes	Laptop	AC/DC Power Adapter

CONFIGURATIONS

NORTHWEST EMC 2014-12-10

Configuration FOCU0216- 2

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Radio Module (SherwoodXD (extended distance))	Summit Semiconductor LLC	444-2254	02EA4FD0010F

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop DFS (Dell)	Dell	Latitude D820	None
AC/DC Adapter DFS (DELL)	Replacement AC Adaptor	AC-PA-10	None
SherwoodXD-Bridge	Summit Semiconductor LLC	None	None
Power Supply (Master)	CONDOR	STD-1836P	SA-183A6IV

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB Cable	Yes	1.2m	No	Laptop	Development Board (Athena)
Serial Cable	No	1.6m	No	SherwoodXD-Bridge	Laptop DFS
AC Power Cable (SherwoodXD (extended distance))	No	0.8m	No	AC/DC Power Adapter	AC mains
DC Power Cable (SherwoodXD (extended distance))	No	1.6m	Yes	SherwoodXD-Bridge	AC/DC Power Adapter

CONFIGURATIONS

NORTHWEST EMC 2014-12-10

Configuration FOCU0216- 7

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Radio Module (SherwoodXD (extended distance))	Summit Semiconductor LLC	444-2254	02EA4FD0010F

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Development Board (SherwoodXD)	Summit Semiconductor LLC	0127R101	None
SherwoodXD-Bridge	Summit Semiconductor LLC	None	None
Power Supply (Master)	CONDOR	STD-1836P	SA-183A6IV
External Omni Antennas	Nearson	T614AH	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Power Cable (SherwoodXD (extended distance))	No	0.8m	No	AC/DC Power Adapter	AC mains
DC Power Cable (SherwoodXD (extended distance))	No	1.6m	Yes	SherwoodXD-Bridge	AC/DC Power Adapter
u.fl to SMA Cable x2	Unknown	0.2m	No	RF Module	Omni Antennas

MODIFICATIONS

NORTHWEST EMC
2014-12-10

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	06/11/2014	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	07/07/2014	Frequency Stability	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.
3	11/24/2015	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	12/03/2015	Transmission Burst Duration	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	12/03/2015	Emission Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	12/03/2015	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.
7	12/03/2015	Maximum 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.
8	01/22/2016	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

DUTY CYCLE

XMit 2015.01.14

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)
Power Supply - DC	Tektronix	PS280	TPM	NCR	0
Meter - Multimeter	Tektronix	DMM912	MMH	2/5/2013	36
Thermometer	Omegaette	HH311	DTY	1/21/2015	36
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBI	NCR	0
Attenuator	S.M. Electronics	SA18N-06/SM4032	REE	10/1/2015	12
Generator - Signal	Agilent	V2920A	TIH	NCR	0
Meter - Power	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Cable	ESM Cable Corp.	TT	EV1	NCR	0
Block - DC	Fairview Microwave	SD3379	AMP	6/18/2015	12
Attenuator	S.M. Electronics	SA26B-20	AUY	7/14/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

Per ANSI C63.10, all measurements are to be performed with the EUT operating at 100% duty cycle at its maximum power level. In the event the EUT cannot be operated at 100% duty cycle, the transmission pulse duration (T) and Duty Cycle (x) are required to be measured for each of the EUT operating modes.

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

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

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

10 * LOG (1/D) = dB

Where D is duty cycle of the radio transmissions

DUTY CYCLE

NORTHWEST EMC

XMit 2015.01.14

EUT:	SherwoodXD (extended distance)			**Work Order:**	FOCU0216
Serial Number:	02EA4FD0010F			**Date:**	12/03/15
Customer:	Summit Semiconductor LLC			**Temperature:**	22.4°C
Attendees:	David Schilling			**Humidity:**	39%
Project:	None			**Barometric Pres.:**	1008.5
Tested by:	Brandon Hobbs	**Power:**	3.3/1.2VDC Nominal	**Job Site:**	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.407:2015	ANSI C63.10:2013

COMMENTS

The client provided the operating modes for testing. All cable losses were accounted for while under test.

DEVIATIONS FROM TEST STANDARD

None

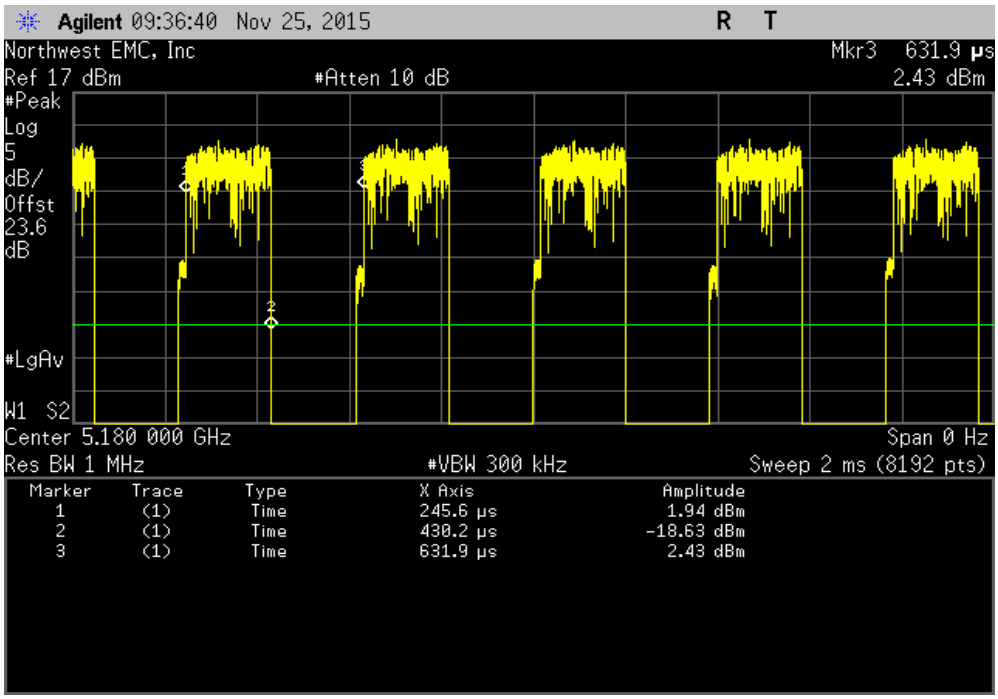
Configuration #	2	Signature

		Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
Normal Conditions							
	802.11(a) 6 Mbps						
	Low Channel, Ch.8 5180 MHz	184.6 us	386.3 us	1	47.8	N/A	N/A
	Low Channel, Ch.8 5180 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel, Ch.14 5240 MHz	184.6 us	382.4 us	1	48.3	N/A	N/A
	High Channel, Ch.14 5240 MHz	N/A	N/A	5	N/A	N/A	N/A
	Low Channel, Ch.15 5260 MHz	184.8 us	383.6 us	1	48.2	N/A	N/A
	Low Channel, Ch.15 5260 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel, Ch.18 5320 MHz	184.6 us	383.4 us	1	48.1	N/A	N/A
	High Channel, Ch.18 5320 MHz	N/A	N/A	5	N/A	N/A	N/A
	Low Channel, Ch.19 5500 MHz	184.5 us	392.6 us	1	47	N/A	N/A
	Low Channel, Ch.19 5500 MHz	N/A	N/A	5	N/A	N/A	N/A
	Mid Channel, Ch.23 5580 MHz	184.8 us	392.6 us	1	47.1	N/A	N/A
	Mid Channel, Ch.23 5580 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel, Ch.29 5700 MHz	184.6 us	383.8 us	1	48.1	N/A	N/A
	High Channel, Ch.29 5700 MHz	N/A	N/A	5	N/A	N/A	N/A
	802.11(a) 18 Mbps						
	Low Channel, Ch.8 5180 MHz	72.6 us	288.9 us	1	25.1	N/A	N/A
	Low Channel, Ch.8 5180 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel, Ch.14 5240 MHz	72.8 us	284.2 us	1	25.6	N/A	N/A
	High Channel, Ch.14 5240 MHz	N/A	N/A	5	N/A	N/A	N/A
	Low Channel, Ch.15 5260 MHz	72.8 us	292.3 us	1	24.9	N/A	N/A
	Low Channel, Ch.15 5260 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel, Ch.18 5320 MHz	72.7 us	283 us	1	25.7	N/A	N/A
	High Channel, Ch.18 5320 MHz	N/A	N/A	5	N/A	N/A	N/A
	Low Channel, Ch.19 5500 MHz	72.7 us	282.7 us	1	25.7	N/A	N/A
	Low Channel, Ch.19 5500 MHz	N/A	N/A	5	N/A	N/A	N/A
	Mid Channel, Ch.23 5580 MHz	72.7 us	270.5 us	1	26.9	N/A	N/A
	Mid Channel, Ch.23 5580 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel, Ch.29 5700 MHz	72.8 us	283 us	1	25.7	N/A	N/A
	High Channel, Ch.29 5700 MHz	N/A	N/A	5	N/A	N/A	N/A
	802.11(a) 36 Mbps						
	Low Channel, Ch.8 5180 MHz	44.9 us	269.3 us	1	16.7	N/A	N/A
	Low Channel, Ch.8 5180 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel, Ch.14 5240 MHz	44.9 us	260.3 us	1	17.2	N/A	N/A
	High Channel, Ch.14 5240 MHz	N/A	N/A	5	N/A	N/A	N/A
	Low Channel, Ch.15 5260 MHz	44.9 us	259.3 us	1	17.3	N/A	N/A
	Low Channel, Ch.15 5260 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel, Ch.18 5320 MHz	44.9 us	260.1 us	1	17.3	N/A	N/A
	High Channel, Ch.18 5320 MHz	N/A	N/A	5	N/A	N/A	N/A
	Low Channel, Ch.19 5500 MHz	44.9 us	267.8 us	1	16.8	N/A	N/A
	Low Channel, Ch.19 5500 MHz	N/A	N/A	5	N/A	N/A	N/A
	Mid Channel, Ch.23 5580 MHz	44.9 us	259.8 us	1	17.3	N/A	N/A
	Mid Channel, Ch.23 5580 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel, Ch.29 5700 MHz	44.7 us	260.1 us	1	17.2	N/A	N/A
	High Channel, Ch.29 5700 MHz	N/A	N/A	5	N/A	N/A	N/A

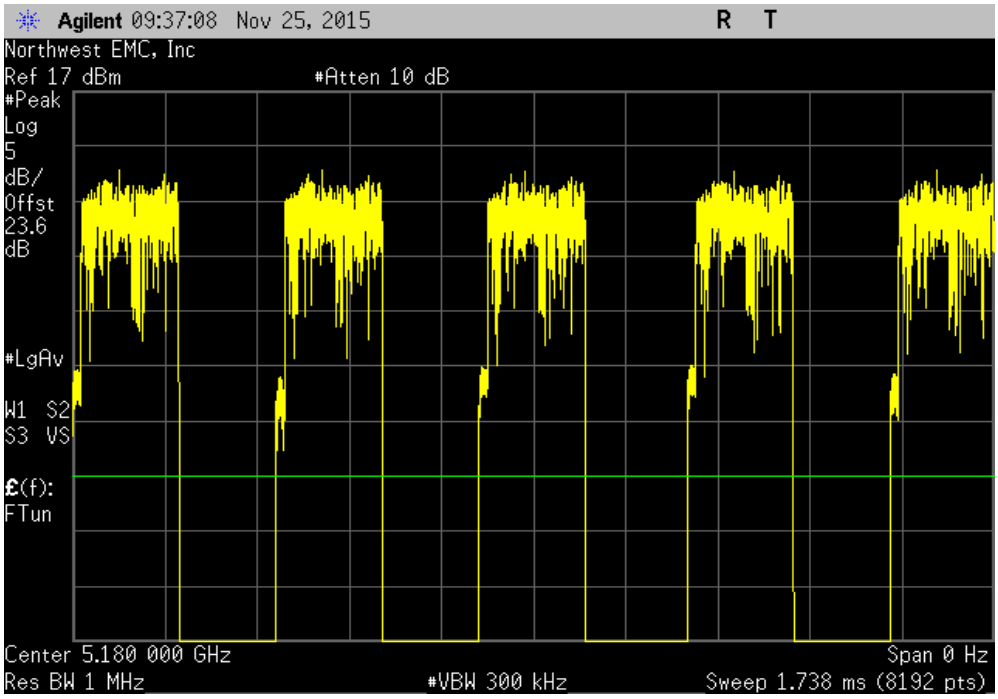
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.8 5180 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	184.6 us	386.3 us	1	47.8	N/A	N/A



Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.8 5180 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A

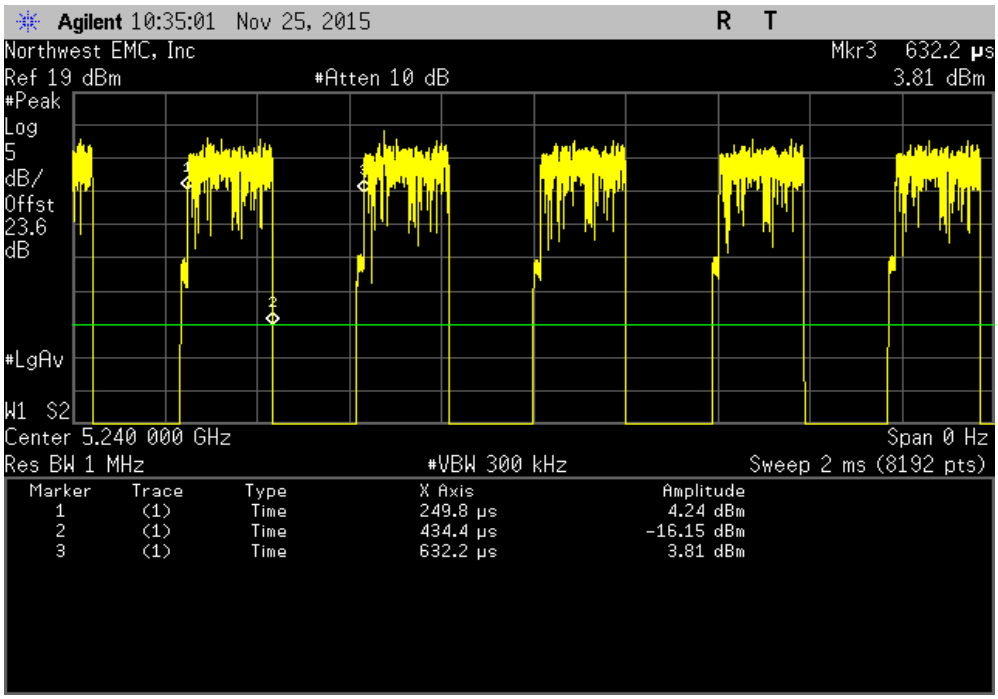


DUTY CYCLE

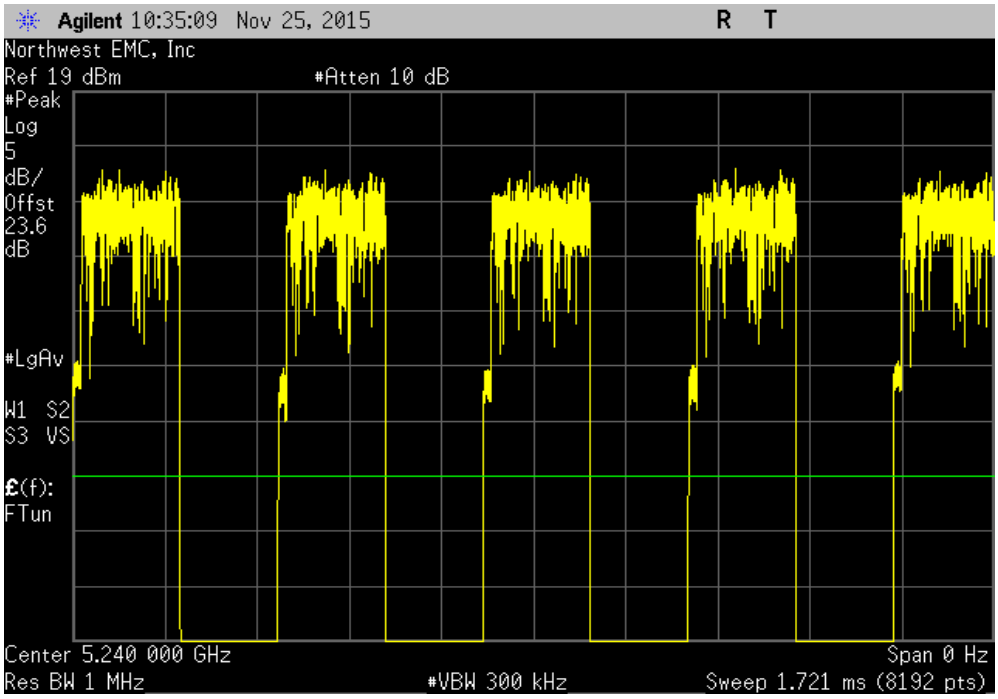
NORTHWEST EMC

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.14 5240 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	184.6 us	382.4 us	1	48.3	N/A	N/A



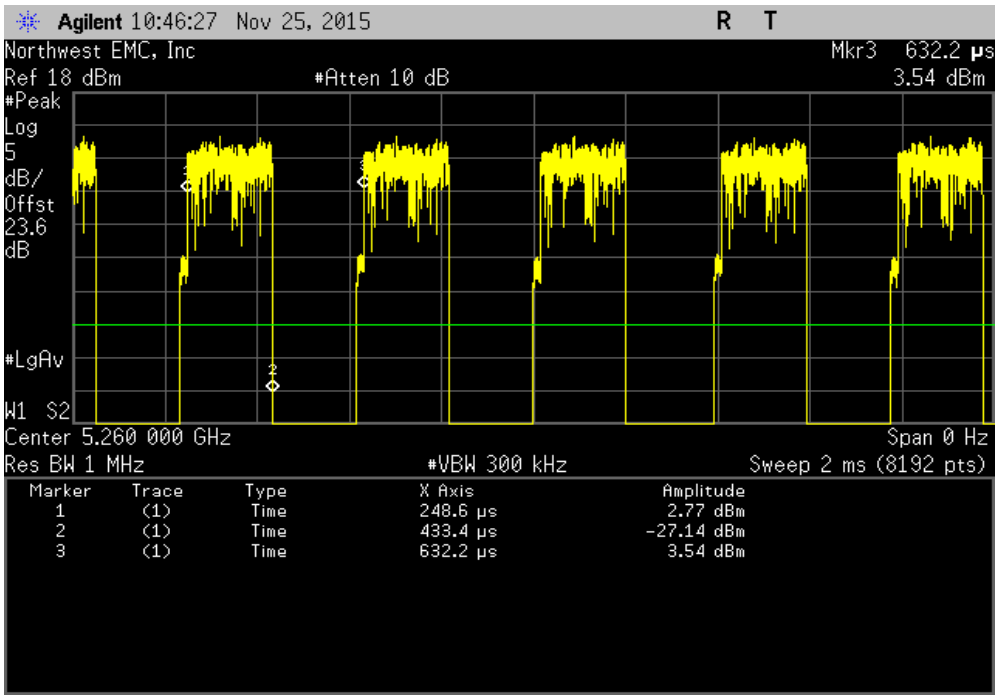
Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.14 5240 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



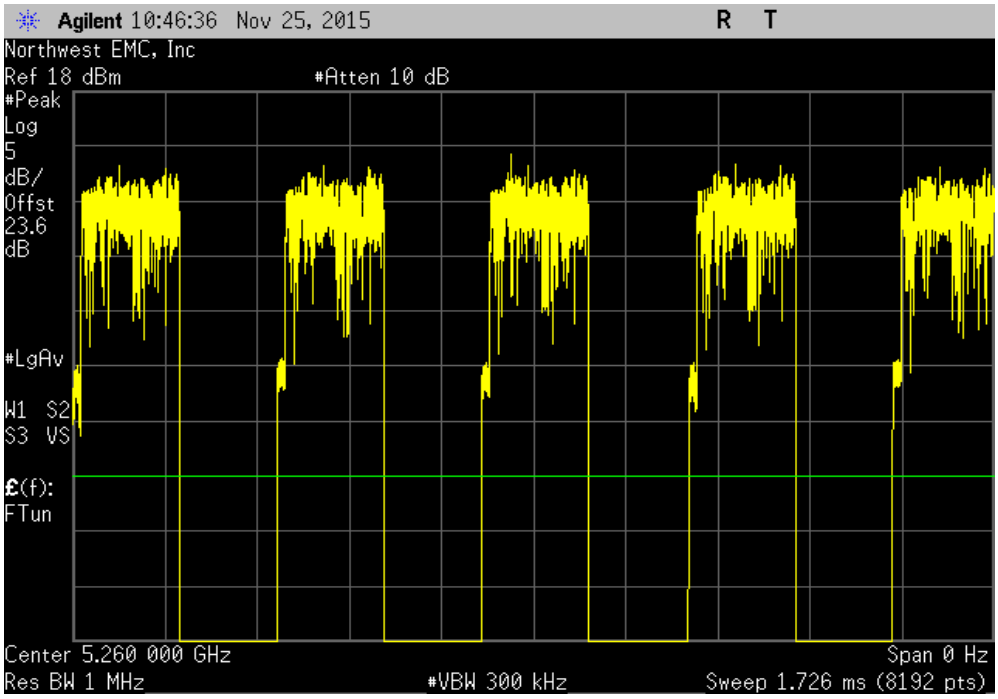
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.15 5260 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	184.8 us	383.6 us	1	48.2	N/A	N/A



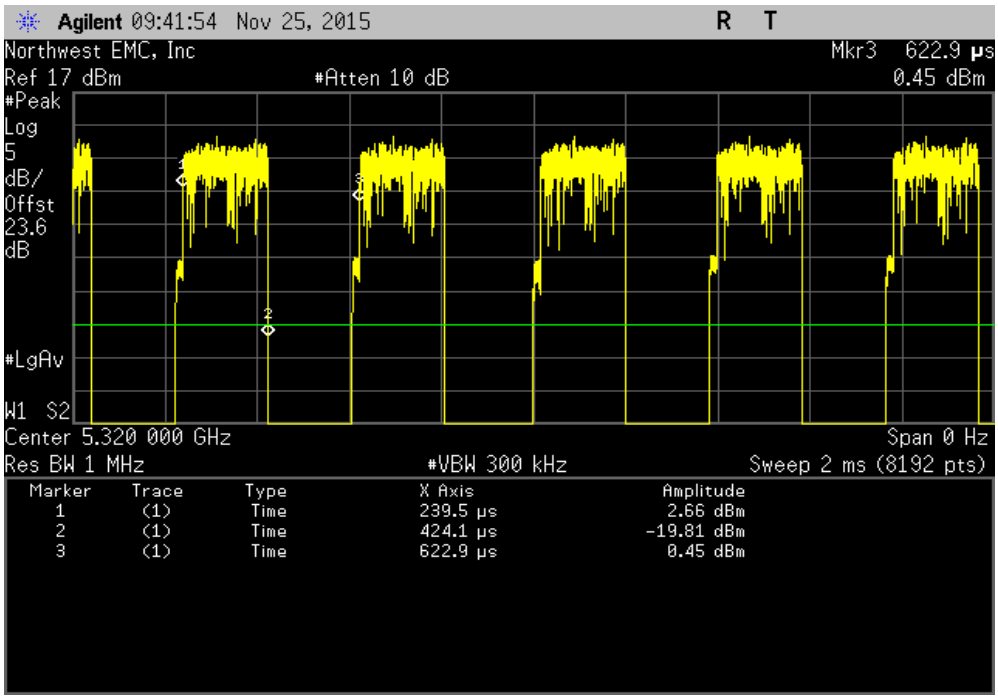
Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.15 5260 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



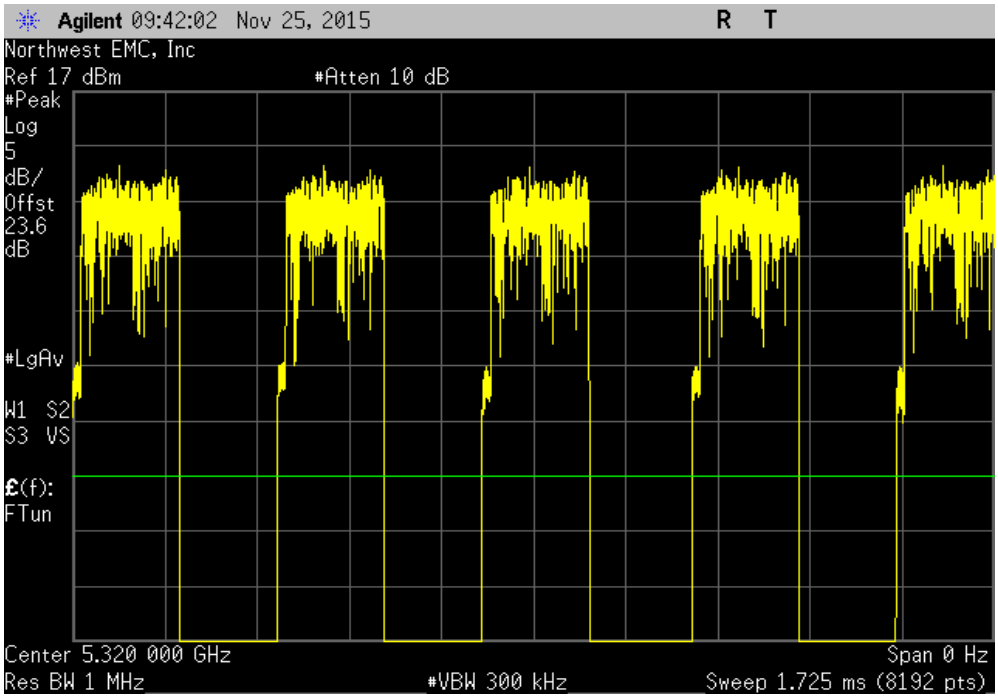
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.18 5320 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	184.6 us	383.4 us	1	48.1	N/A	N/A



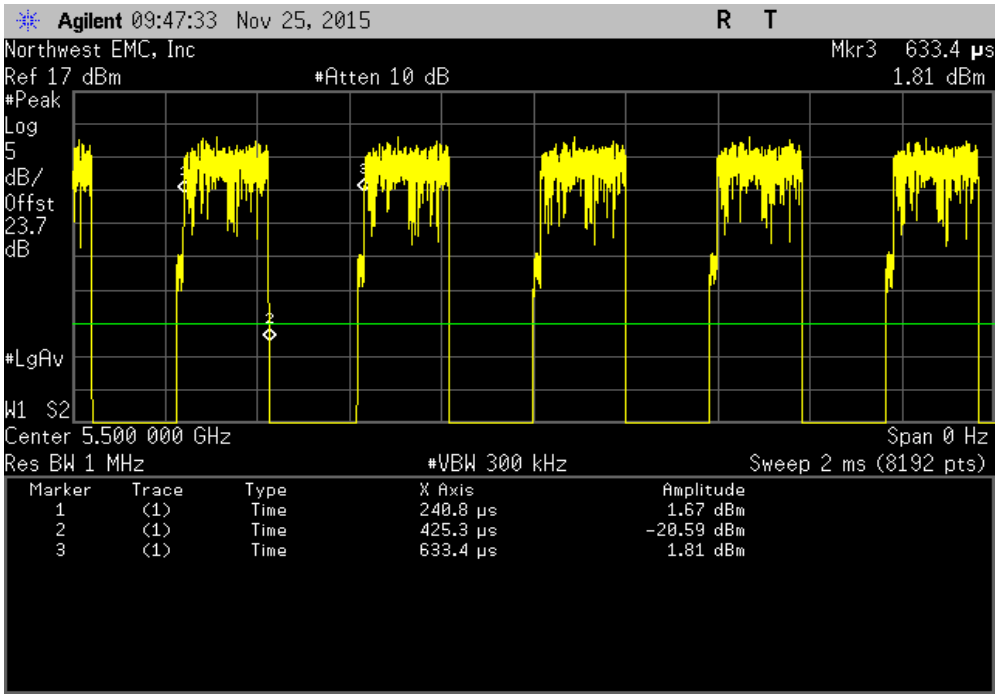
Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.18 5320 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



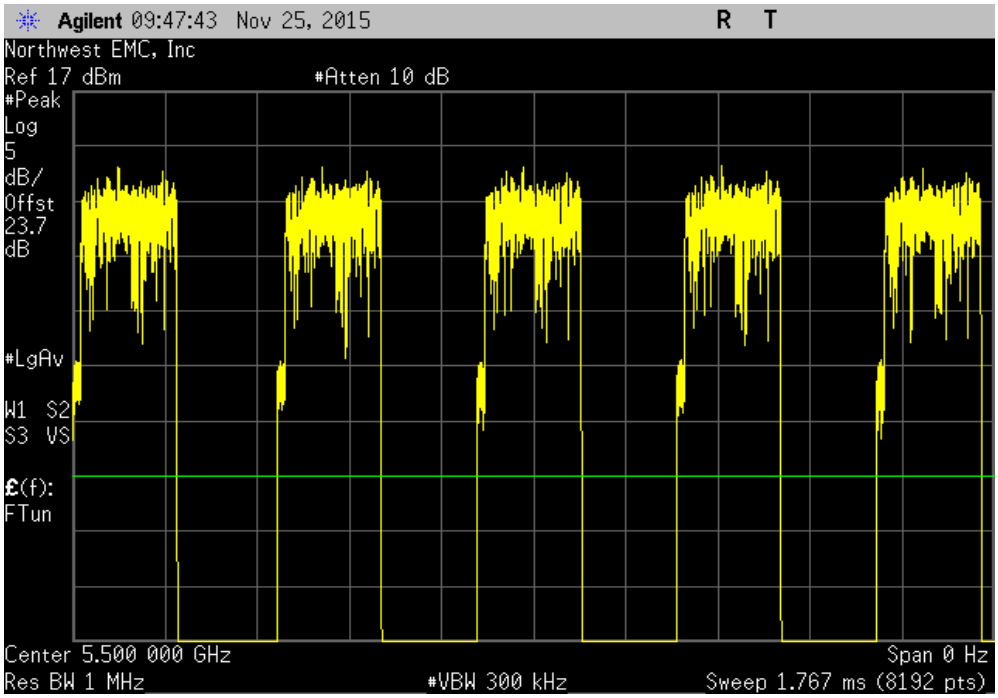
DUTY CYCLE

XMit 2015.01.14

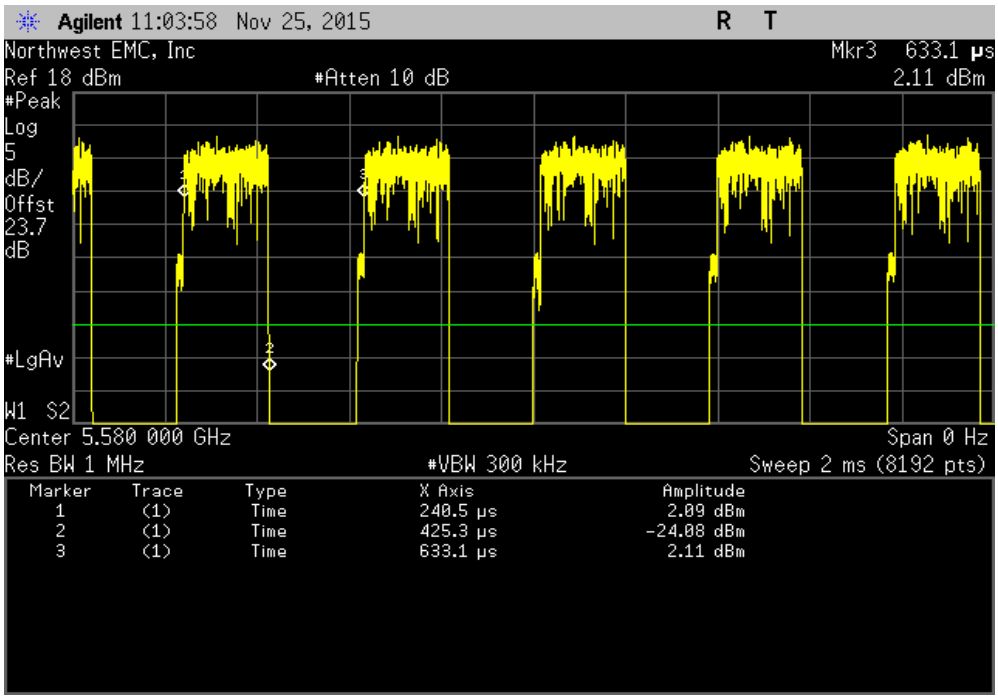
Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.19 5500 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	184.5 us	392.6 us	1	47	N/A	N/A



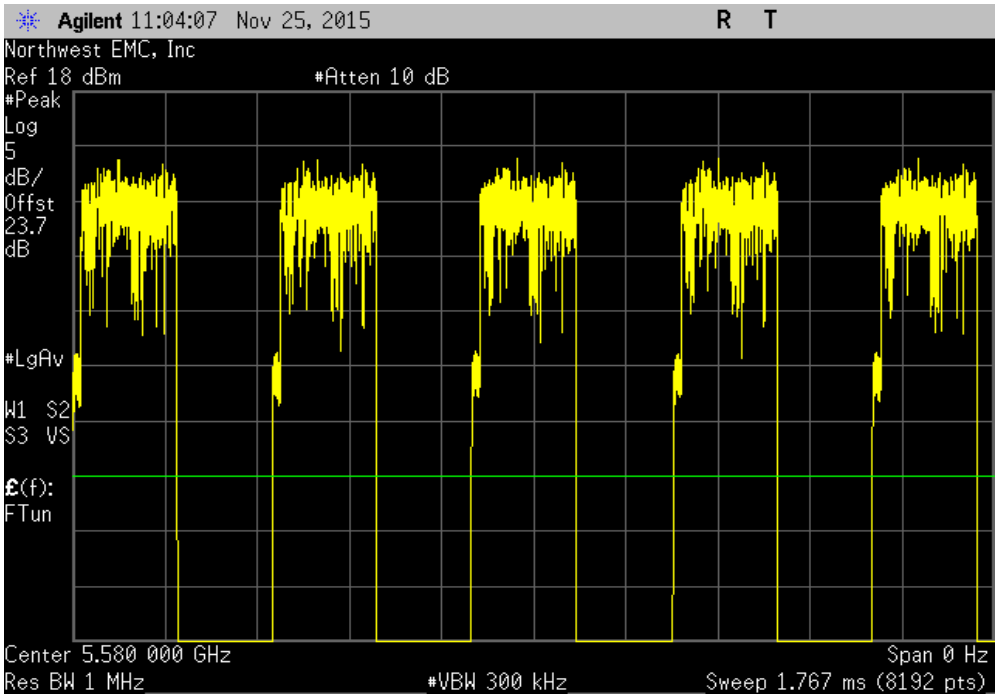
Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.19 5500 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



Normal Conditions, 802.11(a) 6 Mbps, Mid Channel, Ch.23 5580 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	184.8 us	392.6 us	1	47.1	N/A	N/A



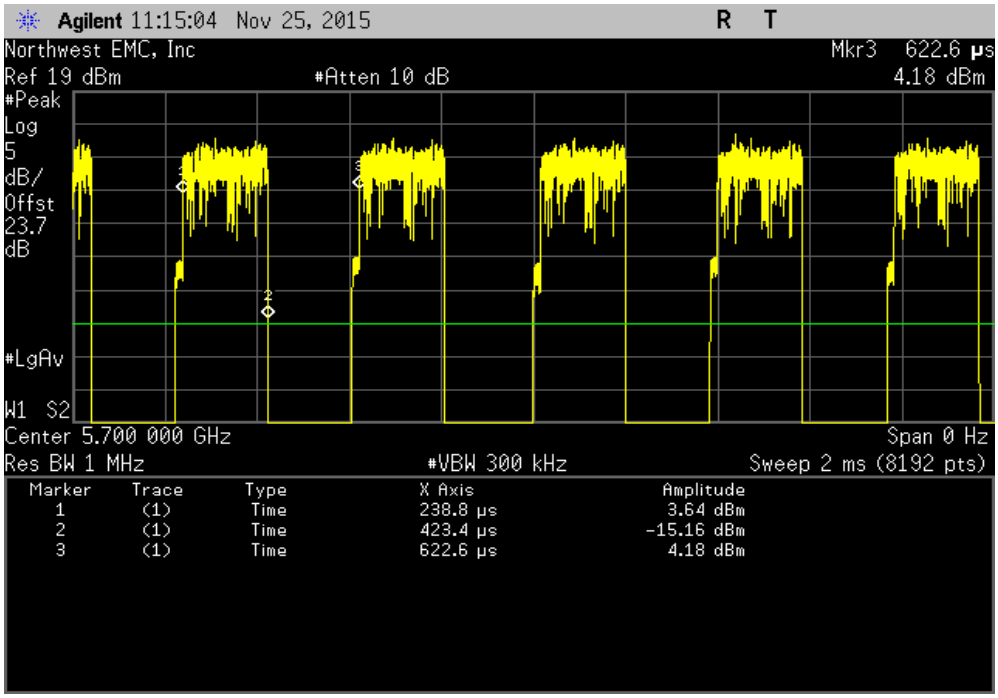
Normal Conditions, 802.11(a) 6 Mbps, Mid Channel, Ch.23 5580 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



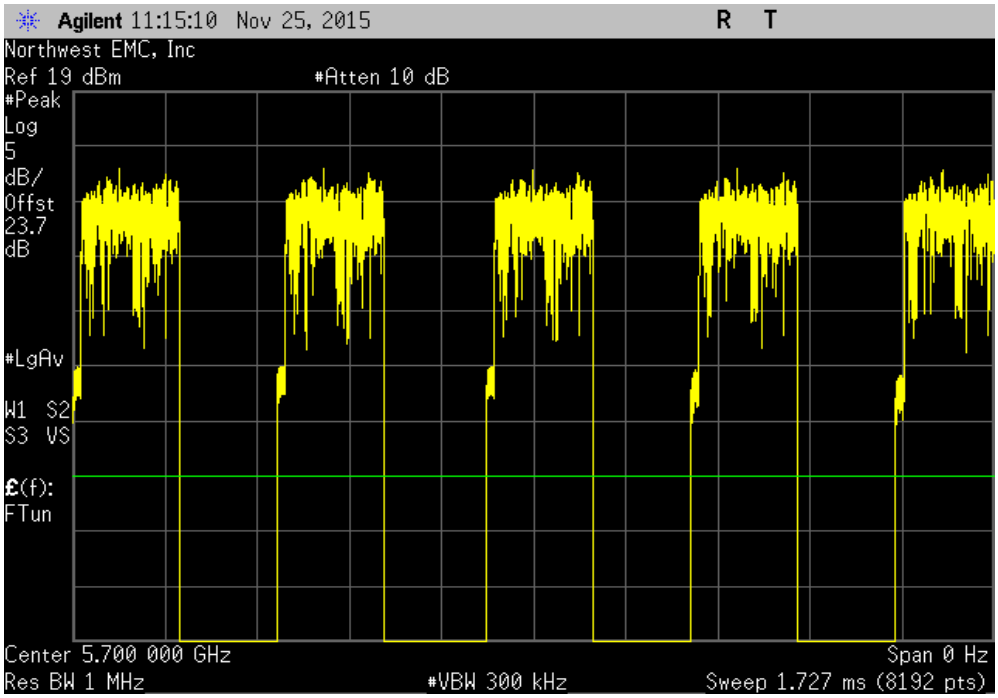
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.29 5700 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	184.6 us	383.8 us	1	48.1	N/A	N/A



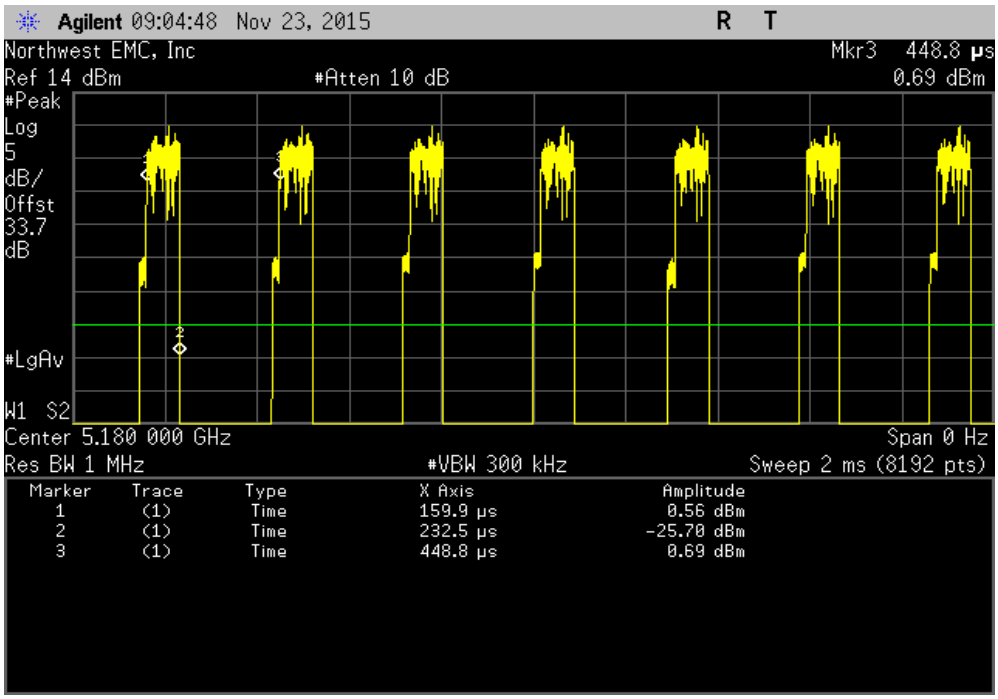
Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.29 5700 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



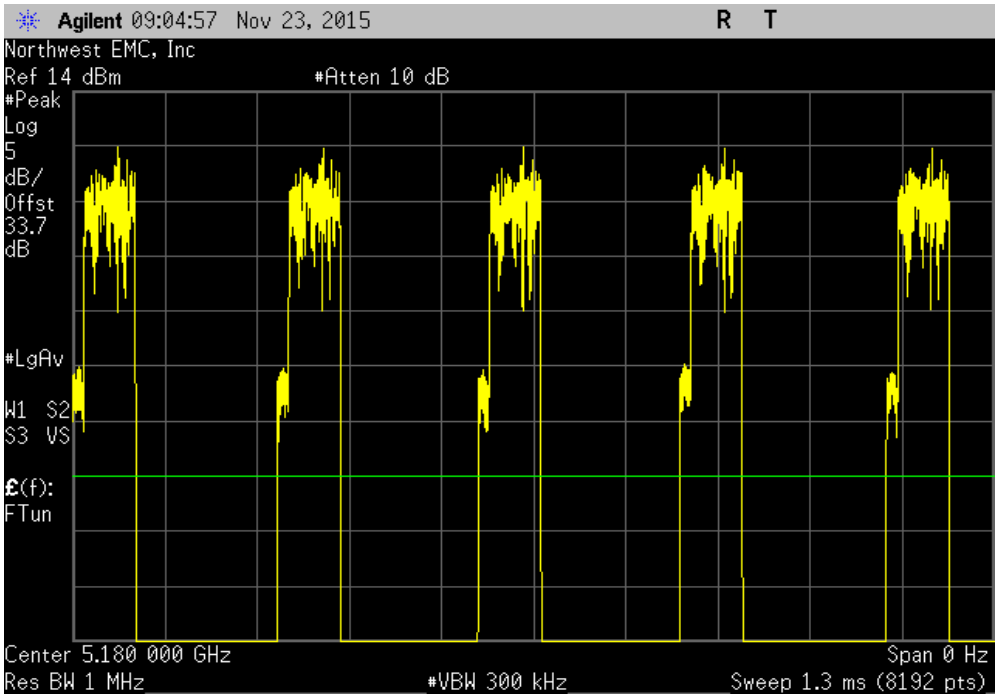
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.8 5180 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	72.6 us	288.9 us	1	25.1	N/A	N/A



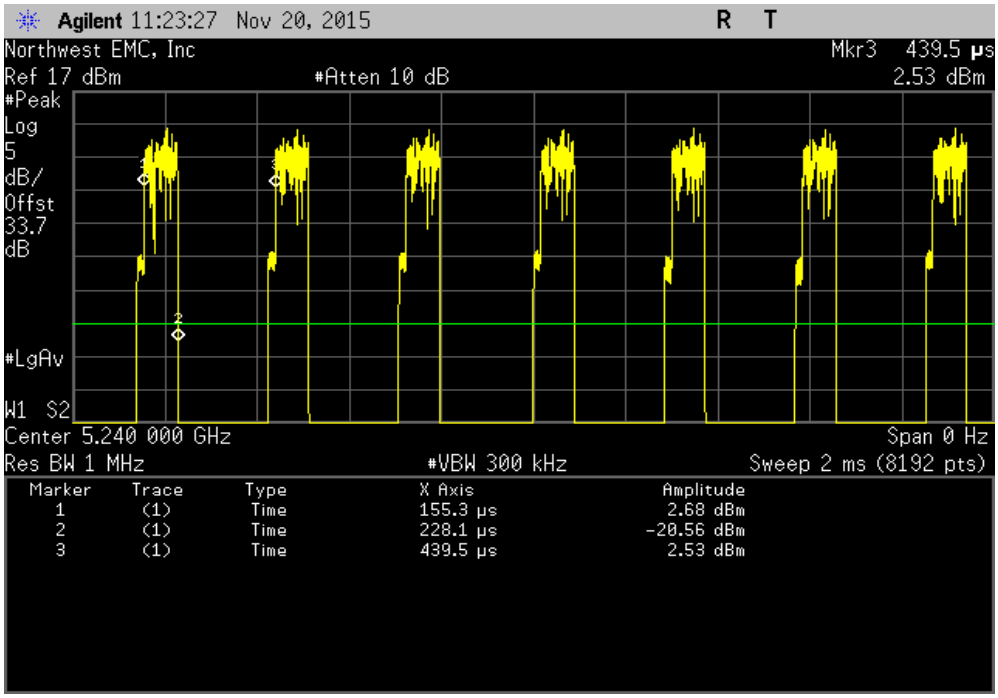
Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.8 5180 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



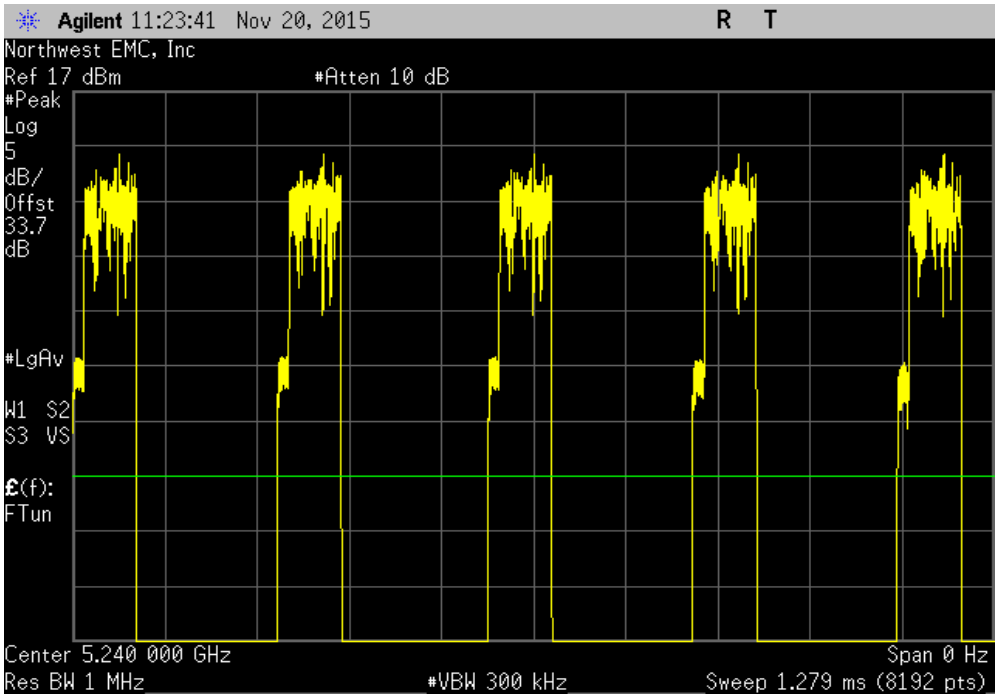
DUTY CYCLE

XMit 2015.01.14

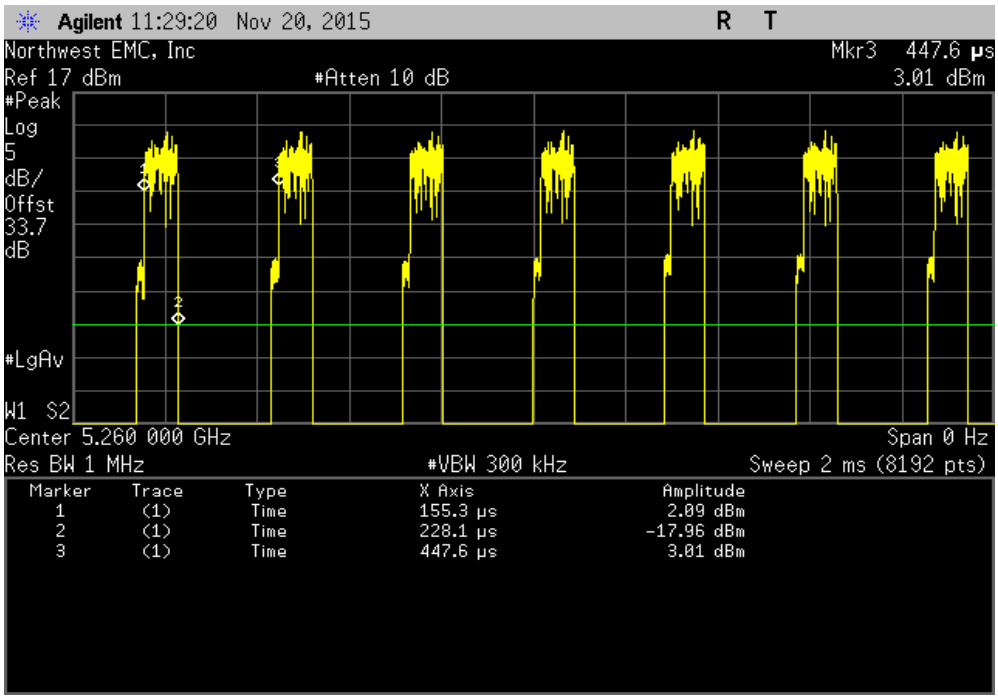
Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.14 5240 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	72.8 us	284.2 us	1	25.6	N/A	N/A



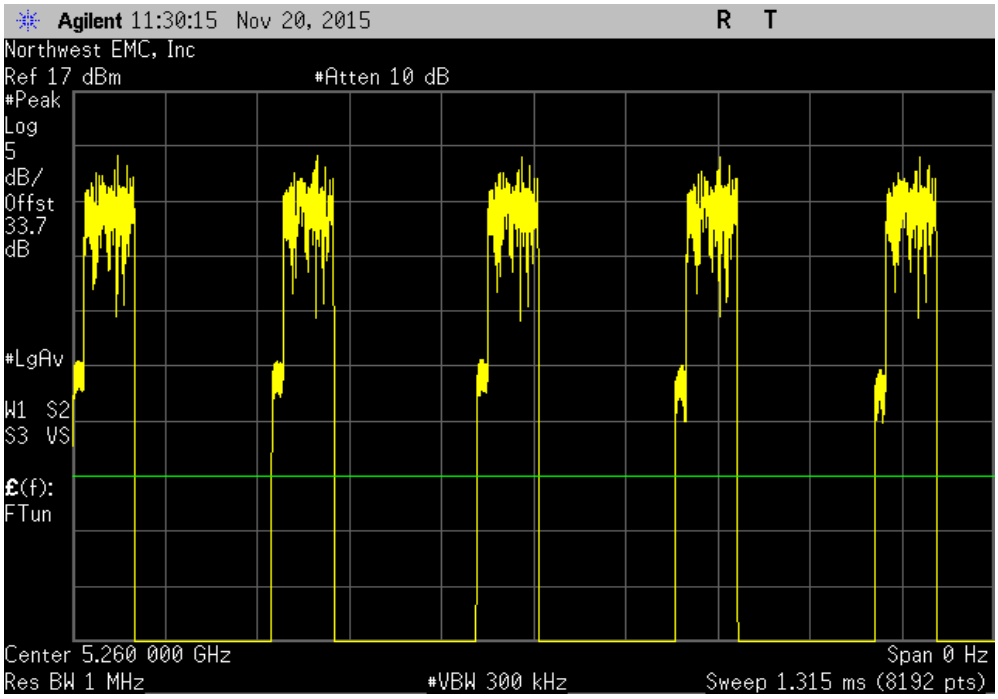
Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.14 5240 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.15 5260 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	72.8 us	292.3 us	1	24.9	N/A	N/A



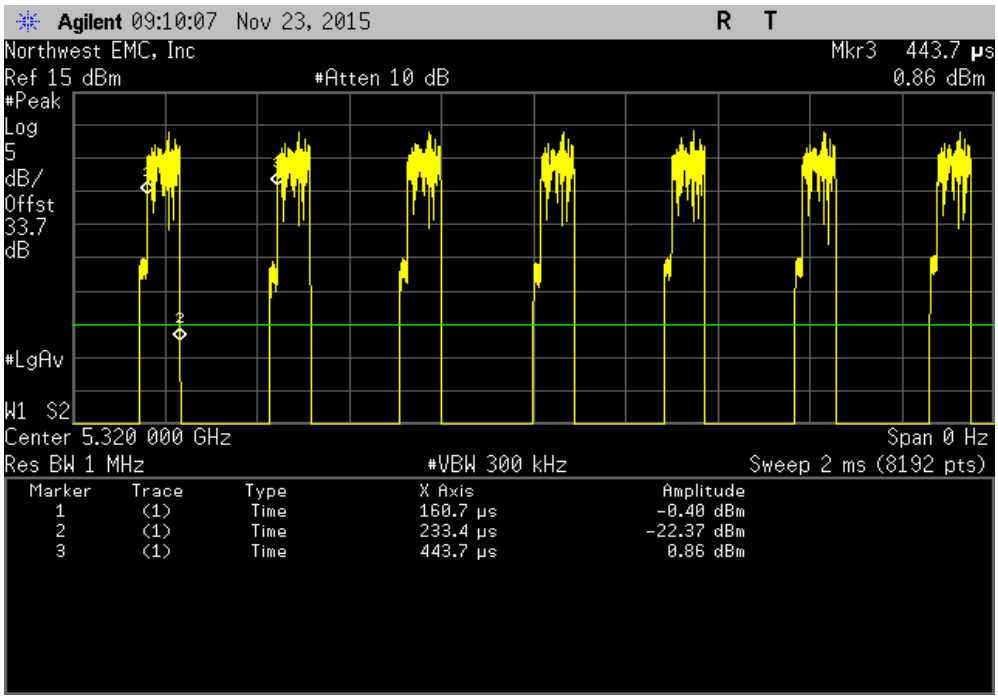
Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.15 5260 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



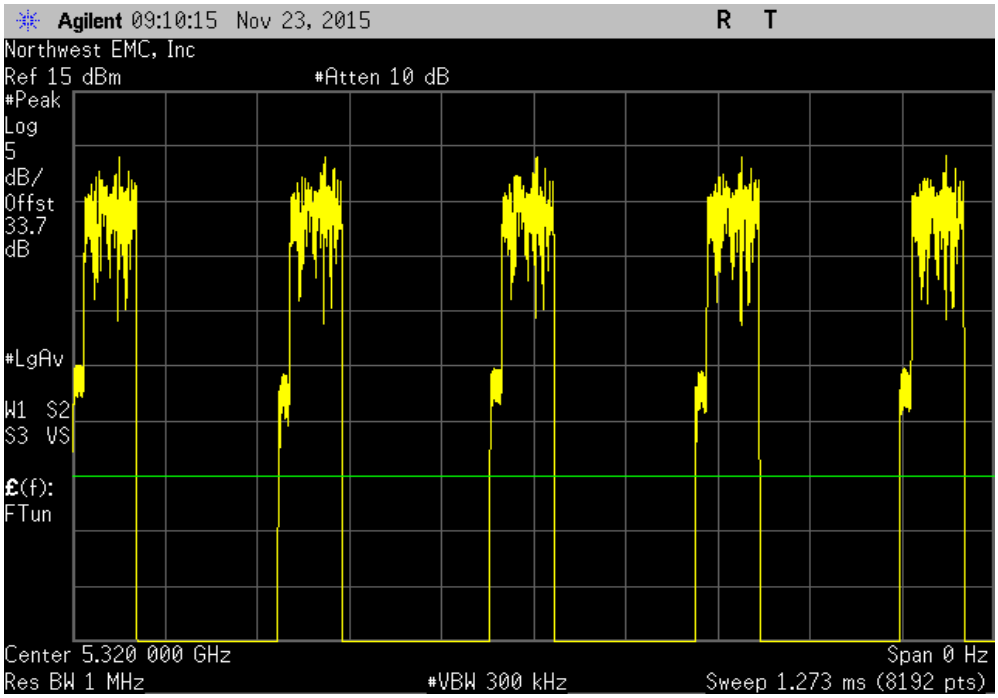
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.18 5320 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	72.7 us	283 us	1	25.7	N/A	N/A



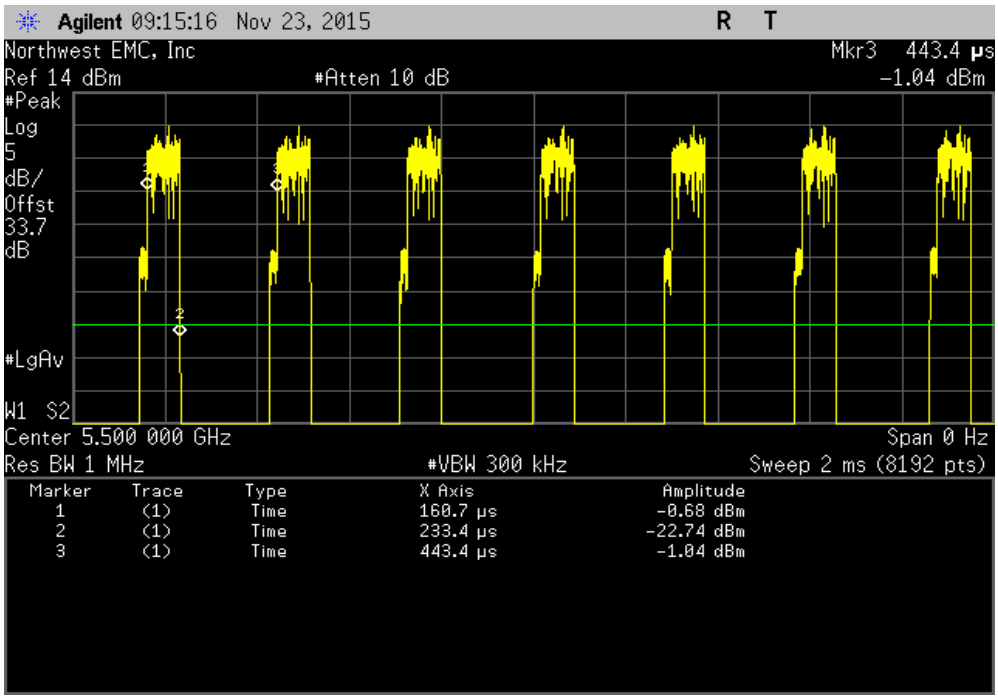
Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.18 5320 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



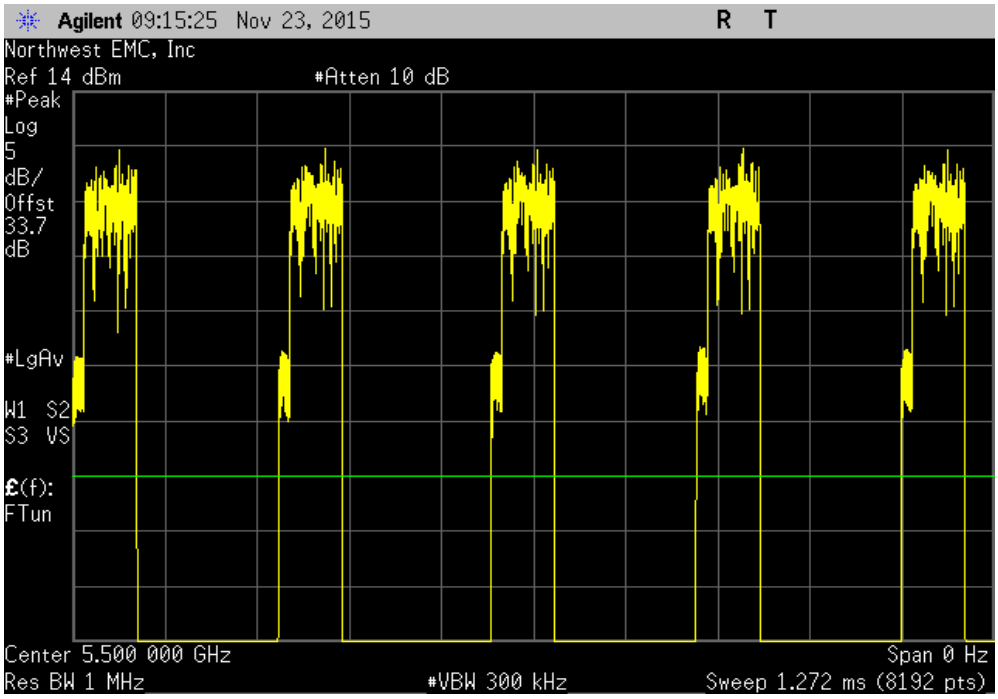
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.19 5500 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	72.7 us	282.7 us	1	25.7	N/A	N/A



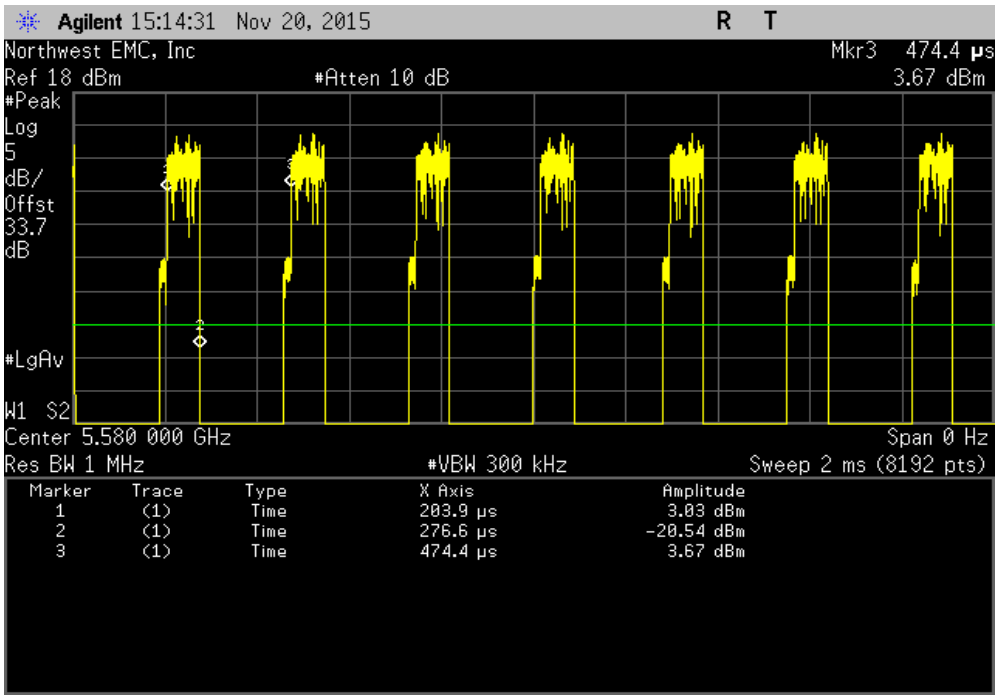
Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.19 5500 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



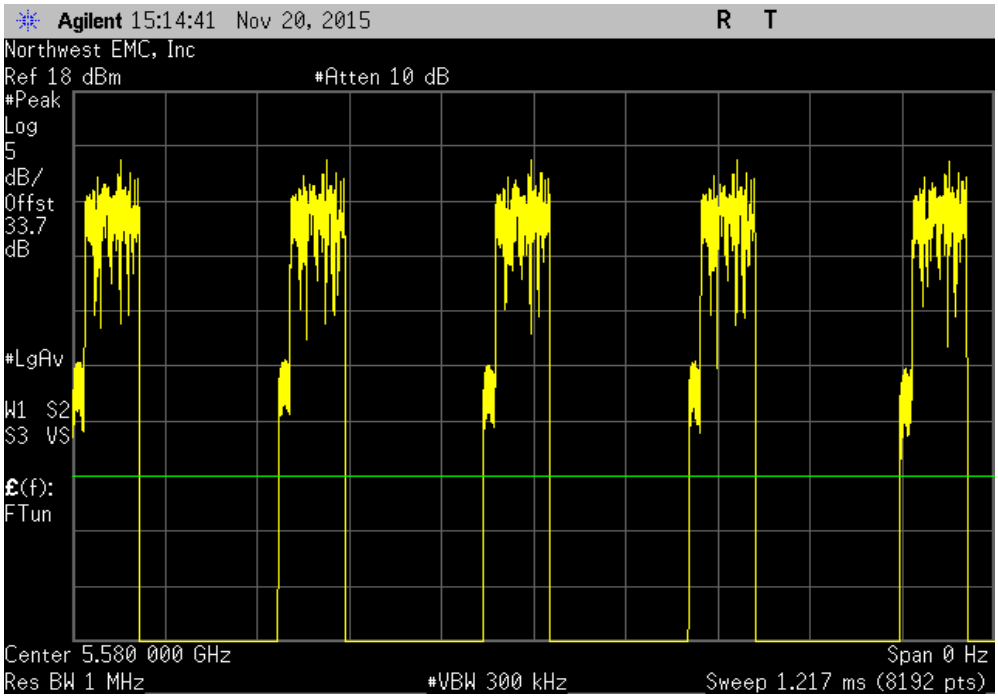
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 18 Mbps, Mid Channel, Ch.23 5580 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	72.7 us	270.5 us	1	26.9	N/A	N/A



Normal Conditions, 802.11(a) 18 Mbps, Mid Channel, Ch.23 5580 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A

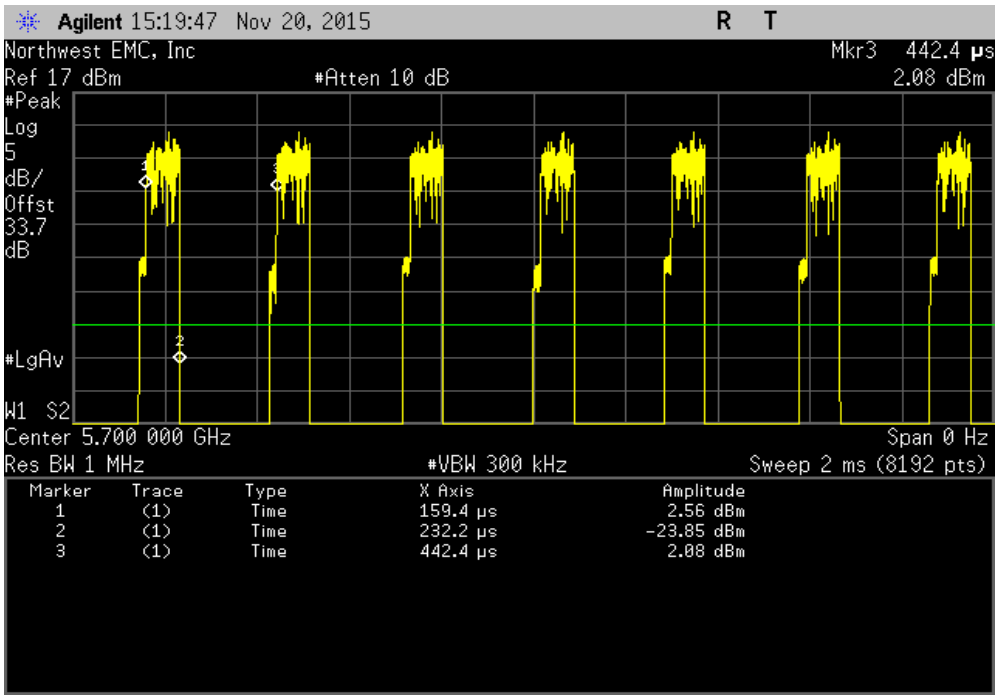


DUTY CYCLE

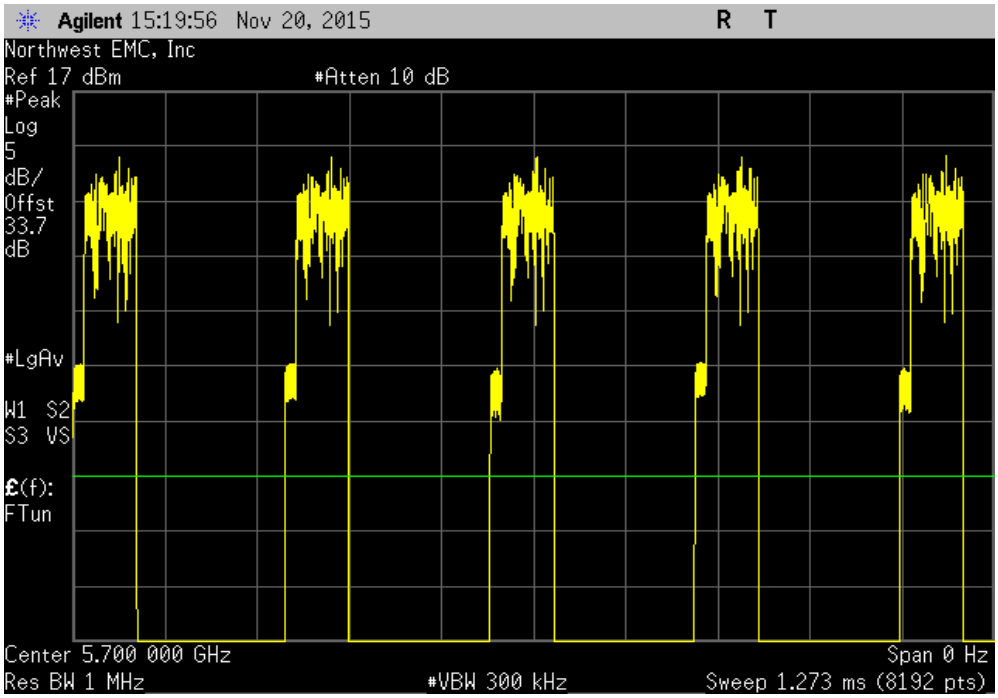
NORTHWEST EMC

XMit 2015.01.14

Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.29 5700 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	72.8 us	283 us	1	25.7	N/A	N/A



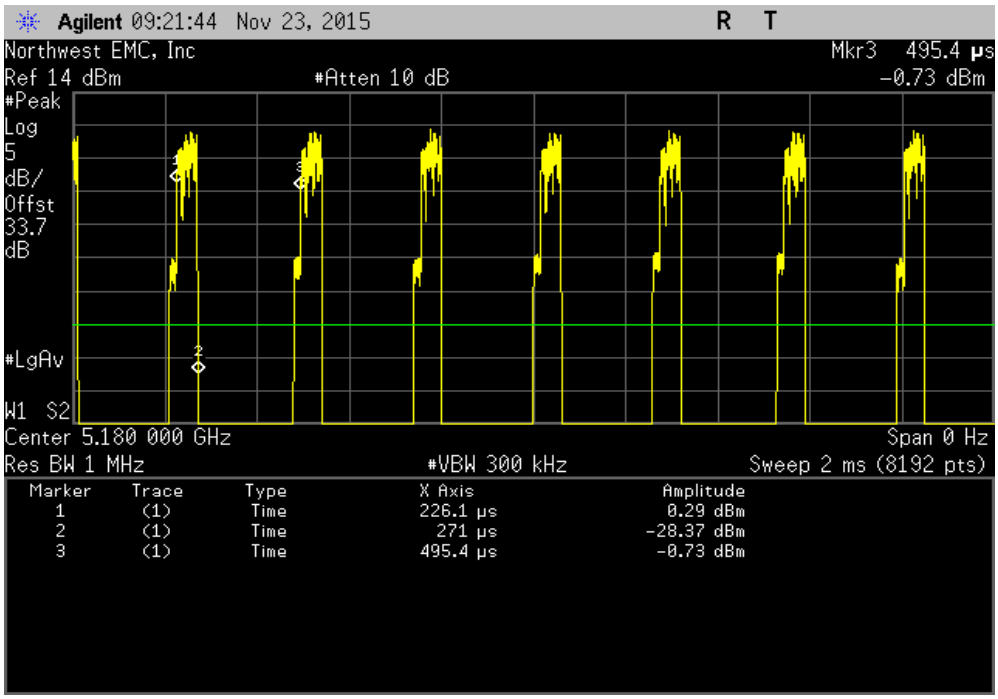
Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.29 5700 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



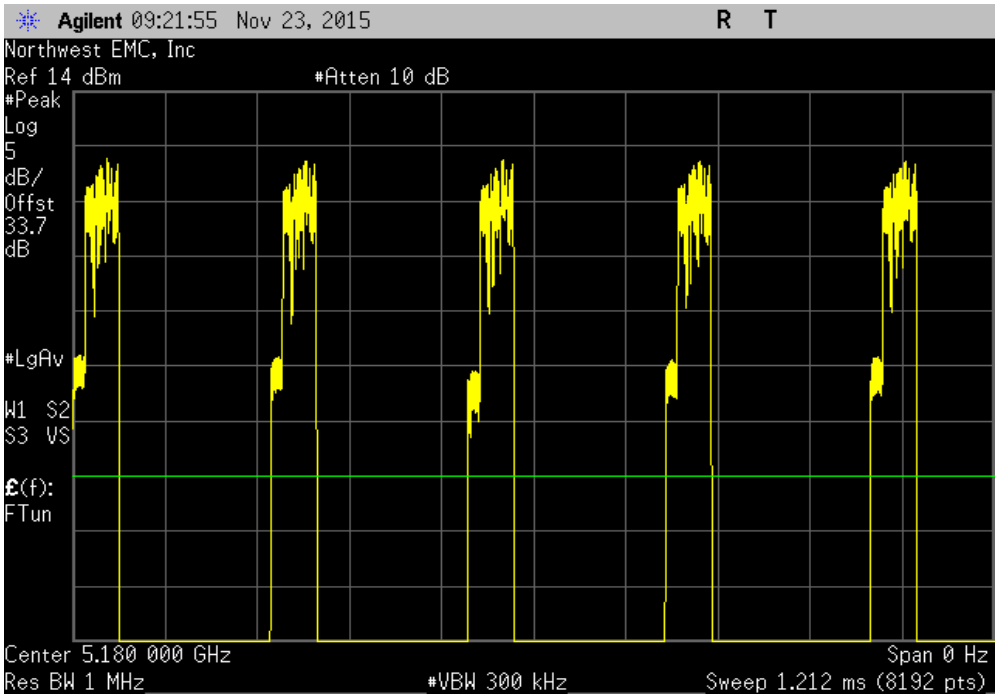
DUTY CYCLE

XMit 2015.01.14

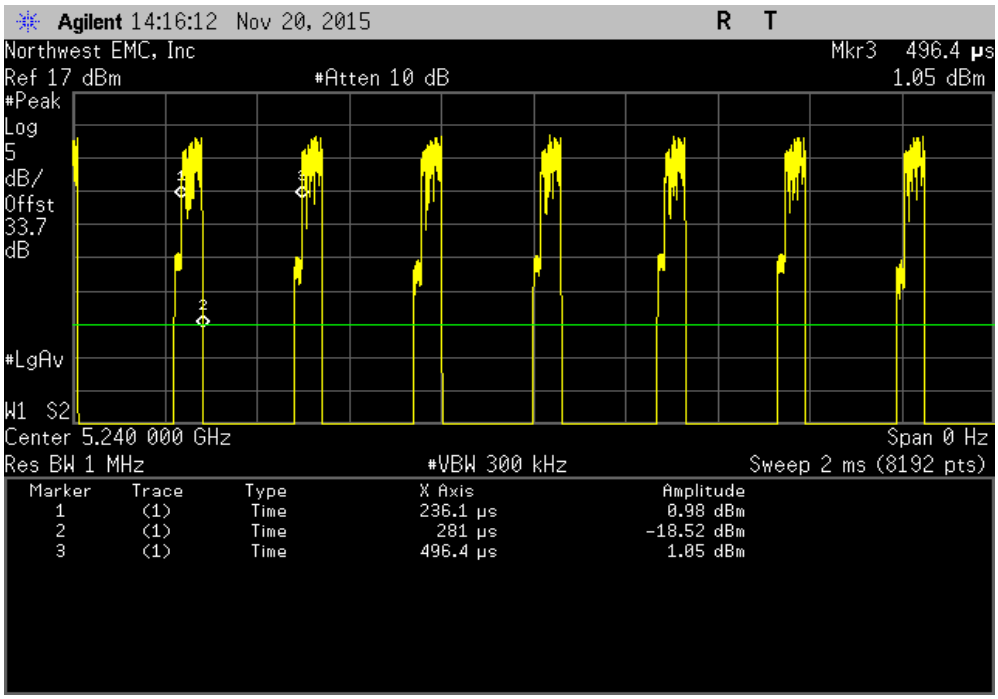
Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.8 5180 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	44.9 us	269.3 us	1	16.7	N/A	N/A



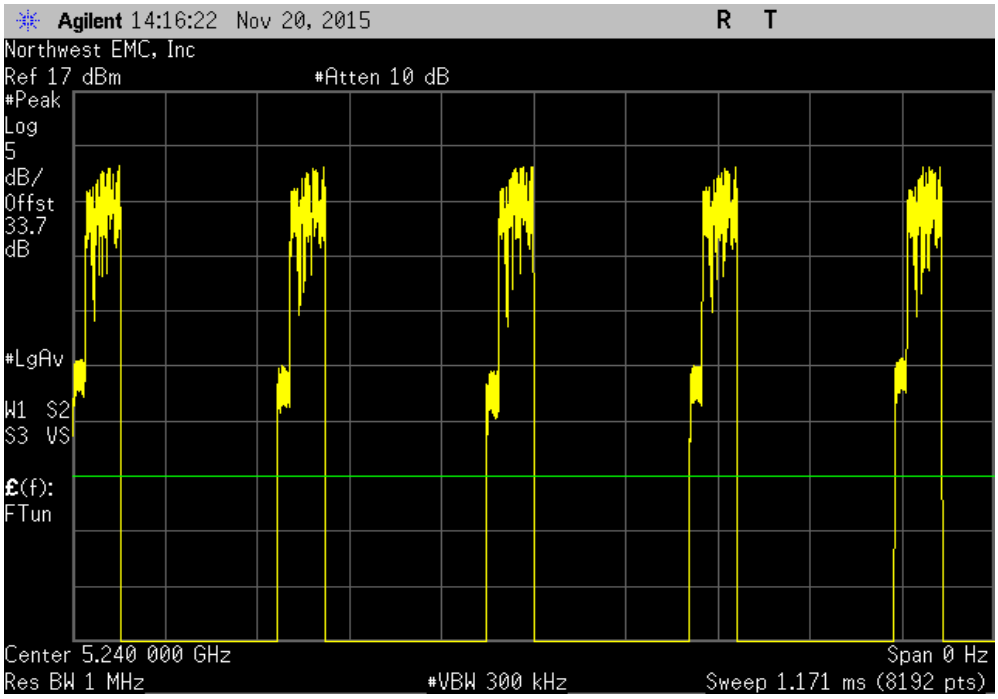
Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.8 5180 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



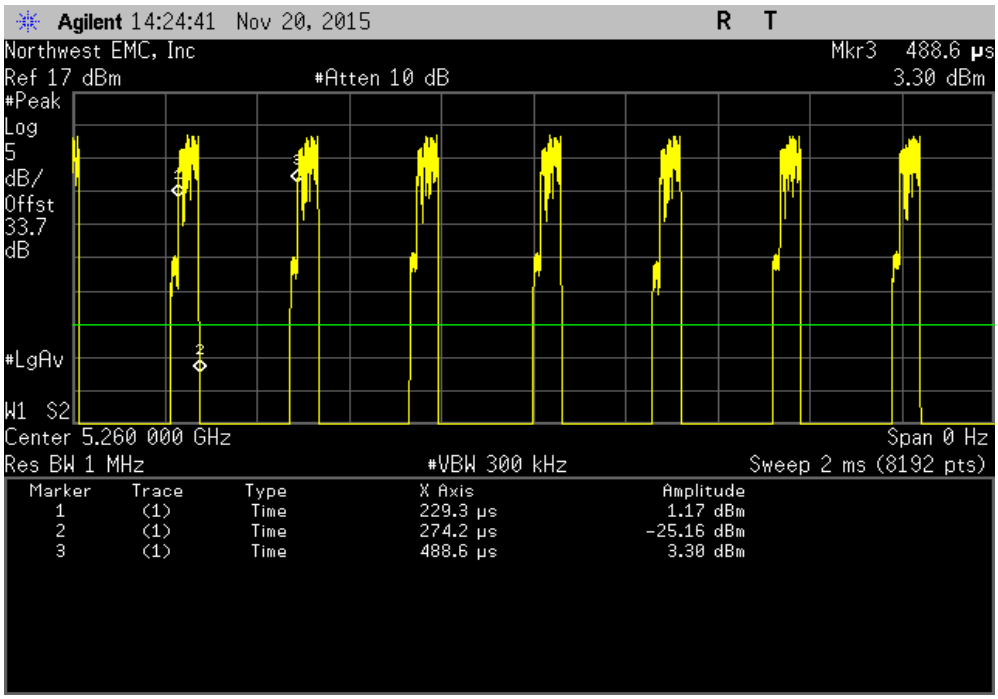
Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.14 5240 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	44.9 us	260.3 us	1	17.2	N/A	N/A



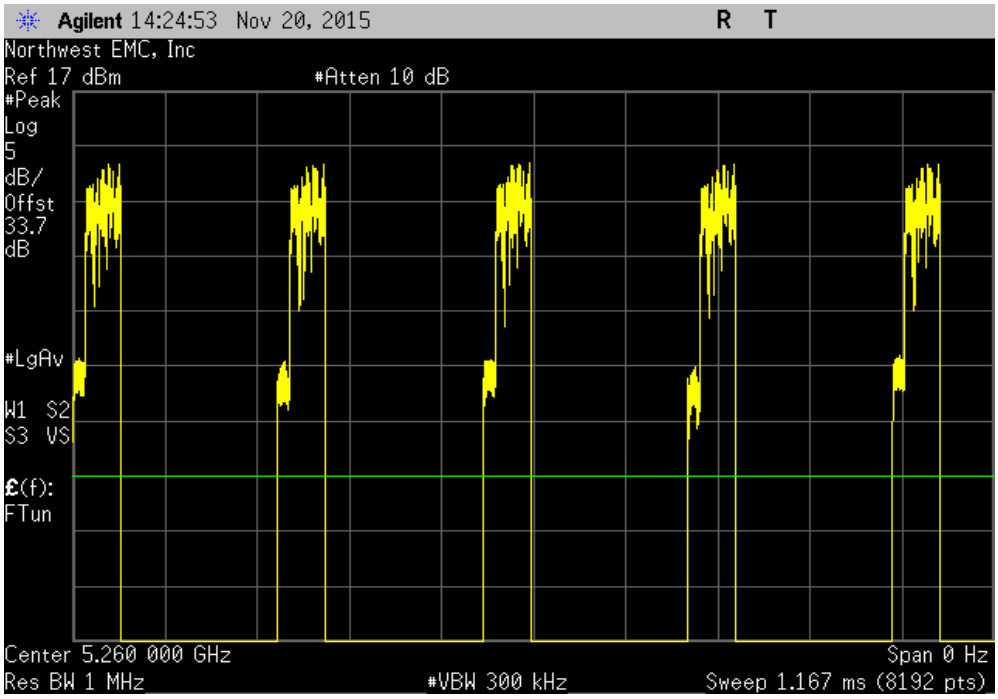
Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.14 5240 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.15 5260 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	44.9 us	259.3 us	1	17.3	N/A	N/A



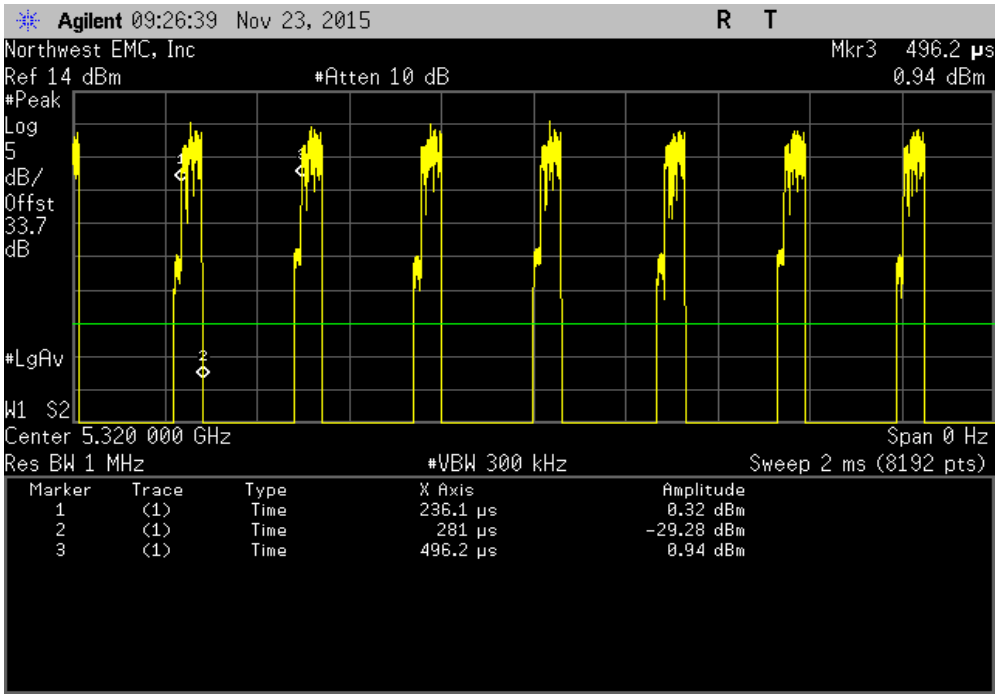
Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.15 5260 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



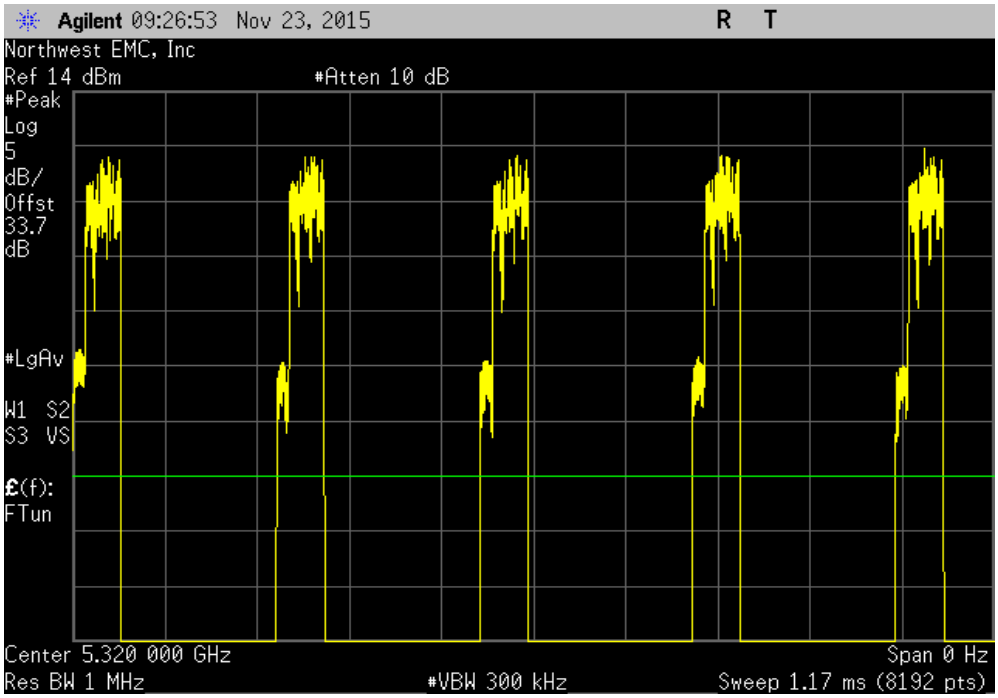
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.18 5320 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	44.9 us	260.1 us	1	17.3	N/A	N/A



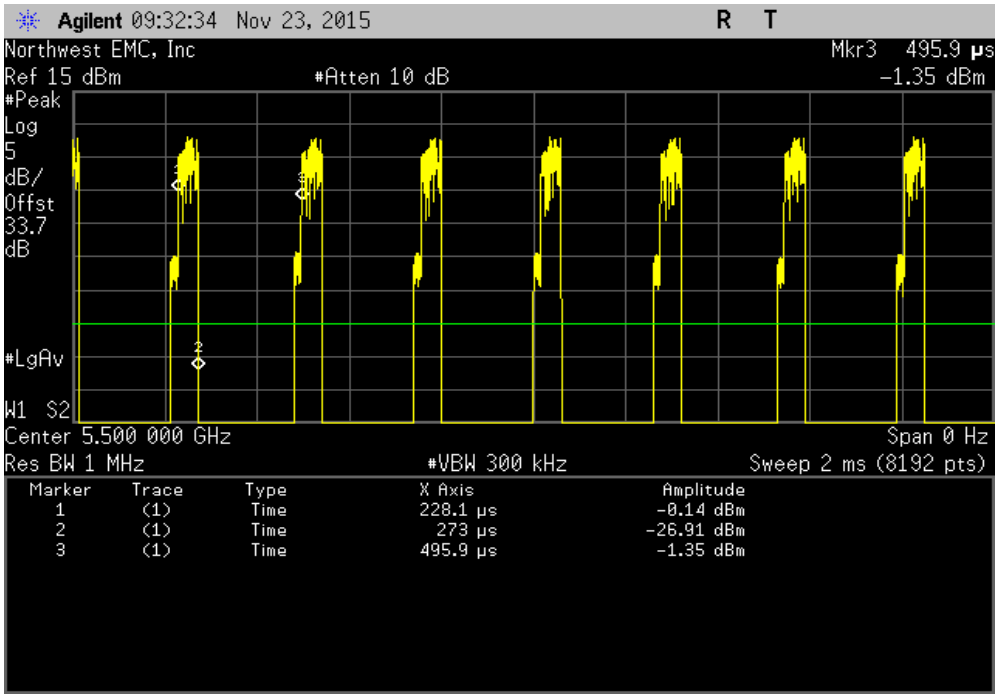
Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.18 5320 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



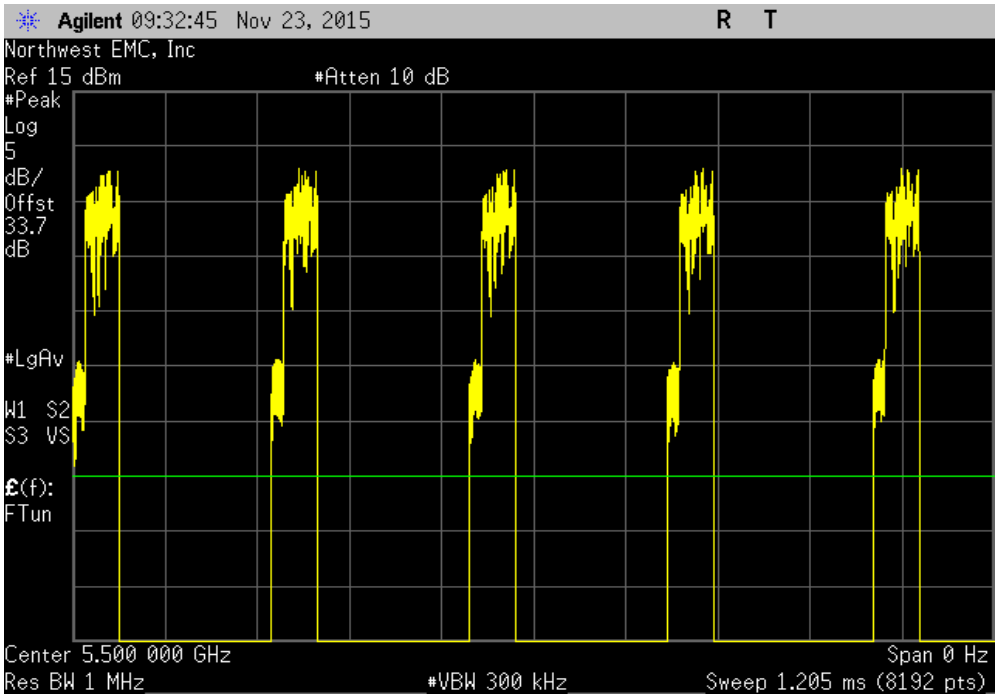
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.19 5500 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	44.9 us	267.8 us	1	16.8	N/A	N/A



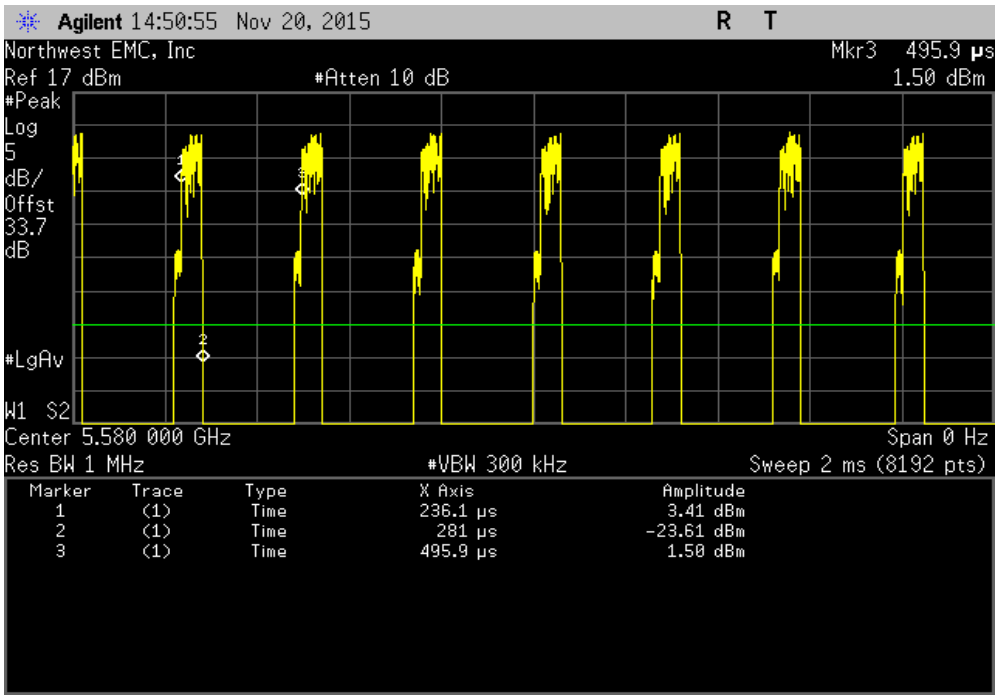
Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.19 5500 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



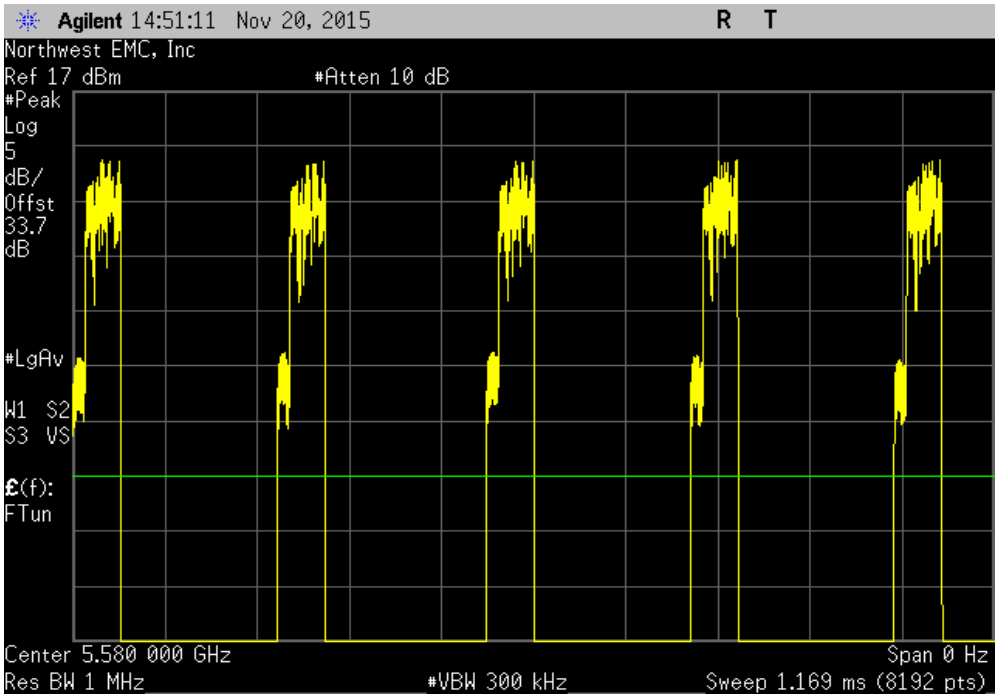
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 36 Mbps, Mid Channel, Ch.23 5580 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	44.9 us	259.8 us	1	17.3	N/A	N/A



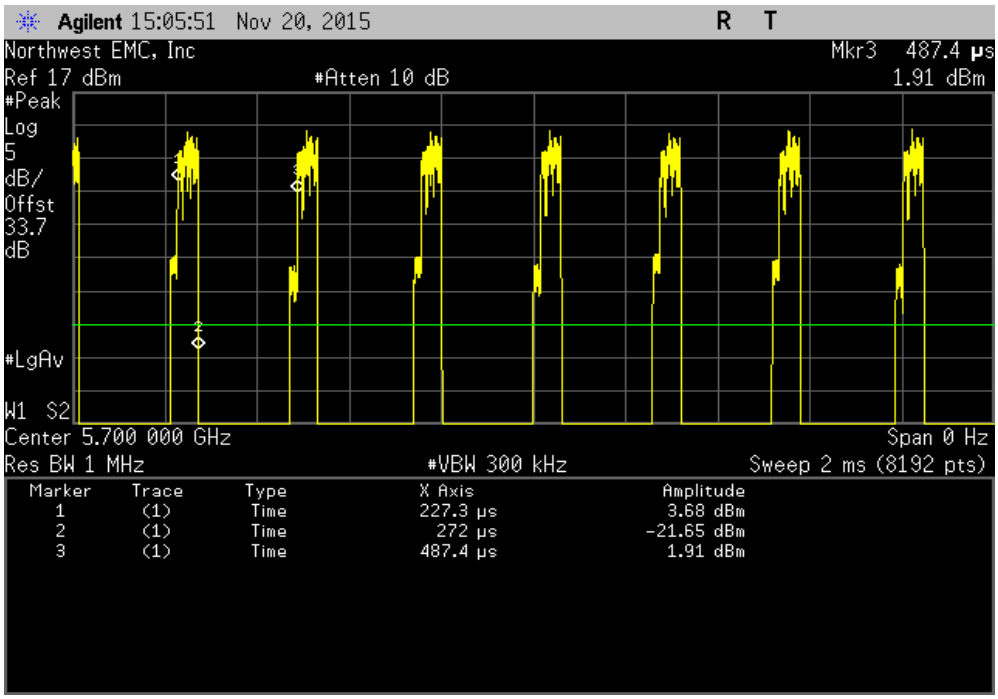
Normal Conditions, 802.11(a) 36 Mbps, Mid Channel, Ch.23 5580 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



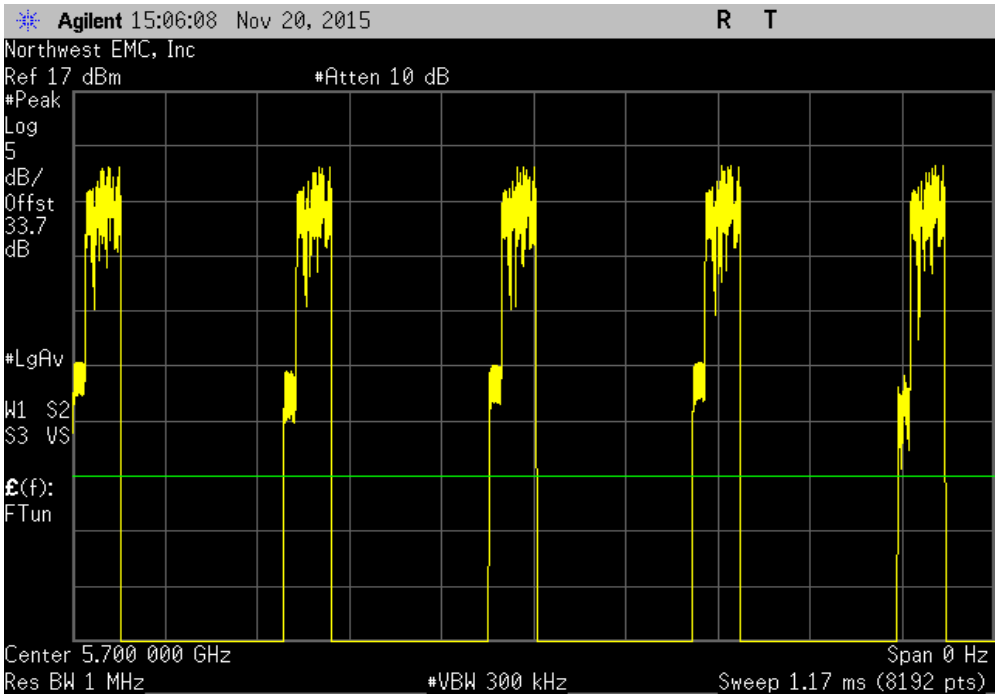
DUTY CYCLE

XMit 2015.01.14

Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.29 5700 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	44.7 us	260.1 us	1	17.2	N/A	N/A



Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.29 5700 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit N/A (N/A)	Results
	N/A	N/A	5	N/A	N/A	N/A



POWERLINE CONDUCTED EMISSIONS

TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50 Ω measuring port is terminated by a 50 Ω EMI meter or a 50 Ω resistive load. All 50 Ω measuring ports of the LISN are terminated by 50Ω.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
EV07 Cables	N/A	Conducted Cables	EVG	03/07/2014	12 mo
Attenuator	Fairview Microwave	SA6B10W-20	RKA	10/24/2013	12 mo
High Pass Filter	TTE	H97-100K-50-720B	HHD	01/22/2014	12 mo
Receiver	Rohde & Schwarz	ESCI	ARH	02/05/2014	12 mo
DC Power Supply	Topward	TPS-2000	TPD	NCR	0 mo
LISN	Solar	9252-50-R-24-BNC	LIP	02/16/2014	12 mo
LISN	Solar	9252-50-R-24-BNC	LIR	10/09/2013	12 mo

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.94 dB	-2.94 dB

CONFIGURATIONS INVESTIGATED

FOCU0169-3

MODES INVESTIGATED

Tx 6Mbps High Channel 140, 5700MHz
Tx 6Mbps High Channel 48, 5240MHz
Tx 6Mbps High Channel 64, 5320MHz
Tx 6Mbps Low Channel 100, 5500MHz
Tx 6Mbps Low Channel 36, 5180MHz
Tx 6Mbps Low Channel 52, 5260MHz
Tx 6Mbps Mid Channel 116, 5580MHz

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	1	Line:	High Line	Ext. Attenuation (dB):	20

COMMENTS

None

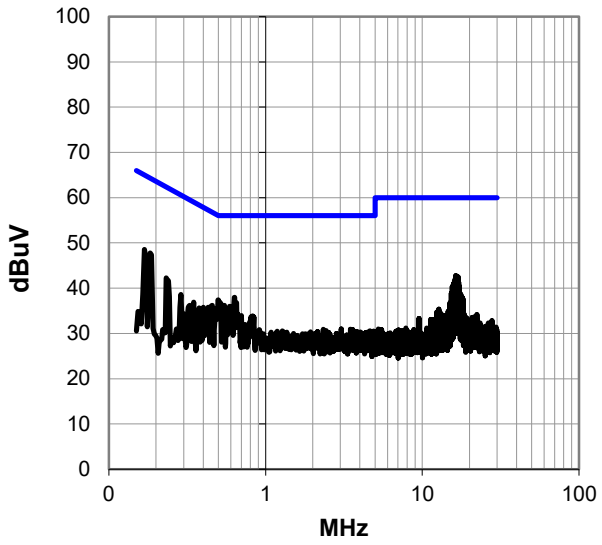
EUT OPERATING MODES

Tx 6Mbps Low Channel 36, 5180MHz

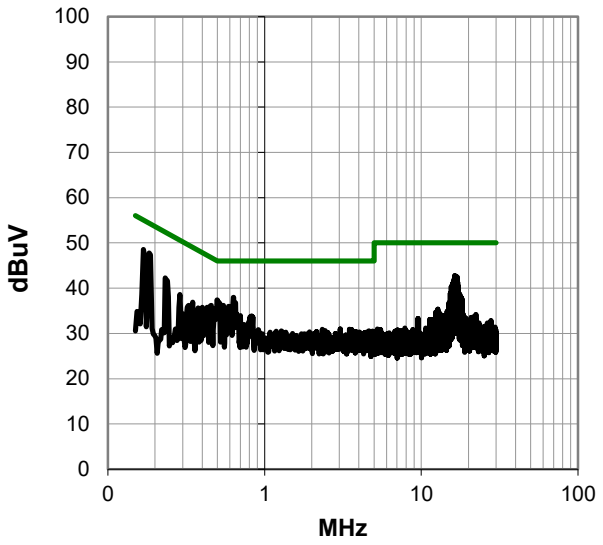
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #1

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.169	28.8	19.7	48.5	65.0	-16.5
0.184	28.0	19.7	47.7	64.3	-16.6
16.368	23.2	19.6	42.8	60.0	-17.2
16.629	23.0	19.6	42.6	60.0	-17.4
16.897	22.9	19.6	42.5	60.0	-17.5
0.631	18.2	19.8	38.0	56.0	-18.0
16.103	22.2	19.6	41.8	60.0	-18.2
0.497	17.6	19.8	37.4	56.1	-18.7
17.062	21.7	19.6	41.3	60.0	-18.7
16.991	21.7	19.6	41.3	60.0	-18.7
15.845	21.4	19.6	41.0	60.0	-19.0
17.036	21.3	19.6	40.9	60.0	-19.1
0.654	17.0	19.8	36.8	56.0	-19.2
17.166	20.9	19.6	40.5	60.0	-19.5
15.577	20.8	19.6	40.4	60.0	-19.6
15.980	20.7	19.6	40.3	60.0	-19.7
0.545	16.4	19.8	36.2	56.0	-19.8
15.935	20.4	19.6	40.0	60.0	-20.0
0.590	16.2	19.8	36.0	56.0	-20.0
0.616	16.2	19.8	36.0	56.0	-20.0
0.232	22.5	19.7	42.2	62.4	-20.1
0.564	15.7	19.8	35.5	56.0	-20.5
0.456	16.4	19.8	36.2	56.8	-20.6
17.427	19.3	19.6	38.9	60.0	-21.1
15.316	19.3	19.6	38.9	60.0	-21.1
0.430	16.0	19.8	35.8	57.3	-21.5

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.169	28.8	19.7	48.5	55.0	-6.5
0.184	28.0	19.7	47.7	54.3	-6.6
16.368	23.2	19.6	42.8	50.0	-7.2
16.629	23.0	19.6	42.6	50.0	-7.4
16.897	22.9	19.6	42.5	50.0	-7.5
0.631	18.2	19.8	38.0	46.0	-8.0
16.103	22.2	19.6	41.8	50.0	-8.2
0.497	17.6	19.8	37.4	46.1	-8.7
17.062	21.7	19.6	41.3	50.0	-8.7
16.991	21.7	19.6	41.3	50.0	-8.7
15.845	21.4	19.6	41.0	50.0	-9.0
17.036	21.3	19.6	40.9	50.0	-9.1
0.654	17.0	19.8	36.8	46.0	-9.2
17.166	20.9	19.6	40.5	50.0	-9.5
15.577	20.8	19.6	40.4	50.0	-9.6
15.980	20.7	19.6	40.3	50.0	-9.7
0.545	16.4	19.8	36.2	46.0	-9.8
15.935	20.4	19.6	40.0	50.0	-10.0
0.590	16.2	19.8	36.0	46.0	-10.0
0.616	16.2	19.8	36.0	46.0	-10.0
0.232	22.5	19.7	42.2	52.4	-10.1
0.564	15.7	19.8	35.5	46.0	-10.5
0.456	16.4	19.8	36.2	46.8	-10.6
17.427	19.3	19.6	38.9	50.0	-11.1
15.316	19.3	19.6	38.9	50.0	-11.1
0.430	16.0	19.8	35.8	47.3	-11.5

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

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

COMMENTS

None

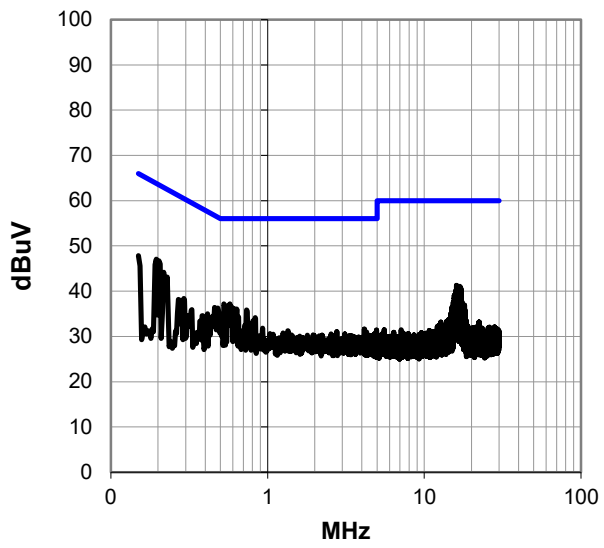
EUT OPERATING MODES

Tx 6Mbps Low Channel 36, 5180MHz

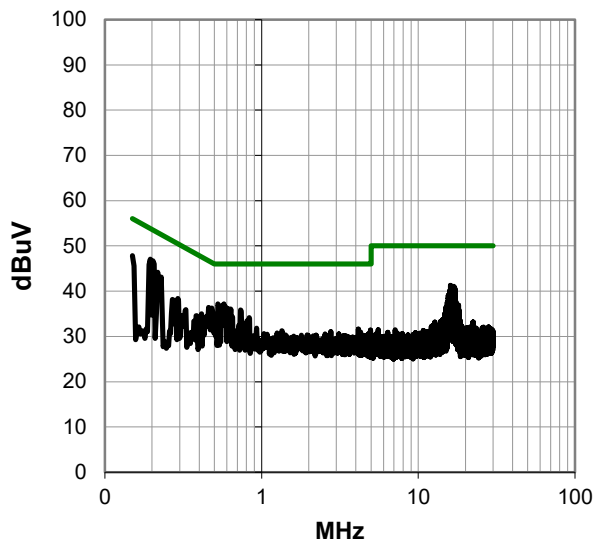
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #2

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.202	27.0	19.7	46.7	63.5	-16.8
0.195	27.3	19.7	47.0	63.8	-16.8
0.150	28.2	19.6	47.8	66.0	-18.2
16.088	21.7	19.6	41.3	60.0	-18.7
0.217	24.4	19.7	44.1	62.9	-18.8
0.527	17.4	19.8	37.2	56.0	-18.8
0.575	17.4	19.8	37.2	56.0	-18.8
16.883	21.5	19.6	41.1	60.0	-18.9
16.614	21.4	19.6	41.0	60.0	-19.0
17.039	21.3	19.6	40.9	60.0	-19.1
16.360	21.0	19.6	40.6	60.0	-19.4
17.147	20.9	19.6	40.5	60.0	-19.5
0.594	16.6	19.8	36.4	56.0	-19.6
0.616	16.3	19.8	36.1	56.0	-19.9
0.635	16.3	19.8	36.1	56.0	-19.9
16.983	20.4	19.6	40.0	60.0	-20.0
0.482	16.5	19.8	36.3	56.3	-20.0
15.827	20.4	19.6	40.0	60.0	-20.0
0.736	16.1	19.8	35.9	56.0	-20.1
0.460	16.6	19.8	36.4	56.7	-20.3
15.972	19.7	19.6	39.3	60.0	-20.7
15.558	19.5	19.6	39.1	60.0	-20.9
0.512	15.0	19.8	34.8	56.0	-21.2
15.916	19.1	19.6	38.7	60.0	-21.3
0.650	14.5	19.8	34.3	56.0	-21.7
0.833	14.4	19.7	34.1	56.0	-21.9

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.202	27.0	19.7	46.7	53.5	-6.8
0.195	27.3	19.7	47.0	53.8	-6.8
0.150	28.2	19.6	47.8	56.0	-8.2
16.088	21.7	19.6	41.3	50.0	-8.7
0.217	24.4	19.7	44.1	52.9	-8.8
0.527	17.4	19.8	37.2	46.0	-8.8
0.575	17.4	19.8	37.2	46.0	-8.8
16.883	21.5	19.6	41.1	50.0	-8.9
16.614	21.4	19.6	41.0	50.0	-9.0
17.039	21.3	19.6	40.9	50.0	-9.1
16.360	21.0	19.6	40.6	50.0	-9.4
17.147	20.9	19.6	40.5	50.0	-9.5
0.594	16.6	19.8	36.4	46.0	-9.6
0.616	16.3	19.8	36.1	46.0	-9.9
0.635	16.3	19.8	36.1	46.0	-9.9
16.983	20.4	19.6	40.0	50.0	-10.0
0.482	16.5	19.8	36.3	46.3	-10.0
15.827	20.4	19.6	40.0	50.0	-10.0
0.736	16.1	19.8	35.9	46.0	-10.1
0.460	16.6	19.8	36.4	46.7	-10.3
15.972	19.7	19.6	39.3	50.0	-10.7
15.558	19.5	19.6	39.1	50.0	-10.9
0.512	15.0	19.8	34.8	46.0	-11.2
15.916	19.1	19.6	38.7	50.0	-11.3
0.650	14.5	19.8	34.3	46.0	-11.7
0.833	14.4	19.7	34.1	46.0	-11.9

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

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

COMMENTS

None

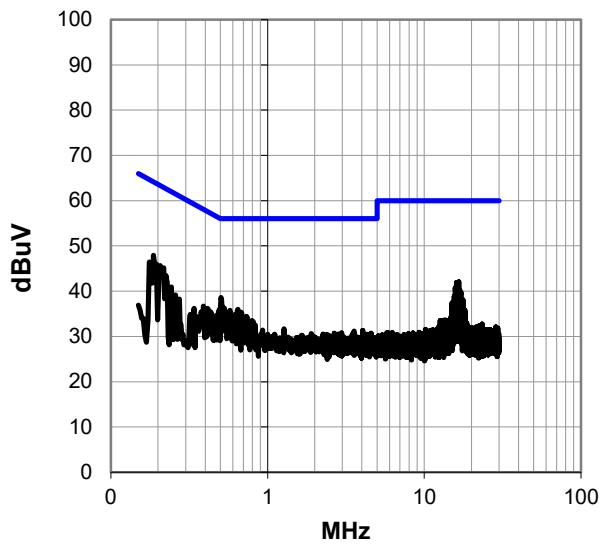
EUT OPERATING MODES

Tx 6Mbps High Channel 48, 5240MHz

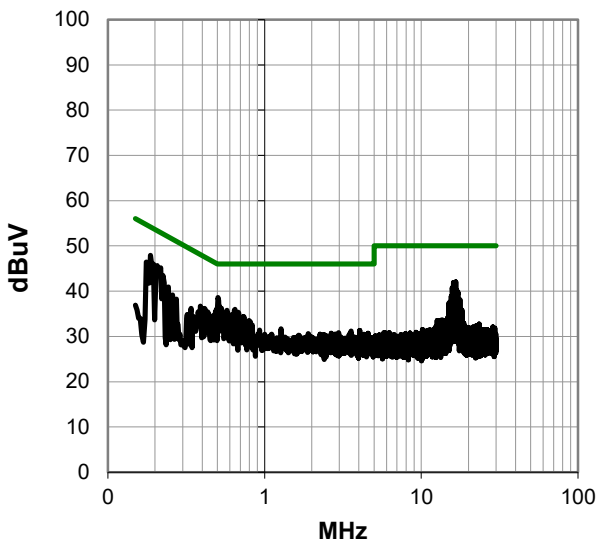
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #3

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.187	28.2	19.7	47.9	64.2	-16.2
0.504	18.8	19.8	38.6	56.0	-17.4
0.206	25.9	19.7	45.6	63.4	-17.7
16.603	22.5	19.6	42.1	60.0	-17.9
16.073	22.3	19.6	41.9	60.0	-18.1
0.176	26.7	19.7	46.4	64.7	-18.2
16.334	21.9	19.6	41.5	60.0	-18.5
0.225	23.7	19.7	43.4	62.6	-19.2
15.808	21.2	19.6	40.8	60.0	-19.2
16.856	20.6	19.6	40.2	60.0	-19.8
0.531	16.4	19.8	36.2	56.0	-19.8
0.646	16.2	19.8	36.0	56.0	-20.0
0.493	16.2	19.8	36.0	56.1	-20.1
17.125	20.2	19.6	39.8	60.0	-20.2
16.983	20.2	19.6	39.8	60.0	-20.2
0.575	16.0	19.8	35.8	56.0	-20.2
16.939	19.8	19.6	39.4	60.0	-20.6
0.680	15.6	19.8	35.4	56.0	-20.6
0.657	15.4	19.8	35.2	56.0	-20.8
16.017	19.5	19.6	39.1	60.0	-20.9
0.243	21.2	19.7	40.9	62.0	-21.0
15.543	19.3	19.6	38.9	60.0	-21.1
0.616	15.0	19.8	34.8	56.0	-21.2
0.415	16.4	19.8	36.2	57.5	-21.3
0.389	16.9	19.8	36.7	58.1	-21.4
17.084	19.0	19.6	38.6	60.0	-21.4

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.187	28.2	19.7	47.9	54.2	-6.2
0.504	18.8	19.8	38.6	46.0	-7.4
0.206	25.9	19.7	45.6	53.4	-7.7
16.603	22.5	19.6	42.1	50.0	-7.9
16.073	22.3	19.6	41.9	50.0	-8.1
0.176	26.7	19.7	46.4	54.7	-8.2
16.334	21.9	19.6	41.5	50.0	-8.5
0.225	23.7	19.7	43.4	52.6	-9.2
15.808	21.2	19.6	40.8	50.0	-9.2
16.856	20.6	19.6	40.2	50.0	-9.8
0.531	16.4	19.8	36.2	46.0	-9.8
0.646	16.2	19.8	36.0	46.0	-10.0
0.493	16.2	19.8	36.0	46.1	-10.1
17.125	20.2	19.6	39.8	50.0	-10.2
16.983	20.2	19.6	39.8	50.0	-10.2
0.575	16.0	19.8	35.8	46.0	-10.2
16.939	19.8	19.6	39.4	50.0	-10.6
0.680	15.6	19.8	35.4	46.0	-10.6
0.657	15.4	19.8	35.2	46.0	-10.8
16.017	19.5	19.6	39.1	50.0	-10.9
0.243	21.2	19.7	40.9	52.0	-11.0
15.543	19.3	19.6	38.9	50.0	-11.1
0.616	15.0	19.8	34.8	46.0	-11.2
0.415	16.4	19.8	36.2	47.5	-11.3
0.389	16.9	19.8	36.7	48.1	-11.4
17.084	19.0	19.6	38.6	50.0	-11.4

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

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

COMMENTS

None

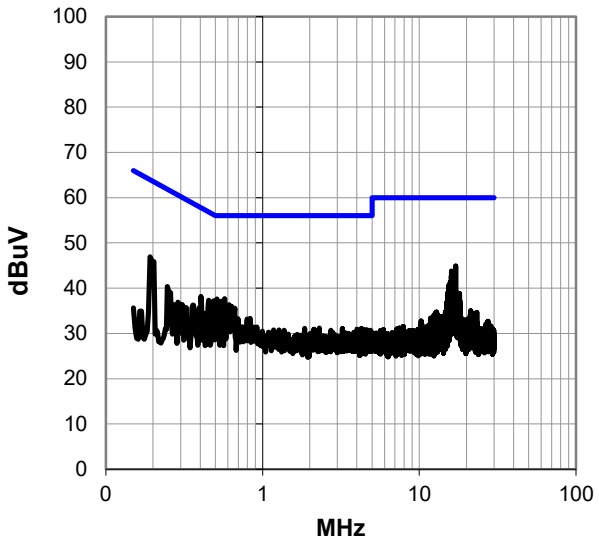
EUT OPERATING MODES

Tx 6Mbps High Channel 48, 5240MHz

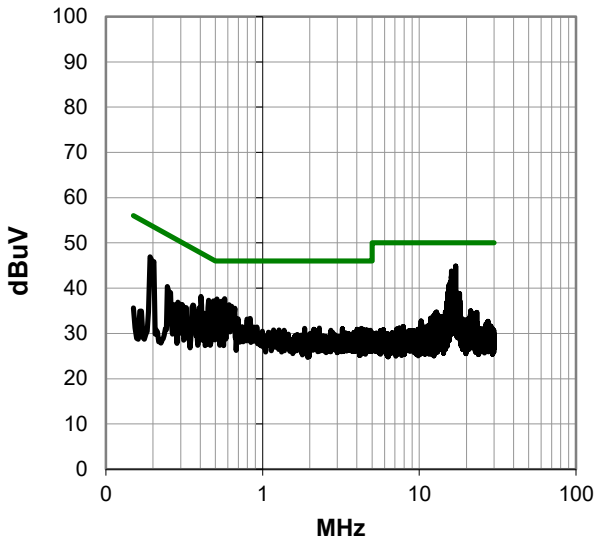
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #4

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
17.088	25.3	19.6	44.9	60.0	-15.1
16.039	24.2	19.6	43.8	60.0	-16.2
16.301	24.1	19.6	43.7	60.0	-16.3
0.191	27.2	19.7	46.9	64.0	-17.1
16.562	22.9	19.6	42.5	60.0	-17.5
16.827	22.5	19.6	42.1	60.0	-17.9
0.572	17.9	19.8	37.7	56.0	-18.3
0.512	17.8	19.8	37.6	56.0	-18.4
16.994	21.9	19.6	41.5	60.0	-18.5
15.771	21.7	19.6	41.3	60.0	-18.7
0.545	17.3	19.8	37.1	56.0	-18.9
0.486	17.4	19.8	37.2	56.2	-19.0
0.527	16.9	19.8	36.7	56.0	-19.3
15.510	21.1	19.6	40.7	60.0	-19.3
0.452	17.5	19.8	37.3	56.8	-19.5
0.404	18.4	19.8	38.2	57.8	-19.6
0.613	16.6	19.8	36.4	56.0	-19.6
0.635	16.2	19.8	36.0	56.0	-20.0
15.954	20.1	19.6	39.7	60.0	-20.3
0.665	15.8	19.8	35.6	56.0	-20.4
15.248	19.5	19.6	39.1	60.0	-20.9
17.353	19.4	19.6	39.0	60.0	-21.0
0.598	15.2	19.8	35.0	56.0	-21.0
18.058	19.2	19.6	38.8	60.0	-21.2
0.247	20.6	19.7	40.3	61.9	-21.5
17.069	18.2	19.6	37.8	60.0	-22.2

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
17.088	25.3	19.6	44.9	50.0	-5.1
16.039	24.2	19.6	43.8	50.0	-6.2
16.301	24.1	19.6	43.7	50.0	-6.3
0.191	27.2	19.7	46.9	54.0	-7.1
16.562	22.9	19.6	42.5	50.0	-7.5
16.827	22.5	19.6	42.1	50.0	-7.9
0.572	17.9	19.8	37.7	46.0	-8.3
0.512	17.8	19.8	37.6	46.0	-8.4
16.994	21.9	19.6	41.5	50.0	-8.5
15.771	21.7	19.6	41.3	50.0	-8.7
0.545	17.3	19.8	37.1	46.0	-8.9
0.486	17.4	19.8	37.2	46.2	-9.0
0.527	16.9	19.8	36.7	46.0	-9.3
15.510	21.1	19.6	40.7	50.0	-9.3
0.452	17.5	19.8	37.3	46.8	-9.5
0.404	18.4	19.8	38.2	47.8	-9.6
0.613	16.6	19.8	36.4	46.0	-9.6
0.635	16.2	19.8	36.0	46.0	-10.0
15.954	20.1	19.6	39.7	50.0	-10.3
0.665	15.8	19.8	35.6	46.0	-10.4
15.248	19.5	19.6	39.1	50.0	-10.9
17.353	19.4	19.6	39.0	50.0	-11.0
0.598	15.2	19.8	35.0	46.0	-11.0
18.058	19.2	19.6	38.8	50.0	-11.2
0.247	20.6	19.7	40.3	51.9	-11.5
17.069	18.2	19.6	37.8	50.0	-12.2

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	5	Line:	High Line	Ext. Attenuation (dB):	20

COMMENTS

None

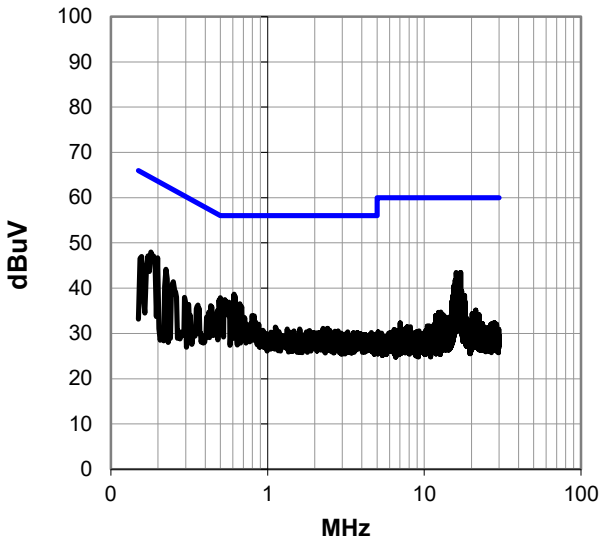
EUT OPERATING MODES

Tx 6Mbps Low Channel 52, 5260MHz

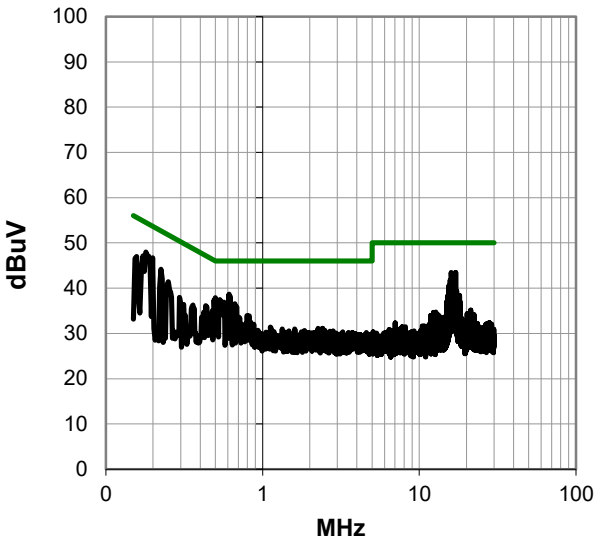
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #5

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
17.084	23.9	19.6	43.5	60.0	-16.5
16.032	23.9	19.6	43.5	60.0	-16.5
0.180	28.2	19.7	47.9	64.5	-16.5
16.289	23.7	19.6	43.3	60.0	-16.7
0.199	27.0	19.7	46.7	63.7	-16.9
0.613	18.9	19.8	38.7	56.0	-17.3
16.815	22.9	19.6	42.5	60.0	-17.5
16.554	22.8	19.6	42.4	60.0	-17.6
0.172	27.4	19.7	47.1	64.8	-17.7
0.624	18.3	19.8	38.1	56.0	-17.9
0.501	18.1	19.8	37.9	56.0	-18.1
16.991	22.2	19.6	41.8	60.0	-18.2
15.767	22.2	19.6	41.8	60.0	-18.2
0.225	24.4	19.7	44.1	62.6	-18.5
0.534	17.7	19.8	37.5	56.0	-18.5
0.157	27.3	19.7	47.0	65.6	-18.6
0.490	17.6	19.8	37.4	56.2	-18.8
0.665	16.8	19.8	36.6	56.0	-19.4
15.502	20.9	19.6	40.5	60.0	-19.5
15.927	20.6	19.6	40.2	60.0	-19.8
0.684	16.1	19.8	35.9	56.0	-20.1
0.251	21.7	19.8	41.5	61.7	-20.3
17.353	19.8	19.6	39.4	60.0	-20.6
0.434	16.3	19.8	36.1	57.2	-21.1
0.478	15.3	19.8	35.1	56.4	-21.3
18.054	18.8	19.6	38.4	60.0	-21.6

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
17.084	23.9	19.6	43.5	50.0	-6.5
16.032	23.9	19.6	43.5	50.0	-6.5
0.180	28.2	19.7	47.9	54.5	-6.5
16.289	23.7	19.6	43.3	50.0	-6.7
0.199	27.0	19.7	46.7	53.7	-6.9
0.613	18.9	19.8	38.7	46.0	-7.3
16.815	22.9	19.6	42.5	50.0	-7.5
16.554	22.8	19.6	42.4	50.0	-7.6
0.172	27.4	19.7	47.1	54.8	-7.7
0.624	18.3	19.8	38.1	46.0	-7.9
0.501	18.1	19.8	37.9	46.0	-8.1
16.991	22.2	19.6	41.8	50.0	-8.2
15.767	22.2	19.6	41.8	50.0	-8.2
0.225	24.4	19.7	44.1	52.6	-8.5
0.534	17.7	19.8	37.5	46.0	-8.5
0.157	27.3	19.7	47.0	55.6	-8.6
0.490	17.6	19.8	37.4	46.2	-8.8
0.665	16.8	19.8	36.6	46.0	-9.4
15.502	20.9	19.6	40.5	50.0	-9.5
15.927	20.6	19.6	40.2	50.0	-9.8
0.684	16.1	19.8	35.9	46.0	-10.1
0.251	21.7	19.8	41.5	51.7	-10.3
17.353	19.8	19.6	39.4	50.0	-10.6
0.434	16.3	19.8	36.1	47.2	-11.1
0.478	15.3	19.8	35.1	46.4	-11.3
18.054	18.8	19.6	38.4	50.0	-11.6

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

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

COMMENTS

None

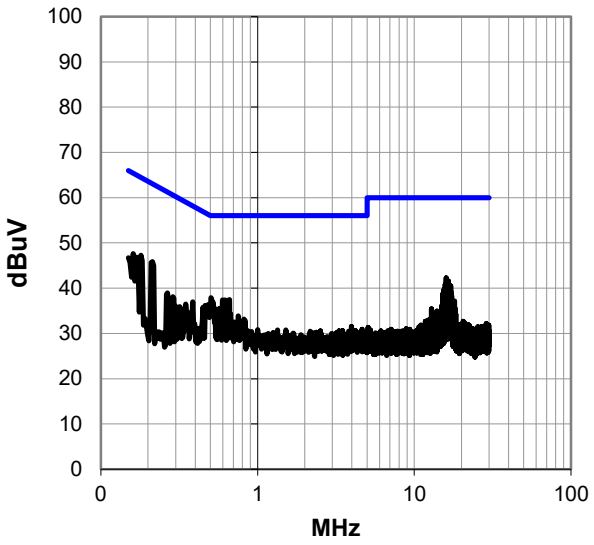
EUT OPERATING MODES

Tx 6Mbps Low Channel 52, 5260MHz

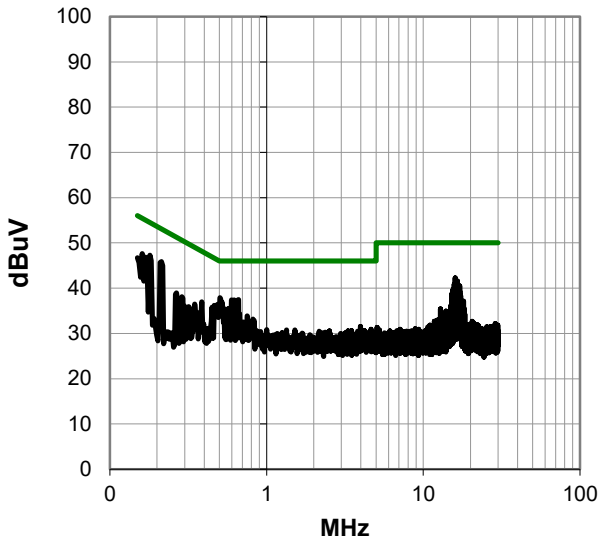
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



NORTHWEST EMC

WTD.2013.07.23, PSA-ESCI 2014.04.28, EmiR5 2014.02.04

POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #6

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.213	26.1	19.7	45.8	63.1	-17.2
0.180	27.5	19.7	47.2	64.5	-17.2
16.024	22.7	19.6	42.3	60.0	-17.7
0.161	27.9	19.7	47.6	65.4	-17.8
0.504	18.1	19.8	37.9	56.0	-18.1
0.169	27.1	19.7	46.8	65.0	-18.2
16.554	22.0	19.6	41.6	60.0	-18.4
0.661	17.7	19.8	37.5	56.0	-18.5
0.598	17.6	19.8	37.4	56.0	-18.6
0.620	17.6	19.8	37.4	56.0	-18.6
16.289	21.7	19.6	41.3	60.0	-18.7
15.771	21.3	19.6	40.9	60.0	-19.1
0.150	27.1	19.6	46.7	66.0	-19.3
17.080	20.9	19.6	40.5	60.0	-19.5
16.812	20.7	19.6	40.3	60.0	-19.7
16.991	20.4	19.6	40.0	60.0	-20.0
15.498	20.1	19.6	39.7	60.0	-20.3
0.534	15.7	19.8	35.5	56.0	-20.5
0.572	15.7	19.8	35.5	56.0	-20.5
0.448	16.0	19.8	35.8	56.9	-21.1
0.587	15.1	19.8	34.9	56.0	-21.1
0.385	17.2	19.8	37.0	58.2	-21.2
15.241	19.2	19.6	38.8	60.0	-21.2
15.927	19.0	19.6	38.6	60.0	-21.4
0.672	14.6	19.8	34.4	56.0	-21.6
17.341	18.7	19.6	38.3	60.0	-21.7

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.213	26.1	19.7	45.8	53.1	-7.2
0.180	27.5	19.7	47.2	54.5	-7.2
16.024	22.7	19.6	42.3	50.0	-7.7
0.161	27.9	19.7	47.6	55.4	-7.8
0.504	18.1	19.8	37.9	46.0	-8.1
0.169	27.1	19.7	46.8	55.0	-8.2
16.554	22.0	19.6	41.6	50.0	-8.4
0.661	17.7	19.8	37.5	46.0	-8.5
0.598	17.6	19.8	37.4	46.0	-8.6
0.620	17.6	19.8	37.4	46.0	-8.6
16.289	21.7	19.6	41.3	50.0	-8.7
15.771	21.3	19.6	40.9	50.0	-9.1
0.150	27.1	19.6	46.7	56.0	-9.3
17.080	20.9	19.6	40.5	50.0	-9.5
16.812	20.7	19.6	40.3	50.0	-9.7
16.991	20.4	19.6	40.0	50.0	-10.0
15.498	20.1	19.6	39.7	50.0	-10.3
0.534	15.7	19.8	35.5	46.0	-10.5
0.572	15.7	19.8	35.5	46.0	-10.5
0.448	16.0	19.8	35.8	46.9	-11.1
0.587	15.1	19.8	34.9	46.0	-11.1
0.385	17.2	19.8	37.0	48.2	-11.2
15.241	19.2	19.6	38.8	50.0	-11.2
15.927	19.0	19.6	38.6	50.0	-11.4
0.672	14.6	19.8	34.4	46.0	-11.6
17.341	18.7	19.6	38.3	50.0	-11.7

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	7	Line:	Neutral	Ext. Attenuation (dB):	20

COMMENTS

None

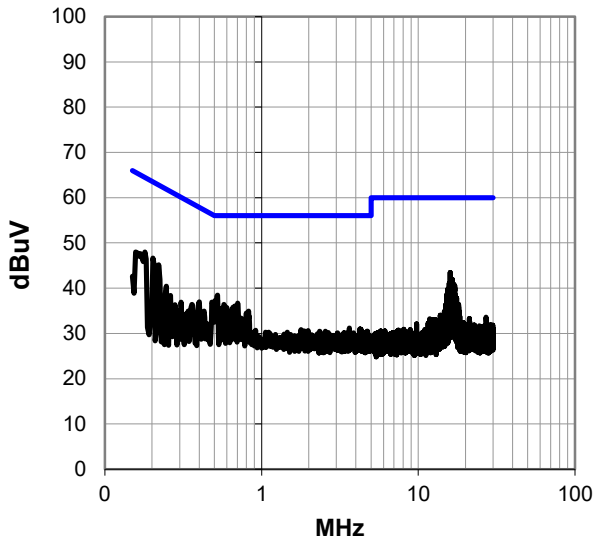
EUT OPERATING MODES

Tx 6Mbps High Channel 64, 5320MHz

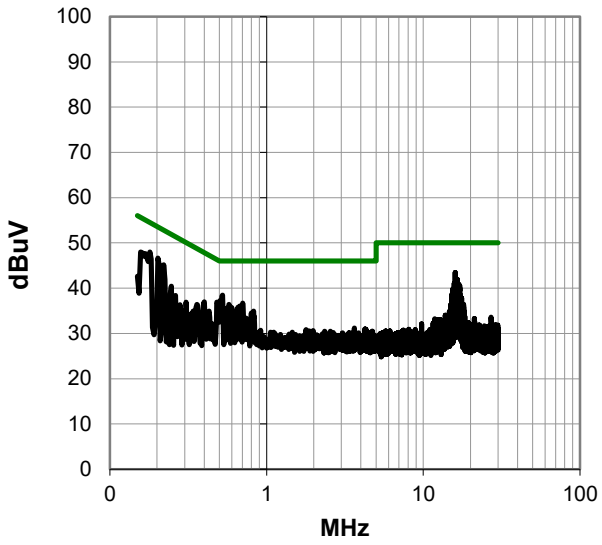
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #7

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
16.024	23.9	19.6	43.5	60.0	-16.5
0.202	26.9	19.7	46.6	63.5	-16.9
0.523	18.7	19.8	38.5	56.0	-17.5
0.157	28.3	19.7	48.0	65.6	-17.6
0.221	25.4	19.7	45.1	62.8	-17.6
16.547	22.3	19.6	41.9	60.0	-18.1
15.760	21.5	19.6	41.1	60.0	-18.9
16.812	21.3	19.6	40.9	60.0	-19.1
0.706	16.9	19.8	36.7	56.0	-19.3
17.069	21.0	19.6	40.6	60.0	-19.4
0.482	17.1	19.8	36.9	56.3	-19.4
16.282	21.0	19.6	40.6	60.0	-19.4
17.024	20.9	19.6	40.5	60.0	-19.5
0.575	16.6	19.8	36.4	56.0	-19.6
0.676	16.3	19.8	36.1	56.0	-19.9
16.991	20.2	19.6	39.8	60.0	-20.2
15.498	20.2	19.6	39.8	60.0	-20.2
0.657	16.0	19.8	35.8	56.0	-20.2
0.601	15.9	19.8	35.7	56.0	-20.3
0.549	15.7	19.8	35.5	56.0	-20.5
0.400	17.2	19.8	37.0	57.9	-20.9
0.825	15.2	19.7	34.9	56.0	-21.1
0.616	15.0	19.8	34.8	56.0	-21.2
15.230	19.1	19.6	38.7	60.0	-21.3
0.247	20.7	19.7	40.4	61.9	-21.4
0.799	14.8	19.7	34.5	56.0	-21.5

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
16.024	23.9	19.6	43.5	50.0	-6.5
0.202	26.9	19.7	46.6	53.5	-6.9
0.523	18.7	19.8	38.5	46.0	-7.5
0.157	28.3	19.7	48.0	55.6	-7.6
0.221	25.4	19.7	45.1	52.8	-7.6
16.547	22.3	19.6	41.9	50.0	-8.1
15.760	21.5	19.6	41.1	50.0	-8.9
16.812	21.3	19.6	40.9	50.0	-9.1
0.706	16.9	19.8	36.7	46.0	-9.3
17.069	21.0	19.6	40.6	50.0	-9.4
0.482	17.1	19.8	36.9	46.3	-9.4
16.282	21.0	19.6	40.6	50.0	-9.4
17.024	20.9	19.6	40.5	50.0	-9.5
0.575	16.6	19.8	36.4	46.0	-9.6
0.676	16.3	19.8	36.1	46.0	-9.9
16.991	20.2	19.6	39.8	50.0	-10.2
15.498	20.2	19.6	39.8	50.0	-10.2
0.657	16.0	19.8	35.8	46.0	-10.2
0.601	15.9	19.8	35.7	46.0	-10.3
0.549	15.7	19.8	35.5	46.0	-10.5
0.400	17.2	19.8	37.0	47.9	-10.9
0.825	15.2	19.7	34.9	46.0	-11.1
0.616	15.0	19.8	34.8	46.0	-11.2
15.230	19.1	19.6	38.7	50.0	-11.3
0.247	20.7	19.7	40.4	51.9	-11.4
0.799	14.8	19.7	34.5	46.0	-11.5

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

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

COMMENTS

None

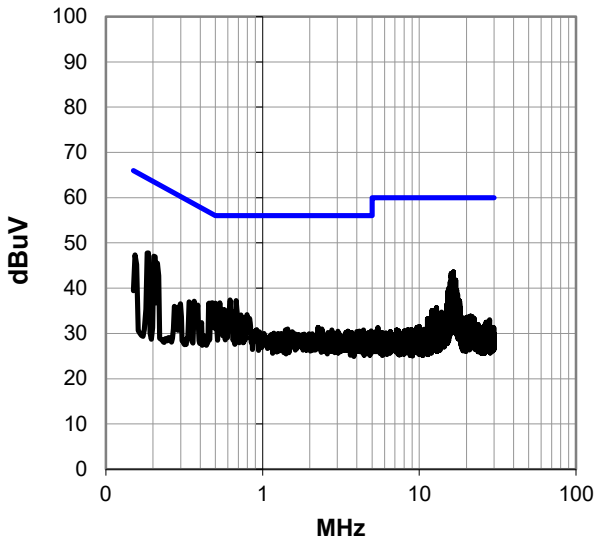
EUT OPERATING MODES

Tx 6Mbps High Channel 64, 5320MHz

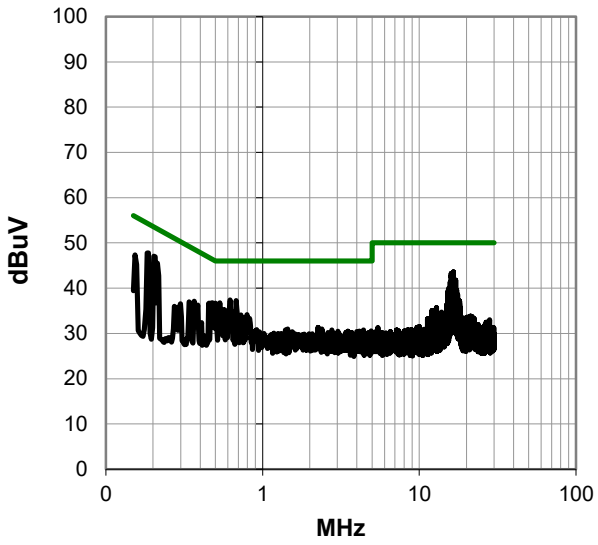
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #8

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
16.543	24.0	19.6	43.6	60.0	-16.4
0.202	27.3	19.7	47.0	63.5	-16.5
0.184	28.0	19.7	47.7	64.3	-16.6
16.282	23.7	19.6	43.3	60.0	-16.7
16.024	23.7	19.6	43.3	60.0	-16.7
0.213	25.8	19.7	45.5	63.1	-17.5
17.069	22.2	19.6	41.8	60.0	-18.2
16.812	22.2	19.6	41.8	60.0	-18.2
0.154	27.7	19.7	47.4	65.8	-18.4
17.017	21.9	19.6	41.5	60.0	-18.5
16.991	21.8	19.6	41.4	60.0	-18.6
15.760	21.8	19.6	41.4	60.0	-18.6
0.620	17.6	19.8	37.4	56.0	-18.6
0.680	17.5	19.8	37.3	56.0	-18.7
0.534	17.0	19.8	36.8	56.0	-19.2
0.501	16.9	19.8	36.7	56.0	-19.3
0.475	17.0	19.8	36.8	56.4	-19.6
0.490	16.6	19.8	36.4	56.2	-19.8
16.043	20.6	19.6	40.2	60.0	-19.8
15.924	20.6	19.6	40.2	60.0	-19.8
15.491	20.4	19.6	40.0	60.0	-20.0
0.456	16.9	19.8	36.7	56.8	-20.1
17.330	20.0	19.6	39.6	60.0	-20.4
15.226	19.9	19.6	39.5	60.0	-20.5
0.564	15.4	19.8	35.2	56.0	-20.8
15.976	19.2	19.6	38.8	60.0	-21.2

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
16.543	24.0	19.6	43.6	50.0	-6.4
0.202	27.3	19.7	47.0	53.5	-6.5
0.184	28.0	19.7	47.7	54.3	-6.6
16.282	23.7	19.6	43.3	50.0	-6.7
16.024	23.7	19.6	43.3	50.0	-6.7
0.213	25.8	19.7	45.5	53.1	-7.5
17.069	22.2	19.6	41.8	50.0	-8.2
16.812	22.2	19.6	41.8	50.0	-8.2
0.154	27.7	19.7	47.4	55.8	-8.4
17.017	21.9	19.6	41.5	50.0	-8.5
16.991	21.8	19.6	41.4	50.0	-8.6
15.760	21.8	19.6	41.4	50.0	-8.6
0.620	17.6	19.8	37.4	46.0	-8.6
0.680	17.5	19.8	37.3	46.0	-8.7
0.534	17.0	19.8	36.8	46.0	-9.2
0.501	16.9	19.8	36.7	46.0	-9.3
0.475	17.0	19.8	36.8	46.4	-9.6
0.490	16.6	19.8	36.4	46.2	-9.8
16.043	20.6	19.6	40.2	50.0	-9.8
15.924	20.6	19.6	40.2	50.0	-9.8
15.491	20.4	19.6	40.0	50.0	-10.0
0.456	16.9	19.8	36.7	46.8	-10.1
17.330	20.0	19.6	39.6	50.0	-10.4
15.226	19.9	19.6	39.5	50.0	-10.5
0.564	15.4	19.8	35.2	46.0	-10.8
15.976	19.2	19.6	38.8	50.0	-11.2

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

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

COMMENTS

None

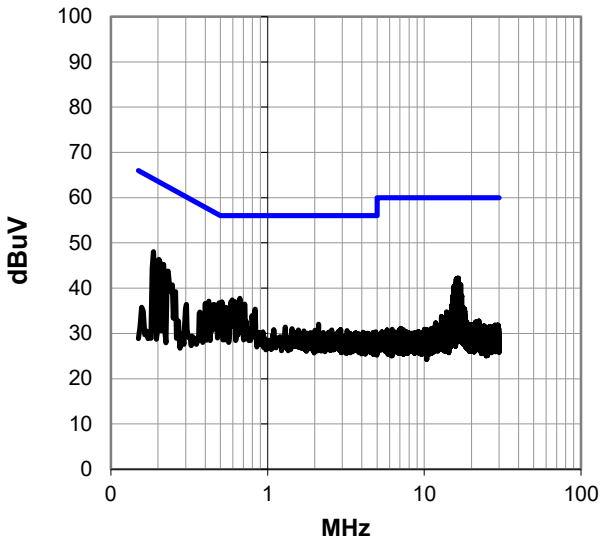
EUT OPERATING MODES

Tx 6Mbps Low Channel 100, 5500MHz

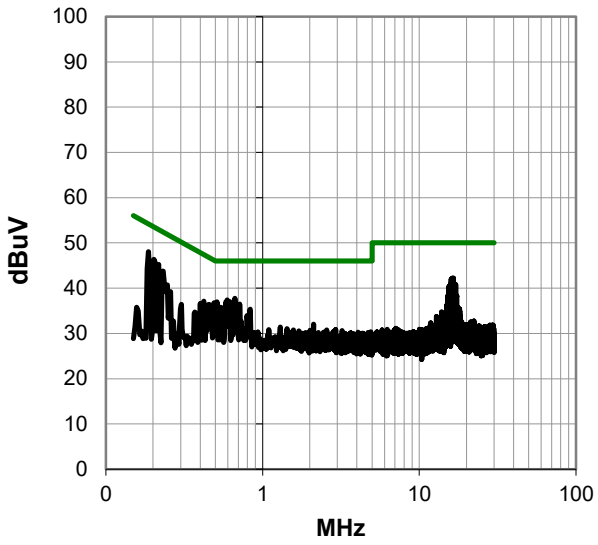
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #9

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.187	28.3	19.7	48.0	64.2	-16.1
0.202	26.6	19.7	46.3	63.5	-17.2
0.217	25.5	19.7	45.2	62.9	-17.7
16.539	22.6	19.6	42.2	60.0	-17.8
16.274	22.6	19.6	42.2	60.0	-17.8
16.017	22.4	19.6	42.0	60.0	-18.0
0.665	18.0	19.8	37.8	56.0	-18.2
0.594	17.6	19.8	37.4	56.0	-18.6
0.232	24.0	19.7	43.7	62.4	-18.6
0.616	17.3	19.8	37.1	56.0	-18.9
0.512	17.2	19.8	37.0	56.0	-19.0
0.583	17.2	19.8	37.0	56.0	-19.0
17.065	21.2	19.6	40.8	60.0	-19.2
15.752	21.2	19.6	40.8	60.0	-19.2
0.490	17.0	19.8	36.8	56.2	-19.4
16.797	20.9	19.6	40.5	60.0	-19.5
0.713	16.7	19.8	36.5	56.0	-19.5
15.487	20.8	19.6	40.4	60.0	-19.6
16.998	20.3	19.6	39.9	60.0	-20.1
0.684	16.1	19.8	35.9	56.0	-20.1
0.542	16.0	19.8	35.8	56.0	-20.2
0.422	17.3	19.8	37.1	57.4	-20.3
0.463	16.5	19.8	36.3	56.6	-20.3
0.557	15.8	19.8	35.6	56.0	-20.4
0.452	16.6	19.8	36.4	56.8	-20.4
0.531	15.6	19.8	35.4	56.0	-20.6

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.187	28.3	19.7	48.0	54.2	-6.1
0.202	26.6	19.7	46.3	53.5	-7.2
0.217	25.5	19.7	45.2	52.9	-7.7
16.539	22.6	19.6	42.2	50.0	-7.8
16.274	22.6	19.6	42.2	50.0	-7.8
16.017	22.4	19.6	42.0	50.0	-8.0
0.665	18.0	19.8	37.8	46.0	-8.2
0.594	17.6	19.8	37.4	46.0	-8.6
0.232	24.0	19.7	43.7	52.4	-8.6
0.616	17.3	19.8	37.1	46.0	-8.9
0.512	17.2	19.8	37.0	46.0	-9.0
0.583	17.2	19.8	37.0	46.0	-9.0
17.065	21.2	19.6	40.8	50.0	-9.2
15.752	21.2	19.6	40.8	50.0	-9.2
0.490	17.0	19.8	36.8	46.2	-9.4
16.797	20.9	19.6	40.5	50.0	-9.5
0.713	16.7	19.8	36.5	46.0	-9.5
15.487	20.8	19.6	40.4	50.0	-9.6
16.998	20.3	19.6	39.9	50.0	-10.1
0.684	16.1	19.8	35.9	46.0	-10.1
0.542	16.0	19.8	35.8	46.0	-10.2
0.422	17.3	19.8	37.1	47.4	-10.3
0.463	16.5	19.8	36.3	46.6	-10.3
0.557	15.8	19.8	35.6	46.0	-10.4
0.452	16.6	19.8	36.4	46.8	-10.4
0.531	15.6	19.8	35.4	46.0	-10.6

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

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

COMMENTS

None

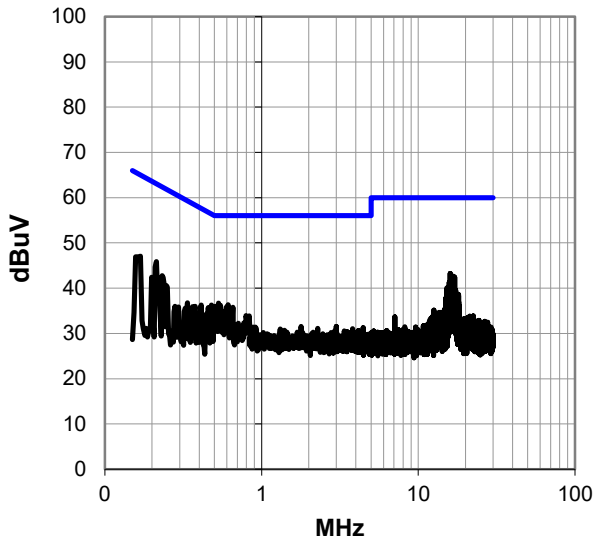
EUT OPERATING MODES

Tx 6Mbps Low Channel 100, 5500MHz

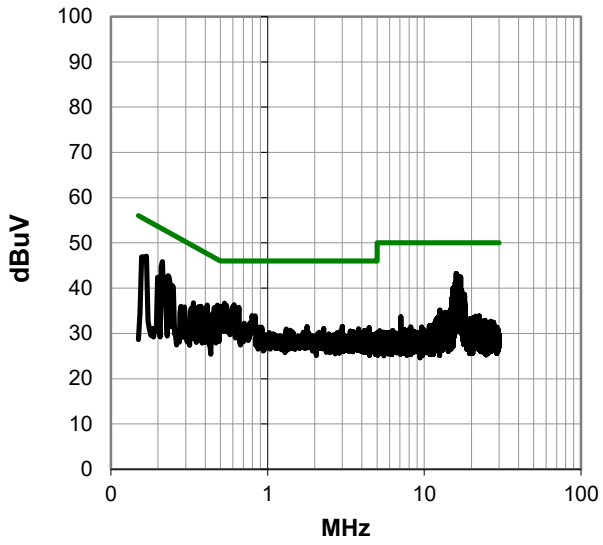
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #10

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
16.010	23.7	19.6	43.3	60.0	-16.7
16.274	23.2	19.6	42.8	60.0	-17.2
0.213	26.1	19.7	45.8	63.1	-17.2
16.800	23.0	19.6	42.6	60.0	-17.4
17.062	22.8	19.6	42.4	60.0	-17.6
16.536	22.7	19.6	42.3	60.0	-17.7
0.169	27.3	19.7	47.0	65.0	-18.0
17.021	22.2	19.6	41.8	60.0	-18.2
15.748	21.7	19.6	41.3	60.0	-18.7
16.980	21.3	19.6	40.9	60.0	-19.1
0.531	16.9	19.8	36.7	56.0	-19.3
0.613	16.6	19.8	36.4	56.0	-19.6
0.232	23.0	19.7	42.7	62.4	-19.6
15.226	20.5	19.6	40.1	60.0	-19.9
0.504	16.2	19.8	36.0	56.0	-20.0
0.478	16.5	19.8	36.3	56.4	-20.1
15.484	20.3	19.6	39.9	60.0	-20.1
15.931	20.2	19.6	39.8	60.0	-20.2
0.657	16.0	19.8	35.8	56.0	-20.2
17.327	20.0	19.6	39.6	60.0	-20.4
15.946	20.0	19.6	39.6	60.0	-20.4
0.221	22.6	19.7	42.3	62.8	-20.4
0.631	15.3	19.8	35.1	56.0	-20.9
0.456	15.9	19.8	35.7	56.8	-21.1
0.572	15.0	19.8	34.8	56.0	-21.2
0.199	22.7	19.7	42.4	63.7	-21.2

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
16.010	23.7	19.6	43.3	50.0	-6.7
16.274	23.2	19.6	42.8	50.0	-7.2
0.213	26.1	19.7	45.8	53.1	-7.2
16.800	23.0	19.6	42.6	50.0	-7.4
17.062	22.8	19.6	42.4	50.0	-7.6
16.536	22.7	19.6	42.3	50.0	-7.7
0.169	27.3	19.7	47.0	55.0	-8.0
17.021	22.2	19.6	41.8	50.0	-8.2
15.748	21.7	19.6	41.3	50.0	-8.7
16.980	21.3	19.6	40.9	50.0	-9.1
0.531	16.9	19.8	36.7	46.0	-9.3
0.613	16.6	19.8	36.4	46.0	-9.6
0.232	23.0	19.7	42.7	52.4	-9.6
15.226	20.5	19.6	40.1	50.0	-9.9
0.504	16.2	19.8	36.0	46.0	-10.0
0.478	16.5	19.8	36.3	46.4	-10.1
15.484	20.3	19.6	39.9	50.0	-10.1
15.931	20.2	19.6	39.8	50.0	-10.2
0.657	16.0	19.8	35.8	46.0	-10.2
17.327	20.0	19.6	39.6	50.0	-10.4
15.946	20.0	19.6	39.6	50.0	-10.4
0.221	22.6	19.7	42.3	52.8	-10.4
0.631	15.3	19.8	35.1	46.0	-10.9
0.456	15.9	19.8	35.7	46.8	-11.1
0.572	15.0	19.8	34.8	46.0	-11.2
0.199	22.7	19.7	42.4	53.7	-11.2

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

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

COMMENTS

None

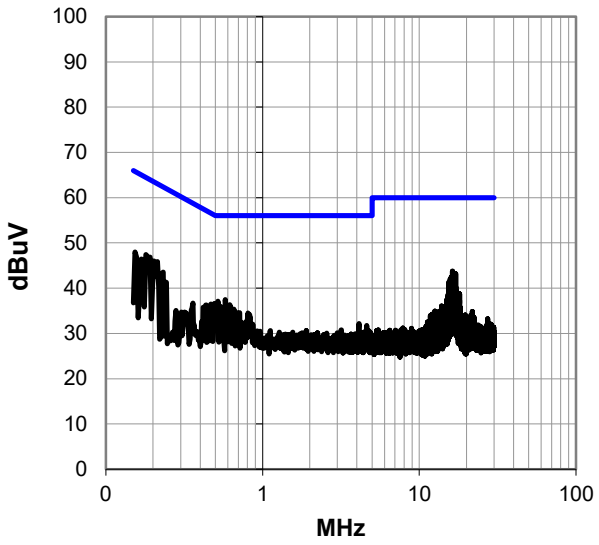
EUT OPERATING MODES

Tx 6Mbps Mid Channel 116, 5580MHz

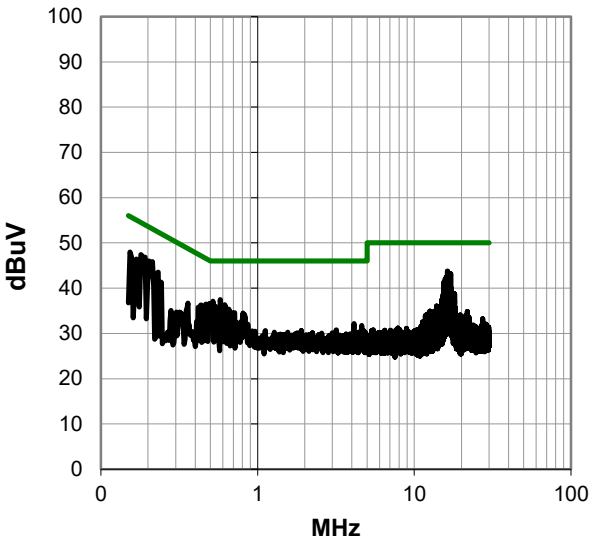
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #11

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
16.271	24.2	19.6	43.8	60.0	-16.2
16.532	23.7	19.6	43.3	60.0	-16.7
17.054	23.6	19.6	43.2	60.0	-16.8
0.180	27.7	19.7	47.4	64.5	-17.0
0.213	26.1	19.7	45.8	63.1	-17.2
0.202	26.3	19.7	46.0	63.5	-17.5
16.006	22.8	19.6	42.4	60.0	-17.6
0.154	28.3	19.7	48.0	65.8	-17.8
16.994	22.5	19.6	42.1	60.0	-17.9
15.745	22.5	19.6	42.1	60.0	-17.9
16.793	22.0	19.6	41.6	60.0	-18.4
0.579	17.7	19.8	37.5	56.0	-18.5
0.169	26.7	19.7	46.4	65.0	-18.6
15.484	21.8	19.6	41.4	60.0	-18.6
0.232	23.8	19.7	43.5	62.4	-18.8
0.519	17.3	19.8	37.1	56.0	-18.9
15.924	21.2	19.6	40.8	60.0	-19.2
0.616	16.6	19.8	36.4	56.0	-19.6
17.091	20.7	19.6	40.3	60.0	-19.7
17.017	20.6	19.6	40.2	60.0	-19.8
0.467	16.7	19.8	36.5	56.6	-20.1
0.534	16.1	19.8	35.9	56.0	-20.1
0.542	16.1	19.8	35.9	56.0	-20.1
0.657	15.6	19.8	35.4	56.0	-20.6
17.323	19.7	19.6	39.3	60.0	-20.7
0.240	21.6	19.7	41.3	62.1	-20.8

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
16.271	24.2	19.6	43.8	50.0	-6.2
16.532	23.7	19.6	43.3	50.0	-6.7
17.054	23.6	19.6	43.2	50.0	-6.8
0.180	27.7	19.7	47.4	54.5	-7.0
0.213	26.1	19.7	45.8	53.1	-7.2
0.202	26.3	19.7	46.0	53.5	-7.5
16.006	22.8	19.6	42.4	50.0	-7.6
0.154	28.3	19.7	48.0	55.8	-7.8
16.994	22.5	19.6	42.1	50.0	-7.9
15.745	22.5	19.6	42.1	50.0	-7.9
16.793	22.0	19.6	41.6	50.0	-8.4
0.579	17.7	19.8	37.5	46.0	-8.5
0.169	26.7	19.7	46.4	55.0	-8.6
15.484	21.8	19.6	41.4	50.0	-8.6
0.232	23.8	19.7	43.5	52.4	-8.8
0.519	17.3	19.8	37.1	46.0	-8.9
15.924	21.2	19.6	40.8	50.0	-9.2
0.616	16.6	19.8	36.4	46.0	-9.6
17.091	20.7	19.6	40.3	50.0	-9.7
17.017	20.6	19.6	40.2	50.0	-9.8
0.467	16.7	19.8	36.5	46.6	-10.1
0.534	16.1	19.8	35.9	46.0	-10.1
0.542	16.1	19.8	35.9	46.0	-10.1
0.657	15.6	19.8	35.4	46.0	-10.6
17.323	19.7	19.6	39.3	50.0	-10.7
0.240	21.6	19.7	41.3	52.1	-10.8

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

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

COMMENTS

None

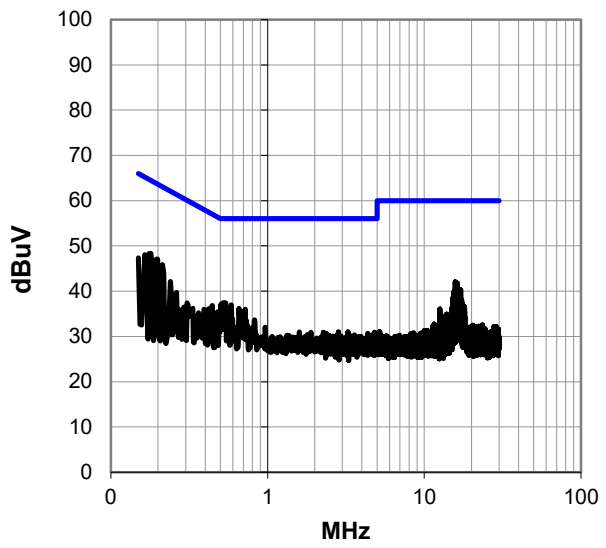
EUT OPERATING MODES

Tx 6Mbps Mid Channel 116, 5580MHz

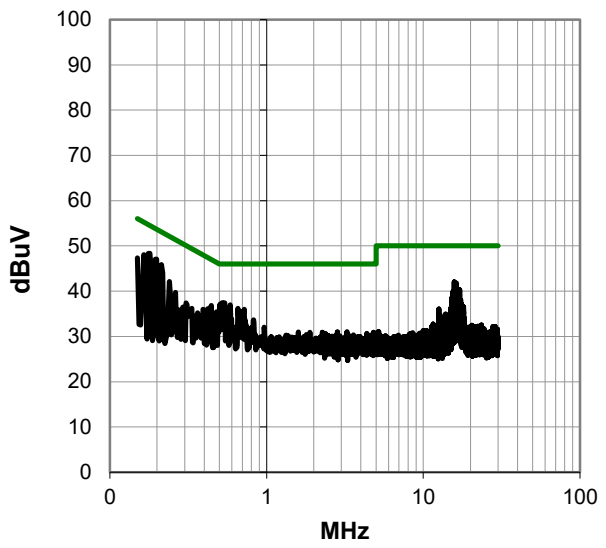
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #12

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.180	28.6	19.7	48.3	64.5	-16.1
0.195	27.3	19.7	47.0	63.8	-16.8
0.165	28.3	19.7	48.0	65.2	-17.2
0.213	26.1	19.7	45.8	63.1	-17.2
15.741	22.5	19.6	42.1	60.0	-17.9
16.263	22.2	19.6	41.8	60.0	-18.2
0.523	17.7	19.8	37.5	56.0	-18.5
0.538	17.6	19.8	37.4	56.0	-18.6
0.150	27.7	19.6	47.3	66.0	-18.7
16.002	21.6	19.6	41.2	60.0	-18.8
0.504	17.3	19.8	37.1	56.0	-18.9
0.587	17.2	19.8	37.0	56.0	-19.0
16.524	20.9	19.6	40.5	60.0	-19.5
16.789	20.8	19.6	40.4	60.0	-19.6
17.054	20.7	19.6	40.3	60.0	-19.7
0.657	16.4	19.8	36.2	56.0	-19.8
0.240	22.4	19.7	42.1	62.1	-20.0
0.721	16.2	19.8	36.0	56.0	-20.0
17.021	20.3	19.6	39.9	60.0	-20.1
15.484	20.3	19.6	39.9	60.0	-20.1
0.445	17.0	19.8	36.8	57.0	-20.2
0.691	15.7	19.8	35.5	56.0	-20.5
16.972	19.8	19.6	39.4	60.0	-20.6
0.493	15.7	19.8	35.5	56.1	-20.6
0.557	15.3	19.8	35.1	56.0	-20.9
0.672	15.3	19.8	35.1	56.0	-20.9

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.180	28.6	19.7	48.3	54.5	-6.1
0.195	27.3	19.7	47.0	53.8	-6.8
0.165	28.3	19.7	48.0	55.2	-7.2
0.213	26.1	19.7	45.8	53.1	-7.2
15.741	22.5	19.6	42.1	50.0	-7.9
16.263	22.2	19.6	41.8	50.0	-8.2
0.523	17.7	19.8	37.5	46.0	-8.5
0.538	17.6	19.8	37.4	46.0	-8.6
0.150	27.7	19.6	47.3	56.0	-8.7
16.002	21.6	19.6	41.2	50.0	-8.8
0.504	17.3	19.8	37.1	46.0	-8.9
0.587	17.2	19.8	37.0	46.0	-9.0
16.524	20.9	19.6	40.5	50.0	-9.5
16.789	20.8	19.6	40.4	50.0	-9.6
17.054	20.7	19.6	40.3	50.0	-9.7
0.657	16.4	19.8	36.2	46.0	-9.8
0.240	22.4	19.7	42.1	52.1	-10.0
0.721	16.2	19.8	36.0	46.0	-10.0
17.021	20.3	19.6	39.9	50.0	-10.1
15.484	20.3	19.6	39.9	50.0	-10.1
0.445	17.0	19.8	36.8	47.0	-10.2
0.691	15.7	19.8	35.5	46.0	-10.5
16.972	19.8	19.6	39.4	50.0	-10.6
0.493	15.7	19.8	35.5	46.1	-10.6
0.557	15.3	19.8	35.1	46.0	-10.9
0.672	15.3	19.8	35.1	46.0	-10.9

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

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

COMMENTS

None

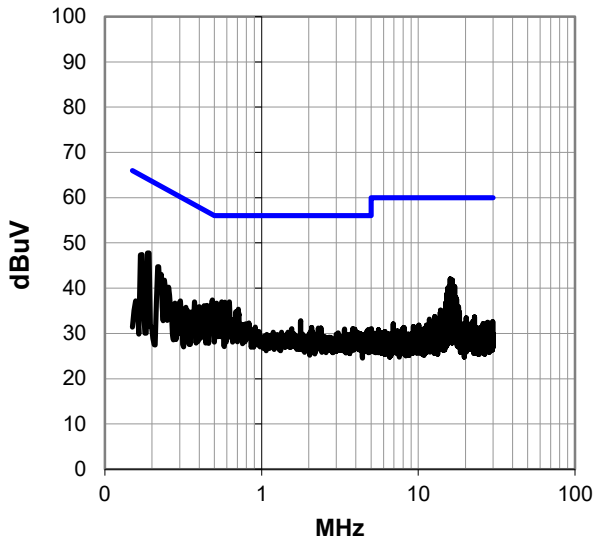
EUT OPERATING MODES

Tx 6Mbps High Channel 140, 5700MHz

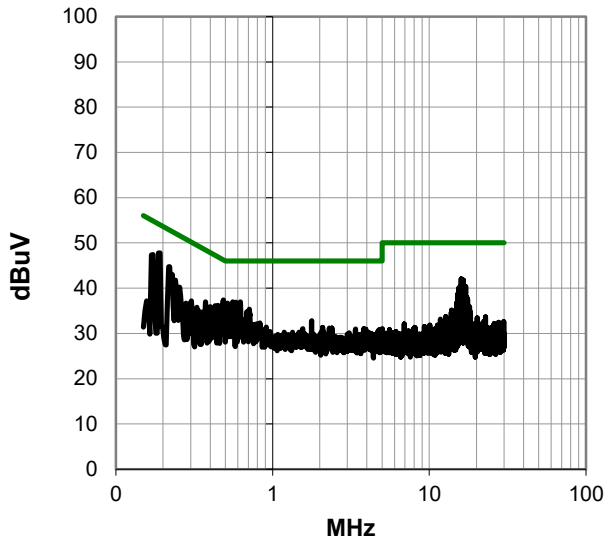
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #13

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.187	28.0	19.7	47.7	64.2	-16.4
0.172	27.7	19.7	47.4	64.8	-17.4
15.998	22.5	19.6	42.1	60.0	-17.9
0.221	25.0	19.7	44.7	62.8	-18.0
16.528	22.2	19.6	41.8	60.0	-18.2
0.486	17.6	19.8	37.4	56.2	-18.8
0.557	17.2	19.8	37.0	56.0	-19.0
0.624	17.2	19.8	37.0	56.0	-19.0
0.583	17.1	19.8	36.9	56.0	-19.1
0.516	16.9	19.8	36.7	56.0	-19.3
16.267	21.0	19.6	40.6	60.0	-19.4
0.228	23.3	19.7	43.0	62.5	-19.5
17.050	20.8	19.6	40.4	60.0	-19.6
15.737	20.8	19.6	40.4	60.0	-19.6
15.476	20.5	19.6	40.1	60.0	-19.9
0.531	16.0	19.8	35.8	56.0	-20.2
0.240	22.0	19.7	41.7	62.1	-20.4
16.789	19.8	19.6	39.4	60.0	-20.6
0.710	15.6	19.8	35.4	56.0	-20.6
0.448	16.4	19.8	36.2	56.9	-20.7
16.991	19.5	19.6	39.1	60.0	-20.9
0.430	16.3	19.8	36.1	57.3	-21.2
0.684	15.0	19.8	34.8	56.0	-21.2
15.924	19.1	19.6	38.7	60.0	-21.3
15.215	19.1	19.6	38.7	60.0	-21.3
0.601	14.9	19.8	34.7	56.0	-21.3

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.187	28.0	19.7	47.7	54.2	-6.4
0.172	27.7	19.7	47.4	54.8	-7.4
15.998	22.5	19.6	42.1	50.0	-7.9
0.221	25.0	19.7	44.7	52.8	-8.0
16.528	22.2	19.6	41.8	50.0	-8.2
0.486	17.6	19.8	37.4	46.2	-8.8
0.557	17.2	19.8	37.0	46.0	-9.0
0.624	17.2	19.8	37.0	46.0	-9.0
0.583	17.1	19.8	36.9	46.0	-9.1
0.516	16.9	19.8	36.7	46.0	-9.3
16.267	21.0	19.6	40.6	50.0	-9.4
0.228	23.3	19.7	43.0	52.5	-9.5
17.050	20.8	19.6	40.4	50.0	-9.6
15.737	20.8	19.6	40.4	50.0	-9.6
15.476	20.5	19.6	40.1	50.0	-9.9
0.531	16.0	19.8	35.8	46.0	-10.2
0.240	22.0	19.7	41.7	52.1	-10.4
16.789	19.8	19.6	39.4	50.0	-10.6
0.710	15.6	19.8	35.4	46.0	-10.6
0.448	16.4	19.8	36.2	46.9	-10.7
16.991	19.5	19.6	39.1	50.0	-10.9
0.430	16.3	19.8	36.1	47.3	-11.2
0.684	15.0	19.8	34.8	46.0	-11.2
15.924	19.1	19.6	38.7	50.0	-11.3
15.215	19.1	19.6	38.7	50.0	-11.3
0.601	14.9	19.8	34.7	46.0	-11.3

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	444-2251	Work Order:	FOCU0169
Serial Number:	02EAF000061	Date:	06/11/2014
Customer:	Summit Semiconductor LLC	Temperature:	24.1°C
Attendees:	None	Relative Humidity:	42.9%
Customer Project:	None	Bar. Pressure:	1012.3 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	FOCU0169-3

TEST SPECIFICATIONS

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

TEST PARAMETERS

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

COMMENTS

None

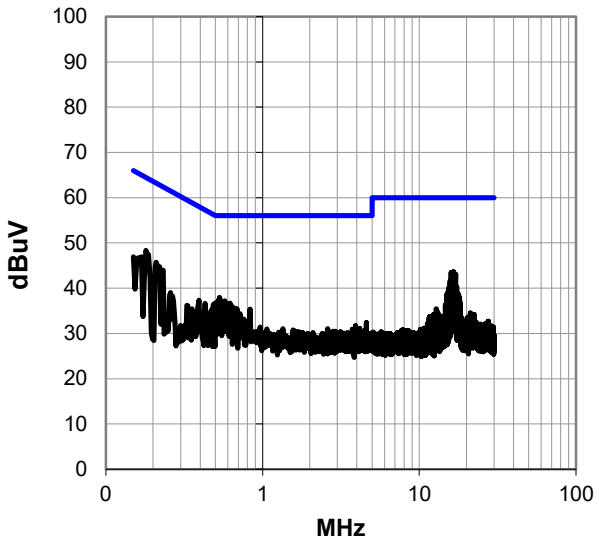
EUT OPERATING MODES

Tx 6Mbps High Channel 140, 5700MHz

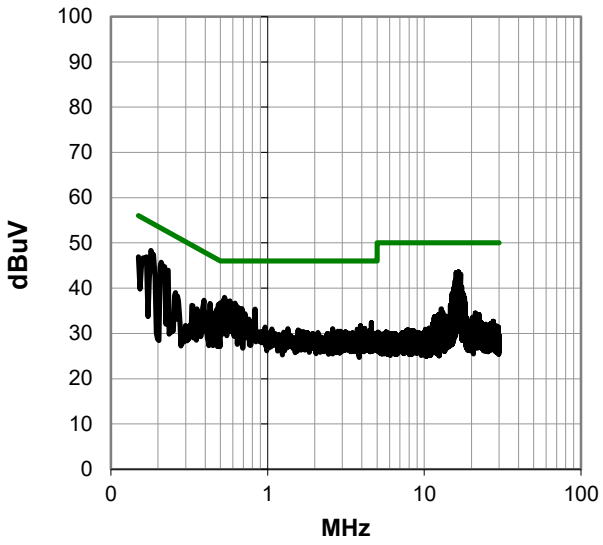
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #14

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.180	28.6	19.7	48.3	64.5	-16.1
16.524	24.0	19.6	43.6	60.0	-16.4
15.998	23.9	19.6	43.5	60.0	-16.5
17.047	23.5	19.6	43.1	60.0	-16.9
16.789	23.3	19.6	42.9	60.0	-17.1
0.210	26.0	19.7	45.7	63.2	-17.5
16.260	22.9	19.6	42.5	60.0	-17.5
0.531	18.2	19.8	38.0	56.0	-18.0
0.169	27.2	19.7	46.9	65.0	-18.1
15.737	22.1	19.6	41.7	60.0	-18.3
0.232	24.2	19.7	43.9	62.4	-18.4
16.987	21.9	19.6	41.5	60.0	-18.5
0.523	17.6	19.8	37.4	56.0	-18.6
0.575	17.4	19.8	37.2	56.0	-18.8
0.150	27.3	19.6	46.9	66.0	-19.1
0.501	17.0	19.8	36.8	56.0	-19.2
17.021	21.1	19.6	40.7	60.0	-19.3
0.620	16.9	19.8	36.7	56.0	-19.3
17.312	20.7	19.6	40.3	60.0	-19.7
0.486	16.6	19.8	36.4	56.2	-19.8
15.480	20.5	19.6	40.1	60.0	-19.9
0.639	16.2	19.8	36.0	56.0	-20.0
0.654	15.9	19.8	35.7	56.0	-20.3
15.954	20.0	19.6	39.6	60.0	-20.4
0.594	15.7	19.8	35.5	56.0	-20.5
0.684	15.7	19.8	35.5	56.0	-20.5

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.180	28.6	19.7	48.3	54.5	-6.1
16.524	24.0	19.6	43.6	50.0	-6.4
15.998	23.9	19.6	43.5	50.0	-6.5
17.047	23.5	19.6	43.1	50.0	-6.9
16.789	23.3	19.6	42.9	50.0	-7.1
0.210	26.0	19.7	45.7	53.2	-7.5
16.260	22.9	19.6	42.5	50.0	-7.5
0.531	18.2	19.8	38.0	46.0	-8.0
0.169	27.2	19.7	46.9	55.0	-8.1
15.737	22.1	19.6	41.7	50.0	-8.3
0.232	24.2	19.7	43.9	52.4	-8.4
16.987	21.9	19.6	41.5	50.0	-8.5
0.523	17.6	19.8	37.4	46.0	-8.6
0.575	17.4	19.8	37.2	46.0	-8.8
0.150	27.3	19.6	46.9	56.0	-9.1
0.501	17.0	19.8	36.8	46.0	-9.2
17.021	21.1	19.6	40.7	50.0	-9.3
0.620	16.9	19.8	36.7	46.0	-9.3
17.312	20.7	19.6	40.3	50.0	-9.7
0.486	16.6	19.8	36.4	46.2	-9.8
15.480	20.5	19.6	40.1	50.0	-9.9
0.639	16.2	19.8	36.0	46.0	-10.0
0.654	15.9	19.8	35.7	46.0	-10.3
15.954	20.0	19.6	39.6	50.0	-10.4
0.594	15.7	19.8	35.5	46.0	-10.5
0.684	15.7	19.8	35.5	46.0	-10.5

CONCLUSION

Pass

Tested By

DUTY CYCLE (5.8 GHz)

XMit 2015.01.14

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)
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBI	NCR	0
Power Supply - DC	Tektronix	PS280	TPM	NCR	0
Meter - Multimeter	Tektronix	DMM912	MMH	2/5/2013	36
Thermometer	Omegaette	HH311	DTY	1/21/2015	36
Attenuator	S.M. Electronics	SA18N-06/SM4032	REE	10/1/2015	12
Generator - Signal	Agilent	V2920A	TIH	NCR	0
Meter - Power	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Cable	ESM Cable Corp.	TT	EV1	NCR	0
Block - DC	Fairview Microwave	SD3379	AMP	6/18/2015	12
Attenuator	S.M. Electronics	SA26B-20	AUY	7/14/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

Per ANSI C63.10, all measurements are to be performed with the EUT operating at 100% duty cycle at its maximum power level. In the event the EUT cannot be operated at 100% duty cycle, the transmission pulse duration (T) and Duty Cycle (x) are required to be measured for each of the EUT operating modes.

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

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

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

10 * LOG (1/D) = dB

Where D is duty cycle of the radio transmissions

DUTY CYCLE (5.8 GHz)

NORTHWEST EMC

XMit 2015.01.14

EUT:	SherwoodXD (extended distance)			**Work Order:**	FOCU0216
Serial Number:	02EA4FD0010F			**Date:**	12/03/15
Customer:	Summit Semiconductor LLC			**Temperature:**	22.4°C
Attendees:	David Schilling			**Humidity:**	39%
Project:	None			**Barometric Pres.:**	1008.5
Tested by:	Brandon Hobbs	**Power:**	3.3/1.2VDC Nominal	**Job Site:**	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.407:2015	ANSI C63.10:2013

COMMENTS

The client provided the operating modes for testing. All cable losses were accounted for while under test.

DEVIATIONS FROM TEST STANDARD

None

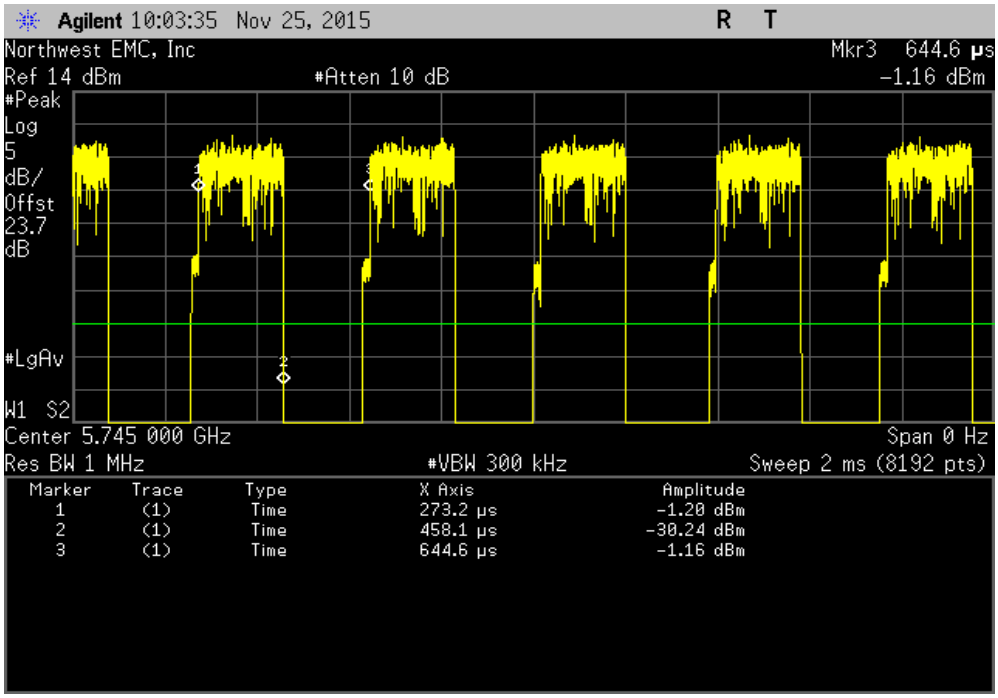
Configuration #	2	Signature

		Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
Normal Conditions							
	802.11(a) 6 Mbps						
	Low channel, Ch.30, 5745 MHz	184.9 us	371.4 us	1	49.8	N/A	N/A
	Low channel, Ch.30, 5745 MHz	N/A	N/A	5	N/A	N/A	N/A
	Mid channel, Ch.32, 5785 MHz	184.6 us	382.4 us	1	48.3	N/A	N/A
	Mid channel, Ch.32, 5785 MHz	N/A	N/A	5	N/A	N/A	N/A
	High channel, Ch.34, 5825 MHz	184.8 us	370.4 us	1	49.9	N/A	N/A
	High channel, Ch.34, 5825 MHz	N/A	N/A	5	N/A	N/A	N/A
	802.11(a) 18 Mbps						
	Low channel, Ch.30, 5745 MHz	72.8 us	284.2 us	1	25.6	N/A	N/A
	Low channel, Ch.30, 5745 MHz	N/A	N/A	5	N/A	N/A	N/A
	Mid channel, Ch.32, 5785 MHz	72.8 us	289.4 us	1	25.2	N/A	N/A
	Mid channel, Ch.32, 5785 MHz	N/A	N/A	5	N/A	N/A	N/A
	High channel, Ch.34, 5825 MHz	72.7 us	271.7 us	1	26.8	N/A	N/A
	High channel, Ch.34, 5825 MHz	N/A	N/A	5	N/A	N/A	N/A
	802.11(a) 36 Mbps						
	Low channel, Ch.30, 5745 MHz	44.9 us	259.8 us	1	17.3	N/A	N/A
	Low channel, Ch.30, 5745 MHz	N/A	N/A	5	N/A	N/A	N/A
	Mid channel, Ch.32, 5785 MHz	44.7 us	259.8 us	1	17.2	N/A	N/A
	Mid channel, Ch.32, 5785 MHz	N/A	N/A	5	N/A	N/A	N/A
	High channel, Ch.34, 5825 MHz	44.7 us	258.8 us	1	17.3	N/A	N/A
	High channel, Ch.34, 5825 MHz	N/A	N/A	5	N/A	N/A	N/A

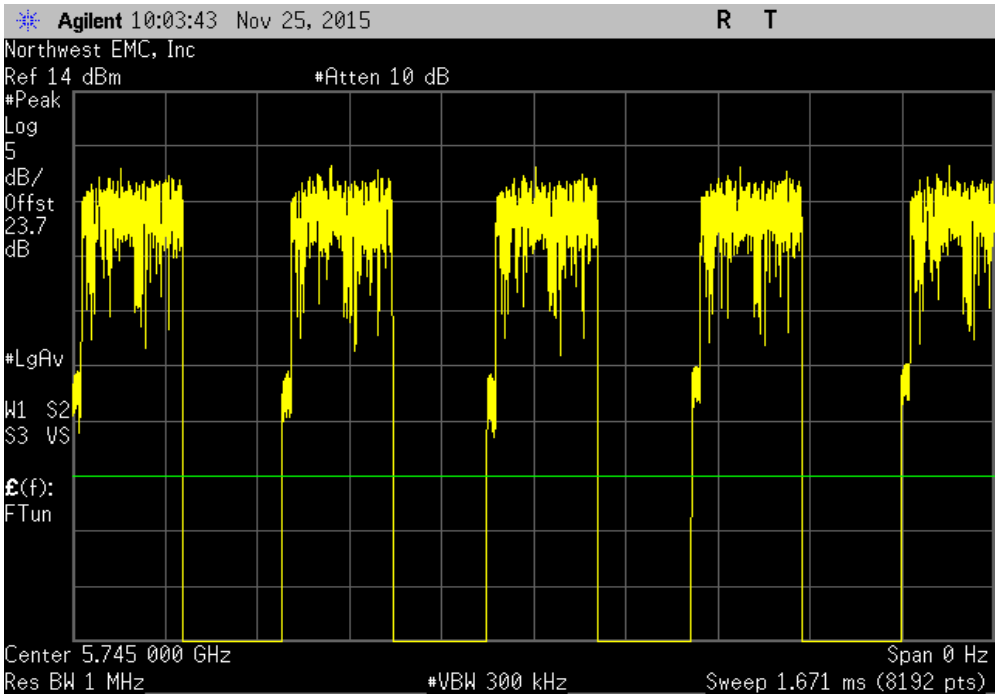
DUTY CYCLE (5.8 GHz)

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, Low channel, Ch.30, 5745 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	184.9 us	371.4 us	1	49.8	N/A	N/A



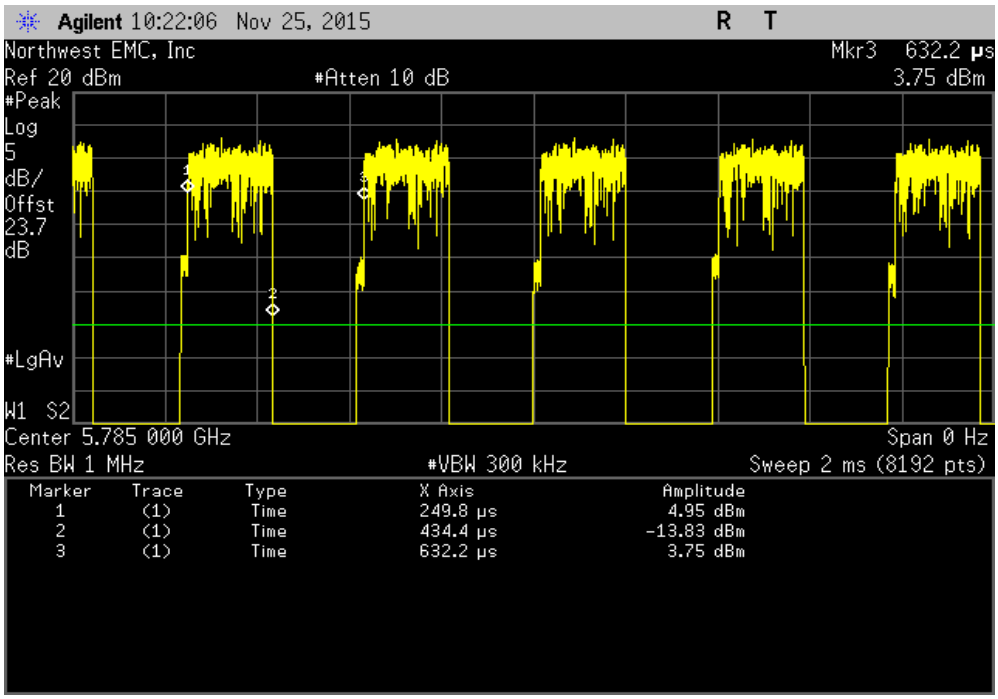
Normal Conditions, 802.11(a) 6 Mbps, Low channel, Ch.30, 5745 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



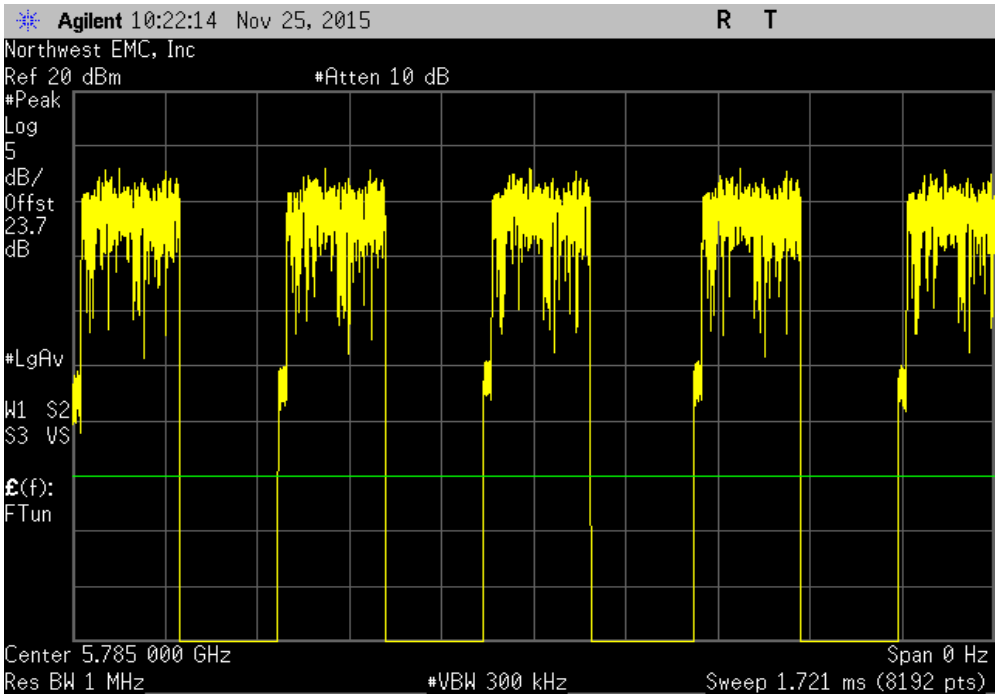
DUTY CYCLE (5.8 GHz)

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, Mid channel, Ch.32, 5785 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	184.6 us	382.4 us	1	48.3	N/A	N/A



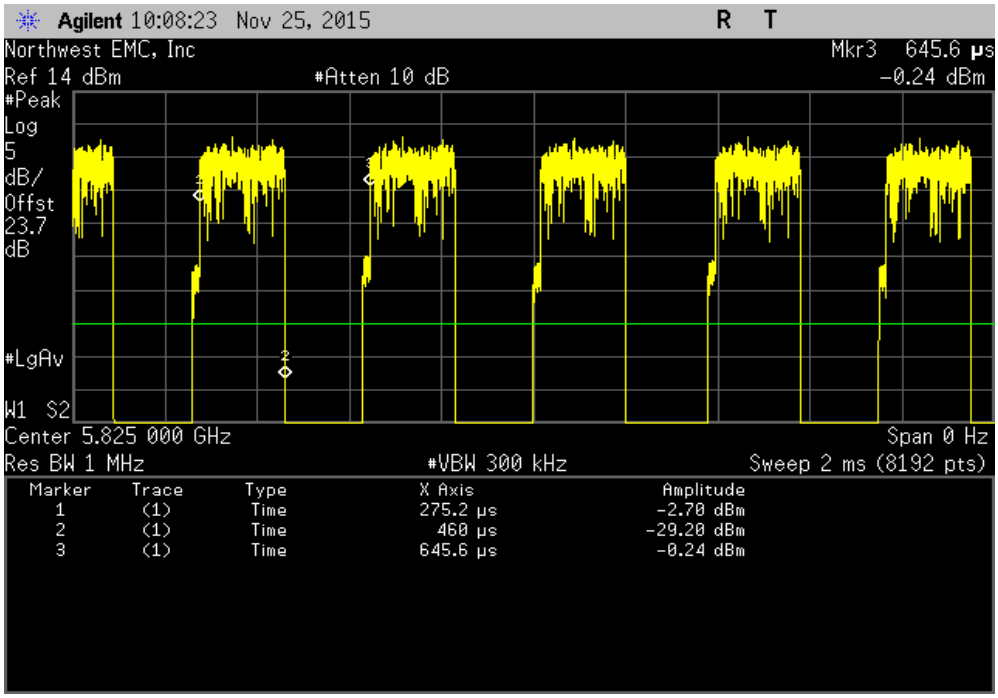
Normal Conditions, 802.11(a) 6 Mbps, Mid channel, Ch.32, 5785 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



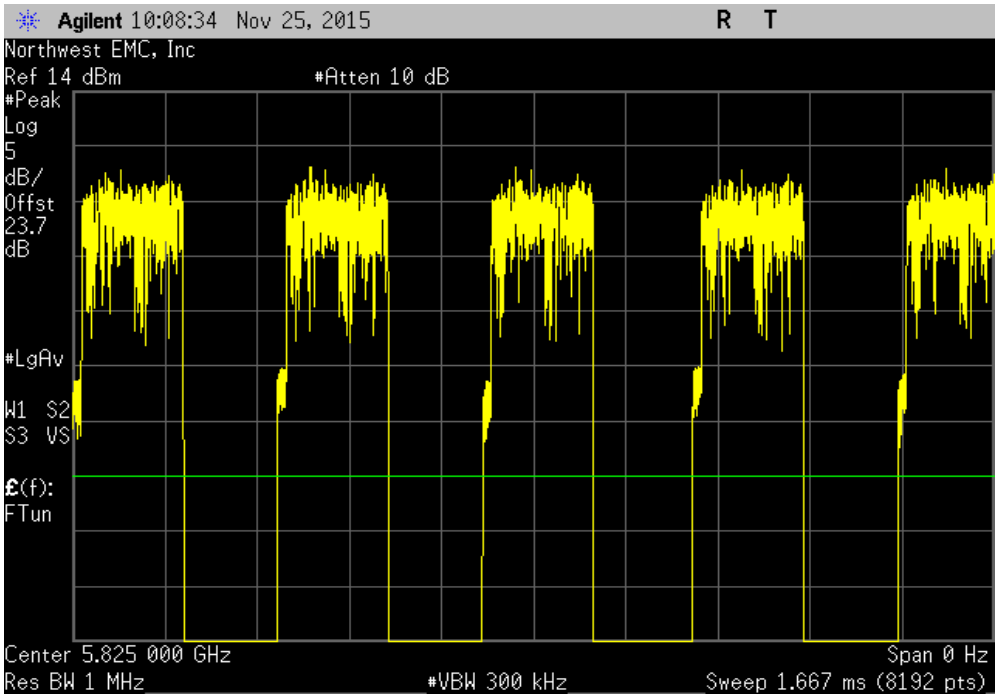
DUTY CYCLE (5.8 GHz)

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, High channel, Ch.34, 5825 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	184.8 us	370.4 us	1	49.9	N/A	N/A



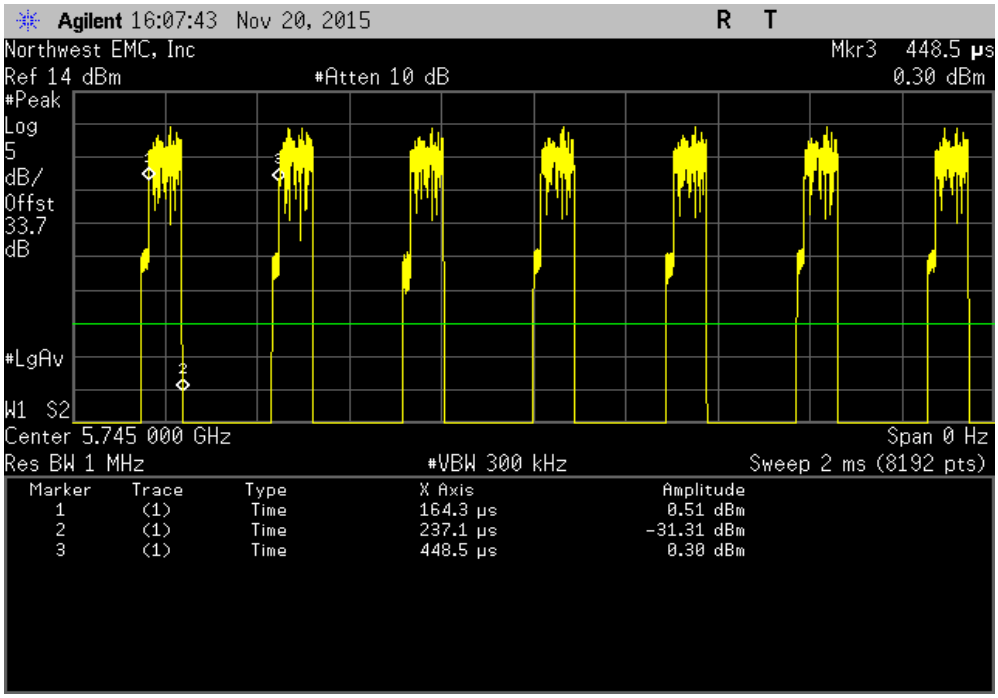
Normal Conditions, 802.11(a) 6 Mbps, High channel, Ch.34, 5825 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



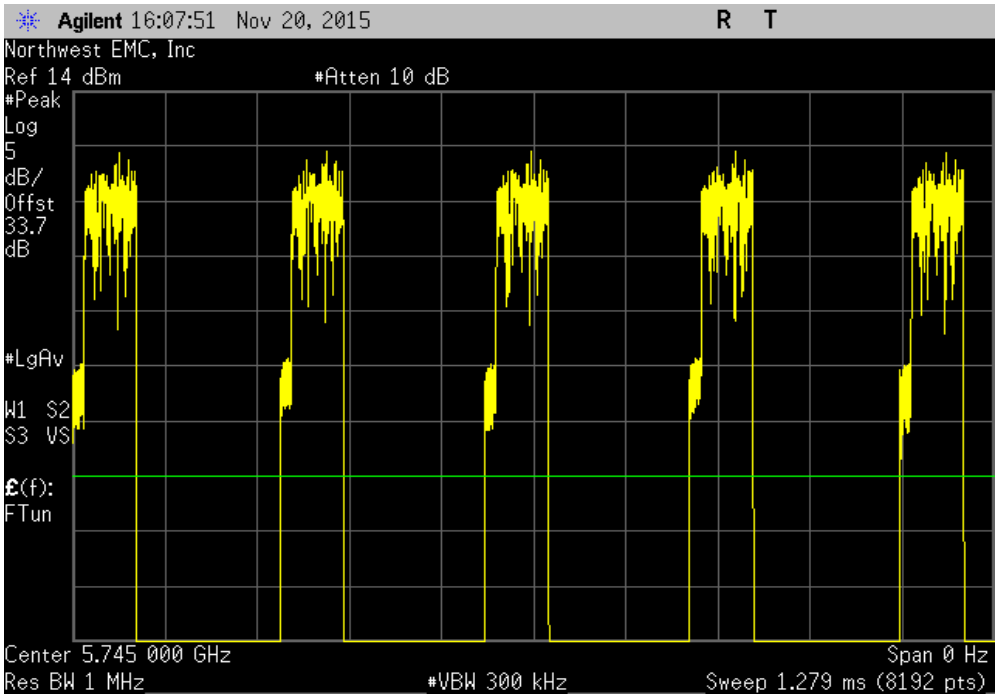
DUTY CYCLE (5.8 GHz)

XMit 2015.01.14

Normal Conditions, 802.11(a) 18 Mbps, Low channel, Ch.30, 5745 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	72.8 us	284.2 us	1	25.6	N/A	N/A



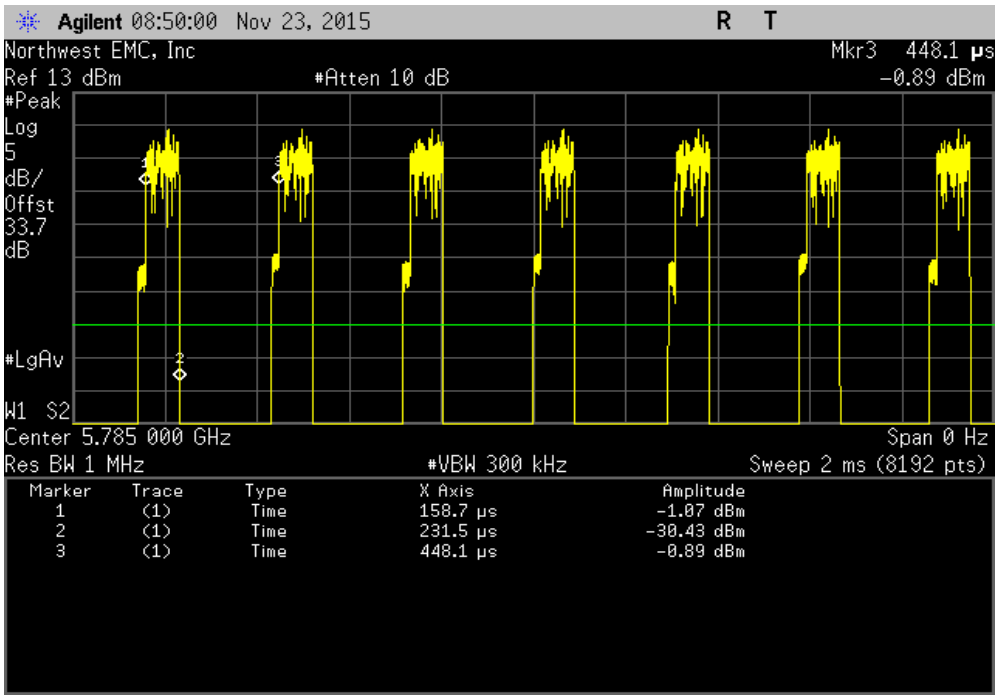
Normal Conditions, 802.11(a) 18 Mbps, Low channel, Ch.30, 5745 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	N/A	N/A	5	N/A	N/A	N/A



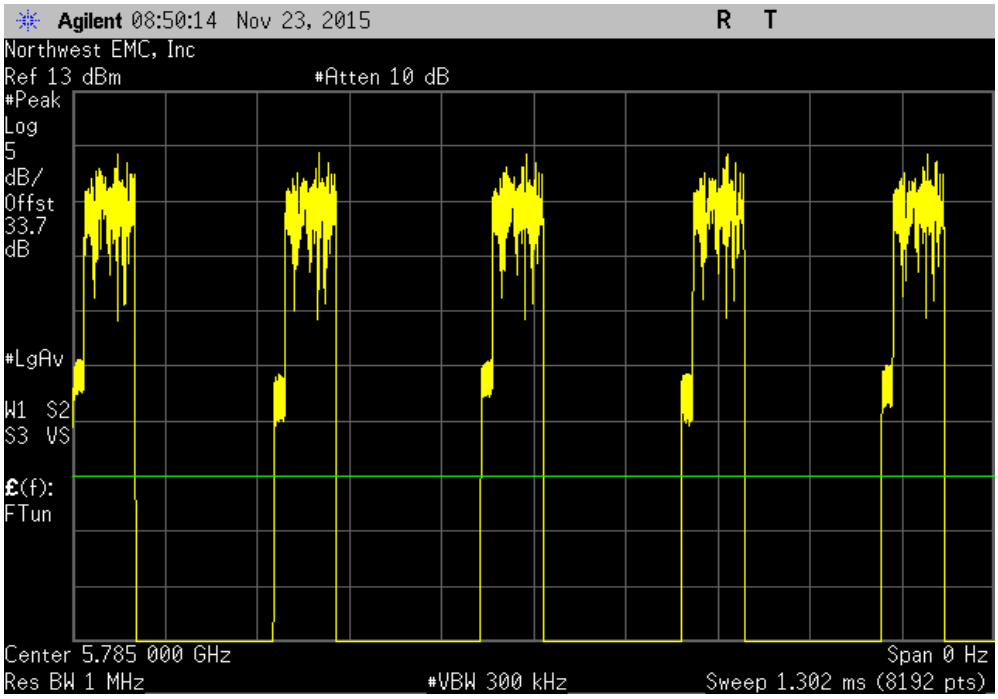
DUTY CYCLE (5.8 GHz)

XMit 2015.01.14

Normal Conditions, 802.11(a) 18 Mbps, Mid channel, Ch.32, 5785 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	72.8 us	289.4 us	1	25.2	N/A	N/A



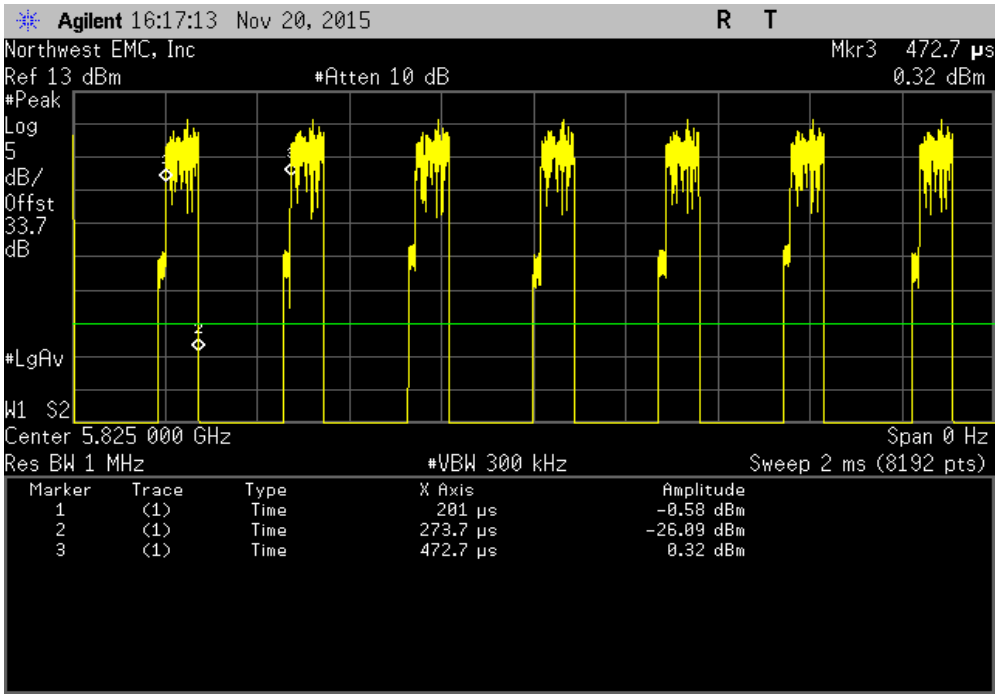
Normal Conditions, 802.11(a) 18 Mbps, Mid channel, Ch.32, 5785 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	N/A	N/A	5	N/A	N/A	N/A



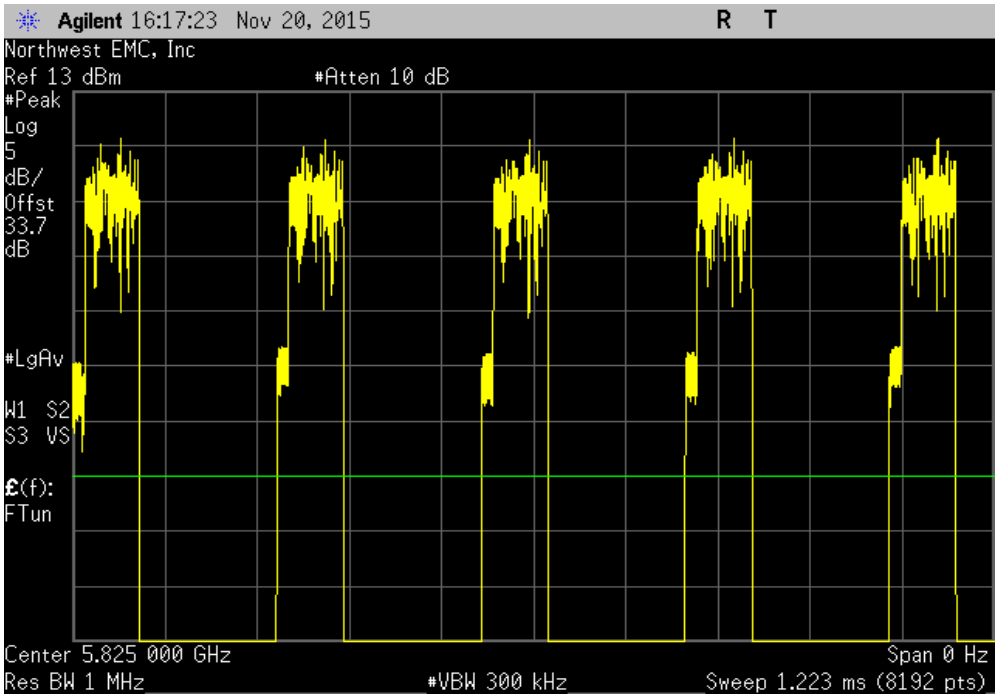
DUTY CYCLE (5.8 GHz)

XMit 2015.01.14

Normal Conditions, 802.11(a) 18 Mbps, High channel, Ch.34, 5825 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	72.7 us	271.7 us	1	26.8	N/A	N/A



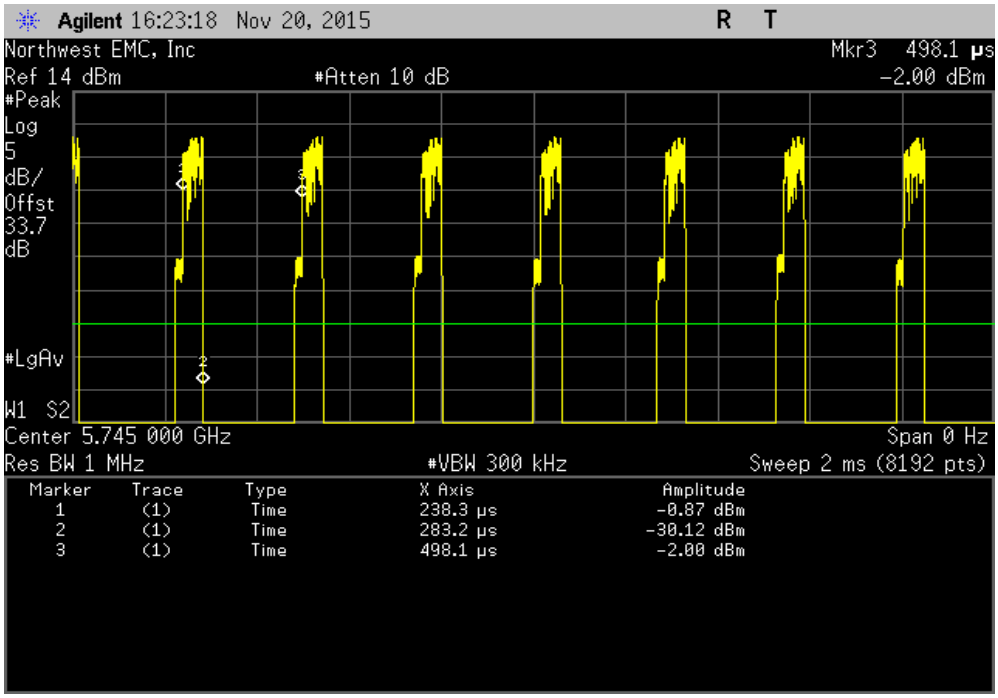
Normal Conditions, 802.11(a) 18 Mbps, High channel, Ch.34, 5825 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	N/A	N/A	5	N/A	N/A	N/A



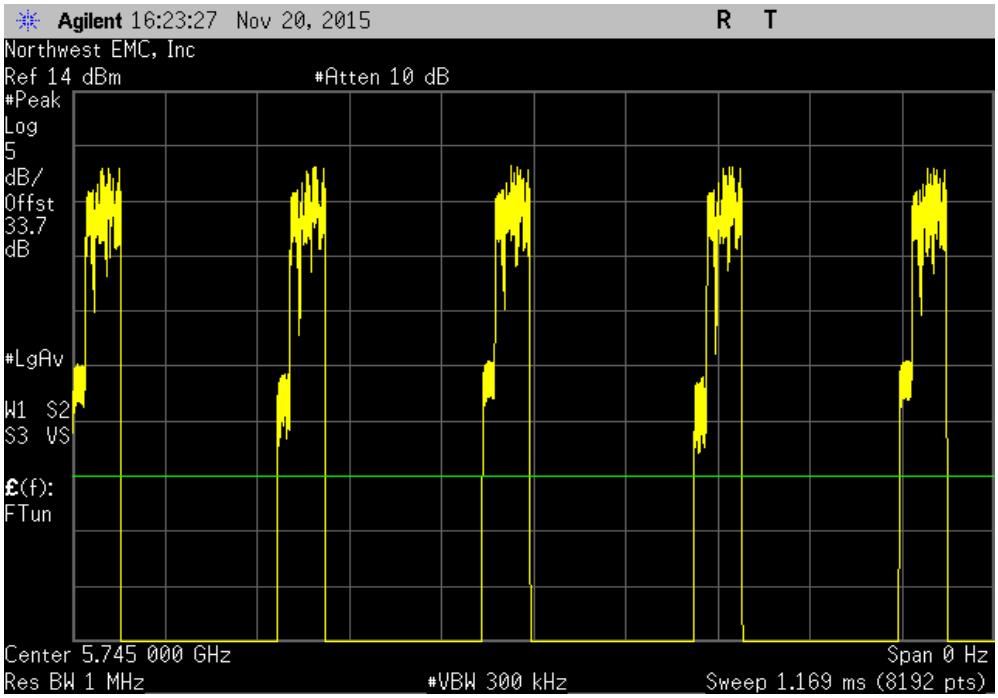
DUTY CYCLE (5.8 GHz)

XMit 2015.01.14

Normal Conditions, 802.11(a) 36 Mbps, Low channel, Ch.30, 5745 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	44.9 us	259.8 us	1	17.3	N/A	N/A



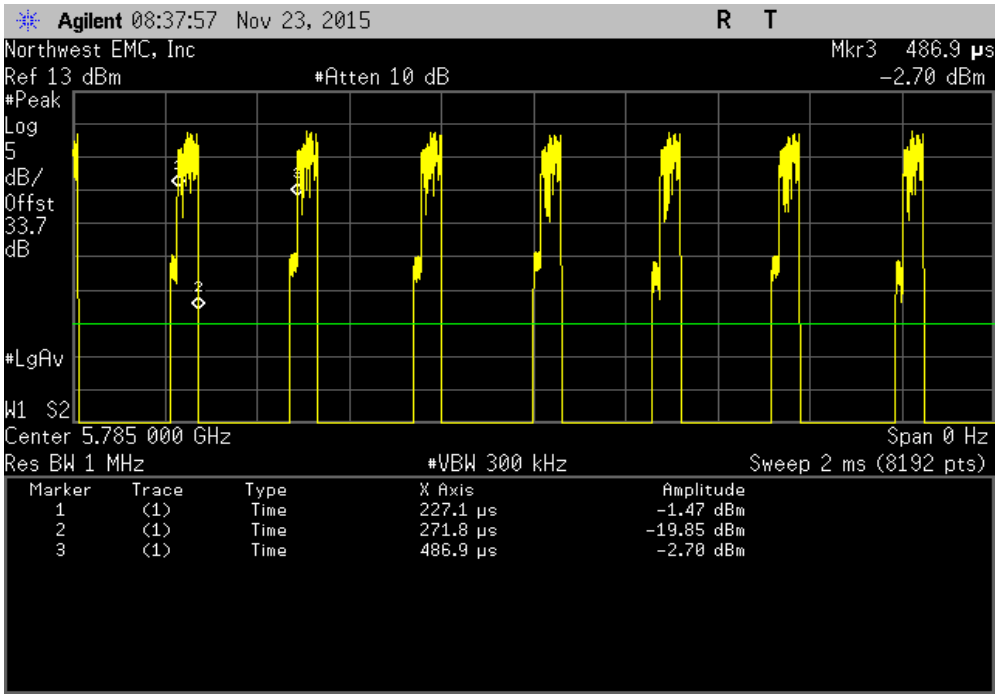
Normal Conditions, 802.11(a) 36 Mbps, Low channel, Ch.30, 5745 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	N/A	N/A	5	N/A	N/A	N/A



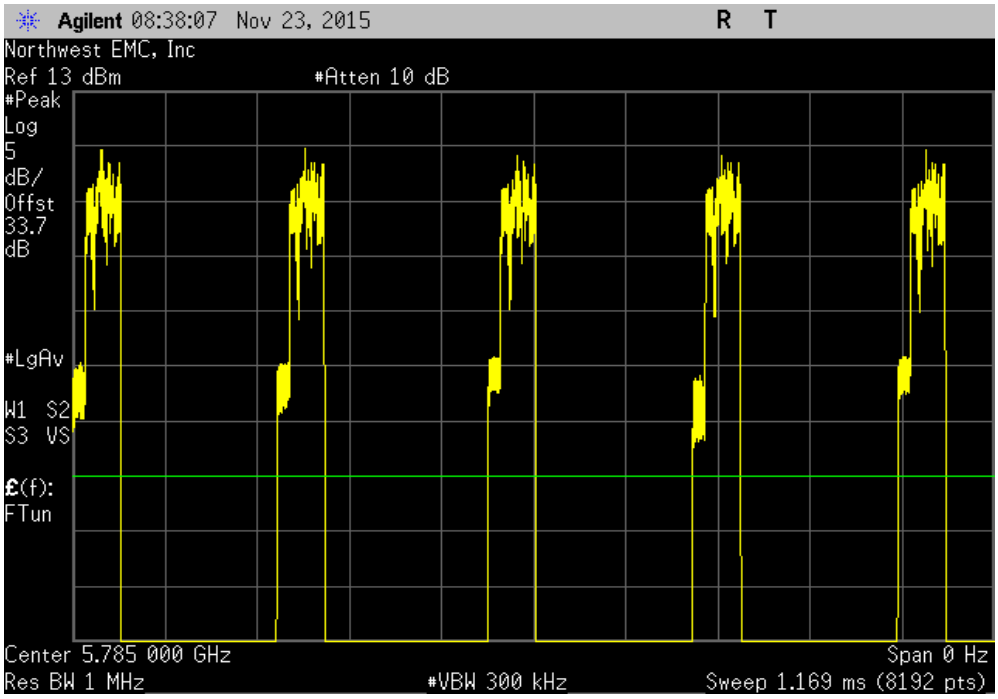
DUTY CYCLE (5.8 GHz)

XMit 2015.01.14

Normal Conditions, 802.11(a) 36 Mbps, Mid channel, Ch.32, 5785 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	44.7 us	259.8 us	1	17.2	N/A	N/A



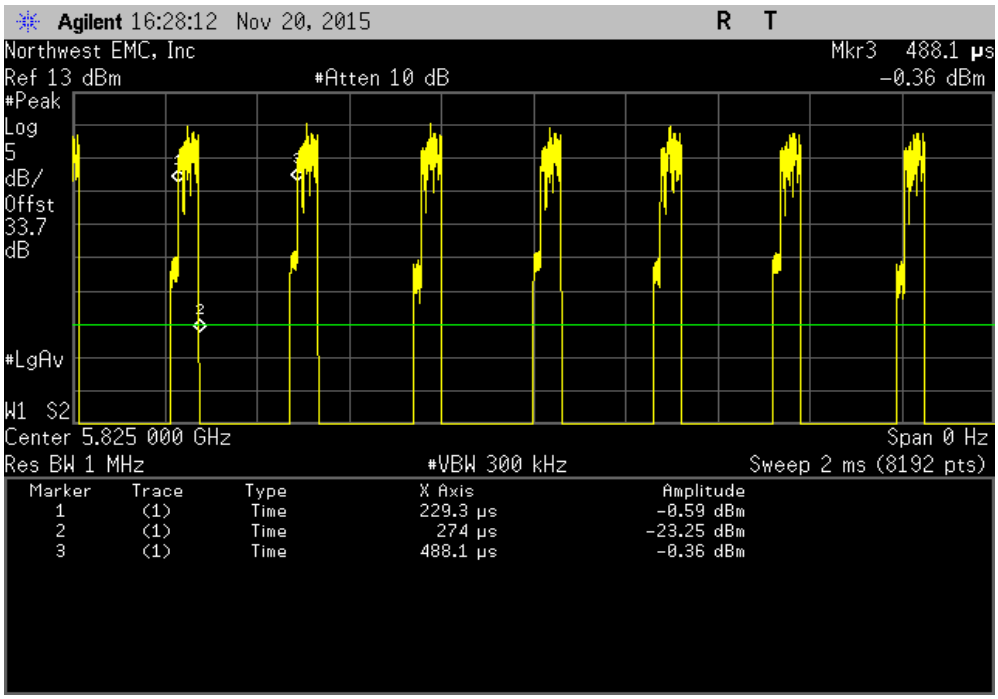
Normal Conditions, 802.11(a) 36 Mbps, Mid channel, Ch.32, 5785 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	N/A	N/A	5	N/A	N/A	N/A



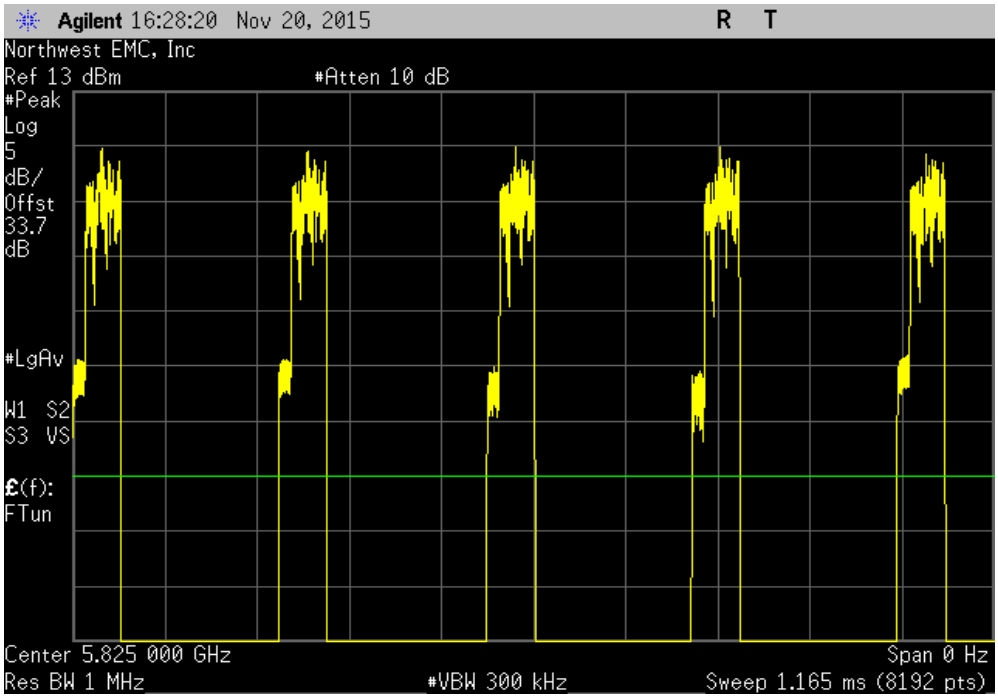
DUTY CYCLE (5.8 GHz)

XMit 2015.01.14

Normal Conditions, 802.11(a) 36 Mbps, High channel, Ch.34, 5825 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	44.7 us	258.8 us	1	17.3	N/A	N/A



Normal Conditions, 802.11(a) 36 Mbps, High channel, Ch.34, 5825 MHz						
#REF! #REF!	#REF! Pulse Width	#REF! Period	Number of Pulses	Value (%)	Limit (%)	#REF! Results
	N/A	N/A	5	N/A	N/A	N/A



EMISSION BANDWIDTH

XMit 2015.01.14

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)
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBI	NCR	0
Attenuator	S.M. Electronics	SA18N-06/SM4032	REE	10/1/2015	12
Generator - Signal	Agilent	V2920A	TIH	NCR	0
Meter - Power	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Meter - Multimeter	Tektronix	DMM912	MMH	2/5/2013	36
Thermometer	Omegaette	HH311	DTY	1/21/2015	36
Power Supply - DC	Tektronix	PS280	TPM	NCR	0
Cable	ESM Cable Corp.	TT	EV1	NCR	0
Attenuator	S.M. Electronics	SA26B-20	AUY	7/14/2015	12
Block - DC	Fairview Microwave	SD3379	AMP	6/18/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

The transmit frequencies and data rates listed in the datasheet were measured in each band utilized by the radio. 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.

Per ANSI C63.10, the spectrum analyzer settings were as follows:

-RBW = Approx. 1% of the emission bandwidth (B).

-VBW = > RBW

-Detector = Peak
-
-Trace mode = max hold

The spectrum analyzer occupied bandwidth measurement function was then used to measure 26 dB emission bandwidth.

There is no required limit to be met in the rule part for this test. The purpose of the test is to both report the results as required and to utilize the emission bandwidth for setting the channel power integration bandwidth during conducted output power

EMISSION BANDWIDTH

NORTHWEST EMC

XMit 2015.01.14

EUT:	SherwoodXD (extended distance)			**Work Order:**	FOCU0216
Serial Number:	02EA4FD0010F			**Date:**	12/03/15
Customer:	Summit Semiconductor LLC			**Temperature:**	22.4°C
Attendees:	David Schilling			**Humidity:**	39%
Project:	None			**Barometric Pres.:**	1008.5
Tested by:	Brandon Hobbs	**Power:**	3.3/1.2VDC Nominal	**Job Site:**	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.407:2015	ANSI C63.10:2013

COMMENTS

The client provided the operating modes for testing. All cable losses were accounted for while under test.

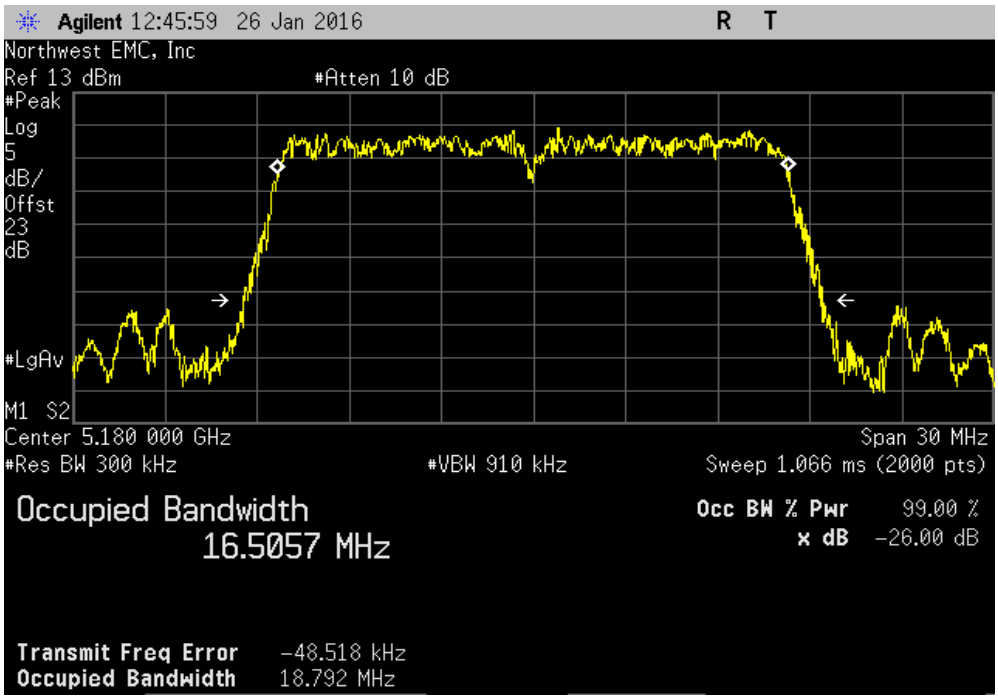
DEVIATIONS FROM TEST STANDARD

None

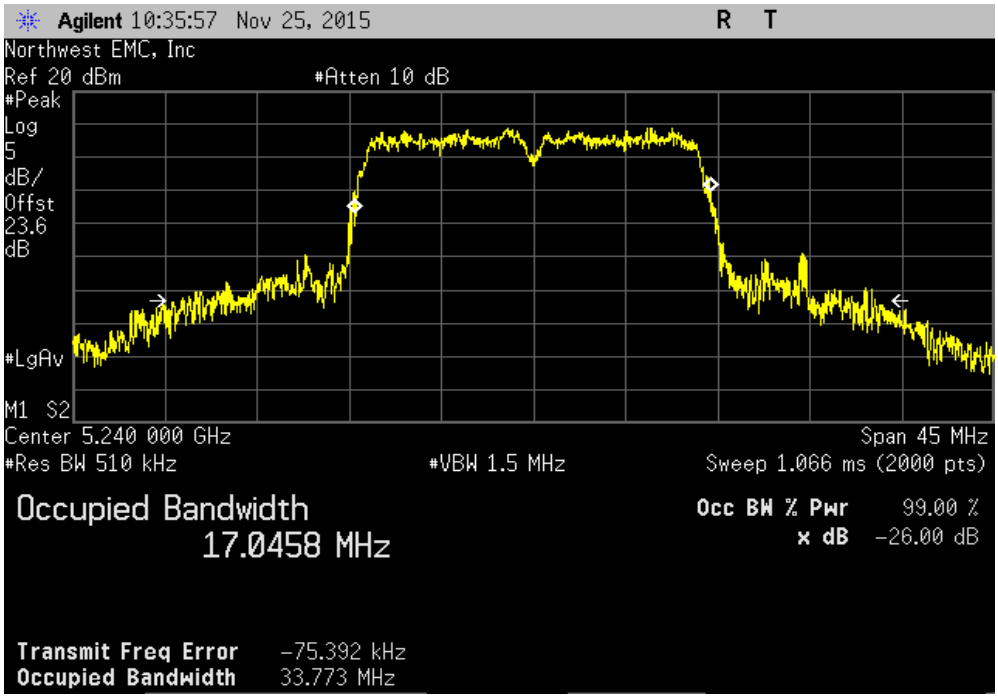
Configuration #	2	Signature

		Value	Limit (N/A)	Result
Normal Conditions				
	802.11(a) 6 Mbps			
	Low Channel, Ch.8 5180 MHz	18.792 MHz	N/A N/A	N/A
	High Channel, Ch.14 5240 MHz	33.773 MHz	N/A N/A	N/A
	Low Channel, Ch.15 5260 MHz	28.661 MHz	N/A N/A	N/A
	High Channel, Ch.18 5320 MHz	18.767 MHz	N/A N/A	N/A
	Low Channel, Ch.19 5500 MHz	22.52 MHz	N/A N/A	N/A
	Mid Channel, Ch.23 5580 MHz	26.248 MHz	N/A N/A	N/A
	High Channel, Ch.29 5700 MHz	26.523 MHz	N/A N/A	N/A
	802.11(a) 18 Mbps			
	Low Channel, Ch.8 5180 MHz	18.656 MHz	N/A N/A	N/A
	High Channel, Ch.14 5240 MHz	21.755 MHz	N/A N/A	N/A
	Low Channel, Ch.15 5260 MHz	18.851 MHz	N/A N/A	N/A
	High Channel, Ch.18 5320 MHz	18.563 MHz	N/A N/A	N/A
	Low Channel, Ch.19 5500 MHz	18.631 MHz	N/A N/A	N/A
	Mid Channel, Ch.23 5580 MHz	19.825 MHz	N/A N/A	N/A
	High Channel, Ch.29 5700 MHz	18.838 MHz	N/A N/A	N/A
	802.11(a) 36 Mbps			
	Low Channel, Ch.8 5180 MHz	18.733 MHz	N/A N/A	N/A
	High Channel, Ch.14 5240 MHz	22.071 MHz	N/A N/A	N/A
	Low Channel, Ch.15 5260 MHz	19.559 MHz	N/A N/A	N/A
	High Channel, Ch.18 5320 MHz	18.714 MHz	N/A N/A	N/A
	Low Channel, Ch.19 5500 MHz	18.713 MHz	N/A N/A	N/A
	Mid Channel, Ch.23 5580 MHz	22.817 MHz	N/A N/A	N/A
	High Channel, Ch.29 5700 MHz	18.874 MHz	N/A N/A	N/A

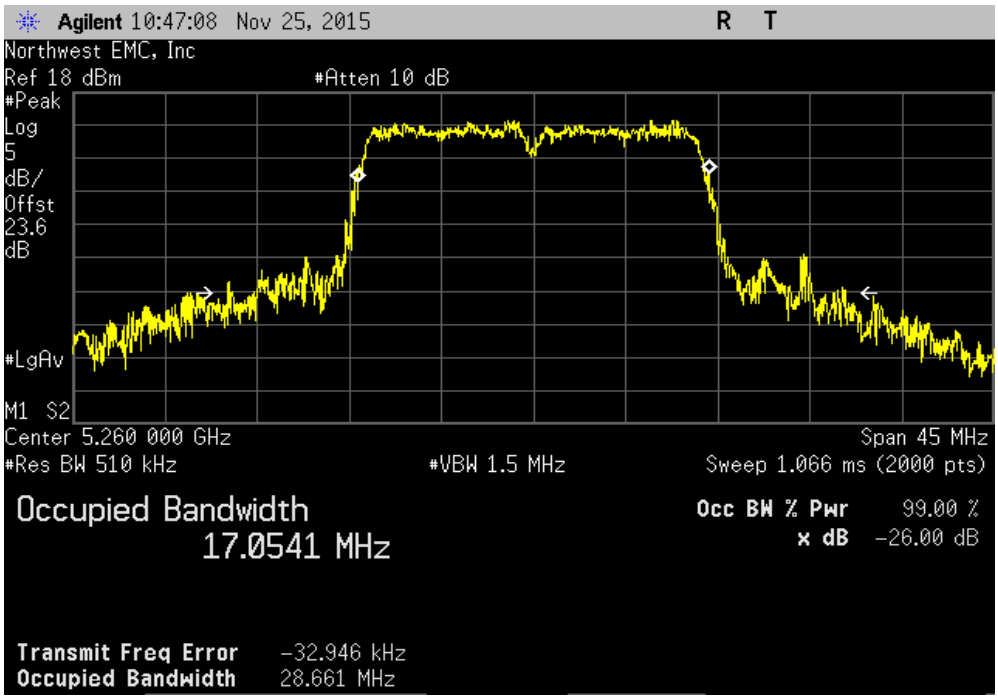
Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.8 5180 MHz						
				Value	Limit (N/A)	Result
				18.792 MHz	N/A N/A	N/A



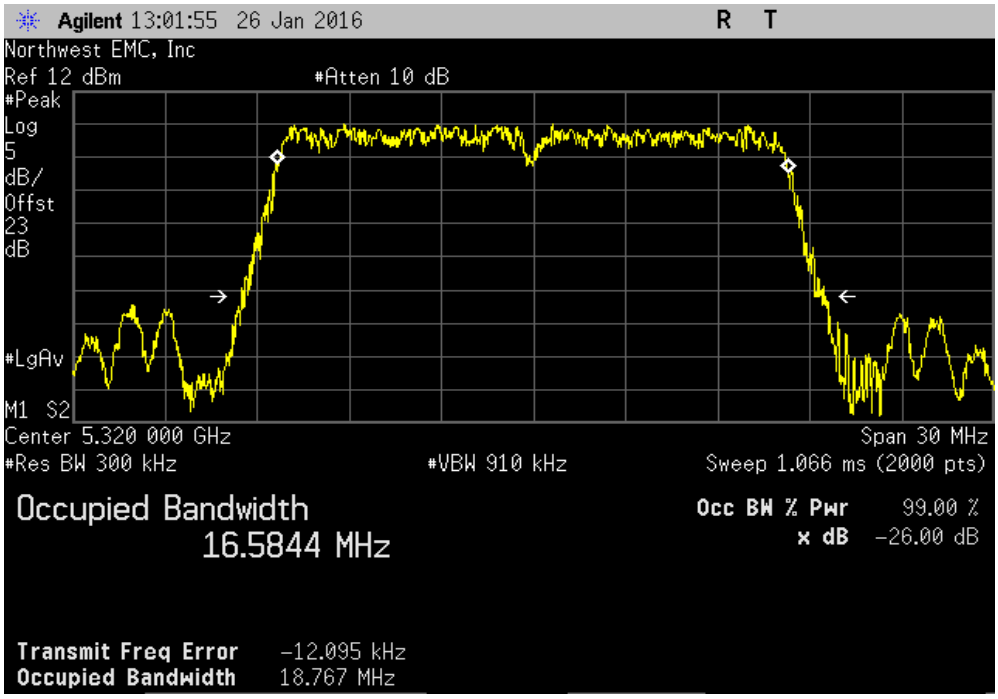
Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.14 5240 MHz						
				Value	Limit (N/A)	Result
				33.773 MHz	N/A N/A	N/A



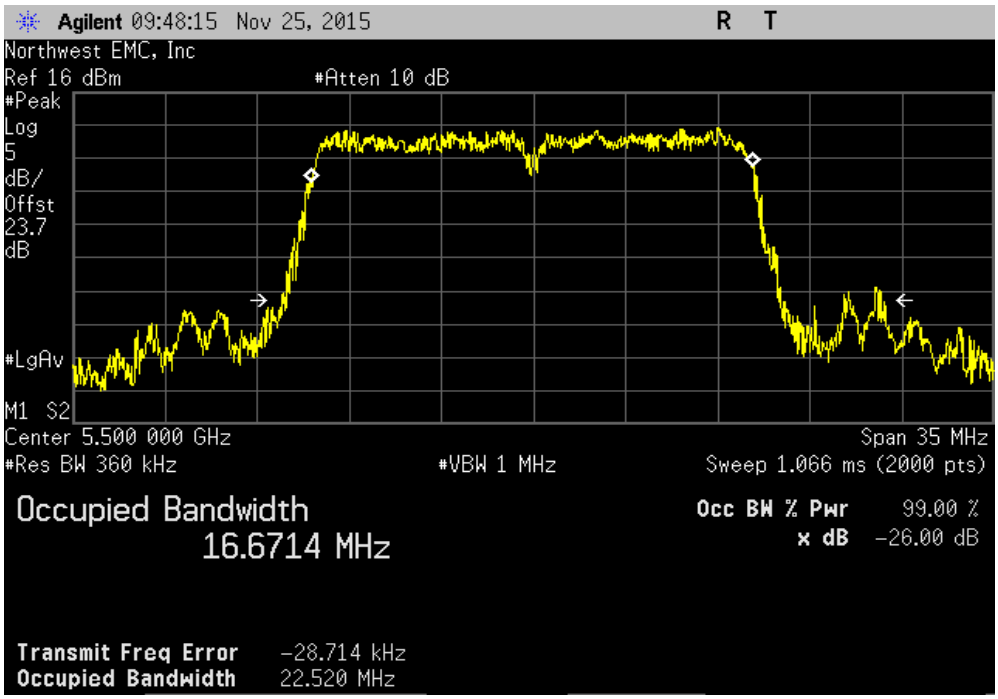
Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.15 5260 MHz						
				Value	Limit (N/A)	Result
				28.661 MHz	N/A N/A	N/A



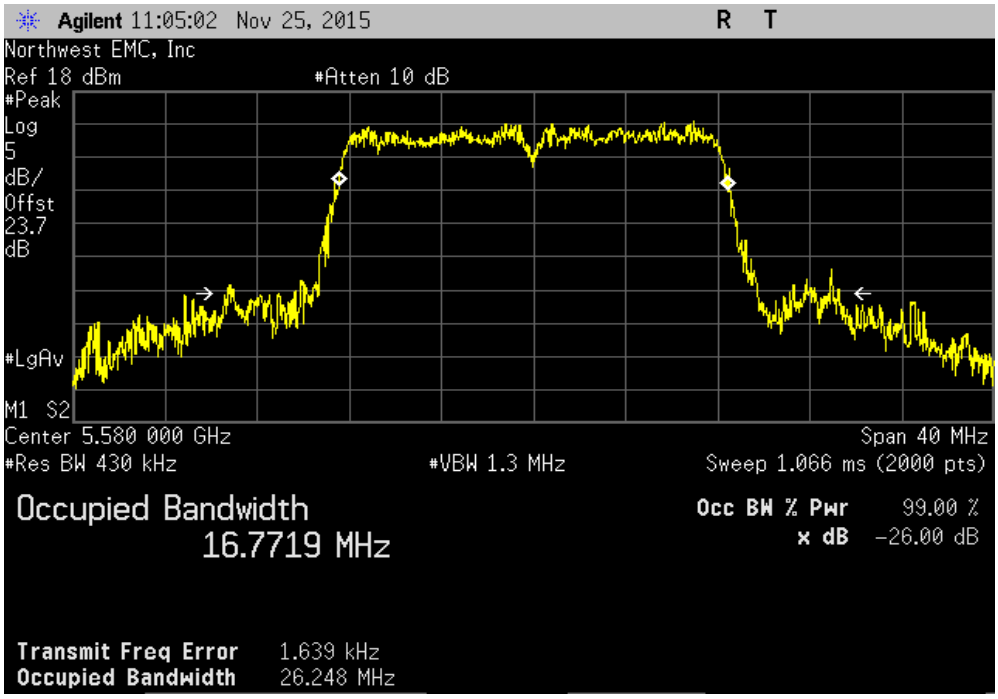
Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.18 5320 MHz						
				Value	Limit (N/A)	Result
				18.767 MHz	N/A N/A	N/A



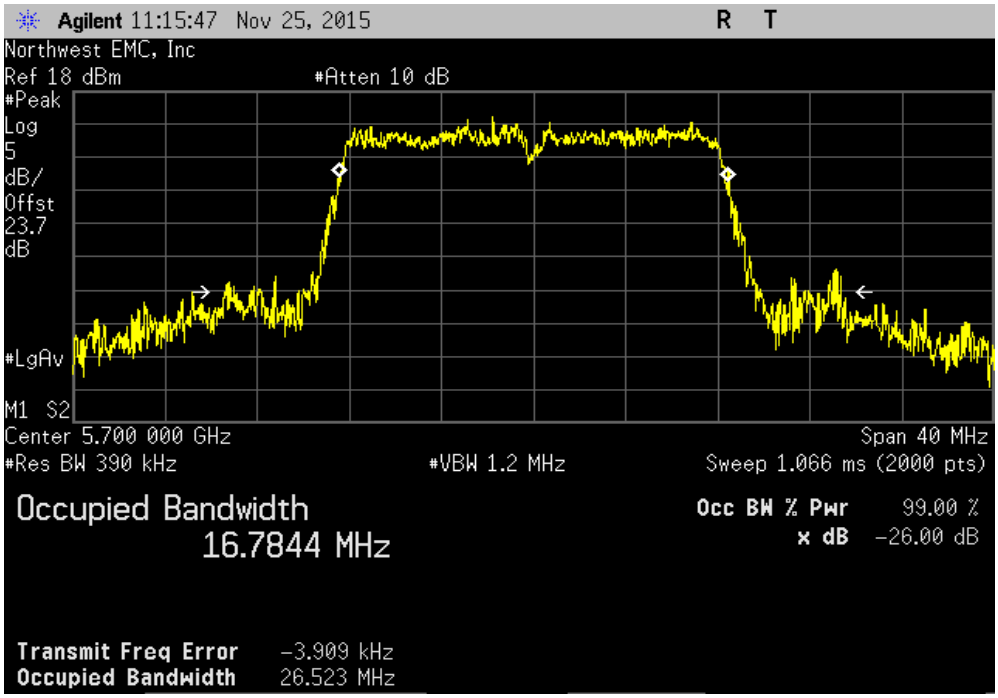
Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.19 5500 MHz						
				Value	Limit (N/A)	Result
				22.52 MHz	N/A N/A	N/A



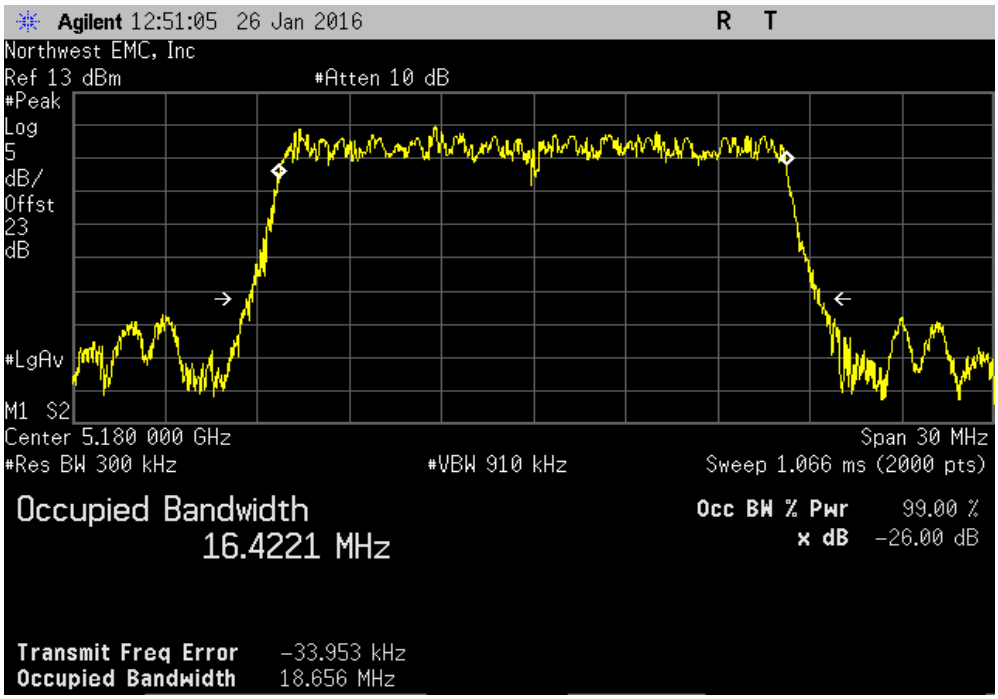
Normal Conditions, 802.11(a) 6 Mbps, Mid Channel, Ch.23 5580 MHz						
				Value	Limit (N/A)	Result
				26.248 MHz	N/A N/A	N/A



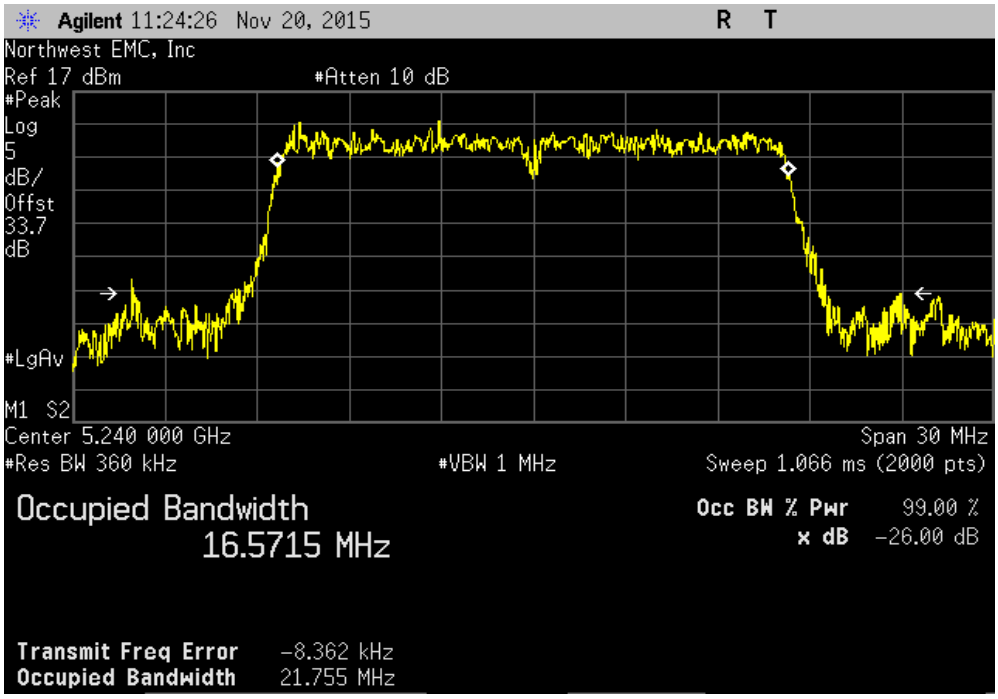
Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.29 5700 MHz						
				Value	Limit (N/A)	Result
				26.523 MHz	N/A N/A	N/A



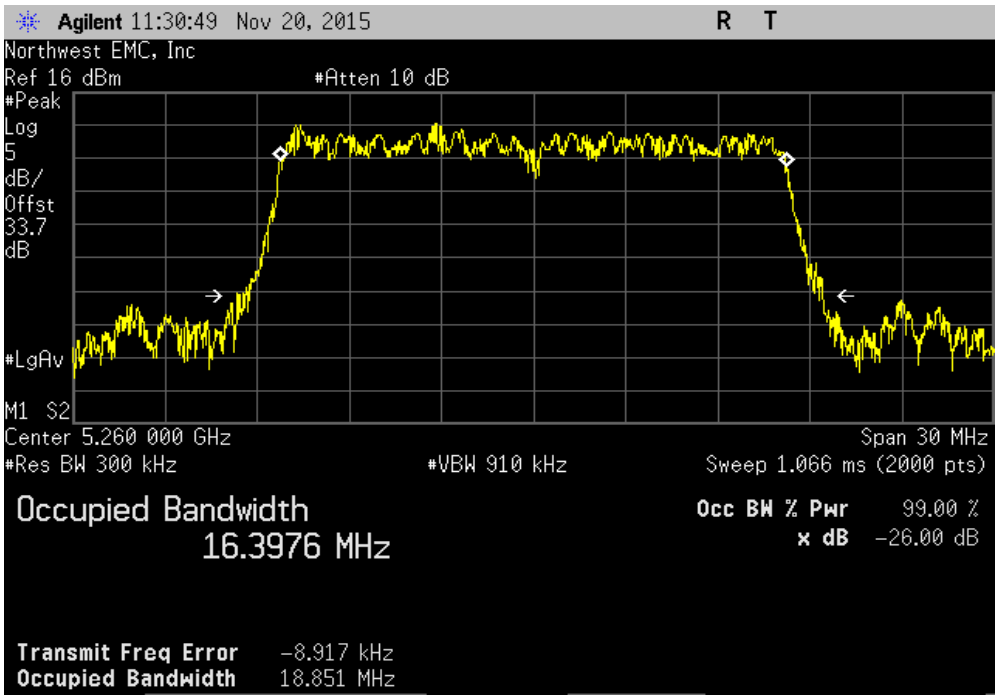
Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.8 5180 MHz						
				Value	Limit (N/A)	Result
				18.656 MHz	N/A N/A	N/A



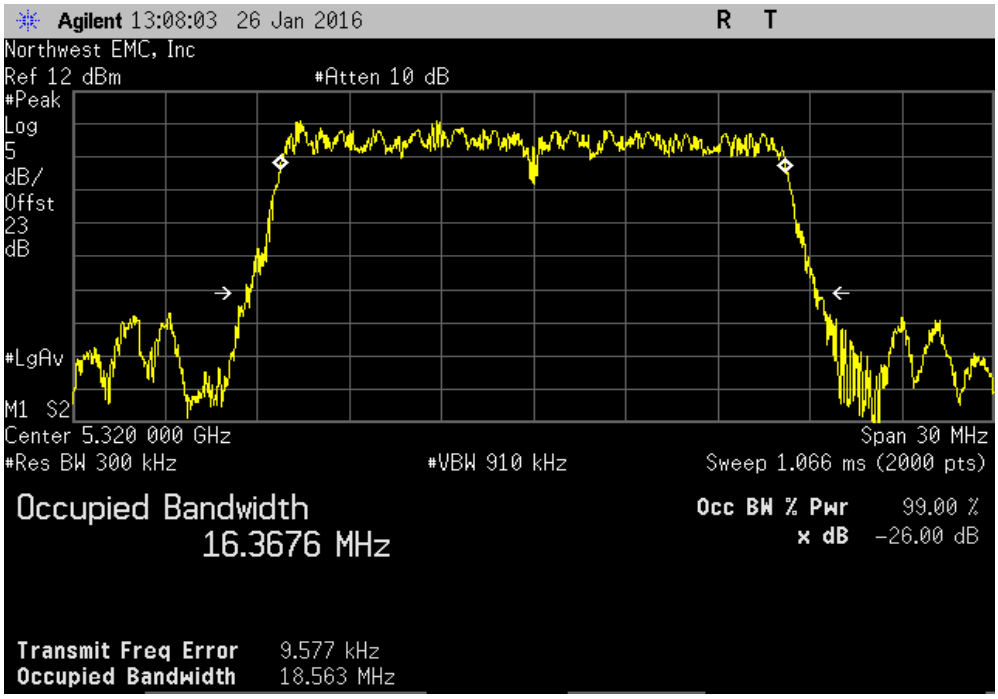
Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.14 5240 MHz						
				Value	Limit (N/A)	Result
				21.755 MHz	N/A N/A	N/A



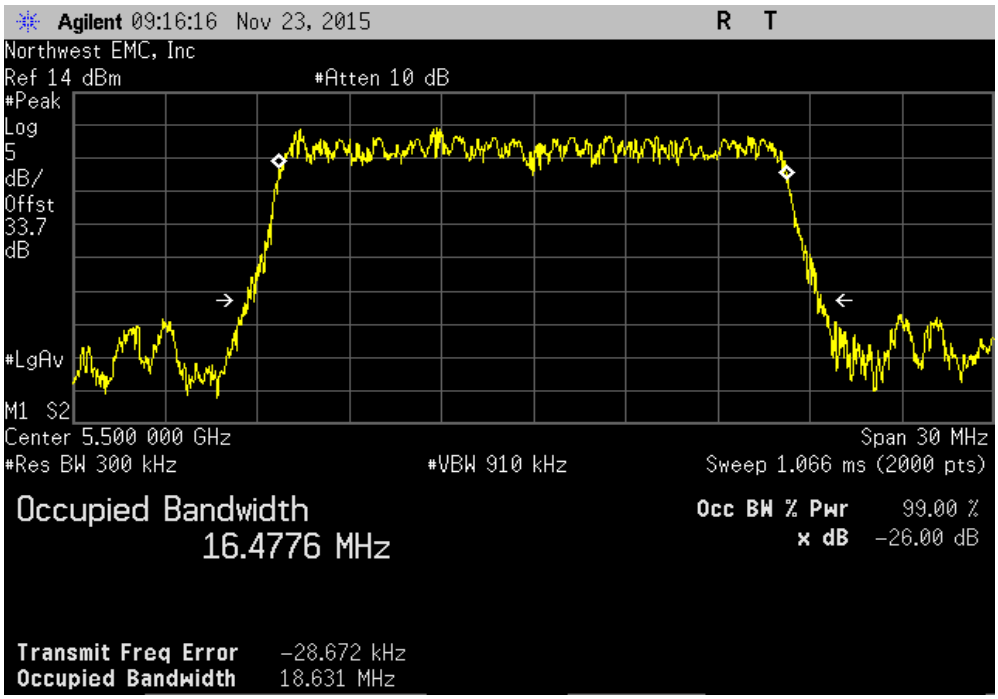
Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.15 5260 MHz						
				Value	Limit (N/A)	Result
				18.851 MHz	N/A N/A	N/A



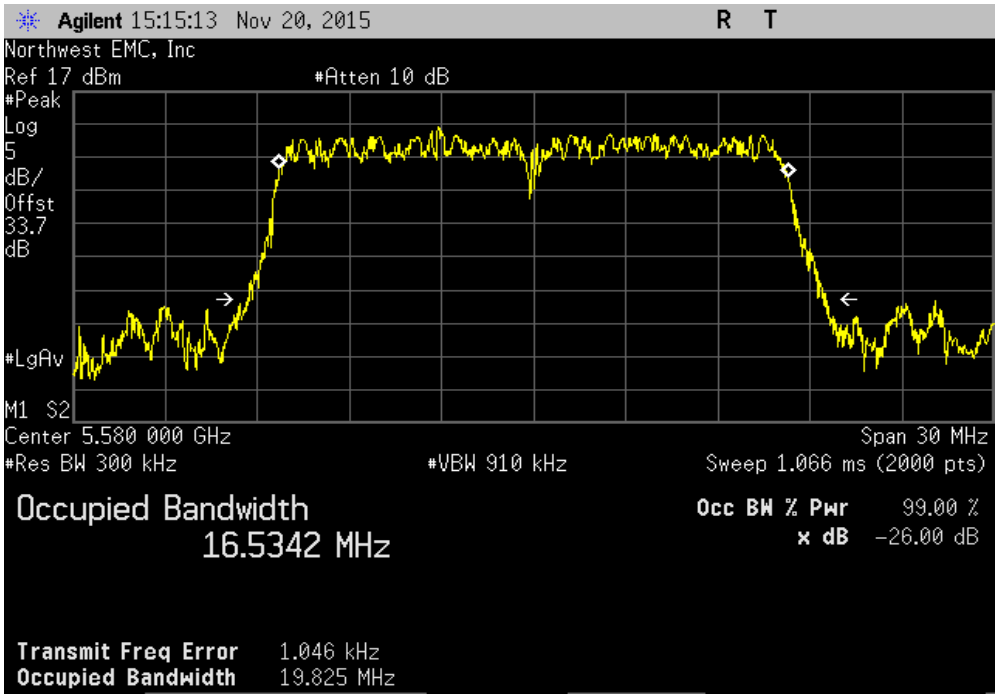
Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.18 5320 MHz						
				Value	Limit (N/A)	Result
				18.563 MHz	N/A N/A	N/A



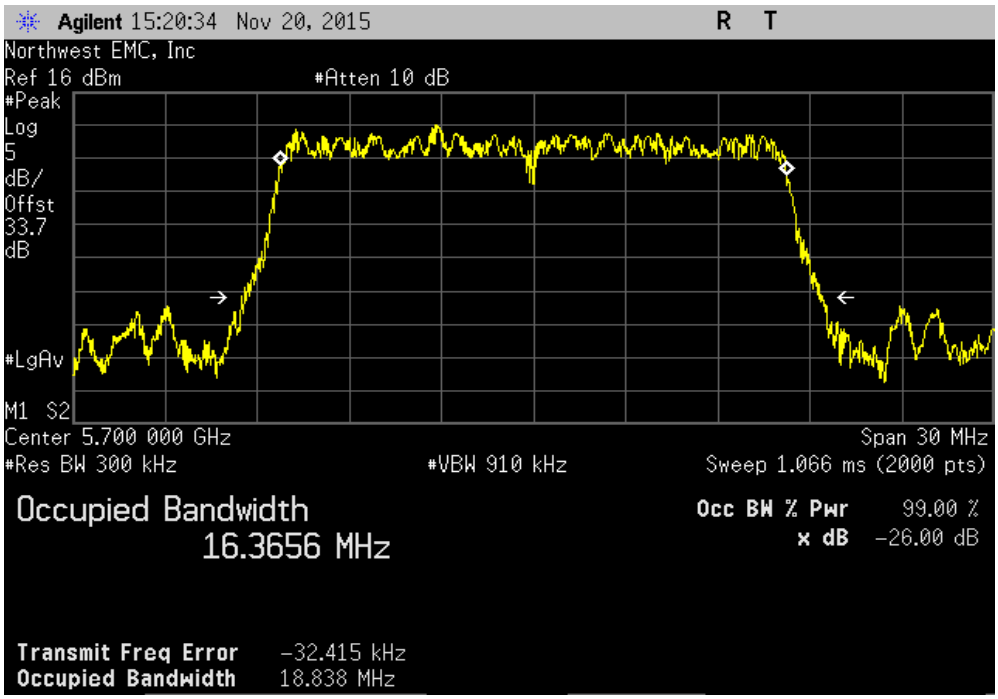
Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.19 5500 MHz						
				Value	Limit (N/A)	Result
				18.631 MHz	N/A N/A	N/A



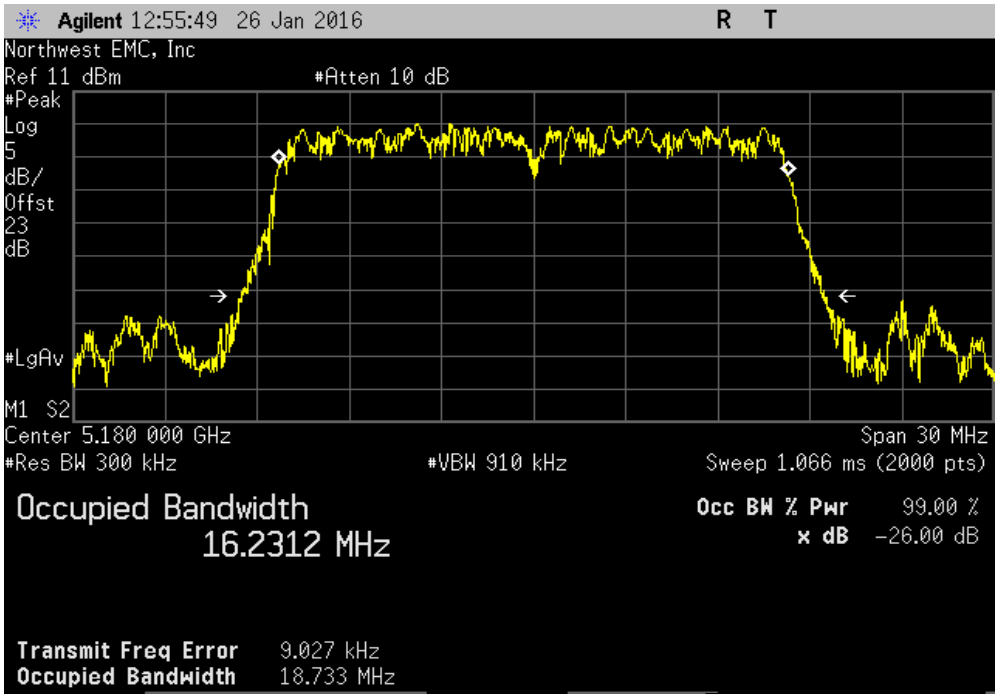
Normal Conditions, 802.11(a) 18 Mbps, Mid Channel, Ch.23 5580 MHz						
				Value	Limit (N/A)	Result
				19.825 MHz	N/A N/A	N/A



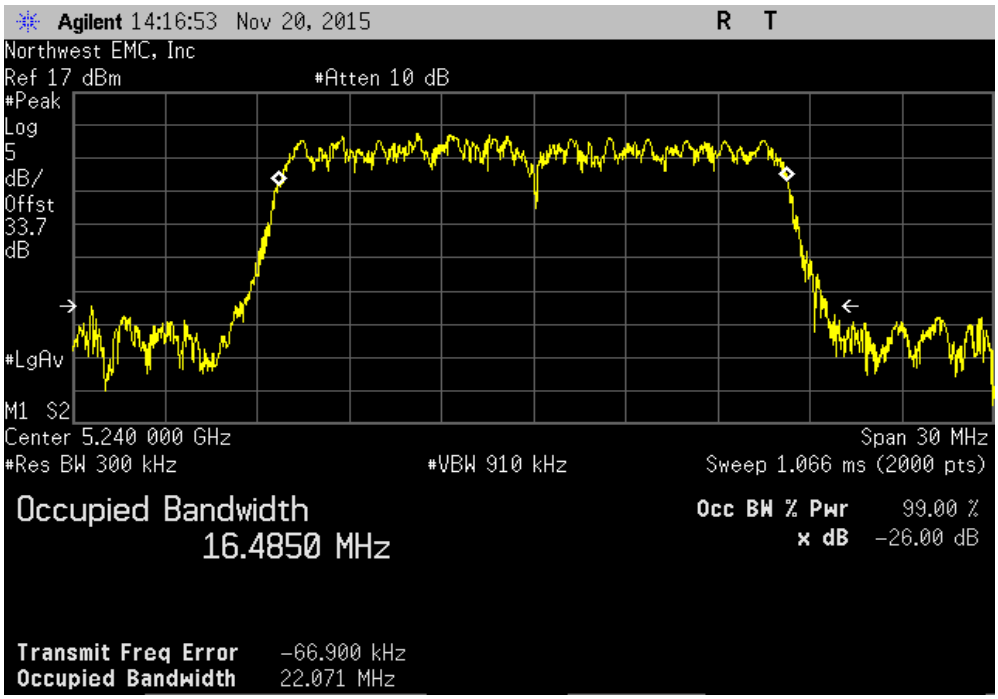
Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.29 5700 MHz						
				Value	Limit (N/A)	Result
				18.838 MHz	N/A N/A	N/A



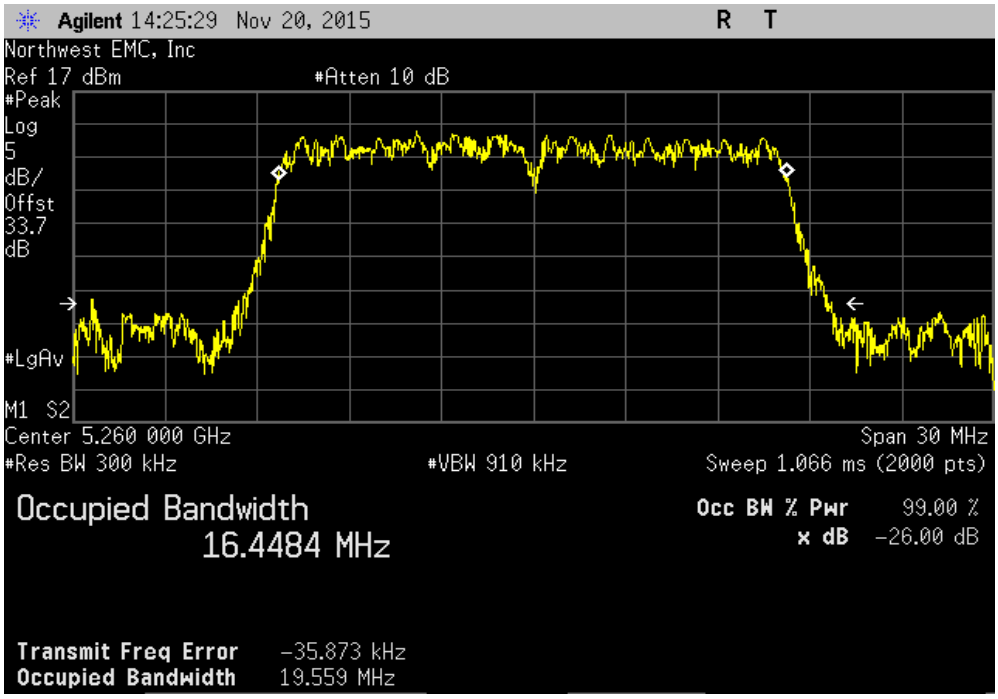
Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.8 5180 MHz						
				Value	Limit (N/A)	Result
				18.733 MHz	N/A N/A	N/A



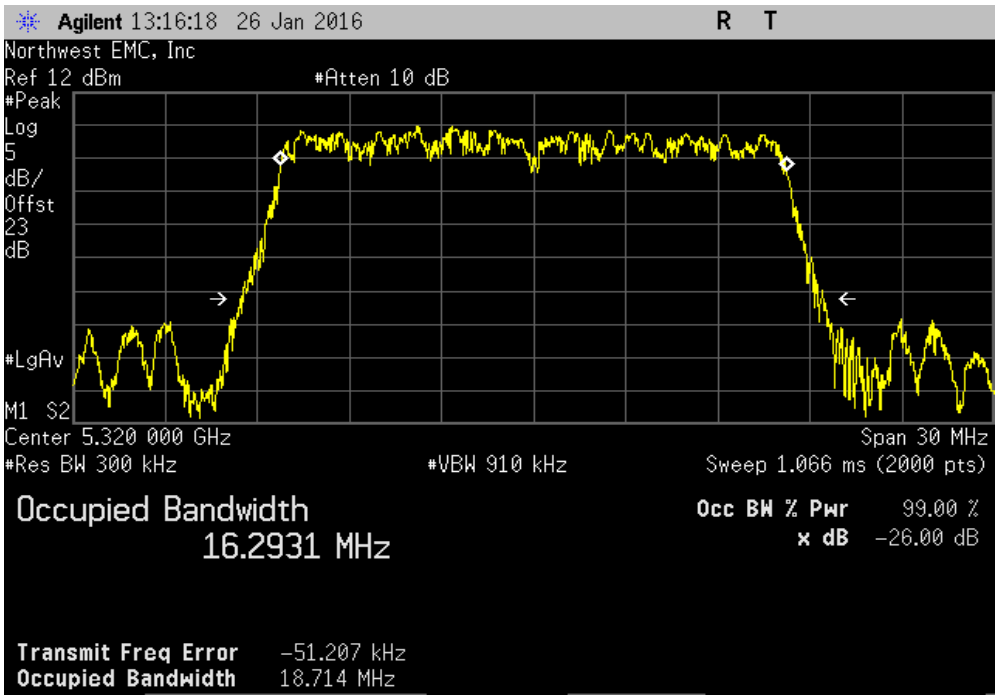
Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.14 5240 MHz						
				Value	Limit (N/A)	Result
				22.071 MHz	N/A N/A	N/A



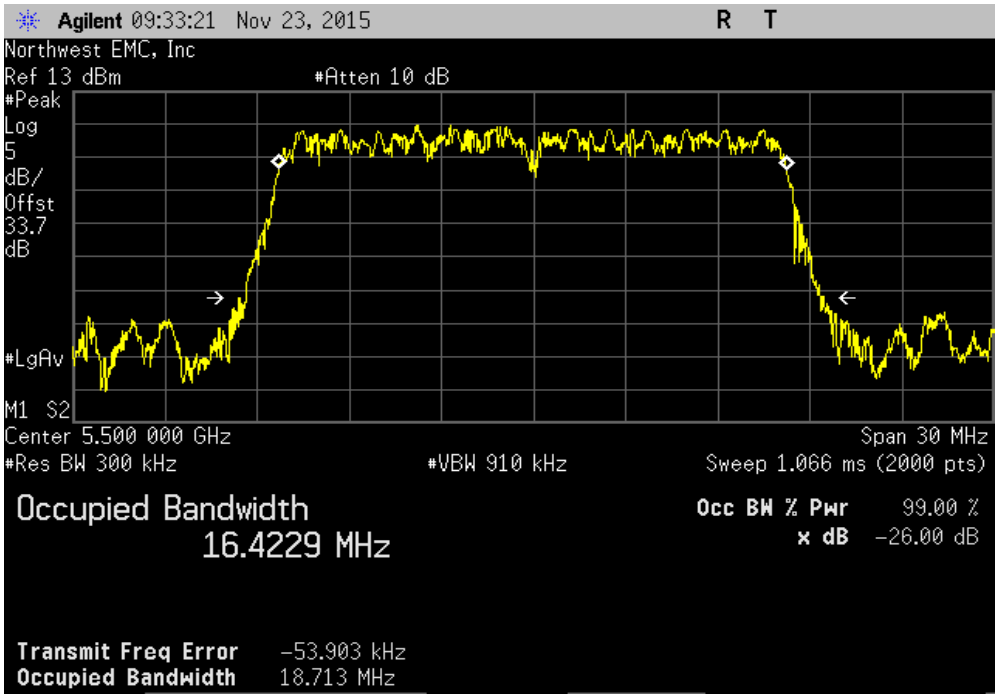
Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.15 5260 MHz						
				Value	Limit (N/A)	Result
				19.559 MHz	N/A N/A	N/A



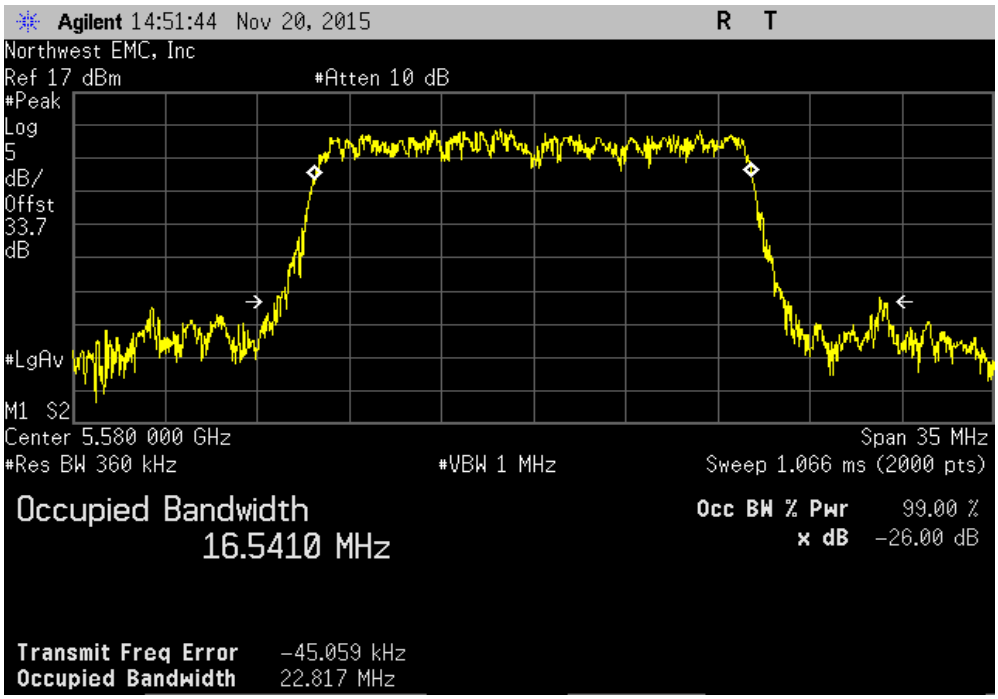
Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.18 5320 MHz						
				Value	Limit (N/A)	Result
				18.714 MHz	N/A N/A	N/A



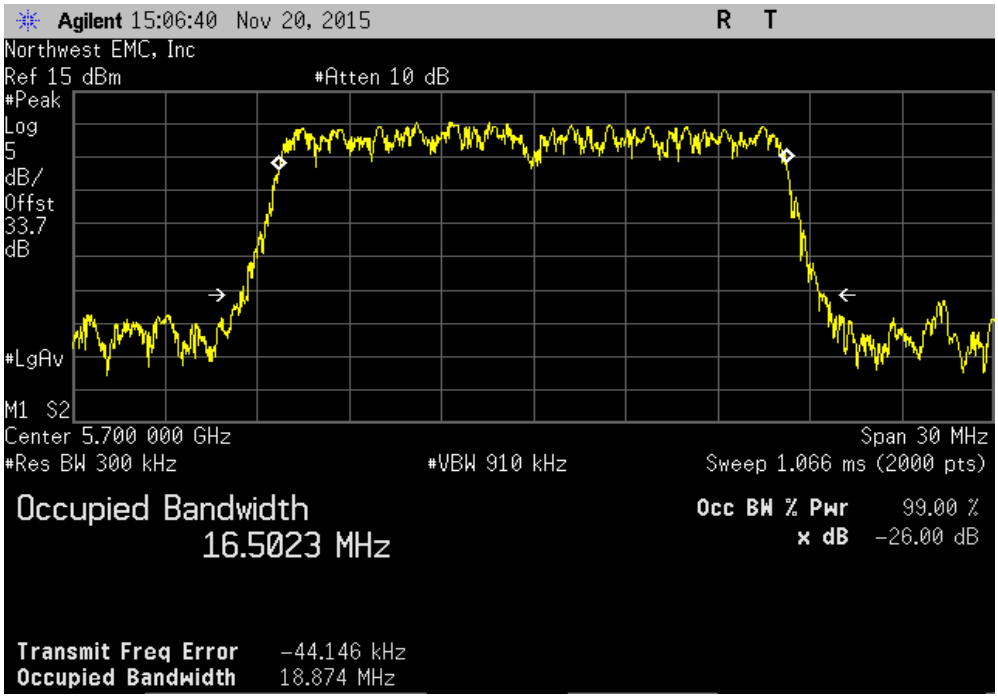
Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.19 5500 MHz						
				Value	Limit (N/A)	Result
				18.713 MHz	N/A N/A	N/A



Normal Conditions, 802.11(a) 36 Mbps, Mid Channel, Ch.23 5580 MHz						
				Value	Limit (N/A)	Result
				22.817 MHz	N/A N/A	N/A



Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.29 5700 MHz						
				Value	Limit (N/A)	Result
				18.874 MHz	N/A N/A	N/A



OCCUPIED BANDWIDTH

NORTHWEST EMC

XMit 2015.01.14

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	S.M. Electronics	SA18N-06/SM4032	REE	10/1/2015	12
Generator - Signal	Agilent	V2920A	TIH	NCR	0
Meter - Power	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Cable	ESM Cable Corp.	TT	EV1	NCR	0
Block - DC	Fairview Microwave	SD3379	AMP	6/18/2015	12
Attenuator	S.M. Electronics	SA26B-20	AUY	7/14/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

The transmit frequencies and data rates listed in the datasheet were measured in each band utilized by the radio. 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.

Per ANSI C63.10, the spectrum analyzer settings were as follows:

-RBW = 100 kHz

-VBW = ≥ 3x RBW

-Detector = Peak

-Trace mode = max hold

The spectrum analyzer occupied bandwidth measurement function was then used to measure the 6 dB emission bandwidth.

The 99.9% (approximate 26 dB) emission bandwidth (EBW) was also measured at the same time to be used for setting the channel power integration bandwidth during conducted output power testing.

OCCUPIED BANDWIDTH

NORTHWEST EMC

XMit 2015.01.14

EUT:	SherwoodXD (extended distance)			**Work Order:**	FOCU0216
Serial Number:	02EA4FD0010F			**Date:**	11/24/15
Customer:	Summit Semiconductor LLC			**Temperature:**	22.4°C
Attendees:	David Schilling			**Humidity:**	39%
Project:	None			**Barometric Pres.:**	1008.5
Tested by:	Brandon Hobbs	**Power:**	3.3/1.2VDC Nominal	**Job Site:**	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.407:2015	ANSI C63.10:2013

COMMENTS

The client provided the operating modes for testing. All cable losses were accounted for while under test.

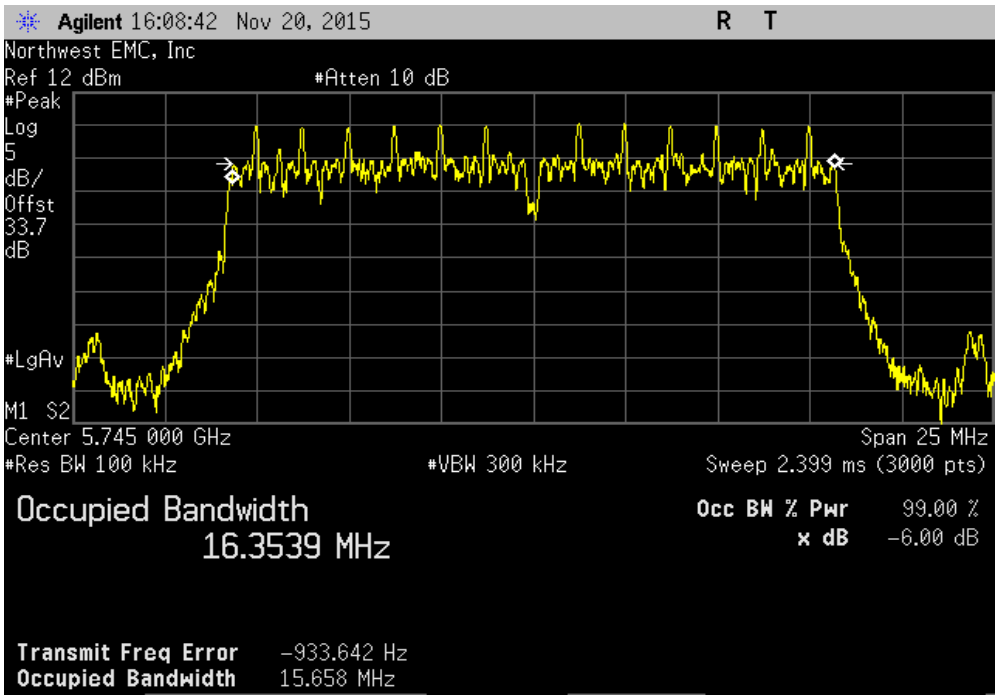
DEVIATIONS FROM TEST STANDARD

None

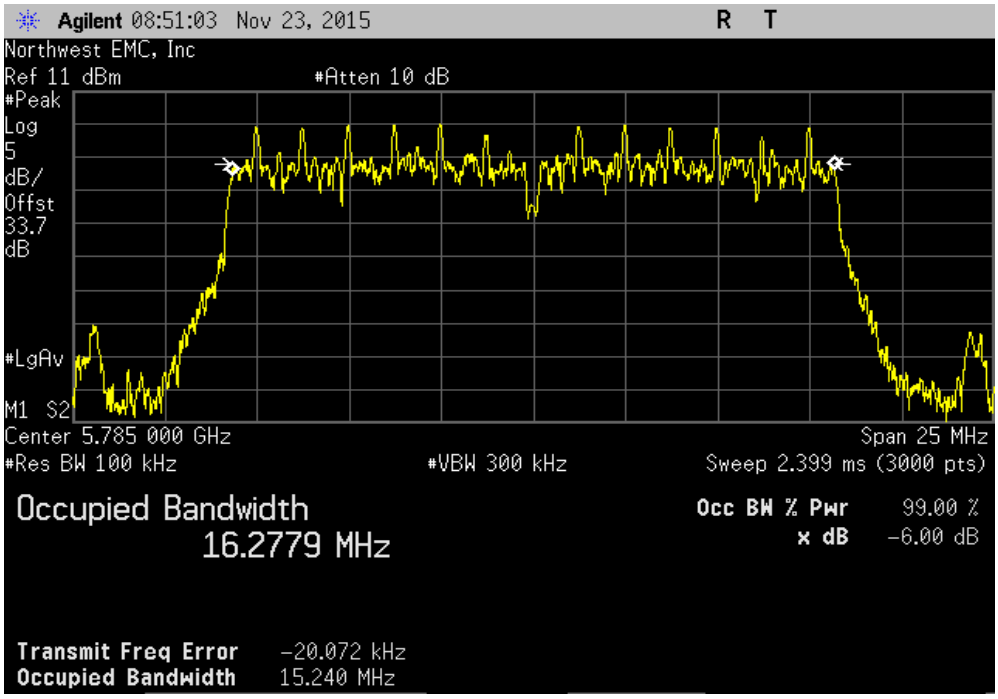
Configuration #	2	Signature

		Value	Limit (>)	Result
Normal Conditions				
	802.11(a) 18 Mbps			
	Low channel, Ch.30, 5745 MHz	15.658 MHz	500 kHz	Pass
	Mid channel, Ch.32, 5785 MHz	15.24 MHz	500 kHz	Pass
	High channel, Ch.34, 5825 MHz	15.504 MHz	500 kHz	Pass
	802.11(a) 36 Mbps			
	Low channel, Ch.30, 5745 MHz	15.029 MHz	500 kHz	Pass
	Mid channel, Ch.32, 5785 MHz	15.83 MHz	500 kHz	Pass
	High channel, Ch.34, 5825 MHz	15.514 MHz	500 kHz	Pass

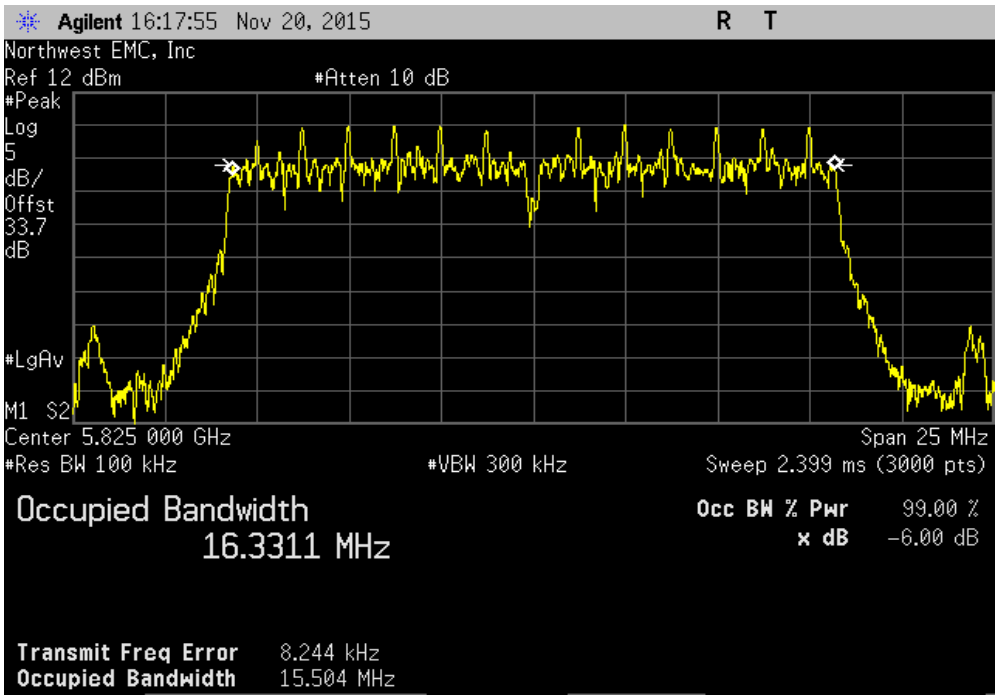
Normal Conditions, 802.11(a) 18 Mbps, Low channel, Ch.30, 5745 MHz						
				Value	Limit (>)	Result
				15.658 MHz	500 kHz	Pass



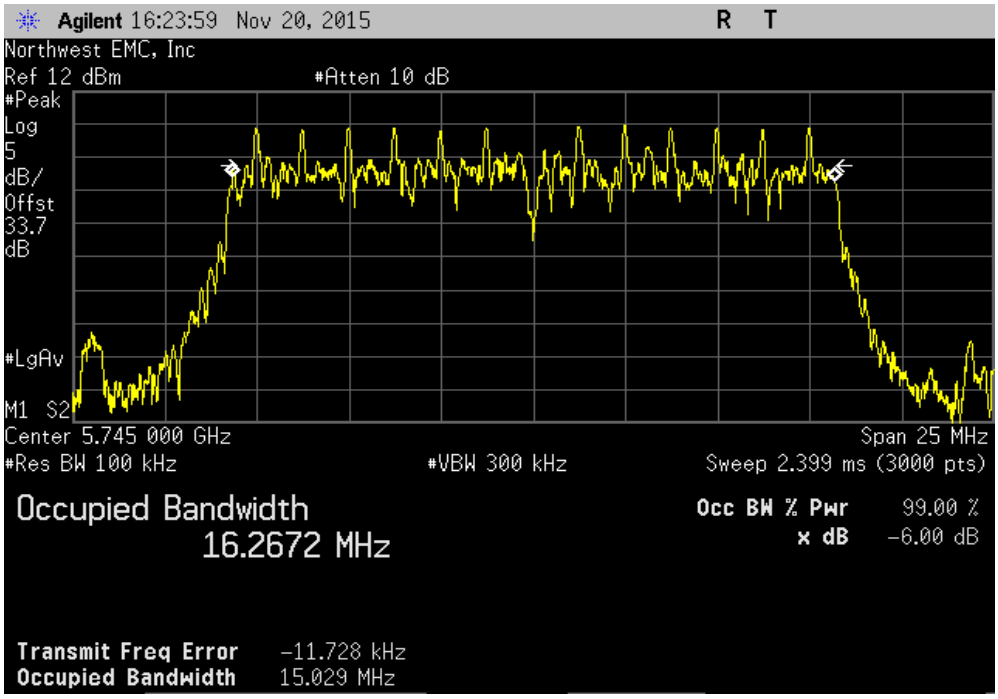
Normal Conditions, 802.11(a) 18 Mbps, Mid channel, Ch.32, 5785 MHz						
				Value	Limit (>)	Result
				15.24 MHz	500 kHz	Pass



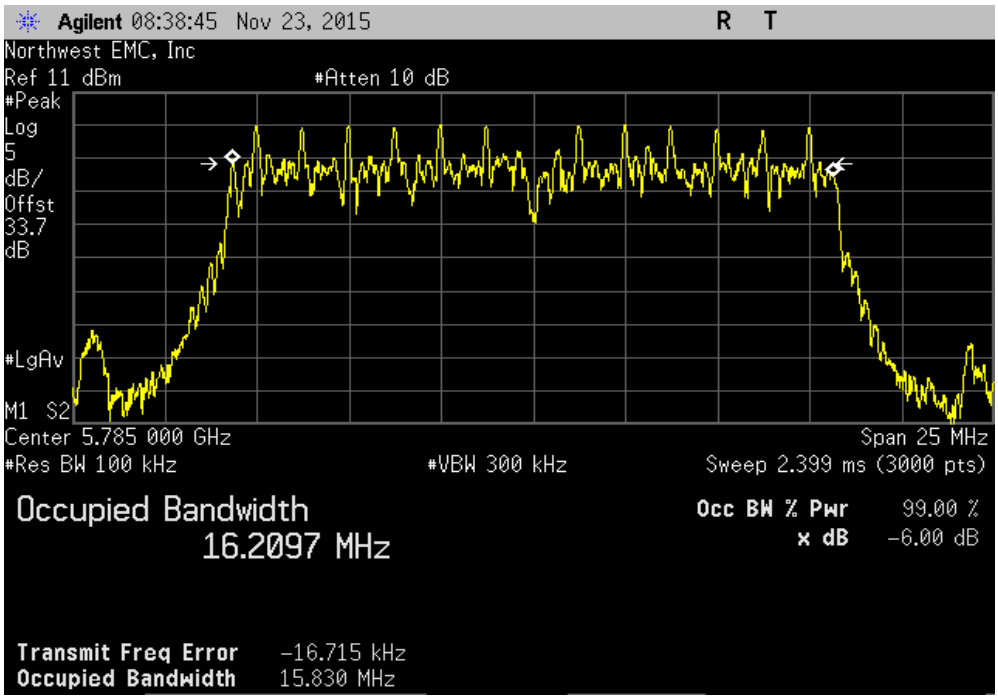
Normal Conditions, 802.11(a) 18 Mbps, High channel, Ch.34, 5825 MHz						
				Value	Limit (>)	Result
				15.504 MHz	500 kHz	Pass



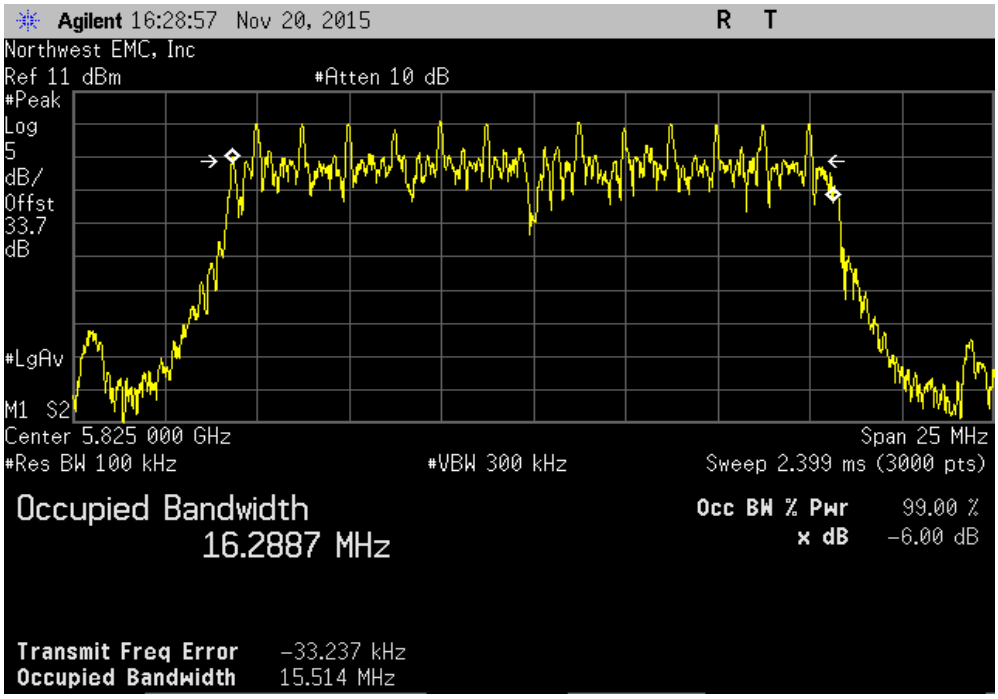
Normal Conditions, 802.11(a) 36 Mbps, Low channel, Ch.30, 5745 MHz						
				Value	Limit (>)	Result
				15.029 MHz	500 kHz	Pass



Normal Conditions, 802.11(a) 36 Mbps, Mid channel, Ch.32, 5785 MHz						
				Value	Limit (>)	Result
				15.83 MHz	500 kHz	Pass



Normal Conditions, 802.11(a) 36 Mbps, High channel, Ch.34, 5825 MHz						
				Value	Limit (>)	Result
				15.514 MHz	500 kHz	Pass



MAXIMUM CONDUCTED OUTPUT POWER

NORTHWEST EMC

XMit 2015.01.14

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)
Power Supply - DC	Tektronix	PS280	TPM	NCR	0
Meter - Multimeter	Tektronix	DMM912	MMH	2/5/2013	36
Thermometer	Omegaette	HH311	DTY	1/21/2015	36
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBI	NCR	0
Attenuator	S.M. Electronics	SA18N-06/SM4032	REE	10/1/2015	12
Generator - Signal	Agilent	V2920A	TIH	NCR	0
Meter - Power	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Cable	ESM Cable Corp.	TT	EV1	NCR	0
Attenuator	S.M. Electronics	SA26B-20	AUY	7/14/2015	12
Block - DC	Fairview Microwave	SD3379	AMP	6/18/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. The radio was operated in the modes as shown in the following data sheets.

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.

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

The maximum conducted output power was measured using ANSI C63.10, Method SA-2 (RMS detection and trace averaging across the on and off times of the EUT transmission and use of a duty cycle correction factor).

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

-RMS Detector

-Trace average 100 traces in power averaging mode.

-Power was integrated across “B”, by using the channel power function of the analyzer.

A duty cycle correction factor was added to the measurement using the results of the formula of 10*LOG(1/D) where D is the duty cycle.

MAXIMUM CONDUCTED OUTPUT POWER

NORTHWEST EMC

XMit 2015.01.14

EUT:	SherwoodXD (extended distance)			**Work Order:**	FOCU0216
Serial Number:	02EA4FD0010F			**Date:**	12/03/15
Customer:	Summit Semiconductor LLC			**Temperature:**	22.4°C
Attendees:	David Schilling			**Humidity:**	39%
Project:	None			**Barometric Pres.:**	1008.5
Tested by:	Brandon Hobbs	**Power:**	3.3/1.2VDC Nominal	**Job Site:**	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.407:2015	ANSI C63.10:2013

COMMENTS

The client provided the operating modes for testing. All cable losses were accounted for while under test.

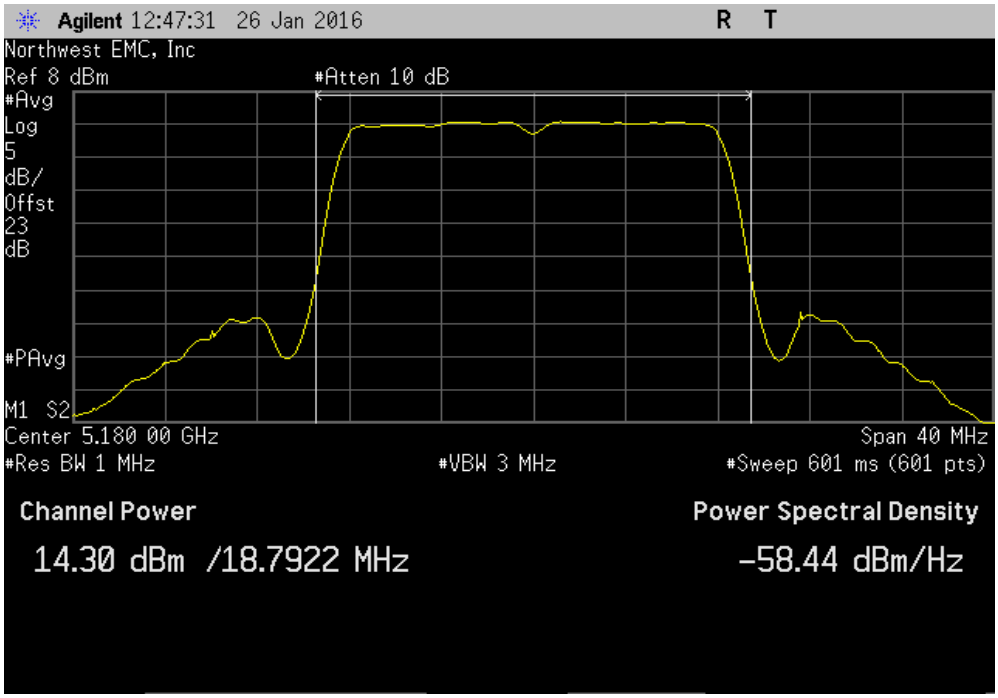
DEVIATIONS FROM TEST STANDARD

None

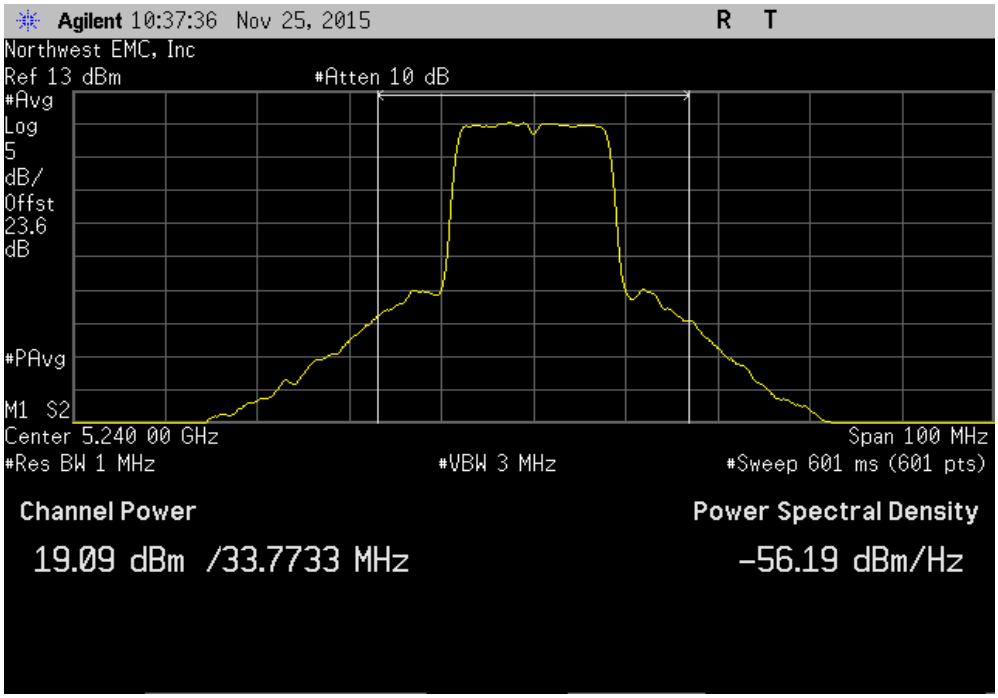
Configuration #	2	Signature

		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Value (dBm)	Limit (dBm)	Results
Normal Conditions						
	802.11(a) 6 Mbps					
	Low Channel, Ch.8 5180 MHz	14.303	3.2	17.5	30	Pass
	High Channel, Ch.14 5240 MHz	19.094	3.2	22.3	30	Pass
	Low Channel, Ch.15 5260 MHz	18.485	3.2	21.7	24	Pass
	High Channel, Ch.18 5320 MHz	14.304	3.2	17.5	24	Pass
	Low Channel, Ch.19 5500 MHz	16.905	3.3	20.2	24	Pass
	Mid Channel, Ch.23 5580 MHz	18.658	3.3	21.9	24	Pass
	High Channel, Ch.29 5700 MHz	18.896	3.2	22.1	24	Pass
	802.11(a) 18 Mbps					
	Low Channel, Ch.8 5180 MHz	12.039	6	18	30	Pass
	High Channel, Ch.14 5240 MHz	15.668	5.9	21.6	30	Pass
	Low Channel, Ch.15 5260 MHz	15.414	6	21.5	24	Pass
	High Channel, Ch.18 5320 MHz	11.654	5.9	17.6	24	Pass
	Low Channel, Ch.19 5500 MHz	12.79	5.9	18.7	24	Pass
	Mid Channel, Ch.23 5580 MHz	16.062	5.7	21.8	24	Pass
	High Channel, Ch.29 5700 MHz	15.191	5.9	21.1	24	Pass
	802.11(a) 36 Mbps					
	Low Channel, Ch.8 5180 MHz	9.94	7.6	17.6	30	Pass
	High Channel, Ch.14 5240 MHz	14.292	7.6	21.9	30	Pass
	Low Channel, Ch.15 5260 MHz	14.509	7.6	22.1	24	Pass
	High Channel, Ch.18 5320 MHz	10.515	7.6	18.1	24	Pass
	Low Channel, Ch.19 5500 MHz	11.671	7.7	19.4	24	Pass
	Mid Channel, Ch.23 5580 MHz	14.513	7.6	22.1	24	Pass
	High Channel, Ch.29 5700 MHz	14.133	7.6	21.8	24	Pass

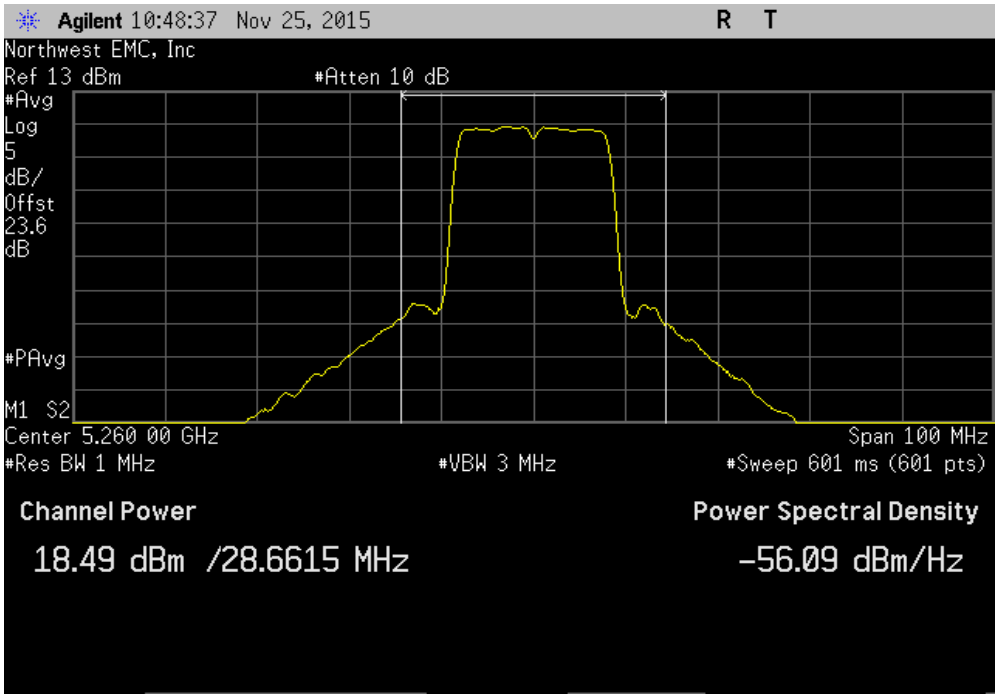
Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.8 5180 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	14.303	3.2		17.5	30	Pass



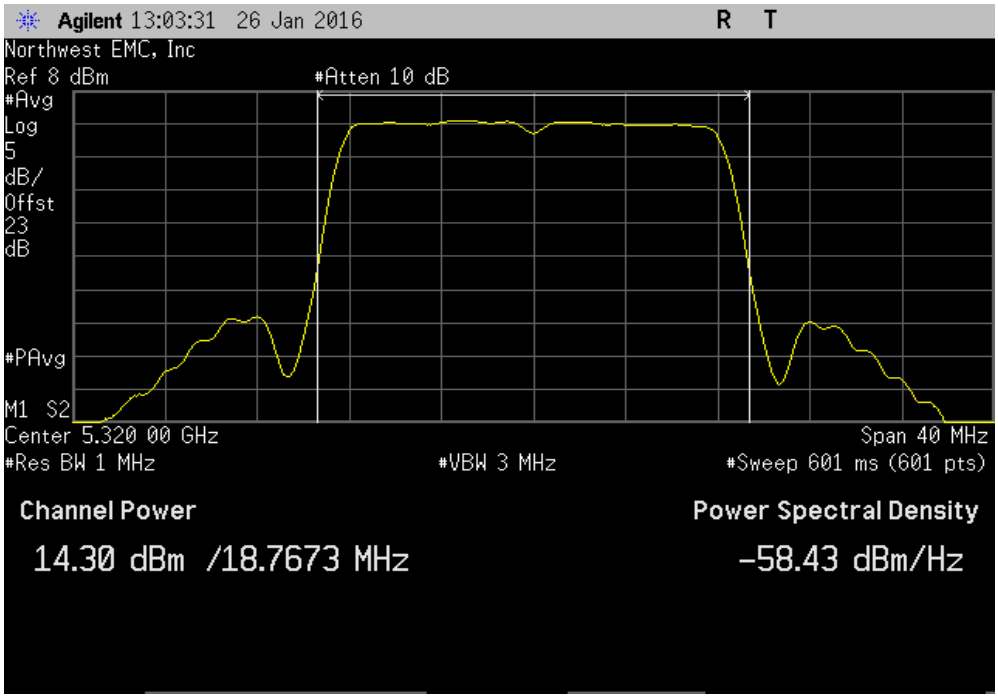
Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.14 5240 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	19.094	3.2		22.3	30	Pass



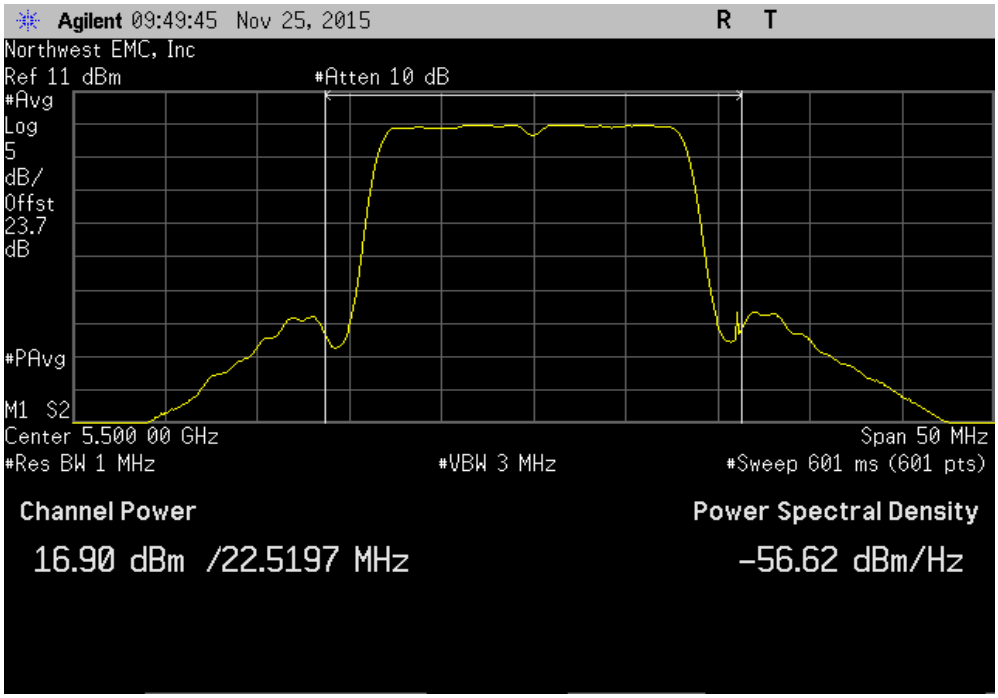
Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.15 5260 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	18.485	3.2		21.7	24	Pass



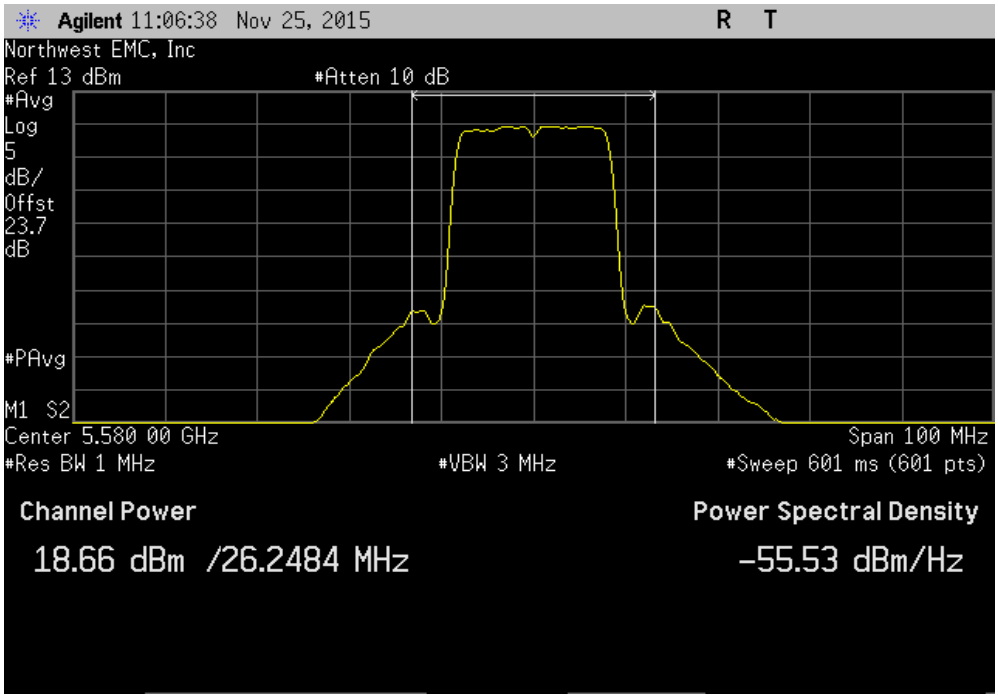
Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.18 5320 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	14.304	3.2		17.5	24	Pass



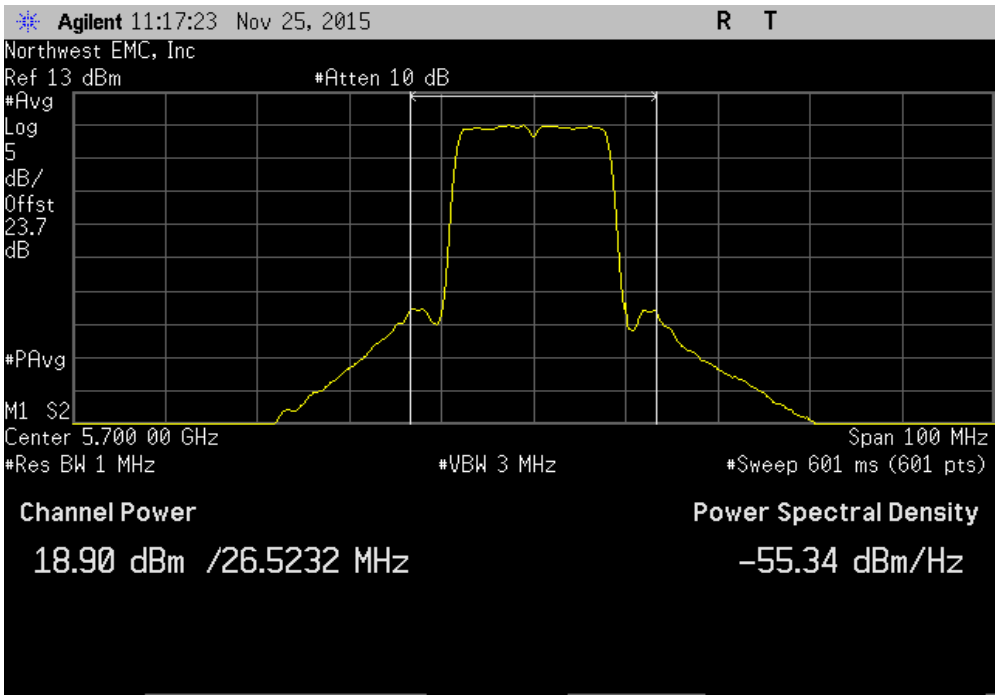
Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.19 5500 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	16.905	3.3		20.2	24	Pass



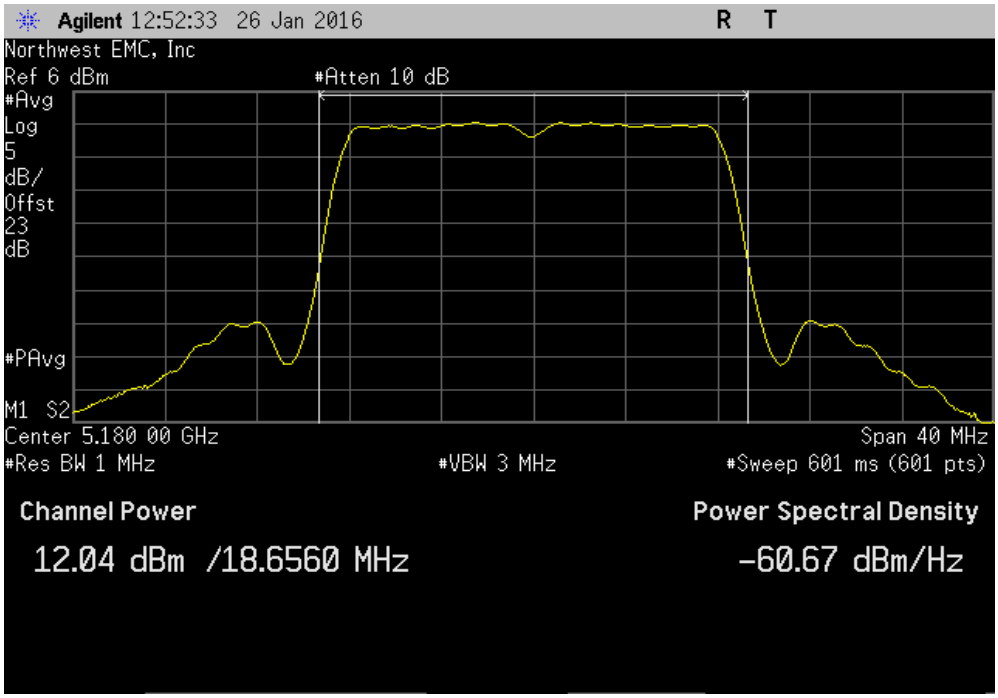
Normal Conditions, 802.11(a) 6 Mbps, Mid Channel, Ch.23 5580 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	18.658	3.3		21.9	24	Pass



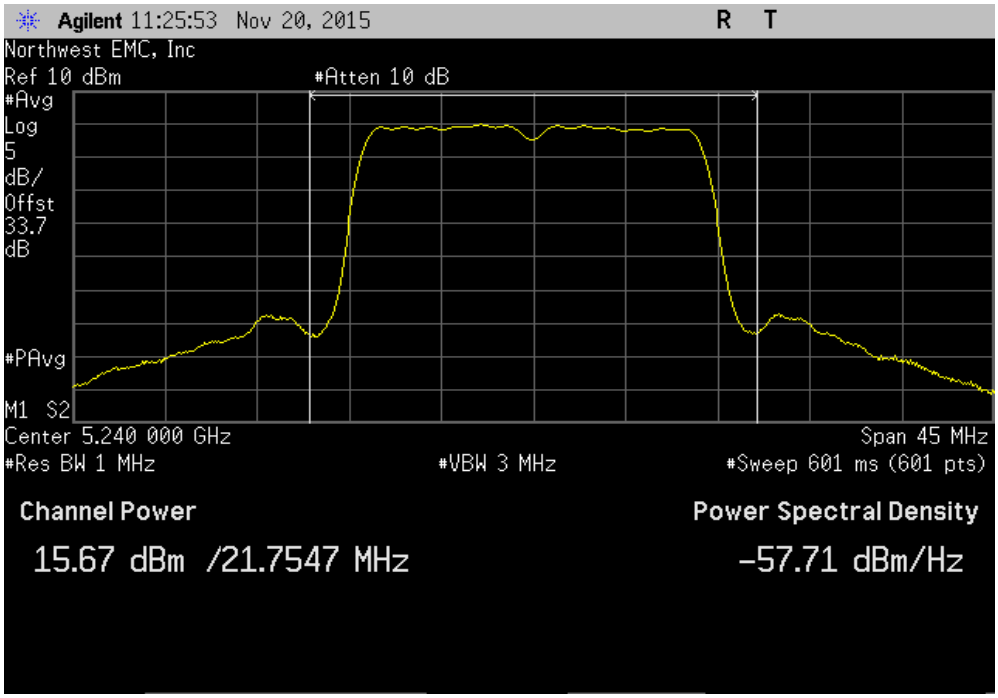
Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.29 5700 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	18.896	3.2		22.1	24	Pass



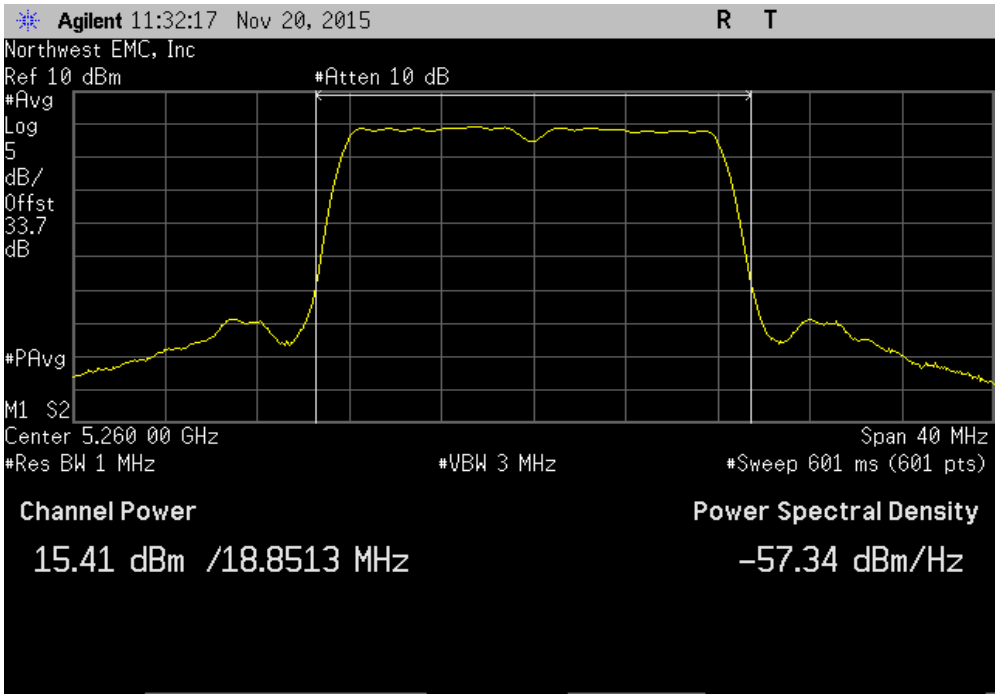
Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.8 5180 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	12.039	6		18	30	Pass



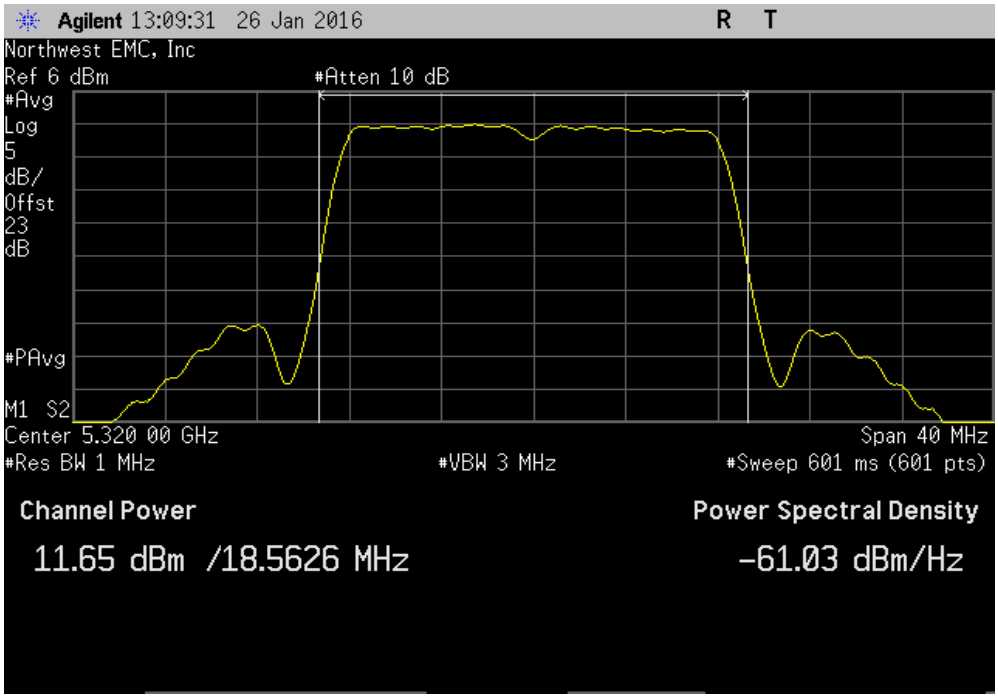
Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.14 5240 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	15.668	5.9		21.6	30	Pass



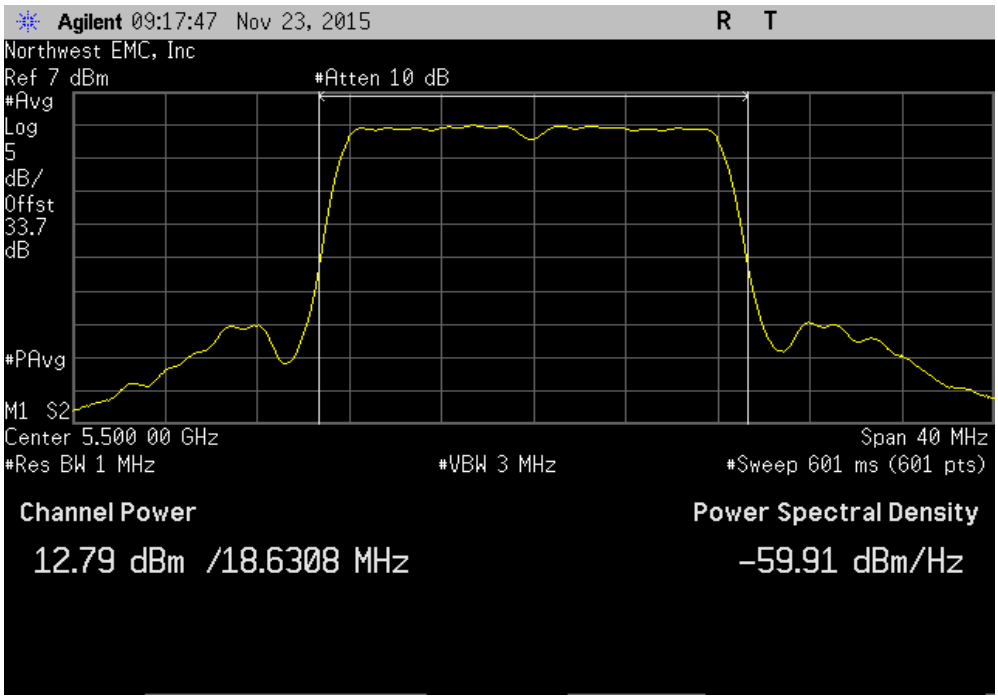
Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.15 5260 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	15.414	6		21.5	24	Pass



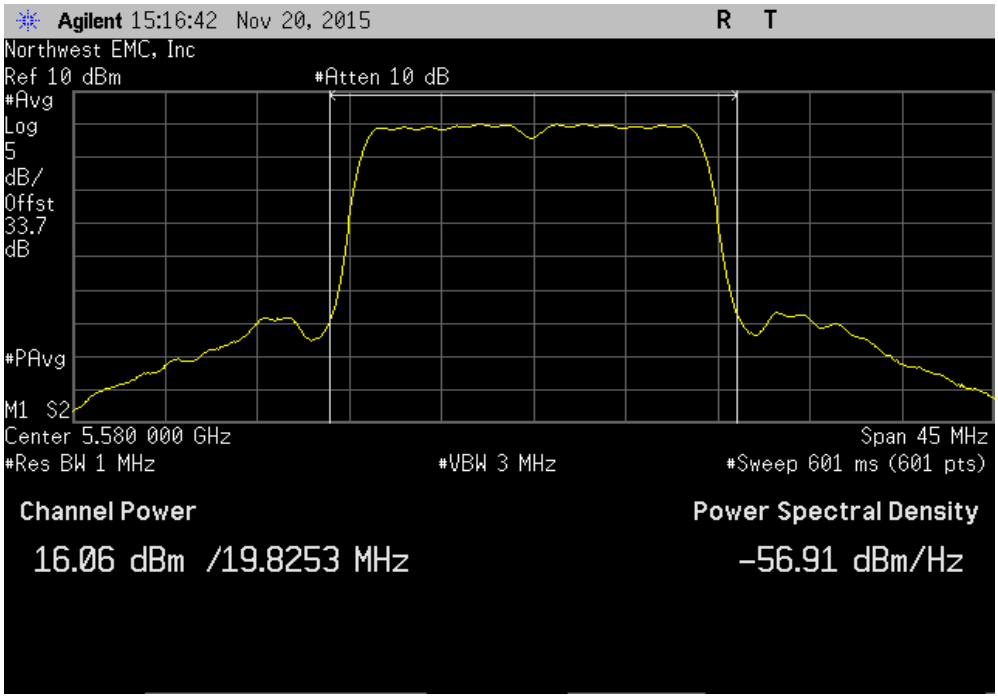
Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.18 5320 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	11.654	5.9		17.6	24	Pass



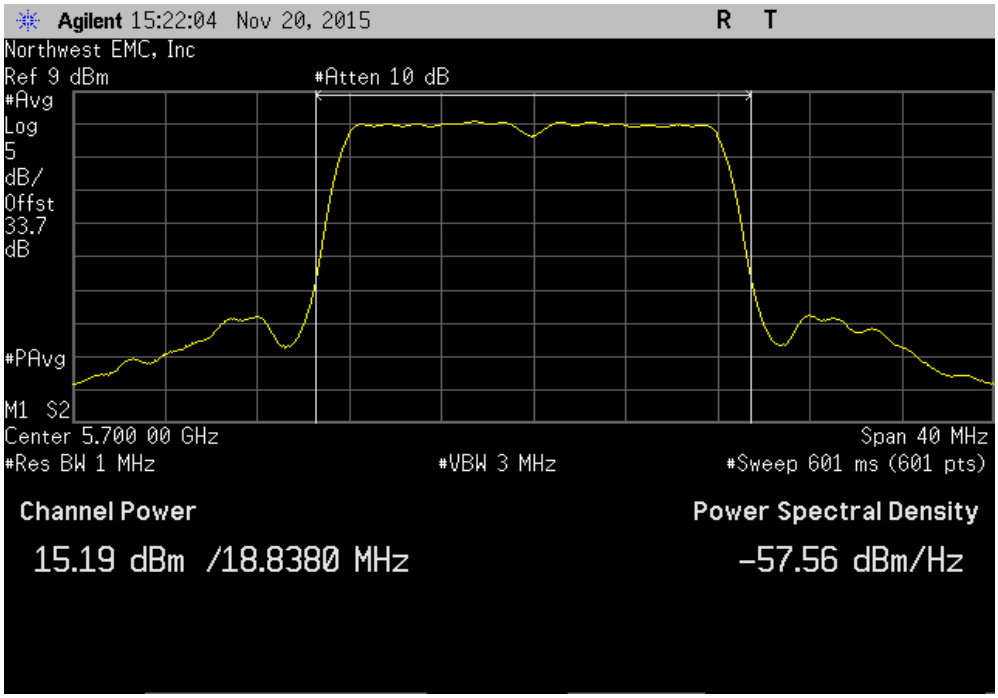
Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.19 5500 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	12.79	5.9		18.7	24	Pass



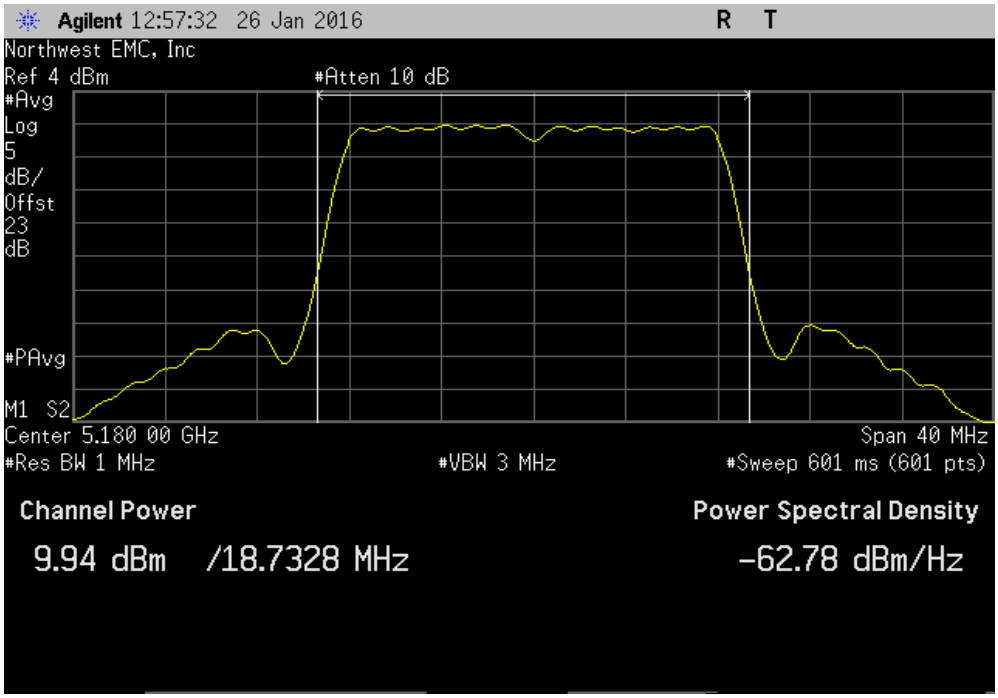
Normal Conditions, 802.11(a) 18 Mbps, Mid Channel, Ch.23 5580 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	16.062	5.7		21.8	24	Pass



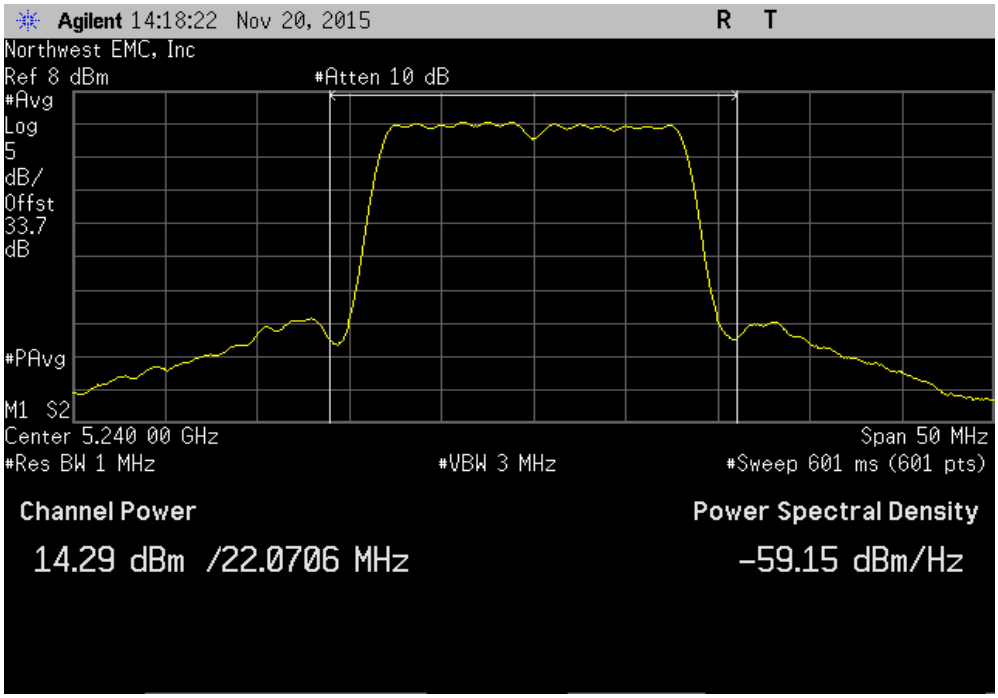
Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.29 5700 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	15.191	5.9		21.1	24	Pass



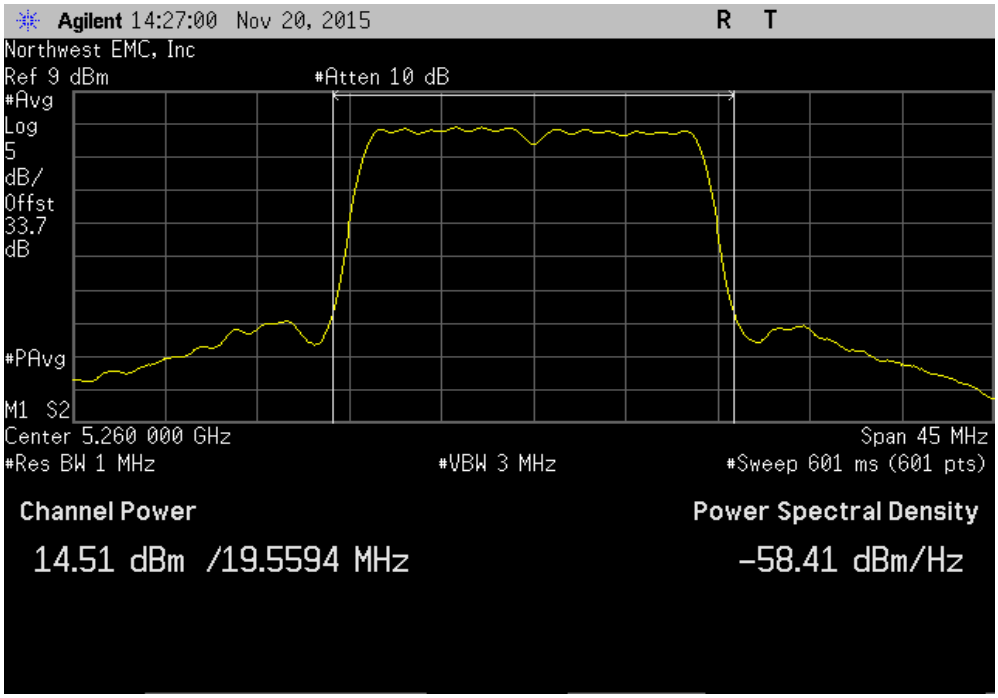
Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.8 5180 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	9.94	7.6		17.6	30	Pass



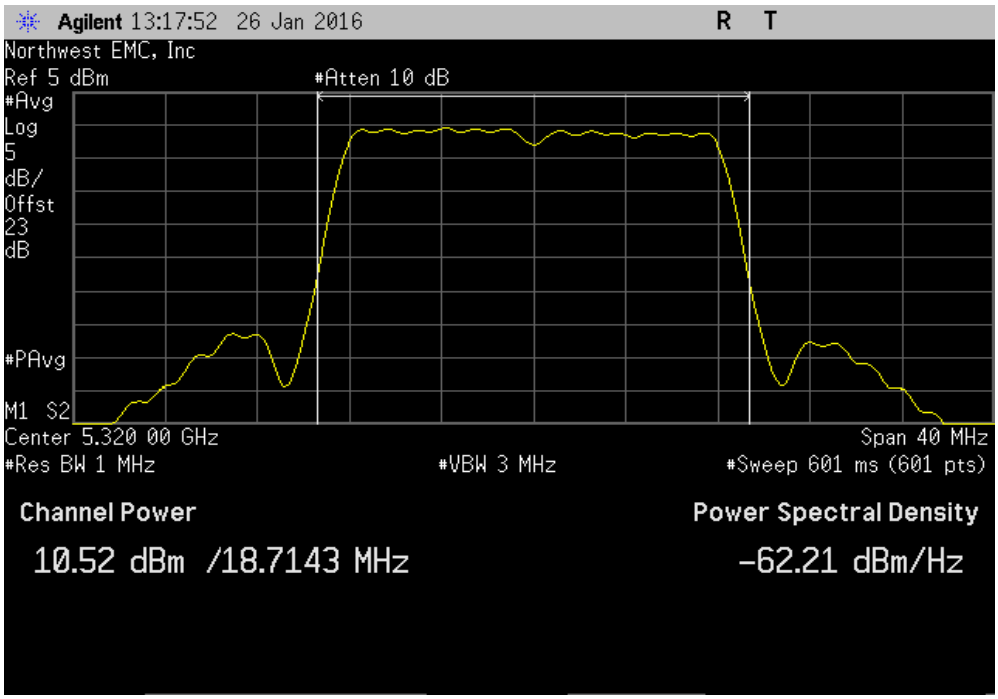
Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.14 5240 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	14.292	7.6		21.9	30	Pass



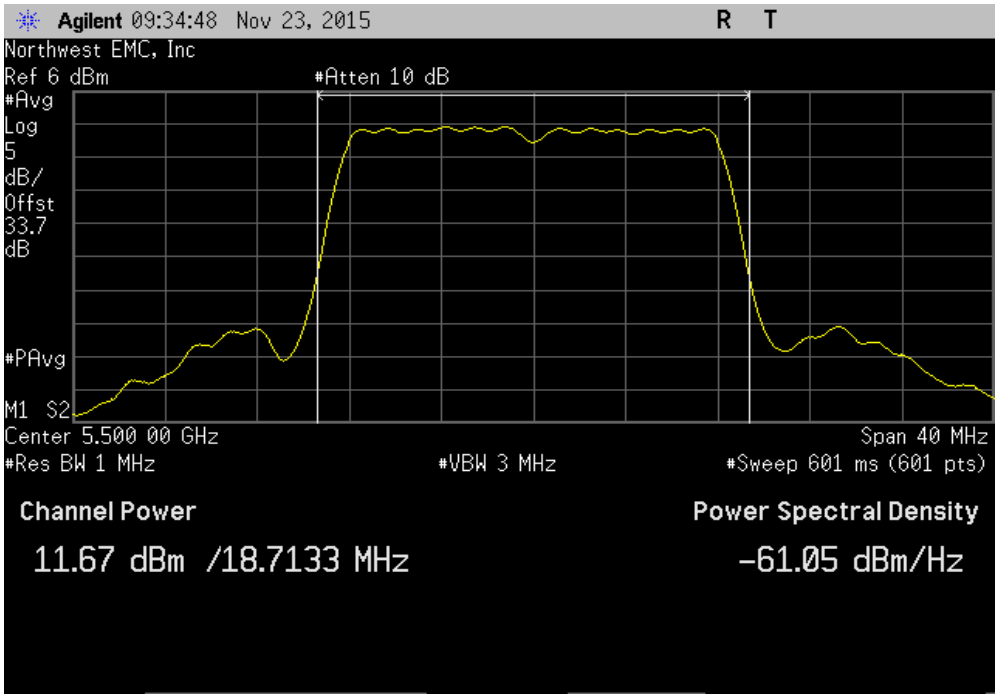
Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.15 5260 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	14.509	7.6		22.1	24	Pass



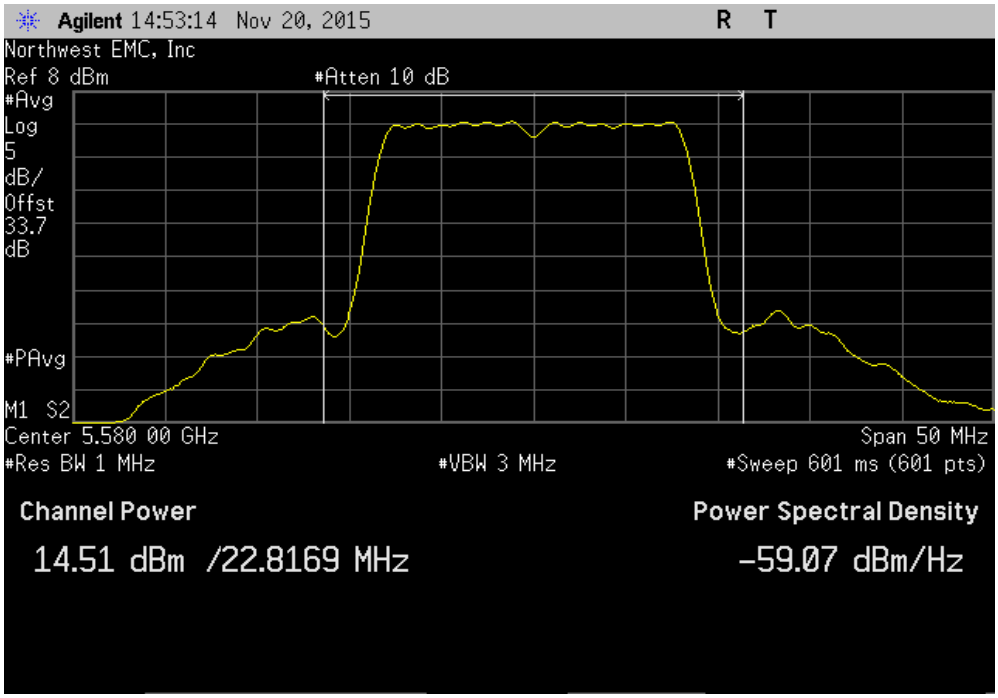
Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.18 5320 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	10.515	7.6		18.1	24	Pass



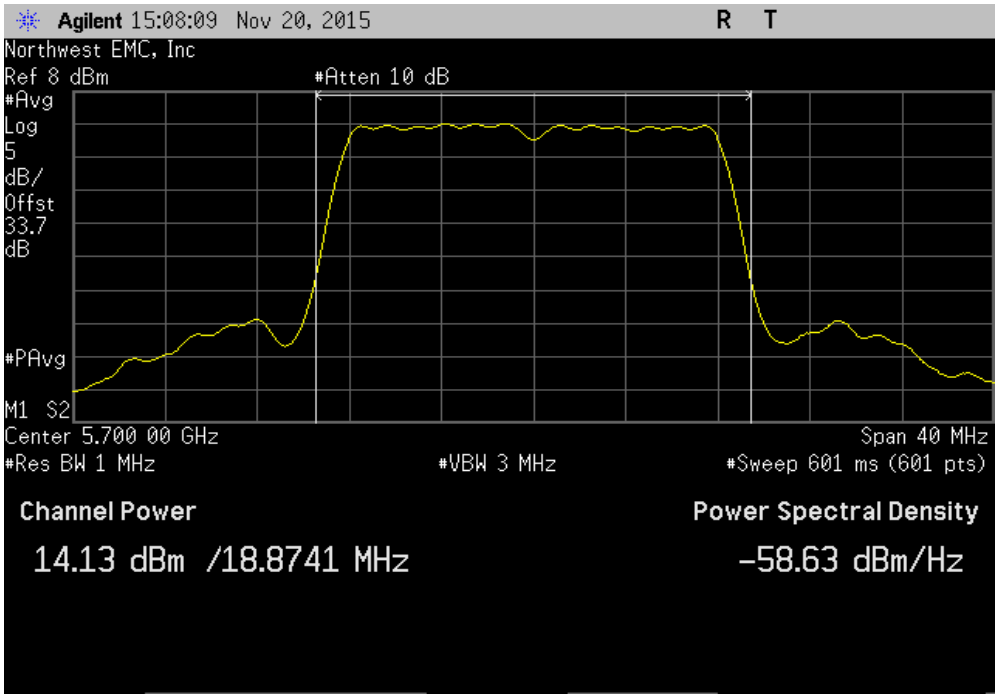
Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.19 5500 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	11.671	7.7		19.4	24	Pass



Normal Conditions, 802.11(a) 36 Mbps, Mid Channel, Ch.23 5580 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	14.513	7.6		22.1	24	Pass



Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.29 5700 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	14.133	7.6		21.8	24	Pass



MAXIMUM CONDUCTED OUTPUT POWER (5.8 GHz)

XMit 2015.01.14

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)
Thermometer	Omegaette	HH311	DTY	1/21/2015	36
Meter - Multimeter	Tektronix	DMM912	MMH	2/5/2013	36
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBI	NCR	0
Power Supply - DC	Tektronix	PS280	TPM	NCR	0
Attenuator	S.M. Electronics	SA18N-06/SM4032	REE	10/1/2015	12
Generator - Signal	Agilent	V2920A	TIH	NCR	0
Meter - Power	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Cable	ESM Cable Corp.	TT	EV1	NCR	0
Block - DC	Fairview Microwave	SD3379	AMP	6/18/2015	12
Attenuator	S.M. Electronics	SA26B-20	AUY	7/14/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. The radio was operated in the modes as shown in the following data sheets.

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.

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

The maximum conducted output power was measured using ANSI C63.10, Method SA-2 (RMS detection and trace averaging across the on and off times of the EUT transmission and use of a duty cycle correction factor).

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

-RMS Detector

-Trace average 100 traces in power averaging mode.

-Power was integrated across “B”, by using the channel power function of the analyzer.

A duty cycle correction factor was added to the measurement using the results of the formula of 10*LOG(1/D) where D is the duty cycle.

MAXIMUM CONDUCTED OUTPUT POWER (5.8 GHz)

NORTHWEST EMC

XMit 2015.01.14

EUT:	SherwoodXD (extended distance)			**Work Order:**	FOCU0216
Serial Number:	02EA4FD0010F			**Date:**	12/03/15
Customer:	Summit Semiconductor LLC			**Temperature:**	22.4°C
Attendees:	David Schilling			**Humidity:**	39%
Project:	None			**Barometric Pres.:**	1008.5
Tested by:	Brandon Hobbs	**Power:**	3.3/1.2VDC Nominal	**Job Site:**	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.407:2015	ANSI C63.10:2013

COMMENTS

The client provided the operating modes for testing. All cable losses were accounted for while under test.

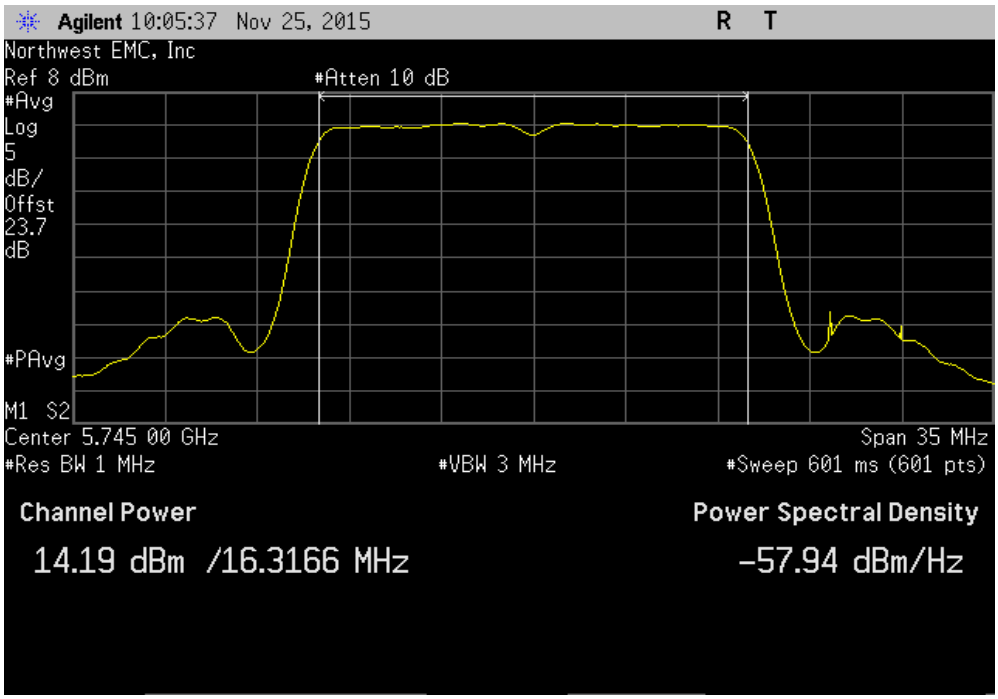
DEVIATIONS FROM TEST STANDARD

None

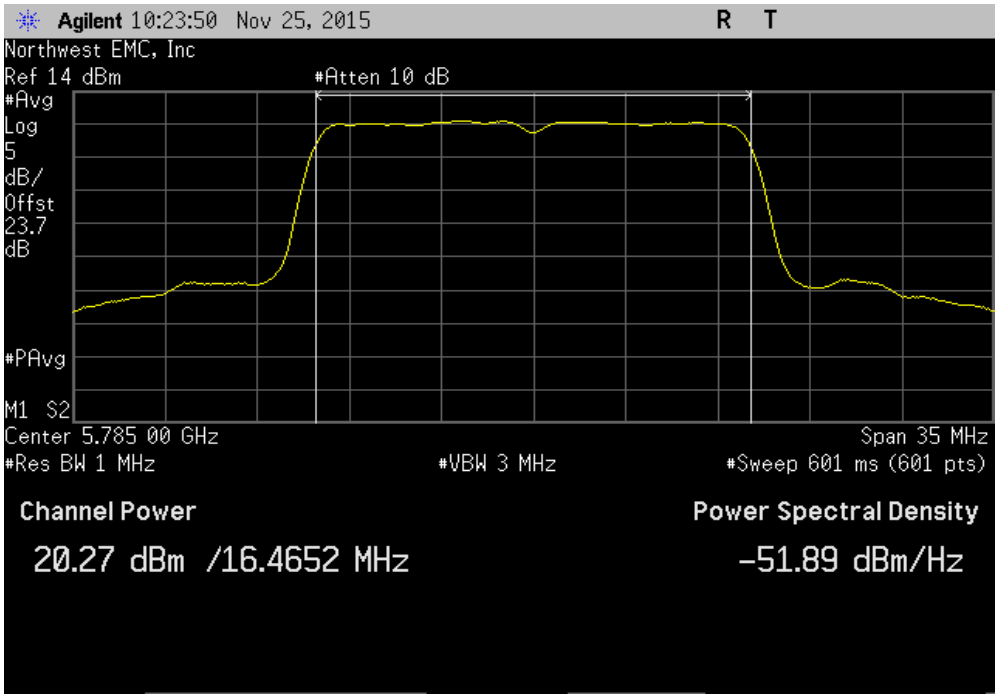
Configuration #	2	*Signature*

		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Value (dBm)	Limit (dBm)	Results
Normal Conditions						
	802.11(a) 6 Mbps					
	Low channel, Ch.30, 5745 MHz	14.191	3	17.2	30	Pass
	Mid channel, Ch.32, 5785 MHz	20.272	3.2	23.4	30	Pass
	High channel, Ch.34, 5825 MHz	13.928	3	16.9	30	Pass
	802.11(a) 18 Mbps					
	Low channel, Ch.30, 5745 MHz	12.679	5.9	18.6	30	Pass
	Mid channel, Ch.32, 5785 MHz	12.238	6	18.2	30	Pass
	High channel, Ch.34, 5825 MHz	12.698	5.7	18.4	30	Pass
	802.11(a) 36 Mbps					
	Low channel, Ch.30, 5745 MHz	10.946	7.6	18.6	30	Pass
	Mid channel, Ch.32, 5785 MHz	10.311	7.6	18	30	Pass
	High channel, Ch.34, 5825 MHz	10.633	7.6	18.3	30	Pass

Normal Conditions, 802.11(a) 6 Mbps, Low channel, Ch.30, 5745 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	14.191	3		17.2	30	Pass



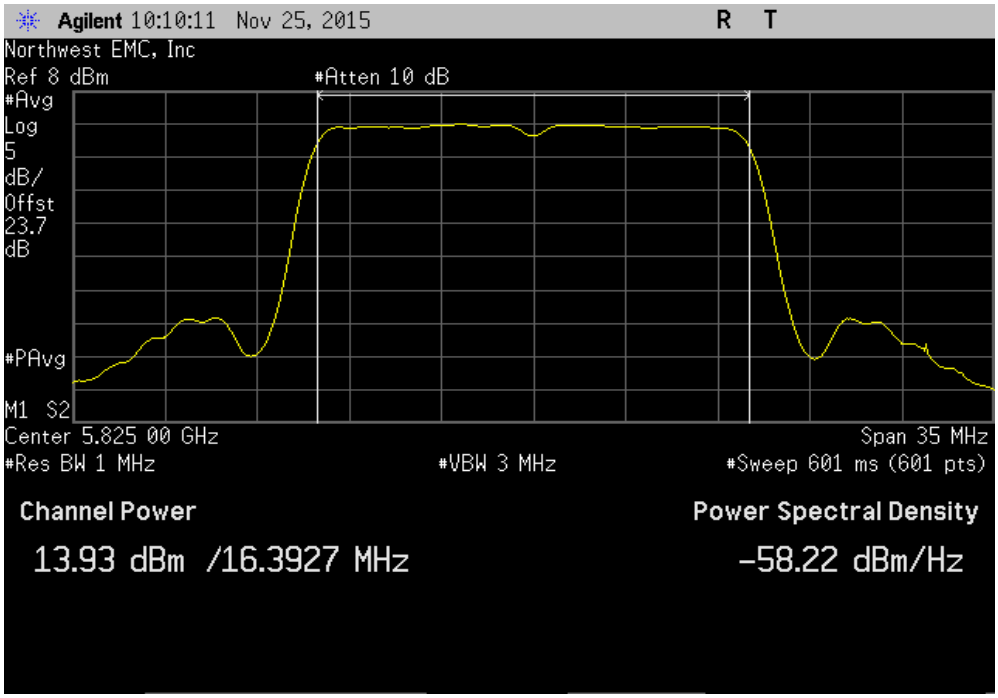
Normal Conditions, 802.11(a) 6 Mbps, Mid channel, Ch.32, 5785 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	20.272	3.2		23.4	30	Pass



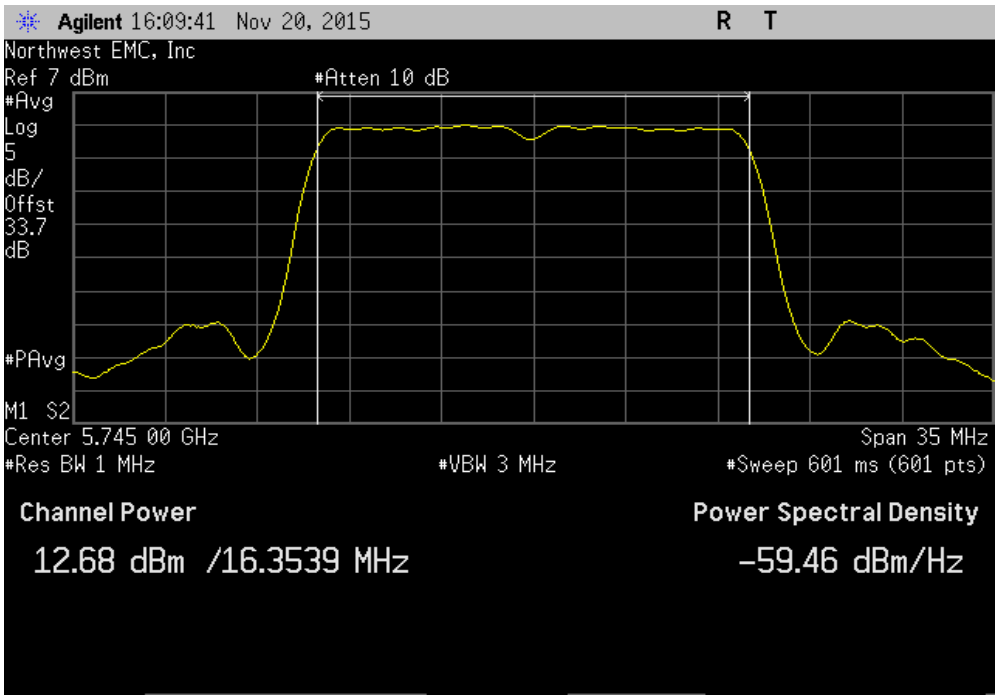
MAXIMUM CONDUCTED OUTPUT POWER (5.8 GHz)

XMit 2015.01.14

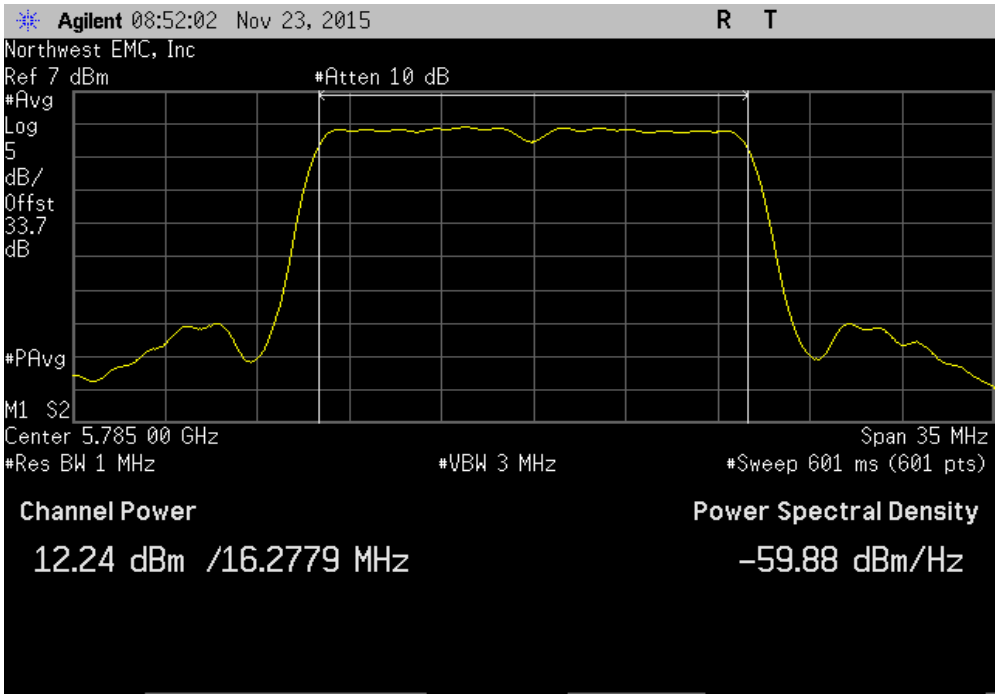
Normal Conditions, 802.11(a) 6 Mbps, High channel, Ch.34, 5825 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	13.928	3		16.9	30	Pass



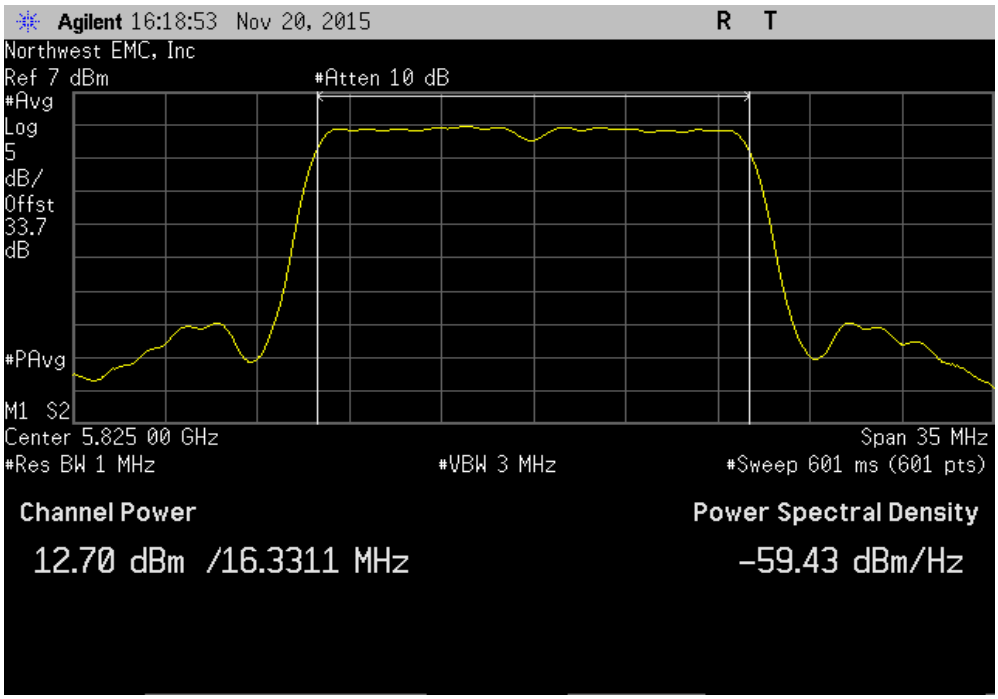
Normal Conditions, 802.11(a) 18 Mbps, Low channel, Ch.30, 5745 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	12.679	5.9		18.6	30	Pass



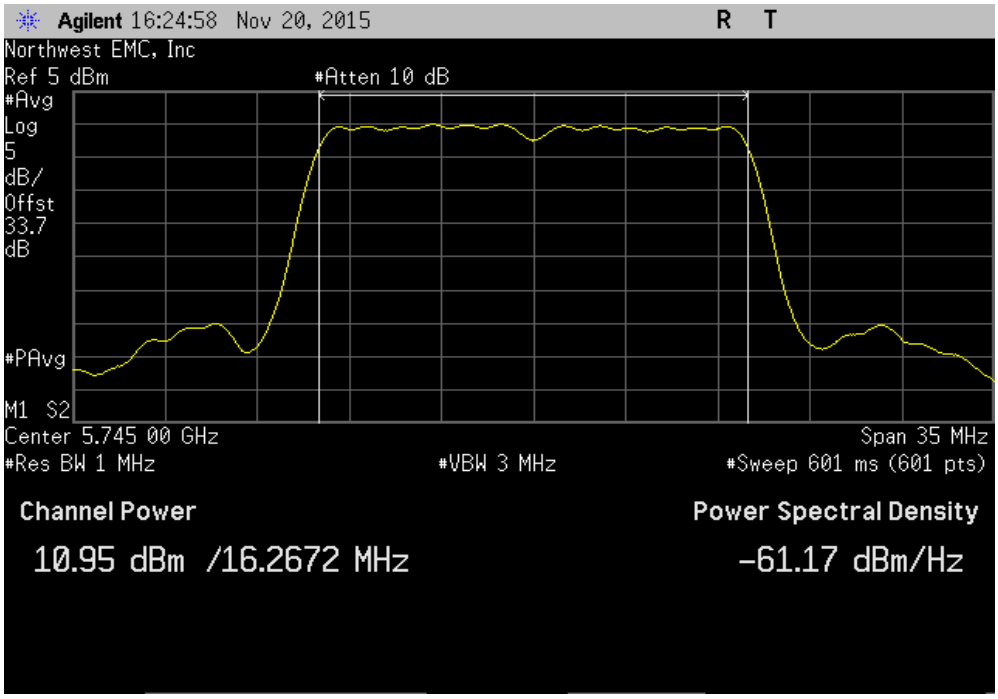
Normal Conditions, 802.11(a) 18 Mbps, Mid channel, Ch.32, 5785 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	12.238	6		18.2	30	Pass



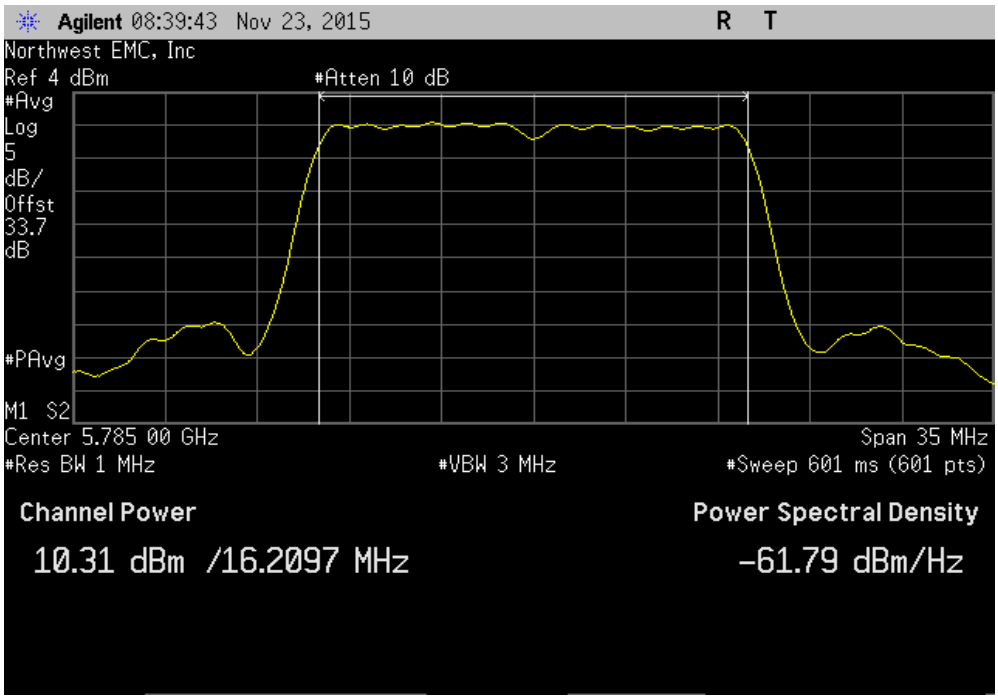
Normal Conditions, 802.11(a) 18 Mbps, High channel, Ch.34, 5825 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	12.698	5.7		18.4	30	Pass



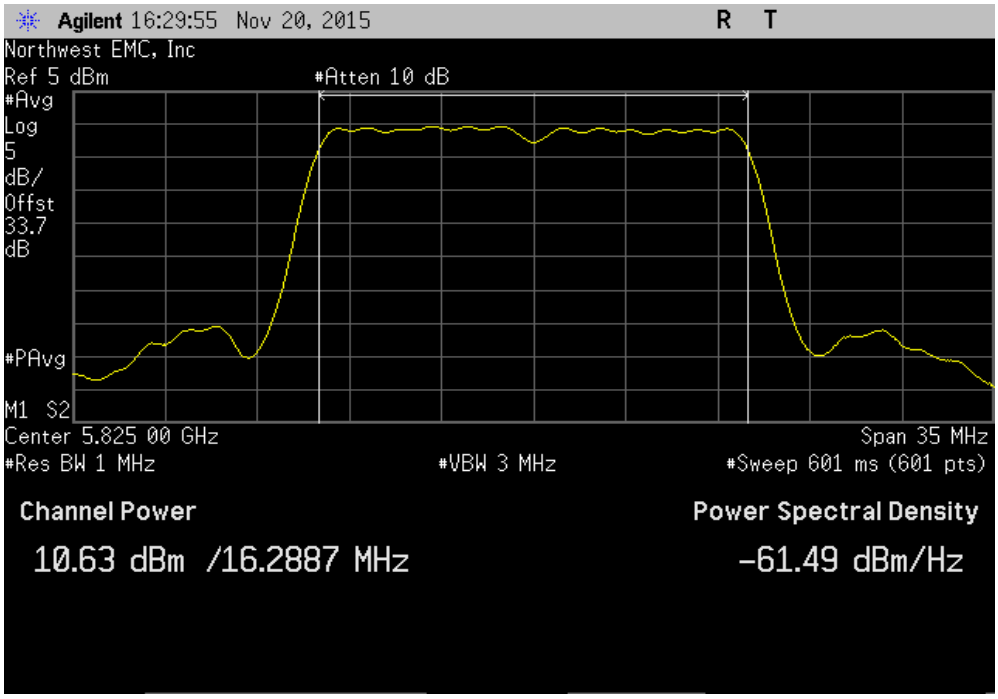
Normal Conditions, 802.11(a) 36 Mbps, Low channel, Ch.30, 5745 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	10.946	7.6		18.6	30	Pass



Normal Conditions, 802.11(a) 36 Mbps, Mid channel, Ch.32, 5785 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	10.311	7.6		18	30	Pass



Normal Conditions, 802.11(a) 36 Mbps, High channel, Ch.34, 5825 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)		Value (dBm)	Limit (dBm)	Results
	10.633	7.6		18.3	30	Pass



MAXIMUM POWER SPECTRAL DENSITY

NORTHWEST EMC

XMit 2015.01.14

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)
Meter - Multimeter	Tektronix	DMM912	MMH	2/5/2013	36
Thermometer	Omegaette	HH311	DTY	1/21/2015	36
Power Supply - DC	Tektronix	PS280	TPM	NCR	0
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBI	NCR	0
Attenuator	S.M. Electronics	SA18N-06/SM4032	REE	10/1/2015	12
Generator - Signal	Agilent	V2920A	TIH	NCR	0
Meter - Power	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Cable	ESM Cable Corp.	TT	EV1	NCR	0
Block - DC	Fairview Microwave	SD3379	AMP	6/18/2015	12
Attenuator	S.M. Electronics	SA26B-20	AUY	7/14/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. The radio was operated in the modes as shown in the following data sheets.

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.

Prior to measuring maximum power spectral density, the emission bandwidth (B) was measured. The method of measuring the emission bandwidth and the associated data are found elsewhere in this test report

The maximum power spectral density was measured using ANSI C63.10, Method SA-2 (RMS detection and trace averaging across the on and off times of the EUT transmission and use of a duty cycle correction factor), consistent with the method used for maximum conducted output power.

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

-Resolution Bandwidth of 1 MHz

-RMS Detector

-Trace average 100 traces in power averaging mode

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

A duty cycle correction factor was added to the measurement using the results of the formula of 10*LOG(1/D) where D is the duty cycle.

MAXIMUM POWER SPECTRAL DENSITY

NORTHWEST EMC

XMit 2015.01.14

EUT:	SherwoodXD (extended distance)			**Work Order:**	FOCU0216
Serial Number:	02EA4FD0010F			**Date:**	12/03/15
Customer:	Summit Semiconductor LLC			**Temperature:**	22.4°C
Attendees:	David Schilling			**Humidity:**	39%
Project:	None			**Barometric Pres.:**	1008.5
Tested by:	Brandon Hobbs	**Power:**	3.3/1.2VDC Nominal	**Job Site:**	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.407:2015	ANSI C63.10:2013

COMMENTS

The client provided the operating modes for testing. All cable losses were accounted for while under test.

DEVIATIONS FROM TEST STANDARD

None

Configuration #	2	Signature

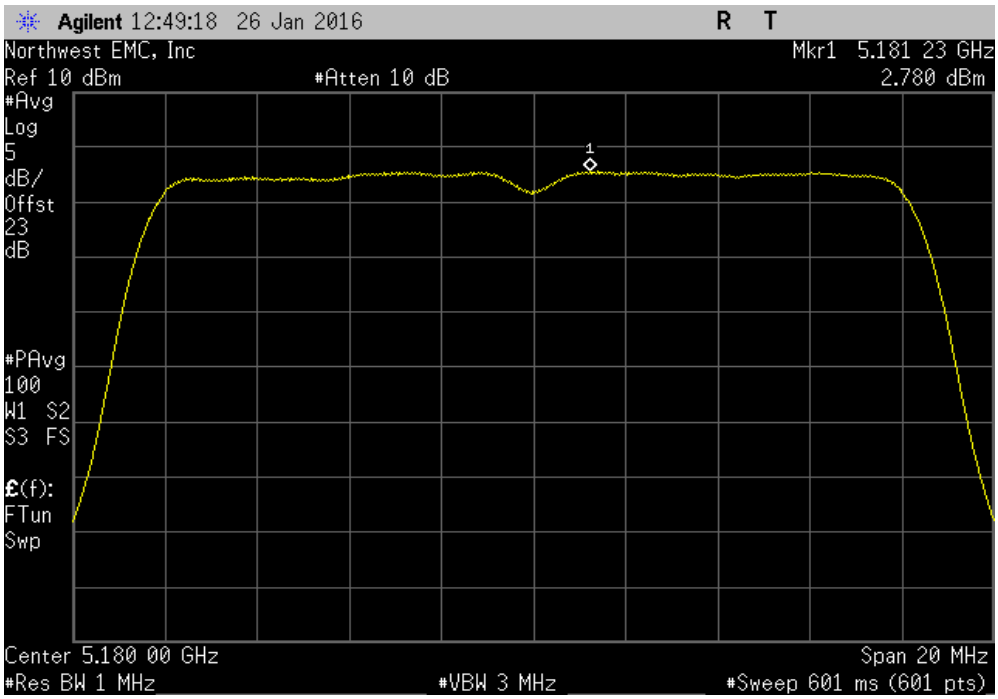
		Power (dBm/MHz)	Duty Cycle Factor (dB)	Density (dBm/MHz)	Limit ≤ (dBm / Ref BW)	Results
Normal Conditions						
	802.11(a) 6 Mbps					
	Low Channel, Ch.8 5180 MHz	2.78	3.2	5.9	17	Pass
	High Channel, Ch.14 5240 MHz	7.531	3.2	10.7	17	Pass
	Low Channel, Ch.15 5260 MHz	7	3.2	10.2	11	Pass
	High Channel, Ch.18 5320 MHz	2.794	3.2	6	11	Pass
	Low Channel, Ch.19 5500 MHz	5.264	3.3	8.5	11	Pass
	Mid Channel, Ch.23 5580 MHz	7.147	3.3	10.4	11	Pass
	High Channel, Ch.29 5700 MHz	7.357	3.2	10.5	11	Pass
	802.11(a) 18 Mbps					
	Low Channel, Ch.8 5180 MHz	0.403	6	6.4	17	Pass
	High Channel, Ch.14 5240 MHz	4.326	5.9	10.2	17	Pass
	Low Channel, Ch.15 5260 MHz	4.207	6	10.2	11	Pass
	High Channel, Ch.18 5320 MHz	0.346	5.9	6.3	11	Pass
	Low Channel, Ch.19 5500 MHz	1.416	5.9	7.3	11	Pass
	Mid Channel, Ch.23 5580 MHz	4.65	5.7	10.4	11	Pass
	High Channel, Ch.29 5700 MHz	3.813	5.9	9.7	11	Pass
	802.11(a) 36 Mbps					
	Low Channel, Ch.8 5180 MHz	-1.367	7.6	6.3	17	Pass
	High Channel, Ch.14 5240 MHz	3.026	7.6	10.7	17	Pass
	Low Channel, Ch.15 5260 MHz	3.281	7.6	10.9	11	Pass
	High Channel, Ch.18 5320 MHz	-0.594	7.6	7.6	11	Pass
	Low Channel, Ch.19 5500 MHz	0.319	7.7	8.1	11	Pass
	Mid Channel, Ch.23 5580 MHz	3.143	7.6	10.8	11	Pass
	High Channel, Ch.29 5700 MHz	2.841	7.6	10.5	11	Pass

MAXIMUM POWER SPECTRAL DENSITY

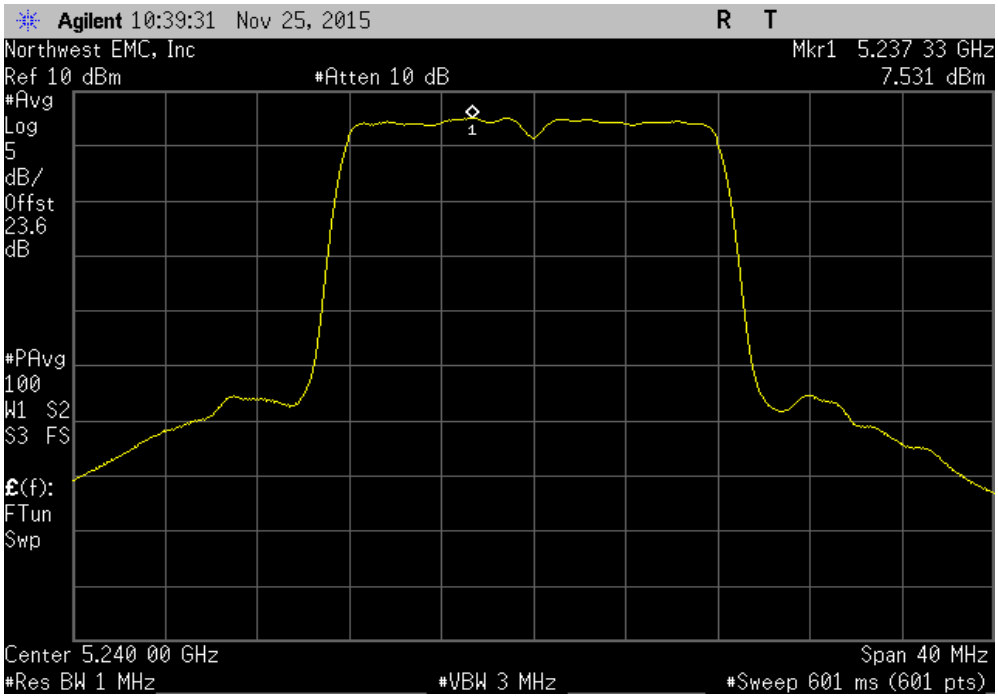
NORTHWEST EMC

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.8 5180 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	2.78	3.2		5.9	17	Pass



Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.14 5240 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	7.531	3.2		10.7	17	Pass

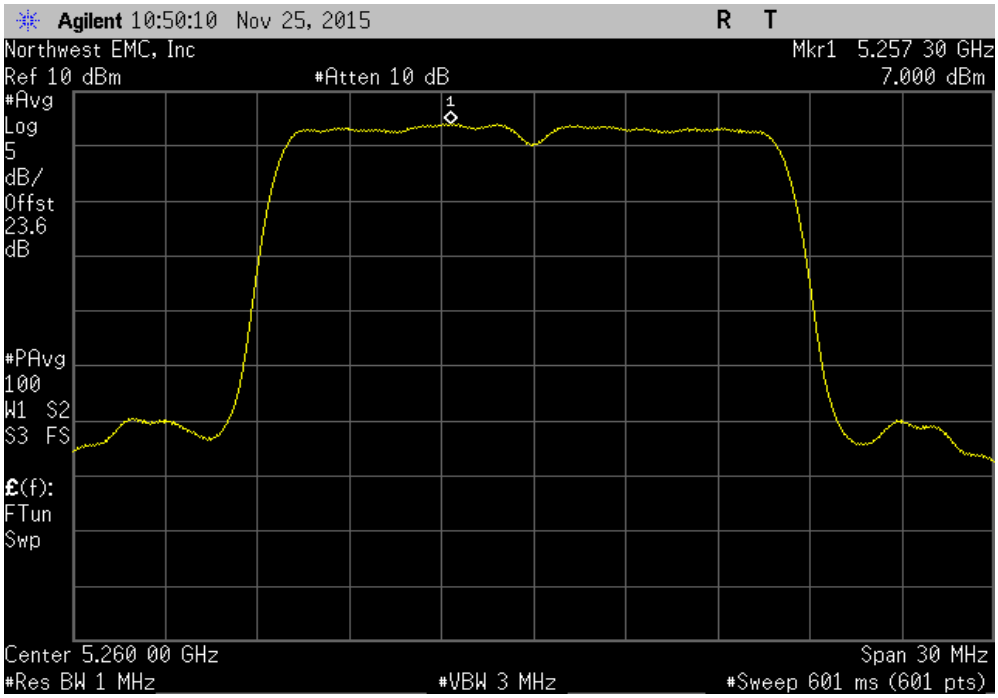


MAXIMUM POWER SPECTRAL DENSITY

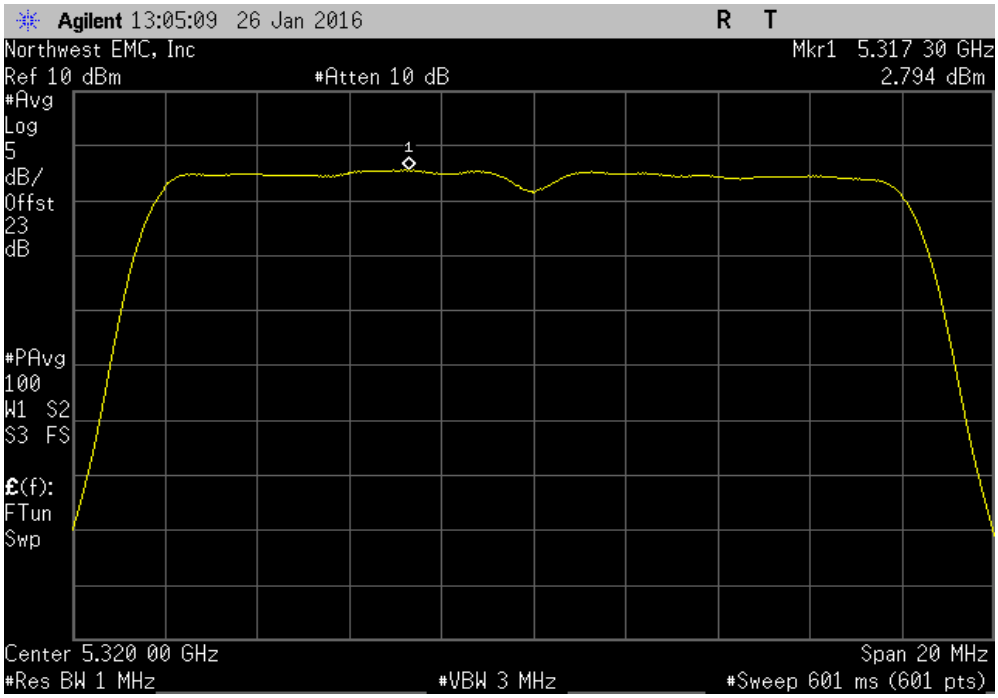
NORTHWEST EMC

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.15 5260 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	7	3.2		10.2	11	Pass



Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.18 5320 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	2.794	3.2		6	11	Pass

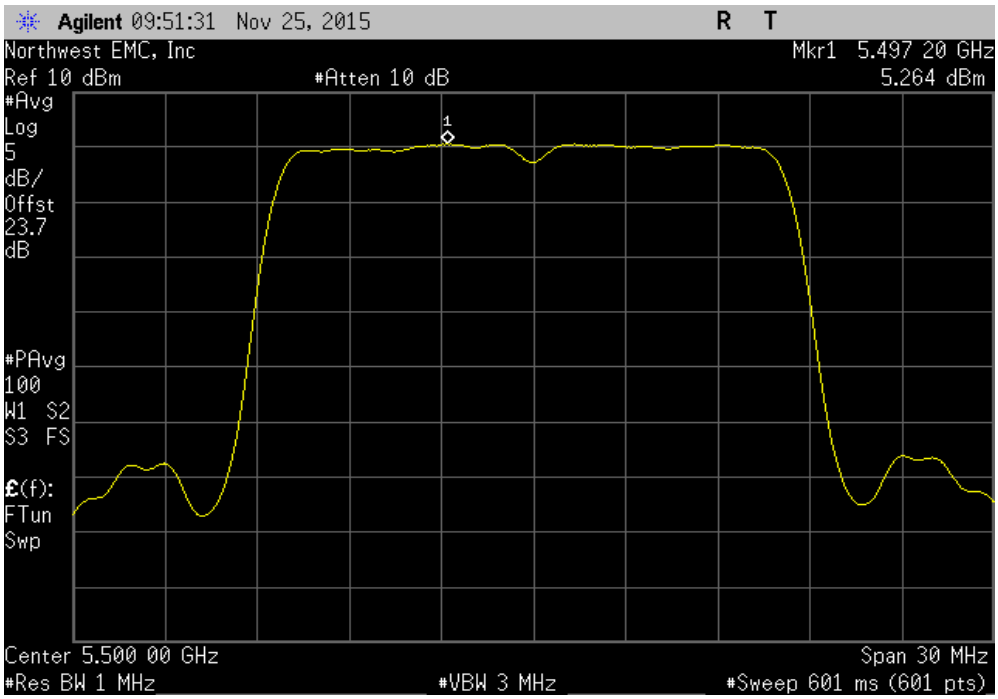


MAXIMUM POWER SPECTRAL DENSITY

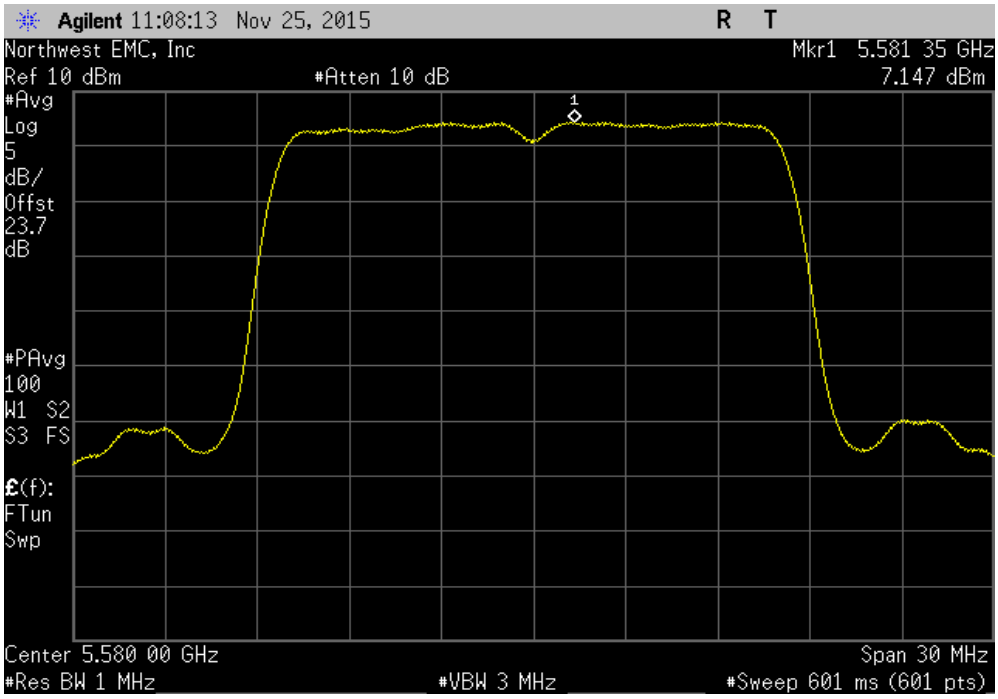
NORTHWEST EMC

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, Low Channel, Ch.19 5500 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	5.264	3.3		8.5	11	Pass



Normal Conditions, 802.11(a) 6 Mbps, Mid Channel, Ch.23 5580 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	7.147	3.3		10.4	11	Pass

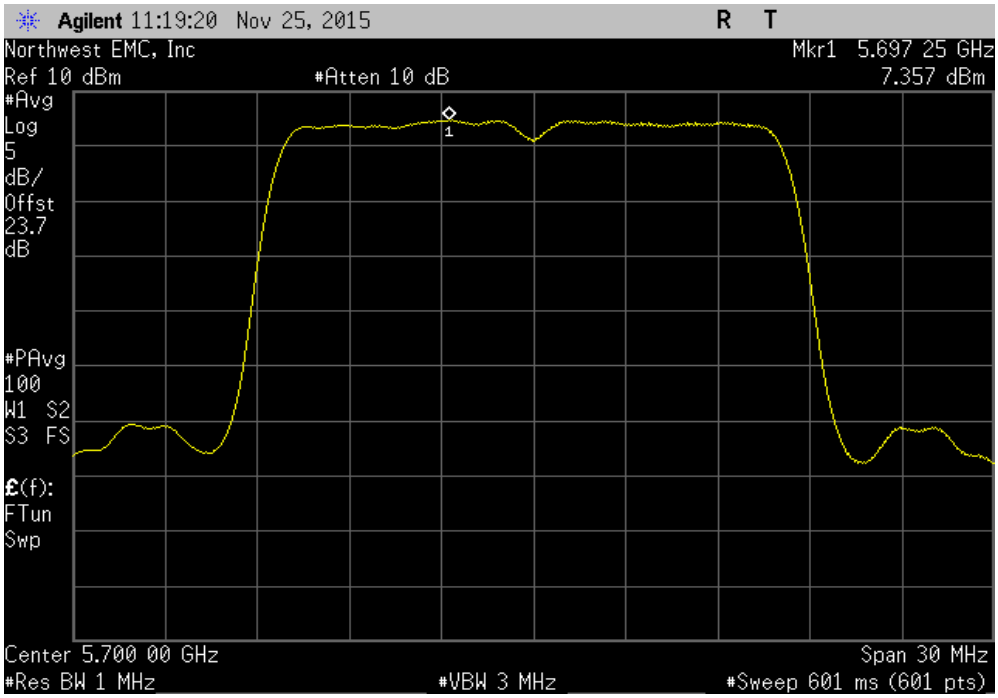


MAXIMUM POWER SPECTRAL DENSITY

NORTHWEST EMC

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, High Channel, Ch.29 5700 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	7.357	3.2		10.5	11	Pass

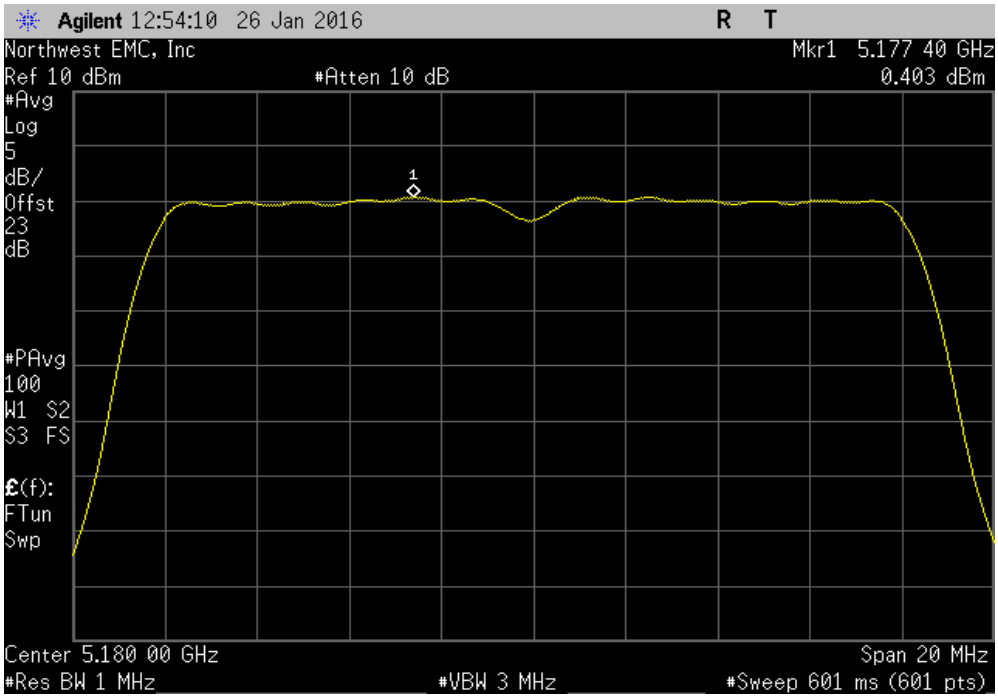


MAXIMUM POWER SPECTRAL DENSITY

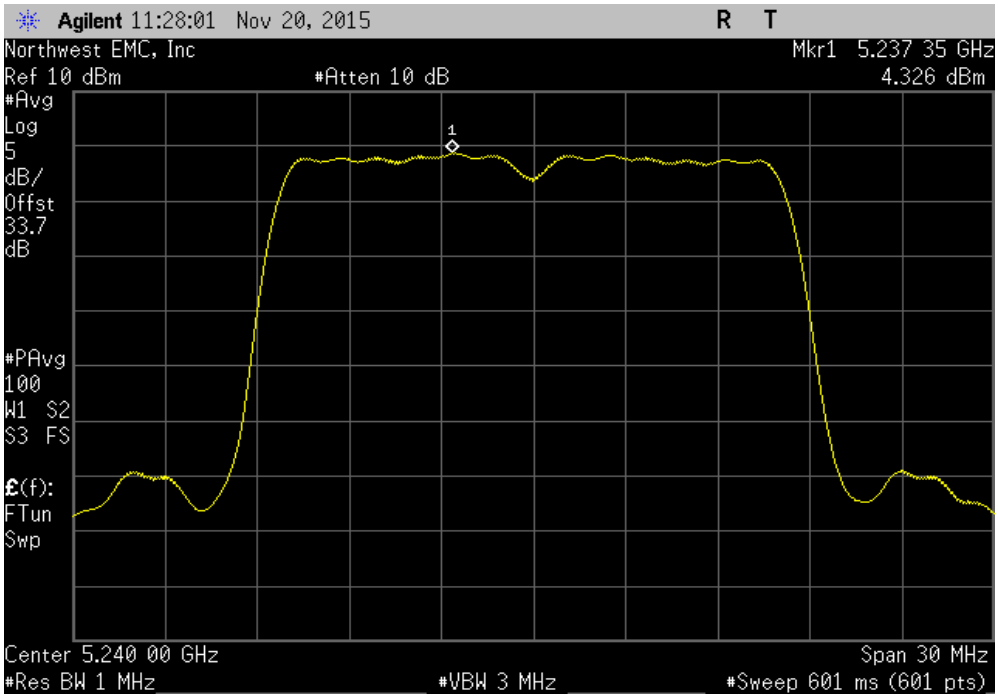
NORTHWEST EMC

XMit 2015.01.14

Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.8 5180 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	0.403	6		6.4	17	Pass



Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.14 5240 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	4.326	5.9		10.2	17	Pass

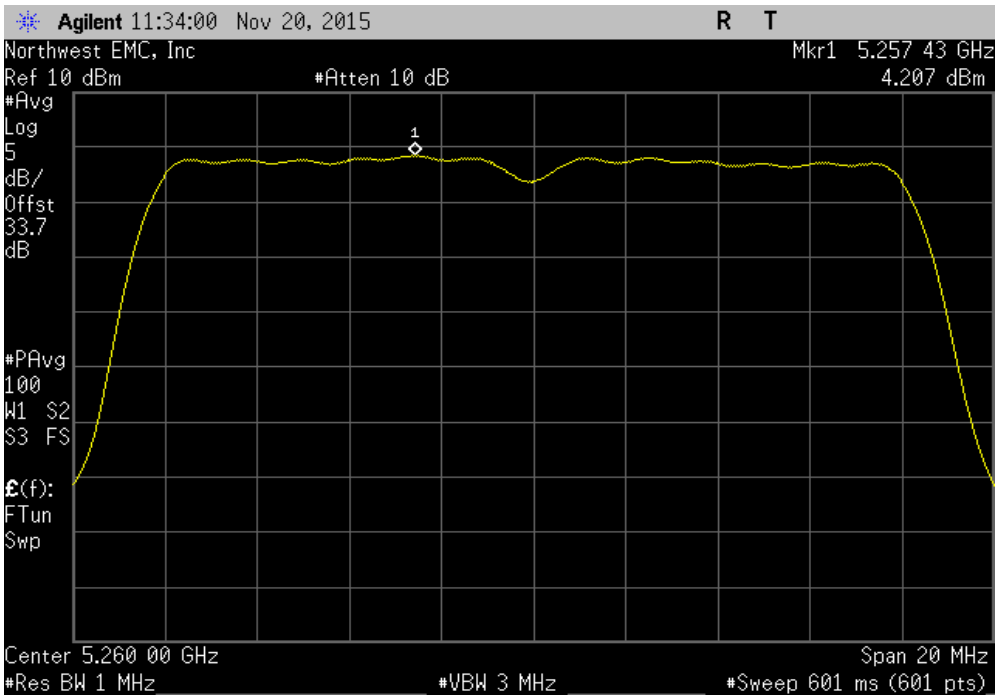


MAXIMUM POWER SPECTRAL DENSITY

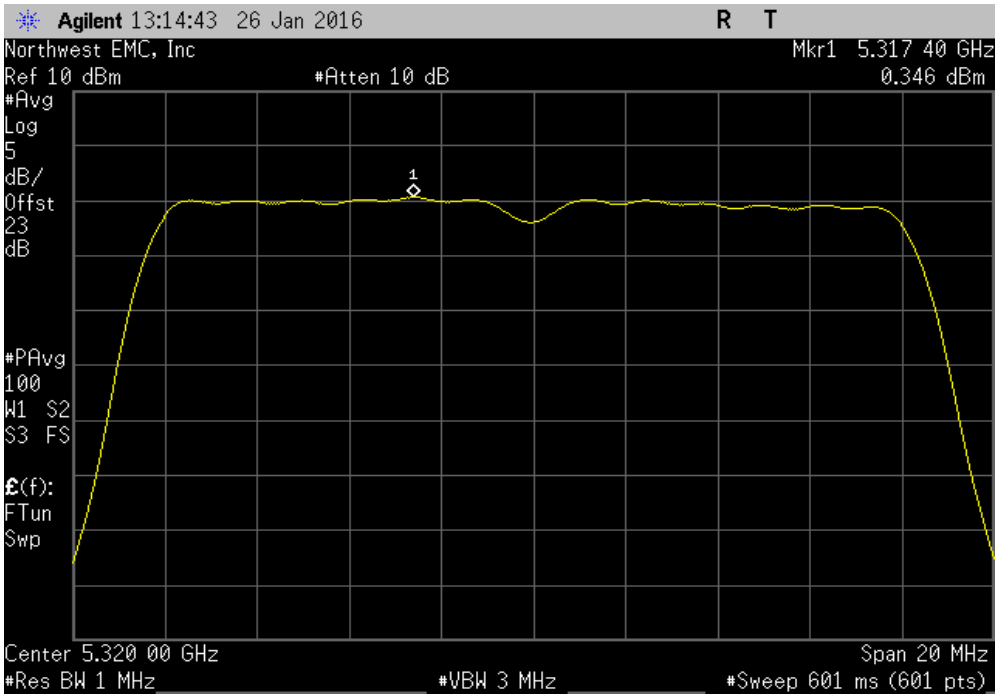
NORTHWEST EMC

XMit 2015.01.14

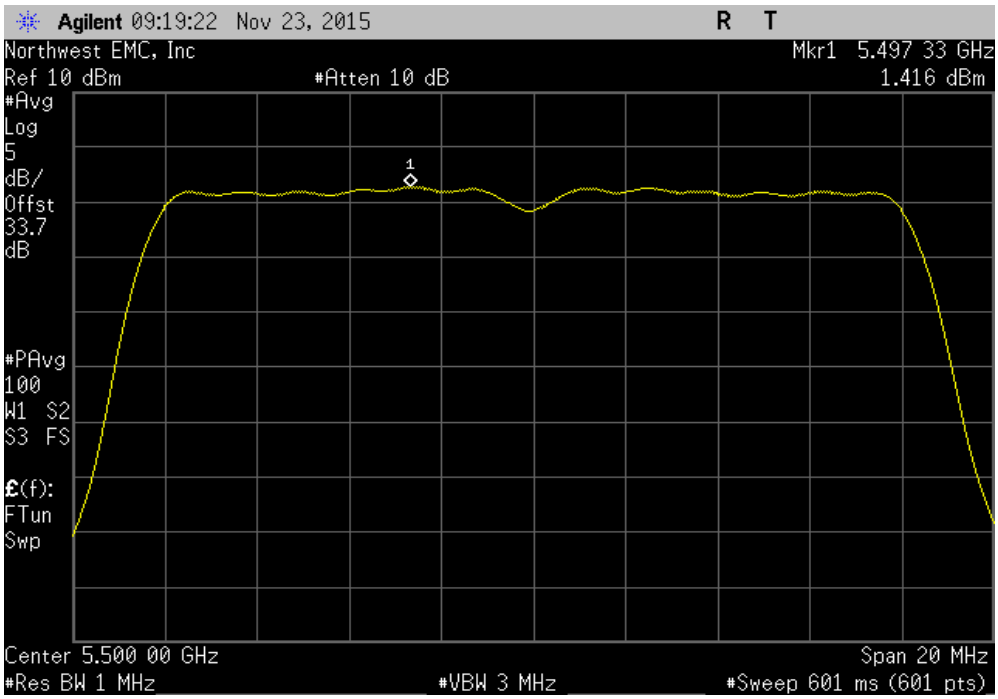
Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.15 5260 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	4.207	6		10.2	11	Pass



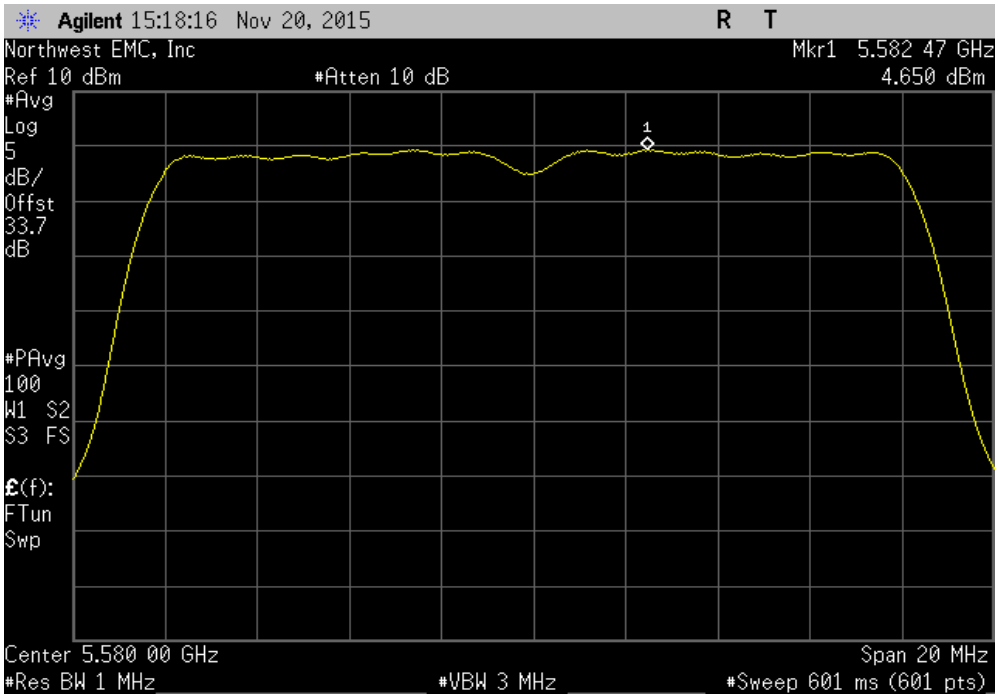
Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.18 5320 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	0.346	5.9		6.3	11	Pass



Normal Conditions, 802.11(a) 18 Mbps, Low Channel, Ch.19 5500 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	1.416	5.9		7.3	11	Pass



Normal Conditions, 802.11(a) 18 Mbps, Mid Channel, Ch.23 5580 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	4.65	5.7		10.4	11	Pass

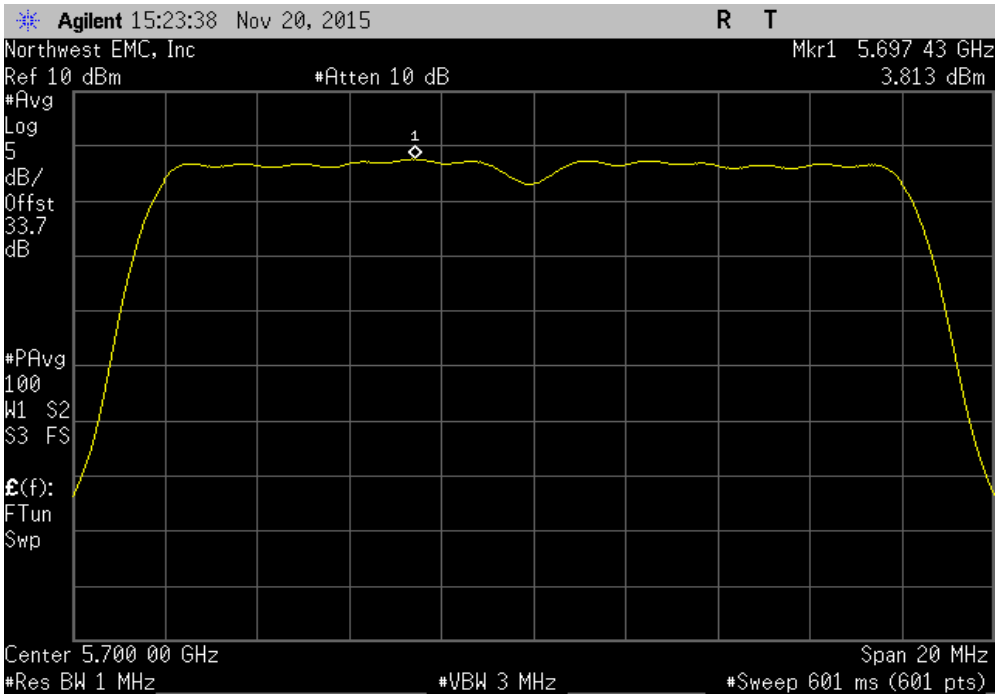


MAXIMUM POWER SPECTRAL DENSITY

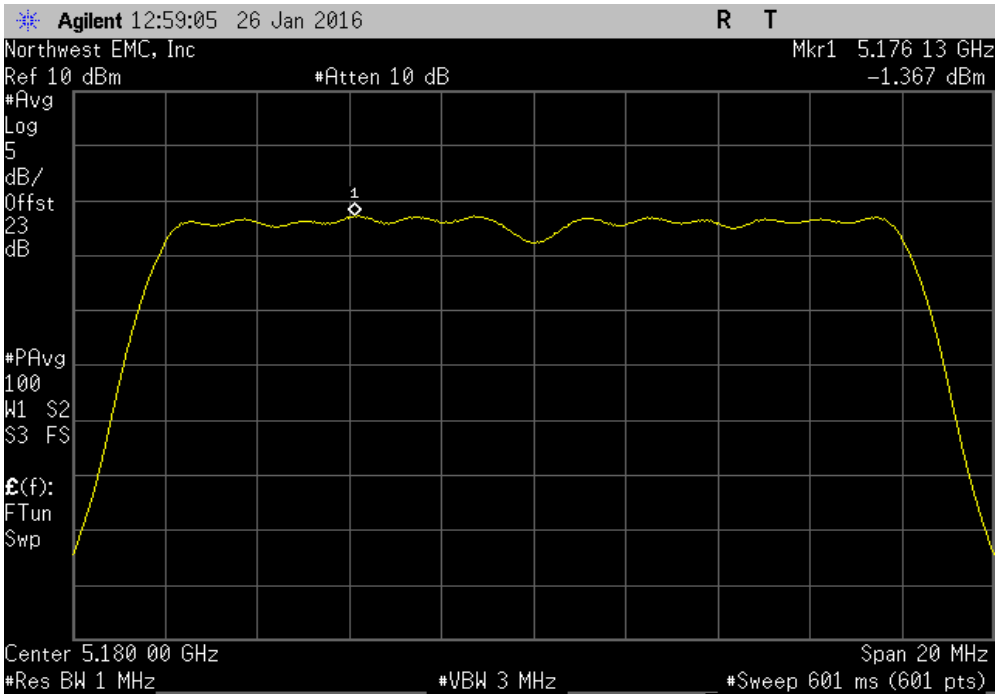
NORTHWEST EMC

XMit 2015.01.14

Normal Conditions, 802.11(a) 18 Mbps, High Channel, Ch.29 5700 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	3.813	5.9		9.7	11	Pass



Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.8 5180 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	-1.367	7.6		6.3	17	Pass

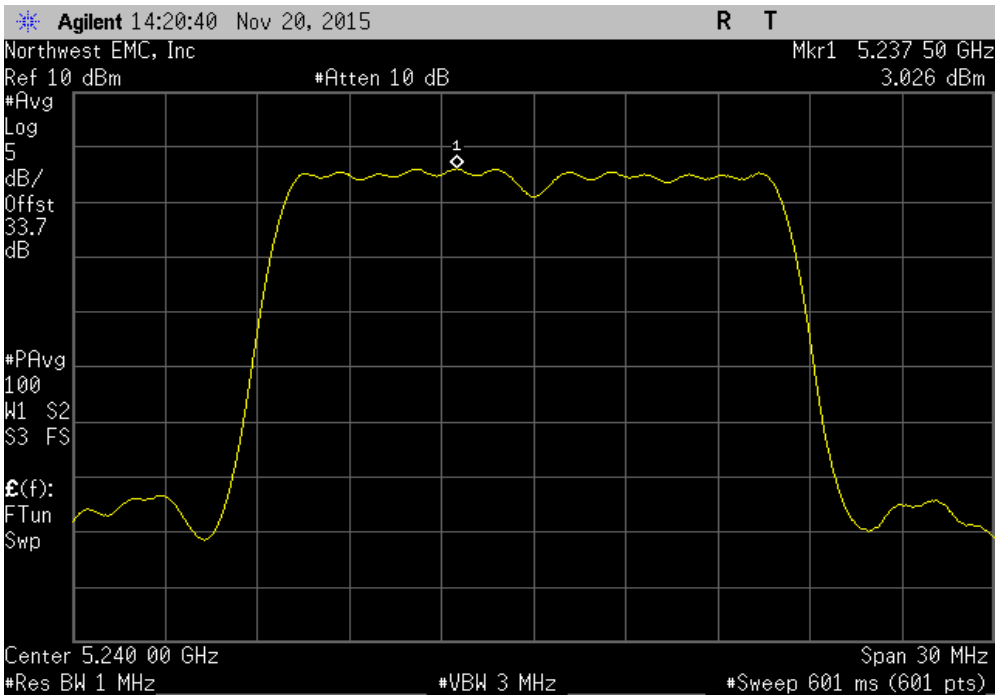


MAXIMUM POWER SPECTRAL DENSITY

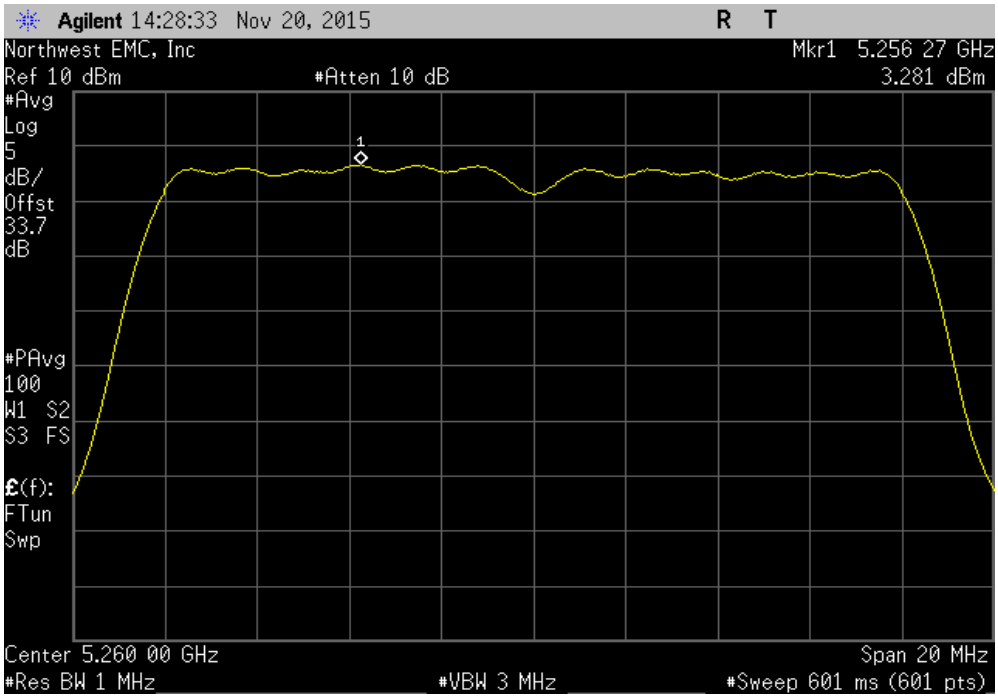
NORTHWEST EMC

XMit 2015.01.14

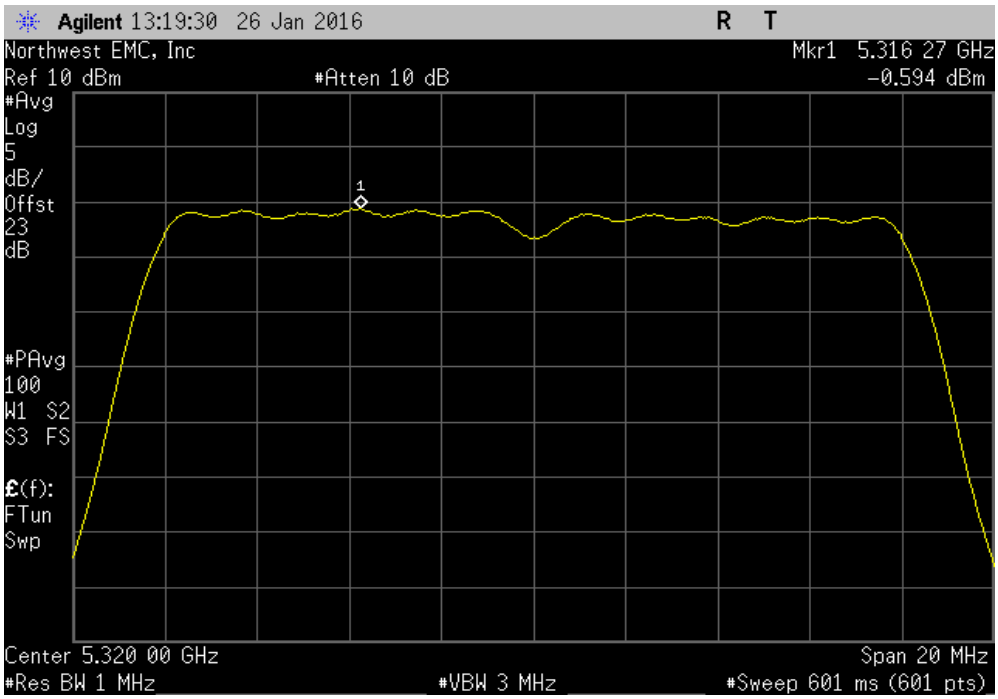
Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.14 5240 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	3.026	7.6		10.7	17	Pass



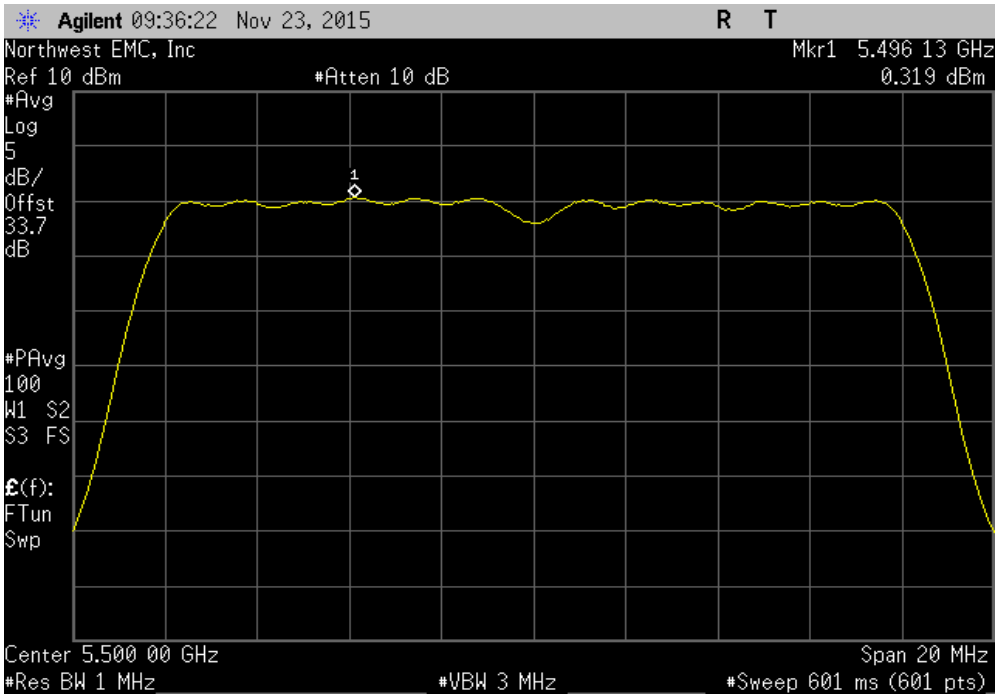
Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.15 5260 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	3.281	7.6		10.9	11	Pass



Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.18 5320 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	-0.594	7.6		7	11	Pass



Normal Conditions, 802.11(a) 36 Mbps, Low Channel, Ch.19 5500 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	0.319	7.7		8.1	11	Pass

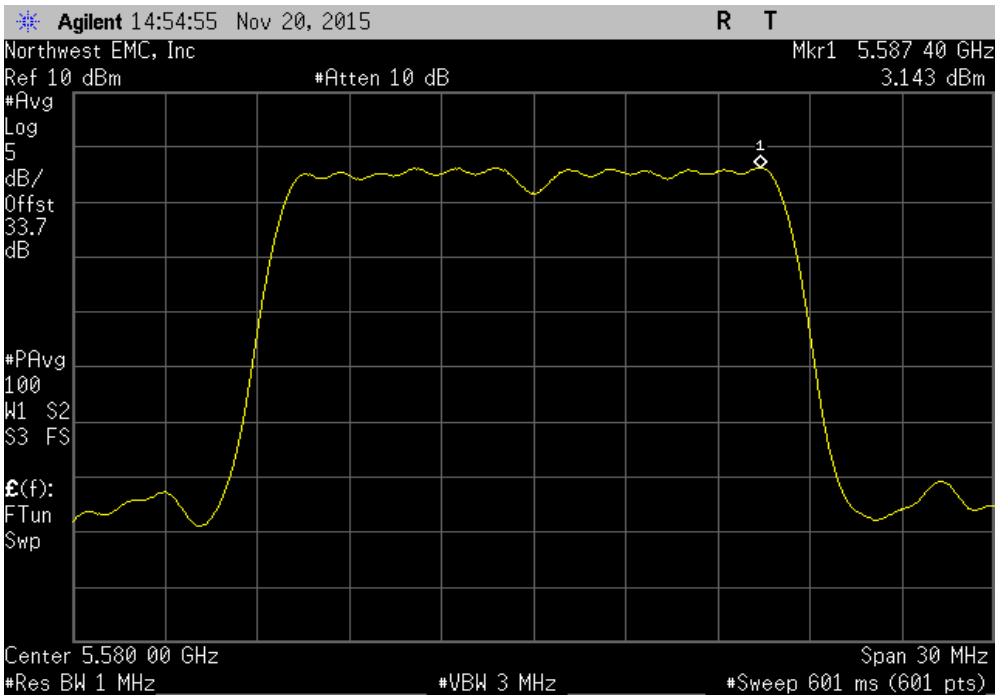


MAXIMUM POWER SPECTRAL DENSITY

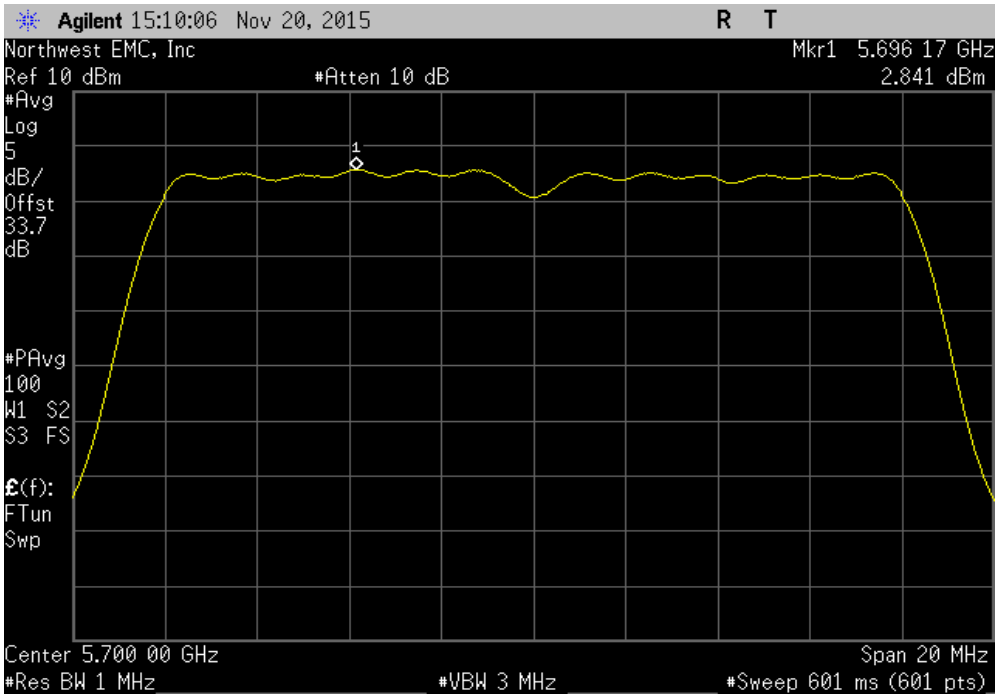
NORTHWEST EMC

XMit 2015.01.14

Normal Conditions, 802.11(a) 36 Mbps, Mid Channel, Ch.23 5580 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	3.143	7.6		10.8	11	Pass



Normal Conditions, 802.11(a) 36 Mbps, High Channel, Ch.29 5700 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	2.841	7.6		10.5	11	Pass



MAXIMUM POWER SPECTRAL DENSITY (5.8 GHz)

NORTHWEST EMC

XMit 2015.01.14

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)
Power Supply - DC	Tektronix	PS280	TPM	NCR	0
Thermometer	Omegaette	HH311	DTY	1/21/2015	36
Meter - Multimeter	Tektronix	DMM912	MMH	2/5/2013	36
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBI	NCR	0
Attenuator	S.M. Electronics	SA18N-06/SM4032	REE	10/1/2015	12
Generator - Signal	Agilent	V2920A	TIH	NCR	0
Meter - Power	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Cable	ESM Cable Corp.	TT	EV1	NCR	0
Block - DC	Fairview Microwave	SD3379	AMP	6/18/2015	12
Attenuator	S.M. Electronics	SA26B-20	AUY	7/14/2015	12
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. The radio was operated in the modes as shown in the following data sheets.

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.

Prior to measuring maximum power spectral density, the emission bandwidth (B) was measured. The method of measuring the emission bandwidth and the associated data are found elsewhere in this test report

The maximum power spectral density was measured using ANSI C63.10, Method SA-2 (RMS detection and trace averaging across the on and off times of the EUT transmission and use of a duty cycle correction factor), consistent with the method used for maximum conducted output power.

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

-Resolution Bandwidth of 510 kHz

-RMS Detector

-Trace average 100 traces in power averaging mode

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

A duty cycle correction factor was added to the measurement using the results of the formula of 10*LOG(1/D) where D is the

MAXIMUM POWER SPECTRAL DENSITY (5.8 GHz)

NORTHWEST EMC

XMit 2015.01.14

EUT:	SherwoodXD (extended distance)			**Work Order:**	FOCU0216
Serial Number:	02EA4FD0010F			**Date:**	12/03/15
Customer:	Summit Semiconductor LLC			**Temperature:**	22.4°C
Attendees:	David Schilling			**Humidity:**	39%
Project:	None			**Barometric Pres.:**	1008.5
Tested by:	Brandon Hobbs	**Power:**	3.3/1.2VDC Nominal	**Job Site:**	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.407:2015	ANSI C63.10:2013

COMMENTS

The client provided the operating modes for testing. All cable losses were accounted for while under test.

DEVIATIONS FROM TEST STANDARD

None

Configuration #	2	Signature

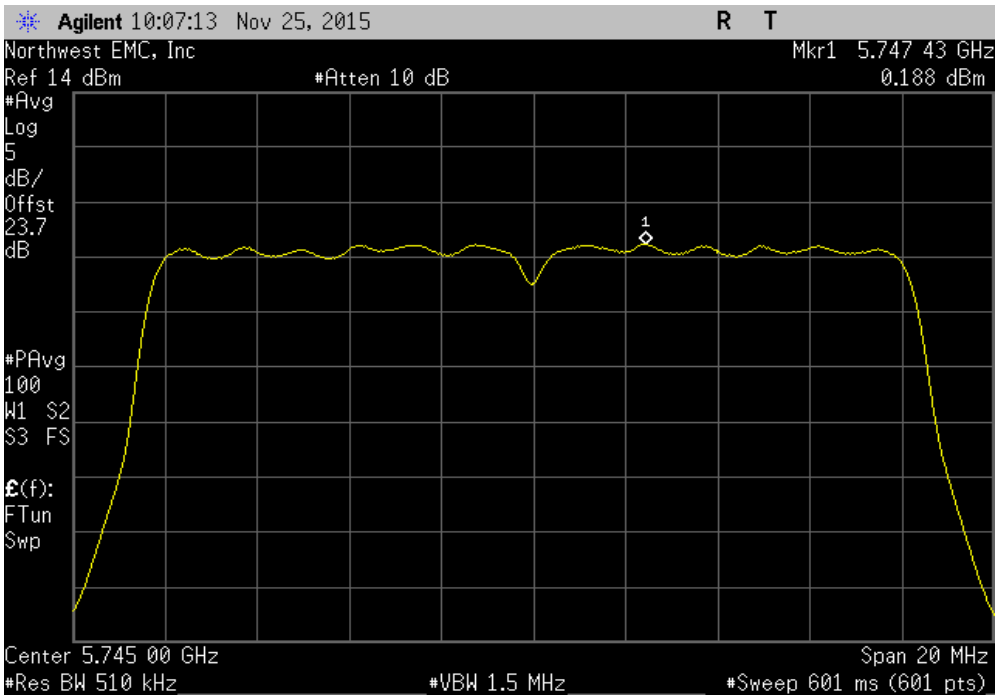
		Power (dBm/MHz)	Duty Cycle Factor (dB)	Density (dBm/MHz)	Limit ≤ (dBm / Ref BW)	Results
Normal Conditions						
	802.11(a) 6 Mbps					
	Low channel, Ch.30, 5745 MHz	0.188	3	3.2	30	Pass
	Mid channel, Ch.32, 5785 MHz	6.28	3.2	9.4	30	Pass
	High channel, Ch.34, 5825 MHz	-0.088	3	2.9	30	Pass
	802.11(a) 18 Mbps					
	Low channel, Ch.30, 5745 MHz	-0.607	5.9	5.3	30	Pass
	Mid channel, Ch.32, 5785 MHz	-1.155	6	4.8	30	Pass
	High channel, Ch.34, 5825 MHz	-0.708	5.7	5	30	Pass
	802.11(a) 36 Mbps					
	Low channel, Ch.30, 5745 MHz	-1.86	7.6	5.8	30	Pass
	Mid channel, Ch.32, 5785 MHz	-2.474	7.6	5.2	30	Pass
	High channel, Ch.34, 5825 MHz	-2.121	7.6	5.5	30	Pass

MAXIMUM POWER SPECTRAL DENSITY (5.8 GHz)

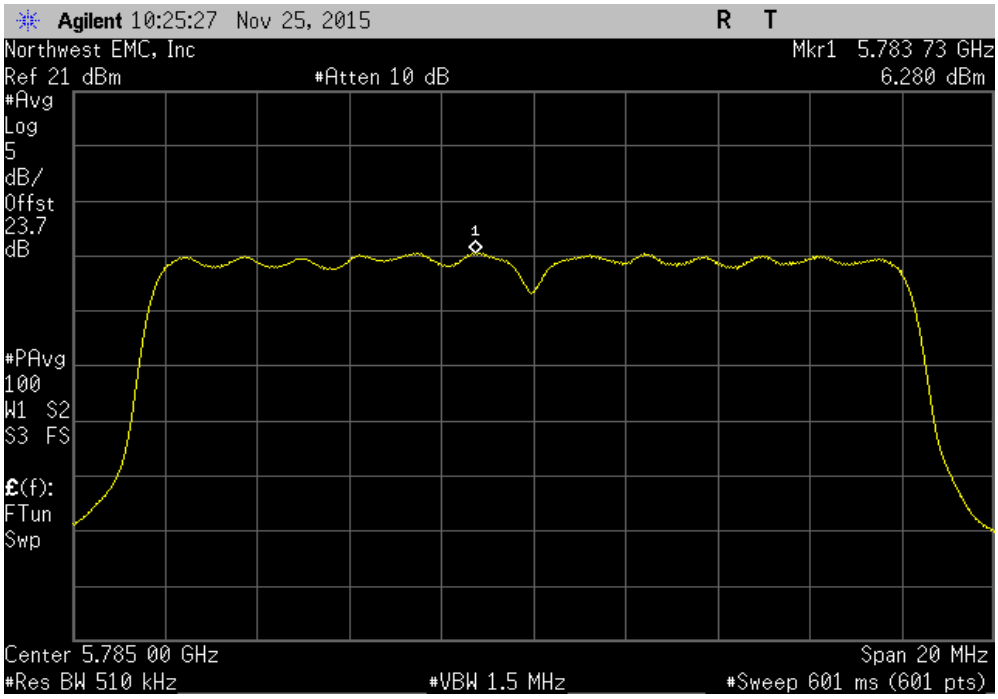
NORTHWEST EMC

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, Low channel, Ch.30, 5745 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	0.188	3		3.2	30	Pass



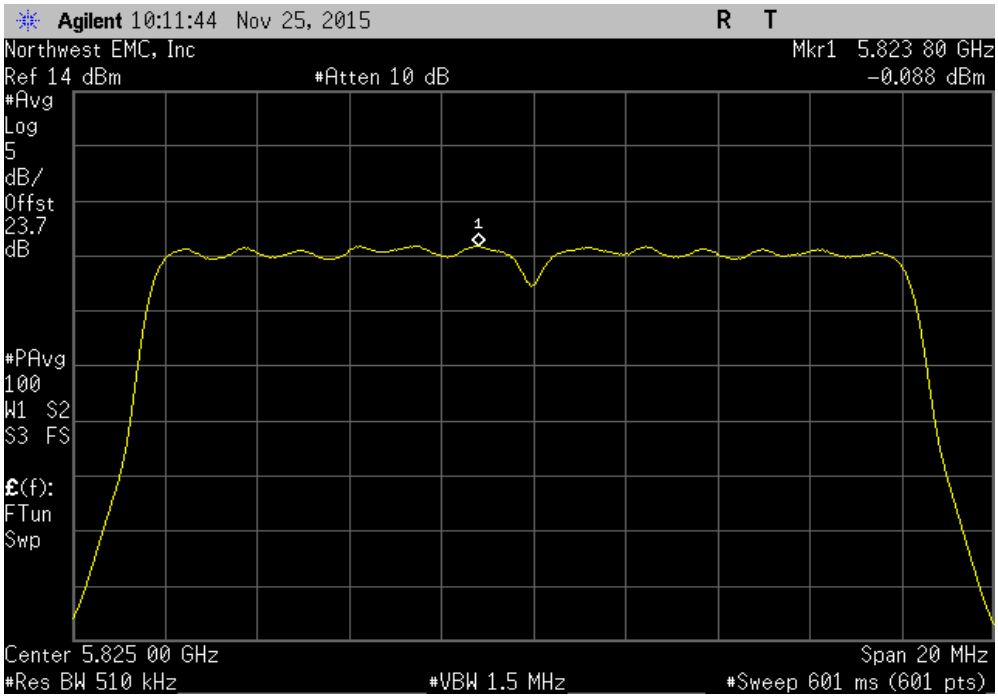
Normal Conditions, 802.11(a) 6 Mbps, Mid channel, Ch.32, 5785 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	6.28	3.2		9.4	30	Pass



MAXIMUM POWER SPECTRAL DENSITY (5.8 GHz)

XMit 2015.01.14

Normal Conditions, 802.11(a) 6 Mbps, High channel, Ch.34, 5825 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	-0.088	3		2.9	30	Pass

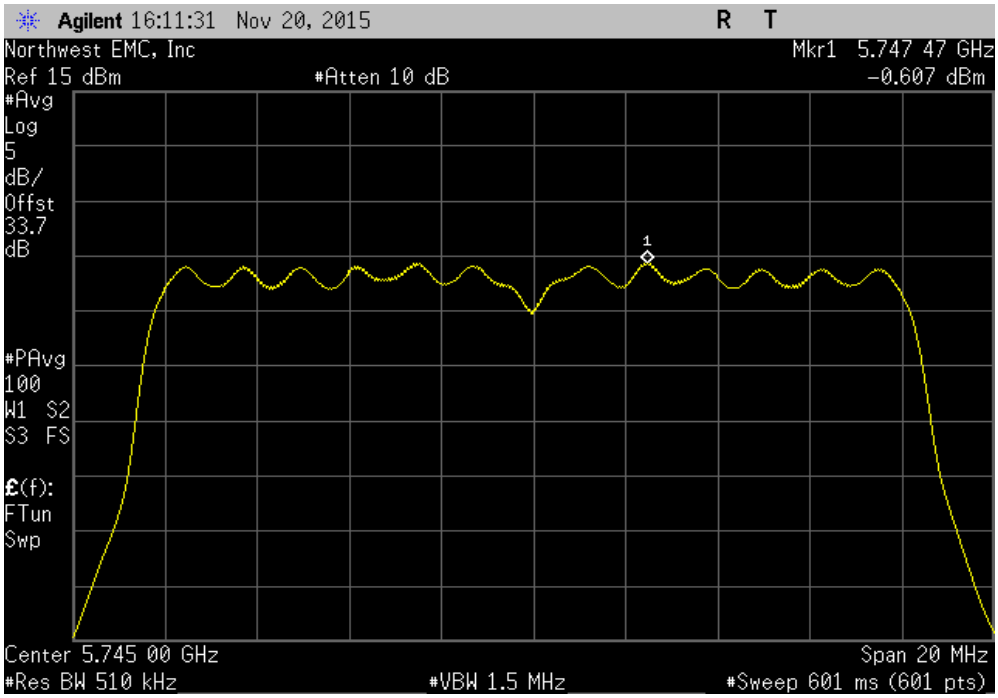


PEAK POWER SPECTRAL DENSITY

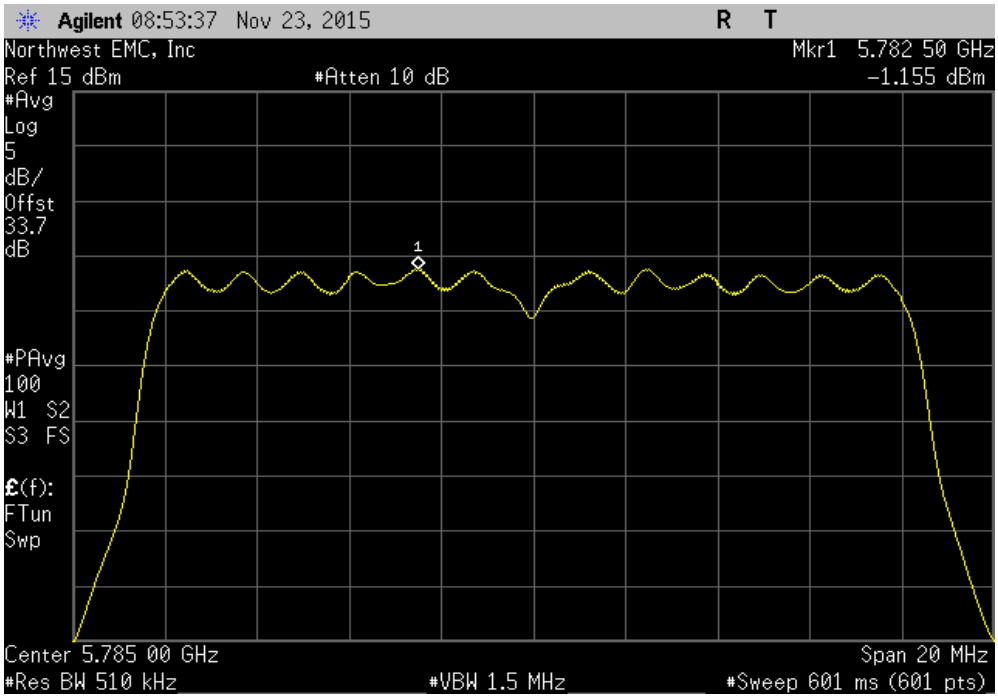
NORTHWEST EMC

XMit 2015.01.14

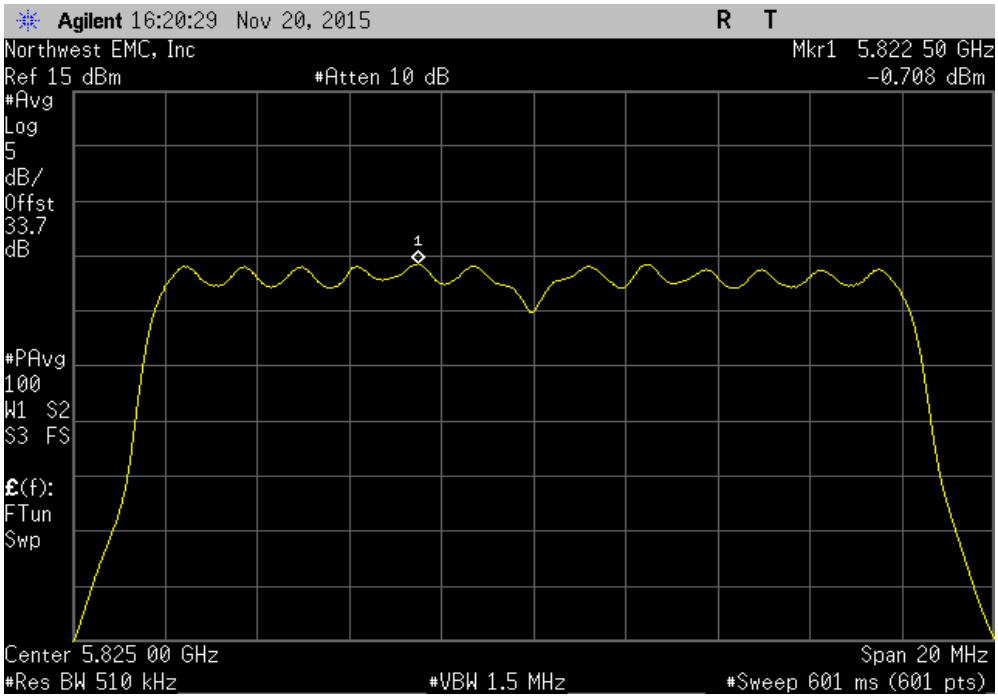
Normal Conditions, 802.11(a) 18 Mbps, Low channel, Ch.30, 5745 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	-0.607	5.9		5.3	30	Pass



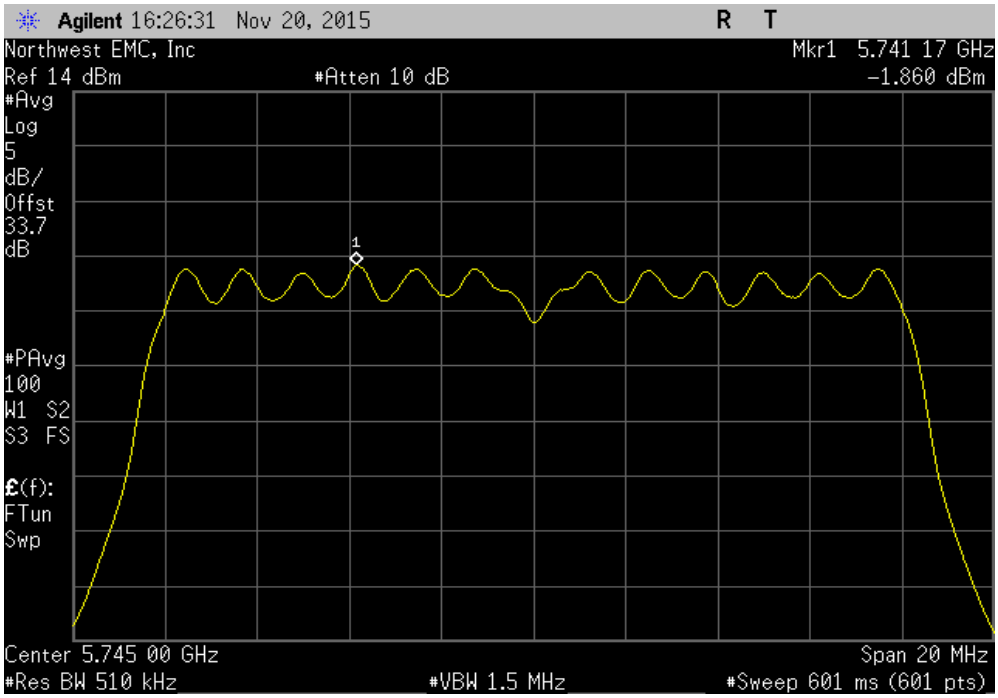
Normal Conditions, 802.11(a) 18 Mbps, Mid channel, Ch.32, 5785 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	-1.155	6		4.8	30	Pass



Normal Conditions, 802.11(a) 18 Mbps, High channel, Ch.34, 5825 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	-0.708	5.7		5	30	Pass



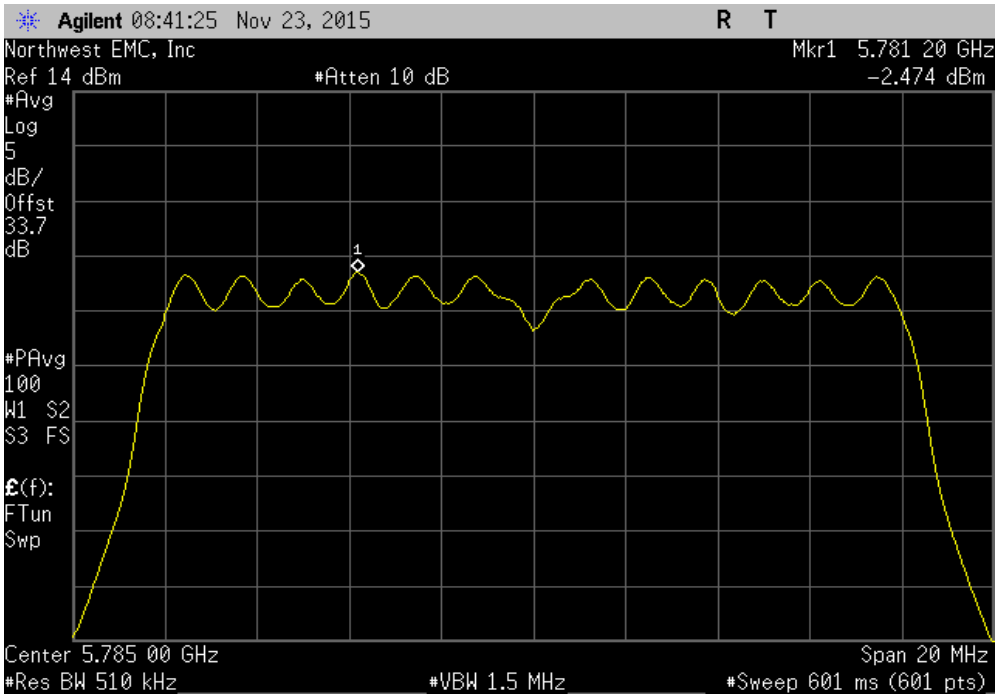
Normal Conditions, 802.11(a) 36 Mbps, Low channel, Ch.30, 5745 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	-1.86	7.6		5.8	30	Pass



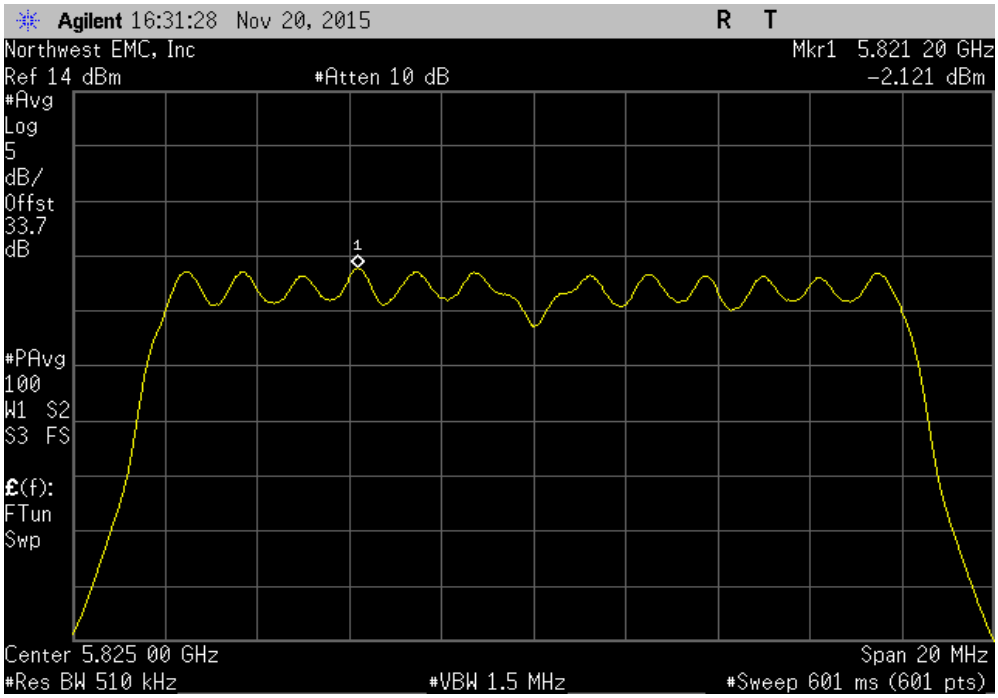
PEAK POWER SPECTRAL DENSITY

XMit 2015.01.14

Normal Conditions, 802.11(a) 36 Mbps, Mid channel, Ch.32, 5785 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	-2.474	7.6		5.2	30	Pass



Normal Conditions, 802.11(a) 36 Mbps, High channel, Ch.34, 5825 MHz						
	Power (dBm/MHz)	Duty Cycle Factor (dB)		Density (dBm/MHz)	Limit (dBm / Ref BW	Results
	-2.121	7.6		5.5	30	Pass



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

Continuous Tx, 6Mbps
Continuous Tx,18Mbps
Continuous Tx, 36Mbps

CHANNELS OF OPERATION

Ch.8, 5180 MHz
Ch.14, 5240 MHz
Ch.15, 5260 MHz
Ch.18, 5320 MHz
Ch.19, 5500 MHz
Ch. 23, 5580 MHz
Ch. 29, 5700 MHz
Ch. 30, 5745 MHz
Ch. 32, 5785 MHz
Ch. 34, 5825 MHz

POWER SETTINGS INVESTIGATED

3.3VDC/1.2VDC

CONFIGURATIONS INVESTIGATED

FOCU0216 - 7

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	40000 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 (mo)
Filter - Band Pass/Notch	Micro-Tronics	BRC50704	HGI	1/11/2016	12
Filter - Band Pass/Notch	Micro-Tronics	BRC50703	HHJ	3/11/2015	12
Filter - Band Pass/Notch	Micro-Tronics	BRC50705	HGJ	1/11/2016	12
Cable	ESM Cable Corp.	TTBJ-141-KMKM-72	EV3	6/24/2015	12
Cable	ESM Cable Corp.	KMKM-72	EVE	6/6/2015	12
Amplifier - Pre-Amplifier	Miteq	JSW45-26004000-40-5P	PAE	6/6/2015	12
Antenna - Standard Gain	ETS Lindgren	3160-10	AIW	NCR	0
Cable	ESM Cable Corp.	KMKM-72	EVY	11/4/2015	12
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	11/4/2015	12
Antenna - Standard Gain	ETS Lindgren	3160-09	AIV	NCR	0
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	4/16/2015	12
Antenna - Standard Gain	ETS Lindgren	3160-08	AHV	NCR	0
Cable	None	Standard Gain Horns Cable	EVF	4/20/2015	12
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	4/20/2015	12
Antenna - Standard Gain	ETS Lindgren	3160-07	AHU	NCR	0
Cable	N/A	Double Ridge Horn Cables	EVB	4/16/2015	12
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAG	4/16/2015	12
Antenna - Double Ridge	ETS Lindgren	3115	AIZ	1/27/2014	24
Cable	N/A	Bilog Cables	EVA	2/10/2015	12
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AOL	2/10/2015	12
Antenna - Biconilog	EMCO	3141	AXE	8/29/2014	24
Meter - Power	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Attenuator	S.M. Electronics	SA18N-06/SM4032	REE	10/1/2015	12
Generator - Signal	Keysight	5182B	TFU	NCR	0
Antenna - Double Ridge	EMCO	3115	AHC	6/13/2014	24
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT were tested. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. Measurements were made to satisfy the three requirements of 47 CFR 15.407: Field strength under 1GHz, Restricted Bands of 47 CFR 15.205, and EIRP of 47 CFR 15.407.

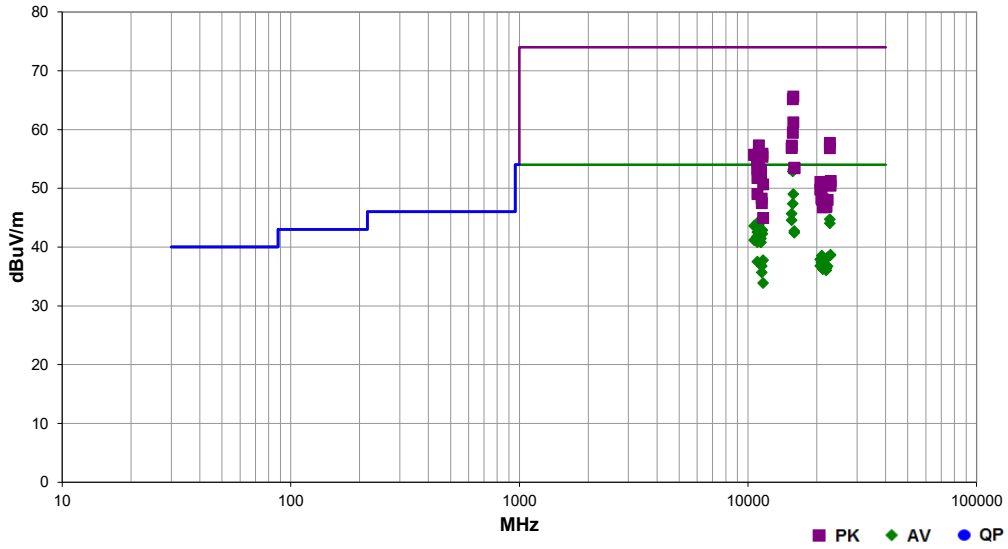
While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.10:2009). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

SPURIOUS RADIATED EMISSIONS

Work Order:	FOCU0216	**Date:**	01/19/16		
Project:	None	**Temperature:**	21.6 °C		
Job Site:	EV01	**Humidity:**	42% RH		
Serial Number:	02EA4FD0010F	**Barometric Pres.:**	108 mbar	**Tested by:**	Brandon Hobbs
EUT:	SherwoodXD (extended distance)				
Configuration:	7				
Customer:	Summit Semiconductor LLC				
Attendees:	David Schilling				
EUT Power:	3.3VDC/1.2VDC				
Operating Mode:	Continuous Tx,				
Deviations:	None				
Comments:	Please reference the data comments for EUT orientation, data rate, power level, frequency and channel.				

Test Specifications	**Test Method**
FCC 15.407:2016	ANSI C63.10:2013

Run #	62	**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
15779.850	38.7	14.5	2.1	152.0	3.0	0.0	Horz	AV	0.0	53.2	54.0	-0.8	Ch.15 5260MHz, 6Mbps, Power level 23dBm, EUT On Side
15719.700	38.4	14.5	2.1	151.0	3.0	0.0	Horz	AV	0.0	52.9	54.0	-1.1	Ch.14 5240MHz, 6Mbps, Power level 23dBm, EUT On Side
15779.750	34.5	14.5	2.0	214.0	3.0	0.0	Vert	AV	0.0	49.0	54.0	-5.0	Ch.15 5260MHz, 6Mbps, Power level 23dBm, EUT Horz
15719.900	32.9	14.5	1.7	205.0	3.0	0.0	Vert	AV	0.0	47.4	54.0	-6.6	Ch.14 5240MHz, 6Mbps, Power level 23dBm, EUT On Side
15540.300	31.3	14.4	1.1	110.0	3.0	0.0	Horz	AV	0.0	45.7	54.0	-8.3	Ch.8 5180MHz, 6Mbps, Power level 20dBm, EUT On Side
15784.300	51.1	14.5	2.1	152.0	3.0	0.0	Horz	PK	0.0	65.6	74.0	-8.4	Ch.15 5260MHz, 6Mbps, Power level 23dBm, EUT On Side
15724.500	50.7	14.5	2.1	151.0	3.0	0.0	Horz	PK	0.0	65.2	74.0	-8.8	Ch.14 5240MHz, 6Mbps, Power level 23dBm, EUT On Side
22802.200	43.3	1.4	1.6	289.0	3.0	0.0	Vert	AV	0.0	44.7	54.0	-9.3	Ch.29 5700MHz, 6Mbps, Power level 23dBm, EUT Horz
15540.250	30.2	14.4	1.5	203.0	3.0	0.0	Vert	AV	0.0	44.6	54.0	-9.4	Ch.8 5180MHz, 6Mbps, Power level 20dBm, EUT Horz
10998.700	49.9	-5.8	2.7	229.0	3.0	0.0	Vert	AV	0.0	44.1	54.0	-9.9	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Horz
22802.400	42.6	1.4	1.6	235.0	3.0	0.0	Horz	AV	0.0	44.0	54.0	-10.0	Ch.29 5700MHz, 6Mbps, Power level 23dBm, EUT On Side
11156.600	48.9	-5.1	2.4	222.0	3.0	0.0	Vert	AV	0.0	43.8	54.0	-10.2	Ch.23 5580MHz, 6Mbps, Power level 23dBm, EUT Horz
11001.200	49.5	-5.8	2.7	134.0	3.0	0.0	Vert	AV	0.0	43.7	54.0	-10.3	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT On Side
10998.550	49.4	-5.8	1.2	128.0	3.0	0.0	Horz	AV	0.0	43.6	54.0	-10.4	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT On Side
10638.700	51.6	-8.0	1.0	123.0	3.0	0.0	Horz	AV	0.0	43.6	54.0	-10.4	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT On Side
11569.150	45.3	-2.4	2.4	219.0	3.0	0.0	Vert	AV	0.0	42.9	54.0	-11.1	Ch.32 5785MHz, 6Mbps, Power level 23dBm, EUT Horz
15959.650	28.0	14.7	1.3	116.0	3.0	0.0	Horz	AV	0.0	42.7	54.0	-11.3	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT On Side
11001.300	48.3	-5.8	1.1	149.0	3.0	0.0	Horz	AV	0.0	42.5	54.0	-11.5	Ch.19 5500MHz, 18Mbps, Power level 20dBm, EUT On Side
15960.100	27.7	14.7	2.6	114.0	3.0	0.0	Vert	AV	0.0	42.4	54.0	-11.6	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT Horz
11569.050	44.7	-2.4	1.3	102.0	3.0	0.0	Horz	AV	0.0	42.3	54.0	-11.7	Ch.32 5785MHz, 6Mbps, Power level 23dBm, EUT On Side
11162.250	47.3	-5.1	1.2	127.0	3.0	0.0	Horz	AV	0.0	42.2	54.0	-11.8	Ch.23 5580MHz, 6Mbps, Power level 23dBm, EUT On Side
11001.200	47.6	-5.8	1.8	218.0	3.0	0.0	Horz	AV	0.0	41.8	54.0	-12.2	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Vert
10998.700	47.6	-5.8	2.4	239.0	3.0	0.0	Vert	AV	0.0	41.8	54.0	-12.2	Ch.19 5500MHz, 36Mbps, Power level 20dBm, EUT On Side
10998.700	47.5	-5.8	2.3	187.0	3.0	0.0	Vert	AV	0.0	41.7	54.0	-12.3	Ch.19 5500MHz, 18Mbps, Power level 20dBm, EUT Horz
10998.700	47.5	-5.8	1.1	149.0	3.0	0.0	Horz	AV	0.0	41.7	54.0	-12.3	Ch.19 5500MHz, 36Mbps, Power level 20dBm, EUT On Side
11398.900	45.2	-3.7	1.3	113.0	3.0	0.0	Horz	AV	0.0	41.5	54.0	-12.5	Ch.29 5700MHz, 6Mbps, Power level 23dBm, EUT On Side
15784.150	46.7	14.5	2.0	214.0	3.0	0.0	Vert	PK	0.0	61.2	74.0	-12.8	Ch.15 5260MHz, 6Mbps, Power level 23dBm, EUT Horz
10638.700	49.2	-8.0	3.1	184.0	3.0	0.0	Vert	AV	0.0	41.2	54.0	-12.8	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT Horz
11001.100	46.6	-5.8	4.0	206.0	3.0	0.0	Horz	AV	0.0	40.8	54.0	-13.2	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Horz
11401.100	44.5	-3.7	2.3	199.0	3.0	0.0	Vert	AV	0.0	40.8	54.0	-13.2	Ch.29 5700MHz, 6Mbps, Power level 23dBm, EUT Horz
15724.500	45.0	14.5	1.7	205.0	3.0	0.0	Vert	PK	0.0	59.5	74.0	-14.5	Ch.14 5240MHz, 6Mbps, Power level 23dBm, EUT On Side
22977.500	37.0	1.6	1.6	288.0	3.0	0.0	Vert	AV	0.0	38.6	54.0	-15.4	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT Horz
22977.450	37.0	1.6	1.6	235.0	3.0	0.0	Horz	AV	0.0	38.6	54.0	-15.4	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT On Side
21039.800	38.1	0.4	1.6	242.0	3.0	0.0	Horz	AV	0.0	38.5	54.0	-15.5	Ch.15 5260MHz, 6Mbps, Power level 23dBm, EUT On Side
22317.500	37.2	1.0	1.6	291.0	3.0	0.0	Vert	AV	0.0	38.2	54.0	-15.8	Ch.23 5580MHz, 6Mbps, Power level 20dBm, EUT Horz
20962.350	37.7	0.4	1.6	241.0	3.0	0.0	Horz	AV	0.0	38.1	54.0	-15.9	Ch.14 5240MHz, 6Mbps, Power level 23dBm, EUT On Side
20723.800	37.1	0.8	0.0	281.0	3.0	0.0	Vert	AV	0.0	37.9	54.0	-16.1	Ch.8 5180MHz, 6Mbps, Power level 20dBm, EUT Horz
11648.600	39.5	-1.7	2.2	176.0	3.0	0.0	Horz	AV	0.0	37.8	54.0	-16.2	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT On Side

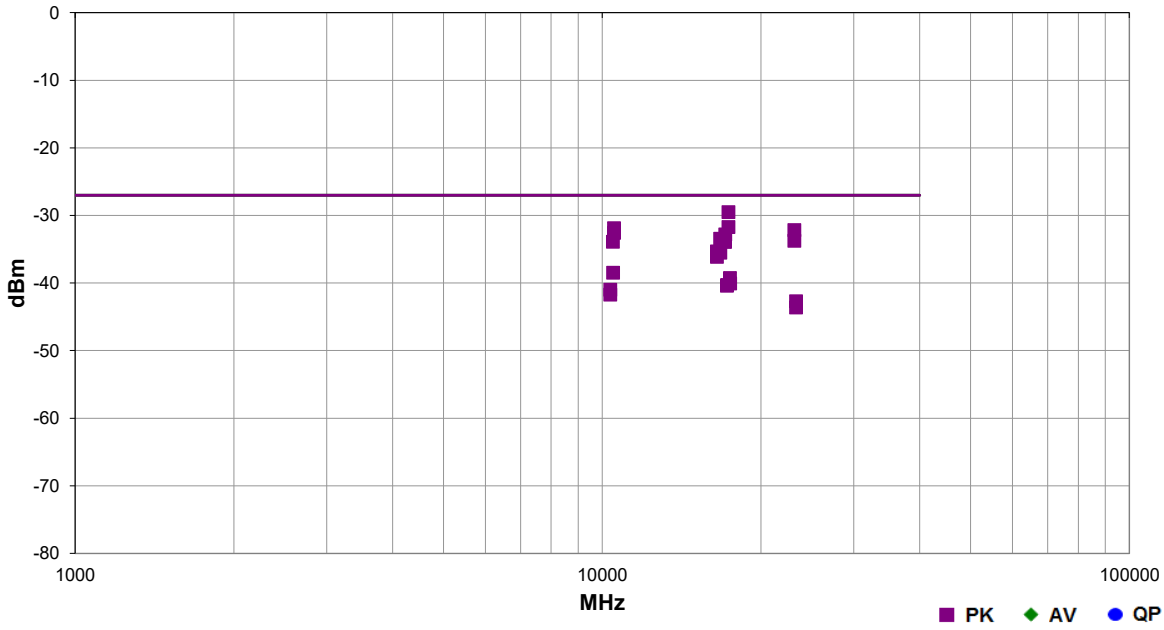
22803.350	56.3	1.4	1.6	289.0	3.0	0.0	Vert	PK	0.0	57.7	74.0	-16.3	Ch.29 5700MHz, 6Mbps, Power level 23dBm, EUT Horz
10998.650	43.3	-5.8	1.0	133.0	3.0	0.0	Vert	AV	0.0	37.5	54.0	-16.5	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Vert
20962.200	37.0	0.4	1.6	281.0	3.0	0.0	Vert	AV	0.0	37.4	54.0	-16.6	Ch.14 5240MHz, 6Mbps, Power level 23dBm, EUT Horz
11169.150	62.4	-5.1	2.4	222.0	3.0	0.0	Vert	PK	0.0	57.3	74.0	-16.7	Ch.23 5580MHz, 6Mbps, Power level 23dBm, EUT Horz
15548.450	42.9	14.4	1.1	110.0	3.0	0.0	Horz	PK	0.0	57.3	74.0	-16.7	Ch.8 5180MHz, 6Mbps, Power level 20dBm, EUT On Side
21042.300	36.5	0.5	1.6	281.0	3.0	0.0	Vert	AV	0.0	37.0	54.0	-17.0	Ch.15 5260MHz, 6Mbps, Power level 23dBm, EUT Horz
15530.400	42.5	14.4	1.5	203.0	3.0	0.0	Vert	PK	0.0	56.9	74.0	-17.1	Ch.8 5180MHz, 6Mbps, Power level 20dBm, EUT Horz
22803.350	55.4	1.4	1.6	235.0	3.0	0.0	Horz	PK	0.0	56.8	74.0	-17.2	Ch.29 5700MHz, 6Mbps, Power level 23dBm, EUT On Side
20727.400	36.0	0.8	1.6	245.0	3.0	0.0	Horz	AV	0.0	36.8	54.0	-17.2	Ch.8 5180MHz, 6Mbps, Power level 20dBm, EUT On Side
11488.550	39.9	-3.1	2.7	185.0	3.0	0.0	Vert	AV	0.0	36.8	54.0	-17.2	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT Horz
22317.700	35.7	1.0	1.6	232.0	3.0	0.0	Horz	AV	0.0	36.7	54.0	-17.3	Ch.23 5580MHz, 6Mbps, Power level 20dBm, EUT On Side
21281.800	35.6	1.1	1.6	241.0	3.0	0.0	Horz	AV	0.0	36.7	54.0	-17.3	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT On Side
21999.910	35.2	1.2	1.6	287.0	3.0	0.0	Vert	AV	0.0	36.4	54.0	-17.6	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Horz
21279.950	35.1	1.1	1.6	281.0	3.0	0.0	Vert	AV	0.0	36.2	54.0	-17.8	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT Horz
22009.800	34.8	1.2	1.6	245.0	3.0	0.0	Horz	AV	0.0	36.0	54.0	-18.0	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT On Side
11573.300	58.3	-2.4	2.4	219.0	3.0	0.0	Vert	PK	0.0	55.9	74.0	-18.1	Ch.32 5785MHz, 6Mbps, Power level 23dBm, EUT Horz
11003.450	61.5	-5.8	2.7	229.0	3.0	0.0	Vert	PK	0.0	55.7	74.0	-18.3	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Horz
10650.700	63.7	-8.0	3.1	184.0	3.0	0.0	Vert	PK	0.0	55.7	74.0	-18.3	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT Horz
10643.600	63.7	-8.0	1.0	123.0	3.0	0.0	Horz	PK	0.0	55.7	74.0	-18.3	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT On Side
11488.700	38.8	-3.1	1.2	105.0	3.0	0.0	Horz	AV	0.0	35.7	54.0	-18.3	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT On Side
11569.950	57.8	-2.4	1.3	102.0	3.0	0.0	Horz	PK	0.0	55.4	74.0	-18.6	Ch.32 5785MHz, 6Mbps, Power level 23dBm, EUT On Side
10993.600	61.1	-5.8	2.4	239.0	3.0	0.0	Vert	PK	0.0	55.3	74.0	-18.7	Ch.19 5500MHz, 36Mbps, Power level 20dBm, EUT On Side
10995.950	60.8	-5.8	2.7	134.0	3.0	0.0	Vert	PK	0.0	55.0	74.0	-19.0	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT On Side
10993.400	60.7	-5.8	1.1	149.0	3.0	0.0	Horz	PK	0.0	54.9	74.0	-19.1	Ch.19 5500MHz, 36Mbps, Power level 20dBm, EUT On Side
10995.750	60.6	-5.8	1.2	128.0	3.0	0.0	Horz	PK	0.0	54.8	74.0	-19.2	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT On Side
11155.300	59.9	-5.1	1.2	127.0	3.0	0.0	Horz	PK	0.0	54.8	74.0	-19.2	Ch.23 5580MHz, 6Mbps, Power level 23dBm, EUT On Side
10997.300	60.3	-5.8	1.1	149.0	3.0	0.0	Horz	PK	0.0	54.5	74.0	-19.5	Ch.19 5500MHz, 18Mbps, Power level 20dBm, EUT On Side
11648.850	35.6	-1.7	2.1	220.0	3.0	0.0	Vert	AV	0.0	33.9	54.0	-20.1	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT Horz
11000.950	59.3	-5.8	2.3	187.0	3.0	0.0	Vert	PK	0.0	53.5	74.0	-20.5	Ch.19 5500MHz, 18Mbps, Power level 20dBm, EUT Horz
15945.550	38.8	14.7	2.6	114.0	3.0	0.0	Vert	PK	0.0	53.5	74.0	-20.5	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT Horz
15961.100	38.7	14.7	1.3	116.0	3.0	0.0	Horz	PK	0.0	53.4	74.0	-20.6	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT On Side
11000.450	59.0	-5.8	1.8	218.0	3.0	0.0	Horz	PK	0.0	53.2	74.0	-20.8	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Vert
11395.450	56.9	-3.8	1.3	113.0	3.0	0.0	Horz	PK	0.0	53.1	74.0	-20.9	Ch.29 5700MHz, 6Mbps, Power level 23dBm, EUT On Side
11395.400	56.0	-3.8	2.3	199.0	3.0	0.0	Vert	PK	0.0	52.2	74.0	-21.8	Ch.29 5700MHz, 6Mbps, Power level 23dBm, EUT Horz
10992.100	57.6	-5.8	4.0	206.0	3.0	0.0	Horz	PK	0.0	51.8	74.0	-22.2	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Horz
22990.150	49.6	1.7	1.6	288.0	3.0	0.0	Vert	PK	0.0	51.3	74.0	-22.7	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT Horz
20730.300	50.3	0.8	0.0	281.0	3.0	0.0	Vert	PK	0.0	51.1	74.0	-22.9	Ch.8 5180MHz, 6Mbps, Power level 20dBm, EUT Horz
11648.100	52.4	-1.7	2.2	176.0	3.0	0.0	Horz	PK	0.0	50.7	74.0	-23.3	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT On Side
21042.100	50.2	0.5	1.6	242.0	3.0	0.0	Horz	PK	0.0	50.7	74.0	-23.3	Ch.15 5260MHz, 6Mbps, Power level 23dBm, EUT On Side
22323.450	49.5	1.0	1.6	291.0	3.0	0.0	Vert	PK	0.0	50.5	74.0	-23.5	Ch.23 5580MHz, 6Mbps, Power level 20dBm, EUT Horz
22979.500	48.8	1.6	1.6	235.0	3.0	0.0	Horz	PK	0.0	50.4	74.0	-23.6	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT On Side
20963.100	49.6	0.4	1.6	241.0	3.0	0.0	Horz	PK	0.0	50.0	74.0	-24.0	Ch.14 5240MHz, 6Mbps, Power level 23dBm, EUT On Side
20713.800	49.0	0.8	1.6	245.0	3.0	0.0	Horz	PK	0.0	49.8	74.0	-24.2	Ch.8 5180MHz, 6Mbps, Power level 20dBm, EUT On Side
11000.050	54.8	-5.8	1.0	133.0	3.0	0.0	Vert	PK	0.0	49.0	74.0	-25.0	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Vert
20964.550	47.9	0.4	1.6	281.0	3.0	0.0	Vert	PK	0.0	48.3	74.0	-25.7	Ch.14 5240MHz, 6Mbps, Power level 23dBm, EUT Horz
11487.650	51.4	-3.1	2.7	185.0	3.0	0.0	Vert	PK	0.0	48.3	74.0	-25.7	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT Horz
21280.450	47.0	1.1	1.6	241.0	3.0	0.0	Horz	PK	0.0	48.1	74.0	-25.9	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT On Side
21043.400	47.6	0.5	1.6	281.0	3.0	0.0	Vert	PK	0.0	48.1	74.0	-25.9	Ch.15 5260MHz, 6Mbps, Power level 23dBm, EUT Horz
22315.300	47.0	1.0	1.6	232.0	3.0	0.0	Horz	PK	0.0	48.0	74.0	-26.0	Ch.23 5580MHz, 6Mbps, Power level 20dBm, EUT On Side
11490.050	50.6	-3.1	1.2	105.0	3.0	0.0	Horz	PK	0.0	47.5	74.0	-26.5	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT On Side
21999.840	45.8	1.2	1.6	287.0	3.0	0.0	Vert	PK	0.0	47.0	74.0	-27.0	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Horz
22014.450	45.6	1.2	1.6	245.0	3.0	0.0	Horz	PK	0.0	46.8	74.0	-27.2	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT On Side
21272.550	45.6	1.1	1.6	281.0	3.0	0.0	Vert	PK	0.0	46.7	74.0	-27.3	Ch.18 5320MHz, 6Mbps, Power level 20dBm, EUT Horz
11647.600	46.7	-1.7	2.1	220.0	3.0	0.0	Vert	PK	0.0	45.0	74.0	-29.0	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT Horz

SPURIOUS RADIATED EMISSIONS

Work Order:	FOCU0216	**Date:**	01/19/16		
Project:	None	**Temperature:**	21.6 °C		
Job Site:	EV01	**Humidity:**	42% RH		
Serial Number:	02EA4FD0010F	**Barometric Pres.:**	108 mbar	**Tested by:**	Brandon Hobbs
EUT:	SherwoodXD (extended distance)				
Configuration:	7				
Customer:	Summit Semiconductor LLC				
Attendees:	David Schilling				
EUT Power:	3.3VDC/1.2VDC				
Operating Mode:	Continuous Tx,				
Deviations:	None				
Comments:	Please reference the data comments for EUT orientation, data rate, power level, frequency and channel.				

Test Specifications	**Test Method**
FCC 15.407:2016	ANSI C63.10:2013

Run #	63	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



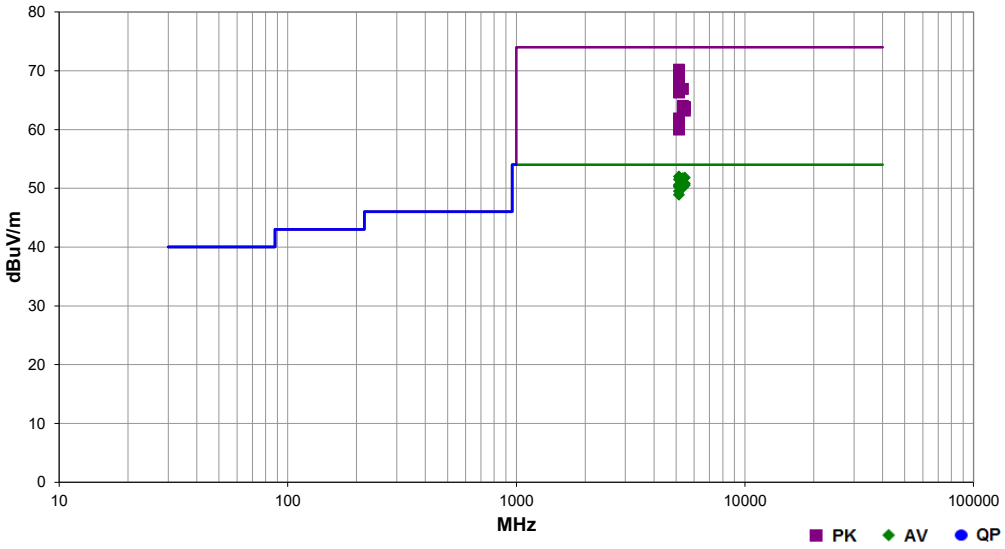
	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
	17351.250	2.2	179.0	Horz	PK	1.12E-06	-29.5	-27.0	-2.5	Ch.32 5785MHz, 6Mbps, Power level 23dBm, EUT On Side
	17359.600	3.0	232.0	Vert	PK	6.73E-07	-31.7	-27.0	-4.7	Ch.32 5785MHz, 6Mbps, Power level 23dBm, EUT Horz
	10524.850	2.2	242.0	Vert	PK	6.47E-07	-31.9	-27.0	-4.9	Ch.15 5260MHz, 6Mbps, Power level 23dBm, EUT Horz
	23138.550	1.6	114.0	Vert	PK	6.07E-07	-32.2	-27.0	-5.2	Ch.32 5785MHz, 6Mbps, Power level 23dBm, EUT Horz
	10524.850	1.0	123.0	Horz	PK	5.51E-07	-32.6	-27.0	-5.6	Ch.15 5260MHz, 6Mbps, Power level 23dBm, EUT On Side
	17104.550	3.6	227.0	Vert	PK	5.23E-07	-32.8	-27.0	-5.8	Ch.29 5700MHz, 6Mbps, Power level 23dBm, EUT Horz
	16730.000	1.1	255.0	Horz	PK	4.53E-07	-33.4	-27.0	-6.4	Ch.23 5580MHz, 6Mbps, Power level 23dBm, EUT On Side
	23143.200	1.6	237.0	Horz	PK	4.20E-07	-33.8	-27.0	-6.8	Ch.32 5785MHz, 6Mbps, Power level 23dBm, EUT On Side
	10479.650	3.2	66.0	Horz	PK	4.07E-07	-33.9	-27.0	-6.9	Ch.14 5240MHz, 6Mbps, Power level 23dBm, EUT On Side
	17096.450	1.5	167.0	Horz	PK	4.06E-07	-33.9	-27.0	-6.9	Ch.29 5700MHz, 6Mbps, Power level 23dBm, EUT Horz
	16504.550	1.7	262.0	Vert	PK	2.93E-07	-35.3	-27.0	-8.3	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Horz
	16749.550	1.6	266.0	Vert	PK	2.81E-07	-35.5	-27.0	-8.5	Ch.23 5580MHz, 6Mbps, Power level 23dBm, EUT Horz
	16506.200	1.0	158.0	Horz	PK	2.44E-07	-36.1	-27.0	-9.1	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT On Side
	10485.050	1.0	212.0	Vert	PK	1.42E-07	-38.5	-27.0	-11.5	Ch.14 5240MHz, 6Mbps, Power level 23dBm, EUT Horz
	17469.350	2.1	282.0	Horz	PK	1.19E-07	-39.2	-27.0	-12.2	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT On Side
	17478.050	1.0	162.0	Vert	PK	9.87E-08	-40.1	-27.0	-13.1	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT Horz
	17249.950	1.2	104.0	Horz	PK	9.36E-08	-40.3	-27.0	-13.3	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT On Side
	17238.000	1.0	153.0	Vert	PK	9.12E-08	-40.4	-27.0	-13.4	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT Horz
	10357.200	2.8	217.0	Vert	PK	7.95E-08	-41.0	-27.0	-14.0	Ch.8 5180MHz, 6Mbps, Power level 20dBm, EUT Horz
	10351.550	1.9	222.0	Horz	PK	6.74E-08	-41.7	-27.0	-14.7	Ch.8 5180MHz, 6Mbps, Power level 20dBm, EUT On Side
	23304.150	1.6	109.0	Vert	PK	5.37E-08	-42.7	-27.0	-15.7	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT Horz
	23304.650	1.6	238.0	Horz	PK	4.36E-08	-43.6	-27.0	-16.6	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT On Side

SPURIOUS RADIATED EMISSIONS

Work Order:	FOCU0216	**Date:**	01/22/16		
Project:	None	**Temperature:**	22.2 °C		
Job Site:	EV01	**Humidity:**	44.3% RH		
Serial Number:	02EA4FD0010F	**Barometric Pres.:**	1020.1 mbar	**Tested by:**	Brandon Hobbs
EUT:	SherwoodXD (extended distance)				
Configuration:	7				
Customer:	Summit Semiconductor LLC				
Attendees:	David Schilling				
EUT Power:	3.3VDC/1.2VDC				
Operating Mode:	Continuous Tx,				
Deviations:	None				
Comments:	Please reference the data comments for EUT orientation, channel, frequency, data rate and Power level.				

Test Specifications	**Test Method**
FCC 15.407:2016	ANSI C63.10:2013

Run #	96	**Test Distance (m)**	1	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



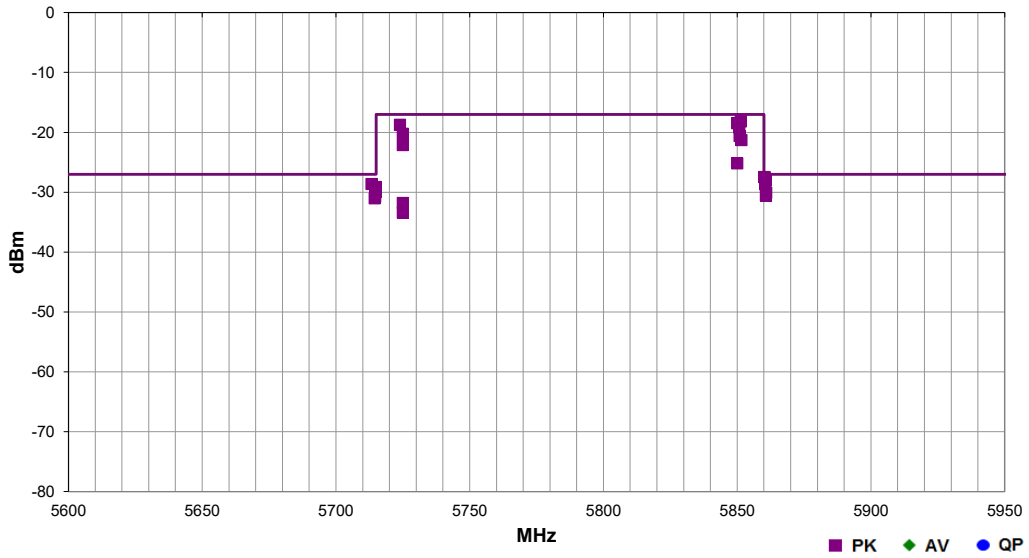
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
5149.677	25.2	36.3	1.6	139.0	1.0	0.0	Vert	AV	-9.5	52.0	54.0	-2.0	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT Vert
5459.743	24.4	37.0	1.6	160.0	1.0	0.0	Vert	AV	-9.5	51.8	54.0	-2.2	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Vert
5350.040	24.5	36.8	1.6	141.0	1.0	0.0	Vert	AV	-9.5	51.7	54.0	-2.3	Ch.18 5320MHz, 6Mbps, Power level 17dBm, EUT Vert
5149.453	24.7	36.3	1.6	131.0	1.0	0.0	Horz	AV	-9.5	51.5	54.0	-2.5	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT On Side
5459.810	23.4	37.0	1.6	160.0	1.0	0.0	Vert	AV	-9.5	50.8	54.0	-3.2	Ch.19 5500MHz, 18Mbps, Power level 20dBm, EUT Vert
5148.767	23.8	36.3	1.6	129.0	1.0	0.0	Vert	AV	-9.5	50.6	54.0	-3.4	Ch.8 5180MHz, 18Mbps, Power level 17dBm, EUT Vert
5459.577	23.1	37.0	1.6	160.0	1.0	0.0	Vert	AV	-9.5	50.5	54.0	-3.5	Ch.19 5500MHz, 36Mbps, Power level 20dBm, EUT Vert
5149.677	23.6	36.3	1.6	129.0	1.0	0.0	Vert	AV	-9.5	50.4	54.0	-3.6	Ch.8 5180MHz, 36Mbps, Power level 17dBm, EUT Vert
5149.880	23.5	36.3	1.6	129.0	1.0	0.0	Vert	AV	-9.5	50.3	54.0	-3.7	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT Horz
5149.740	23.5	36.3	1.6	225.0	1.0	0.0	Horz	AV	-9.5	50.3	54.0	-3.7	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT Horz
5351.007	23.0	36.8	1.6	141.0	1.0	0.0	Vert	AV	-9.5	50.2	54.0	-3.8	Ch.18 5320MHz, 18Mbps, Power level 17dBm, EUT Vert
5350.067	23.0	36.8	1.6	141.0	1.0	0.0	Vert	AV	-9.5	50.2	54.0	-3.8	Ch.18 5320MHz, 36Mbps, Power level 17dBm, EUT Vert
5149.490	43.4	36.3	1.6	131.0	1.0	0.0	Horz	PK	-9.5	70.2	74.0	-3.8	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT On Side
5149.550	22.7	36.3	1.6	164.0	1.0	0.0	Vert	AV	-9.5	49.5	54.0	-4.5	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT On Side
5149.070	22.1	36.3	1.6	159.0	1.0	0.0	Horz	AV	-9.5	48.9	54.0	-5.1	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT Vert
5149.153	41.9	36.3	1.6	129.0	1.0	0.0	Vert	PK	-9.5	68.7	74.0	-5.3	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT Horz
5148.503	41.8	36.3	1.6	139.0	1.0	0.0	Vert	PK	-9.5	68.6	74.0	-5.4	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT Vert
5148.203	41.6	36.3	1.6	129.0	1.0	0.0	Vert	PK	-9.5	68.4	74.0	-5.6	Ch.8 5180MHz, 18Mbps, Power level 17dBm, EUT Vert
5350.857	39.7	36.8	1.6	141.0	1.0	0.0	Vert	PK	-9.5	66.9	74.0	-7.1	Ch.18 5320MHz, 6Mbps, Power level 17dBm, EUT Vert
5149.837	40.1	36.3	1.6	225.0	1.0	0.0	Horz	PK	-9.5	66.9	74.0	-7.1	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT Horz
5149.747	39.5	36.3	1.6	129.0	1.0	0.0	Vert	PK	-9.5	66.3	74.0	-7.7	Ch.8 5180MHz, 36Mbps, Power level 17dBm, EUT Vert
5351.450	36.8	36.8	1.6	141.0	1.0	0.0	Vert	PK	-9.5	64.0	74.0	-10.0	Ch.18 5320MHz, 36Mbps, Power level 17dBm, EUT Vert
5459.937	36.4	37.0	1.6	160.0	1.0	0.0	Vert	PK	-9.5	63.8	74.0	-10.2	Ch.19 5500MHz, 6Mbps, Power level 20dBm, EUT Vert
5459.417	36.3	37.0	1.6	160.0	1.0	0.0	Vert	PK	-9.5	63.7	74.0	-10.3	Ch.19 5500MHz, 36Mbps, Power level 20dBm, EUT Vert
5350.727	36.4	36.8	1.6	141.0	1.0	0.0	Vert	PK	-9.5	63.6	74.0	-10.4	Ch.18 5320MHz, 18Mbps, Power level 17dBm, EUT Vert
5459.957	35.8	37.0	1.6	160.0	1.0	0.0	Vert	PK	-9.5	63.2	74.0	-10.8	Ch.19 5500MHz, 18Mbps, Power level 20dBm, EUT Vert
5149.603	35.1	36.3	1.6	164.0	1.0	0.0	Vert	PK	-9.5	61.9	74.0	-12.1	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT On Side
5149.120	33.2	36.3	1.6	159.0	1.0	0.0	Horz	PK	-9.5	60.0	74.0	-14.0	Ch.8 5180MHz, 6Mbps, Power level 17dBm, EUT Vert

SPURIOUS RADIATED EMISSIONS

Work Order:	FOCU0216	**Date:**	01/22/16		
Project:	None	**Temperature:**	22.2 °C		
Job Site:	EV01	**Humidity:**	44.3% RH		
Serial Number:	02EA4FD0010F	**Barometric Pres.:**	1020.1 mbar	**Tested by:**	Brandon Hobbs
EUT:	SherwoodXD (extended distance)				
Configuration:	7				
Customer:	Summit Semiconductor LLC				
Attendees:	David Schilling				
EUT Power:	3.3VDC/1.2VDC				
Operating Mode:	Continuous Tx,				
Deviations:	None				
Comments:	Please reference the data comments for EUT orientation, channel, frequency, data rate and Power level. The EUT software setting for output power is 17 dBm as indicated in the data comments.				

Test Specifications	**Test Method**
FCC 15.407:2016	ANSI C63.10:2013

Run #	95	**Test Distance (m)**	1	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



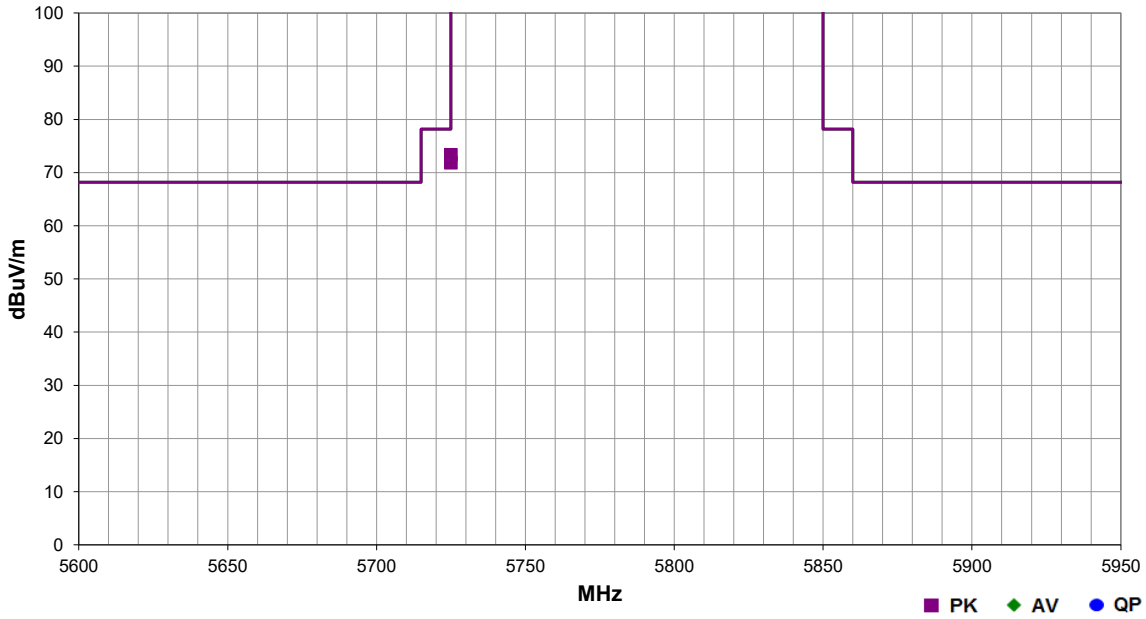
	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
	5725.000	1.6	142.0	Horz	PK	1.98E-05	-17.0	-17.0	0.0	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT On Side
	5714.920	1.6	164.0	Vert	PK	1.81E-06	-27.4	-27.0	-0.4	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT Vert
	5860.157	1.6	130.0	Vert	PK	1.79E-06	-27.5	-27.0	-0.5	Ch.34 5825MHz, 18Mbps, Power level 17dBm, EUT Vert
	5860.387	1.6	130.0	Vert	PK	1.75E-06	-27.6	-27.0	-0.6	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT Vert
	5860.587	1.6	148.0	Horz	PK	1.63E-06	-27.9	-27.0	-0.9	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT On Side
	5851.317	1.6	130.0	Vert	PK	1.52E-05	-18.2	-17.0	-1.2	Ch.34 5825MHz, 18Mbps, Power level 17dBm, EUT Vert
	5850.113	1.6	130.0	Vert	PK	1.42E-05	-18.5	-17.0	-1.5	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT Vert
	5713.297	1.6	142.0	Horz	PK	1.37E-06	-28.6	-27.0	-1.6	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT On Side
	5860.560	1.6	148.0	Horz	PK	1.36E-06	-28.7	-27.0	-1.7	Ch.34 5825MHz, 18Mbps, Power level 17dBm, EUT On Side
	5723.913	1.6	142.0	Horz	PK	1.34E-05	-18.7	-17.0	-1.7	Ch.30 5745MHz, 18Mbps, Power level 17dBm, EUT On Side
	5714.780	1.6	166.0	Vert	PK	1.22E-06	-29.1	-27.0	-2.1	Ch.30 5745MHz, 18Mbps, Power level 17dBm, EUT Vert
	5850.803	1.6	148.0	Horz	PK	1.21E-05	-19.2	-17.0	-2.2	Ch.34 5825MHz, 6Mbps, Power level 17dBm, EUT On Side
	5714.860	1.6	166.0	Vert	PK	1.02E-06	-29.9	-27.0	-2.9	Ch.30 5745MHz, 36Mbps, Power level 17dBm, EUT Vert
	5860.860	1.6	130.0	Vert	PK	9.84E-07	-30.1	-27.0	-3.1	Ch.34 5825MHz, 36Mbps, Power level 17dBm, EUT Vert
	5724.967	1.6	166.0	Vert	PK	9.50E-06	-20.2	-17.0	-3.2	Ch.30 5745MHz, 36Mbps, Power level 17dBm, EUT Vert
	5860.763	1.6	148.0	Horz	PK	8.77E-07	-30.6	-27.0	-3.6	Ch.34 5825MHz, 36Mbps, Power level 17dBm, EUT On Side
	5850.883	1.6	148.0	Horz	PK	8.74E-06	-20.6	-17.0	-3.6	Ch.34 5825MHz, 18Mbps, Power level 17dBm, EUT On Side
	5714.657	1.6	142.0	Horz	PK	8.47E-07	-30.7	-27.0	-3.7	Ch.30 5745MHz, 18Mbps, Power level 17dBm, EUT On Side
	5714.480	1.6	139.0	Horz	PK	7.91E-07	-31.0	-27.0	-4.0	Ch.30 5745MHz, 36Mbps, Power level 17dBm, EUT On Side
	5851.607	1.6	130.0	Vert	PK	7.44E-06	-21.3	-17.0	-4.3	Ch.34 5825MHz, 36Mbps, Power level 17dBm, EUT Vert
	5725.000	1.6	164.0	Vert	PK	6.61E-07	-31.8	-27.0	-4.8	Ch.30 5745MHz, 6Mbps, Power level 17dBm, EUT Vert (reference marker delta field strength)
	5724.967	1.6	139.0	Horz	PK	6.13E-06	-22.1	-17.0	-5.1	Ch.30 5745MHz, 36Mbps, Power level 17dBm, EUT On Side
	5725.000	1.6	166.0	Vert	PK	4.57E-07	-33.4	-27.0	-6.4	Ch.30 5745MHz, 18Mbps, Power level 17dBm, EUT Vert (reference marker delta field strength)
	5850.007	1.6	148.0	Horz	PK	3.03E-06	-25.2	-17.0	-8.2	Ch.34 5825MHz, 36Mbps, Power level 17dBm, EUT On Side

SPURIOUS RADIATED EMISSIONS

Work Order:	FOCU0216	**Date:**	01/22/16		
Project:	None	**Temperature:**	22.2 °C		
Job Site:	EV01	**Humidity:**	44.3% RH		
Serial Number:	02EA4FD0010F	**Barometric Pres.:**	1020.1 mbar	**Tested by:**	Brandon Hobbs
EUT:	SherwoodXD (extended distance)				
Configuration:	7				
Customer:	Summit Semiconductor LLC				
Attendees:	David Schilling				
EUT Power:	3.3VDC/1.2VDC				
Operating Mode:	Continuous Tx,				
Deviations:	None				
Comments:	Please reference the data comments for EUT orientation, channel, frequency, data rate and Power level. The EUT software setting for output power is 17 dBm as indicated in the data comments.				

Test Specifications	**Test Method**
FCC 15.407:2016	ANSI C63.10:2013

Run #	95	**Test Distance (m)**	1	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



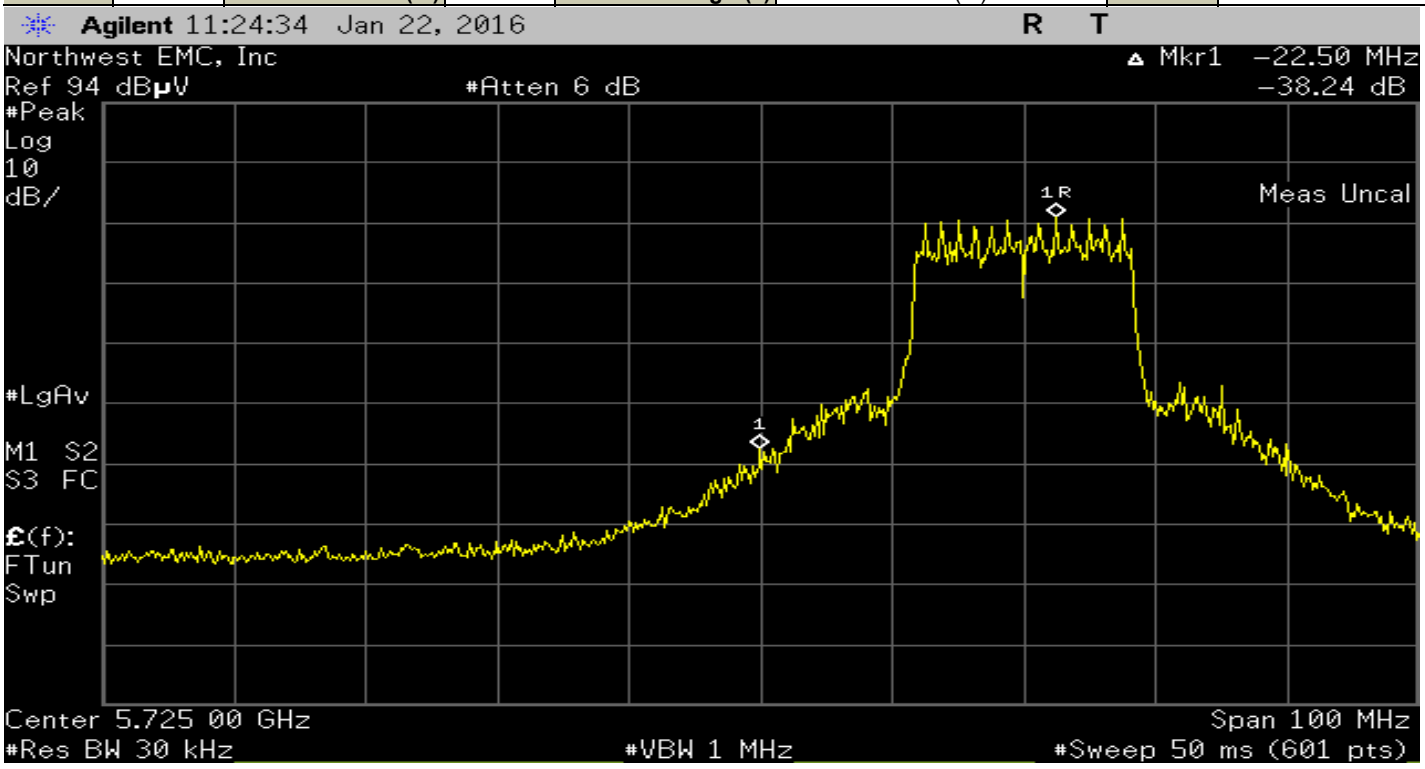
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
5724.757	84.3	36.8	1.6	164.0	1.0	0.0	Vert	PK	-9.5	111.6		
5725.000			1.6	164.0	1.0	0.0	Vert	PK	-9.5	73.4	78.2	-4.8
5724.540	85.3	36.8	1.6	166.0	1.0	0.0	Vert	PK	-9.5	112.6		
5725.000			1.6	166.0	1.0	0.0	Vert	PK	-9.5	71.8	78.2	-6.4

SPURIOUS RADIATED EMISSIONS

Work Order:	FOCU0216	**Date:**	01/22/16		
Project:	None	**Temperature:**	22.2 °C		
Job Site:	EV01	**Humidity:**	44.3% RH		
Serial Number:	02EA4FD0010F	**Barometric Pres.:**	1020.1 mbar	**Tested by:**	Brandon Hobbs
EUT:	SherwoodXD (extended distance)				
Configuration:	7				
Customer:	Summit Semiconductor LLC				
Attendees:	David Schilling				
EUT Power:	3.3VDC/1.2VDC				
Operating Mode:	Continuous Tx, Ch.30 5745 MHz, 6Mbps				
Deviations:	None				
Comments:	Marker Delta analyzer screen shot.				

Test Specifications	**Test Method**
FCC 15.407:2016	ANSI C63.10:2013

Run #	97	**Test Distance (m)**	1	**Antenna Height(s)**	1 to 4(m)	**Results**	NA

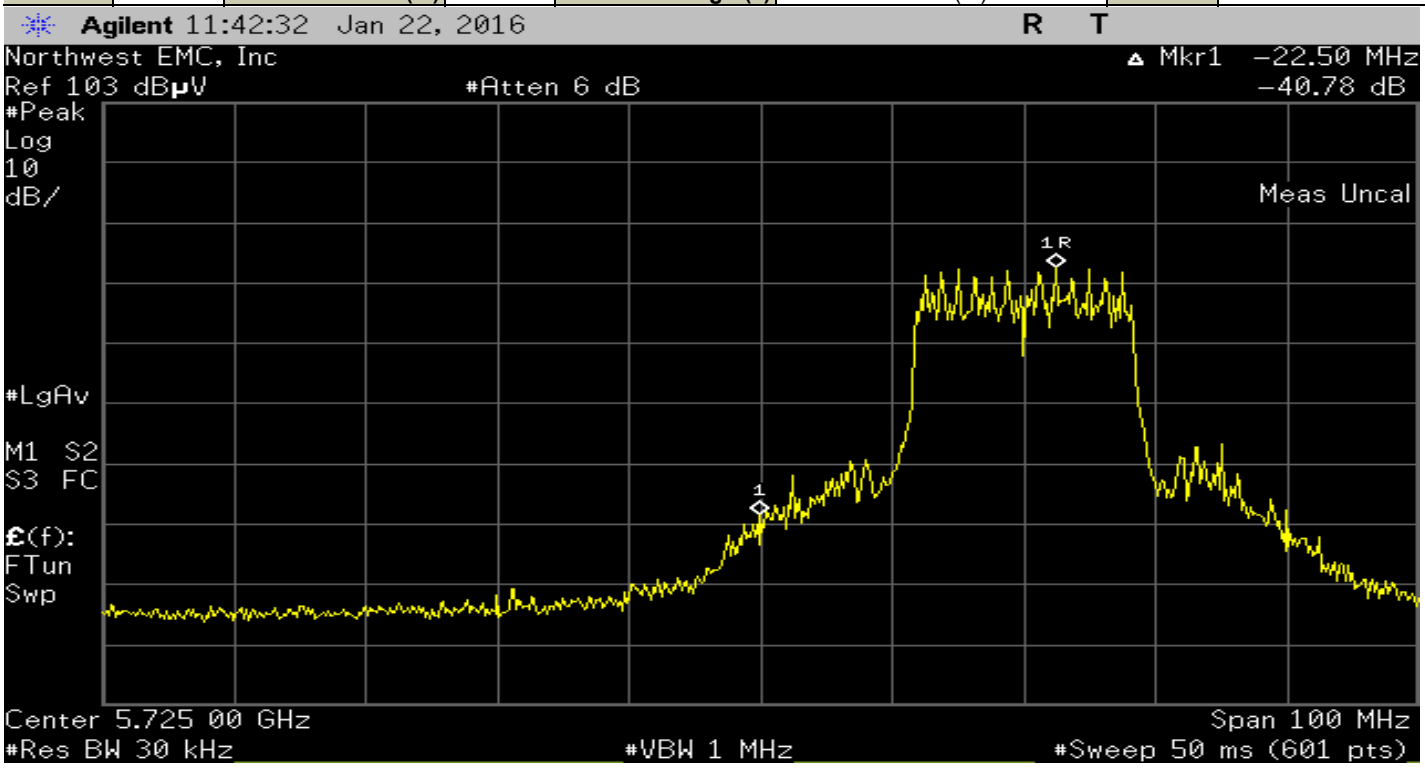


SPURIOUS RADIATED EMISSIONS

Work Order:	FOCU0216	**Date:**	01/22/16		
Project:	None	**Temperature:**	22.2 °C		
Job Site:	EV01	**Humidity:**	44.3% RH		
Serial Number:	02EA4FD0010F	**Barometric Pres.:**	1020.1 mbar	**Tested by:**	Brandon Hobbs
EUT:	SherwoodXD (extended distance)				
Configuration:	7				
Customer:	Summit Semiconductor LLC				
Attendees:	David Schilling				
EUT Power:	3.3VDC/1.2VDC				
Operating Mode:	Continuous Tx, Ch.30 5745 MHz, 18Mbps				
Deviations:	None				
Comments:	Marker Delta analyzer screen shot.				

Test Specifications	**Test Method**
FCC 15.407:2016	ANSI C63.10:2013

Run #	97	**Test Distance (m)**	1	**Antenna Height(s)**	1 to 4(m)	**Results**	NA



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	E4440	AFE	11/4/2013	12 mo
Multimeter	Tektronix	DMM912	MMH	2/5/2013	24 mo
DC Power Supply	Tektronix	PS280	TPM	NCR	0 mo
DC Power Supply	Topward	TPS-2000	TPD	NCR	0 mo
Multimeter	Tektronix	DMM912	MMH	2/5/2013	24 mo
Humidity Temperature Meter	Omega	HH311	DUH	2/19/2013	36 mo
EV01 Cable	ESM Cable Corp.	TTBJ-141 KMKM-72	ECC	8/26/2013	12 mo
18GHz DC Block, 'N'	Fairview Microwave	SD3074	AMF	NCR	13 mo
Spectrum Analyzer	Agilent	E4407B	AAU	10/23/2012	24 mo
Chamber Temp. & Humidity Controller	Extech	445703	CP100795	1/11//2013	24 mo
Chamber, Temp./Humidity Chamber	Thermotron	SE/600/10/10	32292	6/18/2014	12 mo

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.

NORTHWEST EMC

FREQUENCY STABILITY

EUT:	444-2251			Work Order:	FOCU0169
Serial Number:	02EA4F000062,02EA4F000063			Date:	07/07/14
Customer:	Summit Semiconductor			Temperature:	27.4°C
Attendees:	None			Humidity:	37%
Project:	None			Barometric Pres.:	1017.2 mb
Tested by:	Brandon Hobbs, Jared Ison	Power:	3.3,1.2VDC	Job Site:	Cascade Tek, EV06

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

COMMENTS

A 20 dB attenuator was used inline with the DC block in front of the spectrum analyzer. A SMA 60" extention was used for measurement. Voltage was varied from 110% to the operating end point voltage of 3.06VDC,1.12VDC. Extreme voltage test was performed on EUT s/n:02EA4F000063.

DEVIATIONS FROM TEST STANDARD

None

Configuration #	8	Signature

444-2251

Low Channel, 5150 MHz - 5250 MHz Band

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

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
3.63, 1.32 (110%)	5180.000000	5179.959612	7.80	100
3.3, 1.2 (100%)	5180.000000	5179.968074	6.16	100
3.06, 1.12	5180.000000	5179.961780	7.38	100

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	5179.975000	4.83	100
40	5180.000000	5179.967750	6.23	100
30	5180.000000	5179.968750	6.03	100
20	5180.000000	5179.975000	4.83	100
10	5180.000000	5179.983250	3.23	100
0	5180.000000	5179.989500	2.03	100
-10	5180.000000	5179.990250	1.88	100
-20	5180.000000	5179.981250	3.62	100
-30	5180.000000	5179.962750	7.19	100

High Channel, 5250 MHz - 5350 MHz Band

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

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
3.63, 1.32 (110%)	5320.000000	5319.959032	7.70	100
3.3, 1.2 (100%)	5320.000000	5319.967730	6.07	100
3.06, 1.12	5320.000000	5319.961222	7.29	100

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	5319.973750	4.93	n/a
40	5320.000000	5319.967000	6.20	100
30	5320.000000	5319.968250	5.97	100
20	5320.000000	5319.974500	4.79	100
10	5320.000000	5319.975500	4.61	100
0	5320.000000	5319.989000	2.07	100
-10	5320.000000	5319.989750	1.93	100
-20	5320.000000	5319.981750	3.43	100
-30	5320.000000	5319.961250	7.28	100

Low Channel, 5470 MHz - 5725 MHz Band

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

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
3.63, 1.32 (110%)	5500.000000	5499.958273	7.59	100
3.3, 1.2 (100%)	5500.000000	5499.966465	6.10	100
3.06, 1.12	5500.000000	5499.959459	7.37	100

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	5499.973500	4.82	100
40	5500.000000	5499.965750	6.23	100
30	5500.000000	5499.969500	5.55	100
20	5500.000000	5499.974750	4.59	100
10	5500.000000	5499.982000	3.27	100
0	5500.000000	5499.991750	1.50	100
-10	5500.000000	5499.989250	1.95	100
-20	5500.000000	5499.982250	3.23	100
-30	5500.000000	5499.963250	6.68	100

High Channel, 5470 MHz - 5725 MHz Band

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

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
3.63, 1.32 (110%)	5700.000000	5699.956981	7.55	100
3.3, 1.2 (100%)	5700.000000	5699.965452	6.06	100
3.06, 1.12	5700.000000	5699.958034	7.36	100

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	5699.972250	4.87	100
40	5700.000000	5699.964500	6.23	100
30	5700.000000	5699.968250	5.57	100
20	5700.000000	5699.975000	4.39	100
10	5700.000000	5699.984000	2.81	100
0	5700.000000	5699.991000	1.58	100
-10	5700.000000	5699.988750	1.97	100
-20	5700.000000	5699.980500	3.42	100
-30	5700.000000	5699.960500	6.93	100