

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

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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					

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	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (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

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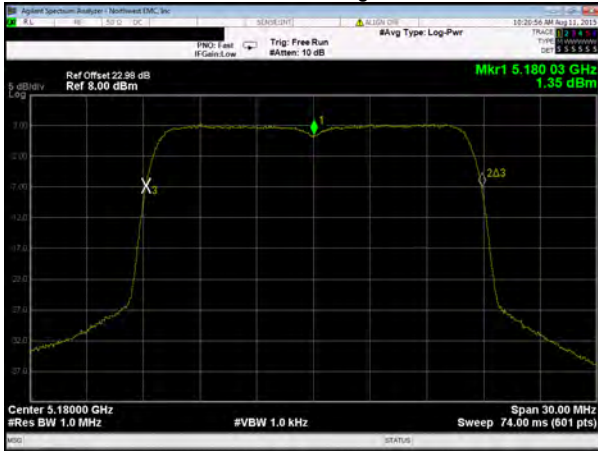
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
Temperature: +20°	5825.025	5825	4.3	100	Pass
Temperature: +10°	5825.025	5825	4.3	100	Pass
Temperature: 0°	5825.05	5825	8.6	100	Pass
Temperature: -10°	5825.05	5825	8.6	100	Pass
Temperature: -20°	5825.075	5825	12.9	100	Pass
Temperature: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



Tested By

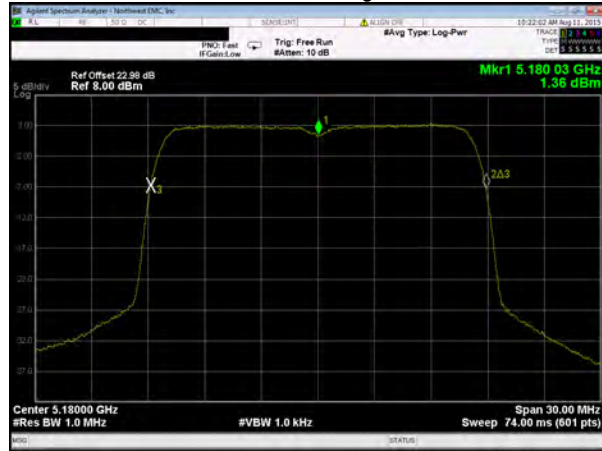
FREQUENCY STABILITY

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



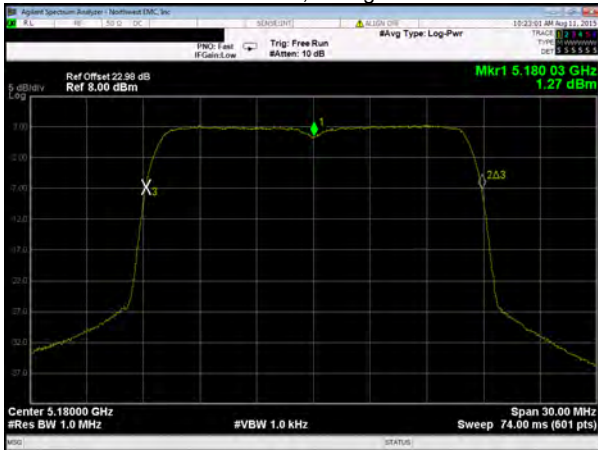
Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

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



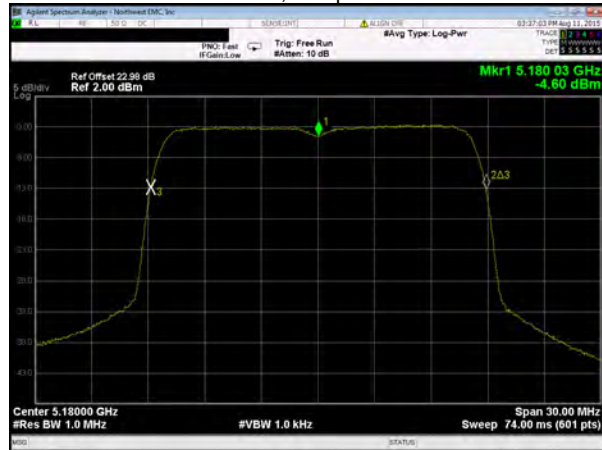
Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

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

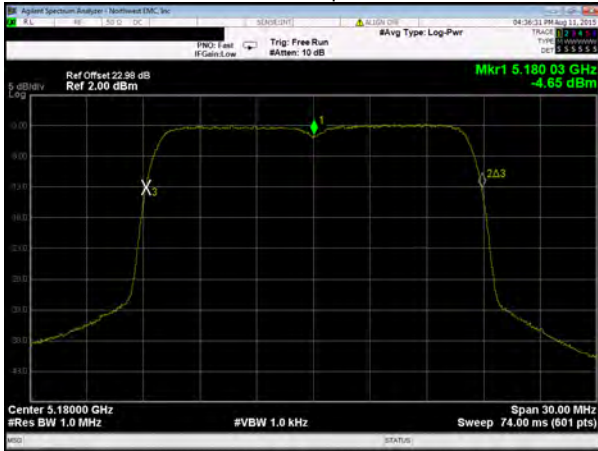
Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel, 5180 MHz, Temperature: +50°



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

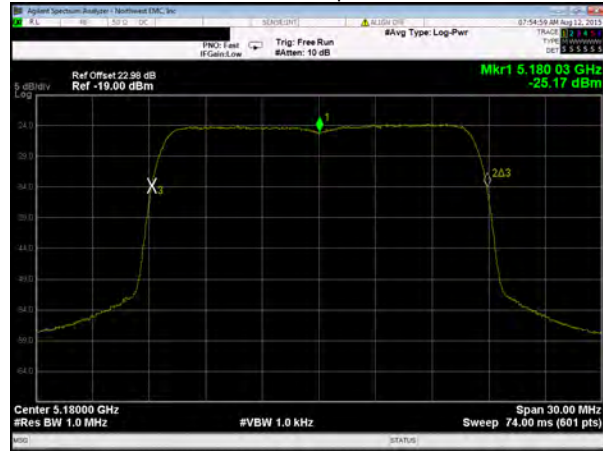
FREQUENCY STABILITY

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



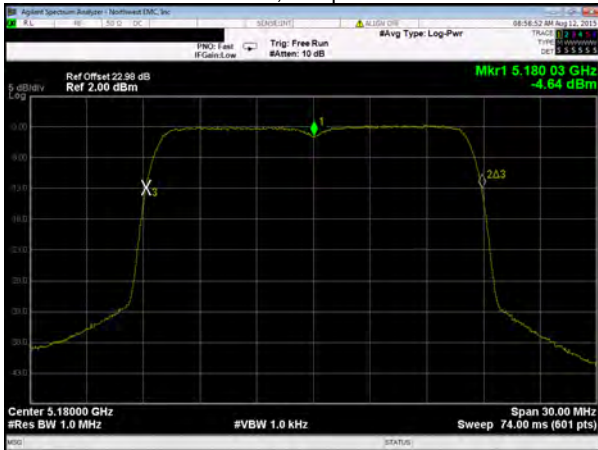
Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

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



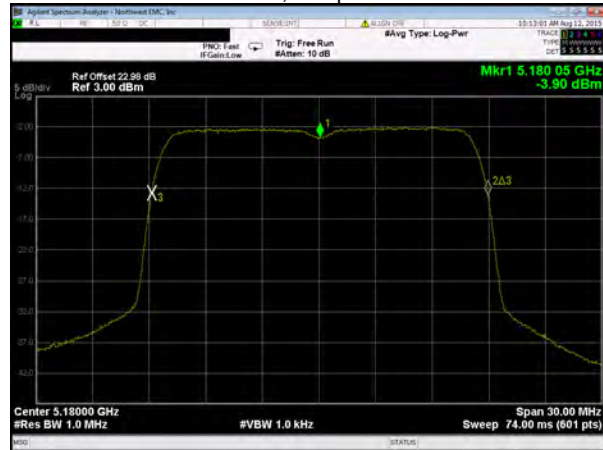
Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

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

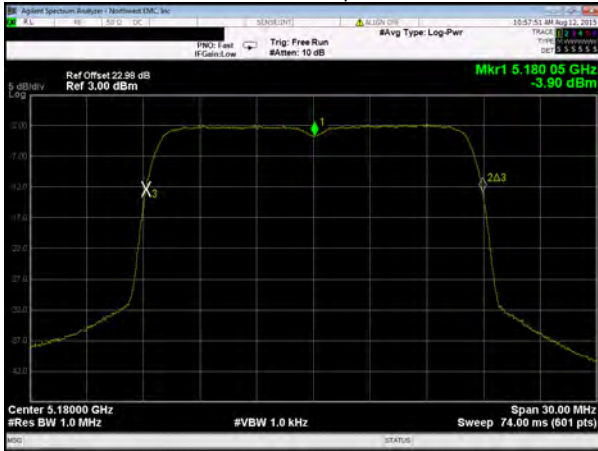
Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel, 5180 MHz, Temperature: +10°



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

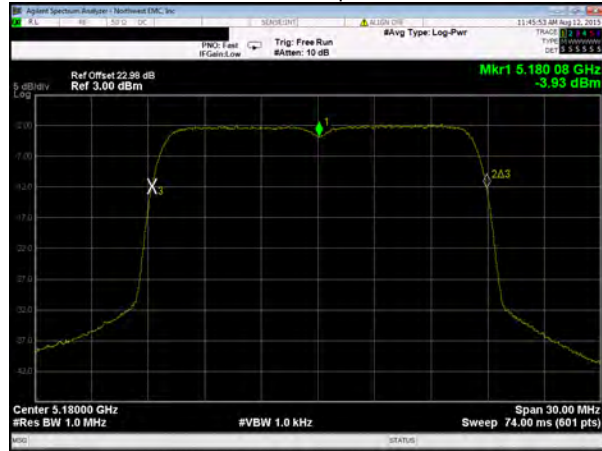
FREQUENCY STABILITY

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



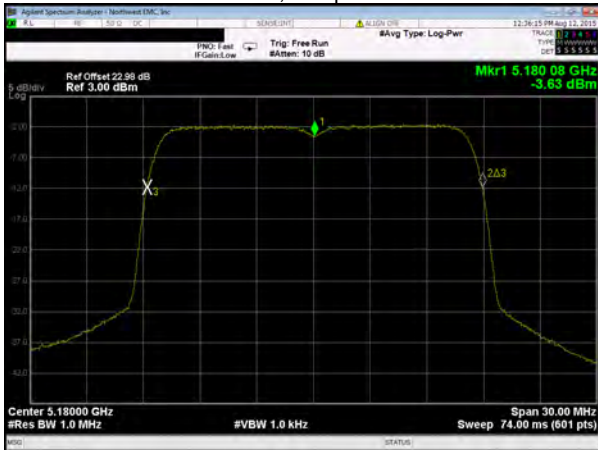
Measured Value (MHz)	5180.05
Assigned Value (MHz)	5180
Error (ppm)	9.7
Limit (ppm)	100
Results	Pass

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



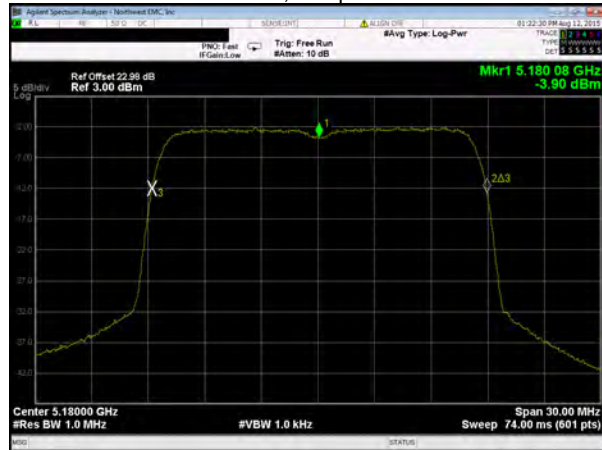
Measured Value (MHz)	5180.075
Assigned Value (MHz)	5180
Error (ppm)	14.5
Limit (ppm)	100
Results	Pass

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

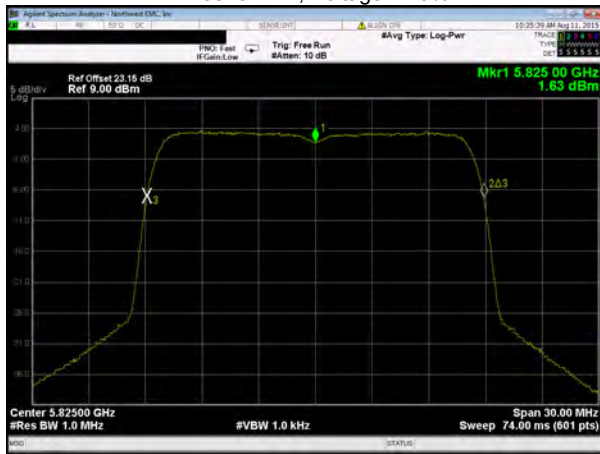
Chain A, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel, 5180 MHz, Temperature: -30°



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

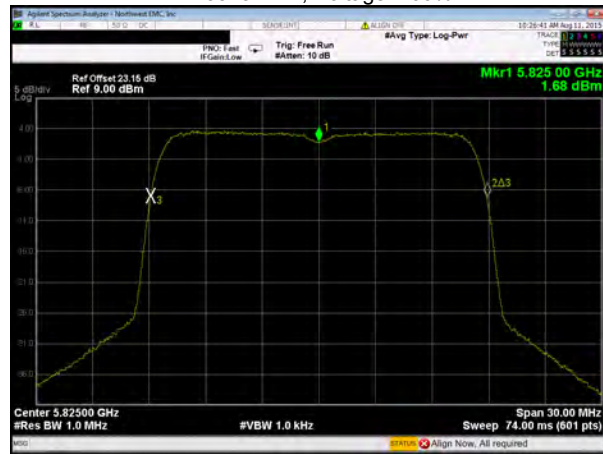
FREQUENCY STABILITY

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



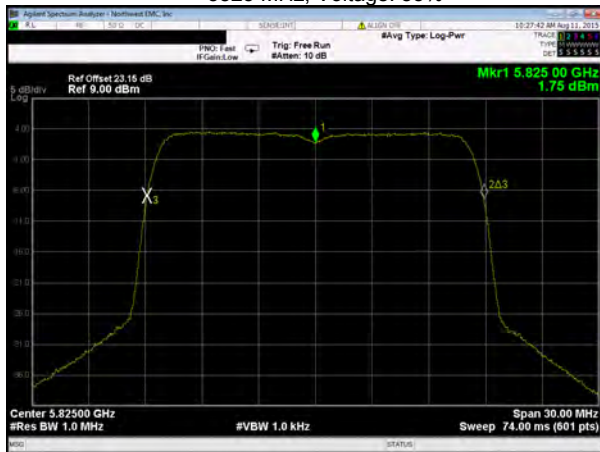
Measured Value (MHz)	5825
Assigned Value (MHz)	5825
Error (ppm)	0
Limit (ppm)	100
Results	Pass

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



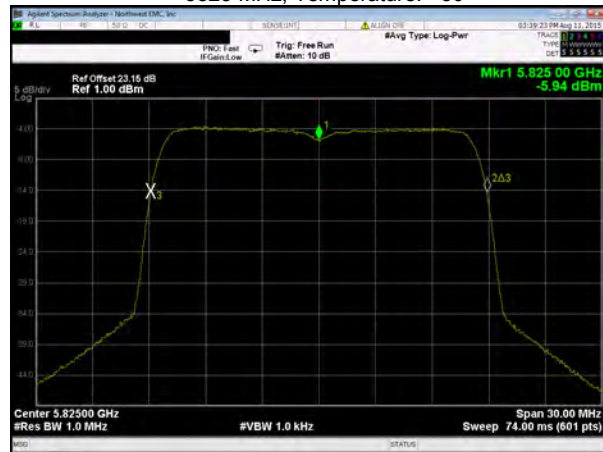
Measured Value (MHz)	5825
Assigned Value (MHz)	5825
Error (ppm)	0
Limit (ppm)	100
Results	Pass

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°

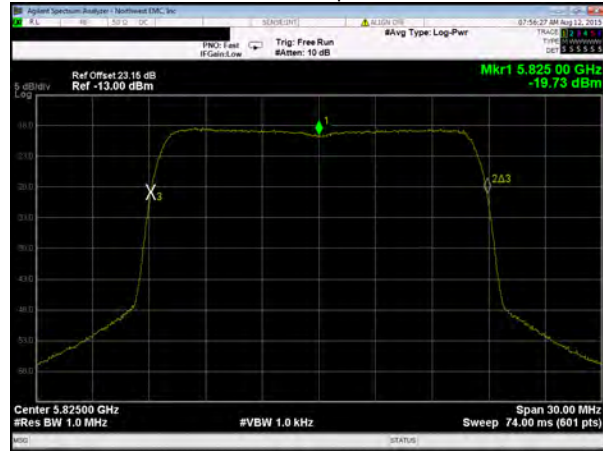
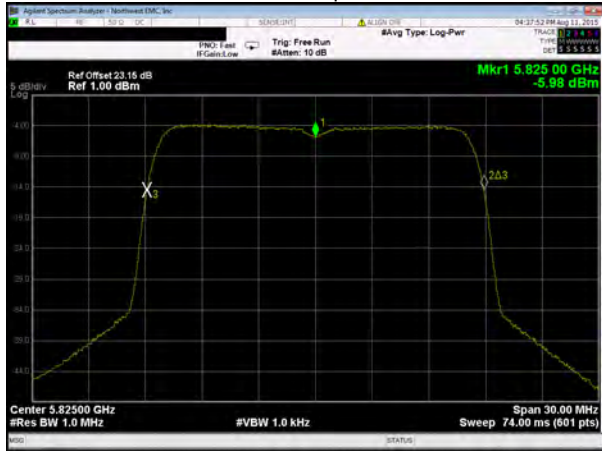


Measured Value (MHz)	5825
Assigned Value (MHz)	5825
Error (ppm)	0
Limit (ppm)	100
Results	Pass

FREQUENCY STABILITY

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

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

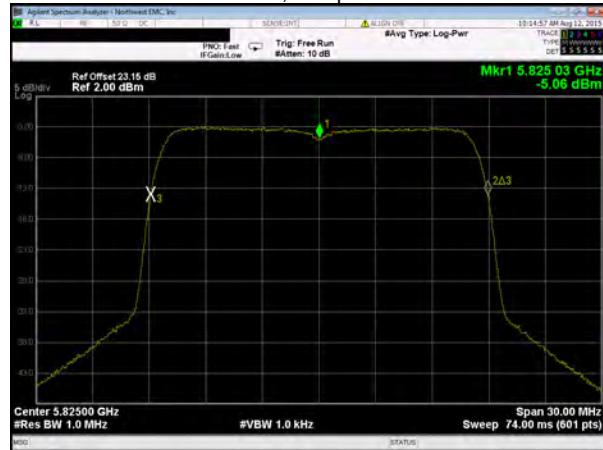
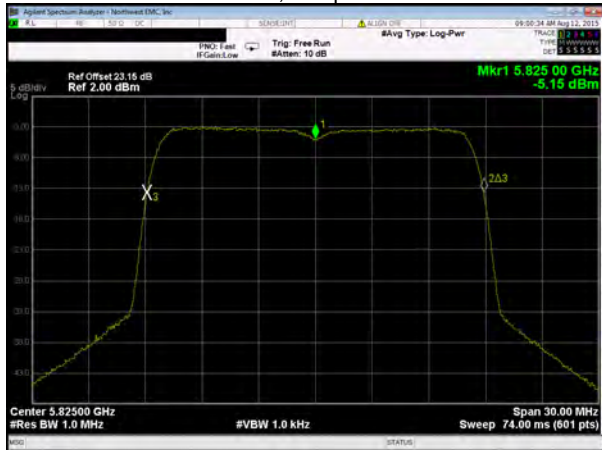


Measured Value (MHz)	5825
Assigned Value (MHz)	5825
Error (ppm)	0
Limit (ppm)	100
Results	Pass

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°

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

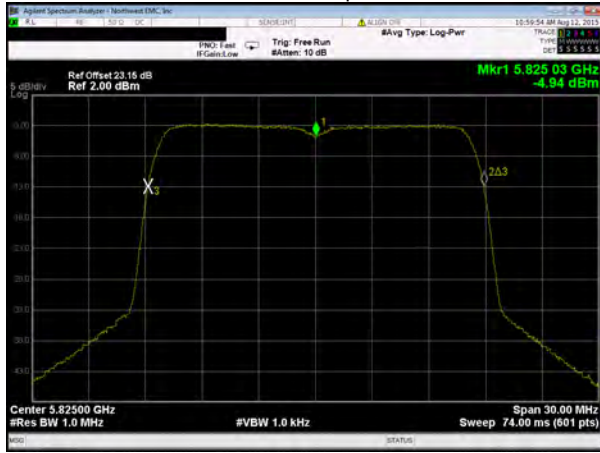


Measured Value (MHz)	5825
Assigned Value (MHz)	5825
Error (ppm)	0
Limit (ppm)	100
Results	Pass

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

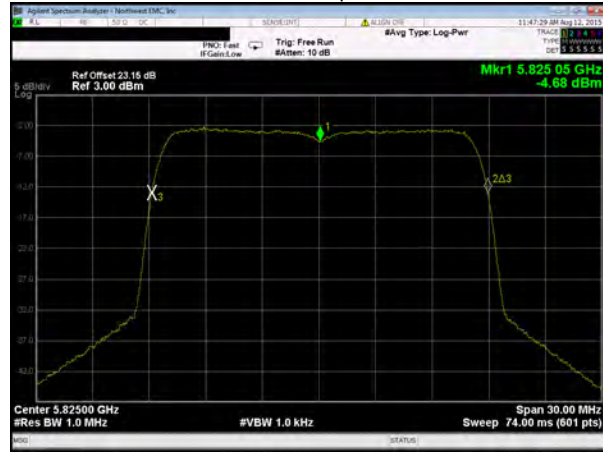
FREQUENCY STABILITY

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



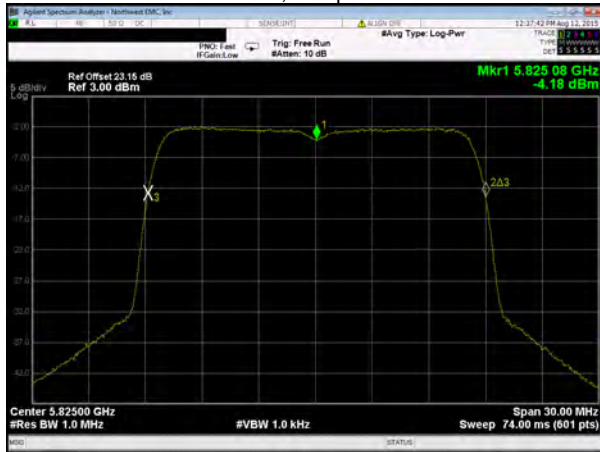
Measured Value (MHz)	5825.025
Assigned Value (MHz)	5825
Error (ppm)	4.3
Limit (ppm)	100
Results	Pass

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



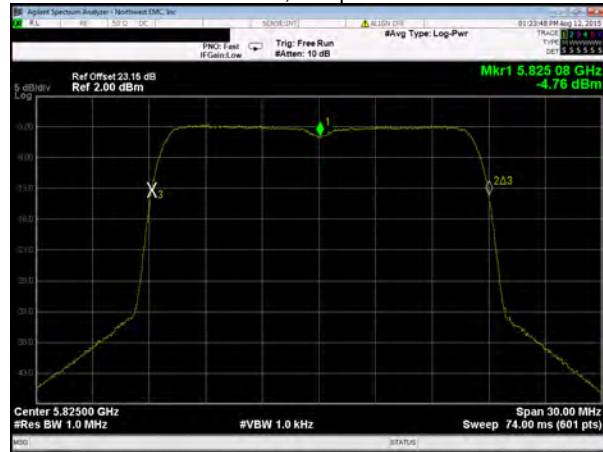
Measured Value (MHz)	5825.05
Assigned Value (MHz)	5825
Error (ppm)	8.6
Limit (ppm)	100
Results	Pass

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

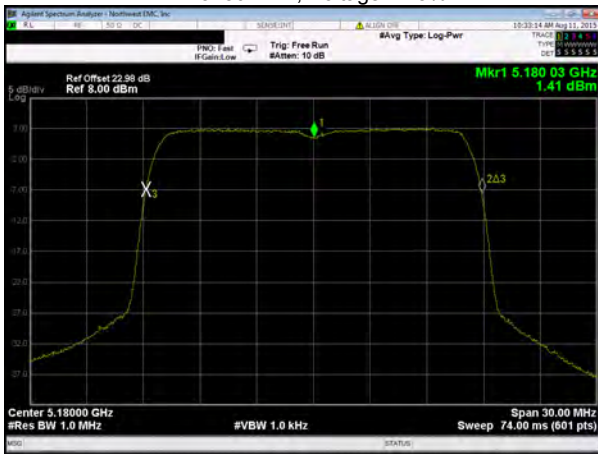
Chain A, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel, 5825 MHz, Temperature: -30°



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

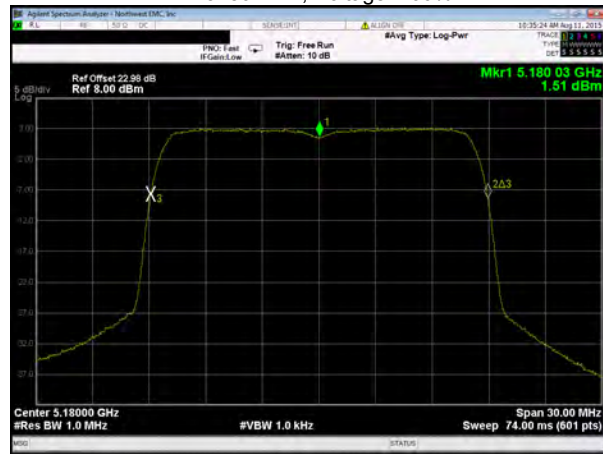
FREQUENCY STABILITY

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



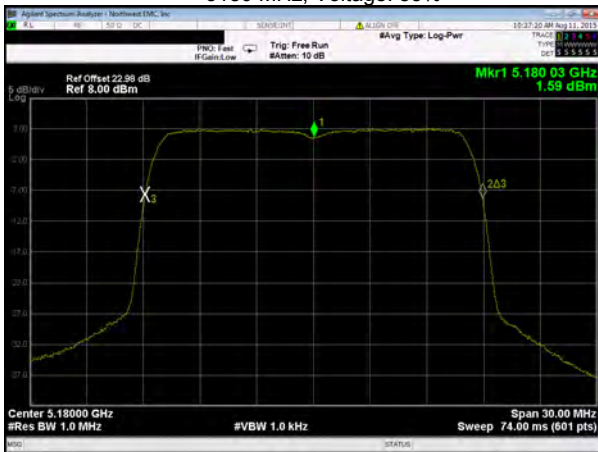
Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

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



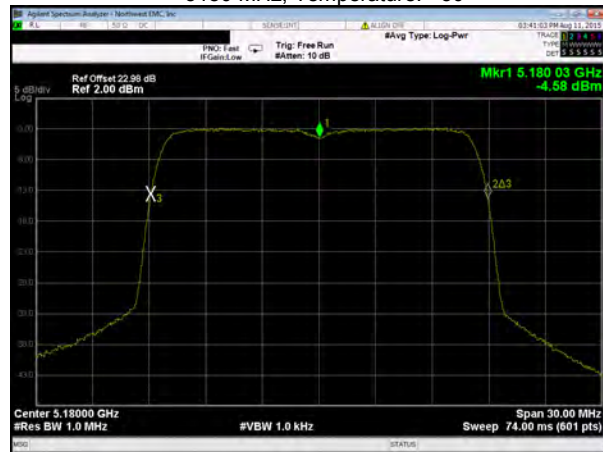
Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

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°

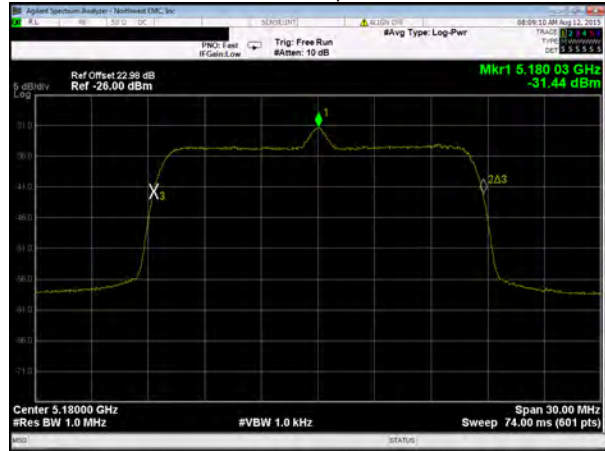
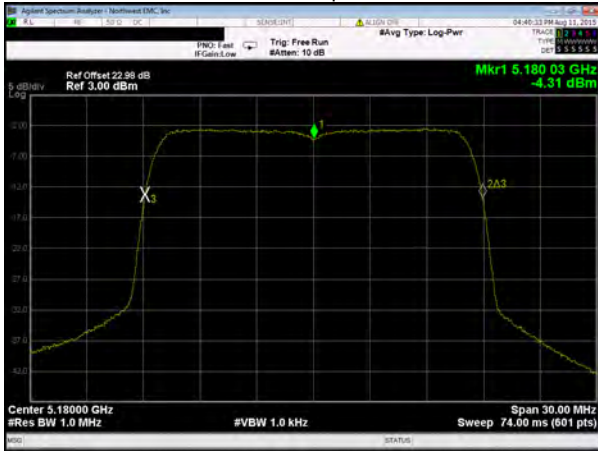


Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

FREQUENCY STABILITY

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

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

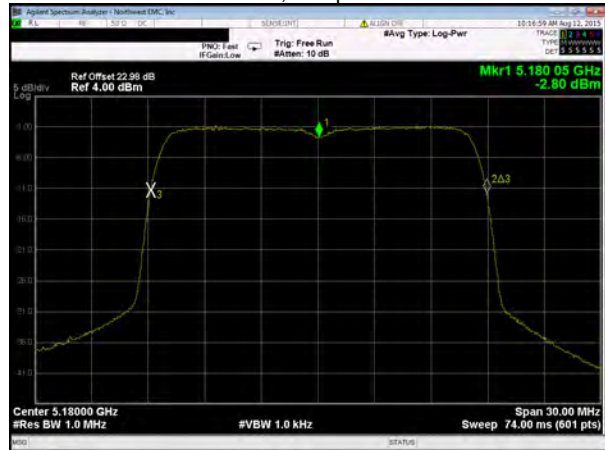
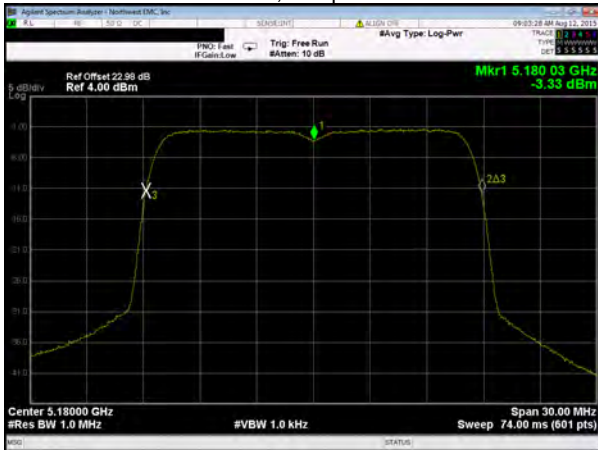


Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

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°

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

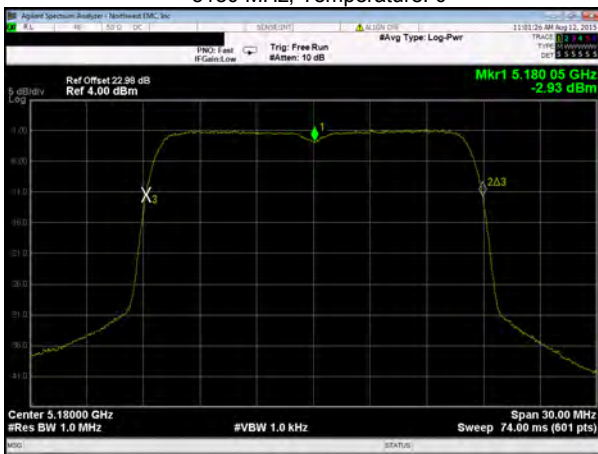


Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

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

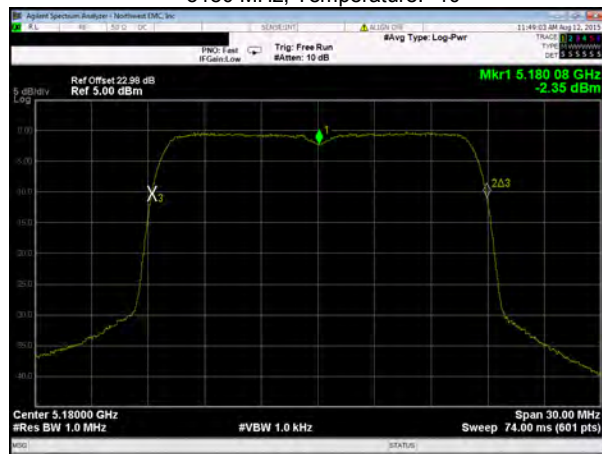
FREQUENCY STABILITY

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°



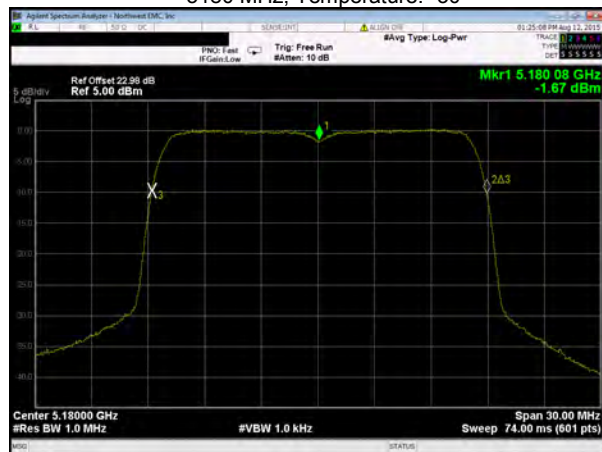
Measured Value (MHz)	5180.075
Assigned Value (MHz)	5180
Error (ppm)	14.5
Limit (ppm)	100
Results	Pass

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

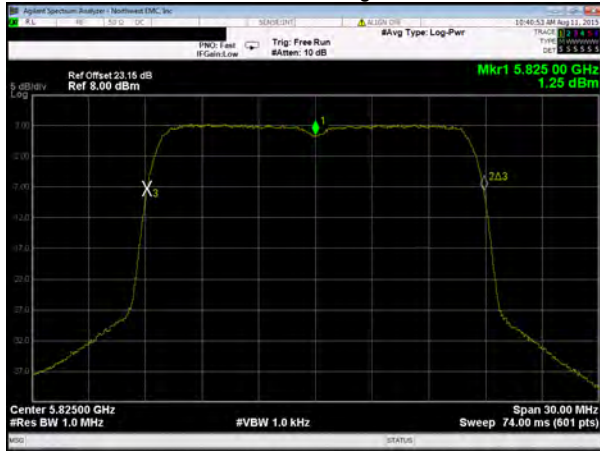
Chain B, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel, 5180 MHz, Temperature: -30°



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

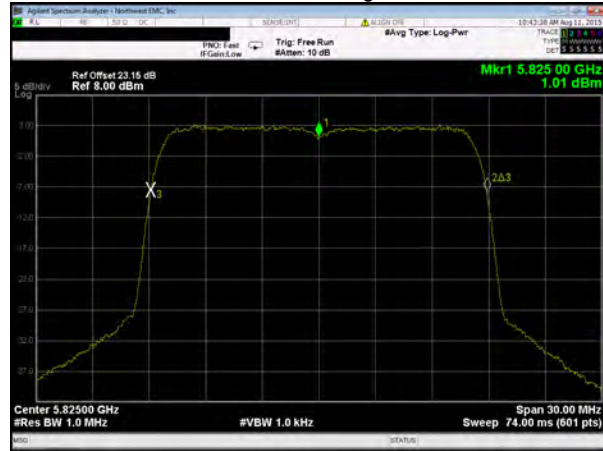
FREQUENCY STABILITY

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



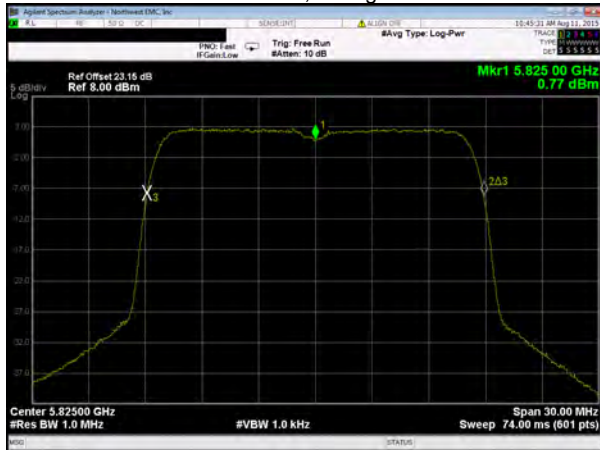
Measured Value (MHz)	5825
Assigned Value (MHz)	5825
Error (ppm)	0
Limit (ppm)	100
Results	Pass

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



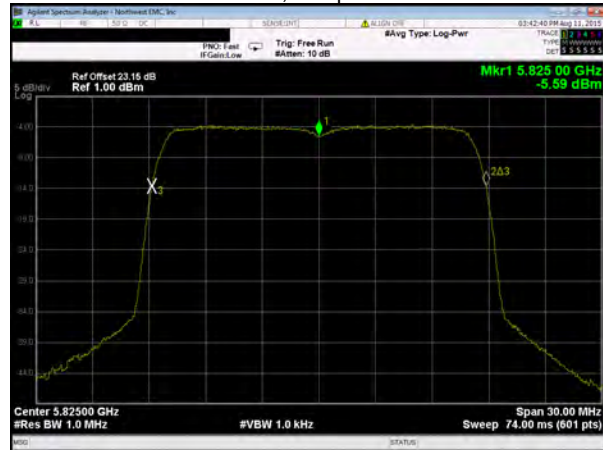
Measured Value (MHz)	5825
Assigned Value (MHz)	5825
Error (ppm)	0
Limit (ppm)	100
Results	Pass

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

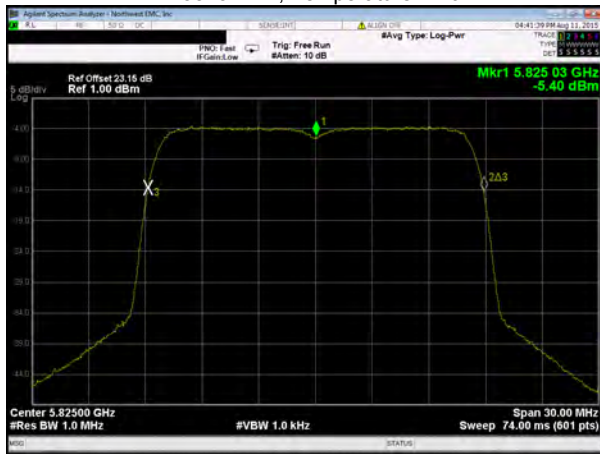
Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,
5825 MHz, Temperature: +50°



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

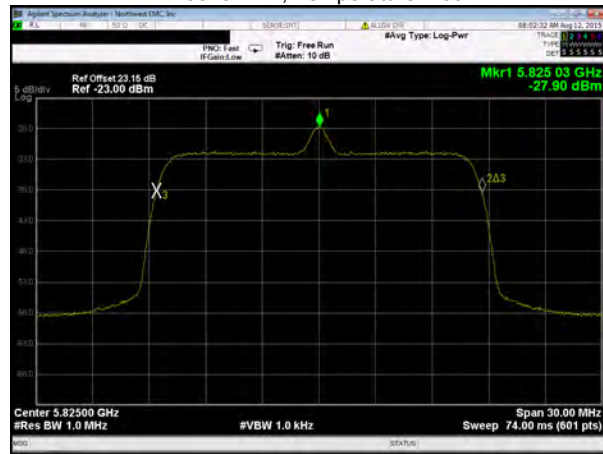
FREQUENCY STABILITY

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



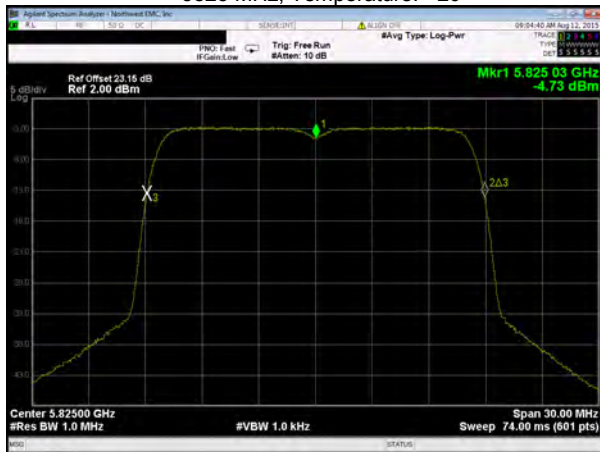
Measured Value (MHz)	5825.025
Assigned Value (MHz)	5825
Error (ppm)	4.3
Limit (ppm)	100
Results	Pass

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



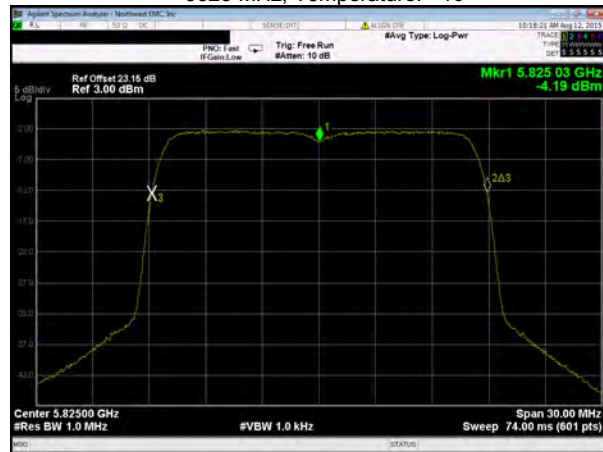
Measured Value (MHz)	5825.025
Assigned Value (MHz)	5825
Error (ppm)	4.3
Limit (ppm)	100
Results	Pass

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

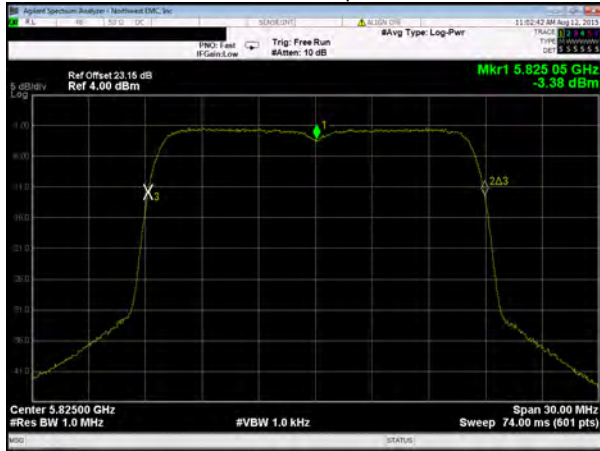
Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel,
5825 MHz, Temperature: +10°



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

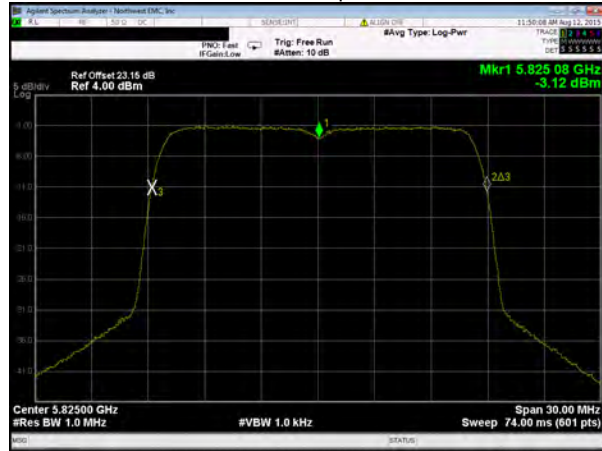
FREQUENCY STABILITY

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



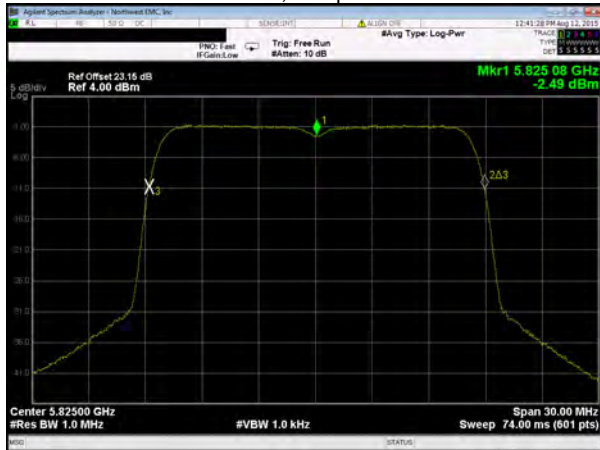
Measured Value (MHz)	5825.05
Assigned Value (MHz)	5825
Error (ppm)	8.6
Limit (ppm)	100
Results	Pass

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



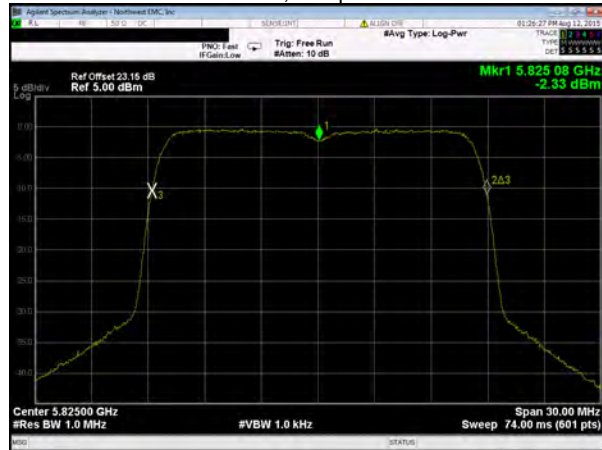
Measured Value (MHz)	5825.075
Assigned Value (MHz)	5825
Error (ppm)	12.9
Limit (ppm)	100
Results	Pass

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

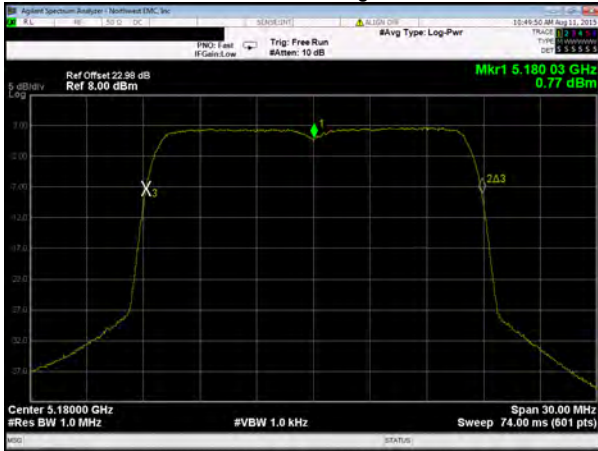
Chain B, 802.11(a) 6 Mbps, 5725 MHz - 5850 MHz - High Channel, 5825 MHz, Temperature: -30°



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

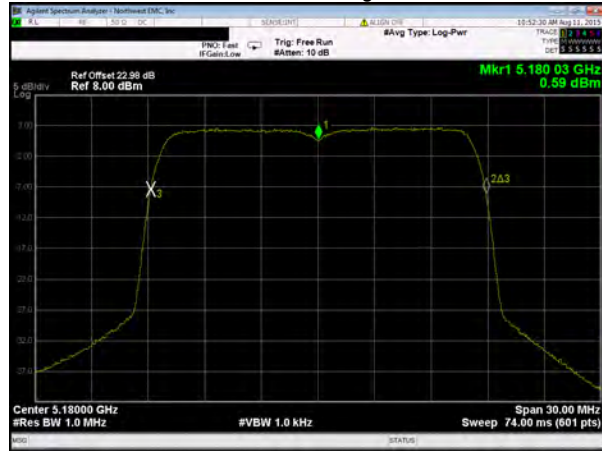
FREQUENCY STABILITY

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



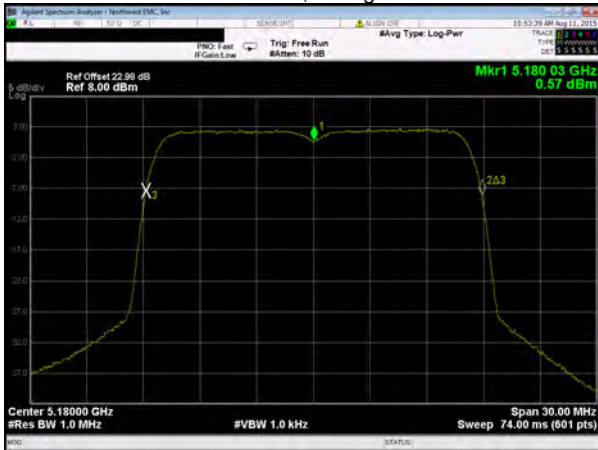
Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

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



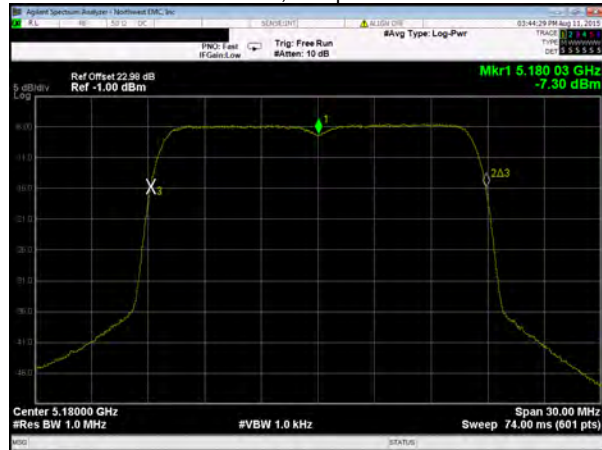
Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

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

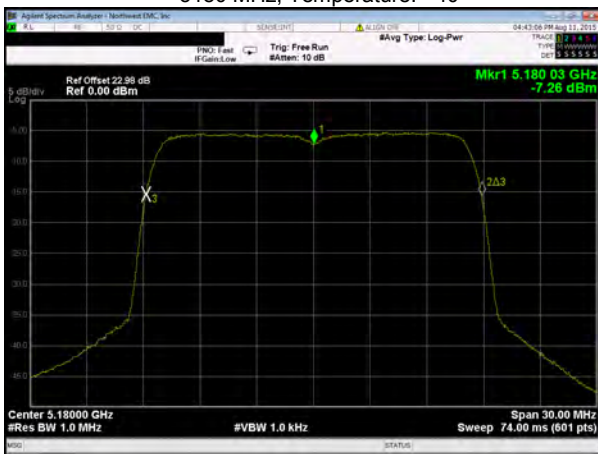
Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel, 5180 MHz, Temperature: +50°



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

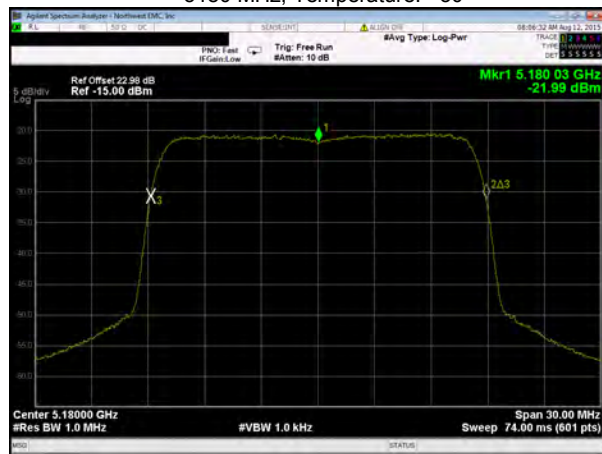
FREQUENCY STABILITY

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°



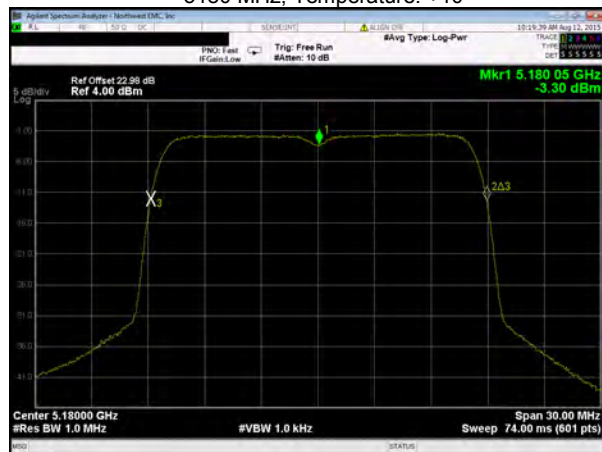
Measured Value (MHz)	5180.025
Assigned Value (MHz)	5180
Error (ppm)	4.8
Limit (ppm)	100
Results	Pass

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

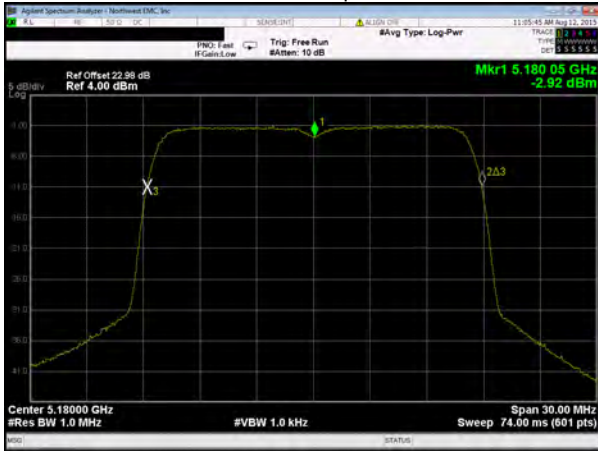
Chain C, 802.11(a) 6 Mbps, 5150 MHz - 5250 MHz - Low Channel, 5180 MHz, Temperature: +10°



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

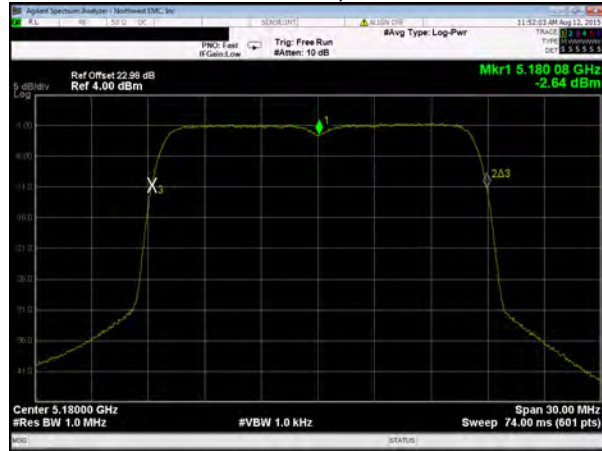
FREQUENCY STABILITY

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



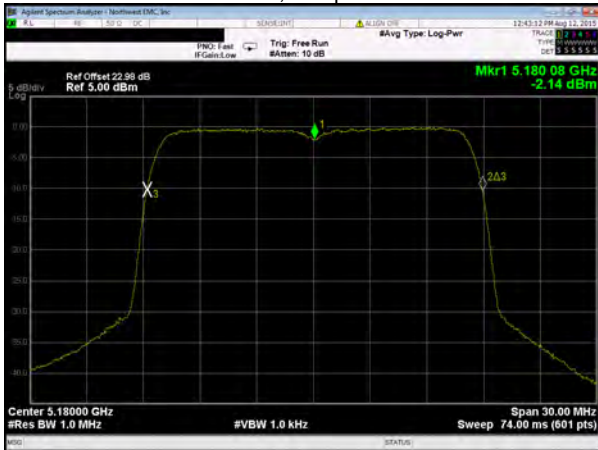
Measured Value (MHz)	5180.05
Assigned Value (MHz)	5180
Error (ppm)	9.7
Limit (ppm)	100
Results	Pass

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



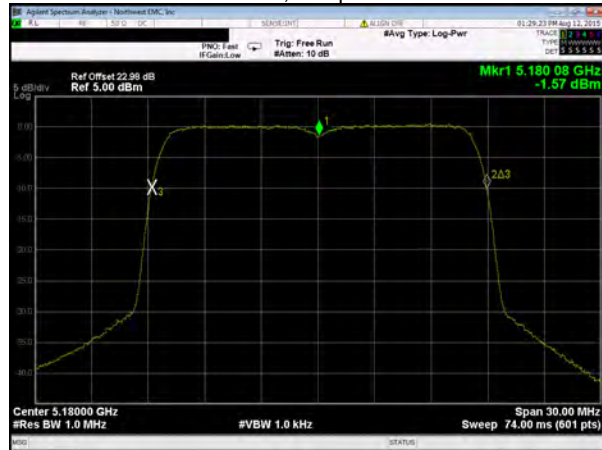
Measured Value (MHz)	5180.075
Assigned Value (MHz)	5180
Error (ppm)	14.5
Limit (ppm)	100
Results	Pass

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°

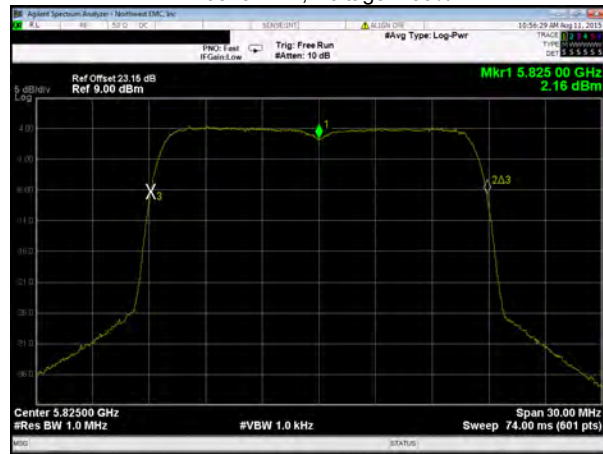
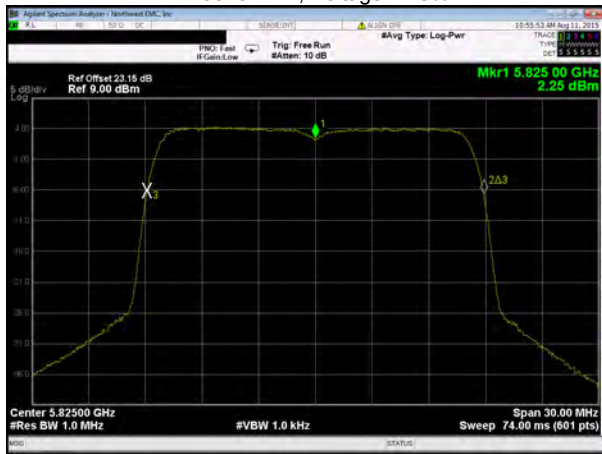


Measured Value (MHz)	5180.075
Assigned Value (MHz)	5180
Error (ppm)	14.5
Limit (ppm)	100
Results	Pass

FREQUENCY STABILITY

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

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

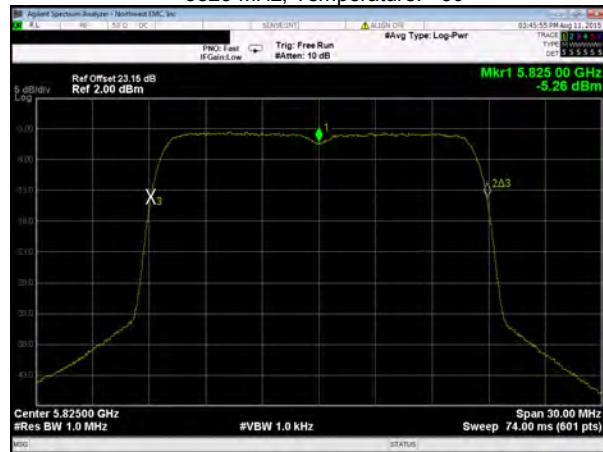
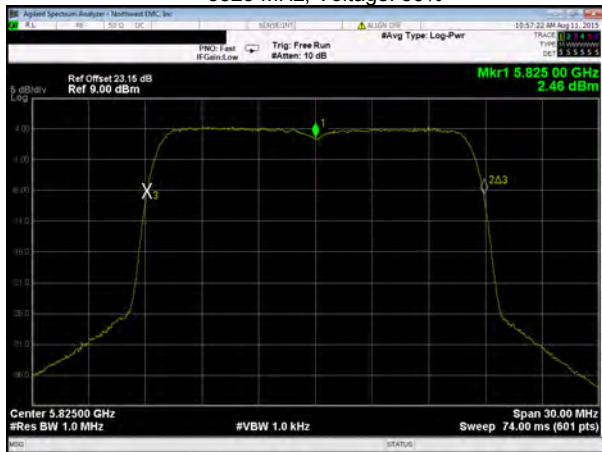


Measured Value (MHz)	5825
Assigned Value (MHz)	5825
Error (ppm)	0
Limit (ppm)	100
Results	Pass

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%

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



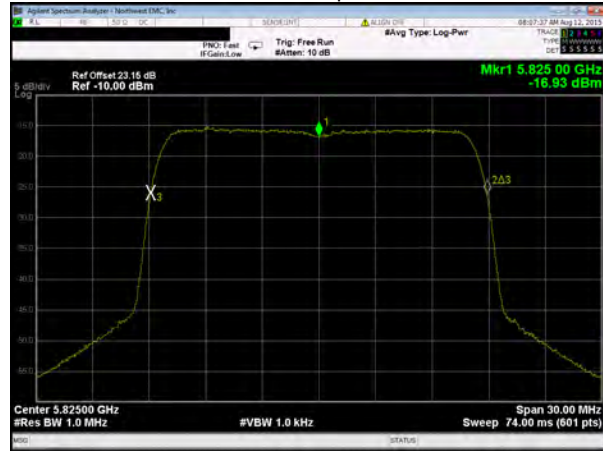
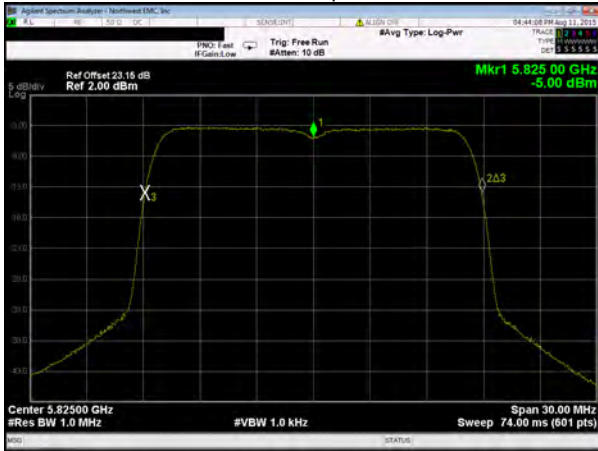
Measured Value (MHz)	5825
Assigned Value (MHz)	5825
Error (ppm)	0
Limit (ppm)	100
Results	Pass

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°

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

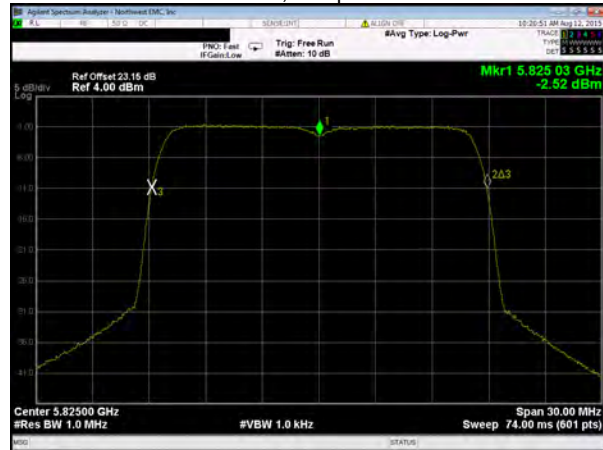
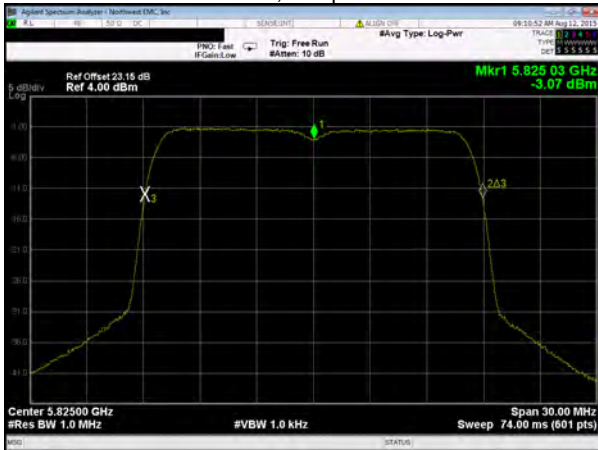


Measured Value (MHz)	5825
Assigned Value (MHz)	5825
Error (ppm)	0
Limit (ppm)	100
Results	Pass

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°

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

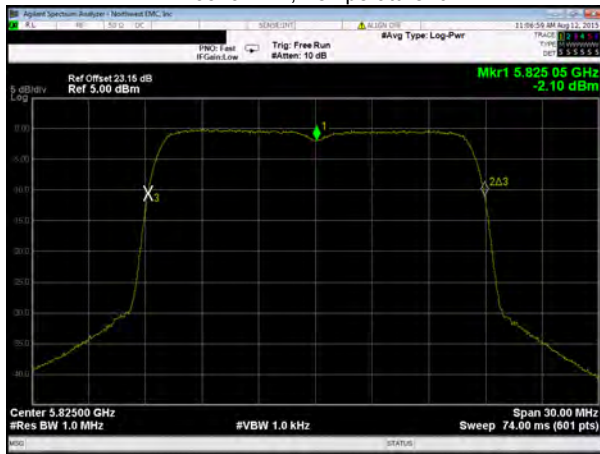


Measured Value (MHz)	5825.025
Assigned Value (MHz)	5825
Error (ppm)	4.3
Limit (ppm)	100
Results	Pass

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

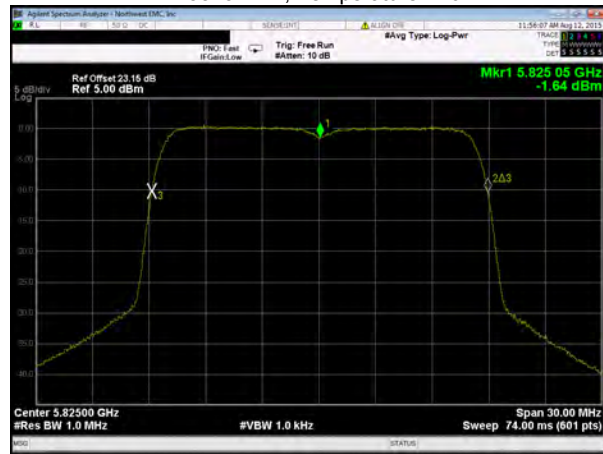
FREQUENCY STABILITY

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



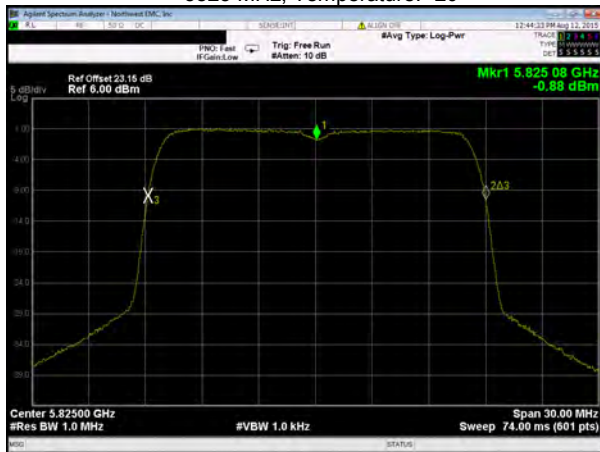
Measured Value (MHz)	5825.05
Assigned Value (MHz)	5825
Error (ppm)	8.6
Limit (ppm)	100
Results	Pass

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



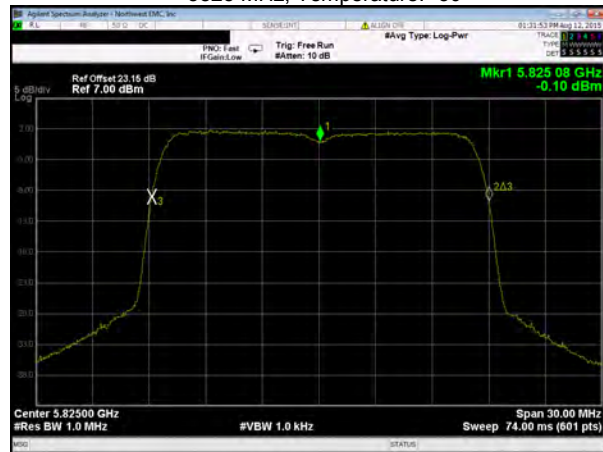
Measured Value (MHz)	5825.05
Assigned Value (MHz)	5825
Error (ppm)	8.6
Limit (ppm)	100
Results	Pass

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

	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
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

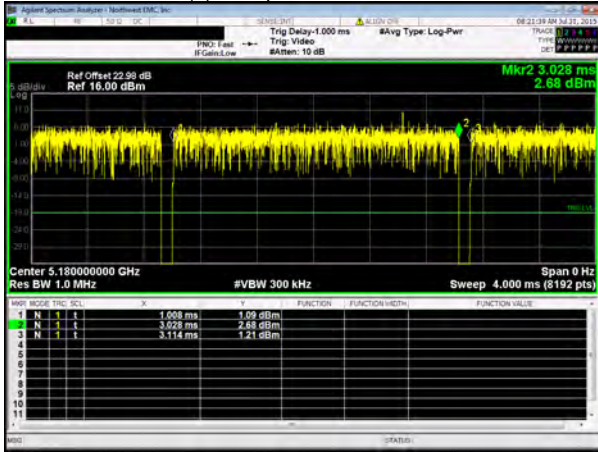
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
High Channel 5825 MHz	N/A	N/A	5	N/A	N/A	N/A
40 MHz						
Low Channel 5190 MHz	94.467 us	199.9 us	1	47.3	N/A	N/A
Low Channel 5190 MHz	N/A	N/A	6	N/A	N/A	N/A
High Channel 5230 MHz	94.467 us	204.3 us	1	46.2	N/A	N/A
High Channel 5230 MHz	N/A	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

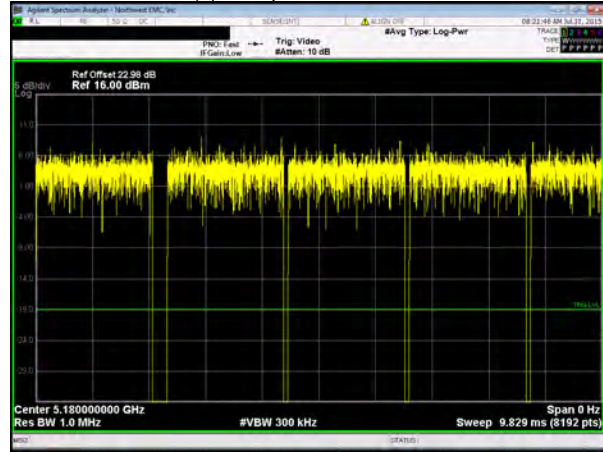
DUTY CYCLE

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



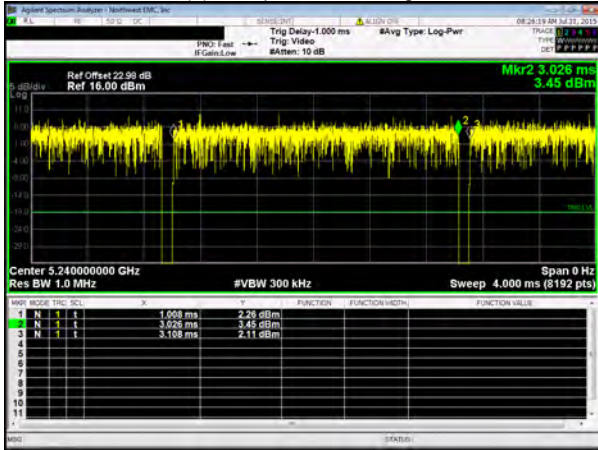
Pulse Width	2.02 ms
Period	2.106 ms
Number of Pulses	1
Value (%)	95.9
Limit (%)	N/A
Results	N/A

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

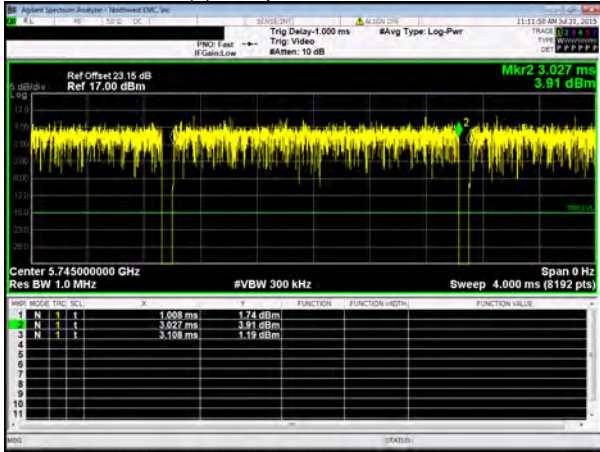
Chain A, 802.11(a) 6 Mbps, 20 MHz, High Channel 5240 MHz



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

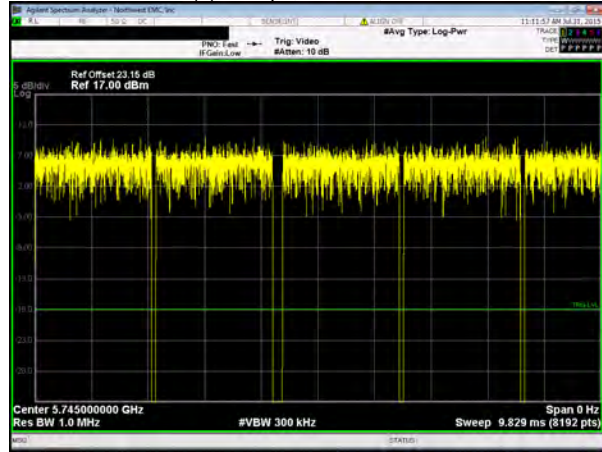
DUTY CYCLE

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



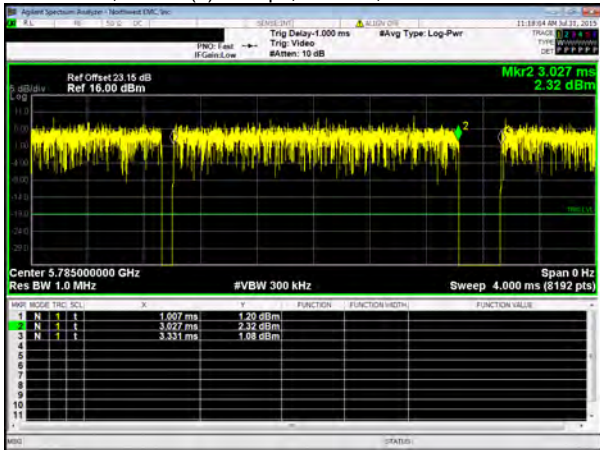
Pulse Width	2.019 ms
Period	2.1 ms
Number of Pulses	1
Value (%)	96.1
Limit (%)	N/A
Results	N/A

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



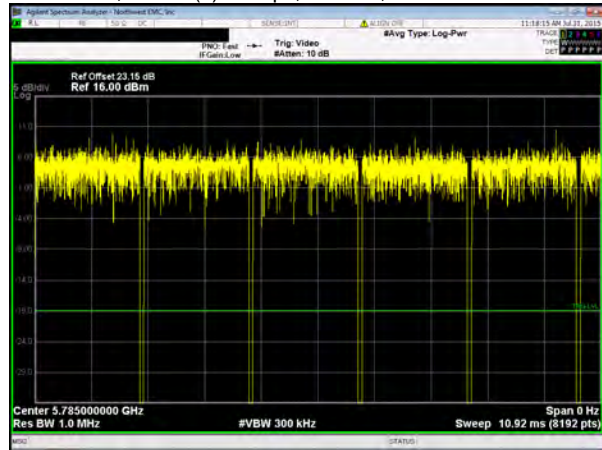
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

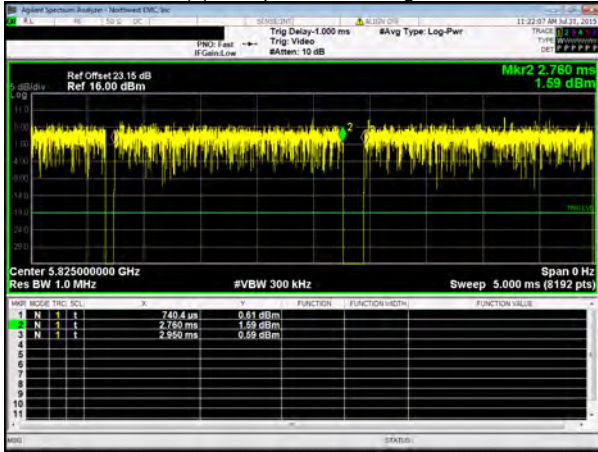
Chain A, 802.11(a) 6 Mbps, 20 MHz, Mid Channel 5785 MHz



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

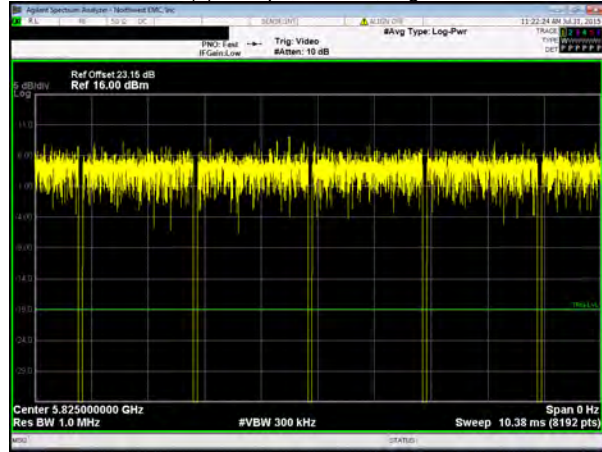
DUTY CYCLE

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



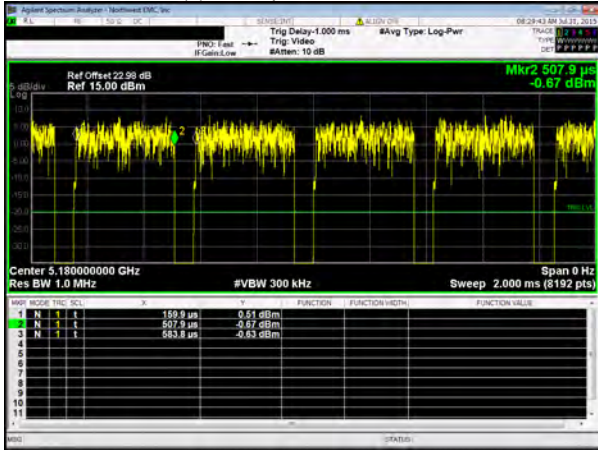
Pulse Width	2.019 ms
Period	2.21 ms
Number of Pulses	1
Value (%)	91.4
Limit (%)	N/A
Results	N/A

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



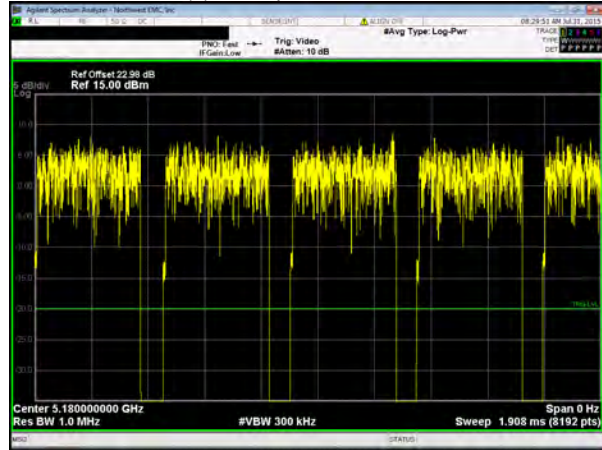
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



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

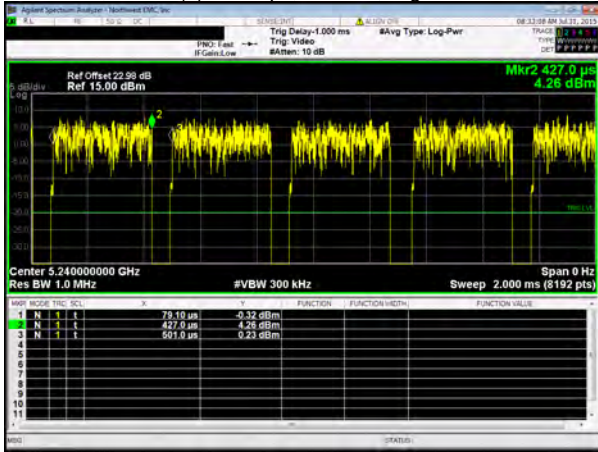
Chain A, 802.11(a) 36 Mbps, 20 MHz, Low Channel 5180 MHz



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

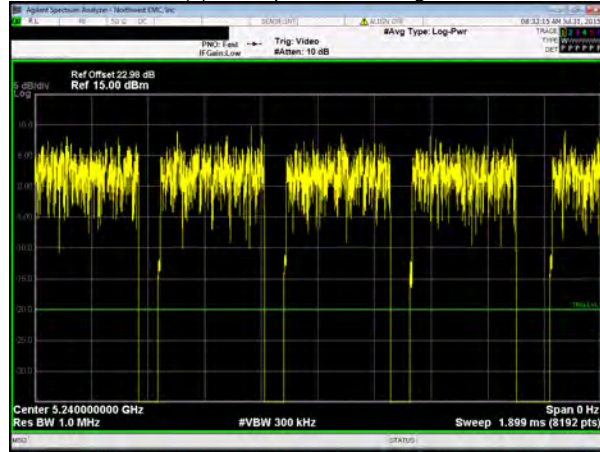
DUTY CYCLE

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



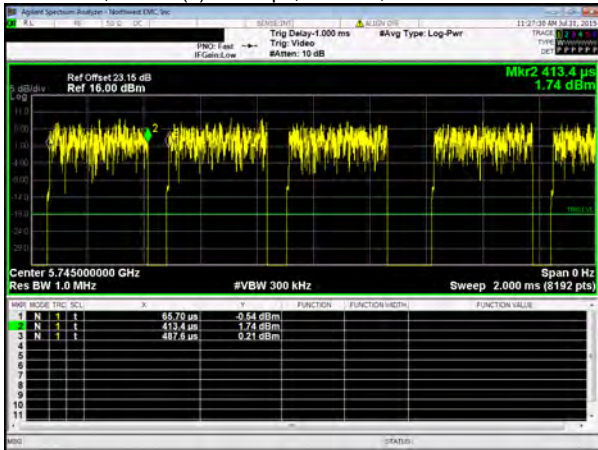
Pulse Width	347.923 μ s
Period	421.9 μ s
Number of Pulses	1
Value (%)	82.5
Limit (%)	N/A
Results	N/A

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



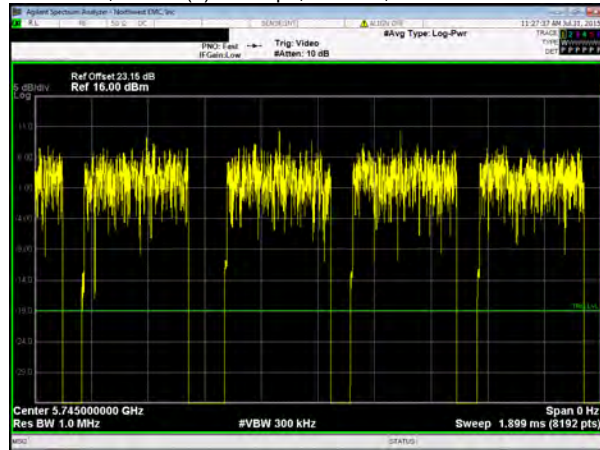
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	347.723 μ s
Period	421.9 μ s
Number of Pulses	1
Value (%)	82.4
Limit (%)	N/A
Results	N/A

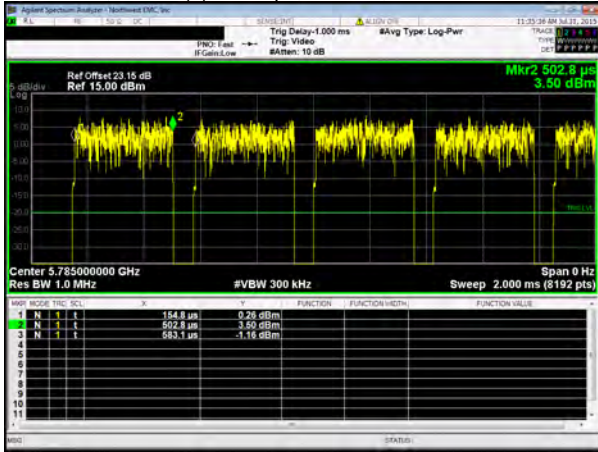
Chain A, 802.11(a) 36 Mbps, 20 MHz, Low Channel 5745 MHz



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



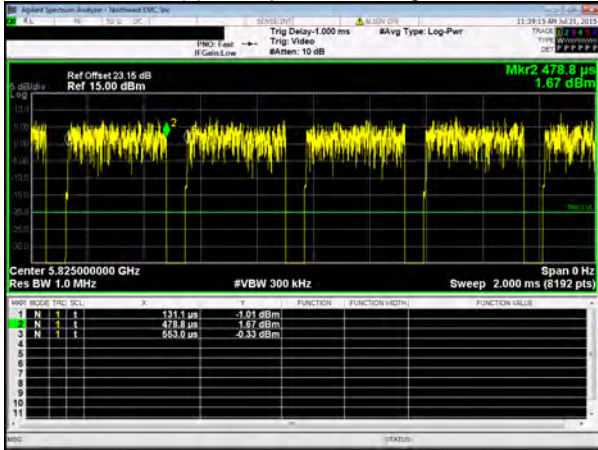
Pulse Width	347.967 us
Period	428.3 us
Number of Pulses	1
Value (%)	81.2
Limit (%)	N/A
Results	N/A

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

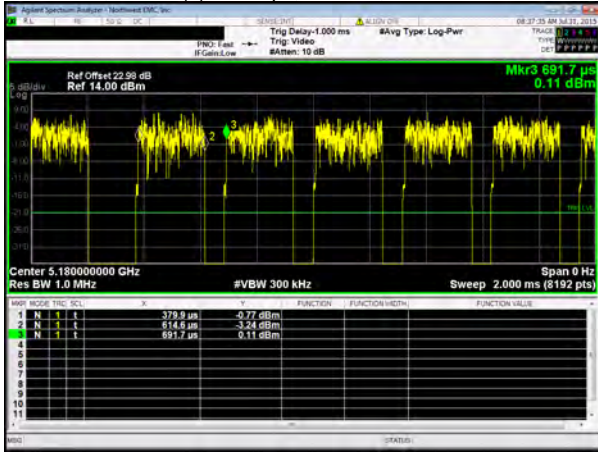
Chain A, 802.11(a) 36 Mbps, 20 MHz, High Channel 5825 MHz



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



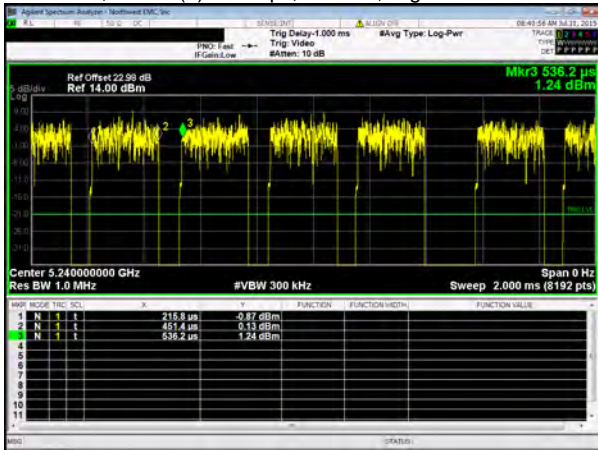
Pulse Width	234.691 us
Period	311.777 us
Number of Pulses	1
Value (%)	75.3
Limit (%)	N/A
Results	N/A

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

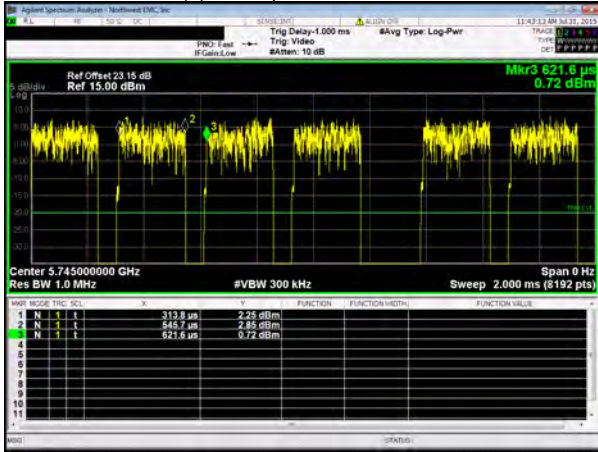
Chain A, 802.11(a) 54 Mbps, 20 MHz, High Channel 5240 MHz



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



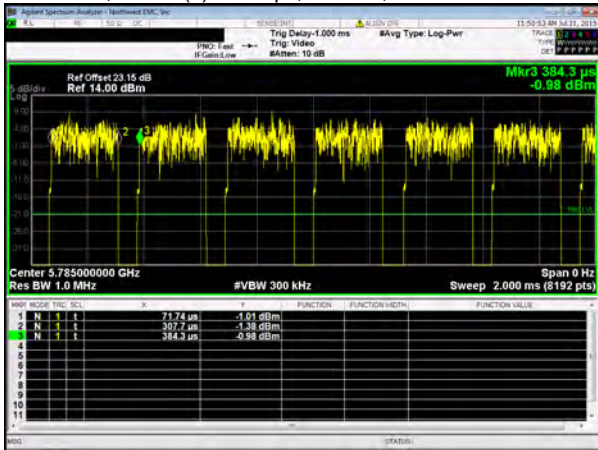
Pulse Width	231.961 us
Period	307.847 us
Number of Pulses	1
Value (%)	75.3
Limit (%)	N/A
Results	N/A

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



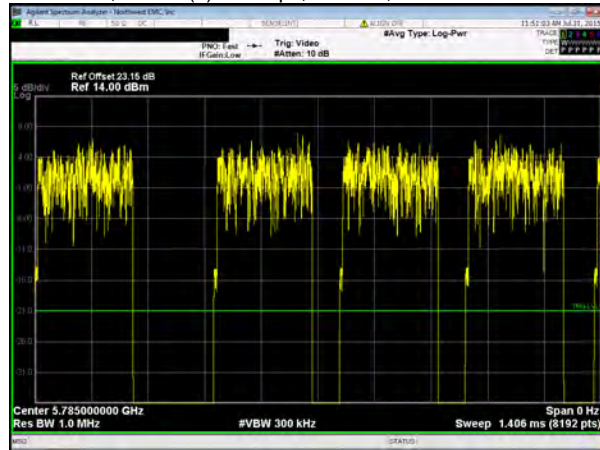
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

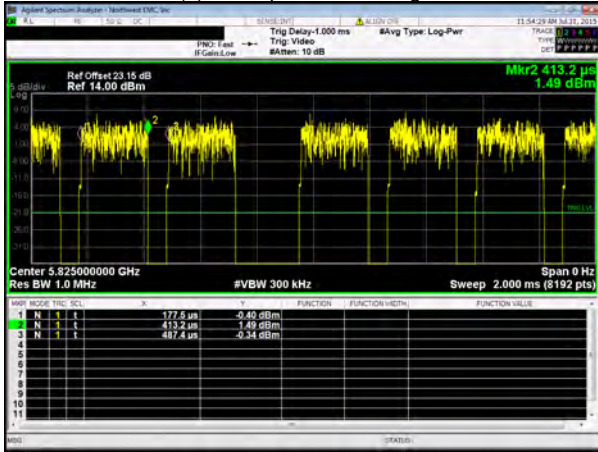
Chain A, 802.11(a) 54 Mbps, 20 MHz, Mid Channel 5785 MHz



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



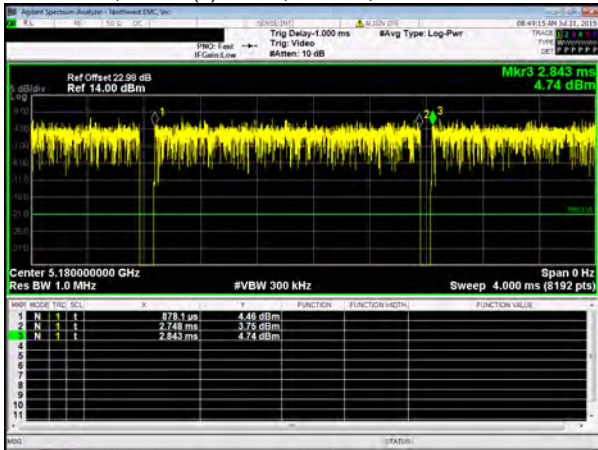
Pulse Width	235.667 us
Period	309.9 us
Number of Pulses	1
Value (%)	76
Limit (%)	N/A
Results	N/A

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



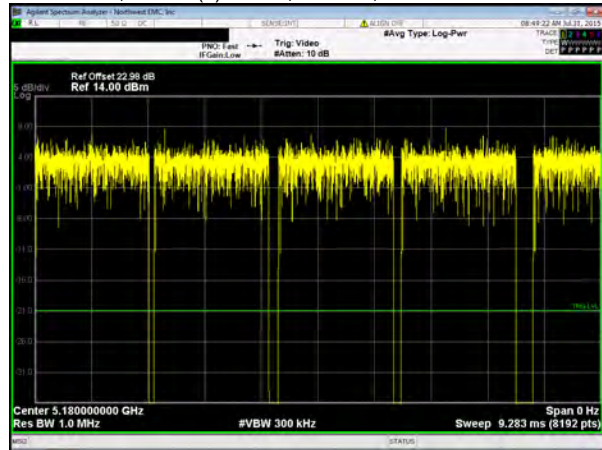
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

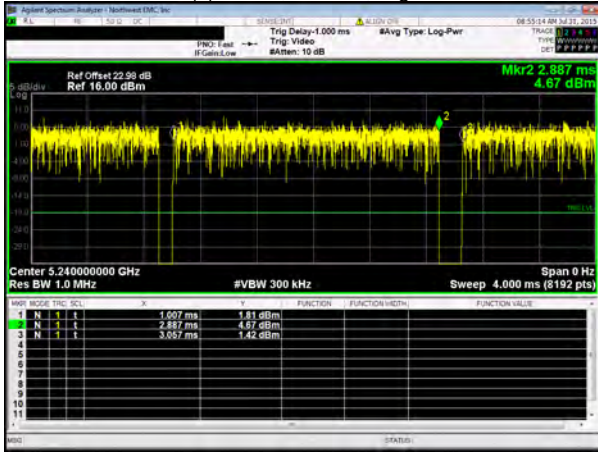
Chain A, 802.11(n) MCS0, 20 MHz, Low Channel 5180 MHz



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

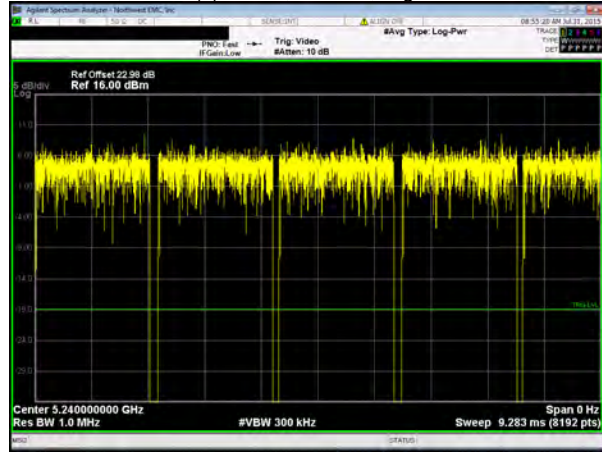
DUTY CYCLE

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



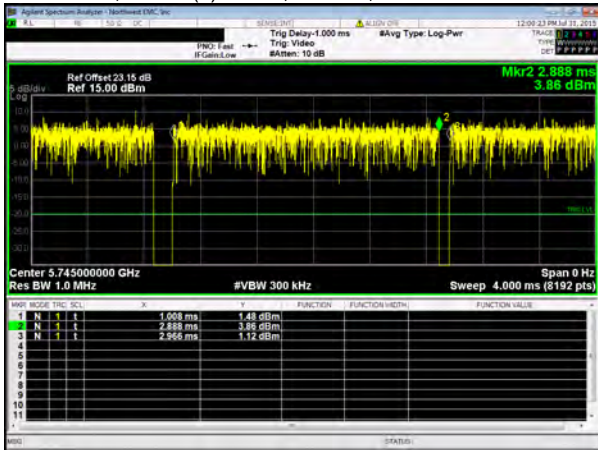
Pulse Width	1.88 ms
Period	2.049 ms
Number of Pulses	1
Value (%)	91.7
Limit (%)	N/A
Results	N/A

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



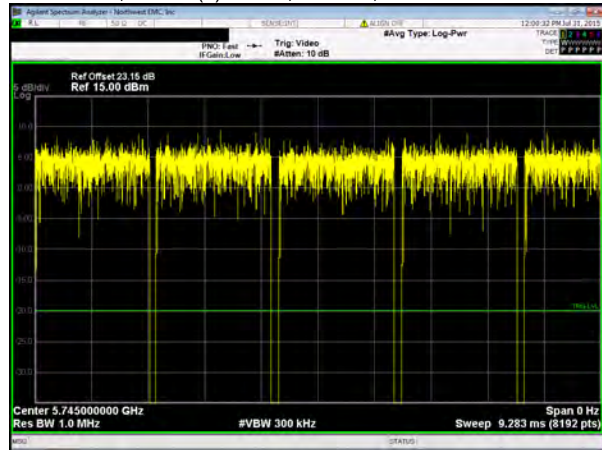
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

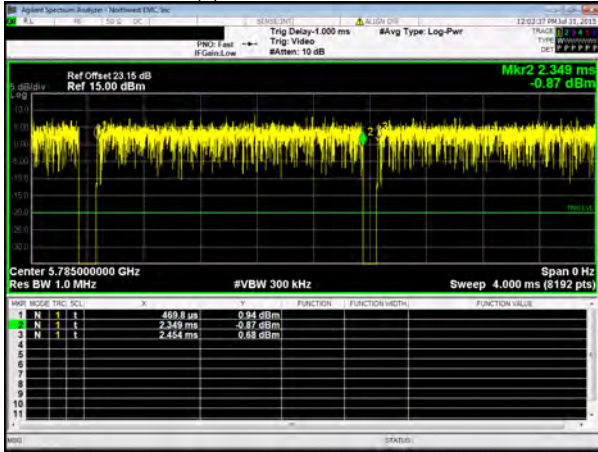
Chain A, 802.11(n) MCS0, 20 MHz, Low Channel 5745 MHz



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

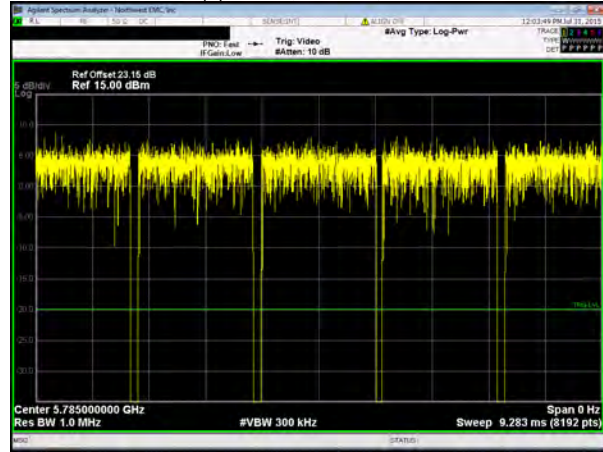
DUTY CYCLE

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



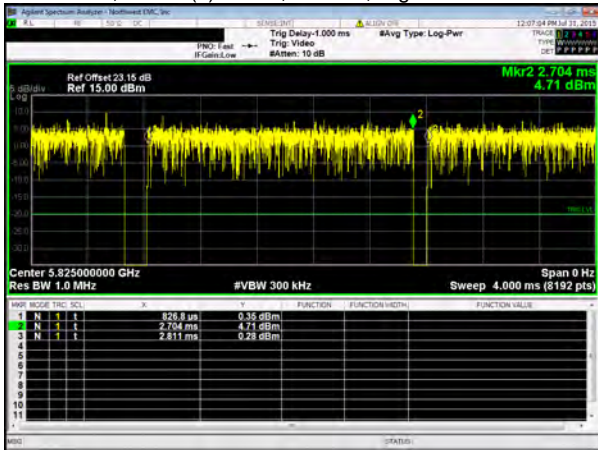
Pulse Width	1.88 ms
Period	1.984 ms
Number of Pulses	1
Value (%)	94.7
Limit (%)	N/A
Results	N/A

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



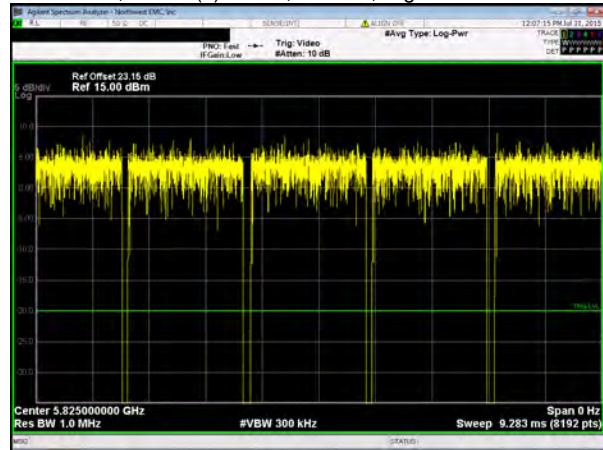
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

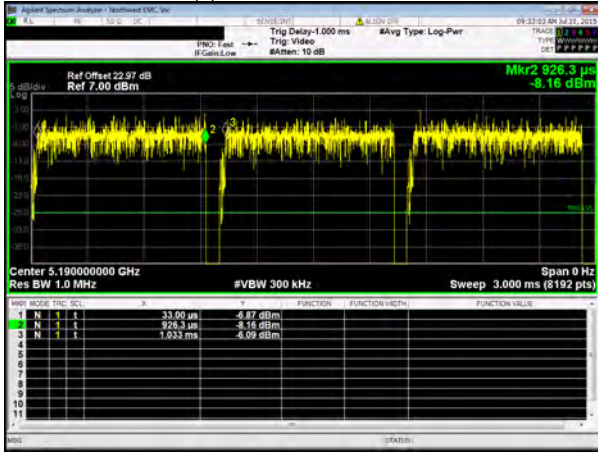
Chain A, 802.11(n) MCS0, 20 MHz, High Channel 5825 MHz



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

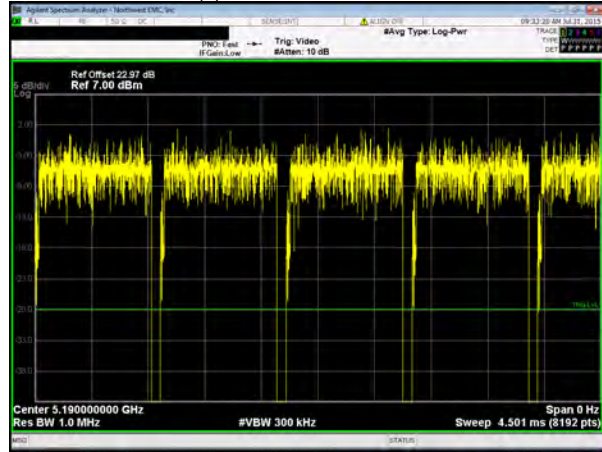
DUTY CYCLE

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



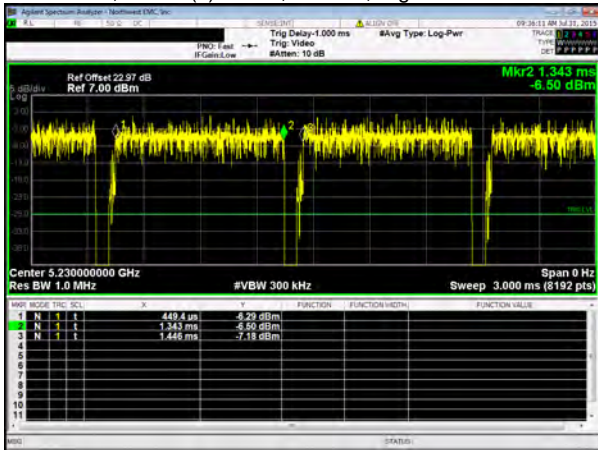
Pulse Width	893.302 us
Period	1 ms
Number of Pulses	1
Value (%)	89.3
Limit (%)	N/A
Results	N/A

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



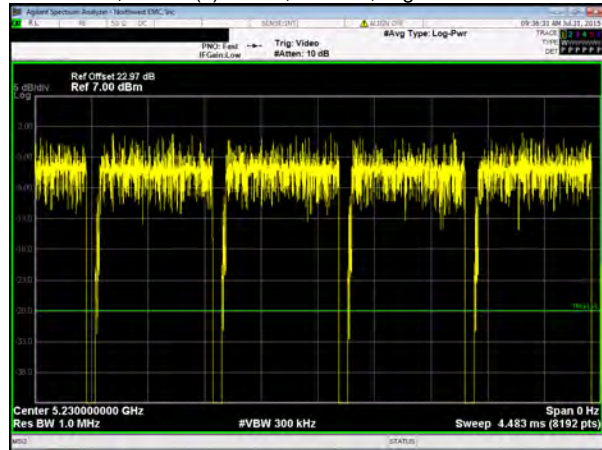
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

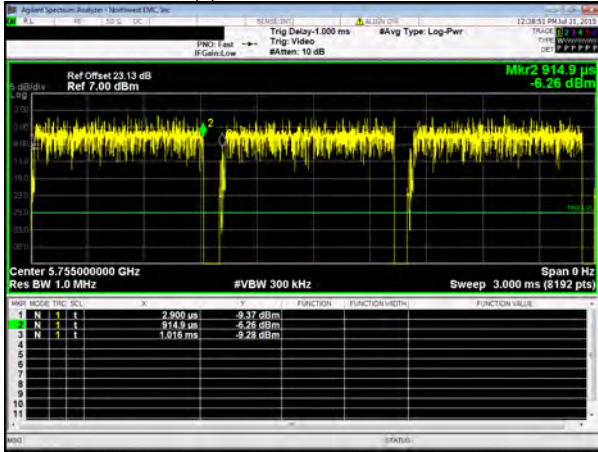
Chain A, 802.11(n) MCS0, 40 MHz, High Channel 5230 MHz



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

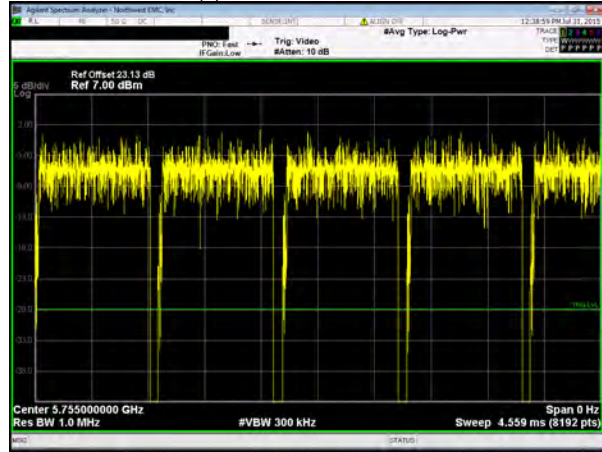
DUTY CYCLE

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



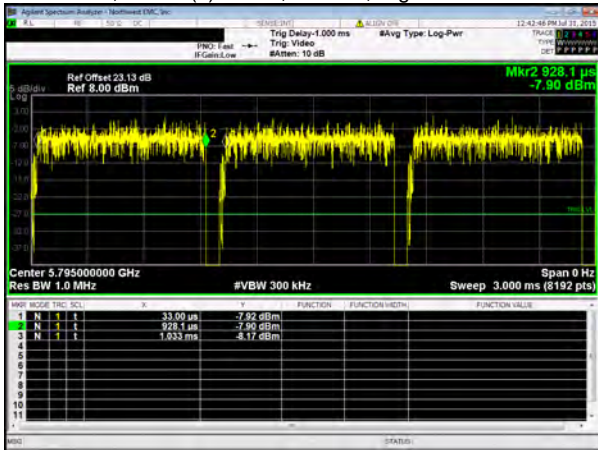
Pulse Width	911.967 us
Period	1.013 ms
Number of Pulses	1
Value (%)	90
Limit (%)	N/A
Results	N/A

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



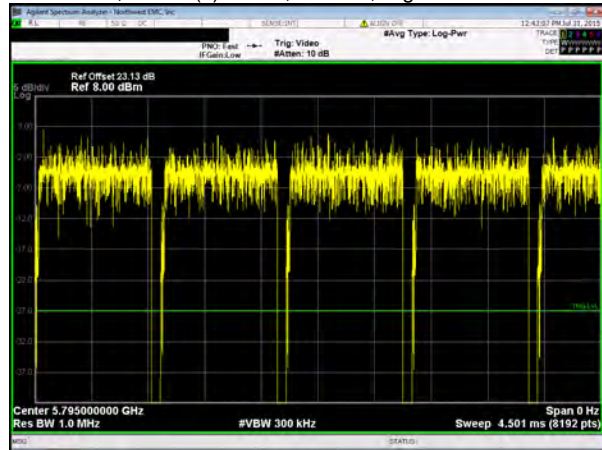
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

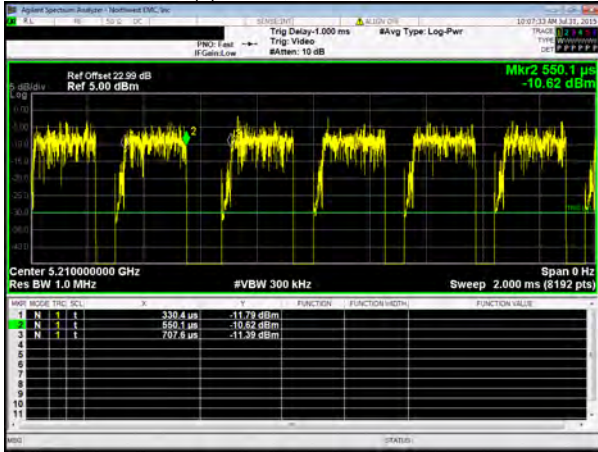
Chain A, 802.11(n) MCS0, 40 MHz, High Channel 5795 MHz



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



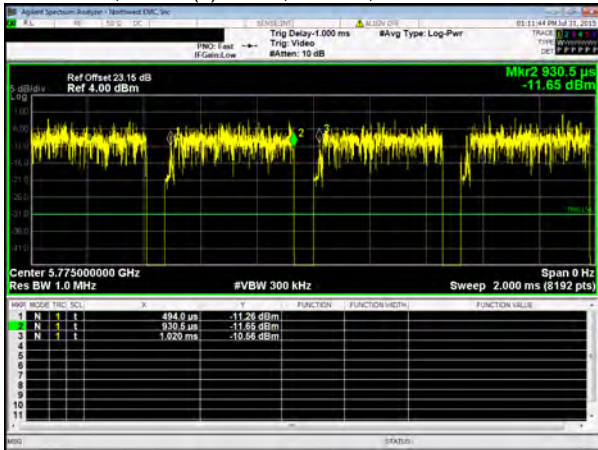
Pulse Width	219.667 us
Period	377.2 us
Number of Pulses	1
Value (%)	58.2
Limit (%)	N/A
Results	N/A

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



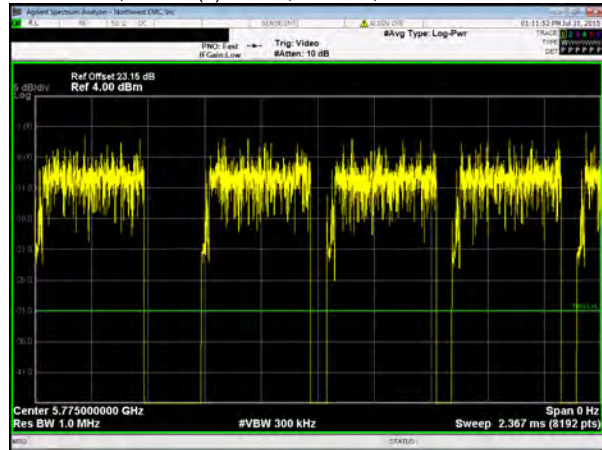
Pulse Width	N/A
Period	N/A
Number of Pulses	7
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



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

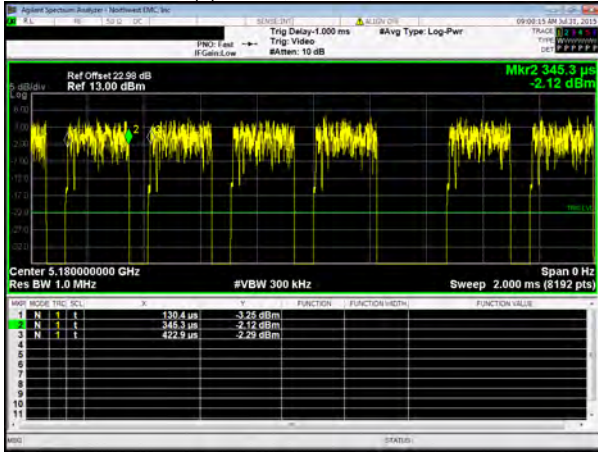
Chain A, 802.11(n) MCS0, 80 MHz, Low Channel 5775 MHz



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

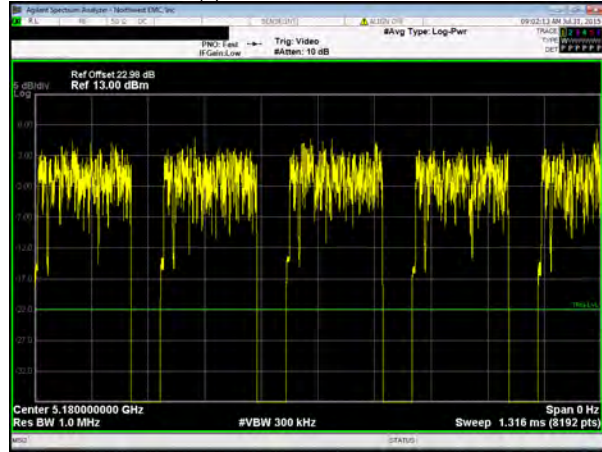
DUTY CYCLE

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



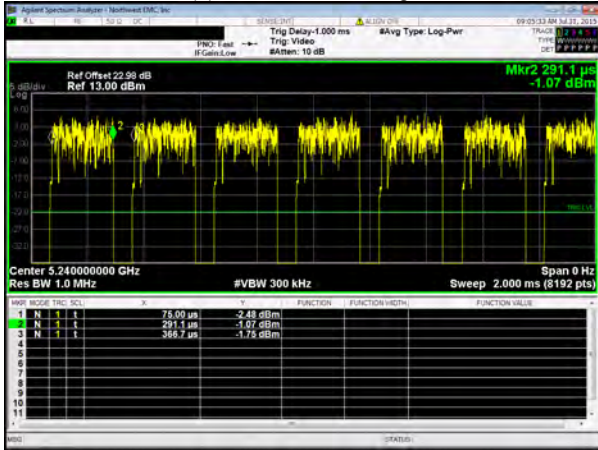
Pulse Width	214.891 us
Period	292.5 us
Number of Pulses	1
Value (%)	73.5
Limit (%)	N/A
Results	N/A

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

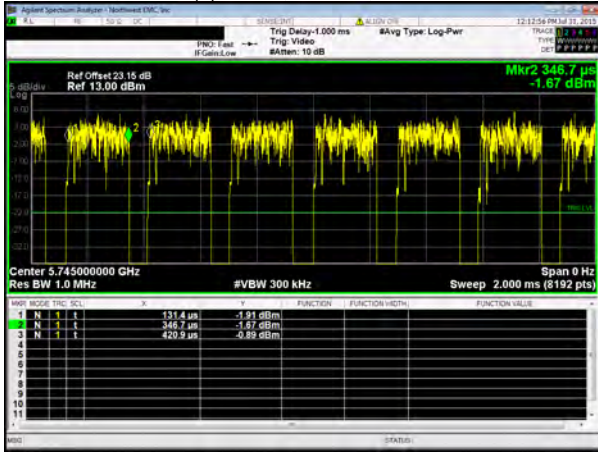
Chain A, 802.11(n) MCS7, 20 MHz, High Channel 5240 MHz



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



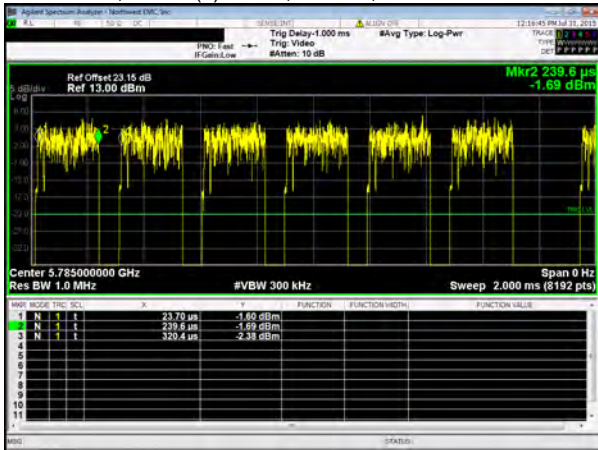
Pulse Width	215.279 us
Period	289.5 us
Number of Pulses	1
Value (%)	74.4
Limit (%)	N/A
Results	N/A

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



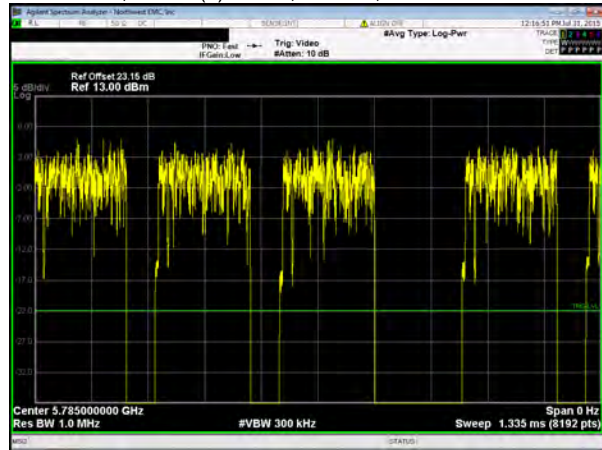
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

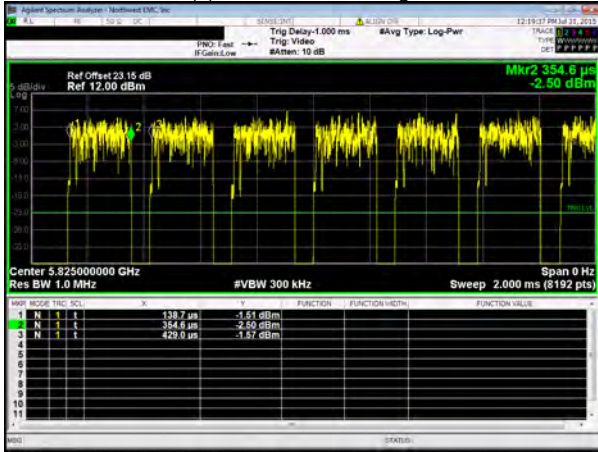
Chain A, 802.11(n) MCS7, 20 MHz, Mid Channel 5785 MHz



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

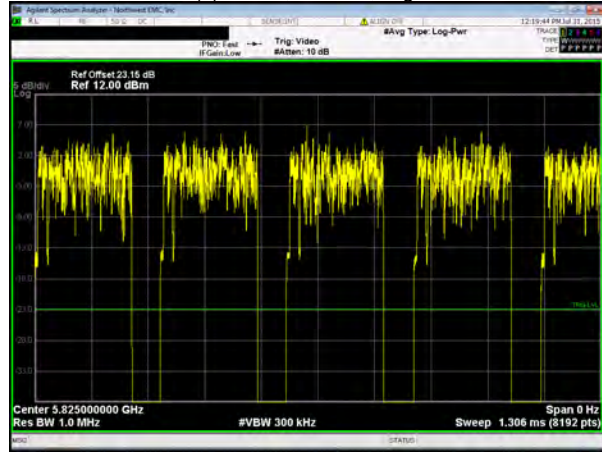
DUTY CYCLE

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



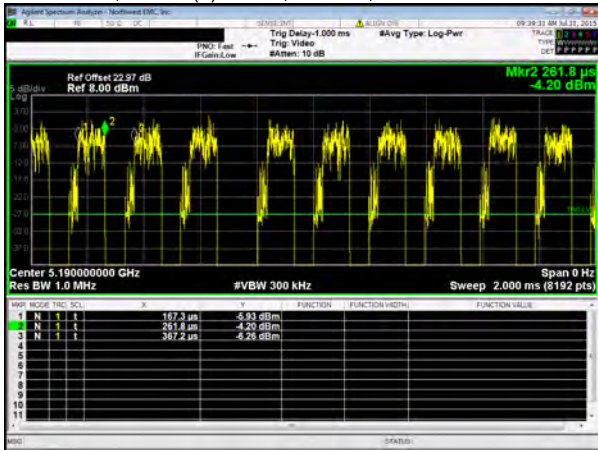
Pulse Width	215.867 us
Period	290.3 us
Number of Pulses	1
Value (%)	74.4
Limit (%)	N/A
Results	N/A

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



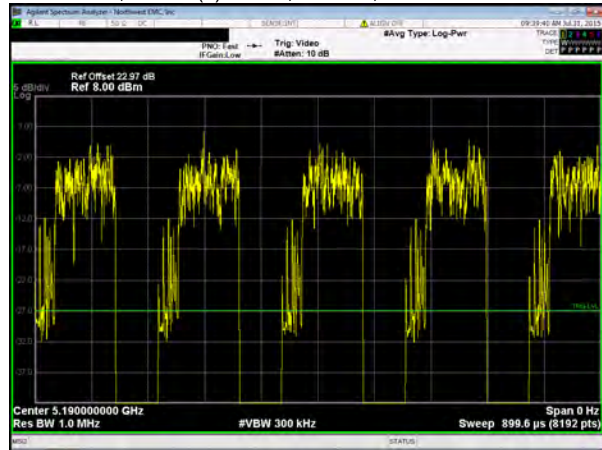
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

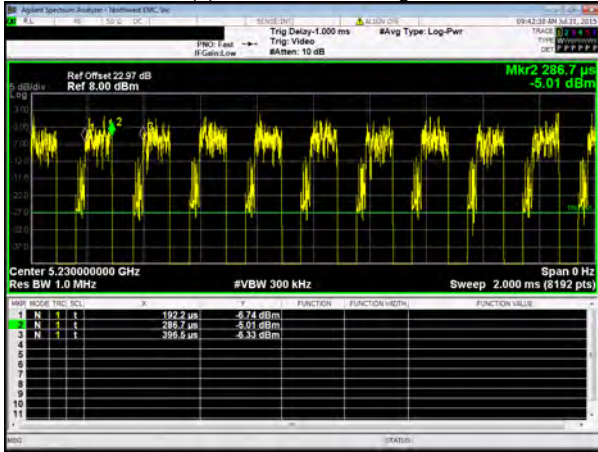
Chain A, 802.11(n) MCS7, 40 MHz, Low Channel 5190 MHz



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

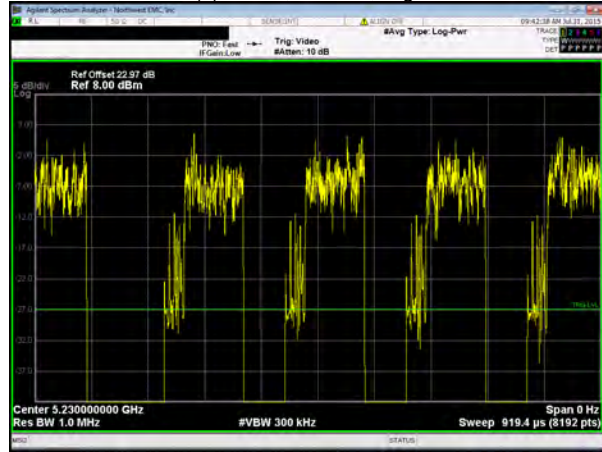
DUTY CYCLE

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



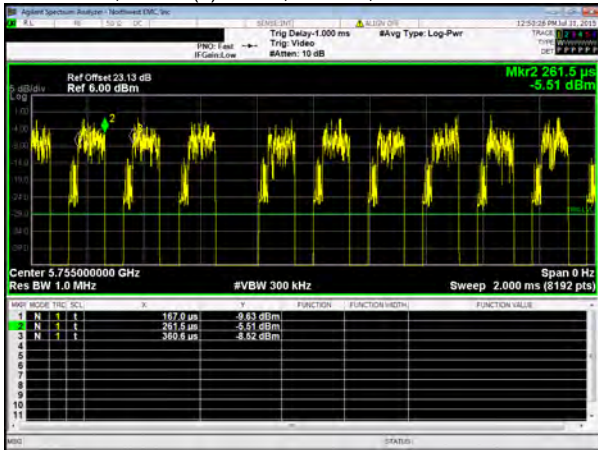
Pulse Width	94.467 us
Period	204.3 us
Number of Pulses	1
Value (%)	46.2
Limit (%)	N/A
Results	N/A

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



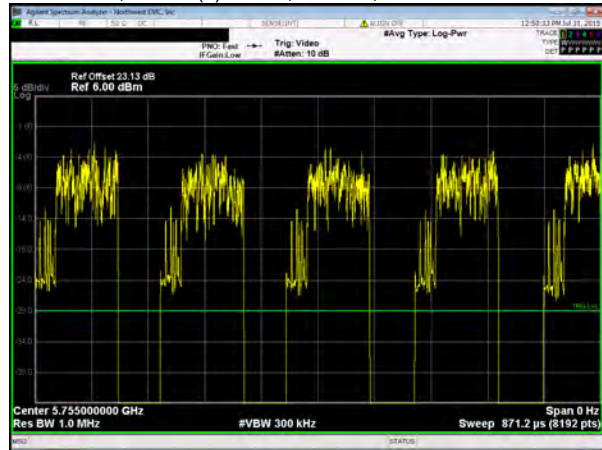
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

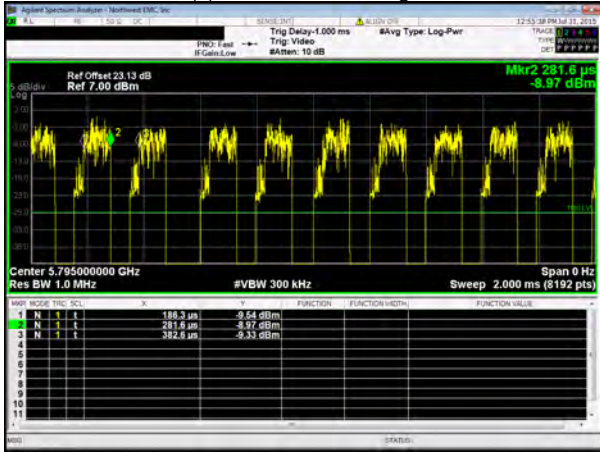
Chain A, 802.11(n) MCS7, 40 MHz, Low Channel 5755 MHz



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

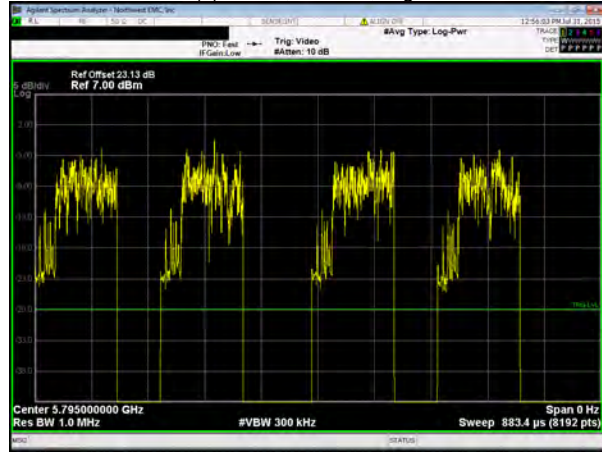
DUTY CYCLE

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



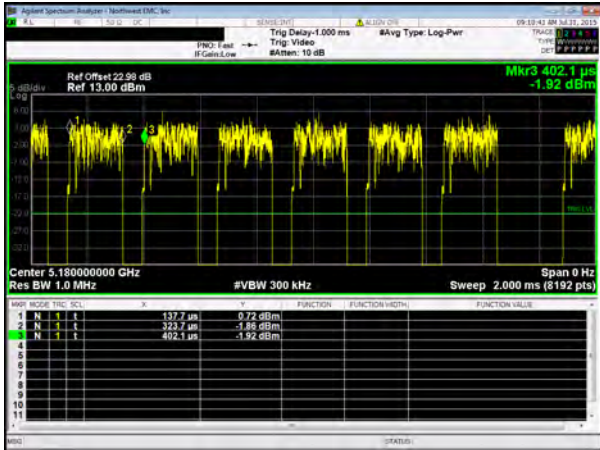
Pulse Width	95.267 us
Period	196.3 us
Number of Pulses	1
Value (%)	48.5
Limit (%)	N/A
Results	N/A

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



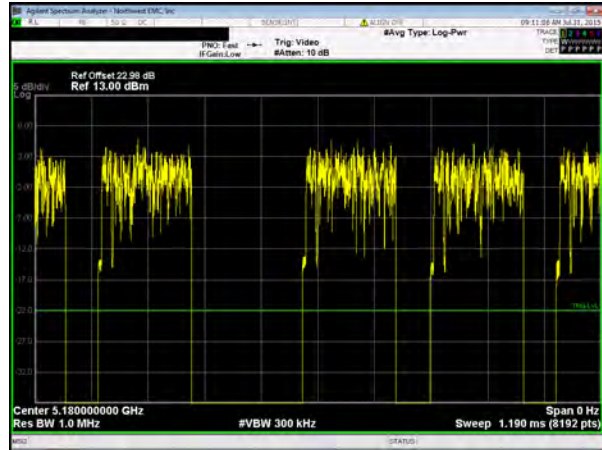
Pulse Width	N/A
Period	N/A
Number of Pulses	4
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

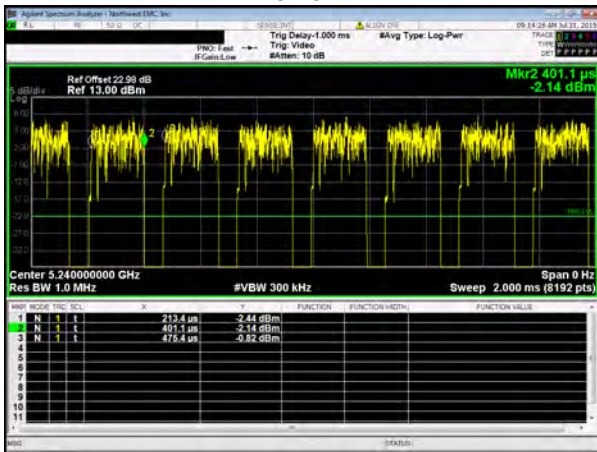
Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, Low Channel 5180 MHz



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



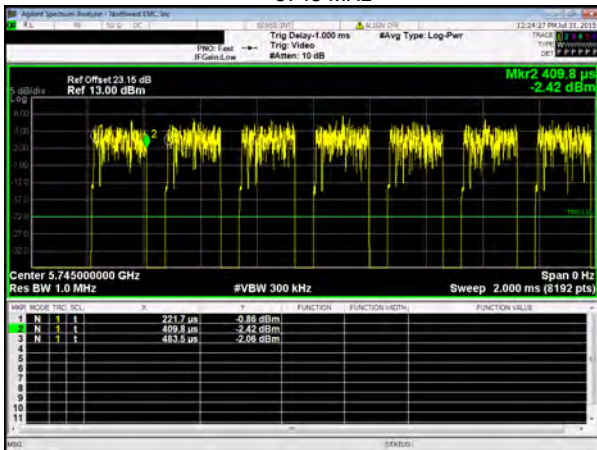
Pulse Width	187.723 us
Period	262 us
Number of Pulses	1
Value (%)	71.7
Limit (%)	N/A
Results	N/A

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



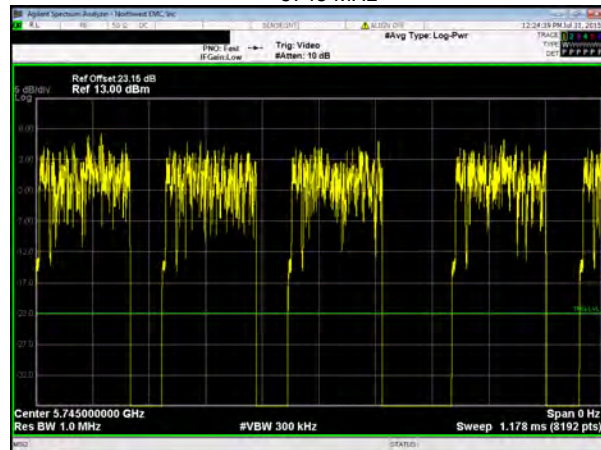
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

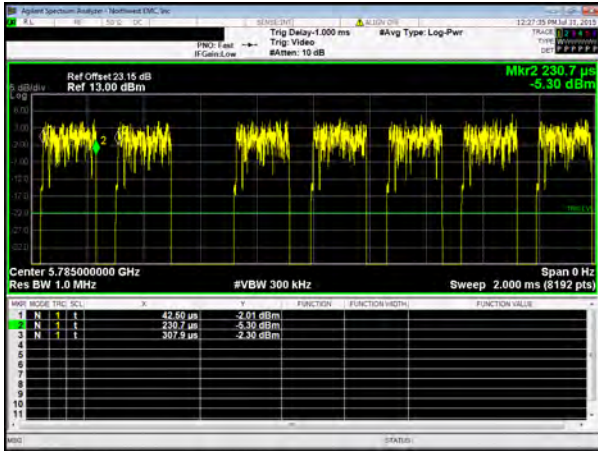
Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, Low Channel
5745 MHz



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

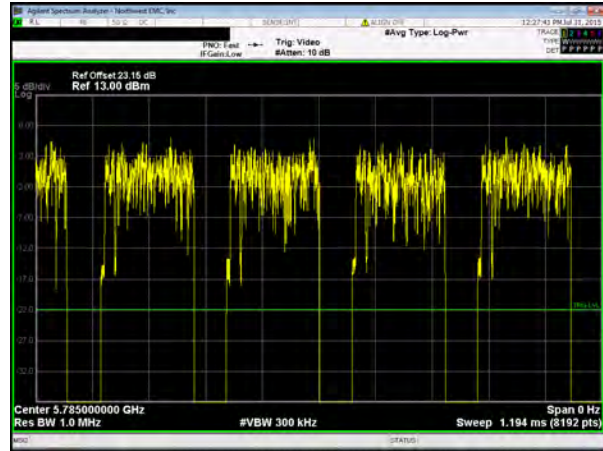
DUTY CYCLE

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



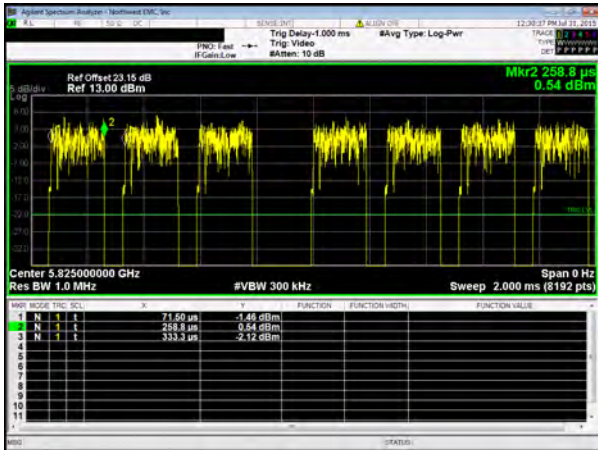
Pulse Width	188.212 us
Period	265.4 us
Number of Pulses	1
Value (%)	70.9
Limit (%)	N/A
Results	N/A

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



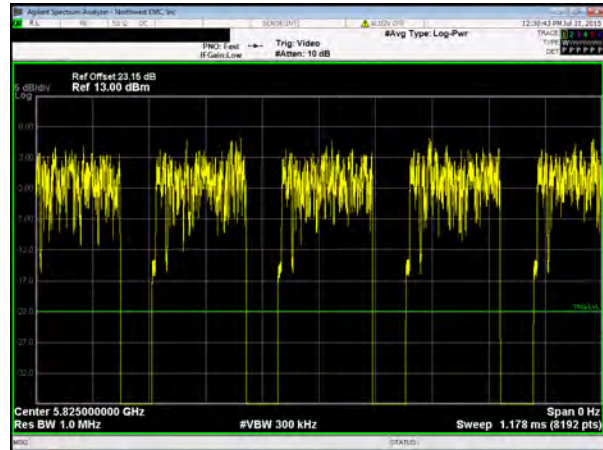
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

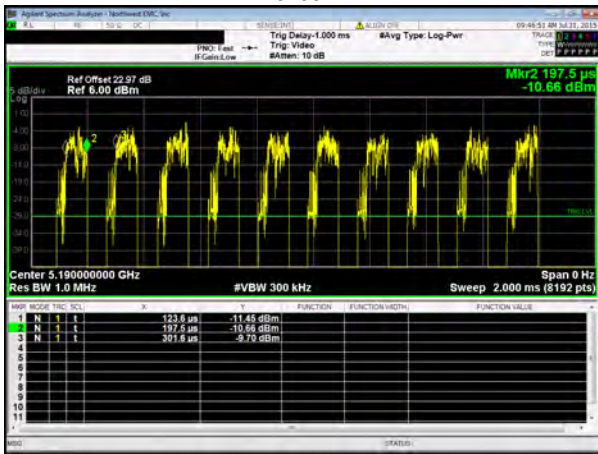
Chain A, 802.11(ac) MCS8 (256-QAM), 20 MHz, High Channel 5825 MHz



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

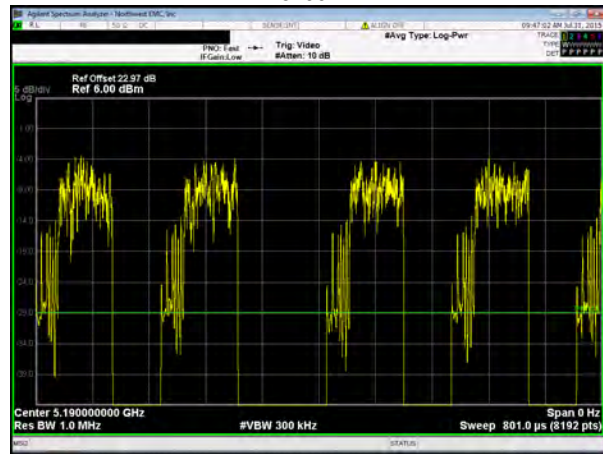
DUTY CYCLE

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



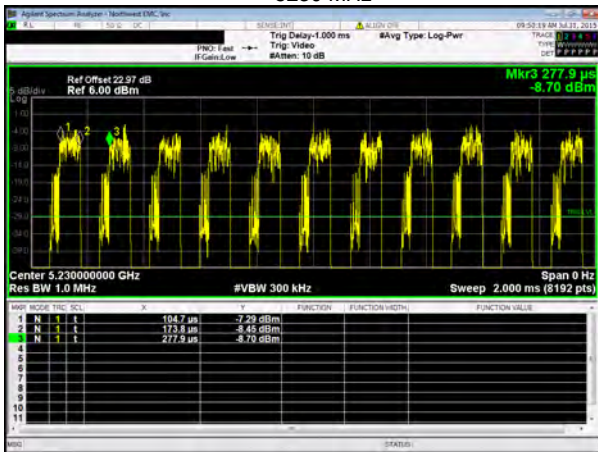
Pulse Width	73.891 us
Period	178 us
Number of Pulses	1
Value (%)	41.5
Limit (%)	N/A
Results	N/A

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



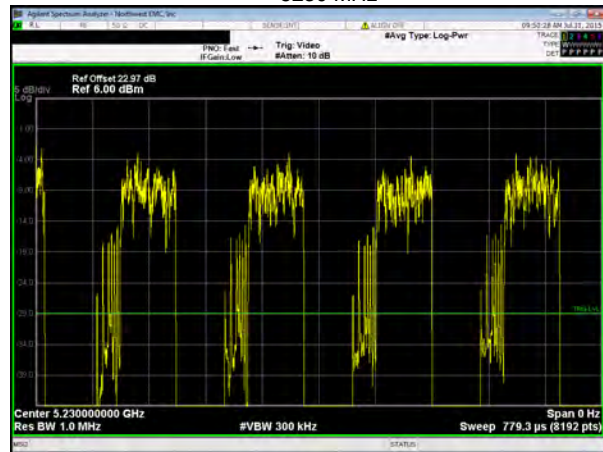
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

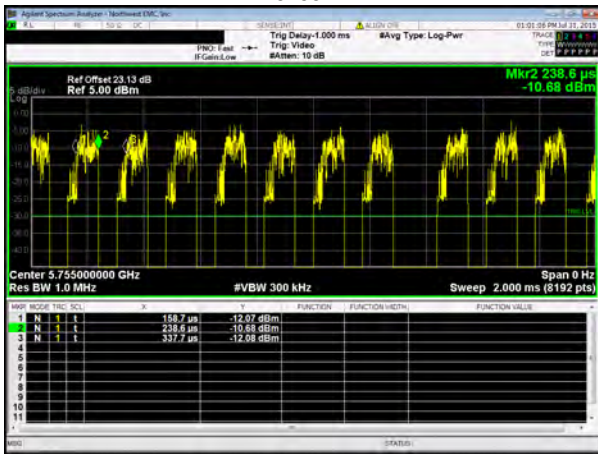
Chain A, 802.11(ac) MCS9 (256-QAM), 40 MHz, High Channel
5230 MHz



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

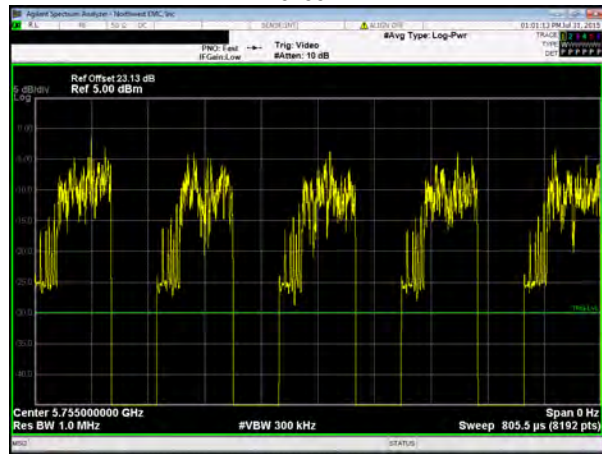
DUTY CYCLE

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



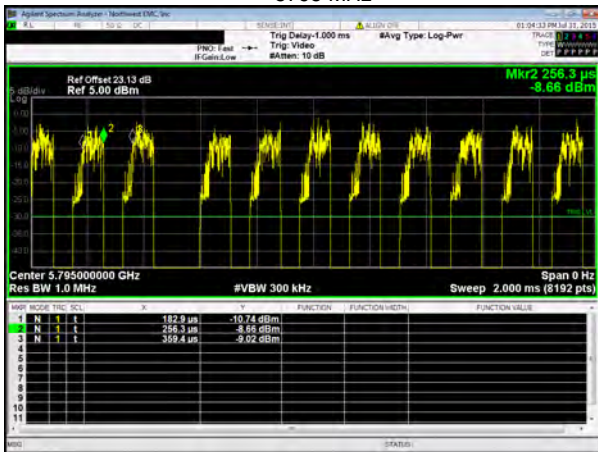
Pulse Width	79.867 us
Period	179 us
Number of Pulses	1
Value (%)	44.6
Limit (%)	N/A
Results	N/A

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



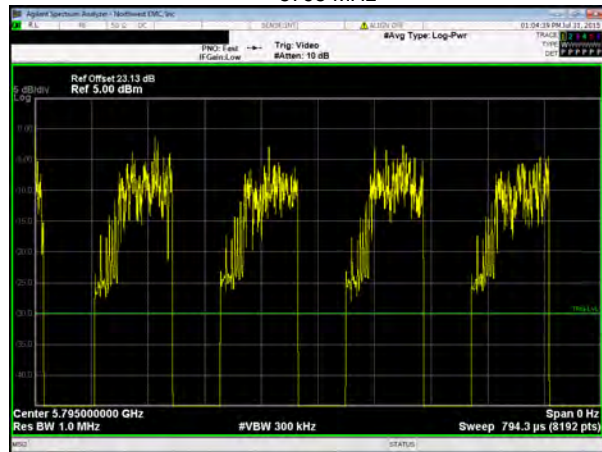
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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

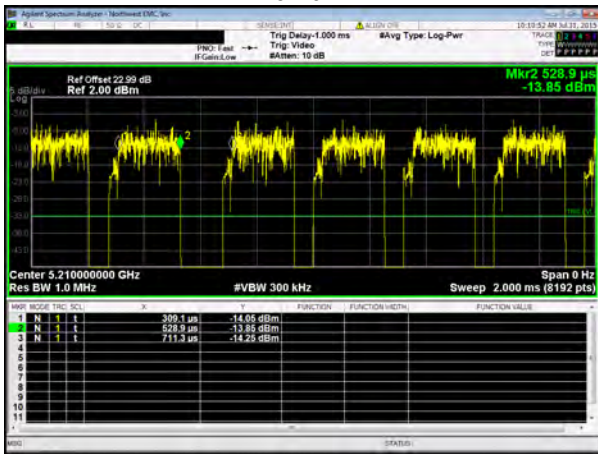
Chain A, 802.11(ac) MCS9 (256-QAM), 40 MHz, High Channel
5795 MHz



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

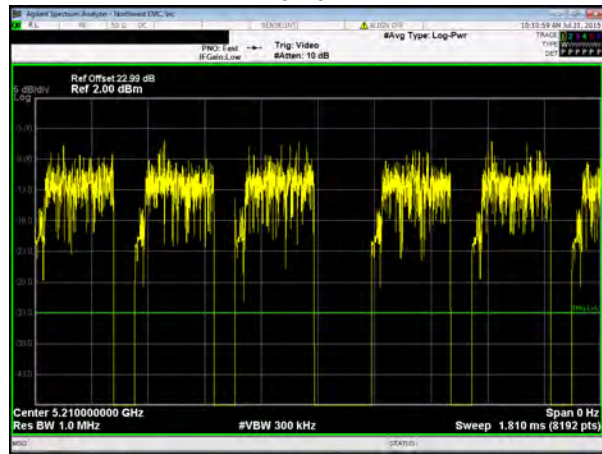
DUTY CYCLE

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



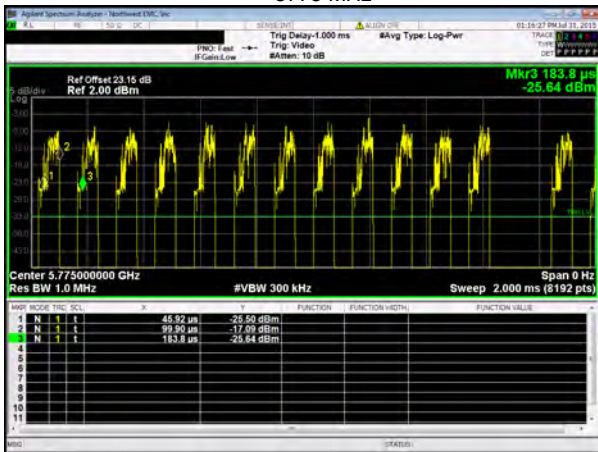
Pulse Width	219.767 us
Period	402.2 us
Number of Pulses	1
Value (%)	54.6
Limit (%)	N/A
Results	N/A

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



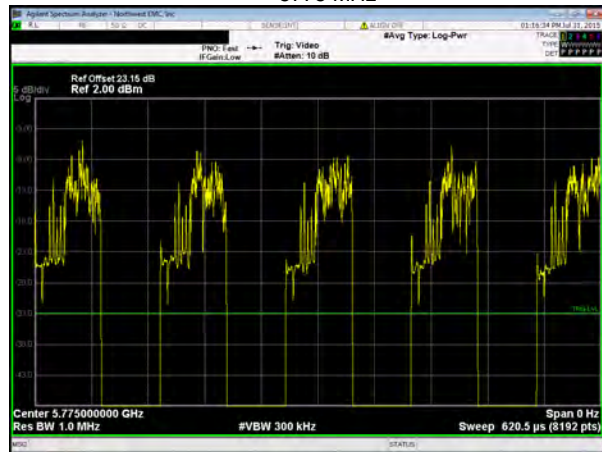
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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