

# 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 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 a modulated signal; therefore, the lowest signal data rate was tested.

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 (-30 ° to +50° C) and at 10°C intervals.

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 operate within the band.

## TEST EQUIPMENT

| Description                    | Manufacturer              | Model          | ID  | Last Cal. | Cal. Due  |
|--------------------------------|---------------------------|----------------|-----|-----------|-----------|
| Spectrum Analyzer              | Agilent                   | N9010A         | AFL | 9/20/2014 | 9/20/2015 |
| Generator - Signal             | Agilent                   | N5173B         | TIW | 7/15/2014 | 7/15/2017 |
| Attenuator                     | Fairview Microwave        | SA4018-20      | TQY | 2/27/2015 | 2/27/2016 |
| Block - DC                     | Fairview Microwave        | SD3379         | AMM | 2/27/2015 | 2/27/2016 |
| Power Supply - DC              | B&K Precision             | 9110           | TQI | NCR       | NCR       |
| Chamber - Temperature/Humidity | Cincinnati Sub Zero (CSZ) | ZPH-8-2-SCT/AC | TBH | NCR       | NCR       |
| Thermometer                    | Omegaette                 | HH311          | DTX | 4/3/2015  | 4/3/2018  |
| Meter - Multimeter             | Fluke                     | 77-IV          | MLT | 9/25/2014 | 9/25/2017 |

# FREQUENCY STABILITY

|                   |                               |                    |           |
|-------------------|-------------------------------|--------------------|-----------|
| EUT:              | Firebox T50-W (BS5AE7W)       | Work Order:        | VDEI0009  |
| Serial Number:    | 70AF00069-3EB6                | Date:              | 08/12/15  |
| Customer:         | WatchGuard Technologies, Inc. | Temperature:       | 24.8°C    |
| Attendees:        | None                          | Relative Humidity: | 46%       |
| Customer Project: | None                          | Bar. Pressure:     | 1019 mbar |
| Tested By:        | Jonathan Kiefer               | Job Site:          | TX09      |
| Power:            | 48 VDC                        | Configuration:     | 2         |

## TEST SPECIFICATIONS

|                 |                  |
|-----------------|------------------|
| Specification:  | Method:          |
| FCC 15.407:2015 | ANSI C63.10:2013 |

## COMMENTS

SISO mode Chains A, B, and C (Chains 0, 1 and 2). Tested at Channel 36 (5180 MHz) and Channel 165 (5825 MHz). The EUT was tested with the fundamental modulated while under test.

## DEVIATIONS FROM TEST STANDARD

None

## RESULTS

|                                              | Measured Value (MHz) | Assigned Value (MHz) | Error (ppm) | Limit (ppm) | Results |
|----------------------------------------------|----------------------|----------------------|-------------|-------------|---------|
| Chain A                                      |                      |                      |             |             |         |
| 802.11(a) 6 Mbps                             |                      |                      |             |             |         |
| 5150 MHz - 5250 MHz - Low Channel, 5180 MHz  |                      |                      |             |             |         |
| Voltage: 115%                                | 5180.025             | 5180                 | 4.8         | 100         | Pass    |
| Voltage: 100%                                | 5180.025             | 5180                 | 4.8         | 100         | Pass    |
| Voltage: 85%                                 | 5180.025             | 5180                 | 4.8         | 100         | Pass    |
| Temperature: +50°                            | 5180.025             | 5180                 | 4.8         | 100         | Pass    |
| Temperature: +40°                            | 5180.025             | 5180                 | 4.8         | 100         | Pass    |
| Temperature: +30°                            | 5180.025             | 5180                 | 4.8         | 100         | Pass    |
| Temperature: +20°                            | 5180.025             | 5180                 | 4.8         | 100         | Pass    |
| Temperature: +10°                            | 5180.05              | 5180                 | 9.7         | 100         | Pass    |
| Temperature: 0°                              | 5180.05              | 5180                 | 9.7         | 100         | Pass    |
| Temperature: -10°                            | 5180.075             | 5180                 | 14.5        | 100         | Pass    |
| Temperature: -20°                            | 5180.075             | 5180                 | 14.5        | 100         | Pass    |
| Temperature: -30°                            | 5180.075             | 5180                 | 14.5        | 100         | Pass    |
| 5725 MHz - 5850 MHz - High Channel, 5825 MHz |                      |                      |             |             |         |
| Voltage: 115%                                | 5825                 | 5825                 | 0           | 100         | Pass    |
| Voltage: 100%                                | 5825                 | 5825                 | 0           | 100         | Pass    |
| Voltage: 85%                                 | 5825                 | 5825                 | 0           | 100         | Pass    |
| Temperature: +50°                            | 5825                 | 5825                 | 0           | 100         | Pass    |
| Temperature: +40°                            | 5825                 | 5825                 | 0           | 100         | Pass    |
| Temperature: +30°                            | 5825                 | 5825                 | 0           | 100         | Pass    |
| Temperature: +20°                            | 5825                 | 5825                 | 0           | 100         | Pass    |
| Temperature: +10°                            | 5825.025             | 5825                 | 4.3         | 100         | Pass    |
| Temperature: 0°                              | 5825.025             | 5825                 | 4.3         | 100         | Pass    |
| Temperature: -10°                            | 5825.05              | 5825                 | 8.6         | 100         | Pass    |
| Temperature: -20°                            | 5825.075             | 5825                 | 12.9        | 100         | Pass    |
| Temperature: -30°                            | 5825.075             | 5825                 | 12.9        | 100         | Pass    |

## Chain B

802.11(a) 6 Mbps

5150 MHz - 5250 MHz - Low Channel, 5180 MHz

# FREQUENCY STABILITY

|                                              | Measured<br>Value (MHz) | Assigned<br>Value (MHz) | Error<br>(ppm) | Limit<br>(ppm) | Results |
|----------------------------------------------|-------------------------|-------------------------|----------------|----------------|---------|
| Voltage: 115%                                | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Voltage: 100%                                | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Voltage: 85%                                 | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Temperature: +50°                            | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Temperature: +40°                            | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Temperature: +30°                            | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Temperature: +20°                            | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Temperature: +10°                            | 5180.05                 | 5180                    | 9.7            | 100            | Pass    |
| Temperature: 0°                              | 5180.05                 | 5180                    | 9.7            | 100            | Pass    |
| Temperature: -10°                            | 5180.075                | 5180                    | 14.5           | 100            | Pass    |
| Temperature: -20°                            | 5180.075                | 5180                    | 14.5           | 100            | Pass    |
| Temperature: -30°                            | 5180.075                | 5180                    | 14.5           | 100            | Pass    |
| 5725 MHz - 5850 MHz - High Channel, 5825 MHz |                         |                         |                |                |         |
| Voltage: 115%                                | 5825                    | 5825                    | 0              | 100            | Pass    |
| Voltage: 100%                                | 5825                    | 5825                    | 0              | 100            | Pass    |
| Voltage: 85%                                 | 5825                    | 5825                    | 0              | 100            | Pass    |
| Temperature: +50°                            | 5825                    | 5825                    | 0              | 100            | Pass    |
| Temperature: +40°                            | 5825.025                | 5825                    | 4.3            | 100            | Pass    |
| Temperature: +30°                            | 5825.025                | 5825                    | 4.3            | 100            | Pass    |
| Temperature: +20°                            | 5825.025                | 5825                    | 4.3            | 100            | Pass    |
| Temperature: +10°                            | 5825.025                | 5825                    | 4.3            | 100            | Pass    |
| Temperature: 0°                              | 5825.05                 | 5825                    | 8.6            | 100            | Pass    |
| Temperature: -10°                            | 5825.075                | 5825                    | 12.9           | 100            | Pass    |
| Temperature: -20°                            | 5825.075                | 5825                    | 12.9           | 100            | Pass    |
| Temperature: -30°                            | 5825.075                | 5825                    | 12.9           | 100            | Pass    |
| Chain C                                      |                         |                         |                |                |         |
| 802.11(a) 6 Mbps                             |                         |                         |                |                |         |
| 5150 MHz - 5250 MHz - Low Channel, 5180 MHz  |                         |                         |                |                |         |
| Voltage: 115%                                | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Voltage: 100%                                | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Voltage: 85%                                 | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Temperature: +50°                            | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Temperature: +40°                            | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Temperature: +30°                            | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Temperature: +20°                            | 5180.025                | 5180                    | 4.8            | 100            | Pass    |
| Temperature: +10°                            | 5180.05                 | 5180                    | 9.7            | 100            | Pass    |
| Temperature: 0°                              | 5180.05                 | 5180                    | 9.7            | 100            | Pass    |
| Temperature: -10°                            | 5180.075                | 5180                    | 14.5           | 100            | Pass    |
| Temperature: -20°                            | 5180.075                | 5180                    | 14.5           | 100            | Pass    |
| Temperature: -30°                            | 5180.075                | 5180                    | 14.5           | 100            | Pass    |
| 5725 MHz - 5850 MHz - High Channel, 5825 MHz |                         |                         |                |                |         |
| Voltage: 115%                                | 5825                    | 5825                    | 0              | 100            | Pass    |
| Voltage: 100%                                | 5825                    | 5825                    | 0              | 100            | Pass    |
| Voltage: 85%                                 | 5825                    | 5825                    | 0              | 100            | Pass    |
| Temperature: +50°                            | 5825                    | 5825                    | 0              | 100            | Pass    |
| Temperature: +40°                            | 5825                    | 5825                    | 0              | 100            | Pass    |
| Temperature: +30°                            | 5825                    | 5825                    | 0              | 100            | Pass    |

# FREQUENCY STABILITY

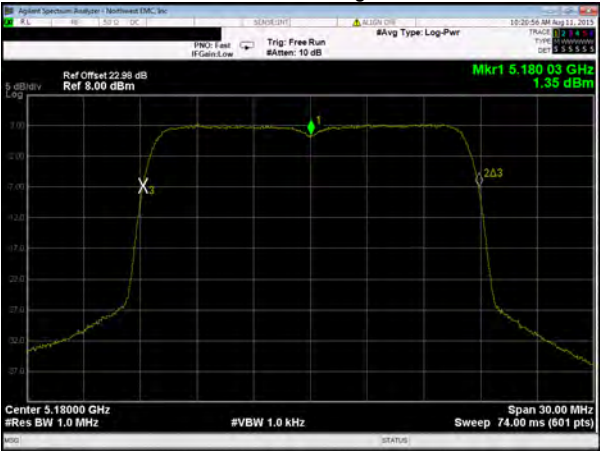
|                   | Measured<br>Value (MHz) | Assigned<br>Value (MHz) | Error<br>(ppm) | Limit<br>(ppm) | Results |
|-------------------|-------------------------|-------------------------|----------------|----------------|---------|
| Temperature: +20° | 5825.025                | 5825                    | 4.3            | 100            | Pass    |
| Temperature: +10° | 5825.025                | 5825                    | 4.3            | 100            | Pass    |
| Temperature: 0°   | 5825.05                 | 5825                    | 8.6            | 100            | Pass    |
| Temperature: -10° | 5825.05                 | 5825                    | 8.6            | 100            | Pass    |
| Temperature: -20° | 5825.075                | 5825                    | 12.9           | 100            | Pass    |
| Temperature: -30° | 5825.075                | 5825                    | 12.9           | 100            | Pass    |



Tested By

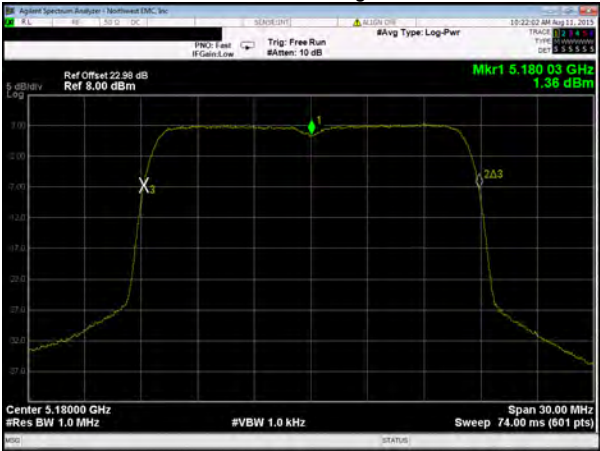
# FREQUENCY STABILITY

Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Voltage: 115%



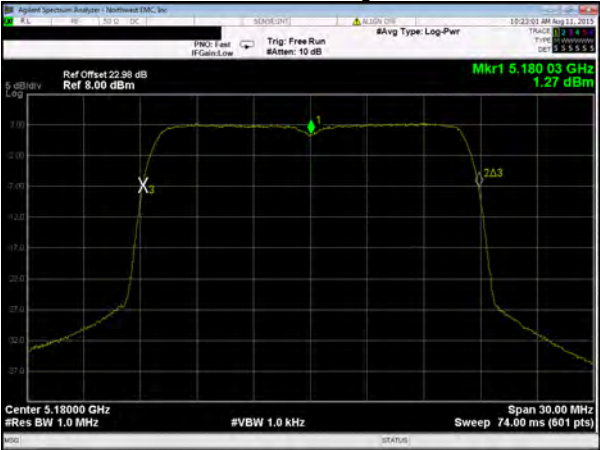
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Voltage: 100%



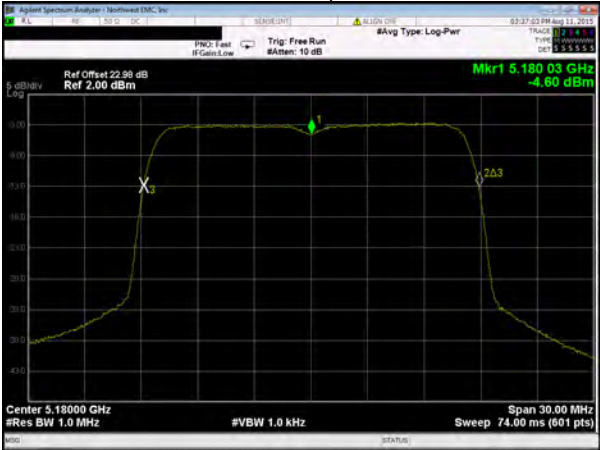
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Voltage: 85%



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

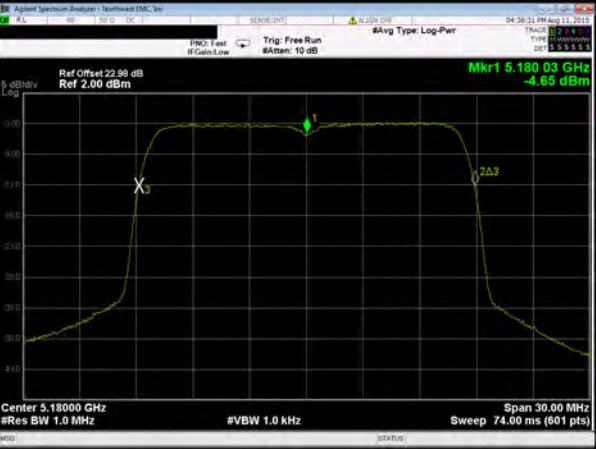
Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +50°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

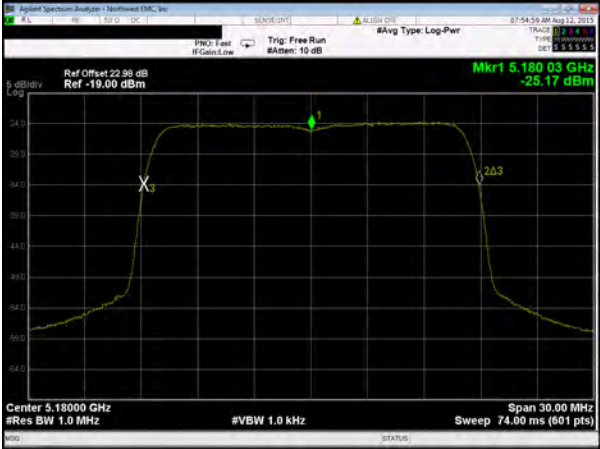
# FREQUENCY STABILITY

Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +40°



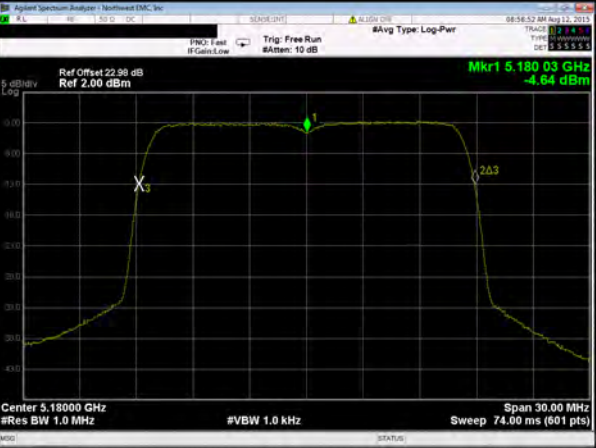
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +30°



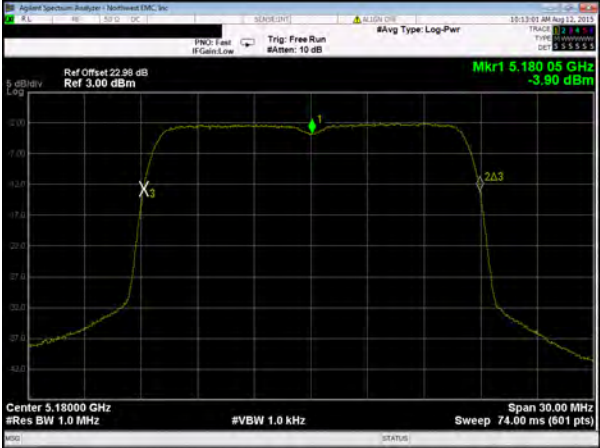
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +20°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +10°

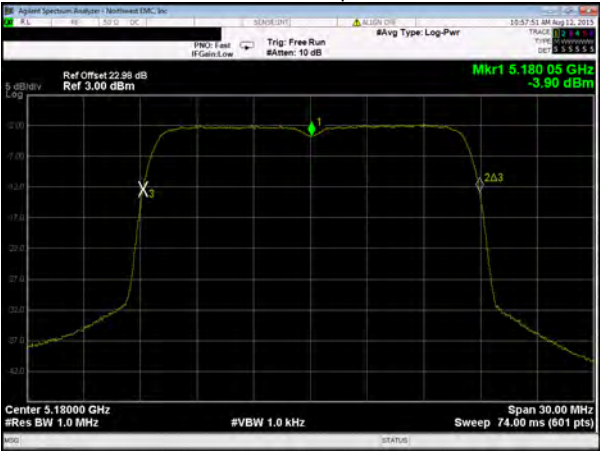


|                      |         |
|----------------------|---------|
| Measured Value (MHz) | 5180.05 |
| Assigned Value (MHz) | 5180    |
| Error (ppm)          | 9.7     |
| Limit (ppm)          | 100     |
| Results              | Pass    |



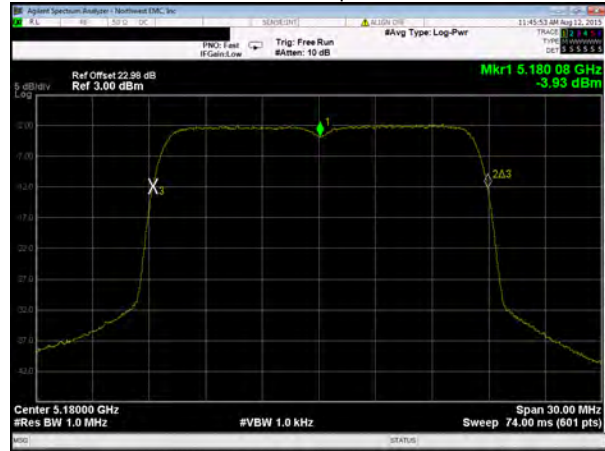
# FREQUENCY STABILITY

Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: 0°



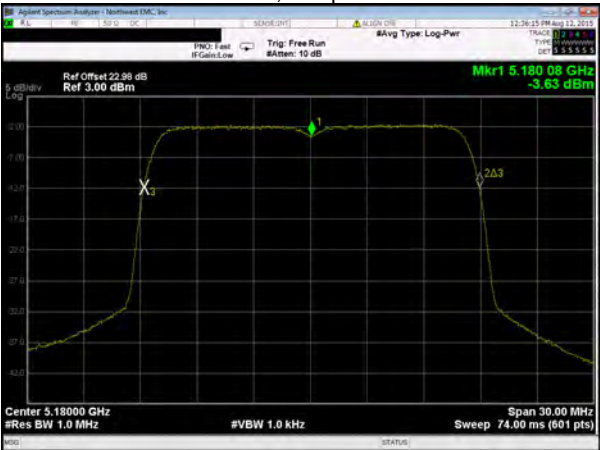
|                      |         |
|----------------------|---------|
| Measured Value (MHz) | 5180.05 |
| Assigned Value (MHz) | 5180    |
| Error (ppm)          | 9.7     |
| Limit (ppm)          | 100     |
| Results              | Pass    |

Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: -10°



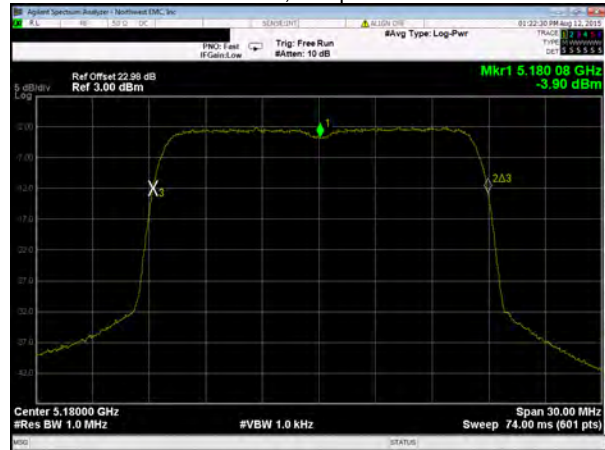
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.075 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 14.5     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: -20°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.075 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 14.5     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

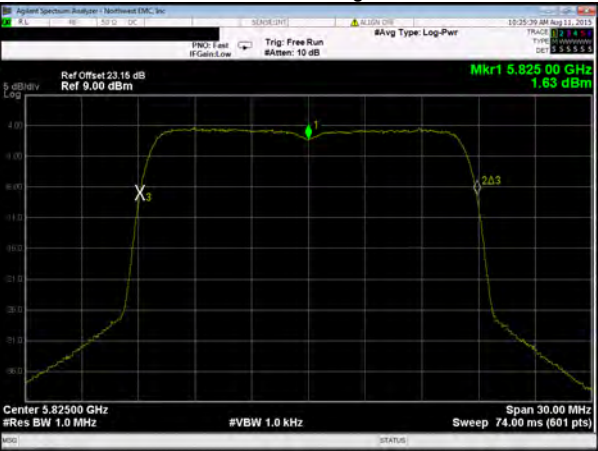
Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: -30°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.075 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 14.5     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

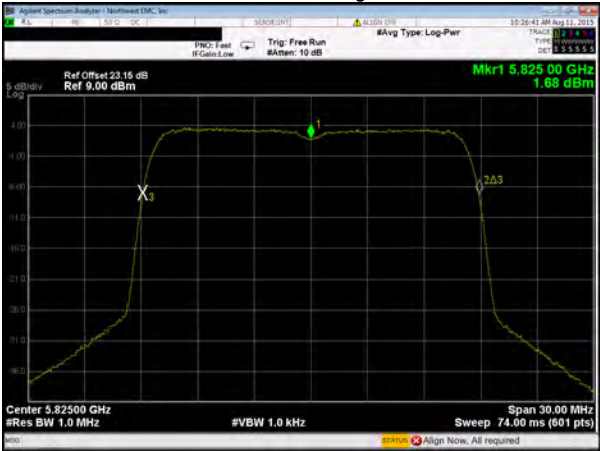
# FREQUENCY STABILITY

Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Voltage: 115%



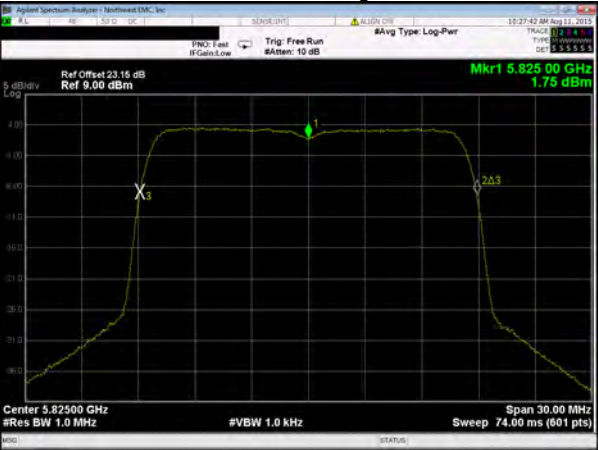
|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Voltage: 100%



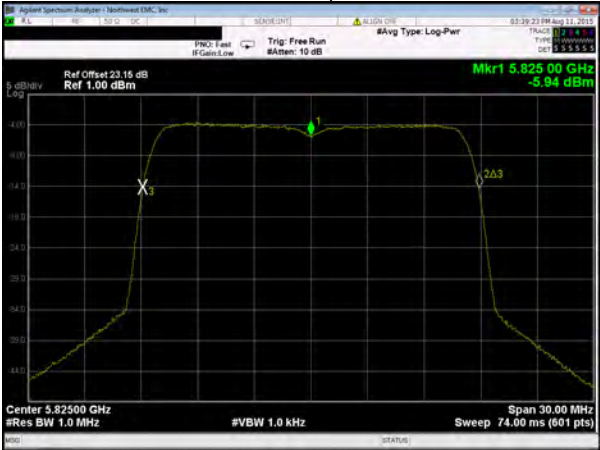
|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Voltage: 85%



|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +50°

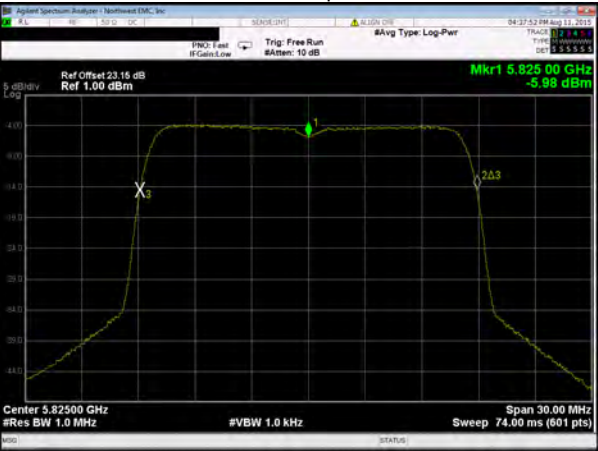


|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |



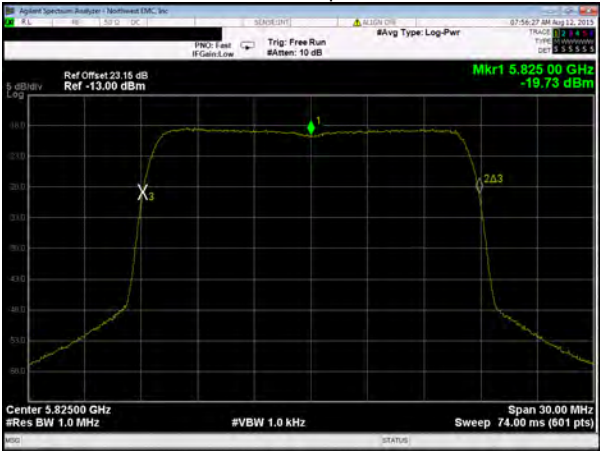
# FREQUENCY STABILITY

Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +40°



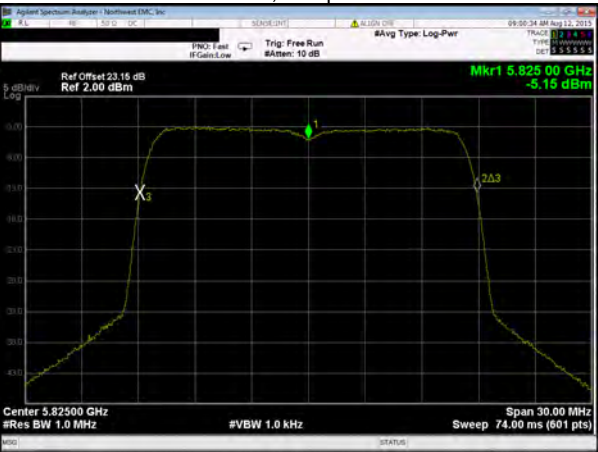
|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +30°



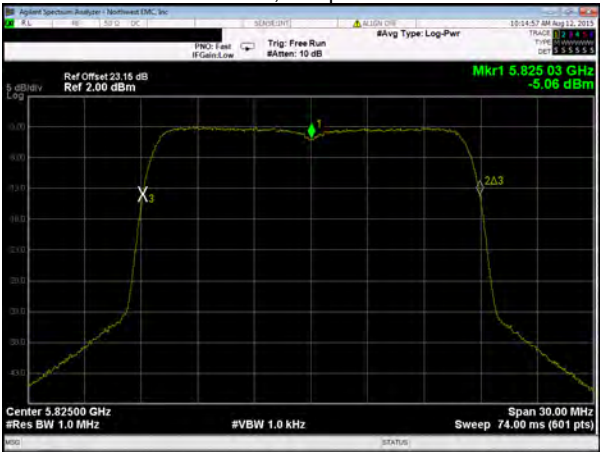
|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +20°



|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

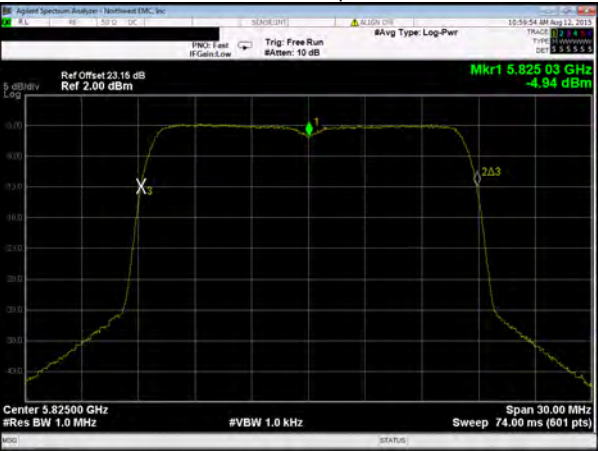
Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +10°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.025 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 4.3      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

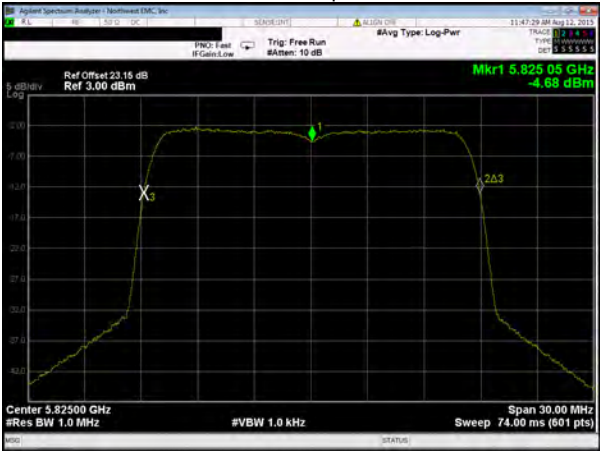
# FREQUENCY STABILITY

Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: 0°



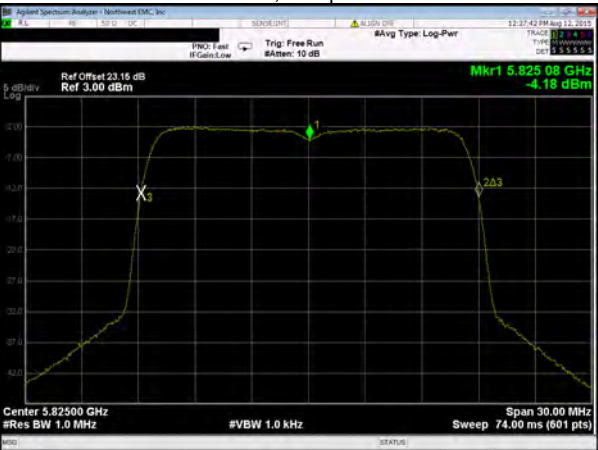
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.025 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 4.3      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: -10°



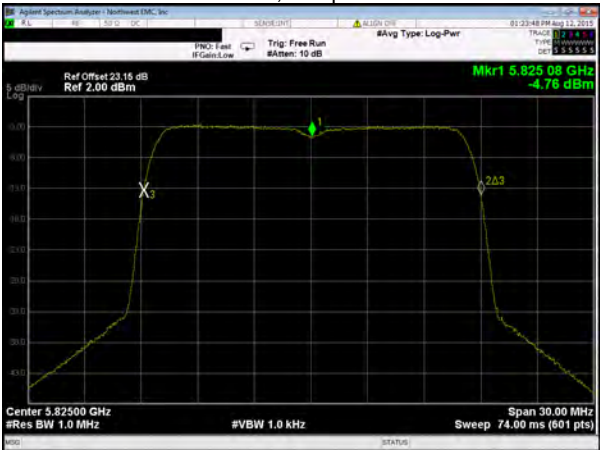
|                      |         |
|----------------------|---------|
| Measured Value (MHz) | 5825.05 |
| Assigned Value (MHz) | 5825    |
| Error (ppm)          | 8.6     |
| Limit (ppm)          | 100     |
| Results              | Pass    |

Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: -20°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.075 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 12.9     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

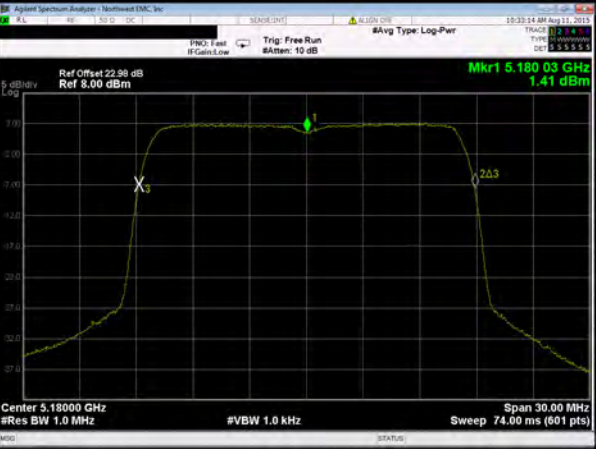
Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: -30°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.075 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 12.9     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

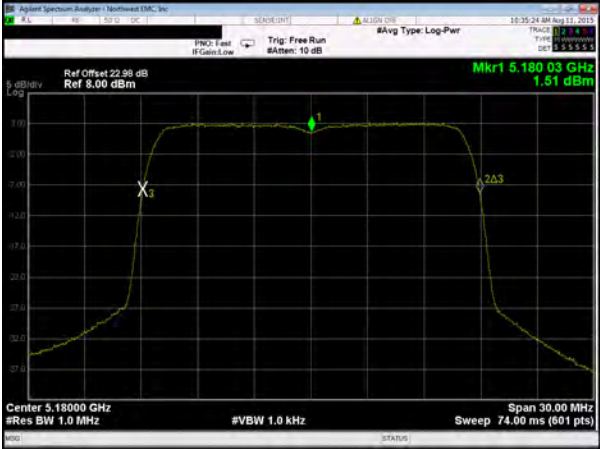
# FREQUENCY STABILITY

Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Voltage: 115%



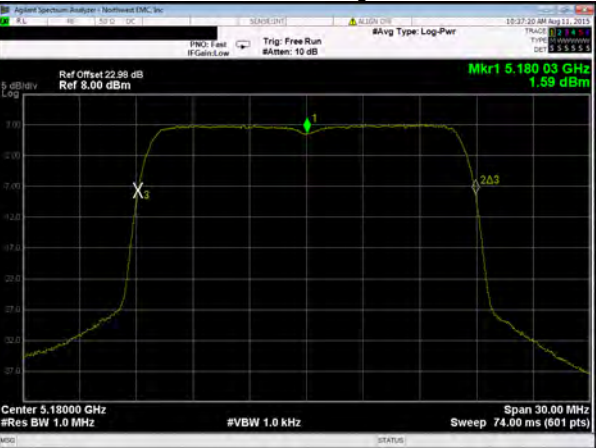
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Voltage: 100%



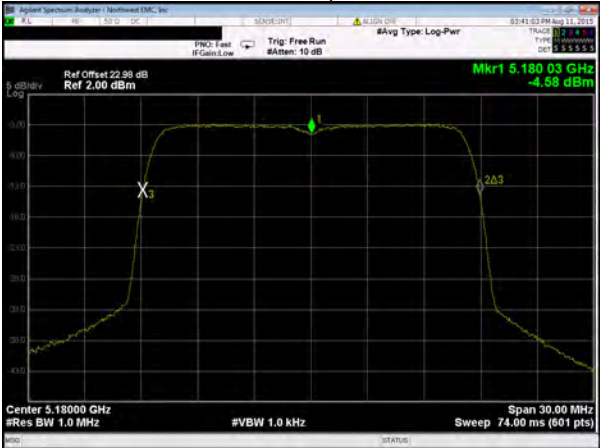
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Voltage: 85%



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

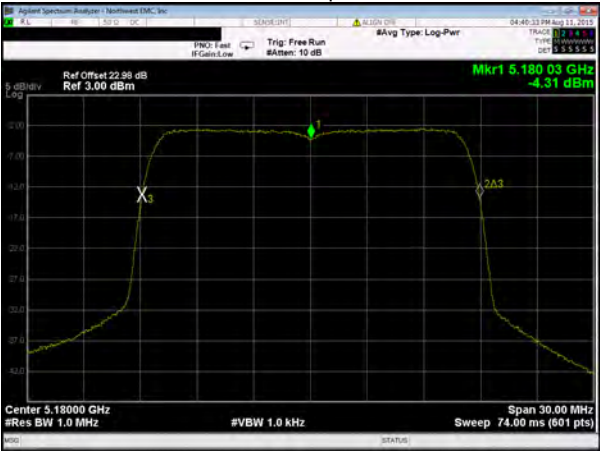
Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +50°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

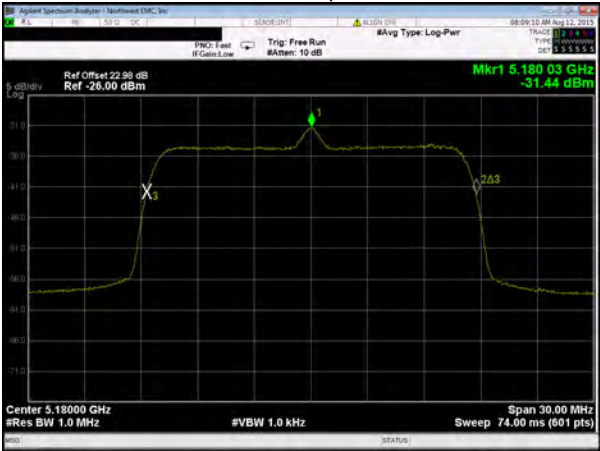
# FREQUENCY STABILITY

Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +40°



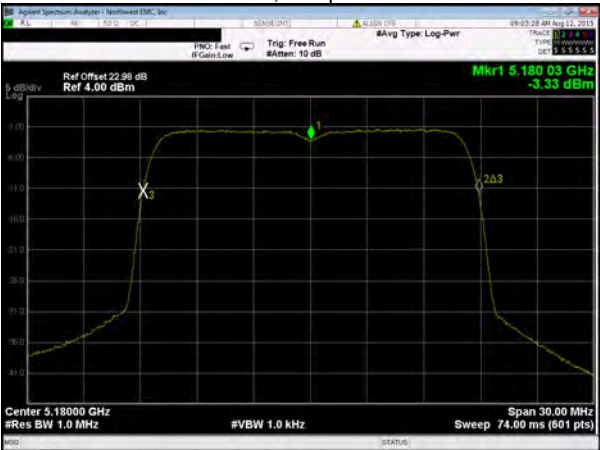
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +30°



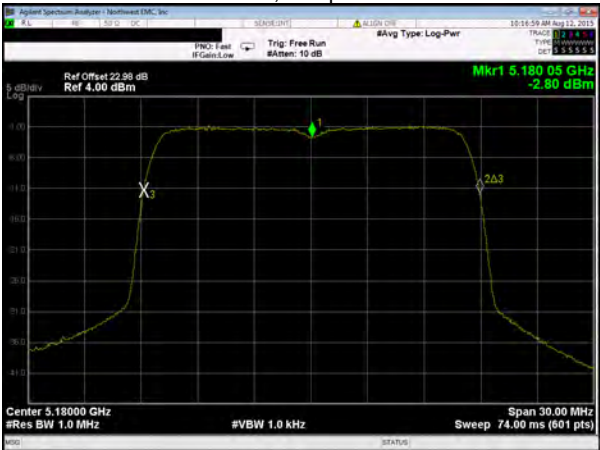
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +20°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +10°

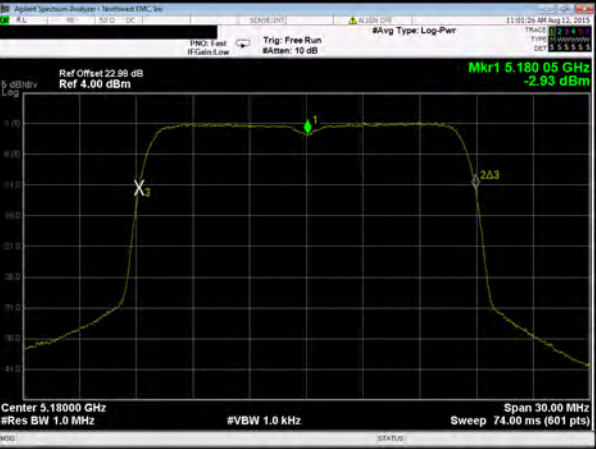


|                      |         |
|----------------------|---------|
| Measured Value (MHz) | 5180.05 |
| Assigned Value (MHz) | 5180    |
| Error (ppm)          | 9.7     |
| Limit (ppm)          | 100     |
| Results              | Pass    |



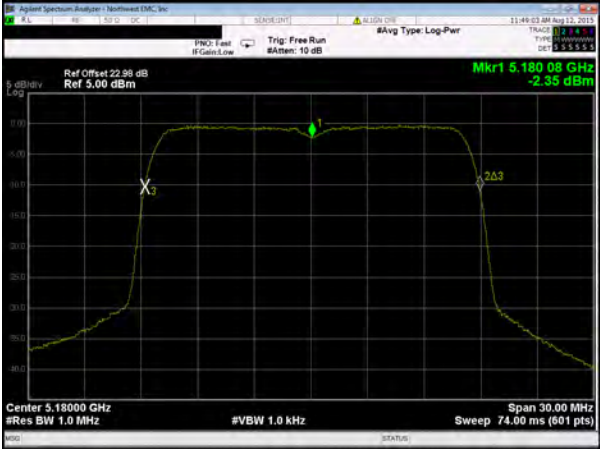
# FREQUENCY STABILITY

Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: 0°



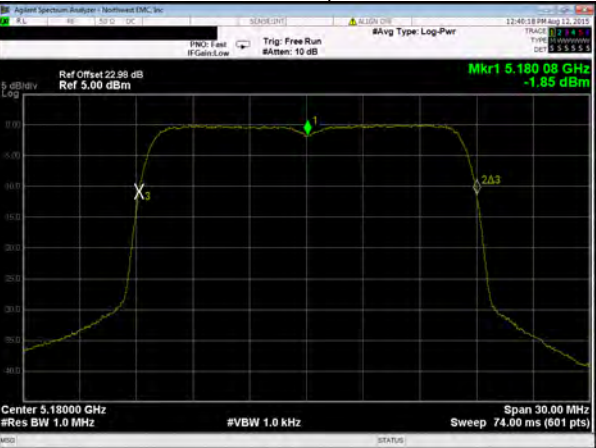
|                      |         |
|----------------------|---------|
| Measured Value (MHz) | 5180.05 |
| Assigned Value (MHz) | 5180    |
| Error (ppm)          | 9.7     |
| Limit (ppm)          | 100     |
| Results              | Pass    |

Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: -10°



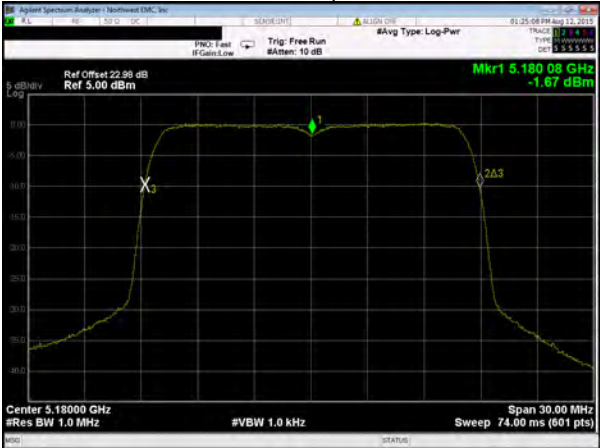
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.075 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 14.5     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: -20°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.075 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 14.5     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

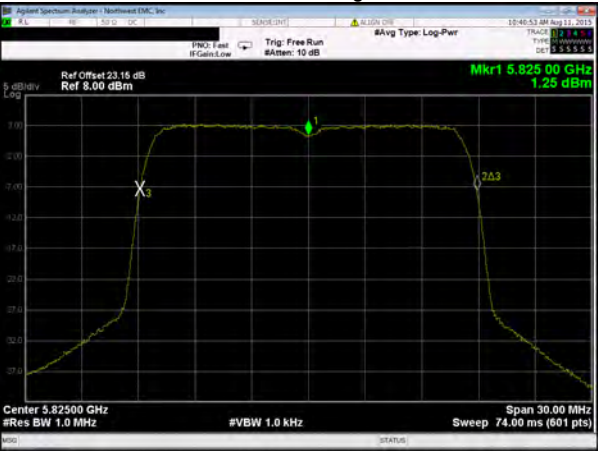
Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: -30°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.075 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 14.5     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

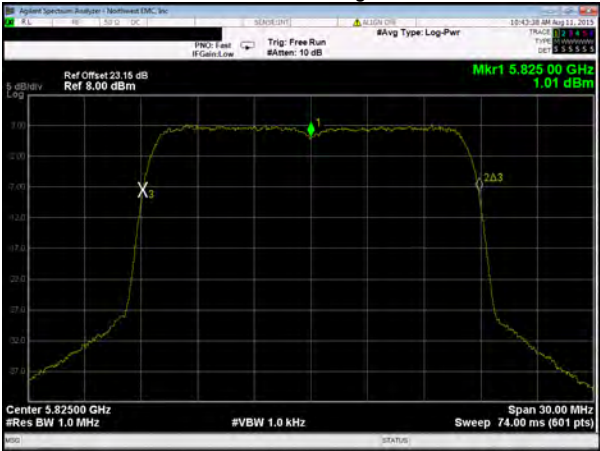
# FREQUENCY STABILITY

Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Voltage: 115%



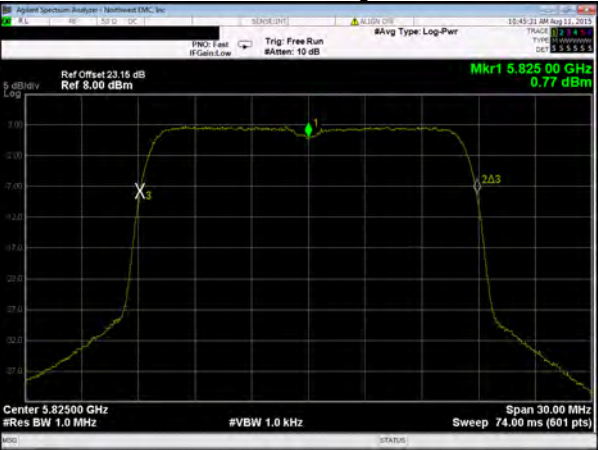
|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Voltage: 100%



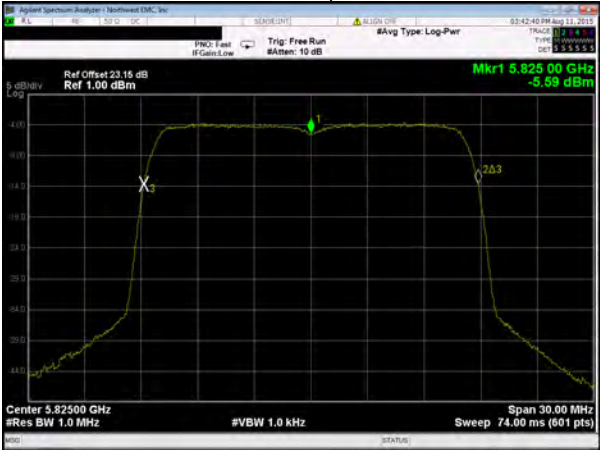
|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Voltage: 85%



|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +50°

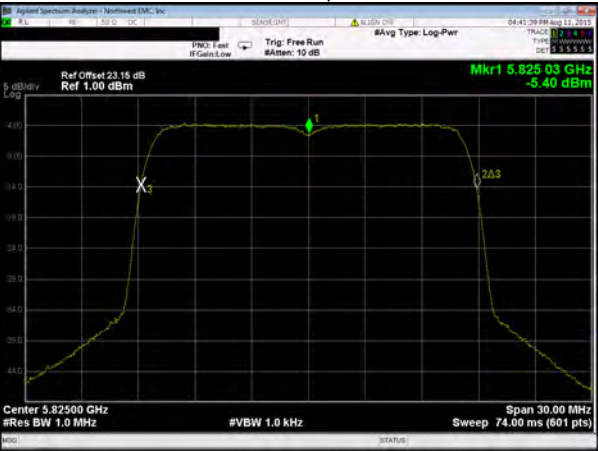


|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |



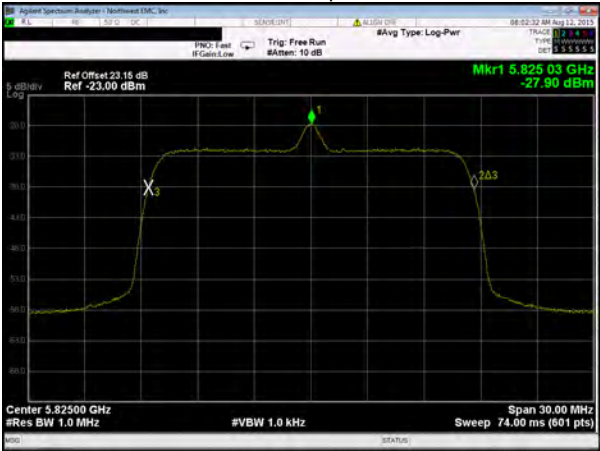
# FREQUENCY STABILITY

Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +40°



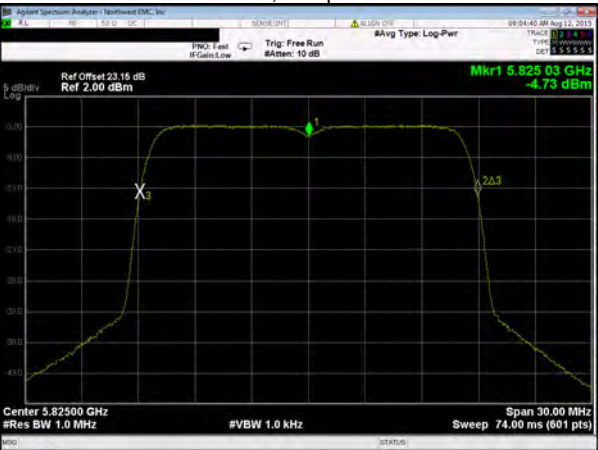
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.025 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 4.3      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +30°



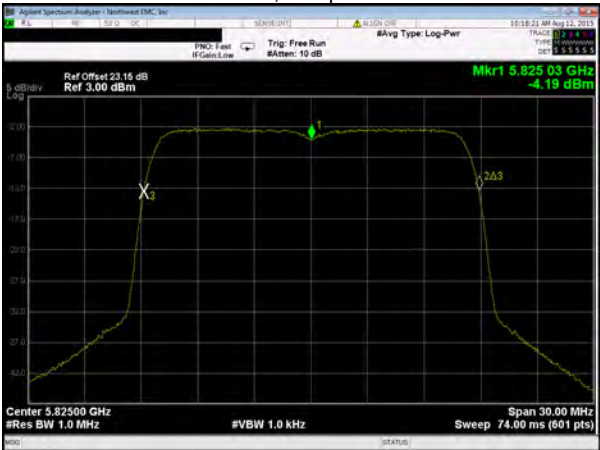
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.025 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 4.3      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +20°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.025 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 4.3      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

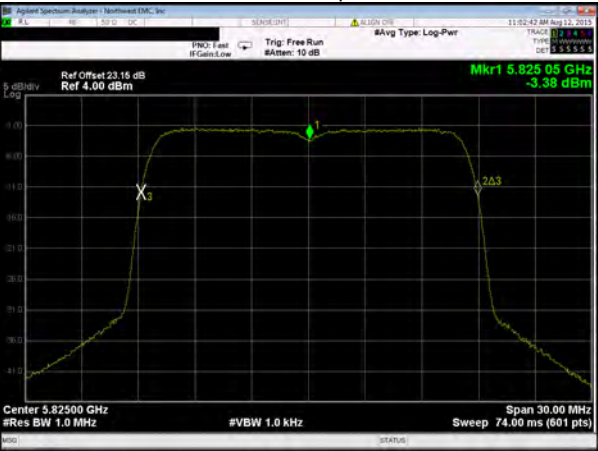
Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +10°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.025 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 4.3      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

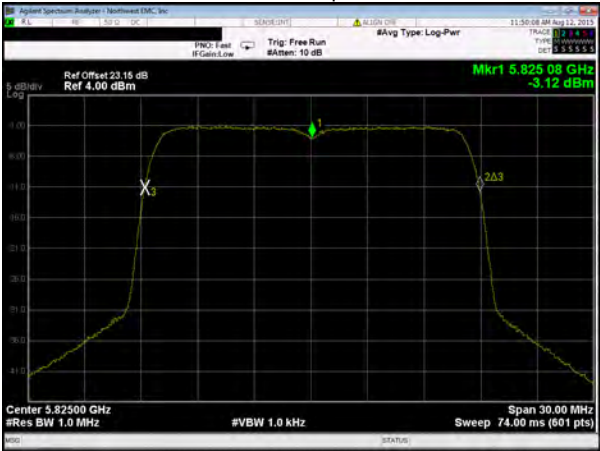
# FREQUENCY STABILITY

Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: 0°



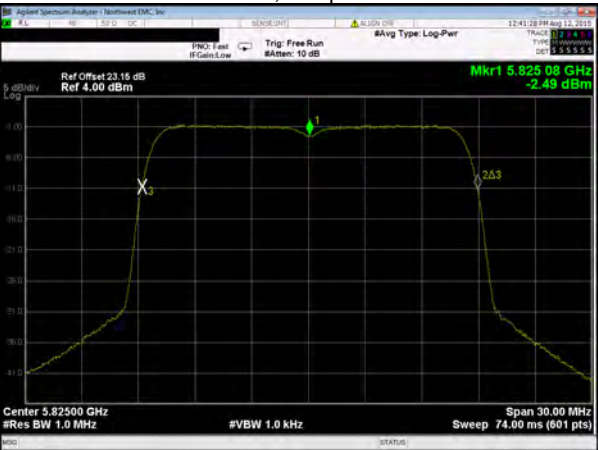
|                      |         |
|----------------------|---------|
| Measured Value (MHz) | 5825.05 |
| Assigned Value (MHz) | 5825    |
| Error (ppm)          | 8.6     |
| Limit (ppm)          | 100     |
| Results              | Pass    |

Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: -10°



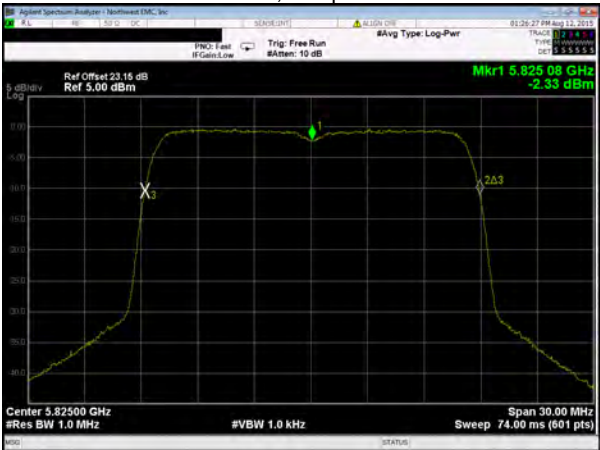
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.075 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 12.9     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: -20°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.075 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 12.9     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

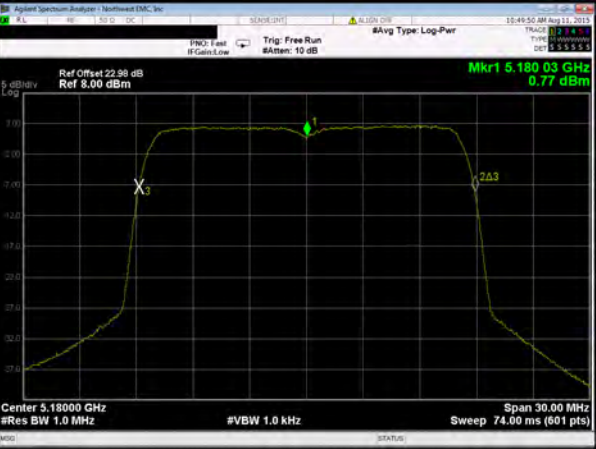
Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: -30°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.075 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 12.9     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

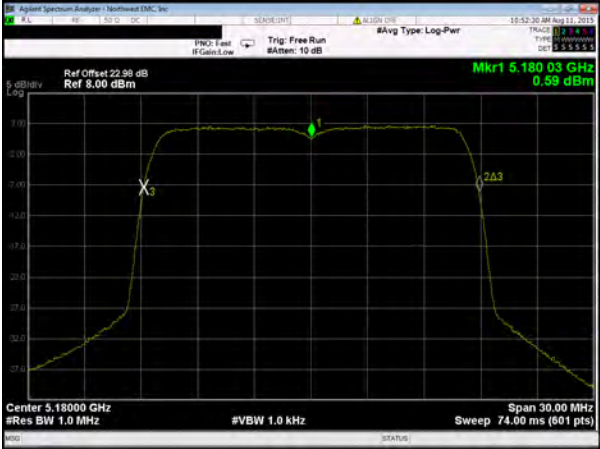
# FREQUENCY STABILITY

Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Voltage: 115%



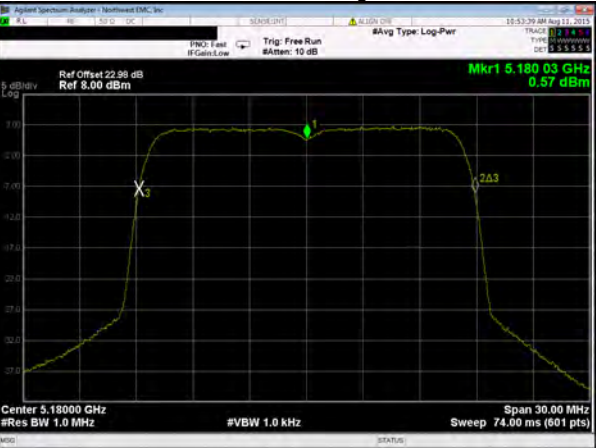
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Voltage: 100%



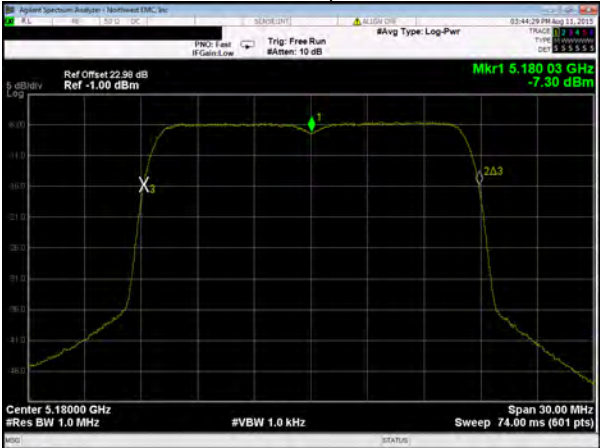
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Voltage: 85%



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

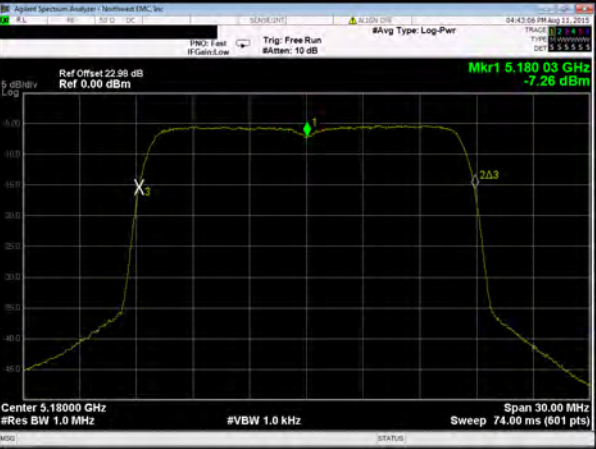
Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +50°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

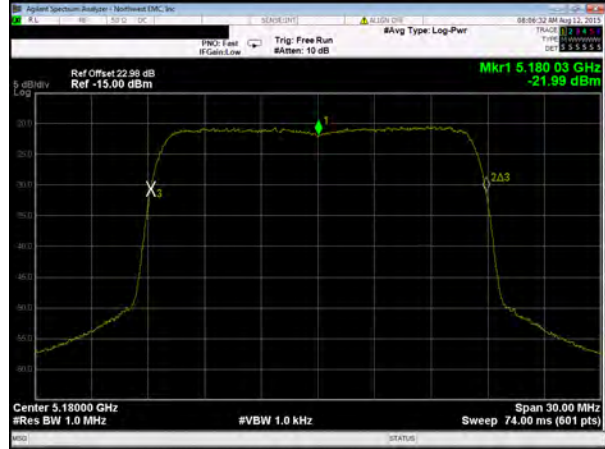
# FREQUENCY STABILITY

Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +40°



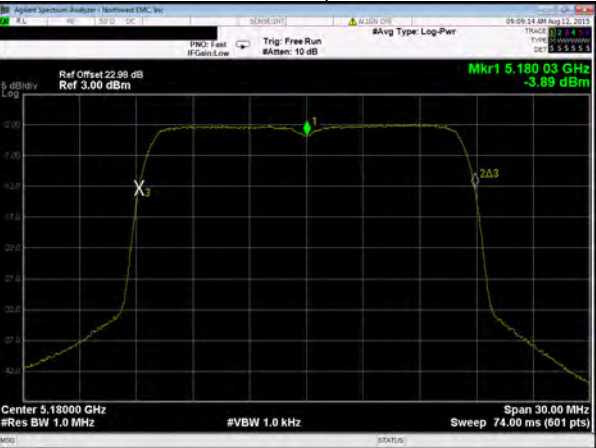
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +30°



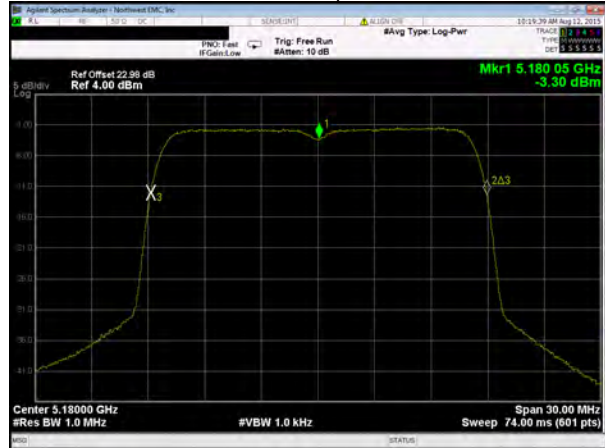
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +20°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.025 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 4.8      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: +10°

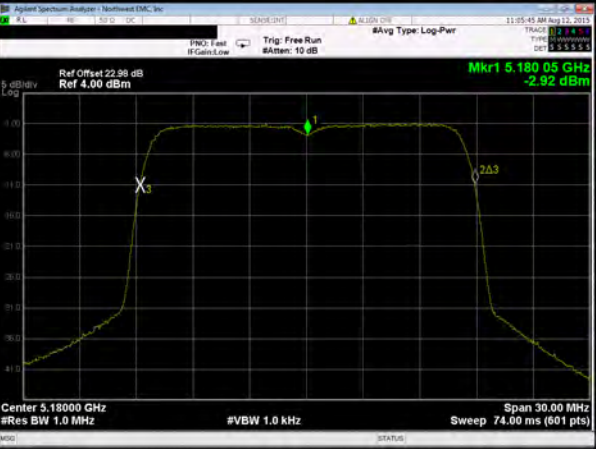


|                      |         |
|----------------------|---------|
| Measured Value (MHz) | 5180.05 |
| Assigned Value (MHz) | 5180    |
| Error (ppm)          | 9.7     |
| Limit (ppm)          | 100     |
| Results              | Pass    |



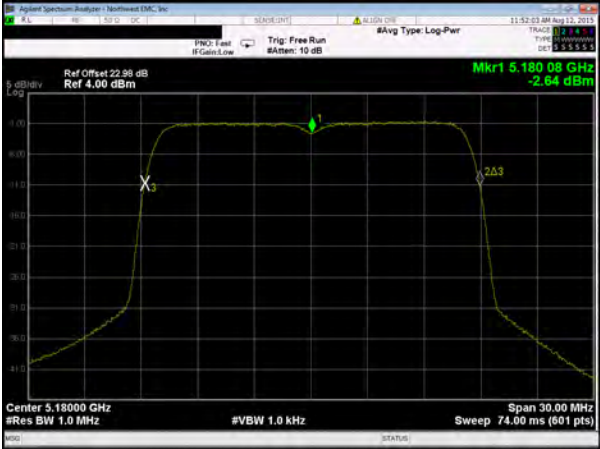
# FREQUENCY STABILITY

Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: 0°



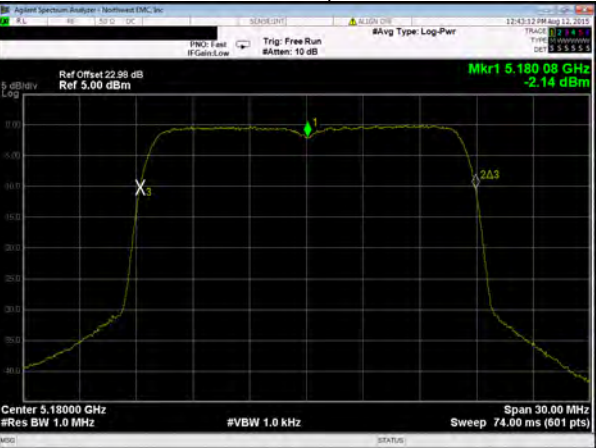
|                      |         |
|----------------------|---------|
| Measured Value (MHz) | 5180.05 |
| Assigned Value (MHz) | 5180    |
| Error (ppm)          | 9.7     |
| Limit (ppm)          | 100     |
| Results              | Pass    |

Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: -10°



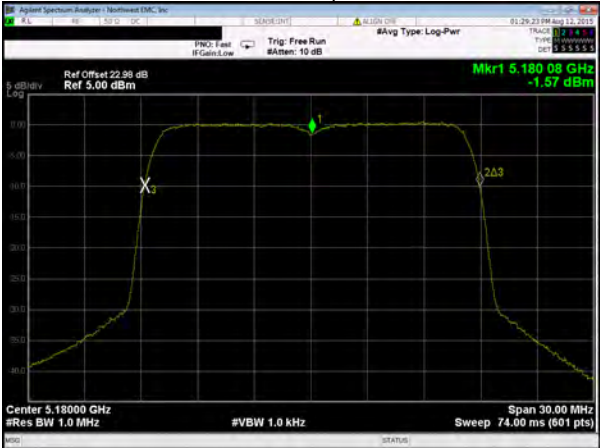
|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.075 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 14.5     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: -20°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.075 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 14.5     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel,  
5180 MHz, Temperature: -30°

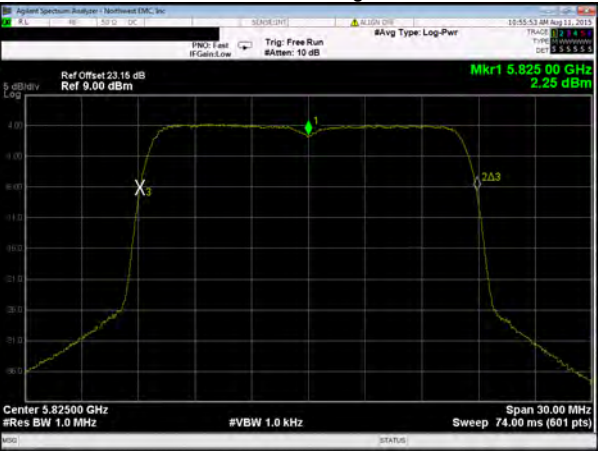


|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5180.075 |
| Assigned Value (MHz) | 5180     |
| Error (ppm)          | 14.5     |
| Limit (ppm)          | 100      |
| Results              | Pass     |



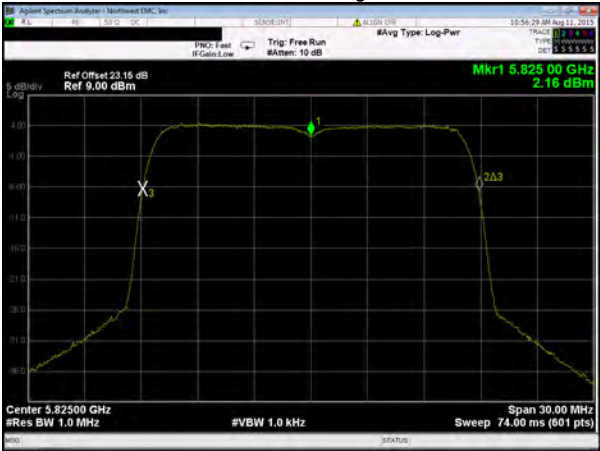
# FREQUENCY STABILITY

Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Voltage: 115%



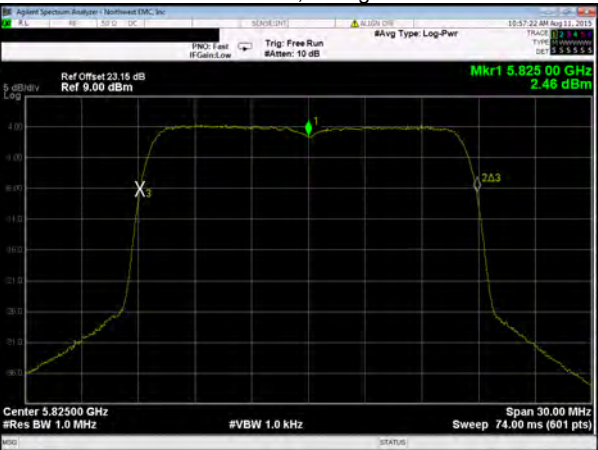
|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Voltage: 100%



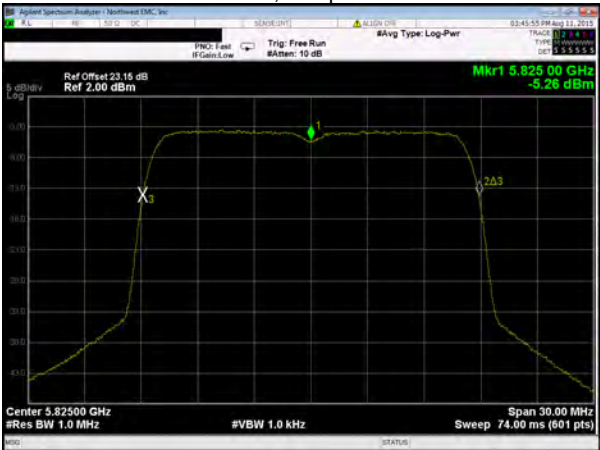
|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Voltage: 85%



|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

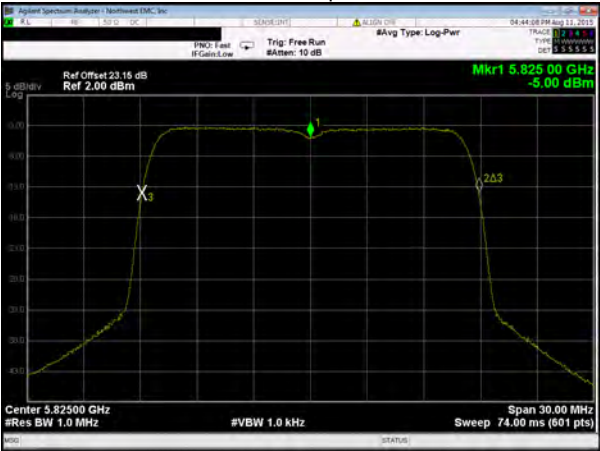
Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +50°



|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

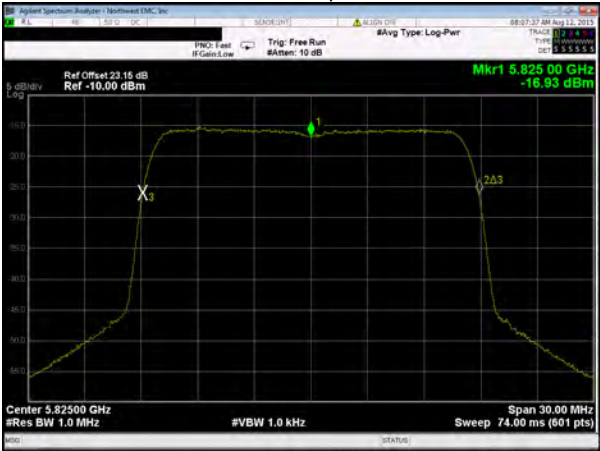
# FREQUENCY STABILITY

Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +40°



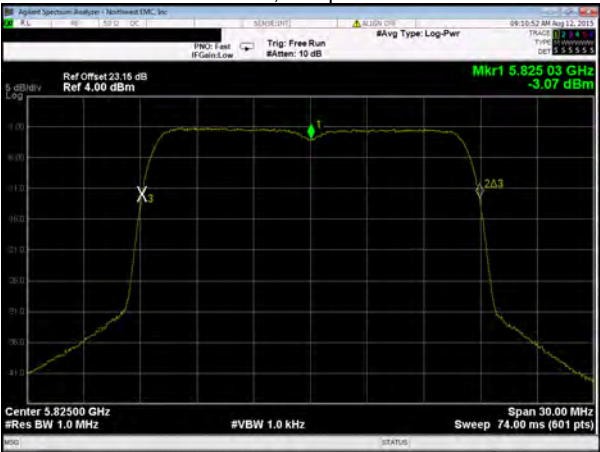
|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +30°



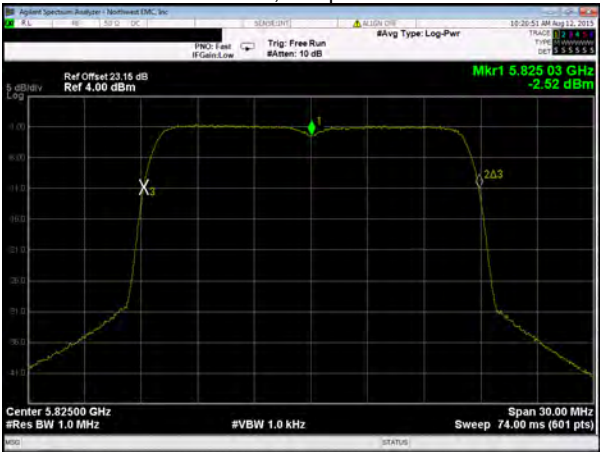
|                      |      |
|----------------------|------|
| Measured Value (MHz) | 5825 |
| Assigned Value (MHz) | 5825 |
| Error (ppm)          | 0    |
| Limit (ppm)          | 100  |
| Results              | Pass |

Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +20°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.025 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 4.3      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

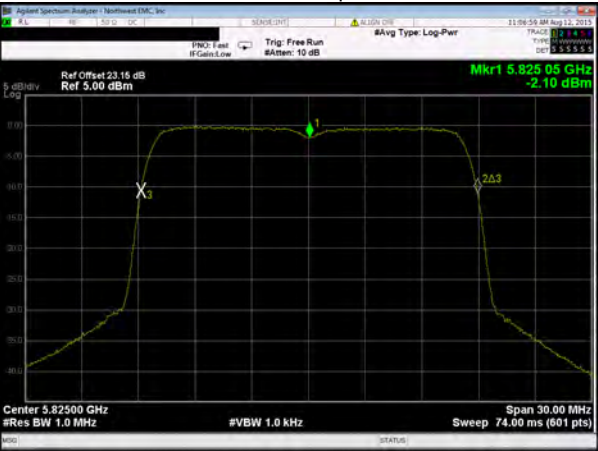
Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: +10°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.025 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 4.3      |
| Limit (ppm)          | 100      |
| Results              | Pass     |

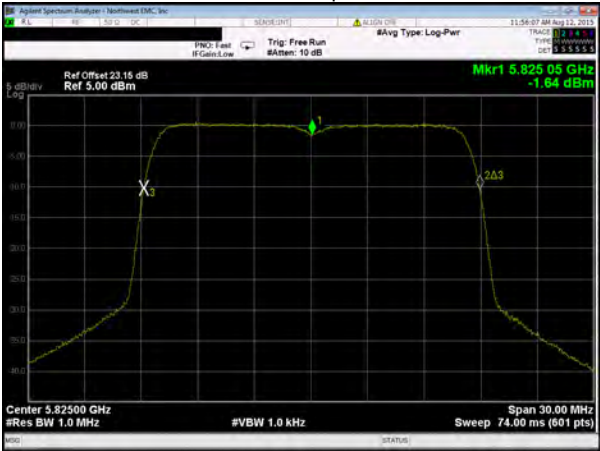
# FREQUENCY STABILITY

Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: 0°



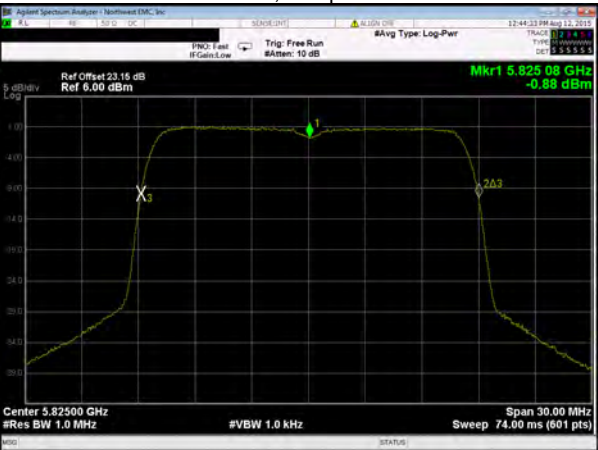
|                      |         |
|----------------------|---------|
| Measured Value (MHz) | 5825.05 |
| Assigned Value (MHz) | 5825    |
| Error (ppm)          | 8.6     |
| Limit (ppm)          | 100     |
| Results              | Pass    |

Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: -10°



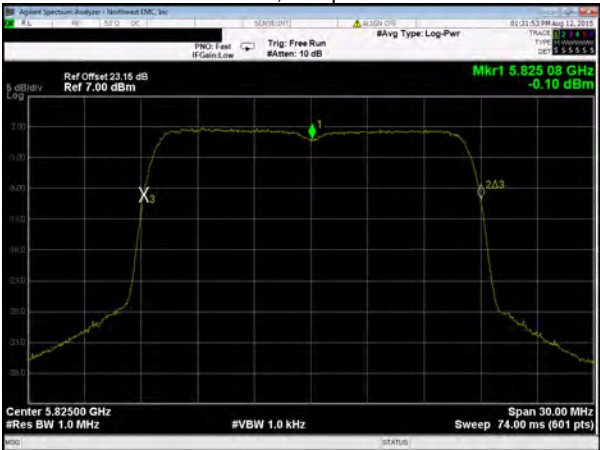
|                      |         |
|----------------------|---------|
| Measured Value (MHz) | 5825.05 |
| Assigned Value (MHz) | 5825    |
| Error (ppm)          | 8.6     |
| Limit (ppm)          | 100     |
| Results              | Pass    |

Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: -20°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.075 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 12.9     |
| Limit (ppm)          | 100      |
| Results              | Pass     |

Chain C, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,  
5825 MHz, Temperature: -30°



|                      |          |
|----------------------|----------|
| Measured Value (MHz) | 5825.075 |
| Assigned Value (MHz) | 5825     |
| Error (ppm)          | 12.9     |
| Limit (ppm)          | 100      |
| Results              | 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 DESCRIPTION

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

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

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

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

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

## TEST EQUIPMENT

| Description              | Manufacturer       | Model     | ID  | Last Cal. | Cal. Due  |
|--------------------------|--------------------|-----------|-----|-----------|-----------|
| Signal Generator, 40 GHz | Agilent            | N5173B    | TIW | 7/15/2014 | 7/15/2017 |
| Attenuator, 20dB, 40 GHz | Fairview Microwave | SA4018-20 | TQY | 2/27/2015 | 2/27/2016 |
| DC Block, 40 GHz         | Fairview Microwave | SD3379    | AMM | 2/27/2015 | 2/27/2016 |
| Spectrum Analyzer        | Agilent            | N9010A    | AFL | 9/20/2014 | 9/20/2015 |

# DUTY CYCLE



|                   |                               |                    |           |
|-------------------|-------------------------------|--------------------|-----------|
| EUT:              | Firebox T50-W (BS5AE7W)       | Work Order:        | VDEI0009  |
| Serial Number:    | 70AF00069-3EB6                | Date:              | 07/31/15  |
| Customer:         | WatchGuard Technologies, Inc. | Temperature:       | 25.6°C    |
| Attendees:        | None                          | Relative Humidity: | 44%       |
| Customer Project: | None                          | Bar. Pressure:     | 1014 mbar |
| Tested By:        | Jonathan Kiefer               | Job Site:          | TX09      |
| Power:            | 110VAC/60Hz                   | Configuration:     | 1         |

## TEST SPECIFICATIONS

|                 |                  |
|-----------------|------------------|
| Specification:  | Method:          |
| FCC 15.407:2015 | ANSI C63.10:2013 |

## COMMENTS

Chain A corresponds to Chain 0.

## DEVIATIONS FROM TEST STANDARD

None

## RESULTS

|                   |                       |             |            |        | Number of Value | Limit |         |
|-------------------|-----------------------|-------------|------------|--------|-----------------|-------|---------|
|                   |                       | Pulse Width | Period     | Pulses | (%)             | (%)   | Results |
| Chain A           |                       |             |            |        |                 |       |         |
| 802.11(a) 6 Mbps  |                       |             |            |        |                 |       |         |
| 20 MHz            |                       |             |            |        |                 |       |         |
|                   | Low Channel 5180 MHz  | 2.02 ms     | 2.106 ms   | 1      | 95.9            | N/A   | N/A     |
|                   | Low Channel 5180 MHz  | N/A         | N/A        | 5      | N/A             | N/A   | N/A     |
|                   | High Channel 5240 MHz | 2.018 ms    | 2.1 ms     | 1      | 96.1            | N/A   | N/A     |
|                   | High Channel 5240 MHz | N/A         | N/A        | 5      | N/A             | N/A   | N/A     |
|                   | Low Channel 5745 MHz  | 2.019 ms    | 2.1 ms     | 1      | 96.1            | N/A   | N/A     |
|                   | Low Channel 5745 MHz  | N/A         | N/A        | 5      | N/A             | N/A   | N/A     |
|                   | Mid Channel 5785 MHz  | 2.019 ms    | 2.324 ms   | 1      | 86.9            | N/A   | N/A     |
|                   | Mid Channel 5785 MHz  | N/A         | N/A        | 6      | N/A             | N/A   | N/A     |
|                   | High Channel 5825 MHz | 2.019 ms    | 2.21 ms    | 1      | 91.4            | N/A   | N/A     |
|                   | High Channel 5825 MHz | N/A         | N/A        | 6      | N/A             | N/A   | N/A     |
| 802.11(a) 36 Mbps |                       |             |            |        |                 |       |         |
| 20 MHz            |                       |             |            |        |                 |       |         |
|                   | Low Channel 5180 MHz  | 347.967 us  | 423.9 us   | 1      | 82.1            | N/A   | N/A     |
|                   | Low Channel 5180 MHz  | N/A         | N/A        | 5      | N/A             | N/A   | N/A     |
|                   | High Channel 5240 MHz | 347.923 us  | 421.9 us   | 1      | 82.5            | N/A   | N/A     |
|                   | High Channel 5240 MHz | N/A         | N/A        | 5      | N/A             | N/A   | N/A     |
|                   | Low Channel 5745 MHz  | 347.723 us  | 421.9 us   | 1      | 82.4            | N/A   | N/A     |
|                   | Low Channel 5745 MHz  | N/A         | N/A        | 5      | N/A             | N/A   | N/A     |
|                   | Mid Channel 5785 MHz  | 347.967 us  | 428.3 us   | 1      | 81.2            | N/A   | N/A     |
|                   | Mid Channel 5785 MHz  | N/A         | N/A        | 5      | N/A             | N/A   | N/A     |
|                   | High Channel 5825 MHz | 347.723 us  | 421.9 us   | 1      | 82.4            | N/A   | N/A     |
|                   | High Channel 5825 MHz | N/A         | N/A        | 5      | N/A             | N/A   | N/A     |
| 802.11(a) 54 Mbps |                       |             |            |        |                 |       |         |
| 20 MHz            |                       |             |            |        |                 |       |         |
|                   | Low Channel 5180 MHz  | 234.691 us  | 311.777 us | 1      | 75.3            | N/A   | N/A     |
|                   | Low Channel 5180 MHz  | N/A         | N/A        | 5      | N/A             | N/A   | N/A     |
|                   | High Channel 5240 MHz | 235.623 us  | 320.399 us | 1      | 73.5            | N/A   | N/A     |



# DUTY CYCLE

|                       |             |            | Number of Value |      | Limit | Results |
|-----------------------|-------------|------------|-----------------|------|-------|---------|
|                       | Pulse Width | Period     | Pulses          | (%)  | (%)   |         |
| High Channel 5240 MHz | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| Low Channel 5745 MHz  | 231.961 us  | 307.847 us | 1               | 75.3 | N/A   | N/A     |
| Low Channel 5745 MHz  | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| Mid Channel 5785 MHz  | 235.912 us  | 312.544 us | 1               | 75.5 | N/A   | N/A     |
| Mid Channel 5785 MHz  | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| High Channel 5825 MHz | 235.667 us  | 309.9 us   | 1               | 76   | N/A   | N/A     |
| High Channel 5825 MHz | N/A         | N/A        | 6               | N/A  | N/A   | N/A     |
| 802.11(n) MCS0        |             |            |                 |      |       |         |
| 20 MHz                |             |            |                 |      |       |         |
| Low Channel 5180 MHz  | 1.87 ms     | 1.965 ms   | 1               | 95.2 | N/A   | N/A     |
| Low Channel 5180 MHz  | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| High Channel 5240 MHz | 1.88 ms     | 2.049 ms   | 1               | 91.7 | N/A   | N/A     |
| High Channel 5240 MHz | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| Low Channel 5745 MHz  | 1.88 ms     | 1.958 ms   | 1               | 96   | N/A   | N/A     |
| Low Channel 5745 MHz  | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| Mid Channel 5785 MHz  | 1.88 ms     | 1.984 ms   | 1               | 94.7 | N/A   | N/A     |
| Mid Channel 5785 MHz  | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| High Channel 5825 MHz | 1.877 ms    | 1.984 ms   | 1               | 94.6 | N/A   | N/A     |
| High Channel 5825 MHz | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| 40 MHz                |             |            |                 |      |       |         |
| Low Channel 5190 MHz  | 893.302 us  | 1 ms       | 1               | 89.3 | N/A   | N/A     |
| Low Channel 5190 MHz  | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| High Channel 5230 MHz | 893.63 us   | 996.2 us   | 1               | 89.7 | N/A   | N/A     |
| High Channel 5230 MHz | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| Low Channel 5755 MHz  | 911.967 us  | 1.013 ms   | 1               | 90   | N/A   | N/A     |
| Low Channel 5755 MHz  | N/A         | N/A        | 6               | N/A  | N/A   | N/A     |
| High Channel 5795 MHz | 895.067 us  | 1 ms       | 1               | 89.5 | N/A   | N/A     |
| High Channel 5795 MHz | N/A         | N/A        | 6               | N/A  | N/A   | N/A     |
| 80 MHz                |             |            |                 |      |       |         |
| Low Channel 5210 MHz  | 219.667 us  | 377.2 us   | 1               | 58.2 | N/A   | N/A     |
| Low Channel 5210 MHz  | N/A         | N/A        | 7               | N/A  | N/A   | N/A     |
| Low Channel 5775 MHz  | 436.512 us  | 525.9 us   | 1               | 83   | N/A   | N/A     |
| Low Channel 5775 MHz  | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| 802.11(n) MCS7        |             |            |                 |      |       |         |
| 20 MHz                |             |            |                 |      |       |         |
| Low Channel 5180 MHz  | 214.891 us  | 292.5 us   | 1               | 73.5 | N/A   | N/A     |
| Low Channel 5180 MHz  | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| High Channel 5240 MHz | 216.067 us  | 291.7 us   | 1               | 74.1 | N/A   | N/A     |
| High Channel 5240 MHz | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| Low Channel 5745 MHz  | 215.279 us  | 289.5 us   | 1               | 74.4 | N/A   | N/A     |
| Low Channel 5745 MHz  | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| Mid Channel 5785 MHz  | 215.867 us  | 296.7 us   | 1               | 72.8 | N/A   | N/A     |
| Mid Channel 5785 MHz  | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| High Channel 5825 MHz | 215.867 us  | 290.3 us   | 1               | 74.4 | N/A   | N/A     |

# DUTY CYCLE

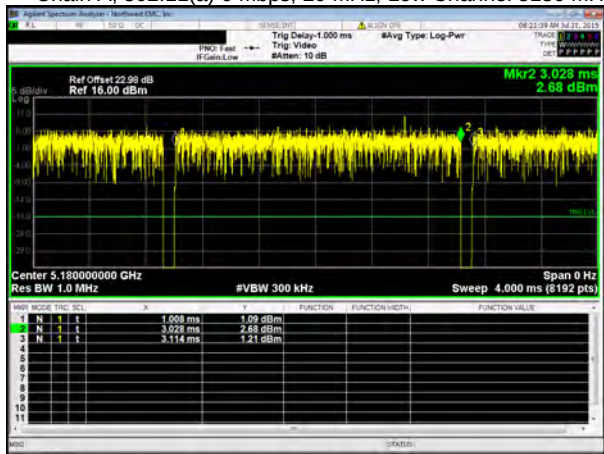
|                           |             |            | Number of Value |      | Limit | Results |
|---------------------------|-------------|------------|-----------------|------|-------|---------|
|                           | Pulse Width | Period     | Pulses          | (%)  | (%)   |         |
| High Channel 5825 MHz     | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| 40 MHz                    |             |            |                 |      |       |         |
| Low Channel 5190 MHz      | 94.467 us   | 199.9 us   | 1               | 47.3 | N/A   | N/A     |
| Low Channel 5190 MHz      | N/A         | N/A        | 6               | N/A  | N/A   | N/A     |
| High Channel 5230 MHz     | 94.467 us   | 204.3 us   | 1               | 46.2 | N/A   | N/A     |
| High Channel 5230 MHz     | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| Low Channel 5755 MHz      | 94.467 us   | 193.6 us   | 1               | 48.8 | N/A   | N/A     |
| Low Channel 5755 MHz      | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| High Channel 5795 MHz     | 95.267 us   | 196.3 us   | 1               | 48.5 | N/A   | N/A     |
| High Channel 5795 MHz     | N/A         | N/A        | 4               | N/A  | N/A   | N/A     |
| 802.11(ac) MCS8 (256-QAM) |             |            |                 |      |       |         |
| 20 MHz                    |             |            |                 |      |       |         |
| Low Channel 5180 MHz      | 186.003 us  | 264.401 us | 1               | 70.3 | N/A   | N/A     |
| Low Channel 5180 MHz      | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| High Channel 5240 MHz     | 187.723 us  | 262 us     | 1               | 71.7 | N/A   | N/A     |
| High Channel 5240 MHz     | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| Low Channel 5745 MHz      | 188.067 us  | 261.8 us   | 1               | 71.8 | N/A   | N/A     |
| Low Channel 5745 MHz      | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| Mid Channel 5785 MHz      | 188.212 us  | 265.4 us   | 1               | 70.9 | N/A   | N/A     |
| Mid Channel 5785 MHz      | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| High Channel 5825 MHz     | 187.279 us  | 261.8 us   | 1               | 71.5 | N/A   | N/A     |
| High Channel 5825 MHz     | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| 802.11(ac) MCS9 (256-QAM) |             |            |                 |      |       |         |
| 40 MHz                    |             |            |                 |      |       |         |
| Low Channel 5190 MHz      | 73.891 us   | 178 us     | 1               | 41.5 | N/A   | N/A     |
| Low Channel 5190 MHz      | N/A         | N/A        | 6               | N/A  | N/A   | N/A     |
| High Channel 5230 MHz     | 69.095 us   | 173.17 us  | 1               | 39.9 | N/A   | N/A     |
| High Channel 5230 MHz     | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| Low Channel 5755 MHz      | 79.867 us   | 179 us     | 1               | 44.6 | N/A   | N/A     |
| Low Channel 5755 MHz      | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| High Channel 5795 MHz     | 73.435 us   | 176.5 us   | 1               | 41.6 | N/A   | N/A     |
| High Channel 5795 MHz     | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |
| 80 MHz                    |             |            |                 |      |       |         |
| Low Channel 5210 MHz      | 219.767 us  | 402.2 us   | 1               | 54.6 | N/A   | N/A     |
| Low Channel 5210 MHz      | N/A         | N/A        | 6               | N/A  | N/A   | N/A     |
| Low Channel 5775 MHz      | 53.977 us   | 137.888 us | 1               | 39.1 | N/A   | N/A     |
| Low Channel 5775 MHz      | N/A         | N/A        | 5               | N/A  | N/A   | N/A     |

*Jonathan Kiefer*

Tested By

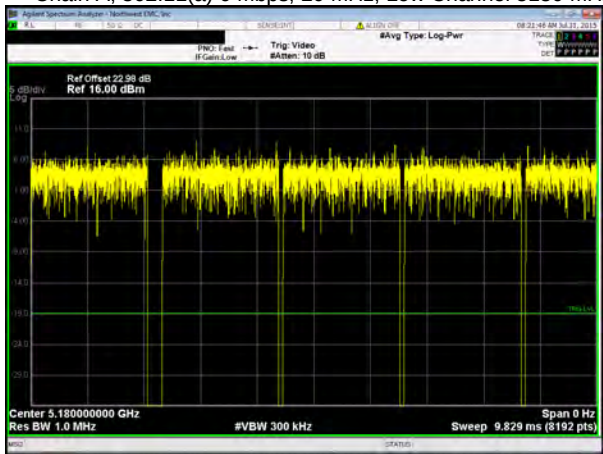
# DUTY CYCLE

Chain A, 802.11(a) 6 Mbps, 20 MHz, Low Channel 5180 MHz



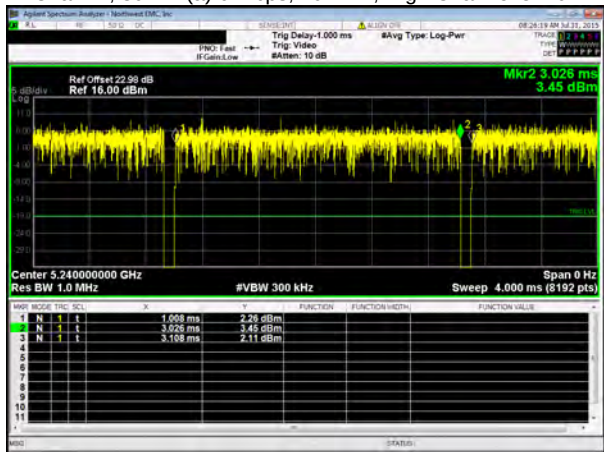
|                  |          |
|------------------|----------|
| Pulse Width      | 2.02 ms  |
| Period           | 2.106 ms |
| Number of Pulses | 1        |
| Value (%)        | 95.9     |
| Limit (%)        | N/A      |
| Results          | N/A      |

Chain A, 802.11(a) 6 Mbps, 20 MHz, Low Channel 5180 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(a) 6 Mbps, 20 MHz, High Channel 5240 MHz



|                  |          |
|------------------|----------|
| Pulse Width      | 2.018 ms |
| Period           | 2.1 ms   |
| Number of Pulses | 1        |
| Value (%)        | 96.1     |
| Limit (%)        | N/A      |
| Results          | N/A      |

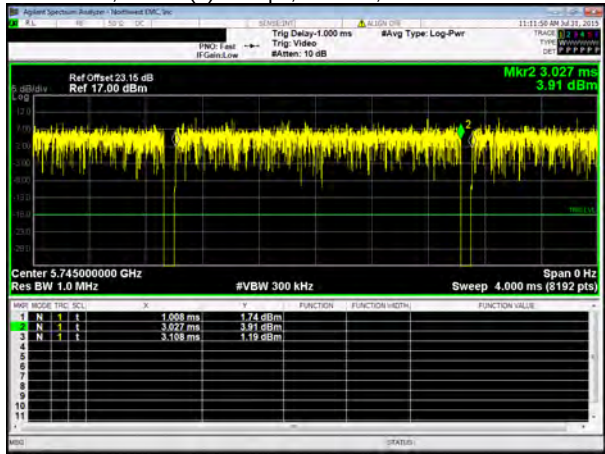
Chain A, 802.11(a) 6 Mbps, 20 MHz, High Channel 5240 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

# DUTY CYCLE

Chain A, 802.11(a) 6 Mbps, 20 MHz, Low Channel 5745 MHz



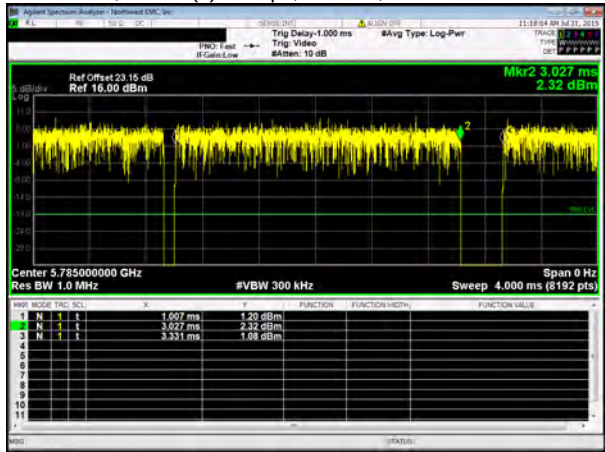
|                  |          |
|------------------|----------|
| Pulse Width      | 2.019 ms |
| Period           | 2.1 ms   |
| Number of Pulses | 1        |
| Value (%)        | 96.1     |
| Limit (%)        | N/A      |
| Results          | N/A      |

Chain A, 802.11(a) 6 Mbps, 20 MHz, Low Channel 5745 MHz



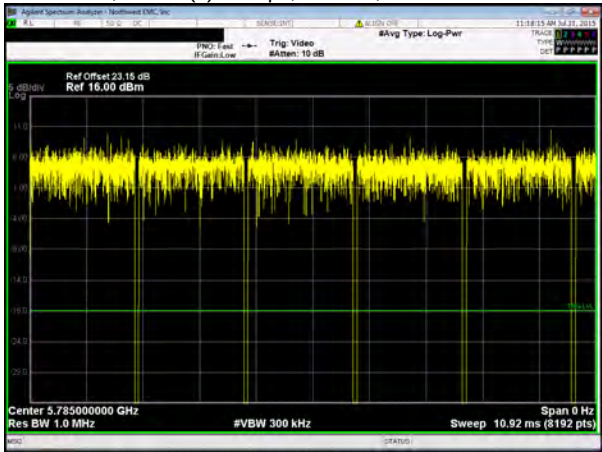
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(a) 6 Mbps, 20 MHz, Mid Channel 5785 MHz



|                  |          |
|------------------|----------|
| Pulse Width      | 2.019 ms |
| Period           | 2.324 ms |
| Number of Pulses | 1        |
| Value (%)        | 86.9     |
| Limit (%)        | N/A      |
| Results          | N/A      |

Chain A, 802.11(a) 6 Mbps, 20 MHz, Mid Channel 5785 MHz

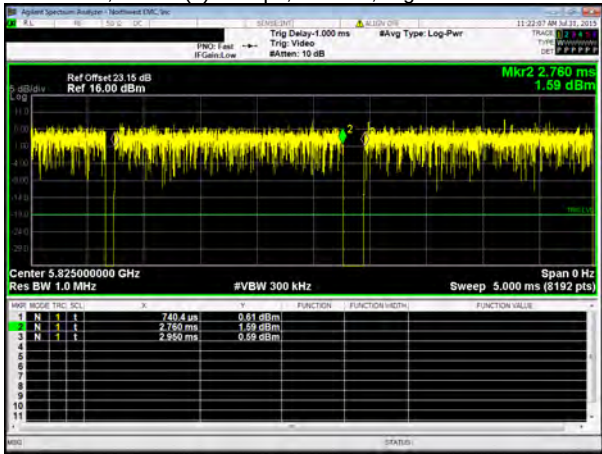


|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 6   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |



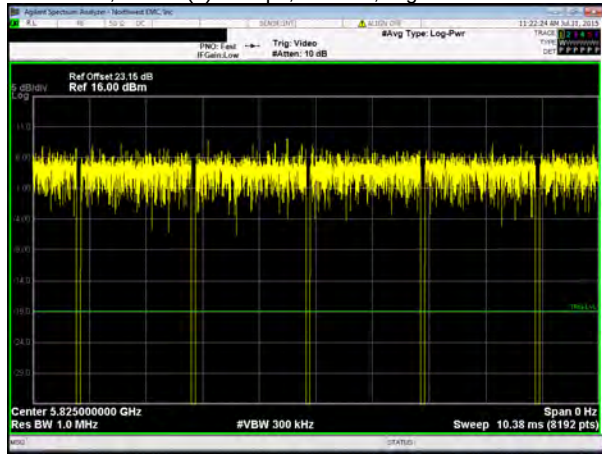
# DUTY CYCLE

Chain A, 802.11(a) 6 Mbps, 20 MHz, High Channel 5825 MHz



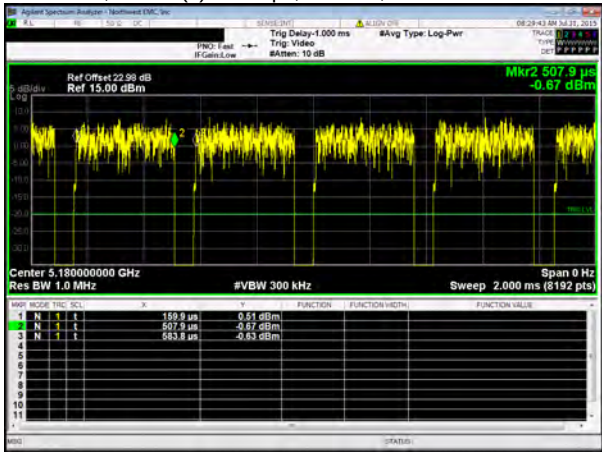
|                  |          |
|------------------|----------|
| Pulse Width      | 2.019 ms |
| Period           | 2.21 ms  |
| Number of Pulses | 1        |
| Value (%)        | 91.4     |
| Limit (%)        | N/A      |
| Results          | N/A      |

Chain A, 802.11(a) 6 Mbps, 20 MHz, High Channel 5825 MHz



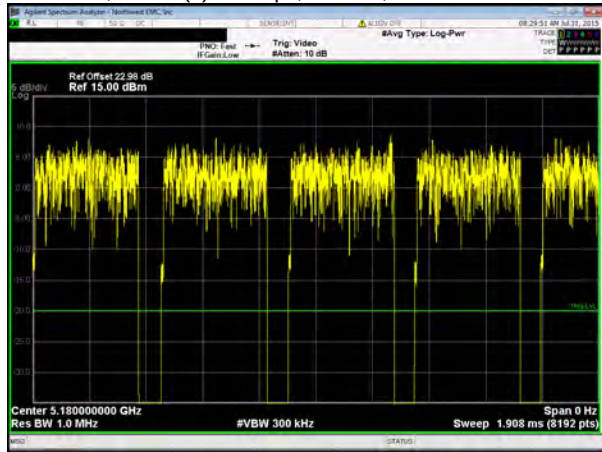
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 6   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(a) 36 Mbps, 20 MHz, Low Channel 5180 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 347.967 μs |
| Period           | 423.9 μs   |
| Number of Pulses | 1          |
| Value (%)        | 82.1       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(a) 36 Mbps, 20 MHz, Low Channel 5180 MHz

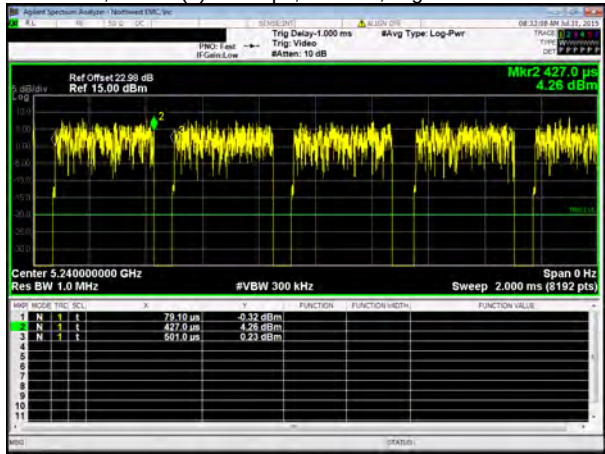


|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |



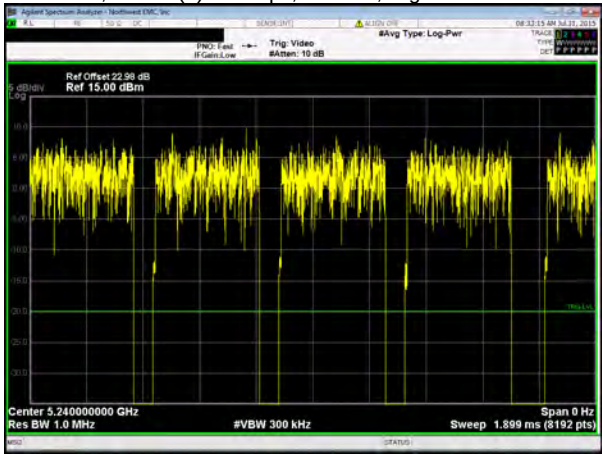
# DUTY CYCLE

Chain A, 802.11(a) 36 Mbps, 20 MHz, High Channel 5240 MHz



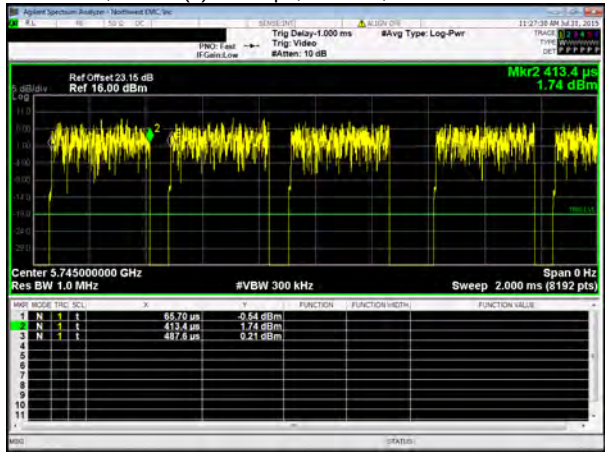
|                  |            |
|------------------|------------|
| Pulse Width      | 347.923 us |
| Period           | 421.9 us   |
| Number of Pulses | 1          |
| Value (%)        | 82.5       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(a) 36 Mbps, 20 MHz, High Channel 5240 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(a) 36 Mbps, 20 MHz, Low Channel 5745 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 347.723 us |
| Period           | 421.9 us   |
| Number of Pulses | 1          |
| Value (%)        | 82.4       |
| Limit (%)        | N/A        |
| Results          | N/A        |

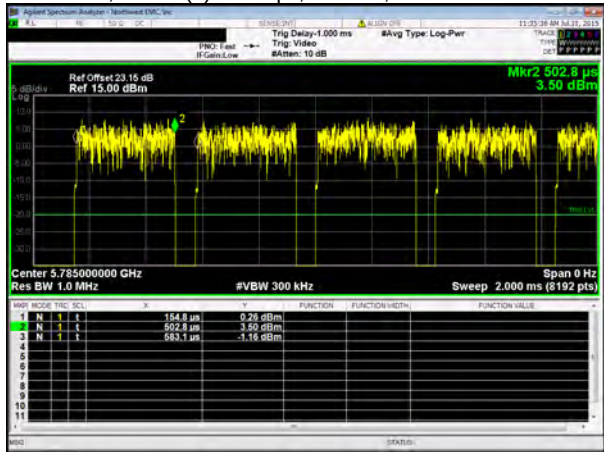
Chain A, 802.11(a) 36 Mbps, 20 MHz, Low Channel 5745 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

# DUTY CYCLE

Chain A, 802.11(a) 36 Mbps, 20 MHz, Mid Channel 5785 MHz



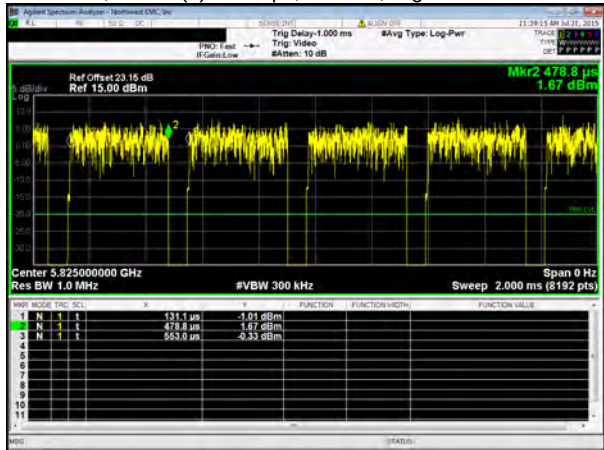
|                  |            |
|------------------|------------|
| Pulse Width      | 347.967 us |
| Period           | 428.3 us   |
| Number of Pulses | 1          |
| Value (%)        | 81.2       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(a) 36 Mbps, 20 MHz, Mid Channel 5785 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(a) 36 Mbps, 20 MHz, High Channel 5825 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 347.723 us |
| Period           | 421.9 us   |
| Number of Pulses | 1          |
| Value (%)        | 82.4       |
| Limit (%)        | N/A        |
| Results          | N/A        |

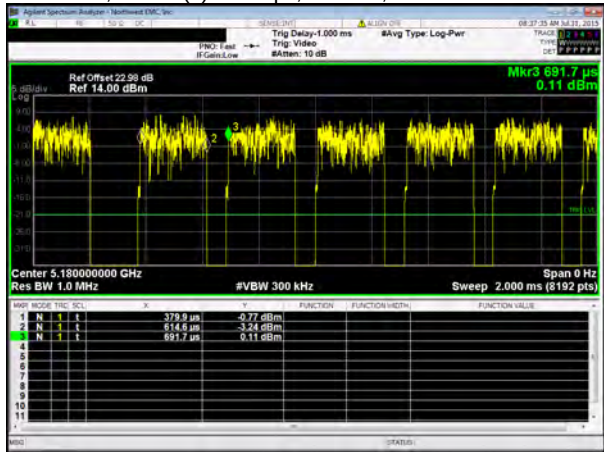
Chain A, 802.11(a) 36 Mbps, 20 MHz, High Channel 5825 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

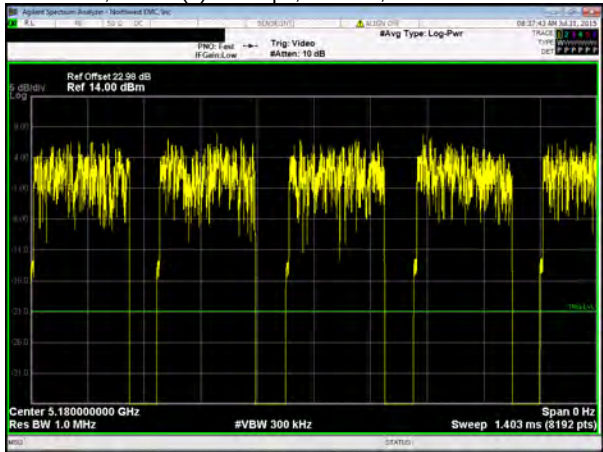
# DUTY CYCLE

Chain A, 802.11(a) 54 Mbps, 20 MHz, Low Channel 5180 MHz



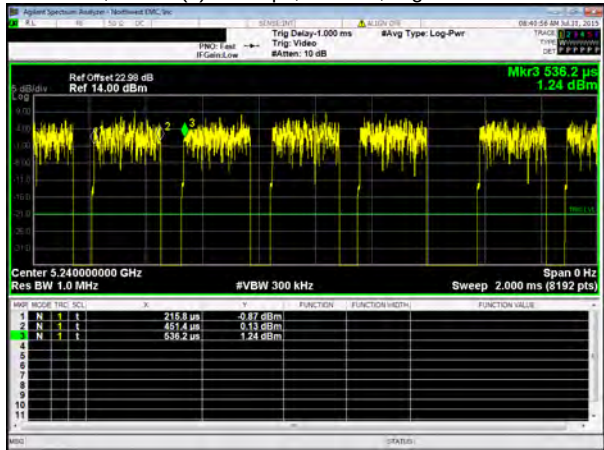
|                  |            |
|------------------|------------|
| Pulse Width      | 234.691 us |
| Period           | 311.777 us |
| Number of Pulses | 1          |
| Value (%)        | 75.3       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(a) 54 Mbps, 20 MHz, Low Channel 5180 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(a) 54 Mbps, 20 MHz, High Channel 5240 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 235.623 us |
| Period           | 320.399 us |
| Number of Pulses | 1          |
| Value (%)        | 73.5       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(a) 54 Mbps, 20 MHz, High Channel 5240 MHz

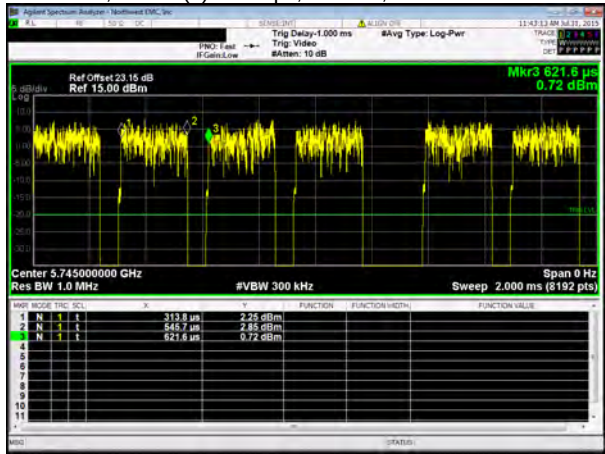


|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |



# DUTY CYCLE

Chain A, 802.11(a) 54 Mbps, 20 MHz, Low Channel 5745 MHz



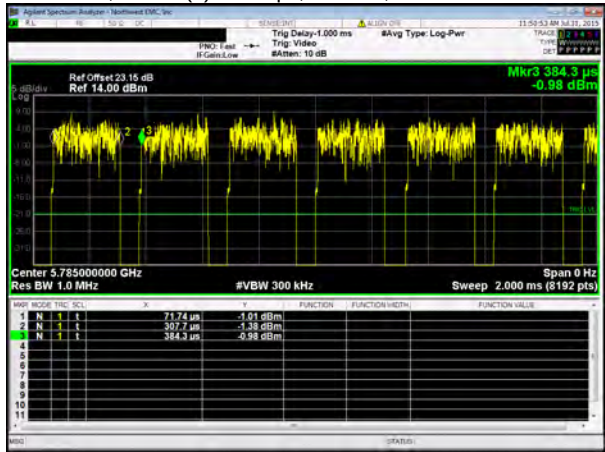
|                  |            |
|------------------|------------|
| Pulse Width      | 231.961 us |
| Period           | 307.847 us |
| Number of Pulses | 1          |
| Value (%)        | 75.3       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(a) 54 Mbps, 20 MHz, Low Channel 5745 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(a) 54 Mbps, 20 MHz, Mid Channel 5785 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 235.912 us |
| Period           | 312.544 us |
| Number of Pulses | 1          |
| Value (%)        | 75.5       |
| Limit (%)        | N/A        |
| Results          | N/A        |

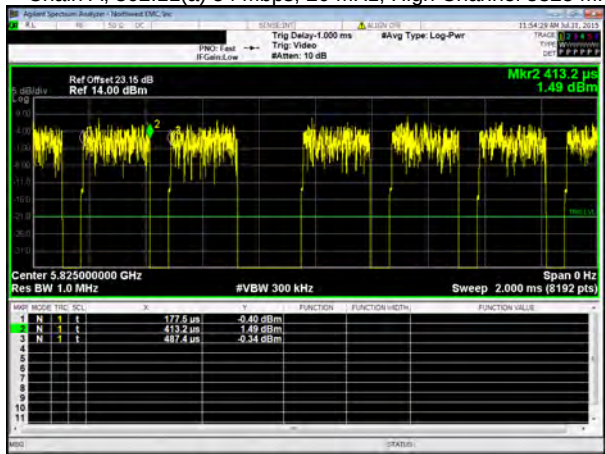
Chain A, 802.11(a) 54 Mbps, 20 MHz, Mid Channel 5785 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

# DUTY CYCLE

Chain A, 802.11(a) 54 Mbps, 20 MHz, High Channel 5825 MHz



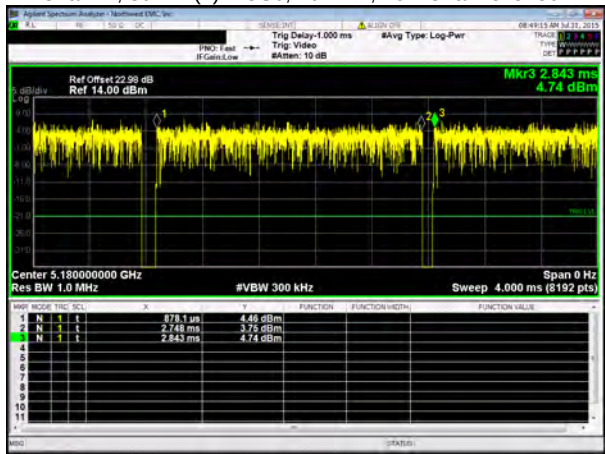
|                  |            |
|------------------|------------|
| Pulse Width      | 235.667 us |
| Period           | 309.9 us   |
| Number of Pulses | 1          |
| Value (%)        | 76         |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(a) 54 Mbps, 20 MHz, High Channel 5825 MHz



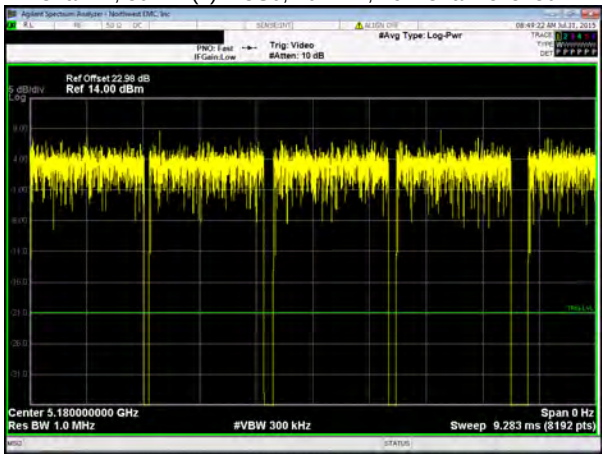
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 6   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(n) MCS0, 20 MHz, Low Channel 5180 MHz



|                  |          |
|------------------|----------|
| Pulse Width      | 1.87 ms  |
| Period           | 1.965 ms |
| Number of Pulses | 1        |
| Value (%)        | 95.2     |
| Limit (%)        | N/A      |
| Results          | N/A      |

Chain A, 802.11(n) MCS0, 20 MHz, Low Channel 5180 MHz

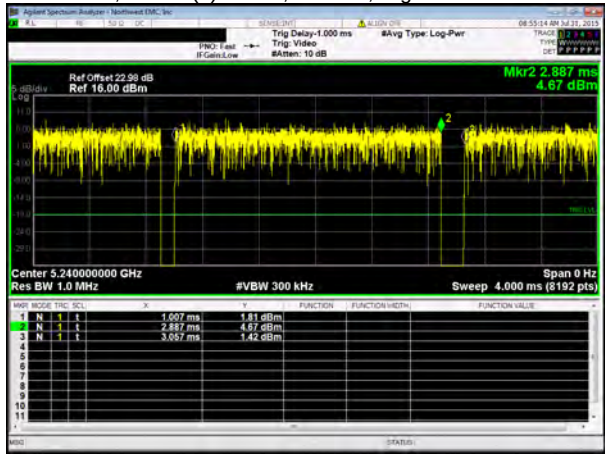


|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |



# DUTY CYCLE

Chain A, 802.11(n) MCS0, 20 MHz, High Channel 5240 MHz



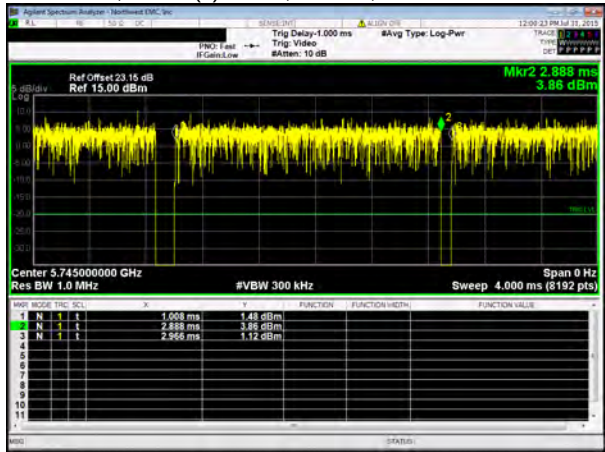
|                  |          |
|------------------|----------|
| Pulse Width      | 1.88 ms  |
| Period           | 2.049 ms |
| Number of Pulses | 1        |
| Value (%)        | 91.7     |
| Limit (%)        | N/A      |
| Results          | N/A      |

Chain A, 802.11(n) MCS0, 20 MHz, High Channel 5240 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(n) MCS0, 20 MHz, Low Channel 5745 MHz



|                  |          |
|------------------|----------|
| Pulse Width      | 1.88 ms  |
| Period           | 1.958 ms |
| Number of Pulses | 1        |
| Value (%)        | 96       |
| Limit (%)        | N/A      |
| Results          | N/A      |

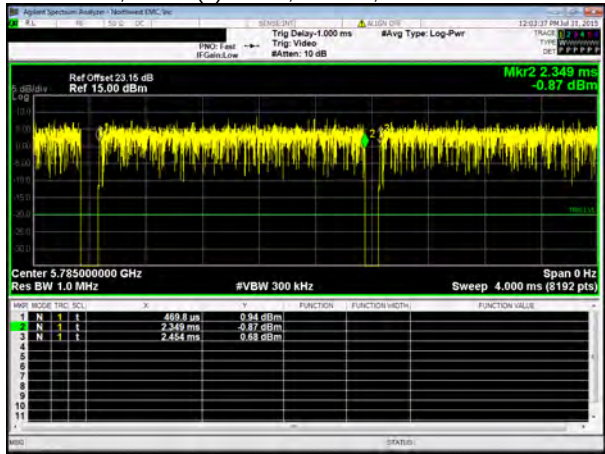
Chain A, 802.11(n) MCS0, 20 MHz, Low Channel 5745 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

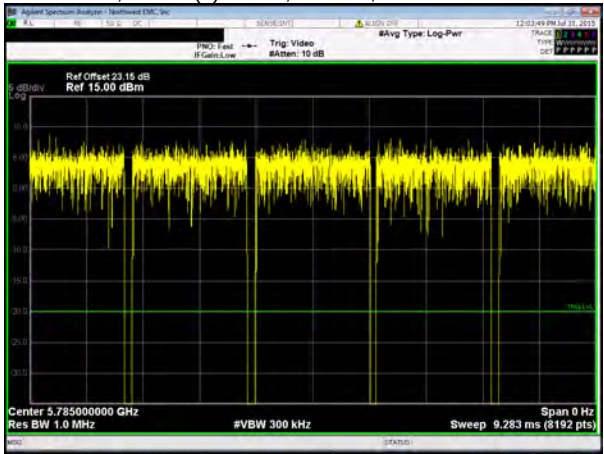
# DUTY CYCLE

Chain A, 802.11(n) MCS0, 20 MHz, Mid Channel 5785 MHz



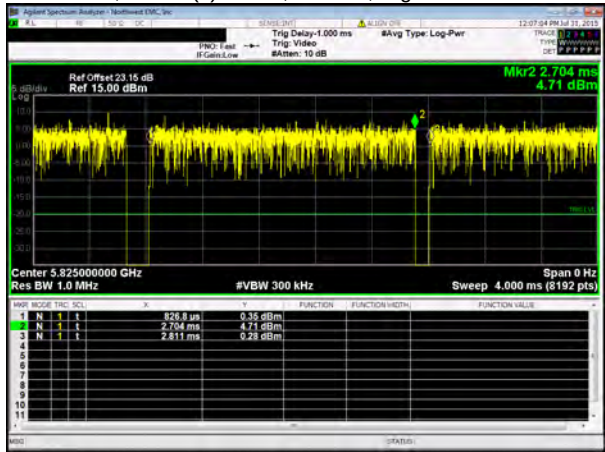
|                  |          |
|------------------|----------|
| Pulse Width      | 1.88 ms  |
| Period           | 1.984 ms |
| Number of Pulses | 1        |
| Value (%)        | 94.7     |
| Limit (%)        | N/A      |
| Results          | N/A      |

Chain A, 802.11(n) MCS0, 20 MHz, Mid Channel 5785 MHz



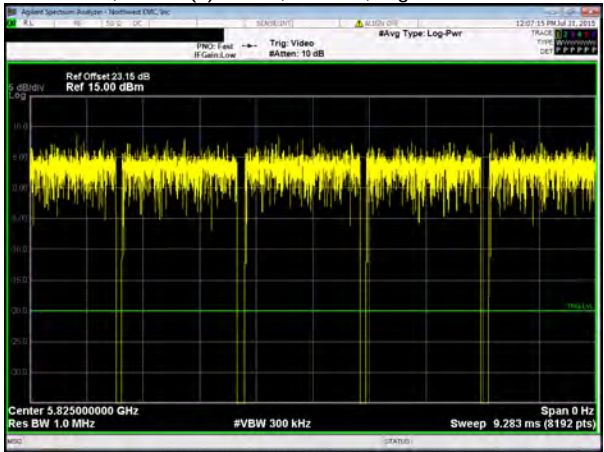
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(n) MCS0, 20 MHz, High Channel 5825 MHz



|                  |          |
|------------------|----------|
| Pulse Width      | 1.877 ms |
| Period           | 1.984 ms |
| Number of Pulses | 1        |
| Value (%)        | 94.6     |
| Limit (%)        | N/A      |
| Results          | N/A      |

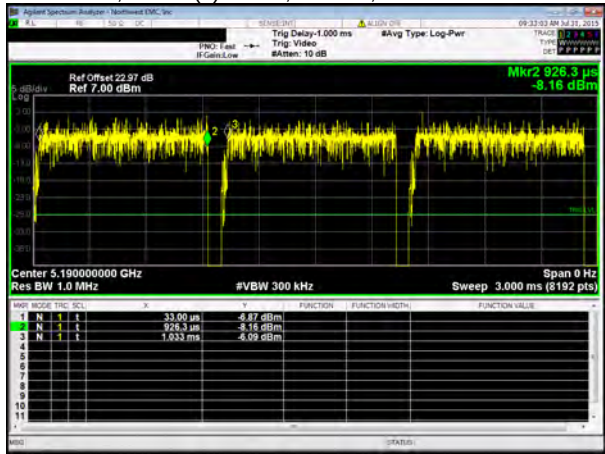
Chain A, 802.11(n) MCS0, 20 MHz, High Channel 5825 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

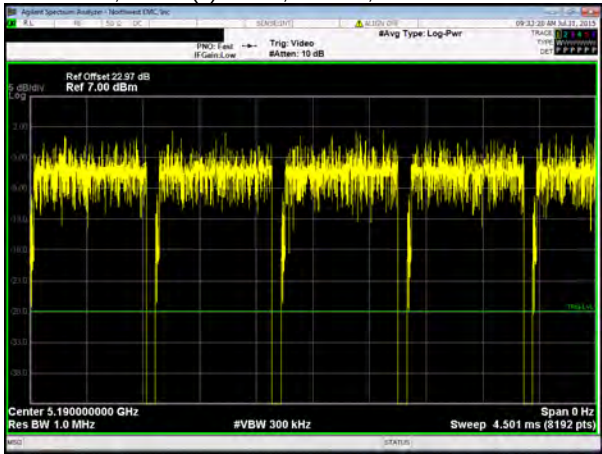
# DUTY CYCLE

Chain A, 802.11(n) MCS0, 40 MHz, Low Channel 5190 MHz



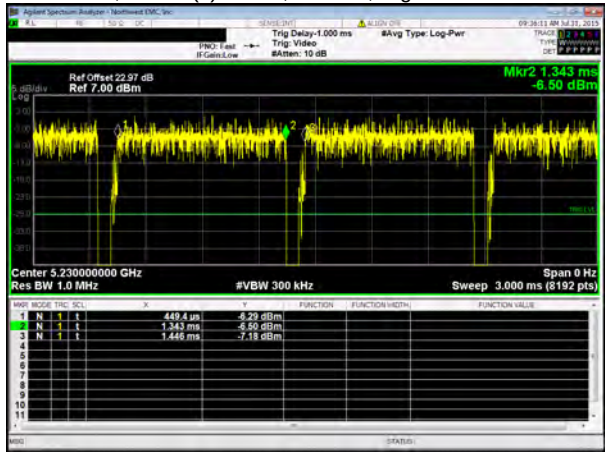
|                  |            |
|------------------|------------|
| Pulse Width      | 893.302 us |
| Period           | 1 ms       |
| Number of Pulses | 1          |
| Value (%)        | 89.3       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(n) MCS0, 40 MHz, Low Channel 5190 MHz



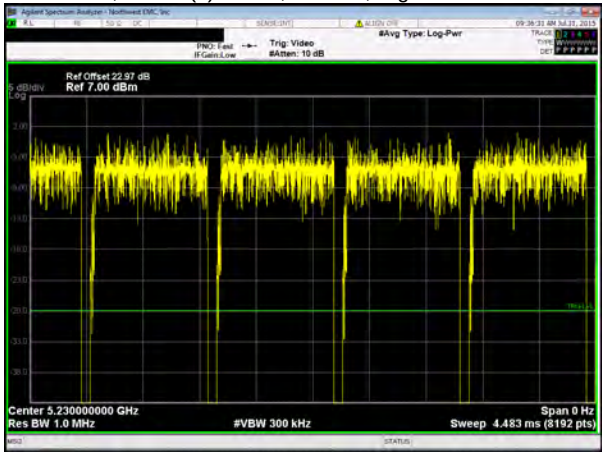
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(n) MCS0, 40 MHz, High Channel 5230 MHz



|                  |           |
|------------------|-----------|
| Pulse Width      | 893.63 us |
| Period           | 996.2 us  |
| Number of Pulses | 1         |
| Value (%)        | 89.7      |
| Limit (%)        | N/A       |
| Results          | N/A       |

Chain A, 802.11(n) MCS0, 40 MHz, High Channel 5230 MHz

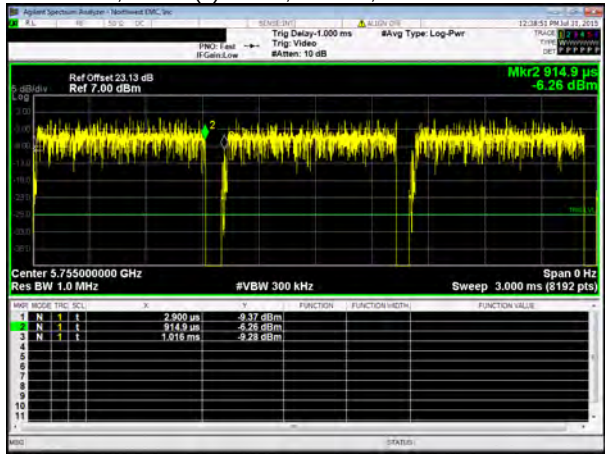


|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |



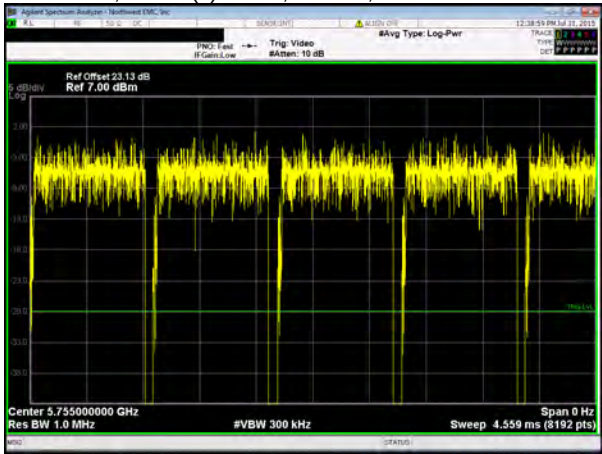
# DUTY CYCLE

Chain A, 802.11(n) MCS0, 40 MHz, Low Channel 5755 MHz



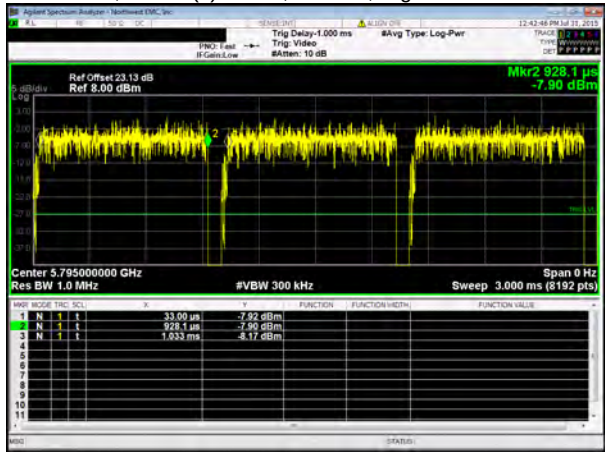
|                  |            |
|------------------|------------|
| Pulse Width      | 911.967 us |
| Period           | 1.013 ms   |
| Number of Pulses | 1          |
| Value (%)        | 90         |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(n) MCS0, 40 MHz, Low Channel 5755 MHz



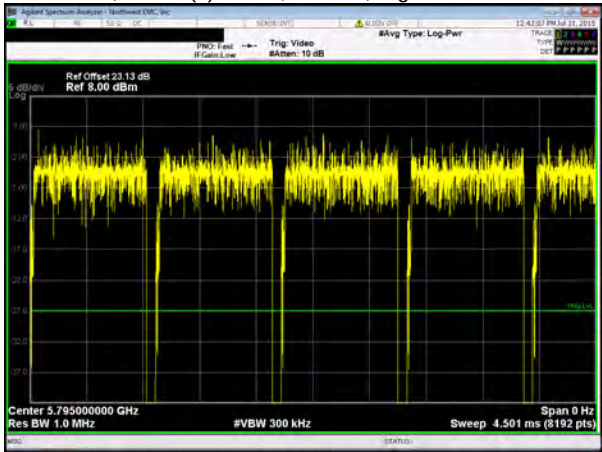
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 6   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(n) MCS0, 40 MHz, High Channel 5795 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 895.067 us |
| Period           | 1 ms       |
| Number of Pulses | 1          |
| Value (%)        | 89.5       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(n) MCS0, 40 MHz, High Channel 5795 MHz

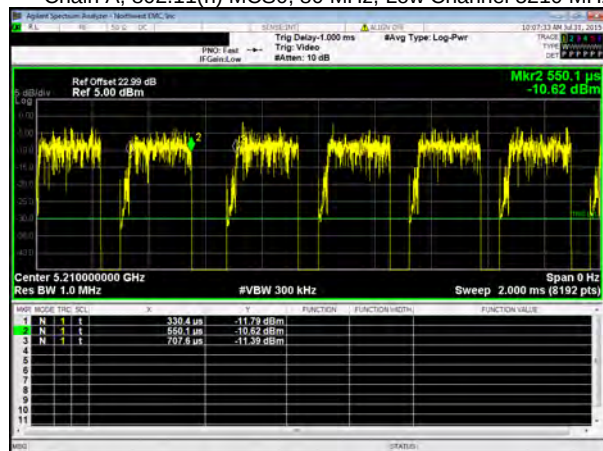


|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 6   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |



## DUTY CYCLE

Chain A, 802.11(n) MCS0, 80 MHz, Low Channel 5210 MHz



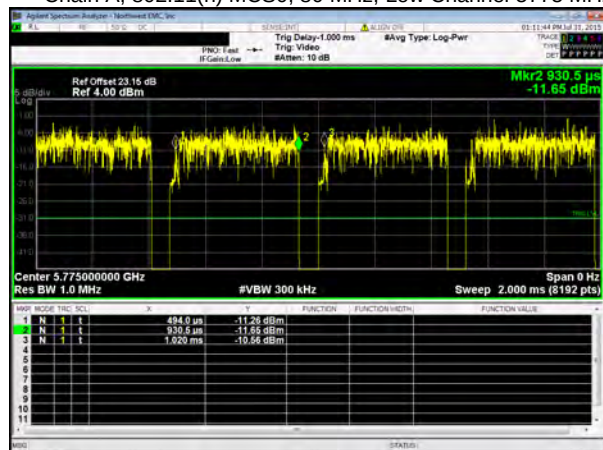
|                         |            |
|-------------------------|------------|
| <b>Pulse Width</b>      | 219.667 us |
| <b>Period</b>           | 377.2 us   |
| <b>Number of Pulses</b> | 1          |
| <b>Value (%)</b>        | 58.2       |
| <b>Limit (%)</b>        | N/A        |
| <b>Results</b>          | N/A        |

Chain A, 802.11(n) MCS0, 80 MHz, Low Channel 5210 MHz



|                         |     |
|-------------------------|-----|
| <b>Pulse Width</b>      | N/A |
| <b>Period</b>           | N/A |
| <b>Number of Pulses</b> | 7   |
| <b>Value (%)</b>        | N/A |
| <b>Limit (%)</b>        | N/A |
| <b>Results</b>          | N/A |

Chain A, 802.11(n) MCS0, 80 MHz, Low Channel 5775 MHz



|                         |            |
|-------------------------|------------|
| <b>Pulse Width</b>      | 436.512 us |
| <b>Period</b>           | 525.9 us   |
| <b>Number of Pulses</b> | 1          |
| <b>Value (%)</b>        | 83         |
| <b>Limit (%)</b>        | N/A        |
| <b>Results</b>          | N/A        |

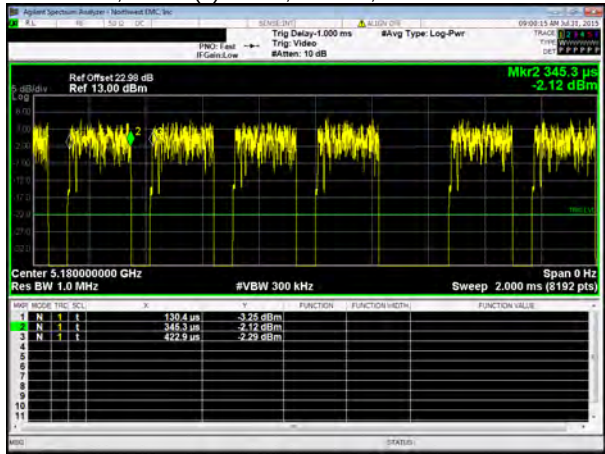
Chain A, 802.11(n) MCS0, 80 MHz, Low Channel 5775 MHz



|                         |     |
|-------------------------|-----|
| <b>Pulse Width</b>      | N/A |
| <b>Period</b>           | N/A |
| <b>Number of Pulses</b> | 5   |
| <b>Value (%)</b>        | N/A |
| <b>Limit (%)</b>        | N/A |
| <b>Results</b>          | N/A |

# DUTY CYCLE

Chain A, 802.11(n) MCS7, 20 MHz, Low Channel 5180 MHz



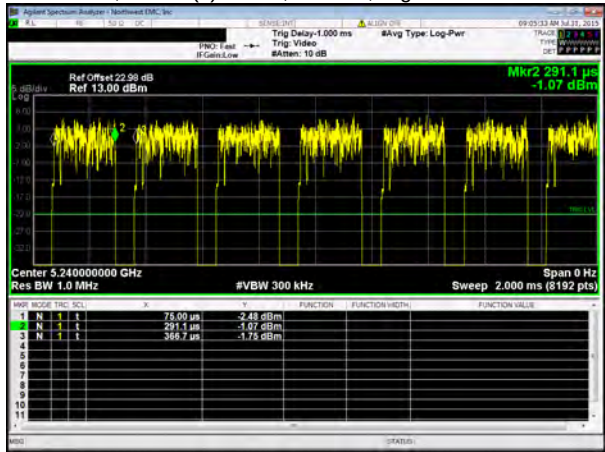
|                  |            |
|------------------|------------|
| Pulse Width      | 214.891 us |
| Period           | 292.5 us   |
| Number of Pulses | 1          |
| Value (%)        | 73.5       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(n) MCS7, 20 MHz, Low Channel 5180 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(n) MCS7, 20 MHz, High Channel 5240 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 216.067 us |
| Period           | 291.7 us   |
| Number of Pulses | 1          |
| Value (%)        | 74.1       |
| Limit (%)        | N/A        |
| Results          | N/A        |

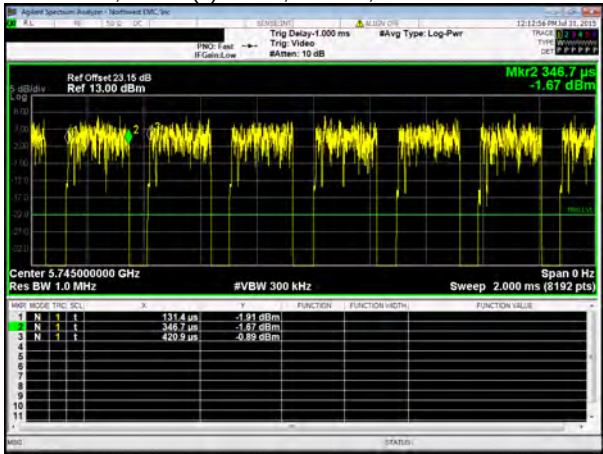
Chain A, 802.11(n) MCS7, 20 MHz, High Channel 5240 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

# DUTY CYCLE

Chain A, 802.11(n) MCS7, 20 MHz, Low Channel 5745 MHz



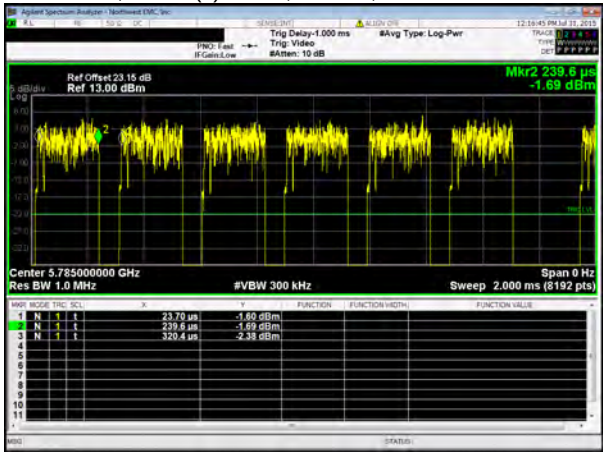
|                  |            |
|------------------|------------|
| Pulse Width      | 215.279 us |
| Period           | 289.5 us   |
| Number of Pulses | 1          |
| Value (%)        | 74.4       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(n) MCS7, 20 MHz, Low Channel 5745 MHz



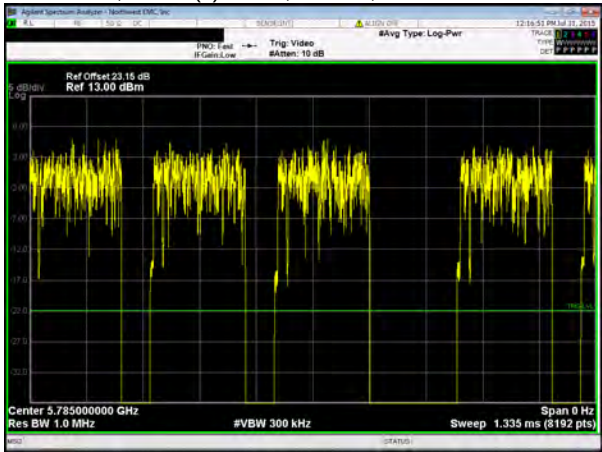
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(n) MCS7, 20 MHz, Mid Channel 5785 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 215.867 us |
| Period           | 296.7 us   |
| Number of Pulses | 1          |
| Value (%)        | 72.8       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(n) MCS7, 20 MHz, Mid Channel 5785 MHz

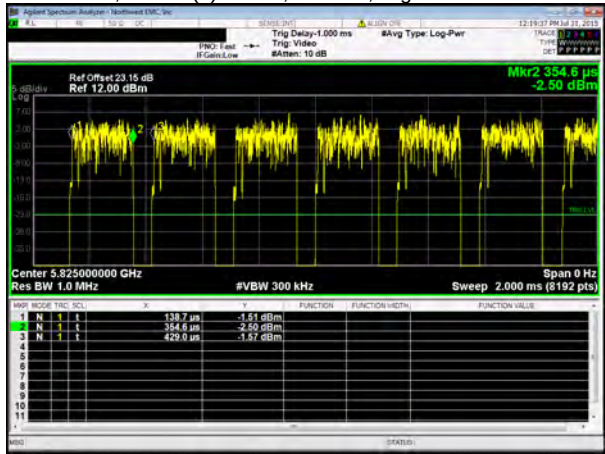


|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |



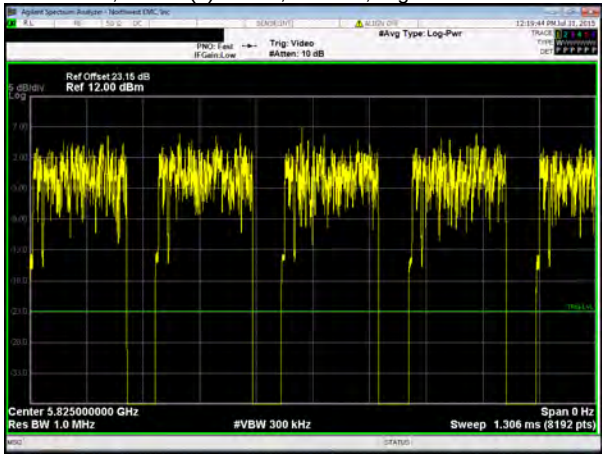
# DUTY CYCLE

Chain A, 802.11(n) MCS7, 20 MHz, High Channel 5825 MHz



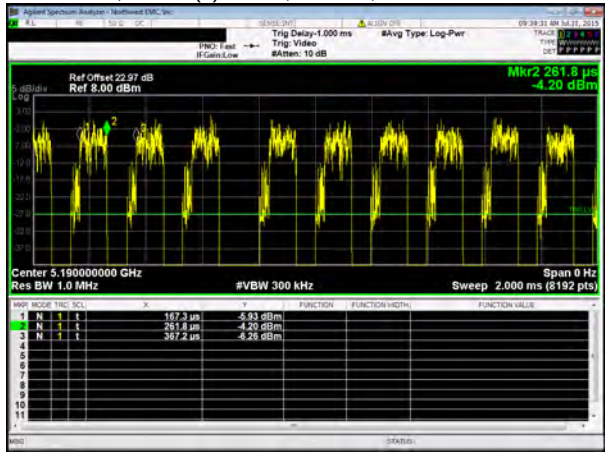
|                  |            |
|------------------|------------|
| Pulse Width      | 215.867 us |
| Period           | 290.3 us   |
| Number of Pulses | 1          |
| Value (%)        | 74.4       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(n) MCS7, 20 MHz, High Channel 5825 MHz



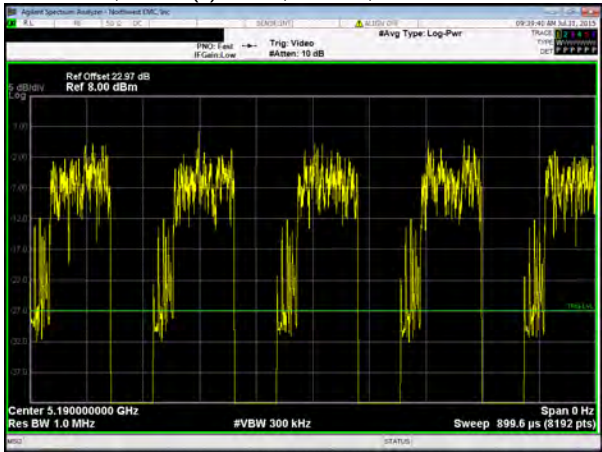
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(n) MCS7, 40 MHz, Low Channel 5190 MHz



|                  |           |
|------------------|-----------|
| Pulse Width      | 94.467 us |
| Period           | 199.9 us  |
| Number of Pulses | 1         |
| Value (%)        | 47.3      |
| Limit (%)        | N/A       |
| Results          | N/A       |

Chain A, 802.11(n) MCS7, 40 MHz, Low Channel 5190 MHz

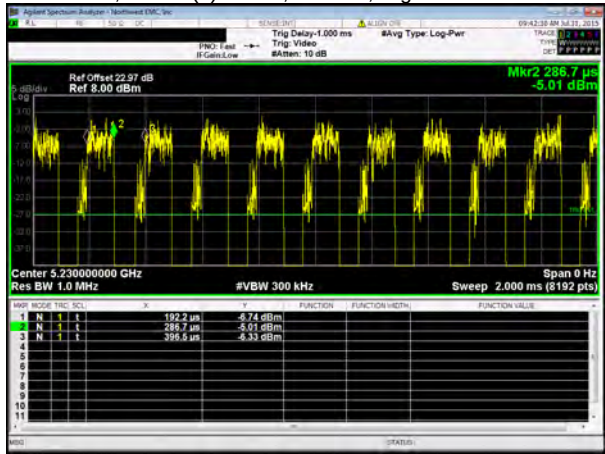


|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 6   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |



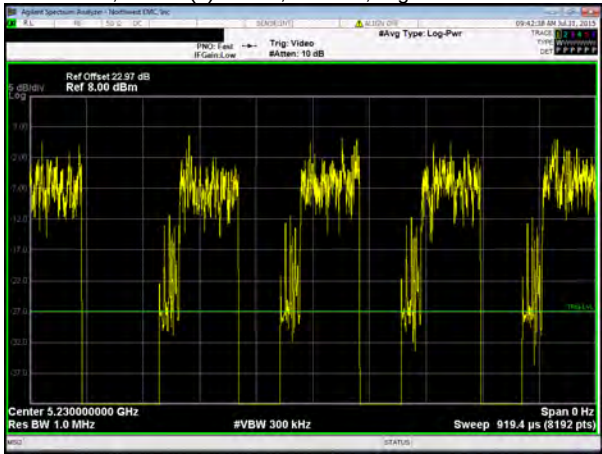
# DUTY CYCLE

Chain A, 802.11(n) MCS7, 40 MHz, High Channel 5230 MHz



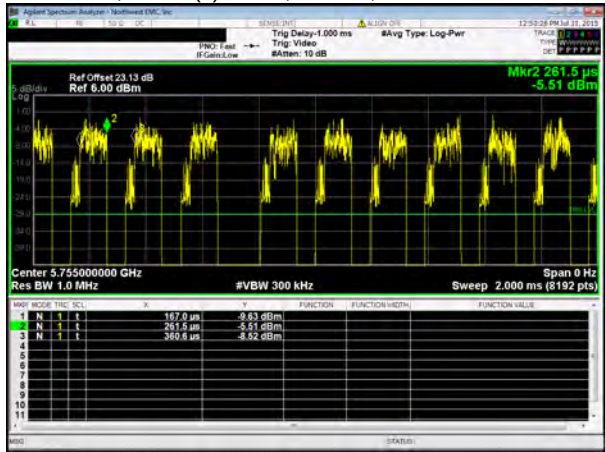
|                  |           |
|------------------|-----------|
| Pulse Width      | 94.467 us |
| Period           | 204.3 us  |
| Number of Pulses | 1         |
| Value (%)        | 46.2      |
| Limit (%)        | N/A       |
| Results          | N/A       |

Chain A, 802.11(n) MCS7, 40 MHz, High Channel 5230 MHz



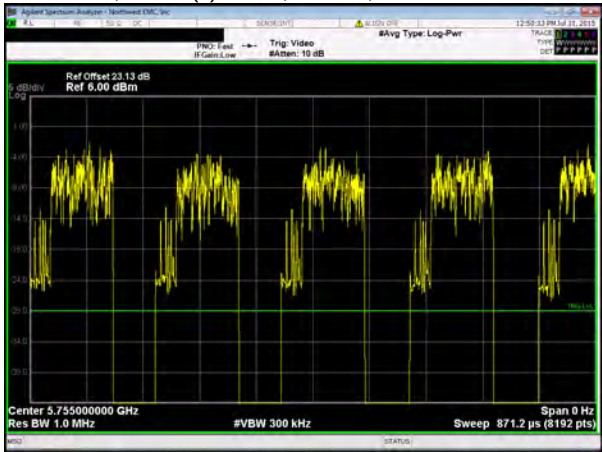
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(n) MCS7, 40 MHz, Low Channel 5755 MHz



|                  |           |
|------------------|-----------|
| Pulse Width      | 94.467 us |
| Period           | 193.6 us  |
| Number of Pulses | 1         |
| Value (%)        | 48.8      |
| Limit (%)        | N/A       |
| Results          | N/A       |

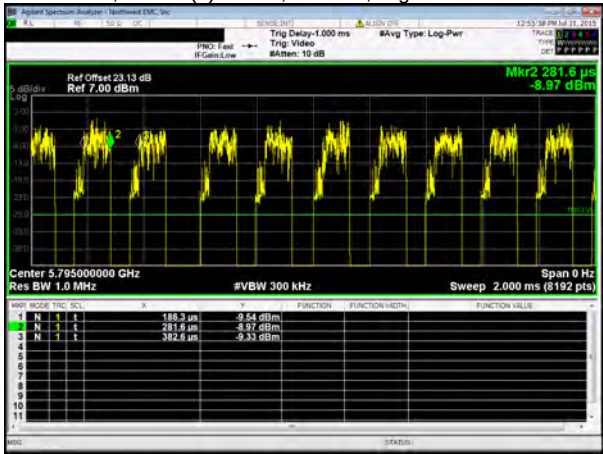
Chain A, 802.11(n) MCS7, 40 MHz, Low Channel 5755 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

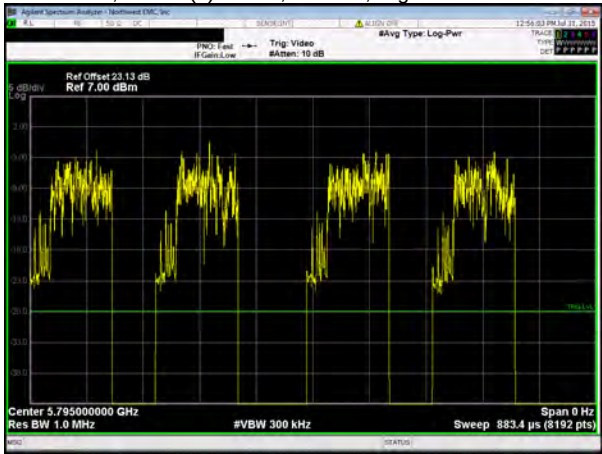
# DUTY CYCLE

Chain A, 802.11(n) MCS7, 40 MHz, High Channel 5795 MHz



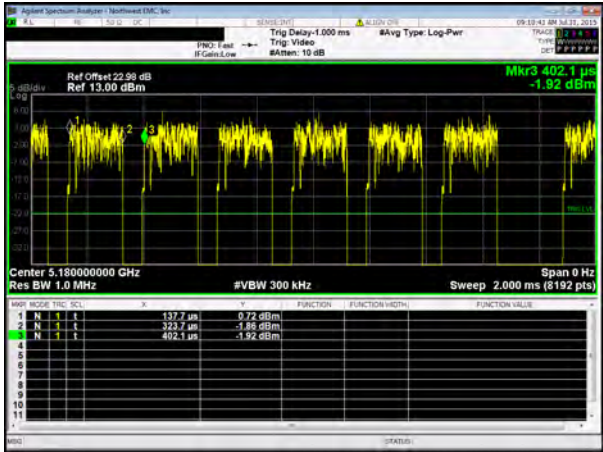
|                  |           |
|------------------|-----------|
| Pulse Width      | 95.267 us |
| Period           | 196.3 us  |
| Number of Pulses | 1         |
| Value (%)        | 48.5      |
| Limit (%)        | N/A       |
| Results          | N/A       |

Chain A, 802.11(n) MCS7, 40 MHz, High Channel 5795 MHz



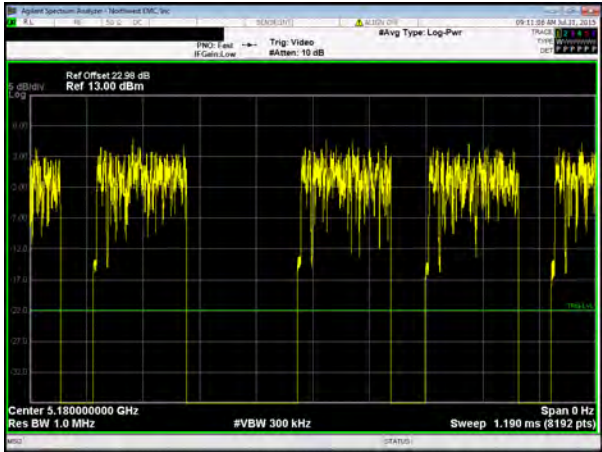
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 4   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, Low Channel 5180 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 186.003 us |
| Period           | 264.401 us |
| Number of Pulses | 1          |
| Value (%)        | 70.3       |
| Limit (%)        | N/A        |
| Results          | N/A        |

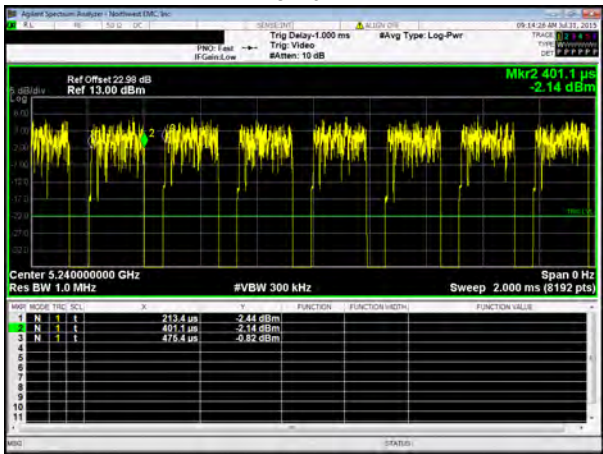
Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, Low Channel 5180 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

# DUTY CYCLE

Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, High Channel  
5240 MHz



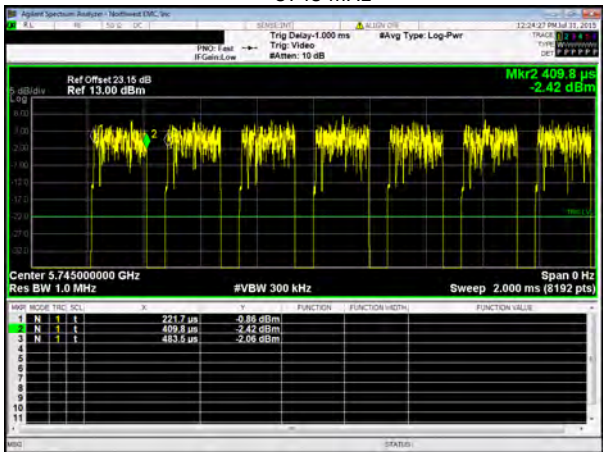
|                  |            |
|------------------|------------|
| Pulse Width      | 187.723 us |
| Period           | 262 us     |
| Number of Pulses | 1          |
| Value (%)        | 71.7       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, High Channel  
5240 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, Low Channel  
5745 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 188.067 us |
| Period           | 261.8 us   |
| Number of Pulses | 1          |
| Value (%)        | 71.8       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, Low Channel  
5745 MHz

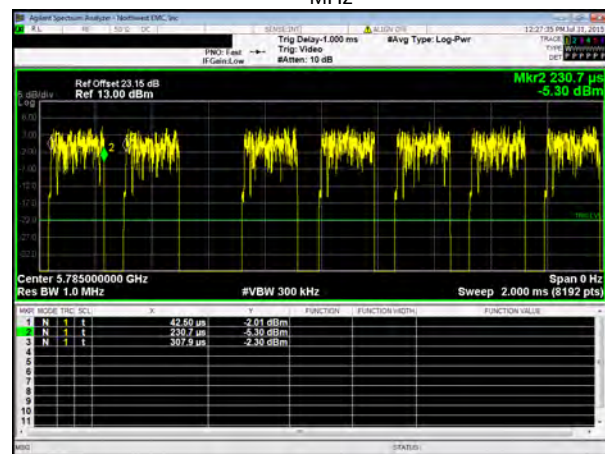


|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |



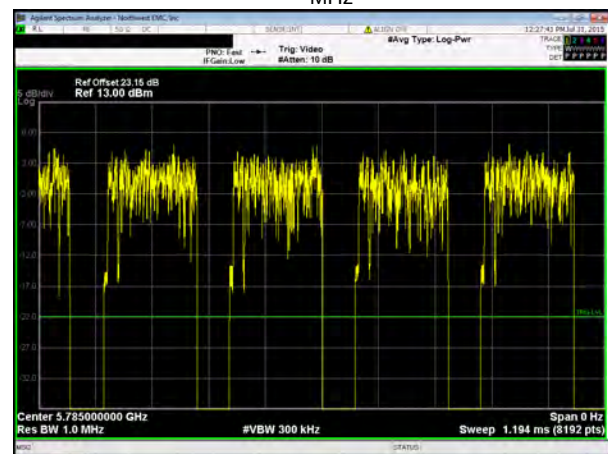
# DUTY CYCLE

Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, Mid Channel 5785 MHz



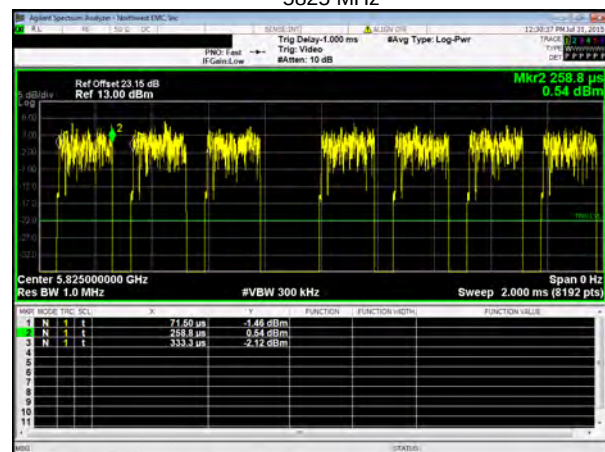
|                  |            |
|------------------|------------|
| Pulse Width      | 188.212 us |
| Period           | 265.4 us   |
| Number of Pulses | 1          |
| Value (%)        | 70.9       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, Mid Channel 5785 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, High Channel 5825 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 187.279 us |
| Period           | 261.8 us   |
| Number of Pulses | 1          |
| Value (%)        | 71.5       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, High Channel 5825 MHz

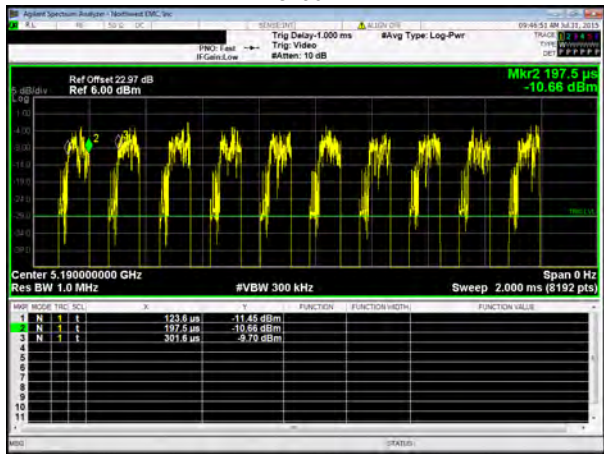


|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |



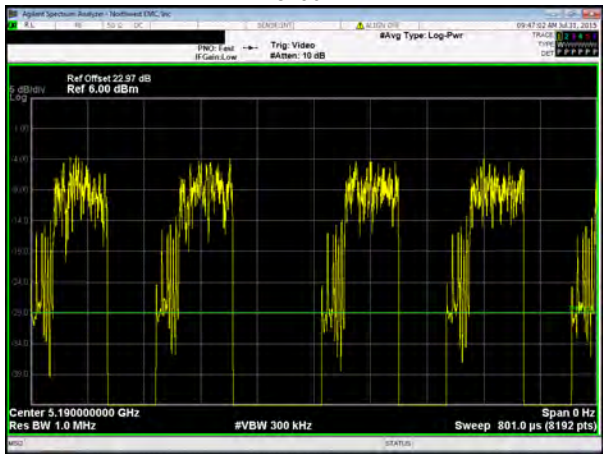
# DUTY CYCLE

Chain A, 802.11(ac) MCS9 (256-QAM), 40 MHz, Low Channel  
5190 MHz



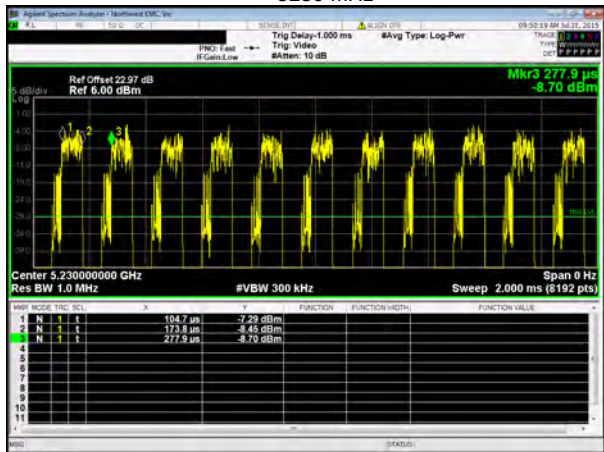
|                  |           |
|------------------|-----------|
| Pulse Width      | 73.891 us |
| Period           | 178 us    |
| Number of Pulses | 1         |
| Value (%)        | 41.5      |
| Limit (%)        | N/A       |
| Results          | N/A       |

Chain A, 802.11(ac) MCS9 (256-QAM), 40 MHz, Low Channel  
5190 MHz



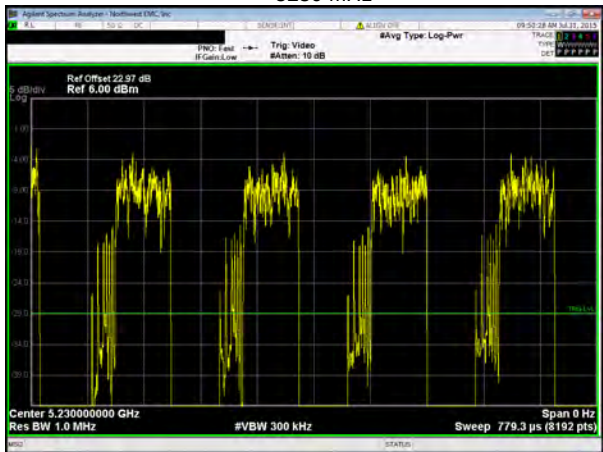
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 6   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(ac) MCS9 (256-QAM), 40 MHz, High Channel  
5230 MHz



|                  |           |
|------------------|-----------|
| Pulse Width      | 69.095 us |
| Period           | 173.17 us |
| Number of Pulses | 1         |
| Value (%)        | 39.9      |
| Limit (%)        | N/A       |
| Results          | N/A       |

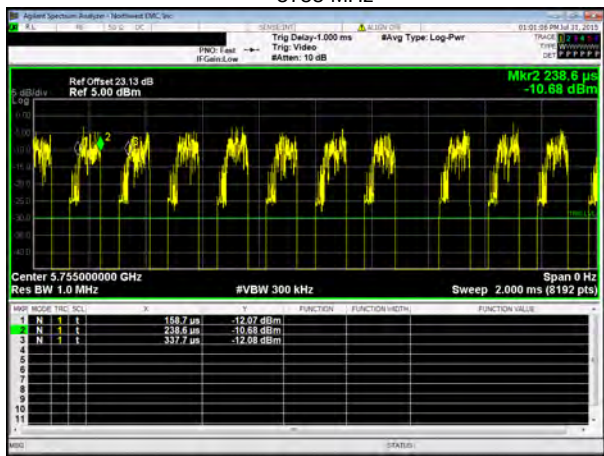
Chain A, 802.11(ac) MCS9 (256-QAM), 40 MHz, High Channel  
5230 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

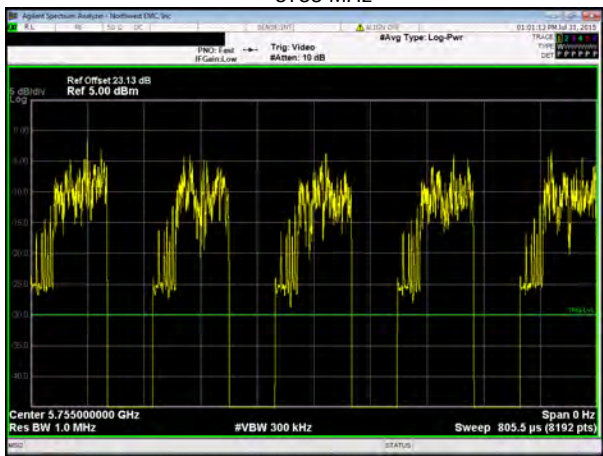
# DUTY CYCLE

Chain A, 802.11(ac) MCS9 (256-QAM), 40 MHz, Low Channel  
5755 MHz



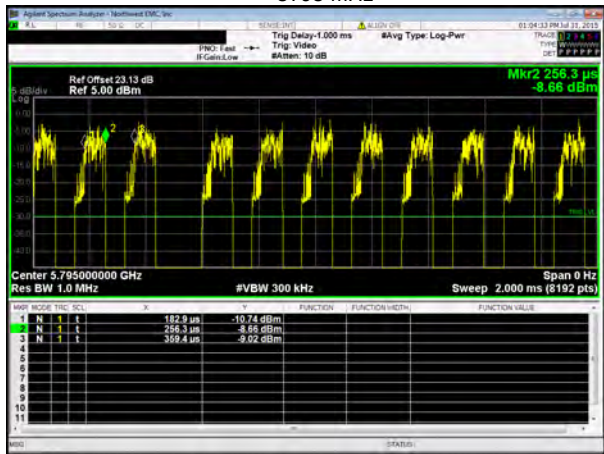
|                  |           |
|------------------|-----------|
| Pulse Width      | 79.867 us |
| Period           | 179 us    |
| Number of Pulses | 1         |
| Value (%)        | 44.6      |
| Limit (%)        | N/A       |
| Results          | N/A       |

Chain A, 802.11(ac) MCS9 (256-QAM), 40 MHz, Low Channel  
5755 MHz



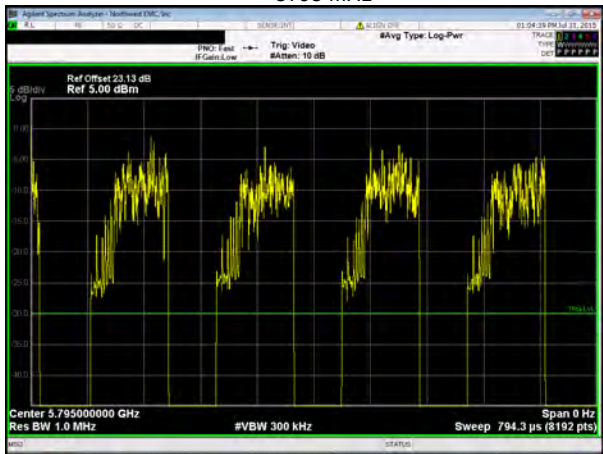
|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(ac) MCS9 (256-QAM), 40 MHz, High Channel  
5795 MHz



|                  |           |
|------------------|-----------|
| Pulse Width      | 73.435 us |
| Period           | 176.5 us  |
| Number of Pulses | 1         |
| Value (%)        | 41.6      |
| Limit (%)        | N/A       |
| Results          | N/A       |

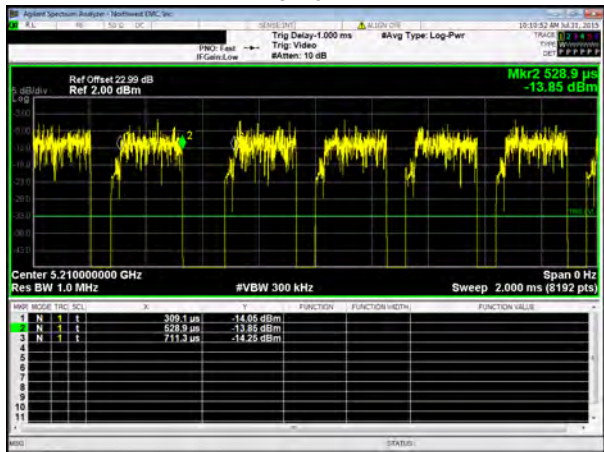
Chain A, 802.11(ac) MCS9 (256-QAM), 40 MHz, High Channel  
5795 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

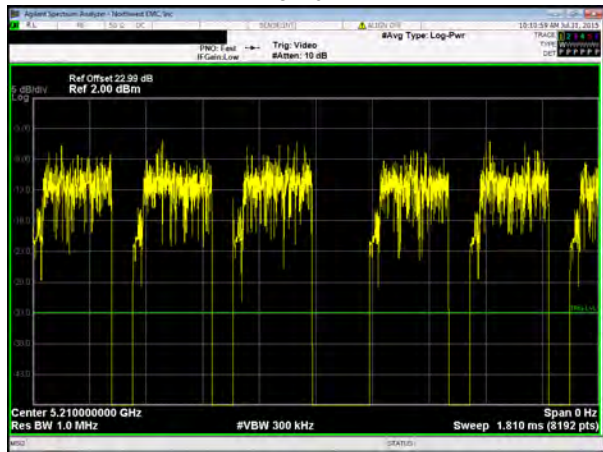
# DUTY CYCLE

Chain A, 802.11(ac) MCS9 (256-QAM), 80 MHz, Low Channel  
5210 MHz



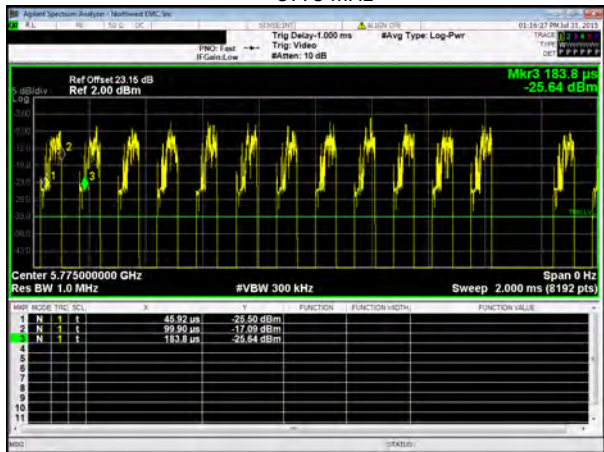
|                  |            |
|------------------|------------|
| Pulse Width      | 219.767 us |
| Period           | 402.2 us   |
| Number of Pulses | 1          |
| Value (%)        | 54.6       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(ac) MCS9 (256-QAM), 80 MHz, Low Channel  
5210 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 6   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |

Chain A, 802.11(ac) MCS9 (256-QAM), 80 MHz, Low Channel  
5775 MHz



|                  |            |
|------------------|------------|
| Pulse Width      | 53.977 us  |
| Period           | 137.888 us |
| Number of Pulses | 1          |
| Value (%)        | 39.1       |
| Limit (%)        | N/A        |
| Results          | N/A        |

Chain A, 802.11(ac) MCS9 (256-QAM), 80 MHz, Low Channel  
5775 MHz



|                  |     |
|------------------|-----|
| Pulse Width      | N/A |
| Period           | N/A |
| Number of Pulses | 5   |
| Value (%)        | N/A |
| Limit (%)        | N/A |
| Results          | N/A |