

EMISSION BANDWIDTH

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/28/2014	12

TEST DESCRIPTION

FCC KDB 789033 D01 General UNII Test Procedures were followed.

The transmit frequencies and data rates listed in the datasheet were measured in each band utilized by the radio. The transmit power was set to its default maximum.

A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

The spectrum analyzer settings were as follows:

- RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process to determine the RBW based on the emissions bandwidth (B).
- VBW = > RBW
- A peak detector was used
- Trace max hold.

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

There is no required limit to be met in the rule part for this test. The purpose of the test is to both report the results as required by



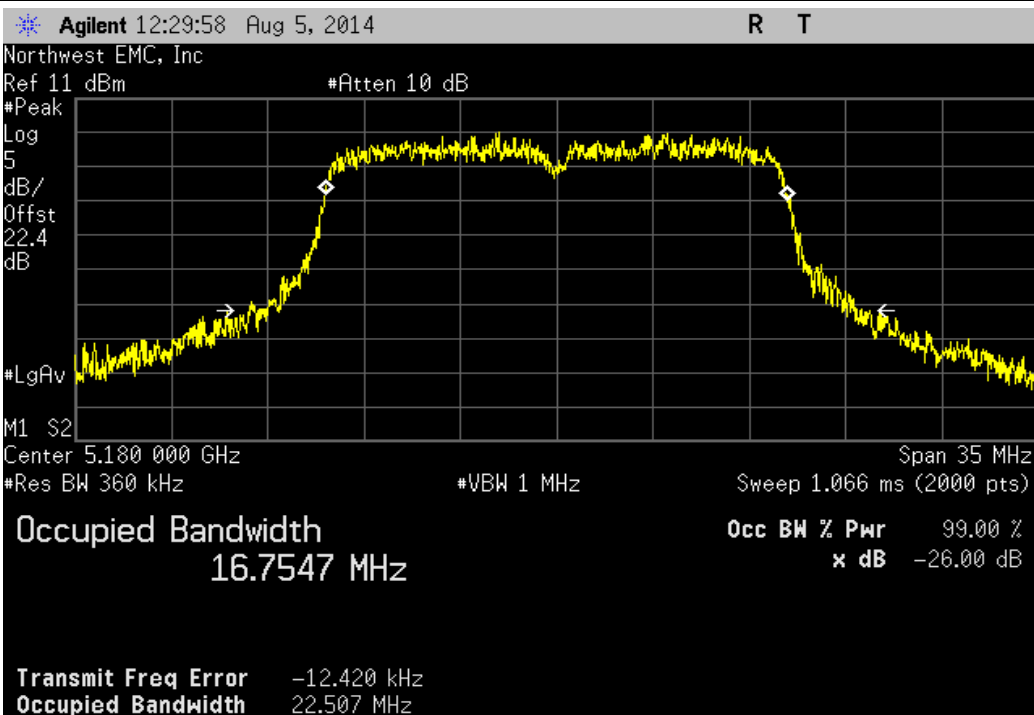
EMISSION BANDWIDTH

XMit 2014.02.07
NweTx 2014.07.18.3

EUT: ConnectCore6 (i.MX6)		Work Order: ETHE0008				
Serial Number: 00409D7B8CA2		Date: 08/05/14				
Customer: Etherios Design Solutions		Temperature: 24.1°C				
Attendees: None		Humidity: 52%				
Project: None		Barometric Pres.: 1022.3				
Tested by: Trevor Buls		Power: 5.0VDC				
		Job Site: MN08				
TEST SPECIFICATIONS						
FCC 15.407:2014		Test Method				
		ANSI C63.10:2009				
COMMENTS						
None						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	1	Signature <i>Trevor Buls</i>				
		Value	Limit (>)	Result		
802.11(a) 6 Mbps						
5150 - 5250 MHz Band						
Channel 36, Low Channel						
22.507 MHz					500 kHz	Pass
Channel 48, High Channel						
22.394 MHz					500 kHz	Pass
5250 - 5350 MHz Band						
Channel 52, Low Channel						
25.297 MHz					500 kHz	Pass
Channel 64, High Channel						
27.162 MHz					500 kHz	Pass
5470 - 5725 MHz Band						
Channel 100, Low Channel						
24.996 MHz					500 kHz	Pass
Channel 116, Mid Channel						
33.116 MHz					500 kHz	Pass
Channel 140, High Channel						
37.322 MHz					500 kHz	Pass
802.11(a) 36 Mbps						
5150 - 5250 MHz Band						
Channel 36, Low Channel						
24.965 MHz					500 kHz	Pass
Channel 48, High Channel						
24.773 MHz					500 kHz	Pass
5250 - 5350 MHz Band						
Channel 52, Low Channel						
36.39 MHz					500 kHz	Pass
Channel 64, High Channel						
32.628 MHz					500 kHz	Pass
5470 - 5725 MHz Band						
Channel 100, Low Channel						
30.948 MHz					500 kHz	Pass
Channel 116, Mid Channel						
38.495 MHz					500 kHz	Pass
Channel 140, High Channel						
38.812 MHz					500 kHz	Pass
802.11(a) 54 Mbps						
5150 - 5250 MHz Band						
Channel 36, Low Channel						
23.632 MHz					500 kHz	Pass
Channel 48, High Channel						
24.684 MHz					500 kHz	Pass
5250 - 5350 MHz Band						
Channel 52, Low Channel						
34.071 MHz					500 kHz	Pass
Channel 64, High Channel						
33.565 MHz					500 kHz	Pass
5470 - 5725 MHz Band						
Channel 100, Low Channel						
27.036 MHz					500 kHz	Pass
Channel 116, Mid Channel						
36.946 MHz					500 kHz	Pass
Channel 140, High Channel						
36.891 MHz					500 kHz	Pass
802.11(n) MCS0						
5150 - 5250 MHz Band						
Channel 36, Low Channel						
22.383 MHz					500 kHz	Pass
Channel 48, High Channel						
22.78 MHz					500 kHz	Pass
5250 - 5350 MHz Band						
Channel 52, Low Channel						
28.251 MHz					500 kHz	Pass
Channel 64, High Channel						
29.06 MHz					500 kHz	Pass
5470 - 5725 MHz Band						
Channel 100, Low Channel						
25.407 MHz					500 kHz	Pass
Channel 116, Mid Channel						
35.082 MHz					500 kHz	Pass
Channel 140, High Channel						
35.771 MHz					500 kHz	Pass
802.11(n) MCS7						
5150 - 5250 MHz Band						
Channel 36, Low Channel						
25.112 MHz					500 kHz	Pass
Channel 48, High Channel						
23.596 MHz					500 kHz	Pass
5250 - 5350 MHz Band						
Channel 52, Low Channel						
35.231 MHz					500 kHz	Pass
Channel 64, High Channel						
33.234 MHz					500 kHz	Pass
5470 - 5725 MHz Band						
Channel 100, Low Channel						
32.234 MHz					500 kHz	Pass
Channel 116, Mid Channel						
37.64 MHz					500 kHz	Pass
Channel 140, High Channel						
39.062 MHz					500 kHz	Pass

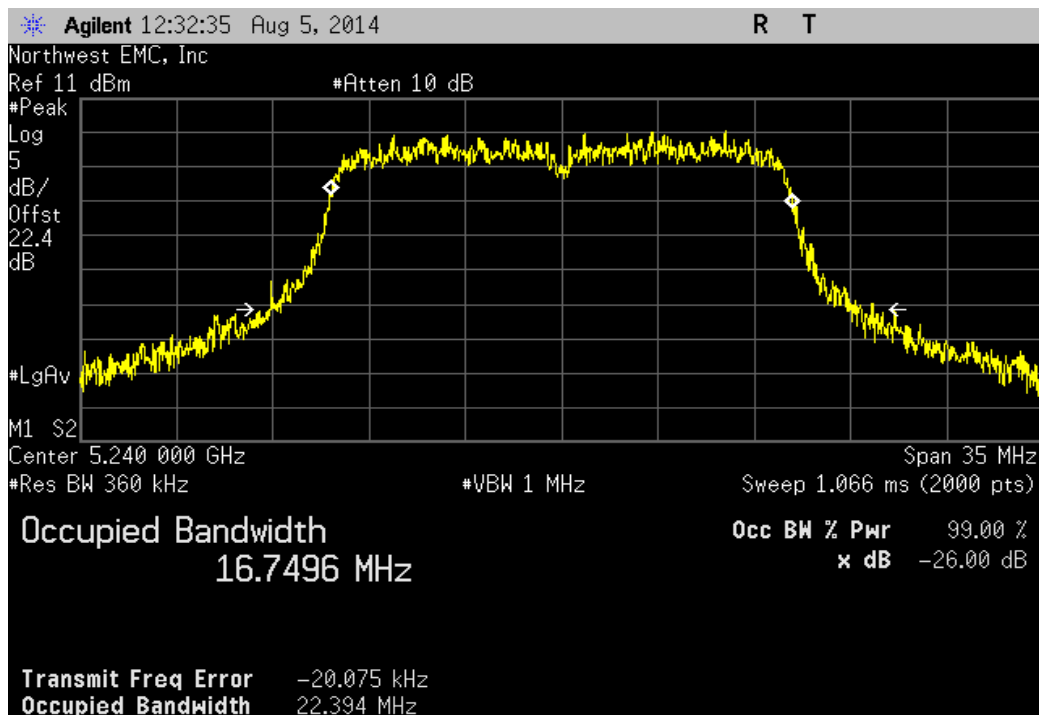
802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

	Value	Limit (>)	Result
	22.507 MHz	500 kHz	Pass



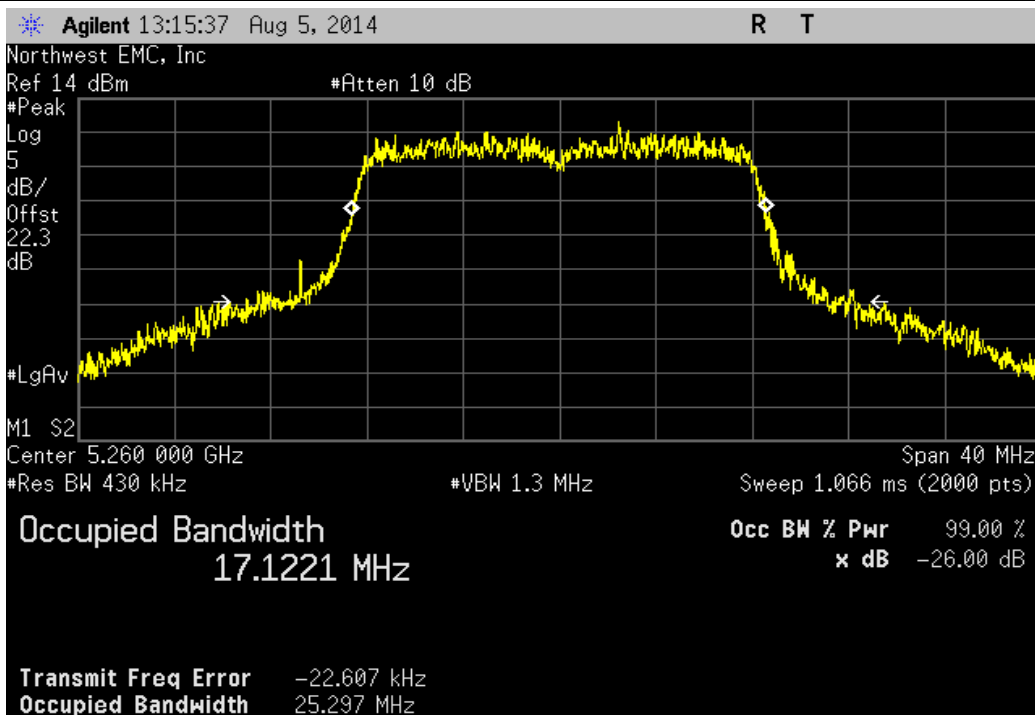
802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

	Value	Limit (>)	Result
	22.394 MHz	500 kHz	Pass



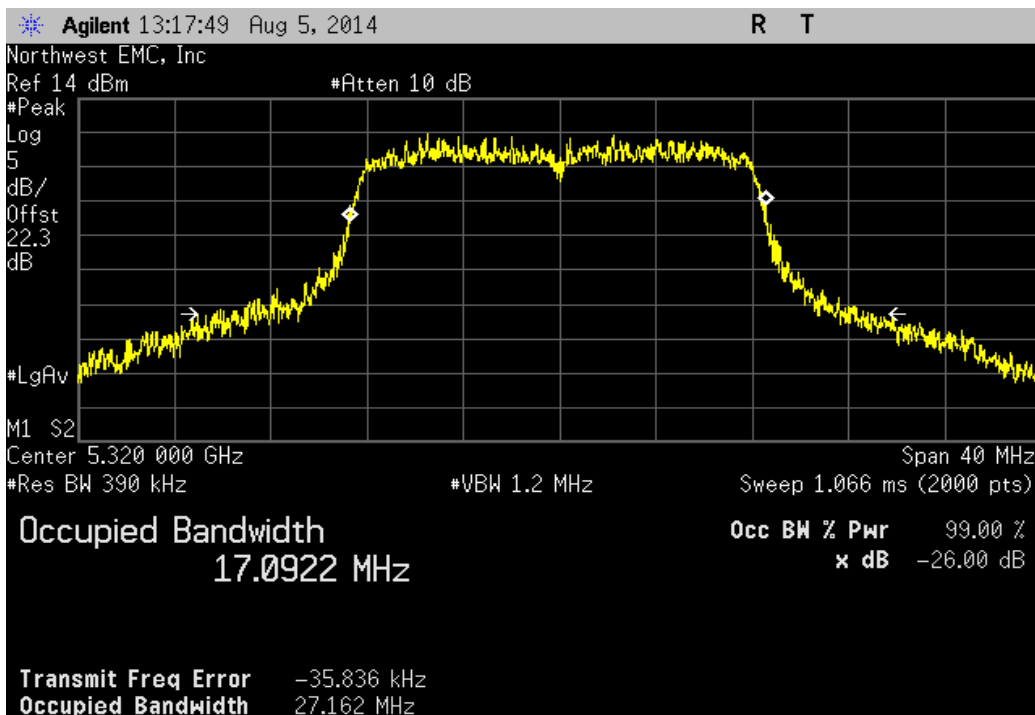
802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

	Value	Limit (>)	Result
	25.297 MHz	500 kHz	Pass



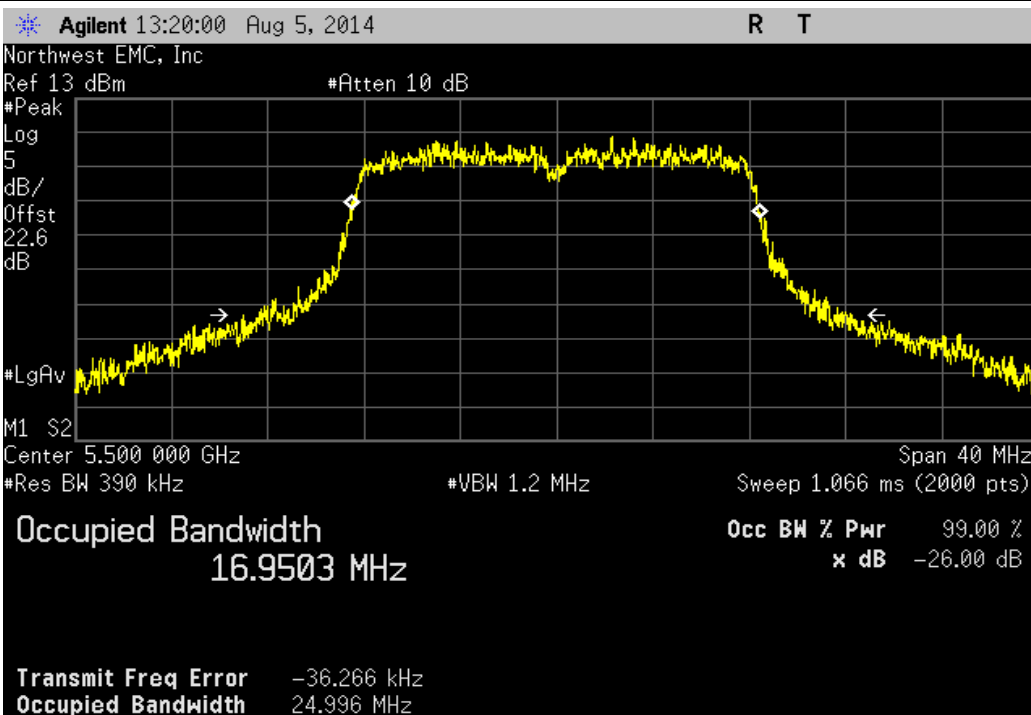
802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

	Value	Limit (>)	Result
	27.162 MHz	500 kHz	Pass



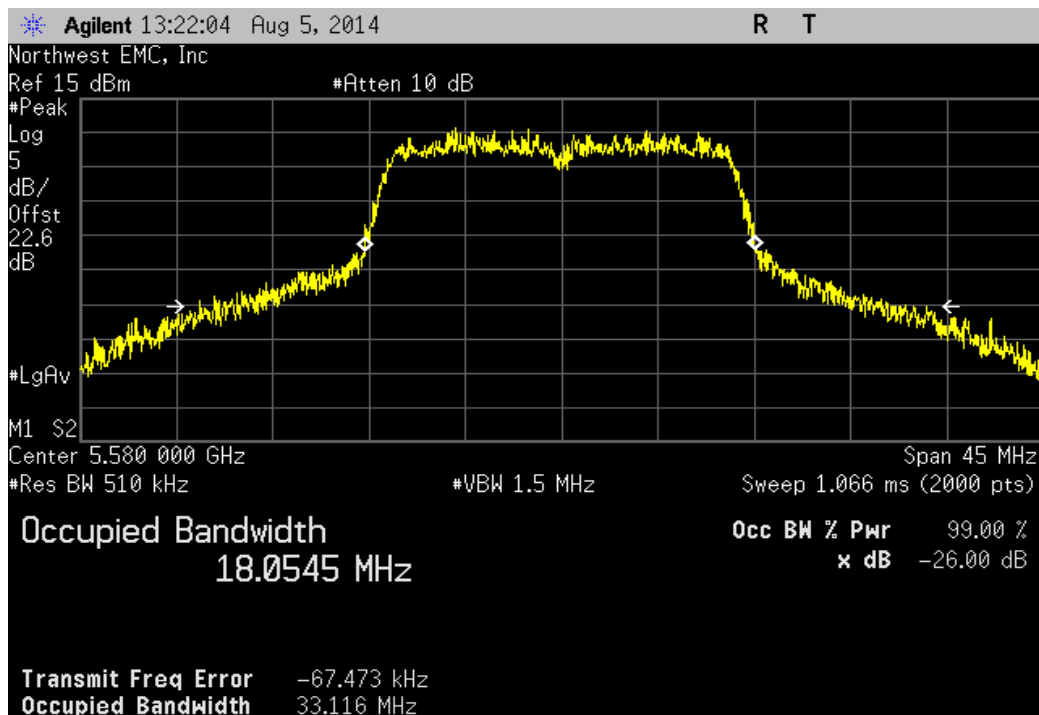
802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

	Value	Limit (>)	Result
	24.996 MHz	500 kHz	Pass



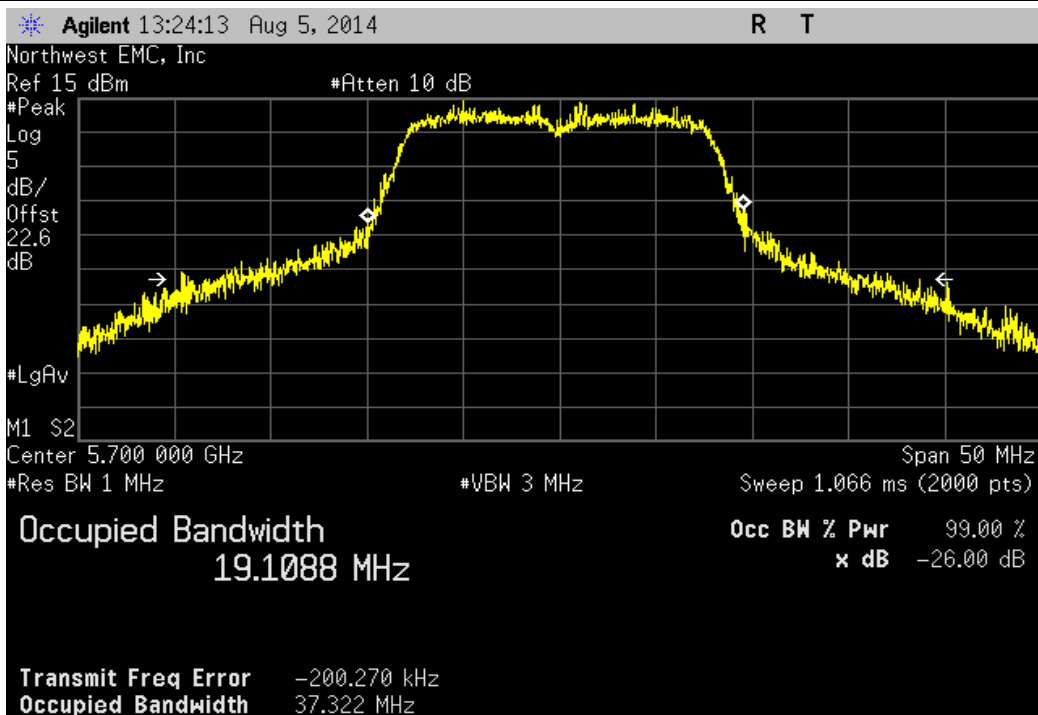
802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel

	Value	Limit (>)	Result
	33.116 MHz	500 kHz	Pass



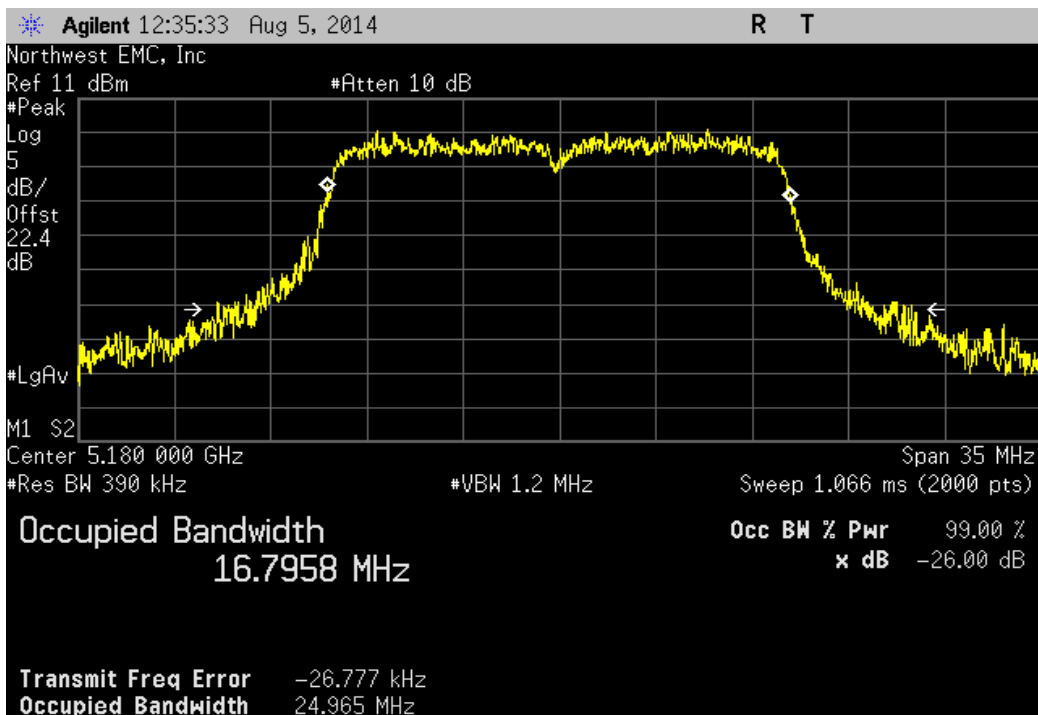
802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

	Value	Limit (>)	Result
	37.322 MHz	500 kHz	Pass



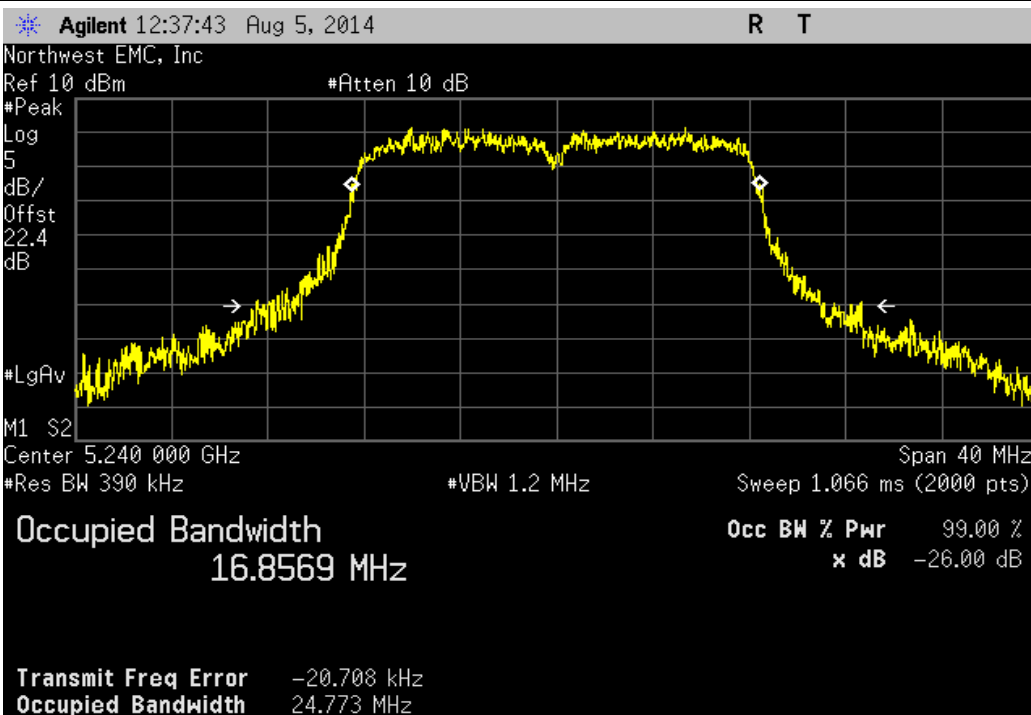
802.11(a) 36 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

	Value	Limit (>)	Result
	24.965 MHz	500 kHz	Pass



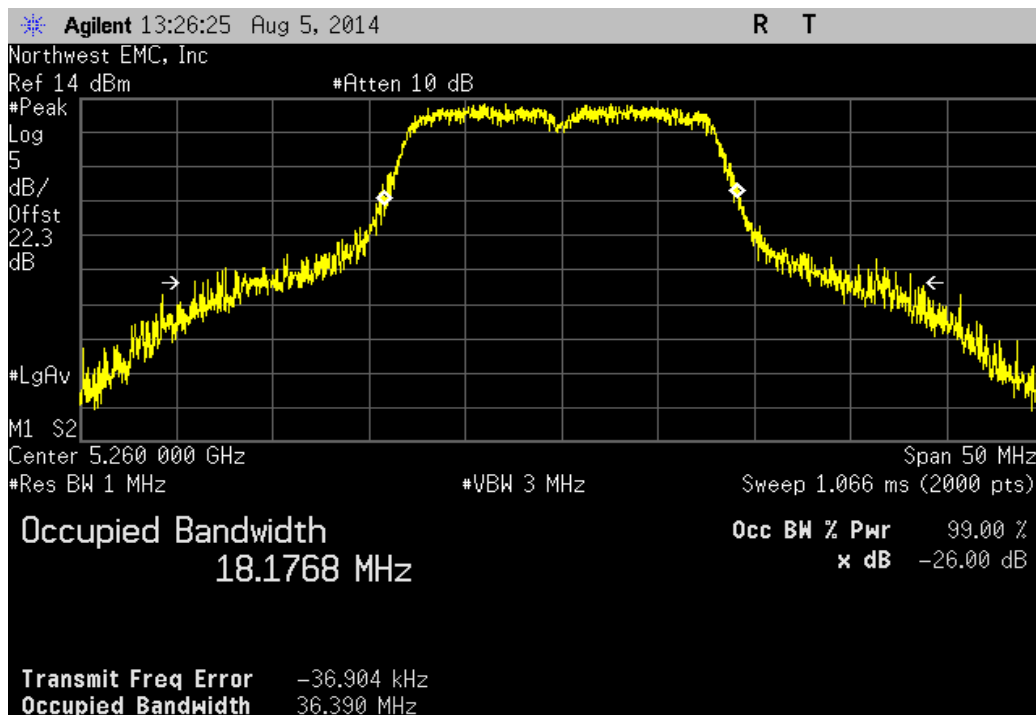
802.11(a) 36 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

	Value	Limit (>)	Result
	24.773 MHz	500 kHz	Pass



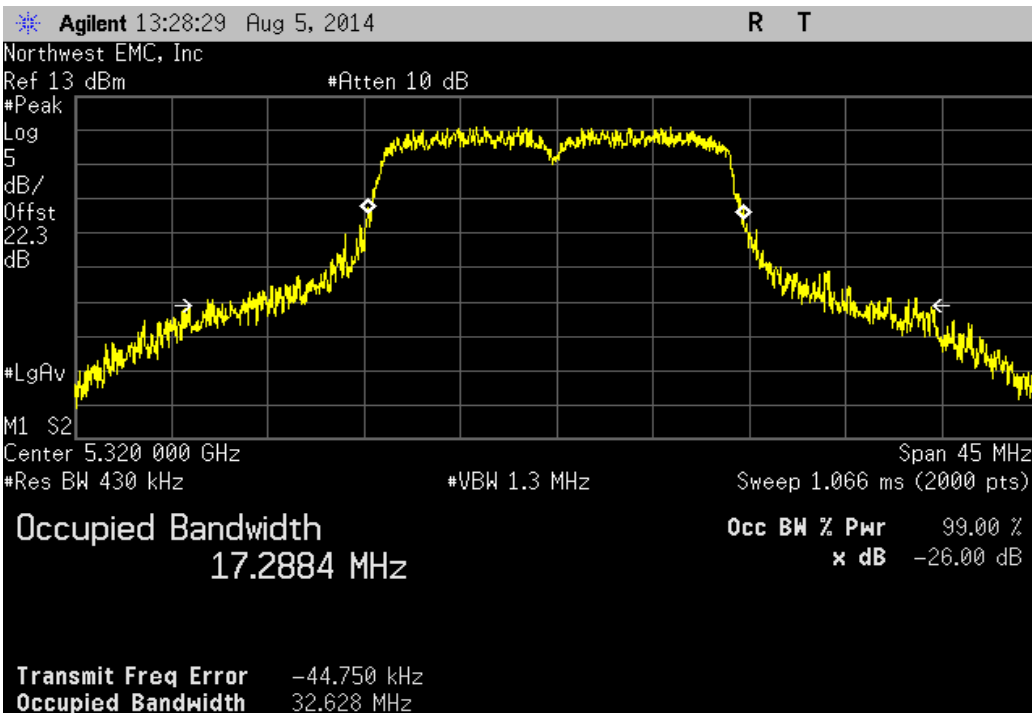
802.11(a) 36 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

	Value	Limit (>)	Result
	36.39 MHz	500 kHz	Pass



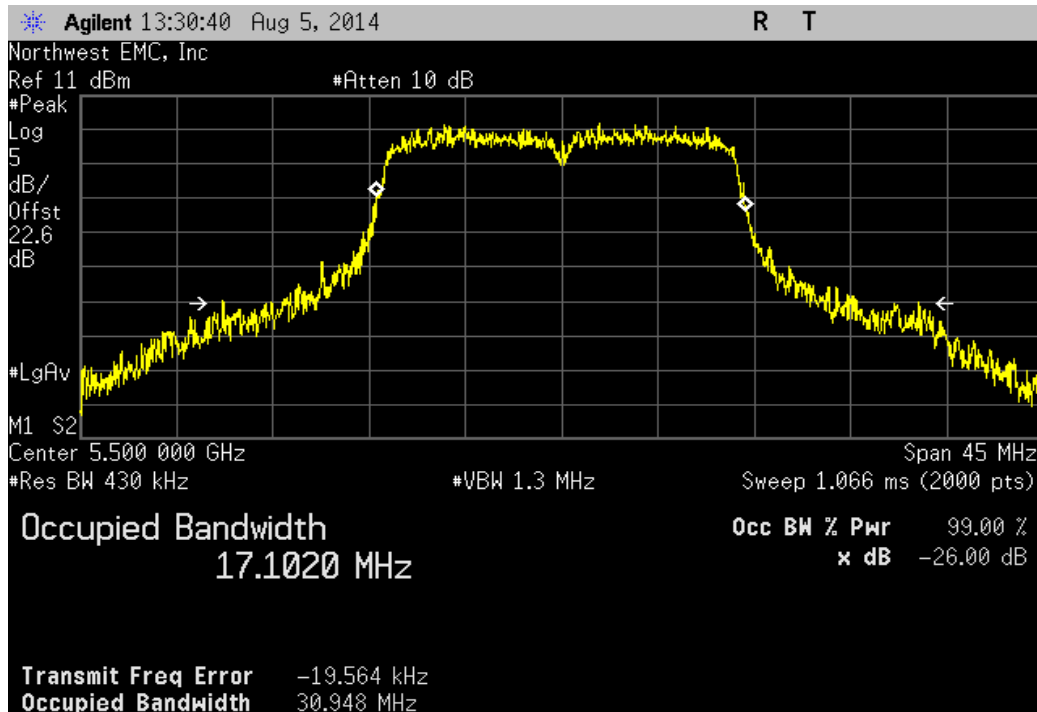
802.11(a) 36 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

	Value	Limit (>)	Result
	32.628 MHz	500 kHz	Pass



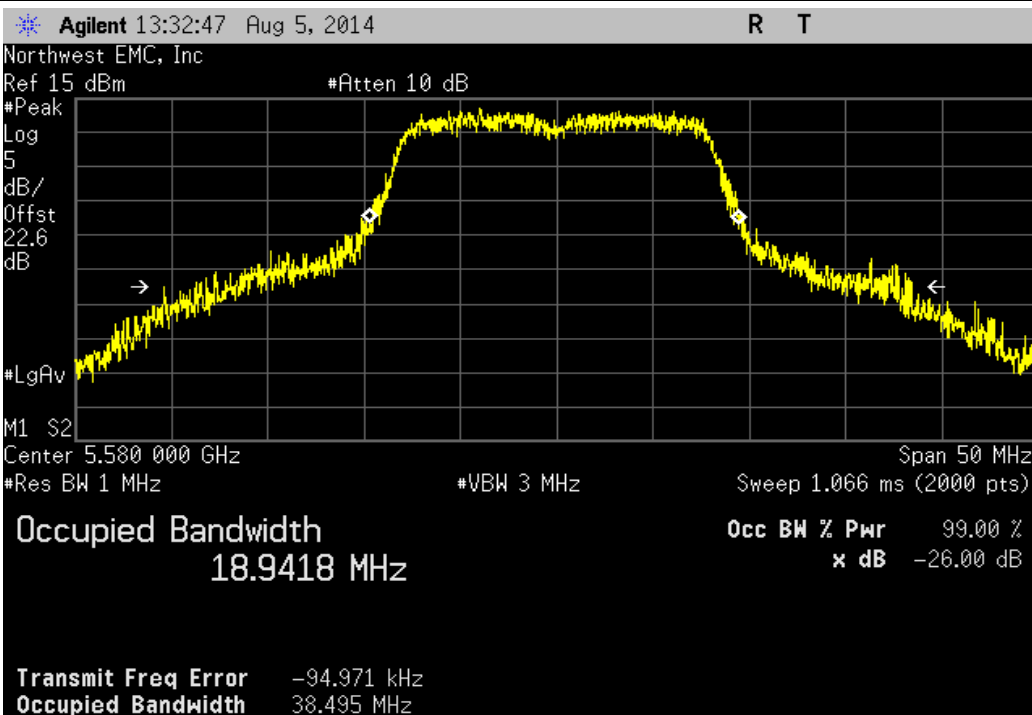
802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

	Value	Limit (>)	Result
	30.948 MHz	500 kHz	Pass



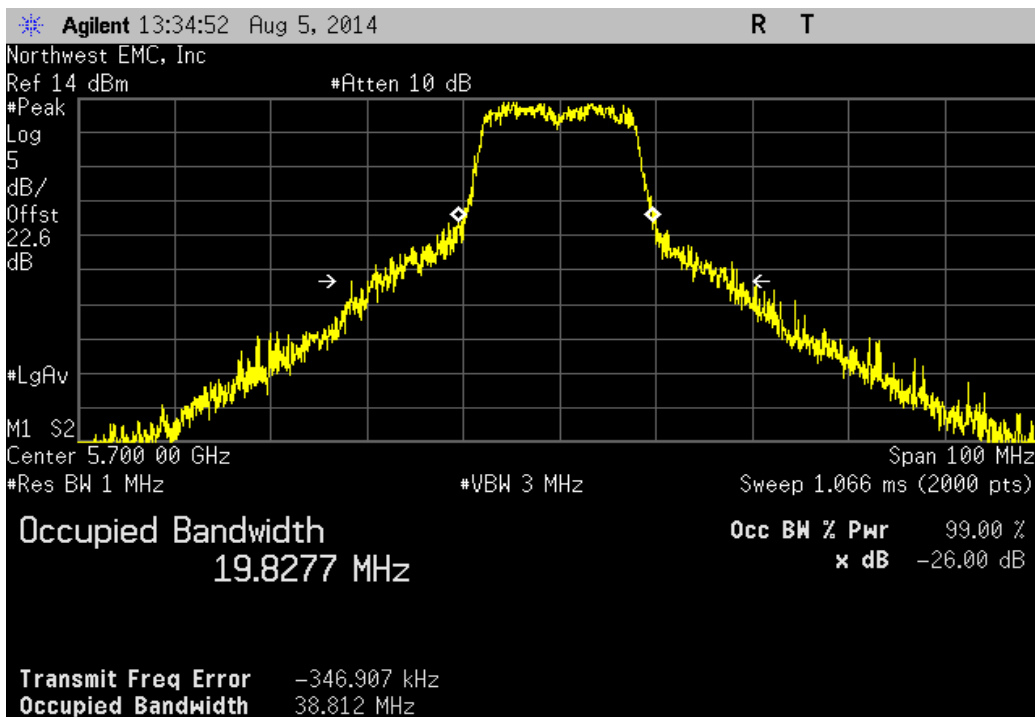
802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel

	Value	Limit (>)	Result
	38.495 MHz	500 kHz	Pass



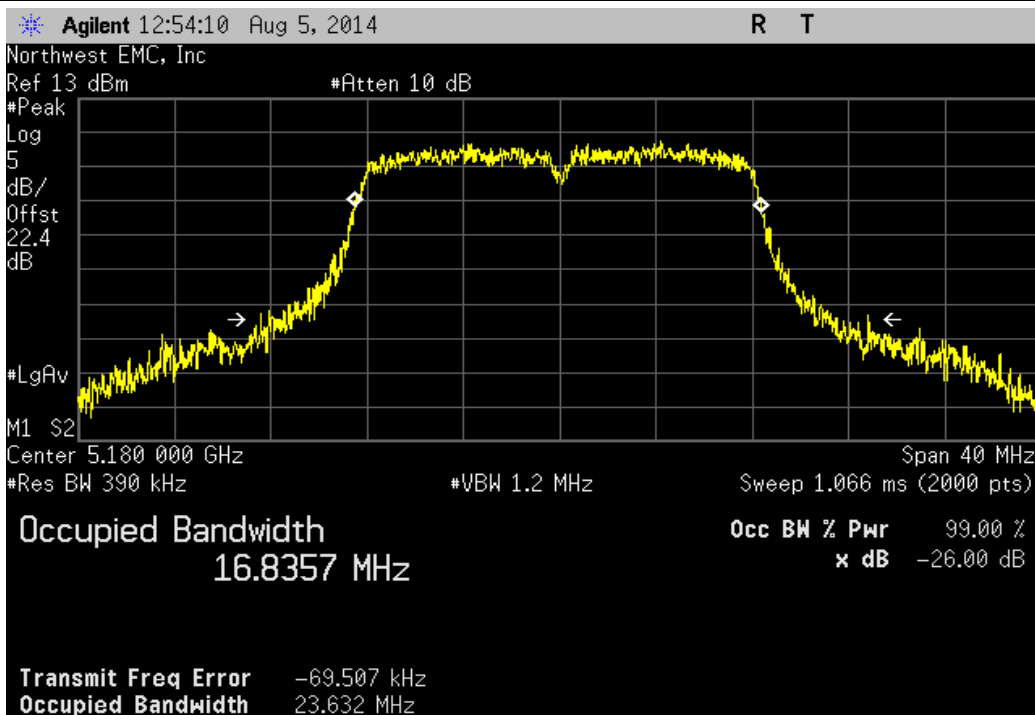
802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

	Value	Limit (>)	Result
	38.812 MHz	500 kHz	Pass



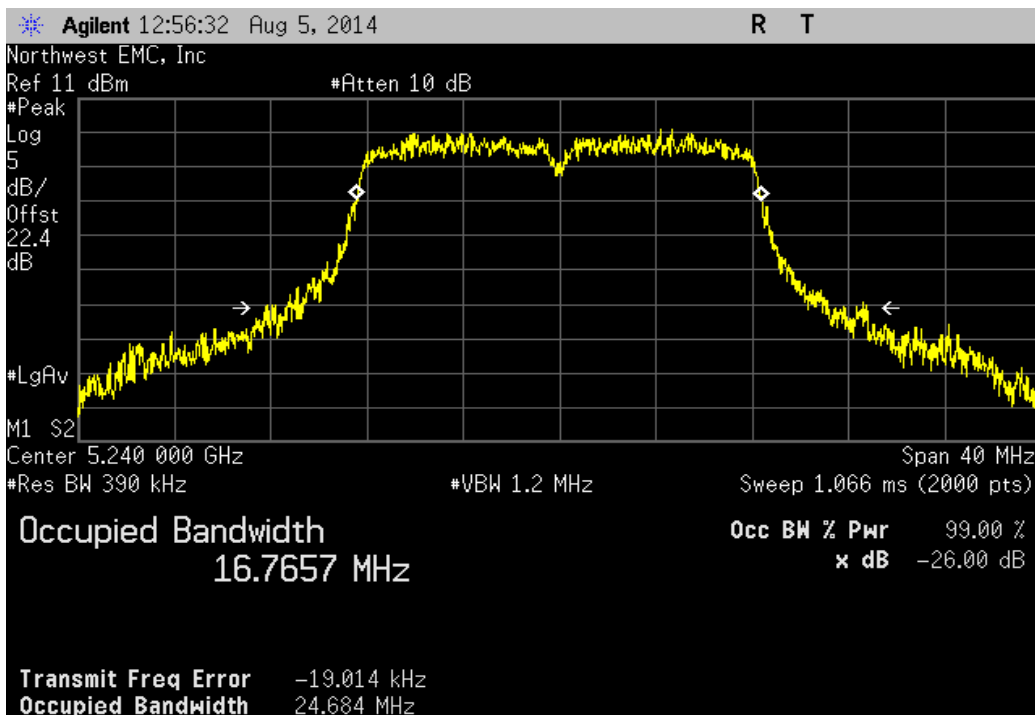
802.11(a) 54 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

				Value	Limit (>)	Result
				23.632 MHz	500 kHz	Pass



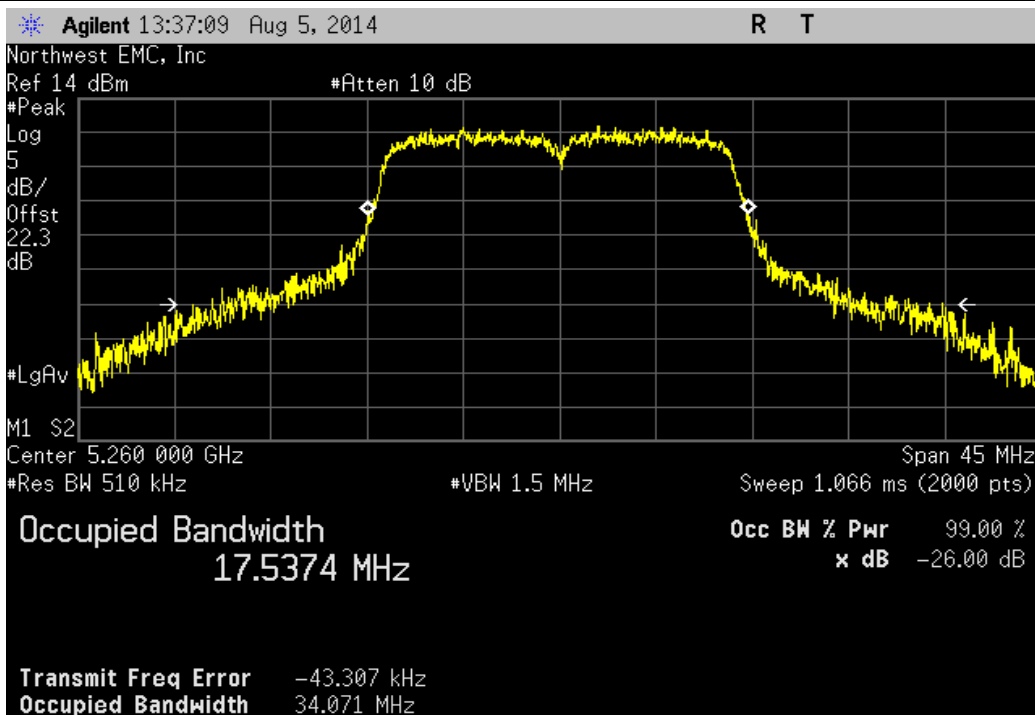
802.11(a) 54 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

				Value	Limit (>)	Result
				24.684 MHz	500 kHz	Pass



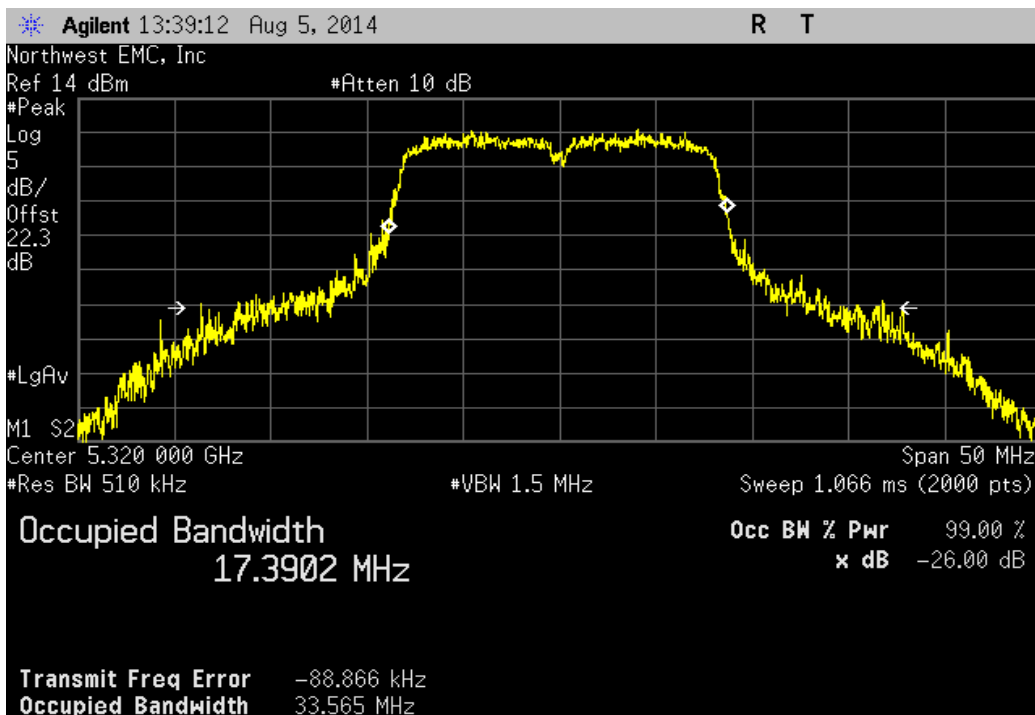
802.11(a) 54 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

	Value	Limit (>)	Result
	34.071 MHz	500 kHz	Pass



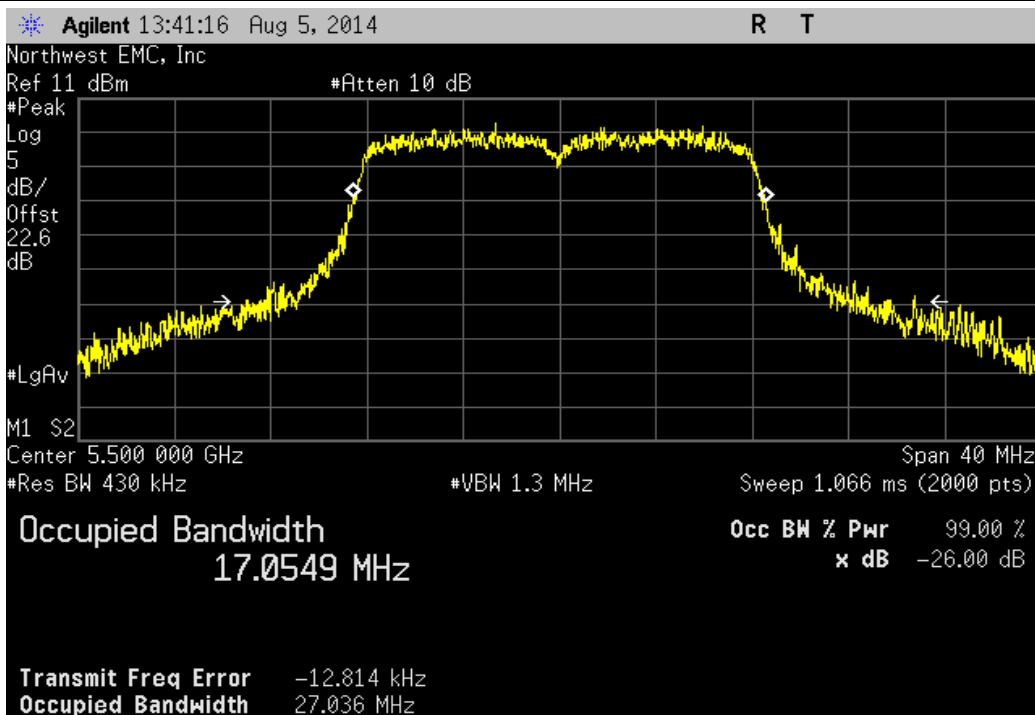
802.11(a) 54 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

	Value	Limit (>)	Result
	33.565 MHz	500 kHz	Pass



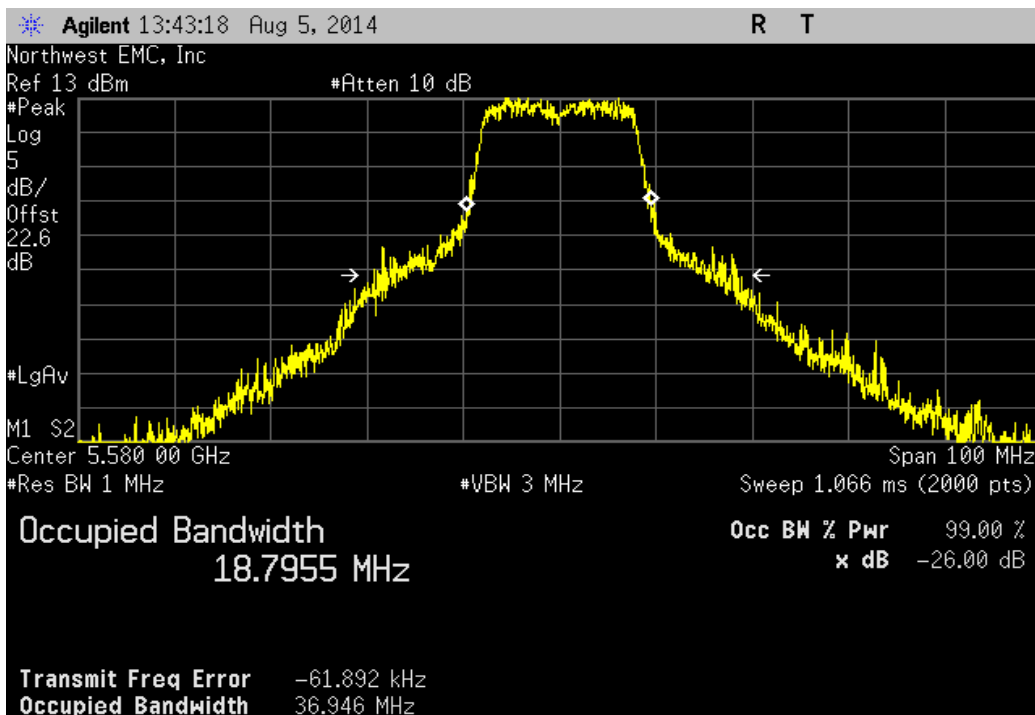
802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

	Value	Limit (>)	Result
	27.036 MHz	500 kHz	Pass



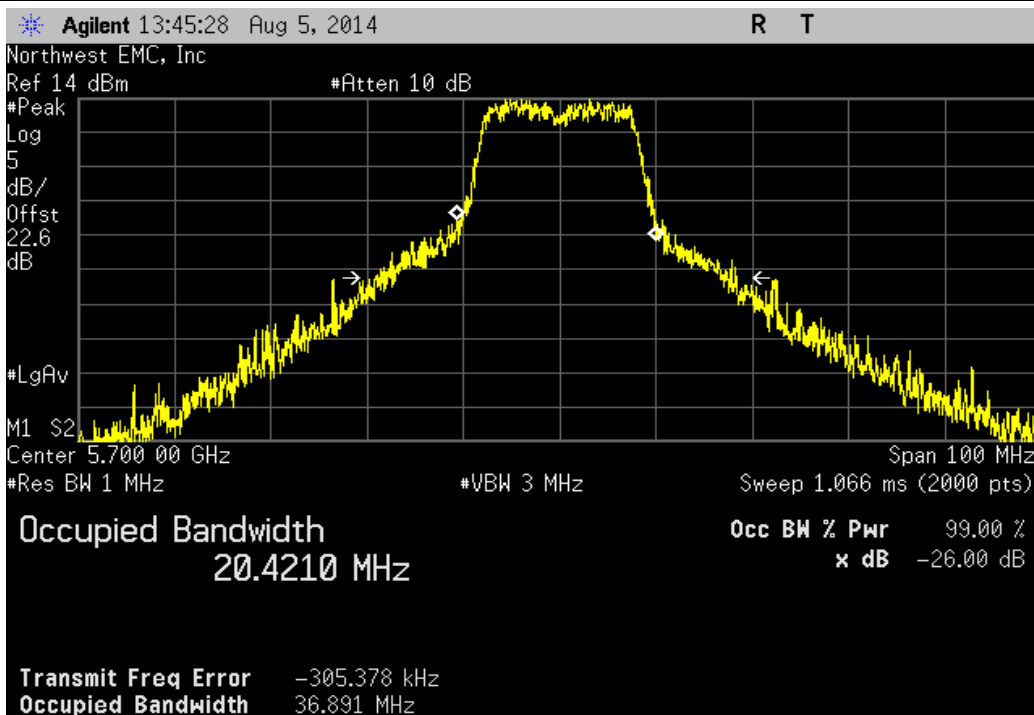
802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel

	Value	Limit (>)	Result
	36.946 MHz	500 kHz	Pass



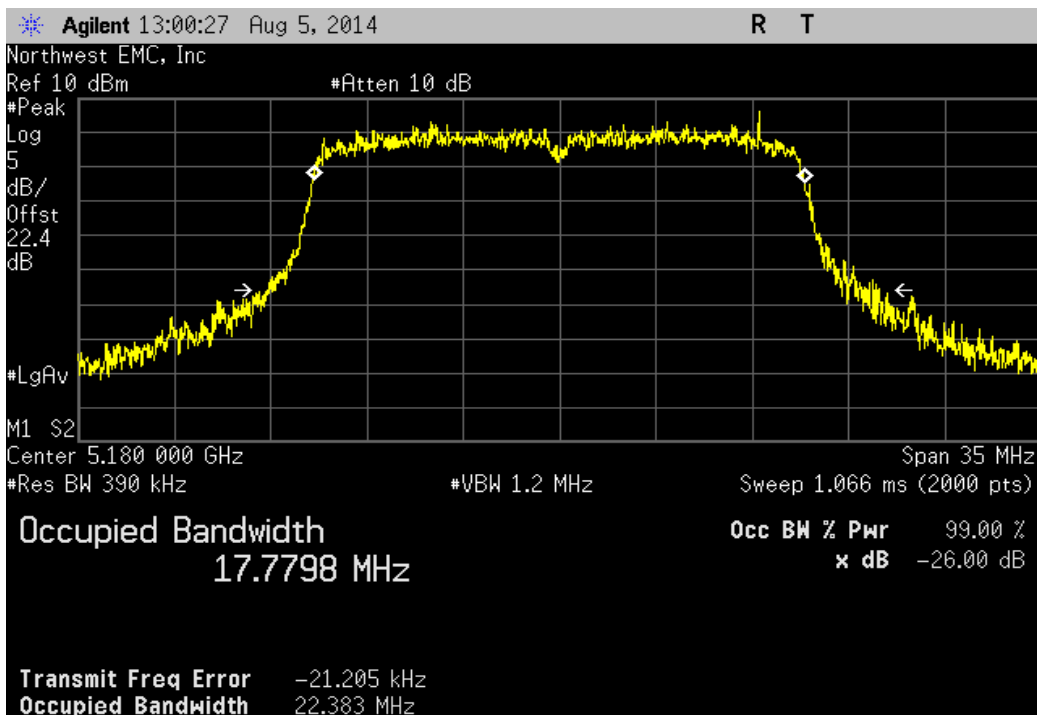
802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

				Value	Limit (>)	Result
				36.891 MHz	500 kHz	Pass



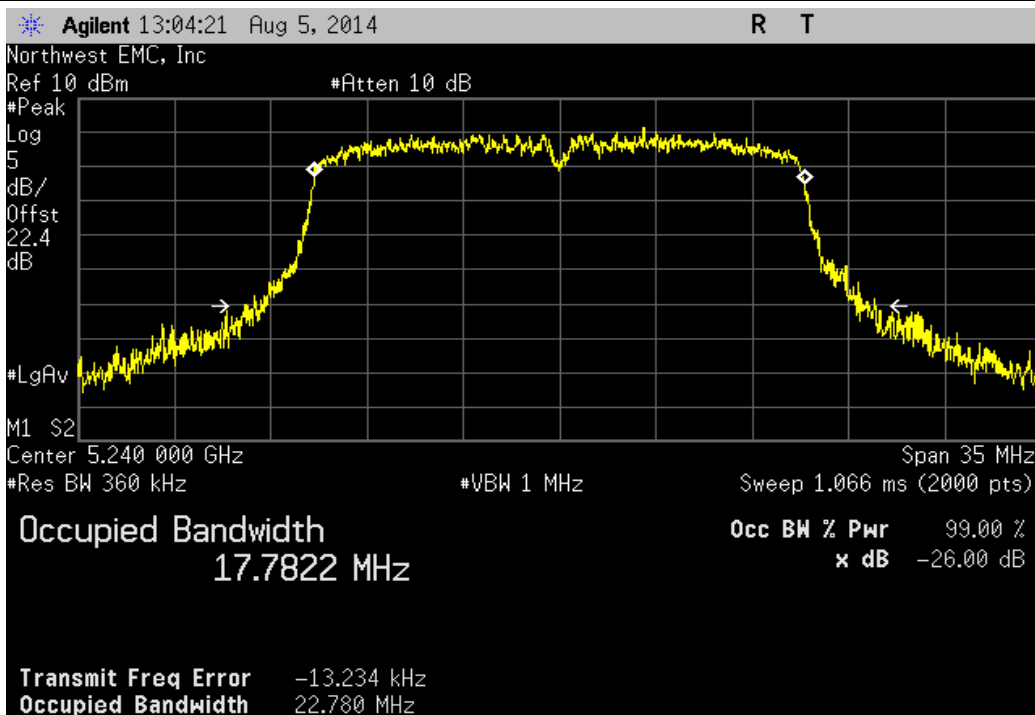
802.11(n) MCS0, 5150 - 5250 MHz Band, Channel 36, Low Channel

				Value	Limit (>)	Result
				22.383 MHz	500 kHz	Pass



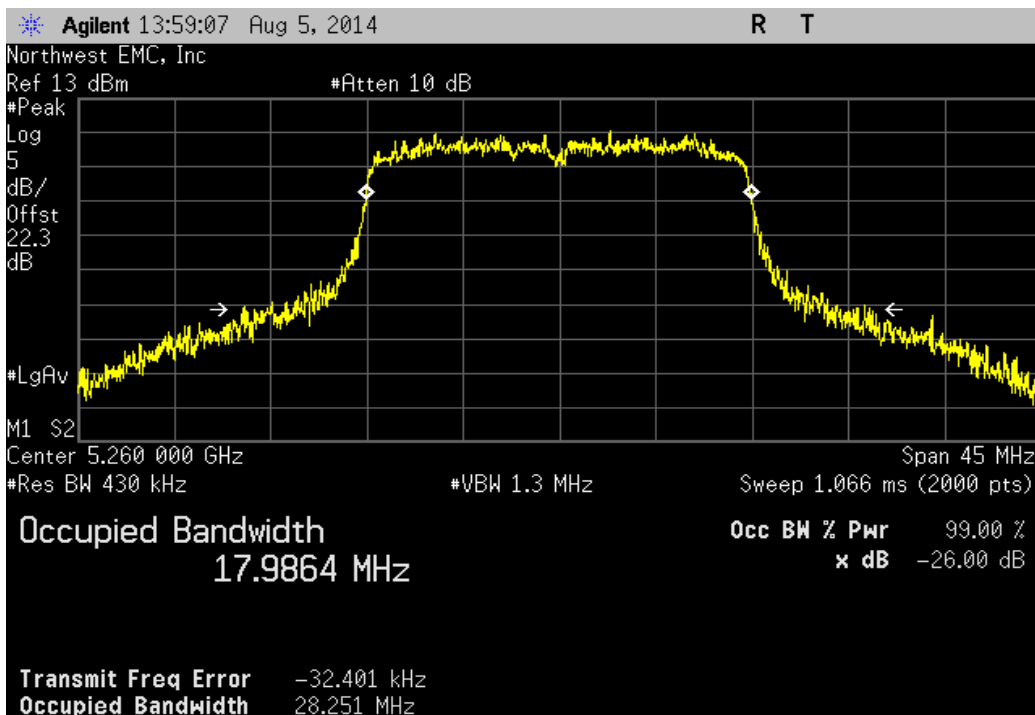
802.11(n) MCS0, 5150 - 5250 MHz Band, Channel 48, High Channel

	Value	Limit (>)	Result
	22.78 MHz	500 kHz	Pass



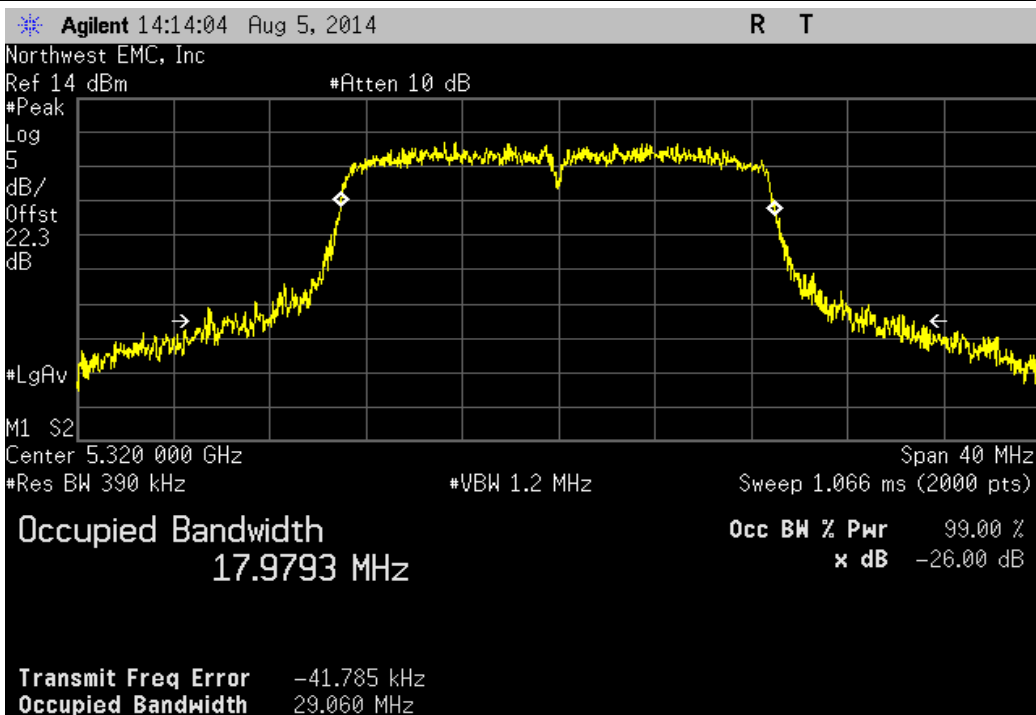
802.11(n) MCS0, 5250 - 5350 MHz Band, Channel 52, Low Channel

	Value	Limit (>)	Result
	28.251 MHz	500 kHz	Pass



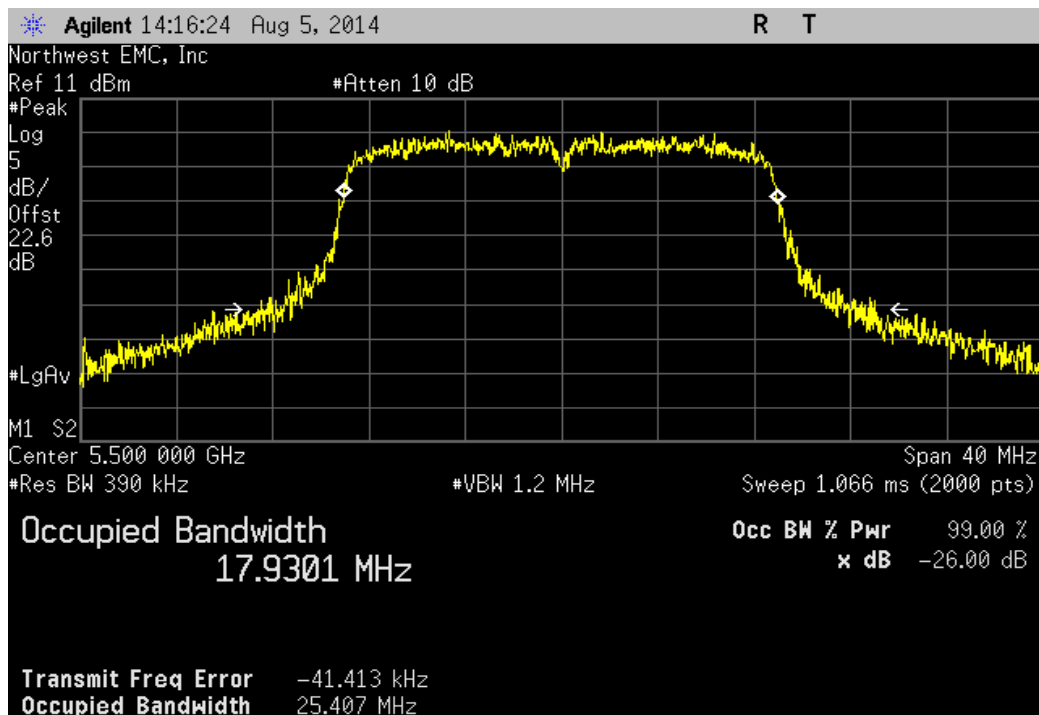
802.11(n) MCS0, 5250 - 5350 MHz Band, Channel 64, High Channel

				Value	Limit (>)	Result
				29.06 MHz	500 kHz	Pass



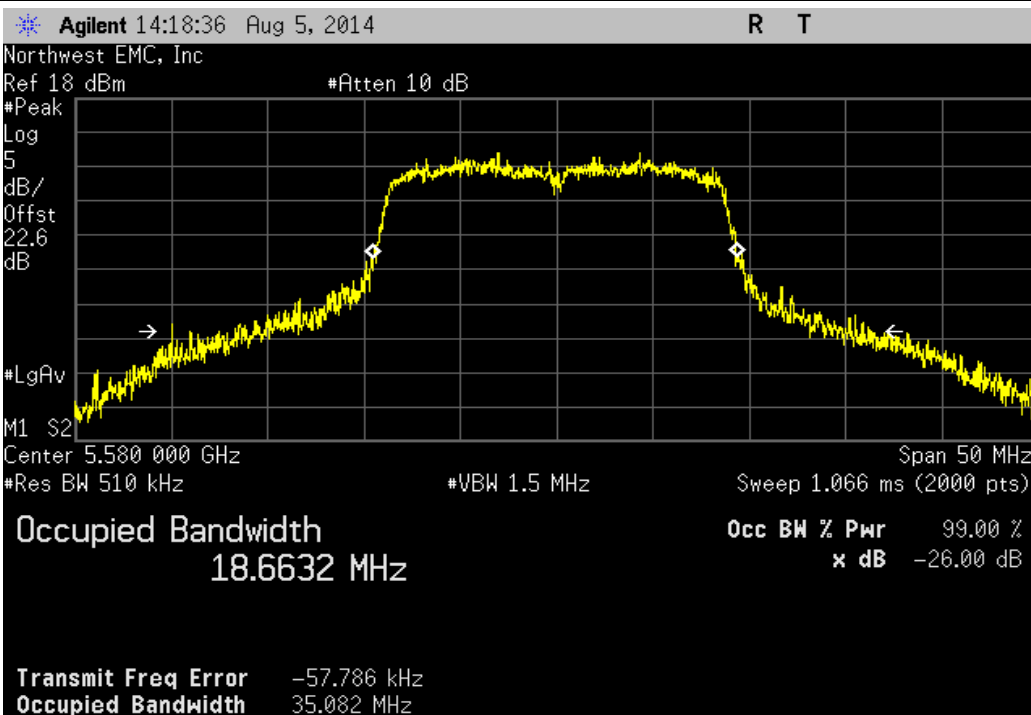
802.11(n) MCS0, 5470 - 5725 MHz Band, Channel 100, Low Channel

				Value	Limit (>)	Result
				25.407 MHz	500 kHz	Pass



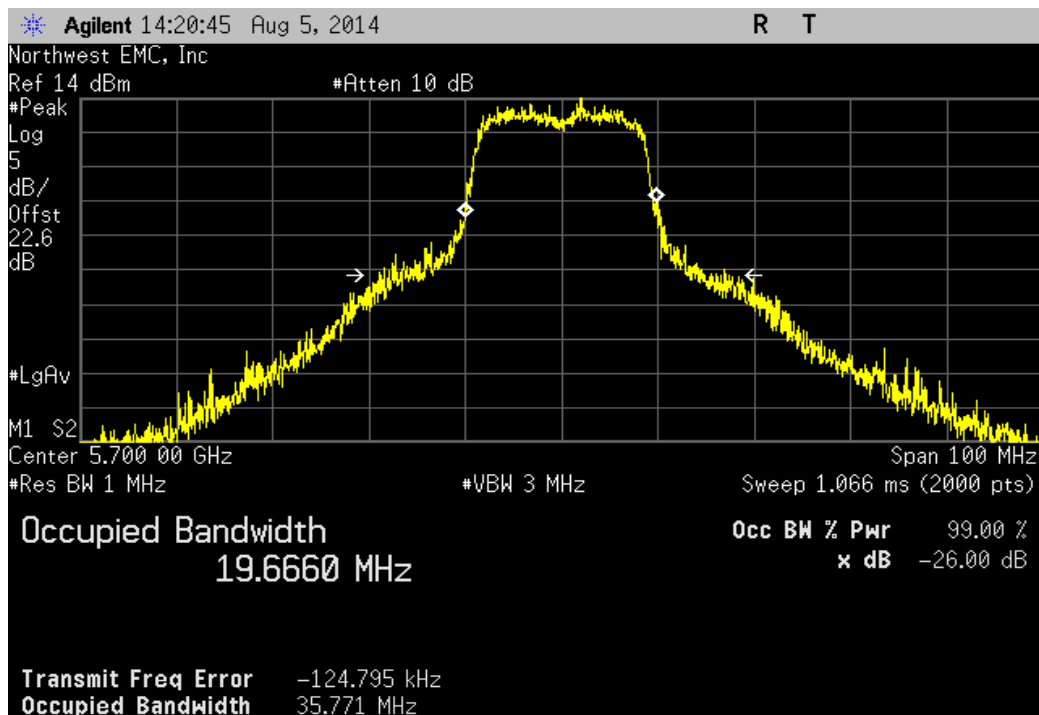
802.11(n) MCS0, 5470 - 5725 MHz Band, Channel 116, Mid Channel

				Value	Limit (>)	Result
				35.082 MHz	500 kHz	Pass



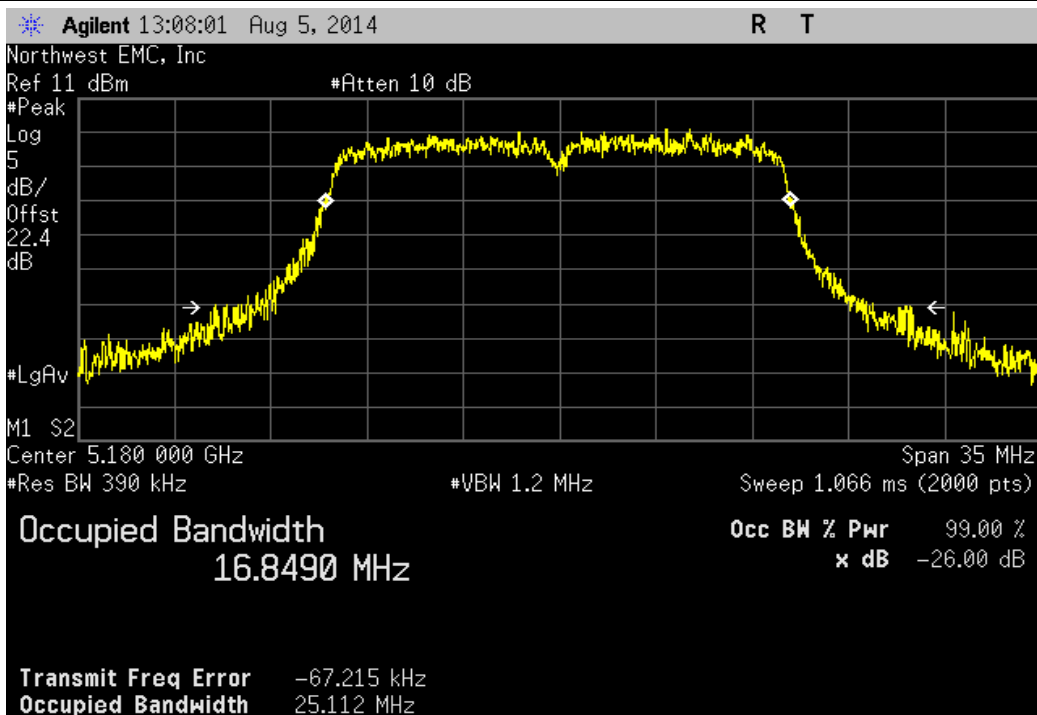
802.11(n) MCS0, 5470 - 5725 MHz Band, Channel 140, High Channel

				Value	Limit (>)	Result
				35.771 MHz	500 kHz	Pass



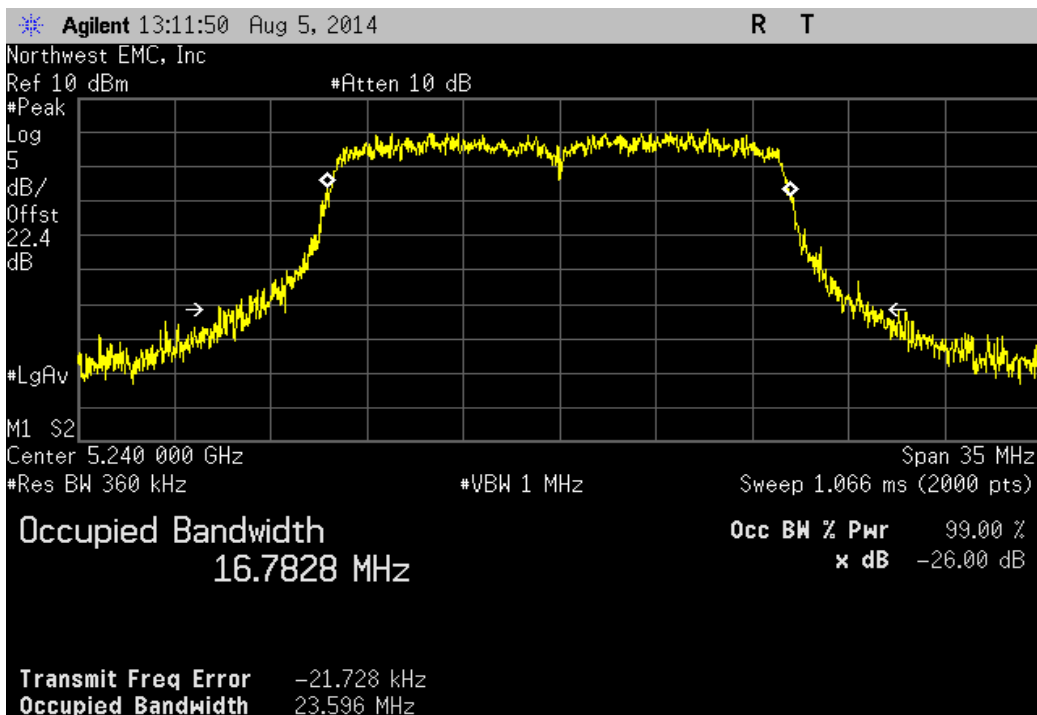
802.11(n) MCS7, 5150 - 5250 MHz Band, Channel 36, Low Channel

	Value	Limit (>)	Result
	25.112 MHz	500 kHz	Pass



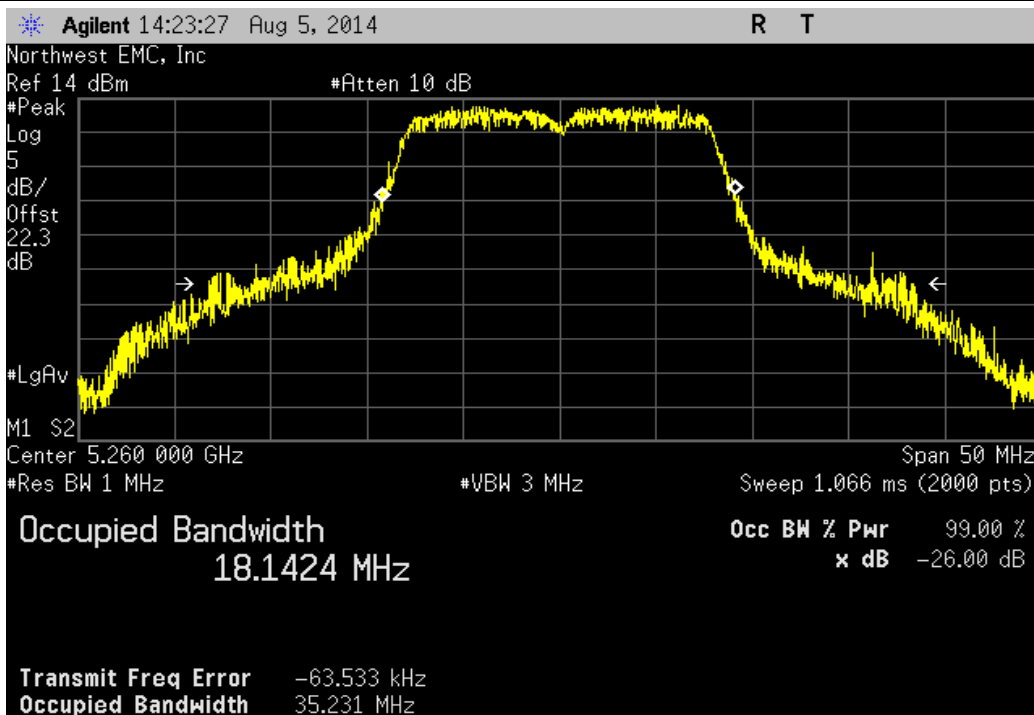
802.11(n) MCS7, 5150 - 5250 MHz Band, Channel 48, High Channel

	Value	Limit (>)	Result
	23.596 MHz	500 kHz	Pass



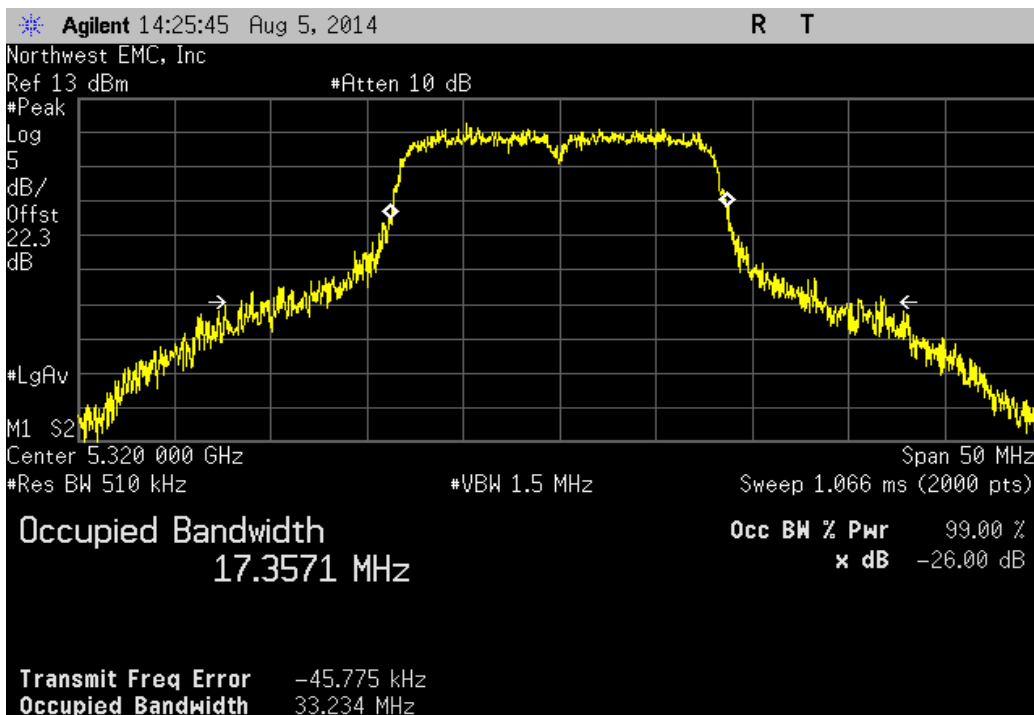
802.11(n) MCS7, 5250 - 5350 MHz Band, Channel 52, Low Channel

	Value	Limit (>)	Result
	35.231 MHz	500 kHz	Pass



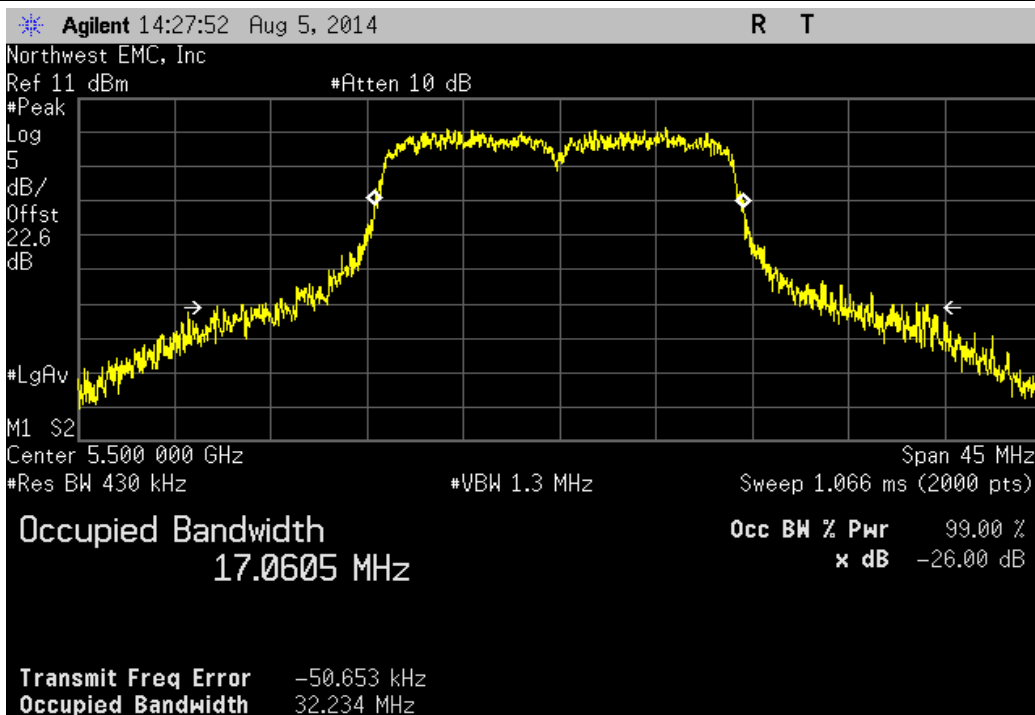
802.11(n) MCS7, 5250 - 5350 MHz Band, Channel 64, High Channel

	Value	Limit (>)	Result
	33.234 MHz	500 kHz	Pass



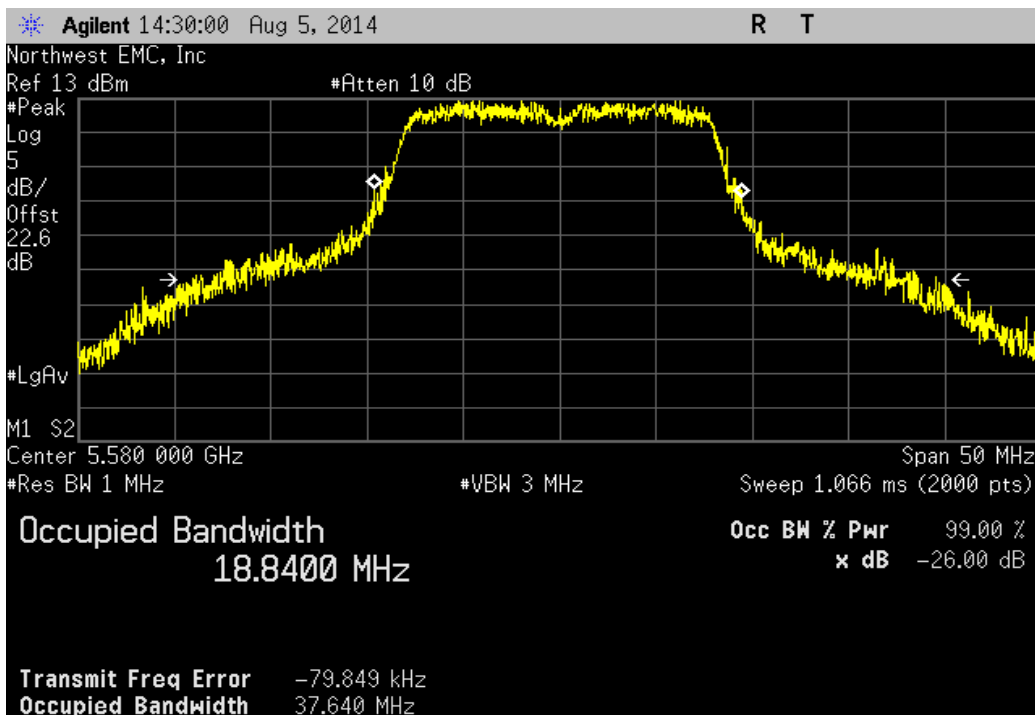
802.11(n) MCS7, 5470 - 5725 MHz Band, Channel 100, Low Channel

				Value	Limit (>)	Result
				32.234 MHz	500 kHz	Pass

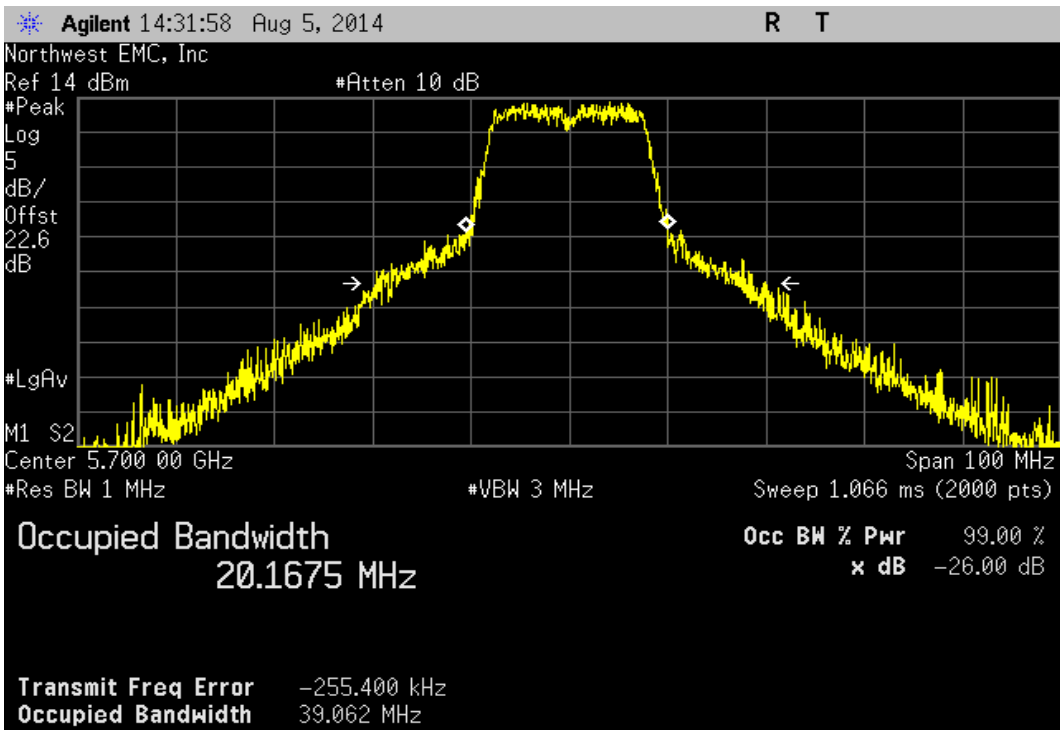


802.11(n) MCS7, 5470 - 5725 MHz Band, Channel 116, Mid Channel

				Value	Limit (>)	Result
				37.64 MHz	500 kHz	Pass



802.11(n) MCS7, 5470 - 5725 MHz Band, Channel 140, High Channel						
				Value	Limit	Result
				(>)		
				39.062 MHz	500 kHz	Pass



PEAK TRANSMIT POWER

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/28/2014	12

TEST DESCRIPTION

FCC KDB 789033 D01 General UNII Test Procedures Section C was followed. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

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

Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep) was used for this test.

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

- RBW = 1 MHz, VBW = 3 MHz
- Sample Detector
- The number of points was set to 601. This satisfied the requirement of being $> 2 * \text{span} / \text{RBW}$
- Trace average 100 traces in power averaging mode.
- Power was integrated across "B", by using the channel power function of the analyzer.



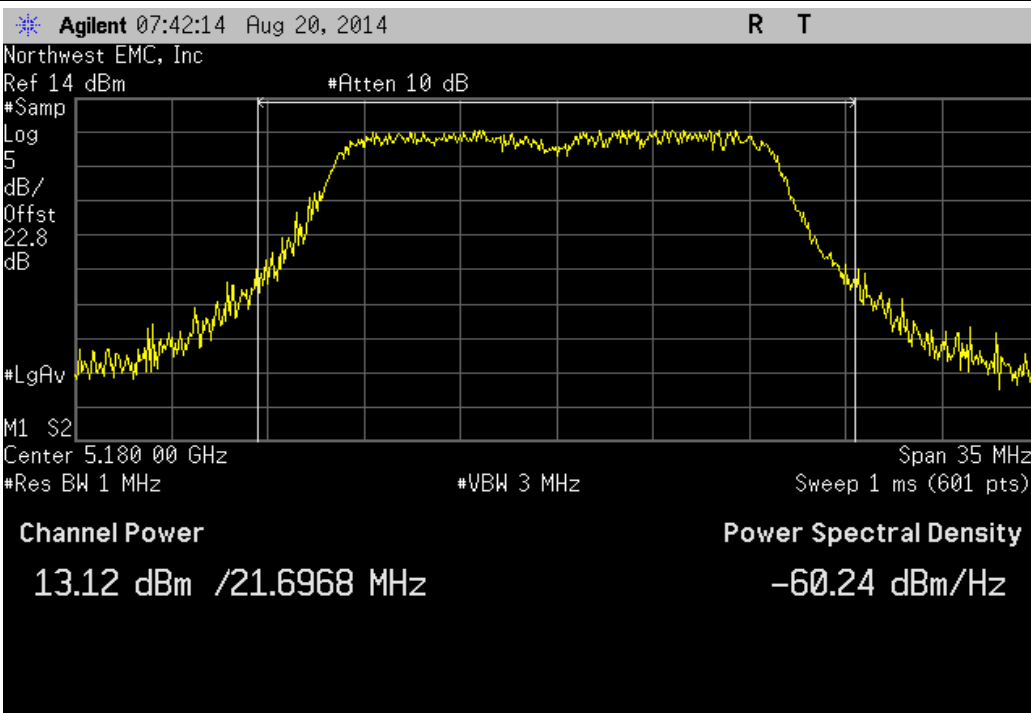
PEAK TRANSMIT POWER

XMIT 2014.02.07
NweTx 2014.07.18.3

EUT: ConnectCore6 (i.MX6)		Work Order: ETHE0008	
Serial Number: 00409D7B8CA2		Date: 08/21/14	
Customer: Etherios Design Solutions		Temperature: 23.3°C	
Attendees: None		Humidity: 58%	
Project: None		Barometric Pres.: 1010.8	
Tested by: Trevor Buls		Power: 5.0VDC	
		Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
FCC 15.407:2014		ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Trevor Buls</i>	
		Value	Limit (-) Result
Port 1			
802.11(a) 6 Mbps			
Ch 36, Low Channel 5180 MHz		13.123 dBm	17 dBm Pass
Ch 48, High Channel 5240 MHz		13.032 dBm	17 dBm Pass
Ch 52, Low Channel 5260 MHz		11.384 dBm	24 dBm Pass
Ch 64, High Channel 5320 MHz		10.789 dBm	24 dBm Pass
Ch 100, Low Channel 5500 MHz		4.257 dBm	24 dBm Pass
Ch 116, Mid Channel 5580 MHz		8.03 dBm	24 dBm Pass
Ch 140, High Channel 5700 MHz		9.018 dBm	24 dBm Pass
802.11(a) 36 Mbps			
Ch 36, Low Channel 5180 MHz		13.141 dBm	17 dBm Pass
Ch 48, High Channel 5240 MHz		12.193 dBm	17 dBm Pass
Ch 52, Low Channel 5260 MHz		11.751 dBm	24 dBm Pass
Ch 64, High Channel 5320 MHz		11.115 dBm	24 dBm Pass
Ch 100, Low Channel 5500 MHz		4.099 dBm	24 dBm Pass
Ch 116, Mid Channel 5580 MHz		7.903 dBm	24 dBm Pass
Ch 140, High Channel 5700 MHz		8.475 dBm	24 dBm Pass
802.11(a) 54 Mbps			
Ch 36, Low Channel 5180 MHz		10.775 dBm	17 dBm Pass
Ch 48, High Channel 5240 MHz		10.847 dBm	17 dBm Pass
Ch 52, Low Channel 5260 MHz		11.155 dBm	24 dBm Pass
Ch 64, High Channel 5320 MHz		11.039 dBm	24 dBm Pass
Ch 100, Low Channel 5500 MHz		4.325 dBm	24 dBm Pass
Ch 116, Mid Channel 5580 MHz		5.651 dBm	24 dBm Pass
Ch 140, High Channel 5700 MHz		7.386 dBm	24 dBm Pass
802.11(n) MCS0			
Ch 36, Low Channel 5180 MHz		11.716 dBm	17 dBm Pass
Ch 48, High Channel 5240 MHz		11.414 dBm	17 dBm Pass
Ch 52, Low Channel 5260 MHz		10.193 dBm	24 dBm Pass
Ch 64, High Channel 5320 MHz		9.913 dBm	24 dBm Pass
Ch 100, Low Channel 5500 MHz		3.65 dBm	24 dBm Pass
Ch 116, Mid Channel 5580 MHz		7.325 dBm	24 dBm Pass
Ch 140, High Channel 5700 MHz		8.285 dBm	24 dBm Pass
802.11(n) MCS7			
Ch 36, Low Channel 5180 MHz		9.307 dBm	17 dBm Pass
Ch 48, High Channel 5240 MHz		8.737 dBm	17 dBm Pass
Ch 52, Low Channel 5260 MHz		9.494 dBm	24 dBm Pass
Ch 64, High Channel 5320 MHz		8.658 dBm	24 dBm Pass
Ch 100, Low Channel 5500 MHz		3.668 dBm	24 dBm Pass
Ch 116, Mid Channel 5580 MHz		7.014 dBm	24 dBm Pass
Ch 140, High Channel 5700 MHz		7.786 dBm	24 dBm Pass
Port 2			
802.11(a) 6 Mbps			
Ch 36, Low Channel 5180 MHz		12.572 dBm	17 dBm Pass
Ch 48, High Channel 5240 MHz		12.028 dBm	17 dBm Pass
Ch 52, Low Channel 5260 MHz		10.208 dBm	24 dBm Pass
Ch 64, High Channel 5320 MHz		9.473 dBm	24 dBm Pass
Ch 100, Low Channel 5500 MHz		3.401 dBm	24 dBm Pass
Ch 116, Mid Channel 5580 MHz		6.744 dBm	24 dBm Pass
Ch 140, High Channel 5700 MHz		7.198 dBm	24 dBm Pass
802.11(a) 36 Mbps			
Ch 36, Low Channel 5180 MHz		12.098 dBm	17 dBm Pass
Ch 48, High Channel 5240 MHz		11.471 dBm	17 dBm Pass
Ch 52, Low Channel 5260 MHz		10.141 dBm	24 dBm Pass
Ch 64, High Channel 5320 MHz		9.41 dBm	24 dBm Pass
Ch 100, Low Channel 5500 MHz		2.789 dBm	24 dBm Pass
Ch 116, Mid Channel 5580 MHz		6.695 dBm	24 dBm Pass
Ch 140, High Channel 5700 MHz		6.698 dBm	24 dBm Pass
802.11(a) 54 Mbps			
Ch 36, Low Channel 5180 MHz		10.285 dBm	17 dBm Pass
Ch 48, High Channel 5240 MHz		9.749 dBm	17 dBm Pass
Ch 52, Low Channel 5260 MHz		9.635 dBm	24 dBm Pass
Ch 64, High Channel 5320 MHz		9.386 dBm	24 dBm Pass
Ch 100, Low Channel 5500 MHz		2.817 dBm	24 dBm Pass
Ch 116, Mid Channel 5580 MHz		6.218 dBm	24 dBm Pass
Ch 140, High Channel 5700 MHz		7.176 dBm	24 dBm Pass
802.11(n) MCS0			
Ch 36, Low Channel 5180 MHz		12.393 dBm	17 dBm Pass
Ch 48, High Channel 5240 MHz		11.83 dBm	17 dBm Pass
Ch 52, Low Channel 5260 MHz		10.044 dBm	24 dBm Pass
Ch 64, High Channel 5320 MHz		9.359 dBm	24 dBm Pass
Ch 100, Low Channel 5500 MHz		2.803 dBm	24 dBm Pass
Ch 116, Mid Channel 5580 MHz		6.612 dBm	24 dBm Pass
Ch 140, High Channel 5700 MHz		7.13 dBm	24 dBm Pass
802.11(n) MCS7			
Ch 36, Low Channel 5180 MHz		9.336 dBm	17 dBm Pass
Ch 48, High Channel 5240 MHz		8.703 dBm	17 dBm Pass
Ch 52, Low Channel 5260 MHz		9.108 dBm	24 dBm Pass
Ch 64, High Channel 5320 MHz		8.036 dBm	24 dBm Pass
Ch 100, Low Channel 5500 MHz		2.737 dBm	24 dBm Pass
Ch 116, Mid Channel 5580 MHz		6.172 dBm	24 dBm Pass
Ch 140, High Channel 5700 MHz		6.673 dBm	24 dBm Pass

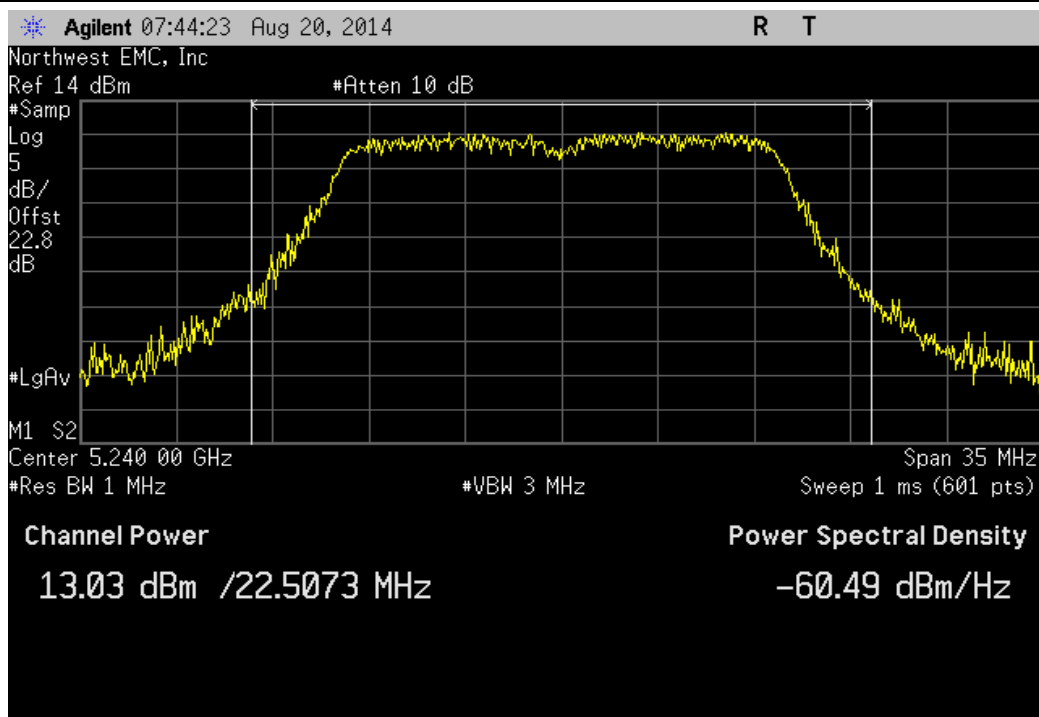
Port 1, 802.11(a) 6 Mbps, Ch 36, Low Channel 5180 MHz

	Value	Limit (<)	Result
	13.123 dBm	17 dBm	Pass



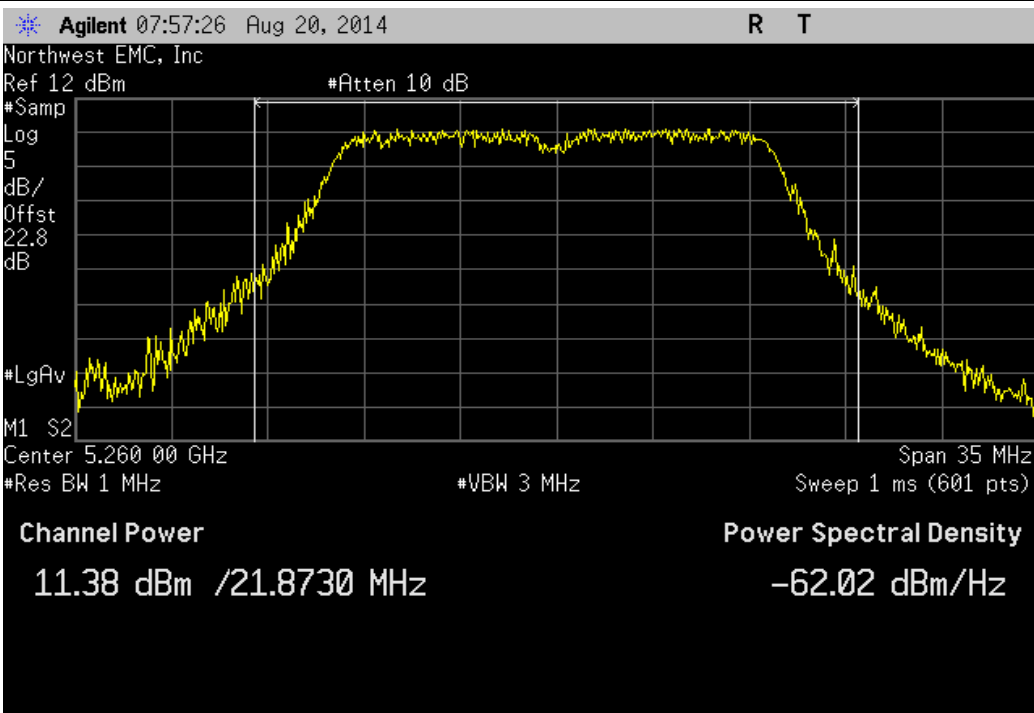
Port 1, 802.11(a) 6 Mbps, Ch 48, High Channel 5240 MHz

	Value	Limit (<)	Result
	13.032 dBm	17 dBm	Pass



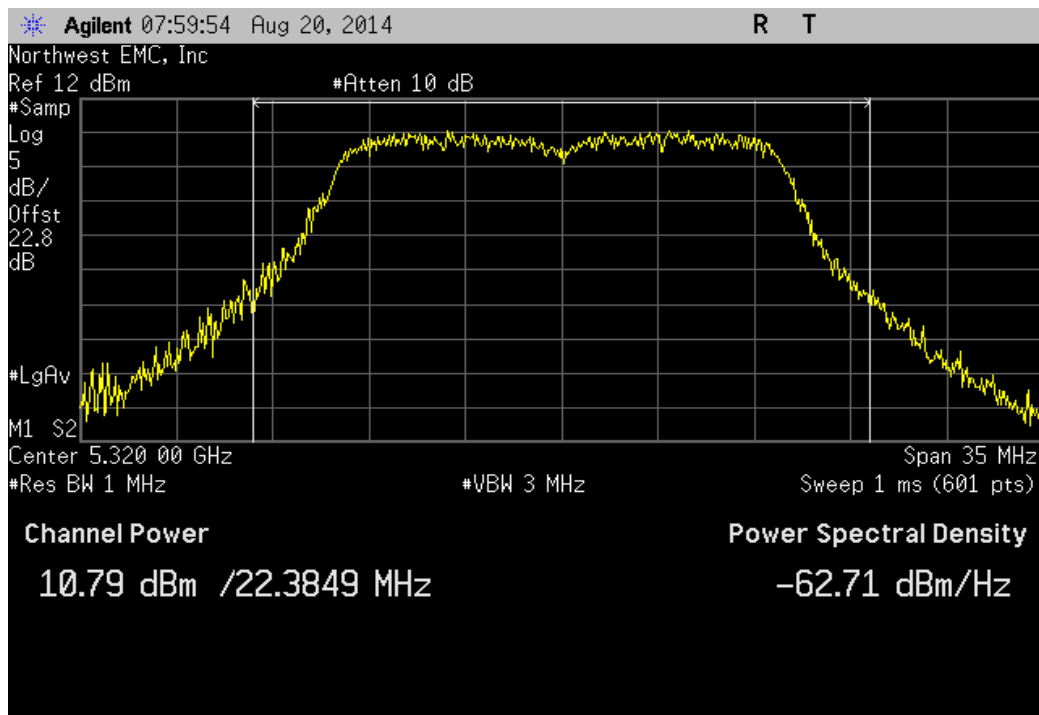
Port 1, 802.11(a) 6 Mbps, Ch 52, Low Channel 5260 MHz

Value	Limit (<)	Result
11.384 dBm	24 dBm	Pass



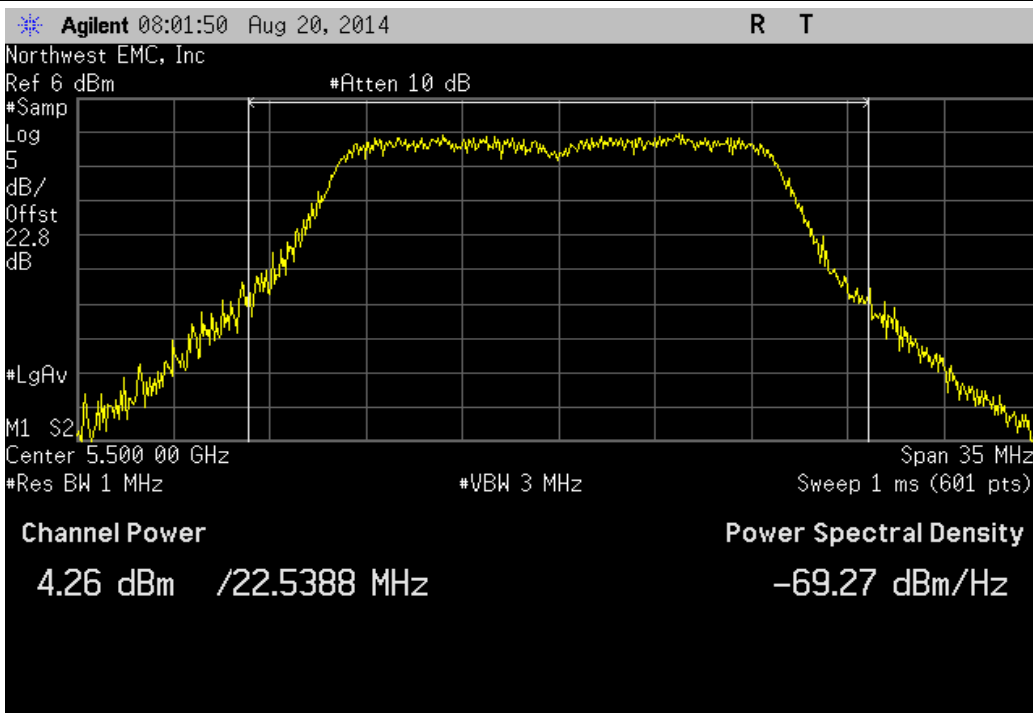
Port 1, 802.11(a) 6 Mbps, Ch 64, High Channel 5320 MHz

Value	Limit (<)	Result
10.789 dBm	24 dBm	Pass



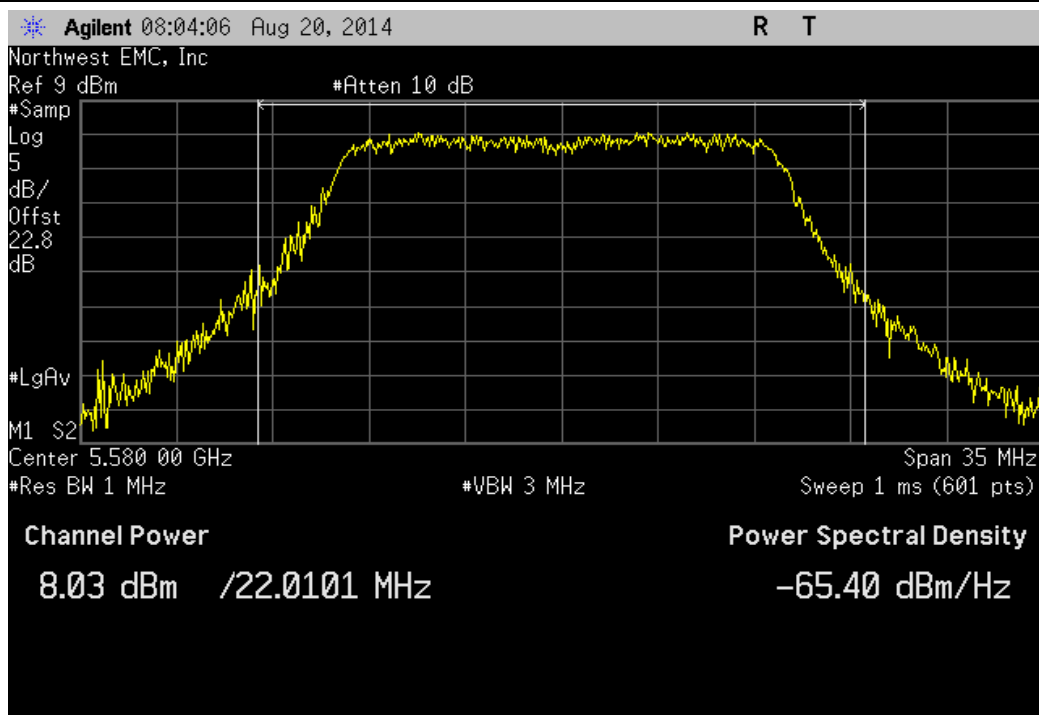
Port 1, 802.11(a) 6 Mbps, Ch 100, Low Channel 5500 MHz

	Value	Limit (<)	Result
	4.257 dBm	24 dBm	Pass



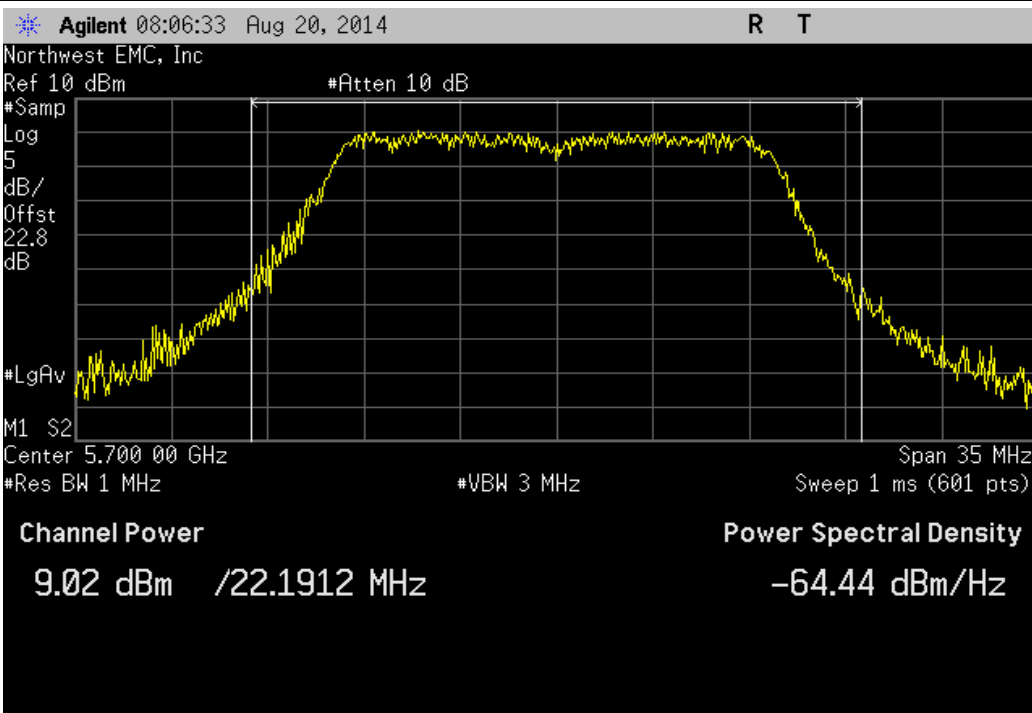
Port 1, 802.11(a) 6 Mbps, Ch 116, Mid Channel 5580 MHz

	Value	Limit (<)	Result
	8.03 dBm	24 dBm	Pass



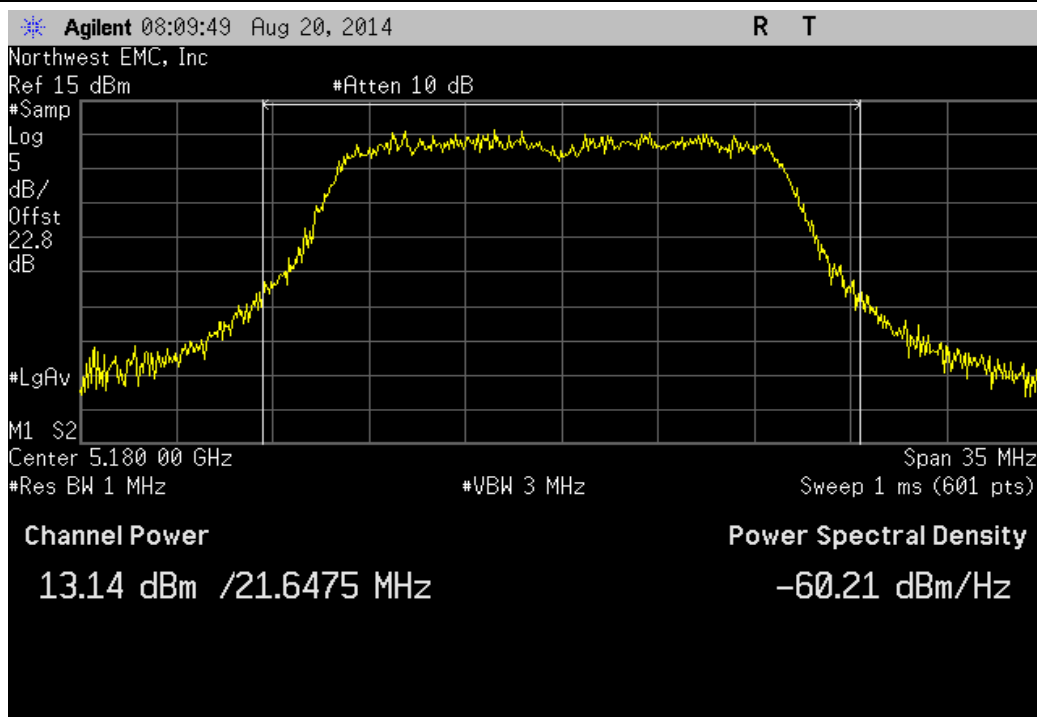
Port 1, 802.11(a) 6 Mbps, Ch 140, High Channel 5700 MHz

	Value	Limit (<)	Result
	9.018 dBm	24 dBm	Pass



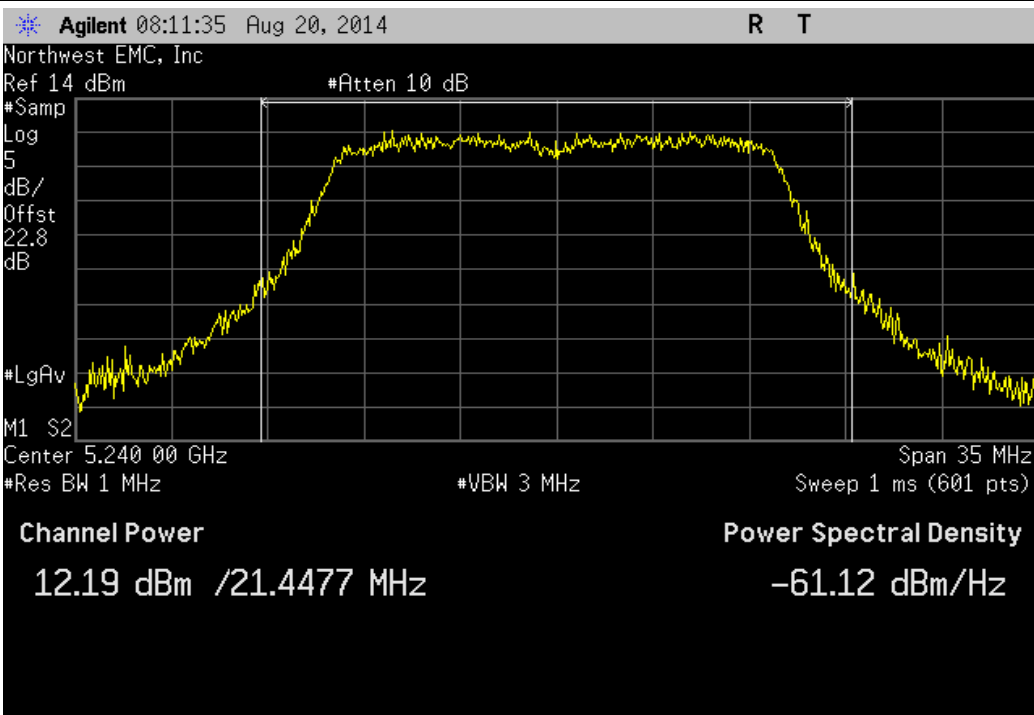
Port 1, 802.11(a) 36 Mbps, Ch 36, Low Channel 5180 MHz

	Value	Limit (<)	Result
	13.141 dBm	17 dBm	Pass



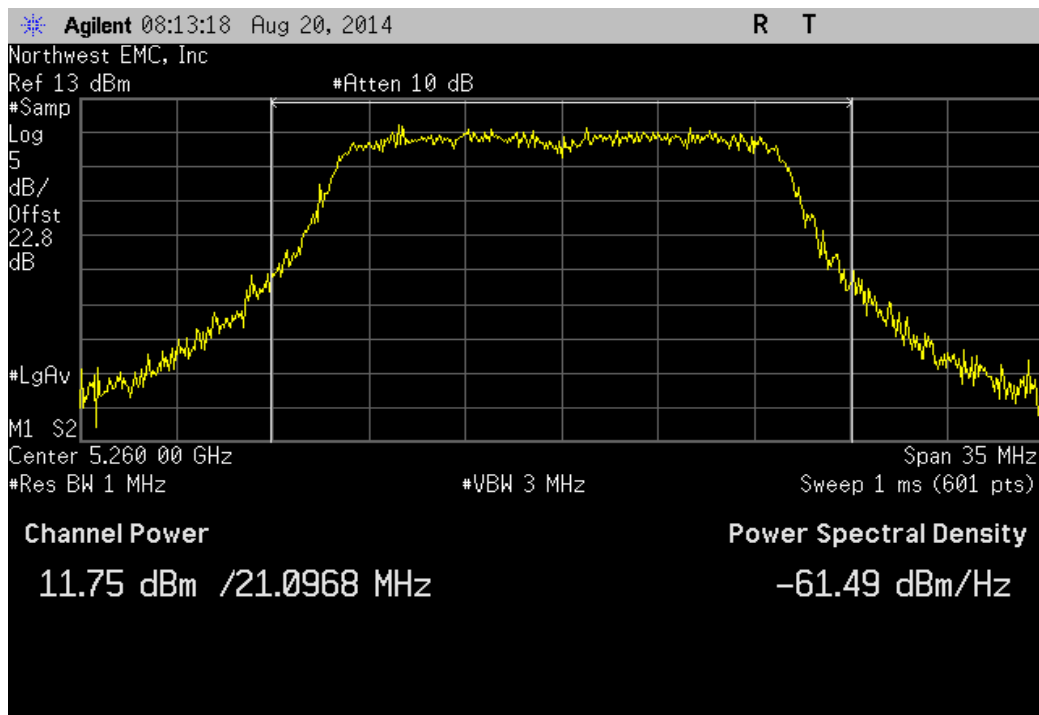
Port 1, 802.11(a) 36 Mbps, Ch 48, High Channel 5240 MHz

Value	Limit (<)	Result
12.193 dBm	17 dBm	Pass



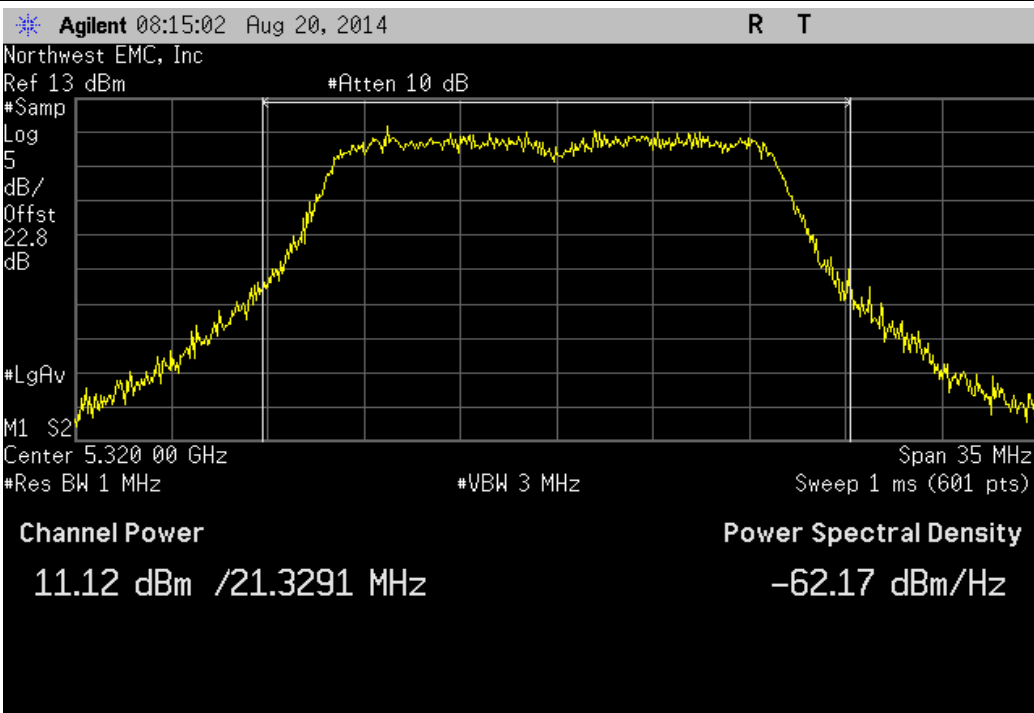
Port 1, 802.11(a) 36 Mbps, Ch 52, Low Channel 5260 MHz

Value	Limit (<)	Result
11.751 dBm	24 dBm	Pass



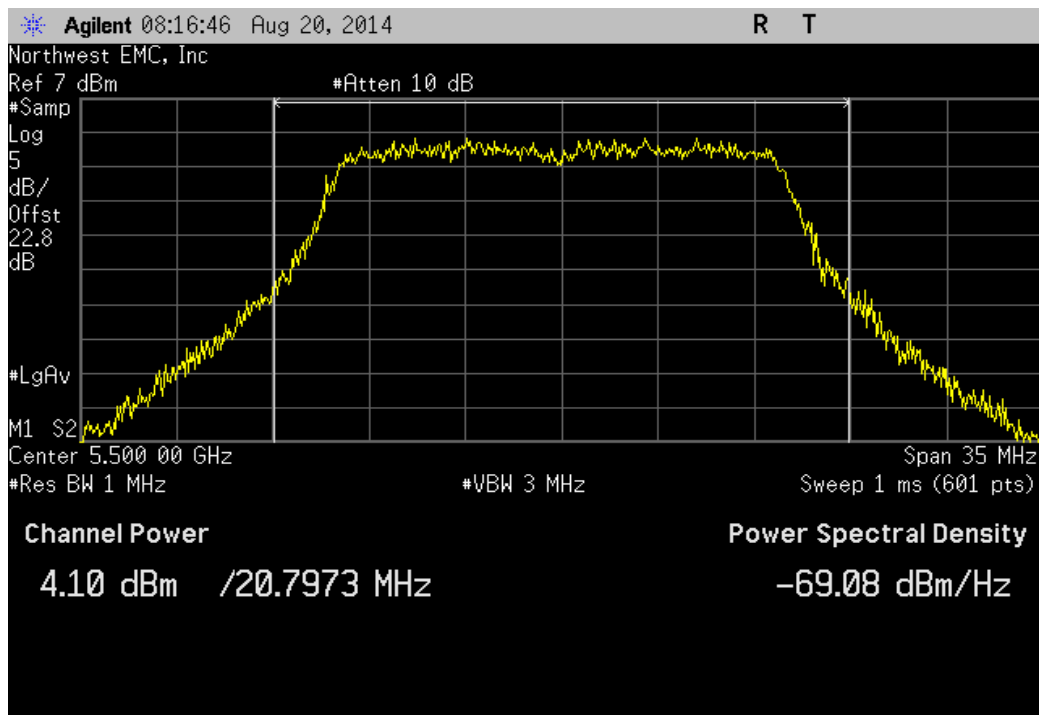
Port 1, 802.11(a) 36 Mbps, Ch 64, High Channel 5320 MHz

Value	Limit (<)	Result
11.115 dBm	24 dBm	Pass



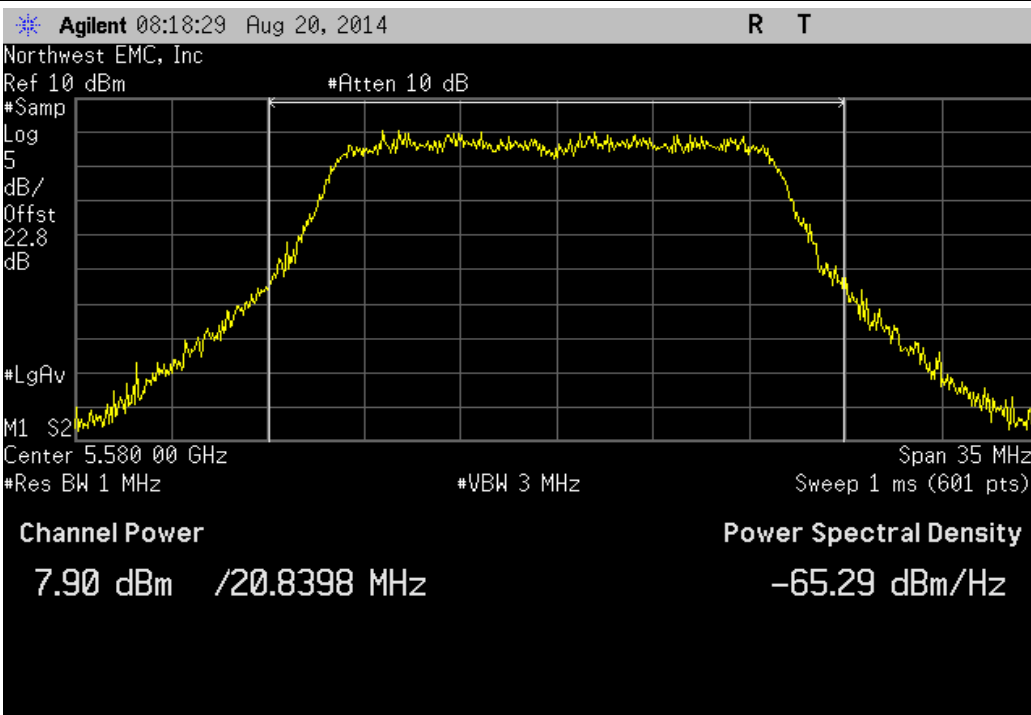
Port 1, 802.11(a) 36 Mbps, Ch 100, Low Channel 5500 MHz

Value	Limit (<)	Result
4.099 dBm	24 dBm	Pass



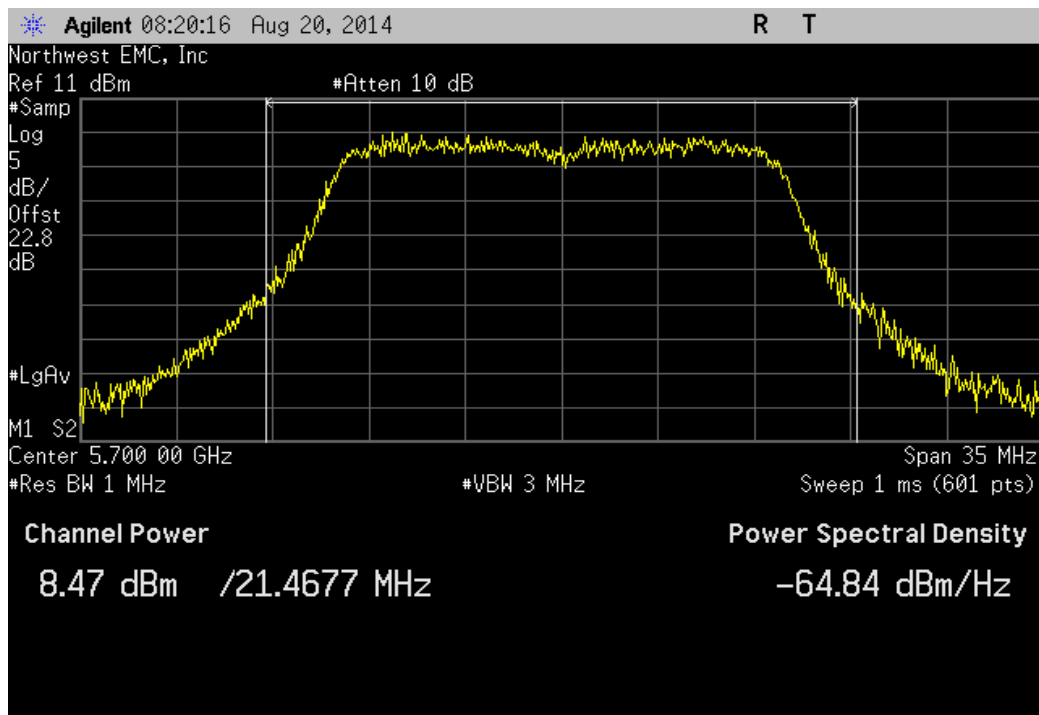
Port 1, 802.11(a) 36 Mbps, Ch 116, Mid Channel 5580 MHz

Value	Limit (<)	Result
7.903 dBm	24 dBm	Pass



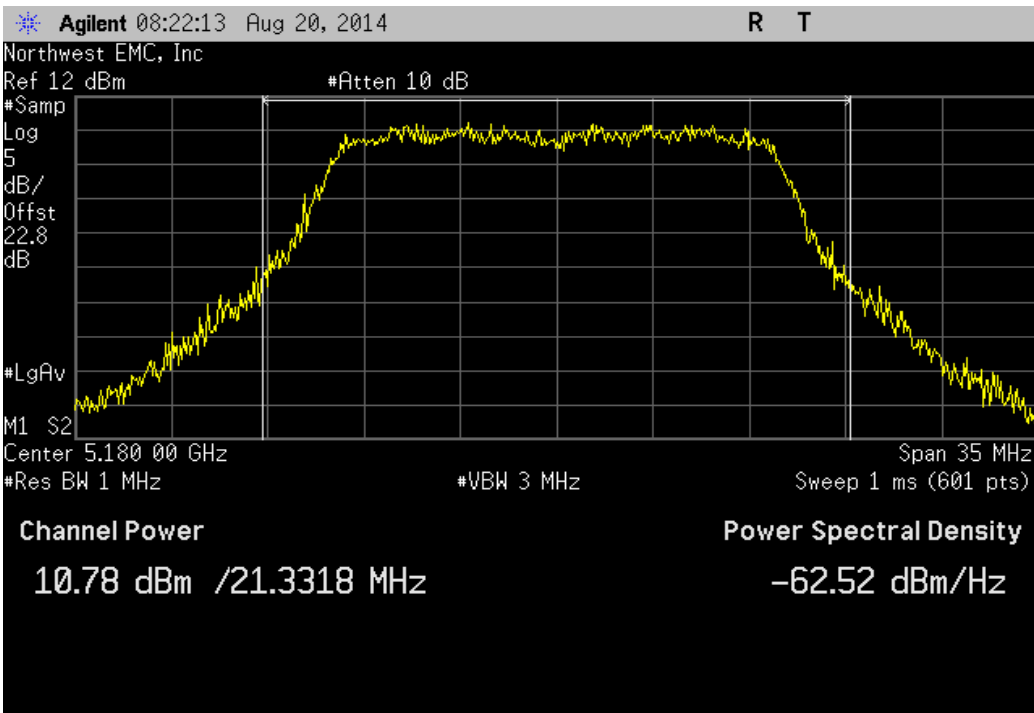
Port 1, 802.11(a) 36 Mbps, Ch 140, High Channel 5700 MHz

Value	Limit (<)	Result
8.475 dBm	24 dBm	Pass



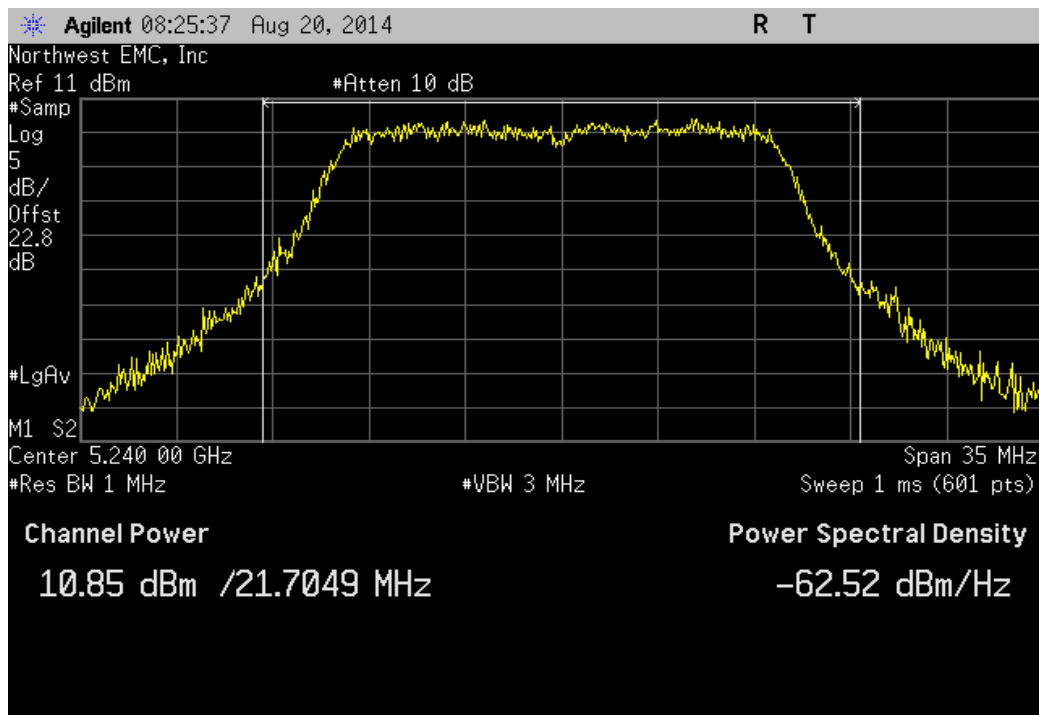
Port 1, 802.11(a) 54 Mbps, Ch 36, Low Channel 5180 MHz

Value	Limit (<)	Result
10.775 dBm	17 dBm	Pass



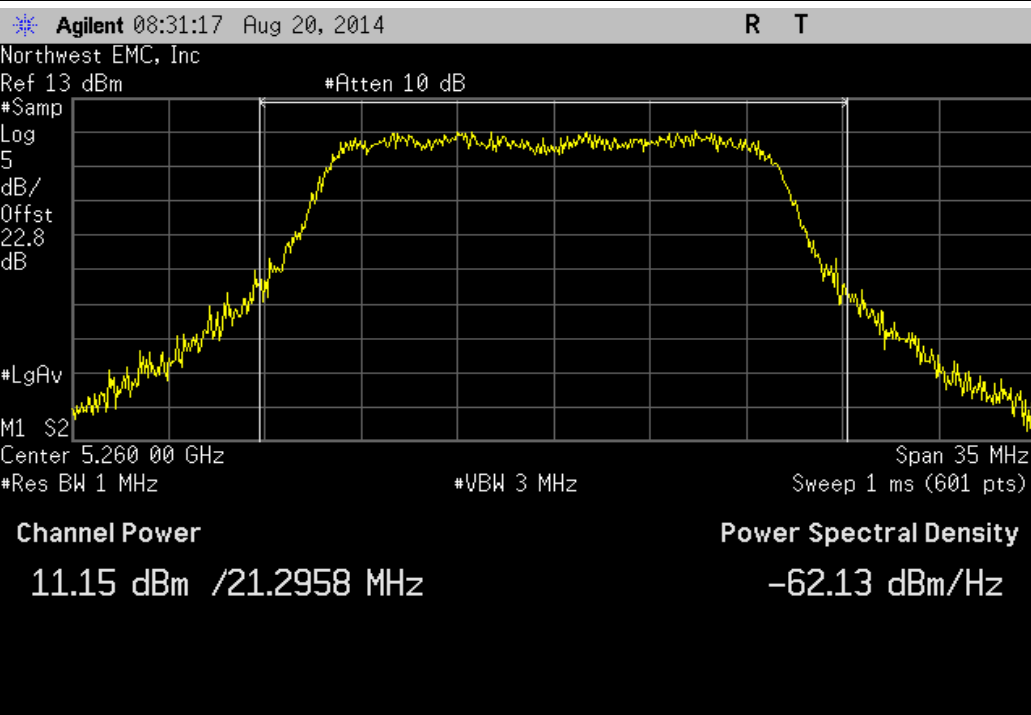
Port 1, 802.11(a) 54 Mbps, Ch 48, High Channel 5240 MHz

Value	Limit (<)	Result
10.847 dBm	17 dBm	Pass



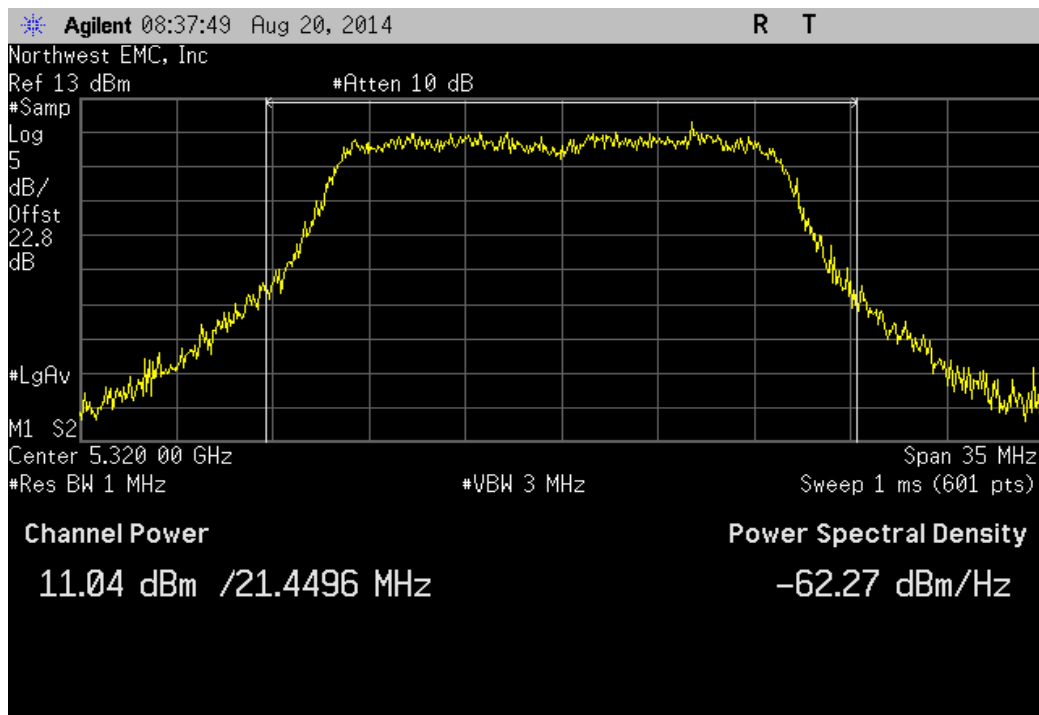
Port 1, 802.11(a) 54 Mbps, Ch 52, Low Channel 5260 MHz

Value	Limit (<)	Result
11.155 dBm	24 dBm	Pass



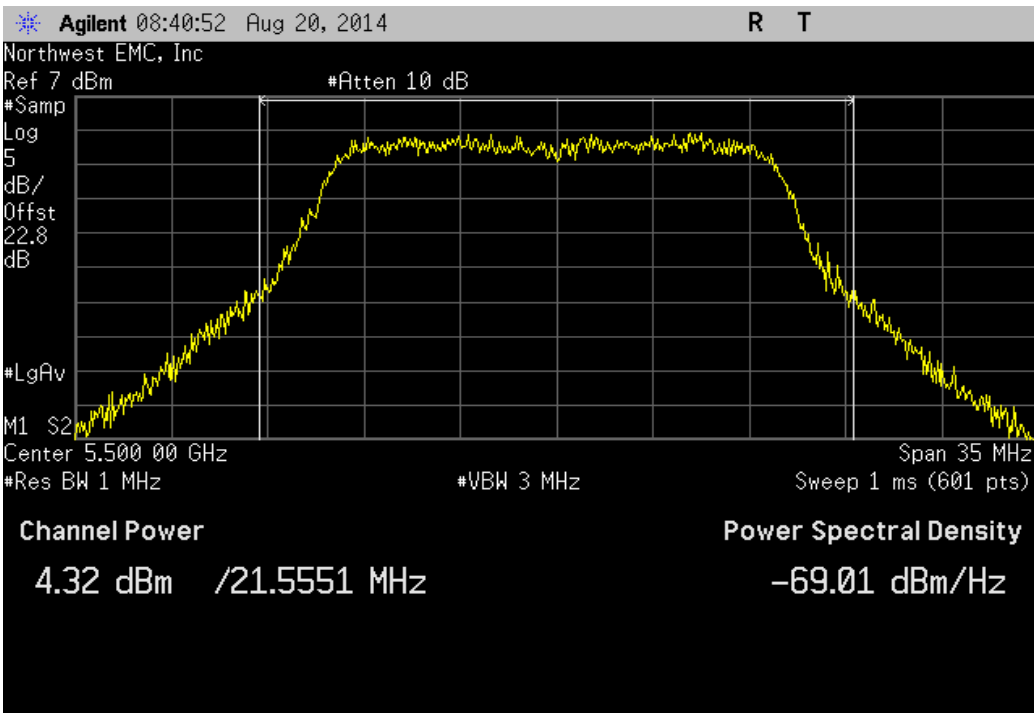
Port 1, 802.11(a) 54 Mbps, Ch 64, High Channel 5320 MHz

Value	Limit (<)	Result
11.039 dBm	24 dBm	Pass



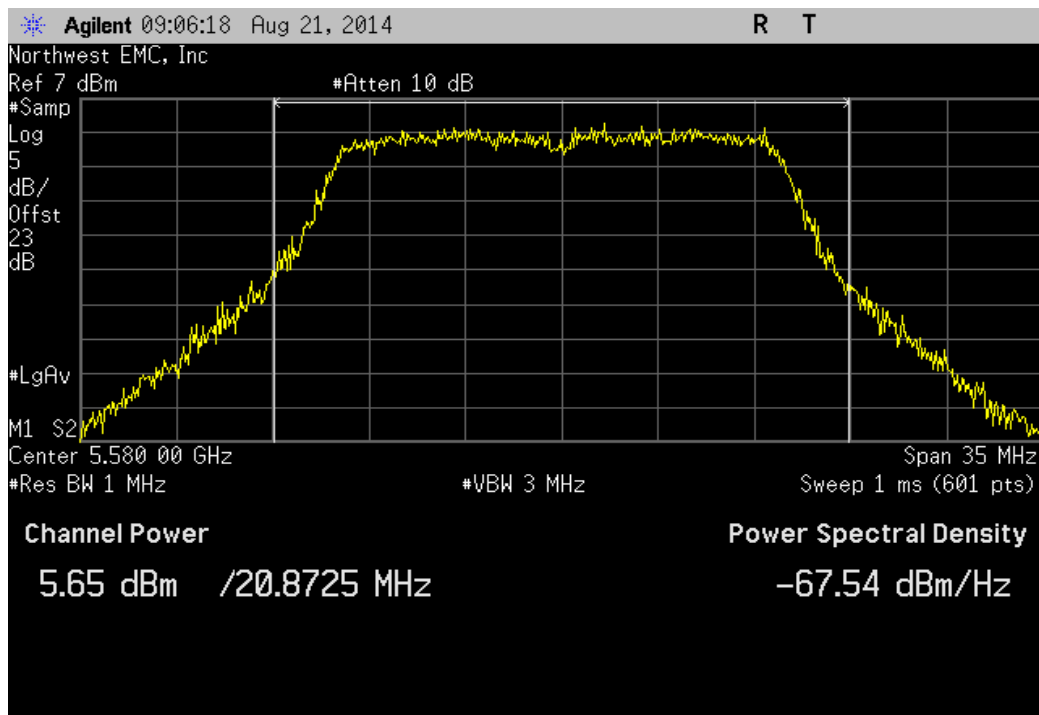
Port 1, 802.11(a) 54 Mbps, Ch 100, Low Channel 5500 MHz

Value	Limit (<)	Result
4.325 dBm	24 dBm	Pass



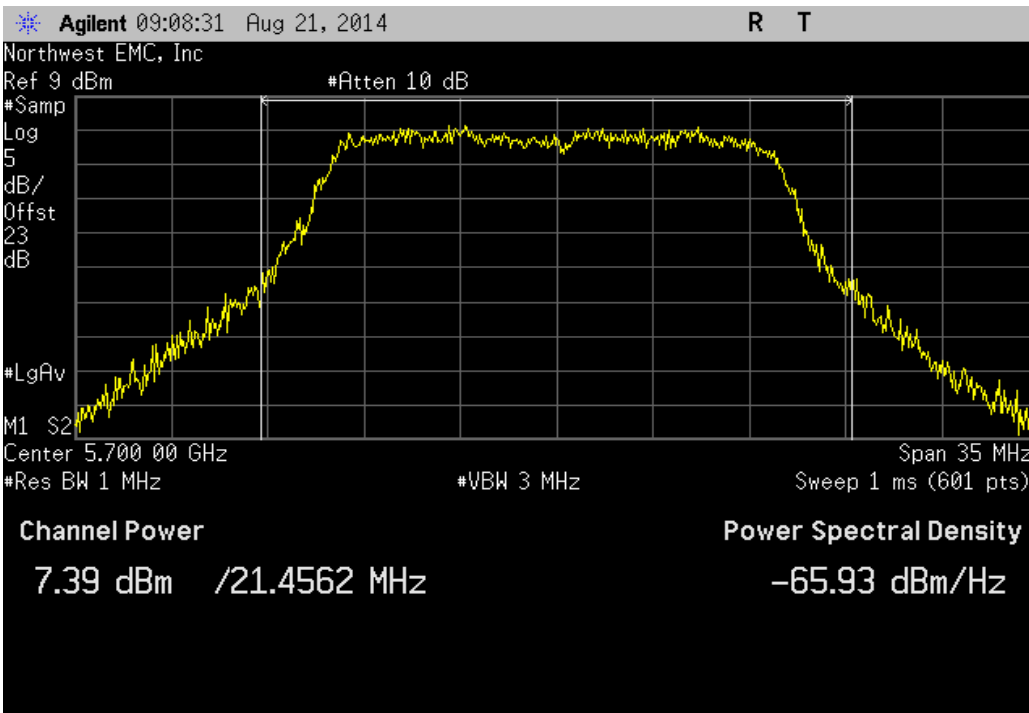
Port 1, 802.11(a) 54 Mbps, Ch 116, Mid Channel 5580 MHz

Value	Limit (<)	Result
5.651 dBm	24 dBm	Pass



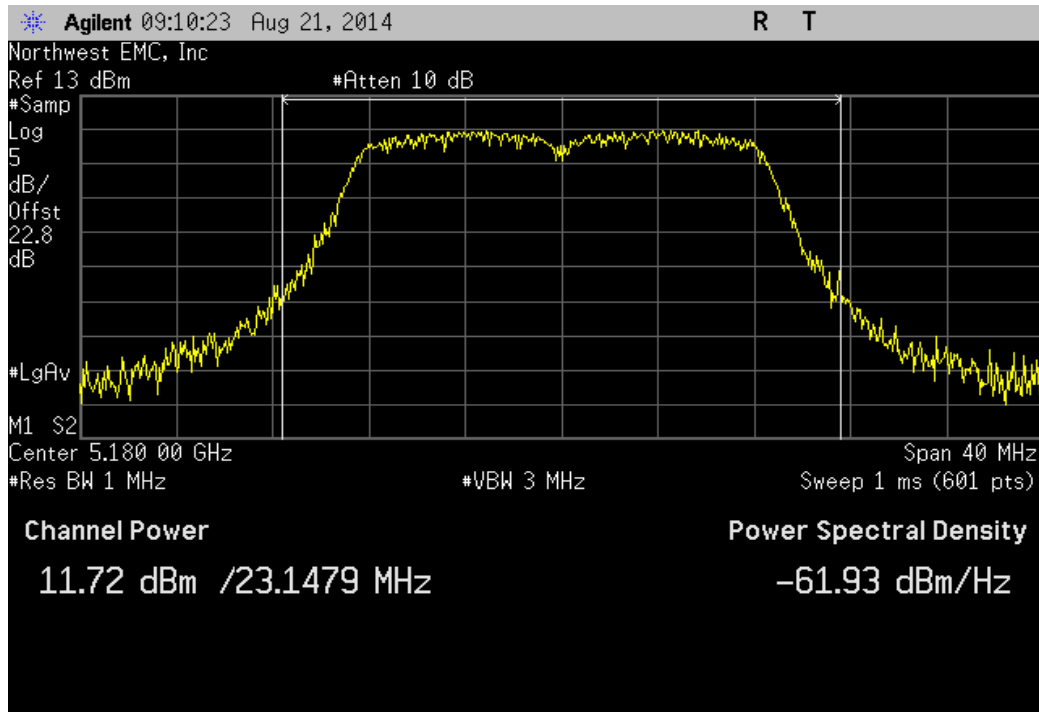
Port 1, 802.11(a) 54 Mbps, Ch 140, High Channel 5700 MHz

	Value	Limit (<)	Result
	7.386 dBm	24 dBm	Pass



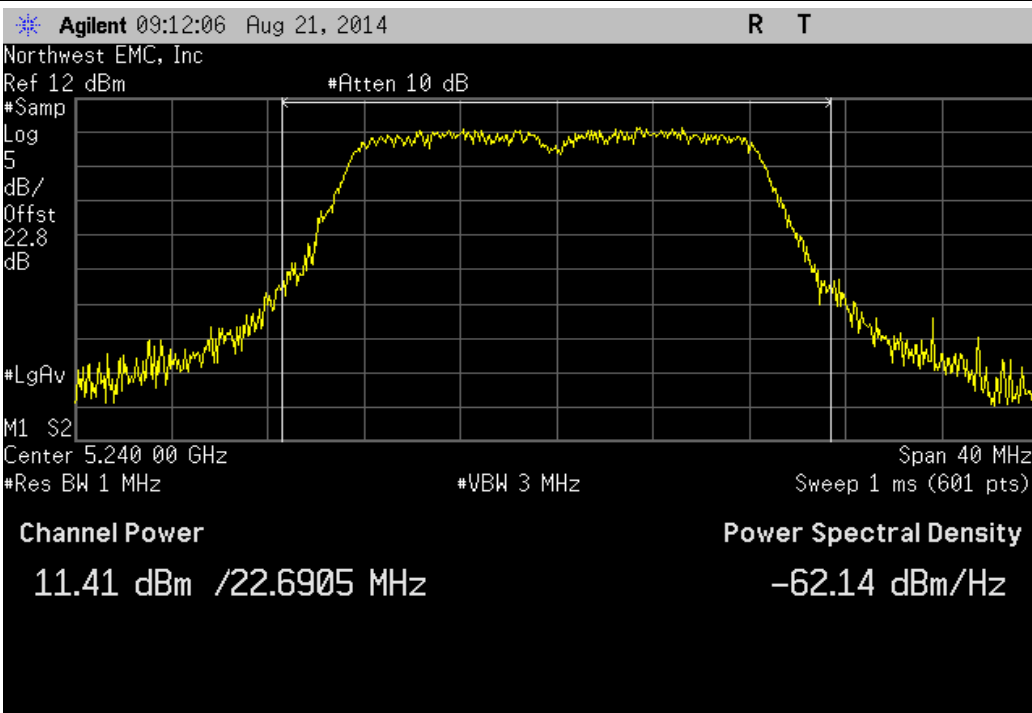
Port 1, 802.11(n) MCS0, Ch 36, Low Channel 5180 MHz

	Value	Limit (<)	Result
	11.716 dBm	17 dBm	Pass



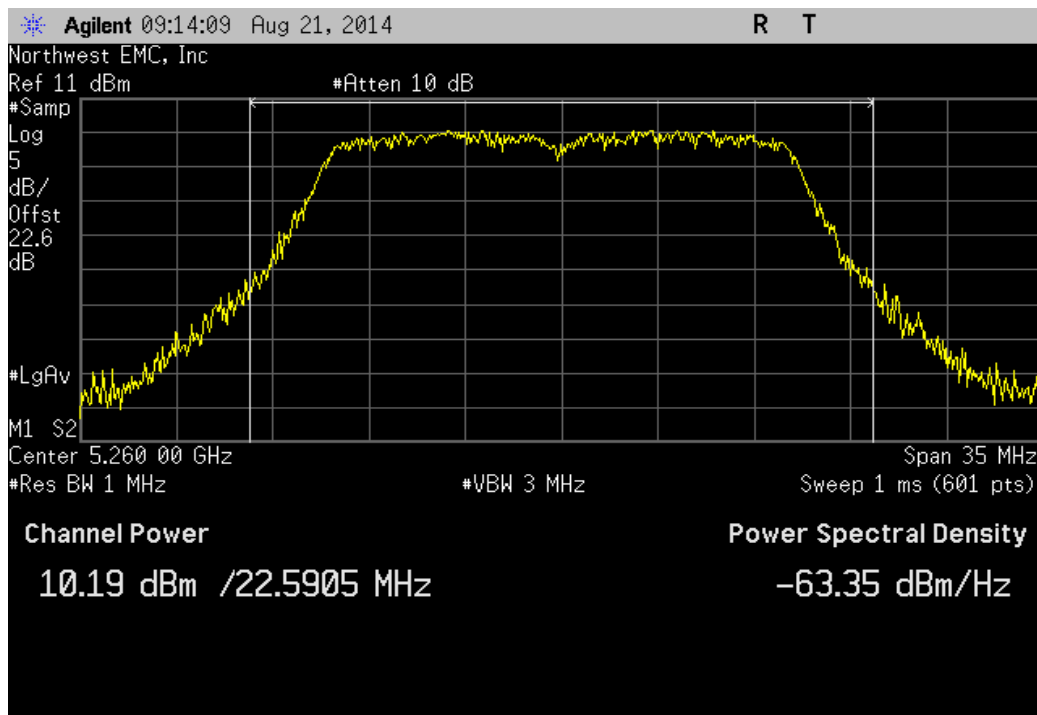
Port 1, 802.11(n) MCS0, Ch 48, High Channel 5240 MHz

	Value	Limit (<)	Result
	11.414 dBm	17 dBm	Pass



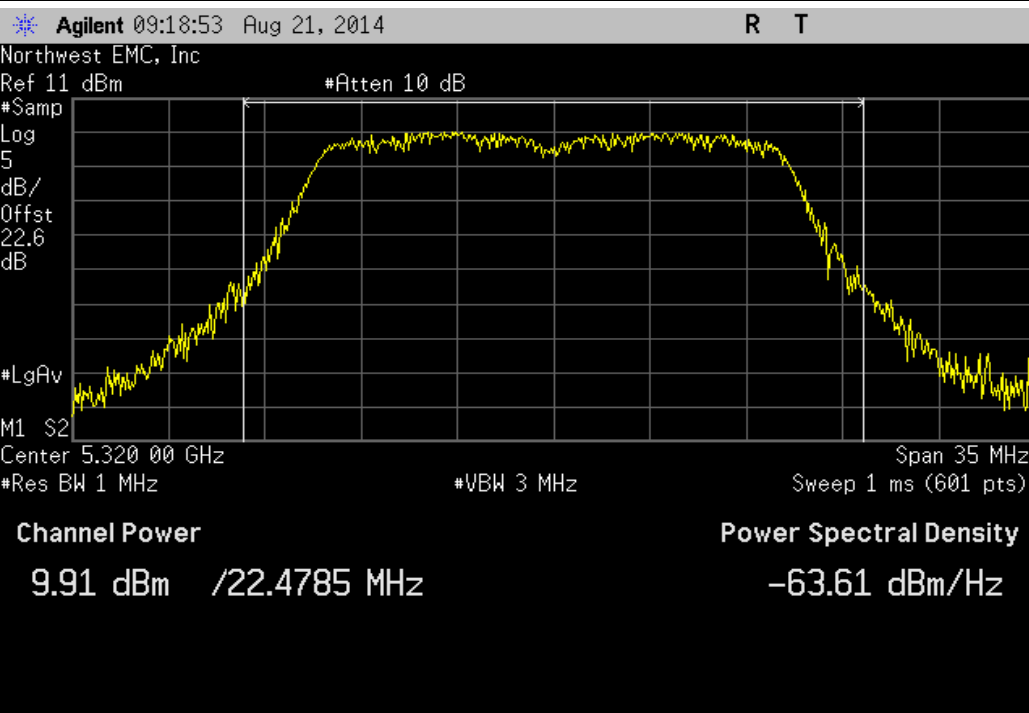
Port 1, 802.11(n) MCS0, Ch 52, Low Channel 5260 MHz

	Value	Limit (<)	Result
	10.193 dBm	24 dBm	Pass



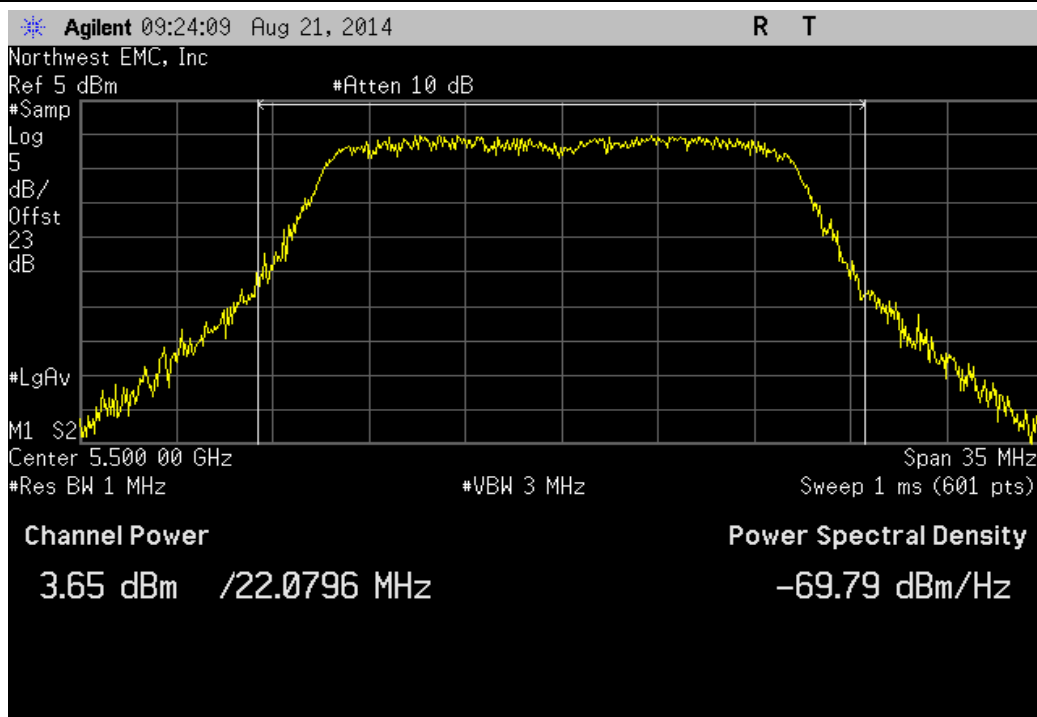
Port 1, 802.11(n) MCS0, Ch 64, High Channel 5320 MHz

Value	Limit (<)	Result
9.913 dBm	24 dBm	Pass



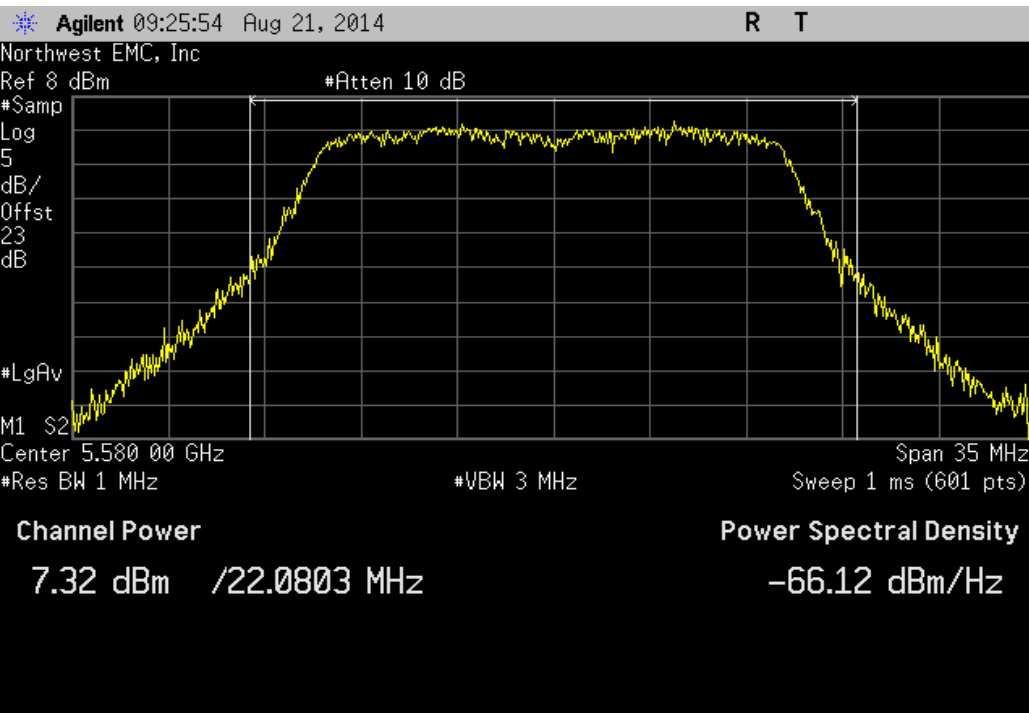
Port 1, 802.11(n) MCS0, Ch 100, Low Channel 5500 MHz

Value	Limit (<)	Result
3.65 dBm	24 dBm	Pass



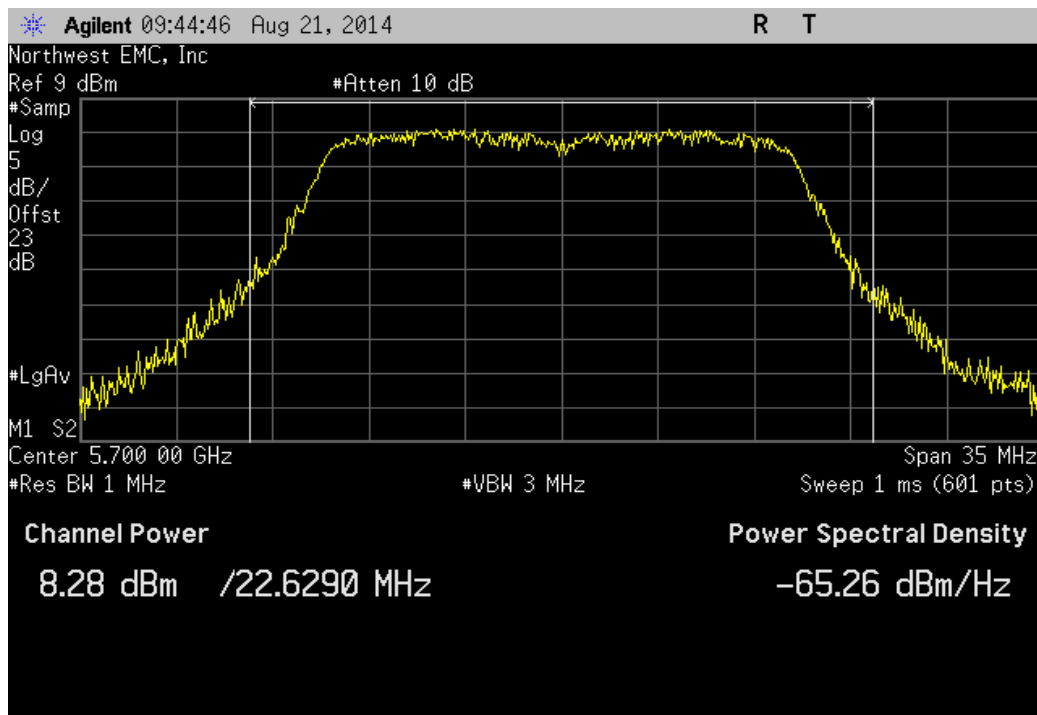
Port 1, 802.11(n) MCS0, Ch 116, Mid Channel 5580 MHz

Value	Limit (<)	Result
7.325 dBm	24 dBm	Pass



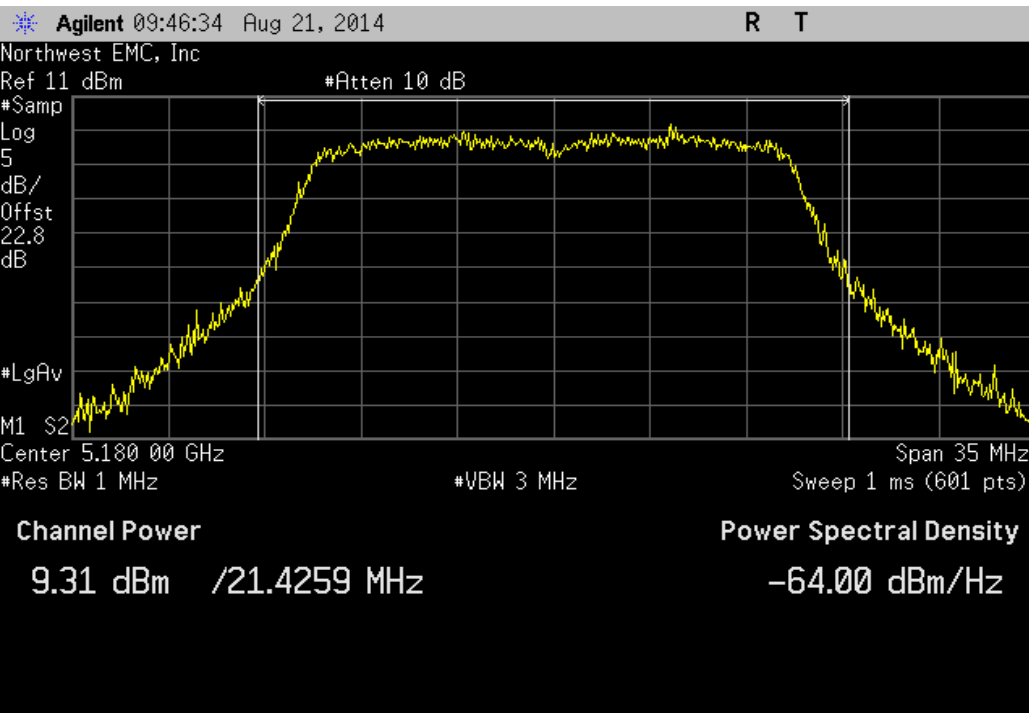
Port 1, 802.11(n) MCS0, Ch 140, High Channel 5700 MHz

Value	Limit (<)	Result
8.285 dBm	24 dBm	Pass



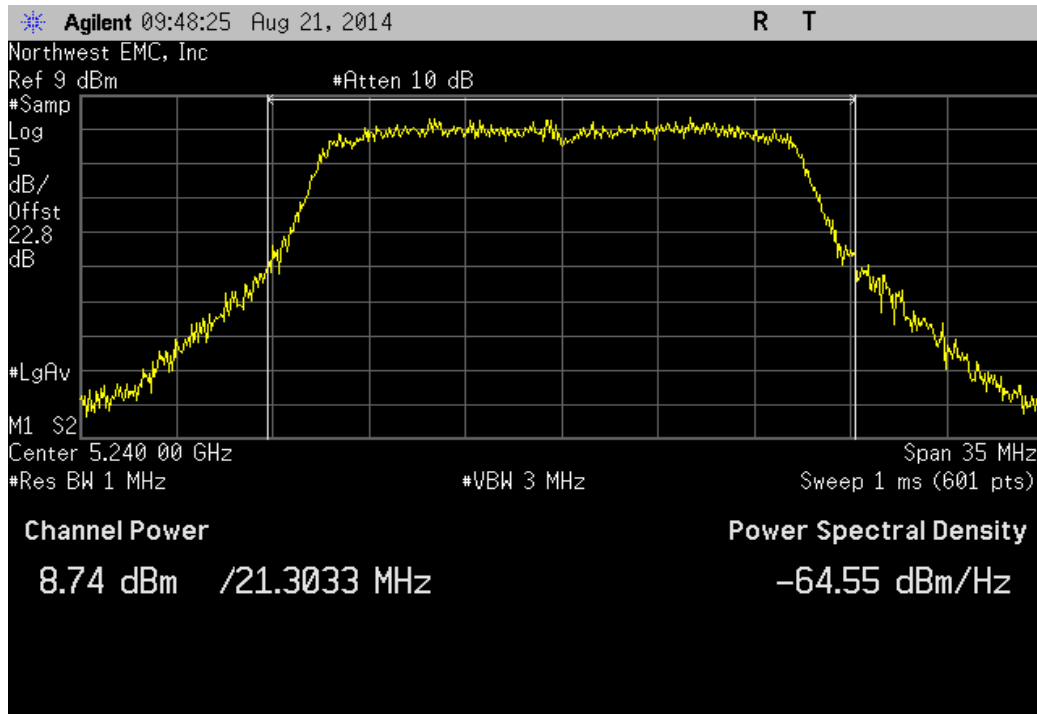
Port 1, 802.11(n) MCS7, Ch 36, Low Channel 5180 MHz

Value	Limit (<)	Result
9.307 dBm	17 dBm	Pass



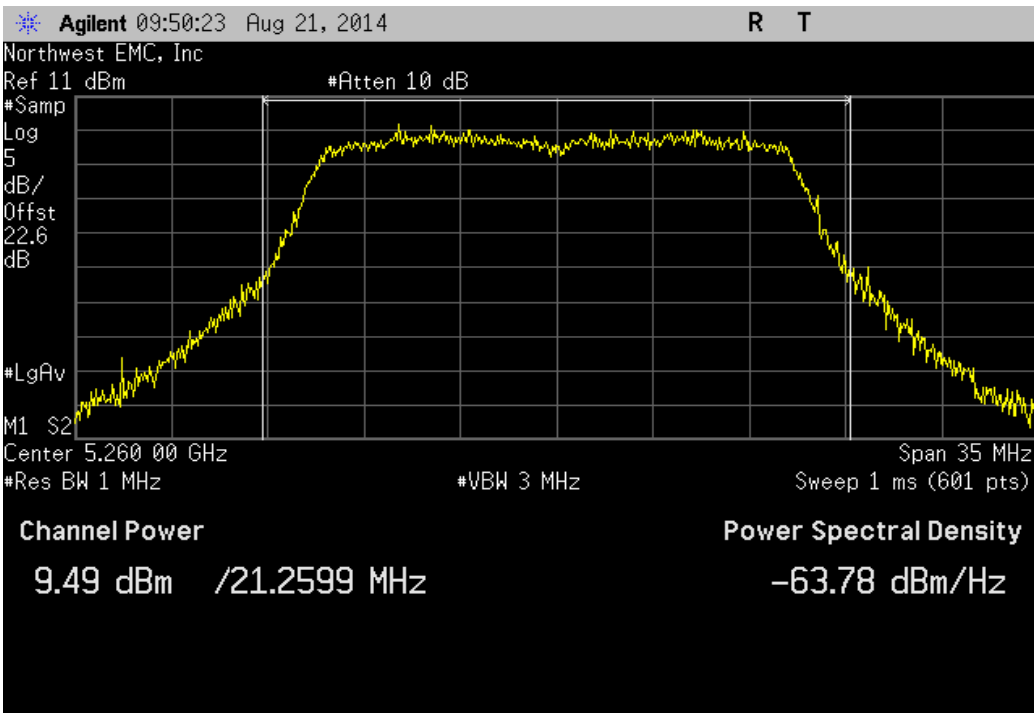
Port 1, 802.11(n) MCS7, Ch 48, High Channel 5240 MHz

Value	Limit (<)	Result
8.737 dBm	17 dBm	Pass



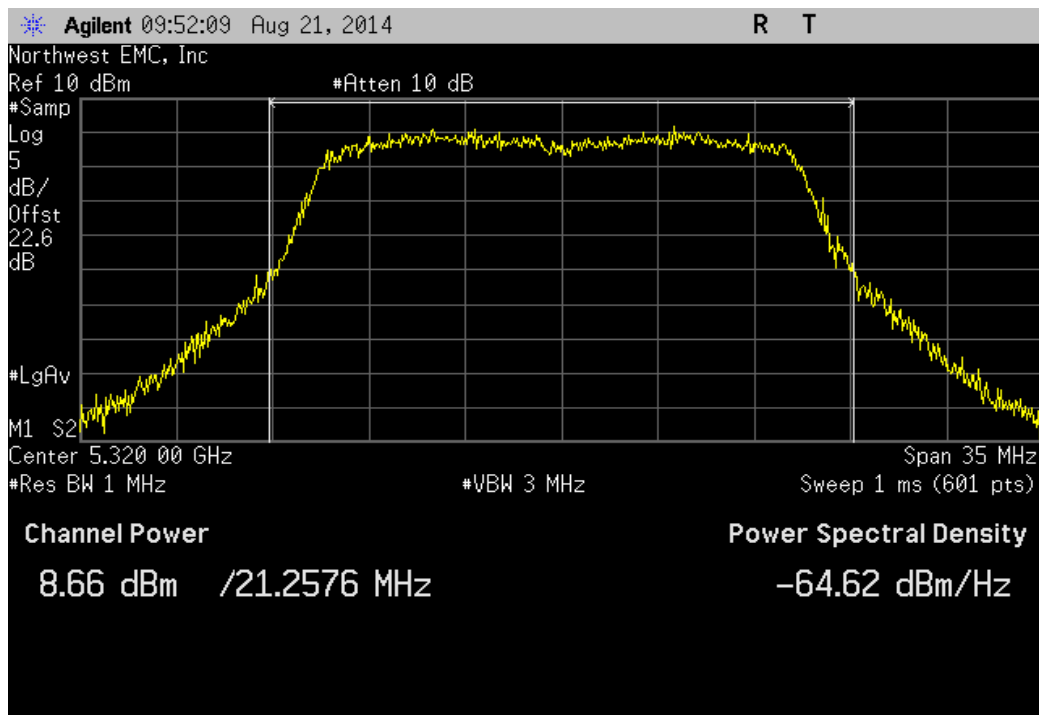
Port 1, 802.11(n) MCS7, Ch 52, Low Channel 5260 MHz

Value	Limit (<)	Result
9.494 dBm	24 dBm	Pass



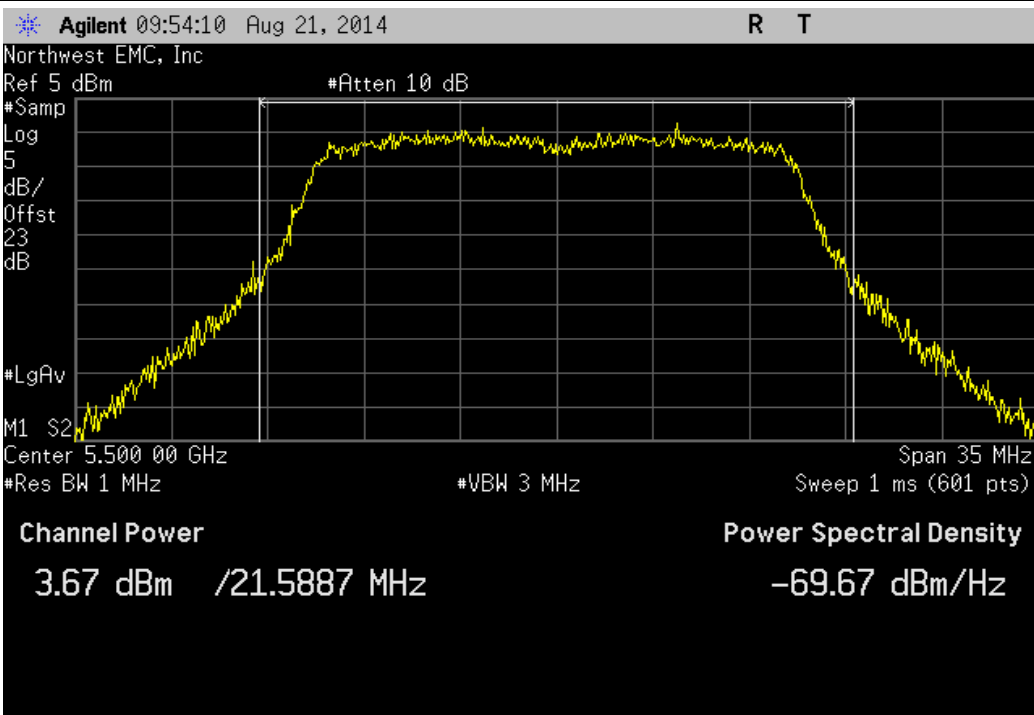
Port 1, 802.11(n) MCS7, Ch 64, High Channel 5320 MHz

Value	Limit (<)	Result
8.658 dBm	24 dBm	Pass



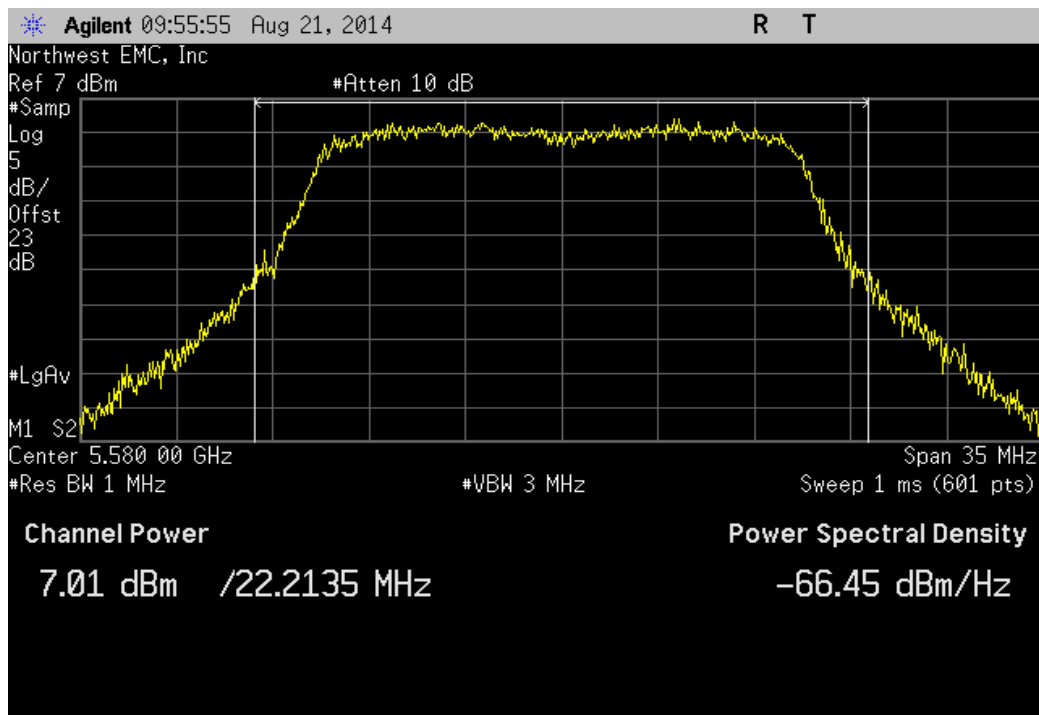
Port 1, 802.11(n) MCS7, Ch 100, Low Channel 5500 MHz

Value	Limit (<)	Result
3.668 dBm	24 dBm	Pass



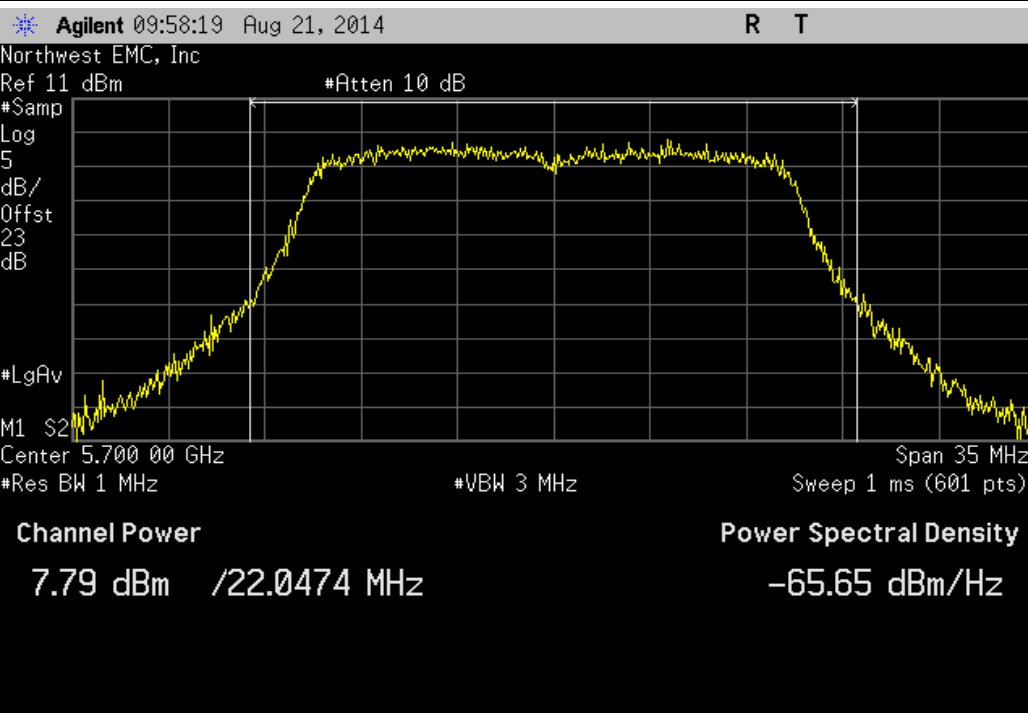
Port 1, 802.11(n) MCS7, Ch 116, Mid Channel 5580 MHz

Value	Limit (<)	Result
7.014 dBm	24 dBm	Pass



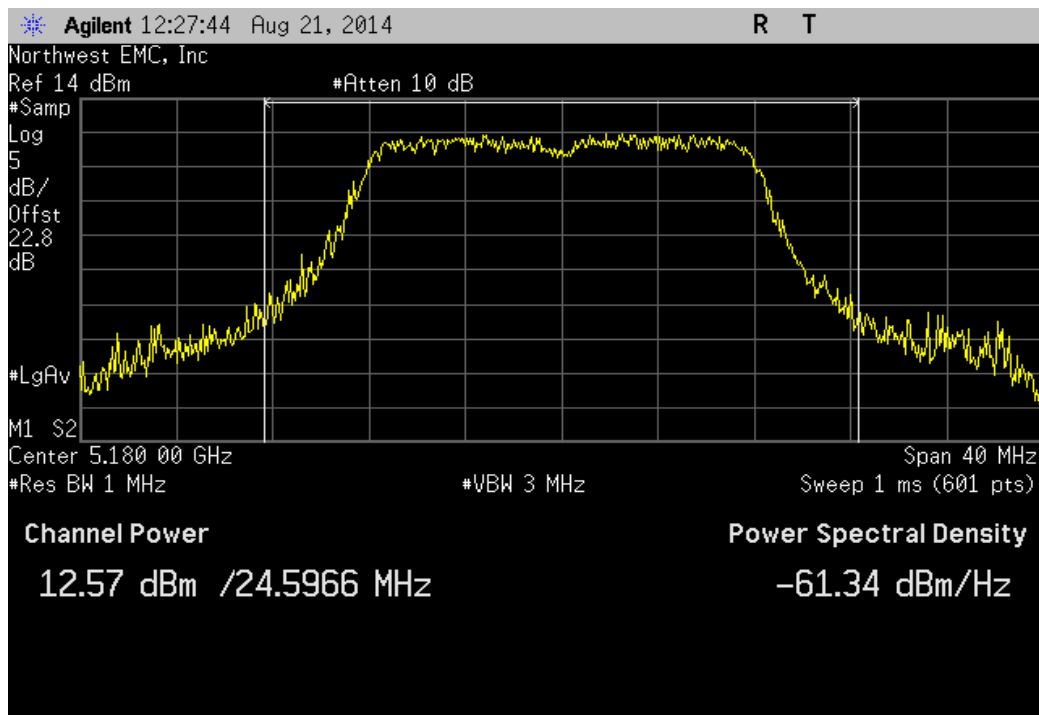
Port 1, 802.11(n) MCS7, Ch 140, High Channel 5700 MHz

Value	Limit (<)	Result
7.786 dBm	24 dBm	Pass



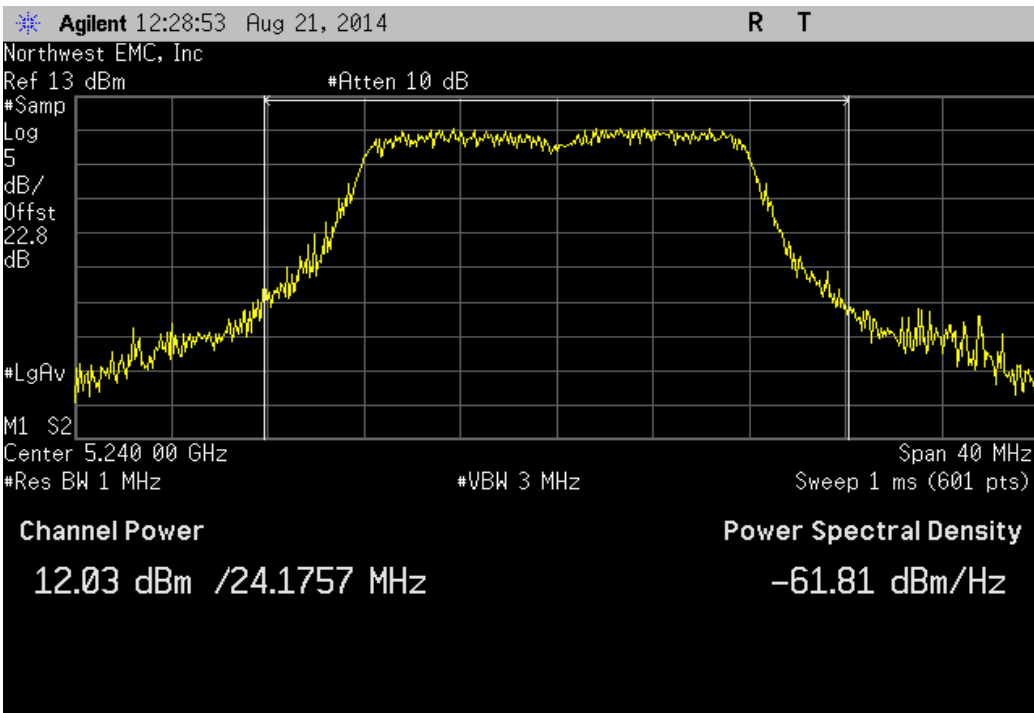
Port 2, 802.11(a) 6 Mbps, Ch 36, Low Channel 5180 MHz

Value	Limit (<)	Result
12.572 dBm	17 dBm	Pass



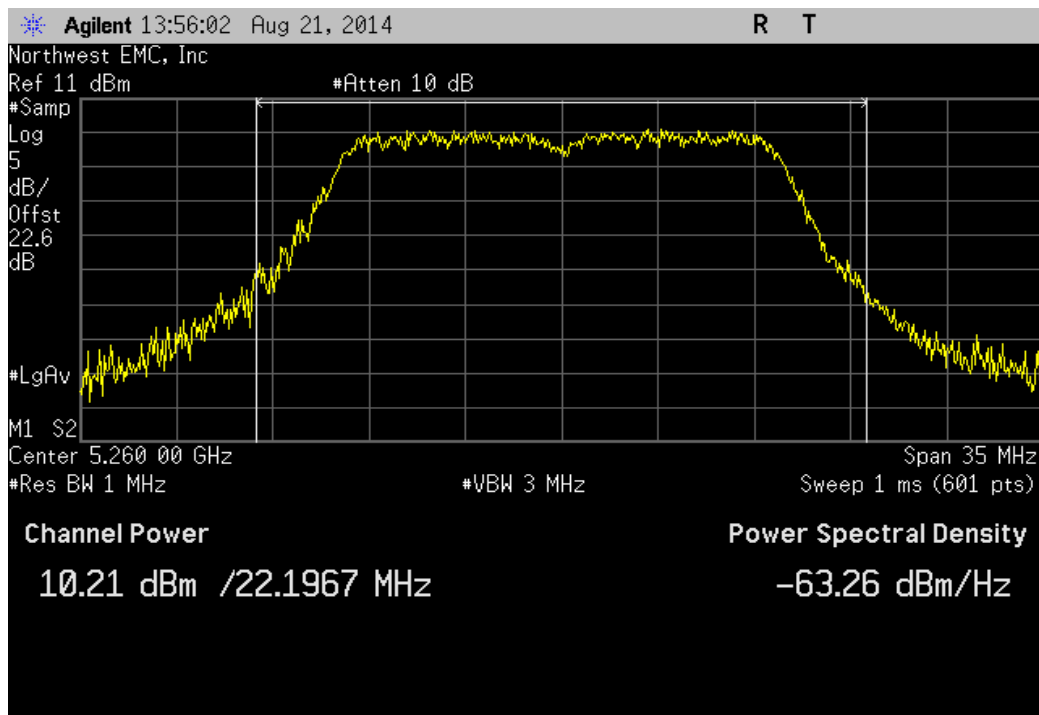
Port 2, 802.11(a) 6 Mbps, Ch 48, High Channel 5240 MHz

Value	Limit (<)	Result
12.028 dBm	17 dBm	Pass



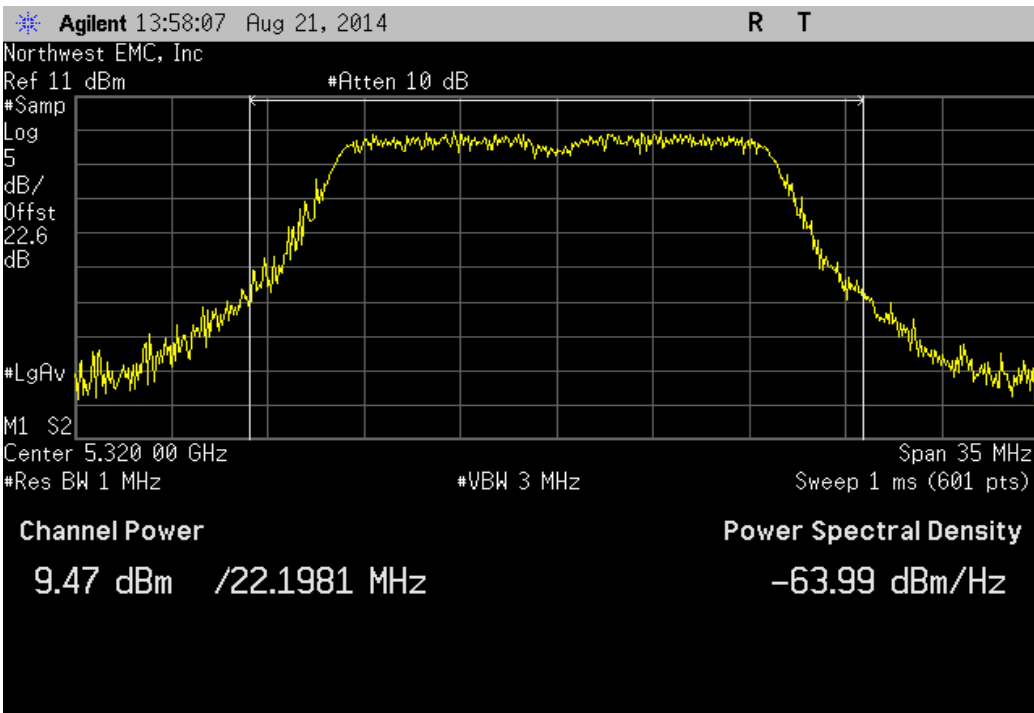
Port 2, 802.11(a) 6 Mbps, Ch 52, Low Channel 5260 MHz

Value	Limit (<)	Result
10.208 dBm	24 dBm	Pass



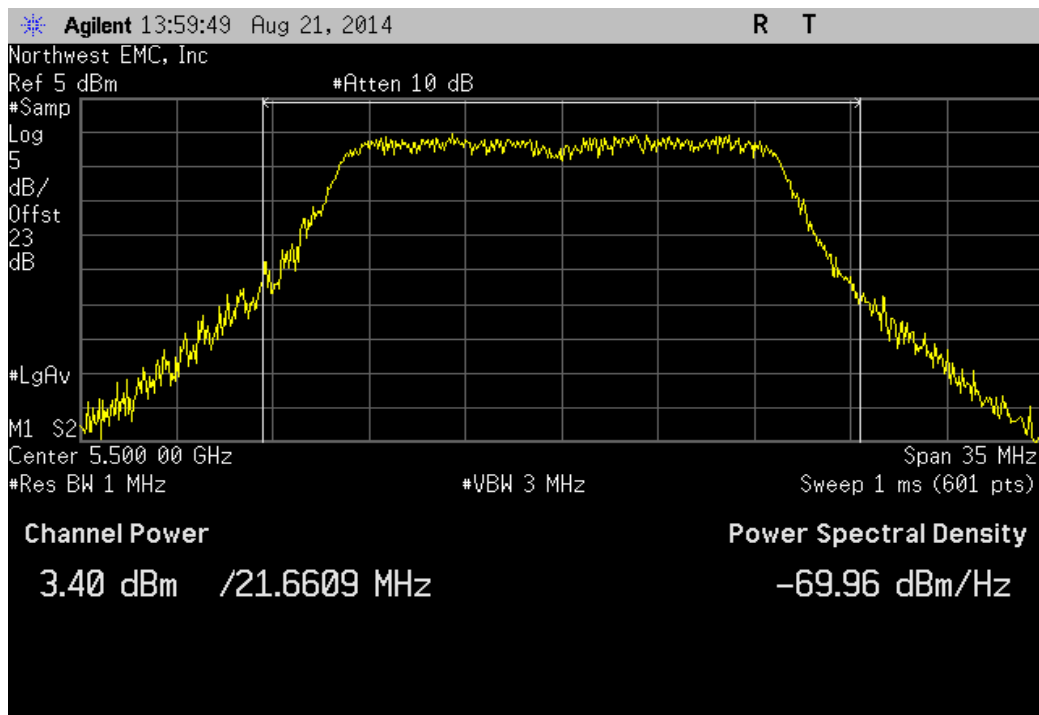
Port 2, 802.11(a) 6 Mbps, Ch 64, High Channel 5320 MHz

Value	Limit (<)	Result
9.473 dBm	24 dBm	Pass



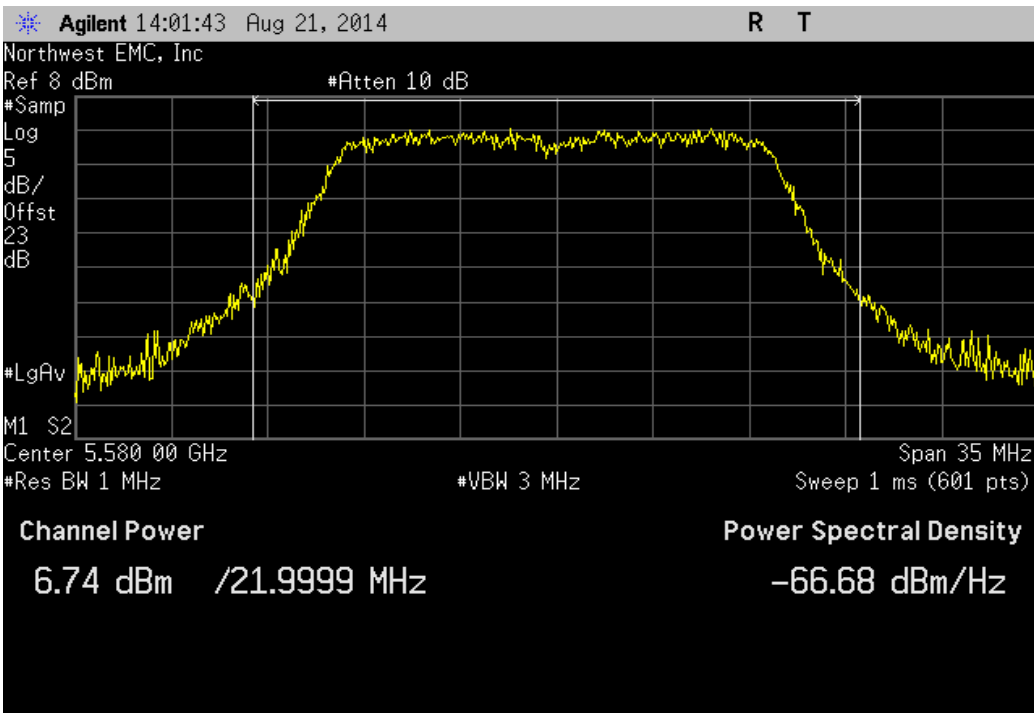
Port 2, 802.11(a) 6 Mbps, Ch 100, Low Channel 5500 MHz

Value	Limit (<)	Result
3.401 dBm	24 dBm	Pass



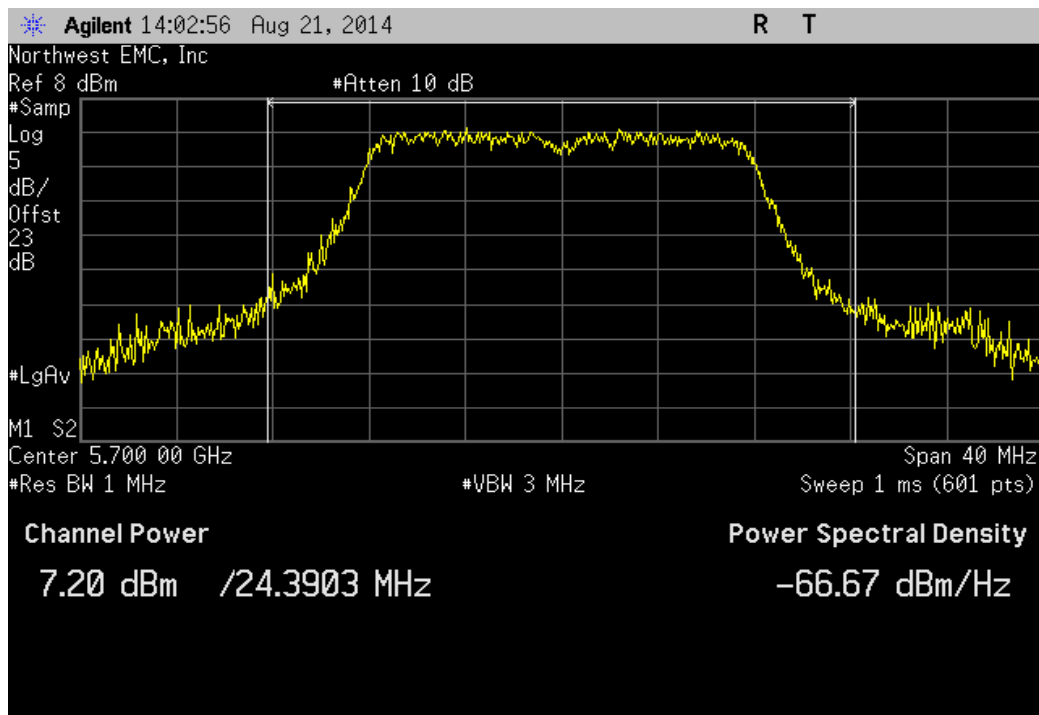
Port 2, 802.11(a) 6 Mbps, Ch 116, Mid Channel 5580 MHz

Value	Limit (<)	Result
6.744 dBm	24 dBm	Pass



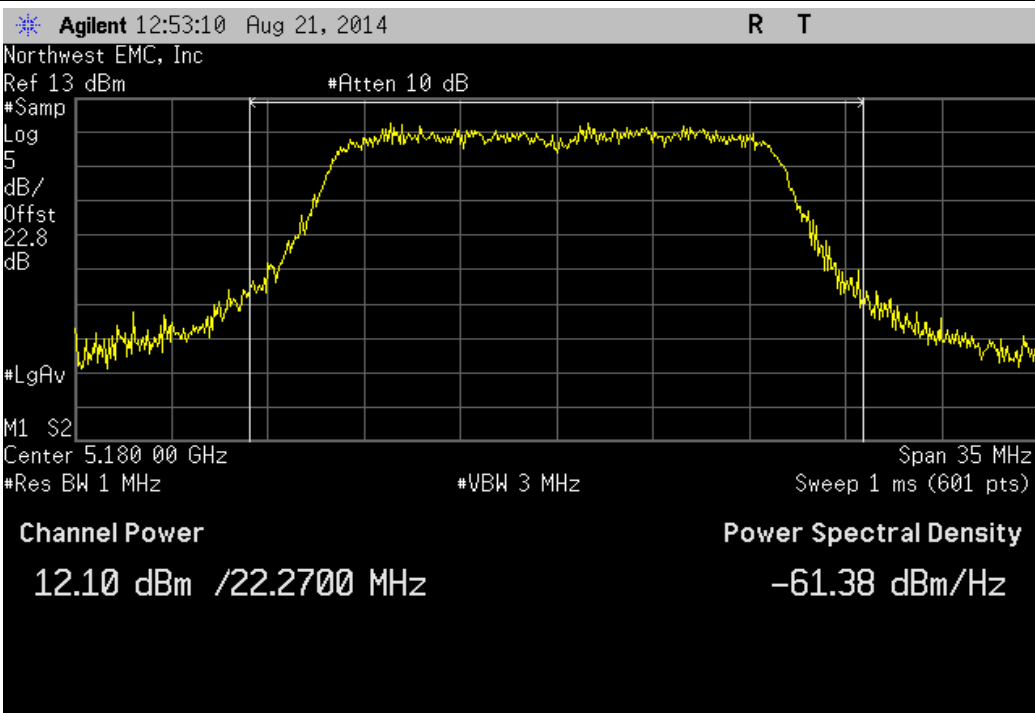
Port 2, 802.11(a) 6 Mbps, Ch 140, High Channel 5700 MHz

Value	Limit (<)	Result
7.198 dBm	24 dBm	Pass



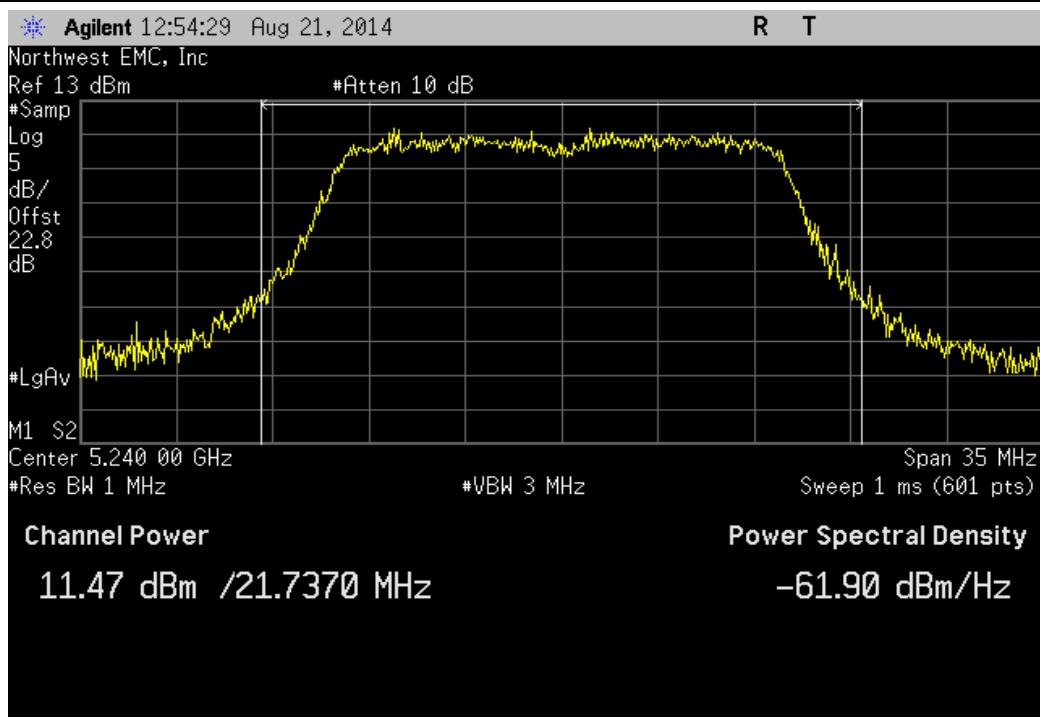
Port 2, 802.11(a) 36 Mbps, Ch 36, Low Channel 5180 MHz

Value	Limit (<)	Result
12.098 dBm	17 dBm	Pass



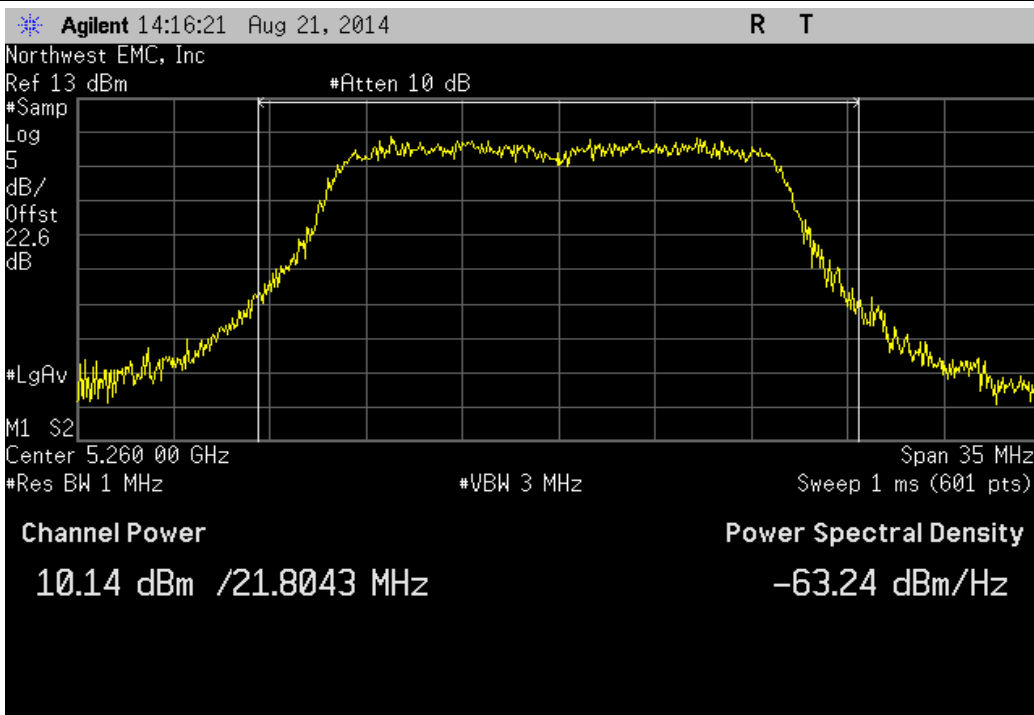
Port 2, 802.11(a) 36 Mbps, Ch 48, High Channel 5240 MHz

Value	Limit (<)	Result
11.471 dBm	17 dBm	Pass



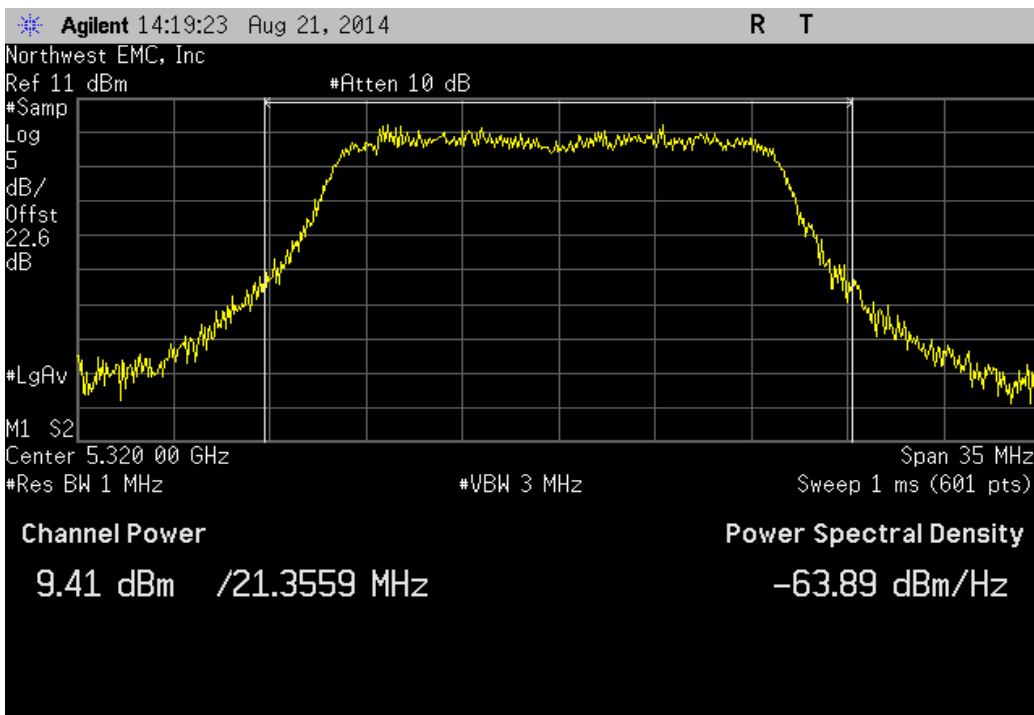
Port 2, 802.11(a) 36 Mbps, Ch 52, Low Channel 5260 MHz

Value	Limit (<)	Result
10.141 dBm	24 dBm	Pass



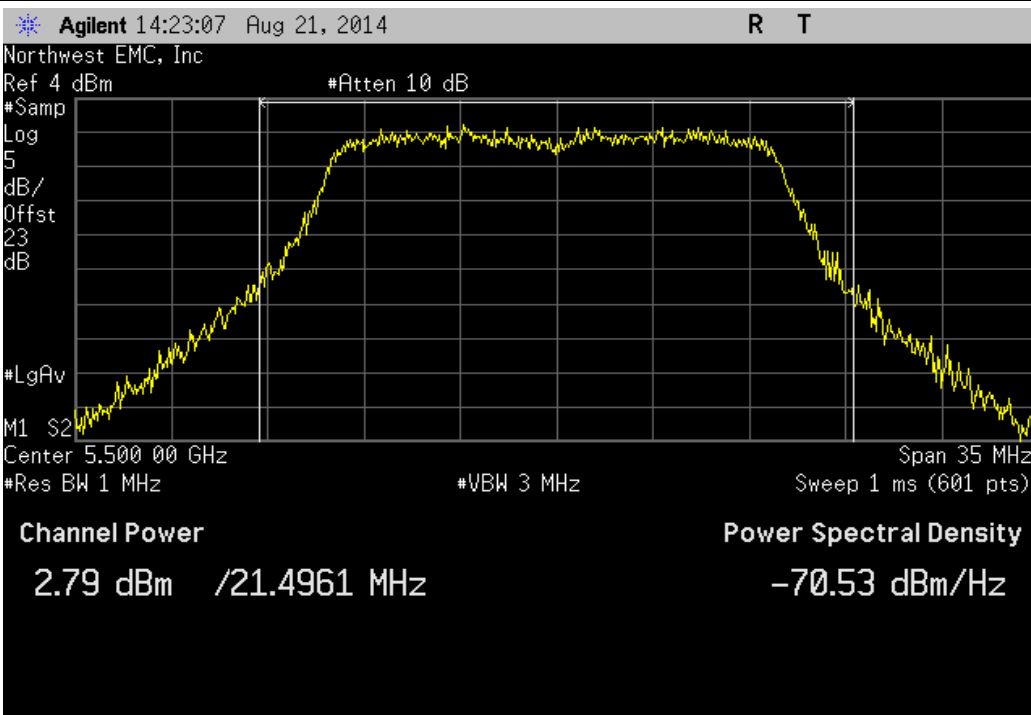
Port 2, 802.11(a) 36 Mbps, Ch 64, High Channel 5320 MHz

Value	Limit (<)	Result
9.41 dBm	24 dBm	Pass



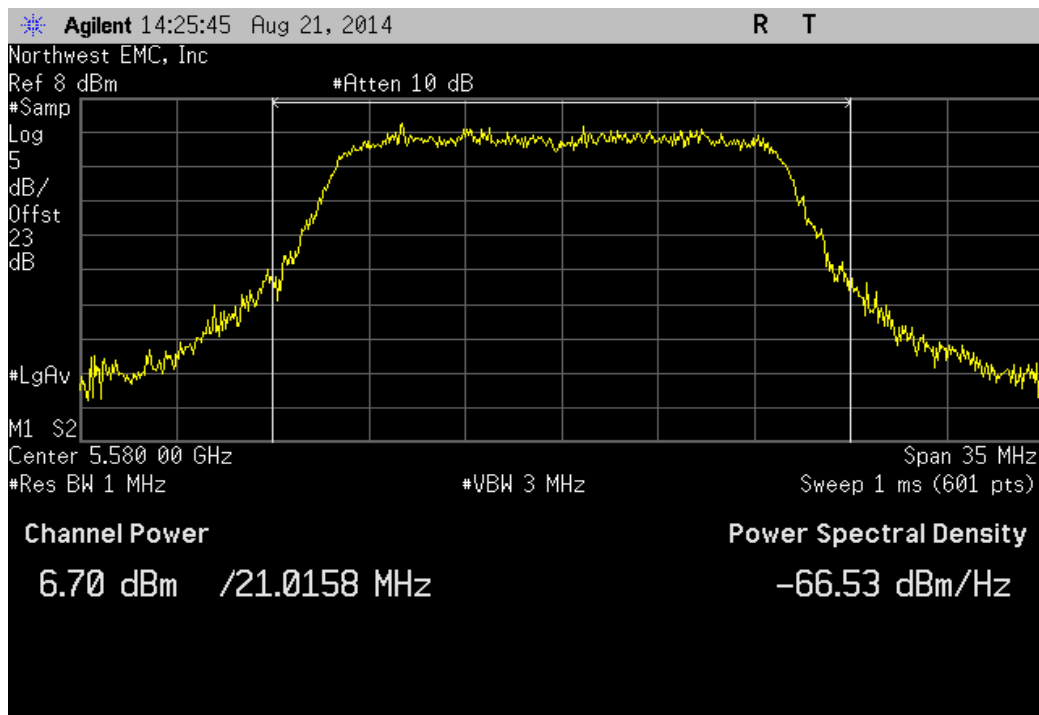
Port 2, 802.11(a) 36 Mbps, Ch 100, Low Channel 5500 MHz

	Value	Limit (<)	Result
	2.789 dBm	24 dBm	Pass



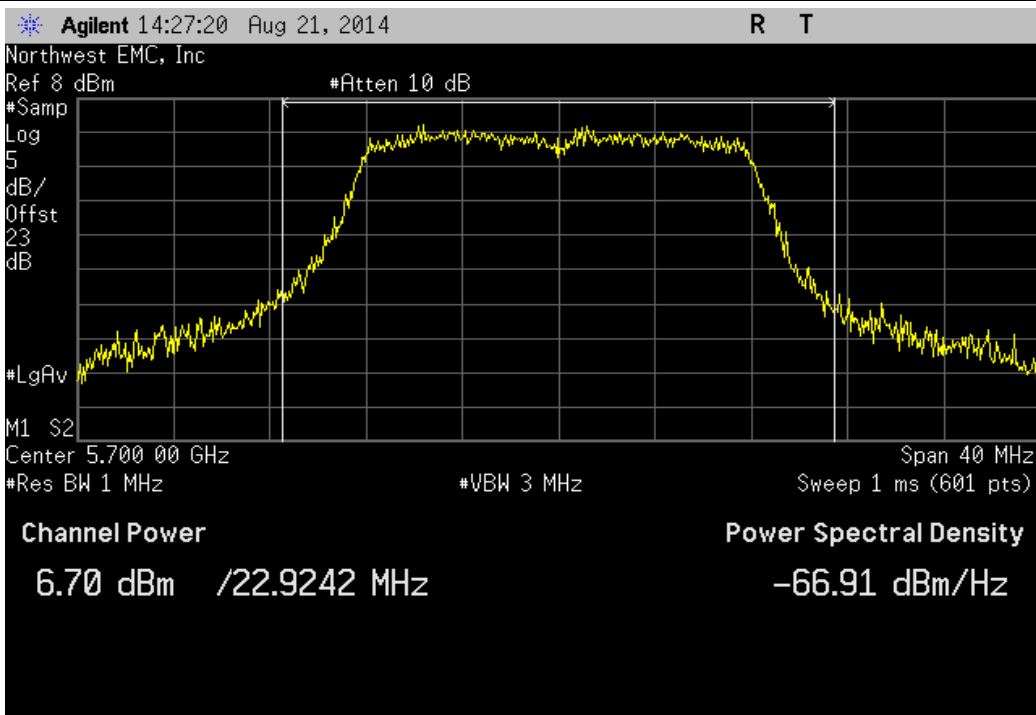
Port 2, 802.11(a) 36 Mbps, Ch 116, Mid Channel 5580 MHz

	Value	Limit (<)	Result
	6.695 dBm	24 dBm	Pass



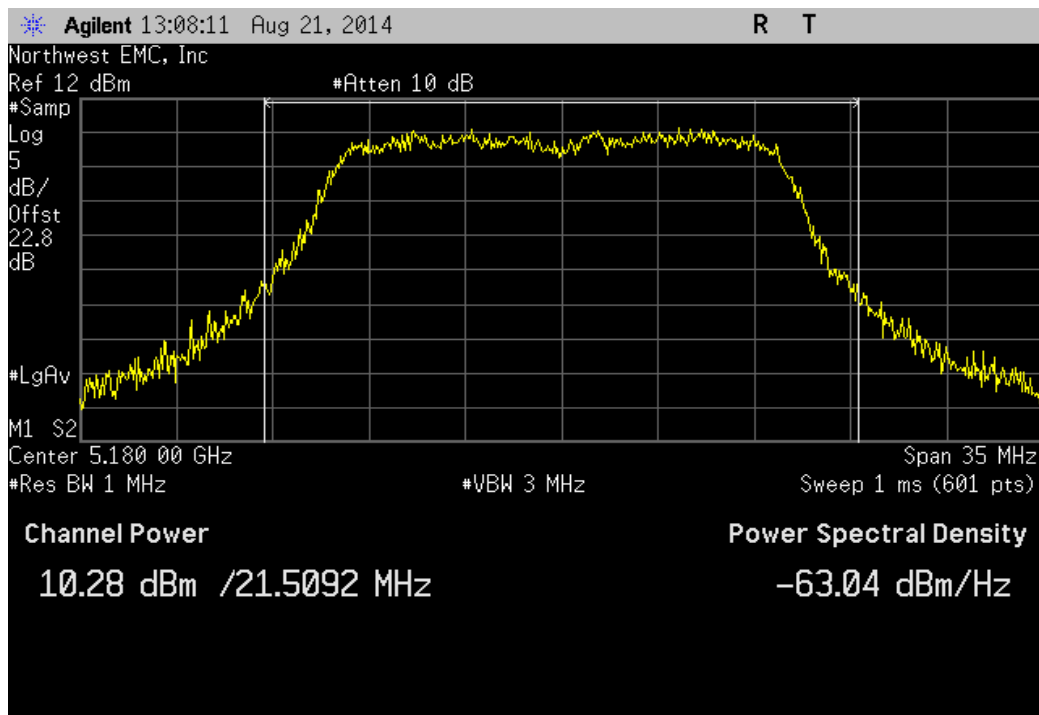
Port 2, 802.11(a) 36 Mbps, Ch 140, High Channel 5700 MHz

	Value	Limit (<)	Result
	6.698 dBm	24 dBm	Pass



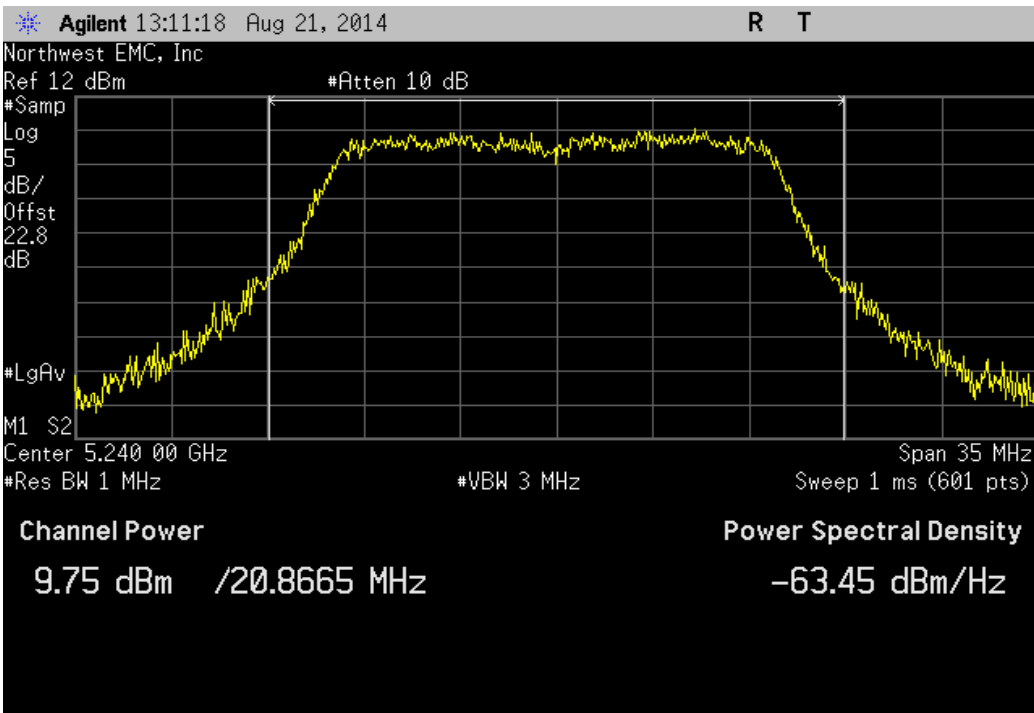
Port 2, 802.11(a) 54 Mbps, Ch 36, Low Channel 5180 MHz

	Value	Limit (<)	Result
	10.285 dBm	17 dBm	Pass



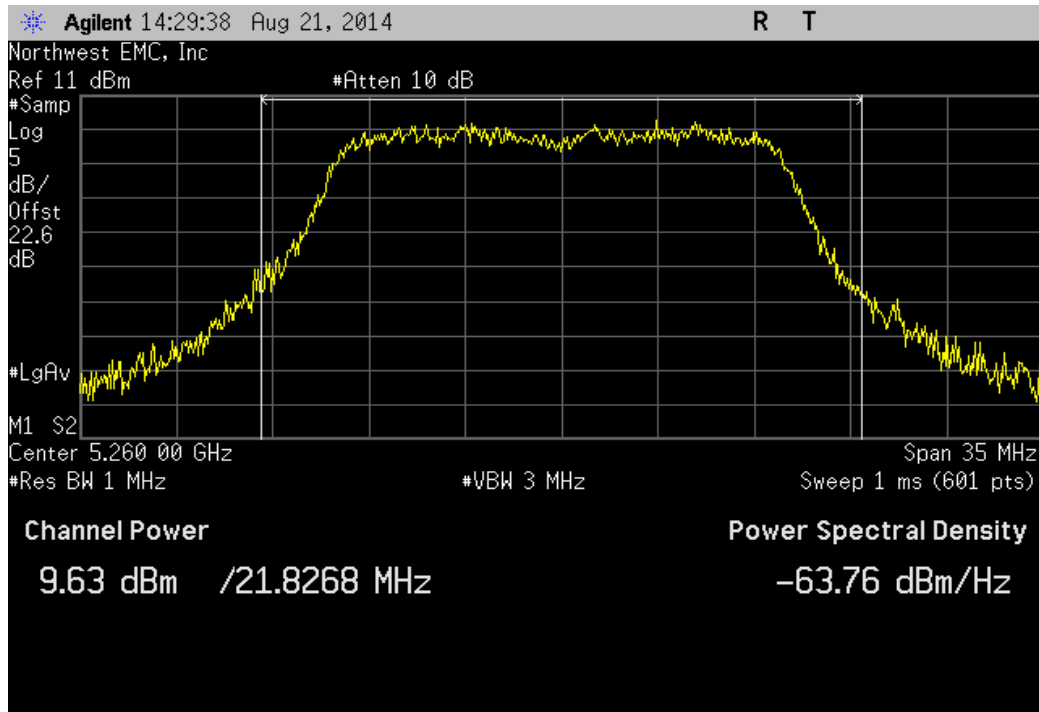
Port 2, 802.11(a) 54 Mbps, Ch 48, High Channel 5240 MHz

Value	Limit (<)	Result
9.749 dBm	17 dBm	Pass



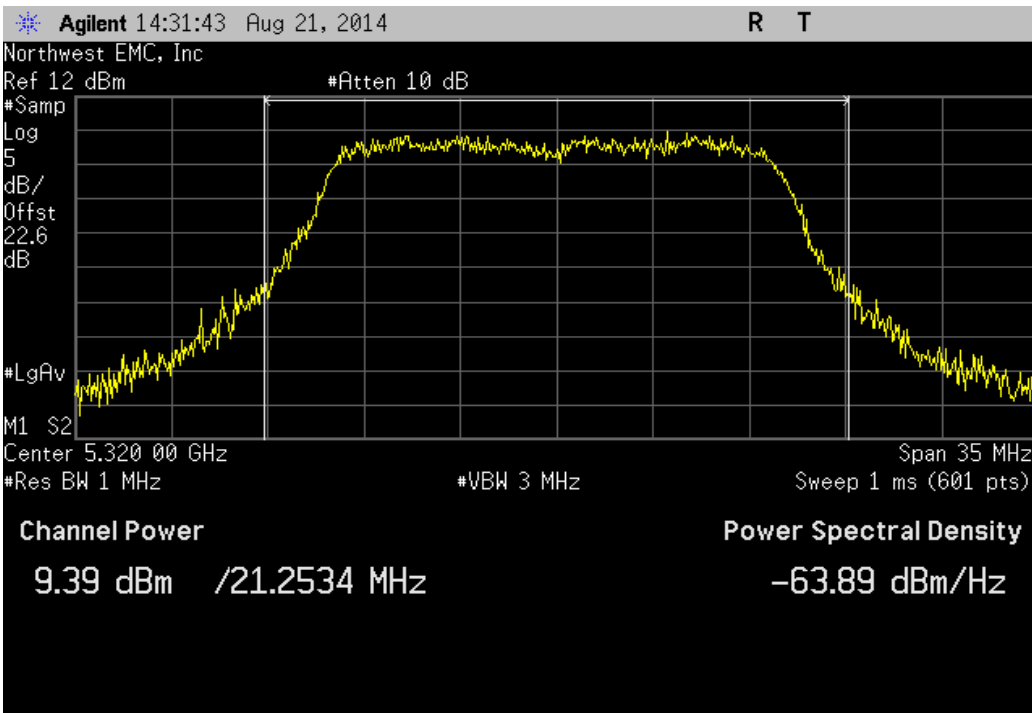
Port 2, 802.11(a) 54 Mbps, Ch 52, Low Channel 5260 MHz

Value	Limit (<)	Result
9.635 dBm	24 dBm	Pass



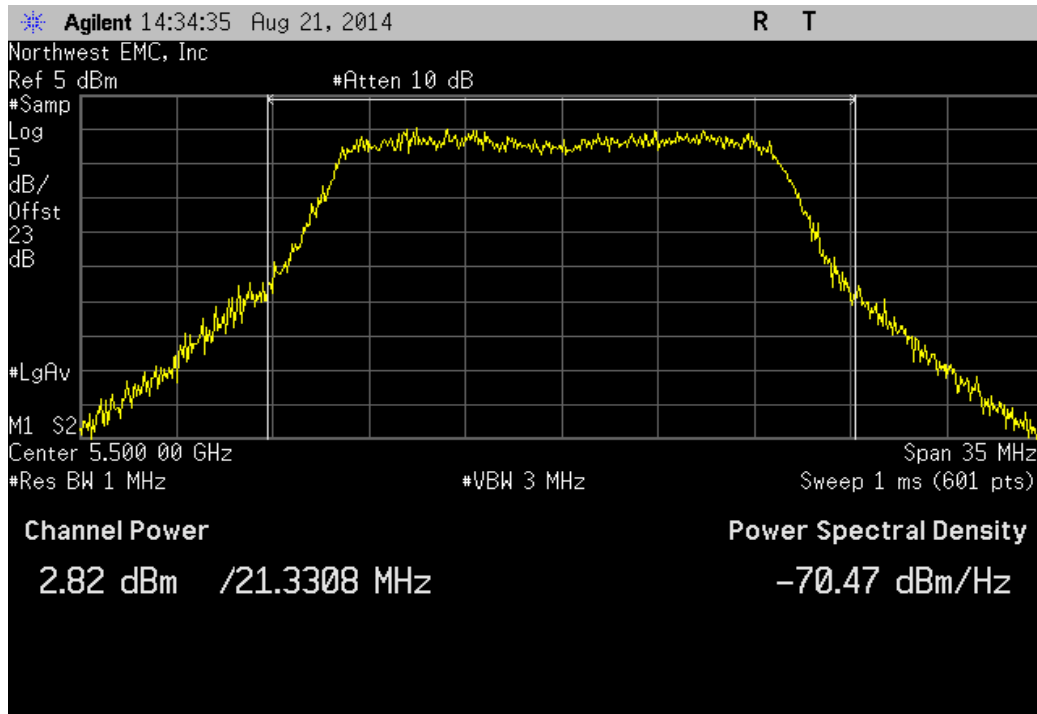
Port 2, 802.11(a) 54 Mbps, Ch 64, High Channel 5320 MHz

Value	Limit (<)	Result
9.386 dBm	24 dBm	Pass



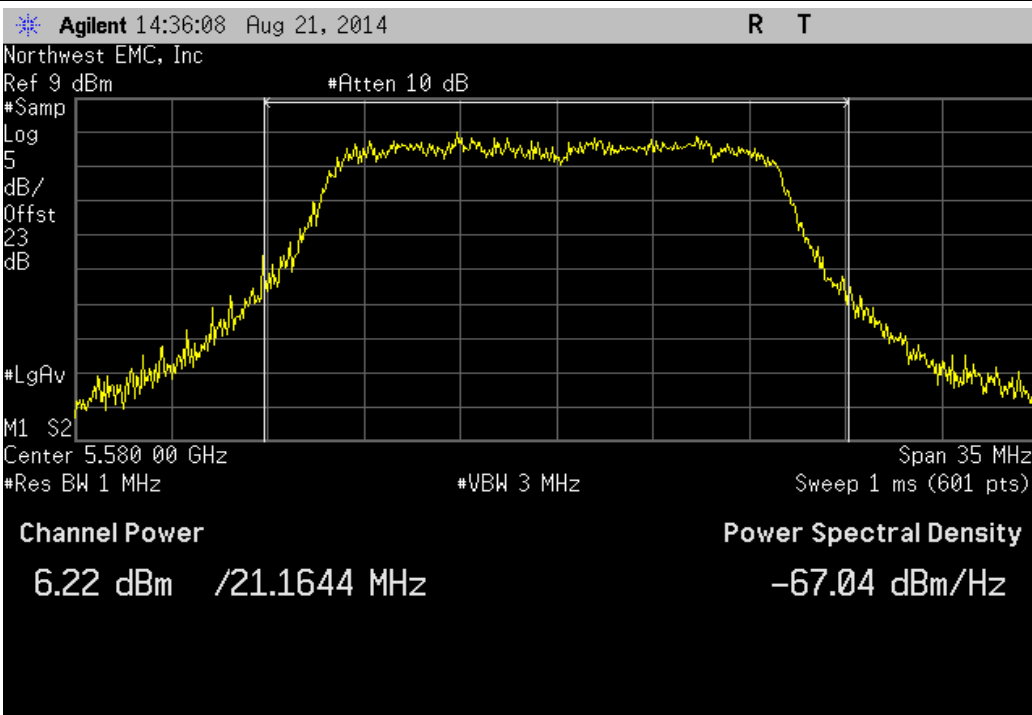
Port 2, 802.11(a) 54 Mbps, Ch 100, Low Channel 5500 MHz

Value	Limit (<)	Result
2.817 dBm	24 dBm	Pass



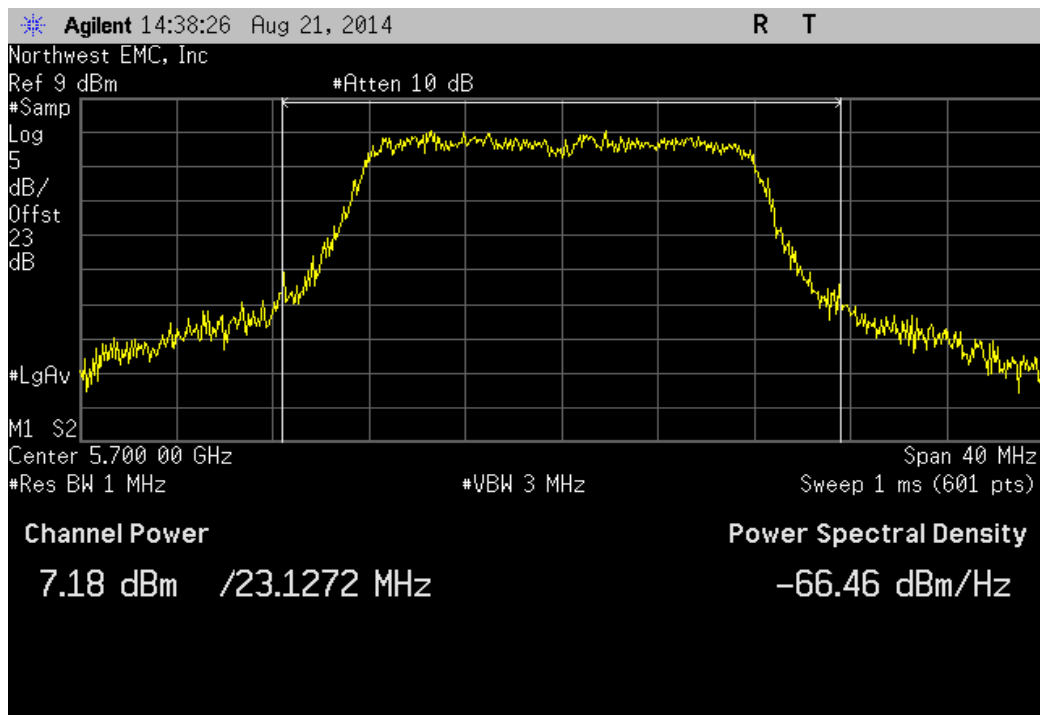
Port 2, 802.11(a) 54 Mbps, Ch 116, Mid Channel 5580 MHz

Value	Limit (<)	Result
6.218 dBm	24 dBm	Pass



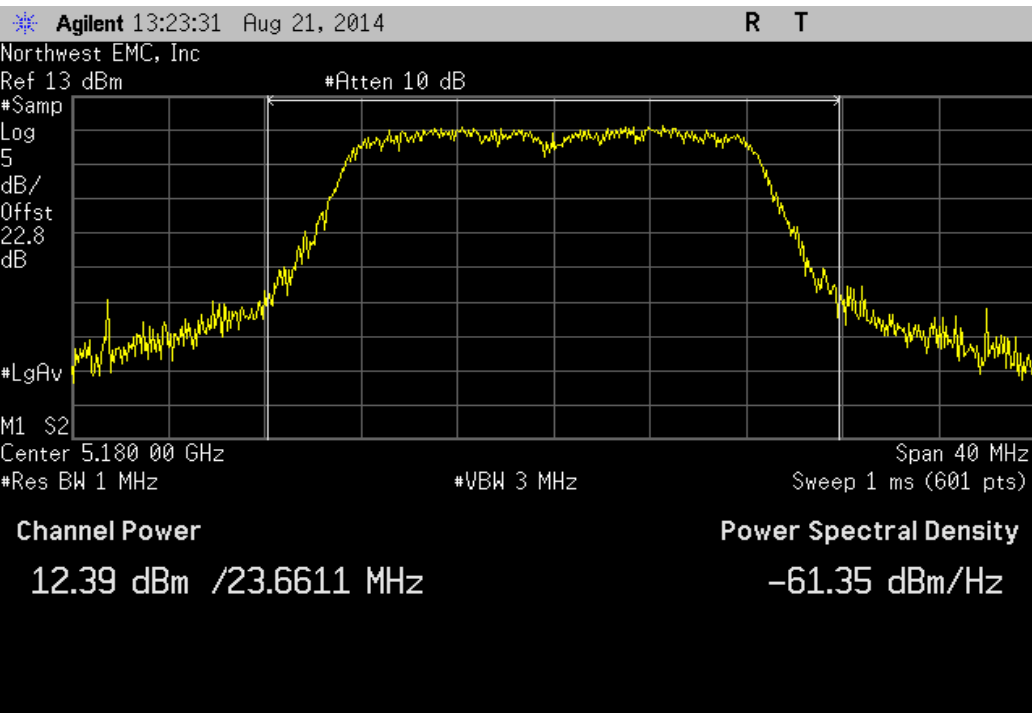
Port 2, 802.11(a) 54 Mbps, Ch 140, High Channel 5700 MHz

Value	Limit (<)	Result
7.176 dBm	24 dBm	Pass



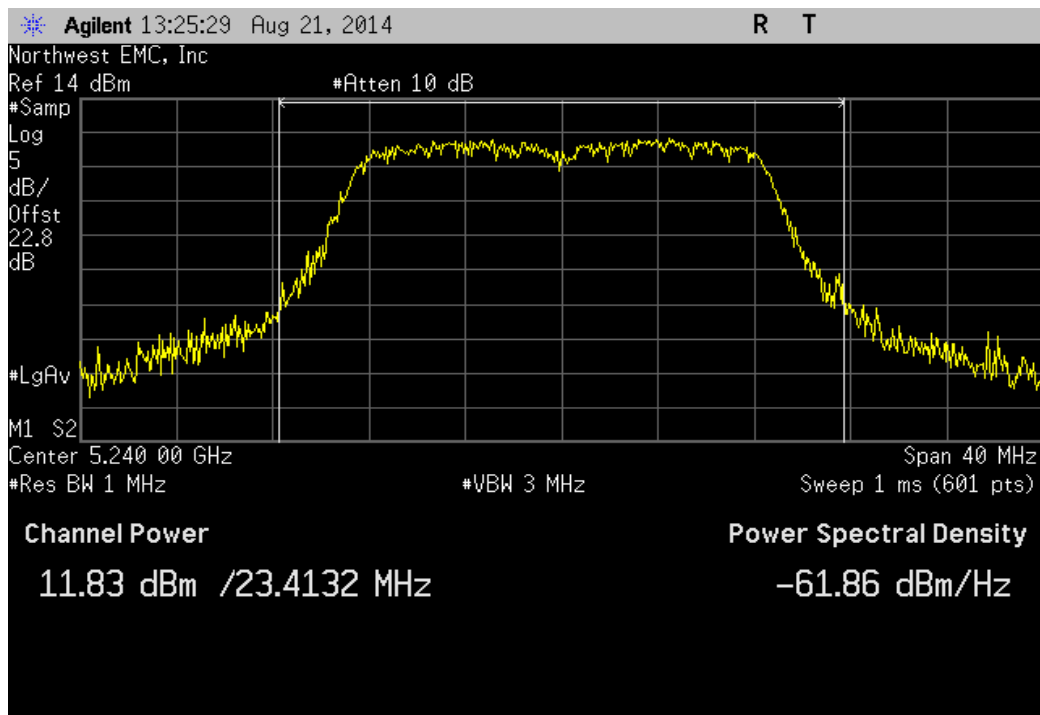
Port 2, 802.11(n) MCS0, Ch 36, Low Channel 5180 MHz

Value	Limit (<)	Result
12.393 dBm	17 dBm	Pass



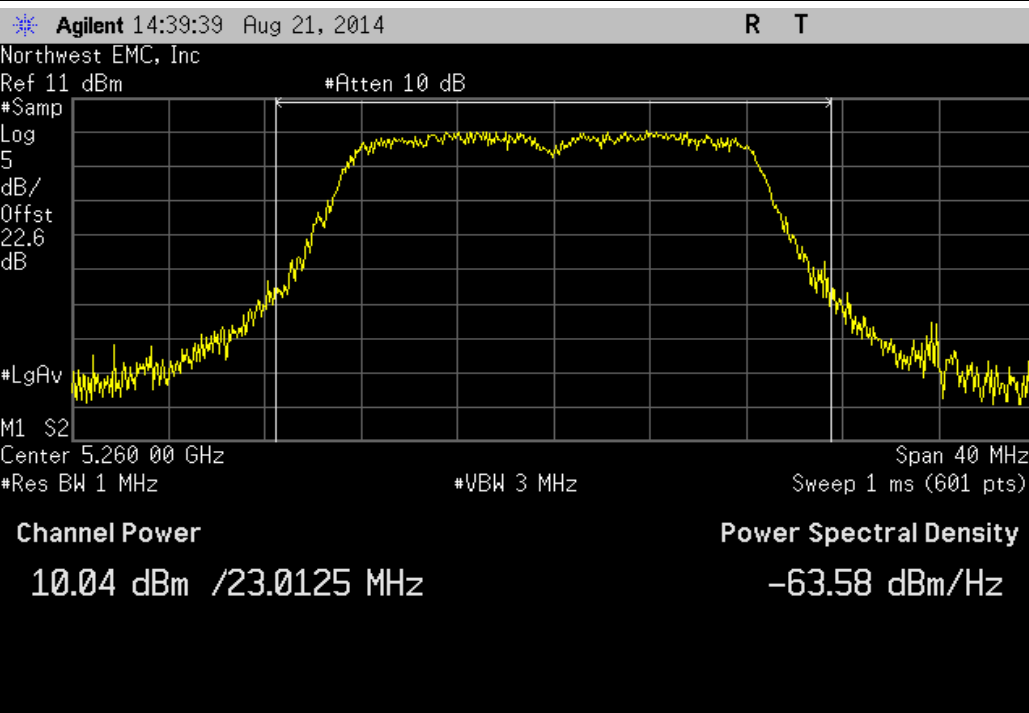
Port 2, 802.11(n) MCS0, Ch 48, High Channel 5240 MHz

Value	Limit (<)	Result
11.83 dBm	17 dBm	Pass



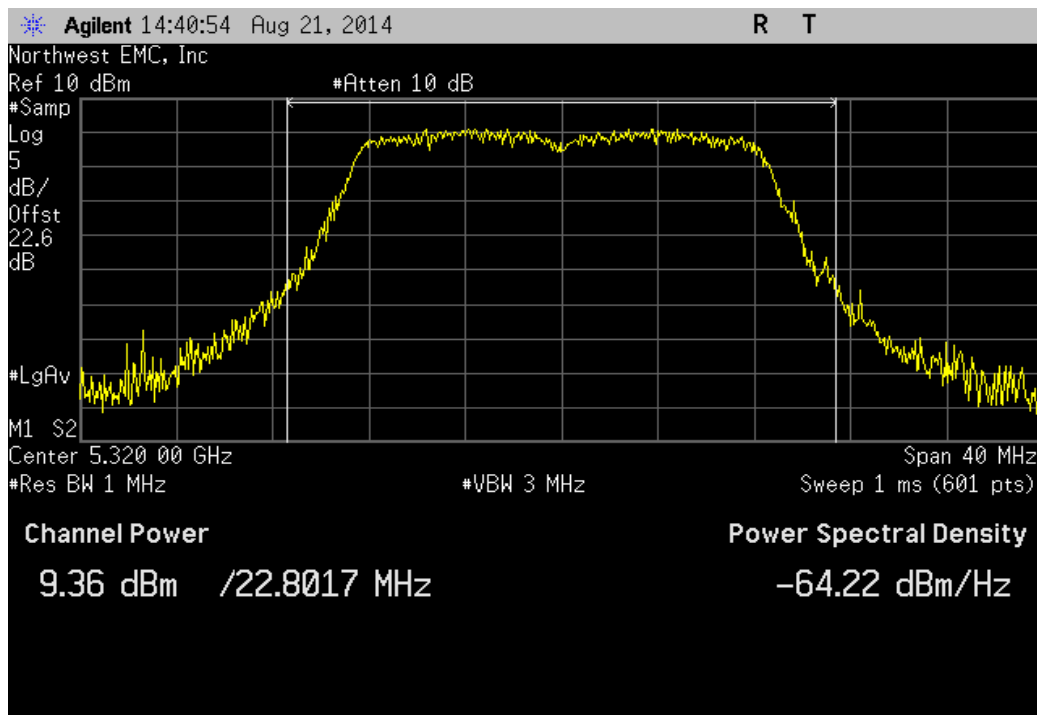
Port 2, 802.11(n) MCS0, Ch 52, Low Channel 5260 MHz

Value	Limit (<)	Result
10.044 dBm	24 dBm	Pass



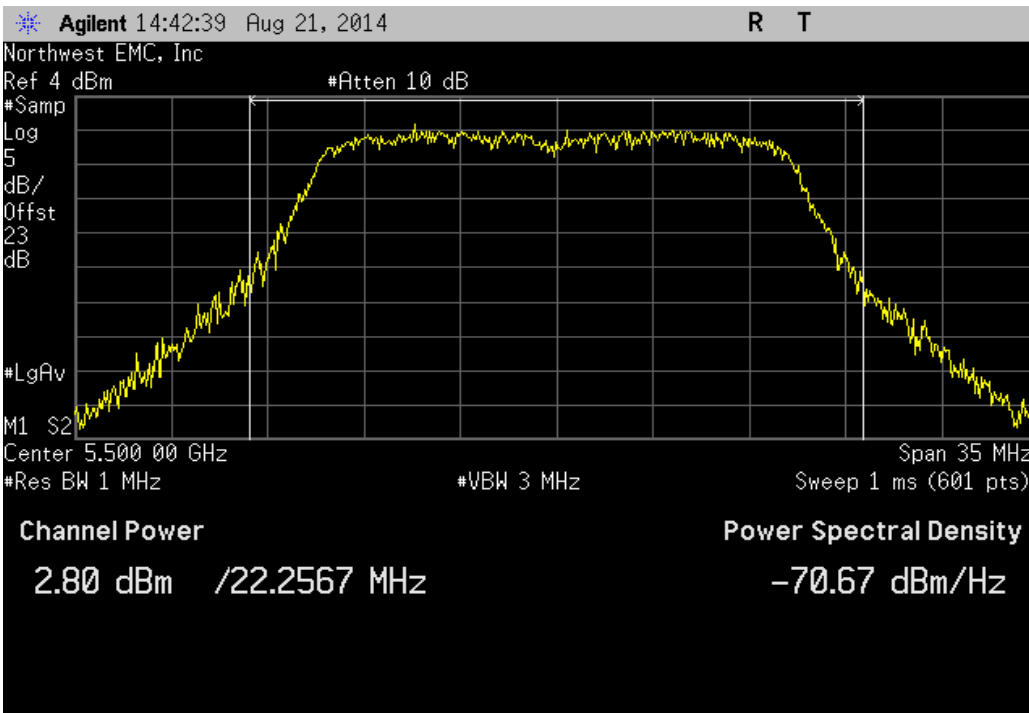
Port 2, 802.11(n) MCS0, Ch 64, High Channel 5320 MHz

Value	Limit (<)	Result
9.359 dBm	24 dBm	Pass



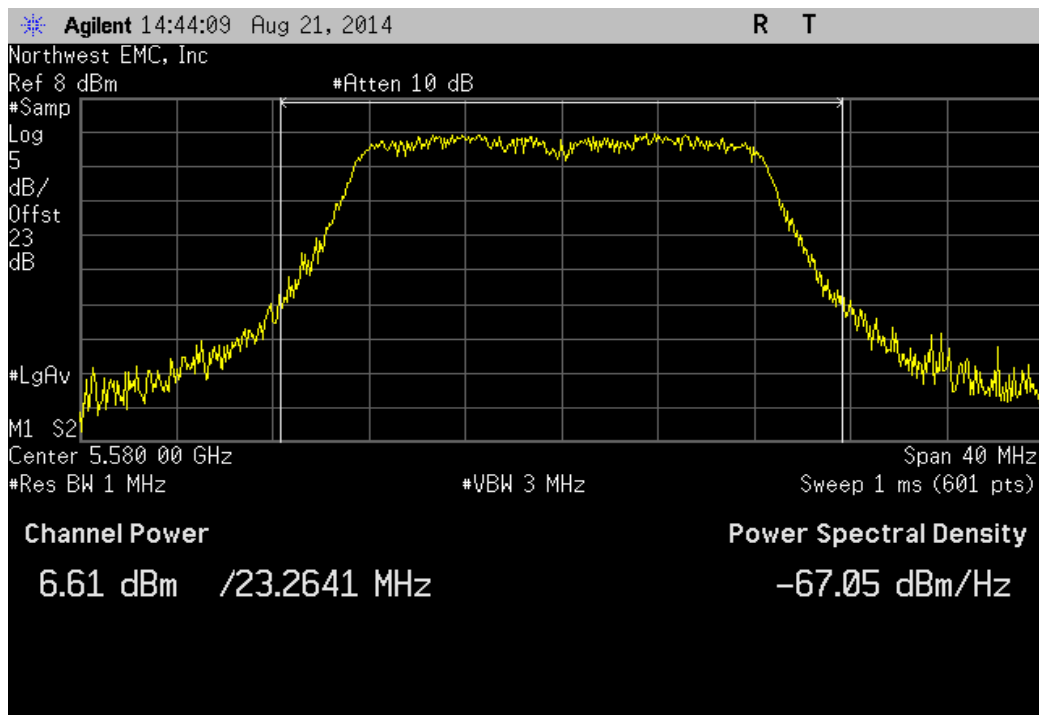
Port 2, 802.11(n) MCS0, Ch 100, Low Channel 5500 MHz

	Value	Limit (<)	Result
	2.803 dBm	24 dBm	Pass



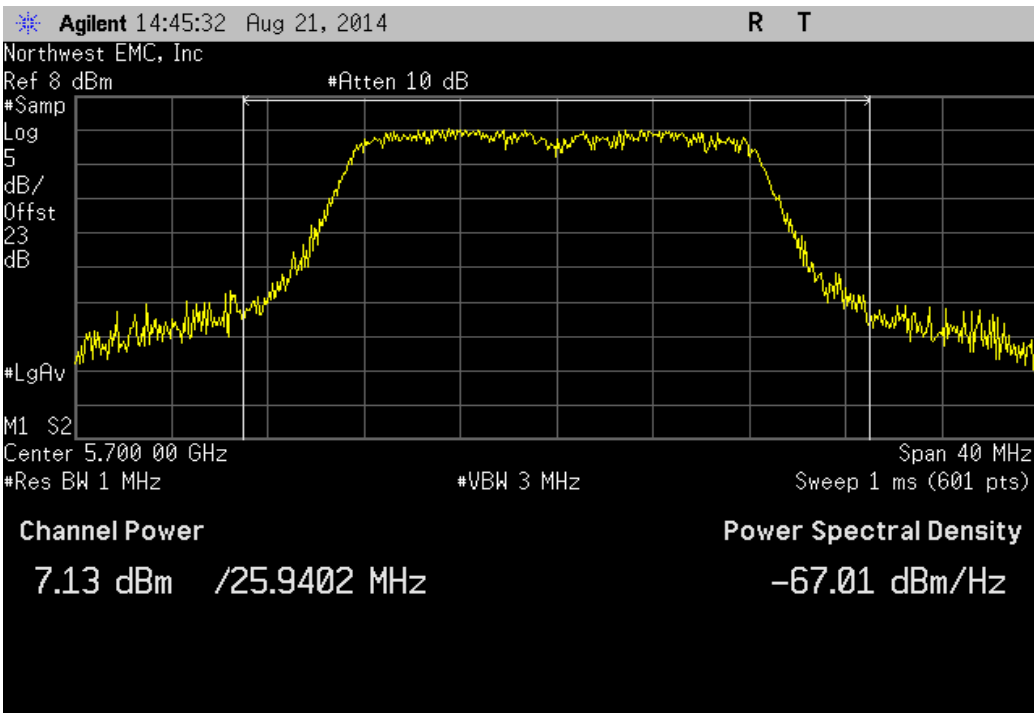
Port 2, 802.11(n) MCS0, Ch 116, Mid Channel 5580 MHz

	Value	Limit (<)	Result
	6.612 dBm	24 dBm	Pass



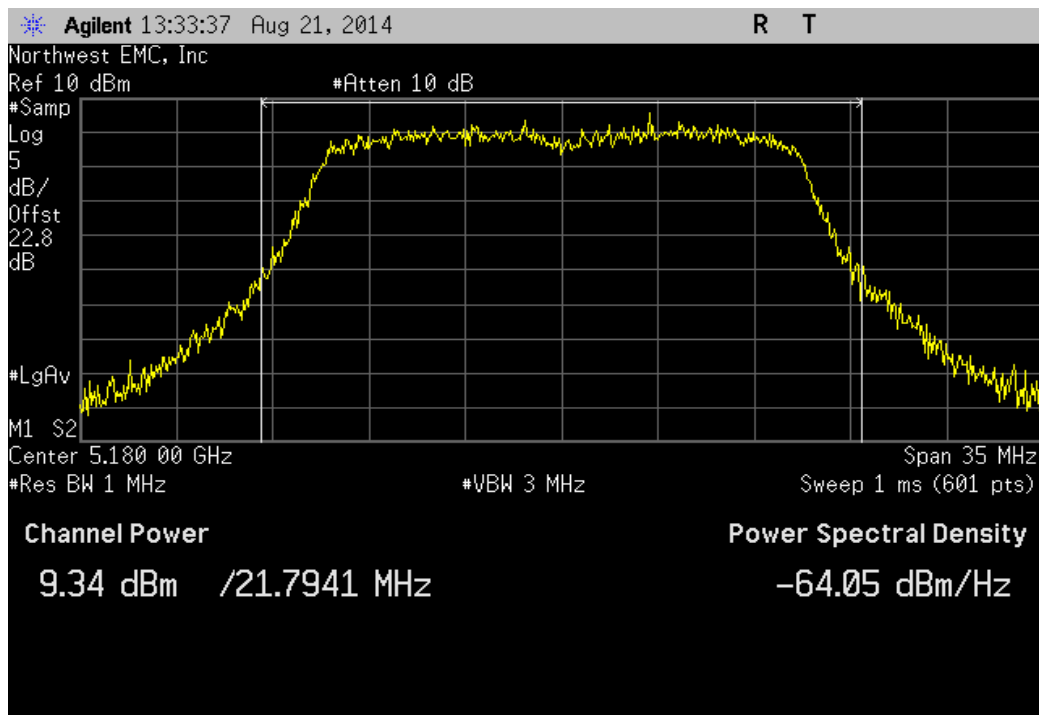
Port 2, 802.11(n) MCS0, Ch 140, High Channel 5700 MHz

Value	Limit (<)	Result
7.13 dBm	24 dBm	Pass



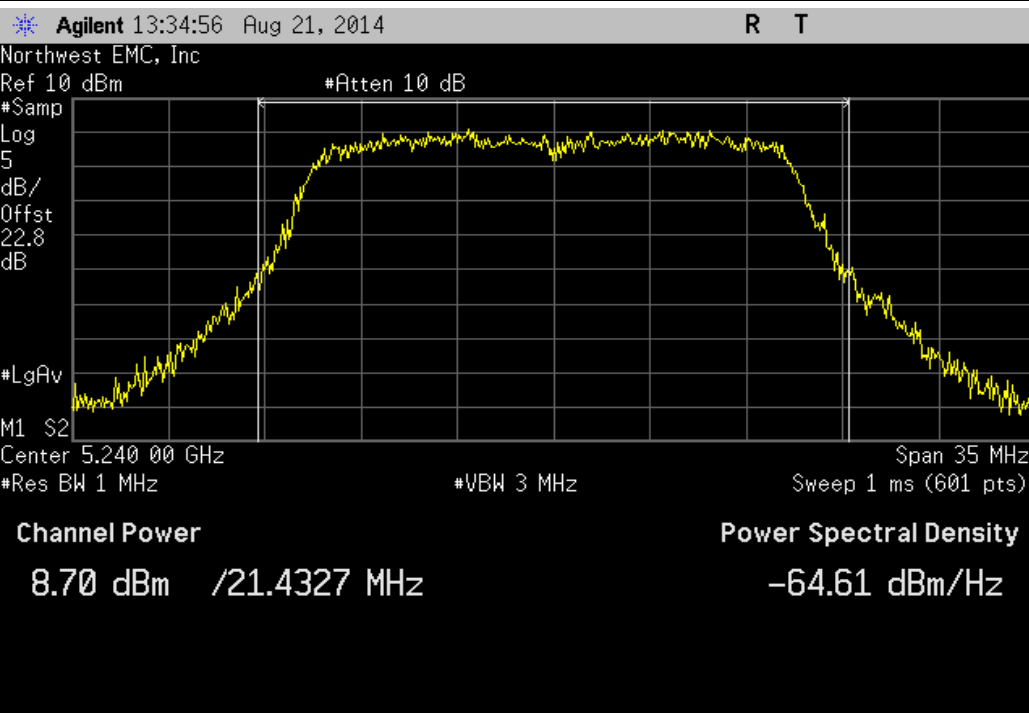
Port 2, 802.11(n) MCS7, Ch 36, Low Channel 5180 MHz

Value	Limit (<)	Result
9.336 dBm	17 dBm	Pass



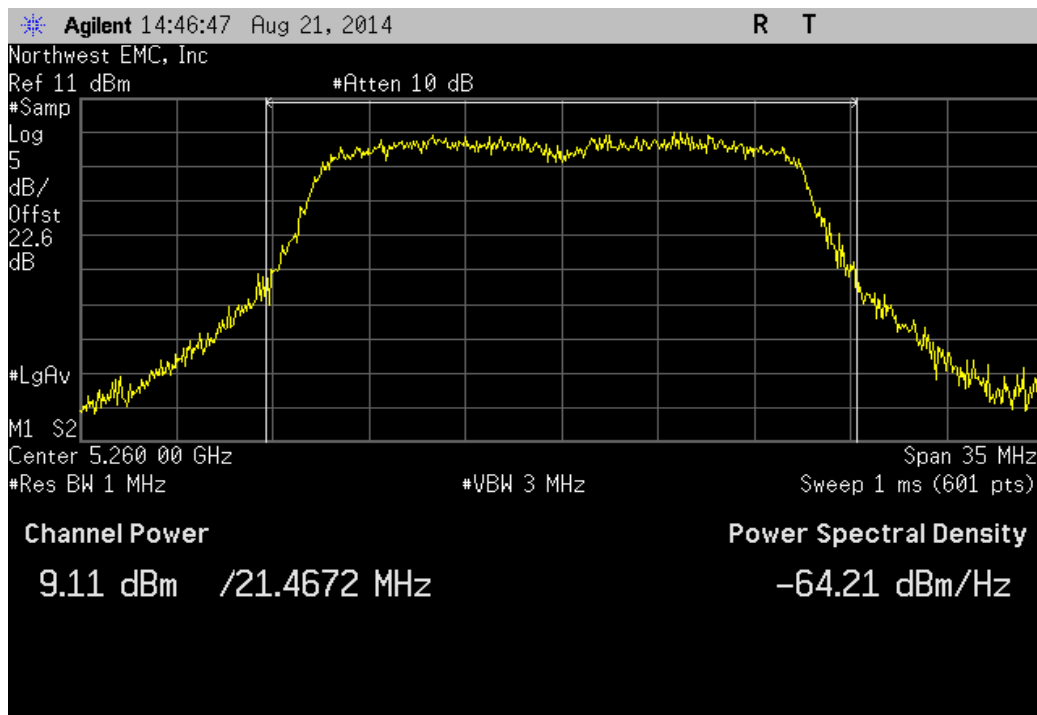
Port 2, 802.11(n) MCS7, Ch 48, High Channel 5240 MHz

Value	Limit (<)	Result
8.703 dBm	17 dBm	Pass



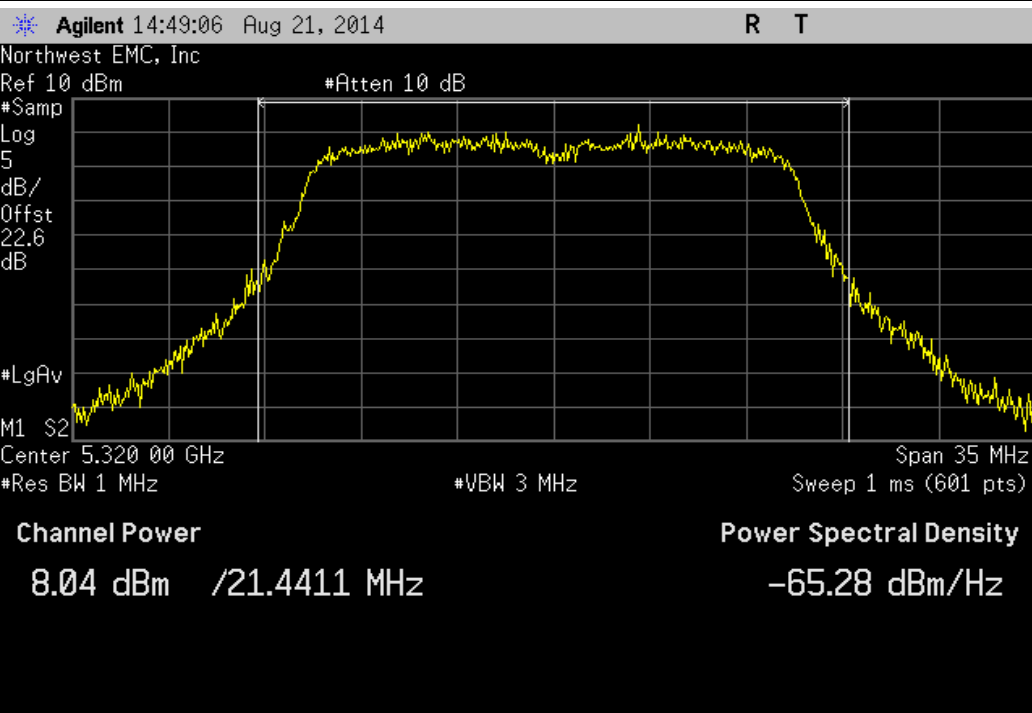
Port 2, 802.11(n) MCS7, Ch 52, Low Channel 5260 MHz

Value	Limit (<)	Result
9.108 dBm	24 dBm	Pass



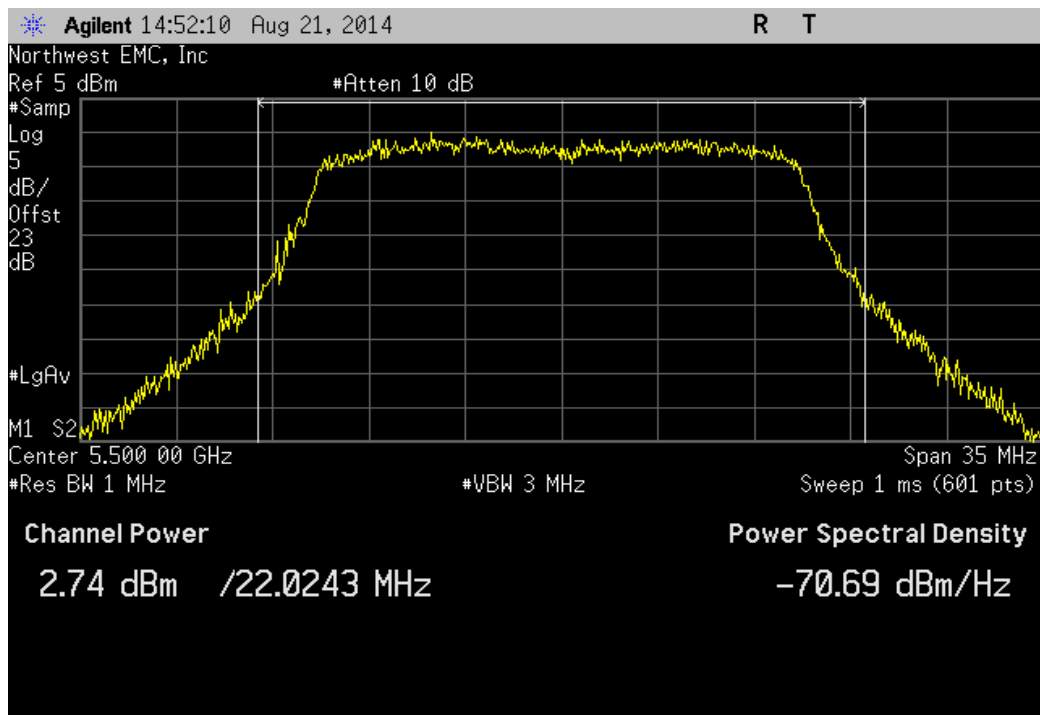
Port 2, 802.11(n) MCS7, Ch 64, High Channel 5320 MHz

Value	Limit (<)	Result
8.036 dBm	24 dBm	Pass



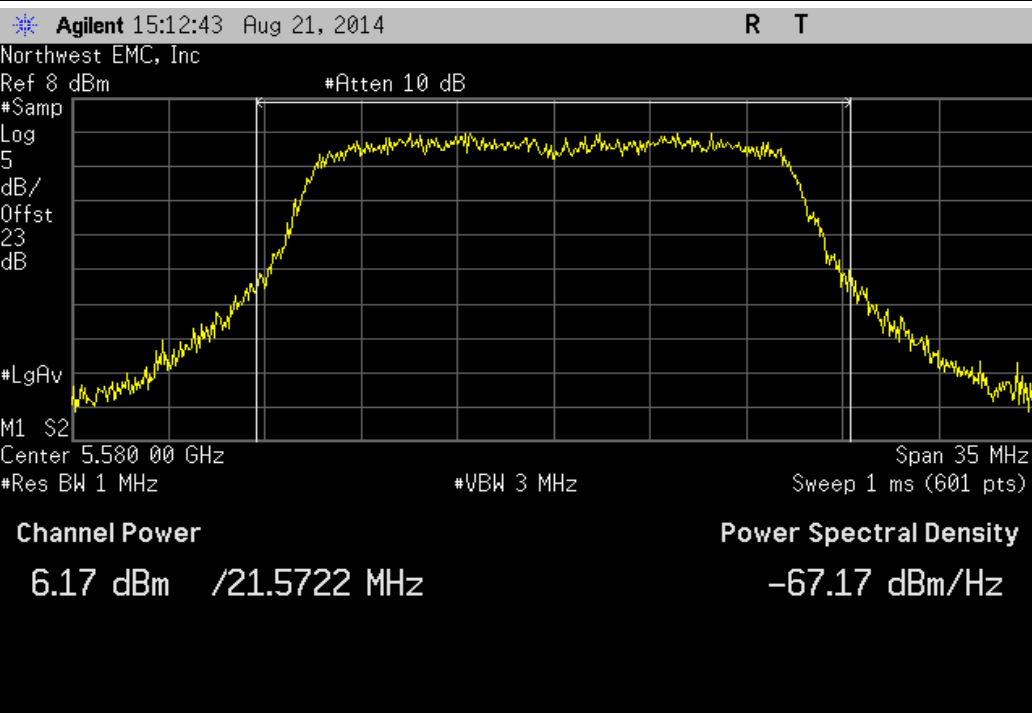
Port 2, 802.11(n) MCS7, Ch 100, Low Channel 5500 MHz

Value	Limit (<)	Result
2.737 dBm	24 dBm	Pass



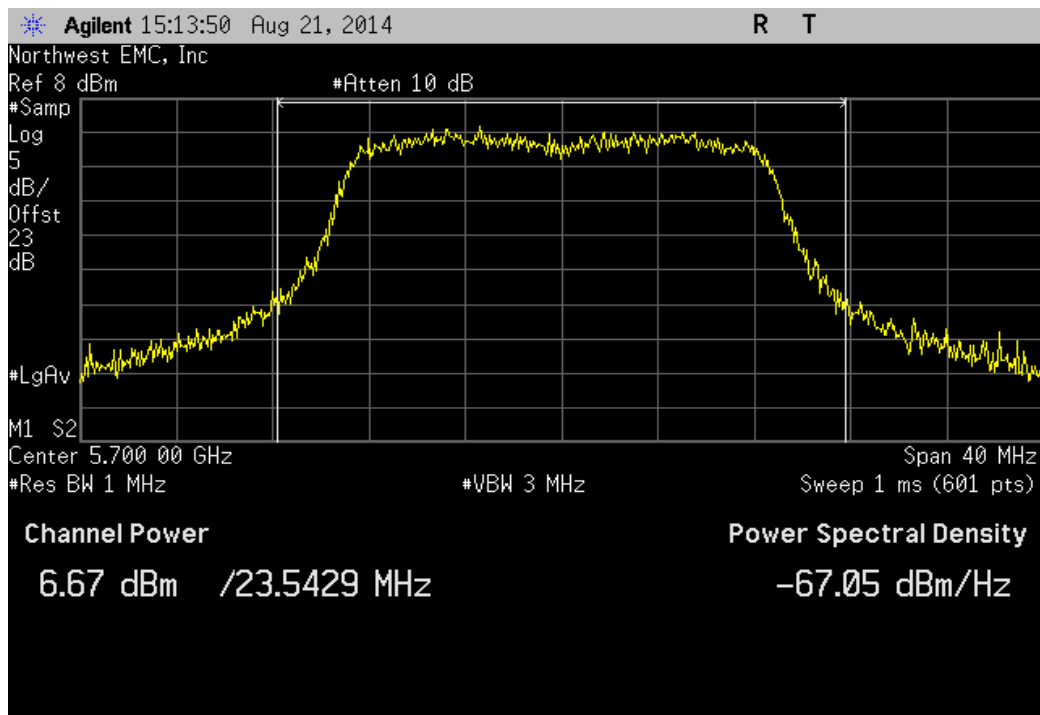
Port 2, 802.11(n) MCS7, Ch 116, Mid Channel 5580 MHz

Value	Limit (<)	Result
6.172 dBm	24 dBm	Pass



Port 2, 802.11(n) MCS7, Ch 140, High Channel 5700 MHz

Value	Limit (<)	Result
6.673 dBm	24 dBm	Pass



PEAK EXCURSION OF THE MODULATION ENVELOPE

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/28/2014	12

TEST DESCRIPTION

FCC KDB 789033 D01 General UNII Test Procedures Section F was followed to show that the ratio of the maximum peak-max-hold spectrum to the maximum of the average spectrum does not exceed 13 dBm.

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

The spectrum analyzer settings were as follows:

Span set to encompass the entire emission bandwidth (B), centered on the transmit channel.

Using the marker delta function, the largest difference between the following two traces was measured:

➤1st Trace: RBW = 1 MHz, VBW >= 3 MHz with peak detector and trace max-hold..

➤2nd Trace: The same procedure and settings as was used for peak power spectral density



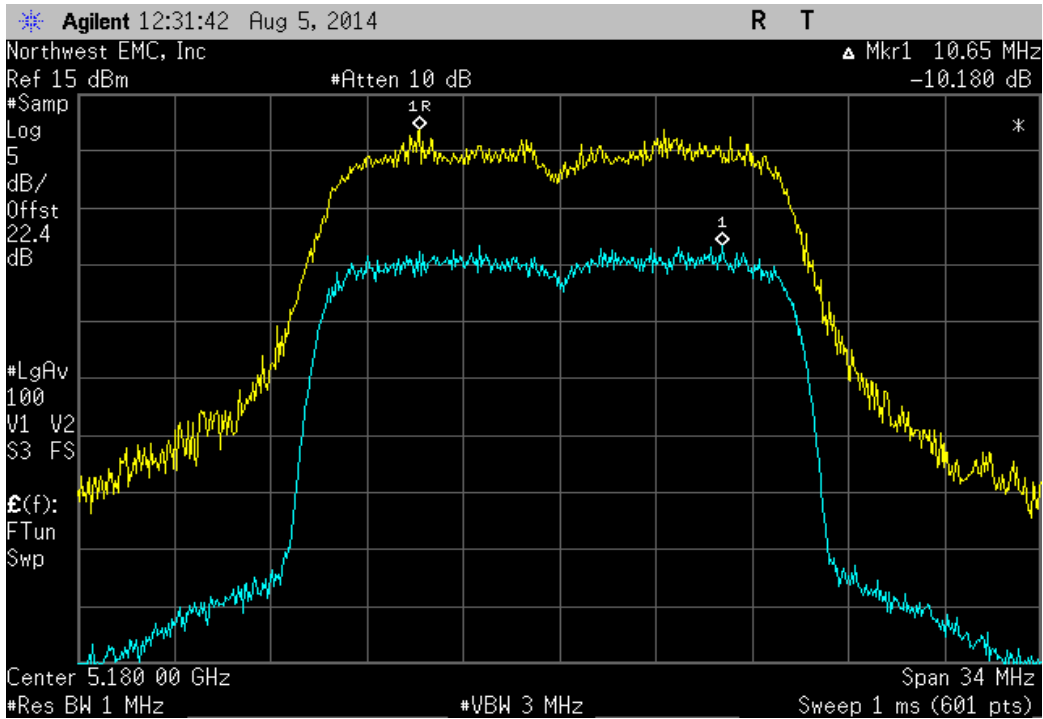
PEAK EXCURSION OF THE MODULATION ENVELOPE

XMit 2014.02.07
NweTx 2014.07.18.3

EUT: ConnectCore6 (i.MX6)		Work Order: ETHE0008	
Serial Number: 00409D7B8CA2		Date: 08/05/14	
Customer: Etherios Design Solutions		Temperature: 24.1°C	
Attendees: None		Humidity: 52%	
Project: None		Barometric Pres.: 1022.3	
Tested by: Trevor Buls		Power: 5.0VDC	
		Job Site: MN08	
TEST SPECIFICATIONS			
FCC 15.407:2014		Test Method	
		ANSI C63.10:2009	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
Configuration #	1	Signature <i>Trevor Buls</i>	
		Value (dB)	Limit ≤ (dB)
			Results
802.11(a) 6 Mbps			
5150 - 5250 MHz Band			
Channel 36, Low Channel		10.18	13
Channel 48, High Channel		10.459	13
5250 - 5350 MHz Band			
Channel 52, Low Channel		9.927	13
Channel 64, High Channel		10.136	13
5470 - 5725 MHz Band			
Channel 100, Low Channel		10.232	13
Channel 116, Mid Channel		9.991	13
Channel 140, High Channel		10.192	13
802.11(a) 36 Mbps			
5150 - 5250 MHz Band			
Channel 36, Low Channel		9.363	13
Channel 48, High Channel		9.099	13
5250 - 5350 MHz Band			
Channel 52, Low Channel		9.94	13
Channel 64, High Channel		9.032	13
5470 - 5725 MHz Band			
Channel 100, Low Channel		9.111	13
Channel 116, Mid Channel		9.456	13
Channel 140, High Channel		9.162	13
802.11(a) 54 Mbps			
5150 - 5250 MHz Band			
Channel 36, Low Channel		8.864	13
Channel 48, High Channel		8.988	13
5250 - 5350 MHz Band			
Channel 52, Low Channel		9.361	13
Channel 64, High Channel		8.928	13
5470 - 5725 MHz Band			
Channel 100, Low Channel		8.745	13
Channel 116, Mid Channel		8.635	13
Channel 140, High Channel		9.452	13
802.11(n) MCS0			
5150 - 5250 MHz Band			
Channel 36, Low Channel		10.625	13
Channel 48, High Channel		10.282	13
5250 - 5350 MHz Band			
Channel 52, Low Channel		9.731	13
Channel 64, High Channel		9.513	13
5470 - 5725 MHz Band			
Channel 100, Low Channel		10.005	13
Channel 116, Mid Channel		9.705	13
Channel 140, High Channel		9.583	13
802.11(n) MCS7			
5150 - 5250 MHz Band			
Channel 36, Low Channel		8.855	13
Channel 48, High Channel		9.519	13
5250 - 5350 MHz Band			
Channel 52, Low Channel		8.883	13
Channel 64, High Channel		9.423	13
5470 - 5725 MHz Band			
Channel 100, Low Channel		9.214	13
Channel 116, Mid Channel		9.127	13
Channel 140, High Channel		9.155	13

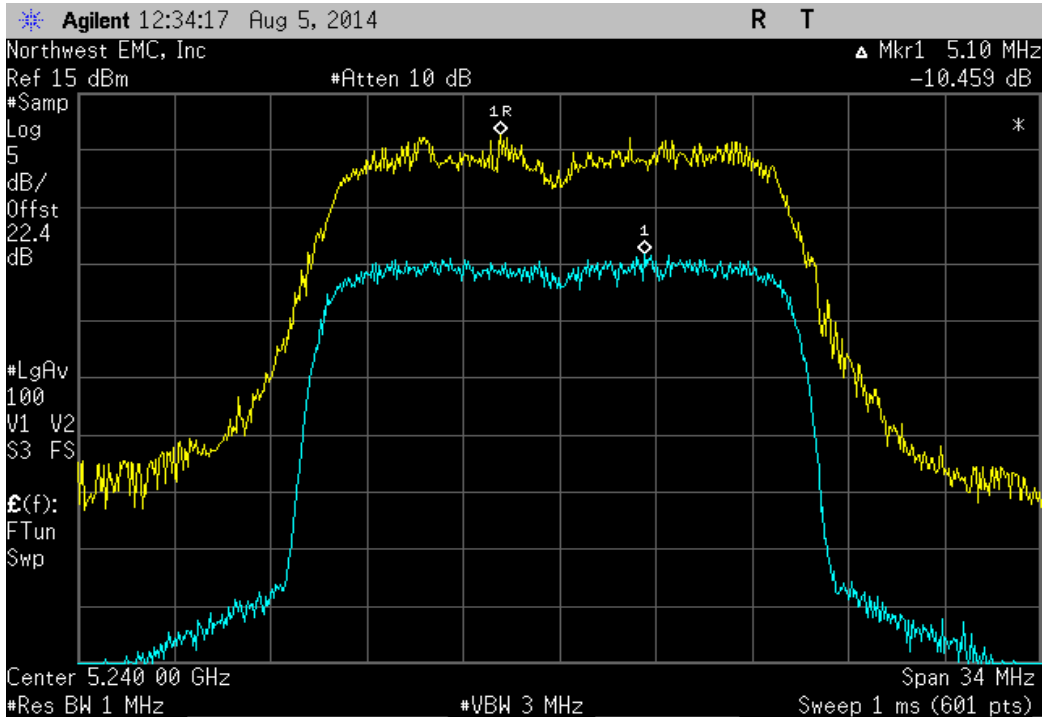
802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Value (dB)	Limit ≤ (dB)	Results
10.18	13	Pass



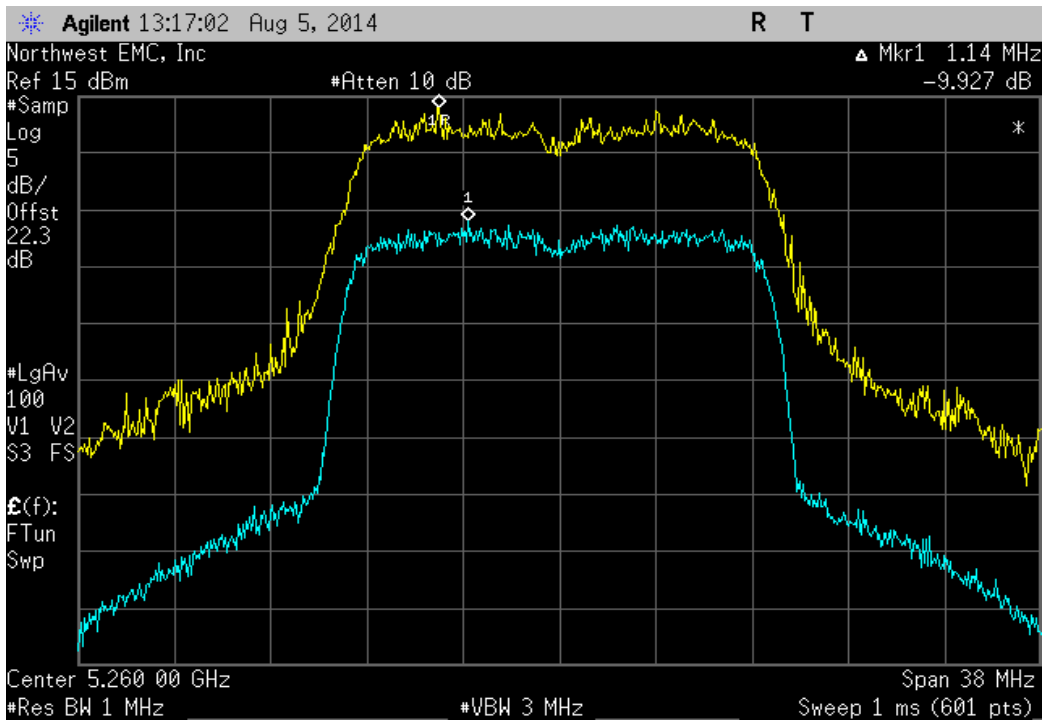
802.11(a) 6 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Value (dB)	Limit ≤ (dB)	Results
10.459	13	Pass



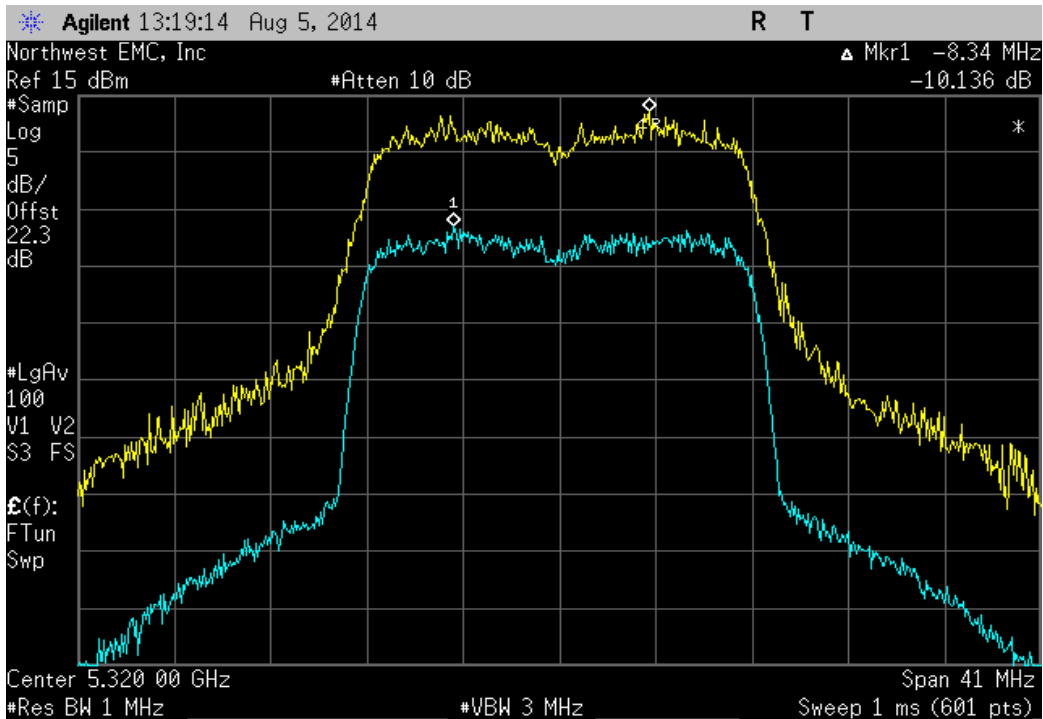
802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Value (dB)	Limit ≤ (dB)	Results
9.927	13	Pass



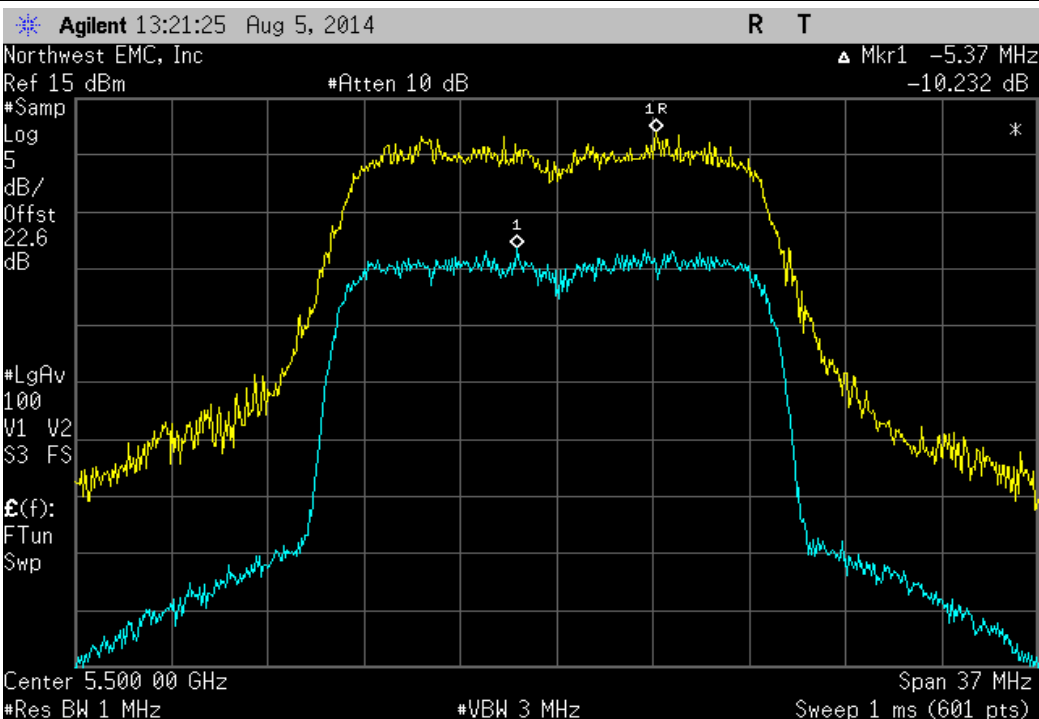
802.11(a) 6 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Value (dB)	Limit ≤ (dB)	Results
10.136	13	Pass



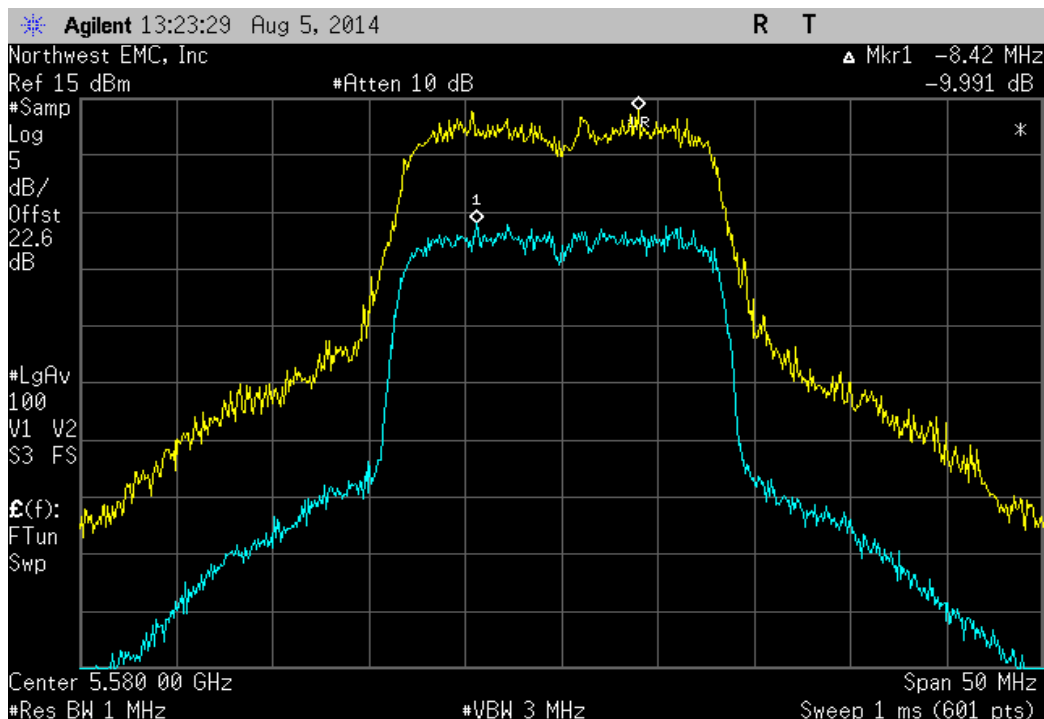
802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Value (dB)	Limit ≤ (dB)	Results
10.232	13	Pass



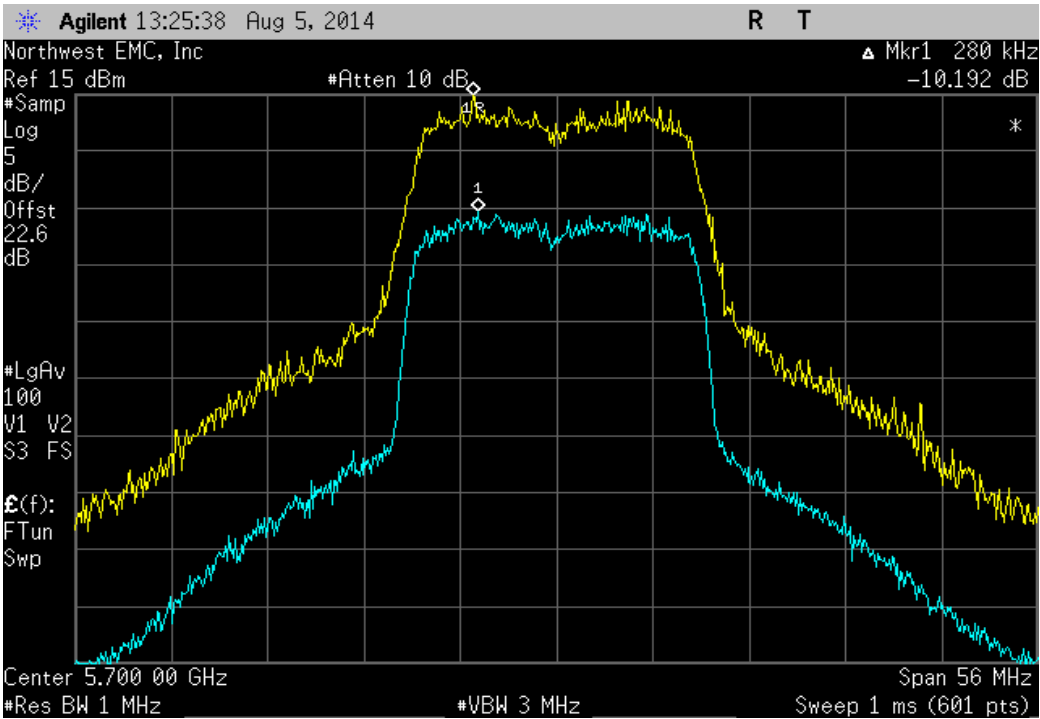
802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel

Value (dB)	Limit ≤ (dB)	Results
9.991	13	Pass



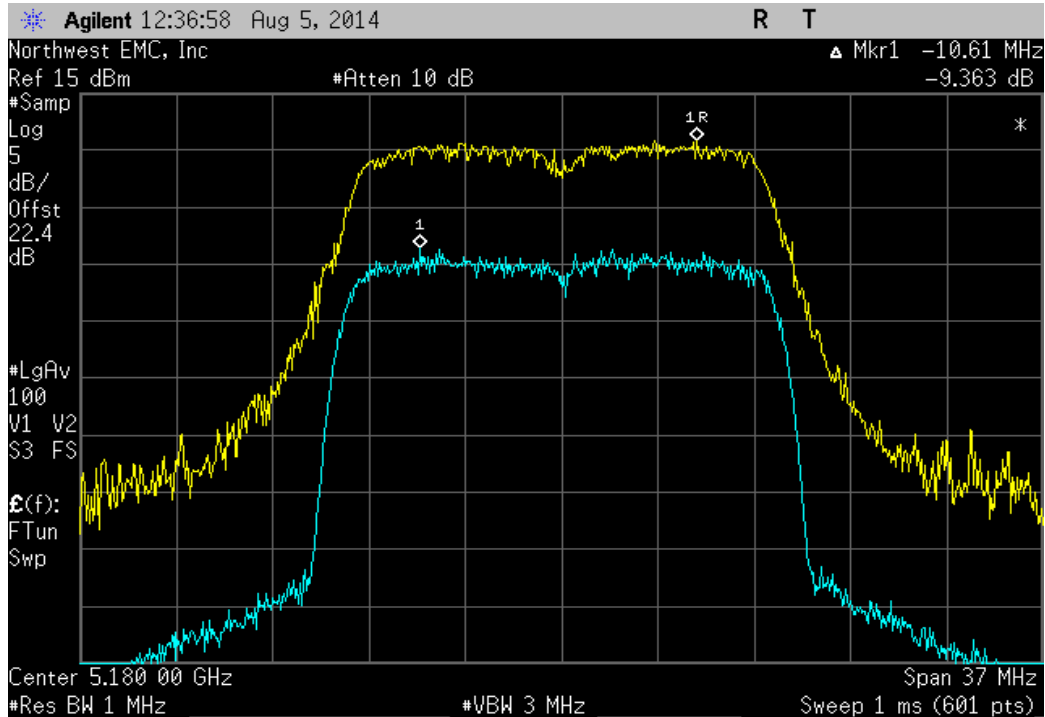
802.11(a) 6 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Value (dB)	Limit ≤ (dB)	Results
10.192	13	Pass



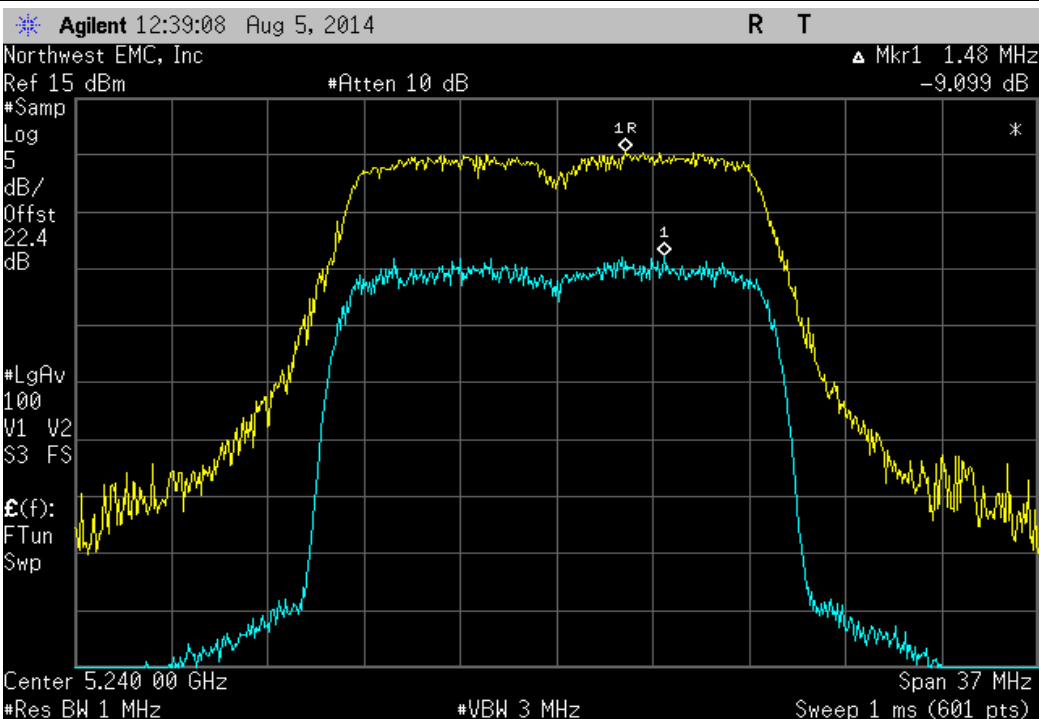
802.11(a) 36 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Value (dB)	Limit ≤ (dB)	Results
9.363	13	Pass



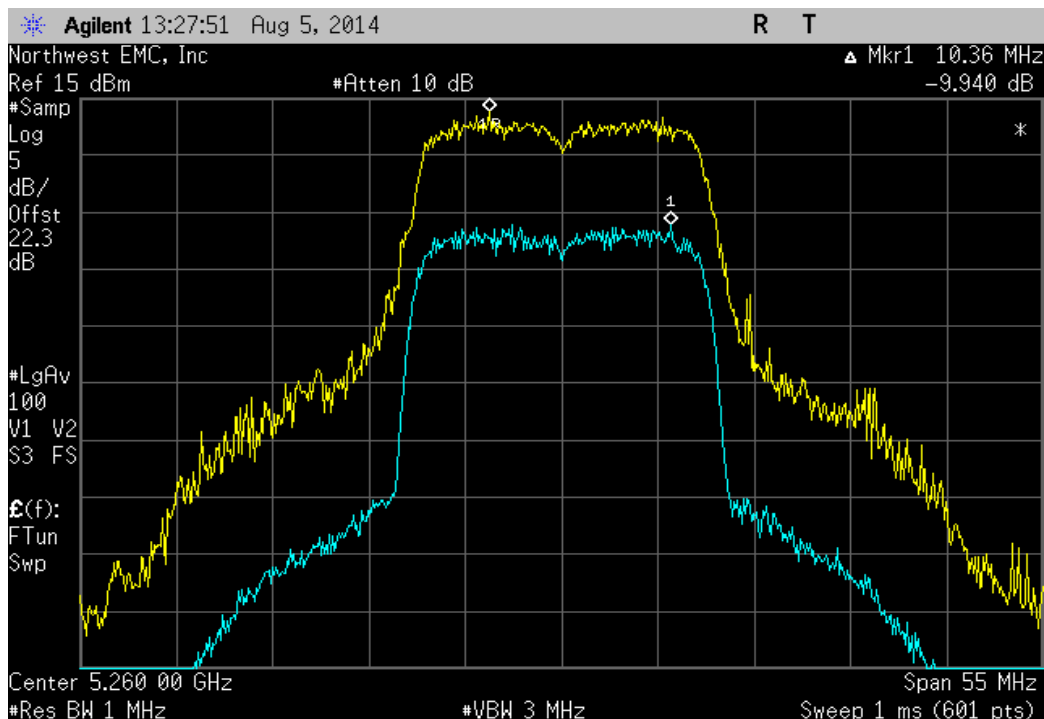
802.11(a) 36 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Value (dB)	Limit ≤ (dB)	Results
9.099	13	Pass



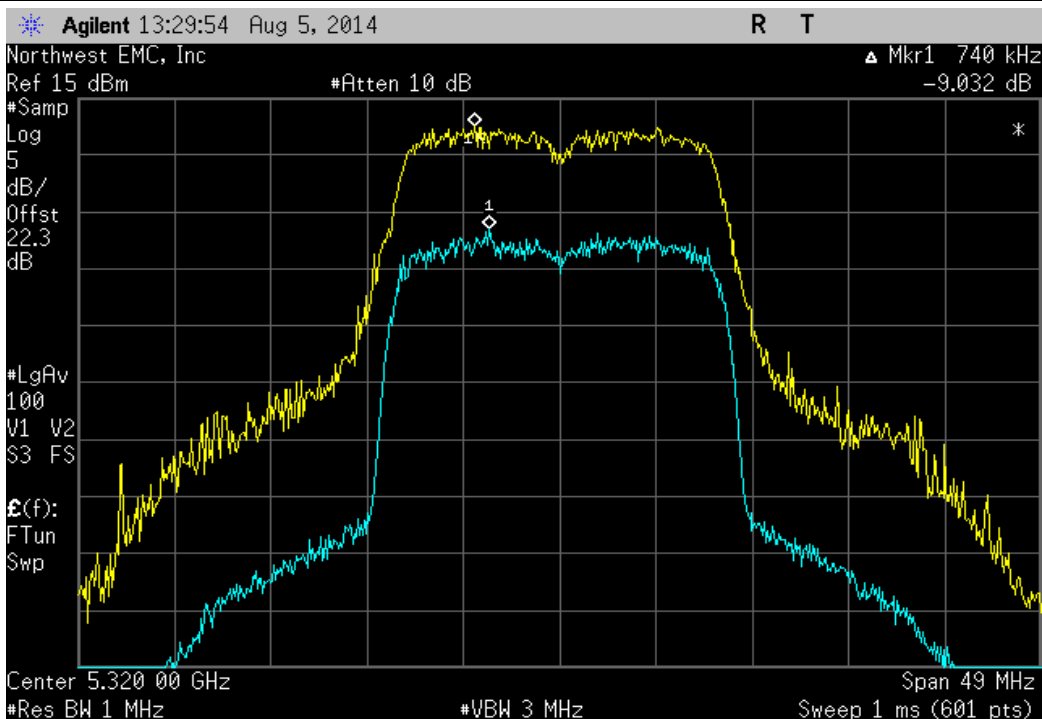
802.11(a) 36 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Value (dB)	Limit ≤ (dB)	Results
9.94	13	Pass



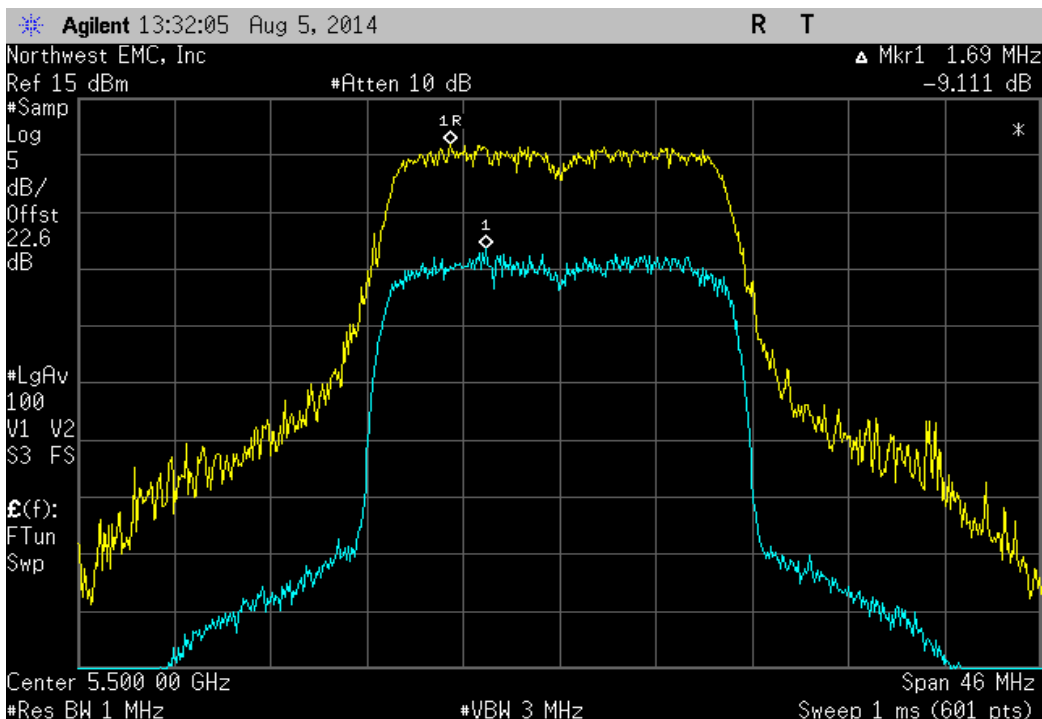
802.11(a) 36 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Value (dB)	Limit ≤ (dB)	Results
9.032	13	Pass



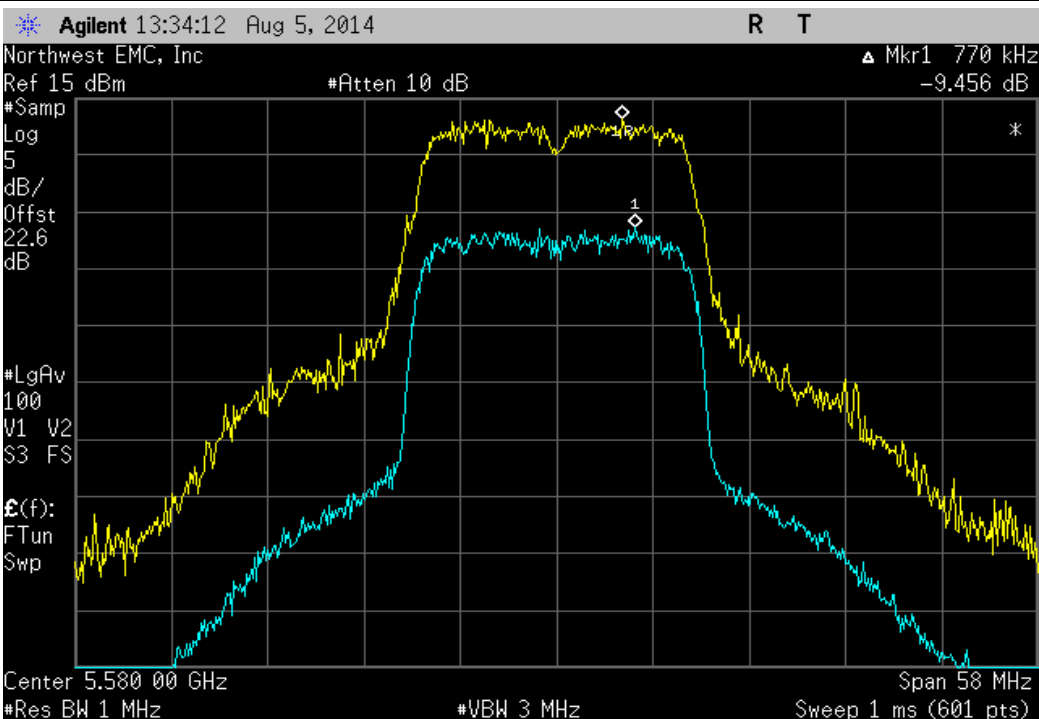
802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Value (dB)	Limit ≤ (dB)	Results
9.111	13	Pass



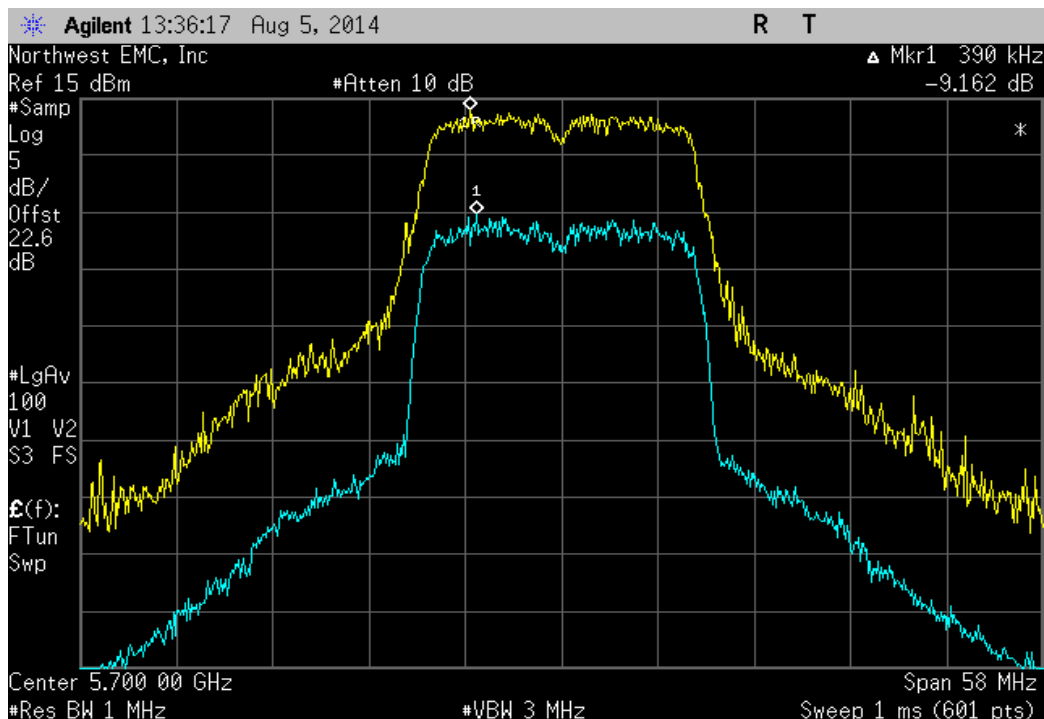
802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel

Value (dB)	Limit ≤ (dB)	Results
9.456	13	Pass



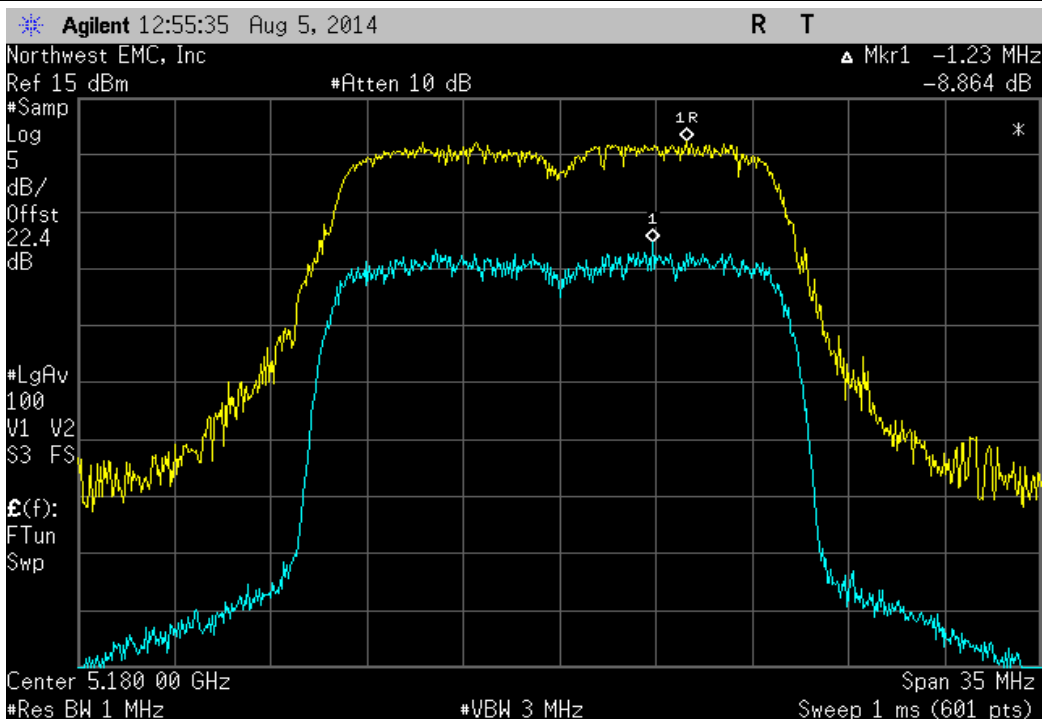
802.11(a) 36 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Value (dB)	Limit ≤ (dB)	Results
9.162	13	Pass



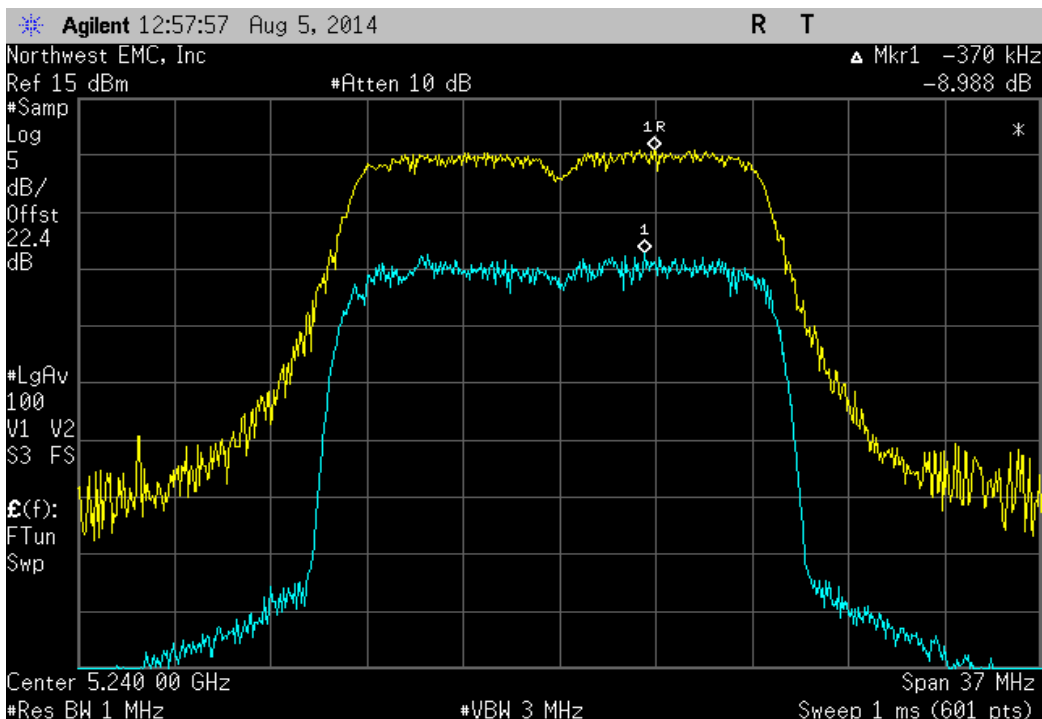
802.11(a) 54 Mbps, 5150 - 5250 MHz Band, Channel 36, Low Channel

Value (dB)	Limit ≤ (dB)	Results
8.864	13	Pass



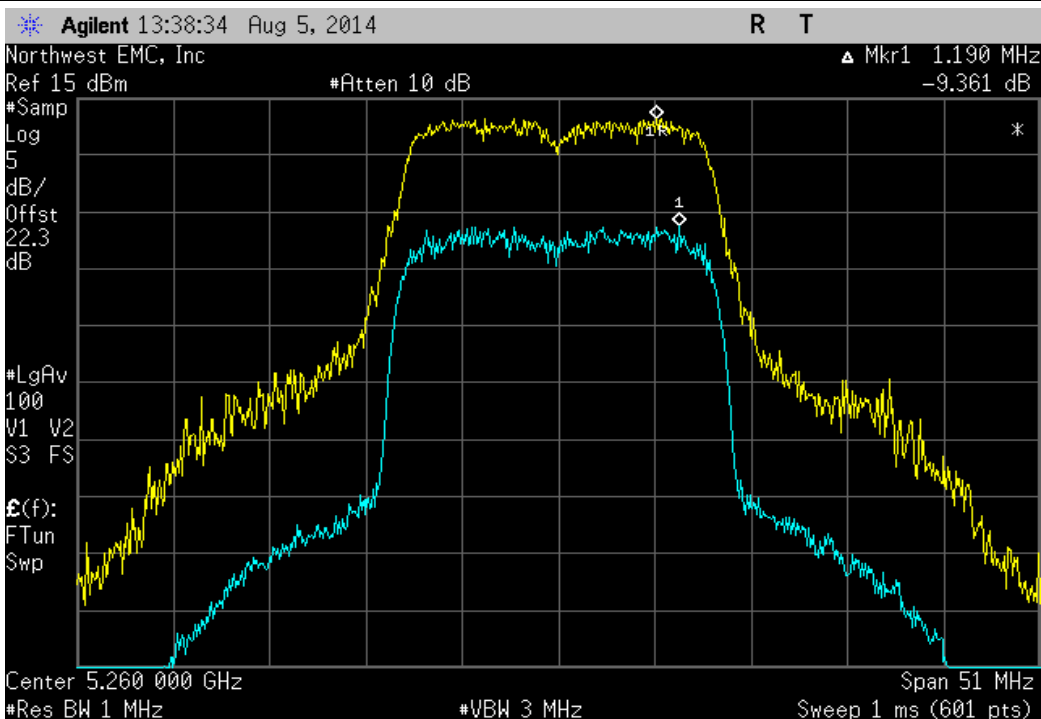
802.11(a) 54 Mbps, 5150 - 5250 MHz Band, Channel 48, High Channel

Value (dB)	Limit ≤ (dB)	Results
8.988	13	Pass



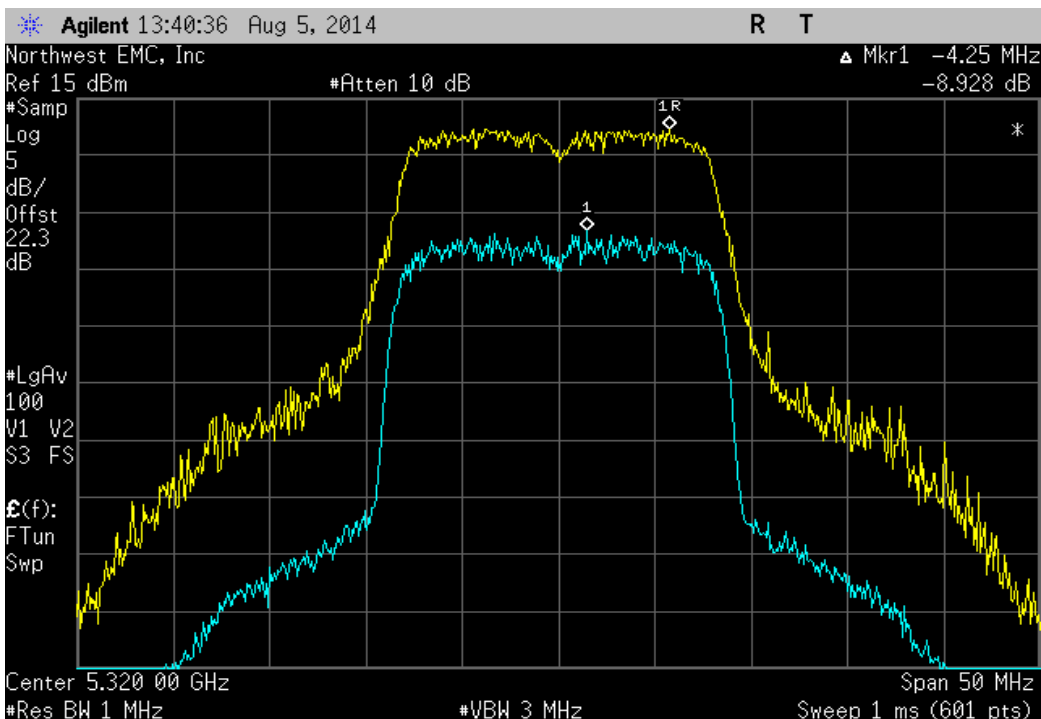
802.11(a) 54 Mbps, 5250 - 5350 MHz Band, Channel 52, Low Channel

Value (dB)	Limit ≤ (dB)	Results
9.361	13	Pass



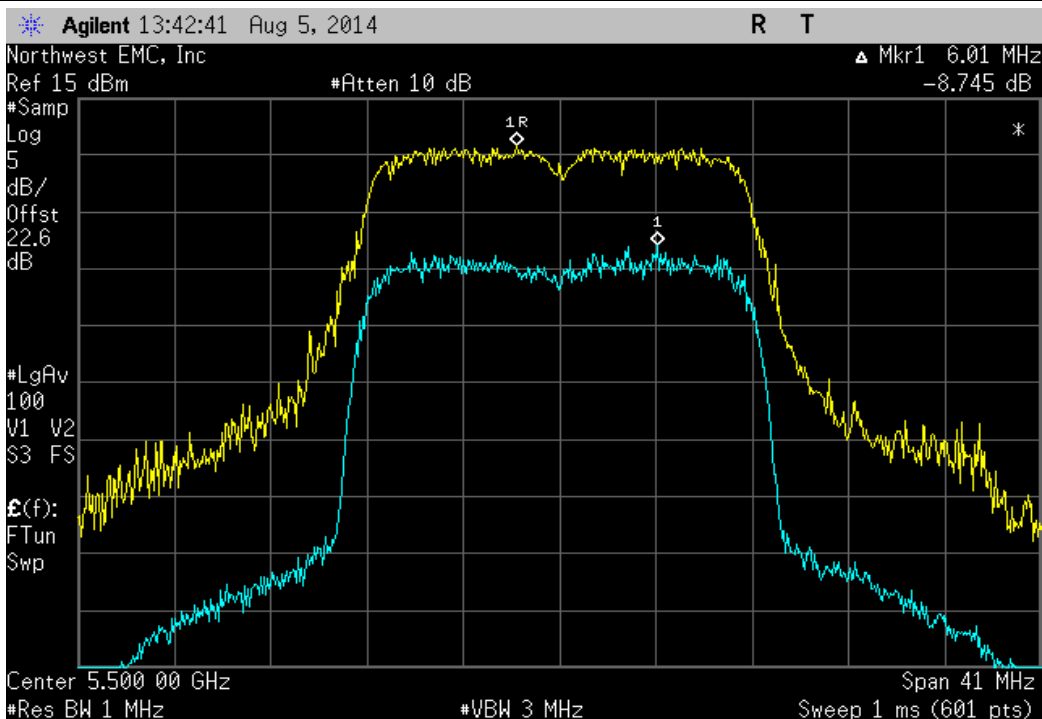
802.11(a) 54 Mbps, 5250 - 5350 MHz Band, Channel 64, High Channel

Value (dB)	Limit ≤ (dB)	Results
8.928	13	Pass



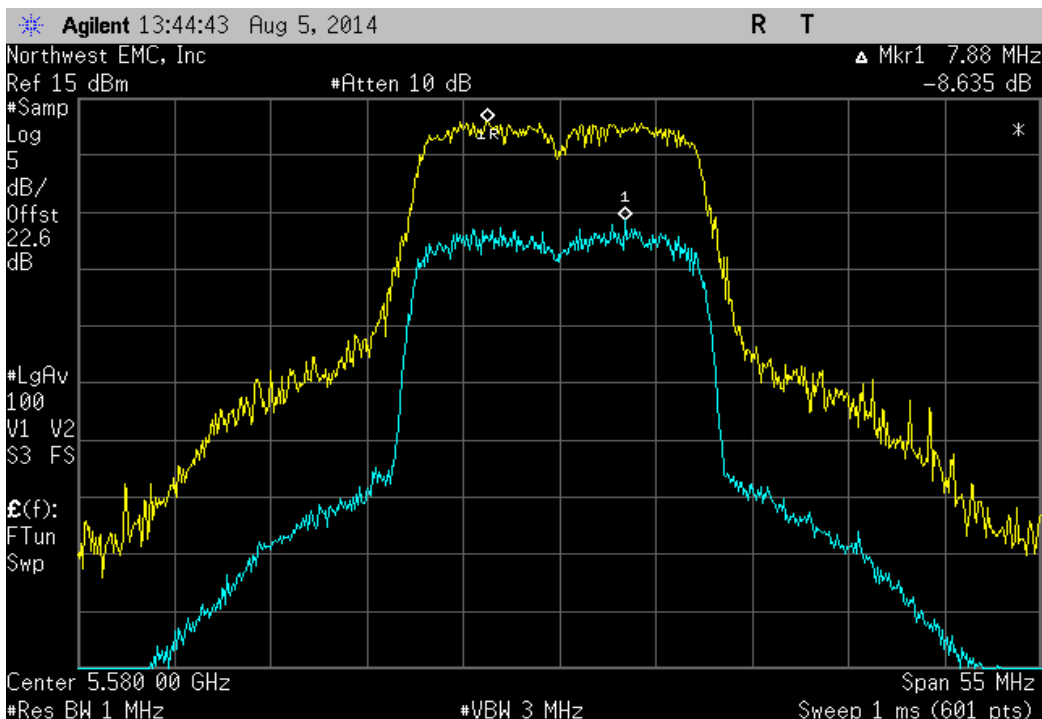
802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 100, Low Channel

Value (dB)	Limit ≤ (dB)	Results
8.745	13	Pass



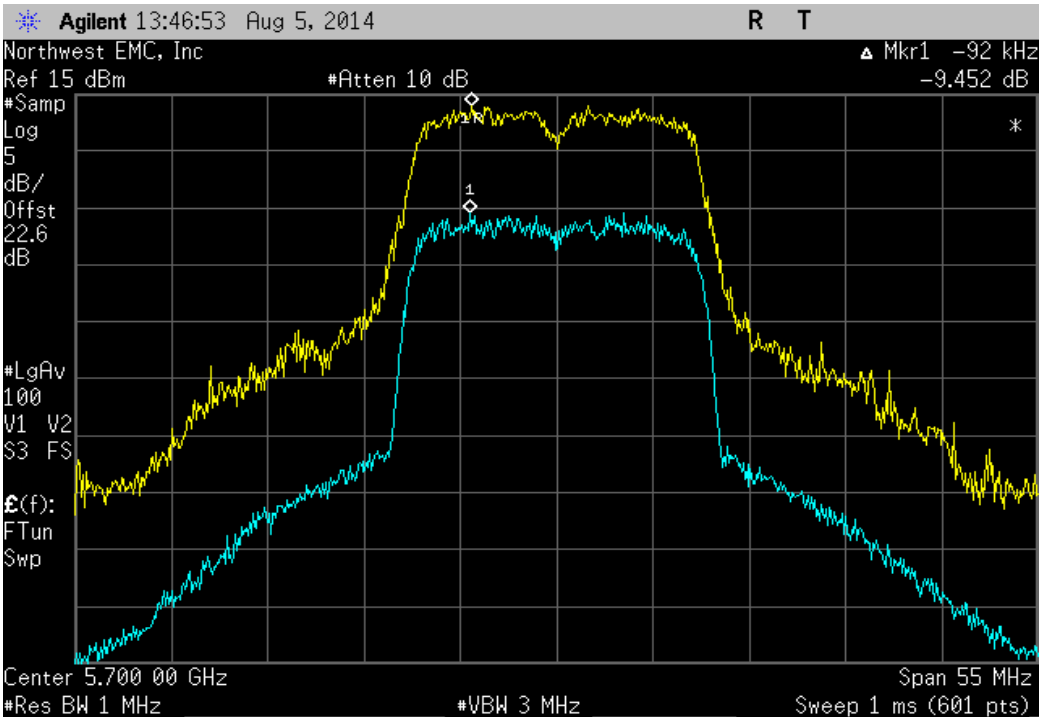
802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 116, Mid Channel

Value (dB)	Limit ≤ (dB)	Results
8.635	13	Pass



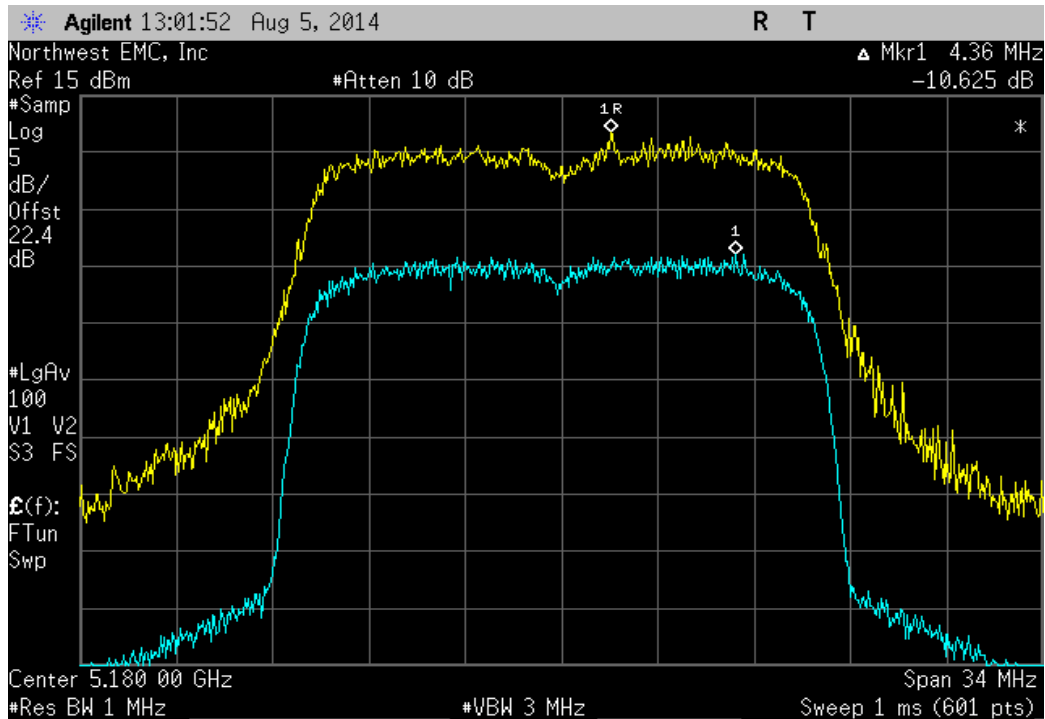
802.11(a) 54 Mbps, 5470 - 5725 MHz Band, Channel 140, High Channel

Value (dB)	Limit ≤ (dB)	Results
9.452	13	Pass



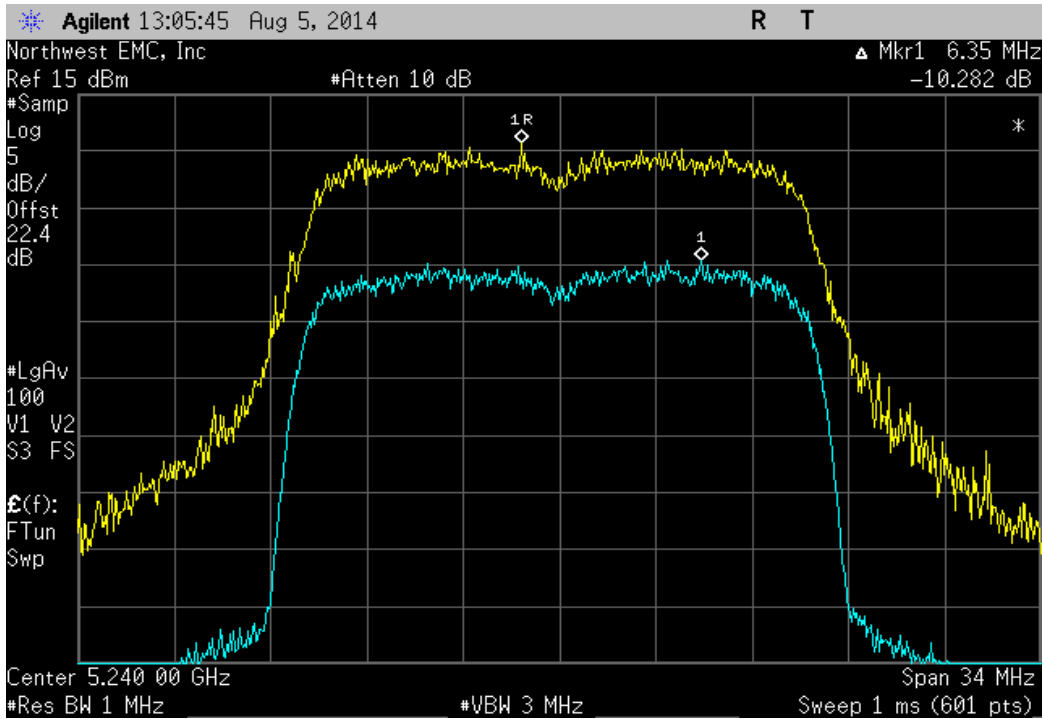
802.11(n) MCS0, 5150 - 5250 MHz Band, Channel 36, Low Channel

Value (dB)	Limit ≤ (dB)	Results
10.625	13	Pass



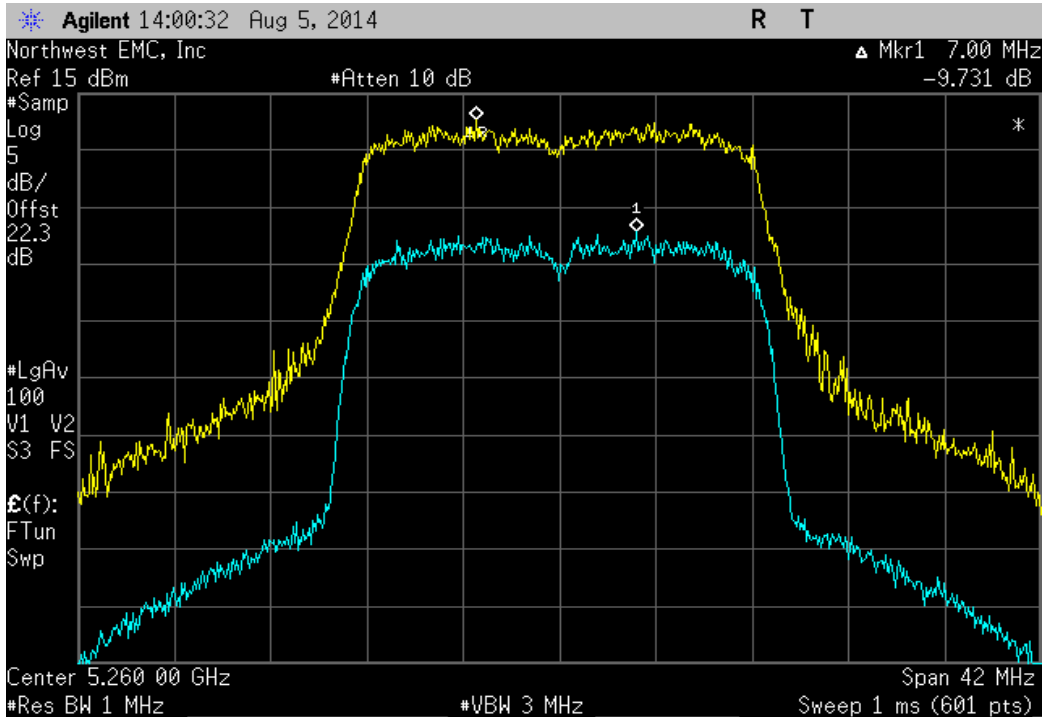
802.11(n) MCS0, 5150 - 5250 MHz Band, Channel 48, High Channel

Value (dB)	Limit ≤ (dB)	Results
10.282	13	Pass



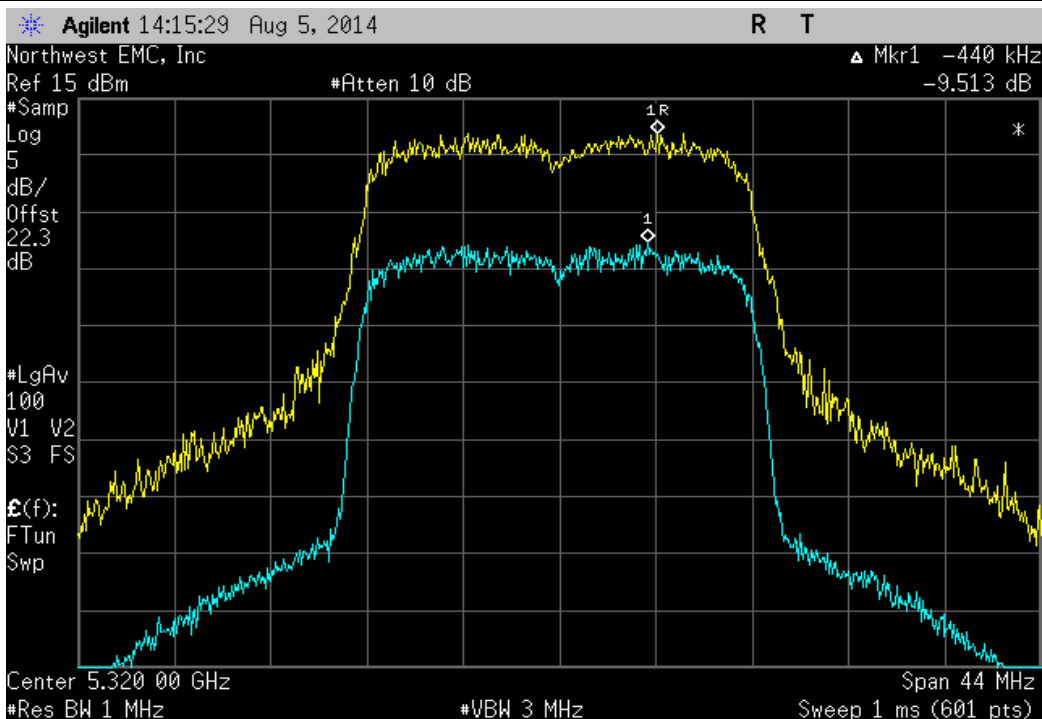
802.11(n) MCS0, 5250 - 5350 MHz Band, Channel 52, Low Channel

Value (dB)	Limit ≤ (dB)	Results
9.731	13	Pass



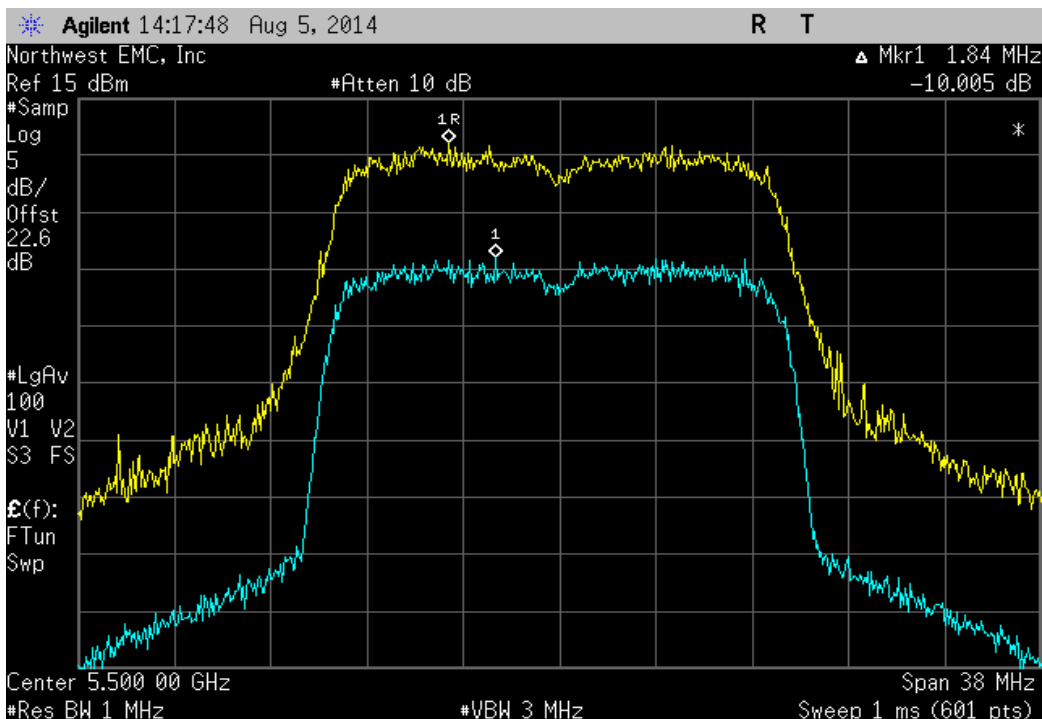
802.11(n) MCS0, 5250 - 5350 MHz Band, Channel 64, High Channel

Value (dB)	Limit ≤ (dB)	Results
9.513	13	Pass



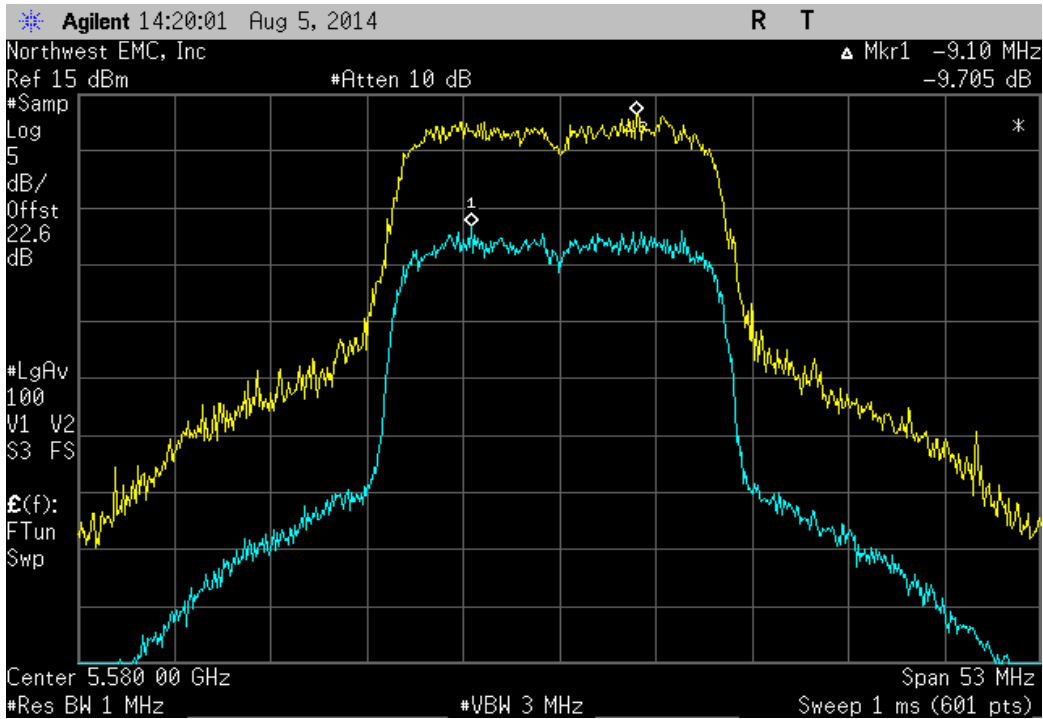
802.11(n) MCS0, 5470 - 5725 MHz Band, Channel 100, Low Channel

Value (dB)	Limit ≤ (dB)	Results
10.005	13	Pass



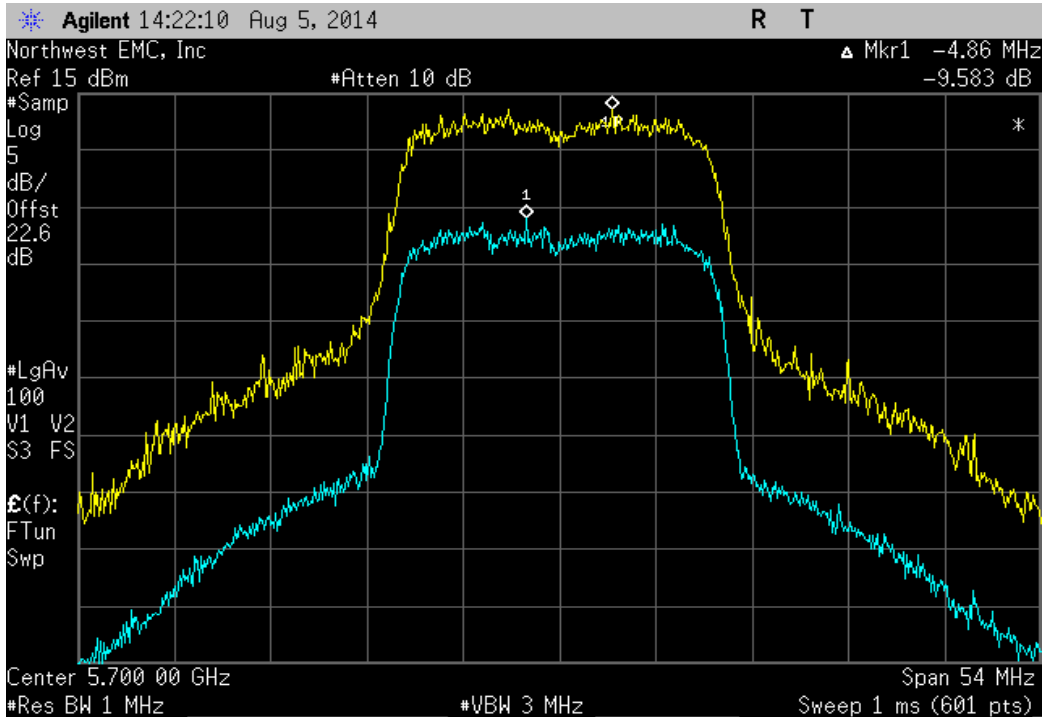
802.11(n) MCS0, 5470 - 5725 MHz Band, Channel 116, Mid Channel

Value (dB)	Limit ≤ (dB)	Results
9.705	13	Pass



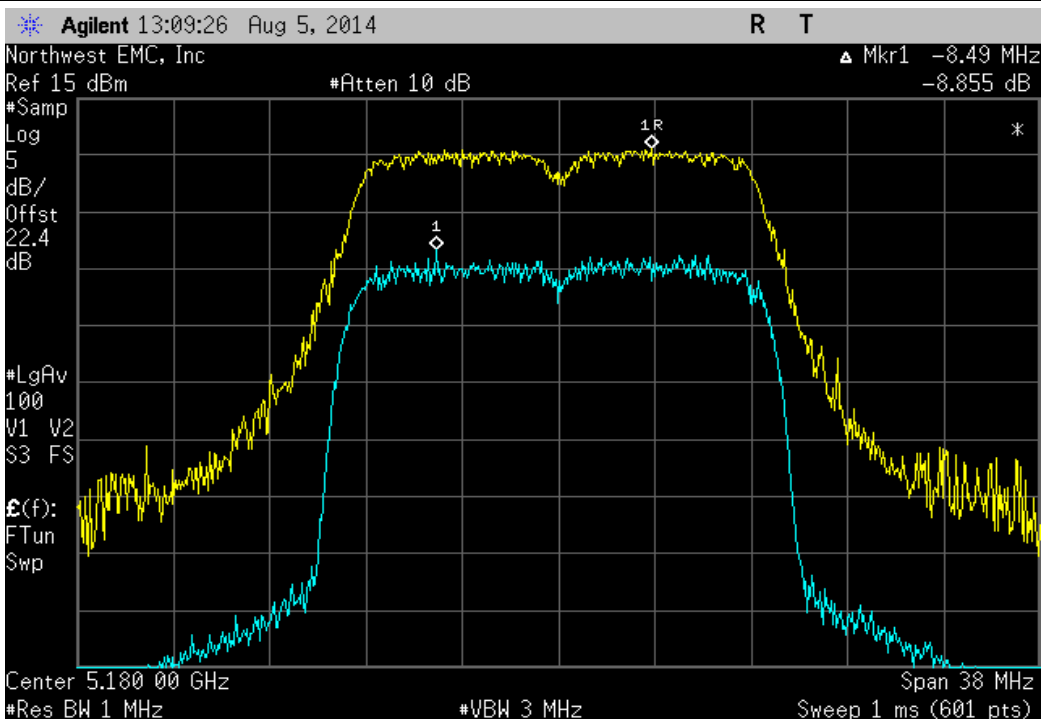
802.11(n) MCS0, 5470 - 5725 MHz Band, Channel 140, High Channel

Value (dB)	Limit ≤ (dB)	Results
9.583	13	Pass



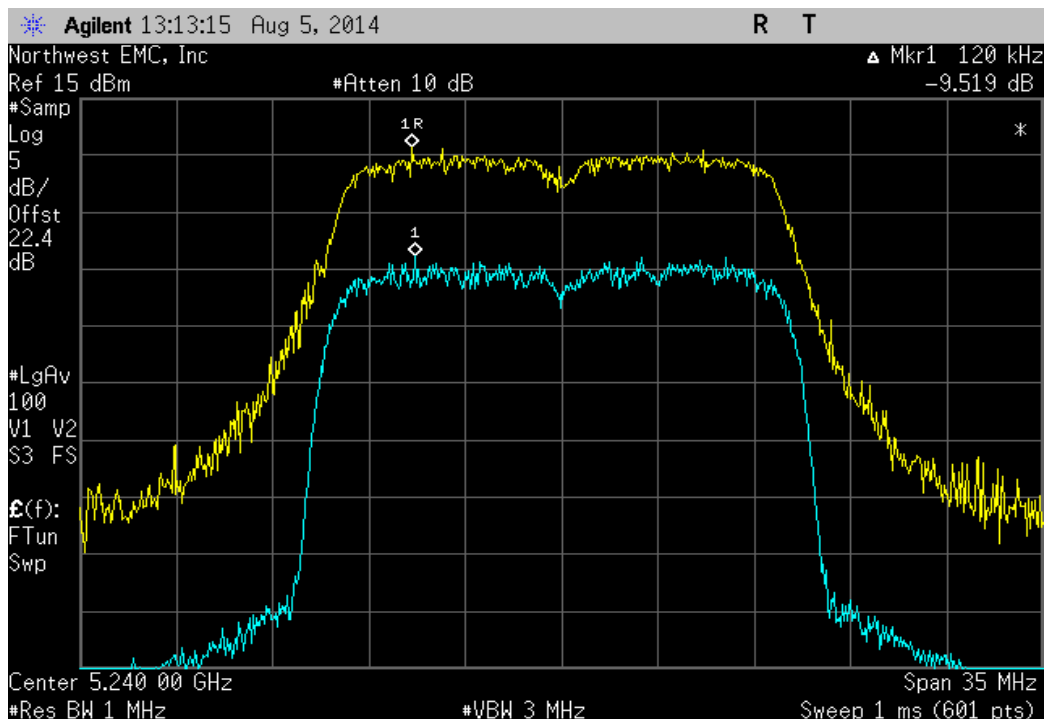
802.11(n) MCS7, 5150 - 5250 MHz Band, Channel 36, Low Channel

Value (dB)	Limit ≤ (dB)	Results
8.855	13	Pass



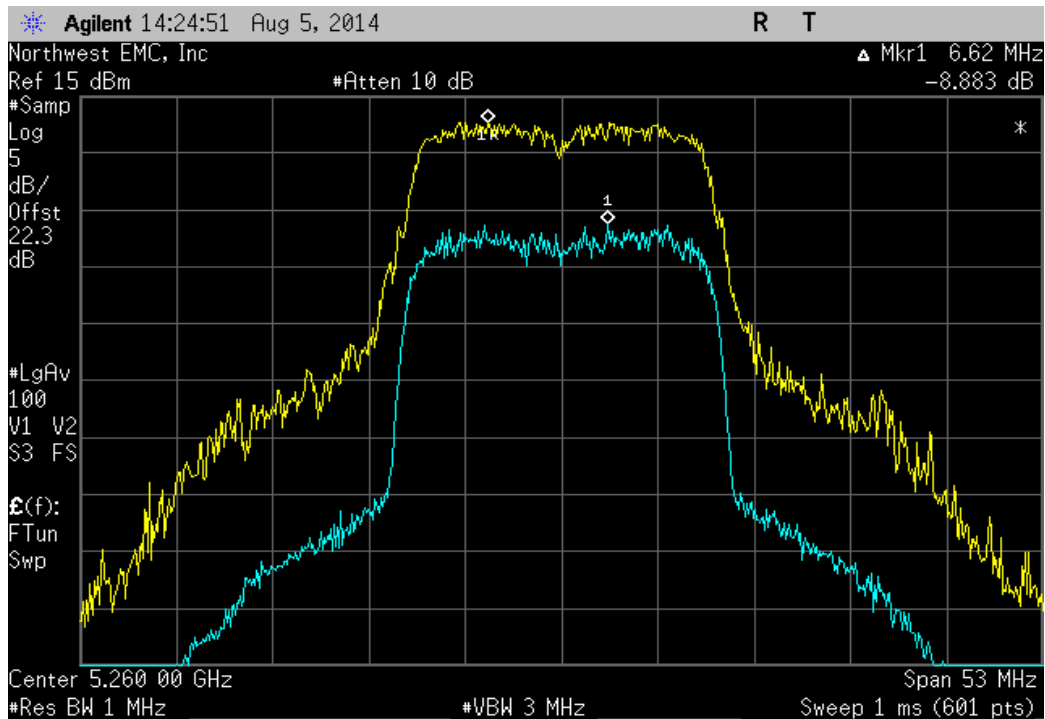
802.11(n) MCS7, 5150 - 5250 MHz Band, Channel 48, High Channel

Value (dB)	Limit ≤ (dB)	Results
9.519	13	Pass



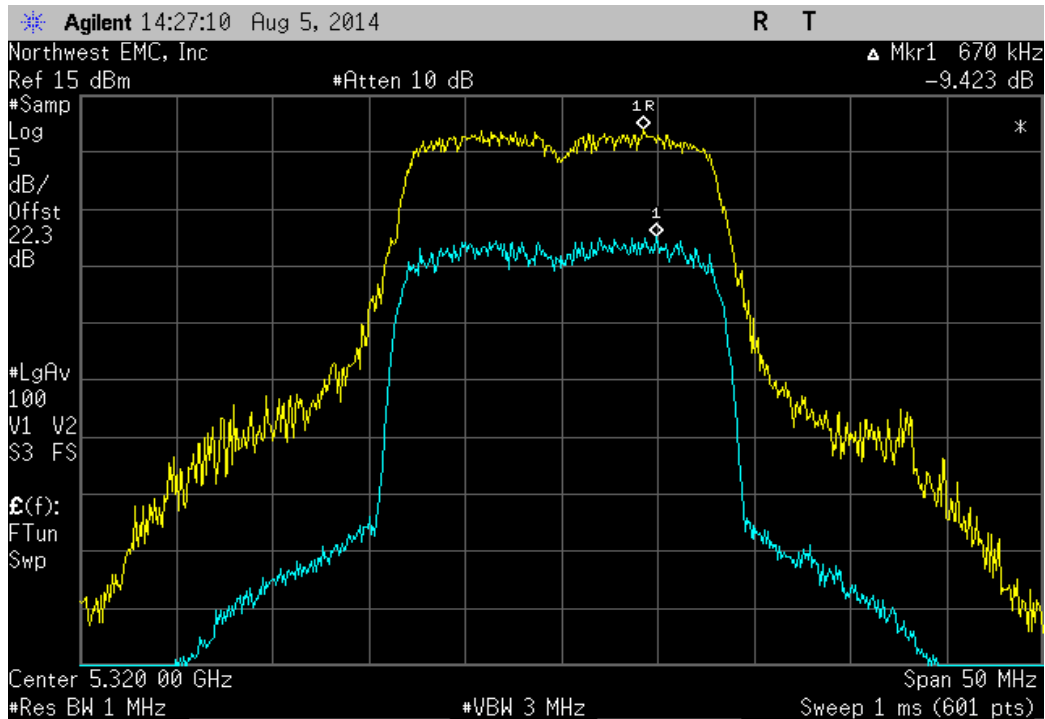
802.11(n) MCS7, 5250 - 5350 MHz Band, Channel 52, Low Channel

Value (dB)	Limit ≤ (dB)	Results
8.883	13	Pass



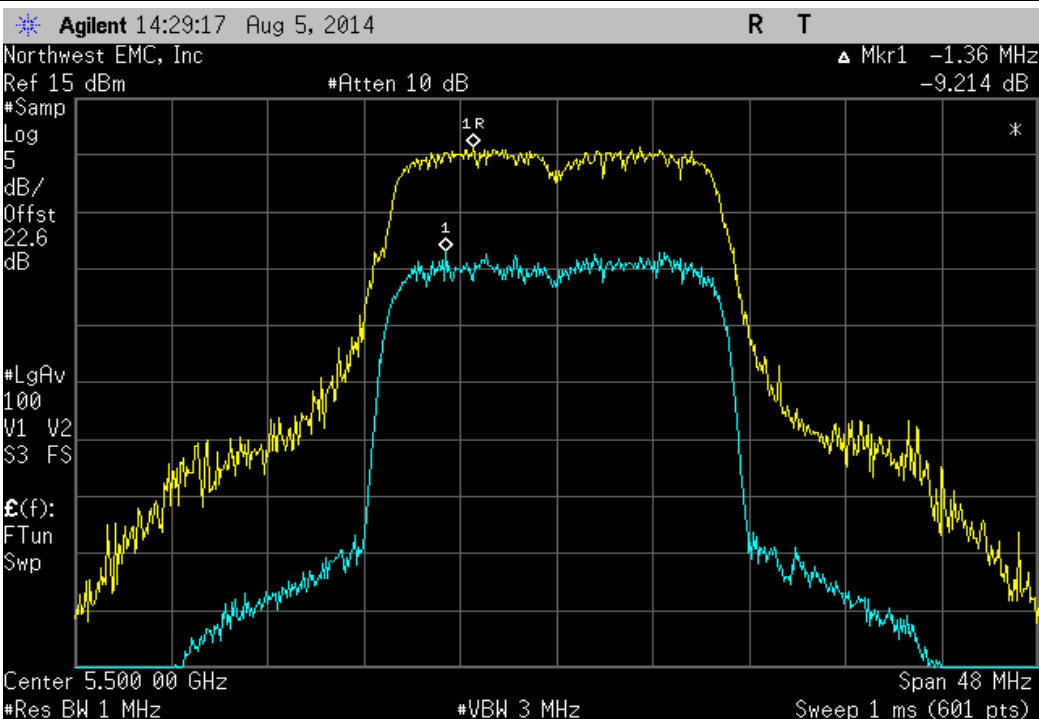
802.11(n) MCS7, 5250 - 5350 MHz Band, Channel 64, High Channel

Value (dB)	Limit ≤ (dB)	Results
9.423	13	Pass



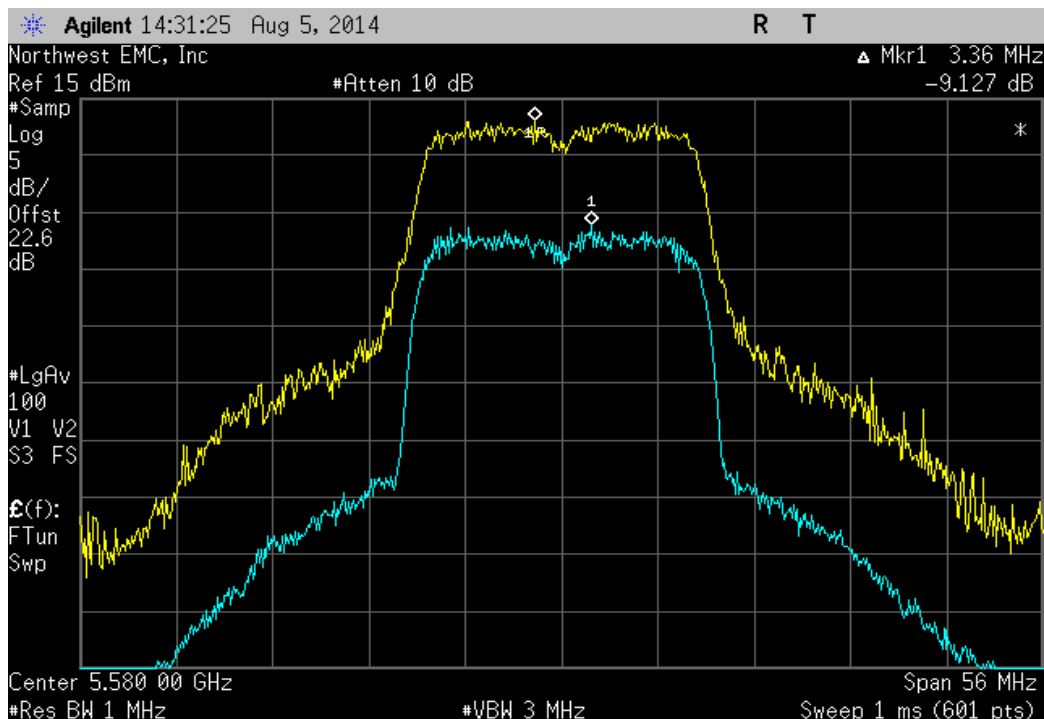
802.11(n) MCS7, 5470 - 5725 MHz Band, Channel 100, Low Channel

Value (dB)	Limit ≤ (dB)	Results
9.214	13	Pass



802.11(n) MCS7, 5470 - 5725 MHz Band, Channel 116, Mid Channel

Value (dB)	Limit ≤ (dB)	Results
9.127	13	Pass

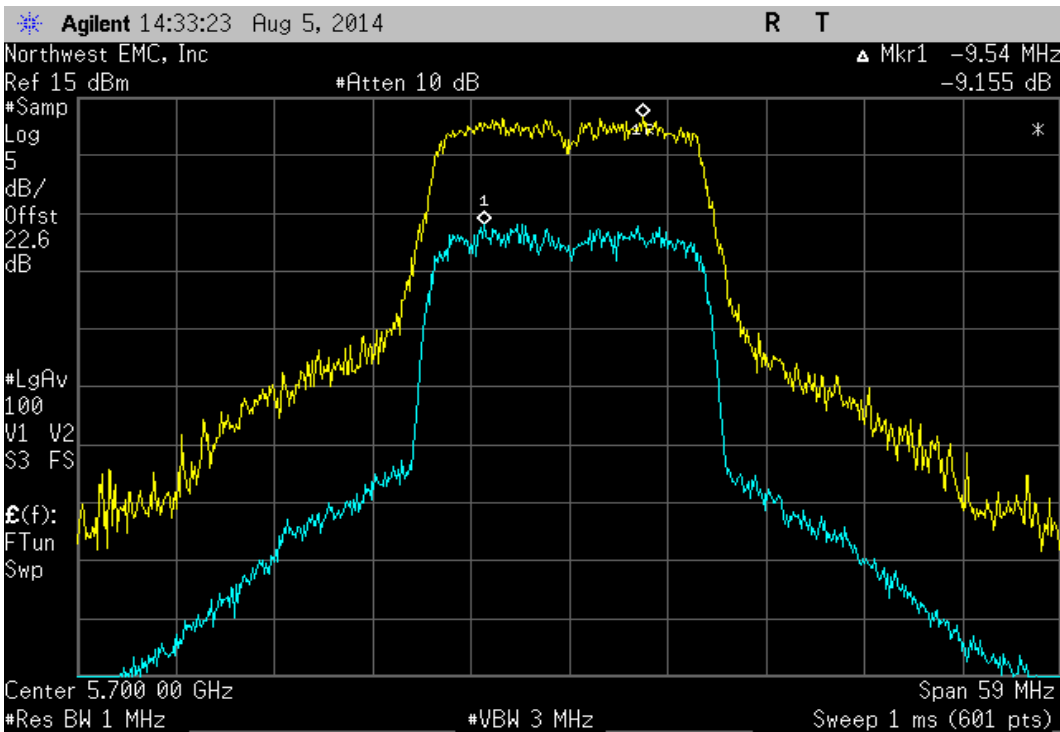




PEAK EXCURSION OF THE MODULATION
ENVELOPE

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802.11(n) MCS7, 5470 - 5725 MHz Band, Channel 140, High Channel						
				Value (dB)	Limit ≤ (dB)	Results
				9.155	13	Pass



PEAK POWER SPECTRAL DENSITY

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval (mo)
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/28/2014	12

TEST DESCRIPTION

FCC KDB 789033 D01 General UNII Test Procedures Section E was followed. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. The data rate(s) listed in the datasheet were tested. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

Prior to measuring peak power spectral density, the transmission pulse duration (T) was measured. The transmission pulse duration and the associated data are found elsewhere in this test report.

The spectrum analyzer settings were as follows:

- The span was set to encompass entire emission bandwidth (B), centered on the transmit channel.
- RBW = 1 MHz, VBW ≥ 3 MHz
- Sample detector was used because Method SA-1 Alternate was used to measure the Maximum Conducted Output Power.
- Trace average 100 traces in power averaging mode (not video averaging).

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



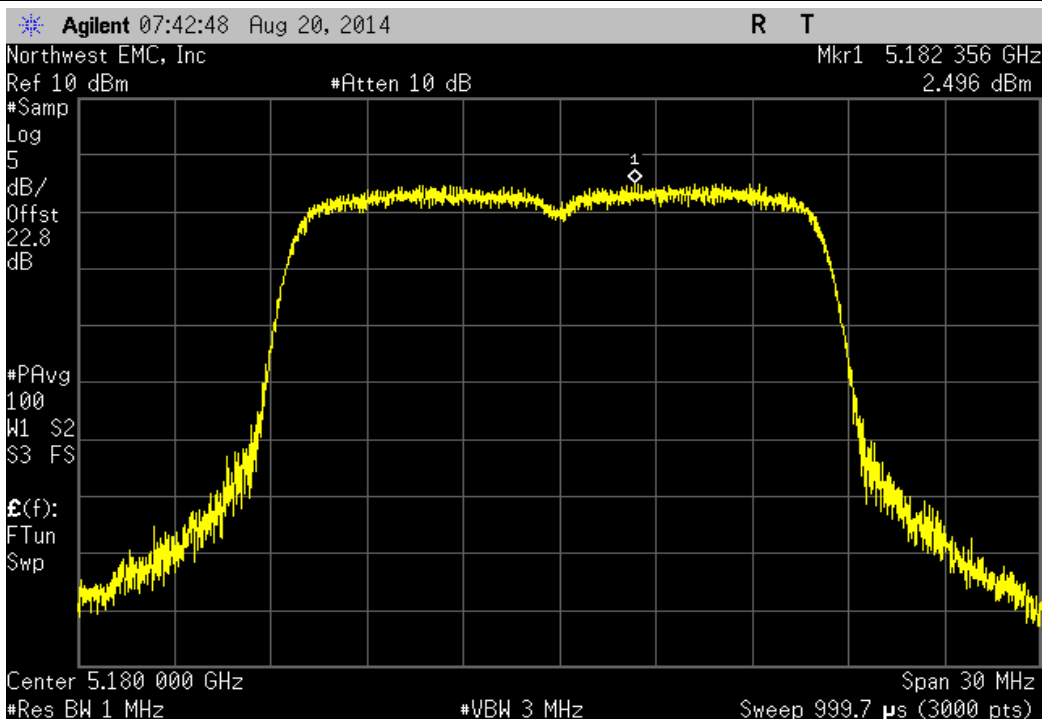
PEAK POWER SPECTRAL DENSITY

XMit 2014.02.07
NweTx 2014.07.18.3

EUT: ConnectCore6 (i.MX6)		Work Order: ETHE0008		
Serial Number: 00409D7B8CA2		Date: 08/21/14		
Customer: Etherios Design Solutions		Temperature: 23.3°C		
Attendees: None		Humidity: 58%		
Project: None		Barometric Pres.: 1010.8		
Tested by: Trevor Buls		Power: 5.0VDC		
Job Site: MN08		Test Method		
FCC 15.407:2014		ANSI C63.10:2009		
COMMENTS				
None				
DEVIATIONS FROM TEST STANDARD				
None				
Configuration #	1	Signature <i>Trevor Buls</i>		
		Value (dBm / MHz)	Limit (dBm / MHz)	Results
Port 1				
802.11(a) 6 Mbps				
Ch 36, Low Channel 5180 MHz		2.496	4	Pass
Ch 48, High Channel 5240 MHz		2.517	4	Pass
Ch 52, Low Channel 5260 MHz		0.809	11	Pass
Ch 64, High Channel 5320 MHz		0.302	11	Pass
Ch 100, Low Channel 5500 MHz		-6.268	11	Pass
Ch 116, Mid Channel 5580 MHz		-2.656	11	Pass
Ch 140, High Channel 5700 MHz		-1.422	11	Pass
802.11(a) 36 Mbps				
Ch 36, Low Channel 5180 MHz		2.227	4	Pass
Ch 48, High Channel 5240 MHz		1.898	4	Pass
Ch 52, Low Channel 5260 MHz		1.025	11	Pass
Ch 64, High Channel 5320 MHz		0.504	11	Pass
Ch 100, Low Channel 5500 MHz		-6.218	11	Pass
Ch 116, Mid Channel 5580 MHz		-2.576	11	Pass
Ch 140, High Channel 5700 MHz		-2.036	11	Pass
802.11(a) 54 Mbps				
Ch 36, Low Channel 5180 MHz		0.3	4	Pass
Ch 48, High Channel 5240 MHz		-0.115	4	Pass
Ch 52, Low Channel 5260 MHz		0.669	11	Pass
Ch 64, High Channel 5320 MHz		0.275	11	Pass
Ch 100, Low Channel 5500 MHz		-5.93	11	Pass
Ch 116, Mid Channel 5580 MHz		-4.557	11	Pass
Ch 140, High Channel 5700 MHz		-3.294	11	Pass
802.11(n) MCS0				
Ch 36, Low Channel 5180 MHz		1.38	4	Pass
Ch 48, High Channel 5240 MHz		0.634	4	Pass
Ch 52, Low Channel 5260 MHz		-0.281	11	Pass
Ch 64, High Channel 5320 MHz		-0.834	11	Pass
Ch 100, Low Channel 5500 MHz		-6.894	11	Pass
Ch 116, Mid Channel 5580 MHz		-3.113	11	Pass
Ch 140, High Channel 5700 MHz		-2.419	11	Pass
802.11(n) MCS7				
Ch 36, Low Channel 5180 MHz		-1.332	4	Pass
Ch 48, High Channel 5240 MHz		-1.953	4	Pass
Ch 52, Low Channel 5260 MHz		-1.127	11	Pass
Ch 64, High Channel 5320 MHz		-2.036	11	Pass
Ch 100, Low Channel 5500 MHz		-6.977	11	Pass
Ch 116, Mid Channel 5580 MHz		-3.767	11	Pass
Ch 140, High Channel 5700 MHz		-2.929	11	Pass

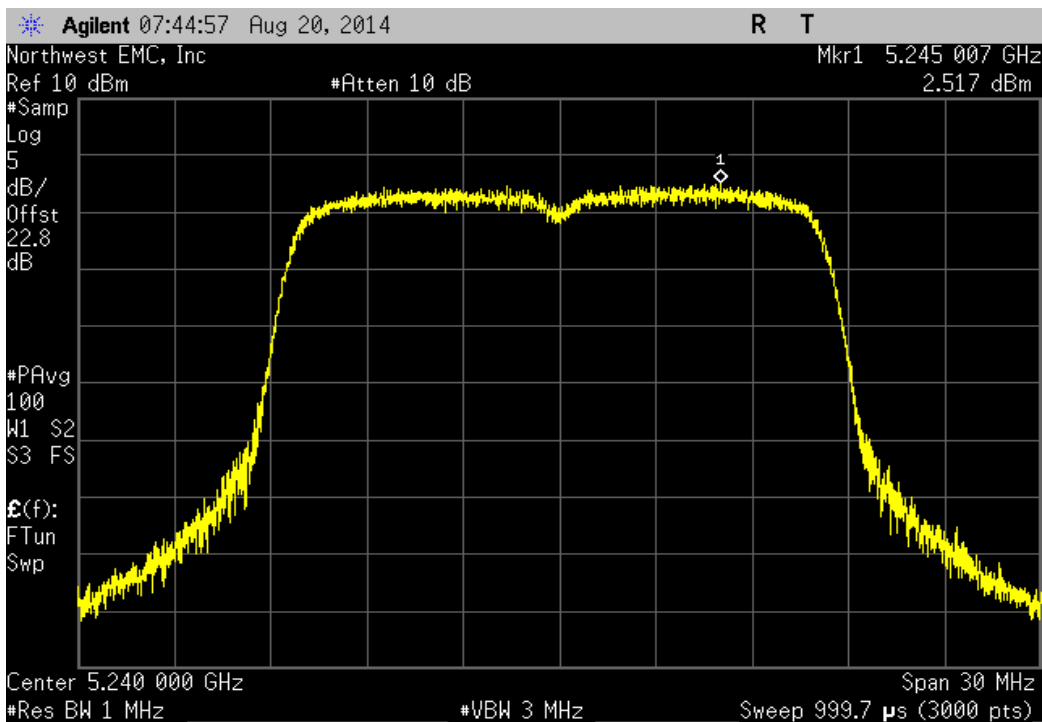
Port 1, 802.11(a) 6 Mbps, Ch 36, Low Channel 5180 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
2.496	4	Pass



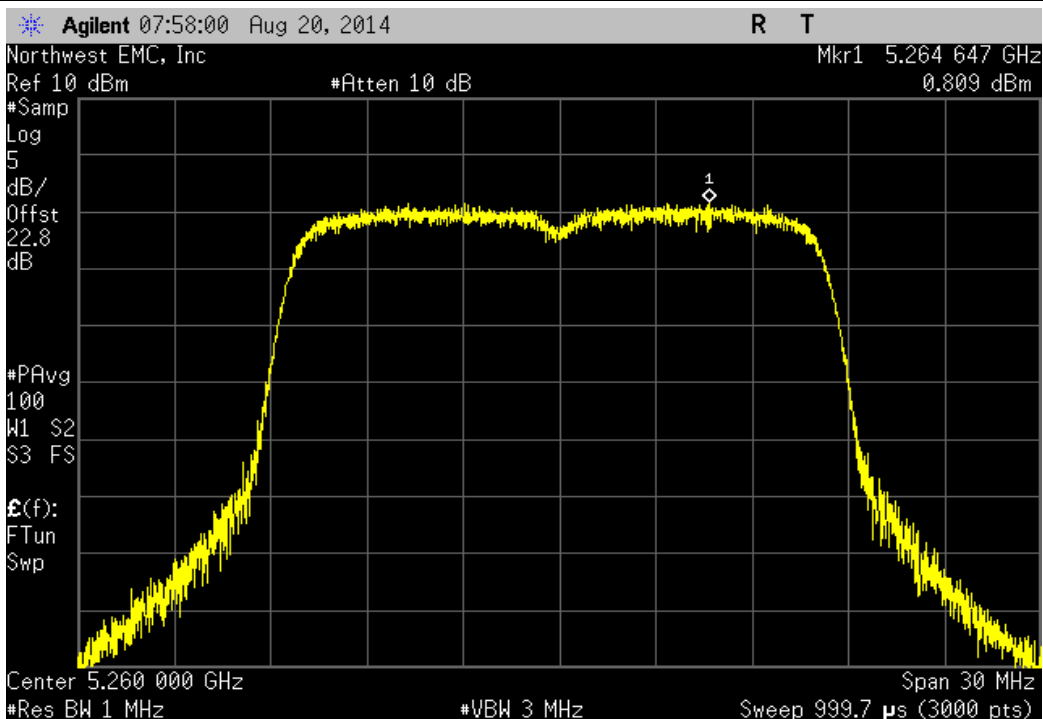
Port 1, 802.11(a) 6 Mbps, Ch 48, High Channel 5240 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
2.517	4	Pass



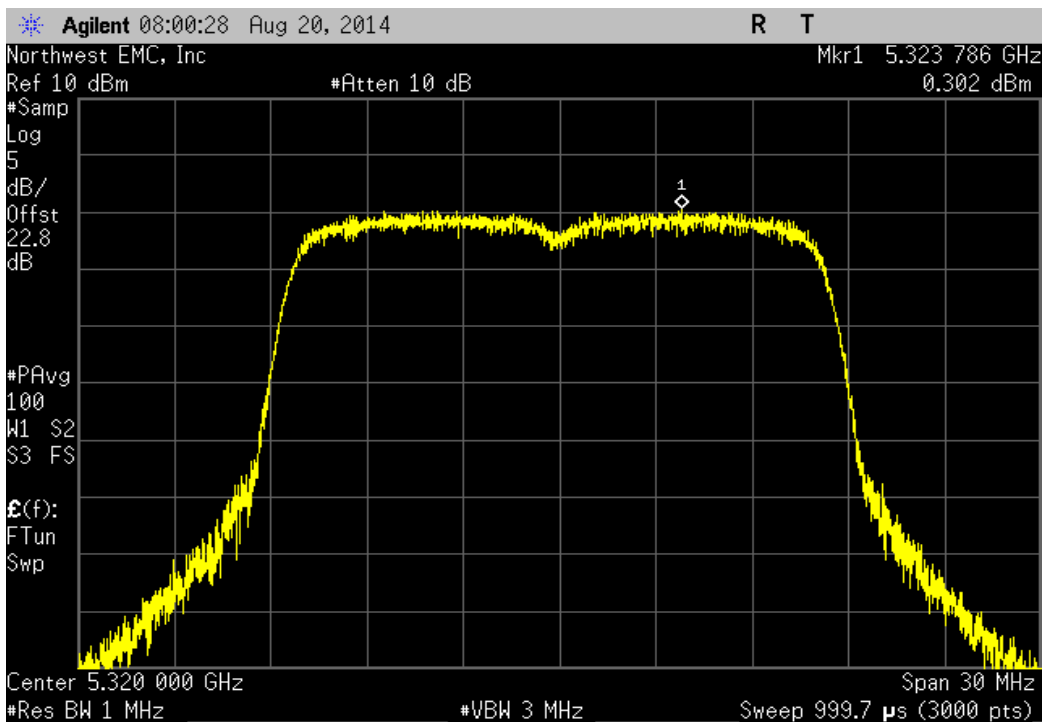
Port 1, 802.11(a) 6 Mbps, Ch 52, Low Channel 5260 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
0.809	11	Pass



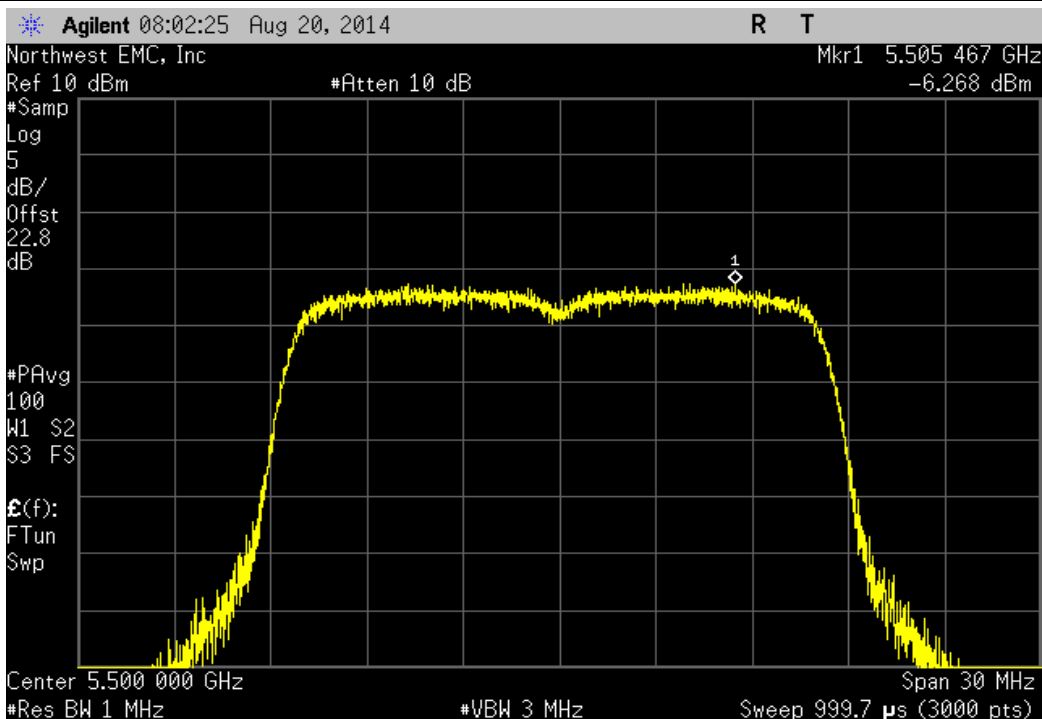
Port 1, 802.11(a) 6 Mbps, Ch 64, High Channel 5320 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
0.302	11	Pass



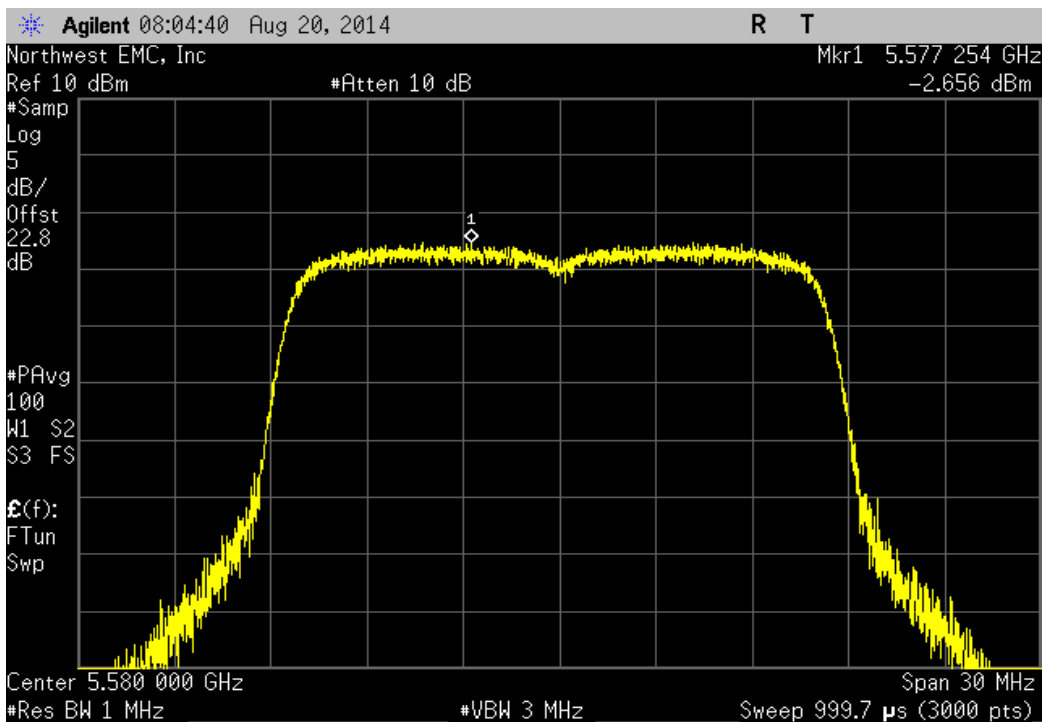
Port 1, 802.11(a) 6 Mbps, Ch 100, Low Channel 5500 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-6.268	11	Pass



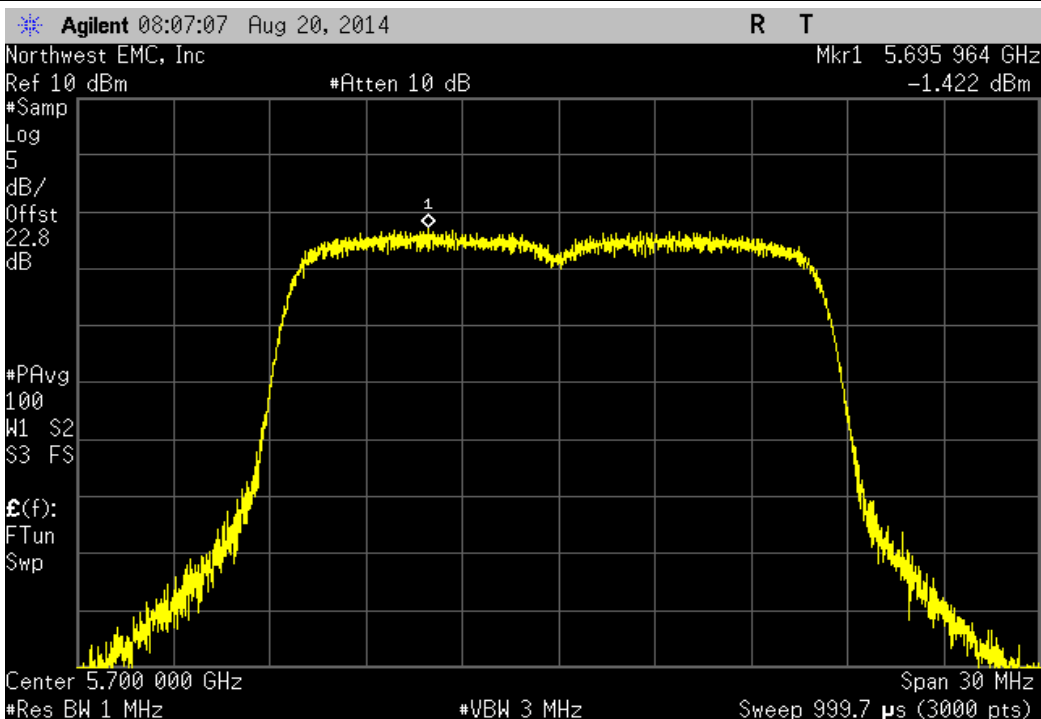
Port 1, 802.11(a) 6 Mbps, Ch 116, Mid Channel 5580 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-2.656	11	Pass



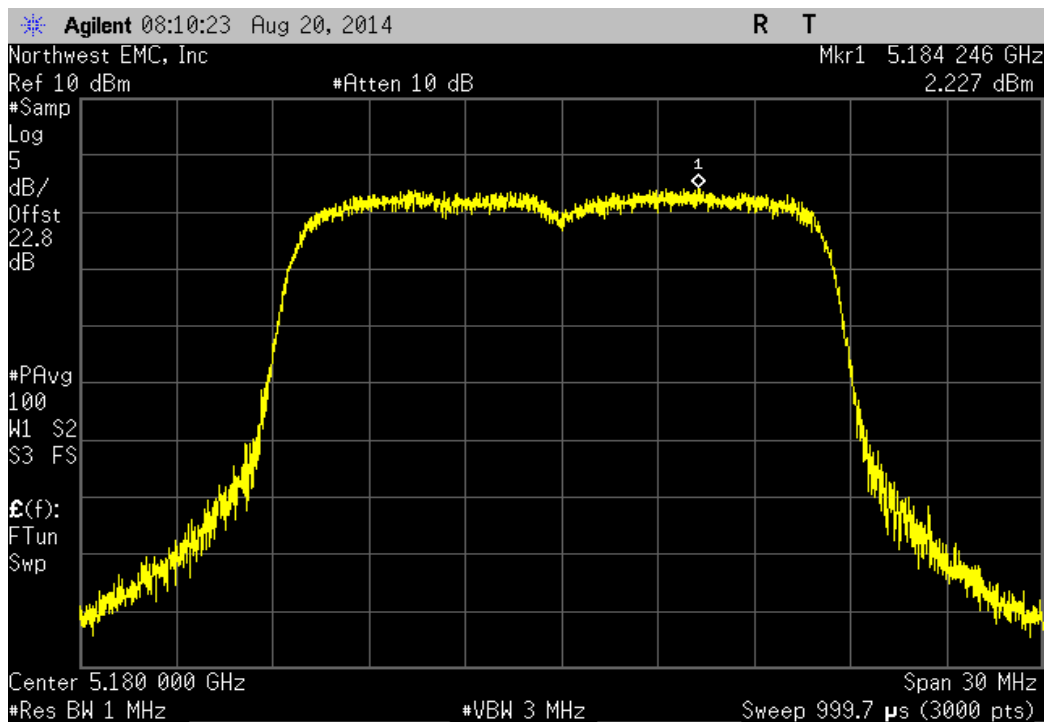
Port 1, 802.11(a) 6 Mbps, Ch 140, High Channel 5700 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-1.422	11	Pass



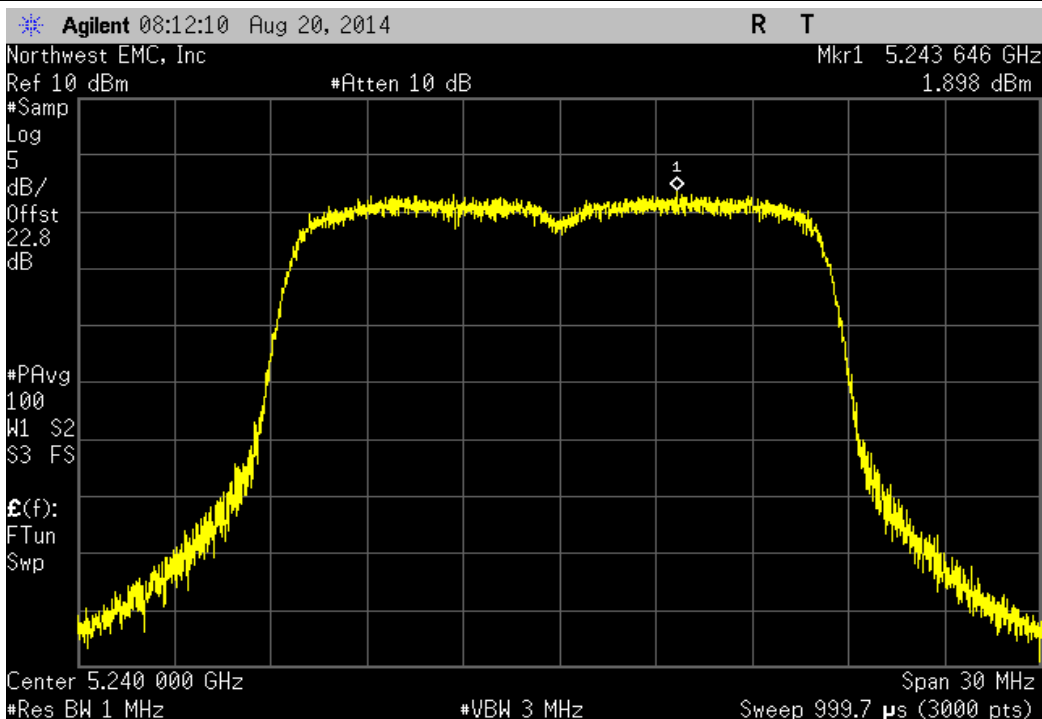
Port 1, 802.11(a) 36 Mbps, Ch 36, Low Channel 5180 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
2.227	4	Pass



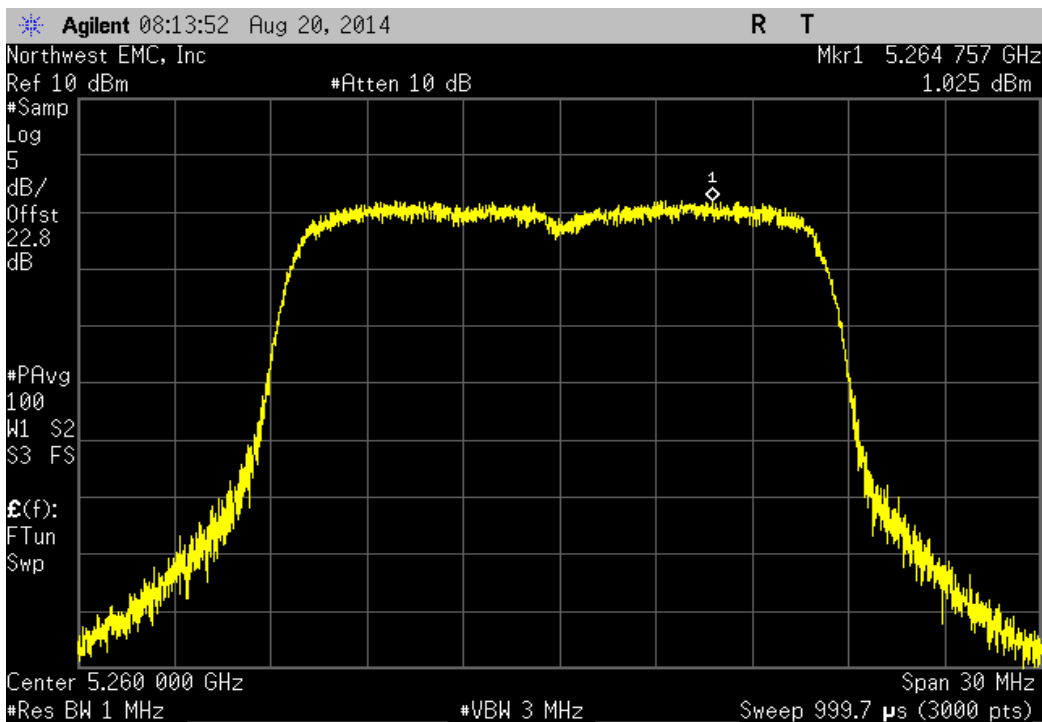
Port 1, 802.11(a) 36 Mbps, Ch 48, High Channel 5240 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
1.898	4	Pass



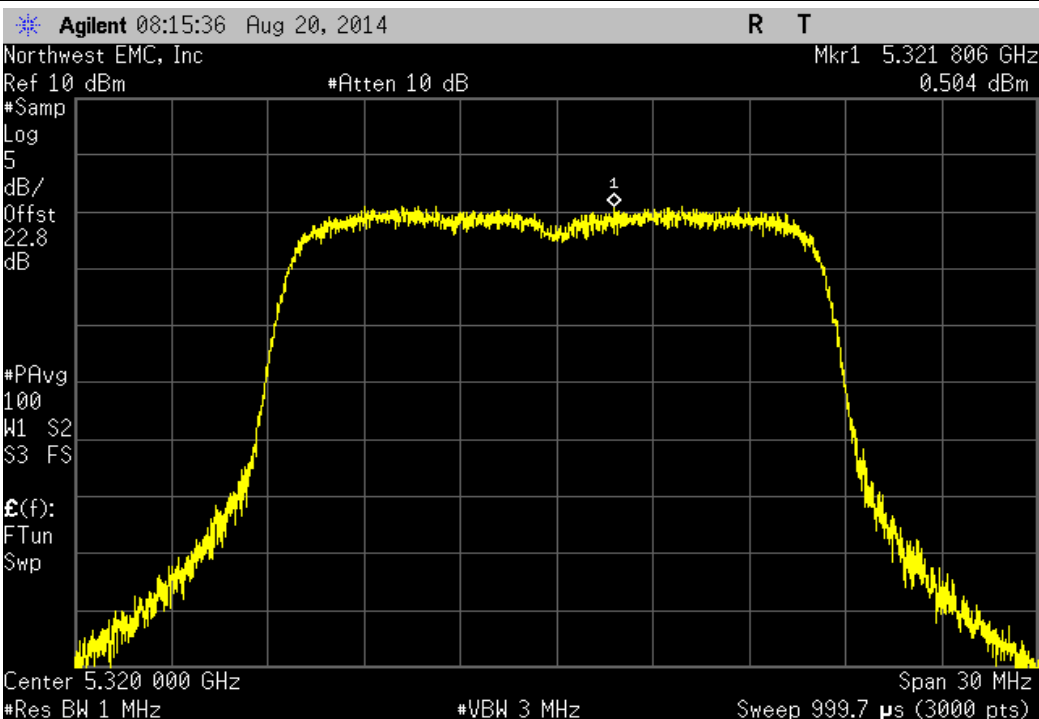
Port 1, 802.11(a) 36 Mbps, Ch 52, Low Channel 5260 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
1.025	11	Pass



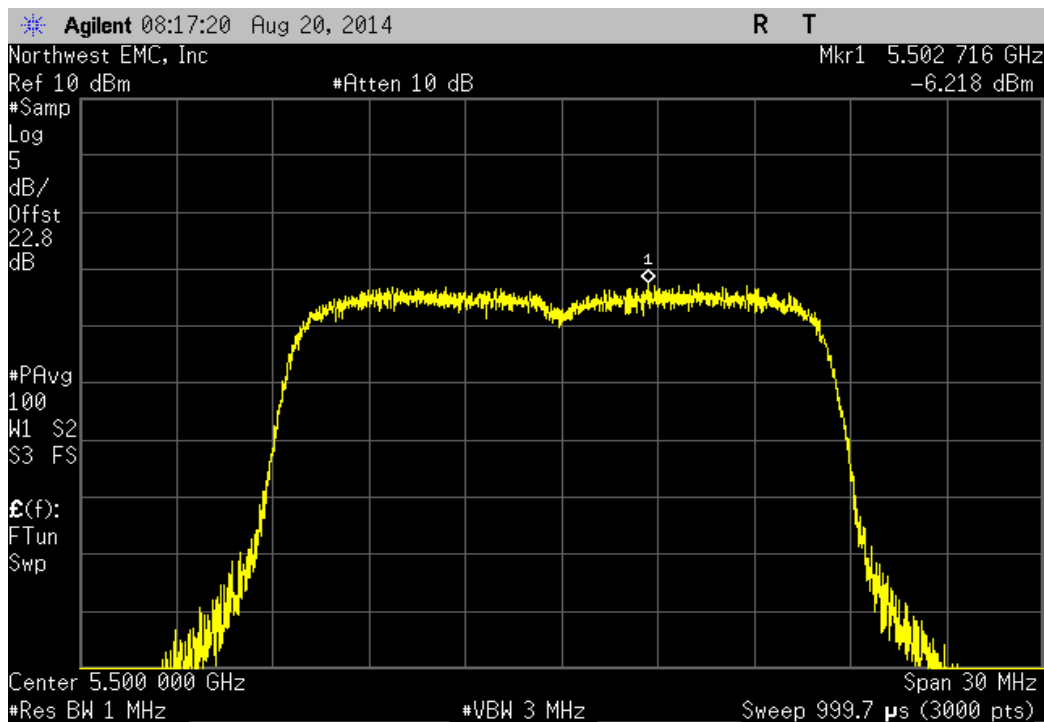
Port 1, 802.11(a) 36 Mbps, Ch 64, High Channel 5320 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
0.504	11	Pass



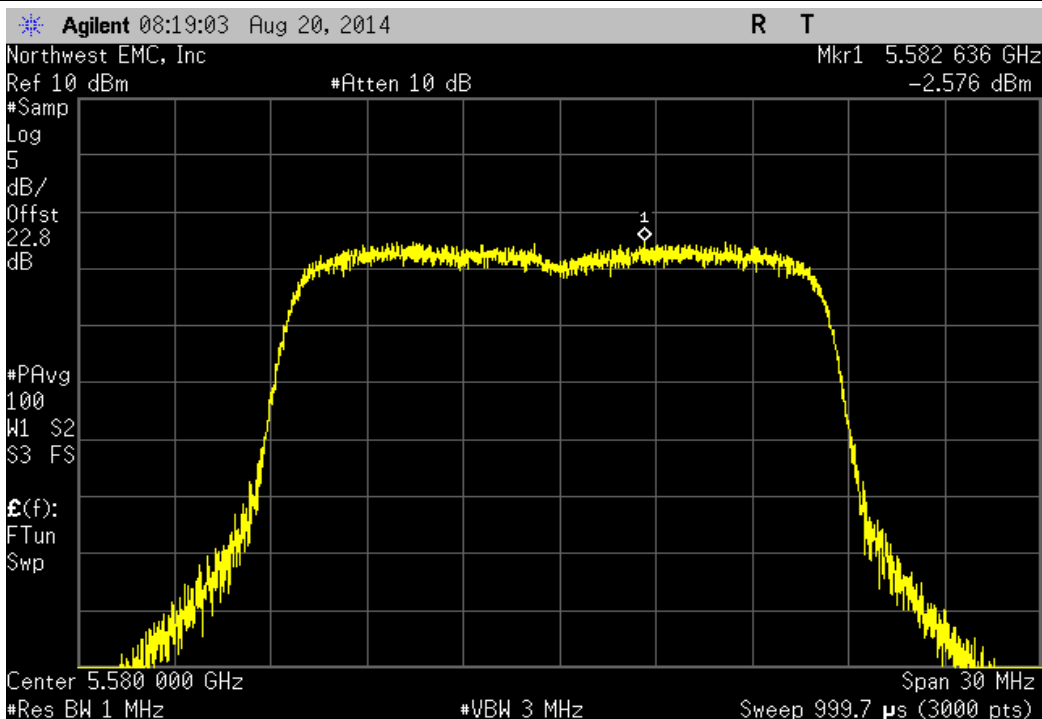
Port 1, 802.11(a) 36 Mbps, Ch 100, Low Channel 5500 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-6.218	11	Pass



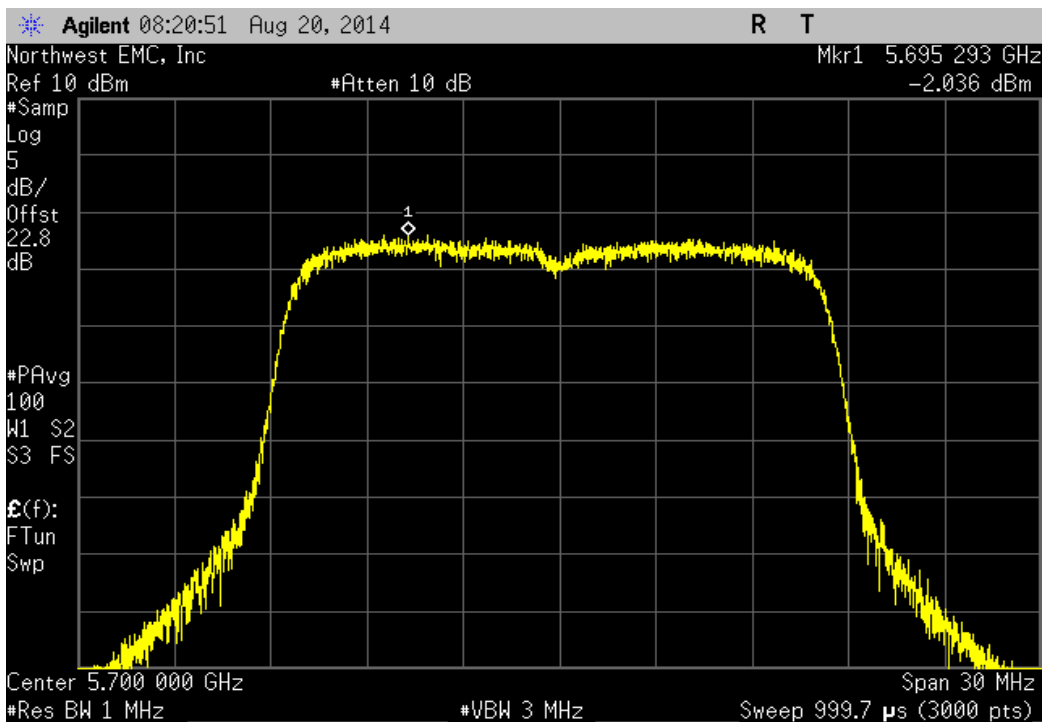
Port 1, 802.11(a) 36 Mbps, Ch 116, Mid Channel 5580 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-2.576	11	Pass



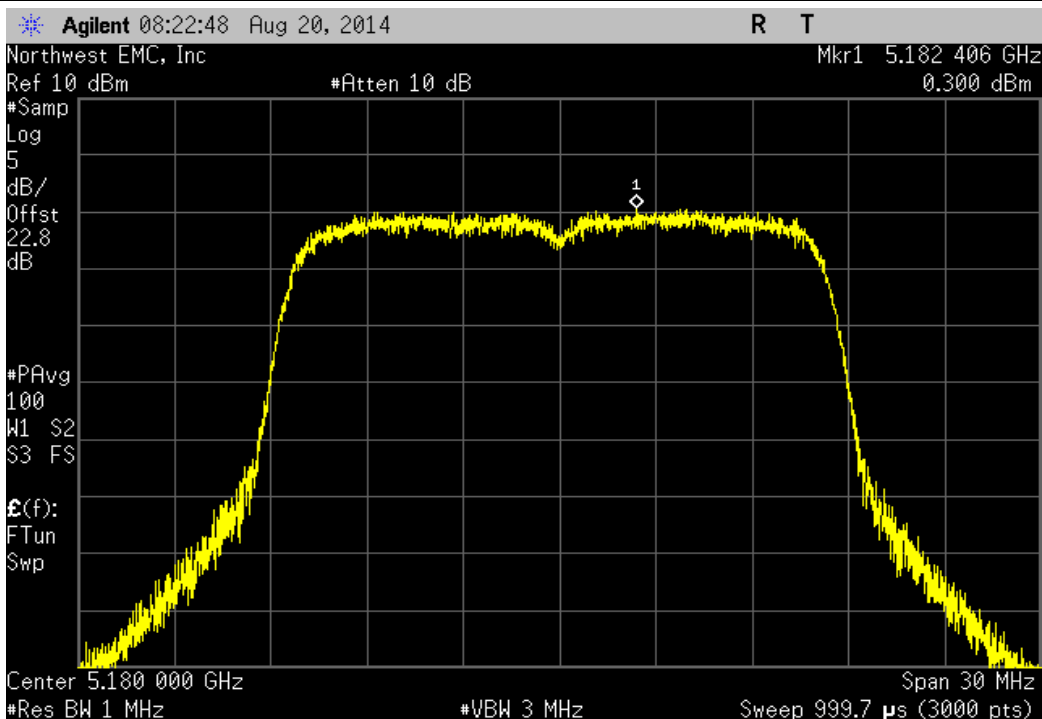
Port 1, 802.11(a) 36 Mbps, Ch 140, High Channel 5700 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-2.036	11	Pass



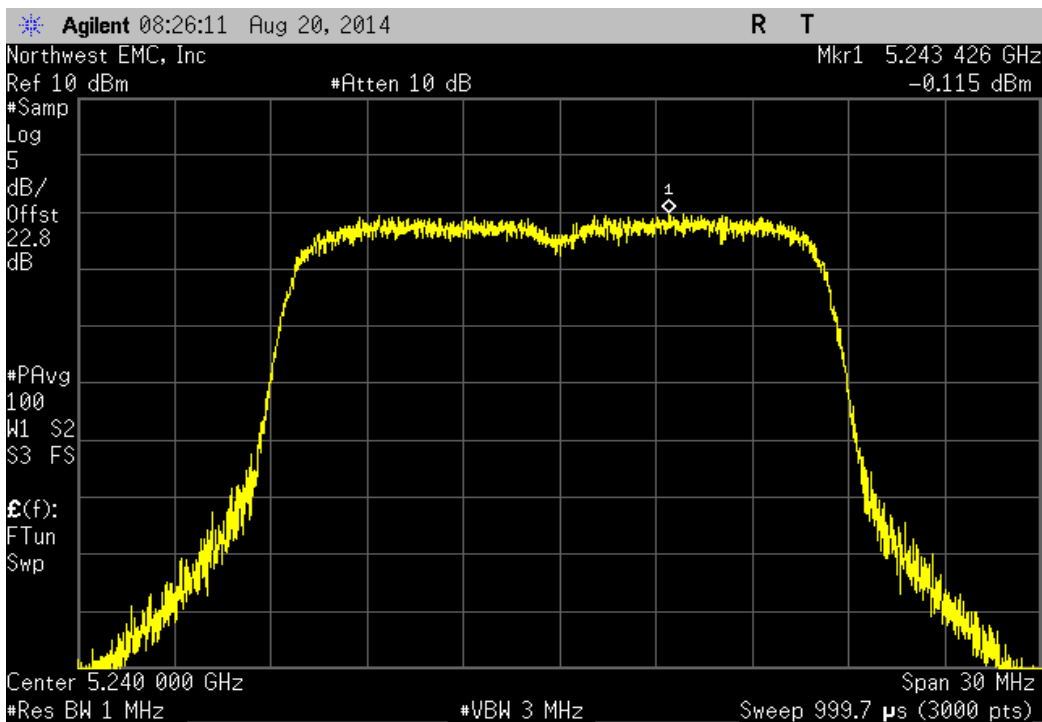
Port 1, 802.11(a) 54 Mbps, Ch 36, Low Channel 5180 MHz

	Value (dBm / MHz)	Limit (dBm / MHz)	Results
	0.3	4	Pass



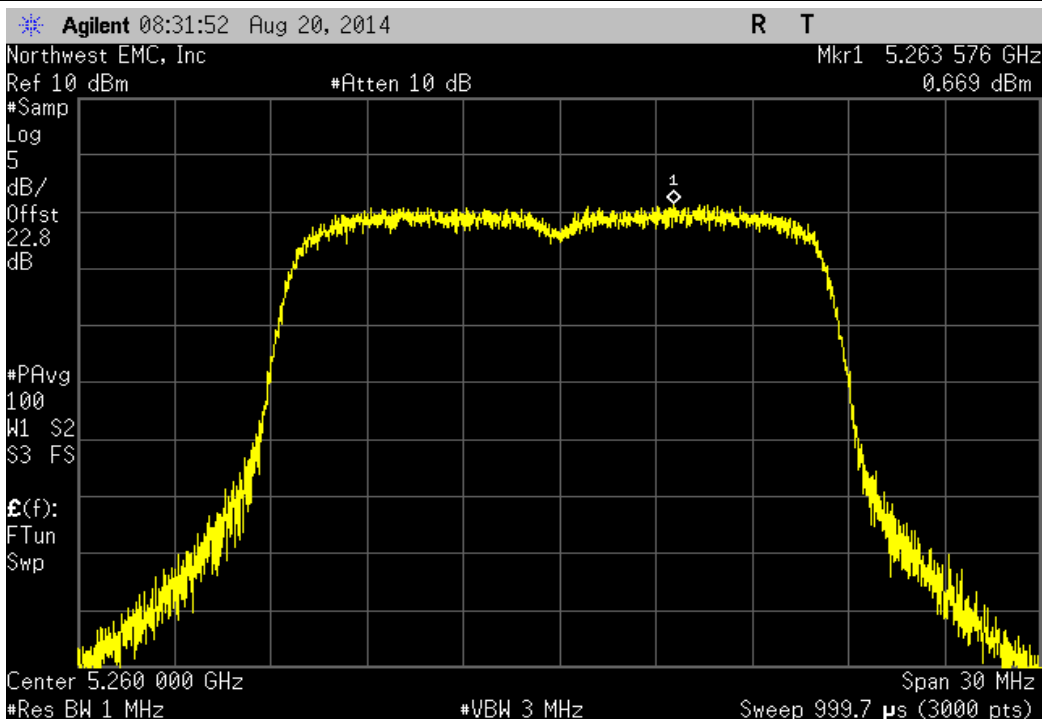
Port 1, 802.11(a) 54 Mbps, Ch 48, High Channel 5240 MHz

	Value (dBm / MHz)	Limit (dBm / MHz)	Results
	-0.115	4	Pass



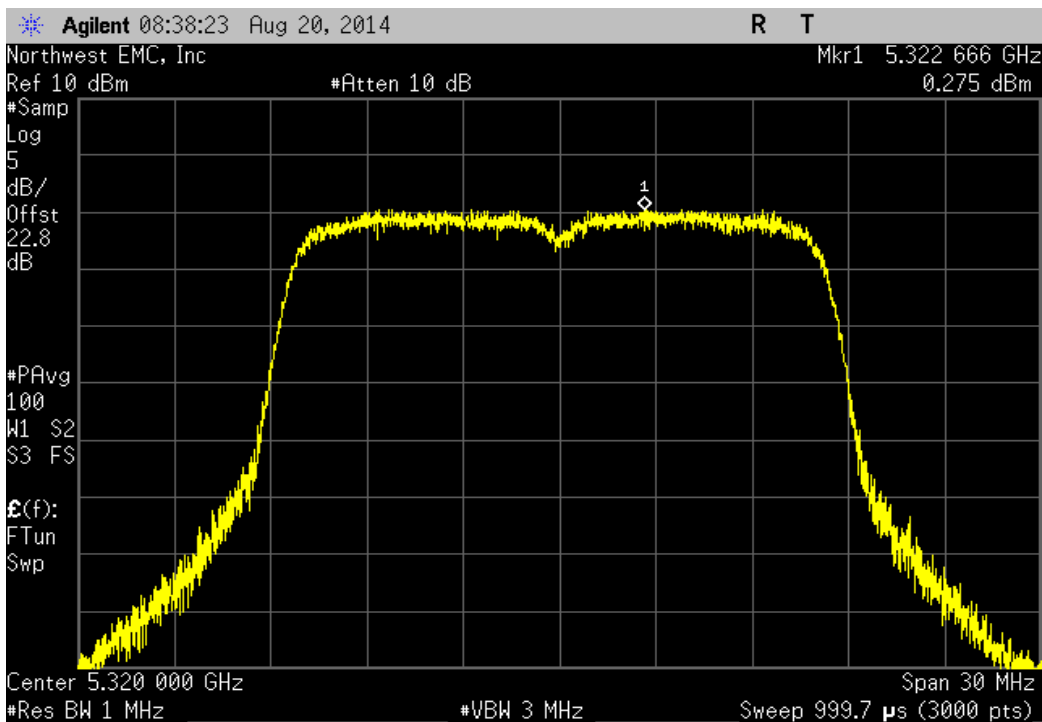
Port 1, 802.11(a) 54 Mbps, Ch 52, Low Channel 5260 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
0.669	11	Pass



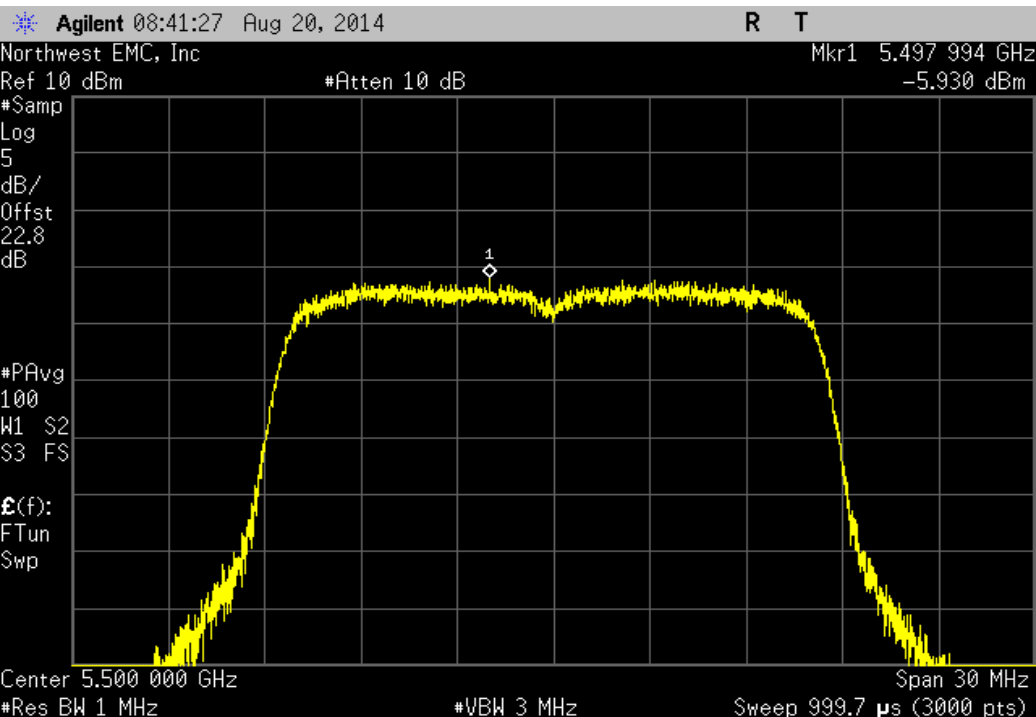
Port 1, 802.11(a) 54 Mbps, Ch 64, High Channel 5320 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
0.275	11	Pass



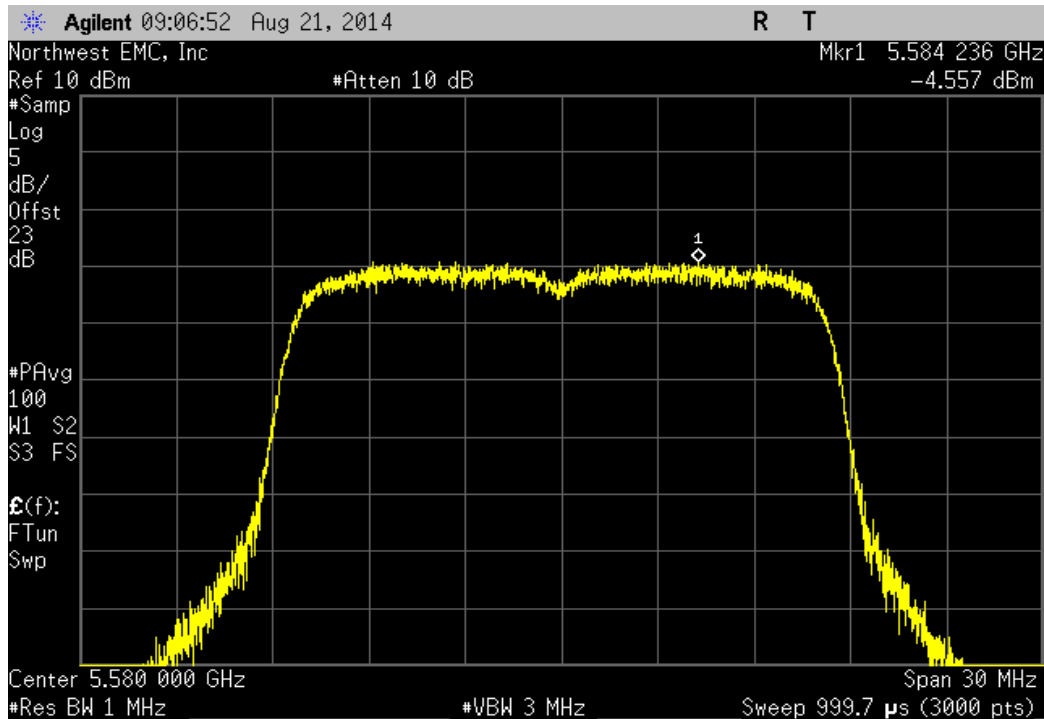
Port 1, 802.11(a) 54 Mbps, Ch 100, Low Channel 5500 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-5.93	11	Pass



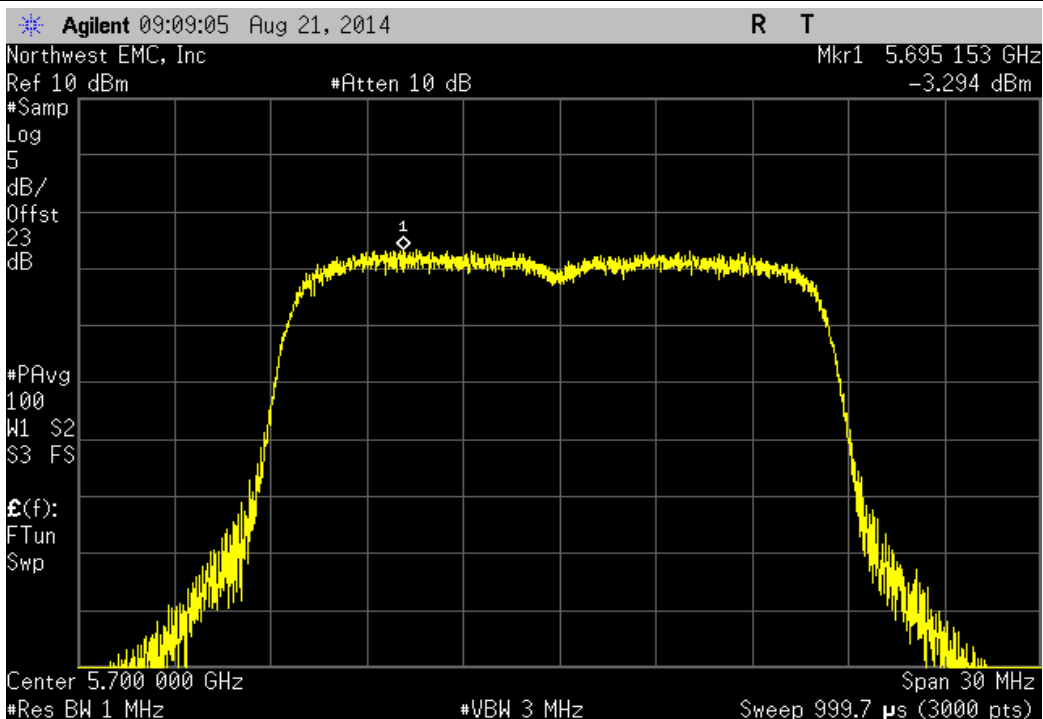
Port 1, 802.11(a) 54 Mbps, Ch 116, Mid Channel 5580 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-4.557	11	Pass



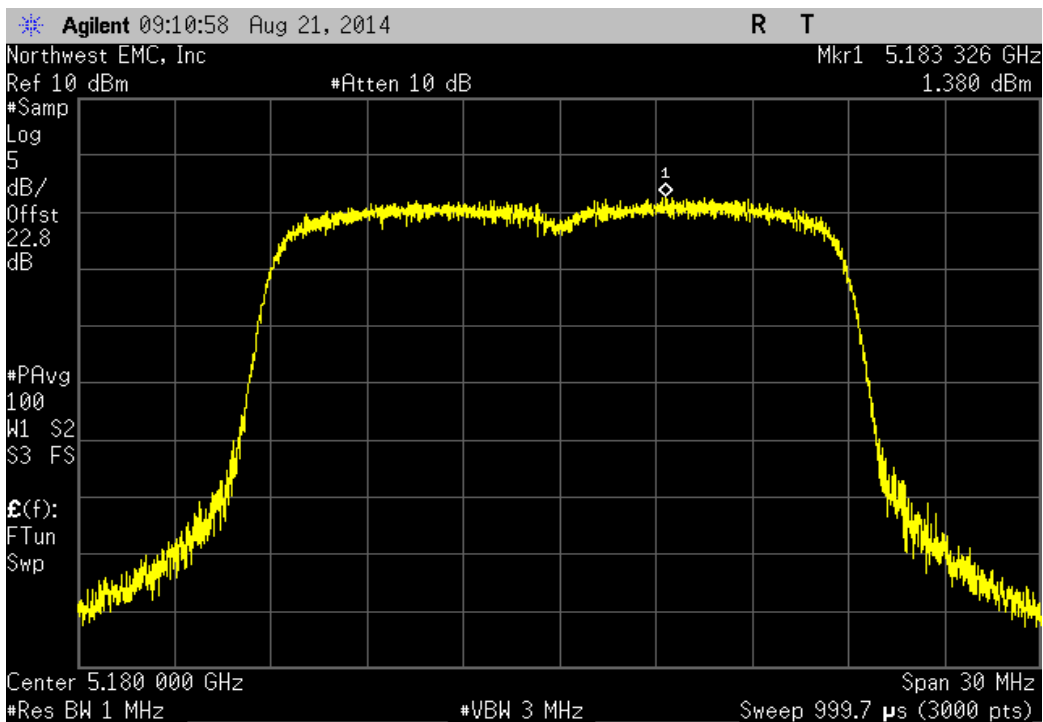
Port 1, 802.11(a) 54 Mbps, Ch 140, High Channel 5700 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-3.294	11	Pass

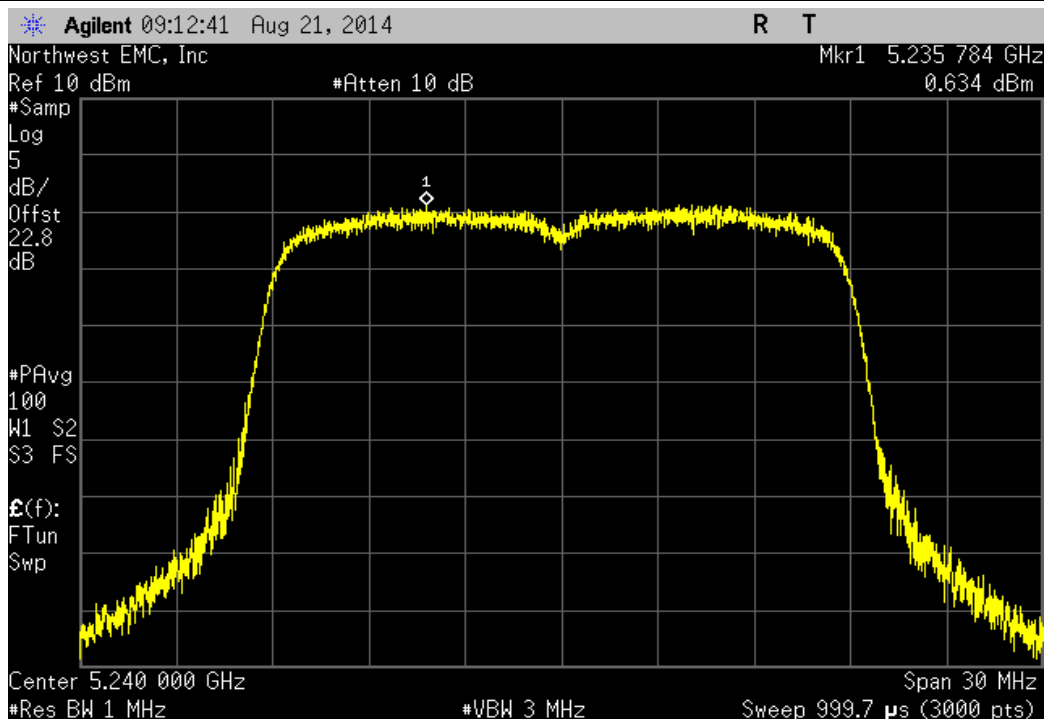


Port 1, 802.11(n) MCS0, Ch 36, Low Channel 5180 MHz

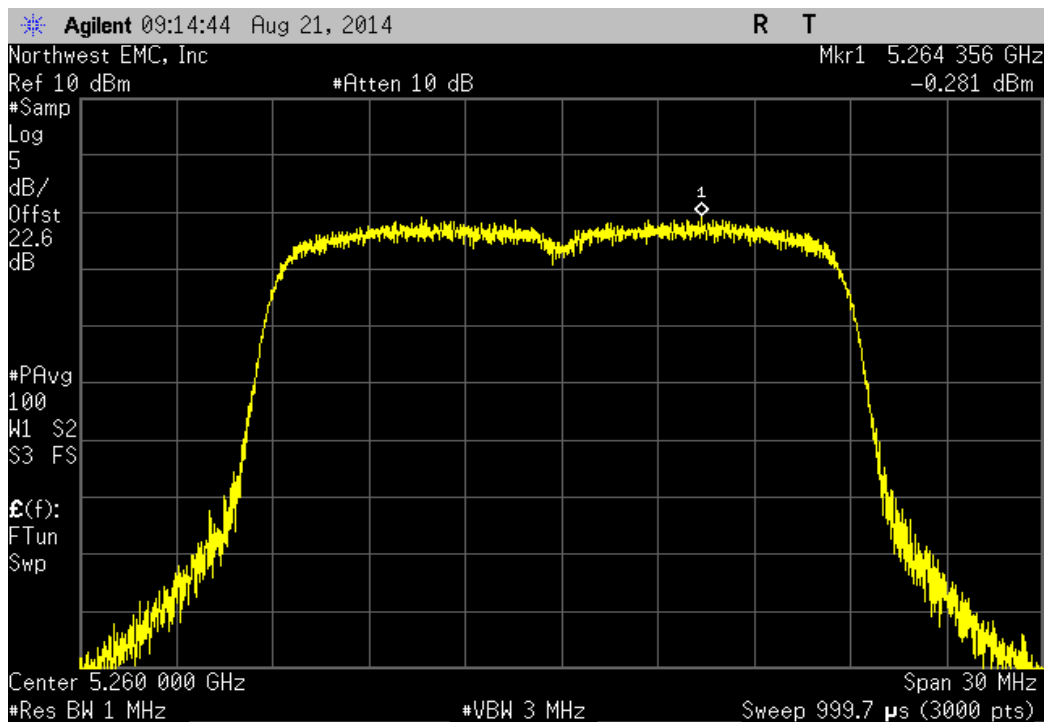
Value (dBm / MHz)	Limit (dBm / MHz)	Results
1.38	4	Pass



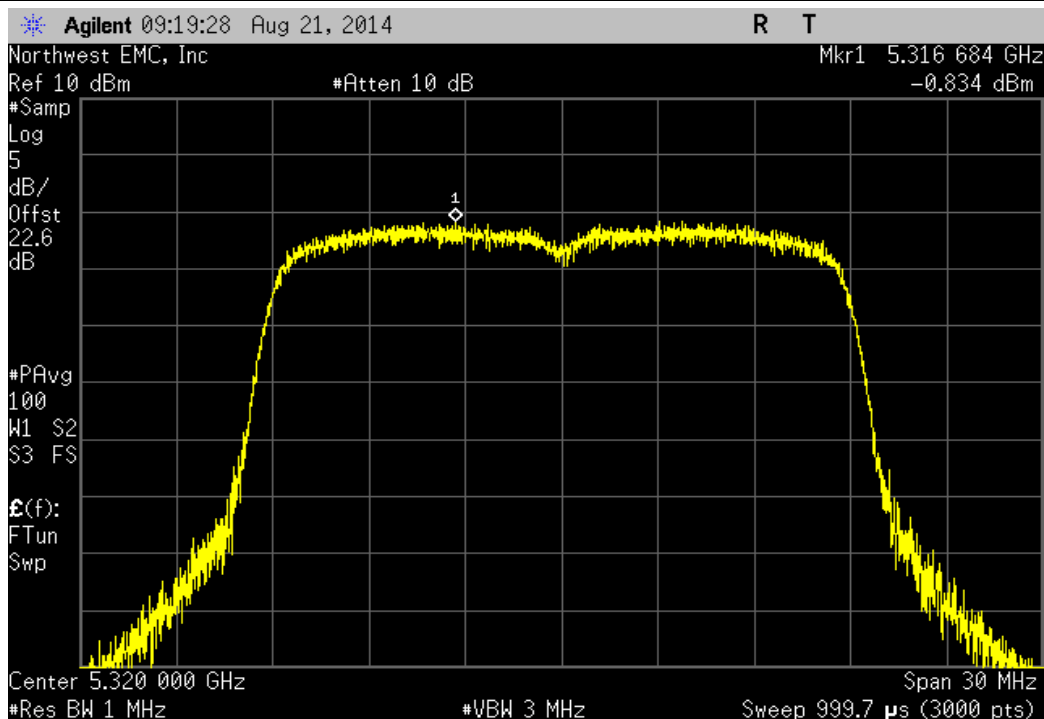
Port 1, 802.11(n) MCS0, Ch 48, High Channel 5240 MHz						
				Value (dBm / MHz)	Limit (dBm / MHz)	Results
				0.634	4	Pass



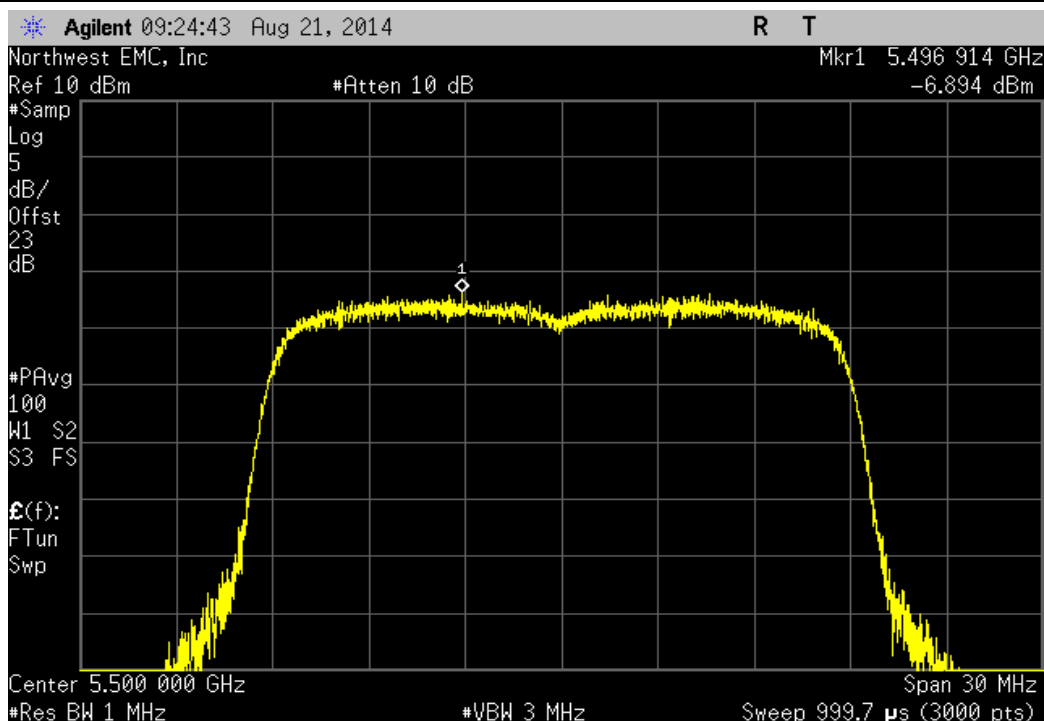
Port 1, 802.11(n) MCS0, Ch 52, Low Channel 5260 MHz						
				Value (dBm / MHz)	Limit (dBm / MHz)	Results
				-0.281	11	Pass



Port 1, 802.11(n) MCS0, Ch 64, High Channel 5320 MHz						
				Value (dBm / MHz)	Limit (dBm / MHz)	Results
				-0.834	11	Pass

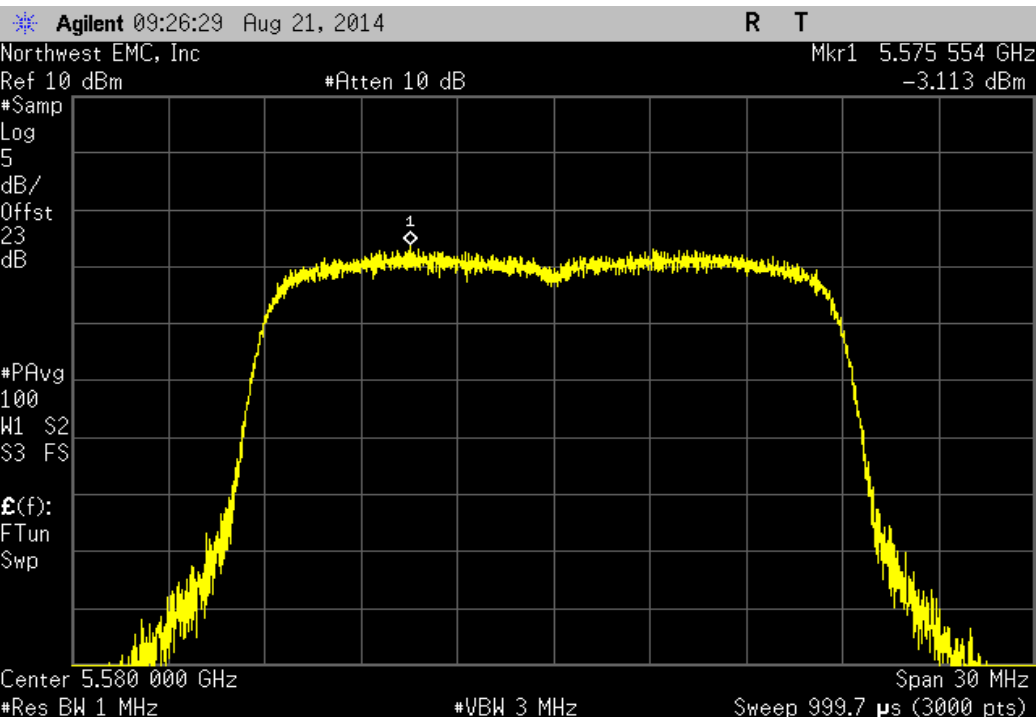


Port 1, 802.11(n) MCS0, Ch 100, Low Channel 5500 MHz						
				Value (dBm / MHz)	Limit (dBm / MHz)	Results
				-6.894	11	Pass



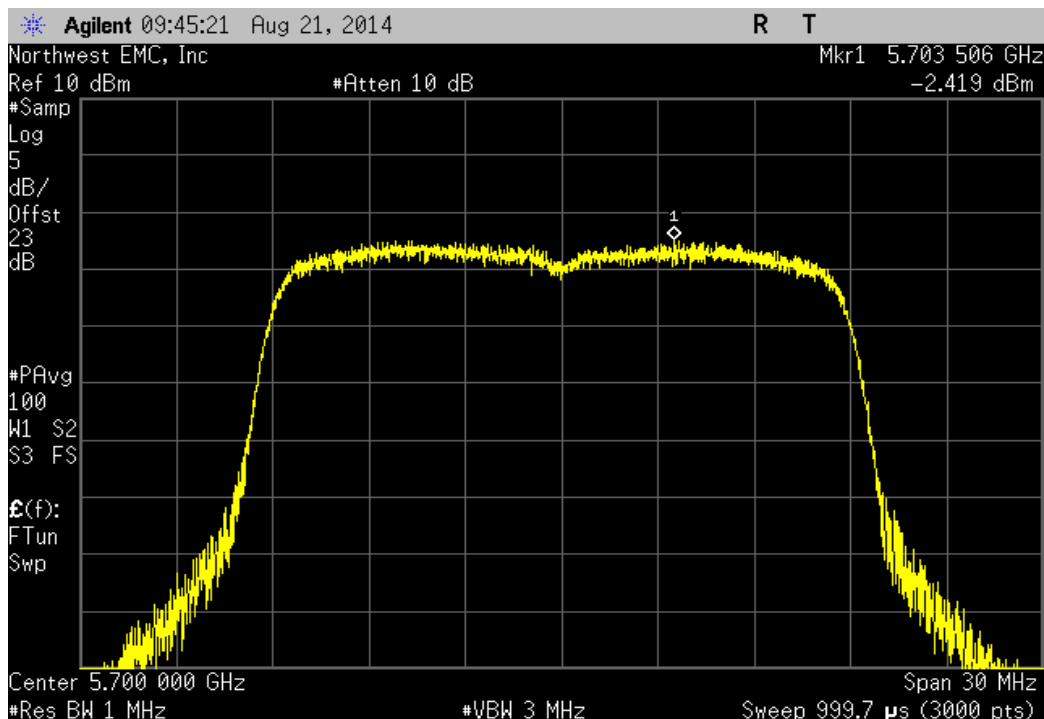
Port 1, 802.11(n) MCS0, Ch 116, Mid Channel 5580 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-3.113	11	Pass



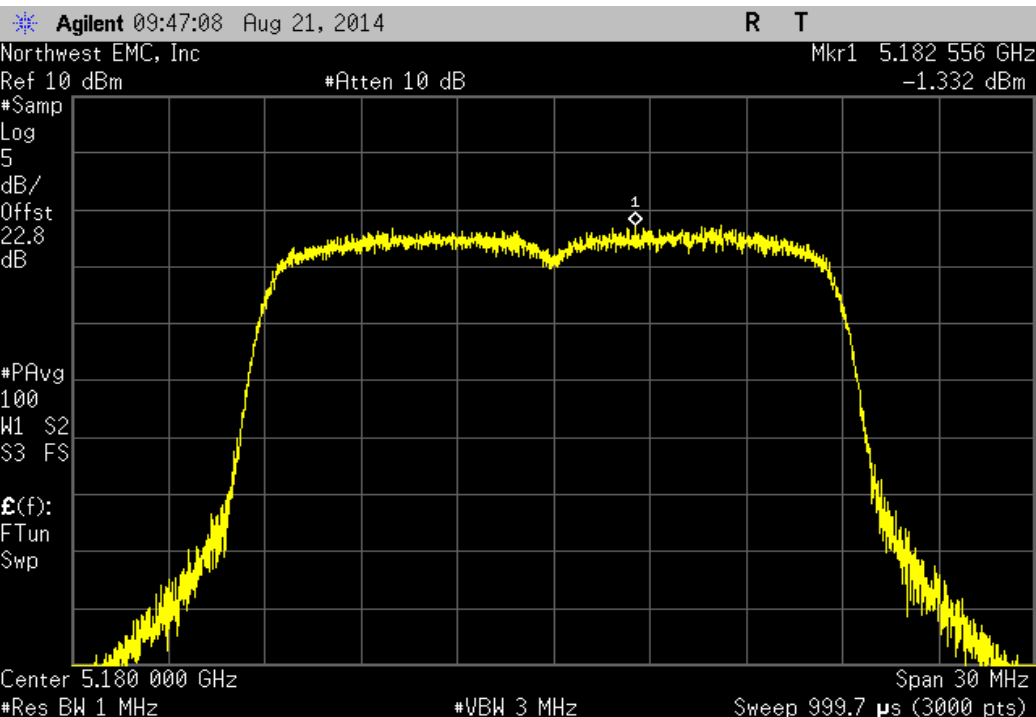
Port 1, 802.11(n) MCS0, Ch 140, High Channel 5700 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-2.419	11	Pass



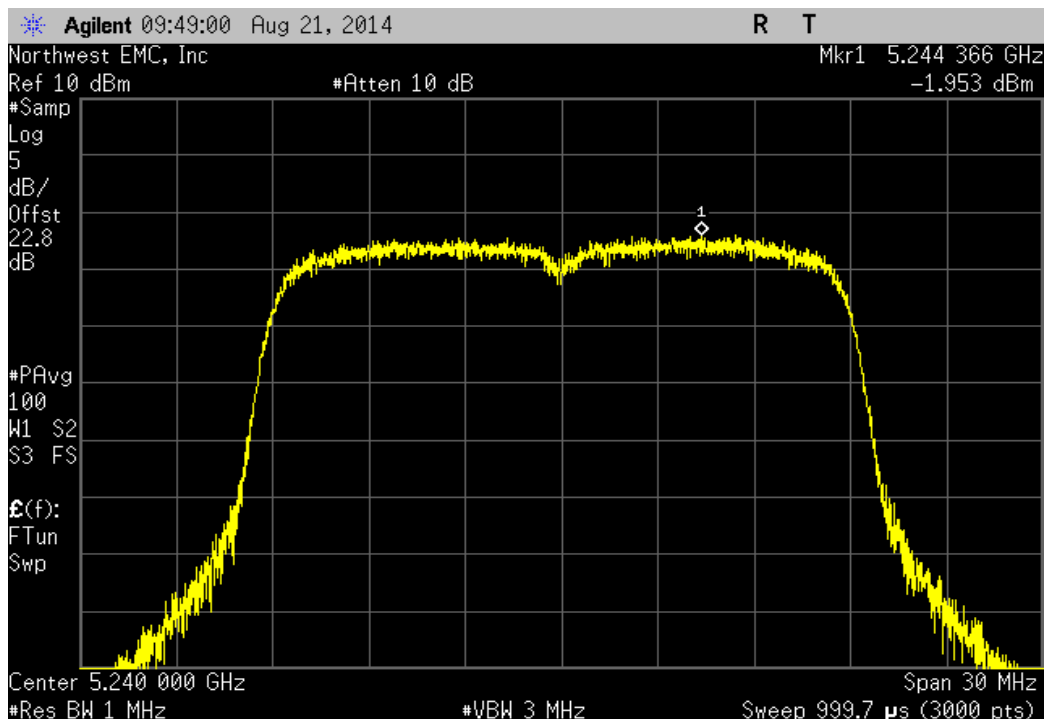
Port 1, 802.11(n) MCS7, Ch 36, Low Channel 5180 MHz

Value (dBm / MHz)	Limit (dBm / MHz)	Results
-1.332	4	Pass

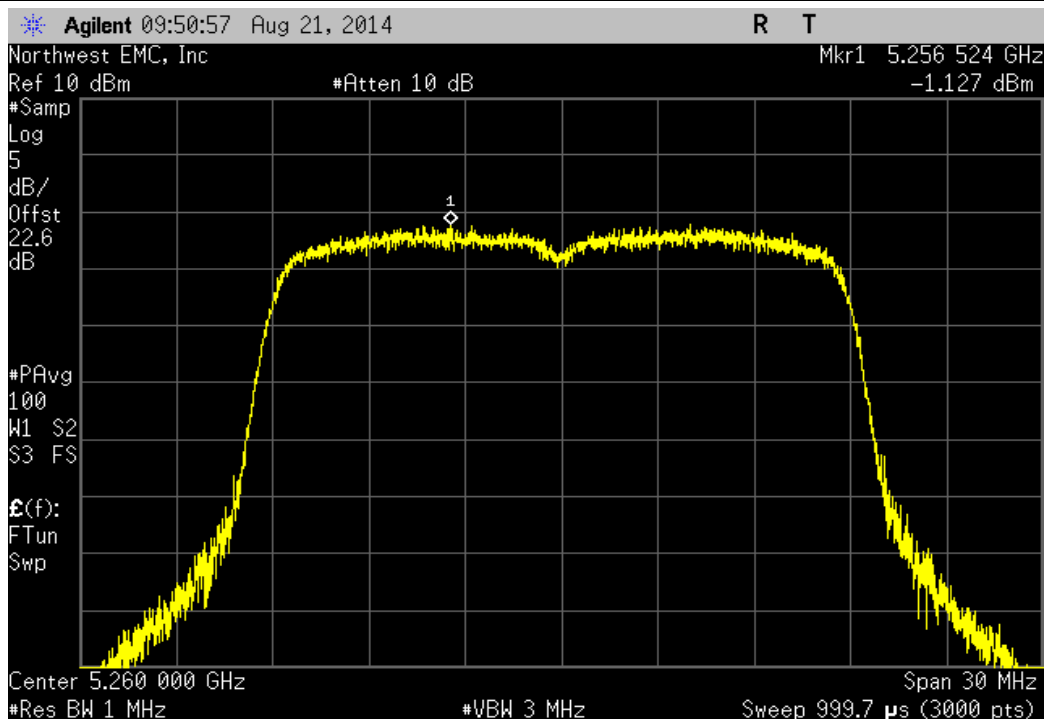


Port 1, 802.11(n) MCS7, Ch 48, High Channel 5240 MHz

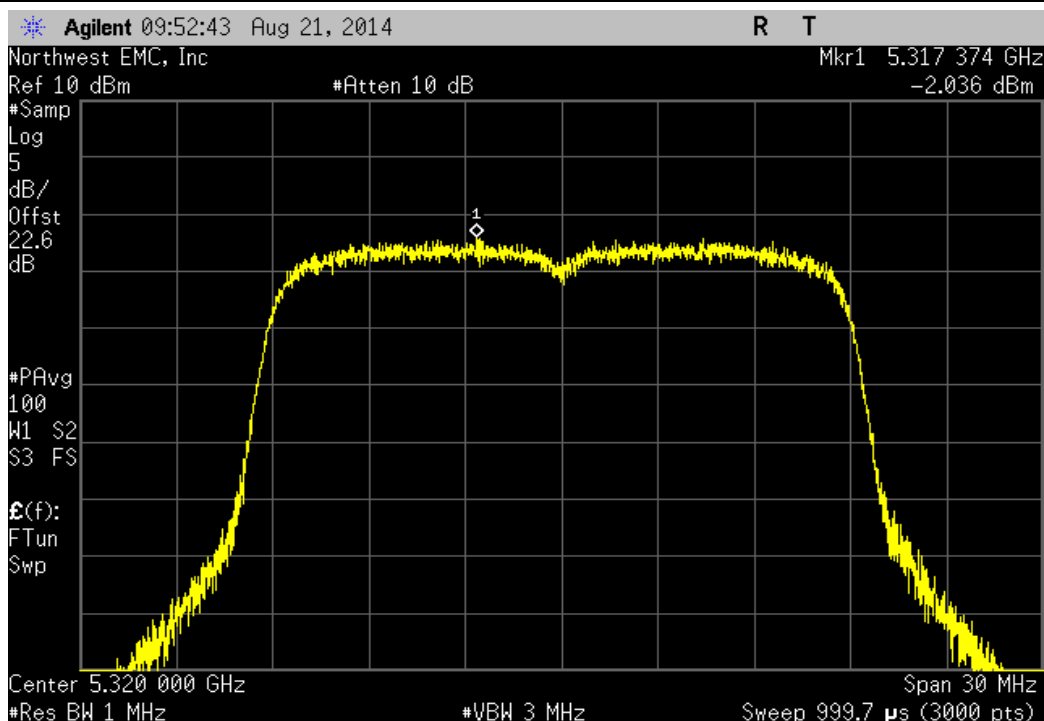
Value (dBm / MHz)	Limit (dBm / MHz)	Results
-1.953	4	Pass



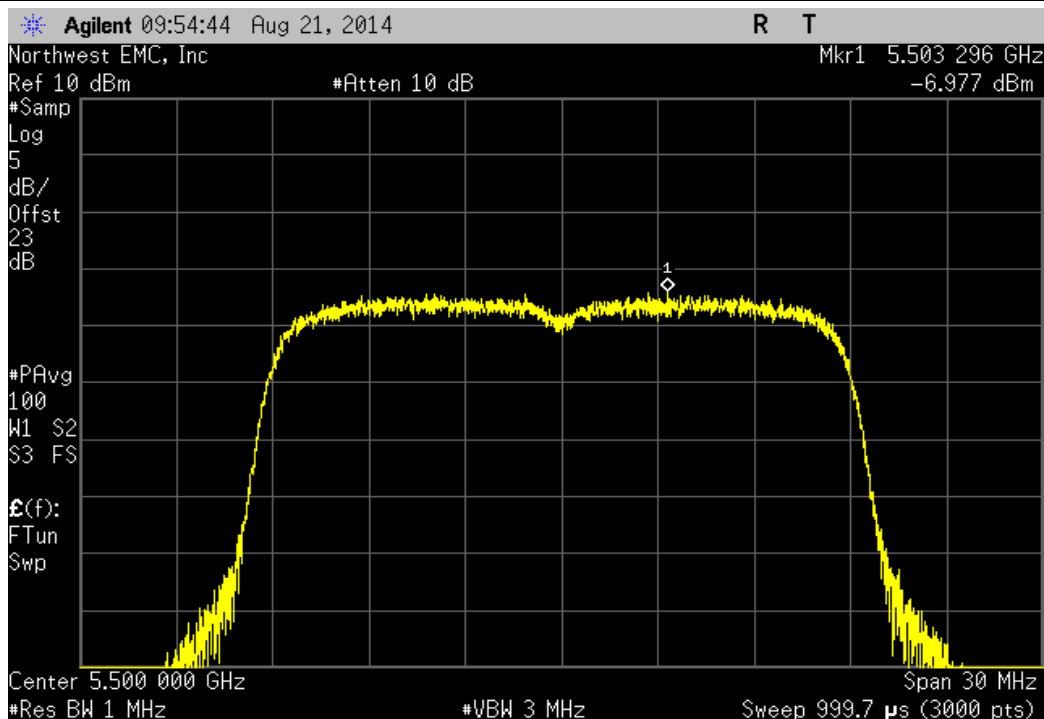
Port 1, 802.11(n) MCS7, Ch 52, Low Channel 5260 MHz						
				Value (dBm / MHz)	Limit (dBm / MHz)	Results
				-1.127	11	Pass



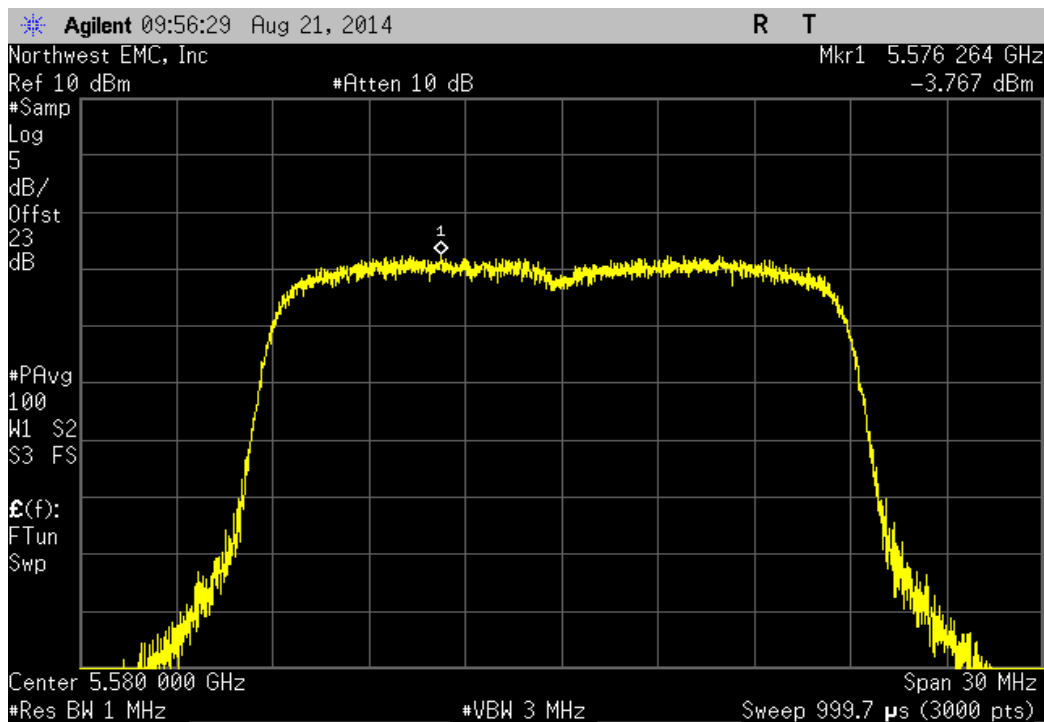
Port 1, 802.11(n) MCS7, Ch 64, High Channel 5320 MHz						
				Value (dBm / MHz)	Limit (dBm / MHz)	Results
				-2.036	11	Pass



Port 1, 802.11(n) MCS7, Ch 100, Low Channel 5500 MHz						
				Value (dBm / MHz)	Limit (dBm / MHz)	Results
				-6.977	11	Pass



Port 1, 802.11(n) MCS7, Ch 116, Mid Channel 5580 MHz						
				Value (dBm / MHz)	Limit (dBm / MHz)	Results
				-3.767	11	Pass

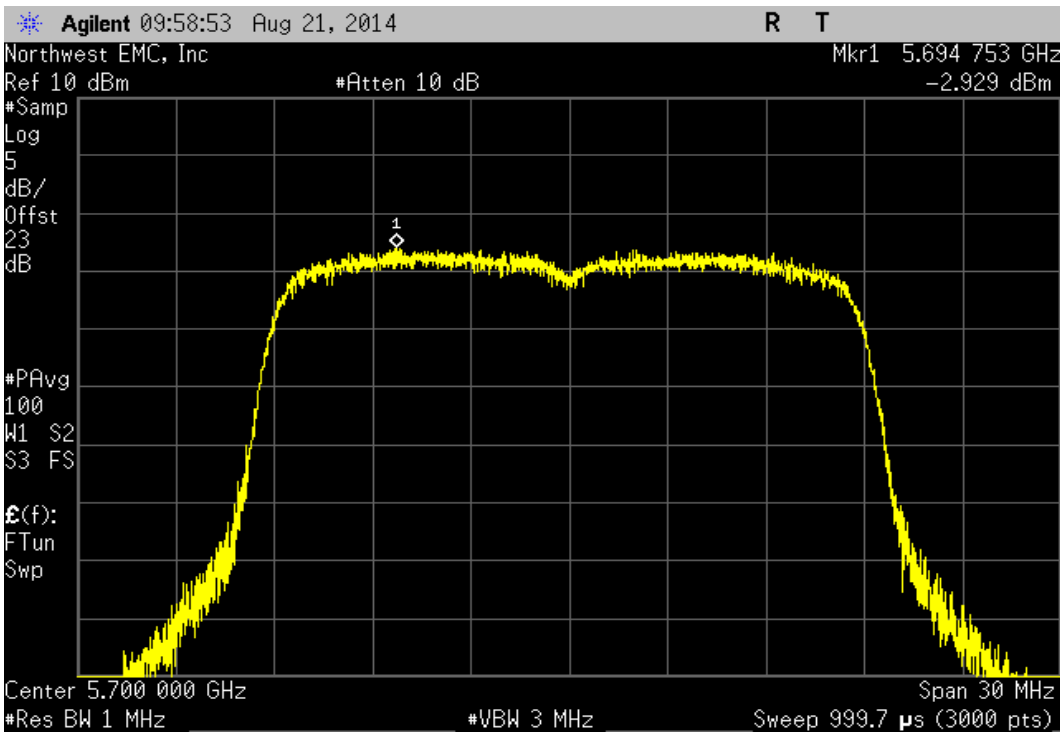




PEAK POWER SPECTRAL DENSITY

XMit 2014.02.07
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Port 1, 802.11(n) MCS7, Ch 140, High Channel 5700 MHz						
				Value	Limit	Results
				(dBm / MHz)	(dBm / MHz)	
				-2.929	11	Pass





DUTY CYCLE

TEST DESCRIPTION

The Duty Cycle (x) were measured for each of the EUT operating modes. The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used

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

The EUT operates at 100% Duty Cycle.