

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
Spectrum Analyzer	Agilent	N9010A	AFL	9/20/2014	9/20/2015
DC Block, 40 GHz	Fairview Microwave	SD3379	AMM	2/27/2015	2/27/2016
Attenuator, 20dB, 40 GHz	Fairview Microwave	SA4018-20	TQY	2/27/2015	2/27/2016
Signal Generator, 40 GHz	Agilent	N5173B	TIW	7/15/2014	7/15/2017

DUTY CYCLE

EUT:	Firebox T50-W (BS5AE7W)	Work Order:	VDEI0009
Serial Number:	70AF00069-3EB6	Date:	08/03/15
Customer:	WatchGuard Technologies, Inc.	Temperature:	25.5°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 B corresponds to Chain 1.

DEVIATIONS FROM TEST STANDARD

None

RESULTS

				Number of Value Limit			Results	
		Pulse Width	Period	Pulses	(%)	(%)		
Chain B								
802.11(a) 6 Mbps								
20 MHz								
	Low Channel 5180 MHz	2.02 ms	2.105 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	2.02 ms	2.264 ms	1	89.2	N/A	N/A	
	High Channel 5240 MHz	N/A	N/A	5	N/A	N/A	N/A	
	Low Channel 5745 MHz	2.02 ms	2.149 ms	1	94	N/A	N/A	
	Low Channel 5745 MHz	N/A	N/A	5	N/A	N/A	N/A	
	Mid Channel 5785 MHz	2.02 ms	2.106 ms	1	95.9	N/A	N/A	
	Mid Channel 5785 MHz	N/A	N/A	6	N/A	N/A	N/A	
	High Channel 5825 MHz	2.02 ms	2.101 ms	1	96.1	N/A	N/A	
	High Channel 5825 MHz	N/A	N/A	5	N/A	N/A	N/A	
802.11(a) 36 Mbps								
20 MHz								
	Low Channel 5180 MHz	347.235 us	434.2 us	1	80	N/A	N/A	
	Low Channel 5180 MHz	N/A	N/A	5	N/A	N/A	N/A	
	High Channel 5240 MHz	347.723 us	421.7 us	1	82.5	N/A	N/A	
	High Channel 5240 MHz	N/A	N/A	6	N/A	N/A	N/A	
	Low Channel 5745 MHz	347.967 us	421.9 us	1	82.5	N/A	N/A	
	Low Channel 5745 MHz	N/A	N/A	5	N/A	N/A	N/A	
	Mid Channel 5785 MHz	348.212 us	428.3 us	1	81.3	N/A	N/A	
	Mid Channel 5785 MHz	N/A	N/A	5	N/A	N/A	N/A	
	High Channel 5825 MHz	347.235 us	425.6 us	1	81.6	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	235.667 us	320.087 us	1	73.6	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	309.9 us	1	76	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	234.447 us	309.6 us	1	75.7	N/A	N/A
Low Channel 5745 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 5785 MHz	235.423 us	312.8 us	1	75.3	N/A	N/A
Mid Channel 5785 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 5825 MHz	236.112 us	309.9 us	1	76.2	N/A	N/A
High Channel 5825 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(n) HT, MCS0						
20 MHz						
Low Channel 5180 MHz	1.881 ms	1.981 ms	1	94.9	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	2.05 ms	1	91.7	N/A	N/A
High Channel 5240 MHz	N/A	N/A	6	N/A	N/A	N/A
Low Channel 5745 MHz	1.879 ms	2.014 ms	1	93.3	N/A	N/A
Low Channel 5745 MHz	N/A	N/A	6	N/A	N/A	N/A
Mid Channel 5785 MHz	1.881 ms	1.961 ms	1	95.9	N/A	N/A
Mid Channel 5785 MHz	N/A	N/A	6	N/A	N/A	N/A
High Channel 5825 MHz	1.88 ms	1.981 ms	1	94.9	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	893.669 us	999.9 us	1	89.4	N/A	N/A
Low Channel 5190 MHz	N/A	N/A	6	N/A	N/A	N/A
High Channel 5230 MHz	894.1 us	996.3 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	912.7 us	1.033 ms	1	88.4	N/A	N/A
Low Channel 5755 MHz	N/A	N/A	6	N/A	N/A	N/A
High Channel 5795 MHz	894.03 us	1.001 ms	1	89.3	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	219.977 us	320.083 us	1	68.7	N/A	N/A
Low Channel 5210 MHz	N/A	N/A	6	N/A	N/A	N/A
Low Channel 5775 MHz	218.335 us	417.6 us	1	52.3	N/A	N/A
Low Channel 5775 MHz	N/A	N/A	7	N/A	N/A	N/A
802.11(n) HT, MCS7						
20 MHz						
Low Channel 5180 MHz	213.182 us	292.545 us	1	72.9	N/A	N/A
Low Channel 5180 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 5240 MHz	215.323 us	289.6 us	1	74.4	N/A	N/A
High Channel 5240 MHz	N/A	N/A	5	N/A	N/A	N/A
Low Channel 5745 MHz	215.523 us	297.6 us	1	72.4	N/A	N/A
Low Channel 5745 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 5785 MHz	216.112 us	292.2 us	1	74	N/A	N/A
Mid Channel 5785 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 5825 MHz	215.379 us	289.6 us	1	74.4	N/A	N/A

DUTY CYCLE

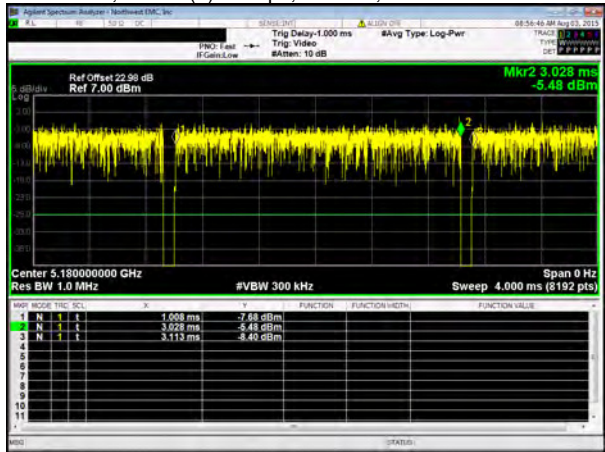
				Number of Value Limit			
		Pulse Width	Period	Pulses	(%)	(%)	Results
	High Channel 5825 MHz	N/A	N/A	5	N/A	N/A	N/A
40 MHz							
	Low Channel 5190 MHz	94.467 us	204.3 us	1	46.2	N/A	N/A
	Low Channel 5190 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel 5230 MHz	94.223 us	196.6 us	1	47.9	N/A	N/A
	High Channel 5230 MHz	N/A	N/A	6	N/A	N/A	N/A
	Low Channel 5755 MHz	95.212 us	197.8 us	1	48.1	N/A	N/A
	Low Channel 5755 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel 5795 MHz	120.106 us	221.206 us	1	54.3	N/A	N/A
	High Channel 5795 MHz	N/A	N/A	6	N/A	N/A	N/A
802.11(ac) VHT, MCS8 (256-QAM)							
20 MHz							
	Low Channel 5180 MHz	187.523 us	264.7 us	1	70.8	N/A	N/A
	Low Channel 5180 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel 5240 MHz	187.523 us	261.7 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	187.967 us	261.7 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	187.723 us	264.9 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	187.579 us	262 us	1	71.6	N/A	N/A
	High Channel 5825 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(ac) VHT, MCS9 (256-QAM)							
40 MHz							
	Low Channel 5190 MHz	74.923 us	176.5 us	1	42.4	N/A	N/A
	Low Channel 5190 MHz	N/A	N/A	6	N/A	N/A	N/A
	High Channel 5230 MHz	100.594 us	175.967 us	1	57.2	N/A	N/A
	High Channel 5230 MHz	N/A	N/A	5	N/A	N/A	N/A
	Low Channel 5755 MHz	74.412 us	173.8 us	1	42.8	N/A	N/A
	Low Channel 5755 MHz	N/A	N/A	6	N/A	N/A	N/A
	High Channel 5795 MHz	79.823 us	176.8 us	1	45.1	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	228.057 us	319.355 us	1	71.4	N/A	N/A
	Low Channel 5210 MHz	N/A	N/A	5	N/A	N/A	N/A
	Low Channel 5775 MHz	72.307 us	137.011 us	1	52.8	N/A	N/A
	Low Channel 5775 MHz	N/A	N/A	6	N/A	N/A	N/A

Jonathan Kiefer

Tested By

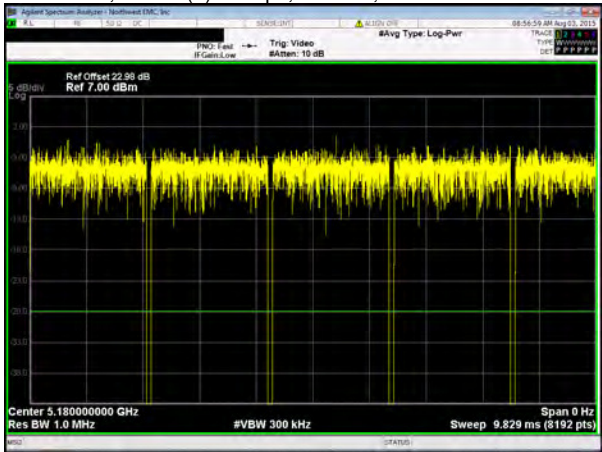
DUTY CYCLE

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



Pulse Width	2.02 ms
Period	2.105 ms
Number of Pulses	1
Value (%)	95.9
Limit (%)	N/A
Results	N/A

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



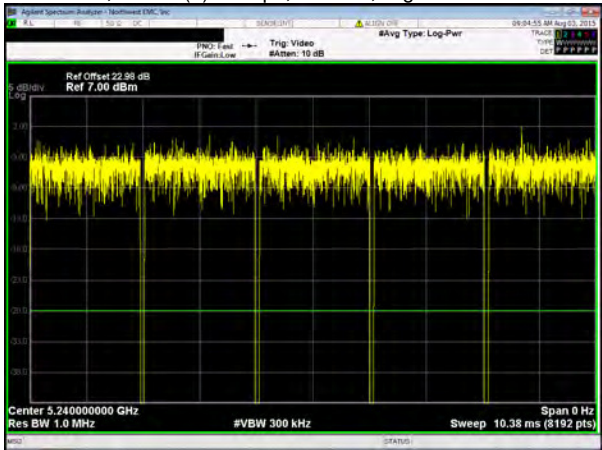
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	2.02 ms
Period	2.264 ms
Number of Pulses	1
Value (%)	89.2
Limit (%)	N/A
Results	N/A

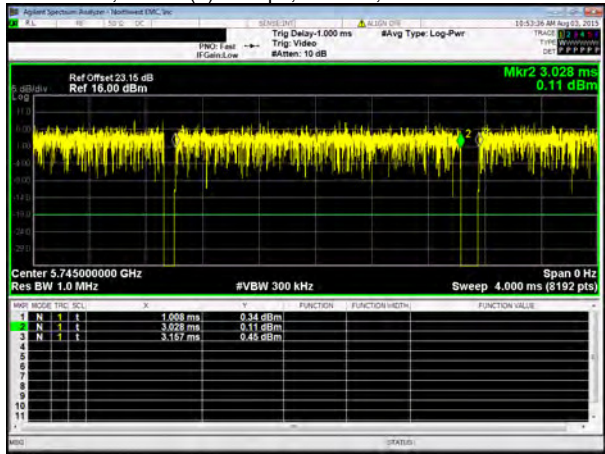
Chain B, 802.11(a) 6 Mbps, 20 MHz, High Channel 5240 MHz



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

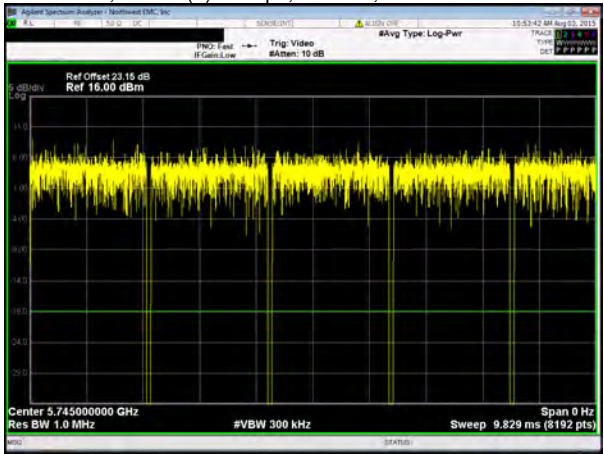
DUTY CYCLE

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



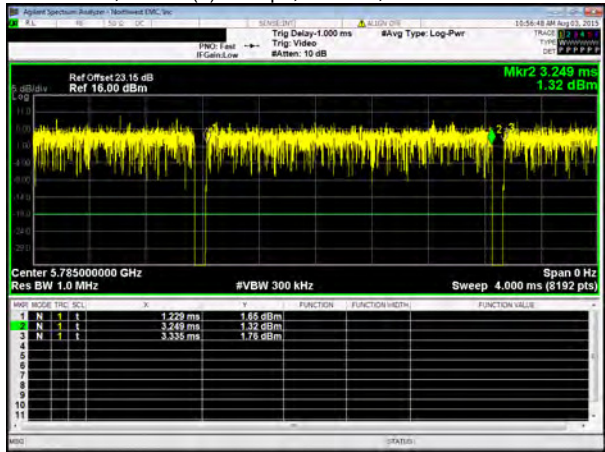
Pulse Width	2.02 ms
Period	2.149 ms
Number of Pulses	1
Value (%)	94
Limit (%)	N/A
Results	N/A

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



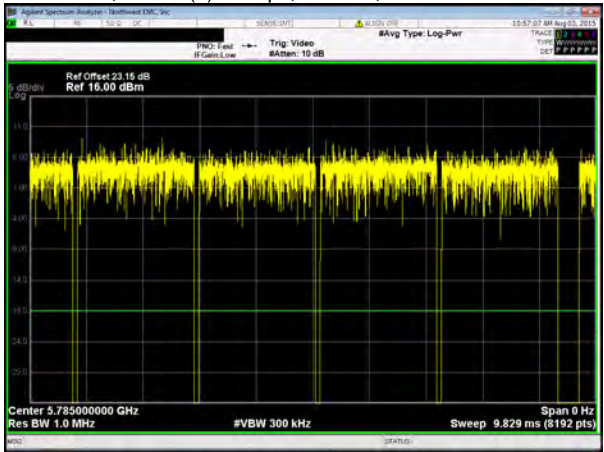
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



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

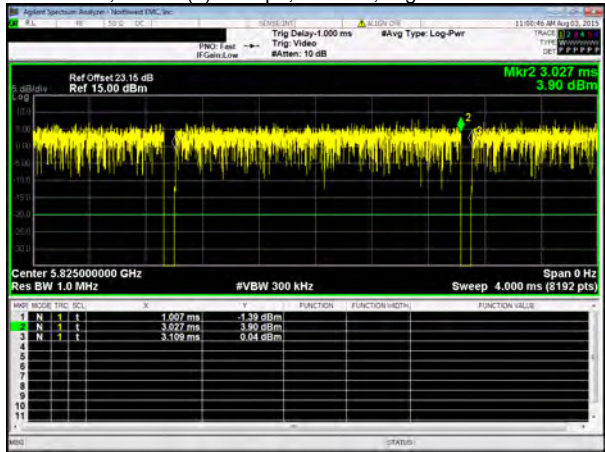
Chain B, 802.11(a) 6 Mbps, 20 MHz, Mid Channel 5785 MHz



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

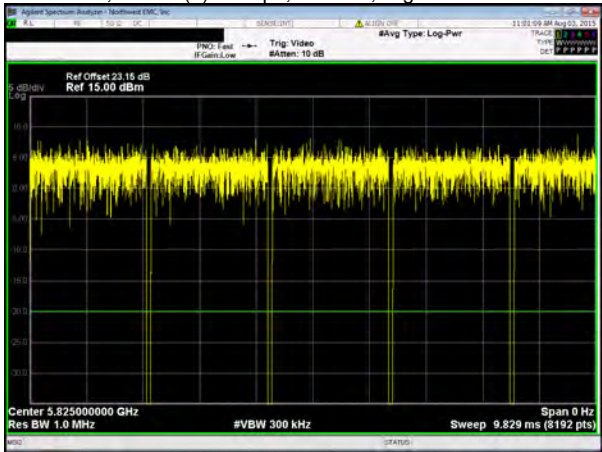
DUTY CYCLE

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



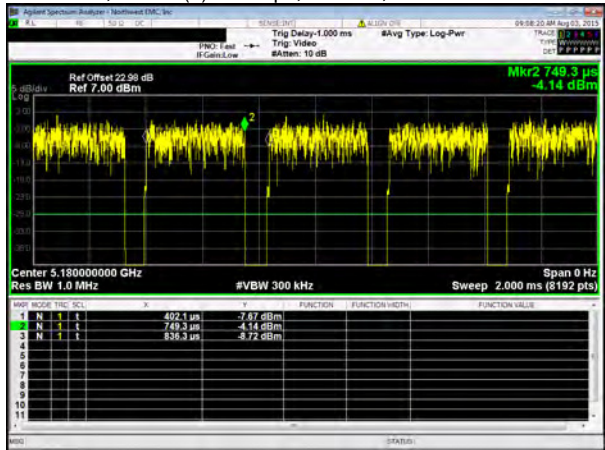
Pulse Width	2.02 ms
Period	2.101 ms
Number of Pulses	1
Value (%)	96.1
Limit (%)	N/A
Results	N/A

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



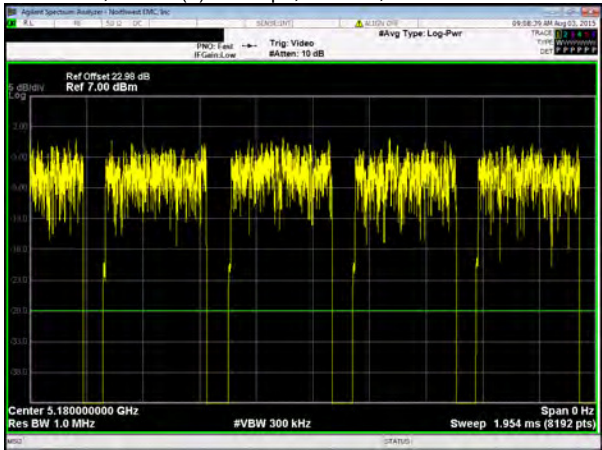
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	347.235 us
Period	434.2 us
Number of Pulses	1
Value (%)	80
Limit (%)	N/A
Results	N/A

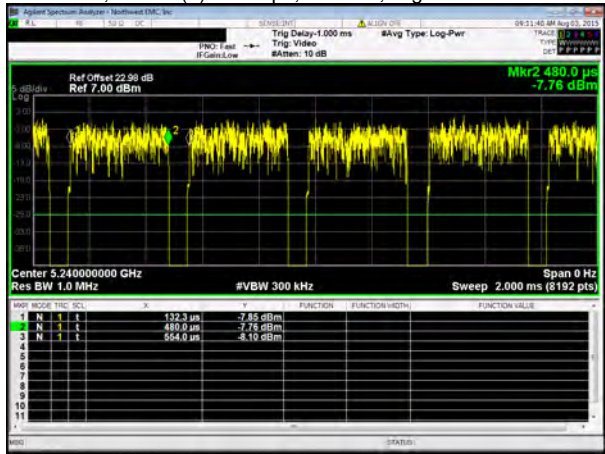
Chain B, 802.11(a) 36 Mbps, 20 MHz, Low Channel 5180 MHz



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

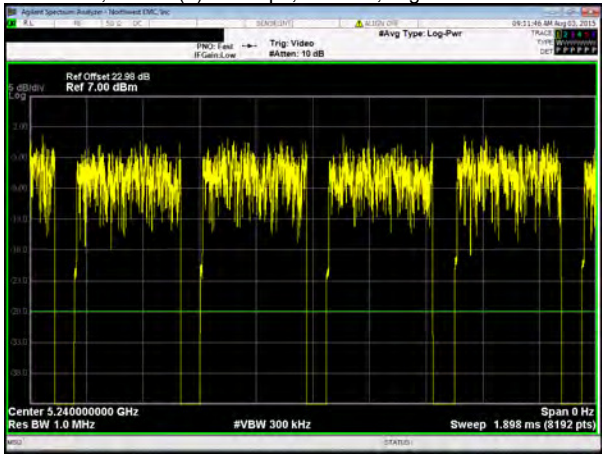
DUTY CYCLE

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



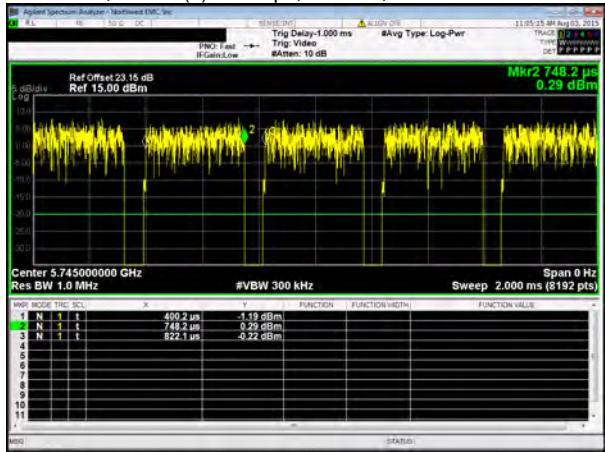
Pulse Width	347.723 us
Period	421.7 us
Number of Pulses	1
Value (%)	82.5
Limit (%)	N/A
Results	N/A

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



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

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



Pulse Width	347.967 us
Period	421.9 us
Number of Pulses	1
Value (%)	82.5
Limit (%)	N/A
Results	N/A

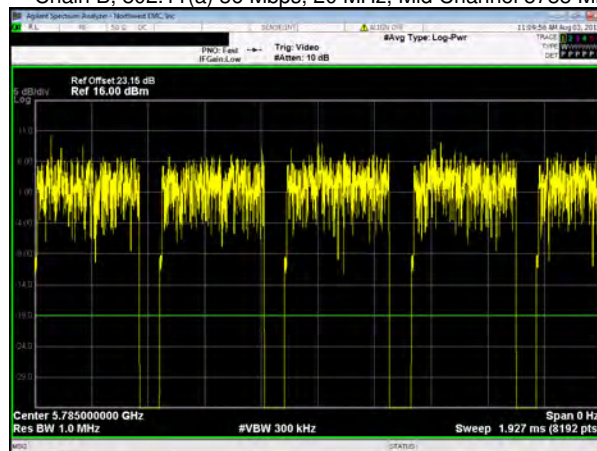
Chain B, 802.11(a) 36 Mbps, 20 MHz, Low Channel 5745 MHz



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

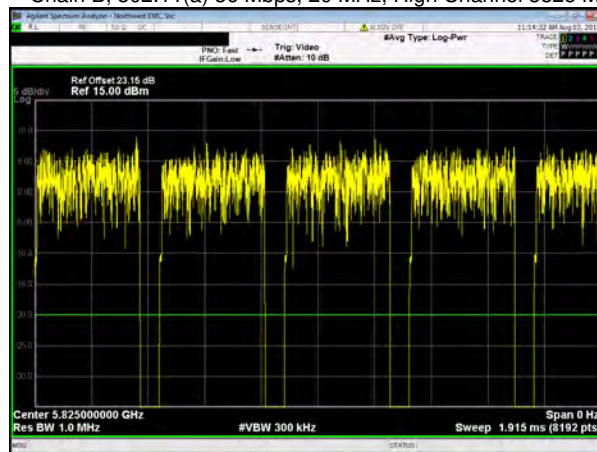
**NORTHWEST
EMC**

Chain B, 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

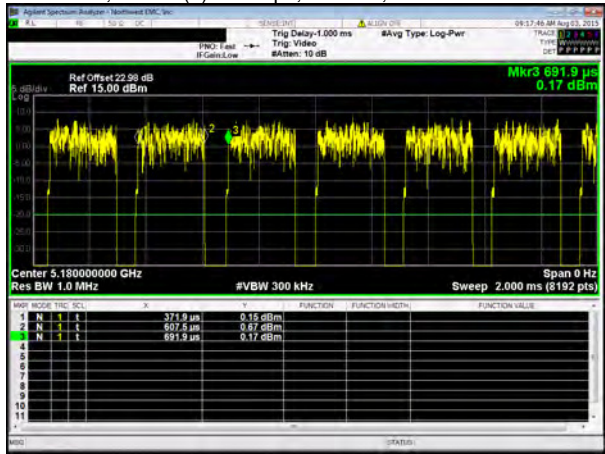
Chain B, 802.11(a) 36 Mbps, 20 MHz, High Channel 5825 MHz



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

DUTY CYCLE

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



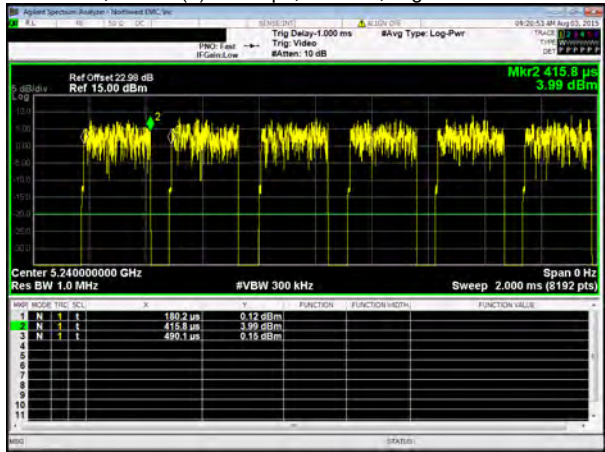
Pulse Width	235.667 us
Period	320.087 us
Number of Pulses	1
Value (%)	73.6
Limit (%)	N/A
Results	N/A

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



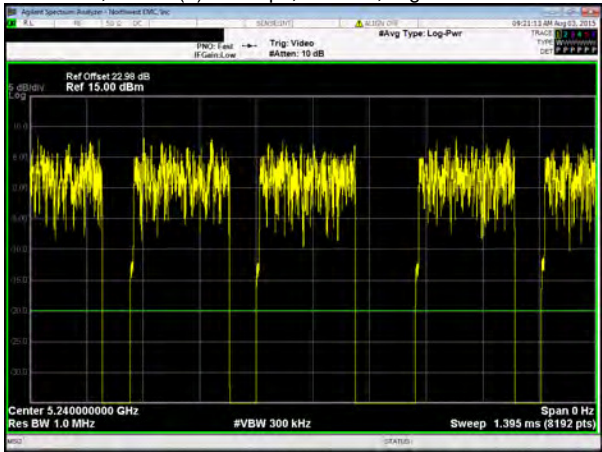
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	235.623 us
Period	309.9 us
Number of Pulses	1
Value (%)	76
Limit (%)	N/A
Results	N/A

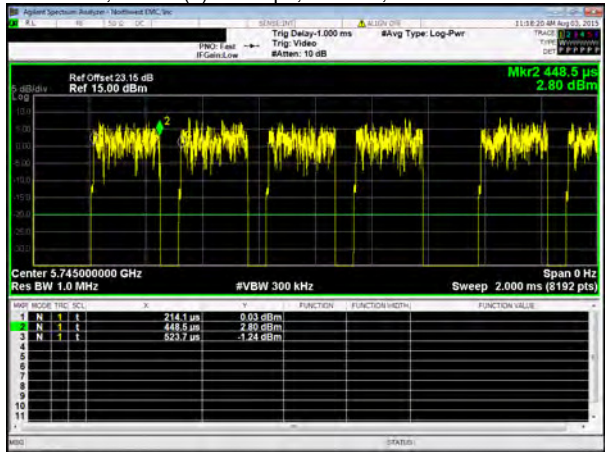
Chain B, 802.11(a) 54 Mbps, 20 MHz, High Channel 5240 MHz



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

DUTY CYCLE

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



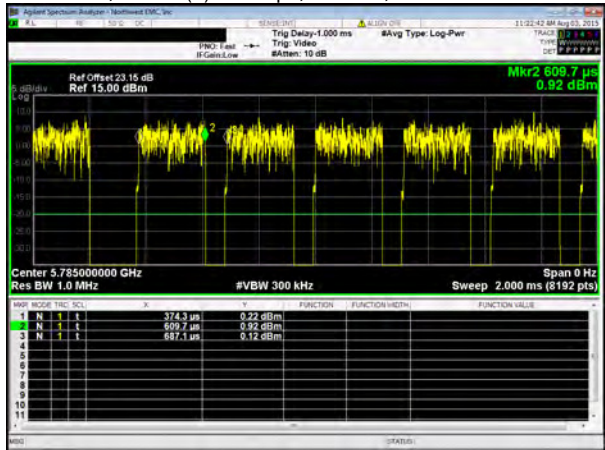
Pulse Width	234.447 us
Period	309.6 us
Number of Pulses	1
Value (%)	75.7
Limit (%)	N/A
Results	N/A

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



Pulse Width	235.423 us
Period	312.8 us
Number of Pulses	1
Value (%)	75.3
Limit (%)	N/A
Results	N/A

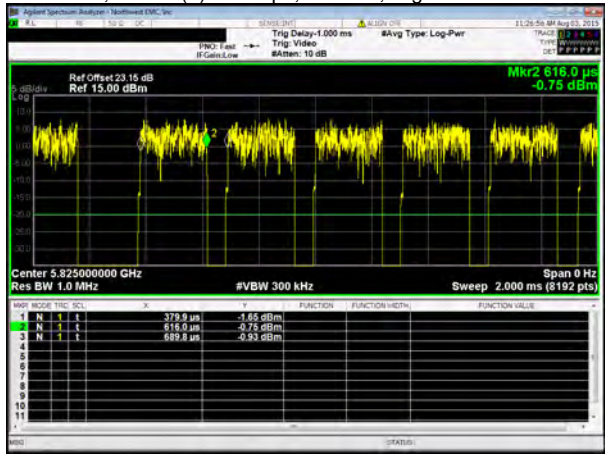
Chain B, 802.11(a) 54 Mbps, 20 MHz, Mid Channel 5785 MHz



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

DUTY CYCLE

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



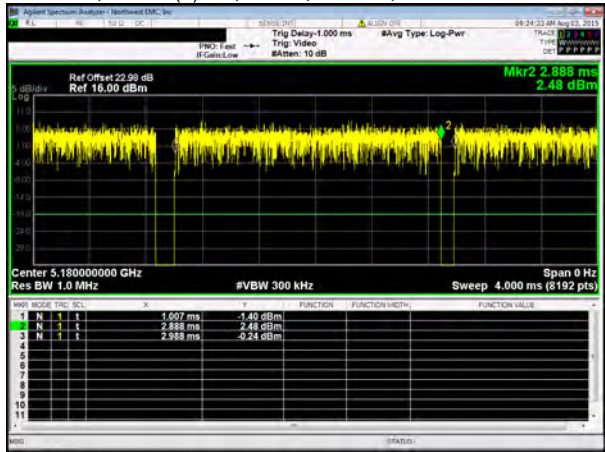
Pulse Width	236.112 us
Period	309.9 us
Number of Pulses	1
Value (%)	76.2
Limit (%)	N/A
Results	N/A

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



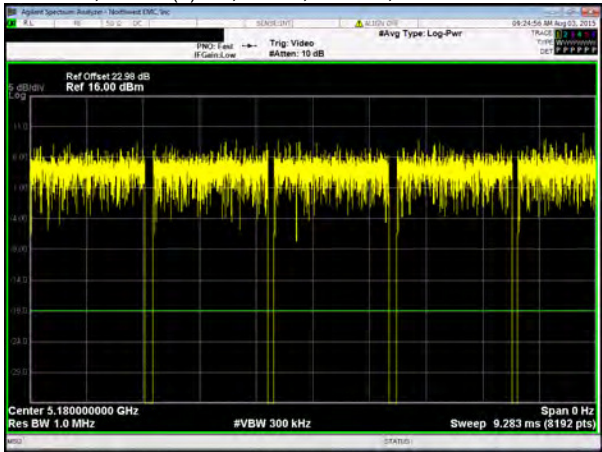
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	1.881 ms
Period	1.981 ms
Number of Pulses	1
Value (%)	94.9
Limit (%)	N/A
Results	N/A

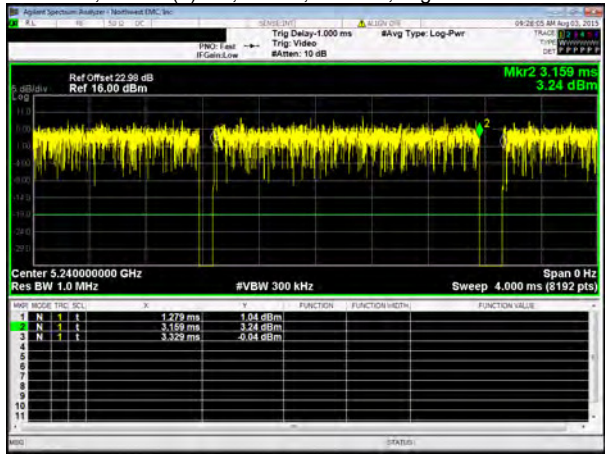
Chain B, 802.11(n) HT, MCS0, 20 MHz, Low Channel 5180 MHz



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

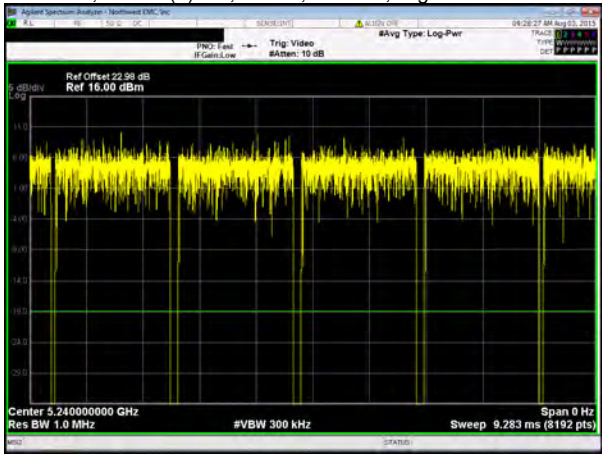
DUTY CYCLE

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



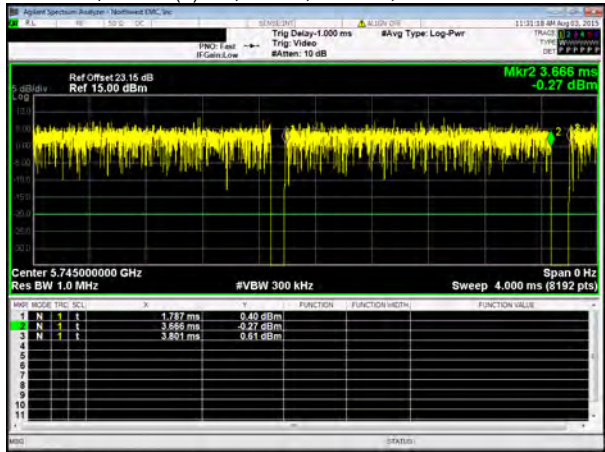
Pulse Width	1.88 ms
Period	2.05 ms
Number of Pulses	1
Value (%)	91.7
Limit (%)	N/A
Results	N/A

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



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

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



Pulse Width	1.879 ms
Period	2.014 ms
Number of Pulses	1
Value (%)	93.3
Limit (%)	N/A
Results	N/A

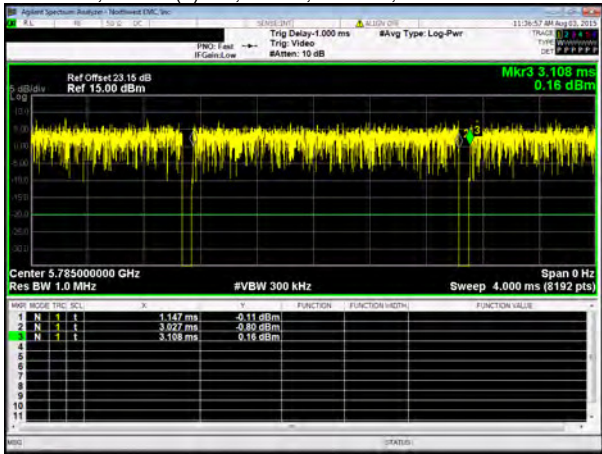
Chain B, 802.11(n) HT, MCS0, 20 MHz, Low Channel 5745 MHz



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

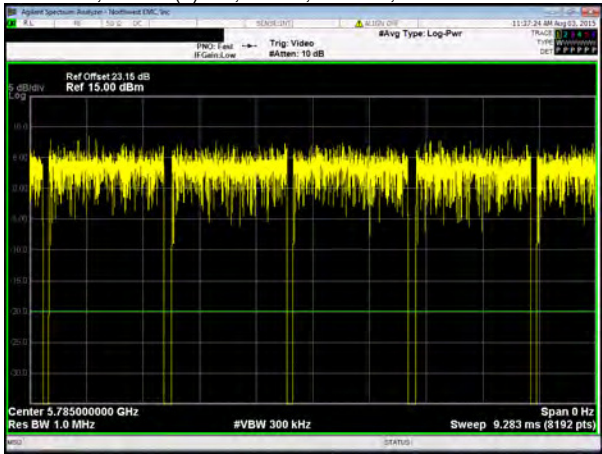
DUTY CYCLE

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



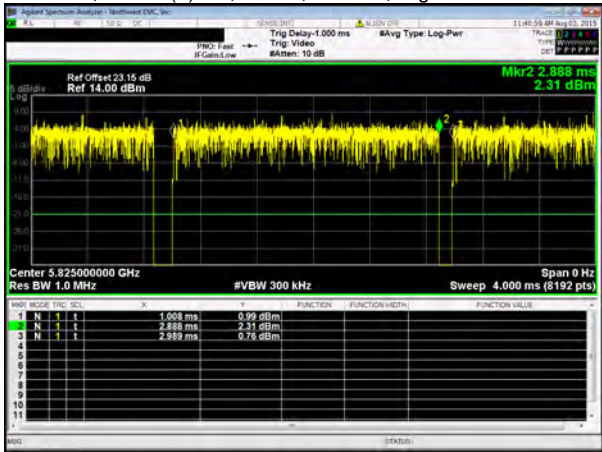
Pulse Width	1.881 ms
Period	1.961 ms
Number of Pulses	1
Value (%)	95.9
Limit (%)	N/A
Results	N/A

Chain B, 802.11(n) HT, MCS0, 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

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



Pulse Width	1.88 ms
Period	1.981 ms
Number of Pulses	1
Value (%)	94.9
Limit (%)	N/A
Results	N/A

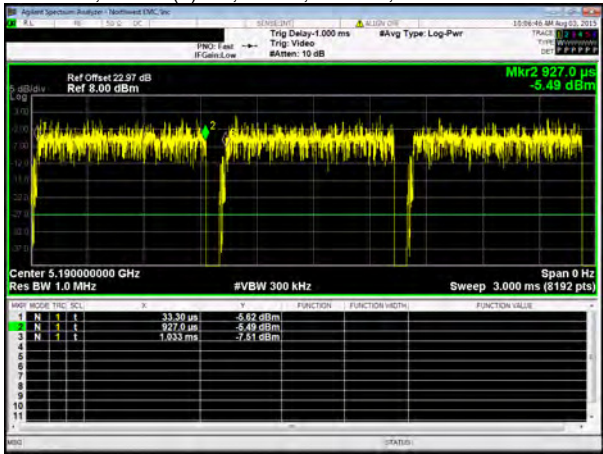
Chain B, 802.11(n) HT, MCS0, 20 MHz, High Channel 5825 MHz



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

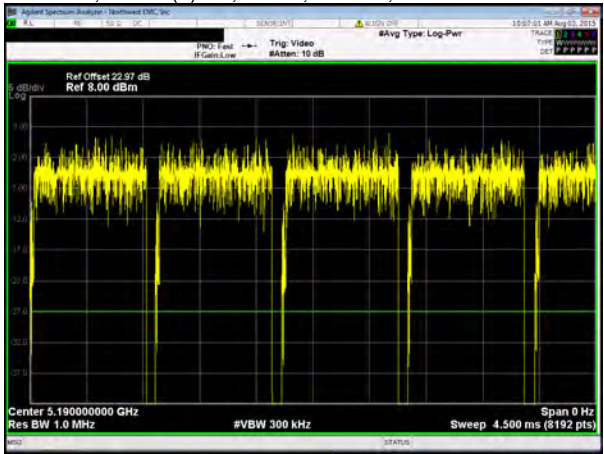
DUTY CYCLE

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



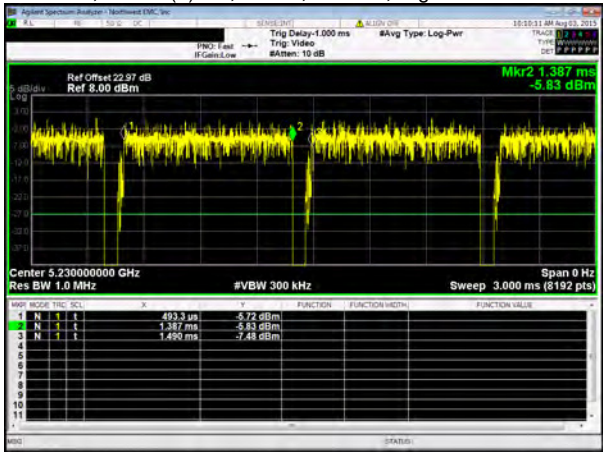
Pulse Width	893.669 us
Period	999.9 us
Number of Pulses	1
Value (%)	89.4
Limit (%)	N/A
Results	N/A

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



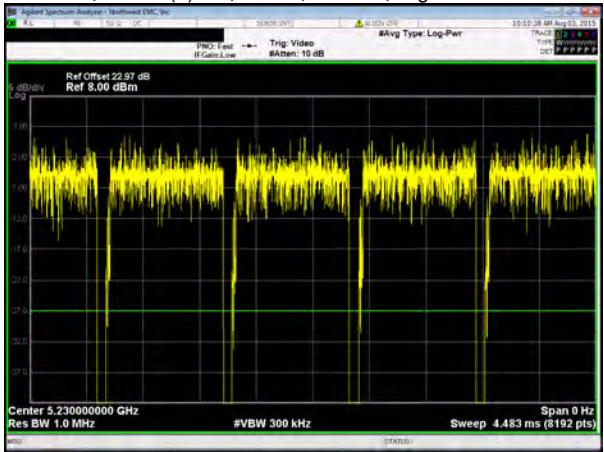
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	894.1 us
Period	996.3 us
Number of Pulses	1
Value (%)	89.7
Limit (%)	N/A
Results	N/A

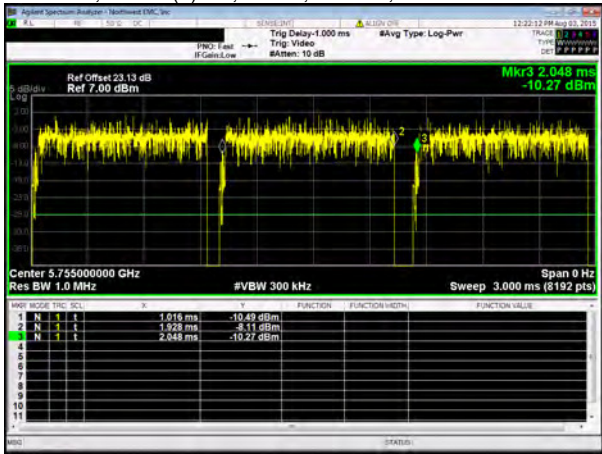
Chain B, 802.11(n) HT, MCS0, 40 MHz, High Channel 5230 MHz



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

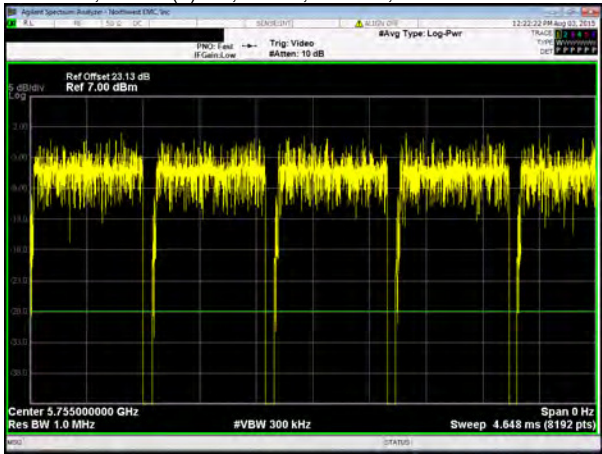
DUTY CYCLE

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



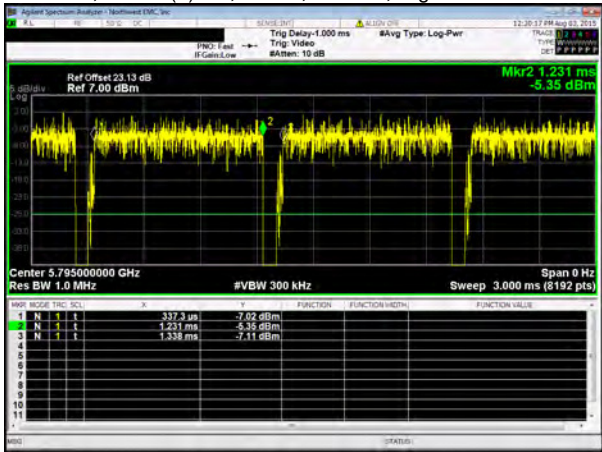
Pulse Width	912.7 us
Period	1.033 ms
Number of Pulses	1
Value (%)	88.4
Limit (%)	N/A
Results	N/A

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



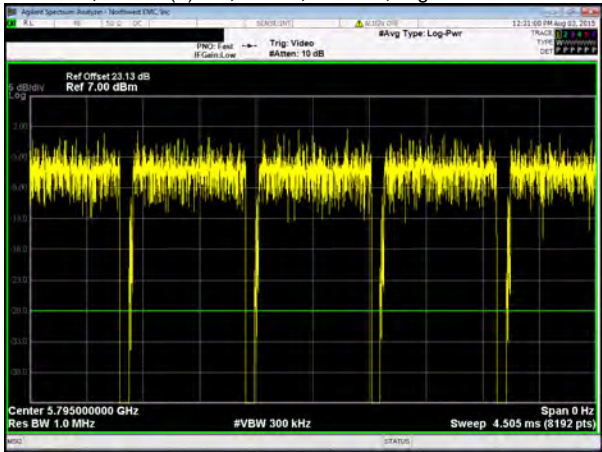
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	894.03 us
Period	1.001 ms
Number of Pulses	1
Value (%)	89.3
Limit (%)	N/A
Results	N/A

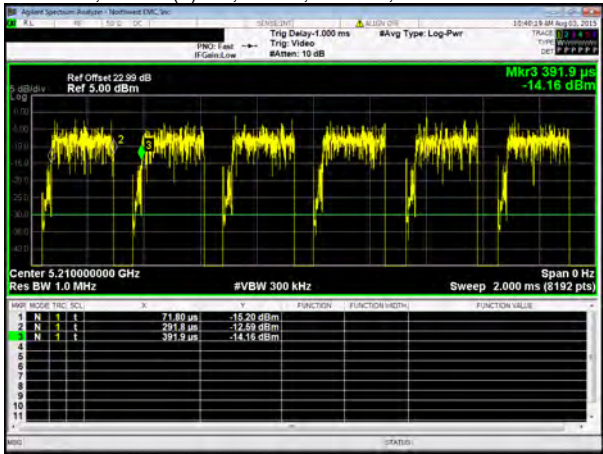
Chain B, 802.11(n) HT, MCS0, 40 MHz, High Channel 5795 MHz



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

DUTY CYCLE

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



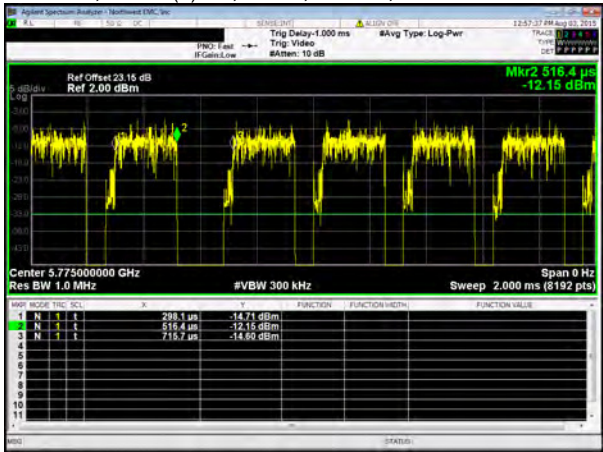
Pulse Width	219.977 us
Period	320.083 us
Number of Pulses	1
Value (%)	68.7
Limit (%)	N/A
Results	N/A

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



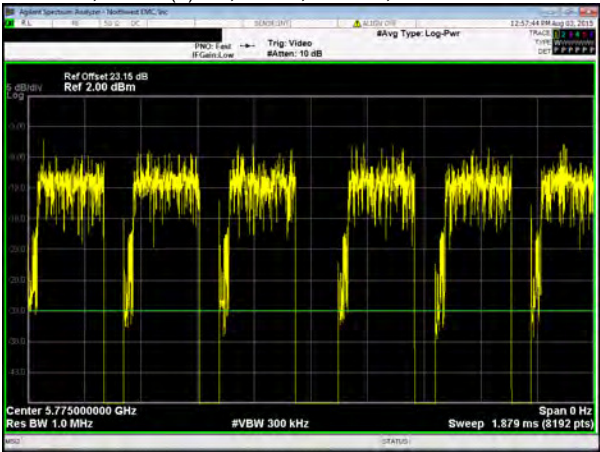
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	218.335 us
Period	417.6 us
Number of Pulses	1
Value (%)	52.3
Limit (%)	N/A
Results	N/A

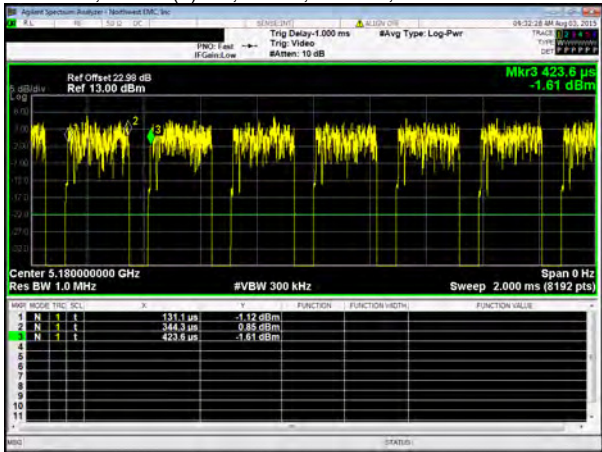
Chain B, 802.11(n) HT, MCS0, 80 MHz, Low Channel 5775 MHz



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

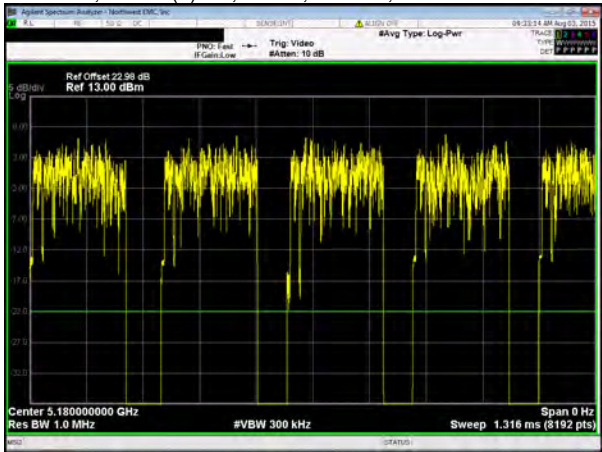
DUTY CYCLE

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



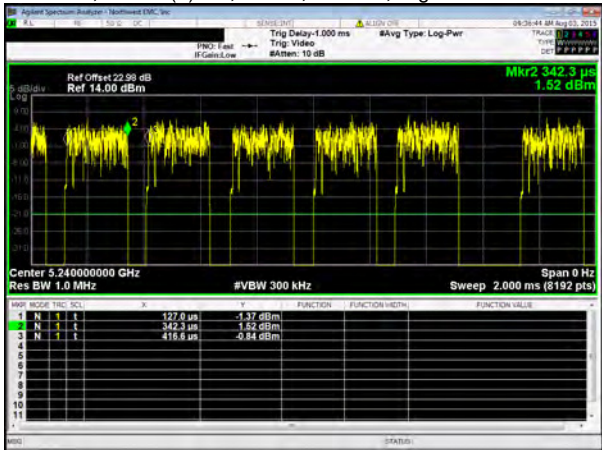
Pulse Width	213.182 us
Period	292.545 us
Number of Pulses	1
Value (%)	72.9
Limit (%)	N/A
Results	N/A

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



Pulse Width	215.323 us
Period	289.6 us
Number of Pulses	1
Value (%)	74.4
Limit (%)	N/A
Results	N/A

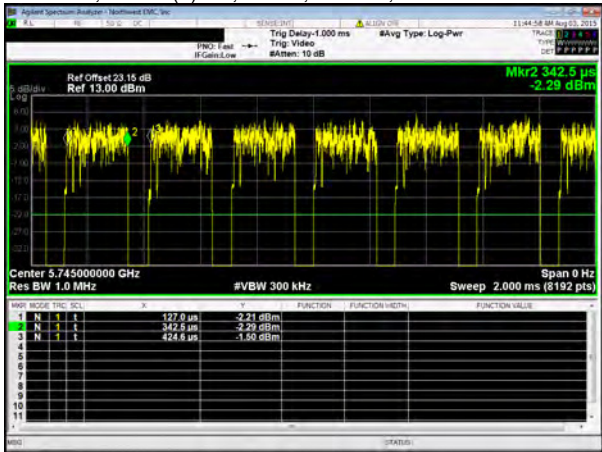
Chain B, 802.11(n) HT, MCS7, 20 MHz, High Channel 5240 MHz



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

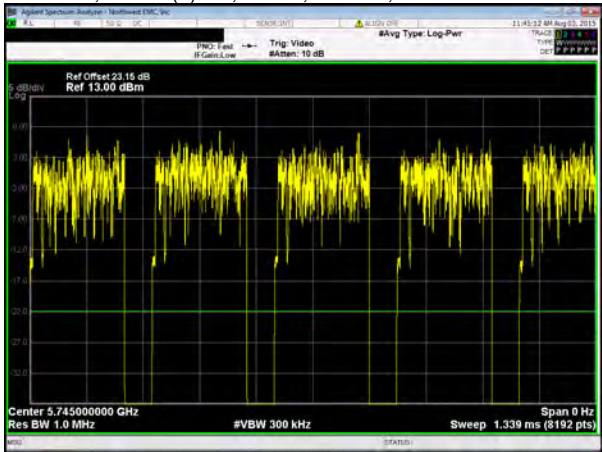
DUTY CYCLE

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



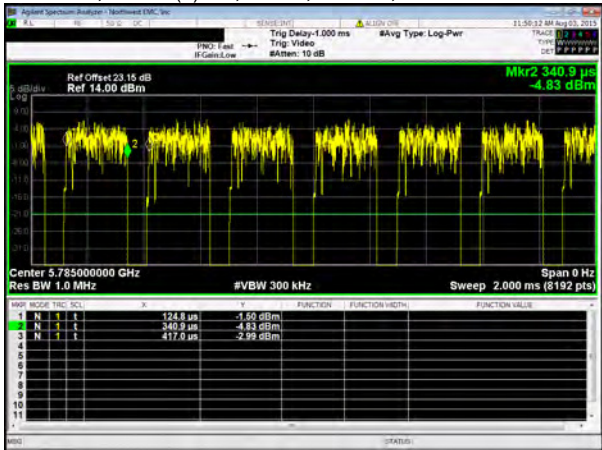
Pulse Width	215.523 us
Period	297.6 us
Number of Pulses	1
Value (%)	72.4
Limit (%)	N/A
Results	N/A

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



Pulse Width	216.112 us
Period	292.2 us
Number of Pulses	1
Value (%)	74
Limit (%)	N/A
Results	N/A

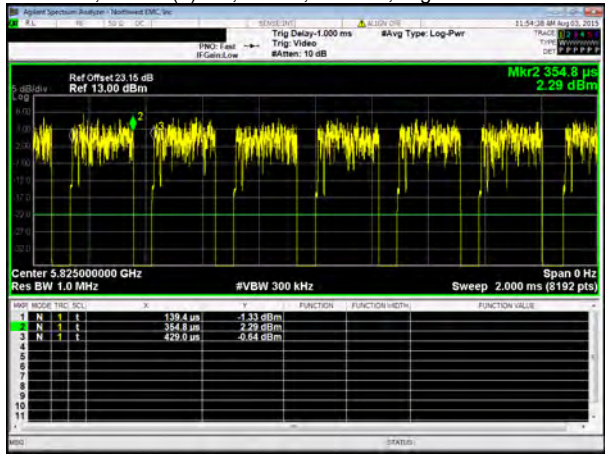
Chain B, 802.11(n) HT, MCS7, 20 MHz, Mid Channel 5785 MHz



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

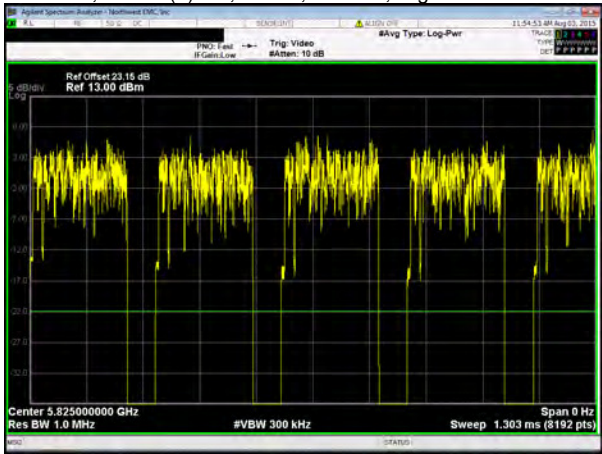
DUTY CYCLE

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



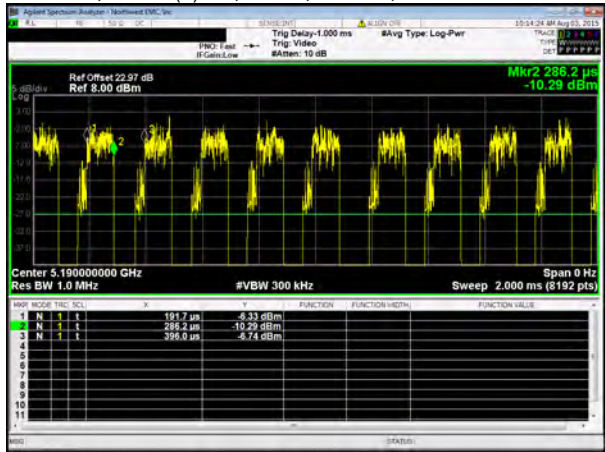
Pulse Width	215.379 us
Period	289.6 us
Number of Pulses	1
Value (%)	74.4
Limit (%)	N/A
Results	N/A

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



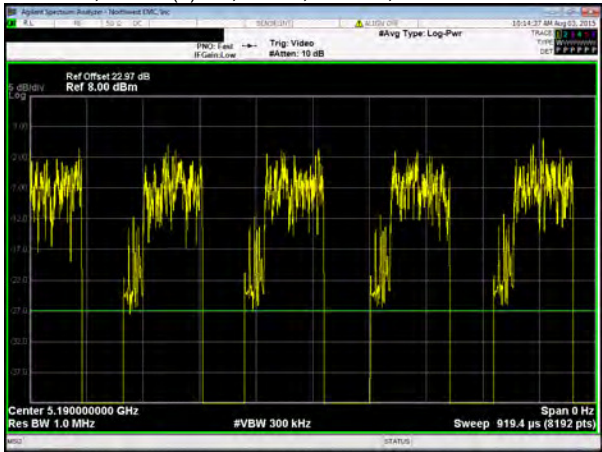
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



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

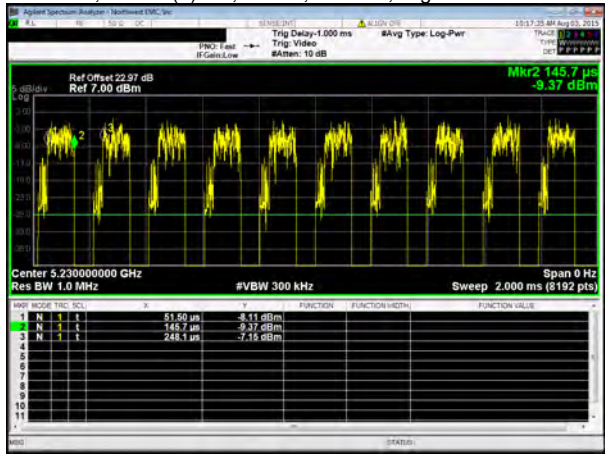
Chain B, 802.11(n) HT, MCS7, 40 MHz, Low Channel 5190 MHz



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

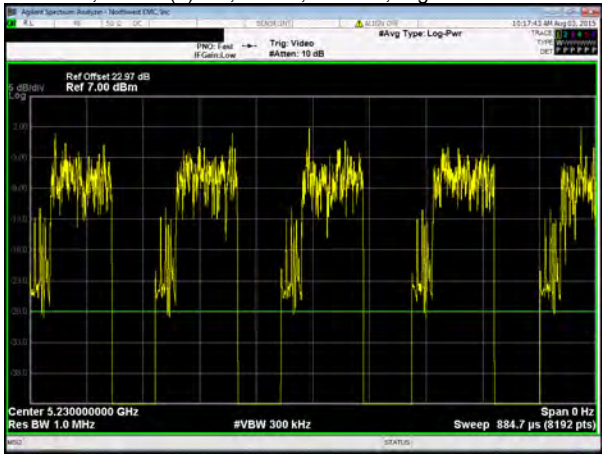
DUTY CYCLE

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



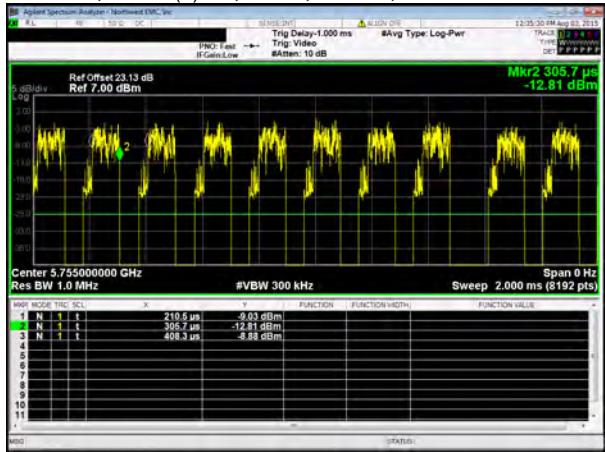
Pulse Width	94.223 us
Period	196.6 us
Number of Pulses	1
Value (%)	47.9
Limit (%)	N/A
Results	N/A

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



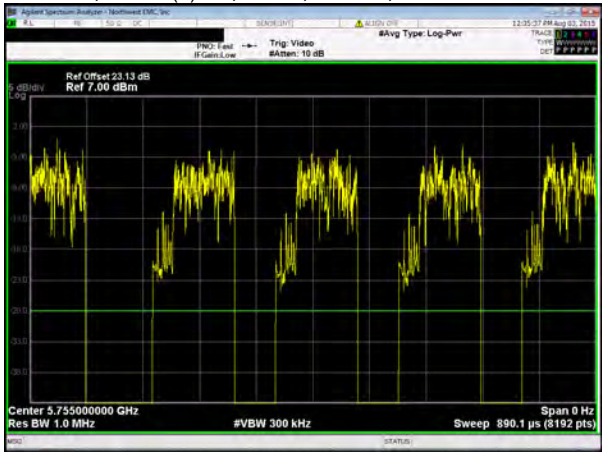
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	95.212 us
Period	197.8 us
Number of Pulses	1
Value (%)	48.1
Limit (%)	N/A
Results	N/A

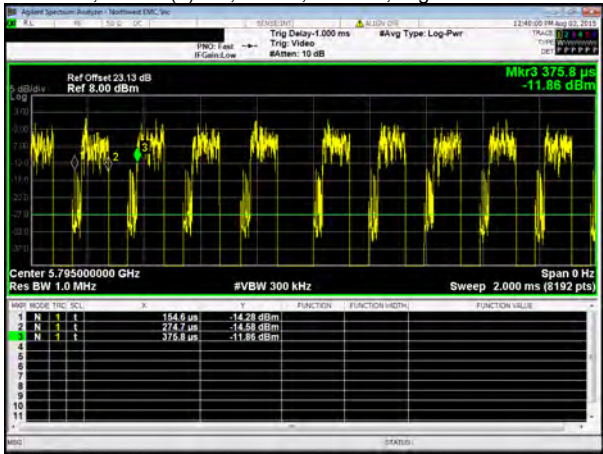
Chain B, 802.11(n) HT, MCS7, 40 MHz, Low Channel 5755 MHz



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

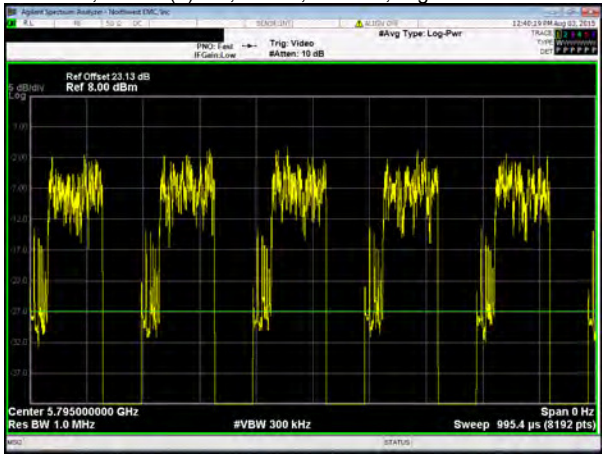
DUTY CYCLE

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



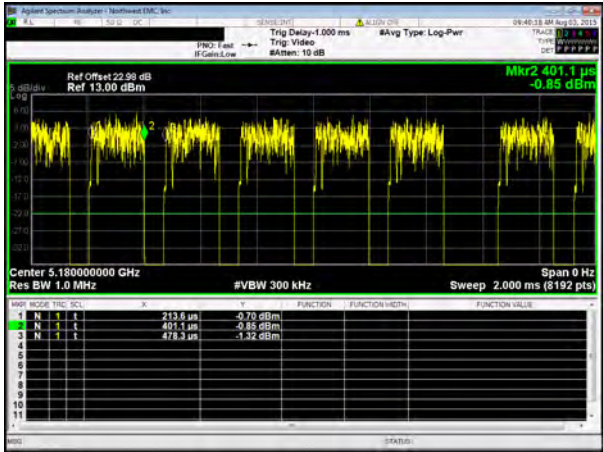
Pulse Width	120.106 us
Period	221.206 us
Number of Pulses	1
Value (%)	54.3
Limit (%)	N/A
Results	N/A

Chain B, 802.11(n) HT, MCS7, 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

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



Pulse Width	187.523 us
Period	264.7 us
Number of Pulses	1
Value (%)	70.8
Limit (%)	N/A
Results	N/A

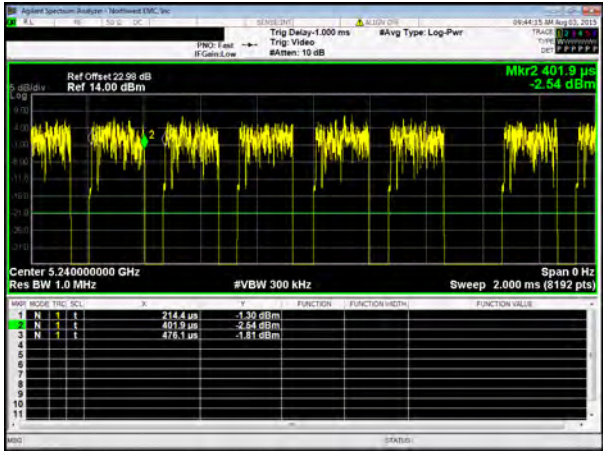
Chain B, 802.11(ac) VHT, MCS8 (256-QAM), 20 MHz, Low Channel 5180 MHz



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

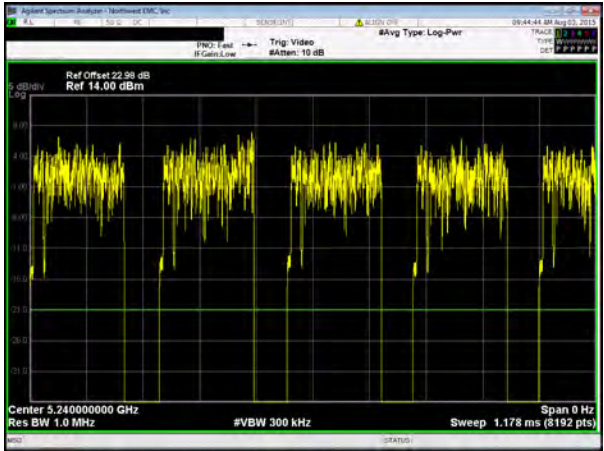
DUTY CYCLE

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



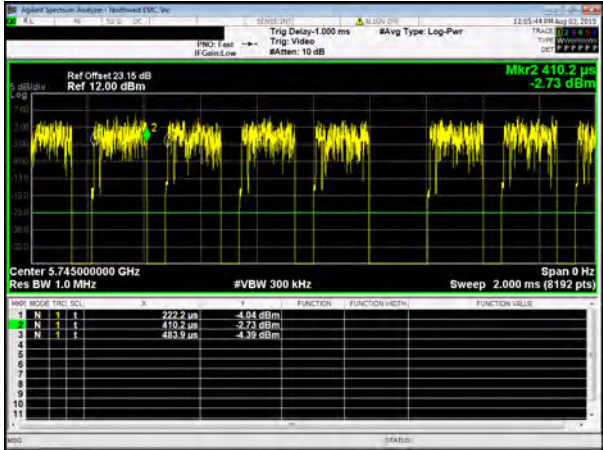
Pulse Width	187.523 us
Period	261.7 us
Number of Pulses	1
Value (%)	71.7
Limit (%)	N/A
Results	N/A

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



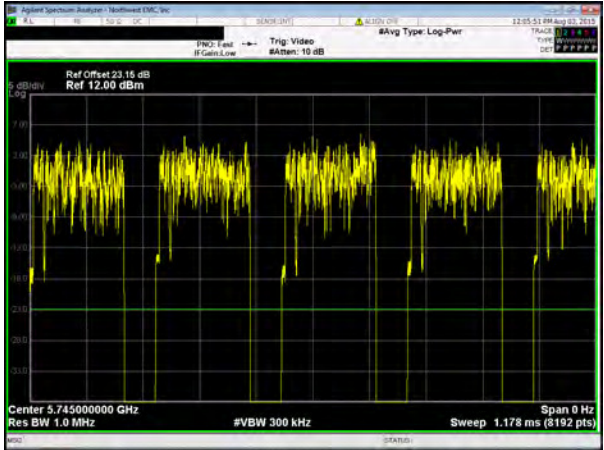
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	187.967 us
Period	261.7 us
Number of Pulses	1
Value (%)	71.8
Limit (%)	N/A
Results	N/A

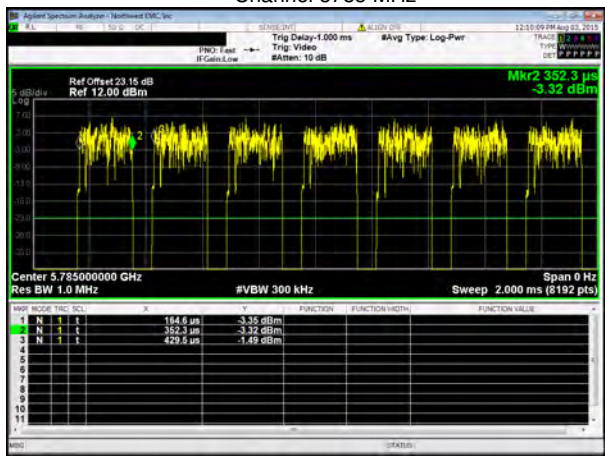
Chain B, 802.11(ac) VHT, MCS8 (256-QAM), 20 MHz, Low
Channel 5745 MHz



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

DUTY CYCLE

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



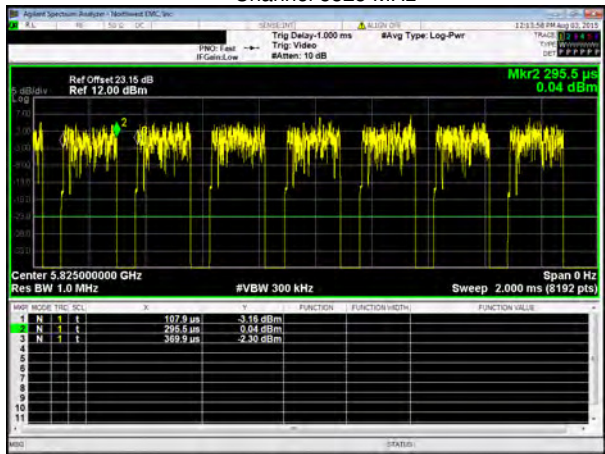
Pulse Width	187.723 us
Period	264.9 us
Number of Pulses	1
Value (%)	70.9
Limit (%)	N/A
Results	N/A

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



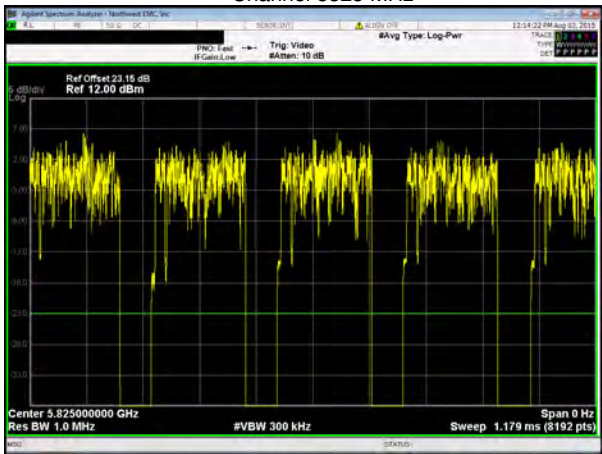
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	187.579 us
Period	262 us
Number of Pulses	1
Value (%)	71.6
Limit (%)	N/A
Results	N/A

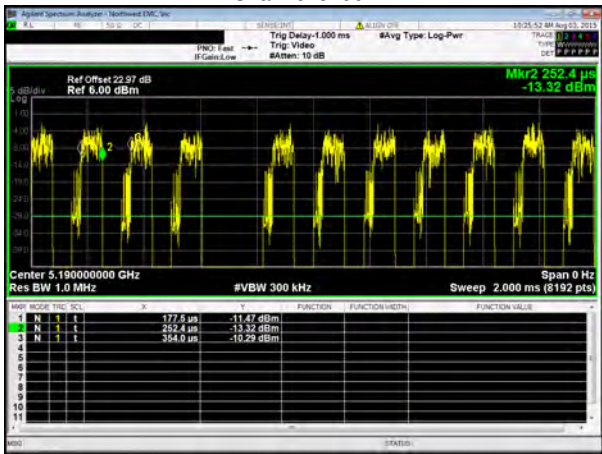
Chain B, 802.11(ac) VHT, MCS8 (256-QAM), 20 MHz, High
Channel 5825 MHz



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

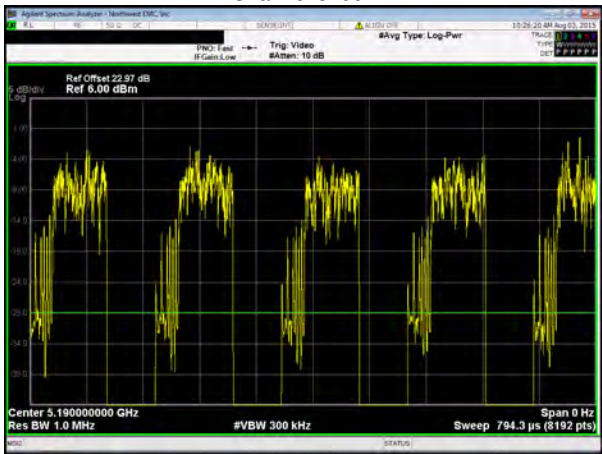
DUTY CYCLE

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



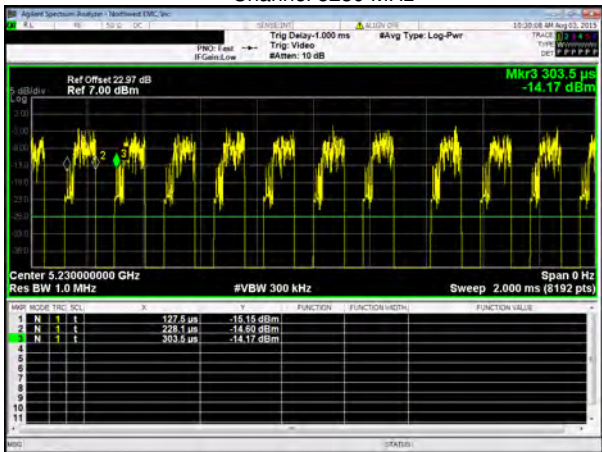
Pulse Width	74.923 us
Period	176.5 us
Number of Pulses	1
Value (%)	42.4
Limit (%)	N/A
Results	N/A

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



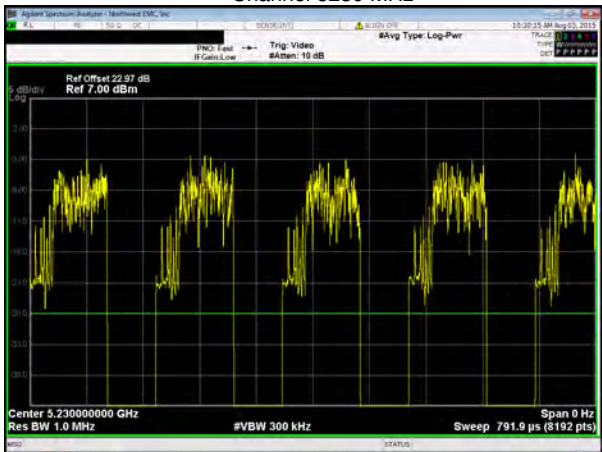
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	100.594 us
Period	175.967 us
Number of Pulses	1
Value (%)	57.2
Limit (%)	N/A
Results	N/A

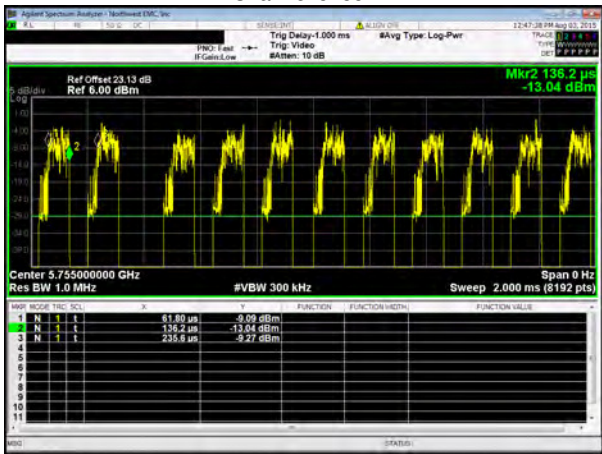
Chain B, 802.11(ac) VHT, MCS9 (256-QAM), 40 MHz, High
Channel 5230 MHz



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

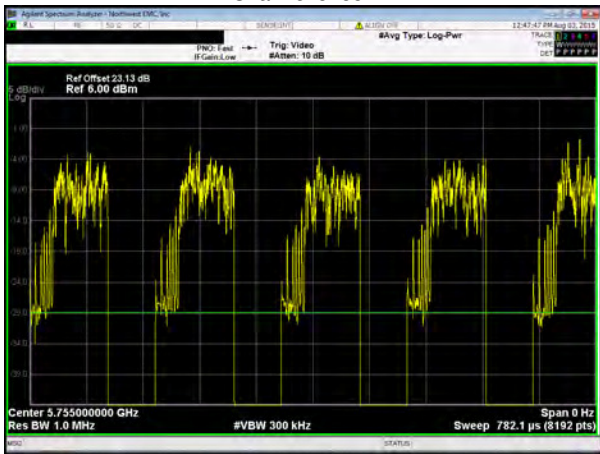
DUTY CYCLE

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



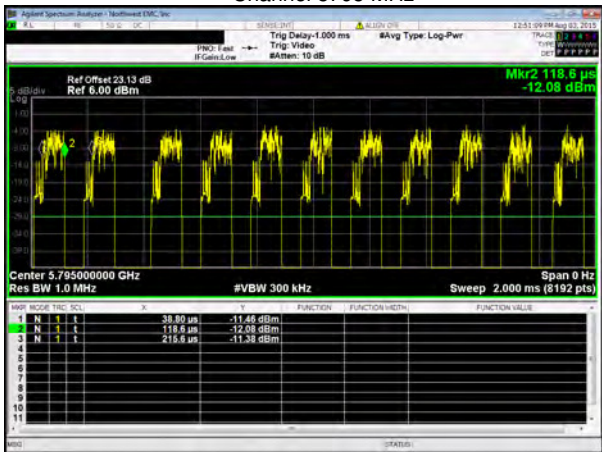
Pulse Width	74.412 us
Period	173.8 us
Number of Pulses	1
Value (%)	42.8
Limit (%)	N/A
Results	N/A

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



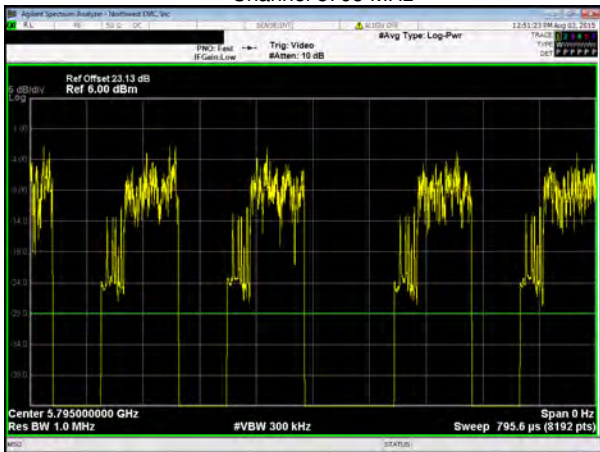
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	79.823 us
Period	176.8 us
Number of Pulses	1
Value (%)	45.1
Limit (%)	N/A
Results	N/A

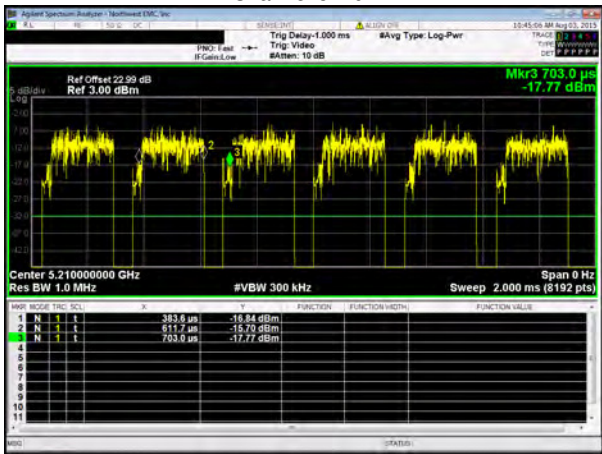
Chain B, 802.11(ac) VHT, MCS9 (256-QAM), 40 MHz, High
Channel 5795 MHz



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

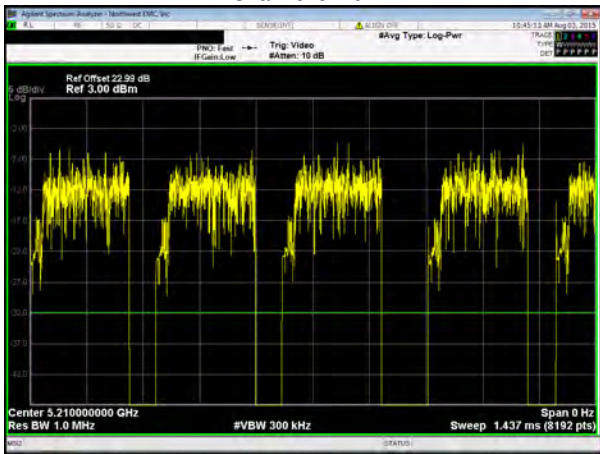
DUTY CYCLE

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



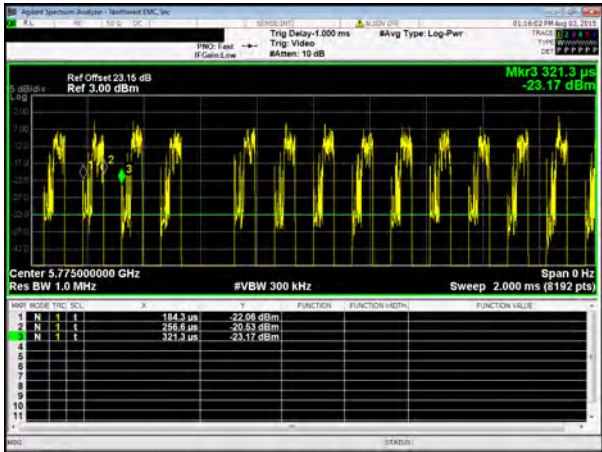
Pulse Width	228.057 us
Period	319.355 us
Number of Pulses	1
Value (%)	71.4
Limit (%)	N/A
Results	N/A

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



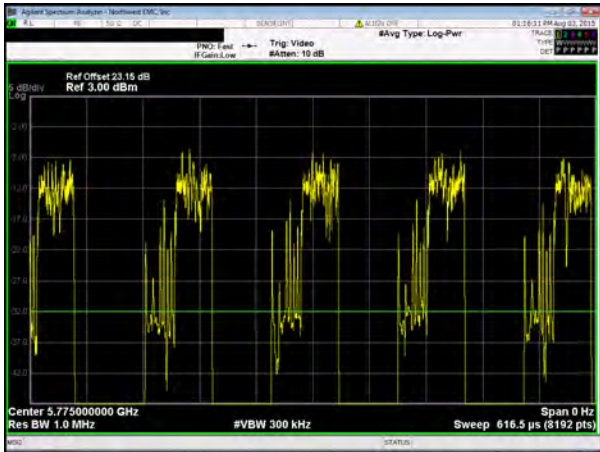
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	72.307 us
Period	137.011 us
Number of Pulses	1
Value (%)	52.8
Limit (%)	N/A
Results	N/A

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



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

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
Spectrum Analyzer	Agilent	N9010A	AFL	9/20/2014	9/20/2015
DC Block, 40 GHz	Fairview Microwave	SD3379	AMM	2/27/2015	2/27/2016
Attenuator, 20dB, 40 GHz	Fairview Microwave	SA4018-20	TQY	2/27/2015	2/27/2016
Signal Generator, 40 GHz	Agilent	N5173B	TIW	7/15/2014	7/15/2017

DUTY CYCLE

EUT:	Firebox T50-W (BS5AE7W)	Work Order:	VDEI0009
Serial Number:	70AF00069-3EB6	Date:	08/03/15
Customer:	WatchGuard Technologies, Inc.	Temperature:	25.5°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 C corresponds to Chain 2.

DEVIATIONS FROM TEST STANDARD

None

RESULTS

						Number of Value Limit		Results
		Pulse Width	Period	Pulses	(%)	(%)		
Chain C								
802.11(a) 6 Mbps								
20 MHz								
	Low Channel 5180 MHz	2.02 ms	2.107 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	2.02 ms	2.101 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	2.02 ms	2.101 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	2.101 ms	1	96.1	N/A	N/A	
	Mid Channel 5785 MHz	N/A	N/A	5	N/A	N/A	N/A	
	High Channel 5825 MHz	2.019 ms	2.101 ms	1	96.1	N/A	N/A	
	High Channel 5825 MHz	N/A	N/A	5	N/A	N/A	N/A	
802.11(a) 36 Mbps								
20 MHz								
	Low Channel 5180 MHz	348.456 us	435.8 us	1	80	N/A	N/A	
	Low Channel 5180 MHz	N/A	N/A	5	N/A	N/A	N/A	
	High Channel 5240 MHz	348.212 us	421.7 us	1	82.6	N/A	N/A	
	High Channel 5240 MHz	N/A	N/A	5	N/A	N/A	N/A	
	Low Channel 5745 MHz	348.212 us	421.685 us	1	82.6	N/A	N/A	
	Low Channel 5745 MHz	N/A	N/A	5	N/A	N/A	N/A	
	Mid Channel 5785 MHz	347.767 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	348.212 us	430.8 us	1	80.8	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	235.623 us	312.8 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	235.867 us	309.8 us	1	76.1	N/A	N/A	

DUTY CYCLE

			Number of Value		Limit	Results
	Pulse Width	Period	Pulses	(%)	(%)	
High Channel 5240 MHz	N/A	N/A	4	N/A	N/A	N/A
Low Channel 5745 MHz	234.403 us	313.502 us	1	74.8	N/A	N/A
Low Channel 5745 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 5785 MHz	235.423 us	312.8 us	1	75.3	N/A	N/A
Mid Channel 5785 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 5825 MHz	235.867 us	309.866 us	1	76.1	N/A	N/A
High Channel 5825 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(n) HT, MCS0						
20 MHz						
Low Channel 5180 MHz	1.88 ms	1.98 ms	1	95	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	1.983 ms	1	94.8	N/A	N/A
High Channel 5240 MHz	N/A	N/A	6	N/A	N/A	N/A
Low Channel 5745 MHz	1.88 ms	1.984 ms	1	94.8	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	2.011 ms	1	93.5	N/A	N/A
Mid Channel 5785 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 5825 MHz	1.88 ms	1.985 ms	1	94.7	N/A	N/A
High Channel 5825 MHz	N/A	N/A	6	N/A	N/A	N/A
40 MHz						
Low Channel 5190 MHz	894.401 us	1 ms	1	89.4	N/A	N/A
Low Channel 5190 MHz	N/A	N/A	6	N/A	N/A	N/A
High Channel 5230 MHz	895.134 us	996.2 us	1	89.9	N/A	N/A
High Channel 5230 MHz	N/A	N/A	6	N/A	N/A	N/A
Low Channel 5755 MHz	894.401 us	997.6 us	1	89.7	N/A	N/A
Low Channel 5755 MHz	N/A	N/A	6	N/A	N/A	N/A
High Channel 5795 MHz	894.7 us	1.001 ms	1	89.4	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	217.491 us	320.1 us	1	67.9	N/A	N/A
Low Channel 5210 MHz	N/A	N/A	6	N/A	N/A	N/A
Low Channel 5775 MHz	251.023 us	317.6 us	1	79	N/A	N/A
Low Channel 5775 MHz	N/A	N/A	6	N/A	N/A	N/A
802.11(n) HT, MCS7						
20 MHz						
Low Channel 5180 MHz	215.867 us	292.3 us	1	73.9	N/A	N/A
Low Channel 5180 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 5240 MHz	215.523 us	297.6 us	1	72.4	N/A	N/A
High Channel 5240 MHz	N/A	N/A	5	N/A	N/A	N/A
Low Channel 5745 MHz	216.356 us	289.6 us	1	74.7	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	293 us	1	73.7	N/A	N/A
Mid Channel 5785 MHz	N/A	N/A	6	N/A	N/A	N/A
High Channel 5825 MHz	215.767 us	289.5 us	1	74.5	N/A	N/A

DUTY CYCLE

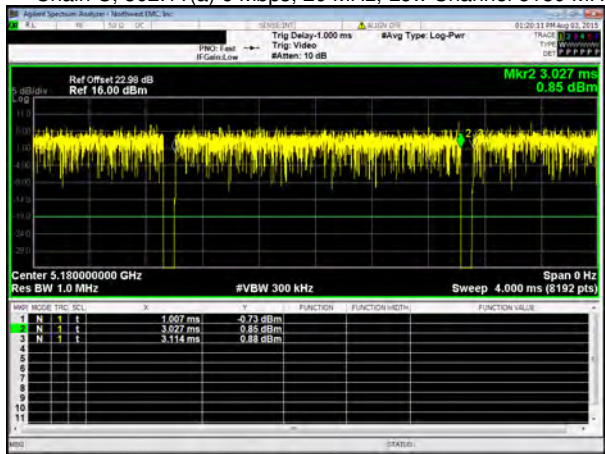
				Number of Value Limit			
		Pulse Width	Period	Pulses	(%)	(%)	Results
40 MHz	High Channel 5825 MHz	N/A	N/A	5	N/A	N/A	N/A
	Low Channel 5190 MHz	93.735 us	196.3 us	1	47.8	N/A	N/A
	Low Channel 5190 MHz	N/A	N/A	6	N/A	N/A	N/A
	High Channel 5230 MHz	95.212 us	199.9 us	1	47.6	N/A	N/A
	High Channel 5230 MHz	N/A	N/A	6	N/A	N/A	N/A
	Low Channel 5755 MHz	94.223 us	193.4 us	1	48.7	N/A	N/A
	Low Channel 5755 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel 5795 MHz	94.267 us	196.3 us	1	48	N/A	N/A
	High Channel 5795 MHz	N/A	N/A	6	N/A	N/A	N/A
802.11(ac) VHT, MCS8 (256-QAM)							
20 MHz	Low Channel 5180 MHz	187.767 us	264.6 us	1	71	N/A	N/A
	Low Channel 5180 MHz	N/A	N/A	4	N/A	N/A	N/A
	High Channel 5240 MHz	188.5 us	262 us	1	71.9	N/A	N/A
	High Channel 5240 MHz	N/A	N/A	4	N/A	N/A	N/A
	Low Channel 5745 MHz	188.012 us	262.5 us	1	71.6	N/A	N/A
	Low Channel 5745 MHz	N/A	N/A	5	N/A	N/A	N/A
	Mid Channel 5785 MHz	188.012 us	272.7 us	1	68.9	N/A	N/A
	Mid Channel 5785 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel 5825 MHz	187.767 us	261.7 us	1	71.7	N/A	N/A
	High Channel 5825 MHz	N/A	N/A	5	N/A	N/A	N/A
	802.11(ac) VHT, MCS9 (256-QAM)						
40 MHz	Low Channel 5190 MHz	74.712 us	176.8 us	1	42.3	N/A	N/A
	Low Channel 5190 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel 5230 MHz	74.467 us	176.7 us	1	42.1	N/A	N/A
	High Channel 5230 MHz	N/A	N/A	5	N/A	N/A	N/A
	Low Channel 5755 MHz	74.967 us	234.7 us	1	31.9	N/A	N/A
	Low Channel 5755 MHz	N/A	N/A	7	N/A	N/A	N/A
	High Channel 5795 MHz	94.967 us	196.8 us	1	48.3	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	52.023 us	140.4 us	1	37.1	N/A
Low Channel 5210 MHz		N/A	N/A	5	N/A	N/A	N/A
Low Channel 5775 MHz		38.568 us	139 us	1	27.7	N/A	N/A
Low Channel 5775 MHz		N/A	N/A	6	N/A	N/A	N/A

Jonathan Kiefer

Tested By

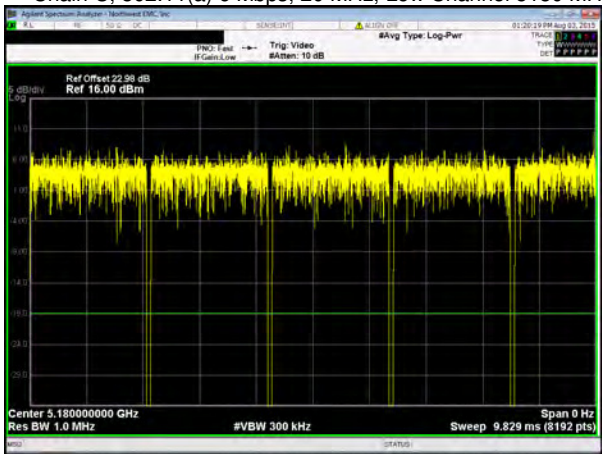
DUTY CYCLE

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



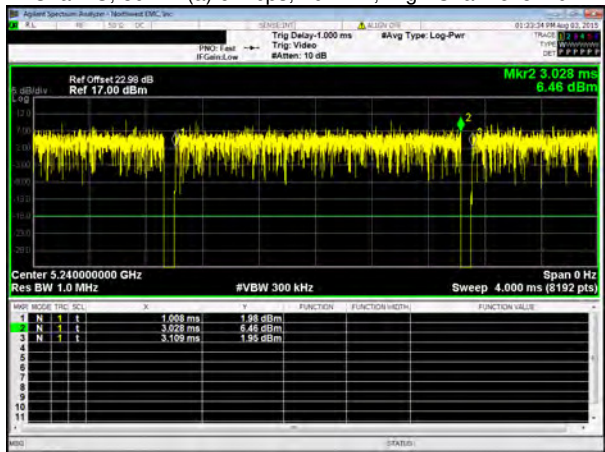
Pulse Width	2.02 ms
Period	2.107 ms
Number of Pulses	1
Value (%)	95.9
Limit (%)	N/A
Results	N/A

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



Pulse Width	2.02 ms
Period	2.101 ms
Number of Pulses	1
Value (%)	96.1
Limit (%)	N/A
Results	N/A

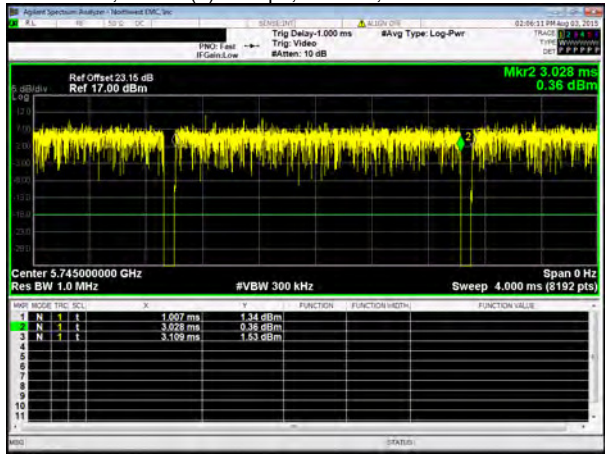
Chain C, 802.11(a) 6 Mbps, 20 MHz, High Channel 5240 MHz



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

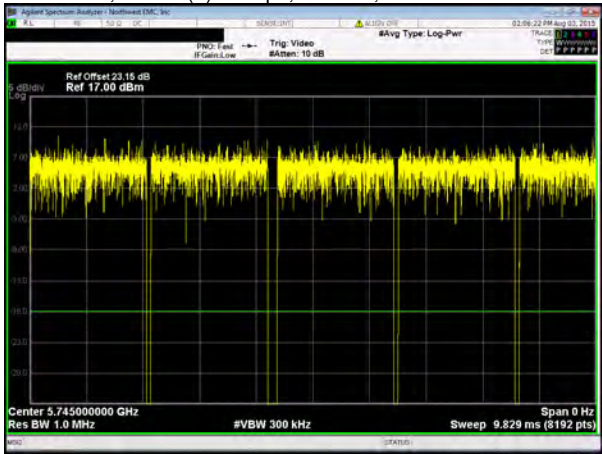
DUTY CYCLE

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



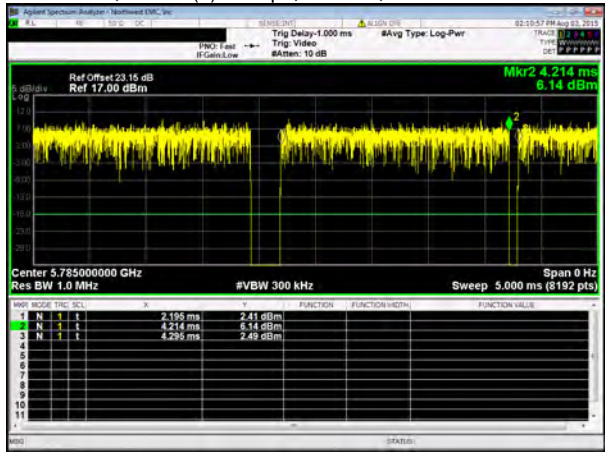
Pulse Width	2.02 ms
Period	2.101 ms
Number of Pulses	1
Value (%)	96.1
Limit (%)	N/A
Results	N/A

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



Pulse Width	2.019 ms
Period	2.101 ms
Number of Pulses	1
Value (%)	96.1
Limit (%)	N/A
Results	N/A

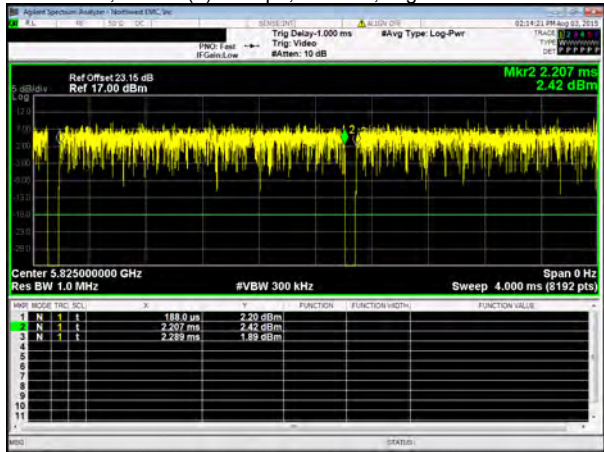
Chain C, 802.11(a) 6 Mbps, 20 MHz, Mid Channel 5785 MHz



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

DUTY CYCLE

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



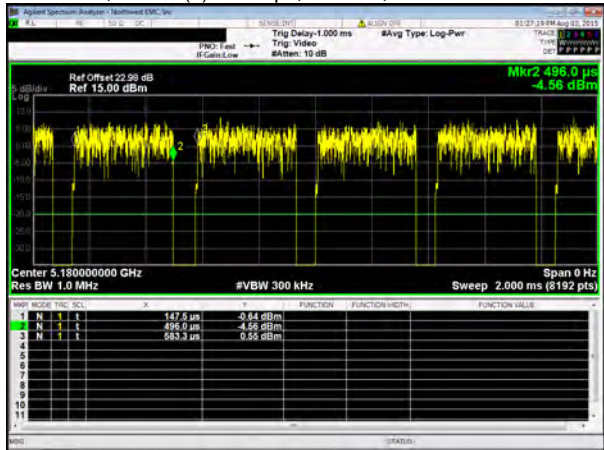
Pulse Width	2.019 ms
Period	2.101 ms
Number of Pulses	1
Value (%)	96.1
Limit (%)	N/A
Results	N/A

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



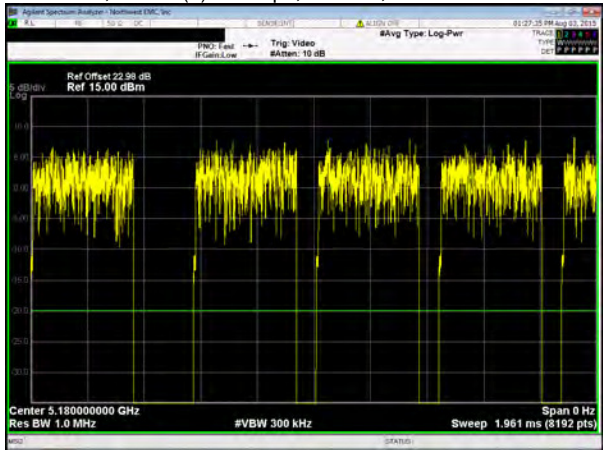
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	348.456 us
Period	435.8 us
Number of Pulses	1
Value (%)	80
Limit (%)	N/A
Results	N/A

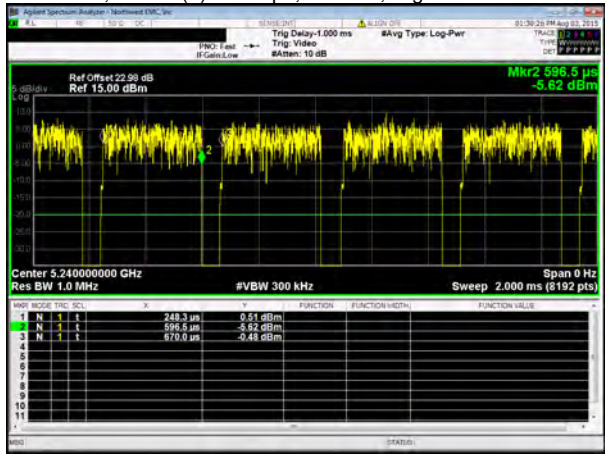
Chain C, 802.11(a) 36 Mbps, 20 MHz, Low Channel 5180 MHz



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

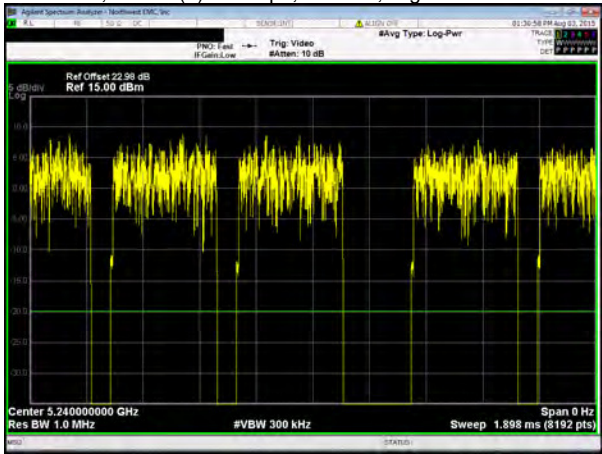
DUTY CYCLE

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



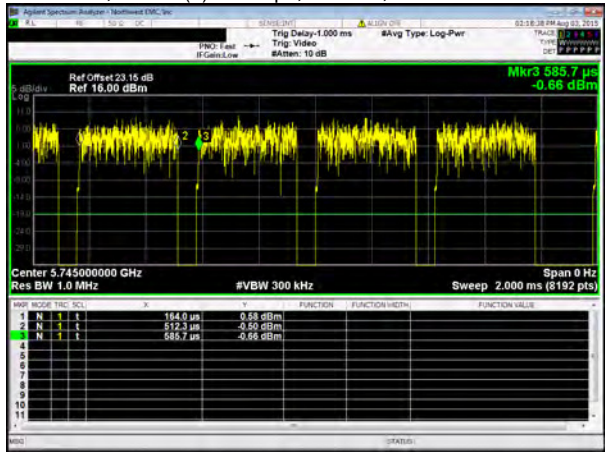
Pulse Width	348.212 us
Period	421.7 us
Number of Pulses	1
Value (%)	82.6
Limit (%)	N/A
Results	N/A

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



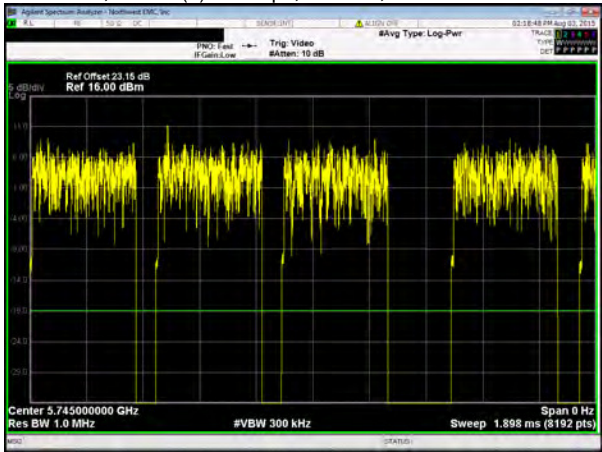
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	348.212 us
Period	421.685 us
Number of Pulses	1
Value (%)	82.6
Limit (%)	N/A
Results	N/A

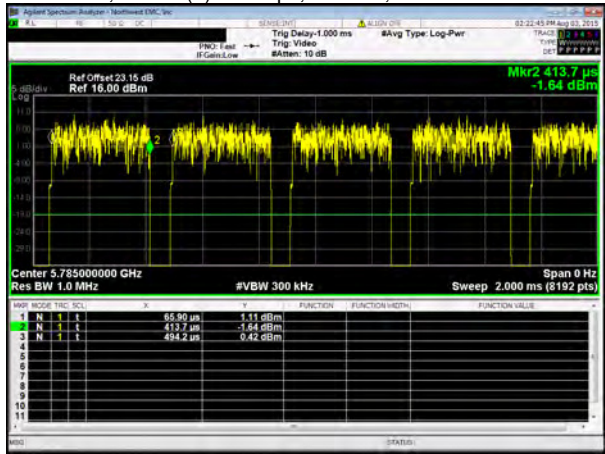
Chain C, 802.11(a) 36 Mbps, 20 MHz, Low Channel 5745 MHz



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

DUTY CYCLE

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



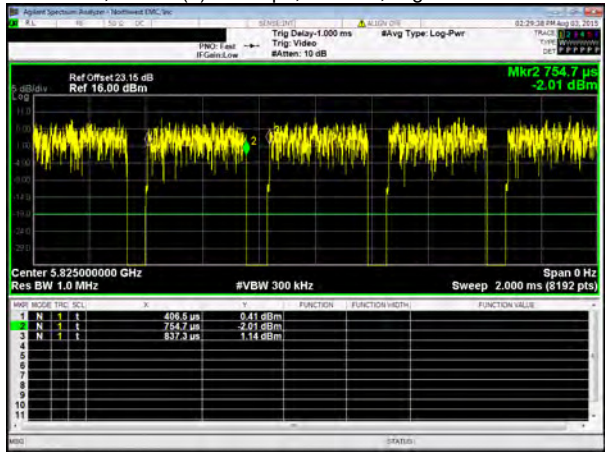
Pulse Width	347.767 us
Period	428.3 us
Number of Pulses	1
Value (%)	81.2
Limit (%)	N/A
Results	N/A

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



Pulse Width	348.212 us
Period	430.8 us
Number of Pulses	1
Value (%)	80.8
Limit (%)	N/A
Results	N/A

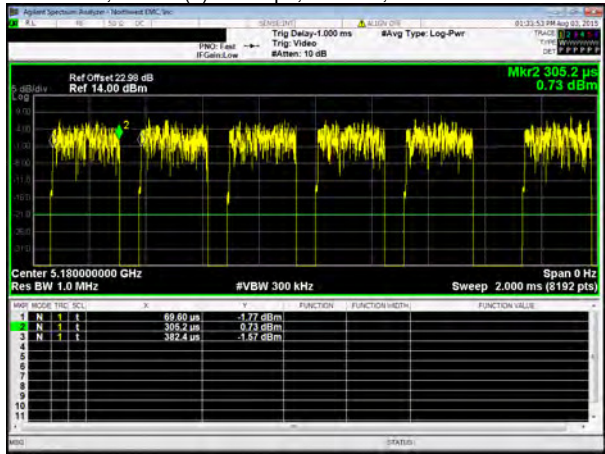
Chain C, 802.11(a) 36 Mbps, 20 MHz, High Channel 5825 MHz



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

DUTY CYCLE

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



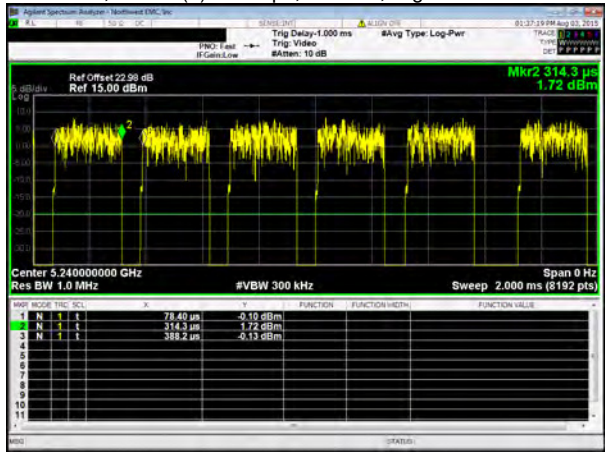
Pulse Width	235.623 us
Period	312.8 us
Number of Pulses	1
Value (%)	75.3
Limit (%)	N/A
Results	N/A

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



Pulse Width	235.867 us
Period	309.8 us
Number of Pulses	1
Value (%)	76.1
Limit (%)	N/A
Results	N/A

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

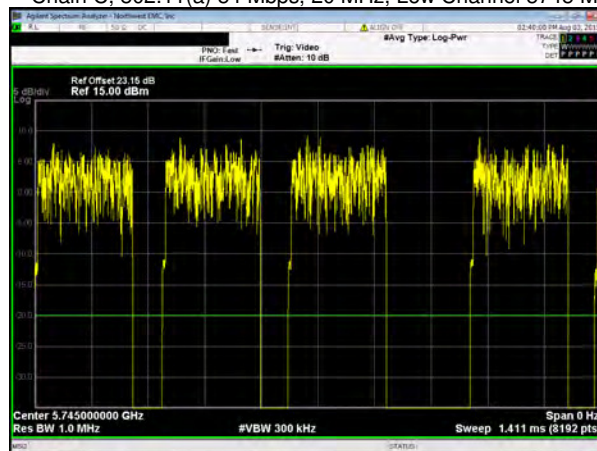


Pulse Width	N/A
Period	N/A
Number of Pulses	4
Value (%)	N/A
Limit (%)	N/A
Results	N/A

**NORTHWEST
EMC**

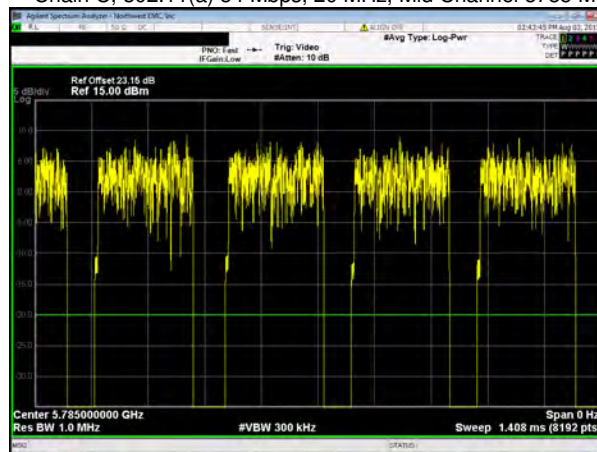
VERSION

Chain C, 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

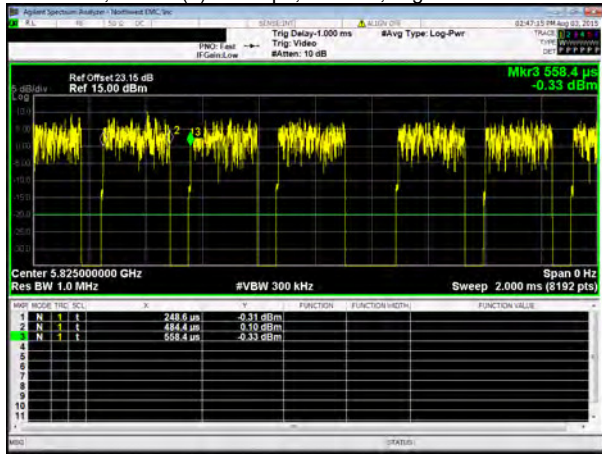
Chain C, 802.11(a) 54 Mbps, 20 MHz, Mid Channel 5785 MHz



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

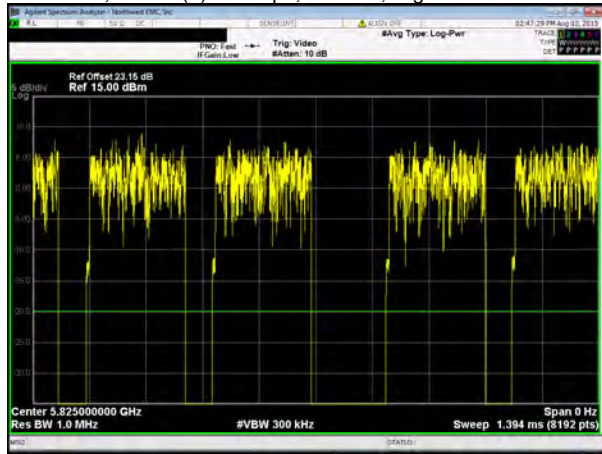
DUTY CYCLE

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



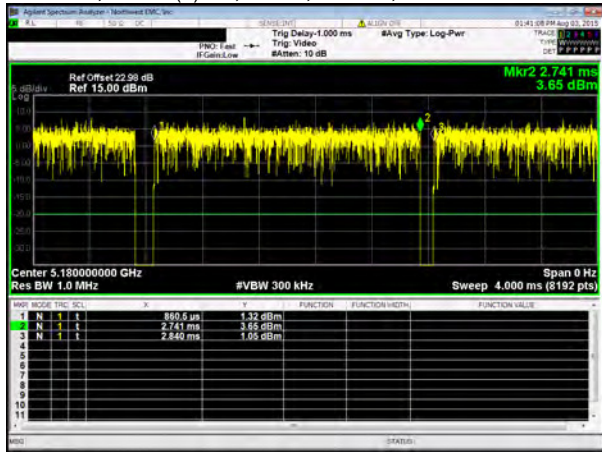
Pulse Width	235.867 us
Period	309.866 us
Number of Pulses	1
Value (%)	76.1
Limit (%)	N/A
Results	N/A

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



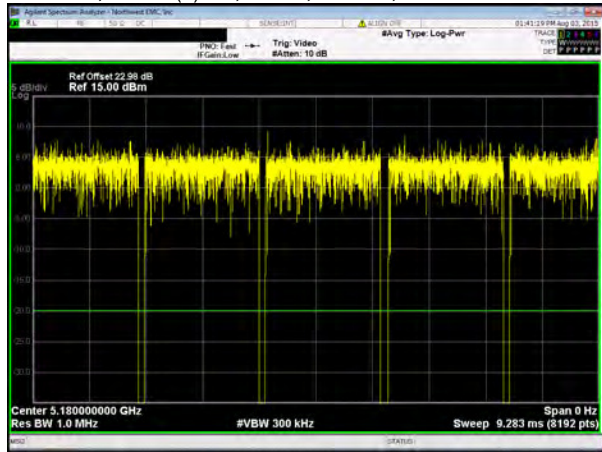
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	1.88 ms
Period	1.98 ms
Number of Pulses	1
Value (%)	95
Limit (%)	N/A
Results	N/A

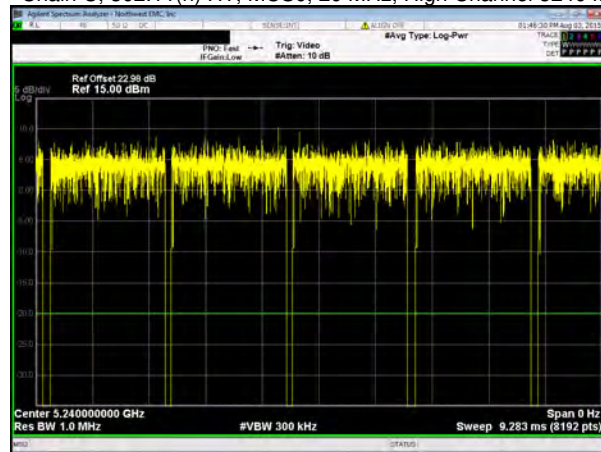
Chain C, 802.11(n) HT, MCS0, 20 MHz, Low Channel 5180 MHz



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

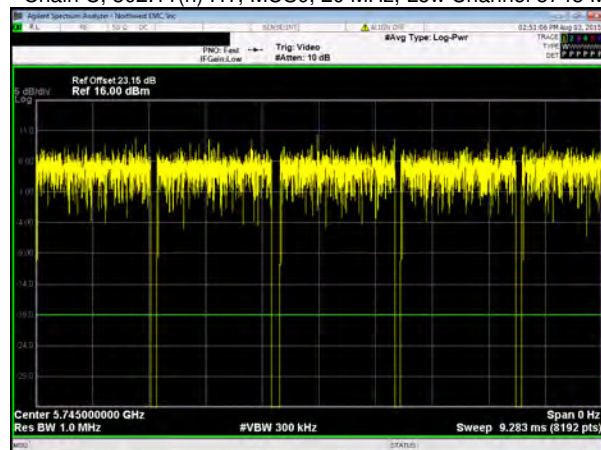
**NORTHWEST
EMC**
VERSION

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



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

Chain C, 802.11(n) HT, 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

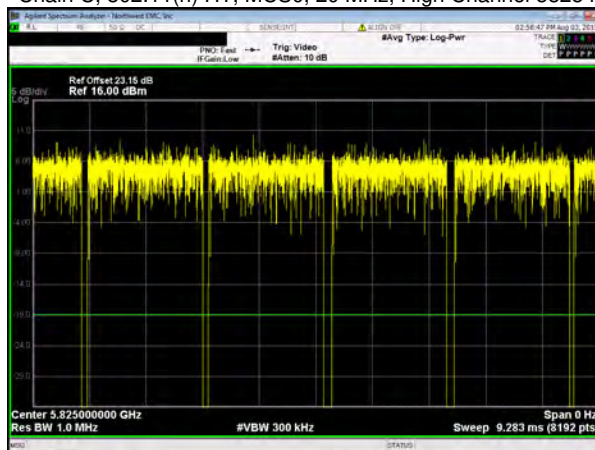
**NORTHWEST
EMC**

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

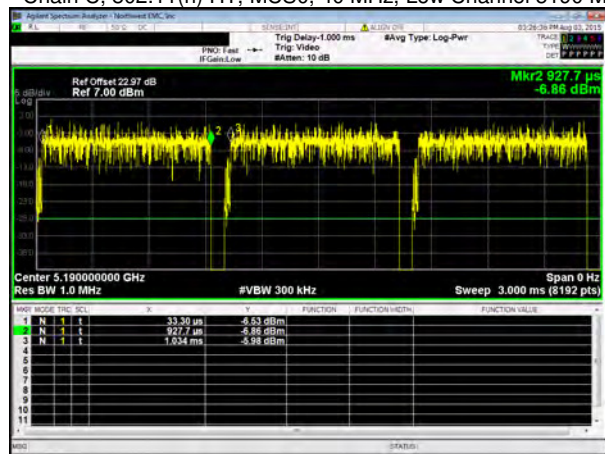


Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

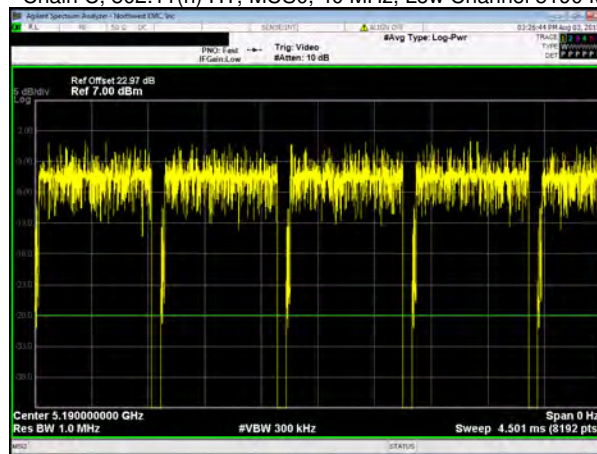
**NORTHWEST
EMC**

VERSION

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

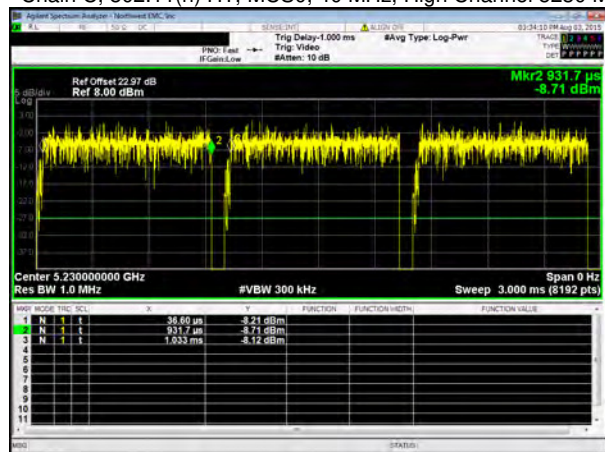


Pulse Width	894.401 us
Period	1 ms
Number of Pulses	1
Value (%)	89.4
Limit (%)	N/A
Results	N/A

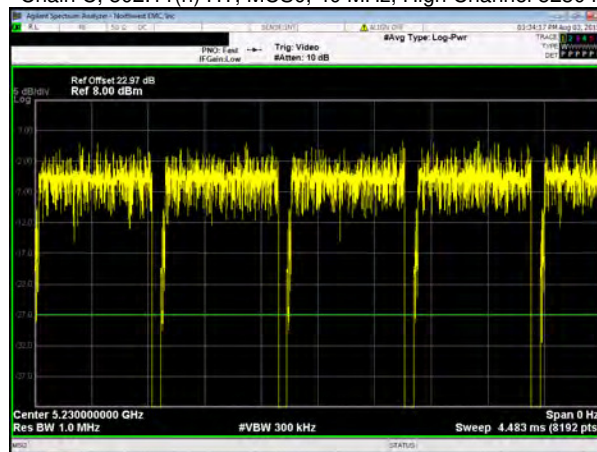


Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



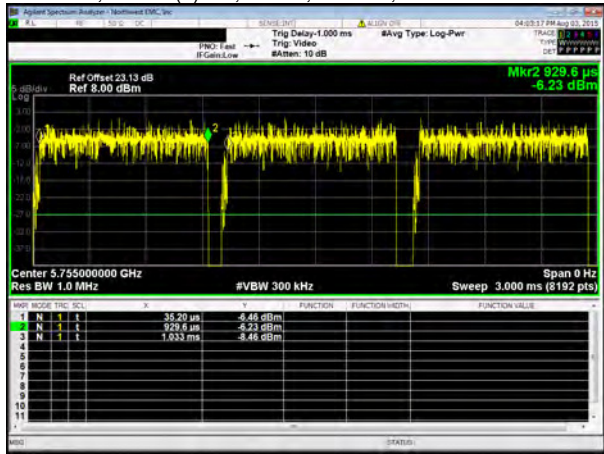
Pulse Width	895.134 us
Period	996.2 us
Number of Pulses	1
Value (%)	89.9
Limit (%)	N/A
Results	N/A



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

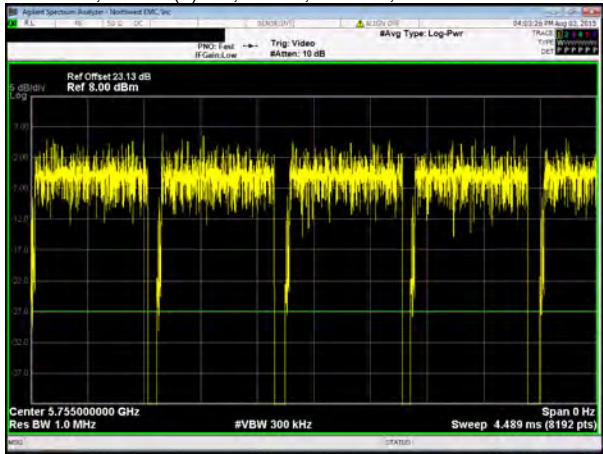
DUTY CYCLE

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



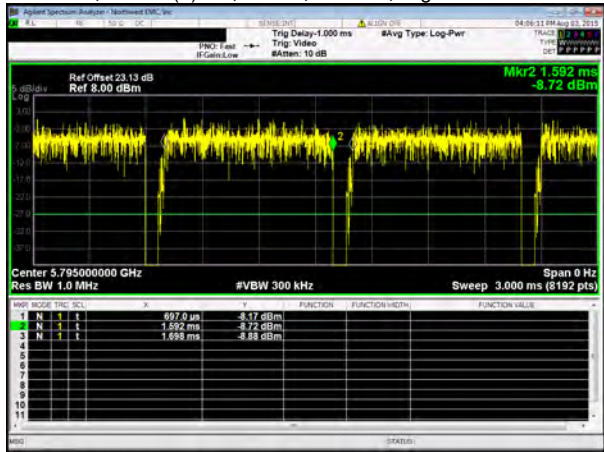
Pulse Width	894.401 us
Period	997.6 us
Number of Pulses	1
Value (%)	89.7
Limit (%)	N/A
Results	N/A

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



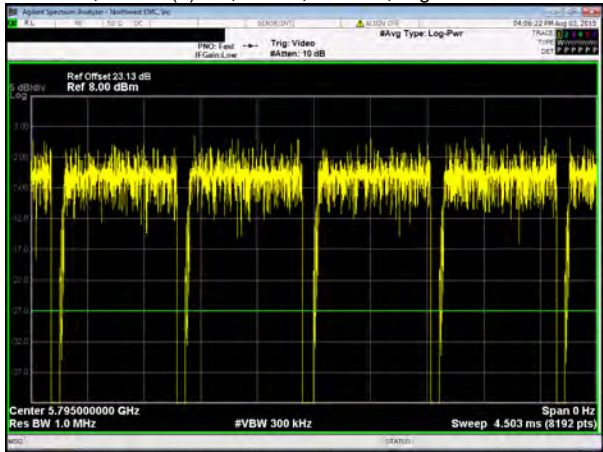
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	894.7 us
Period	1.001 ms
Number of Pulses	1
Value (%)	89.4
Limit (%)	N/A
Results	N/A

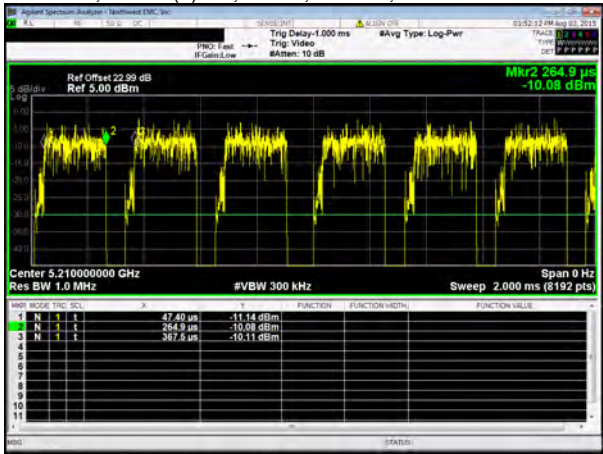
Chain C, 802.11(n) HT, MCS0, 40 MHz, High Channel 5795 MHz



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

DUTY CYCLE

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



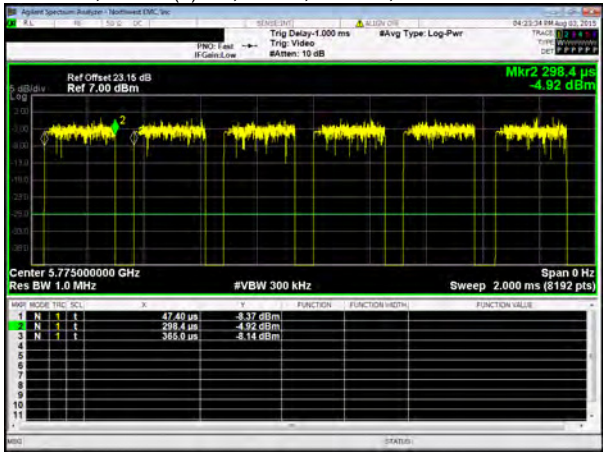
Pulse Width	217.491 us
Period	320.1 us
Number of Pulses	1
Value (%)	67.9
Limit (%)	N/A
Results	N/A

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



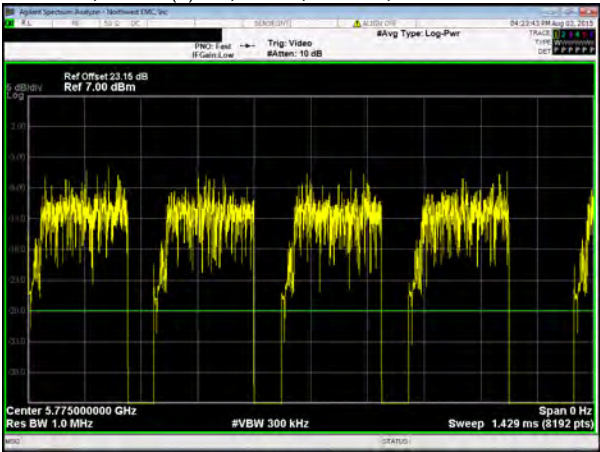
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	251.023 us
Period	317.6 us
Number of Pulses	1
Value (%)	79
Limit (%)	N/A
Results	N/A

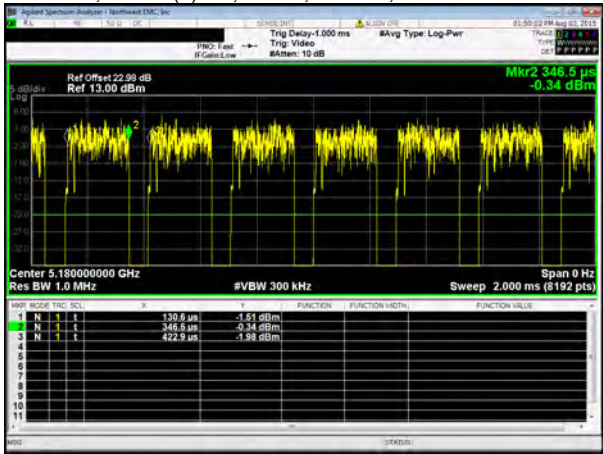
Chain C, 802.11(n) HT, MCS0, 80 MHz, Low Channel 5775 MHz



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

DUTY CYCLE

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



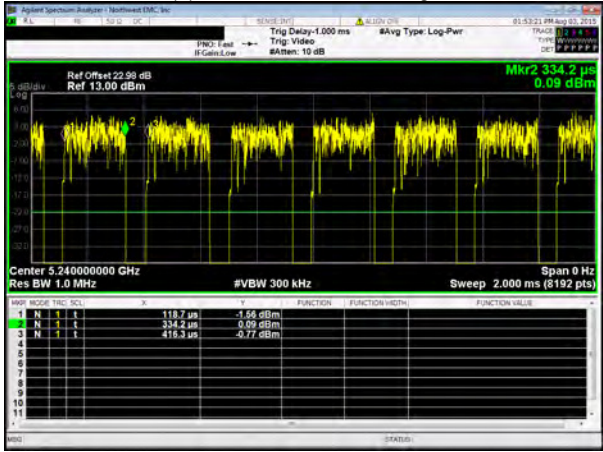
Pulse Width	215.867 us
Period	292.3 us
Number of Pulses	1
Value (%)	73.9
Limit (%)	N/A
Results	N/A

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



Pulse Width	215.523 us
Period	297.6 us
Number of Pulses	1
Value (%)	72.4
Limit (%)	N/A
Results	N/A

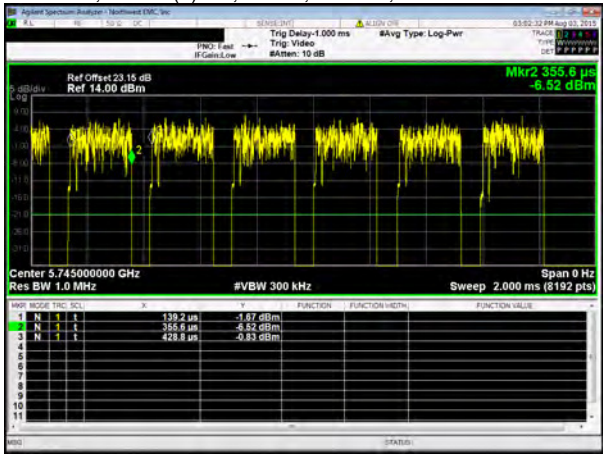
Chain C, 802.11(n) HT, MCS7, 20 MHz, High Channel 5240 MHz



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

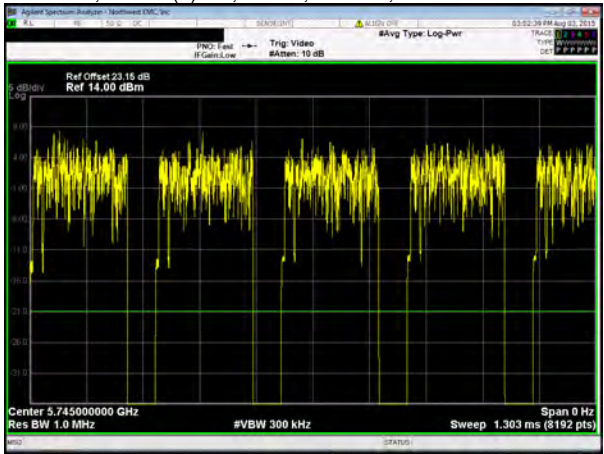
DUTY CYCLE

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



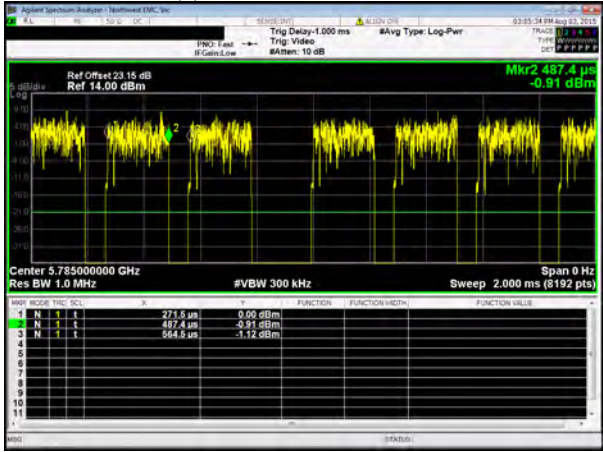
Pulse Width	216.356 us
Period	289.6 us
Number of Pulses	1
Value (%)	74.7
Limit (%)	N/A
Results	N/A

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



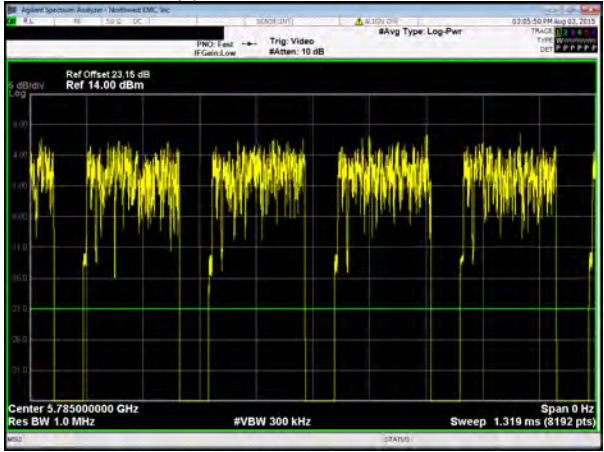
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	215.867 us
Period	293 us
Number of Pulses	1
Value (%)	73.7
Limit (%)	N/A
Results	N/A

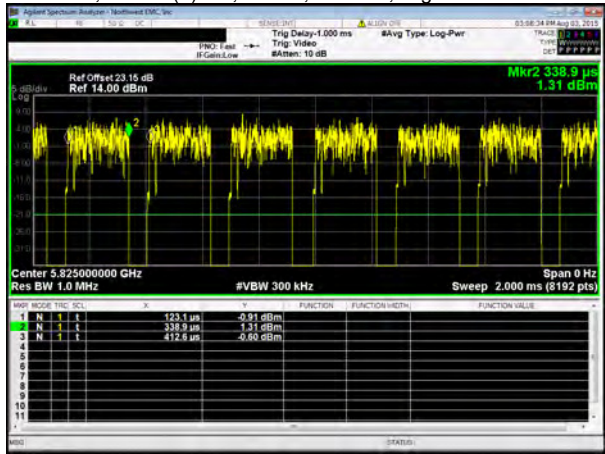
Chain C, 802.11(n) HT, MCS7, 20 MHz, Mid Channel 5785 MHz



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

DUTY CYCLE

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



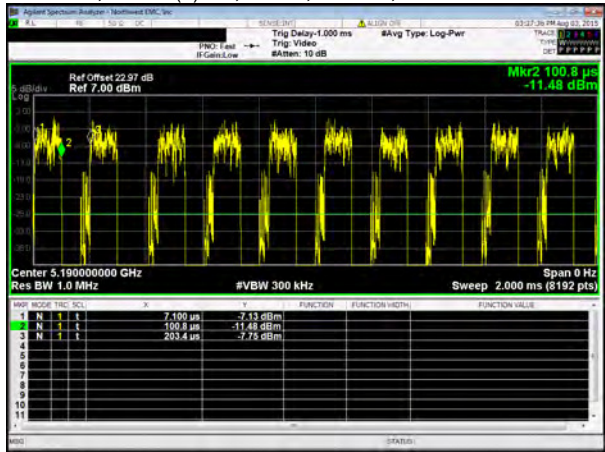
Pulse Width	215.767 us
Period	289.5 us
Number of Pulses	1
Value (%)	74.5
Limit (%)	N/A
Results	N/A

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



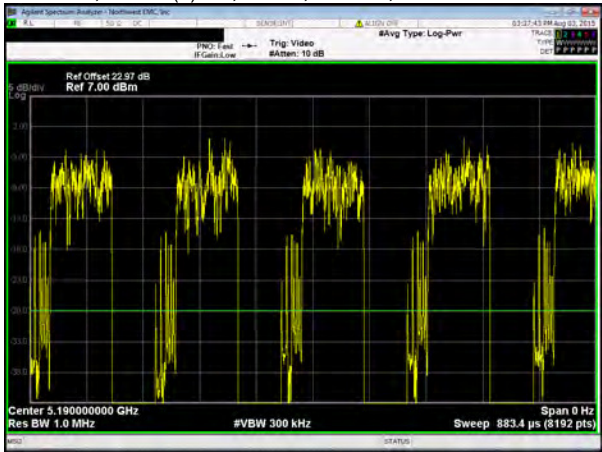
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	93.735 us
Period	196.3 us
Number of Pulses	1
Value (%)	47.8
Limit (%)	N/A
Results	N/A

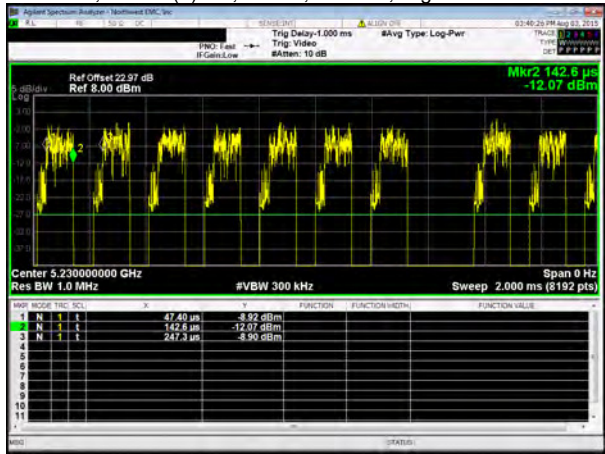
Chain C, 802.11(n) HT, MCS7, 40 MHz, Low Channel 5190 MHz



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

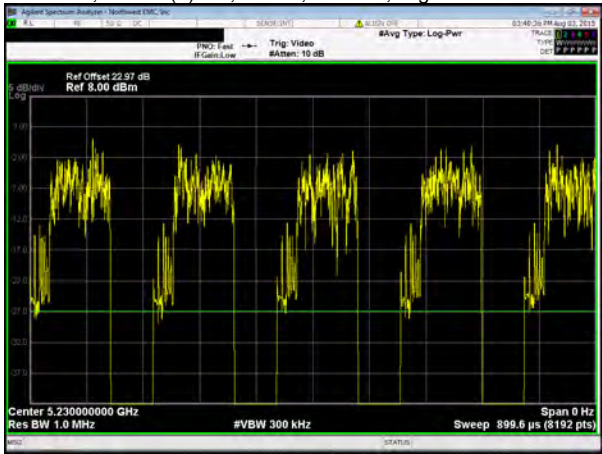
DUTY CYCLE

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



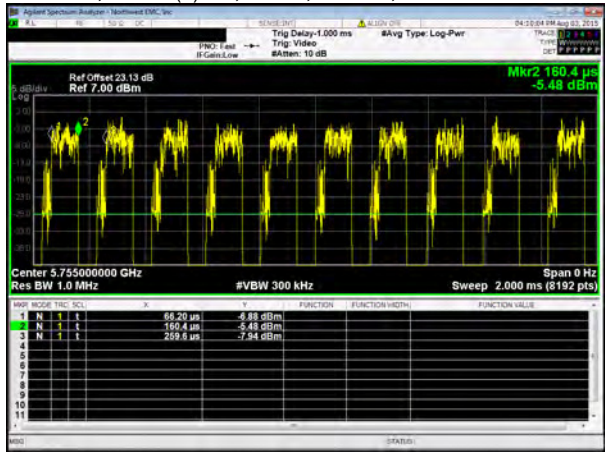
Pulse Width	95.212 us
Period	199.9 us
Number of Pulses	1
Value (%)	47.6
Limit (%)	N/A
Results	N/A

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



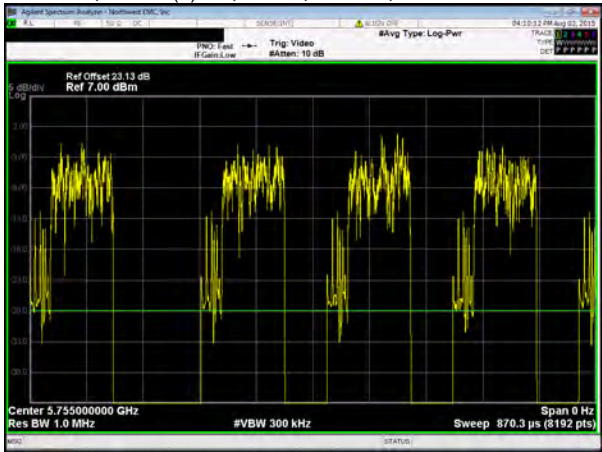
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	94.223 us
Period	193.4 us
Number of Pulses	1
Value (%)	48.7
Limit (%)	N/A
Results	N/A

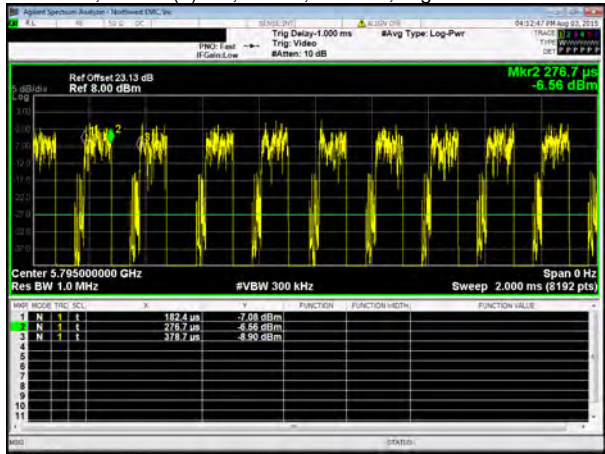
Chain C, 802.11(n) HT, MCS7, 40 MHz, Low Channel 5755 MHz



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

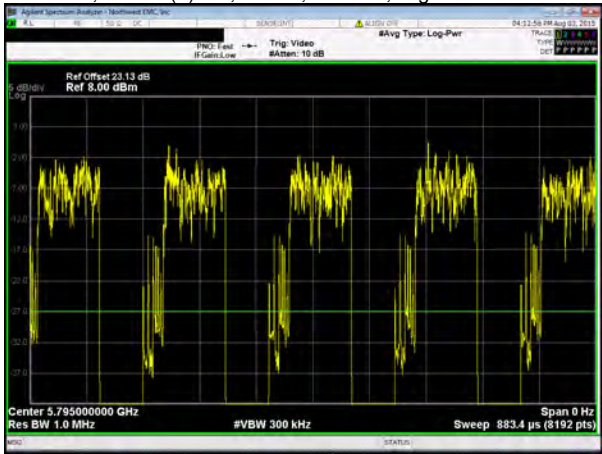
DUTY CYCLE

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



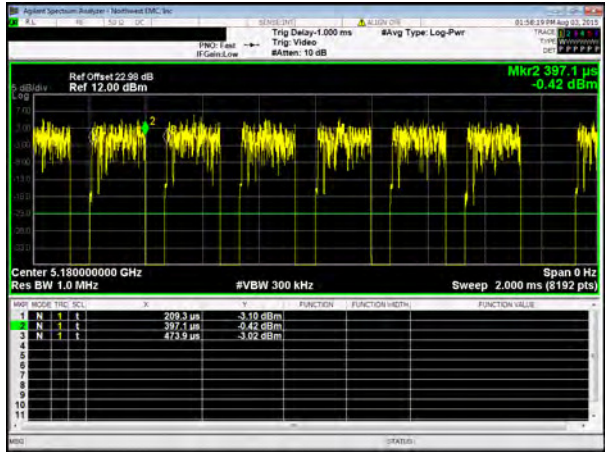
Pulse Width	94.267 us
Period	196.3 us
Number of Pulses	1
Value (%)	48
Limit (%)	N/A
Results	N/A

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



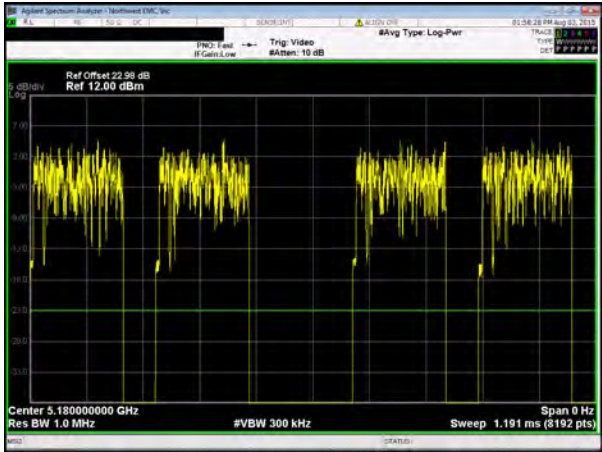
Pulse Width	N/A
Period	N/A
Number of Pulses	6
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	187.767 us
Period	264.6 us
Number of Pulses	1
Value (%)	71
Limit (%)	N/A
Results	N/A

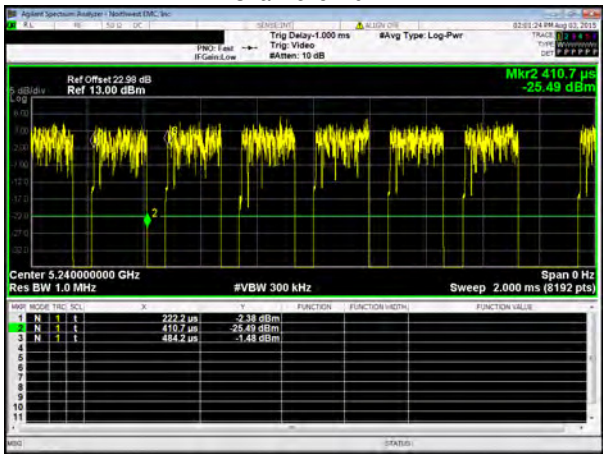
Chain C, 802.11(ac) VHT, MCS8 (256-QAM), 20 MHz, Low Channel 5180 MHz



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

DUTY CYCLE

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



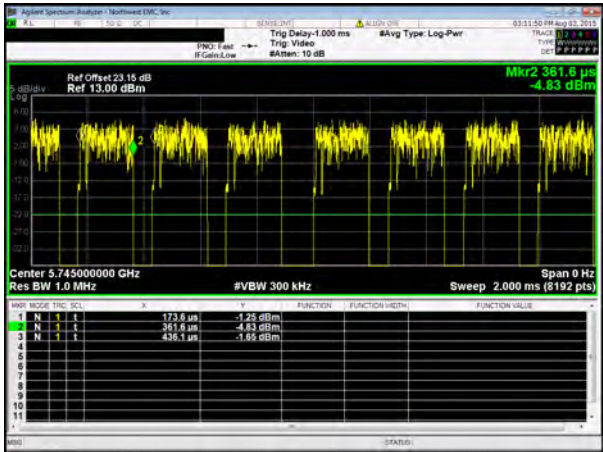
Pulse Width	188.5 us
Period	262 us
Number of Pulses	1
Value (%)	71.9
Limit (%)	N/A
Results	N/A

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



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

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



Pulse Width	188.012 us
Period	262.5 us
Number of Pulses	1
Value (%)	71.6
Limit (%)	N/A
Results	N/A

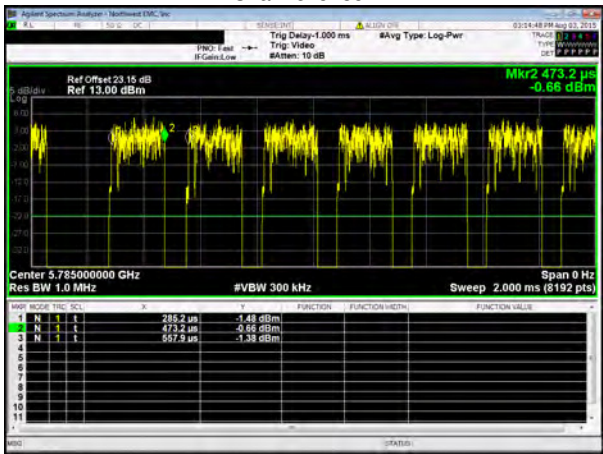
Chain C, 802.11(ac) VHT, MCS8 (256-QAM), 20 MHz, Low
Channel 5745 MHz



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

DUTY CYCLE

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



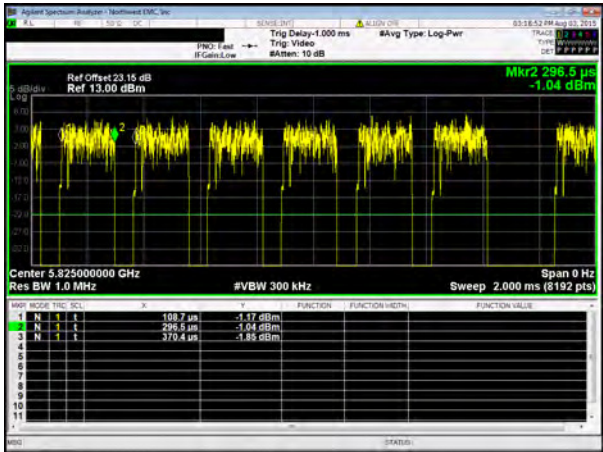
Pulse Width	188.012 us
Period	272.7 us
Number of Pulses	1
Value (%)	68.9
Limit (%)	N/A
Results	N/A

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



Pulse Width	187.767 us
Period	261.7 us
Number of Pulses	1
Value (%)	71.7
Limit (%)	N/A
Results	N/A

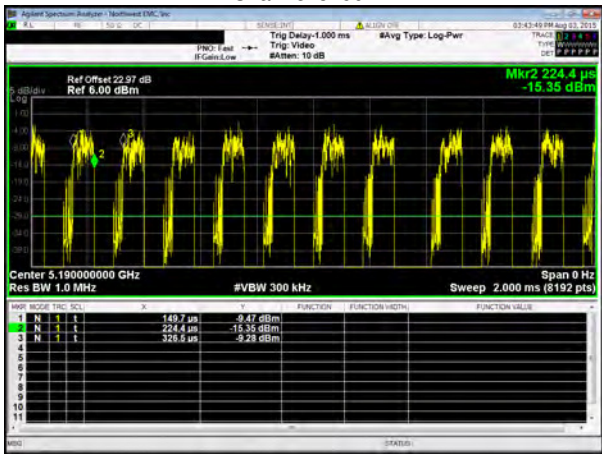
Chain C, 802.11(ac) VHT, MCS8 (256-QAM), 20 MHz, High
Channel 5825 MHz



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

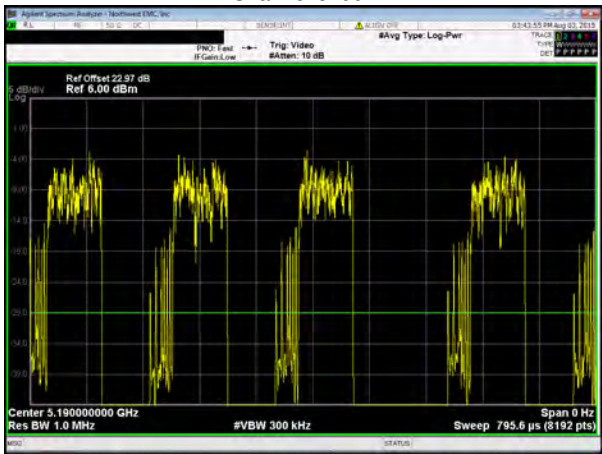
DUTY CYCLE

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



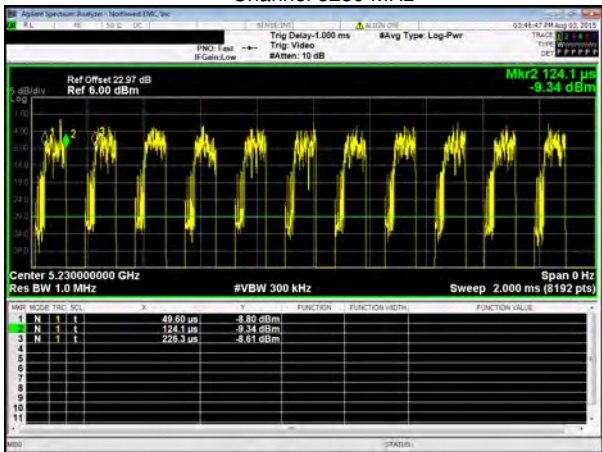
Pulse Width	74.712 us
Period	176.8 us
Number of Pulses	1
Value (%)	42.3
Limit (%)	N/A
Results	N/A

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



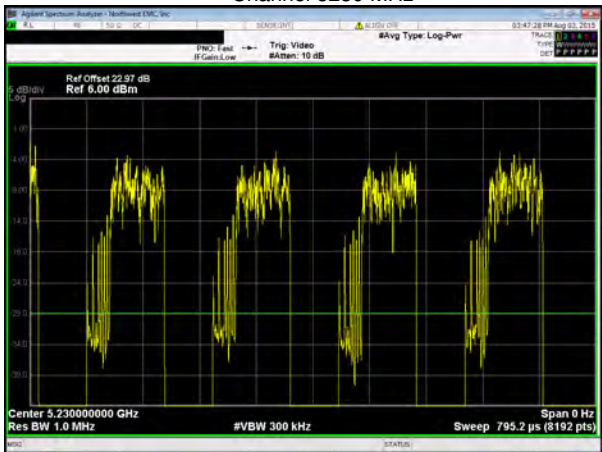
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	74.467 us
Period	176.7 us
Number of Pulses	1
Value (%)	42.1
Limit (%)	N/A
Results	N/A

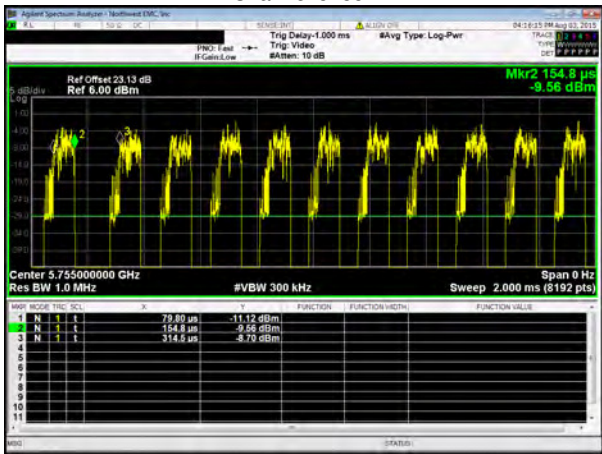
Chain C, 802.11(ac) VHT, MCS9 (256-QAM), 40 MHz, High
Channel 5230 MHz



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

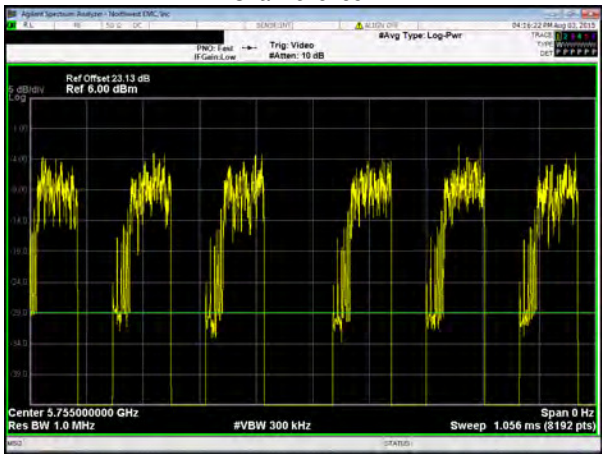
DUTY CYCLE

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



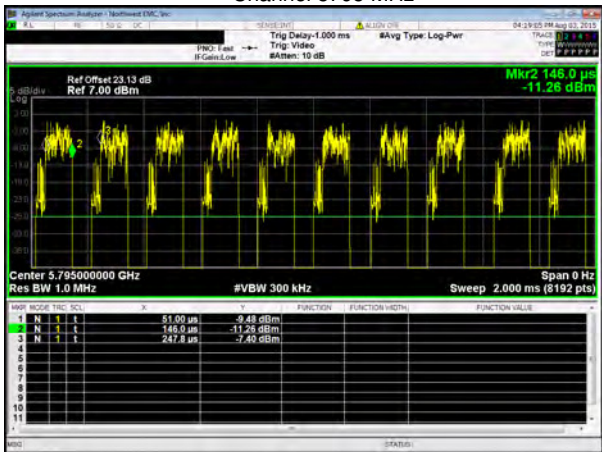
Pulse Width	74.967 us
Period	234.7 us
Number of Pulses	1
Value (%)	31.9
Limit (%)	N/A
Results	N/A

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



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

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



Pulse Width	94.967 us
Period	196.8 us
Number of Pulses	1
Value (%)	48.3
Limit (%)	N/A
Results	N/A

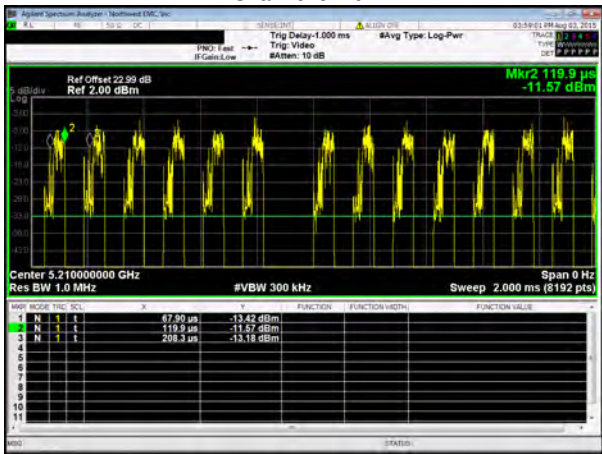
Chain C, 802.11(ac) VHT, MCS9 (256-QAM), 40 MHz, High
Channel 5795 MHz



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

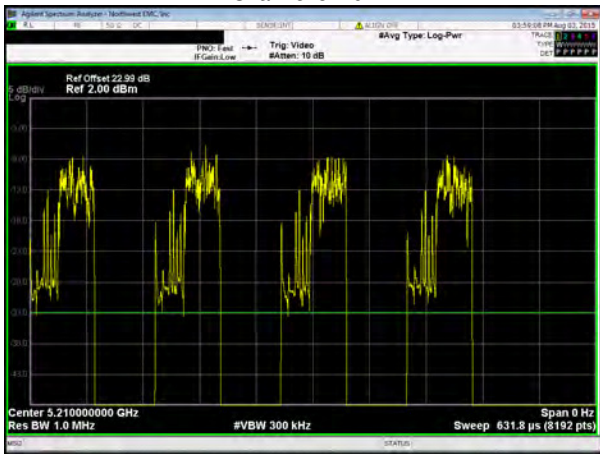
DUTY CYCLE

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



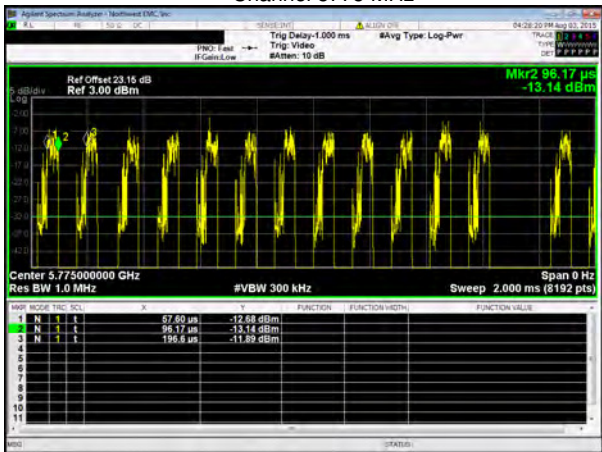
Pulse Width	52.023 us
Period	140.4 us
Number of Pulses	1
Value (%)	37.1
Limit (%)	N/A
Results	N/A

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



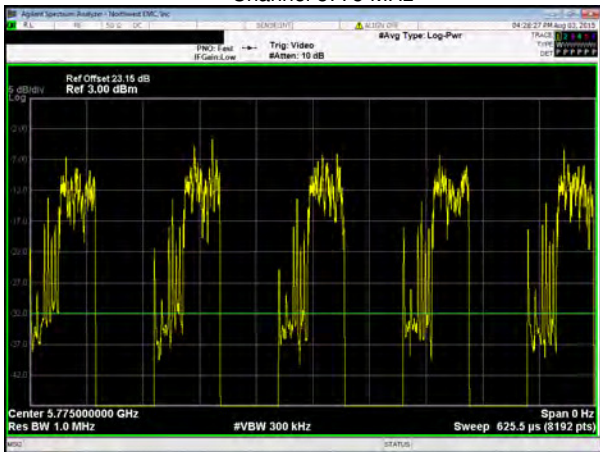
Pulse Width	N/A
Period	N/A
Number of Pulses	5
Value (%)	N/A
Limit (%)	N/A
Results	N/A

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



Pulse Width	38.568 us
Period	139 us
Number of Pulses	1
Value (%)	27.7
Limit (%)	N/A
Results	N/A

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



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