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FCC RADIO TEST REPORT

Applicant's company	Mojo Networks, Inc.
Applicant Address	339 N. Bernardo Avenue, Suite #200 Mountain View, CA 94043 United States
FCC ID	TOR-C120
Manufacturer's company	Mojo Networks, Inc.
Manufacturer Address	339 N. Bernardo Avenue, Suite #200 Mountain View, CA 94043 United States

Product Name	802.11a/b/g/n/ac AP
Brand Name	MOJO
Model No.	C-120
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5150 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850 MHz
Received Date	Apr. 13, 2016
Final Test Date	Aug. 22, 2016
Submission Type	Class II Change

Statement

Test result included is for the IEEE 802.11n and IEEE 802.11a/ac of the product.

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2013, 47 CFR FCC Part 15 Subpart E, KDB789033 D02 v01r03, KDB662911 D01 v02r01, KDB644545 D03 v01, ET Docket No. 13-49; FCC 16-24.**

The test equipment used to perform the test is calibrated and traceable to NML/ROC.



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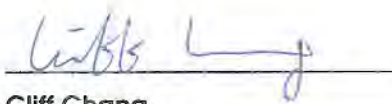
History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR641226-01	Rev. 01	Initial issue of report	Apr. 07, 2017

1. VERIFICATION OF COMPLIANCE

Product Name : 802.11a/b/g/n/ac AP
Brand Name : MOJO
Model No. : C-120
Applicant : Mojo Networks, Inc.
Test Rule Part(s) : 47 CFR FCC Part 15 Subpart E § 15.407

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Apr. 13, 2016 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.



Cliff Chang
SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart E			
Part	Rule Section	Description of Test	Result
4.1	15.407(a)	26dB Spectrum Bandwidth and 99% Occupied Bandwidth	Complies
4.2	15.407(e)	6dB Spectrum Bandwidth	Complies
4.3	15.407(a)	Maximum Conducted Output Power	Complies
4.4	15.407(a)	Power Spectral Density	Complies
4.5	15.407(b)	Radiated Emissions	Complies
4.6	15.407(b)	Band Edge Emissions	Complies
4.7	15.407(g)	Frequency Stability	Complies
4.8	15.203	Antenna Requirements	Complies

3. GENERAL INFORMATION

3.1. Product Details

Items	Description
Product Type	WLAN (4TX, 4RX)
Radio Type	Intentional Transceiver
Power Type	From power adapter or PoE
Modulation	IEEE 802.11a: OFDM IEEE 802.11n/ac: see the below table
Data Modulation	IEEE 802.11a/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) IEEE 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Data Rate (Mbps)	IEEE 802.11a: OFDM (6/9/12/18/24/36/48/54) IEEE 802.11n/ac: see the below table
Frequency Range	5150 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850 MHz
Channel Number	25 for 20MHz bandwidth ; 12 for 40MHz bandwidth 6 for 80MHz bandwidth
Channel Bandwidth (99%)	<For Non-beamforming Mode> Band 1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 75.83 MHz Band 2: IEEE 802.11a: 16.41 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.54 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 36.61 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 75.83 MHz IEEE 802.11ac MCS0/Nss2 (VHT80+80): 76.12 MHz Band 3: IEEE 802.11a: 16.59 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.71 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 36.61 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 75.54 MHz IEEE 802.11ac MCS0/Nss2 (VHT80+80): 75.83 MHz Band 4: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 75.83 MHz <For Beamforming Mode> Band 1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 76.70 MHz Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 17.97 MHz

	IEEE 802.11ac MCS0/Nss1 (VHT40): 37.05 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.70 MHz IEEE 802.11ac MCS0/Nss2 (VHT80+80): 76.41 MHz Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 17.97 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.05 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz IEEE 802.11ac MCS0/Nss2 (VHT80+80): 76.70 MHz Band 4: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 76.70 MHz
Maximum Conducted Output Power	<For Non-beamforming Mode> Band 1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 22.19 dBm Band 2: IEEE 802.11a: 18.54 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 18.40 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.50 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 19.54 dBm IEEE 802.11ac MCS0/Nss2 (VHT80+80): 21.23 dBm Band 3: IEEE 802.11a: 18.41 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 18.40 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.45 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 23.66 dBm IEEE 802.11ac MCS0/Nss2 (VHT80+80): 23.62 dBm Band 4: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 22.82 dBm <For Beamforming Mode> Band 1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 21.67 dBm Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.27 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 18.13 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 18.17 dBm IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.01 dBm Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.29 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 18.27 dBm

	IEEE 802.11ac MCS0/Nss1 (VHT80): 18.29 dBm IEEE 802.11ac MCS0/Nss2 (VHT80+80): 21.25 dBm Band 4: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 21.55 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Items	Description	
Communication Mode	☒ IP Based (Load Based)	☐ Frame Based
TPC Function	☒ With TPC	☐ Without TPC
Weather Band (5600~5650MHz)	☒ With 5600~5650MHz	☐ Without 5600~5650MHz
Beamforming Function	☒ With beamforming	☐ Without beamforming

Note: The product has beamforming function for 802.11n/ac in 2.4GHz and 5GHz.

Antenna and Bandwidth

Antenna	Four (TX)		
Band width Mode	20 MHz	40 MHz	80 MHz
IEEE 802.11a	V	X	X
IEEE 802.11n	V	V	X
IEEE 802.11ac	V	V	V

IEEE 11n/ac Spec.

Protocol	Number of Transmit Chains (NTX)	Data Rate / MCS
802.11n (HT20)	4	MCS 0-31
802.11n (HT40)	4	MCS 0-31
802.11ac (VHT20)	4	MCS 0-9/Nss1-4
802.11ac (VHT40)	4	MCS 0-9/Nss1-4
802.11ac (VHT80)	4	MCS 0-9/Nss1-4

Note 1: IEEE Std. 802.11n modulation consists of HT20 and HT40 (HT: High Throughput).

Then EUT supports HT20 and HT40.

Note 2: IEEE Std. 802.11ac modulation consists of VHT20, VHT40, VHT80 and VHT160 (VHT: Very High Throughput). Then EUT supports VHT20, VHT40 and VHT80.

Note 3: Modulation modes consist of below configuration:

HT20/HT40: IEEE 802.11n, VHT20/VHT40/VHT80: IEEE 802.11ac

3.2. Accessories

Power	Brand	Model	Rating
Adapter (Switchable Adapter)	APD	WA-24Q12R	Input: 100-240V~, 50-60Hz, 0.7A Max Output: 12V, 2A
Others			
US Plug*1 RJ-45 cable, Non-shielded, 1m			

3.3. Table for Filed Antenna

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	WNC	95XKAA15.GAB	PIFA Antenna	I-PEX	4.66	-
2	WNC	95XKAA15.GAC	PIFA Antenna	I-PEX	4.62	-
3	WNC	95XKAA15.GAD	PIFA Antenna	I-PEX	4.68	-
4	WNC	95XKAA15.GA1	PIFA Antenna	I-PEX	4.85	-
5	WNC	95XKAA15.GAE	PIFA Antenna	I-PEX	-	5.68
6	WNC	95XKAA15.GAF	PIFA Antenna	I-PEX	-	5.77
7	WNC	95XKAA15.GAG	PIFA Antenna	I-PEX	-	5.63
8	WNC	95XKAA15.GA2	PIFA Antenna	I-PEX	-	5.51

Note: The EUT has eight antennas.

For 2.4GHz WLAN function:

For IEEE 802.11b/g/n/ac mode (4TX/4RX)

Chain 1, Chain 2, Chain 3 and Chain 4 can be used as transmitting/receiving antenna.

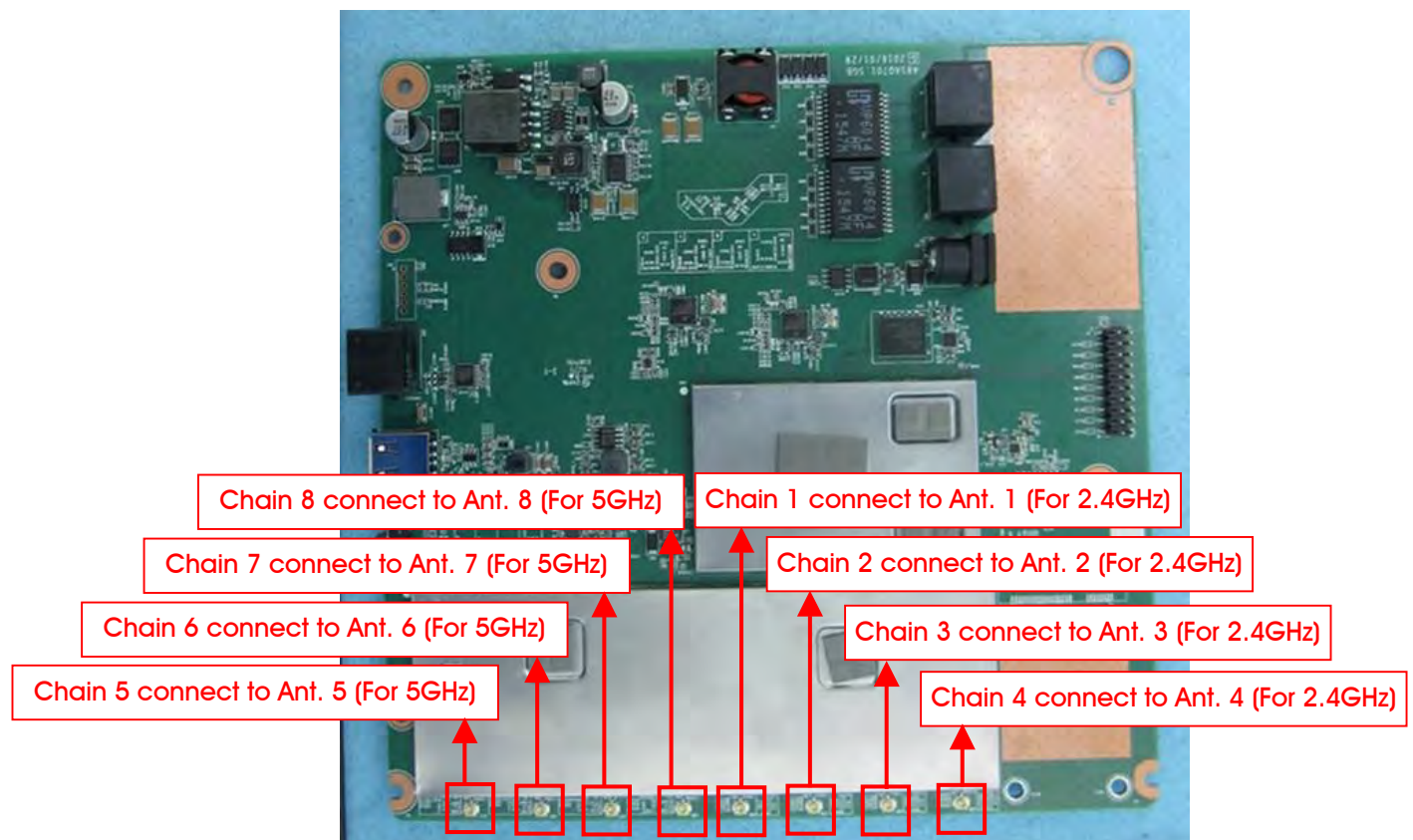
Chain 1, Chain 2, Chain 3 and Chain 4 could transmit/receive simultaneously.

For 5GHz WLAN function:

For IEEE 802.11a/n/ac mode (4TX/4RX)

Chain 5, Chain 6, Chain 7 and Chain 8 can be used as transmitting/receiving antenna.

Chain 5, Chain 6, Chain 7 and Chain 8 could transmit/receive simultaneously.



3.4. Table for Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144, 149, 153, 157, 161, 165.

For 40MHz bandwidth systems, use Channel 38, 46, 54, 62, 102, 110, 118, 126, 134, 142, 151, 159.

For 80MHz bandwidth systems, use Channel 42, 58, 106, 122, 138, 155.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5150~5250 MHz Band 1	36	5180 MHz	44	5220 MHz
	38	5190 MHz	46	5230 MHz
	40	5200 MHz	48	5240 MHz
	42	5210 MHz	-	-
5250~5350 MHz Band 2	52	5260 MHz	60	5300 MHz
	54	5270 MHz	62	5310 MHz
	56	5280 MHz	64	5320 MHz
	58	5290 MHz	-	-
5470~5725 MHz Band 3	100	5500 MHz	124	5620 MHz
	102	5510 MHz	126	5630 MHz
	104	5520 MHz	128	5640 MHz
	106	5530 MHz	132	5660 MHz
	108	5540 MHz	134	5670 MHz
	110	5550 MHz	136	5680 MHz
	112	5560 MHz	138	5690 MHz
	116	5580 MHz	140	5700 MHz
	118	5590 MHz	142	5710 MHz
	120	5600 MHz	144	5720 MHz
	122	5610 MHz	-	-
5725~5850 MHz Band 4	149	5745 MHz	157	5785 MHz
	151	5755 MHz	159	5795 MHz
	153	5765 MHz	161	5805 MHz
	155	5775 MHz	165	5825 MHz

3.5. Table for 80+80 MHz Mode

Type	Channel No.	Frequency
1	42+106	5210+5530 MHz
2	42+122	5210+5610 MHz
3	42+138	5210+5690 MHz
4	58+106	5290+5530 MHz
5	58+122	5290+5610 MHz
6	58+138	5290+5690 MHz
7	58+155	5290+5775 MHz
8	106+138	5530+5690 MHz
9	106+155	5530+5775 MHz
10	122+155	5610+5775 MHz
11	138+155	5690+5775 MHz

3.6. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode		Data Rate	Channel	Chain
Max. Conducted Output Power	<For Non-Beamforming Mode>				
	11a/BPSK	Band 2~3	6Mbps	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT20	Band 2~3	MCS0/Nss1	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT40	Band 2~3	MCS0/Nss1	54/62/102/110/ 134/142	5+6+7+8
	11ac VHT80	Band 2~3	MCS0/Nss1	58/106/122/138	5+6+7+8
	<For Beamforming Mode>				
	11ac VHT20	Band 2~3	MCS0/Nss1	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT40	Band 2~3	MCS0/Nss1	54/62/102/110/ 134/142	5+6+7+8
	11ac VHT80	Band 2~3	MCS0/Nss1	58/106/122/138	5+6+7+8
	<For Non-Beamforming Mode>				
Power Spectral Density	11a/BPSK	Band 2~3	6Mbps	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT20	Band 2~3	MCS0/Nss1	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT40	Band 2~3	MCS0/Nss1	54/62/102/110/ 134/142	5+6+7+8
	11ac VHT80	Band 2~3	MCS0/Nss1	58/106/122/138	5+6+7+8
	<For Beamforming Mode>				
	11ac VHT20	Band 2~3	MCS0/Nss1	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT40	Band 2~3	MCS0/Nss1	54/62/102/110/ 134/142	5+6+7+8
	11ac VHT80	Band 2~3	MCS0/Nss1	58/106/122/138	5+6+7+8
	<For Non-Beamforming Mode>				
	11a/BPSK	Band 2~3	6Mbps	52/60/64/100/1 16/140/144	5+6+7+8

26dB Spectrum Bandwidth & 99% Occupied Bandwidth Measurement	<For Non-Beamforming Mode>				
	11a/BPSK	Band 2~3	6Mbps	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT20	Band 2~3	MCS0/Nss1	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT40	Band 2~3	MCS0/Nss1	54/62/102/110/ 134/142	5+6+7+8
	11ac VHT80	Band 2~3	MCS0/Nss1	58/106/122/138	5+6+7+8
	<For Beamforming Mode>				
	11ac VHT20	Band 2~3	MCS0/Nss1	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT40	Band 2~3	MCS0/Nss1	54/62/102/110/ 134/142	5+6+7+8
	11ac VHT80	Band 2~3	MCS0/Nss1	58/106/122/138	5+6+7+8
6dB Spectrum Bandwidth Measurement	<For Non-Beamforming Mode>				
	11a/BPSK	Band 4	6Mbps	144	5+6+7+8
	11ac VHT20	Band 4	MCS0/Nss1	144	5+6+7+8
	11ac VHT40	Band 4	MCS0/Nss1	142	5+6+7+8
	11ac VHT80	Band 4	MCS0/Nss1	138	5+6+7+8
	<For Beamforming Mode>				
	11ac VHT20	Band 4	MCS0/Nss1	144	5+6+7+8
	11ac VHT40	Band 4	MCS0/Nss1	142	5+6+7+8
	11ac VHT80	Band 4	MCS0/Nss1	138	5+6+7+8
Radiated Emission Above 1GHz	<For Non-Beamforming Mode>				
	11a/BPSK	Band 2~3	6Mbps	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT20	Band 2~3	MCS0/Nss1	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT40	Band 2~3	MCS0/Nss1	54/62/102/110/ 134/142	5+6+7+8
	11ac VHT80	Band 2~3	MCS0/Nss1	58/106/122/138	5+6+7+8
	<For Beamforming Mode>				
	11ac VHT20	Band 2~3	MCS0/Nss1	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT40	Band 2~3	MCS0/Nss1	54/62/102/110/ 134/142	5+6+7+8
	11ac VHT80	Band 2~3	MCS0/Nss1	58/106/122/138	5+6+7+8

Band Edge Emission	<For Non-Beamforming Mode>				
	11a/BPSK	Band 2~3	6Mbps	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT20	Band 2~3	MCS0/Nss1	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT40	Band 2~3	MCS0/Nss1	54/62/102/110/ 134/142	5+6+7+8
	11ac VHT80	Band 2~3	MCS0/Nss1	58/106/122/138	5+6+7+8
	<For Beamforming Mode>				
	11ac VHT20	Band 2~3	MCS0/Nss1	52/60/64/100/1 16/140/144	5+6+7+8
	11ac VHT40	Band 2~3	MCS0/Nss1	54/62/102/110/ 134/142	5+6+7+8
	11ac VHT80	Band 2~3	MCS0/Nss1	58/106/122/138	5+6+7+8
Frequency Stability	20 MHz	Band 2~3	-	60/116	5
	40 MHz	Band 2~3	-	62/110	5
	80 MHz	Band 2~3	-	58/106	5

802.11ac MCS0/Nss2 VHT80+80 (Non-Beamforming and Beamforming) Mode

Test Items	Mode		Data Rate	Type	Channel	Chain
Max. Conducted Output Power Power Spectral Density 26dB Spectrum Bandwidth & 99% Occupied Bandwidth Measurement Radiated Emission Above 1GHz Band Edge Emission	11ac VHT80+80	Band 1~4	MCS0/Nss2	1	42 106	6+7 5+8
				2	42 122	6+7 5+8
				3	42 138	6+7 5+8
				4	58 106	6+7 5+8
				5	58 122	6+7 5+8
				6	58 138	6+7 5+8
				7	58 155	6+7 5+8
				8	106 138	6+7 5+8
				9	106 155	6+7 5+8
				10	122 155	6+7 5+8
				11	138 155	6+7 5+8

6dB Spectrum Bandwidth Measurement	11ac VHT80+80	Band 4	MCS0/Nss2	3	42	-
					138	5+8
				6	58	-
					138	5+8
				7	58	-
					155	5+8
				8	106	-
					138	5+8
				9	106	-
					155	5+8
				10	122	-
					155	5+8
				11	138	6+7
					155	5+8

Note 1: VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

Note 2: There are two modes of EUT, one is beamforming mode, and the other is non-beamforming mode for 802.11n/ac. All test results were recorded in the report.

Note 3: The PoE information as below, The PoE is for measurement only and it would not be marketed.

Support Unit	Brand	Model	FCC ID
PoE	PHIHONG	POE31U-1AT(SC)	DoC

The following test modes were performed for all tests:

For Radiated Emission test (Above 1GHz):

The EUT was performed at Y axis and Z axis position for Radiated emission above 1GHz test, and the worst case was found at Z axis. So the measurement will follow this same test configuration.

Mode 1. CTX - Z axis

For Co-location MPE and Radiated Emission Co-location Test:

The EUT could be applied with 2.4GHz WLAN function and 5GHz WLAN function; therefore Co-location Maximum Permissible Exposure (Please refer to FA641226-01) tests are added for simultaneously transmit between 2.4GHz WLAN function and 5GHz WLAN function.

3.7. Table for Testing Locations

Test Site Location					
Address:	No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C.				
TEL:	886-3-656-9065				
FAX:	886-3-656-9085				
Test Site No.	Site Category	Location	FCC Designation No.	IC File No.	VCCI Reg. No
03CH01-CB	SAC	Hsin Chu	TW0006	IC 4086D	-
CO01-CB	Conduction	Hsin Chu	TW0006	IC 4086D	-
TH01-CB	OVEN Room	Hsin Chu	-	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC).

3.8. Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR641226

Below is the table for the change of the product with respect to the original one.

Description	Performance Checking
Add 5GHz B2 and B3 (5250~5350 MHz, 5470~5725 MHz) for this device.	26dB Spectrum Bandwidth and 99% Occupied Bandwidth 6dB Spectrum Bandwidth Measurement - Maximum Conducted Output Power - Power Spectral Density - Radiated Emissions (Above 1GHz) - Band Edge Emissions - Frequency Stability Measurement
Add eleven sets 80+80 Mode also includes the 5150 ~ 5250 MHz and 5725 ~ 5850 MHz, please refer to the section 3.5 for detail.	26dB Spectrum Bandwidth and 99% Occupied Bandwidth 6dB Spectrum Bandwidth Measurement - Maximum Conducted Output Power - Power Spectral Density - Radiated Emissions (Above 1GHz) - Band Edge Emissions

3.9. Table for Supporting Units

For Test Site No: 03CH01-CB (Above 1GHz)

<For Non-Beamforming Mode>

Support Unit	Brand	Model	FCC ID
NB	DELL	E4300	DoC

<For Beamforming Mode>

Support Unit	Brand	Model	FCC ID
NB*2	DELL	E4300	DoC
RX Device	MOJO	C-120	TOR-C120

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E4300	DoC

3.10. Table for Parameters of Test Software Setting

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

<For Non-Beamforming Mode>

Test Software Version	QCARCT Ver3.0.144.0						
Mode	Test Frequency (MHz)						
	NCB: 20MHz						
	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
802.11a	10.5	10	10	10.5	10	10	11.5
802.11ac MCS0/Nss1 VHT20	10.5	10	10	10.5	10	10	12
Mode	NCB: 40MHz						
802.11ac MCS0/Nss1 VHT40	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	
	13.5	13	13.5	13.5	13	14	
Mode	NCB: 80MHz						
802.11ac MCS0/Nss1 VHT80	5290 MHz		5530 MHz		5610 MHz		5690 MHz
	11.5		13.5		15.5		16
Mode	NCB: 80MHz+80MHz						
802.11ac MCS0/Nss2 VHT80+80	Type 1		Type 2		Type 3		Type 4
	5210+5530 MHz		5210+5610 MHz		5210+5690 MHz		5290+5530 MHz
	17		17.5		17.5		16
	Type 5		Type 6		Type 7		Type 8
	5290+5610 MHz		5290+5690 MHz		5290+5775 MHz		5530+5690 MHz
	15.5		16		16		16
	Type 9		Type 10		Type 11		-
	5530+5775 MHz		5610+5775 MHz		5690+5775 MHz		-
	17.5		17.5		17.5		-

<For Beamforming Mode>

Test Software Version	QCARCT Ver3.0.144.0						
Mode	Test Frequency (MHz)						
	NCB: 20MHz						
	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
802.11ac MCS0/Nss1 VHT20	16	16	15.5	14.5	14	14.5	17
Mode	NCB: 40MHz						
802.11ac MCS0/Nss1 VHT40	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	
	15.5	15.5	15	15.5	15.5	17.5	
Mode	NCB: 80MHz						
802.11ac MCS0/Nss1 VHT80	5290 MHz		5530 MHz		5610 MHz		5690 MHz
	15		14		14		17.5
Mode	NCB: 80MHz+80MHz						
802.11ac MCS0/Nss2 VHT80+80	Type 1		Type 2		Type 3		Type 4
	5210+5530 MHz		5210+5610 MHz		5210+5690 MHz		5290+5530 MHz
	22		23		23		19
	Type 5		Type 6		Type 7		Type 8
	5290+5610 MHz		5290+5690 MHz		5290+5775 MHz		5530+5690 MHz
	19		19		19		20
	Type 9		Type 10		Type 11		-
	5530+5775 MHz		5610+5775 MHz		5690+5775 MHz		-
	22		22		23		-

3.11. EUT Operation during Test

<For Non-Beamforming Mode>

The EUT was programmed to be in continuously transmitting mode.

<For Beamforming Mode>

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

During the test, the following programs under WIN 7 were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under Telnet.
3. Executed "Lantest.exe " to link with the remote workstation to receive and transmit packet by RX Device and transmit duty cycle no less 98%

3.12. Duty Cycle

<For Non-Beamforming Mode>

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Min. VBW (kHz)
802.11a	2.060	2.120	97.17%	0.12	0.49
802.11ac MCS0/Nss1 VHT20	5.040	5.080	99.21%	0.03	0.01
802.11ac MCS0/Nss1 VHT40	2.420	2.480	97.58%	0.11	0.41
802.11ac MCS0/Nss1 VHT80	1.140	1.220	93.44%	0.29	0.88
802.11ac MCS0/Nss2 VHT80+80	2.206	2.290	96.35%	0.16	0.45

<For Beamforming Mode>

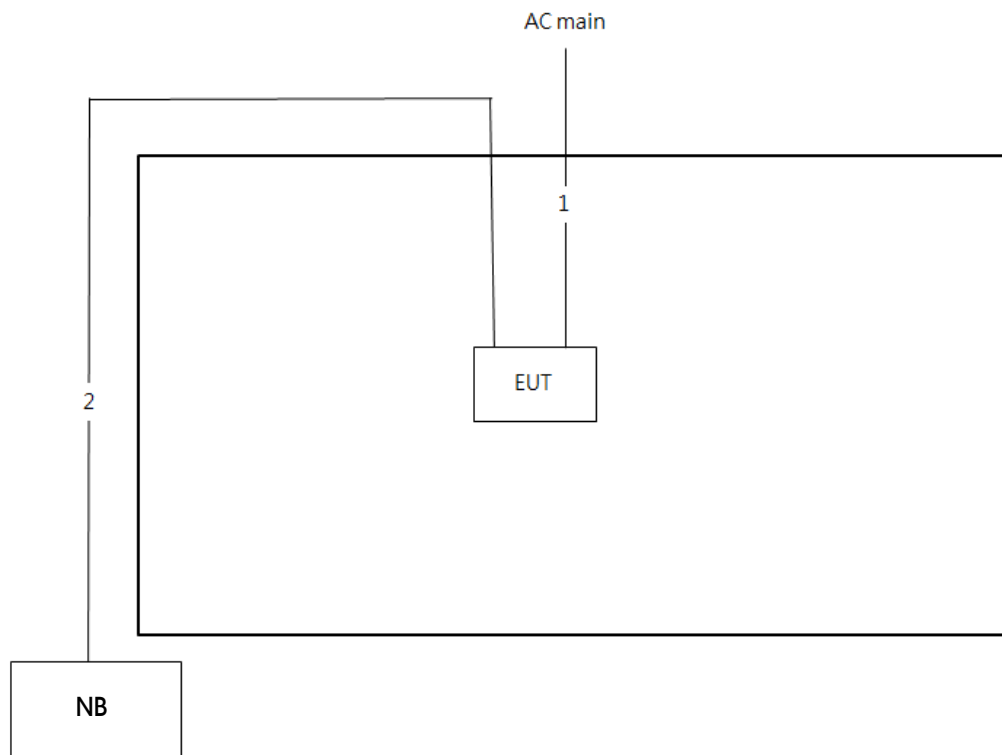
Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Min. VBW (kHz)
802.11ac MCS0/Nss1 VHT20	1.796	1.912	93.93%	0.27	0.56
802.11ac MCS0/Nss1 VHT40	1.669	1.870	89.24%	0.49	0.60
802.11ac MCS0/Nss1 VHT80	1.540	1.740	88.51%	0.53	0.65
802.11ac MCS0/Nss2 VHT80+80	1.760	1.920	91.67%	0.38	0.57

3.13. Test Configurations

3.13.1. Radiation Emissions Test Configuration

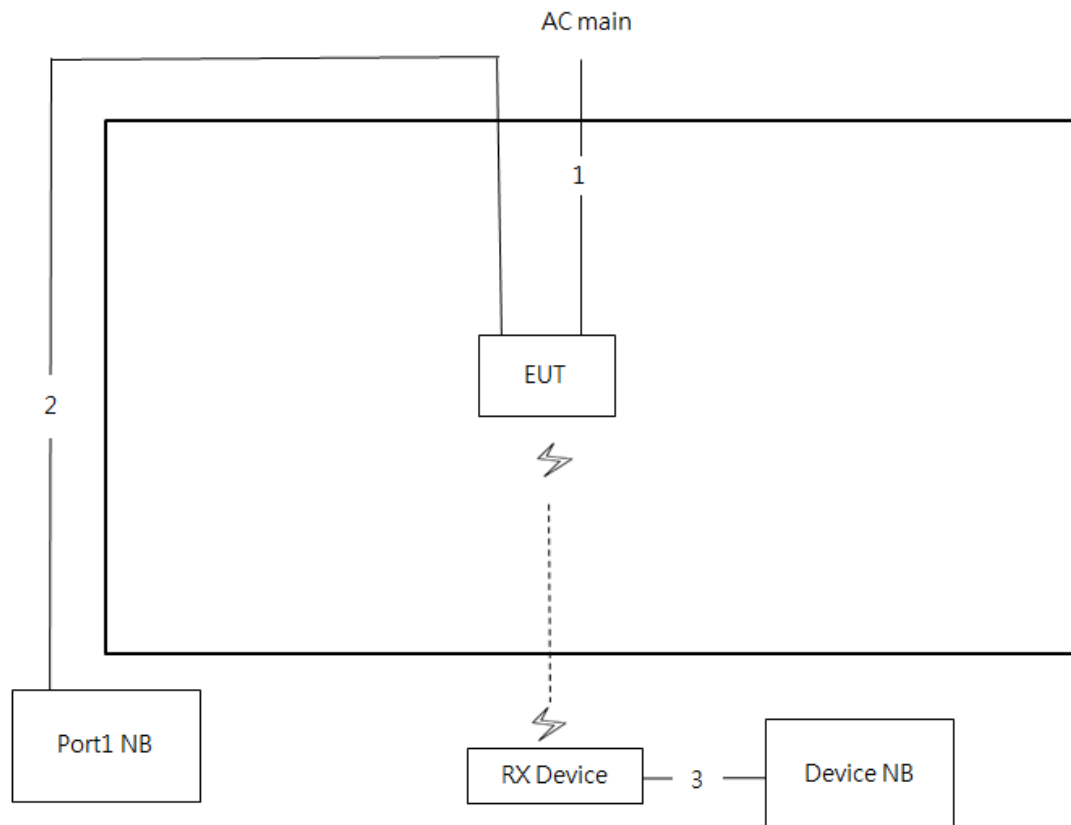
Test Configuration: above 1GHz

<For Non-Beamforming Mode>



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m

<For Beamforming Mode>



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	1.5m

4. TEST RESULT

4.1. 26dB Bandwidth and 99% Occupied Bandwidth Measurement

4.1.1. Limit

No restriction limits.

4.1.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

26dB Bandwidth	
Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 26dB Bandwidth
RBW	Approximately 1% of the emission bandwidth
VBW	VBW > RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto
99% Occupied Bandwidth	
Spectrum Parameters	Setting
Span	1.5 times to 5.0 times the OBW
RBW	1 % to 5 % of the OBW
VBW	$\geq 3 \times \text{RBW}$
Detector	Peak
Trace	Max Hold

4.1.3. Test Procedures

For Radiated 26dB Bandwidth and 99% Occupied Bandwidth Measurement:

1. The transmitter was radiated to the spectrum analyzer in peak hold mode.
2. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.
Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

4.1.4. Test Setup Layout

For Radiated 26dB Bandwidth and 99% Occupied Bandwidth Measurement:

This test setup layout is the same as that shown in section 4.5.4.

4.1.5. Test Deviation

There is no deviation with the original standard.

4.1.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.1.7. Test Result of 26dB Bandwidth and 99% Occupied Bandwidth

Temperature	24°C	Humidity	60%
Test Engineer	Clemens Fang		

<For Non-Beamforming Mode>

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5260 MHz	18.44	16.41
	5300 MHz	18.61	16.41
	5320 MHz	18.35	16.32
	5500 MHz	18.96	16.50
	5580 MHz	18.87	16.59
	5700 MHz	18.87	16.41
802.11ac MCS0/Nss1 VHT20	5260 MHz	19.48	17.45
	5300 MHz	19.57	17.54
	5320 MHz	19.39	17.45
	5500 MHz	20.17	17.54
	5580 MHz	19.91	17.71
	5700 MHz	19.83	17.63
802.11ac MCS0/Nss1 VHT40	5270 MHz	40.44	36.61
	5310 MHz	40.15	36.61
	5510 MHz	40.44	36.18
	5550 MHz	40.44	36.04
	5670 MHz	40.44	36.61
802.11ac MCS0/Nss1 VHT80	5290 MHz	79.42	75.83
	5530 MHz	79.71	75.54
	5610 MHz	79.42	74.67

Straddle Channel

Mode	Frequency	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII 2C 26dB BW (MHz)	UNII 3 26dB BW (MHz)	UNII 2C 99% BW (MHz)	UNII 3 99% BW (MHz)
802.11a	5720 MHz	18.70	16.41	5710.35	5711.75	14.65	4.04	13.25	3.16
802.11ac MCS0/Nss1 VHT20	5720 MHz	19.74	17.54	5710.00	5711.14	15.00	4.74	13.86	3.68
802.11ac MCS0/Nss1 VHT40	5710 MHz	40.29	36.47	5690.00	5691.77	35.00	5.29	33.23	3.23
802.11ac MCS0/Nss1 VHT80	5690 MHz	79.71	75.83	5650.29	5652.08	74.71	5.00	72.92	2.92

802.11ac MCS0/Nss2 VHT80+80

Type	Frequency	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII 1 or UNII 2C 26dB BW (MHz)	UNII 2A or UNII 3 26dB BW (MHz)	UNII 1 or UNII 2C 99% BW (MHz)	UNII 2A or UNII 3 99% BW (MHz)	26dB Total BW (MHz)
1	5210 MHz	79.71	75.83	-						160.00
	5530 MHz	80.29	75.83							
2	5210 MHz	80.00	75.83	-						160.00
	5610 MHz	80.00	75.83							
3	5210 MHz	80.00	75.83	-						160.00
	5690 MHz	80.00	75.83							
4	5290 MHz	80.58	76.12	-						160.87
	5530 MHz	80.29	75.83							
5	5290 MHz	80.00	76.12	-						160.29
	5610 MHz	80.29	75.83							
6	5290 MHz	80.29	75.83	-						160.29
	5690 MHz	80.00	75.83							
7	5290 MHz	80.00	75.83	-						160.29
	5775 MHz	80.29	75.83							
8	5530 MHz	80.29	75.83	-						160.29
	5690 MHz	80.00	75.83							
9	5530 MHz	80.00	75.83	-						160.29
	5775 MHz	80.29	75.83							
10	5610 MHz	79.71	75.83	-						159.71
	5775 MHz	80.00	75.83							
11	5690 MHz	80.00	75.83	5650.00	5652.37	75.00	5.00	72.63	3.20	160.00
	5775 MHz	80.00	75.83	-						

<For Beamforming Mode>

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5260 MHz	22.43	17.89
	5300 MHz	22.61	17.97
	5320 MHz	22.35	17.97
	5500 MHz	21.57	17.89
	5580 MHz	22.09	17.97
	5700 MHz	22.26	17.89
802.11ac MCS0/Nss1 VHT40	5270 MHz	45.51	37.05
	5310 MHz	45.65	37.05
	5510 MHz	45.51	37.05
	5550 MHz	45.65	37.05
	5670 MHz	45.65	37.05
802.11ac MCS0/Nss1 VHT80	5290 MHz	87.83	76.70
	5530 MHz	86.38	76.12
	5610 MHz	87.25	76.41

Straddle Channel

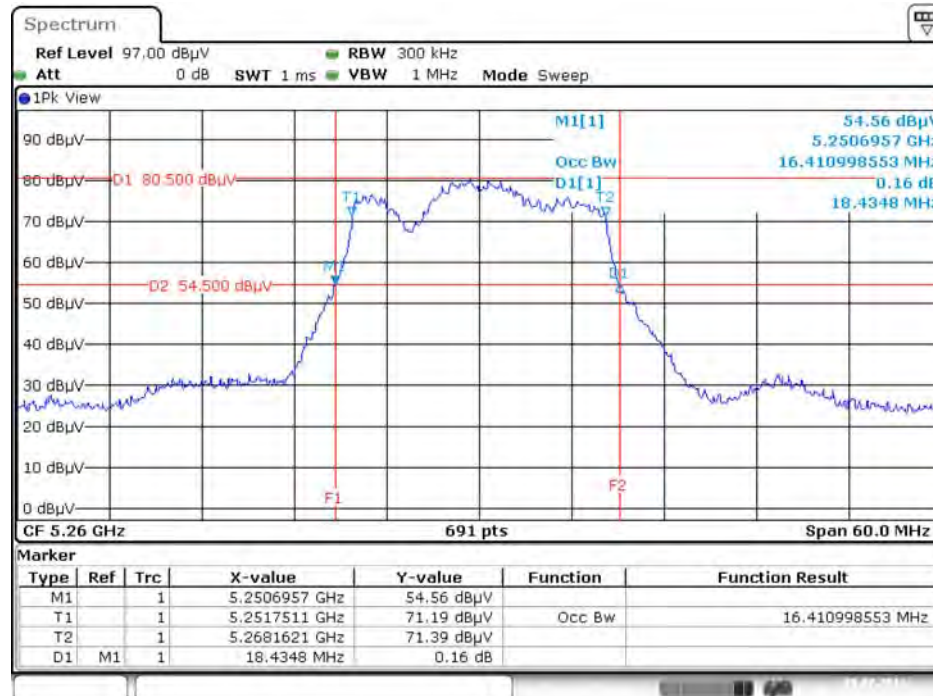
Mode	Frequency	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII 2C 26dB BW (MHz)	UNII 3 26dB BW (MHz)	UNII 2C 99% BW (MHz)	UNII 3 99% BW (MHz)
802.11ac MCS0/Nss1 VHT20	5720 MHz	20.96	17.71	5709.48	5711.14	15.52	5.44	13.86	3.86
802.11ac MCS0/Nss1 VHT40	5710 MHz	39.86	36.32	5690.15	5691.91	34.85	5.00	33.09	3.23
802.11ac MCS0/Nss1 VHT80	5690 MHz	79.42	75.83	5650.29	5652.08	74.71	4.71	72.92	2.92

802.11ac MCS0/Nss2 VHT80+80

Type	Frequency	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII 1 or UNII 2C 26dB BW (MHz)	UNII 2A or UNII 3 26dB BW (MHz)	UNII 1 or UNII 2C 99% BW (MHz)	UNII 2A or UNII 3 99% BW (MHz)	26dB Total BW (MHz)
1	5210 MHz	86.96	76.41	-						175.07
	5530 MHz	88.12	76.12							
2	5210 MHz	87.25	76.41	-						185.80
	5610 MHz	98.55	76.70							
3	5210 MHz	87.83	76.70	-						167.83
	5690 MHz	80.00	75.83							
4	5290 MHz	90.15	76.41	-						178.55
	5530 MHz	88.41	76.70							
5	5290 MHz	87.25	76.12	-						173.91
	5610 MHz	86.67	76.70							
6	5290 MHz	86.67	76.12	-						166.67
	5690 MHz	80.00	75.83							
7	5290 MHz	87.83	76.41	-						176.81
	5775 MHz	88.99	76.41							
8	5530 MHz	88.99	76.41	-						168.70
	5690 MHz	79.71	75.83							
9	5530 MHz	88.70	76.41	-						178.26
	5775 MHz	89.57	76.70							
10	5610 MHz	90.15	76.41	-						186.38
	5775 MHz	96.23	76.70							
11	5690 MHz	80.29	75.83	5649.71	5652.08	75.29	5.00	72.92	2.92	171.30
	5775 MHz	91.01	76.70	-						

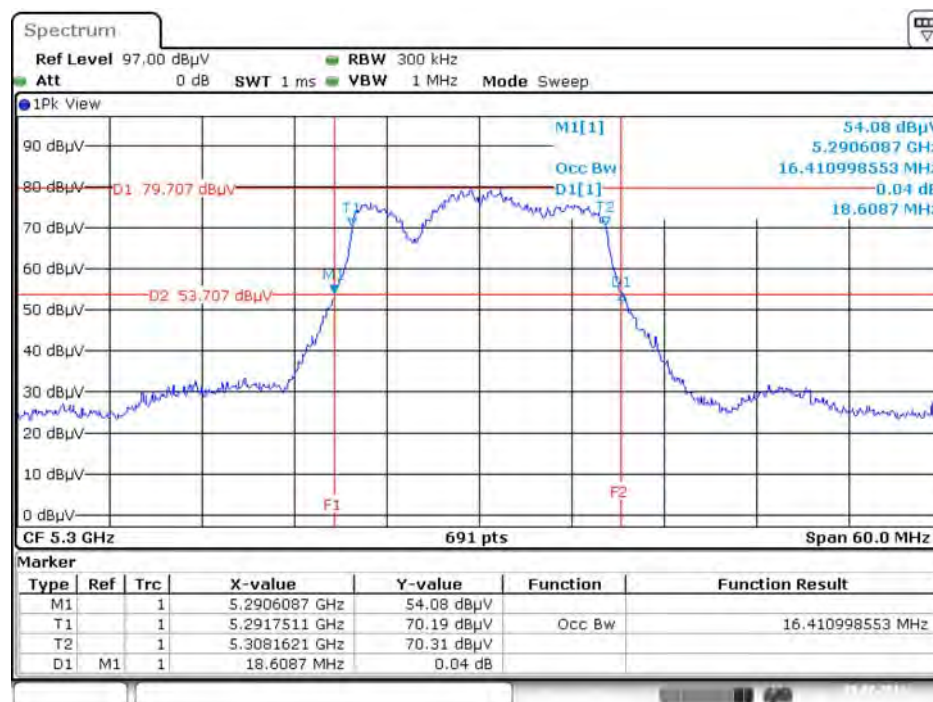
<For Non-Beamforming Mode>

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6
+ Chain 7 + Chain 8 / 5260 MHz



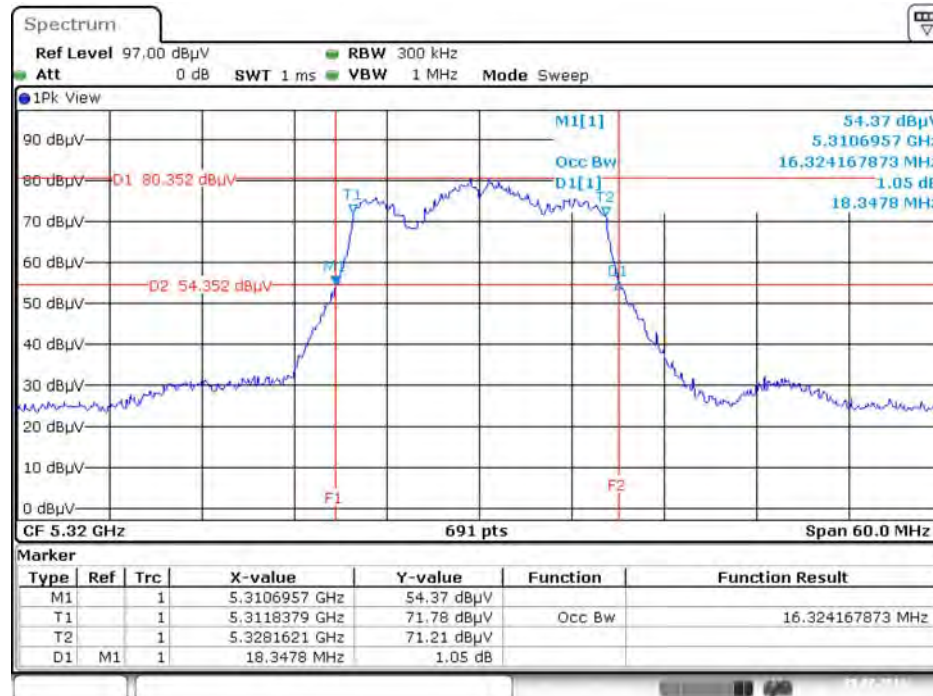
Date: 29 JUL 2016 22:46:51

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6
+ Chain 7 + Chain 8 / 5300 MHz

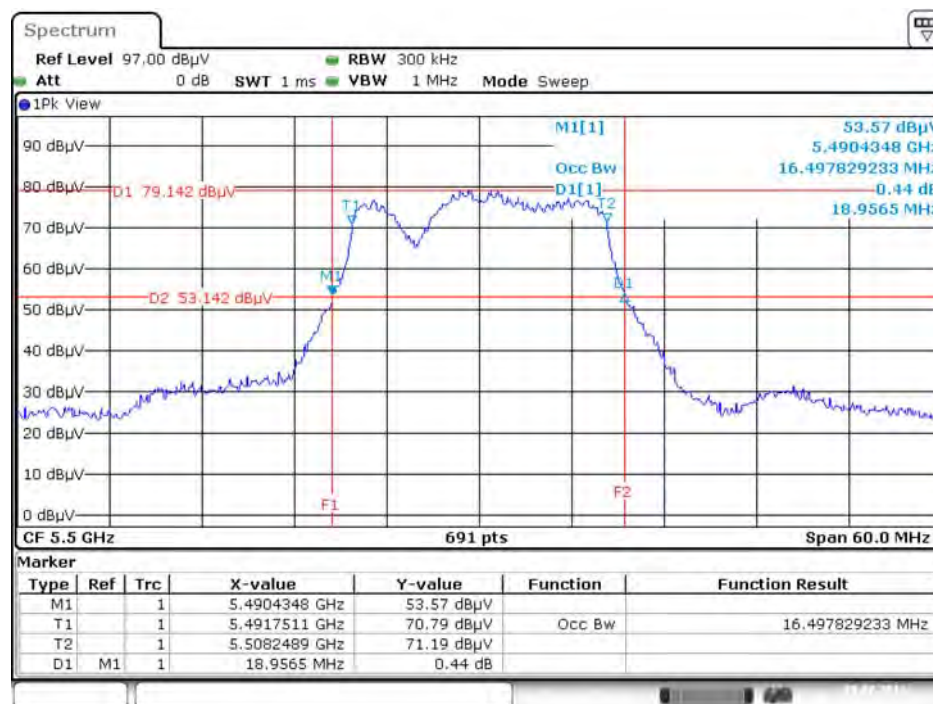


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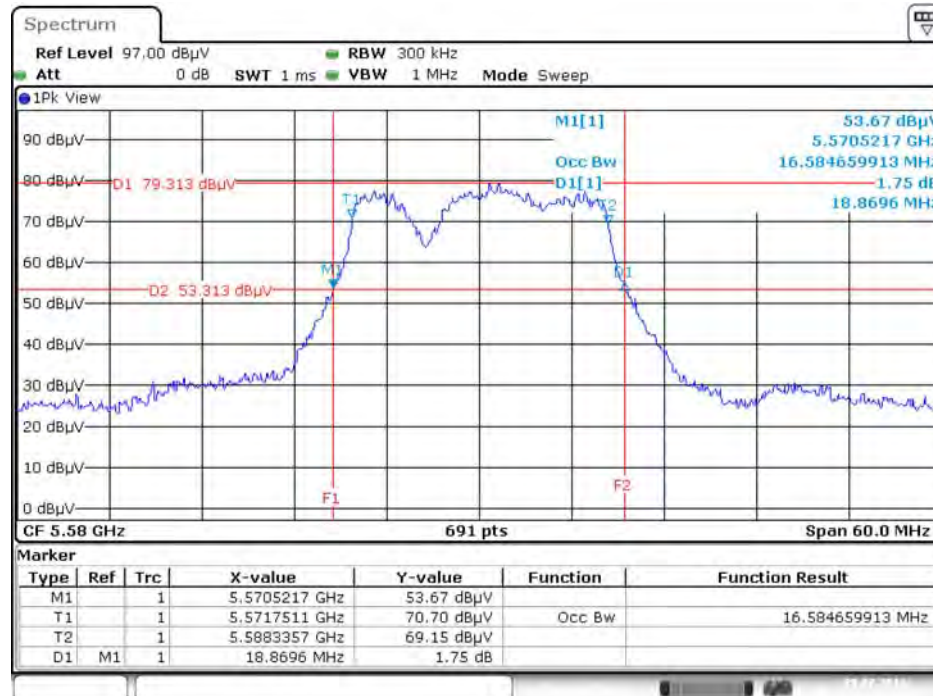
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5320 MHz



26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5500 MHz

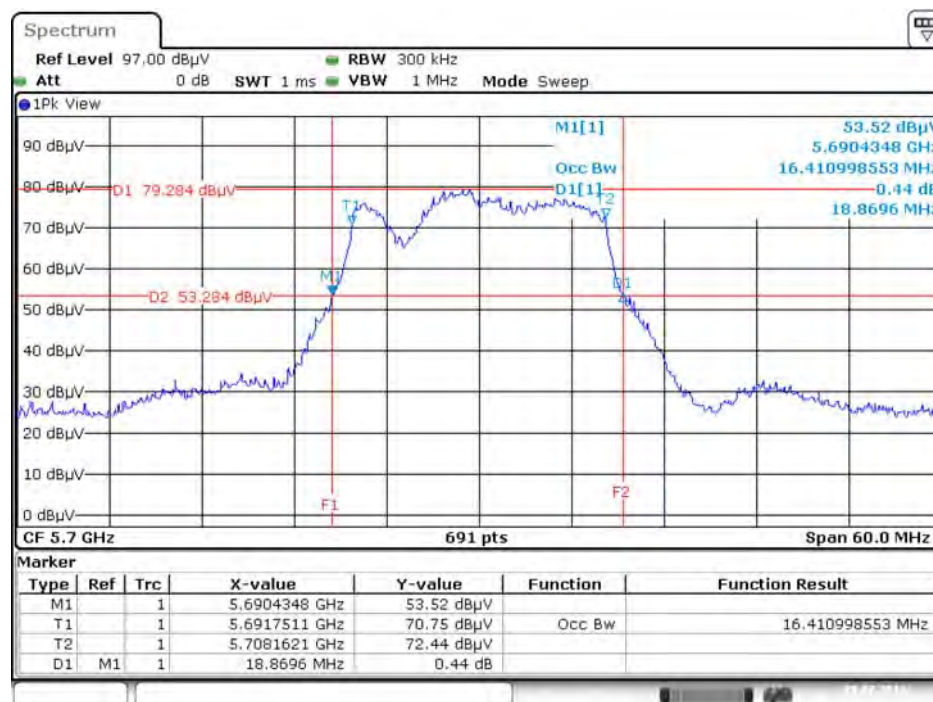


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6
+ Chain 7 + Chain 8 / 5580 MHz



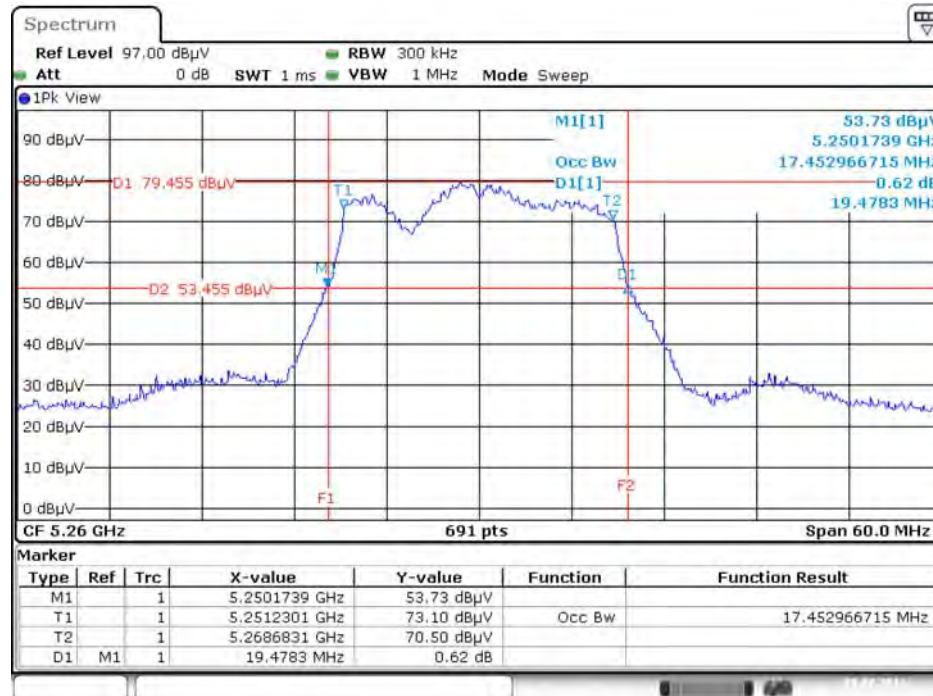
Date: 29 JUL 2016 22:48:58

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6
+ Chain 7 + Chain 8 / 5700 MHz



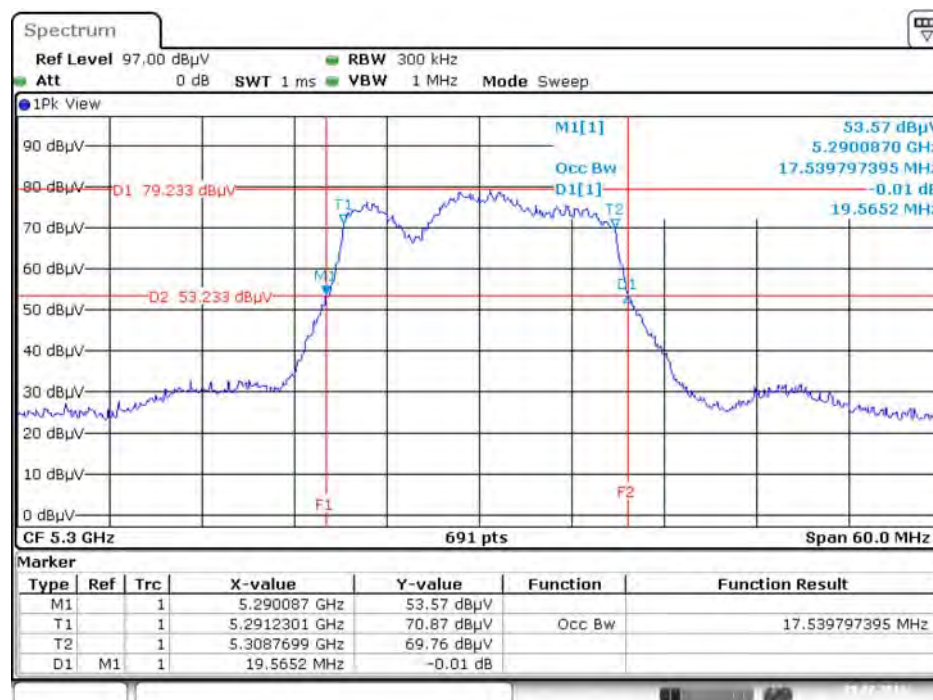
Date: 29 JUL 2016 22:49:35

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5260 MHz



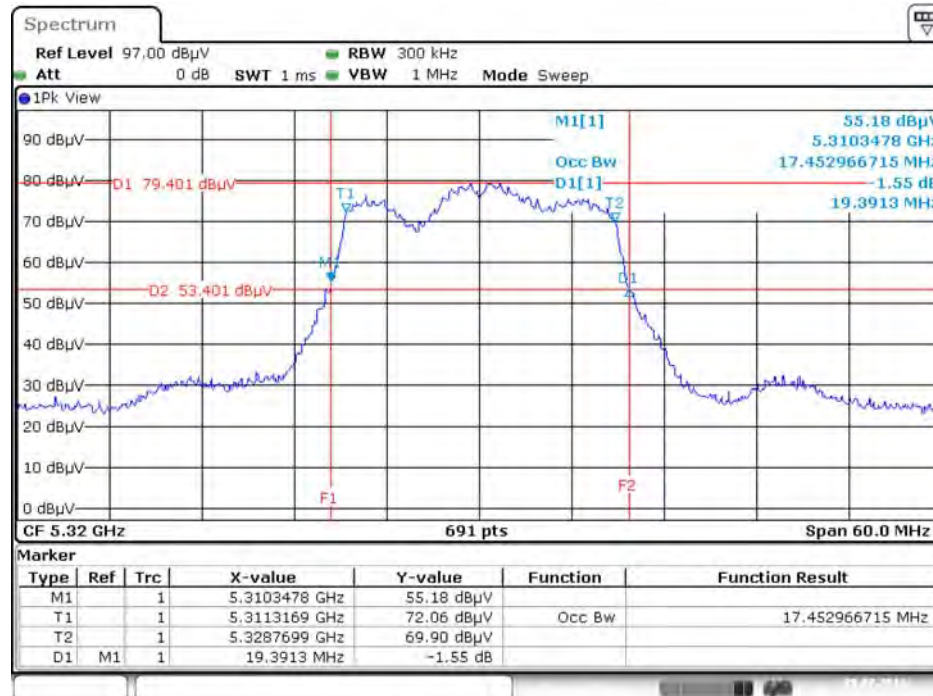
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26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5300 MHz



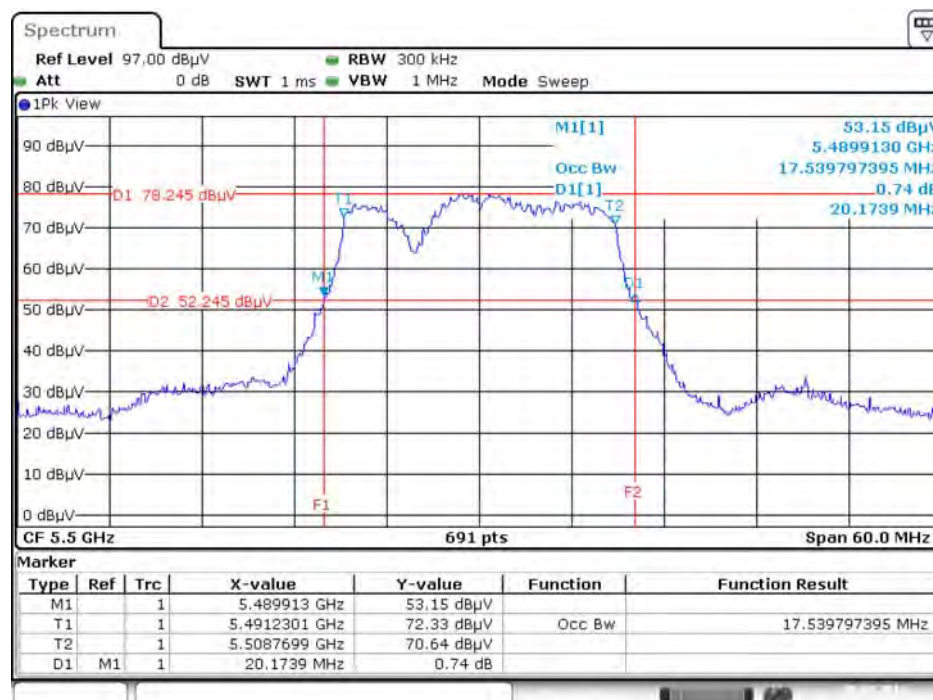
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26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5320 MHz



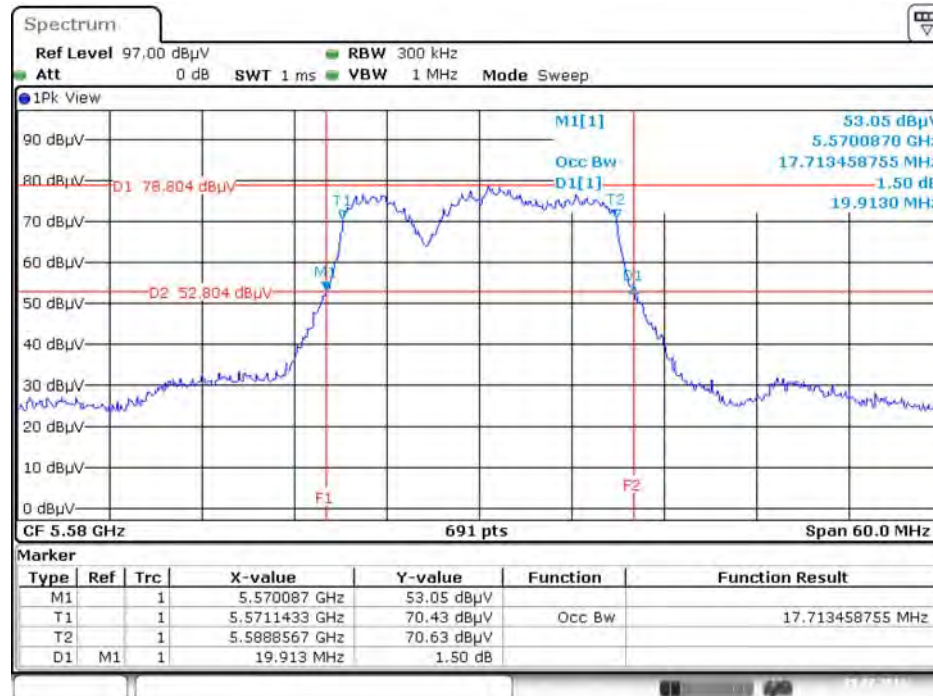
Date: 29 JUL 2016 22:51:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5500 MHz



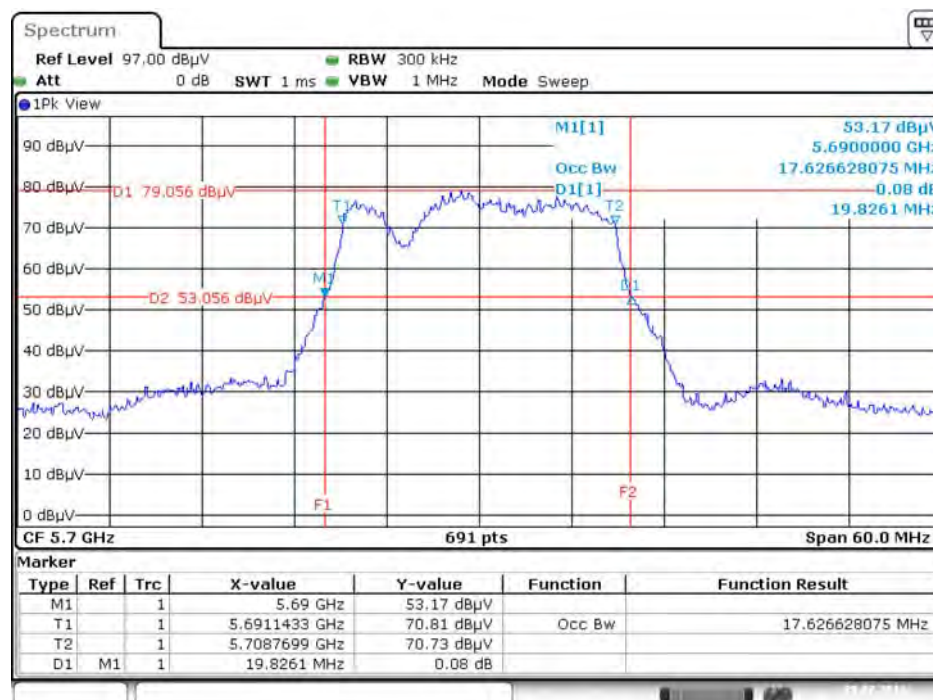
Date: 29 JUL 2016 22:51:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5580 MHz



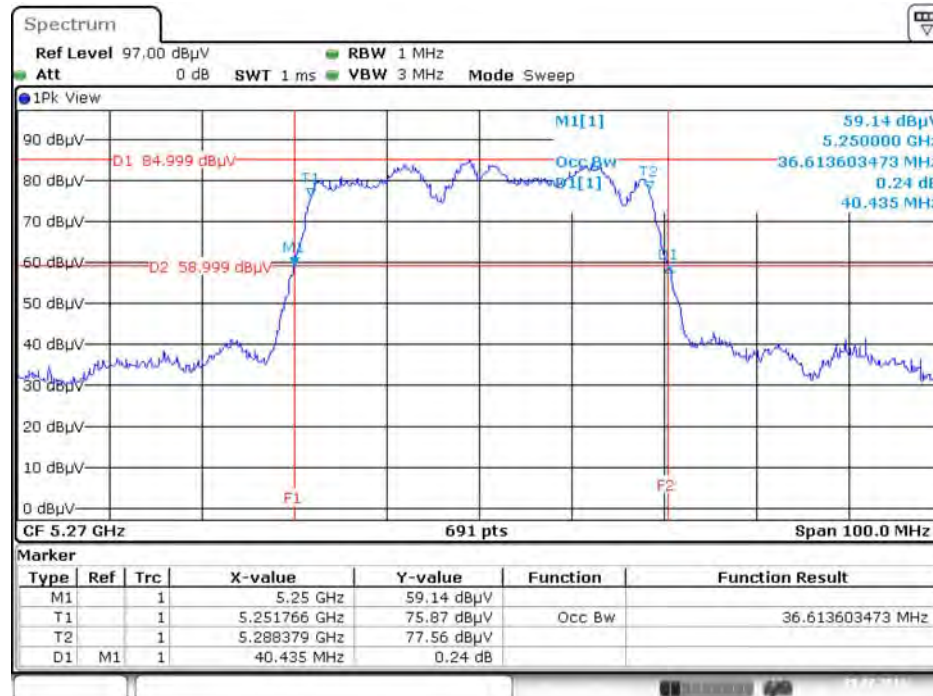
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26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5700 MHz



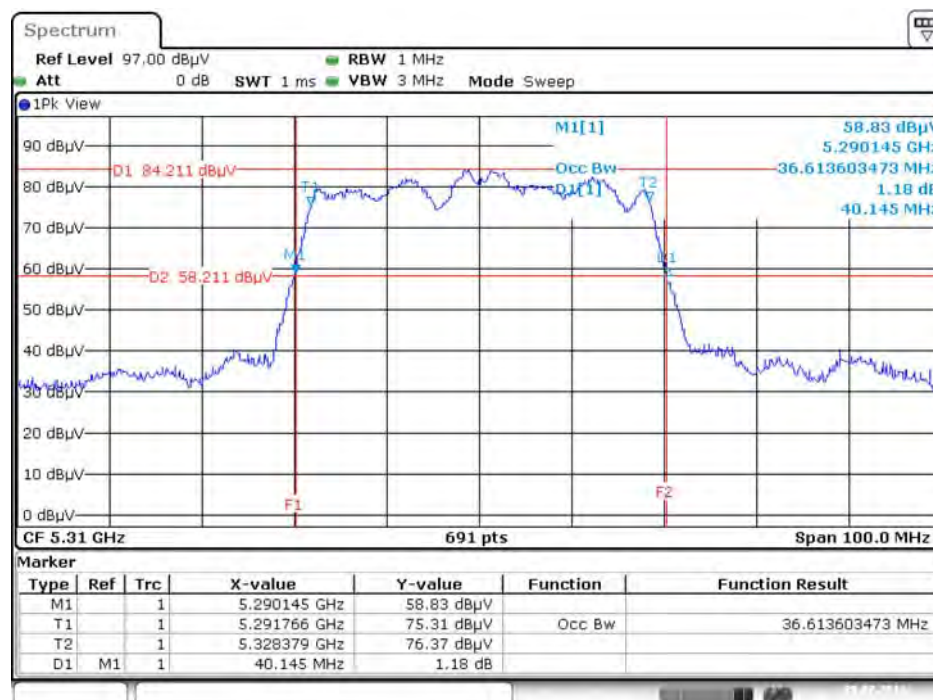
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26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5270 MHz



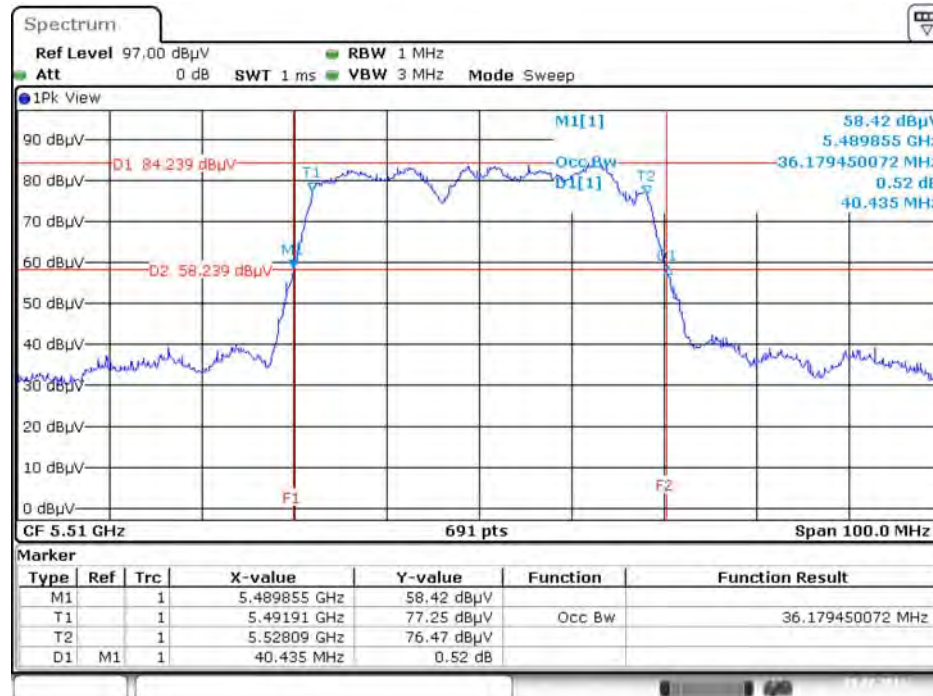
Date: 29 JUL 2016 22:53:31

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5310 MHz



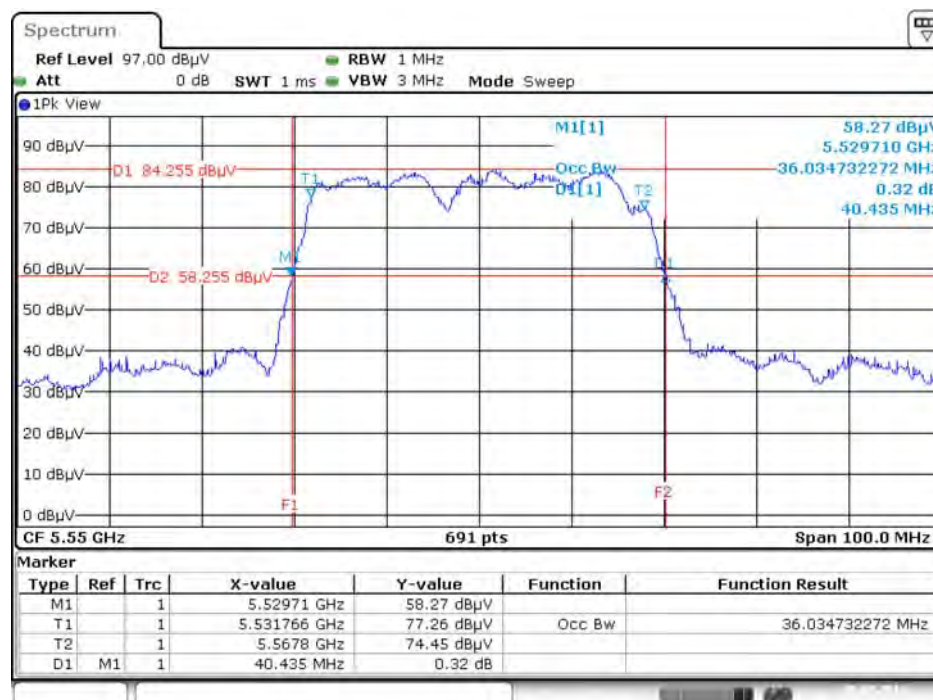
Date: 29 JUL 2016 22:53:56

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5510 MHz



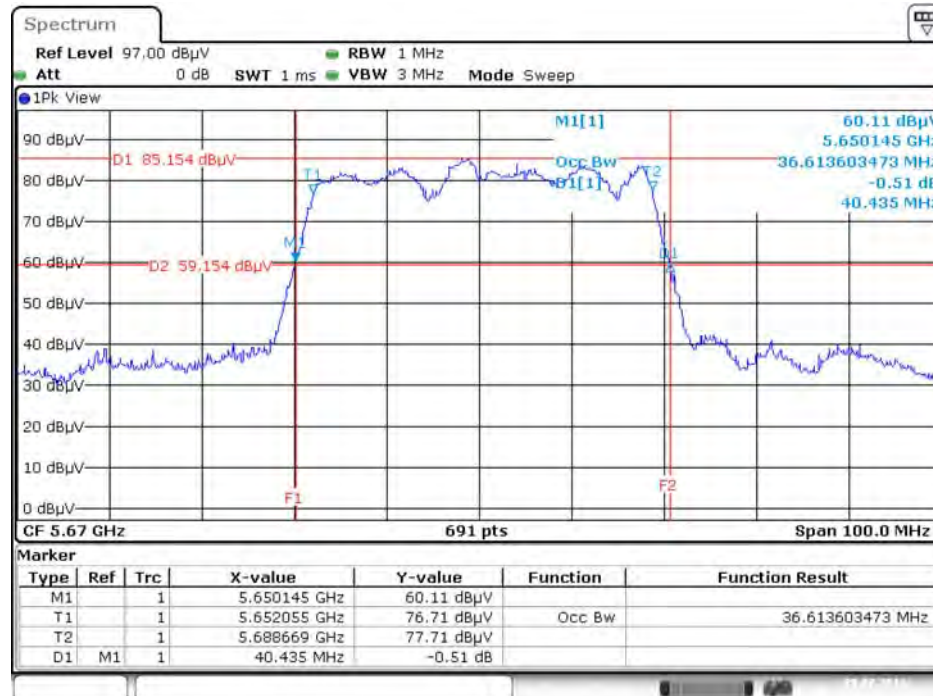
Date: 29 JUL 2016 22:54:23

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5550 MHz



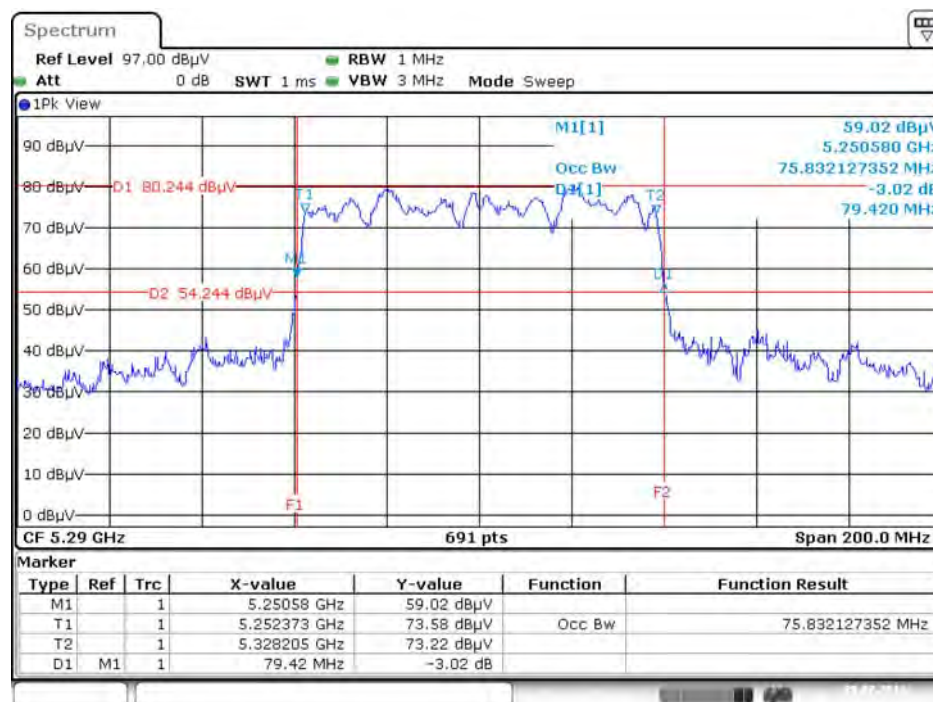
Date: 29 JUL 2016 22:55:07

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5670 MHz



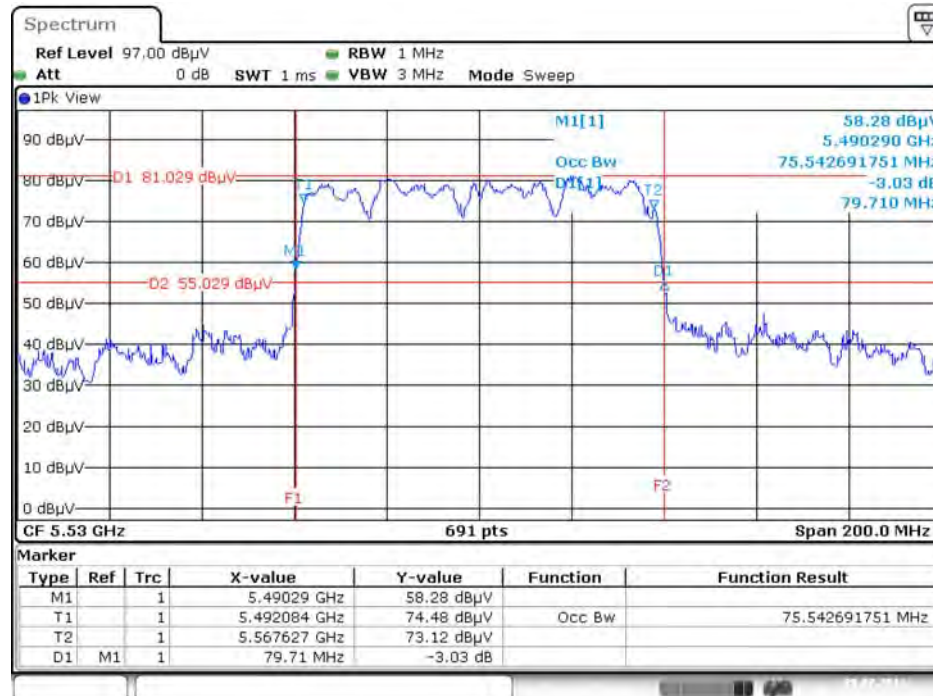
Date: 29 JUL 2016 22:55:37

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5290 MHz

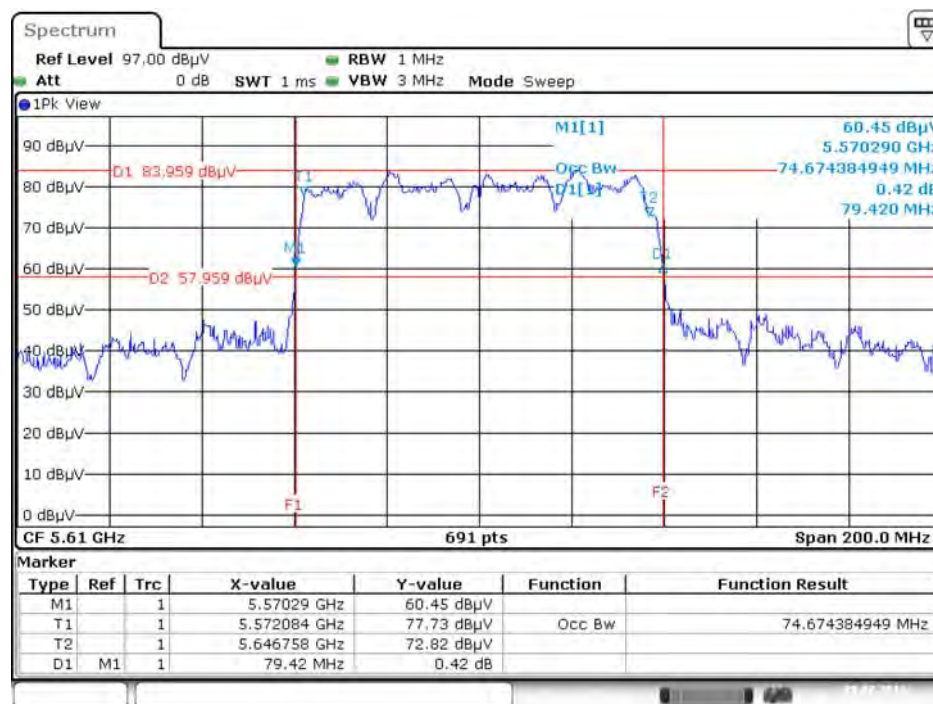


Date: 29 JUL 2016 22:56:20

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5530 MHz

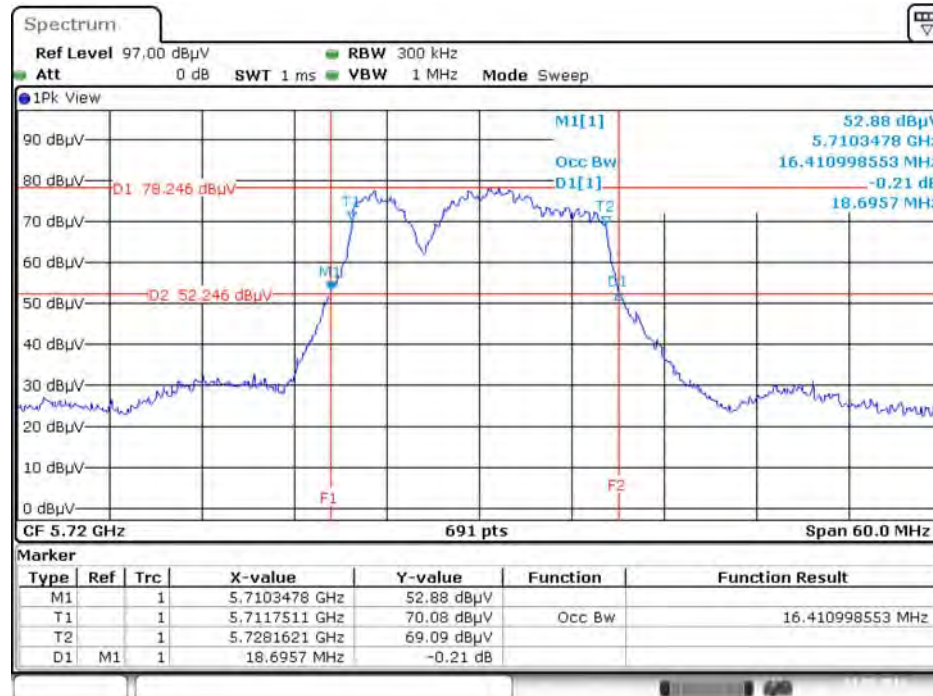


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5610 MHz



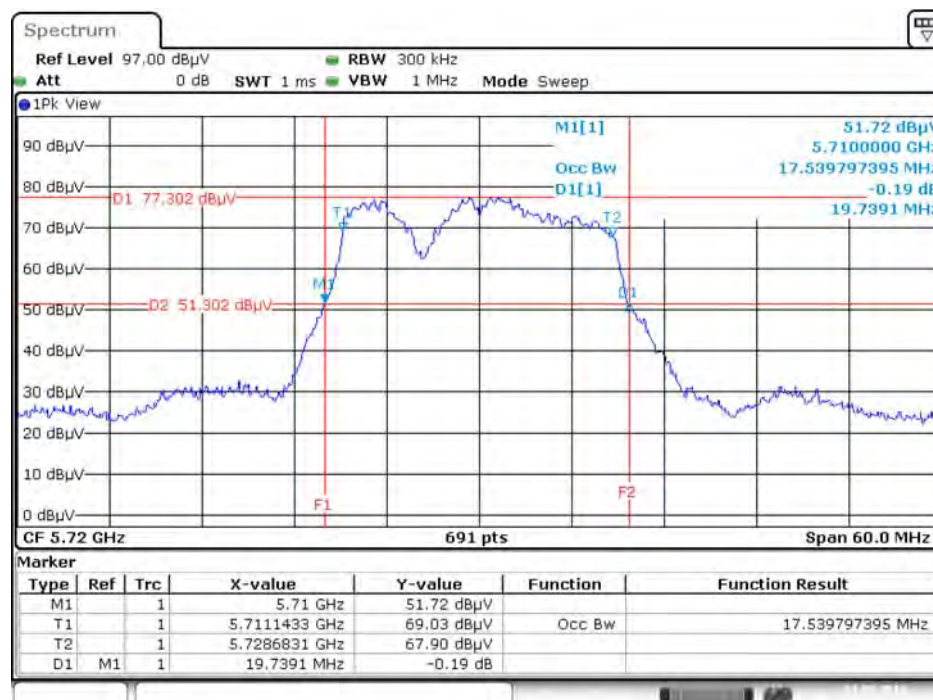
Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6
+ Chain 7 + Chain 8 / 5720 MHz



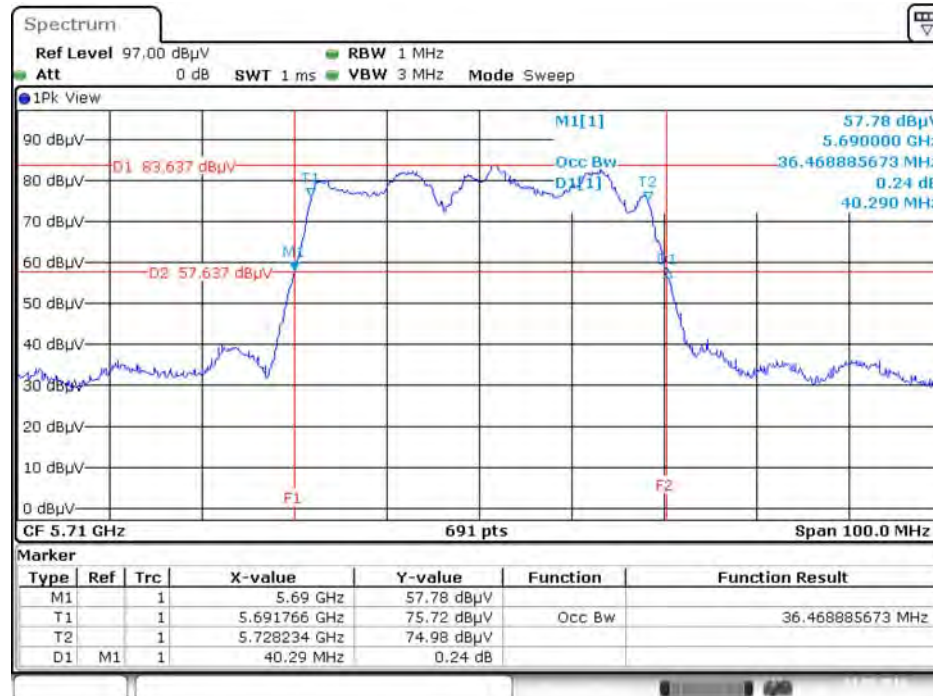
Date: 3.MAY.2016 22:49:30

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 /
Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5720 MHz



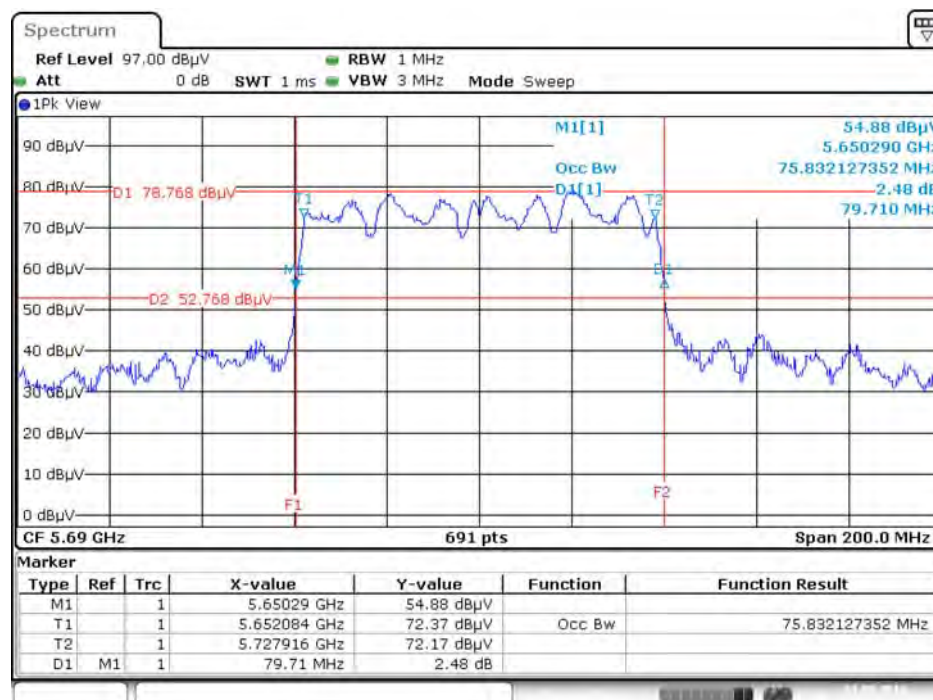
Date: 3.MAY.2016 22:55:51

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5710 MHz



Date: 3.MAY.2016 22:56:22

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5690 MHz

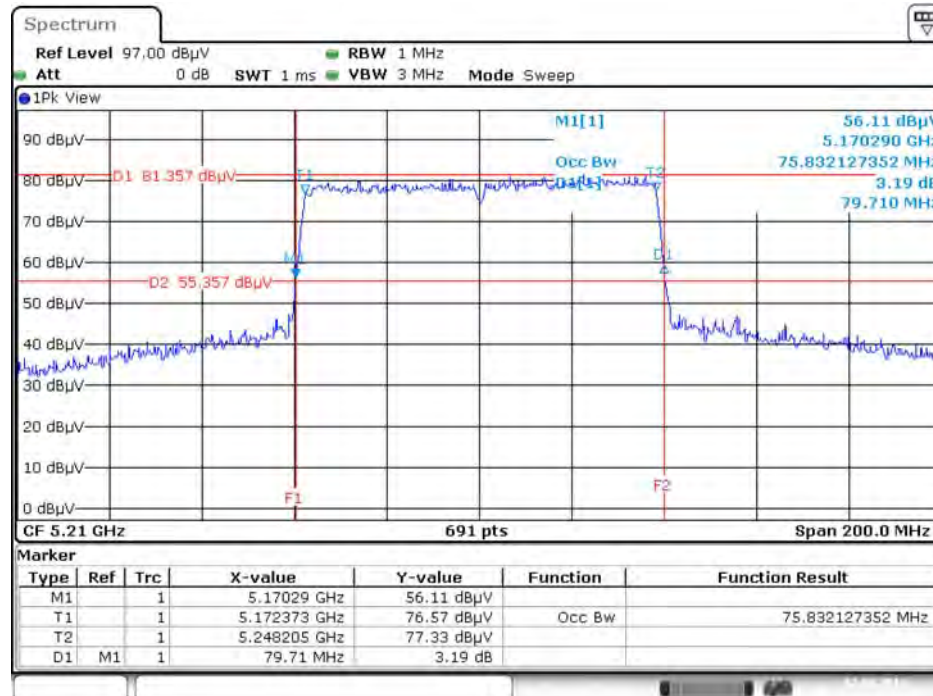


Date: 3.MAY.2016 22:56:56

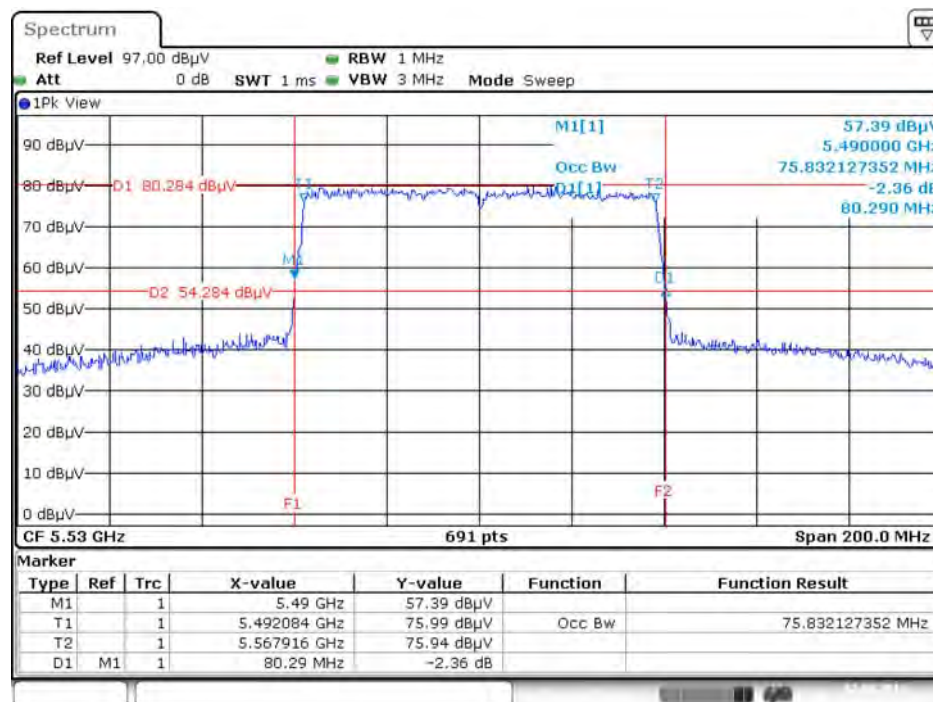
802.11ac MCS0/Nss2 VHT80+80

Type 1

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5210 MHz

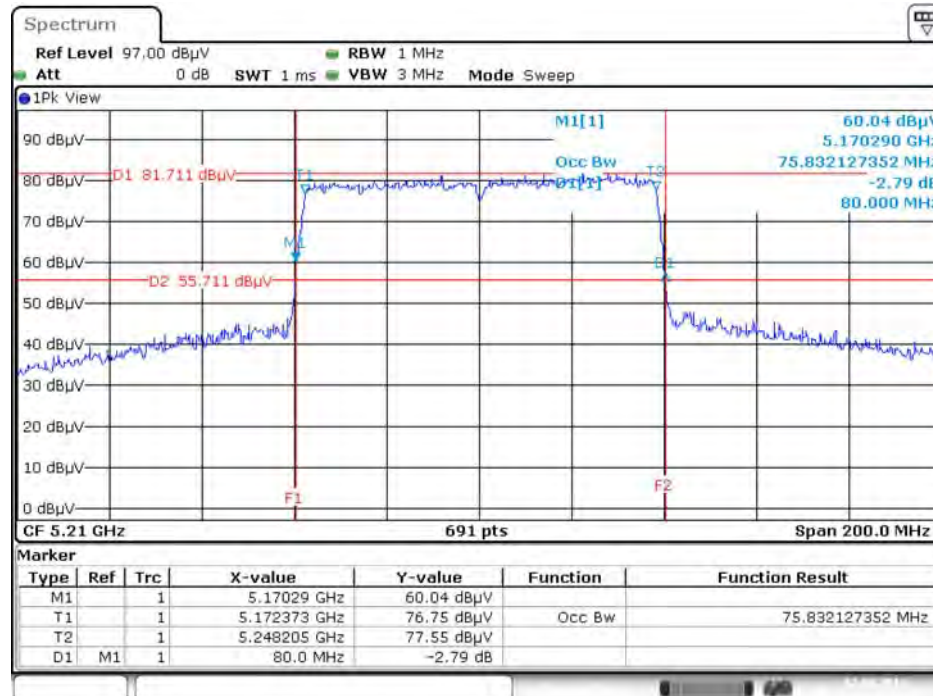


26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5530 MHz



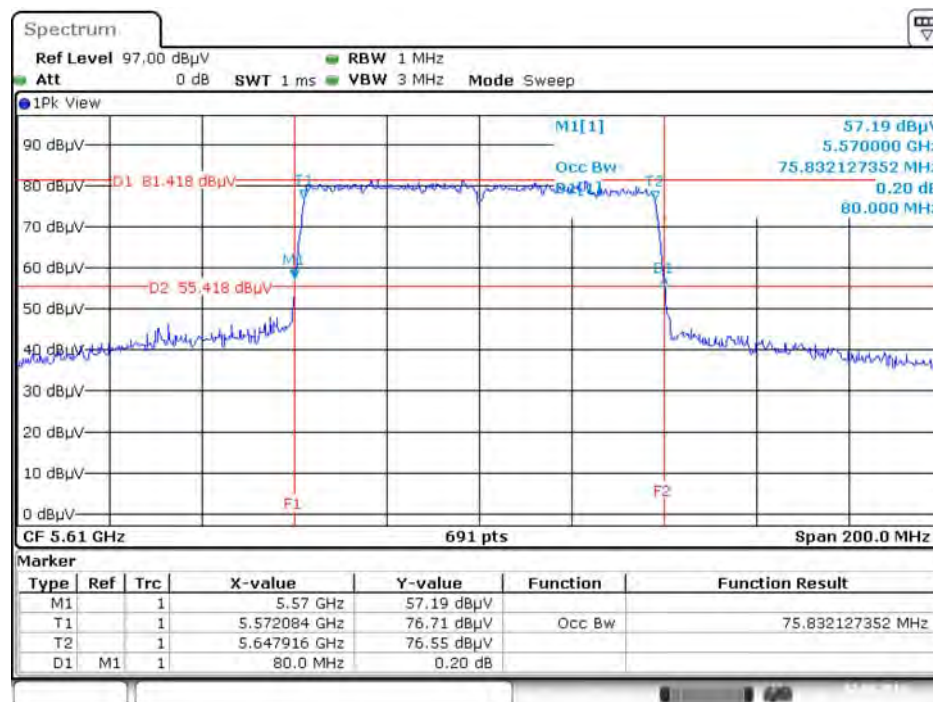
Type 2

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5210 MHz



Date: 2.AUG.2016 02:04:56

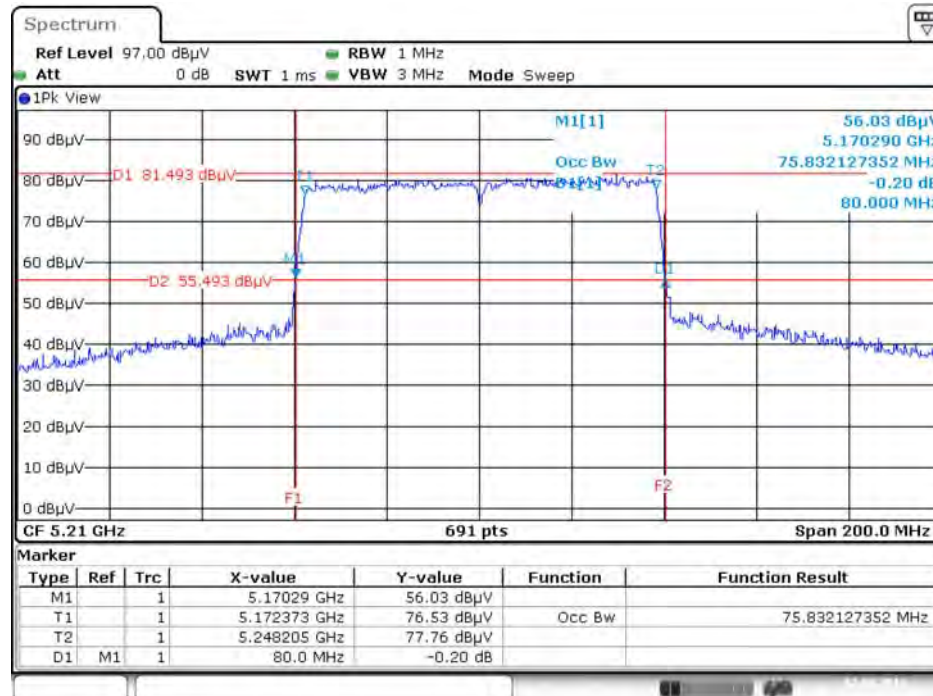
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5610 MHz



Date: 2.AUG.2016 02:05:11

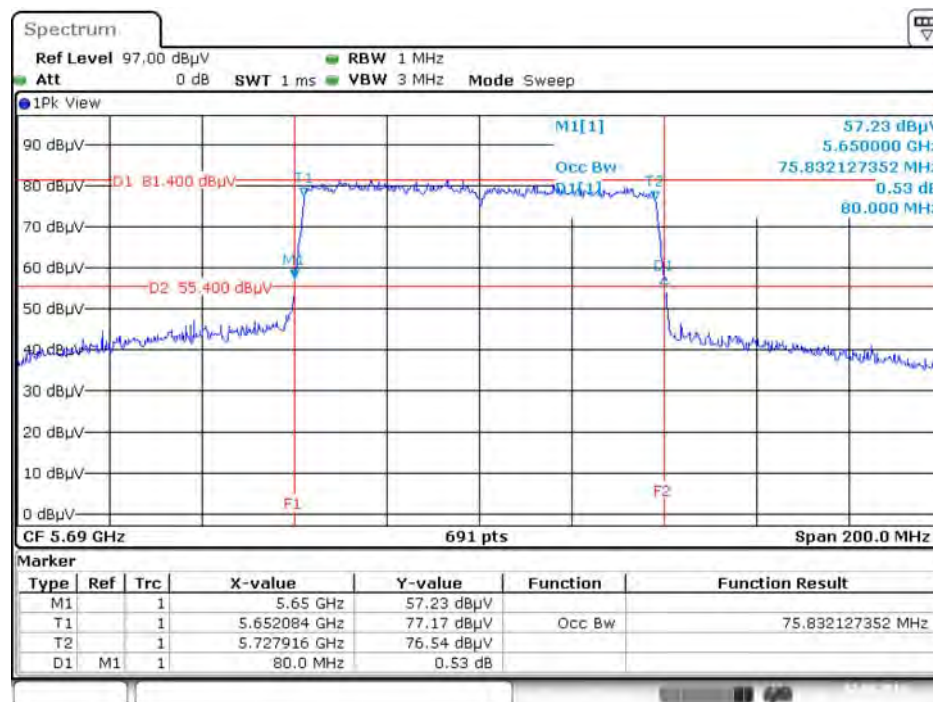
Type 3

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5210 MHz



Date: 2.AUG.2016 02:05:34

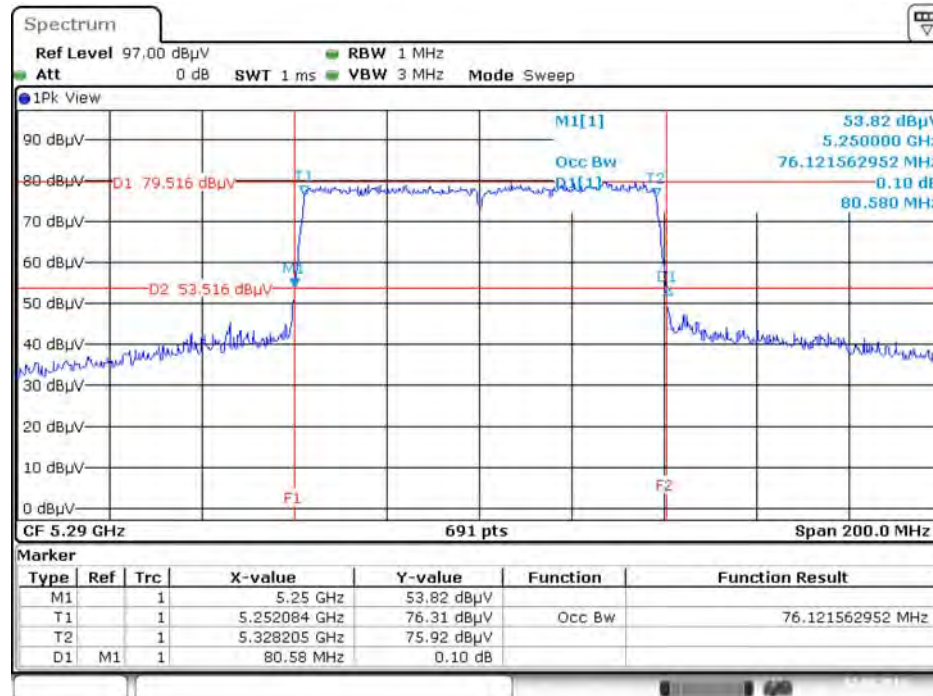
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



Date: 2.AUG.2016 02:05:53

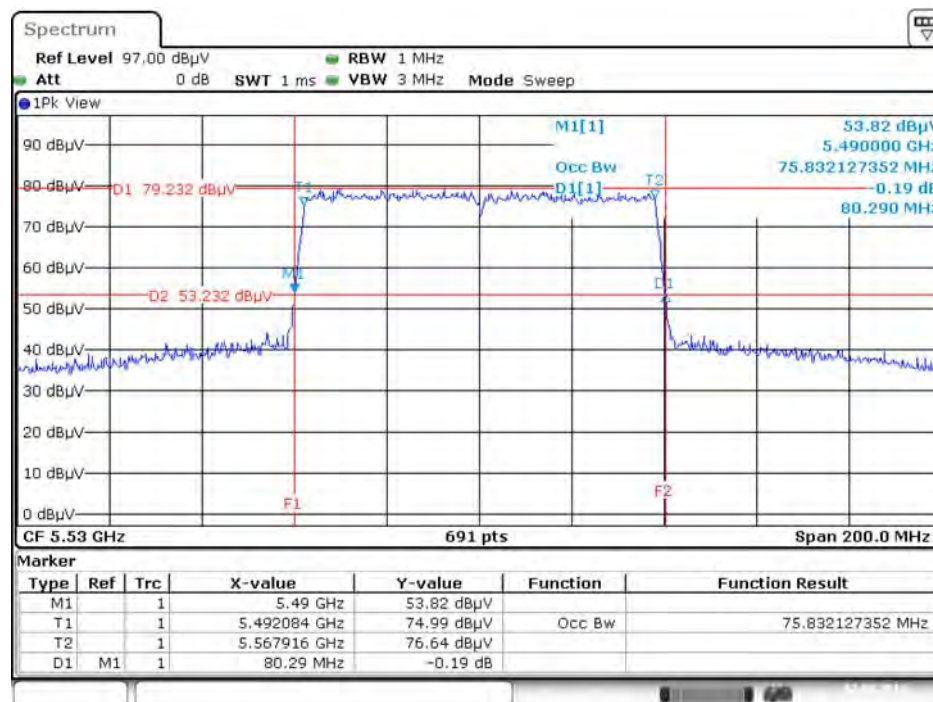
Type 4

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5290 MHz



Date: 2.AUG.2016 02:07:28

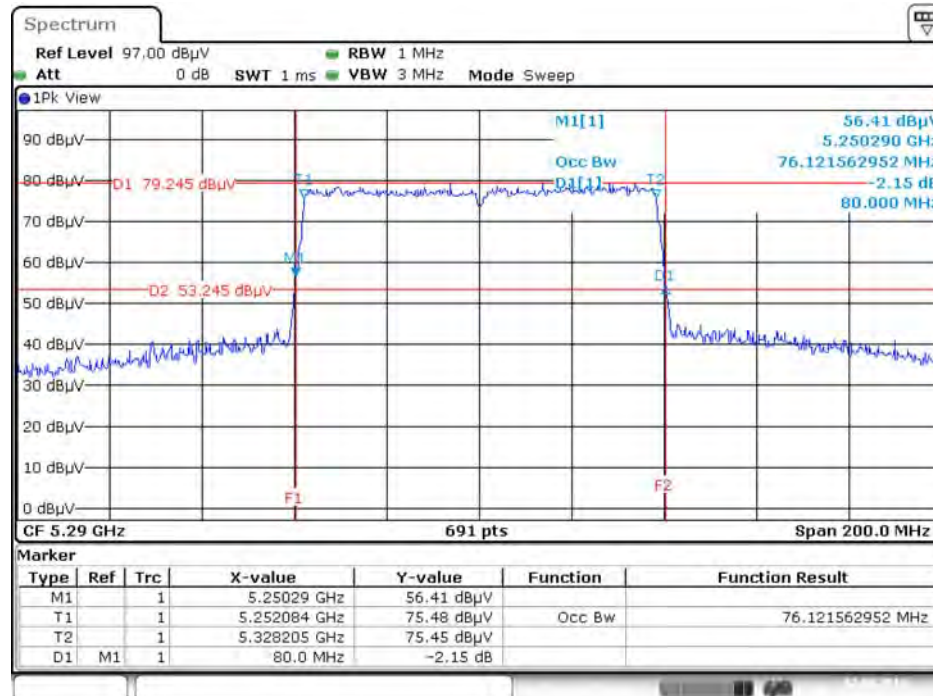
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5530 MHz



Date: 2.AUG.2016 02:07:44

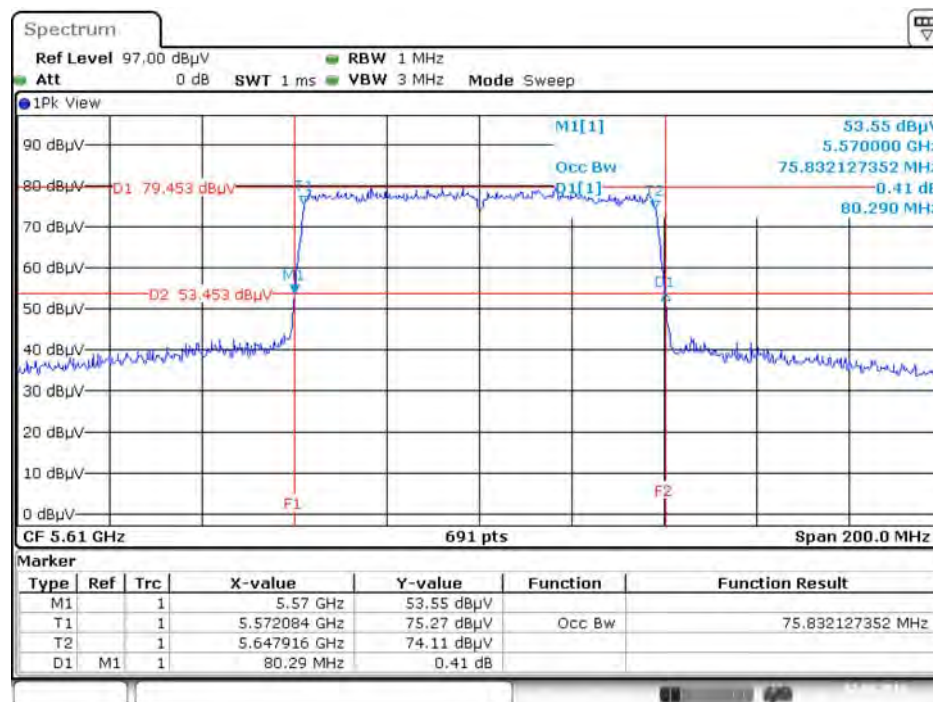
Type 5

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5290 MHz



Date: 2.AUG.2016 02:08:09

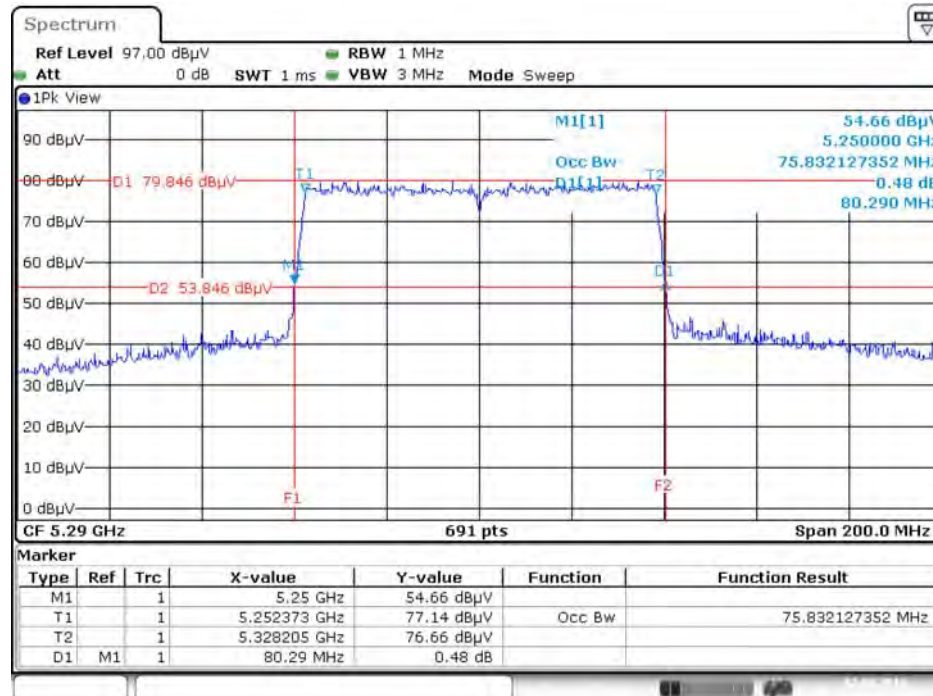
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5610 MHz



Date: 2.AUG.2016 02:08:21

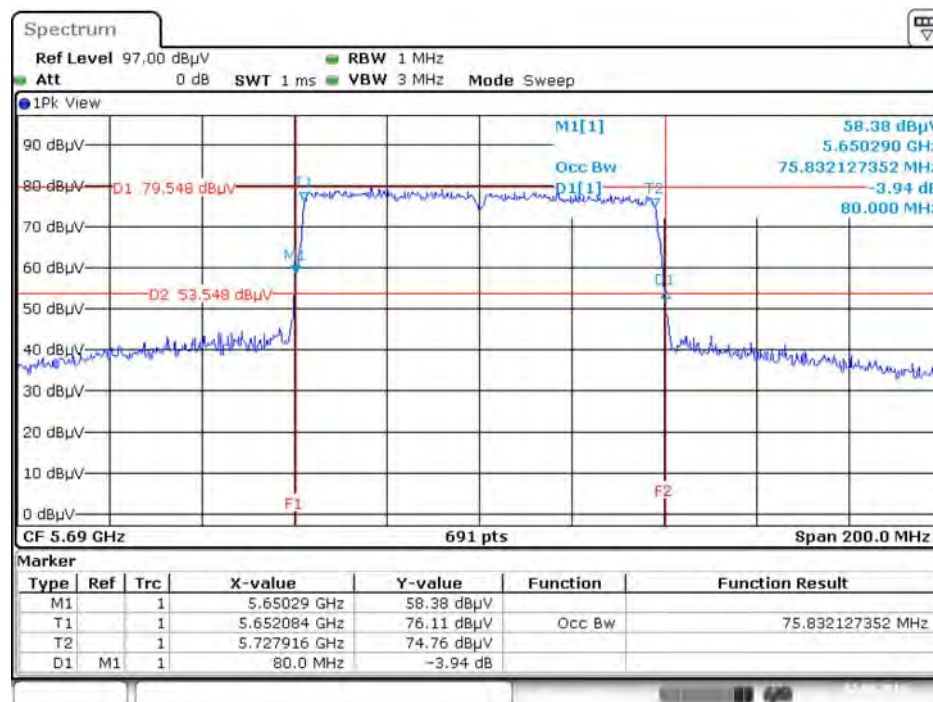
Type 6

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5290 MHz



Date: 2.AUG.2016 02:08:49

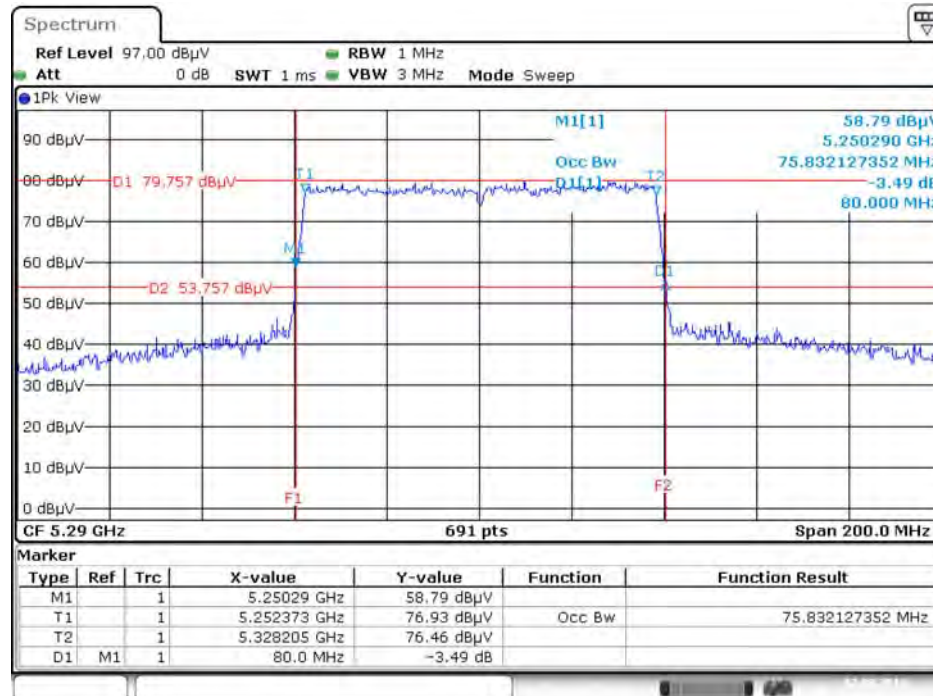
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



Date: 2.AUG.2016 02:09:05

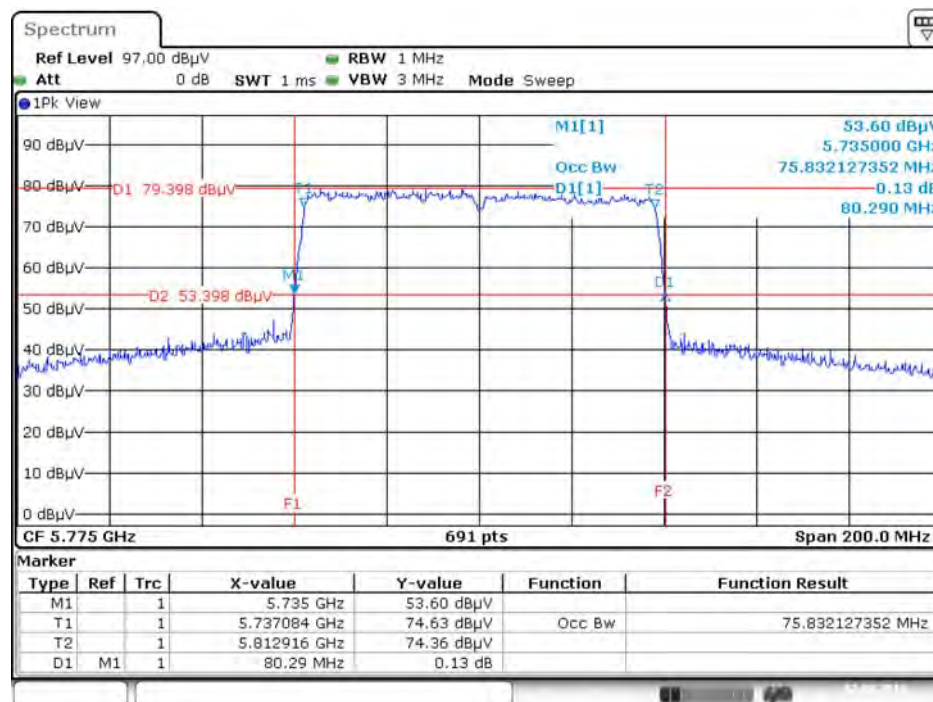
Type 7

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5290 MHz



Date: 2.AUG.2016 02:09:29

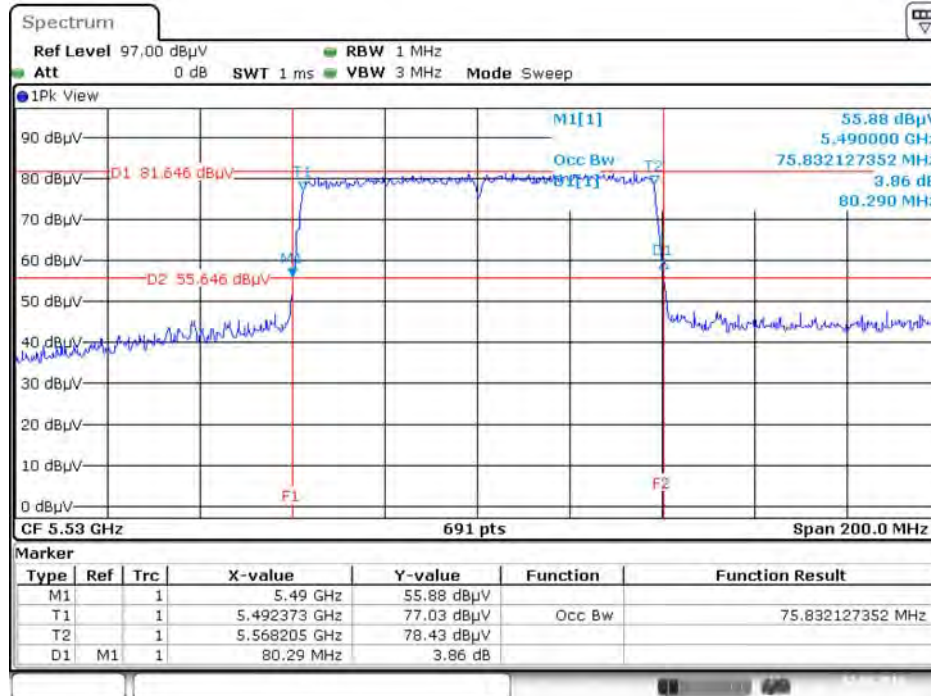
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 2.AUG.2016 02:09:41

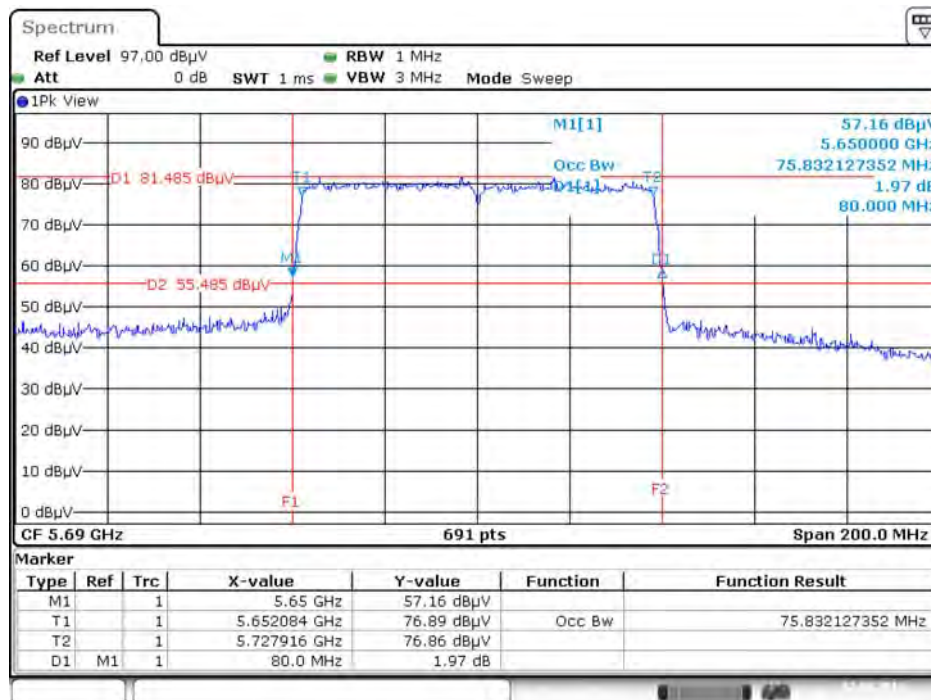
Type 8

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5530 MHz



Date: 2.AUG.2016 02:10:24

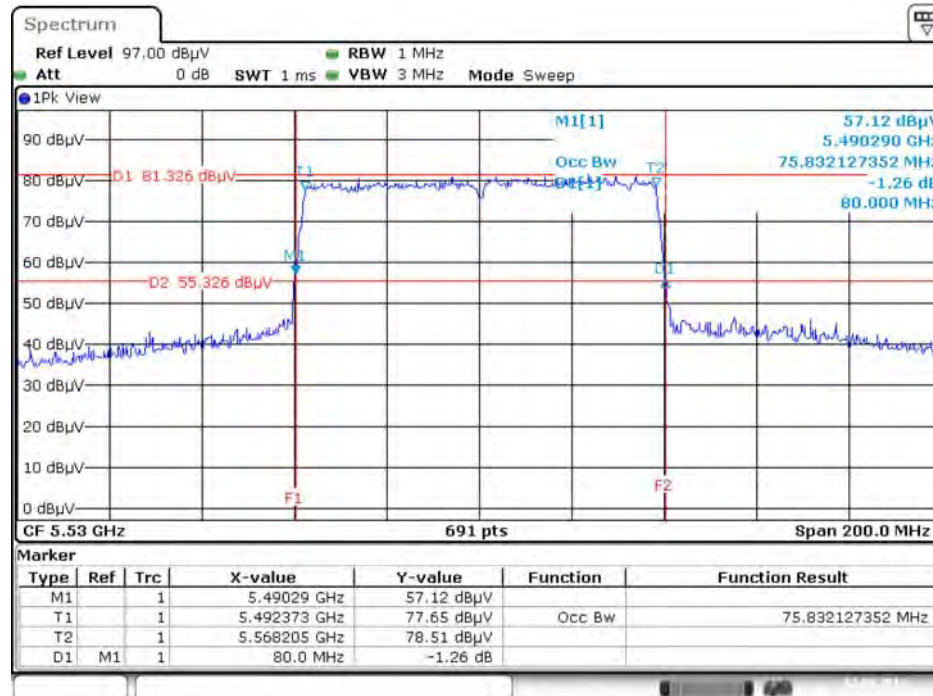
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



Date: 2.AUG.2016 02:10:37

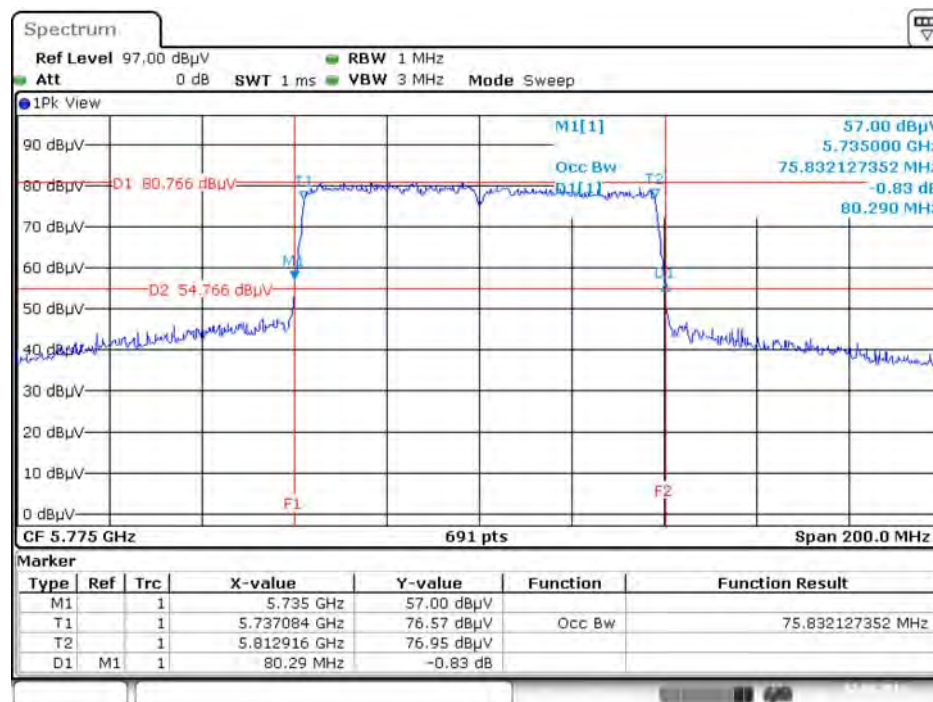
Type 9

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5530 MHz



Date: 2.AUG.2016 02:11:14

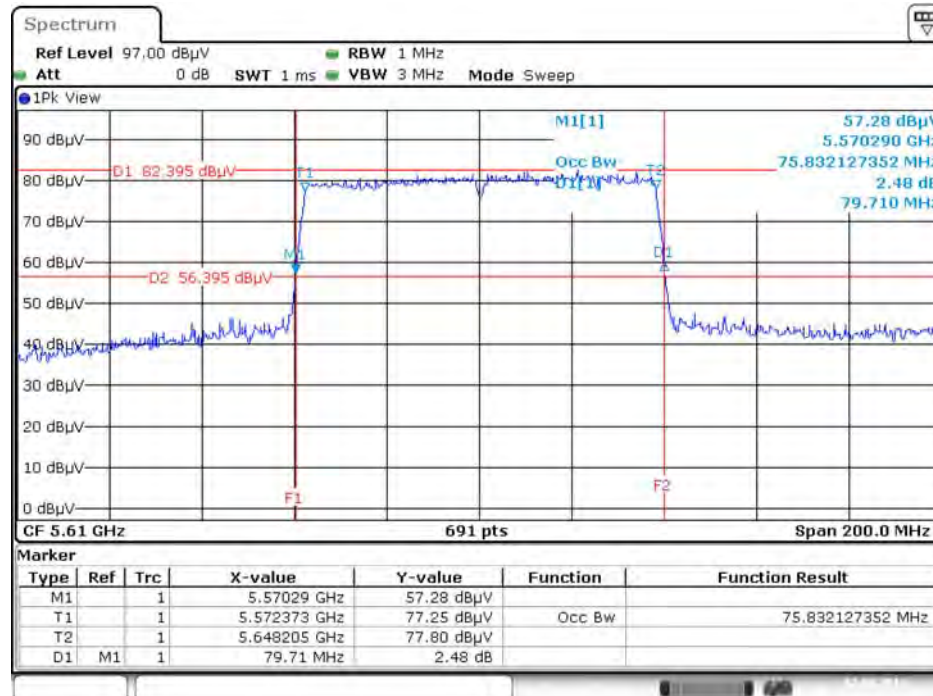
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 2.AUG.2016 02:11:31

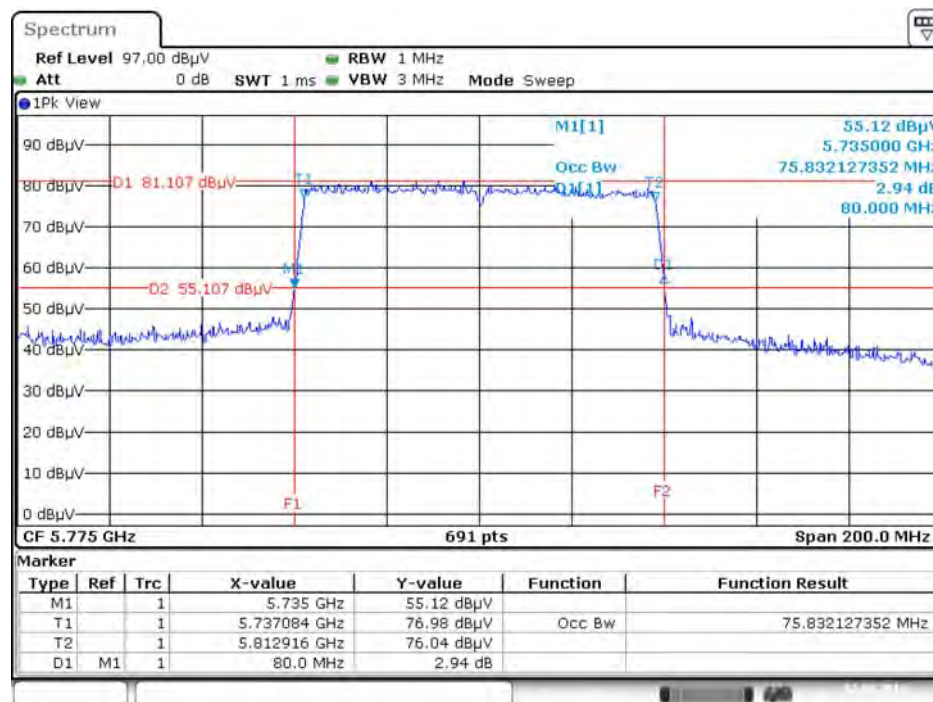
Type 10

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5610 MHz



Date: 2.AUG.2016 02:12:04

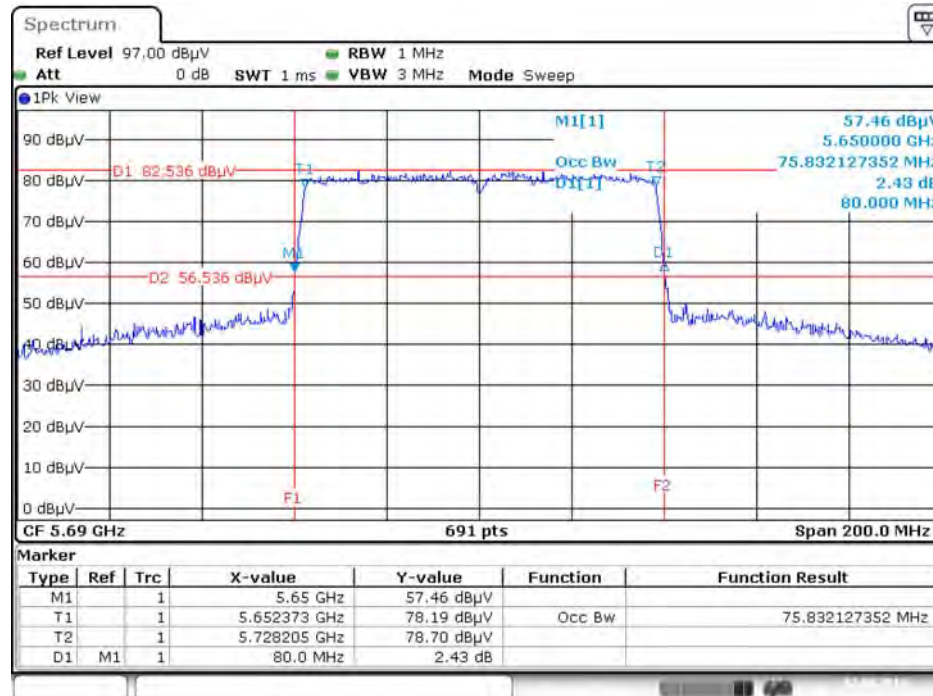
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 2.AUG.2016 02:12:16

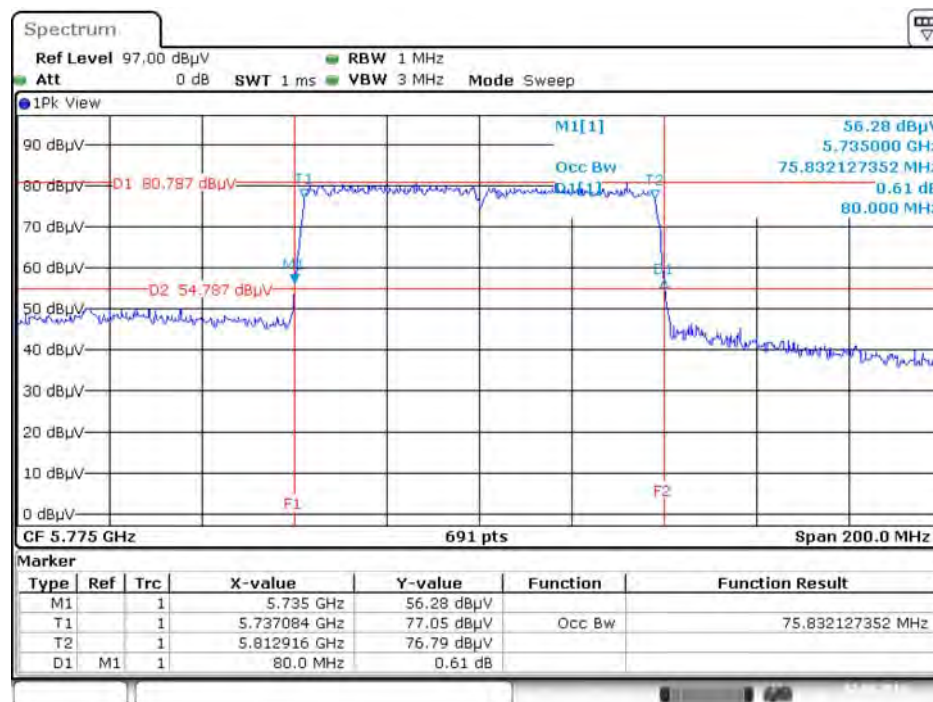
Type 11

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5690 MHz



Date: 2.AUG.2016 02:20:20

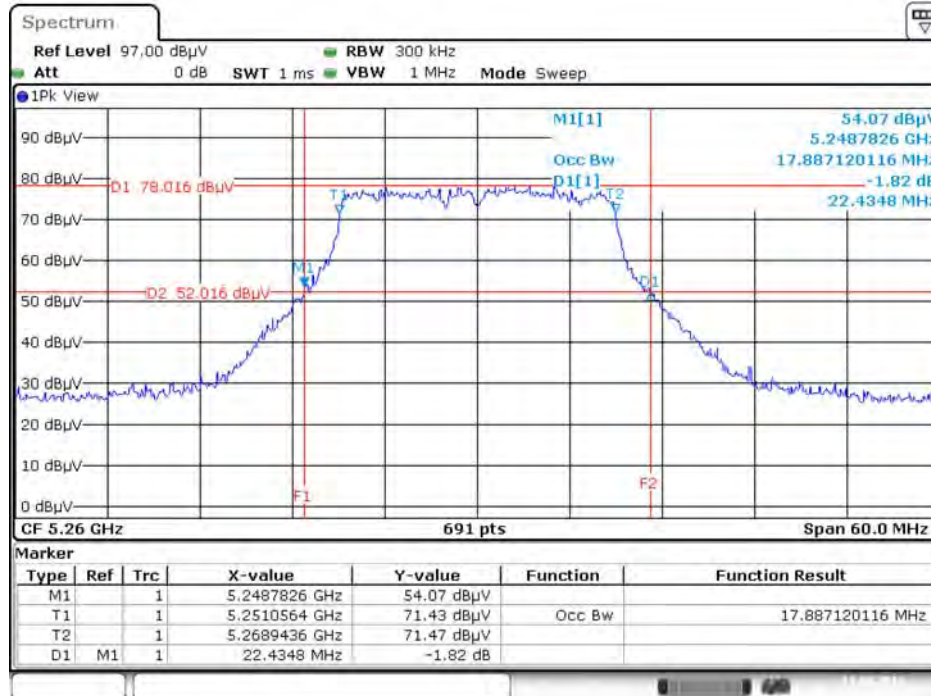
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 2.AUG.2016 02:21:13

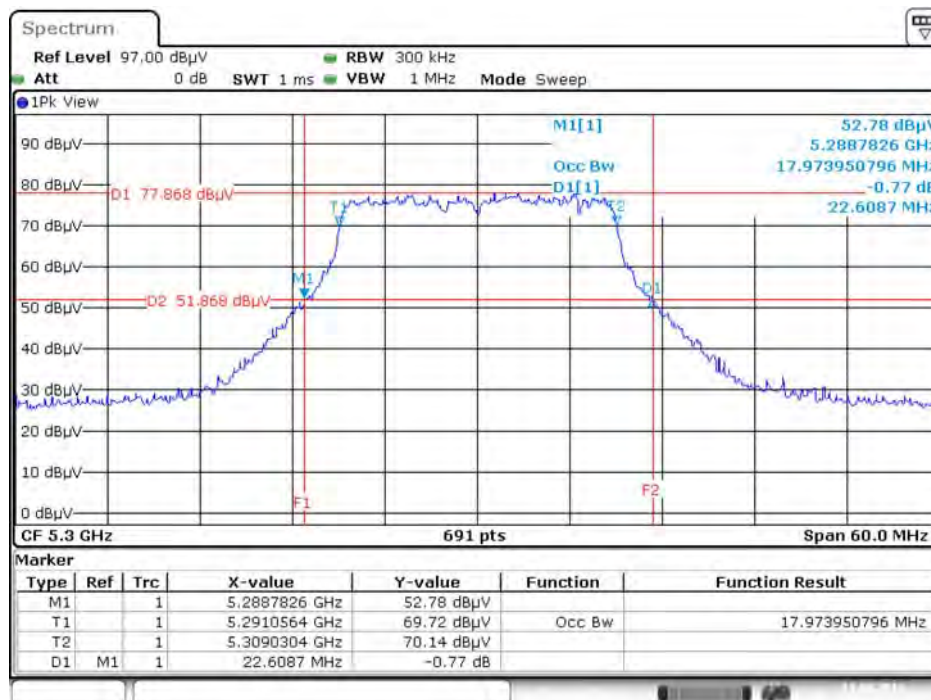
<For Beamforming Mode>

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5260 MHz



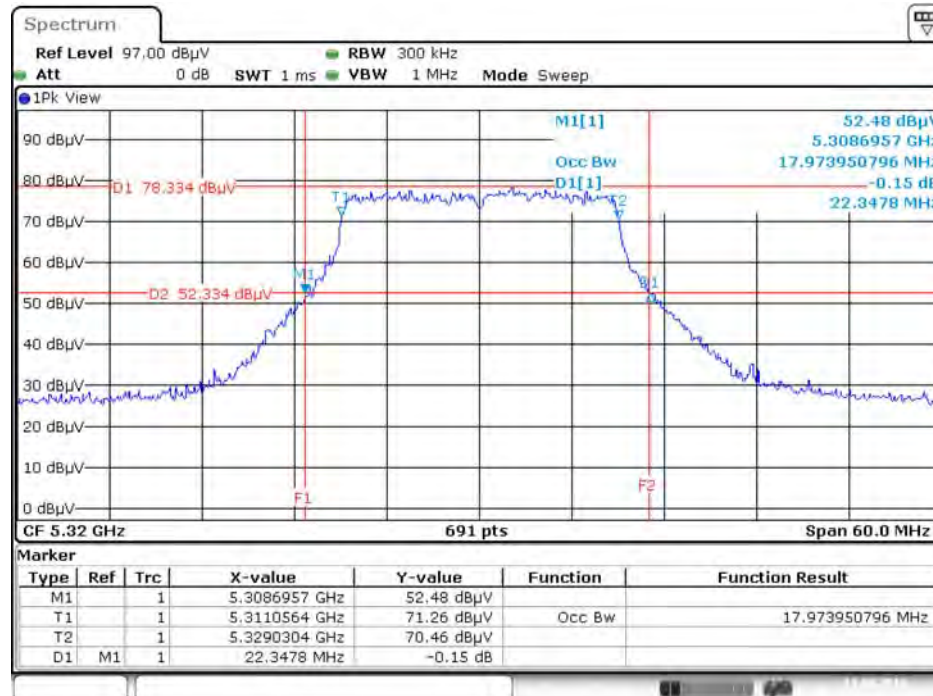
Date: 11.AUG.2016 20:31:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5300 MHz



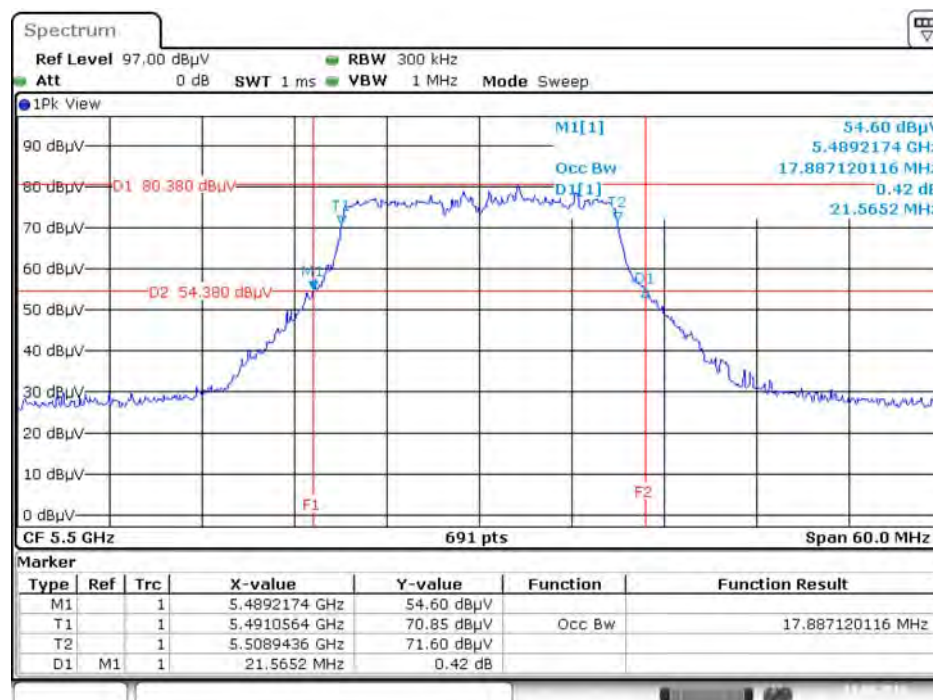
Date: 11.AUG.2016 20:32:41

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5320 MHz



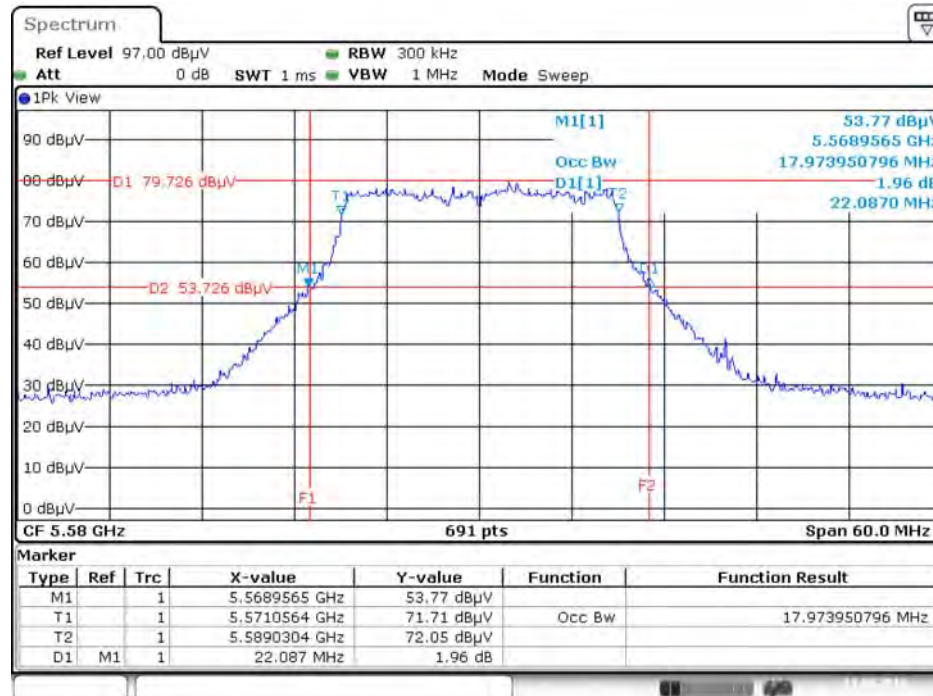
Date: 11.AUG.2016 20:33:36

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5500 MHz



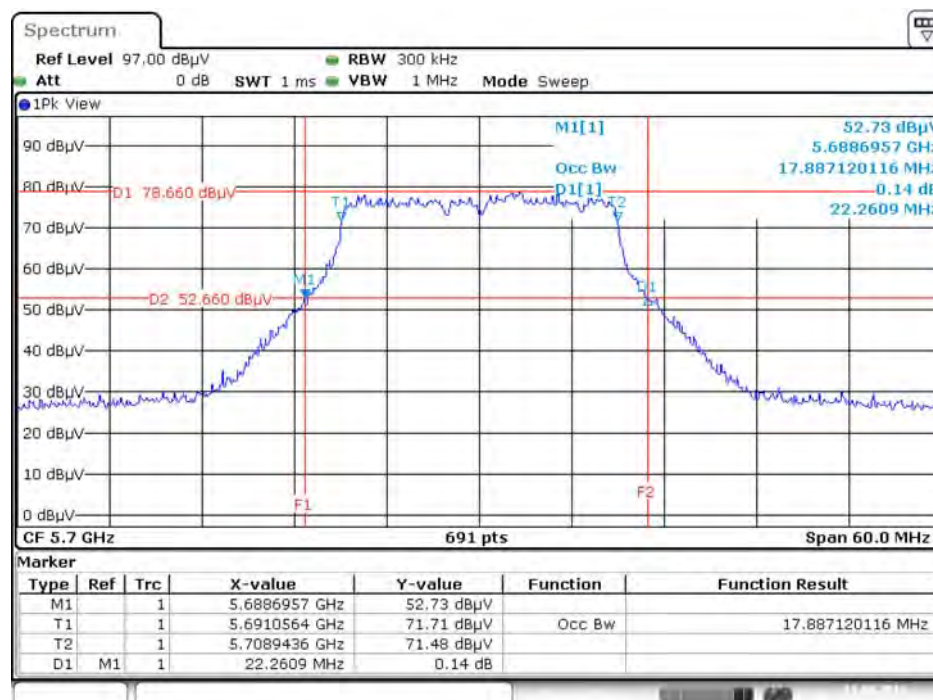
Date: 11.AUG.2016 20:34:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5580 MHz



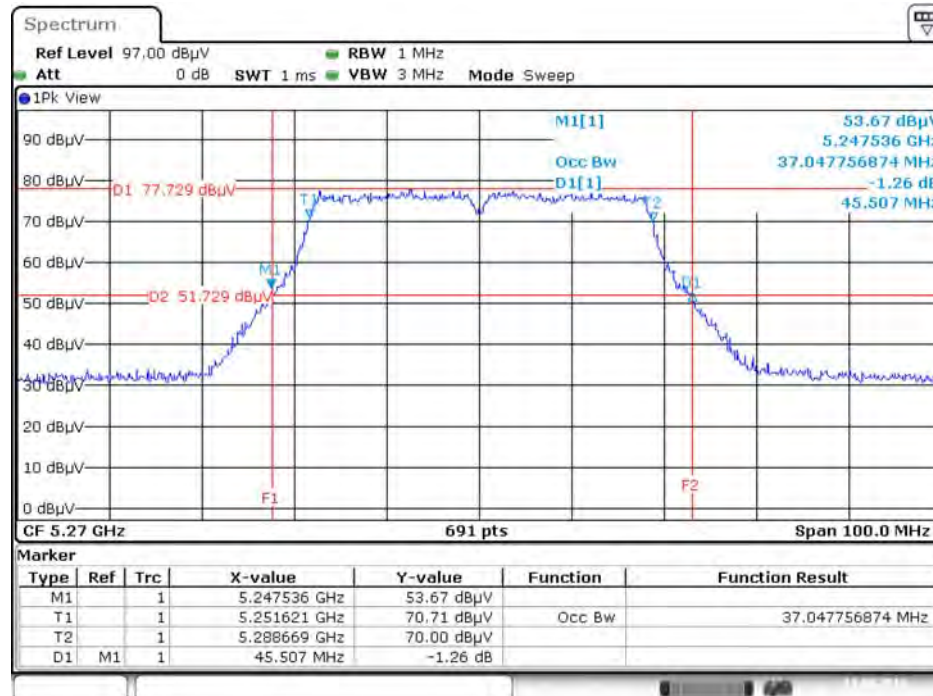
Date: 11.AUG.2016 20:35:51

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5700 MHz



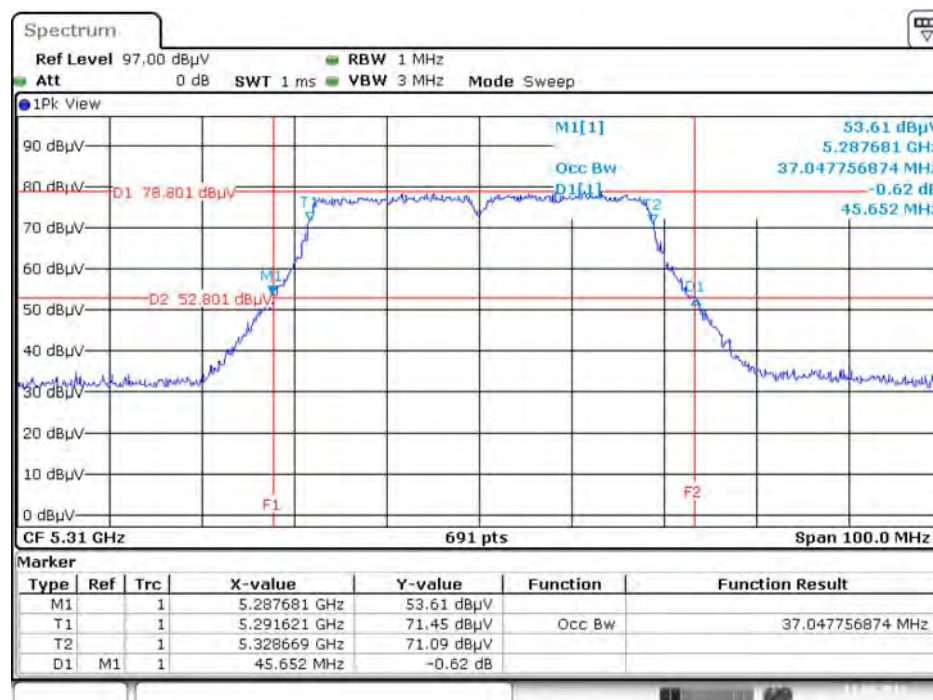
Date: 11.AUG.2016 20:37:02

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5270 MHz



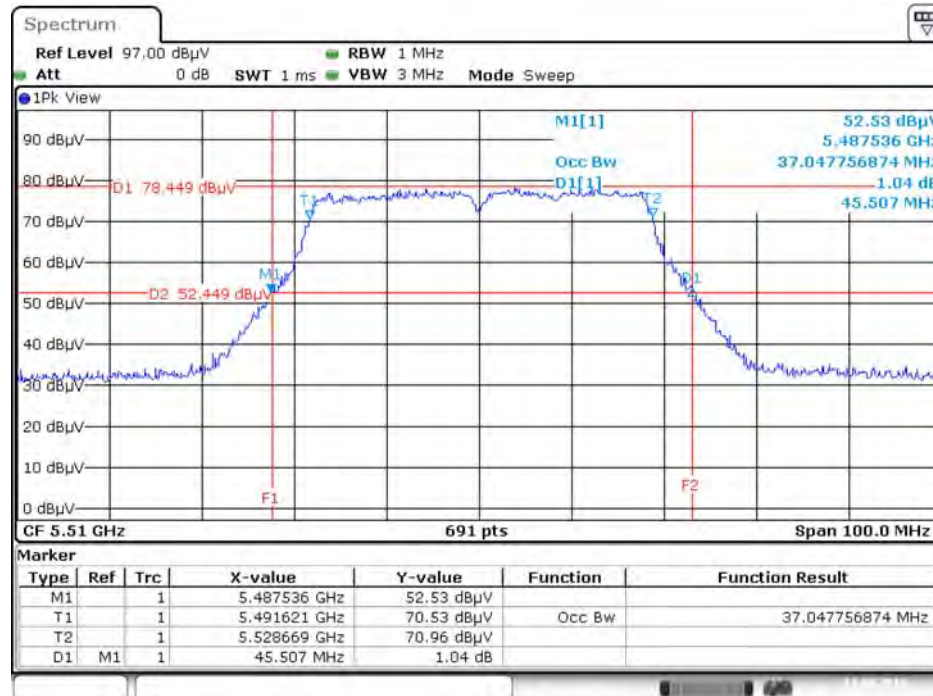
Date: 11.AUG.2016 20:38:59

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5310 MHz



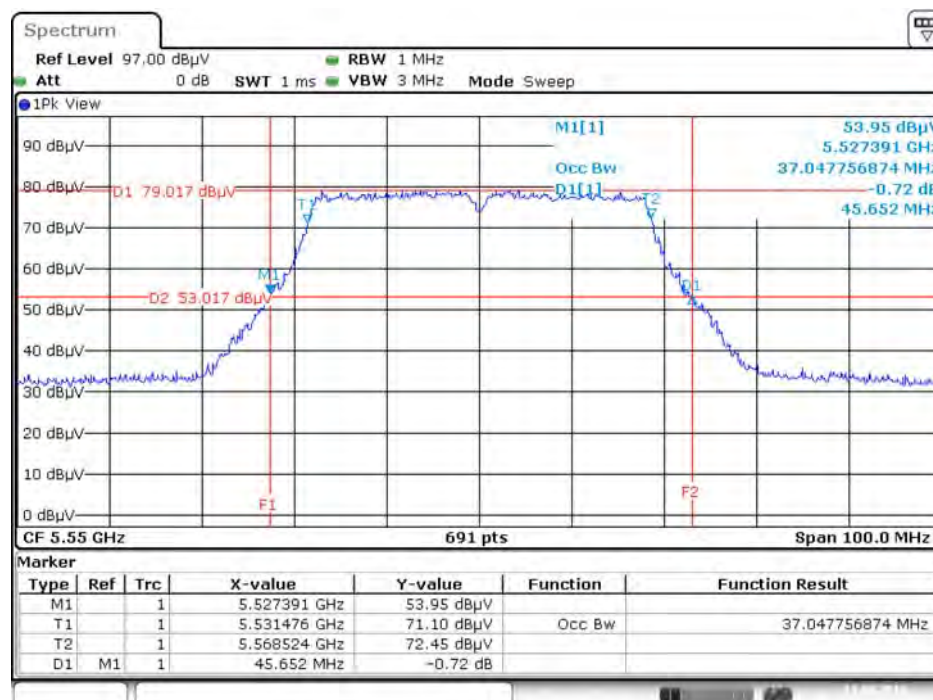
Date: 11.AUG.2016 20:39:57

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5510 MHz



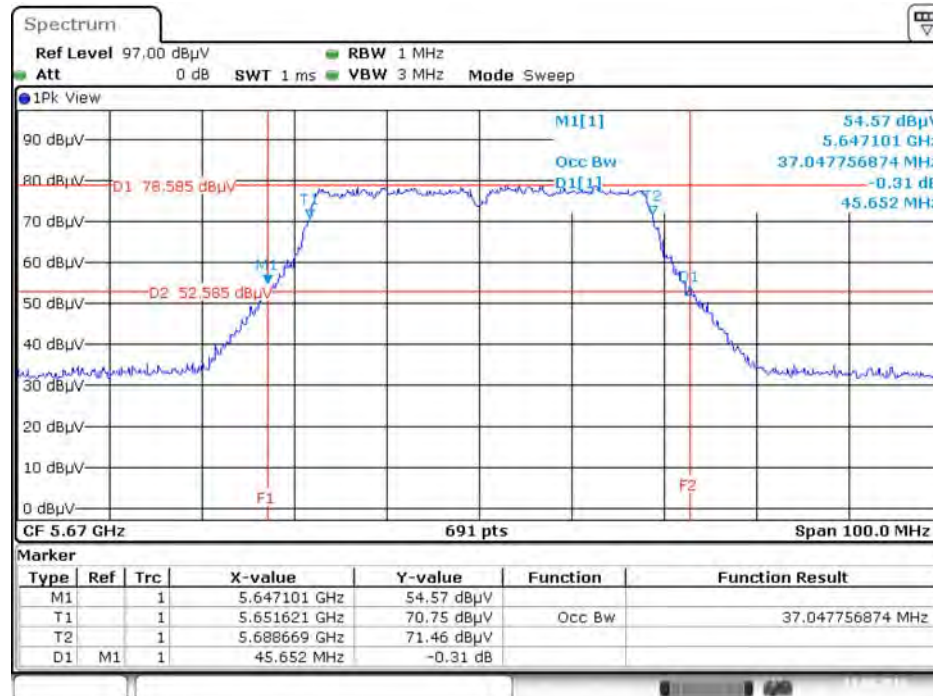
Date: 11.AUG.2016 20:41:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5550 MHz

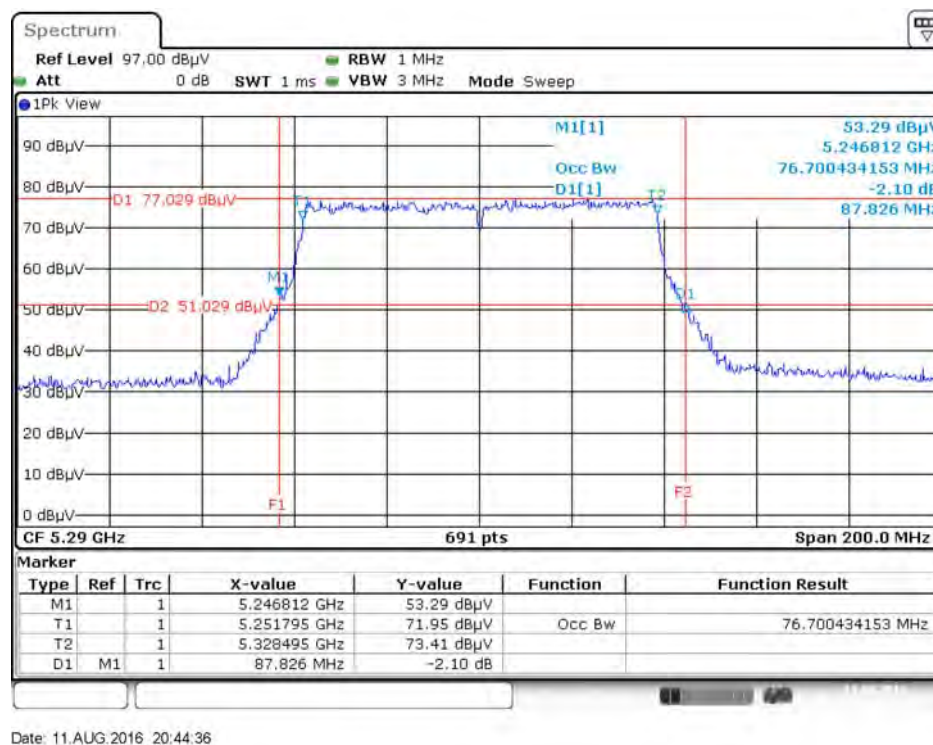


Date: 11.AUG.2016 20:41:54

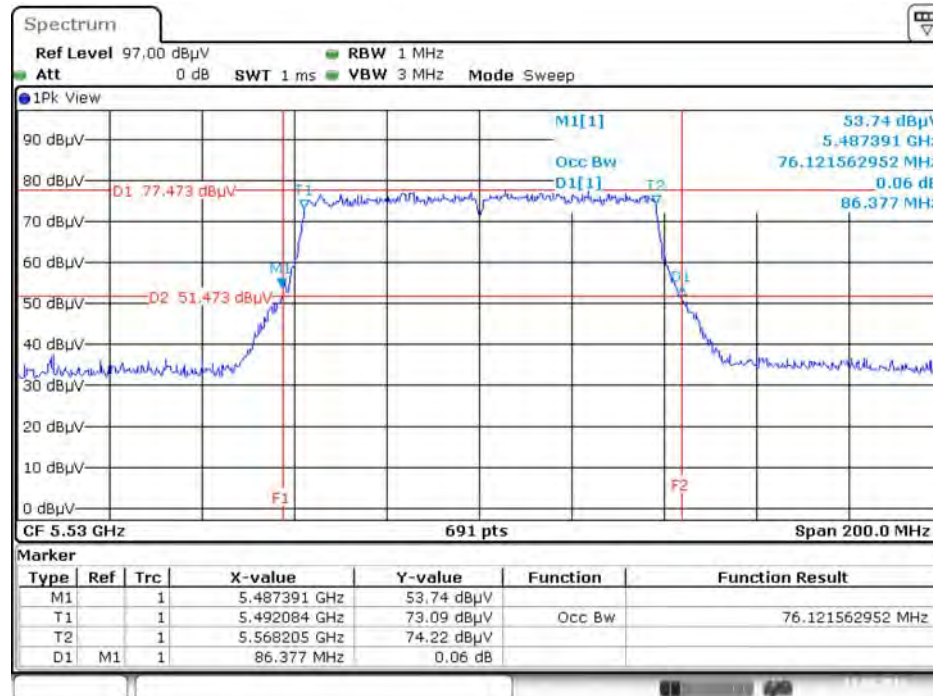
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5670 MHz



26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5290 MHz

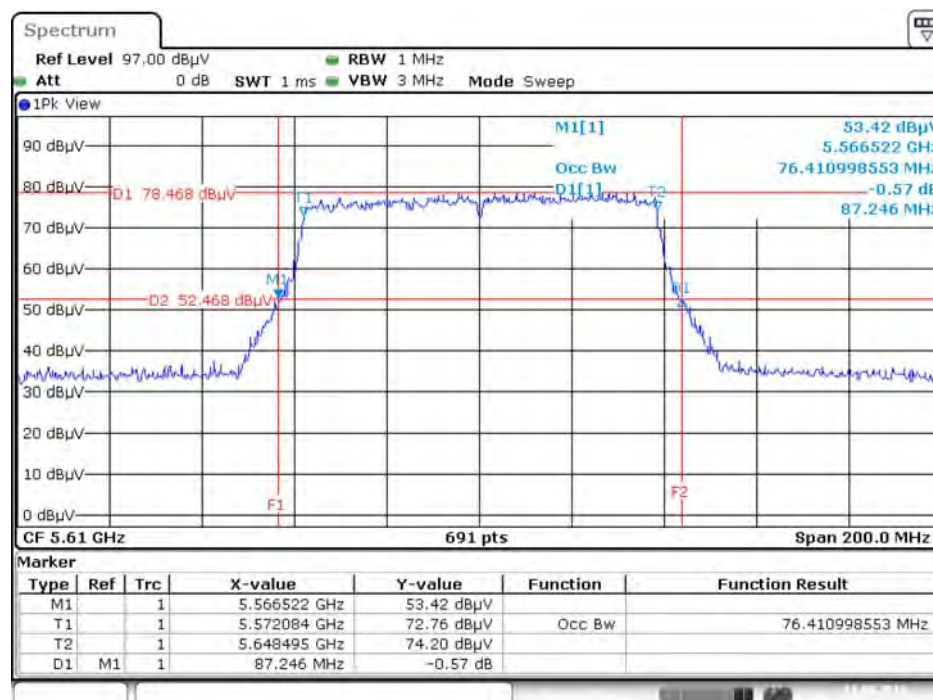


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5530 MHz



Date: 11.AUG.2016 20:46:34

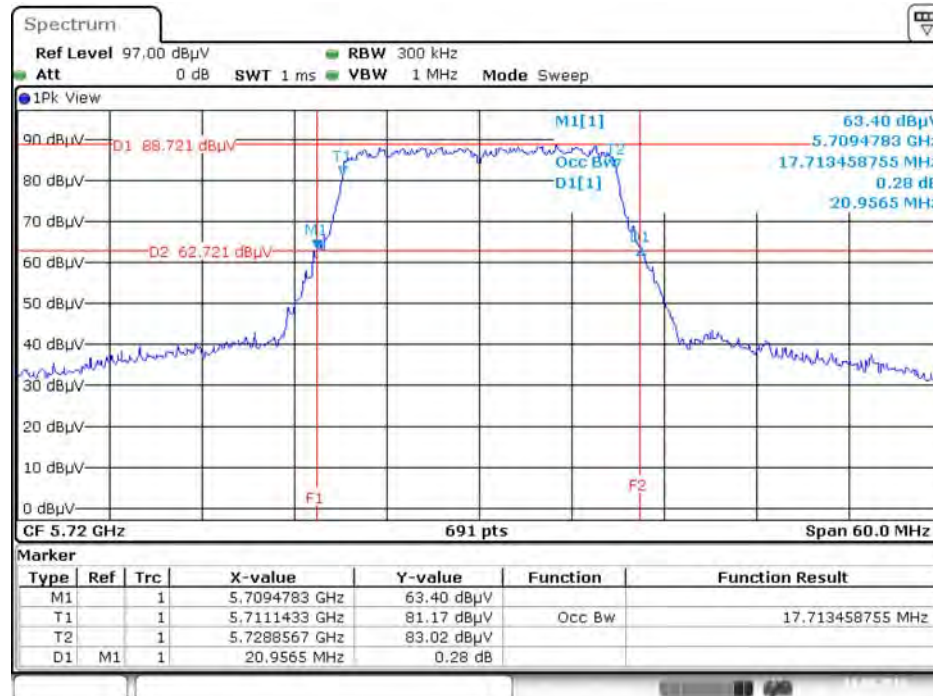
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5610 MHz



Date: 11.AUG.2016 20:47:54

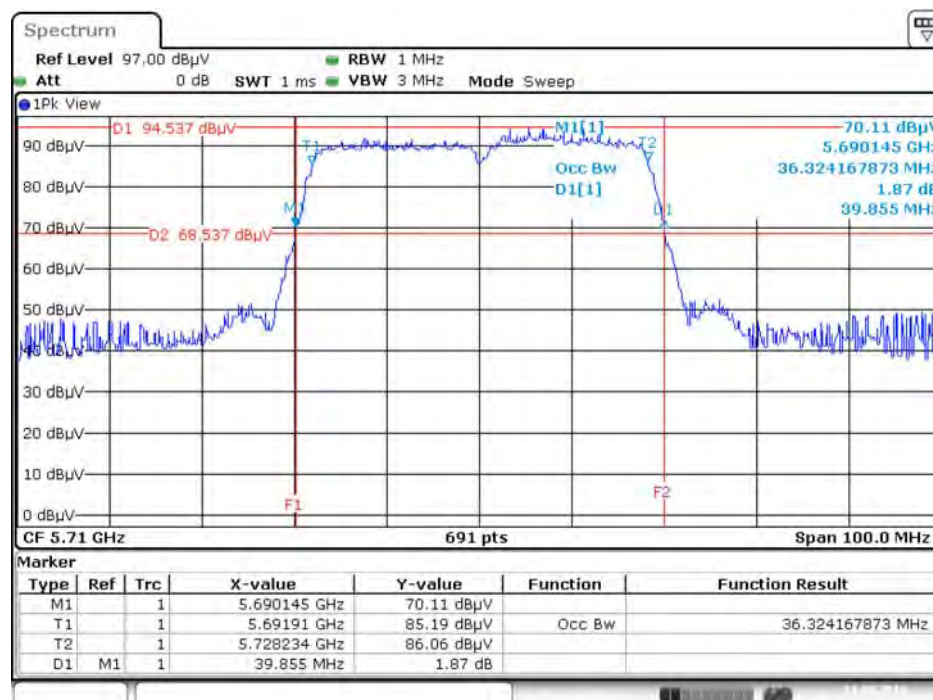
Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5720 MHz



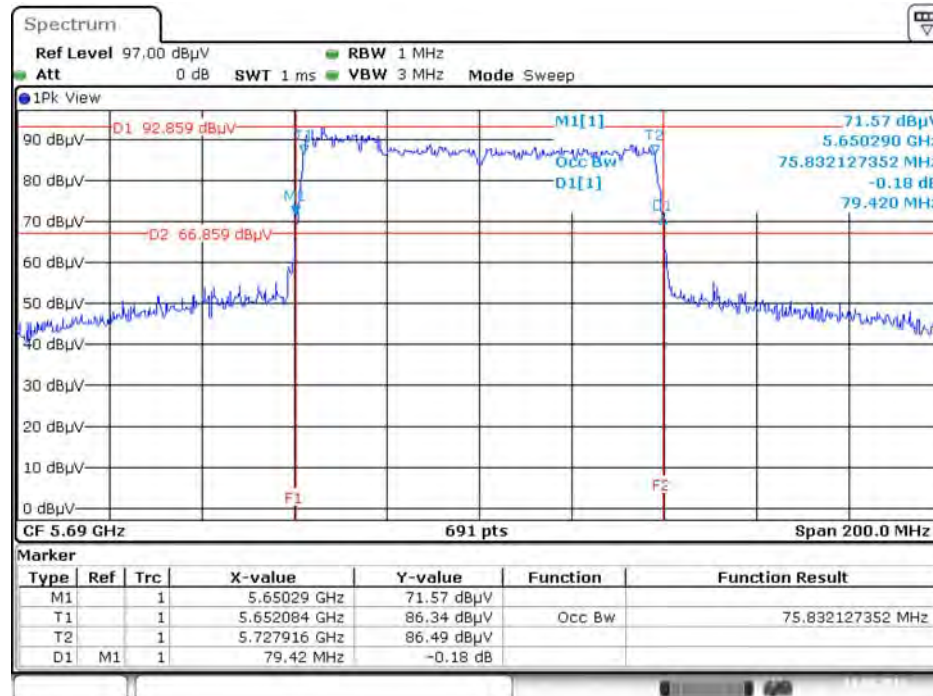
Date: 11.AUG.2016 04:12:23

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5710 MHz



Date: 11.AUG.2016 04:58:43

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5690 MHz

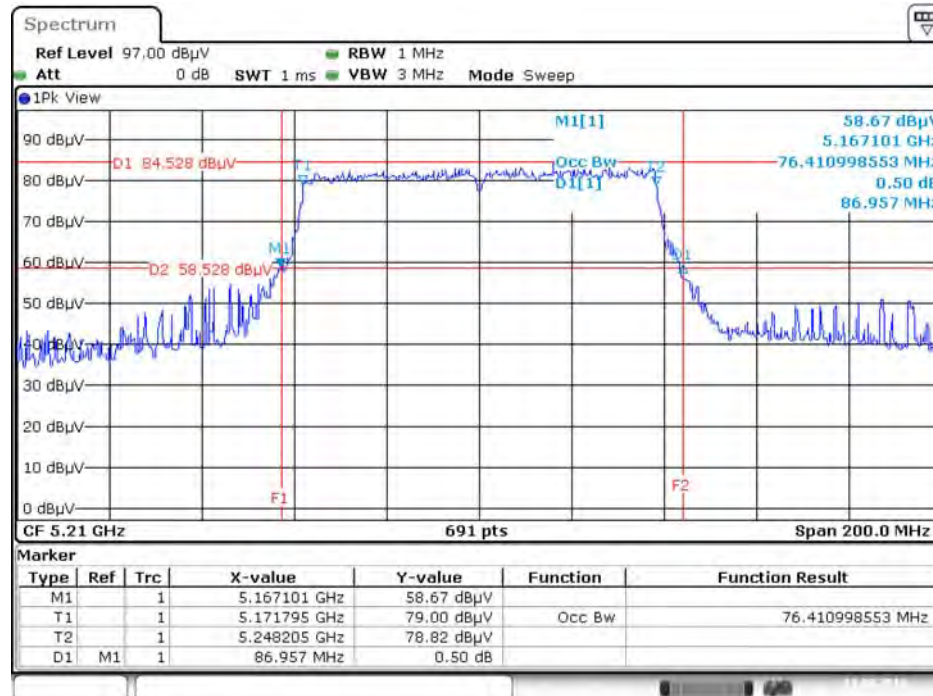


Date: 11.AUG.2016 05:28:34

802.11ac MCS0/Nss2 VHT80+80

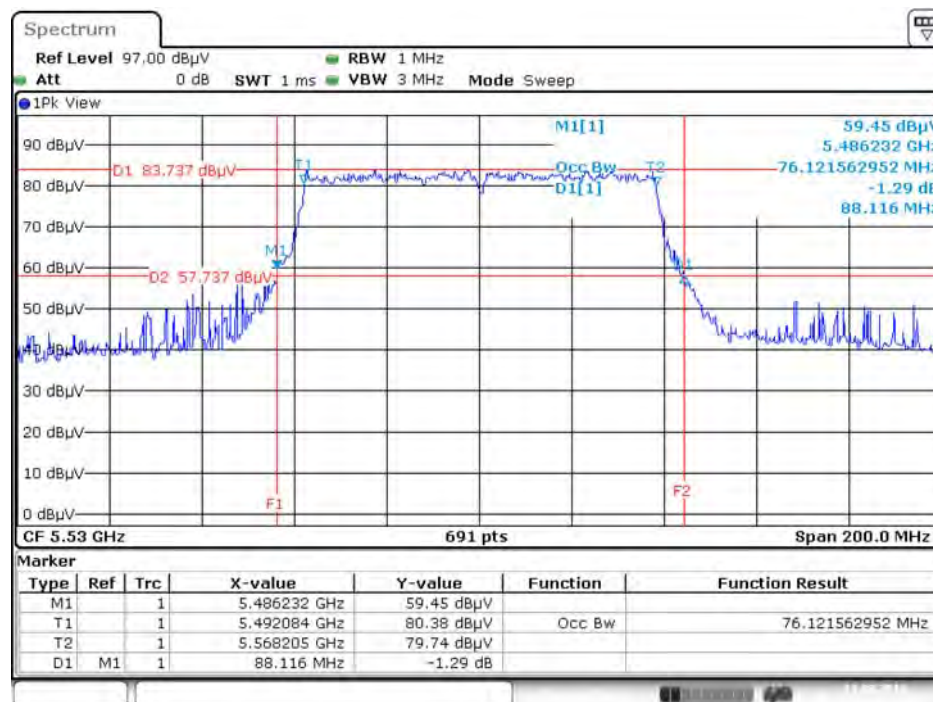
Type 1

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5210 MHz



Date: 11.AUG.2016 17:11:54

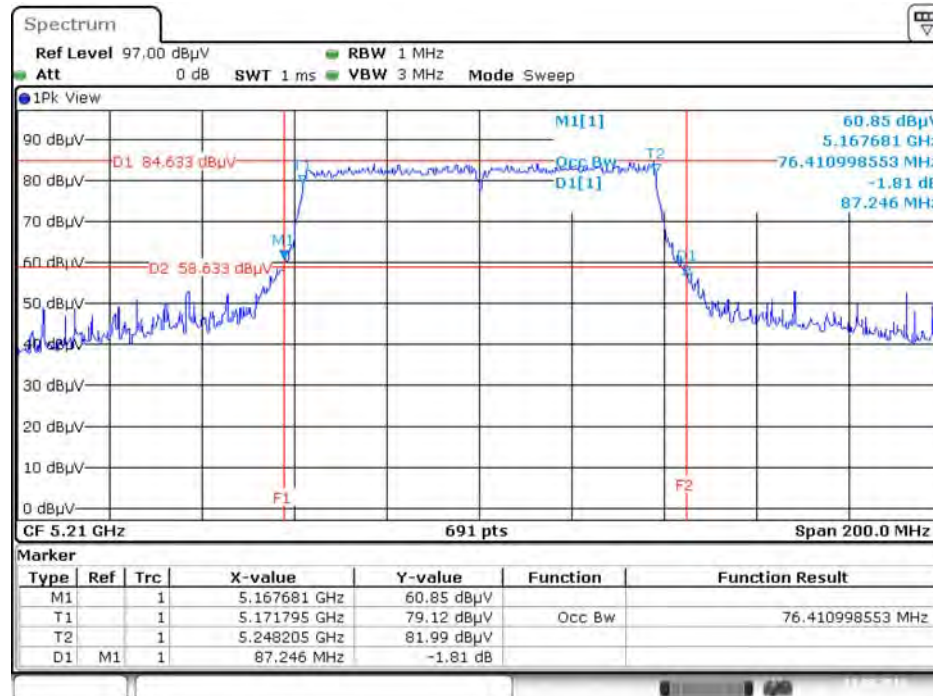
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5530 MHz



Date: 11.AUG.2016 17:15:08

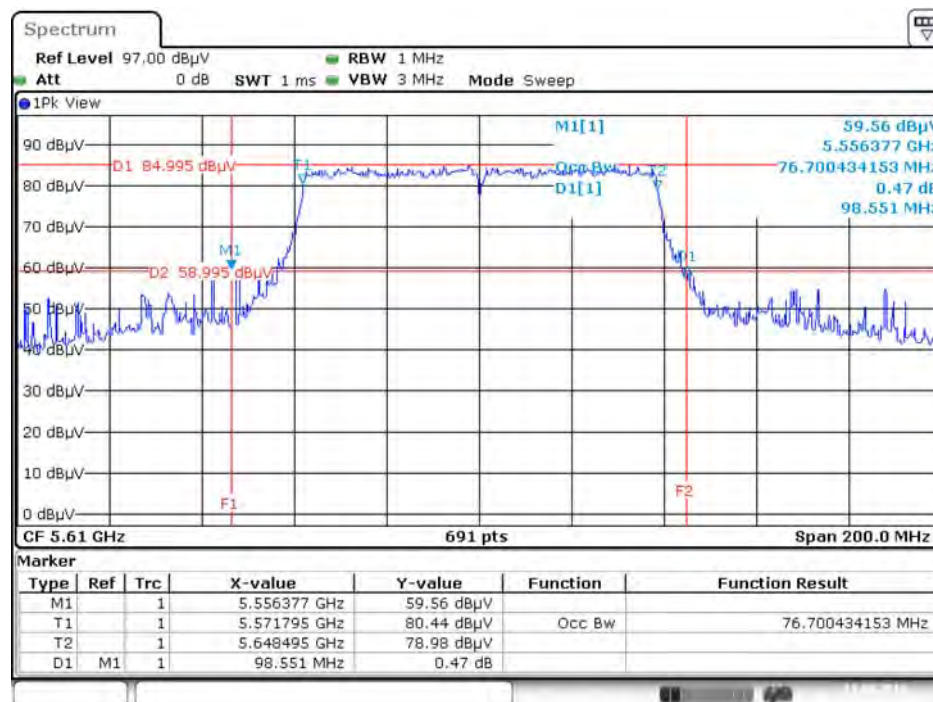
Type 2

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5210 MHz



Date: 11.AUG.2016 17:13:05

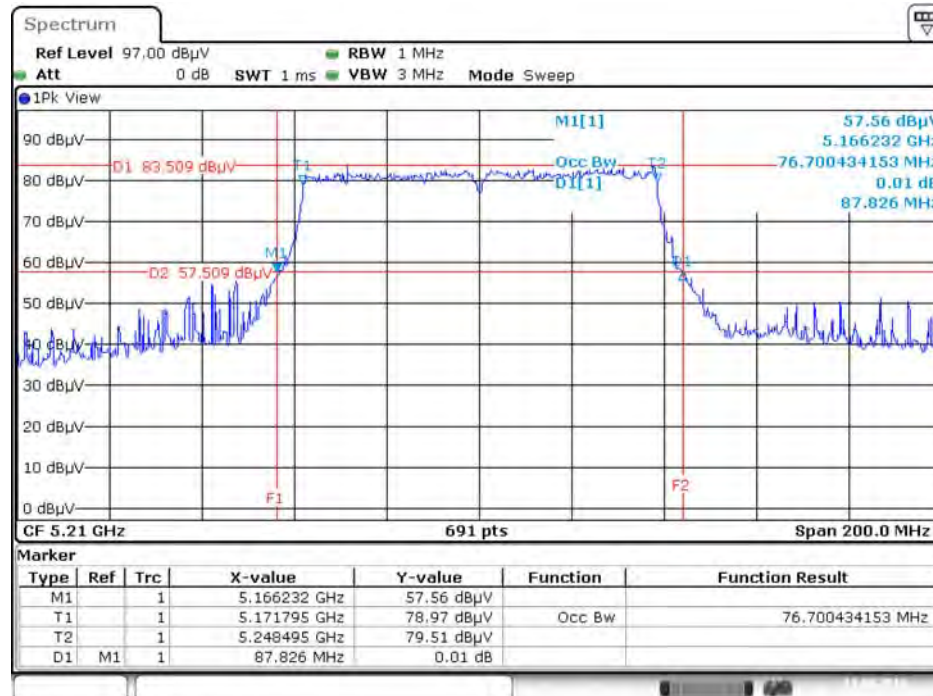
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5610 MHz



Date: 11.AUG.2016 17:19:10

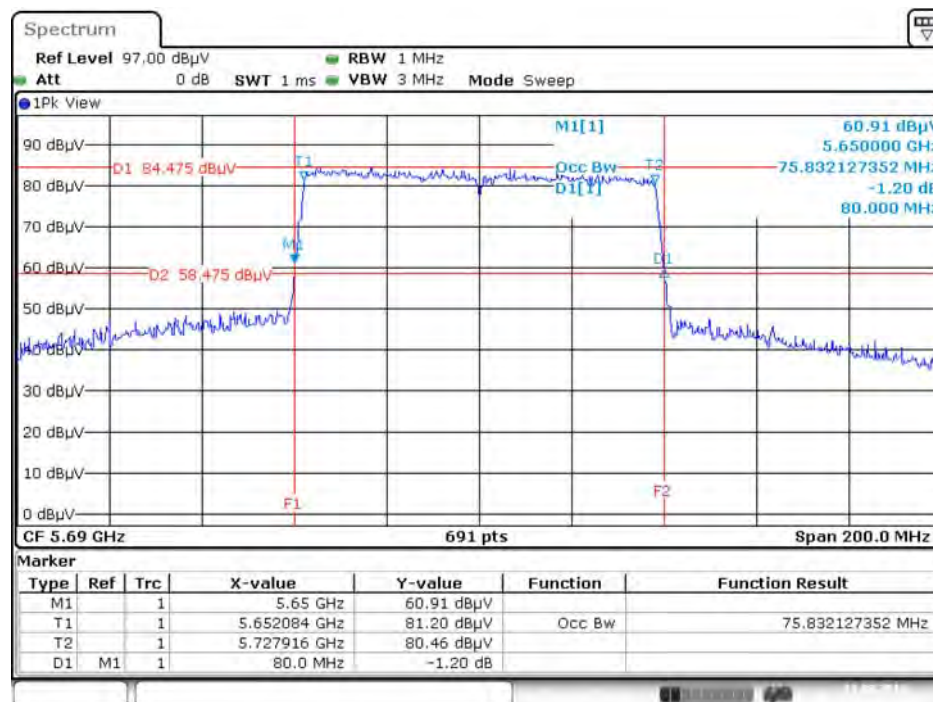
Type 3

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5210 MHz



Date: 11.AUG.2016 17:13:45

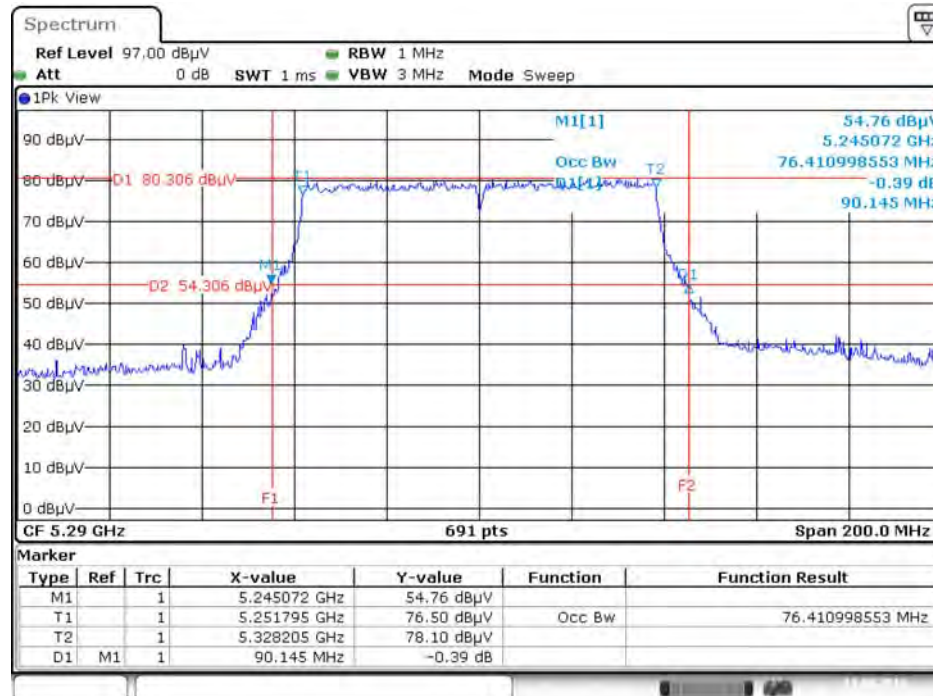
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



Date: 11.AUG.2016 14:09:35

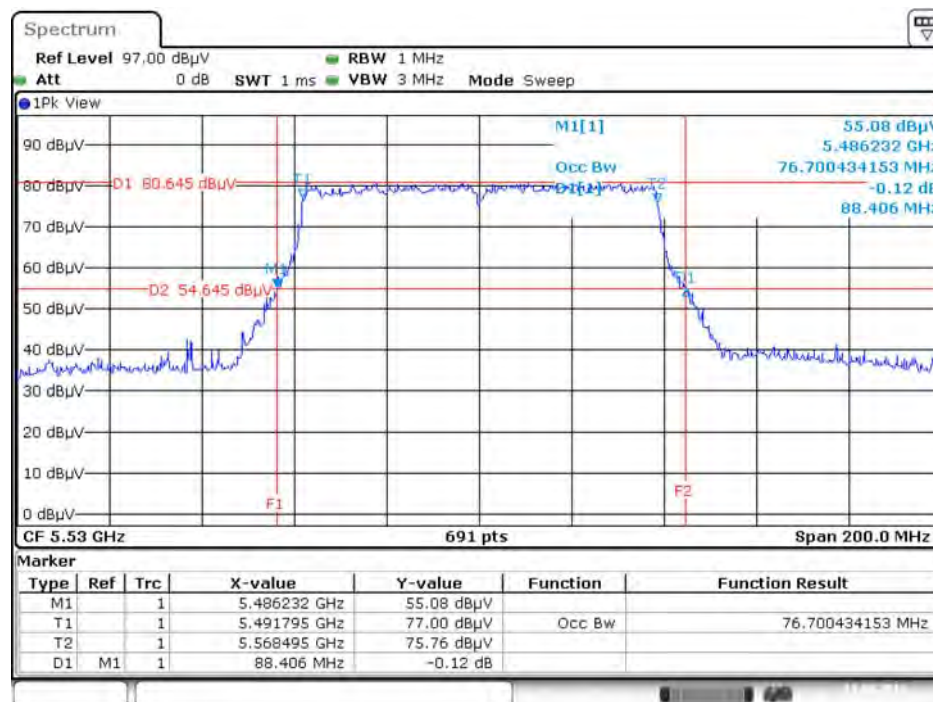
Type 4

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5290 MHz



Date: 11.AUG.2016 17:21:49

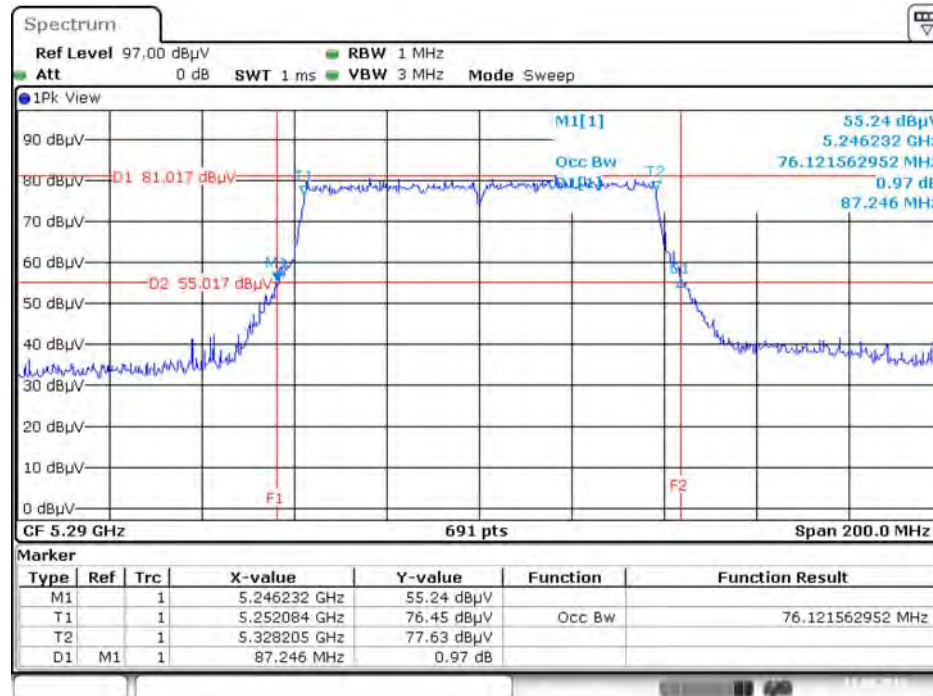
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5530 MHz



Date: 11.AUG.2016 17:16:12

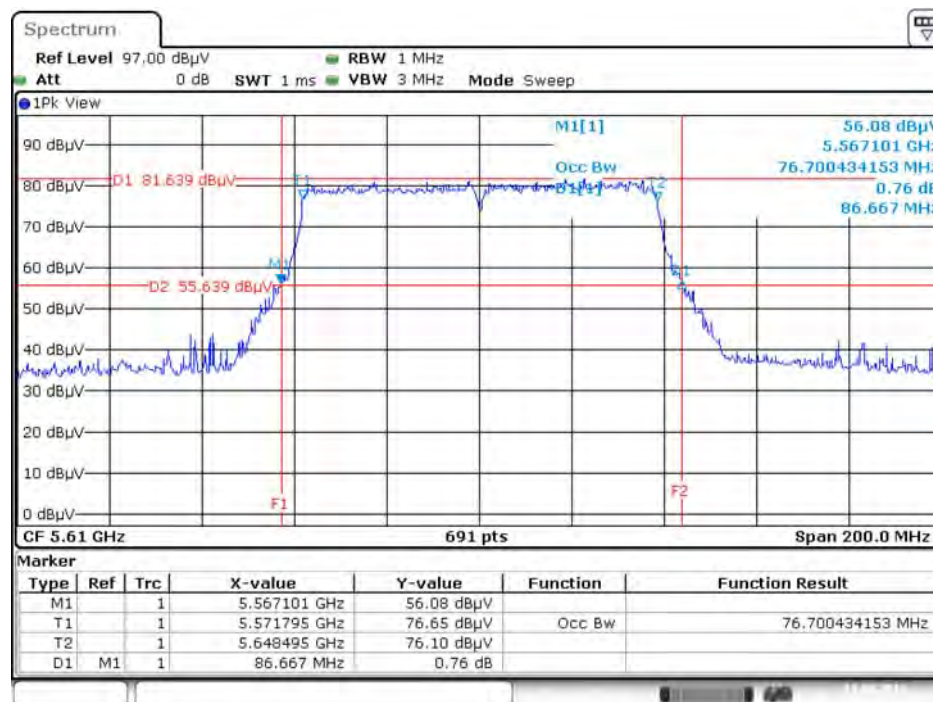
Type 5

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5290 MHz



Date: 11.AUG.2016 17:22:45

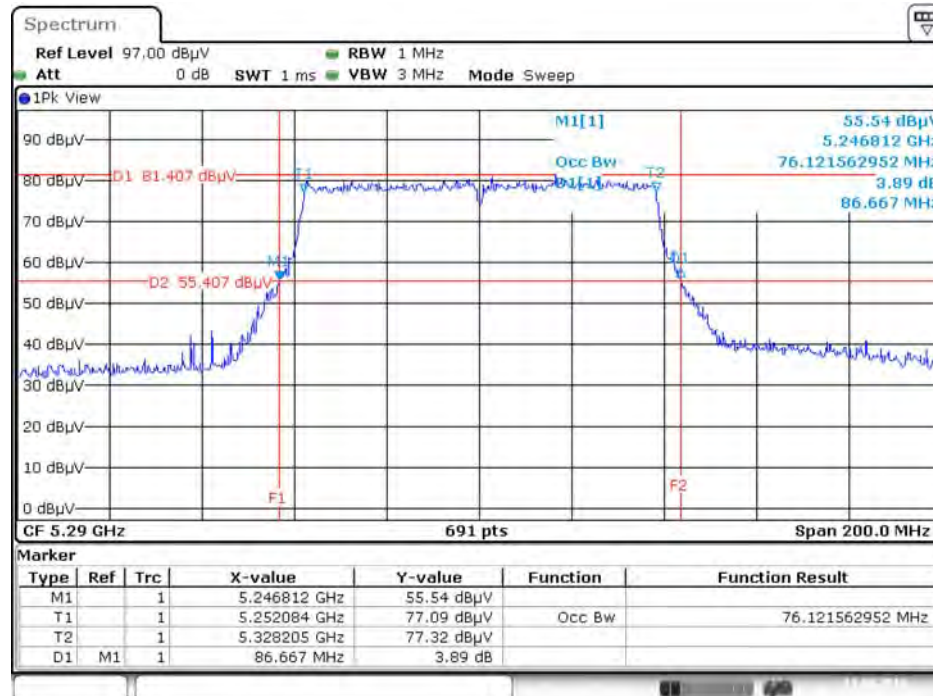
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5610 MHz



Date: 11.AUG.2016 17:19:56

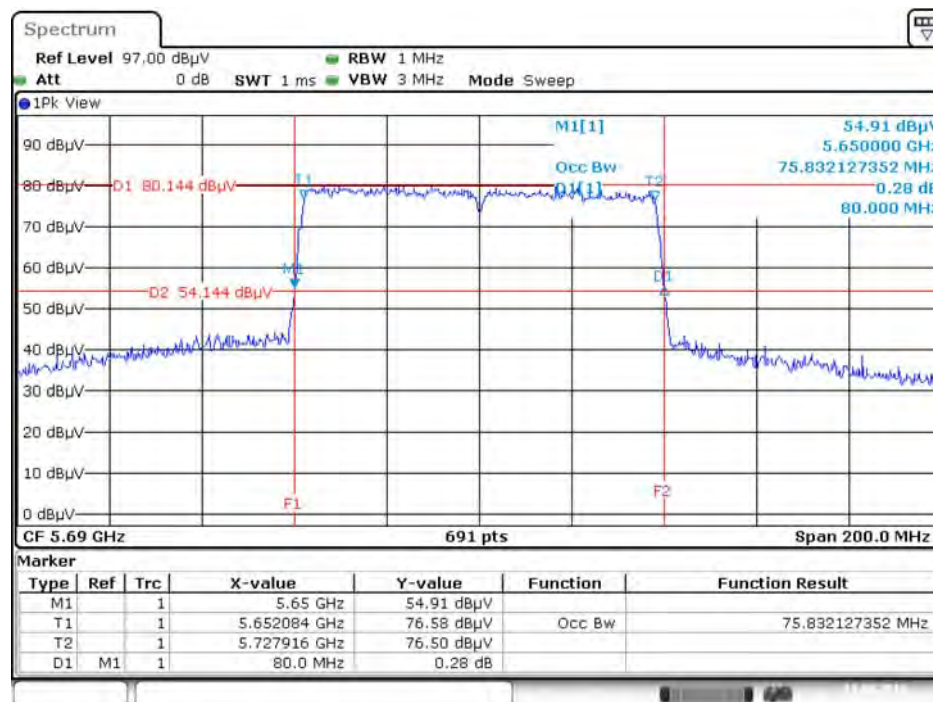
Type 6

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5290 MHz



Date: 11.AUG.2016 17:23:13

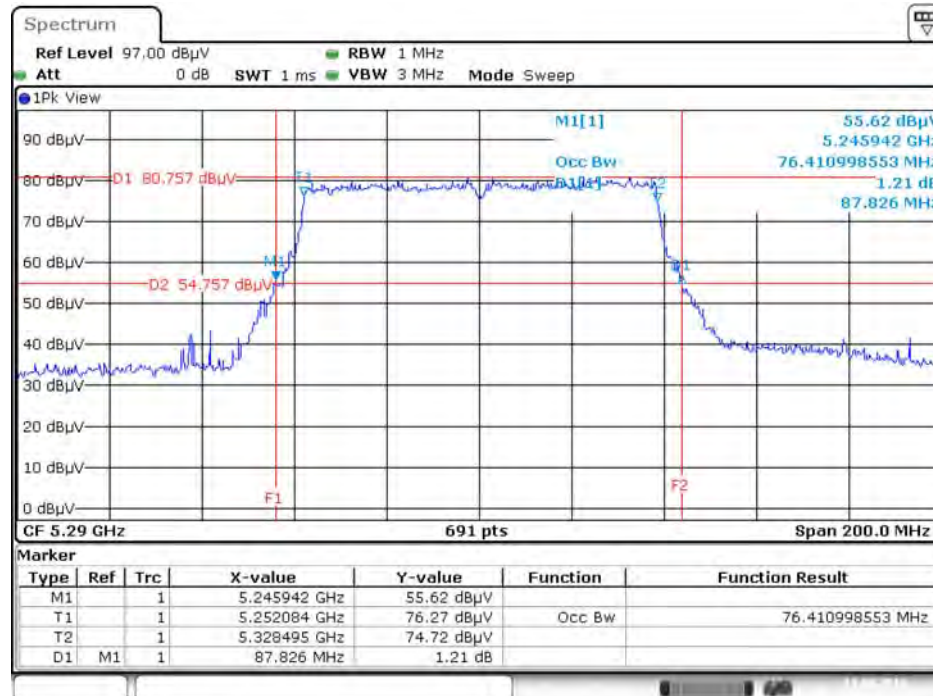
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



Date: 11.AUG.2016 14:14:45

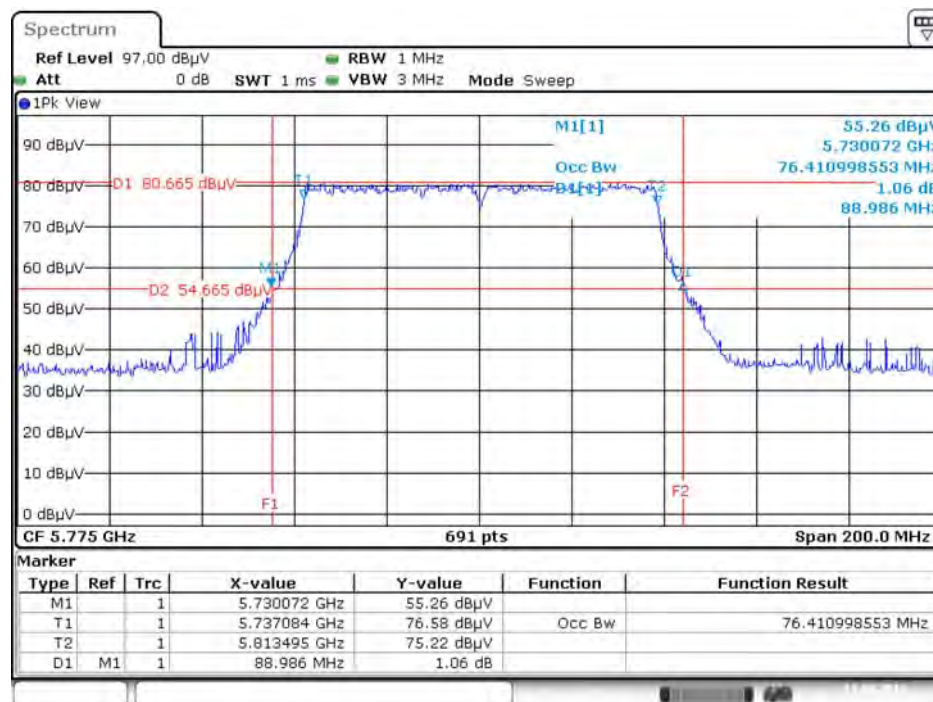
Type 7

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5290 MHz



Date: 11.AUG.2016 17:23:57

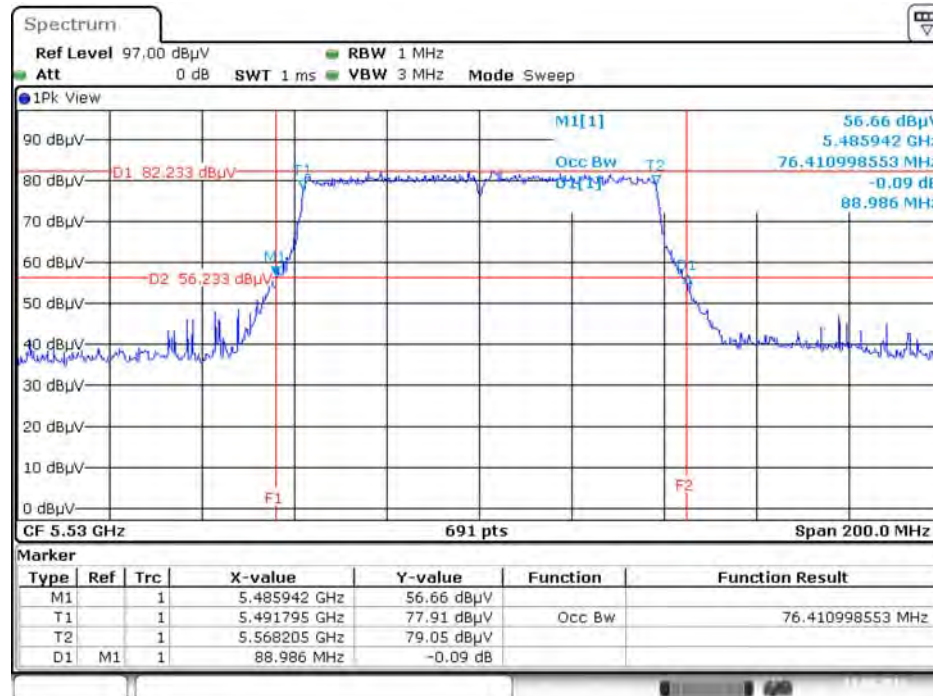
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 11.AUG.2016 17:25:16

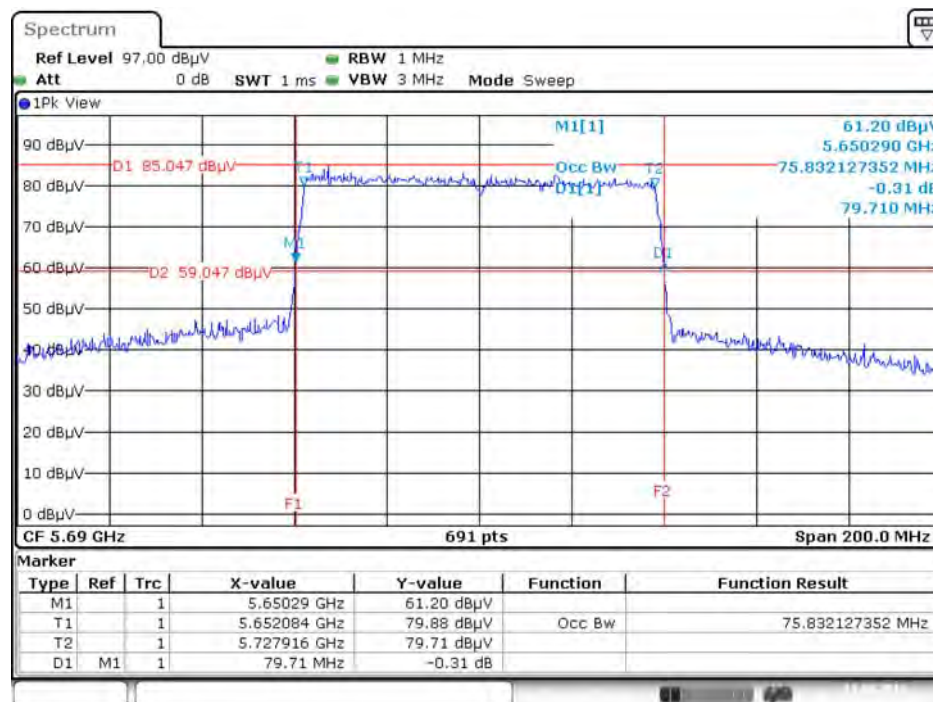
Type 8

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5530 MHz



Date: 11.AUG.2016 17:16:57

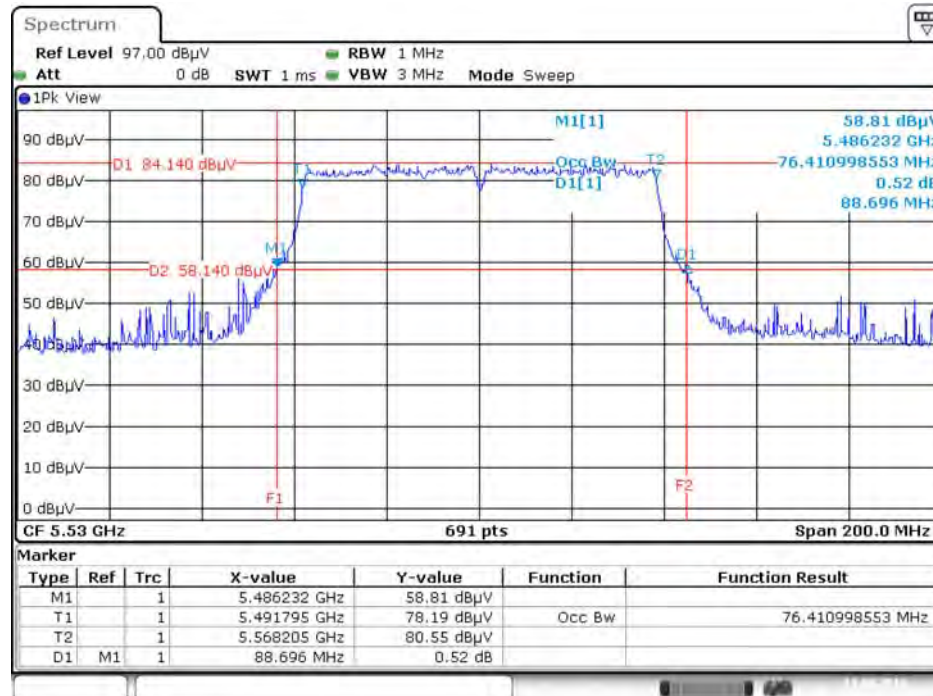
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



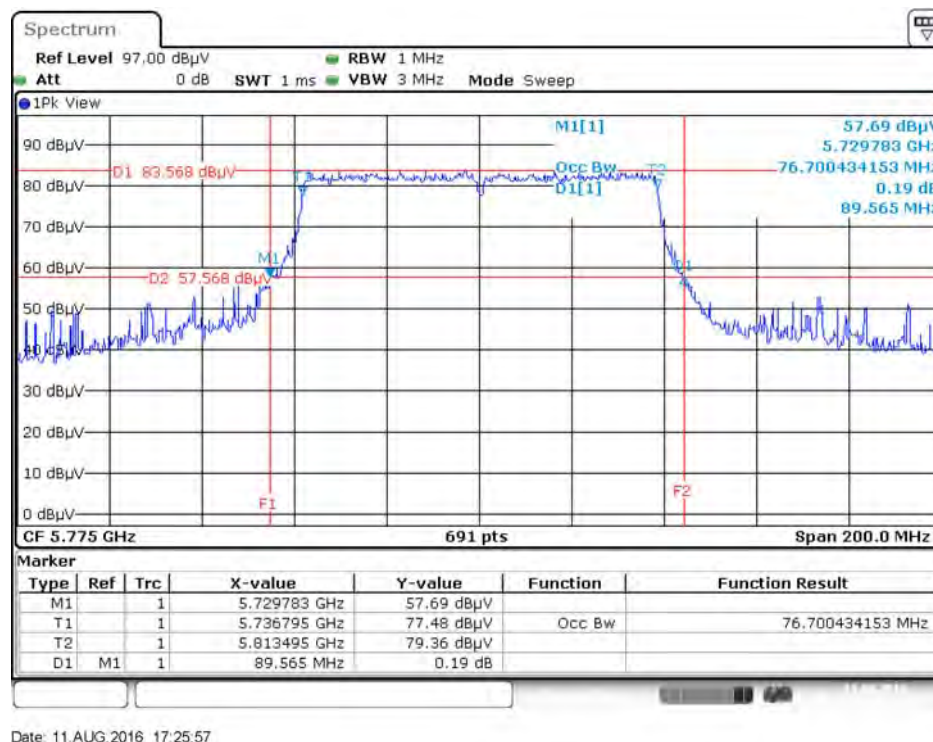
Date: 11.AUG.2016 14:18:04

Type 9

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5530 MHz

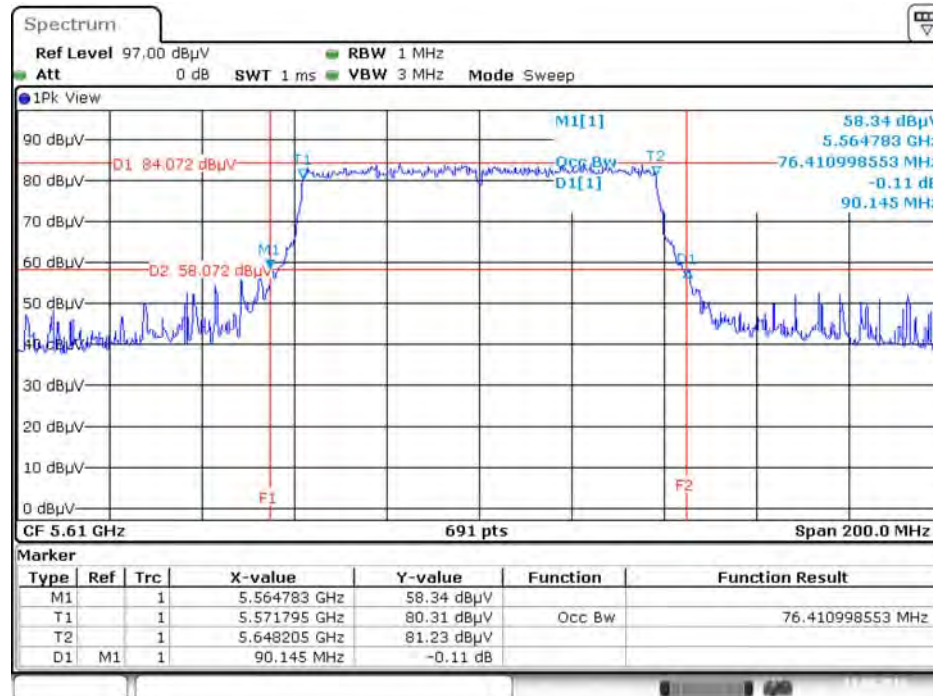


26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



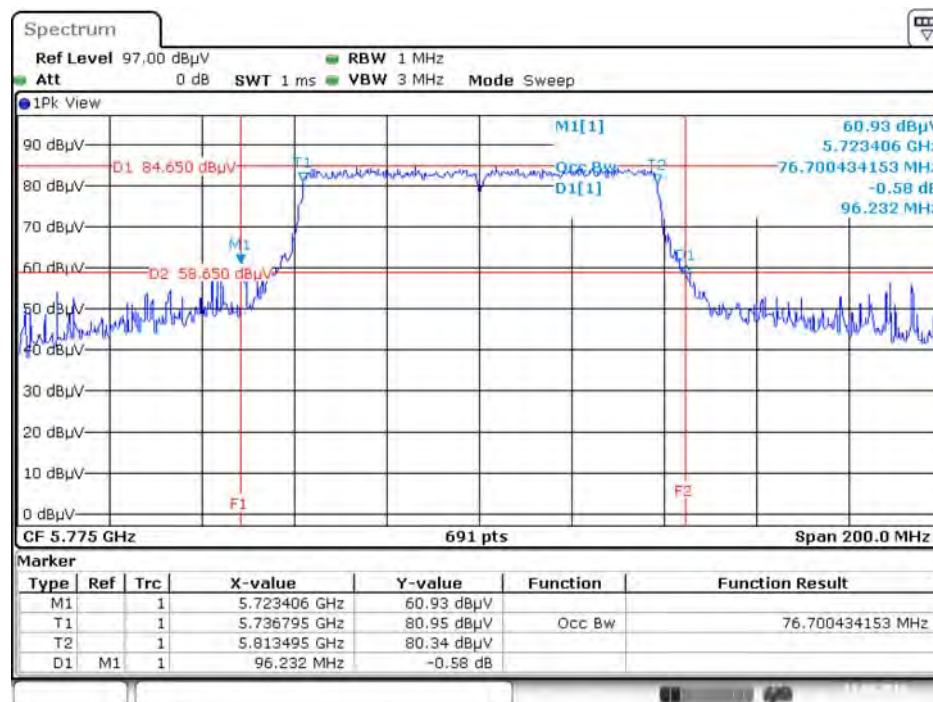
Type 10

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5610 MHz



Date: 11.AUG.2016 17:20:38

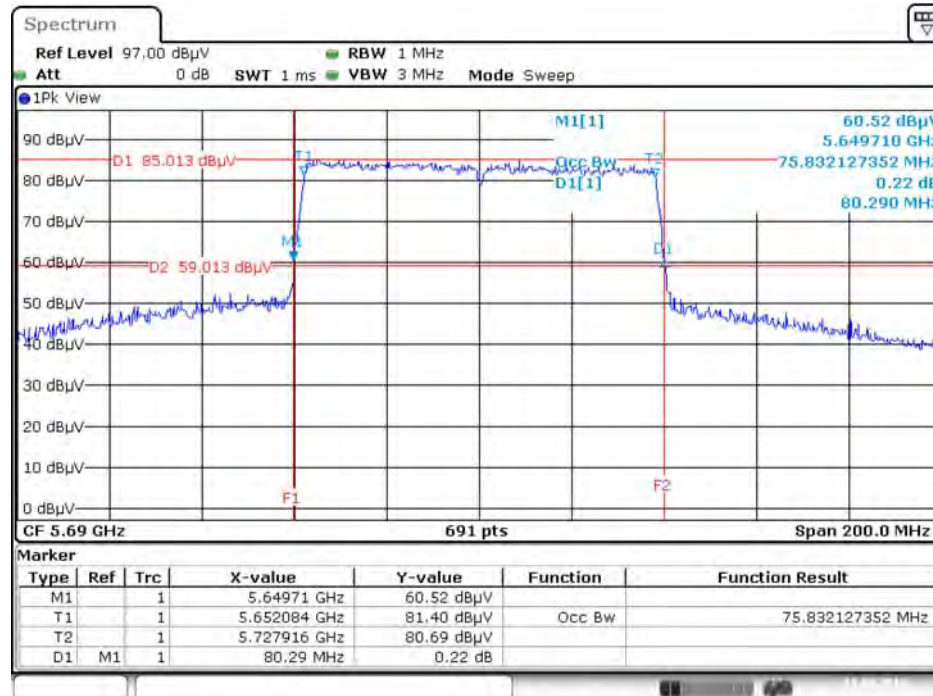
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 11.AUG.2016 17:26:39

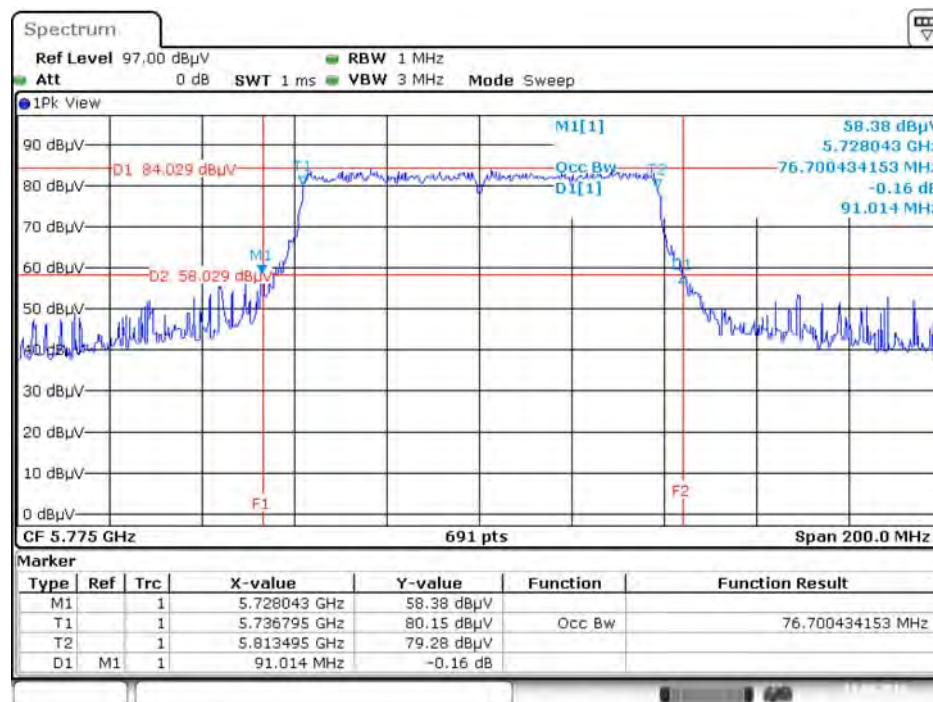
Type 11

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 + Chain 7 / 5690 MHz



Date: 11.AUG.2016 14:20:28

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 11.AUG.2016 17:27:15

4.2. 6dB Spectrum Bandwidth Measurement

4.2.1. Limit

For digital modulation systems, the minimum 6dB bandwidth shall be at least 500 kHz.

4.2.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer.

6dB Spectrum Bandwidth	
Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RBW	100kHz
VBW	$\geq 3 \times \text{RBW}$
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.2.3. Test Procedures

For Radiated 6dB Bandwidth Measurement:

1. The transmitter was radiated to the spectrum analyzer in peak hold mode.
2. Test was performed in accordance with **KDB789033 D02 v01r03** for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (C) Emission Bandwidth.
3. Multiple antenna system was performed in accordance with **KDB662911 D01 v02r01** Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. Measured the spectrum width with power higher than 6dB below carrier.

4.2.4. Test Setup Layout

For Radiated 6dB Bandwidth Measurement:

This test setup layout is the same as that shown in section 4.5.4.

4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Test Result of 6dB Spectrum Bandwidth

Temperature	24°C	Humidity	60%
Test Engineer	Clemens Fang		

<For Non-Beamforming Mode>

Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW M1 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11a	5720 MHz	15.71	5711.83	2.54	500	Complies
802.11ac MCS0/Nss1 VHT20	5720 MHz	16.00	5711.19	2.19	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	36.29	5691.91	3.20	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	75.65	5652.61	3.26	500	Complies

802.11ac MCS0/Nss2 VHT80+80

Type	Frequency	6dB BW (MHz)	6dB BW M1 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	6dB Total BW (MHz)	Test Result
3	5210 MHz	-					
	5690 MHz	75.94	5651.74	2.68	500	-	Complies
6	5290 MHz	-					
	5690 MHz	75.94	5651.74	2.68	500	-	Complies
7	5290 MHz	-					
	5775 MHz	73.33	-	-	500	-	Complies
8	5530 MHz	-					
	5690 MHz	72.75	5654.93	2.68	500	-	Complies
9	5530 MHz	-					
	5775 MHz	74.20	-	-	500	-	Complies
10	5610 MHz	-					
	5775 MHz	74.20	-	-	500	-	Complies
11	5690 MHz	75.94	5652.32	3.26	500	77.75	Complies
	5775 MHz	74.49	-	-	500		Complies

<For Beamforming Mode>

Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW M1 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11ac MCS0/Nss1 VHT20	5720 MHz	17.68	5711.13	3.81	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	36.41	5691.91	3.32	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	76.52	5651.74	3.26	500	Complies

802.11ac MCS0/Nss2 VHT80+80

Type	Frequency	6dB BW (MHz)	6dB BW M1 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	6dB Total BW (MHz)	Test Result
3	5210 MHz	-					
	5690 MHz	75.94	5652.03	2.97	500	-	Complies
6	5290 MHz	-					
	5690 MHz	76.23	5652.03	3.26	500	-	Complies
7	5290 MHz	-					
	5775 MHz	76.52	-	-	500	-	Complies
8	5530 MHz	-					
	5690 MHz	75.65	5652.32	2.97	500	-	Complies
9	5530 MHz	-					
	5775 MHz	76.52	-	-	500	-	Complies
10	5610 MHz	-					
	5775 MHz	76.23	-	-	500	-	Complies
11	5690 MHz	75.94	5652.03	2.97	500	78.91	Complies
	5775 MHz	75.94	-	-	500		Complies

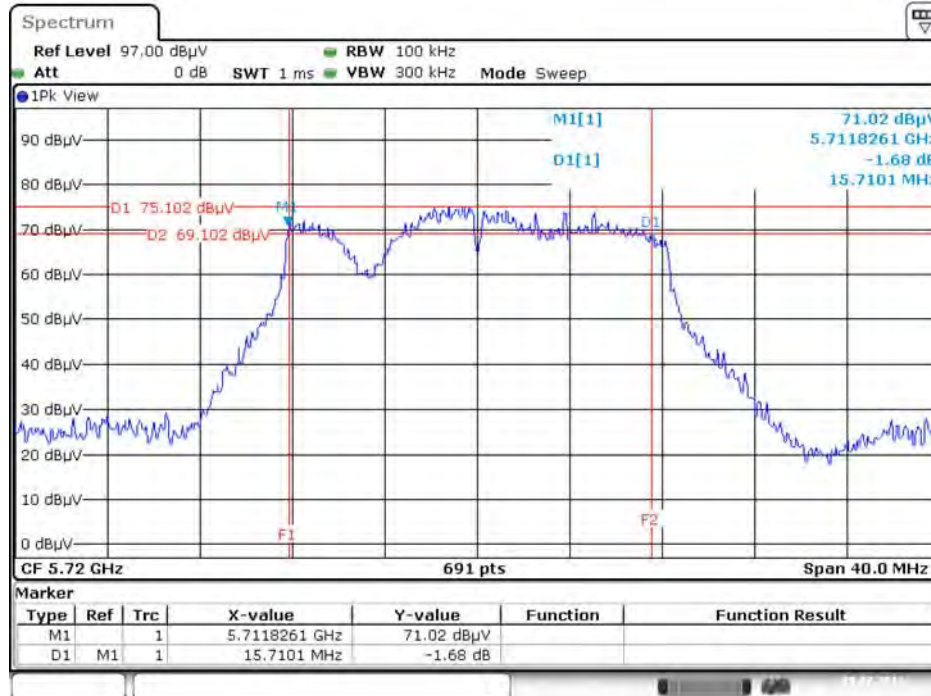
Note: All the test values were listed in the report.

For plots, only the channel with worse result was shown.

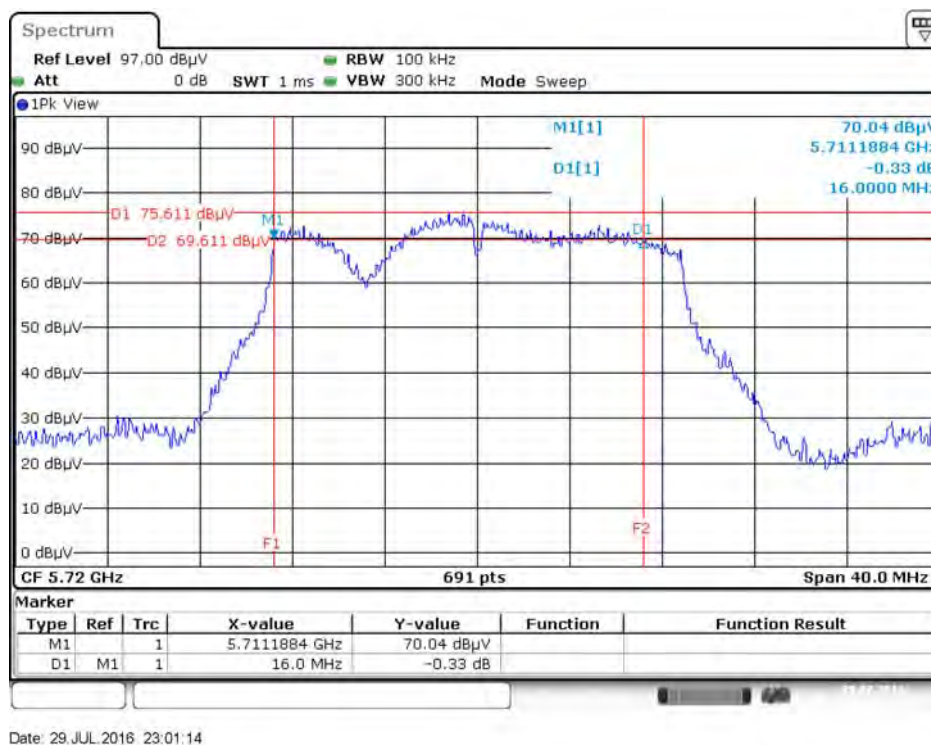
<For Non-Beamforming Mode>

Straddle Channel

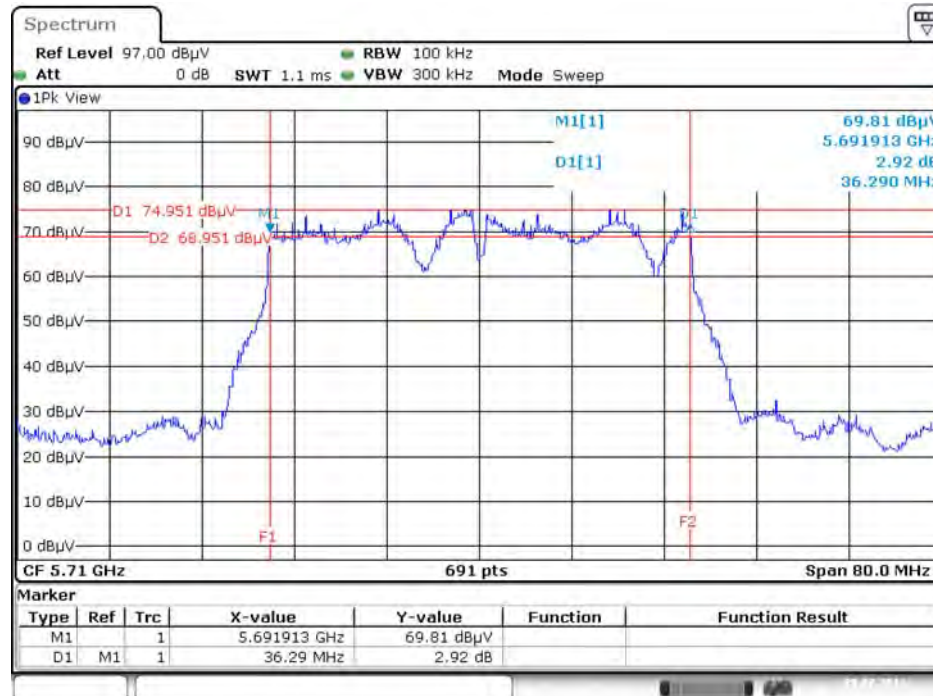
6 dB Bandwidth Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5720 MHz



6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5720 MHz

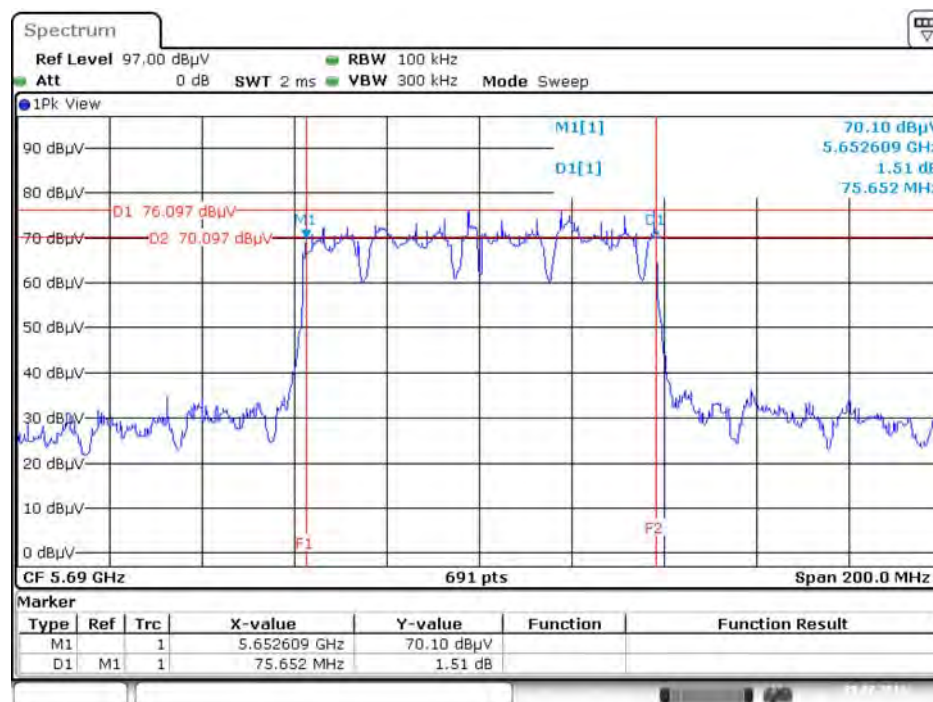


6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5710 MHz



Date: 29 JUL 2016 23:02:07

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5690 MHz

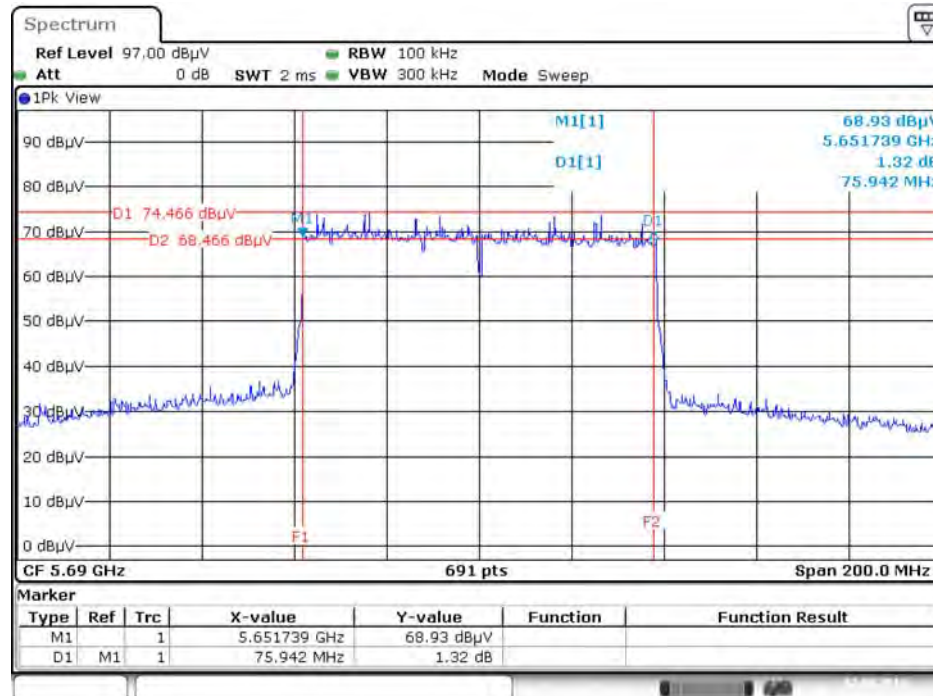


Date: 29 JUL 2016 23:03:06

802.11ac MCS0/Nss2 VHT80+80

Type 3

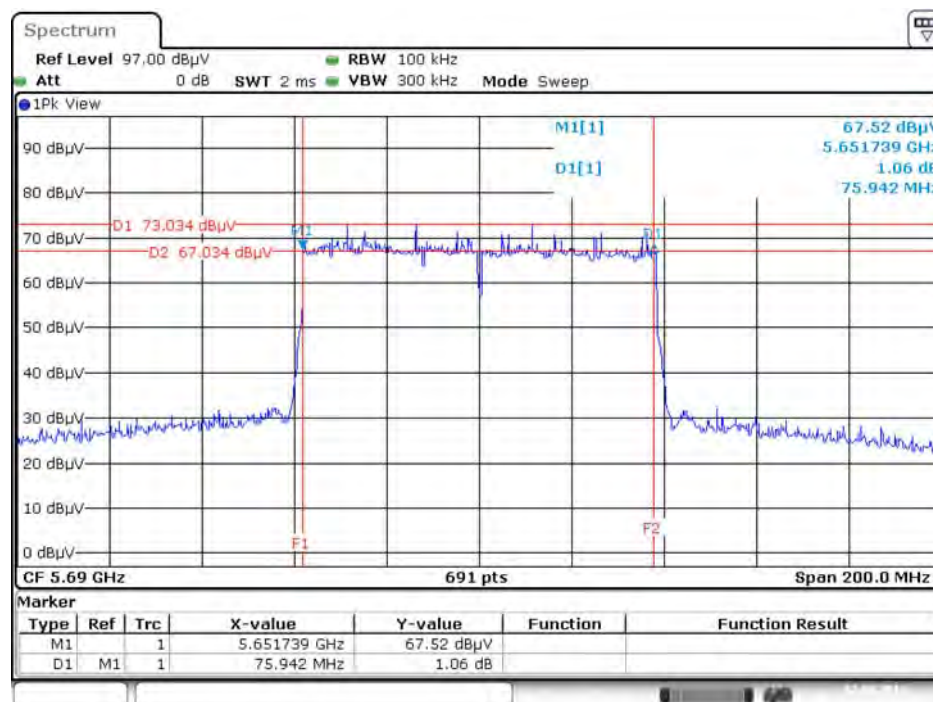
6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



Date: 2.AUG.2016 03:44:08

Type 6

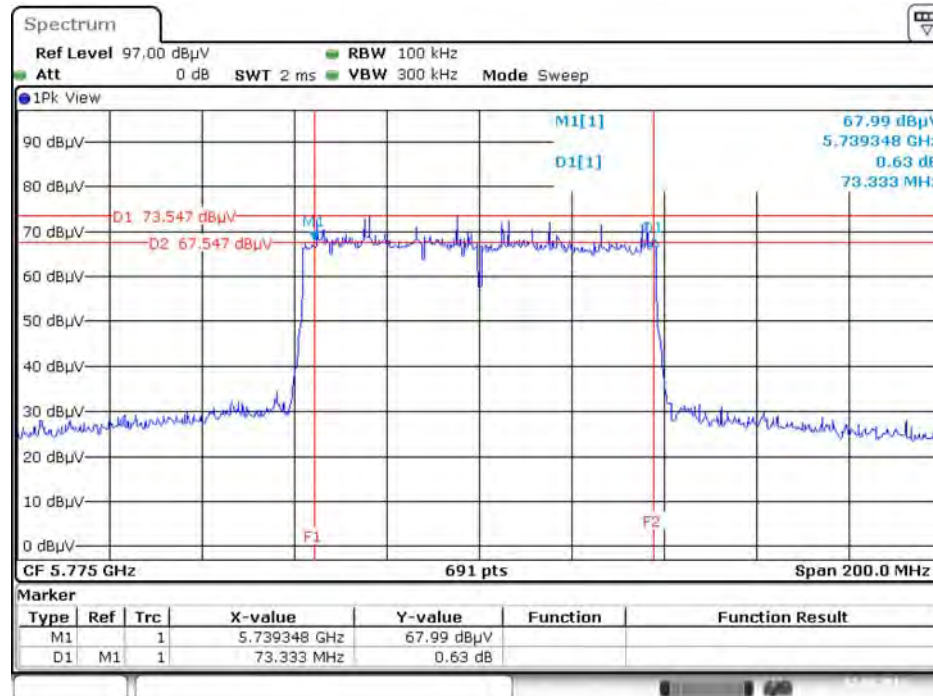
6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



Date: 2.AUG.2016 03:48:37

Type 7

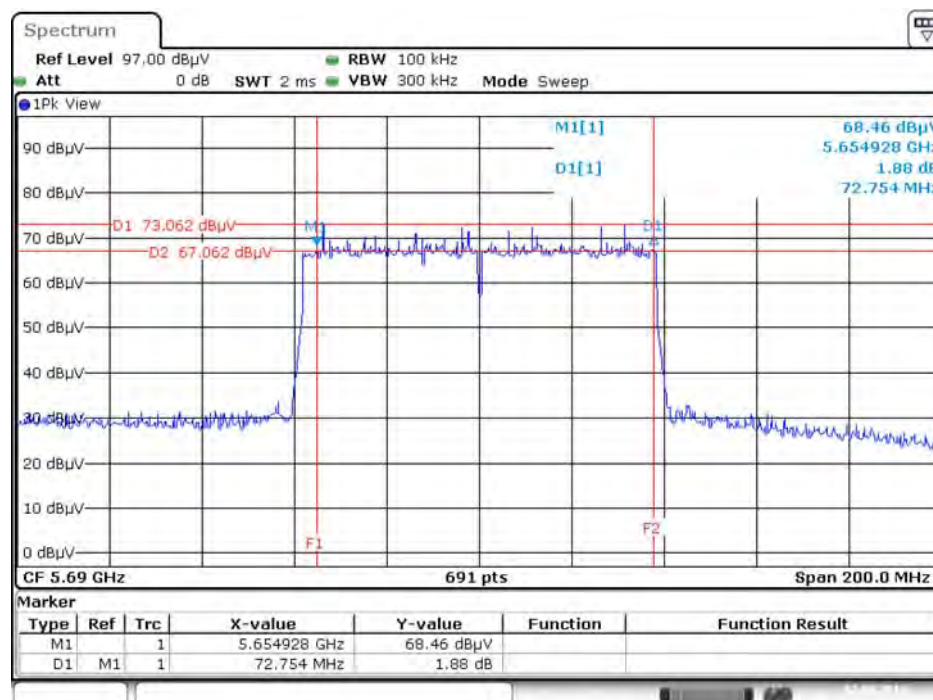
6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 2.AUG.2016 03:47:47

Type 8

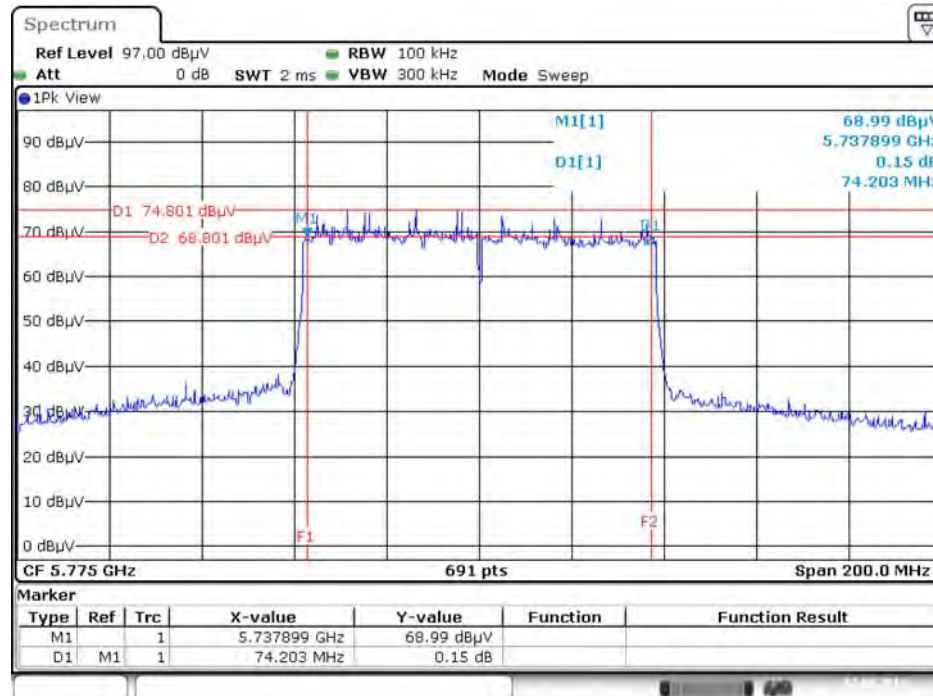
6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



Date: 2.AUG.2016 03:49:43

Type 9

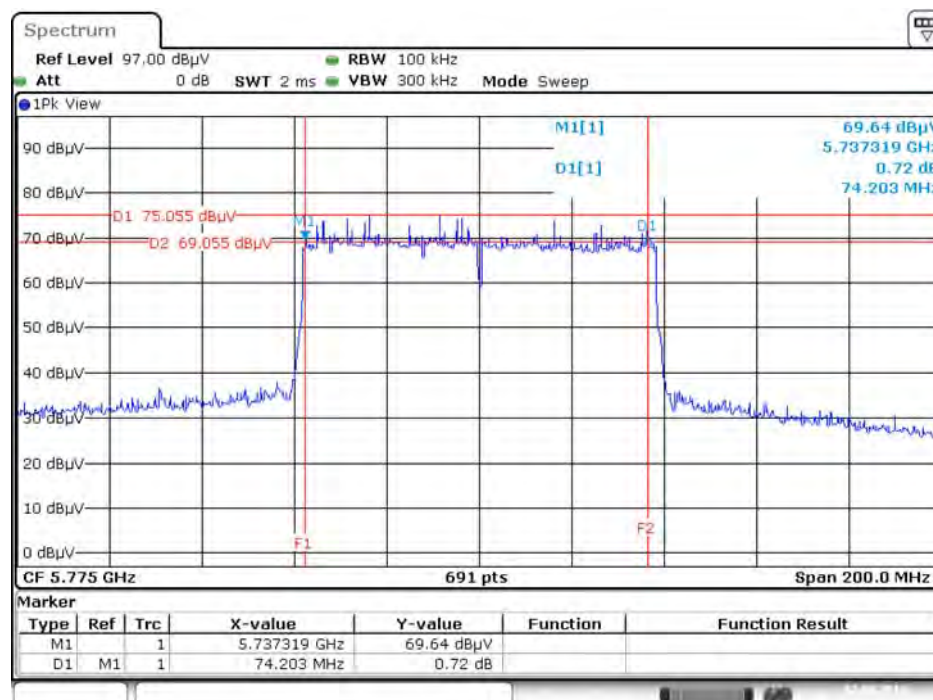
6 dB Bandwidth Plot on Chain 5+ Chain 8 / 5775 MHz



Date: 2.AUG.2016 03:50:29

Type 10

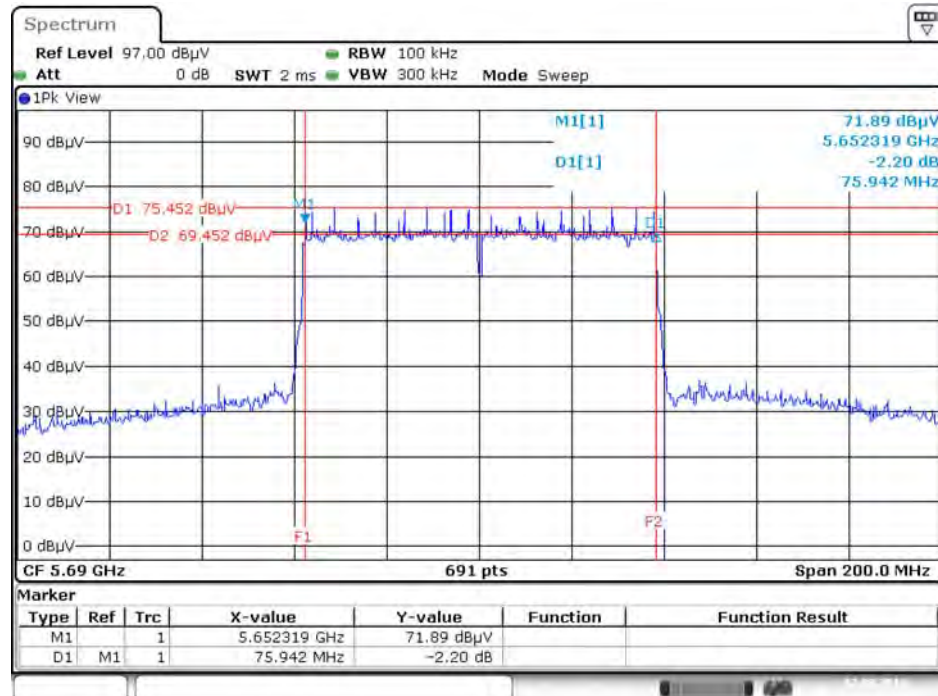
6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 2.AUG.2016 03:51:48

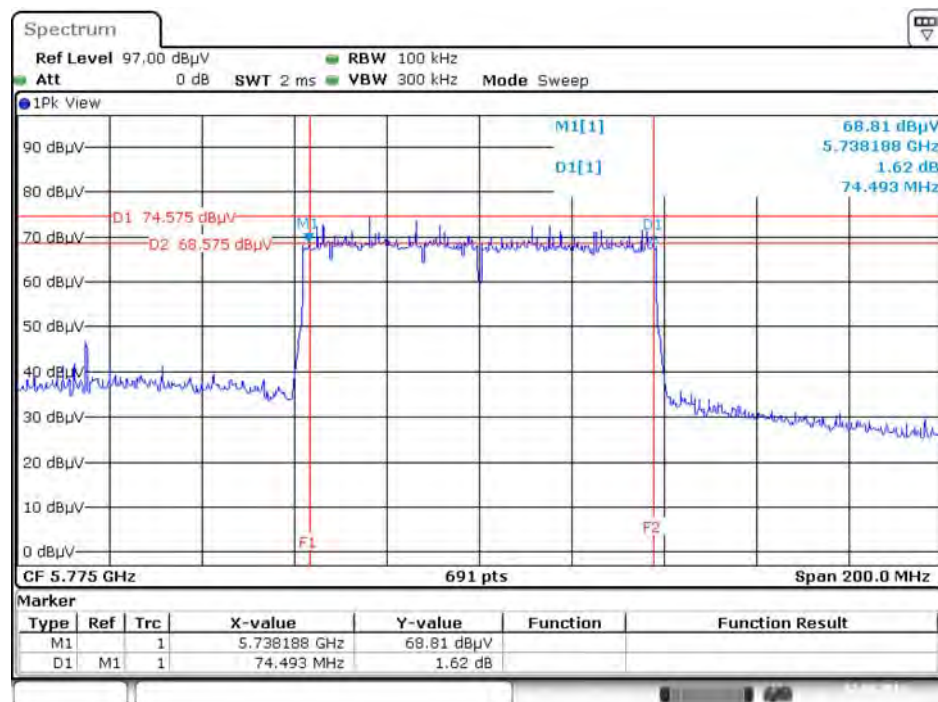
Type 11

6 dB Bandwidth Plot on Chain 6 + Chain 7 / 5690 MHz



Date: 2.AUG.2016 03:53:58

6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz

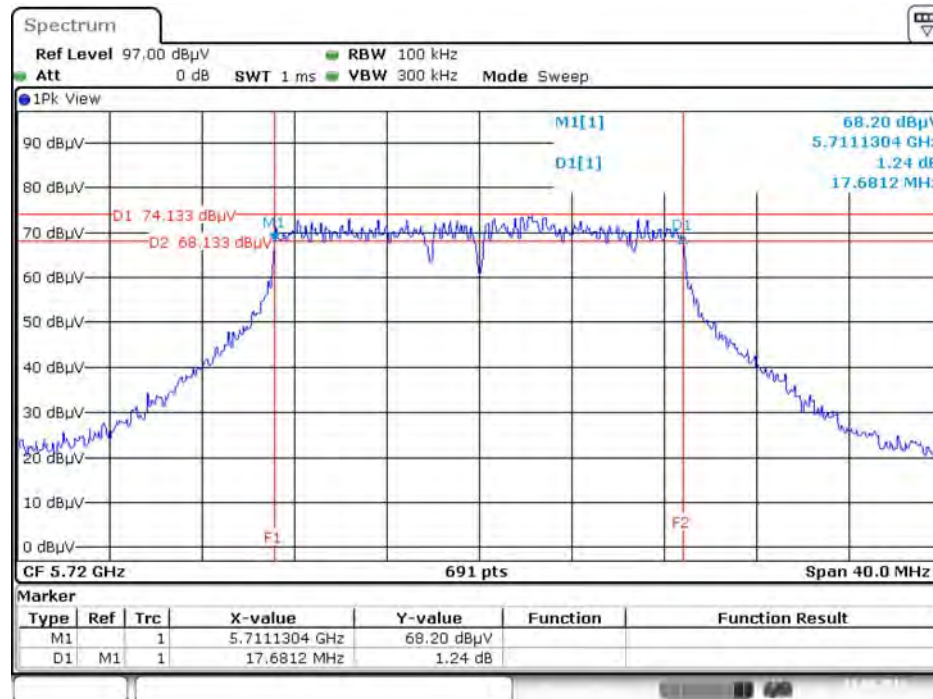


Date: 2.AUG.2016 03:52:57

<For Beamforming Mode>

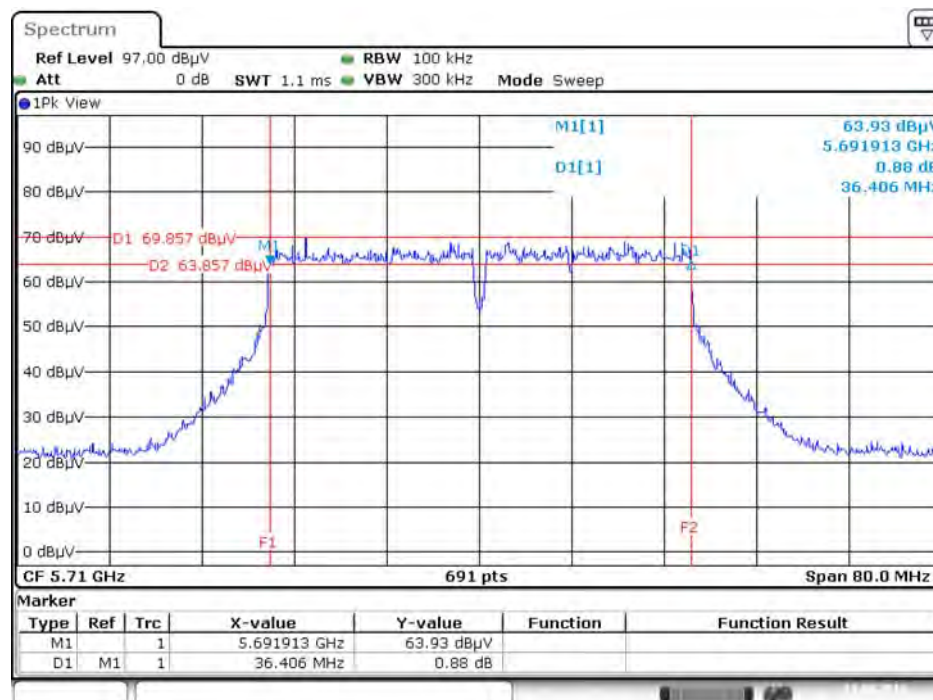
Straddle Channel

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5720 MHz



Date: 11.AUG.2016 20:51:03

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5710 MHz



Date: 11.AUG.2016 20:53:28



Spectrum

Ref Level 97.00 dBμV RBW 100 kHz

Att 0 dB SWT 2 ms VBW 300 kHz Mode Sweep

1Pk View

90 dBμV

80 dBμV

70 dBμV

60 dBμV

50 dBμV

40 dBμV

30 dBμV

20 dBμV

0 dBμV

D1 67.856 dBμV

D2 61.856 dBμV

M1[1] 62.01 dBμV

D1[1] 2.15 dB

5.651739 GHz

76.522 MHz

F1

F2

CF 5.69 GHz

691 pts

Span 200.0 MHz

Marker

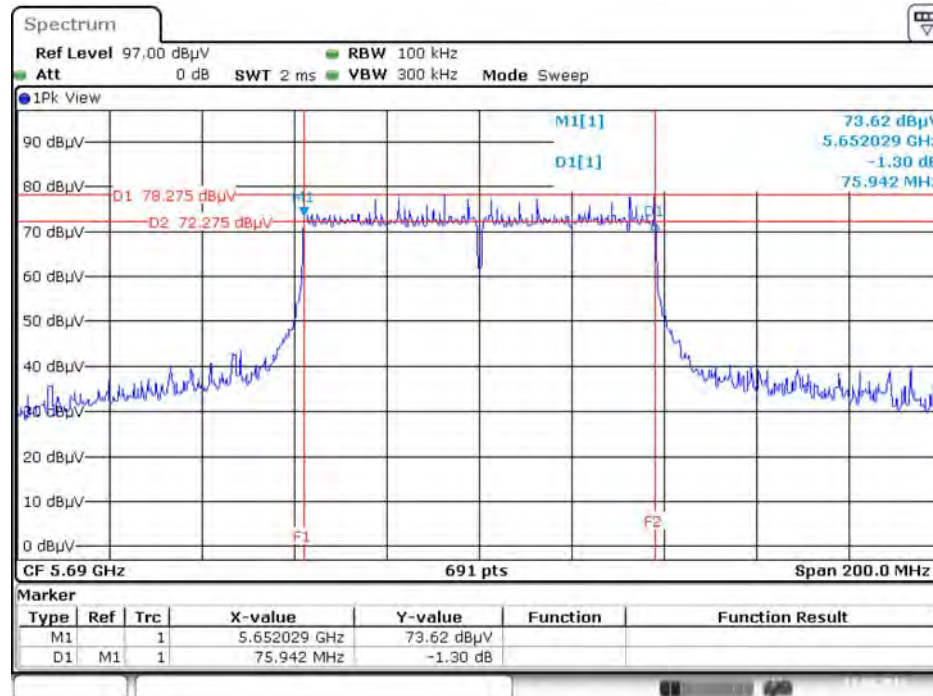
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.651739 GHz	62.01 dBμV		
D1	M1	1	76.522 MHz	2.15 dB		

Issued Date : Apr. 07, 2017

802.11ac MCS0/Nss2 VHT80+80

Type 3

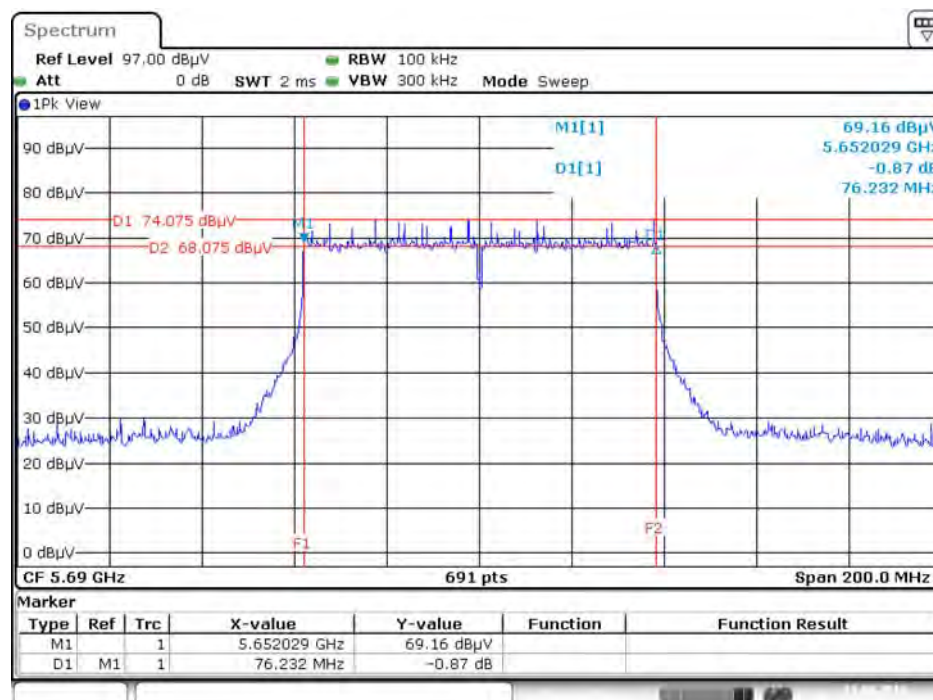
6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



Date: 11.AUG.2016 17:29:51

Type 6

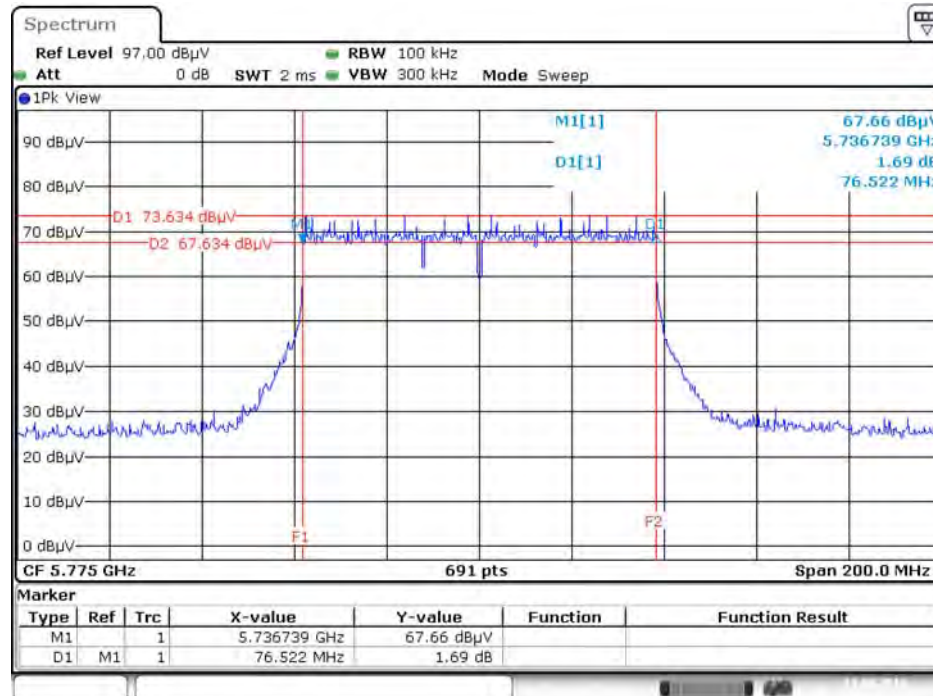
6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



Date: 11.AUG.2016 17:31:21

Type 7

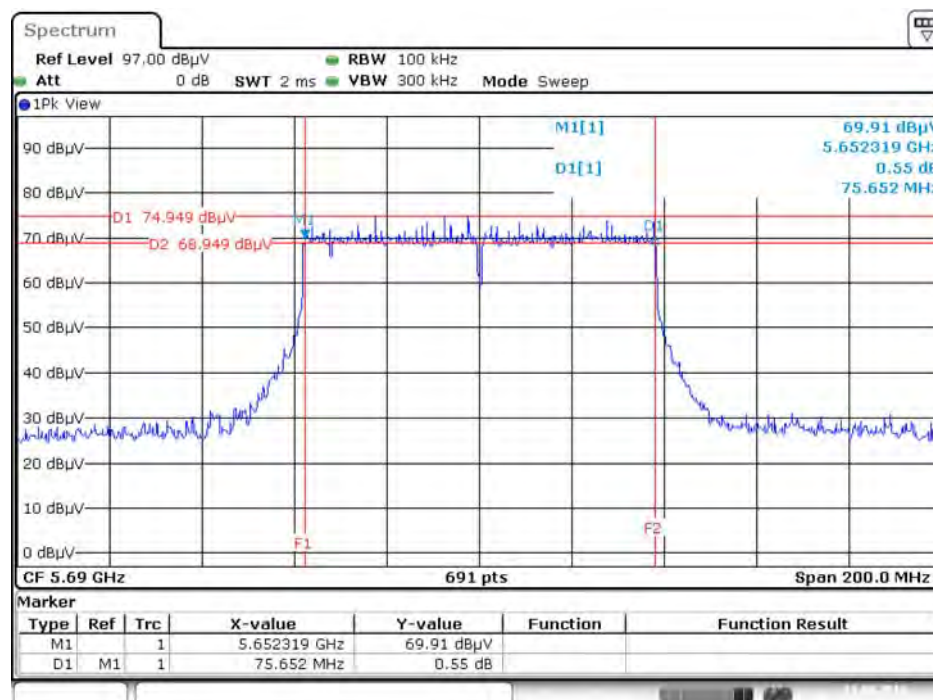
6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 11.AUG.2016 17:37:06

Type 8

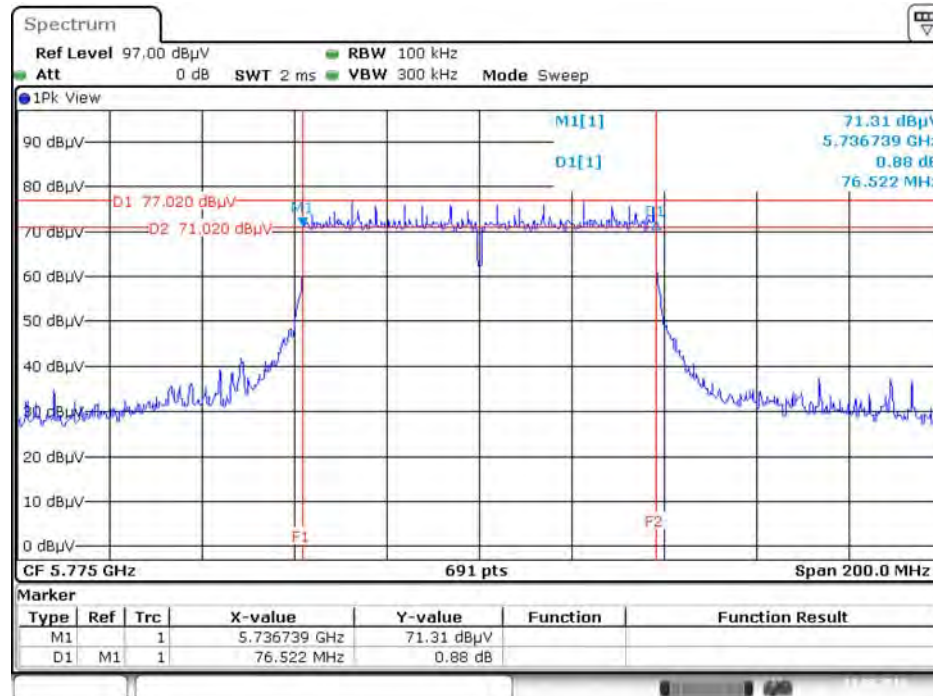
6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5690 MHz



Date: 11.AUG.2016 17:32:18

Type 9

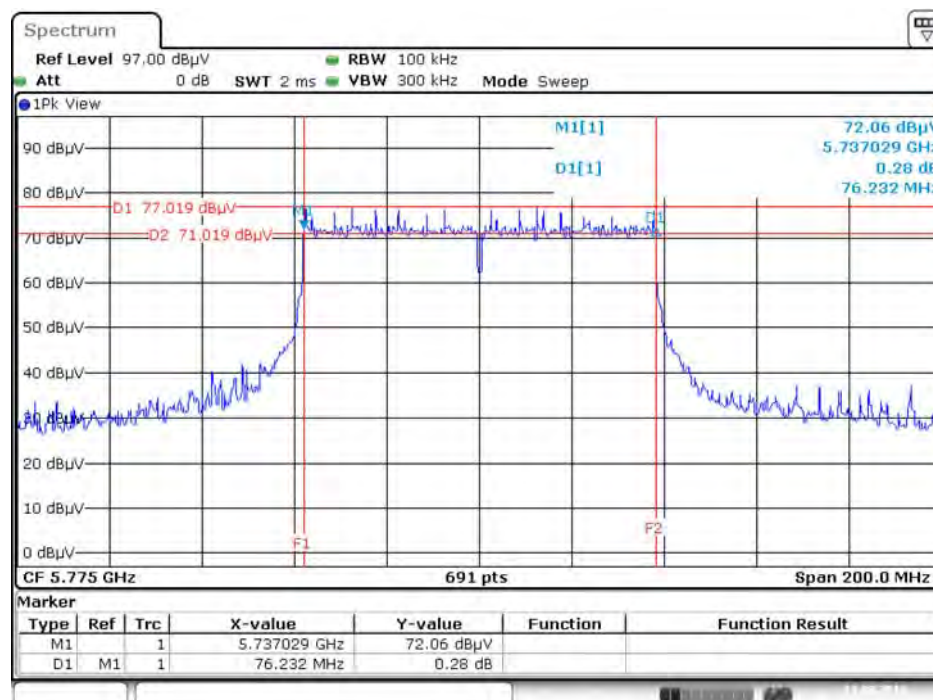
6 dB Bandwidth Plot on Chain 5+ Chain 8 / 5775 MHz



Date: 11.AUG.2016 17:37:44

Type 10

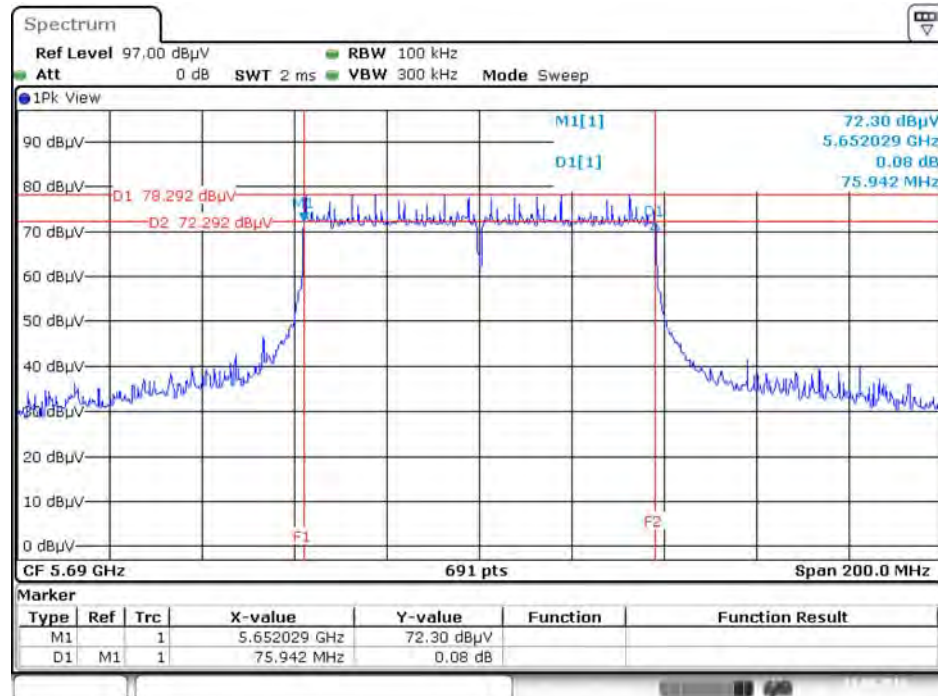
6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 11.AUG.2016 17:38:22

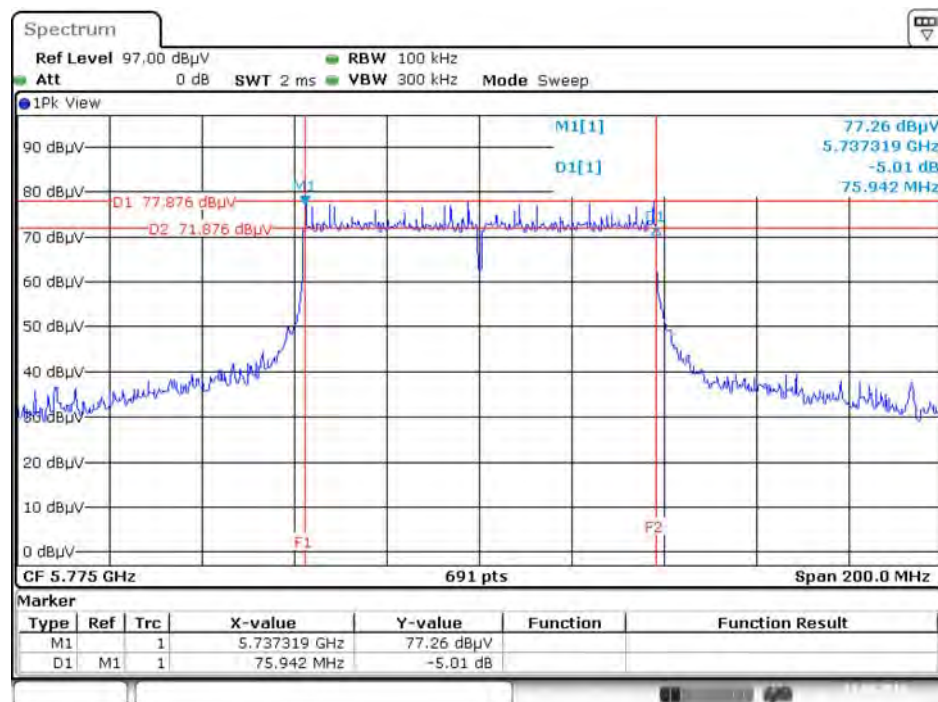
Type 11

6 dB Bandwidth Plot on Chain 6 + Chain 7 / 5690 MHz



Date: 11.AUG.2016 17:33:08

6 dB Bandwidth Plot on Chain 5 + Chain 8 / 5775 MHz



Date: 11.AUG.2016 17:34:25

4.3. Maximum Conducted Output Power Measurement

4.3.1. Limit

Frequency Band		Limit
☒	5.25-5.35 GHz	The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm $10 \log B$, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
☒	5.470-5.725 GHz	

4.3.2. Measuring Instruments and Setting

For other channel:

Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Detector	AVERAGE

For straddle channel:

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1 000 kHz
VBW	3000 kHz
Detector	RMS
Trace	Average Sweep count 100
Sweep Time	Auto

4.3.3. Test Procedures

For other channel:

- The transmitter output (antenna port) was connected to the power meter.
- Test was performed in accordance with KDB789033 D02 v01r03 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (E) Maximum conducted output power =>3. Measurement using a Power Meter (PM) =>b) Method PM-G (Measurement using a gated RF average power meter).

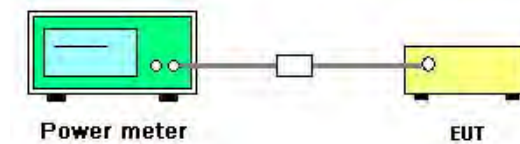
3. Multiple antenna systems was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. When measuring maximum conducted output power with multiple antenna systems, add every result of the values by mathematic formula.

For straddle channel:

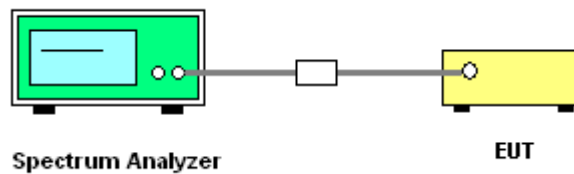
1. The transmitter output (antenna port) was connected to the spectrum analyzer.

4.3.4. Test Setup Layout

For other channel:



For straddle channel:



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Maximum Conducted Output Power

Temperature	24°C	Humidity	60%
Test Engineer	Clemens Fang	Test Date	May 03, 2016 ~ Aug. 20, 2016

<For Non-beamforming Mode>

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11a	5260 MHz	12.78	12.10	12.45	12.72	18.54	23.66	Complies
	5300 MHz	12.63	11.84	12.33	12.29	18.30	23.70	Complies
	5320 MHz	12.92	11.71	12.31	12.52	18.41	23.64	Complies
	5500 MHz	12.34	11.96	12.36	12.85	18.41	23.78	Complies
	5580 MHz	12.41	11.55	12.32	12.53	18.24	23.76	Complies
	5700 MHz	12.65	11.72	12.25	12.44	18.30	23.76	Complies

Note:

5260 MHz	Power limit= 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(18.44) = 23.66\text{dBm} < 23.98\text{dBm}$, so power limit=23.66dBm.
5300 MHz	Power limit= 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(18.61) = 23.70\text{dBm} < 23.98\text{dBm}$, so power limit=23.70dBm.
5320 MHz	Power limit= 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(18.35) = 23.64\text{dBm} < 23.98\text{dBm}$, so power limit=23.64dBm.
5500 MHz	Power limit= 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(18.96) = 23.78\text{dBm} < 23.98\text{dBm}$, so power limit=23.78dBm.
5580 MHz	Power limit= 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(18.87) = 23.76\text{dBm} < 23.98\text{dBm}$, so power limit=23.76dBm.
5700 MHz	Power limit= 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(18.87) = 23.76\text{dBm} < 23.98\text{dBm}$, so power limit=23.76dBm.

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11ac MCS0/Nss1 VHT20	5260 MHz	12.52	11.98	12.31	12.66	18.40	23.90	Complies
	5300 MHz	12.42	11.73	12.05	12.28	18.15	23.91	Complies
	5320 MHz	12.73	11.51	12.13	12.36	18.23	23.88	Complies
	5500 MHz	12.01	11.72	12.17	12.69	18.18	23.98	Complies
	5580 MHz	12.29	11.43	12.21	12.36	18.11	23.98	Complies
	5700 MHz	12.49	11.63	12.31	12.41	18.24	23.97	Complies

Note:

5260 MHz	Power limit= 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(19.48) = 23.90\text{dBm} > 23.98\text{dBm}$, so power limit=23.90dBm.
5300 MHz	Power limit= 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(19.57) = 23.91\text{dBm} < 23.98\text{dBm}$, so power limit=23.91dBm.
5320 MHz	Power limit= 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(19.39) = 23.88\text{dBm} < 23.98\text{dBm}$, so power limit=23.88dBm.
5700 MHz	Power limit= 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(19.83) = 23.97\text{dBm} < 23.98\text{dBm}$, so power limit=23.97dBm.

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11ac MCS0/Nss1 VHT40	5270 MHz	15.76	15.13	15.36	15.64	21.50	23.98	Complies
	5310 MHz	15.37	14.76	15.06	15.14	21.11	23.98	Complies
	5510 MHz	15.29	14.72	15.34	15.73	21.31	23.98	Complies
	5550 MHz	15.79	14.71	15.37	15.76	21.45	23.98	Complies
	5670 MHz	15.39	14.53	15.25	15.16	21.12	23.98	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	13.92	13.21	13.34	13.58	19.54	23.98	Complies
	5530 MHz	15.41	14.52	15.38	15.79	21.32	23.98	Complies
	5610 MHz	18.08	17.20	17.62	17.61	23.66	23.98	Complies

Straddle Channel

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11a	5720 MHz (UNII 2C)	11.91	11.86	12.22	12.49	18.15	22.66	Complies
	5720 MHz (UNII 3)	5.82	5.42	6.37	6.41	12.04	30.00	Complies
802.11ac MCS0/Nss1 VHT20	5720 MHz (UNII 2C)	12.18	12.12	12.44	12.74	18.40	22.76	Complies
	5720 MHz (UNII 3)	6.58	6.14	7.10	7.19	12.79	30.00	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz (UNII 2C)	15.06	14.80	15.06	15.35	21.36	23.98	Complies
	5710 MHz (UNII 3)	5.22	4.42	5.12	5.60	11.13	30.00	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz (UNII 2C)	17.82	17.01	17.41	17.60	23.49	23.98	Complies
	5690 MHz (UNII 3)	4.97	3.73	4.97	5.18	10.77	30.00	Complies

Note:

Mode	Frequency	Description
802.11a	5720 MHz (UNII 2C)	Power limit = 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(14.65) = 22.66\text{dBm} < 23.98\text{dBm}$, so power limit = 22.66dBm .
802.11ac MCS0/Nss1 VHT20	5720 MHz (UNII 2C)	Power limit = 23.98dBm or $11 + 10\log(B)$; $11 + 10\log(15.00) = 22.76\text{dBm} < 23.98\text{dBm}$, so power limit = 22.76dBm .

802.11ac MCS0/Nss2 VHT80+80

Type	Frequency	Conducted Power (dBm)						Max. Limit (dBm)	Result
		Chain 6	Chain 7	Chain 5	Chain 8	Total	Band Total		
1	5210 MHz	18.96	18.45	-	-	21.72	-	30	Complies
	5530 MHz	-	-	18.32	19.01	21.69	-	23.98	Complies
2	5210 MHz	19.45	18.87	-	-	22.18	-	30	Complies
	5610 MHz	-	-	19.54	19.85	22.71	-	23.98	Complies
3	5210 MHz	19.46	18.88	-	-	22.19	-	30	Complies
	5690 MHz (UNII 2C)	-	-	18.81	19.55	22.21	-	23.98	Complies
	5690 MHz (UNII 3)	-	-	4.28	5.25	7.80	-	30	Complies
4	5290 MHz	18.55	17.63	-	-	21.12	-	23.98	Complies
	5530 MHz	-	-	17.42	18.22	20.85	-	23.98	Complies
5	5290 MHz	17.98	17.23	-	-	20.63	-	23.98	Complies
	5610 MHz	-	-	17.24	17.69	20.48	-	23.98	Complies
6	5290 MHz	18.56	17.75	-	-	21.18	-	23.98	Complies
	5690 MHz (UNII 2C)	-	-	17.22	17.93	20.60	-	23.98	Complies
	5690 MHz (UNII 3)	-	-	2.77	3.63	6.23	-	30	Complies
7	5290 MHz	18.56	17.84	-	-	21.23	-	23.98	Complies
	5775 MHz	-	-	17.71	18.45	21.11	-	30	Complies
8	5530 MHz	18.01	17.25	-	-	20.66	23.62	23.98	Complies
	5690 MHz (UNII 2C)	-	-	17.15	17.92	20.56			
	5690 MHz (UNII 3)	-	-	3.97	4.08	7.04	-	30	Complies
9	5530 MHz	19.75	18.79	-	-	22.31	-	23.98	Complies
	5775 MHz	-	-	19.34	19.91	22.64	-	30	Complies
10	5610 MHz	20.17	19.03	-	-	22.65	-	23.98	Complies
	5775 MHz	-	-	19.27	19.96	22.64	-	30.00	Complies

11	5690 MHz (UNII 2C)	19.57	18.62	-	-	22.13	-	23.98	Complies
	5690 MHz (UNII 3)	6.55	5.19	-	-	8.93	22.82	30	Complies
	5775 MHz	-	-	19.35	19.89	22.64			

<For Beamforming Mode>

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11ac MCS0/Nss1 VHT20	5260 MHz	11.47	12.60	12.29	11.96	18.12	18.31	Complies
	5300 MHz	13.49	12.35	12.60	9.76	18.27	18.31	Complies
	5320 MHz	13.24	11.82	11.95	11.22	18.14	18.31	Complies
	5500 MHz	13.81	12.17	11.30	10.32	18.11	18.31	Complies
	5580 MHz	13.57	11.48	11.37	11.54	18.11	18.31	Complies
	5700 MHz	14.06	12.24	11.08	10.94	18.29	18.31	Complies
802.11ac MCS0/Nss1 VHT40	5270 MHz	13.25	11.94	11.59	11.34	18.12	18.31	Complies
	5310 MHz	12.92	12.12	12.08	11.12	18.13	18.31	Complies
	5510 MHz	13.57	12.07	11.67	11.17	18.24	18.31	Complies
	5550 MHz	13.41	12.46	12.32	10.24	18.27	18.31	Complies
	5670 MHz	13.09	12.57	12.16	10.26	18.16	18.31	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	12.62	12.15	12.23	11.55	18.17	18.31	Complies
	5530 MHz	13.96	11.57	11.47	11.45	18.28	18.31	Complies
	5610 MHz	13.76	11.74	11.62	11.53	18.29	18.31	Complies

Note:

Band	Description
5GB2/B3	$Directional Gain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67 \text{dBi, so limit} = 23.98 - (11.67 - 6) = 18.31 \text{ dBm.}$

Straddle Channel

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11ac MCS0/Nss1 VHT20	5720 MHz (UNII 2C)	11.29	12.14	10.42	10.67	17.20	17.24	Complies
	5720 MHz (UNII 3)	5.56	6.48	4.91	5.25	11.61	24.33	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz (UNII 2C)	11.92	12.79	10.47	10.75	17.60	18.31	Complies
	5710 MHz (UNII 3)	1.77	2.32	0.69	0.99	7.51	24.33	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz (UNII 2C)	11.61	12.68	10.99	11.27	17.71	18.31	Complies
	5690 MHz (UNII 3)	-1.66	-0.98	-1.41	-1.31	4.69	24.33	Complies

Note:

Mode	Frequency	Description
802.11ac MCS0/Nss1 VHT20	5720 MHz (UNII 2C)	Power limit = $11 + 10\log(B)$; $11 + 10\log(15.52) = 22.91 \text{ dBm} < 23.98 \text{ dBm}$, so limit = $22.91 - (11.67 - 6) = 17.24 \text{ dBm}$ $DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67 \text{ dBi}$
802.11ac MCS0/Nss1 VHT40	5710 MHz (UNII 2C)	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67 \text{ dBi, so limit} = 23.98 - (11.67 - 6) = 18.31 \text{ dBm.}$
802.11ac MCS0/Nss1 VHT80	5690 MHz (UNII 2C)	
802.11ac MCS0/Nss1 VHT20	5720 MHz (UNII 3)	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67 \text{ dBi, so limit} = 30 - (11.67 - 6) = 24.33 \text{ dBm.}$
802.11ac MCS0/Nss1 VHT40	5710 MHz (UNII 3)	
802.11ac MCS0/Nss1 VHT80	5690 MHz (UNII 3)	

802.11ac MCS0/Nss2 VHT80+80

Type	Frequency	Conducted Power (dBm)						Max. Limit (dBm)	Result
		Chain 6	Chain 7	Chain 5	Chain 8	Total	Band Total		
1	5210 MHz	16.85	17.81	-	-	20.37	-	27.34	Complies
	5530 MHz	-	-	16.86	17.43	20.16	-	21.32	Complies
2	5210 MHz	18.38	18.86	-	-	21.64	-	27.34	Complies
	5610 MHz	-	-	18.25	18.23	21.25	-	21.32	Complies
3	5210 MHz	18.42	18.88	-	-	21.67	-	27.34	Complies
	5690 MHz (UNII 2C)	-	-	17.81	17.73	20.78	-	21.32	Complies
	5690 MHz (UNII 3)	-	-	3.41	3.36	6.40	-	27.34	Complies
4	5290 MHz	14.15	15.68	-	-	17.99	-	21.32	Complies
	5530 MHz	-	-	13.55	13.88	16.73	-	21.32	Complies
5	5290 MHz	14.07	15.63	-	-	17.93	-	21.32	Complies
	5610 MHz	-	-	14.11	14.37	17.25	-	21.32	Complies
6	5290 MHz	14.03	15.51	-	-	17.84	-	21.32	Complies
	5690 MHz (UNII 2C)	-	-	13.86	13.78	16.83	-	21.32	Complies
	5690 MHz (UNII 3)	-	-	-0.61	-0.74	2.34	-	27.34	Complies
7	5290 MHz	14.23	15.66	-	-	18.01	-	21.32	Complies
	5775 MHz	-	-	14.19	14.36	17.29	-	27.34	Complies
8	5530 MHz	14.94	15.16	-	-	18.06	20.95	21.32	Complies
	5690 MHz (UNII 2C)	-	-	14.78	14.81	17.81			
	5690 MHz (UNII 3)	-	-	0.32	0.47	3.41	-	27.34	Complies
9	5530 MHz	17.53	18.34	-	-	20.96	-	21.32	Complies
	5775 MHz	-	-	17.15	17.29	20.23	-	27.34	Complies
10	5610 MHz	17.54	18.72	-	-	21.18	-	21.32	Complies
	5775 MHz	-	-	17.31	17.29	20.31	-	27.34	Complies

11	5690 MHz (UNII 2C)	17.91	17.72	-	-	20.83	-	21.32	Complies
	5690 MHz (UNII 3)	3.24	3.41	-	-	6.34	21.55	27.34	Complies
	5775 MHz	-	-	18.38	18.44	21.42			

Note:

Frequency	Description
5210 MHz 5690 MHz (UNII 3) 5775 MHz	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.66 \text{dBi, so limit} = 30 - (8.66 - 6) = 27.34 \text{ dBm.}$
5290 MHz 5530 MHz 5610 MHz 5690 MHz (UNII 2C)	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.66 \text{dBi, so limit} = 23.98 - (8.66 - 6) = 21.32 \text{ dBm.}$

Note: All the test values were listed in the report.

For plots, only the channel with worse result was shown.

<For Non-beamforming Mode>

Straddle Channel

Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 5 / 5720 MHz (UNII 2C)



Date: 3.MAY.2016 23:34:08

Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 6 / 5720 MHz (UNII 2C)



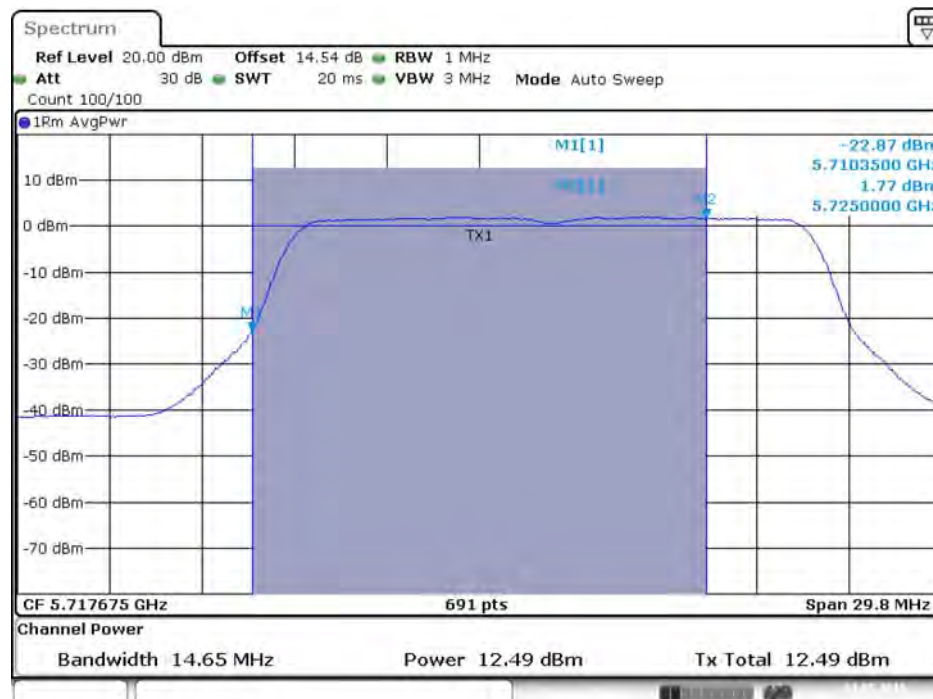
Date: 3.MAY.2016 23:34:15

Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 7 / 5720 MHz (UNII 2C)



Date: 3.MAY.2016 23:34:22

Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 8 / 5720 MHz (UNII 2C)



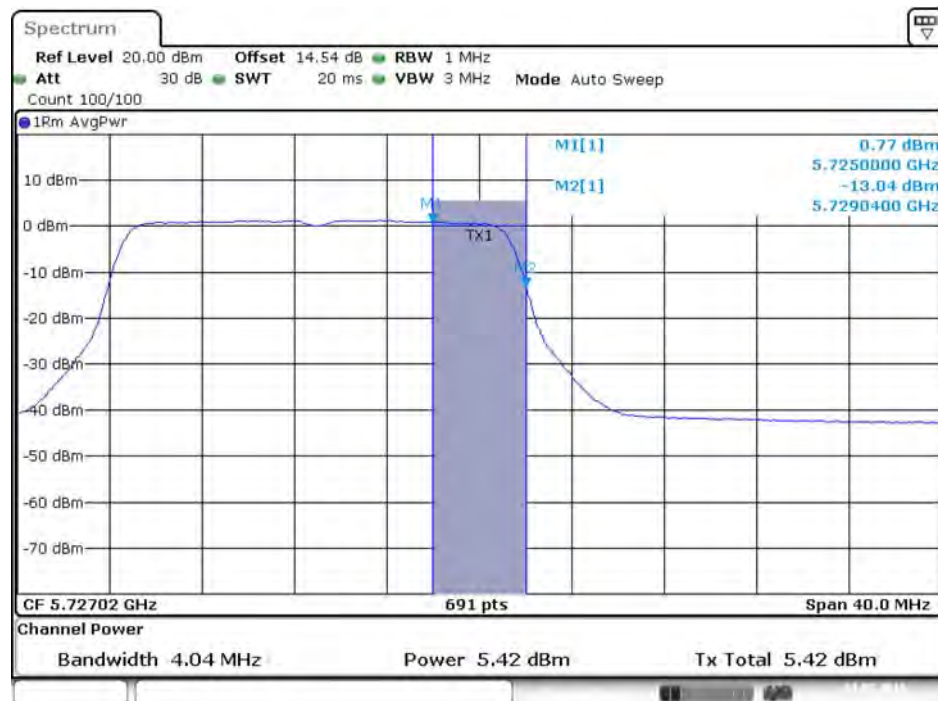
Date: 3.MAY.2016 23:34:29

Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 5 / 5720 MHz (UNII 3)



Date: 3.MAY.2016 23:34:11

Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 6 / 5720 MHz (UNII 3)



Date: 3.MAY.2016 23:34:18

Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 7 / 5720 MHz (UNII 3)



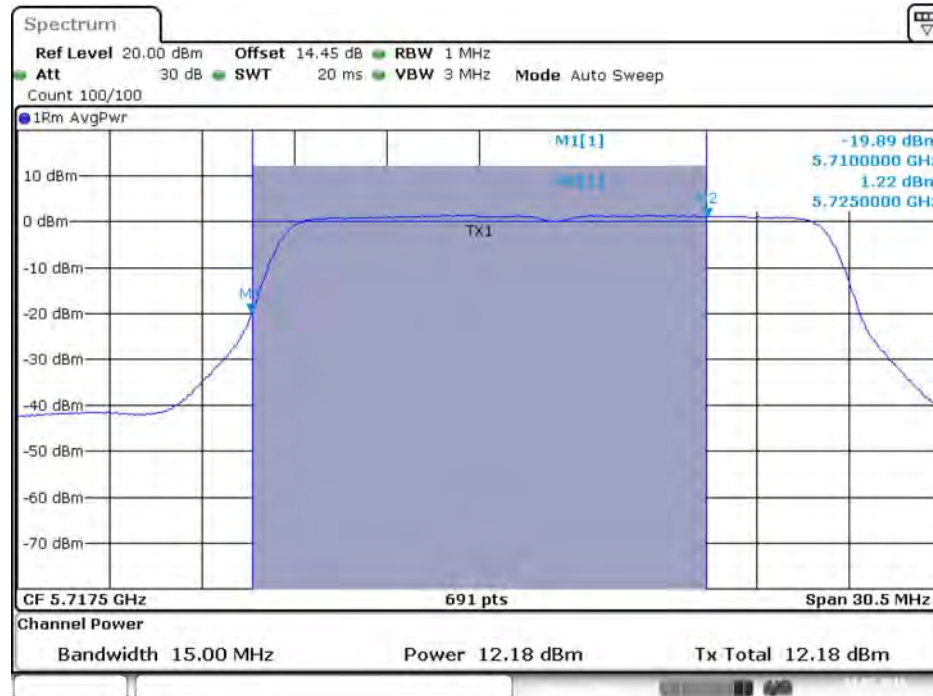
Date: 3.MAY.2016 23:34:25

Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 8 / 5720 MHz (UNII 3)



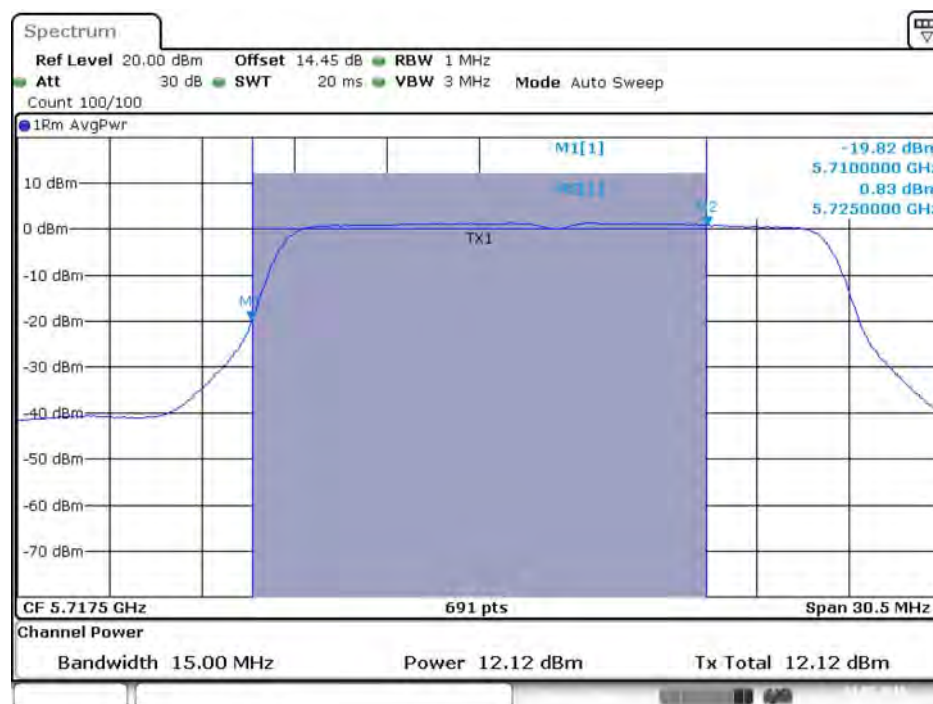
Date: 3.MAY.2016 23:34:32

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 / 5720 MHz (UNII 2C)



Date: 3.MAY.2016 23:29:11

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 6 / 5720 MHz (UNII 2C)



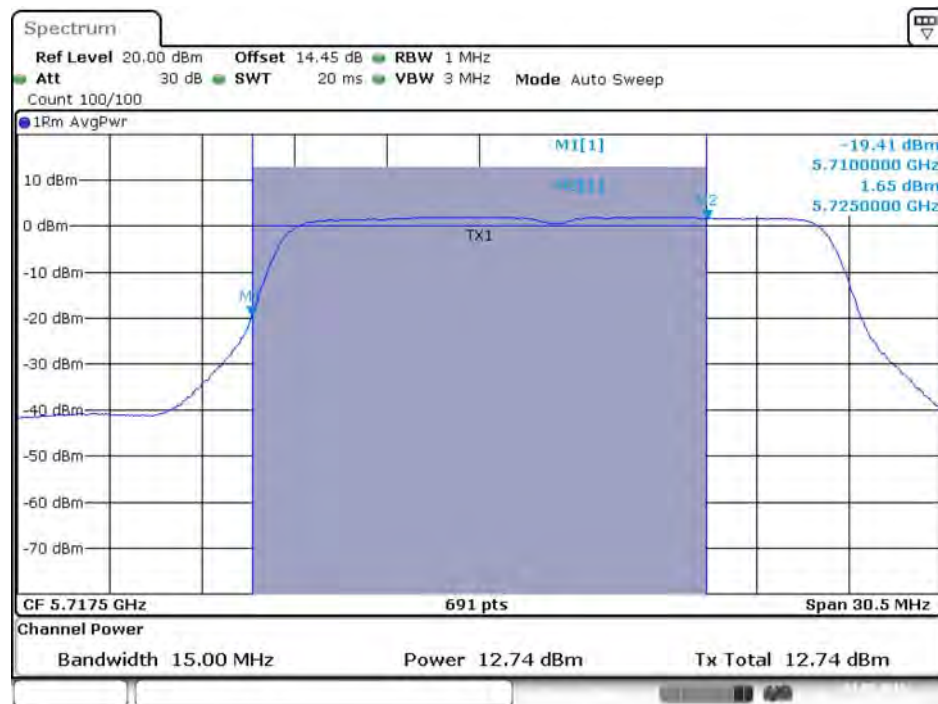
Date: 3.MAY.2016 23:29:19

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 7 / 5720 MHz (UNII 2C)



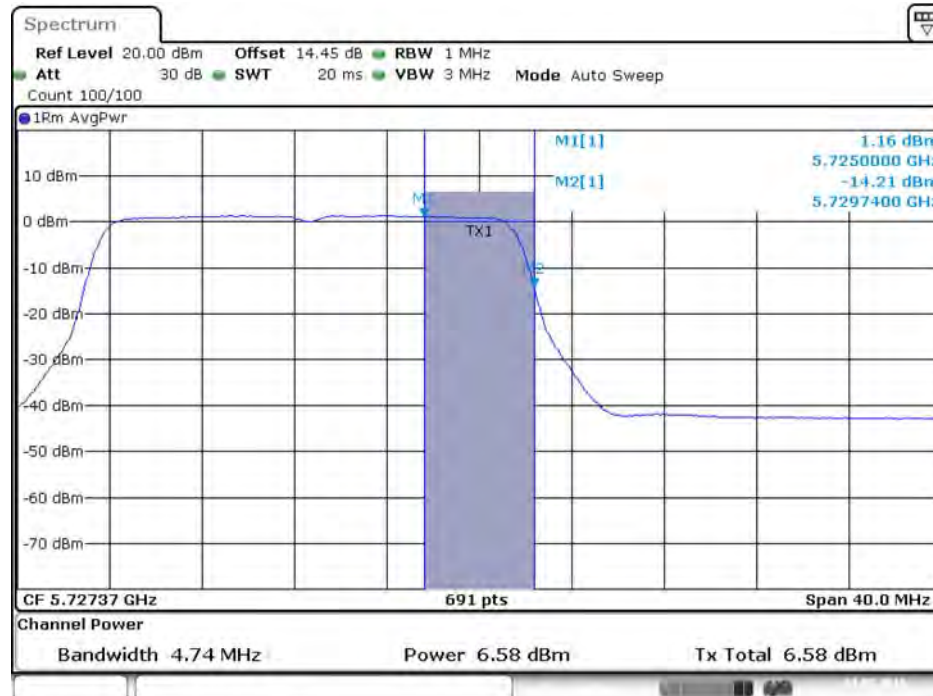
Date: 3.MAY.2016 23:29:26

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 8 / 5720 MHz (UNII 2C)



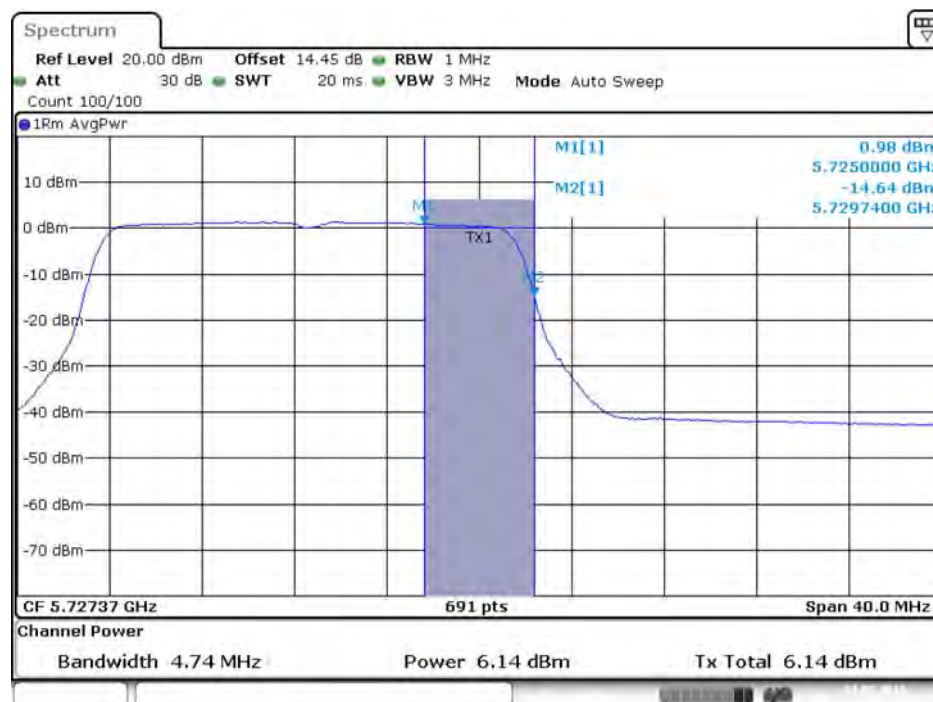
Date: 3.MAY.2016 23:29:33

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 / 5720 MHz (UNII 3)



Date: 3.MAY.2016 23:29:15

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 6 / 5720 MHz (UNII 3)



Date: 3.MAY.2016 23:29:22



Spectrum

Ref Level 20.00 dBm Offset 14.45 dB RBW 1 MHz
Att 30 dB SWT 20 ms VBW 3 MHz Mode Auto Sweep
Count 100/100

1Rm AvgPwr

1.52 dBm
5.7250000 GHz
-13.61 dBm
5.7297400 GHz

MI[1]
M2[1]
M1
M2

CF 5.72737 GHz 691 pts Span 40.0 MHz

Channel Power

Bandwidth 4.74 MHz Power 7.10 dBm Tx Total 7.10 dBm

Spectrum

Ref Level 20.00 dBm Offset 14.45 dB RBW 1 MHz
Att 30 dB SWT 20 ms VBW 3 MHz Mode Auto Sweep
Count 100/100

1Rm AvgPwr

1.70 dBm
5.7250000 GHz
-13.47 dBm
5.7297400 GHz

M1[1]
M2[1]

TX1

CF 5.72737 GHz
Channel Power
Bandwidth 4.74 MHz
Power 7.19 dBm
Tx Total 7.19 dBm

691 pts
Span 40.0 MHz

Issued Date : Apr. 07, 2017

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 / 5710 MHz (UNII 2C)



Date: 3.MAY.2016 23:23:59

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 6 / 5710 MHz (UNII 2C)



Date: 3.MAY.2016 23:24:06



Spectrum

Ref Level 20.00 dBm Offset 14.53 dB RBW 1 MHz
Att 30 dB SWT 20 ms VBW 3 MHz Mode Auto Sweep
Count 100/100

1Rm AvgPwr

10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm

CF 5.7075 GHz 691 pts Span 71.1 MHz

Channel Power

Bandwidth 35.00 MHz Power 15.06 dBm Tx Total 15.06 dBm

M1[1] -27.43 dBm
M1[1] 5.690000 GHz
M2 0.28 dBm
M2 5.725000 GHz

Spectrum

Ref Level 20.00 dBm Offset 14.53 dB RBW 1 MHz
Att 30 dB SWT 20 ms VBW 3 MHz Mode Auto Sweep
Count 100/100

1Rm AvgPwr

10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm

MI[1]
M[1]
TX1
V2

-27.56 dBm
5.690000 GHz
0.89 dBm
5.725000 GHz

CF 5.7075 GHz 691 pts Span 71.1 MHz

Channel Power

Bandwidth 35.00 MHz Power 15.35 dBm Tx Total 15.35 dBm

Date: 3.MAY.2016 23:24:21

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 / 5710 MHz (UNII 3)



Date: 3.MAY.2016 23:24:03

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 6 / 5710 MHz (UNII 3)



Date: 3.MAY.2016 23:24:10

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 7 / 5710 MHz (UNII 3)



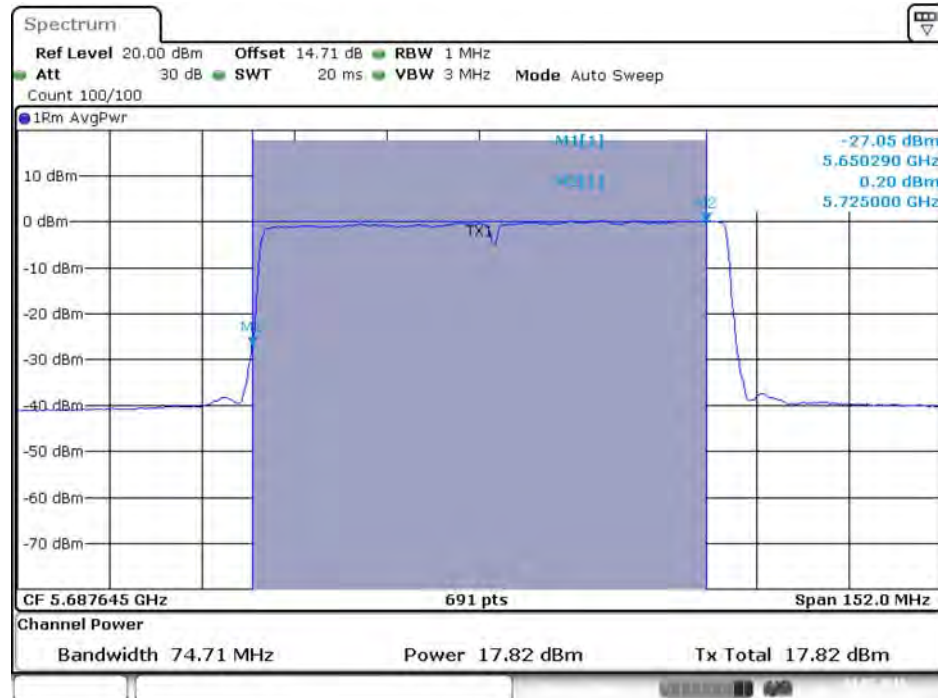
Date: 3.MAY.2016 23:24:17

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 8 / 5710 MHz (UNII 3)



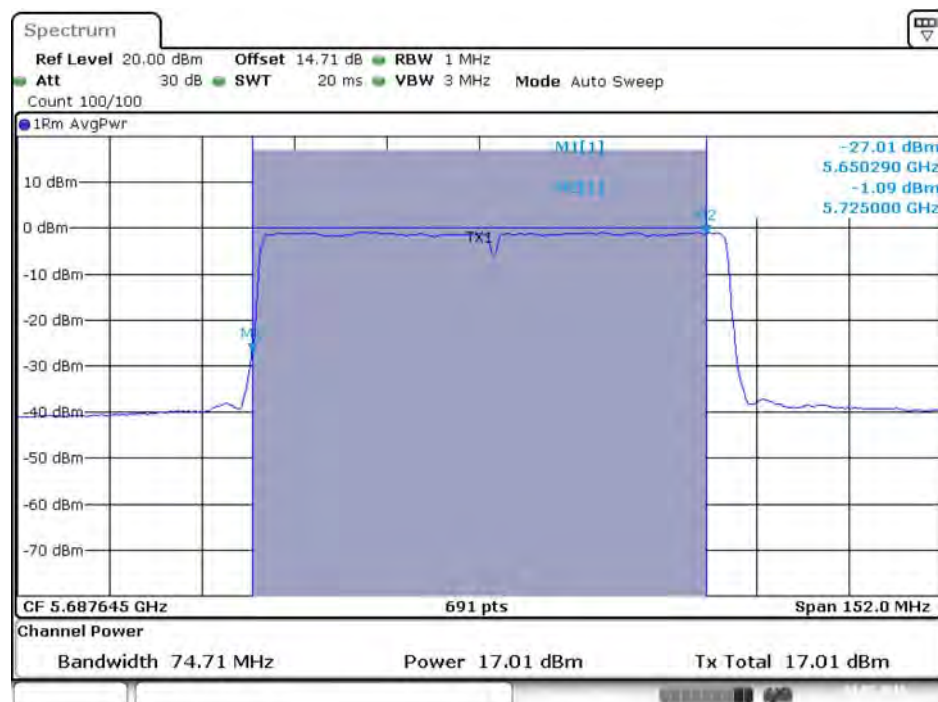
Date: 3.MAY.2016 23:24:24

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 / 5690 MHz (UNII 2C)



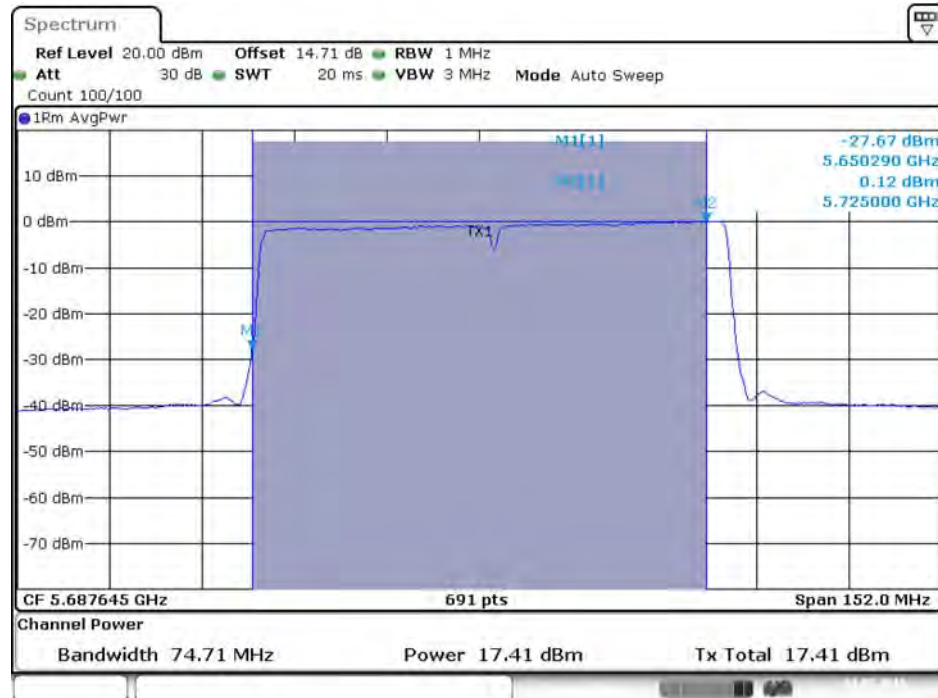
Date: 3.MAY.2016 23:18:53

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 6 / 5690 MHz (UNII 2C)



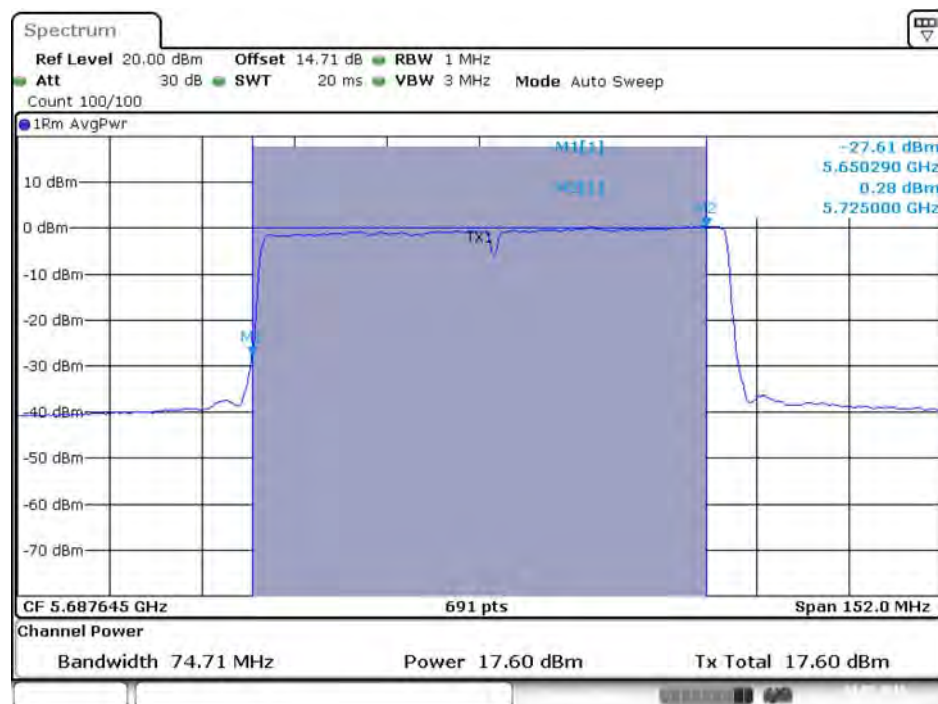
Date: 3.MAY.2016 23:19:00

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 7 / 5690 MHz (UNII 2C)



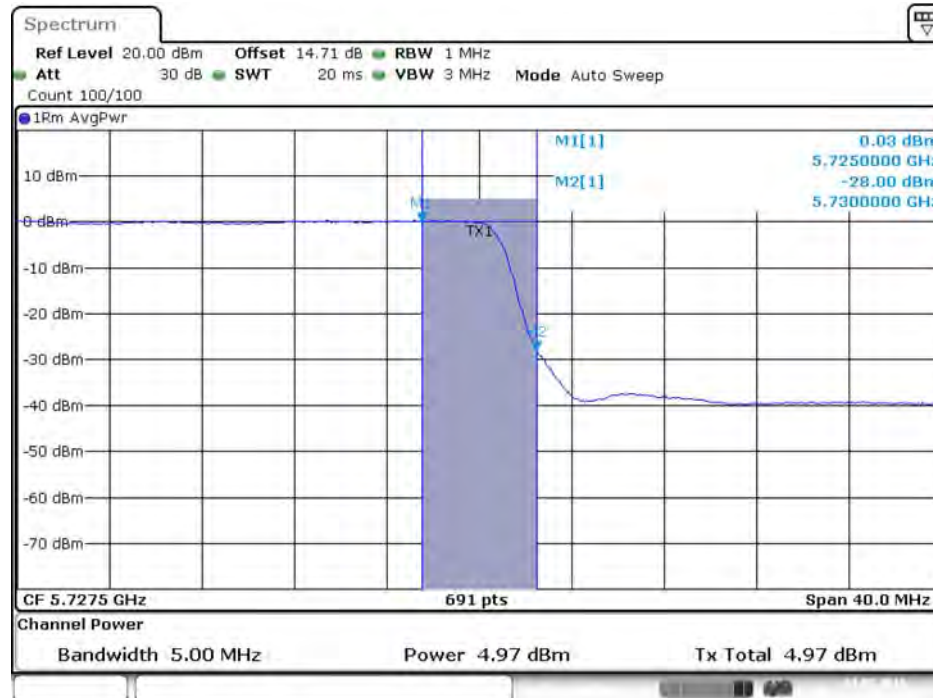
Date: 3.MAY.2016 23:19:07

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 8 / 5690 MHz (UNII 2C)



Date: 3.MAY.2016 23:19:14

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 / 5690 MHz (UNII 3)



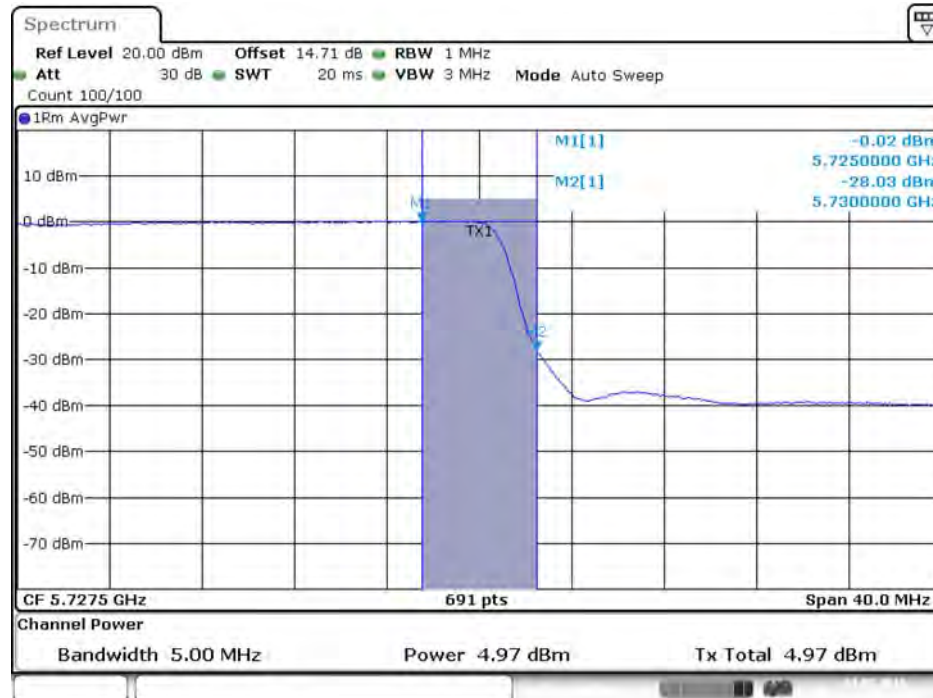
Date: 3.MAY.2016 23:18:56

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 6 / 5690 MHz (UNII 3)



Date: 3.MAY.2016 23:19:03

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 7 / 5690 MHz (UNII 3)



Date: 3.MAY.2016 23:19:10

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 8 / 5690 MHz (UNII 3)



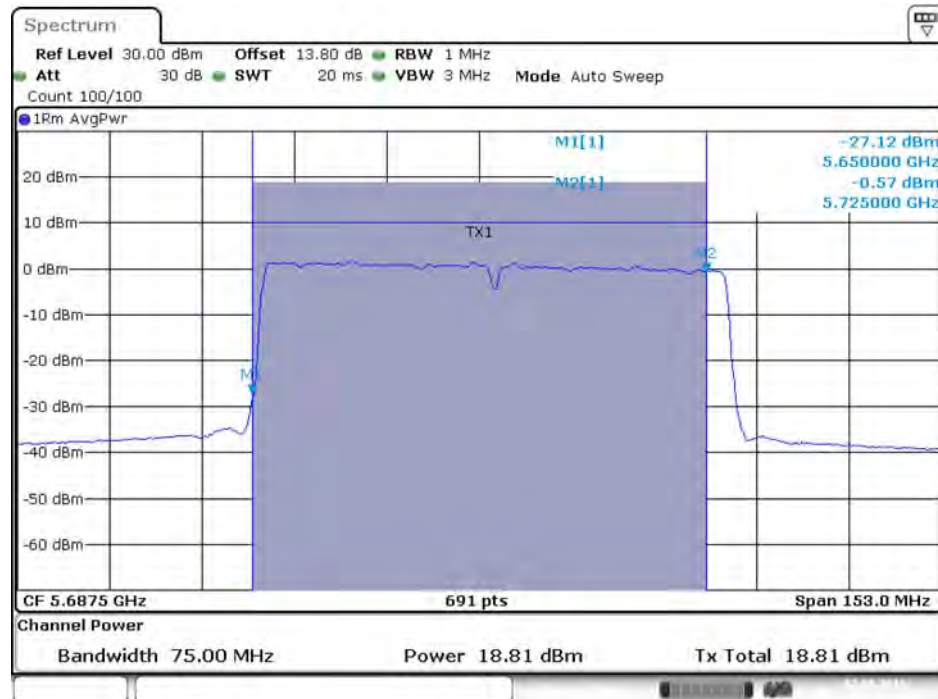
Date: 3.MAY.2016 23:19:17

802.11ac MCS0/Nss2 VHT80+80

Straddle Channel

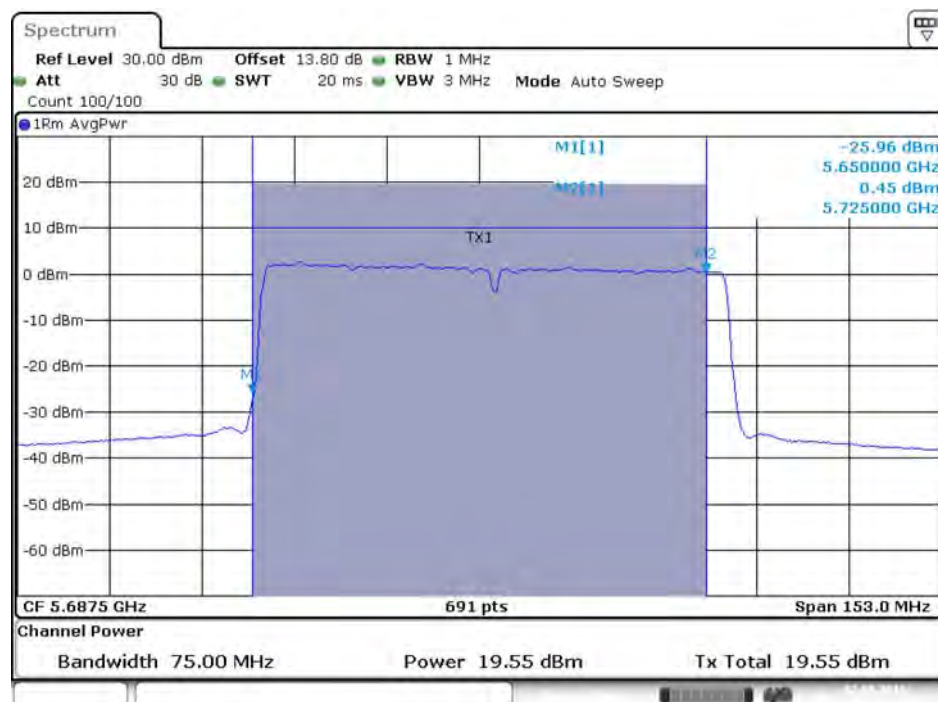
Type 3

Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 2C)



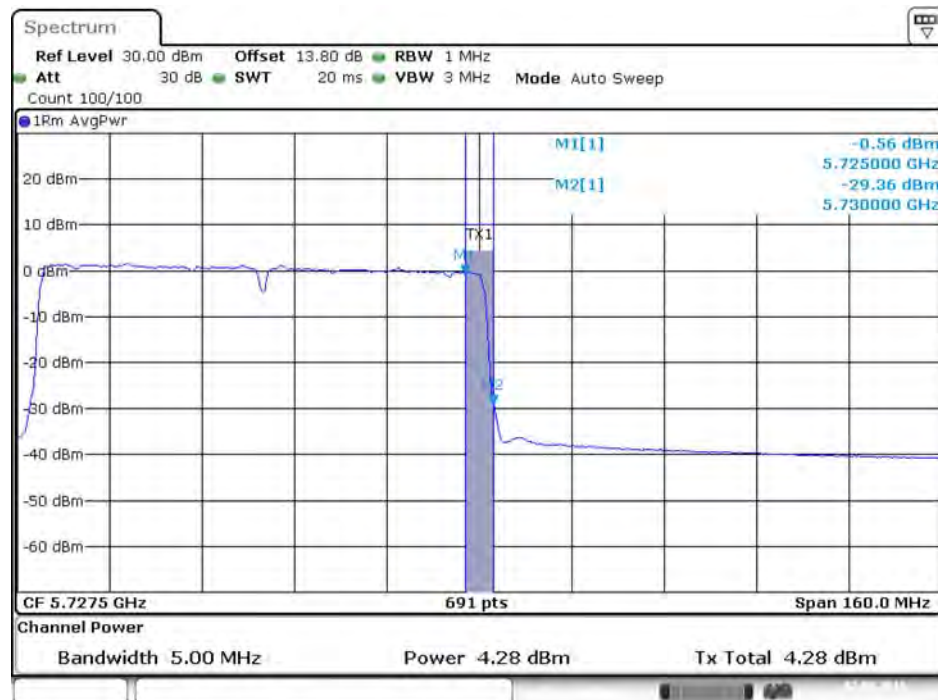
Date: 2.AUG.2016 02:35:39

Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 2C)



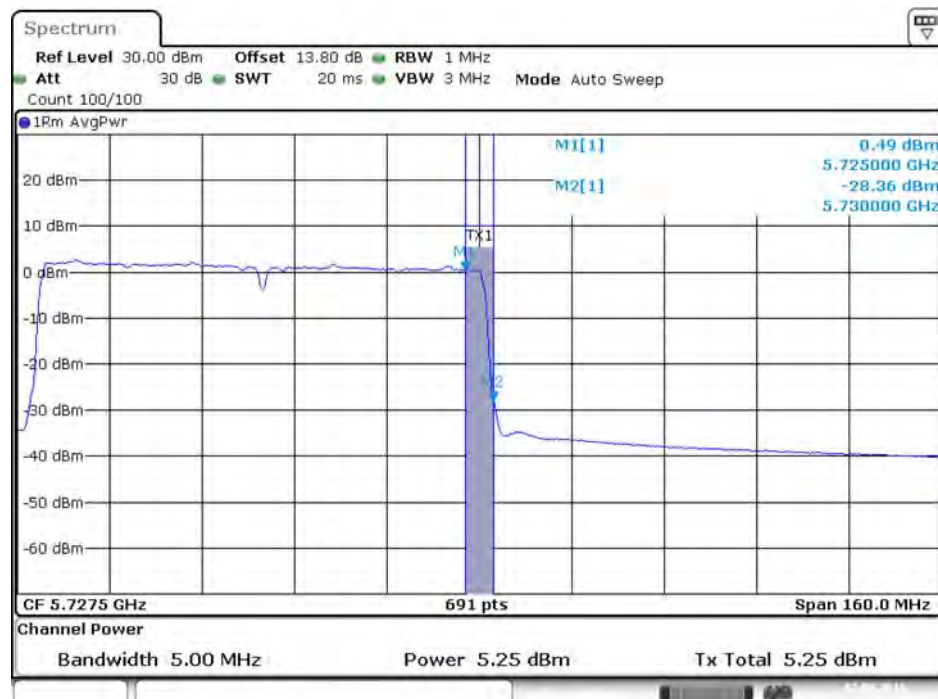
Date: 2.AUG.2016 02:35:46

Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 3)



Date: 2.AUG.2016 02:35:42

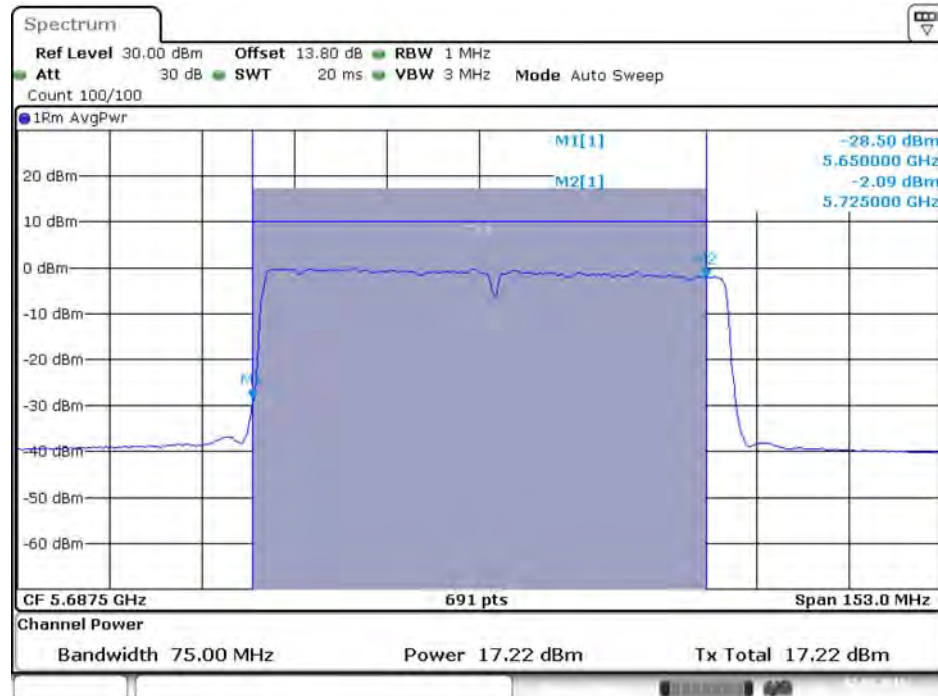
Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 3)



Date: 2.AUG.2016 02:35:50

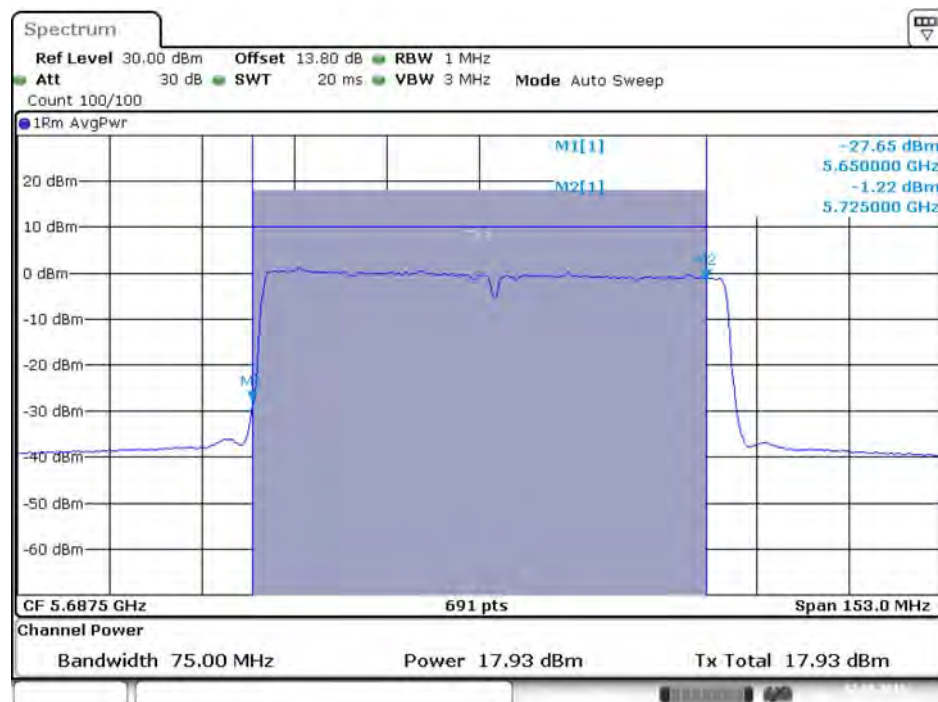
Type 6

Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 2C)



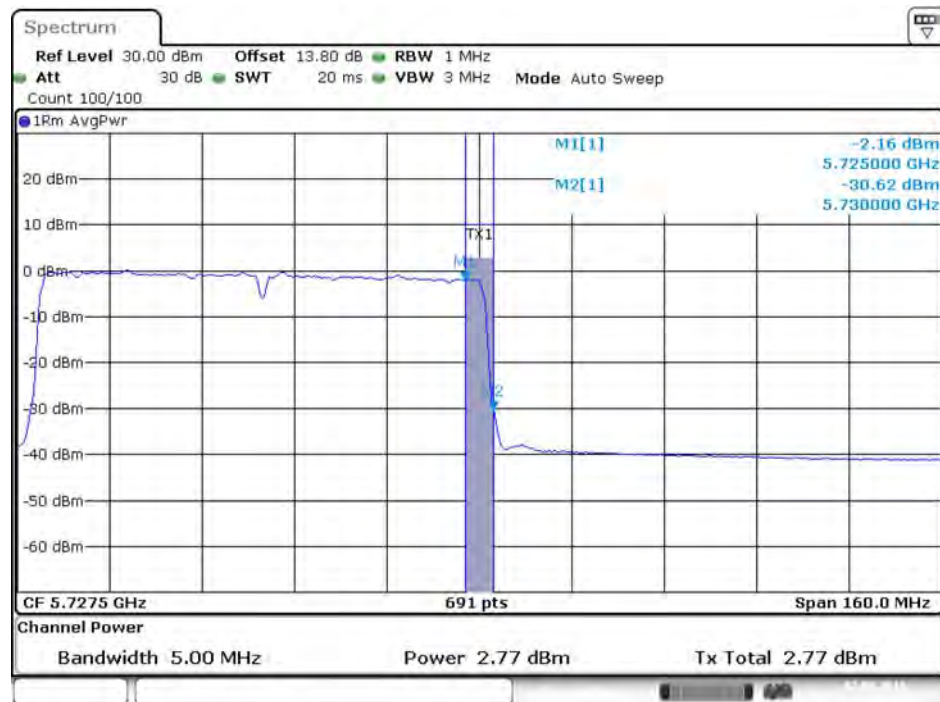
Date: 2.AUG.2016 02:40:53

Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 2C)



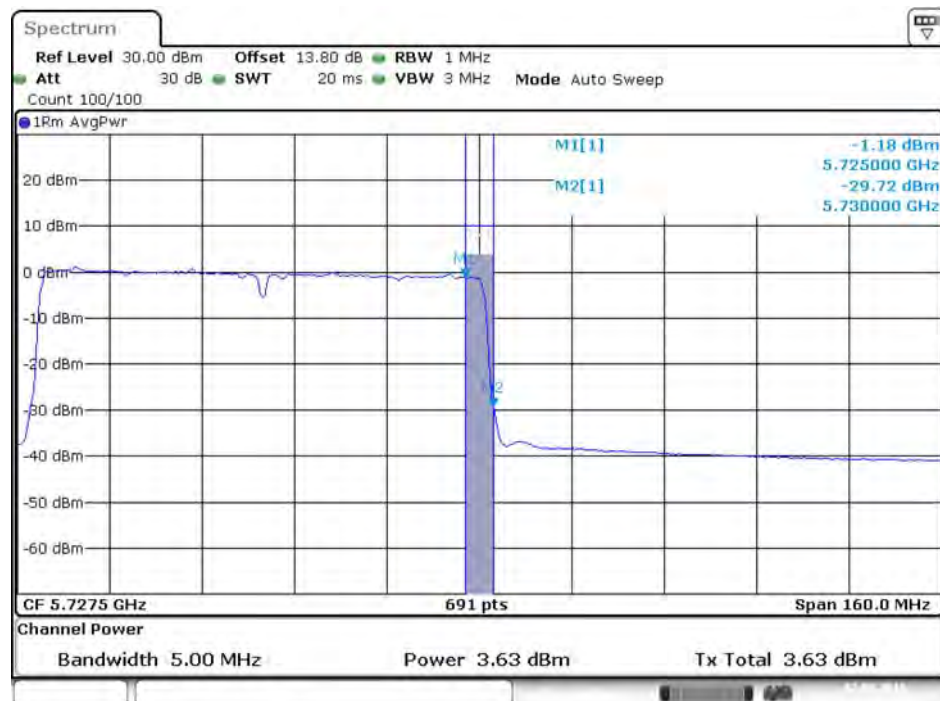
Date: 2.AUG.2016 02:41:01

Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 3)



Date: 2.AUG.2016 02:40:57

Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 3)



Date: 2.AUG.2016 02:41:04



Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 2C)

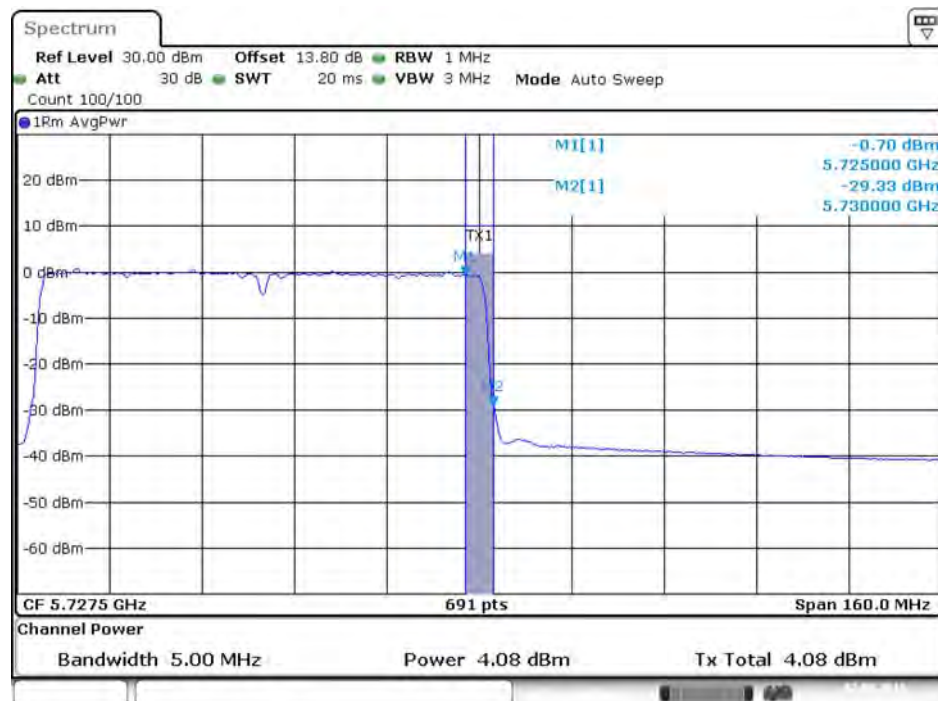
Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 2C)

Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 3)



Date: 2.AUG.2016 02:46:10

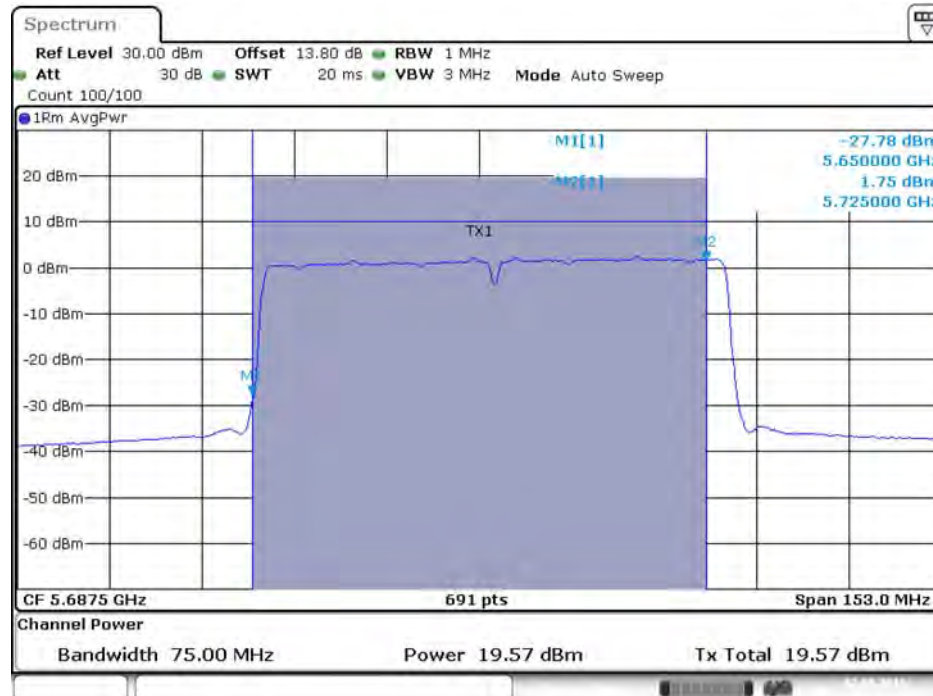
Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 3)



Date: 2.AUG.2016 02:46:17

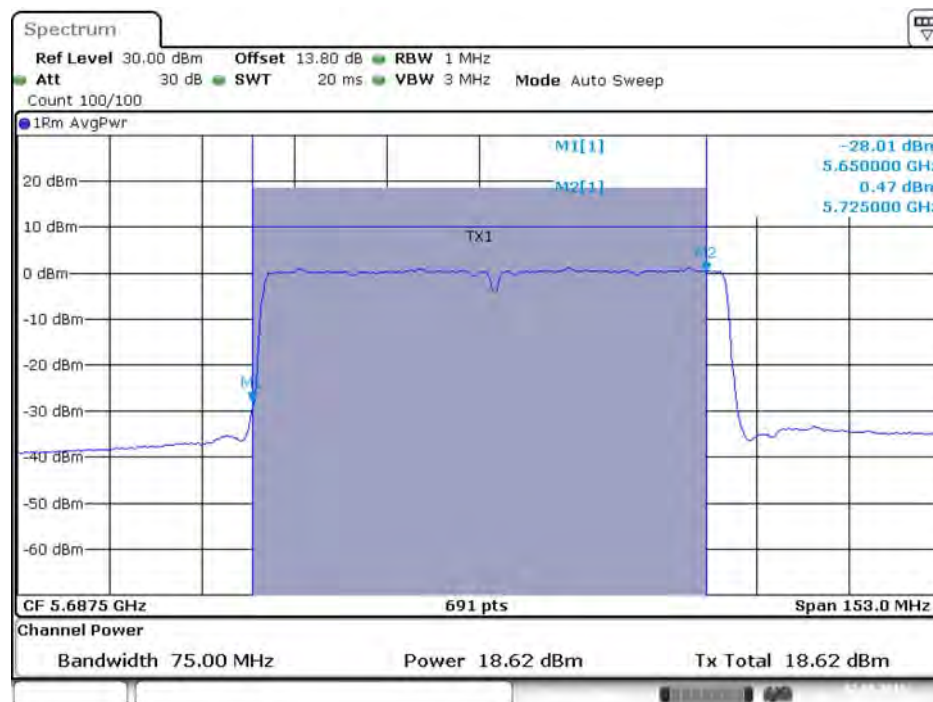
Type 11

Conducted Output Power Plot on Chain 6 / 5690 MHz (UNII 2C)



Date: 2.AUG.2016 02:51:36

Conducted Output Power Plot on Chain 7 / 5690 MHz (UNII 2C)



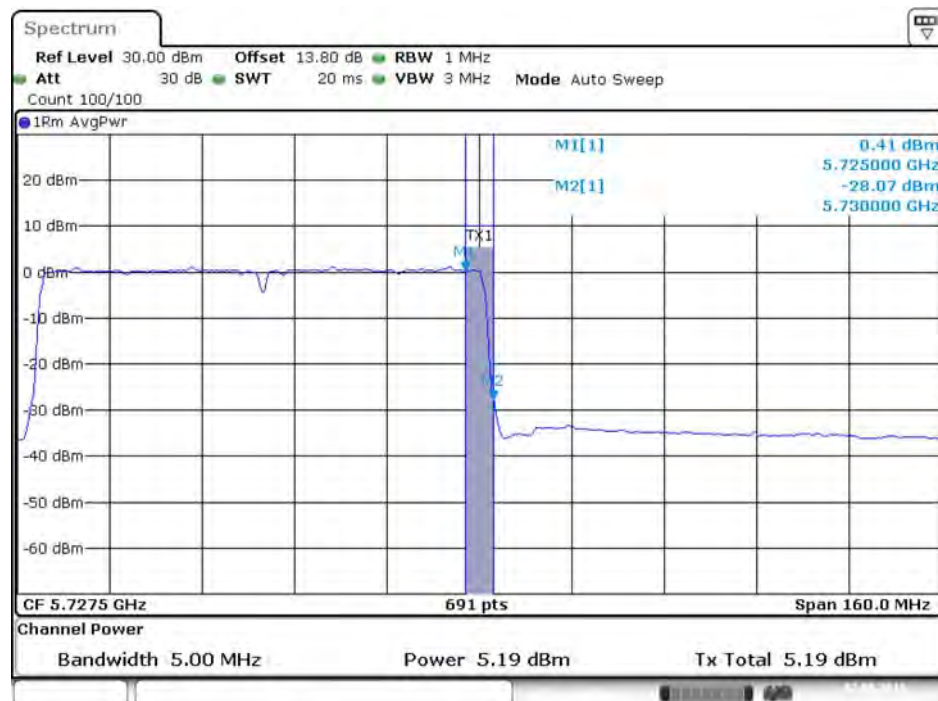
Date: 2.AUG.2016 02:51:44

Conducted Output Power Plot on Chain 6 / 5690 MHz (UNII 3)



Date: 2.AUG.2016 02:51:40

Conducted Output Power Plot on Chain 7 / 5690 MHz (UNII 3)

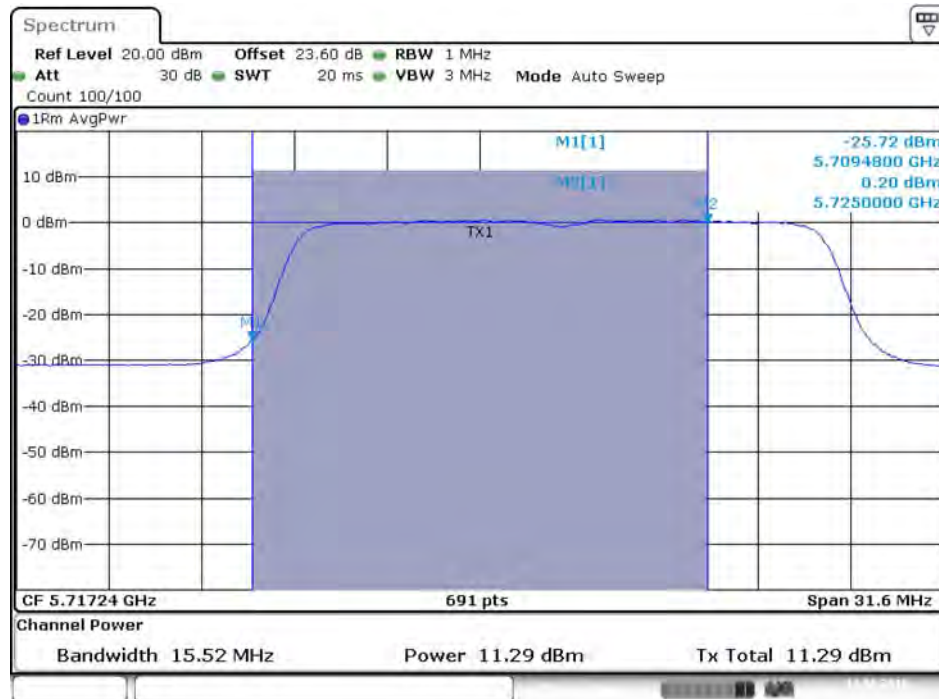


Date: 2.AUG.2016 02:51:47

<For Beamforming Mode>

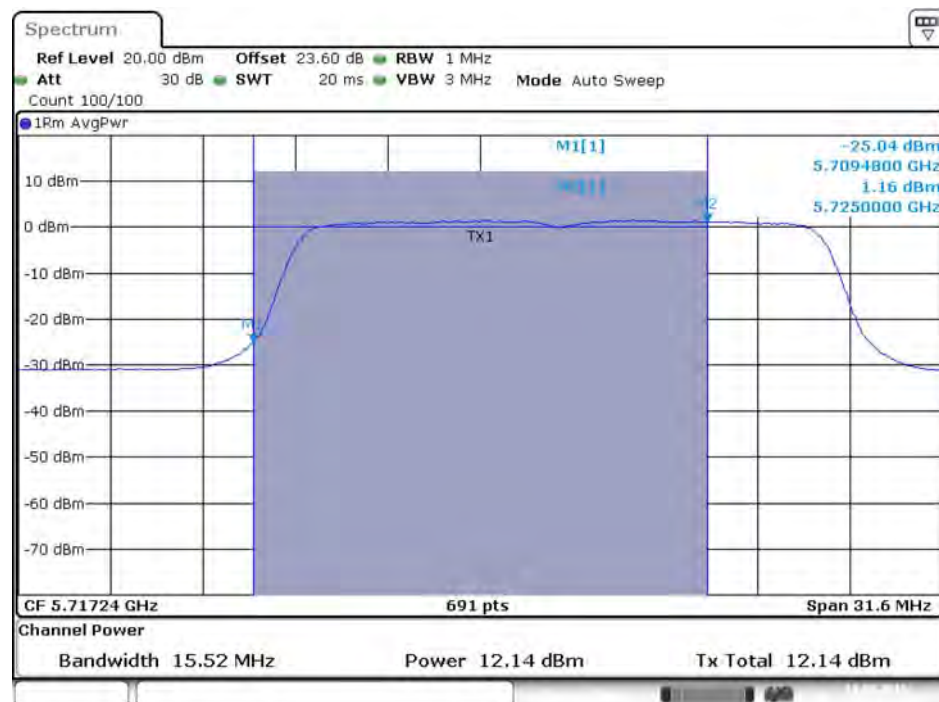
Straddle Channel

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 / 5720 MHz
(UNII 2C)



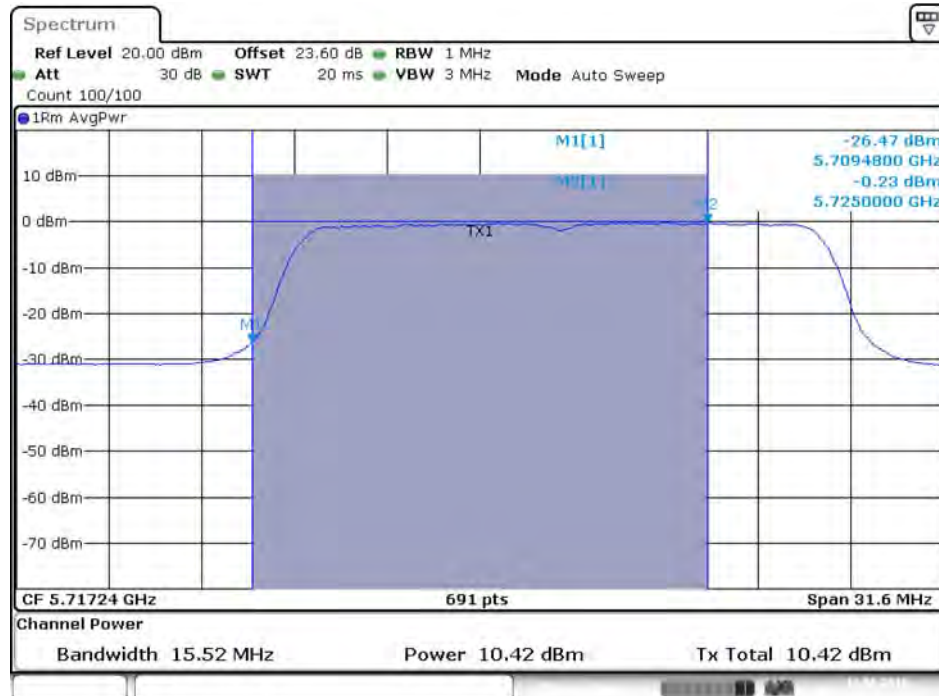
Date: 11.AUG.2016 04:33:55

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 6 / 5720 MHz
(UNII 2C)



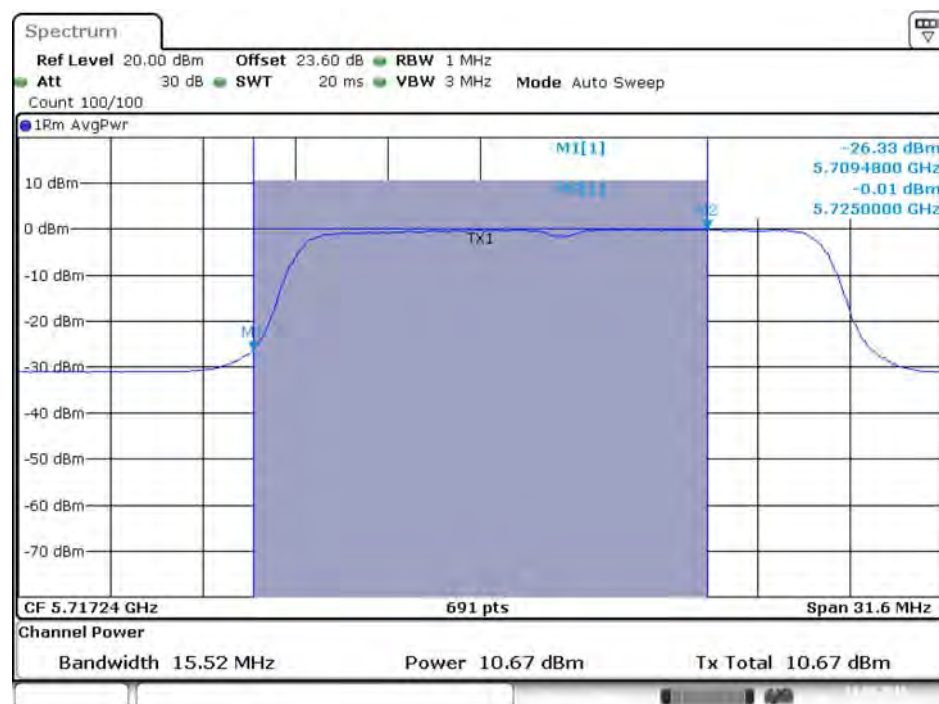
Date: 11.AUG.2016 04:30:51

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 7 / 5720 MHz (UNII 2C)



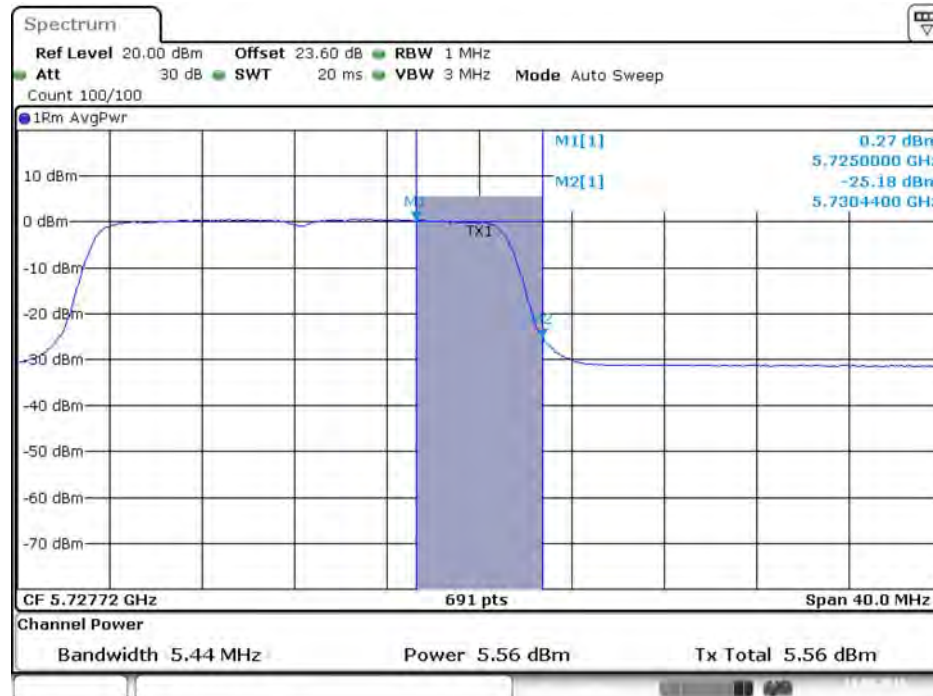
Date: 11.AUG.2016 04:29:06

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 8 / 5720 MHz (UNII 2C)



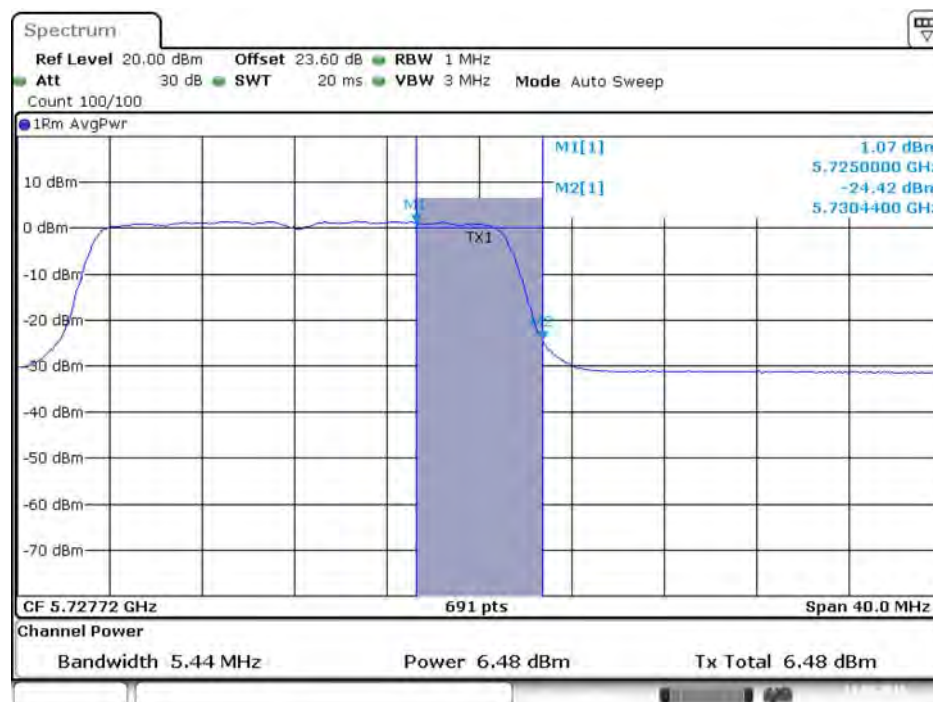
Date: 11.AUG.2016 04:27:03

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 / 5720 MHz (UNII 3)



Date: 11.AUG.2016 04:33:58

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 6 / 5720 MHz (UNII 3)



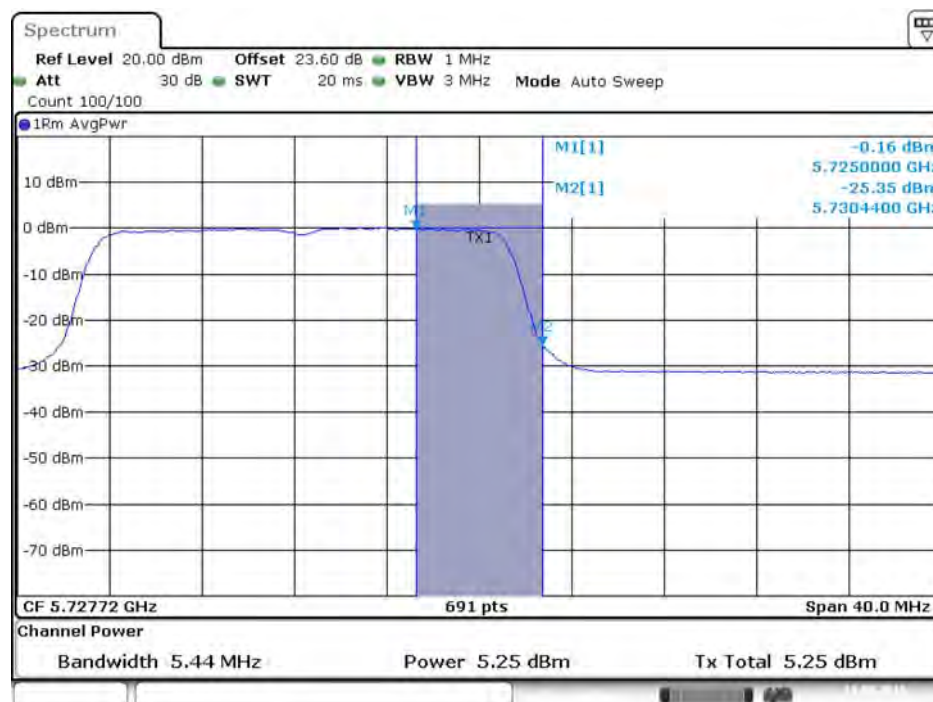
Date: 11.AUG.2016 04:30:54

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 7 / 5720 MHz (UNII 3)



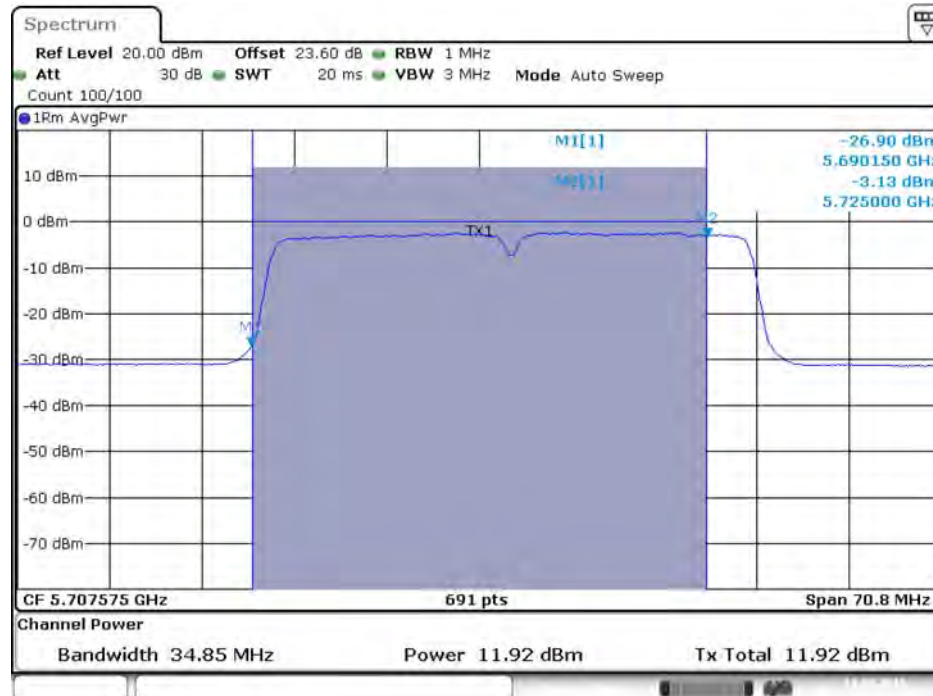
Date: 11.AUG.2016 04:29:09

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 8 / 5720 MHz (UNII 3)



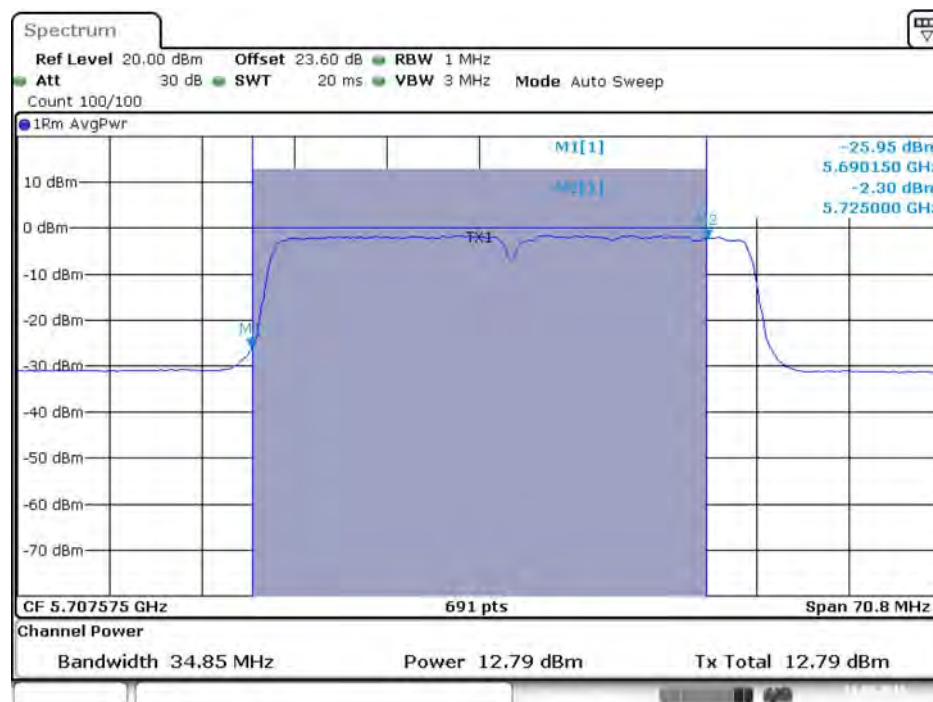
Date: 11.AUG.2016 04:27:06

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 / 5710 MHz (UNII 2C)



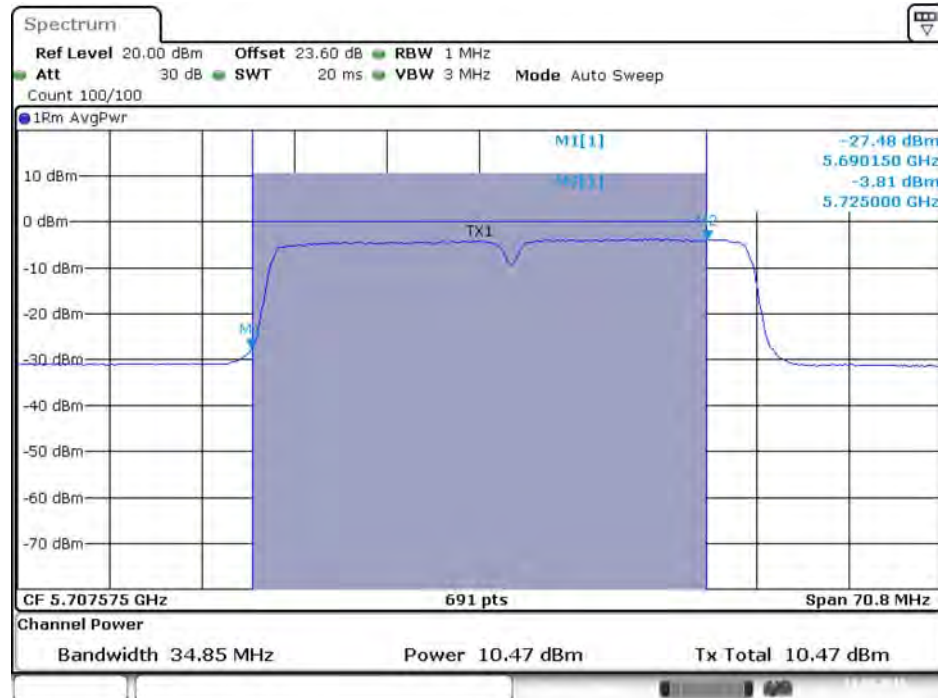
Date: 11.AUG.2016 05:10:09

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 6 / 5710 MHz (UNII 2C)



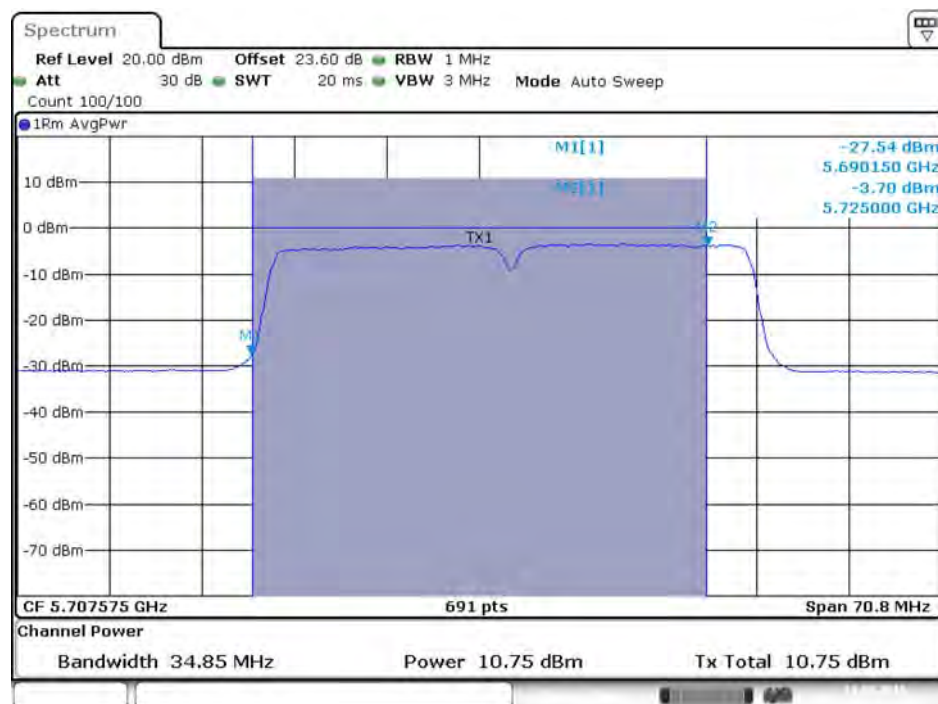
Date: 11.AUG.2016 05:08:23

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 7 / 5710 MHz (UNII 2C)



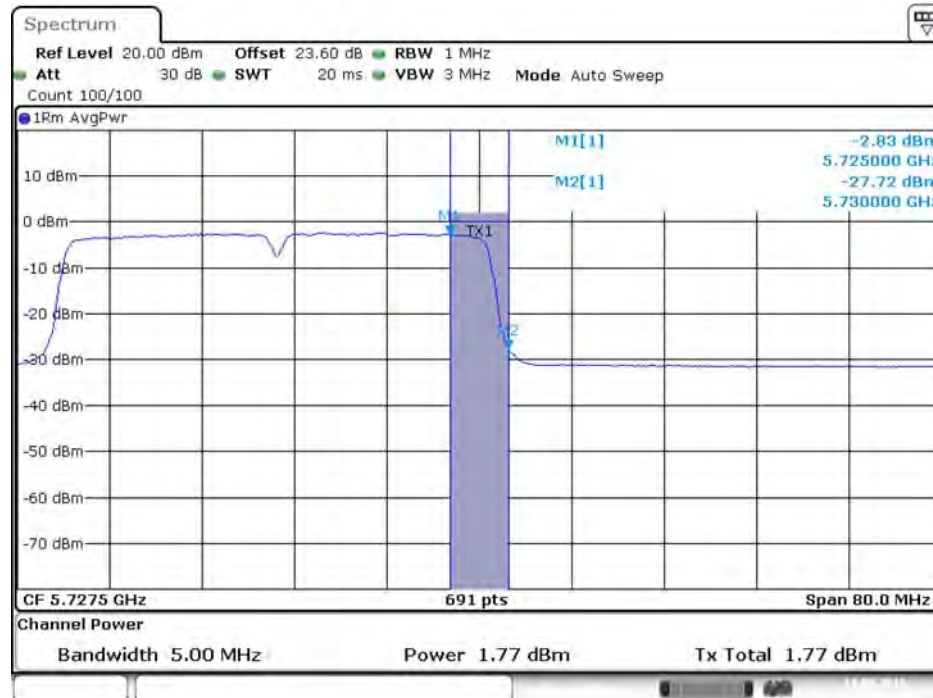
Date: 11.AUG.2016 05:11:50

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 8 / 5710 MHz (UNII 2C)



Date: 11.AUG.2016 05:15:25

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 / 5710 MHz (UNII 3)



Date: 11.AUG.2016 05:10:12

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 6 / 5710 MHz (UNII 3)



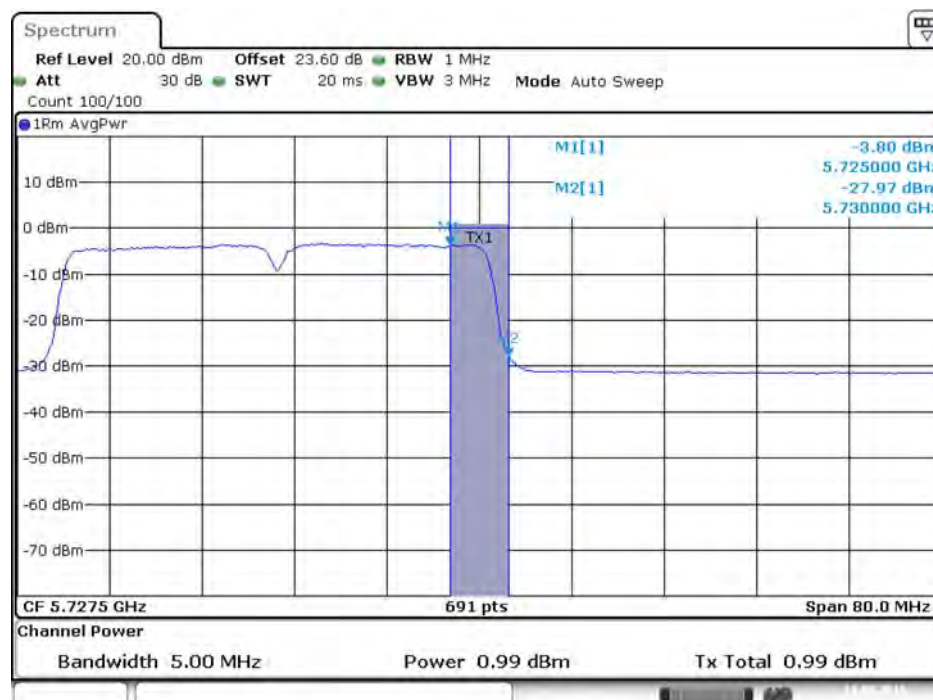
Date: 11.AUG.2016 05:08:26

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 7 / 5710 MHz (UNII 3)



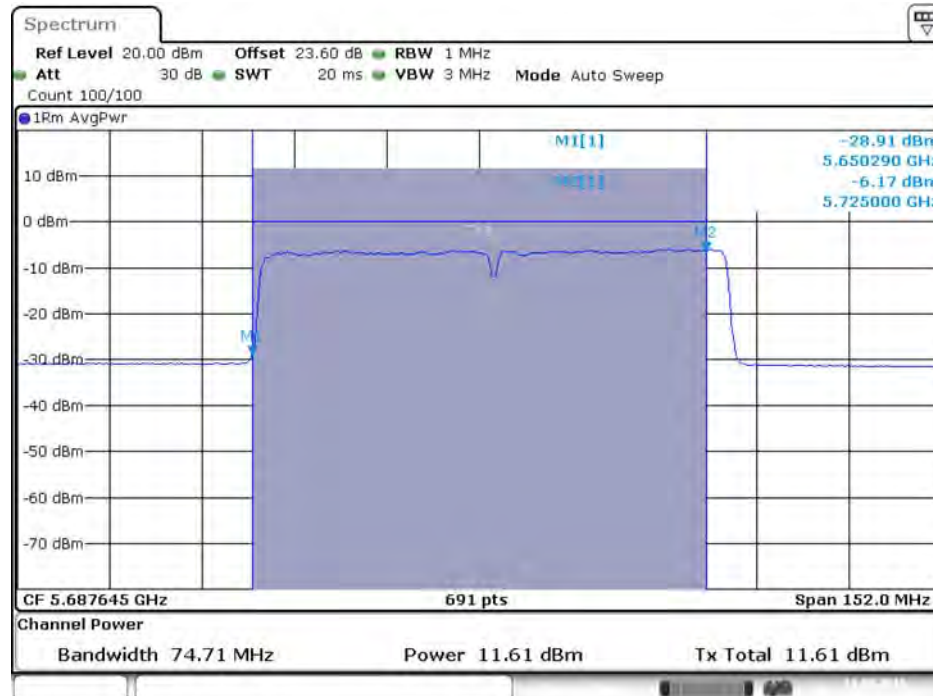
Date: 11.AUG.2016 05:11:54

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 8 / 5710 MHz (UNII 3)



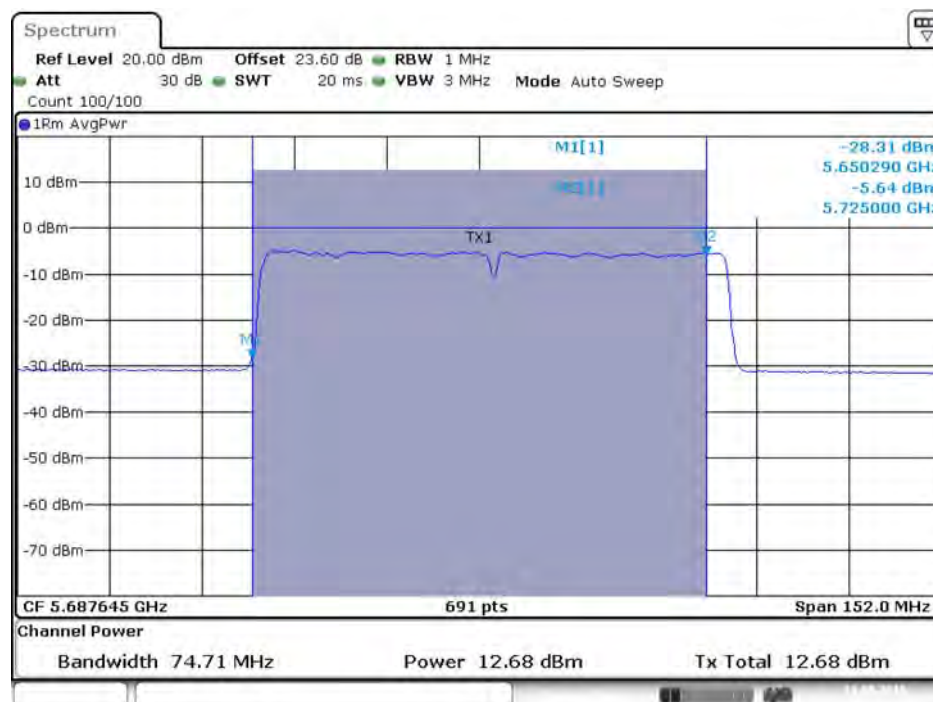
Date: 11.AUG.2016 05:15:28

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 / 5690 MHz (UNII 2C)



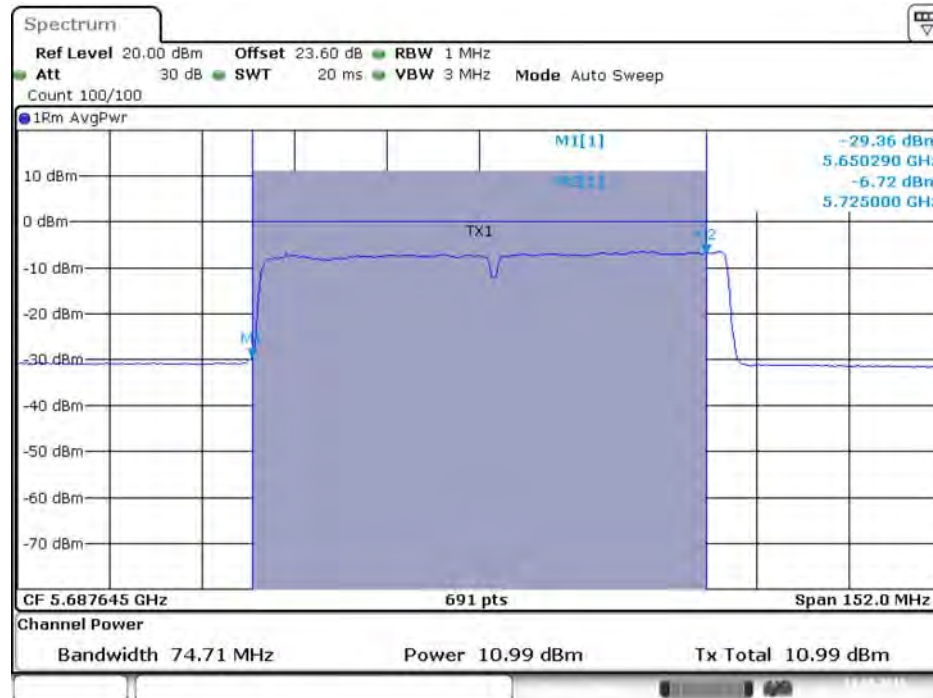
Date: 11.AUG.2016 05:36:06

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 6 / 5690 MHz (UNII 2C)



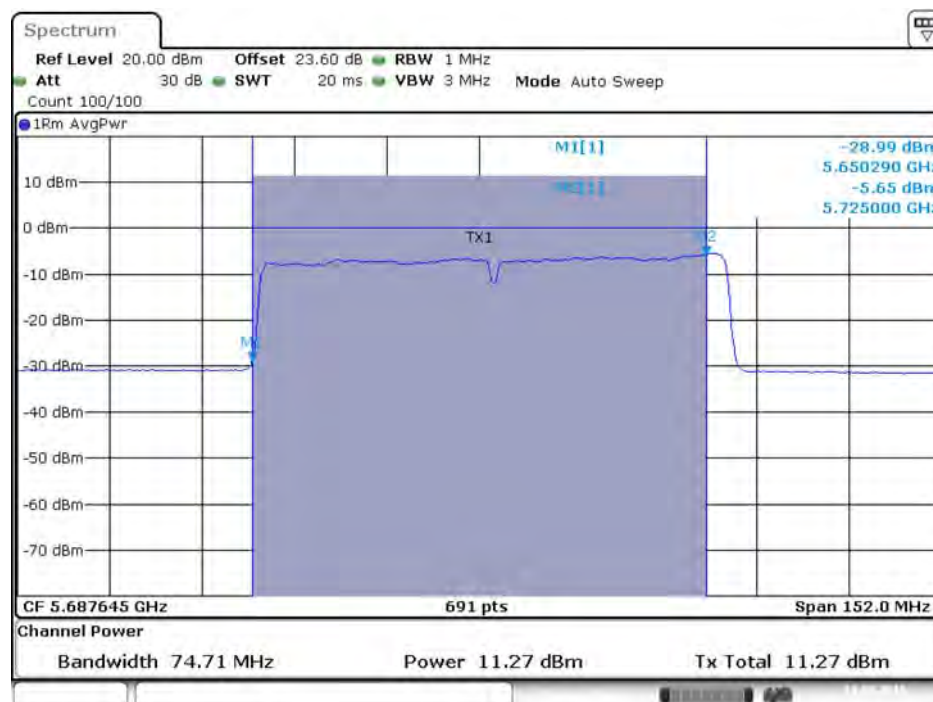
Date: 11.AUG.2016 05:32:37

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 7 / 5690 MHz (UNII 2C)



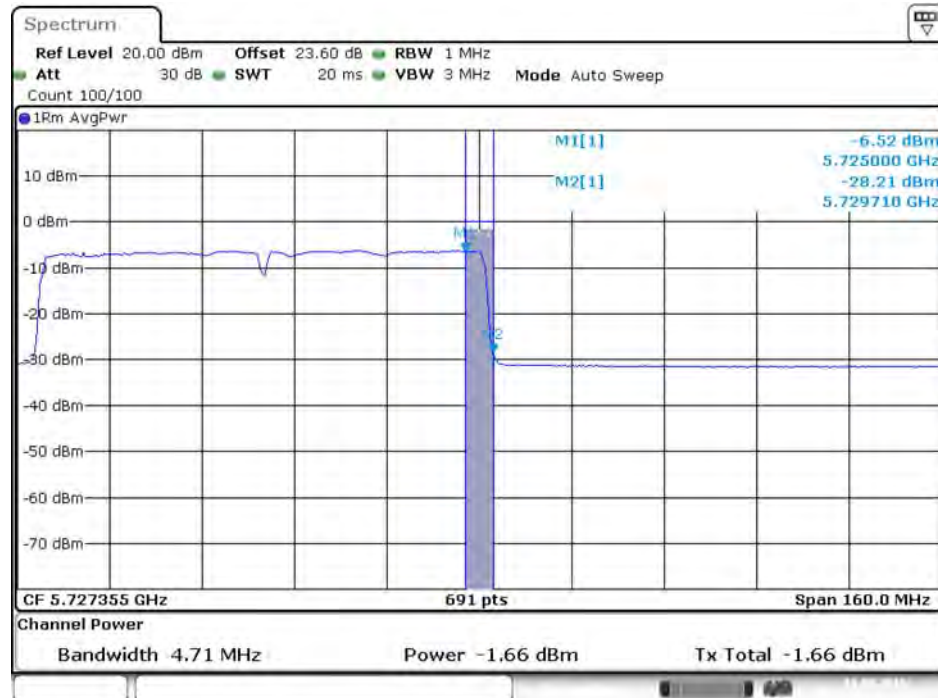
Date: 11.AUG.2016 05:38:01

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 8 / 5690 MHz (UNII 2C)



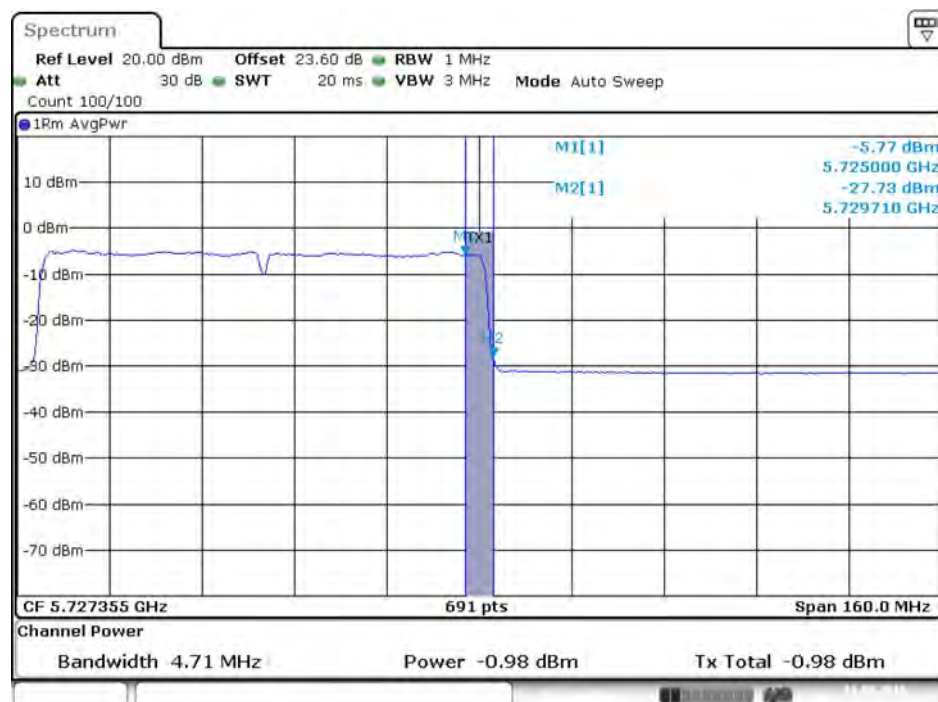
Date: 11.AUG.2016 05:40:14

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 / 5690 MHz (UNII 3)



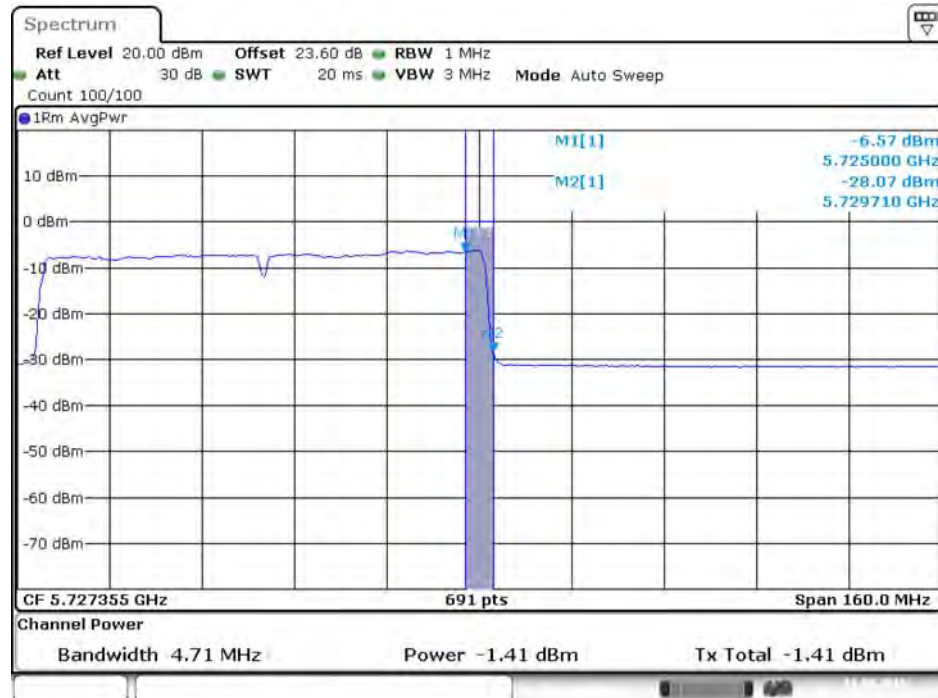
Date: 11.AUG.2016 05:36:09

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 6 / 5690 MHz (UNII 3)



Date: 11.AUG.2016 05:32:41

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 7 / 5690 MHz (UNII 3)



Date: 11.AUG.2016 05:38:04

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 8 / 5690 MHz (UNII 3)



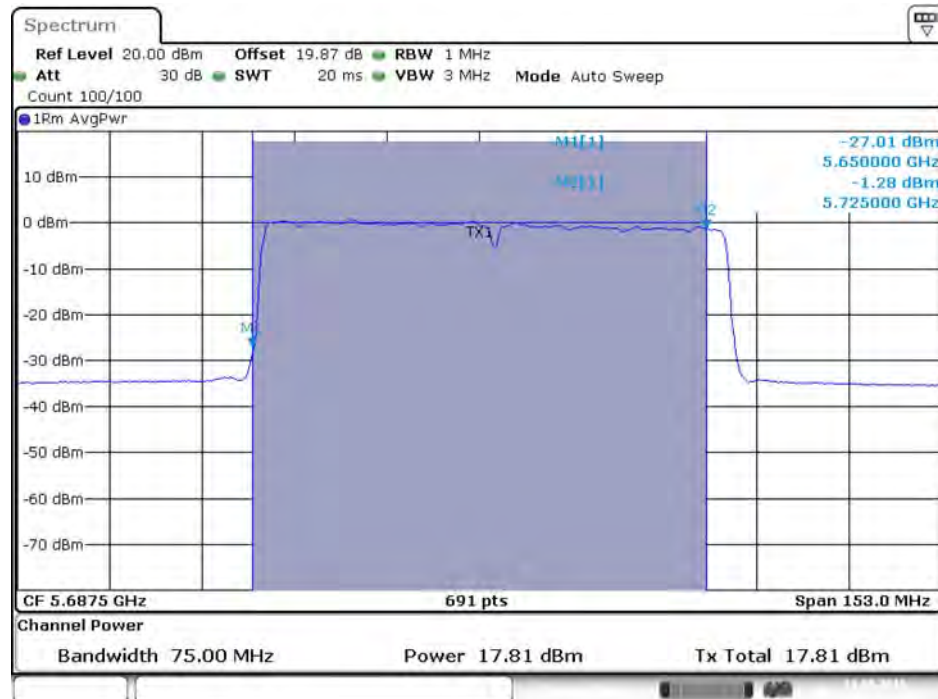
Date: 11.AUG.2016 05:40:18

802.11ac MCS0/Nss2 VHT80+80

Straddle Channel

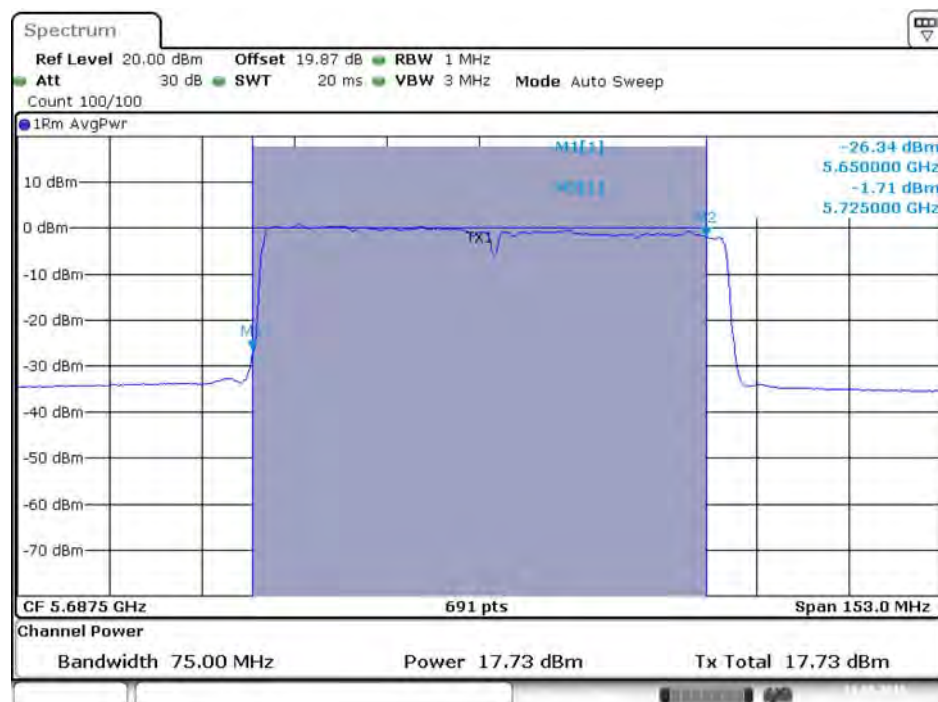
Type 3

Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 2C)



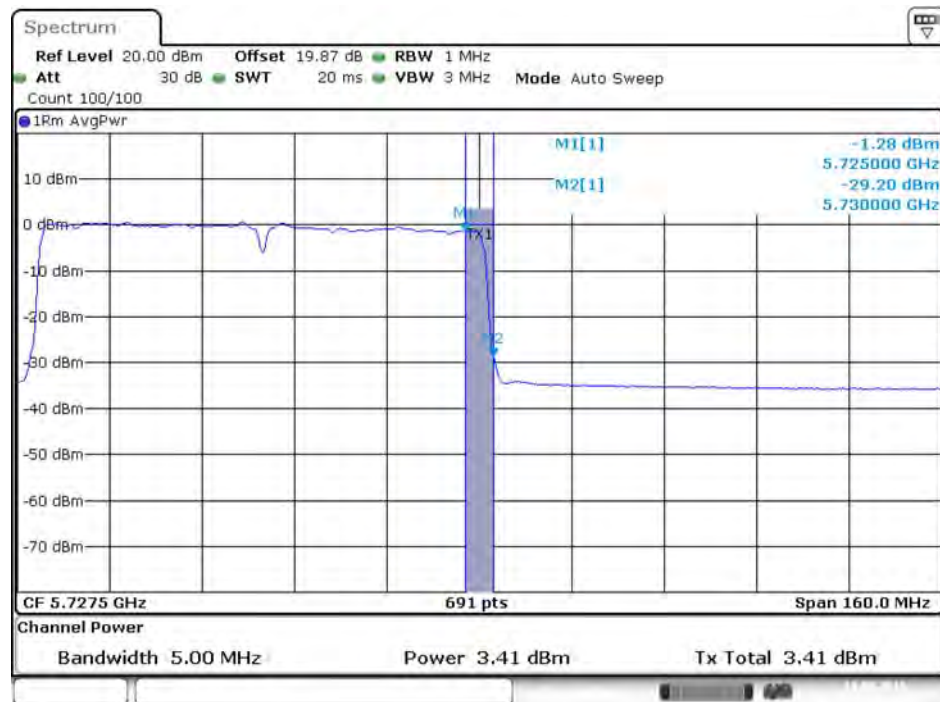
Date: 11.AUG.2016 15:11:15

Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 2C)



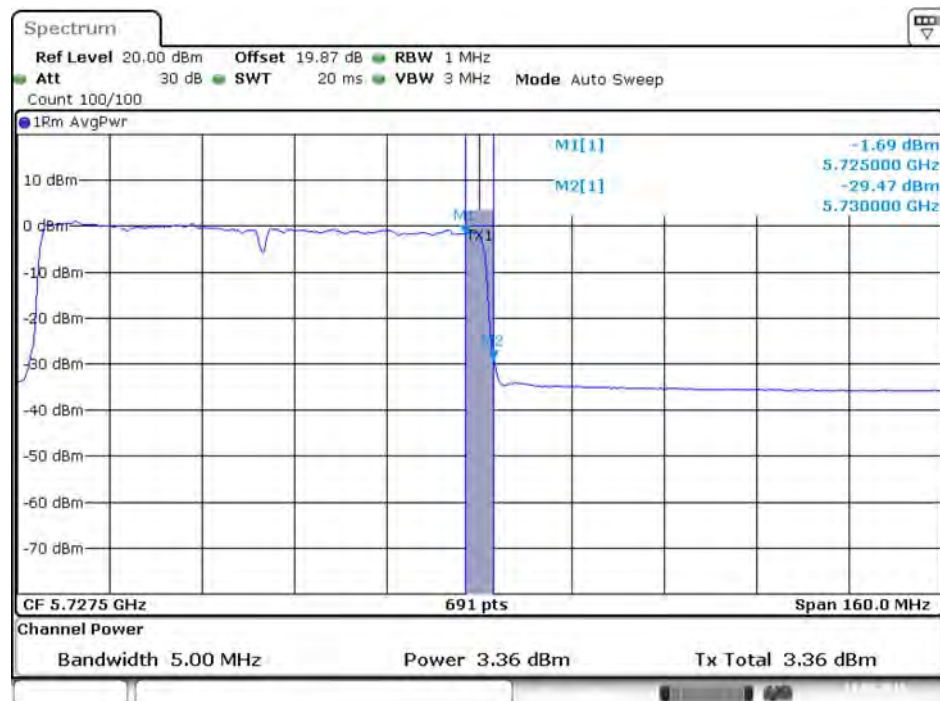
Date: 11.AUG.2016 15:11:22

Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 3)



Date: 11.AUG.2016 15:11:18

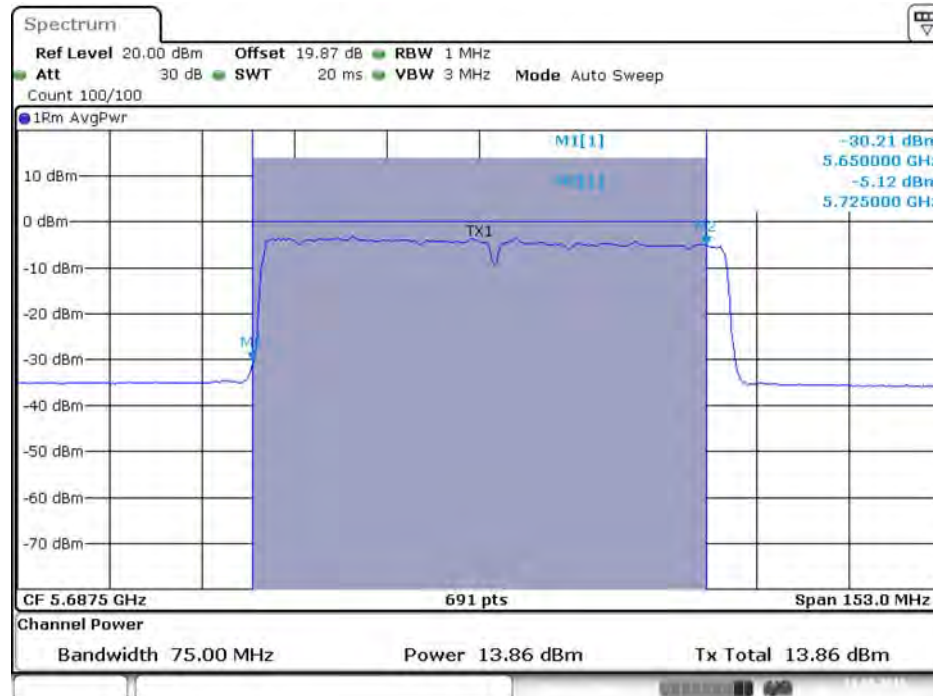
Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 3)



Date: 11.AUG.2016 15:11:25

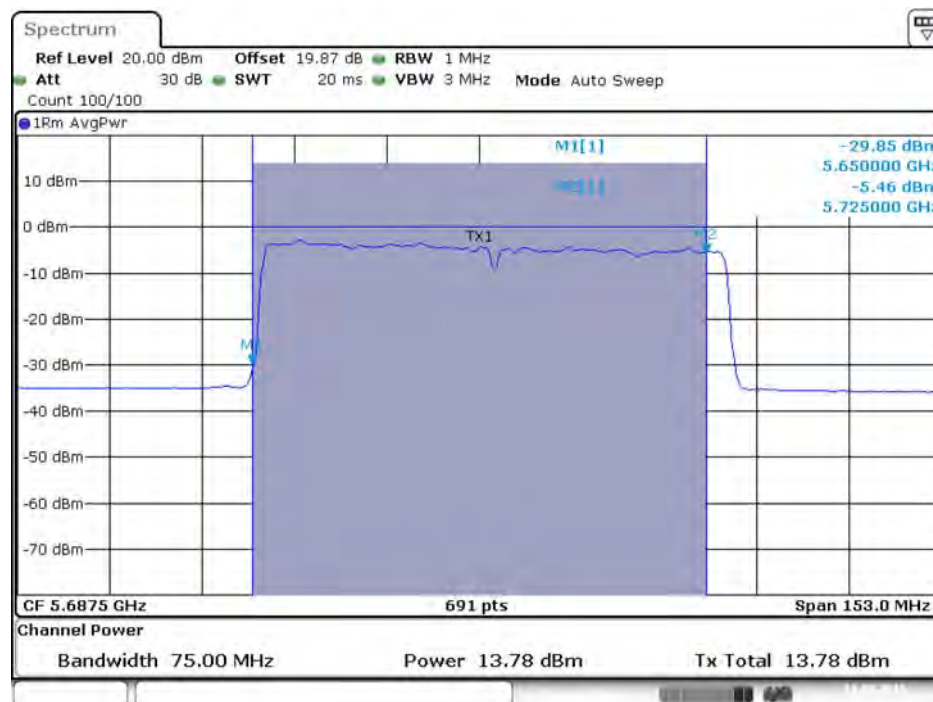
Type 6

Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 2C)



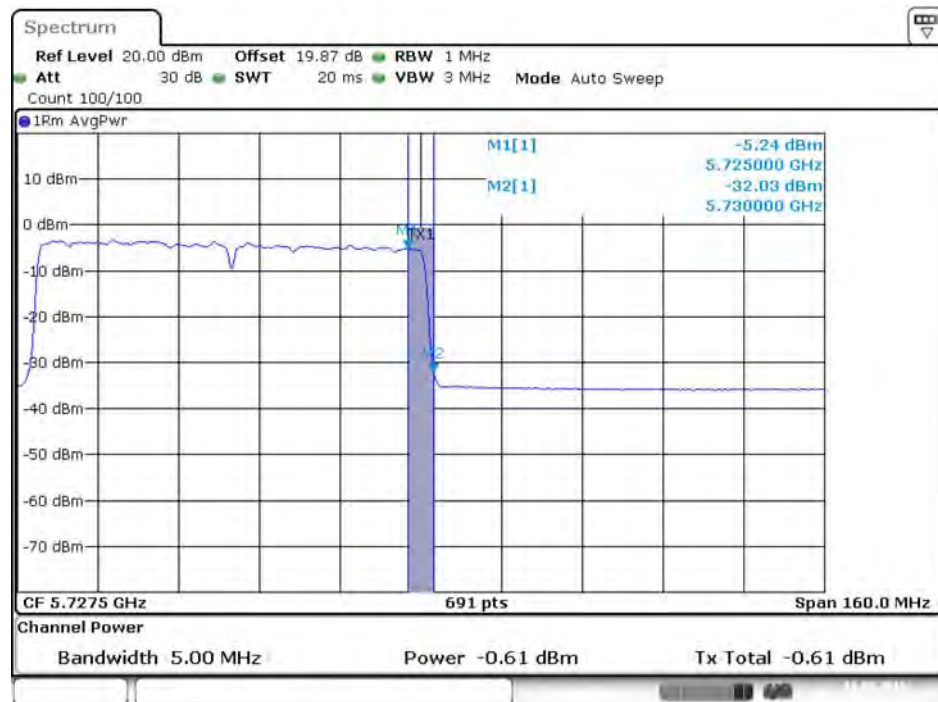
Date: 11.AUG.2016 15:17:48

Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 2C)



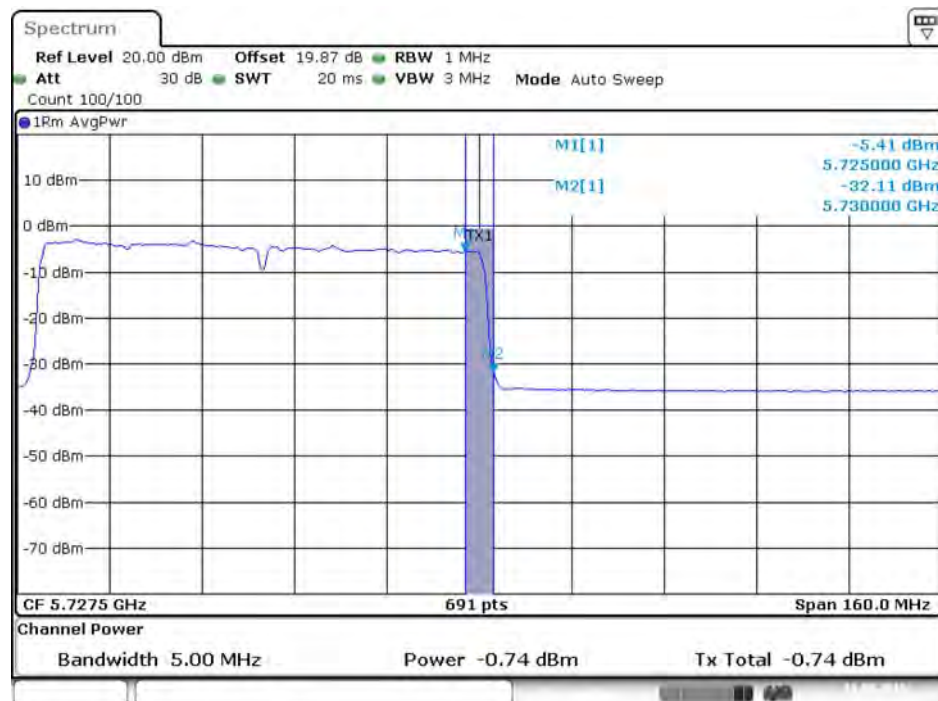
Date: 11.AUG.2016 15:17:55

Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 3)



Date: 11.AUG.2016 15:17:51

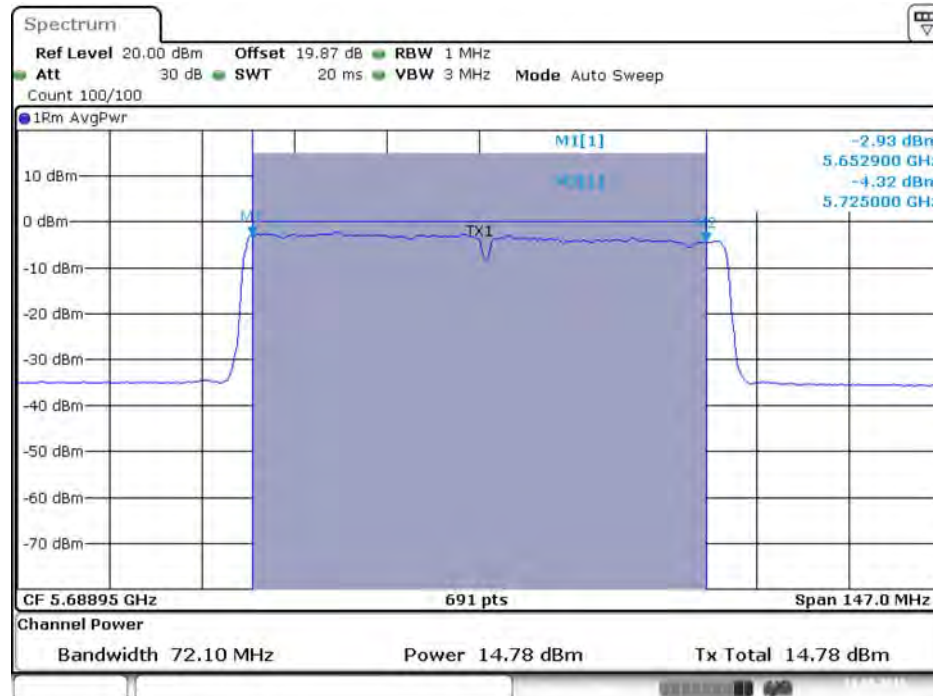
Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 3)



Date: 11.AUG.2016 15:17:58

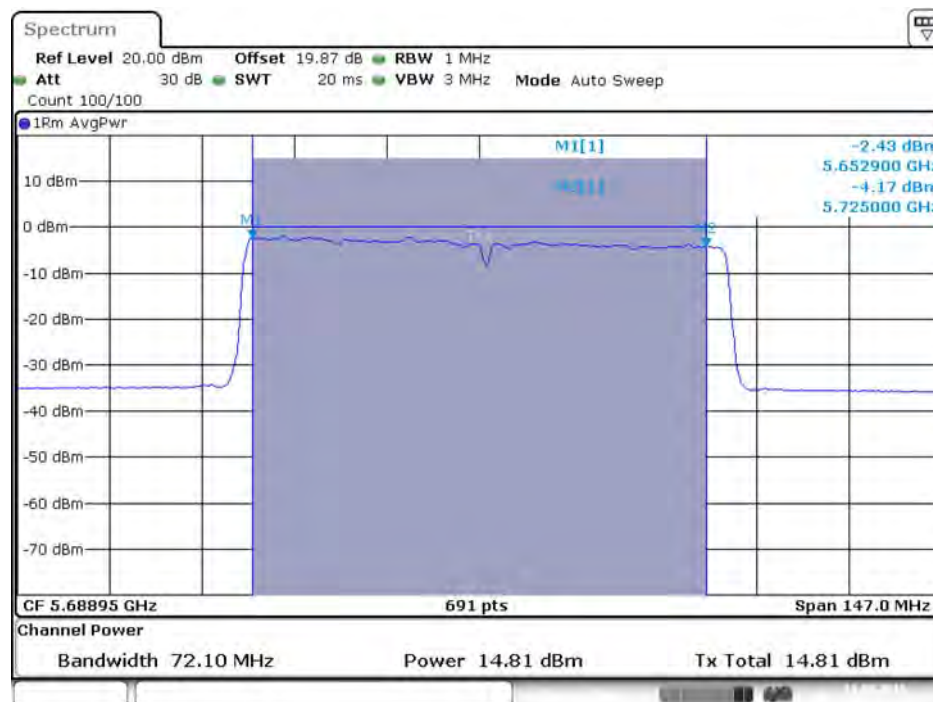
Type 8

Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 2C)



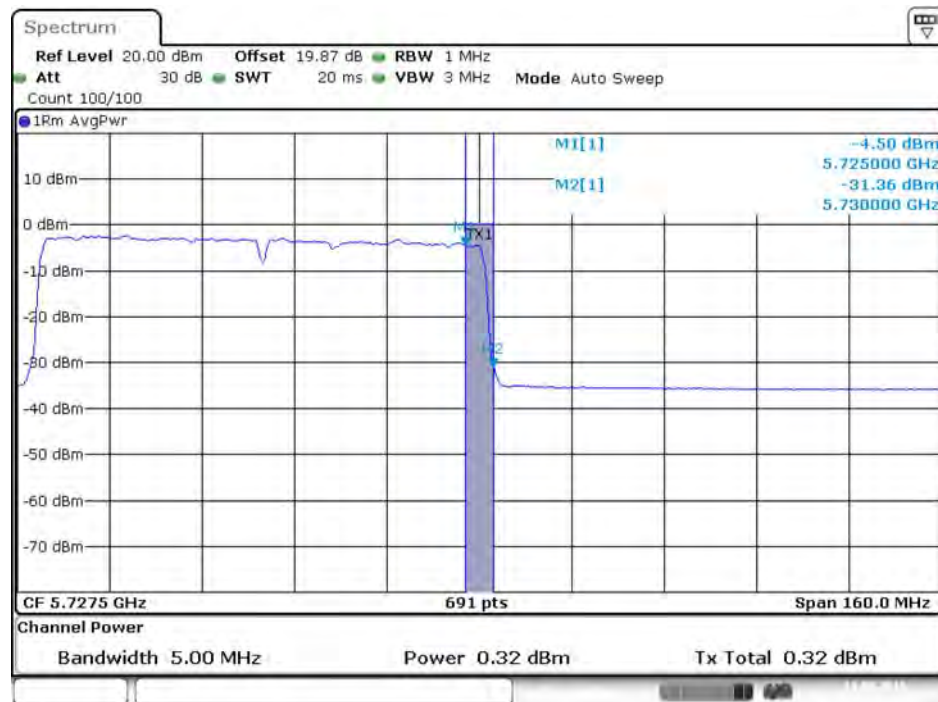
Date: 11.AUG.2016 15:30:44

Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 2C)



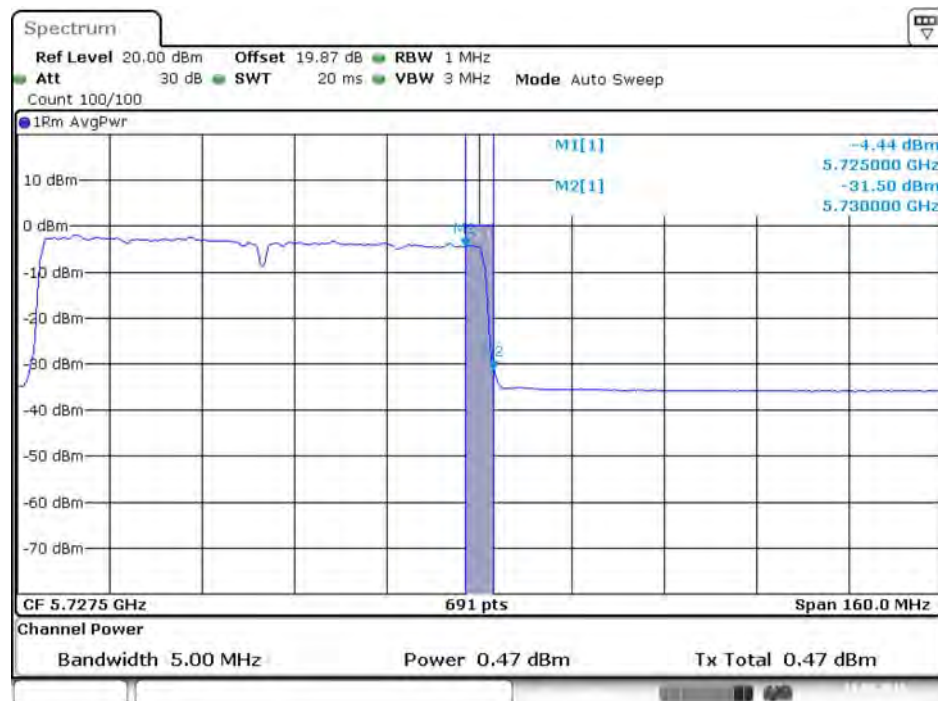
Date: 11.AUG.2016 15:30:51

Conducted Output Power Plot on Chain 5 / 5690 MHz (UNII 3)



Date: 11.AUG.2016 15:30:48

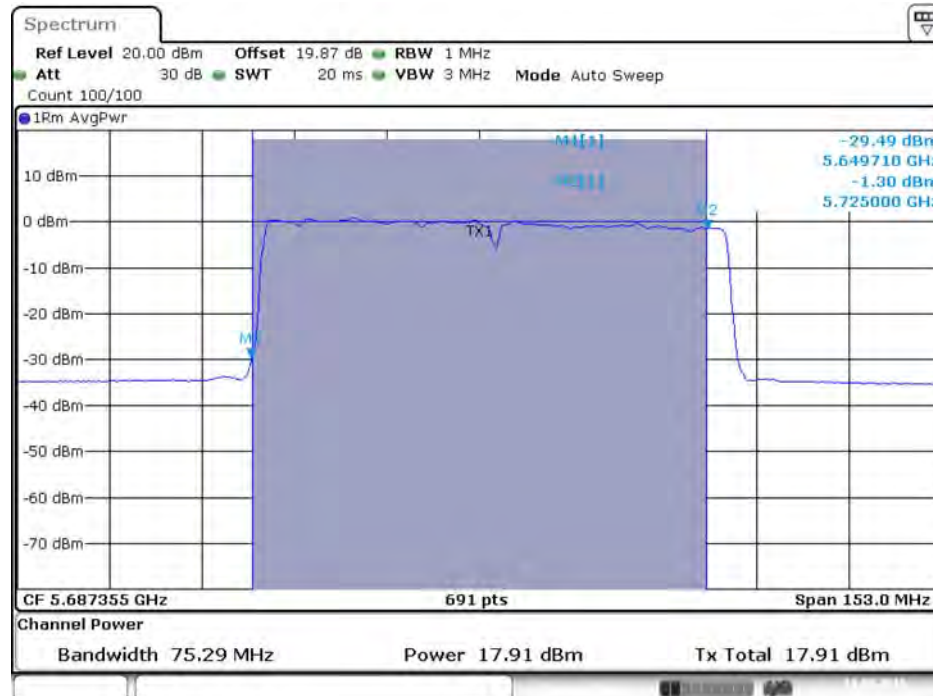
Conducted Output Power Plot on Chain 8 / 5690 MHz (UNII 3)



Date: 11.AUG.2016 15:30:55

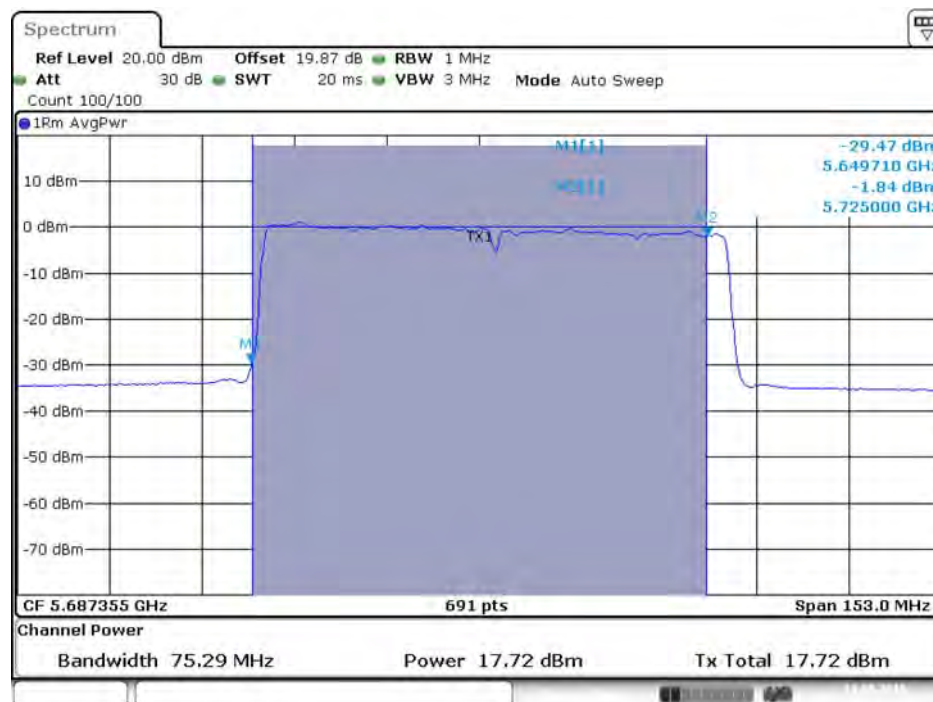
Type 11

Conducted Output Power Plot on Chain 6 / 5690 MHz (UNII 2C)



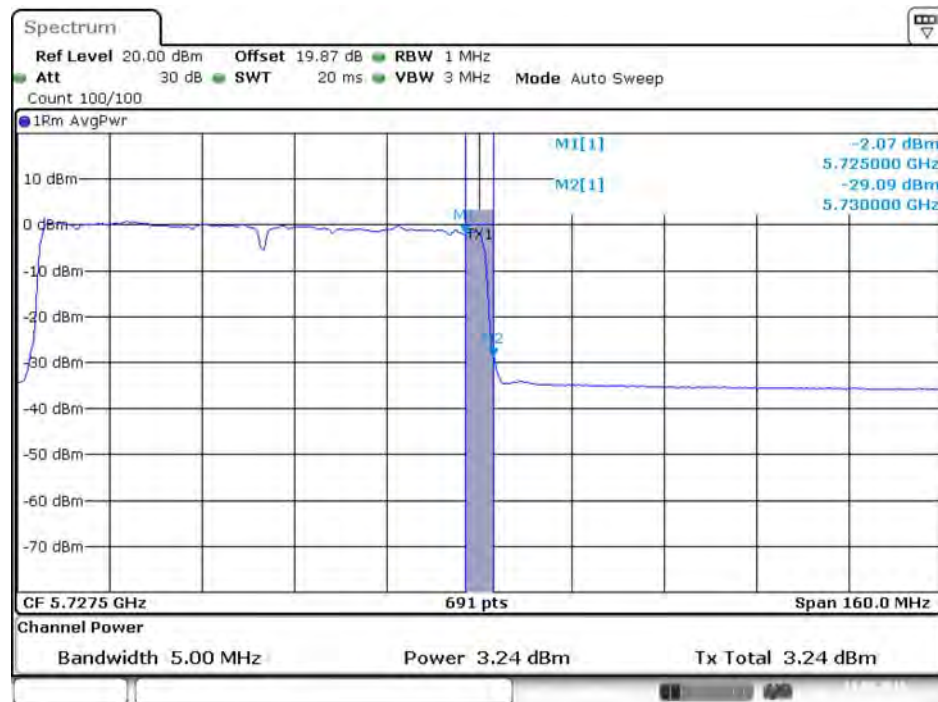
Date: 11.AUG.2016 16:03:12

Conducted Output Power Plot on Chain 7 / 5690 MHz (UNII 2C)



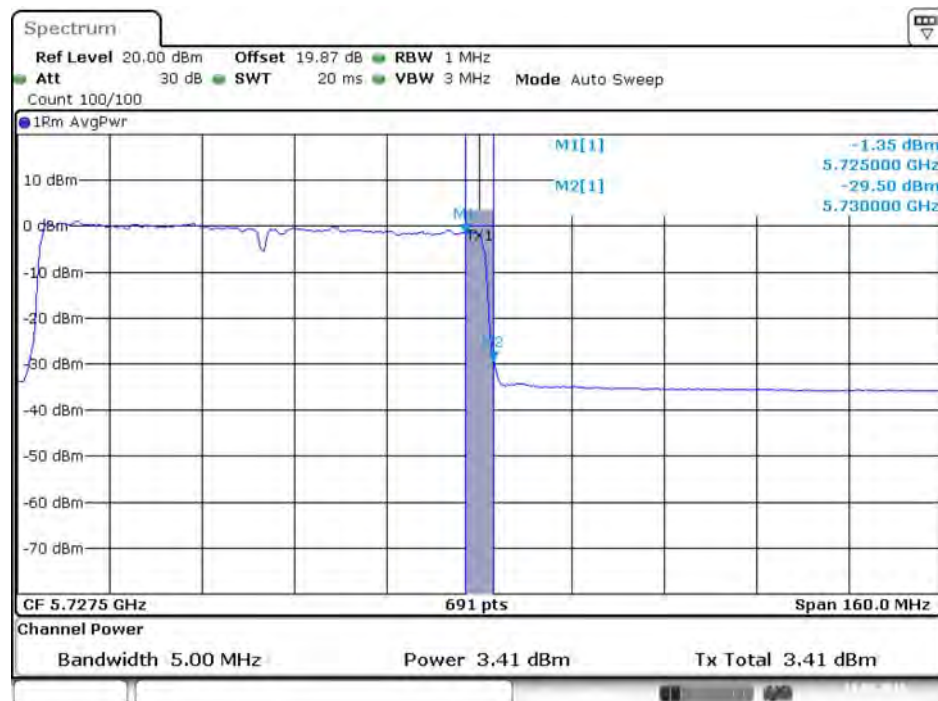
Date: 11.AUG.2016 16:03:20

Conducted Output Power Plot on Chain 6 / 5690 MHz (UNII 3)



Date: 11.AUG.2016 16:03:16

Conducted Output Power Plot on Chain 7 / 5690 MHz (UNII 3)



Date: 11.AUG.2016 16:03:23

4.4. Power Spectral Density Measurement

4.4.1. Limit

The following table is power spectral density limits and decrease power density limit rule refer to section 4.3.1.

Frequency Band		Limit
☒	5.25-5.35 GHz	11 dBm/MHz
☒	5.470-5.725 GHz	11 dBm/MHz

4.4.2. Measuring Instruments and Setting

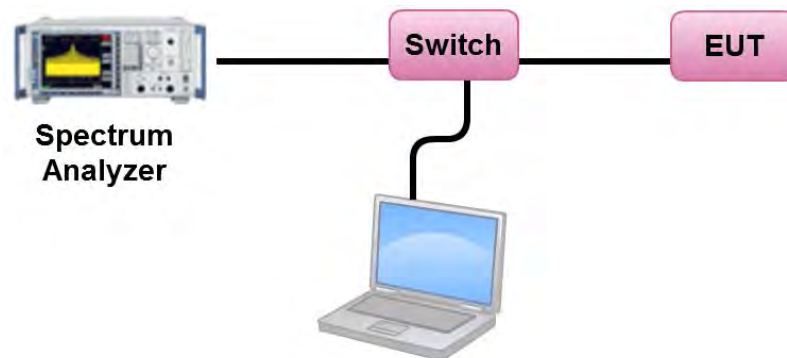
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1000 kHz
VBW	3000 kHz
Detector	RMS
Trace	AVERAGE
Sweep Time	Auto
Trace Average	100 times
Note: If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/\text{RBW})$ to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.	

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB789033 D02 v01r03 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (F) Maximum Power Spectral Density (PSD).
3. Multiple antenna systems was performed in accordance KDB662911 D01 v02r01 in-Band Power Spectral Density (PSD) Measurements and sum the spectra across the outputs.
4. For 5.725~5.85 GHz, the measured result of PSD level must add $10\log(500\text{kHz}/\text{RBW})$ and the final result should ≤ 30 dBm.

4.4.4. Test Setup Layout



4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of Power Spectral Density

Temperature	24°C	Humidity	60%
Test Engineer	Clemens Fang	Test Date	May 03, 2016 ~ Aug. 20, 2016

<For Non-beamforming Mode>

Configuration IEEE 802.11a / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	5.16	5.33	Complies
60	5300 MHz	5.26	5.33	Complies
64	5320 MHz	5.24	5.33	Complies
100	5500 MHz	5.28	5.33	Complies
116	5580 MHz	5.14	5.33	Complies
140	5700 MHz	5.11	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	5.20	5.33	Complies
60	5300 MHz	5.07	5.33	Complies
64	5320 MHz	5.13	5.33	Complies
100	5500 MHz	5.14	5.33	Complies
116	5580 MHz	5.02	5.33	Complies
140	5700 MHz	5.10	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	5.18	5.33	Complies
62	5310 MHz	5.07	5.33	Complies
102	5510 MHz	5.16	5.33	Complies
110	5550 MHz	5.18	5.33	Complies
134	5670 MHz	5.07	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	0.35	5.33	Complies
106	5530 MHz	2.09	5.33	Complies
122	5610 MHz	4.51	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Straddle Channel

Configuration IEEE 802.11a / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
144	5720 MHz (UNII 2C)	5.06	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
144	5720 MHz (UNII 3)	4.81	-3.01	1.80	24.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 30 - (11.67 - 6) = 24.33 \text{ dBm/500kHz.}$$

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
144	5720 MHz (UNII 2C)	5.16	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
144	5720 MHz (UNII 3)	4.88	-3.01	1.87	24.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 30 - (11.67 - 6) = 24.33 \text{ dBm/500kHz.}$$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
142	5710 MHz (UNII 2C)	5.26	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
142	5710 MHz (UNII 3)	4.97	-3.01	1.96	24.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 30 - (11.67 - 6) = 24.33 \text{ dBm/500kHz.}$$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
138	5690 MHz (UNII 2C)	4.10	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
138	5690 MHz (UNII 3)	4.11	-3.01	1.10	24.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 30 - (11.67 - 6) = 24.33 \text{ dBm/500kHz.}$$

802.11ac MCS0/Nss2 VHT80+80

Type	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Max. Limit (dBm/MHz)	Result
1	5210 MHz	2.70	-			14.34	Complies
	5530 MHz	2.54				8.34	Complies
2	5210 MHz	2.93				14.34	Complies
	5610 MHz	3.67				8.34	Complies
3	5210 MHz	2.97				14.34	Complies
	5690 MHz (UNII 2C)	3.40				8.34	Complies
	5690 MHz (UNII 3)	1.84	-3.01	-1.17	27.34	-	Complies
4	5290 MHz	2.01	-			8.34	Complies
	5530 MHz	1.73				8.34	Complies
5	5290 MHz	1.56				8.34	Complies
	5610 MHz	1.31				8.34	Complies
6	5290 MHz	2.11				8.34	Complies
	5690 MHz (UNII 2C)	1.78				8.34	Complies
	5690 MHz (UNII 3)	0.21	-3.01	-2.80	27.34	-	Complies
7	5290 MHz	2.21	-			8.34	Complies
	5775 MHz	2.00	-3.01	-1.01	27.34	-	Complies
8	5530 MHz	1.63	-			8.34	Complies
	5690 MHz (UNII 2C)	1.19				8.34	Complies
	5690 MHz (UNII 3)	1.42	-3.01	-1.59	27.34	-	Complies
9	5530 MHz	3.29	-			8.34	Complies
	5775 MHz	3.51	-3.01	0.50	27.34	-	Complies
10	5610 MHz	3.61	-			8.34	Complies
	5775 MHz	3.50	-3.01	0.49	27.34	-	Complies

11	5690 MHz (UNII 2C)	2.94	-			8.34	Complies
	5690 MHz (UNII 3)	2.88	-3.01	-0.13	27.34	-	Complies
	5775 MHz	3.59	-3.01	0.58	27.34	-	Complies

Note:

Frequency	Description	
5210 MHz	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.66, \text{ so limit} = 17 - (8.66 - 6) = 14.34 \text{ dBm/MHz.}$	
5290 MHz 5530 MHz 5610 MHz 5690 MHz (UNII 2C)	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.66, \text{ so limit} = 11 - (8.66 - 6) = 8.34 \text{ dBm/MHz.}$	
5690 MHz (UNII 3) 5775 MHz	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.66, \text{ so limit} = 30 - (8.66 - 6) = 27.34 \text{ dBm/500kHz}$	

<For Beamforming Mode>

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	4.83	5.33	Complies
60	5300 MHz	5.21	5.33	Complies
64	5320 MHz	5.03	5.33	Complies
100	5500 MHz	5.09	5.33	Complies
116	5580 MHz	5.05	5.33	Complies
140	5700 MHz	5.12	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	1.93	5.33	Complies
62	5310 MHz	2.07	5.33	Complies
102	5510 MHz	1.98	5.33	Complies
110	5550 MHz	2.21	5.33	Complies
134	5670 MHz	1.91	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	-1.00	5.33	Complies
106	5530 MHz	-0.92	5.33	Complies
122	5610 MHz	-0.78	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Straddle Channel

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
144	5720 MHz (UNII 2C)	5.18	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
144	5720 MHz (UNII 3)	4.95	-3.01	1.94	24.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 30 - (11.67 - 6) = 24.33 \text{ dBm/500kHz.}$$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
142	5710 MHz (UNII 2C)	1.99	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
142	5710 MHz (UNII 3)	1.84	-3.01	-1.17	24.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 30 - (11.67 - 6) = 24.33 \text{ dBm/500kHz.}$$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
138	5690 MHz (UNII 2C)	-0.99	5.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 11 - (11.67 - 6) = 5.33 \text{ dBm/MHz.}$$

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
138	5690 MHz (UNII 3)	-0.79	-3.01	-3.80	24.33	Complies

Note:

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.67, \text{ so limit} = 30 - (11.67 - 6) = 24.33 \text{ dBm/500kHz.}$$

802.11ac MCS0/Nss2 VHT80+80

Type	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Max. Limit (dBm/MHz)	Result
1	5210 MHz	1.31	-			14.34	Complies
	5530 MHz	0.74				8.34	Complies
2	5210 MHz	2.24				14.34	Complies
	5610 MHz	2.12				8.34	Complies
3	5210 MHz	2.59				14.34	Complies
	5690 MHz (UNII 2C)	1.98				8.34	Complies
	5690 MHz (UNII 3)	0.40	-3.01	-2.61	27.34	-	Complies
4	5290 MHz	-1.29	-			8.34	Complies
	5530 MHz	-2.47				8.34	Complies
5	5290 MHz	-1.30				8.34	Complies
	5610 MHz	-1.93				8.34	Complies
6	5290 MHz	-1.27				8.34	Complies
	5690 MHz (UNII 2C)	-1.86				8.34	Complies
	5690 MHz (UNII 3)	-3.58	-3.01	-6.59	27.34	-	Complies
7	5290 MHz	-1.19	-			8.34	Complies
	5775 MHz	-2.13	-3.01	-5.14	27.34	-	Complies
8	5530 MHz	-1.05	-			8.34	Complies
	5690 MHz (UNII 2C)	-0.68				8.34	Complies
	5690 MHz (UNII 3)	-2.49	-3.01	-5.50	27.34	-	Complies
9	5530 MHz	1.90	-			8.34	Complies
	5775 MHz	1.15	-3.01	-1.86	27.34	-	Complies
10	5610 MHz	1.90	-			8.34	Complies
	5775 MHz	1.11	-3.01	-1.90	27.34	-	Complies

11	5690 MHz (UNII 2C)	2.18	-			8.34	Complies
	5690 MHz (UNII 3)	0.33	-3.01	-2.68	27.34	-	Complies
	5775 MHz	2.15	-3.01	-0.86	27.34	-	Complies

Note:

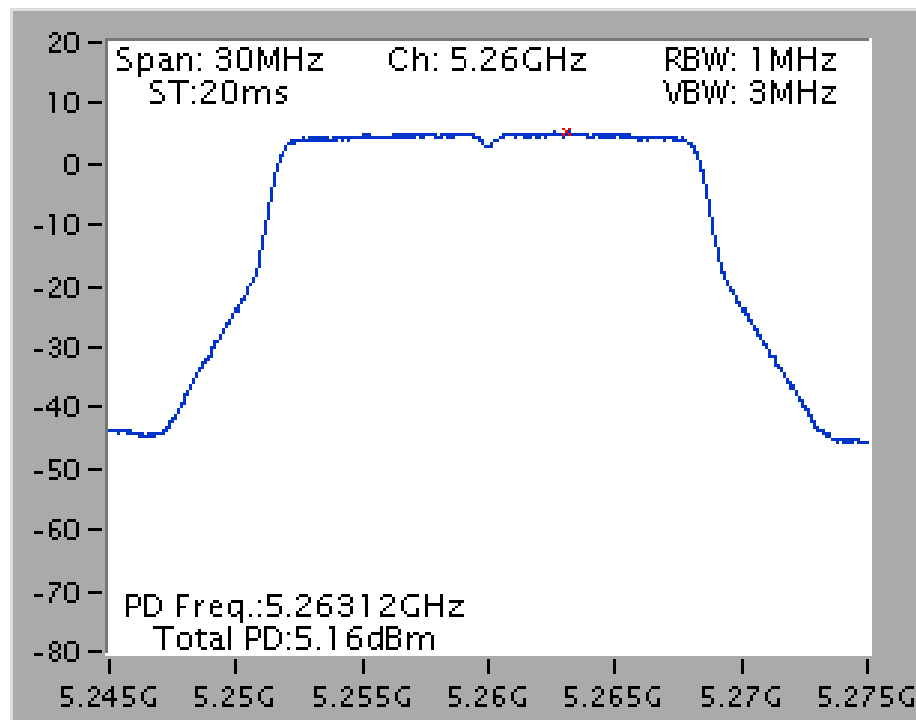
Frequency	Description	
5210 MHz	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.66, \text{ so limit} = 17 - (8.66 - 6) = 14.34 \text{ dBm/MHz.}$	
5290 MHz 5530 MHz 5610 MHz 5690 MHz (UNII 2C)	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.66, \text{ so limit} = 11 - (8.66 - 6) = 8.34 \text{ dBm/MHz.}$	
5690 MHz (UNII 3) 5775 MHz	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.66, \text{ so limit} = 30 - (8.66 - 6) = 27.34 \text{ dBm/500kHz}$	

Note: All the test values were listed in the report.

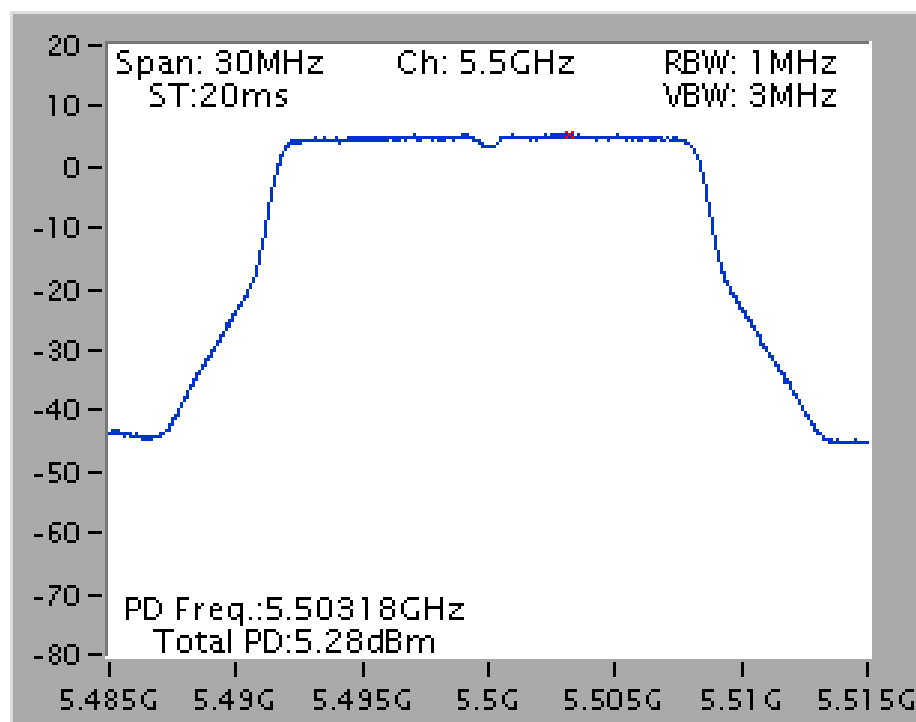
For plots, only the channel with worse result was shown.

<For Non-beamforming Mode>

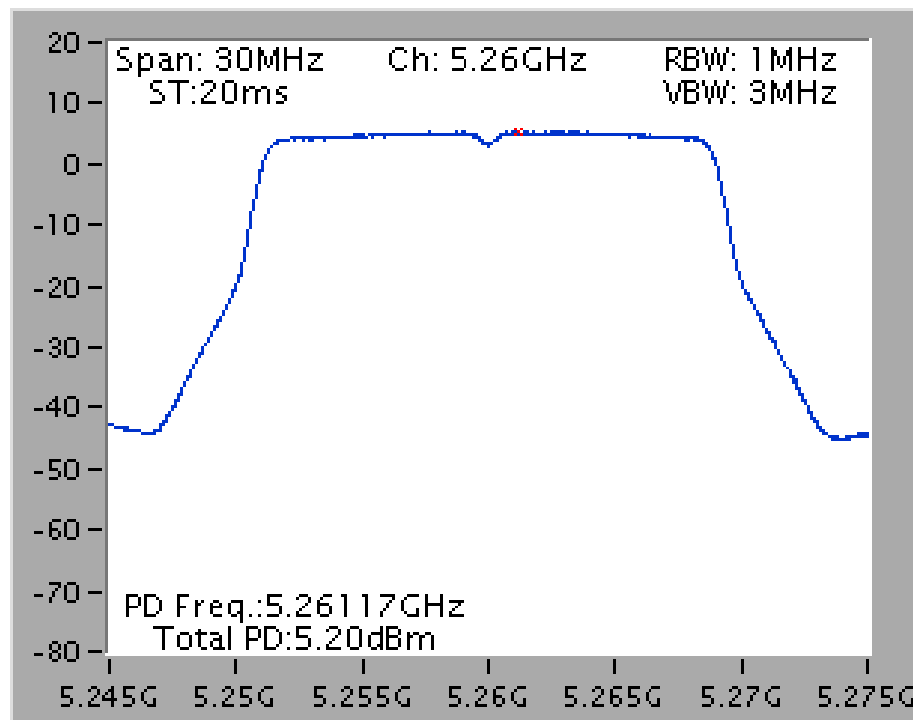
Power Density Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5260 MHz



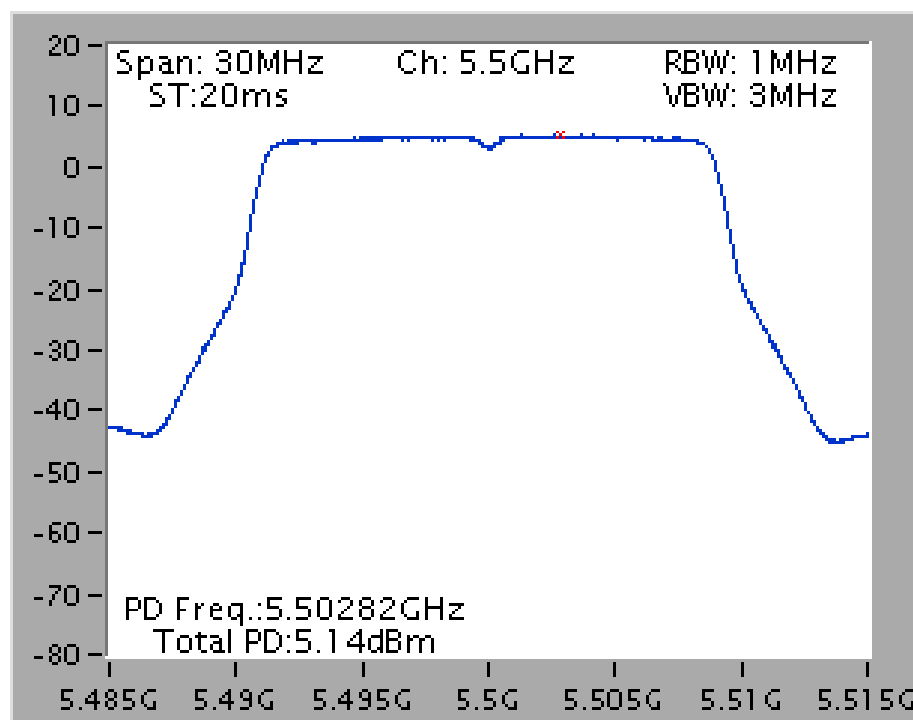
Power Density Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5500 MHz



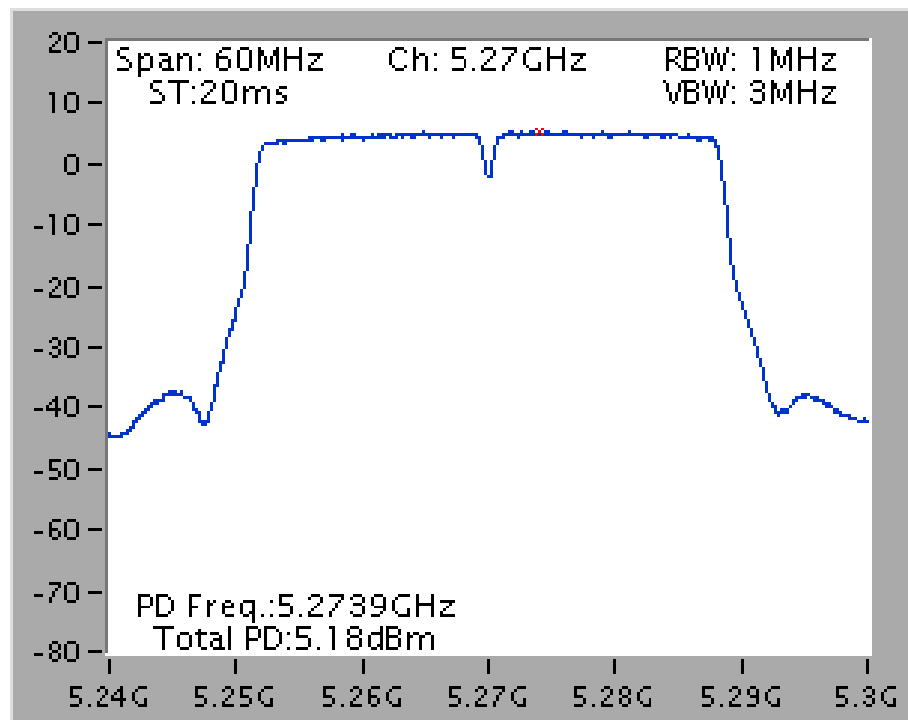
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5260 MHz



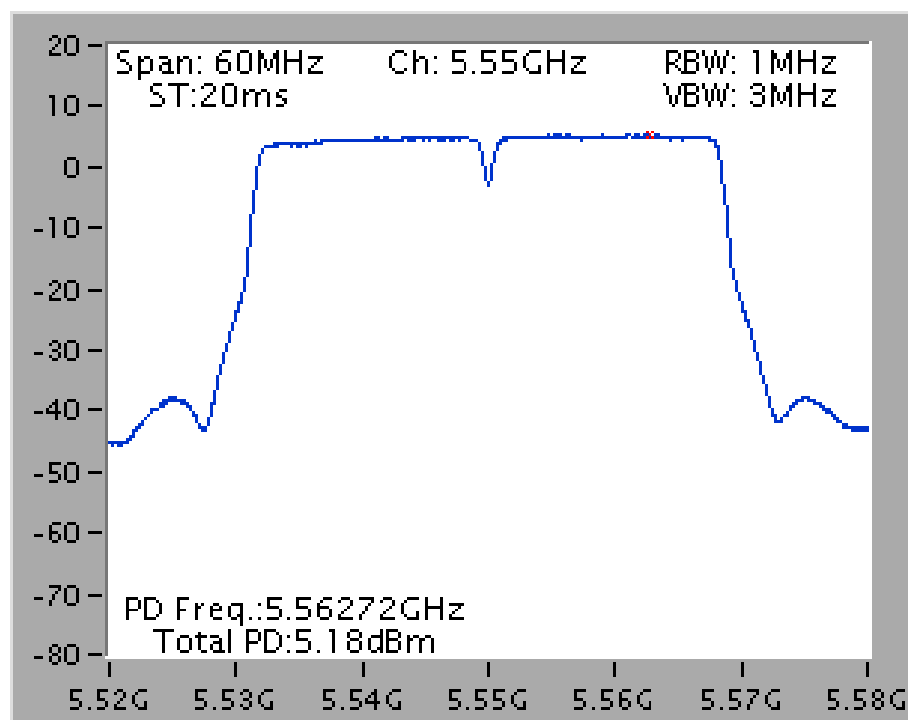
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5500 MHz



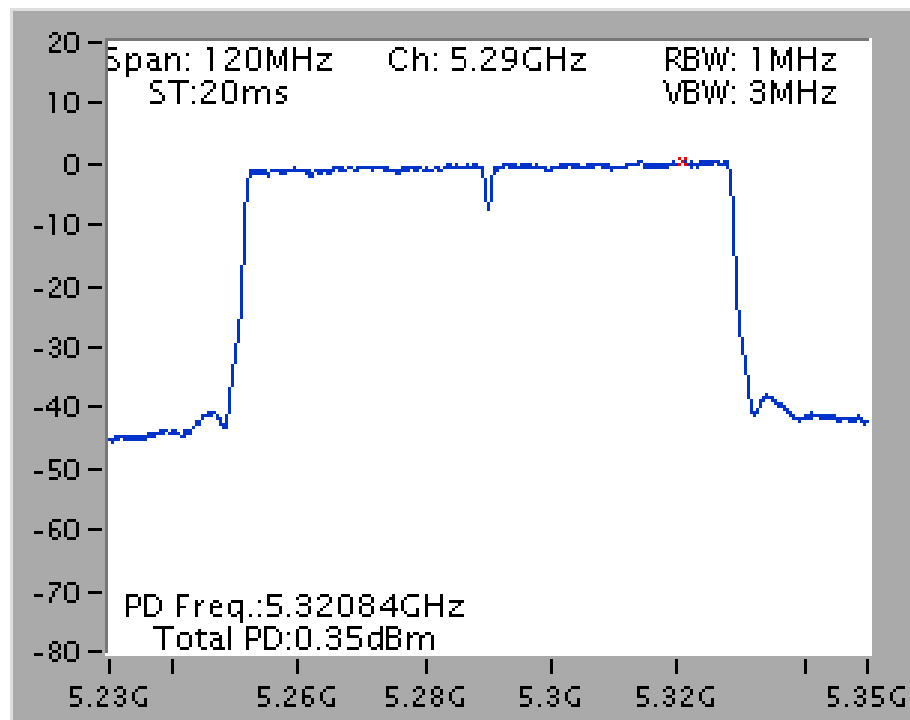
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5270 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5550 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5290 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5610 MHz

