

# NORTHWEST EMC

## Microsoft Corporation

Model 1631

FCC 15.207:2016

FCC 15.407:2016

Report # MCSO1748



NVLAP Lab Code: 200629-0

*This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America. This Report may only be duplicated in its entirety*

# CERTIFICATE OF TEST

**Last Date of Test: April 15, 2016**  
**Microsoft Corporation**  
**Model: Model 1631**

## Radio Equipment Testing

### Standards

| Specification   | Method           |
|-----------------|------------------|
| FCC 15.207:2016 | ANSI C63.10:2013 |
| FCC 15.407:2016 | ANSI C63.10:2013 |

### Results

| Method Clause  | Test Description                                                               | Applied | Results | Comments                                                       |
|----------------|--------------------------------------------------------------------------------|---------|---------|----------------------------------------------------------------|
| 6.2            | Powerline Conducted Emissions                                                  | Yes     | Pass    |                                                                |
| 6.5, 6.6, 12.7 | Spurious Radiated Emissions                                                    | Yes     | Pass    |                                                                |
| 6.8            | Frequency Stability                                                            | Yes     | Pass    |                                                                |
| 12.2           | Duty Cycle                                                                     | Yes     | Pass    |                                                                |
| 12.3.2.4       | Maximum Conducted Output Power                                                 | Yes     | Pass    |                                                                |
| 12.4.1         | Emission Bandwidth                                                             | No      | N/A     | Not tested. Applicable to the 5.2, 5.3 and 5.6 GHz bands only. |
| 12.4.2         | Occupied Bandwidth                                                             | Yes     | Pass    |                                                                |
| 12.4.2         | Band Edge                                                                      | Yes     | Pass    |                                                                |
| 12.5           | Maximum Power Spectral Density                                                 | Yes     | Pass    |                                                                |
| KDB 789033 -H  | Measurement of Emission at Elevation Angle Higher Than 30 Degrees From Horizon | No      | N/A     | Not required unless the EUT is a Master device used outdoors.  |

### Deviations From Test Standards

None

### Approved By:



Rod Munro, 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

| Revision Number |  | Description | Date | Page Number |
|-----------------|--|-------------|------|-------------|
| 00              |  | None        |      |             |

# ACCREDITATIONS AND AUTHORIZATIONS

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## United States

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**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

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## Canada

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

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## European Union

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**European Commission** – Validated by the European Commission as a Notified Body under the R&TTE Directive.

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## Australia/New Zealand

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

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## Korea

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

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## Japan

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

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## Taiwan

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**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.

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## Singapore

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

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## Israel

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

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## Hong Kong

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

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## Vietnam

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

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## 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

## 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 QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable test description page. 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.

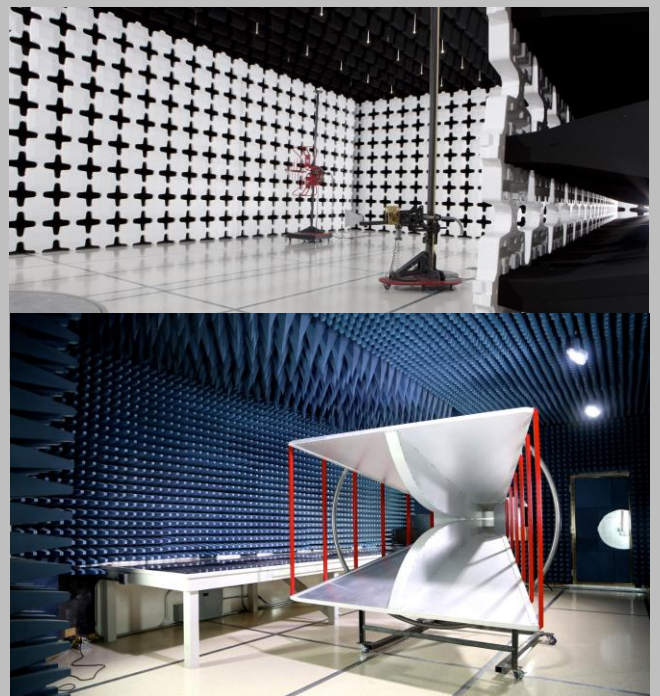
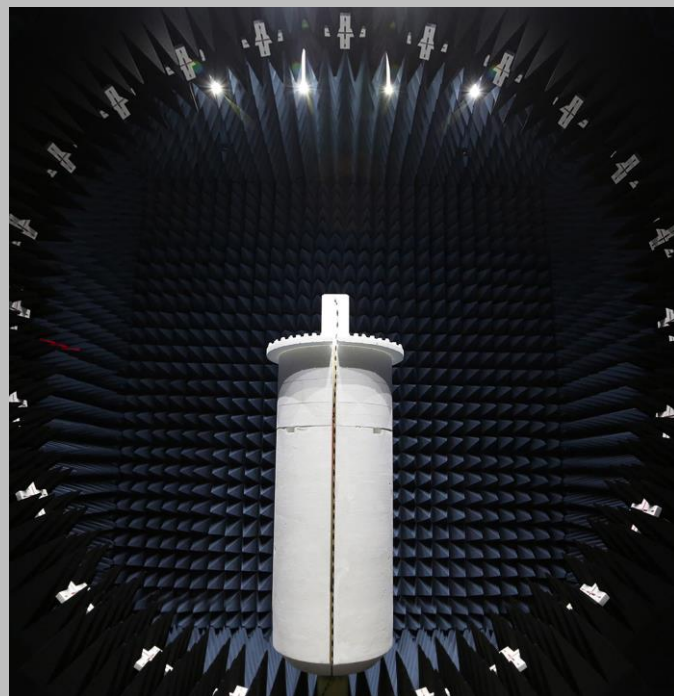
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

| <b>Test</b>                           | <b>+ MU</b> | <b>- MU</b> |
|---------------------------------------|-------------|-------------|
| 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)                   | 5.0 dB      | -5.0 dB     |
| AC Powerline Conducted Emissions (dB) | 2.4 dB      | -2.4 dB     |

# FACILITIES



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



# PRODUCT DESCRIPTION

## Client and Equipment Under Test (EUT) Information

|                                 |                                     |
|---------------------------------|-------------------------------------|
| <b>Company Name:</b>            | Microsoft Corporation               |
| <b>Address:</b>                 | One Microsoft Way                   |
| <b>City, State, Zip:</b>        | Redmond, WA 98052                   |
| <b>Test Requested By:</b>       | Mike Boucher                        |
| <b>Model:</b>                   | Model 1631 (C2PC to FCC ID:C3K1631) |
| <b>First Date of Test:</b>      | April 12, 2016                      |
| <b>Last Date of Test:</b>       | April 15, 2016                      |
| <b>Receipt Date of Samples:</b> | April 11, 2016                      |
| <b>Equipment Design Stage:</b>  | Production                          |
| <b>Equipment Condition:</b>     | No Damage                           |

## Information Provided by the Party Requesting the Test

|                                                                                                   |
|---------------------------------------------------------------------------------------------------|
| <b>Functional Description of the EUT:</b>                                                         |
| 802.11ac radio with 2x2 MIMO installed within a Portable Computing Device.                        |
| <b>Testing Objective:</b>                                                                         |
| To demonstrate compliance of the 802.11 radio under FCC 15.407 for operation in the 5.8 GHz band. |

# CONFIGURATIONS

## Configuration MCSO1748- 1

| Software/Firmware Running during test |  |  |  |         |  |
|---------------------------------------|--|--|--|---------|--|
| Description                           |  |  |  | Version |  |
| Wifi Tool                             |  |  |  | 2.7.4   |  |

| EUT                       |                       |                   |               |
|---------------------------|-----------------------|-------------------|---------------|
| Description               | Manufacturer          | Model/Part Number | Serial Number |
| Portable Computing Device | Microsoft Corporation | Model 1631        | 041152140753  |

| Peripherals in test setup boundary |                       |                   |               |
|------------------------------------|-----------------------|-------------------|---------------|
| Description                        | Manufacturer          | Model/Part Number | Serial Number |
| Laptop PC                          | Lenovo                | Thinkpad E545     | 5414957       |
| USB-Ethernet Adapter               | Cisco                 | USB300M           | CU906M703796  |
| AC Adapter (EUT)                   | Microsoft Corporation | Model 1625        | 0D130C0J4TB57 |
| AC Adapter (Laptop)                | Lenovo                | ADLX65NDT2A       | None          |

| Cables     |        |            |         |                           |                           |
|------------|--------|------------|---------|---------------------------|---------------------------|
| Cable Type | Shield | Length (m) | Ferrite | Connection 1              | Connection 2              |
| Ethernet   | No     | 1.3m       | No      | Laptop PC                 | USB-Ethernet Adapter      |
| USB        | No     | 0.1m       | No      | Portable Computing Device | USB-Ethernet Adapter      |
| AC Power   | No     | 1.0m       | No      | AC Mains                  | AC Adapter (EUT)          |
| AC Power   | No     | 0.5m       | No      | AC Mains                  | AC Adapter (Laptop)       |
| DC Power   | No     | 2.0m       | No      | AC Adapter (EUT)          | Portable Computing Device |
| DC Power   | No     | 2.0m       | Yes     | AC Adapter (Laptop)       | Laptop PC                 |

# CONFIGURATIONS

## Configuration MCSO1748- 2

| Software/Firmware Running during test |         |
|---------------------------------------|---------|
| Description                           | Version |
| Wifi Tool                             | 2.7.4   |

| EUT                       |                       |                   |               |
|---------------------------|-----------------------|-------------------|---------------|
| Description               | Manufacturer          | Model/Part Number | Serial Number |
| Portable Computing Device | Microsoft Corporation | Model 1631        | 041152140753  |

| Peripherals in test setup boundary |                       |                   |               |
|------------------------------------|-----------------------|-------------------|---------------|
| Description                        | Manufacturer          | Model/Part Number | Serial Number |
| USB-Ethernet Adapter               | Cisco                 | USB300M           | CU906M703796  |
| AC Adapter (EUT)                   | Microsoft Corporation | Model 1625        | 0D130C0J4TB57 |
| Detachable Keyboard                | Microsoft Corporation | X889242-BBH       | 000596140354  |
| Headphones                         | Skull Candy           | None              | None          |

| Cables     |        |            |         |                           |                           |
|------------|--------|------------|---------|---------------------------|---------------------------|
| Cable Type | Shield | Length (m) | Ferrite | Connection 1              | Connection 2              |
| USB        | No     | 0.1m       | No      | Portable Computing Device | USB-Ethernet Adapter      |
| AC Power   | No     | 1.0m       | No      | AC Mains                  | AC Adapter (EUT)          |
| DC Power   | No     | 2.0m       | No      | AC Adapter (EUT)          | Portable Computing Device |
| Ethernet   | No     | 1.3m       | No      | USB-Ethernet Adapter      | Unterminated              |
| Headphone  | No     | 1.4m       | No      | Portable Computing Device | Headphones                |
| HDMI       | No     | 1.7m       | No      | Portable Computing Device | Unterminated              |

# MODIFICATIONS

## Equipment Modifications

| Item | Date      | Test                           | Modification                         | Note                                                                | Disposition of EUT                                |
|------|-----------|--------------------------------|--------------------------------------|---------------------------------------------------------------------|---------------------------------------------------|
| 1    | 4/12/2016 | Band Edge                      | 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    | 4/13/2016 | 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. |
| 3    | 4/13/2016 | 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    | 4/13/2016 | Maximum Conducted Output Power | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Northwest EMC following the test. |
| 5    | 4/13/2016 | Duty Cycle                     | 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    | 4/13/2016 | Frequency Stability            | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Northwest EMC following the test. |
| 7    | 4/13/2016 | 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. |
| 8    | 4/15/2016 | Spurious Radiated Emissions    | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | Scheduled testing was completed.                  |

# 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. Per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables. 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 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

## TEST EQUIPMENT

| Description                      | Manufacturer      | Model            | ID   | Last Cal.  | Cal. Due   |
|----------------------------------|-------------------|------------------|------|------------|------------|
| Cable - Conducted Cable Assembly | Northwest EMC     | NC4, HHF, RKD    | NC4A | 12/28/2015 | 12/28/2016 |
| LISN                             | Solar Electronics | 9252-50-R-24-BNC | LIM  | 11/3/2015  | 11/3/2016  |
| Receiver                         | Rohde & Schwarz   | ESCI             | ARE  | 8/5/2015   | 8/5/2016   |

## MEASUREMENT UNCERTAINTY

| Description  |        |         |
|--------------|--------|---------|
| Expanded k=2 | 2.4 dB | -2.4 dB |

## CONFIGURATIONS INVESTIGATED

MCSO1748-2

## MODES INVESTIGATED

Transmitting 802.11(ac), MCS0, Mid Channel 157, 5785 MHz, 2x2 MIMO.  
Transmitting 802.11(ac), MCS9, High Channel 157/161, 5795 MHz, 2x2 MIMO.  
Transmitting 802.11(ac), MCS9, Mid Channel 149/161, 5775 MHz, 2x2 MIMO.

# POWERLINE CONDUCTED EMISSIONS

|                   |                       |                    |            |
|-------------------|-----------------------|--------------------|------------|
| EUT:              | Model 1631            | Work Order:        | MCSO1748   |
| Serial Number:    | 041152140753          | Date:              | 04/13/2016 |
| Customer:         | Microsoft Corporation | Temperature:       | 24°C       |
| Attendees:        | None                  | Relative Humidity: | 30%        |
| Customer Project: | None                  | Bar. Pressure:     | 1018 mb    |
| Tested By:        | Richard Mellroth      | Job Site:          | NC05       |
| Power:            | 110VAC/60Hz           | Configuration:     | MCSO1748-2 |

## TEST SPECIFICATIONS

|                 |                  |
|-----------------|------------------|
| Specification:  | Method:          |
| FCC 15.207:2016 | ANSI C63.10:2013 |

## TEST PARAMETERS

|        |   |       |           |                             |   |
|--------|---|-------|-----------|-----------------------------|---|
| Run #: | 2 | Line: | High Line | Add. Ext. Attenuation (dB): | 0 |
|--------|---|-------|-----------|-----------------------------|---|

## COMMENTS

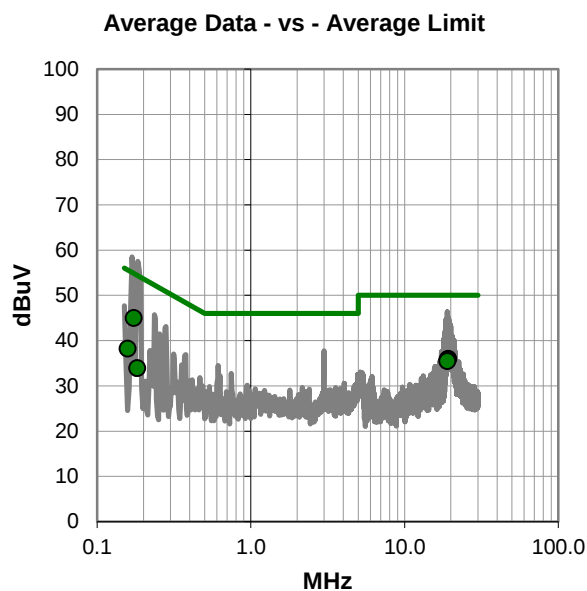
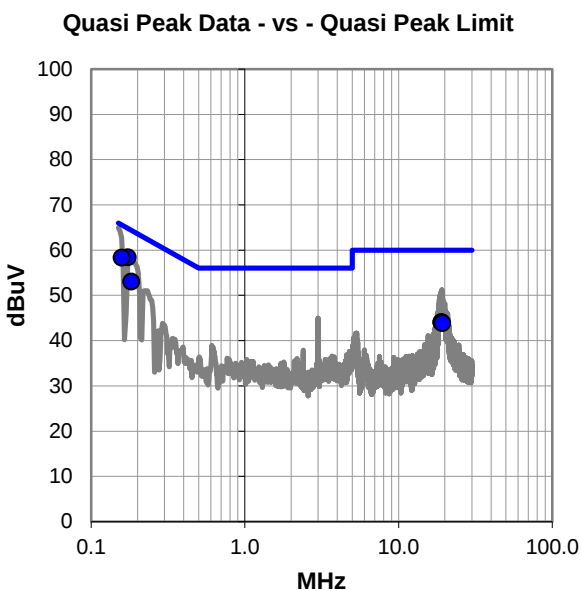
EUT operating in mode that produced the highest overall output power for 20MHz channel BW. Power setting at 11dBm for 20MHz and 40MHz channels. Power Setting at 10dBm for 80MHz channels. Signal setting at > 95% Duty Cycle.

## EUT OPERATING MODES

Transmitting 802.11(ac), MCS0, Mid Channel 157, 5785 MHz, 2x2 MIMO.

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #2

Quasi Peak Data - vs - Quasi Peak Limit

| Freq<br>(MHz) | Amp.<br>(dBuV) | Factor<br>(dB) | Adjusted<br>(dBuV) | Spec.<br>Limit<br>(dBuV) | Margin<br>(dB) |
|---------------|----------------|----------------|--------------------|--------------------------|----------------|
| 0.173         | 37.9           | 20.5           | 58.4               | 64.8                     | -6.4           |
| 0.158         | 37.8           | 20.5           | 58.3               | 65.5                     | -7.2           |
| 0.183         | 32.5           | 20.5           | 53.0               | 64.4                     | -11.4          |
| 18.965        | 21.8           | 22.3           | 44.1               | 60.0                     | -15.9          |
| 19.126        | 21.7           | 22.3           | 44.0               | 60.0                     | -16.0          |
| 19.289        | 21.5           | 22.3           | 43.8               | 60.0                     | -16.2          |

Average Data - vs - Average Limit

| Freq<br>(MHz) | Amp.<br>(dBuV) | Factor<br>(dB) | Adjusted<br>(dBuV) | Spec.<br>Limit<br>(dBuV) | Margin<br>(dB) |
|---------------|----------------|----------------|--------------------|--------------------------|----------------|
| 0.173         | 24.5           | 20.5           | 45.0               | 54.8                     | -9.7           |
| 19.289        | 13.6           | 22.3           | 35.9               | 50.0                     | -14.1          |
| 19.126        | 13.5           | 22.3           | 35.8               | 50.0                     | -14.2          |
| 18.965        | 13.2           | 22.3           | 35.5               | 50.0                     | -14.5          |
| 0.158         | 17.7           | 20.5           | 38.2               | 55.5                     | -17.3          |
| 0.183         | 13.4           | 20.5           | 33.9               | 54.4                     | -20.5          |

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

|                   |                       |                    |            |
|-------------------|-----------------------|--------------------|------------|
| EUT:              | Model 1631            | Work Order:        | MCSO1748   |
| Serial Number:    | 041152140753          | Date:              | 04/13/2016 |
| Customer:         | Microsoft Corporation | Temperature:       | 24°C       |
| Attendees:        | None                  | Relative Humidity: | 30%        |
| Customer Project: | None                  | Bar. Pressure:     | 1018 mb    |
| Tested By:        | Richard Mellroth      | Job Site:          | NC05       |
| Power:            | 110VAC/60Hz           | Configuration:     | MCSO1748-2 |

## TEST SPECIFICATIONS

|                 |                  |
|-----------------|------------------|
| Specification:  | Method:          |
| FCC 15.207:2016 | ANSI C63.10:2013 |

## TEST PARAMETERS

|        |   |       |         |                             |   |
|--------|---|-------|---------|-----------------------------|---|
| Run #: | 3 | Line: | Neutral | Add. Ext. Attenuation (dB): | 0 |
|--------|---|-------|---------|-----------------------------|---|

## COMMENTS

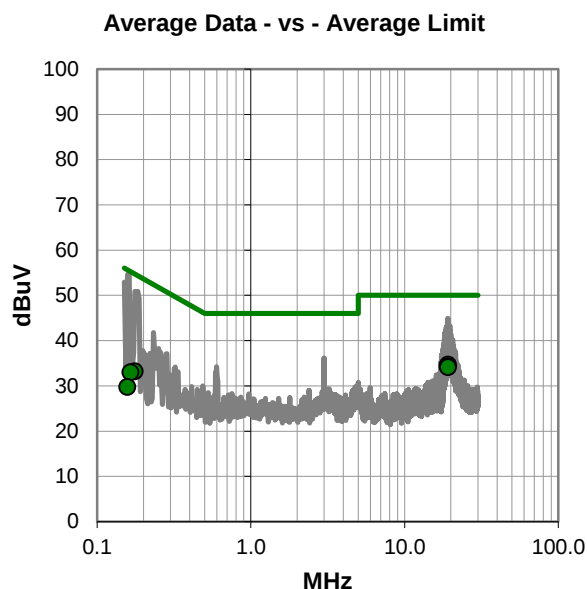
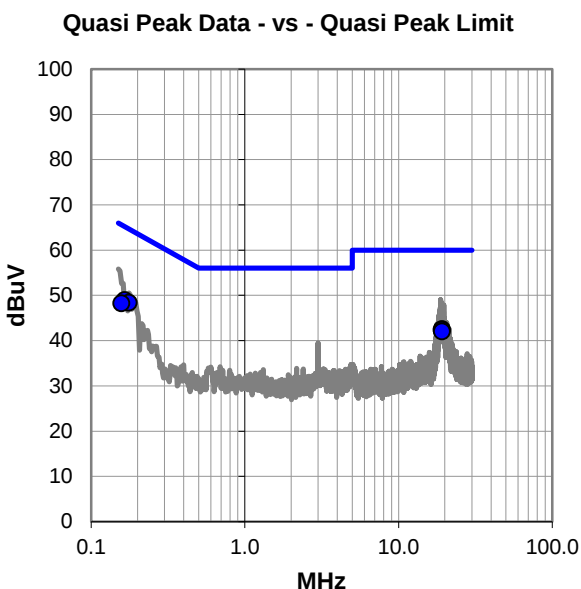
EUT operating in mode that produced the highest overall output power for 20MHz channel BW. Power setting at 11dBm for 20MHz and 40MHz channels. Power Setting at 10dBm for 80MHz channels. Signal setting at > 95% Duty Cycle.

## EUT OPERATING MODES

Transmitting 802.11(ac), MCS0, Mid Channel 157, 5785 MHz, 2x2 MIMO.

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #3

Quasi Peak Data - vs - Quasi Peak Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 0.165      | 28.4        | 20.5        | 48.9            | 65.2               | -16.3       |
| 0.175      | 27.9        | 20.5        | 48.4            | 64.7               | -16.3       |
| 0.158      | 27.7        | 20.5        | 48.2            | 65.6               | -17.4       |
| 19.177     | 20.2        | 22.3        | 42.5            | 60.0               | -17.5       |
| 19.060     | 20.1        | 22.3        | 42.4            | 60.0               | -17.6       |
| 19.207     | 19.7        | 22.3        | 42.0            | 60.0               | -18.0       |

Average Data - vs - Average Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 19.177     | 12.4        | 22.3        | 34.7            | 50.0               | -15.3       |
| 19.060     | 12.0        | 22.3        | 34.3            | 50.0               | -15.7       |
| 19.207     | 11.8        | 22.3        | 34.1            | 50.0               | -15.9       |
| 0.175      | 12.7        | 20.5        | 33.2            | 54.7               | -21.5       |
| 0.165      | 12.5        | 20.5        | 33.0            | 55.2               | -22.2       |
| 0.158      | 9.2         | 20.5        | 29.7            | 55.6               | -25.9       |

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

|                   |                       |                    |            |
|-------------------|-----------------------|--------------------|------------|
| EUT:              | Model 1631            | Work Order:        | MCSO1748   |
| Serial Number:    | 041152140753          | Date:              | 04/13/2016 |
| Customer:         | Microsoft Corporation | Temperature:       | 24°C       |
| Attendees:        | None                  | Relative Humidity: | 30%        |
| Customer Project: | None                  | Bar. Pressure:     | 1018 mb    |
| Tested By:        | Richard Mellroth      | Job Site:          | NC05       |
| Power:            | 110VAC/60Hz           | Configuration:     | MCSO1748-2 |

## TEST SPECIFICATIONS

|                 |                  |
|-----------------|------------------|
| Specification:  | Method:          |
| FCC 15.207:2016 | ANSI C63.10:2013 |

## TEST PARAMETERS

|        |   |       |           |                             |   |
|--------|---|-------|-----------|-----------------------------|---|
| Run #: | 4 | Line: | High Line | Add. Ext. Attenuation (dB): | 0 |
|--------|---|-------|-----------|-----------------------------|---|

## COMMENTS

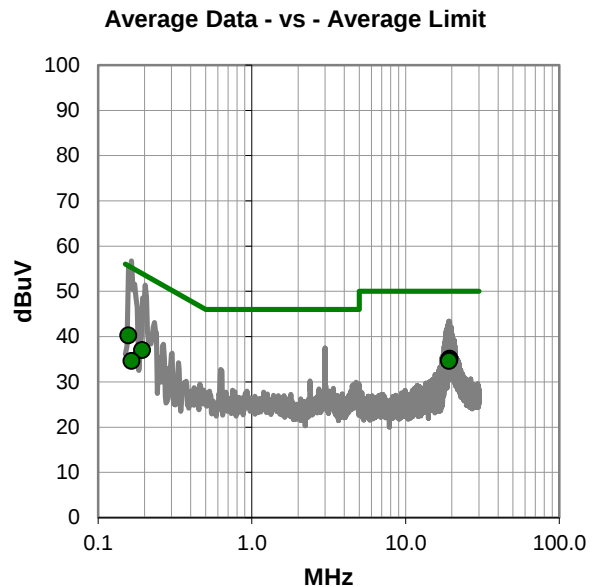
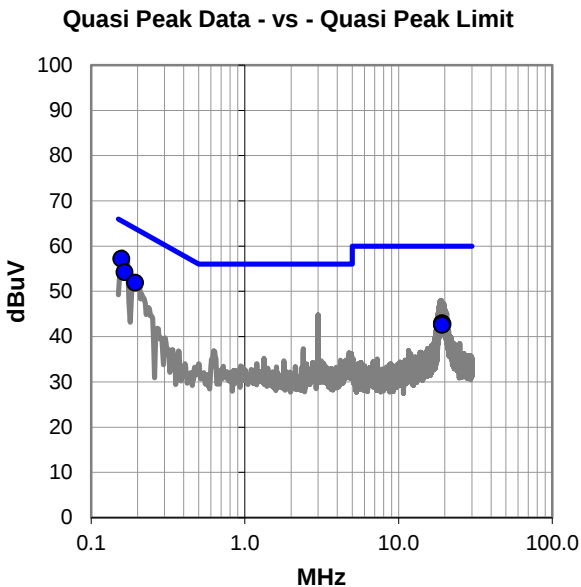
EUT operating in mode that produced the highest overall output power for 40MHz channel BW. Power setting at 11dBm for 20MHz and 40MHz channels. Power Setting at 10dBm for 80MHz channels. Signal setting at > 95% Duty Cycle.

## EUT OPERATING MODES

Transmitting 802.11(ac), MCS9, High Channel 157/161, 5795 MHz, 2x2 MIMO.

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 0.158      | 36.7        | 20.5        | 57.2            | 65.6               | -8.4        |
| 0.165      | 33.7        | 20.5        | 54.2            | 65.2               | -11.0       |
| 0.193      | 31.4        | 20.5        | 51.9            | 63.9               | -12.0       |
| 19.189     | 20.6        | 22.3        | 42.9            | 60.0               | -17.1       |
| 19.363     | 20.4        | 22.3        | 42.7            | 60.0               | -17.3       |
| 19.143     | 20.3        | 22.3        | 42.6            | 60.0               | -17.4       |

Average Data - vs - Average Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 19.363     | 12.8        | 22.3        | 35.1            | 50.0               | -14.9       |
| 19.189     | 12.5        | 22.3        | 34.8            | 50.0               | -15.2       |
| 0.158      | 19.7        | 20.5        | 40.2            | 55.6               | -15.4       |
| 19.143     | 12.3        | 22.3        | 34.6            | 50.0               | -15.4       |
| 0.193      | 16.5        | 20.5        | 37.0            | 53.9               | -16.9       |
| 0.165      | 14.1        | 20.5        | 34.6            | 55.2               | -20.6       |

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

|                   |                       |                    |            |
|-------------------|-----------------------|--------------------|------------|
| EUT:              | Model 1631            | Work Order:        | MCSO1748   |
| Serial Number:    | 041152140753          | Date:              | 04/13/2016 |
| Customer:         | Microsoft Corporation | Temperature:       | 24°C       |
| Attendees:        | None                  | Relative Humidity: | 30%        |
| Customer Project: | None                  | Bar. Pressure:     | 1018 mb    |
| Tested By:        | Richard Mellroth      | Job Site:          | NC05       |
| Power:            | 110VAC/60Hz           | Configuration:     | MCSO1748-2 |

## TEST SPECIFICATIONS

|                 |                  |
|-----------------|------------------|
| Specification:  | Method:          |
| FCC 15.207:2016 | ANSI C63.10:2013 |

## TEST PARAMETERS

|        |   |       |         |                             |   |
|--------|---|-------|---------|-----------------------------|---|
| Run #: | 5 | Line: | Neutral | Add. Ext. Attenuation (dB): | 0 |
|--------|---|-------|---------|-----------------------------|---|

## COMMENTS

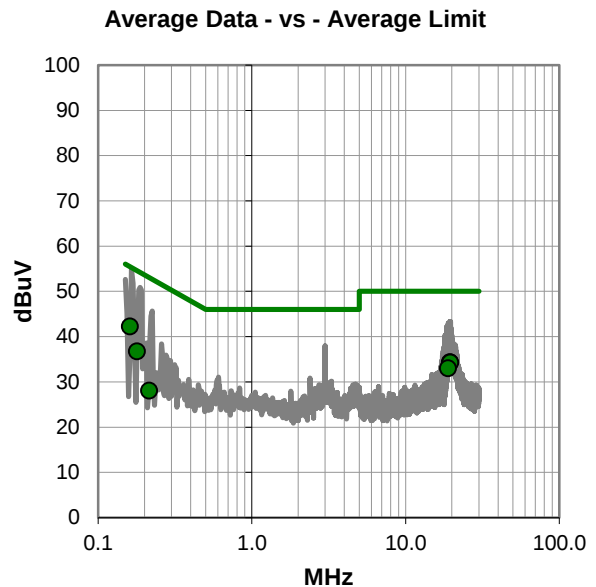
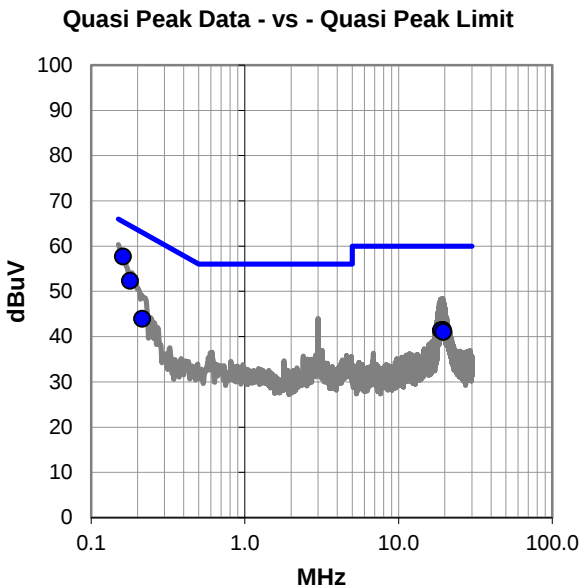
EUT operating in mode that produced the highest overall output power for 40MHz channel BW. Power setting at 11dBm for 20MHz and 40MHz channels. Power Setting at 10dBm for 80MHz channels. Signal setting at > 95% Duty Cycle.

## EUT OPERATING MODES

Transmitting 802.11(ac), MCS9, High Channel 157/161, 5795 MHz, 2x2 MIMO.

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #5

Quasi Peak Data - vs - Quasi Peak Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 0.161      | 37.2        | 20.5        | 57.7            | 65.4               | -7.7        |
| 0.179      | 31.8        | 20.5        | 52.3            | 64.5               | -12.2       |
| 19.455     | 19.1        | 22.3        | 41.4            | 60.0               | -18.6       |
| 18.918     | 19.1        | 22.3        | 41.4            | 60.0               | -18.6       |
| 19.552     | 18.7        | 22.3        | 41.0            | 60.0               | -19.0       |
| 0.215      | 23.5        | 20.5        | 44.0            | 63.0               | -19.1       |

Average Data - vs - Average Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 0.161      | 21.7        | 20.5        | 42.2            | 55.4               | -13.2       |
| 19.455     | 12.0        | 22.3        | 34.3            | 50.0               | -15.7       |
| 19.552     | 11.9        | 22.3        | 34.2            | 50.0               | -15.8       |
| 18.918     | 10.7        | 22.3        | 33.0            | 50.0               | -17.0       |
| 0.179      | 16.2        | 20.5        | 36.7            | 54.5               | -17.8       |
| 0.215      | 7.6         | 20.5        | 28.1            | 53.0               | -25.0       |

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

|                   |                       |                    |            |
|-------------------|-----------------------|--------------------|------------|
| EUT:              | Model 1631            | Work Order:        | MCSO1748   |
| Serial Number:    | 041152140753          | Date:              | 04/13/2016 |
| Customer:         | Microsoft Corporation | Temperature:       | 24°C       |
| Attendees:        | None                  | Relative Humidity: | 30%        |
| Customer Project: | None                  | Bar. Pressure:     | 1018 mb    |
| Tested By:        | Richard Mellroth      | Job Site:          | NC05       |
| Power:            | 110VAC/60Hz           | Configuration:     | MCSO1748-2 |

## TEST SPECIFICATIONS

|                 |                  |
|-----------------|------------------|
| Specification:  | Method:          |
| FCC 15.207:2016 | ANSI C63.10:2013 |

## TEST PARAMETERS

|        |   |       |           |                             |   |
|--------|---|-------|-----------|-----------------------------|---|
| Run #: | 6 | Line: | High Line | Add. Ext. Attenuation (dB): | 0 |
|--------|---|-------|-----------|-----------------------------|---|

## COMMENTS

EUT operating in mode that produced the highest overall output power for 80MHz channel BW. Power setting at 11dBm for 20MHz and 40MHz channels. Power Setting at 10dBm for 80MHz channels. Signal setting at > 95% Duty Cycle.

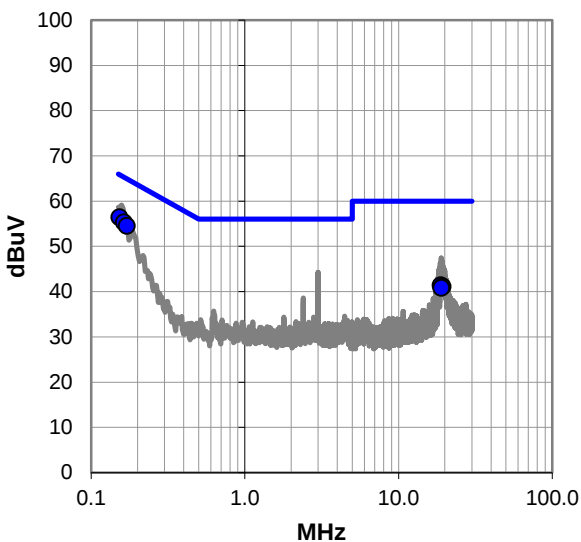
## EUT OPERATING MODES

Transmitting 802.11(ac), MCS9, Mid Channel 149/161, 5775 MHz, 2x2 MIMO.

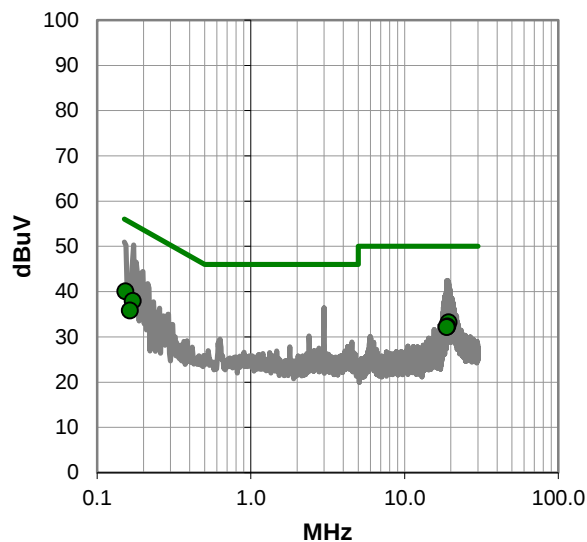
## DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #6

Quasi Peak Data - vs - Quasi Peak Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 0.153      | 35.9        | 20.5        | 56.4            | 65.8               | -9.4        |
| 0.163      | 34.8        | 20.5        | 55.3            | 65.3               | -10.0       |
| 0.171      | 34.0        | 20.5        | 54.5            | 64.9               | -10.4       |
| 18.799     | 19.1        | 22.3        | 41.4            | 60.0               | -18.6       |
| 19.324     | 18.8        | 22.3        | 41.1            | 60.0               | -18.9       |
| 19.017     | 18.5        | 22.3        | 40.8            | 60.0               | -19.2       |

Average Data - vs - Average Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 0.153      | 19.5        | 20.5        | 40.0            | 55.8               | -15.8       |
| 19.324     | 10.9        | 22.3        | 33.2            | 50.0               | -16.8       |
| 0.171      | 17.4        | 20.5        | 37.9            | 54.9               | -17.0       |
| 19.017     | 10.0        | 22.3        | 32.3            | 50.0               | -17.7       |
| 18.799     | 9.9         | 22.3        | 32.2            | 50.0               | -17.8       |
| 0.163      | 15.3        | 20.5        | 35.8            | 55.3               | -19.5       |

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

|                   |                       |                    |            |
|-------------------|-----------------------|--------------------|------------|
| EUT:              | Model 1631            | Work Order:        | MCSO1748   |
| Serial Number:    | 041152140753          | Date:              | 04/13/2016 |
| Customer:         | Microsoft Corporation | Temperature:       | 24°C       |
| Attendees:        | None                  | Relative Humidity: | 30%        |
| Customer Project: | None                  | Bar. Pressure:     | 1018 mb    |
| Tested By:        | Richard Mellroth      | Job Site:          | NC05       |
| Power:            | 110VAC/60Hz           | Configuration:     | MCSO1748-2 |

## TEST SPECIFICATIONS

|                 |                  |
|-----------------|------------------|
| Specification:  | Method:          |
| FCC 15.207:2016 | ANSI C63.10:2013 |

## TEST PARAMETERS

|        |   |       |         |                             |   |
|--------|---|-------|---------|-----------------------------|---|
| Run #: | 7 | Line: | Neutral | Add. Ext. Attenuation (dB): | 0 |
|--------|---|-------|---------|-----------------------------|---|

## COMMENTS

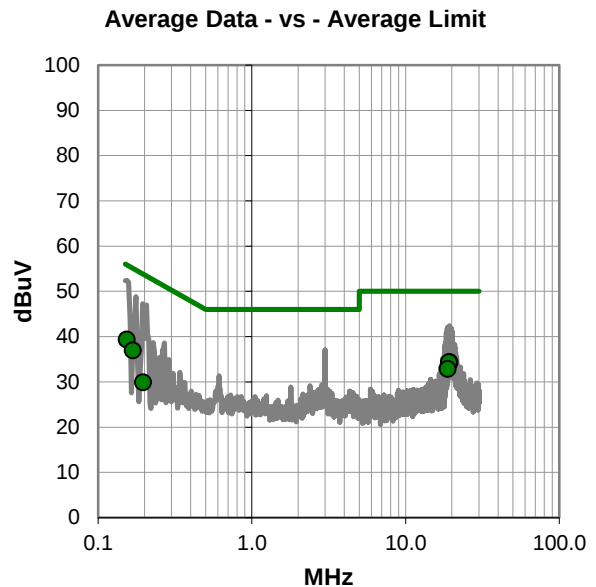
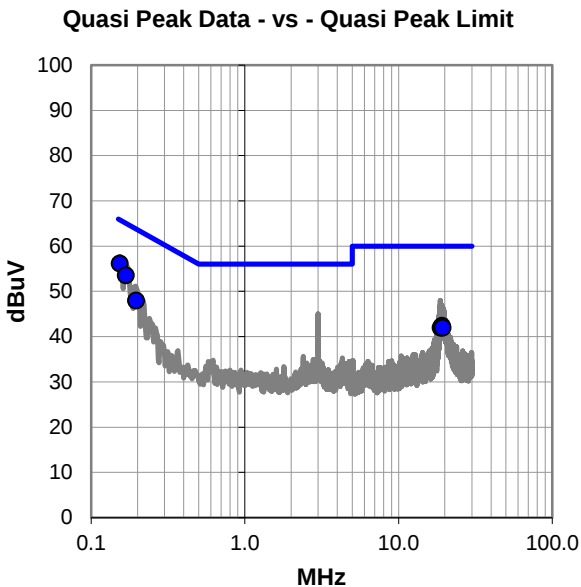
EUT operating in mode that produced the highest overall output power for 80MHz channel BW. Power setting at 11dBm for 20MHz and 40MHz channels. Power Setting at 10dBm for 80MHz channels. Signal setting at > 95% Duty Cycle.

## EUT OPERATING MODES

Transmitting 802.11(ac), MCS9, Mid Channel 149/161, 5775 MHz, 2x2 MIMO.

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #7

Quasi Peak Data - vs - Quasi Peak Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 0.154      | 35.6        | 20.5        | 56.1            | 65.8               | -9.7        |
| 0.168      | 33.0        | 20.5        | 53.5            | 65.1               | -11.6       |
| 0.196      | 27.5        | 20.5        | 48.0            | 63.8               | -15.8       |
| 19.149     | 20.1        | 22.3        | 42.4            | 60.0               | -17.6       |
| 18.824     | 19.7        | 22.3        | 42.0            | 60.0               | -18.0       |
| 19.324     | 19.6        | 22.3        | 41.9            | 60.0               | -18.1       |

Average Data - vs - Average Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 19.324     | 12.0        | 22.3        | 34.3            | 50.0               | -15.7       |
| 19.149     | 12.0        | 22.3        | 34.3            | 50.0               | -15.7       |
| 0.154      | 18.8        | 20.5        | 39.3            | 55.8               | -16.5       |
| 18.824     | 10.6        | 22.3        | 32.9            | 50.0               | -17.1       |
| 0.168      | 16.4        | 20.5        | 36.9            | 55.1               | -18.2       |
| 0.196      | 9.4         | 20.5        | 29.9            | 53.8               | -23.9       |

## CONCLUSION

Pass



Tested By

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

### MODES OF OPERATION

|                                                                             |
|-----------------------------------------------------------------------------|
| Transmitting 802.11(a), 6Mbps, SISO, 20MHz Channel BW                       |
| Transmitting 802.11(a), 36Mbps, SISO, 20MHz Channel BW                      |
| Transmitting 802.11(a), 54Mbps, SISO, 20MHz Channel BW                      |
| Transmitting 802.11(n), MCS0, SISO, 20MHz and 40MHz Channel BW              |
| Transmitting 802.11(n), MCS7, SISO, 20MHz and 40MHz Channel BW              |
| Transmitting 802.11(n), MCS8, 2x2 MIMO, 20MHz and 40MHz Channel BW          |
| Transmitting 802.11(n), MCS15, 2x2 MIMO, 20MHz and 40MHz Channel BW         |
| Transmitting 802.11(ac), MCS0, SISO, 20MHz, 40MHz, and 80MHz Channel BW     |
| Transmitting 802.11(ac), MCS0, 2x2 MIMO, 20MHz, 40MHz, and 80MHz Channel BW |
| Transmitting 802.11(ac), MCS8, SISO, 20MHz Channel BW                       |
| Transmitting 802.11(ac), MCS8, 2x2 MIMO, 20MHz Channel BW                   |
| Transmitting 802.11(ac), MCS9, SISO, 40MHz and 80MHz Channel BW             |
| Transmitting 802.11(ac), MCS9, 2x2 MIMO, 40MHz and 80MHz Channel BW         |

### CHANNELS TESTED

|                                                  |
|--------------------------------------------------|
| Low Channel 149, 5745 MHz, 20MHz Channel BW      |
| Mid Channel 157, 5785 MHz, 20MHz Channel BW      |
| High Channel 165, 5825 MHz, 20MHz Channel BW     |
| Low Channel 149/153, 5755 MHz, 40MHz Channel BW  |
| High Channel 157/161, 5795 MHz, 40MHz Channel BW |
| Mid Channel 149/161, 5775 MHz, 80MHz Channel BW  |

### ANTENNA CHAINS TESTED

|                            |
|----------------------------|
| Antenna Chain A, SISO      |
| Antenna Chain B, SISO      |
| Antenna Chain AB, 2x2 MIMO |

### POWER SETTINGS INVESTIGATED

|             |
|-------------|
| 110VAC/60Hz |
|-------------|

### CONFIGURATIONS INVESTIGATED

|              |
|--------------|
| MCSO1748 - 2 |
|--------------|

### FREQUENCY RANGE INVESTIGATED

|                 |        |                |        |
|-----------------|--------|----------------|--------|
| Start Frequency | 30 MHz | Stop Frequency | 40 GHz |
|-----------------|--------|----------------|--------|

### SAMPLE CALCULATIONS

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

**TEST EQUIPMENT**

| Description                  | Manufacturer    | Model                    | ID  | Last Cal. | Interval |
|------------------------------|-----------------|--------------------------|-----|-----------|----------|
| Analyzer - Spectrum Analyzer | Keysight        | N9010A                   | AFO | 6/23/2015 | 12 mo    |
| Antenna - Biconilog          | Teseq           | CBL 6141B                | AYL | 7/30/2015 | 24 mo    |
| Amplifier - Pre-Amplifier    | Miteq           | AM-1616-1000             | PAB | 7/31/2015 | 12 mo    |
| Filter - Low Pass            | Micro-Tronics   | LPM50004                 | LFF | 1/21/2016 | 12 mo    |
| Cable                        | Northwest EMC   | Bilog Cables             | NC1 | 8/27/2015 | 12 mo    |
| Antenna - Double Ridge       | EMCO            | 3115                     | AHM | 6/3/2014  | 24 mo    |
| Amplifier - Pre-Amplifier    | Miteq           | AMF-3D-00100800-32-13P   | AVZ | 7/31/2015 | 12 mo    |
| Filter - Band Pass/Notch     | Micro-Tronics   | BRC50705                 | HHM | 1/21/2016 | 12 mo    |
| Cable                        | ESM Cable Corp. | TTBJ-141 KMKM-72         | NC5 | 6/6/2015  | 12 mo    |
| Cable                        | Northwest EMC   | 3115 Horn Cable          | NC2 | 6/17/2015 | 12 mo    |
| Antenna - Standard Gain      | EMCO            | 3160-08                  | AHO | NCR       | 0 mo     |
| Antenna - Standard Gain      | EMCO            | 3160-07                  | AHP | NCR       | 0 mo     |
| Amplifier - Pre-Amplifier    | Miteq           | AMF-6F-12001800-30-10P   | AOJ | 9/21/2015 | 12 mo    |
| Amplifier - Pre-Amplifier    | Miteq           | AMF-6F-08001200-30-10P   | AOK | 9/21/2015 | 12 mo    |
| Cable                        | Northwest EMC   | Standard Gain Horn Cable | NC3 | 6/17/2015 | 12 mo    |
| Antenna - Standard Gain      | ETS Lindgren    | 3160-09                  | AIY | NCR       | 0 mo     |
| Amplifier - Pre-Amplifier    | Miteq           | AMF-6F-18002650-25-10P   | AOD | 6/6/2015  | 12 mo    |
| Cable                        | Northwest EMC   | N/A                      | NC8 | 6/6/2015  | 12 mo    |
| Antenna - Standard Gain      | ETS Lindgren    | 3160-10                  | AJE | NCR       | 0 mo     |
| Amplifier                    | Miteq           | JSW45-2600400-40-5P      | TTK | 11/3/2015 | 12 mo    |
| Cable                        | ESM Cable Corp. | TTBJ-141 KMKM-72         | NC7 | 11/3/2015 | 12 mo    |

**MEASUREMENT BANDWIDTHS**

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

**TEST DESCRIPTION**

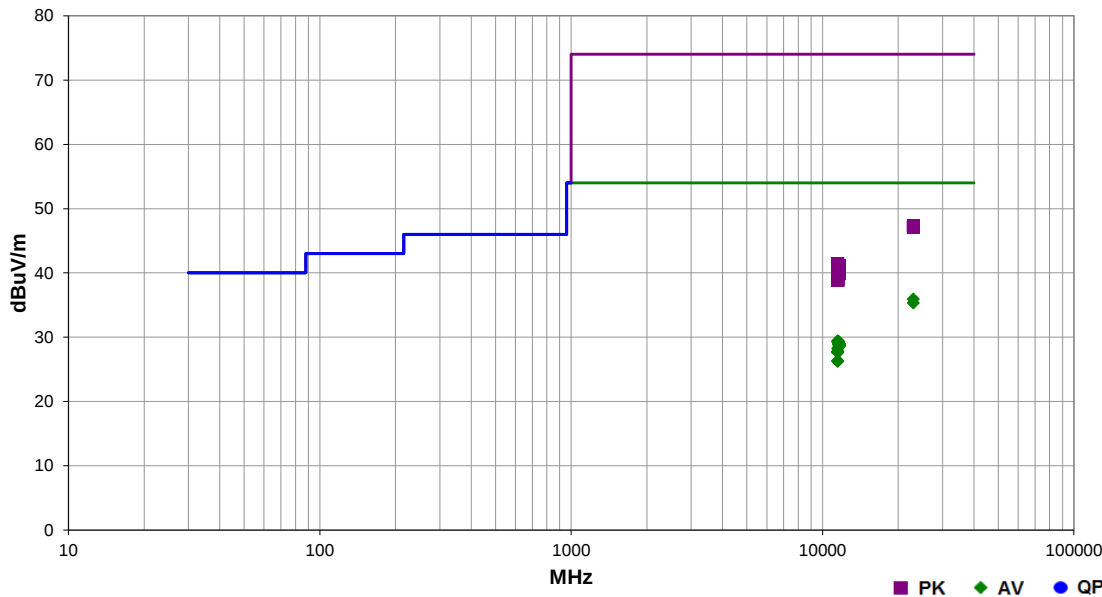
The highest gain antenna of each type to be used with the EUT were tested. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. Measurements were made to satisfy the 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.

|                 |                                                                                                                                                               |                   |           |                                                                                    |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------------------------------------------------------------------------------------|
| Work Order:     | MCSO1748                                                                                                                                                      | Date:             | 04/14/16  |  |
| Project:        | None                                                                                                                                                          | Temperature:      | 24 °C     |                                                                                    |
| Job Site:       | NC01                                                                                                                                                          | Humidity:         | 31% RH    |                                                                                    |
| Serial Number:  | 041152140753                                                                                                                                                  | Barometric Pres.: | 1008 mbar | Tested by: Richard Mellroth                                                        |
| EUT:            | Model 1631                                                                                                                                                    |                   |           |                                                                                    |
| Configuration:  | 2                                                                                                                                                             |                   |           |                                                                                    |
| Customer:       | Microsoft Corporation                                                                                                                                         |                   |           |                                                                                    |
| Attendees:      | None                                                                                                                                                          |                   |           |                                                                                    |
| EUT Power:      | 110VAC/60Hz                                                                                                                                                   |                   |           |                                                                                    |
| Operating Mode: | Transmitting 802.11(a/n/ac), Signal setting at > 95% Duty Cycle. See comments next to data points for EUT Channel, Data Rate, Antenna Chain, and orientation. |                   |           |                                                                                    |
| Deviations:     | None                                                                                                                                                          |                   |           |                                                                                    |
| Comments:       | Testing 20MHz BW Channels, restricted band measurements. Power setting at 11dBm for 20MHz and 40MHz channels. Power Setting at 10dBm for 80MHz channels.      |                   |           |                                                                                    |

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

|       |             |                   |   |                   |           |         |      |
|-------|-------------|-------------------|---|-------------------|-----------|---------|------|
| Run # | 12,14,15,19 | Test Distance (m) | 3 | Antenna Height(s) | 1 to 4(m) | Results | Pass |
|-------|-------------|-------------------|---|-------------------|-----------|---------|------|

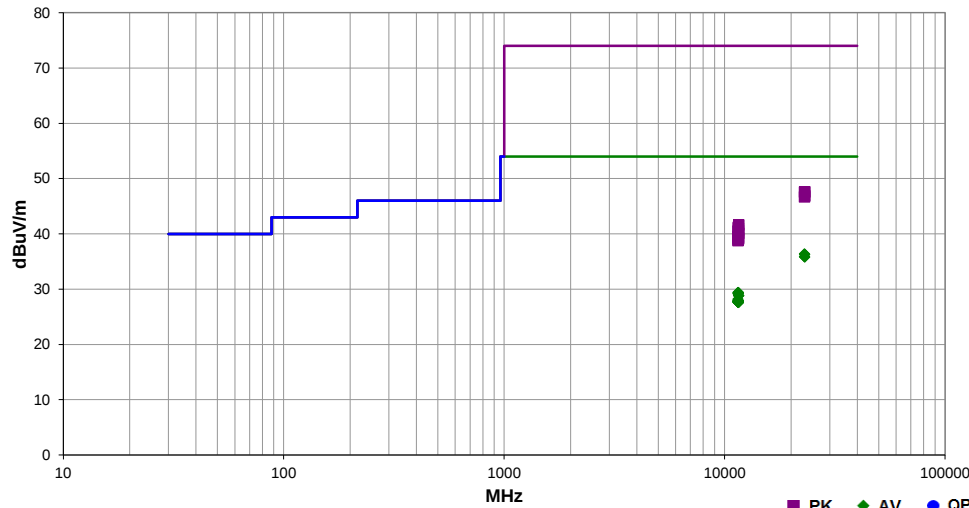


| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments                             |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|--------------------------------------|
| 22979.780  | 38.8             | -2.9        | 1.2                     | 275.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 35.9              | 54.0                 | -18.1                  | Ch 149, 6Mbps, Ant A, EUT Normal     |
| 22979.290  | 38.2             | -2.9        | 1.2                     | 104.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 35.3              | 54.0                 | -18.7                  | Ch 149, 6Mbps, Ant A, EUT Normal     |
| 11489.440  | 31.5             | -2.1        | 1.9                     | 347.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 29.4              | 54.0                 | -24.6                  | Ch 149, 6Mbps, Ant A, EUT Normal     |
| 11649.930  | 31.2             | -1.9        | 4.0                     | 135.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 29.3              | 54.0                 | -24.7                  | Ch 165, 6Mbps, Ant A, EUT Normal     |
| 11490.060  | 31.3             | -2.1        | 1.6                     | 180.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 29.2              | 54.0                 | -24.8                  | Ch 149, 6Mbps, Ant A, EUT Normal     |
| 11569.860  | 31.0             | -2.0        | 1.6                     | 160.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 29.0              | 54.0                 | -25.0                  | Ch 157, 6Mbps, Ant A, EUT Normal     |
| 11569.030  | 31.0             | -2.0        | 1.6                     | 195.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 29.0              | 54.0                 | -25.0                  | Ch 157, 6Mbps, Ant A, EUT Normal     |
| 11649.980  | 30.9             | -1.9        | 1.6                     | 0.0               | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 29.0              | 54.0                 | -25.0                  | Ch 165, 6Mbps, Ant A, EUT Vertical   |
| 11649.030  | 30.9             | -1.9        | 1.6                     | 288.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 29.0              | 54.0                 | -25.0                  | Ch 165, 6Mbps, Ant A, EUT Normal     |
| 11650.310  | 30.9             | -1.9        | 2.9                     | 119.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 29.0              | 54.0                 | -25.0                  | Ch 165, MCS8(n), Ant AB, EUT Normal  |
| 11649.120  | 30.8             | -1.9        | 1.6                     | 311.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 28.9              | 54.0                 | -25.1                  | Ch 165, 6Mbps, Ant B, EUT Normal     |
| 11650.320  | 30.8             | -1.9        | 1.6                     | 273.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 28.9              | 54.0                 | -25.1                  | Ch 165, 6Mbps, Ant B, EUT Normal     |
| 11649.720  | 30.7             | -1.9        | 1.6                     | 223.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 28.8              | 54.0                 | -25.2                  | Ch 165, 6Mbps, Ant A, EUT Vertical   |
| 11649.590  | 30.7             | -1.9        | 1.6                     | 150.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 28.8              | 54.0                 | -25.2                  | Ch 165, MCS8(n), Ant AB, EUT Normal  |
| 11651.150  | 30.7             | -1.9        | 1.6                     | 357.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 28.8              | 54.0                 | -25.2                  | Ch 165, MCS0(ac), Ant AB, EUT Normal |
| 11649.480  | 30.6             | -1.9        | 1.6                     | 278.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 28.7              | 54.0                 | -25.3                  | Ch 165, MCS0(ac), Ant AB, EUT Normal |
| 11649.230  | 30.6             | -1.9        | 1.6                     | 94.0              | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 28.7              | 54.0                 | -25.3                  | Ch 165, 6Mbps, Ant A, EUT Flat       |
| 11651.140  | 30.5             | -1.9        | 1.6                     | 6.0               | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 28.6              | 54.0                 | -25.4                  | Ch 165, 6Mbps, Ant A, EUT Flat       |
| 11491.270  | 30.3             | -2.1        | 3.9                     | 197.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 28.2              | 54.0                 | -25.8                  | Ch 149, MCS0(n), Ant A, EUT Normal   |
| 11491.190  | 29.8             | -2.1        | 1.6                     | 266.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 27.7              | 54.0                 | -26.3                  | Ch 149, MCS8(n), Ant AB, EUT Normal  |
| 11491.130  | 29.8             | -2.1        | 1.6                     | 216.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 27.7              | 54.0                 | -26.3                  | Ch 149, MCS0(n), Ant B, EUT Normal   |
| 11490.820  | 29.8             | -2.1        | 1.6                     | 50.0              | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 27.7              | 54.0                 | -26.3                  | Ch 149, MCS8(ac), Ant AB, EUT Normal |
| 11490.310  | 29.8             | -2.1        | 1.6                     | 207.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 27.7              | 54.0                 | -26.3                  | Ch 149, MCS7(n), Ant A, EUT Normal   |
| 11489.930  | 29.8             | -2.1        | 1.6                     | 13.0              | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 27.7              | 54.0                 | -26.3                  | Ch 149, MCS8(ac), Ant A, EUT Normal  |
| 11489.860  | 29.8             | -2.1        | 1.6                     | 350.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 27.7              | 54.0                 | -26.3                  | Ch 149, MCS15(n), Ant AB, EUT Normal |
| 11490.890  | 29.7             | -2.1        | 1.6                     | 203.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 27.6              | 54.0                 | -26.4                  | Ch 149, MCS0(ac), Ant AB, EUT Normal |
| 11490.390  | 29.7             | -2.1        | 1.6                     | 113.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 27.6              | 54.0                 | -26.4                  | Ch 149, MCS0(ac), Ant A, EUT Normal  |
| 22980.420  | 50.2             | -2.9        | 1.2                     | 275.0             | 3.0                    | 0.0                       | Horz                     | PK       | 0.0                      | 47.3              | 74.0                 | -26.7                  | Ch 149, 6Mbps, Ant A, EUT Normal     |

| 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                             |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|---------------------------|----------|--------------------------|-------------------|----------------------|------------------------|--------------------------------------|
| 22978.880  | 50.0             | -2.9        | 1.2                     | 104.0             | 3.0                    | 0.0                       | Vert                      | PK       | 0.0                      | 47.1              | 74.0                 | -26.9                  | Ch 149, 6Mbps, Ant A, EUT Normal     |
| 11489.970  | 28.4             | -2.1        | 1.7                     | 360.0             | 3.0                    | 0.0                       | Horz                      | AV       | 0.0                      | 26.3              | 54.0                 | -27.7                  | Ch 149, 36Mbps, Ant A, EUT Normal    |
| 11489.920  | 28.3             | -2.1        | 1.6                     | 340.0             | 3.0                    | 0.0                       | Horz                      | AV       | 0.0                      | 26.2              | 54.0                 | -27.8                  | Ch 149, 54Mbps, Ant A, EUT Normal    |
| 11489.460  | 43.5             | -2.1        | 1.9                     | 347.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 41.4              | 74.0                 | -32.6                  | Ch 149, 6Mbps, Ant A, EUT Normal     |
| 11649.440  | 43.1             | -1.9        | 1.6                     | 311.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 41.2              | 74.0                 | -32.8                  | Ch 165, 6Mbps, Ant B, EUT Normal     |
| 11650.310  | 43.0             | -1.9        | 4.0                     | 135.0             | 3.0                    | 0.0                       | Vert                      | PK       | 0.0                      | 41.1              | 74.0                 | -32.9                  | Ch 165, 6Mbps, Ant A, EUT Normal     |
| 11650.620  | 42.8             | -1.9        | 1.6                     | 0.0               | 3.0                    | 0.0                       | Vert                      | PK       | 0.0                      | 40.9              | 74.0                 | -33.1                  | Ch 165, 6Mbps, Ant A, EUT Vertical   |
| 11649.990  | 42.7             | -1.9        | 1.6                     | 357.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 40.8              | 74.0                 | -33.2                  | Ch 165, MCS0(ac), Ant AB, EUT Normal |
| 11650.350  | 42.6             | -1.9        | 2.9                     | 119.0             | 3.0                    | 0.0                       | Vert                      | PK       | 0.0                      | 40.7              | 74.0                 | -33.3                  | Ch 165, MCS8(n), Ant AB, EUT Normal  |
| 11568.640  | 42.6             | -2.0        | 1.6                     | 195.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 40.6              | 74.0                 | -33.4                  | Ch 157, 6Mbps, Ant A, EUT Normal     |
| 11650.930  | 42.5             | -1.9        | 1.6                     | 273.0             | 3.0                    | 0.0                       | Vert                      | PK       | 0.0                      | 40.6              | 74.0                 | -33.4                  | Ch 165, 6Mbps, Ant B, EUT Normal     |
| 11490.980  | 42.6             | -2.1        | 1.6                     | 180.0             | 3.0                    | 0.0                       | Vert                      | PK       | 0.0                      | 40.5              | 74.0                 | -33.5                  | Ch 149, 6Mbps, Ant A, EUT Normal     |
| 11568.920  | 42.4             | -2.0        | 1.6                     | 160.0             | 3.0                    | 0.0                       | Vert                      | PK       | 0.0                      | 40.4              | 74.0                 | -33.6                  | Ch 157, 6Mbps, Ant A, EUT Normal     |
| 11489.840  | 42.4             | -2.1        | 1.6                     | 203.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 40.3              | 74.0                 | -33.7                  | Ch 149, MCS0(ac), Ant AB, EUT Normal |
| 11648.910  | 42.2             | -1.9        | 1.6                     | 288.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 40.3              | 74.0                 | -33.7                  | Ch 165, 6Mbps, Ant A, EUT Normal     |
| 11648.570  | 42.1             | -1.9        | 1.6                     | 94.0              | 3.0                    | 0.0                       | Vert                      | PK       | 0.0                      | 40.2              | 74.0                 | -33.8                  | Ch 165, 6Mbps, Ant A, EUT Flat       |
| 11650.400  | 42.0             | -1.9        | 1.6                     | 223.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 40.1              | 74.0                 | -33.9                  | Ch 165, 6Mbps, Ant A, EUT Vertical   |
| 11650.660  | 42.0             | -1.9        | 1.6                     | 150.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 40.1              | 74.0                 | -33.9                  | Ch 165, MCS8(n), Ant AB, EUT Normal  |
| 11649.500  | 41.9             | -1.9        | 1.6                     | 278.0             | 3.0                    | 0.0                       | Vert                      | PK       | 0.0                      | 40.0              | 74.0                 | -34.0                  | Ch 165, MCS0(ac), Ant AB, EUT Normal |
| 11490.260  | 42.0             | -2.1        | 3.9                     | 197.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 39.9              | 74.0                 | -34.1                  | Ch 149, MCS0(n), Ant A, EUT Normal   |
| 11650.840  | 41.8             | -1.9        | 1.6                     | 6.0               | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 39.9              | 74.0                 | -34.1                  | Ch 165, 6Mbps, Ant A, EUT Flat       |
| 11491.020  | 41.8             | -2.1        | 1.6                     | 50.0              | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 39.7              | 74.0                 | -34.3                  | Ch 149, MCS8(ac), Ant AB, EUT Normal |
| 11488.760  | 41.6             | -2.1        | 1.6                     | 207.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 39.5              | 74.0                 | -34.5                  | Ch 149, MCS7(n), Ant A, EUT Normal   |
| 11491.030  | 41.5             | -2.1        | 1.6                     | 340.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 39.4              | 74.0                 | -34.6                  | Ch 149, 54Mbps, Ant A, EUT Normal    |
| 11489.010  | 41.4             | -2.1        | 1.6                     | 216.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 39.3              | 74.0                 | -34.7                  | Ch 149, MCS0(n), Ant B, EUT Normal   |
| 11489.720  | 41.1             | -2.1        | 1.6                     | 13.0              | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 39.0              | 74.0                 | -35.0                  | Ch 149, MCS8(ac), Ant A, EUT Normal  |
| 11489.670  | 41.1             | -2.1        | 1.6                     | 350.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 39.0              | 74.0                 | -35.0                  | Ch 149, MCS15(n), Ant AB, EUT Normal |
| 11491.300  | 41.0             | -2.1        | 1.6                     | 113.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 38.9              | 74.0                 | -35.1                  | Ch 149, MCS0(ac), Ant A, EUT Normal  |
| 11490.170  | 40.9             | -2.1        | 1.7                     | 360.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 38.8              | 74.0                 | -35.2                  | Ch 149, 36Mbps, Ant A, EUT Normal    |
| 11489.510  | 40.9             | -2.1        | 1.6                     | 266.0             | 3.0                    | 0.0                       | Horz                      | PK       | 0.0                      | 38.8              | 74.0                 | -35.2                  | Ch 149, MCS8(n), Ant AB, EUT Normal  |

|                     |                                                                                                                                                                    |                   |             |                                                                                    |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------|------------------------------------------------------------------------------------|
| Work Order:         | MCSO1748                                                                                                                                                           | Date:             | 04/14/16    |  |
| Project:            | None                                                                                                                                                               | Temperature:      | 24 °C       |                                                                                    |
| Job Site:           | NC01                                                                                                                                                               | Humidity:         | 31% RH      |                                                                                    |
| Serial Number:      | 041152140753                                                                                                                                                       | Barometric Pres.: | 1008 mbar   |                                                                                    |
| EUT:                | Model 1631                                                                                                                                                         |                   |             |                                                                                    |
| Configuration:      | 2                                                                                                                                                                  |                   |             |                                                                                    |
| Customer:           | Microsoft Corporation                                                                                                                                              |                   |             |                                                                                    |
| Attendees:          | None                                                                                                                                                               |                   |             |                                                                                    |
| EUT Power:          | 110VAC/60Hz                                                                                                                                                        |                   |             |                                                                                    |
| Operating Mode:     | Transmitting 802.11(a/n/ac), Signal setting at > 95% Duty Cycle. See comments next to data points for EUT Channel, Data Rate, Antenna Chain, and orientation.      |                   |             |                                                                                    |
| Deviations:         | None                                                                                                                                                               |                   |             |                                                                                    |
| Comments:           | Testing 40MHz and 80MHz BW Channels, restricted band measurements. Power setting at 11dBm for 20MHz and 40MHz channels. Power Setting at 10dBm for 80MHz channels. |                   |             |                                                                                    |
| Test Specifications | FCC 15.407:2016                                                                                                                                                    |                   | Test Method | ANSI C63.10:2013                                                                   |

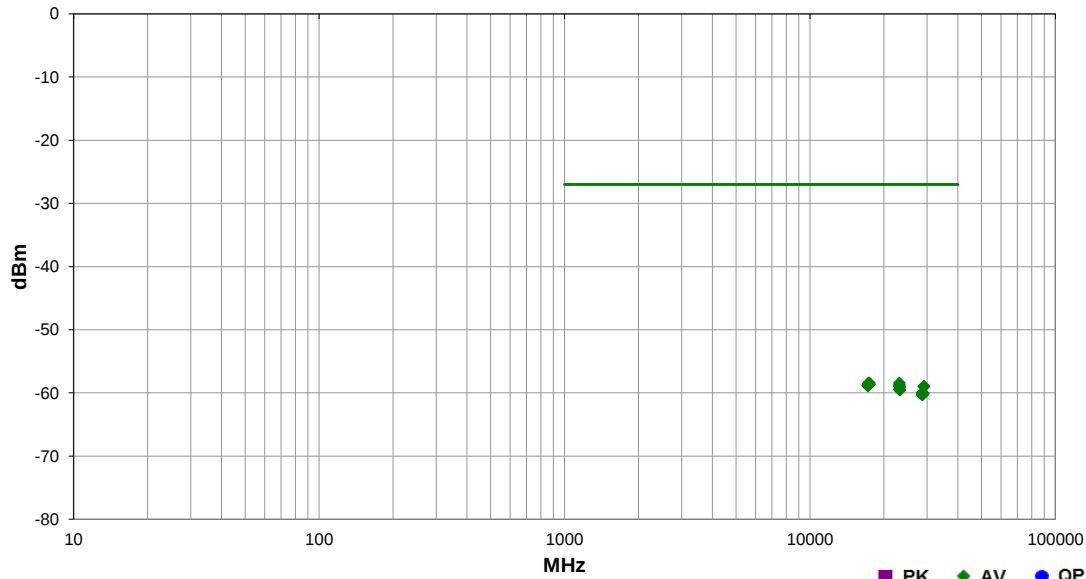
| Run # | 16,21 | Test Distance (m) | 3 | Antenna Height(s) | 1 to 4(m) | Results | Pass |
|-------|-------|-------------------|---|-------------------|-----------|---------|------|
|-------|-------|-------------------|---|-------------------|-----------|---------|------|



| 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                                 |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|------------------------------------------|
| 23019.800  | 39.2             | -2.8        | 1.2                     | 55.0              | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 36.4              | 54.0                 | -17.6                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 23099.880  | 39.1             | -2.8        | 1.2                     | 8.0               | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 36.3              | 54.0                 | -17.7                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 23019.940  | 38.7             | -2.8        | 1.2                     | 231.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 35.9              | 54.0                 | -18.1                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 23099.690  | 38.6             | -2.8        | 1.2                     | 244.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 35.8              | 54.0                 | -18.2                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 11550.310  | 31.4             | -2.0        | 2.6                     | 181.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 29.4              | 54.0                 | -24.6                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 11510.080  | 31.4             | -2.0        | 1.6                     | 350.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 29.4              | 54.0                 | -24.6                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 11550.050  | 31.2             | -2.0        | 2.3                     | 295.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 29.2              | 54.0                 | -24.8                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 11509.120  | 31.2             | -2.0        | 1.6                     | 205.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 29.2              | 54.0                 | -24.8                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 11590.300  | 30.8             | -2.0        | 1.6                     | 127.0             | 3.0                    | 0.0                       | Horz                     | AV       | 0.0                      | 28.8              | 54.0                 | -25.2                  | Ch 157/161, MCS8(n), Ant AB, EUT Normal  |
| 11590.290  | 30.8             | -2.0        | 1.6                     | 264.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 28.8              | 54.0                 | -25.2                  | Ch 157/161, MCS8(n), Ant AB, EUT Normal  |
| 11508.810  | 30.2             | -2.0        | 4.0                     | 273.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 28.2              | 54.0                 | -25.8                  | Ch 149/153, MCS15(n), Ant AB, EUT Normal |
| 11549.880  | 29.9             | -2.0        | 2.1                     | 267.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 27.9              | 54.0                 | -26.1                  | Ch 149/161, MCS9(ac), Ant A, EUT Normal  |
| 11510.360  | 29.9             | -2.0        | 1.0                     | 286.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 27.9              | 54.0                 | -26.1                  | Ch 149/153, MCS9(ac), Ant AB, EUT Normal |
| 11509.710  | 29.9             | -2.0        | 1.6                     | 8.0               | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 27.9              | 54.0                 | -26.1                  | Ch 149/153, MCS0(ac), Ant A, EUT Normal  |
| 11508.750  | 29.8             | -2.0        | 1.6                     | 233.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 27.8              | 54.0                 | -26.2                  | Ch 149/153, MCS0(ac), Ant AB, EUT Normal |
| 11509.990  | 29.7             | -2.0        | 1.6                     | 11.0              | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 27.7              | 54.0                 | -26.3                  | Ch 149/153, MCS7(n), Ant A, EUT Normal   |
| 11508.840  | 29.7             | -2.0        | 1.6                     | 100.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 27.7              | 54.0                 | -26.3                  | Ch 149/153, MCS0(n), Ant A, EUT Normal   |
| 11509.530  | 29.7             | -2.0        | 1.6                     | 201.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 27.7              | 54.0                 | -26.3                  | Ch 149/153, MCS9(ac), Ant A, EUT Normal  |
| 11511.150  | 29.7             | -2.0        | 1.6                     | 143.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 27.7              | 54.0                 | -26.3                  | Ch 149/153, MCS0(ac), Ant B, EUT Normal  |
| 11552.280  | 29.6             | -2.0        | 1.6                     | 276.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 27.6              | 54.0                 | -26.4                  | Ch 149/161, MCS9(ac), Ant AB, EUT Normal |
| 11549.680  | 29.6             | -2.0        | 1.6                     | 304.0             | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 27.6              | 54.0                 | -26.4                  | Ch 149/161, MCS0(ac), Ant A, EUT Normal  |
| 11547.900  | 29.6             | -2.0        | 1.6                     | 79.0              | 3.0                    | 0.0                       | Vert                     | AV       | 0.0                      | 27.6              | 54.0                 | -26.4                  | Ch 149/161, MCS9(ac), Ant AB, EUT Normal |
| 23099.310  | 50.4             | -2.8        | 1.2                     | 8.0               | 3.0                    | 0.0                       | Horz                     | PK       | 0.0                      | 47.6              | 74.0                 | -26.4                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 23019.180  | 50.4             | -2.8        | 1.2                     | 55.0              | 3.0                    | 0.0                       | Horz                     | PK       | 0.0                      | 47.6              | 74.0                 | -26.4                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 23100.110  | 49.7             | -2.8        | 1.2                     | 244.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 46.9              | 74.0                 | -27.1                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 23019.720  | 49.5             | -2.8        | 1.2                     | 231.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 46.7              | 74.0                 | -27.3                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 11590.180  | 43.6             | -2.0        | 1.6                     | 264.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 41.6              | 74.0                 | -32.4                  | Ch 157/161, MCS8(n), Ant AB, EUT Normal  |
| 11511.410  | 43.2             | -2.0        | 1.6                     | 350.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 41.2              | 74.0                 | -32.8                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 11548.760  | 43.0             | -2.0        | 2.3                     | 295.0             | 3.0                    | 0.0                       | Horz                     | PK       | 0.0                      | 41.0              | 74.0                 | -33.0                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 11549.790  | 42.6             | -2.0        | 2.6                     | 181.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 40.6              | 74.0                 | -33.4                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 11509.490  | 42.5             | -2.0        | 1.6                     | 205.0             | 3.0                    | 0.0                       | Horz                     | PK       | 0.0                      | 40.5              | 74.0                 | -33.5                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 11588.830  | 42.1             | -2.0        | 1.6                     | 127.0             | 3.0                    | 0.0                       | Horz                     | PK       | 0.0                      | 40.1              | 74.0                 | -33.9                  | Ch 157/161, MCS8(n), Ant AB, EUT Normal  |
| 11548.500  | 41.5             | -2.0        | 1.6                     | 276.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 39.5              | 74.0                 | -34.5                  | Ch 149/161, MCS9(ac), Ant AB, EUT Normal |
| 11509.150  | 41.5             | -2.0        | 4.0                     | 273.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 39.5              | 74.0                 | -34.5                  | Ch 149/153, MCS15(n), Ant AB, EUT Normal |
| 11510.800  | 41.4             | -2.0        | 1.6                     | 143.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 39.4              | 74.0                 | -34.6                  | Ch 149/153, MCS0(ac), Ant B, EUT Normal  |
| 11509.500  | 41.4             | -2.0        | 1.0                     | 286.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 39.4              | 74.0                 | -34.6                  | Ch 149/153, MCS9(ac), Ant AB, EUT Normal |
| 11510.520  | 41.4             | -2.0        | 1.6                     | 201.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 39.4              | 74.0                 | -34.6                  | Ch 149/153, MCS9(ac), Ant A, EUT Normal  |
| 11551.460  | 41.3             | -2.0        | 1.6                     | 304.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 39.3              | 74.0                 | -34.7                  | Ch 149/161, MCS0(ac), Ant A, EUT Normal  |
| 11510.580  | 41.3             | -2.0        | 1.6                     | 11.0              | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 39.3              | 74.0                 | -34.7                  | Ch 149/153, MCS7(n), Ant A, EUT Normal   |
| 11509.280  | 41.3             | -2.0        | 1.6                     | 8.0               | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 39.3              | 74.0                 | -34.7                  | Ch 149/153, MCS0(ac), Ant A, EUT Normal  |
| 11551.070  | 41.1             | -2.0        | 1.6                     | 79.0              | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 39.1              | 74.0                 | -34.9                  | Ch 149/161, MCS9(ac), Ant B, EUT Normal  |
| 11549.010  | 41.1             | -2.0        | 2.1                     | 267.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 39.1              | 74.0                 | -34.9                  | Ch 149/161, MCS9(ac), Ant A, EUT Normal  |
| 11509.450  | 40.9             | -2.0        | 1.6                     | 233.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 38.9              | 74.0                 | -35.1                  | Ch 149/153, MCS0(ac), Ant AB, EUT Normal |
| 11509.730  | 40.8             | -2.0        | 1.6                     | 100.0             | 3.0                    | 0.0                       | Vert                     | PK       | 0.0                      | 38.8              | 74.0                 | -35.2                  | Ch 149/153, MCS0(n), Ant A, EUT Normal   |

|                 |                                                                                                                                                               |                   |           |                                                                                    |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------------------------------------------------------------------------------------|
| Work Order:     | MCSO1748                                                                                                                                                      | Date:             | 04/14/16  |  |
| Project:        | None                                                                                                                                                          | Temperature:      | 24 °C     |                                                                                    |
| Job Site:       | NC01                                                                                                                                                          | Humidity:         | 31% RH    |                                                                                    |
| Serial Number:  | 041152140753                                                                                                                                                  | Barometric Pres.: | 1008 mbar |                                                                                    |
| EUT:            | Model 1631                                                                                                                                                    |                   |           |                                                                                    |
| Configuration:  | 2                                                                                                                                                             |                   |           |                                                                                    |
| Customer:       | Microsoft Corporation                                                                                                                                         |                   |           |                                                                                    |
| Attendees:      | None                                                                                                                                                          |                   |           |                                                                                    |
| EUT Power:      | 110VAC/60Hz                                                                                                                                                   |                   |           |                                                                                    |
| Operating Mode: | Transmitting 802.11(a/n/ac), Signal setting at > 95% Duty Cycle. See comments next to data points for EUT Channel, Data Rate, Antenna Chain, and orientation. |                   |           |                                                                                    |
| Deviations:     | None                                                                                                                                                          |                   |           |                                                                                    |
| Comments:       | EIRP measurements. Power setting at 11dBm for 20MHz and 40MHz channels. Power Setting at 10dBm for 80MHz channels.                                            |                   |           |                                                                                    |

|                     |          |                   |   |                   |           |         |      |
|---------------------|----------|-------------------|---|-------------------|-----------|---------|------|
| Test Specifications |          |                   |   | Test Method       |           |         |      |
| FCC 15.407:2016     |          |                   |   | ANSI C63.10:2013  |           |         |      |
|                     |          |                   |   |                   |           |         |      |
|                     |          |                   |   |                   |           |         |      |
| Run #               | 13,20,24 | Test Distance (m) | 3 | Antenna Height(s) | 1 to 4(m) | Results | Pass |

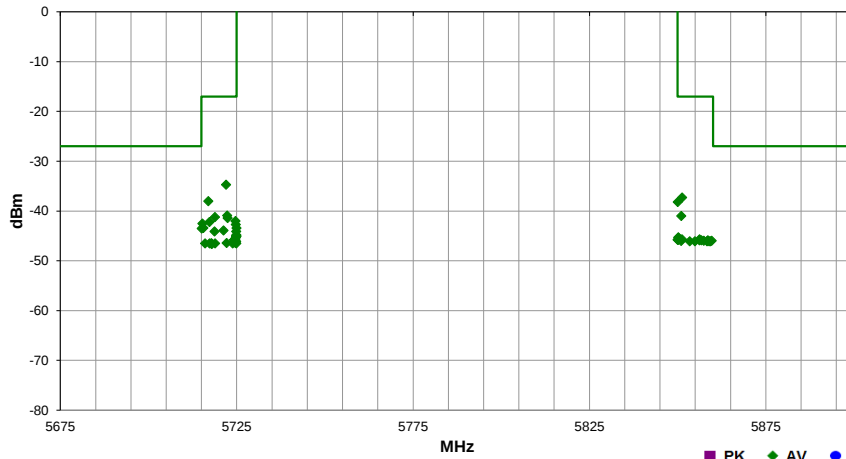


| Freq (MHz) | Antenna Height (meters) | Azimuth (degrees) | Polarity/ Transducer Type | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments                                 |
|------------|-------------------------|-------------------|---------------------------|----------|--------------|------------|-------------------|------------------------|------------------------------------------|
| 17355.760  | 1.6                     | 43.0              | Vert                      | AV       | 1.43E-09     | -58.4      | -27.0             | -31.4                  | Ch 157, 6Mbps, Ant A, EUT Normal         |
| 23179.840  | 1.2                     | 69.0              | Vert                      | AV       | 1.43E-09     | -58.4      | -27.0             | -31.4                  | Ch 157/161, MCS8(n), Ant AB, EUT Normal  |
| 17474.230  | 1.6                     | 133.0             | Vert                      | AV       | 1.43E-09     | -58.5      | -27.0             | -31.5                  | Ch 165, 6Mbps, Ant A, EUT Normal         |
| 17383.500  | 1.6                     | 112.0             | Vert                      | AV       | 1.41E-09     | -58.5      | -27.0             | -31.5                  | Ch 157/161, MCS8(n), Ant AB, EUT Normal  |
| 17356.240  | 1.6                     | 119.0             | Horz                      | AV       | 1.40E-09     | -58.5      | -27.0             | -31.5                  | Ch 157, 6Mbps, Ant A, EUT Normal         |
| 17385.390  | 3.6                     | 68.0              | Horz                      | AV       | 1.37E-09     | -58.6      | -27.0             | -31.6                  | Ch 157/161, MCS8(n), Ant AB, EUT Normal  |
| 17473.800  | 1.6                     | 283.0             | Horz                      | AV       | 1.36E-09     | -58.7      | -27.0             | -31.7                  | Ch 165, 6Mbps, Ant A, EUT Normal         |
| 17326.330  | 1.6                     | 191.0             | Vert                      | AV       | 1.36E-09     | -58.7      | -27.0             | -31.7                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 17323.710  | 1.1                     | 287.0             | Horz                      | AV       | 1.35E-09     | -58.7      | -27.0             | -31.7                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 23180.050  | 1.2                     | 210.0             | Horz                      | AV       | 1.33E-09     | -58.7      | -27.0             | -31.7                  | Ch 157/161, MCS8(n), Ant AB, EUT Normal  |
| 17233.590  | 1.6                     | 53.0              | Vert                      | AV       | 1.31E-09     | -58.8      | -27.0             | -31.8                  | Ch 149, 6Mbps, Ant A, EUT Normal         |
| 17265.560  | 1.6                     | 335.0             | Vert                      | AV       | 1.31E-09     | -58.8      | -27.0             | -31.8                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 17264.320  | 2.8                     | 227.0             | Horz                      | AV       | 1.31E-09     | -58.8      | -27.0             | -31.8                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 17233.640  | 1.6                     | 0.0               | Horz                      | AV       | 1.28E-09     | -58.9      | -27.0             | -31.9                  | Ch 149, 6Mbps, Ant A, EUT Normal         |
| 23140.000  | 1.2                     | 229.0             | Vert                      | AV       | 1.27E-09     | -58.9      | -27.0             | -31.9                  | Ch 157, 6Mbps, Ant A, EUT Normal         |
| 29126.450  | 1.2                     | 314.0             | Vert                      | AV       | 1.27E-09     | -59.0      | -27.0             | -32.0                  | Ch 165, 6Mbps, Ant A, EUT Normal         |
| 29124.810  | 1.2                     | 312.0             | Horz                      | AV       | 1.27E-09     | -59.0      | -27.0             | -32.0                  | Ch 165, 6Mbps, Ant A, EUT Normal         |
| 23299.430  | 1.2                     | 278.0             | Vert                      | AV       | 1.22E-09     | -59.1      | -27.0             | -32.1                  | Ch 165, 6Mbps, Ant A, EUT Normal         |
| 23140.960  | 1.2                     | 177.0             | Horz                      | AV       | 1.14E-09     | -59.4      | -27.0             | -32.4                  | Ch 157, 6Mbps, Ant A, EUT Normal         |
| 23299.700  | 1.2                     | 337.0             | Horz                      | AV       | 1.11E-09     | -59.5      | -27.0             | -32.5                  | Ch 165, 6Mbps, Ant A, EUT Normal         |
| 28776.500  | 1.2                     | 302.0             | Vert                      | AV       | 9.94E-10     | -60.0      | -27.0             | -33.0                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 28776.330  | 1.2                     | 269.0             | Horz                      | AV       | 9.94E-10     | -60.0      | -27.0             | -33.0                  | Ch 149/153, MCS8(n), Ant AB, EUT Normal  |
| 28973.620  | 1.2                     | 239.0             | Horz                      | AV       | 9.88E-10     | -60.1      | -27.0             | -33.1                  | Ch 157/161, MCS8(n), Ant AB, EUT Normal  |
| 28923.450  | 1.2                     | 125.0             | Vert                      | AV       | 9.83E-10     | -60.1      | -27.0             | -33.1                  | Ch 157, 6Mbps, Ant A, EUT Normal         |
| 28922.690  | 1.2                     | 9.0               | Horz                      | AV       | 9.83E-10     | -60.1      | -27.0             | -33.1                  | Ch 157, 6Mbps, Ant A, EUT Normal         |
| 28973.550  | 1.2                     | 0.0               | Vert                      | AV       | 9.66E-10     | -60.2      | -27.0             | -33.2                  | Ch 157/161, MCS8(n), Ant AB, EUT Normal  |
| 28873.510  | 1.2                     | 269.0             | Horz                      | AV       | 9.57E-10     | -60.2      | -27.0             | -33.2                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 28873.500  | 1.2                     | 321.0             | Vert                      | AV       | 9.57E-10     | -60.2      | -27.0             | -33.2                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal |
| 28726.500  | 1.2                     | 3.0               | Vert                      | AV       | 9.51E-10     | -60.2      | -27.0             | -33.2                  | Ch 149, 6Mbps, Ant A, EUT Normal         |
| 28726.370  | 1.2                     | 141.0             | Horz                      | AV       | 9.29E-10     | -60.3      | -27.0             | -33.3                  | Ch 149, 6Mbps, Ant A, EUT Normal         |

|                 |                                                                                                                                                               |                   |           |                                                                                    |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------------------------------------------------------------------------------------|
| Work Order:     | MCSO1748                                                                                                                                                      | Date:             | 04/15/16  |  |
| Project:        | None                                                                                                                                                          | Temperature:      | 23 °C     |                                                                                    |
| Job Site:       | NC01                                                                                                                                                          | Humidity:         | 36% RH    |                                                                                    |
| Serial Number:  | 041152140753                                                                                                                                                  | Barometric Pres.: | 1026 mbar |                                                                                    |
| EUT:            | Model 1631                                                                                                                                                    |                   |           |                                                                                    |
| Configuration:  | 2                                                                                                                                                             |                   |           |                                                                                    |
| Customer:       | Microsoft Corporation                                                                                                                                         |                   |           |                                                                                    |
| Attendees:      | None                                                                                                                                                          |                   |           |                                                                                    |
| EUT Power:      | 110VAC/60Hz                                                                                                                                                   |                   |           |                                                                                    |
| Operating Mode: | Transmitting 802.11(a/n/ac), Signal setting at > 95% Duty Cycle. See comments next to data points for EUT Channel, Data Rate, Antenna Chain, and orientation. |                   |           |                                                                                    |
| Deviations:     | None                                                                                                                                                          |                   |           |                                                                                    |
| Comments:       | Band Edge measurements. Power setting at 11dBm for 20MHz and 40MHz channels. Power Setting at 10dBm for 80MHz channels.                                       |                   |           |                                                                                    |

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

| Run # | 25 | Test Distance (m) | 1 | Antenna Height(s) | 1(m) | Results | Pass |
|-------|----|-------------------|---|-------------------|------|---------|------|
|-------|----|-------------------|---|-------------------|------|---------|------|



|  | Freq (MHz) | Antenna Height (meters) | Azimuth (degrees) | Polarity/Transducer Type | Detector | ERP (Watts) | ERP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments                                   |
|--|------------|-------------------------|-------------------|--------------------------|----------|-------------|-----------|-------------------|------------------------|--------------------------------------------|
|  | 5721.983   | 1.0                     | 312.0             | Vert                     | AV       | 3.37E-07    | -34.7     | -17.0             | -17.7                  | Ch 149/161, MCS0(ac), Ant B, EUT Vertical  |
|  | 5851.300   | 1.0                     | 310.0             | Vert                     | AV       | 1.86E-07    | -37.3     | -17.0             | -20.3                  | Ch 149/161, MCS0(ac), Ant AB, EUT Vertical |
|  | 5716.967   | 1.0                     | 339.0             | Vert                     | AV       | 1.58E-07    | -38.0     | -17.0             | -21.0                  | Ch 149/161, MCS0(ac), Ant AB, EUT Vertical |
|  | 5850.033   | 1.0                     | 325.0             | Vert                     | AV       | 1.51E-07    | -38.2     | -17.0             | -21.2                  | Ch 149/161, MCS9(ac), Ant AB, EUT Vertical |
|  | 5722.317   | 1.0                     | 293.0             | Vert                     | AV       | 8.08E-08    | -40.9     | -17.0             | -23.9                  | Ch 149/153, MCS8(n), Ant AB, EUT Vertical  |
|  | 5851.033   | 1.0                     | 319.0             | Vert                     | AV       | 7.94E-08    | -41.0     | -17.0             | -24.0                  | Ch 149/161, MCS0(ac), Ant B, EUT Vertical  |
|  | 5718.933   | 1.0                     | 288.0             | Vert                     | AV       | 7.54E-08    | -41.2     | -17.0             | -24.2                  | Ch 149/161, MCS8(ac), Ant AB, EUT Vertical |
|  | 5722.450   | 1.0                     | 340.0             | Vert                     | AV       | 7.20E-08    | -41.4     | -17.0             | -24.4                  | Ch 149/153, MCS15(n), Ant AB, EUT Vertical |
|  | 5724.650   | 1.0                     | 321.0             | Vert                     | AV       | 6.27E-08    | -42.0     | -17.0             | -25.0                  | Ch 149/153, MCS0(ac), Ant AB, EUT Vertical |
|  | 5717.300   | 1.0                     | 191.0             | Vert                     | AV       | 5.99E-08    | -42.2     | -17.0             | -25.2                  | Ch 149/161, MCS0(ac), Ant AB, EUT Flat     |
|  | 5715.300   | 1.0                     | 0.0               | Horz                     | AV       | 5.59E-08    | -42.5     | -17.0             | -25.5                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal   |
|  | 5724.750   | 1.0                     | 195.0             | Horz                     | AV       | 5.34E-08    | -42.7     | -17.0             | -25.7                  | Ch 149/161, MCS0(ac), Ant AB, EUT Flat     |
|  | 5715.567   | 1.0                     | 339.0             | Vert                     | AV       | 4.55E-08    | -43.4     | -17.0             | -26.4                  | Ch 149/161, MCS0(ac), Ant A, EUT Vertical  |
|  | 5724.933   | 1.0                     | 310.0             | Vert                     | AV       | 4.54E-08    | -43.4     | -17.0             | -26.4                  | Ch 149, MCS8(n), Ant AB, EUT Vertical      |
|  | 5715.100   | 1.0                     | 341.0             | Vert                     | AV       | 4.44E-08    | -43.5     | -17.0             | -26.5                  | Ch 149/161, MCS0(ac), Ant AB, EUT Normal   |
|  | 5721.283   | 1.0                     | 323.0             | Vert                     | AV       | 4.05E-08    | -43.9     | -17.0             | -26.9                  | Ch 149, MCS15(n), Ant AB, EUT Vertical     |
|  | 5718.700   | 1.0                     | 330.0             | Horz                     | AV       | 3.87E-08    | -44.1     | -17.0             | -27.1                  | Ch 149/161, MCS0(ac), Ant AB, EUT Vertical |
|  | 5724.883   | 1.0                     | 333.0             | Vert                     | AV       | 3.87E-08    | -44.1     | -17.0             | -27.1                  | Ch 149, MCS0(ac), Ant AB, EUT Vertical     |
|  | 5724.917   | 1.0                     | 313.0             | Vert                     | AV       | 3.29E-08    | -44.8     | -17.0             | -27.8                  | Ch 149, MCS0(ac), Ant B, EUT Vertical      |
|  | 5724.900   | 1.0                     | 322.0             | Vert                     | AV       | 3.14E-08    | -45.0     | -17.0             | -28.0                  | Ch 149, MCS0(n), Ant B, EUT Vertical       |
|  | 5724.883   | 1.0                     | 352.0             | Vert                     | AV       | 3.14E-08    | -45.0     | -17.0             | -28.0                  | Ch 149, MCS7(n), Ant B, EUT Vertical       |
|  | 5724.900   | 1.0                     | 23.0              | Vert                     | AV       | 3.07E-08    | -45.1     | -17.0             | -28.1                  | Ch 149, 54Mbps, Ant B, EUT Vertical        |
|  | 5724.833   | 1.0                     | 281.0             | Vert                     | AV       | 3.00E-08    | -45.2     | -17.0             | -28.2                  | Ch 149, 6Mbps, Ant B, EUT Vertical         |
|  | 5850.200   | 1.0                     | 299.0             | Vert                     | AV       | 2.95E-08    | -45.3     | -17.0             | -28.3                  | Ch 165, MCS8(n), Ant AB, EUT Vertical      |
|  | 5850.233   | 1.0                     | 335.0             | Vert                     | AV       | 2.88E-08    | -45.4     | -17.0             | -28.4                  | Ch 165, MCS0(ac), Ant AB, EUT Vertical     |
|  | 5724.633   | 1.0                     | 278.0             | Vert                     | AV       | 2.80E-08    | -45.5     | -17.0             | -28.5                  | Ch 149, 6Mbps, Ant A, EUT Vertical         |
|  | 5856.217   | 1.0                     | 350.0             | Vert                     | AV       | 2.69E-08    | -45.7     | -17.0             | -28.7                  | Ch 157/161, MCS0(ac), Ant AB, EUT Vertical |
|  | 5851.233   | 1.0                     | 306.0             | Vert                     | AV       | 2.69E-08    | -45.7     | -17.0             | -28.7                  | Ch 165, MCS0(ac), Ant B, EUT Vertical      |
|  | 5850.283   | 1.0                     | 0.0               | Vert                     | AV       | 2.63E-08    | -45.8     | -17.0             | -28.8                  | Ch 157/161, MCS8(n), Ant AB, EUT Vertical  |
|  | 5850.100   | 1.0                     | 306.0             | Vert                     | AV       | 2.63E-08    | -45.8     | -17.0             | -28.8                  | Ch 165, 54Mbps, Ant B, EUT Vertical        |
|  | 5850.017   | 1.0                     | 329.0             | Vert                     | AV       | 2.63E-08    | -45.8     | -17.0             | -28.8                  | Ch 165, MCS0(n), Ant B, EUT Vertical       |
|  | 5724.233   | 1.0                     | 353.0             | Vert                     | AV       | 2.61E-08    | -45.8     | -17.0             | -28.8                  | Ch 149, MCS8(ac), Ant B, EUT Vertical      |
|  | 5724.633   | 1.0                     | 18.0              | Vert                     | AV       | 2.61E-08    | -45.8     | -17.0             | -28.8                  | Ch 149, 36Mbps, Ant B, EUT Vertical        |
|  | 5858.583   | 1.0                     | 271.0             | Vert                     | AV       | 2.57E-08    | -45.9     | -17.0             | -28.9                  | Ch 157/161, MCS0(ac), Ant B, EUT Vertical  |
|  | 5856.750   | 1.0                     | 296.0             | Vert                     | AV       | 2.57E-08    | -45.9     | -17.0             | -28.9                  | Ch 157/161, MCS0(n), Ant B, EUT Vertical   |
|  | 5856.200   | 1.0                     | 304.0             | Vert                     | AV       | 2.57E-08    | -45.9     | -17.0             | -28.9                  | Ch 157/161, MCS9(ac), Ant B, EUT Vertical  |
|  | 5859.683   | 1.0                     | 0.0               | Vert                     | AV       | 2.52E-08    | -46.0     | -17.0             | -29.0                  | Ch 149/153, MCS7(n), Ant B, EUT Vertical   |
|  | 5857.417   | 1.0                     | 16.0              | Vert                     | AV       | 2.51E-08    | -46.0     | -17.0             | -29.0                  | Ch 149/161, MCS9(ac), Ant B, EUT Vertical  |
|  | 5851.017   | 1.0                     | 293.0             | Vert                     | AV       | 2.51E-08    | -46.0     | -17.0             | -29.0                  | Ch 149/153, MCS0(n), Ant B, EUT Vertical   |
|  | 5859.300   | 1.0                     | 184.0             | Vert                     | AV       | 2.46E-08    | -46.1     | -17.0             | -29.1                  | Ch 157/161, MCS7(n), Ant B, EUT Vertical   |
|  | 5858.933   | 1.0                     | 166.0             | Vert                     | AV       | 2.46E-08    | -46.1     | -17.0             | -29.1                  | Ch 157/161, MCS0(ac), Ant A, EUT Vertical  |
|  | 5858.350   | 1.0                     | 297.0             | Vert                     | AV       | 2.46E-08    | -46.1     | -17.0             | -29.1                  | Ch 149/153, MCS9(ac), Ant B, EUT Vertical  |
|  | 5854.933   | 1.0                     | 301.0             | Vert                     | AV       | 2.46E-08    | -46.1     | -17.0             | -29.1                  | Ch 149/153, MCS0(ac), Ant B, EUT Vertical  |
|  | 5853.433   | 1.0                     | 46.0              | Vert                     | AV       | 2.46E-08    | -46.1     | -17.0             | -29.1                  | Ch 165, MCS0(ac), Ant A, EUT Vertical      |
|  | 5724.883   | 1.0                     | 228.0             | Vert                     | AV       | 2.44E-08    | -46.1     | -17.0             | -29.1                  | Ch 149, 6Mbps, Ant A, EUT Flat             |
|  | 5722.150   | 1.0                     | 59.0              | Horz                     | AV       | 2.28E-08    | -46.4     | -17.0             | -29.4                  | Ch 149, 6Mbps, Ant A, EUT Flat             |
|  | 5724.683   | 1.0                     | 189.0             | Horz                     | AV       | 2.28E-08    | -46.4     | -17.0             | -29.4                  | Ch 149, 6Mbps, Ant B, EUT Normal           |
|  | 5716.033   | 1.0                     | 40.0              | Vert                     | AV       | 2.23E-08    | -46.5     | -17.0             | -29.5                  | Ch 149, 6Mbps, Ant A, EUT Normal           |
|  | 5717.333   | 1.0                     | 190.0             | Horz                     | AV       | 2.23E-08    | -46.5     | -17.0             | -29.5                  | Ch 149, 6Mbps, Ant B, EUT Vertical         |
|  | 5717.783   | 1.0                     | 137.0             | Horz                     | AV       | 2.23E-08    | -46.5     | -17.0             | -29.5                  | Ch 149, 6Mbps, Ant A, EUT Normal           |
|  | 5717.867   | 1.0                     | 325.0             | Horz                     | AV       | 2.23E-08    | -46.5     | -17.0             | -29.5                  | Ch 149, 6Mbps, Ant B, EUT Flat             |
|  | 5718.867   | 1.0                     | 59.0              | Horz                     | AV       | 2.23E-08    | -46.5     | -17.0             | -29.5                  | Ch 149, 6Mbps, Ant A, EUT Vertical         |
|  | 5723.867   | 1.0                     | 157.0             | Vert                     | AV       | 2.23E-08    | -46.5     | -17.0             | -29.5                  | Ch 149, 6Mbps, Ant B, EUT Normal           |
|  | 5724.917   | 1.0                     | 287.0             | Vert                     | AV       | 2.23E-08    | -46.5     | -17.0             | -29.5                  | Ch 149/161, MCS9(ac), Ant B, EUT Vertical  |
|  | 5717.950   | 1.0                     | 264.0             | Vert                     | AV       | 2.18E-08    | -46.6     | -17.0             | -29.6                  | Ch 149, 6Mbps, Ant B, EUT Flat             |

# 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 (mo) |
|--------------------------------|-------------------------|------------------|-----|-----------|---------------|
| Chamber - Temperature/Humidity | Tenney                  | T6S              | TBG | NCR       | 0             |
| Thermometer                    | Omega Engineering, Inc. | HH311            | DUH | 4/3/2015  | 36            |
| Analyzer - Spectrum Analyzer   | Agilent                 | E4446A           | AAT | 9/29/2015 | 12            |
| Cable                          | ESM Cable Corp.         | TTBJ-141 KMKM-72 | NC5 | 6/6/2015  | 12            |
| Attenuator                     | Fairview Microwave      | SA4014-20        | TKV | 3/4/2016  | 12            |
| Block - DC                     | Fairview Microwave      | SD3379           | AMJ | 6/6/2015  | 12            |
| Generator - Signal             | Agilent                 | N5183A           | TIA | 4/6/2016  | 24            |

## TEST DESCRIPTION

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 edges of the main transmit bands as called out on the data sheets. Testing was done with an absence of modulation in a CW mode of operation.

The primary supply voltage was varied from 85 % to 115% of the nominal voltage Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range and at 10°C intervals.

Where a ppm limit applies:  $\text{ppm} = (\text{Measured Frequency} / \text{Measured Nominal Frequency} - 1) * 1,000,000$

Per the requirements of FCC 15.407:

"Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual."

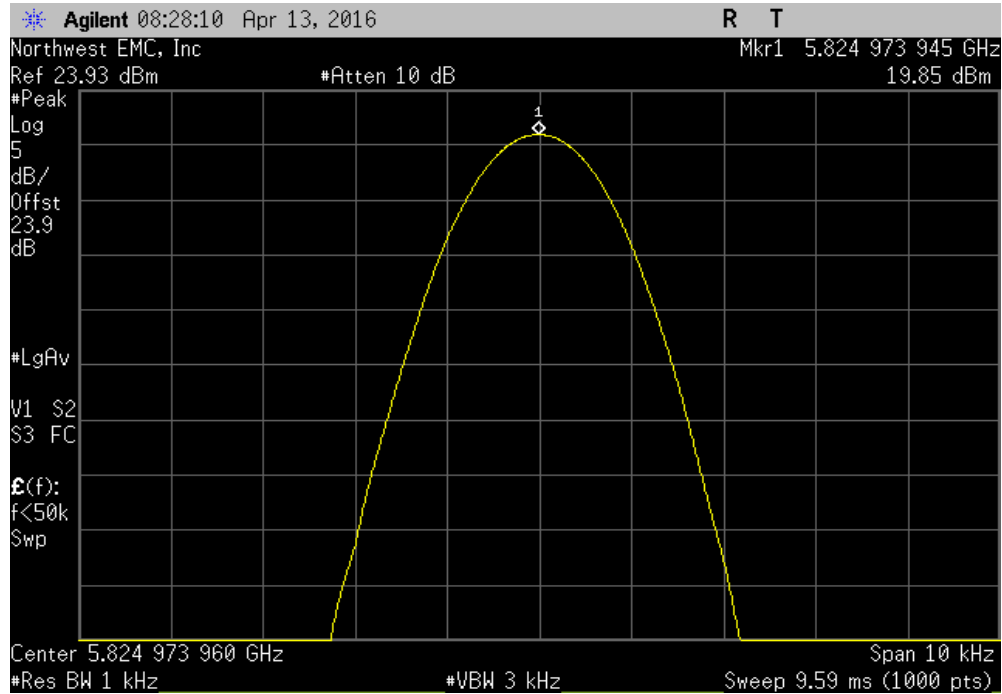
No specific limits are provided in either FCC 15.407, the product specific rule part, or FCC 2.1055, the equipment authorization procedure for testing frequency stability. While there are no limits called out, any results less than 100ppm will still allow the radio to be operating within the band.

# FREQUENCY STABILITY

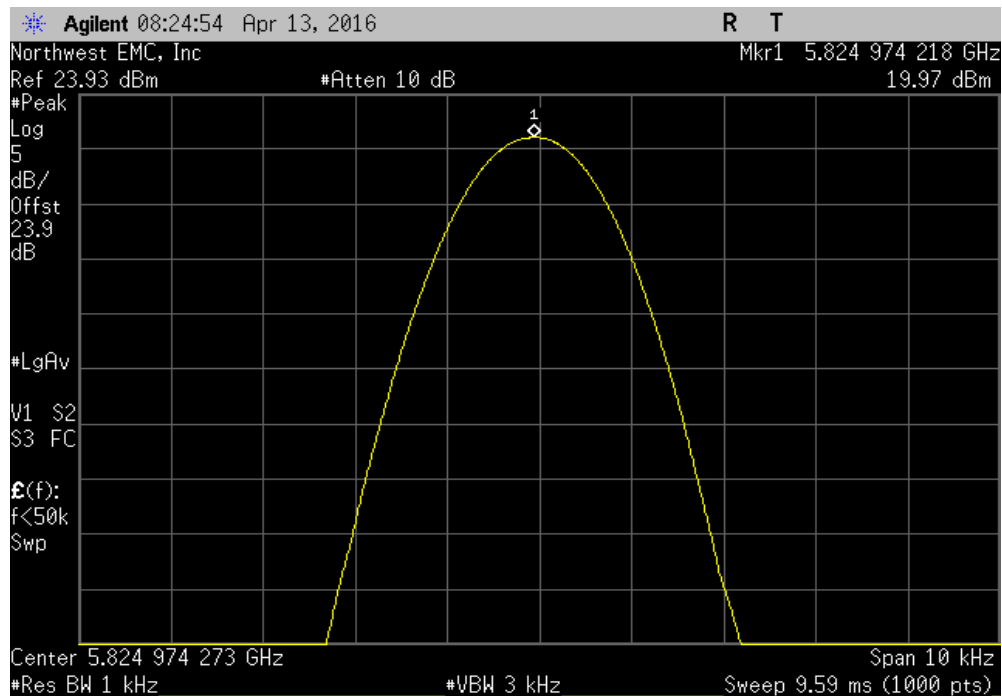
|                                                                                                                                                                                                            |                            |                                                                                             |                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------|----------------------|
| EUT: Model 1631                                                                                                                                                                                            |                            | Work Order: MCSO1748                                                                        |                      |
| Serial Number: 041152140753                                                                                                                                                                                |                            | Date: 04/13/16                                                                              |                      |
| Customer: Microsoft Corporation                                                                                                                                                                            |                            | Temperature: 24°C                                                                           |                      |
| Attendees: None                                                                                                                                                                                            |                            | Humidity: 31%                                                                               |                      |
| Project: None                                                                                                                                                                                              |                            | Barometric Pres.: 1017 mbar                                                                 |                      |
| Tested by: Richard Mellroth                                                                                                                                                                                |                            | Power: 110VAC/60Hz                                                                          |                      |
|                                                                                                                                                                                                            |                            | Job Site: NC05                                                                              |                      |
| TEST SPECIFICATIONS                                                                                                                                                                                        |                            | Test Method                                                                                 |                      |
| FCC 15.407:2016                                                                                                                                                                                            |                            | ANSI C63.10:2013                                                                            |                      |
| COMMENTS                                                                                                                                                                                                   |                            |                                                                                             |                      |
| EUT operating in CW Mode. Client supplied adapter cable loss of 1.3dB included in reference level offset. Measurements made on Antenna port A. Manufacturer specified temperature range of 0° C to +40° C. |                            |                                                                                             |                      |
| DEVIATIONS FROM TEST STANDARD                                                                                                                                                                              |                            |                                                                                             |                      |
| None                                                                                                                                                                                                       |                            |                                                                                             |                      |
| Configuration #                                                                                                                                                                                            | 1                          | Signature  |                      |
|                                                                                                                                                                                                            |                            | Measured Value (MHz)                                                                        | Assigned Value (MHz) |
|                                                                                                                                                                                                            |                            | Error (ppm)                                                                                 | Limit (ppm)          |
|                                                                                                                                                                                                            |                            |                                                                                             | Results              |
| 5725 MHz - 5850 MHz Band                                                                                                                                                                                   |                            |                                                                                             |                      |
| Voltage: 115%                                                                                                                                                                                              |                            |                                                                                             |                      |
|                                                                                                                                                                                                            | High Channel 165, 5825 MHz | 5824.973945                                                                                 | 5825                 |
|                                                                                                                                                                                                            |                            | 4.5                                                                                         | 100                  |
|                                                                                                                                                                                                            | Pass                       |                                                                                             |                      |
| Voltage: 100%                                                                                                                                                                                              |                            |                                                                                             |                      |
|                                                                                                                                                                                                            | High Channel 165, 5825 MHz | 5824.974218                                                                                 | 5825                 |
|                                                                                                                                                                                                            |                            | 4.4                                                                                         | 100                  |
|                                                                                                                                                                                                            | Pass                       |                                                                                             |                      |
| Voltage: 85%                                                                                                                                                                                               |                            |                                                                                             |                      |
|                                                                                                                                                                                                            | High Channel 165, 5825 MHz | 5824.973627                                                                                 | 5825                 |
|                                                                                                                                                                                                            |                            | 4.5                                                                                         | 100                  |
|                                                                                                                                                                                                            | Pass                       |                                                                                             |                      |
| Temperature: +40°                                                                                                                                                                                          |                            |                                                                                             |                      |
|                                                                                                                                                                                                            | High Channel 165, 5825 MHz | 5824.975153                                                                                 | 5825                 |
|                                                                                                                                                                                                            |                            | 4.3                                                                                         | 100                  |
|                                                                                                                                                                                                            | Pass                       |                                                                                             |                      |
| Temperature: +30°                                                                                                                                                                                          |                            |                                                                                             |                      |
|                                                                                                                                                                                                            | High Channel 165, 5825 MHz | 5824.973946                                                                                 | 5825                 |
|                                                                                                                                                                                                            |                            | 4.5                                                                                         | 100                  |
|                                                                                                                                                                                                            | Pass                       |                                                                                             |                      |
| Temperature: +20°                                                                                                                                                                                          |                            |                                                                                             |                      |
|                                                                                                                                                                                                            | High Channel 165, 5825 MHz | 5824.978493                                                                                 | 5825                 |
|                                                                                                                                                                                                            |                            | 3.7                                                                                         | 100                  |
|                                                                                                                                                                                                            | Pass                       |                                                                                             |                      |
| Temperature: +10°                                                                                                                                                                                          |                            |                                                                                             |                      |
|                                                                                                                                                                                                            | High Channel 165, 5825 MHz | 5824.987084                                                                                 | 5825                 |
|                                                                                                                                                                                                            |                            | 2.2                                                                                         | 100                  |
|                                                                                                                                                                                                            | Pass                       |                                                                                             |                      |
| Temperature: 0°                                                                                                                                                                                            |                            |                                                                                             |                      |
|                                                                                                                                                                                                            | High Channel 165, 5825 MHz | 5824.996115                                                                                 | 5825                 |
|                                                                                                                                                                                                            |                            | 0.7                                                                                         | 100                  |
|                                                                                                                                                                                                            | Pass                       |                                                                                             |                      |

# FREQUENCY STABILITY

| 5725 MHz - 5850 MHz Band, Voltage: 115%, High Channel 165, 5825 MHz |                      |                      |             |             |         |  |
|---------------------------------------------------------------------|----------------------|----------------------|-------------|-------------|---------|--|
|                                                                     | Measured Value (MHz) | Assigned Value (MHz) | Error (ppm) | Limit (ppm) | Results |  |
|                                                                     | 5824.973945          | 5825                 | 4.5         | 100         | Pass    |  |

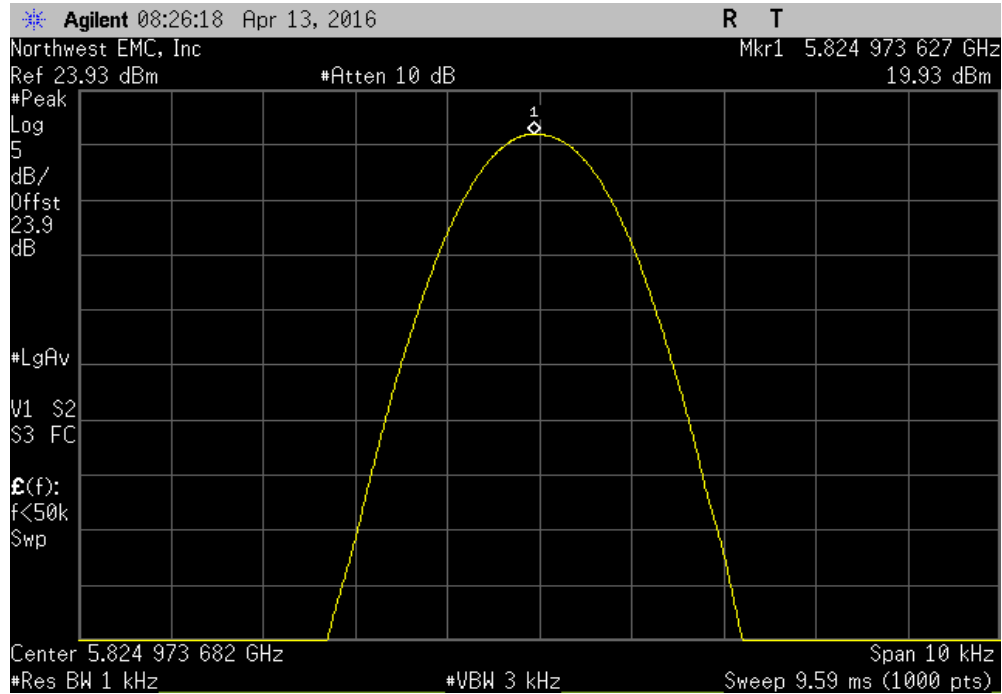


| 5725 MHz - 5850 MHz Band, Voltage: 100%, High Channel 165, 5825 MHz |                      |                      |             |             |         |  |
|---------------------------------------------------------------------|----------------------|----------------------|-------------|-------------|---------|--|
|                                                                     | Measured Value (MHz) | Assigned Value (MHz) | Error (ppm) | Limit (ppm) | Results |  |
|                                                                     | 5824.974218          | 5825                 | 4.4         | 100         | Pass    |  |

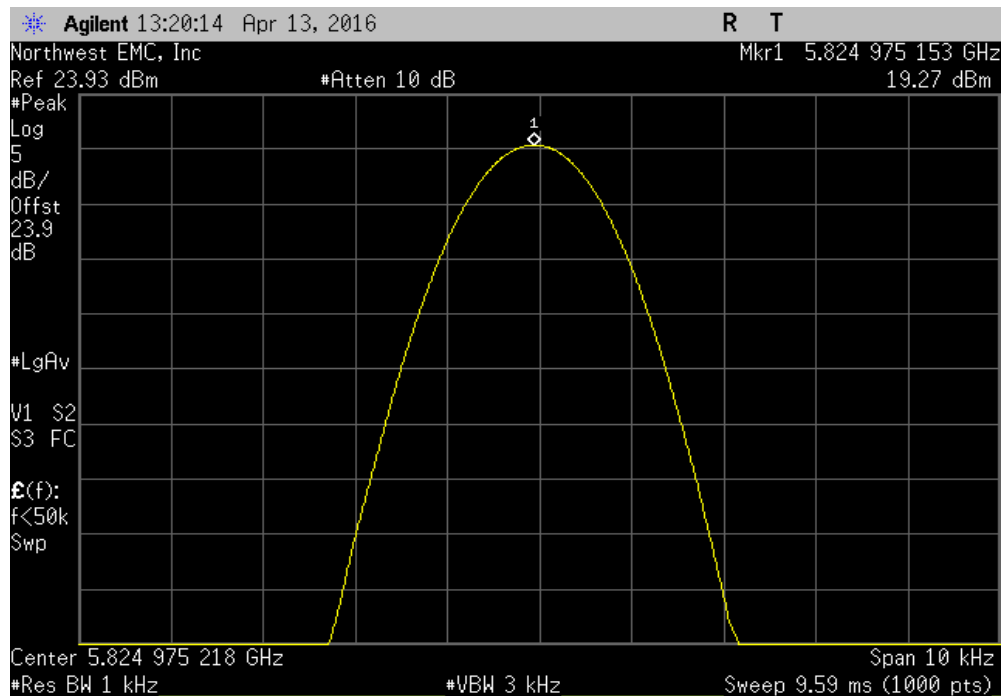


# FREQUENCY STABILITY

| 5725 MHz - 5850 MHz Band, Voltage: 85%, High Channel 165, 5825 MHz |                      |                      |             |             |         |  |
|--------------------------------------------------------------------|----------------------|----------------------|-------------|-------------|---------|--|
|                                                                    | Measured Value (MHz) | Assigned Value (MHz) | Error (ppm) | Limit (ppm) | Results |  |
|                                                                    | 5824.973627          | 5825                 | 4.5         | 100         | Pass    |  |

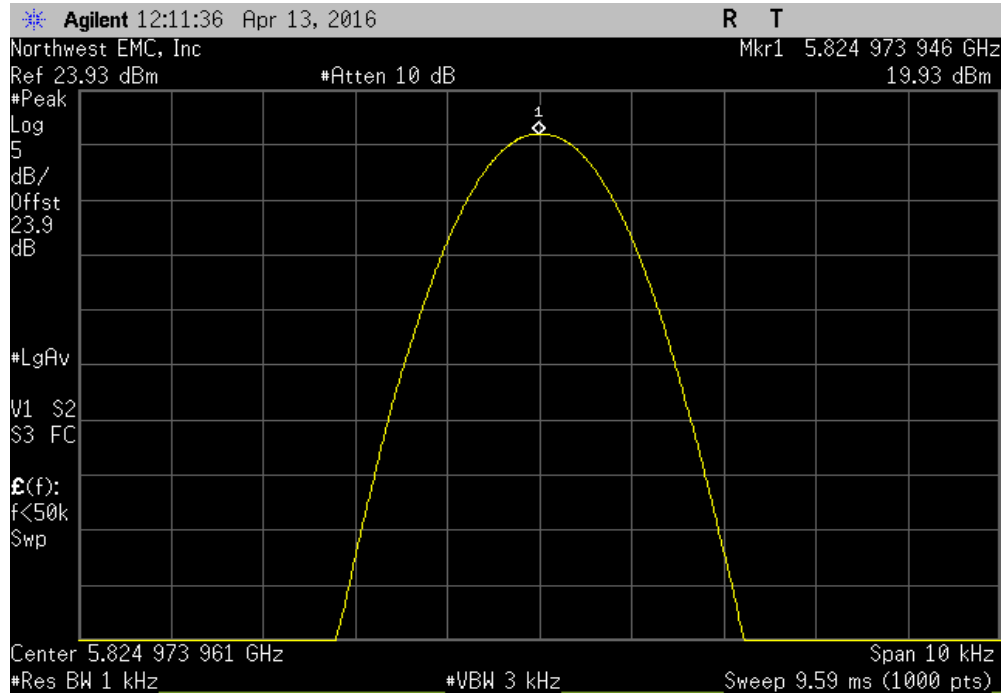


| 5725 MHz - 5850 MHz Band, Temperature: +40°, High Channel 165, 5825 MHz |                      |                      |             |             |         |  |
|-------------------------------------------------------------------------|----------------------|----------------------|-------------|-------------|---------|--|
|                                                                         | Measured Value (MHz) | Assigned Value (MHz) | Error (ppm) | Limit (ppm) | Results |  |
|                                                                         | 5824.975153          | 5825                 | 4.3         | 100         | Pass    |  |

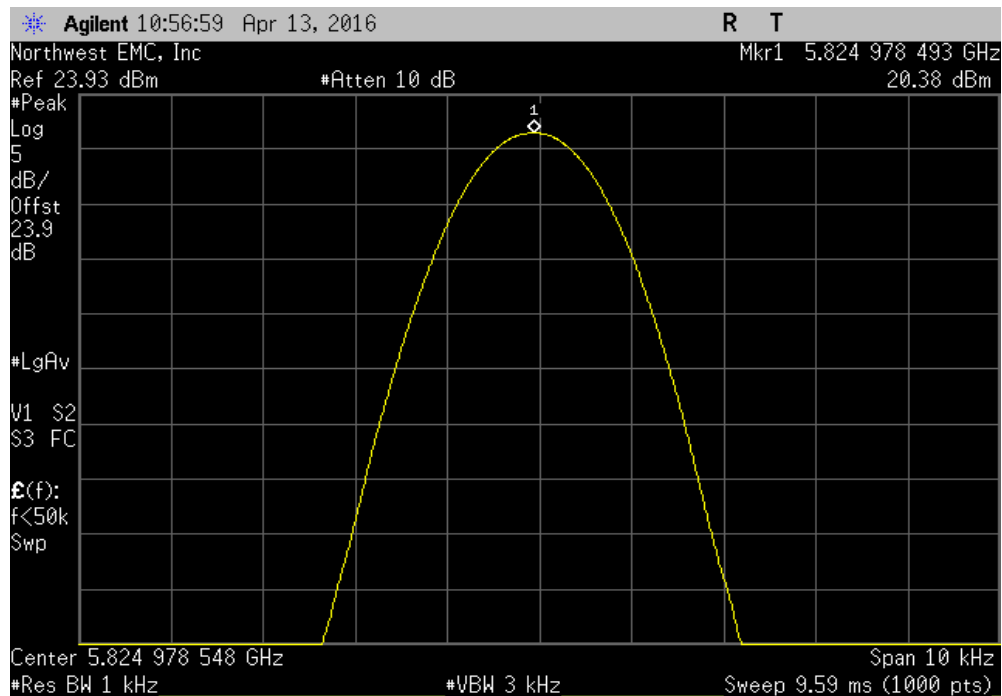


# FREQUENCY STABILITY

| 5725 MHz - 5850 MHz Band, Temperature: +30°, High Channel 165, 5825 MHz |                      |                      |             |             |         |  |
|-------------------------------------------------------------------------|----------------------|----------------------|-------------|-------------|---------|--|
|                                                                         | Measured Value (MHz) | Assigned Value (MHz) | Error (ppm) | Limit (ppm) | Results |  |
|                                                                         | 5824.973946          | 5825                 | 4.5         | 100         | Pass    |  |

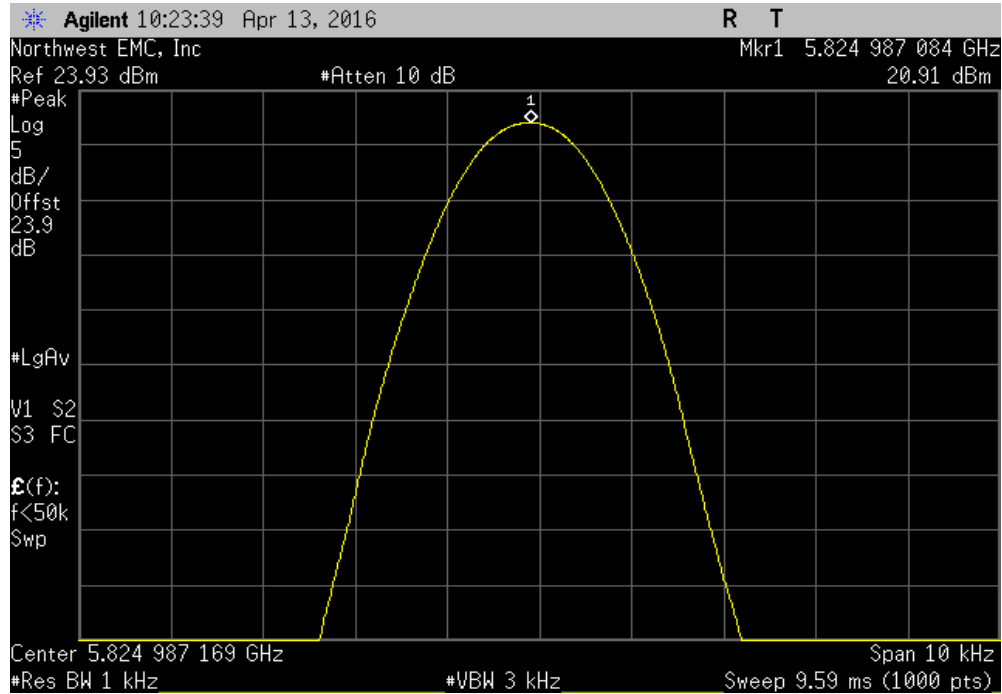


| 5725 MHz - 5850 MHz Band, Temperature: +20°, High Channel 165, 5825 MHz |                      |                      |             |             |         |  |
|-------------------------------------------------------------------------|----------------------|----------------------|-------------|-------------|---------|--|
|                                                                         | Measured Value (MHz) | Assigned Value (MHz) | Error (ppm) | Limit (ppm) | Results |  |
|                                                                         | 5824.978493          | 5825                 | 3.7         | 100         | Pass    |  |

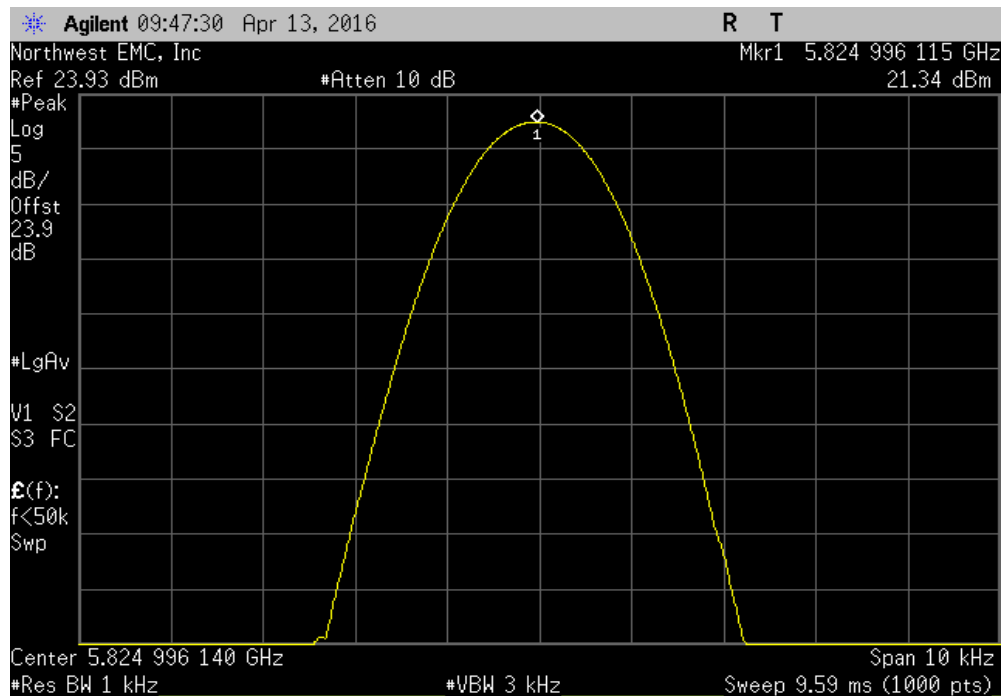


# FREQUENCY STABILITY

| 5725 MHz - 5850 MHz Band, Temperature: +10°, High Channel 165, 5825 MHz |                      |                      |             |             |         |  |
|-------------------------------------------------------------------------|----------------------|----------------------|-------------|-------------|---------|--|
|                                                                         | Measured Value (MHz) | Assigned Value (MHz) | Error (ppm) | Limit (ppm) | Results |  |
|                                                                         | 5824.987084          | 5825                 | 2.2         | 100         | Pass    |  |



| 5725 MHz - 5850 MHz Band, Temperature: 0°, High Channel 165, 5825 MHz |                      |                      |             |             |         |  |
|-----------------------------------------------------------------------|----------------------|----------------------|-------------|-------------|---------|--|
|                                                                       | Measured Value (MHz) | Assigned Value (MHz) | Error (ppm) | Limit (ppm) | Results |  |
|                                                                       | 5824.996115          | 5825                 | 0.7         | 100         | Pass    |  |



# DUTY CYCLE

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) |
|------------------------------|--------------------|------------------|-----|------------|---------------|
| Analyzer - Spectrum Analyzer | Agilent            | E4440A           | AFE | 6/22/2015  | 12            |
| Block - DC                   | Fairview Microwave | SD3379           | AMJ | 6/6/2015   | 12            |
| Attenuator                   | Fairview Microwave | SA4014-20        | TKV | 3/4/2016   | 12            |
| Cable                        | ESM Cable Corp.    | TTBJ-141 KMKM-72 | NC5 | 6/6/2015   | 12            |
| Generator - Signal           | Agilent            | N5183A           | TID | 11/26/2014 | 36            |

## TEST DESCRIPTION

The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

There is no compliance requirement to be met by this test, so therefore no Pass / Fail criteria.

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, burst gating may have been used during some of the other tests in this report to only take the measurement during the burst duration.

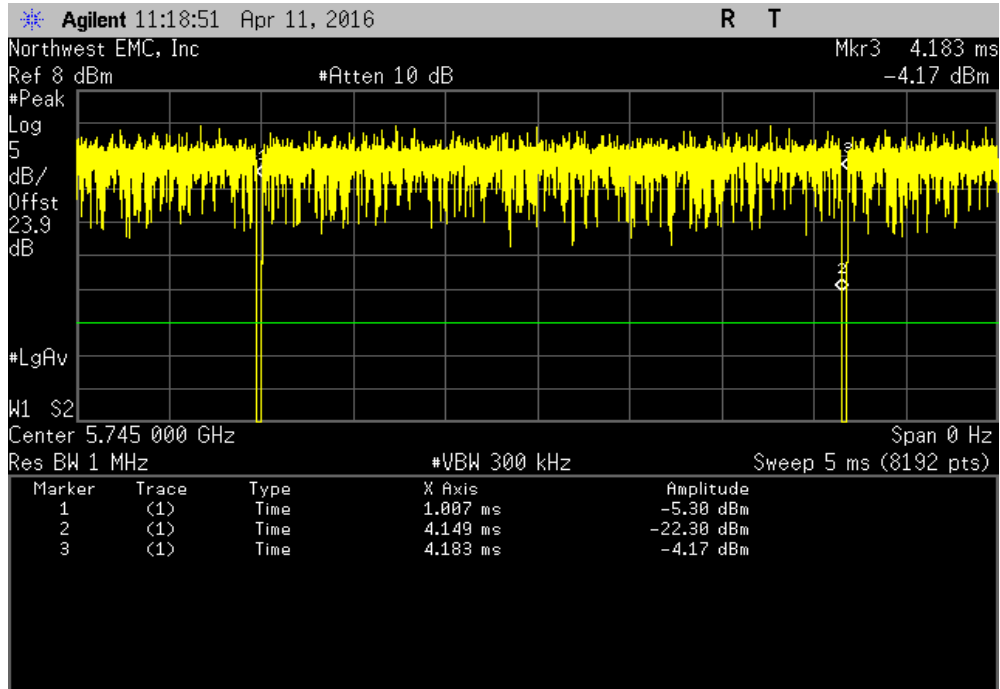
# DUTY CYCLE

|                                                                                                                                                                                                                     |                   |                                                                                             |            |                             |           |           |         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------|------------|-----------------------------|-----------|-----------|---------|
| EUT: Model 1631                                                                                                                                                                                                     |                   |                                                                                             |            | Work Order: MCSO1748        |           |           |         |
| Serial Number: 041152140753                                                                                                                                                                                         |                   |                                                                                             |            | Date: 04/12/16              |           |           |         |
| Customer: Microsoft Corporation                                                                                                                                                                                     |                   |                                                                                             |            | Temperature: 23°C           |           |           |         |
| Attendees: None                                                                                                                                                                                                     |                   |                                                                                             |            | Humidity: 33%               |           |           |         |
| Project: None                                                                                                                                                                                                       |                   |                                                                                             |            | Barometric Pres.: 1019 mbar |           |           |         |
| Tested by: Richard Mellroth                                                                                                                                                                                         |                   | Power: 110VAC/60Hz                                                                          |            | Job Site: NC02              |           |           |         |
| TEST SPECIFICATIONS                                                                                                                                                                                                 |                   |                                                                                             |            | Test Method                 |           |           |         |
| FCC 15.407:2016                                                                                                                                                                                                     |                   |                                                                                             |            | ANSI C63.10:2013            |           |           |         |
| COMMENTS                                                                                                                                                                                                            |                   |                                                                                             |            |                             |           |           |         |
| Power setting at 11dBm for 20MHz and 40MHz channels. Power Setting at 10dBm for 80MHz channels. Client supplied adapter cable loss of 1.3dB included in reference level offset. Signal setting at > 95% Duty Cycle. |                   |                                                                                             |            |                             |           |           |         |
| DEVIATIONS FROM TEST STANDARD                                                                                                                                                                                       |                   |                                                                                             |            |                             |           |           |         |
| None                                                                                                                                                                                                                |                   |                                                                                             |            |                             |           |           |         |
| Configuration #                                                                                                                                                                                                     | 1                 | Signature  |            |                             |           |           |         |
|                                                                                                                                                                                                                     |                   | Pulse Width                                                                                 | Period     | Number of Pulses            | Value (%) | Limit (%) | Results |
| SISO, Chain A                                                                                                                                                                                                       |                   |                                                                                             |            |                             |           |           |         |
| 20MHz BW                                                                                                                                                                                                            |                   |                                                                                             |            |                             |           |           |         |
| Low Channel, Ch 149 - 5745 MHz                                                                                                                                                                                      |                   |                                                                                             |            |                             |           |           |         |
|                                                                                                                                                                                                                     | 802.11(a) 6 Mbps  | 3.142 ms                                                                                    | 3.175 ms   | 1                           | 98.9      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 6 Mbps  | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 36 Mbps | 537.9 us                                                                                    | 571.4 us   | 1                           | 94.1      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 36 Mbps | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 54 Mbps | 333.332 us                                                                                  | 368.497 us | 1                           | 90.5      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 54 Mbps | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS0    | 2.918 ms                                                                                    | 2.946 ms   | 1                           | 99        | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS0    | N/A                                                                                         | N/A        | 6                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS7    | 322.1 us                                                                                    | 355.8 us   | 1                           | 90.5      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS7    | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | 2.93 ms                                                                                     | 2.958 ms   | 1                           | 99.1      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS8   | 278.1 us                                                                                    | 305.7 us   | 1                           | 91        | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS8   | N/A                                                                                         | N/A        | 6                           | N/A       | N/A       | N/A     |
| Mid Channel, Ch 157 - 5785 MHz                                                                                                                                                                                      |                   |                                                                                             |            |                             |           |           |         |
|                                                                                                                                                                                                                     | 802.11(a) 6 Mbps  | 3.142 ms                                                                                    | 3.175 ms   | 1                           | 98.9      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 6 Mbps  | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 36 Mbps | 537.9 us                                                                                    | 571.6 us   | 1                           | 94.1      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 36 Mbps | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 54 Mbps | 361.8 us                                                                                    | 395.3 us   | 1                           | 91.5      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 54 Mbps | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS0    | 2.918 ms                                                                                    | 2.951 ms   | 1                           | 98.9      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS0    | N/A                                                                                         | N/A        | 6                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS7    | 321.8 us                                                                                    | 355.5 us   | 1                           | 90.5      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS7    | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | 2.93 ms                                                                                     | 2.958 ms   | 1                           | 99.1      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS8   | 277.9 us                                                                                    | 305.7 us   | 1                           | 90.9      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS8   | N/A                                                                                         | N/A        | 6                           | N/A       | N/A       | N/A     |
| High Channel, Ch 165 - 5825 MHz                                                                                                                                                                                     |                   |                                                                                             |            |                             |           |           |         |
|                                                                                                                                                                                                                     | 802.11(a) 6 Mbps  | 3.142 ms                                                                                    | 3.175 ms   | 1                           | 98.9      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 6 Mbps  | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 36 Mbps | 537.7 us                                                                                    | 571.3 us   | 1                           | 94.1      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 36 Mbps | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 54 Mbps | 361.9 us                                                                                    | 395.6 us   | 1                           | 91.5      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(a) 54 Mbps | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS0    | 2.918 ms                                                                                    | 2.951 ms   | 1                           | 98.9      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS0    | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS7    | 321.9 us                                                                                    | 353.6 us   | 1                           | 91        | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS7    | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | 2.93 ms                                                                                     | 2.958 ms   | 1                           | 99.1      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS8   | 277.9 us                                                                                    | 305.7 us   | 1                           | 90.9      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS8   | N/A                                                                                         | N/A        | 6                           | N/A       | N/A       | N/A     |
| 40MHz BW                                                                                                                                                                                                            |                   |                                                                                             |            |                             |           |           |         |
| Low Channel, Ch 149/153 - 5755 MHz                                                                                                                                                                                  |                   |                                                                                             |            |                             |           |           |         |
|                                                                                                                                                                                                                     | 802.11(n) MCS0    | 1.397 ms                                                                                    | 1.456 ms   | 1                           | 95.9      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS0    | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS7    | 144.3 us                                                                                    | 203.4 us   | 1                           | 70.9      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS7    | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | 1.405 ms                                                                                    | 1.458 ms   | 1                           | 96.4      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS9   | 116.5 us                                                                                    | 169.5 us   | 1                           | 68.7      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS9   | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
| High Channel, Ch 157/161 - 5795 MHz                                                                                                                                                                                 |                   |                                                                                             |            |                             |           |           |         |
|                                                                                                                                                                                                                     | 802.11(n) MCS0    | 1.397 ms                                                                                    | 1.45 ms    | 1                           | 96.3      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS0    | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS7    | 144.5 us                                                                                    | 203.6 us   | 1                           | 71        | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(n) MCS7    | N/A                                                                                         | N/A        | 6                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | 1.405 ms                                                                                    | 1.458 ms   | 1                           | 96.4      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS9   | 116.5 us                                                                                    | 169.7 us   | 1                           | 68.7      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS9   | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
| 80MHz BW                                                                                                                                                                                                            |                   |                                                                                             |            |                             |           |           |         |
| Mid Channel, Ch 149/161 - 5775 MHz                                                                                                                                                                                  |                   |                                                                                             |            |                             |           |           |         |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | 658.3 us                                                                                    | 709.5 us   | 1                           | 92.8      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS0   | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS9   | 74.264 us                                                                                   | 113.264 us | 1                           | 65.6      | N/A       | N/A     |
|                                                                                                                                                                                                                     | 802.11(ac) MCS9   | N/A                                                                                         | N/A        | 5                           | N/A       | N/A       | N/A     |

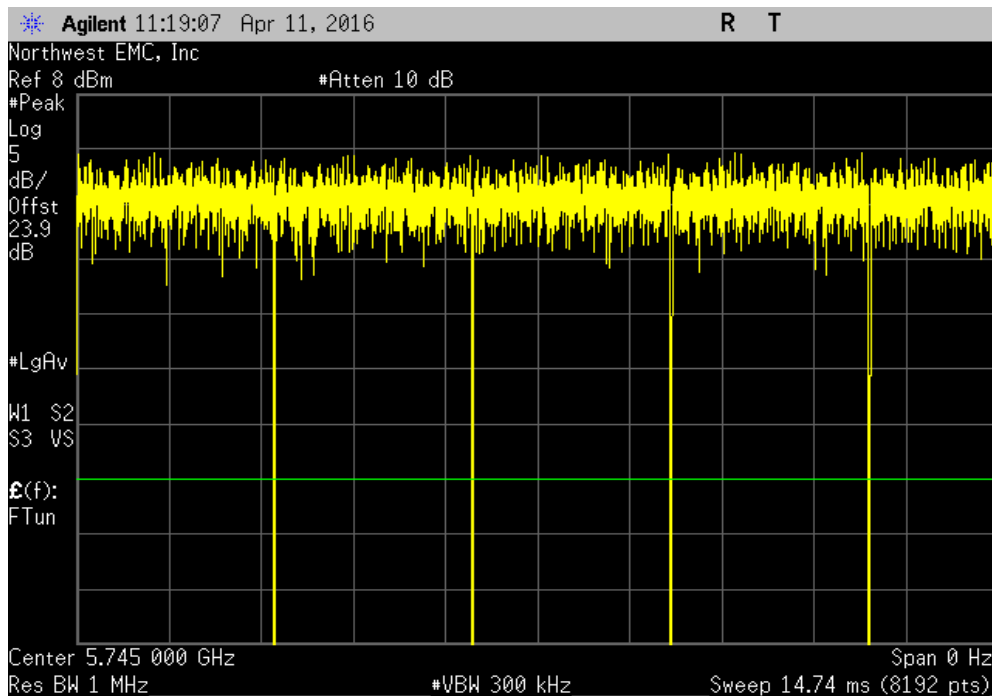
|                                     |          |          |   |      |     |     |  |
|-------------------------------------|----------|----------|---|------|-----|-----|--|
| SISO, Chain B                       |          |          |   |      |     |     |  |
| 20MHz BW                            |          |          |   |      |     |     |  |
| Low Channel, Ch 149 - 5745 MHz      |          |          |   |      |     |     |  |
| 802.11(a) 6 Mbps                    | 3.142 ms | 3.169 ms | 1 | 99.1 | N/A | N/A |  |
| 802.11(a) 6 Mbps                    | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(a) 36 Mbps                   | 537.9 us | 569.7 us | 1 | 94.4 | N/A | N/A |  |
| 802.11(a) 36 Mbps                   | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(a) 54 Mbps                   | 361.8 us | 395.5 us | 1 | 91.5 | N/A | N/A |  |
| 802.11(a) 54 Mbps                   | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(n) MCS0                      | 2.918 ms | 2.946 ms | 1 | 99   | N/A | N/A |  |
| 802.11(n) MCS0                      | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(n) MCS7                      | 322.1 us | 355.8 us | 1 | 90.5 | N/A | N/A |  |
| 802.11(n) MCS7                      | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(ac) MCS0                     | 2.93 ms  | 2.958 ms | 1 | 99.1 | N/A | N/A |  |
| 802.11(ac) MCS0                     | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(ac) MCS8                     | 277.9 us | 305.7 us | 1 | 90.9 | N/A | N/A |  |
| 802.11(ac) MCS8                     | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| Mid Channel, Ch 157 - 5785 MHz      |          |          |   |      |     |     |  |
| 802.11(a) 6 Mbps                    | 3.143 ms | 3.17 ms  | 1 | 99.1 | N/A | N/A |  |
| 802.11(a) 6 Mbps                    | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(a) 36 Mbps                   | 537.9 us | 569.7 us | 1 | 94.4 | N/A | N/A |  |
| 802.11(a) 36 Mbps                   | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(a) 54 Mbps                   | 361.9 us | 395.1 us | 1 | 91.6 | N/A | N/A |  |
| 802.11(a) 54 Mbps                   | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(n) MCS0                      | 2.918 ms | 2.945 ms | 1 | 99.1 | N/A | N/A |  |
| 802.11(n) MCS0                      | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(n) MCS7                      | 321.8 us | 355.5 us | 1 | 90.5 | N/A | N/A |  |
| 802.11(n) MCS7                      | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(ac) MCS0                     | 2.93 ms  | 2.958 ms | 1 | 99.1 | N/A | N/A |  |
| 802.11(ac) MCS0                     | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(ac) MCS8                     | 277.8 us | 305.4 us | 1 | 91   | N/A | N/A |  |
| 802.11(ac) MCS8                     | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| High Channel, Ch 165 - 5825 MHz     |          |          |   |      |     |     |  |
| 802.11(a) 6 Mbps                    | 3.142 ms | 3.169 ms | 1 | 99.1 | N/A | N/A |  |
| 802.11(a) 6 Mbps                    | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(a) 36 Mbps                   | 538.2 us | 571.6 us | 1 | 94.2 | N/A | N/A |  |
| 802.11(a) 36 Mbps                   | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(a) 54 Mbps                   | 362.1 us | 395.5 us | 1 | 91.6 | N/A | N/A |  |
| 802.11(a) 54 Mbps                   | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(n) MCS0                      | 2.918 ms | 2.946 ms | 1 | 99   | N/A | N/A |  |
| 802.11(n) MCS0                      | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(n) MCS7                      | 321.8 us | 355.5 us | 1 | 90.5 | N/A | N/A |  |
| 802.11(n) MCS7                      | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(ac) MCS0                     | 2.93 ms  | 2.958 ms | 1 | 99.1 | N/A | N/A |  |
| 802.11(ac) MCS0                     | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(ac) MCS8                     | 277.6 us | 305.4 us | 1 | 90.9 | N/A | N/A |  |
| 802.11(ac) MCS8                     | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 40MHz BW                            |          |          |   |      |     |     |  |
| Low Channel, Ch 149/153 - 5755 MHz  |          |          |   |      |     |     |  |
| 802.11(n) MCS0                      | 1.397 ms | 1.456 ms | 1 | 95.9 | N/A | N/A |  |
| 802.11(n) MCS0                      | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(n) MCS7                      | 146.1 us | 205.1 us | 1 | 71.2 | N/A | N/A |  |
| 802.11(n) MCS7                      | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(ac) MCS0                     | 1.406 ms | 1.457 ms | 1 | 96.5 | N/A | N/A |  |
| 802.11(ac) MCS0                     | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(ac) MCS9                     | 116.5 us | 169.7 us | 1 | 68.7 | N/A | N/A |  |
| 802.11(ac) MCS9                     | N/A      | N/A      | 6 | N/A  | N/A | N/A |  |
| High Channel, Ch 157/161 - 5795 MHz |          |          |   |      |     |     |  |
| 802.11(n) MCS0                      | 1.397 ms | 1.456 ms | 1 | 95.9 | N/A | N/A |  |
| 802.11(n) MCS0                      | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(n) MCS7                      | 144 us   | 203.4 us | 1 | 70.8 | N/A | N/A |  |
| 802.11(n) MCS7                      | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(ac) MCS0                     | 1.404 ms | 1.458 ms | 1 | 96.3 | N/A | N/A |  |
| 802.11(ac) MCS0                     | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(ac) MCS9                     | 116.2 us | 170.1 us | 1 | 68.3 | N/A | N/A |  |
| 802.11(ac) MCS9                     | N/A      | N/A      | 6 | N/A  | N/A | N/A |  |
| 80MHz BW                            |          |          |   |      |     |     |  |
| Mid Channel, Ch 149/161 - 5775 MHz  |          |          |   |      |     |     |  |
| 802.11(ac) MCS0                     | 666.4 us | 705.4 us | 1 | 94.5 | N/A | N/A |  |
| 802.11(ac) MCS0                     | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |
| 802.11(ac) MCS9                     | 74 us    | 113.3 us | 1 | 65.3 | N/A | N/A |  |
| 802.11(ac) MCS9                     | N/A      | N/A      | 5 | N/A  | N/A | N/A |  |

# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 6 Mbps |             |          |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | 3.142 ms    | 3.175 ms | 1                | 98.9      | N/A       | N/A     |

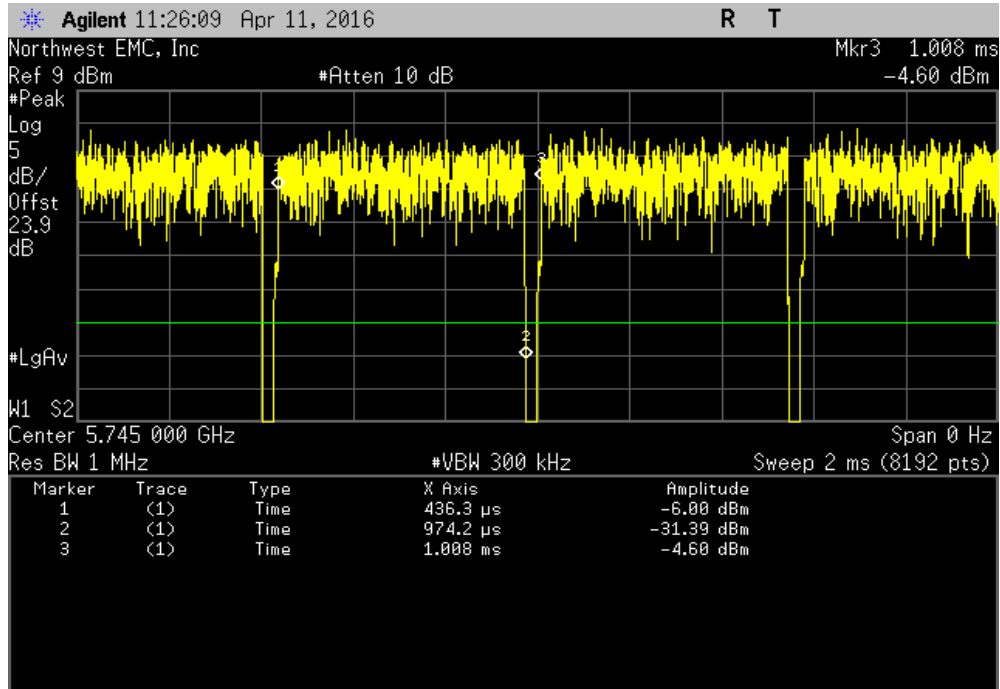


| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 6 Mbps |             |        |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

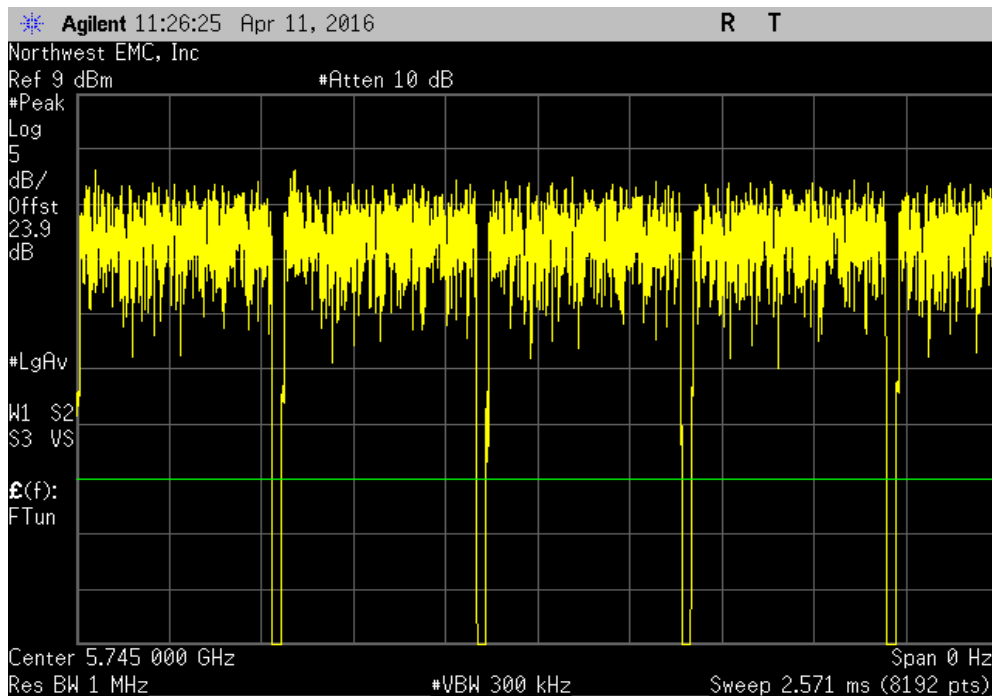


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 36 Mbps |             |          |                  |           |           |         |
|----------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                            | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                            | 537.9 us    | 571.4 us | 1                | 94.1      | N/A       | N/A     |

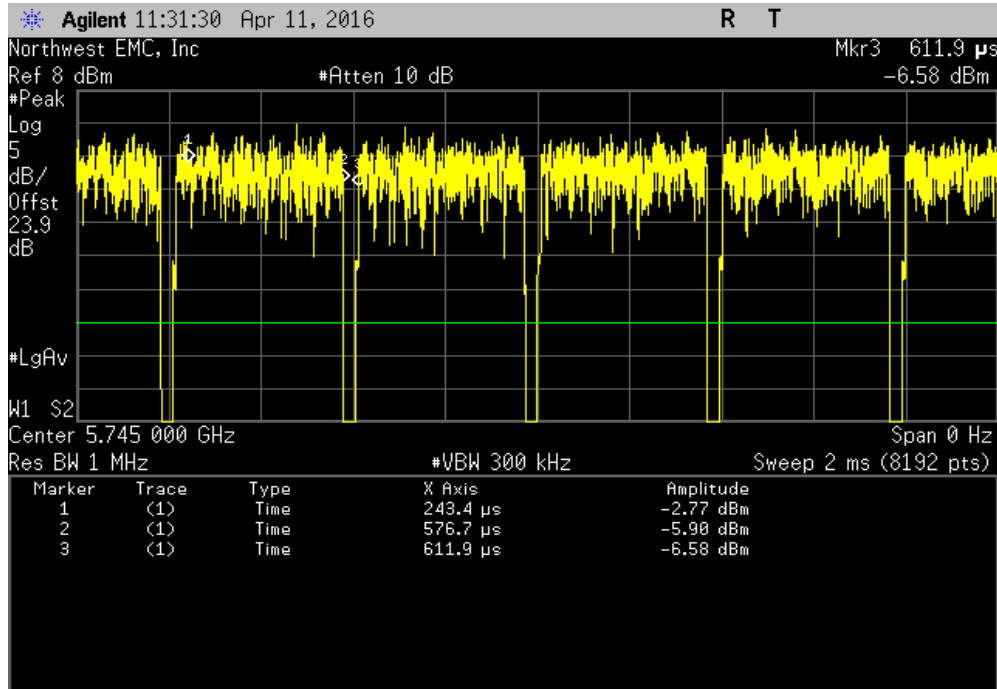


| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 36 Mbps |             |        |                  |           |           |         |
|----------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                            | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                            | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

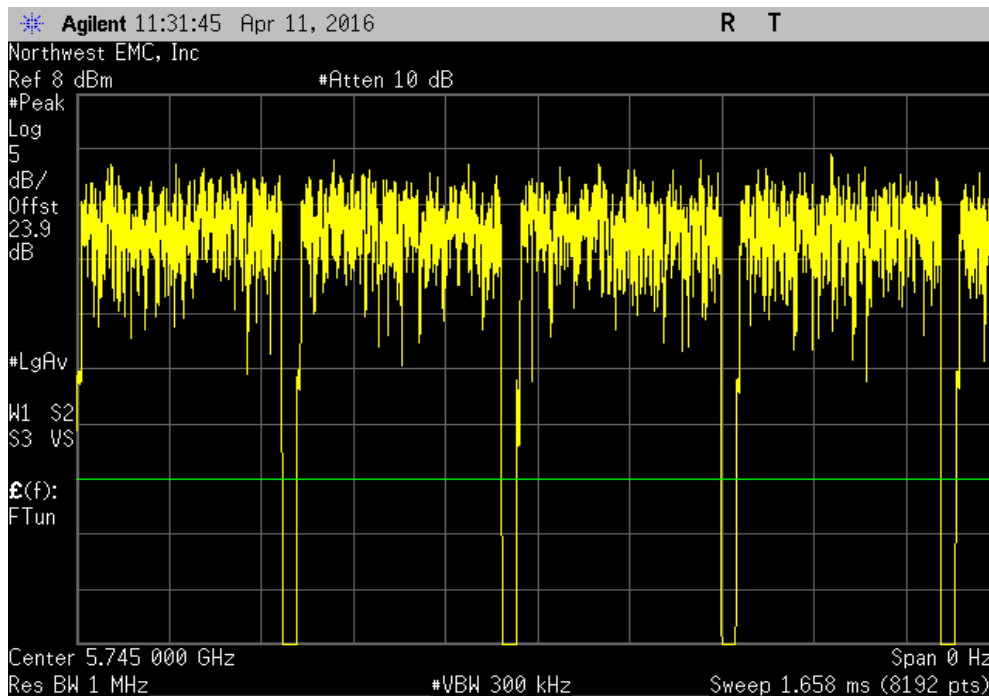


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 54 Mbps |            |                  |           |           |         |  |
|----------------------------------------------------------------------------|------------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period     | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 333.332 us                                                                 | 368.497 us | 1                | 90.5      | N/A       | N/A     |  |

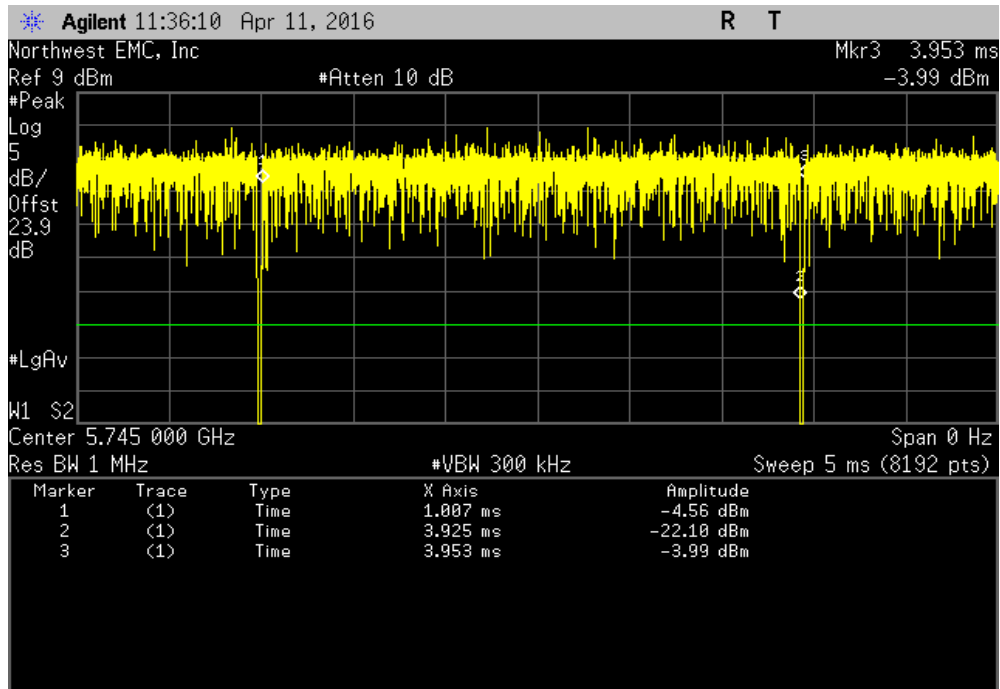


| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 54 Mbps |        |                  |           |           |         |  |
|----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                        | N/A    | 5                | N/A       | N/A       | N/A     |  |

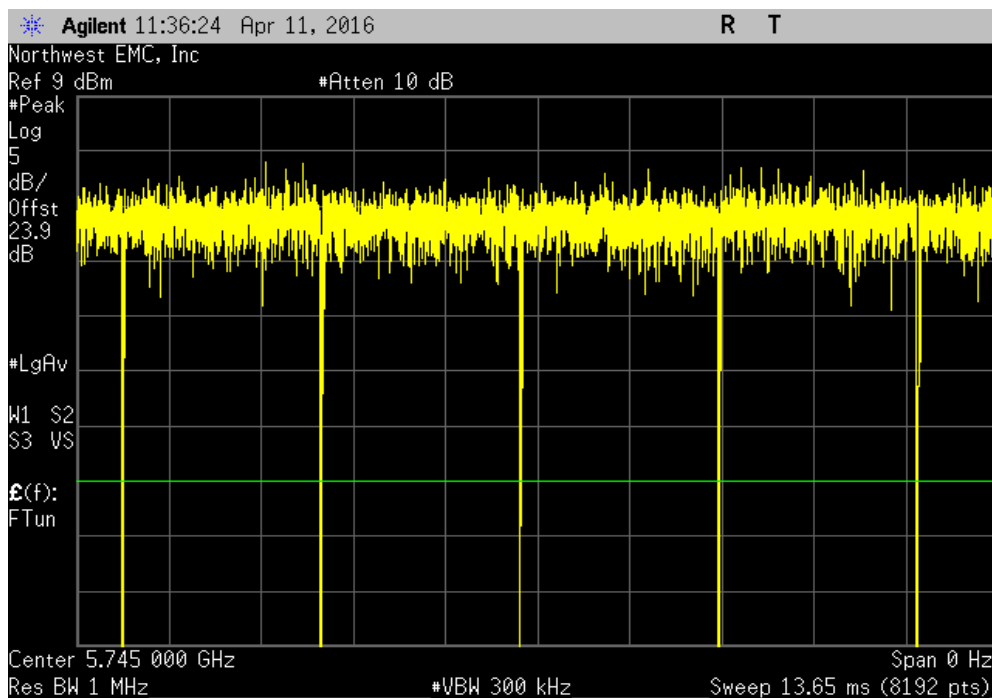


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(n) MCS0 |             |          |                  |           |           |         |
|-------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                         | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                         | 2.918 ms    | 2.946 ms | 1                | 99        | N/A       | N/A     |

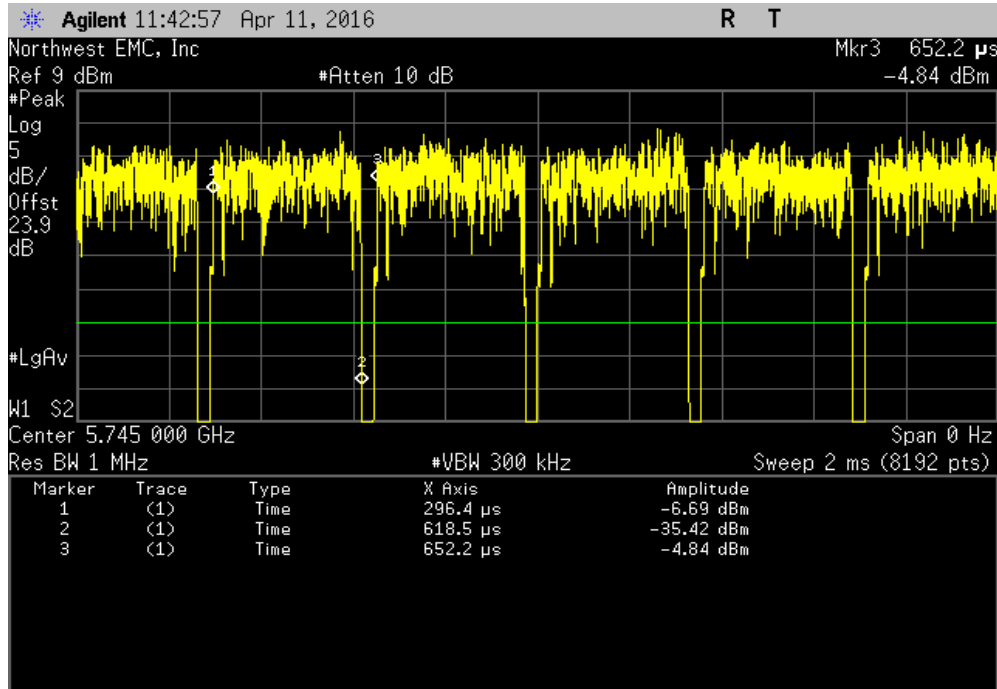


| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(n) MCS0 |             |        |                  |           |           |         |
|-------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                         | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                         | N/A         | N/A    | 6                | N/A       | N/A       | N/A     |

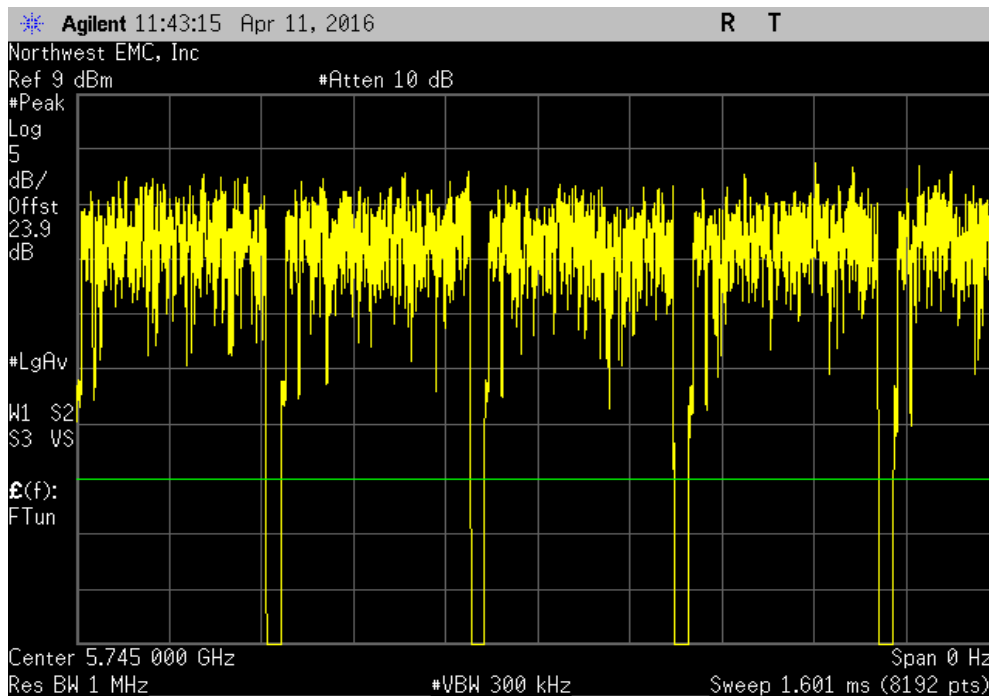


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(n) MCS7 |          |                  |           |           |         |  |
|-------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                             | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 322.1 us                                                                | 355.8 us | 1                | 90.5      | N/A       | N/A     |  |

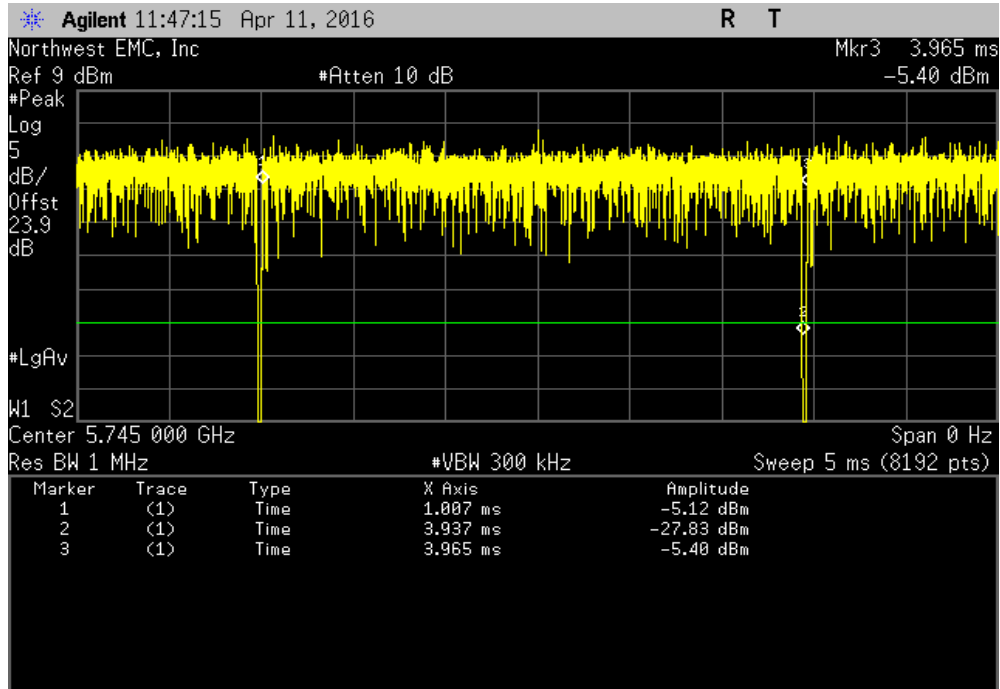


| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(n) MCS7 |        |                  |           |           |         |  |
|-------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                             | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                     | N/A    | 5                | N/A       | N/A       | N/A     |  |

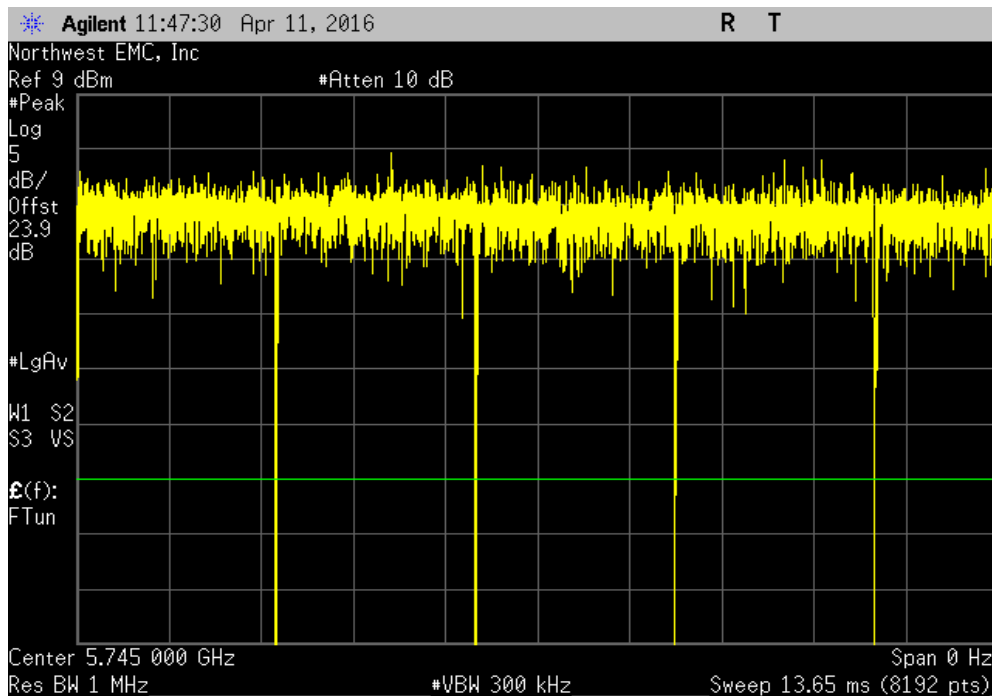


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(ac) MCS0 |             |          |                  |           |           |         |
|--------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                          | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                          | 2.93 ms     | 2.958 ms | 1                | 99.1      | N/A       | N/A     |

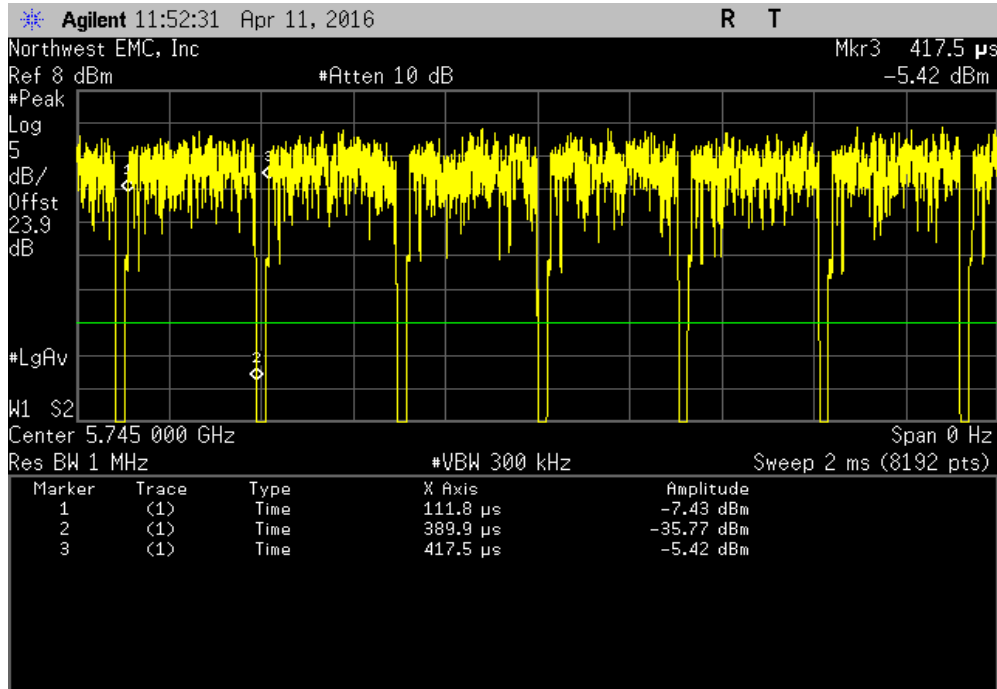


| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(ac) MCS0 |             |        |                  |           |           |         |
|--------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                          | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                          | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

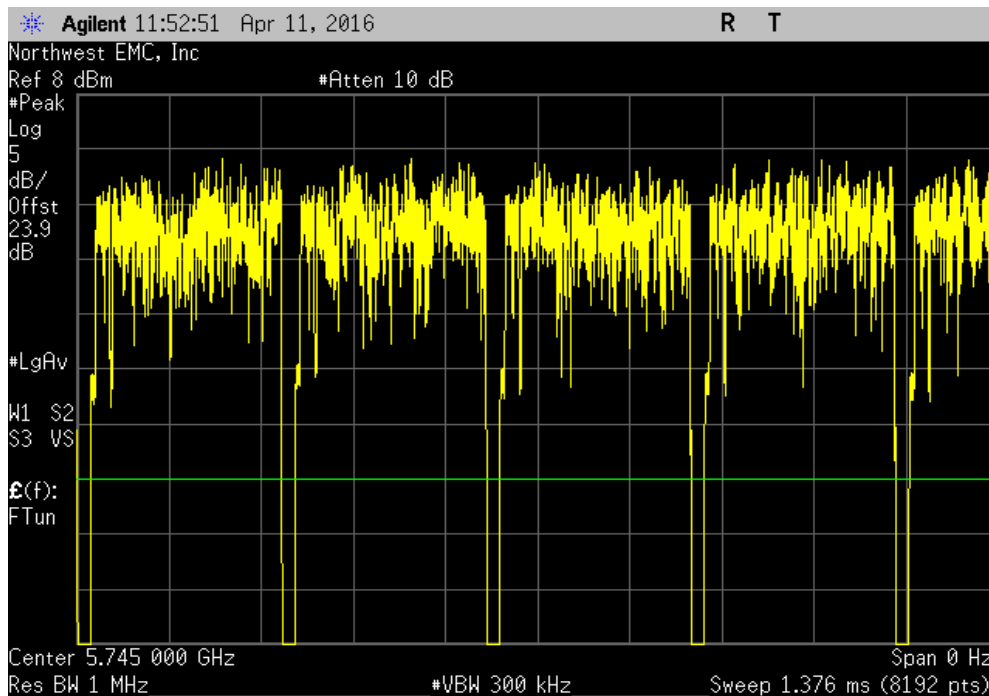


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(ac) MCS8 |          |                  |           |           |         |  |
|--------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 278.1 us                                                                 | 305.7 us | 1                | 91        | N/A       | N/A     |  |

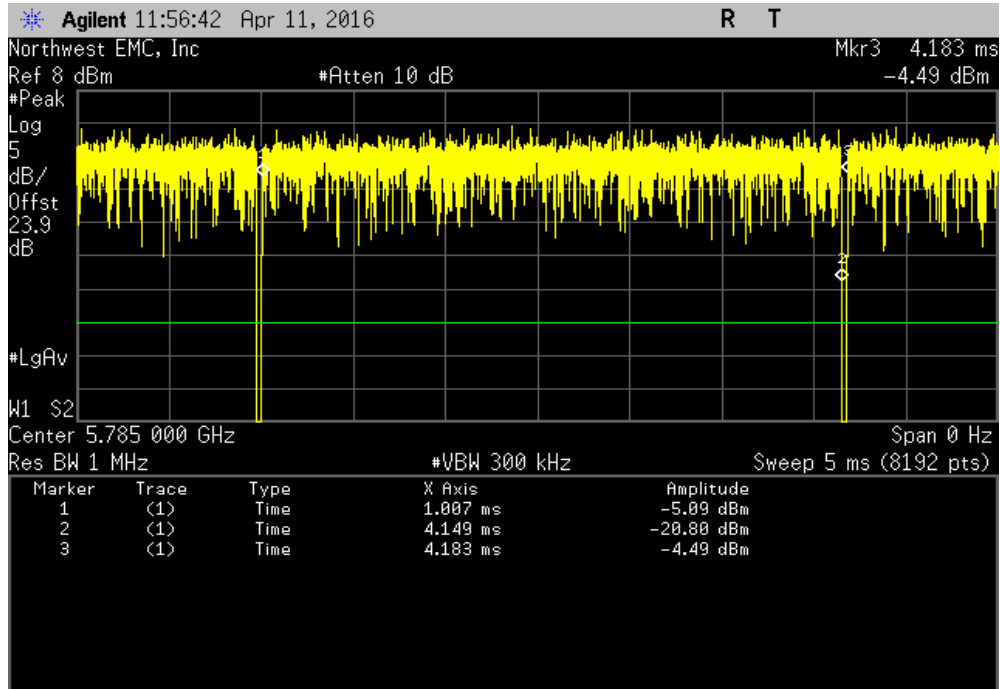


| SISO, Chain A, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(ac) MCS8 |        |                  |           |           |         |  |
|--------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                      | N/A    | 6                | N/A       | N/A       | N/A     |  |

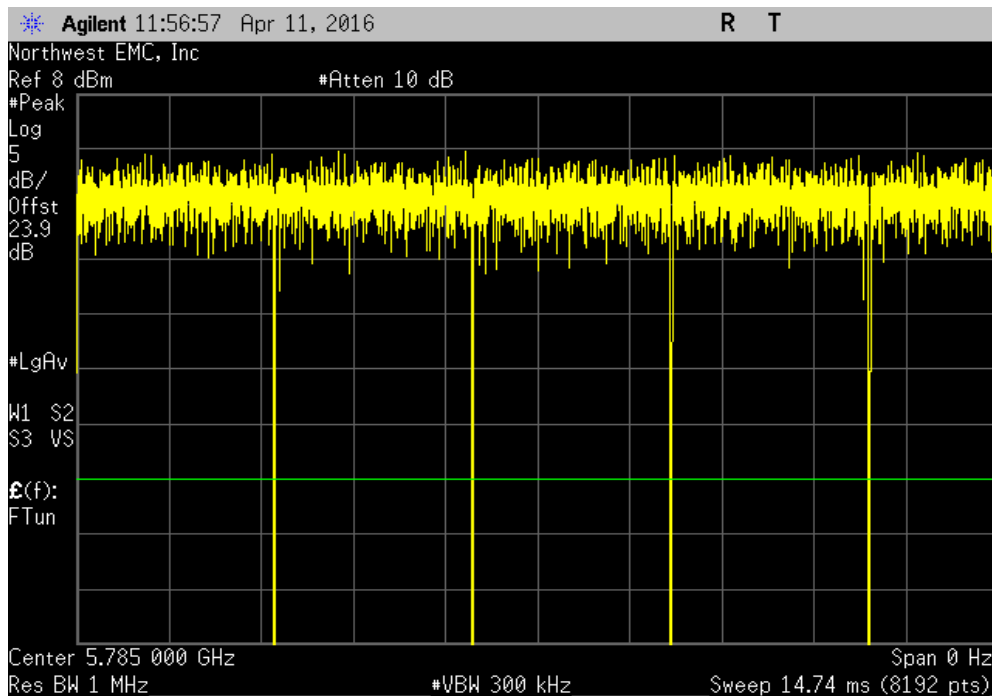


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 6 Mbps |             |          |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | 3.142 ms    | 3.175 ms | 1                | 98.9      | N/A       | N/A     |

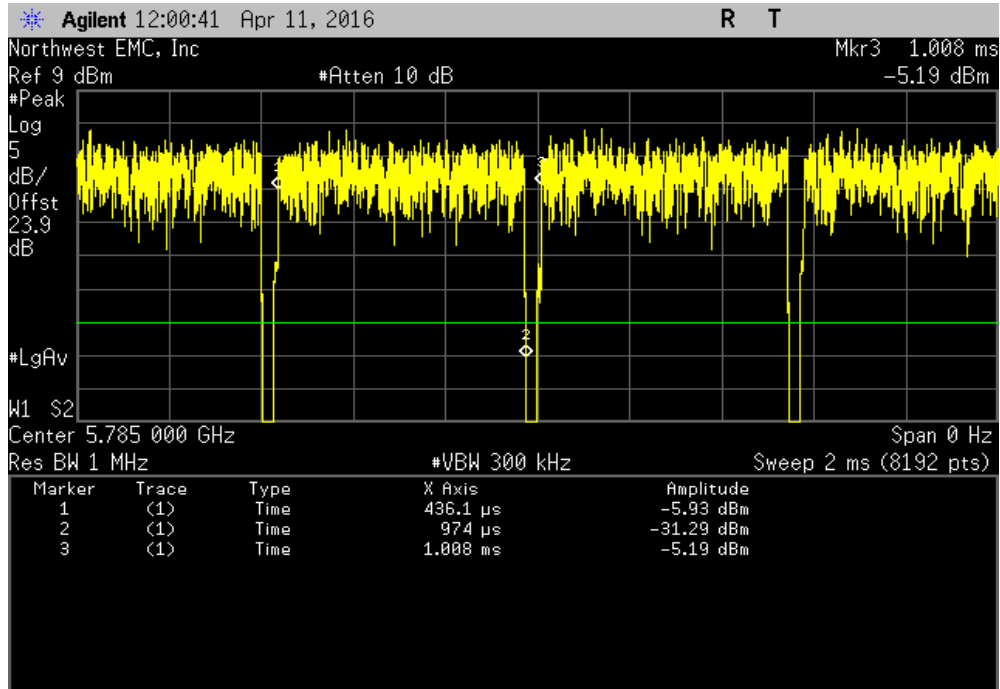


| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 6 Mbps |             |        |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

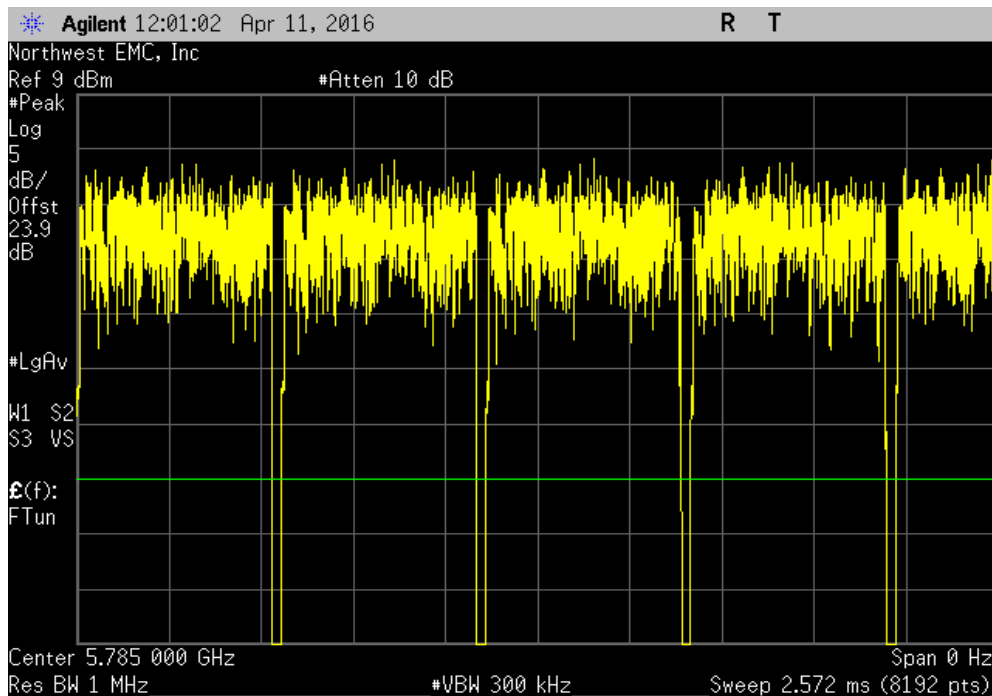


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 36 Mbps |          |                  |           |           |         |  |
|----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 537.9 us                                                                   | 571.6 us | 1                | 94.1      | N/A       | N/A     |  |

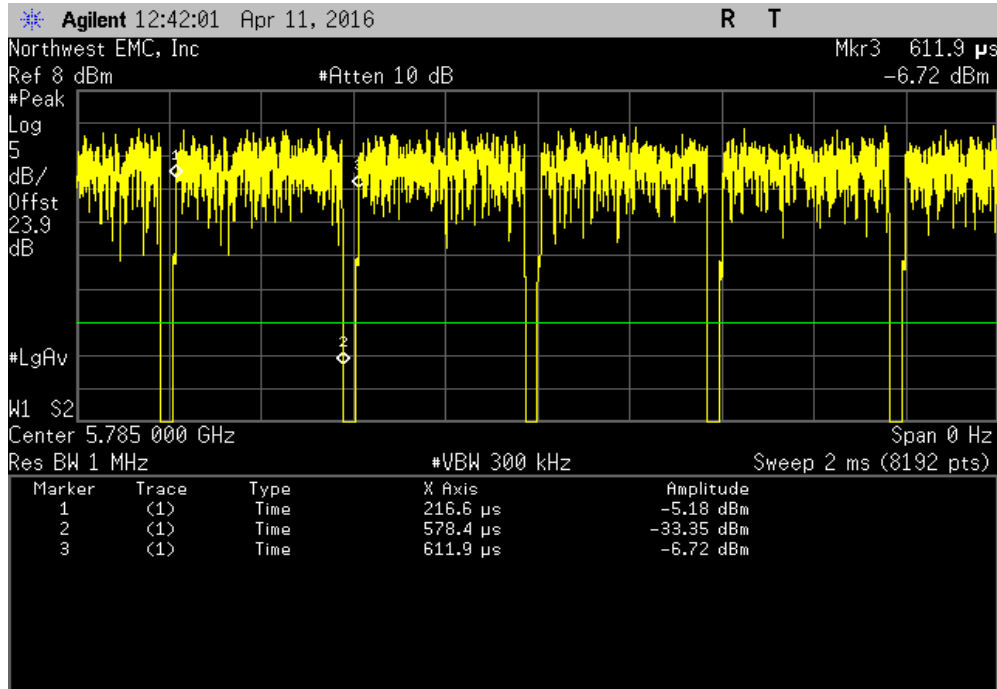


| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 36 Mbps |        |                  |           |           |         |  |
|----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                        | N/A    | 5                | N/A       | N/A       | N/A     |  |

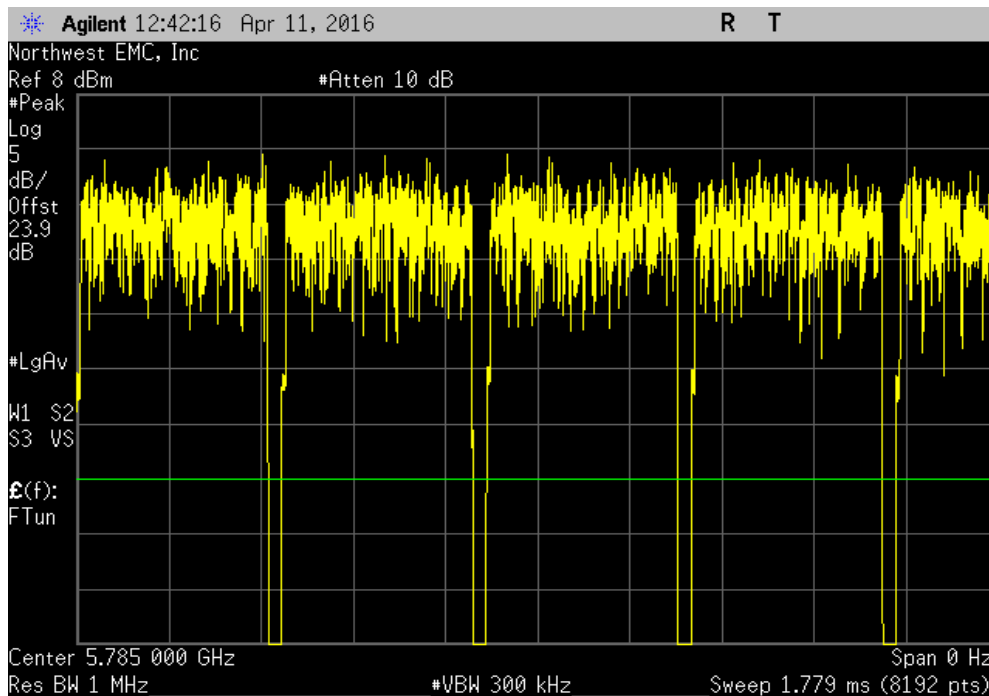


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 54 Mbps |          |                  |           |           |         |  |
|----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 361.8 us                                                                   | 395.3 us | 1                | 91.5      | N/A       | N/A     |  |

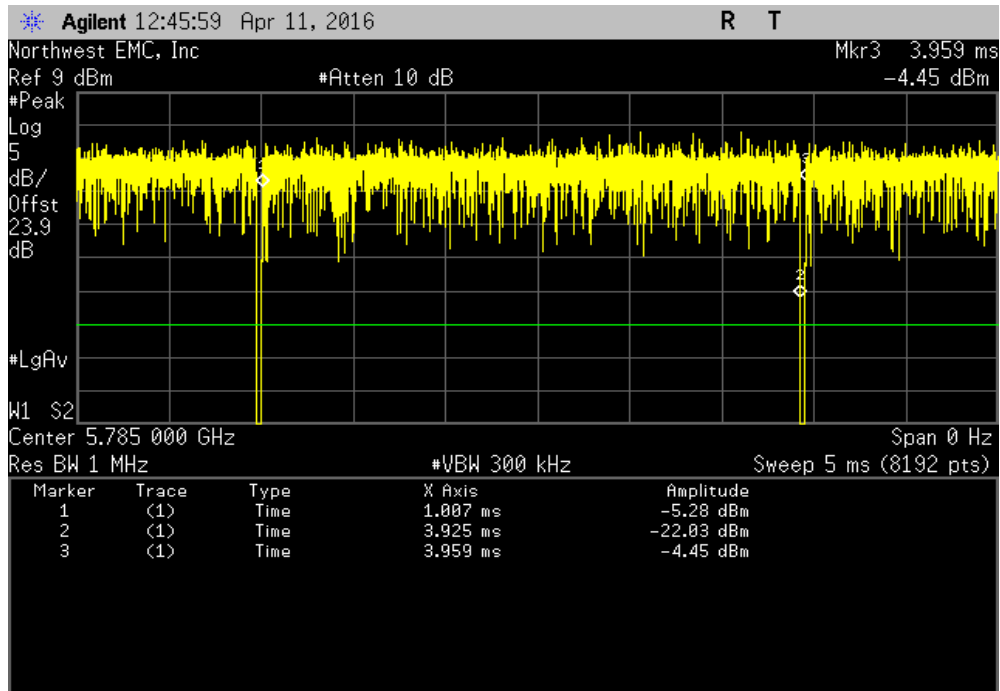


| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 54 Mbps |        |                  |           |           |         |  |
|----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                        | N/A    | 5                | N/A       | N/A       | N/A     |  |

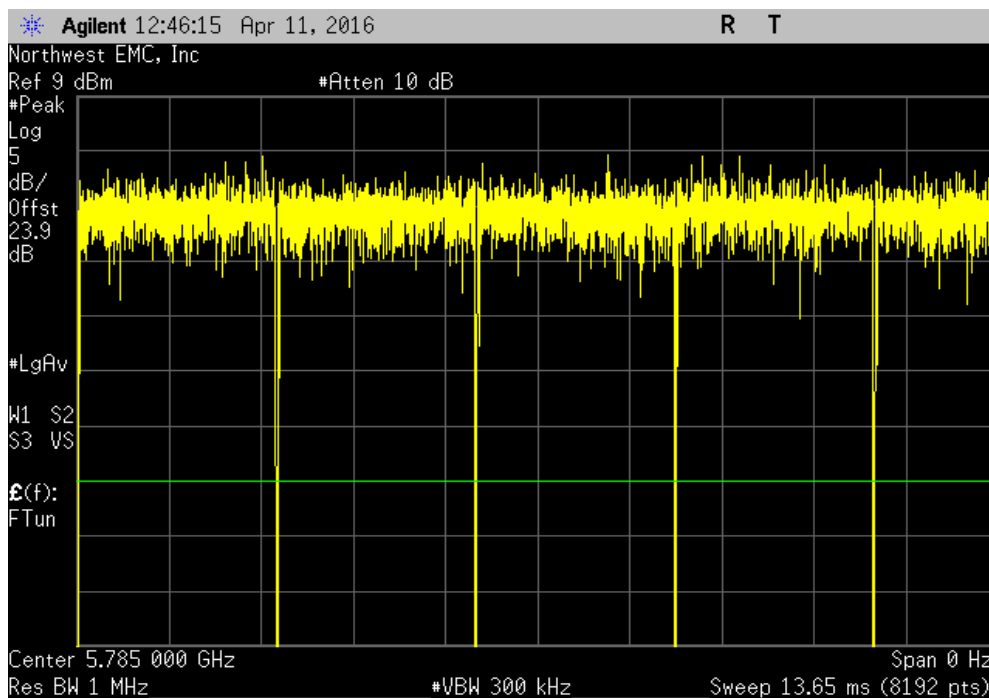


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(n) MCS0 |             |          |                  |           |           |         |
|-------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                         | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                         | 2.918 ms    | 2.951 ms | 1                | 98.9      | N/A       | N/A     |

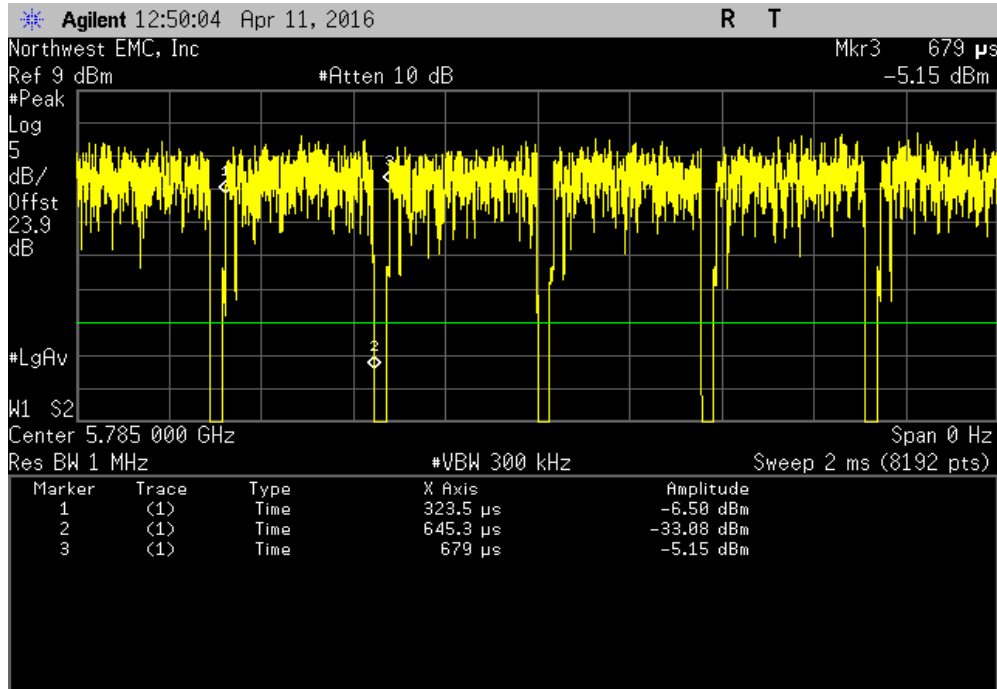


| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(n) MCS0 |             |        |                  |           |           |         |
|-------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                         | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                         | N/A         | N/A    | 6                | N/A       | N/A       | N/A     |

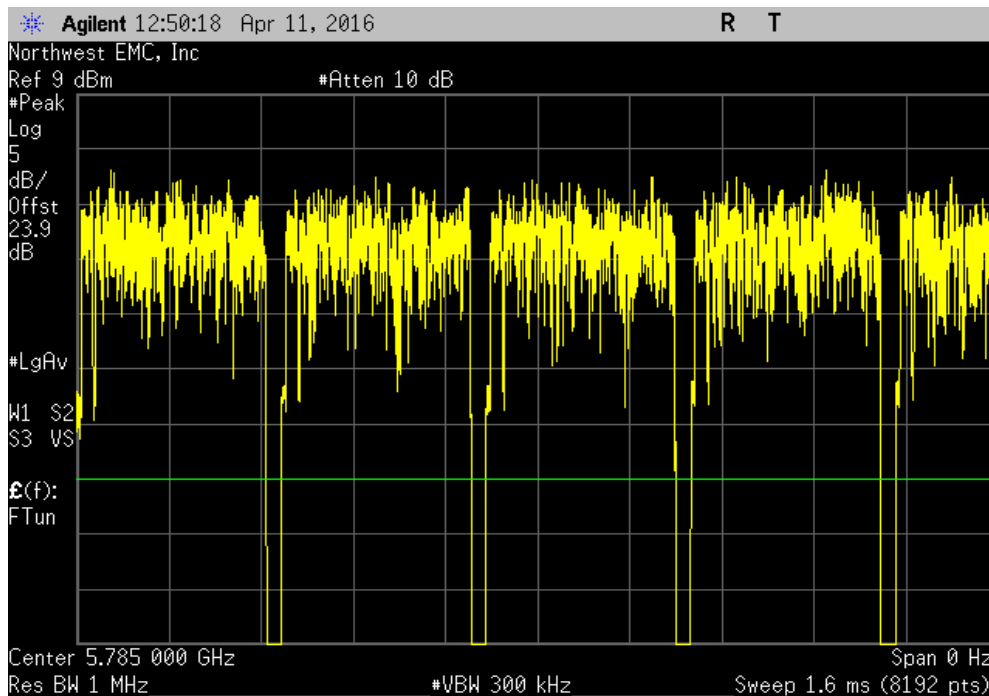


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(n) MCS7 |          |                  |           |           |         |  |
|-------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                             | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 321.8 us                                                                | 355.5 us | 1                | 90.5      | N/A       | N/A     |  |

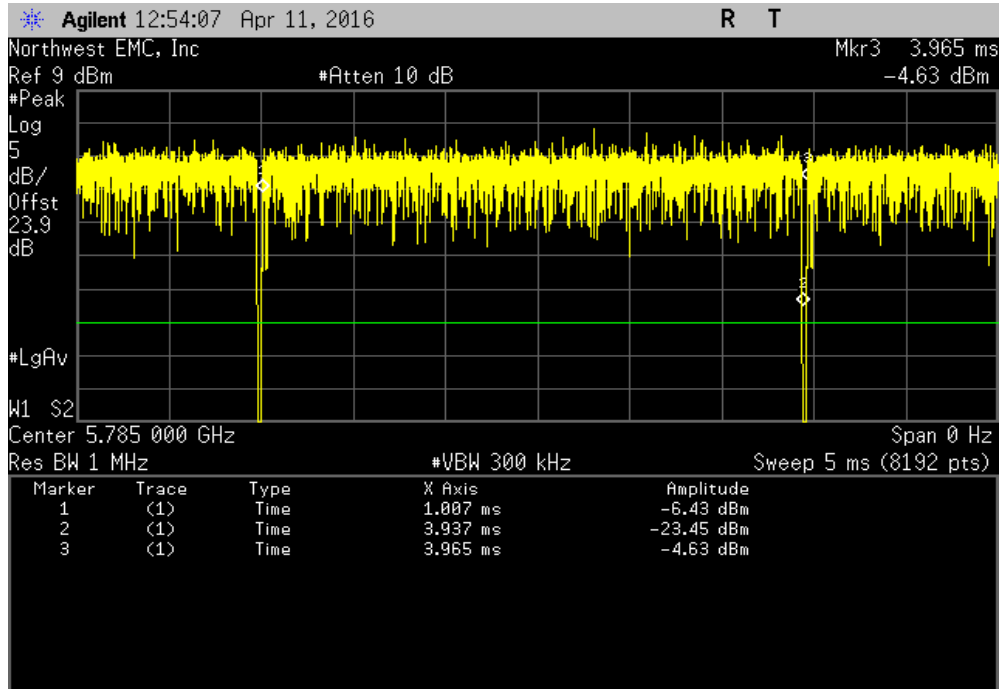


| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(n) MCS7 |        |                  |           |           |         |  |
|-------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                             | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                     | N/A    | 5                | N/A       | N/A       | N/A     |  |

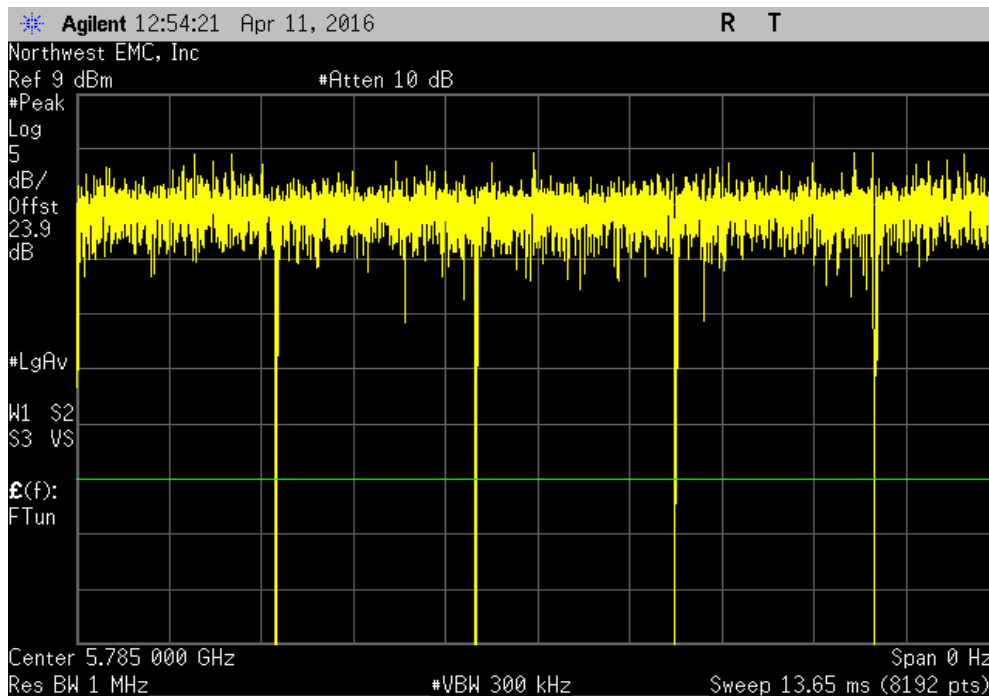


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(ac) MCS0 |             |          |                  |           |           |         |
|--------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                          | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                          | 2.93 ms     | 2.958 ms | 1                | 99.1      | N/A       | N/A     |

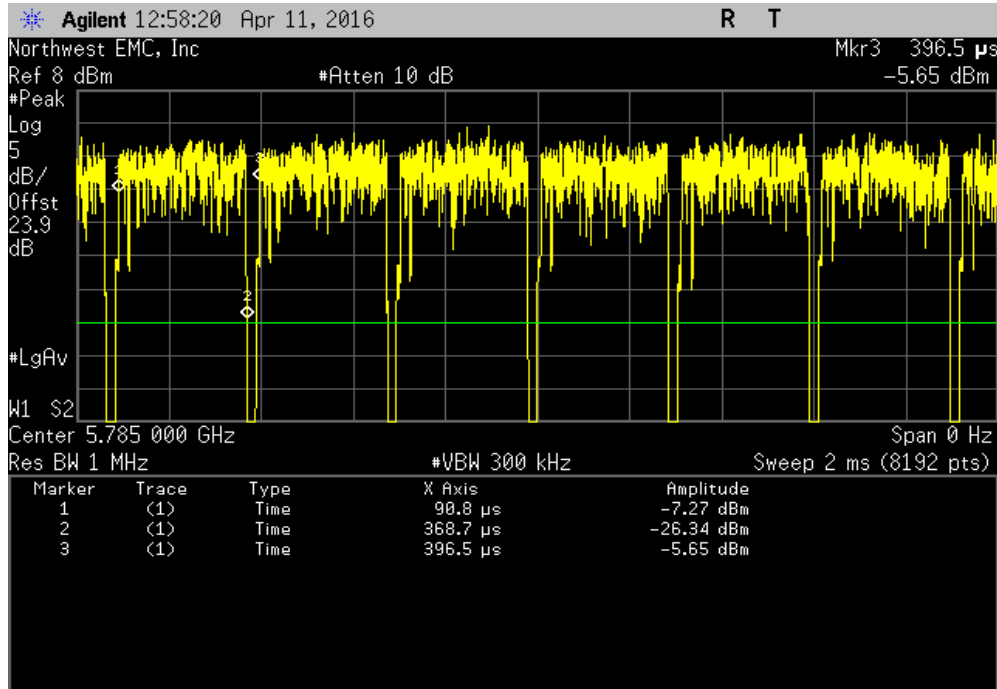


| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(ac) MCS0 |             |        |                  |           |           |         |
|--------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                          | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                          | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

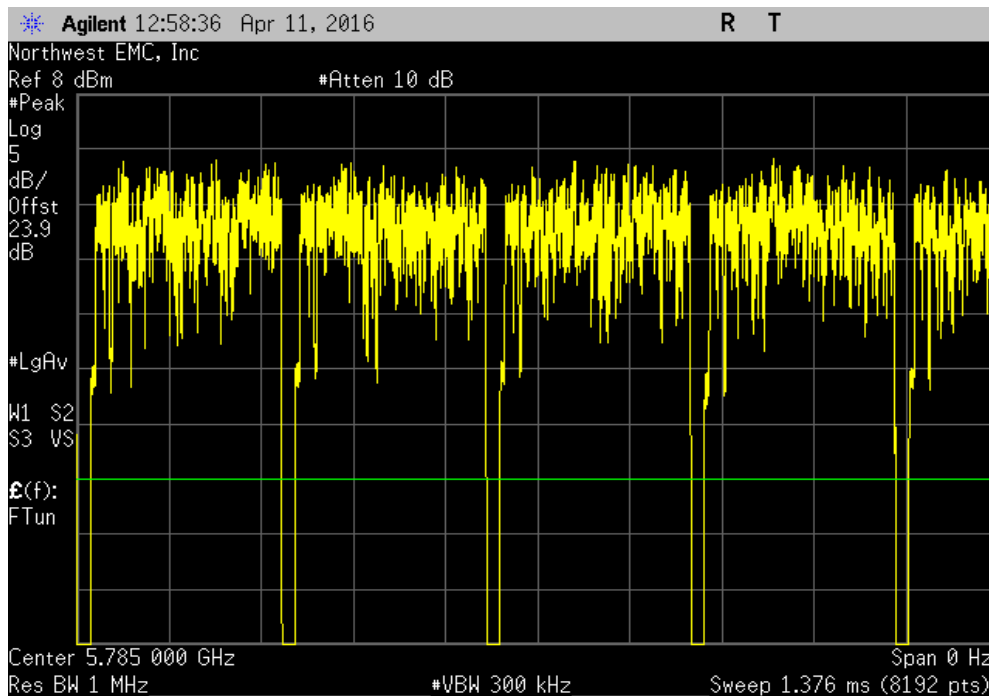


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(ac) MCS8 |          |                  |           |           |         |  |
|--------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 277.9 us                                                                 | 305.7 us | 1                | 90.9      | N/A       | N/A     |  |

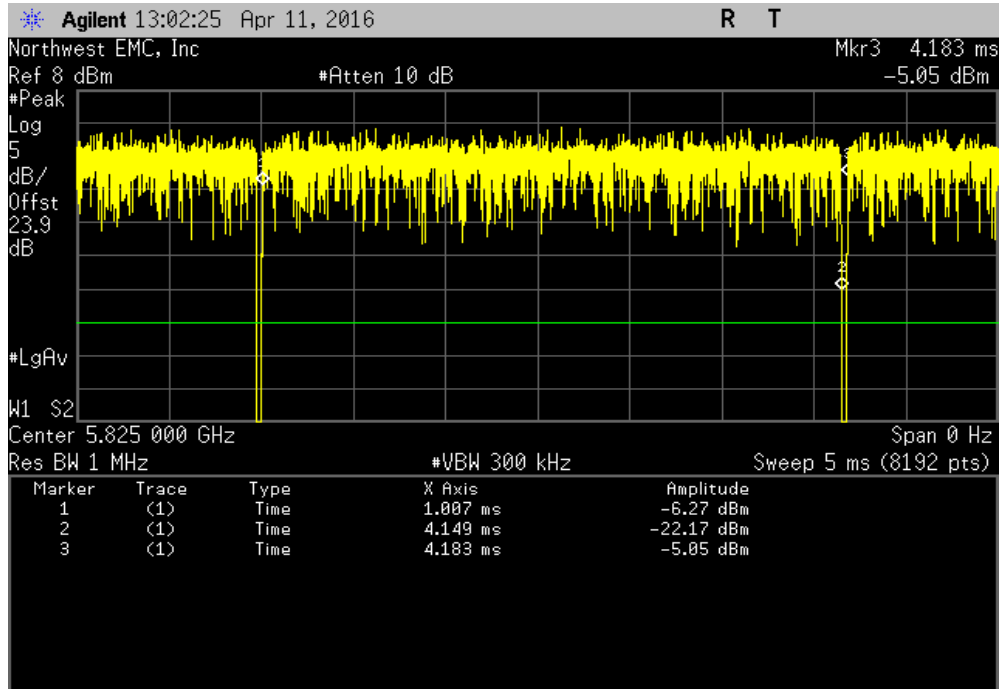


| SISO, Chain A, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(ac) MCS8 |        |                  |           |           |         |  |
|--------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                      | N/A    | 6                | N/A       | N/A       | N/A     |  |

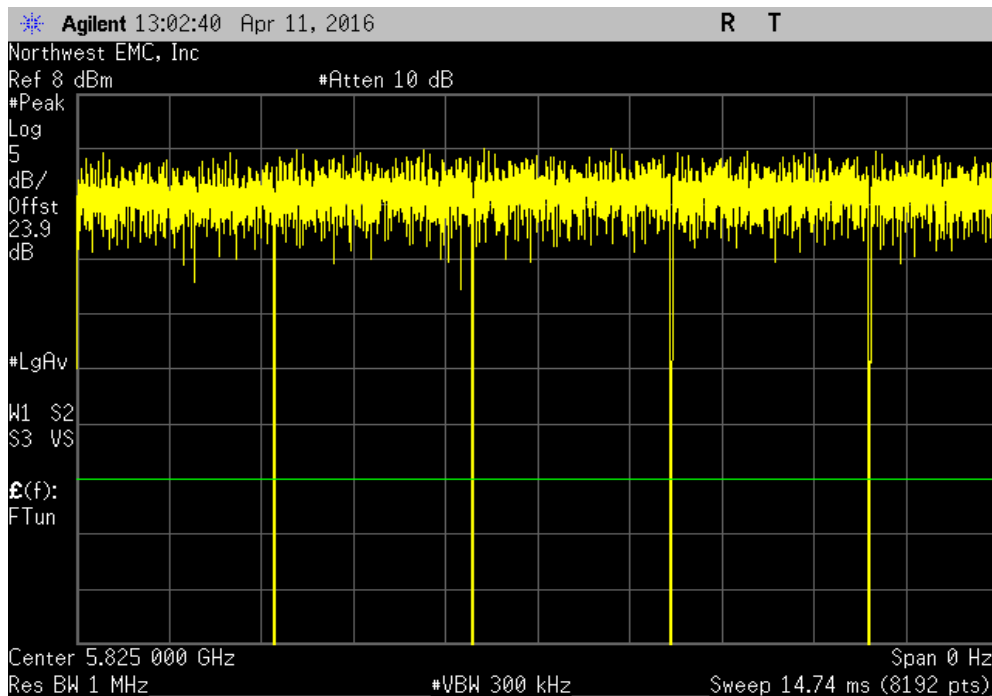


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 6 Mbps |             |          |                  |           |           |         |
|----------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                            | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                            | 3.142 ms    | 3.175 ms | 1                | 98.9      | N/A       | N/A     |

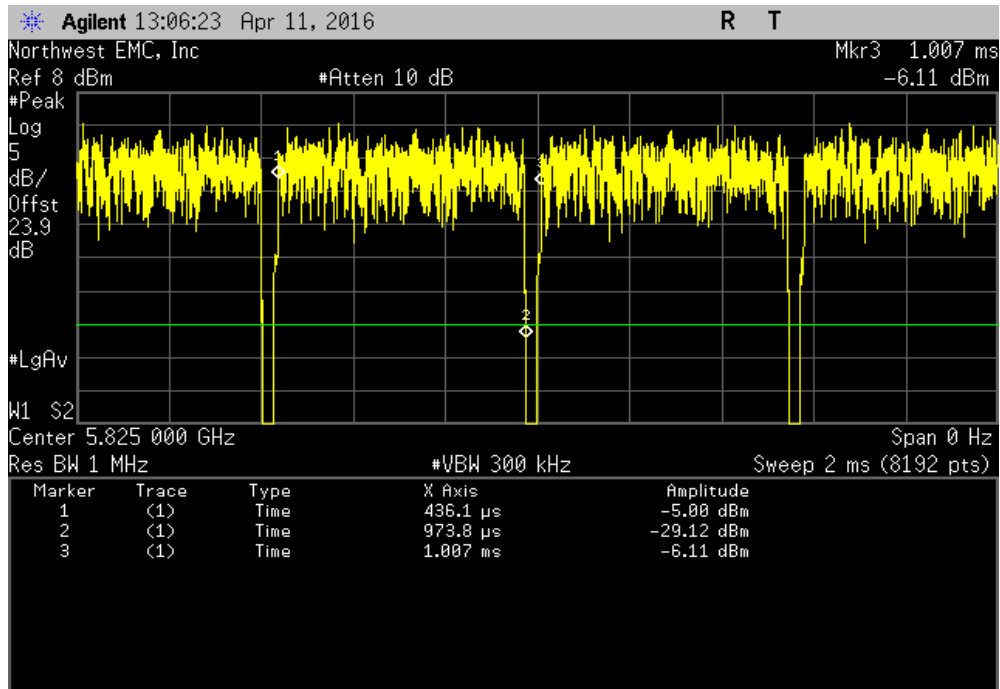


| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 6 Mbps |             |        |                  |           |           |         |
|----------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                            | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                            | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

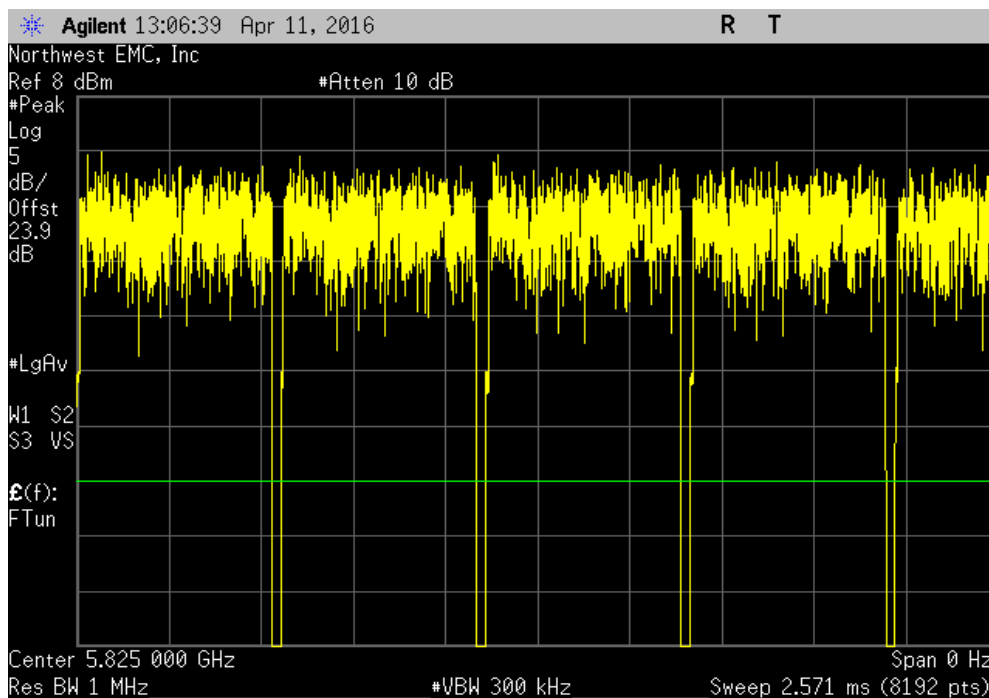


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 36 Mbps |          |                  |           |           |         |  |
|-----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                 | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 537.7 us                                                                    | 571.3 us | 1                | 94.1      | N/A       | N/A     |  |

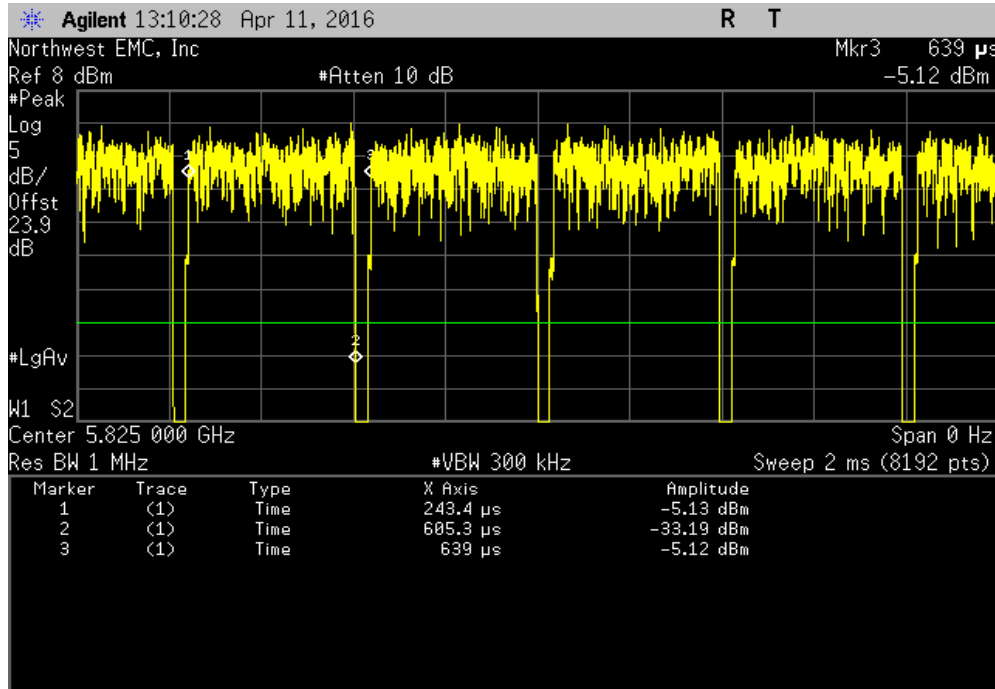


| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 36 Mbps |        |                  |           |           |         |  |
|-----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                 | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                         | N/A    | 5                | N/A       | N/A       | N/A     |  |

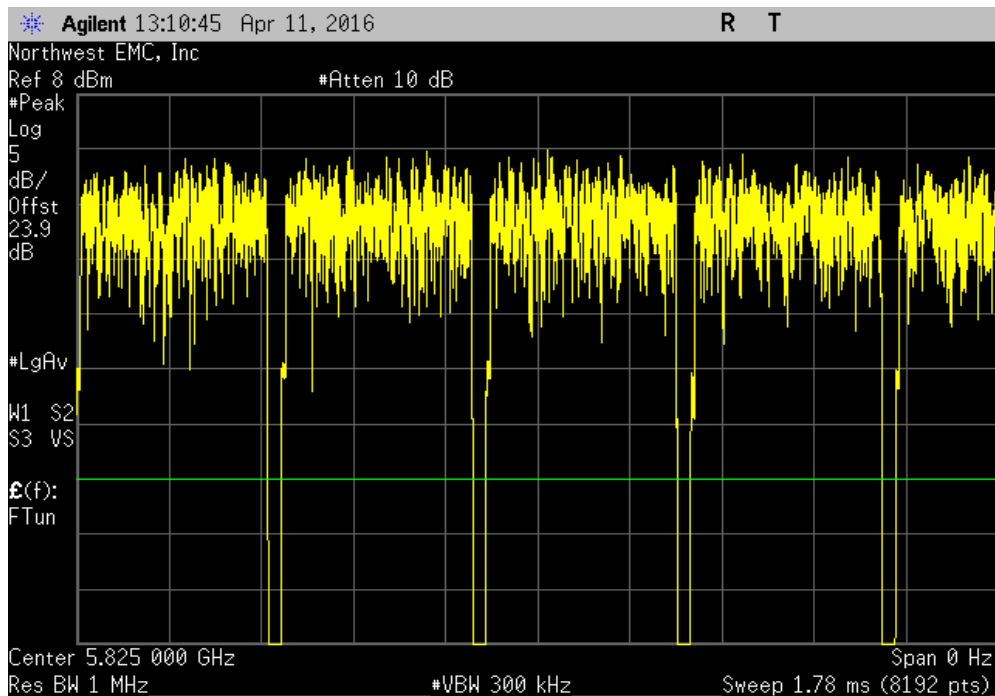


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 54 Mbps |          |                  |           |           |         |  |
|-----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                 | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 361.9 us                                                                    | 395.6 us | 1                | 91.5      | N/A       | N/A     |  |

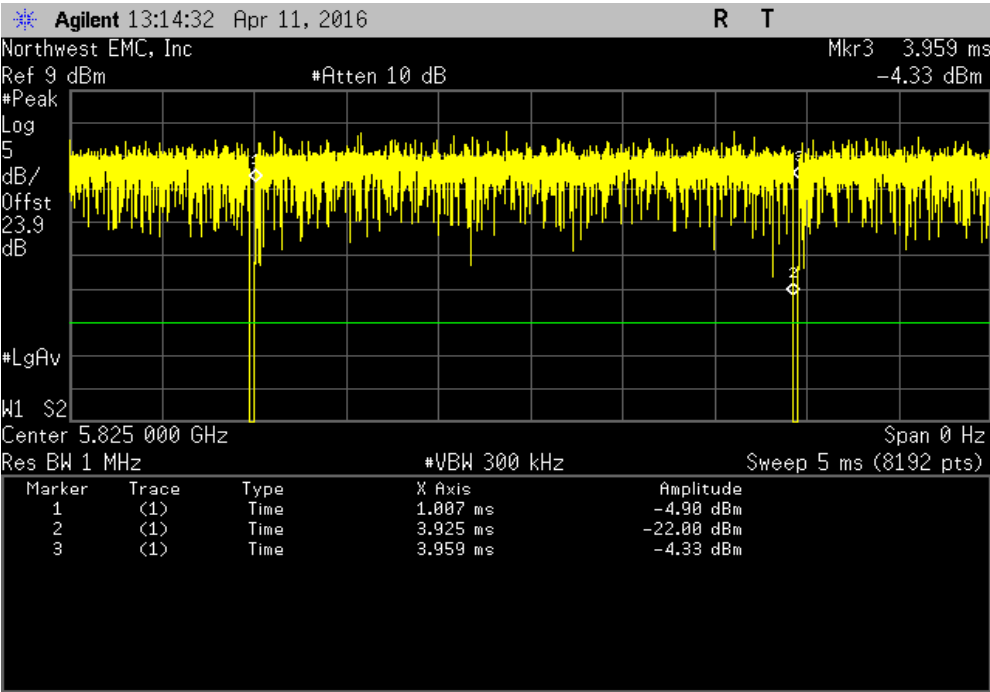


| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 54 Mbps |        |                  |           |           |         |  |
|-----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                 | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                         | N/A    | 5                | N/A       | N/A       | N/A     |  |

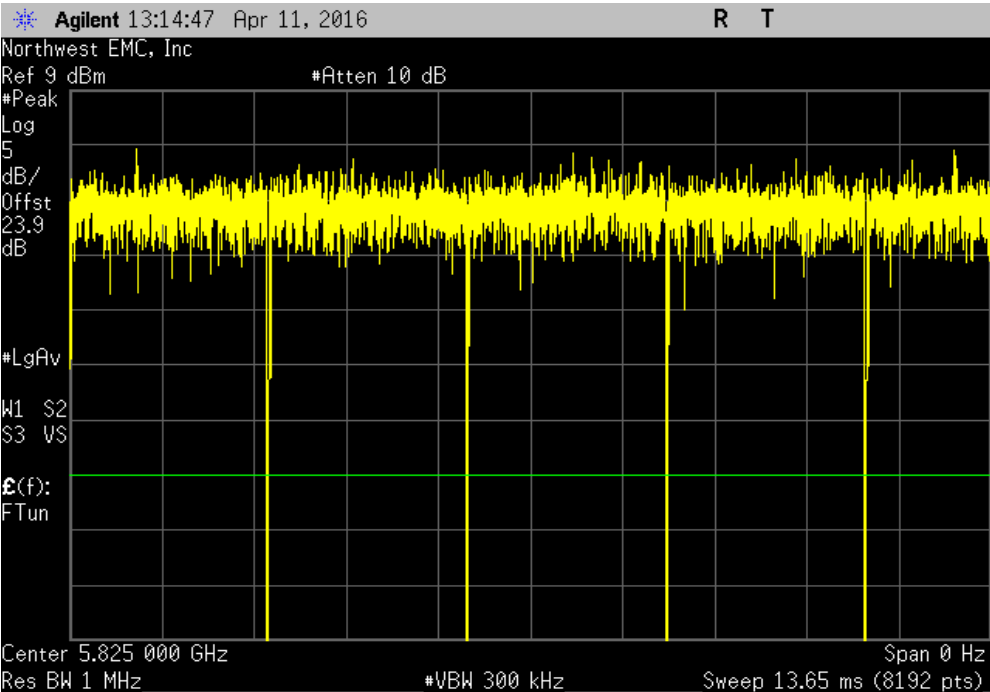


DUTY CYCLE

| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(n) MCS0 |             |          |                  |           |           |         |
|--------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                          | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                          | 2.918 ms    | 2.951 ms | 1                | 98.9      | N/A       | N/A     |

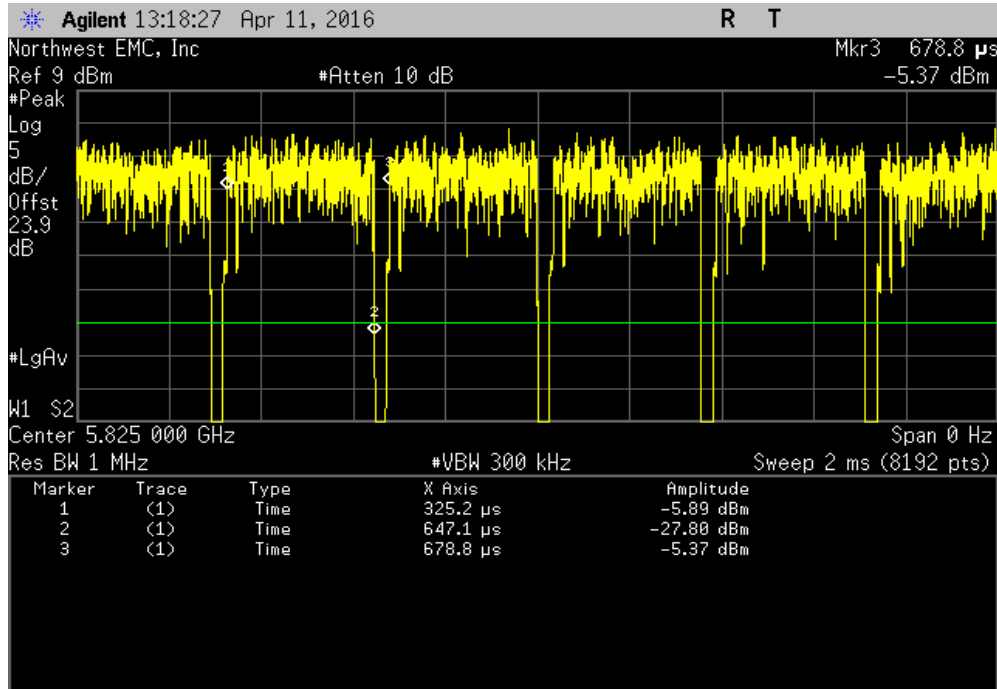


| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(n) MCS0 |             |        |                  |           |           |         |
|--------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                          | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                          | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

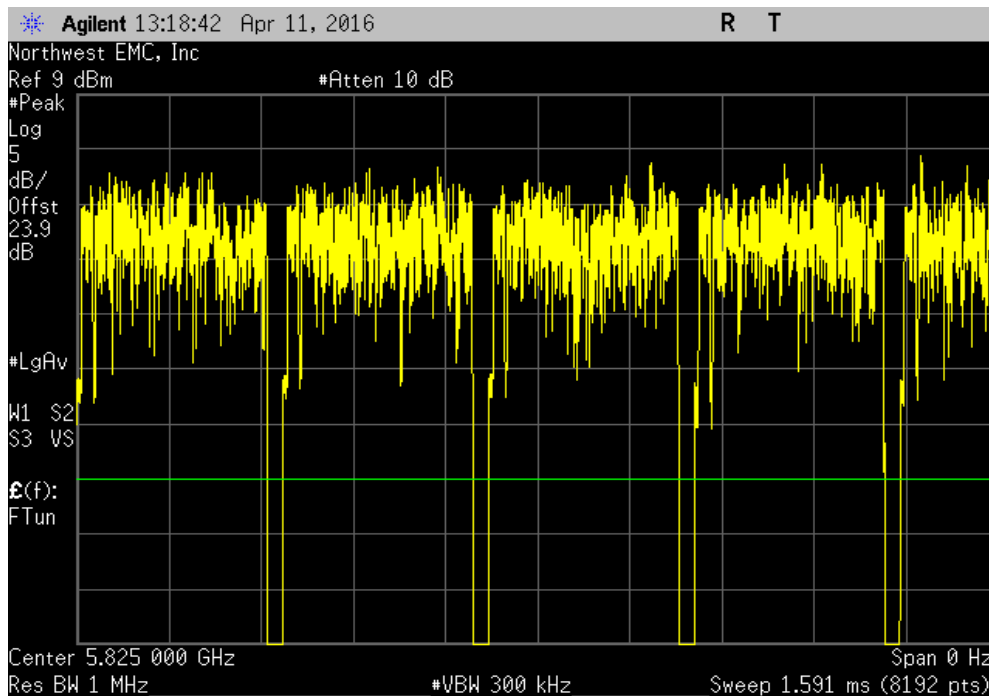


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(n) MCS7 |          |                  |           |           |         |  |
|--------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 321.9 us                                                                 | 353.6 us | 1                | 91        | N/A       | N/A     |  |

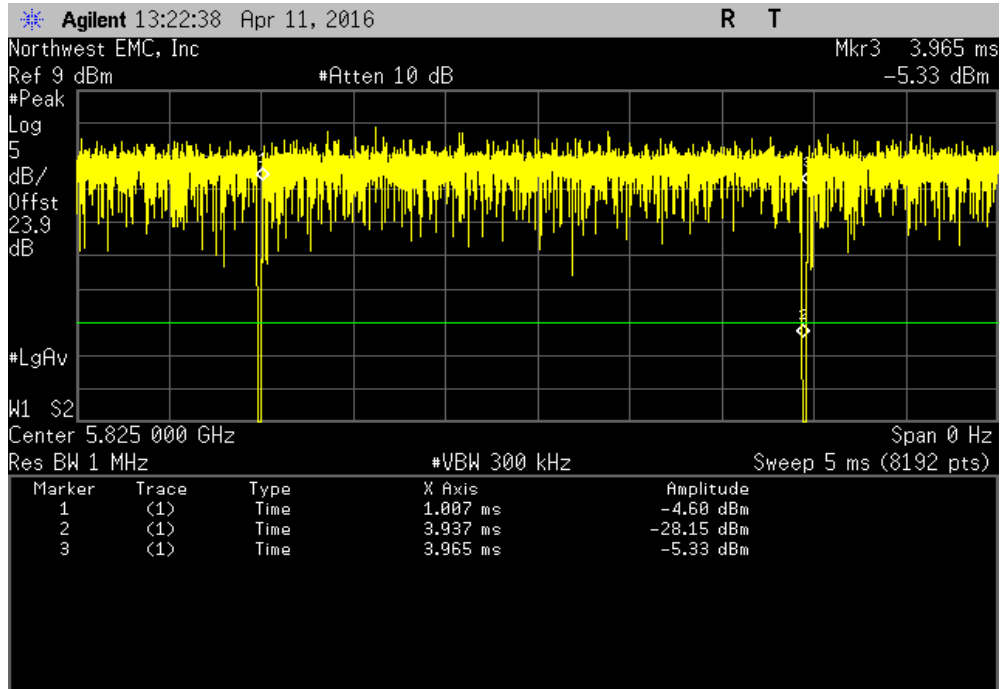


| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(n) MCS7 |        |                  |           |           |         |  |
|--------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                      | N/A    | 5                | N/A       | N/A       | N/A     |  |

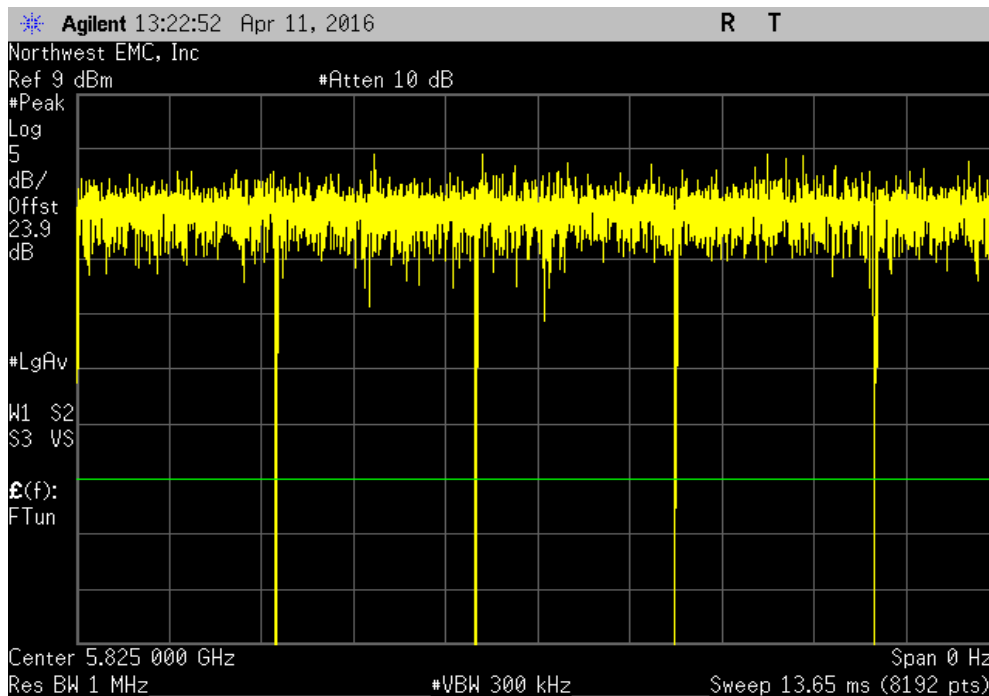


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(ac) MCS0 |             |          |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | 2.93 ms     | 2.958 ms | 1                | 99.1      | N/A       | N/A     |

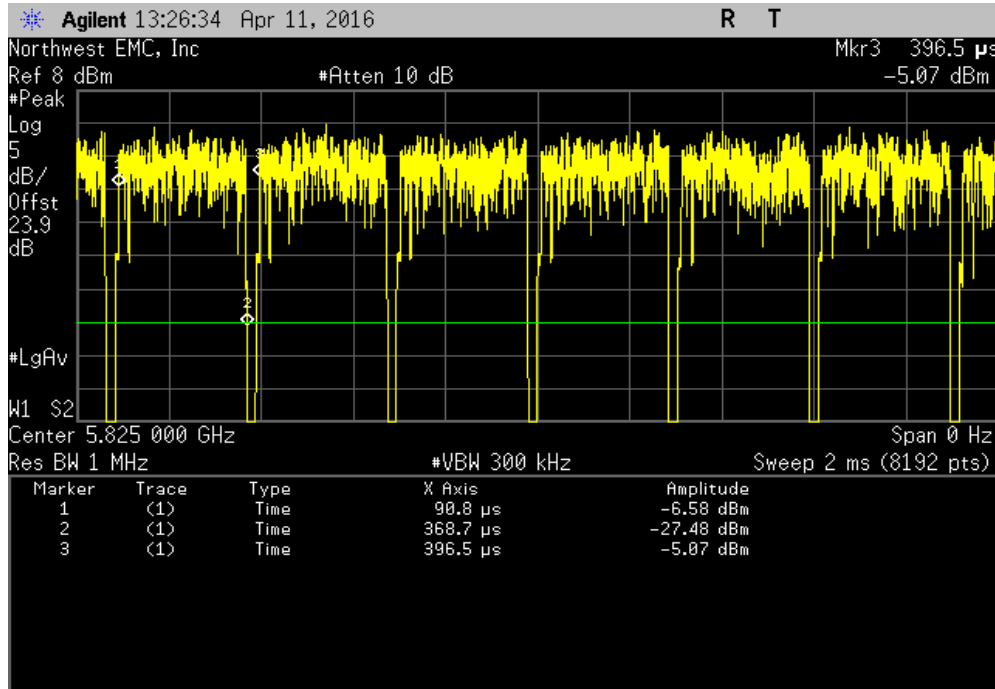


| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(ac) MCS0 |             |        |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

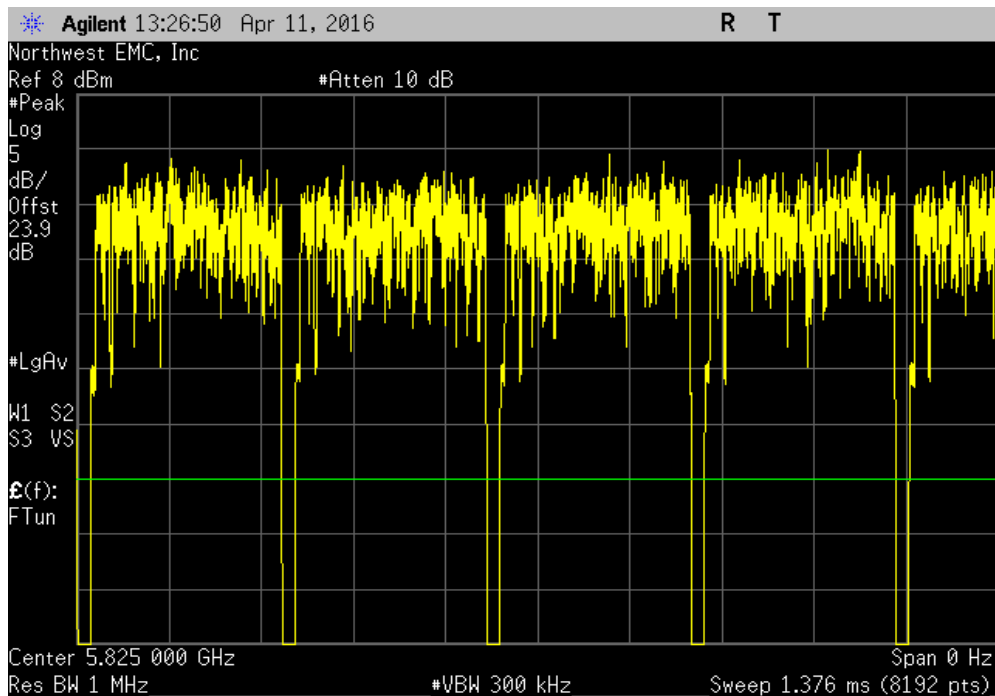


# DUTY CYCLE

| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(ac) MCS8 |          |                  |           |           |         |  |
|---------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                               | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 277.9 us                                                                  | 305.7 us | 1                | 90.9      | N/A       | N/A     |  |

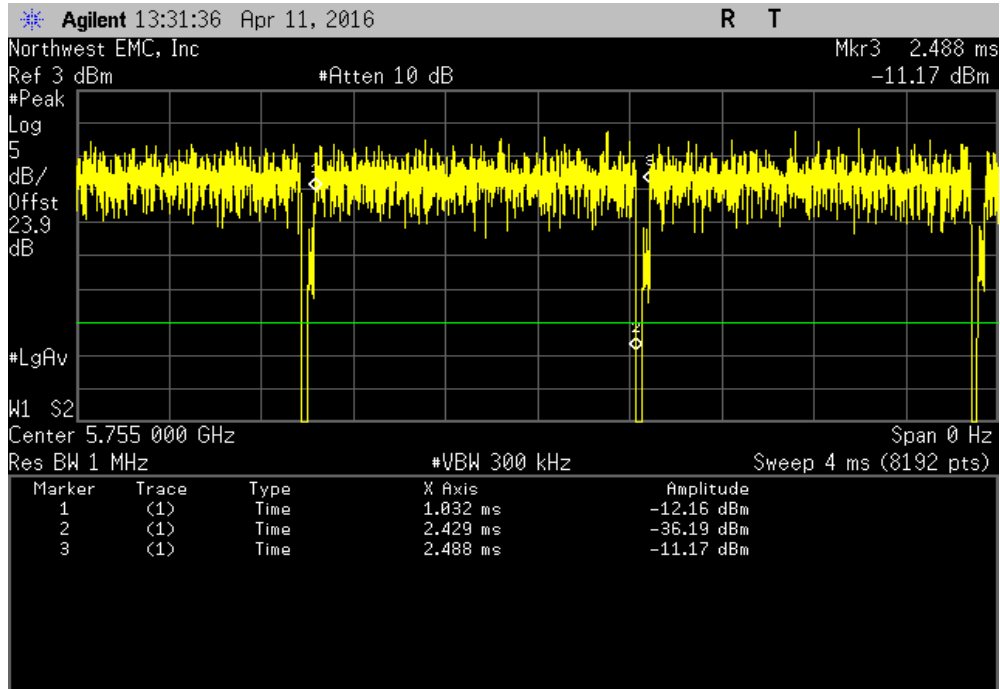


| SISO, Chain A, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(ac) MCS8 |        |                  |           |           |         |  |
|---------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                               | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                       | N/A    | 6                | N/A       | N/A       | N/A     |  |

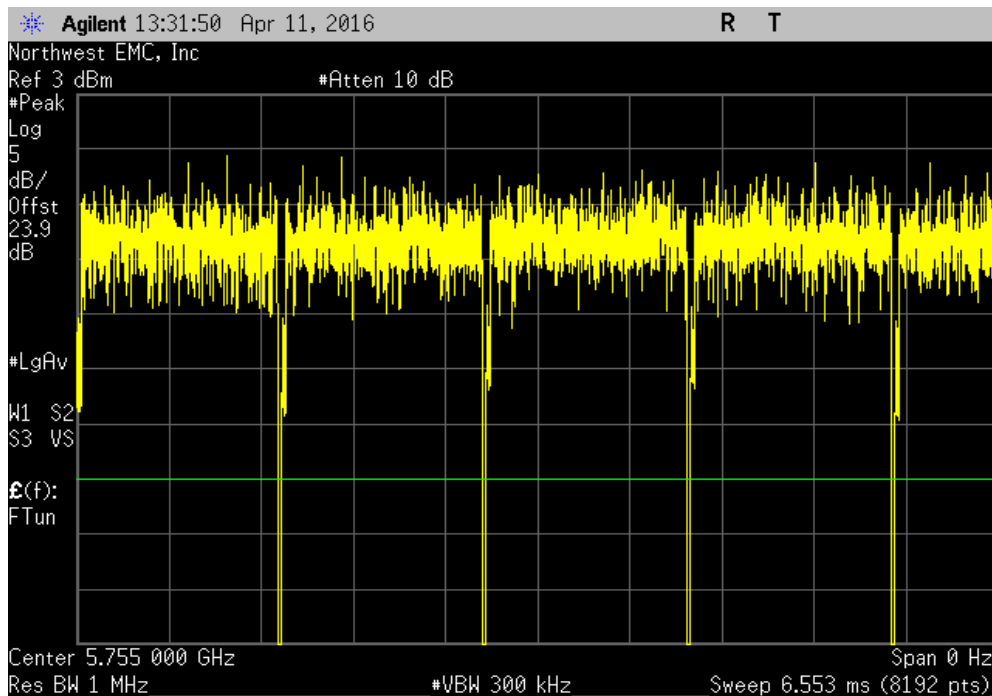


# DUTY CYCLE

| SISO, Chain A, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(n) MCS0 |          |                  |           |           |         |  |
|-----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                 | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 1.397 ms                                                                    | 1.456 ms | 1                | 95.9      | N/A       | N/A     |  |

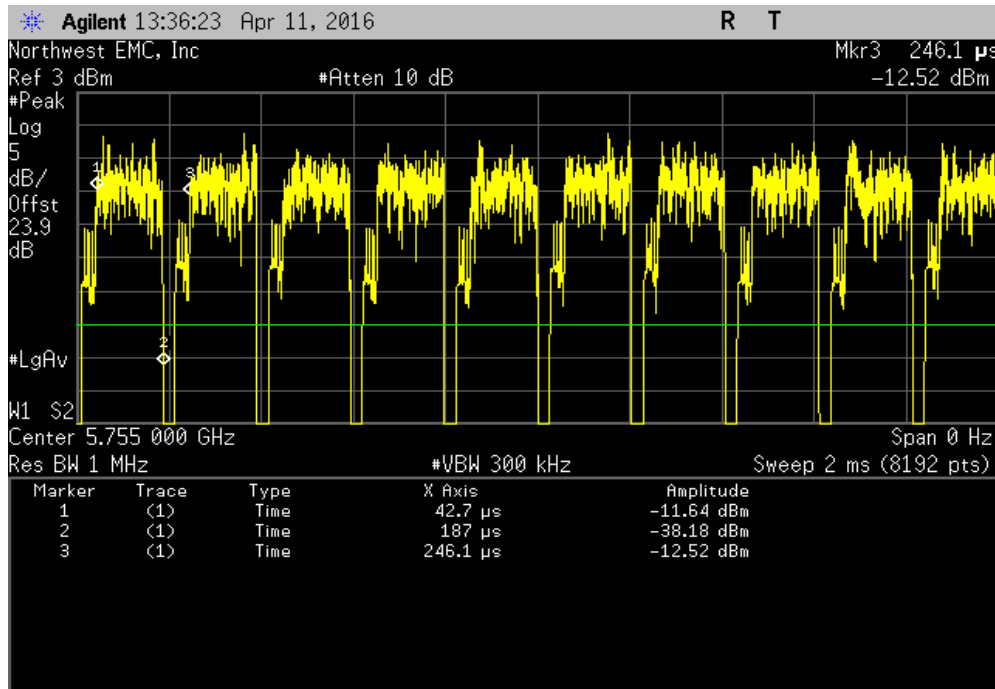


| SISO, Chain A, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(n) MCS0 |        |                  |           |           |         |  |
|-----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                 | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                         | N/A    | 5                | N/A       | N/A       | N/A     |  |

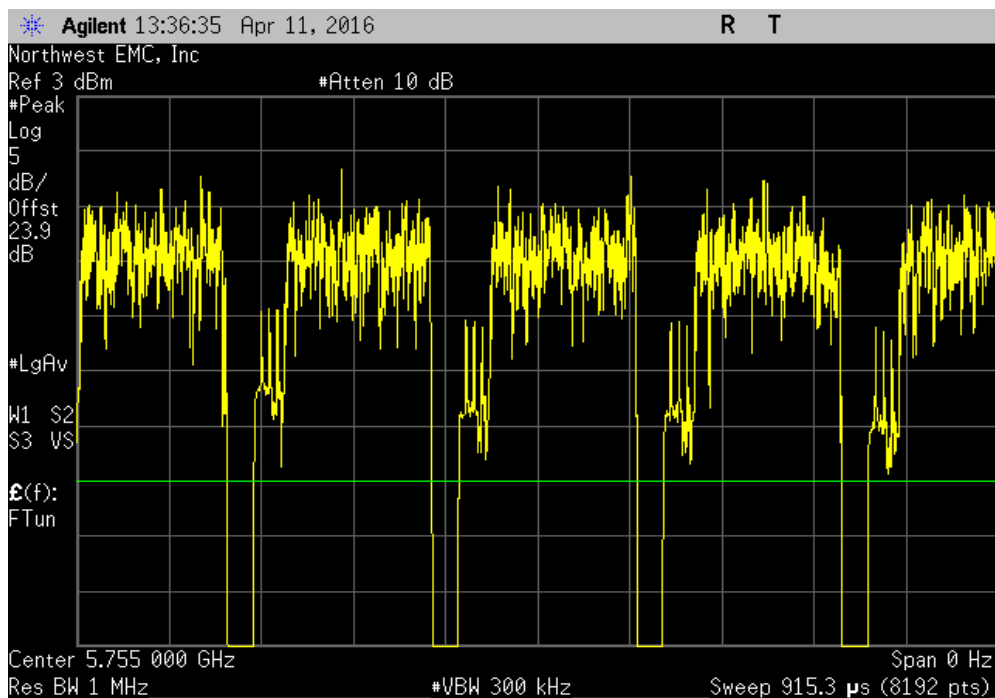


# DUTY CYCLE

| SISO, Chain A, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(n) MCS7 |             |          |                  |           |           |         |
|-----------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                             | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                             | 144.3 us    | 203.4 us | 1                | 70.9      | N/A       | N/A     |

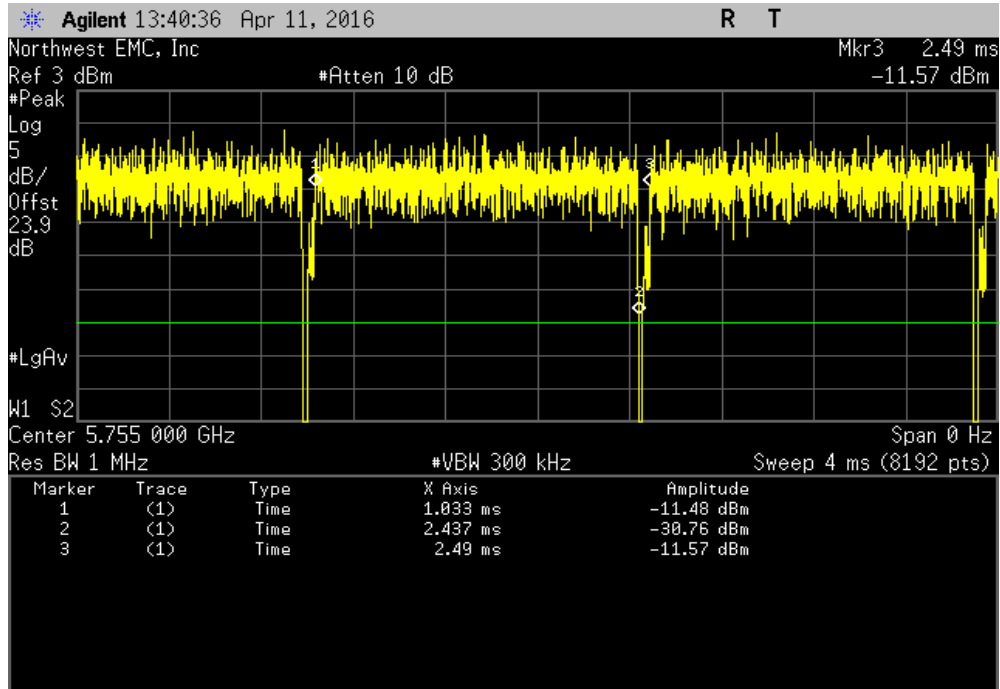


| SISO, Chain A, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(n) MCS7 |             |        |                  |           |           |         |
|-----------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                             | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                             | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

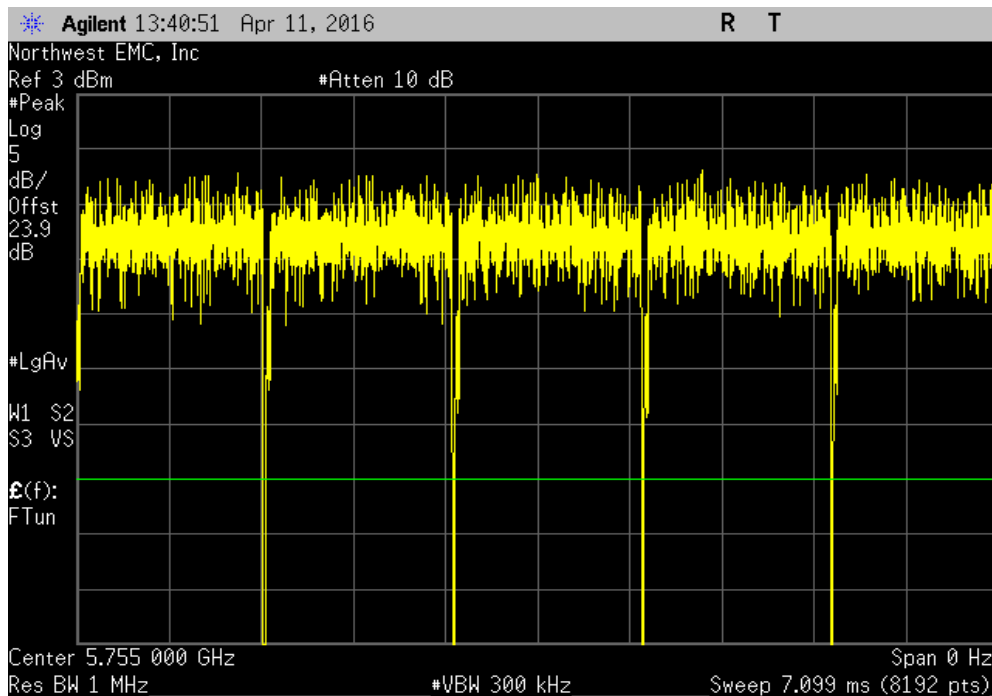


# DUTY CYCLE

| SISO, Chain A, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(ac) MCS0 |          |                  |           |           |         |  |
|------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 1.405 ms                                                                     | 1.458 ms | 1                | 96.4      | N/A       | N/A     |  |

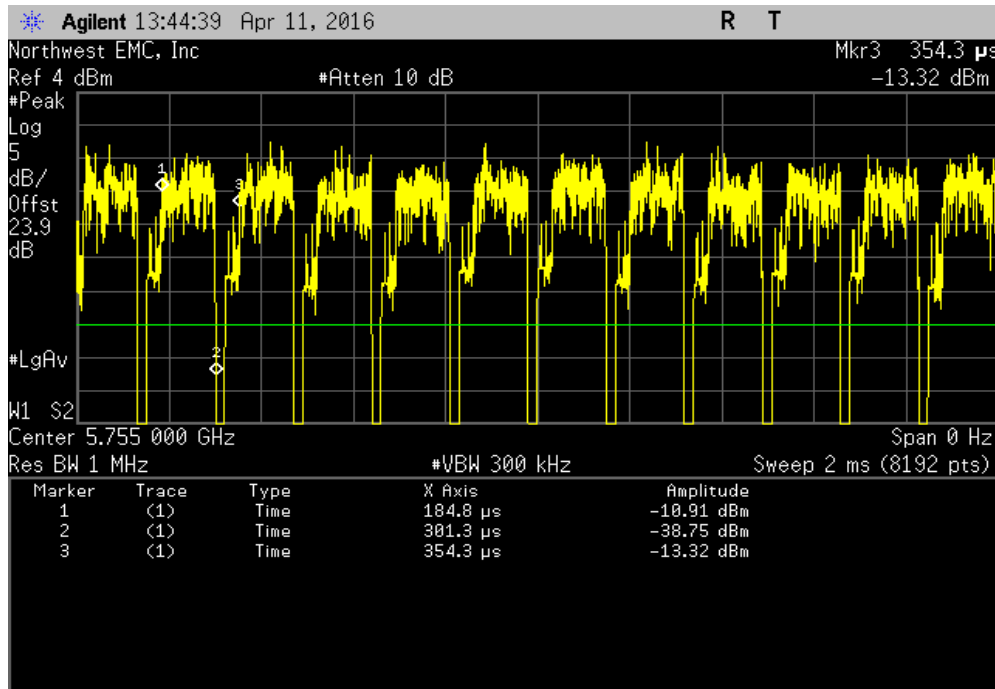


| SISO, Chain A, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(ac) MCS0 |        |                  |           |           |         |  |
|------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                          | N/A    | 5                | N/A       | N/A       | N/A     |  |

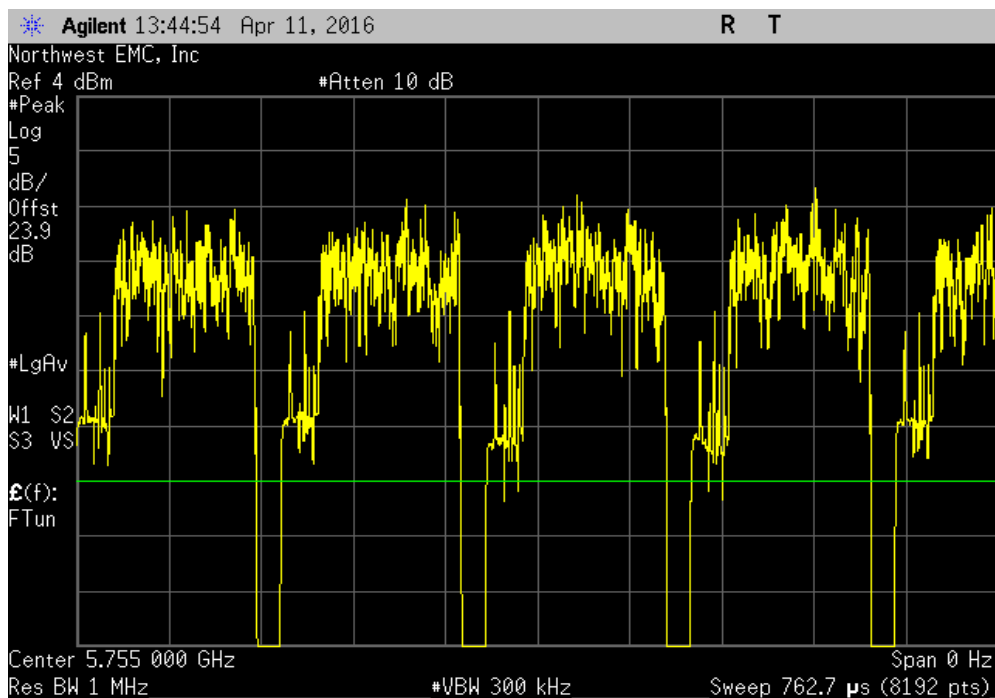


# DUTY CYCLE

| SISO, Chain A, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(ac) MCS9 |          |                  |           |           |         |  |
|------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 116.5 us                                                                     | 169.5 us | 1                | 68.7      | N/A       | N/A     |  |

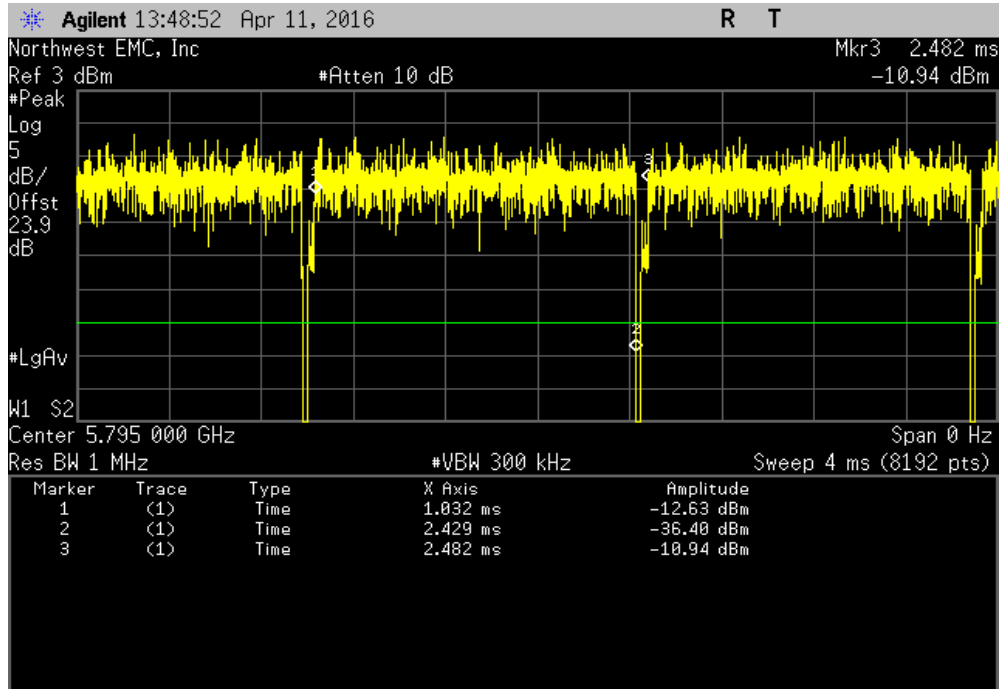


| SISO, Chain A, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(ac) MCS9 |        |                  |           |           |         |  |
|------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                          | N/A    | 5                | N/A       | N/A       | N/A     |  |

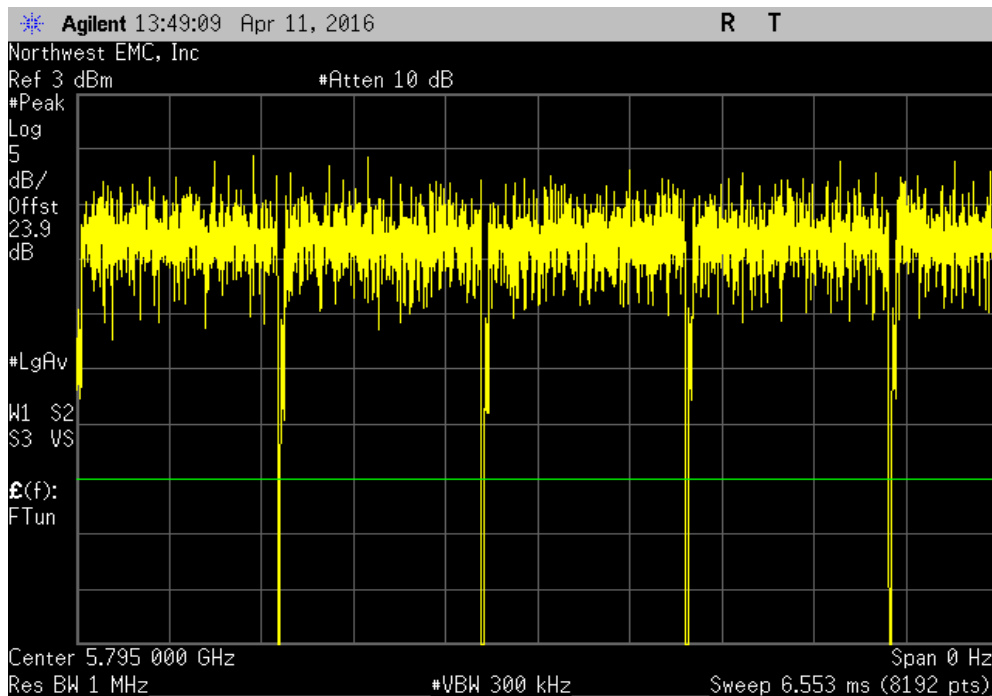


# DUTY CYCLE

| SISO, Chain A, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(n) MCS0 |             |         |                  |           |           |         |
|------------------------------------------------------------------------------|-------------|---------|------------------|-----------|-----------|---------|
|                                                                              | Pulse Width | Period  | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                              | 1.397 ms    | 1.45 ms | 1                | 96.3      | N/A       | N/A     |

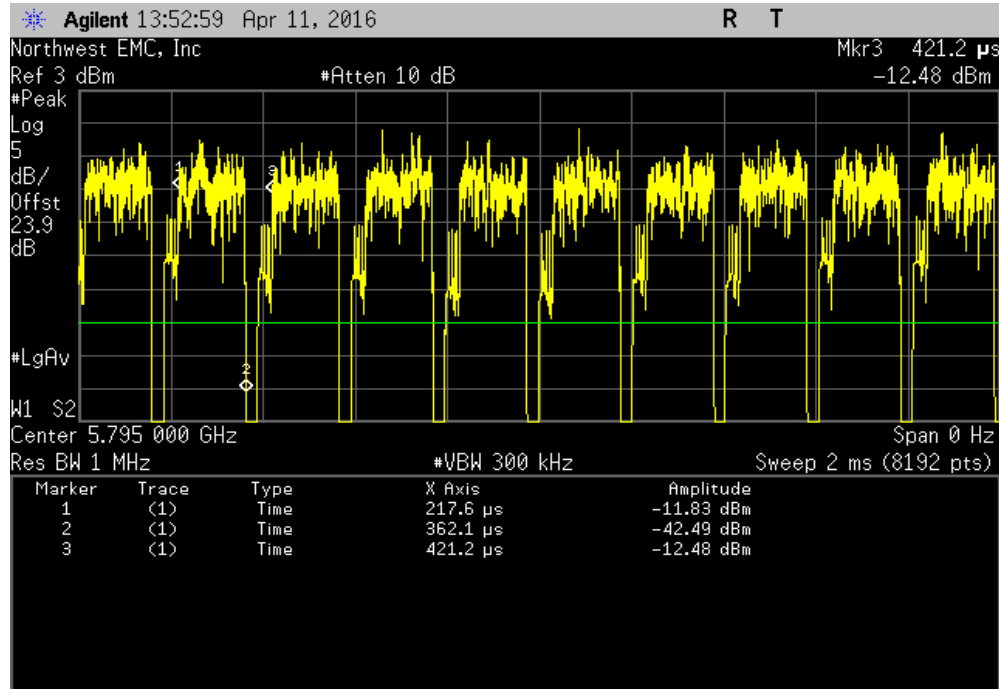


| SISO, Chain A, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(n) MCS0 |             |        |                  |           |           |         |
|------------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                              | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                              | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

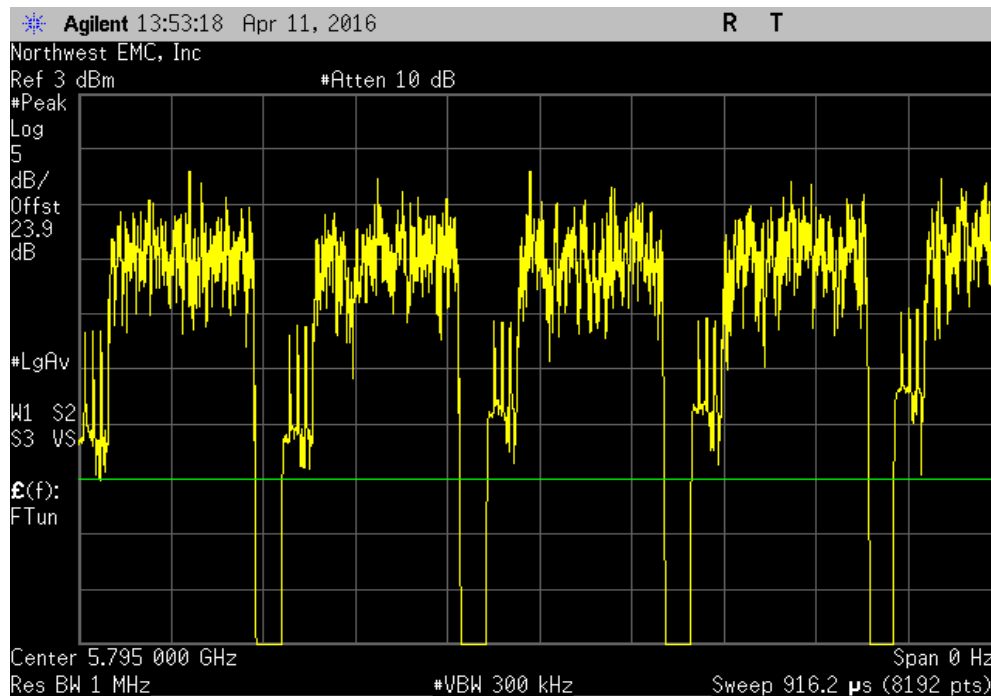


# DUTY CYCLE

| SISO, Chain A, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(n) MCS7 |          |                  |           |           |         |  |
|------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 144.5 us                                                                     | 203.6 us | 1                | 71        | N/A       | N/A     |  |

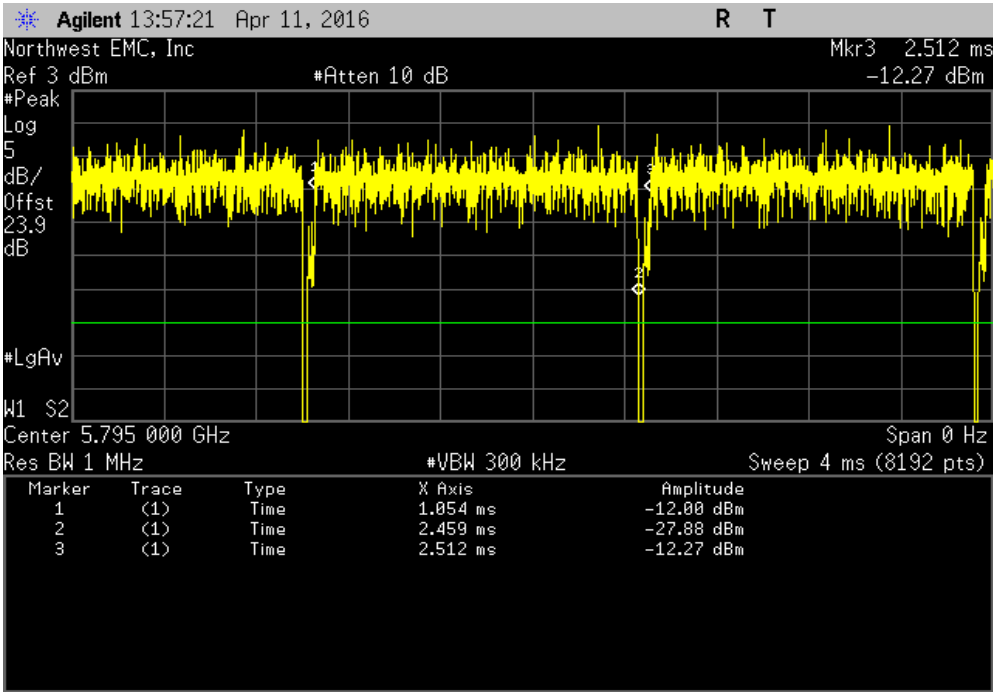


| SISO, Chain A, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(n) MCS7 |        |                  |           |           |         |  |
|------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                          | N/A    | 6                | N/A       | N/A       | N/A     |  |

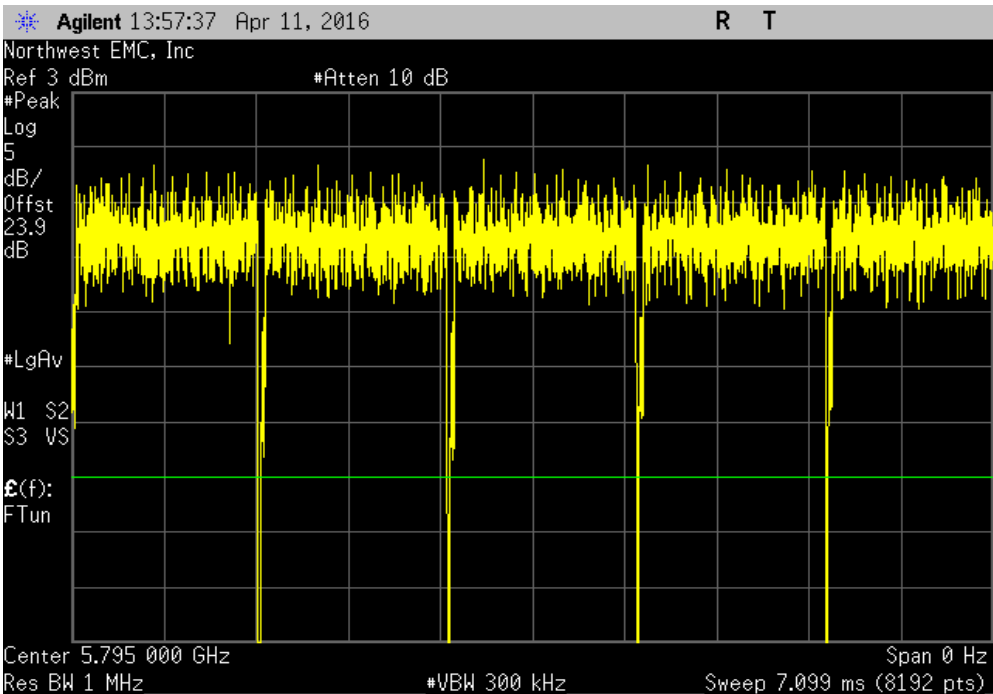


DUTY CYCLE

| SISO, Chain A, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(ac) MCS0 |             |          |                  |           |           |         |
|-------------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                               | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                               | 1.405 ms    | 1.458 ms | 1                | 96.4      | N/A       | N/A     |

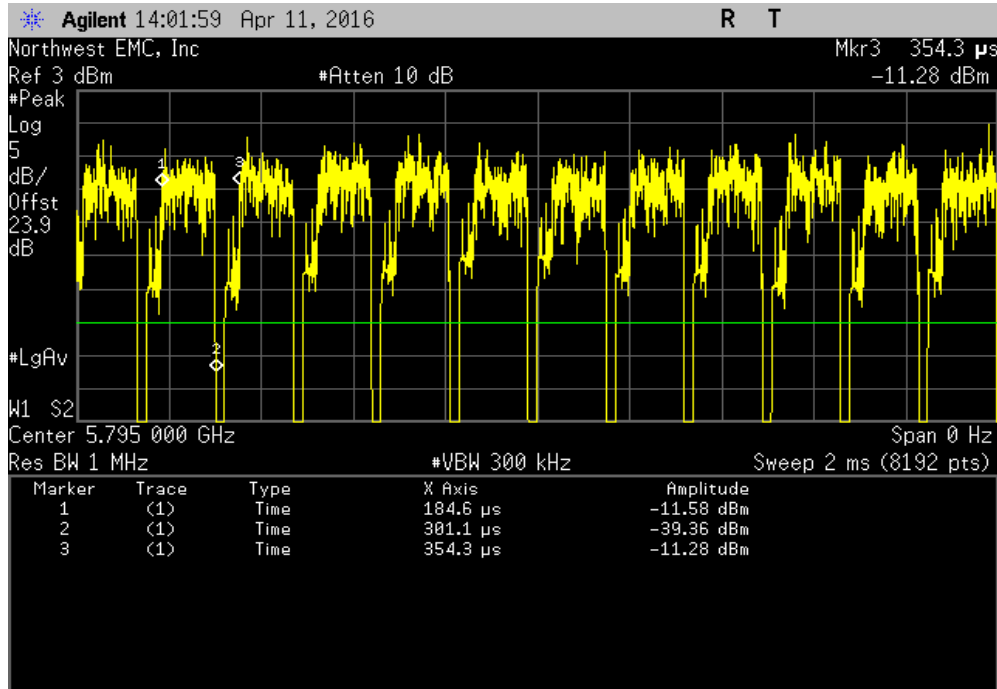


| SISO, Chain A, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(ac) MCS0 |             |        |                  |           |           |         |
|-------------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                               | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                               | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

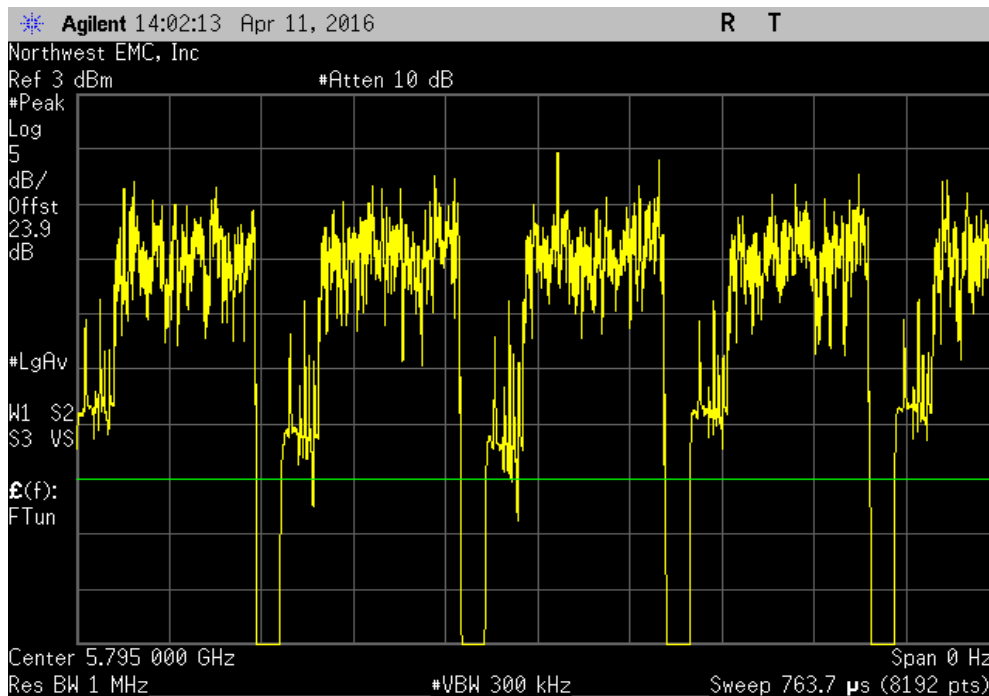


# DUTY CYCLE

| SISO, Chain A, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(ac) MCS9 |          |                  |           |           |         |  |
|-------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                   | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 116.5 us                                                                      | 169.7 us | 1                | 68.7      | N/A       | N/A     |  |

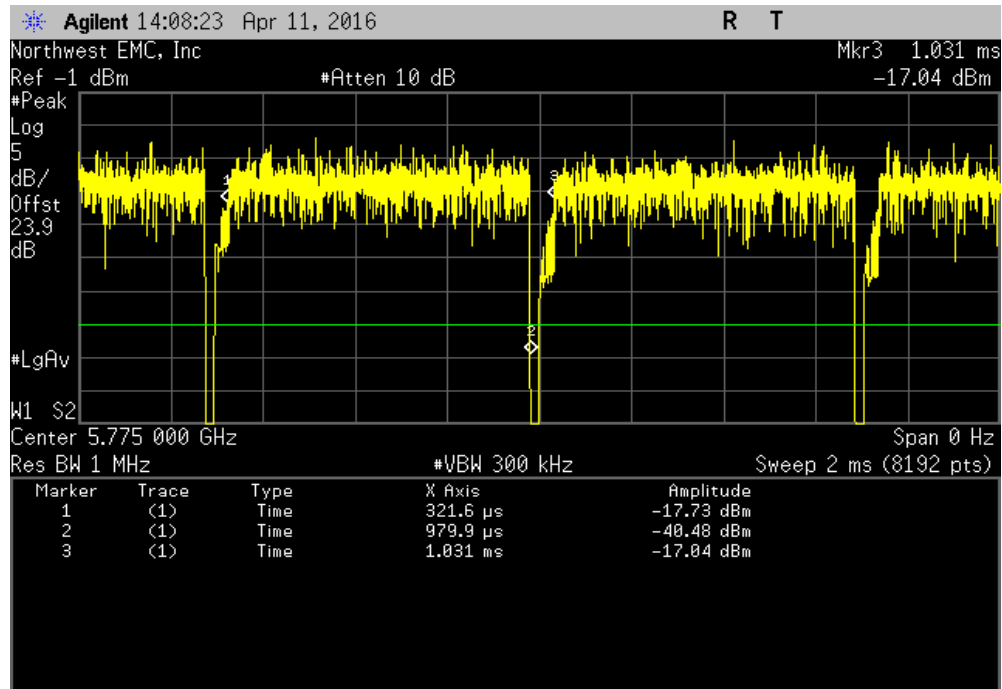


| SISO, Chain A, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(ac) MCS9 |        |                  |           |           |         |  |
|-------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                   | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                           | N/A    | 5                | N/A       | N/A       | N/A     |  |

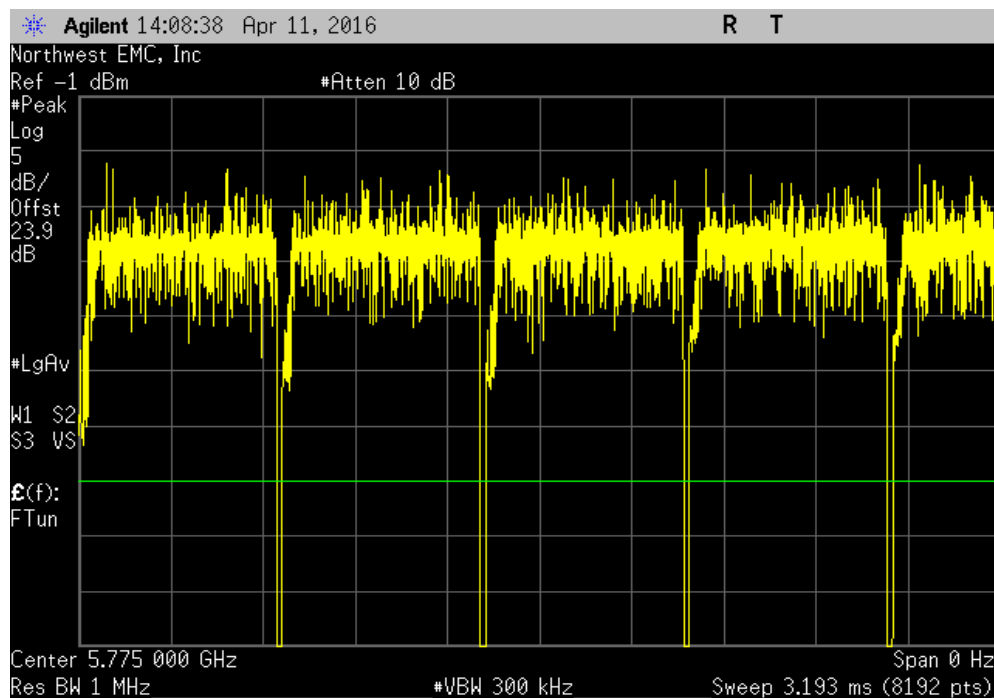


# DUTY CYCLE

| SISO, Chain A, 80MHz BW, Mid Channel, Ch 149/161 - 5775 MHz, 802.11(ac) MCS0 |          |                  |           |           |         |  |
|------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 658.3 us                                                                     | 709.5 us | 1                | 92.8      | N/A       | N/A     |  |

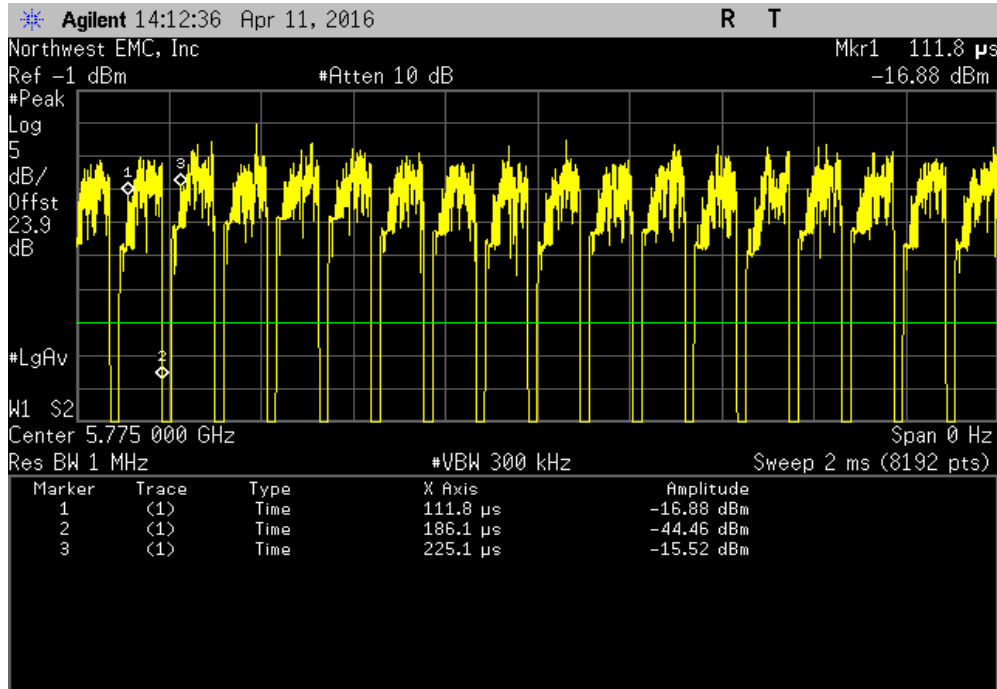


| SISO, Chain A, 80MHz BW, Mid Channel, Ch 149/161 - 5775 MHz, 802.11(ac) MCS0 |        |                  |           |           |         |  |
|------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                          | N/A    | 5                | N/A       | N/A       | N/A     |  |

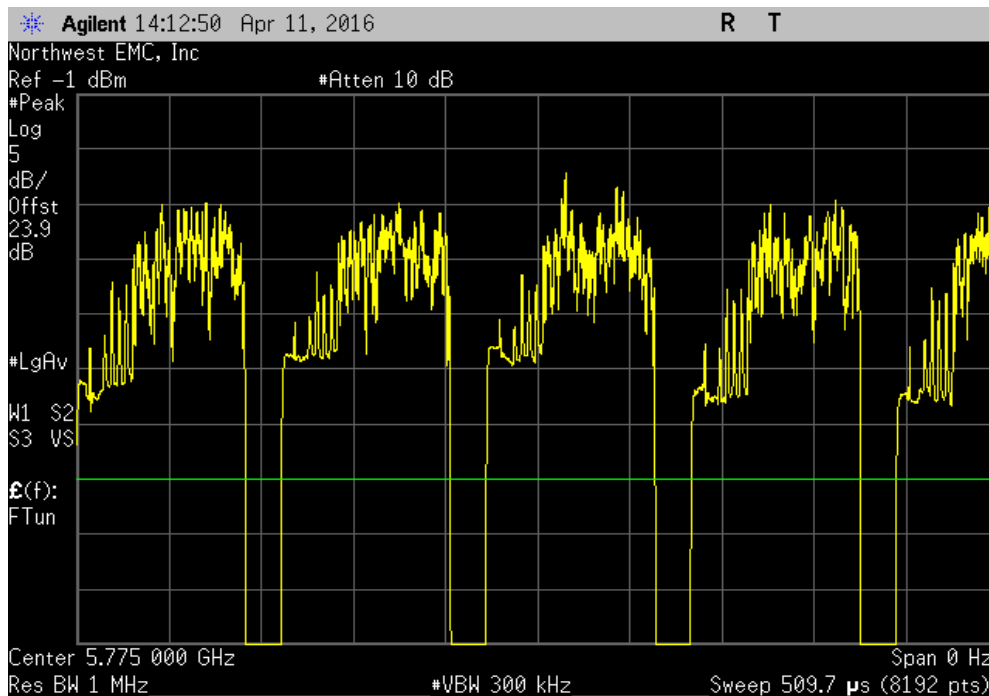


# DUTY CYCLE

| SISO, Chain A, 80MHz BW, Mid Channel, Ch 149/161 - 5775 MHz, 802.11(ac) MCS9 |            |                  |           |           |         |  |
|------------------------------------------------------------------------------|------------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period     | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 74.264 us                                                                    | 113.264 us | 1                | 65.6      | N/A       | N/A     |  |

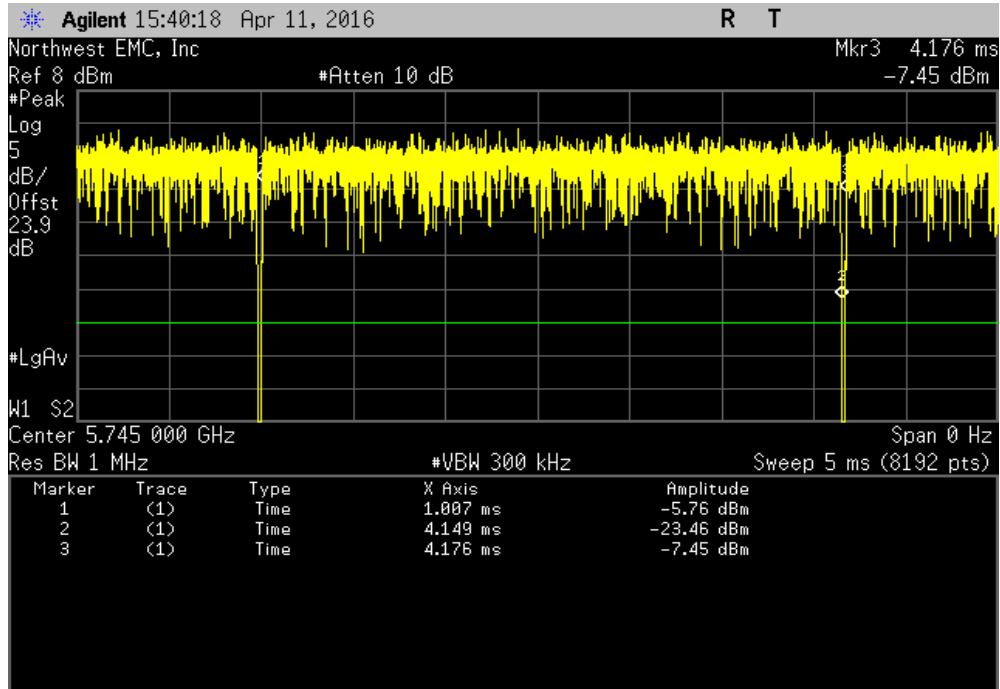


| SISO, Chain A, 80MHz BW, Mid Channel, Ch 149/161 - 5775 MHz, 802.11(ac) MCS9 |        |                  |           |           |         |  |
|------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                          | N/A    | 5                | N/A       | N/A       | N/A     |  |

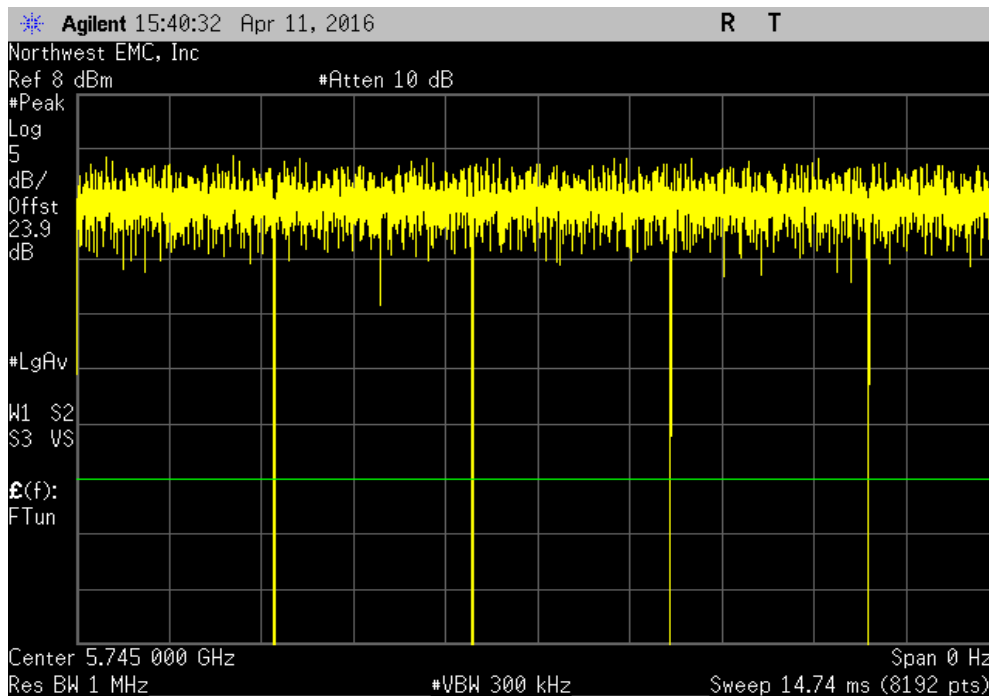


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 6 Mbps |             |          |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | 3.142 ms    | 3.169 ms | 1                | 99.1      | N/A       | N/A     |

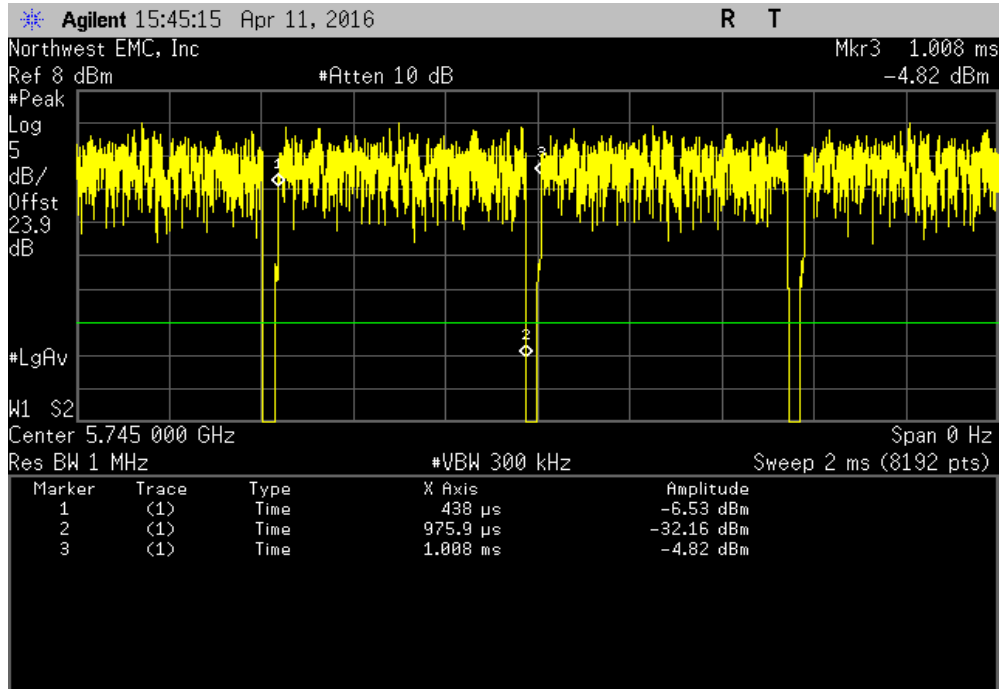


| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 6 Mbps |             |        |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

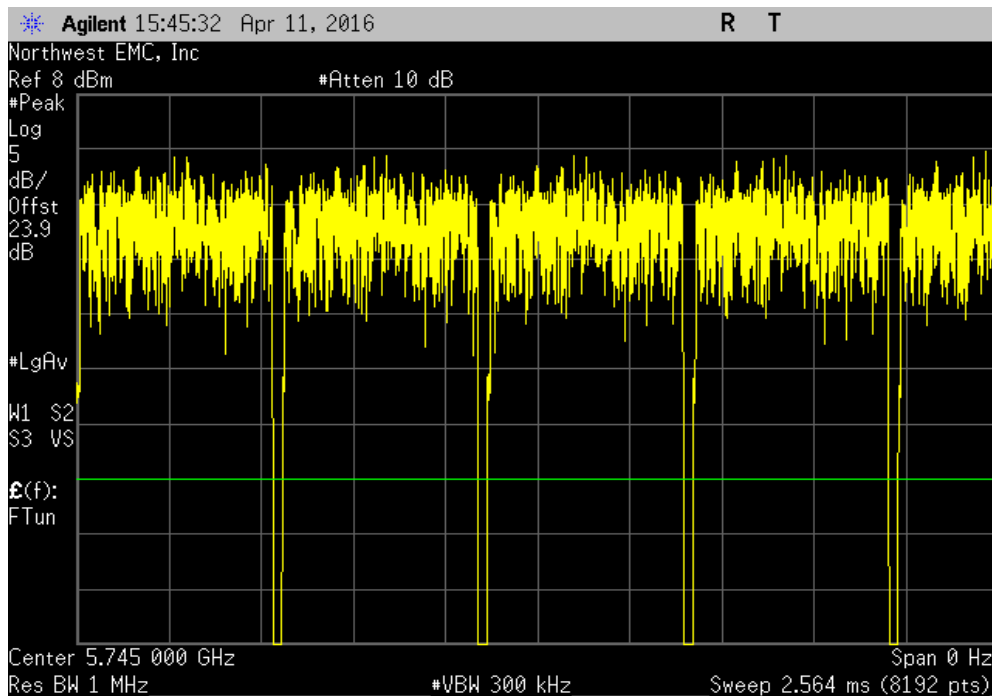


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 36 Mbps |          |                  |           |           |         |  |
|----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 537.9 us                                                                   | 569.7 us | 1                | 94.4      | N/A       | N/A     |  |

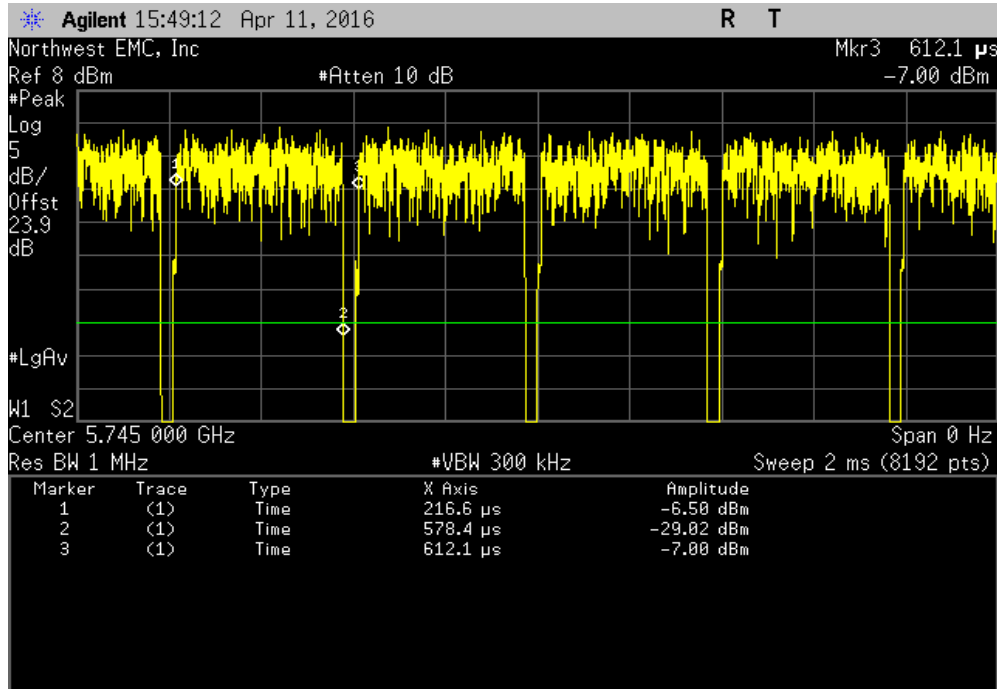


| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 36 Mbps |        |                  |           |           |         |  |
|----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                        | N/A    | 5                | N/A       | N/A       | N/A     |  |

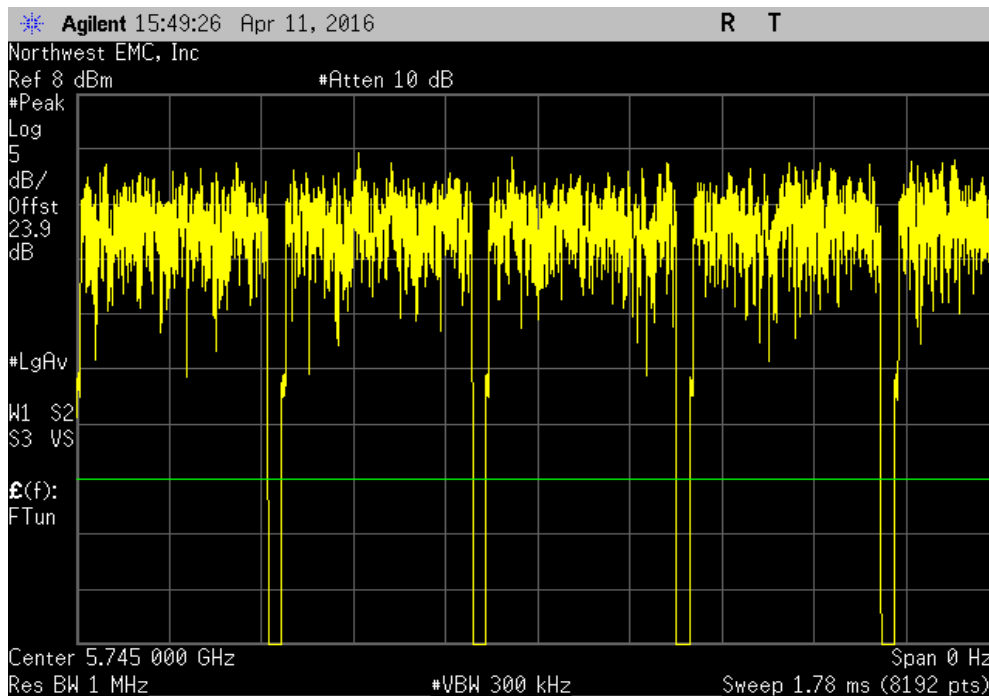


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 54 Mbps |          |                  |           |           |         |  |
|----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 361.8 us                                                                   | 395.5 us | 1                | 91.5      | N/A       | N/A     |  |

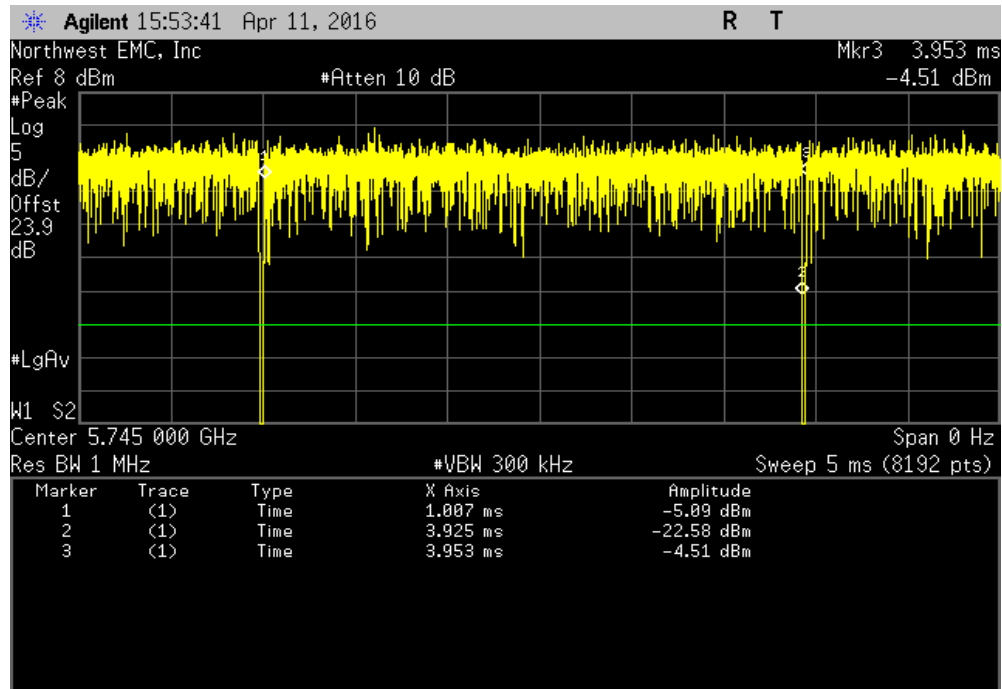


| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(a) 54 Mbps |        |                  |           |           |         |  |
|----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                        | N/A    | 5                | N/A       | N/A       | N/A     |  |

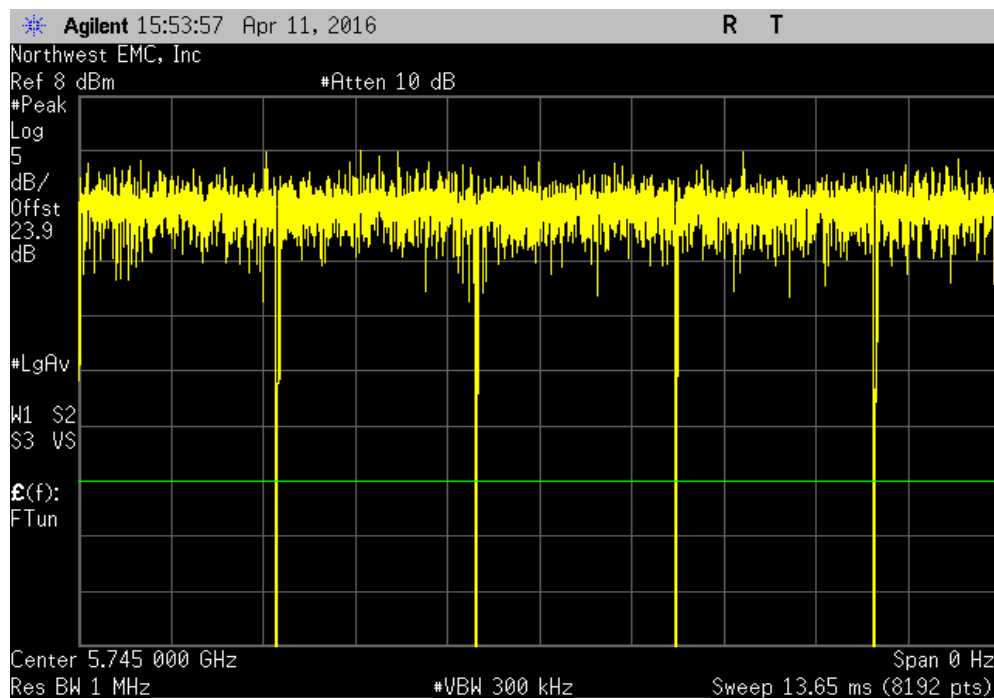


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(n) MCS0 |          |                  |           |           |         |  |
|-------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                             | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 2.918 ms                                                                | 2.946 ms | 1                | 99        | N/A       | N/A     |  |

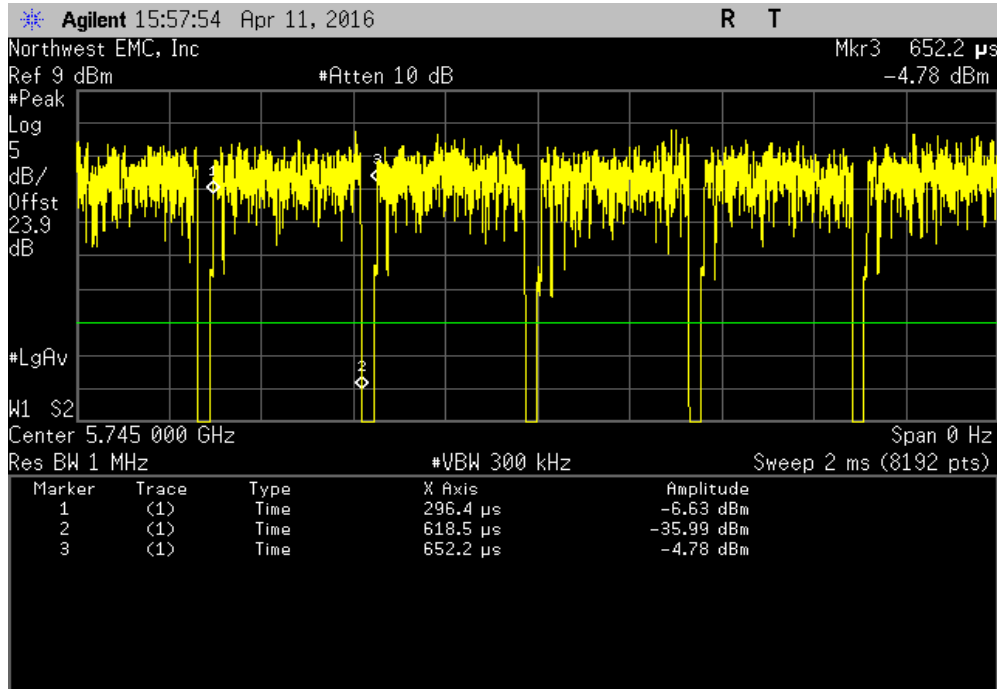


| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(n) MCS0 |        |                  |           |           |         |  |
|-------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                             | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                     | N/A    | 5                | N/A       | N/A       | N/A     |  |

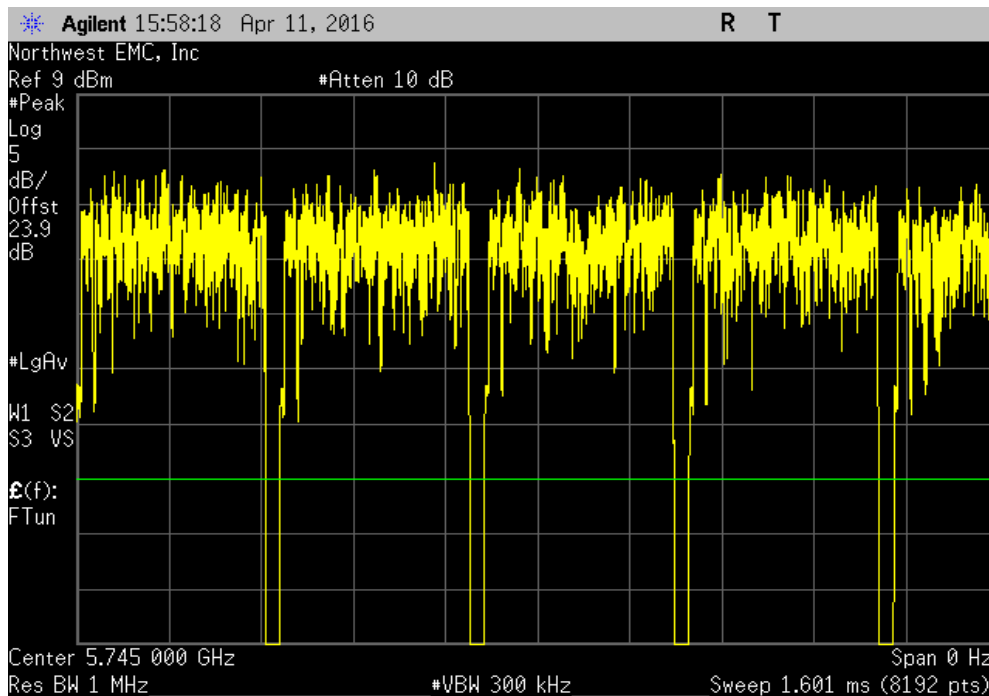


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(n) MCS7 |          |                  |           |           |         |  |
|-------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                             | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 322.1 us                                                                | 355.8 us | 1                | 90.5      | N/A       | N/A     |  |

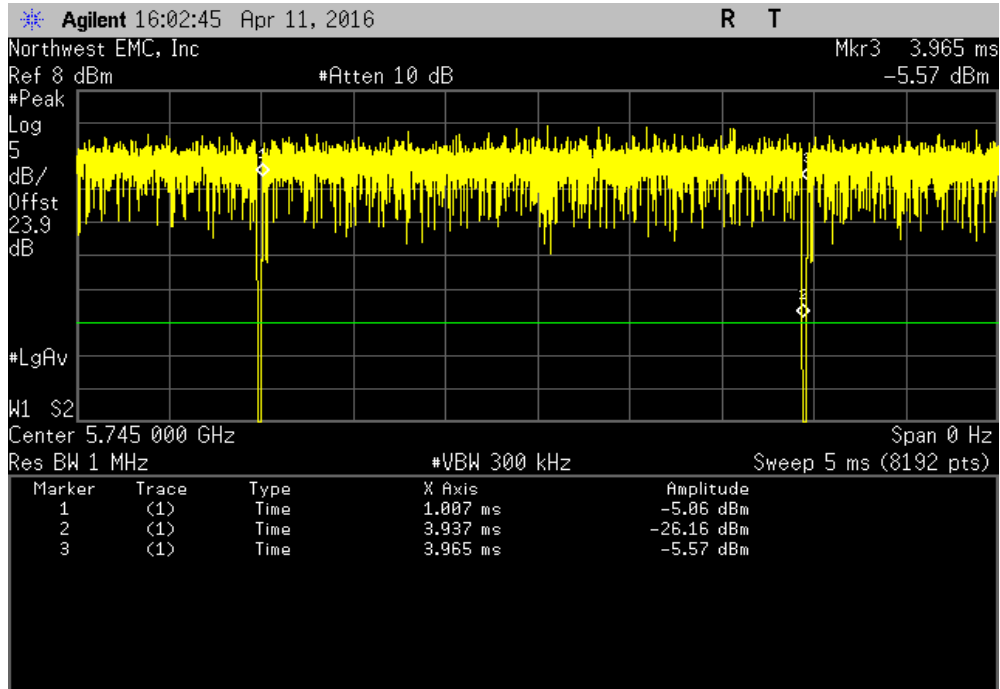


| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(n) MCS7 |        |                  |           |           |         |  |
|-------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                             | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                     | N/A    | 5                | N/A       | N/A       | N/A     |  |

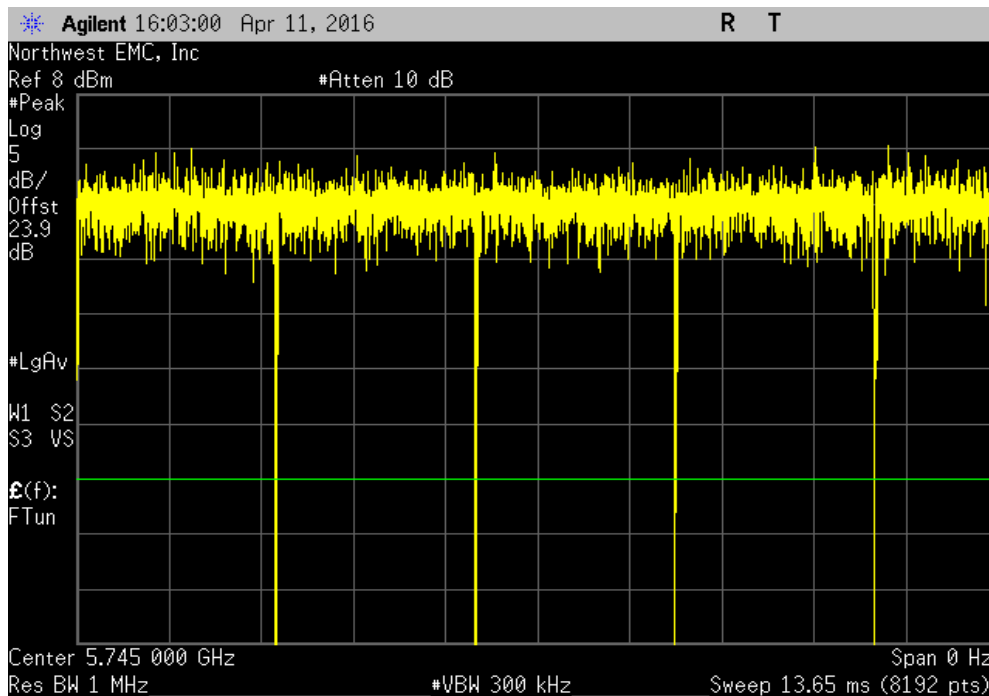


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(ac) MCS0 |             |          |                  |           |           |         |
|--------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                          | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                          | 2.93 ms     | 2.958 ms | 1                | 99.1      | N/A       | N/A     |

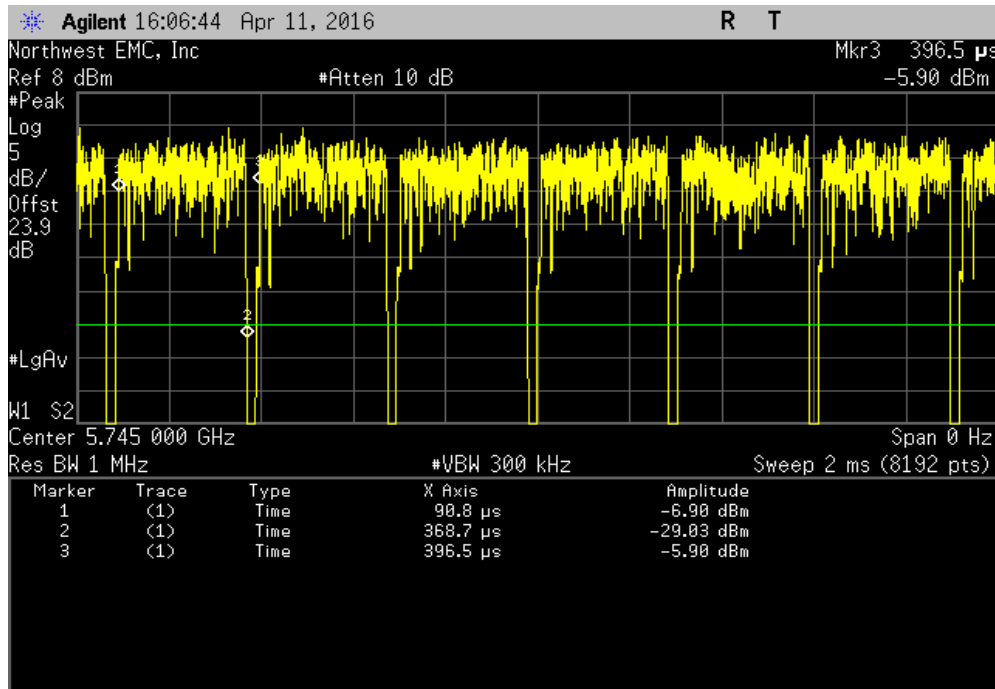


| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(ac) MCS0 |             |        |                  |           |           |         |
|--------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                          | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                          | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

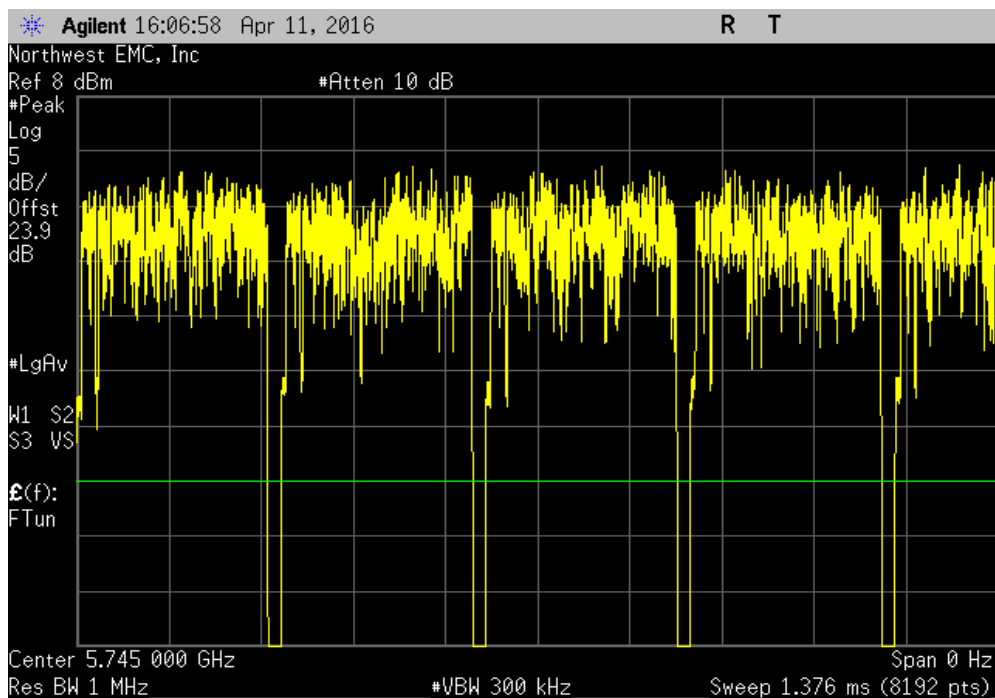


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(ac) MCS8 |          |                  |           |           |         |  |
|--------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 277.9 us                                                                 | 305.7 us | 1                | 90.9      | N/A       | N/A     |  |

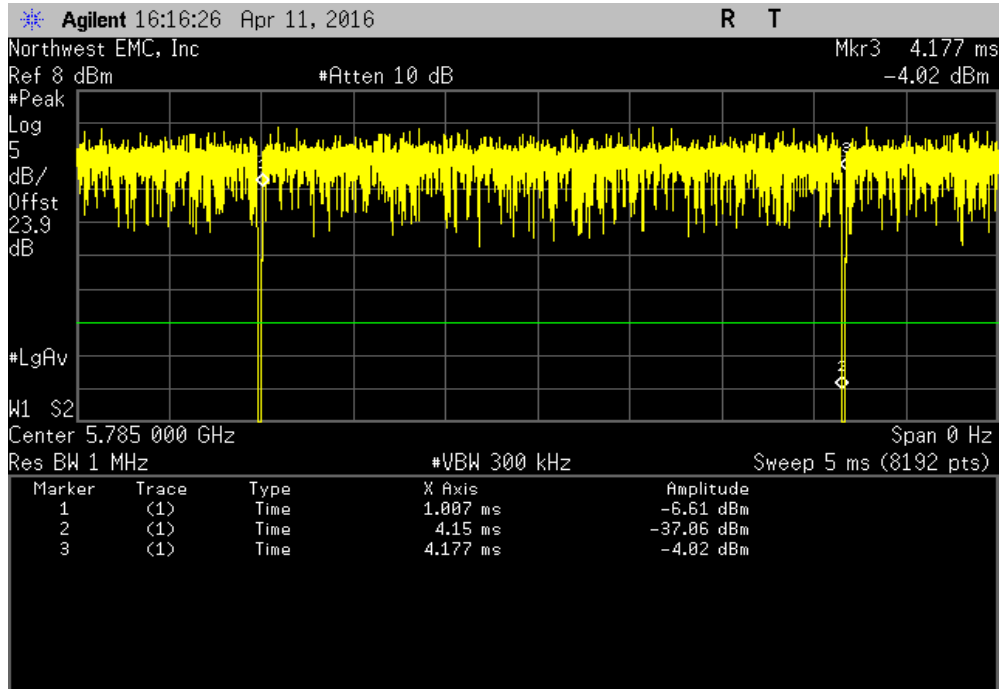


| SISO, Chain B, 20MHz BW, Low Channel, Ch 149 - 5745 MHz, 802.11(ac) MCS8 |        |                  |           |           |         |  |
|--------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                      | N/A    | 5                | N/A       | N/A       | N/A     |  |

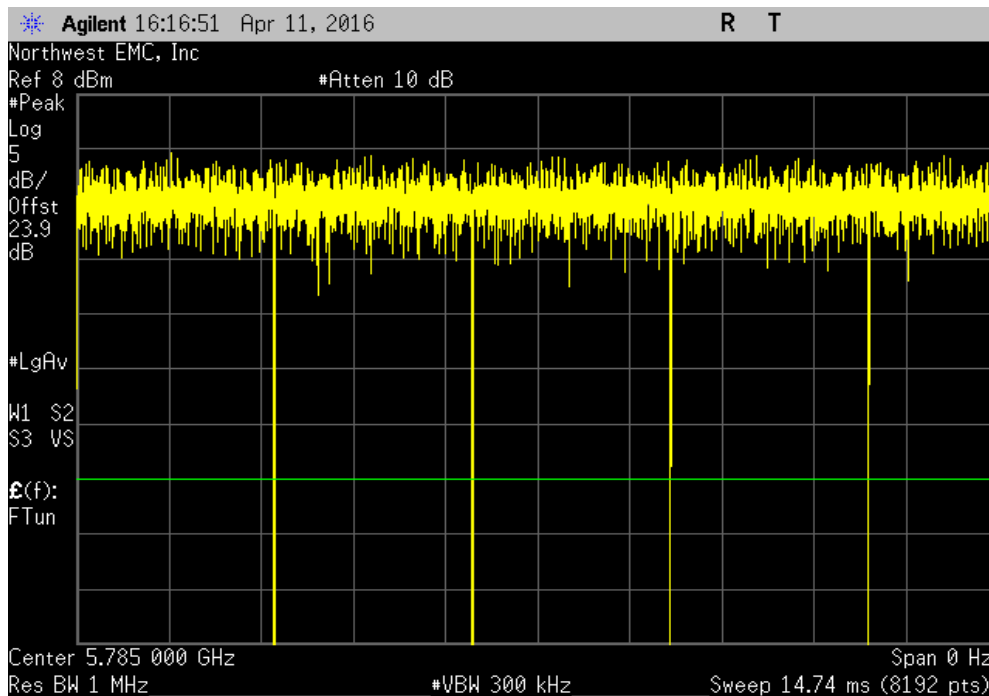


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 6 Mbps |             |         |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|---------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period  | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | 3.143 ms    | 3.17 ms | 1                | 99.1      | N/A       | N/A     |

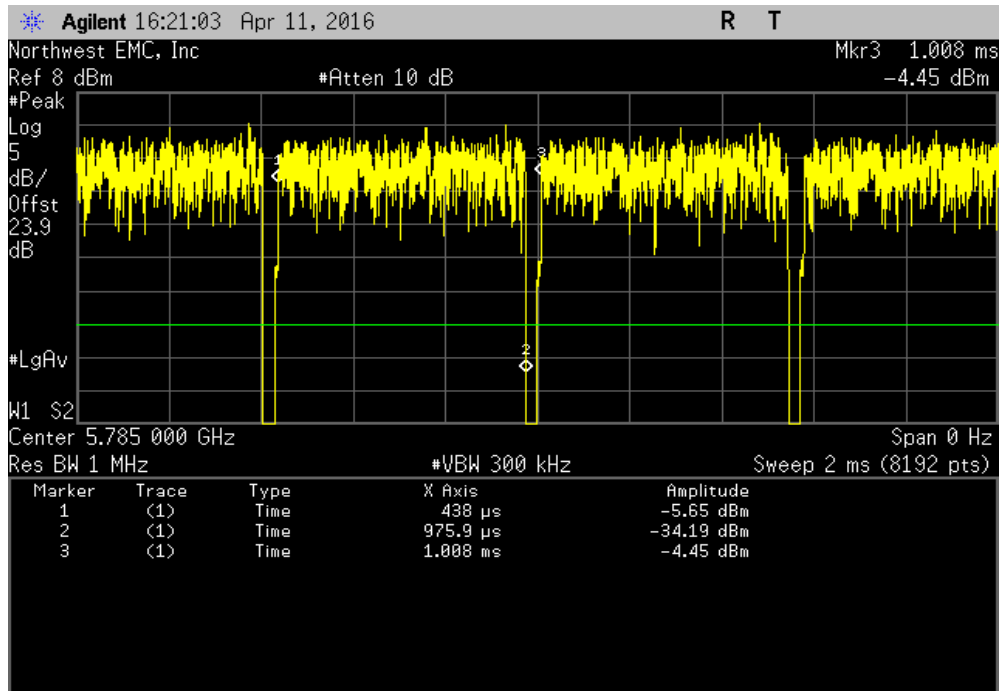


| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 6 Mbps |             |        |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

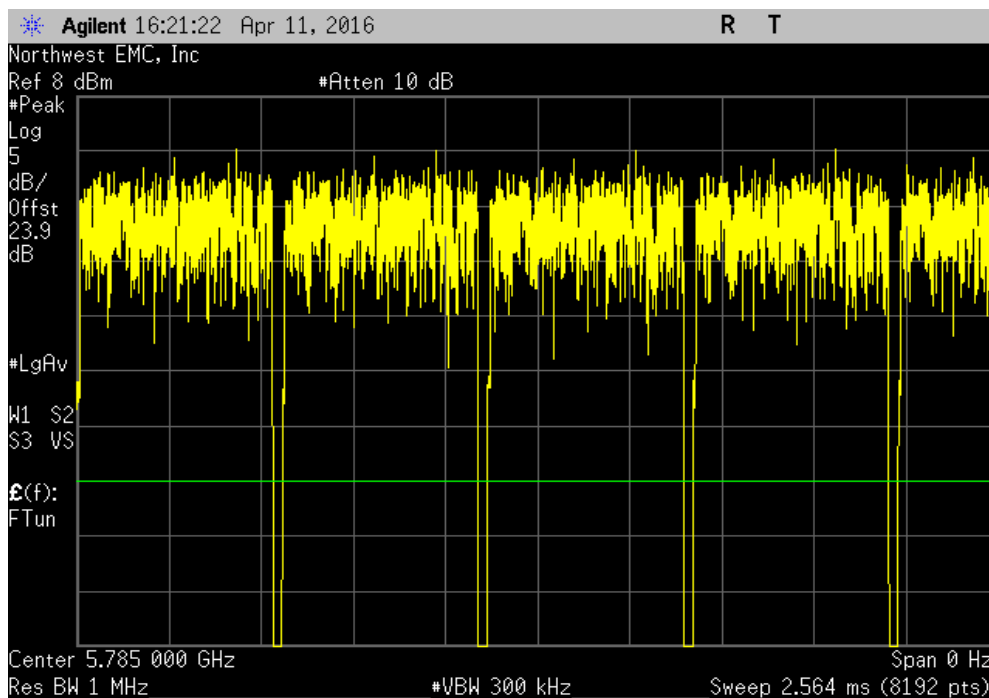


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 36 Mbps |          |                  |           |           |         |  |
|----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 537.9 us                                                                   | 569.7 us | 1                | 94.4      | N/A       | N/A     |  |

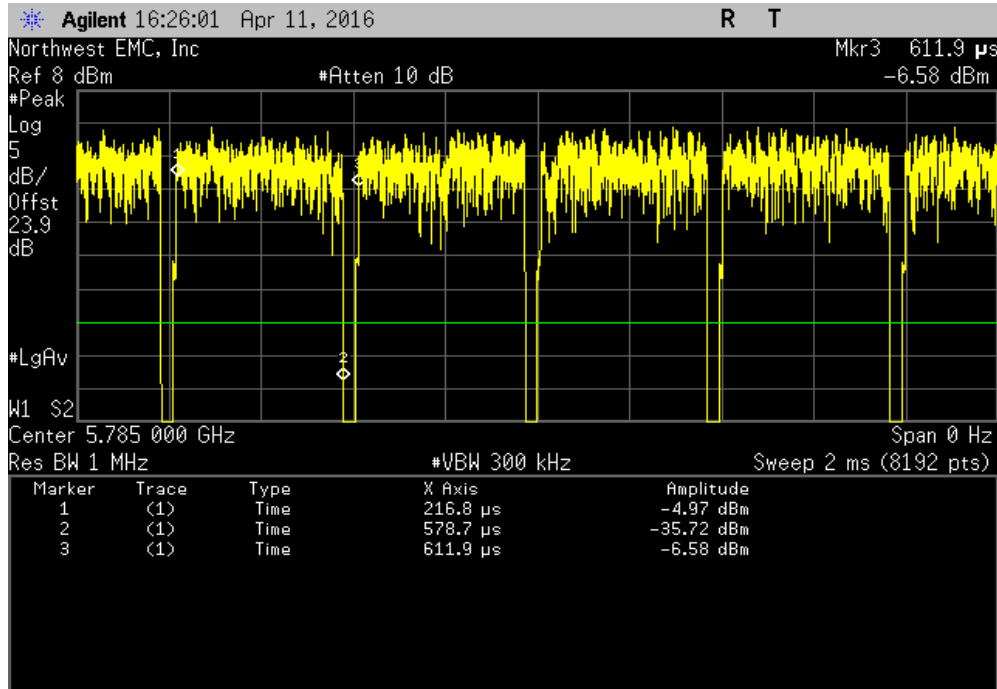


| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 36 Mbps |        |                  |           |           |         |  |
|----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                        | N/A    | 5                | N/A       | N/A       | N/A     |  |

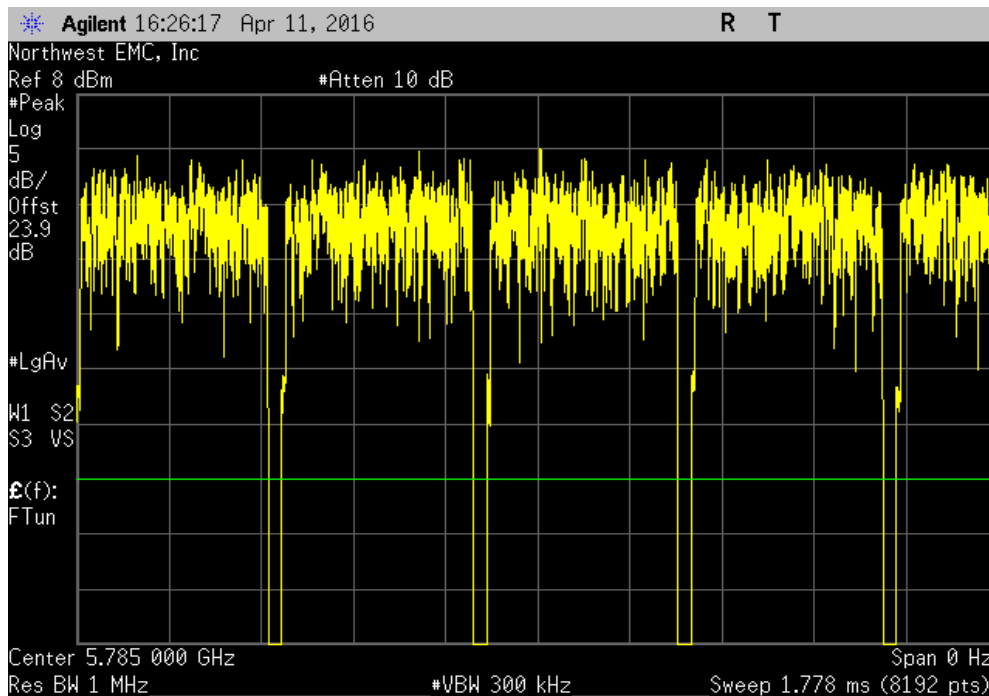


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 54 Mbps |          |                  |           |           |         |  |
|----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 361.9 us                                                                   | 395.1 us | 1                | 91.6      | N/A       | N/A     |  |

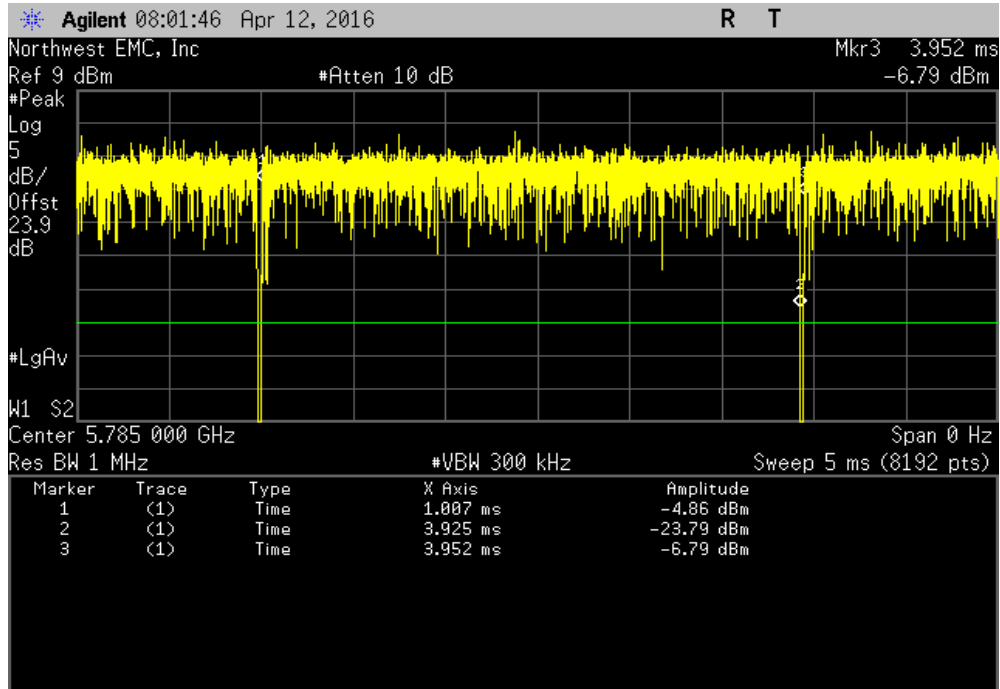


| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(a) 54 Mbps |        |                  |           |           |         |  |
|----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                        | N/A    | 5                | N/A       | N/A       | N/A     |  |

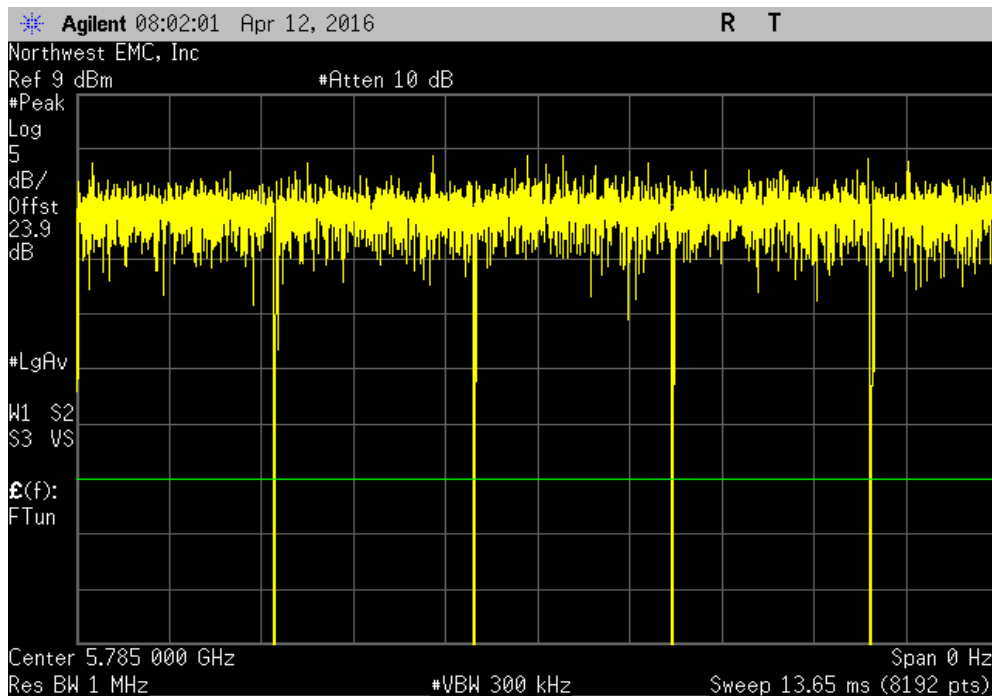


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(n) MCS0 |             |          |                  |           |           |         |
|-------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                         | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                         | 2.918 ms    | 2.945 ms | 1                | 99.1      | N/A       | N/A     |

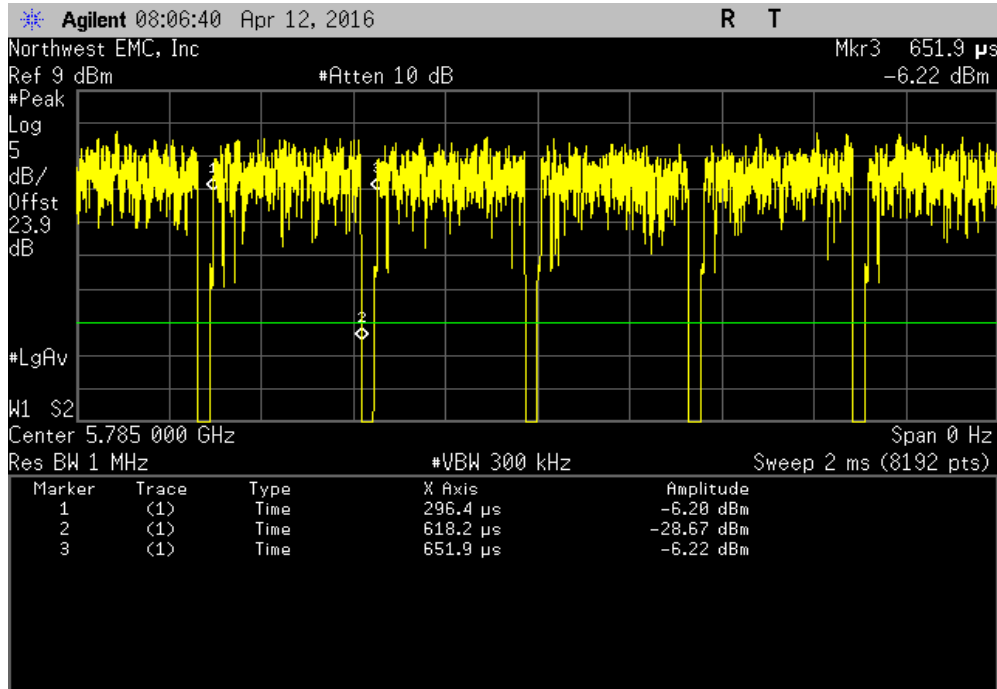


| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(n) MCS0 |             |        |                  |           |           |         |
|-------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                         | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                         | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

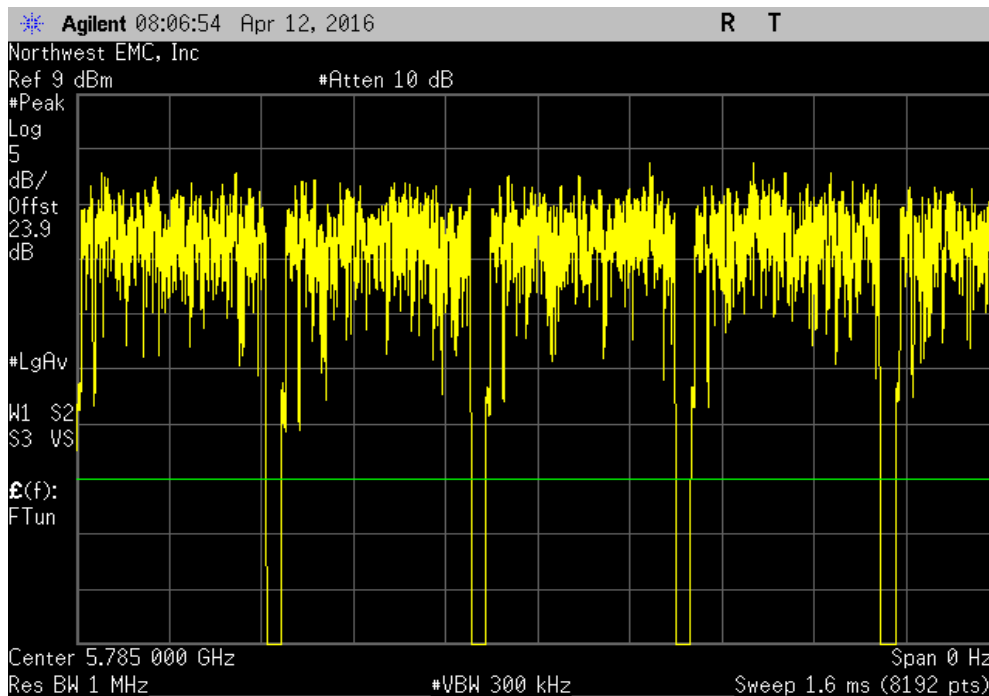


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(n) MCS7 |          |                  |           |           |         |  |
|-------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                             | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 321.8 us                                                                | 355.5 us | 1                | 90.5      | N/A       | N/A     |  |

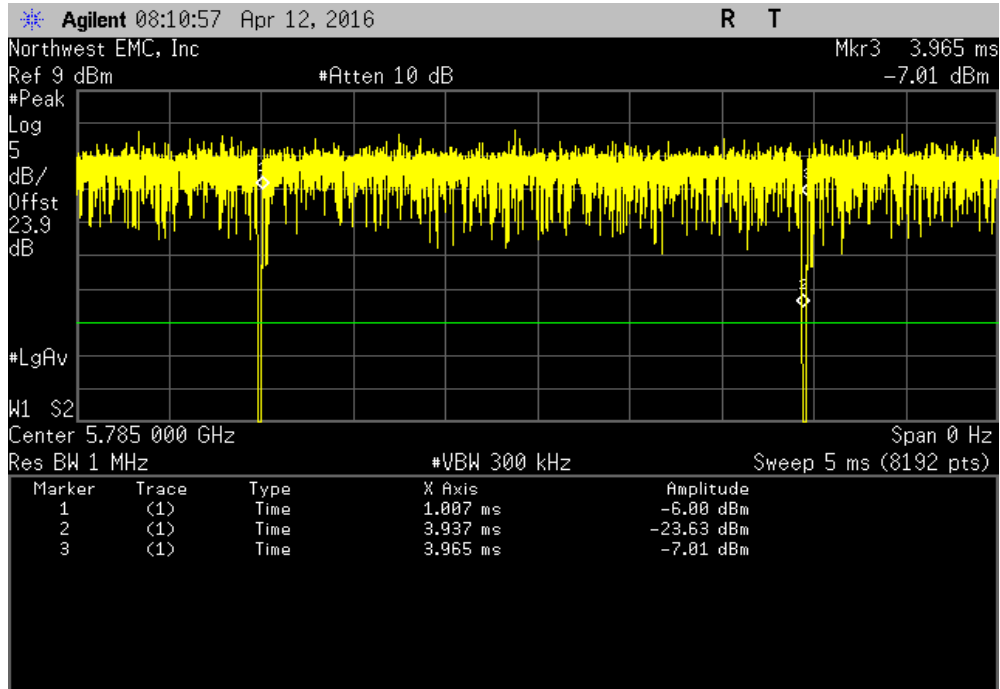


| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(n) MCS7 |        |                  |           |           |         |  |
|-------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                             | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                     | N/A    | 5                | N/A       | N/A       | N/A     |  |

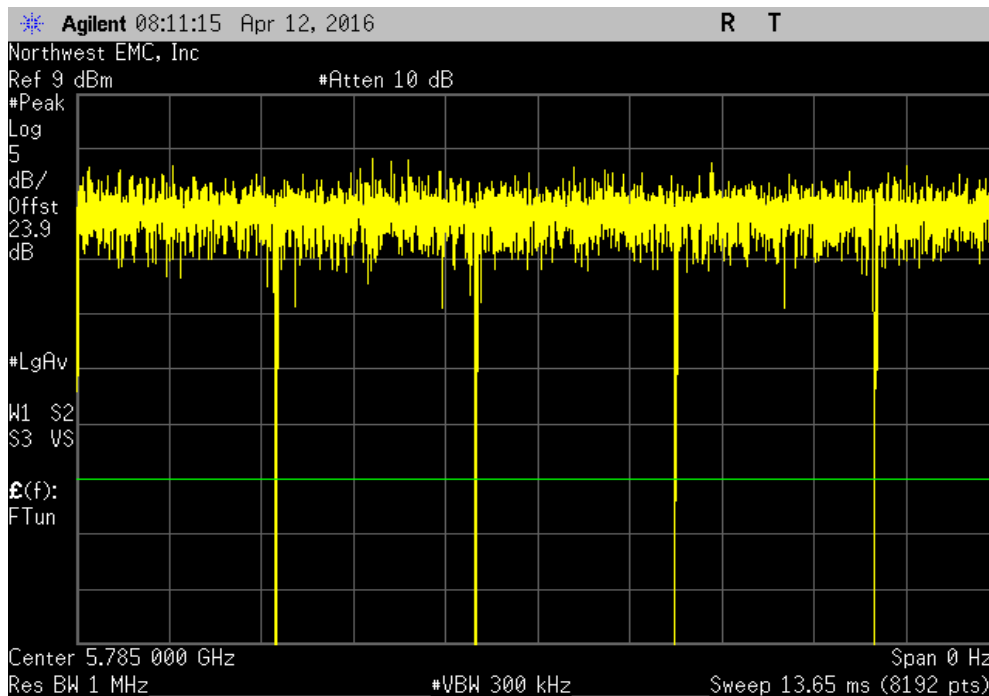


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(ac) MCS0 |             |          |                  |           |           |         |
|--------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                          | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                          | 2.93 ms     | 2.958 ms | 1                | 99.1      | N/A       | N/A     |

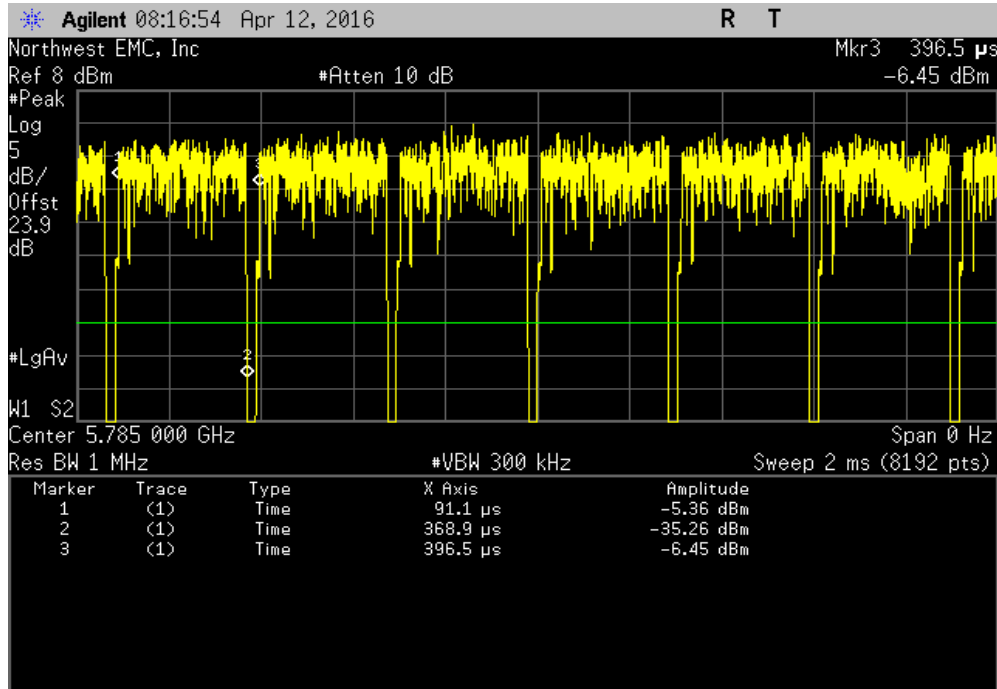


| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(ac) MCS0 |             |        |                  |           |           |         |
|--------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                          | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                          | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

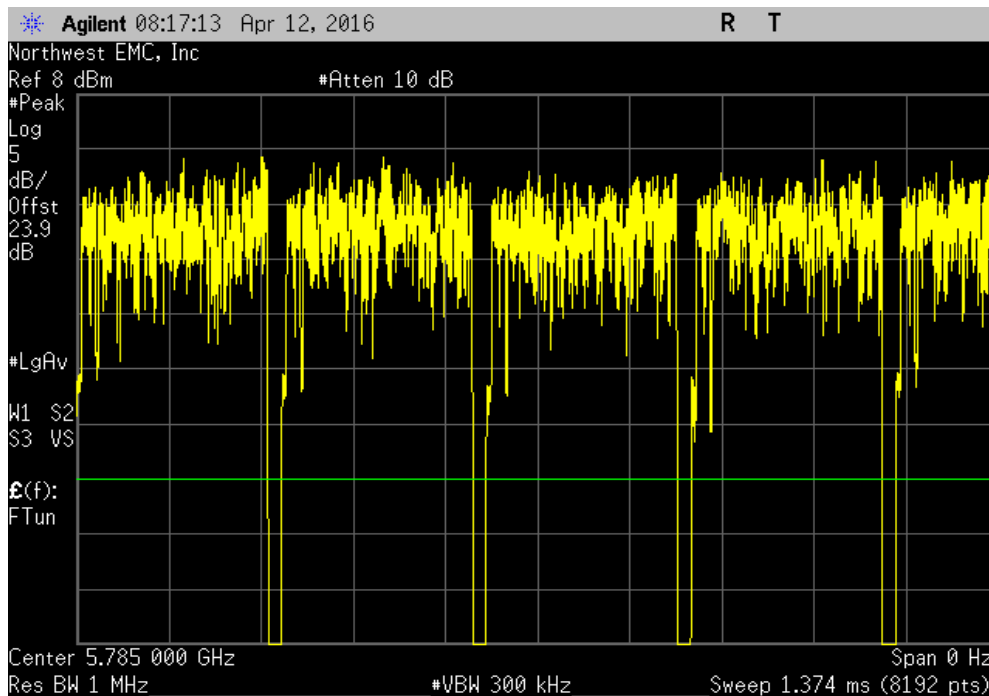


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(ac) MCS8 |          |                  |           |           |         |  |
|--------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 277.8 us                                                                 | 305.4 us | 1                | 91        | N/A       | N/A     |  |

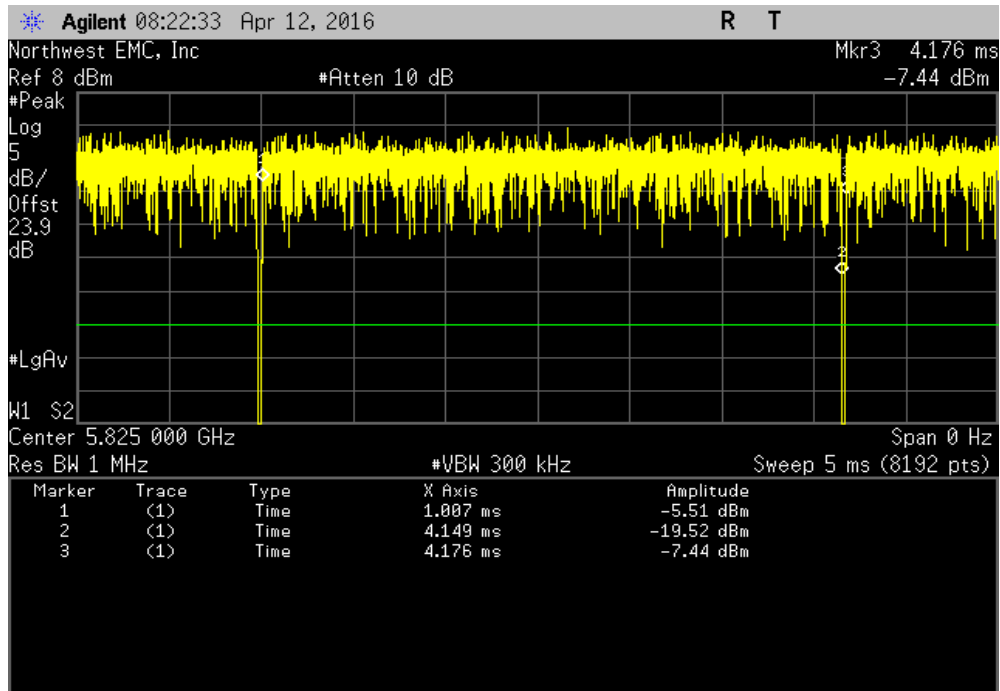


| SISO, Chain B, 20MHz BW, Mid Channel, Ch 157 - 5785 MHz, 802.11(ac) MCS8 |        |                  |           |           |         |  |
|--------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                      | N/A    | 5                | N/A       | N/A       | N/A     |  |

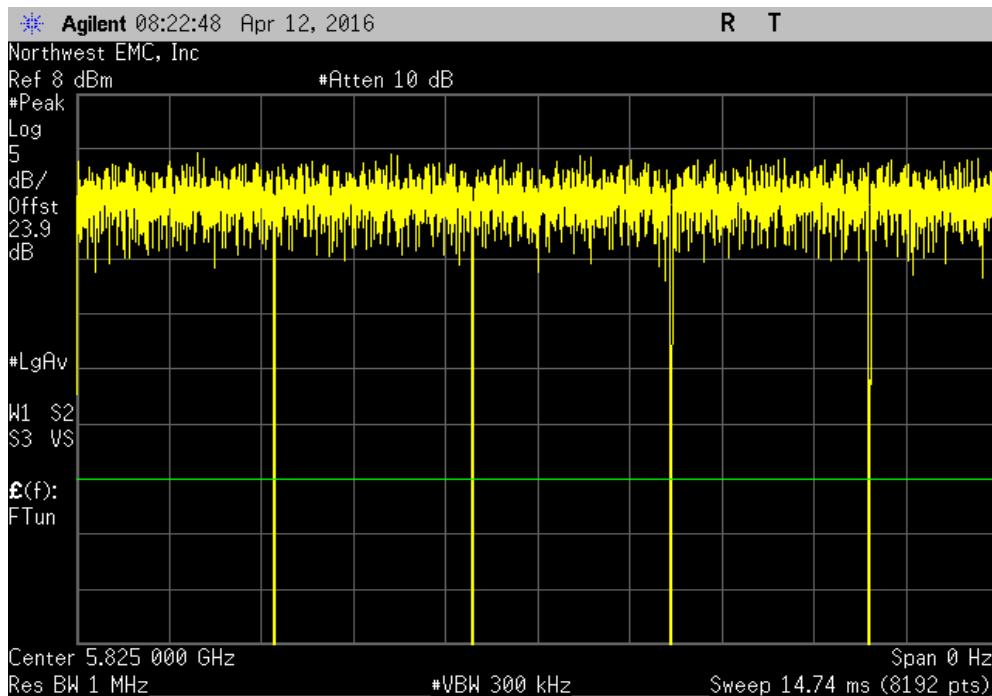


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 6 Mbps |          |                  |           |           |         |  |
|----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 3.142 ms                                                                   | 3.169 ms | 1                | 99.1      | N/A       | N/A     |  |

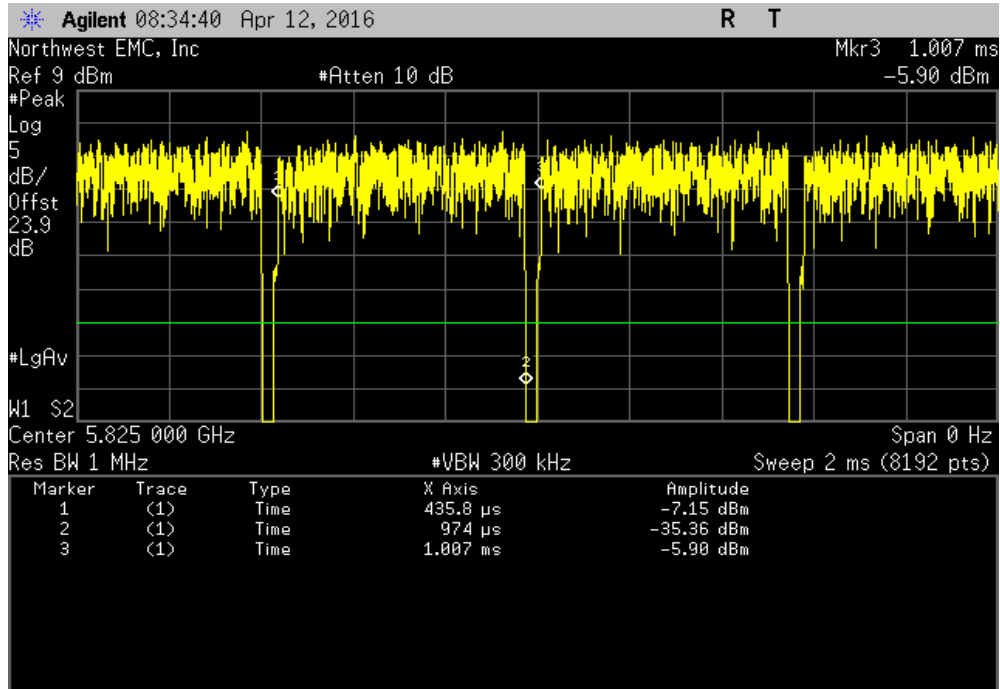


| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 6 Mbps |        |                  |           |           |         |  |
|----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                        | N/A    | 5                | N/A       | N/A       | N/A     |  |

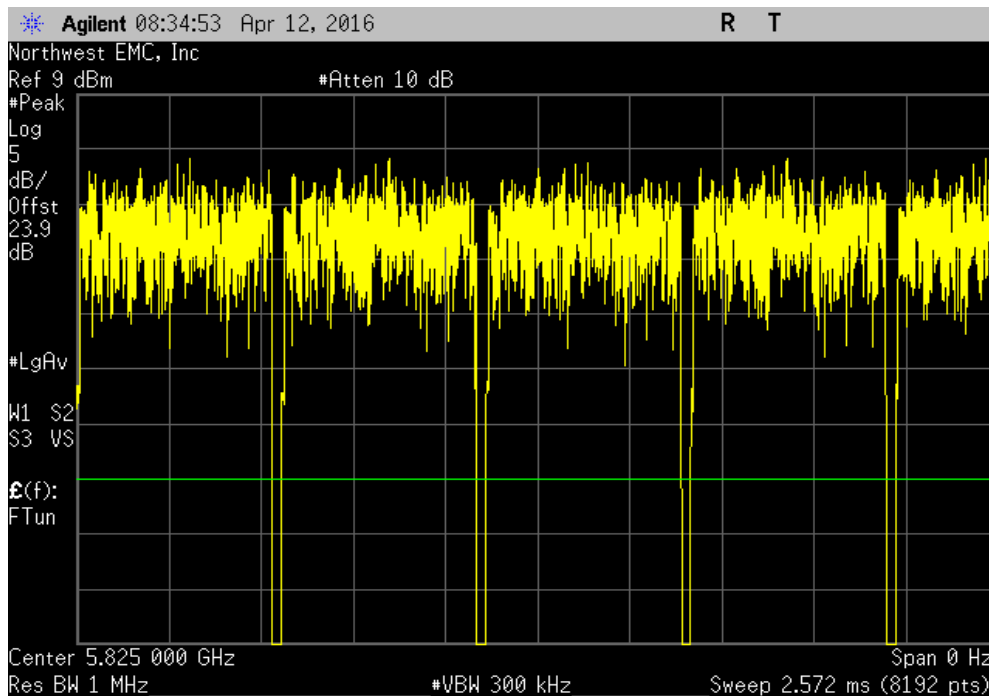


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 36 Mbps |          |                  |           |           |         |  |
|-----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                 | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 538.2 us                                                                    | 571.6 us | 1                | 94.2      | N/A       | N/A     |  |

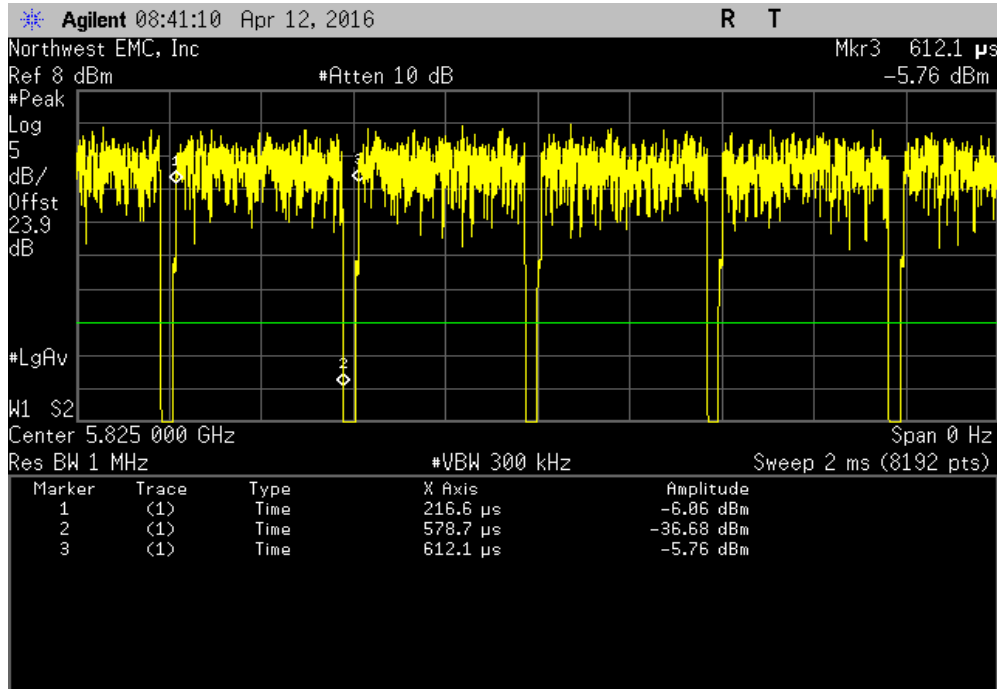


| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 36 Mbps |        |                  |           |           |         |  |
|-----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                 | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                         | N/A    | 5                | N/A       | N/A       | N/A     |  |

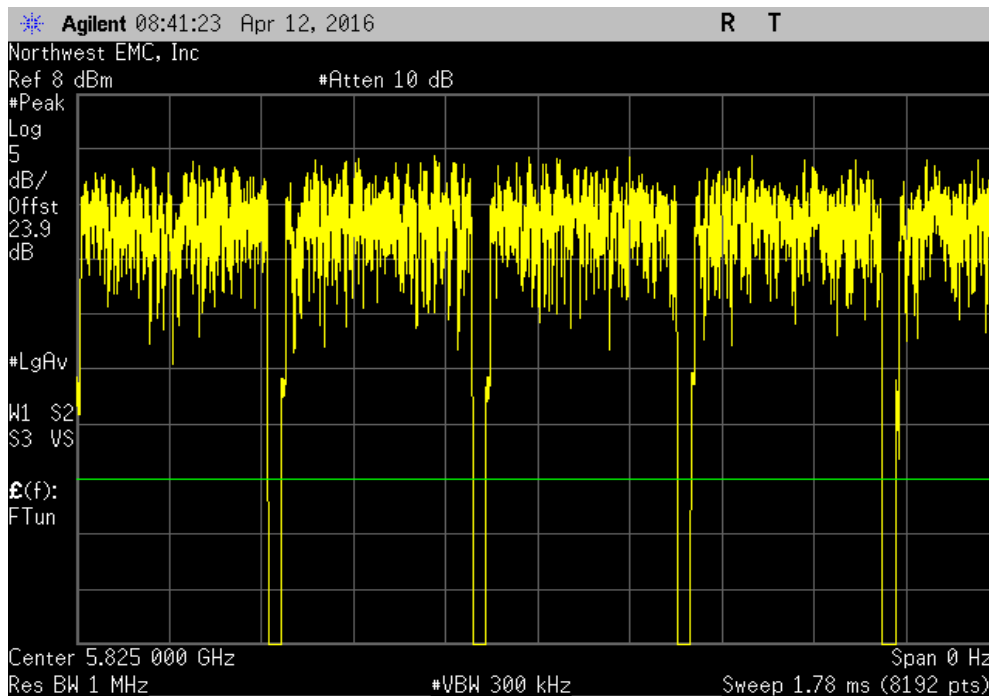


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 54 Mbps |          |                  |           |           |         |  |
|-----------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                 | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 362.1 us                                                                    | 395.5 us | 1                | 91.6      | N/A       | N/A     |  |

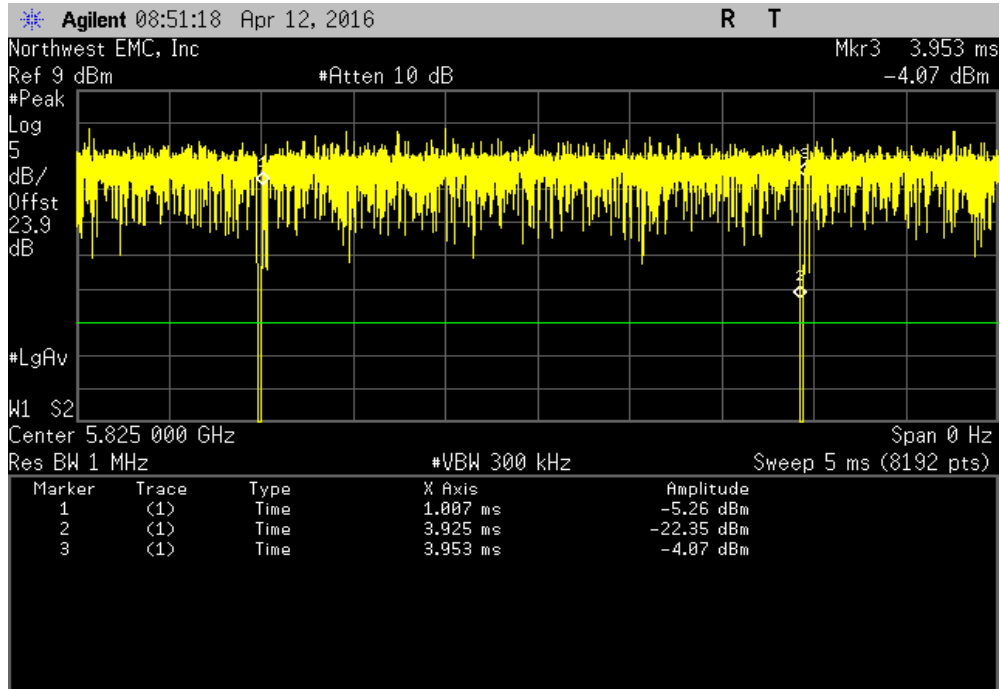


| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(a) 54 Mbps |        |                  |           |           |         |  |
|-----------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                 | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                         | N/A    | 5                | N/A       | N/A       | N/A     |  |

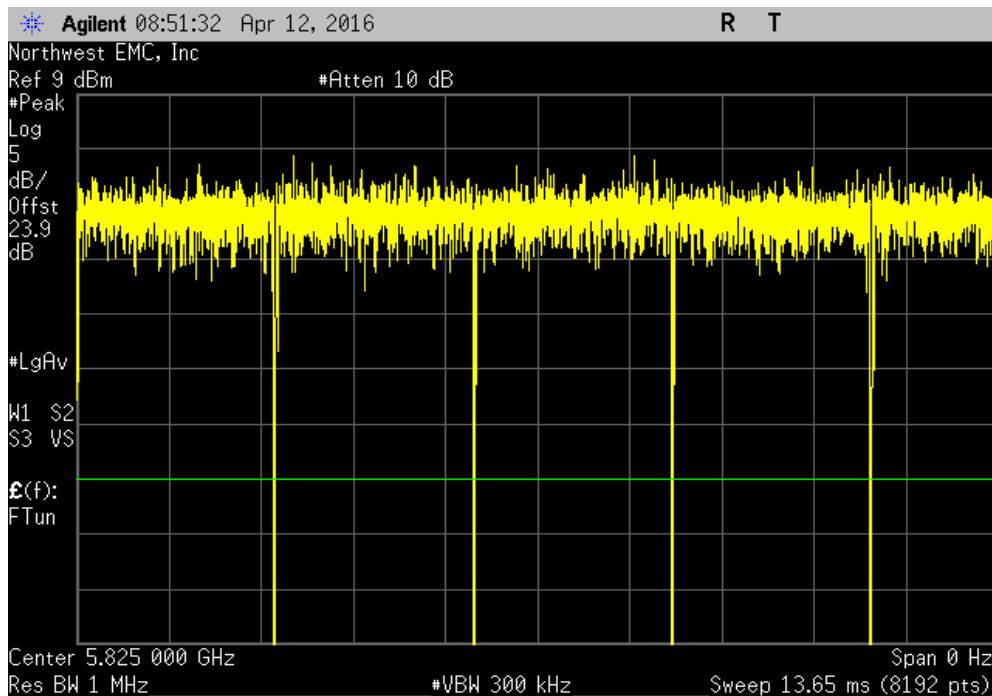


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(n) MCS0 |          |                  |           |           |         |  |
|--------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 2.918 ms                                                                 | 2.946 ms | 1                | 99        | N/A       | N/A     |  |

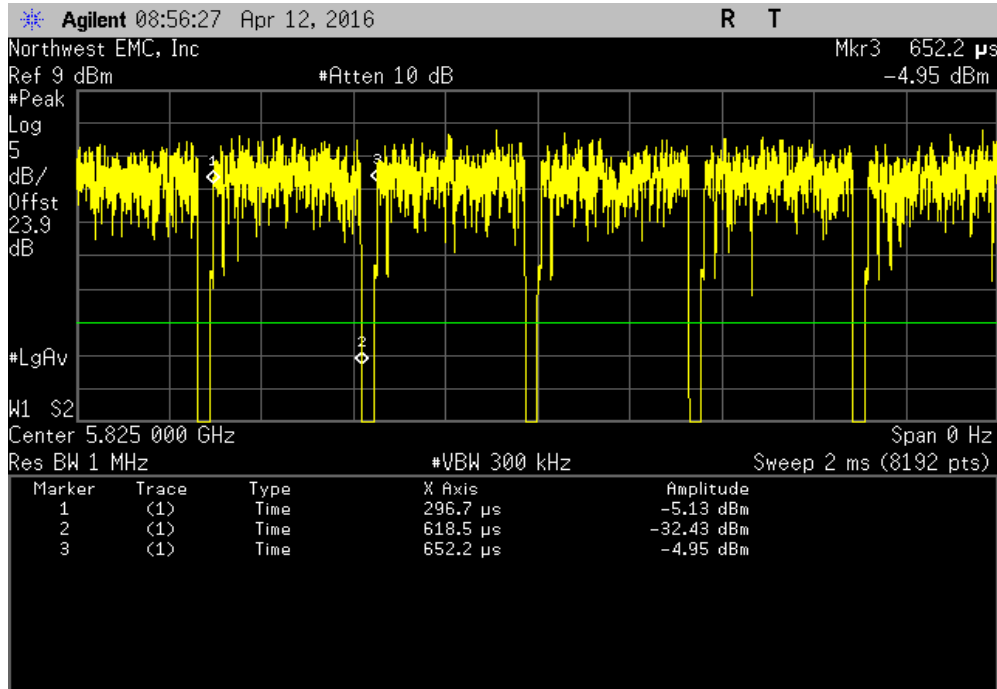


| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(n) MCS0 |        |                  |           |           |         |  |
|--------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                      | N/A    | 5                | N/A       | N/A       | N/A     |  |

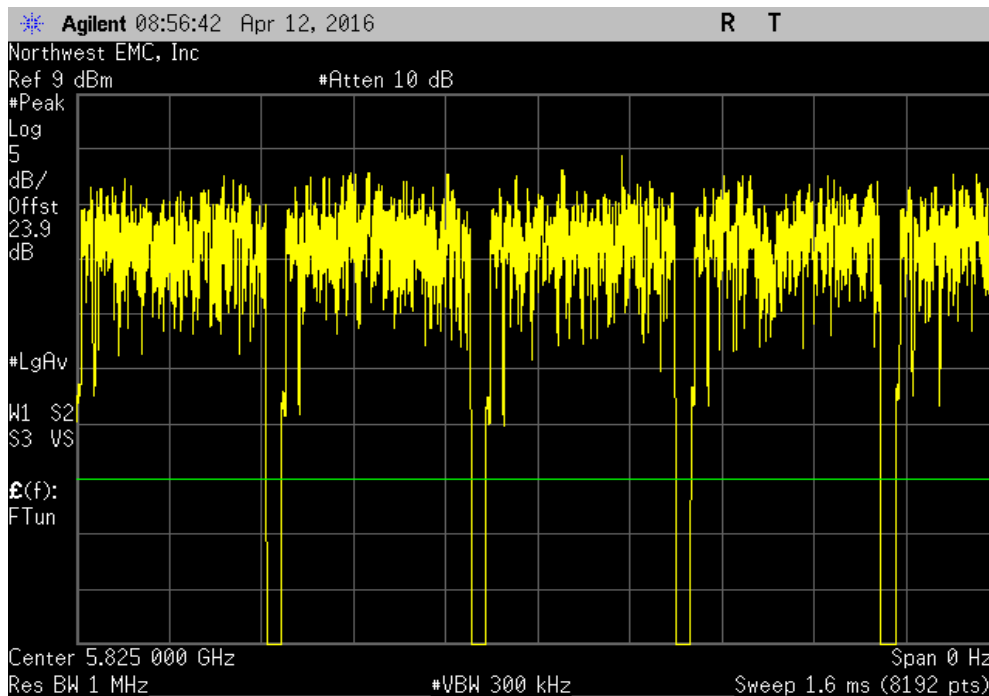


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(n) MCS7 |          |                  |           |           |         |  |
|--------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 321.8 us                                                                 | 355.5 us | 1                | 90.5      | N/A       | N/A     |  |

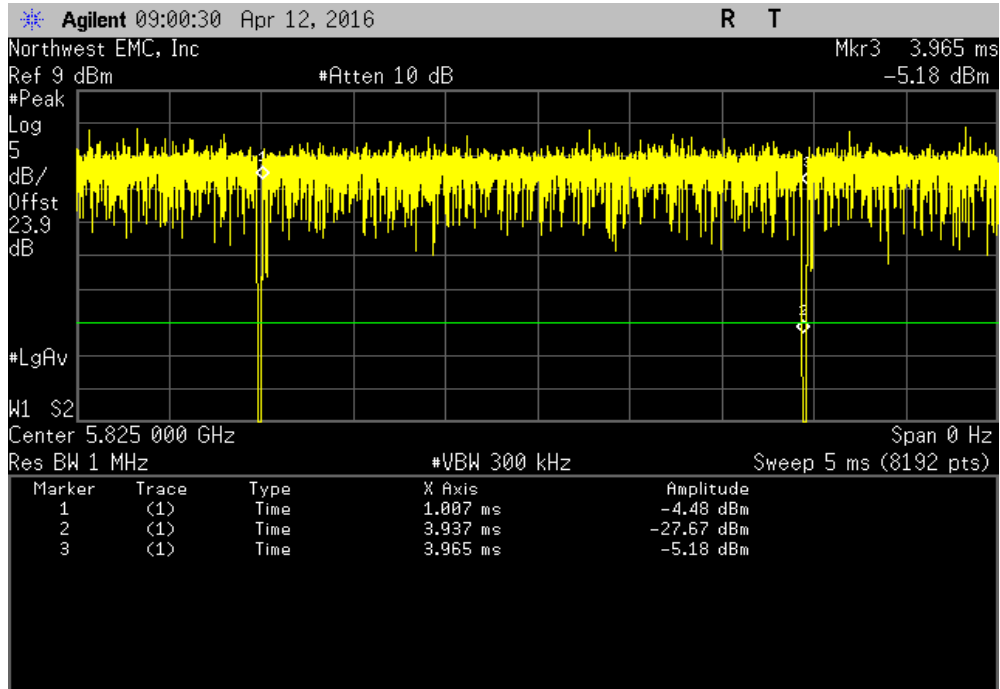


| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(n) MCS7 |        |                  |           |           |         |  |
|--------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                              | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                      | N/A    | 5                | N/A       | N/A       | N/A     |  |

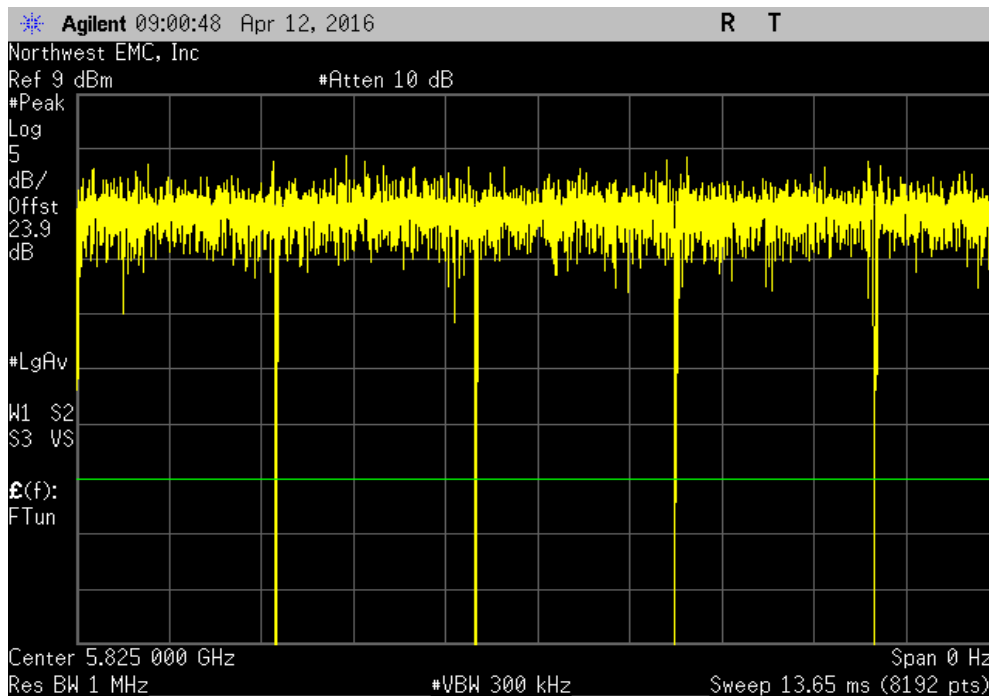


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(ac) MCS0 |             |          |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | 2.93 ms     | 2.958 ms | 1                | 99.1      | N/A       | N/A     |

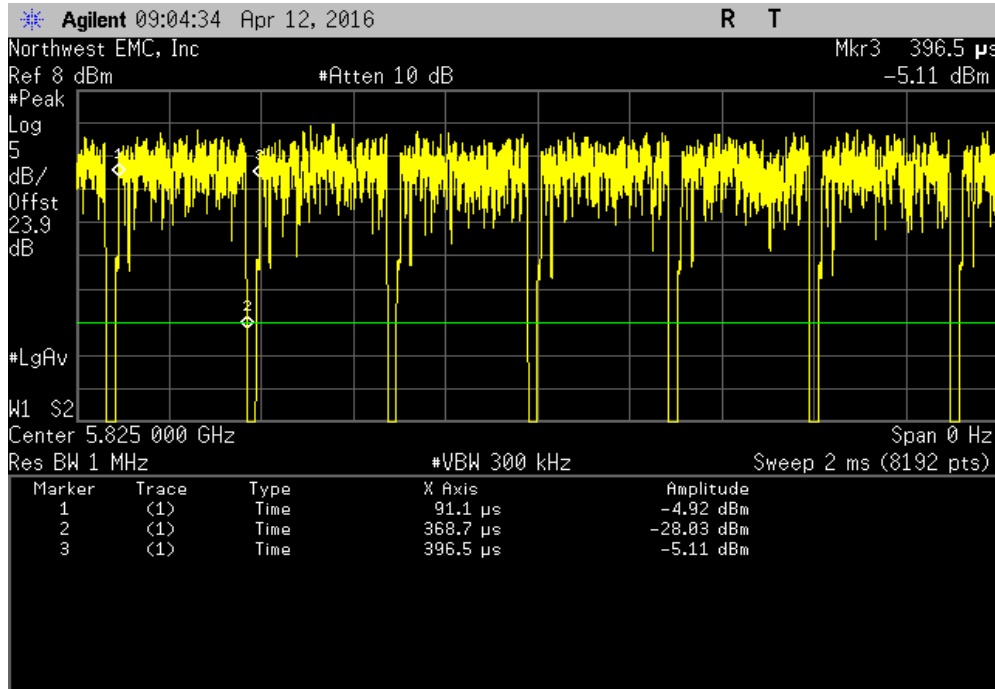


| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(ac) MCS0 |             |        |                  |           |           |         |
|---------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                           | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                           | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

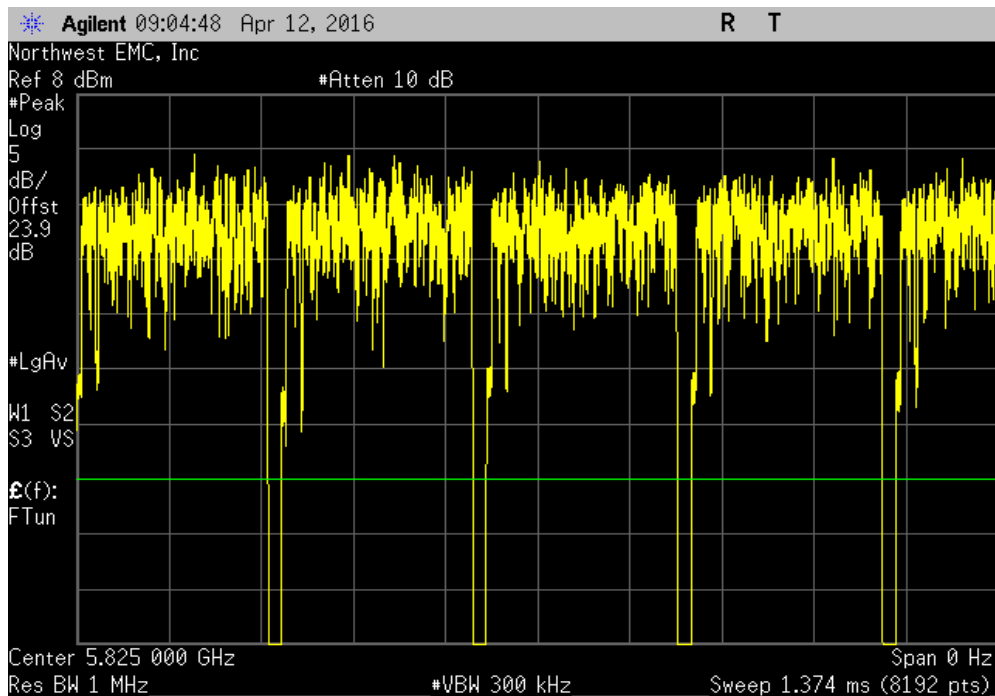


# DUTY CYCLE

| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(ac) MCS8 |          |                  |           |           |         |  |
|---------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                               | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 277.6 us                                                                  | 305.4 us | 1                | 90.9      | N/A       | N/A     |  |

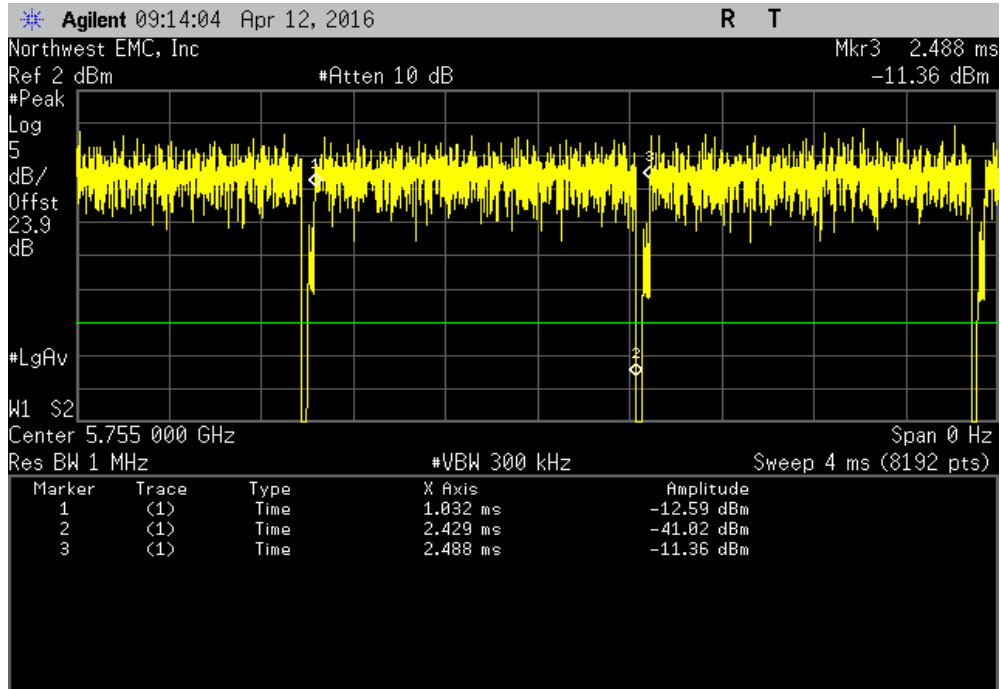


| SISO, Chain B, 20MHz BW, High Channel, Ch 165 - 5825 MHz, 802.11(ac) MCS8 |        |                  |           |           |         |  |
|---------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                               | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                       | N/A    | 5                | N/A       | N/A       | N/A     |  |



# DUTY CYCLE

| SISO, Chain B, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(n) MCS0 |             |          |                  |           |           |         |
|-----------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                             | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                             | 1.397 ms    | 1.456 ms | 1                | 95.9      | N/A       | N/A     |

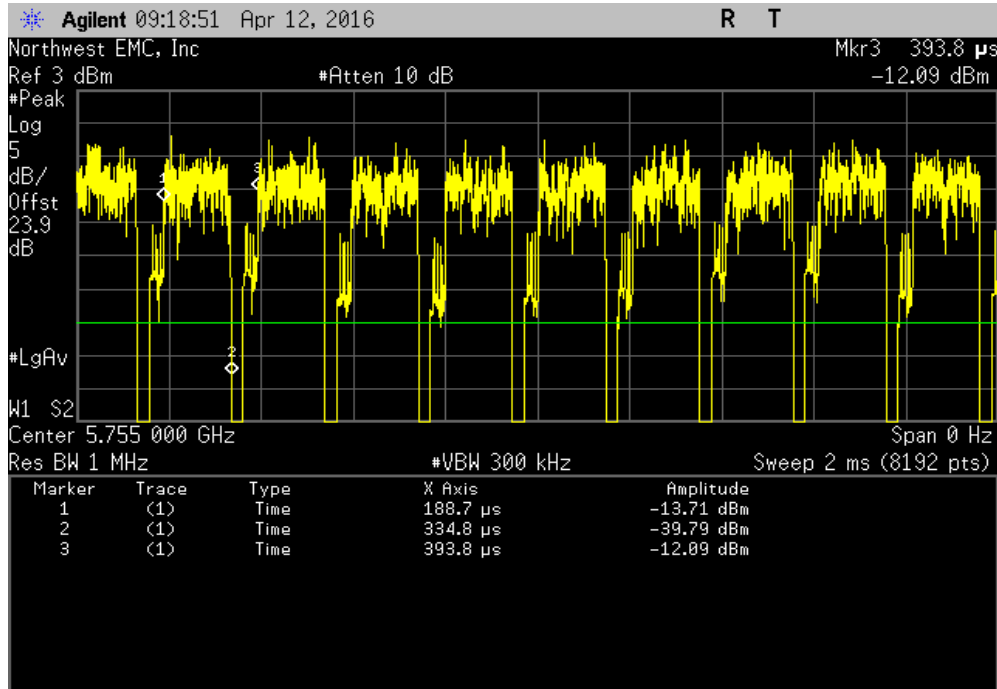


| SISO, Chain B, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(n) MCS0 |             |        |                  |           |           |         |
|-----------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                             | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                             | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

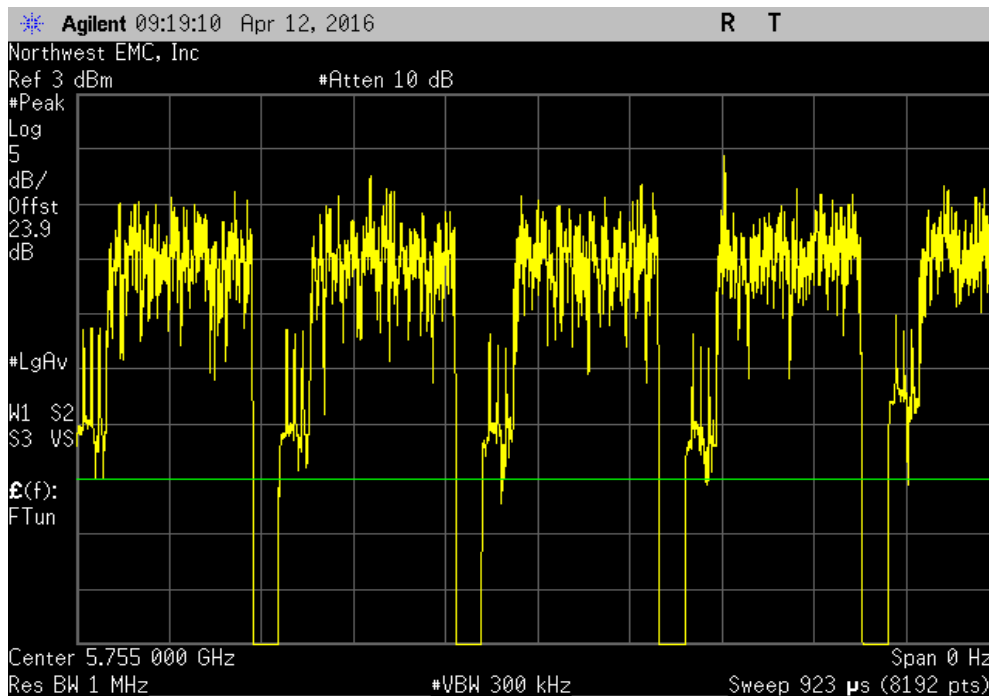


# DUTY CYCLE

| SISO, Chain B, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(n) MCS7 |             |          |                  |           |           |         |
|-----------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                             | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                             | 146.1 us    | 205.1 us | 1                | 71.2      | N/A       | N/A     |

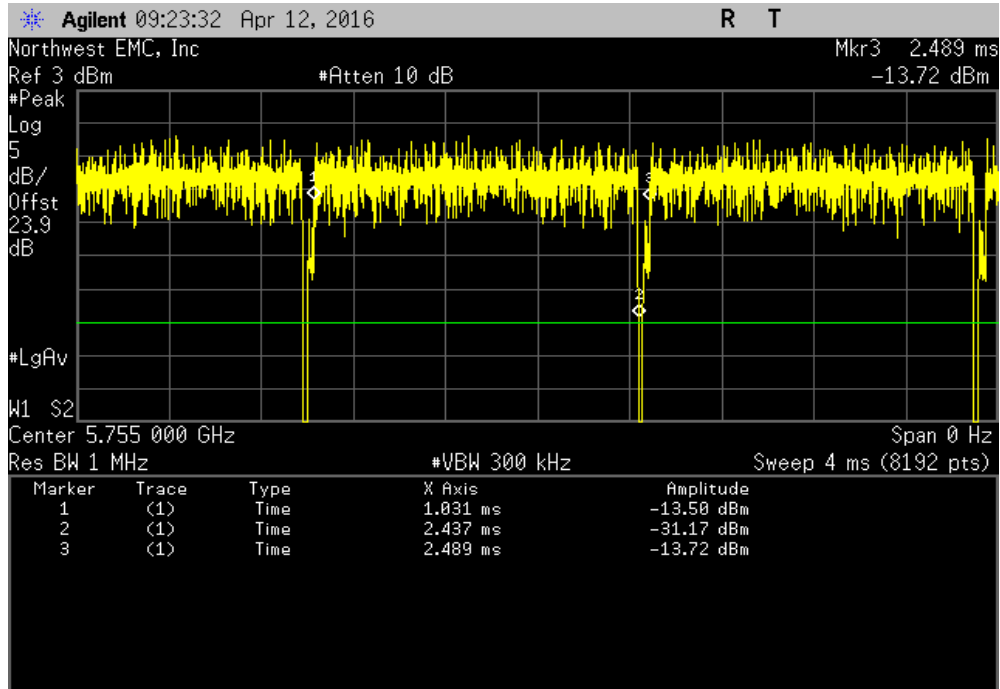


| SISO, Chain B, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(n) MCS7 |             |        |                  |           |           |         |
|-----------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                             | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                             | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

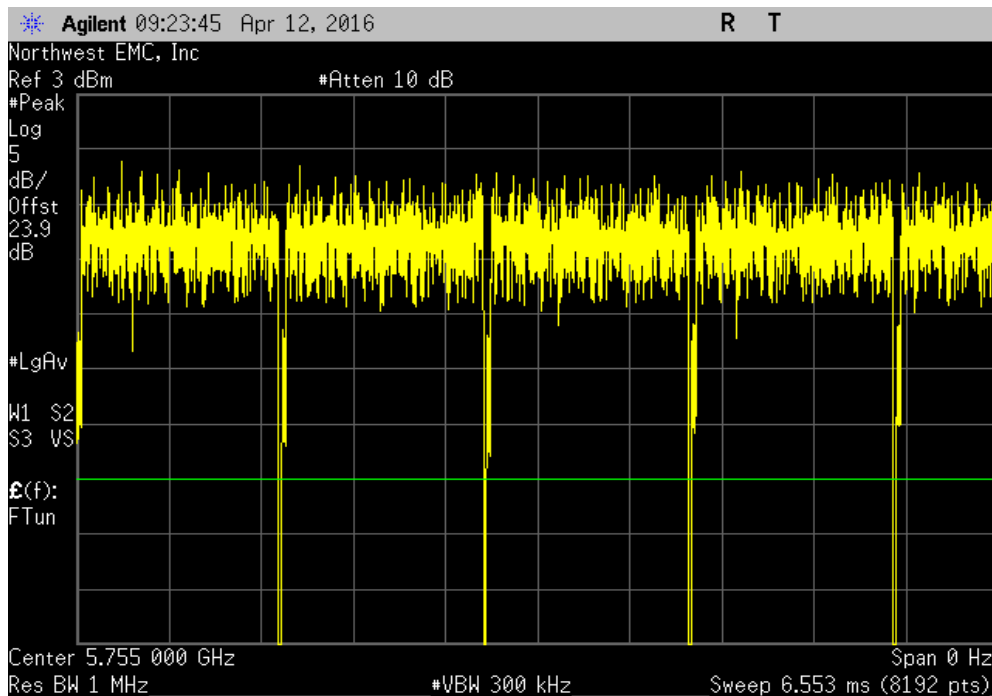


# DUTY CYCLE

| SISO, Chain B, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(ac) MCS0 |          |                  |           |           |         |  |
|------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 1.406 ms                                                                     | 1.457 ms | 1                | 96.5      | N/A       | N/A     |  |

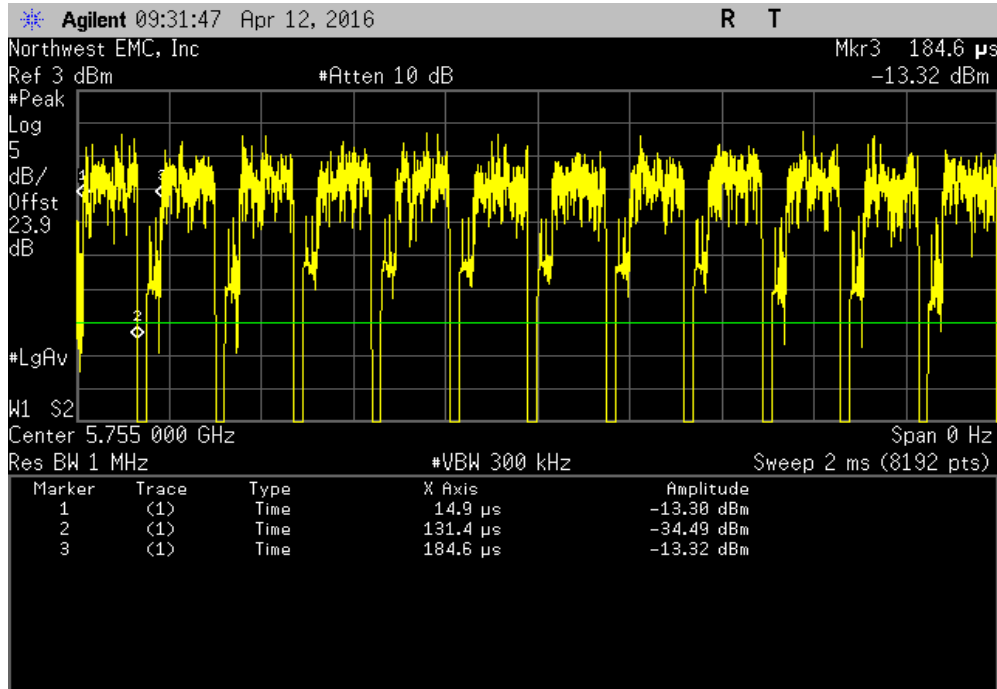


| SISO, Chain B, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(ac) MCS0 |        |                  |           |           |         |  |
|------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                          | N/A    | 5                | N/A       | N/A       | N/A     |  |

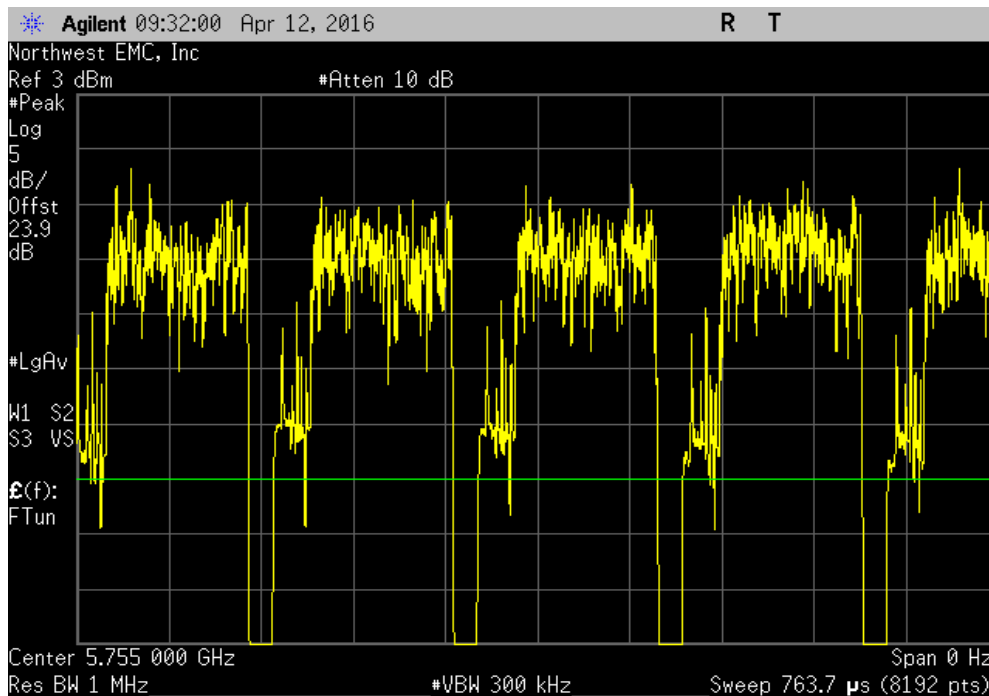


# DUTY CYCLE

| SISO, Chain B, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(ac) MCS9 |          |                  |           |           |         |  |
|------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 116.5 us                                                                     | 169.7 us | 1                | 68.7      | N/A       | N/A     |  |

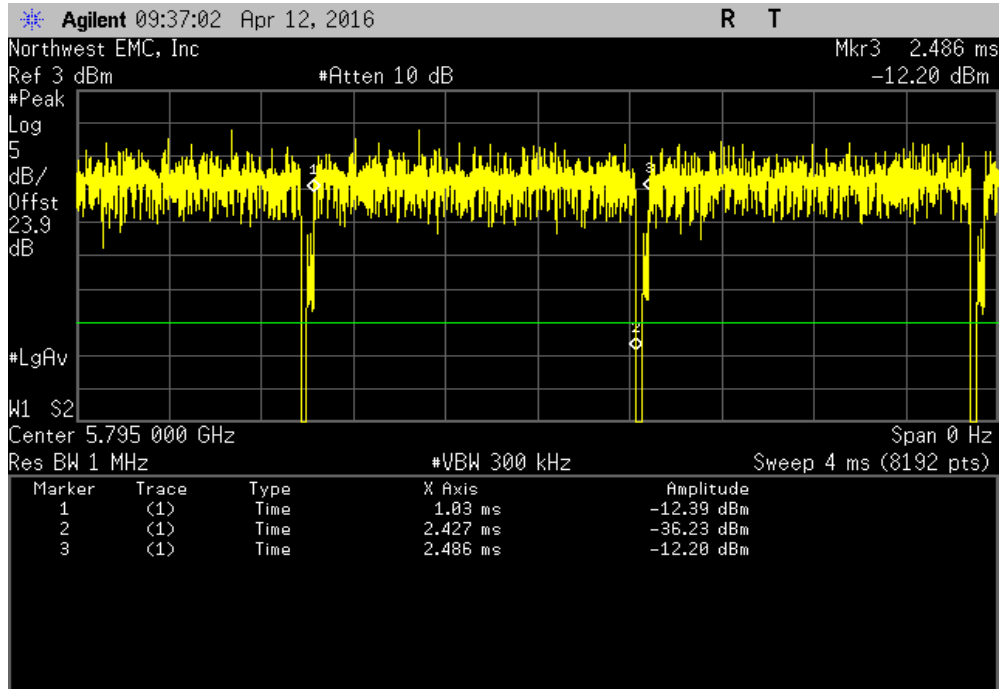


| SISO, Chain B, 40MHz BW, Low Channel, Ch 149/153 - 5755 MHz, 802.11(ac) MCS9 |        |                  |           |           |         |  |
|------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                          | N/A    | 6                | N/A       | N/A       | N/A     |  |

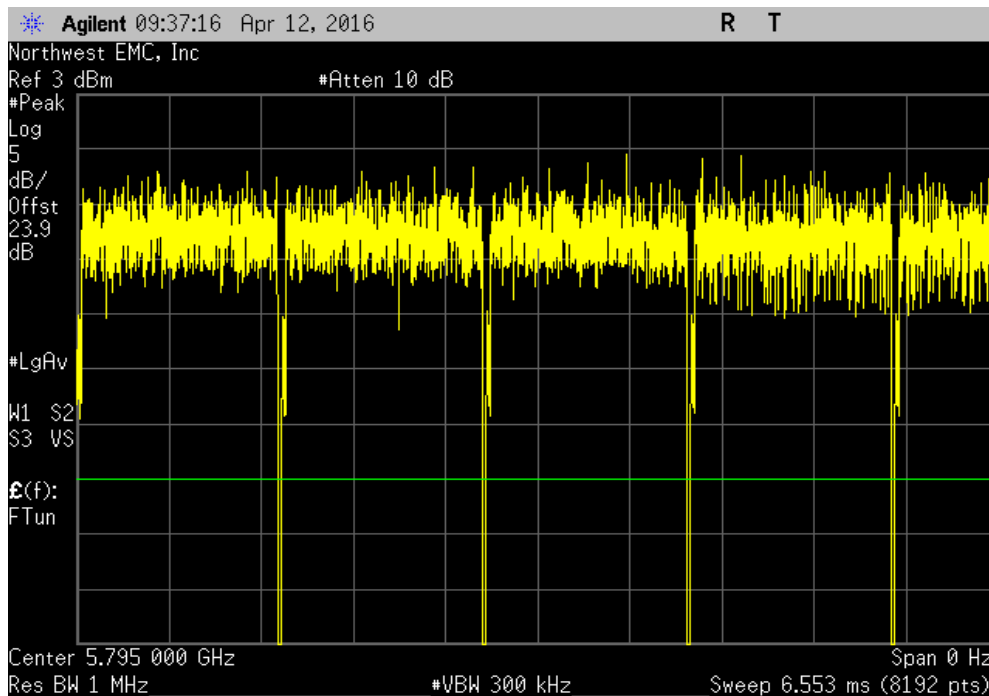


# DUTY CYCLE

| SISO, Chain B, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(n) MCS0 |             |          |                  |           |           |         |
|------------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                              | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                              | 1.397 ms    | 1.456 ms | 1                | 95.9      | N/A       | N/A     |

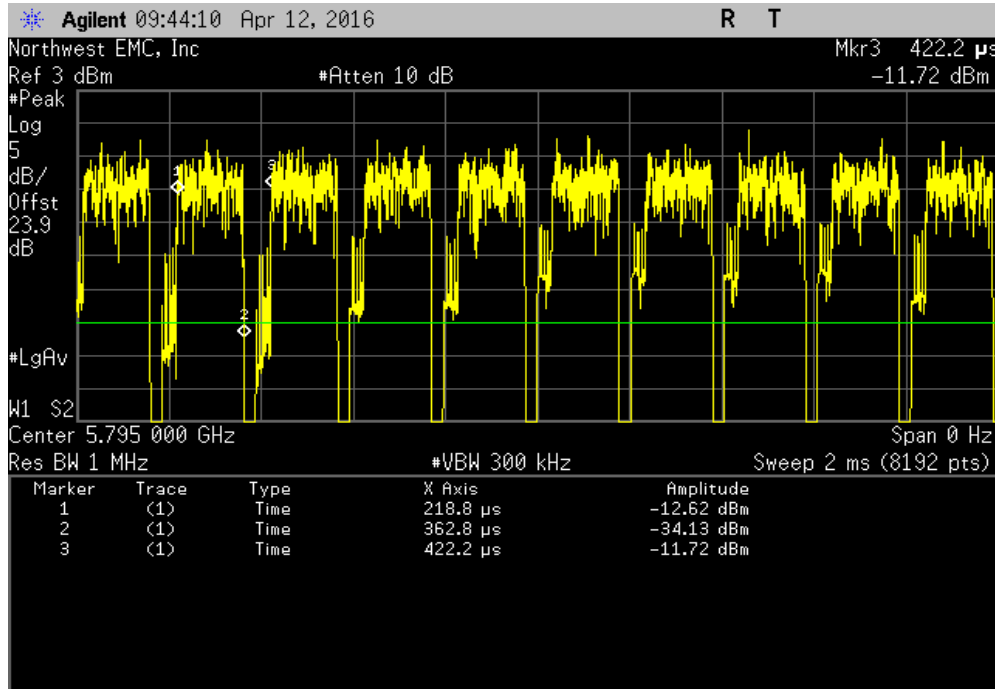


| SISO, Chain B, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(n) MCS0 |             |        |                  |           |           |         |
|------------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                              | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                              | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

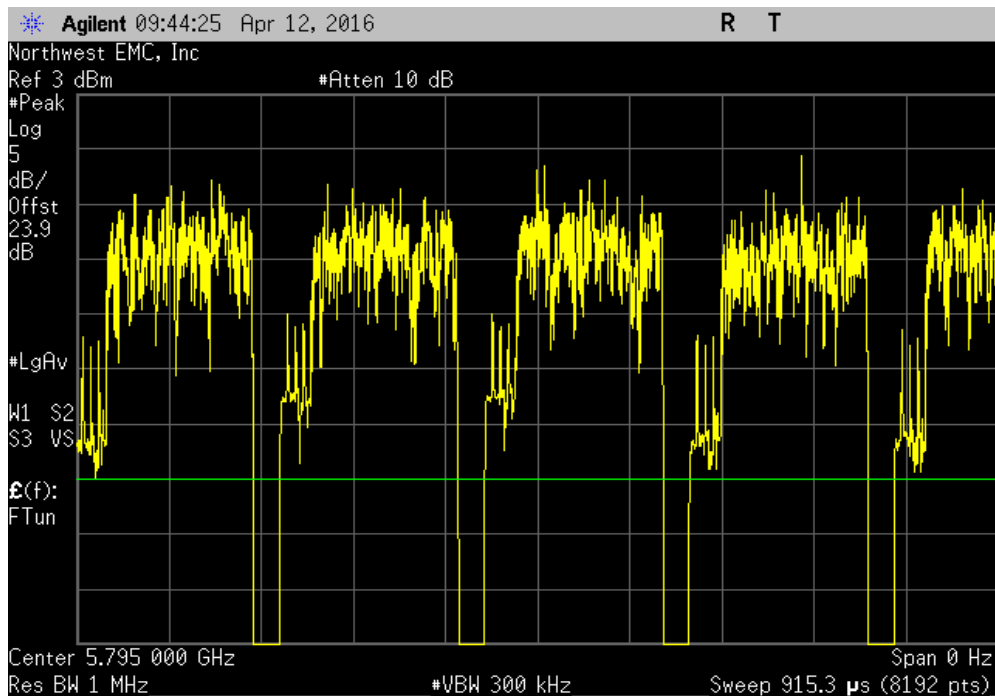


# DUTY CYCLE

| SISO, Chain B, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(n) MCS7 |             |          |                  |           |           |         |
|------------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                              | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                              | 144 us      | 203.4 us | 1                | 70.8      | N/A       | N/A     |

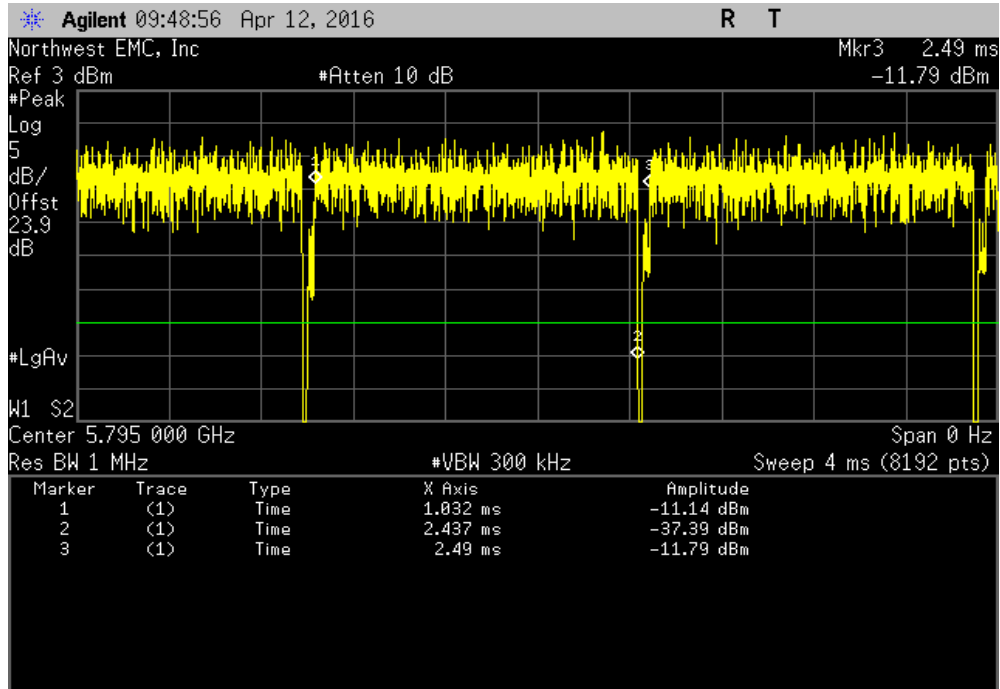


| SISO, Chain B, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(n) MCS7 |             |        |                  |           |           |         |
|------------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                              | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                              | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |



# DUTY CYCLE

| SISO, Chain B, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(ac) MCS0 |             |          |                  |           |           |         |
|-------------------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
|                                                                               | Pulse Width | Period   | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                               | 1.404 ms    | 1.458 ms | 1                | 96.3      | N/A       | N/A     |

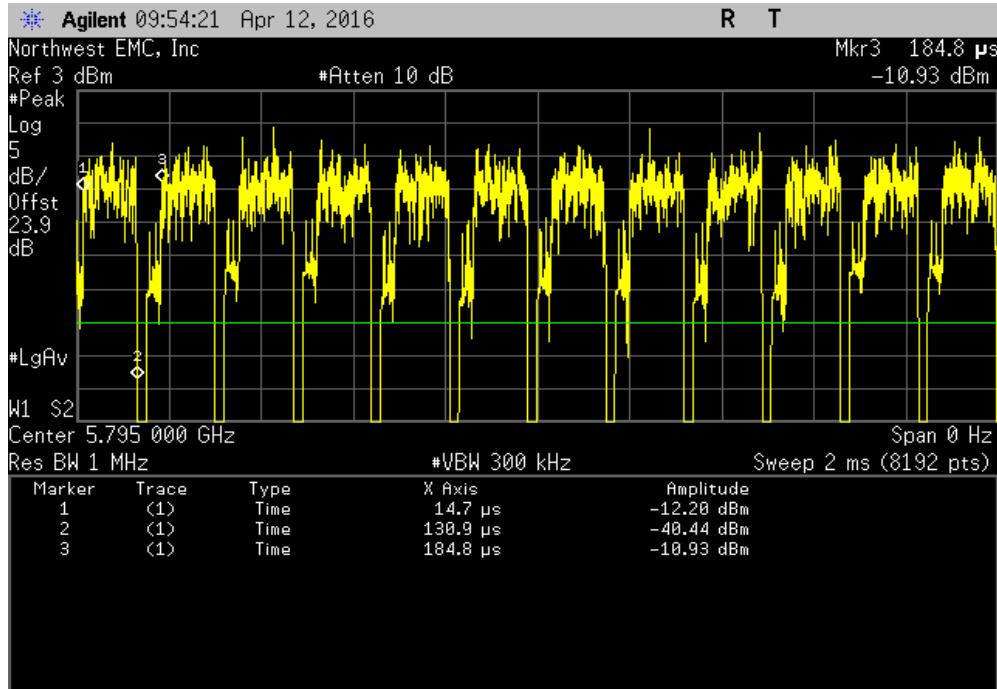


| SISO, Chain B, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(ac) MCS0 |             |        |                  |           |           |         |
|-------------------------------------------------------------------------------|-------------|--------|------------------|-----------|-----------|---------|
|                                                                               | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
|                                                                               | N/A         | N/A    | 5                | N/A       | N/A       | N/A     |

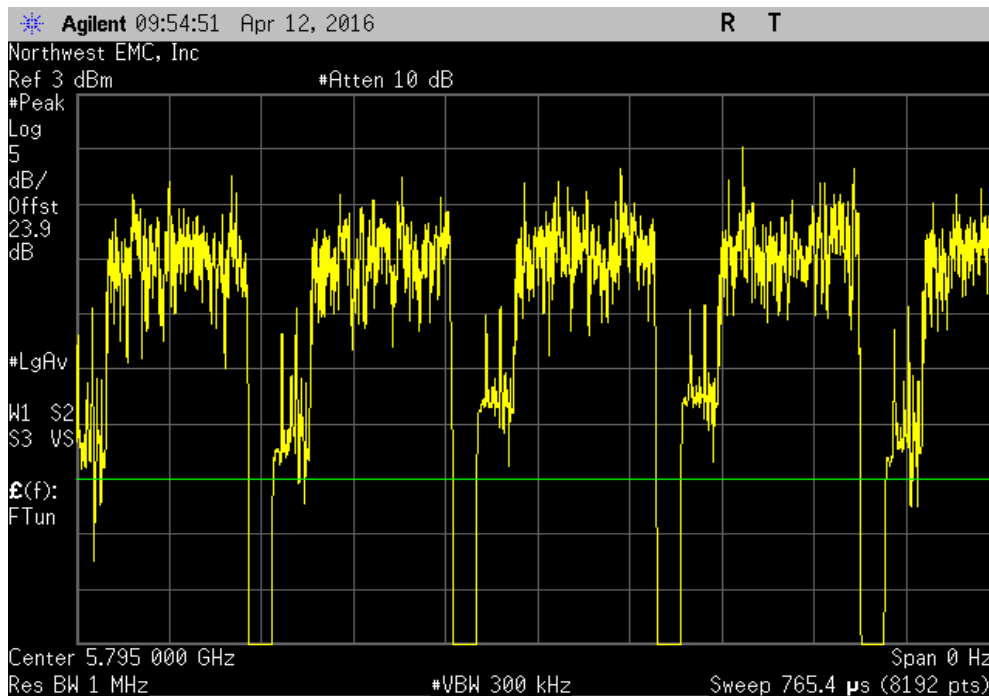


# DUTY CYCLE

| SISO, Chain B, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(ac) MCS9 |          |                  |           |           |         |  |
|-------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                   | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 116.2 us                                                                      | 170.1 us | 1                | 68.3      | N/A       | N/A     |  |

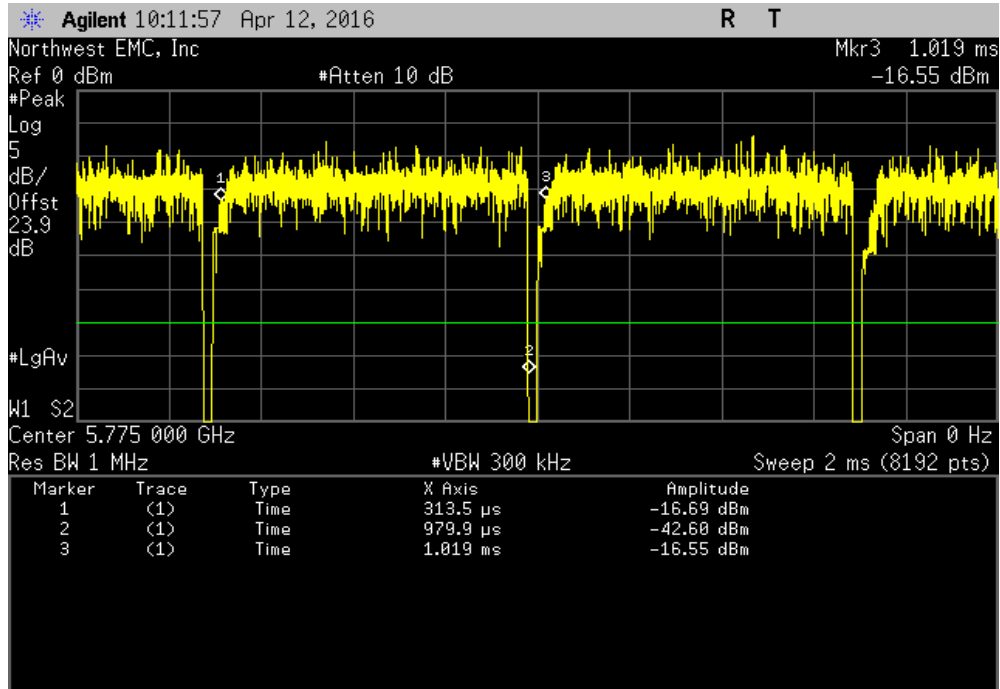


| SISO, Chain B, 40MHz BW, High Channel, Ch 157/161 - 5795 MHz, 802.11(ac) MCS9 |        |                  |           |           |         |  |
|-------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                   | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                           | N/A    | 6                | N/A       | N/A       | N/A     |  |

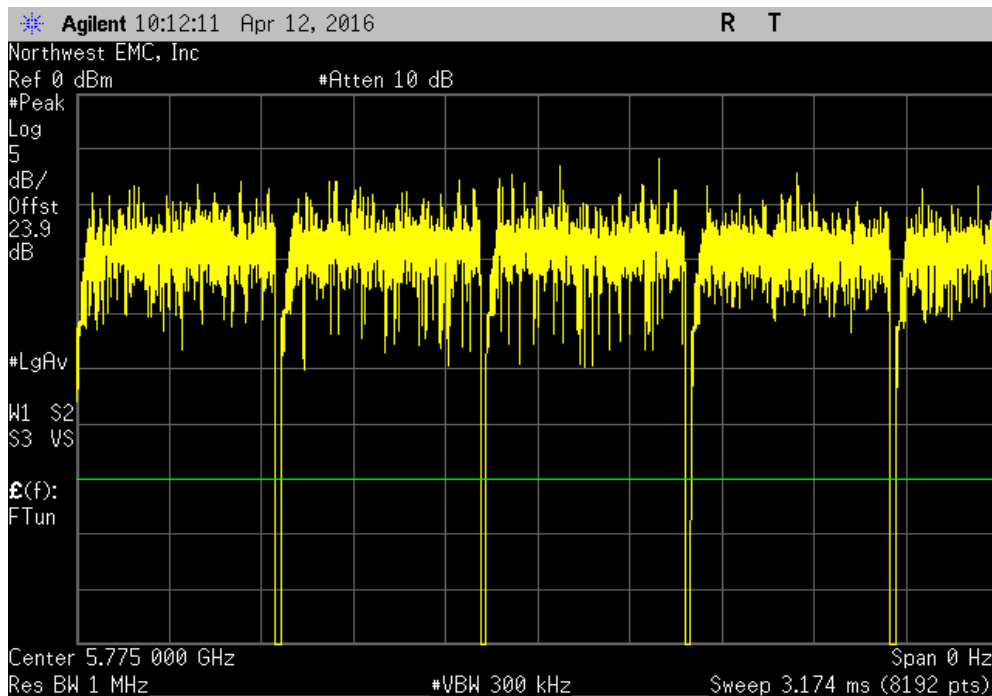


# DUTY CYCLE

| SISO, Chain B, 80MHz BW, Mid Channel, Ch 149/161 - 5775 MHz, 802.11(ac) MCS0 |          |                  |           |           |         |  |
|------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 666.4 us                                                                     | 705.4 us | 1                | 94.5      | N/A       | N/A     |  |

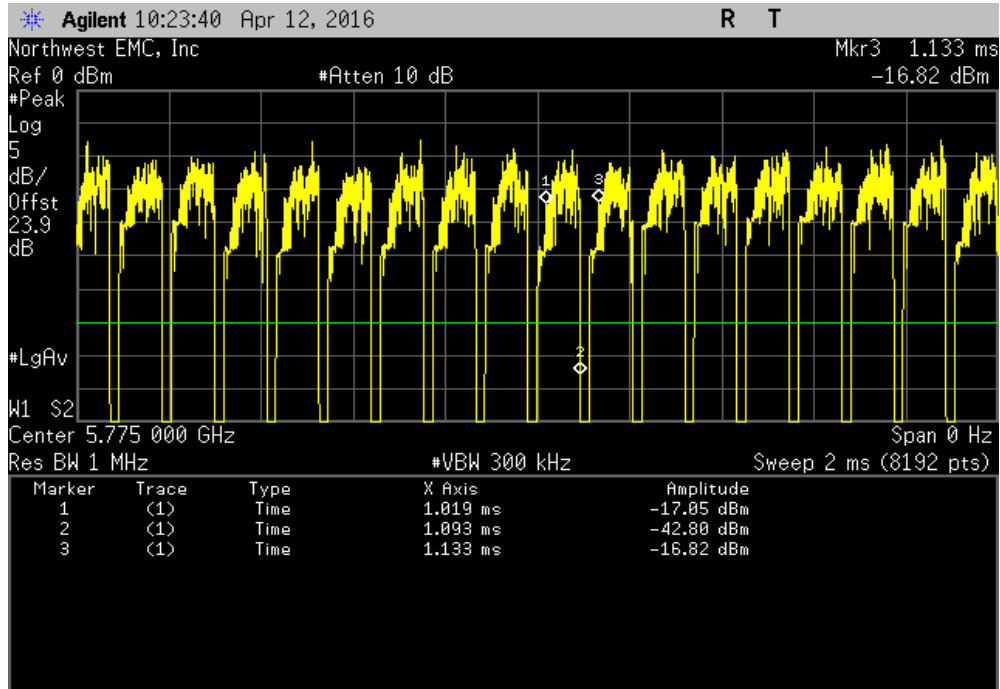


| SISO, Chain B, 80MHz BW, Mid Channel, Ch 149/161 - 5775 MHz, 802.11(ac) MCS0 |        |                  |           |           |         |  |
|------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                          | N/A    | 5                | N/A       | N/A       | N/A     |  |



# DUTY CYCLE

| SISO, Chain B, 80MHz BW, Mid Channel, Ch 149/161 - 5775 MHz, 802.11(ac) MCS9 |          |                  |           |           |         |  |
|------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period   | Number of Pulses | Value (%) | Limit (%) | Results |  |
| 74 us                                                                        | 113.3 us | 1                | 65.3      | N/A       | N/A     |  |



| SISO, Chain B, 80MHz BW, Mid Channel, Ch 149/161 - 5775 MHz, 802.11(ac) MCS9 |        |                  |           |           |         |  |
|------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width                                                                  | Period | Number of Pulses | Value (%) | Limit (%) | Results |  |
| N/A                                                                          | N/A    | 5                | N/A       | N/A       | N/A     |  |

