



SPORTON International Inc.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
Ph: 886-3-327-3456 / FAX: 886-3-327-0973 / www.sporton.com.tw

FCC RADIO TEST REPORT

Applicant's company	Extreme Networks, Inc.
Applicant Address	9 Northeastern Blvd. Salem, NH 03079 USA
FCC ID	QXO-4411AC
Manufacturer's company	Senao Networks, Inc.
Manufacturer Address	3F, No. 529, Chung Cheng Rd., Hsintien, Taipei, Taiwan

Product Name	Wireless 802.11a/AC+ b/g/n Access Point
Brand Name	Extreme Networks
Model No.	31012, 31014, 31013, 31015
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5250 ~ 5350MHz / 5470 ~ 5725MHz
Received Date	Oct. 15, 2015
Final Test Date	Nov. 30, 2015
Submission Type	Original Equipment

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 v01, KDB662911 D01 v02r01, KDB644545 D03 v01.**

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



Table of Contents

1. VERIFICATION OF COMPLIANCE	1
2. SUMMARY OF THE TEST RESULT	2
3. GENERAL INFORMATION	3
3.1. Product Details.....	3
3.2. Accessories.....	8
3.3. Table for Filed Antenna.....	9
3.4. Table for Carrier Frequencies	11
3.5. Table for Test Modes	12
3.6. Table for Testing Locations.....	15
3.7. Table for Multiple Listing.....	15
3.8. Table for Supporting Units	16
3.9. Table for Parameters of Test Software Setting	17
3.10. EUT Operation during Test	20
3.11. Duty Cycle	20
3.12. Test Configurations	21
4. TEST RESULT	24
4.1. AC Power Line Conducted Emissions Measurement.....	24
4.2. 26dB Bandwidth and 99% Occupied Bandwidth Measurement.....	28
4.3. 6dB Spectrum Bandwidth Measurement	117
4.4. Maximum Conducted Output Power Measurement.....	142
4.5. Power Spectral Density Measurement	256
4.6. Radiated Emissions Measurement	330
4.7. Band Edge Emissions Measurement	473
4.8. Frequency Stability Measurement	538
4.9. Antenna Requirements	552
5. LIST OF MEASURING EQUIPMENTS	553
6. MEASUREMENT UNCERTAINTY.....	555
APPENDIX A. TEST PHOTOS	A1 ~ A12
APPENDIX B. RADIATED EMISSION CO-LOCATION REPORT.....	B1 ~ B3

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR541527-04AF	Rev. 01	Initial issue of report	Jan. 13, 2016

1. VERIFICATION OF COMPLIANCE

Product Name : Wireless 802.11a/AC+ b/g/n Access Point
Brand Name : Extreme Networks
Model No. : 31012, 31014, 31013, 31015
Applicant : Extreme 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 Oct. 15, 2015 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.



Sam Chen

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	Under Limit
4.1	15.207	AC Power Line Conducted Emissions	Complies	3.06 dB
4.2	15.407(a)	26dB Spectrum Bandwidth and 99% Occupied Bandwidth	Complies	-
4.3	15.407(e)	6dB Spectrum Bandwidth	Complies	-
4.4	15.407(a)	Maximum Conducted Output Power	Complies	0.01 dB
4.5	15.407(a)	Power Spectral Density	Complies	0.04 dB
4.6	15.407(b)	Radiated Emissions	Complies	1.65 dB
4.7	15.407(b)	Band Edge Emissions	Complies	1.01 dB
4.8	15.407(g)	Frequency Stability	Complies	-
4.9	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	5250 ~ 5350MHz / 5470 ~ 5725MHz
Channel Number	16 for 20MHz bandwidth ; 8 for 40MHz bandwidth 4 for 80MHz bandwidth
Channel Band Width (99%)	Mode 1: EUT 1 + Set 1 Ceiling Mount Omni Antenna / 7 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.06 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.19 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 17.97 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.34 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz Mode 2: EUT 1 + Set 2 Sector Antenna / 6.5 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.06 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.34 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.06 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.19 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 17.97 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.34 MHz

	IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.15 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.48 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.06 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.48 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.12 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 Mode 5: EUT 1 + Set 5 Sector Antenna / 4.5 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.15 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.34 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.15 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.48 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz Mode 6: EUT 1 + Set 6 Sector Antenna / 4 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.15 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.48 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.06 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.19 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.06 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.48 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz
--	--

	Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 17.97 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.19 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.06 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.34 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.70 MHz Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.06 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.34 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz
Maximum Conducted Output Power	Mode 1: EUT 1 + Set 1 Ceiling Mount Omni Antenna / 7 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 19.79 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 19.95 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 14.10 dBm Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 19.84 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 19.81 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 19.91 dBm Mode 2: EUT 1 + Set 2 Sector Antenna / 6.5 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 20.43 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 20.46 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 16.14 dBm Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 20.47 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 20.33 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 20.42 dBm Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 21.42 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.43 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 16.82 dBm

	Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 21.20 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.40 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 21.44 dBm Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 19.47 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 19.38 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 14.63 dBm Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 19.42 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 19.24 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 19.46 dBm Mode 5: EUT 1 + Set 5 Sector Antenna / 4.5 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 22.38 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 22.24 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 19.93 dBm Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 22.32 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 22.20 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 22.45 dBm Mode 6: EUT 1 + Set 6 Sector Antenna / 4 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 22.97 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 22.55 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 14.10 dBm Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 22.66 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 22.77 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 22.45 dBm Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 19.27 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 19.26 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 16.69 dBm Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 19.30 dBm
--	---

	IEEE 802.11ac MCS0/Nss1 (VHT40): 19.27 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 19.28 dBm Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi Band 2: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.09 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 18.25 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 18.25 dBm Band 3: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.20 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 18.13 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 18.18 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
Operating Mode	☐ Outdoor access point	
	☒ Indoor access point	
	☐ Fixed point-to-point access points	
	☐ Mobile and portable client devices	

Note1: The product has beamforming function for 802.11n/ac in 2.4G/5G.

Note2: Test results of non-beamforming are recorded in test report: FR541527-04AE. Test results of beamforming are recorded in this test report.

Antenna and Band width

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 in 5GHz.

Note 3: Modulation modes consist of below configuration:

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

3.2. Accessories

N/A

3.3. Table for Filed Antenna

Set.	Brand Holder	Model Number (Part No.)	Extreme Part No. (Short Description)	Antenna Type	Connector	Polarized Antenna	Gain (dBi)	
							2.4GHz	5GHz
1	PCTEL Inc.	WS-AI-DQ04360	WS-AI-DQ04360 (WS-AI-DQ04360)	Ceiling Mount Omni	RP SMA Male	V	4	7
2	PCTEL Inc.	908403-10	30705 (WS-AI-DE07025)	Sector Antenna	RP SMA Male	V	7.5	6.5
3	PCTEL Inc.	908400-10	30702 (WS-AI-DQ05120)	Sector Antenna	RP SMA Male	V	5.5	5.5
4	PCTEL Inc.	908405-10	30707 (WS-AI-DE10055)	Sector Antenna	RP SMA Male	V	10.5	7.5
5	PCTEL Inc.	908404-10	30706 (WS-AI-5Q05025)	Sector Antenna	RP SMA Male	V	-	4.5
6	PCTEL Inc.	908401-10	30703 (WS-AI-5Q04060)	Sector Antenna	RP SMA Male	V	-	4
7	PCTEL Inc.	908402-10	30704 (WS-AI-2Q05060)	Sector Antenna	RP SMA Male	V	5	-
8	Master Wave Technology Co., Ltd.	98152MRSX015	30709 (WS-ANT-2DIP-4)	Dipole Antenna	RP SMA Male	X	4.66	-
9	Master Wave Technology Co., Ltd.	98152URSX009	30710 (WS-ANT-5DIP-4)	Dipole Antenna	RP SMA Male	X	-	4.67
10	Senao Networks, Inc.	AP3935i	-	PIFA Antenna	IPEX	X	Note 1	

Note1:

Set.	Antenna Gain (dBi)							
	2.4GHz				5GHz			
	Chain 1	Chain 2	Chain 3	Chain 4	Chain 1	Chain 2	Chain 3	Chain 4
10	3.81	3.75	3.98	3.47	5.84	5.50	5.84	5.65

Note2:

The EUT has ten sets of antennas.

<For 2.4GHz Function>

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

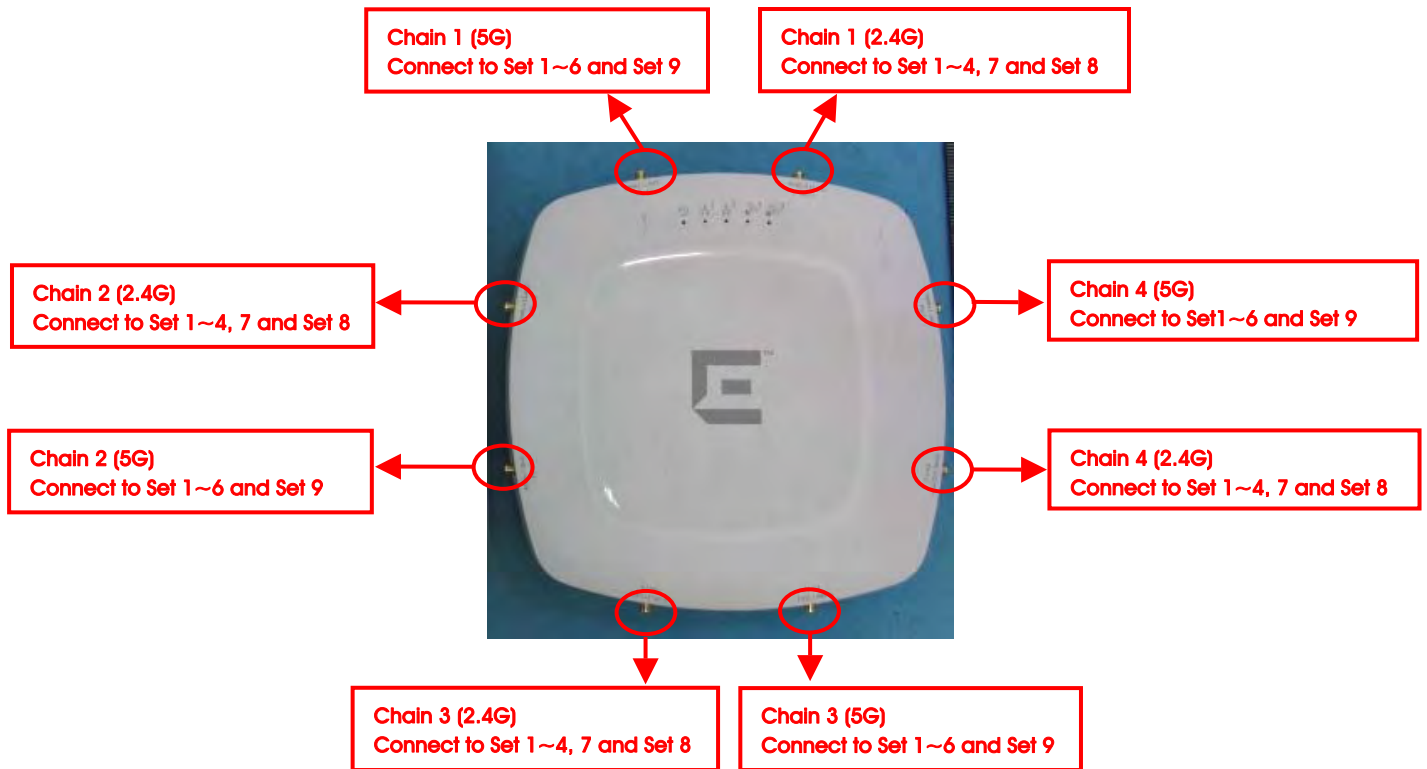
Chain 1, Chain 2, Chain 3 and Chain 4 could transmit/receive simultaneously.

<For 5GHz Function>

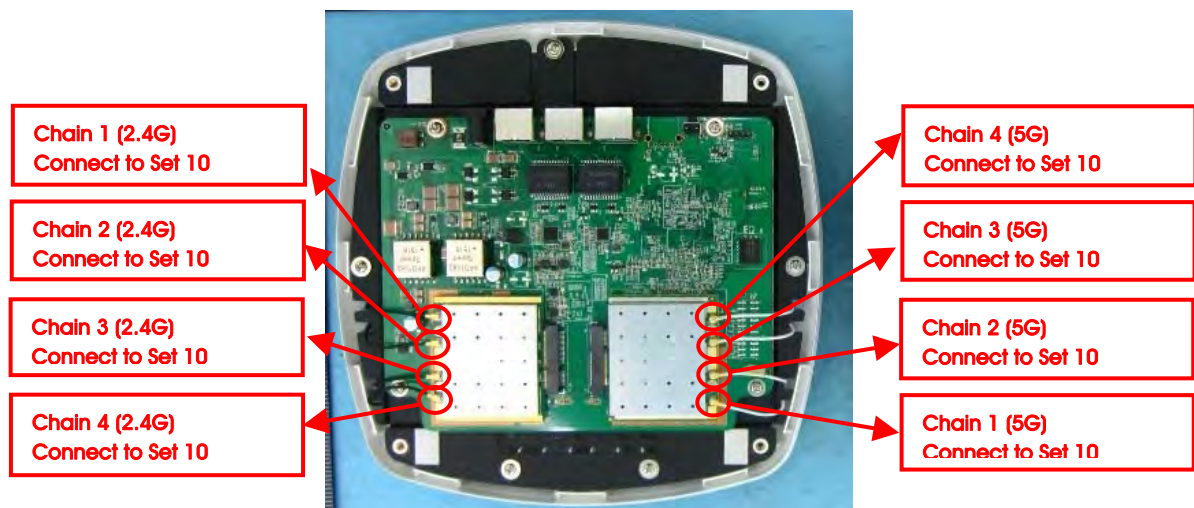
For IEEE 802.11a/n/ac mode (4TX, 4RX):

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

For EUT 1:



For EUT 2:



3.4. Table for Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144.

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

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

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
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	-	-

3.5. 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
AC Power Line Conducted Emissions	Normal Link		-	-	-
Max. Conducted Output Power	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140/144	1+2+3+4
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/ 134/142	1+2+3+4
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2+3+4
Power Spectral Density	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140/144	1+2+3+4
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/ 134/142	1+2+3+4
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2+3+4
26dB Spectrum Bandwidth 99% Occupied Bandwidth Measurement	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140/144	1+2+3+4
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/ 134/142	1+2+3+4
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2+3+4
6dB Spectrum Bandwidth Measurement	11ac VHT20	Band 3	MCS0/Nss1	144	1+2+3+4
	11ac VHT40	Band 3	MCS0/Nss1	142	1+2+3+4
	11ac VHT80	Band 3	MCS0/Nss1	138	1+2+3+4

Radiated Emissions 9kHz~1GHz	Normal Link		-	-	-
Radiated Emission Above 1GHz	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140/144	1+2+3+4
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/ 134/142	1+2+3+4
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2+3+4
Band Edge Emission	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140/144	1+2+3+4
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/ 134/142	1+2+3+4
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2+3+4
Frequency Stability	20 MHz	Band 2-3	-	60/116	3, 4
	40 MHz	Band 2-3	-	62/110	3, 4
	80 MHz	Band 2-3	-	58/106	3, 4

Note1: 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.

Note2:

The adapter are for measurement only, would not be marketed.

The adapter information as below:

Power	Brand	Model
Adapter	Powertron Electronics Corp.	PA1024-120IB200

Note3: All the specification of test configurations and test modes were based on customer's request.

Note4: The console port can not be used by end user. It is generally used for updating FW by professional installer.

The following test modes were performed for all tests:

For Conducted Emission test:

Mode 1. Normal Link - EUT 1 + Adapter

Mode 2. Normal Link - EUT 2 + Adapter

Mode 1 is the worst case, so it was selected to record in this test report.

For Radiated Emission Below 1GHz test:

Mode 1. Place EUT 1 in Y axis + Set 4 + Adapter

Mode 2. Place EUT 1 in Z axis + Set 4 + Adapter

Mode 2 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3~5 will follow this same test mode.

Mode 3. Place EUT 1 in Z axis + Set 4 + PoE

Mode 4. Place EUT 2 in Z axis + Set 10 + Adapter

Mode 5. Place EUT 2 in Z axis + Set 10 + PoE

Mode 2 is the worst case, so it was selected to record in this test report.

For Radiated Emission test Above 1GHz:

The Mode 1~6 and Mode 8 was performed at Y axis and Z axis position. Y axis has been evaluated to be the worst case, thus measurement will follow this same test mode.

The Mode 7 was performed at Y axis and Z axis position. Z axis has been evaluated to be the worst case, thus measurement will follow this same test mode.

Mode 1. Place EUT 1 in Y axis + Set 1

Mode 2. Place EUT 1 in Y axis + Set 2

Mode 3. Place EUT 1 in Y axis + Set 3

Mode 4. Place EUT 1 in Y axis + Set 4

Mode 5. Place EUT 1 in Y axis + Set 5

Mode 6. Place EUT 1 in Y axis + Set 6

Mode 7. Place EUT 1 in Z axis + Set 9

Mode 8. Place EUT 2 in Y axis + Set 10

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 FA541527-04AB) and Radiated Emission Co-location (please refer to Appendix B) tests are added for simultaneously transmit between 2.4GHz WLAN function and 5GHz WLAN function.

3.6. 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 Reg. No.	IC File No.	VCCI Reg. No
03CH01-CB	SAC	Hsin Chu	262045	IC 4086D	-
CO01-CB	Conduction	Hsin Chu	262045	IC 4086D	
TH01-CB	OVEN Room	Hsin Chu	-	-	-

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

3.7. Table for Multiple Listing

The model names are identical to each other in all aspects except for the following table:

Equipment	EUT	Product Name	Model Name	Internal Antenna	External Antenna	Equipped Antenna
Wireless 802.11a/AC+ b/g/n Access Point	1	WS-AP3935e-FCC	31014	X	V	Set 1~9
		WS-AP3935e-ROW	31015			
	2	WS-AP3935i-FCC	31012	V	X	Set 10
		WS-AP3935i-ROW	31013			

Note: Different model names for EUT 1 (31014 and 31015) and EUT 2 (31012 and 31013) served as marketing strategy.

3.8. Table for Supporting Units

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

Support Unit	Brand	Model	FCC ID
Notebook*4	DELL	E4300	DoC
Adapter	Powertron Electronics Corp.	PA1024-120IB200	N/A

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

Support Unit	Brand	Model	FCC ID
Notebook*2	DELL	E4300	DoC
Device	Extreme Networks	31012	QXO-4411AC
Adapter	Powertron Electronics Corp.	PA1024-120IB200	N/A

For Test Site No: CO01-CB

Support Unit	Brand	Model	FCC ID
Notebook*4	DELL	E6430	DoC
Adapter	Powertron Electronics Corp.	PA1024-120IB200	N/A

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E4300	DoC
Adapter	Powertron Electronics Corp.	PA1024-120IB200	N/A

3.9. 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.

Mode 1: EUT 1 + Set 1 Ceiling Mount Omni Antenna / 7 dBi

Test Software Version	QCA 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	14.5	14.5	14.5	14	14.5	15	15
Mode	NCB: 40MHz						
802.11ac MCS0/Nss1 VHT40	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	
	13.5	13	13	13.5	14	14.5	
Mode	NCB: 80MHz						
802.11ac MCS0/Nss1 VHT80	5290 MHz	5530 MHz	5610 MHz	5690 MHz			
	8.5	8	14.5	15			

Mode 2: EUT 1 + Set 2 Sector Antenna / 6.5 dBi

Test Software Version	QCA 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	15	15	15.5	15	15	15.5	15.5
Mode	NCB: 40MHz						
802.11ac MCS0/Nss1 VHT40	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	
	14	12.5	11.5	14	14.5	15	
Mode	NCB: 80MHz						
802.11ac MCS0/Nss1 VHT80	5290 MHz	5530 MHz	5610 MHz	5690 MHz			
	10.5	8.5	15	15.5			

Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi

Test Software Version	QCA 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	16	15.5	16	16	16.5
Mode	NCB: 40MHz						
802.11ac MCS0/Nss1 VHT40	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	
	15	12.5	13	15	15.5	16	
Mode	NCB: 80MHz						
802.11ac MCS0/Nss1 VHT80	5290 MHz		5530 MHz		5610 MHz		5690 MHz
	11.5		9.5		16		16.5

Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi

Test Software Version	QCA 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	13.5	13.5	13.5	13.5	13.5	13.5	14
Mode	NCB: 40MHz						
802.11ac MCS0/Nss1 VHT40	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	
	14	10.5	13	13.5	13.5	14	
Mode	NCB: 80MHz						
802.11ac MCS0/Nss1 VHT80	5290 MHz		5530 MHz		5610 MHz		5690 MHz
	9		7.5		14		14.5

Mode 5: EUT 1 + Set 5 Sector Antenna / 4.5 dBi

Test Software Version	QCA 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	16.5	16.5	16.5	16.5	16.5	17	17.5
Mode	NCB: 40MHz						
802.11ac MCS0/Nss1 VHT40	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	
	16	15	14	15.5	16	17	
Mode	NCB: 80MHz						
802.11ac MCS0/Nss1 VHT80	5290 MHz		5530 MHz		5610 MHz		5690 MHz
	14		13		17		17.5

Mode 6: EUT 1 + Set 6 Sector Antenna / 4 dBi

Test Software Version	QCA 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	17	17	17	17	17	15	17.5
Mode	NCB: 40MHz						
802.11ac MCS0/Nss1 VHT40	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	
	16.5	12.5	11.5	16	16.5	17.5	
Mode	NCB: 80MHz						
802.11ac MCS0/Nss1 VHT80	5290 MHz		5530 MHz		5610 MHz		5690 MHz
	8.5		9.5		16.5		17.5

Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi

Test Software Version	QCA 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	14	14	14	13.5	14	14.5	14.5
Mode	NCB: 40MHz						
802.11ac MCS0/Nss1 VHT40	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	
	13	13	13	13	13.5	14	
Mode	NCB: 80MHz						
802.11ac MCS0/Nss1 VHT80	5290 MHz	5530 MHz	5610 MHz	5690 MHz			
	11	9.5	14	14.5			

Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi

Test Software Version	QCA 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	12	12	12	12	12.5	12.5	12
Mode	NCB: 40MHz						
802.11ac MCS0/Nss1 VHT40	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	
	11	11.5	11.5	11.5	11.5	12	
Mode	NCB: 80MHz						
802.11ac MCS0/Nss1 VHT80	5290 MHz	5530 MHz	5610 MHz	5690 MHz			
	12	10	12	12.5			

3.10. EUT Operation during Test

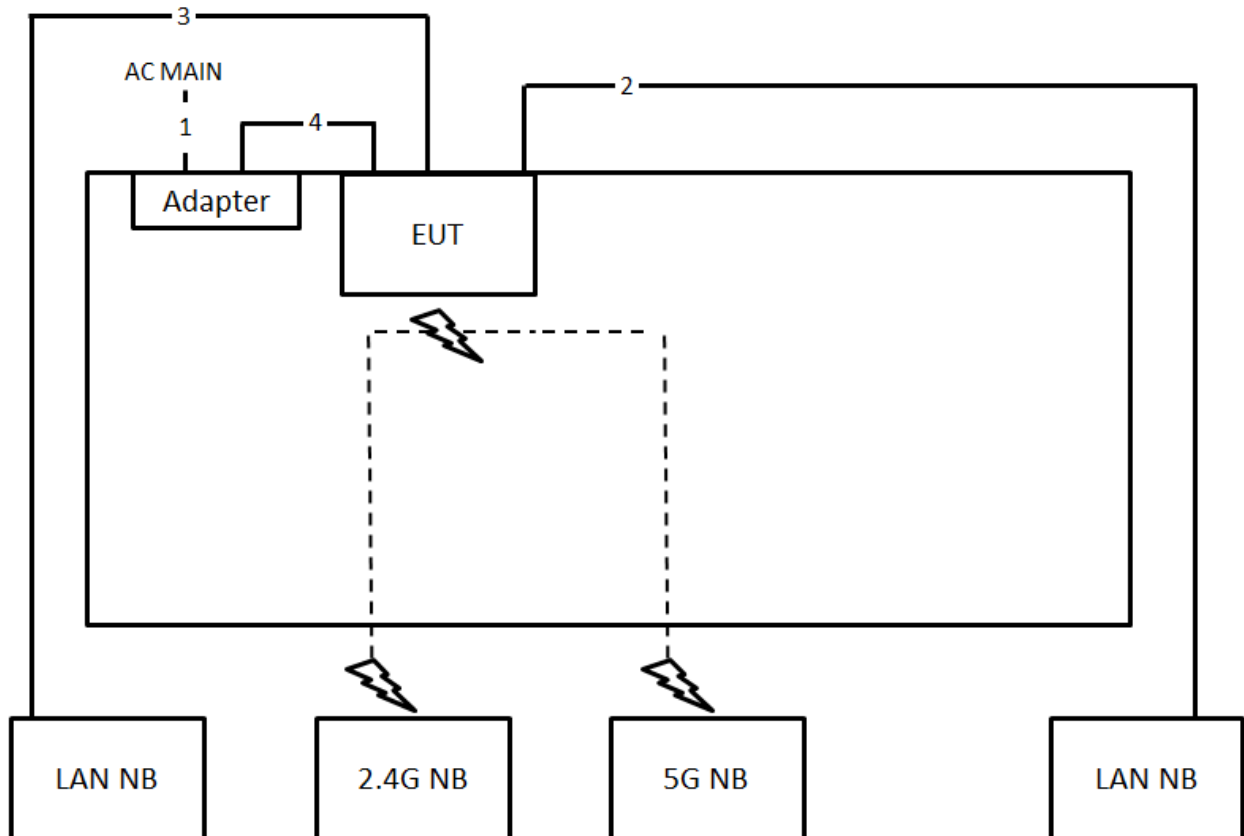
The EUT was programmed to be in continuously transmitting mode.

3.11. Duty Cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11ac MCS0/Nss1 VHT20	1.770	1.940	91.24	0.40	0.56
802.11ac MCS0/Nss1 VHT40	1.664	1.840	90.43	0.44	0.60
802.11ac MCS0/Nss1 VHT80	1.920	2.224	86.33	0.64	0.52

3.12. Test Configurations

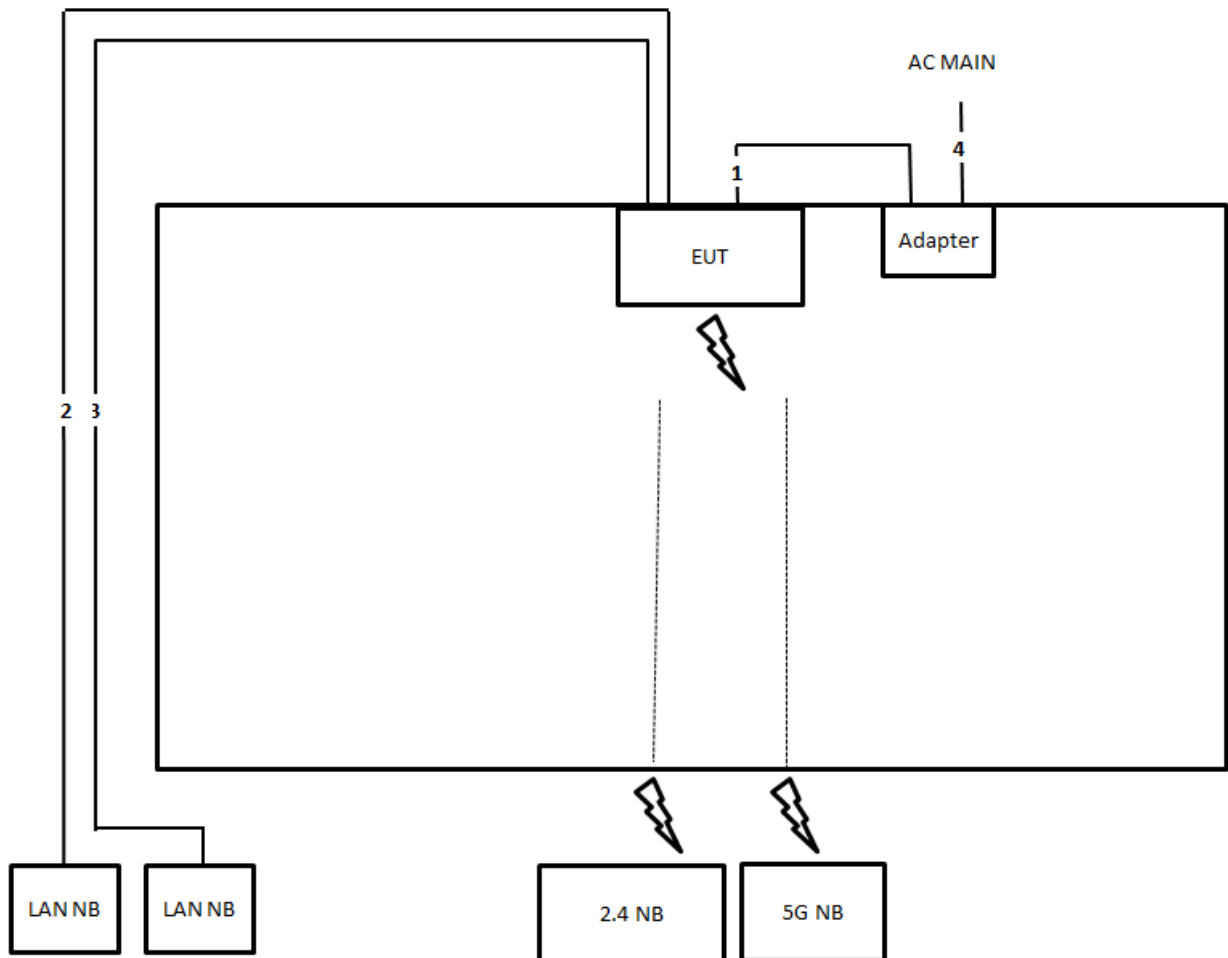
3.12.1.AC Power Line Conduction Emissions Test Configuration



Item	Connection	Shielded	Length(m)
1	AC Power cable	No	1.8
2	RJ-45 cable	No	10
3	RJ-45 cable	No	10
4	DC Power cable	No	1.2

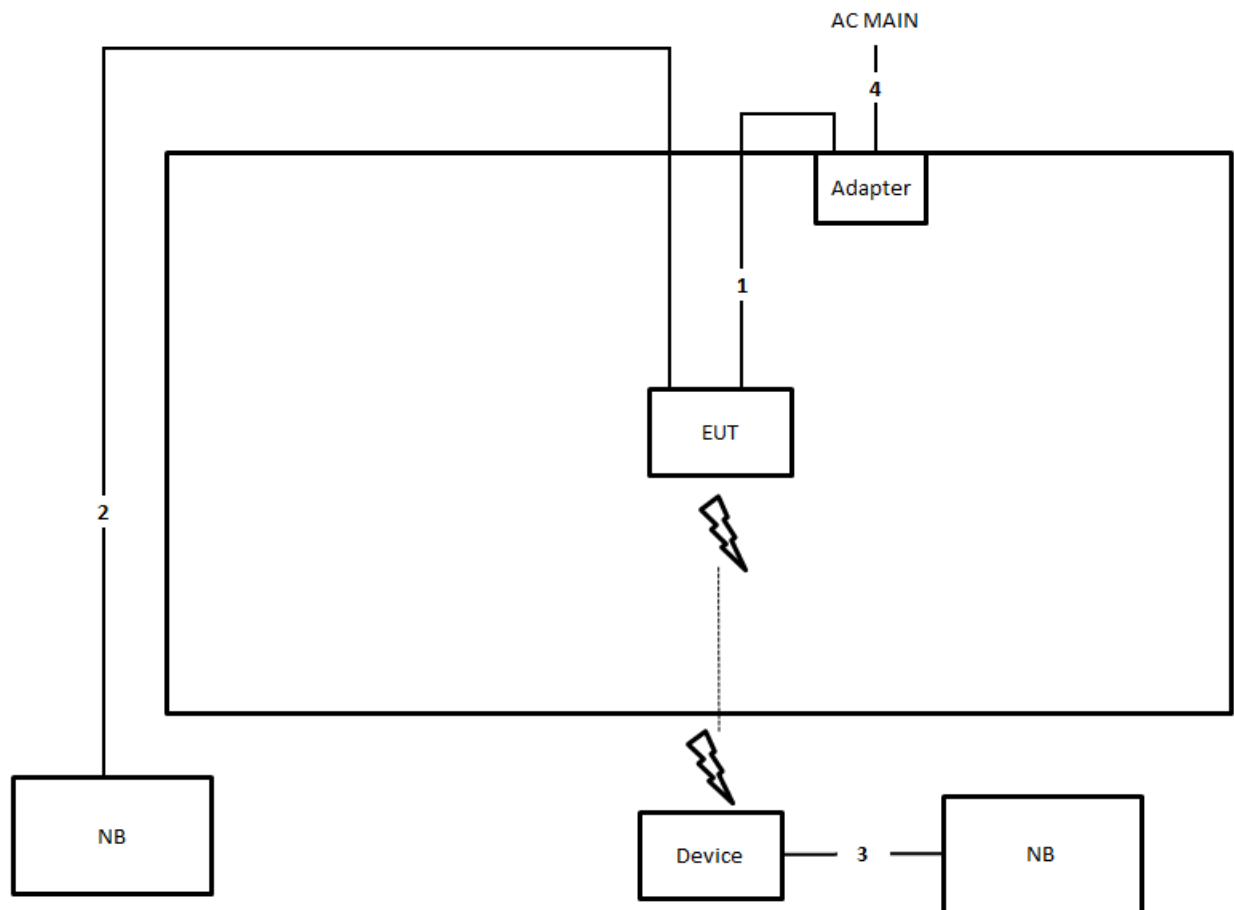
3.12.2. Radiation Emissions Test Configuration

Test Configuration: 30MHz~1GHz



Item	Connection	Shielded	Length(m)
1	DC Power cable	No	1.2
2	RJ-45 cable	No	10
3	RJ-45 cable	No	10
4	AC Power cable	No	1.8

Test Configuration: above 1GHz



Item	Connection	Shielded	Length(m)
1	DC Power cable	No	1.2
2	RJ-45 cable	No	10
3	RJ-45 cable	No	1.5
4	AC Power cable	No	1.8

4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

For this product which is designed to be connected to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

4.1.2. Measuring Instruments and Setting

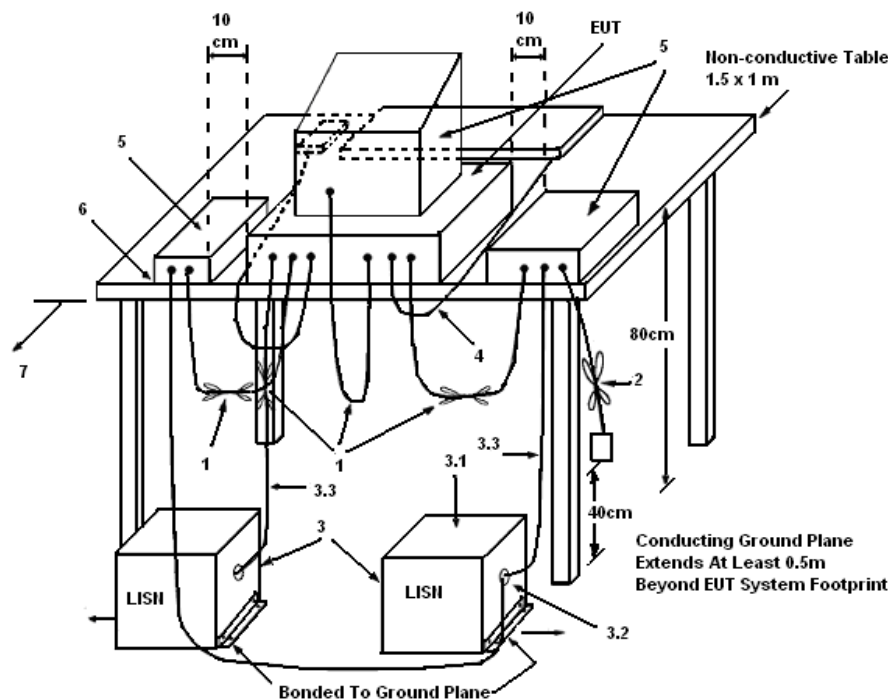
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

4.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

4.1.4. Test Setup Layout



LEGEND:

- (1) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- (2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- (3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω . LISN can be placed on top of, or immediately beneath, reference ground plane.
- (3.1) All other equipment powered from additional LISN(s).
- (3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
- (3.3) LISN at least 80 cm from nearest part of EUT chassis.
- (4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.
- (5) Non-EUT components of EUT system being tested.
- (6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.
- (7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

4.1.5. Test Deviation

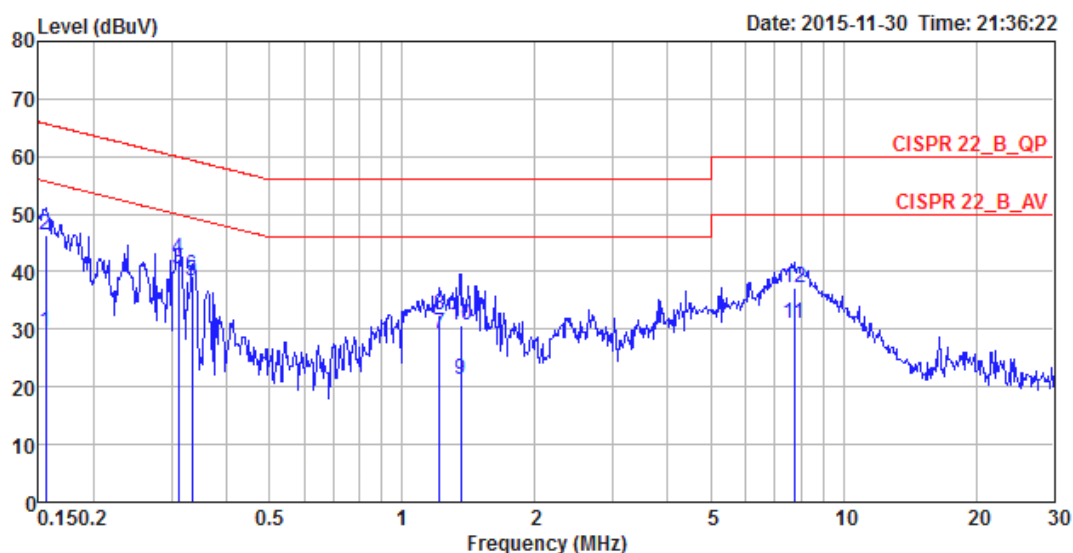
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

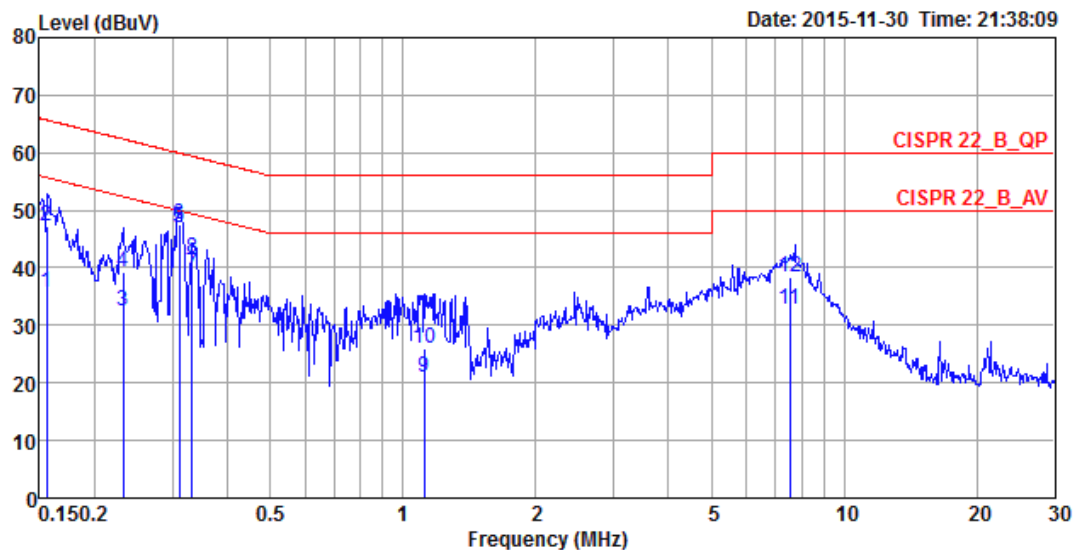
4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	23°C	Humidity	58%
Test Engineer	Hank Yang	Phase	Line
Configuration	Normal Link	Test Mode	Mode 1



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1557	29.44	-26.25	55.69	19.49	9.93	0.02	LINE	Average
2	0.1557	46.44	-19.25	65.69	36.49	9.93	0.02	LINE	QP
3	0.3116	40.33	-9.60	49.93	30.36	9.93	0.04	LINE	Average
4	0.3116	42.23	-17.70	59.93	32.26	9.93	0.04	LINE	QP
5	0.3338	38.35	-11.00	49.35	28.38	9.93	0.04	LINE	Average
6	0.3338	39.29	-20.06	59.35	29.32	9.93	0.04	LINE	QP
7	1.2162	29.29	-16.71	46.00	19.27	9.97	0.05	LINE	Average
8	1.2162	32.49	-23.51	56.00	22.47	9.97	0.05	LINE	QP
9	1.3593	21.40	-24.60	46.00	11.38	9.97	0.05	LINE	Average
10	1.3593	30.60	-25.40	56.00	20.58	9.97	0.05	LINE	QP
11	7.7278	31.10	-18.90	50.00	20.82	10.13	0.15	LINE	Average
12	7.7278	37.22	-22.78	60.00	26.94	10.13	0.15	LINE	QP

Temperature	23°C	Humidity	58%
Test Engineer	Hank Yang	Phase	Neutral
Configuration	Normal Link	Test Mode	Mode 1



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1557	35.77	-19.92	55.69	25.97	9.78	0.02	NEUTRAL	Average
2	0.1557	47.34	-18.35	65.69	37.54	9.78	0.02	NEUTRAL	QP
3	0.2316	32.40	-19.99	52.39	22.58	9.79	0.03	NEUTRAL	Average
4	0.2316	39.12	-23.27	62.39	29.30	9.79	0.03	NEUTRAL	QP
5	0.3116	46.87	-3.06	49.93	37.04	9.79	0.04	NEUTRAL	Average
6	0.3116	47.56	-12.37	59.93	37.73	9.79	0.04	NEUTRAL	QP
7	0.3321	38.91	-10.49	49.40	29.08	9.79	0.04	NEUTRAL	Average
8	0.3321	41.56	-17.84	59.40	31.73	9.79	0.04	NEUTRAL	QP
9	1.1173	20.91	-25.09	46.00	11.05	9.81	0.05	NEUTRAL	Average
10	1.1173	25.86	-30.14	56.00	16.00	9.81	0.05	NEUTRAL	QP
11	7.5258	32.84	-17.16	50.00	22.72	9.97	0.15	NEUTRAL	Average
12	7.5258	38.45	-21.55	60.00	28.33	9.97	0.15	NEUTRAL	QP

Note:

Level = Read Level + LISN Factor + Cable Loss.

4.2. 26dB Bandwidth and 99% Occupied Bandwidth Measurement

4.2.1. Limit

No restriction limits.

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 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

4.2.3. 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%.

4.2.4. Test Setup Layout

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

This test setup layout is the same as that shown in section 4.6.4.

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 26dB Bandwidth and 99% Occupied Bandwidth

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 1: EUT 1 + Set 1 Ceiling Mount Omni Antenna / 7 dBi		

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5260 MHz	23.57	17.97
	5300 MHz	22.96	18.06
	5320 MHz	22.87	18.06
	5500 MHz	22.52	17.97
	5580 MHz	22.61	17.89
	5700 MHz	23.04	17.97
802.11ac MCS0/Nss1 VHT40	5270 MHz	44.78	37.19
	5310 MHz	44.49	37.05
	5510 MHz	45.65	37.34
	5550 MHz	45.65	37.05
	5670 MHz	45.94	37.19
802.11ac MCS0/Nss1 VHT80	5290 MHz	85.22	76.41
	5530 MHz	86.67	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	22.78	17.97	5708.70	5711.06	16.30	6.48	13.94	4.03
802.11ac MCS0/Nss1 VHT40	5710 MHz	44.64	36.90	5687.39	5691.48	37.61	7.03	33.52	3.38
802.11ac MCS0/Nss1 VHT80	5690 MHz	86.96	76.41	5646.23	5651.80	78.77	8.19	73.20	3.21

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 2: EUT 1 + Set 2 Sector Antenna / 6.5 dBi		

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5260 MHz	22.09	17.97
	5300 MHz	23.22	18.06
	5320 MHz	21.74	17.89
	5500 MHz	21.83	17.97
	5580 MHz	23.04	18.06
	5700 MHz	21.91	17.89
802.11ac MCS0/Nss1 VHT40	5270 MHz	44.35	37.34
	5310 MHz	44.49	36.90
	5510 MHz	44.64	37.19
	5550 MHz	44.64	37.05
	5670 MHz	45.80	37.19
802.11ac MCS0/Nss1 VHT80	5290 MHz	85.51	76.41
	5530 MHz	87.54	76.12
	5610 MHz	86.96	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	23.22	17.97	5708.43	5711.06	16.57	6.65	13.94	4.03
802.11ac MCS0/Nss1 VHT40	5710 MHz	45.51	37.05	5687.10	5691.48	37.90	7.61	33.52	3.52
802.11ac MCS0/Nss1 VHT80	5690 MHz	88.12	76.41	5645.36	5651.80	79.64	8.48	73.20	3.21

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi		

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5260 MHz	20.70	17.80
	5300 MHz	20.96	17.89
	5320 MHz	21.30	17.97
	5500 MHz	22.96	18.15
	5580 MHz	23.04	18.15
	5700 MHz	23.13	18.15
802.11ac MCS0/Nss1 VHT40	5270 MHz	45.80	37.34
	5310 MHz	45.94	37.05
	5510 MHz	45.22	37.05
	5550 MHz	45.94	37.05
	5670 MHz	46.38	37.48
802.11ac MCS0/Nss1 VHT80	5290 MHz	86.67	76.41
	5530 MHz	86.38	76.12
	5610 MHz	86.96	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	22.61	17.97	5708.52	5711.06	16.48	6.13	13.94	4.03
802.11ac MCS0/Nss1 VHT40	5710 MHz	45.36	37.19	5687.10	5691.33	37.90	7.46	33.67	3.52
802.11ac MCS0/Nss1 VHT80	5690 MHz	88.12	76.41	5645.07	5651.80	79.93	8.19	73.20	3.21

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi		

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5260 MHz	21.57	17.89
	5300 MHz	22.35	18.06
	5320 MHz	22.52	17.97
	5500 MHz	22.00	17.89
	5580 MHz	21.83	17.89
	5700 MHz	22.26	17.97
802.11ac MCS0/Nss1 VHT40	5270 MHz	45.80	37.48
	5310 MHz	44.35	36.76
	5510 MHz	45.22	37.19
	5550 MHz	44.49	36.76
	5670 MHz	47.97	37.05
802.11ac MCS0/Nss1 VHT80	5290 MHz	85.51	76.12
	5530 MHz	86.67	76.12
	5610 MHz	87.54	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	21.91	17.97	5709.39	5711.06	15.61	6.30	13.94	4.03
802.11ac MCS0/Nss1 VHT40	5710 MHz	45.07	37.19	5687.39	5691.48	37.61	7.46	33.52	3.67
802.11ac MCS0/Nss1 VHT80	5690 MHz	86.38	76.41	5646.81	5651.80	78.19	8.19	73.20	3.21

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 5: EUT 1 + Set 5 Sector Antenna / 4.5 dBi		

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5260 MHz	22.70	17.97
	5300 MHz	23.22	18.06
	5320 MHz	23.13	18.15
	5500 MHz	22.87	18.06
	5580 MHz	23.30	18.06
	5700 MHz	24.26	18.15
802.11ac MCS0/Nss1 VHT40	5270 MHz	60.58	37.34
	5310 MHz	55.51	37.34
	5510 MHz	48.26	37.34
	5550 MHz	60.29	37.48
	5670 MHz	52.46	37.48
802.11ac MCS0/Nss1 VHT80	5290 MHz	87.54	76.41
	5530 MHz	88.70	76.41
	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	22.70	17.97	5708.52	5711.06	16.48	6.22	13.94	4.03
802.11ac MCS0/Nss1 VHT40	5710 MHz	45.51	37.05	5687.10	5691.48	37.90	7.61	33.52	3.52
802.11ac MCS0/Nss1 VHT80	5690 MHz	88.12	76.41	5645.07	5651.80	79.93	8.19	73.20	3.21

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 6: EUT 1 + Set 6 Sector Antenna / 4 dBi		

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5260 MHz	26.26	17.97
	5300 MHz	23.65	18.06
	5320 MHz	23.22	18.15
	5500 MHz	23.57	18.06
	5580 MHz	23.65	18.06
	5700 MHz	26.78	18.06
802.11ac MCS0/Nss1 VHT40	5270 MHz	62.03	37.48
	5310 MHz	45.65	36.90
	5510 MHz	45.51	37.05
	5550 MHz	49.13	37.19
	5670 MHz	51.88	37.19
802.11ac MCS0/Nss1 VHT80	5290 MHz	84.93	76.41
	5530 MHz	86.96	76.12
	5610 MHz	87.54	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	22.70	17.97	5708.52	5711.06	16.48	6.22	13.94	4.03
802.11ac MCS0/Nss1 VHT40	5710 MHz	45.22	37.05	5687.25	5691.48	37.75	7.46	33.52	3.52
802.11ac MCS0/Nss1 VHT80	5690 MHz	88.12	76.41	5645.07	5651.80	79.93	8.19	73.20	3.21

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi		

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5260 MHz	21.57	17.89
	5300 MHz	22.35	18.06
	5320 MHz	22.52	17.97
	5500 MHz	22.00	17.89
	5580 MHz	21.83	17.89
	5700 MHz	22.26	17.97
802.11ac MCS0/Nss1 VHT40	5270 MHz	45.80	37.48
	5310 MHz	44.35	36.90
	5510 MHz	45.22	37.19
	5550 MHz	44.49	36.76
	5670 MHz	47.97	37.05
802.11ac MCS0/Nss1 VHT80	5290 MHz	85.22	76.41
	5530 MHz	86.67	76.41
	5610 MHz	87.54	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	21.65	17.97	5709.22	5711.06	15.78	5.87	13.94	4.03
802.11ac MCS0/Nss1 VHT40	5710 MHz	44.64	36.90	5687.39	5691.48	37.61	7.03	33.52	3.38
802.11ac MCS0/Nss1 VHT80	5690 MHz	86.67	76.41	5646.52	5651.80	78.48	8.19	73.20	3.21

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi		

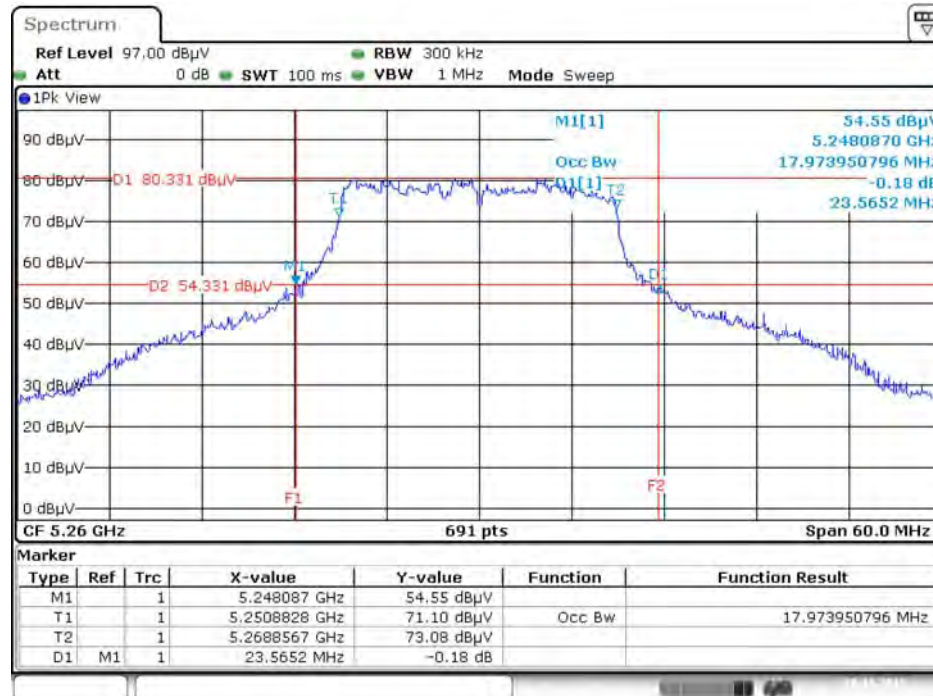
Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5260 MHz	22.26	18.06
	5300 MHz	22.52	17.97
	5320 MHz	23.04	17.97
	5500 MHz	22.61	17.97
	5580 MHz	23.04	18.06
	5700 MHz	21.91	17.89
802.11ac MCS0/Nss1 VHT40	5270 MHz	46.09	37.05
	5310 MHz	45.65	37.34
	5510 MHz	45.36	37.34
	5550 MHz	44.93	37.34
	5670 MHz	45.80	37.34
802.11ac MCS0/Nss1 VHT80	5290 MHz	88.41	76.70
	5530 MHz	87.25	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	22.52	17.89	5708.35	5710.97	16.65	5.87	14.03	3.86
802.11ac MCS0/Nss1 VHT40	5710 MHz	45.36	37.05	5687.54	5691.48	37.46	7.90	33.52	3.52
802.11ac MCS0/Nss1 VHT80	5690 MHz	88.12	76.41	5645.65	5651.80	79.35	8.77	73.20	3.21

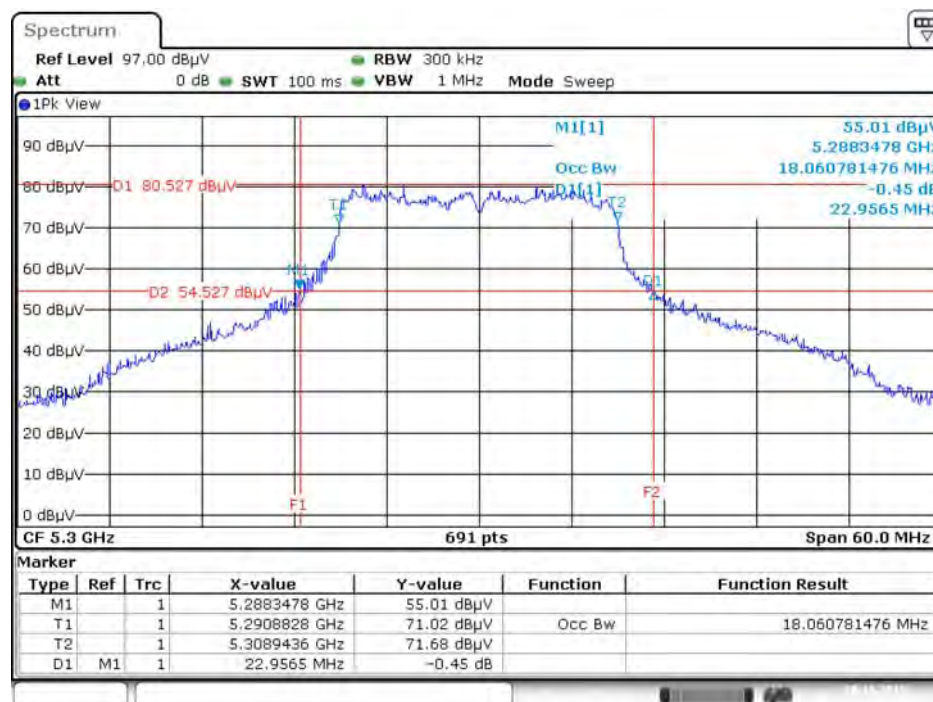
Mode 1: EUT 1 + Set 1 Ceiling Mount Omni Antenna / 7 dBi

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5260 MHz



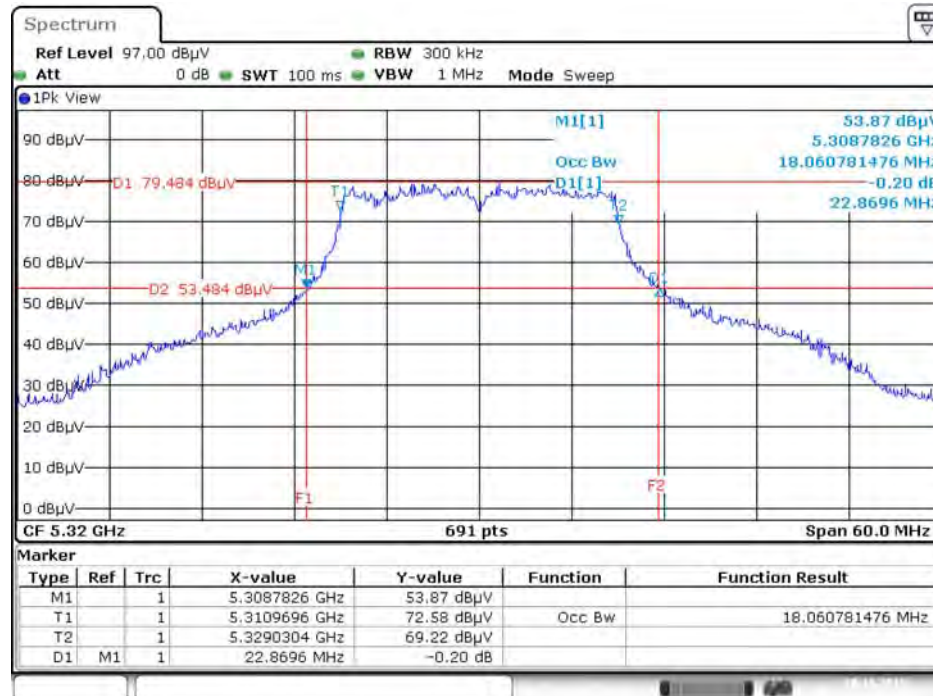
Date: 28.NOV.2015 01:31:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5300 MHz

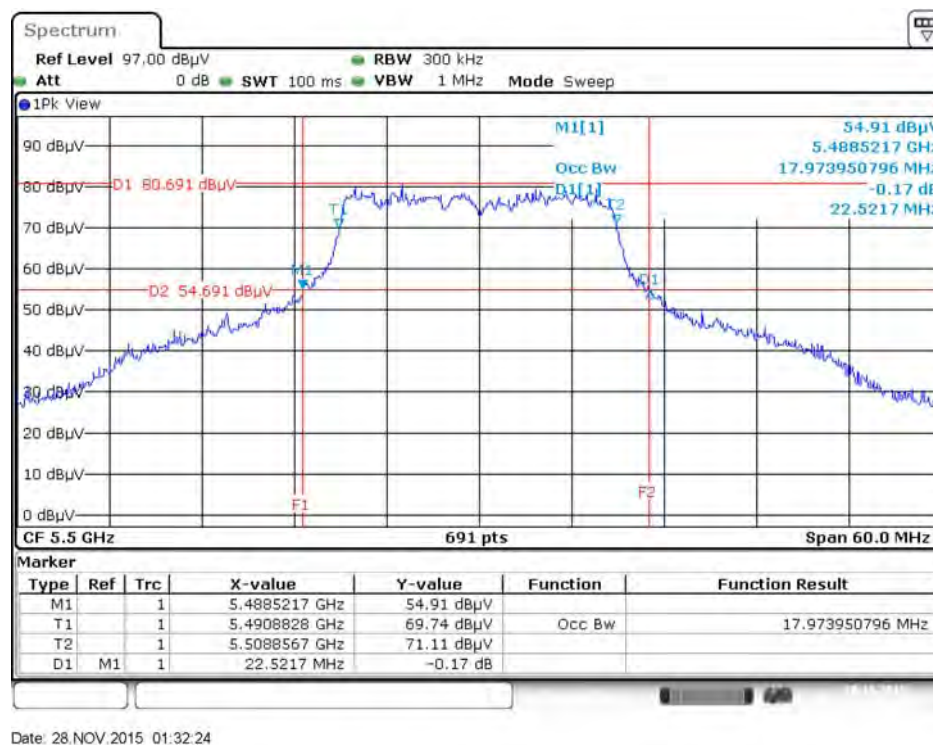


Date: 28.NOV.2015 01:31:08

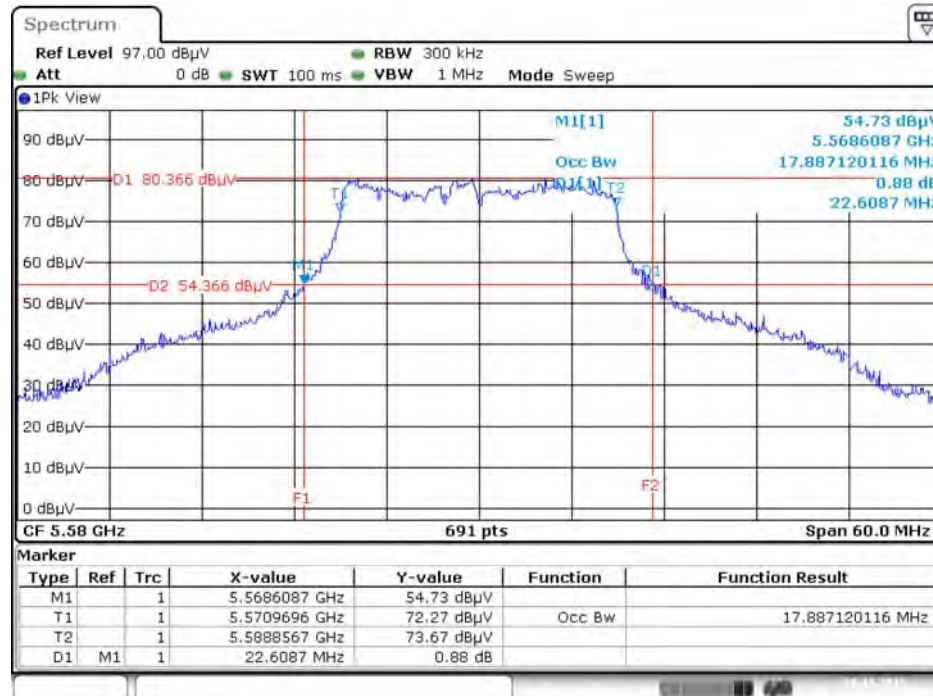
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5500 MHz

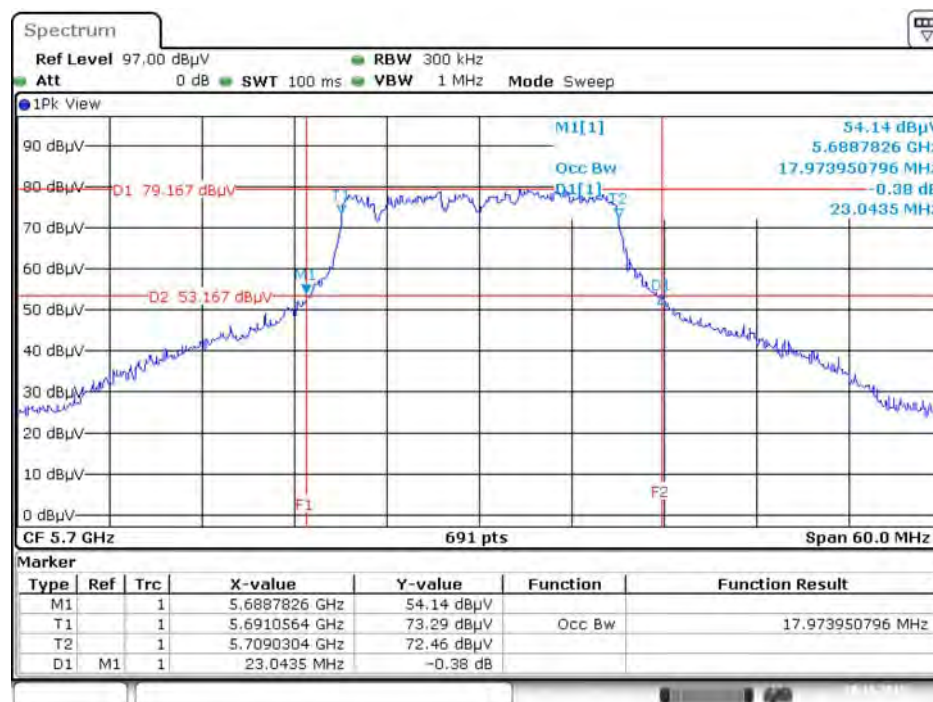


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



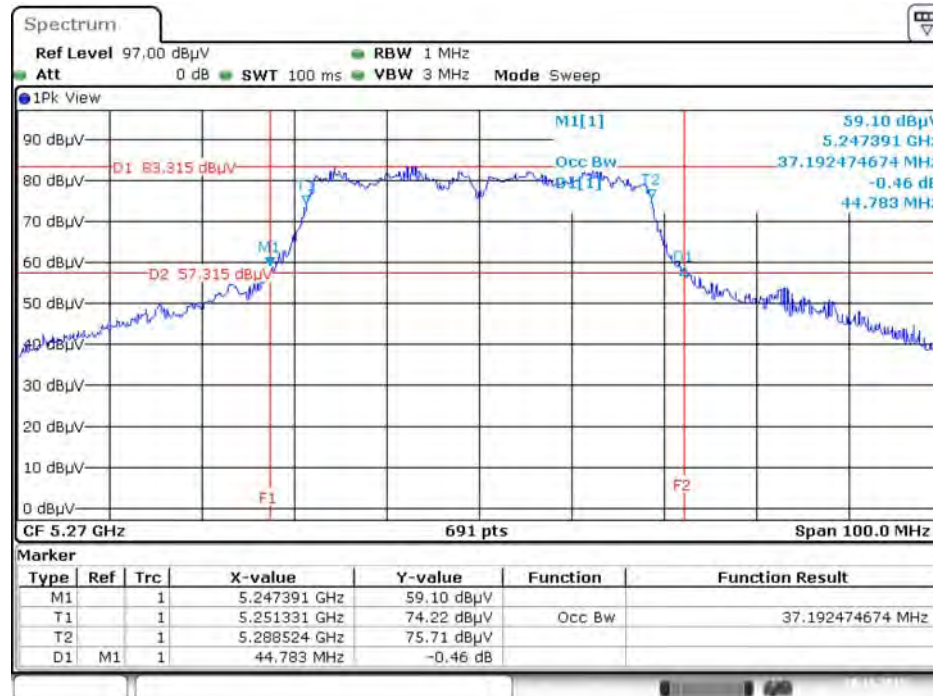
Date: 28.NOV.2015 01:32:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz



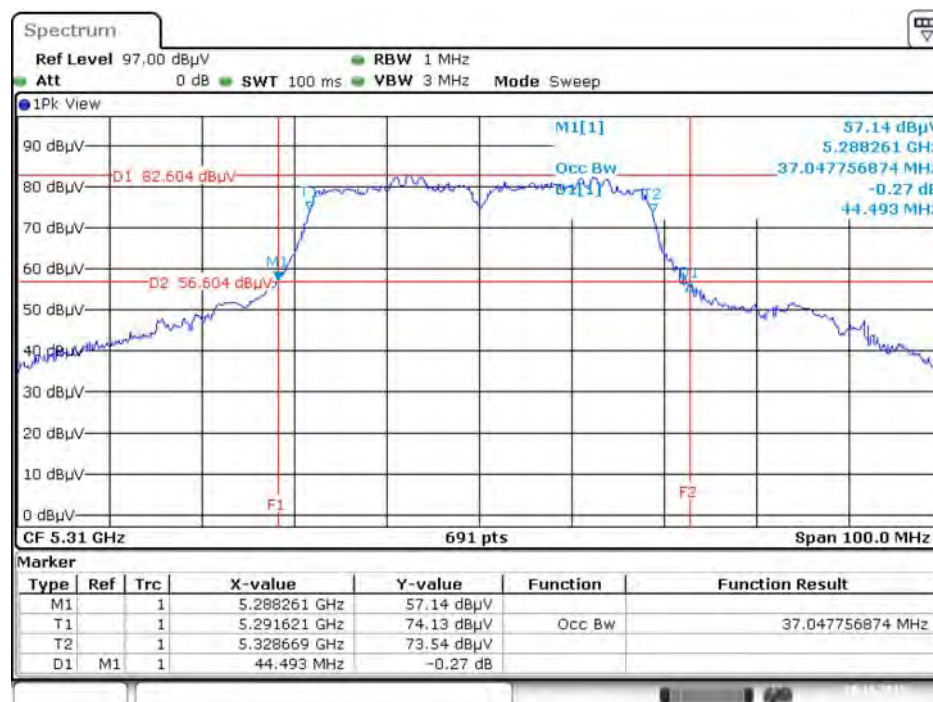
Date: 28.NOV.2015 01:33:19

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



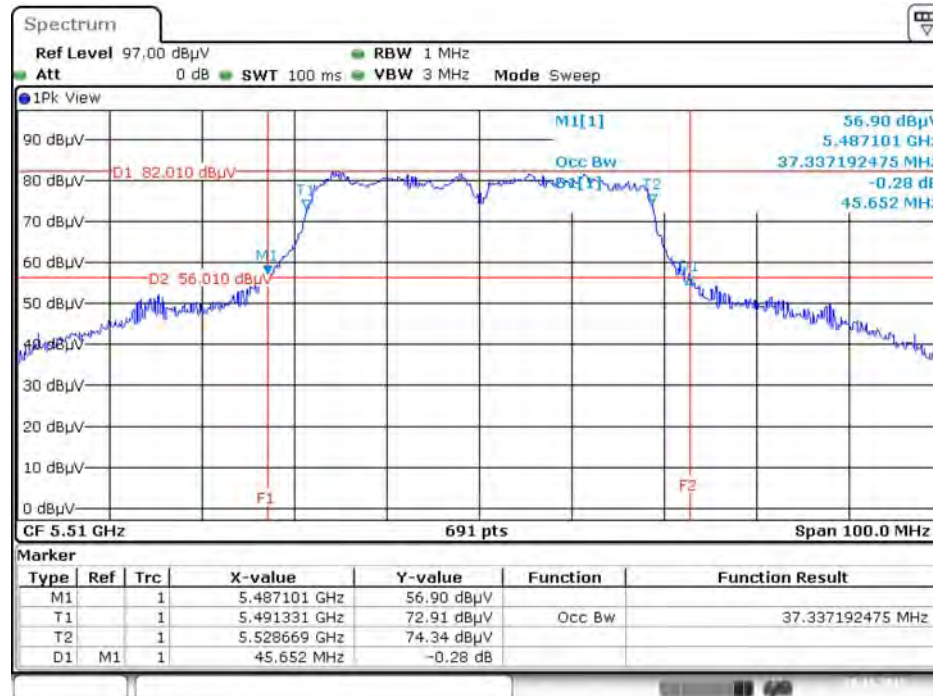
Date: 28.NOV.2015 01:36:58

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5310 MHz



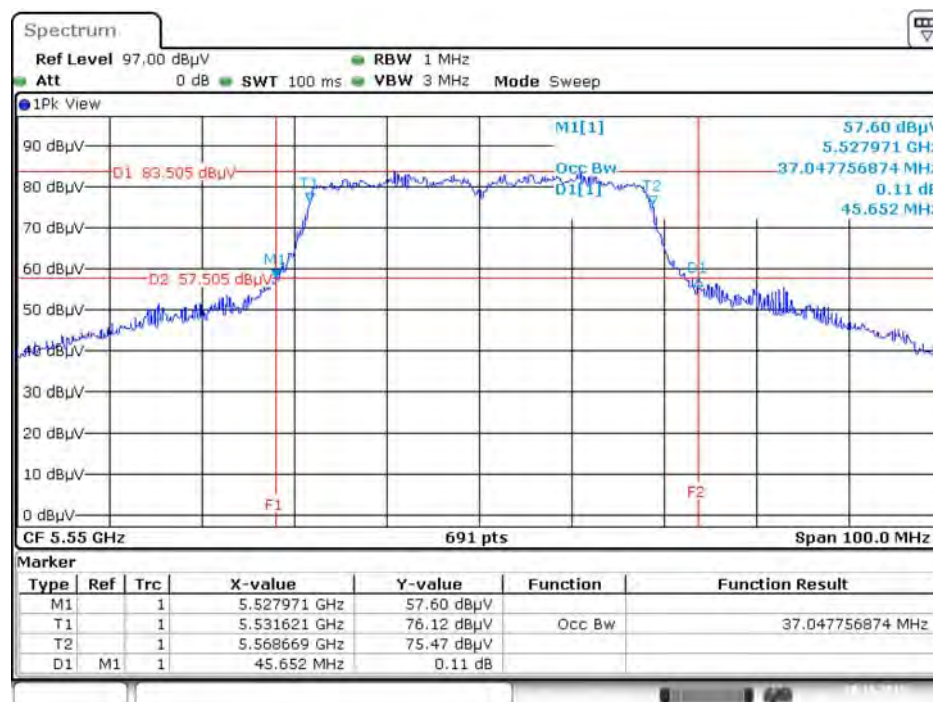
Date: 28.NOV.2015 01:37:27

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5510 MHz



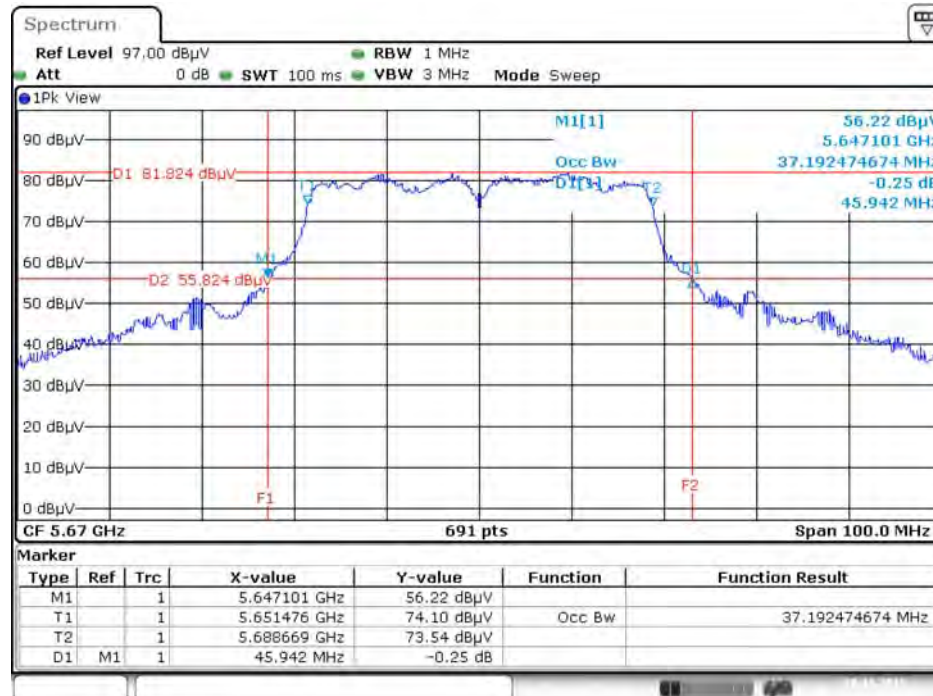
Date: 28.NOV.2015 01:48:11

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5550 MHz



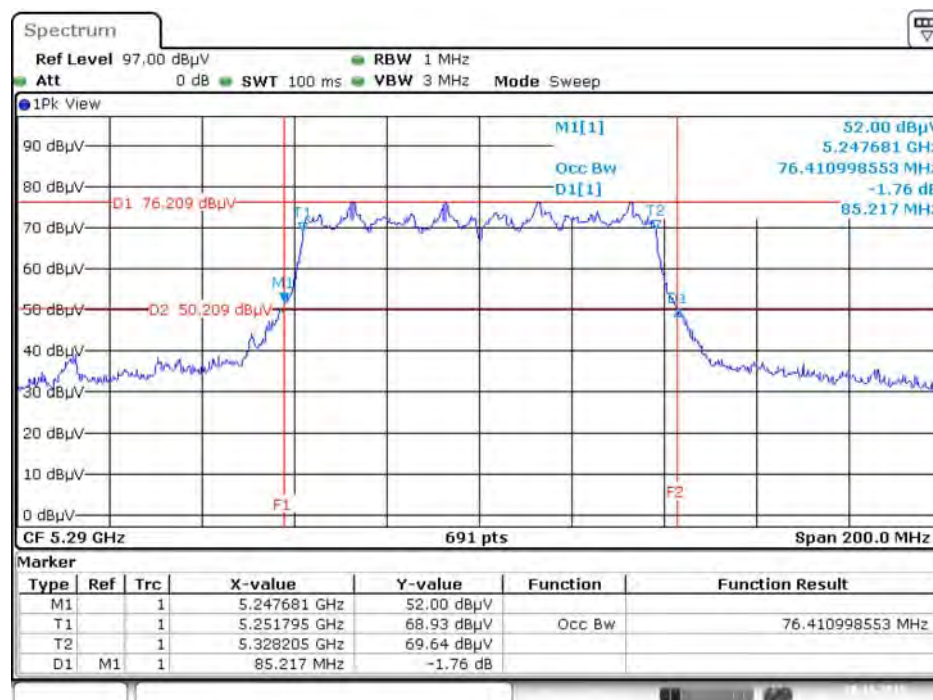
Date: 28.NOV.2015 02:06:17

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5670 MHz



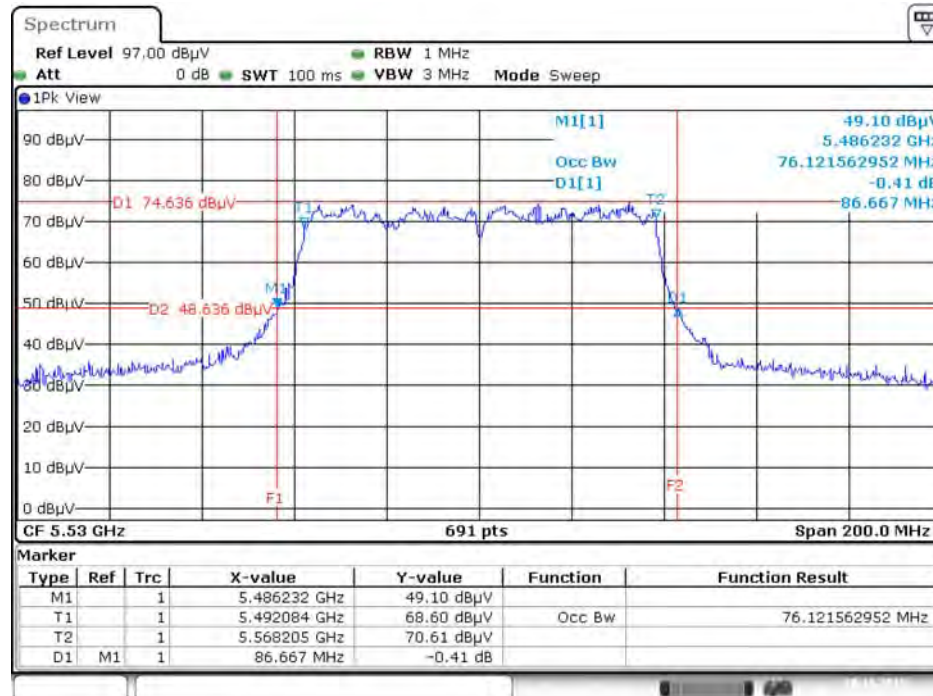
Date: 28.NOV.2015 01:49:28

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5290 MHz



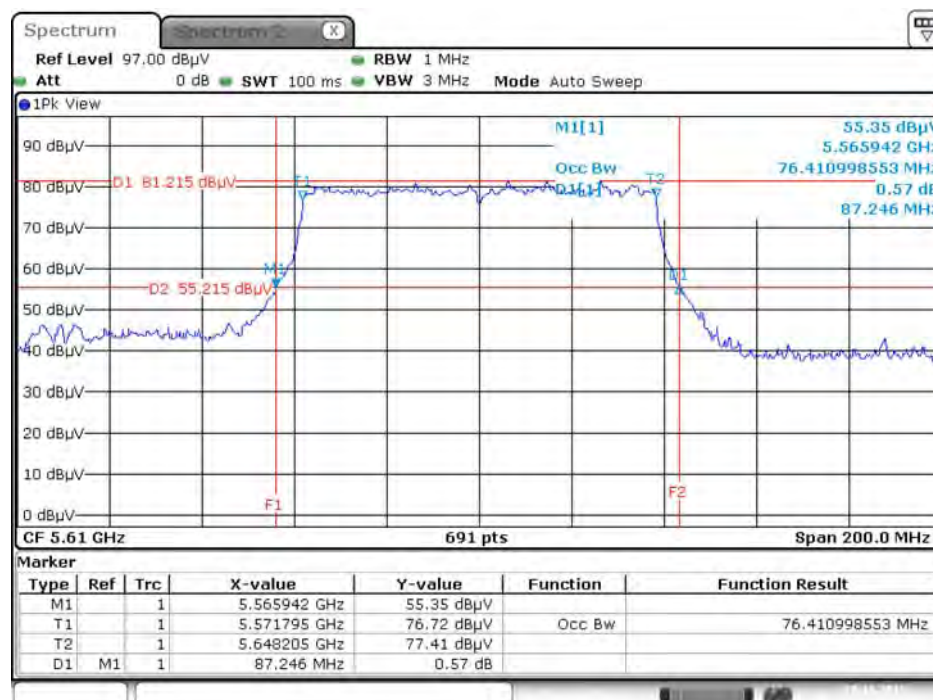
Date: 28.NOV.2015 01:51:46

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5530 MHz



Date: 28.NOV.2015 01:52:21

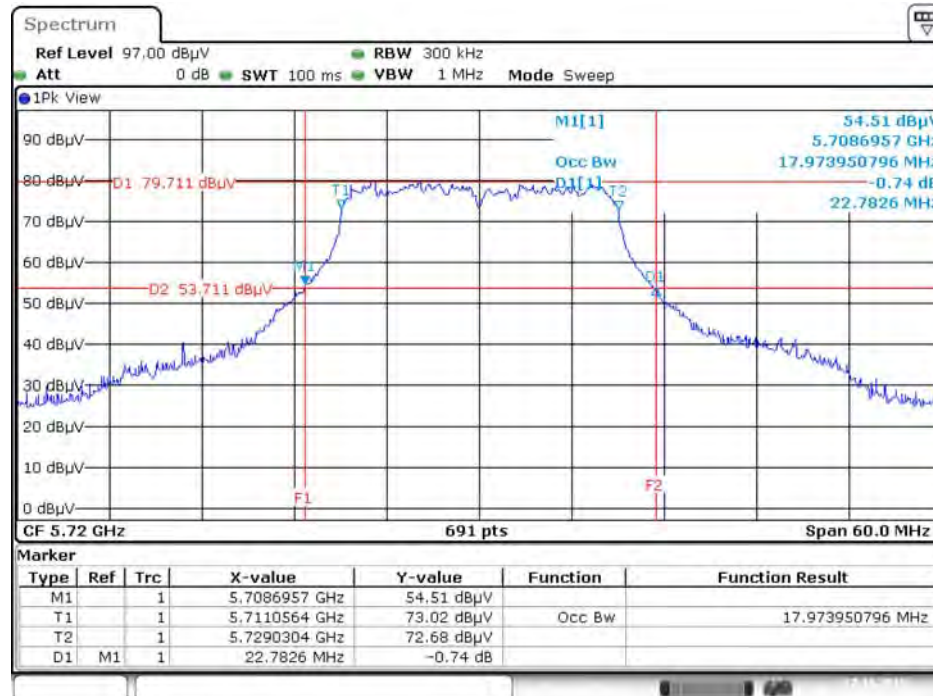
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 29.NOV.2015 01:42:08

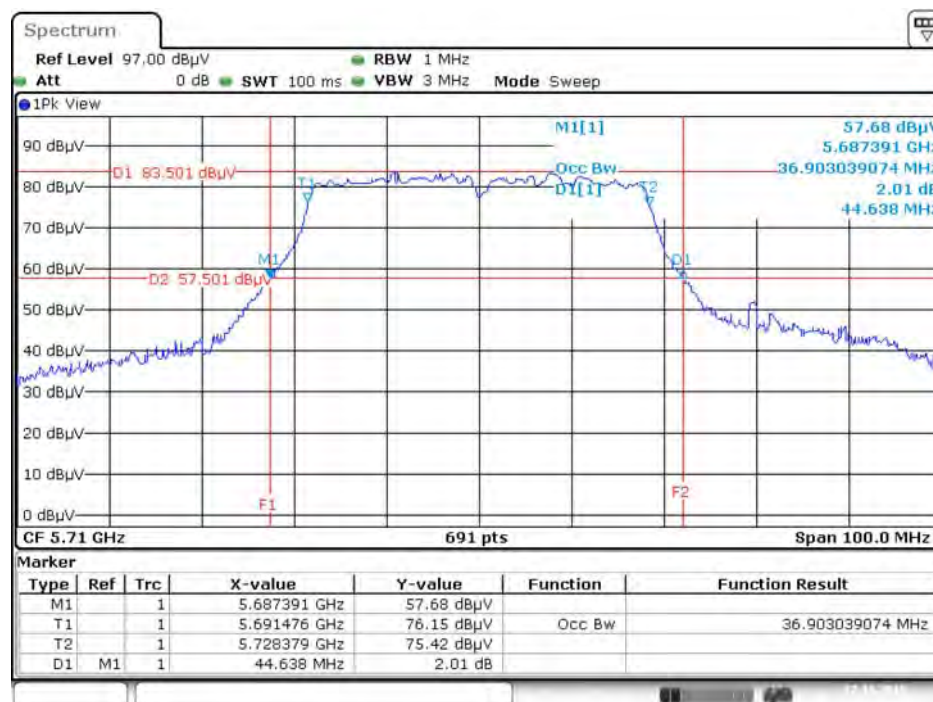
Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



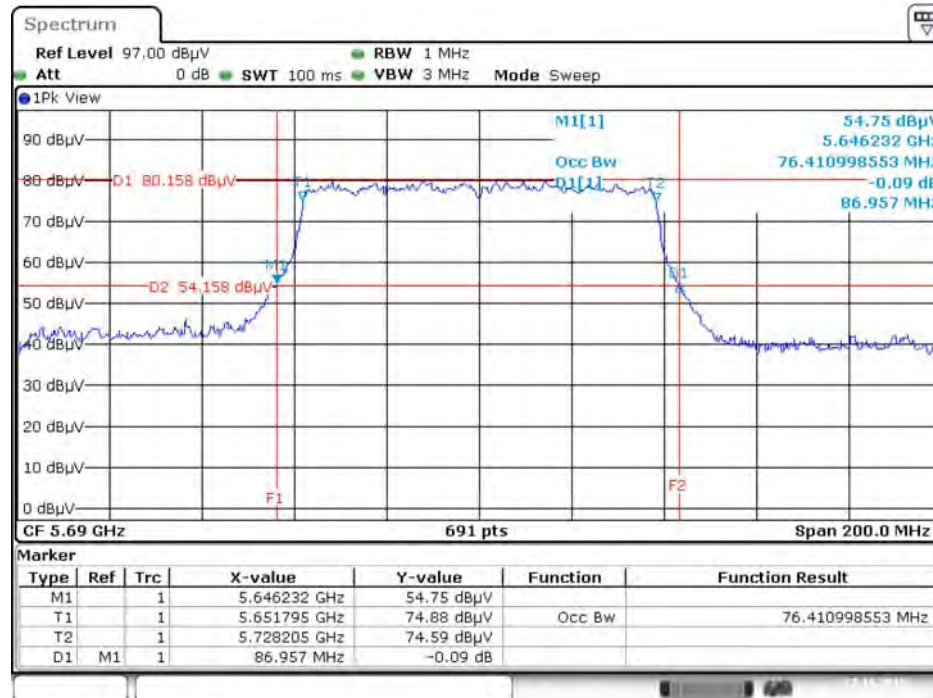
Date: 27.NOV.2015 10:56:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 27.NOV.2015 10:59:24

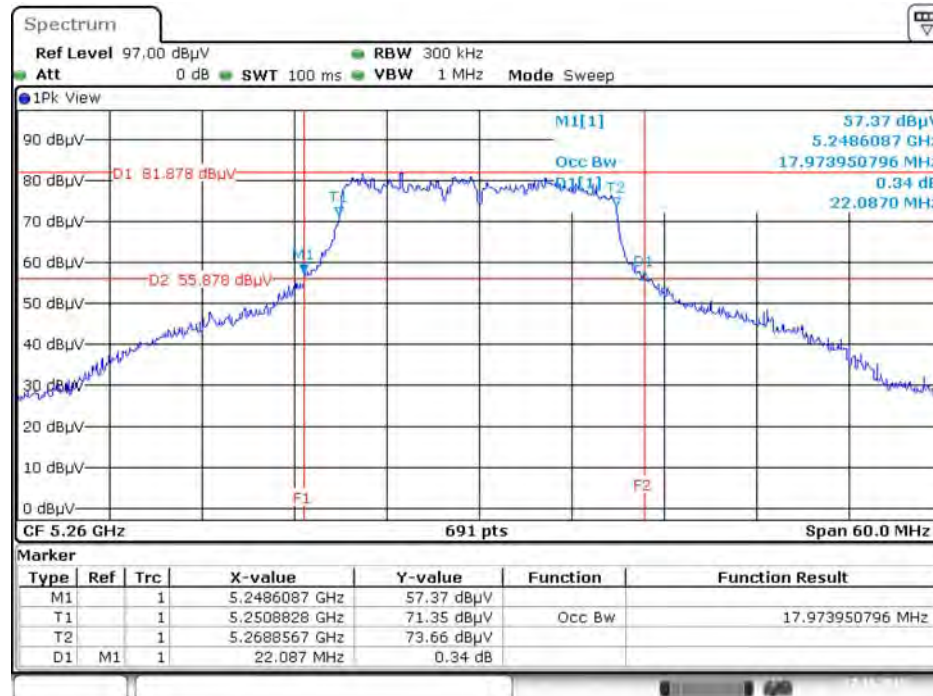
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 27.NOV.2015 11:02:25

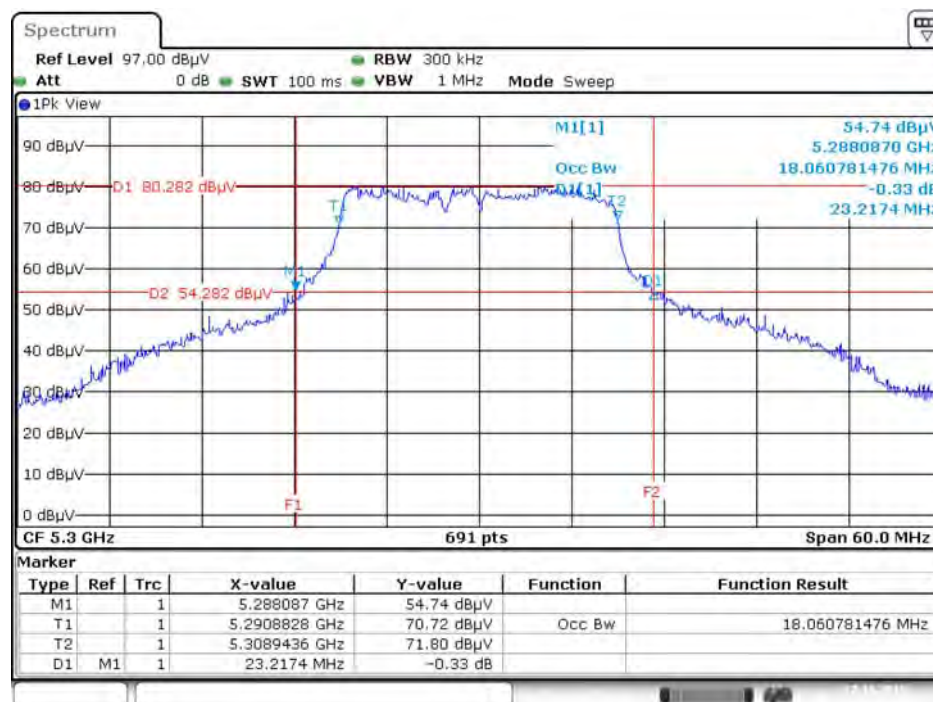
Mode 2: EUT 1 + Set 2 Sector Antenna / 6.5 dBi

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5260 MHz



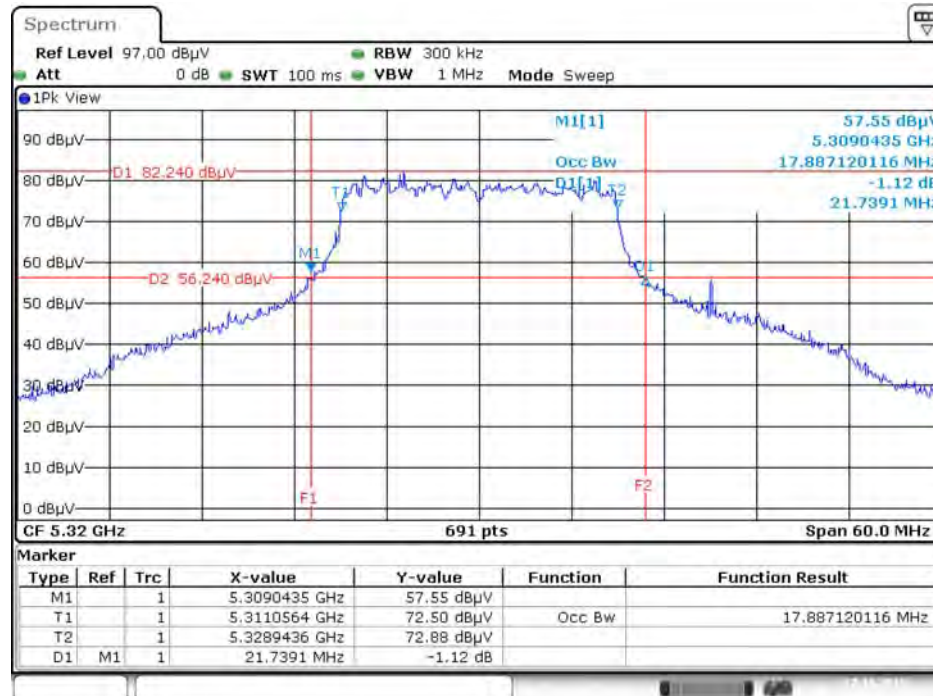
Date: 27.NOV.2015 22:42:33

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5300 MHz



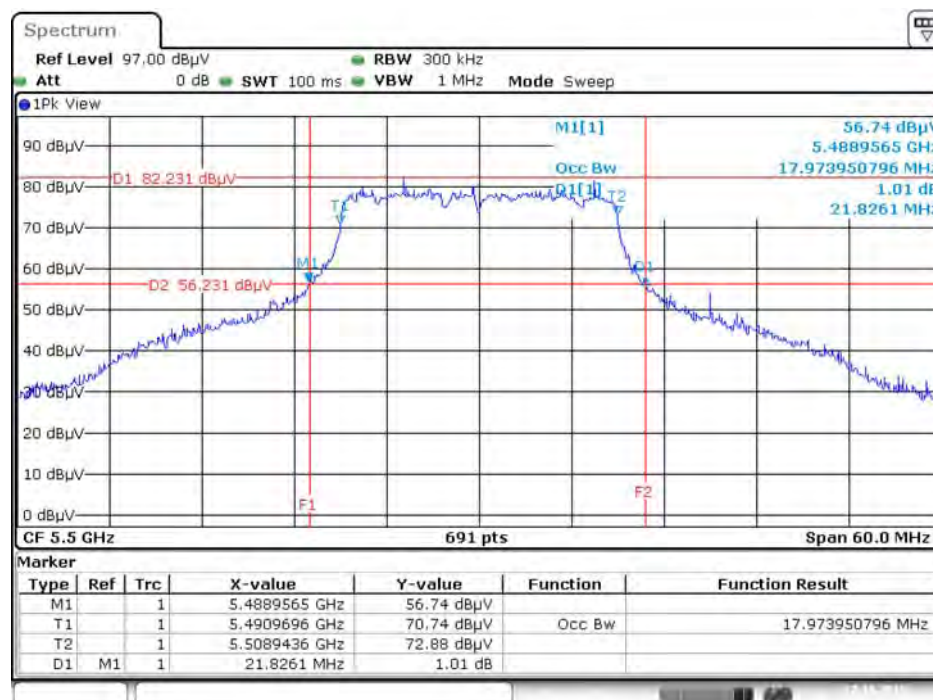
Date: 27.NOV.2015 22:43:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



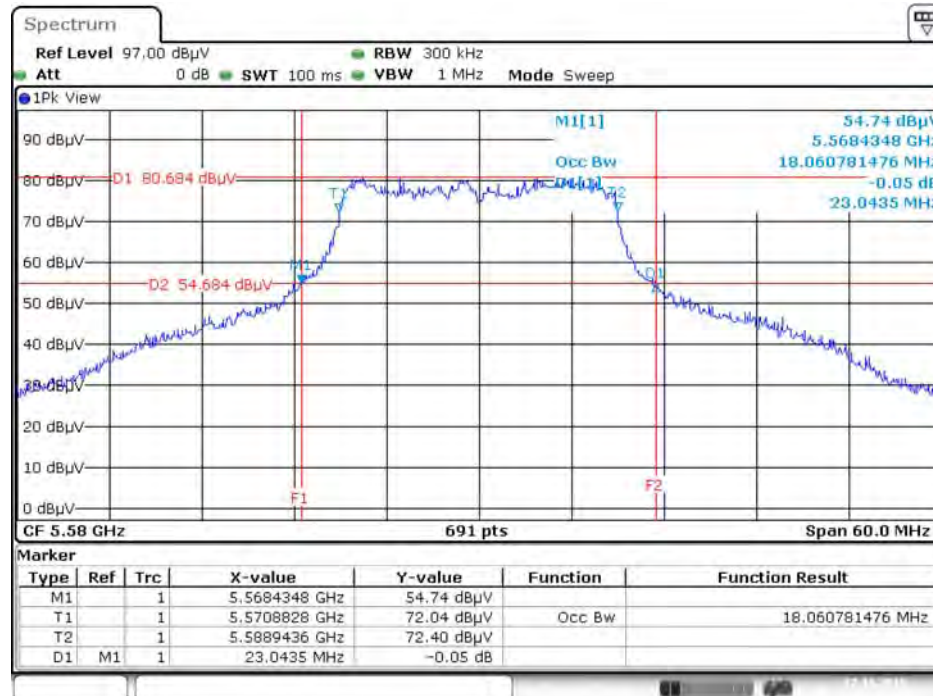
Date: 27.NOV.2015 23:15:13

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5500 MHz



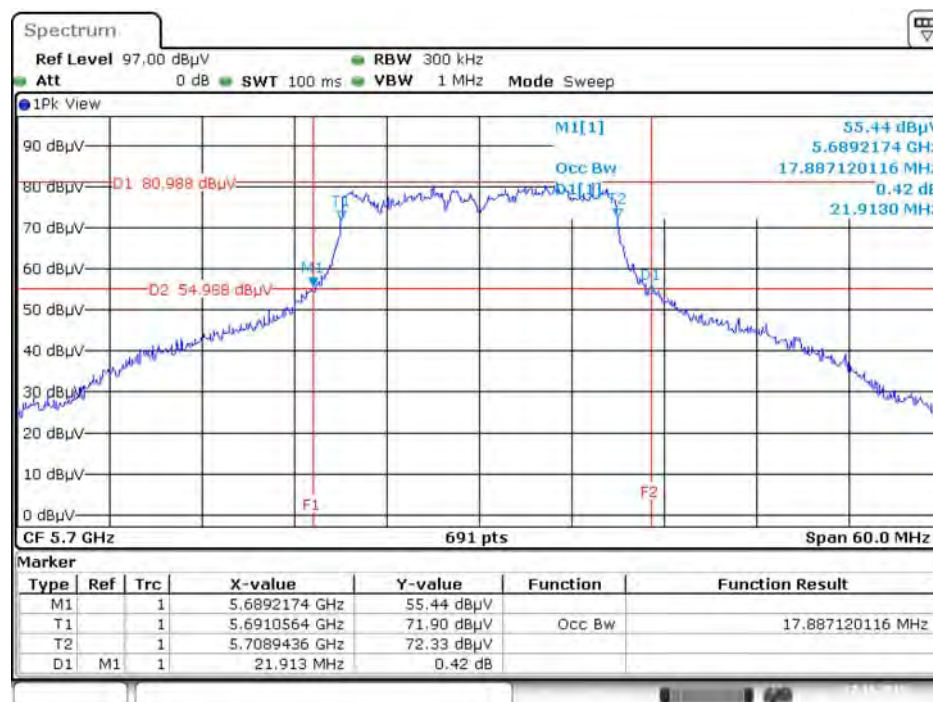
Date: 27.NOV.2015 23:14:53

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



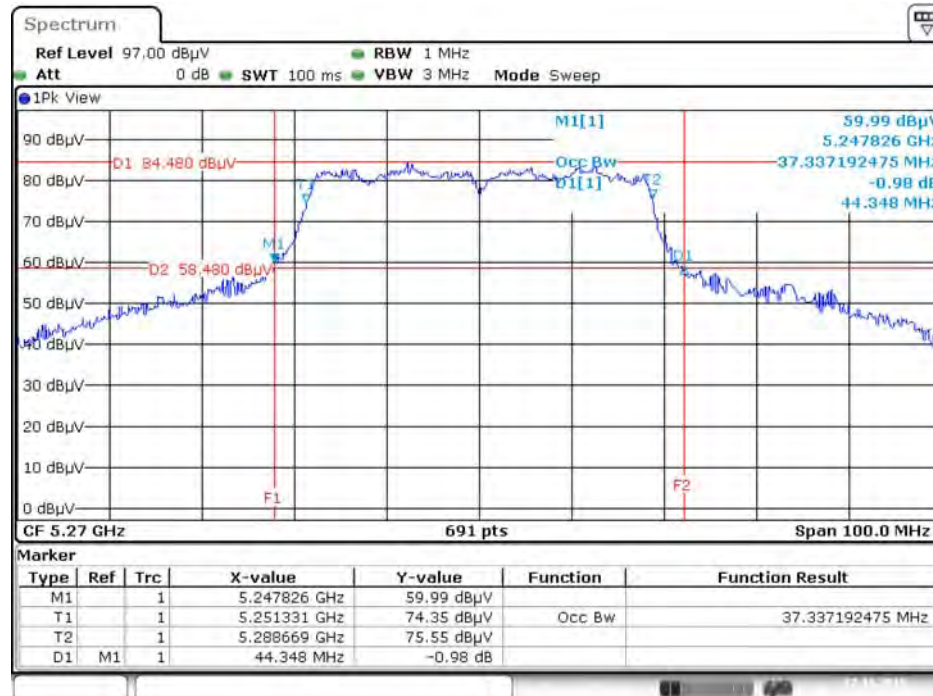
Date: 27.NOV.2015 23:15:56

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz



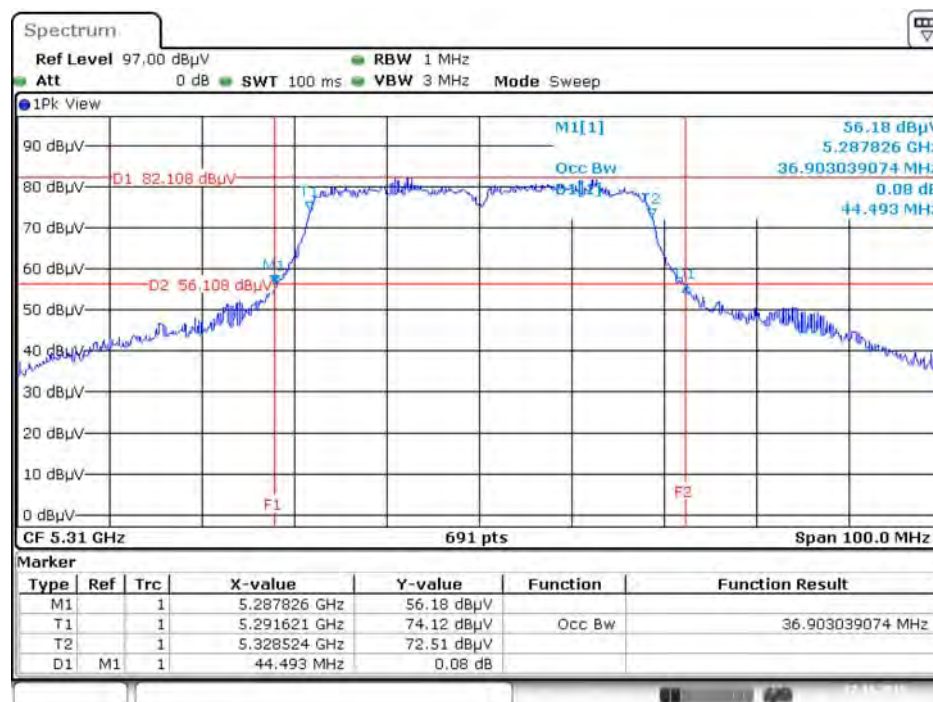
Date: 27.NOV.2015 23:16:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



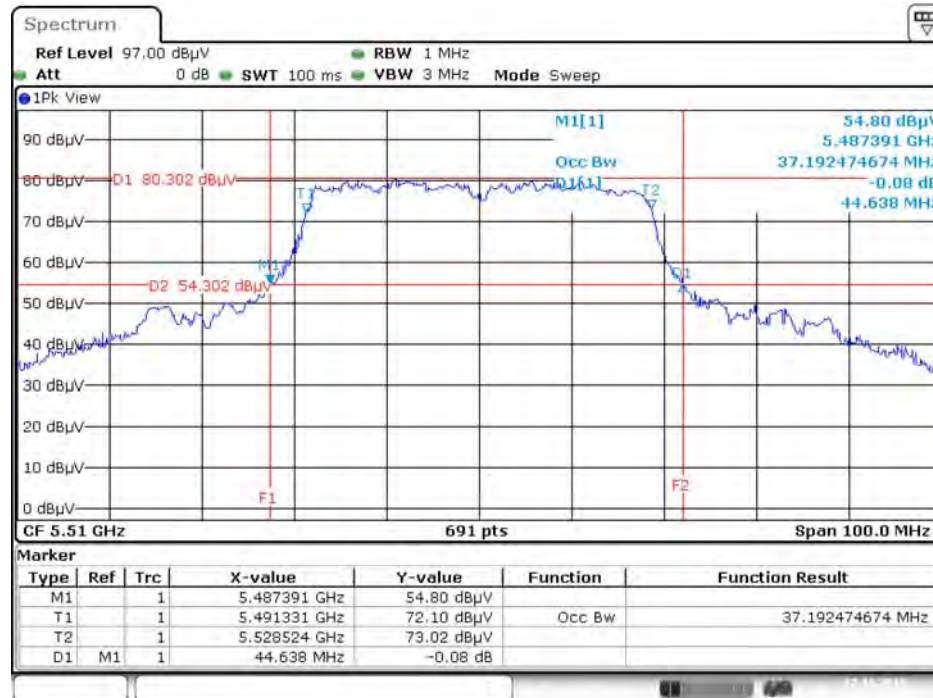
Date: 27.NOV.2015 23:19:59

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5310 MHz



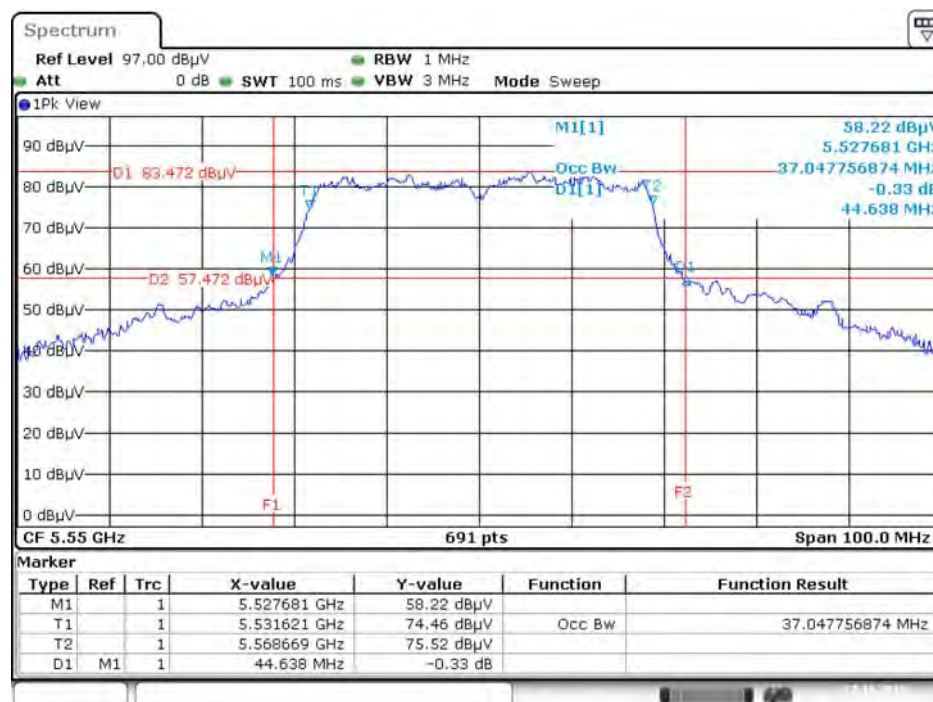
Date: 27.NOV.2015 23:20:39

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5510 MHz



Date: 27.NOV.2015 23:21:06

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5550 MHz



Date: 27.NOV.2015 23:22:21



Spectrum

Ref Level 97.00 dBμV RBW 1 MHz

Att 0 dB SWT 100 ms VBW 3 MHz Mode Sweep

1Pk View

90 dBμV

80 dBμV

70 dBμV

60 dBμV

50 dBμV

40 dBμV

30 dBμV

20 dBμV

10 dBμV

0 dBμV

D1 80.427 dBμV

D2 54.427 dBμV

M1[1] 54.57 dBμV

Occ Bw 37.192474674 MHz

0.20 dB

45.797 MHz

F1

F2

CF 5.67 GHz

691 pts

Span 100.0 MHz

Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1			1	5.646957 GHz	54.57 dBμV		
T1			1	5.651621 GHz	72.07 dBμV	Occ Bw	37.192474674 MHz
T2			1	5.688813 GHz	71.72 dBμV		
D1	M1		1	45.797 MHz	0.20 dB		

Spectrum

Ref Level 97.00 dBμV RBW 1 MHz
Att 0 dB SWT 100 ms VBW 3 MHz Mode Sweep

1Pk View

90 dBμV
80 dBμV
70 dBμV
60 dBμV
50 dBμV
40 dBμV
30 dBμV
20 dBμV
10 dBμV
0 dBμV

CF 5.29 GHz 691 pts Span 200.0 MHz

52.40 dBμV
5.247101 GHz
76.410998553 MHz
1.36 dB
85.507 MHz

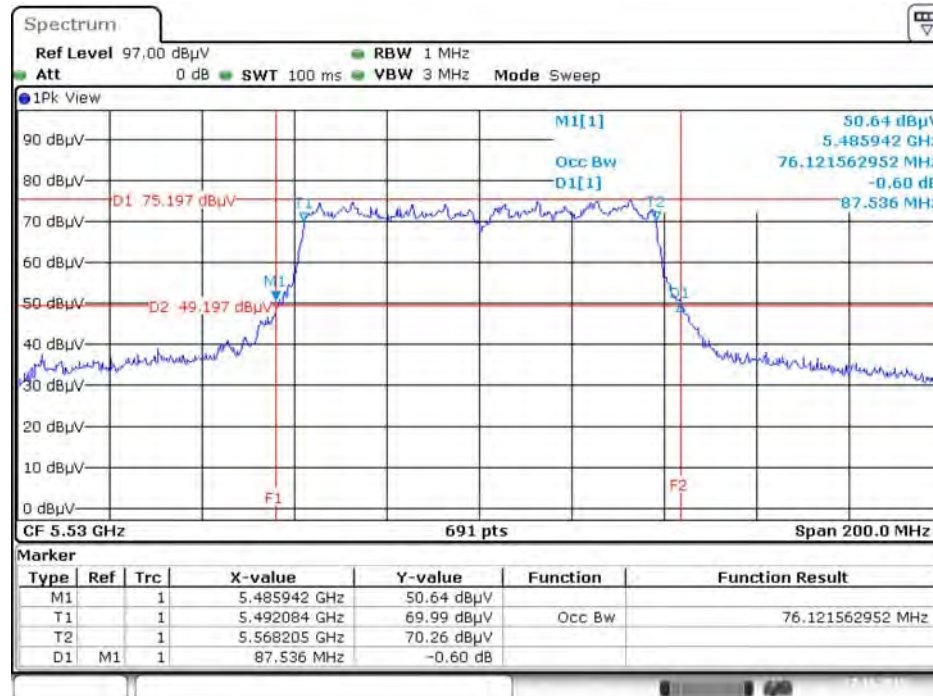
M1[1]
Occ Bw
D1[1]
D1 78.270 dBμV
D2 52.270 dBμV
F1
F2
T1
T2
Q1

Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.247101 GHz	52.40 dBμV		
T1		1	5.251795 GHz	70.65 dBμV	Occ Bw	76.410998553 MHz
T2		1	5.328205 GHz	71.42 dBμV		
D1	M1	1	85.507 MHz	1.36 dB		

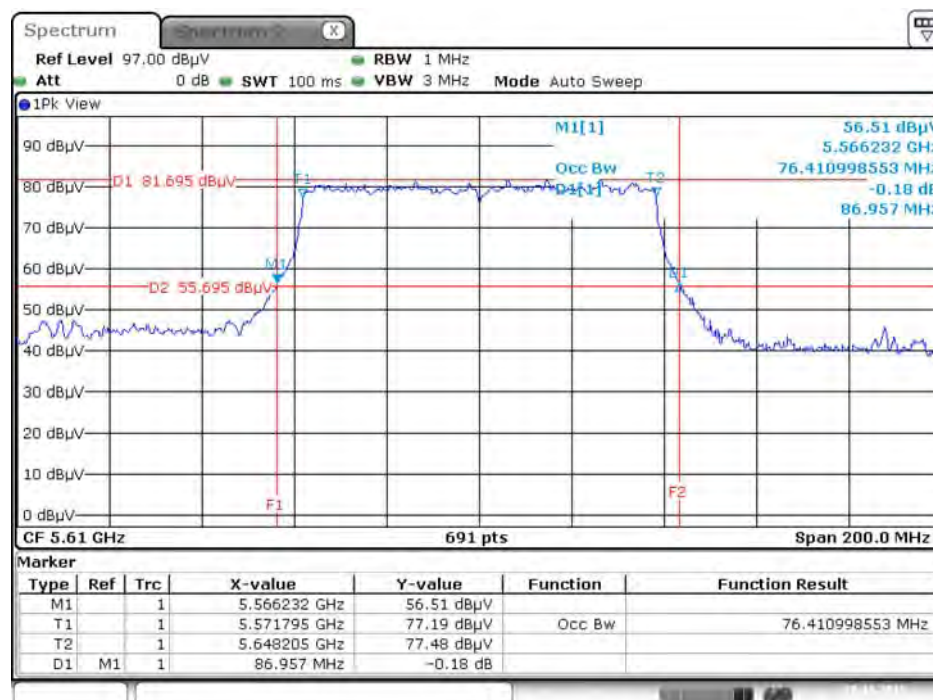
Issued Date : Jan. 13, 2016

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5530 MHz



Date: 27.NOV.2015 23:25:22

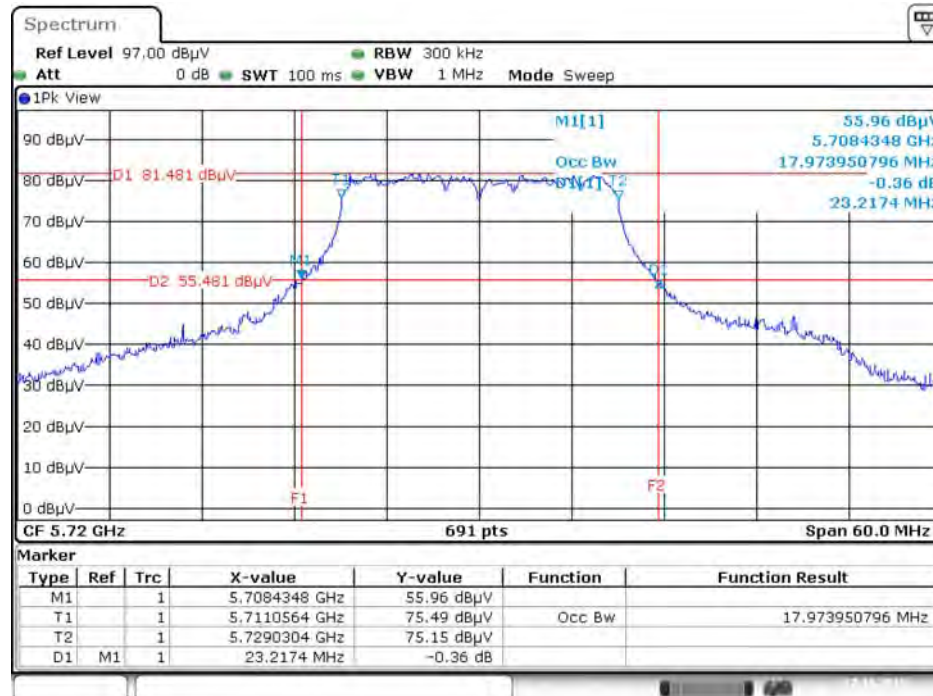
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 29.NOV.2015 00:27:24

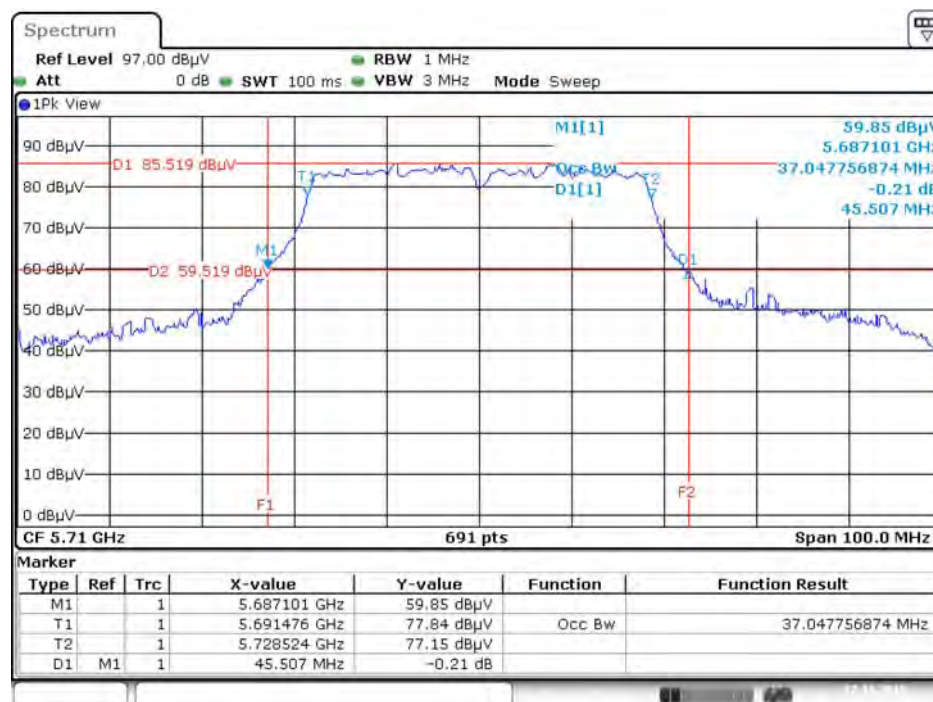
Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



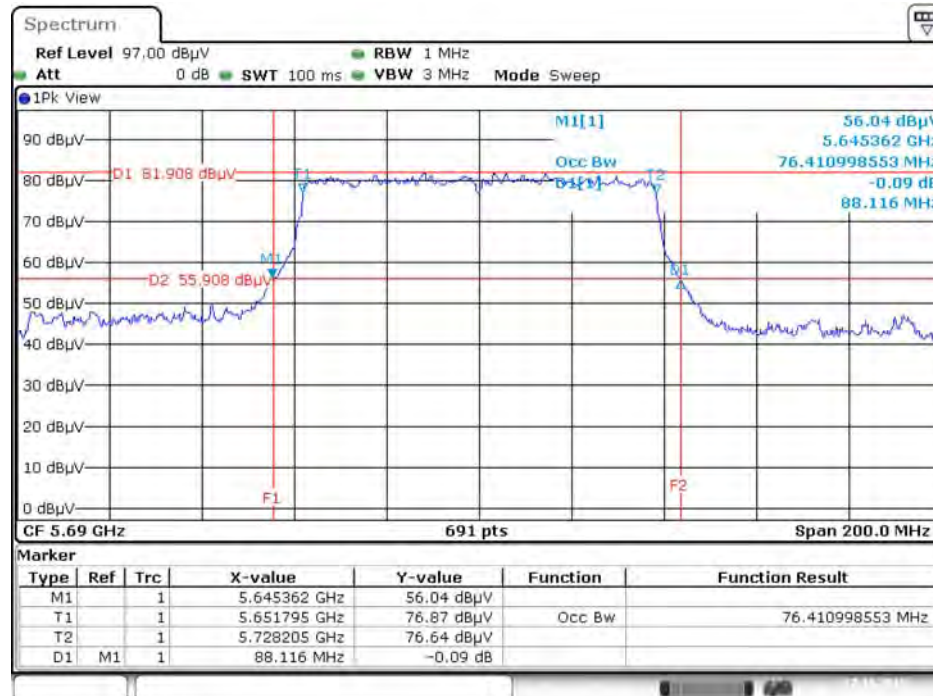
Date: 27.NOV.2015 10:26:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 27.NOV.2015 10:24:10

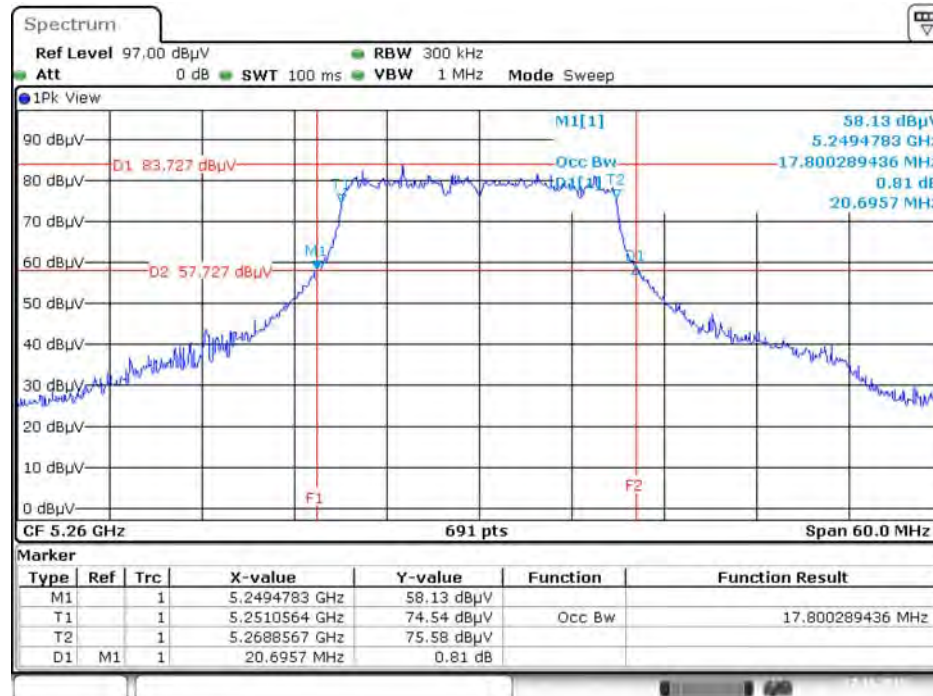
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 27.NOV.2015 10:20:43

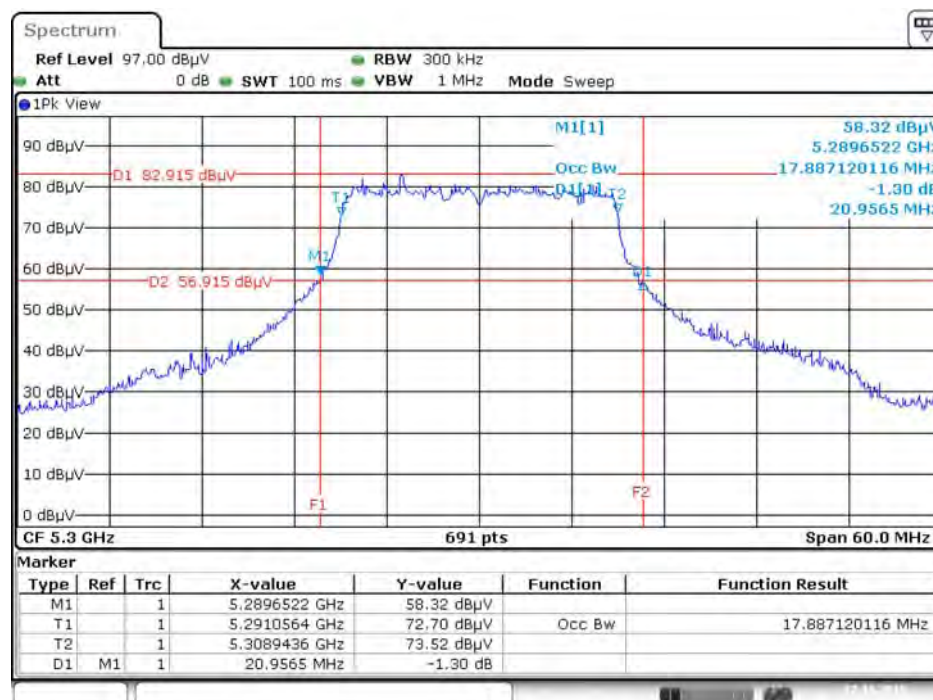
Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5260 MHz



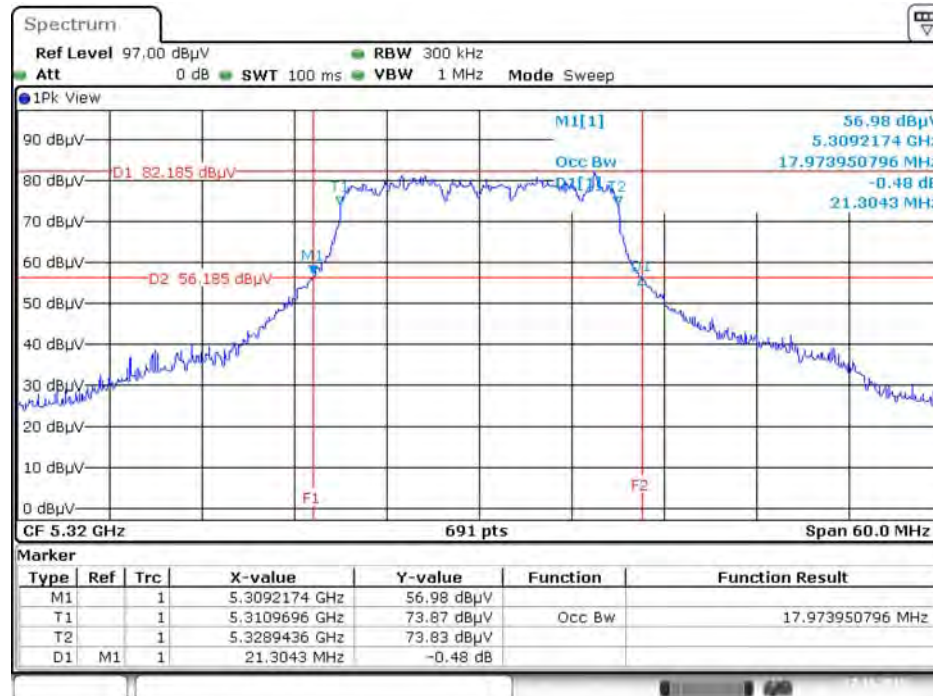
Date: 27.NOV.2015 21:17:43

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5300 MHz



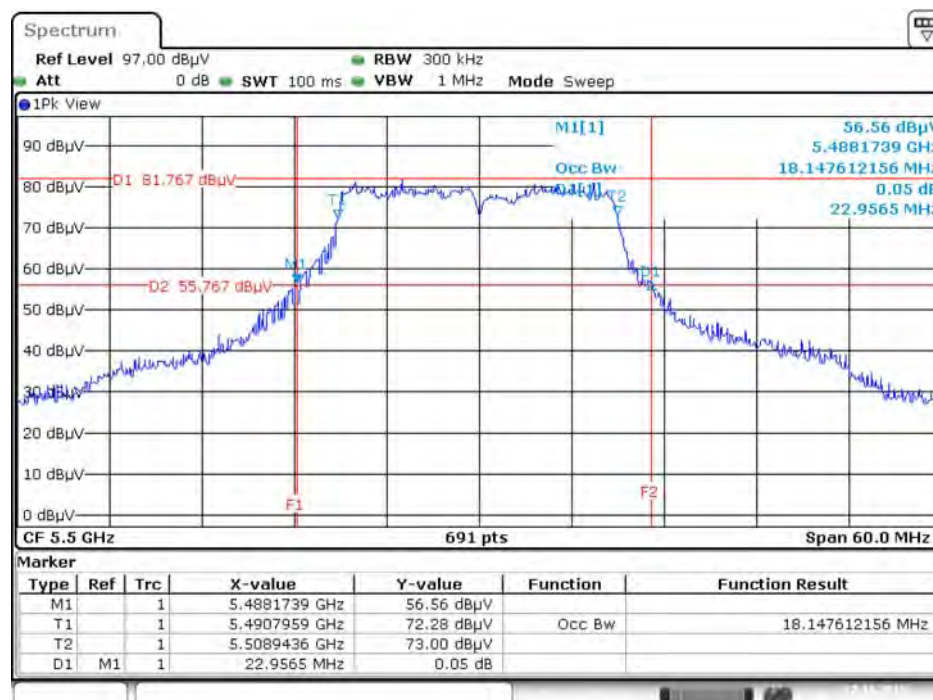
Date: 27.NOV.2015 21:18:16

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



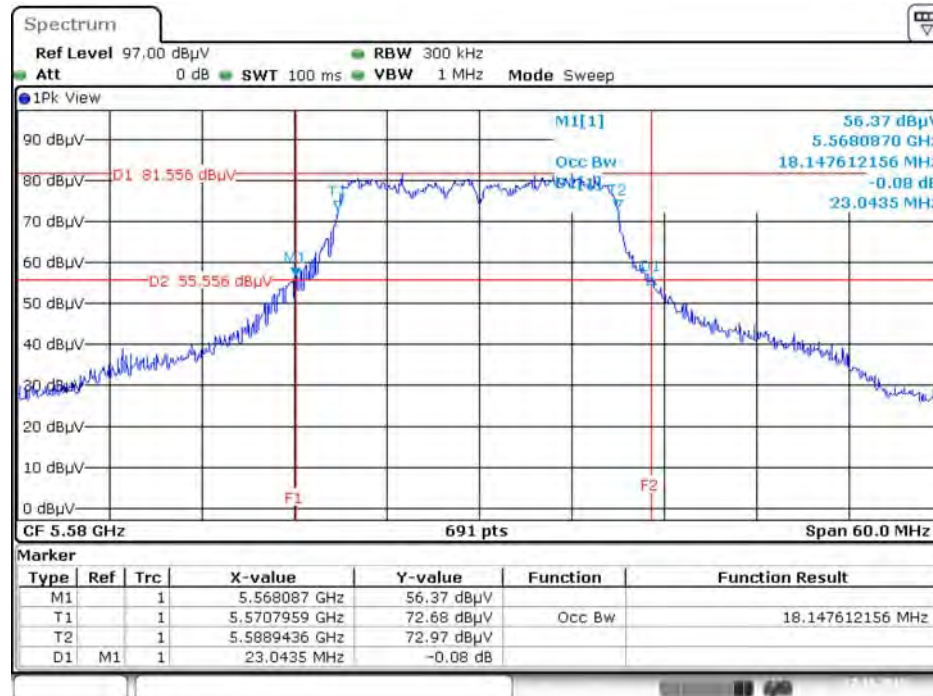
Date: 27.NOV.2015 21:18:38

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5500 MHz



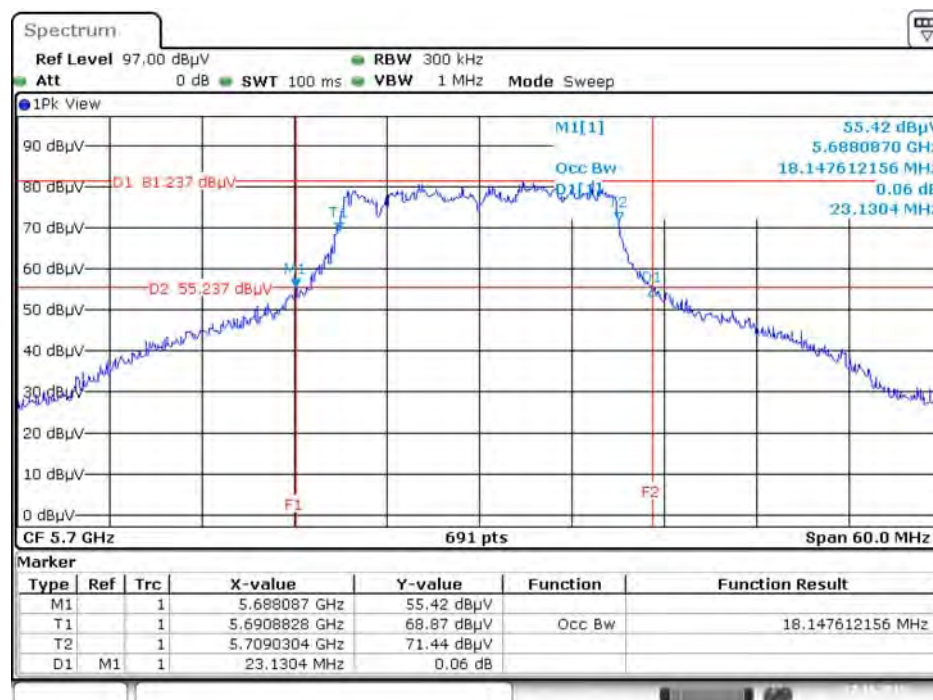
Date: 27.NOV.2015 21:19:46

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



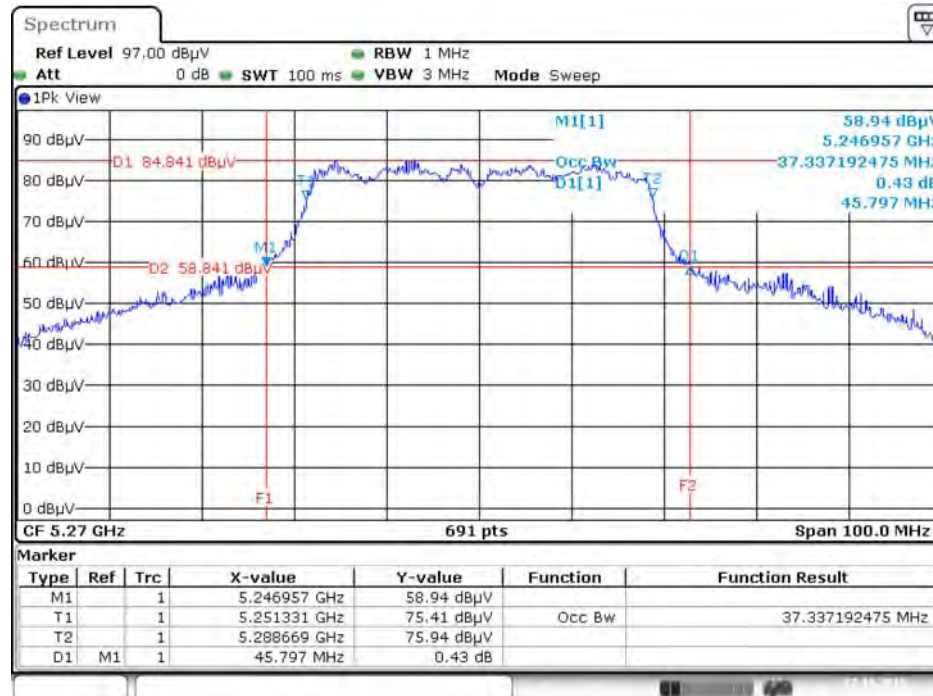
Date: 27.NOV.2015 21:20:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz



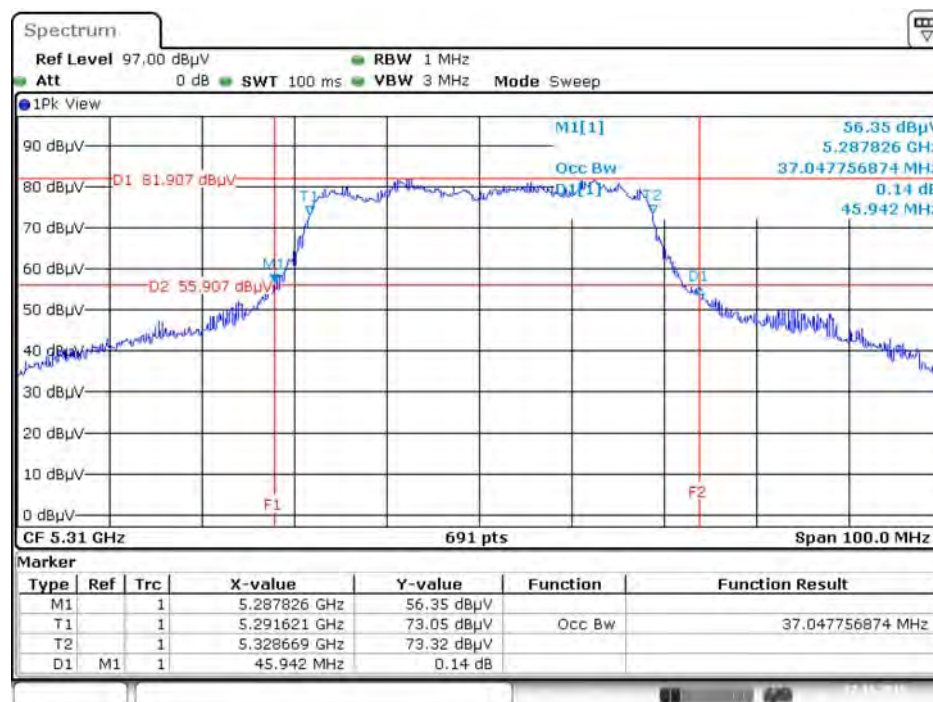
Date: 27.NOV.2015 21:21:23

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



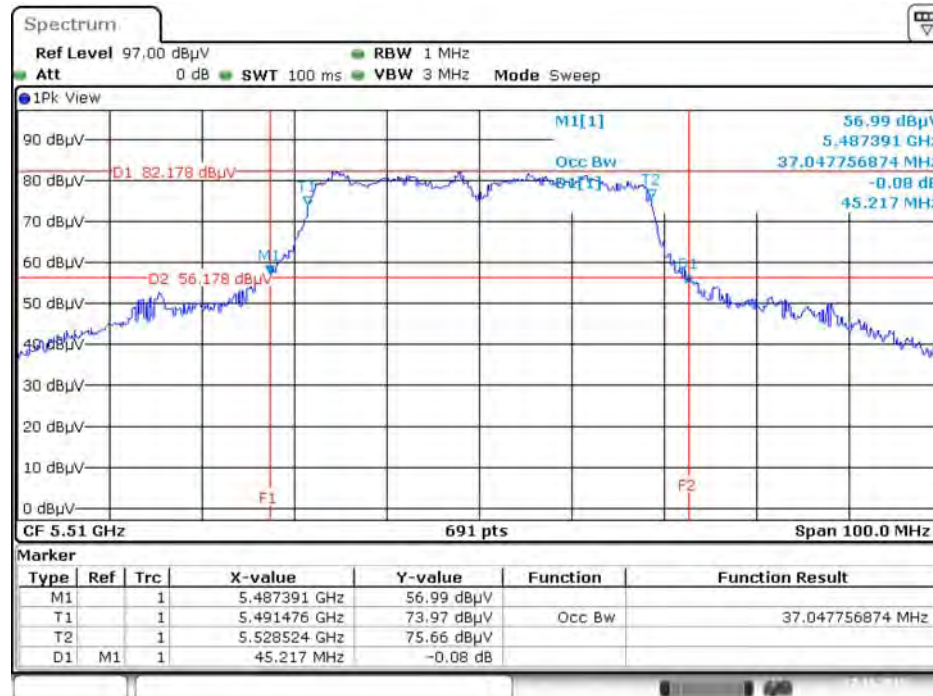
Date: 27.NOV.2015 21:25:51

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5310 MHz



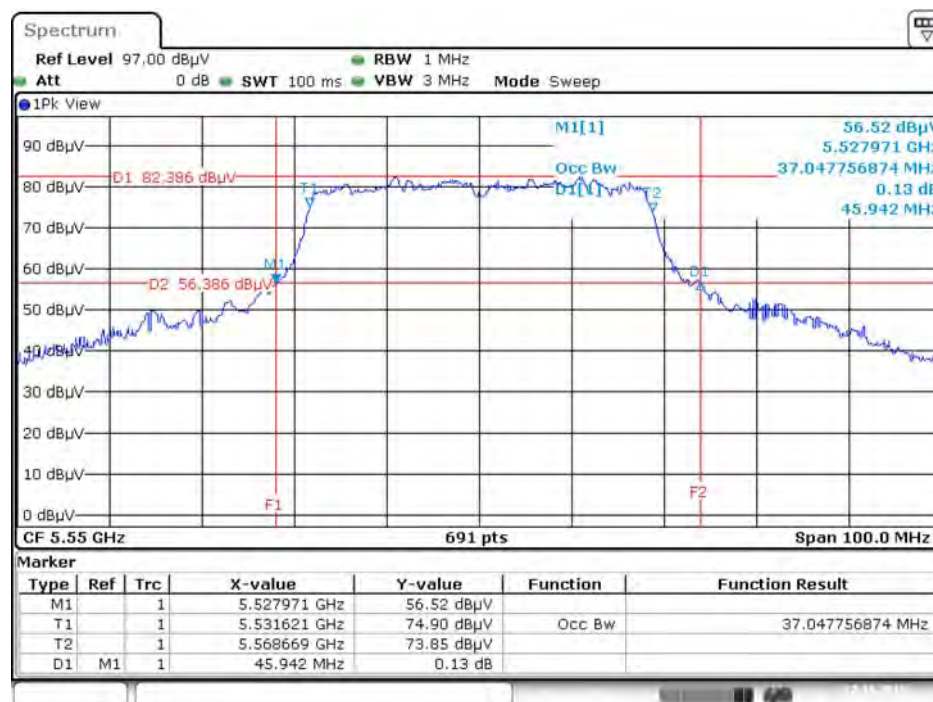
Date: 27.NOV.2015 21:26:38

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5510 MHz



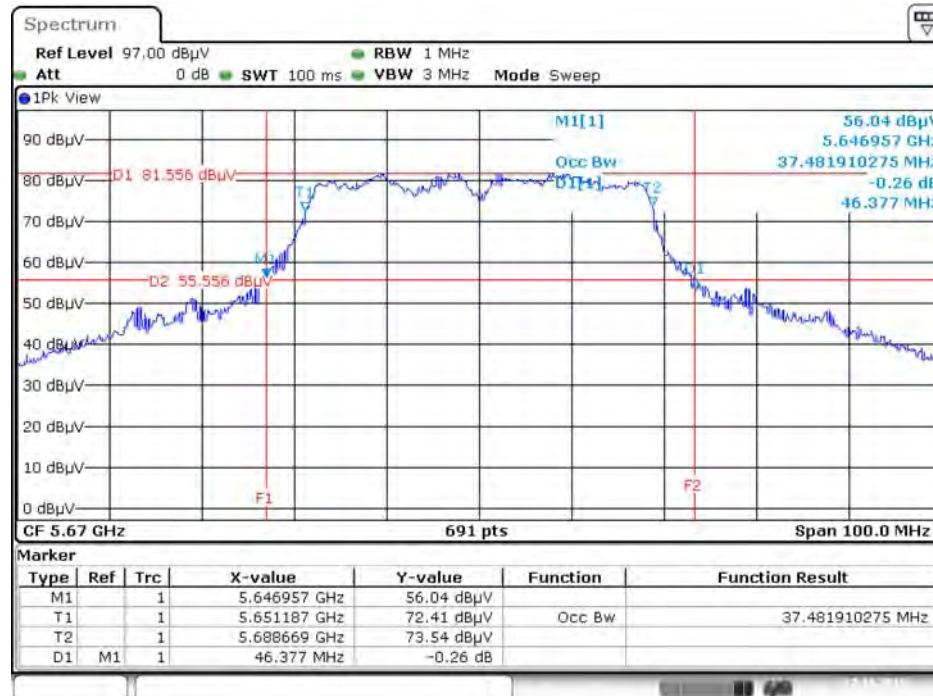
Date: 27.NOV.2015 21:27:46

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5550 MHz



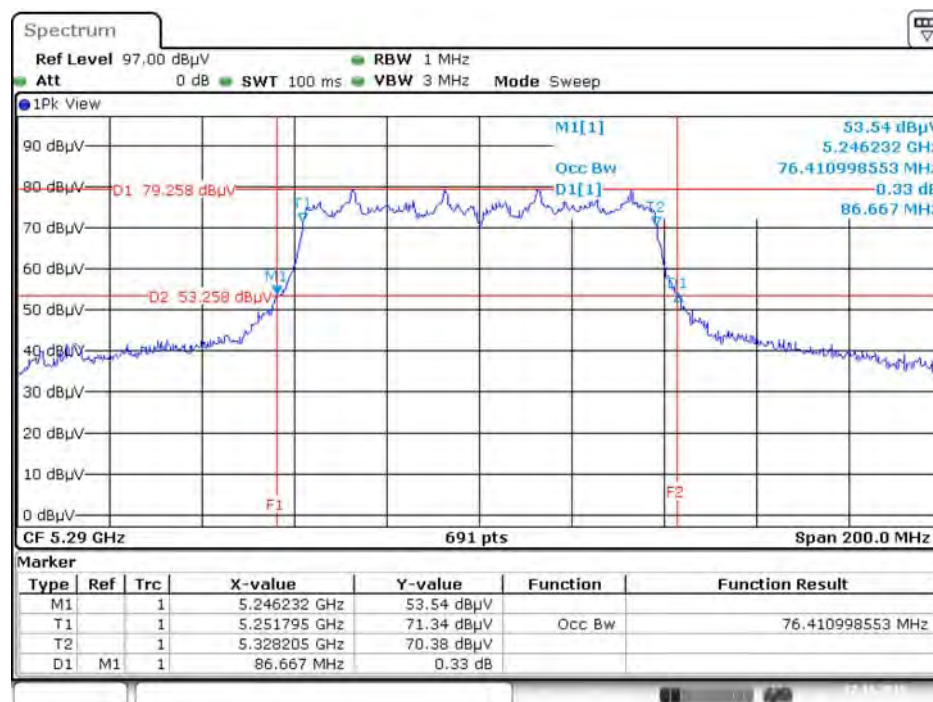
Date: 27.NOV.2015 21:28:28

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5670 MHz



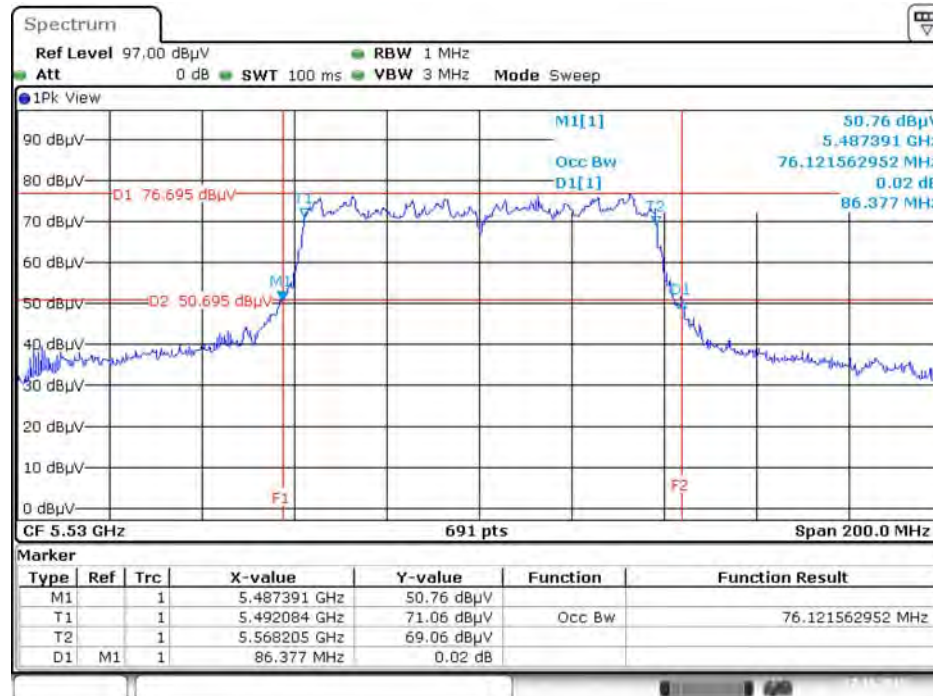
Date: 27.NOV.2015 21:29:02

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5290 MHz



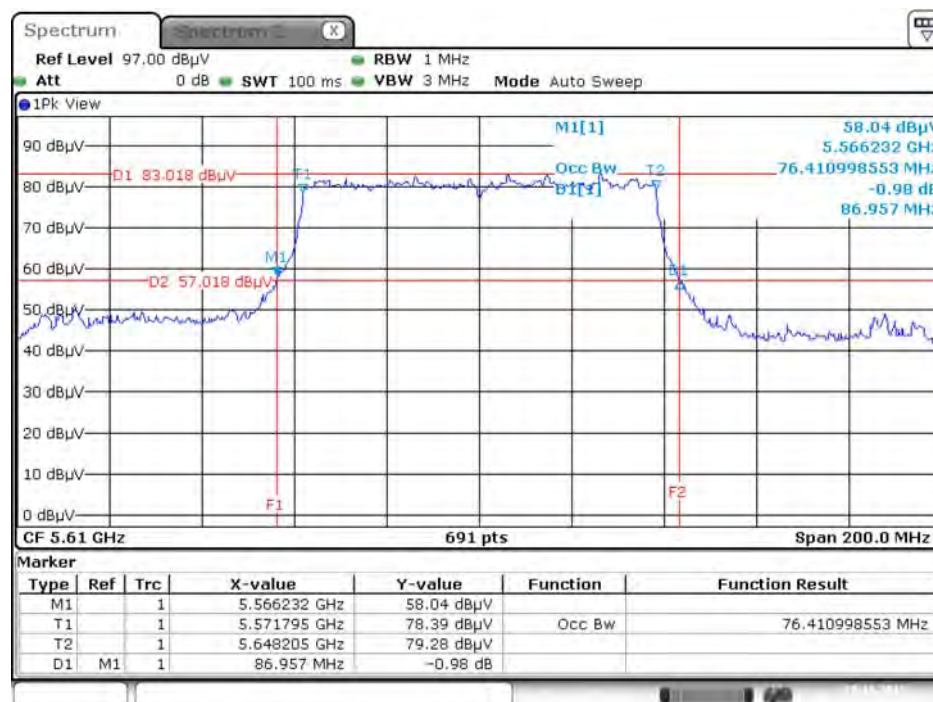
Date: 27.NOV.2015 21:34:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5530 MHz



Date: 27.NOV.2015 21:35:11

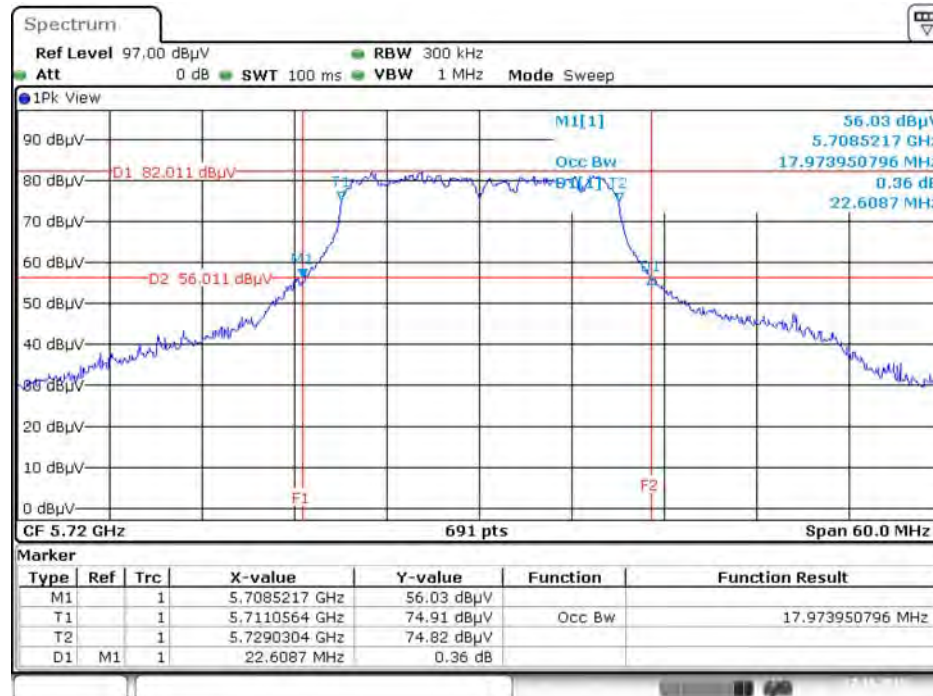
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 29.NOV.2015 01:44:19

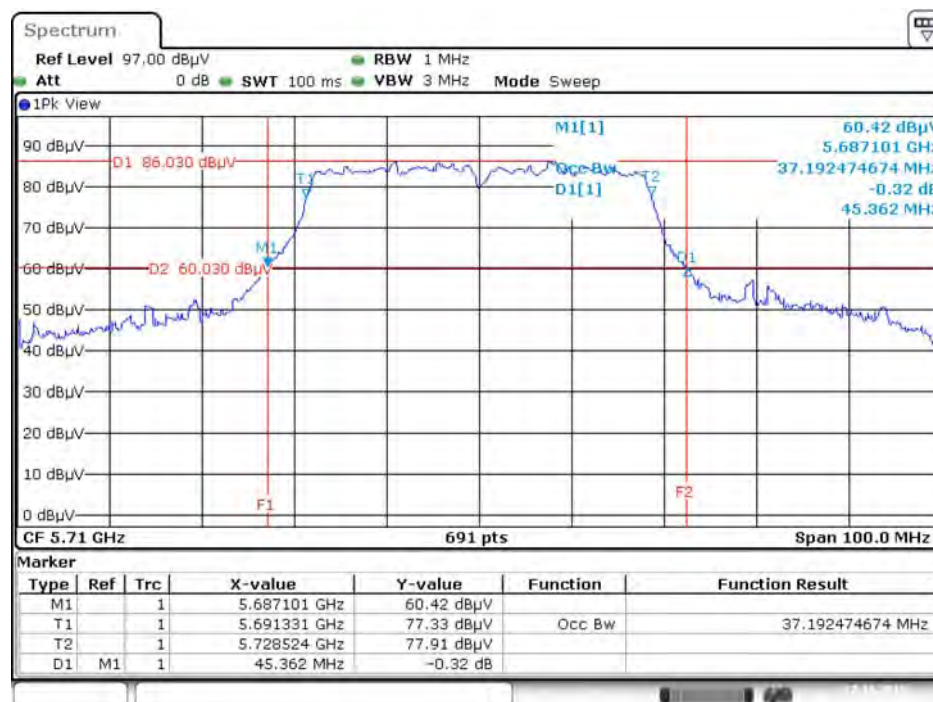
Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



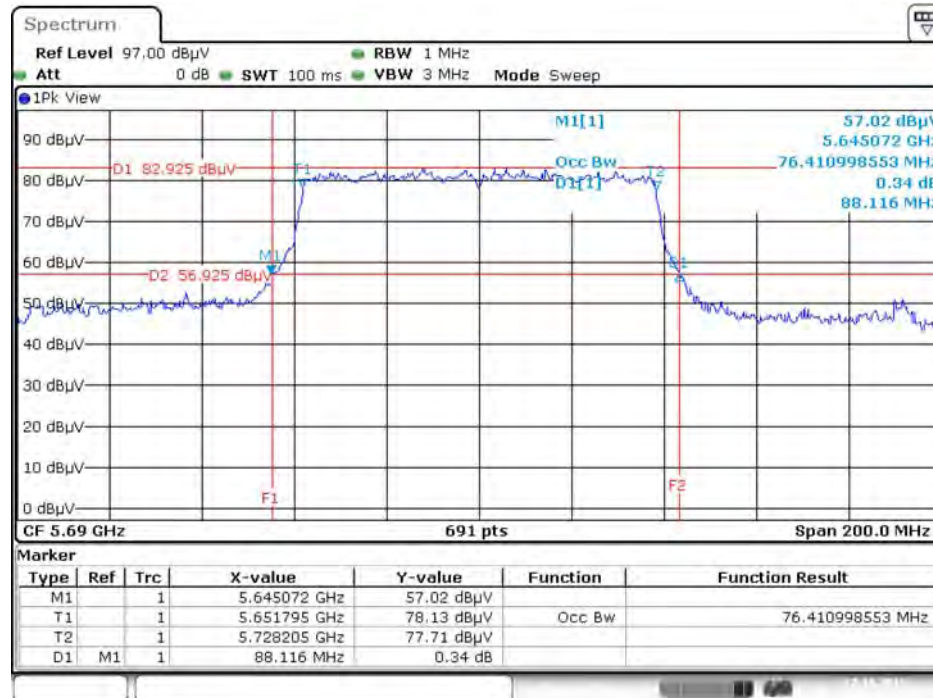
Date: 27.NOV.2015 10:09:57

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 27.NOV.2015 10:14:03

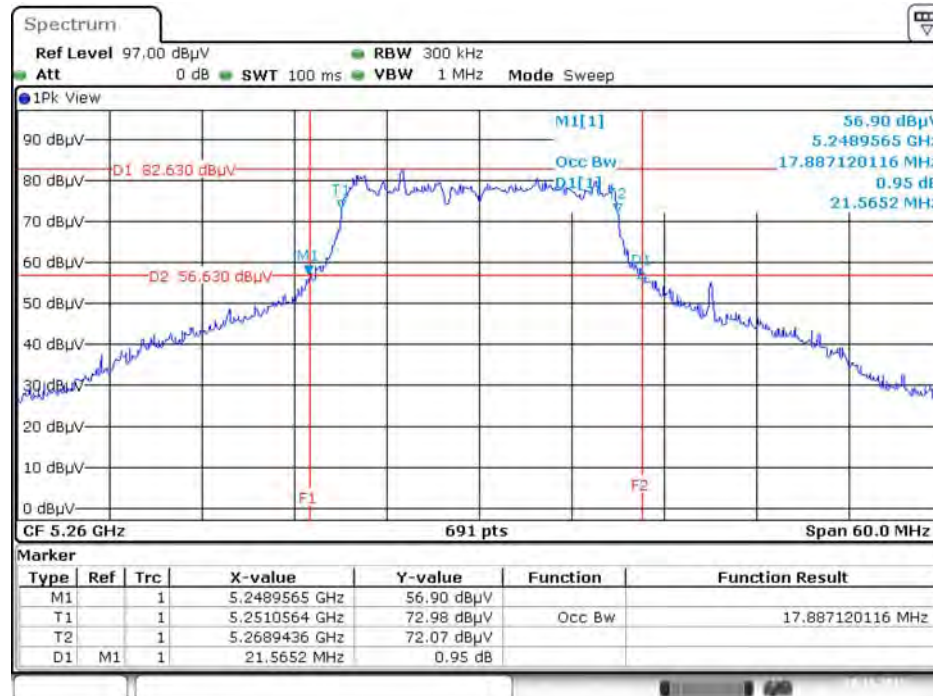
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 27.NOV.2015 10:16:55

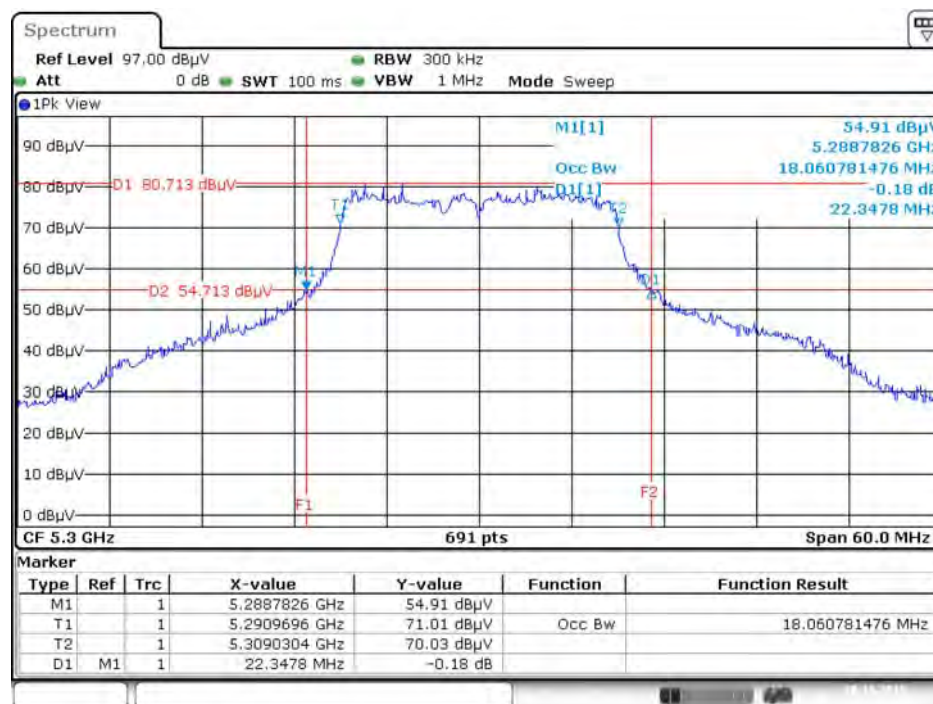
Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5260 MHz



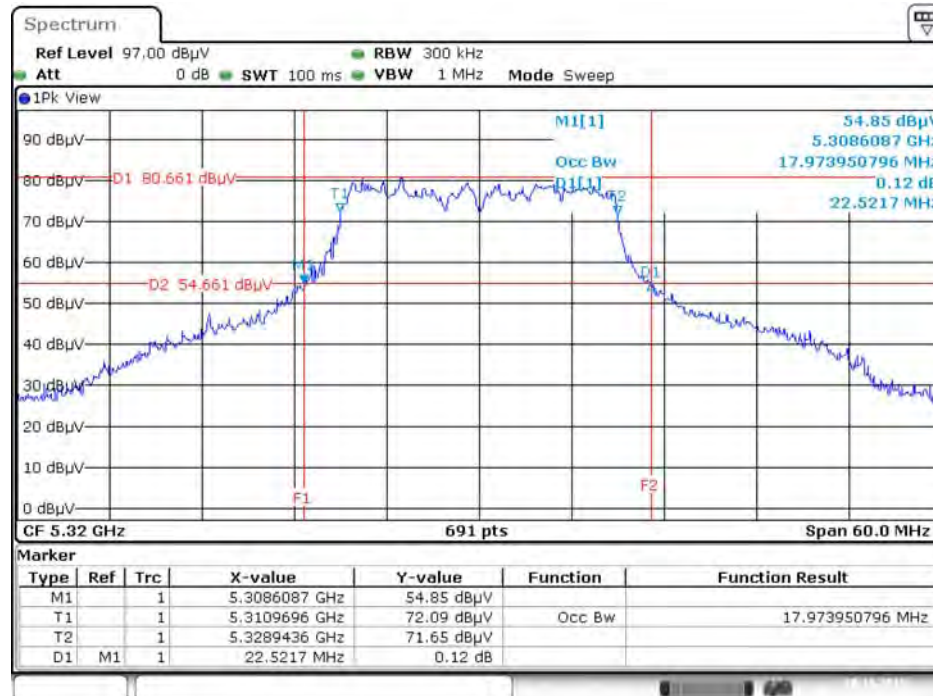
Date: 28.NOV.2015 00:20:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5300 MHz



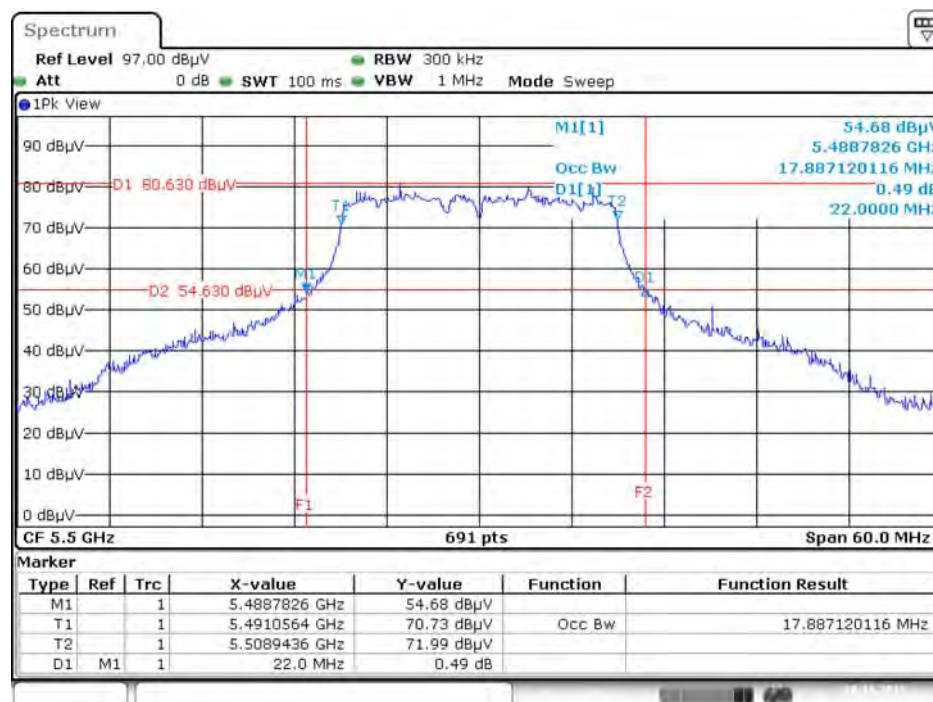
Date: 28.NOV.2015 00:20:26

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



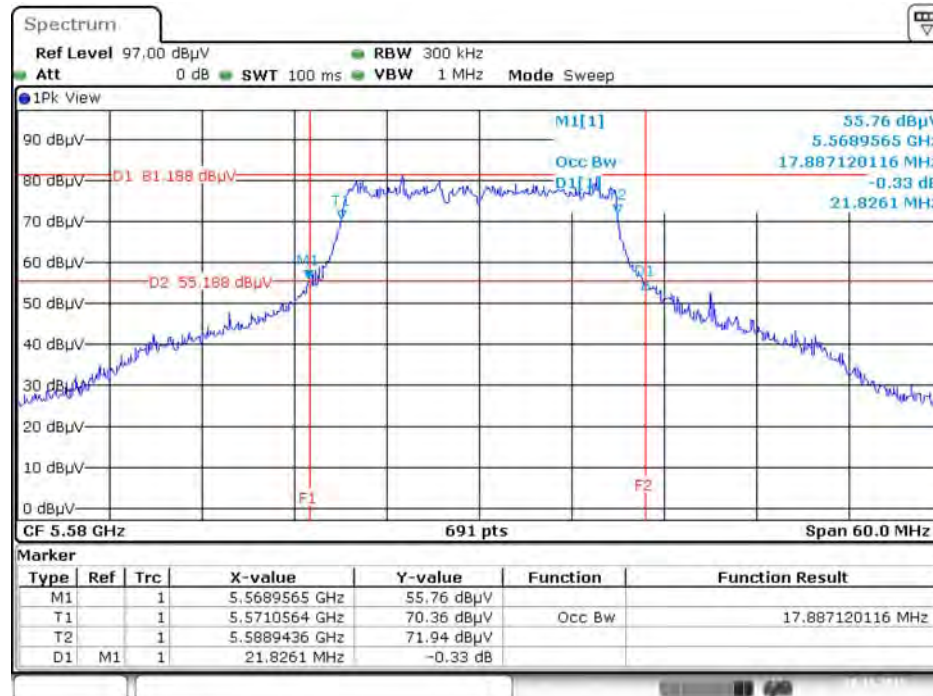
Date: 28.NOV.2015 00:20:49

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5500 MHz



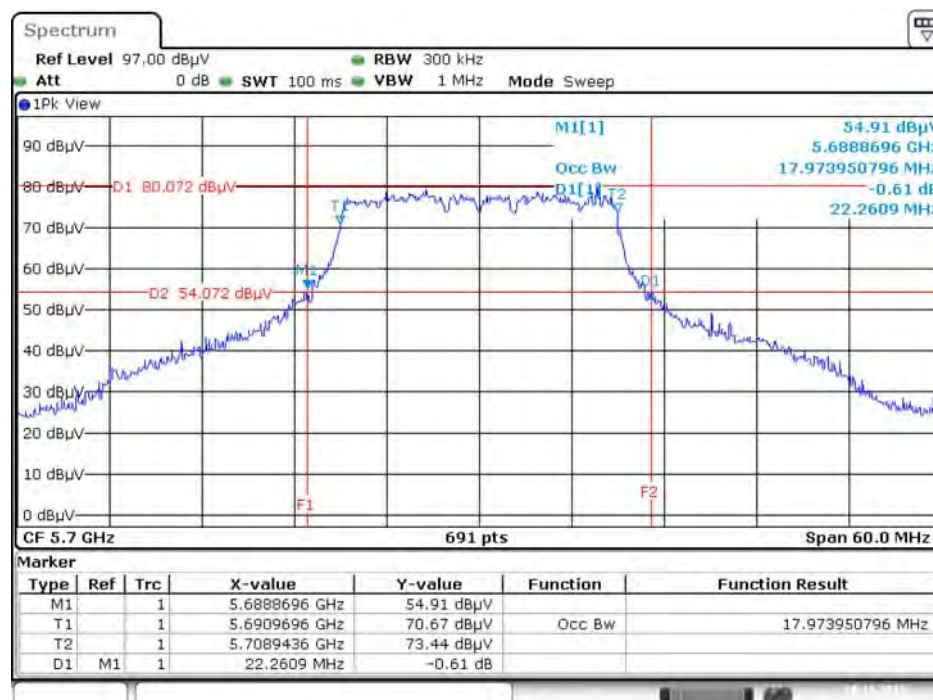
Date: 28.NOV.2015 00:21:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



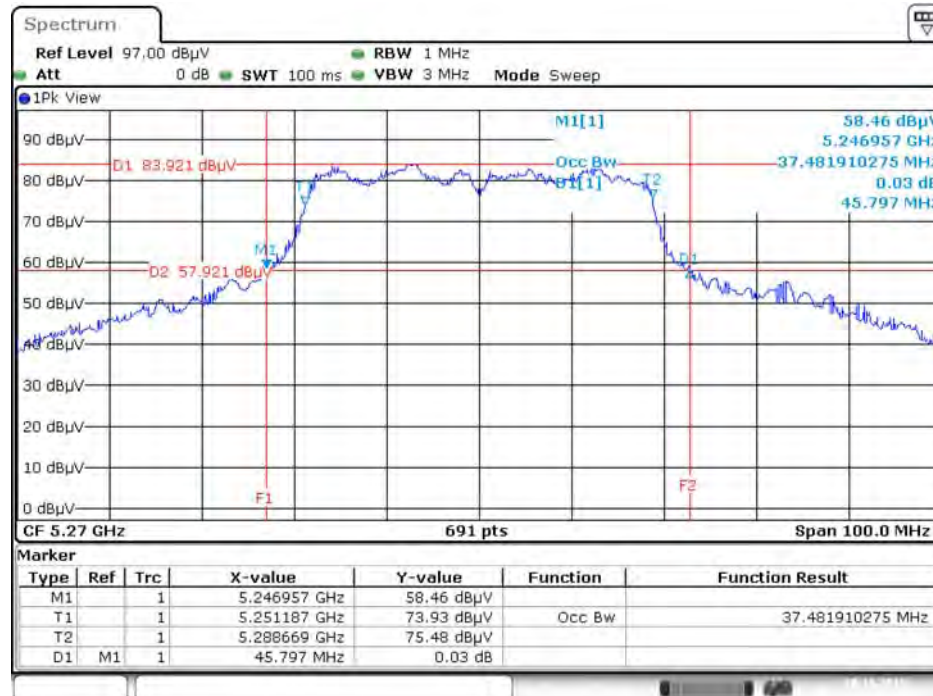
Date: 28.NOV.2015 00:21:45

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz



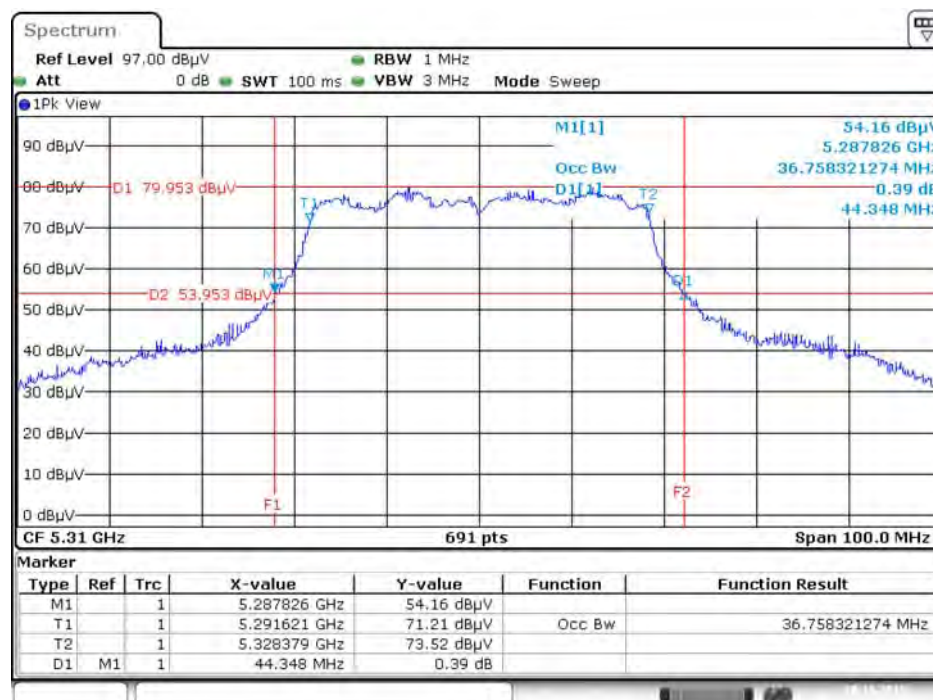
Date: 28.NOV.2015 00:22:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



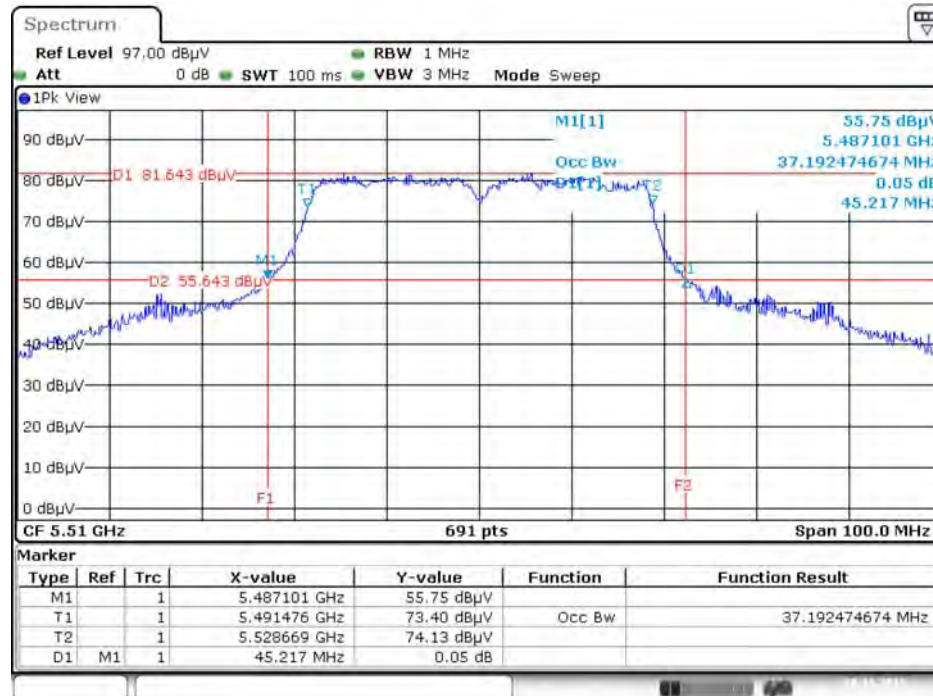
Date: 28.NOV.2015 00:25:37

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5310 MHz



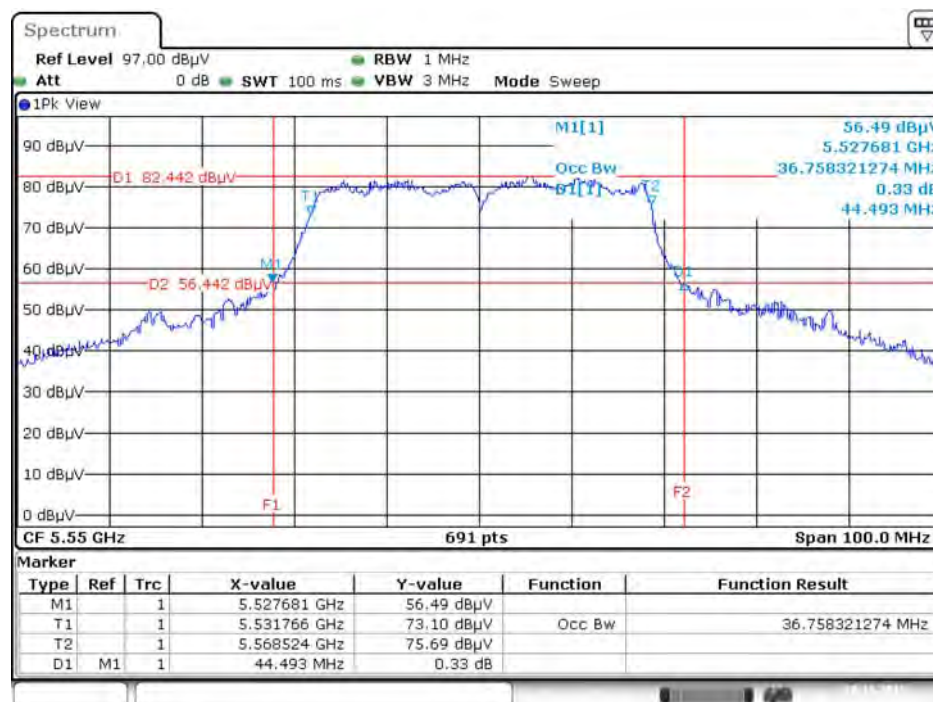
Date: 28.NOV.2015 00:26:05

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5510 MHz



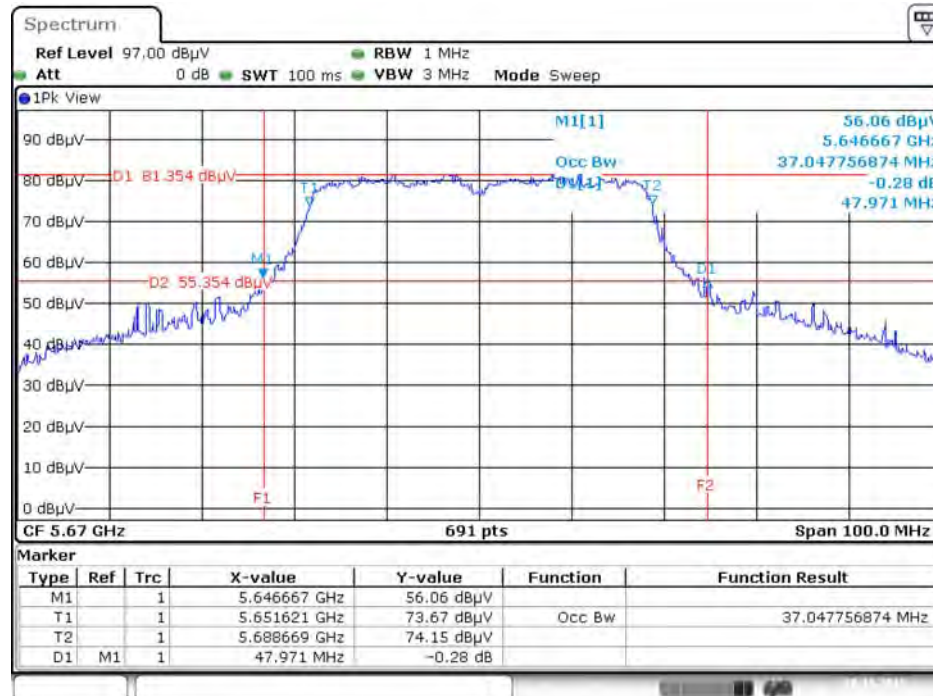
Date: 28.NOV.2015 00:26:59

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5550 MHz



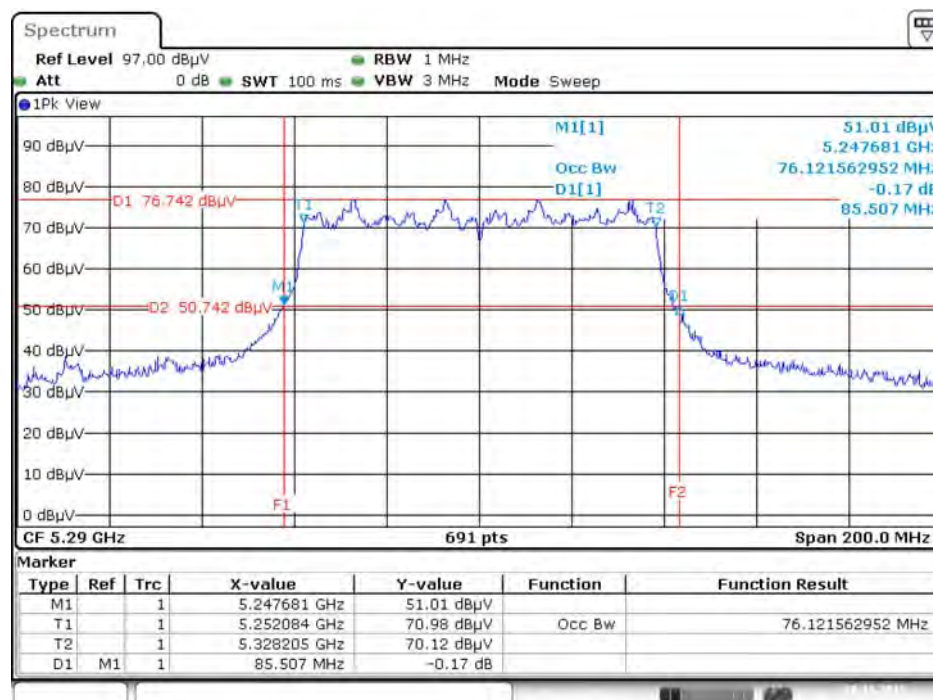
Date: 28.NOV.2015 00:27:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5670 MHz



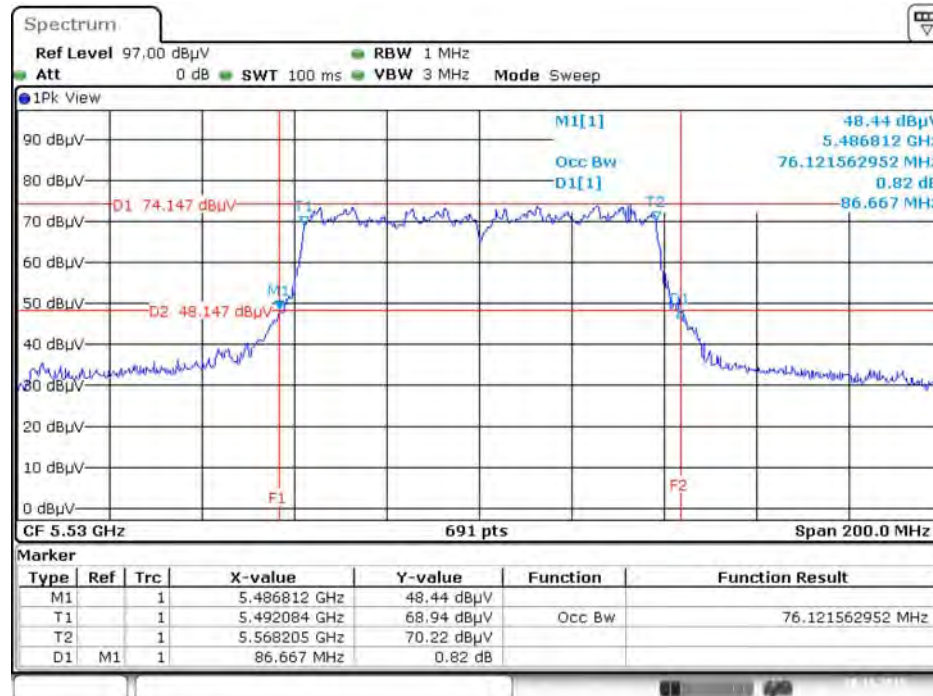
Date: 28.NOV.2015 00:28:11

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5290 MHz



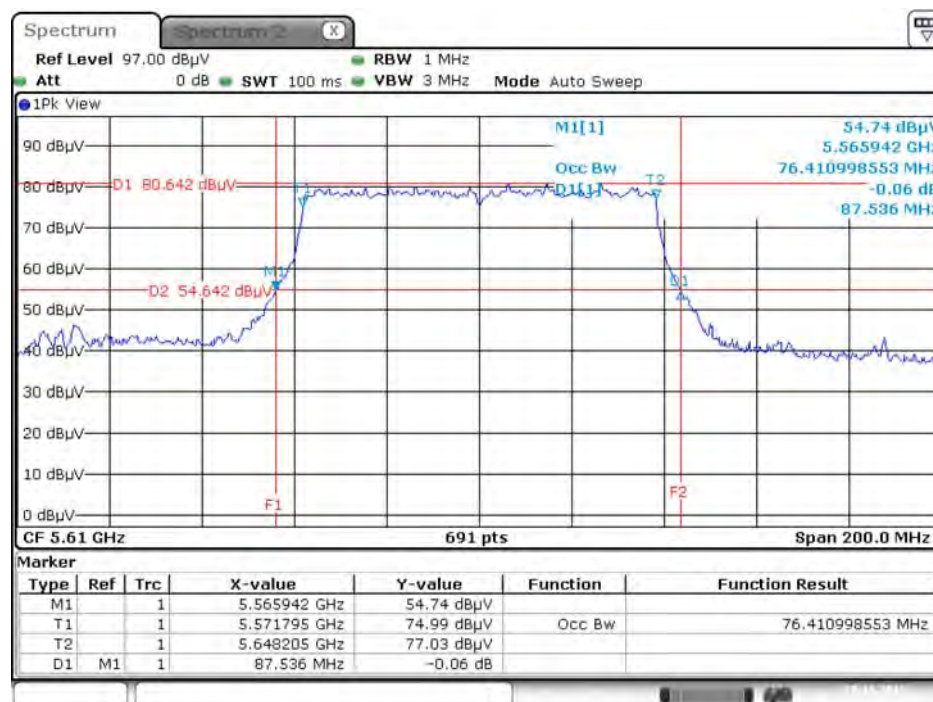
Date: 28.NOV.2015 00:30:36

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5530 MHz



Date: 28.NOV.2015 00:31:03

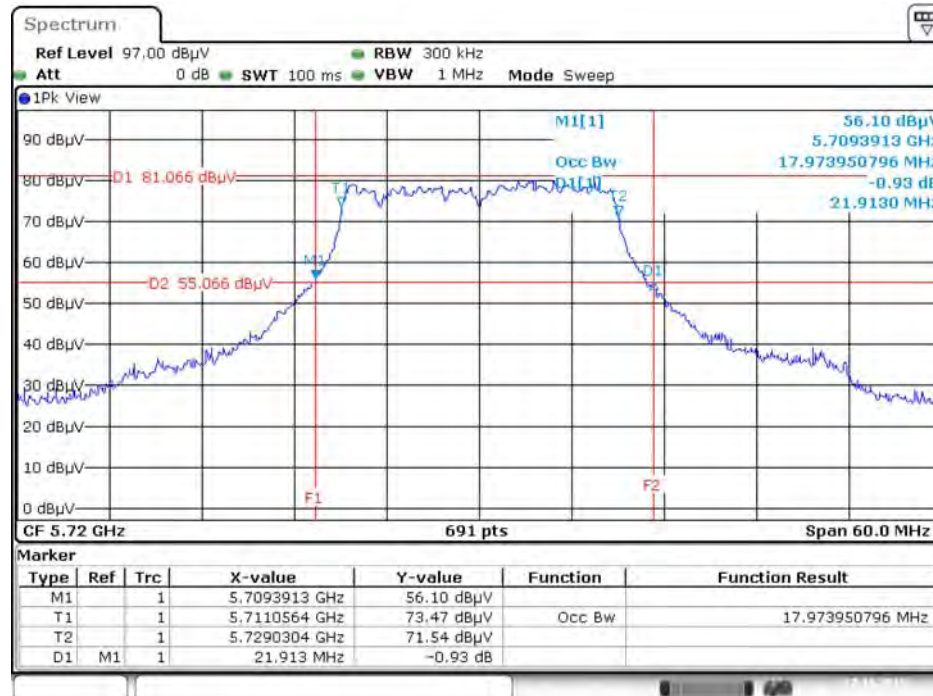
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 29.NOV.2015 01:40:24

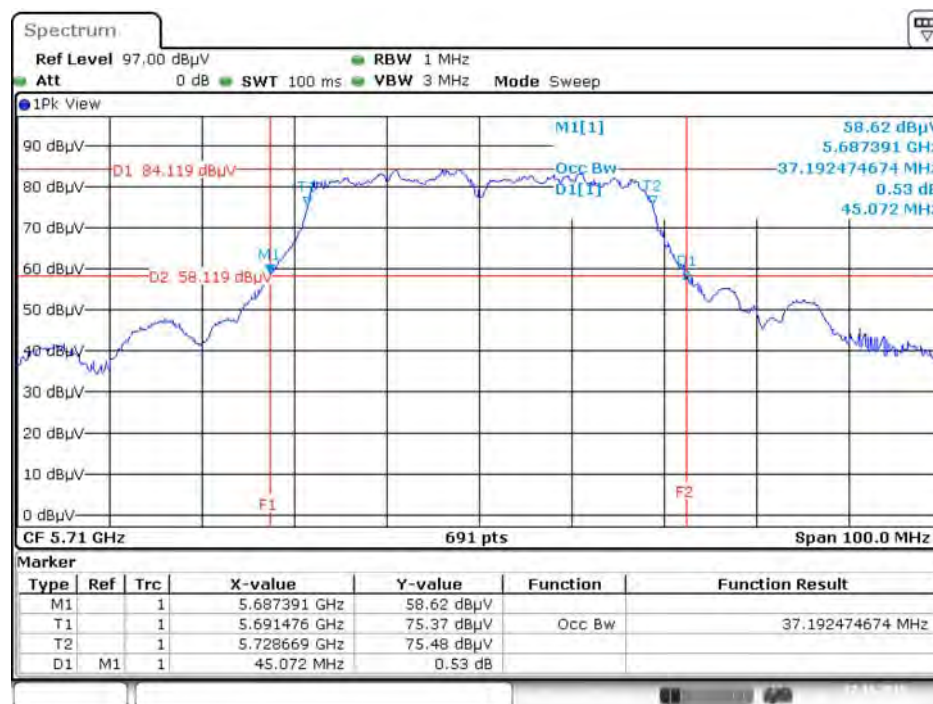
Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



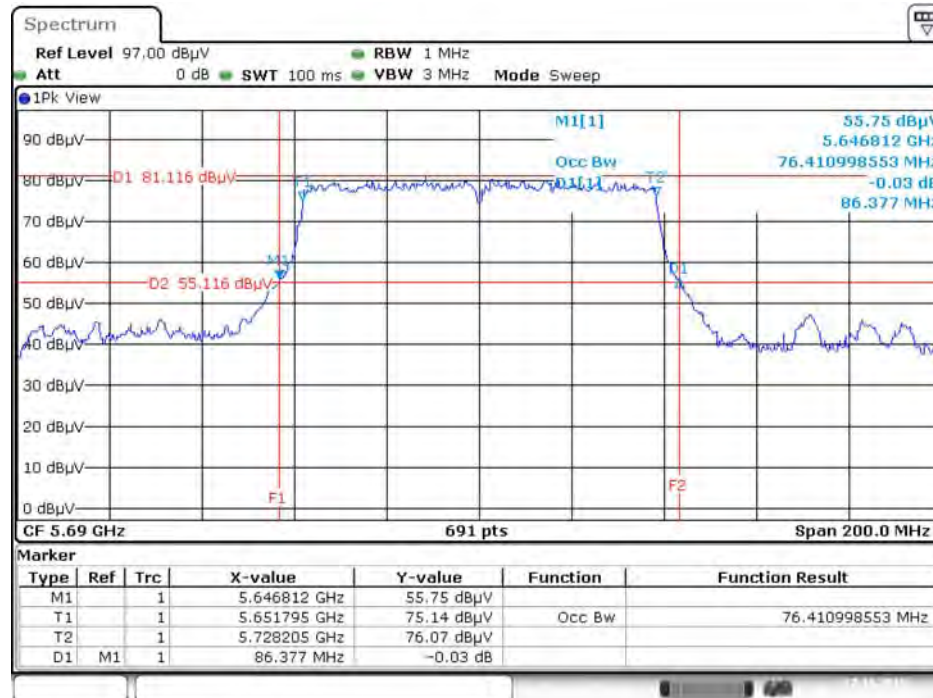
Date: 27.NOV.2015 02:27:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 27.NOV.2015 02:28:50

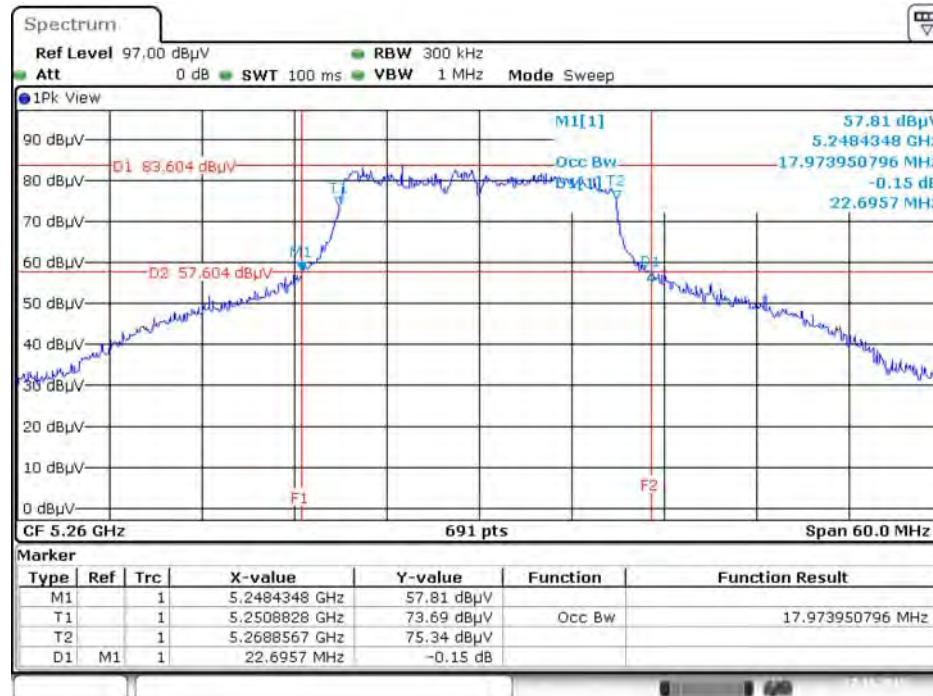
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 27.NOV.2015 02:29:38

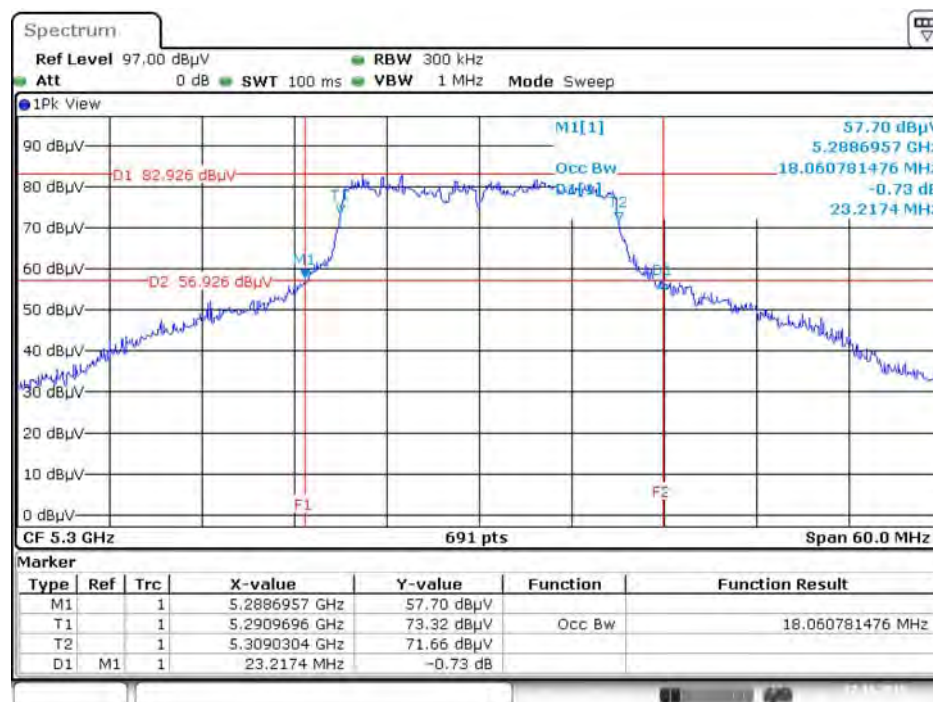
Mode 5: EUT 1 + Set 5 Sector Antenna / 4.5 dBi

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5260 MHz



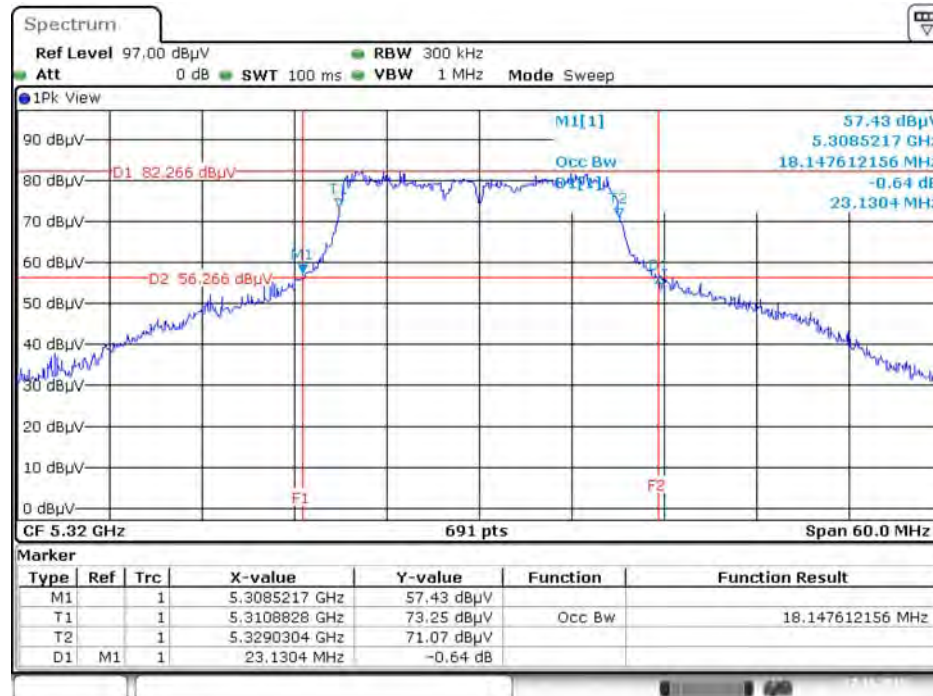
Date: 27.NOV.2015 23:31:41

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5300 MHz



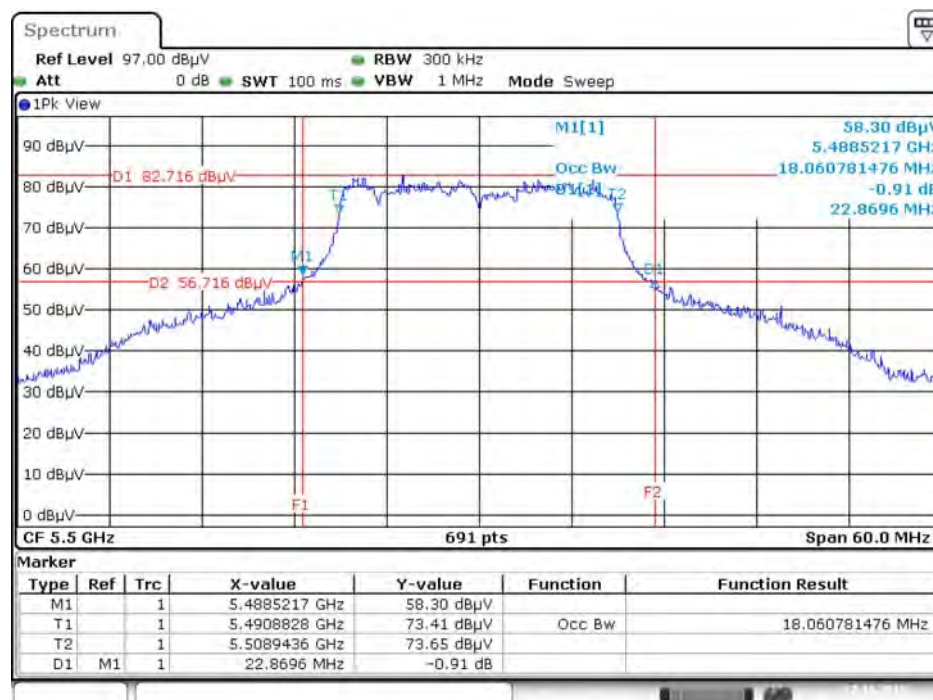
Date: 27.NOV.2015 23:33:16

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



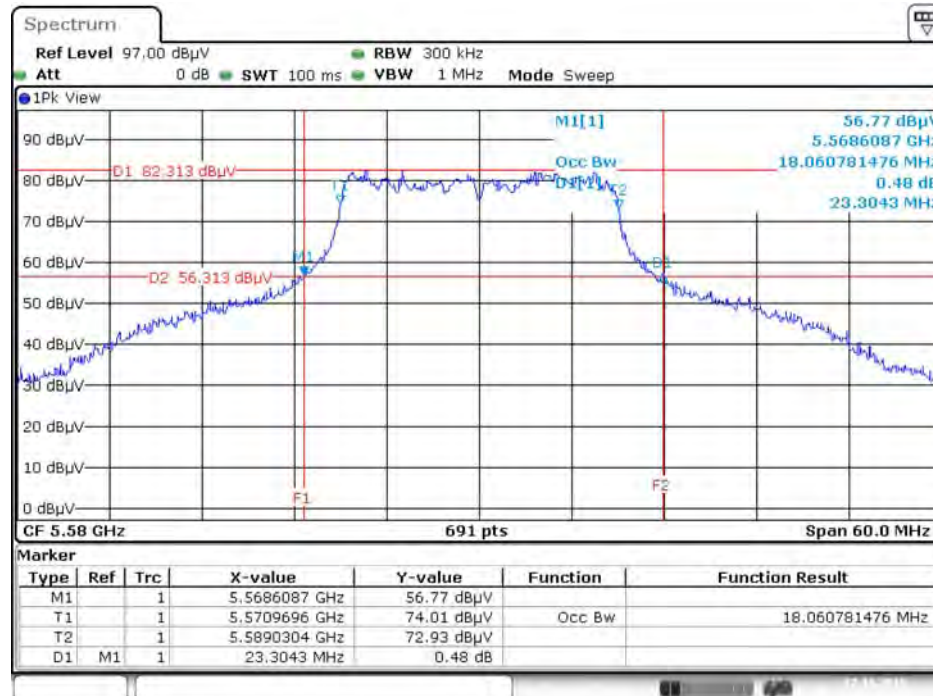
Date: 27.NOV.2015 23:33:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5500 MHz



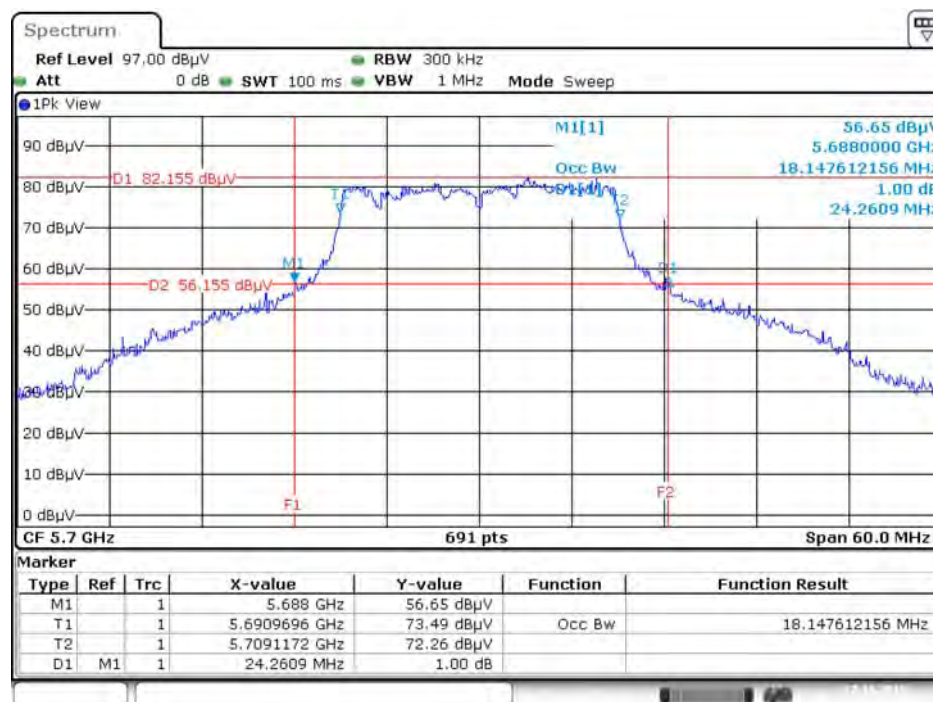
Date: 27.NOV.2015 23:34:09

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



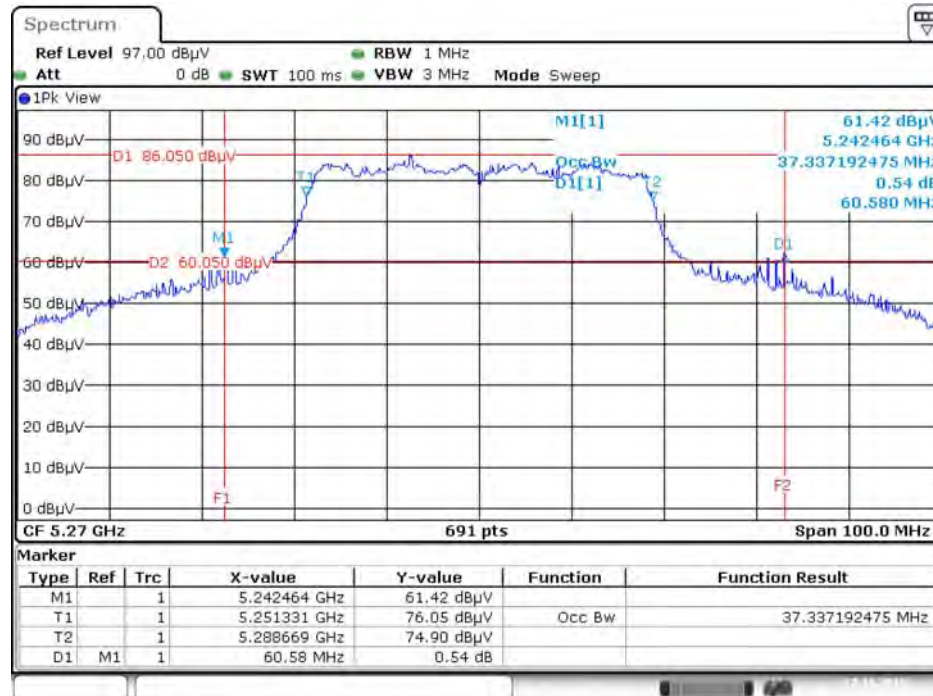
Date: 27.NOV.2015 23:34:36

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz



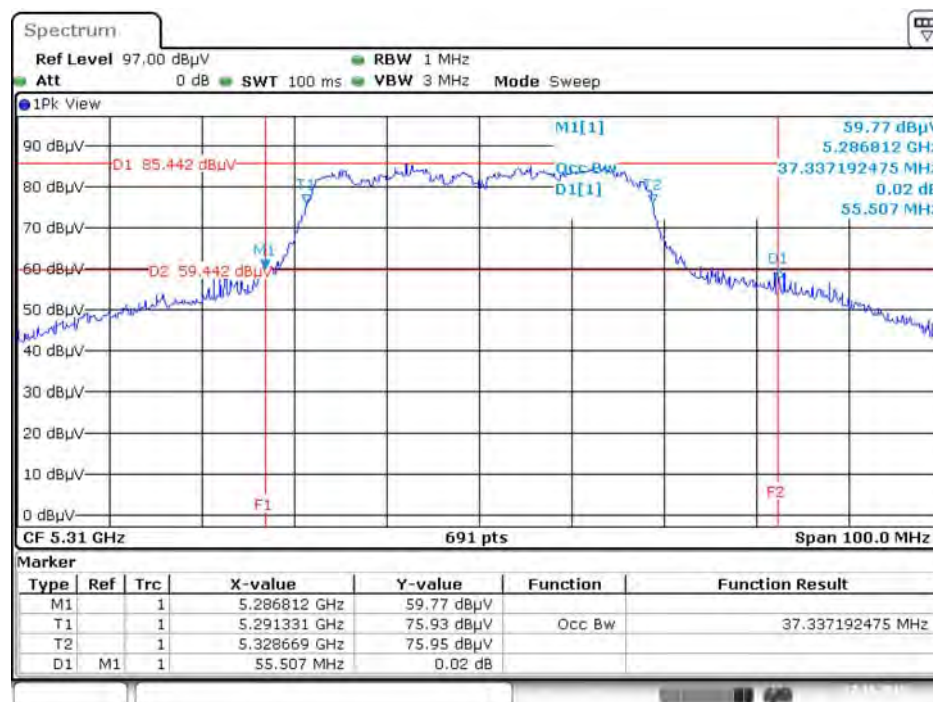
Date: 27.NOV.2015 23:35:06

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



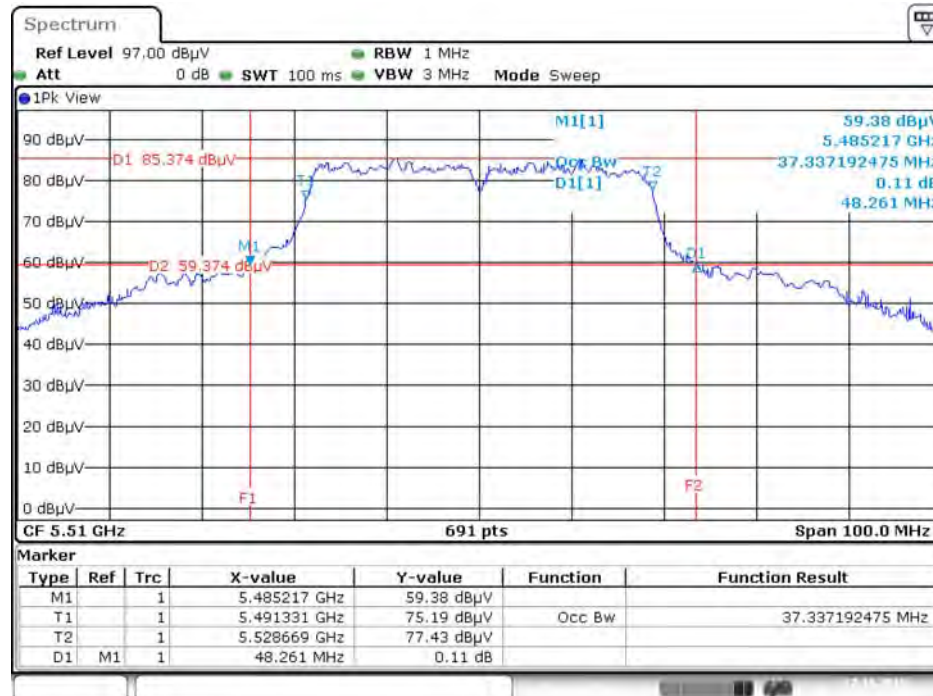
Date: 27.NOV.2015 23:42:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5310 MHz



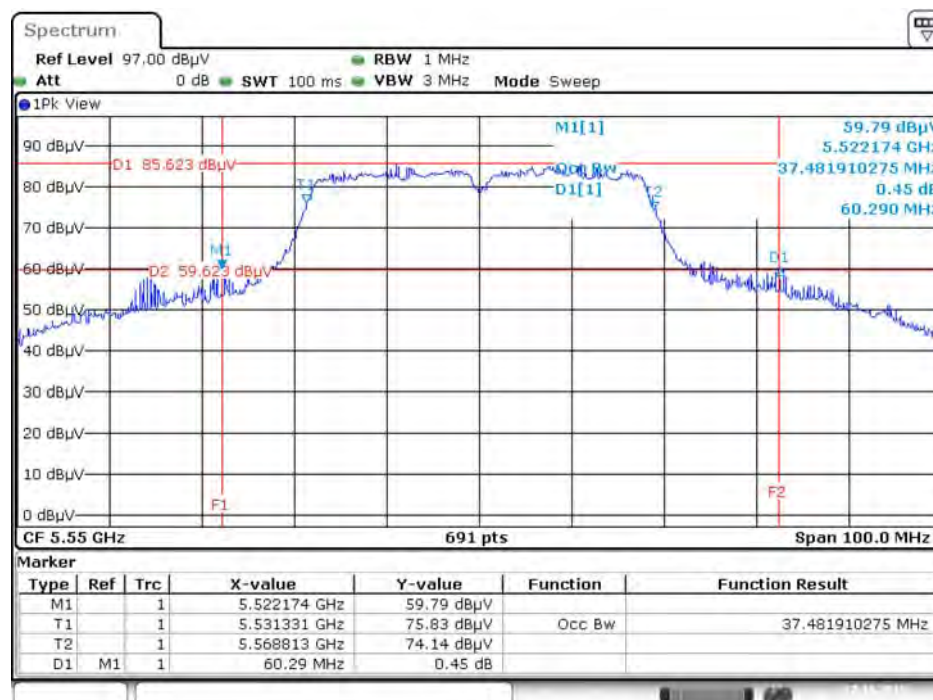
Date: 27.NOV.2015 23:42:33

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5510 MHz



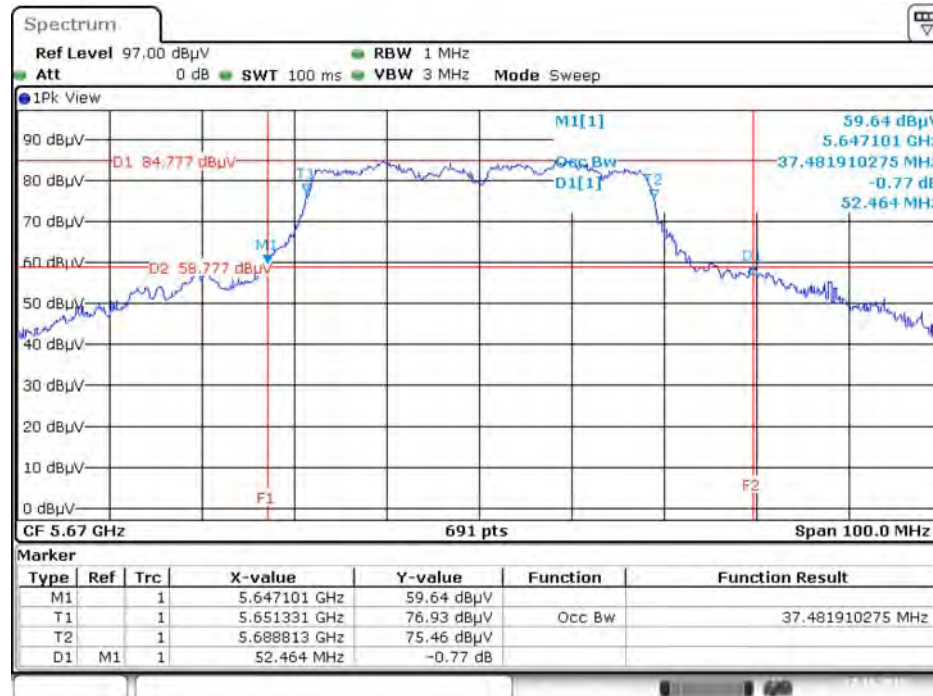
Date: 27.NOV.2015 23:43:03

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5550 MHz



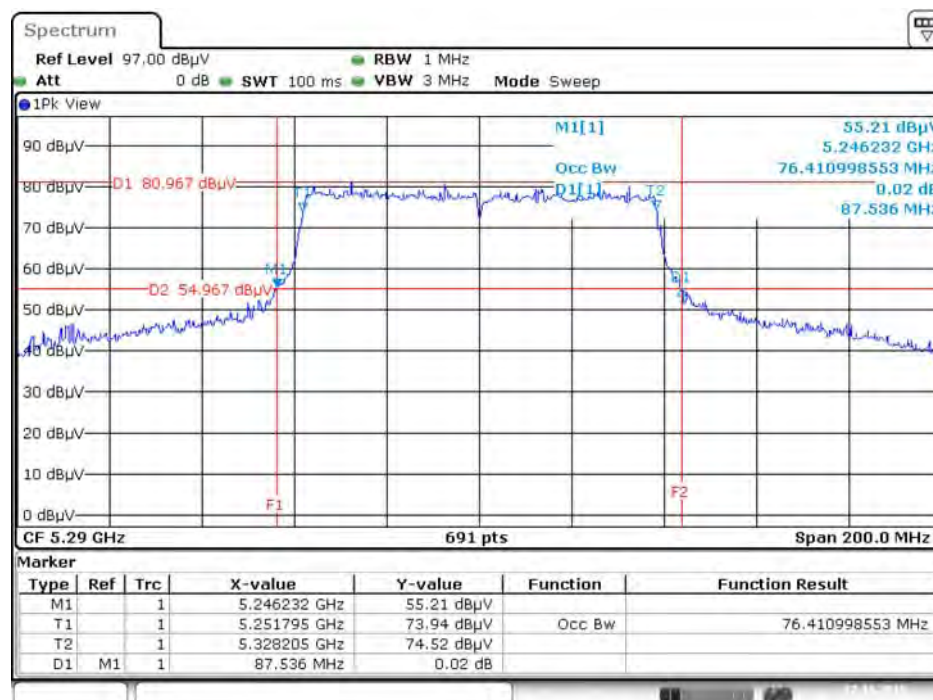
Date: 27.NOV.2015 23:43:37

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5670 MHz



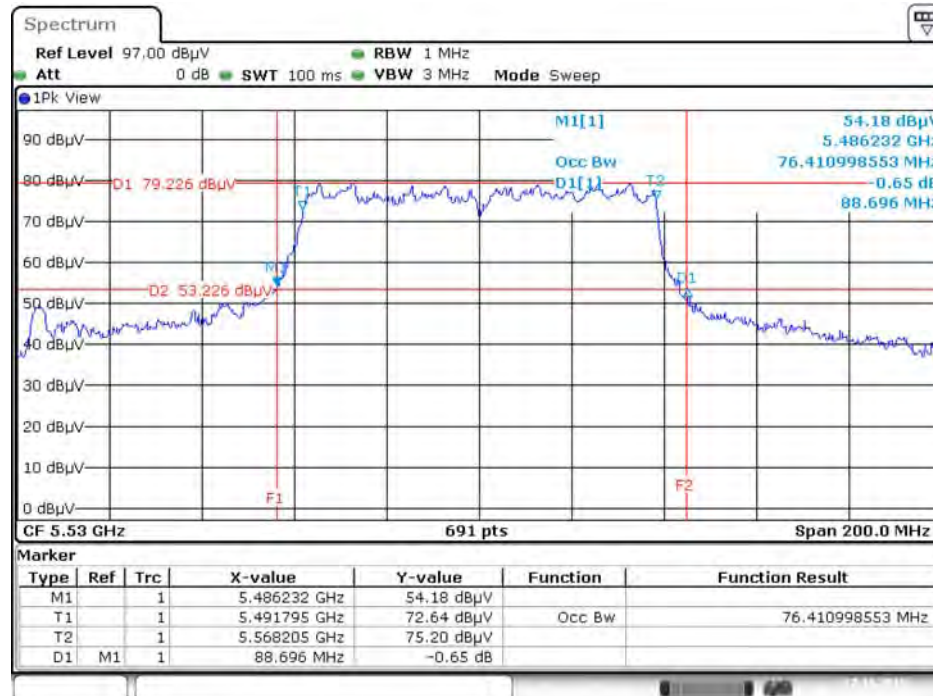
Date: 27.NOV.2015 23:44:07

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5290 MHz



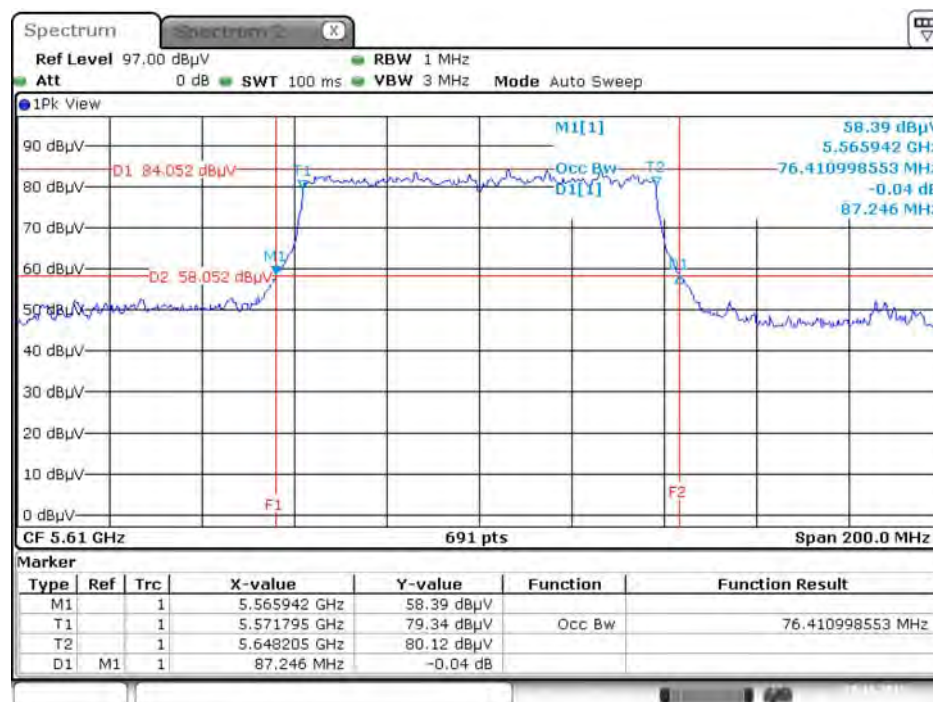
Date: 27.NOV.2015 23:47:09

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5530 MHz



Date: 27.NOV.2015 23:48:13

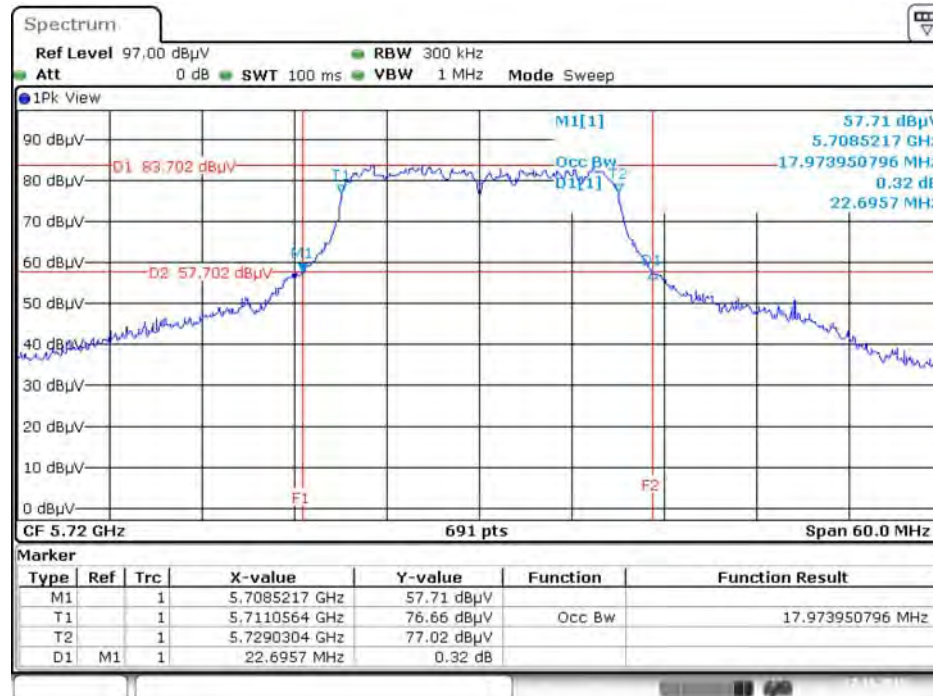
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 29.NOV.2015 01:39:03

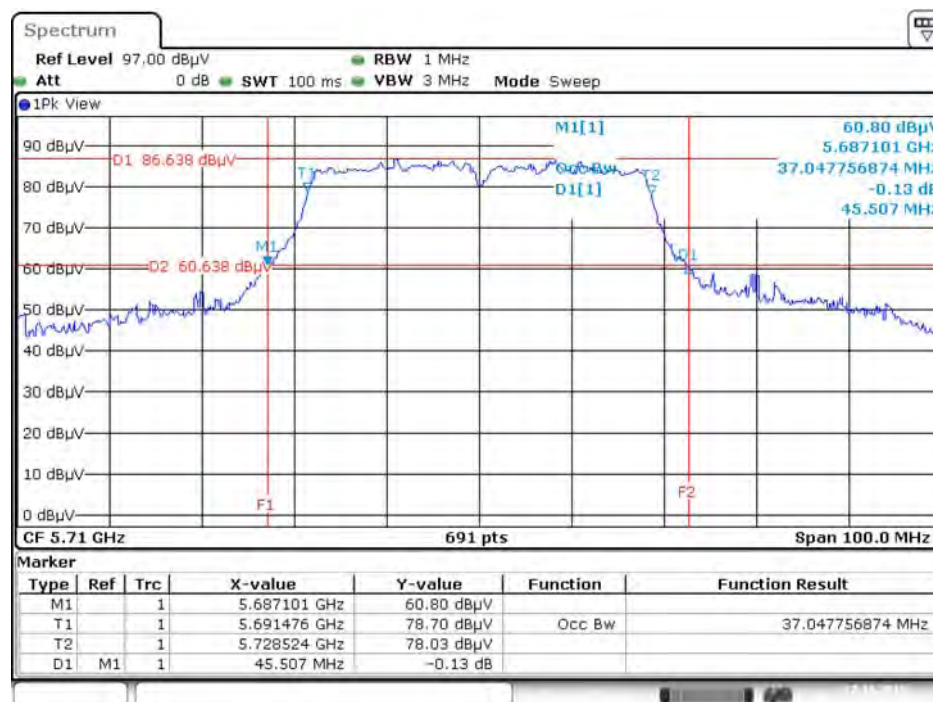
Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



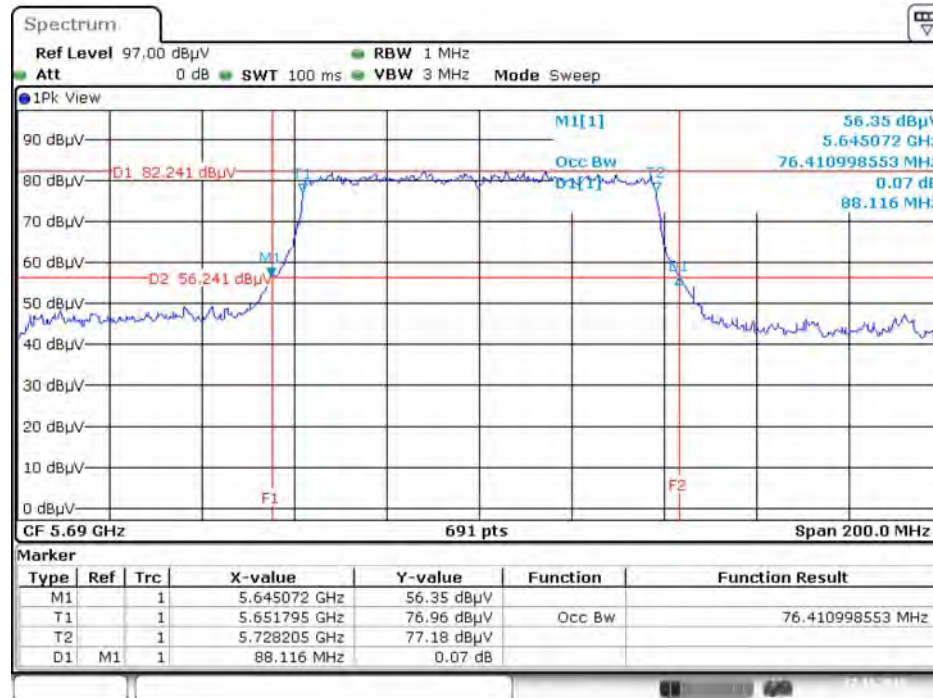
Date: 27.NOV.2015 09:39:47

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 27.NOV.2015 10:39:58

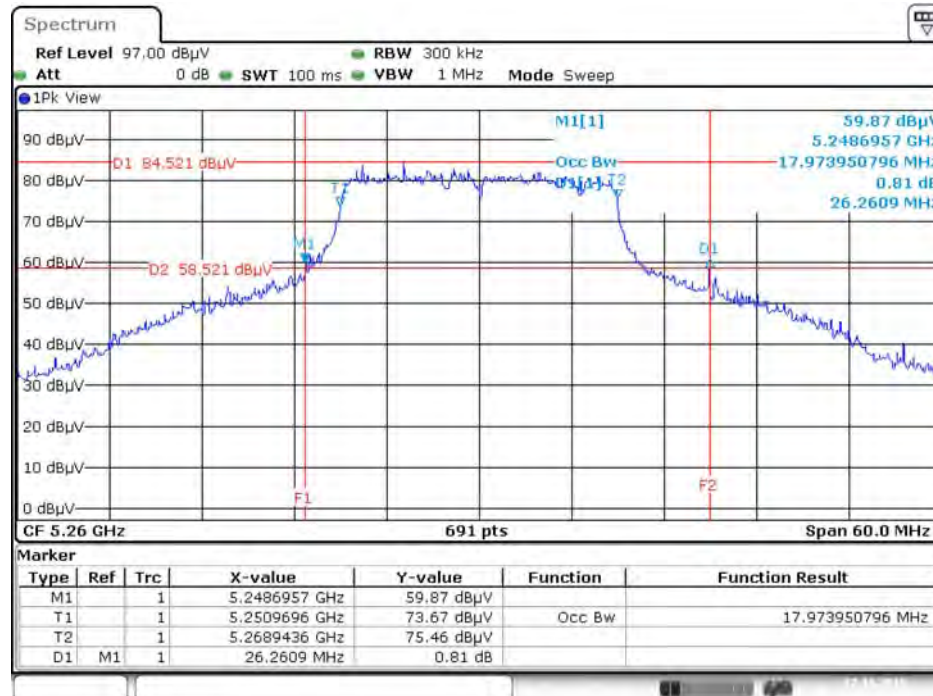
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 27.NOV.2015 09:51:45

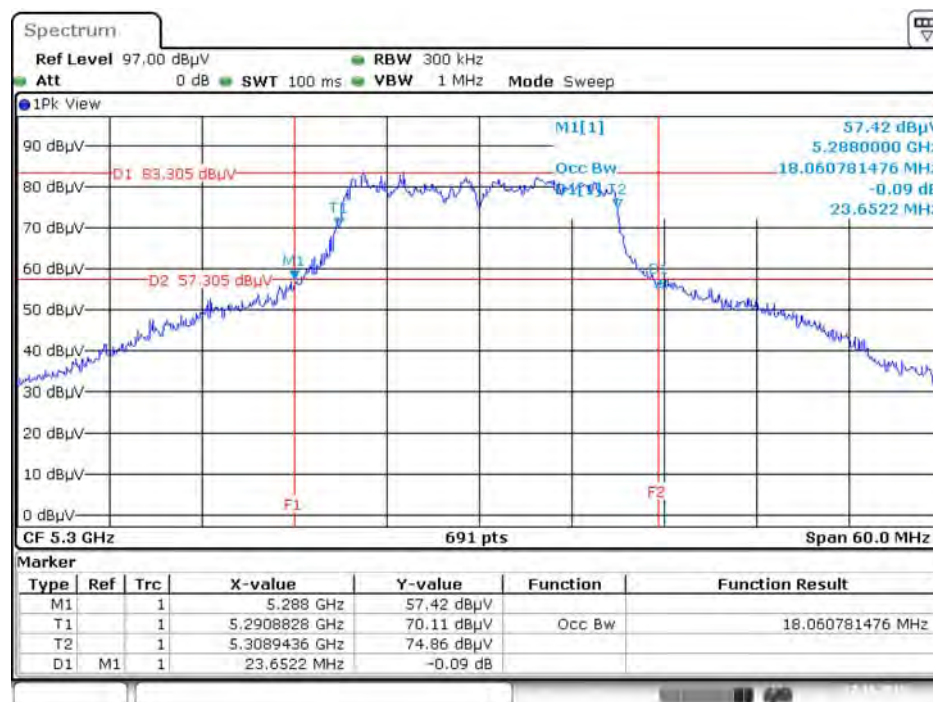
Mode 6: EUT 1 + Set 6 Sector Antenna / 4 dBi

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5260 MHz



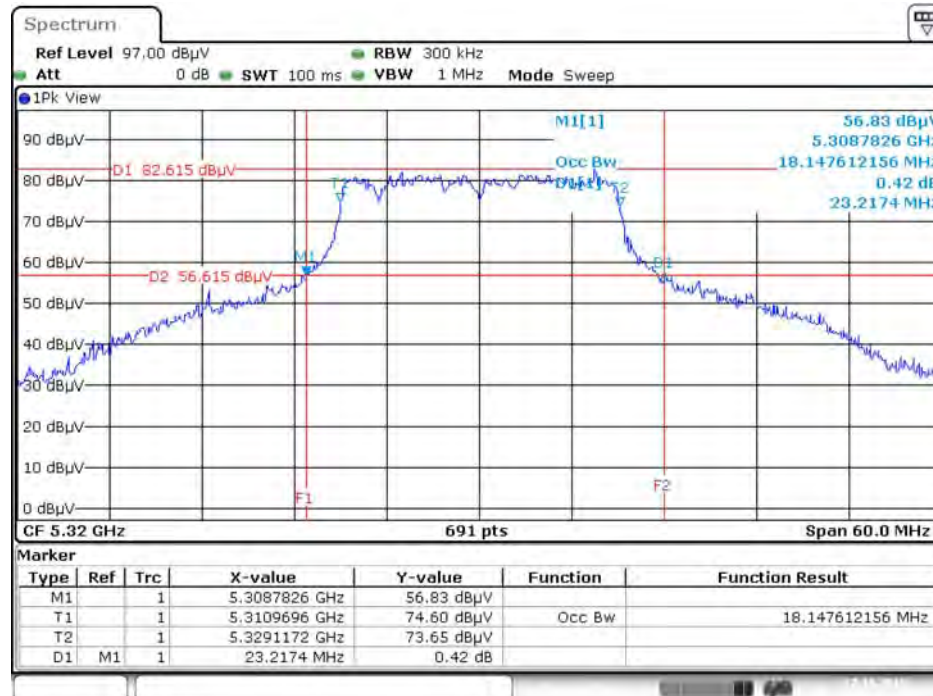
Date: 27.NOV.2015 21:52:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5300 MHz



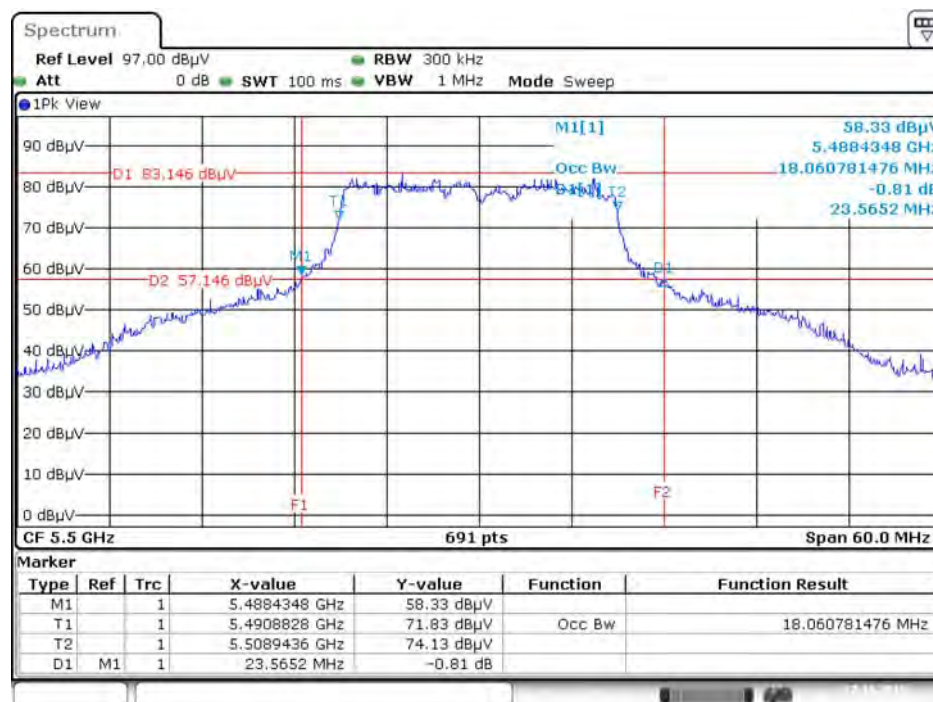
Date: 27.NOV.2015 21:53:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



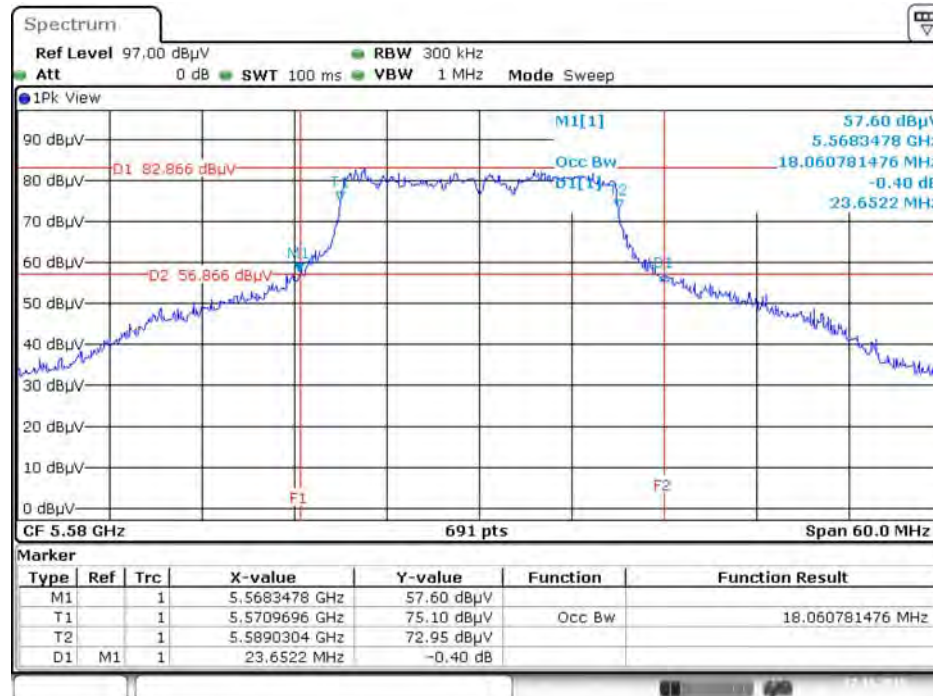
Date: 27.NOV.2015 21:53:42

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5500 MHz



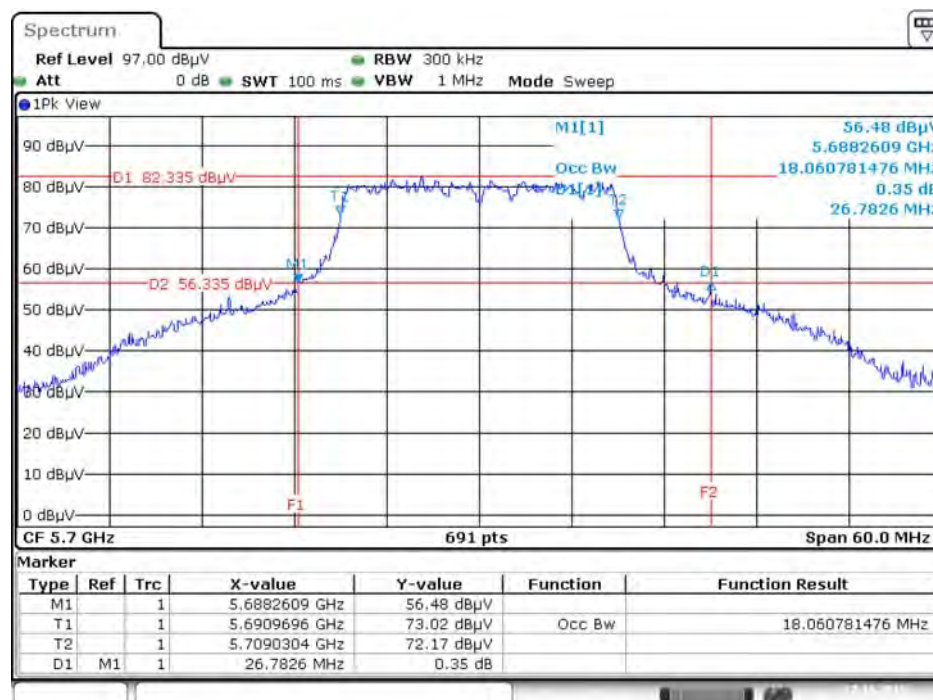
Date: 27.NOV.2015 21:58:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



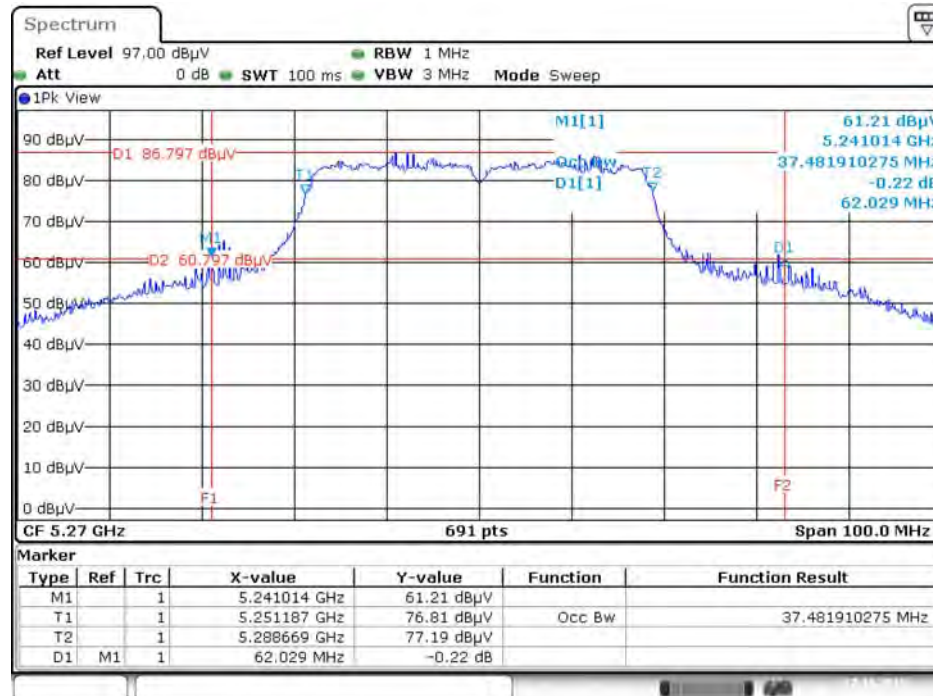
Date: 27.NOV.2015 21:58:50

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz

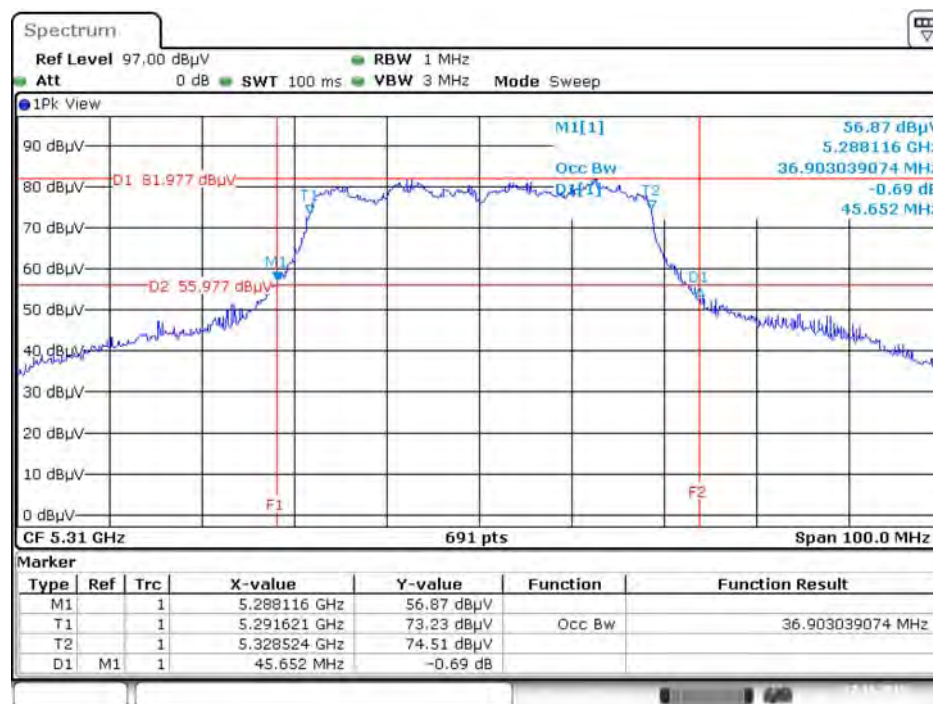


Date: 27.NOV.2015 21:59:15

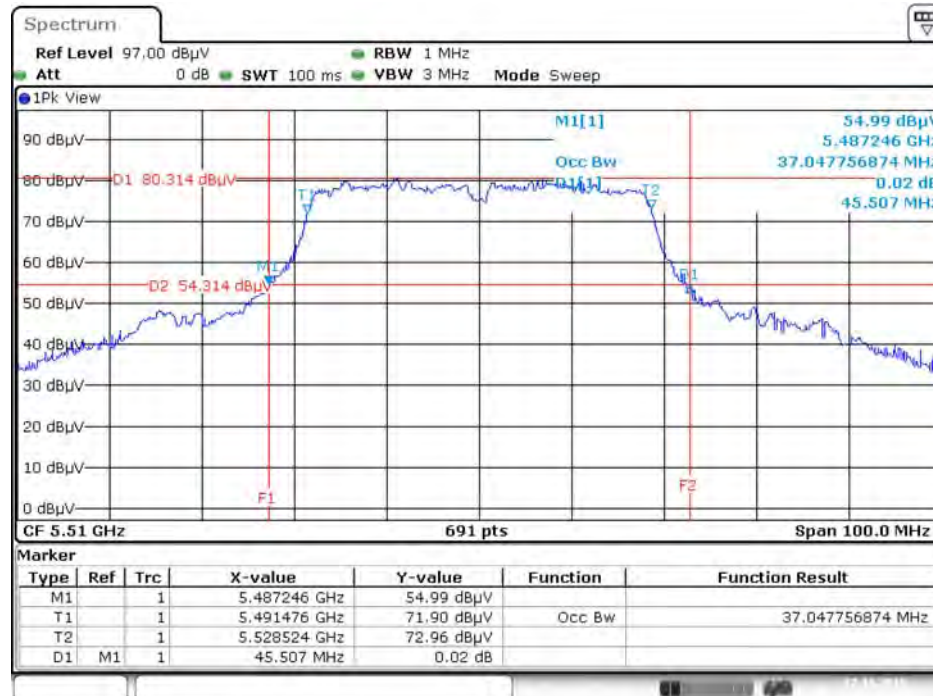
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5310 MHz

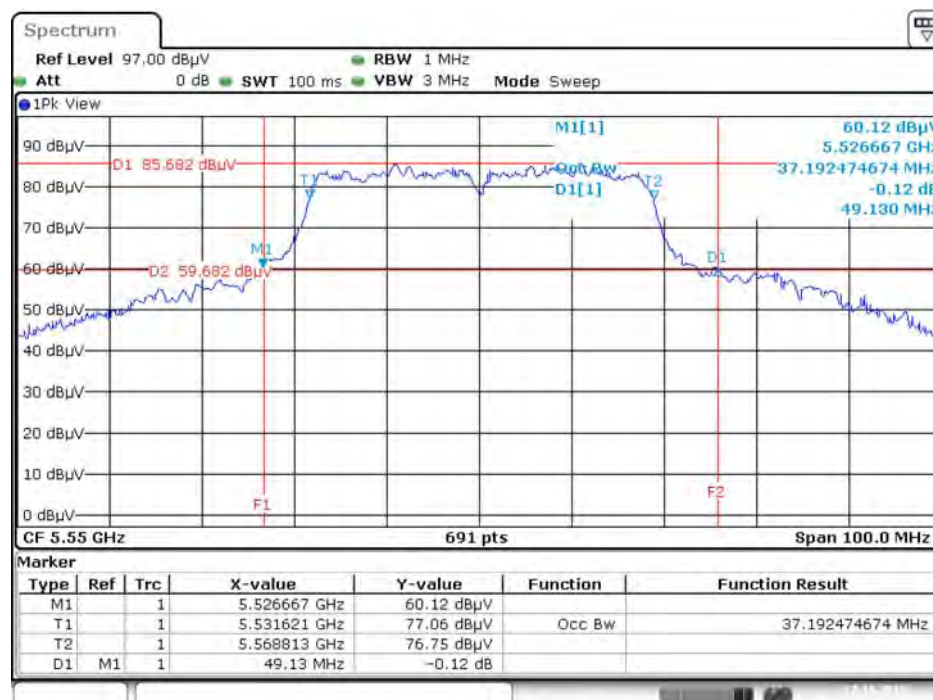


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5510 MHz



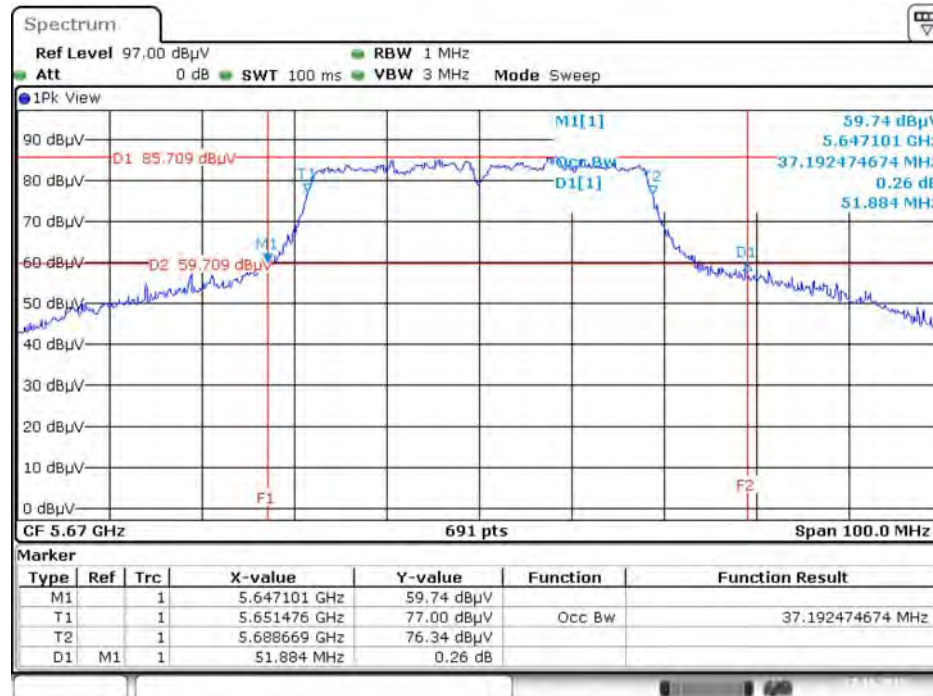
Date: 27.NOV.2015 22:07:03

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5550 MHz



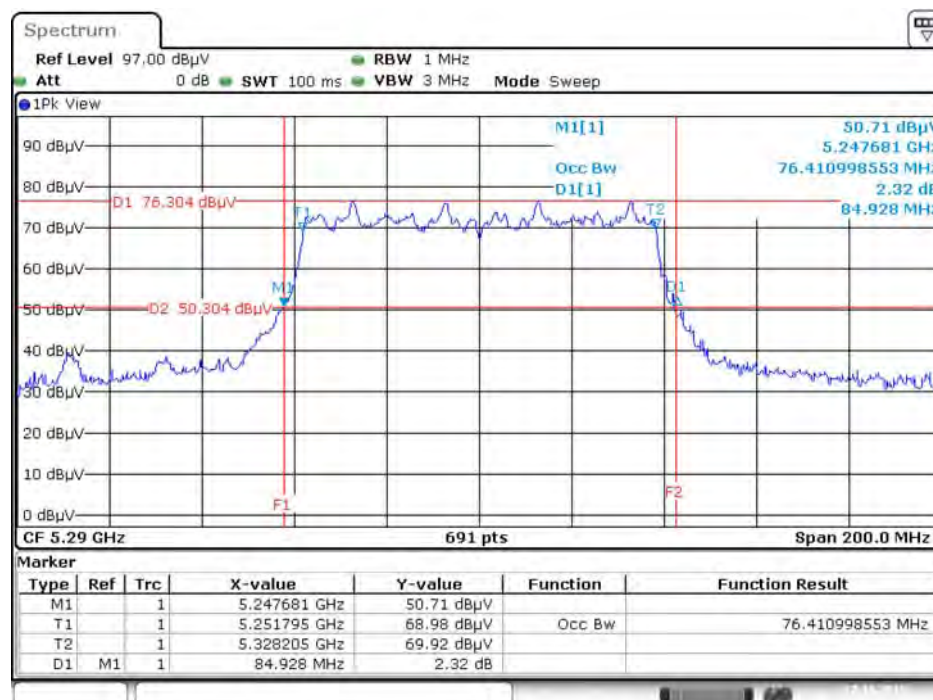
Date: 27.NOV.2015 22:07:38

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5670 MHz



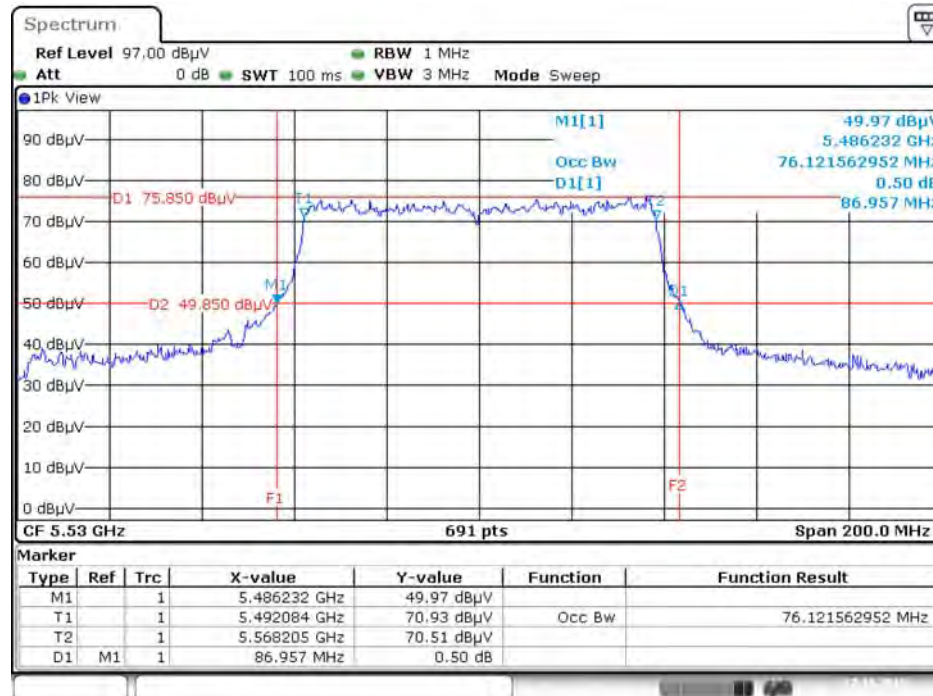
Date: 27.NOV.2015 22:10:39

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5290 MHz



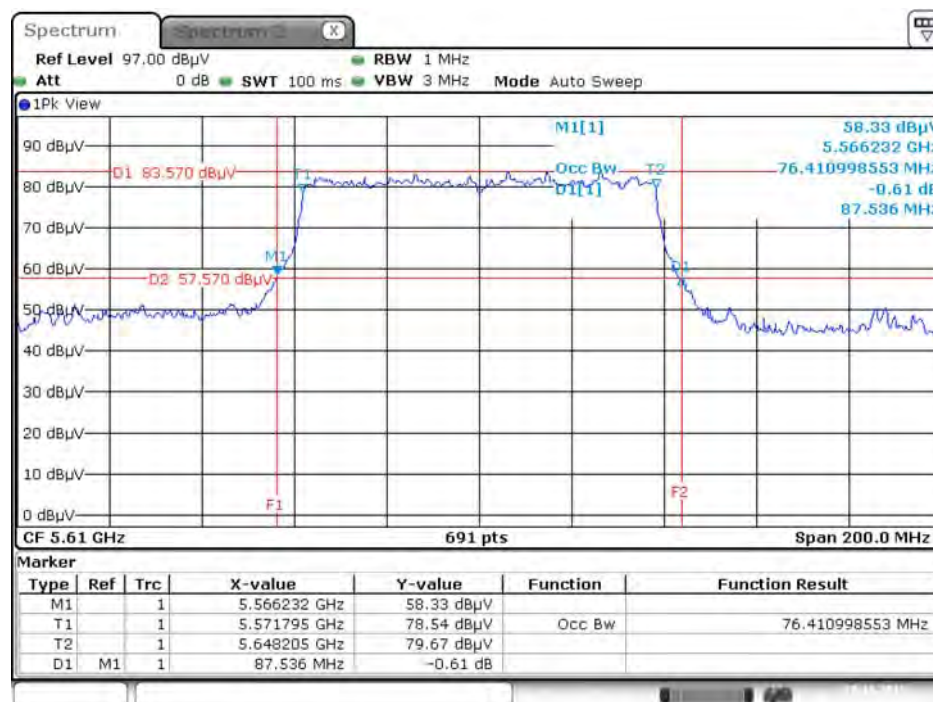
Date: 27.NOV.2015 22:12:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5530 MHz



Date: 27.NOV.2015 22:13:44

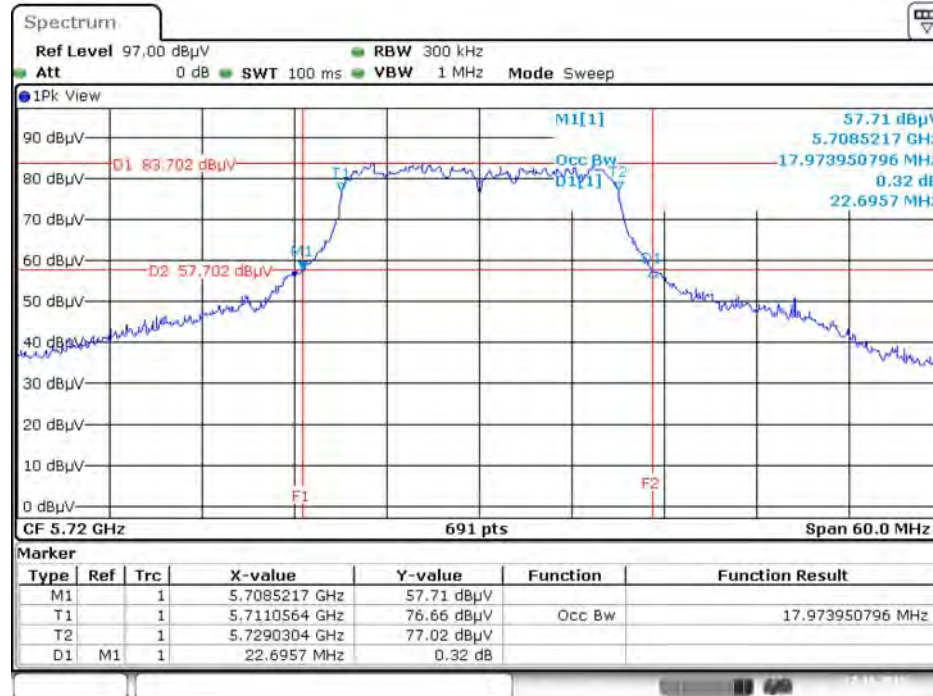
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 29.NOV.2015 01:43:20

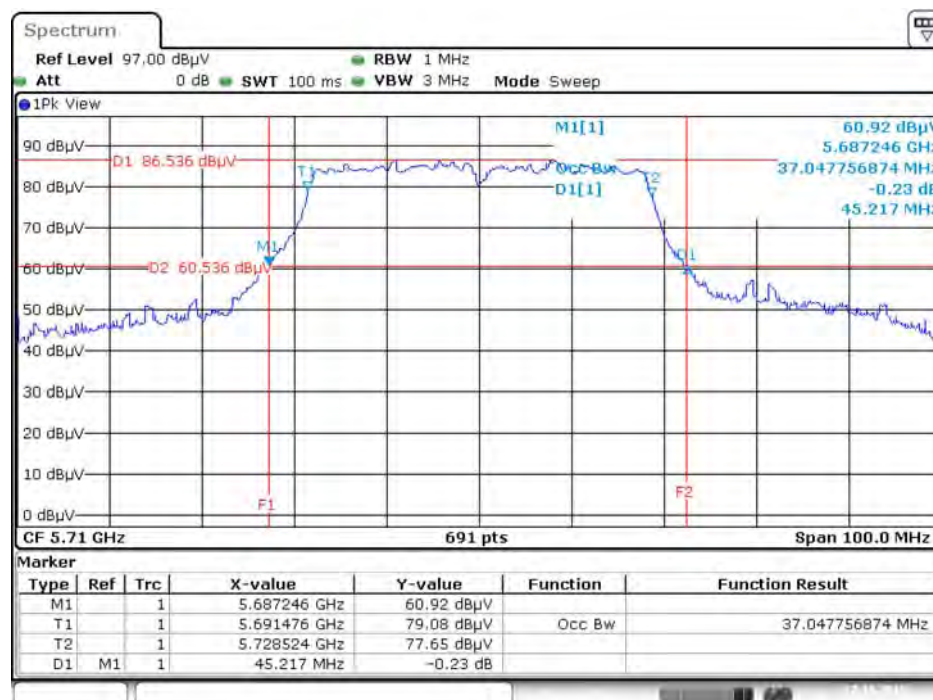
Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



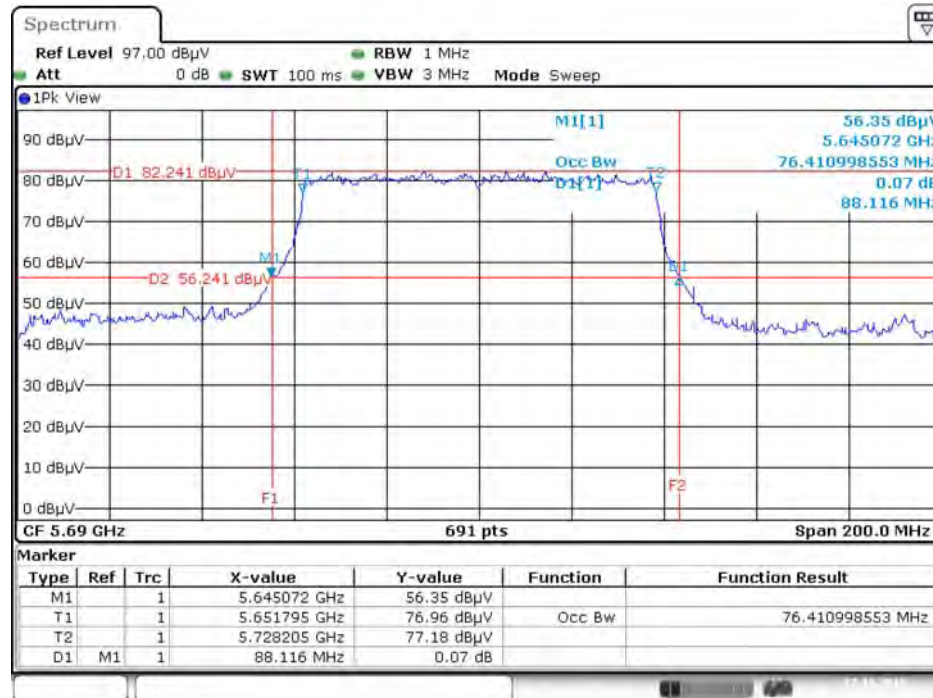
Date: 27.NOV.2015 09:39:47

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 27.NOV.2015 09:44:14

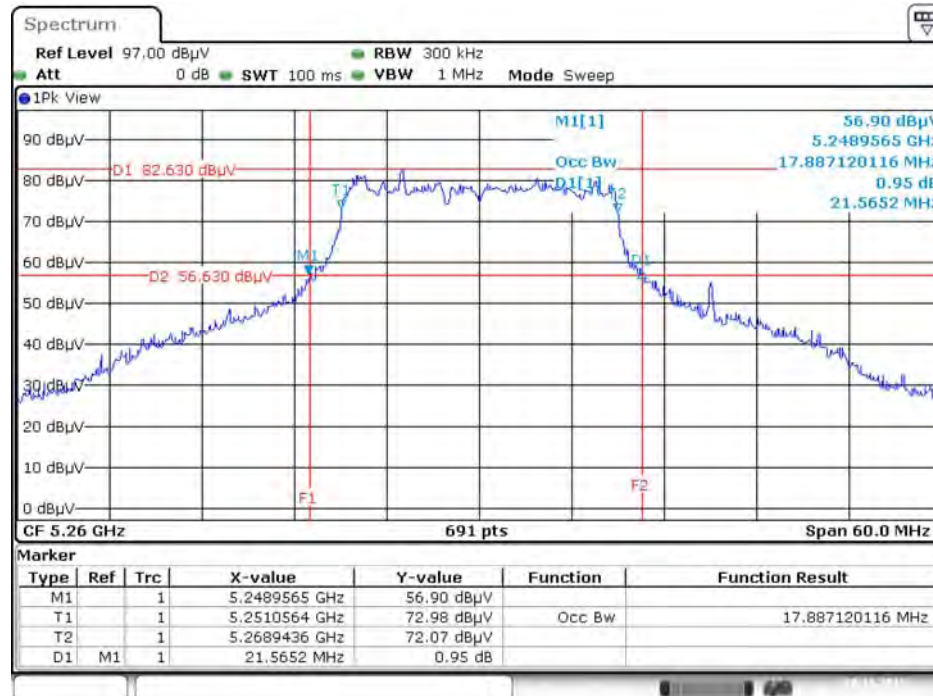
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 27.NOV.2015 09:51:45

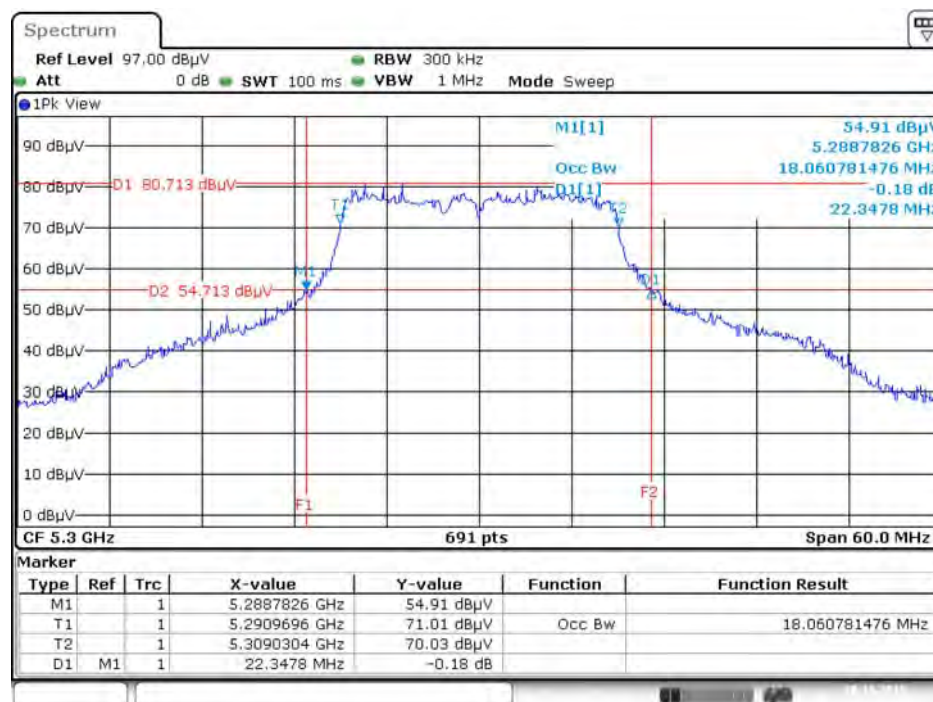
Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5260 MHz



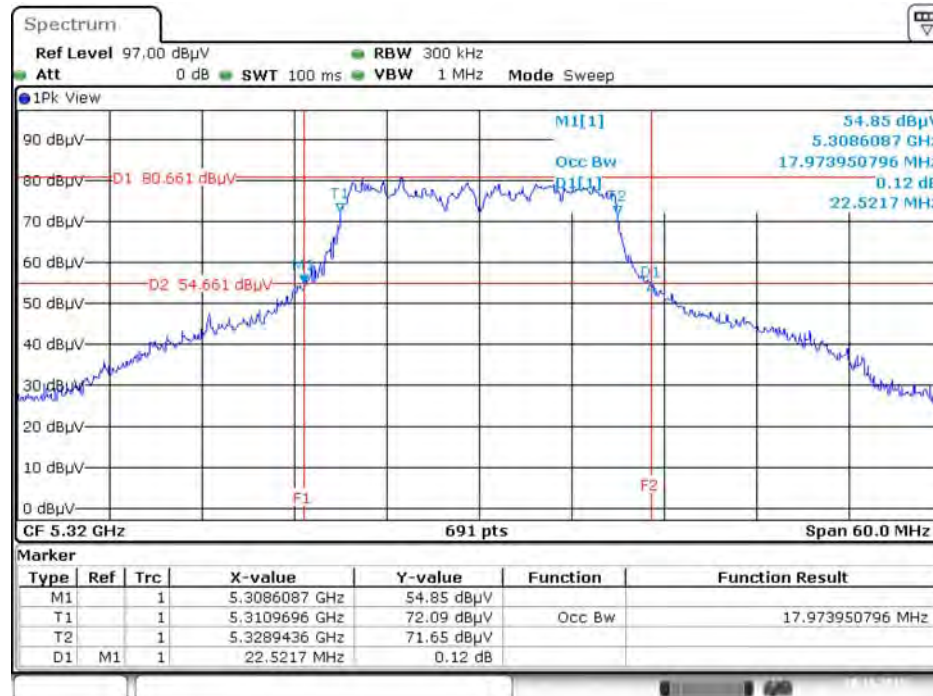
Date: 28.NOV.2015 00:20:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5300 MHz



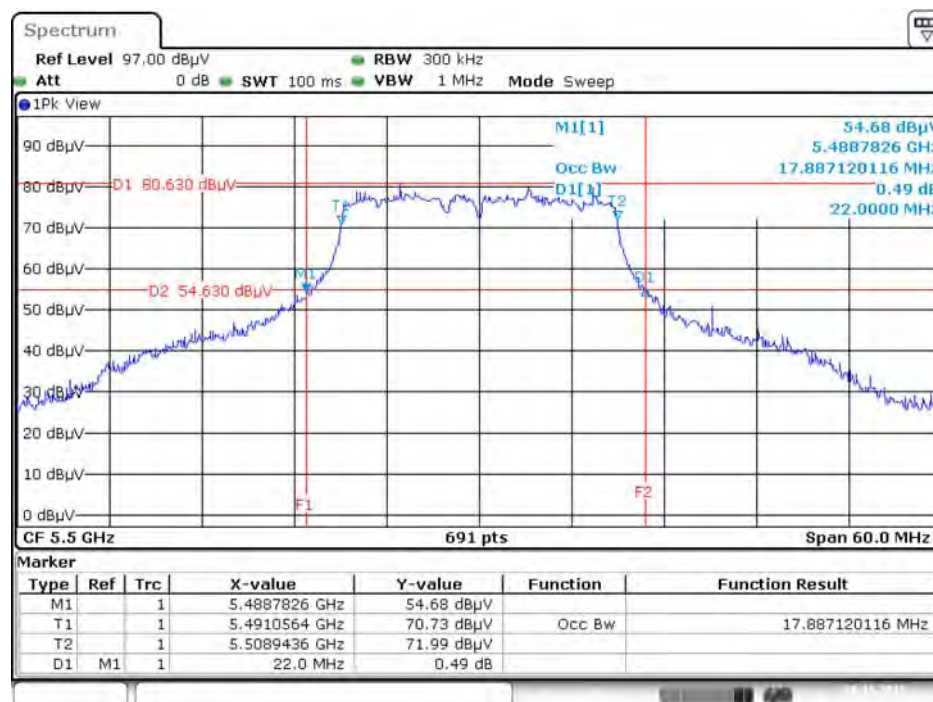
Date: 28.NOV.2015 00:20:26

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



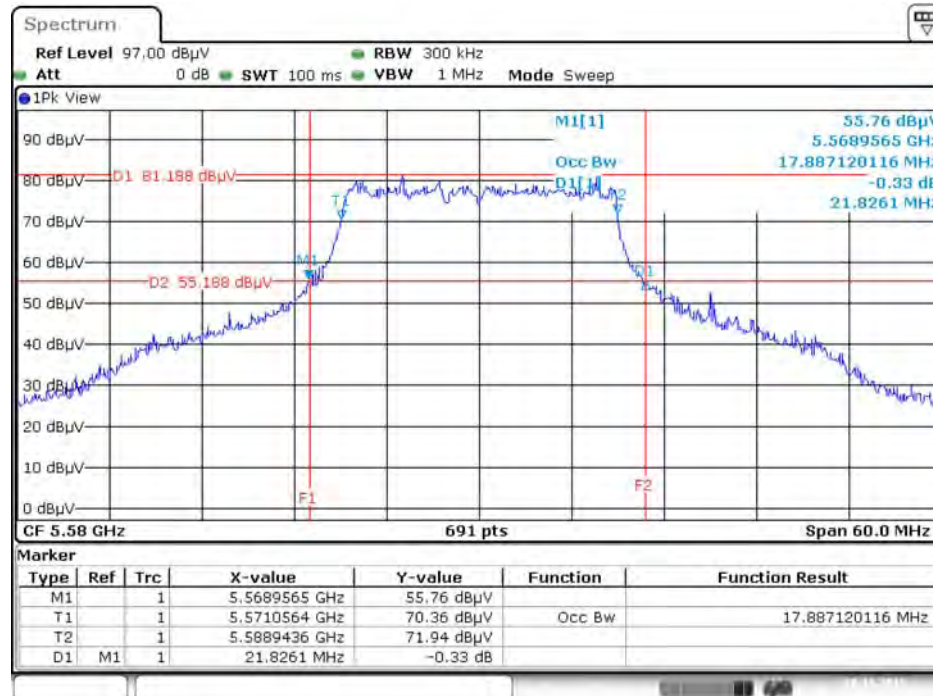
Date: 28.NOV.2015 00:20:49

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5500 MHz



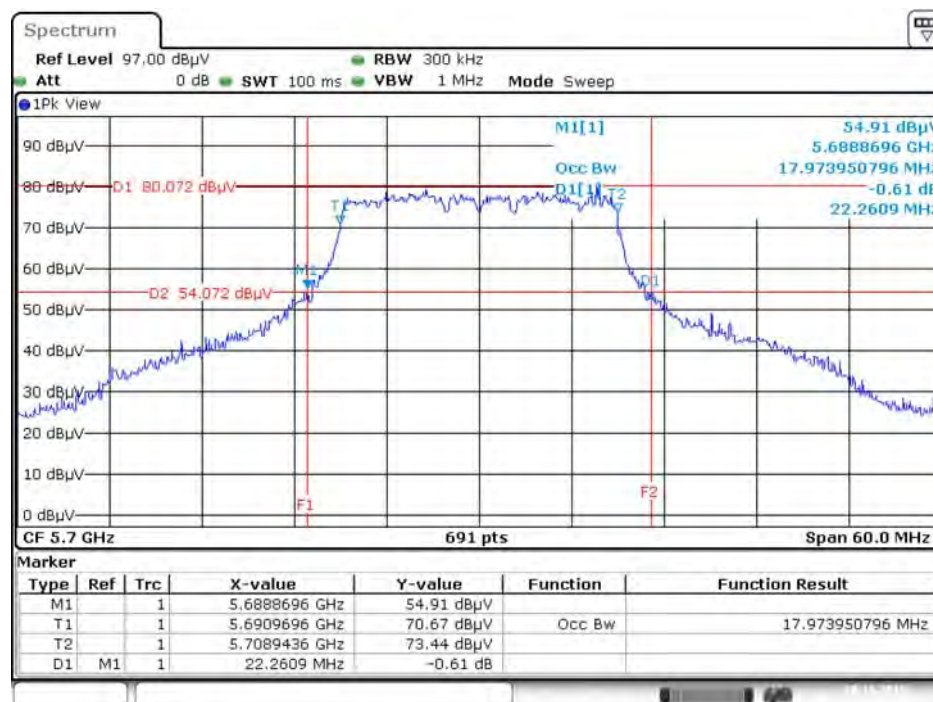
Date: 28.NOV.2015 00:21:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



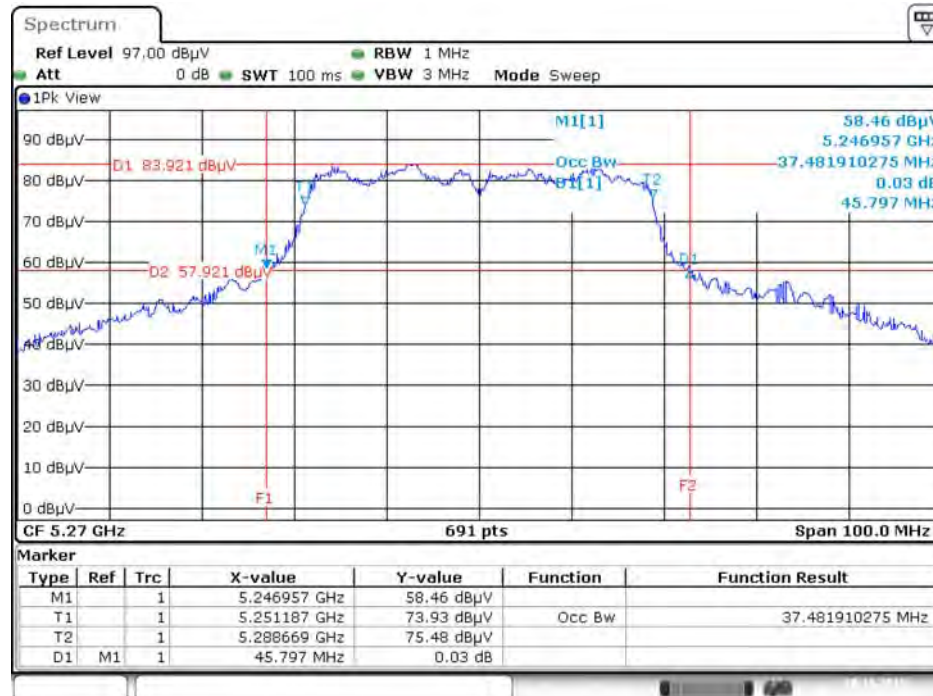
Date: 28.NOV.2015 00:21:45

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz



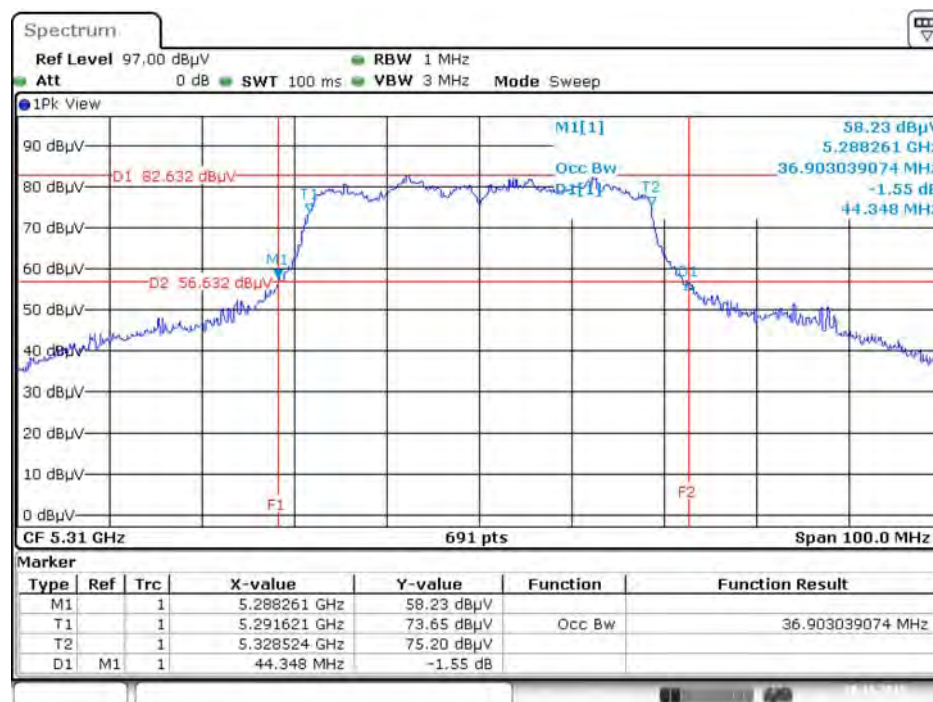
Date: 28.NOV.2015 00:22:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



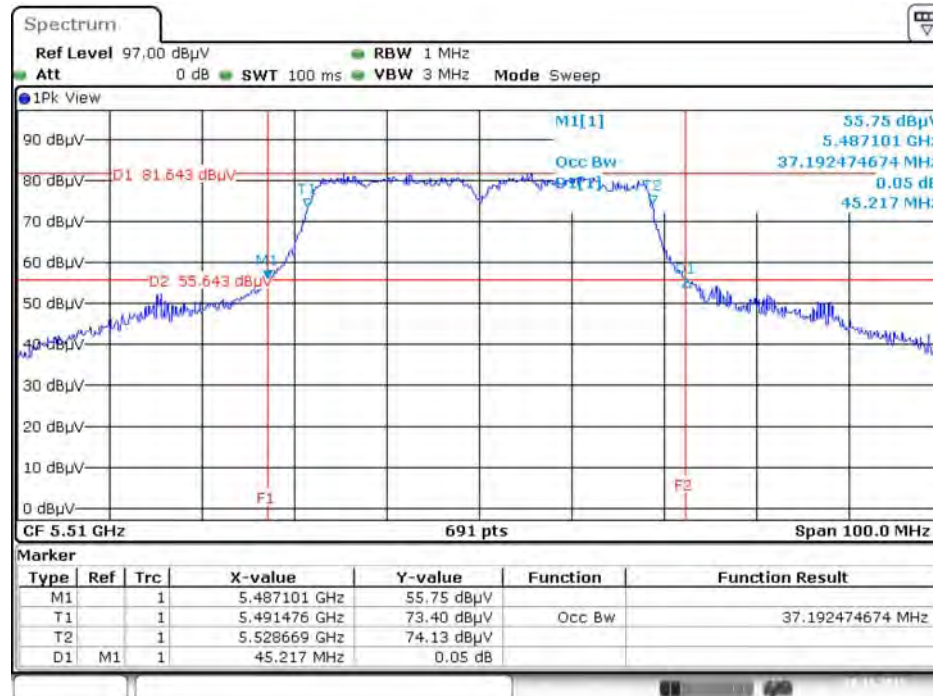
Date: 28.NOV.2015 00:25:37

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5310 MHz



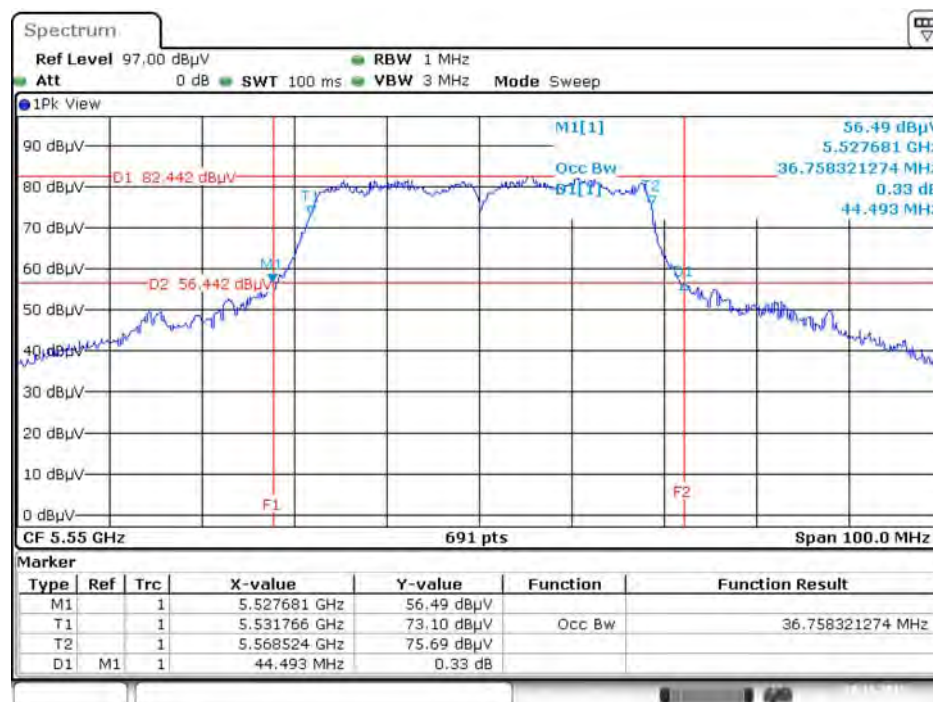
Date: 28.NOV.2015 01:15:19

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5510 MHz



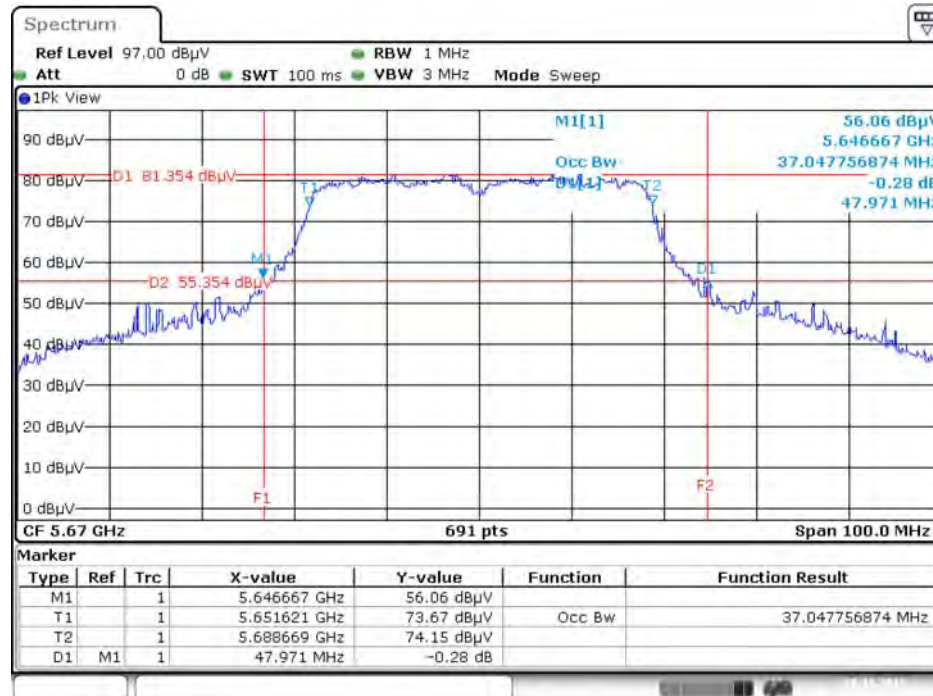
Date: 28.NOV.2015 00:26:59

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5550 MHz



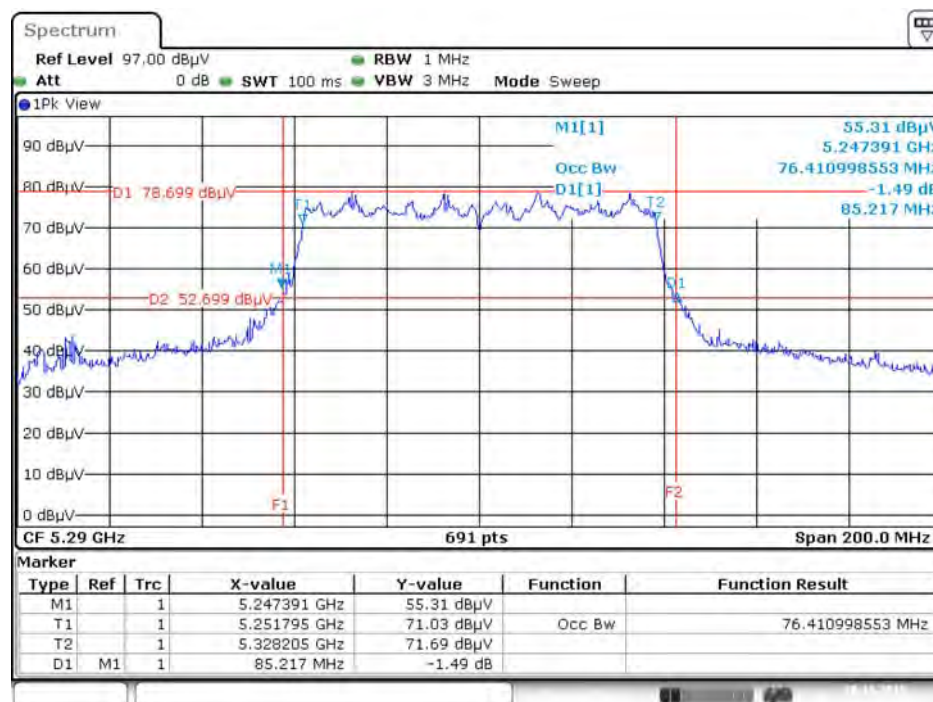
Date: 28.NOV.2015 00:27:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5670 MHz



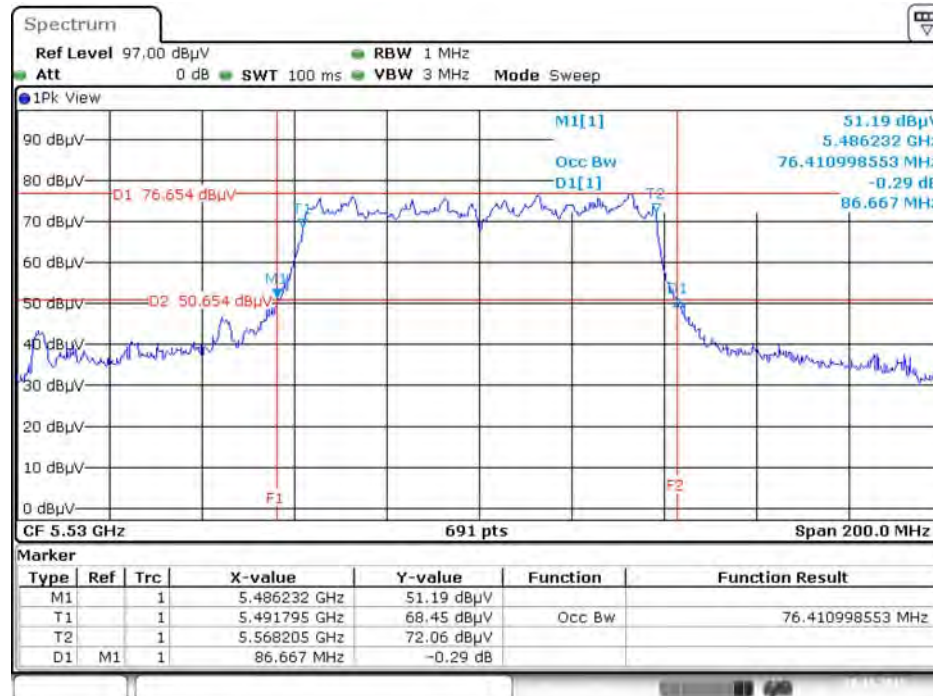
Date: 28.NOV.2015 00:28:11

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5290 MHz



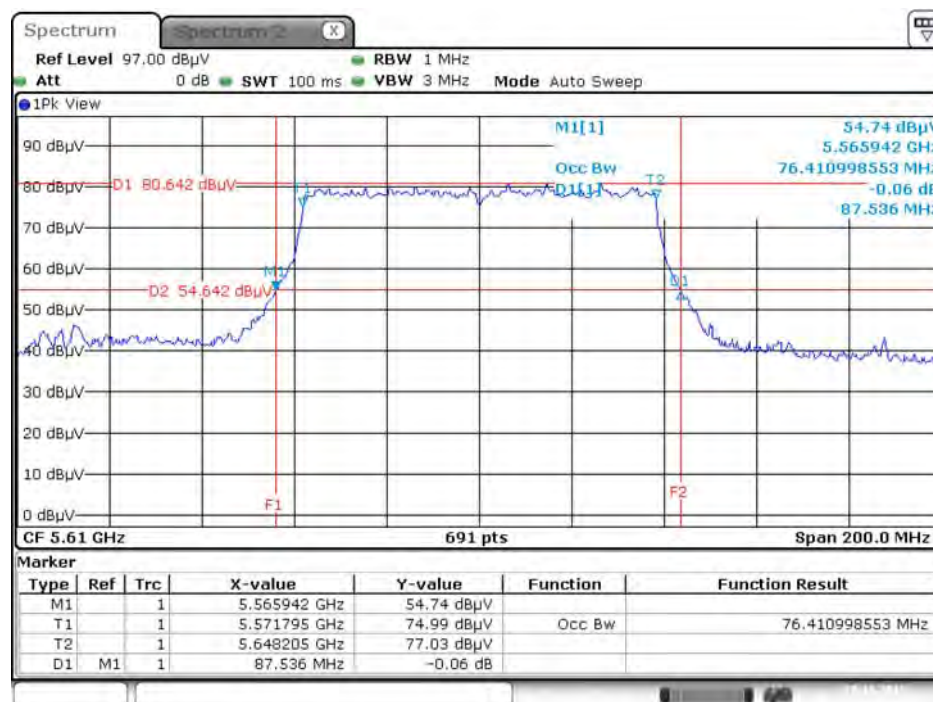
Date: 28.NOV.2015 01:17:51

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5530 MHz



Date: 28.NOV.2015 01:18:20

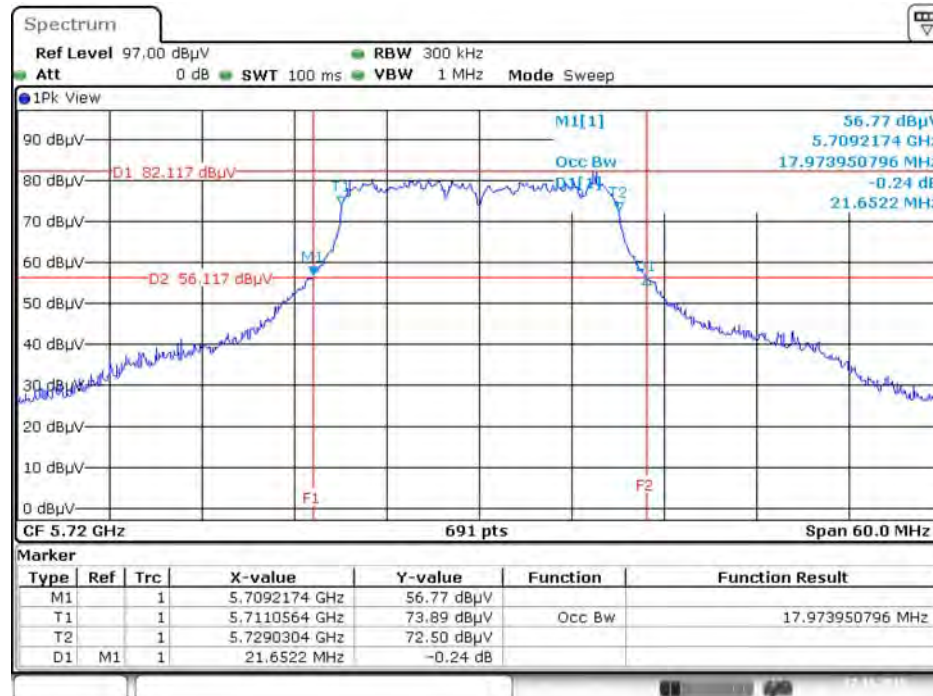
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 29.NOV.2015 01:40:24

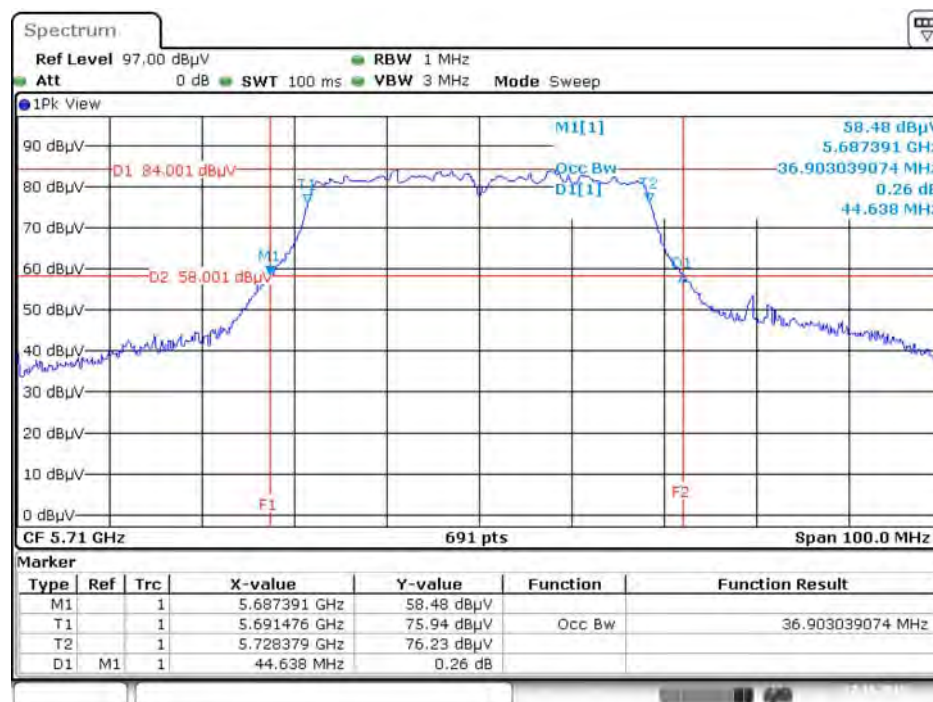
Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



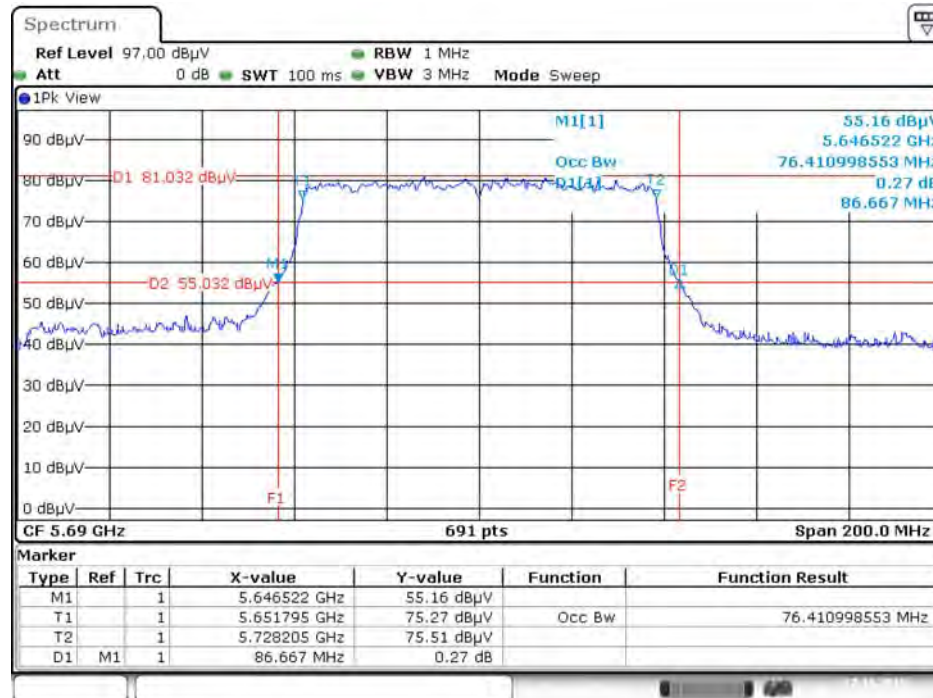
Date: 27.NOV.2015 10:51:26

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 27.NOV.2015 10:48:47

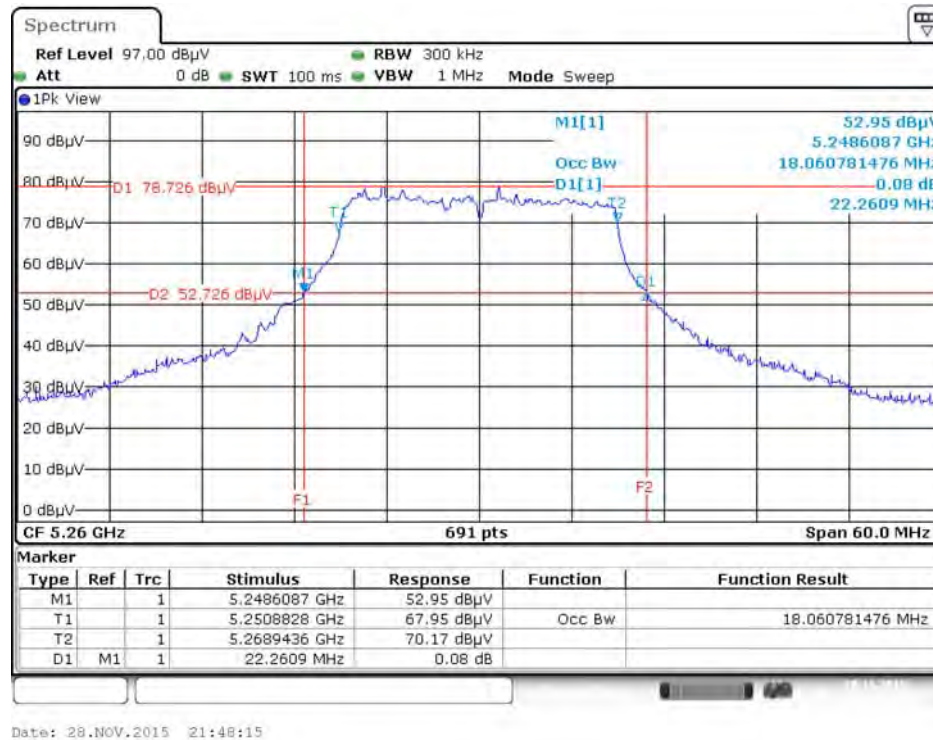
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



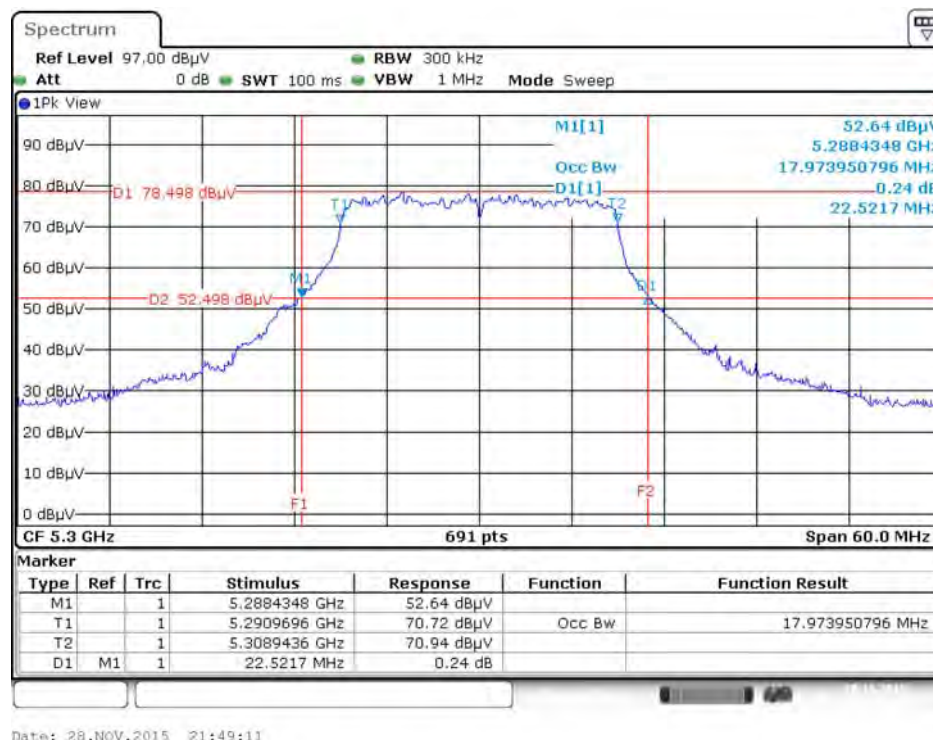
Date: 27.NOV.2015 10:46:04

Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi

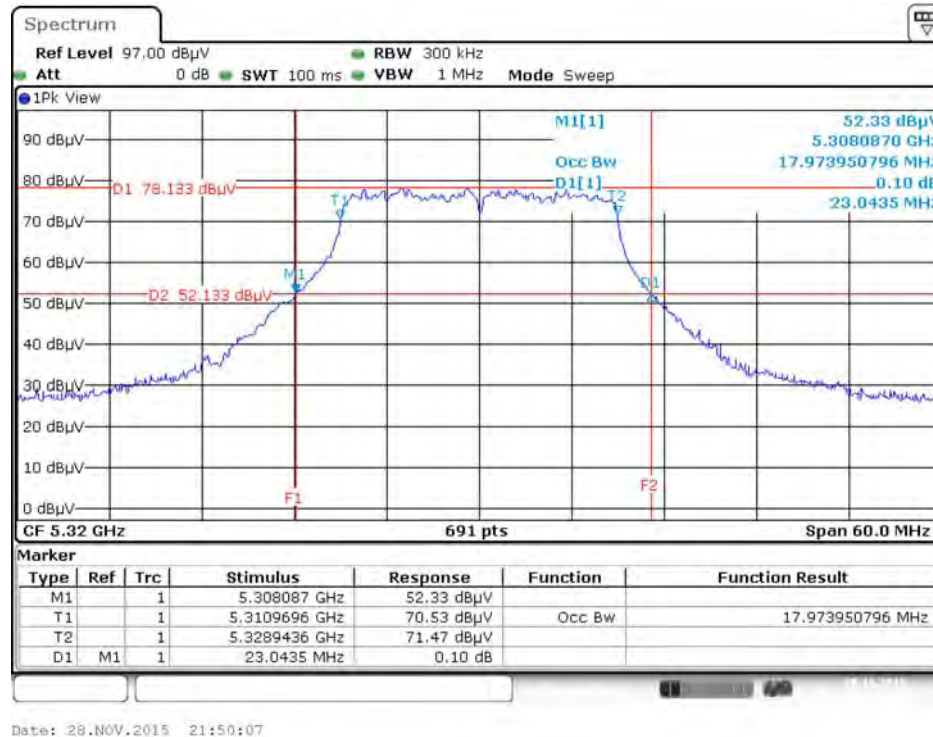
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5260 MHz



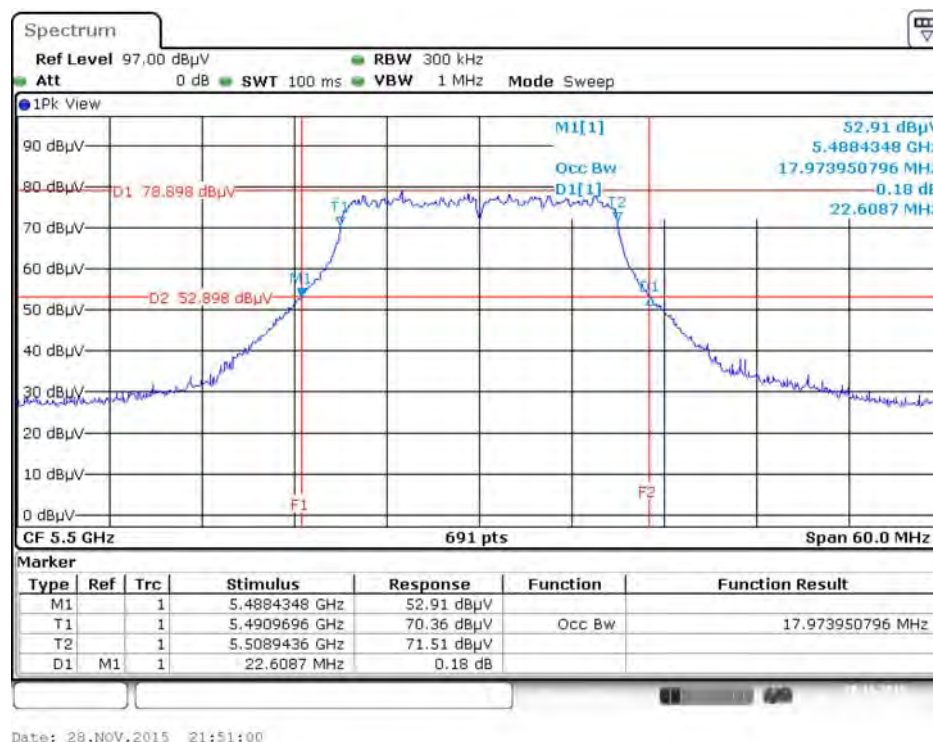
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5300 MHz



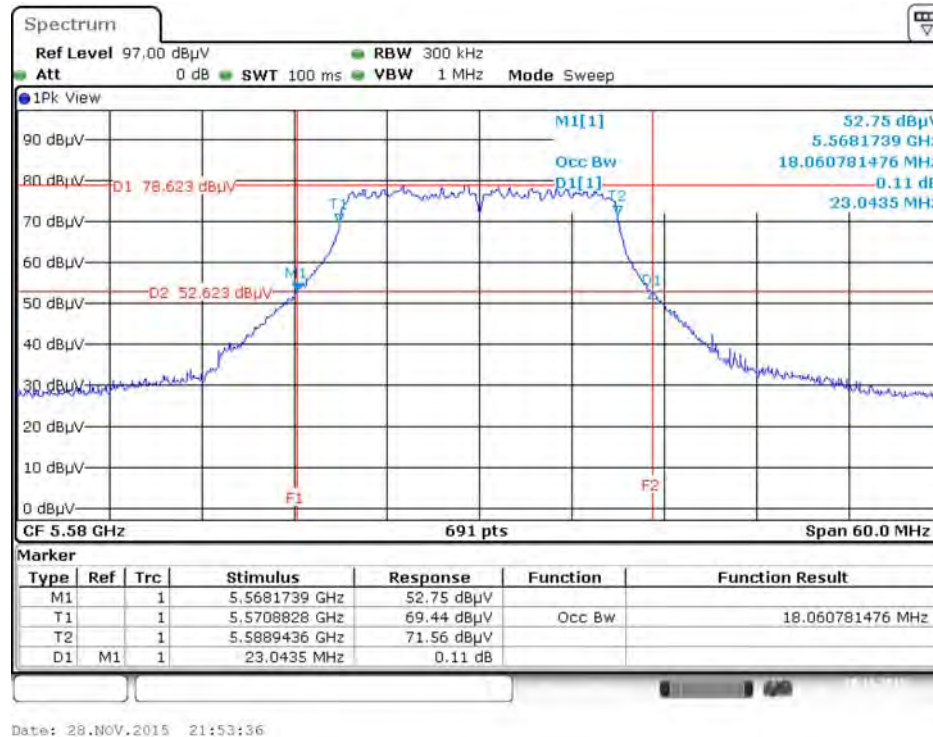
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



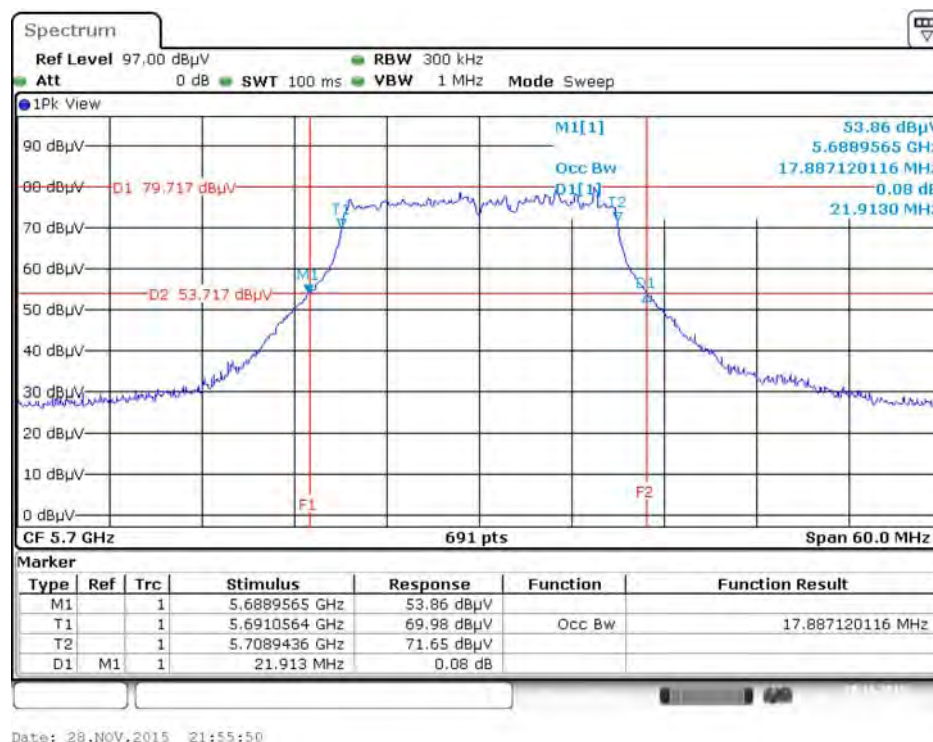
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5500 MHz



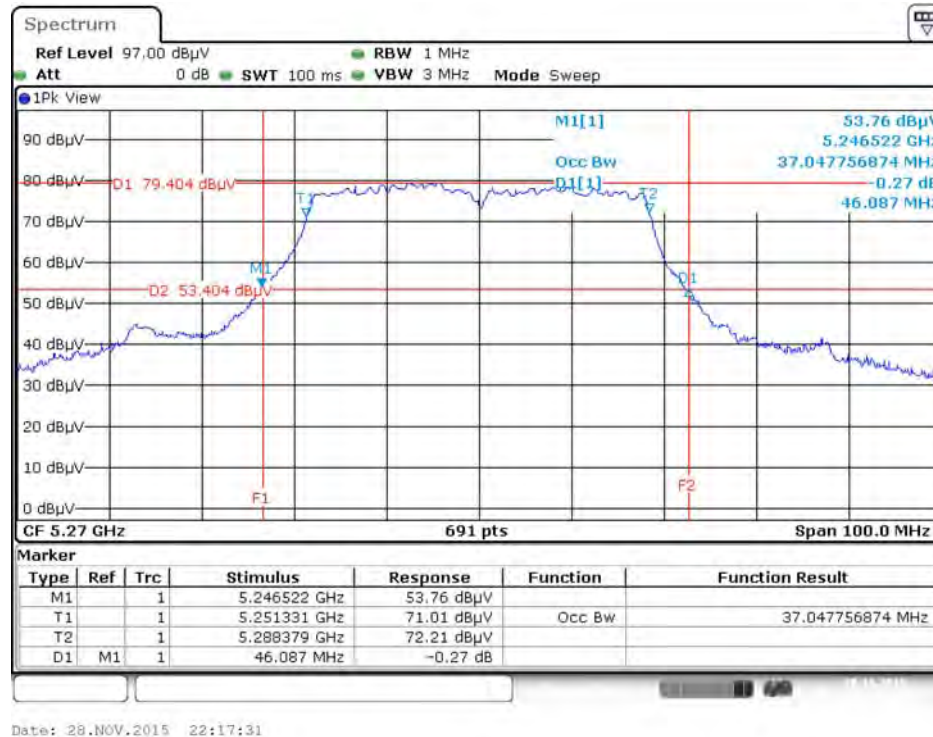
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



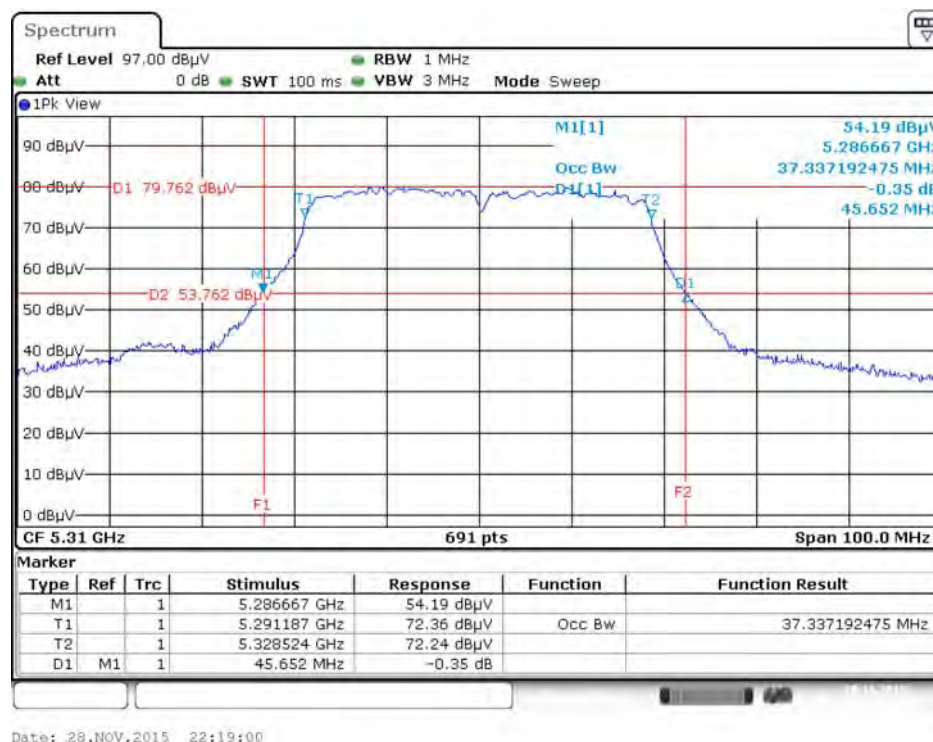
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz



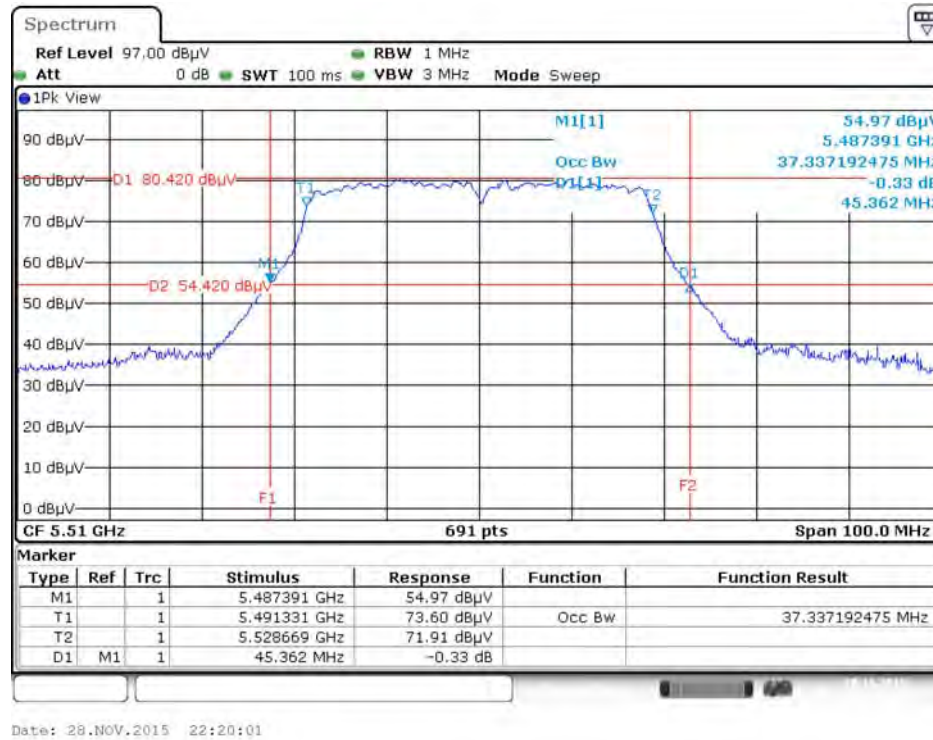
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 /
Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



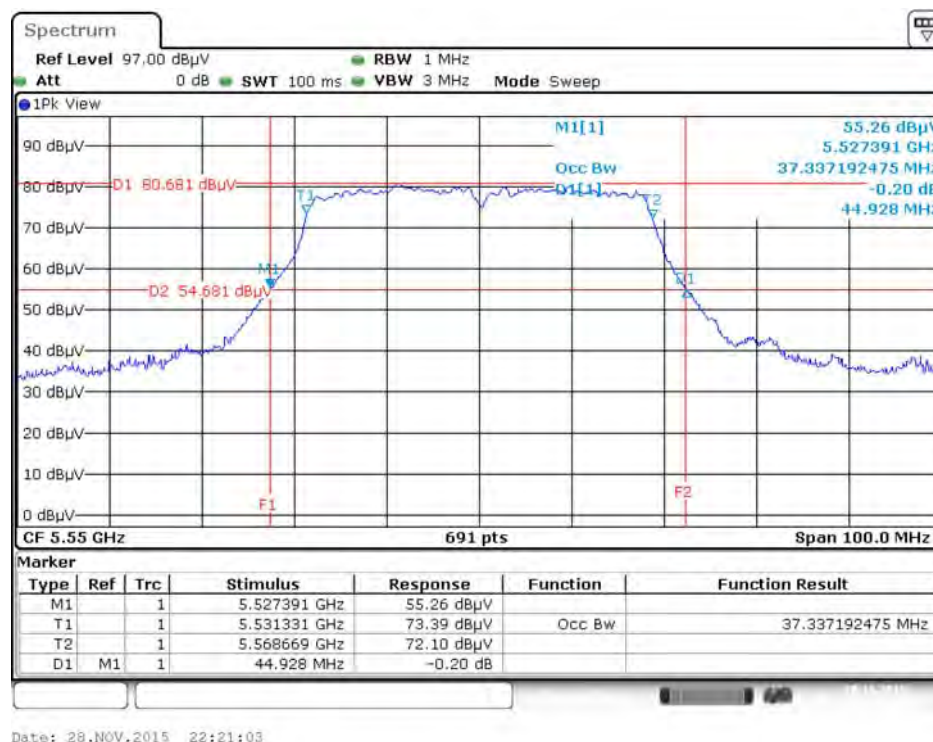
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 /
Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5310 MHz



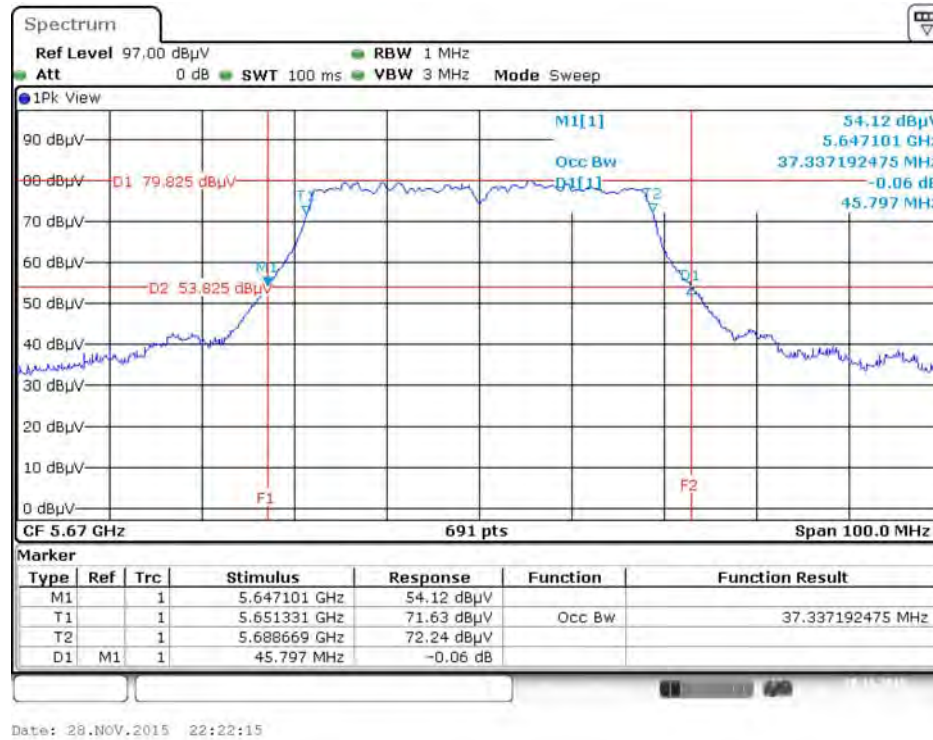
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5510 MHz



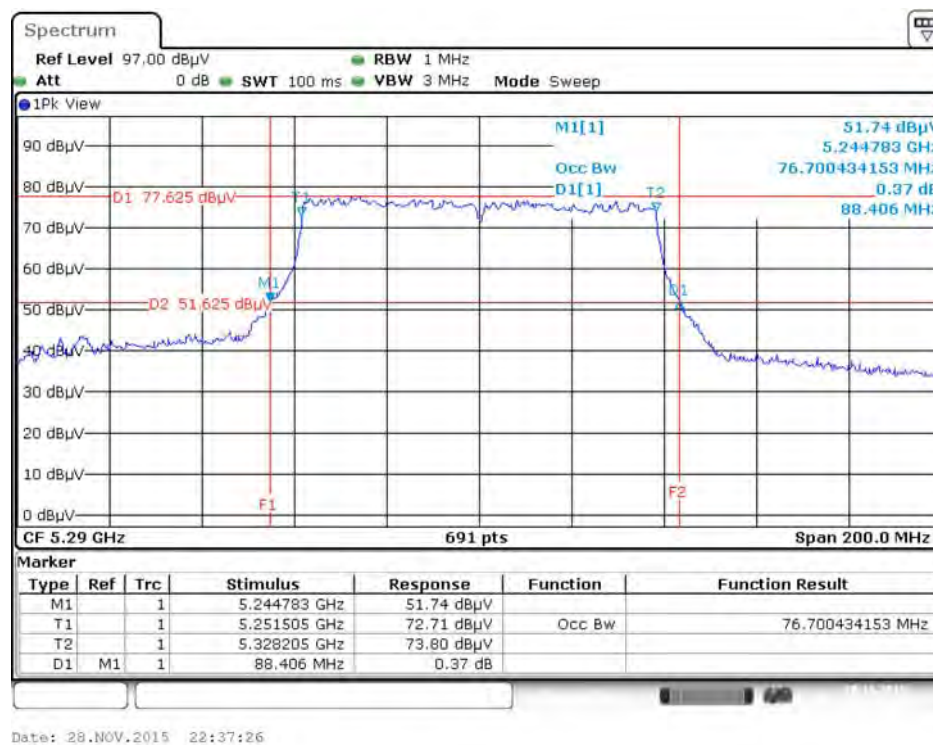
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5550 MHz



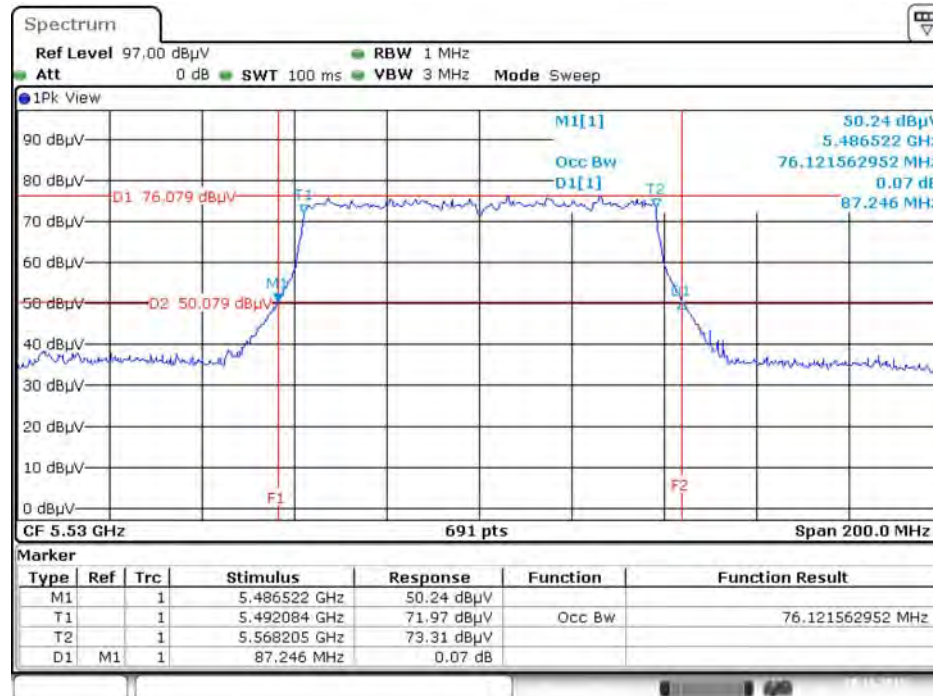
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5670 MHz



26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5290 MHz

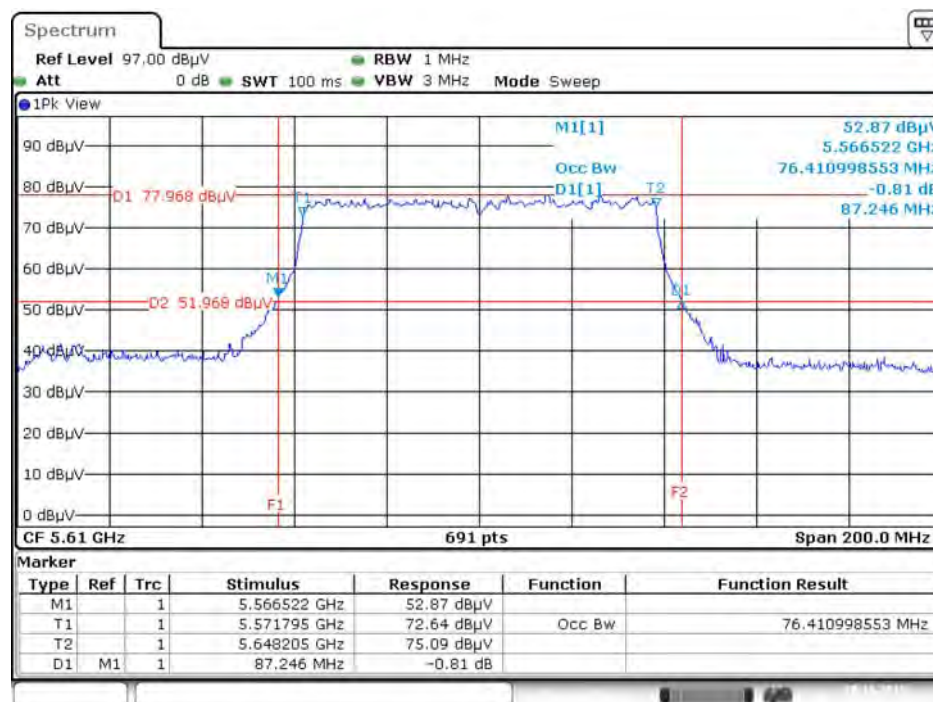


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5530 MHz



Date: 28.NOV.2015 22:41:07

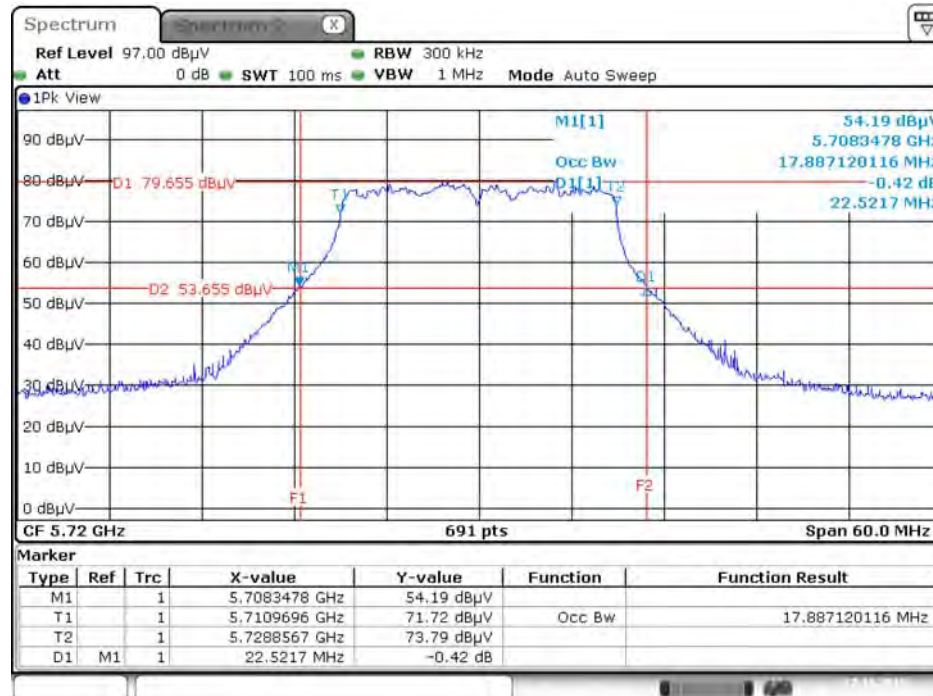
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 28.NOV.2015 22:44:12

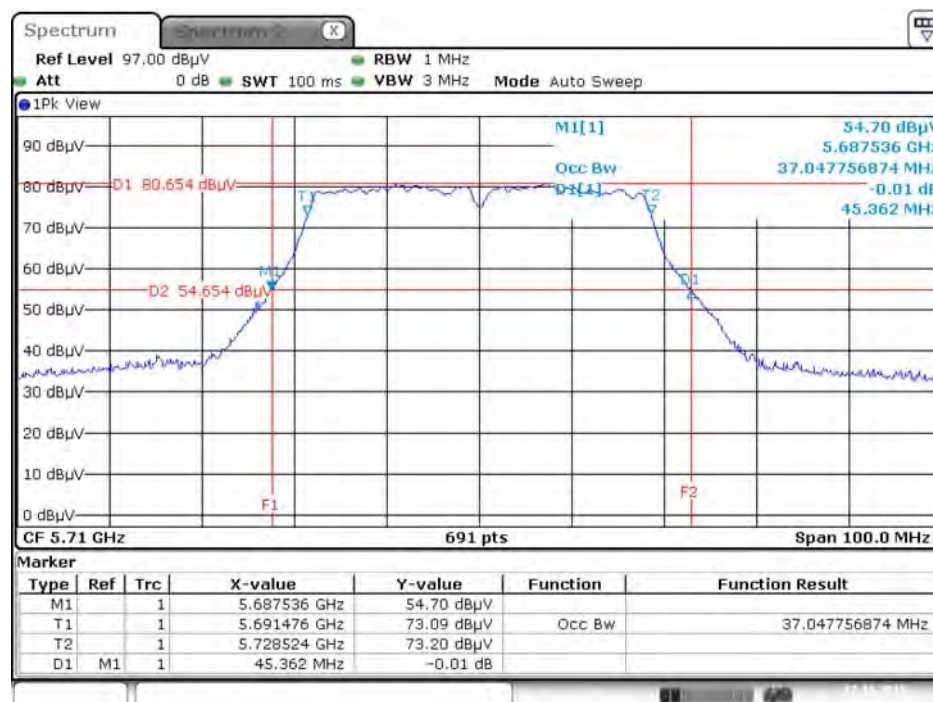
Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



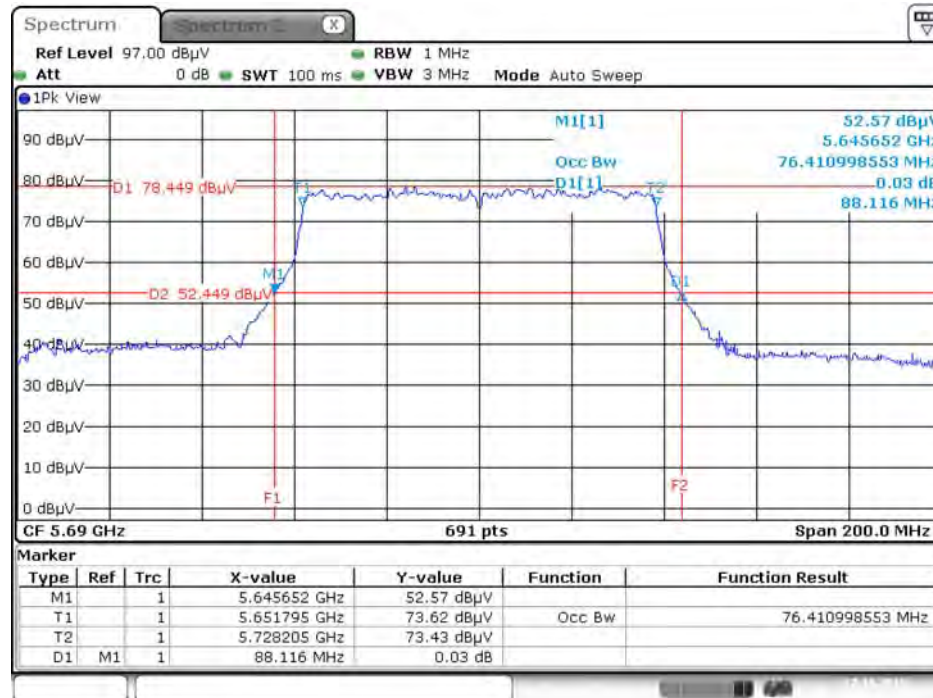
Date: 27.NOV.2015 03:04:09

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 27.NOV.2015 02:59:33

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 27.NOV.2015 03:02:36

4.3. 6dB Spectrum Bandwidth Measurement

4.3.1. Limit

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

4.3.2. 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

4.3.3. 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 v01 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.

4.3.4. Test Setup Layout

For Radiated 6dB Bandwidth Measurement:

This test setup layout is the same as that shown in section 4.6.4.

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 6dB Spectrum Bandwidth

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 1: EUT 1 + Set 1 Ceiling Mount Omni Antenna / 7 dBi		

Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW F2 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11ac MCS0/Nss1 VHT20	5720 MHz	17.68	5711.19	3.87	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	35.01	5692.49	2.51	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	75.36	5652.03	2.39	500	Complies

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 2: EUT 1 + Set 2 Sector Antenna / 6.5 dBi		

Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW F2 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11ac MCS0/Nss1 VHT20	5720 MHz	17.74	5711.13	3.87	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	36.29	5691.91	3.20	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	74.78	5652.32	2.10	500	Complies

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi		

Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW F2 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11ac MCS0/Nss1 VHT20	5720 MHz	17.80	5711.13	3.93	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	34.90	5692.73	2.62	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	75.65	5651.74	2.39	500	Complies

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi		

Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW F2 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11ac MCS0/Nss1 VHT20	5720 MHz	17.80	5711.13	3.93	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	33.62	5693.65	2.27	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	76.52	5651.74	3.26	500	Complies

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 5: EUT 1 + Set 5 Sector Antenna / 4.5 dBi		

Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW F2 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11ac MCS0/Nss1 VHT20	5720 MHz	17.74	5711.13	3.87	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	36.06	5691.91	2.97	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	76.52	5651.74	3.26	500	Complies

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 6: EUT 1 + Set 6 Sector Antenna / 4 dBi		

Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW F2 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11ac MCS0/Nss1 VHT20	5720 MHz	17.68	5711.19	3.87	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	36.06	5691.91	2.97	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	76.52	5651.74	3.26	500	Complies

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi		

Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW F2 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11ac MCS0/Nss1 VHT20	5720 MHz	17.80	5711.13	3.93	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	33.62	5693.65	2.27	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	76.52	5651.74	3.26	500	Complies

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang		
Test Mode	Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi		

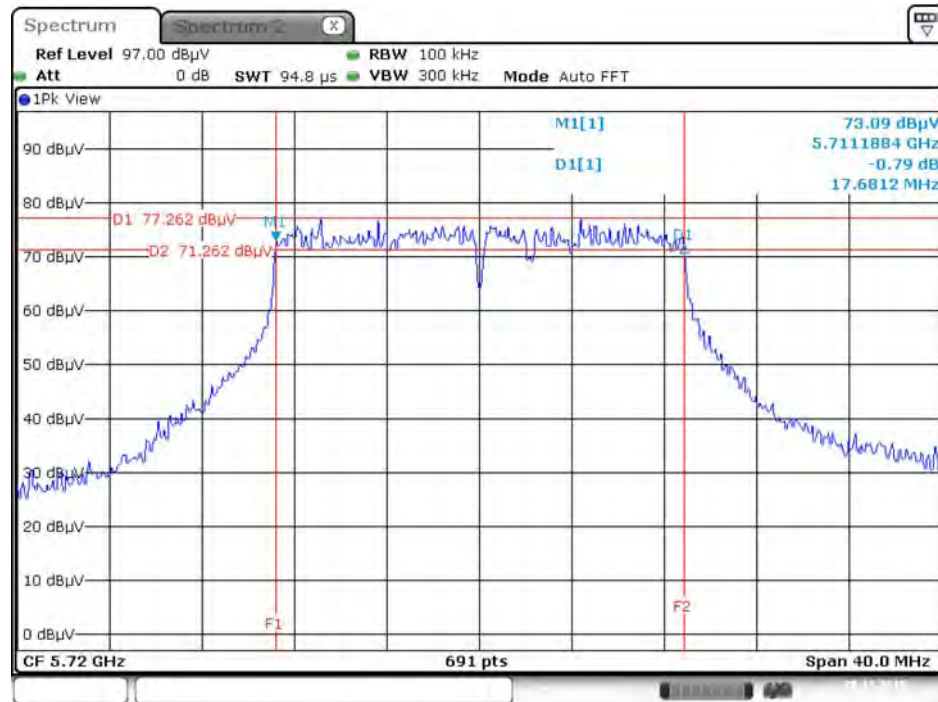
Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW F2 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11ac MCS0/Nss1 VHT20	5720 MHz	16.12	5711.48	2.59	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	35.48	5692.03	2.51	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	75.07	5652.32	2.39	500	Complies

Straddle Channel

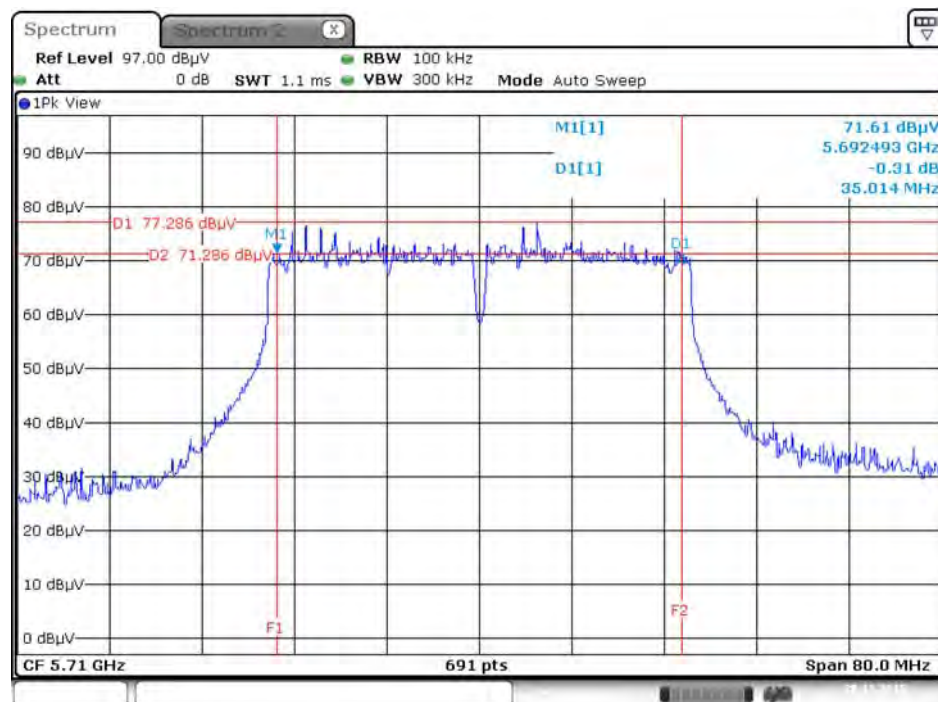
Mode 1: EUT 1 + Set 1 Ceiling Mount Omni Antenna / 7 dBi

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



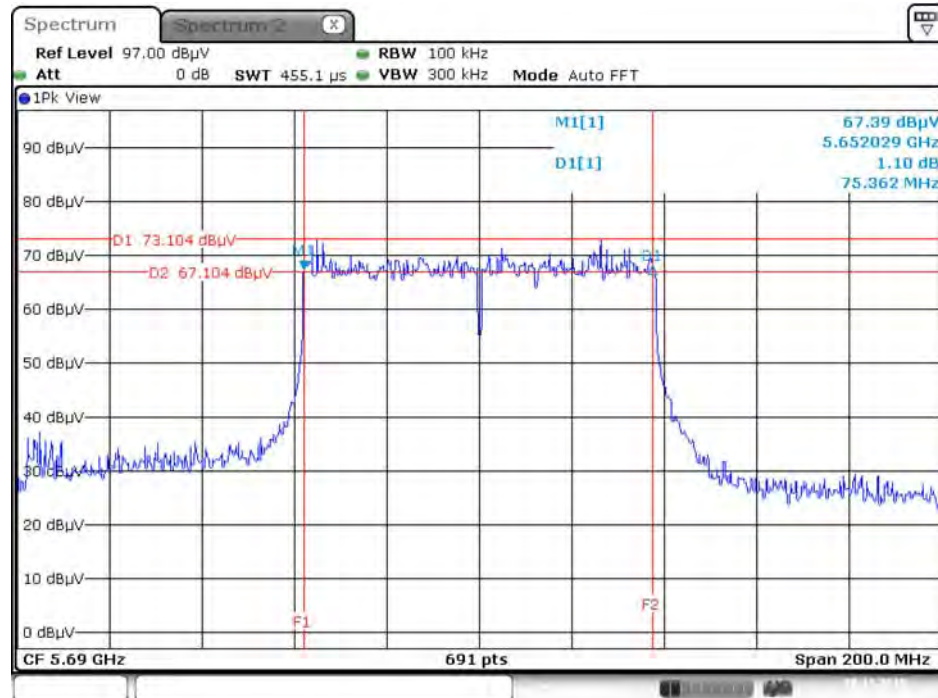
Date: 28.NOV.2015 16:00:57

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 28.NOV.2015 16:02:00

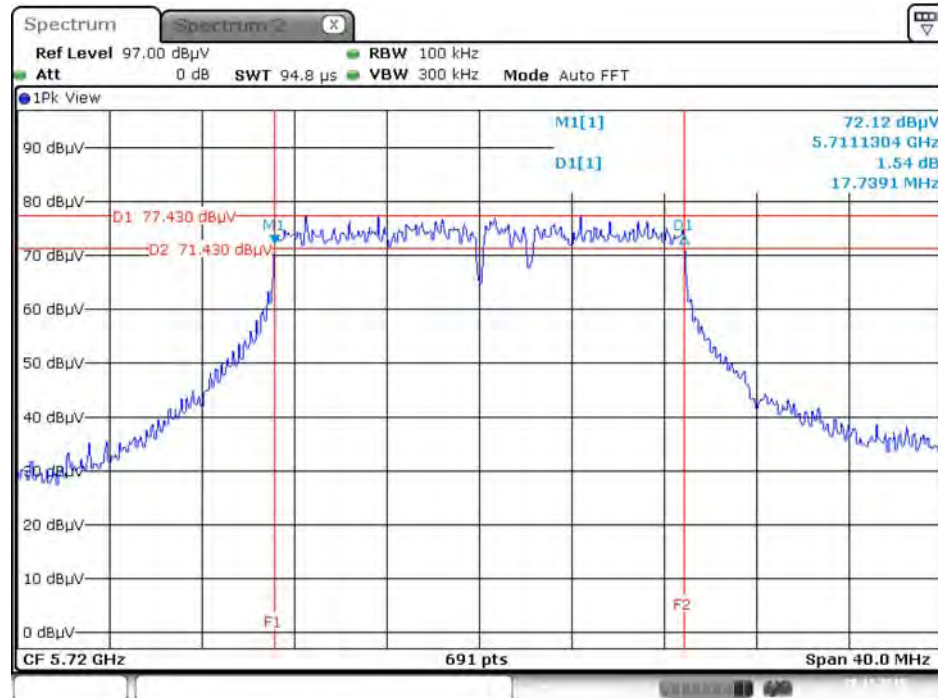
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 28.NOV.2015 16:01:28

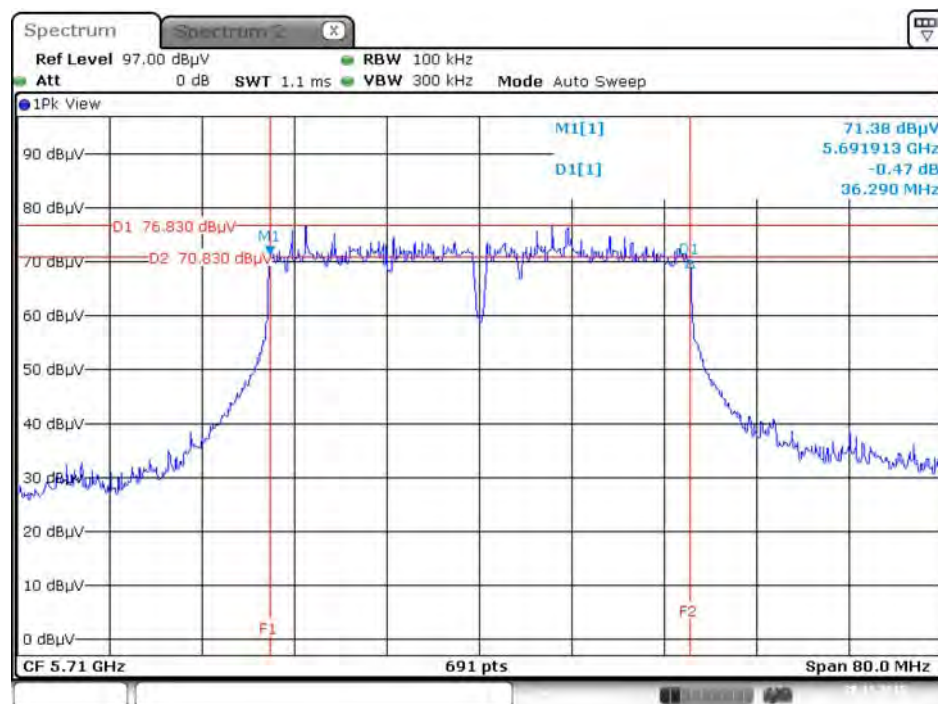
Mode 2: EUT 1 + Set 2 Sector Antenna / 6.5 dBi

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



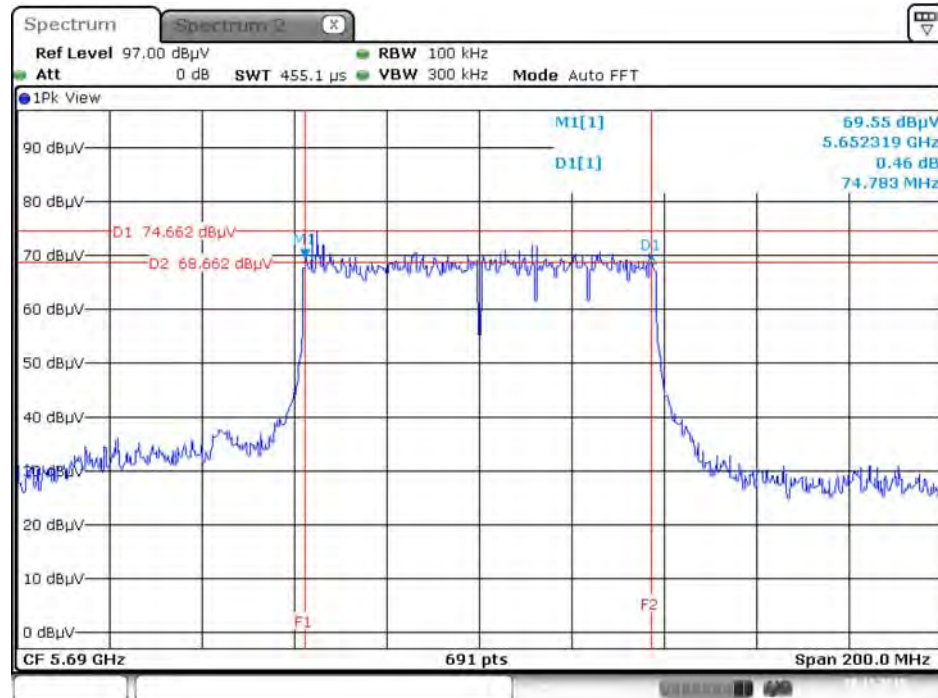
Date: 28.NOV.2015 14:41:02

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 28.NOV.2015 14:40:17

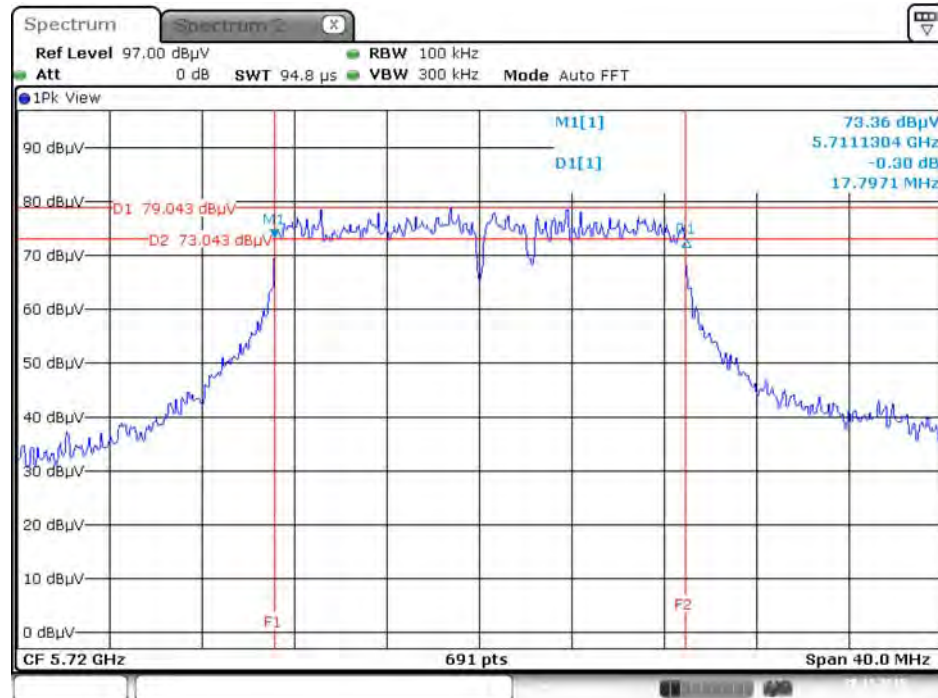
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 28.NOV.2015 14:39:25

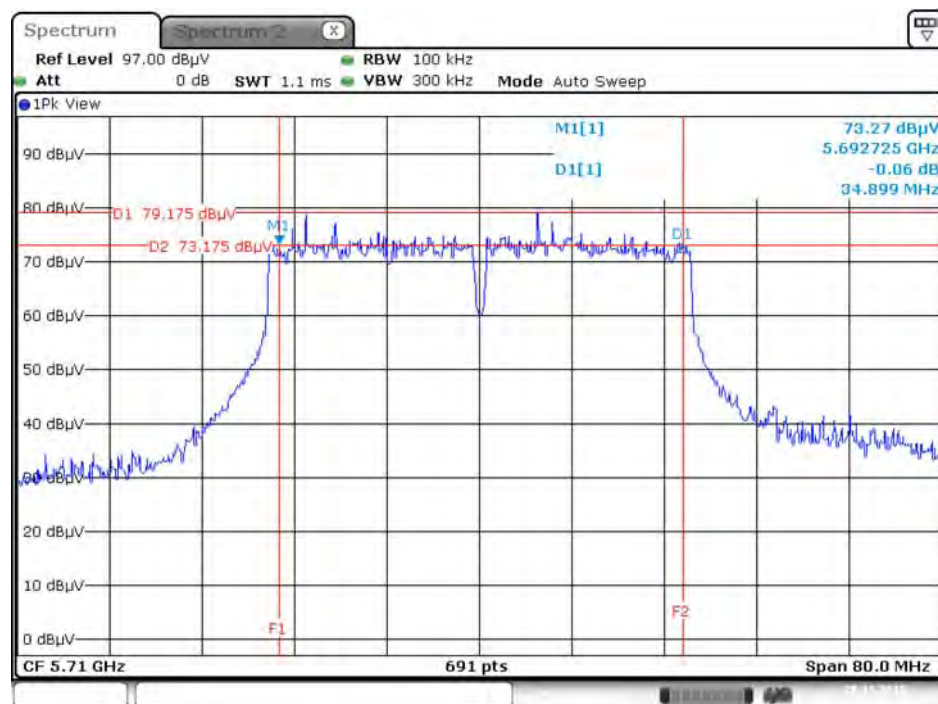
Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



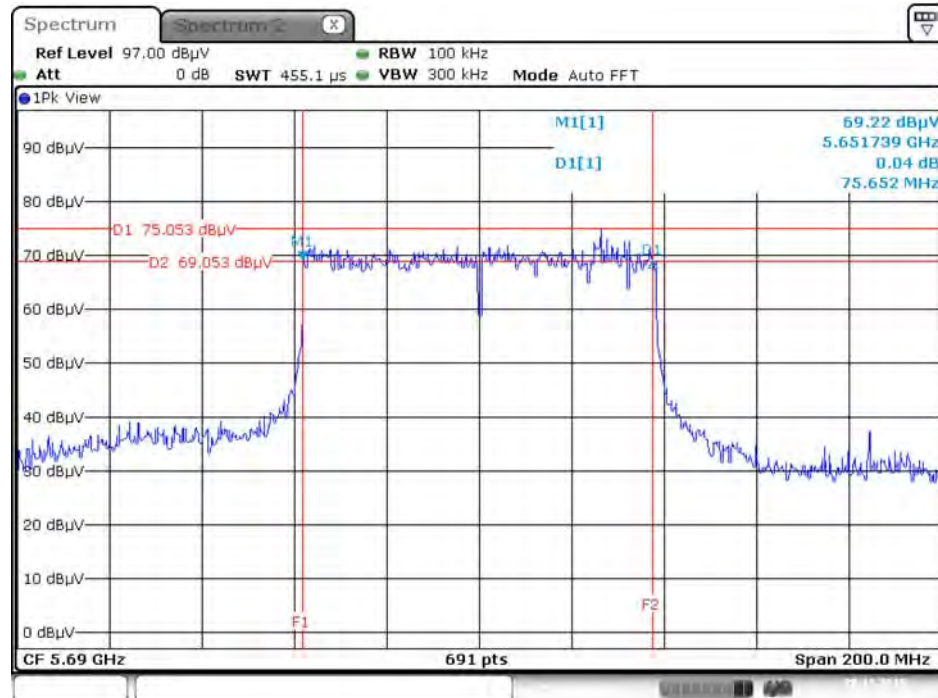
Date: 28.NOV.2015 14:34:10

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 28.NOV.2015 14:35:00

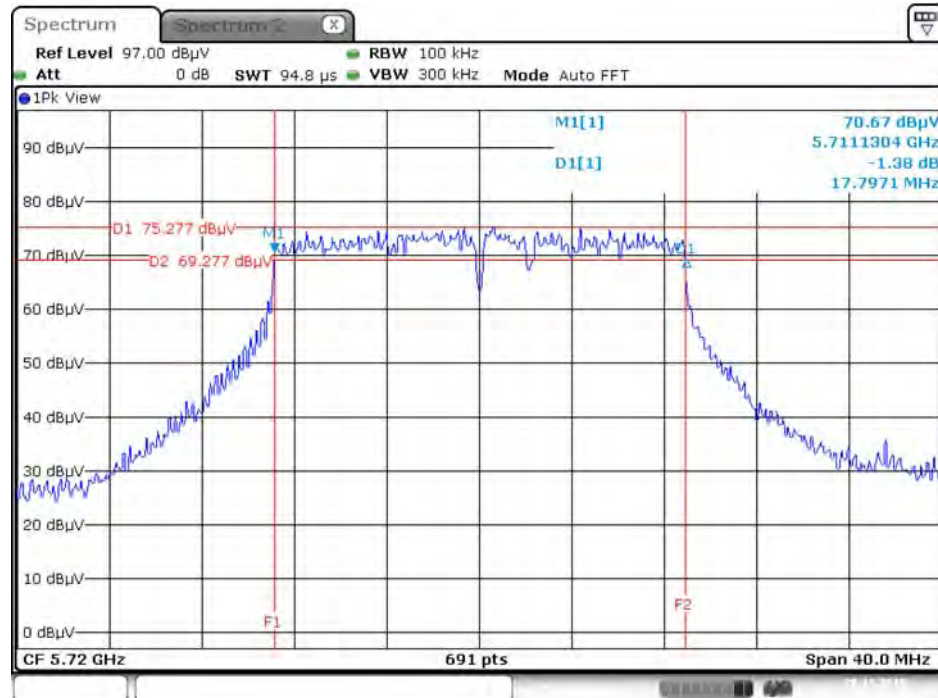
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 28.NOV.2015 14:37:04

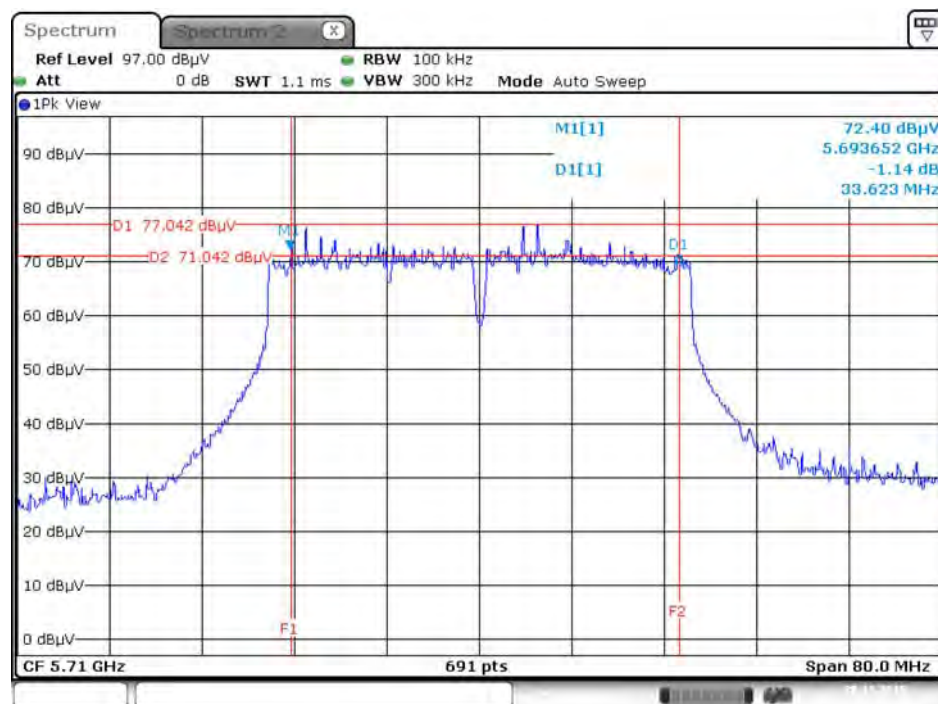
Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



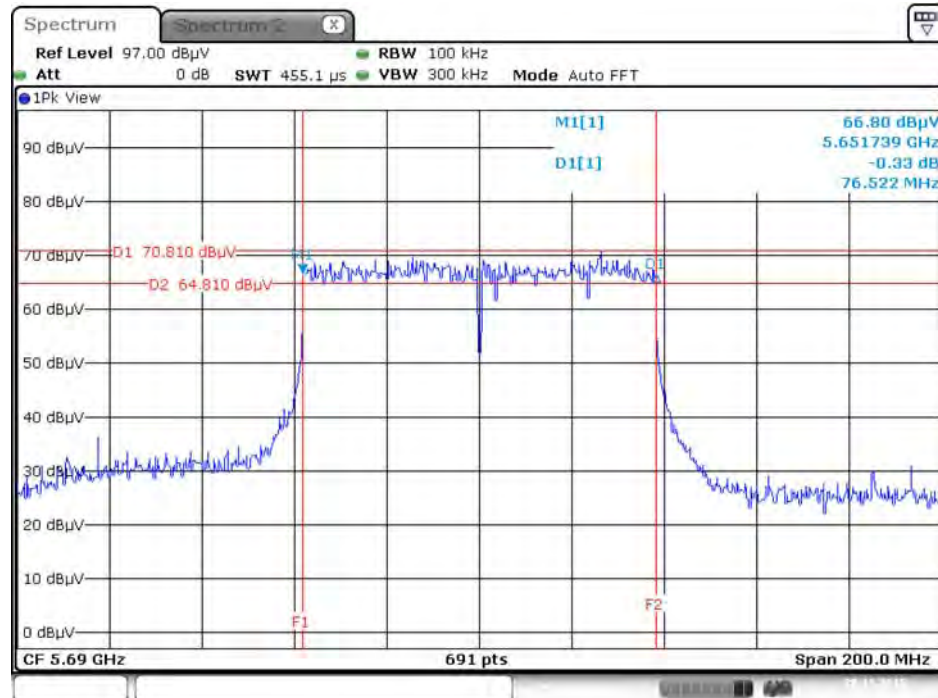
Date: 28.NOV.2015 15:17:26

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 28.NOV.2015 15:18:04

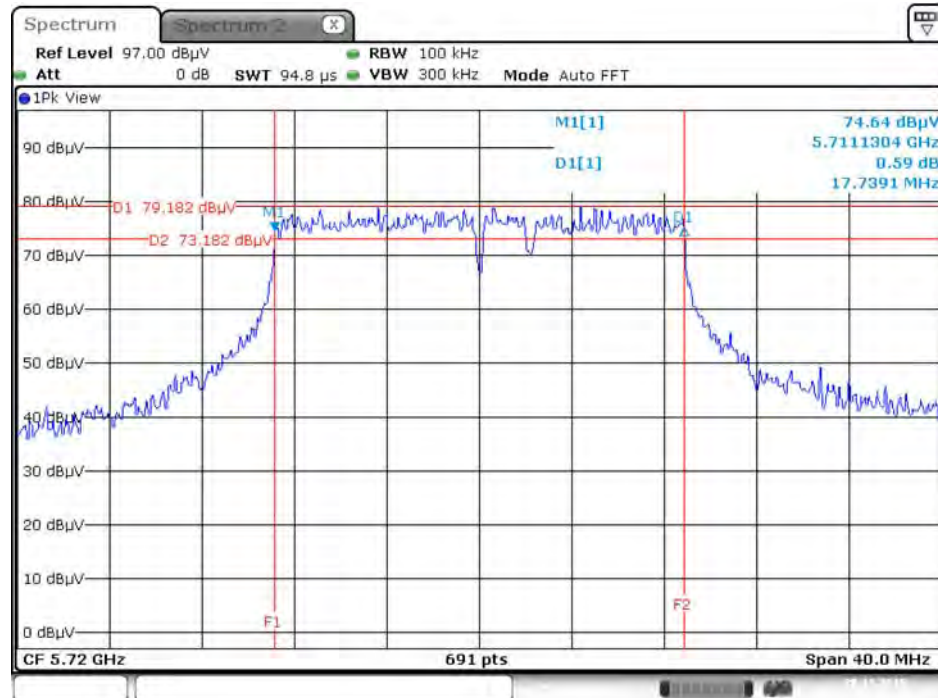
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 28.NOV.2015 15:18:31

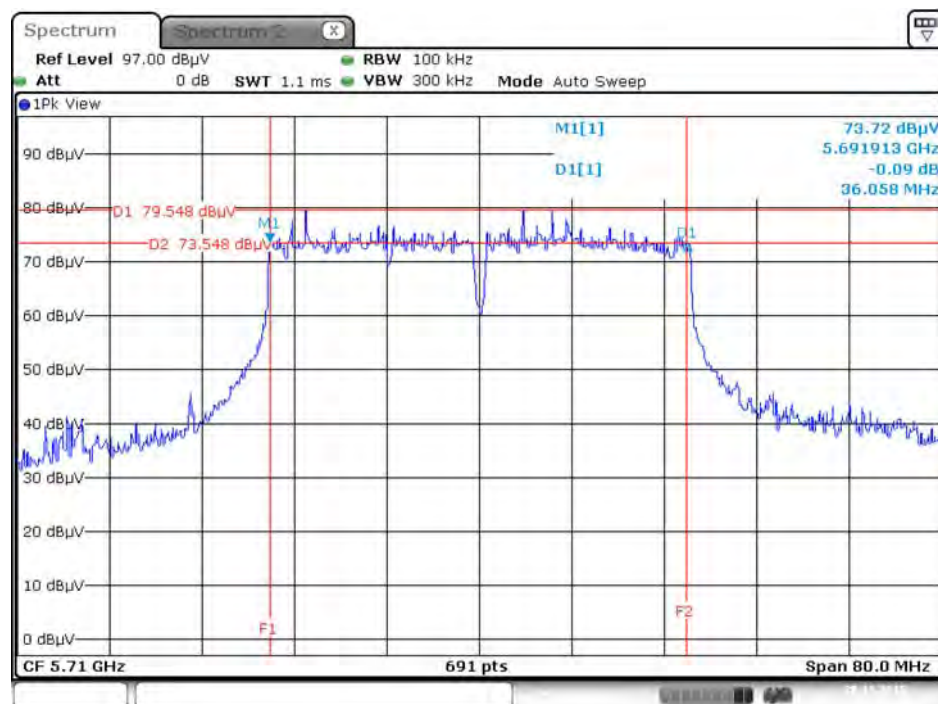
Mode 5: EUT 1 + Set 5 Sector Antenna / 4.5 dBi

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



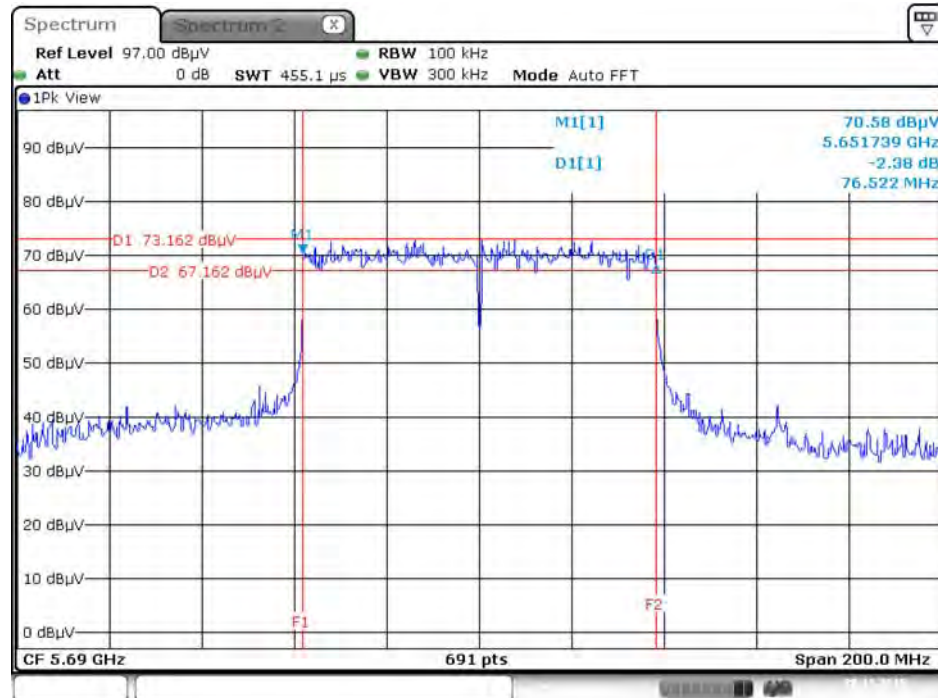
Date: 28.NOV.2015 15:05:51

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 28.NOV.2015 15:06:23

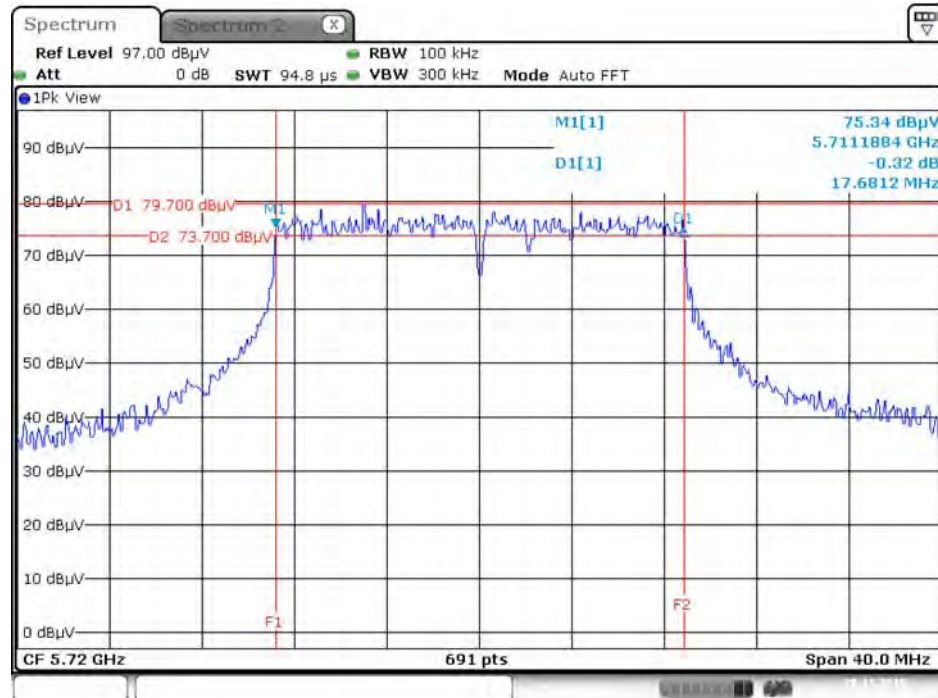
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 28.NOV.2015 15:05:18

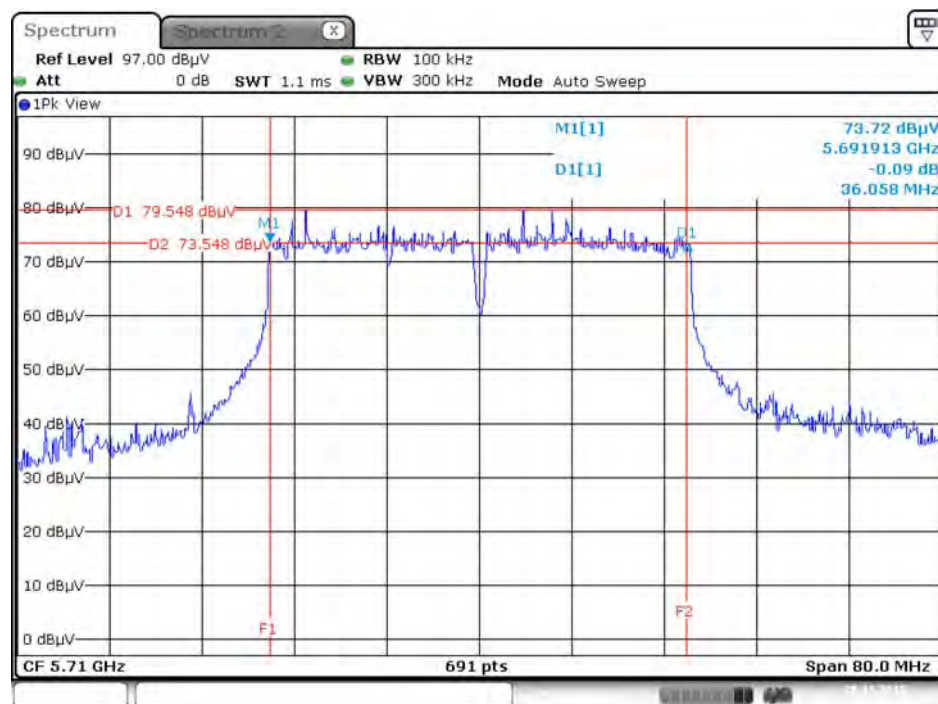
Mode 6: EUT 1 + Set 6 Sector Antenna / 4 dBi

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



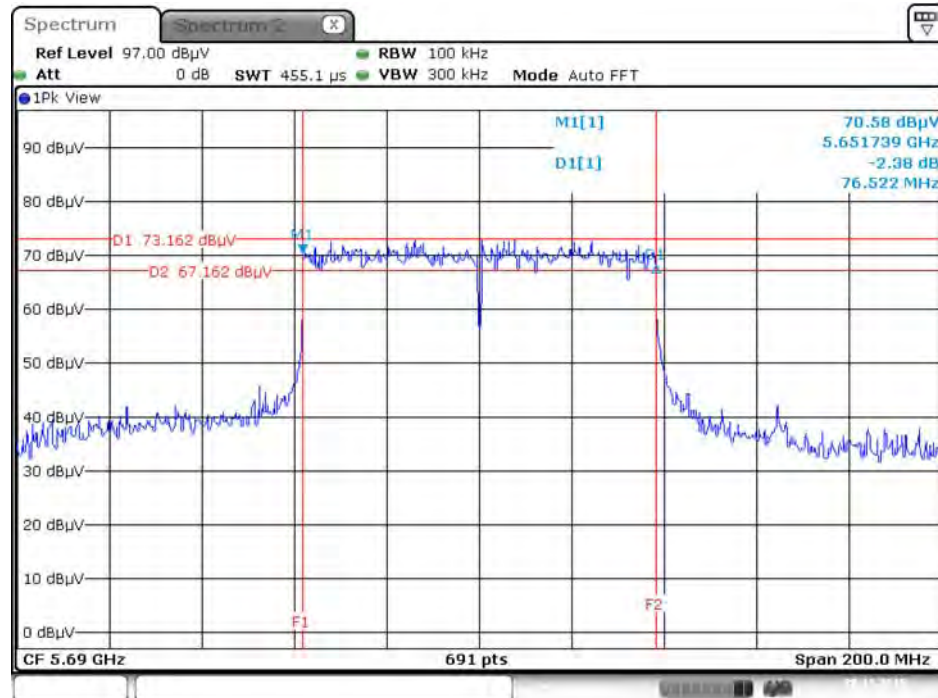
Date: 28.NOV.2015 14:32:36

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 28.NOV.2015 15:06:23

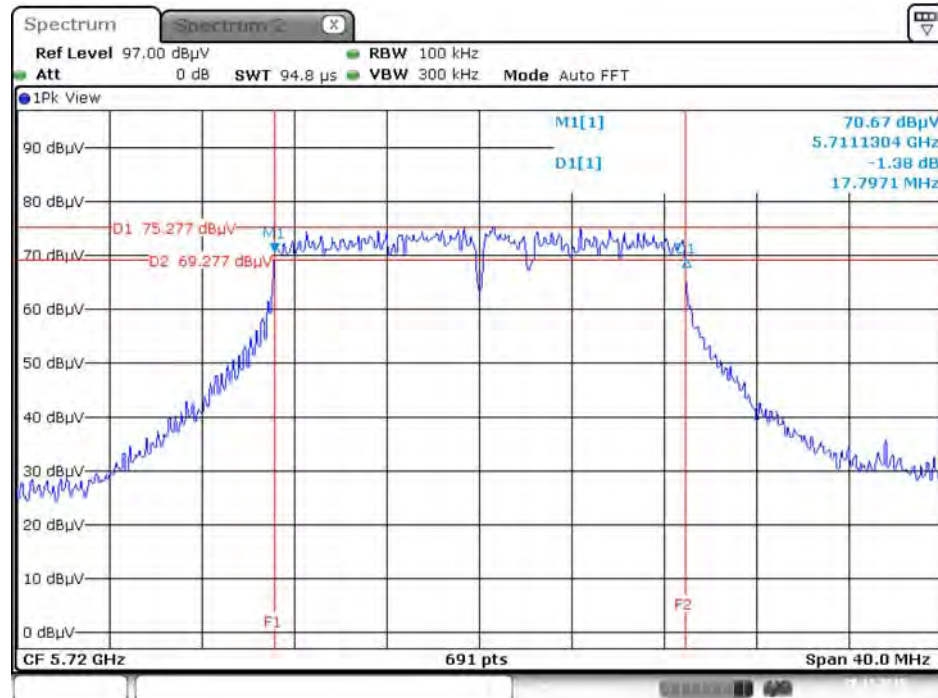
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 28.NOV.2015 15:05:18

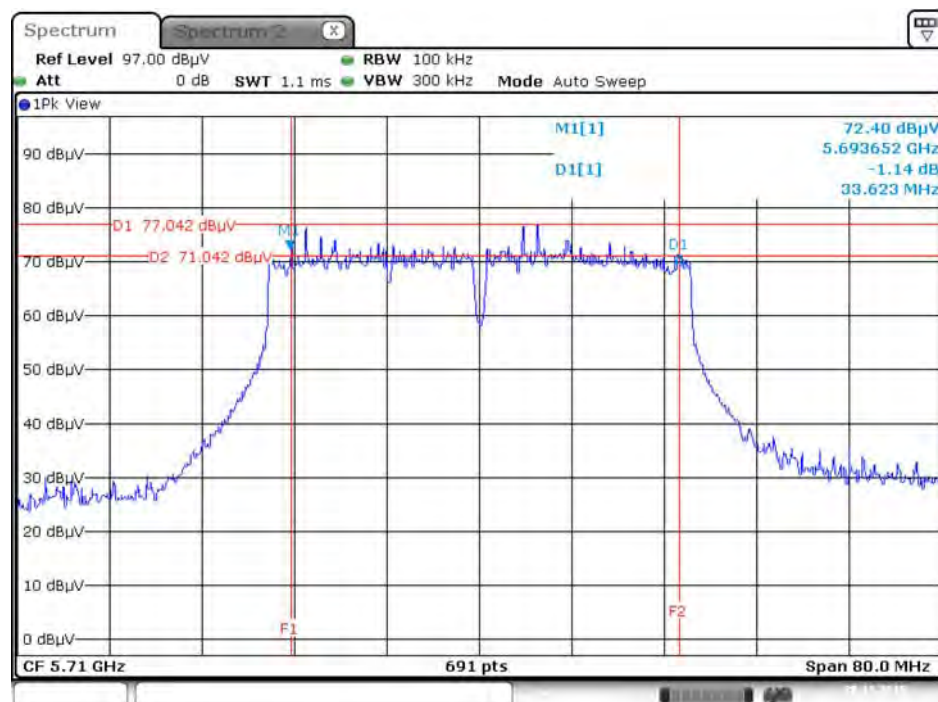
Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



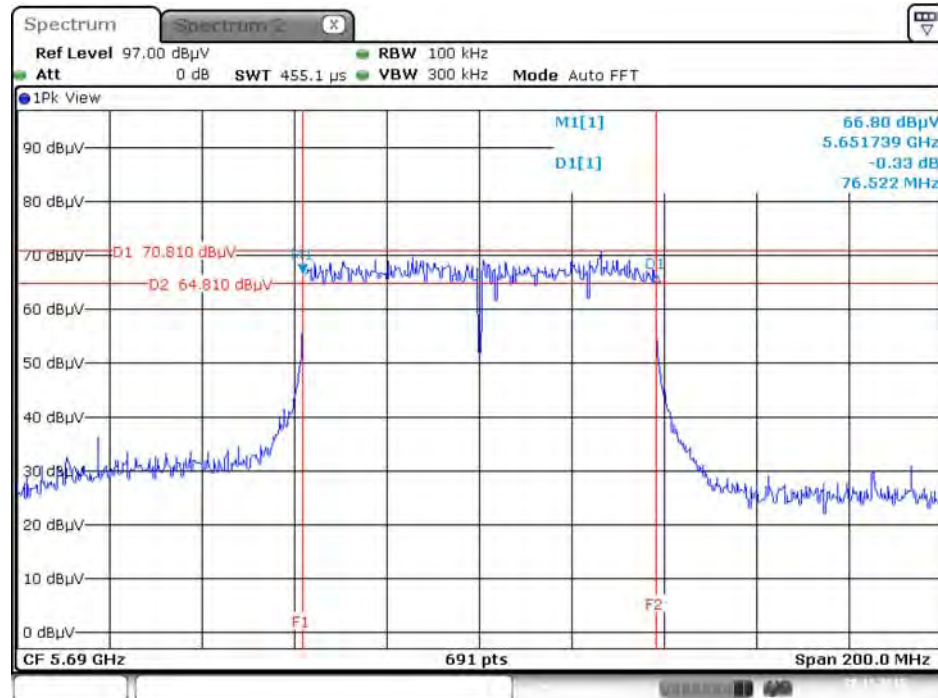
Date: 28.NOV.2015 15:17:26

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 28.NOV.2015 15:18:04

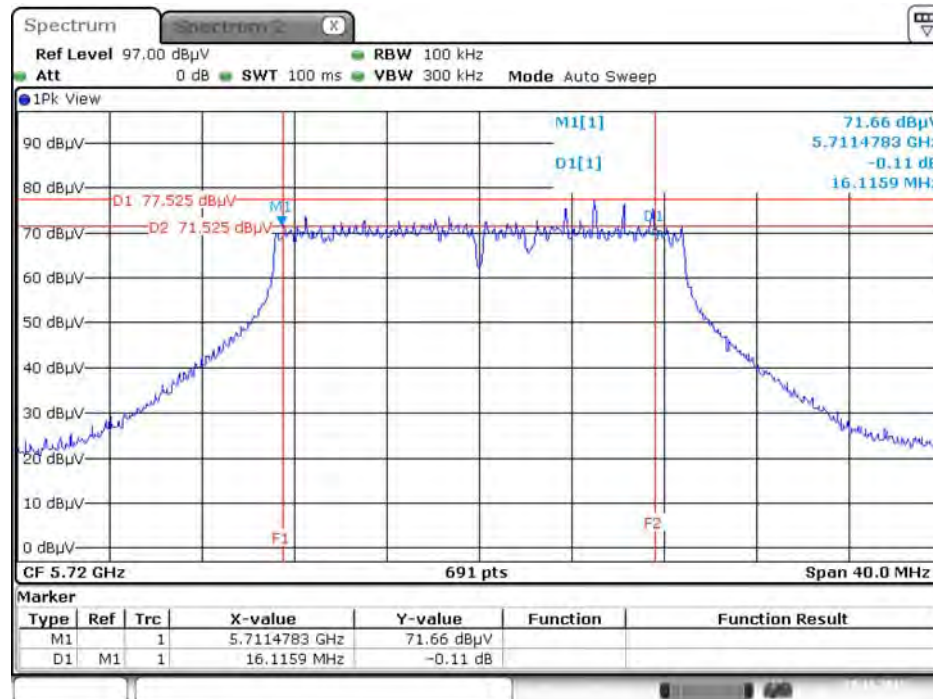
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 28.NOV.2015 15:18:31

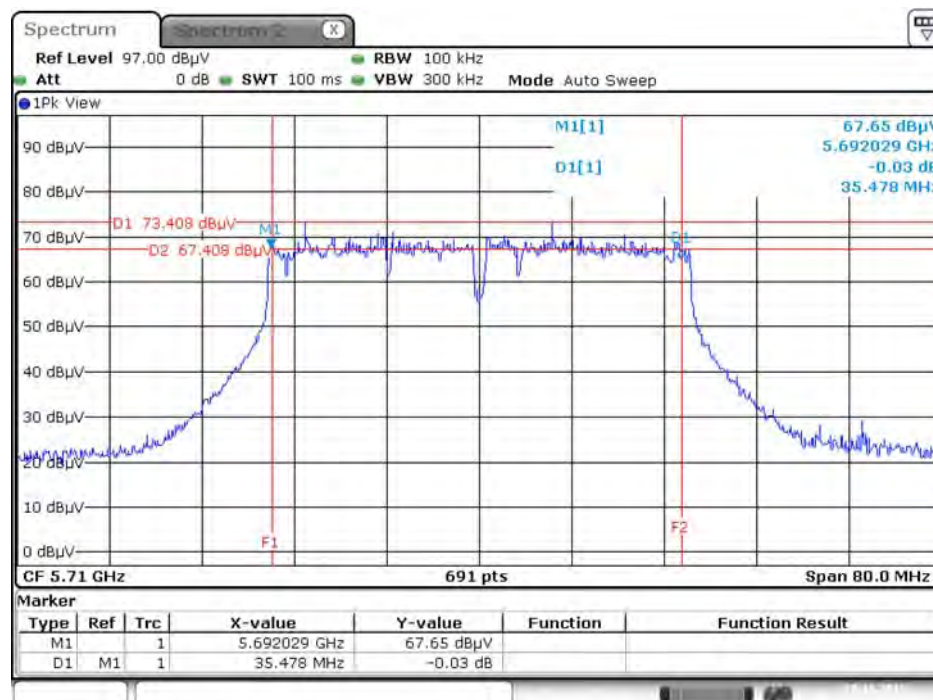
Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



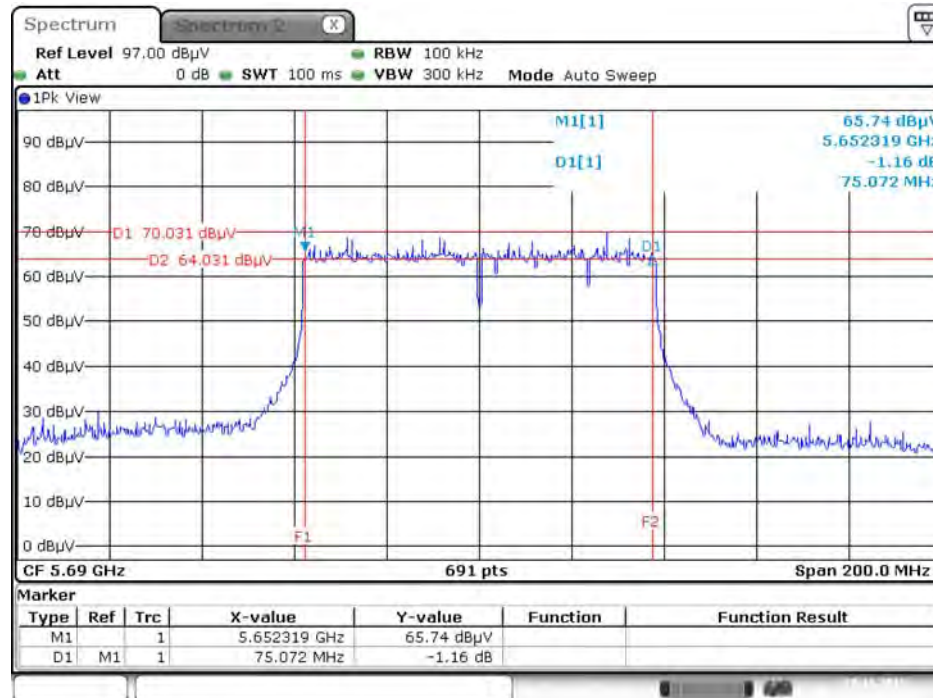
Date: 29.NOV.2015 00:18:18

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 29.NOV.2015 00:21:51

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 29 NOV. 2015 00:22:39

4.4. Maximum Conducted Output Power Measurement

4.4.1. 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	

4.4.2. 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

4.4.3. Test Procedures

For other channel:

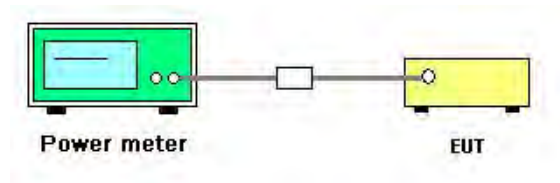
1. The transmitter output (antenna port) was connected to the power meter.
2. Test was performed in accordance with KDB789033 D02 v01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (E) Maximum conducted output power =>3. Measurement using a Power Meter (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:

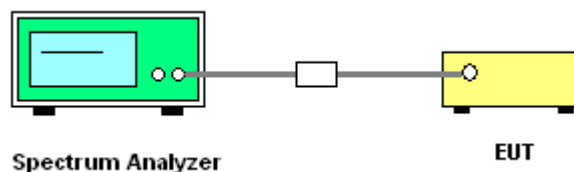
1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Test was performed in accordance with FCC Public Notice DA 02-2138, August 30, 2002.

4.4.4. Test Setup Layout

For other channel:



For straddle channel:



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 Maximum Conducted Output Power

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang	Test Date	Nov. 28, 2015
Test Mode	Mode 1: EUT 1 + Set 1 Ceiling Mount Omni Antenna / 7 dBi		

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac MCS0/Nss1 VHT20	5260 MHz	13.12	14.17	13.75	13.51	19.67	19.99	Complies
	5300 MHz	13.09	14.21	13.56	13.73	19.69	19.99	Complies
	5320 MHz	13.17	14.25	13.81	13.78	19.79	19.99	Complies
	5500 MHz	14.31	13.02	13.24	13.75	19.63	19.99	Complies
	5580 MHz	13.25	13.79	14.15	14.02	19.84	19.99	Complies
	5700 MHz	12.96	13.85	14.19	13.93	19.78	19.99	Complies
802.11ac MCS0/Nss1 VHT40	5270 MHz	13.53	13.78	14.13	14.24	19.95	19.99	Complies
	5310 MHz	12.81	13.58	13.06	13.09	19.16	19.99	Complies
	5510 MHz	13.06	12.85	13.17	13.02	19.05	19.99	Complies
	5550 MHz	13.62	13.27	13.82	13.59	19.60	19.99	Complies
	5670 MHz	13.89	13.56	13.73	13.97	19.81	19.99	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	7.73	8.06	8.17	8.34	14.10	19.99	Complies
	5530 MHz	7.27	7.09	7.32	7.18	13.24	19.99	Complies
	5610 MHz	13.83	13.59	13.71	13.89	19.78	19.99	Complies

Note: $DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 10.01 \text{ dBi} > 6 \text{ dBi}$, So Limit = 24-(10.01-6)=19.99dBm.

Straddle Channel

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac	5720 MHz (UNII 2C)	12.94	12.73	13.17	12.49	18.86	19.11	Complies
MCS0/Nss1 VHT20	5720 MHz (UNII 3)	6.89	6.88	7.06	6.84	12.94	25.99	Complies
802.11ac	5710 MHz (UNII 2C)	13.74	13.53	13.96	13.45	19.70	19.99	Complies
MCS0/Nss1 VHT40	5710 MHz (UNII 3)	1.62	1.39	1.71	1.18	7.50	25.99	Complies
802.11ac	5690 MHz (UNII 2C)	14.08	13.72	13.97	13.79	19.91	19.99	Complies
MCS0/Nss1 VHT80	5690 MHz (UNII 3)	-0.37	-0.65	-0.56	-0.53	5.49	25.99	Complies

(UNII 2C)

Note1:

For 802.11ac VHT20

5720 MHz power limit = $11 + 10\log(B)$; $11 + 10\log(16.30) - (10.01 - 6) = 19.11 \text{ dBm} < 24 \text{ dBm}$, so limit = 19.11 dBm.

Note2:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 10.01 \text{ dBi} > 6 \text{ dBi}, \text{ So Limit} = 24 - (10.01 - 6) = 19.99 \text{ dBm}.$$

(UNII 3)

Note1:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 10.01 \text{ dBi} > 6 \text{ dBi}, \text{ So Limit} = 30 - (10.01 - 6) = 25.99 \text{ dBm}.$$

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang	Test Date	Nov. 28, 2015
Test Mode	Mode 2: EUT 1 + Set 2 Sector Antenna / 6.5 dBi		

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac MCS0/Nss1 VHT20	5260 MHz	13.66	15.14	14.56	14.13	20.43	20.49	Complies
	5300 MHz	13.87	14.86	14.62	14.19	20.42	20.49	Complies
	5320 MHz	13.91	14.96	14.82	13.78	20.42	20.49	Complies
	5500 MHz	14.27	14.42	14.75	14.36	20.47	20.49	Complies
	5580 MHz	13.92	14.19	14.74	14.67	20.41	20.49	Complies
	5700 MHz	13.86	14.51	14.68	14.56	20.43	20.49	Complies
802.11ac MCS0/Nss1 VHT40	5270 MHz	14.05	14.32	14.51	14.84	20.46	20.49	Complies
	5310 MHz	12.27	12.88	12.11	12.07	18.37	20.49	Complies
	5510 MHz	11.48	11.01	11.22	11.21	17.25	20.49	Complies
	5550 MHz	14.24	13.83	14.36	13.92	20.11	20.49	Complies
	5670 MHz	14.23	14.09	14.37	14.54	20.33	20.49	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	10.01	10.52	9.95	9.98	16.14	20.49	Complies
	5530 MHz	7.85	7.74	7.85	7.77	13.82	20.49	Complies
	5610 MHz	14.38	14.16	14.21	14.35	20.30	20.49	Complies

Note: $DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 9.51 \text{ dBi} > 6 \text{ dBi}$, So Limit = 24-(9.51-6)=20.49dBm.

Straddle Channel

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac	5720 MHz (UNII 2C)	13.34	13.21	13.74	13.01	19.35	19.68	Complies
MCS0/Nss1 VHT20	5720 MHz (UNII 3)	7.51	7.31	7.64	7.31	13.47	26.49	Complies
802.11ac	5710 MHz (UNII 2C)	14.15	14.06	14.48	13.96	20.19	20.49	Complies
MCS0/Nss1 VHT40	5710 MHz (UNII 3)	2.15	2.08	2.23	1.60	8.04	26.49	Complies
802.11ac	5690 MHz (UNII 2C)	14.56	14.23	14.49	14.31	20.42	20.49	Complies
MCS0/Nss1 VHT80	5690 MHz (UNII 3)	0.17	-0.17	0.02	-0.09	6.00	26.49	Complies

(UNII 2C)

Note1:

For 802.11ac VHT20

5720 MHz power limit = $11 + 10\log(B)$; $11 + 10\log(16.57) - (9.51 - 6) = 19.68\text{dBm} < 24\text{dBm}$, so limit = 19.68dBm.

Note2:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 9.51\text{dBi} > 6\text{dBi}, \text{ So Limit} = 24 - (9.51 - 6) = 20.49\text{dBm}.$$

(UNII 3)

Note1:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 9.51\text{dBi} > 6\text{dBi}, \text{ So Limit} = 30 - (9.51 - 6) = 26.49\text{dBm}.$$

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang	Test Date	Nov. 28, 2015
Test Mode	Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi		

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac MCS0/Nss1 VHT20	5260 MHz	14.61	15.68	15.75	15.14	21.34	21.49	Complies
	5300 MHz	14.72	15.77	15.71	15.33	21.42	21.49	Complies
	5320 MHz	15.16	15.52	15.61	14.51	21.24	21.49	Complies
	5500 MHz	14.88	15.02	15.15	14.91	21.01	21.49	Complies
	5580 MHz	15.09	14.95	15.37	15.31	21.20	21.49	Complies
	5700 MHz	14.82	14.79	15.26	14.97	20.98	21.49	Complies
802.11ac MCS0/Nss1 VHT40	5270 MHz	15.12	15.07	15.64	15.76	21.43	21.49	Complies
	5310 MHz	12.27	12.88	12.11	12.07	18.37	21.49	Complies
	5510 MHz	13.06	12.85	13.17	13.02	19.05	21.49	Complies
	5550 MHz	15.37	15.04	15.35	14.92	21.19	21.49	Complies
	5670 MHz	15.49	15.14	15.33	15.54	21.40	21.49	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	10.74	11.29	10.58	10.56	16.82	21.49	Complies
	5530 MHz	9.07	8.94	9.05	8.78	14.98	21.49	Complies
	5610 MHz	15.59	15.31	15.46	15.18	21.41	21.49	Complies

Note: $DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.51 \text{ dBi} > 6 \text{ dBi}$, So Limit = 24-(8.51-6)=21.49dBm.

Straddle Channel

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac	5720 MHz (UNII 2C)	14.27	14.15	14.70	14.06	20.32	20.66	Complies
MCS0/Nss1 VHT20	5720 MHz (UNII 3)	8.56	8.27	8.57	8.22	14.43	27.49	Complies
802.11ac	5710 MHz (UNII 2C)	15.41	15.03	15.51	15.05	21.28	21.49	Complies
MCS0/Nss1 VHT40	5710 MHz (UNII 3)	3.24	2.86	3.28	3.14	9.15	27.49	Complies
802.11ac	5690 MHz (UNII 2C)	15.61	15.18	15.56	15.33	21.44	21.49	Complies
MCS0/Nss1 VHT80	5690 MHz (UNII 3)	1.12	0.94	1.11	0.98	7.06	27.49	Complies

(UNII 2C)

Note1:

For 802.11ac VHT20

5720 MHz power limit = $11 + 10\log(B)$; $11 + 10\log(16.48) - (8.51 - 6) = 20.66\text{dBm} < 24\text{dBm}$, so limit = 20.66dBm.

Note2:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.51\text{dBi} > 6\text{dBi}, \text{ So Limit} = 24 - (8.51 - 6) = 21.49\text{dBm}.$$

(UNII 3)

Note1:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 8.51\text{dBi} > 6\text{dBi}, \text{ So Limit} = 30 - (8.51 - 6) = 27.49\text{dBm}.$$

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang	Test Date	Nov. 28, 2015
Test Mode	Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi		

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac MCS0/Nss1 VHT20	5260 MHz	13.17	13.28	13.68	13.53	19.44	19.49	Complies
	5300 MHz	12.90	13.56	13.76	12.83	19.30	19.49	Complies
	5320 MHz	13.21	13.79	13.95	12.76	19.47	19.49	Complies
	5500 MHz	13.29	13.33	13.49	13.03	19.31	19.49	Complies
	5580 MHz	13.16	13.32	13.42	13.29	19.32	19.49	Complies
	5700 MHz	13.25	13.45	13.57	13.34	19.42	19.49	Complies
802.11ac MCS0/Nss1 VHT40	5270 MHz	13.02	13.11	13.58	13.69	19.38	19.49	Complies
	5310 MHz	9.66	9.73	10.12	10.22	15.96	19.49	Complies
	5510 MHz	12.94	12.53	12.74	12.68	18.75	19.49	Complies
	5550 MHz	12.98	12.87	13.11	13.22	19.07	19.49	Complies
	5670 MHz	12.89	12.96	13.44	13.39	19.20	19.49	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	8.31	8.53	8.69	8.88	14.63	19.49	Complies
	5530 MHz	8.53	8.44	8.52	8.23	14.45	19.49	Complies
	5610 MHz	13.62	13.35	13.58	13.11	19.44	19.49	Complies

Note: $DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 10.51 \text{ dBi} > 6 \text{ dBi}$, So Limit = 24-(10.51-6)=19.49dBm.

Straddle Channel

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac	5720 MHz (UNII 2C)	11.66	11.74	12.10	11.73	17.83	18.42	Complies
MCS0/Nss1 VHT20	5720 MHz (UNII 3)	5.67	5.91	6.02	5.61	11.83	25.49	Complies
802.11ac	5710 MHz (UNII 2C)	13.20	13.13	13.48	13.04	19.24	19.49	Complies
MCS0/Nss1 VHT40	5710 MHz (UNII 3)	0.63	0.96	1.33	1.13	7.04	25.49	Complies
802.11ac	5690 MHz (UNII 2C)	13.48	13.49	13.55	13.21	19.46	19.49	Complies
MCS0/Nss1 VHT80	5690 MHz (UNII 3)	-1.17	-1.02	-0.90	-0.95	5.01	25.49	Complies

(UNII 2C)

Note1:

For 802.11ac VHT20

5720 MHz power limit = $11 + 10\log(B)$; $11 + 10\log(15.61) - (10.51 - 6) = 18.42\text{dBm} < 24\text{dBm}$, so limit = 18.42dBm.

Note2:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 10.51\text{dBi} > 6\text{dBi}, \text{ So Limit} = 24 - (10.51 - 6) = 19.49\text{dBm}.$$

(UNII 3)

Note1:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 10.51\text{dBi} > 6\text{dBi}, \text{ So Limit} = 30 - (10.51 - 6) = 25.49\text{dBm}.$$

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang	Test Date	Nov. 28, 2015
Test Mode	Mode 5: EUT 1 + Set 5 Sector Antenna / 4.5 dBi		

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac MCS0/Nss1 VHT20	5260 MHz	16.51	16.73	16.02	16.12	22.38	22.49	Complies
	5300 MHz	16.33	16.25	15.91	16.38	22.24	22.49	Complies
	5320 MHz	16.37	15.85	15.82	16.29	22.11	22.49	Complies
	5500 MHz	16.39	16.57	16.18	16.05	22.32	22.49	Complies
	5580 MHz	16.07	16.05	15.97	16.04	22.05	22.49	Complies
	5700 MHz	15.91	15.83	16.18	16.09	22.03	22.49	Complies
802.11ac MCS0/Nss1 VHT40	5270 MHz	15.94	16.58	16.37	15.96	22.24	22.49	Complies
	5310 MHz	15.21	15.88	15.34	15.44	21.50	22.49	Complies
	5510 MHz	14.63	14.32	15.01	14.69	20.69	22.49	Complies
	5550 MHz	15.72	15.87	16.32	16.26	22.07	22.49	Complies
	5670 MHz	15.34	15.93	16.45	16.21	22.02	22.49	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	13.43	14.69	13.39	13.98	19.93	22.49	Complies
	5530 MHz	13.59	12.96	13.52	13.21	19.35	22.49	Complies
	5610 MHz	16.34	16.18	16.39	16.43	22.36	22.49	Complies

Note: $DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 7.51 \text{ dBi} > 6 \text{ dBi}$, So Limit = 24-(7.51-6)=22.49dBm.

Straddle Channel

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac	5720 MHz (UNII 2C)	15.06	15.29	15.11	15.80	21.35	21.66	Complies
MCS0/Nss1 VHT20	5720 MHz (UNII 3)	9.16	9.55	9.14	9.63	15.40	28.49	Complies
802.11ac	5710 MHz (UNII 2C)	16.05	16.28	15.90	16.48	22.20	22.49	Complies
MCS0/Nss1 VHT40	5710 MHz (UNII 3)	4.01	4.18	3.99	4.28	10.14	28.49	Complies
802.11ac	5690 MHz (UNII 2C)	16.62	16.13	16.57	16.37	22.45	22.49	Complies
MCS0/Nss1 VHT80	5690 MHz (UNII 3)	2.16	1.99	2.00	1.91	8.04	28.49	Complies

(UNII 2C)

Note 1:

For 802.11ac VHT20

5720 MHz power limit = $11 + 10\log(B)$; $11 + 10\log(16.48) - (7.51 - 6) = 21.66\text{dBm} < 24\text{dBm}$, so limit = 21.66dBm.

Note2:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 7.51\text{dBi} > 6\text{dBi}, \text{ So Limit} = 24 - (7.51 - 6) = 22.49\text{dBm}.$$

(UNII 3)

Note1:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 7.51\text{dBi} > 6\text{dBi}, \text{ So Limit} = 30 - (7.51 - 6) = 28.49\text{dBm}.$$

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang	Test Date	Nov. 28, 2015
Test Mode	Mode 6: EUT 1 + Set 6 Sector Antenna / 4 dBi		

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac MCS0/Nss1 VHT20	5260 MHz	17.08	17.28	16.53	16.89	22.97	22.99	Complies
	5300 MHz	16.94	16.87	16.49	16.99	22.85	22.99	Complies
	5320 MHz	16.96	16.20	16.49	16.81	22.65	22.99	Complies
	5500 MHz	16.93	16.16	16.75	16.67	22.66	22.99	Complies
	5580 MHz	16.67	16.55	16.35	16.49	22.54	22.99	Complies
	5700 MHz	14.45	13.88	13.89	14.08	20.10	22.99	Complies
802.11ac MCS0/Nss1 VHT40	5270 MHz	16.28	17.02	16.45	16.34	22.55	22.99	Complies
	5310 MHz	12.27	12.88	12.11	12.07	18.37	22.99	Complies
	5510 MHz	11.48	11.01	11.22	11.21	17.25	22.99	Complies
	5550 MHz	16.68	16.62	16.58	16.96	22.73	22.99	Complies
	5670 MHz	15.96	16.55	16.67	16.84	22.54	22.99	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	7.73	8.06	8.17	8.34	14.10	22.99	Complies
	5530 MHz	9.07	8.94	9.05	8.78	14.98	22.99	Complies
	5610 MHz	16.10	15.89	16.19	15.68	21.99	22.99	Complies

Note: $DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 7.01 \text{ dBi} > 6 \text{ dBi}$, So Limit = 24-(7.01-6)=22.99dBm.

Straddle Channel

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac	5720 MHz (UNII 2C)	15.06	15.29	15.11	15.80	21.35	22.16	Complies
MCS0/Nss1 VHT20	5720 MHz (UNII 3)	9.16	9.55	9.14	9.63	15.40	28.99	Complies
802.11ac	5710 MHz (UNII 2C)	16.45	16.87	17.08	16.56	22.77	22.99	Complies
MCS0/Nss1 VHT40	5710 MHz (UNII 3)	4.59	4.77	5.11	4.70	10.82	28.99	Complies
802.11ac	5690 MHz (UNII 2C)	16.62	16.13	16.57	16.37	22.45	22.99	Complies
MCS0/Nss1 VHT80	5690 MHz (UNII 3)	2.16	1.99	2.00	1.91	8.04	28.99	Complies

(UNII 2C)

Note1:

For 802.11ac VHT20

5720 MHz power limit = $11 + 10\log(B)$; $11 + 10\log(16.48) - (7.01 - 6) = 22.16\text{dBm} < 24\text{dBm}$, so limit = 22.16dBm.

Note2:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 7.01\text{dBi} > 6\text{dBi}, \text{ So Limit} = 24 - (7.01 - 6) = 22.99\text{dBm}.$$

(UNII 3)

Note1:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 7.01\text{dBi} > 6\text{dBi}, \text{ So Limit} = 30 - (7.01 - 6) = 28.99\text{dBm}.$$

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang	Test Date	Nov. 28, 2015
Test Mode	Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi		

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac MCS0/Nss1 VHT20	5260 MHz	12.58	13.65	13.18	12.94	19.13	19.31	Complies
	5300 MHz	12.54	13.68	12.97	13.15	19.12	19.31	Complies
	5320 MHz	12.68	13.73	13.29	13.25	19.27	19.31	Complies
	5500 MHz	13.78	12.38	12.89	13.35	19.15	19.31	Complies
	5580 MHz	12.71	13.21	13.62	13.51	19.30	19.31	Complies
	5700 MHz	12.15	13.32	13.72	13.46	19.22	19.31	Complies
802.11ac MCS0/Nss1 VHT40	5270 MHz	12.88	13.07	13.33	13.65	19.26	19.31	Complies
	5310 MHz	12.81	13.58	13.06	13.09	19.16	19.31	Complies
	5510 MHz	13.06	12.85	13.17	13.02	19.05	19.31	Complies
	5550 MHz	13.14	12.88	13.24	13.05	19.10	19.31	Complies
	5670 MHz	13.25	13.08	13.16	13.49	19.27	19.31	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	10.45	10.83	10.72	10.67	16.69	19.31	Complies
	5530 MHz	9.07	8.94	9.05	8.78	14.98	19.31	Complies
	5610 MHz	13.23	13.05	13.34	13.39	19.28	19.31	Complies

Note: $DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 10.69 \text{dBi} > 6 \text{dBi}$, So Limit = 24-(10.69-6)=19.31dBm.

Straddle Channel

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac	5720 MHz (UNII 2C)	12.35	12.19	12.50	11.97	18.28	18.29	Complies
MCS0/Nss1 VHT20	5720 MHz (UNII 3)	6.38	6.29	6.48	6.27	12.38	25.31	Complies
802.11ac	5710 MHz (UNII 2C)	13.29	13.00	13.35	12.85	19.15	19.31	Complies
MCS0/Nss1 VHT40	5710 MHz (UNII 3)	1.07	0.80	1.07	0.67	6.93	25.31	Complies
802.11ac	5690 MHz (UNII 2C)	13.36	13.16	13.38	13.20	19.30	19.31	Complies
MCS0/Nss1 VHT80	5690 MHz (UNII 3)	-1.13	-1.33	-0.92	-1.26	4.86	25.31	Complies

(UNII 2C)

Note1:

For 802.11ac VHT20

5720 MHz power limit = $11 + 10\log(B)$; $11 + 10\log(15.78) - (10.69 - 6) = 18.29\text{dBm} < 24\text{dBm}$, so limit = 18.29dBm.

Note2:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 10.69\text{dBi} > 6\text{dBi}$$
, So Limit = $24 - (10.69 - 6) = 19.31\text{dBm}$.

(UNII 3)

Note1:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 10.69\text{dBi} > 6\text{dBi}$$
, So Limit = $30 - (10.69 - 6) = 25.31\text{dBm}$.

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang	Test Date	Nov. 28, 2015
Test Mode	Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi		

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac MCS0/Nss1 VHT20	5260 MHz	11.81	12.07	11.90	12.45	18.09	18.27	Complies
	5300 MHz	11.77	12.01	11.97	12.13	17.99	18.27	Complies
	5320 MHz	11.75	11.98	12.02	11.99	17.96	18.27	Complies
	5500 MHz	11.96	11.64	11.87	11.65	17.80	18.27	Complies
	5580 MHz	12.35	12.16	12.33	11.88	18.20	18.27	Complies
	5700 MHz	11.91	11.70	11.97	11.87	17.88	18.27	Complies
802.11ac MCS0/Nss1 VHT40	5270 MHz	11.64	11.73	11.79	12.02	17.82	18.27	Complies
	5310 MHz	12.11	12.27	12.32	12.23	18.25	18.27	Complies
	5510 MHz	12.35	12.03	12.16	11.87	18.13	18.27	Complies
	5550 MHz	12.25	11.87	12.15	11.72	18.02	18.27	Complies
	5670 MHz	11.98	11.66	11.72	11.70	17.79	18.27	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	12.27	12.11	12.08	12.44	18.25	18.27	Complies
	5530 MHz	10.26	9.88	10.16	9.83	16.06	18.27	Complies
	5610 MHz	12.26	11.95	12.03	11.84	18.04	18.27	Complies

Note: $DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.73\text{dBi} > 6\text{dBi}$, So Limit = 24-(11.73-6)=18.27dBm.

Straddle Channel

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Chain 4	Total		
802.11ac	5720 MHz (UNII 2C)	11.27	10.97	11.01	10.88	17.06	17.49	Complies
MCS0/Nss1 VHT20	5720 MHz (UNII 3)	5.62	5.32	5.08	5.14	11.32	24.27	Complies
802.11ac	5710 MHz (UNII 2C)	12.19	11.79	11.95	11.99	18.00	18.27	Complies
MCS0/Nss1 VHT40	5710 MHz (UNII 3)	0.56	0.23	0.33	0.59	6.45	24.27	Complies
802.11ac	5690 MHz (UNII 2C)	12.46	11.96	12.05	12.17	18.18	18.27	Complies
MCS0/Nss1 VHT80	5690 MHz (UNII 3)	-1.22	-1.58	-1.69	-1.56	4.51	24.27	Complies

(UNII 2C)

Note 1:

For 802.11ac VHT20

5720 MHz power limit = $11 + 10\log(B)$; $11 + 10\log(16.65) - (11.73 - 6) = 17.49\text{dBm} < 24\text{dBm}$, so limit = 17.49dBm.

Note2:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.73\text{dBi} > 6\text{dBi}$$
, So Limit = $24 - (11.73 - 6) = 18.27\text{dBm}$.

(UNII 3)

Note1:
$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.73\text{dBi} > 6\text{dBi}$$
, So Limit = $30 - (11.73 - 6) = 24.27\text{dBm}$.

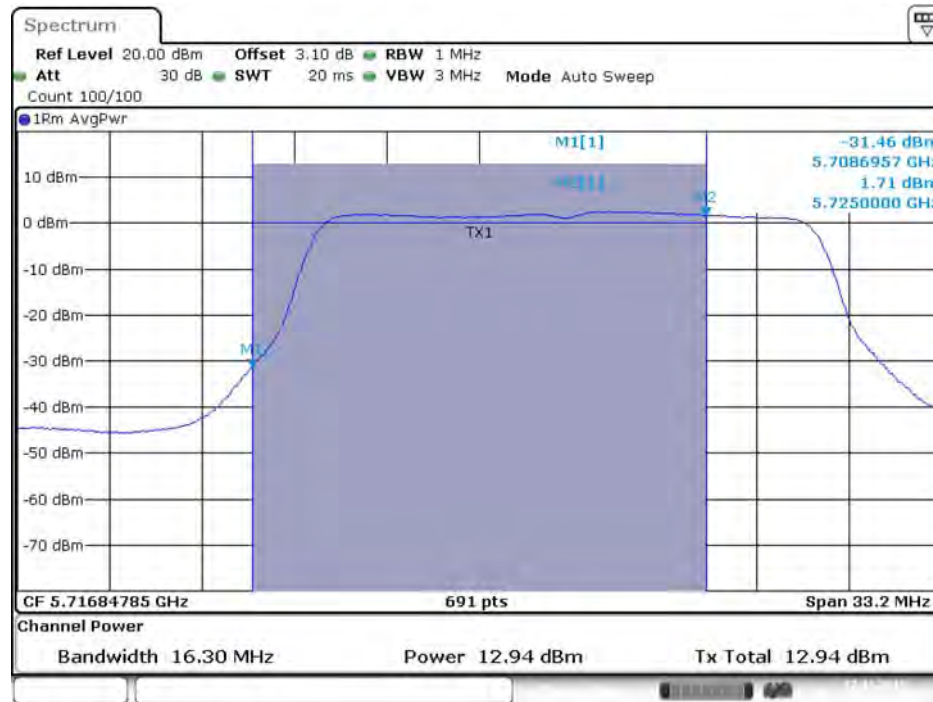
Note: All the test values were listed in the report.

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

Straddle Channel

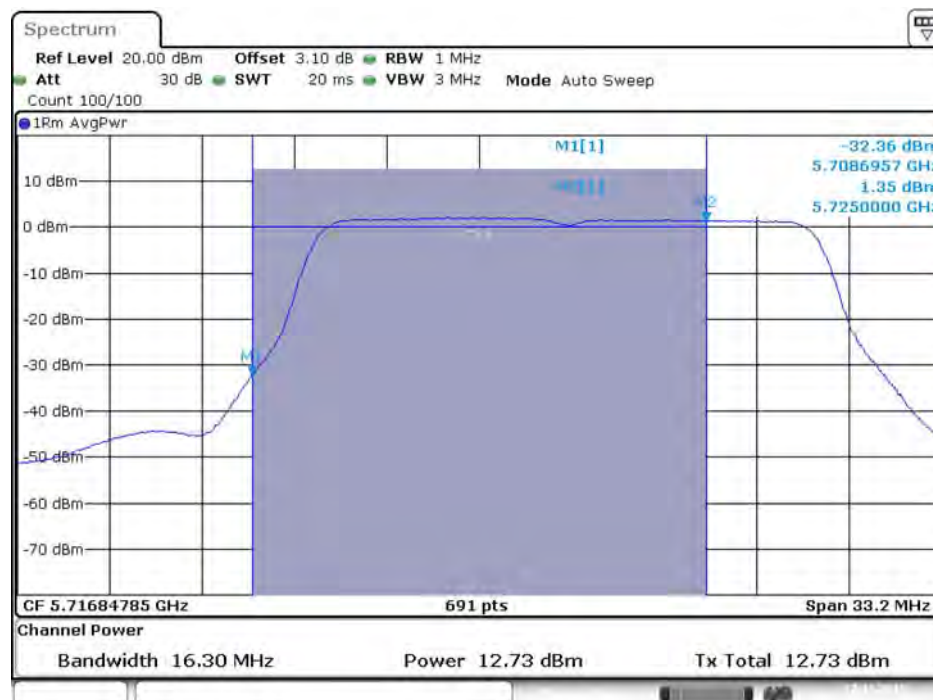
Mode 1: EUT 1 + Set 1 Ceiling Mount Omni Antenna / 7 dBi

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5720 MHz
(UNII 2C)



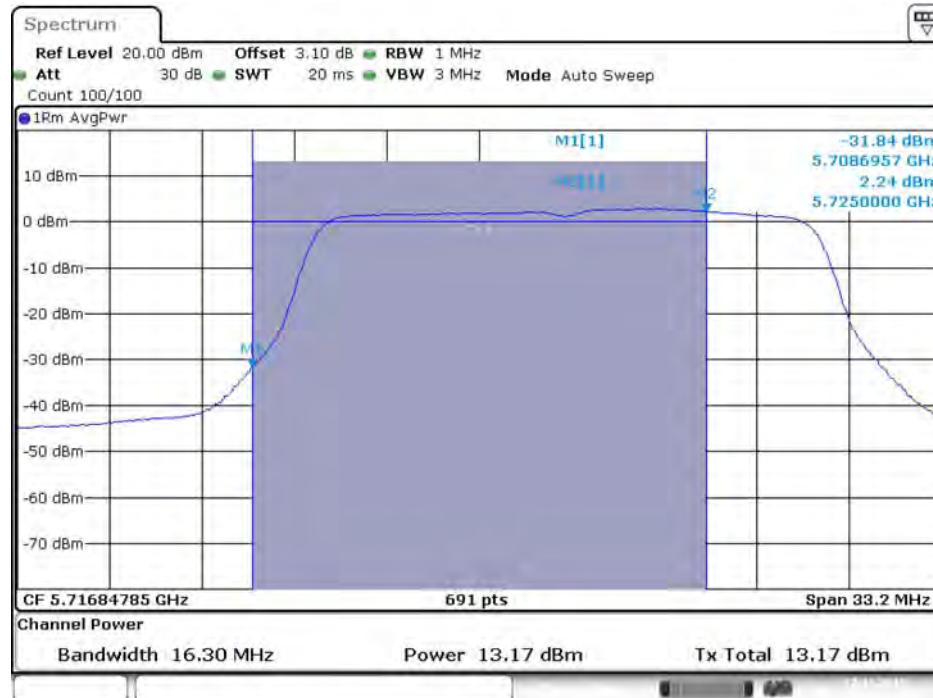
Date: 27.NOV.2015 14:50:00

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



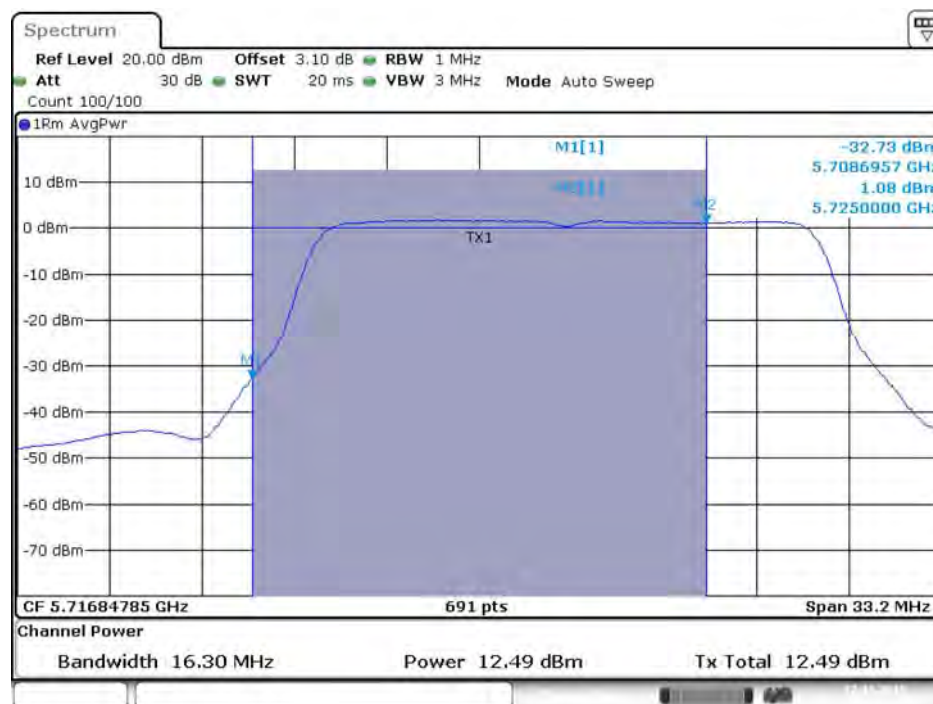
Date: 27.NOV.2015 14:50:08

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 / 5720 MHz (UNII 2C)



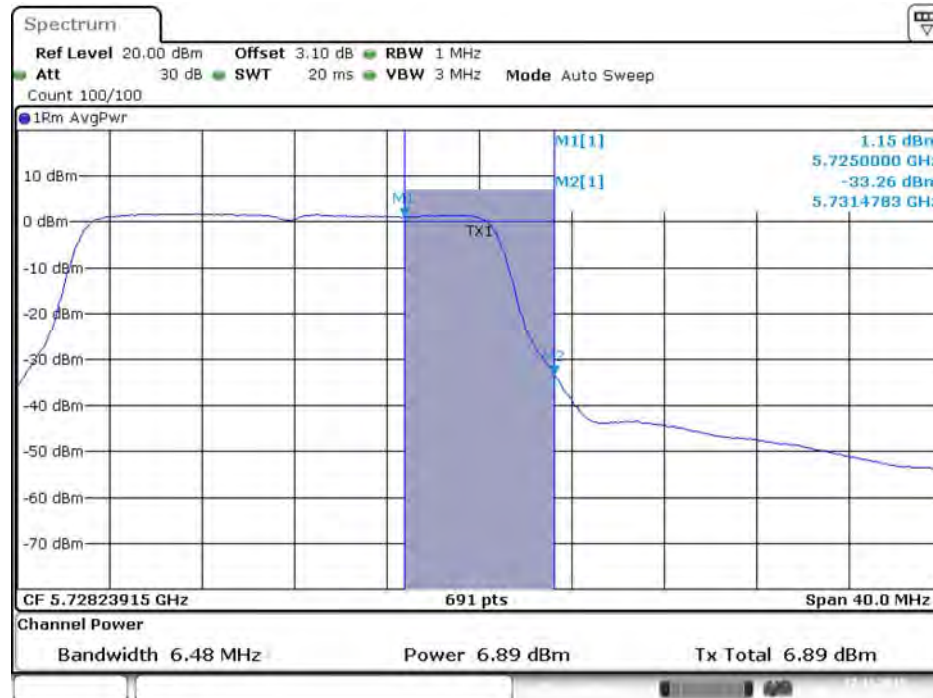
Date: 27.NOV.2015 14:50:15

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 4 / 5720 MHz (UNII 2C)



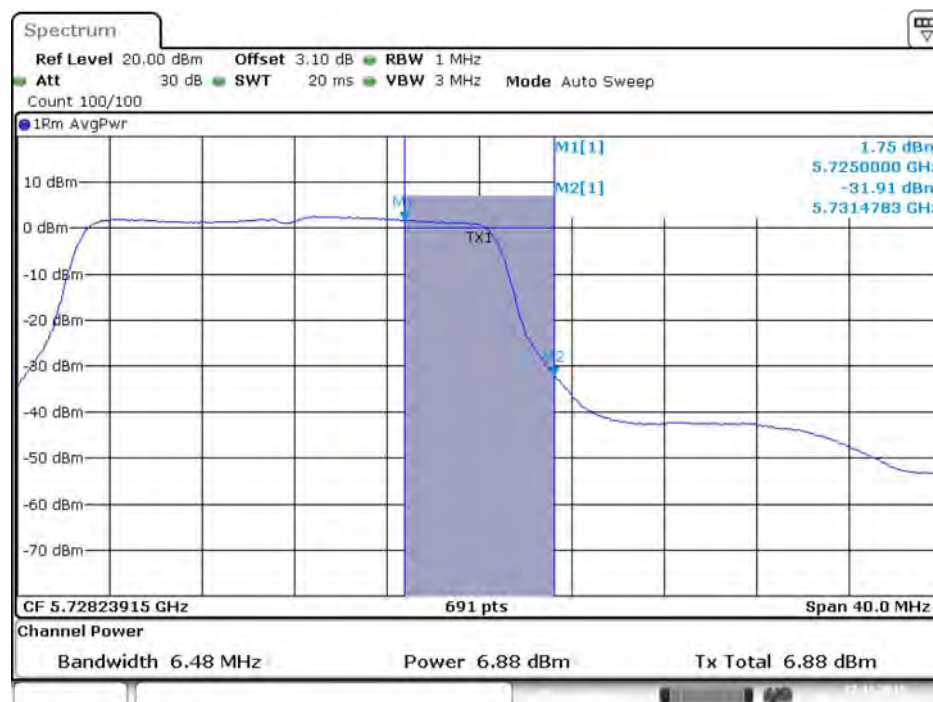
Date: 27.NOV.2015 14:50:23

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5720 MHz (UNII 3)



Date: 27.NOV.2015 14:50:26

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5720 MHz (UNII 3)



Date: 27.NOV.2015 14:50:04

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



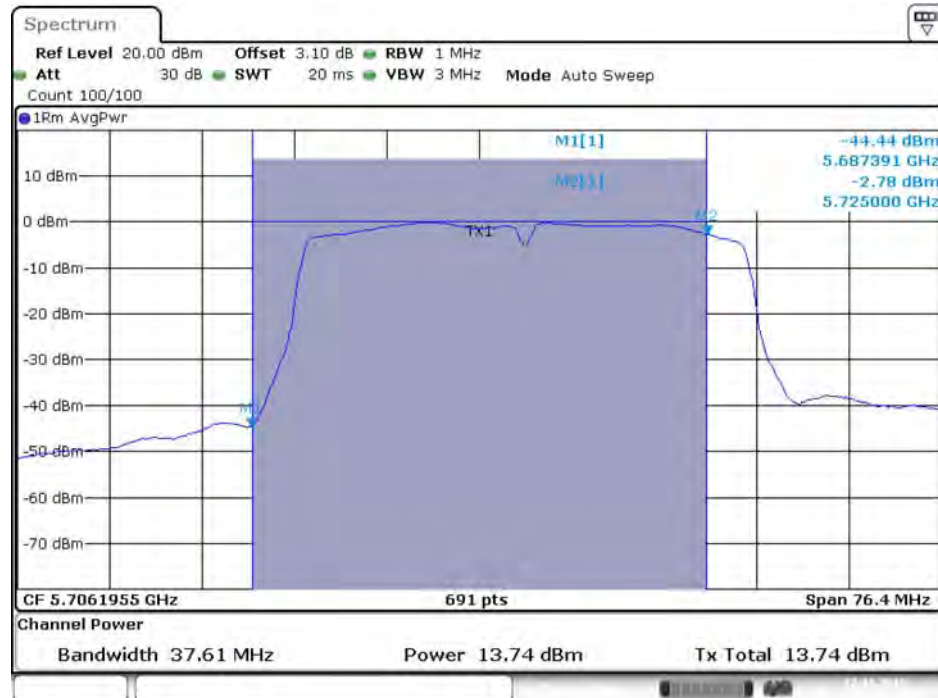
Date: 27.NOV.2015 14:50:19

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 4 / 5720 MHz (UNII 3)



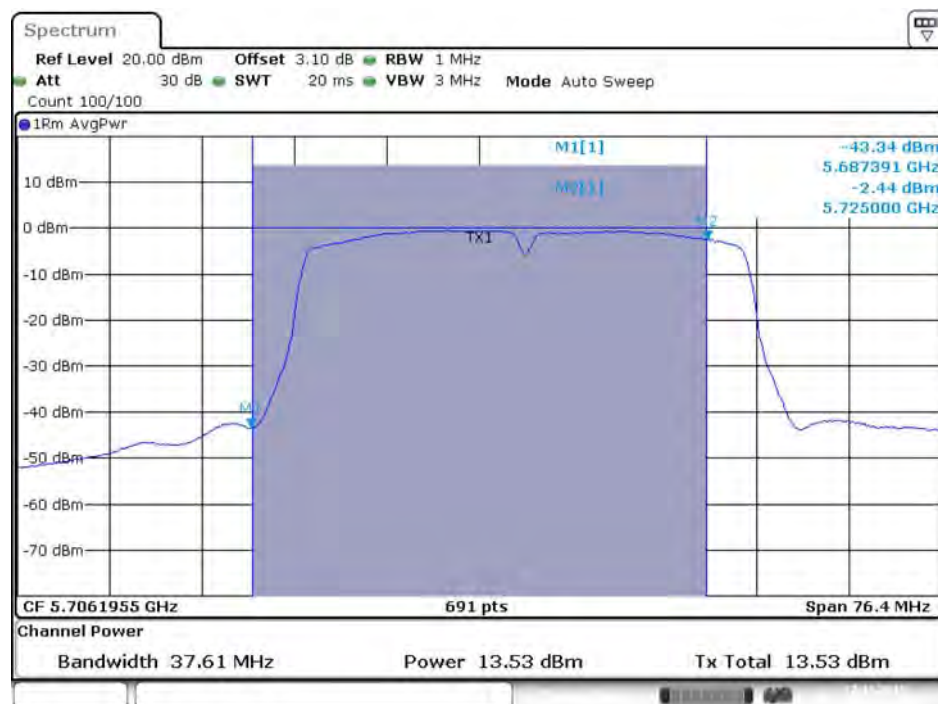
Date: 27.NOV.2015 14:50:11

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5710 MHz (UNII 2C)



Date: 27.NOV.2015 14:57:58

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



Date: 27.NOV.2015 14:58:06



Spectrum

Ref Level 20.00 dBm Offset 3.10 dB RBW 1 MHz
Att 30 dB SWT 20 ms VBW 3 MHz Mode Auto Sweep
Count 100/100

1Rm AvgPwr

CF 5.7061955 GHz 691 pts Span 76.4 MHz

Channel Power

Bandwidth 37.61 MHz Power 13.96 dBm Tx Total 13.96 dBm

Spectrum

Ref Level 20.00 dBm Offset 3.10 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

M1[1]
M2[1]
M3[1]

1x1

---45.60 dBm
5.687391 GHz
-2.62 dBm
5.725000 GHz

CF 5.7061955 GHz 691 pts Span 76.4 MHz

Channel Power

Bandwidth 37.61 MHz Power 13.45 dBm Tx Total 13.45 dBm

Date: 27.NOV.2015 14:58:20

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5710 MHz (UNII 3)



Date: 27.NOV.2015 14:58:09

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5710 MHz (UNII 3)



Date: 27.NOV.2015 14:58:24

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



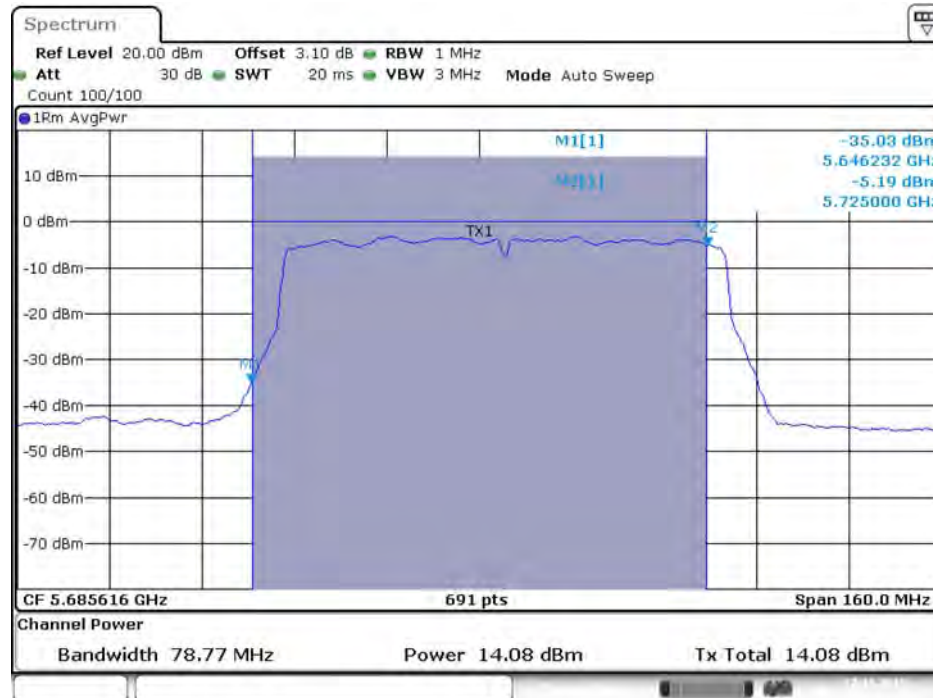
Date: 27.NOV.2015 14:58:16

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 4 / 5710 MHz (UNII 3)



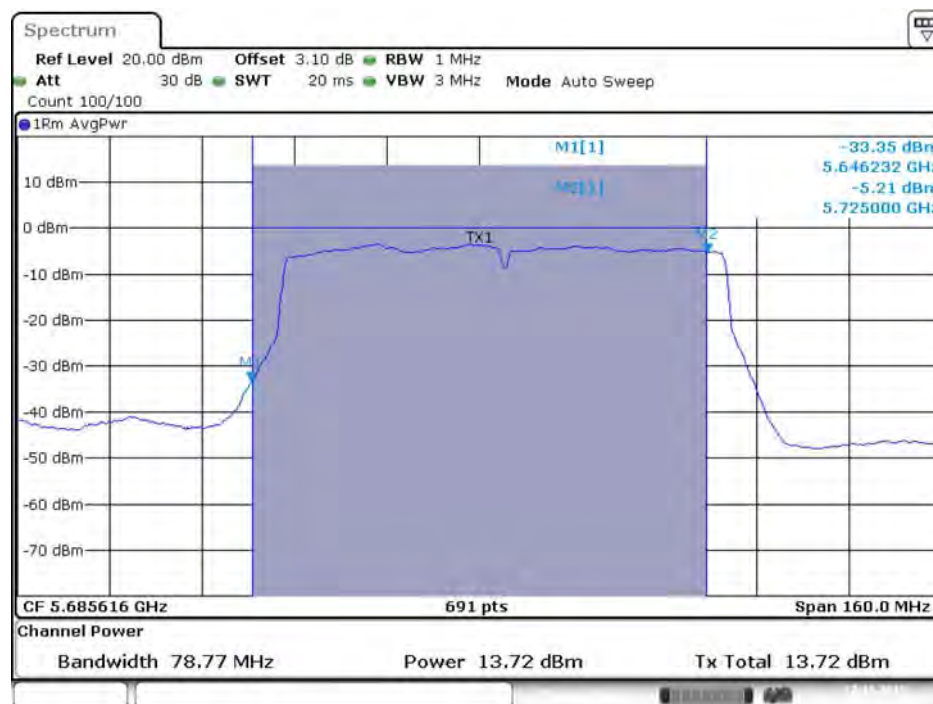
Date: 27.NOV.2015 14:58:02

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5690 MHz (UNII 2C)



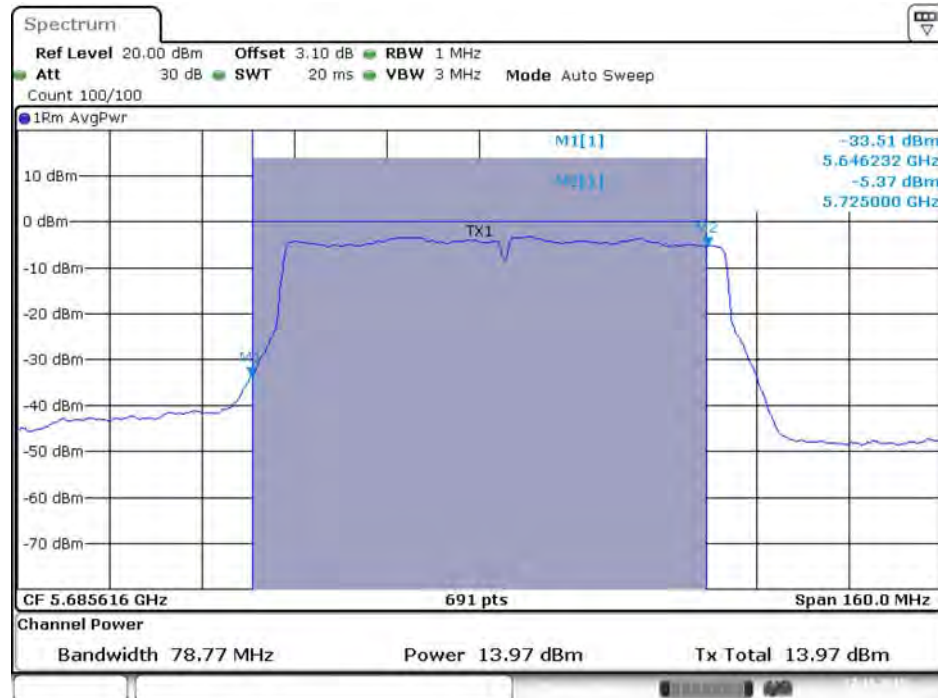
Date: 27.NOV.2015 15:03:42

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



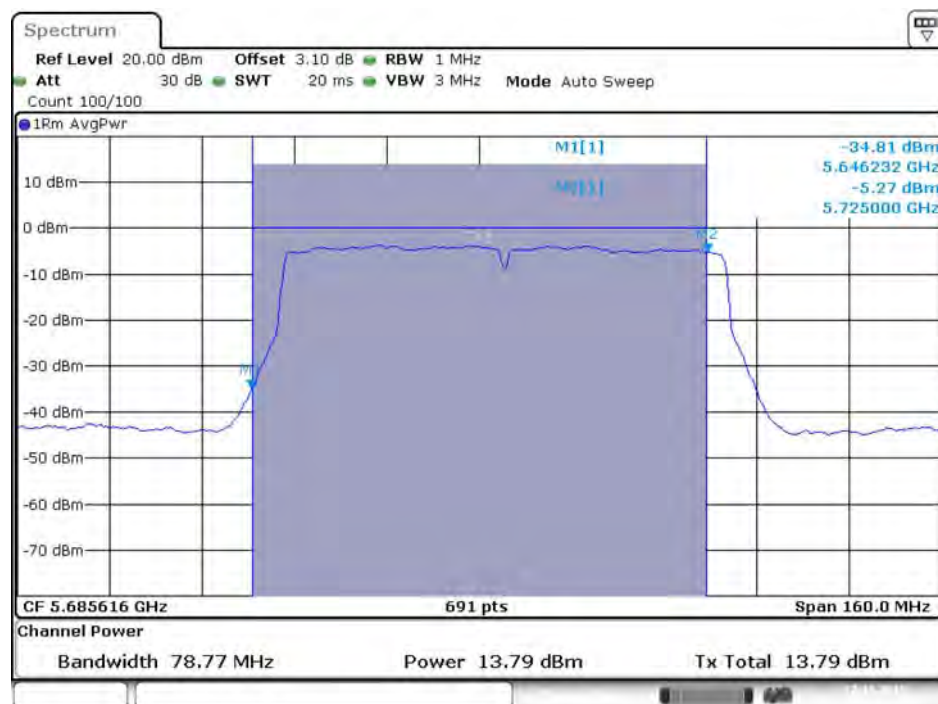
Date: 27.NOV.2015 15:03:50

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 / 5690 MHz (UNII 2C)



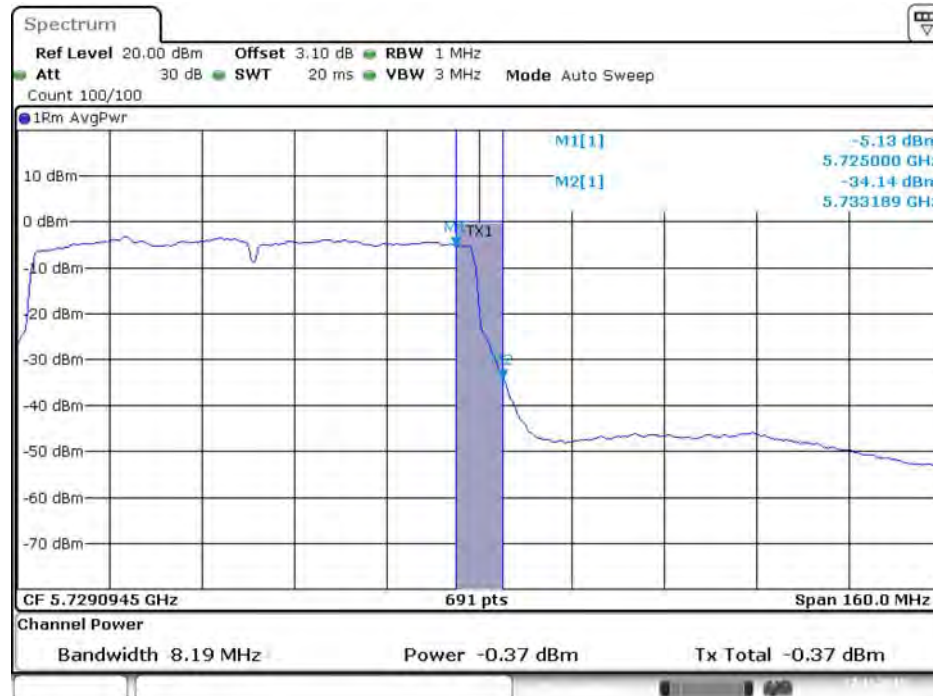
Date: 27.NOV.2015 15:03:57

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 4 / 5690 MHz (UNII 2C)



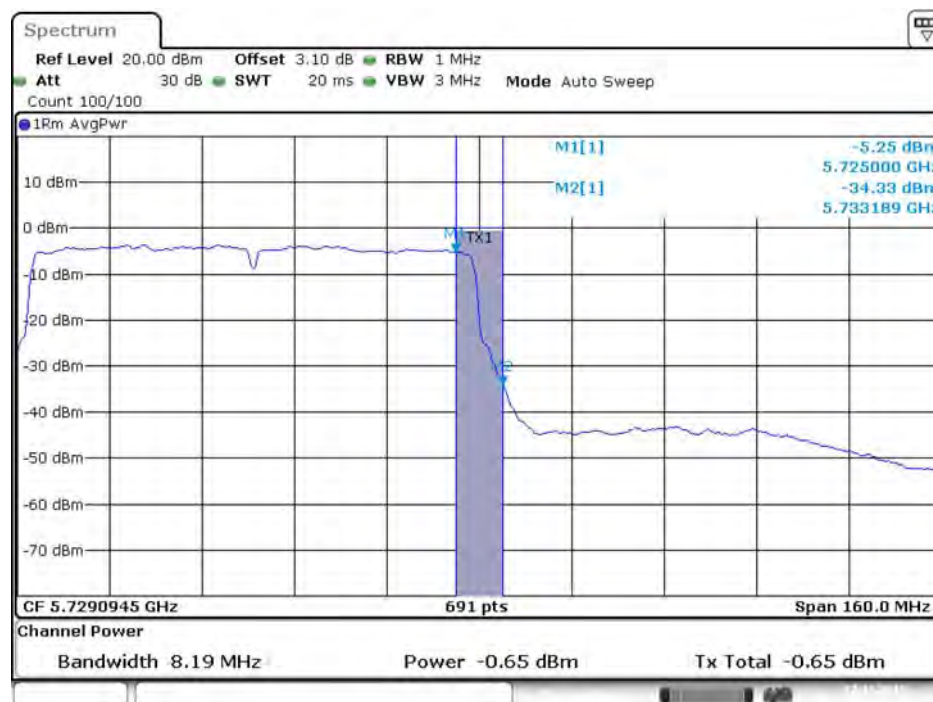
Date: 27.NOV.2015 15:04:04

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5690 MHz (UNII 3)



Date: 27.NOV.2015 15:03:53

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5690 MHz (UNII 3)



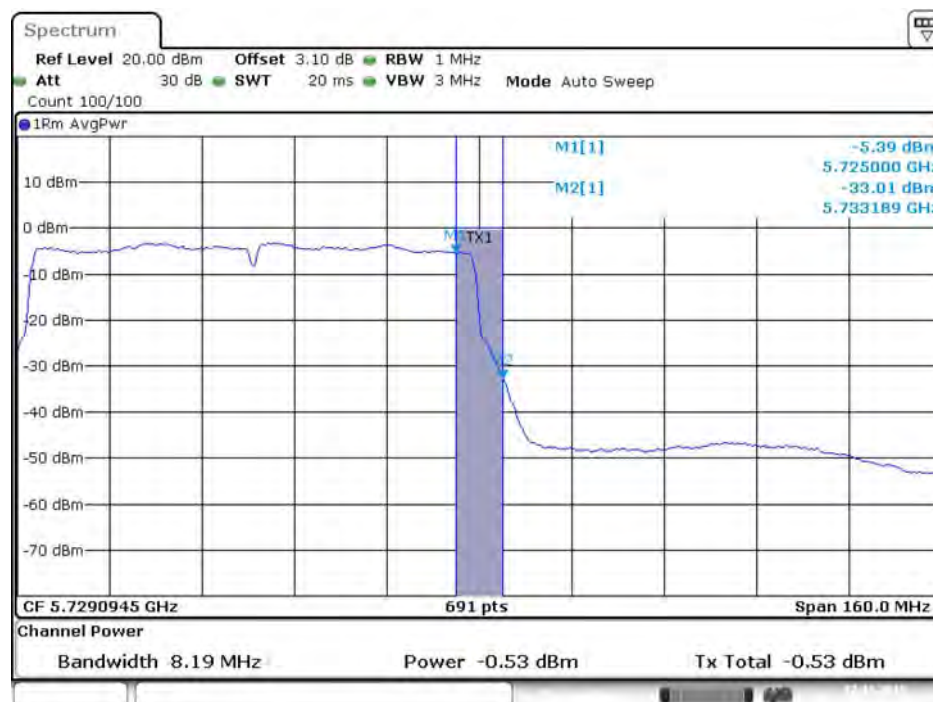
Date: 27.NOV.2015 15:04:08

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



Date: 27.NOV.2015 15:03:46

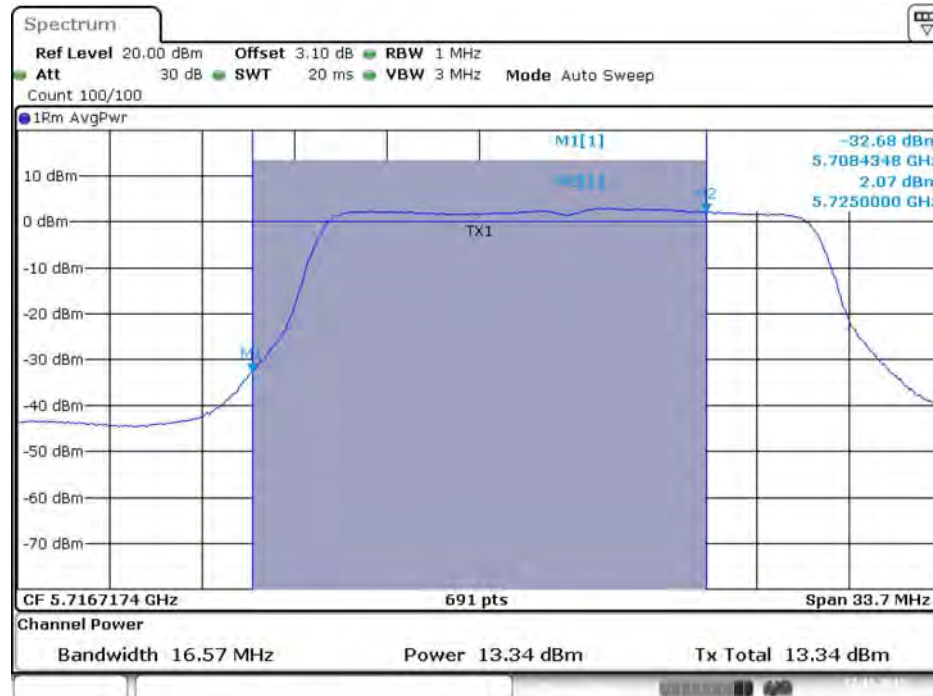
Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 4 / 5690 MHz (UNII 3)



Date: 27.NOV.2015 15:04:00

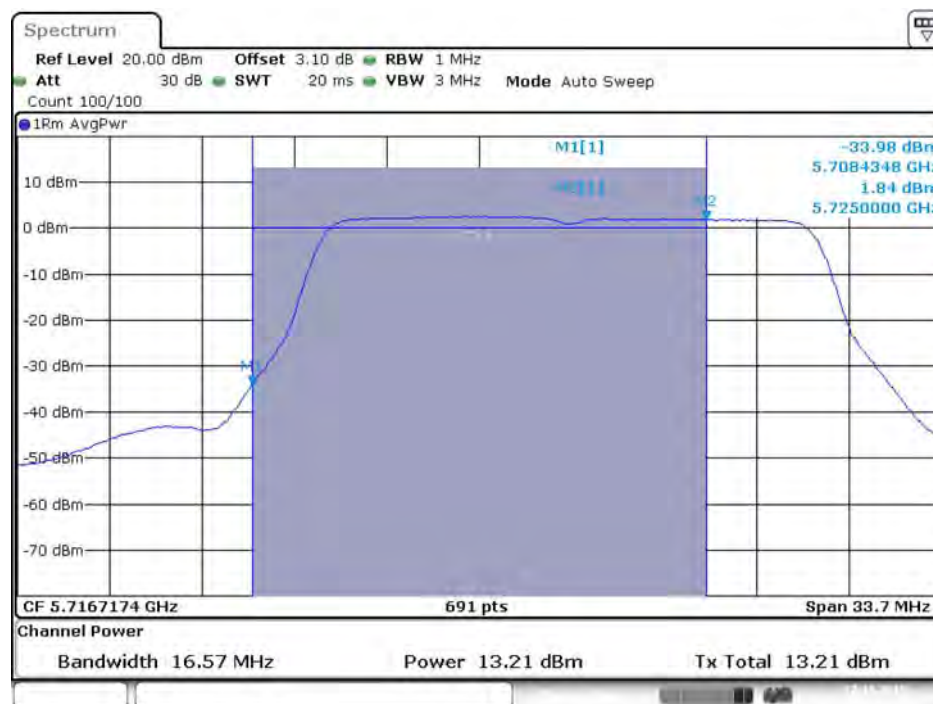
Mode 2: EUT 1 + Set 2 Sector Antenna / 6.5 dBi

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5720 MHz (UNII 2C)



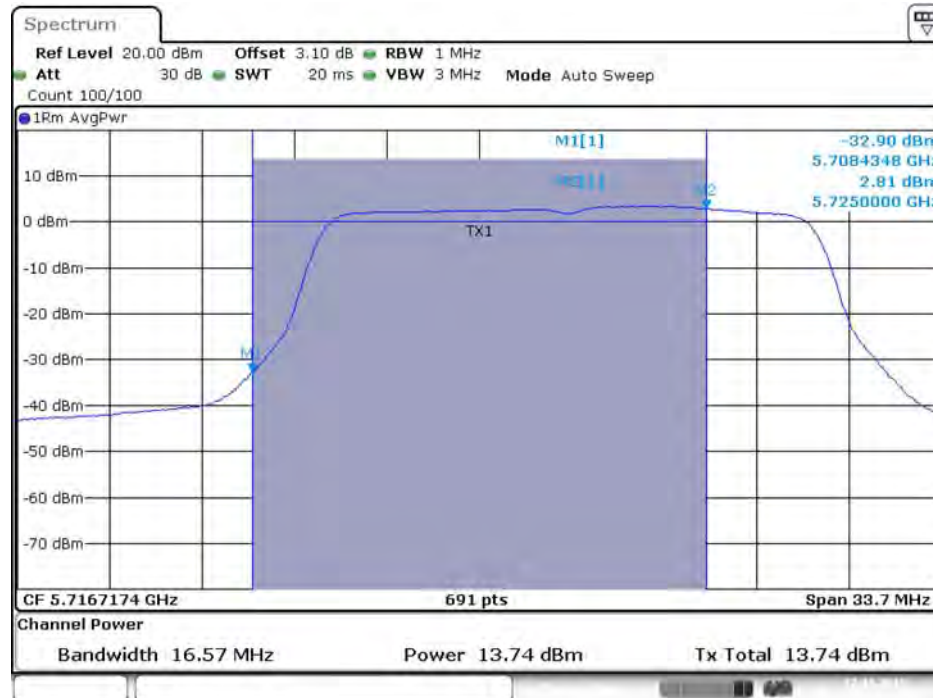
Date: 27.NOV.2015 14:29:10

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



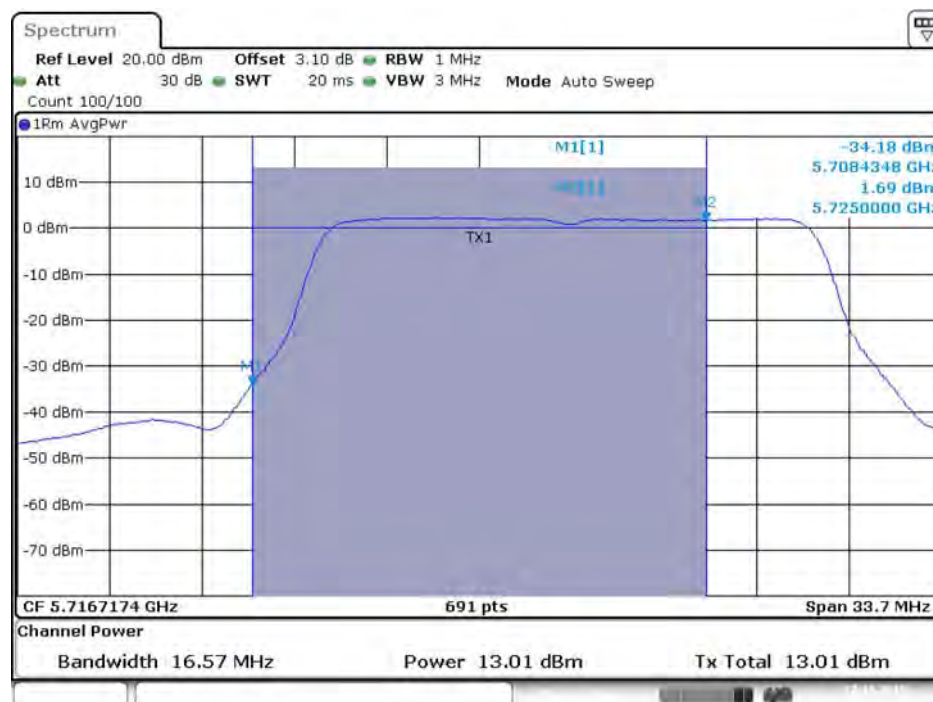
Date: 27.NOV.2015 14:29:17

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 / 5720 MHz (UNII 2C)



Date: 27.NOV.2015 14:29:24

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 4 / 5720 MHz (UNII 2C)



Date: 27.NOV.2015 14:29:32

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5720 MHz (UNII 3)



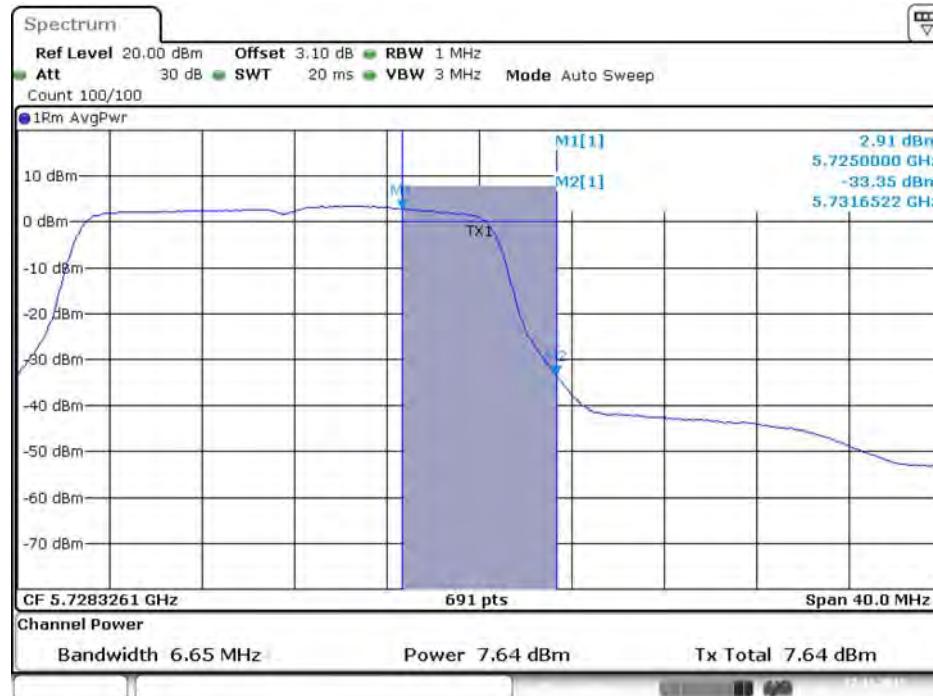
Date: 27.NOV.2015 14:29:35

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5720 MHz (UNII 3)



Date: 27.NOV.2015 14:29:20

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



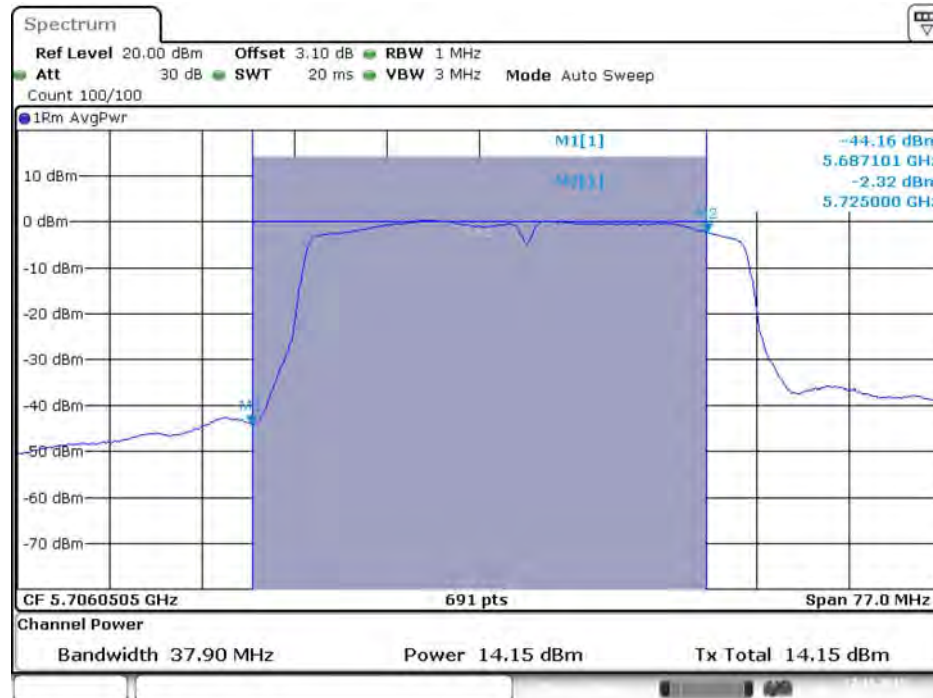
Date: 27.NOV.2015 14:29:28

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 4 / 5720 MHz (UNII 3)



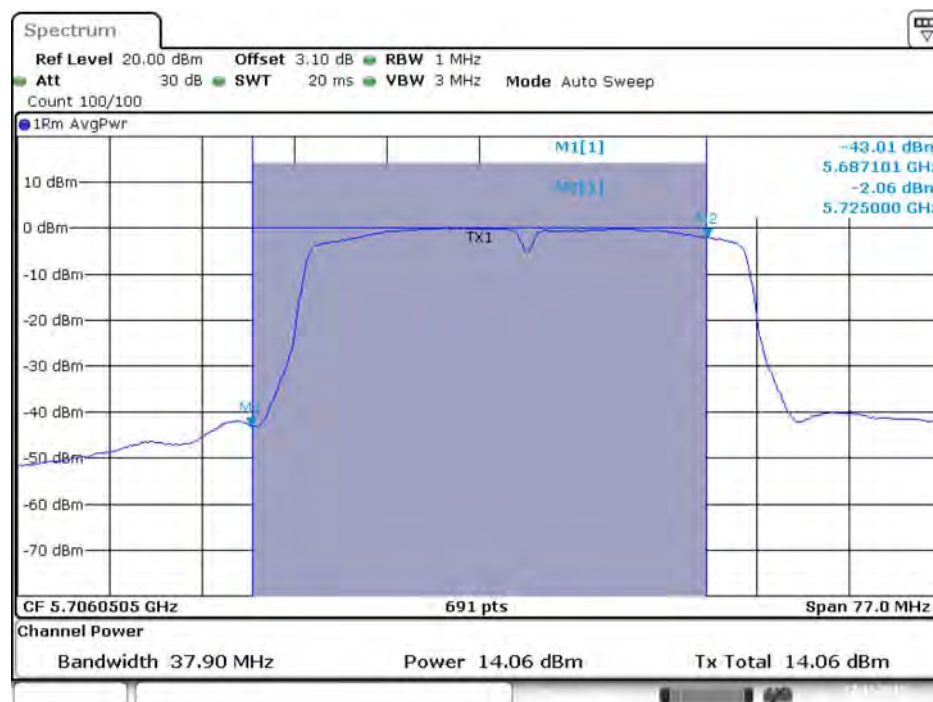
Date: 27.NOV.2015 14:29:13

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5710 MHz (UNII 2C)



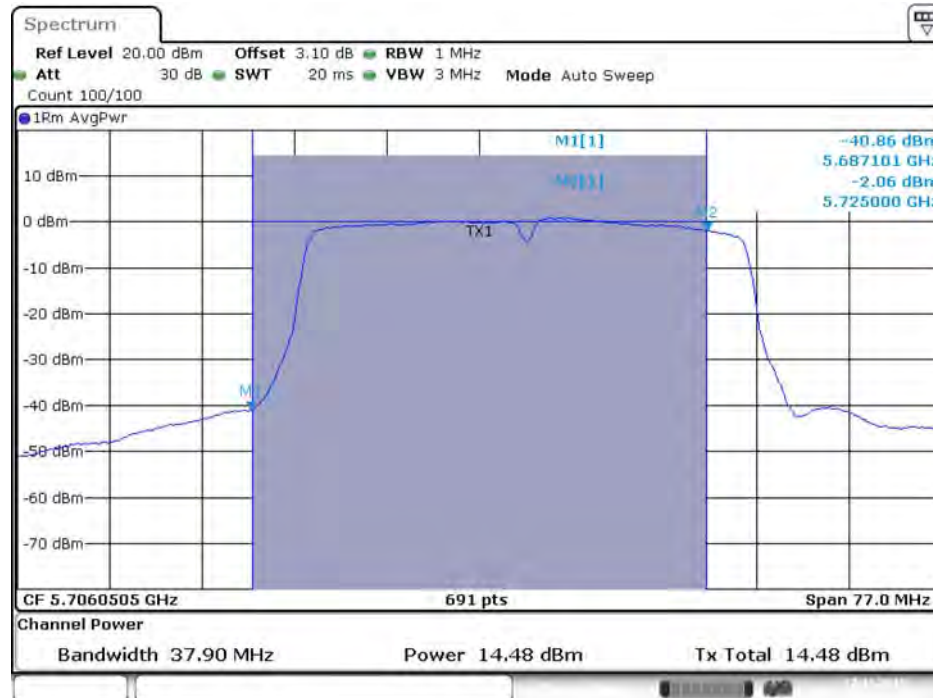
Date: 27.NOV.2015 14:35:59

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



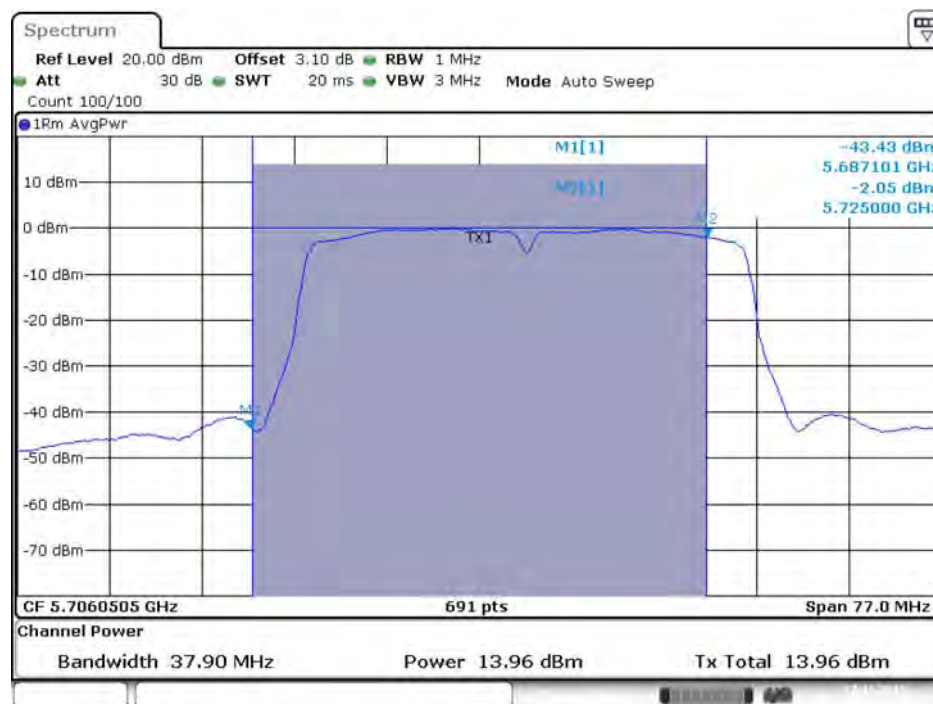
Date: 27.NOV.2015 14:36:07

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 / 5710 MHz (UNII 2C)



Date: 27.NOV.2015 14:36:14

Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 4 / 5710 MHz (UNII 2C)



Date: 27.NOV.2015 14:36:22