



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	Ubiquiti Networks, Inc.
Applicant Address	2580 Orchard Parkway San Jose, CA 95131
FCC ID	SWX-M445G
Manufacturer's company	Ubiquiti Networks, Inc.
Manufacturer Address	2580 Orchard Parkway San Jose, CA 95131

Product Name	WiFi 5G Module
Brand Name	UBIQUITI
Model No.	4x4-5G
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5150 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850 MHz
Received Date	Jun. 21, 2016
Final Test Date	Aug. 30, 2016
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 v01r03, KDB662911 D01 v02r01, KDB644545 D03 v01, ET Docket No. 13-49; FCC 16-24.**

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



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.....	10
3.3. Table for Filed Antenna.....	11
3.4. Table for Carrier Frequencies	12
3.5. Table for 80 + 80 MHz Mode.....	13
3.6. Table for Test Modes	14
3.7. Table for Testing Locations.....	23
3.8. Table for Supporting Units	24
3.9. Table for Parameters of Test Software Setting	25
3.10. EUT Operation during Test	31
3.11. Duty Cycle	31
3.12. Test Configurations	32
4. TEST RESULT	35
4.1. AC Power Line Conducted Emissions Measurement.....	35
4.2. 26dB Bandwidth and 99% Occupied Bandwidth Measurement.....	40
4.3. 6dB Spectrum Bandwidth Measurement	139
4.4. Maximum Conducted Output Power Measurement.....	164
4.5. Power Spectral Density Measurement	229
4.6. Radiated Emissions Measurement	336
4.7. Band Edge Emissions Measurement	443
4.8. Frequency Stability Measurement	590
4.9. Antenna Requirements	604
5. LIST OF MEASURING EQUIPMENTS	605
6. MEASUREMENT UNCERTAINTY.....	607
APPENDIX A. TEST PHOTOS	A1 ~ A7
APPENDIX B. MAXIMUM E.I.R.P AT ANY ELEVATION ANGLE ABOVE 30 DEGREES.....	B1 ~ B2

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR661623	Rev. 01	Initial issue of report	Sep. 19, 2016

1. VERIFICATION OF COMPLIANCE

Product Name : WiFi 5G Module
Brand Name : UBIQUITI
Model No. : 4x4-5G
Applicant : Ubiquiti 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 Jun. 21, 2016 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.


Cliff Chang
SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart E			
Part	Rule Section	Description of Test	Result
4.1	15.207	AC Power Line Conducted Emissions	Complies
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
4.5	15.407(a)	Power Spectral Density	Complies
4.6	15.407(b)	Radiated Emissions	Complies
4.7	15.407(b)	Band Edge Emissions	Complies
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 host system
Modulation	IEEE 802.11a: OFDM IEEE 802.11n/ac: see the below table
Data Modulation	IEEE 802.11a/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) IEEE 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Data Rate (Mbps)	IEEE 802.11a: OFDM (6/9/12/18/24/36/48/54) IEEE 802.11n/ac: see the below table
Frequency Range	5150 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850 MHz
Channel Number	25 for 20MHz bandwidth ; 12 for 40MHz bandwidth 6 for 80MHz bandwidth
Channel Bandwidth (99%)	For non-beamforming mode For indoor use master B1 and indoor, outdoor use B2~B4 U-NII-1: IEEE 802.11a: 15.72 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 16.50 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 35.89 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 75.54 MHz U-NII-2A: IEEE 802.11a: 15.54 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 16.50 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 36.18 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 74.39 MHz U-NII-2C: IEEE 802.11a: 15.28 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 16.24 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 36.47 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.12 MHz U-NII-3: IEEE 802.11a: 24.14 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 25.88 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 44.86 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 75.83 MHz

	For indoor use slave without radar detection B1 U-NII-1: IEEE 802.11a: 15.46 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 16.41 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 35.89 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 75.54 MHz For outdoor use master B1 U-NII-1: IEEE 802.11a: 15.54 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 16.32 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 36.03 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 75.54 MHz For indoor use master U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 159.57 MHz U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 159.57 MHz U-NII-2C: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 159.13 MHz U-NII-3: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 79.13 MHz For indoor use slave without radar detection U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 159.57 MHz U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 159.57 MHz U-NII-2C: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 79.13 MHz U-NII-3: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 78.84 MHz For outdoor use master U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 159.13 MHz U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 159.13 MHz U-NII-2C: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 79.13 MHz U-NII-3:
--	---

	IEEE 802.11ac MCS0/Nss2 (VHT80+80): 78.26 MHz For beamforming mode For indoor use master B1 and indoor, outdoor use B2~B4 U-NII-1: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.06 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.05 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.12 MHz U-NII-2A: 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 U-NII-2C: 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 U-NII-3: IEEE 802.11ac MCS0/Nss1 (VHT20): 18.15 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.05 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz For indoor use slave without radar detection B1 U-NII-1: IEEE 802.11ac MCS0/Nss1 (VHT20): 17.97 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 36.90 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz For outdoor use master B1 U-NII-1: IEEE 802.11ac MCS0/Nss1 (VHT20): 17.97 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 36.90 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz For indoor use master U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 160.00 MHz U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 160.00 MHz U-NII-2C: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 159.57 MHz U-NII-3: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 80.29 MHz
--	---

	For indoor use slave without radar detection U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 160.00 MHz U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 160.00 MHz U-NII-2C: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 80.29 MHz U-NII-3: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 80.00 MHz For outdoor use master U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 160.00 MHz U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 160.00 MHz U-NII-2C: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 80.00 MHz U-NII-3: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 80.00 MHz
Maximum Conducted Output Power	For Non-beamforming mode For indoor use master B1 and indoor, outdoor use B2~B4 U-NII-1: IEEE 802.11a: 24.32 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 24.14 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 26.15 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 20.57 dBm U-NII-2A: IEEE 802.11a: 18.36 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 18.18 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.18 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 20.69 dBm U-NII-2C: IEEE 802.11a: 18.19 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 18.36 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.20 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 23.81 dBm U-NII-3: IEEE 802.11a: 29.04 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 28.91 dBm

	IEEE 802.11ac MCS0/Nss1 (VHT40): 28.66 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 23.72 dBm For indoor use slave without radar detection B1 U-NII-1: IEEE 802.11a: 18.35 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 18.24 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.20 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 20.57 dBm For outdoor use master B1 U-NII-1: IEEE 802.11a: 14.98 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 14.75 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 14.78 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 14.76 dBm For indoor use master U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.35 dBm U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 20.13 dBm U-NII-2C: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 23.78 dBm U-NII-3: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 19.87 dBm For indoor use slave without radar detection U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.35 dBm U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 16.88 dBm U-NII-2C: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.36 dBm U-NII-3: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.52 dBm For outdoor use master U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 14.72 dBm U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 14.39 dBm U-NII-2C:
--	---

	IEEE 802.11ac MCS0/Nss2 (VHT80+80): 14.54 dBm U-NII-3: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 14.63 dBm For beamforming mode For indoor use master B1 and indoor, outdoor use B2~B4 U-NII-1: IEEE 802.11ac MCS0/Nss1 (VHT20): 23.74 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 23.82 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 22.36 dBm U-NII-2A: IEEE 802.11ac MCS0/Nss1 (VHT20): 17.75 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 17.88 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 17.47 dBm U-NII-2C: IEEE 802.11ac MCS0/Nss1 (VHT20): 17.36 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 17.36 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 17.89 dBm U-NII-3: IEEE 802.11ac MCS0/Nss1 (VHT20): 23.43 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 23.47 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 23.48 dBm For indoor use slave without radar detection B1 U-NII-1: IEEE 802.11ac MCS0/Nss1 (VHT20): 17.54 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 17.71 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 17.36 dBm For outdoor use master B1 U-NII-1: IEEE 802.11ac MCS0/Nss1 (VHT20): 8.65 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 8.46 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 8.33 dBm For indoor use master U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.65 dBm U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.58 dBm U-NII-2C: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 20.87 dBm
--	---

	U-NII-3: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.41 dBm For indoor use slave without radar detection U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.65 dBm U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.31 dBm U-NII-2C: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.34 dBm U-NII-3: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 18.42 dBm For outdoor use master U-NII-1: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 11.91 dBm U-NII-2A: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 11.31 dBm U-NII-2C: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 11.87 dBm U-NII-3: IEEE 802.11ac MCS0/Nss2 (VHT80+80): 11.41 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

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

Note: The EUT has beamforming function for 802.11n/ac.

Antenna and Bandwidth

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

IEEE 11n/ac Spec.

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

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

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

Note 3: Modulation modes consist of below configuration:
HT20/HT40: IEEE 802.11n, VHT20/VHT40/VHT80: IEEE 802.11ac

3.2. Accessories

N/A

3.3. Table for Filed Antenna

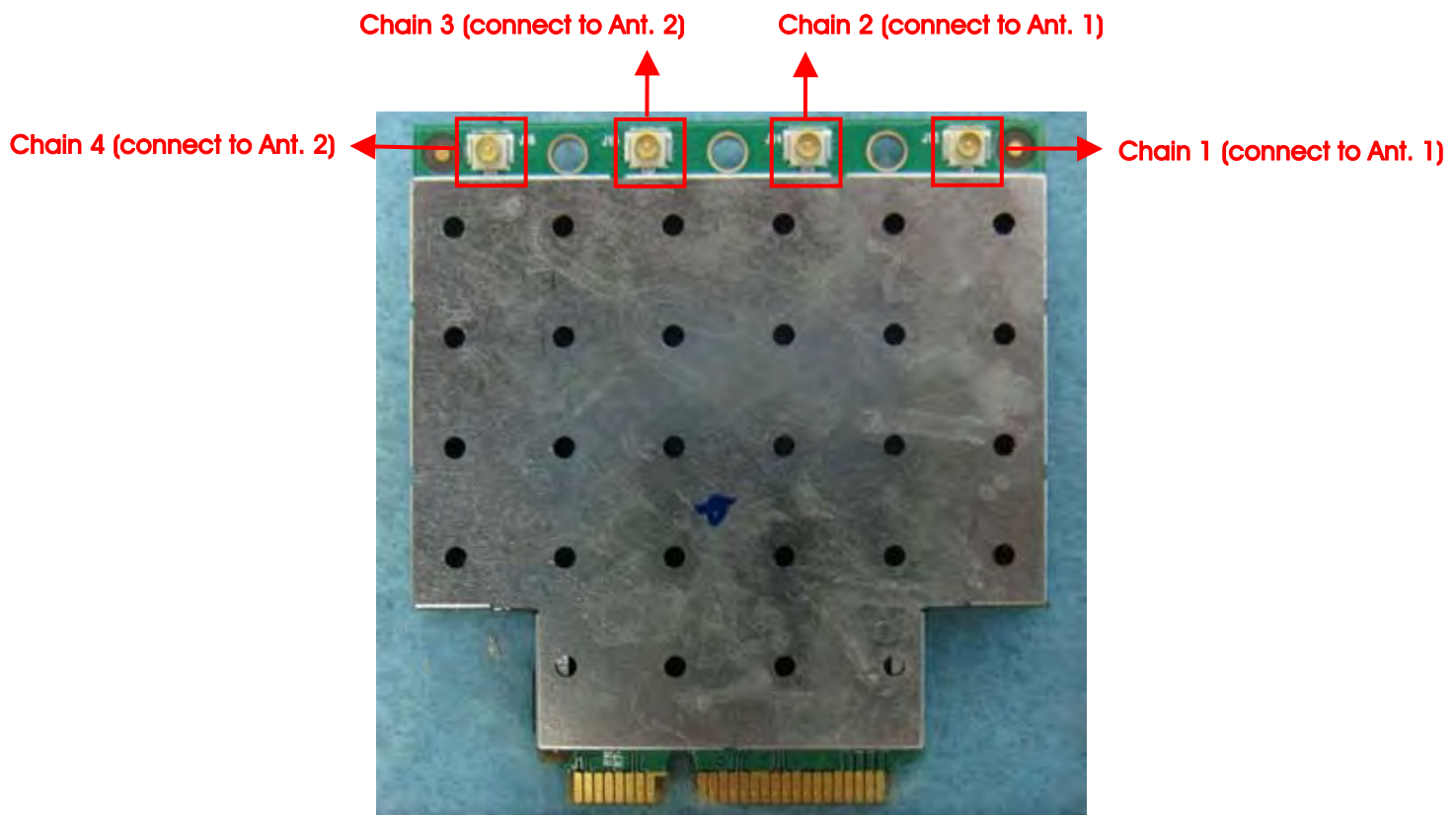
Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	-	-	PIFA Antenna	N/A	6
2	-	-	PIFA Antenna	N/A	6

Note: The EUT has two antennas.

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

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

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



3.4. Table for Carrier Frequencies

There are three bandwidth systems.

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

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

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

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

3.5. Table for 80+80 MHz Mode

Type	Channel No.	Frequency
1	42+106	5210+5530 MHz
2	42+122	5210+5610 MHz
3	42+138	5210+5690 MHz
4	42+155	5210+5775 MHz
5	58+106	5290+5530 MHz
6	58+122	5290+5610 MHz
7	58+138	5290+5690 MHz
8	58+155	5290+5775 MHz
9	106+138	5530+5690 MHz
10	106+155	5530+5775 MHz
11	122+155	5610+5775 MHz
12	138+155	5690+5775 MHz
13	42+58	5210+5290 MHz
14	106+122	5530+5610 MHz
15	122+138	5610+5690 MHz

Note: Non-beamforming mode supports type 1-15, beamforming mode supports type 1-14 only.

3.6. Table for Test Modes

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

Test Items	Mode	Data Rate	Channel	Chain
AC Power Conducted Emission	CTX	-	-	-
Max. Conducted Output Power	For non-beamforming mode			
	For B1 indoor use master and B2-B4 indoor, outdoor use			
	11a/BPSK	U-NII-1 U-NII-2A U-NII-2C U-NII-3	6Mbps 36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT20	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1 36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT40	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1 38/46/54/62/ 102/110/134/ 142/151/159	1+2+3+4
	11ac VHT80	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1 42/58/106/122/ 138/155	1+2+3+4
	For B1 indoor use slave without radar detection, B1 outdoor use master			
	11a/BPSK	U-NII-1	6Mbps 36/40/48	1+2+3+4
	11ac VHT20	U-NII-1	MCS0/Nss1 36/40/48	1+2+3+4
	11ac VHT40	U-NII-1	MCS0/Nss1 38/46	1+2+3+4
	11ac VHT80	U-NII-1	MCS0/Nss1 42	1+2+3+4
	For beamforming mode			
	For B1 indoor use master and B2-B4 indoor, outdoor use master			
	11ac VHT20	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1 36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4

	11ac VHT40	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	38/46/54/62/ 102/110/134/ 142/151/159	1+2+3+4
	11ac VHT80	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	42/58/106/122/ 138/155	1+2+3+4
	For B1 indoor use slave without radar detection, B1 outdoor use master				
	11ac VHT20	U-NII-1	MCS0/Nss1	36/40/48	1+2+3+4
	11ac VHT40	U-NII-1	MCS0/Nss1	38/46	1+2+3+4
	11ac VHT80	U-NII-1	MCS0/Nss1	42	1+2+3+4
	Power Spectral Density				
	For non-beamforming mode				
	For B1 indoor use master and B2-B4 indoor, outdoor use				
	11a/BPSK	U-NII-1 U-NII-2A U-NII-2C U-NII-3	6Mbps	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT20	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT40	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	38/46/54/62/ 102/110/134/ 142/151/159	1+2+3+4
	11ac VHT80	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	42/58/106/122/ 138/155	1+2+3+4
	For B1 indoor use slave without radar detection, B1 outdoor use master				
	11a/BPSK	U-NII-1	6Mbps	36/40/48	1+2+3+4
	11ac VHT20	U-NII-1	MCS0/Nss1	36/40/48	1+2+3+4
	11ac VHT40	U-NII-1	MCS0/Nss1	38/46	1+2+3+4
	11ac VHT80	U-NII-1	MCS0/Nss1	42	1+2+3+4

	For beamforming mode				
	For B1 indoor use master and B2-B4 indoor, outdoor use master				
	11ac VHT20	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT40	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	38/46/54/62/ 102/110/134/ 142/151/159	1+2+3+4
	11ac VHT80	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	42/58/106/122/ 138/155	1+2+3+4
	For B1 indoor use slave without radar detection, B1 outdoor use master				
	11ac VHT20	U-NII-1	MCS0/Nss1	36/40/48	1+2+3+4
	11ac VHT40	U-NII-1	MCS0/Nss1	38/46	1+2+3+4
	11ac VHT80	U-NII-1	MCS0/Nss1	42	1+2+3+4
26dB Spectrum Bandwidth & 99% Occupied Bandwidth Measurement	For non-beamforming mode				
	For B1 indoor use master and B2-B4 indoor, outdoor use				
	11a/BPSK	U-NII-1 U-NII-2A U-NII-2C U-NII-3	6Mbps	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT20	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT40	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	38/46/54/62/ 102/110/134/ 142/151/159	1+2+3+4
	11ac VHT80	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	42/58/106/122/ 138/155	1+2+3+4

	For B1 indoor use slave without radar detection, B1 outdoor use master				
	11a/BPSK	U-NII-1	6Mbps	36/40/48	1+2+3+4
	11ac VHT20	U-NII-1	MCS0/Nss1	36/40/48	1+2+3+4
	11ac VHT40	U-NII-1	MCS0/Nss1	38/46	1+2+3+4
	11ac VHT80	U-NII-1	MCS0/Nss1	42	1+2+3+4
	For beamforming mode				
	For B1 indoor use master and B2-B4 indoor, outdoor use master				
	11ac VHT20	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT40	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	38/46/54/62/ 102/110/134/ 142/151/159	1+2+3+4
	11ac VHT80	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	42/58/106/122/ 138/155	1+2+3+4
	For B1 indoor use slave without radar detection, B1 outdoor use master				
	11ac VHT20	U-NII-1	MCS0/Nss1	36/40/48	1+2+3+4
	11ac VHT40	U-NII-1	MCS0/Nss1	38/46	1+2+3+4
	11ac VHT80	U-NII-1	MCS0/Nss1	42	1+2+3+4
6dB Spectrum Bandwidth Measurement	For non-beamforming mode				
	11a/BPSK	U-NII-3	6Mbps	144/149/157/ 165	1+2+3+4
	11ac VHT20	U-NII-3	MCS0/Nss1	144/149/157/ 165	1+2+3+4
	11ac VHT40	U-NII-3	MCS0/Nss1	142/151/159	1+2+3+4
	11ac VHT80	U-NII-3	MCS0/Nss1	138/155	1+2+3+4
	For beamforming mode				
	11ac VHT20	U-NII-3	MCS0/Nss1	144/149/157/ 165	1+2+3+4
	11ac VHT40	U-NII-3	MCS0/Nss1	142/151/159	1+2+3+4
	11ac VHT80	U-NII-3	MCS0/Nss1	138/155	1+2+3+4

Radiated Emission Below 1GHz	CTX		-	-	-
Radiated Emission Above 1GHz	For non-beamforming mode				
	11a/BPSK	U-NII-1 U-NII-2A U-NII-2C U-NII-3	6Mbps	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT20	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT40	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	38/46/54/62/ 102/110/134/ 142/151/159	1+2+3+4
	11ac VHT80	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	42/58/106/122/ 138/155	1+2+3+4
	For beamforming mode				
	11ac VHT20	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT40	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	38/46/54/62/ 102/110/134/ 142/151/159	1+2+3+4
	11ac VHT80	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	42/58/106/122/ 138/155	1+2+3+4
	Band Edge Emission	For non-beamforming mode			
	11a/BPSK	U-NII-1 U-NII-2A U-NII-2C U-NII-3	6Mbps	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4

	11ac VHT20	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT40	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	38/46/54/62/ 102/110/134/ 142/151/159	1+2+3+4
	11ac VHT80	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	42/58/106/122/ 138/155	1+2+3+4
	For beamforming mode				
	11ac VHT20	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	36/40/48/52/60/ 64/100/116/140/ 144/149/157/ 165	1+2+3+4
	11ac VHT40	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	38/46/54/62/ 102/110/134/ 142/151/159	1+2+3+4
	11ac VHT80	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss1	42/58/106/122/ 138/155	1+2+3+4
Frequency Stability	20 MHz	U-NII-1 U-NII-2A U-NII-2C U-NII-3	-	40/60/116/157	1
	40 MHz	U-NII-1 U-NII-2A U-NII-2C U-NII-3	-	38/62/110/151	1
	80 MHz	U-NII-1 U-NII-2A U-NII-2C U-NII-3	-	42/58/106/155	1

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

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

802.11ac MCS0/Nss2 VHT80+80

Test Items	Mode		Data Rate	Type	Channel	Chain
Max. Conducted Output Power Power Spectral Density 26dB Spectrum Bandwidth & 99% Occupied Bandwidth Measurement Radiated Emission Above 1GHz Band Edge Emission	11ac VHT80+80	U-NII-1 U-NII-2A U-NII-2C U-NII-3	MCS0/Nss2	For indoor use master		
				1	42	1+2
					106	3+4
				2	42	1+2
					122	3+4
				3	42	1+2
					138	3+4
				4	42	1+2
					155	3+4
				5	58	1+2
					106	3+4
				6	58	1+2
					122	3+4
				7	58	1+2
					138	3+4
				8	58	1+2
					155	3+4
				9	106	1+2
					138	3+4
				10	106	1+2
					155	3+4
				11	122	1+2
					155	3+4
				12	138	1+2
					155	3+4
				13	42	1+2
					58	3+4
				14	106	1+2
					122	3+4
				15	122	1+2
					138	3+4
				For indoor use slave without radar detection, outdoor use master B1		
				1	42	1+2
					106	3+4
				2	42	1+2
					122	3+4
				3	42	1+2
					138	3+4
				4	42	1+2
					155	3+4
				13	42	1+2
					58	3+4

6dB Spectrum Bandwidth Measurement	11ac VHT80+80	U-NII-3	MCS0/Nss2	For indoor use master		
				3	42	-
					138	3+4
				4	42	-
					155	3+4
				7	58	-
					138	3+4
				8	58	-
					155	3+4
				9	106	-
					138	3+4
				10	106	-
					155	3+4
				11	122	-
					155	3+4
				12	138	1+2
					155	3+4
				15	122	1+2
					138	3+4
				For indoor use slave without radar detection, outdoor use master B1		
3	42	-				
	138	3+4				
4	42	-				
	155	3+4				

Note: Non-beamforming mode supports type 1-15 and beamforming mode supports type 1-14 for master and slave without radar detection. The test mode as above, the rest type of slave without radar detection and outdoor master has been covered by indoor master.

The following test modes were performed for all tests:

For Conducted Emission test:

Mode 1. CTX

For Radiated Emission test (Below 1GHz):

Mode 1. CTX at Z-axis

Mode 2. CTX at Y-axis

Mode 2 generated the worst test result, so it was recorded in this report.

For Radiated Emission test (Above 1GHz):

The EUT can be placed in Y-axis and Z-axis. After evaluating, The worst case was found at Z-axis, so it's recorded in this report.

Mode 1. CTX at Z-axis

3.7. Table for Testing Locations

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

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

3.8. Table for Supporting Units

For Test Site No: 03CH01-CB

<For below 1GHz test and above 1GHz test non-beamforming mode>

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E4300	DoC
PoE	UBIQUITI	GP-D480-050G	DoC
Fixture	UBIQUITI	UAP-AC-HD_REV03	N/A

<For above 1GHz test beamforming mode>

Support Unit	Brand	Model	FCC ID
Notebook*2	DELL	E4300	DoC
PoE	UBIQUITI	GP-D480-050G	DoC
RX Device	UBIQUITI	4x4-5G	SWX-M445G
Fixture	UBIQUITI	UAP-AC-HD_REV03	N/A

For Test Site No: CO01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6430	DoC
PoE	UBIQUITI	GP-D480-050G	DoC
Test Fixture	UBIQUITI	UAP-AC-HD_REV03	N/A

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E4300	DoC
PoE	UBIQUITI	GP-D480-050G	DoC
Fixture	UBIQUITI	UAP-AC-HD_REV03	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.

For non-beamforming mode

For indoor use master B1 and indoor, outdoor use B2~B4

Test Software Version	QCA												
Mode	Test Frequency (MHz)												
	NCB: 20MHz												
	5180 MHz	5200 MHz	5240 MHz	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz	5745 MHz	5785 MHz	5825 MHz
802.11a	16.5	16.5	16.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	21	21	21
802.11ac MCS0/Nss1 VHT20	16.5	16.5	16.5	10.5	10.5	10.5	11	11	11	11	21	21	21
Mode	NCB: 40MHz												
802.11ac MCS0/Nss1 VHT40	5190 MHz	5230 MHz	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	5755 MHz	5795 MHz			
	15.5	18.5	13.5	13.5	12.5	14	13.5	14	20	21			
Mode	NCB: 80MHz												
802.11ac MCS0/Nss1 VHT80	5210 MHz		5290 MHz		5530 MHz		5610 MHz		5690 MHz		5775 MHz		
	11.5		13		11		15.5		17		16.5		

For indoor use slave without radar detection B1

Test Software Version	QCA		
Mode	Test Frequency (MHz)		
	NCB: 20MHz		
	5180 MHz	5200 MHz	5240 MHz
802.11a	10.5	10.5	10.5
802.11ac MCS0/Nss1 VHT20	10.5	10.5	10.5
Mode	NCB: 40MHz		
802.11ac MCS0/Nss1 VHT40	5190 MHz	5230 MHz	
	13.5	13.5	
Mode	NCB: 80MHz		
802.11ac MCS0/Nss1 VHT80	5210 MHz		
	11.5		

For outdoor use master B1

Test Software Version	QCA		
Mode	Test Frequency (MHz)		
	NCB: 20MHz		
	5180 MHz	5200 MHz	5240 MHz
802.11a	6.5	6.5	6.5
802.11ac MCS0/Nss1 VHT20	6.5	6.5	6.5
Mode	NCB: 40MHz		
802.11ac MCS0/Nss1 VHT40	5190 MHz	5230 MHz	
	6.5	6.5	
Mode	NCB: 80MHz		
802.11ac MCS0/Nss1 VHT80	5210 MHz		
	6.5		

802.11ac MCS0/Nss2 VHT80+80

For indoor use master type1~15 and slave without radar detection type1~4 and type13

Test Software Version	QCARCT V3.0.197.0			
Mode	NCB: 80MHz+80MHz			
802.11ac MCS0/Nss2 VHT80+80	Type 1	Type 2	Type 3	Type 4
	5210+5530 MHz	5210+5610 MHz	5210+5690 MHz	5210+5775 MHz
	13.5	13.5	13.5	13.5
	Type 5	Type 6	Type 7	Type 8
	5290+5530 MHz	5290+5610 MHz	5290+5690 MHz	5290+5775 MHz
	14	15.5	14.5	15
	Type 9	Type 10	Type 11	Type 12
	5530+5690 MHz	5530+5775 MHz	5610+5775 MHz	5690+5775 MHz
	12.5	12.5	14	14.5
	Type 13	Type 14	Type 15	-
	5210+5290 MHz	5530+5610 MHz	5610+5690 MHz	-
	12	13	16.5	-

For outdoor use master B1

Test Software Version	QCA			
Mode	NCB: 80MHz+80MHz			
802.11ac MCS0/Nss2 VHT80+80	Type 1	Type 2	Type 3	Type 4
	5210+5530 MHz	5210+5610 MHz	5210+5690 MHz	5210+5775 MHz
	9.5	9.5	9.5	9.5
	Type 13	-	-	-
	5210+5290 MHz	-	-	-
	9.5	-	-	-

For beamforming mode

For indoor use master B1 and indoor, outdoor use B2~B4

Test Software Version	QCA v3.0.197.0												
Mode	Test Frequency (MHz)												
	NCB: 20MHz												
	5180 MHz	5200 MHz	5240 MHz	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz	5745 MHz	5785 MHz	5825 MHz
802.11ac MCS0/Nss1 VHT20	22	22	22	16.5	16.5	16.5	16.5	16.5	16.5	17	22.5	22.5	22.5
Mode	NCB: 40MHz												
802.11ac MCS0/Nss1 VHT40	5190 MHz	5230 MHz	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz	5755 MHz	5795 MHz			
	22	22	16.5	16.5	16.5	16.5	16.5	17.5	22.5	22.5			
Mode	NCB: 80MHz												
802.11ac MCS0/Nss1 VHT80	5210 MHz		5290 MHz		5530 MHz		5610 MHz		5690 MHz		5775 MHz		
	21.5		16.5		15		16.5		17.5		22		

For indoor use slave without radar detection B1

Test Software Version	QCA v3.0.197.0		
Mode	Test Frequency (MHz)		
	NCB: 20MHz		
	5180 MHz	5200 MHz	5240 MHz
802.11ac MCS0/Nss1 VHT20	16.5	16.5	16.5
Mode	NCB: 40MHz		
802.11ac MCS0/Nss1 VHT40	5190 MHz		5230 MHz
	16.5		16.5
Mode	NCB: 80MHz		
802.11ac MCS0/Nss1 VHT80	5210 MHz		
	16.5		

For outdoor use master B1

Test Software Version	QCA		
Mode	Test Frequency (MHz)		
	NCB: 20MHz		
	5180 MHz	5200 MHz	5240 MHz
802.11ac MCS0/Nss1 VHT20	7	7	7
Mode	NCB: 40MHz		
802.11ac MCS0/Nss1 VHT40	5190 MHz	5230 MHz	
	7.5	7.5	
Mode	NCB: 80MHz		
802.11ac MCS0/Nss1 VHT80	5210 MHz		
	7.5		

802.11ac MCS0/Nss2 VHT80+80

For indoor use master type1~14 and slave without radar detection type1~4 and type13

Test Software Version	QCA			
Mode	NCB: 80MHz+80MHz			
802.11ac MCS0/Nss2 VHT80+80	Type 1	Type 2	Type 3	Type 4
	5210+5530 MHz	5210+5610 MHz	5210+5690 MHz	5210+5775 MHz
	17	21	21	21
	Type 5	Type 6	Type 7	Type 8
	5290+5530 MHz	5290+5610 MHz	5290+5690 MHz	5290+5775 MHz
	18	21	21	21
	Type 9	Type 10	Type 11	Type 12
	5530+5690 MHz	5530+5775 MHz	5610+5775 MHz	5690+5775 MHz
	21	21	21	21
	Type 13	Type 14	-	-
	5210+5290 MHz	5530+5610 MHz	-	-
	21	21	-	-

For outdoor use master B1

Test Software Version	QCA			
Mode	NCB: 80MHz+80MHz			
802.11ac MCS0/Nss2 VHT80+80	Type 1	Type 2	Type 3	Type 4
	5210+5530 MHz	5210+5610 MHz	5210+5690 MHz	5210+5775 MHz
	13	14	14	14
	Type 13	-	-	-
	5210+5290 MHz	-	-	-
	14	-	-	-

3.10. EUT Operation during Test

For non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

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

The program was executed as follows:

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

3.11. Duty Cycle

For non-beamforming mode:

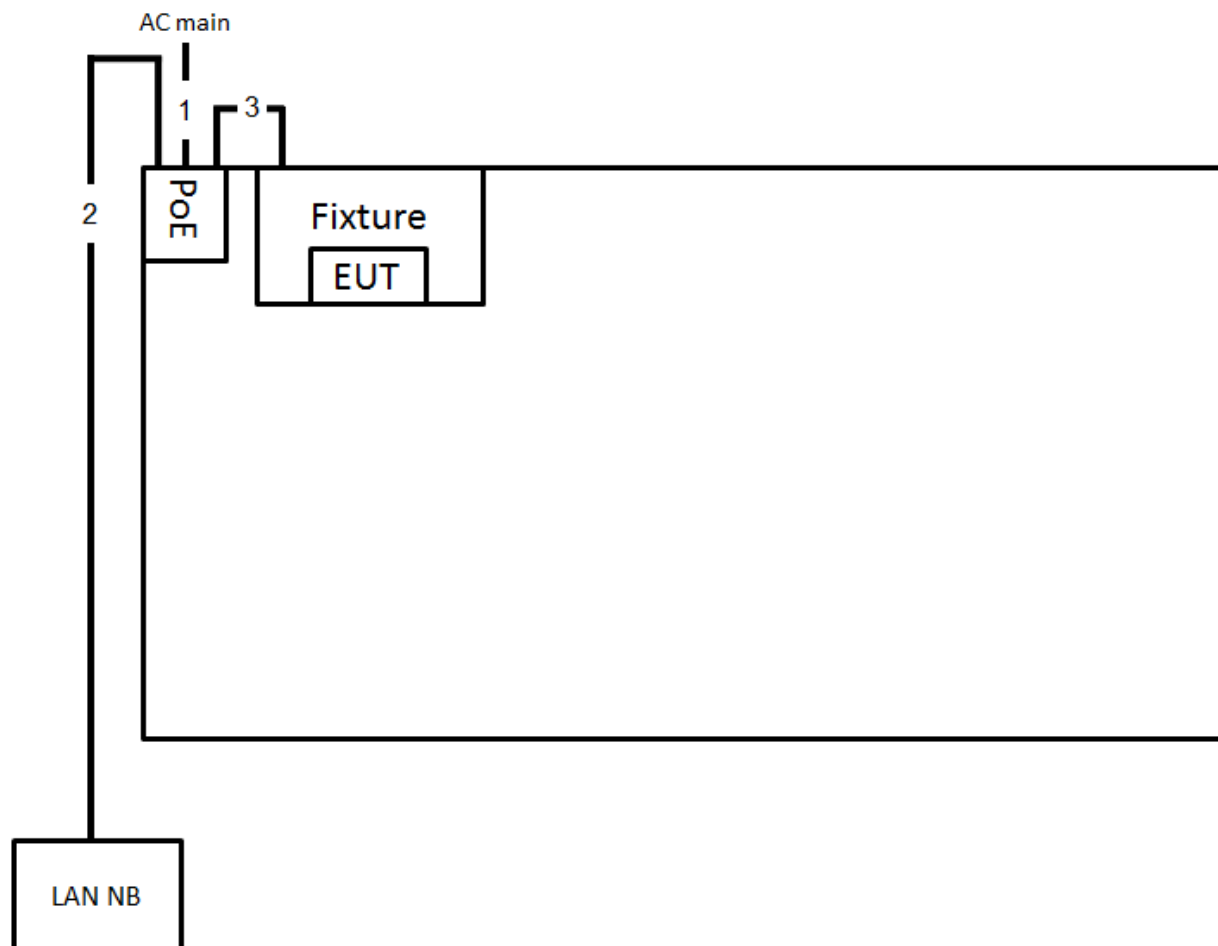
Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Min. VBW (kHz)
802.11a	2.020	2.140	94.39	0.25	0.50
802.11ac MCS0/Nss1 VHT20	5.000	5.100	98.04	0.09	0.01
802.11ac MCS0/Nss1 VHT40	2.320	2.540	91.34	0.39	0.43
802.11ac MCS0/Nss1 VHT80	1.136	1.224	92.81	0.32	0.88
802.11ac MCS0/Nss2 VHT80+80	2.210	2.310	95.67	0.19	0.45

For beamforming mode:

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Min. VBW (kHz)
802.11ac MCS0/Nss1 VHT20	1.751	1.925	90.96	0.41	0.57
802.11ac MCS0/Nss1 VHT40	1.664	1.854	89.75	0.47	0.60
802.11ac MCS0/Nss1 VHT80	1.915	2.105	90.97	0.41	0.52
802.11ac MCS0/Nss2 VHT80+80	1.764	1.944	90.74	0.42	0.57

3.12. Test Configurations

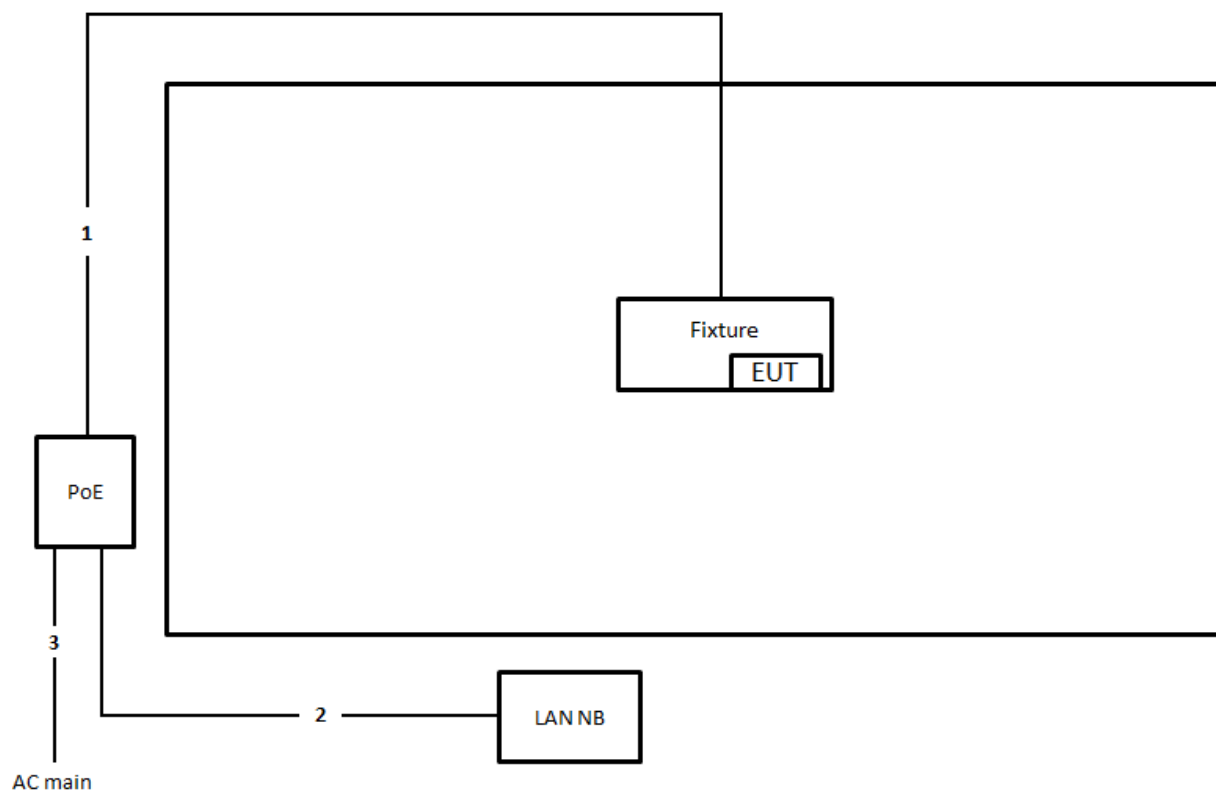
3.12.1. AC Power Line Conduction Emissions Test Configuration



Item	Connection	Shielded	Length
1	Power cable	No	0.8m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	1m

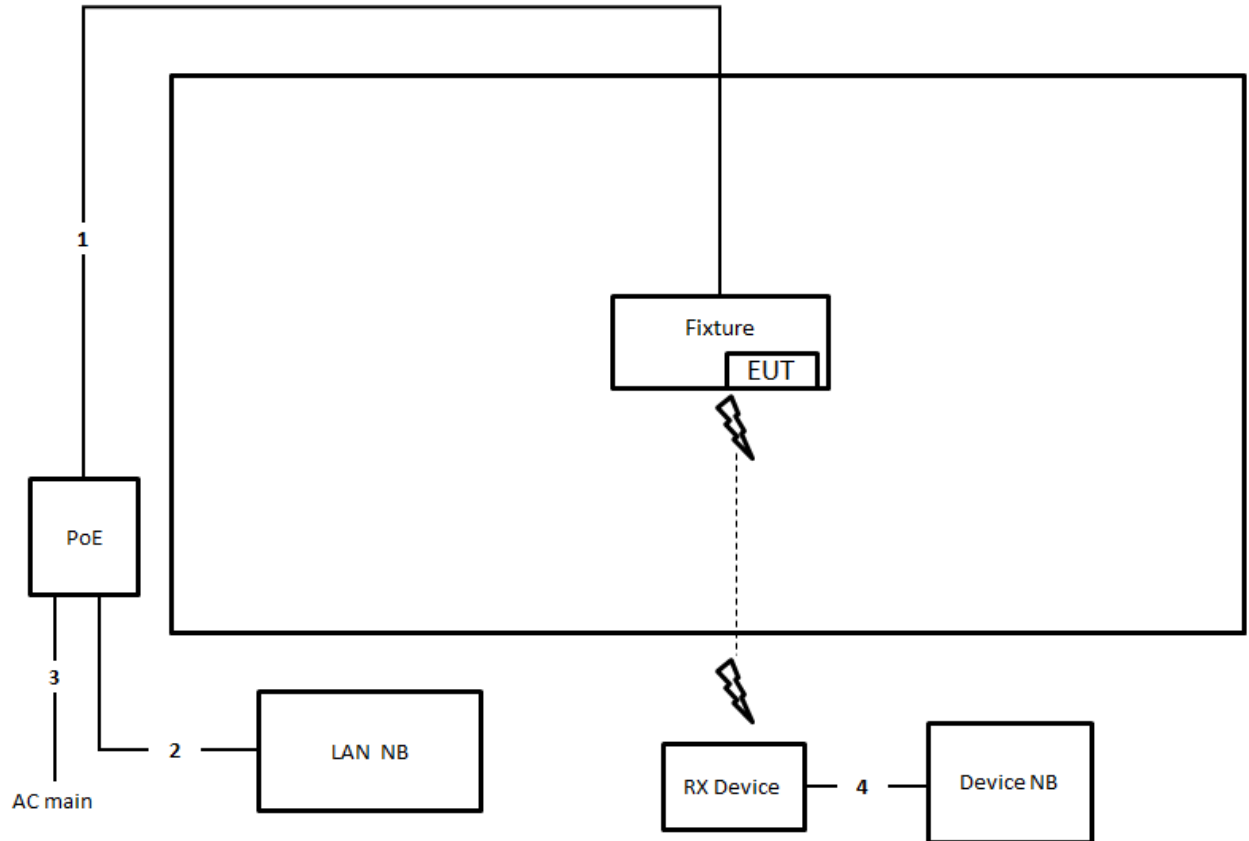
3.12.2. Radiation Emissions Test Configuration

Test Configuration: 30MHz ~1GHz and above 1GHz test non-beamforming mode



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	RJ-45 cable	No	1.5m
3	Power cable	No	0.5m

Test Configuration: above 1GHz beamforming mode



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	RJ-45 cable	No	1.5m
3	Power cable	No	0.5m
4	RJ-45 cable	No	1.5m

4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

For this product that is designed to connect 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

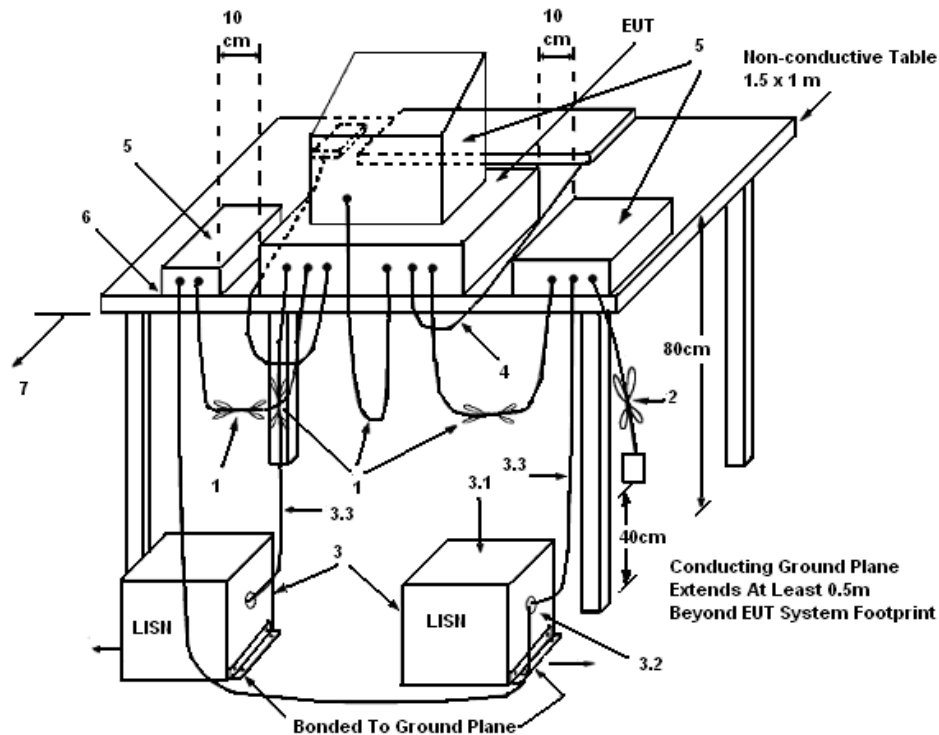
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

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

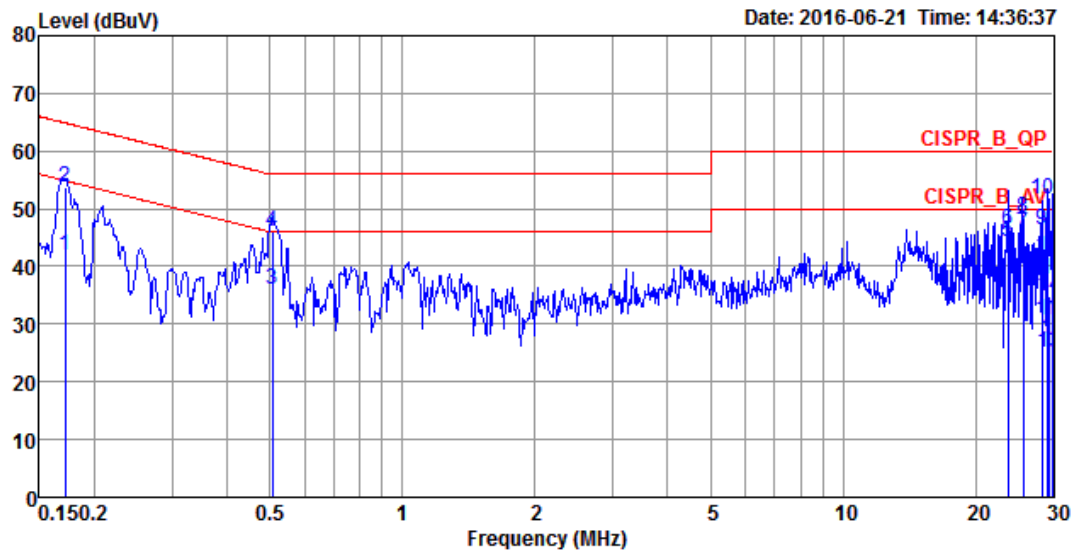
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

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

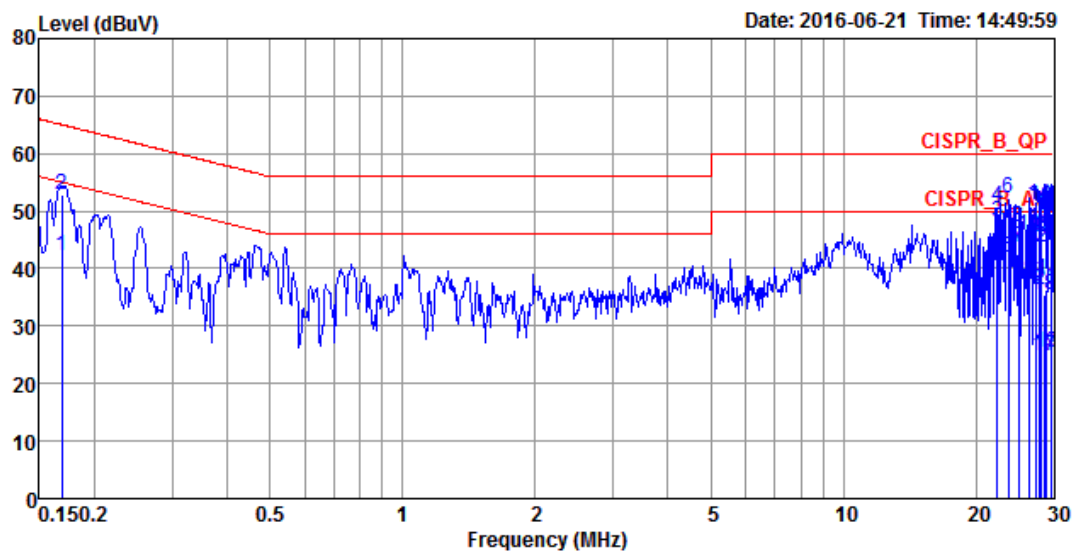
4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	22°C	Humidity	52%
Test Engineer	GN Hou	Phase	Line
Configuration	CTX		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1712	42.06	-12.84	54.90	31.87	10.02	0.17	LINE	Average
2	0.1712	53.62	-11.28	64.90	43.43	10.02	0.17	LINE	QP
3	0.5074	36.16	-9.84	46.00	26.04	9.92	0.20	LINE	Average
4	0.5074	46.01	-9.99	56.00	35.89	9.92	0.20	LINE	QP
5	23.6269	44.25	-5.75	50.00	33.59	10.40	0.26	LINE	Average
6	23.6269	46.25	-13.75	60.00	35.59	10.40	0.26	LINE	QP
7	25.5944	45.88	-4.12	50.00	35.15	10.46	0.27	LINE	Average
8	25.5944	48.50	-11.50	60.00	37.77	10.46	0.27	LINE	QP
9	28.3031	46.35	-3.65	50.00	35.52	10.53	0.30	LINE	Average
10	28.3031	51.71	-8.29	60.00	40.88	10.53	0.30	LINE	QP
11	29.0613	30.59	-19.41	50.00	19.73	10.55	0.31	LINE	Average
12	29.0613	41.49	-18.51	60.00	30.63	10.55	0.31	LINE	QP
13	29.3707	24.99	-25.01	50.00	14.13	10.55	0.31	LINE	Average
14	29.3707	34.95	-25.05	60.00	24.09	10.55	0.31	LINE	QP
15	29.8107	27.56	-22.44	50.00	16.67	10.57	0.32	LINE	Average
16	29.8107	37.89	-22.11	60.00	27.00	10.57	0.32	LINE	QP

Temperature	22°C	Humidity	52%
Test Engineer	GN Hou	Phase	Neutral
Configuration	CTX		



	Freq	Level	Over	Limit	Read	LISN	Cable	Pol/Phase	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss		
			dB	dBuV	dBuV	dB	dB		
1	0.1685	42.13	-12.90	55.03	31.94	10.02	0.17	NEUTRAL	Average
2	0.1685	52.97	-12.06	65.03	42.78	10.02	0.17	NEUTRAL	QP
3	22.3975	48.21	-1.79	50.00	37.59	10.37	0.25	NEUTRAL	Average
4	22.3975	50.85	-9.15	60.00	40.23	10.37	0.25	NEUTRAL	QP
5	23.6361	41.79	-8.21	50.00	31.13	10.40	0.26	NEUTRAL	Average
6	23.6361	52.36	-7.64	60.00	41.70	10.40	0.26	NEUTRAL	QP
7	24.9221	43.76	-6.24	50.00	33.05	10.44	0.27	NEUTRAL	Average
8	24.9221	47.25	-12.75	60.00	36.54	10.44	0.27	NEUTRAL	QP
9	26.4178	38.02	-11.98	50.00	27.26	10.48	0.28	NEUTRAL	Average
10	26.4178	45.65	-14.35	60.00	34.89	10.48	0.28	NEUTRAL	QP
11	27.4160	37.94	-12.06	50.00	27.14	10.50	0.30	NEUTRAL	Average
12	27.4160	43.67	-16.33	60.00	32.87	10.50	0.30	NEUTRAL	QP
13	27.8550	46.88	-3.12	50.00	36.07	10.51	0.30	NEUTRAL	Average
14	27.8550	51.13	-8.87	60.00	40.32	10.51	0.30	NEUTRAL	QP
15	28.1520	45.85	-4.15	50.00	35.03	10.52	0.30	NEUTRAL	Average
16	28.1520	50.77	-9.23	60.00	39.95	10.52	0.30	NEUTRAL	QP
17	28.6030	24.71	-25.29	50.00	13.87	10.53	0.31	NEUTRAL	Average

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
18	28.6030	35.28	-24.72	60.00	24.44	10.53	0.31	NEUTRAL	QP
19	28.9077	25.52	-24.48	50.00	14.67	10.54	0.31	NEUTRAL	Average
20	28.9077	36.39	-23.61	60.00	25.54	10.54	0.31	NEUTRAL	QP
21	29.5399	45.52	-4.48	50.00	34.64	10.56	0.32	NEUTRAL	Average
22	29.5399	49.68	-10.32	60.00	38.80	10.56	0.32	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	22°C	Humidity	54%
Test Engineer	Gary Chu		

For non-beamforming mode

For indoor use master B1 and indoor, outdoor use B2~B4

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180 MHz	17.22	15.72
	5200 MHz	17.22	15.11
	5240 MHz	17.04	14.94
	5260 MHz	17.04	15.11
	5300 MHz	17.48	15.54
	5320 MHz	17.48	15.54
	5500 MHz	17.13	15.02
	5580 MHz	17.48	15.28
	5700 MHz	17.22	14.94
	5745 MHz	26.78	15.63
	5785 MHz	27.22	22.06
	5825 MHz	35.39	24.14
802.11ac MCS0/Nss1 VHT20	5180 MHz	18.52	16.50
	5200 MHz	18.44	16.15
	5240 MHz	18.35	15.80
	5260 MHz	18.35	15.89
	5300 MHz	18.44	16.50
	5320 MHz	18.44	16.50
	5500 MHz	18.26	15.54
	5580 MHz	18.52	16.24
	5700 MHz	18.26	15.63
	5745 MHz	33.65	16.76
	5785 MHz	33.13	21.62
	5825 MHz	34.70	25.88

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT40	5190 MHz	39.28	35.75
	5230 MHz	38.84	35.89
	5270 MHz	39.42	36.18
	5310 MHz	39.42	35.89
	5510 MHz	39.57	36.47
	5550 MHz	39.86	36.32
	5670 MHz	39.28	36.04
	5755 MHz	45.36	36.90
	5795 MHz	83.48	44.86
802.11ac MCS0/Nss1 VHT80	5210 MHz	79.13	75.54
	5290 MHz	79.13	74.39
	5530 MHz	79.71	76.12
	5610 MHz	78.84	74.67
	5775 MHz	79.42	75.83

Straddle Channel

Mode	Frequency	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII 2C 26dB BW (MHz)	UNII 3 26dB BW (MHz)	UNII 2C 99% BW (MHz)	UNII 3 99% BW (MHz)
802.11a	5720 MHz	26.70	15.72	5701.74	5711.75	23.26	3.44	13.25	2.47
802.11ac MCS0/Nss1 VHT20	5720 MHz	33.39	16.67	5701.65	5711.32	23.35	10.04	13.68	2.99
802.11ac MCS0/Nss1 VHT40	5710 MHz	80.87	42.55	5671.01	5690.17	53.99	26.88	34.83	7.72
802.11ac MCS0/Nss1 VHT80	5690 MHz	122.90	75.83	5631.16	5651.51	93.84	29.06	73.49	2.34

For indoor use slave without radar detection B1

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180 MHz	17.30	15.46
	5200 MHz	17.39	15.37
	5240 MHz	17.13	15.20
802.11ac MCS0/Nss1 VHT20	5180 MHz	18.44	16.41
	5200 MHz	18.44	16.24
	5240 MHz	18.35	15.89
802.11ac MCS0/Nss1 VHT40	5190 MHz	38.70	35.60
	5230 MHz	39.13	35.89
802.11ac MCS0/Nss1 VHT80	5210 MHz	79.13	75.54

For outdoor use master B1

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180 MHz	17.48	15.54
	5200 MHz	17.39	15.37
	5240 MHz	17.04	15.02
802.11ac MCS0/Nss1 VHT20	5180 MHz	18.26	16.32
	5200 MHz	18.43	16.15
	5240 MHz	18.26	15.63
802.11ac MCS0/Nss1 VHT40	5190 MHz	38.99	35.75
	5230 MHz	39.13	36.03
802.11ac MCS0/Nss1 VHT80	5210 MHz	79.42	75.54

802.11ac MCS0/Nss2 VHT80+80

For indoor use master type1~15 and slave without radar detection type1~4 and type13

Type	Frequency	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII 1 or UNII 2C 26dB BW (MHz)	UNII 2A or UNII 3 26dB BW (MHz)	UNII 1 or UNII 2C 99% BW (MHz)	UNII 2A or UNII 3 99% BW (MHz)	26dB Total BW (MHz)
1	5210 MHz	80.00	76.12	-						158.84
	5530 MHz	78.84	75.25							
2	5210 MHz	80.29	76.12	-						159.42
	5610 MHz	79.13	75.54							
3	5210 MHz	80.58	76.41	-						159.71
	5690 MHz	79.13	75.25							
4	5210 MHz	80.00	76.12	-						158.84
	5775 MHz	78.84	74.96							
5	5290 MHz	80.29	76.12	-						159.42
	5530 MHz	79.13	75.83							
6	5290 MHz	80.29	76.41	-						159.71
	5610 MHz	79.42	75.54							
7	5290 MHz	80.29	76.12	-						159.42
	5690 MHz	79.13	75.25							
8	5290 MHz	80.29	76.41	-						159.42
	5775 MHz	79.13	75.54							
9	5530 MHz	80.00	76.41	-						158.26
	5690 MHz	78.26	75.54							
10	5530 MHz	78.84	75.83	-						157.97
	5775 MHz	79.13	75.25							
11	5610 MHz	79.13	75.83	-						158.26
	5775 MHz	79.13	75.54							
12	5690 MHz	80.29	76.12	5650.00	5652.08	75.00	5.29	72.92	3.21	159.13
	5775 MHz	78.84	74.96	-						
13	5210 MHz	159.57	154.99	-						-
	5290 MHz									
14	5530 MHz	159.13	152.39	-						-
	5610 MHz									
15	5610 MHz	158.70	154.99	5570.44	5572.29	154.57	4.13	152.71	2.28	-
	5690 MHz									

For outdoor use master B1

Type	Frequency	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII 1 or UNII 2C 26dB BW (MHz)	UNII 2A or UNII 3 26dB BW (MHz)	UNII 1 or UNII 2C 99% BW (MHz)	UNII 2A or UNII 3 99% BW (MHz)	26dB Total BW (MHz)
1	5210 MHz	80.00	76.41	-						157.97
	5530 MHz	77.97	73.81							
2	5210 MHz	80.58	76.12	-						159.71
	5610 MHz	79.13	74.96							
3	5210 MHz	80.00	76.41	-						158.84
	5690 MHz	78.84	75.25	5650.29	5652.37	74.71	4.13	72.63	2.63	
4	5210 MHz	80.00	76.41	-						158.26
	5775 MHz	78.26	71.20							
13	5210 MHz	159.13	154.99	-						-
	5290 MHz									

For beamforming mode

For indoor use master B1 and indoor, outdoor use B2~B4

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5180 MHz	22.78	18.06
	5200 MHz	23.13	17.97
	5240 MHz	21.74	17.89
	5260 MHz	23.13	17.89
	5300 MHz	22.17	18.06
	5320 MHz	21.91	17.97
	5500 MHz	22.87	17.97
	5580 MHz	22.43	18.06
	5700 MHz	21.65	17.97
	5745 MHz	21.39	17.97
	5785 MHz	21.74	17.97
	5825 MHz	25.30	18.15
802.11ac MCS0/Nss1 VHT40	5190 MHz	45.94	37.05
	5230 MHz	45.51	36.76
	5270 MHz	45.07	37.19
	5310 MHz	44.64	37.05
	5510 MHz	44.93	36.90
	5550 MHz	45.51	37.19
	5670 MHz	44.64	36.90
	5755 MHz	47.25	37.05
	5795 MHz	47.25	37.05
802.11ac MCS0/Nss1 VHT80	5210 MHz	100.87	76.12
	5290 MHz	87.54	76.41
	5530 MHz	86.09	76.41
	5610 MHz	85.80	76.41
	5775 MHz	99.13	76.41

Straddle Channel

Mode	Frequency	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII 2C 26dB BW (MHz)	UNII 3 26dB BW (MHz)	UNII 2C 99% BW (MHz)	UNII 3 99% BW (MHz)
802.11ac MCS0/Nss1 VHT20	5720 MHz	20.35	17.71	5709.91	5711.14	15.09	5.26	13.86	3.86
802.11ac MCS0/Nss1 VHT40	5710 MHz	40.29	36.32	5690.15	5691.91	34.85	5.44	33.09	3.23
802.11ac MCS0/Nss1 VHT80	5690 MHz	79.71	75.54	5650.29	5652.37	74.71	5.00	72.63	2.92

For indoor use slave without radar detection B1

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5180 MHz	21.83	17.89
	5200 MHz	21.22	17.97
	5240 MHz	21.65	17.89
802.11ac MCS0/Nss1 VHT40	5190 MHz	44.78	36.90
	5230 MHz	45.07	36.90
802.11ac MCS0/Nss1 VHT80	5210 MHz	85.80	76.41

For outdoor use master B1

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT20	5180 MHz	22.26	17.97
	5200 MHz	21.57	17.89
	5240 MHz	21.74	17.89
802.11ac MCS0/Nss1 VHT40	5190 MHz	44.93	36.90
	5230 MHz	44.93	36.76
802.11ac MCS0/Nss1 VHT80	5210 MHz	84.93	76.41

802.11ac MCS0/Nss2 VHT80+80

For indoor use master type1~14 and slave without radar detection type1~4 and type13

Type	Frequency	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII 1 or UNII 2C 26dB BW (MHz)	UNII 2A or UNII 3 26dB BW (MHz)	UNII 1 or UNII 2C 99% BW (MHz)	UNII 2A or UNII 3 99% BW (MHz)	26dB Total BW (MHz)
1	5210 MHz	80.00	75.83	-						160.29
	5530 MHz	80.29	75.83							
2	5210 MHz	80.29	76.12	-						160.58
	5610 MHz	80.29	76.12							
3	5210 MHz	80.29	76.12	-						160.00
	5690 MHz	79.71	75.83							
4	5210 MHz	80.00	76.12	-						160.00
	5775 MHz	80.00	76.12							
5	5290 MHz	80.00	76.12	-						160.29
	5530 MHz	80.29	76.12							
6	5290 MHz	80.00	76.12	-						160.29
	5610 MHz	80.29	76.12							
7	5290 MHz	80.29	76.12	-						160.29
	5690 MHz	80.00	75.83							
8	5290 MHz	80.29	76.12	-						160.58
	5775 MHz	80.29	76.12							
9	5530 MHz	80.29	75.83	-						159.71
	5690 MHz	79.42	75.83							
10	5530 MHz	80.29	76.12	-						160.58
	5775 MHz	80.29	75.83							
11	5610 MHz	80.29	76.12	-						160.58
	5775 MHz	80.29	76.12							
12	5690 MHz	79.71	75.83	5650.29	5652.08	74.71	5.00	72.92	2.92	160.00
	5775 MHz	80.29	76.12	-						
13	5210 MHz	160.00	154.99	-						-
	5290 MHz									
14	5530 MHz	159.57	154.56	-						-
	5610 MHz									

For outdoor use master B1

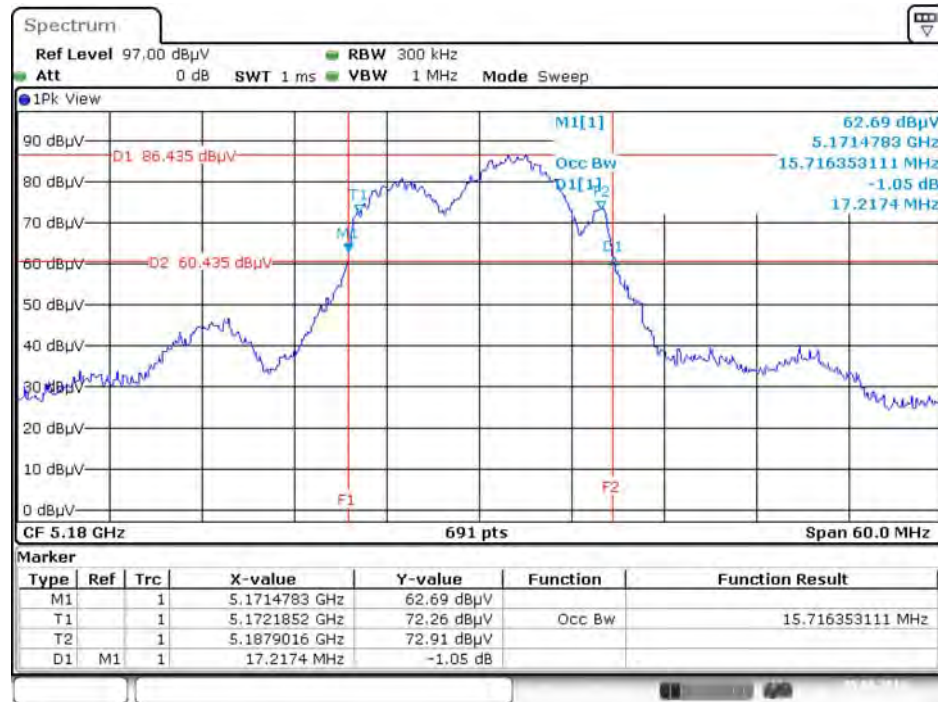
Type	Frequency	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII 1 or UNII 2C 26dB BW (MHz)	UNII 2A or UNII 3 26dB BW (MHz)	UNII 1 or UNII 2C 99% BW (MHz)	UNII 2A or UNII 3 99% BW (MHz)	26dB Total BW (MHz)
1	5210 MHz	79.71	75.54	-						159.13
	5530 MHz	79.42	75.54							
2	5210 MHz	79.42	75.83	-						158.55
	5610 MHz	79.13	75.54							
3	5210 MHz	80.00	75.83	-						160.00
	5690 MHz	80.00	75.83	5650.00	5652.08	75.00	5.00	72.92	2.92	
4	5210 MHz	78.84	76.12	-						158.84
	5775 MHz	80.00	76.12							
13	5210 MHz	160.00	154.56	-						-
	5290 MHz									

For non-beamforming mode

For indoor use master B1 and indoor, outdoor use B2~B4

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2

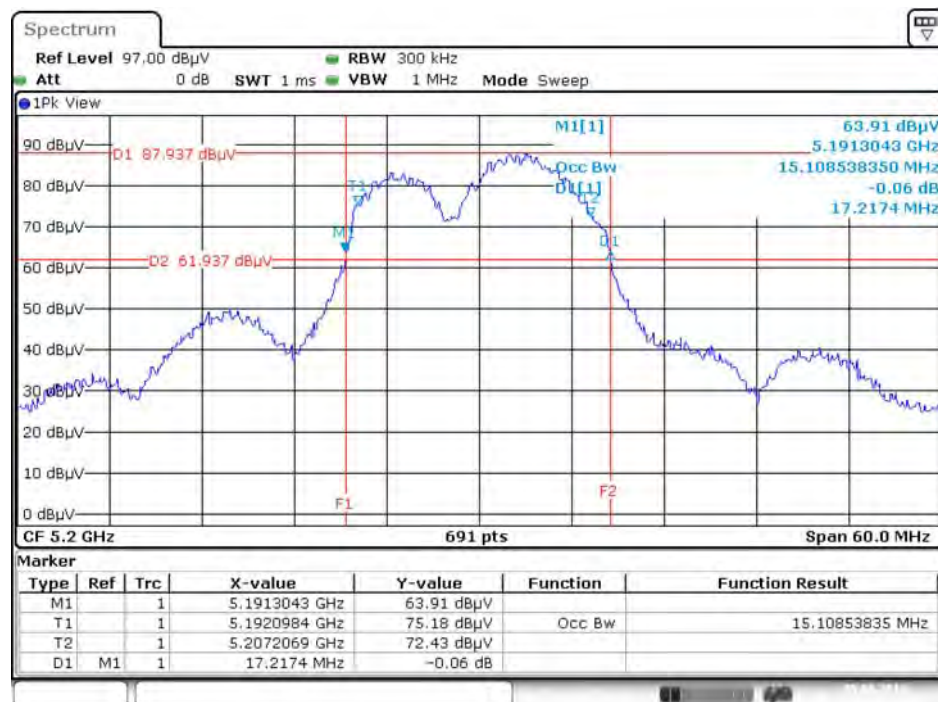
+ Chain 3 + Chain 4 / 5180 MHz



Date: 5.AUG.2016 11:20:05

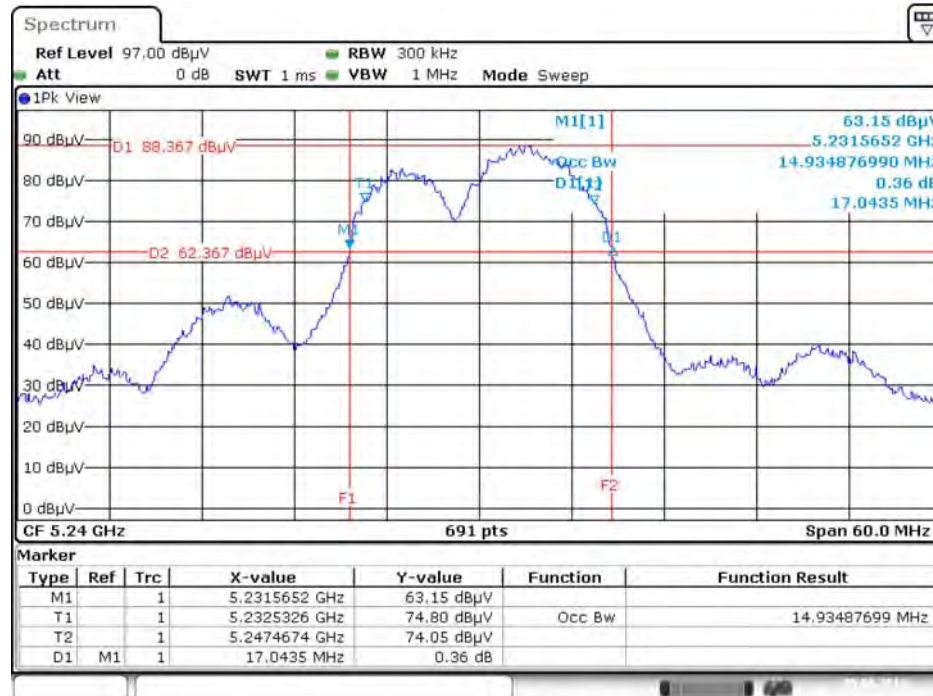
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2

+ Chain 3 + Chain 4 / 5200 MHz



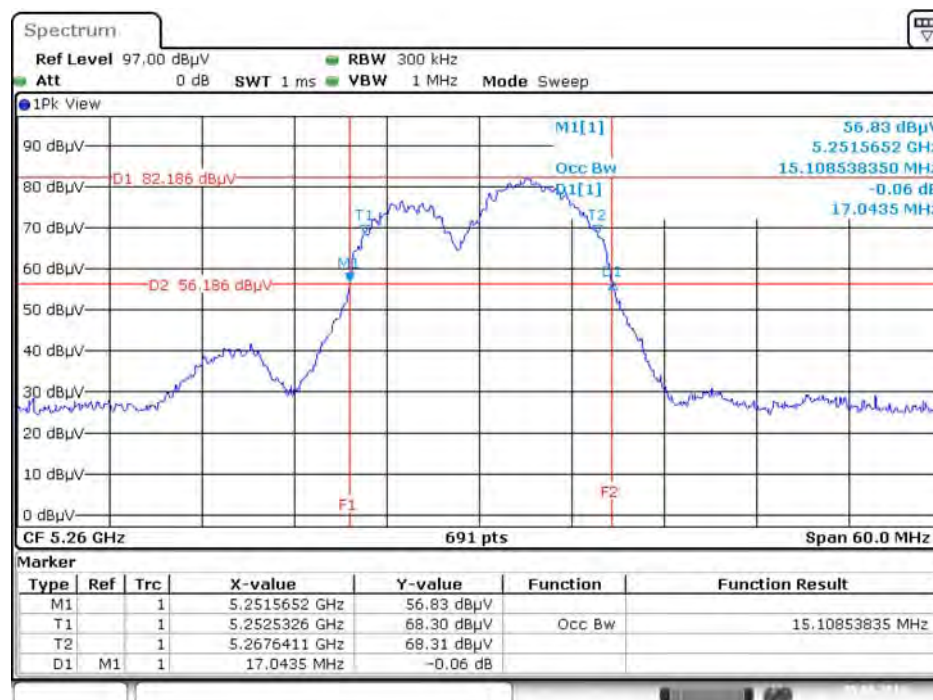
Date: 5.AUG.2016 11:35:05

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5240 MHz



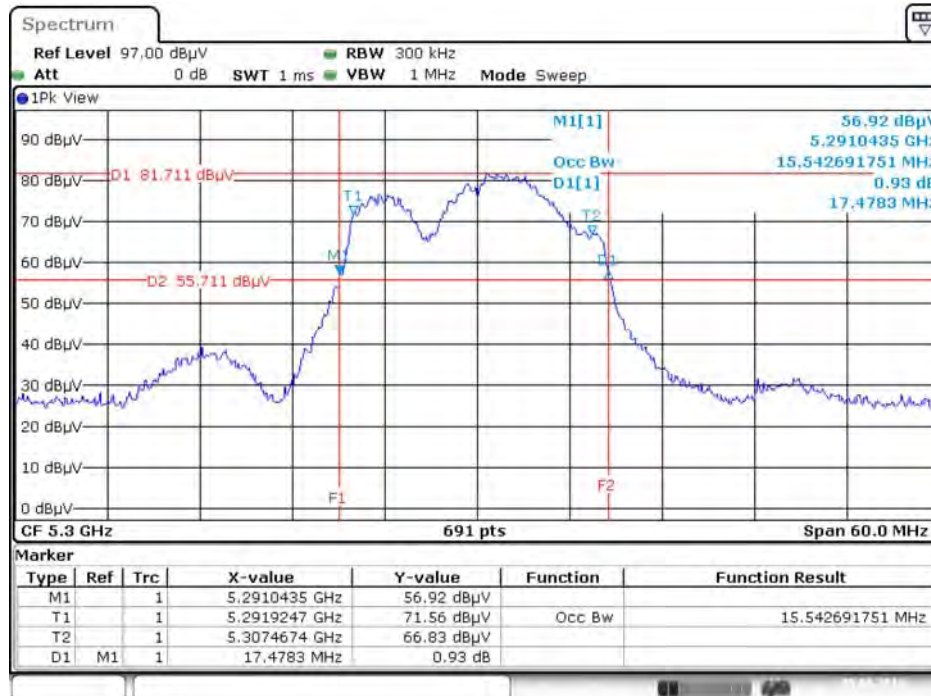
Date: 5.AUG.2016 11:44:35

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



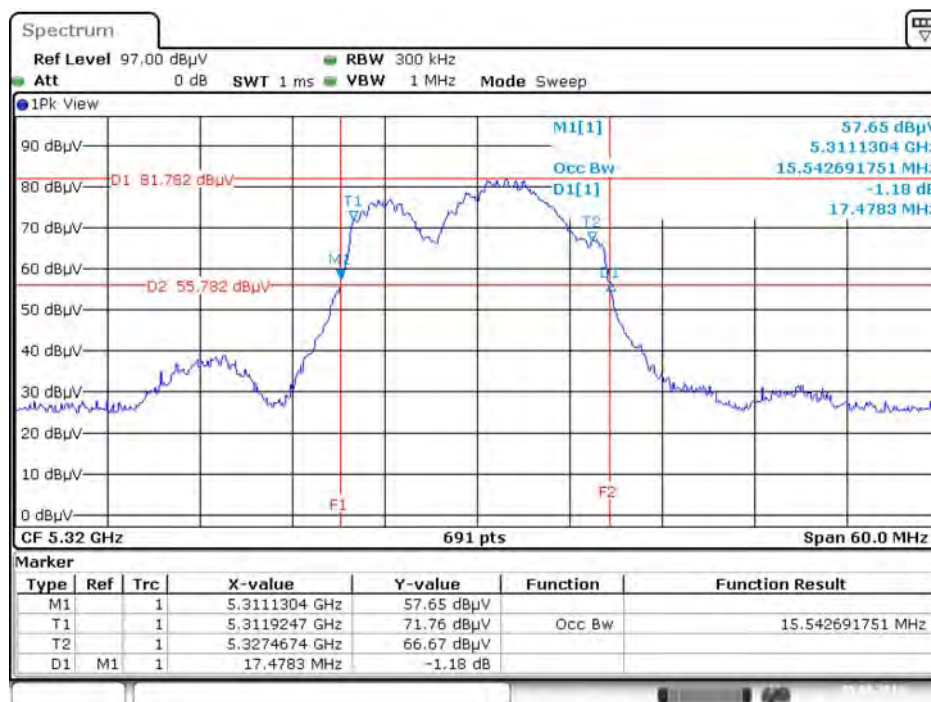
Date: 5.AUG.2016 11:45:15

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



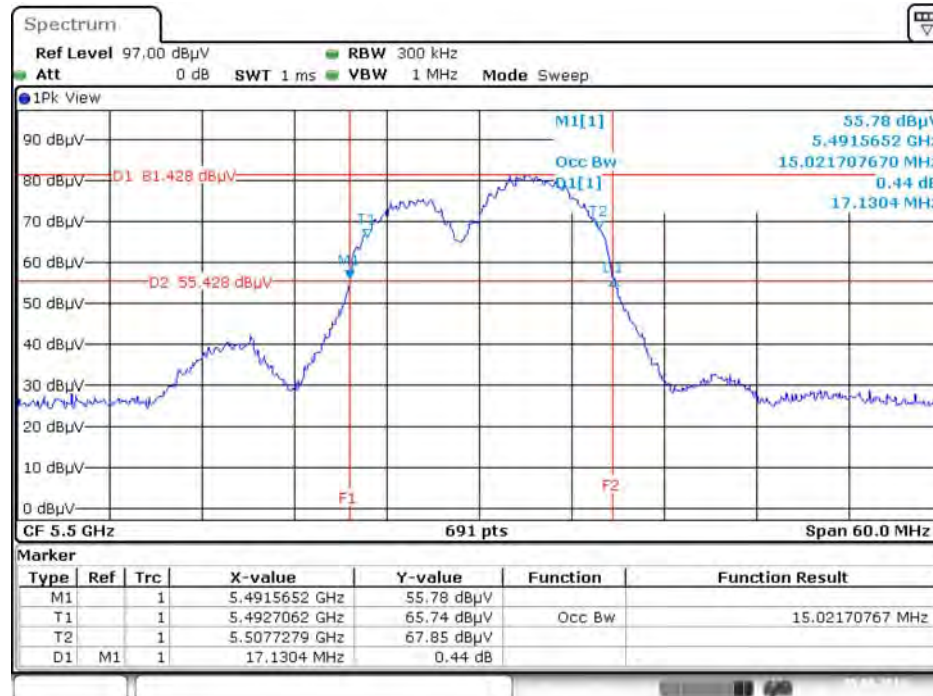
Date: 5.AUG.2016 11:46:01

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



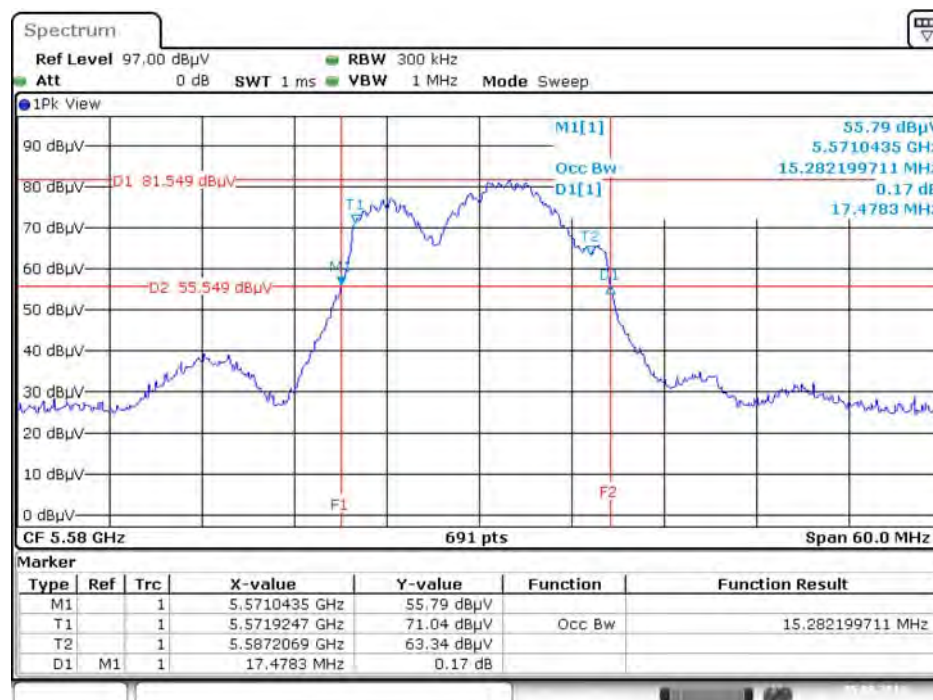
Date: 5.AUG.2016 11:46:19

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



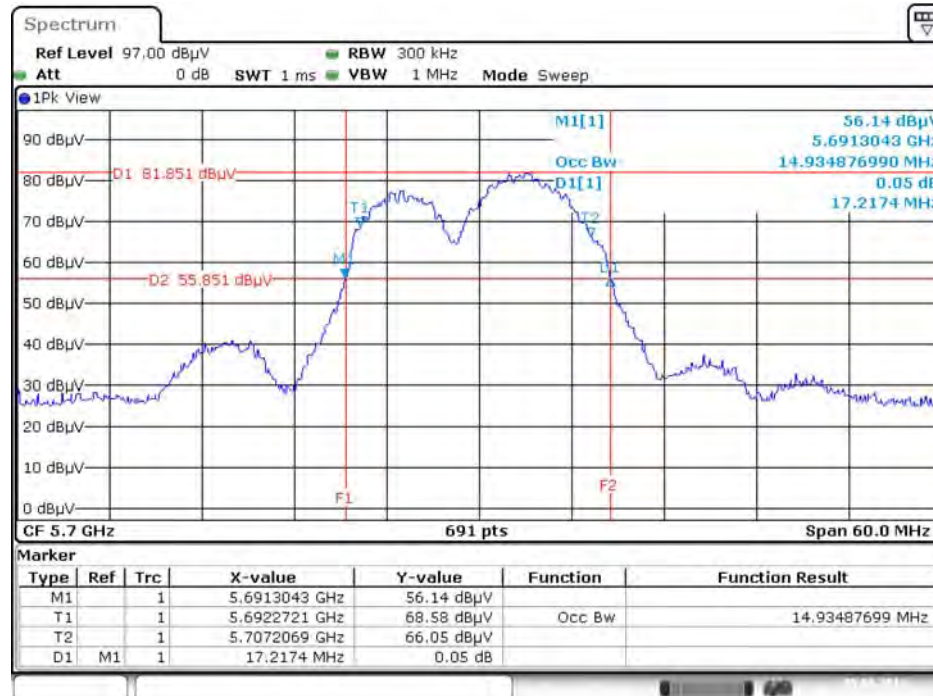
Date: 5.AUG.2016 11:46:44

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



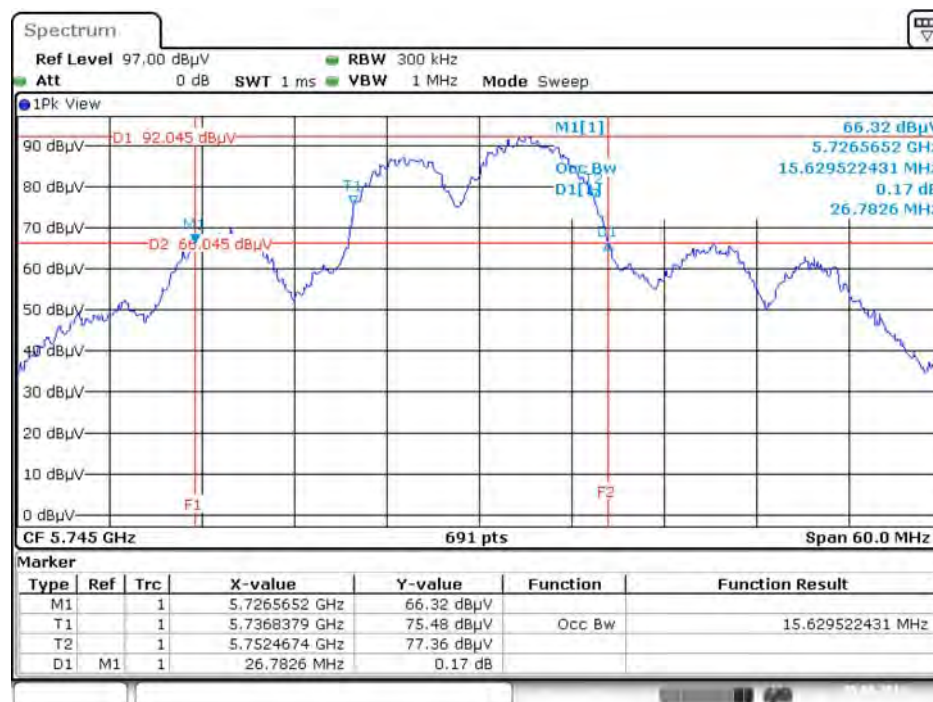
Date: 5.AUG.2016 11:47:13

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



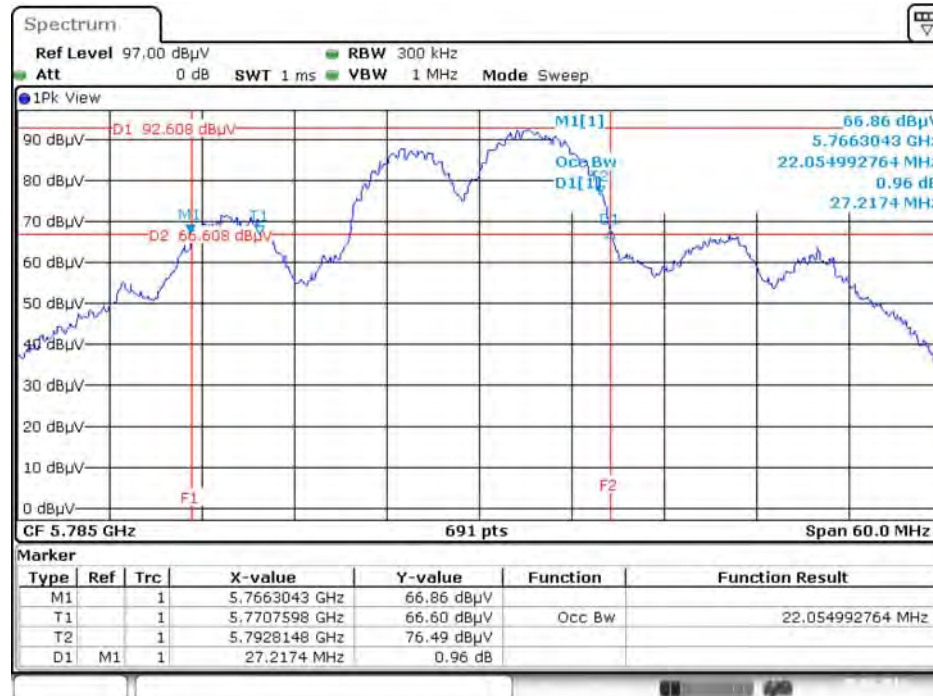
Date: 5.AUG.2016 11:47:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5745 MHz



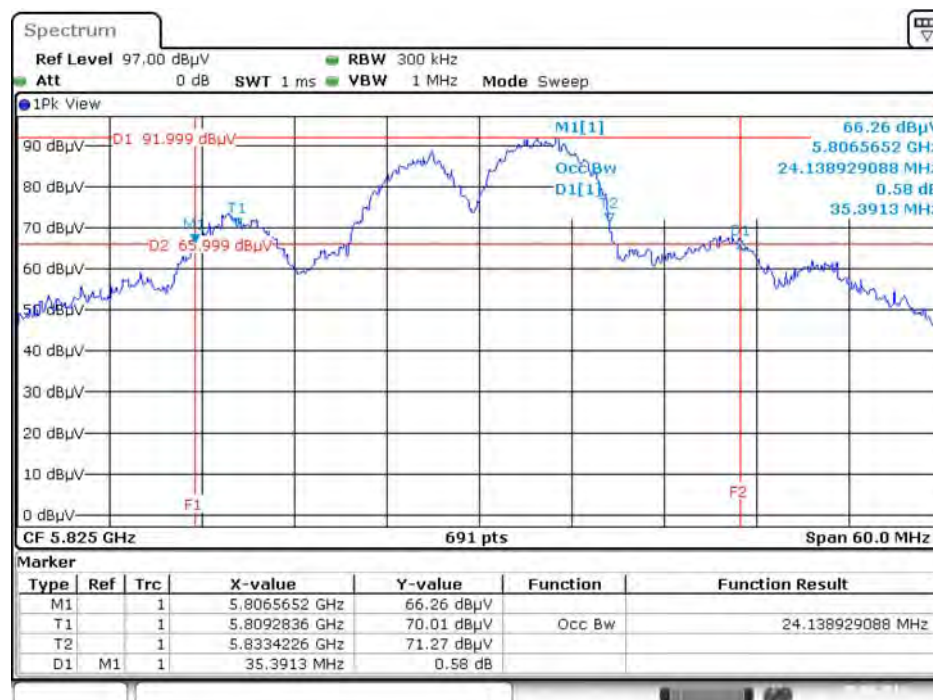
Date: 5.AUG.2016 11:47:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5785 MHz



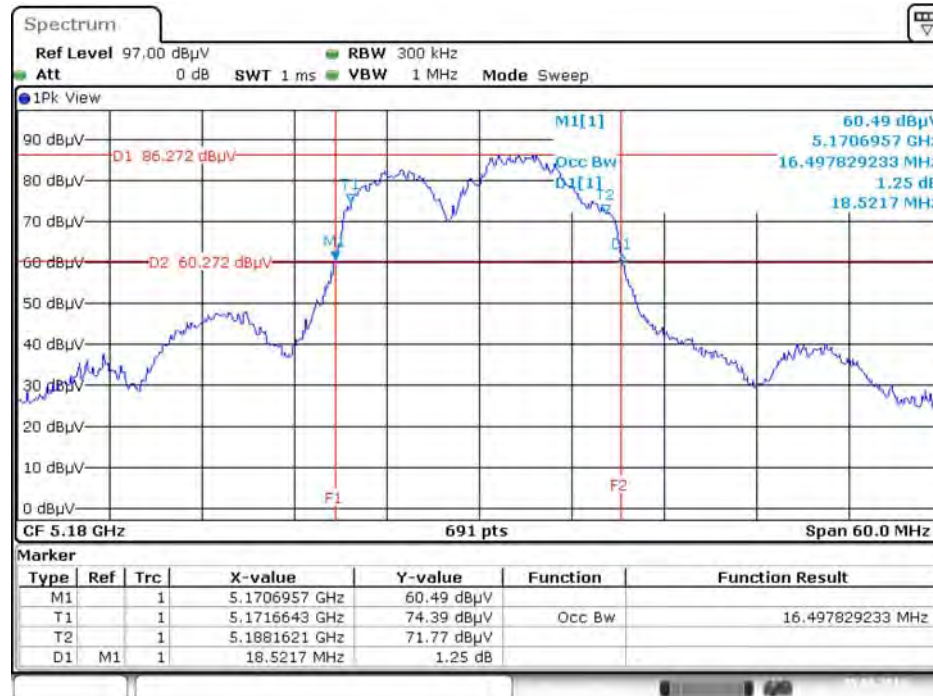
Date: 5.AUG.2016 11:48:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5825 MHz



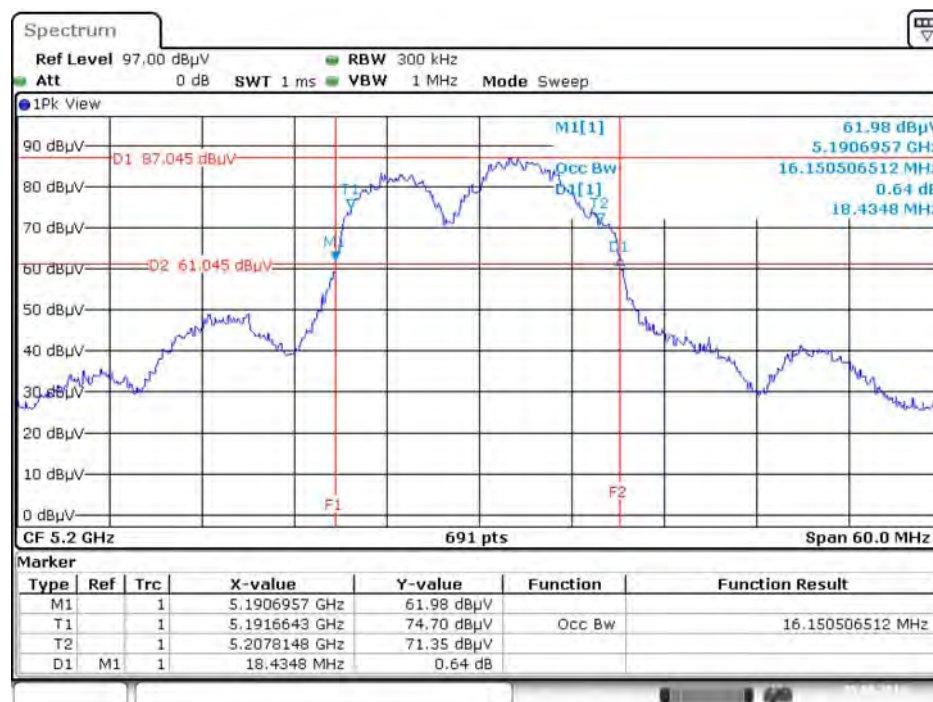
Date: 5.AUG.2016 11:48:44

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5180 MHz



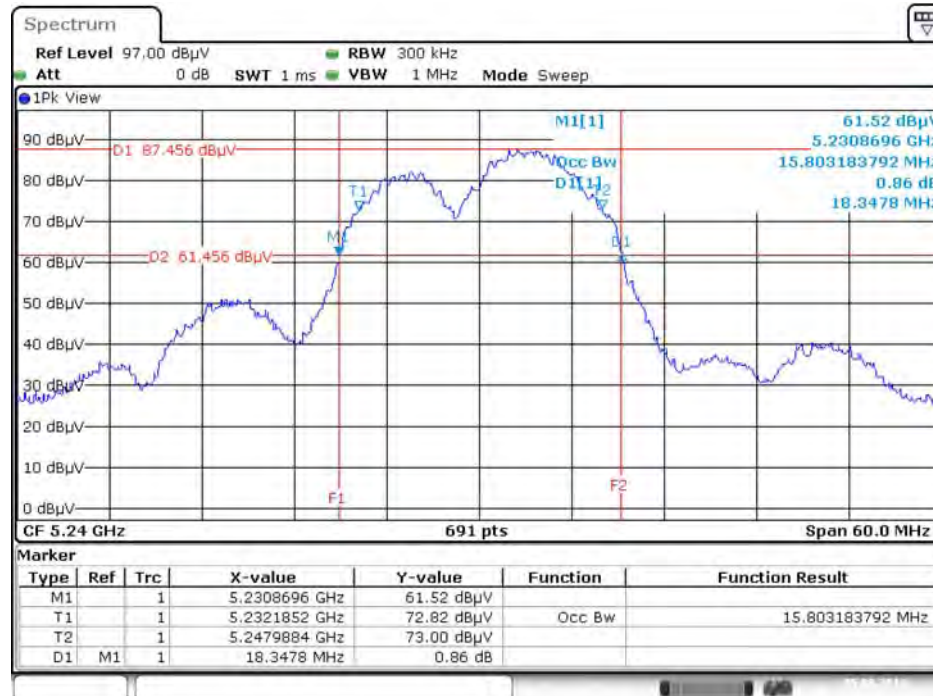
Date: 5.AUG.2016 11:50:12

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5200 MHz



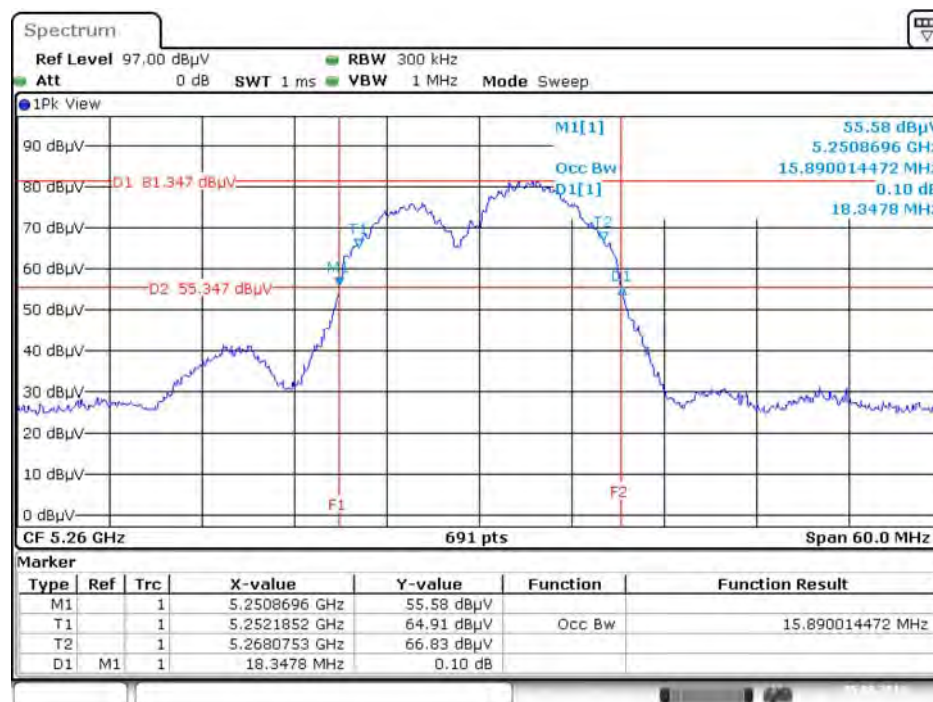
Date: 5.AUG.2016 11:50:45

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5240 MHz



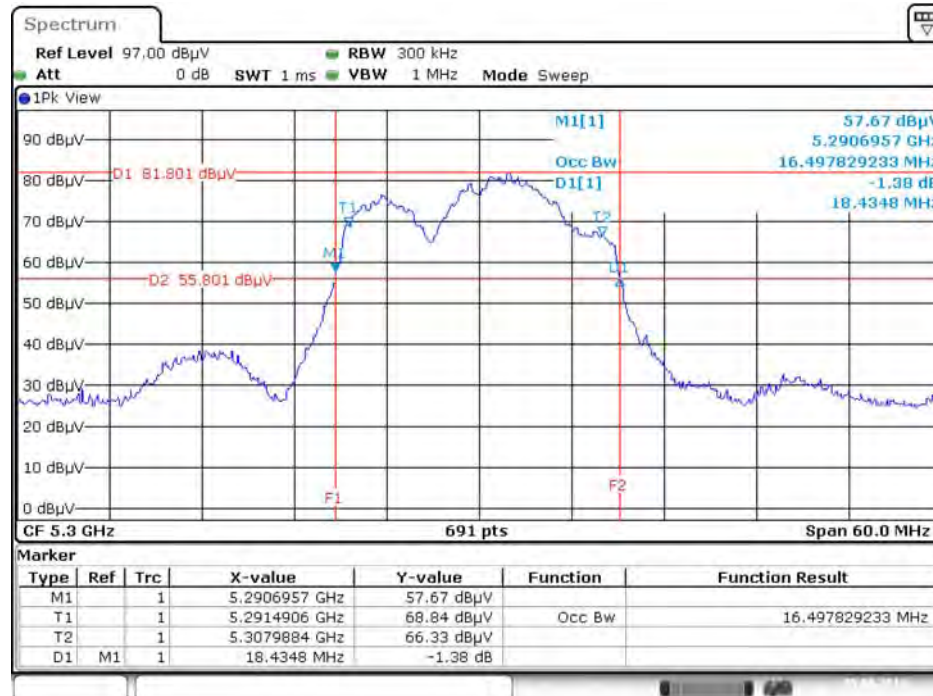
Date: 5.AUG.2016 11:51:45

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



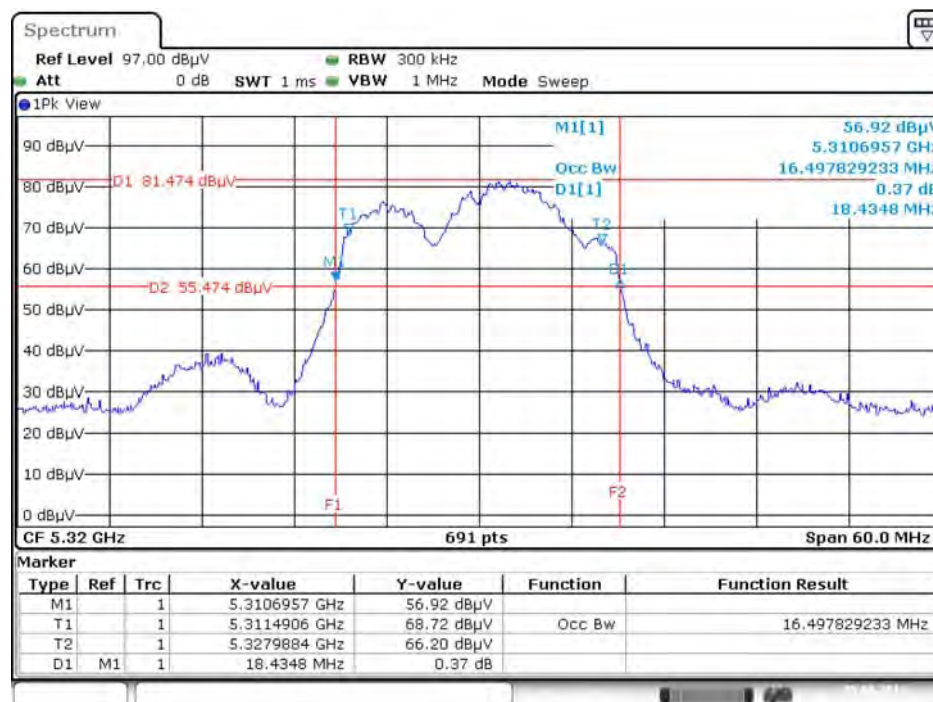
Date: 5.AUG.2016 11:52:45

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



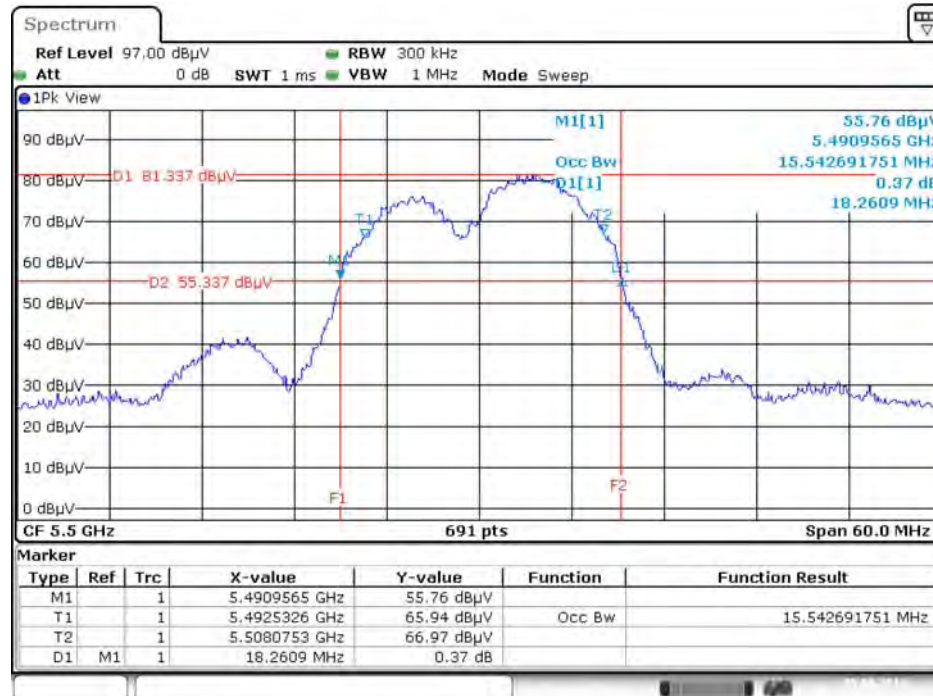
Date: 5.AUG.2016 11:53:08

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



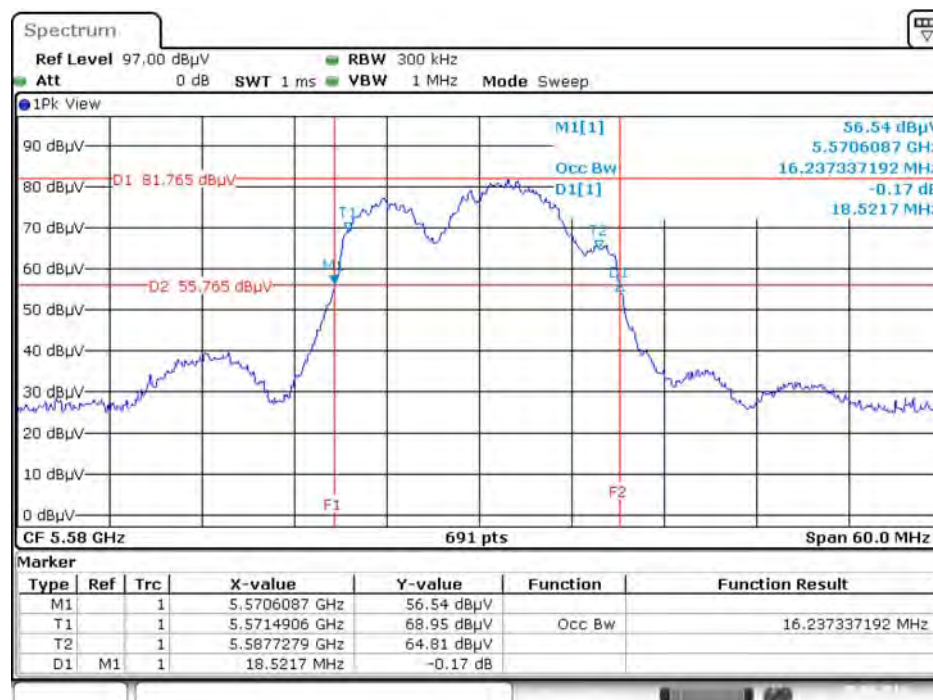
Date: 5.AUG.2016 11:53:41

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



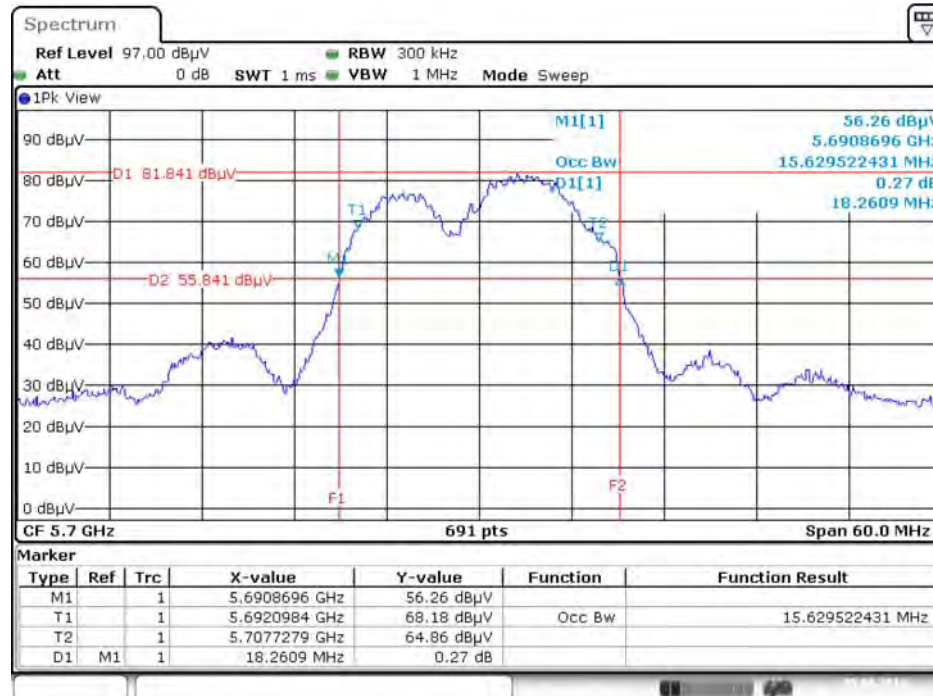
Date: 5.AUG.2016 11:54:06

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



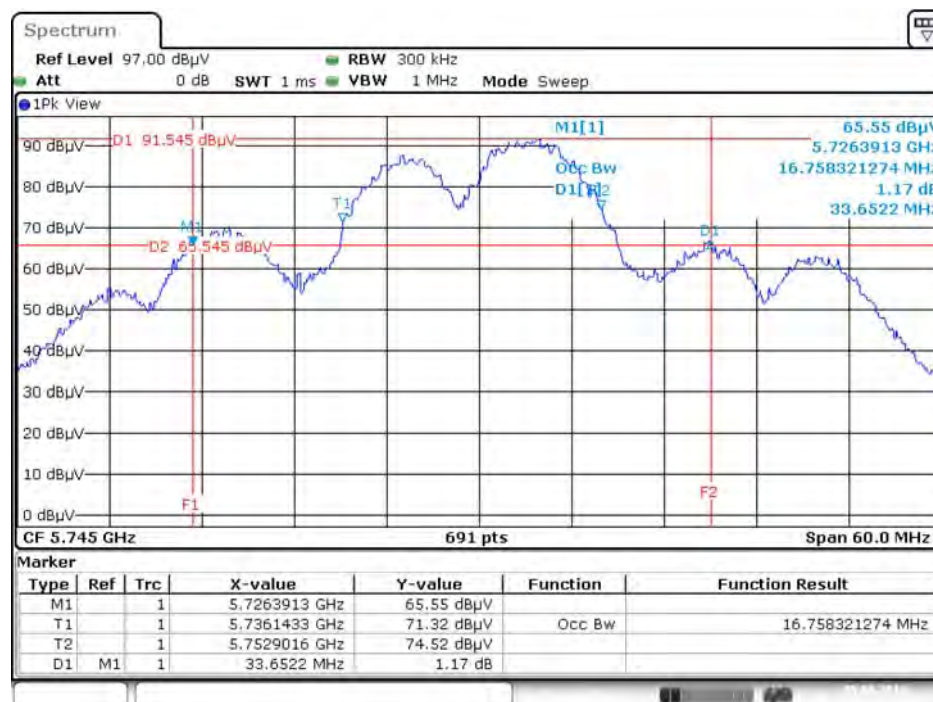
Date: 5.AUG.2016 11:54:37

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



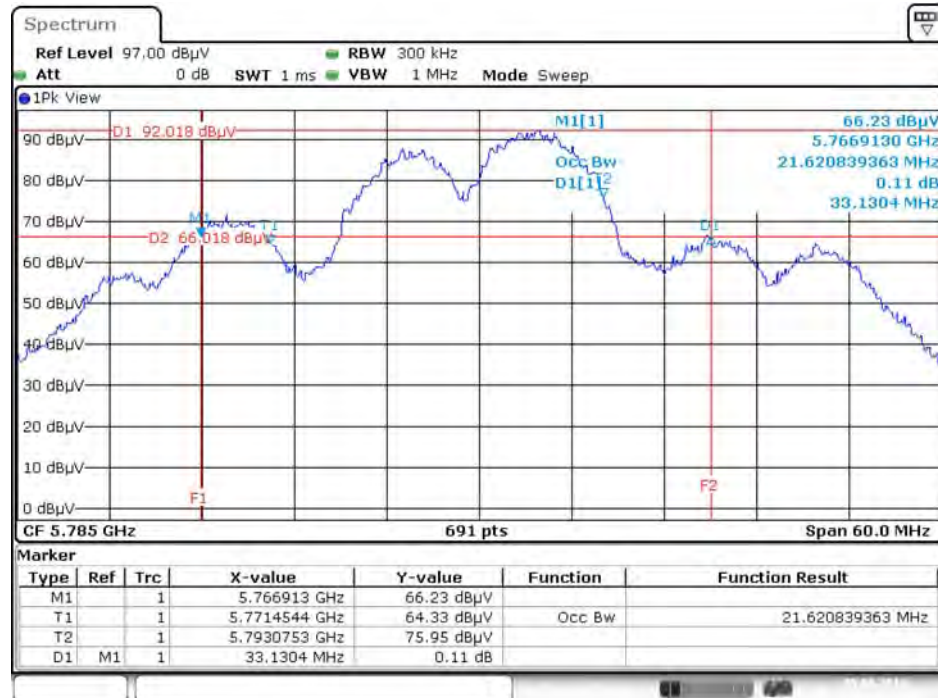
Date: 5.AUG.2016 11:55:05

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5745 MHz



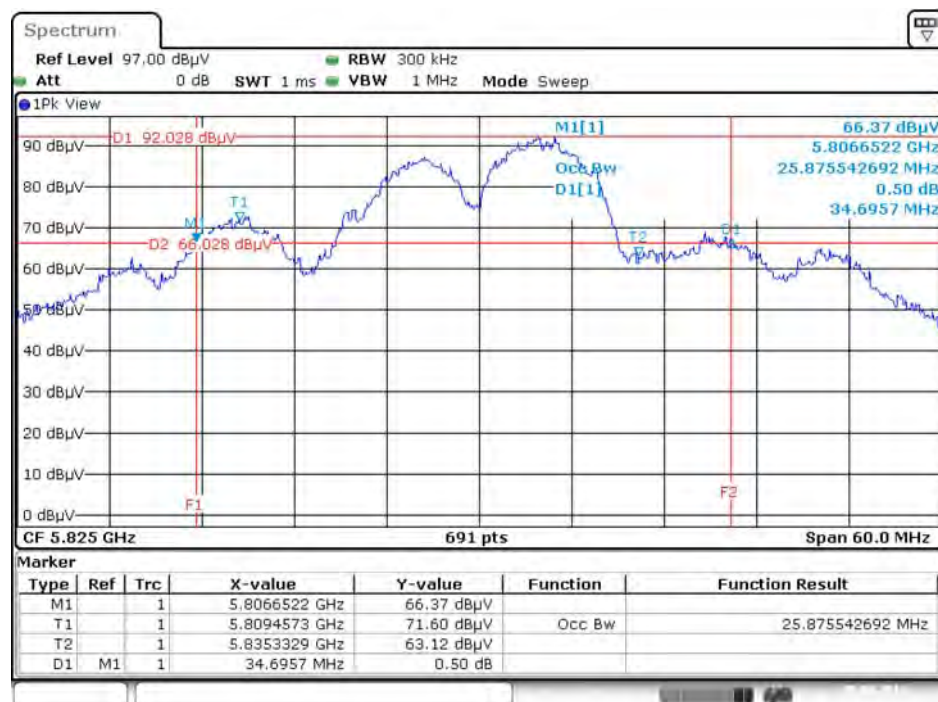
Date: 5.AUG.2016 11:56:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5785 MHz



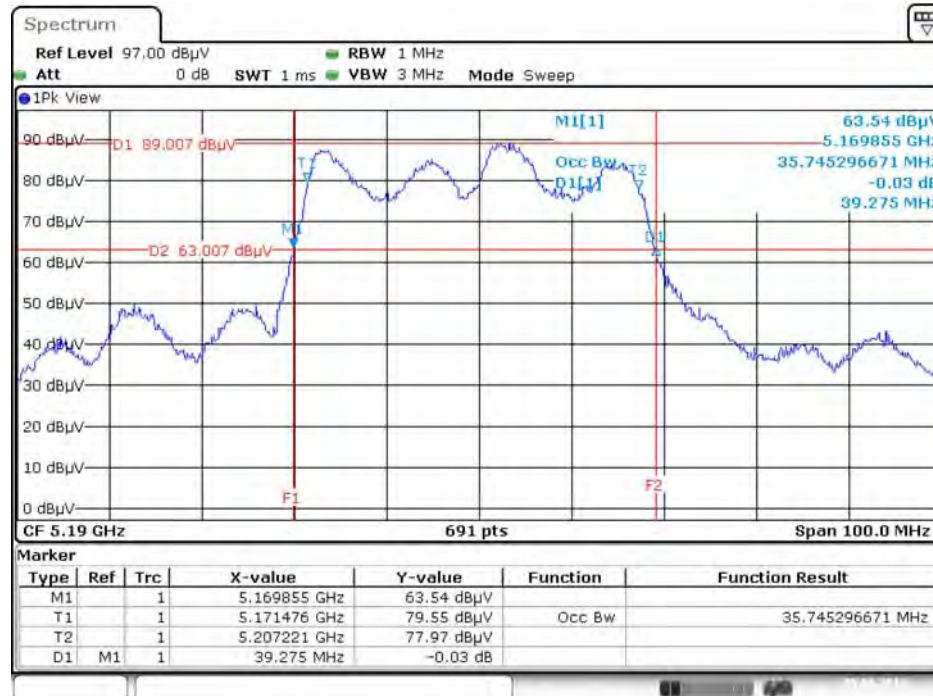
Date: 5.AUG.2016 11:56:29

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5825 MHz



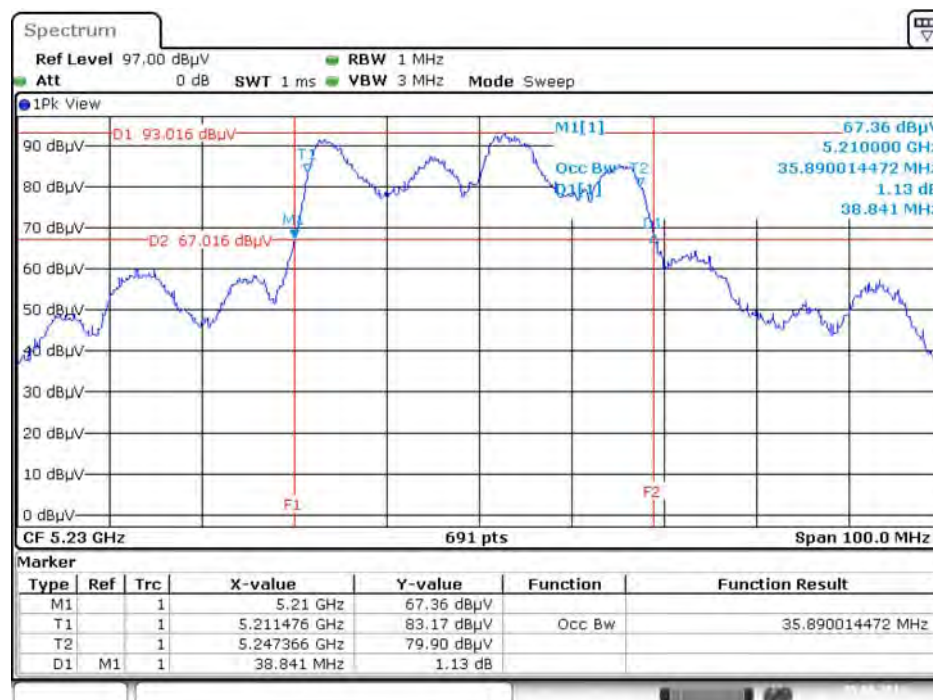
Date: 5.AUG.2016 11:56:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5190 MHz



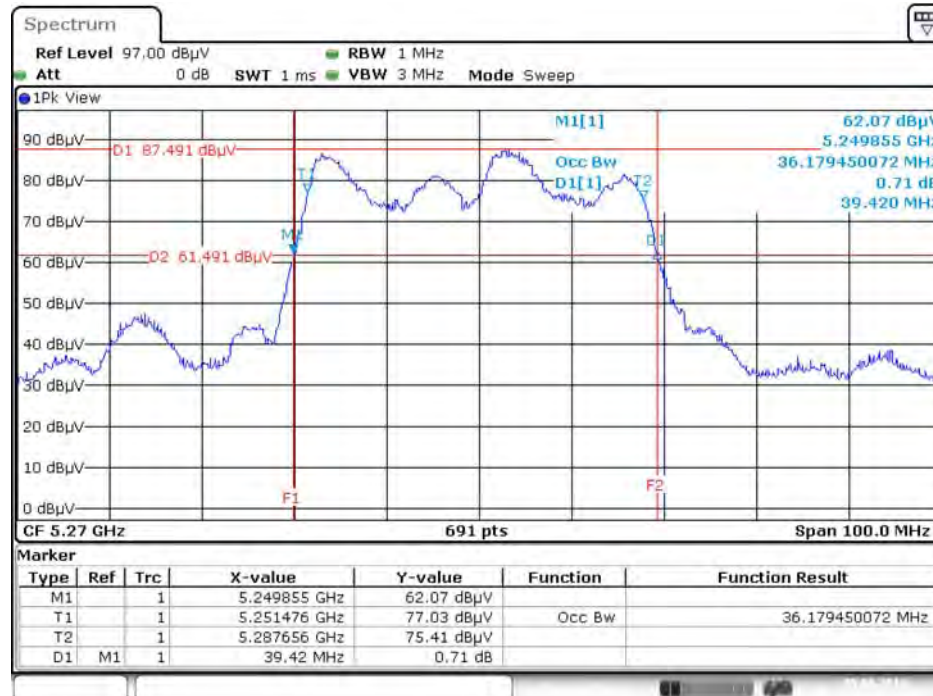
Date: 5.AUG.2016 11:57:42

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5230 MHz



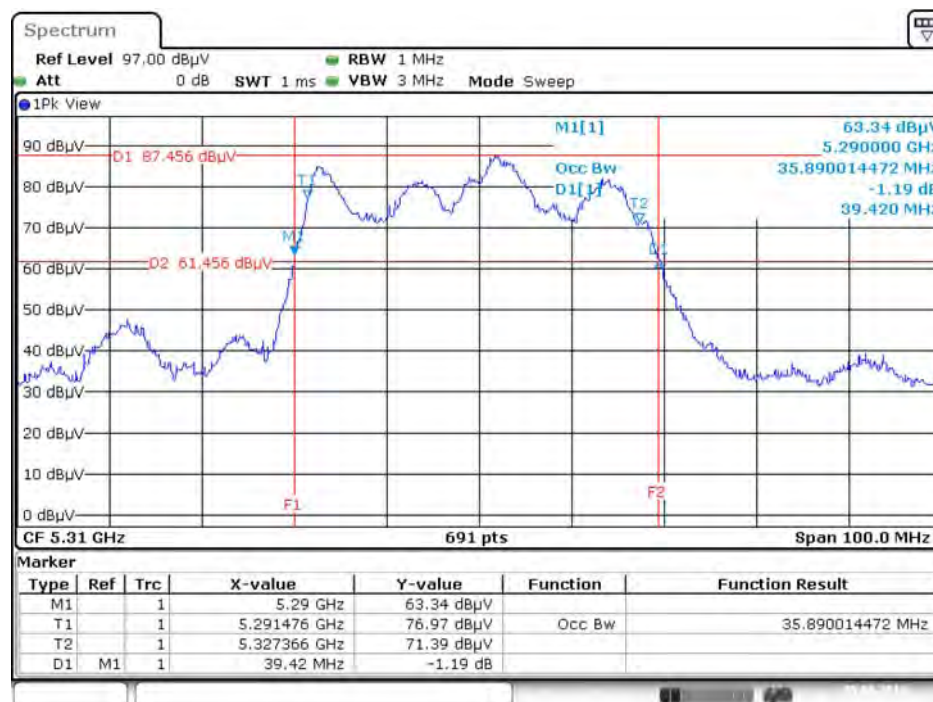
Date: 5.AUG.2016 11:58:02

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



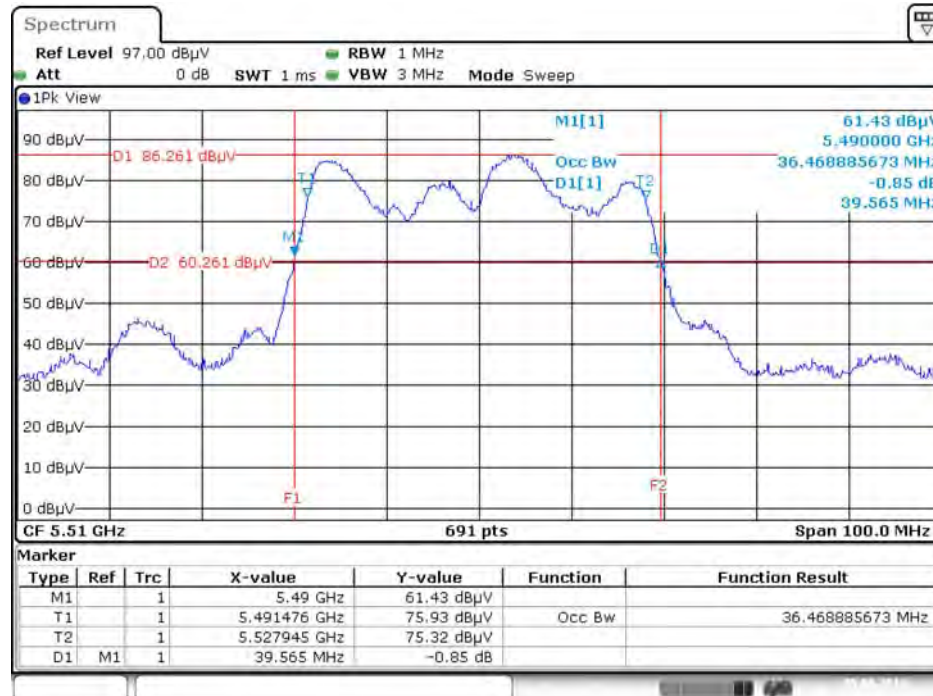
Date: 5.AUG.2016 11:59:38

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



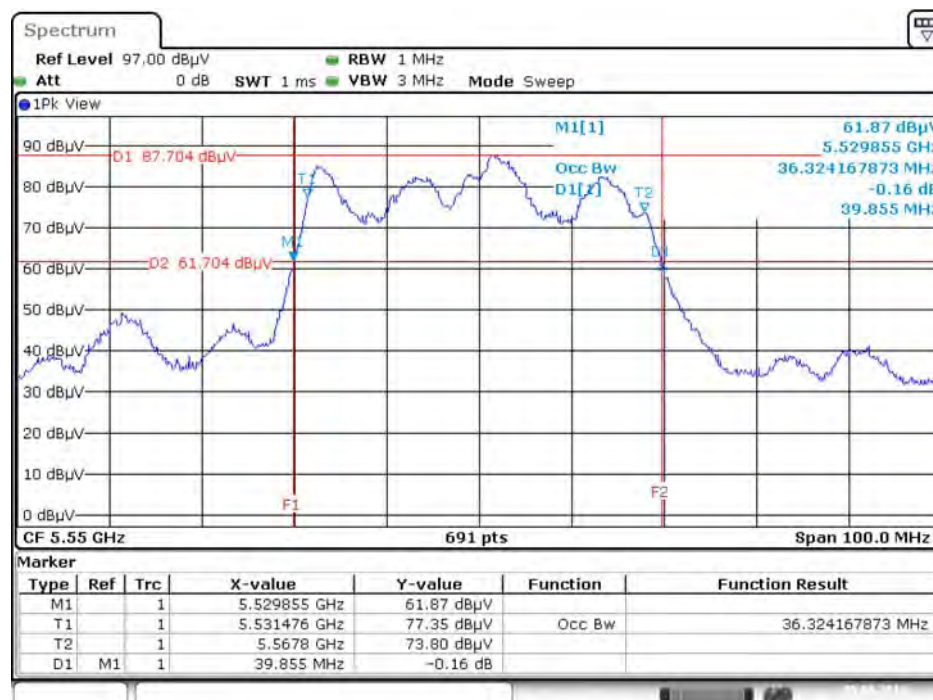
Date: 5.AUG.2016 12:00:05

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



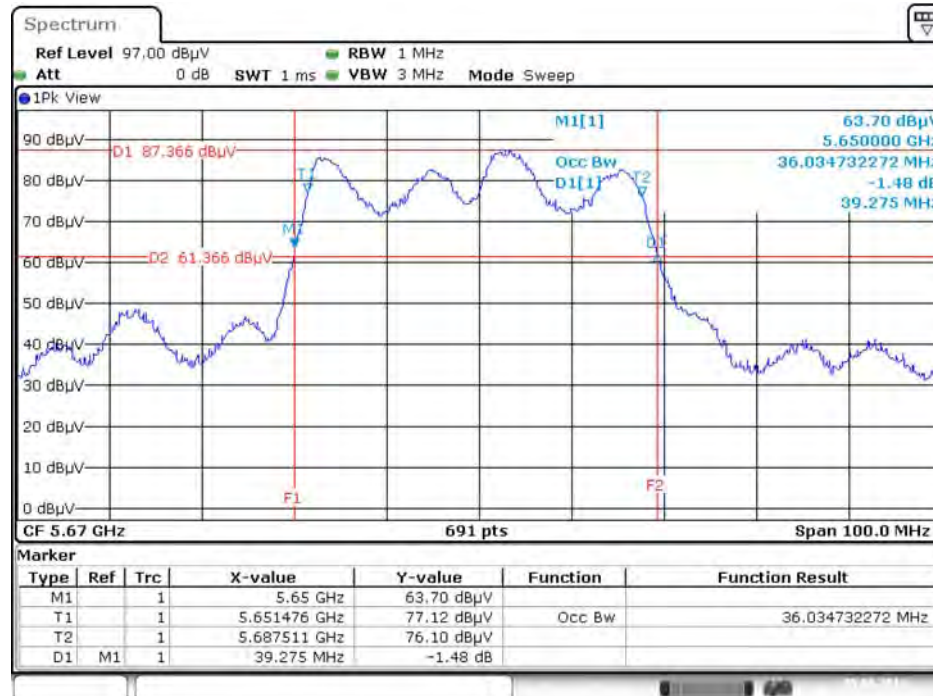
Date: 5.AUG.2016 12:00:37

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



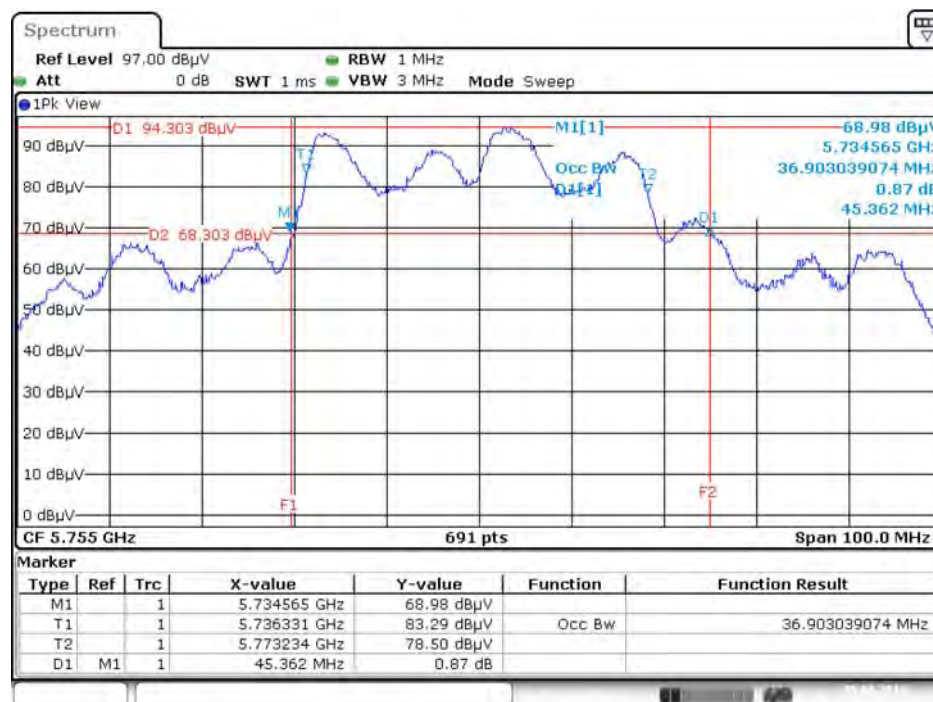
Date: 5.AUG.2016 12:01:00

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



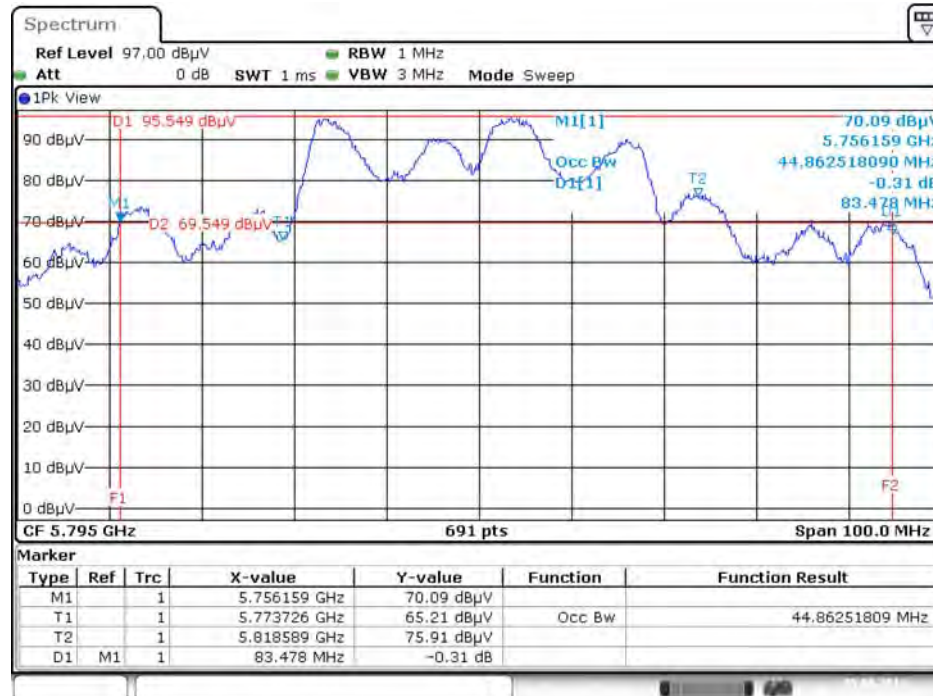
Date: 5.AUG.2016 12:01:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5755 MHz



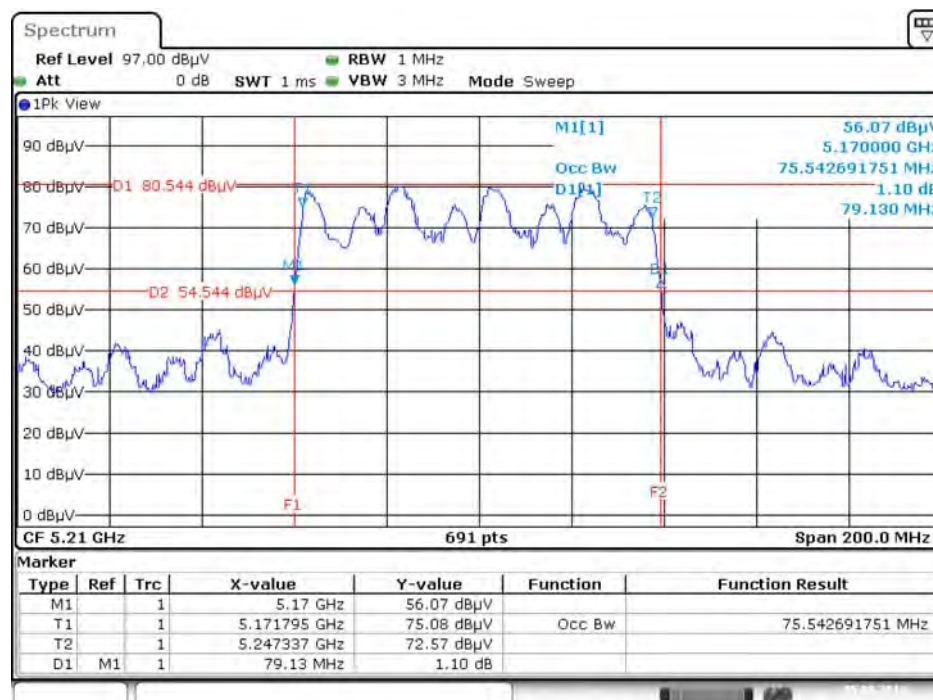
Date: 5.AUG.2016 12:02:06

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5795 MHz



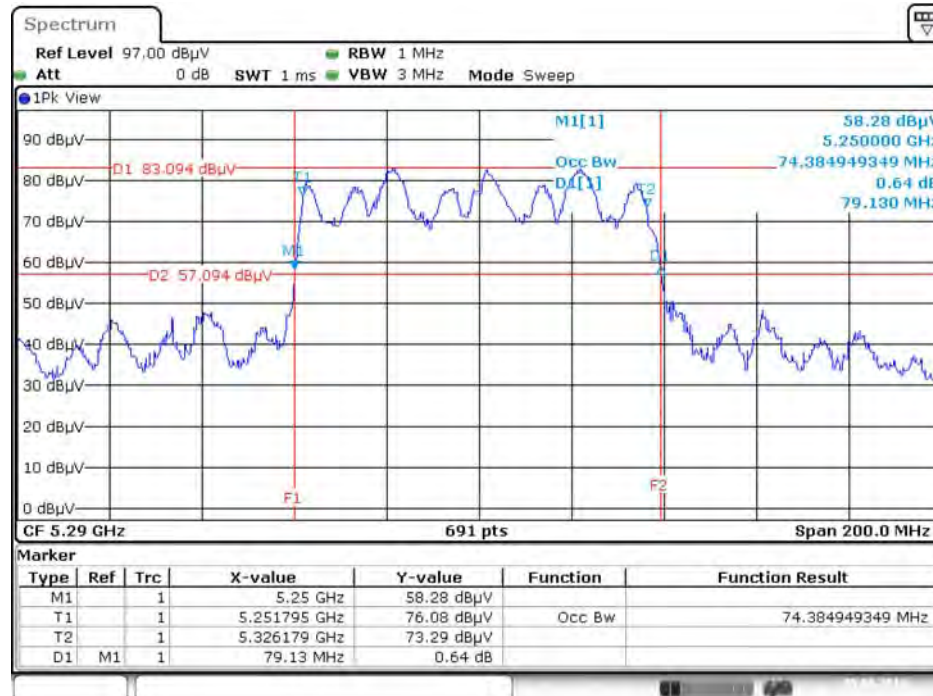
Date: 5.AUG.2016 12:03:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5210 MHz



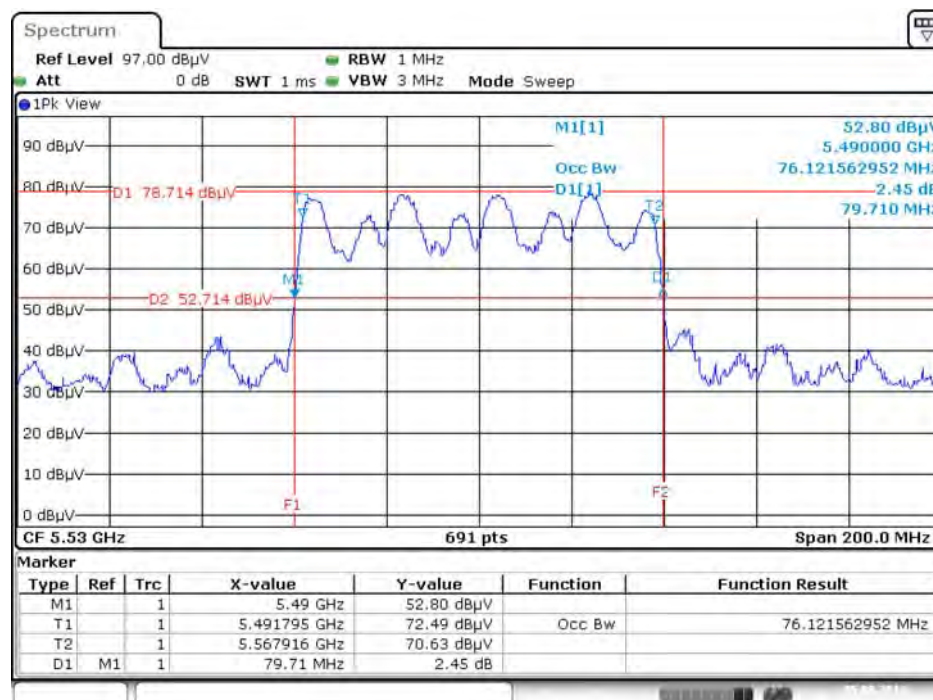
Date: 5.AUG.2016 12:03:56

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



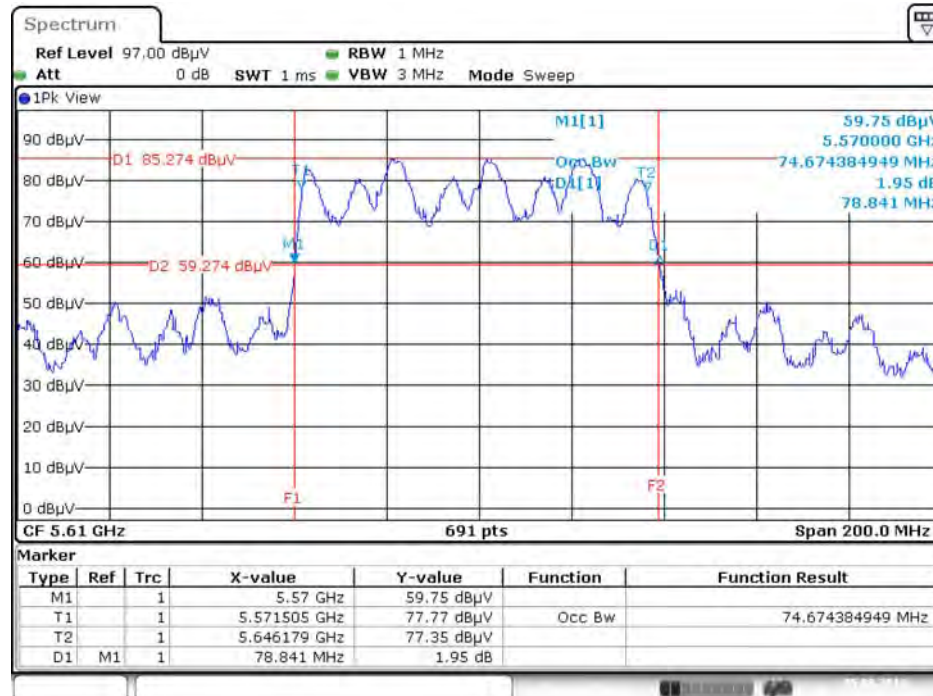
Date: 5.AUG.2016 12:04:24

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



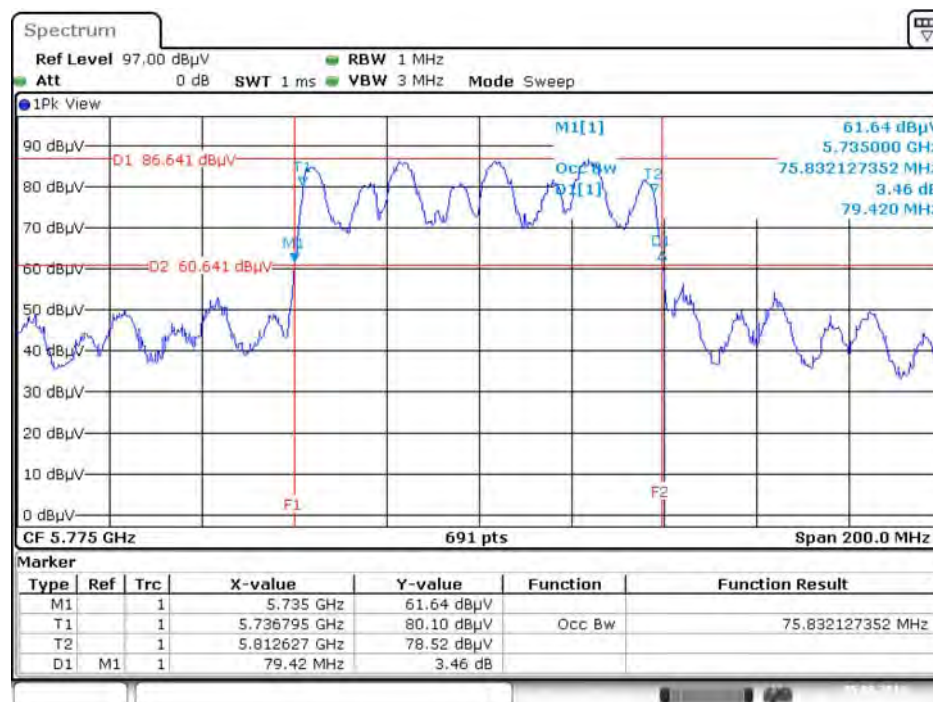
Date: 5.AUG.2016 12:04:49

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: 5.AUG.2016 12:05:18

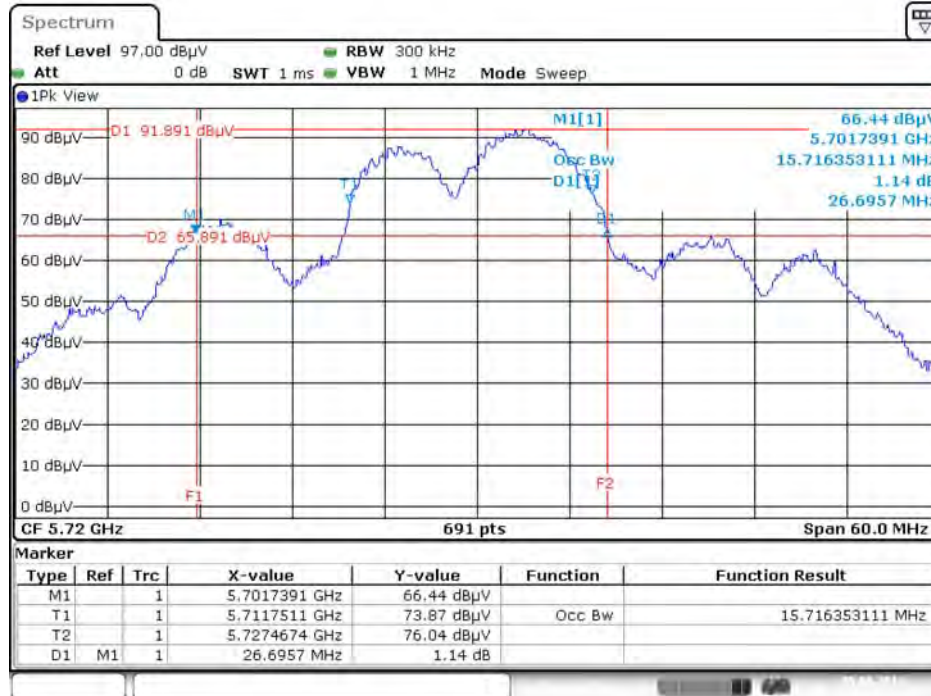
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5775 MHz



Date: 5.AUG.2016 12:05:57

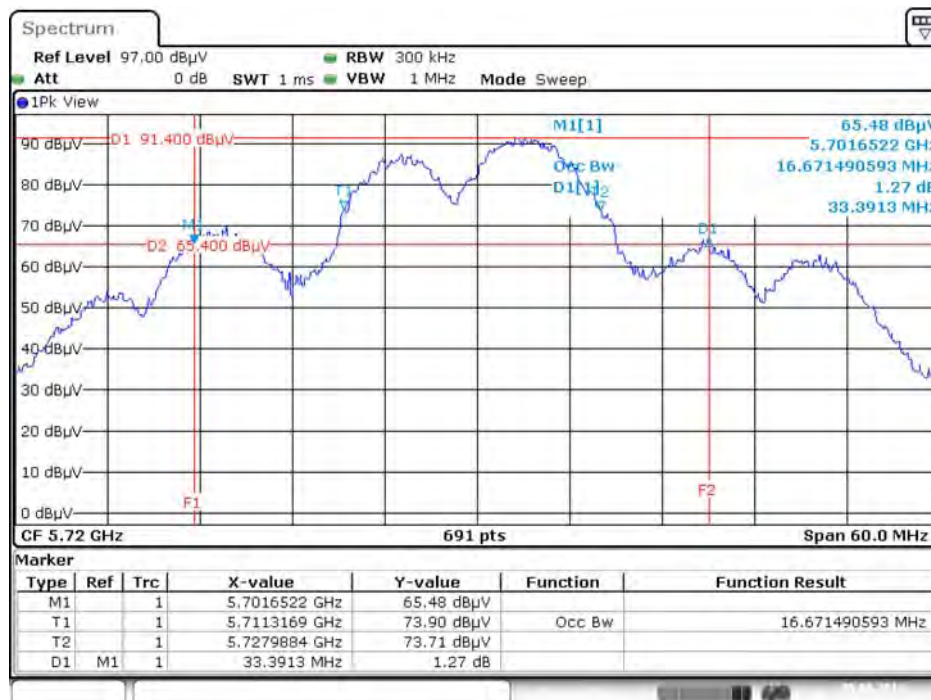
Straddle Channel

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



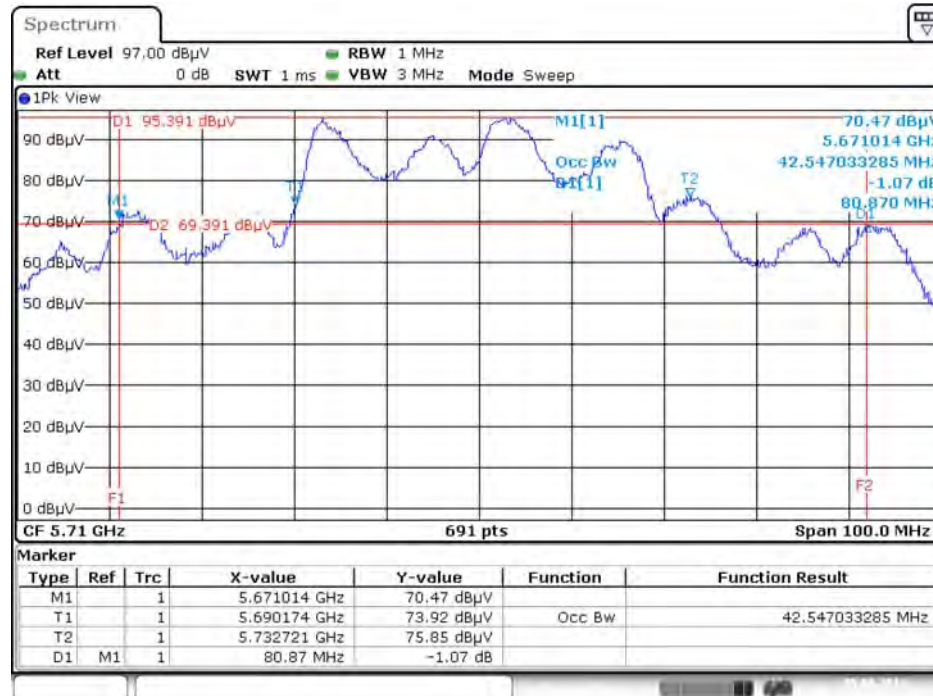
Date: 5.AUG.2016 13:55:22

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



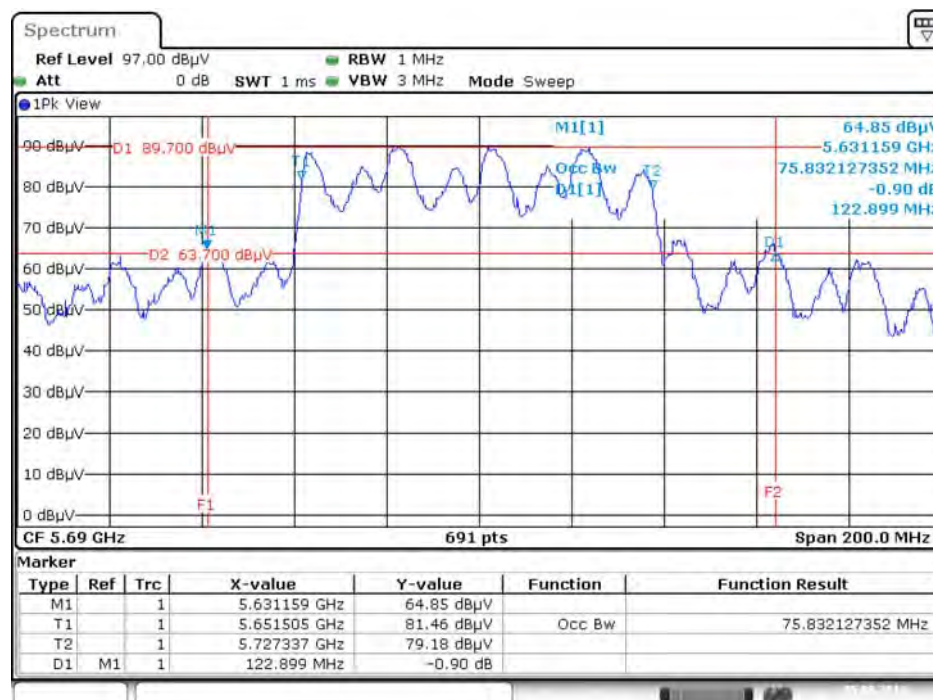
Date: 5.AUG.2016 13:57:36

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: 5.AUG.2016 13:59:01

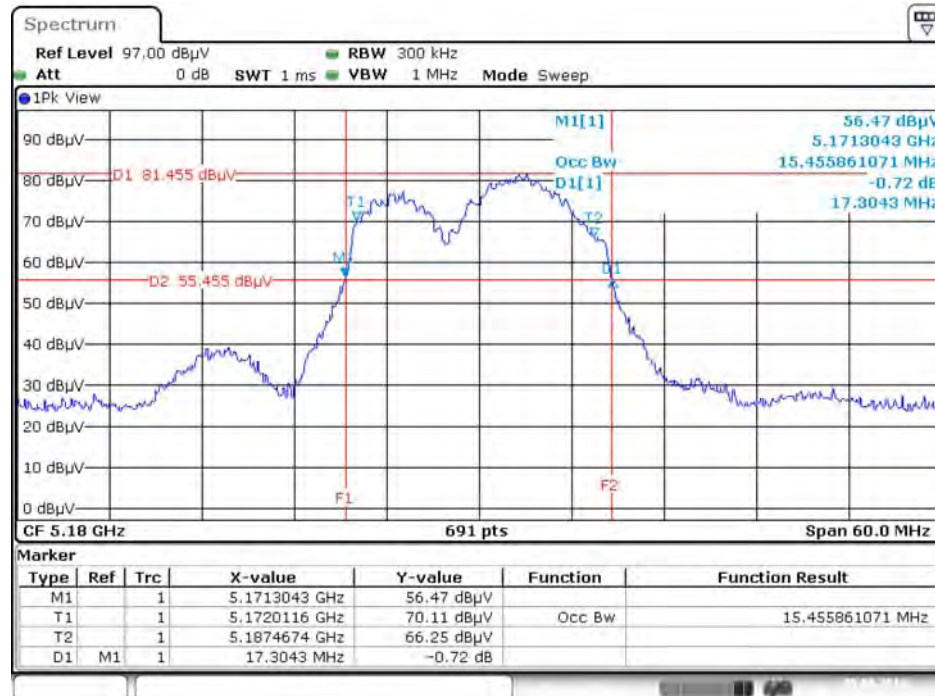
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 5.AUG.2016 14:01:19

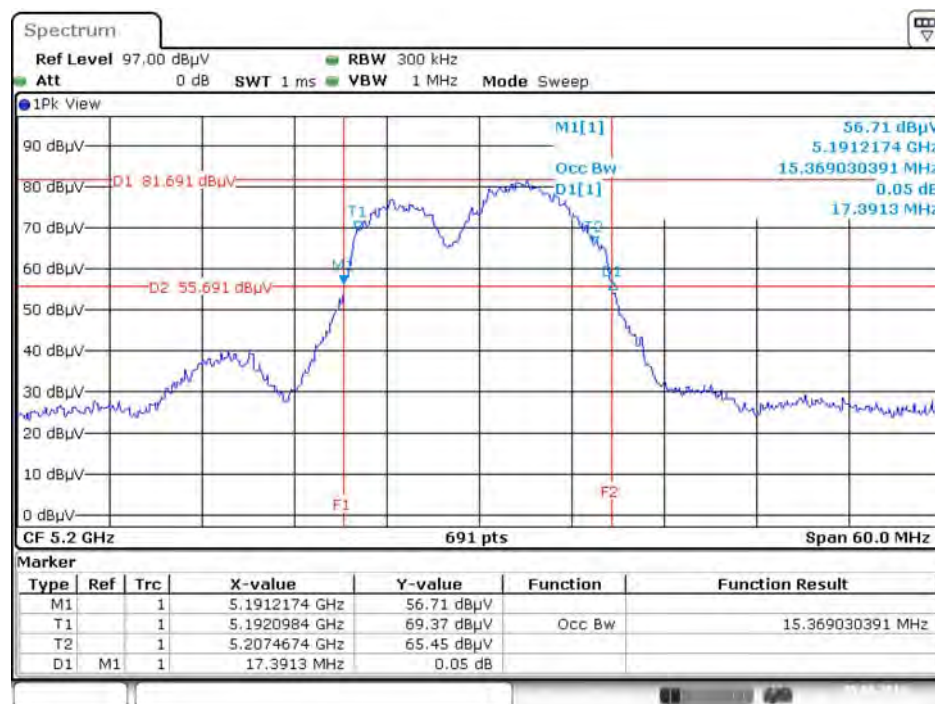
For indoor use slave without radar detection B1

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2
+ Chain 3 + Chain 4 / 5180 MHz



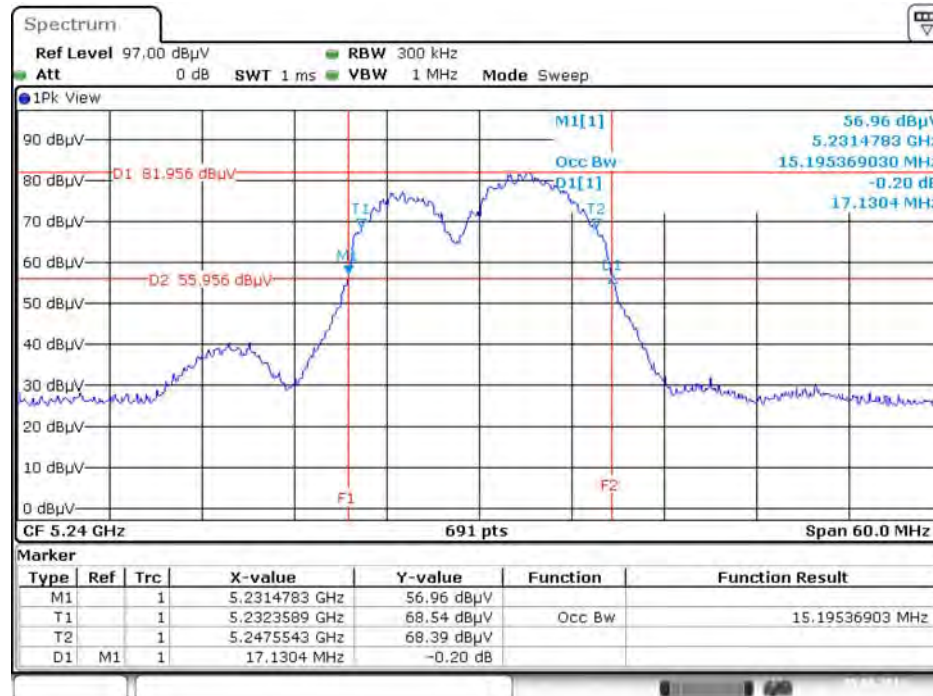
Date: 5.AUG.2016 16:32:38

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2
+ Chain 3 + Chain 4 / 5200 MHz



Date: 5.AUG.2016 16:33:07

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5240 MHz



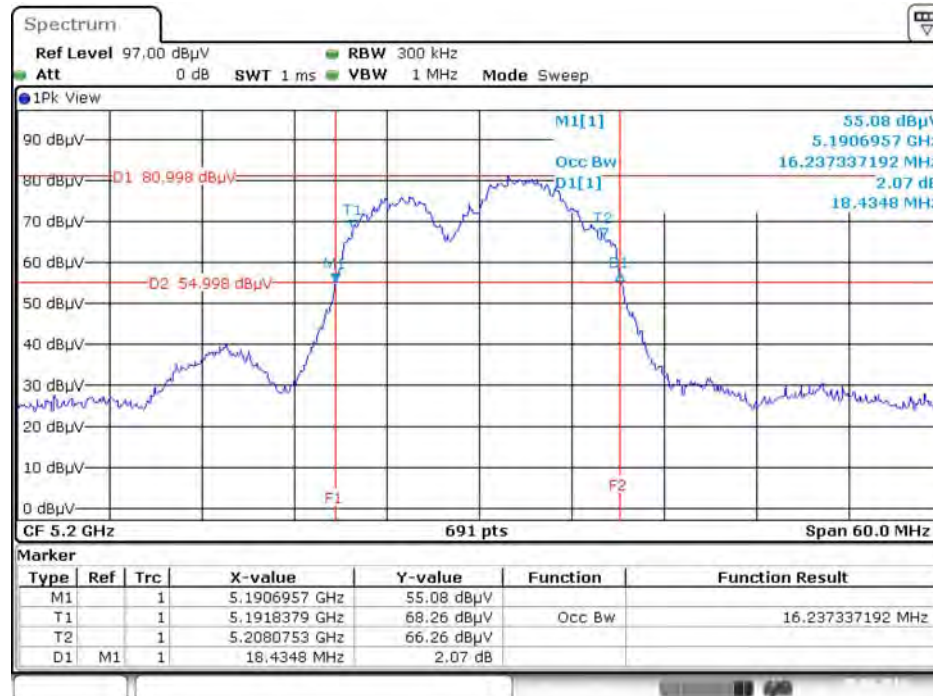
Date: 5.AUG.2016 16:34:35

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5180 MHz



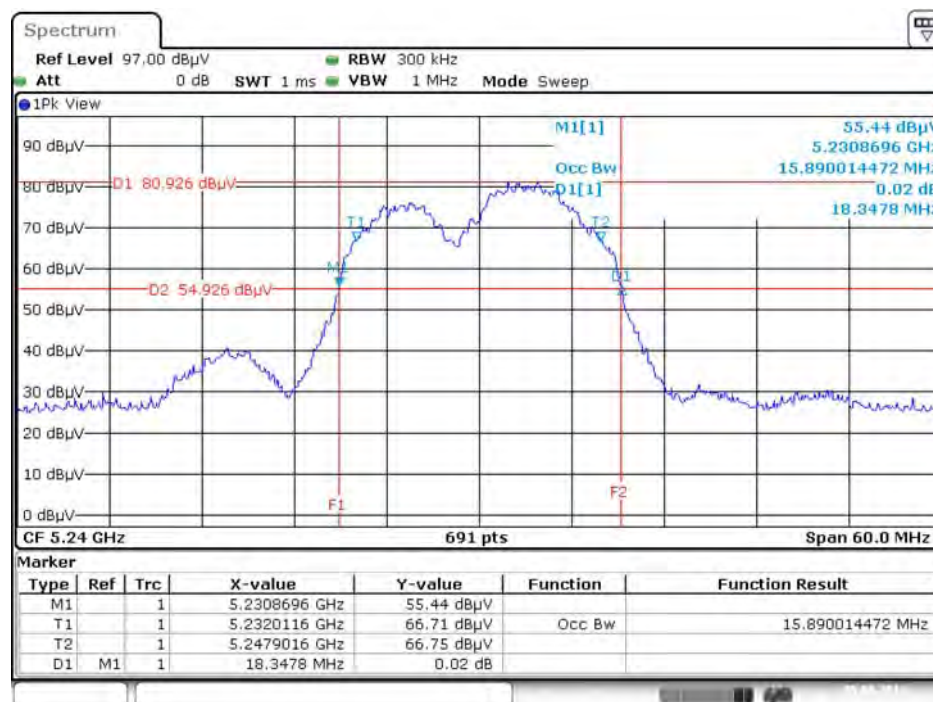
Date: 5.AUG.2016 16:35:39

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5200 MHz



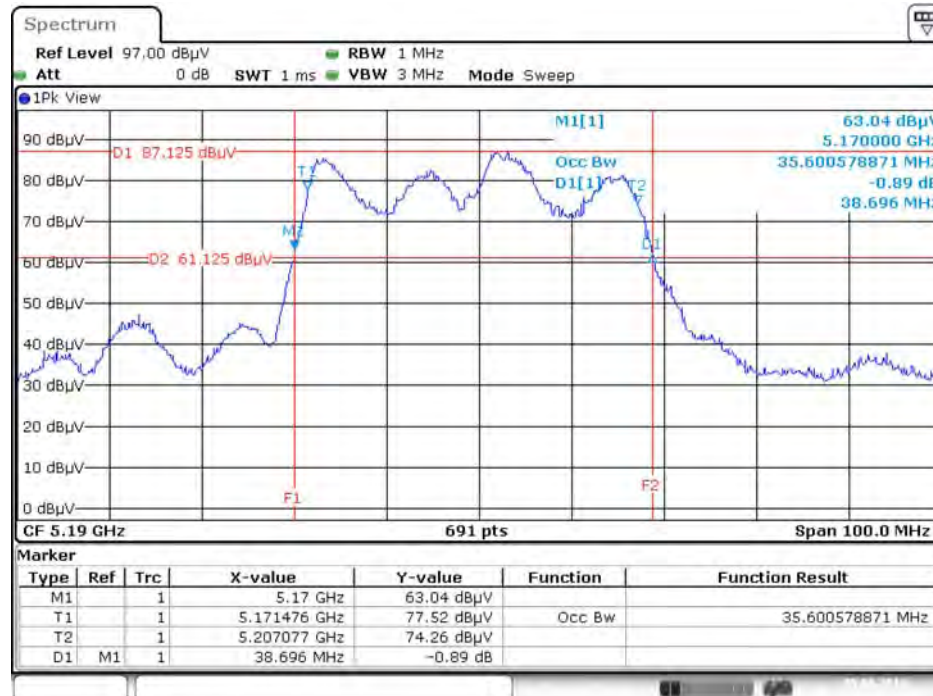
Date: 5.AUG.2016 16:35:58

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5240 MHz



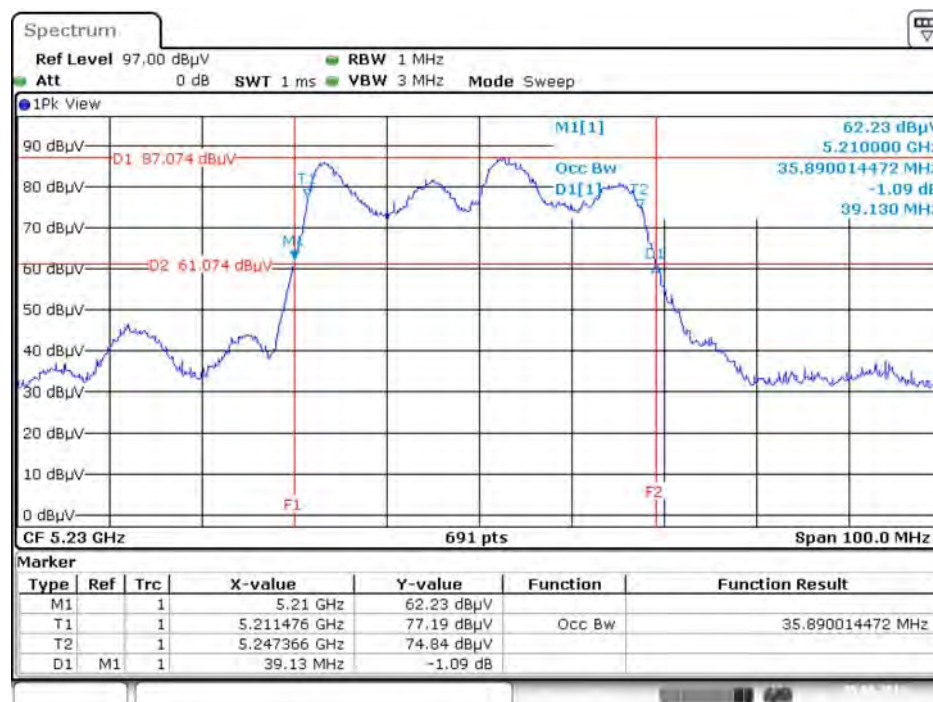
Date: 5.AUG.2016 16:33:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5190 MHz

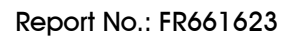


Date: 5.AUG.2016 16:37:09

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5230 MHz



Date: 5.AUG.2016 16:37:31



Spectrum
 Ref Level 97.00 dBμV
 Att 0 dB SWT 1 ms RBW 1 MHz 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 5.21 GHz 691 pts Span 200.0 MHz

Measurements:

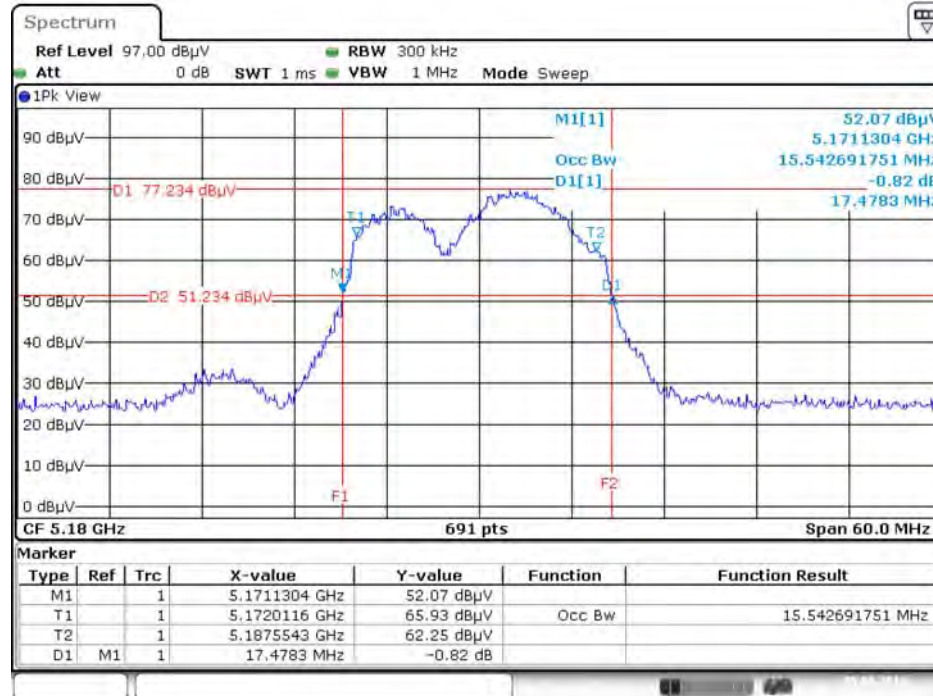
- D1: 80.544 dBμV
- D2: 54.544 dBμV
- M1[1]: 56.07 dBμV
- Occ Bw: 5.170000 GHz
- D1[1]: 75.542691751 MHz
- T1: 1.10 dB
- T2: 79.130 MHz

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.17 GHz	56.07 dBμV		
T1		1	5.171795 GHz	75.08 dBμV	Occ Bw	75.542691751 MHz
T2		1	5.247337 GHz	72.57 dBμV		
D1	M1	1	79.13 MHz	1.10 dB		

Date: 5.AUG.2016 12:03:56

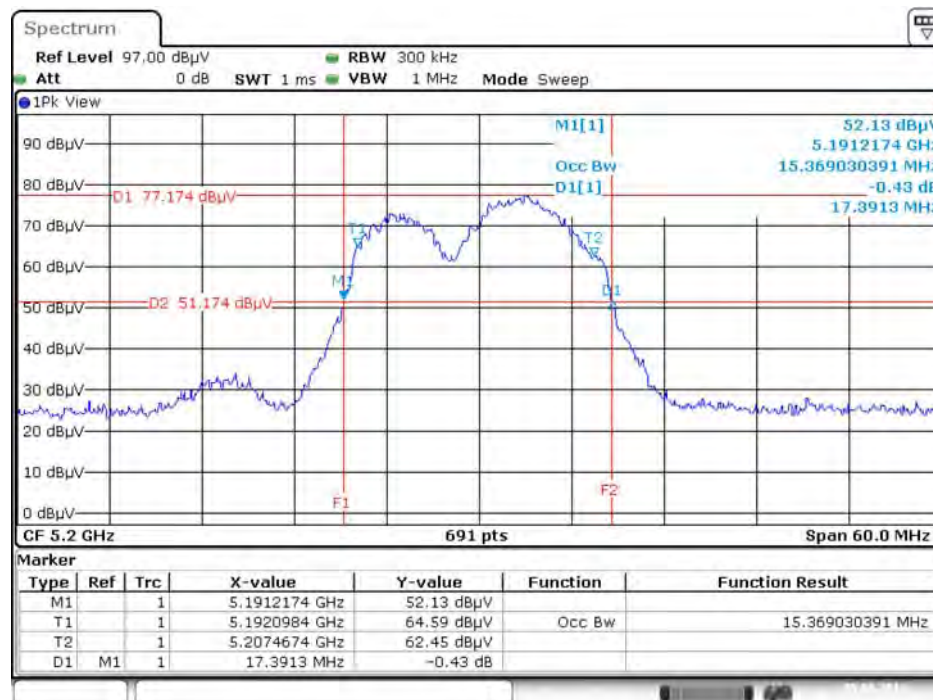
For outdoor use master B1

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2
+ Chain 3 + Chain 4 / 5180 MHz



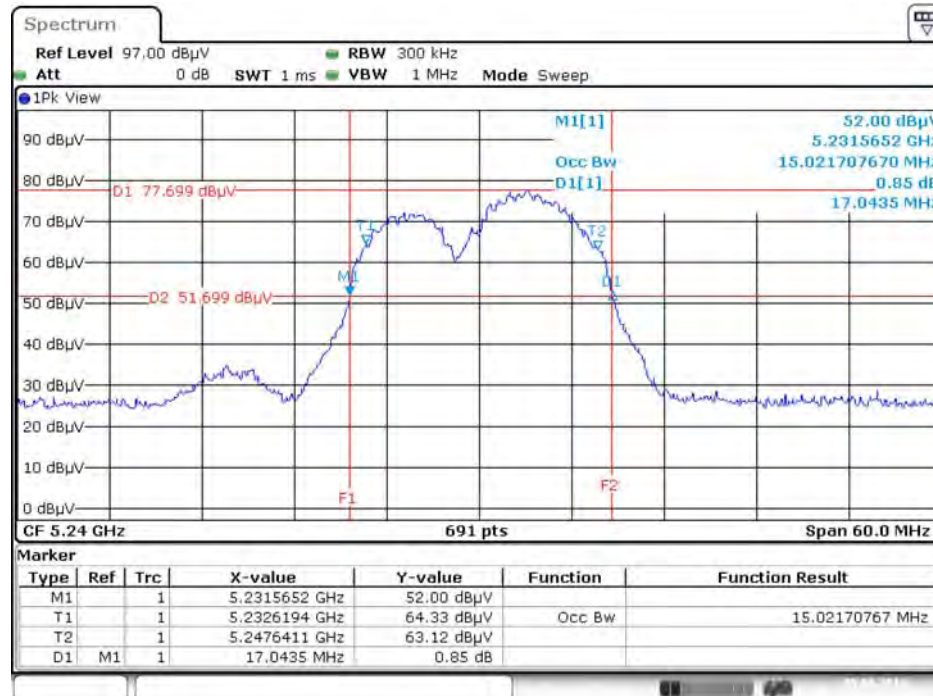
Date: 5.AUG.2016 19:34:59

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2
+ Chain 3 + Chain 4 / 5200 MHz



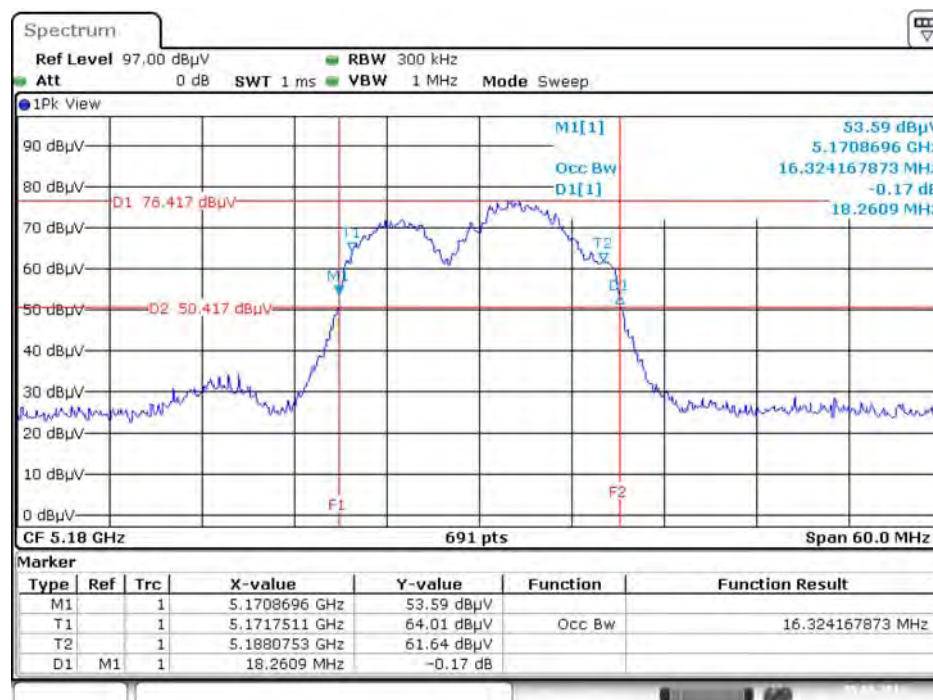
Date: 5.AUG.2016 19:36:47

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2
+ Chain 3 + Chain 4 / 5240 MHz



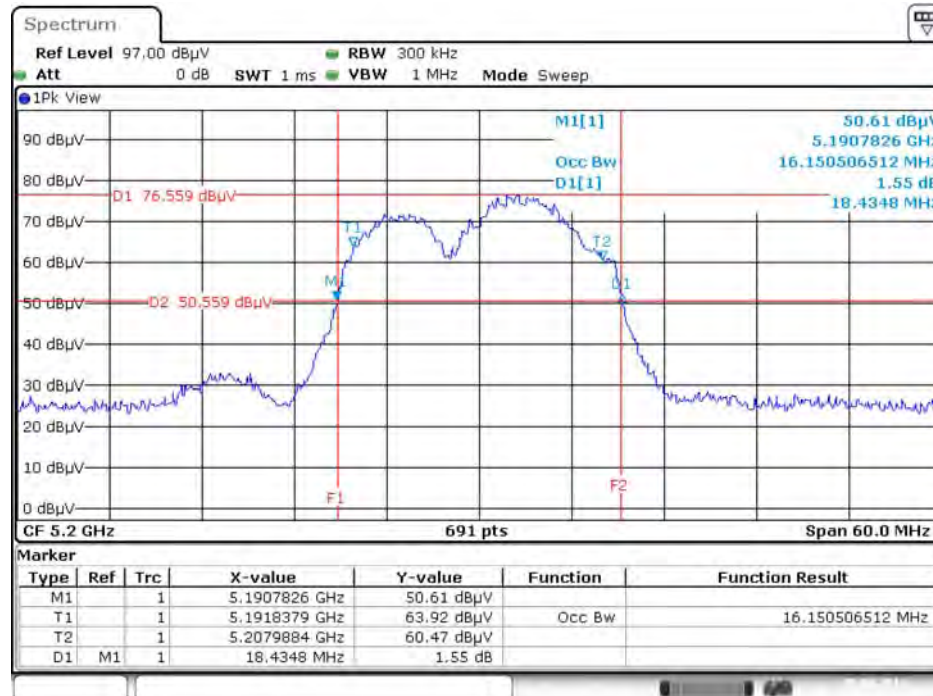
Date: 5.AUG.2016 19:38:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 /
Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5180 MHz



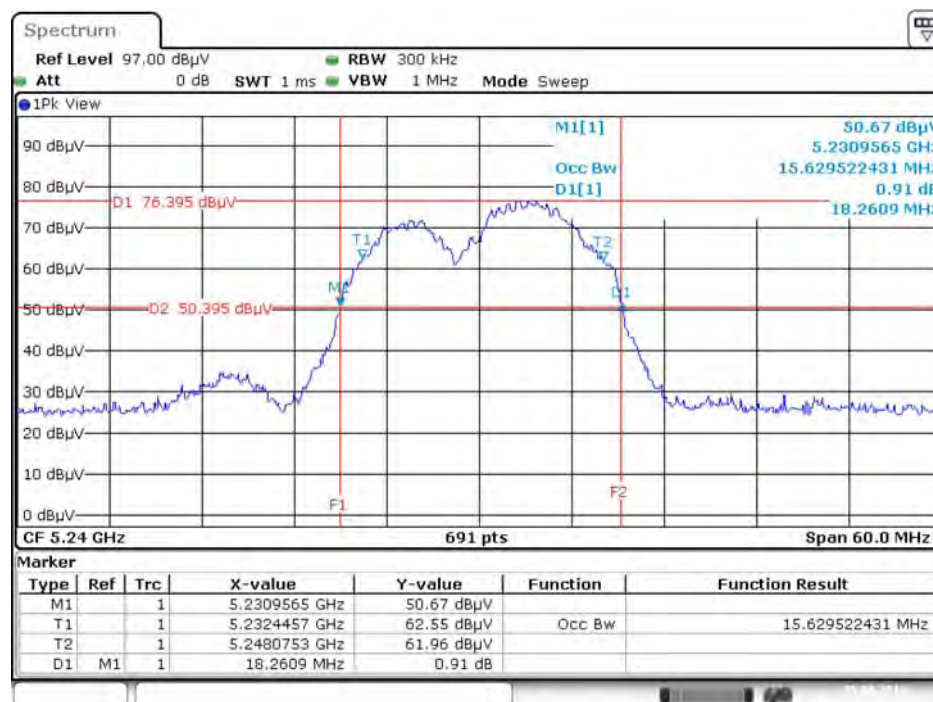
Date: 5.AUG.2016 19:41:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5200 MHz



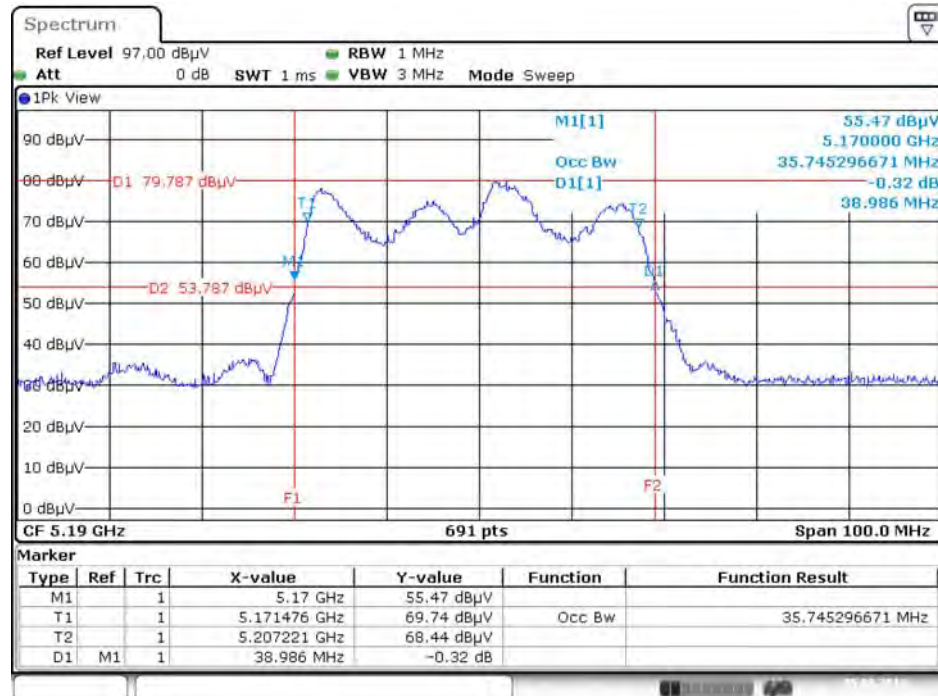
Date: 5.AUG.2016 19:48:54

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5240 MHz



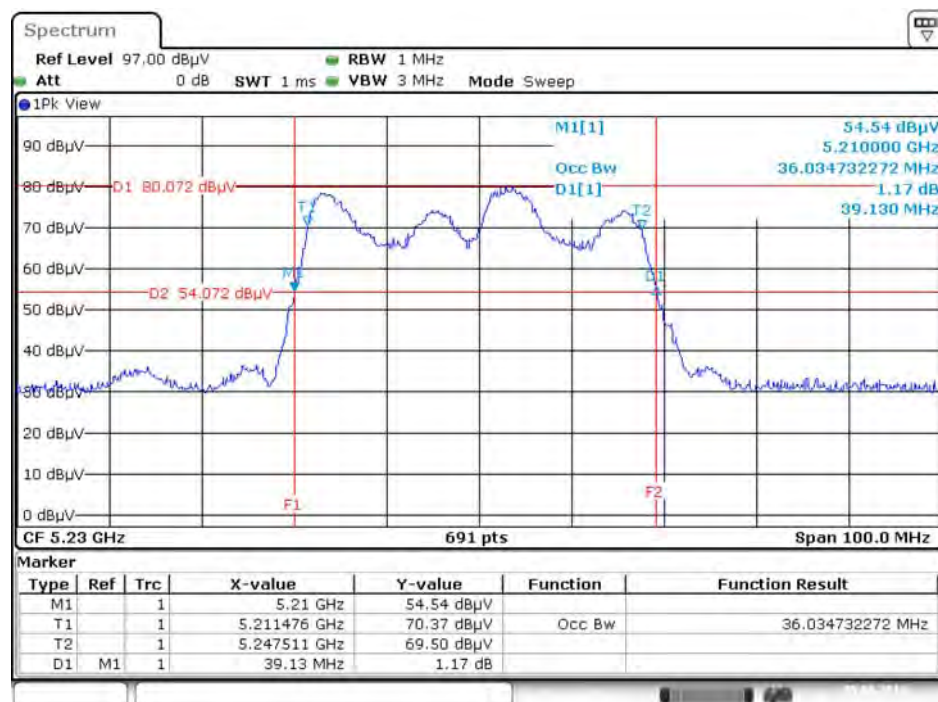
Date: 5.AUG.2016 19:52:03

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5190 MHz



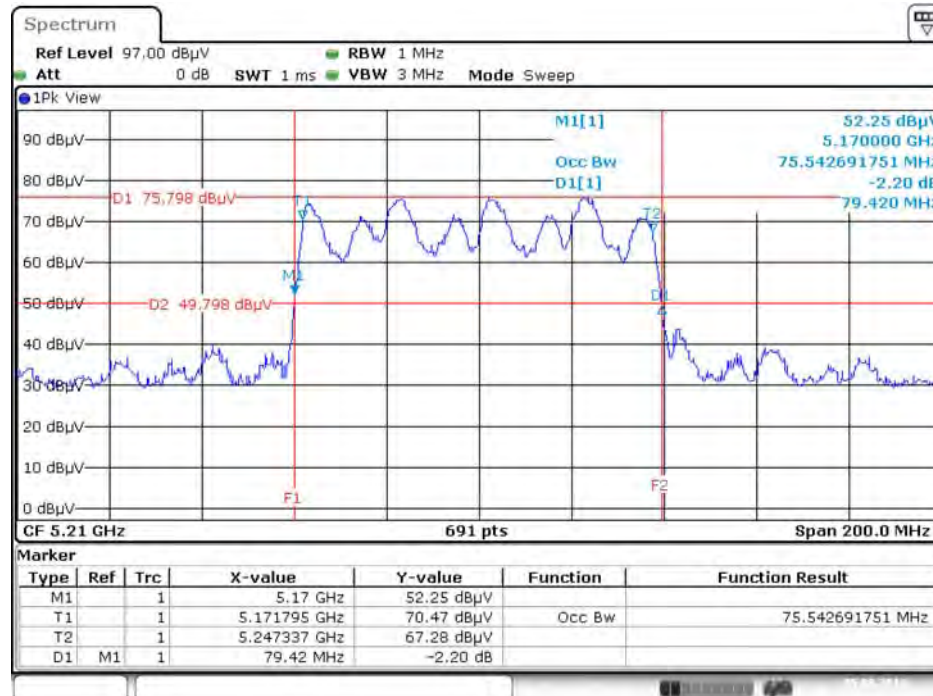
Date: 5.AUG.2016 19:55:47

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5230 MHz



Date: 5.AUG.2016 19:58:12

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5210 MHz



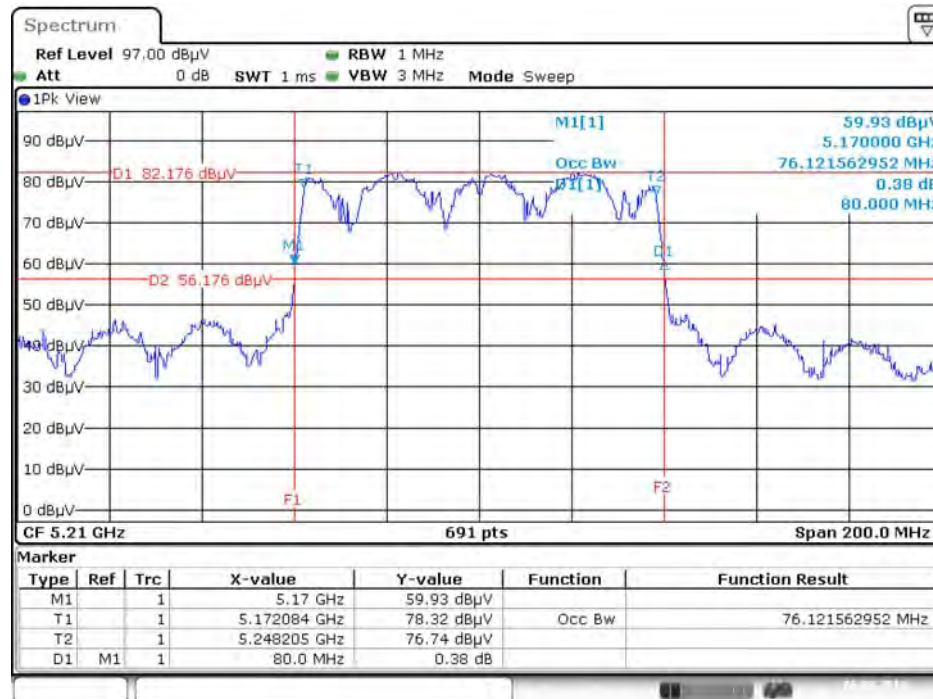
Date: 5.AUG.2016 20:01:01

802.11ac MCS0/Nss2 VHT80+80

For indoor use master type1~15 and slave without radar detection type1~4 and type13

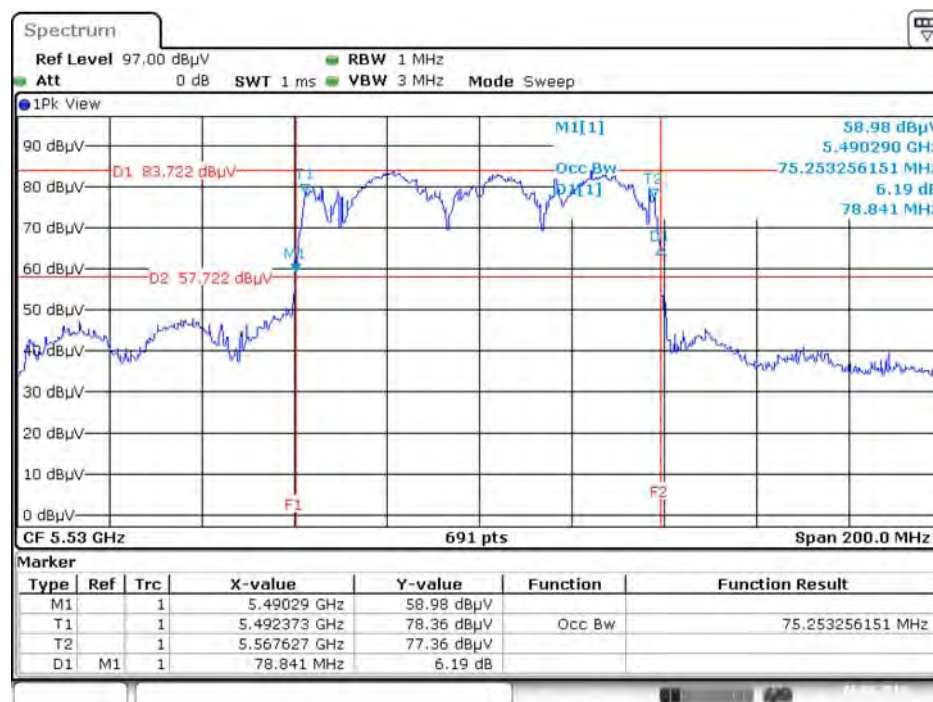
Type 1

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 6.AUG.2016 15:04:36

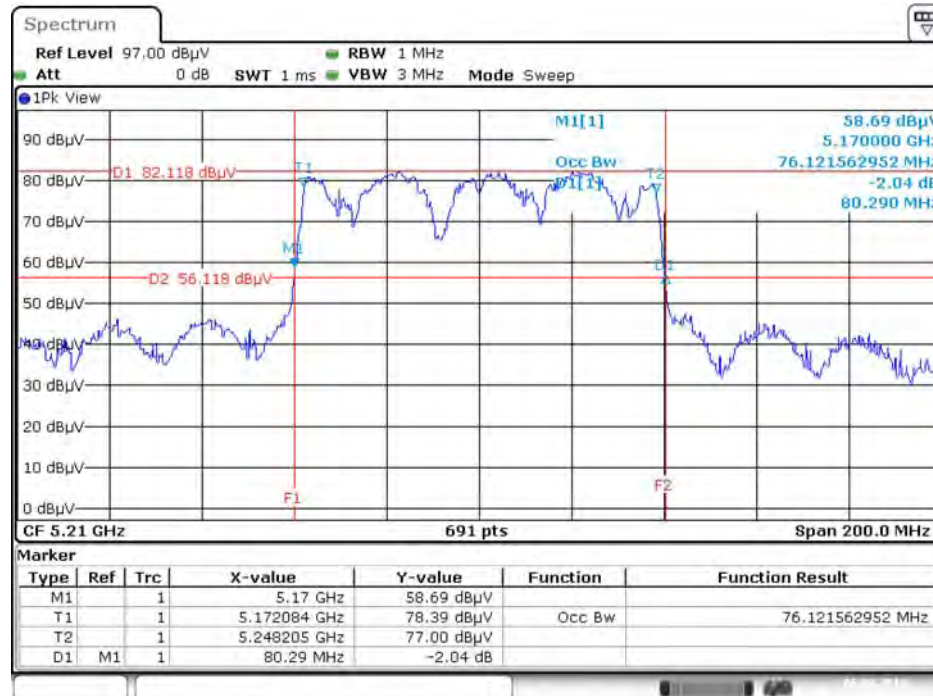
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5530 MHz



Date: 6.AUG.2016 15:12:11

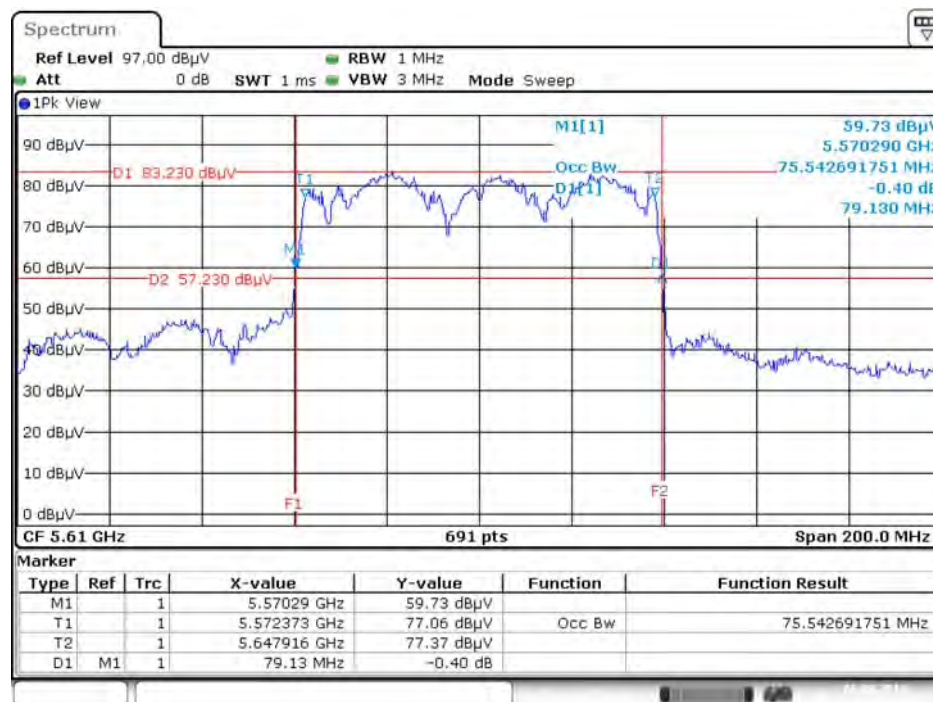
Type 2

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 6.AUG.2016 15:05:27

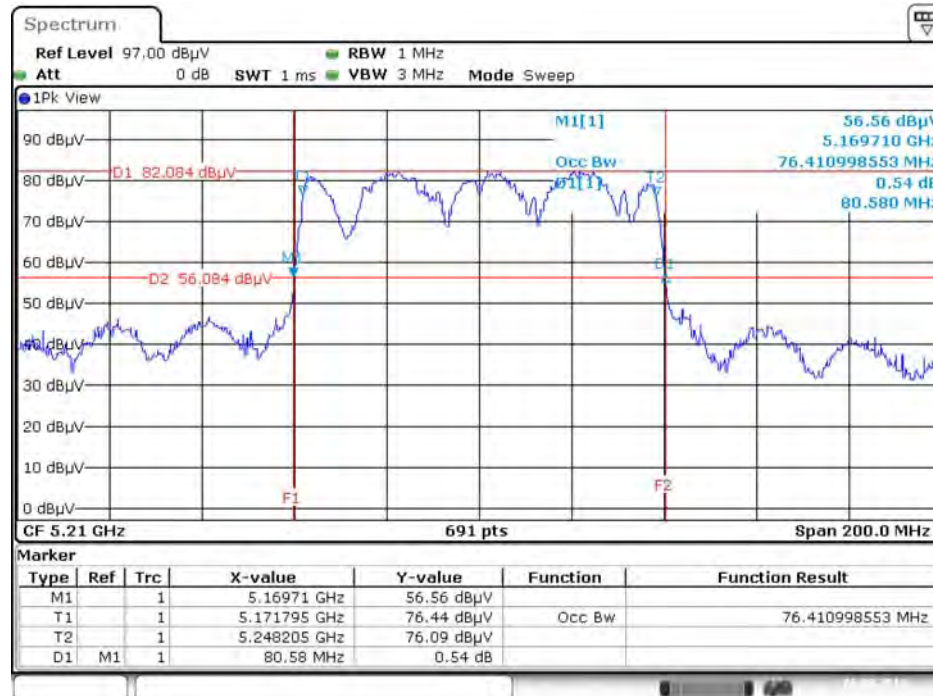
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5610 MHz



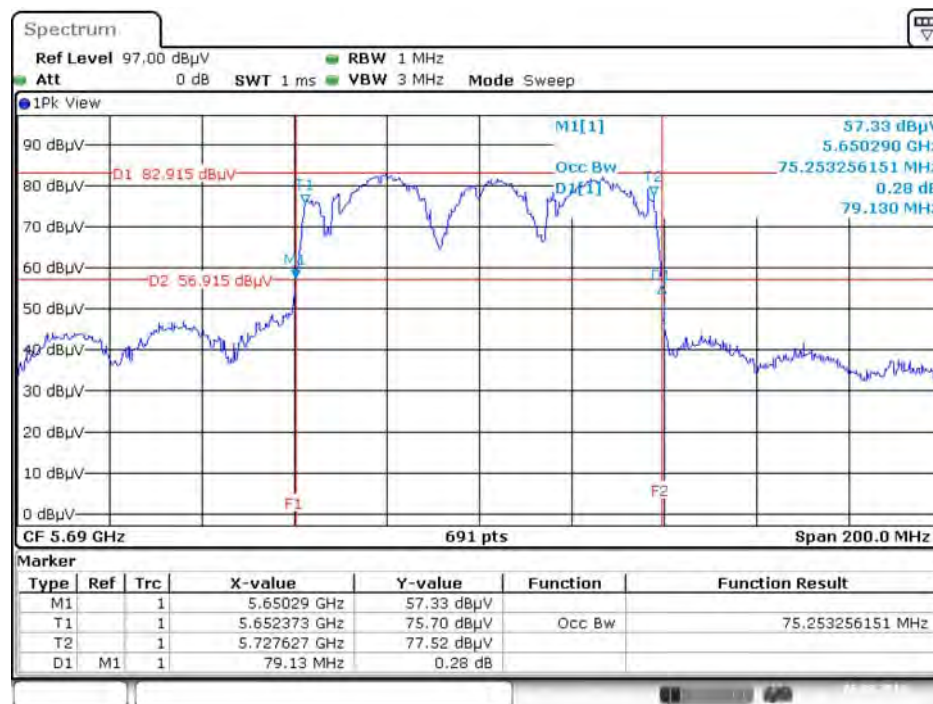
Date: 6.AUG.2016 15:14:32

Type 3

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz

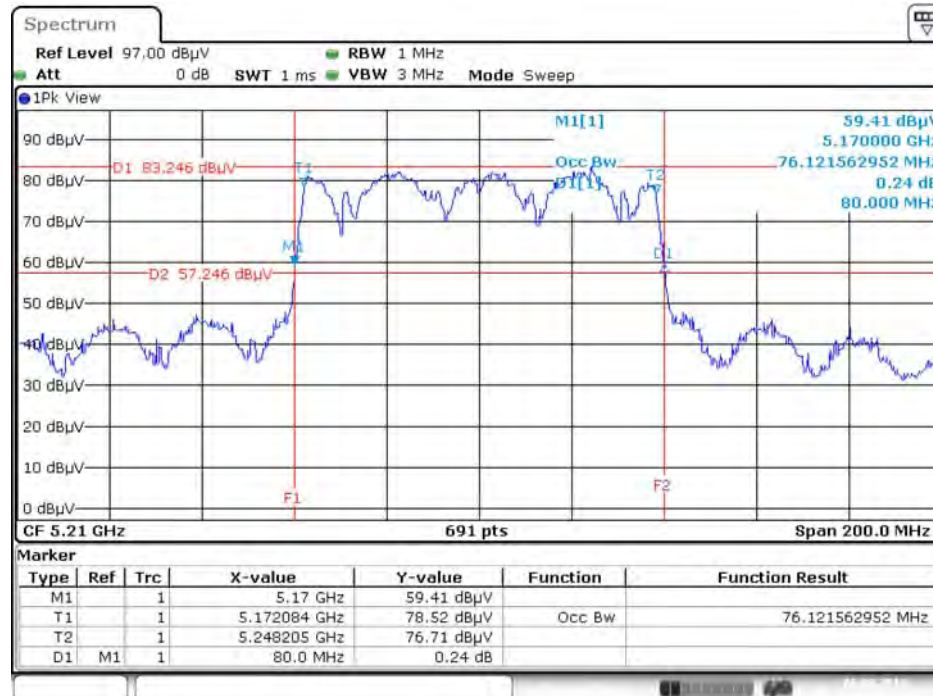


26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5690 MHz



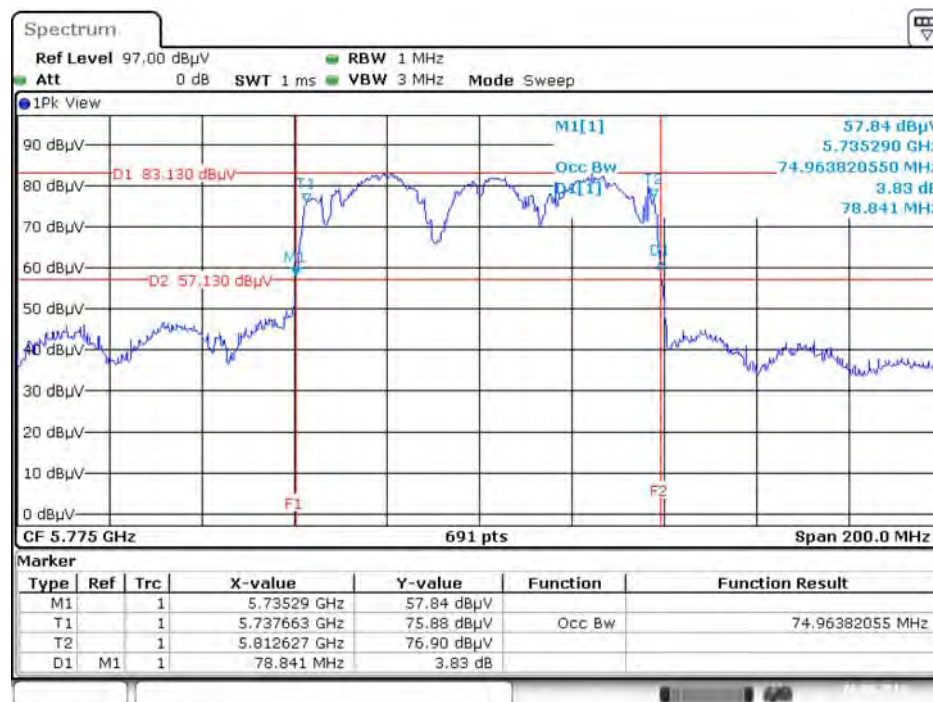
Type 4

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 6.AUG.2016 15:06:06

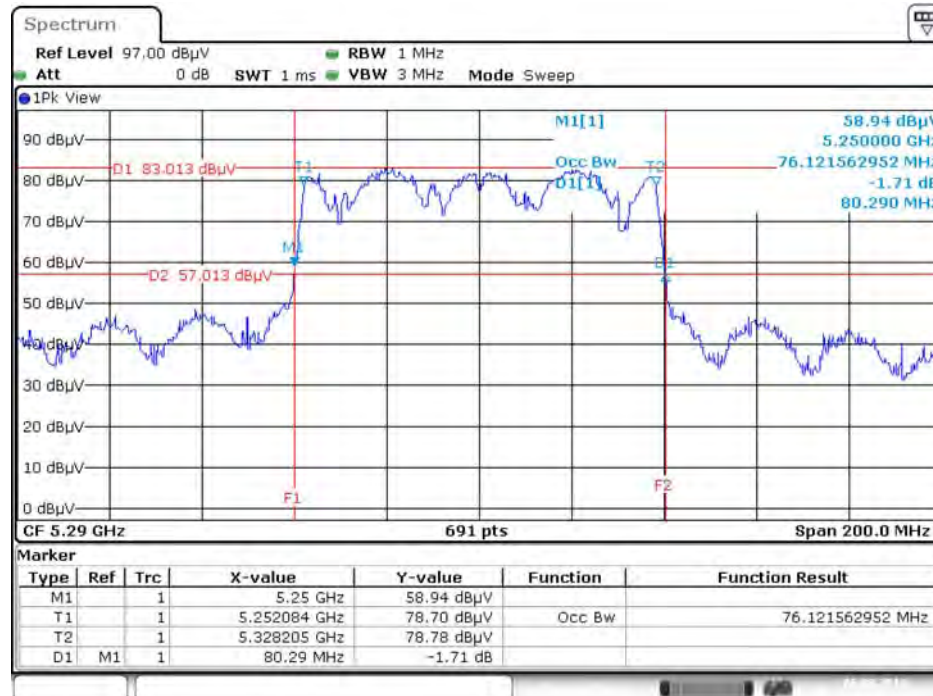
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz



Date: 6.AUG.2016 15:16:28

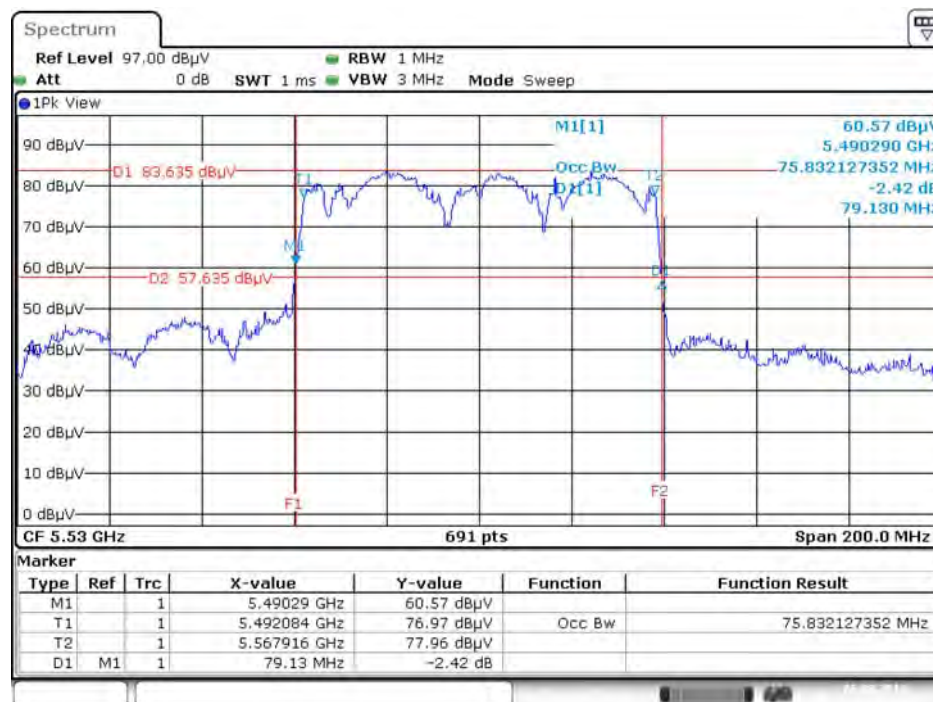
Type 5

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5290 MHz



Date: 6.AUG.2016 15:07:31

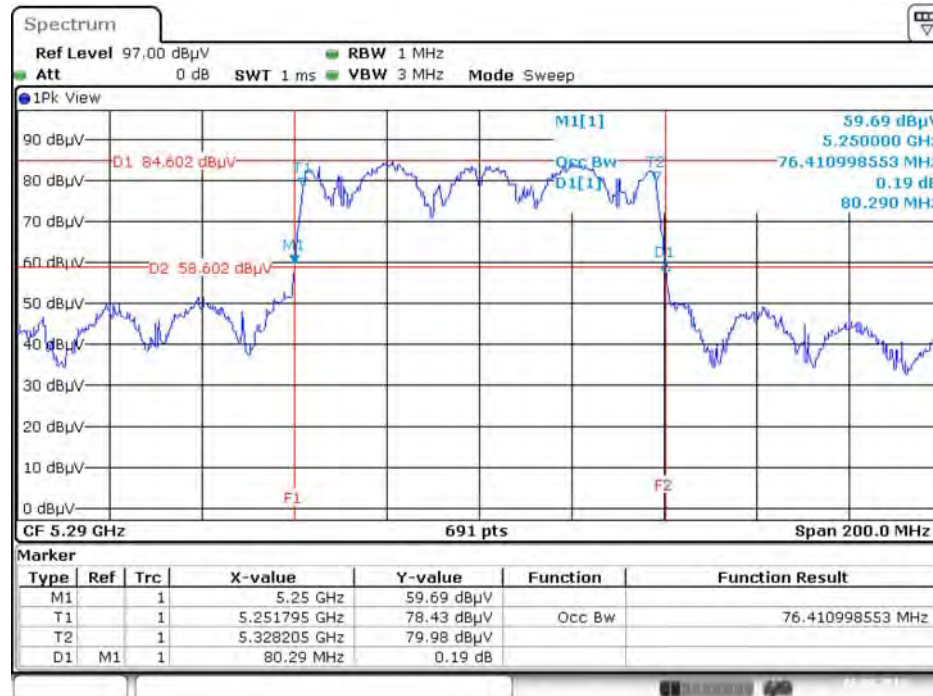
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5530 MHz



Date: 6.AUG.2016 15:11:37

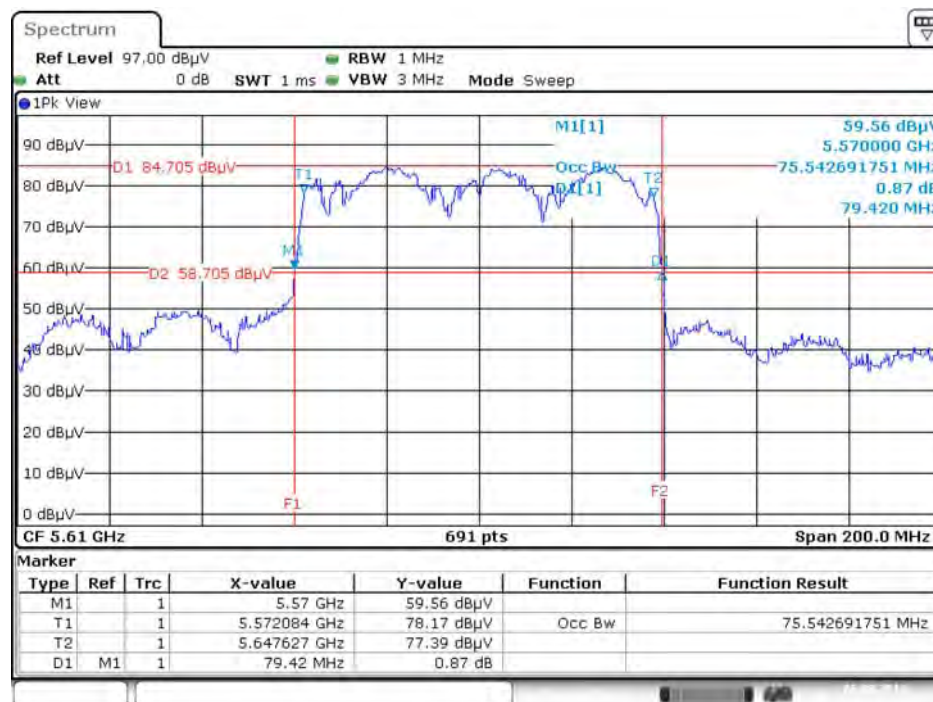
Type 6

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5290 MHz



Date: 6.AUG.2016 15:08:47

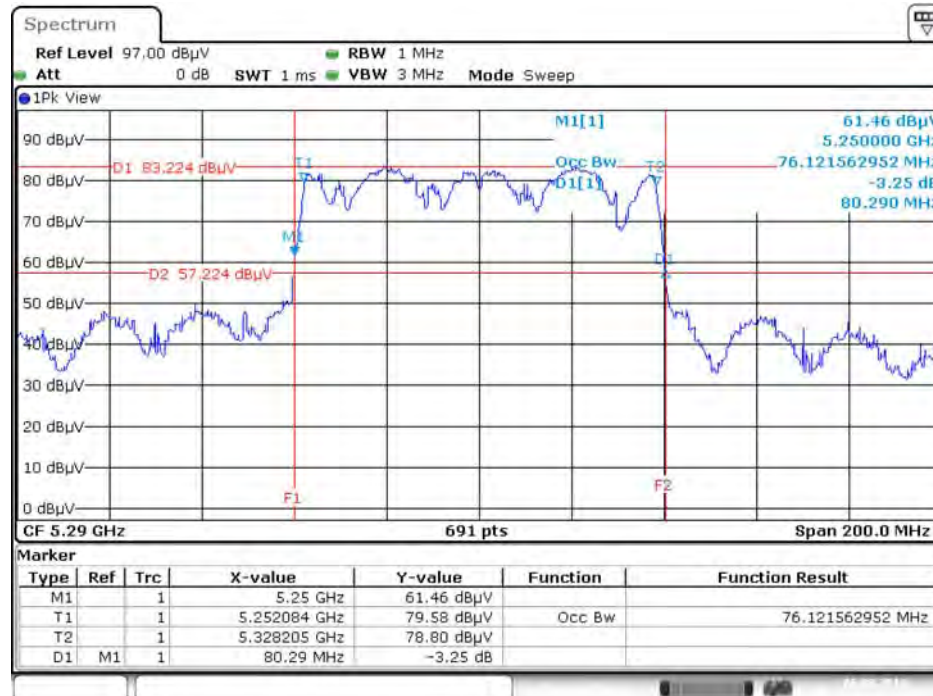
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5610 MHz



Date: 6.AUG.2016 15:13:55

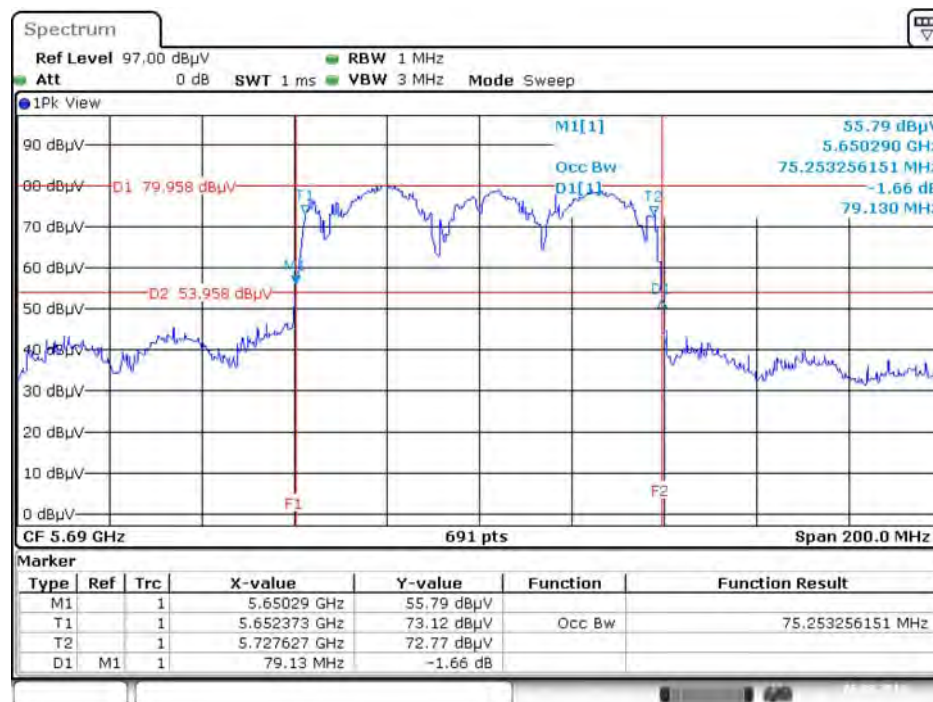
Type 7

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5290 MHz



Date: 6.AUG.2016 14:24:14

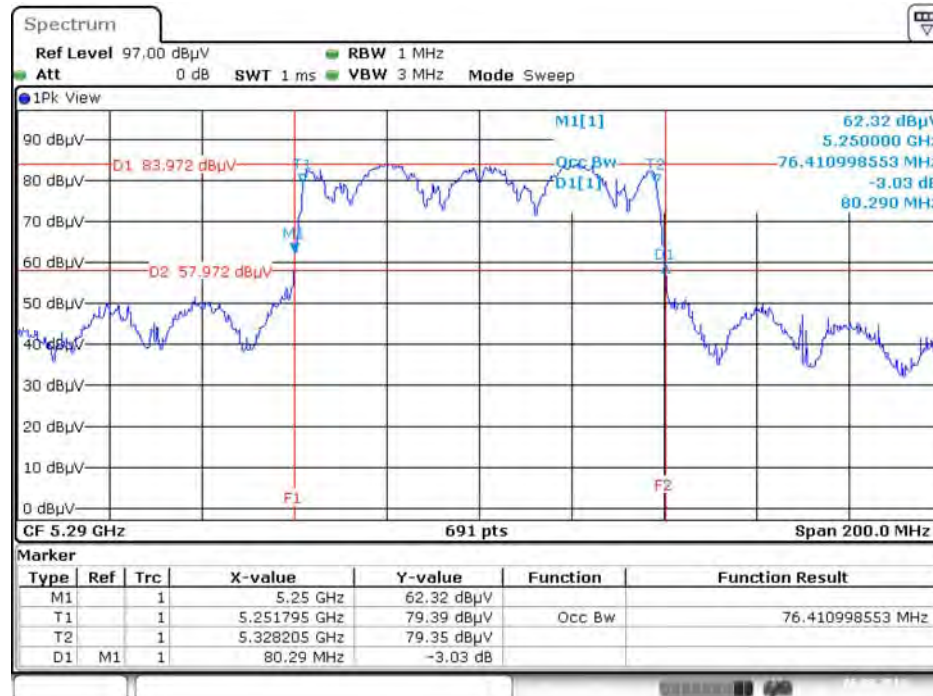
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5690 MHz



Date: 6.AUG.2016 10:21:54

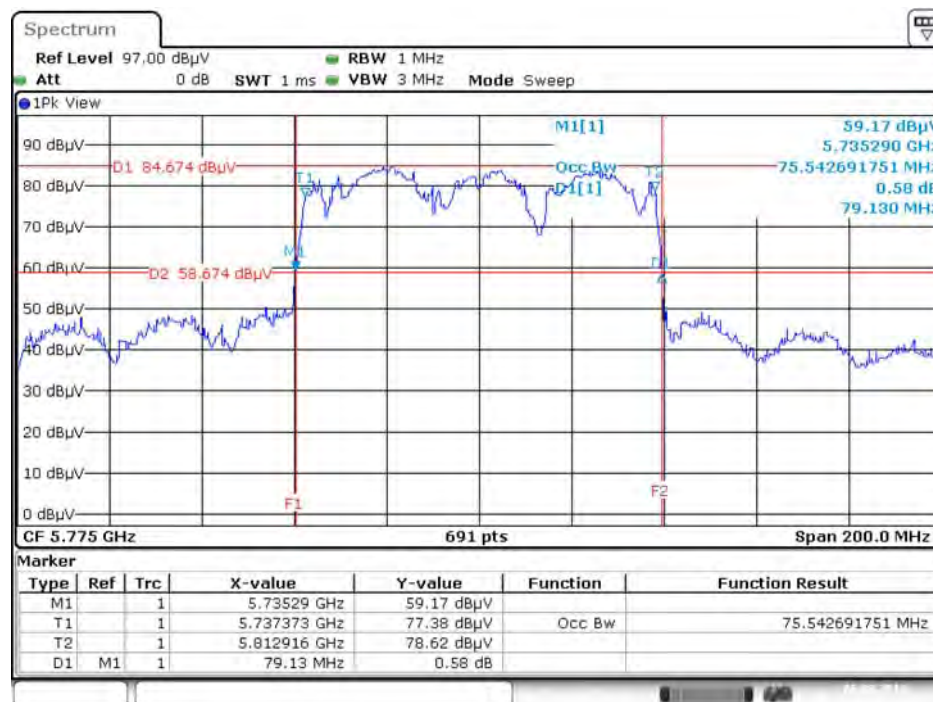
Type 8

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5290 MHz



Date: 6.AUG.2016 15:09:55

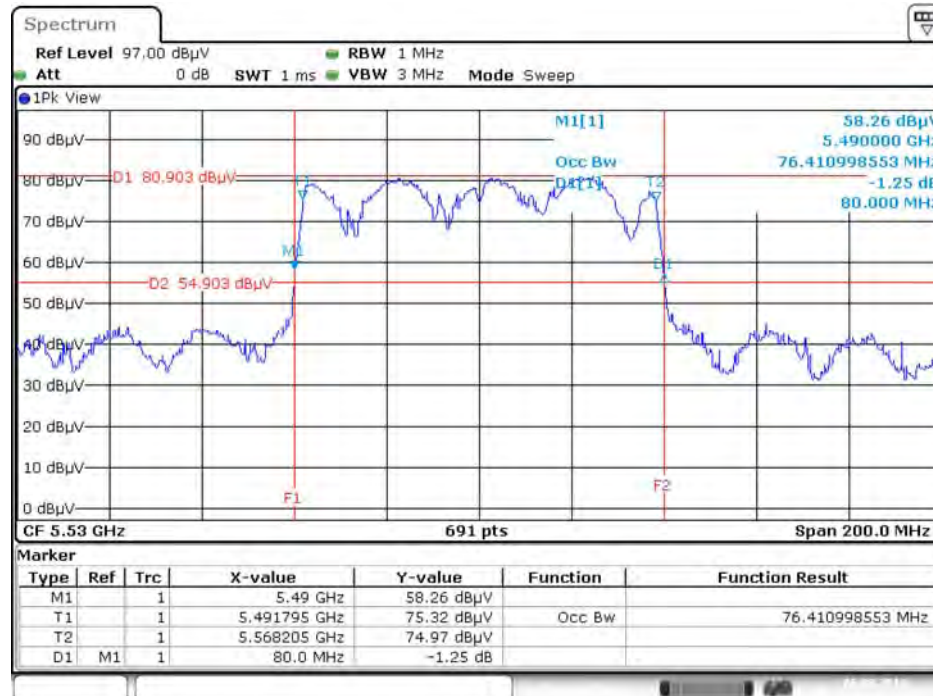
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz



Date: 6.AUG.2016 15:17:08

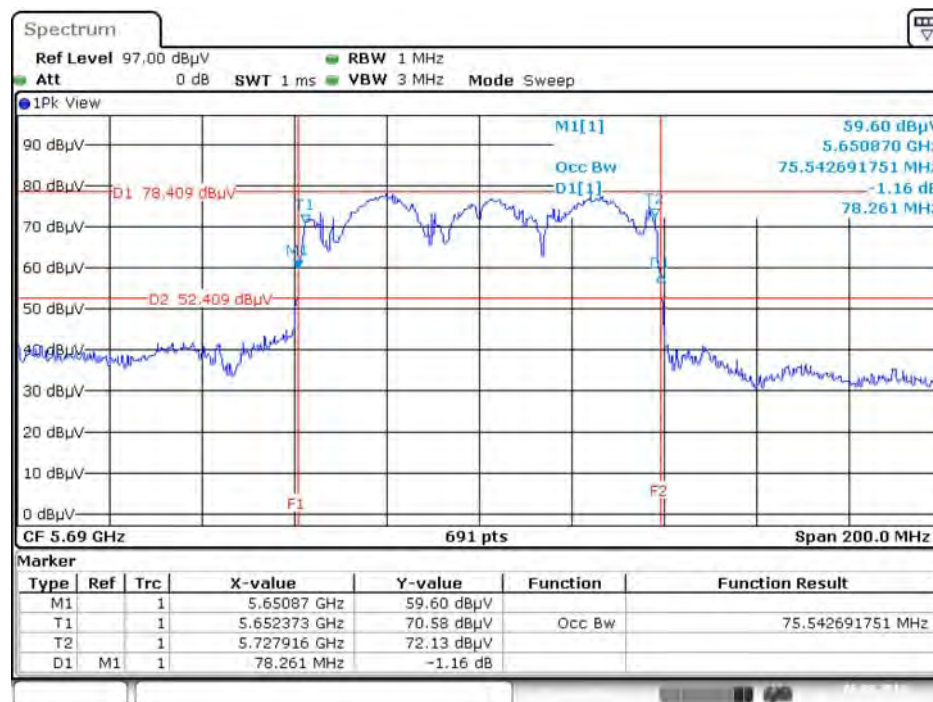
Type 9

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5530 MHz



Date: 6.AUG.2016 14:22:14

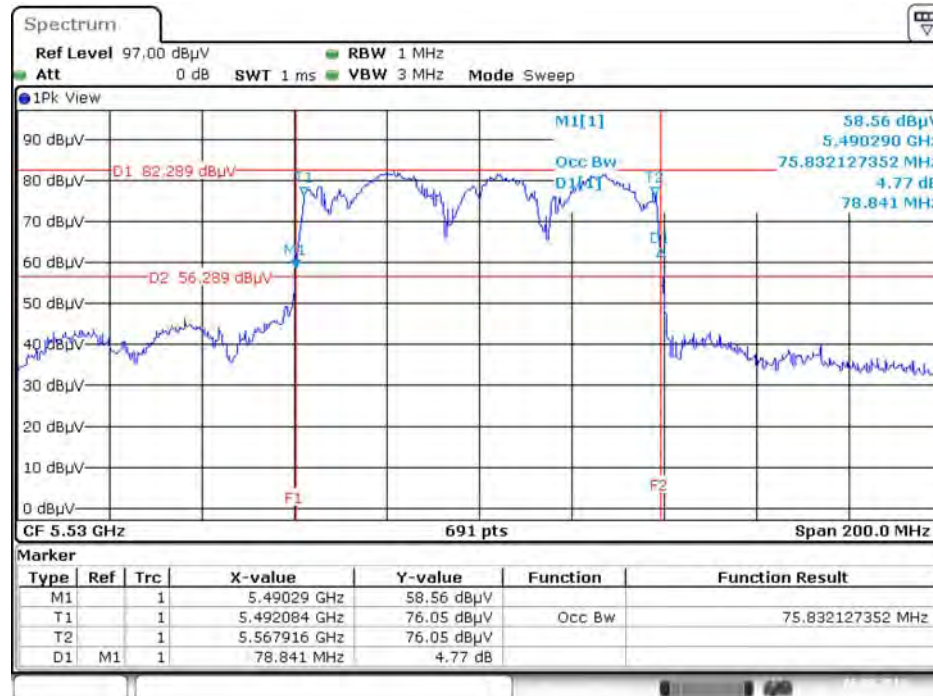
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5690 MHz



Date: 6.AUG.2016 10:29:22

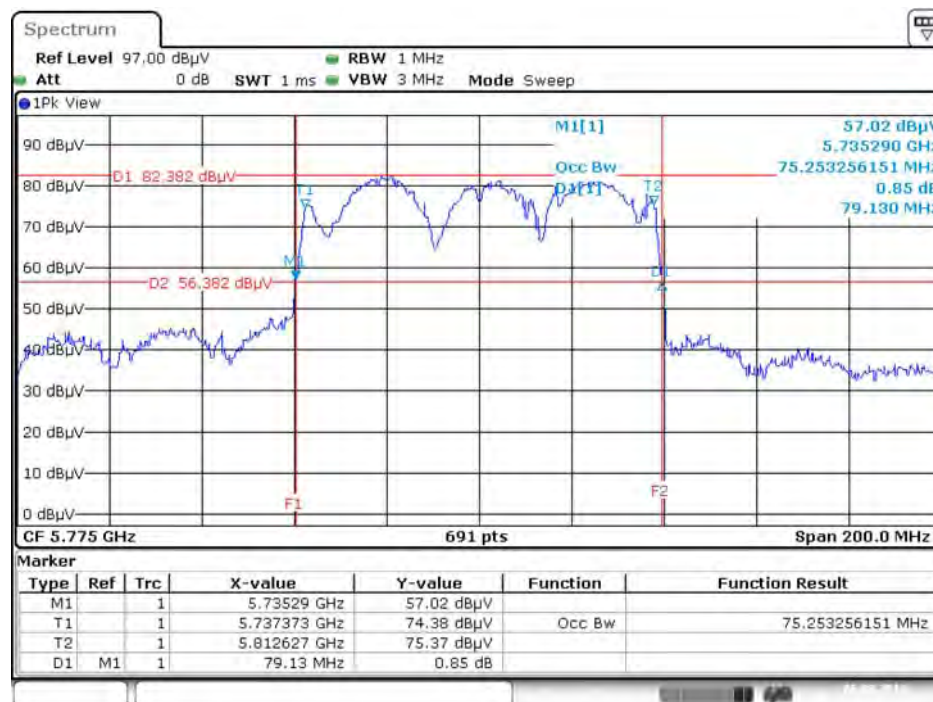
Type 10

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5530 MHz



Date: 6.AUG.2016 15:12:55

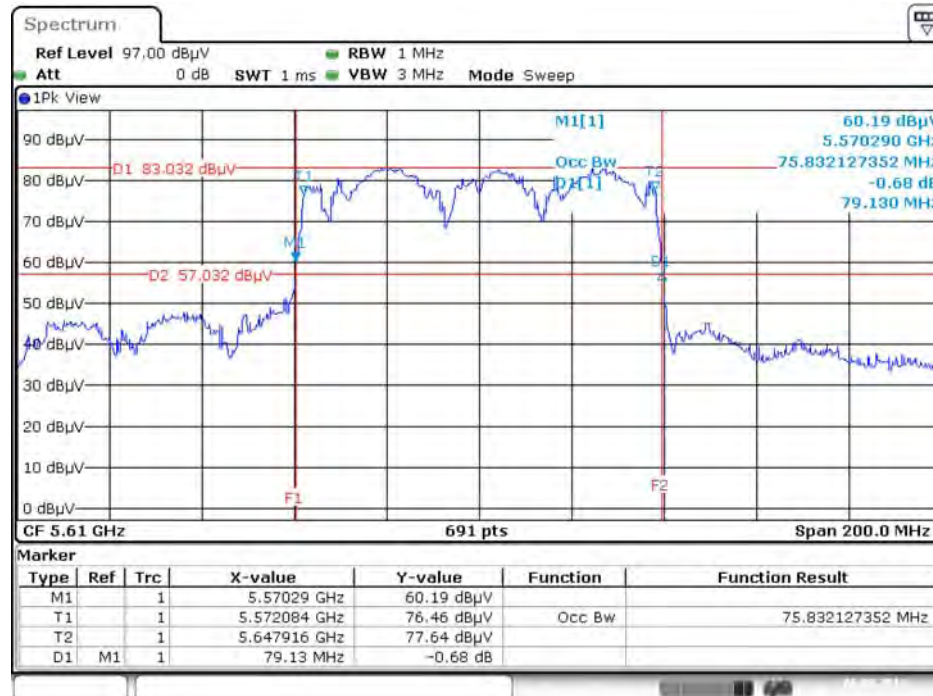
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz



Date: 6.AUG.2016 15:17:49

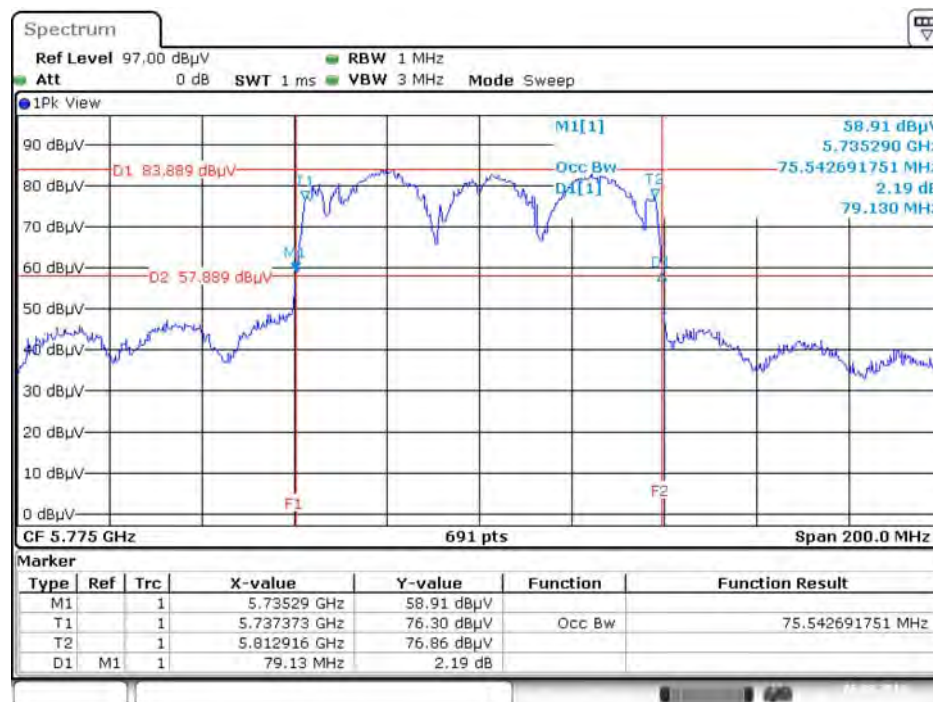
Type 11

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5610 MHz



Date: 6.AUG.2016 15:15:06

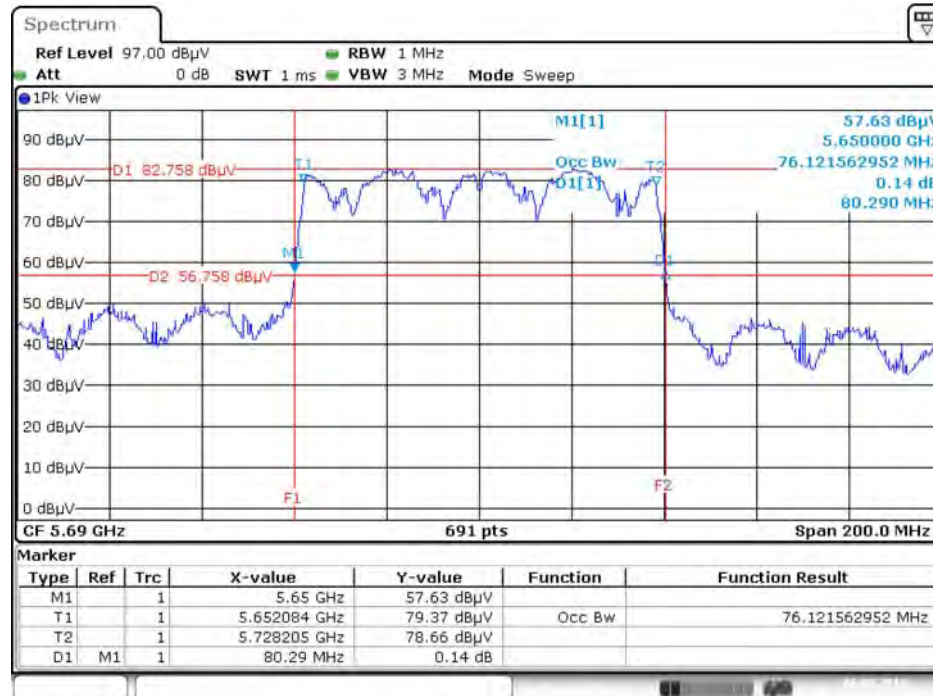
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz



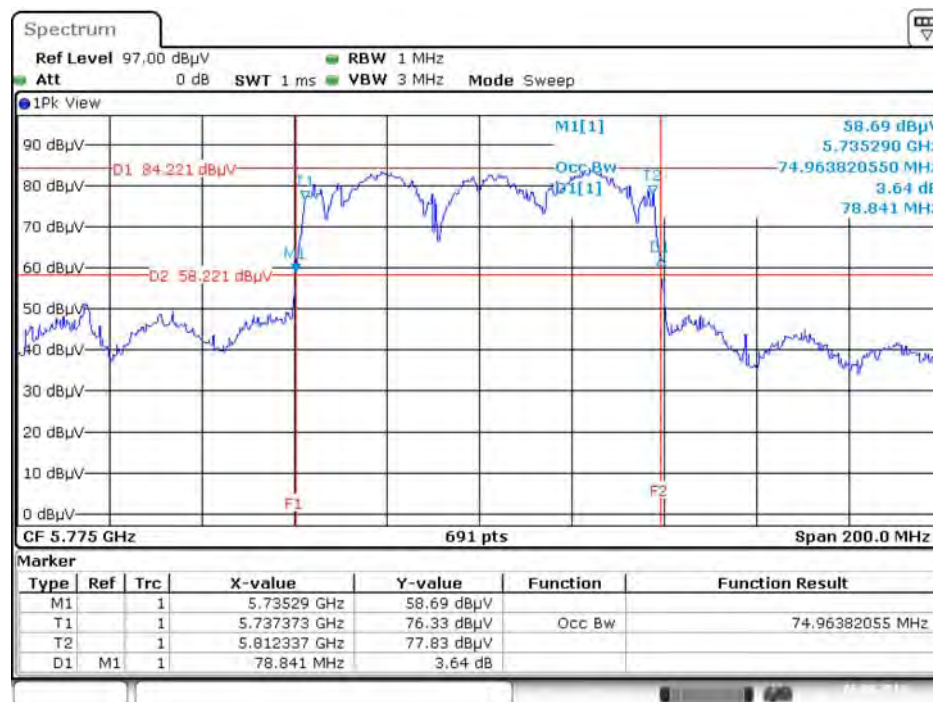
Date: 6.AUG.2016 15:18:51

Type 12

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5690 MHz



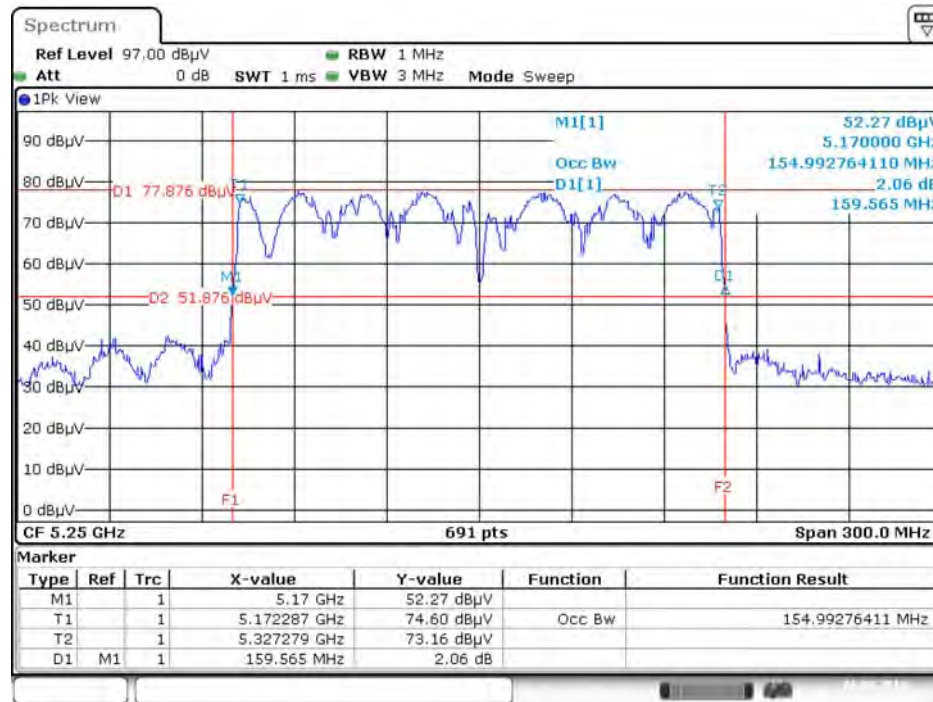
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz



Type 13

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 + Chain 3 + Chain 4 /

5210 MHz+5290 MHz

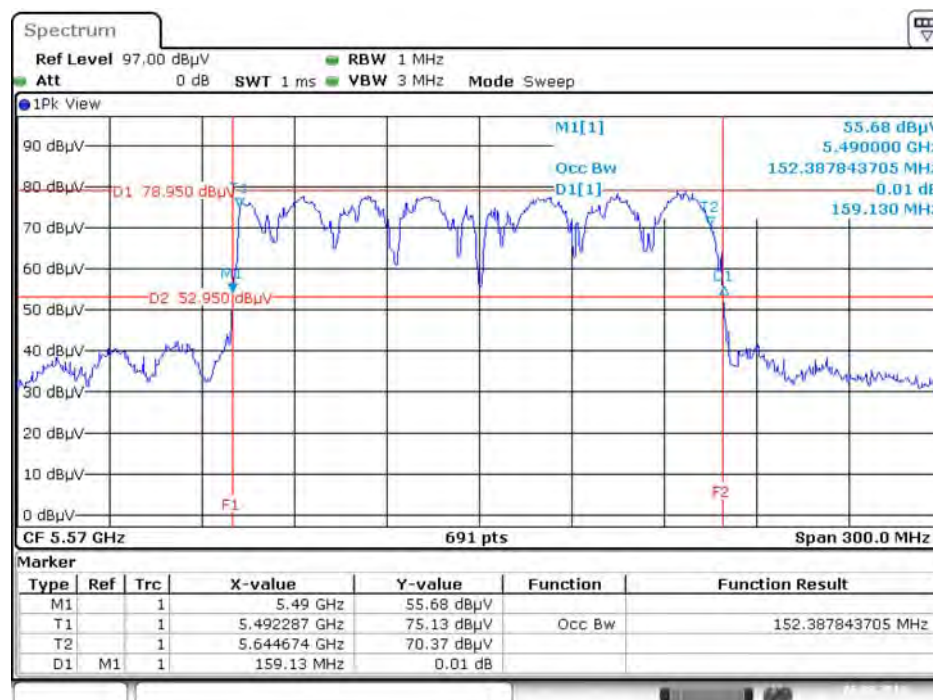


Date: 6.AUG.2016 14:13:30

Type 14

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 + Chain 3 + Chain 4 /

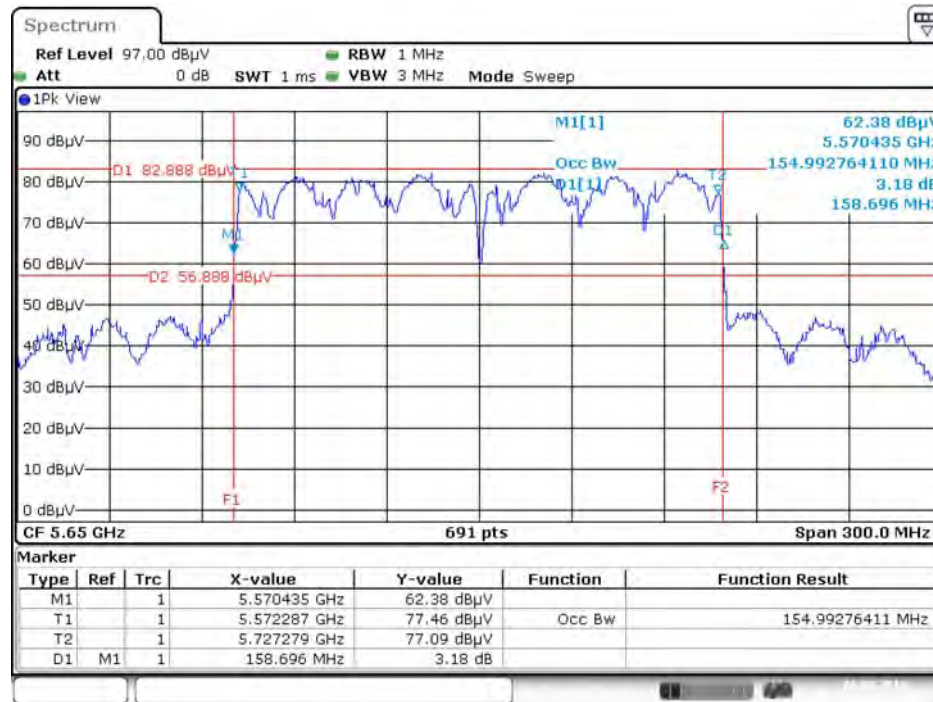
5530 MHz+5610 MHz



Date: 6.AUG.2016 14:10:43

Type 15

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 + Chain 3 + Chain 4 /
5610 MHz+5690 MHz

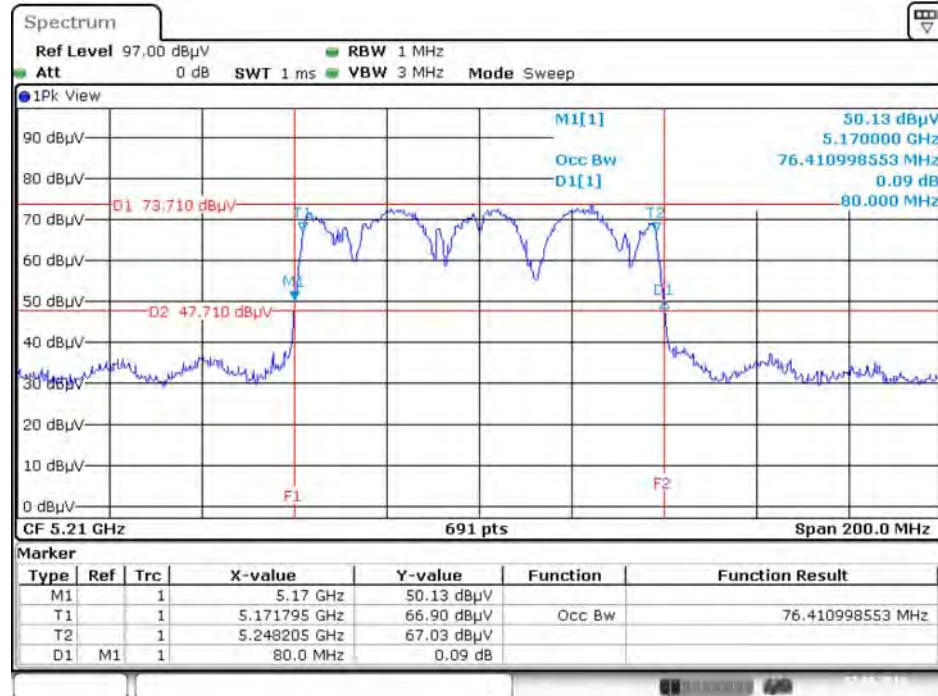


Date: 6.AUG.2016 14:32:20

For outdoor use master B1

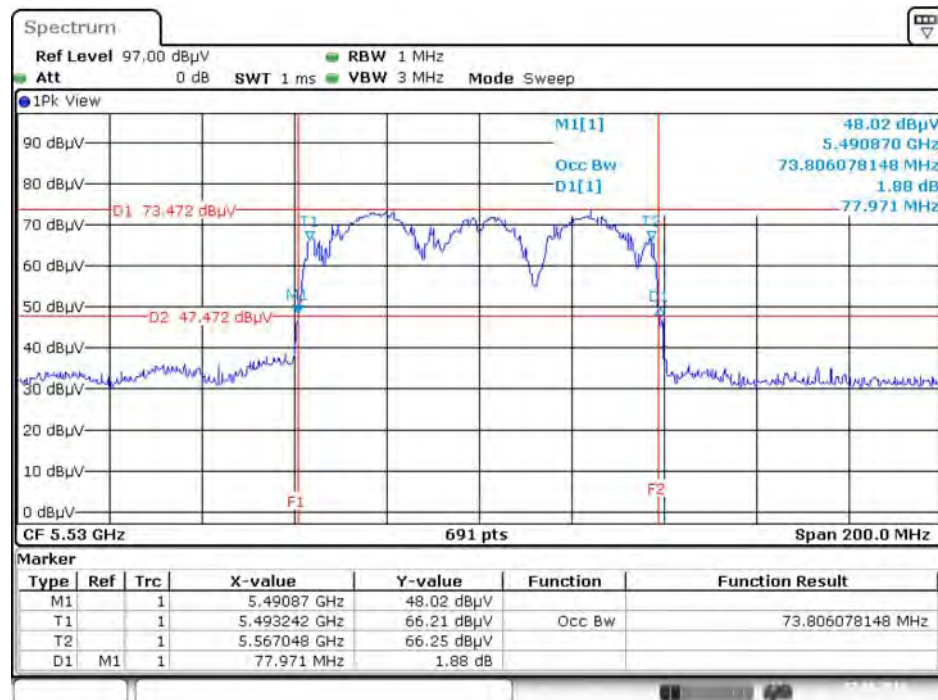
Type 1

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 7.AUG.2016 11:28:41

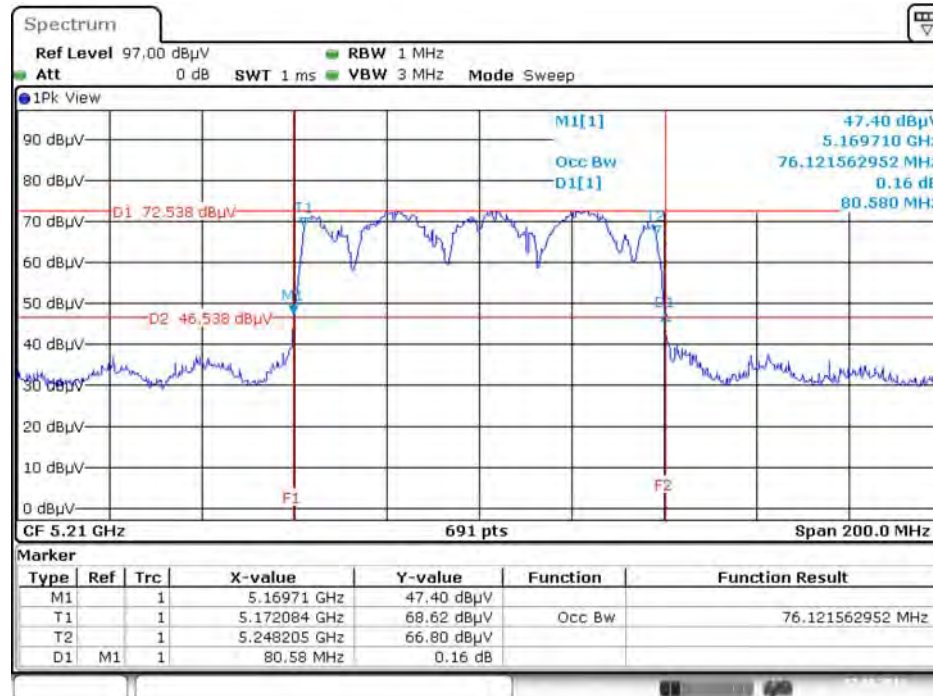
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5530 MHz



Date: 7.AUG.2016 11:40:04

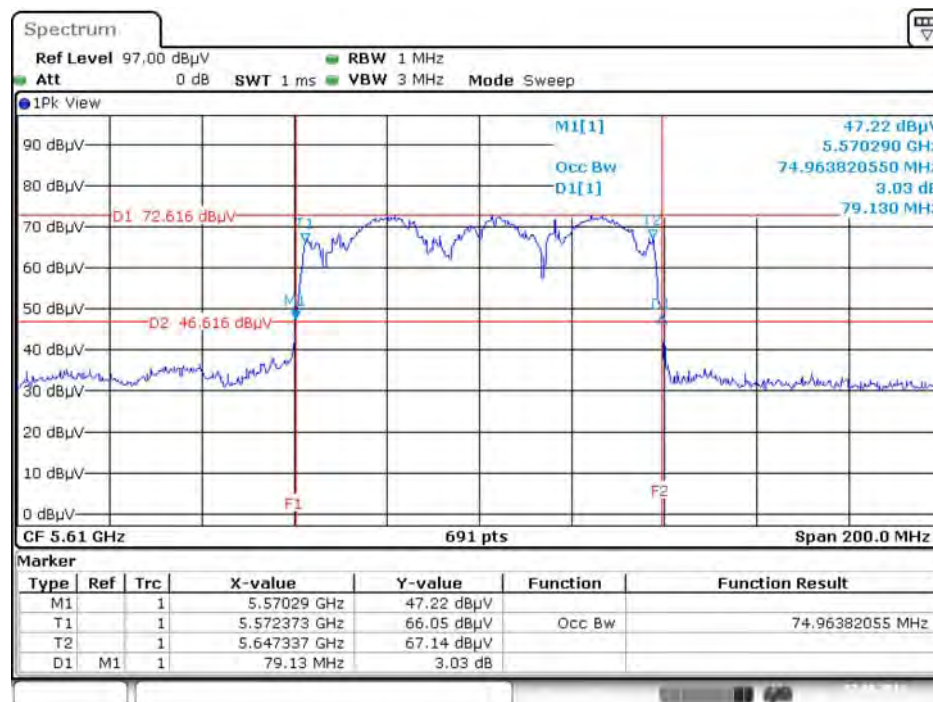
Type 2

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 7.AUG.2016 11:37:08

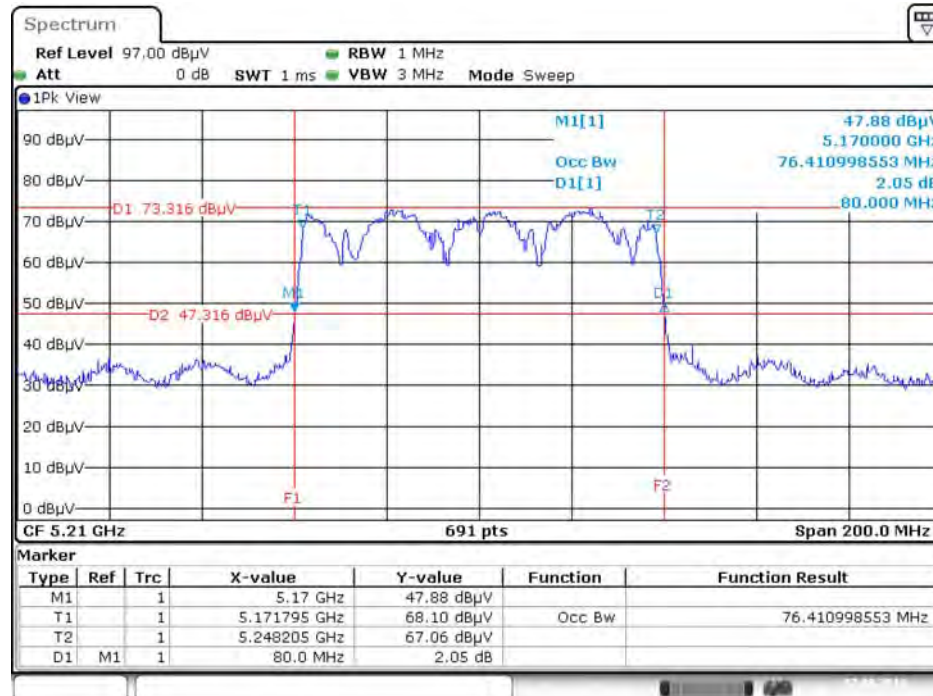
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5610 MHz



Date: 7.AUG.2016 11:42:07

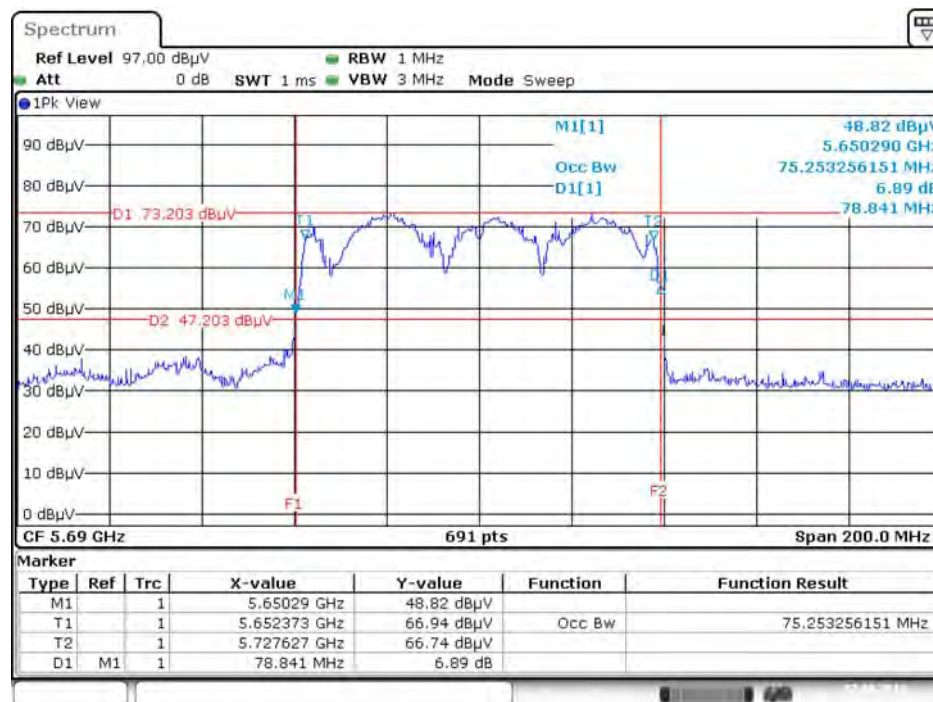
Type 3

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 7.AUG.2016 11:39:29

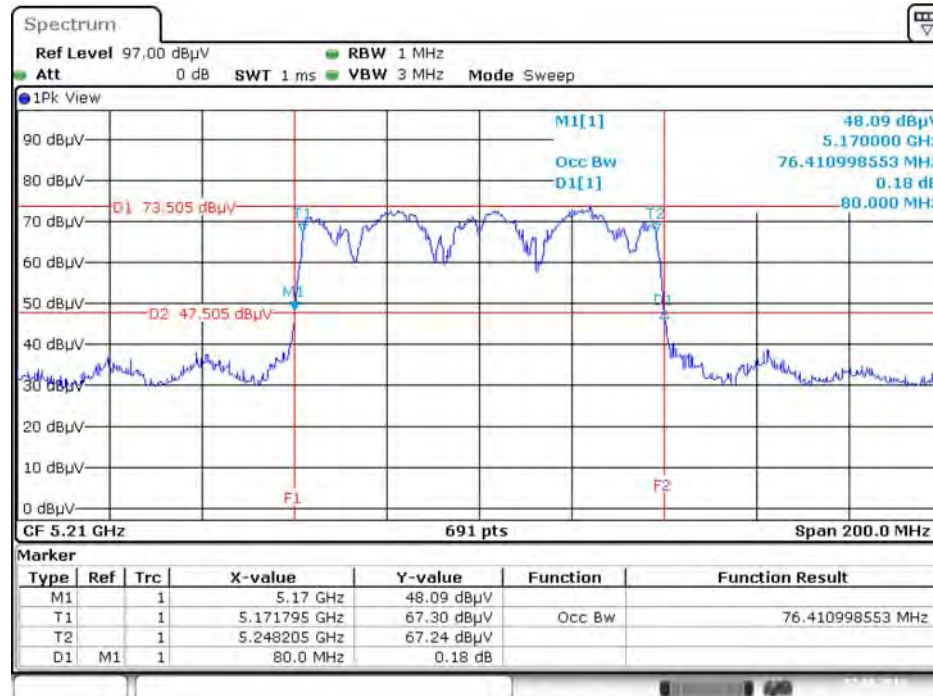
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5690 MHz



Date: 7.AUG.2016 11:43:39

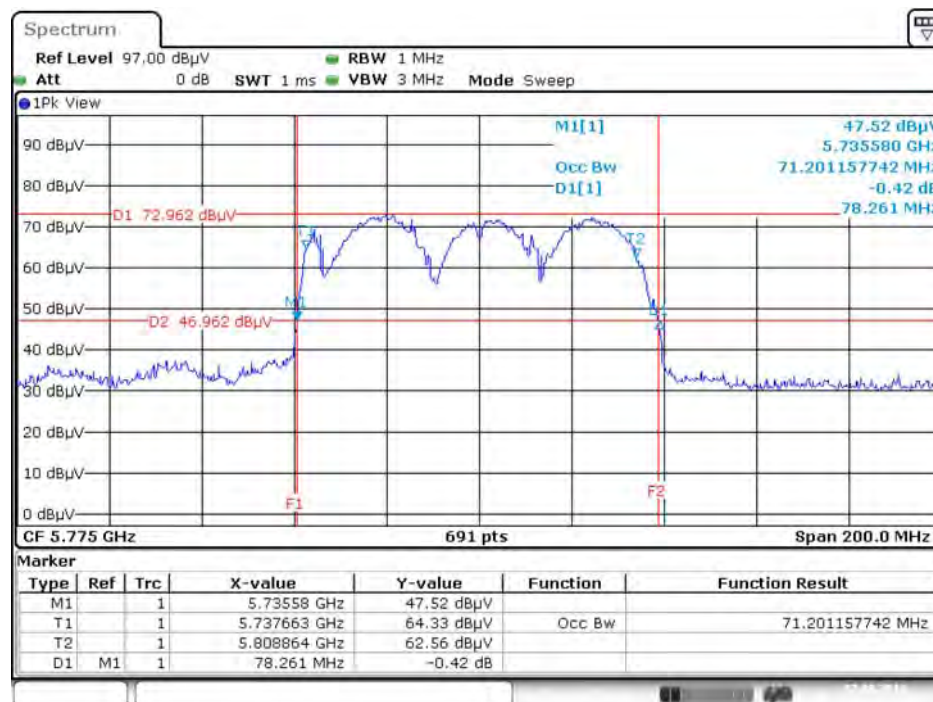
Type 4

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 7.AUG.2016 11:37:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz

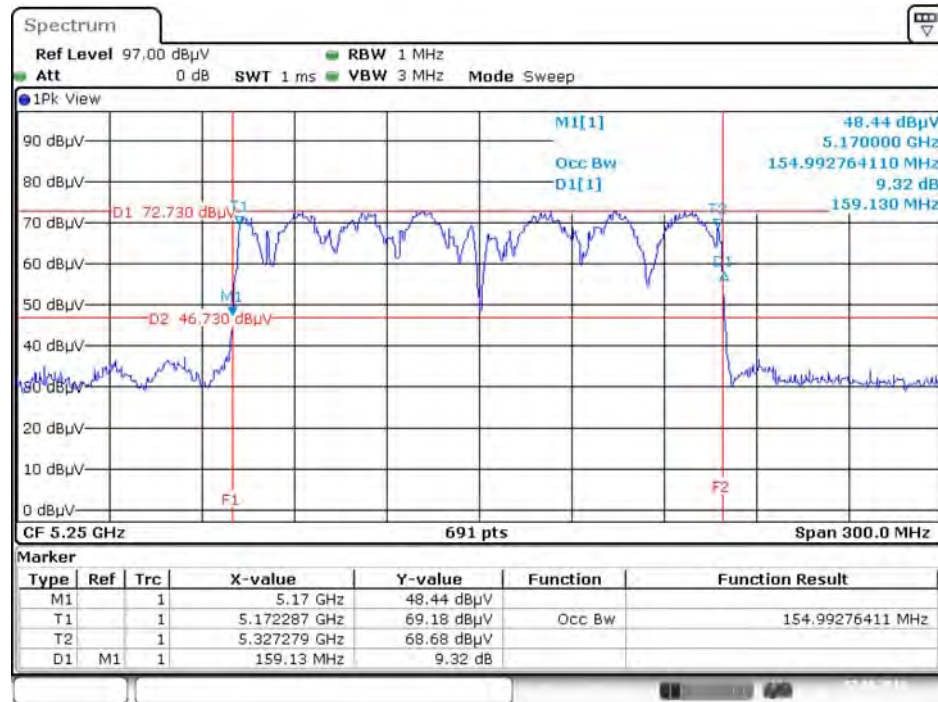


Date: 7.AUG.2016 11:52:00

Type 13

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 + Chain 3 + Chain 4 /

5210 MHz+5290 MHz



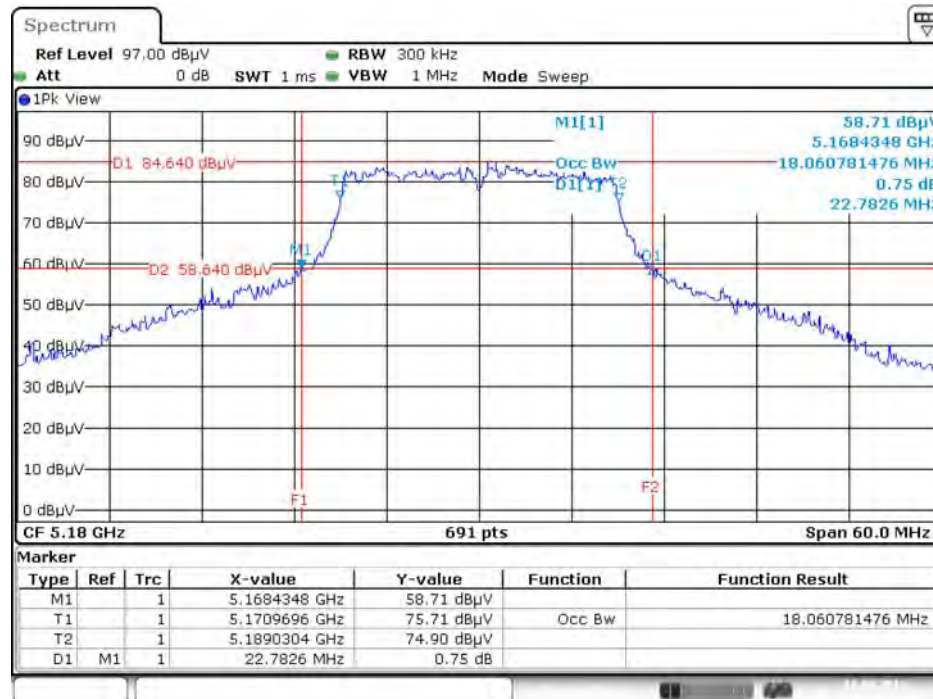
Date: 7.AUG.2016 11:52:47

For beamforming mode

For indoor use master B1 and indoor, outdoor use B2~B4

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 /

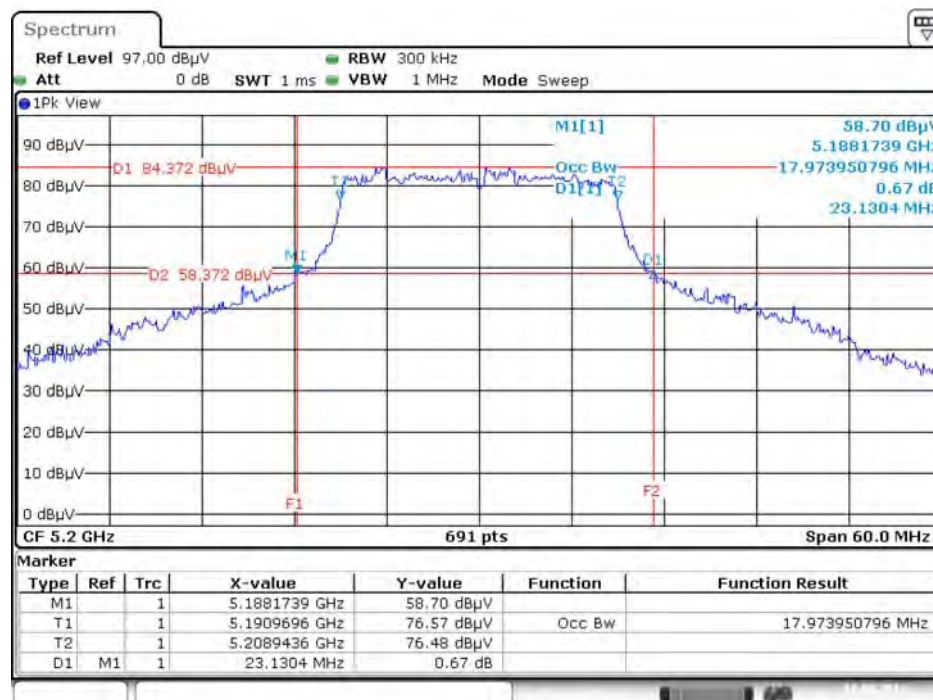
Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5180 MHz



Date: 10.AUG.2016 00:06:04

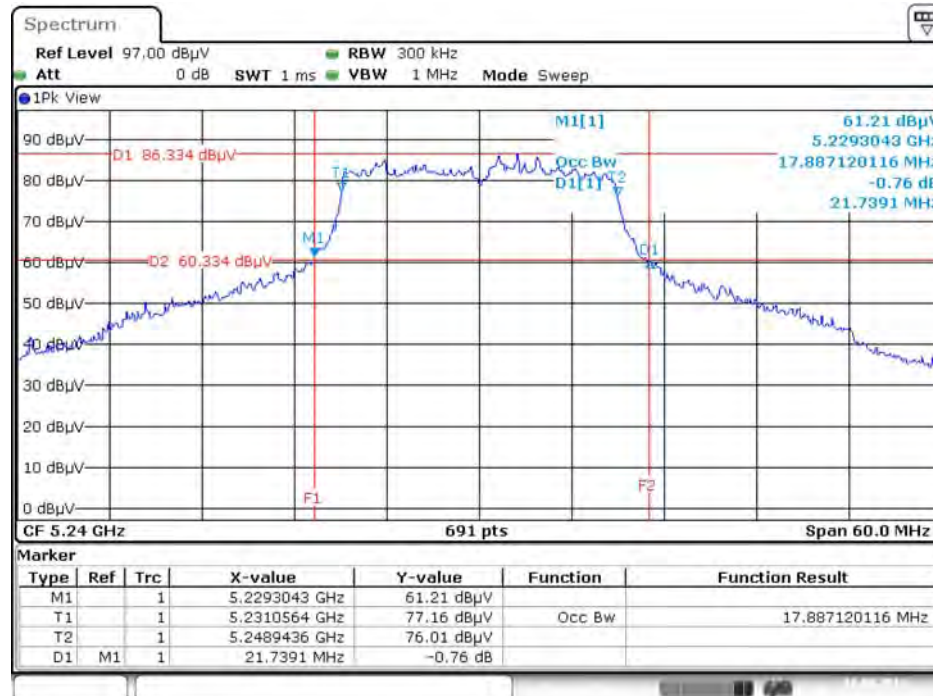
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 /

Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5200 MHz



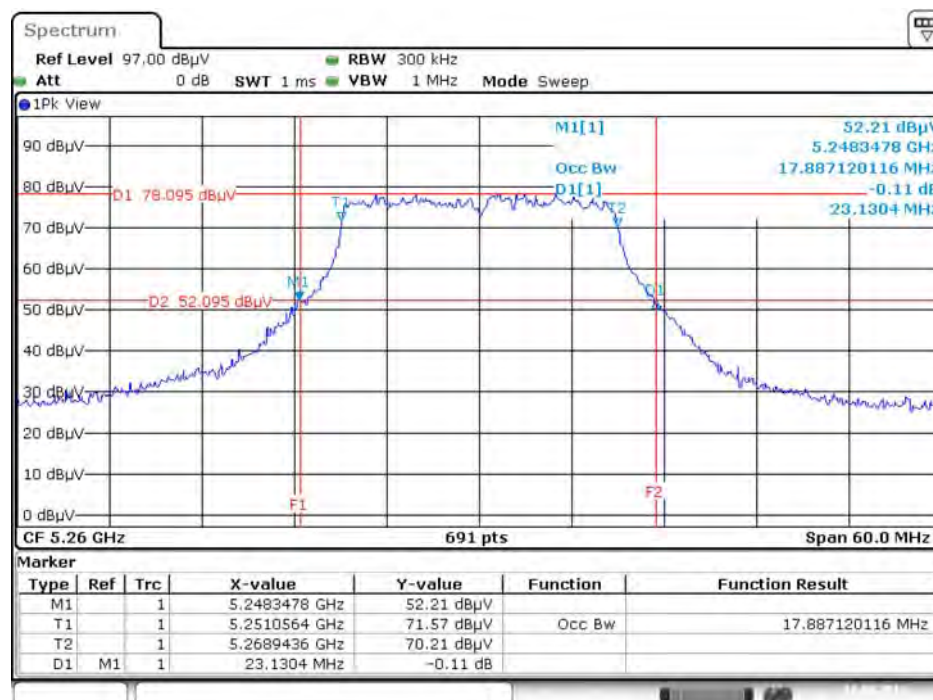
Date: 10.AUG.2016 00:07:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5240 MHz



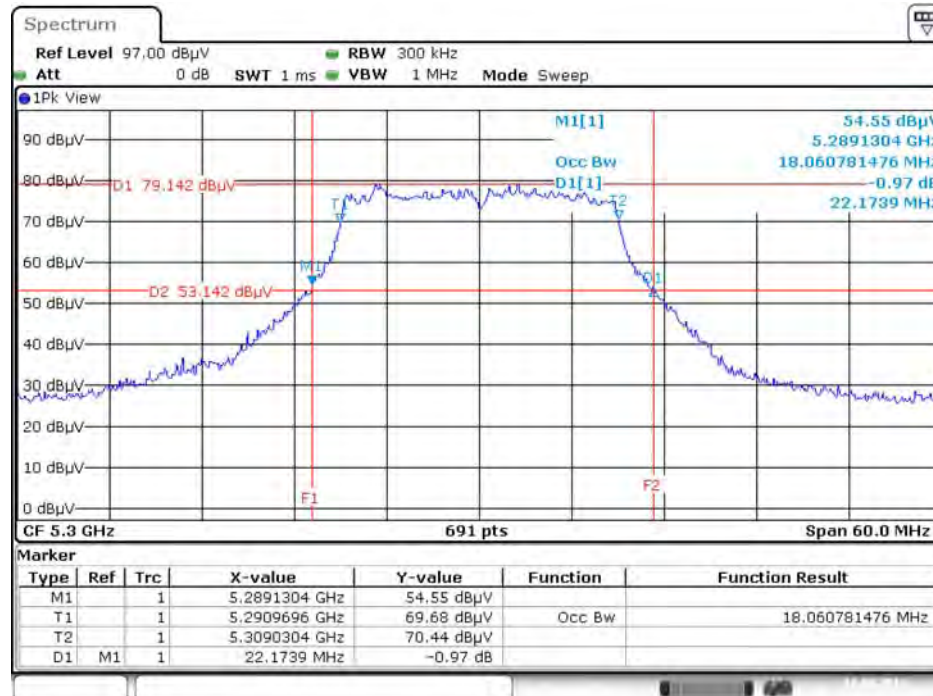
Date: 10.AUG.2016 00:12:11

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



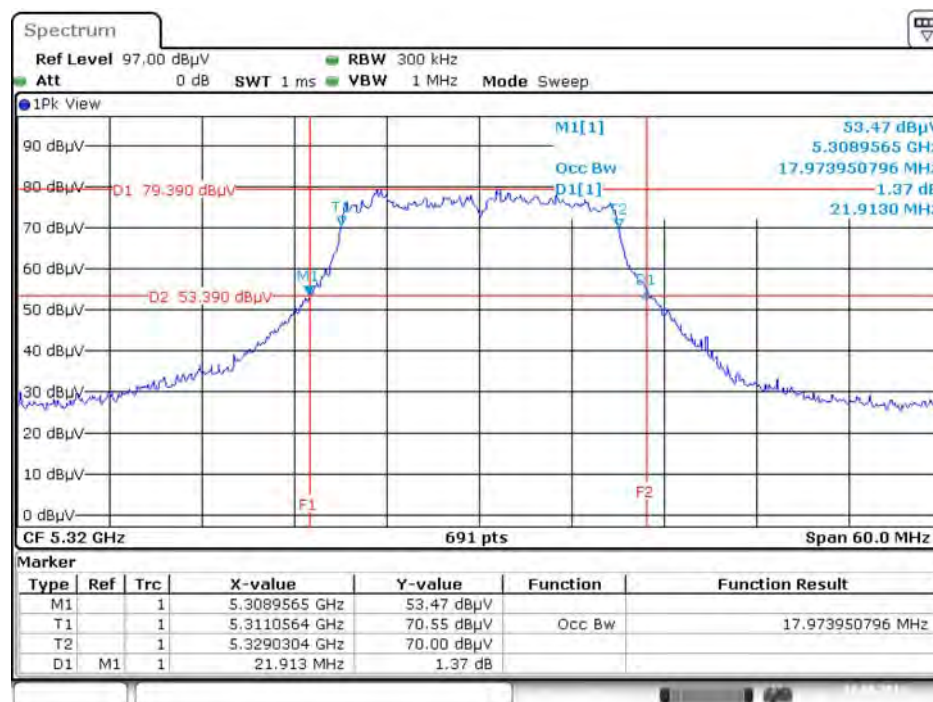
Date: 10.AUG.2016 00:14:14

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



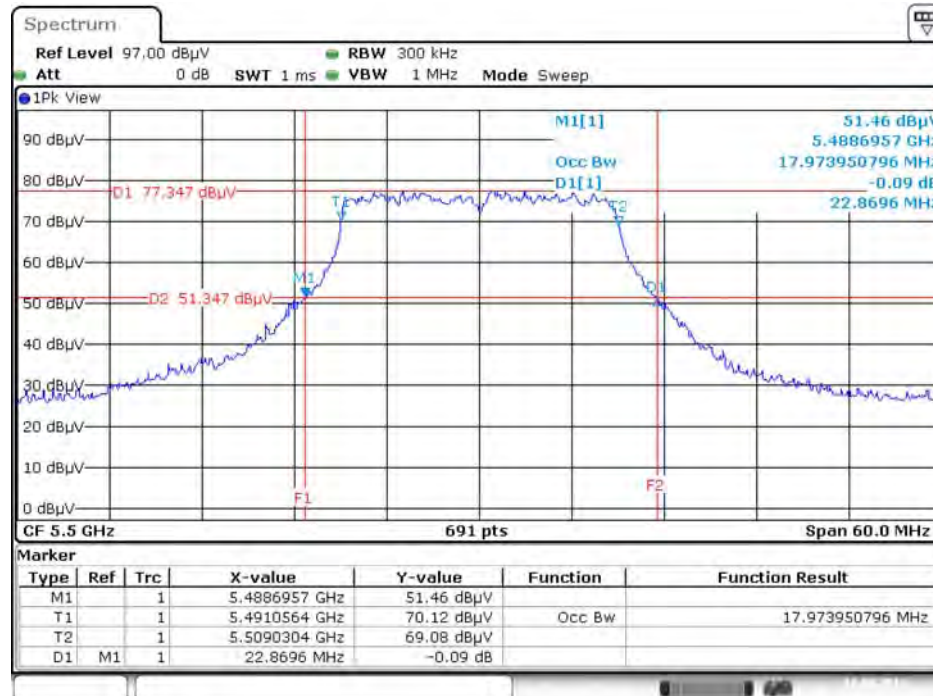
Date: 10.AUG.2016 00:15:46

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



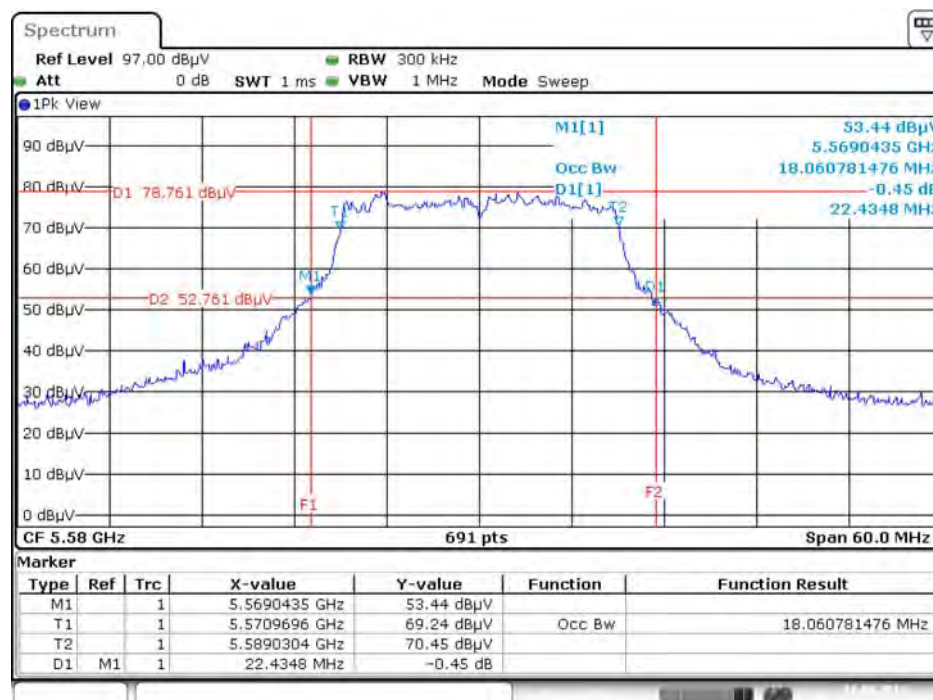
Date: 10.AUG.2016 00:17:00

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



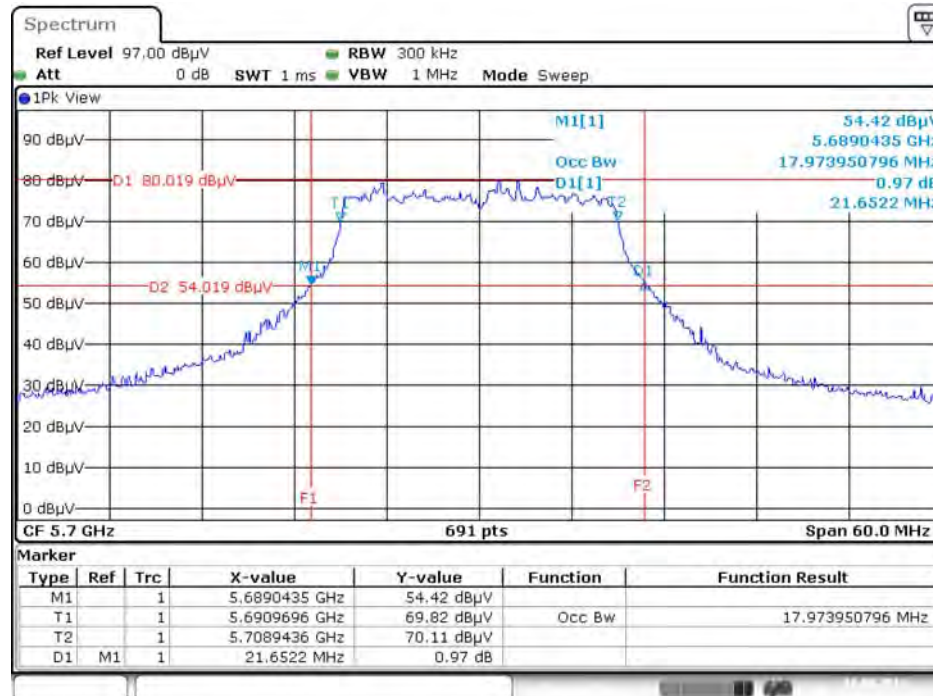
Date: 10.AUG.2016 00:18:30

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



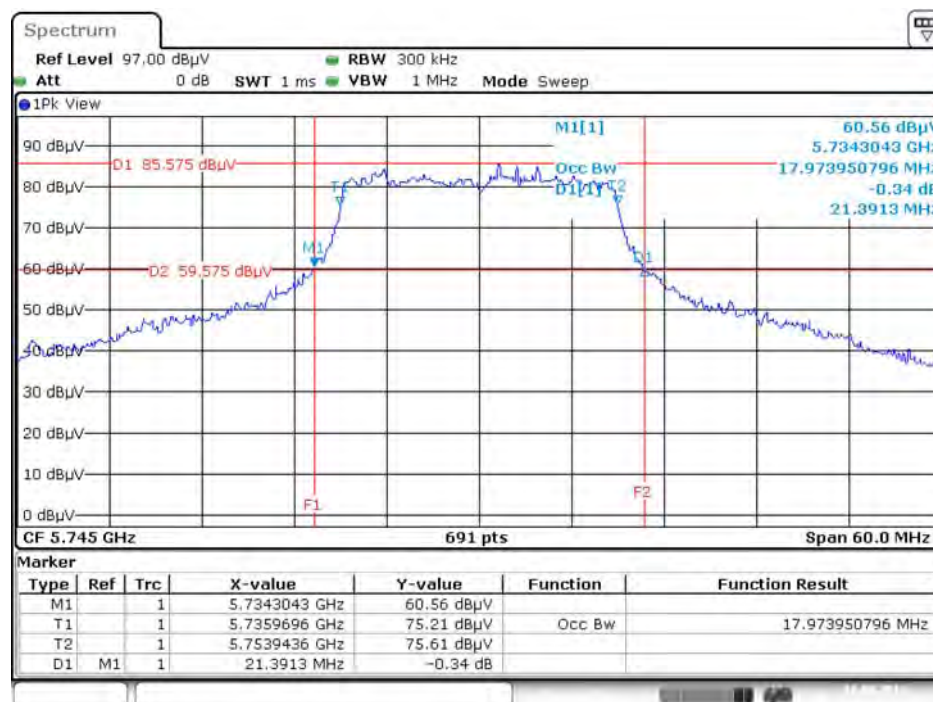
Date: 10.AUG.2016 00:19:45

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



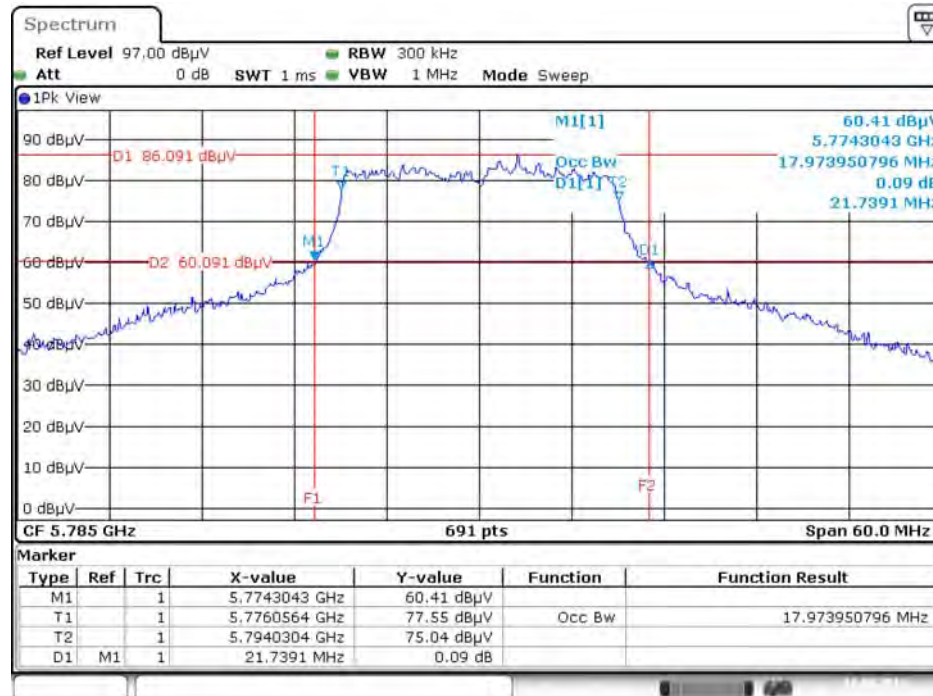
Date: 10.AUG.2016 00:21:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5745 MHz



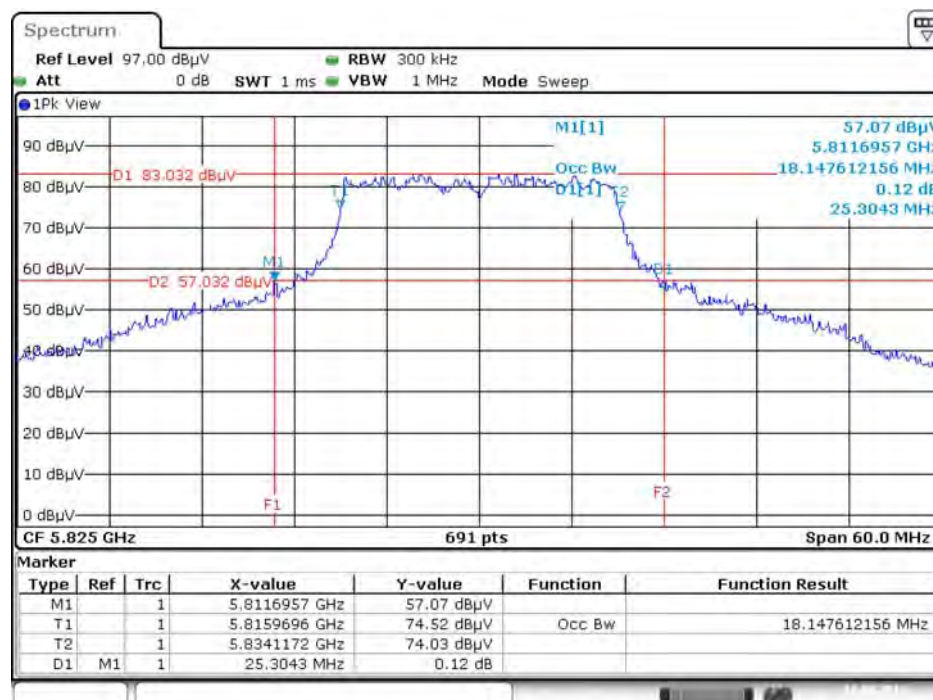
Date: 10.AUG.2016 00:23:07

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5785 MHz



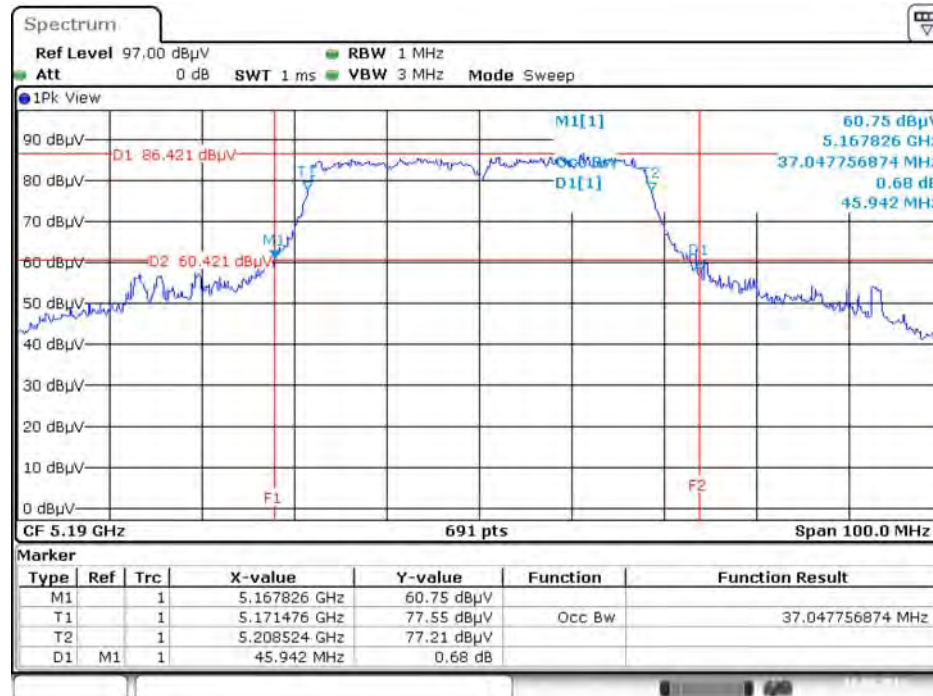
Date: 10.AUG.2016 00:24:49

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5825 MHz



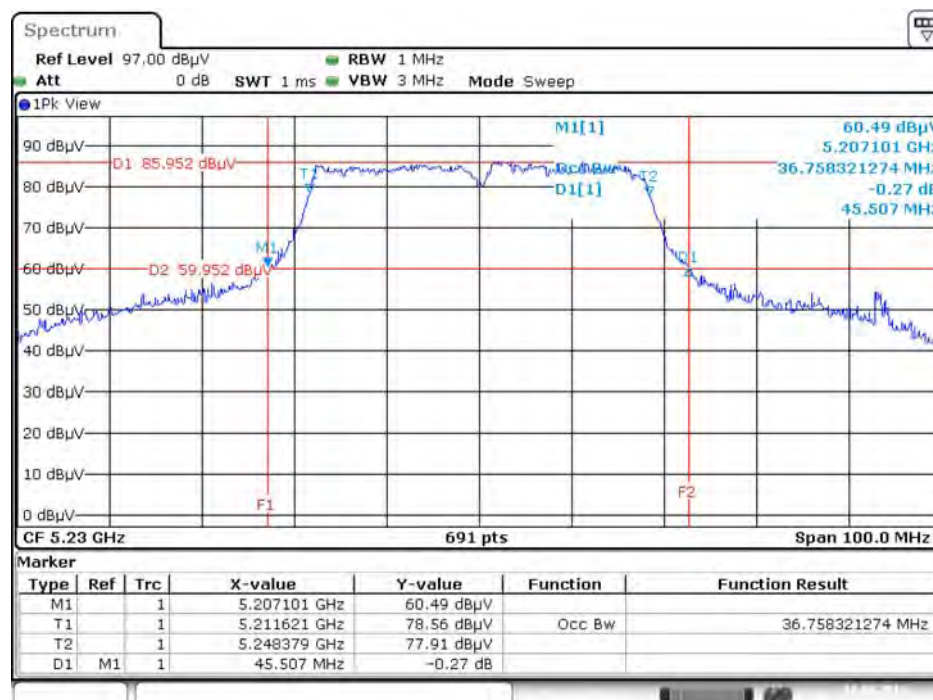
Date: 10.AUG.2016 00:26:53

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5190 MHz



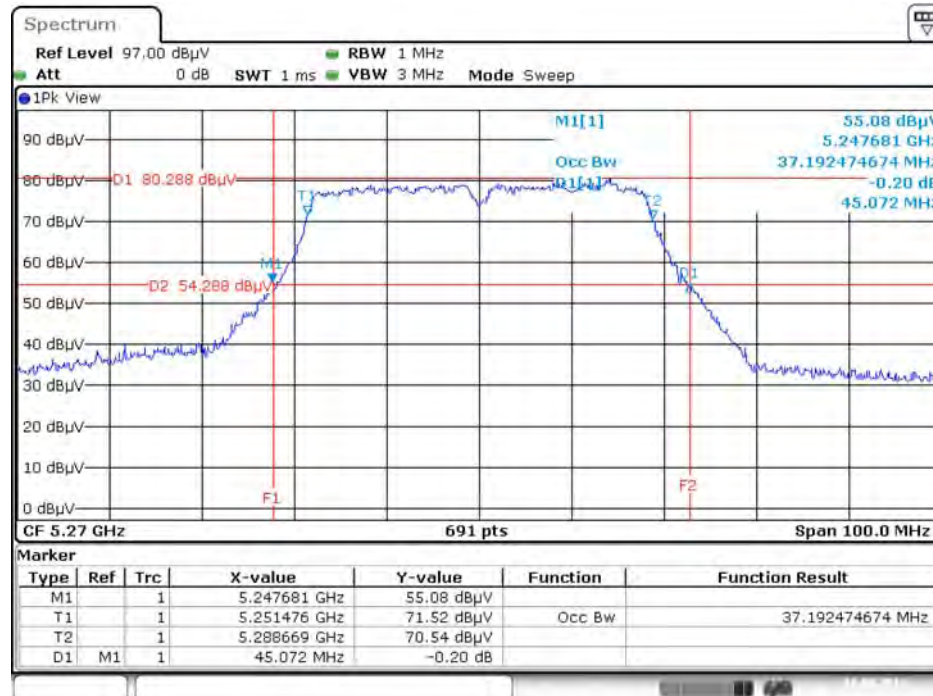
Date: 10.AUG.2016 01:08:46

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5230 MHz



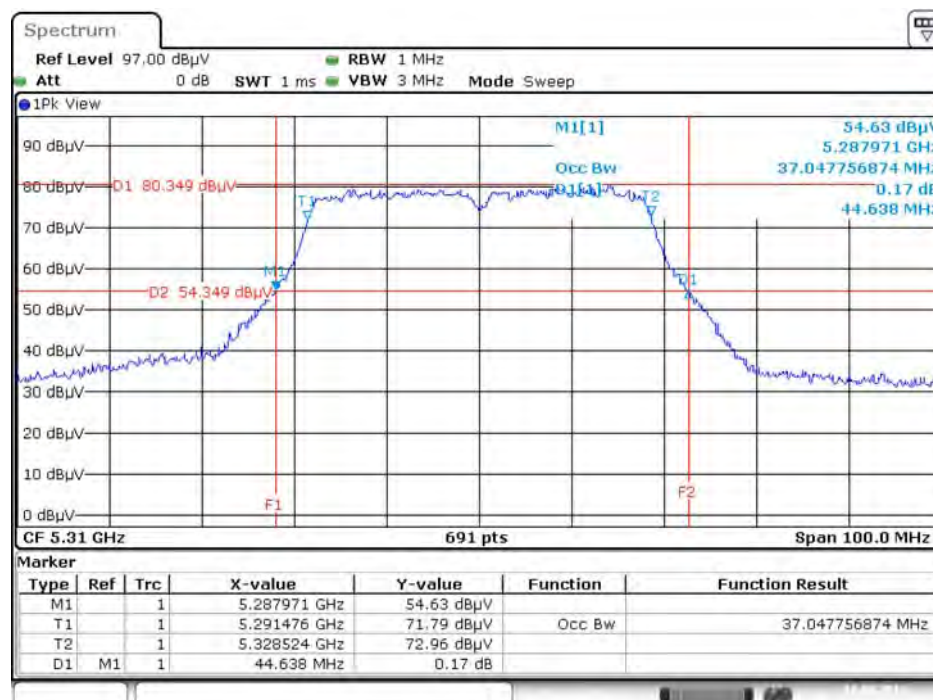
Date: 10.AUG.2016 01:09:52

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



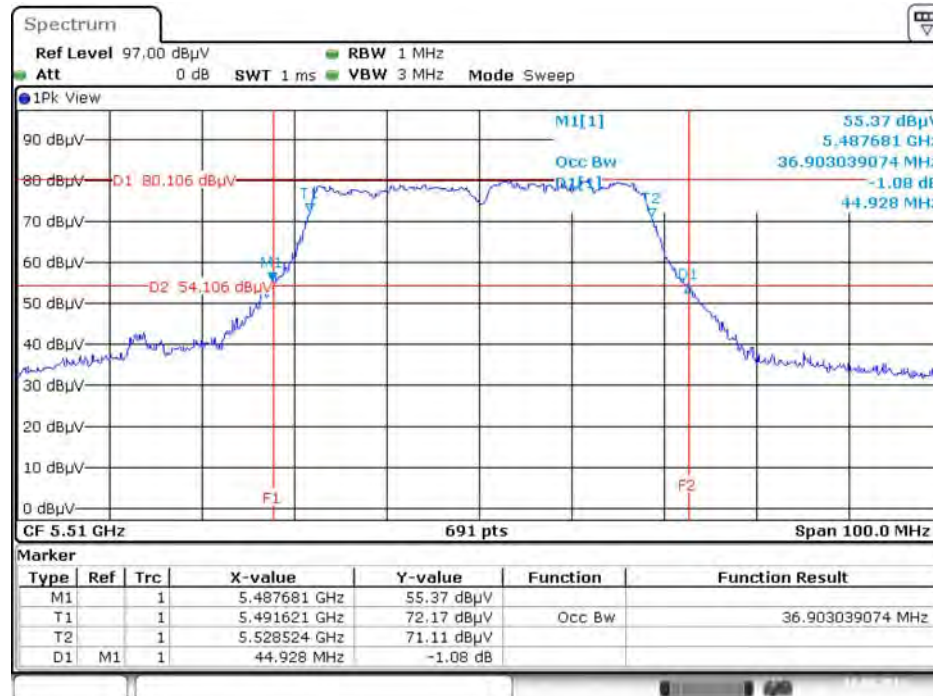
Date: 10.AUG.2016 01:11:09

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



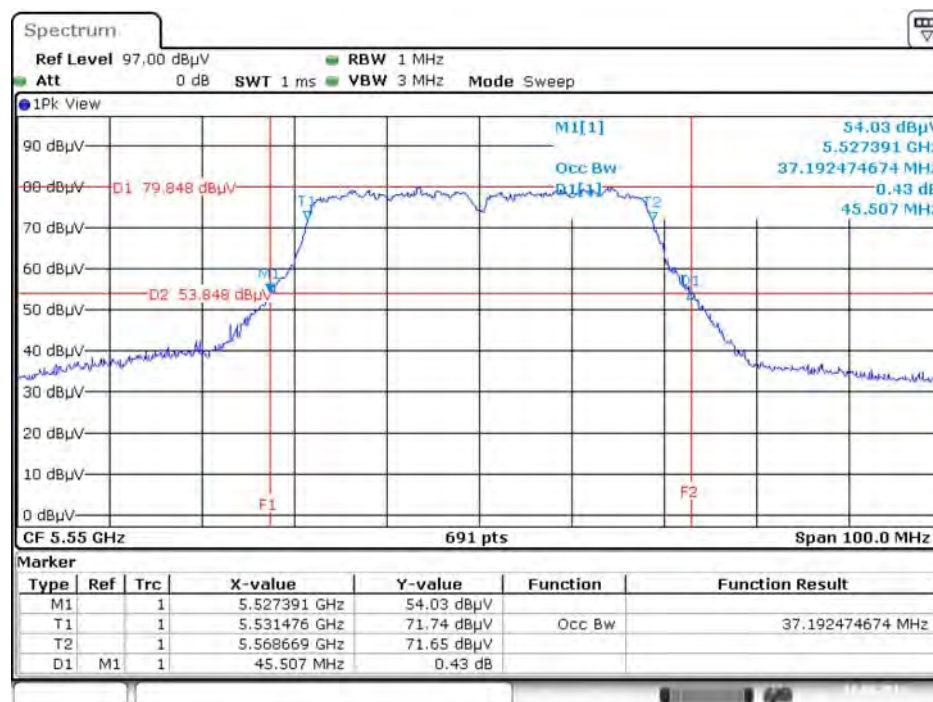
Date: 10.AUG.2016 01:12:34

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



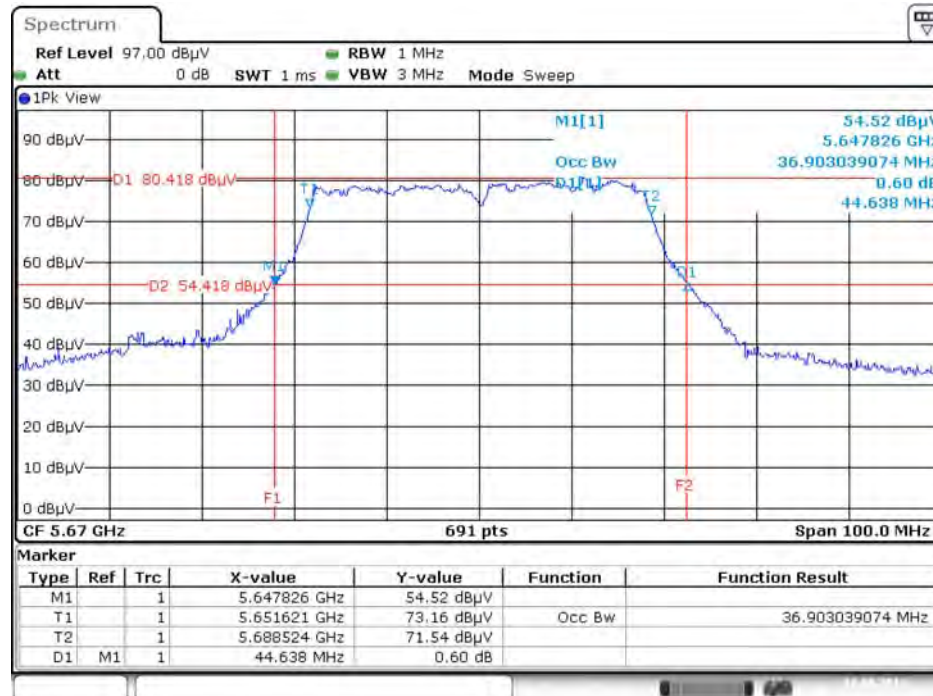
Date: 10.AUG.2016 01:15:48

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



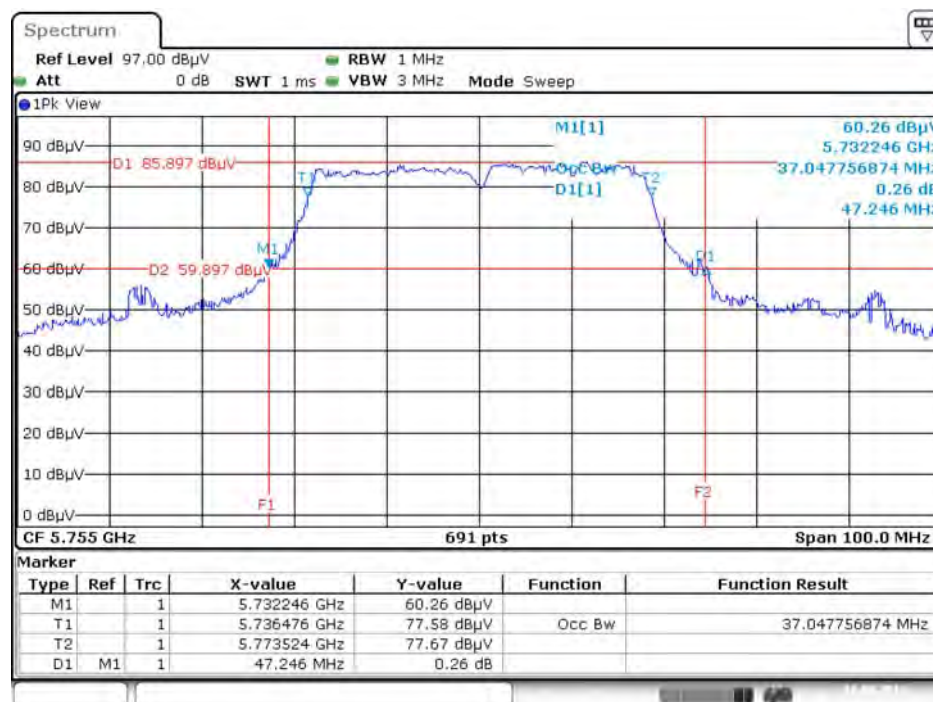
Date: 10.AUG.2016 01:17:19

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



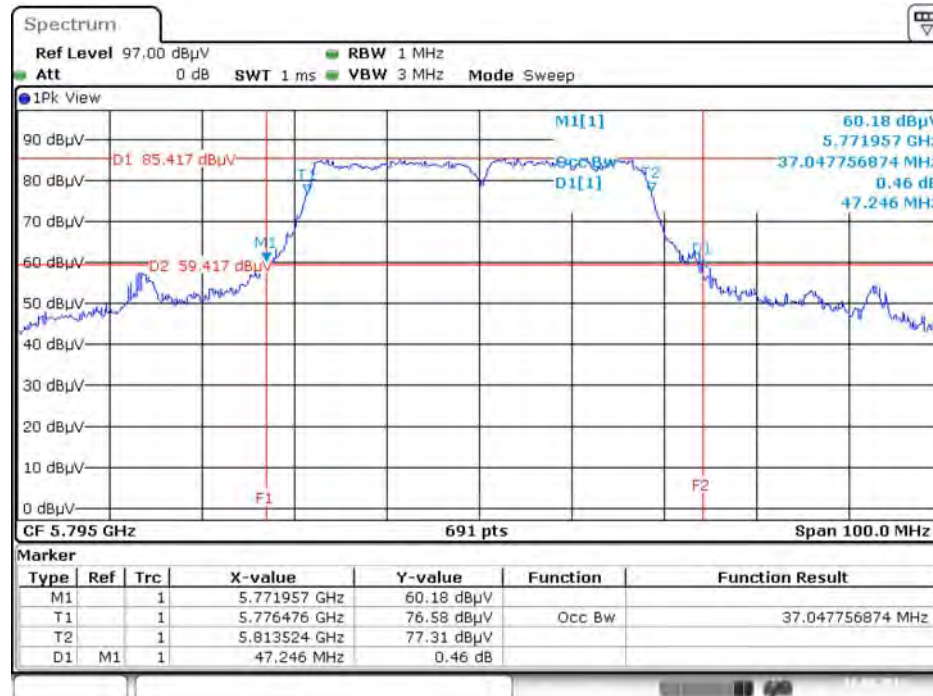
Date: 10.AUG.2016 01:18:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 /
Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5755 MHz



Date: 10.AUG.2016 01:20:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5795 MHz



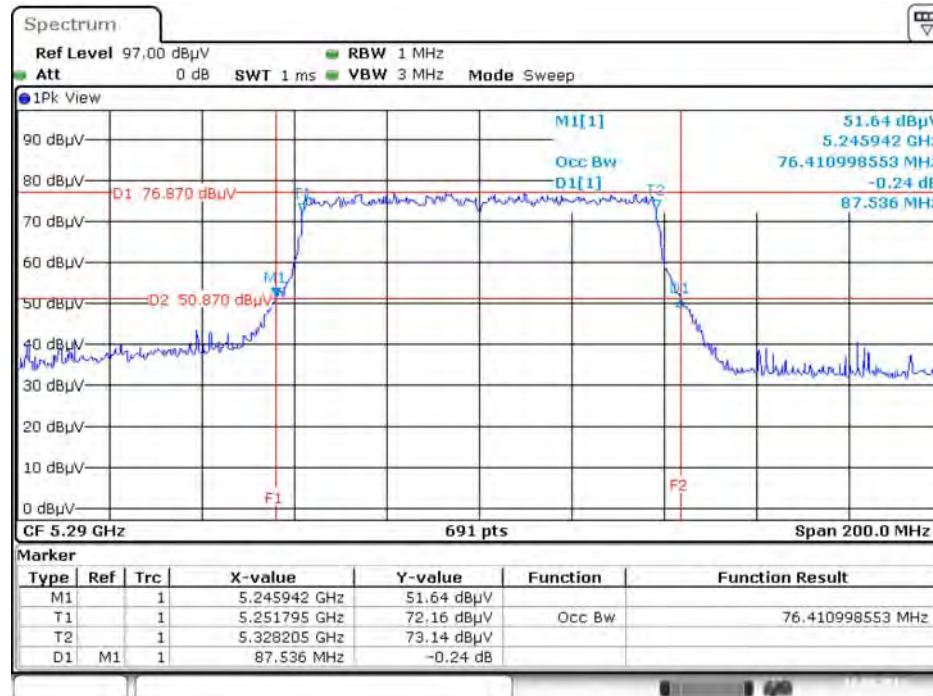
Date: 10.AUG.2016 01:22:25

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5210 MHz



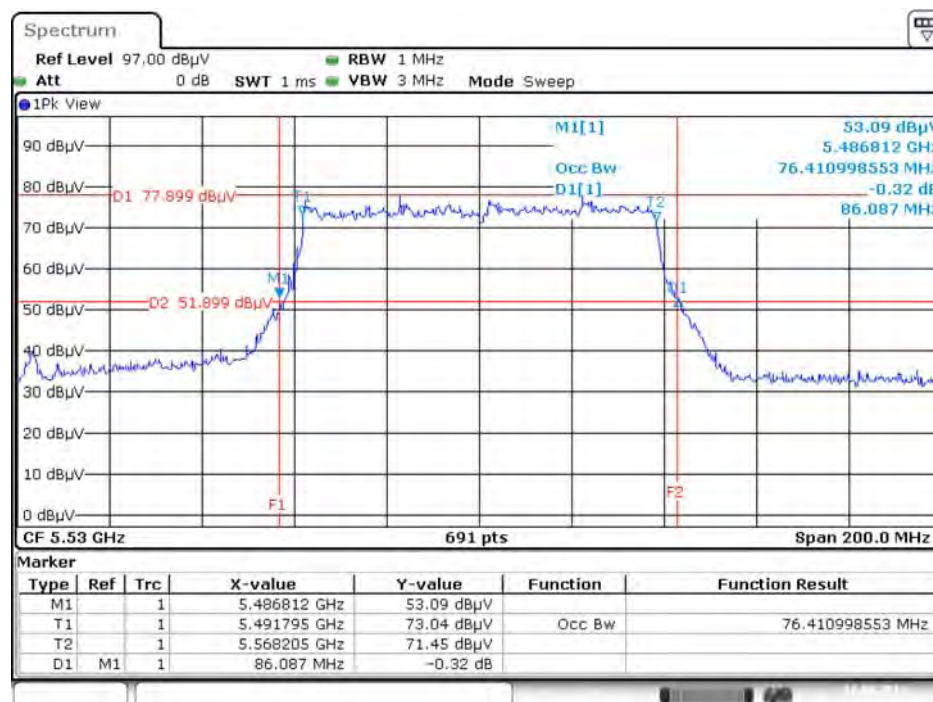
Date: 10.AUG.2016 01:25:18

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



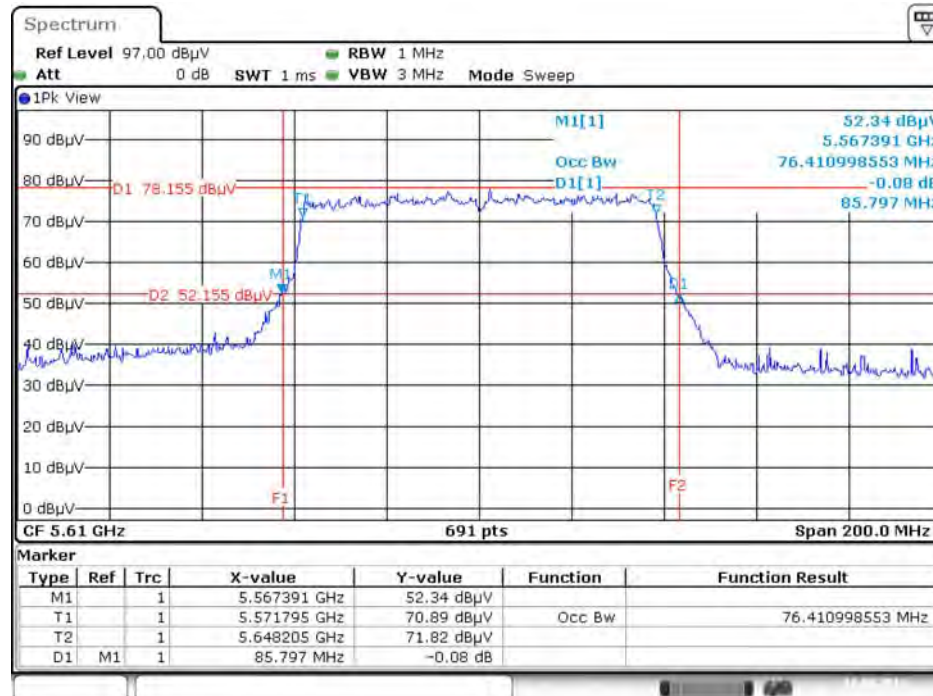
Date: 10.AUG.2016 01:27:19

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



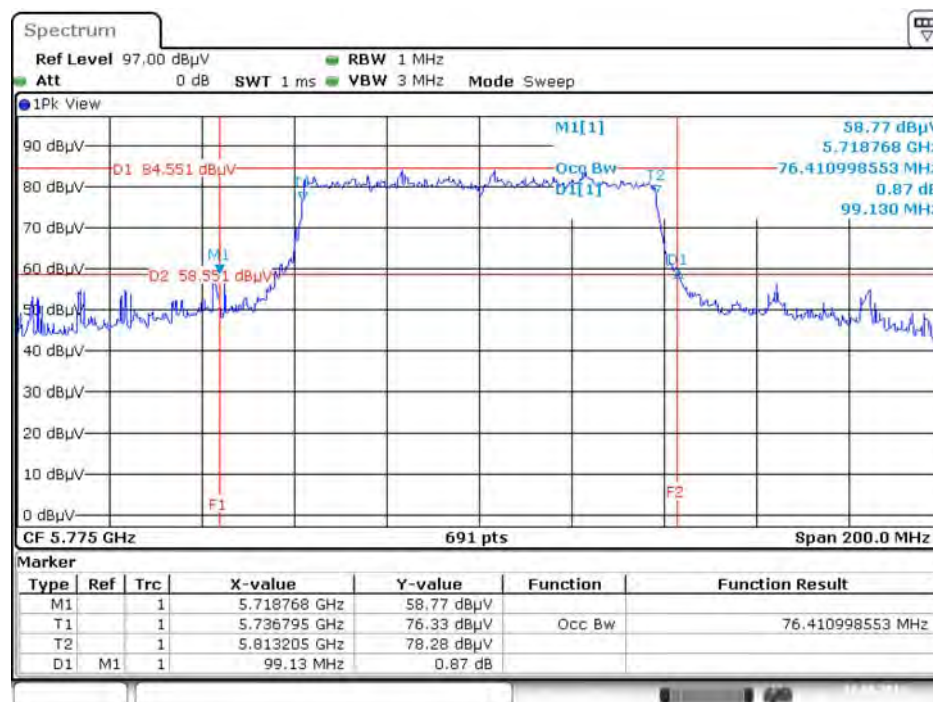
Date: 10.AUG.2016 01:29:35

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: 10.AUG.2016 01:32:06

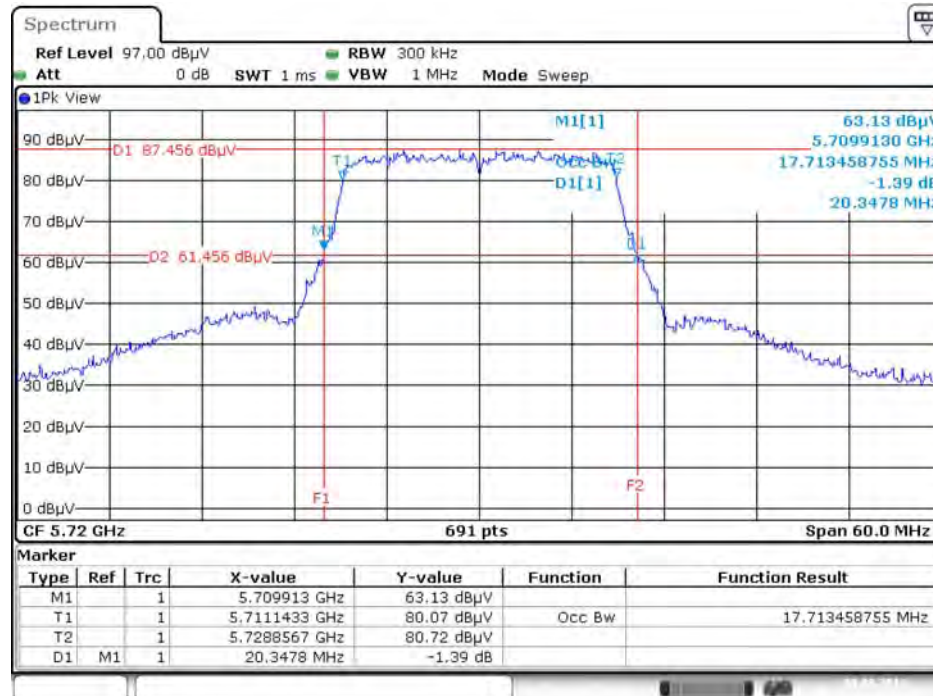
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5775 MHz



Date: 10.AUG.2016 01:34:51

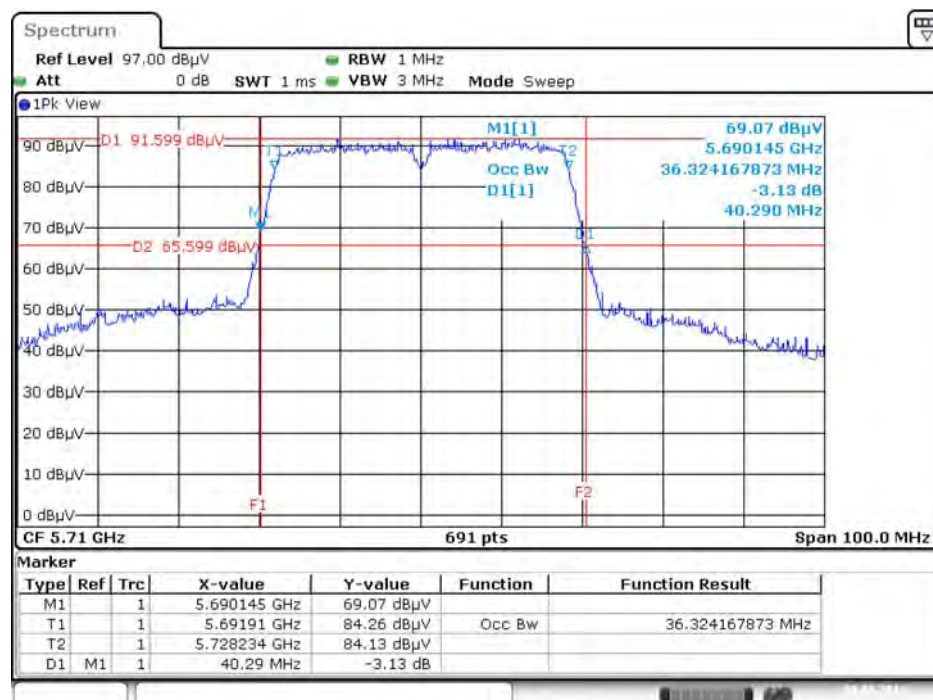
Straddle Channel

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



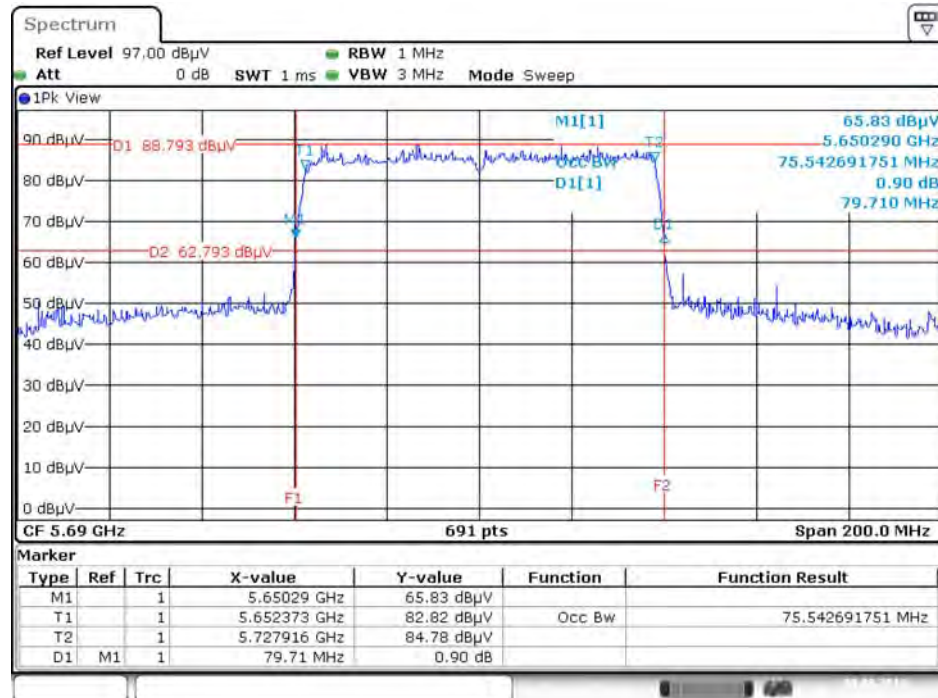
Date: 9.AUG.2016 00:55:32

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: 9.AUG.2016 01:29:01

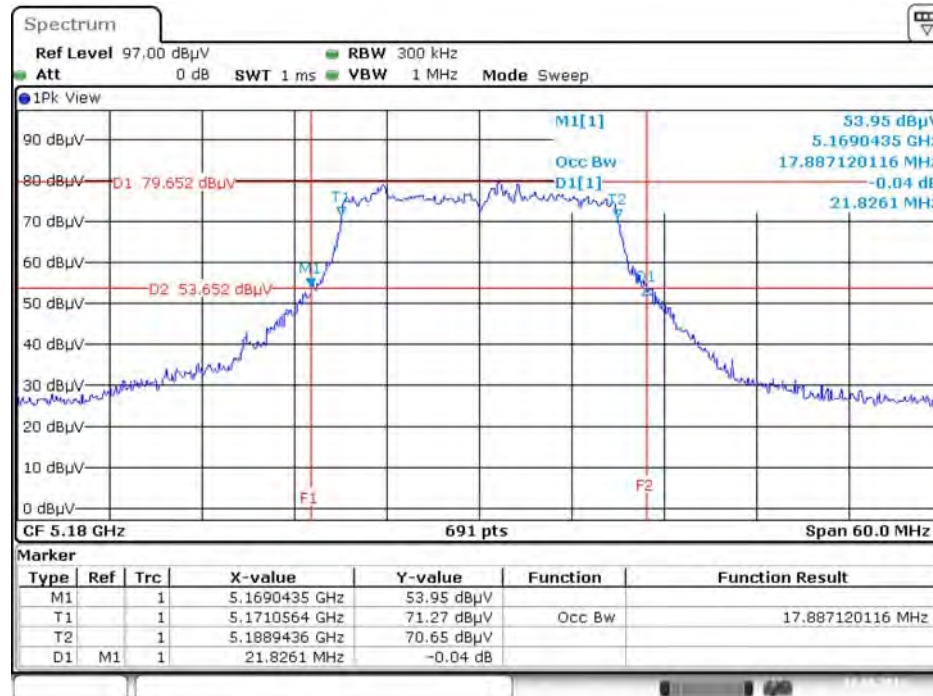
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 9.AUG.2016 02:09:34

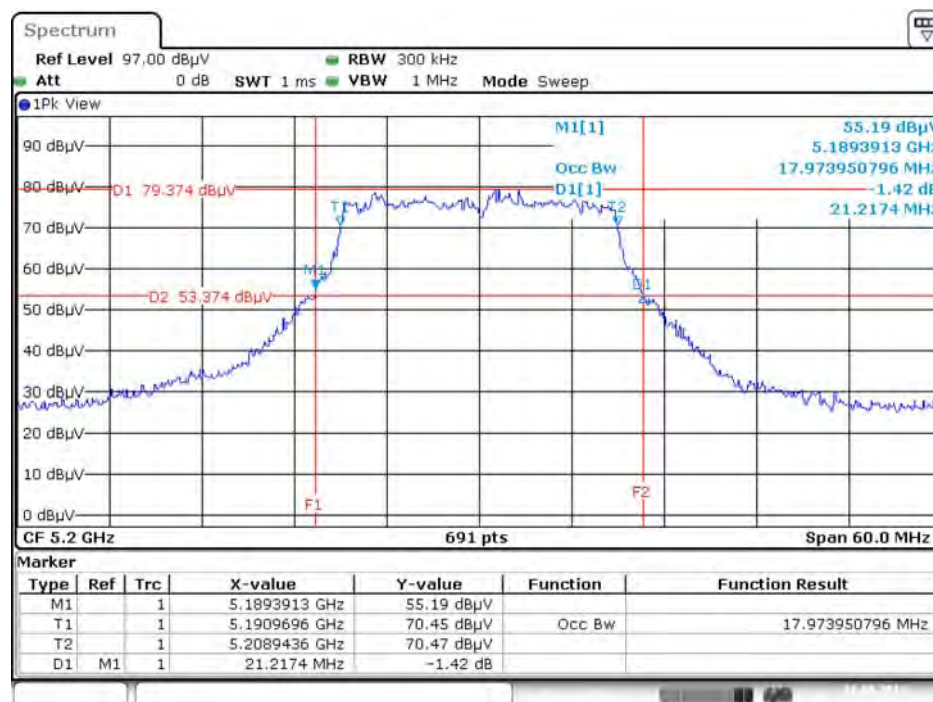
For indoor use slave without radar detection B1

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5180 MHz



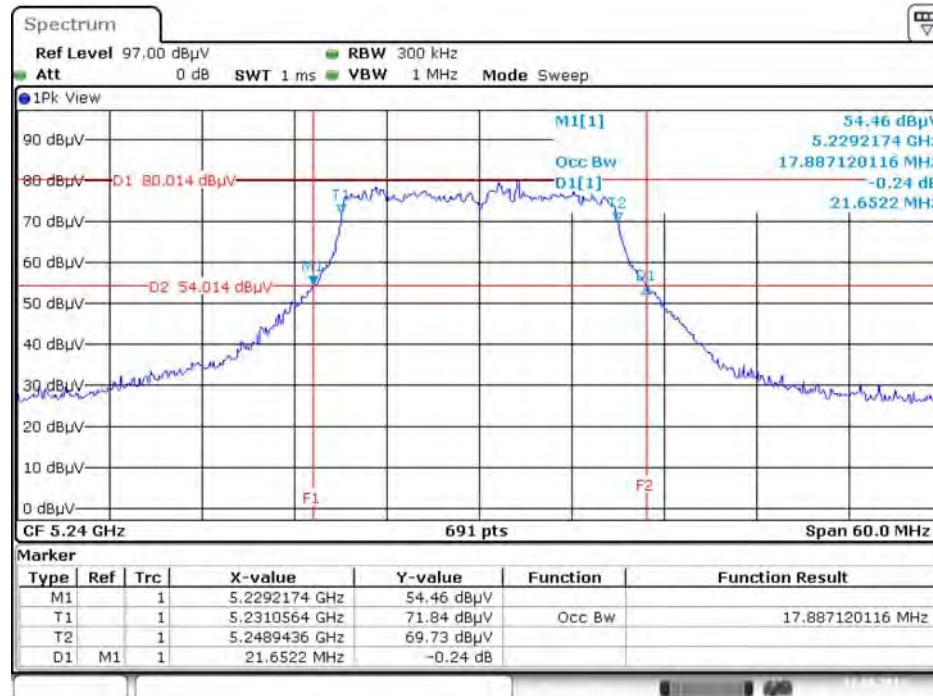
Date: 10.AUG.2016 02:06:57

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5200 MHz



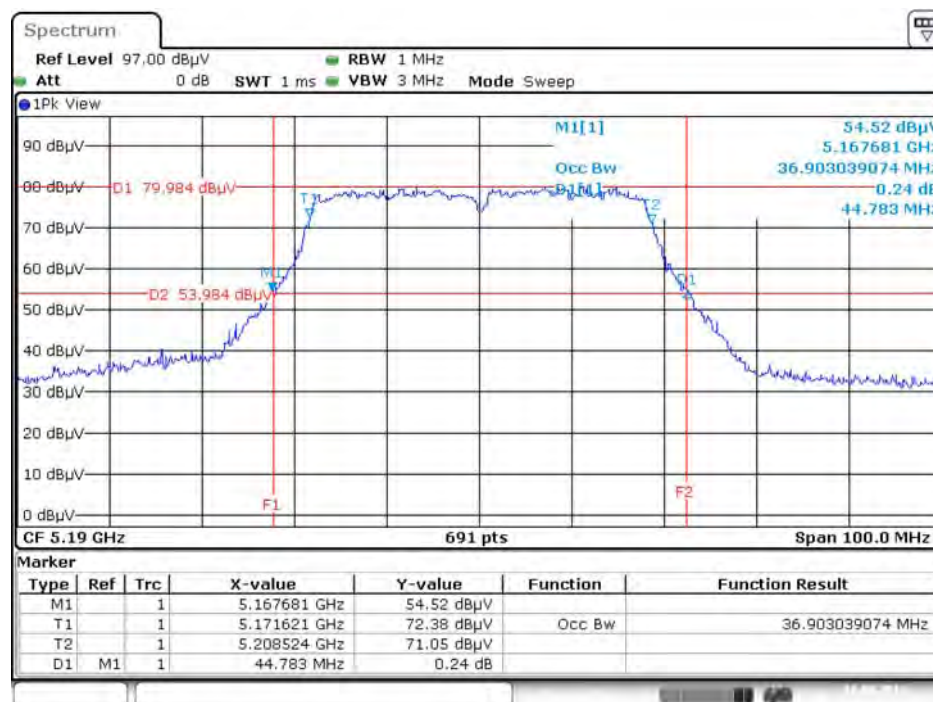
Date: 10.AUG.2016 02:08:45

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5240 MHz



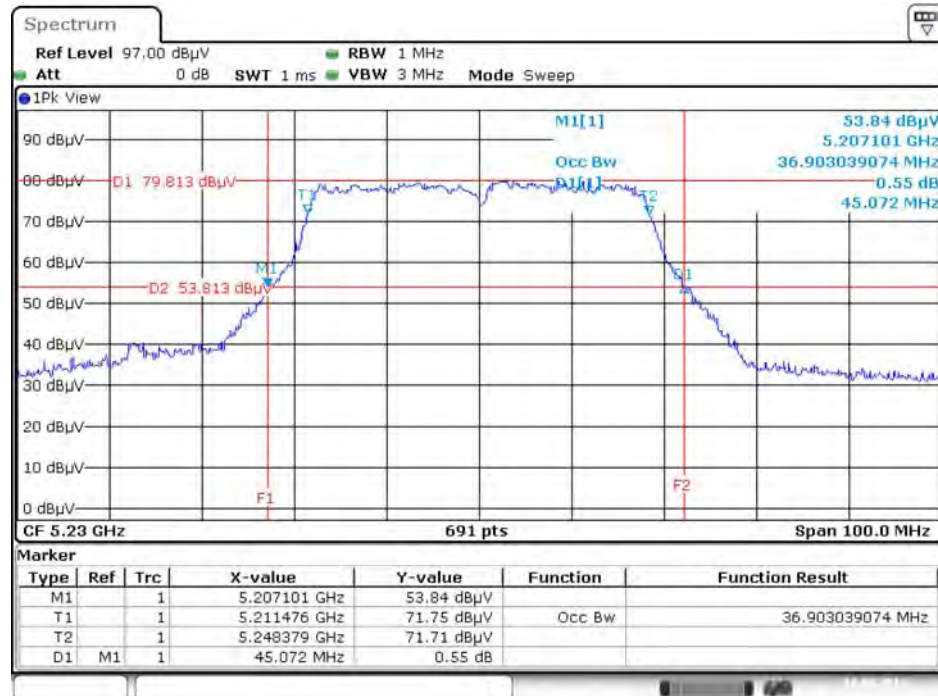
Date: 10.AUG.2016 02:10:56

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5190 MHz



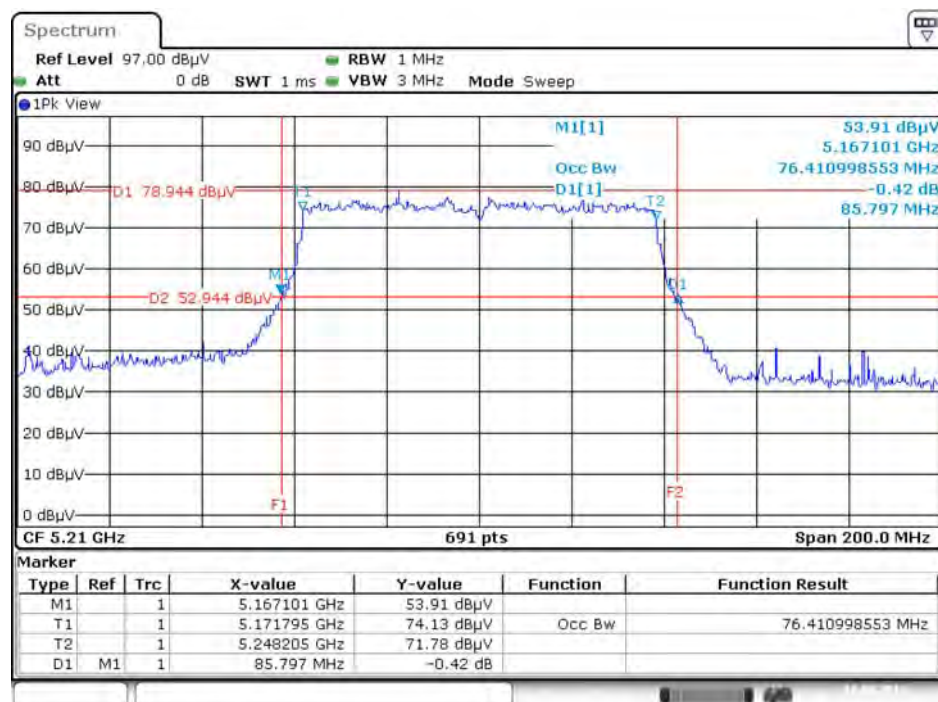
Date: 10.AUG.2016 02:17:44

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5230 MHz



Date: 10.AUG.2016 02:19:22

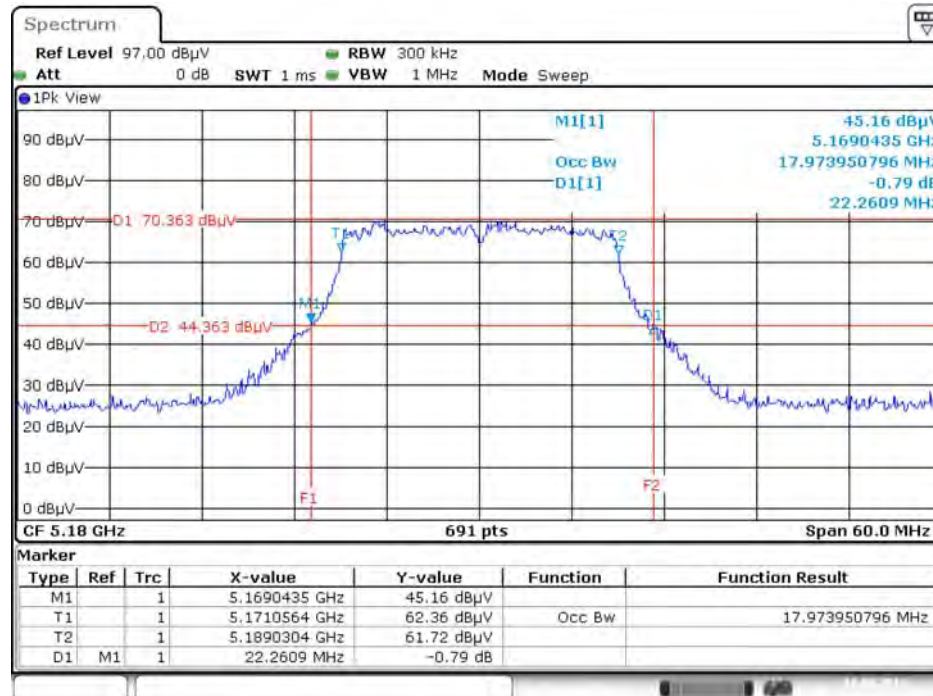
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5210 MHz



Date: 10.AUG.2016 02:22:03

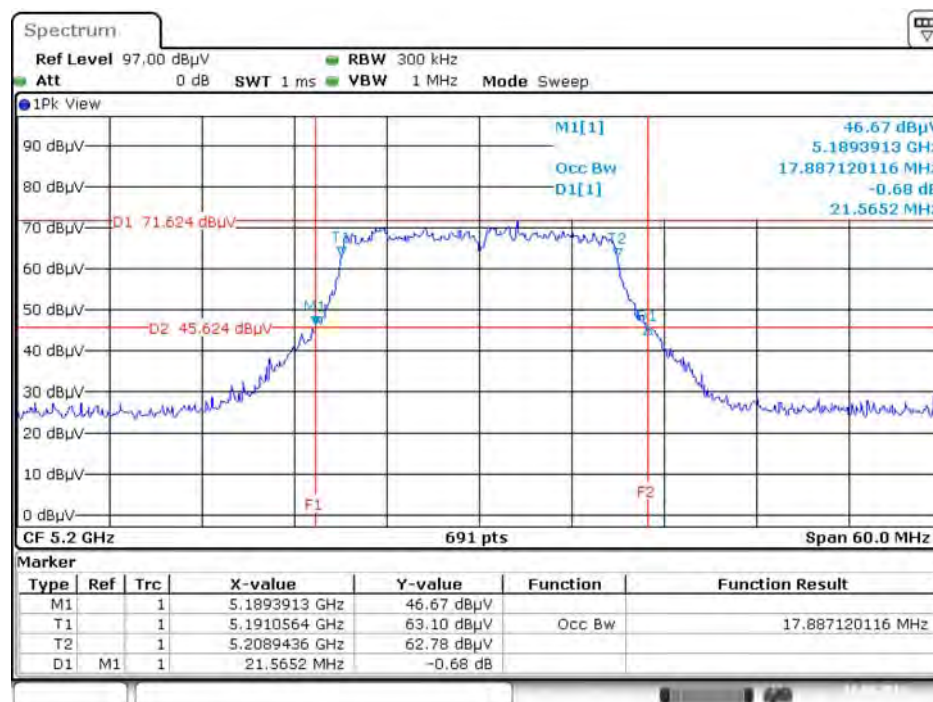
For outdoor use master B1

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5180 MHz



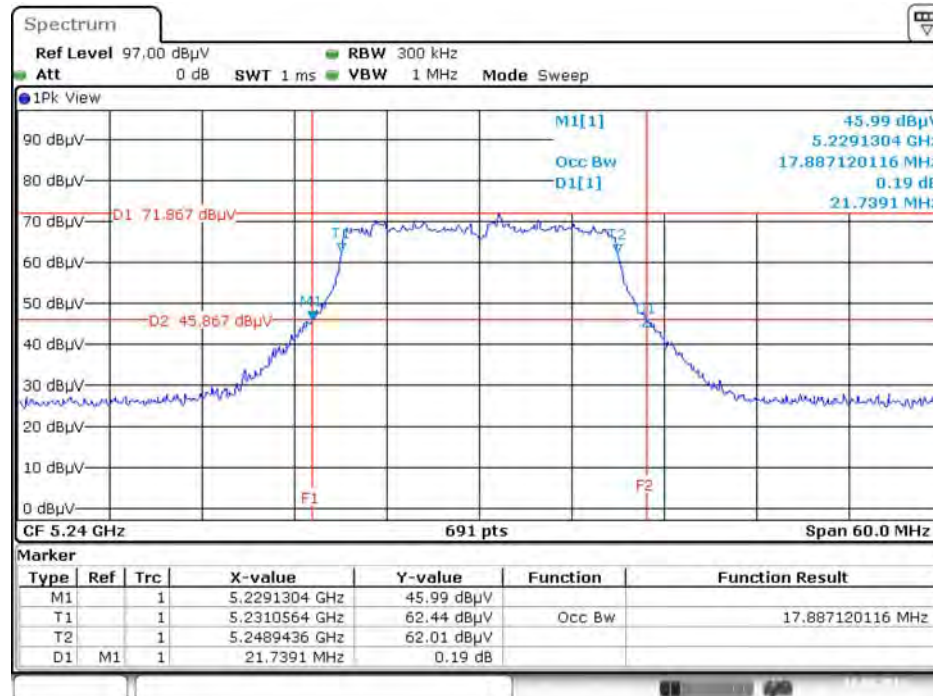
Date: 10.AUG.2016 02:29:39

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5200 MHz



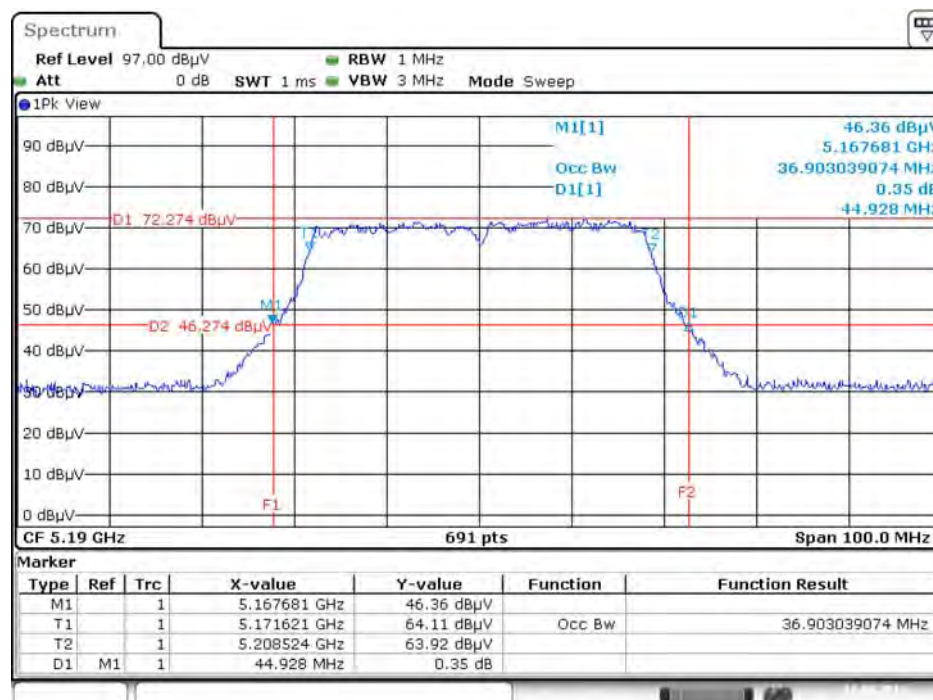
Date: 10.AUG.2016 02:30:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5240 MHz



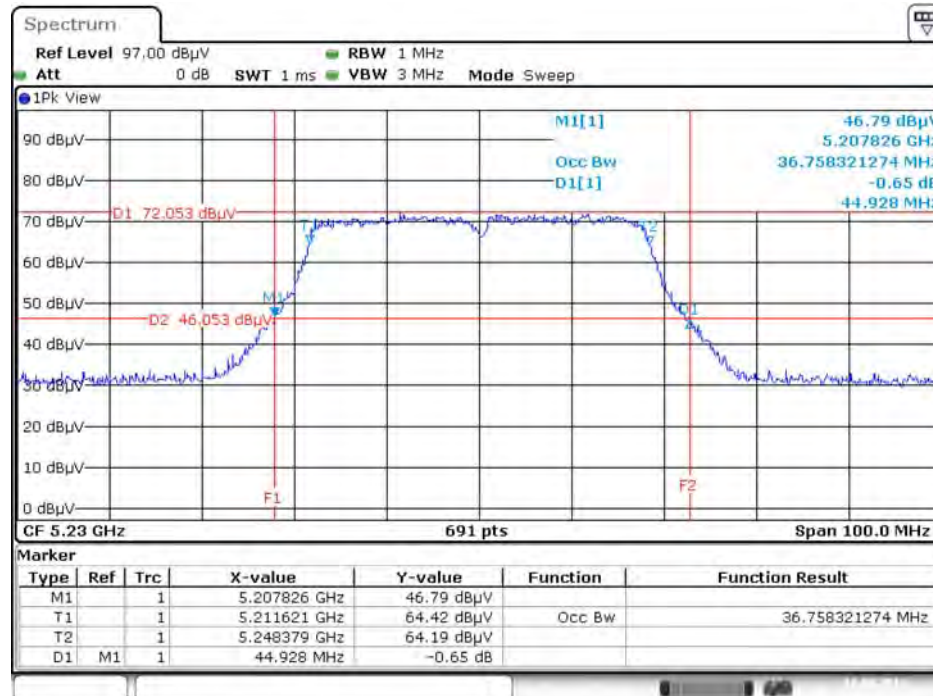
Date: 10.AUG.2016 02:33:14

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5190 MHz



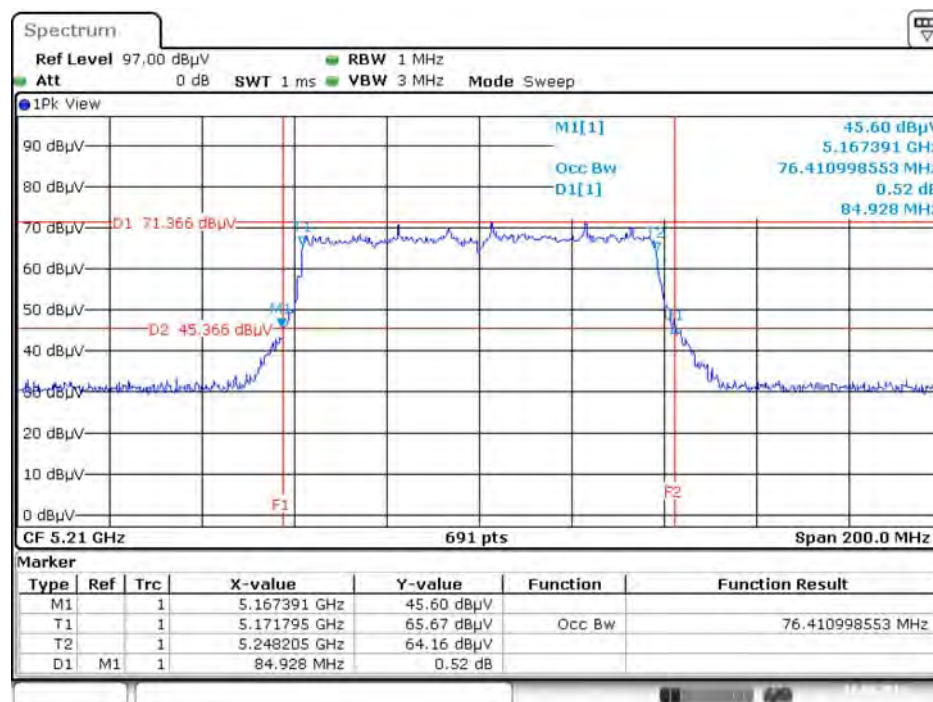
Date: 10.AUG.2016 02:36:14

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5230 MHz



Date: 10.AUG.2016 02:37:54

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5210 MHz



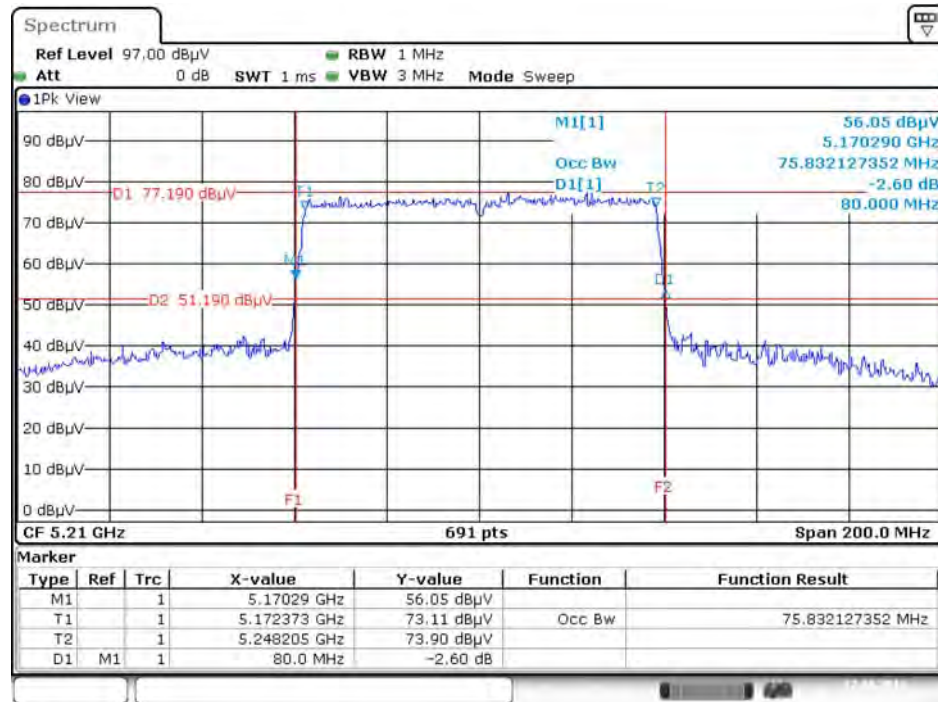
Date: 10.AUG.2016 02:40:29

802.11ac MCS0/Nss2 VHT80+80

For indoor use master type1~14 and slave without radar detection type1~4 and type13

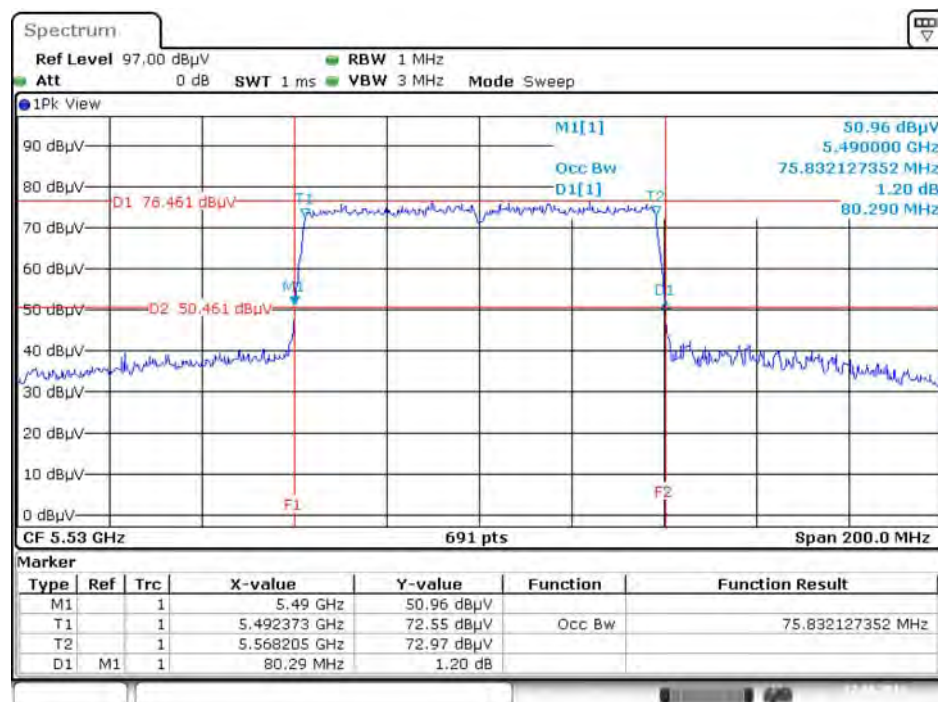
Type 1

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz

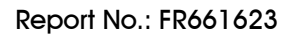


Date: 17.AUG.2016 10:58:22

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5530 MHz



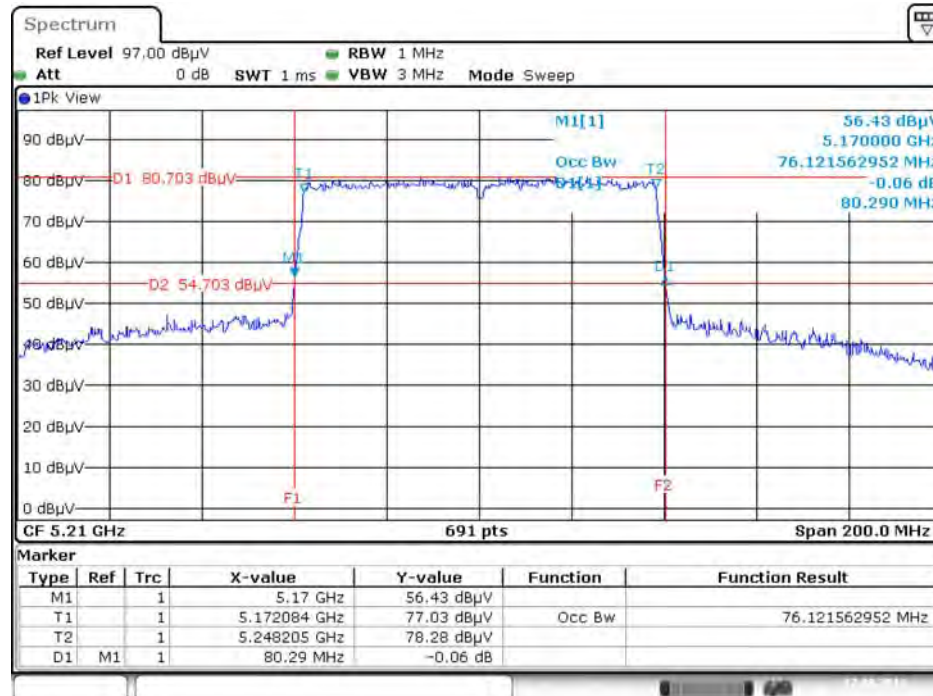
Date: 17.AUG.2016 11:09:36



26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz

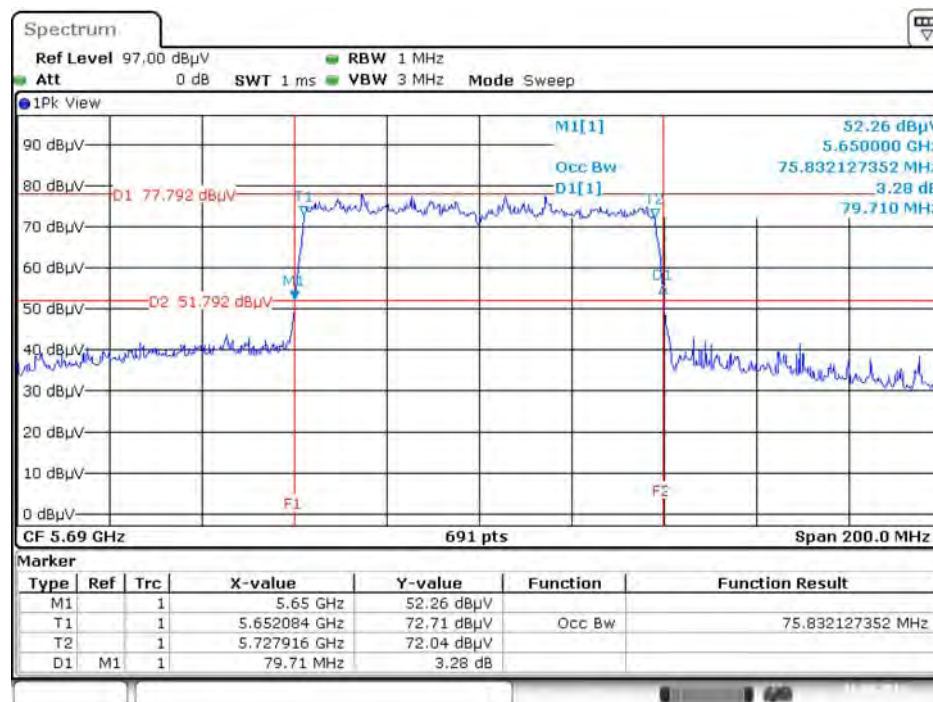
Type 3

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 17.AUG.2016 11:07:37

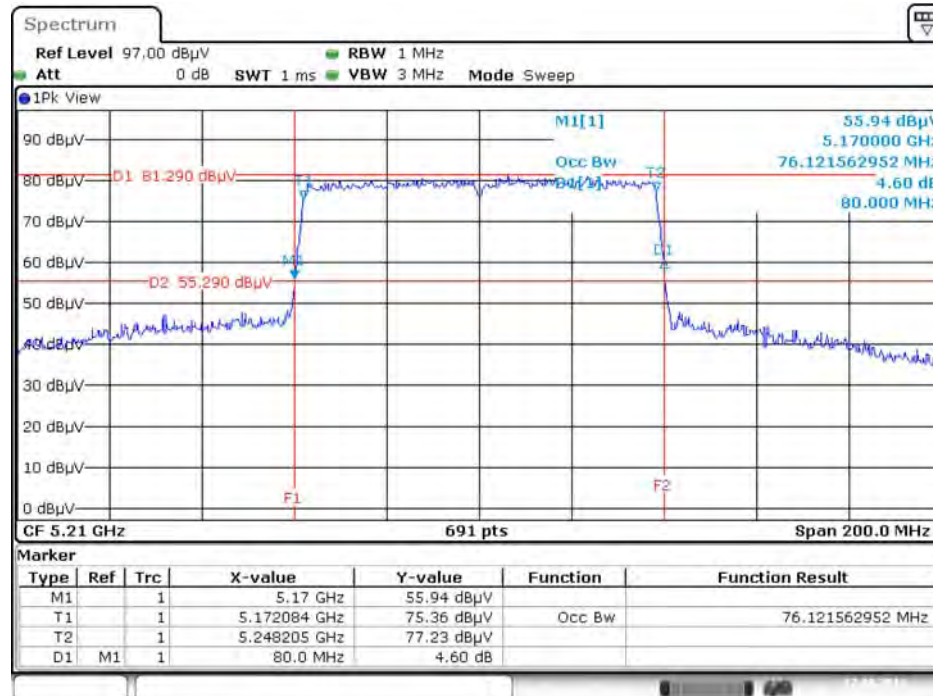
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5690 MHz



Date: 16.AUG.2016 19:28:18

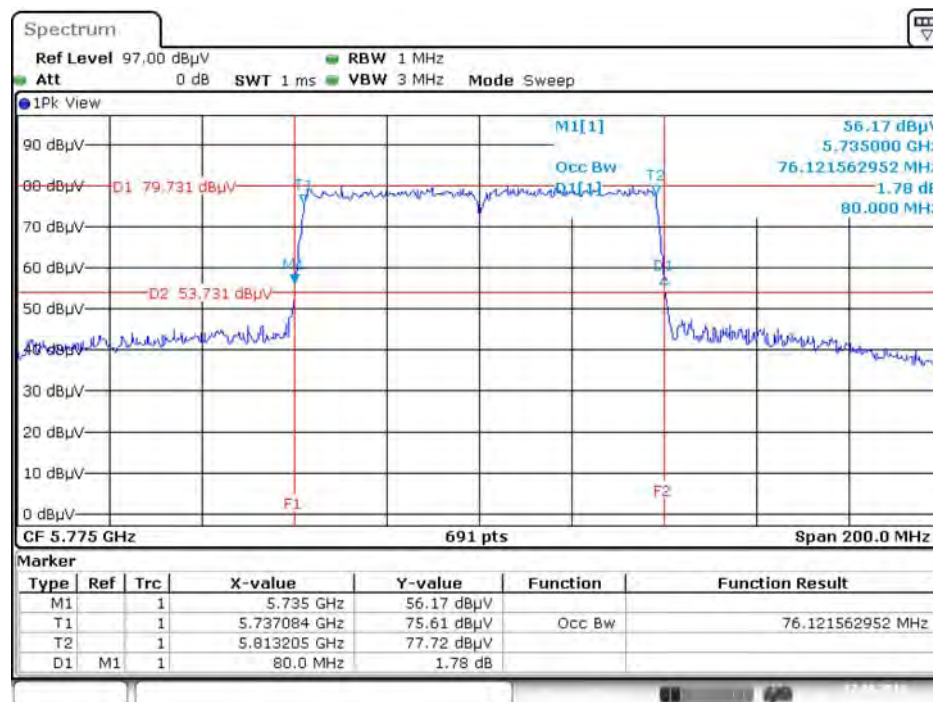
Type 4

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 17.AUG.2016 11:08:07

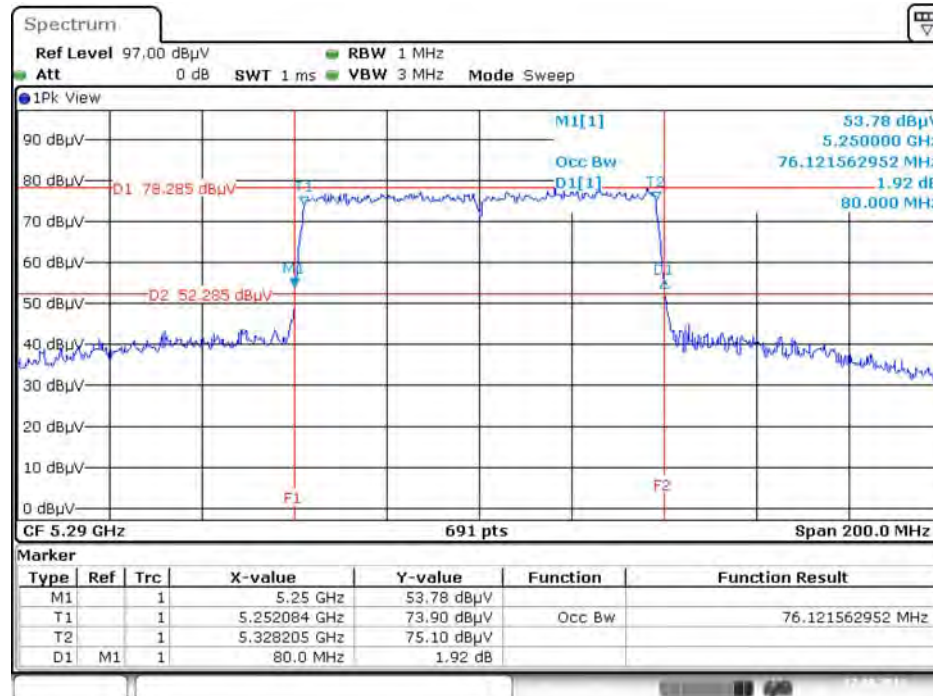
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz



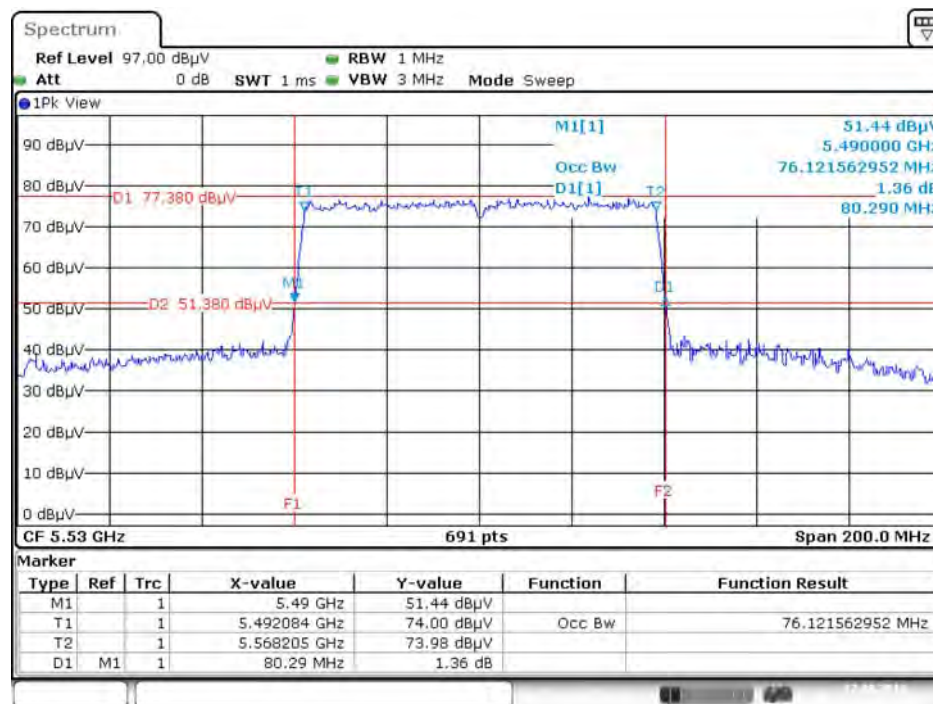
Date: 17.AUG.2016 11:14:37

Type 5

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5290 MHz

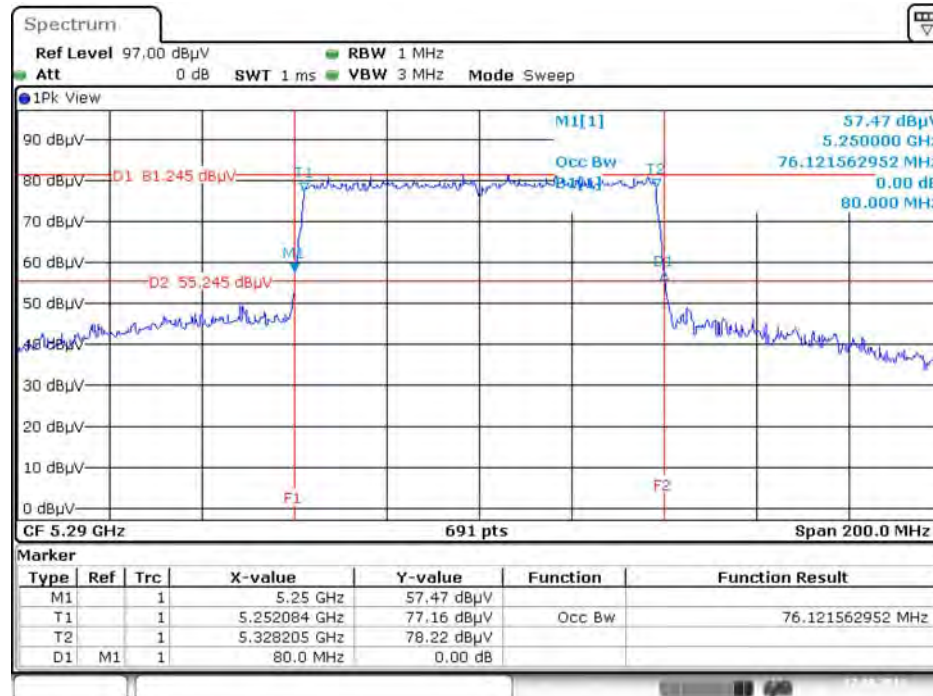


26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5530 MHz

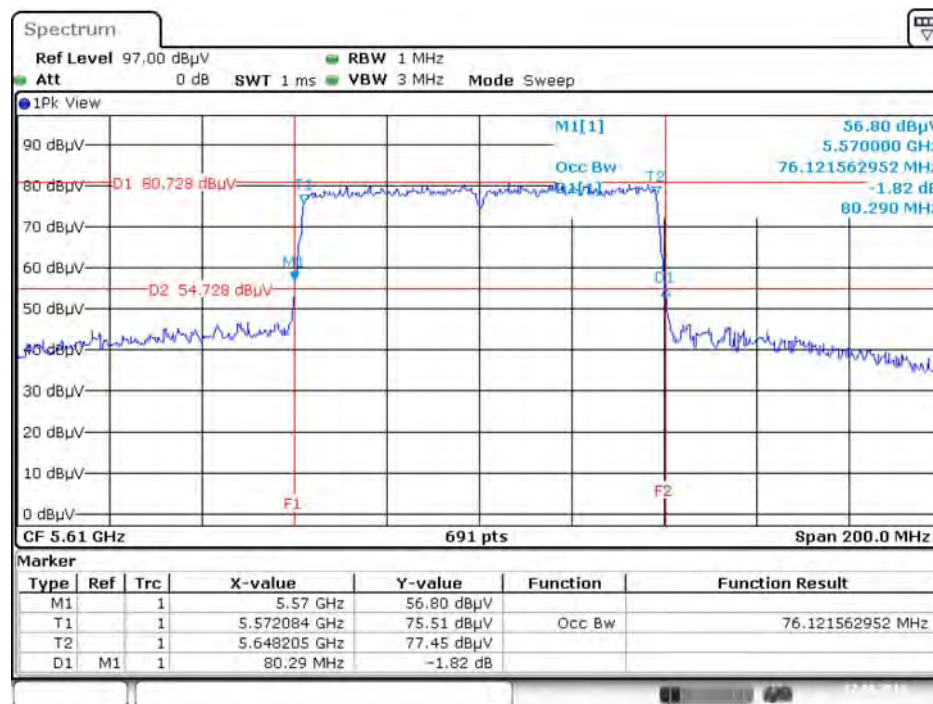


Type 6

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5290 MHz

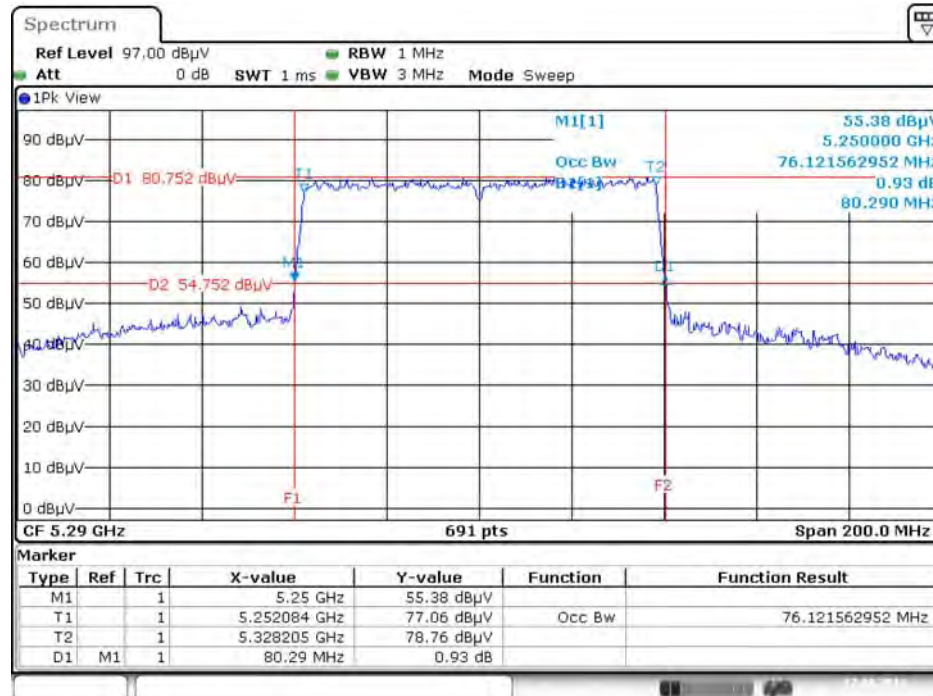


26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5610 MHz



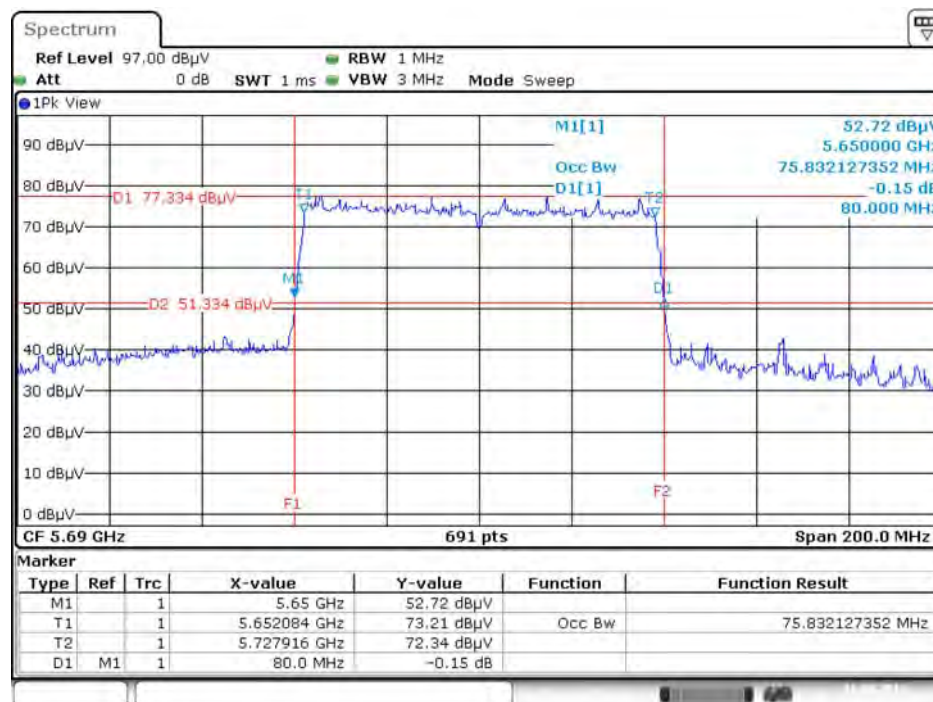
Type 7

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5290 MHz



Date: 17.AUG.2016 11:18:16

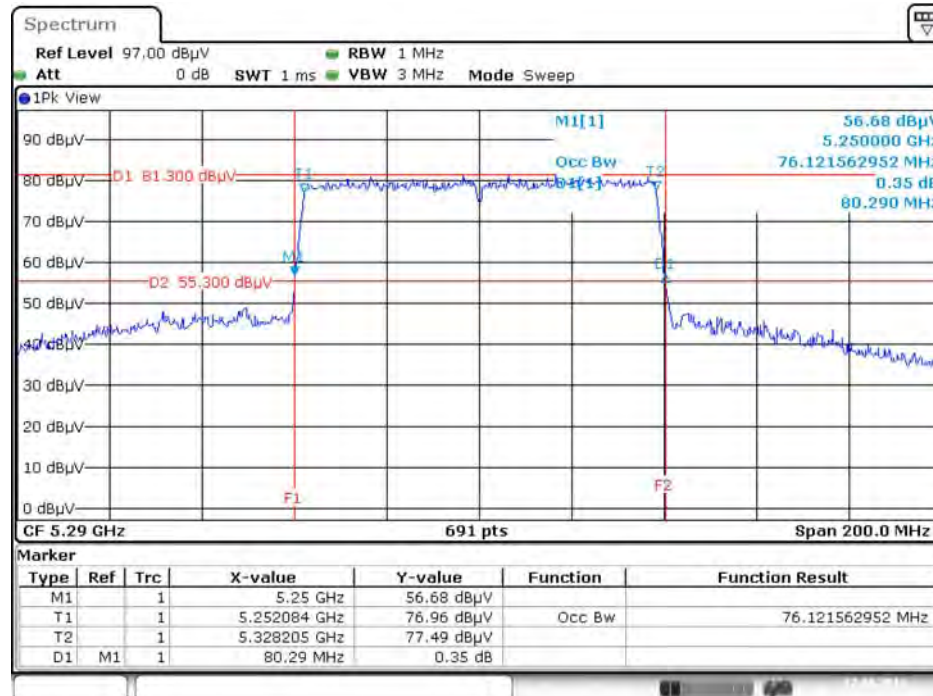
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5690 MHz



Date: 16.AUG.2016 19:30:44

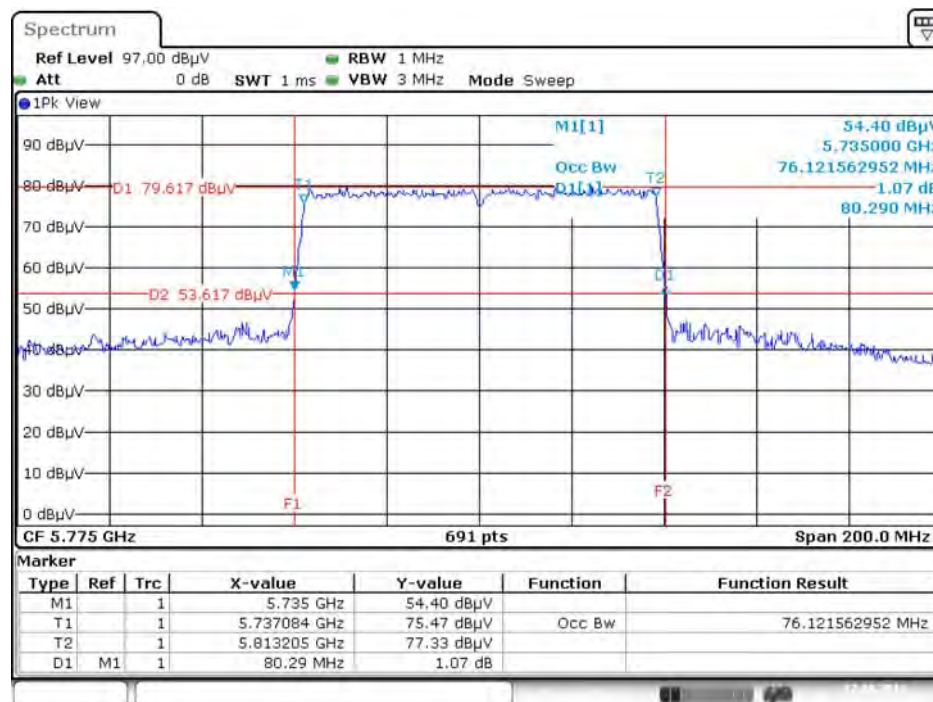
Type 8

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5290 MHz



Date: 17.AUG.2016 11:18:43

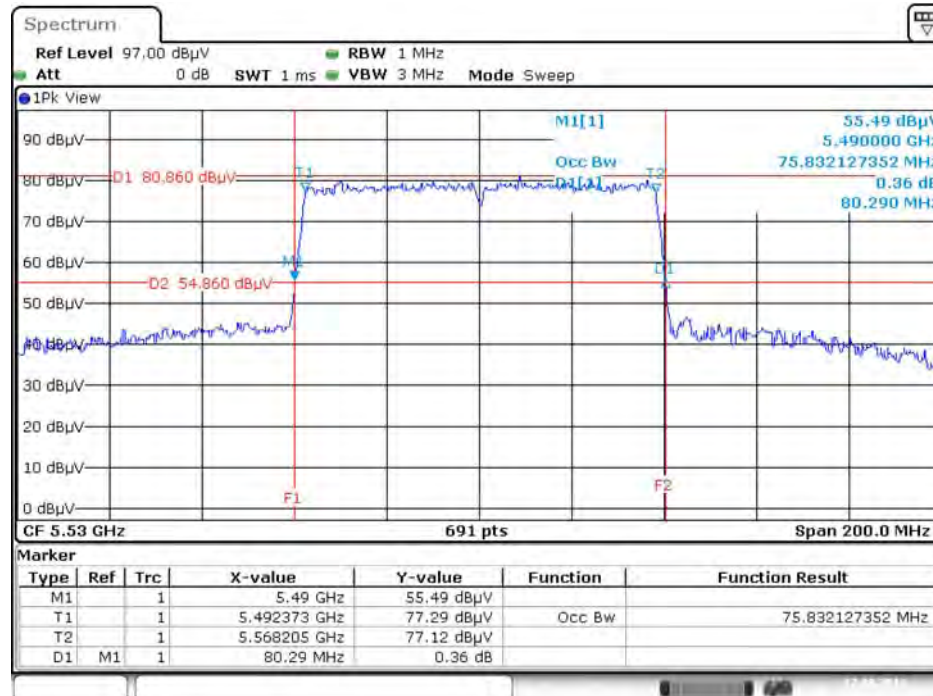
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz



Date: 17.AUG.2016 11:15:04

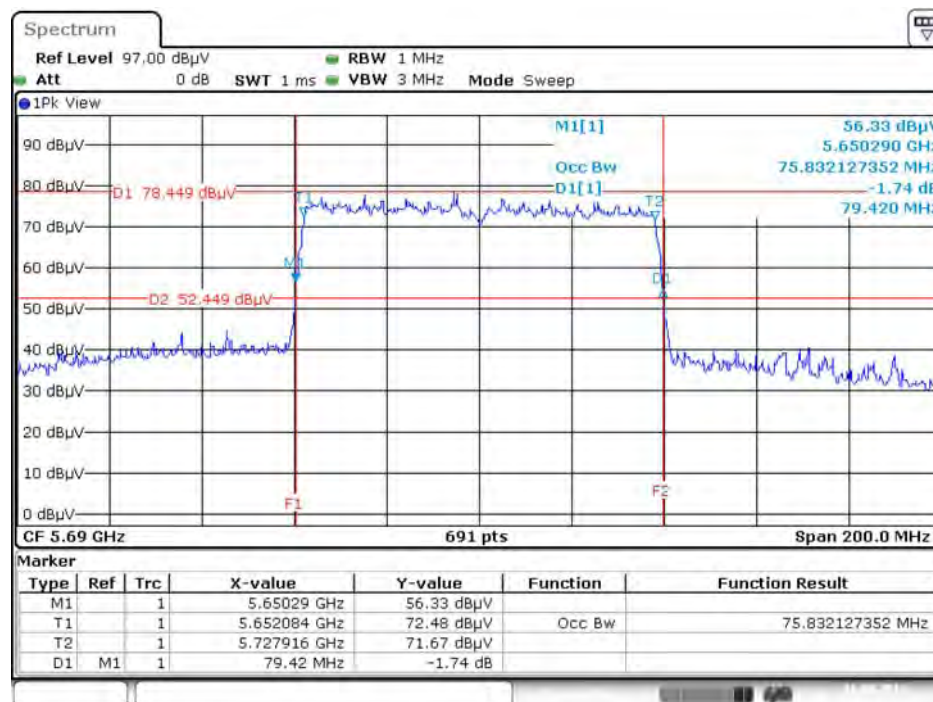
Type 9

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5530 MHz



Date: 17.AUG.2016 11:10:56

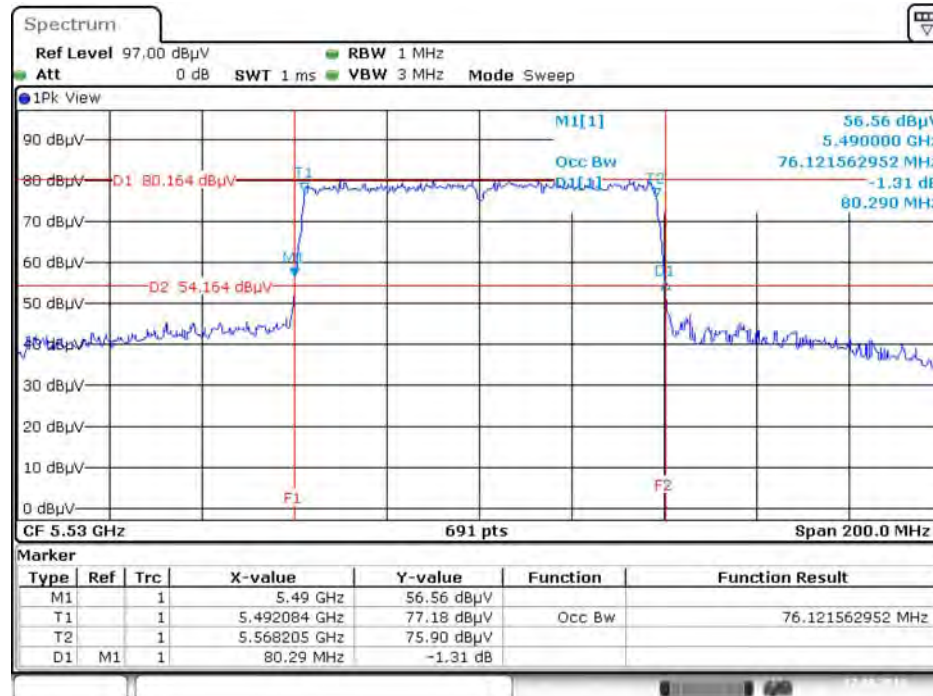
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5690 MHz



Date: 16.AUG.2016 19:32:09

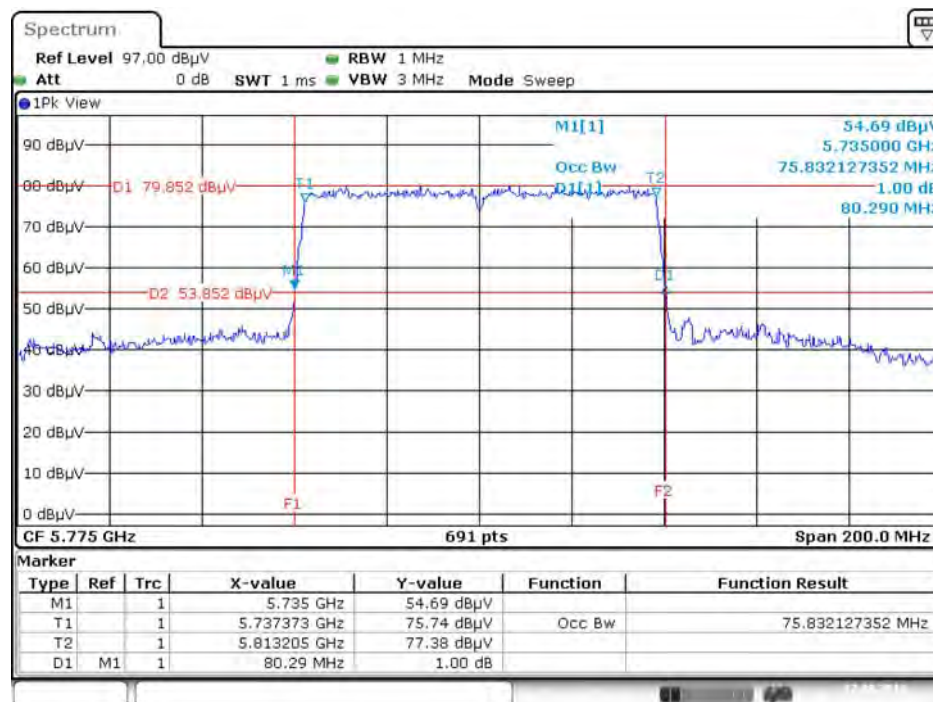
Type 10

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5530 MHz



Date: 17.AUG.2016 11:12:14

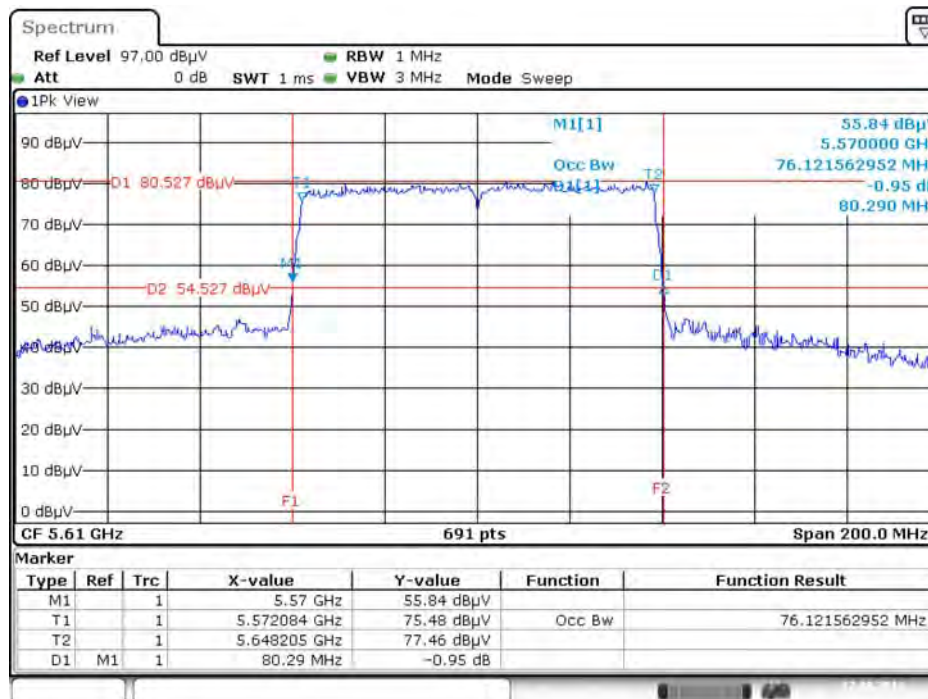
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz



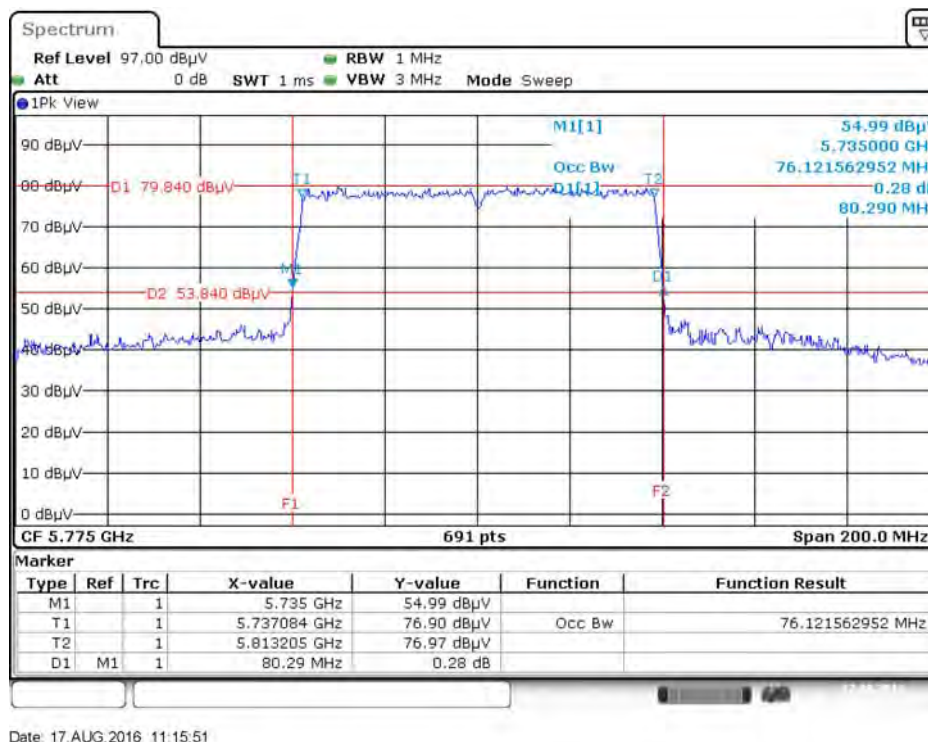
Date: 17.AUG.2016 11:15:28

Type 11

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5610 MHz

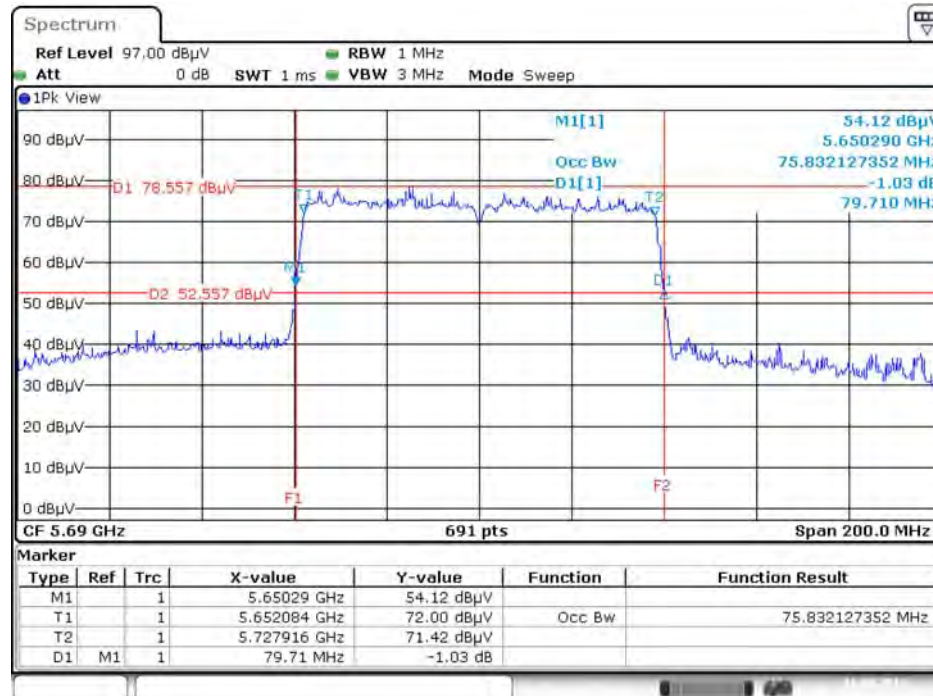


26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz



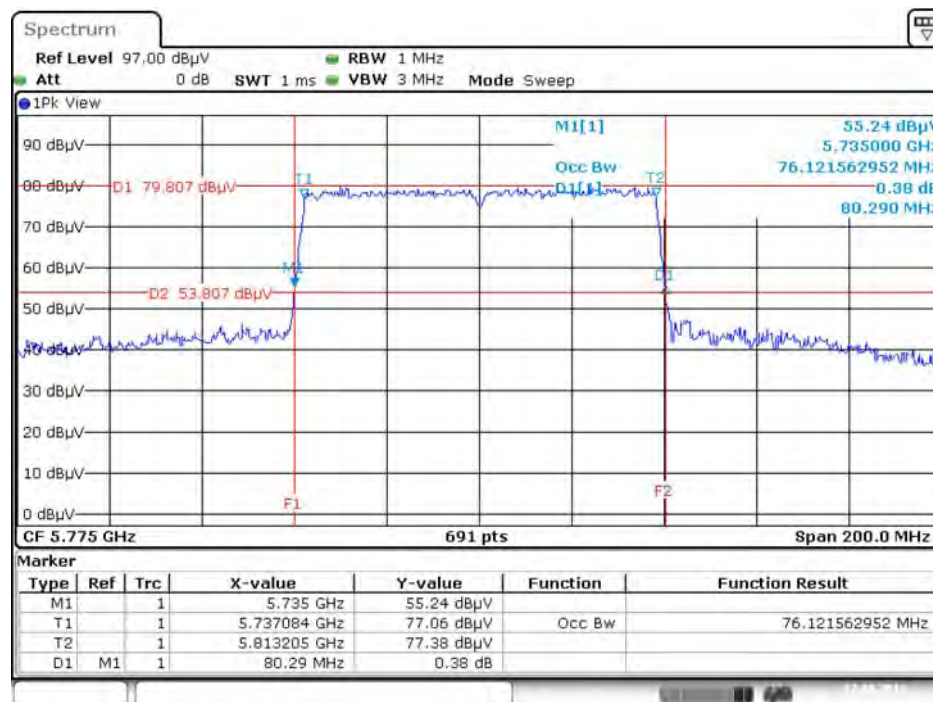
Type 12

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5690 MHz



Date: 16.AUG.2016 19:33:18

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz

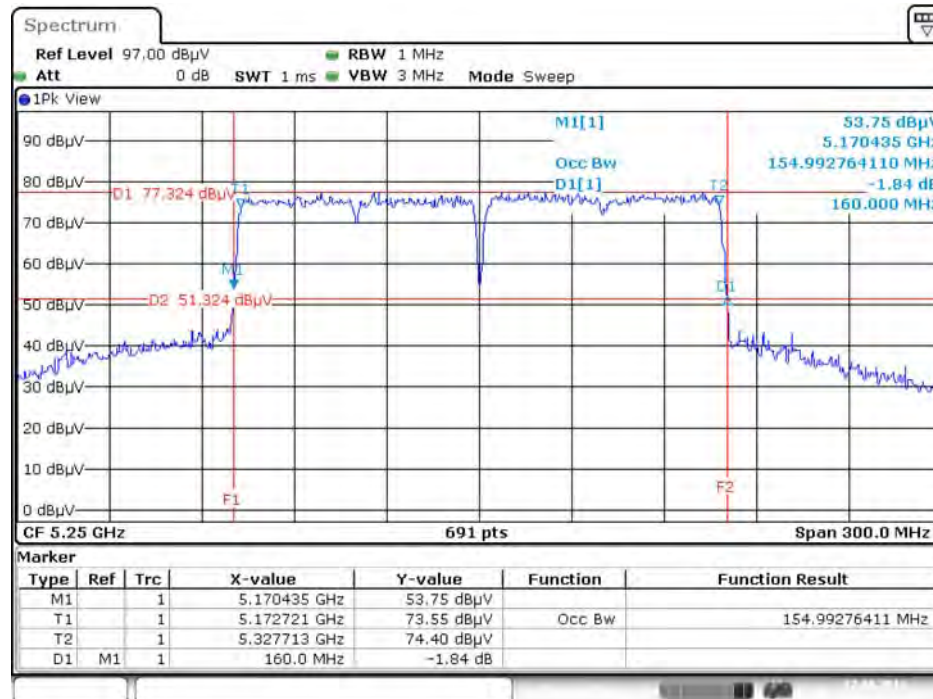


Date: 17.AUG.2016 11:16:17

Type 13

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 + Chain 3 + Chain 4 /

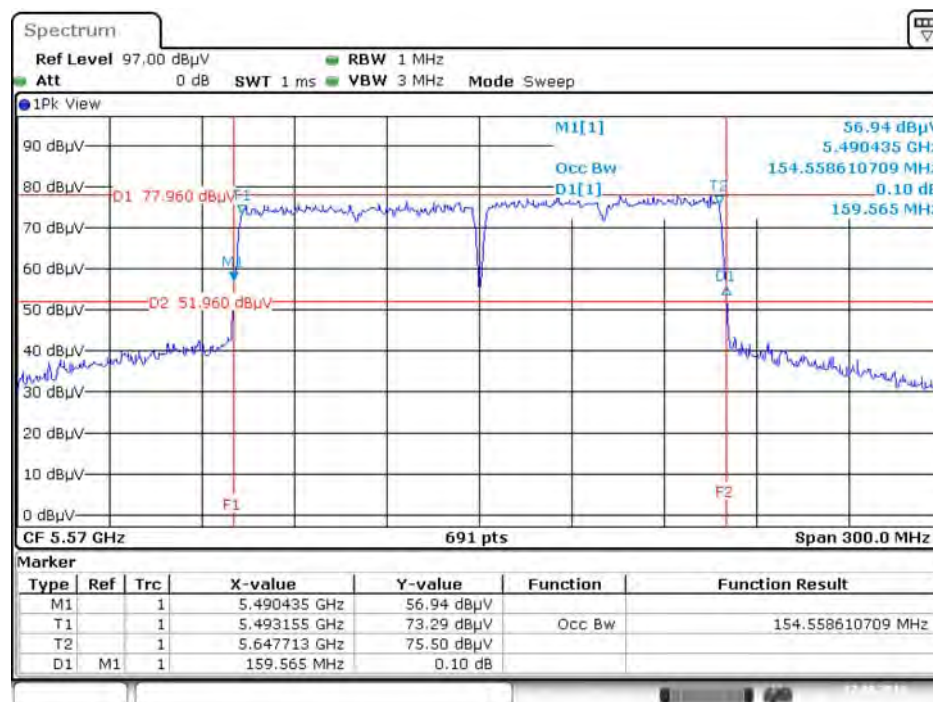
5210 MHz+5290 MHz



Type 14

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 + Chain 3 + Chain 4 /

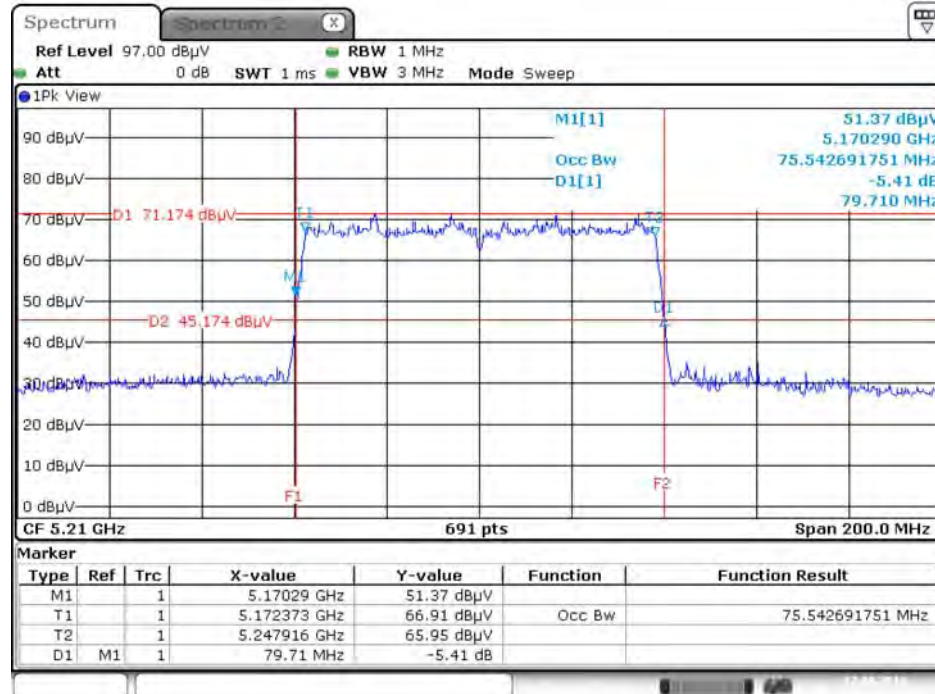
5530 MHz+5610 MHz



For outdoor use master B1

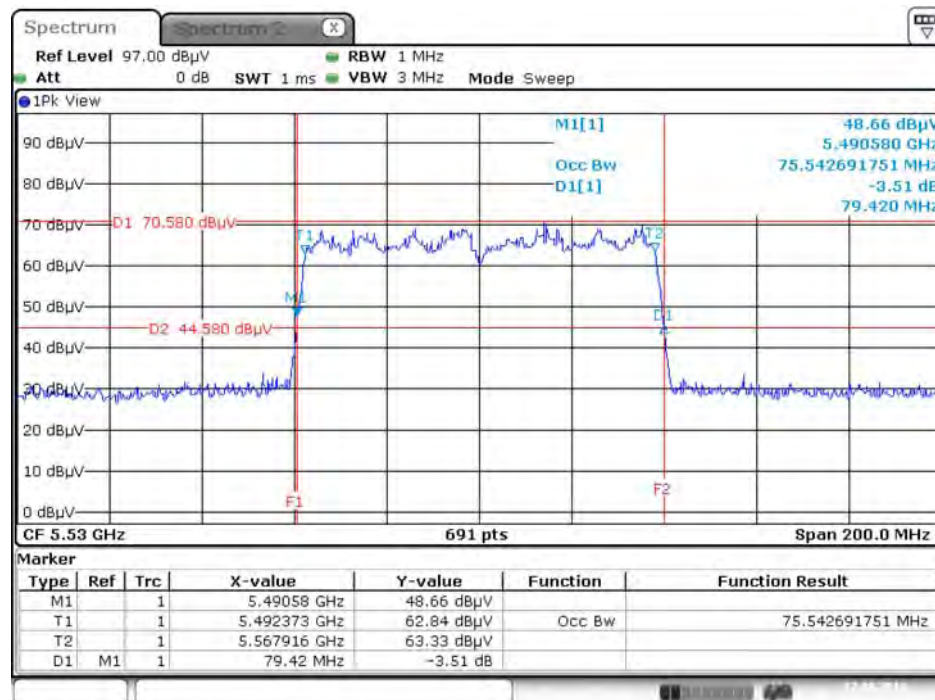
Type 1

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 17.AUG.2016 16:27:30

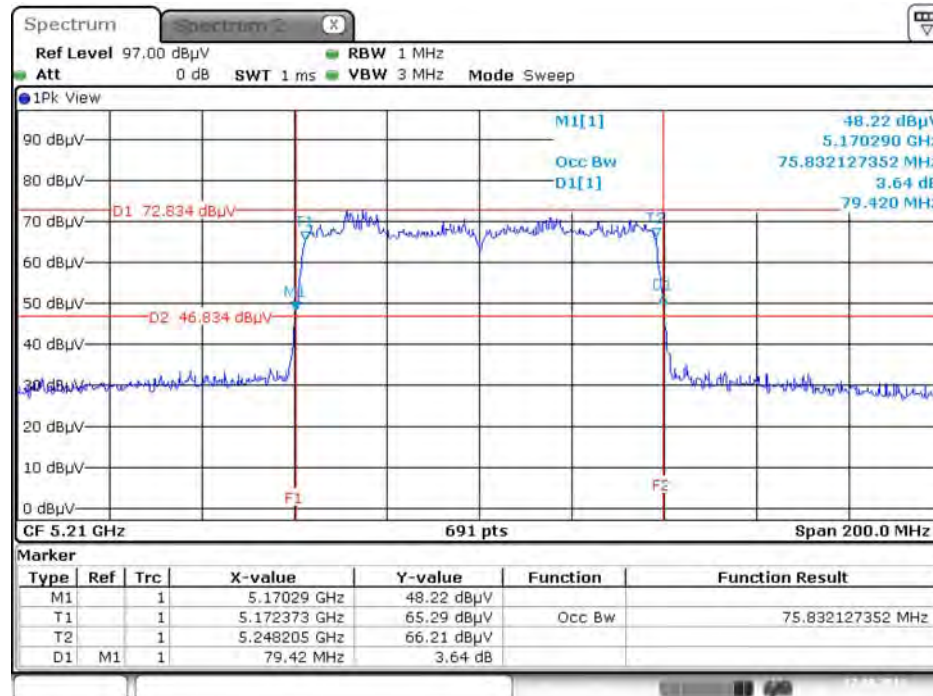
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5530 MHz



Date: 17.AUG.2016 16:32:07

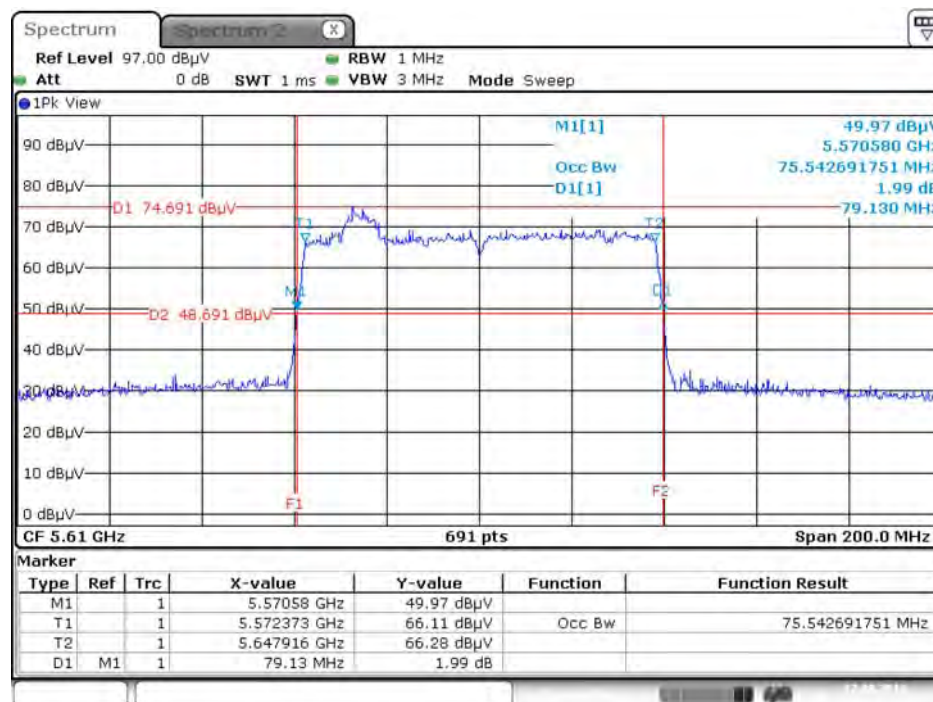
Type 2

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 17.AUG.2016 16:28:01

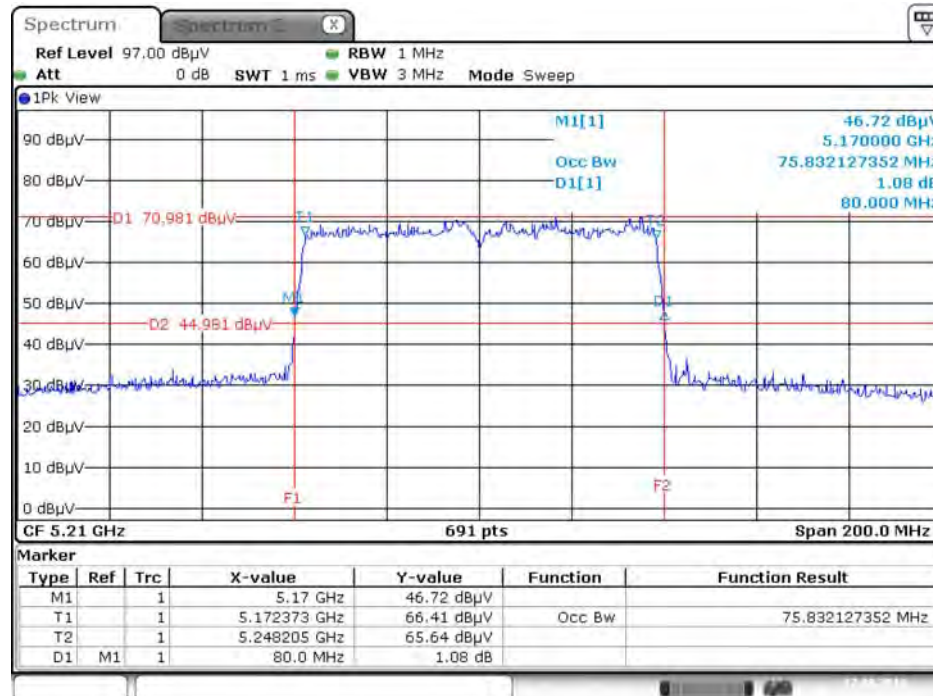
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5610 MHz



Date: 17.AUG.2016 16:35:12

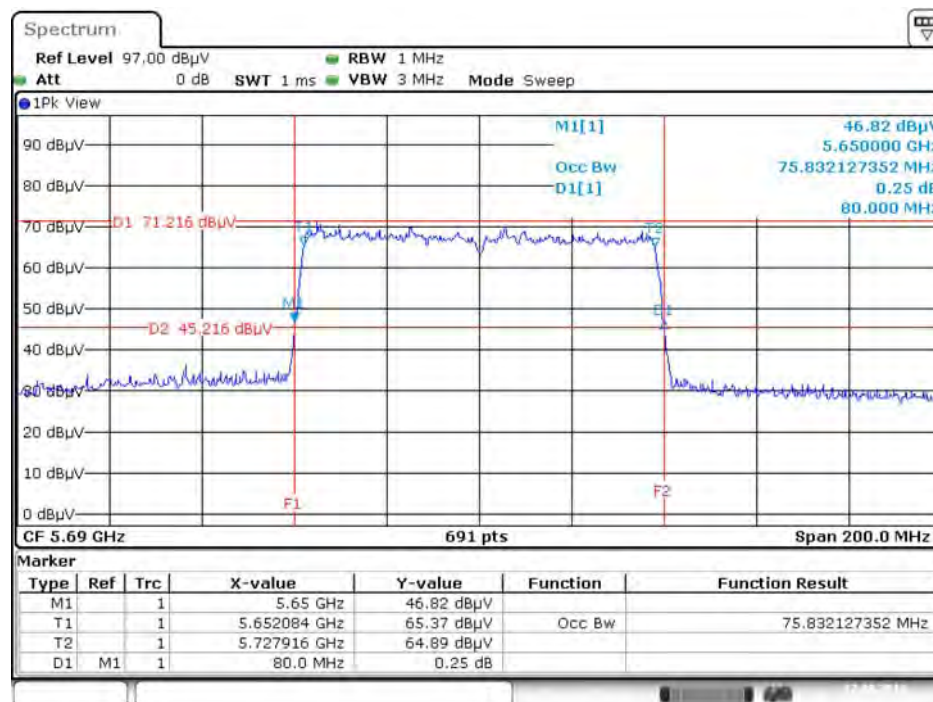
Type 3

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 17.AUG.2016 16:28:26

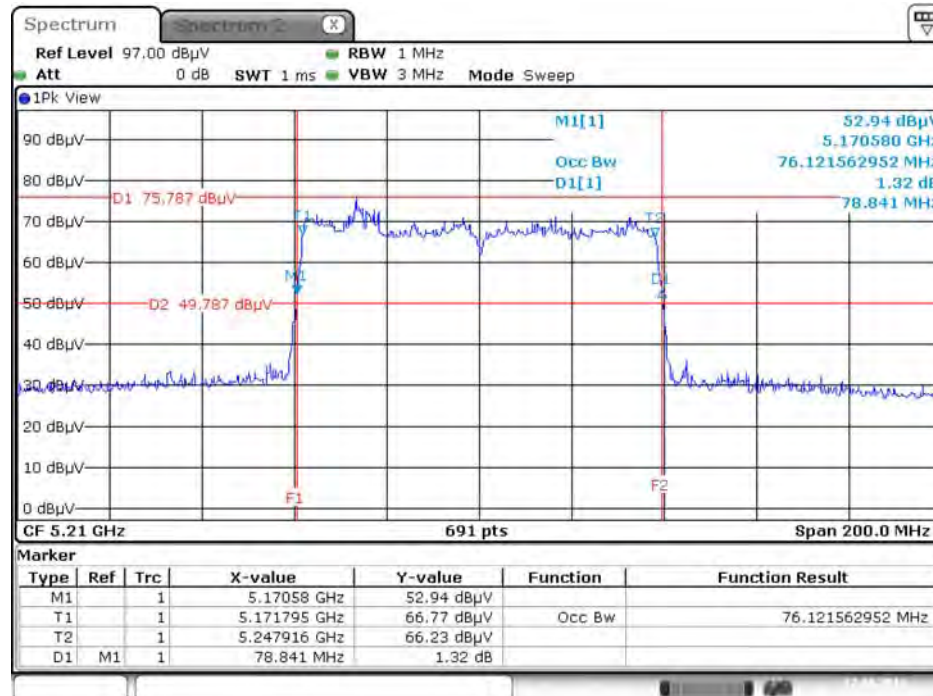
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5690 MHz



Date: 17.AUG.2016 15:01:44

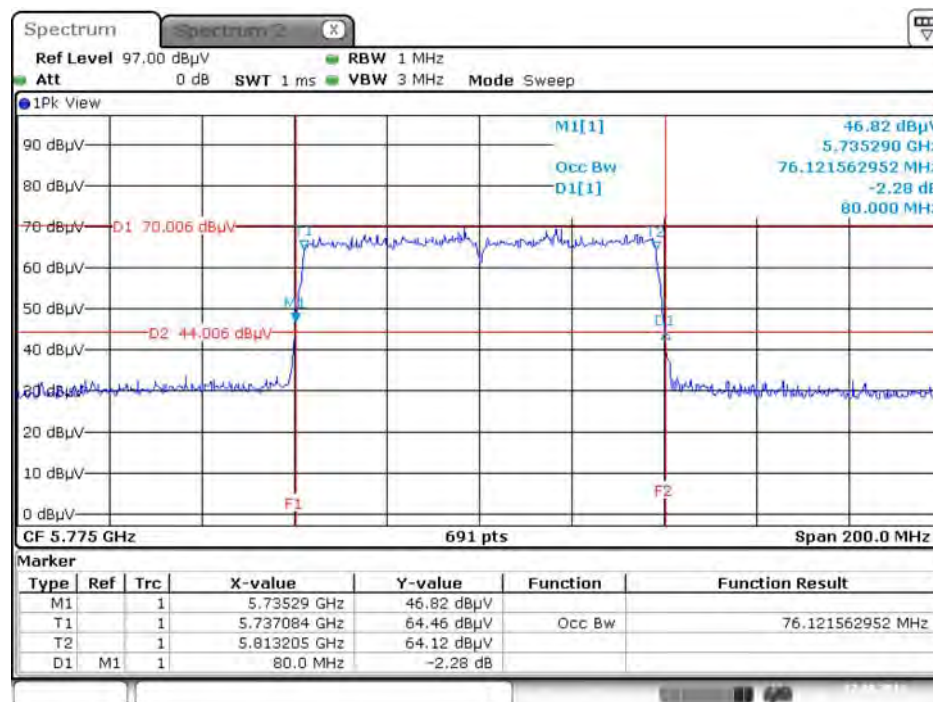
Type 4

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 / 5210 MHz



Date: 17.AUG.2016 16:28:56

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 3 + Chain 4 / 5775 MHz

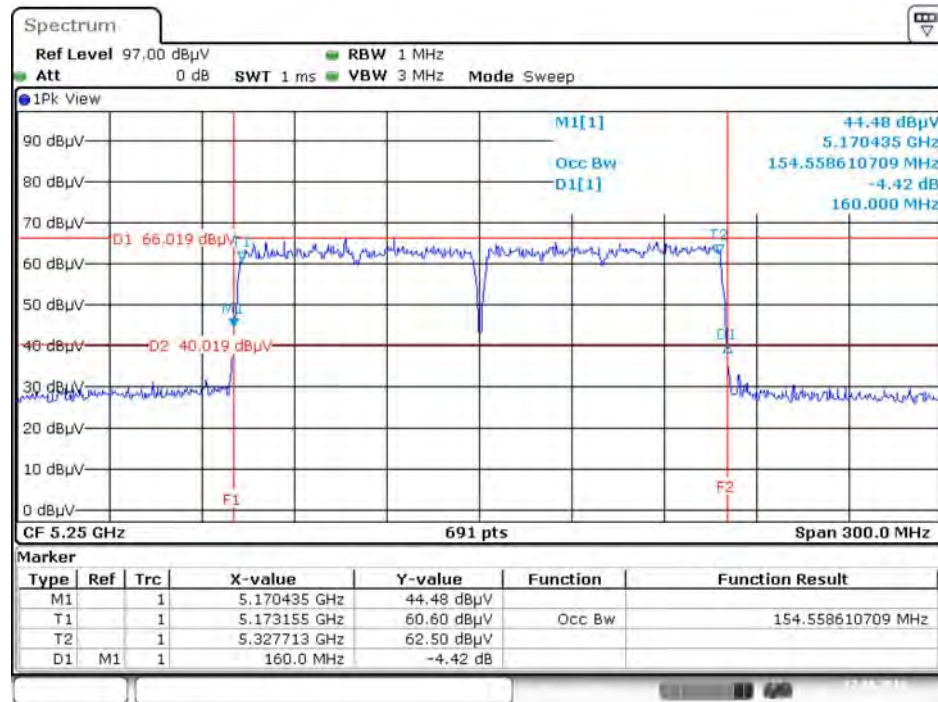


Date: 17.AUG.2016 16:36:48

Type 13

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 1 + Chain 2 + Chain 3 + Chain 4 /

5210 MHz+5290 MHz



Date: 17.AUG.2016 18:02:17

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 v01r03 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (C) Emission Bandwidth.
3. Multiple antenna system was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. Measured the spectrum width with power higher than 6dB below carrier.

4.3.4. 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	22°C	Humidity	54%
Test Engineer	Gary Chu		

For non-beamforming mode

For indoor, outdoor use master and slave without radar detection

Mode	Frequency	6dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
802.11a	5745 MHz	3.88	500	Complies
	5785 MHz	3.77	500	Complies
	5825 MHz	10.73	500	Complies
802.11ac MCS0/Nss1 VHT20	5745 MHz	12.00	500	Complies
	5785 MHz	11.71	500	Complies
	5825 MHz	11.77	500	Complies
802.11ac MCS0/Nss1 VHT40	5755 MHz	34.55	500	Complies
	5795 MHz	32.81	500	Complies
802.11ac MCS0/Nss1 VHT80	5775 MHz	75.36	500	Complies

Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW M1 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11a	5720 MHz	11.94	5713.68	0.62	500	Complies
802.11ac MCS0/Nss1 VHT20	5720 MHz	12.12	5713.68	0.80	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	34.55	5691.80	1.35	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	74.49	5651.74	1.23	500	Complies

802.11ac MCS0/Nss2 VHT80+80

For indoor use master and slave without radar detection type3~4

Type	Frequency	6dB BW (MHz)	6dB BW M1 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
3	5210 MHz	-				
	5690 MHz	73.91	5653.77	2.68	500	Complies
4	5210 MHz	-				
	5775 MHz	70.15	-		500	Complies
7	5290 MHz	-				
	5690 MHz	73.62	5654.06	2.68	500	Complies
8	5290 MHz	-				
	5775 MHz	75.36	-		500	Complies
9	5530 MHz	-				
	5690 MHz	72.75	5654.93	2.68	500	Complies
10	5530 MHz	-				
	5775 MHz	74.20	-		500	Complies
11	5610 MHz	-				
	5775 MHz	73.91	-		500	Complies
12	5690 MHz	74.20	5653.48	2.68	500	Complies
	5775 MHz	73.91	-		500	Complies
15	5610 MHz	151.74	5576.09	2.83	500	Complies
	5690 MHz					Complies

For outdoor use master B1

Type	Frequency	6dB BW (MHz)	6dB BW M1 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
3	5210 MHz	-				
	5690 MHz	73.91	5653.77	2.68	500	Complies
4	5210 MHz	-				
	5775 MHz	73.91	-		500	Complies

For beamforming mode

For indoor, outdoor use master and slave without radar detection

Mode	Frequency	6dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
802.11ac MCS0/Nss1 VHT20	5745 MHz	17.74	500	Complies
	5785 MHz	17.74	500	Complies
	5825 MHz	17.28	500	Complies
802.11ac MCS0/Nss1 VHT40	5755 MHz	33.97	500	Complies
	5795 MHz	32.70	500	Complies
802.11ac MCS0/Nss1 VHT80	5775 MHz	74.20	500	Complies

Straddle Channel

Mode	Frequency	6dB BW (MHz)	6dB BW M1 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
802.11ac MCS0/Nss1 VHT20	5720 MHz	17.74	5711.07	3.81	500	Complies
802.11ac MCS0/Nss1 VHT40	5710 MHz	34.44	5691.80	1.23	500	Complies
802.11ac MCS0/Nss1 VHT80	5690 MHz	74.20	5652.03	1.23	500	Complies

802.11ac MCS0/Nss2 VHT80+80

For indoor use master and slave without radar detection type3~4

Type	Frequency	6dB BW (MHz)	6dB BW M1 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
3	5210 MHz	-				
	5690 MHz	75.94	5651.74	2.68	500	Complies
4	5210 MHz	-				
	5775 MHz	73.91	-		500	Complies
7	5290 MHz	-				
	5690 MHz	75.36	5652.32	2.68	500	Complies
8	5290 MHz	-				
	5775 MHz	73.91	-		500	Complies
9	5530 MHz	-				
	5690 MHz	75.65	5652.03	2.68	500	Complies
10	5530 MHz	-				
	5775 MHz	73.91	-		500	Complies
11	5610 MHz	-				
	5775 MHz	73.91	-		500	Complies
12	5690 MHz	75.94	5651.74	2.68	500	Complies
	5775 MHz	75.36	-		500	Complies

For outdoor use master B1

Type	Frequency	6dB BW (MHz)	6dB BW M1 (MHz)	UNII 3 BW (MHz)	Min. Limit (kHz)	Test Result
3	5210 MHz	-				
	5690 MHz	76.23	5651.74	2.97	500	Complies
4	5210 MHz	-				
	5775 MHz	74.78	-		500	Complies

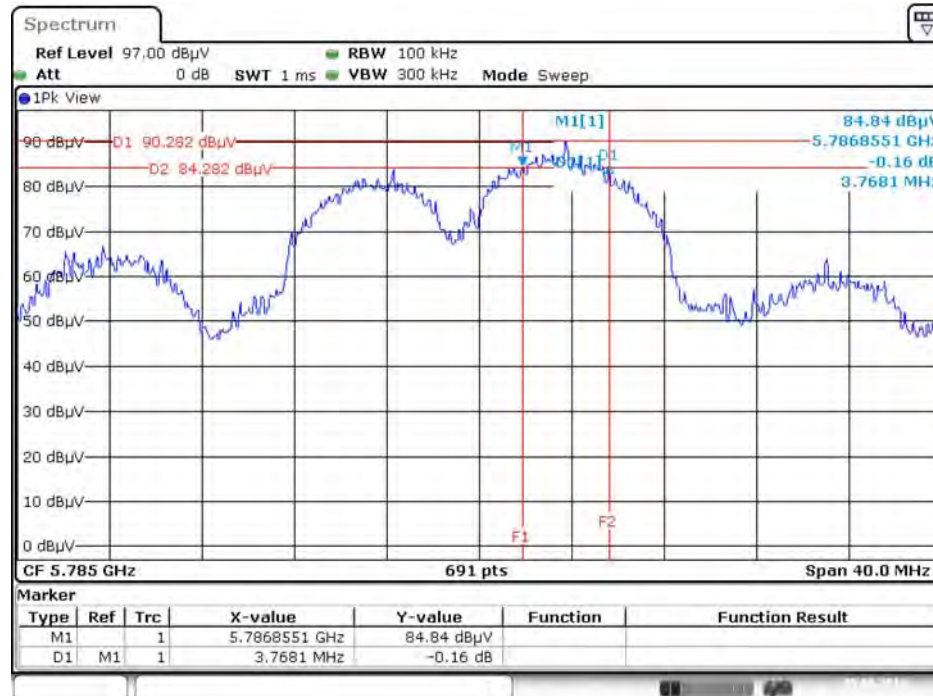
Note: All the test values were listed in the report.

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

For non-beamforming mode

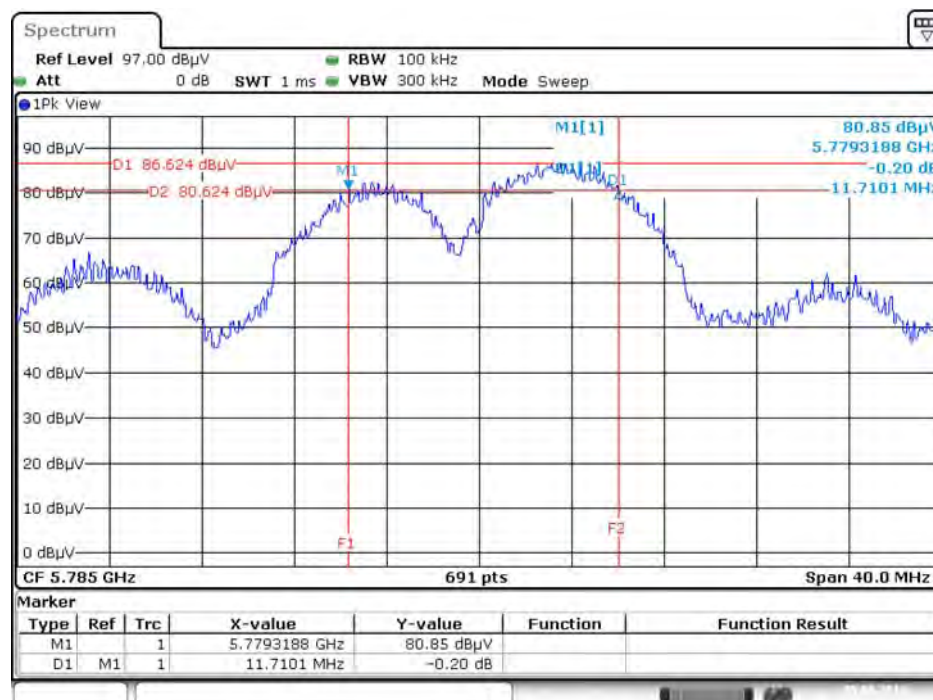
For indoor, outdoor use master and slave without radar detection

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5785 MHz



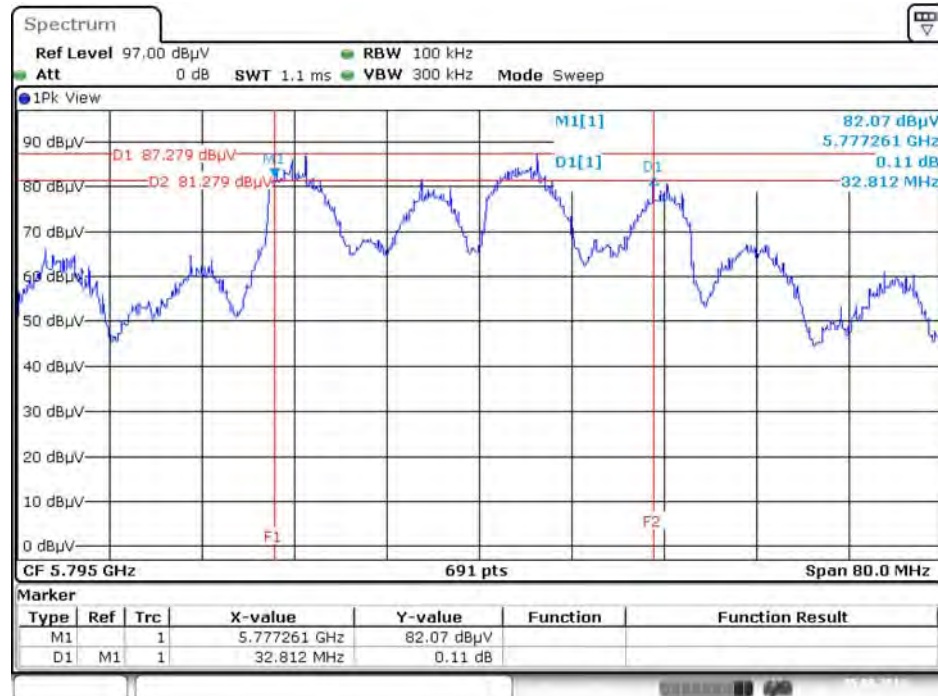
Date: 5.AUG.2016 13:45:08

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5785 MHz



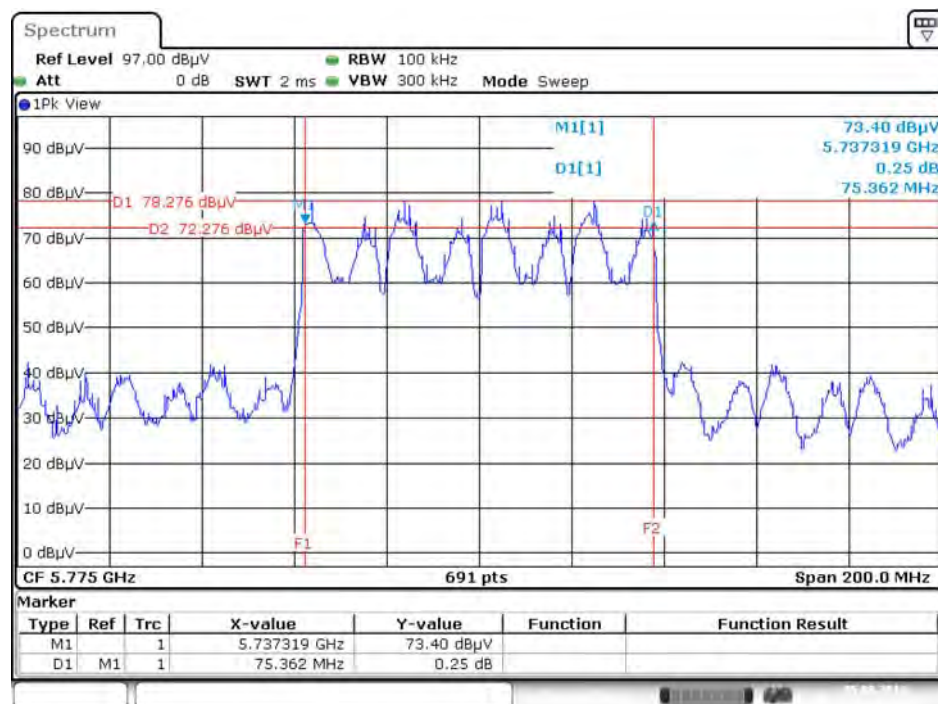
Date: 5.AUG.2016 13:47:09

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5795 MHz



Date: 5.AUG.2016 13:49:08

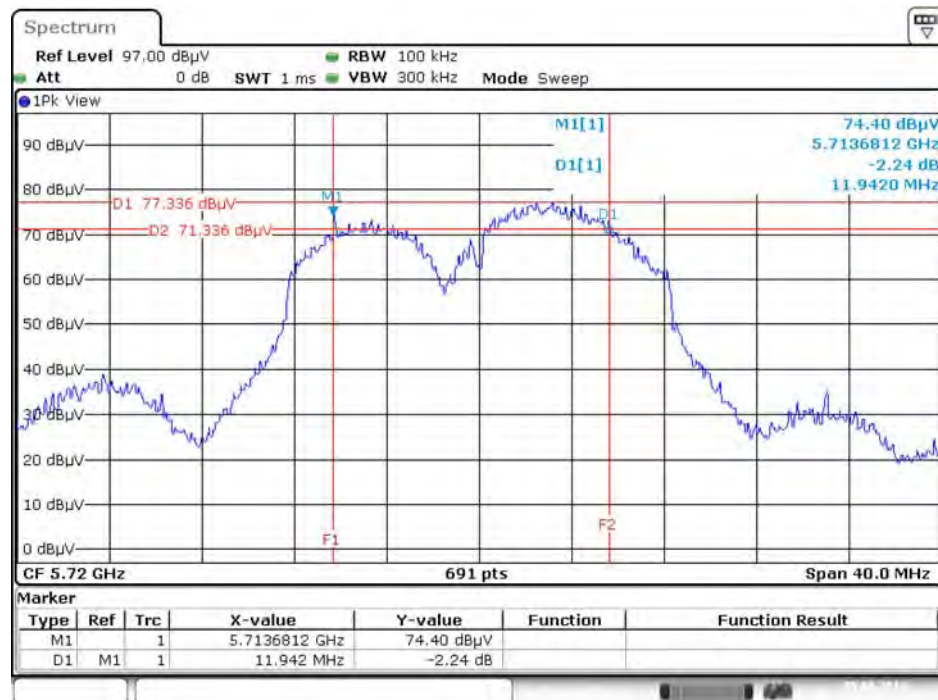
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5775 MHz



Date: 5.AUG.2016 13:50:02

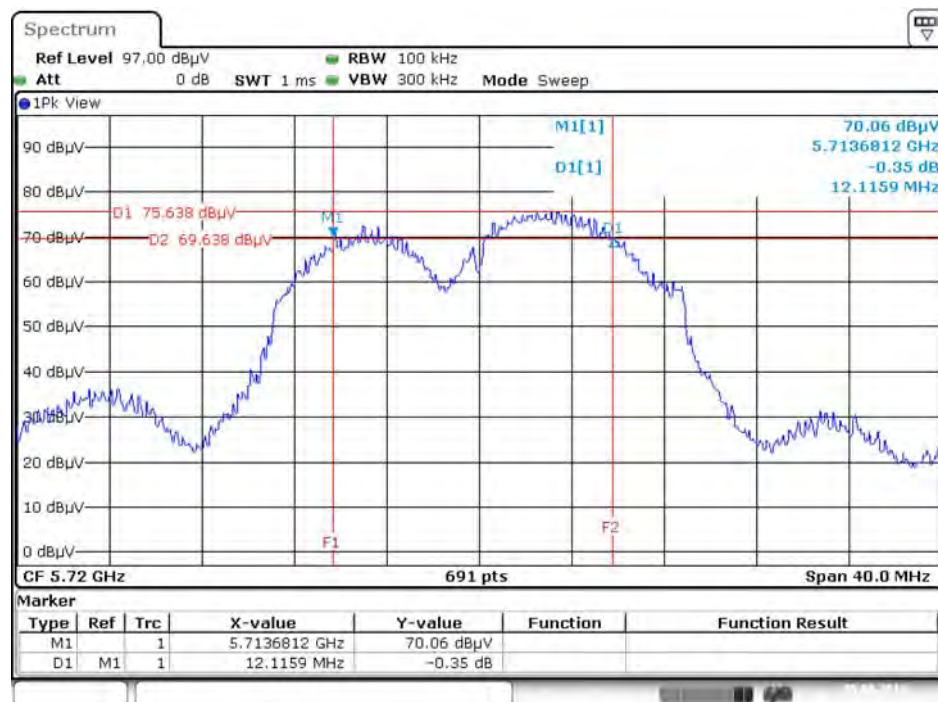
Straddle Channel

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



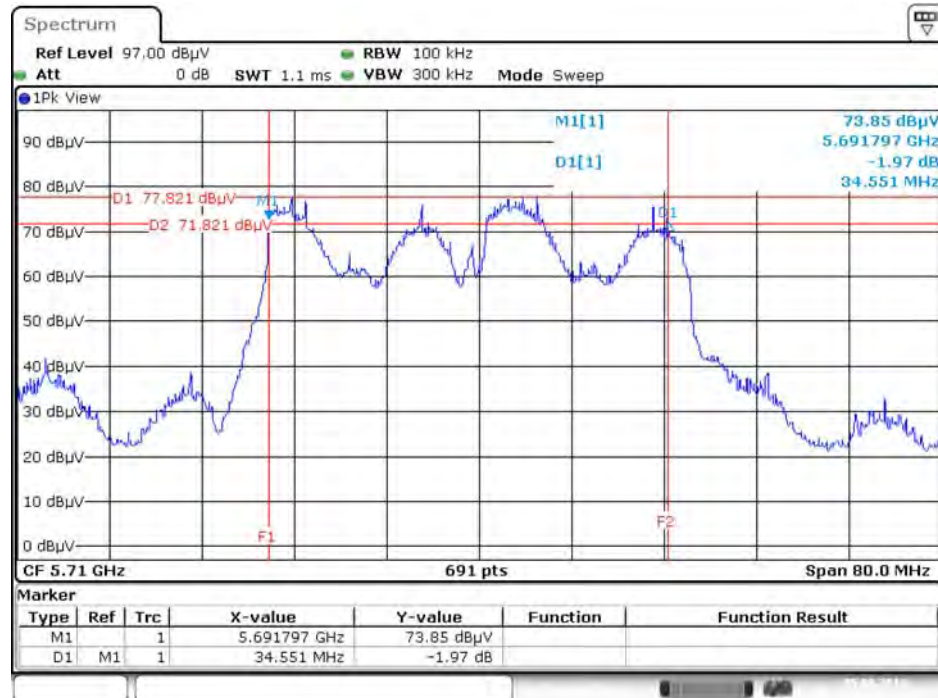
Date: 5.AUG.2016 15:27:57

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



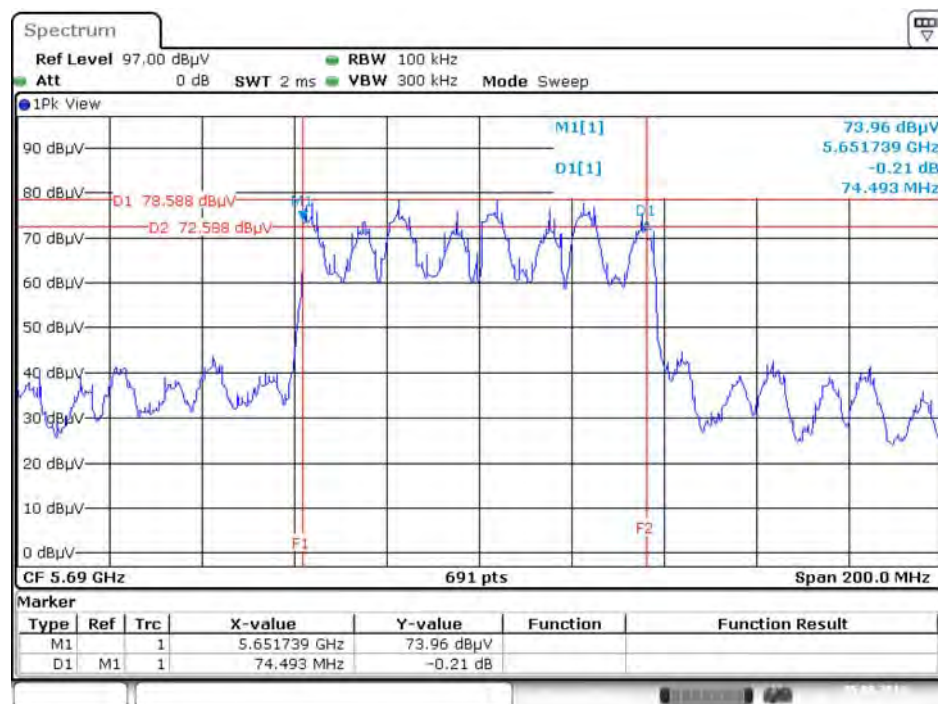
Date: 5.AUG.2016 15:28:41

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



Date: 5.AUG.2016 15:29:19

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



Date: 5.AUG.2016 15:30:55